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UNITED STATES PATENT OFFICE

VOL 22

JUL THRU DEC

1882

MICRO PHOTO INC
CLEVELAND OHIO

OFFICIAL GAZETTE

OF THE

UNITED STATES PATENT OFFICE.

VOLUME XXII.

JULY 4 TO DECEMBER 26, INCLUSIVE,

1882.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1883.

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ERRATA.

260,384, page 10, first claim, fourth line, for "when the said cylinder is moved" read *when the said piston is moved.*

260,562, page 46, first claim, first line, for "electro-magnet switch" read *electro-magnetic switch;* also, fourth claim, first line, for "electro-switch" read *electro-magnetic switch.*

261,363, page 225, first claim, second line, after the word "ejector" insert a comma.

262,151, page 404, first claim, second line, after the reference-letter "A," strike out the word "one."

262,547, page 494, in title, after residence of inventors, insert *assignors to the Sandusky Plow Company, Sandusky, Ohio.*

262,680, page 530, in title, name of assignee, for "J. F. Schoellopf, Jr.," read *J. F. Schoellkopf, Jr.*

262,839, page 565, in title, names of inventors, for "Israel Shondy, Jr., and Daniel W. Shondy" read *Israel Shoudy, Jr., and Daniel W. Shoudy.*

262,885, page 576, in title, after residence of inventor, insert *assignor of one-half to Josiah P. Champion.*

263,040, page 621, in title, after name of assignee, insert *of same place.*

263,058, page 624, in title, strike out assignment.

263,112, page 635, in title, name of inventor, for "Thomas Capehart" read *Thomas F. Capehart.*

263,347, page 698, first claim, first line, for "plain" read *plane.*

263,349, page 698, strike out all of claim 5, and, in numbers of claims, for "6" read 5, and for "7" read 6.

263,432, page 717, strike out all after number—title, drawing, and claims—and insert WITHDRAWN.

263,655, page 763, in first claim, first line, for reference-letter "D" read *D'.*

263,724. page 786, in title, strike out "assignor of one-half to Louis S. Crandall."

263,867, page 817, strike out drawing, and page 818, strike out all after number—title and claims—and insert CANCELED.

263,890, page 822, in title, after assignor, for "to Walter P. Seiberling, Trustee," read *by mesne assignments, to himself, Samuel Sternberger, Julius Heishfeld, and Richard Donovan, all of.*

264,335, page 921, in title, name of first inventor, for "Thomas Potter" read *Thomas Porter.*

264,582, page 980, in title, name of inventor, for "Frederick W. Strehlan" read *Frederick W. Strehlau.*

10,202, (reissue,) page 1036, in title, date of filing, for "Aug. 8, 1882," read *July* 6, 1882.

265,089, page 1094, strike out all after number—title, drawing, and claims—and insert WITHDRAWN.

265,221, page 1125, in title, number of English patent, for "3,349" read 3,394.

265,680. page 1236, in title, after number of Italian patent, insert *and XXVII,* 280, and after date of Austrian patent strike out No. 280.

265,850, page 1271, in title, name of assignee, for "United States Button Hole Sewing Machine Company" read *United States Automatic Button Hole Sewing Machine Company.*

265,927, page 1285, first claim, third line, for "springs F^2" read *springs* F'.

266,132, page 1337, second claim, second line, for "top" read *stop.*

266,239, page 1357, first claim, third line, for "a retarded circuit including the same and a circuit-breaker" read *a circuit including the same and a retarded circuit-breaker.*

266,262, page 1363, in title, name of assignee, for "Lebbeus K. Rogers" read *Lebbeus H. Rogers.*

13,369, (design,) page 1370, in title, for "assignor to Charles H. Gillespie" read *assignor of one-half to Charles H. Gillespie.*

266,518, page 1427, in title, name of inventor, for "George F. Ranson" read *George F. Ransom.*

266,652, page 1462, in title, name of invention, for "Button-Fastening" read *Button-Fastener.*

267,026, page 1554, in title, name of assignee, for "Miles Tool Works" read *Niles Tool Works.*

267,219, page 1599, in title, name of inventor, for "J. August W. Justi" read *J. August W. Iusti.*

267,337, page 1631, in title, names of assignees, for "Benjamin F. Masters and Charles E. Gove" read *Benjamin F. Masten and Charles E. Gore.*

267,364, page 1637, in title, for "assignor to Moses Harris" read *assignor, by mesne assignments, to the National Automatic Piano and Organ Manufacturing Company.*

267,474, page 1662, in second claim, second line, for "removable" read *movable.*

267,516, page 1670, in title, after "(No model,)" insert *Patented in England July* 11, 1882, *No.* 3,283.

267,984, page 1782, in title, after residence of inventors, insert *said Benas assignor to said Nichols.*

268,084, page 1811, in title, for "assignor to Lynn B. Martindale" read *assignor of one-half to Lynn B. Martindale.*

268,386, page 1876, in title, date of filing, for "Jnly 5, 1882," read *July* 5, 1881.

268,576, page 1927, in title, name of inventor, for "Joseph C. Waler" read *Joseph C. Waller.*

268,731, page 1962, in title, after "(No model,)" insert *Patented in England June* 23, 1882, *No.* 2,980.

269,065, page 2045, second claim, third line, for "rim" read *ring.*

269,168, page 2075, in title, residence of inventor, for "Rosco Township" read *Roscoe Township.*

269,432, page 2138, in title, after residence of inventor, insert *assignor to the Willcox & Gibbs Sewing Machine Company, of same place.*

269,550, page 2174, in title, name of inventor, for "Joseph Stoffer" read *Jacob Stoffer.*

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OFFICIAL GAZETTE

OF THE

UNITED STATES PATENT OFFICE.

JULY–DECEMBER, 1882.

THE OFFICIAL GAZETTE

OF THE

United States Patent Office.

[BY AUTHORITY OF CONGRESS.]

VOL. 22—No. 1. TUESDAY, JULY 4, 1882. PRICE—$5 per year

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Subscriptions for 1882.

The OFFICIAL GAZETTE is published every Tuesday, two volumes a year, commencing in January and July. Terms: To all subscribers within the United States and Canada, $5 per annum; to foreign subscribers, $7; single copies, 10 cents; bound volumes, $3.50 per volume. No club rates. *Payment in advance.* All orders should be addressed to "The Commissioner of Patents, Washington, D.C."

Issue of July 4, 1882.

Patents	381	No. 260,350 to No. 260,730, inclusive.
Designs	5	No. 13,019 to No. 13,023, inclusive.
Trade-Marks	22	No. 9,500 to No. 9,521, inclusive.
Labels	5	No. 2,708 to No. 2,712, inclusive.
Reissues of patents	6	No. 10,145 to No. 10,150, inclusive.
Total issue	419	

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks and Labels.	States.	Patents and Designs.	Trade-Marks and Labels.
Alabama	1	.....	Nebraska	3	1
Arizona Territory	.....	.....	Nevada	.....	.....
Arkansas	2	.....	New Hampshire	.....	.....
California	5	.....	New Jersey	16	2
Colorado	2	.....	New Mexico Territ'y	.....	.....
Connecticut	11	1	New York	72	12
Dakota Territory	1	.....	North Carolina	.....	.....
Delaware	1	.....	Ohio	35	1
District of Columbia	4	.....	Oregon	1	.....
Florida	1	.....	Pennsylvania	45	2
Georgia	5	.....	Rhode Island	1	.....
Idaho Territory	.....	.....	South Carolina	.....	.....
Illinois	30	.....	Tennessee	2	.....
Indiana	18	.....	Texas	1	.....
Indian Territory	.....	.....	Utah Territory	.....	.....
Iowa	6	1	Vermont	3	.....
Kansas	5	.....	Virginia	1	.....
Kentucky	3	.....	Washington Territ'y	1	.....
Louisiana	4	.....	West Virginia	6	.....
Maine	3	.....	Wisconsin	10	1
Maryland	6	2	Wyoming Territory	.....	.....
Massachusetts	39	1	United States Army	.....	.....
Michigan	10	1	United States Navy	.....	.....
Minnesota	8	.....			
Mississippi	1	.....	Total to citizens of the United States	370	25
Missouri	7	.....			
Montana Territory	.....	.....			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks and Labels.	Countries.	Patents and Designs.	Trade-Marks and Labels.
Australia	.....	.....	England	2	1
Austria	3	.....	France	2	1
Barbadoes	.....	.....	Germany	4	.....
Belgium	.....	.....	Italy	.....	.....
Bermuda	.....	.....	New Zealand	.....	.....
Brazil	.....	.....	Russia	.....	.....
Canada	3	.....	Spain	.....	.....
Chili	.....	.....	Sweden	.....	.....
Colombia, U. S. of	.....	.....	Switzerland	.....	.....
Cuba	1	.....			
Denmark	1	.....	Total to citizens of foreign countries	16	2
Ecuador	.....	.....			

DESIGNS.

13,019.—HEATING-STOVE.—*Edgar W. Anthony*, Boston, Mass. Application filed April 3, 1882. Term of patent 14 years.

13,020.—GLASSWARE.—*Joseph K. Brown*, Beaver Falls, Pa. Application filed May 15, 1882. Term of patents 7 years.

13,021.—PENCIL-CASE.—*Le Roy W. Fairchild*, New York, N. Y. Application filed May 18, 1882. Term of patent 7 years.

13,022.—FAMILY-CHART.—*Silvius Hursen*, Vicksburg, Mich. Application filed April 5, 1882. Term of patent 14 years.

13,023.—ORNAMENTAL CARD.—*Edward H. Rath*, New York, N. Y. Application filed May 16, 1882. Term of patent 3½ years.

TRADE-MARKS.

[Certificates of registration of Trade-Marks numbered 8,191 and upward are registered under the act of March 3, 1881.]

9,500.—EXTRACT OF LOGWOOD.—*Levi R. Barnard*, Newark, N. J. Application filed May 13, 1882.

"The words 'PLUS ULTRA.'"

9,501.—FACE-POWDER.—*Bennett Bros. & Allan*, Buffalo, N. Y. Application filed May 31, 1882.

"The word 'SECRET.'"

9,502.—CIGARS.—*Leopoldo Carvajal*, New York, N. Y. Application filed June 6, 1882.

"The fac-simile signatures of Anselmo G. del Valle and Carvajal."

9,503.—CIGARS.—*Leopoldo Carvajal*, New York, N. Y. Application filed June 7, 1882.

"The representation of a monogram composed of the letters 'C A R B J L.'"

9,504.—CERTAIN PROPRIETARY MEDICINES.—*Chamberlain & Co.*, Des Moines, Iowa. Application filed June 8, 1882.

"The symbol 'O & C.'"

9,505.—CERTAIN CHEMICALLY-PREPARED AMMONIA COMPOUND OR MIXTURE.—*Columbia Chemical Works*, Brooklyn, N. Y. Application filed May 20, 1882.

"The word 'HOUSEHOLD.'"

9,506.—CRUSHED AND PREPARED CEREALS.—*The Cereals Manufacturing Company*, New York, N. Y. Application filed May 22, 1882.
"The fanciful words 'AMERICAN BREAKFAST.'"

9,507.—VARNISH.—*George A. Deuther, Jr.*, Buffalo, N. Y. Application filed May 8, 1882.
"The arbitrarily-selected word 'EAST' and the symbol of the sun."

9,508.—BITTERS.—*Iler & Co.*, Omaha, Nebr. Application filed November 21, 1881.
"The words 'EAST INDIA.'"

9,509.—STEEL PENS.—*Benjamin Lawrence*, New York, N. Y. Application filed June 1, 1882.
"The words 'EXPEDITIOUS WRITER.'"

9,510.—FINE-CUT AND PLUG CHEWING-TOBACCO, SMOKING-TOBACCO, CIGARS, AND CIGARETTES.—*B. Leidersdorf & Co.*, Milwaukee, Wis. Application filed June 6, 1882.
"The word-symbol 'THE RAILROAD BOY.'"

9,511.—CIGARS AND CIGARETTES.—*Aug. Mencken & Bro.*, Baltimore, Md. Application filed March 20, 1882.
"The words 'CHESAPEAKE YACHT CLUB.'"

9,512.—CIGARS AND CIGARETTES.—*Aug. Mencken & Bro.*, Baltimore, Md. Application filed March 20, 1882.
"The arbitrarily-selected word 'JEANNETTE.'"

9,513.—DUNK'S CAMPHORATED ARNICA AND OTHER PROPRIETARY MEDICINES.—*William B. Moore*, East Saginaw, Mich. Application filed November 17, 1881.
"The fac-simile of the registrant's signature."

9,514.—TINNED SHEET COPPER OR BRASS.—*Andrew O'Neill*, New Haven, Conn. Application filed December 29, 1881.
"The word 'TRIPLE-PLANISHED.'"

9,515.—DENTAL PREPARATIONS.—*W. G. Reimer & Co.*, Philadelphia, Pa. Application filed May 15, 1882.
"The arbitrarily-selected word 'KALLIDONT.'"

9,516.—TABLE, BUTCHER, AND HUNTING KNIVES.—*John Russell Cutlery Company*, Turner's Falls, Mass. Application filed June 9, 1882.
"The figure of a lozenge with three smaller but equiangular figures of a lozenge placed thereon in the manner shown."

9,517.—MEDICINAL COMPOUND.—*George M. Shamalia*, Lambertville, N. J. Application filed May 11, 1882.
"The word 'SENEKA.'"

9,518.—COSMETIC, POWDER, POMADE, PERFUMERY, AND OTHER TOILET PREPARATIONS.—*Albert Simonson*, New York, N. Y. Application filed May 22, 1882.
"The word 'CAPITOLE' and the representation of the dome of a state-house or capitol."

9,519.—ROASTED COFFEE.—*A. D. Thurber & Co.*, New York, N. Y. Application filed May 8, 1882.
"The word 'ANTI-MONOPOLY.'"

9,520.—BOOTS AND SHOES.—*Waukenphast & Co.*, London, England. Application filed May 11, 1882.
"The representation of a man in the act of walking."

9,521.—CHAMPAGNE-WINE.—*Werlé & Co.*, Rheims, France. Application filed May 27, 1882.
"A dark-blue hexagon having concave sides."

LABELS.

2,708.—Title: "FRESCO WHITE."—*John R. Alsing*, New York, N. Y. Application filed June 8, 1882.

2,709.—Title: "GIBB'S LINIMENT."—*Robert S. Gibb*, Philadelphia, Pa. Application filed June 6, 1882.

2,710.—Title: "HUBBARDSTON MILLS SUPERIOR FAMILY FLOUR."—*Lyon & Co.*, New York, N. Y. Application filed June 8, 1882.

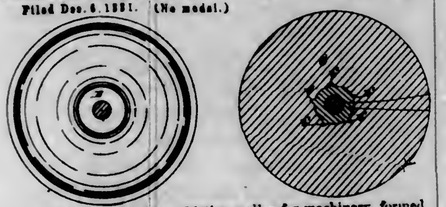
2,711.—Title: "DR. S. M. STATES' INVIGORATOR."—*Sylvester M. States*, Elmira, *Frances A. Rudd*, Geneva, and *Esther A. Laidlow*, Bath, N. Y. Application filed June 5, 1882.

2,712.—Title: "YOUNCE'S PAIN DESTROYER."—*David A. Younce*, Covington, Ohio. Application filed May 27, 1882.

PATENTS

GRANTED JULY 4, 1882.

260,350. PULLEY. HORACE R. ALLEN, Indianapolis, Ind. Filed Dec. 6, 1881. (No model.)



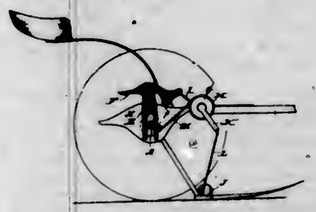
Claim.—1. A belt or friction pulley for machinery, formed either partly or wholly by being pressed from pulp, substantially as set forth.

2. A belt or friction pulley for machinery, formed of a metal hub and an outer portion pressed around the same, substantially as specified.

3. A belt or friction pulley formed of a metal hub, B, having rings or ridges or such like projections, and pulp pressed around said hub and filling the irregularities in its outer surface, whereby said pulp portion is held immovable on said metal hub, all substantially as shown and specified.

4. The process of forming pulleys which consists in mounting a hub and molds upon a shaft and filling the intervening space with pulp, and subjecting the same to pressure, substantially as set forth.

260,351. CUTTER-BAR LIFTER FOR MOWING-MACHINES. HORACE R. ALLEN, Indianapolis, Ind. Filed July 20, 1881. (No model.)

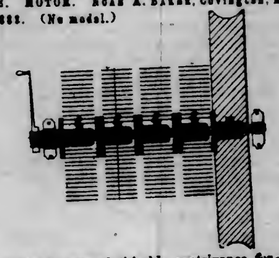


Claim.—1. The combination, in a mowing or reaping machine, of the axle thereto, a pulley thereon, having one side fitted to operate as a clutch part, a second clutch part upon the same shaft, which is operated to engage with the first by the vertically-moving shifter E, the cutter-bar, and means, substantially as described, whereby said pulley and said cutter-bar are connected, and when the pulley is rotated the cutter-bar may be lifted, substantially as shown and specified.

2. The combination, in a mowing or reaping machine, of the lever F, shifter E, clutch parts C, pulley B, chain M, pulley G, arm K, chain L, and cutter-bar J, substantially as and for the purpose set forth.

3. The combination, in a mowing or reaping machine, with a device for raising the cutter-bar by power from the machine, of the foot-lever F, which also operates the engaging-clutch of said device, the rod or catch I, operated by said lever, and the notched disk H, with which said rod or latch engages, substantially as shown and described, and for the purposes specified.

260,352. MOTOR. NOAH A. BAKER, Covington, Ky. Filed Jan. 3, 1882. (No model.)



Claim.—The frame and thimble contrivance for connecting the series of springs together, by means of which the whole force and power of all the springs in the combination are made to operate at one and the same time for the movement of machinery, substantially described in the foregoing specification and drawings annexed.

260,353. TABLE-CASTER. ANDREW B. BANGHART and CHARLES H. TURAT, Frankford, Del. Filed Nov. 21, 1881. (No model.)



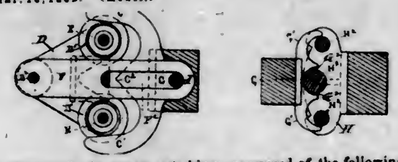
Claim.—1. A caster constructed substantially as herein shown and described, and consisting of the base A, the post B, the screw-rod C, the revolving bottle-plate D, the stationary guard-rim E, and its supporting-standards F, as set forth.

2. In a caster, the combination, with the base A, the post B, the rod C, and the annular rabbeted rim E, of the revolving plate D, substantially as and for the purpose set forth.

3. In a caster, the combination, with the rotating bottle-plate D and the base A, of the stationary rim E and the standards F, substantially as herein shown and described, whereby the said bottle-plate is protected, as set forth.

4. The method of constructing casters, substantially as herein shown and described, which consists in making the various parts of the caster of timber built up of veneers of different-colored woods, as set forth.

260,354. GATE-HINGE. DANIEL W. BARR, Reading, Pa., assignor of one-half to John Koppleman, same place. Filed Mar. 16, 1882. (Model.)



Claim.—1. An upper gate-hinge composed of the following elements: a hinge-post cap, C, provided with arms C' C', center stop, C^3, guide-pin I, and bracket C^4, in combination with hinge-stile cap D, provided with arms D' D', link-boss D^3, bracket D^4, and rollers E E, and secured in working contact by link F, provided with fulcrum-pin boss and pin F', oblong guide-slot F^2, and guide-pin I, all arranged, constructed, and adapted to operate as a hinge, substantially as and for the purpose specified.

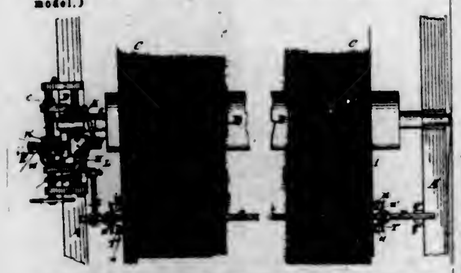
2. A gate-hinge composed of the following elements: a post-bracket, H, provided with a shelf, H', having mounted upon it two outer pivots, H^2 H^2, and a center pivot, H^3, in loose working contact with stile-bracket G, having two external crescent arms, G' G', and a central crescent, G^2, operating upon the pivots H^2 and H^3, substantially as shown and described.

260,355. GATE-LATCH. DANIEL W. BARR, Reading, Pa., assignor of one-half to John Koppleman, same place. Filed Mar. 16, 1882. (Model.)



Claim.—In a reversible or fixed gate-latch, the post locking-plate C, provided with dog-arms C' C', incline planes C^2 C^2, depression C^3, stops C' C^4, and abutment C^5, in combination with the latch-post B', dogs D D, stile-post roller F, guard E', and stile-plate E, substantially as shown, and for the purpose described.

260,356. AUTOMATIC WIRE-GUIDE FOR PAPER-MACHINES. THOMAS P. BARRY, Stillwater, N. Y. Filed Oct. 28, 1881. (No model.)



Claim.—1. In a wire-guiding device of a paper-making machine, the combination, with the way or bed D, having arms *a a* and shaft *b*, having a screw-threaded section, *c*, and adapted to turn in said arms, of the bearing F, mounted on brackets H, and supported vertically over the said body or way and pivoted to shaft *b*, with the screw-threaded section *c* of said shaft working in a screw-threaded eye made with said bracket, whereby the bearing F will be shifted accordingly as said shaft is revolved, and be supported by said way and be adapted to be turned up and off from said way, substantially as and for the purpose set forth.

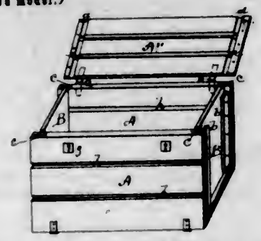
2. In a wire-guiding device of a paper-making machine, the combination, with shaft *b*, provided with a screw-threaded section, *c*, adapted to shift the bearing F of a cylinder, supporting the wire apron C when said shaft is revolved, of cam K, revolved by said cylinder, dogs *n n'*, operated by said cam, and duplex ratchet-wheel E, operated by said dogs, whereby the revolving of said cylinder will effect a shifting of bearing F, of the same, substantially as and for the purpose set forth.

3. In a wire-guiding apparatus of a paper-making machine, the combination, with the duplex ratchet-wheel E, loosely mounted on shaft *b*, which is adapted to shift bearing F when said shaft is revolved, of guides T T', connected together by shifting-bar P, and adapted to bear against the side edges of the wire apron C, arm M, carrying said guides, vertical shaft L, sleeve *t*, and mechanism intermediate between said sleeve and said vertical shaft, substantially as and for the purpose set forth.

4. In a wire-guiding device of a paper-making machine, the guide T or T', each composed of rollers *u u* and plate *u'*, pivoted to clamping-piece R or R', substantially as and for the purpose set forth.

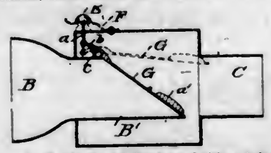
5. In a wire-guiding device of a paper-making machine, the combination, with bearing F of guide-roll cylinder B and shaft *b*, having a screw-threaded section, *c*, and adapted to shift said bearing when revolved, wheel E, loosely mounted on said shaft and revolved with the same, guides T T', connected together by shifting-bar P, and mechanism intermediate between said guides and wheel E, whereby the former said bearings are shifted, of the hand-wheel X, substantially as and for the purpose set forth.

260,357. KNOCKDOWN FOLDING FRUIT-CRATE AND PACKING-BOX. CHARLES E. BARTRAM, Fredonia, N. Y. Filed May 20, 1882. (No model.)



Claim.—A knockdown box or crate constructed with the side pieces, A A, top A'', and bottom A', all hinged together, and having the dovetails and grooves *c d* on the inside of said pieces, with grooved or dovetailed end pieces, B B, fitting in the corresponding grooves, *c d*, and with the groove-pieces *e e*, attached to pieces A A A' A'', and forming part of said grooves, all substantially as and for the purpose specified.

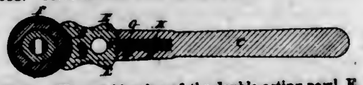
260,358. SPEAKING-TUBE MOUTH-PIECE. GEORGE W. BENNETT, Chelsea, Mass. Filed Mar. 20, 1882. (No model.)



Claim.—1. In the body A of a speaking-tube, the mouth-piece B, with the valve G, having the weight *a'*, lever *b*, upright rod *a*, with the button E, and secured thereto by the pivot-joint *c*, all arranged and located as and for the purpose set forth.

2. In combination, the interior tube, C, and body A, having the signal-whistle D and latch F, with the mouth-piece B, having the valve G, with the weight *a'* and valve-pivot *c*, the short lever *b*, and upright rod *a*, having the button E, all arranged and located as and for the purpose set forth.

260,359. RATCHET-DRILL. CHARLES E. BILLINGS, Hartford, Conn. Filed Mar. 13, 1882. (No model.)

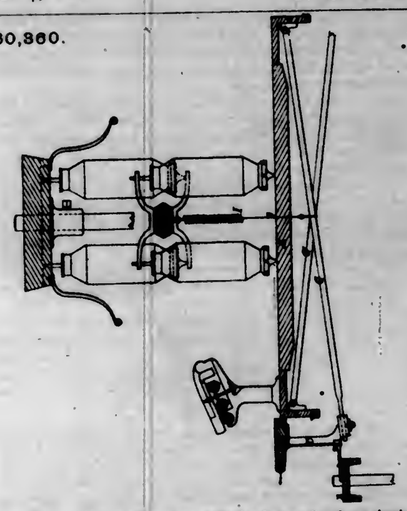


Claim.—The combination of the double-acting pawl E, provided with the notches J, the plunger G, and spring H, with the handle C, said plunger and spring being fitted into a socket in the oscillating handle and the ratchet-wheel F upon the drill-stock A, substantially as described.

260,360. YARN-GUIDE SUPPORT FOR RING-SPINNING FRAMES. JOHN BIRKENHEAD, Mansfield, Mass. Filed Apr. 3, 1882. (No model.)

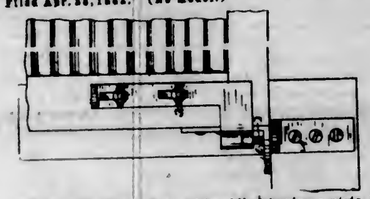
Brief.—The weight of the guide-rail is counterbalanced by springs attached to supporting-arms secured to the said rail, extending across the machine and pivoted at their rear thereto.

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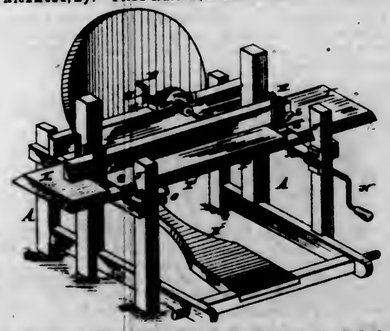
Claim.—The combination, with the frame of a ring-spinning machine, and with each of its yarn-guide boards and its supporting standards, of pivoted arms and counterbalancing-springs, arranged and applied substantially as set forth, the standards being provided with adjustable arms to extend from them to and over the ring-rail, as represented.

260,361. LOCK-HINGE. JOHN L. BIXBY, Arlington, Mass. Filed Apr. 28, 1882. (No model.)



Claim.—In combination with a blind having a plate, B, provided with a series of holes, K, and a pintle-socket and a plate, C, attached to the blind by slots G and thumb-screws F, whereby the unshipping of the hinge is prevented, the plate A, secured to the casing, and having a center-pin, D, and short pin E, substantially as hereinbefore specified.

260,362. BORING-MACHINE. CHRISTOPHER D. BLEVINS, Richmond, Ky. Filed Mar. 25, 1882. (No model.)



Claim.—The combination of the frame A, the bed-plate I, having rack K and perforations P, the shaft M, having pinion L and crank N, and the catch O, substantially as set forth.

260,363. HOE. THADDEUS W. BOYLE, Augusta, Ga. Filed May 2, 1882. (No model.)

260,363.



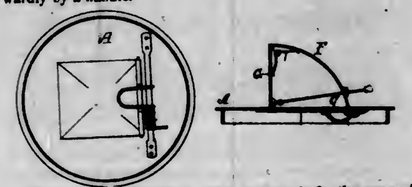
Claim.—1. A hoe provided with a detachable prong having a transverse socket, *d'*, adapted to straddle the shank of the hoe, and a fastening passing under said shank and secured to the front of the prong, substantially as and for the purpose described.

2. A hoe-prong provided with shoulders *c'*, longitudinal grooves *d* therein, and a socket, *d'*, substantially as and for the purpose described.

3. The combination of a hoe-blade and its shank with a prong having shoulders adapted to rest upon the back edge of the blade, a socket to straddle the hoe-shank, and a bolt having one end bent to engage with said shank and the other secured to the front side of the prong, substantially as and for the purpose described.

260,364. ASH-BARREL AND COAL-HOD COVER. JOHN ANDREW BROWN, Everett, Mass. Filed Mar. 27, 1882. (No model.)

Brief.—The opening in the cover is provided with a spring-closed door opened downwardly, and a hood or guard over the opening is also provided with a spring-closed door opened inwardly by a rod passing through the hood to the outside, or is raised outwardly by a handle.



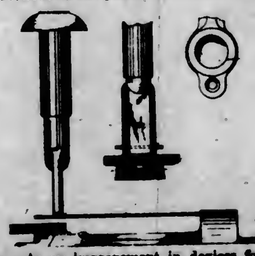
Claim.—1. As a cover for ash barrels or hods, the cover A, having an aperture provided with a trap or door opening downward and closed automatically, in combination with an outer inclosing-case, substantially as set forth.

2. The cover or head, with its aperture and the self-closing cover of such aperture, in combination with the dust guard or hood, with its door, substantially as explained.

3. In combination with the cover of an ash barrel or receptacle, having an opening at the top, and provided with an automatically-closing cover or trap for said opening, a dust-guard, F, and spring-pressed door G, having a rod attached thereto, substantially as and for the purpose stated.

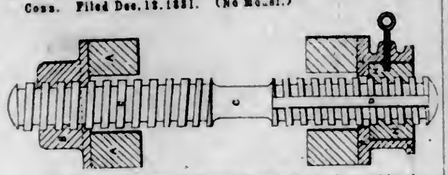
4. In combination with the cover of an ash barrel or receptacle, having an opening at the top, a dust guard or hood provided with a spring-pressed door opening inward, substantially as shown and described.

260,365. DEVICE FOR INSERTING AND CLINCHING METALLIC STAPLES. WM. J. BROWN, Jr., Philadelphia, Pa., assignor to Annie J. Brown, same place. Filed Jan. 28, 1881. (No model.)



Claim.—As an improvement in devices for inserting and clinching metallic staples with detachable staple-drivers, a base provided with a clinching-cavity, combined with an arm extended over said cavity and having above the latter a guideway for receiving and guiding the mouth of the staple-driver to position over the clinching-cavity.

260,366. DIFFERENTIAL SCREW. JOHN T. BURR, Stamford, Conn. Filed Dec. 15, 1881. (No model.)



Claim.—1. A screw, C, threaded on each end, in combination with a nut, H, with its locking-pin K and gib or key L, all in the manner and for the purposes specified.

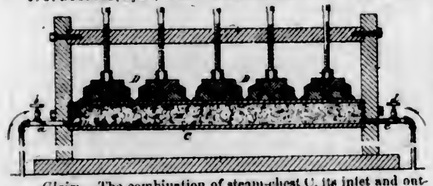
2. In combination with a screw threaded on each end, a nut with locking devices, by operating which the said nut is rendered, as desired, a nut proper or a simple head to the screw.

260,367. COMB DEVICE FOR DYEING HAIR. MANUEL N. BUTSON, Havana, Cuba. Filed Apr. 18, 1882. (No model.)



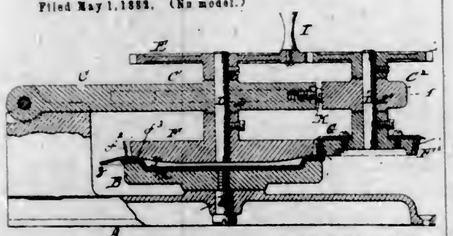
Claim.—A comb for dyeing purposes the teeth of which are formed with apertures adapted to receive a strip or ribbon of material prepared for the purpose stated, substantially as described.

260,368. MACHINE FOR MOLDING SAND-PAPER DISKS. J. G. BUSSELL, Lynn, Mass. Filed Feb. 23, 1882. (No model.)



Claim.—The combination of steam-chest C, its inlet and outlet conduits, provided with regulating-valves, the divided molding-dies D, having one half secured to and arranged to be heated by said steam-chest, and provided with means for raising and lowering the upper half of the die and exerting the requisite molding force upon the inserted disk, substantially as specified.

260,369. MACHINE FOR TRIMMING AND CRIMPING THE EDGES OF PIE-CRUST. LYMAN C. CAMP, Philadelphia, Pa. Filed May 1, 1882. (No model.)



Claim.—1. In a pie-machine, a frame having a pie-holder, and a revolving shaft to which is secured a clamp or disk to rotate with said shaft, and in combination therewith a trimming-knife and mechanism, substantially as shown and described, for effecting an engagement of said clamp and holder to cause the latter to revolve with said clamp, substantially as and for the purpose set forth.

2. In a pie-machine, the combination of base or frame A, holder B, arm C, shafts D D', crimping-wheels F F', trimming-knife G, folder H, and means for effecting a revolution of the shafts D D', substantially as shown and described.

3. In a pie-machine, the combination, with a pie-holder, of two crimping-disks, F F', with operating mechanism therefor, and knife or trimmer G, substantially as shown and described.

4. In a pie-machine, the combination of the following elements: a pie-holder, a knife or trimmer, a dough or crust folder, crimping or setting disks, and mechanism for rotating said disks simultaneously, substantially as shown and described.

5. In a pie-machine, the combination of a pie-holder, a trimming-knife, a dough or crust folder, and two crimping-disks, and mechanism for adjusting them to and from each other, with mechanism for effecting a revolution of said disks, substantially as shown and described.

6. The combination of holder B, arm C, composed of two members, C' and C², adjustably secured together, shafts D D', carrying crimping-disks F F', and mechanism for effecting their rotation, a trimming-knife, G, and holder H, substantially as shown and described.

7. In a pie-machine, the combination, with holder B, the pivoted arm C, composed of parts C' and C², adjustably secured together, the disks F F', corrugated at f^3, knife or trimmer G, folder H, and means for effecting a simultaneous revolution of said disks, substantially as shown and described.

260,370. OAR AND OAR-LOCK. MOSES CHASE, Boston, Mass. Filed Mar. 16, 1882. (No model.)



Claim.—1. The divided oar, in combination with the upper and lower plates or casings, E F, the latter having lugs *j* formed on the under side thereof, the hollow pin G, having an arrow-head which is pivoted between said lugs, and a spring-pressed dog pivoted within said pin and engaging with an attachment of the boat, as set forth.

2. The plate H, attached to the gunwale, and having the downwardly-extending hollow piece I, which is slotted at *i*, in combination with hollow pin G, which is constructed with slots *g g'* in its bottom and side, and pivoted spring-pressed dog N, arranged within said pin, and provided with a locking-nose which protrudes through slots *g' i*, and a handle which extends down through slot *g*, substantially as set forth.

3. The upper plate, E, provided with eye or socket *h*, in combination with the oar provided with a bolt, and having its divided middle part located between plates E and F, as set forth.

260,371. STATIONARY WASH-STAND. PATRICK CONNOLLY, Brooklyn, N. Y., assignor, by mesne assignments, to Julia Connolly, same place. Filed Oct. 8, 1881. (No model.)



Claim.—The stationary wash-stand described, having the grooved slab A *a* and cementing material *m*, in combination with the bowl or basin B, having the lip B', arranged centrally in a plane surface, B', connected with the bowl and arranged to serve as herein specified.

260,372. SHEET-MUSIC. THORWALD C. DAMBORG, Philadelphia, Pa. Filed Apr. 3, 1882. (No model.)



Claim.—1. Sheet-music having its bars and notes printed in horizontal rows across the sheet, one above the other, said sheet being in a continuous web, substantially as and for the purpose specified.

2. Sheet-music printed with the ordinary bars, notes, &c., in horizontal rows one above the other, and formed into a continuous web, said web being folded back and forth upon itself in alternately-opposite directions, substantially as described.

3. Music printed in a continuous web, said web being folded back and forth upon itself in alternately-opposite directions, and being provided on one or both of its ends with covers which protect or inclose the folded edges, substantially as and for the purpose specified.

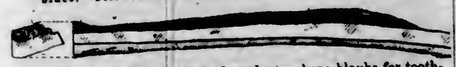
260,373. HAND-DISTRIBUTER FOR SEED AND FERTILIZERS. ROBERT ERWIN, Savannah, Ga. Filed May 5, 1882. (No model.)



Claim.—1. The combination, in a hand-distributer, of a water and acid proof bag, A, and adjustable telescopic tubes B C with the adjustable cut-off and feed valves pivoted to a hand-lever, D, and the spring *g*, all arranged substantially as and for the purpose set forth.

2. As a new article of manufacture, a hand-distributer consisting of the water and acid proof bag A, and adjustable telescopic tubes B C, with the cut-off valve *e* and feed-valve *f*, pivoted to a spring-lever, D, having holes for adjusting the valves to suit different measures of material, all arranged substantially as specified.

260,374. METHOD OF WORKING BONE INTO BLANKS FOR TOOTH-BRUSH HANDLES. ALANSON C. ESTABROOK, Florence, Mass., assignor to the Florence Manufacturing Company, same place. Filed Dec. 10, 1881. (No model.)



Claim.—1. The method of producing bone blanks for tooth-brush handles, substantially as hereinbefore described, which consists in, first, sawing trimmed bones into longitudinal sections; secondly, reducing each section to parallelism, and both edges thereof to parallel planes for determining its central line; thirdly, milling the edges to the desired contour with reference to said central line; and, finally, milling the sides of the previously-assorted sections rectangular to their edges, and to a longitudinal contour limited by the natural longitudinal characteristic of each section or assorted series of sections, as set forth.

2. The method of producing bone blanks for tooth-brush handles, substantially as hereinbefore set forth, which consists, first, in sawing trimmed bones into longitudinal sections; secondly, in simultaneously reducing both edges of each section to parallel planes; thirdly, in simultaneously milling both edges to the desired contour with reference to the central line of each section; and, finally, in simultaneously milling both sides of each section for developing lateral surfaces rectangular to the edges, with longitudinal contour limited by the natural longitudinal characteristic of each section, as set forth.

3. As an article of manufacture, a bone blank for tooth-brush handles, rectangular in cross-section, and having edges of corresponding longitudinal contour, substantially as described.

260,375. BONE-SAWING MACHINE. ALANSON C. ESTABROOK, Florence, Mass., assignor to the Florence Manufacturing Company, same place. Filed Dec. 10, 1881. (No model.)

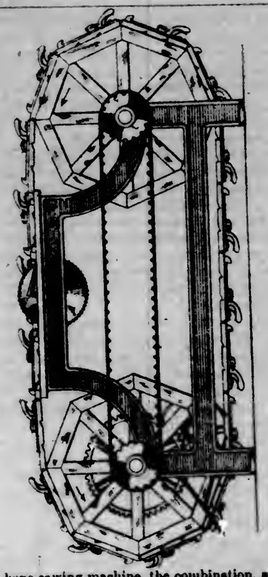
Brief.—The bone blanks for tooth-brush handles are clamped by the ends, and are fed between two saws, which saw the edges parallel.

Claim.—1. In a bone-sawing machine, the combination, substantially as hereinbefore described, of a pair of parallel saws and a clamp which punctures and is thereby enabled to firmly engage with and hold pieces of bone by endwise contact therewith, said saws and clamp being movable with reference to each other, as described, whereby said clamp, with bone held therein, may be made to occupy the space between the saws, as and for the purposes specified.

2. In a bone-sawing machine, the combination, substantially as hereinbefore described, of a pair of parallel saws and a clamp adapted to puncture and thereby firmly engage endwise with pieces of bone by a puncturing contact with each end thereof, and mounted upon a sliding base passing between the saws.

3. In a bone-sawing machine, the combination, substantially as hereinbefore described, of a pair of parallel saws and a series of connected sliding clamps for holding sections or pieces of bone and traversing the space between the saws.

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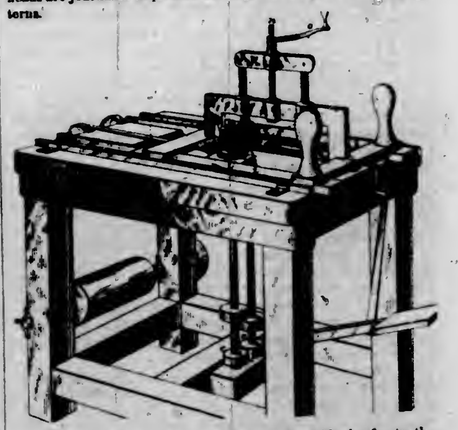


4. In a bone-sawing machine, the combination, substantially as hereinbefore described, of a pair of parallel saws, a series of connected clamps for holding sections of bone and presenting them to the saws, and releasing mechanism for automatically opening the clamps and releasing the sections of bone therefrom.

5. The combination of the parallel saws and a bone-holding clamp sliding between said saws, provided with a lever for opening and closing the clamp, substantially as described.

260,376. MACHINE FOR MILLING BONE BLANKS FOR TOOTH-BRUSHES. ALANSON C. ESTABROOK, Florence, Mass., assignor to the Florence Manufacturing Company, same place. Filed Dec. 15, 1881. (No model.)

Brief.—A peculiar clamp having small raised beds and clamping-fingers is placed upon a reciprocating carriage. This carriage carries also a pattern, adjustable laterally, and a gage to determine the position of the blank in the clamp constructed to swing back as the carriage approaches the cutters. The milling-heads are journaled in pivoted bearings and are guided by the patterns.



Claim.—1. The machine for shaping bone blanks for tooth-brushes, embodying in combination, substantially as hereinbefore described, the two rapidly-revolving milling-heads adapted to bone-cutting and movably mounted with relation to each other, the bone-holding clamp having the beds and clamping-fingers, a

pair of forms corresponding to the longitudinal contour of a tooth-brush blank for variably moving the heads toward each other, and a sliding carriage on which said clamp and forms are mounted.

2. The combination, substantially as hereinbefore described, of the pair of milling-heads, their spindles mounted in pivoted steps, and pivoted upper boxes, the sliding blocks in which said upper boxes are pivoted, the forms, the clamp, and the carriage on which said forms and clamp are mounted.

3. The combination, substantially as hereinbefore described, of the pair of milling-heads adapted to bone-working, the forms having the contour of a tooth-brush blank, the clamp for holding the bone, a sliding carriage on which the clamp and forms are mounted, and a gage for properly locating the bone in the clamp.

4. The combination, substantially as hereinbefore described, of the pair of milling-heads, the clamp, the sliding carriage, the gage, and means, substantially as described, for enabling the carriage during its sliding movement to move the gage into and away from its gaging position.

5. The combination, with the frame of the machine, provided with a stud and curved surface, of the sliding carriage and the gage, in the form of a bell-crank lever and pivoted to said carriage, substantially as described, whereby when the carriage is moved forward the gage is swung sidewise out of gaging position and returned and locked during the backward movement of said carriage, as set forth.

6. The combination of the pair of milling-heads adapted to bone-cutting and movable with relation to each other, the forms having a contour corresponding to the longitudinal contour of a tooth-brush blank, a bone-clamp, a carriage for said forms and clamp, and a treadle for moving the carriage forward, substantially as described.

7. The combination, with the bone-milling heads and the carriage, of the clamp-base, two elevated beds thereon, a pair of clamping-fingers, a rock-bar to which said fingers are pivoted, and a clamping-lever for bearing centrally upon the rock-bar, substantially as described, whereby both fingers may be equally forced in line with the elevated beds upon a bone regardless of its curvature and variable thickness.

8. The combination, with the bone-milling heads and the sliding carriage, of the clamp-base, the clamping-fingers, the rock-bar, the screw, and the nut-lever, substantially as described.

9. The combination of the pair of bone-milling heads, the bone-clamp having the beds and clamping-fingers and passing between the heads, the forms having the contour of a tooth-brush blank, and the adjustable connections between said forms and the milling-heads, substantially as described.

260,377. MACHINE FOR BORING BRUSH-HANDLES. ALANSON C. ESTABROOK, Florence, Mass., assignor to the Florence Manufacturing Company, same place. Filed Jan. 7, 1882. (No model.)

Brief.—The carriage upon which the blank is clamped is given an intermittent longitudinal movement and alternately therewith a vertical movement against the bits by a single hand-lever and its connections, the longitudinal movement being caused by a sliding pawl-bar with a cam-shaped projection, against which an arm of the lever strikes, and the vertical movement by an eccentric on the rock-shaft of the lever. The pawl is double, and can be shifted so as to give the intermittent longitudinal feed both forward and back. The lines of the rows of holes are determined by a gage having leaves of different widths, against either of which leaves an abutment can be made to bear.

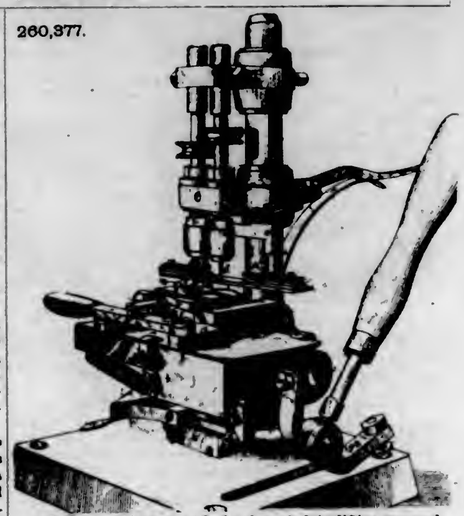
Claim.—1. In a machine for boring brush-handles, the combination, substantially as hereinbefore described, of one or more drills, a swiveled sliding clamp, and a curved line-gage which controls the movements of the clamp with relation to the drills.

2. In a machine for boring brush-handles, the combination, substantially as hereinbefore described, of one or more drills, a sliding clamp, and means, substantially as described, by which it is intermittingly moved longitudinally both forward and backward beneath the drills and intermittingly raised to and lowered from said drills, and a gage for determining the lines occupied by the rows of holes and for spacing said rows.

3. In a machine for boring brush-handles, the combination, substantially as hereinbefore described, of one or more drills, a sliding clamp, a gage for spacing rows of holes, and mechanism, substantially as described, whereby by means of a single lever said clamp is intermittingly moved step by step beneath the drills, and lifted to and lowered from said drills after each step.

4. The combination, with the clamp-bed and the clamp mounted on said bed, of a cam for lifting the bed, a pawl-bar and its spring, a pawl on said bar, a rack-bar on said bed, and a lever for rocking said cam and reciprocating said pawl-bar.

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5. The combination, with the clamp-bed, its lifting-cam, and its pawl-bar, spring, and pawl, of a lever for rocking said cam and vibrating the pawl-bar, and adjusting-screws for variably limiting the lift of the clamp-bed and the extent of its step-by-step movement.

6. In a machine for boring tooth-brush handles, the combination, substantially as hereinbefore described, of two or more drills, a gage for spacing rows of holes, a clamp for holding the handle, and mechanism, substantially as described, for moving said clamp with relation to the drills step by step in a predetermined line, whereby either of said drills may occupy a hole previously drilled during the drilling of a hole by another drill, as set forth.

7. The combination, with one or more drills, a sliding clamp-bed, and a clamp, of a gage composed of leaves mounted one above the other, and an abutment forced longitudinally by a spring for successive engagement with the edges of said leaves, substantially as described.

260,378. MACHINE FOR GRAVING BRUSH-HANDLES. ALANSON C. ESTABROOK, Florence, Mass., assignor to the Florence Manufacturing Company, same place. Filed Jan. 17, 1882. (No model.)

Brief.—The carrier may swing from either of two centers, so that grooves in arcs of different circles may be cut by the same saw. When the groove is cut to a proper length the carrier drops down and is drawn back with its end resting on the lower table or support.

Claim.—1. The combination, substantially as hereinbefore described, of the graving-tool, a clamp provided with gaging-surfaces for engaging laterally with the head of a tooth-brush handle, and a clamp-bed limited in its horizontal movements to the line of graving desired by mechanism substantially as described.

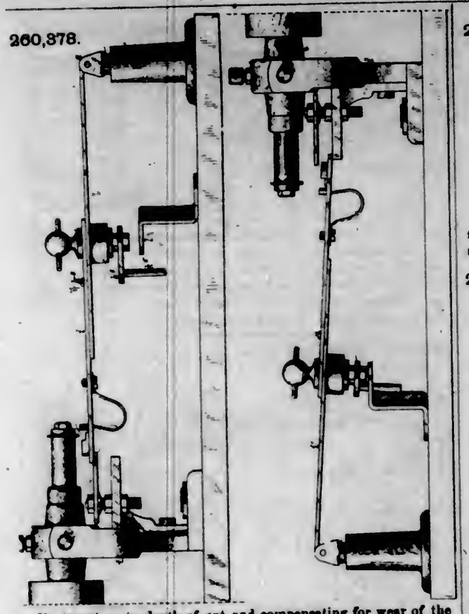
2. The combination, substantially as hereinbefore described, of the graving-tool, a clamp for engaging laterally with the head of a handle, a clamp-bed limited by mechanism, substantially as described, in its horizontal movements to the line of cut desired, and a supporting-plate which maintains the clamp-bed in proper relations to the graving-tool while cutting and permits the bed to drop at the termination of the cut.

3. The combination, substantially as hereinbefore described, of a suitable slotting or graving tool for cutting wire-slots in tooth-brush handles, a clamp for engaging with the edges of the head of a handle, and a clamp-bed pivotally mounted at its rear end, whereby the head of a handle may be passed longitudinally beneath the graving-tool and slotted in a curved line on the back thereof, as set forth.

4. The combination, substantially as hereinbefore described, of the slotting-saw, the pivoted clamp-bed, its clamp, and the bearing-plate for maintaining the outer end of the bed and a brush-handle in the clamp at a proper distance below the slotting-tool to insure a proper and uniform depth of cut, as set forth.

5. The combination, substantially as hereinbefore described of the slotting-tool, clamp and clamp-bed, and a bearing-plate for one end of the bed, which is vertically adjustable for varying the

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adjustment as to depth of cut and compensating for wear of the slotting-tool, as set forth.

6. The combination, substantially as hereinbefore described, of the slotting-tool, clamp, the laterally and vertically pivoted clamp-bed, and the bearing-plate.

7. The combination, substantially as hereinbefore described, of the graving-tool, the clamp, the horizontally and vertically pivoted clamp-bed constructed in sections independently pivoted to each other, and a lock for uniting said sections and permitting longitudinal adjustment of the outer section.

8. The combination, with the two clamp-bed sections, of the eccentric locking-bolt for advancing or retiring the outer section of the bed, and pivoting said outer section or locking it to the inner section, according to its required adjustment, substantially as described.

9. The combination, with the clamp-bed pivoted as to horizontal and vertical movements, and constructed in longitudinal sections independently pivoted together, of a locking device, substantially as described, which limits the inner of the bed-sections to its vertical movement, while the outer section is horizontally movable on its pivot, substantially as described.

10. The combination of the clamp-bed constructed in two sections pivoted together, and the locking-bolt operating as a pivot for the outer section and having an eccentric shank, and a crank-shaped arm co-operating with a standard, with which said arm engages, for locking the inner section against horizontal movement while permitting the free vertical movement of the outer end of the bed, substantially as described.

260,379. GRAVE-SIGNAL. ALBERT PHARRAGORT, Indianapolis, Ind. Filed Mar. 30, 1882. (No model.)

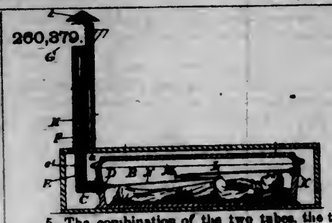
Claim.—1. A grave-signal the essential features whereof are a tube leading to the coffin or casket, a signal-flag therein, a spring by which said signal-flag may be forced vertically upward above the top of said tube, and means for releasing said spring which may be operated from the inside of the coffin, substantially as set forth.

2. The combination, in a grave-signal apparatus, with the signal, of the spring E and the stopper D, the stem of the latter being adapted to engage with the stem of the former, and to be disengaged by a cord attached thereto and extending inside the coffin, substantially as set forth.

3. The combination of the tube F, the rod H, the fabric G, the arms *g g*, and the springs *h h*, forming a grave-signal, substantially as shown and specified.

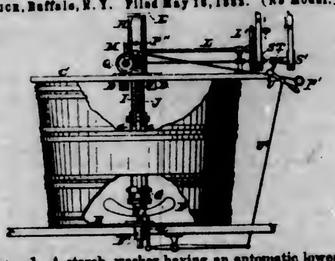
4. The combination, with the signal G and rod H, of the tube C, having bearings *c* and *c'*, the spring, E, having stem *e*, the stopper D, having stem *d*, and the cord N, substantially as set forth.

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5. The combination of the two tubes, the two stoppers, the signal, and means, substantially as described, for operating the same, all substantially as set forth.

260,380. STARCH-WASHER. JOSEPH FIRMENICH and FRANK FIRMENICH, Buffalo, N. Y. Filed May 16, 1882. (No model.)



Claim.—1. A starch-washer having an automatic lowering mechanism for the agitator, as and for the object specified.

2. A starch-washer having an automatic stopping device for the agitator, as stated.

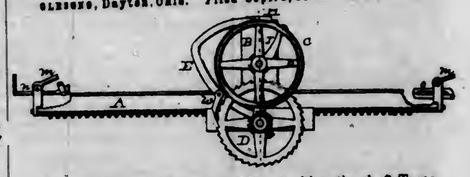
3. A starch-washer having an automatic lowering mechanism and an automatic stopping device for the agitator, as stated.

4. In starch-washers, the combination, with the agitating-wheel F, of the holder G, rods *a a*, hollow sleeve I, and mechanism for raising and lowering said sleeve I, as specified, for the object stated.

5. The combination, with the hollow sleeve I, having the rack J, of the gear-wheel K, spindle L, worm-wheel M, worm N, eccentric P', with lever P'' and rod *p*, spindle *s*, with bevel-wheel Q and shaft *r*, with bevel-pinion R, and the means for rotating said shaft *r*, substantially as described, for the object stated.

6. The combination, with the shaft *r*, of the pulleys S S', clutch T, push-rod *u*, lever U'', rod U', and lever U, as described, for the purpose of automatically arresting the downward movement of the agitating device in starch-washers, as stated.

260,381. LEATHER-PUNCHING MACHINE. WASHINGTON FOGLESONG, Dayton, Ohio. Filed Sept. 8, 1881. (No model.)



Claim.—1. In a leather-punching machine, the shaft T, carrying the cog-wheels M, which engage the cog-bars of the bed A, the ratchet-wheel D, and the arm E, with pawl W, to engage said ratchet-wheel, said arm being operated by the cam J of the driving-shaft V, the movement in one direction being given by said cam and in an opposite direction by the spring I, to move the punching-frame at intervals along the bed, the whole combined and operated substantially as set forth.

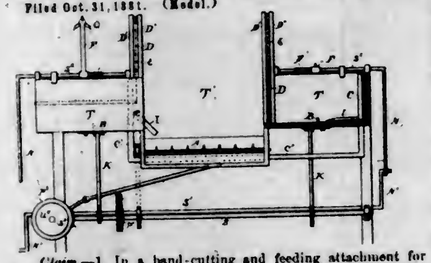
2. The frame B, supported on a suitable bed, which admits of a free movement longitudinally on said bed, the slide H, to which a series of punches are secured by plate U, the said slide having a reciprocating movement given by crank S of shaft V through the connection-arm G, and the channeled punching-plate L, the whole combined substantially as set forth.

3. The handle *n*, with clevis-like attachment in relation to a serrated incline of said handle, in combination with the eccentric-lever *m*, supported by ears bolted to end of bed, substantially as set forth.

4. The combination of the adjustable hand-clamp and the permanent clamp at opposite ends of the bed, and the channeled

punching-plate L, for the purpose of holding leather strips taut and in position during the operation of punching, in the manner substantially as set forth.

260,382. BAND-CUTTING AND FEEDING ATTACHMENT FOR THRASHING-MACHINES. ELI K. GARRETSON, Darlington, Ind. Filed Oct. 31, 1881. (Model.)



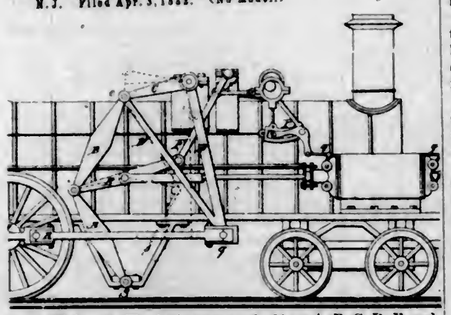
Claim.—1. In a band-cutting and feeding attachment for thrashing-machines, the combination of the trough T, vertically-movable gate D, the carrier C, knife B, arm F, means for operating them, the trough T', and feeder A, substantially as set forth.

2. The trough T, vertically-movable gate D, the carrier C, having arms I I, frame-work C', the cranked shaft S', connecting-rod J, serrated knife B, and vibratory arm F, in combination with the trough T' and feeder A, substantially as and for the purpose specified.

3. The trough T, carrier C, gate D, cords E E, the vibratory arm F, the serrated reciprocating knife B, the stationary serrated knife, the rod K, and the shaft S, having eccentrics, in combination with the trough T' and feeder A, substantially as and for the purpose set forth.

4. The trough T, gate D, carrier C, knife B, arm F, the shaft S', the arm N, the crank N', the shaft S', and the spring F', in combination with the trough T' and feeder A, substantially as set forth.

260,383. STEAM-ENGINE. WILLIAM FARR GOODWIN, Stelton, N.J. Filed Apr. 3, 1882. (No model.)



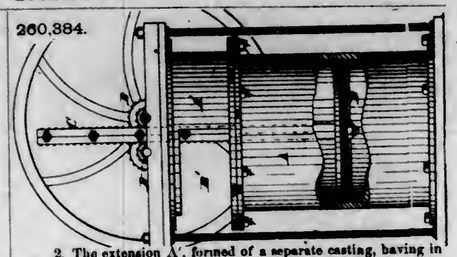
Claim.—1. The device composed of bars A, B, C, D, E, and F, arranged to act intermediately between the piston-rod and crank-rod, serving to connect and transmit the power and motion of the piston to the crank and imparting to the latter one revolution to one stroke of the piston and one reversed motion of the valves, substantially as described.

2. In combination with the piston-rod, vibrating beam or lever, and crank-rod of a steam or expansive power engine, the jointed bars A and B, arranged intermediately between the piston-rod and vibrating beam or lever in such a manner that the power and motion are transmitted from the piston-rod through the bars A and B to the vibrating beam or lever, and thence through the crank-rod to the crank and shaft, imparting to the latter one revolution for one stroke of the piston, substantially as described, for the purpose set forth.

260,384. CYLINDER FOR HOISTING APPARATUS. ARTHUR GRANVILLE, New York, N.Y. Filed Jan. 23, 1882. (No model.)

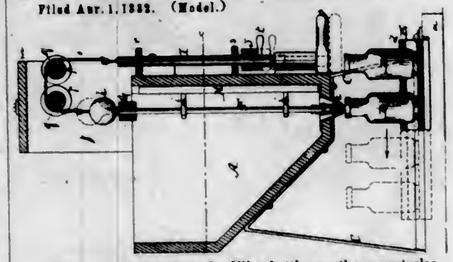
Claim.—1. In a hydraulic hoisting apparatus, the cylinder A, constructed with an extension, A', having therein an opening or openings arranged to afford access to the piston of the said cylinder when the said cylinder is moved outward from and beyond the limit of its normal stroke, substantially as and for the purpose herein set forth.

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2. The extension A', formed of a separate casting, having in one side the opening B', and constructed with a flange, *m*, in combination with the cylinder A, constructed with a flange, *n*, whereby the extension and the cylinder may be united by the bolts *r*, all substantially as and for the purpose herein set forth.

260,385. MUSTARD-FILLER. JACOB GULDEN, New York, N.Y. Filed Apr. 1, 1882. (Model.)



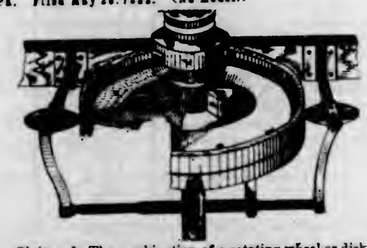
Claim.—1. In apparatus for filling bottles or other receptacles from a tank, A, the combination of said tank, having a row of apertures, *e*, with plugs *g*, weighted rods F, cord *o*, outer slides, I, bar J, having handle *x*, and with a support for the vessels to be filled, substantially as described.

2. The combination of the tank A, having apertures *e*, with the weighted rods F, cord *o*, slides I, one or more brackets, *r s*, handles *t*, bar J, and handle *x*, all arranged to allow the separate and also simultaneous lifting of the plugs *g*, substantially as specified.

3. The tank A, having removable bars H, which carry guide-eyes *i*, in combination with the weighted rods F, having plugs *g*, and with mechanism for removing said rods, substantially as described.

4. The mustard-filling apparatus having detachable superstructure *j m*, combined with the separable guide-bar G, removable guide-bars H *i*, and with mechanism for moving the rods F, that are guided in the bar G, and eyes *i*, substantially as described.

260,386. FRICTION-CLUTCH. JOHN A. HAPPER, Pittsburg, Pa. Filed May 26, 1882. (No model.)



Claim.—1. The combination of a rotating wheel or disk having a friction surface or surfaces on its sides, friction disks or plates mounted loosely on the hub or shaft of the wheel or disk, and turning therewith by contact with its friction-surfaces, and devices for separating the friction-plates and permitting the wheel or disk to rotate freely between them, substantially as and for the purposes described.

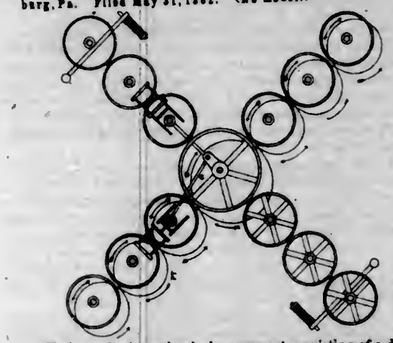
2. A wheel or disk having friction-surfaces on its sides, in combination with friction disks or plates arranged on its opposite sides, which plates are free on the shaft and are elastically connected together by bolts and springs, substantially as and for the purposes described.

3. The combination of a rotating wheel or disk, friction plates or disks mounted loosely on the shaft and bearing elastically upon the opposite sides of the rotating wheel, and wedge-shaped wheels capable of being forced between the friction-plates to open them and free the rotating wheel or disk of their clasp, substantially as and for the purposes described.

4. The combination of a rotating wheel or disk, friction plates or disks connected together and bearing on opposite sides of the rotating wheel, and a sliding clutch connected to a shaft and engaging with a clutch on one of the friction-plates, substantially as and for the purposes described.

5. The combination of the pivoted arms, carrying the wedges, screw-rods connecting their outer ends, and a screwing device for operating the rods to cause the arms to approach or recede from each other, substantially as and for the purposes described.

260,387. MECHANICAL MOVEMENT. JOHN A. HAPPER, Pittsburg, Pa. Filed May 31, 1882. (No model.)

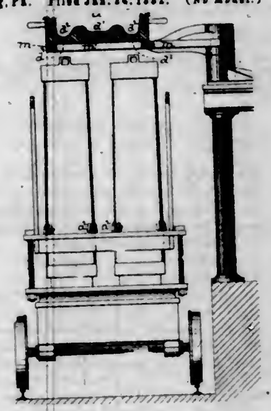


Claim.—1. A mechanical movement consisting of a driven pulley, a guide wheel or wheels with their axes inclined to the axis of the driven pulley, and a series of working-pulleys intermediate between the driven pulley and guide-pulleys, the whole being connected by an endless belt running on alternate sides of the working-pulleys, substantially as described.

2. A mechanical movement consisting of a driven pulley and an adjustable guide wheel or wheels with their axes inclined to the axis of driven pulley, and a series of working-pulleys intermediate between the driven pulley and guide-pulleys, the whole being connected by an endless belt running on alternate sides of the working-pulleys, substantially as described.

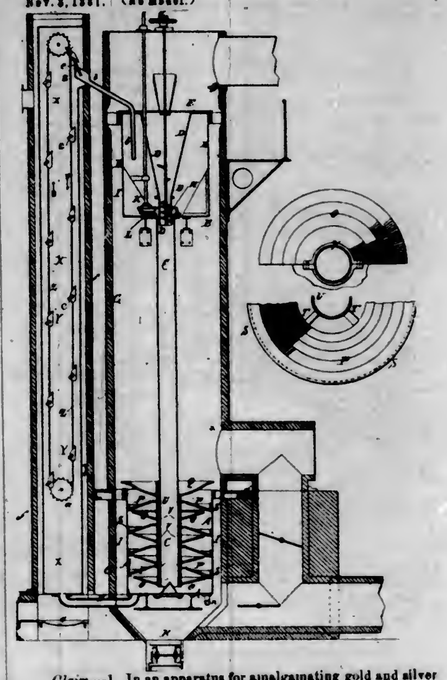
3. A mechanical movement consisting of a driven pulley, an adjustable guide wheel or wheels with elastically-journaled bearings, with their axes inclined to the axis of the driven pulley, and a series of working-pulleys intermediate between the driven pulley and guide-pulleys, the whole being connected by an endless belt running on alternate sides of the working-pulleys, substantially as described

260,388. CASTING APPARATUS. WILLIAM HAINSWORTH, Pittsburg, Pa. Filed Jan. 24, 1882. (No model.)



Claim.—A swinging bracket, *n*, having one or more slots or openings, as described, in combination with runner-box *d*, substantially as set forth.

260,389. APPARATUS FOR AMALGAMATING GOLD AND SILVER ORES. WALTER HAMILTON, New York, N.Y. Filed Nov. 3, 1881. (No model.)



Claim.—1. In an apparatus for amalgamating gold and silver ores, the distributing-plates O P, having their lower sides divided into ring-spaces and grooved radially, substantially as herein shown and described, whereby the ore will be spread as it passes outward and drawn together as it passes inward, as set forth.

2. The combination of the radially-grooved plates O P, substantially as herein shown and described, whereby the material is alternately spread and condensed by the radial grooves, as set forth.

3. In an apparatus for amalgamating gold and silver ores, the combination, with the lower vessel, A, and the pipe C, of the distributing-plates O P, having their lower sides divided into ring-sections and grooved radially, as set forth.

4. In an apparatus for amalgamating gold and silver ores, the combination, with the lower vessel, A, the pipe C, and the distributing-plates O P, of the dish-shaped plate Q, substantially as herein shown and described, whereby the refuse is removed from the said vessel, as set forth.

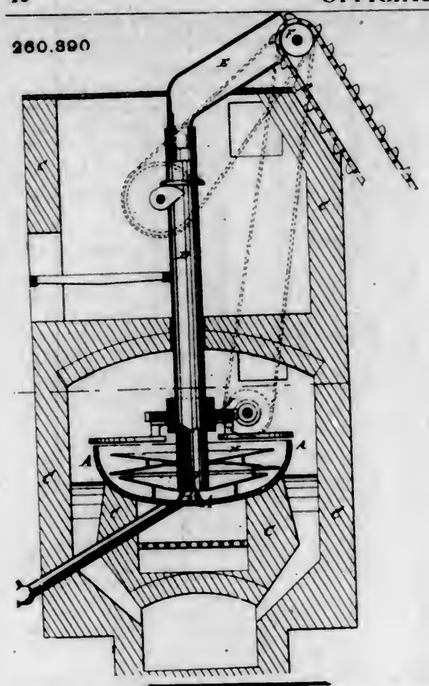
5. In an apparatus for amalgamating gold and silver ores, the combination, with the upper vessel, B, the pipe C, and the ore-funnel D, of the valve K and spout L, substantially as herein shown and described, whereby the descent of the lead can be regulated, as set forth.

6. In an apparatus for amalgamating gold and silver ores, the combination, with the vessels A B, the elevator Y Z, and the furnace-stack *f*, of the elevator-well X, placed in the said stack, and communicating with the said vessels by the pipes *b* W, substantially as and for the purpose set forth.

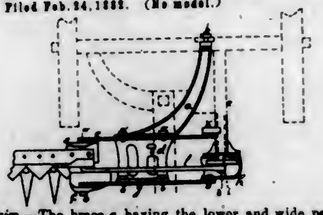
260,390. APPARATUS FOR AMALGAMATING GOLD AND SILVER ORES. WALTER HAMILTON, New York, N.Y. Filed Apr. 3, 1881. (No model.)

Claim.—In an amalgamator for gold and silver ores, the combination, with the ore-supply chute E and the amalgamating-basin A, of an intermediate perpendicular pipe, D, fitting over a downwardly-projecting portion of said chute, extending through guides toward the bottom of the basin, and means for raising and letting it drop, as described.

260,390



260,391. MOWING-MACHINE. ARTHUR D. HAMLIN, Portland, Me. Filed Feb. 24, 1882. (No model.)



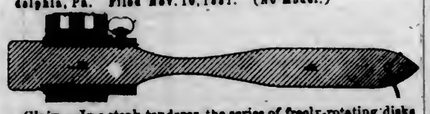
Claim.—The brace *a*, having the lower and wide part, *d*, in combination with the front plate, *g*, the end pieces, *f* and *h*, the piece *e*, and the bolts and pivots *b* and *c*, constructed and arranged to operate as herein specified.

260,392. CHARM FOR WATCH-CHAINS. CHARLES R. HARRIS, Attleborough, Mass. Filed Apr. 24, 1882. (No model.)



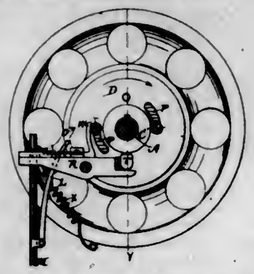
Claim.—The improved charm hereinbefore described, consisting of a case or shell, A, having an opening, a^2, in one of its faces, a sliding plate, B, guides for said plate, a spring, C, for moving the plate to close the opening, and a figure or object, D, mounted on a spring, E, so as to swing forward in the arc of a circle, substantially as set forth.

260,393. MEAT-TENDERER. ISAAC W. HUYSINGER, Philadelphia, Pa. Filed Nov. 10, 1881. (No model.)



Claim.—In a steak-tenderer, the series of freely-rotating disks E E, provided with inclined teeth, each alternate disk having the slope of the teeth in an opposite direction, in combination with a handle for manipulating the same, substantially as described.

260,394. FRICTION-MOVEMENT. JAMES A. HORTON, Boston, Mass. Filed Nov. 7, 1881. (No model.)



Claim.—1. The combination of a shaft, A, having a many-sided collar, a continuously-rotated driving-wheel normally loose on said shaft and provided with a concentric recess surrounding said collar, a series of friction-rollers located in the space between said recess and collar, and means for varying the position of the rollers with relation to the wider and narrower portions of the space F, as described, and thereby engaging the shaft with or releasing it from the driving-wheel.

2. The combination of a shaft, A, having a many-sided collar, a continuously-rotated driving-wheel normally loose on said shaft, and provided with a concentric recess surrounding said collar, a series of friction-rollers located in the space between said recess and collar, a disk, D, having a limited independent rotary movement on the shaft, and provided with projections H, arranged between the rollers, and means for rotating said disk to cause the rollers to engage the driving-wheel with the shaft and for stopping said disk to release the wheel from the shaft, as set forth.

3. The roller-operating disk D, having a limited independent rotary movement, and provided with a stud, T, combined with the pivoted bar R, adapted to arrest the disk D, and means, substantially as described, for turning the bar on its pivot to release the disk, as set forth.

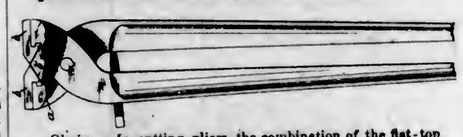
4. The combination, with the roller-operating disk D, having a limited independent rotary movement, and provided with the stud T, of the bar R, the sliding latch V, and the shouldered rod M and its operating device, as and for the purpose set forth.

5. The combination of the bar R, shouldered rod M, and the latch V, arranged to be unlatched by a cam or projection fixed on the rotating shaft, as set forth.

6. The combination of the roller-operating disk D, having a limited independent rotation, the collar C, and the safety-pin 4, whereby accidental independent rotation of the disk is prevented, as set forth.

7. The combination of a driving-wheel adapted to be continuously rotated, a shaft normally disconnected from said wheel, mechanism controlled by an attendant to engage the shaft with the driving-wheel, and automatic mechanism for disengaging the shaft from the wheel after the shaft has performed its allotted work, as set forth.

260,395. CUTTING-PLIERS. TIMOTHY D. HUTCHINS, Higganum, Conn. Filed Nov. 3, 1881. (No model.)



Claim.—In cutting-pliers, the combination of the flat-top bases *a*, the flat-bottomed blades *b*, hooking over the front of the bases, and the fastening-screws *c*, driven from above down through the blades into the bases, all substantially as described.

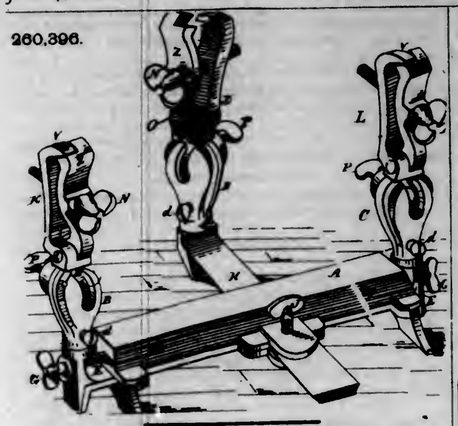
260,396. VISE. EDGAR O. HUNT, Melrose, Mass. Filed May 18, 1882. (No model.)

Brief.—The pipe-sections to be joined are held by the clamps B C. Side clamp, D, is for holding a faucet or a branch pipe.

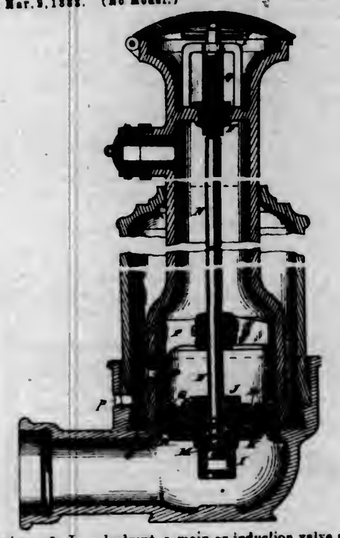
Claim.—1. The improved vise described, consisting of the body A, slides E E, screws G, head-stocks B C, clutches K L, and screws *d* P N, constructed and arranged to operate substantially as set forth.

2. In a vise, substantially such as described, the side stock, D, clutch O, and slide H, substantially as specified.

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260,397. HYDRANT. RUDOLPH M. HUNTER, Philadelphia, Pa. Filed Mar. 9, 1882. (No model.)



Claim.—1. In a hydrant, a main or induction valve at all times supported and carried by the valve-rod, but free to slide vertically thereon.

2. In a hydrant, a main or induction valve supported and carried by the valve-rod, but free to slide thereon, in combination with a valve-seat and a spring to press said valve upward upon the valve-rod, said spring being inclosed and excluded from the action of the flowing water.

3. In a hydrant, a main or induction valve supported and carried by the valve-rod, but free to slide thereon, in combination with the valve-rod and a waste-valve uniformly and positively actuated thereby.

4. In a hydrant, a main or induction valve supported and carried by the valve-rod, but free to slide thereon, in combination with a valve-rod, a valve-seat, spring adapted to press said valve upward upon said valve-rod, and a waste-valve secured firmly upon said valve-rod.

5. In a hydrant, a waste-valve and a main or induction valve, both supported and carried by the same valve-rod, but so constructed that the waste-valve shall have a greater movement than the main or induction valve.

6. In a hydrant, a valve-rod in combination with a waste-valve and an induction-valve, both of which are carried by said valve-rod, said valves operating so that the waste-orifice is always closed before the main or induction valve leaves its seat, and vice versa.

7. In a hydrant, a main or induction valve supported upon the valve-rod and adapted to leave its seat only after the said valve-rod has been partly lowered, and always reach its seat before the valve-rod is fully raised.

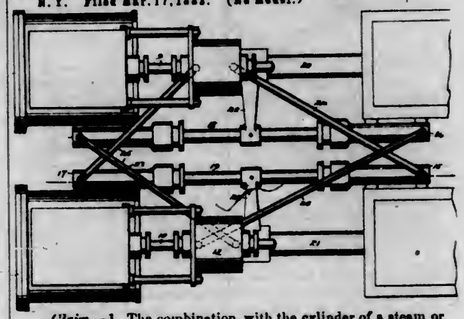
8. In a hydrant, a main valve and a waste-valve, both supported by a single valve-rod, in combination with means by which said main valve is pressed upward upon said valve-rod, whereby the said hydrant may be made either wasting or non-wasting, as desired, and without changing any of its parts.

9. In a hydrant, the combination of valve-rod N, valve-cylinder I, carrying valve-packing L, cap J, or its equivalent, and spring M, as set forth.

10. In a hydrant, the combination of valve-rod N, waste-valve P, main-valve cylinder I, carrying packing L, cap J, and spring M, as set forth.

11. In a hydrant, the valve-rod N, having head or nut O on its end, in combination with valve-cylinder I, carrying packing L, cap J, or its equivalent, and spring M, as shown.

260,398. APPARATUS FOR OPERATING THE VALVES OF STEAM AND OTHER ENGINES. FRANK W. JENKINS, Brooklyn, N. Y. Filed Mar. 17, 1882. (No model.)



Claim.—1. The combination, with the cylinder of a steam or other engine and the valve for controlling the ingress and exhaust ports thereof, of a confined column of fluid for transmitting motion from some moving part of the engine to said valve, substantially as described.

2. The combination, with the valve-rod, cylinder, and piston, of a column of fluid connecting said piston with some moving part of the engine, substantially as described.

3. The combination, with the valve-rod, cylinder, and piston, of a column of fluid connecting opposite sides of said piston with moving parts of the engine, substantially as described.

4. The combination, with the valve-rod, cylinder, and piston, as 10 12 13, of the pipes, as 26 27, cylinders and plungers, as 14 16 18, and means for operating the plungers, substantially as described.

5. In a duplex engine, the combination, with the valve-rods, of two cylinders, as 11 12, provided with pistons, as 13, four cylinders, as 14 15 16 17, pipes, as 24 25 26 27, plungers, as 18 19, and means for operating said plungers, substantially as described.

6. In a duplex engine, the combination of the valve-rods, cylinders, as 11 12, having pistons, as 13, and column of fluid connecting the said pistons with moving parts of the engine, substantially as described.

7. The combination with the valve-rod, cylinder, and piston, as 10 12 13, of the pipes, as 24 25, cylinders and plungers, as 15 17 19, and means for keeping said cylinders and pipes constantly filled and for equalizing the amount of fluid on each side of the piston 13, all substantially as described.

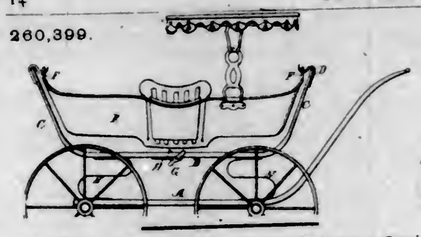
8. The combination, with the valve-rod, cylinder, and piston, as 10 12 13, of the pipes, as 24 25, cylinders and plungers, as 15 17 19, pipes, as 29, and valve-chambers, as 30, connected with a supply-tank, substantially as described.

260,399. CHILD'S CARRIAGE. JOHN W. KRUEGER, Cincinnati, Ohio. Filed Jan. 30, 1882. (No model.)

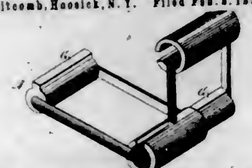
Claim.—1. A combined baby-carriage and swinging cradle, consisting of the carriage-body A, the front and rear springs, N, the side pieces, C, bent upward at front and rear and united at their ends *c*, and provided with hooks D, and the swinging body E, having loops or eyes F at front and rear to engage upon said hooks, the whole constructed substantially in the manner described.

2. In a combined baby-carriage and cradle, the fastening device consisting of shaft I, latch H, and spring L, combined with the bottom of body E, having groove M, substantially as set forth.

260,399.



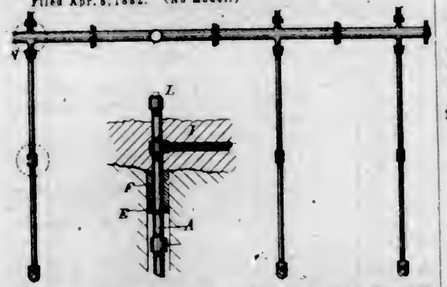
260,400. DRIVE-CHAIN. CHARLES H. LABELLE, Hoosick Falls, assignor of one-half to Charles E. Stroud and Darwin E. Whitcomb, Hoosick, N. Y. Filed Feb. 8, 1882. (Model.)



Claim.—1. A link for drive-chains, having at one end an open hook and at the other a cylinder or bushing, A, provided with the tongue G, said cylinder being pivoted on the end bar and adapted, when coupled to the hook of an adjacent link, as described, to form a closed and perfect cylindrical joint or coupling, as set forth.

2. A link for drive-chains, having at one end an open hook, and with one of its side bars projecting into the socket of the hook, and provided at the other end with a cylinder or bushing, A, having a tongue, G, said cylinder being pivoted on the end bar and adapted to be coupled from one side only of an adjacent link, and to form when coupled a tight and perfect cylinder or joint, as set forth.

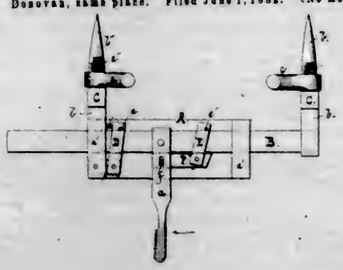
260,401. TUBE-WELL. AMBROSE N. LANE, Rochester, N. Y. Filed Apr. 8, 1882. (No model.)



Claim.—1. The combination of the well-tube A, flange E, and cement filling F, substantially as and for the purposes set forth.

2. The combination of a series of two or more wells, A A, and suitable connecting mains or piping located below the frost-line when the upper ends of the wells project above the mains or piping, and are provided with a removable cap or plug, L, substantially as and for the purposes set forth.

260,402. BALE-BAND REPLACER AND TIGHTENER. WILLIAM R. LENARD, Waco, Tex., assignor of one-half to John T. Donovan, same place. Filed June 1, 1882. (No model.)

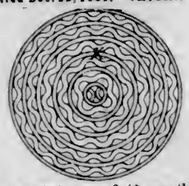


Claim.—1. In combination with the casing having block D, the lever *a*, clutch E, having bolt *e'*, the sliding bar B, and cam-levers *c*, as set forth.

2. In combination with the bars *b*, having pointed ends *b'*, the cam-levers *c*, springs *c'*, bar B, and casing A, provided with a clamp for engaging with the bar, a block, D, for securing it, and an actuating-lever, as set forth.

3. In combination with the cam-lever clamps and bar B, the slotted block D E, having bolts *e e'* and the lever *a*, as set forth.

260,403. INHALER FOR ETHER, &c. MARTIN MATTER, Chicago, Ill. Filed Dec. 22, 1881. (Model.)



Claim.—1. In inhalers for fluid anæsthetics, the cylindrical casing A, containing a diaphragm, E, having valve I at its center and flap-valve J near its edge, and an absorbent plug, combined with cap B, covered with wire-gauze *a*, and with ring C, having face-shield D, all substantially as and for the purpose set forth.

2. The combination, with the ring C, of the face-shield D, of soft vulcanized rubber, having wings *d* and notch *e*, the ring *c*, for clamping said shield to the ring C, and the perforated sheet-metal diaphragm *b*, all constructed and arranged substantially as and for the purpose set forth.

3. In inhalers for fluid anæsthetics, the casing A, having opening F, conical diaphragm E, and valve-seat plate H, with valves I and J, all substantially as and for the purpose set forth.

4. In inhalers for fluid anæsthetics, the casing A, having opening F, conical diaphragm E, valve-seat plate H, with valves I and J, and opening G, with slide L, all substantially as and for the purpose set forth.

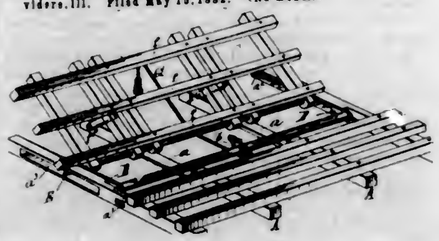
5. In inhalers for fluid anæsthetics, the combination of casing A, having opening F, conical diaphragm E, valve-seat plate H, with valves I and J, opening G, with slide L, cap B, having wire-gauze *a*, ring C, having perforated plate *b*, rubber face-shield D, and perforated absorbent plug K, all constructed and arranged substantially as and for the purpose described and shown.

260,404. HAND VISE AND WRENCH. PETER S. MEADOR, Frankfort, assignor of one-half to Charles E. Bailey, Bonsonia, Mich. Filed May 26, 1882. (Model.)



Claim.—A hand-vise which may also be used as a wrench, combining in its construction two clamping-jaws, a clamping-screw provided with nuts for holding it in one of the jaws, a transverse bar of metal passing through one of the jaws and provided with a series of holes, a cam-shaped lever for giving additional clamping force to the jaws and for providing for the adjustment and retention of said jaws when the implement is used as a wrench, and a handle for turning the same, substantially as described.

260,405. HEAD-SECTION FOR BEDS. ENNEY P. MEIER, Belvidere, Ill. Filed May 15, 1882. (No model.)



Claim.—1. The combination, with the horizontal bars of the bed-bottom, of the rock-shaft pivotally supported in longitudinal slots in the outer bars of the bed-bottom, pivotally connected to the ratchet-bars, which are pivotally secured to the head and end of the bars of the bottom, and a head-section supported upon a transverse rod running in horizontal transverse slots in the bars of the bottom, and adapted to catch into the teeth of the ratchet-bar, substantially as shown and described.

2. In combination with the longitudinal bars of the bed-bottom and the crank-shaft secured therein, and adapted to be elevated and depressed, the ratchet-bars connected to the crank-shaft and pivotally secured to the bar of the bottom, and a head-section provided with means for engaging in the ratchet-bar, and connected to the bars of the bottom by links, substantially as shown and described.

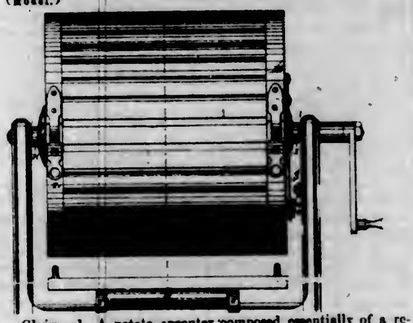
3. The combination of the bars A A, slotted longitudinally and transversely at *a a' a²*, with a crank-shaft provided with an arm, *b*, the cord G, the ratchet-bars D, the head-section provided with the rod E, and the connecting-links *f'*, substantially as shown and described.

260,406. WASH-BENCH. JAMES E. NORTH, Penn Yan, N. Y., assignor of one-half to Truman S. North, same place. Filed Mar. 31, 1882. (No model.)



Claim.—The herein-described improved wash-bench, having the uprights C C, cross-bar D, having disk or turn-table E and bails J, provided with handles K, pivoted to the ends of said cross-piece, and the swiveled bar I, having disk H and A-shaped cap L, all combined and operating as herein described, for the purpose set forth.

260,407. MACHINE FOR REMOVING SPROUTS FROM POTATOES. EDWIN PAYNE, Oxbow, N. Y. Filed June 11, 1881. (Model.)



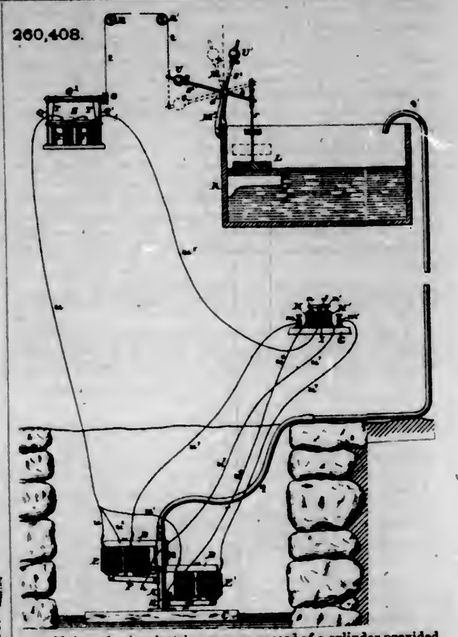
Claim.—1. A potato-sprouter composed essentially of a revolving cylinder provided with ogee-formed slats, cross-bars, and ribbed heads, substantially as shown and described.

2. The combination, with a frame, of the revolving sprouting-cylinder described, provided with a segmental door and a tray, substantially as shown and described.

260,408. ELECTRIC PUMPING APPARATUS. CHARLES C. PUCH and WILLIAM H. CHAPMAN, Middlebury, Vt. Filed Aug. 29, 1881. (No model.)

Brief.—The pump consists of a cylinder inclosing two pistons, each in the form of a hollow cylinder with a valve at its upper end. Projections from the pistons extend through slots in the sides of the cylinder and engage with the armatures of two electro-magnets. By an appropriate commutator the magnets are alternately excited and discharged, thereby keeping the pistons in motion. A device is shown whereby the battery-plates are plunged into the liquid or withdrawn therefrom, according to the supply of liquid in the reservoir.

260,408.



Claim.—1. An electric pump composed of a cylinder provided with a valve near its upper end arranged to open upward, two tubular pistons, arranged one above the other in said cylinder and each provided with a valve arranged to open upward, and two electro-magnets, each provided with a pivoted armature, the free or movable end of which is connected to one of said pistons, substantially as and for the purposes described.

2. The combination of the cylinder A, pistons B and B', valves *a*, *b*, and *b'*, electro-magnets E and E', armatures F and F', and the float C, all constructed, arranged, and adapted to operate substantially as and for the purposes described.

3. The combination of a pump-cylinder, two pistons arranged in said cylinder, one above the other, two electro-magnets, each provided with an independent pivoted armature connected at its free or movable end with one of said pistons, and two electrically-connected contact points or surfaces located outside of the magnets and with which said armatures engage to shunt a portion of the current when they are attracted into contact with the cores of said magnets, substantially as described.

4. The combination of a pump-cylinder provided with a piston and suitable valves, an electro-magnet composed of two coils of insulated wire wound upon two magnetic metal cores, and an armature pivoted at one end to one of said cores and connected at its other end, which extends beyond the other core, with said piston, substantially as and for the purposes described.

5. The combination of a pump-cylinder provided with two pistons and suitable valves, two electro-magnets, two pivoted armatures connected to and adapted to work said pistons, two shunting devices connecting with said armatures when closed, and a commutator constructed as set forth, to be operated by said shunted current and control the passage of the main current alternately through one and then the other of the pump-magnets, substantially as and for the purposes described.

6. The combination of a battery, an electric pump, a reservoir to receive the liquid pumped, a float arranged in said reservoir to rise and fall with liquid contained therein, and mechanism connecting said float with the zincs and carbons of the battery, whereby an excess of liquid discharged into the reservoir will cause the zincs and carbons to be raised out of the acid, and a deficiency of liquid in said reservoir will cause said zincs and carbons to be redeposited in the acid, substantially as described.

7. In combination with an electric pump, a battery for operating the same, provided with the frame S, carrying the zincs and carbons, the reservoir K, the float L, provided with the slotted rod *r*, the three-armed lever M, connected by one arm to the rod *r*, and provided with the weights U' and U², the cord *t*, the pulley O, the

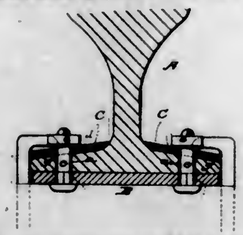
drum O^2, and the cords T T, all arranged and adapted to operate substantially as and for the purposes described.

8. The combination, with an electric pump and a battery for operating the same, of a commutator composed of two electro-magnets, H and H′, the standard I, the three-armed lever J J′, carrying the armatures *n* and *n*′, and the spring *p*, pivoted at one end to the movable end of the arm J′ of said lever and at its other end to a fixed pivot, substantially as described.

9. The combination of a pump-cylinder provided with a piston and suitable valves, an electro-magnet composed of two coils wound upon separate cores, an armature pivoted at one end to one of said cores and extending beyond the other core and connected to said piston, and the spring *k*, arranged to act upon said armature to move it from either extreme of its movement toward the center of said movement, substantially as and for the purposes described.

260,409. RAILROAD-RAIL JOINT. CHARLES B. PHILLIPS, Chicago, Ill. Filed May 3, 1882. (No model.)

Brief.—Perforated rails are secured by means of bolts passing through a bottom plate and a fish-plate placed on the flange of the rail. The nuts are locked by spikes driven in the tie or sleeper.



Claim.—1. The railroad-joint consisting of the rails A A, having the flanges *g*, perforated at *a*, the slotted sub-plate B, slotted cover-plate C, and the upwardly-directed bolts *c* and nuts *e*, substantially as specified.

2. The combination, with the perforated rail-flanges *g*, slotted sub-plate B, and slotted cover-plate C, of the upwardly-directed bolts *c*, nuts *e*, and headed spikes *s*, locking the nuts in position, substantially as specified.

260,410. MINER'S SQUIB. JOHN R. POWELL, Plymouth, Pa. Filed Mar. 2, 1882. (No model.)

[redacted]

Claim.—As an improved article of manufacture, the herein-described improved miner's squib, consisting essentially of the squib-tube, the match inserted in the open end of the same, so as to form a seal or choke, and held in place by the adhesive inflammable material with which it is coated, and a second coat of inflammable material applied to the end of the squib-tube and to the match after the latter has been adjusted in position, for the purpose of holding and sealing it more securely, as set forth.

260,411. BUTTON FOR GLOVES. EUGENE PRINDLE, Gloversville, N. Y. Filed Jan. 24, 1881. (No model.)



Claim.—In a separable or detachable button, the combination, with the base-section C, having a stud which is provided with a sloping or semispherical head and annular concave groove *c* below said head, of the head-section D, having a stud-receiving tube provided with horizontal slot *o*, and the spring *s*, having its limb *s* resting in said slot and its body held within an inclosed chamber surrounding said slotted tube, all for operation substantially as and for the purpose set forth.

260,412. CENTRIFUGAL SEPARATOR. EDWARD E. QUIMBY, Orange, N. J., assignor to Franz O. Matthiessen, Irvington, and William A. Wieshere, New York, N. Y. Filed May 3, 1882. (No model.)



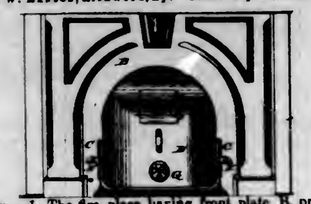
Claim.—1. In a centrifugal machine, the removable rim D, in combination with the rotating bottom disk, B, as and for the purpose set forth.

2. The removable rim D, in combination with the rotating bottom disk, B, and the stripping-disk C, substantially as and for the purpose set forth.

3. The rim D and the rotating bottom disk, B, provided with the holes F, in combination with the shield *f*, as and for the purpose set forth.

4. The rim D, provided with the handles D′ and means for elevating the rim, as and for the purpose set forth.

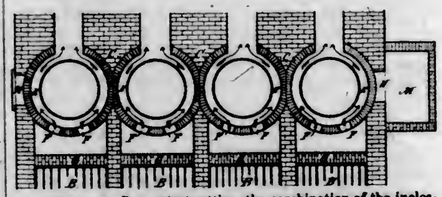
260,413. COMBINED BLOWER AND DAMPER FOR GRATES. GEORGE W. RAYBURN, Richwood, Ky. Filed May 11, 1882. (No model.)



Claim.—1. The fire-place having front plate, B, provided with vertical grooves C, in combination with the blower D, having flanges E, fuel-door F, and damper G, as set forth.

2. The fire-place having front plate, B, provided with grooves C and pivoted catches H, in combination with the blower D, having flanges E, fuel-door F, and damper G, as set forth.

260,414. MANNER OF SETTING RETORTS FOR TREATING SULPHURIC ACID. ALBERT RAPPOLD and ERNEST LEITH, Titusville, Pa. Filed Feb. 20, 1882. (No model.)



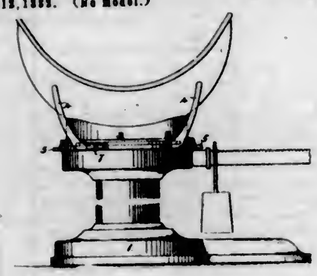
Claim.—1. In a retort-setting, the combination of the inclosing wall C and breast-wall G, the latter constructed between the furnace B and the inclosing wall C, the top of the breast being above the top of the fire-openings F and the bottom of the fire-openings F being above the top of the saucer I, substantially as described, and for the purposes herein set forth.

2. The sewer H, constructed the entire length of the bench, under the retorts, inclining toward one end and terminating in the reservoir M, substantially as described.

3. The flue H, constructed the entire length of the bench, under the retorts, and provided with close-fitting doors at either end, as a cold-air flue for cooling the retorts when required, substantially as described.

4. In combination with a bench of retorts for treating sulphuric acid, constructed in the ordinary manner, the breast-wall G, the sewer H, under the retorts, and reservoir M, constructed substantially as described, and for the purposes herein set forth.

260,415. GROCER'S SCALES. WILLIAM W. REYNOLDS, Rutland, Vt., assignor to the Howe Scale Company, same place. Filed Apr. 13, 1882. (No model.)



Claim.—1. The combination, with the platform of a weighing-scale, of the hinged arms, as 4, substantially as described.

2. The hinged arms, as 4, connected by rods, as 8, in combination with the scale-platform, substantially as described.

3. The combination, with the scale-platform, of the hinged arms, the connecting-rods, the lugs, as 6, and the springs, as 7, substantially as described.

4. The combination, with the scale-platform, of the hinged arms connected by rods, the lugs 5 and 6, and the springs 7, substantially as described.

260,416. LIGHT-LEATHER-COLORING COMPOUND. CHAS. RICHTER, St. Paul, Minn. Filed Mar. 8, 1882. (No specimens.)

Claim.—A coloring compound composed of water, sulphate of iron, bichromate of potash, terra-japonica, and hemlock extract, mingled in the proportions and manner substantially as set forth.

260,417. PROCESS OF PREPARING A SOLUTION FOR DYEING OR STAINING LEATHER. CHARLES RICHTER, St. Paul, Minn. Filed Mar. 8, 1882. (No specimens.)

Claim.—The hereinbefore-described process of forming a solution for dyeing or staining leather, consisting in mixing clay, water, common salt, sulphuric acid, brewer's yeast, alum, hemlock extract, and terra-japonica, substantially as set forth.

260,418. PROCESS OF TAWING AND COLORING HIDES AND SKINS. CHARLES RICHTER, St. Paul, Minn. Filed Mar. 8, 1882. (No specimens.)

Claim.—The mode of tawing and coloring hides and skins by first treating them with a mixture of clay, water, common salt, sulphuric acid, brewer's yeast, and alum, substantially as set forth, and then coloring with a solution of water, sulphate of iron, bichromate of potash, hemlock extract, and terra-japonica, substantially in the manner set forth.

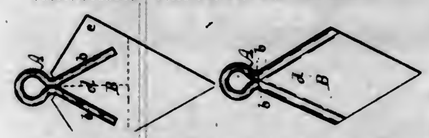
260,419. STOVE ATTACHMENT. PETER RIBEN, Chicago, Ill. Filed Oct. 1, 1881. (No model.)



Claim.—1. In a knife-sharpening attachment for a stove, the combination, with the stone-holder, of clamps pivotally connected with said holder and fitted to the stove, whereby the stone may be raised or lowered, substantially as described.

2. In combination with the stone-holder, and with clamps for securing the attachment to the stove, provided with the lugs *b*, the links E, pivoted to the holder and to the clamps to carry the stone parallel with the edge of the stove, substantially as described.

260,420. EAR FOR TIN CANS. WILLIAM H. ROBBIE, Toronto, Ontario, Canada. Filed Jan. 26, 1882. (No model.)



Claim.—An ear for sheet-metal cans and other vessels composed of a wire loop, A, having obliquely-divergent prongs *b b*, and a sheet-metal flange, B, having lateral corners *c c*, folded around the prongs of the loop, the upper part of the flange being overlapped by the said folded corners, and depressed between the prongs to fit, with the rest of the flange, the surface of the vessel to which it is to be applied, substantially as and for the purpose herein specified.

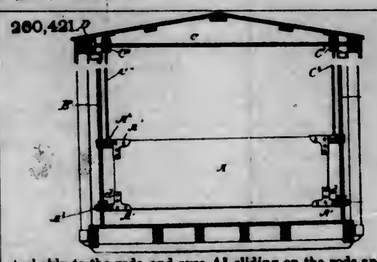
260,421. STOCK-CAR. CHARLES W. ROGERS, New York, N. Y., assignor to Rogers & Turnbull, same place. Filed Sept. 29, 1881. Renewed May 12, 1882. (No model.)

Claim.—1. In combination with the vertically-movable partition and the rods [illegible] the detachable eyes A′, substantially as described, and for th[illegible] purposes set forth.

2. The eyes A′, provided with the hinged part or hasp *a*′ and a suitable fastening, a^2, in combination with the partition and vertical guide-rod, substantially as described.

3. The combination, with the guide-rods B and with the partition A, of eyes A′, locking the lower portion of the partition detachably to the rods, and eyes A′, sliding on the rods and pivoted to the partition, substantially as set forth.

260,421

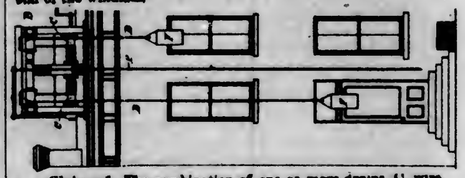


4. The combination, in a stock-car, of vertical guides and a counterbalanced hinged partition sliding thereon, substantially as set forth.

5. In a stock-car, the guides B and a partition, A, sliding on said guides, in combination with a shaft, C, cords C^2, and a spring connected to the shaft to turn the same and raise the partition, substantially as set forth.

260,422. FIRE-ESCAPE. ANDREAS RÖHNER, Foster's Crossing, Ohio. Filed Mar. 22, 1882. (No model.)

Brief.—Two spring-bars hinged to the floor of the windlass-frame bear against the windlass-shaft by operating a right-and-left screw having an operating handle or crank. An indicator is attached to the screw-handle for showing the amount of pressure required. A supplementary brake, to be operated by the occupants of the cage by means of a rope within reach, is placed at the end of the windlass.

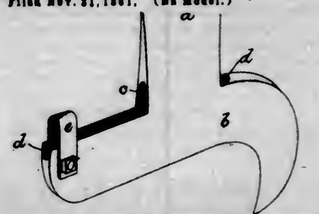


Claim.—1. The combination of one or more drums, C, wire cable D, a cage, F, spring-bars G H, and right-and-left screw K, as set forth.

2. In combination with the drum C, cable D, cage F, and brake G H I K, and the operating-handle L, the index or graduated circle M, as and for the purpose explained.

3. In combination with the drum C, cable D, and cage F, and the brake G H I K L, as described, the supplementary or additional brake N O P, accessible to inmates of the cage, substantially as set forth.

260,423. AX AND BRUSH-HOOK. LEVI T. SUBLTON, Oakland, Wash. Filed Nov. 21, 1881. (No model.)



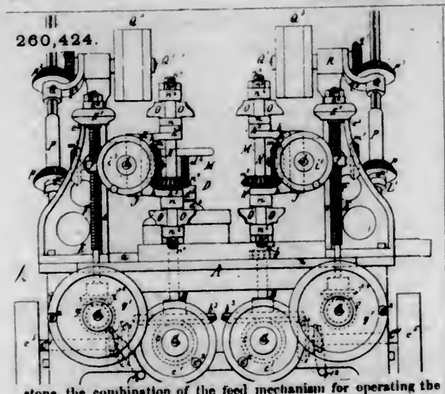
Claim.—A combined swamping-ax and brush-hook consisting of the ax *a*, brush-hook *b*, having longitudinal groove *d*, and the handle-retaining strap or band *c*, substantially as and for the purpose set forth.

260,424. MACHINE FOR ORNAMENTING STONE. DAVID SHORTSLEEVE, Rutland, Vt., assignor of one-half to Sidney W. Rowell, same place. Filed Feb. 6, 1882. (No model.)

Brief.—A reciprocating table provided with suitable clamps supports the stone. A revolving bar carries cutters at each end and is adjustable vertically, longitudinally, and in a circle, and is so connected with the driving-pinion, which is fixed, as to be in gear in all of its positions. A revolving work-table may be substituted for the reciprocating table.

Claim.—1. In a machine for executing ornamental work in

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stone, the combination of the feed mechanism for operating the table which supports the stone, clamp for holding the stone, the revolving adjustable cutter-bar provided with shaping-cutters, the mechanism for adjusting the cutter-bar with its cutters in vertical, horizontal, and inclined positions with respect to the stone-supporting table, and the mechanism for operating the cutter-bar and cutters while the bar is standing in either of said positions, substantially as and for the purpose described.

2. In a machine for executing ornamental work in stone, the combination of a movable table which supports the stone, clamp for holding the stone, a revolving adjustable cutter-bar, N, provided with cutters, and the fixed pulley-standard R, shaft Q' for pulley Q', gear-wheels m' and p, sliding shaft P, swinging bearings L' Q, gears p' and q', slide E', sliding plate J, shaft M, and gear-wheels m and n', substantially as and for the purpose described.

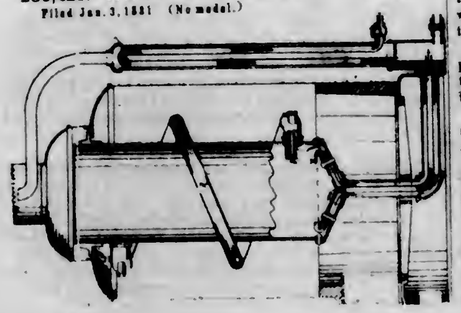
3. The combination, with the revolving cutter-bar N, having stone-shaping cutters, and with the shaft B, which sets the stone-supporting table in motion, of the power-shaft C', gears b^2 c^2, and clutch device C^2, and the hand-shaft C, provided with the gear c, and hand-wheel c' c^2, whereby the stone may be fed either by power or hand, substantially as and for the purpose described.

4. The combination, with the stone-supporting table, of a clamp, a vertically-adjustable slide, a longitudinally-adjustable center plate, and the vertically-revolving cutter-bar having cutters set transversely to it, and applied upon a turning plate which is adjustable concentrically with the shaft carrying the wheel which revolves the bar and cutters, substantially as and for the purpose described.

5. The combination of a stone-supporting table provided with suitable clamps, a revolving cutter-bar, N, provided with cutters at both its ends, and hung in bearings of an adjustable center plate, K, shaft M, and bevel-wheels n' m, substantially as and for the purpose described.

6. In a stone-ornamenting machine, the combination of the hand-screws F and I, the guide H, the slide E^2, sliding support J, revolving cutter-bar and cutters, a stone-supporting table, mechanism for adjusting the cutter-bar and cutters, mechanism for operating said cutter-bar and cutters from a fixed pulley, mechanism for operating the stone-supporting table, and adjustable clamps having self-leveling washers, substantially as and for the purpose described.

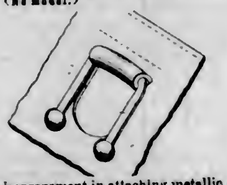
260,425. STEAM-BOILER. JOSIAH M. SIMPSON, Chicago, Ill. Filed Jan. 3, 1881. (No model.)



Claim.—1. The combination, in a steam-boiler, of a conical-bottomed stand-pipe provided with a conical diaphragm and surrounded by coils of pipe, said pipes having a hooded concave end bushing and convex end elbow with draw-bolt, all substantially as described and shown.

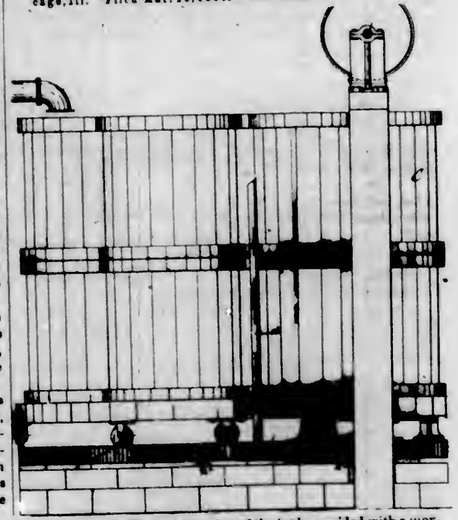
2. In a steam-boiler, the combination of a conical-bottomed stand-pipe with a conical diaphragm supplied with supporting-lugs and also a circulating-pipe and coil, said pipe being inclosed in the feed-pipe and extending into the mud-drum, all substantially as set forth.

260,426. BOOT. WILLIAM SMITH, Eaton Rapids, Mich. Filed Dec. 7, 1881. (No model.)



Claim.—An improvement in attaching metallic pull-straps to boots, consisting in securing the lower or free end or ends of the strap to the leg by means of rivets and the upper or loop end by means of the flap cut from the leg to form the finger-hole, substantially as shown and described.

260,427. APPARATUS FOR RECOVERING FOOD PRODUCTS FROM DISTILLERY-SWILL. WILLIAM HARROLD SMITH, Chicago, Ill. Filed Mar. 16, 1881. (No model.)



Claim.—1. The combination of the tank provided with a movable bottom, with the filter-plunger arranged to press down upon the swill in the tank, and mechanism for forcing said plunger downward to cause the water to filter upward through the plunger as the same is lowered, substantially as specified.

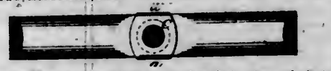
2. The combination of the tank, movable filter-bottom, filter-plunger, and mechanism for forcing said filter-plunger down upon the swill in the tank to cause the water to filter upward through the same, substantially as specified.

3. The combination of the tank, movable filter-bottom, ball-socket, and spring-catch for connecting the movable bottom with a lifting-crane, substantially as specified.

4. The combination of a series of tanks, mounted on a turn-table and provided with movable filter-bottoms, with a filter-plunger and escapes-pipes K, arranged and operating substantially as specified.

5. The herein-described process of recovering food products from distillery-swill, consisting in first partially settling the same from one to three hours, and then filtering the liquid portion upward and removing the filtered liquid without agitating the solid particles deposited in the bottom, substantially as described.

260,428. SPOKE-WASHER FOR VEHICLE-WHEELS. JAMES M. STARR, Richmond, Ind. Filed Mar. 17, 1882. (No model.)



Claim.—The circular plate or washer C, having a hole in the center, and having its opposite edges, *a a*, turned up at right angles with the plane of the face thereof, as an article of manufacture.

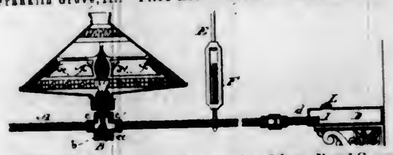
260,429. CRUCIBLE-FURNACE AND BRICK FOR CONSTRUCTING THE SAME. HENRY SWINDELL, Allegheny, Pa. Filed Dec. 10, 1881. (No model.)



Claim.—1. The within-described bricks for supporting the arches and forming the flue-caps of a crucible-furnace, said bricks being tapering longitudinally and carved on top to conform to the arches, substantially as and for the purposes described.

2. In a crucible-furnace, the combination of a hearth, walls inclosing and forming a heating-chamber above the same, said walls being provided with flues for the ingress of air and gas and the egress of products of combustion, flue-caps consisting of longitudinally-tapering bricks conforming to the shape of the hearth and heating-chamber in front, arches resting upon such flue-caps, and the outer wall of the furnace abutting against the rear of said flue-caps, substantially as and for the purpose specified.

260,430. KEROSENE-OIL LAMP. THOMAS P. THOMPSON, Franklin Grove, Ill. Filed Mar. 27, 1882. (No model.)



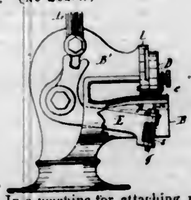
Claim.—1. The combination of a series of fonts, B and C, connected horizontally by gas-pipe, suspended in rods and adjustable swivels.

2. The font B, having recess *a*, and provided above said recess with threaded inlet and outlets *c c*, and with threaded opening for a burner, substantially as set forth.

3. A font provided with a screw-threaded inlet on its side to adapt it for connection with a horizontal pipe, a recess extending below such inlet, and a threaded opening for a burner, substantially as set forth.

4. In a set of kerosene-oil lamps, the combination of the fonts B and C, with threaded inlets and outlet *c c*, threaded tops and recesses *a*, pipe A, adjustable swivel F, rod E, and flat tank or reservoir D, all connected and constructed substantially as and for the purpose herein set forth.

260,431. MACHINE FOR ATTACHING METAL PLATES TO SHEET-RUBBER. JUDSON L. THOMSON, Syracuse, N. Y. Filed May 10, 1882. (No model.)



Claim.—1. In a machine for attaching plates to sheet-rubber, the combination, with the upsetting-die D, of the plunger P and guide C, arranged movably in said plunger and provided with lugs *n*, as and for the purpose set forth.

2. In combination with the upsetting-die D, the plunger P, guide C, arranged movably in said plunger, and the spring S, arranged to hold said guide projecting above the plunger, substantially as and for the purpose set forth.

3. The combination of the arms B B', the upsetting-die D, pivoted arm E, lever L, and the plunger P on the free end of the arm E, as shown and described.

4. In combination with the arms B B' and the plunger P, the upsetting-die D, pivoted on the arm B', and provided with a locking device for retaining it in its operative position over the plunger, substantially as set forth.

5. In combination with the plunger P, the standard-arm B', provided with a notch or hole, *a*, and the die D, pivoted on the arm B' and provided with the stop-pin *b*, as and for the purpose set forth.

6. In combination with the plunger P, the die D, provided with the recess *c* and lugs *d d*, respectively, at opposite sides of said recess, as and for the purpose shown and set forth.

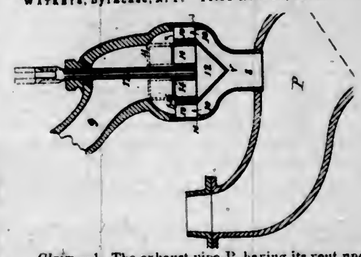
7. The combination of the concavo-convex arm B, the arm B' over the arm B, and provided with the hole *a*, the bell-crank lever E, pivoted on the standard, and having one arm extended under the arm B, and provided at its end with the plunger P, the guide C, arranged movably in the plunger, and provided with lugs *d d*, the spring S, the die D, pivoted on the arm B', and provided with the stop-pin *b*, and with the recess *c*, and the lever L, all as shown and described.

260,432. SHEET-METAL CAN. FRANCIS A. WALSH, Chicago, Ill. Filed Apr. 12, 1882. (No model.)



Claim.—In a sheet-metal can, the combination of the body A, thin or soft fixed cover B, provided with the countersink *d*, the wall of which is parallel to and fits within the body of the can, sheet-metal annular ring D, having its inner opening, *l*, smaller than the mouth *l'*, and slip-cover C, substantially as shown and described.

260,433. VARIABLE EXHAUST OF STEAM-ENGINES. HENRY WATKINS, Syracuse, N. Y. Filed Nov. 17, 1879.



Claim.—1. The exhaust-pipe P, having its vent unobstructed and unimpaired in capacity, and provided with an extra outlet and a valve connected to said outlet, as shown, in combination with the draft-pipe N and the stack D, substantially as and for the purpose specified.

2. In combination with the exhaust-pipe P, the valve V, consisting of a cage having the inlet 8 at one end, the exit 9 at the opposite end, and the enlargement 10, with valve-seat 11, intermediate, the inverted hollow cone 12, with its apex toward the inlet, and with passage 13 around it, and the plug 14, entering the cavity of the cone, substantially as described and shown.

3. The valve V, consisting of a cage having the inlet 8 at one end, the outlet 9 at the opposite end, and the enlargement 10 intermediate, and divided transversely at the latter, the ingress-section provided with the shoulder 15, the egress-section having valve-seat 11, and the valve 14, fitted to the interior of a cylinder on the end of the cone 12, and provided with the rod 17, all constructed and combined substantially as described and shown.

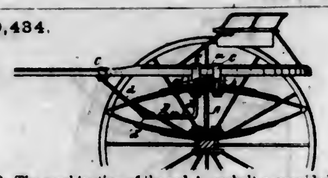
4. In combination with the exhaust-pipe P, the valve V, arm *s*, shaft *s'*, arm s^2, rod s^3, lever *t*, and the arm s^4, rod s^5, lift-arm *u*, rod *v*, and the reverse-lever *w*, substantially in the manner described and shown, for the purpose specified.

260,434. ROAD-CART. CASPER W. WATSON, Wheaton, Ill. Filed Apr. 20, 1882. (No model.)

Claim.—1. In a road-cart, the detachable foot-rest D, consisting of the hangers *d* and cross-bars *d'*, in combination with the clips C C, secured upon the shafts of the cart, substantially as described.

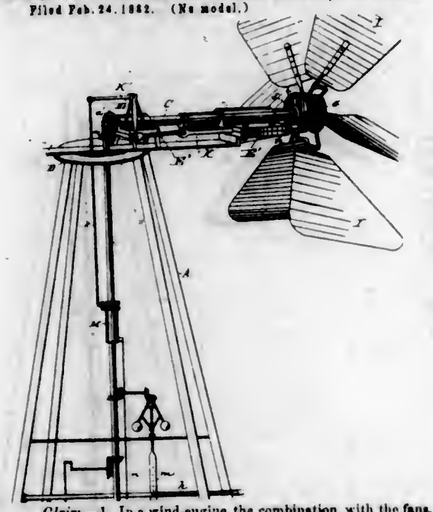
2. The rod A and the eyebolt *a*, provided with means for securing its combination with a vehicle-spring, substantially as described.

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3. The combination of the rod A, eyebolt *a*, provided with the thumb-nut *a'*, and the slotted plate B with a vehicle-spring, substantially as and for the purposes described.

260,435. WIND-ENGINE. CHARLES O. WEIDMAN, Poe, Ohio. Filed Feb. 24, 1882. (No model.)



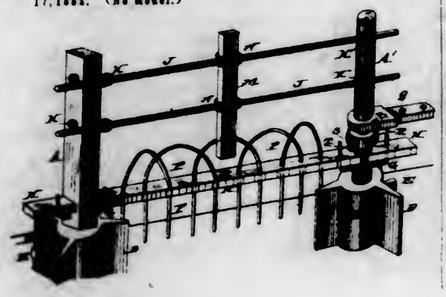
Claim.—1. In a wind-engine, the combination, with the fans, of cranks secured to said fans and adapted to bear in the groove of the sliding disk, governor mechanism, and a guide-rod supported between plates, substantially as described, for operating said cranks, as set forth.

2. In a wind-engine, the combination of the double disk, provided with a grooved projection, crank H, and guide K, the latter having a forked end adapted to bear in the groove of said projection, substantially as and for the purpose set forth.

3. In a wind-engine, the combination, with shafts B and C and the governor, of a swivel or sleeve, M, rod *k*, arm K', forked guide K, and the double disk J, having a grooved projection within which the fork of said guide is adapted to bear, substantially as and for the purpose set forth.

4. In a wind-engine, the combination, with the double disk J and outer disk, G, of the cranks H, supporting the fans, and arms *g*, rigidly secured to the disk G, and provided with bearings through which said cranks pass, substantially as and for the purpose set forth

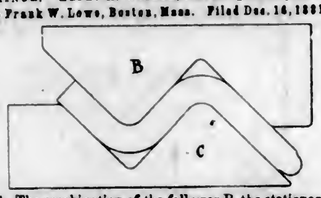
260,436. FENCE. THOMAS B. WHITE, Elkhart, Ind. Filed Mar. 17, 1882. (No model.)



Claim.—1. The combination, with the iron fence-posts A, of the cylindrical bases B, having sockets C and radiating flanges D, of equal width from top to bottom, and the transverse pins or keys E, as set forth.

2. The herein-described improved fence, consisting of the posts A, bases B, rails and wires H J, secured to said posts by the fastenings G K, stays M, and bent wires or rods P, all arranged as set forth.

260,437. HINGE. HENRY A. WILSON, Cambridge, assignor of one-half to Frank W. Lowe, Boston, Mass. Filed Dec. 16, 1881. (No model.)

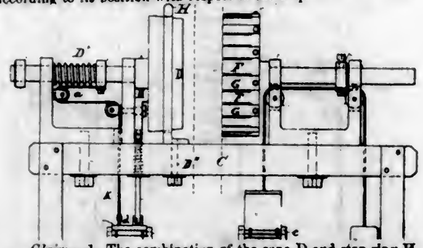


Claim.—1. The combination of the follower B, the stationary plate H', provided with a former, C, and the movable plate H, operated by means of levers G G, substantially as and for the purpose set forth.

2. A fibrous rolled-iron hinge, curved edgewise, as described, the fibers of which are continuous and unbroken from one end to the other, substantially as set forth.

260,438. APPARATUS FOR GAGING HOOPS. HENRY WILDE, Newark, N. J. Filed Mar. 30, 1882. (No model.)

Brief.—The hoop is driven by a pusher having spring-arms against a fixed stop over a movable cone, which determines the size according to its position with respect to the stop.



Claim.—1. The combination of the cone D and stop-ring H, movably arranged in relation to one another, for throwing off the hoop, and the press-ring, arranged and operated by suitable means to force a closed barrel-hoop upon the cone, substantially as herein set forth.

2. The combination, with the cone and gage-ring of a hoop-gaging machine, of a press-ring provided with the rigid tongues F and the spring-tongues G, arranged alternately, substantially as and for the purpose set forth.

260,439. WINDOW-CURTAIN CORNICE. HANS H. WIEBEN, Chicago, Ill., assignor to Otto Meyer, same place. Filed Oct. 5, 1880. Renewed Dec. 10, 1881. (No model.)

Brief.—An adjustable cornice consists of a center piece and end boxes, with slotted arms engaging set-screws on the center pieces. The end boxes have metallic sockets for books.

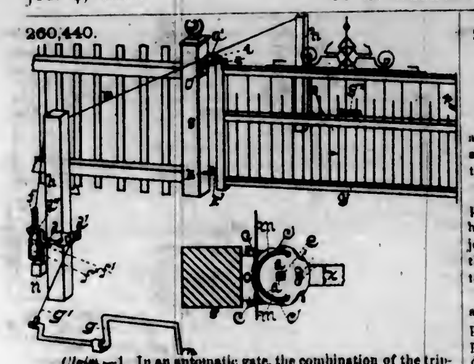


Claim.—1. In combination with the molding A, the corner boxes, B, each composed of pieces *b c d*, and a slotted plate, E, which latter are connected to molding A by screws *g g*, so as to longitudinally slide thereon, substantially in the manner and for the purpose described and shown.

2. The adjustable window-curtain cornice described, consisting of the molding A, the corner boxes, B, projecting over the face of the molding, and provided with bottom blocks, *i*, and metal sockets *j*, and the slotted plate E and screws *g*, for adjustably securing the boxes to the molding, constructed and arranged substantially as set forth and shown.

260,440. GATE. EDWARD G. WOOD, Kokomo, Ind., assignor of one-half to Riley Dixon, same place. Filed Feb. 24, 1882. (No model.)

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Claim.—1. In an automatic gate, the combination of the trip-rods with a swinging crank, *d*, which is provided with a slide, *f*, having openings *f' f''*, for the purpose set forth.

2. In a gate-hinge mechanism, the plate *a*, having an elevation, *a'*, slot *i*, and incline notches around its outer edge, plate *b*, having two holes in it and notches around its outer edge, bracket *o*, having slots *c* and *o'*, and provided with the plates *s'*, for supporting the latch *e*, for the purpose set forth.

3. The combination of plate *a*, having slot *i* and incline notches, plate *b*, having two holes in it and notches around its outer edge, bracket *o*, wire *m*, post *s*, and gate *g*, for the purpose set forth.

4. The combination of the slide *f*, having openings *f' f''*, crank *d d' d''*, weight *n*, post *h*, wire *g'*, and trip *g*, for the purpose set forth.

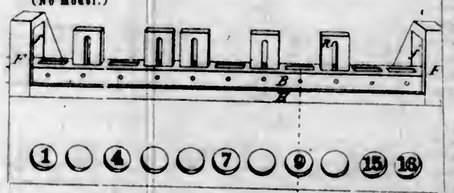
5. In an automatic gate, the trip-rod *g*, rod *g'*, cranks *d' d''*, arm *d*, weight *n*, slide *f*, and wire or cord *m*, in combination with the hinge mechanism, for the purpose set forth.

260,441. PROCESS OF TREATING INDIA-RUBBER. CHARLES E. W. WOODWARD, Cambridge, Mass. Filed Mar. 27, 1882. (No specimens.)

Claim.—1. The herein-described process of treating articles of rubber or rubber compounds, consisting in subjecting them for a limited time to the action of concentrated sulphuric acid and immediately washing them to remove the acid, substantially as herein described.

2. The herein-described improvement in the process of securing rubber articles to surfaces, consisting in subjecting such articles to the action of concentrated sulphuric acid, arresting the action of the acid as specified, and applying a suitable adhesive material between the rubber article as treated and the surface to which it is to be secured, substantially as herein described.

260,442. POOL-PLAYER'S PORTABLE POSITION-REGISTER. WILLIAM ZABRISKIE, New Orleans, La. Filed Jan. 27, 1882. (No model.)



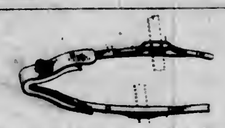
Claim.—A pool-player's portable position-register, consisting of a series of numbered or lettered vertical operating-keys, R, held in position by springs N, operating draw-bar B, running through shoulders F F', and a series of guide-numbers, *h*, all made substantially as and for the purpose set forth.

260,443. TRACE-LOOP ATTACHMENT. WILLIAM L. ALBERT, Red Oak, assignor of one-half to Louis F. Racine, Ottumwa, Iowa. Filed Apr. 21, 1882. (No model.)

Claim.—1. The combination of the arched base-plate provided on its upper side with arched flanges projecting beyond the base-plate and connected at their ends by cross-pieces, and a leather trace-loop riveted to the under side of said plate, substantially as described.

2. The combination of the pad-loop, metal frame comprising an arched base and side flanges, the latter connected by cross-pieces

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at their ends, and a leather trace-loop riveted to the under side of said frame, said frame being adjustable on said pad-loop, substantially as described.

3. The metal frame or casting comprising an arched base-plate provided with arched side flanges on the convex side of said base-plate, and projecting beyond it at both ends, pins or posts projecting from said base, and cross-pieces uniting the side flanges at their extremities, and having their upper surfaces flush with the tops of said side flanges, substantially as described.

4. A harness attachment comprising, in combination, the arched base-plate, the leather trace-loop riveted thereto, the pins projecting from the convex side of the base-plate, and the cross-pieces connecting the side flanges at their ends, substantially as described.

260,444. FERTILIZER-DISTRIBUTER. WILLIAM B. ALLEN, Orleans, N. Y. Filed Mar. 13, 1882. (Model.)



Claim.—1. In a fertilizer-distributer, the combination, with the hopper and a cross-bar arranged therein, of a revolving feed-wheel provided with an annular groove on its upper face, a portion of the wheel extending under the cross-bar, and a scraper secured to the rear side of the cross-bar, whereby the material carried in said groove will be forced into the discharge-chute, substantially as set forth.

2. In a fertilizer-distributer, the combination, with the hopper, of a hopper-block provided with a circular groove on its under side, and a feed-wheel adapted to be revolved and provided with an annular groove and so arranged relative to the hopper-block that the upper edge of the wheel will revolve within the groove of the block, thus forming a close joint between the two to prevent the leakage of material, substantially as set forth.

3. In a fertilizer-distributer, the combination, with the hopper and a cross-bar arranged therein, of a revolving feed-wheel provided with an annular groove on its upper face and extending under and beyond said cross-bar, an inwardly-projecting scraper extending to the center of the feed-wheel, and a plow or scraper arranged on the outer side of said cross-bar and adapted to force the material into the discharge-opening of the distributer, substantially as set forth.

4. In a fertilizer-distributer, the combination, with the hopper and hopper-block, the latter being grooved on its under side, of a feed-wheel provided with an annular groove in its upper face, a cross-bar arranged within the hopper and above one side of the feed-wheel and provided with an arched and beveled opening under which the groove of the feed-wheel will pass, and an inner and an outer blade or scraper, whereby the fertilizing material is forced into the discharge-chute, substantially as set forth.

5. In a fertilizer-distributer, the combination, with the hopper and hopper-block, of a yoke arranged below the hopper and slotted to receive the discharge-chute of the distributer and perforated to receive the shaft of the feed-wheel, a feed-wheel having an annular groove on its upper face, a cross-bar arranged within the hopper, and an inner and an outer blade or scraper adapted to force the material into the discharge-chute, substantially as set forth.

6. In a fertilizer-distributer, the combination, with the hopper, the beveled cross-bar arranged therein, and the discharge-chute, of a door hinged to the hopper above said chute and adapted to bear at its free end upon the beveled edge of the cross-bar, substantially as set forth.

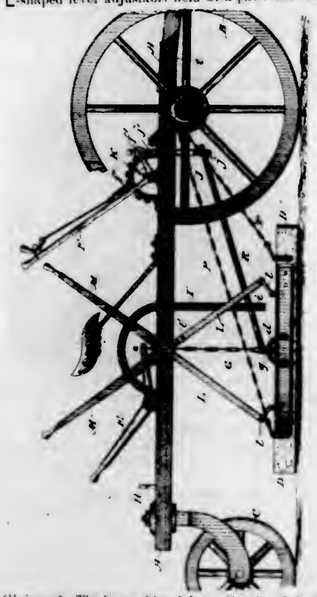
7. In a fertilizer-distributer, the combination, with the cross-

bar and revolving grooved wheel, of a scraper or blade adjustably secured to said cross-bar adjacent to the discharge-chute and notched to adapt it to bear in said groove, substantially as set forth.

8. In a fertilizer-distributer, the combination, with the hopper-block and revolving feed-wheel, of the inner scraper or blade having its upper edge notched or serrated, as and for the purpose described.

260,445. ROAD SCRAPER AND LEVELER. MARTIN AMMEL, Belleville, Ill. Filed Oct. 25, 1881. (No model.)

Brief.—The scraper is centrally suspended by a chain having a swivel-link at its lower end to a lever on the central beam of a vehicle. The ends of the scraper are connected to toggle-levers adjustable in socketed handles pivoted to the sides of the vehicle. The socket-handles are adjustable by means of rack-bars. The scraper is also centrally pivoted to an inclined bar loosely mounted in hangers. The forward hanger is vertically adjustable by means of an L-shaped lever adjustably held by a pawl and ratchet.



Claim.—1. The beam A' and depending bar J, having loop or eye *j*, and adjustable in said beam, in combination with the rod R and scraper D, the said bar being adapted to tilt the scraper forward or backward, as set forth.

2. The combination of L-lever F, bar J, having holes *j*, rack-segment K, rod R, and scraper D, as set forth.

3. The combination of hanger I, having loop *i*, rod R, bar J, and scraper, as set forth.

4. The toggles L, levers M, having sockets *m*, pivot-rod N, and scraper, as set forth.

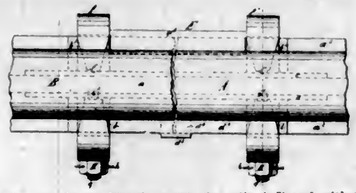
5. The toggles L, having short arms *l*, and levers M, pivoted to the sides of the frame and formed with the sockets for receiving the long arms, in combination with the scraper, as set forth.

6. The combination of scraper D, suspended beneath frame A by chain G, attached to lever E upon said frame, with rod R, attached to said scraper, supporting-hanger I, having a loop in its lower end and rigidly attached to said frame, and bar J, adjustably attached to lever F, said lever F being provided with a spring-pawl and rack-segment, as set forth.

7. In a road-scraper, the frame A, mounted upon wheels B, and caster wheel or wheels C, in combination with toggles L L, levers M M, hinged to said frame by rod N, passing laterally through said frame, and having sockets, the scraper D, and chain G, attached to said frame by a lever, as set forth.

260,446. DEVICE FOR CONNECTING RAILS. OLIVER BENSON Derrick City, Pa. Filed Apr. 19, 1882. (No model.)

Brief.—Rails are connected by means of angular plates, one of which is provided with perforations and a downward projection having an inwardly-turned lip. A clamping device therefor consists of a plate having stationary jaws and indenting gripping-projections on one side of the rail and movable gripping-projection and indenting-points passing through the perforated plate on the other, said jaw being provided with a threaded projection passing through the movable jaw and secured by means of tightening-nuts.



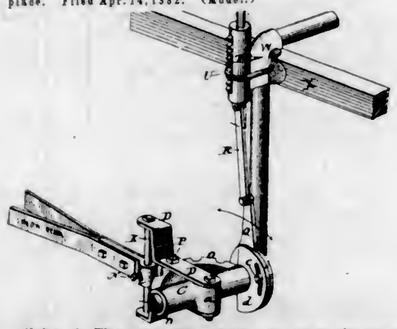
Claim.—1. In combination with the rails A B and with the angular plates C D, the latter plate, D, being provided with the perforations *d''*, the clamping device E, consisting of the plate *e*, having stationary jaws F, with indenting gripping-projections *f* on one side of the rail, and jaws I, having movable gripping-projections and indenting-points *i'* passing through said perforations *d''* on the opposite side of the latter, substantially as hereinbefore set forth.

2. The clamping device E, consisting of the plate *e* and end jaws, F I, constructed substantially as described, in combination with the rails A B, the angular plate C, and the angular plate D, the latter being provided with a downward projection, *d'*, having an inwardly-turned lip, *d''*, to embrace the outer edge of the plate *e*, substantially as set forth.

3. In combination with the rails A B, plates C D, and clamping device E, having stationary gripping-jaws on one side and movable gripping-points on the other side, the fastening device *J*, *h*, and *j*, for preventing an accidental slackening of the movable grip, substantially as set forth.

4. The combination of the rails A B, the plates C D, constructed substantially as described, the plate *e*, having stationary jaws F on one side, and provided with square projections G, having other threaded projections, *g*, the movable jaws I, provided with indentation-points *i'*, and the tightening-nuts H, all constructed and operated substantially as and for the purpose hereinbefore set forth.

260,447. CULTIVATOR. DANIEL BERLEW and MARTIN L. KISSELL, Springfield, Ohio, assignors to P. P. Mast & Co., same place. Filed Apr. 14, 1882. (Model.)



Claim.—1. The combination of the plow-beam, the rotary draft device to which it is connected, the arm attached to said device, the pitman jointed to the arm, the sliding rod mounted in a guide and jointed at one end to the pitman, and the spring upon said rod tending to depress the same, as described and shown.

2. In a cultivator, the combination of the axle, the coupling head or sleeve journaled loosely upon the axle and provided with an upright arm, a vertically-sliding rod mounted in a guide upon the main frame and connected by a pitman with the upright arm, and the spiral spring applied to urge the sliding rod downward, substantially as described and shown.

3. In a cultivator, the combination of the rotary coupling or draft head having the upright arm Q adjustably attached thereto, the pitman R, the vertically-sliding rod S, the cylindrical case surrounding the rod and secured rigidly to the frame, and the spiral spring mounted within the case and acting to depress the rod, as described and shown.

4. In a spring attachment for cultivators, the combination of the axle, the draft-bar X, and the spring-sustaining guide T with the stirrup U, applied, as shown, to unite both the guide and the axle with the draft-bar.

5. In a cultivator, the combination, with the rotary coupling-head C and the plow-beam, of the draft-link pivoted vertically to the coupling-sleeve and to the beam, and means, substantially as shown, for securing the link against lateral play upon the sleeve.

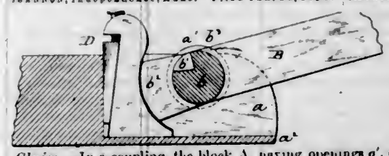
6. The coupling-sleeve provided with the curved flange *o*, in combination with the draft-link pivoted vertically at one end of the sleeve and arranged to swing laterally in relation thereto, the plow-beam pivoted vertically to the rear end of the link, and the fastening-pin P, connecting the link and coupling, as shown, whereby the beam may be adjusted laterally and fixed in position without being disconnected from the coupling.

7. In a cultivator, the laterally-adjustable draft-link, pivoted vertically at its forward end to the draft device and adjustable laterally by a swinging motion, as described, in combination with the vertical rod K, mounted in the rear end of the link, and the plow-beam adjustable vertically on said rod, as described.

8. In combination with the beam, its arm, and the connecting-rod, the spring, and the spring-sustaining case adjustable vertically, substantially in the manner described and shown.

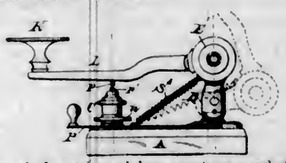
9. In a wheeled cultivator, the beam-lifting spring arranged to operate substantially as described, in combination with the supporting-case T, provided with notches, and a stirrup, U, serving to secure the case in position and admit of its being adjusted vertically to vary the force of the spring.

260,448. COUPLING FOR CONNECTING RODS. JAMES C. BRANNON, Independence, Kans. Filed Jan. 24, 1882. (Model.)



Claim.—In a coupling, the block A, having openings *a'*, of less than three-fourths the diameter of its bearings, the slot *a*, closed at the bottom *a''*, and the rod B, provided with the trunnions *b*, caps *b'*, pockets *b''*, of a depth of more than one-fourth the diameter of the trunnions, and rear extension, *b³*, having a circular bearing, in combination with the bearing-block C, having a curved face adapted to the extension *b³*, a straight face adapted to the bottom *a³*, and a rear slanted face adapted to the wedge D, supported therein by the screw *d*, substantially as shown and described.

260,449. TELEGRAPH-KEY. THOMAS BURR, Chicago, Ill. Filed Mar. 25, 1882. (No model.)



Claim.—1. In a telegraph-key, a post composed of two parts pivoted together, in combination with a lever attached to one of said parts, and means for holding the parts coincident, substantially as described.

2. In a telegraph-key, the combination of a post having a pivoted half or side, a lever attached thereto and provided with a contact-point, an anvil having an adjustable point, and suitable connections, substantially as shown and described.

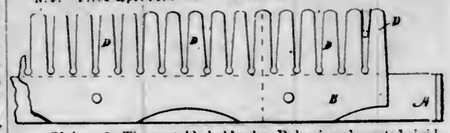
3. The combination of post B, composed of parts *a a'*, the upper one, *a*, of which is provided with a circular recess, *e*, lever L, having circular end *f*, recessed cap D, and spring S, substantially as described and shown.

4. The combination of a hinged post, B, lever L, post or anvil C, and spring S², substantially as shown and described.

5. A hinged post, B, to the upper part of which is hinged the lever L, the cap D, with binding-screw E, and the insulated collar F, with binding-screw E', in combination with and connected by a metallic spring, S³, to post C, substantially as described and shown.

6. The combination of hinged post B, lever L, having point *p'*, cap D, having binding-screw E, insulated collar F, with binding-screw E', metallic spring S³, and post C having point *p'*, substantially as shown and described.

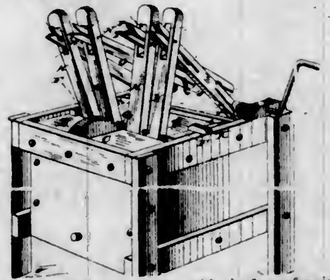
260,450. BUCKLE-HOLDER. EDWIN R. CAMOONS, Newark, N. J. Filed Apr. 14, 1881. (No model.)



Claim.—1. The portable holder-bar B, having elongated rigid teeth D of wedge-shape, and forming beveled or tapering spaces to receive and sustain articles to be coated, substantially as described.

2. The improved holder for use in coating and drying coated articles, consisting of the bar B, having wedge-like teeth D, and the handle A, secured thereto, and having the cross-piece *a*, to hold the device from toppling over, substantially as shown and specified.

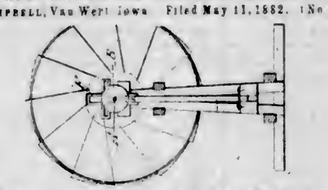
260,451. CHURN. ROBERT CAMPBELL, Wooster, Ohio. Filed Jan. 25, 1882. (Model.)



Claim.—1. The combination, with the frame forming a vertical flange round the mouth of the churn-box, of the two-part cover adjusted between said flange, one portion of the cover being provided with projections or shoulders, in which are formed bearings for the transverse paddle or beater shaft, substantially as specified.

2. The combination, with the cover E, provided with projections or shoulders F, forming bearings for a transverse shaft, G, carrying the paddles or beaters H, working in recesses I in the front of the cover, and projecting slightly over the front edge of the cover, of the key-cover D, the inward edge of which is adapted to be adjusted under said projection, substantially as and for the purpose herein shown and specified.

260,452. DEVICE FOR CONVERTING MOTION. SOLON O CAMPBELL, Van Wert, Iowa. Filed May 11, 1882. (No model.)



Claim.—1. The combination, with the shaft A, having wheels B B, connected by a wrist-pin, *b*, of the grooved wrist-block C, journaled on said pin, the grooved guide-block D, journaled on the shaft, between its wheels, and the pitman-head F, having intersecting slots *e f*, engaging with the grooved blocks C D, respectively, substantially as and for the purpose described.

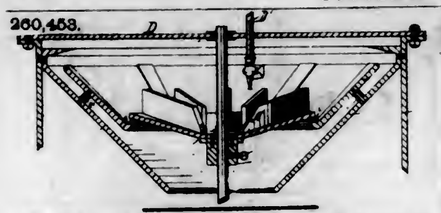
2. The combination, with the wheels B B, connected by pin *b*, of the grooved wrist-block C and slotted piston-head F, substantially as and for the purpose described.

3. The combination, with the shaft A and slotted pitman-head F, of the grooved guide-block D, substantially as and for the purpose described.

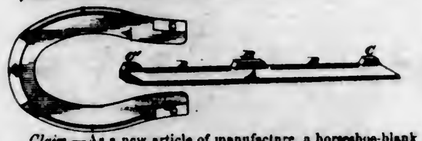
260,453. CENTRIFUGAL ORE-CONCENTRATOR. ALEXANDER D. CLARKE, Omaha, Nebr. Filed Feb. 4, 1882. (No model.)

Claim.—The combination, with the centrifugal concentrating-wheel and its surrounding amalgam plates, of one or more mercury-reservoirs having regulable discharge-openings, substantially as specified, whereby the supply of mercury may be graduated or otherwise regulated at will.

260,453.

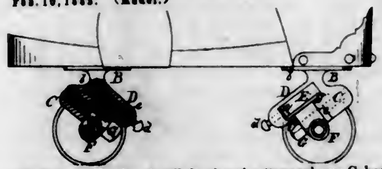


260,454. HORSESHOE-BLANK BAR. JOHN H. CLARKE, Cincinnati, Ohio, assignor of one-half to Henry McNicoll, same place. Filed Mar. 3, 1882. (No model.)



Claim.—As a new article of manufacture, a horseshoe-blank bar consisting of the web or sole A, armed with long calks B, disposed at regular intervals, pairs of shorter calks, C C', being placed comparatively near each other, and between the long calks B, while continuous creases D extend from the calks B to the calks C C', the spaces between the latter being smooth or uncreased, as herein shown and described.

260,455. ROLLER-SKATE. FRANK A. GOBBEL, Cleveland, Ohio, assignor to Charles Eugene Shattuck, same place. Filed Feb. 10, 1882. (Model.)



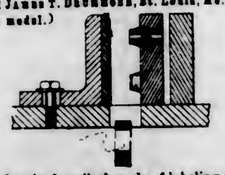
Claim.—1. The bracket B, having the diagonal arm C, having the stop-projections *c c*, and the arm D, adapted to hold the axle and spring, as shown and described.

2. The combination, with the arm D, of the set-screw *d* and plate *e*, for regulating the tension of the spring E, substantially as described.

3. In combination with the bolt G, the projection *e* on the arm D, whereby the bolt is locked, as and for the purpose set forth.

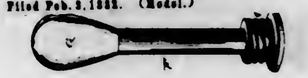
4. The combination, substantially as described, of the bracket B, having the diagonal arm C, with its stop-projections *c c*, the arm D, having the set-screw *d* and the rib d^2 and projection *e*, the rubber spring E, the axle F, having the socket F', provided with the flanges and arms *f f*, and the bolt G, constructed to operate as and for the purpose set forth.

260,456. METHOD OF MARKING PLUG-TOBACCO. RICHARD J. COMPTON and JAMES T. DRUMMOND, St. Louis, Mo. Filed Dec. 24, 1881. (No model.)



Claim.—The herein-described mode of labeling or tagging tobacco, which consists in stamping or cutting out the labels or tags, retaining the labels or tags within the stamping or cutting tool or tools until the tobacco being labeled or marked is in front of the latter, and then ejecting the labels or tags from the tool or tools and impressing them into the surface of the tobacco in the manner described, substantially as set forth.

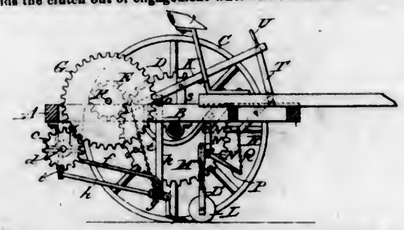
260,457. VETERINARY DRENCHER. JOHN H. COOPER, Athens, Ga. Filed Feb. 2, 1882. (Model.)



Claim.—A drencher for veterinary use, consisting of the combination, with a can or vessel, A, provided with a handle and a screw-threaded nozzle, B, of a nozzle consisting of a tube, F, provided with a screw-threaded cap, C, and the flattened bulb G, provided with a number of perforations, substantially as set forth.

260,458. COTTON-CHOPPER. BURWELL J. QUERY, Huntsville, Ala. Filed Apr. 21, 1882. (No model.)

Brief.—The bar carrying the hoes is flexibly suspended, and forward-and-back motion is imparted to it by a crank and pitman actuated by gearing on the axle. Rotary cutters with yielding springs cut the track of the hoes. Connections to the same lever provide for lifting hoes and cutters at one movement. A spring holds the clutch out of engagement when not locked.



Claim.—1. In a cotton-chopper, the combination, with the transverse vibrating bar *g*, of the threaded bolts g^2, secured therein and having corrugated disks *g'*, and the chopper-shanks I', having corrugated disks i^2, adapted to engage with the disk ends of said bolts, whereby the hoes may be adjusted to any desired angle, substantially as described.

2. In a cotton-chopper, the combination with the transverse shaft N, of the slotted tubular bosses M, adjustably secured thereon, the stems L', inserted loosely in said bosses and having pins engaging with the slots, spiral springs L^2, coiled on said stems, and the rotating cutters L L, journaled in boxes L' L' at the lower ends of the stems, whereby said cutters are adapted to operate with a yielding pressure, substantially as described

3. In a cotton-chopper, the combination of the frame A, transverse vibrating bar *g*, choppers I, connected therewith, adjustable oscillating bars *h h*, levers *i i*, connecting-rods *k k*, pitmen *f f*, shaft *d*, having eccentrics *e e* and central gear, *c*, and suitable operating mechanism, whereby the choppers are caused to vibrate longitudinally, substantially as described.

4. In a cotton-chopper, the combination, with the shaft N, having arms N' and P, and the rotating cutters L L, journaled in tubular bearings L', provided with stems L^2, having a yielding connection with said shaft, of means of imparting an upward and forward movement to said shaft N, for the purpose of raising the rotating cutters, substantially as described.

5. In a cotton-chopper, the combination, with the frame A and bars N^2, of the shaft N, having arms N' pivoted to said bars, the rotating cutters L, having a yielding connection with said shaft, and means for raising and lowering the same, substantially as described.

6. In a cotton-chopper, the combination, with the vibrating chopper-bar *g*, hoes I, connected therewith, adjustable supports *k k*, movable shaft N, having arms N' and P, and rotating cutters L L, of the levers K K, connected by stirrup U, chains *p p*, connecting the rear ends of said levers with the vibrating chopper-bar, and the connecting-rod T, lever R, and chain Q, connecting the forward end of one or both main levers with the arm attached to the cutter-shaft, whereby the choppers and cutters are simultaneously raised, substantially as described.

260,459. BOAT. JAMES DEAN, Detroit, Mich. Filed Jan. 27, 1882. (No model.)



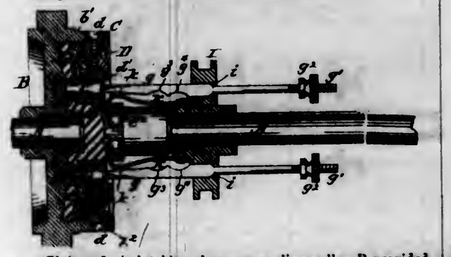
Claim.—1. In the manufacture of boats, the sheathing-planks having portions of their adjacent edges crushed in longitudinally, adapted to be secured together, as shown, the crushed portion swelling where exposed to the action of water beyond the uncrushed surface, forming a stop-water at each joint, as specified.

2. The sheathing-planks C, having portions of their edges crushed in, as shown at d^3, combined with each other and with a boat-skeleton, and adapted to serve as and for the purposes set forth.

3. A boat having its sides sheathed with narrow planks, said planks being all of the same pattern, each straight upon one edge and curved upon the other edge, substantially as described.

4. A boat having its sides sheathed with narrow planks, said planks being all of the same pattern, each straight upon one edge and curved upon the other edge, said planks beat edgewise into contact and in this position secured to the frame of the boat, substantially as described.

260,460. FRICTION-CLUTCH. FRANCIS O. DESCHAMPS, Philadelphia, Pa. Filed Oct. 5, 1881. (No model.)



Claim.—1. A clutching clamp or coupling pulley, B, provided with teeth *b*, designed to receive a driving-chain, and formed with an annular flange, C, having an exterior smooth or unbroken periphery adapted to receive a driving-belt, whereby said pulley may be driven by a belt or chain, substantially as set forth.

2. The clutch-pulley B, provided with a ring, D, having inner conical periphery, *d'*, in combination with clutching or coupling mechanism, substantially as shown and described.

3. In a friction-clutch or coupler, the combination of the following elements, viz: a clutch-pulley having a conical side and an attached ring, a disk secured rigidly to the pulley-shaft and provided with movable clutching-shoes, and mechanism for operating said shoes, substantially as shown and described.

4. The combination of pulley B, ring D, disk E, having hub *e'*, with attached shoes F and levers H, the cones G, with recessed rods *g*, and collar I, provided with springs K K, substantially as shown and described.

5. In a friction or coupling clutch, the combination, with a pulley provided with clutch mechanism from which project notched arms, of a sliding collar having springs thereon, the ends of which are designed and adapted to connect with said notched arms to form an automatic lock, substantially as shown and set forth.

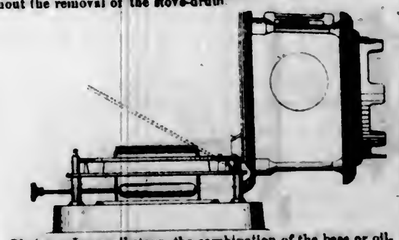
6. In combination with pulley B, the disk E, ring D, shoes F, cones G, having arms *g g*, provided with adjusting-nuts g^2 g^2, and collar I, substantially as set forth.

7. In a friction-clutch or coupler, the combination of the following elements, viz: a clutch or coupling pulley and a disk or sleeve rigidly secured to the driving-shaft, said disk being contained in a chamber or recess formed in said pulley, and having shoes secured thereto, which are provided with mechanism, substantially as shown and described, to move said shoes radially and cause them to contact with the wall or walls of said chamber or recess to retain said pulley in position on its shaft, and to form a clutch therefor, substantially as shown and set forth.

8. The shoes F, having slots *f' f'* and conical recesses *f''*, substantially as and for the purpose set forth.

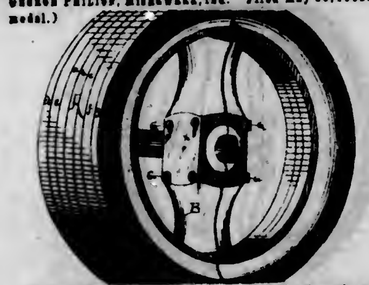
260,461. OIL-STOVE. ALFRED S. DINSMORE, Boston, Mass. Filed May 25, 1882. (No model.)

Brief.—The notches *r* permit the withdrawal of the plate *f* without the removal of the stove-drum



Claim.—In an oil-stove, the combination of the base or oil-reservoir, provided with shouldered pillars, and the stove-top supported thereon and adapted to be turned back and supported on a portion only of the said pillars, as described, with the insulating-plate provided with notches *r* to fit the said pillars when supported on the shoulders thereof, whereby the said plate may be removed laterally from the said pillars without necessitating the removal of the stove-top therefrom, substantially as and for the purpose set forth.

260,462. SEPARABLE PULLEY. WALLACE H. DOBBS and GEORGE PHILLIPS, Mishawaka, Ind. Filed May 20, 1882. (No model.)



Claim.—1. A separable pulley whereof, when the meeting ends of the rim are in contact, the meeting faces of the spoke bar and hub are slightly separated, as described, combined with clamp-bolts G, whereby said hub is clamped upon the shaft, in the manner set forth.

2. A separable pulley whereof, when the meeting ends of the rim are in contact, the meeting faces of the spoke bar and hub are slightly separated, and clamping-bolts G, combined with a separate thimble, H, to be placed intermediate to the shaft and pulley, as set forth.

3. A separable pulley whereof, when the meeting ends of the rim are in contact, the meeting faces of the spoke-bar are slightly separated, and clamp-bolts G, combined with a separable split thimble interposed between said shaft and pulley, substantially as set forth.

4. A separable pulley, A, composed of wooden segments *a b c*, &c., as set forth, provided with a divided spoke-bar, B, the meeting faces whereof are slightly separated, and clamp-bolts G, whereby said parts of bar B may be drawn toward each other, for the purpose set forth.

5. As an improved article of manufacture, the within-described pulley A, consisting of a transversely-divided rim composed of wooden segments *a b c*, &c., and a split spoke bar and hub, B, the meeting faces whereof are slightly separated, and clamp-bolts G, whereby said parts may be drawn forcibly together, substantially as set forth.

260,463. ENGRAVING-MACHINE. JOHN HABLE, Derby, Pa. Filed Dec. 28, 1881. (No model.)

Claim.—1. In an engraving-machine, the double central bar, D, or its equivalent, for retaining the diamond tracing-point E' constantly in line with the pivot-centers E^2 E^2, substantially as described.

2. In an engraving-machine, the combination, with the double bar D and diamond tracing-point E', of the graduated disk E^2, having a hand for ascertaining the exact position of the diamond-point, substantially as described.

3. In an engraving-machine, the combination of the bracket E^1, arms D^1 D^1, graduated arms D' D', and double bar D, having tracing-points E E', and graduated disk E^2, substantially as described.

4. In an engraving-machine, the combination, with the carriage B and circular bed C, of the slide C', having spring-bracket C^2 and worm *d*, substantially as described.

5. In an engraving-machine, the combination, with the circular bed C, of the adjustable straight-edged bar C^2 and the slide C', having spring-bracket C^2 and worm *d*, substantially as described.

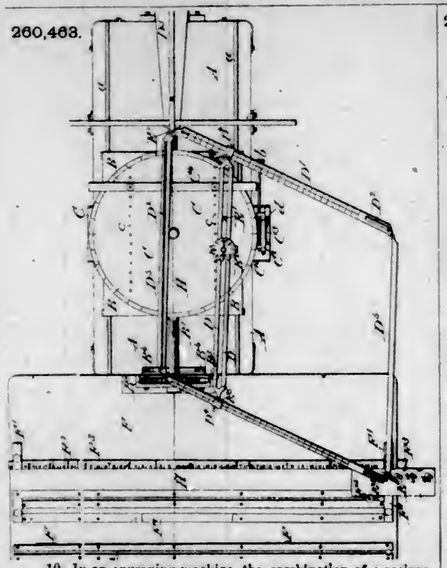
6. In an engraving-machine, the combination of the table F and circular bed C, having a central line, H, extending longitudinally through said table and bed for adjusting the positions of the tracing-points, substantially as specified.

7. In an engraving-machine, the combination, with the slotted table F, of the straight-edged bar F^2, arranged at right angles with the movement of the carriage B, substantially as described.

8. In an engraving-machine, the combination, with the table F, of the straight-edged bar F^2 and clamps F', for holding the strip F^2, substantially as described.

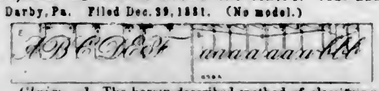
9. In an engraving-machine, the slotted table F, having clamps F' F', straight-edged bar F^2, sliding clamps F^3, and rubber springs F^4, substantially as described.

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10. In an engraving-machine, the combination of a reciprocating carriage, a circular bed supported thereon, a slotted table, adjustable straight-edged bars arranged at right angles with the line of the movement of the carriage, a bracket supporting a series of pantograph-arms, a double bar adapted to be adjusted on the graduated arms of the pantograph-frame, tracing and engraving points suspended from said double bar, and a graduated disk for regulating the position of the diamond engraving-point, substantially as described.

260,464. METHOD OF ENGRAVING SCRIPT. JOHN EARLE, Darby, Pa. Filed Dec. 29, 1881. (No model.)



Claim.—1. The herein-described method of classifying and arranging script letters for engraving the same in the formation of words, consisting in dividing the letters into classes according to the similarity of their form, providing said letters with varying hair-lines and drawing perpendicular lines from a uniform position in relation to the letter and its hair-line, whereby the letters may be uniformly merged and spaced in the formation of words and sentences by means of a suitable engraving apparatus, substantially as set forth.

2. The engraved scale containing in a condensed form all the spacing-lines of capitals, small letters, and numerals, whereby the proper letters and spacing can be laid out upon a continuous band, strip, or ribbon of any suitable material, substantially as described.

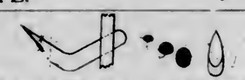
260,465. WHIP. GEORGE E. ELY and EDGAR E. ELLIS, Rochester, N. Y. Filed Oct. 24, 188.. (No model.)

Claim.—1. As a new article of manufacture, a whip-core for placing in the center of a whip, composed of a rod of rattan or wood and a fibrous or textile covering on the exterior surface of the rod, as herein shown and described.

2. A whip consisting of a rattan or wood core, platted on its outside, and forming the center of the whip, a rattan or wood filling outside the platted core, forming the body of the whip, and an exterior platted covering to the body of the whip, as herein shown and described.

260,466. CARD-TOOTH. GEORGE ETTY, Manchester, England, assignor to Wilhelm Decker, Mittweida, Saxony. Filed Jan. 31, 1881. (No model.) Patented in England Nov. 13, 1880, No. 4,682; in Germany Dec. 25, 1880, No. 14,509; in France Jan. 3, 1881, No. 140,466; in Belgium Jan. 5, 1881, No. 53,503; in Austria-Hungary, by privilegium, No. 2,132; and in Italy Mar. 31, 1881, XXV, 325.

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Claim.—In card-clothing, the wire-teeth having the backs convex and tapering to a point, as set forth.

260,467. SHAFT-COUPLING. LUTHER R. FAUGHT, Philadelphia, Pa. Filed Mar. 31, 1882. (No model.)



Claim.—1. The combination of a cylindrical sleeve having a central cylindrical bore and a slot or division extending therefrom to its periphery throughout its length, and a wedge or inclined-sided rib located helically upon the periphery of the sleeve, substantially as and for the purpose set forth.

2. A shaft-coupling in which are combined two flexible sleeves, each of uniformly cylindrical bore, and having a wedge or inclined-sided rib of uniform diameter throughout, located helically upon its periphery, a rigid inclosing case or shell having an internal helical recess corresponding to and engaging with the wedges of the two sleeves, and a device interposed between the sleeves for compressing them upon the shaft-sections by increasing the bearing of their wedges against the outer shell, substantially as set forth.

3. The combination, substantially as set forth, of two flexible sleeves having helical wedges upon their peripheries, a rigid shell recessed helically to engage the wedges of the sleeves, and a locking-key passing transversely through the outer shell and serving to transmit pressure in opposite directions to the inner ends of the sleeves.

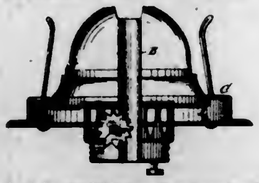
260,468. SHAFT-COUPLING. LUTHER R. FAUGHT, Philadelphia, Pa. Filed May 11, 1882. (No model.)



Claim.—The combination, substantially as set forth, of two flexible cylindrical sleeves, each having a helical wedge upon its periphery, a rigid shell or case recessed helically to engage the wedges of the sleeves, and longitudinal clamping screws or bolts adapted to inwardly compress the sleeves by transmitting end-pressure thereto.

260,469. LAMP-BURNER. JAMES M. FITE, Canton, Ohio, assignor of one-half to P. W. Bond and William J. Piero, same place. Filed Nov. 12, 1881. (No model.)

Brief.—The wick-tube is composed of two vertically-sliding sections or halves. One of these sections is rigidly attached to the burner-plate and the other is removable therefrom.



Claim.—1. A lamp wick-tube, either round or flat, made in two pieces or halves, one of said pieces or halves being attached to the burner-frame C, in combination with the grooves K K, substantially as and for the purpose described.

2. The sliding piece or half B, provided with the stops H, in combination with the grooves J J, substantially as and for the purpose described.

260,470. CULINARY VESSEL. JOHN W. PIERCE, New York, assignor of one-half to M. W. Hanna, Brooklyn, N. Y. Filed May 2, 1882. (No model.)

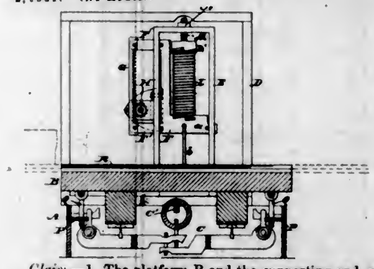


Claim.—1. The combination, with an earthenware vessel, of a metallic inclosing band having an upper corrugated edge adapted to grasp the vessel, thereby supporting the same, substantially as described.

2. The combination of the vessel A, having one or more annular shoulders, *a*, the inclosing band B, secured thereto, and an intermediate supporting or strengthening frame composed of the arms C and disk or ring C', substantially as and for the purpose described.

3. The combination, with the vessel A, having an annular series of depressions, *c*, of the inclosing band B, having its upper portion pressed into engagement with said depressions, substantially as shown and described.

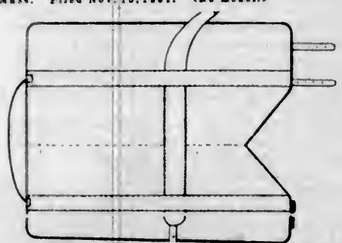
260,471. SCALES. JOSEPH FITE, Philadelphia, Pa., assignor to the Knickerbocker Ice Company, same place. Filed Sept. 2, 1881. (No model.)



Claim.—1. The platform B and the supporting and guiding frame E, in combination with the angular sliding piece F, formed of the two arms F F' and the limb *a*, said arms and limb projecting in opposite directions, the rack-bar G, connected to said arms F', the spring L, connected to said limb *a* and the top of said frame E, the bolt M and nut N, and the index-operating pinion H, substantially as and for the purpose set forth.

2. The platform B, frame E, the sliding piece F, with arms F F' and limb *a*, the rack-bar G, and the index-operating pinion H, in combination with the spring L and the piece L', with bolt M, said rack-bar and spring being on opposite sides of the sliding piece F, and the spring occupying the space between the limb *a* and top of the frame E, to which latter it is connected by said piece L' and bolt M, substantially as and for the purpose set forth.

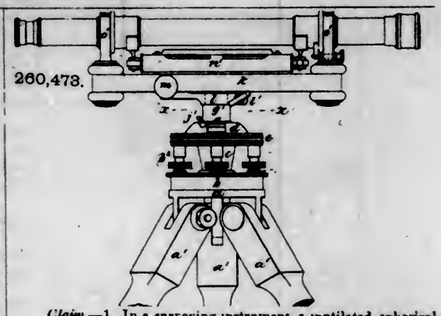
260,472. HORSE-BLANKET. CHARLES H. FROST, Chelsea, Mass. Filed Nov. 18, 1881. (No model.)



Claim.—The blanket and breast-straps and tail-cord therefor, combined with longitudinal stays at each side of the blanket, extending from the said breast-straps to the said tail-cord, and with a surcingle, *c*, stitched to the blanket, all substantially as and for the purpose set forth.

260,473. SURVEYING-INSTRUMENT. JOS. GARDAM, Brooklyn, N. Y. Filed Feb. 15, 1882. (No model.)

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Claim.—1. In a surveying-instrument, a mutilated spherical flange attached to or forming part of the socket, in combination with an annular spherical chamber forming part of the tripod-head, the upper wall of which is mutilated or cut away to allow the mutilated flange of the socket to pass therethrough into said spherical chamber, as and for the purpose set forth.

2. In combination, the central part, *c*, of a tripod-head provided with a spherical flange, c^2, the mutilated or notched spherical plate *d*, forming the lower and upper walls of a spherical chamber, the annular clamping-nut *e*, and the mutilated or notched spherical flange *g*, attached to or forming part of the socket *g'*, substantially as and for the purpose set forth.

3. In combination, the mutilated spherical flange *g* on the socket *g'*, spherical chamber composed of the mutilated spherical plate *d* and flange c^2, the fixed pin *j*, and spring retention-bolt *j'*, substantially as and for the purpose set forth.

4. In combination, the mutilated spherical flange *g* and mutilated spherical plate *d*, the spherical flange c^2, the annular clamping-nut *e*, and springs *f f*, adapted to raise and support the mutilated spherical plate *d* when relieved from the pressure of the annular clamping-nut thereon, substantially as set forth.

5. The combination, with an annular spherical chamber composed of the flange c^2 and plate *d*, of the nut *e*, the mutilated spherical flange *g* on the socket *g'*, the leveling-screws b^2 b^3, ball-joints *b' c'*, and conical shell *c*, connecting said flange c^2 with the ball *c'*, substantially as and for the purpose set forth.

6. In a surveying-instrument, the socket *g'*, provided with the mutilated spherical flange *g*, adapted to fit in a spherical chamber on the tripod-head, the spindle *h*, and the screw-bolt *i*, for holding the socket *g'* on the spindle *h*, and provided with a conical hole adapted to receive and hold the plumb-line *h'*, in combination, as and for the purpose set forth.

7. In a device for holding a telescope in the Y-pieces of a surveying-instrument, the spring *o*, pivoted at one end to one of the arms, *o'*, of the Y-pieces, and adapted to spring into notches in the other arm, o^2, as set forth.

260,474. TWO-WHEELED VEHICLE. JOSHUA G. GAY, Ottawa, Ill. Filed Apr. 13, 1882. (No model.)



Claim.—1. In shafts for vehicles, the backward curve extending behind and secured to the rear of the axle, substantially as and for the purpose described.

2. In vehicles, the coiled spring for the support of the seat, hung upon the shafts in the position substantially as and for the purpose described.

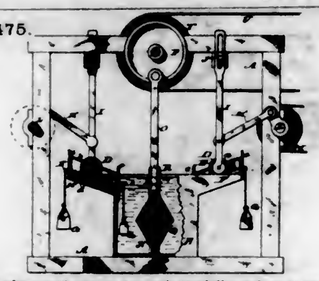
3. The combination of the seat-frame, the adjustable seat, and transverse spring supported in the position upon the shafts, substantially as and for the purpose described.

4. The combination of the seat-frame, the springs E E, supporting the foot-board, the back standards, E' E', and the coiled spring, substantially as and for the purpose described.

260,475. MACHINE FOR WORKING, FELTING, NAPPING, AND SIZING FUR, &c. IRA GILL, Walpole, Mass. Filed May 11, 1882. (Model.)

Claim.—1. The herein-described machine for working, felting, napping, and sizing fur, consisting of tank B, roller C, apron

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H, and plunger N, and means, substantially such as described and shown, for imparting motion to the roller and plunger.

2. The machine for working and felting fur, &c., consisting of frame A, tank B, roller D, provided with pinions E, racks F, arms I, crank-shaft L, plunger N, and crank-shaft S, all combined and operating substantially as set forth.

3. In a machine for working, felting, napping, and sizing fur, the combination of a table or board, a roller arranged to travel over said board, and an apron attached at one end to the edge of the board and at the opposite end to the roller, whereby it is adapted to wind on and off the roller as the roller is carried over the bed.

4. In combination with a tank, a board or table, a roller arranged to travel over the same, and an apron attached at opposite ends to the edge of the table and to the roller, respectively, and means, substantially such as shown and described, for causing the liquid in the tank to rise upon the board or table, as and for the purpose set forth.

5. In combination with the tank and the board or table, a roller arranged to travel over the board, an apron attached at opposite ends, respectively, to the edge of the board and to the roller, and a plunger arranged, substantially as shown and described, to enter the tank and cause the water to rise upon the board, as explained.

6. In combination with the board or table C, roller D, provided with pinions E, and racks F, whereby the roller is caused to rotate in moving over the board or table.

7. In combination with the table C and roller D, provided with pinions E, spring-supported racks F, as and for the purpose set forth.

8. In combination with table or board C and roller D, provided with pinions E, spring-supported racks F, and detachable weights G, whereby the distance between the face of the roll and the board or table may be controlled.

9. In combination with a board or table, C, and with toothed racks F, the roller D, having its shaft provided with pinions E, and the guards b, arranged above said shaft, whereby the pinions are prevented from rising from the racks.

10. In combination with the roller D, the slotted arms I, pins or studs J, and means, substantially such as shown and described, for imparting a backward and forward motion to the arms.

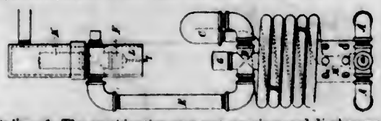
11. In combination with the roller D, provided with pinions E, racks F, supported by springs d, and carried in guides e, whereby they are permitted to rise and fall, but are prevented from moving longitudinally or laterally.

12. In combination with tank B, having extensions or tables C, a plunger, N, adapted to enter the tank and by displacement raise the water to the tables, as and for the purpose set forth.

13. In combination with tank B, plunger N, provided with flattened studs Q, arranged to travel in slots or guides R, and means, substantially such as shown, for imparting motion to the plunger.

14. In combination with tank B, plunger N, made of diamond form in vertical cross-section, whereby it is caused to enter and withdraw from the liquid in the tank without materially agitating the same.

260,476. APPARATUS FOR VAPORIZING AND BURNING PETROLEUM OR OTHER HYDROCARBON. DANIEL M. GRAHAM, Boston, Mass. Filed Mar. 28, 1882. (No model.)



Claim.—1. The combination of the air receiver and discharger L, encompassing the gas-jet F, with the said jet, the coil B, and one or more deflectors, G H, as described, all being arranged and connected substantially and to operate as set forth.

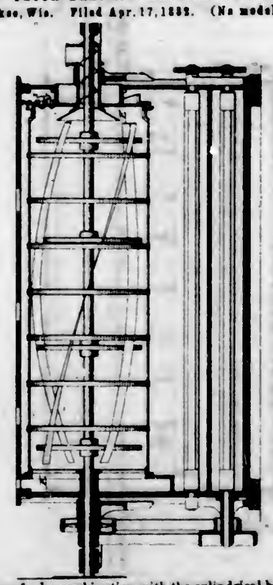
2. The combination of the headed clearer I and its supporting-chamber K with the gas-jet F, the coil B, and one or more deflectors G H, as described, all being arranged and adapted substantially and to operate as explained.

3. The combination of the annular tubular base or stream-divider A, arranged horizontally, or thereabout, and wholly below the coil B, with the said coil B, the jet F, and one or more deflectors, G H, arranged with such jet and coil substantially as set forth.

4. The combination of the annular base or stream-divider A, arranged horizontally, or thereabout, and wholly below the coil B, with the said coil B and with the jet F, air receiver and discharger L, and one or more deflectors, G H, all being adapted and arranged in manner and to operate substantially as explained.

5. The combination of the perforated air receiving and discharging tube M with the deflector H, the coil B, gas-jet F, and the air receiver and discharger L, all being adapted and to operate substantially as set forth.

260,477. FLOUR-DRESSING MACHINE. WILLIAM D. GRAY, Milwaukee, Wis. Filed Apr. 17, 1882. (No model.)



Claim.—1. In combination with the cylindrical bolting-cloth, the cloth-sustaining hoop, the ring provided with inclines arranged to move the hoop outward, and a suitable support for said ring, substantially as described and shown.

2. In combination with the reel-head, the ring mounted thereon and provided with inclines, the hoop supported by said inclines, and the bolting-cloth attached to the hoop.

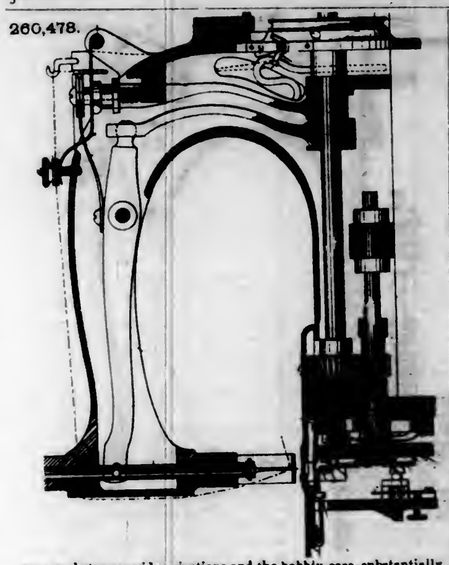
3. In combination with the cloth-supporting hoop and the head of the reel, the adjustable ring provided with the inclines and the rack, and the adjusting-pinion mounted upon the head of the reel and engaging with said rack.

4. In a bolting-reel, the combination of the adjustable ring G, constructed and operating as described, the adjusting-pinion, and the locking-dog K, engaging with the rack as shown.

260,478. SEWING-MACHINE. MAX C. GRITZNER, Baden, Germany. Filed Jan. 20, 1881. (No model.) Patented in Spain Dec. 18, 1878; in Germany Dec. 20, 1878, No. 7,018, Aug. 7, 1880, addition, 15,629; in France Jan. 17, 1879, No. 130,530. Dec. 20, 1879, addition: Mar. 3, 1880, No. 130,566, June 19, 1880, addition; in England Aug. 25, 1878, No. 3,498; in Belgium Sept. 1, 1879, No. 49,185; in Italy Sept. 30, 1879, XIV, 11,940, XXII, 351; in Austria May 5, 1880, No. 10,388, and in Hungary May 5, 1880, No. 1,283.

Claim.—1. The combination, with a bobbin-case and rotary hook, of means, as described, for holding the case stationary, comprising two projections, and devices for making alternately a free

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passage between said projections and the bobbin-case, substantially as set forth.

2. The bobbin-case, under-thread tension carried thereby, a stationary projection, a spring, and projections on the bobbin-case to fit between said spring and stationary projection, in combination with the feed-bar and arm attached thereto, substantially as described.

3. The combination, with the rotary hook, stationary bobbin-case, and bobbin, of a spring-brake carried by the frame of the machine and arranged to bear against the said bobbin, substantially as described.

4. The combination, with the bobbin and bobbin-case, of a tension device carried by said case, and an additional tension-brake carried by the frame of the machine, substantially as described.

5. The combination of the bobbin, the bobbin-case, a tension device carried by said case, and an additional intermittent tension device, substantially as described.

6. The combination of the rotary hook, the stationary bobbin-case having its open side away from the hook, the bobbin supported on a pin in said case, a friction-brake carried by the frame of the machine and arranged to bear against said bobbin, and devices for withdrawing at intervals the said brake, substantially as described.

7. The combination, in a sewing-machine, with a tension for acting upon the upper thread between the spool and take-up, of an additional intermittent tension for clutching the thread during the descent of the needle below the cloth-plate, substantially as described.

8. The combination, with the connecting-rod of an automatic tension, of an additional intermittent tension operated by the movement of said rod, substantially as described.

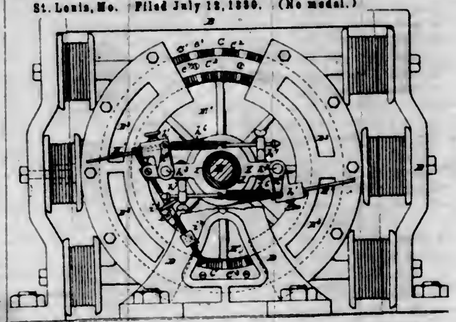
260,479. WRENCH. EDWARD P. HARD, Newark, N. J. Filed Feb. 27, 1882. (No model.)



Claim.—1. The combination of the bar B, having the jaw A and pinchers I, the reversible case C, provided with the jaw D, and the lever E, substantially as and for the purpose specified.

2. The combination-wrench embracing the reversible case C, having the jaw D and recess G, adapted to be used in combination with the pinchers part I on the end of the handle or bar B, the lever E, having the double eccentric head F, operating in the recess G, and adapted, in combination with the jaws D and A, to operate as a wrench, and provided with the claw M, adapting it to be used as a tack-lifter, all substantially as specified.

260,480. DYNAMO-ELECTRIC MACHINE. CHARLES HEISLER, St. Louis, Mo. Filed July 12, 1880. (No model.)



Claim.—1. A sectional armature-frame composed of a series of staves arranged parallel with the axis of the same, and each stave carrying two or more separate and independent bobbins arranged end to end upon each stave, as described, and for the purpose set forth.

2. The combination, in the armature of a dynamo-electric machine, of the sections or staves C', having studs c^2, for holding the bobbins C', and screws c^3 and plates or washers c^4, for securing said bobbins in place, substantially as and for the purpose set forth.

3. The sectional armature-frame of a dynamo-electric machine, composed of a series of longitudinal staves jointed radially together and having radial air-passages c^4 and perforations c^5, which form passages that pass through the entire series of bobbins at a uniform distance from the axis, substantially as and for the purpose set forth.

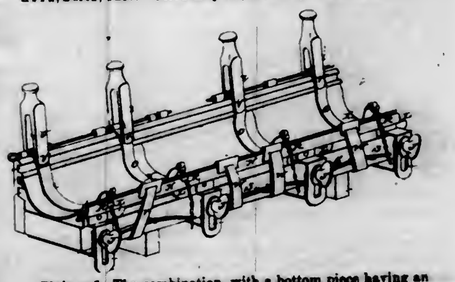
4. The armature-sections C', having inwardly-projecting lugs c^6, in combination with the clamping-disks E', axle K, and nuts E^2, or their equivalents, as and for the purpose set forth.

5. In a dynamo-electric machine generating two or more distinct currents, the armature spools or bobbins C', in combination with two or more separate commutators, F F', the outer commutators, F', having connection with their bobbins by conducting-wires f^3, passing underneath the inner commutators, F, as described, and for the purpose set forth.

6. The combination of the turning frame I, carrying the brush-holders H H', &c., with the adjusting-screw shaft I', as and for the purpose set forth.

7. A magneto-electric machine having its armature or other portions covered with a coating of enamel, fused granite, &c., for the purpose set forth.

260,481. MACHINE FOR MAKING EAVES-TROUGHS. GEORGE HUTH, Delta, Ohio. Filed May 31, 1882. (No model.)



Claim.—1. The combination, with a bottom piece having an upright back provided with one or more grooves in its inner face, of suitable downwardly-curved holding plates or pieces hinged on the back, and a longitudinal front strip, by adjusting which the shape is given to the eaves-trough, as set forth.

2. The combination, with a bottom piece having an upright back provided with one or more longitudinal grooves in its inner face, of suitable downward-curved holding plates or pieces hinged on the back, and provided at their other ends with chains or ropes adapted to be hooked over the ends of flat springs secured on the

front of the bottom piece, and a longitudinal front strip adjustable and supported by suitably-arranged adjustable plates to impart the desired shape to the eaves-trough, as set forth.

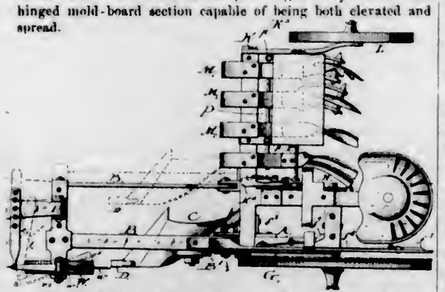
3. The horizontal bottom piece having laterally-adjustable plates on its under side, provided with upturned outer ends, on which ends are vertically-adjustable supporting-plates having a cross-piece at their tops, which enters a groove on the under side of a longitudinal adjustable front strip, as set forth.

4. The combination, with the downwardly-curved plate or strip hinged at its rear end to a rod on the back of the device, so as to be laterally adjustable thereon, of a pin having one arm shorter than the other and beveled, which pin is adapted to slip down over the back with its short arm embracing the hinged end of the curved strip to retain it in position, as set forth.

5. The combination, with the bottom piece, on which the material forming the trough is adapted to rest, and a longitudinal front strip supporting the end or edge of the trough, of one or more elastic bands, chains, ropes, or springs secured under the bottom, and provided with hook-pieces on their ends adapted to be passed over the front strip and be hooked over the edge of the trough to secure the same in position, as set forth.

260,482. COMBINED PLOW, HARROW, SEEDER, &c. THOMAS E. JEFFERSON, Boston, Mass. Filed May 8, 1882. (No model.)

Brief.—Plow-frame centrally jointed and plow raised level. Frame of channel-iron giving housing for shafts, &c. Colter turns automatically with the tongue and serves as a bearing-wheel. The harrowing section may be detached from the plow-frame and united to another similar section, forming a sulky-harrow. A hinged mold-board section capable of being both elevated and spread.



Claim.—1. In a sulky-plow having a furrow-wheel, a furrow side wheel, and a colter serving as a bearing-wheel at the front, the hinged frame and plow beam or beams, combined with the plow situated between the furrow-wheel and colter-wheel, and bearing upon said wheels whether said plow is in or out of operation, as and for the purposes herein set forth.

2. In a sulky-plow, the combination of a wheel-frame hinged or pivoted to the rear end of plow-beam, the latter supported on a swiveled colter at its front end, and having means for elevating the frame and beam at the point of their hinged connection, and a balancing driver's seat arranged in the rear of the axis of the rear bearing-wheels to aid the lever in lifting the plow, substantially as set forth.

3. In a sulky-plow, the plow proper and means for elevating the same in a horizontal plane, combined with the furrow-wheel, whereby the said wheel, riding up the incline formed by the partially-elevated plow, serves to further force the plow out of the ground, as specified.

4. In a sulky-plow, the main frame pivoted on the axes of the riding-wheels, the plow beam or beams hinged thereto and supported by the colter and the hinged pole, all constructed, arranged, and combined as and for the purposes set forth.

5. The plowshare C, having V-shaped recesses cast vertically parallel with each other upon either side thereof, combined with a reversible point, D, having V-shaped parallel jaws *d*, and securing means, substantially as shown and set forth.

6. The combination, with a sulky-plow or harrow, of a harrowing device consisting of the spring-arms M and the double teeth O', adapted to be used in connection with single teeth or disks to pulverize and level the soil, as shown and described.

7. In a plow, a mold-board the rear portion of which is separate or hinged and adapted to be adjusted vertically upon the fixed portion, as and for the purposes set forth.

8. In a plow, a hinged portion of the mold-board, adapted to be adjusted vertically upon the fixed mold-board, whereby the operator may plow at any desired depth within the capacity of the device, as set forth.

9. In a plow, a hinged mold-board susceptible of vertical adjustment upon the plow-body for the purpose described, combined with means, substantially as specified, for imparting to said mold-board any desired angle with relation to the line of travel, as set forth.

10. In a plow, a mold-board having teeth or fingers secured or cast upon the rear portion of its face immediately forward of the rear edge thereof, said teeth being inclined rearwardly approximately in a line traveled by the furrow-slice, as shown, and serving not only to relieve the rear end of the mold-board of friction and assisting to turn the furrow, but also serving to pulverize the soil as the furrow is being inverted, and utilizing the side pressure arising from plowing for that purpose, substantially as set forth.

11. A hinged mold-board, C', having fingers C^3 cast or secured upon its face forward of the rear edge thereof, said fingers being inclined rearwardly more or less as the hinged section may be adjusted to pulverize the soil as the furrow is being turned, as and for the purposes herein specified.

12. A hinged mold-board, C', having rearwardly-inclined teeth or knives, C^3, combined with means, substantially as described, for imparting oscillatory adjustment to said mold-board C' in relation to the hinge *c*, as set forth.

13. The hinged mold-board C', having rearwardly-inclined teeth or knives C^3, combined with the threaded rod C^5, perforated arm C^6 upon the bracket C^4, and with the adjusting-nut C^7, as set forth and herein described.

14. The hinged mold-board C' and bracket C^4 upon the plow-body C, combined with the threaded rod C^5 and nut C^6, whereby the said mold-board may be raised or lowered at will to accommodate the depth of furrow, as and for the purposes specified.

15. The frame A', made of channel-iron, with open bottom, and adapted to receive and house working parts of the machine, in combination with rock-shaft K, arm K', and wheel L, substantially as shown and described.

16. The hand-lever F, rigid with the plow-beam, and the frame A', hinged to said beam, combined with means, substantially as described, for adjusting the pitch of the frame and beam and the consequent elevation of the plow by hand or foot lever at will, as specified.

17. The hand-lever F, rigid with the plow-beam, the segmental rack-bar F', pawl f^2, rod f^3, and spring f^4, combined with frame A and the hand and pedal trips f^5 f^6, as and for the purposes herein set forth.

18. In a plow, and in combination with a jointed frame or beam, a loose link connecting the rear of the plow proper to the portion of the support in rear of the hinge or joint, and adapted to serve, with the plow-standard secured to the support forward of the said hinge or joint, to preserve the horizontal position of the plow whatever its vertical elevation, as set forth.

19. The combination of the hinged support, the standard B', hung from said support forward of the hinge, and the plow C, with the link E', connecting the rear of said plow to the support in rear of the hinge, as and for the purposes specified.

20. The link E' and standard B', combined with the plow, the main frame, the plow-beam, the hand-lever F, the segmental rack F', the spring f^4, and the double trips, as and for the purposes hereinbefore set forth.

21. The flanged furrow-wheel G and axle G', combined with the lugs *g*, pivoted tilting bar *g'*, and adjusting-bolts G^3, as and for the purposes set forth.

22. The feed mechanism and adjusting and registering devices, combined with the feed-shaft, the gear I^2, lever I^3, and the pinion H upon the tilting furrow-wheel shaft G', and the furrow-wheel G, the gear I^2, and pinion H being adapted to be thrown into mesh whatever the deflection of the wheel G and shaft G', as and for the purposes specified.

23. The perforated partitions f^7, the headed rod f^8, and spiral spring f^9, all housed in the frame A, combined with said frame A, formed of angle-iron, as shown, and with the segmental rack-bar F', hand-lever F, and trip-connections, as and for the purposes set forth.

24. In a disk plow or harrow, independent springs or spring-arms secured to the cross bar or bars, combined with independent removable concavo-convex disks, substantially as described and set forth.

25. The springs M, supporting the harrowing devices, secured to the cross-bar A', and describing approximately a portion of an ogee curve, each independently combined with adjustable, removable, and reversible harrowing devices, and adapted to allow a universal play thereto, in a manner as and for the purposes set forth.

26. The flat springs M, as shown, having threaded apertures *m*, combined with the harrowing-teeth or disk-frames, having curved slots *n*, and with set-screw *m'*, allowing such teeth or frames to be adjusted at any desired angle in relation to the line of travel, or to be reversed at will, as and for the purposes set forth.

27. The combination of the independent flat springs M and adjustable removable reversible teeth or disks with the holding-bar P, threaded arms P', nut *p*, and frame A, as and for the purposes described and set forth.

28. The disk journal-boxes R, having conical or rounded bearings *r* and spaces *r'*, combined with the disk-spindle O', having annular flange *o'*, substantially as set forth.

29. The combination of the journal-boxes R, having annular recesses r^3, internal chamber, *r'*, and bearings *r*, and the disk-spindle O', having collars *o*, which rigidly embrace the disk, and having annular flanges *o'*, combined with the disk-frame N, having jaws *n'*, the whole being adapted to serve as and for the purposes set forth.

30. An interchangeable sulky plow and harrow having a cross-bar, A', of angle-iron, with harrowing devices, as shown, adapted to receive a similar cross-bar having similar harrowing devices, combined with means, substantially as described, for throwing either or both sides in or out of operation at will, as set forth.

31. In a sulky-harrow, the combination of cross-bar A', adapted to slide upon and be secured to a duplicate cross-bar or section, S, with the box U, having ears *u'*, the seat X, and pole Z, as set forth.

32. In a sulky-harrow, a side section composed of the cross-bar A', of channel-iron, the springs carrying independent disks or teeth, the rock-shaft K, with lever K', and provided with crank-arm K^3 and wheel L, and adapted to receive a cross-bar provided with duplicate devices, arranged to slide into and be secured to the bar A', as set forth.

33. The combination of a revolving colter, a right-angled standard, or the equivalent thereof, swiveled in the plow beam or frame, and a tongue properly secured to said standard, whereby the plow is enabled to turn in either direction and describe the arc of a small circle without taking the plow out of the soil or injuring the colter-blade, as specified.

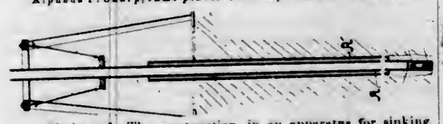
34. In a sulky-plow, a revolving colter combined with and adapted to receive motion and direction from the draft-tongue, as and for the purposes hereinbefore set forth and described.

35. In a sulky-plow, a revolving colter which serves at all times as a bearing or riding wheel for the forward end of the plow-beam, combined with a pivoted pole, to which it is connected and from which it receives motion and direction, as and for the purposes set forth.

36. The colter W and standard V, combined with the arm V', the adjustable pole Z, and the plow-beams B', substantially as set forth.

37. In combination with a sulky plow or harrow, the tongue Z, hinged to the frame thereof, and formed of band-iron cut diagonal, one piece being reversed to bring the narrow ends together, and both parts bent to form an approximate arc of a circle in transverse section and secured together, substantially as set forth.

260,483. EXCAVATING EARTH FOR SINKING TUBING. CHARLES H. LEACH, Baltimore, Md., assignor of one-half to Alphaus P. Sharp, same place. Filed Apr. 6, 1882. (No model.)



Claim.—1. The combination, in an apparatus for sinking tubing, of a pipe having an upwardly-opening valve, and formed at its lower end to cut or disintegrate the soil, an exterior pipe arranged to follow the first in its descent, and means for reciprocating the central pipe, as set forth.

2. In an apparatus for sinking tubing, a pipe shod with a drill and containing a ball-valve, an exterior pipe arranged to follow the first in its descent, a water-supply communicating with the channel between the pipes, and means for reciprocating the inner pipe, as set forth.

3. In combination with the pipes A A', the elastic suspending device, as and for the purpose set forth.

260,484. WIG. HENRY P. LEONARD, Boston, Mass. Filed Oct. 31, 1881. (No model.)

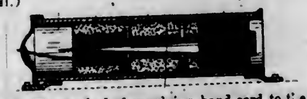
Claim.—1. As an improved article of manufacture, a wig composed of a portion of the hide or skin of a hairy or woolly animal tanned and shaped to fit the head without wholly removing the natural growth of hair, the said skin being provided with perforations, substantially as and for the purpose described.

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2. The herein-described process of making wigs, which consists in properly shaping a piece of tanned hairy or woolly hide or skin, mounting it upon a block, immersing it in a solution of ammonia, plucking or pulling out the superfluous hairs, and perforating the skin, substantially as and for the purpose set forth.

260,485. CORD-HOLDER FOR GRAIN-BINDERS. CHRISTOPHER W. LEVALLEY, St. Paul, Minn., assignor of one-half to Sylvanus D. Locke, Hoosick Falls, N. Y. Filed Apr. 22, 1881. (No model.)

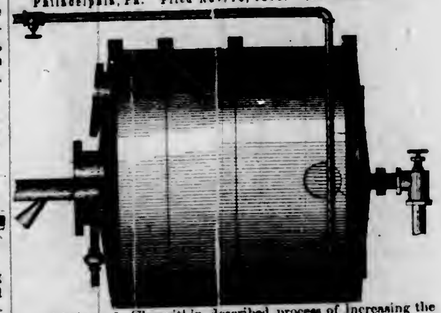


Claim.—1. The method of supplying band-cord to the binding mechanism of grain-binders as herein described, consisting in arranging a series of wound balls of cord within an inclosing case which holds them from disarrangement, and connecting the outer end of the cord of one ball to the inner end of the cord of the adjacent ball and unwinding them successively by the operation of the machine.

2. In a grain-binder, the cord box or holder having a diameter substantially equal to that of the cord balls and a length substantially equal to or exceeding twice the length of one of the cord balls, and having an aperture through its feed end for the purpose of receiving and holding two or more balls and permitting the cord to feed from them through said apertures, substantially as described.

3. The method of supplying band-cord to the binding mechanism of grain-binders as herein described, consisting in arranging a series of wound balls of cord within an inclosing case which holds them from disarrangement and end to end, connecting the outer end of the cord of one ball to the inner end of the adjacent ball, and unwinding them successively by the operation of the machine, substantially as set forth.

260,486. PROCESS OF TREATING NEW BONE-BLACK AND OF REVIVIFYING OLD BONE-BLACK. S. MORRIS LILLIE, Philadelphia, Pa. Filed Nov. 10, 1881. (No model.)

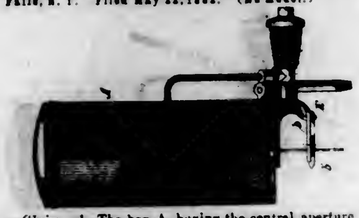


Claim.—1. The within-described process of increasing the potency of new or of old and spent bone-black, as a decolorizer and purifier of sugar solutions, consisting in charging or impregnating the said new or spent black with lime, and in removing from the black by means of suitable solvents the excess of lime, if any, and the products of the action of the lime on the black, substantially as specified.

2. The within-described process of treating new or old bone-black to increase their powers as decolorizers and purifiers of sugar solutions, consisting in impregnating the said new or old bone-black with lime, and in removing the products of the action of the lime on the black from the black by washing it (the said limed black) first with water, then with an acid, and finally with water, substantially as specified.

3. The herein-described process of intimately mixing bone-black with a solution of an acid, consisting in running a stream of the black and a stream of the acid solution simultaneously into and through a suitable mixing apparatus, substantially as specified.

260,487. GRAIN-BINDER. SYLVANUS D. LOCKE, Hoosick Falls, N. Y. Filed May 12, 1882. (No model.)



Claim.—1. The box A, having the central aperture, in combination with the frame E, the spring-jaw tension device, and the spring-arm take-up device, substantially as described.

2. The combination of the fixed tension-jaw *b* with the pivoted tension-jaw *b'*, having the cord-retaining shoulders *b' b'*, and with the spring for holding the jaws closed against the cord, substantially as described.

3. The scissors-form tension-jaws beveled off on the side the cord is introduced, and having the cord-retaining shoulders, and combined with a spring for holding them closed against the cord.

260,488. TELEPHONE-TRANSMITTER. HENRY B. LITTLE, Boston, Mass. Filed Feb. 1, 1882. (No model.)



Claim.—1. The combination, in a telephone-transmitter, with the adjusting-lever and spring carrying the outer electrode, of a block, plate, or piece of non-resonant material—such as cork—interposed between said lever and spring, substantially as described.

2. The combination, in a transmitting-telephone, with the adjusting-lever G and contact-springs E and D, depending therefrom, of the non-resonant and resilient dampener *a*, interposed between said lever G and spring E, substantially as described.

3. In a telephone-transmitter, the combination of the contact-springs, the adjusting-lever and screw, and a piece of cork or other suitable semi-elastic substance of sufficient length to compress tightly the outer electrode-spring, substantially as and for the purpose described.

260,489. APPARATUS FOR FUMIGATING AND PRESERVING FOOD. FRANCIS MACHOLDT, New York, N. Y. Filed Apr. 18, 1882. (Model.)



Claim.—In a preserving-safe, the combination of a preserving-chamber, being open at one side, and having an interior receptacle for burning sulphur or any other equivalent chemical, with a sliding cover, and with means whereby the cover is hermetically secured to the preserving-chamber when closed, substantially as set forth.

260,490. STOP-VALVE. SAMUEL W. MARTIN and CHARLES D. HAUK, Springfield, Ohio. Filed Mar 31, 1882. (No model.)

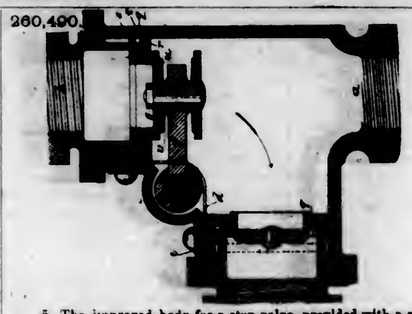
Claim.—1. In combination with the body A, having the inlet and the two outlet openings, the internal vibratory arm provided with two valves, substantially as described and shown.

2. The combination of the body provided with inlet and outlet openings, the seats or throats at the inner ends of the outlet-openings, and the vibratory arm provided with the two valve-surfaces capable of a limited motion independent of the arm.

3. The valve-body provided with the inlet and the two outlet openings, the vibratory arm and its valves, and the supporting-plate for said arm applied externally to the body, substantially as described and shown.

4. In a stop-valve, the vibratory valve and the supporting-arm attached and sustained by a plate applied externally to the valve-body, as described and shown

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5. The improved body for a stop-valve, provided with a side opening, *d*, substantially as described and shown, for the admission of the valve proper and its supporting-arm.

6. The valve-body provided with the necks *a b c*, and with the opening *d*, located in the angle and adapted to admit the valve, as shown.

7. The combination of the valve-body having the three throats, the vibratory arm, its valves, the arm-supporting plate, and the operating-spindle *k*, having the exposed end.

8. In a three-way valve, the combination of a check-valve, the main valve, the valve-seat *q*, located, as described, between the two valves and arranged to co-operate with both.

9. In combination with the valve-body, the internal vibratory valve, the externally-applied valve-seat *q*, and the externally-applied neck *b*, serving to hold the seat in position.

10. The combination of the body A, having the internal flange, *r*, the valve-seat *q*, packing *s* and *t*, and neck *b*.

11. In a stop-valve, the combination, with a vibratory valve-supporting arm, of a valve body or casing provided with a side opening to permit the introduction of said arm, and with a plate adapted and arranged to cover said opening, as described and shown.

260,491. VEHICLE-WHEEL. LEOPOLD MAY, Ungarisch Ostra, Austria-Hungary. Filed May 19, 1882. (No model.) Patented in England Sept. 30, 1881, No. 4,220; in France Sept. 30, 1881, No. 145,051; in Belgium Sept. 30, 1881, No. 55,869; in Germany Sept. 30, 1881, and in Austria-Hungary Dec. 15, 1881, Nos. 46,103 and 32,408.

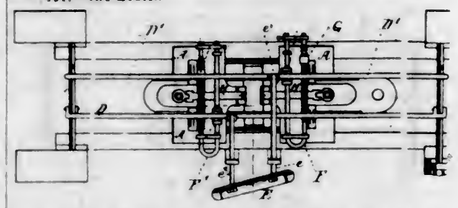


Claim.—1. In combination with tubular hub *a* and angle-iron rings *c c'*, the removable axle-box *d*, substantially as described.

2. In wheels for vehicles, the combination of the iron or metal tube *a* with the iron or metal outer rings, *b b'*, and inner rings, *c c'*, essentially as and for the purpose described.

3. The axle-box *d*, notched flange *i*, and nut A, in combination with the tubular hub *a* and angle-iron rings *c c'*, secured to the said hub, and provided with the pin *i*, substantially as and for the purpose described.

260,492. LEATHER SCOURING, SETTING, AND HIDE-WORKING MACHINE. JOHN C. MAYNE, Somerville, assignor, by mesne assignments, to Charles Holmes, Boston, Mass. Filed Dec. 19, 1881. (No model.)



Claim.—1. The combination, with the reciprocating head A, having the shipper-rods F F' and the tool-rod levers H, of the pivoted guide rods or bars D D', the actuating-rods *c c'*, and handle E, substantially as and for the purposes set forth.

2. The combination, with the latches G and their springs, reciprocating carriage A, and levers H, of the shipper-rods F F', horizontal guide rods or bars D D', and actuating-rods *c c'*, having the horizontal handle E, substantially as and for the purposes set forth.

3. In a hide and leather working machine, the combination of the latches or slide-bars for holding the tool-carriers from the work supported by and reciprocated with the head of the machine, a non-reciprocating handle or handles for operating said latches, and intermediate mechanism, substantially as specified, for connecting said handle or handles with the latches or slide-bars, all substantially as described, and for the purposes set forth.

4. In a hide and leather working machine, the combination, with the reciprocating head, provided with two or more working-tools, of a handle or handles not reciprocating with the head, and intermediate mechanism, substantially as described, whereby the tools may be raised out of contact with the surface of the hide or leather while the head is reciprocated, as set forth.

260,493. DEVICE FOR HANDLING COTTON. CHARLES E. MUNAY, New Orleans, La. Filed May 16, 1882. (No model.)



Claim.—1. The hatchway E, having the sliding joint F, for the purpose described.

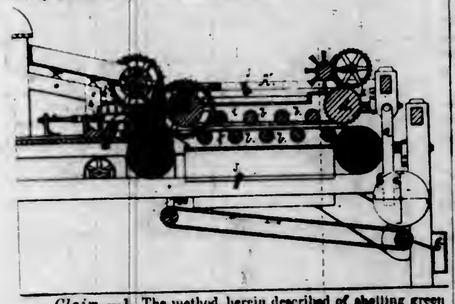
2. The combination of the floor *a'*, the hatchway E, the sliding joint F, and the baling-case G, substantially as described.

3. The floor *A*, having the depression *a*, and the hatchways E E, substantially as described.

4. The combination of the hatchway E, the baling-case G, and a connection for closing, when desired, the joint between the hatchway and case.

260,494. MACHINE FOR SHELLING GREEN PEAS. AUGUST MEYER, Baltimore, Md. Filed Mar. 17, 1882. (No model.)

Brief.—The pods pass from the hopper to a cylinder provided with longitudinal grooves, thence to a toothed endless belt, which presents them transversely to a double series of endless wires moving at different rates of speed and supported on a series of transverse rollers. The action of the wires and rollers is to simultaneously roll and bend the pods, causing the pods to burst. The peas fall between the wires upon an inclined table, thence pass to an endless apron, which separates them from such portions of the pods as may pass through the wires. The bulk of the pods fall upon a revolving screen at the rear of the machine, which, by reversing the pods, separates such peas as may remain.



Claim.—1. The method herein described of shelling green peas, consisting in simultaneously rolling and bending the pods, whereby they are caused to burst and discharge the peas, as set forth.

2. In a pea-shelling machine, a moving surface for rolling the pods, in combination with a series of ribs or wires arranged to bend the pods, as and for the purpose set forth.

3. In a pea-shelling machine, the combination, with means for rolling and bending the pods, of a device for separating the peas from the empty pods, substantially as described.

4. In a pea-shelling machine, a double series of wires or bands, those of one set being located opposite the interstices of the other, arranged to roll and bend the pods, as set forth.

5. In a pea-shelling machine, a double series of wires or bands and mechanism for driving the same at different rates of speed, as set forth.

6. In a pea-shelling machine, a series of wires or bands having roughened or ribbed surfaces to enforce the rolling of the pods, as set forth.

7. In a pea-shelling machine, mechanism for rolling the pods and bending them, and a feeding device adapted to deliver the pods with their length transverse to the line of rolling, as set forth.

8. In combination with the double series of wires, a feeding device adapted to deliver the pods transversely upon the wires, as set forth.

9. A double series of endless wires or bands, in combination with means for driving one set faster than the other, and a series of supporting-rollers to prevent the sagging of the wires, as set forth.

10. In combination with the main frame having rollers which carry a series of parallel wires or bands, the upper frame having a similar series of wires and rollers, as set forth.

11. In a pea-sheller and in combination with the double series of wires, the supporting-rolls *c*, as set forth.

12. In combination with the shelling wires or bands, the feeding-belt having transverse ribs, as set forth.

13. In combination with the shelling wires or bands, those of one set arranged opposite the interstices of the other, an inclined endless apron adapted to separate the peas from the shreds of pod, as set forth.

14. In combination with the shelling-wires, the brushes J, as set forth.

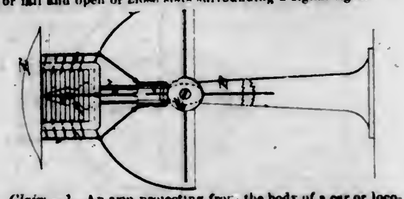
15. In combination with the wires, the screen F', adapted to invert the discharged pods, as set forth.

16. In combination with the shelling-wires, the fluted roller *c* and ribbed feeding-belt, as set forth.

17. The shelling-wires consisting of coils having bands at intervals, as set forth.

260,495. SIGNAL FOR RAILROADS. ALPHONSE MONTANT, New York, N. Y. Filed Aug. 3, 1881. (No model.)

Brief.—An elliptical cam having radial arms is pivoted to a support, and its arms being struck by a projection from the train and the cam rotated, a vertically-moving tube and connecting-rods rise or fall and open or close slats surrounding a signal-light.



Claim.—1. An arm projecting from the body of a car or locomotive, either on the upper or lower part of the car, in combination with an arm or branch projecting from a fixture placed at the side of the track, and movable slats which open and close the light to view, substantially as described.

2. A fixed frame having secured to it an elongated cam, said cam having arms or branches which are operated by an arm projecting from a car or locomotive, substantially as hereinbefore set forth.

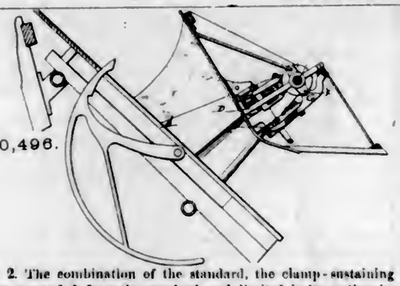
3. A fixed frame having at its top a lantern with movable slats which are opened and closed by rods, the rods being fastened to a tube, which tube is caused to move up and down by the elongated cam, substantially as hereinbefore set forth.

4. A fixed frame, in combination with the elongated cam, the lantern with movable slats, the rods, the tube, and shields, substantially as hereinbefore set forth.

260,496. GRAIN-BINDING MACHINE. SAMUEL NELSON, Whitewater, Wis., assignor to Beverly & Son, same place. Filed Apr. 5, 1882. (No model.)

Claim.—1. In a grain-binder, the rocking plate and the clamping-wheel and its actuating-lever mounted on said plate, in combination with the cam wheel or cylinder provided with the eccentric portion to move the plate, and with the cam-groove to operate the lever.

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2. The combination of the standard, the clamp-sustaining plate suspended from the standard, and limited in its motion by its upper end abutting against the standard, and the eccentric acting upon the plate to depress its opposite end, as shown.

3. In a grain-binder, a standard with the opening and the two shaft-bearings, in combination with the rocking plate pivoted thereto, the clamping-wheel, the lever mounted on the plate, and the cam-wheel provided with the eccentric periphery and with the cam-groove, as shown.

4. A grain-binder standard, D, provided with the opening to admit the cam-wheel, and the shaft-bearings on both sides of said opening and adapted to sustain the rocking plate, as shown.

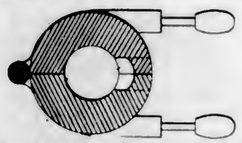
260,497. AUGER. WILLIAM L. PARMELEE, Ansonia, Conn., assignor to the Derby Bit Company, same place. Filed Apr. 20, 1882. (No model.)



Claim.—1. In an auger, the sliding bit having a rack or toothed surface and a lateral tapering inclined cutting-surface, in combination with the worm or screw-threaded pinion arranged in the bit-shank, substantially as and for the purpose set forth.

2. In an auger, the sliding bit having a rack or toothed surface and a cutting-edge, in combination with the worm or screw-threaded pinion arranged in the bit-shank, substantially as and for the purpose set forth.

260,498. GLASS-MOLD FOR THE MANUFACTURE OF CHIMNEYS AND GLOBES. ARCHIBALD W. PAULL, Wheeling, W. Va., and JOHN F. MILLER, Martin's Ferry, Ohio. Filed May 5, 1882. (No model.)



Claim.—1. In a sectional mold of the character herein described, a cavity for the reception of the separate lens or analogous article, and an aperture in the wall of the mold, arranged substantially as explained, so that the lens or analogous article may be introduced from the exterior and properly seated and held in the cavity provided for it after the mold is closed, substantially as and for the purposes set forth.

2. In combination with the mold having a cavity for the reception of a separate lens or analogous article, and an aperture leading from the exterior to said cavity, the interiorly-projecting pins or wires arranged to hold the separate article in place properly, substantially as explained.

3. In combination with the mold having a cavity for the reception of a separate lens or analogous article, and an aperture leading from the exterior to said cavity, the interiorly-projecting holding pins or wires provided with a handle or handles for retracting them, substantially as and for the purposes set forth.

4. The herein-described sectional mold for the manufacture of glassware, the same provided with a cavity for the reception of a lens or analogous article, and an aperture leading from the top and exterior of the wall of said mold for the insertion of the lens or analogous article, substantially as shown and described.

260,499. WOODEN MAT. HENRY T. PRATT, New York, N. Y. Filed Dec. 2, 1881. (No model.)

Brief.—The connecting-straps are provided with inclined flanges in reverse, and hold the slats, which are wider at the top and base than in the middle.



Claim.—1. The longitudinal connecting-straps, with inclined flanges in reverse, combined with transverse slats having bases wider than the middle portion, substantially as specified.

2. The connecting-straps, with inclined flanges and longitudinal flanges, combined with the slats having bases wider than the middle portion, substantially as specified.

3. In a floor-mat, the wooden slats having top and bottom surfaces wider and the middle portions narrower, in combination with strap-connections that grasp the base portions of the slats

260,500. BOOK-HOLDER. JOSHUA PUSEY, Philadelphia, Pa. Filed Apr. 15, 1882. (No model.)



Claim.—1. In a book-holder, the combination of the beam C, supporting-standard, the adjustable supports or bearing S, and the two leaves L, pivoted on the latter, substantially as and for the purpose described.

2. In a book-holder, the leaves introverted at their lower ends, in combination with the pivotal supports, substantially as and for the purposes shown and set forth.

3. The leaves L, supports S, beam C, pivoted at about the middle thereof to upright M, and the spring S, combined, constructed, and operating substantially as and for the purposes described.

4. The combination of the two leaves L, pivoted to supports S, the beam C, and the upright M, adapted to rotate on standard W, substantially as and for the purpose specified.

5. In combination with the beam C, standard W, and the leaves L, provided with pivots B and stop-lug E, the supports S, secured to said beam, and having a projection, Y, whereby the leaves are stopped by lug E striking against said projection, substantially as shown and described.

6. In a book-holder, the friction-strips Z, secured to the inner sides of the leaves L, substantially as and for the purpose specified.

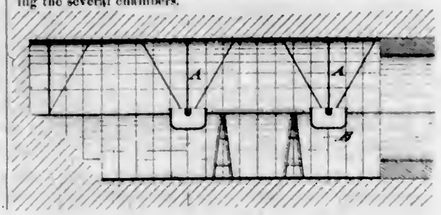
260,501. AUTOMATIC AGITATOR AND PARAFFINE-CLEANER FOR OIL-WELLS. WILLIAM S. ROBERTS, Bradford, Pa., assignor to Sherman E. Brainard, same place. Filed Mar. 8, 1882. (No model.)



Claim.—The working barrel N, the standing box O, the valve-seat U, the valve S, the piston-rod F, with the piston-head Q, the swivel-joint J, the weight C, connected to the piston F by the line e passing over the pulley D, the agitating-line G, attached to the valve S, the barbed wire H, and rod or weight *h*, all in connection with the tubing, substantially as described.

260,502. SAFETY-CHAMBER FOR SUBMARINE TUNNELS. HENRY F. RUDLOFF, New York, N. Y. Filed July 22, 1881. (No model.)

Brief.—Transverse partitions extending down from the upper part of the tunnel form safety-chambers, which, when employed in connection with an air-lock, have U-shaped escape-passages uniting the several chambers.

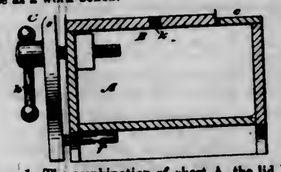


Claim.—1. A safety device for submarine tunnels, consisting of two or more transverse partitions secured tightly to the upper part of the tunnel-section, substantially as set forth.

2. As a safety device for submarine tunnels, the combination of two or more transverse partitions extending from the top of the tunnel to the middle or a point below the middle of the same, and U-shaped tubular escape-channel arranged at the lower part of the partitions, substantially as set forth.

260,503. ATTACHMENT TO TOOL-CHESTS. HOWARD A. SCHRAMBERGER, New York, N. Y. Filed Dec. 13, 1881. (No model.)

Brief.—By means of various attachments the tool-chest is fitted for use as a work-bench.



Claim.—1. The combination of chest A, the lid B, cleat *d*, fixed across one end of said lid and serving as a planing-stop, and vise C, its movable jaw *e*, arranged to bear against the front edge of said cleat *d*, substantially as set forth.

2. The combination of chest A, strip *c*, fixed across the top thereof, lid B, hinged to said strip with its upper surface arranged in a higher plane than that of the strip, whereby a shooting-board, D, is formed, and cleat *d*, fixed to said lid at right angles to its hinged edge, substantially as set forth.

3. The combination of chest A, shooting-board D, hinged lid B, prop-stick G, pivoted to the end of the chest, and a series of notches in the under side of the lid, into one or other of which the end of said stick may enter to uphold the lid at one angle or another, substantially as set forth.

4. The combination of chest A, strip *c* thereon, lid B, hinged to said strip, and thereby forming shooting-board D, cleat *d*, fixed on said lid, socket *k* in said lid, triangle F, adapted to rest on said lid against said cleat, and projection *j* on said triangle, adapted to enter said socket, and thereby retain said triangle in place on said lid, substantially as and for the purposes set forth.

260,504. SPINDLE AND BEARING THEREFOR. GEORGE C. SYDNEY and CALVIN D. READ, Ayer, Mass. Filed Mar. 17, 1882. (No model.)

Brief.—The spindle is provided with an oil-cup rigidly attached thereto and adapted to revolve therewith, in the lower interior edge of which is formed a groove to receive the end of a spirally-bent tube, which tube, on the revolution of the cup, conducts the oil to the tapering bearing of the spindle, located within an upper chamber of the holder.



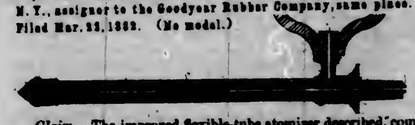
Claim.—1. The combination, with a spindle and a bolster for supporting its upper portion, of an oil-receptacle located below the bearing and attached to the spindle, and an oil-conduit extending from said bearing downwardly and into the oil reservoir or receptacle, substantially as set forth.

2. The combination, with the upper chamber of the holder, of a spindle passing through said chamber, and provided below the latter with a revolving oil-receptacle, a bolster surrounding the spindle within said chamber, perforated both vertically and horizontally, and an oil-tube whose upper end extends within said chamber, while its lower end is spirally bent within the revolving oil-receptacle, whereby oil is fed upwardly by the revolution of the oil-receptacle, substantially as set forth.

3. The combination, with the upper chamber of the holder and its perforated bolster, of a spindle having a tapering bearing revolving in said bolster, and a revolving oil-receptacle provided at the lower edge of its interior with an annular groove, and an oil-tube whose upper end extends within said chamber to lubricate the tapering bearing of the spindle, while its lower end is arranged within the revolving oil-receptacle and spirally bent to extend into the annular groove of the latter, substantially as set forth.

4. The combination, with the spindle, bolster, and the upper chamber of the holder, provided with a downwardly-projecting tube or shell, and the revolving oil-receptacle of the spindle, of an oil tube or passage whose lower end is spirally bent and arranged within said revolving oil-receptacle, while its upper end communicates with said upper chamber to lubricate the tapering bearing of the spindle, substantially as described.

260,505. ATOMIZER. THEODORE E. STOCKLEY, New York, N. Y., assignor to the Goodyear Rubber Company, same place. Filed Mar. 22, 1882. (No model.)



Claim.—The improved flexible-tube atomizer described, comprising, in combination, the outer tube having the internal socket or nut made integral with or solidly attached to said tube, so as practically to form part thereof, the inner tube passing through said socket or nut and connected therewith by a screw or other adjustable joint, and the cap-piece secured to the outer tube over the end of the inner tube, as set forth.

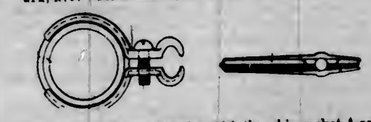
260,506. METALLIC GASKET FOR STEAM-JOINTS. JOHN TENNANT and JOHN HATTERSLEY, Brooklyn, N. Y. Filed May 18, 1882. (No model.)

Brief.—The gasket is made from an alloy composed of three and one-half parts of copper, ten parts of antimony, three parts of spelter, and one hundred parts of tin.



Claim.—The combination, with the coincident parts B C of a steam-cylinder or steam-joint and the bolts *a* thereof, of the interposed metallic gasket composed of copper, antimony, spelter, and tin, in substantially the proportions herein described, all substantially as and for the purpose herein set forth.

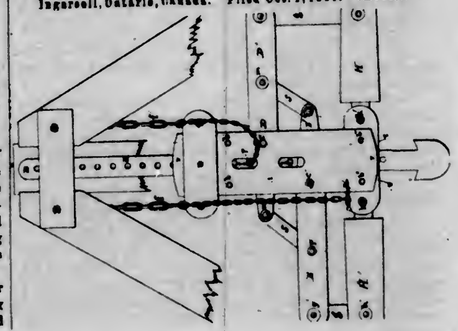
260,507. WHIP-SOCKET CLAMP. JAMES W. TILLYER, Newark, N. J. Filed Mar. 3, 1882. (No model.)



Claim.—1. In combination with the whip-socket A and clamp B, a bead and groove adapted to prevent the displacement of the clamp upon the socket, substantially as shown and described.

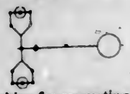
2. As a new article of manufacture, the clamp formed with groove or channel *b* upon the inside, substantially as shown and described.

260,508. STUMP-EXTRACTOR. NIELAS VAN HILTMAYER, Port Huron, Mich., assignor of one-half to Robert MacDonald, Ingersoll, Ontario, Canada. Filed Oct. 1, 1881. (Model.)



Claim.—The frame A, constructed as described, and perforated sliding bar B, in combination with levers D D' and E E' and handles H H', pivoted at *c c'* and *k k'*, and provided with connecting bars or rods S S' and G G' and the pins *p p'*, as set forth.

260,509. SWINGING-LEVER ENGINE. JOSEF VON ZACH, Buda-Pesth, Austria-Hungary. Filed Apr. 6, 1882. (No model.)



Claim.—1. In a machine for converting motion, a pendulum with lateral arms extending from its rod, said arms being provided with dogs which engage with ratchet-wheels, whereby the reciprocating movement of the pendulum is converted into a rotary movement in the ratchet-wheels, substantially as described.

2. The manner of suspending the swinging lever by a plate attached to the same and resting in a groove cut in an axle, substantially as described.

3. The two yokes at the extremities of the lever for actuating the two ratchet-wheels.

4. The combination of the yokes attached to the pendulum and the ratchet-wheels operated by the yokes for the conversion of reciprocating into rotary motion, substantially as described.

260,510. CIGAR-PRESS. HENRY J. WATTEYNE, New York, N.Y. Filed June 3, 1882. (No model.)



Claim.—1. A press for packing cigars into boxes, consisting of a bed-plate, a supporting-standard having a screw-collar and laterally-extending perforated ears, a vertical screw-spindle, and an interchangeable follower having fixed vertical guide-rods, and means whereby the follower is detachably connected to the lower end of the spindle, substantially as and for the purposes set forth.

2. In a press for packing cigars into boxes, the combination of a bed-plate, A, bent standard B, having a screw-collar, *a*, and laterally-extending perforated ears *b b*, a screw-spindle, C, having an annular groove, *c'*, near its lower end, a follower, D, having vertical guide-rods *d d*, and a slotted center socket, *e*, and a locking key or staple, *f*, whereby the follower is detachably secured to the spindle, substantially as set forth.

3. The combination of a bed-plate, A, a standard, B, having a screw-collar, *a*, and laterally-extending guide-ears *b b*, screw-spindle C, having an adjustable screw-nut, E, and clamp-screw *a'* above the screw-collar of the standard, and an annular collar, *c'*, at the lower end, a follower, D, having vertical guide-rods *d d*, and a slotted center socket, *e*, and a locking staple or key passing through the slotted socket and groove of the spindle, substantially as specified.

260,511. MANUFACTURE OF ARTIFICIAL STONE AND MARBLE. JOHN W. WATTS, Baltimore, Md. Filed May 2, 1882. (No specimens.)

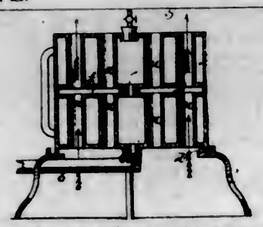
Claim.—1. A concrete consisting of a suitable hydraulic-cement base set with a solution of lime-water, alkaline silicate, and glue, substantially as described.

2. The method herein described of forming artificial stone, consisting in setting a suitable hydraulic-cement base with a solution of lime-water, alkaline silicate, and glue, and applying to the surface of the finished stone a solution of glue, copperas, and alum, as set forth.

260,512. RADIATOR. CORYDON WEBAT and ALFRED CATCHPOLE, Geneva, N.Y. Filed Mar. 13, 1882. (No model.)

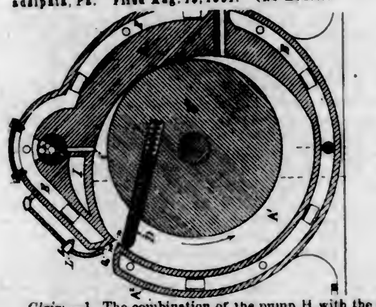
Claim.—1. The radiator-section consisting of the drum B, made flat on top, provided with the projecting flange *d* on its bottom, extending around the whole perimeter, and having the air-tubes *a a*, whereby when the drums are placed one upon another a continuous exterior surface is produced and air-spaces *f* are formed between the drums, as shown and described, and for the purpose specified.

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2. A steam-radiator consisting of a series of drums placed one upon another and united by screw-joints, said drums being constructed with flat tops, projecting flanged bottoms, and with air-tubes extending through the drums, whereby the exterior surface of the radiator is continuous and unbroken from bottom to top, and air-spaces are formed between the drums for breaking the continuity of the air-currents as they pass from one drum to another, as set forth.

260,513. GAS-MOTOR ENGINE. WILLIAM H. WIGMORE, Philadelphia, Pa. Filed Aug. 16, 1881. (No model.)



Claim.—1. The combination of the pump H with the chamber I, tank G, and annular chamber E, for drawing gasoline or other gas-making fluid from the tank into the chamber I, and the gas generated in the latter into said pump, and forcing it therefrom into the chamber E, substantially as and for the purpose described.

2. In combination with the pipe J^3 and pump H, the pipe J^2, whereby at each stroke of the piston K a small quantity of atmospheric air is drawn into said pipe J^3, which mixes with the gas contained therein before the latter enters the cylinder A, substantially in the manner and for the purpose set forth.

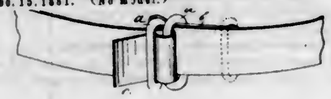
3. The combination, with a conical inlet of the cylinder of a gas-engine, of a burner having a nozzle so constructed and arranged in relation to the inlet as to throw the flame for igniting the gas in the cylinder in such a manner as to impinge one side of the inlet only, whereby to give a free outlet to the concussions caused by the sudden ignition of the gas, and thus prevent the blowing out of the flame at the nozzle, substantially as described.

260,514. CLOCK-ALARM. ORSON H. WOODWORTH, Columbia City, Ind. Filed Mar. 20, 1882. (No model.)



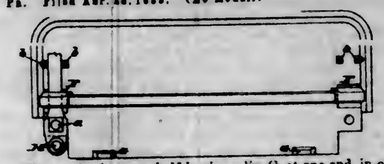
Claim.—The escapement-wheels A and A^3, having their teeth cut away on a portion of their peripheries in combination with verges D and D^3, shafts E and E^3, support H, and pivot T, substantially as described and set forth.

260,515. BALE-TIE. JOHN B. ALLEN, Nashville, Tenn. Filed Dec. 15, 1881. (No model.)



Claim.—The bale-tie herein shown and described, formed by the employment of the rings *a* and *a'*, the ring *a* being secured to the band or strap by the lap *b*, the end *c* of the strap being passed through the rings, and bent back over the ring *a'*, and passed under the ring *a*, substantially as set forth.

260,516. STOVE-SHELF. JACKSON AMEY, Lehighton, assignor to the Lehigh Stove and Manufacturing Company, Bethlehem, Pa. Filed Apr. 26, 1882. (No model.)



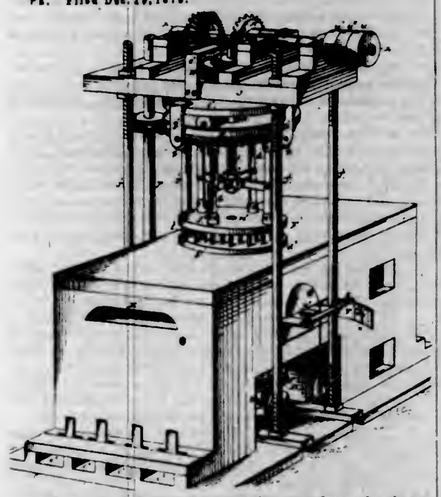
Claim.—1. A stove-shelf having a lip, G, at one end, in combination with a pintle detachably secured to the other end of said shelf, and a stove having eyes C and supports D, substantially as set forth.

2. A stove having eyes C and supports D, in combination with a pintle and a stove-shelf, provided with eye F and lugs *b* at one end and lip G at the other end, the shank of said pintle being detachably secured to said stove-shelf, substantially as set forth.

3. A stove-shelf having an eye, F, and a pair of lugs, *b b*, in combination with a pintle turning in lugs on the side of a stove, and provided with a shank which extends into said eye F and between said lugs *b b*, said shank and shelf being fastened together by a screw, *c*, substantially as set forth.

4. A stove-shelf provided with an eye and lugs on each side, in combination with a pintle detachably secured thereto, and a stove having eyes C formed thereon, substantially as set forth.

260,517. APPARATUS FOR TEMPERING AND FLATTENING SHEET-METAL PLATES. EMANUEL ANDREWS, Williamsport, Pa. Filed Dec. 19, 1878.



Claim.—1. A furnace for tempering saw-plates wherein are combined a fire-box, an ash-pit adapted to admit air for combustion, and flues, one passing under inner side of ash-pit and fire-box, the other passing up outer side of the same, admitting air above the burning fuel in opposite directions to consume the gases, substantially as described and shown.

2. A furnace for tempering saw-plates wherein are combined a fire-box at one end, a central heating-chamber above the level of the fire-box, diving-flue, and a series of dampers at its lower end for the purpose of retarding the flow of the products of combustion and of maintaining a still heat in such heating-chamber, substantially as described.

3. A furnace for tempering saw-plates, having the bottom of the heating-chamber raised and a clean open space underneath it and between its supporting-walls, the same serving as inside walls for flues, substantially as shown, and an opening leading from such bottom to such open space, substantially as described.

4. A former for holding saw-plates for tempering, composed of a plate held against numerous separate supports, substantially as described and shown.

5. A former for holding saw-plates for tempering, composed of a plate resting upon numerous supports and separated by a clear open space from a drum made non-conducting, substantially as described.

6. A former for holding saw-plates for tempering, composed of a plate resting on numerous supports, a drum made non-conducting, and a driving-plate, with a clear open space between the non-conducting drum and the other plates, substantially as described.

7. The former F, substantially as described, having the plates *f f*, drum A, post *n*, pins *g g*, and spider *h*, substantially as set forth and shown.

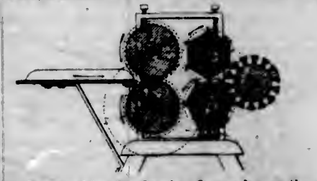
8. The vertically-moving former F', composed of the plates *f' f'*, drum A', and pins *g' g'*, substantially as described.

9. The former F', in combination with the compound pressing-levers G, substantially as described.

10. The combination, with the driving-plate H and compound pressure-levers G, of the bolt I, substantially as described.

11. The combination of the double-beveled gear-wheel K, hollow shaft *e*, nut *e'*, and bolt I, whereby former F' is depressed or raised when operated, substantially as described and shown.

260,518. MACHINE FOR CLEANING THE LEAVES OF FIBROUS PLANTS. ALBERT ARNELL, East Orange, assignor to David A. Burr, Montclair, N.J. Filed Apr. 21, 1882. (Specimens.)



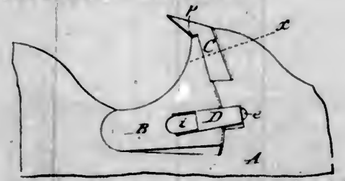
Claim.—1. In a machine for cleaning fibrous leaves, the combination, with a series of radial scraping-blades upon a shaft or roller, of an elastic or yielding base or supporting-block filling each of the spaces between said blades and adapted to support the leaves while being scraped by the blades of a corresponding shaft or roller, substantially in the manner and for the purpose herein described.

2. In a machine for cleaning fibrous leaves, a pair of rollers whose peripheries each present an alternate succession of scraping-blades and interposed elastic or yielding supporting-surfaces, and which are geared to rotate in unison toward each other, so that the blades upon each roller shall pass in regular order over or against one of the elastic or yielding surfaces upon the other, substantially in the manner, for the purpose herein described.

3. In a machine for cleaning fibrous leaves, the combination, with elastic or yielding surfaces interposed between the radial blades of a scraping-roller, of brushes arranged upon a shaft or roller revolving toward the scraping-roller and adapted to sweep over said interposed surfaces, substantially as herein described.

4. In a machine for cleaning fibrous leaves, the combination, with elastic or yielding surfaces interposed between the radial blades of a scraping-roller, of a series of radial combs arranged upon a shaft or roller revolving toward the scraping-roller and adapted to sweep over said interposed surfaces, substantially as herein described.

260,519. SAW-TOOTH. ELIAS C. ATKINS, Indianapolis, Ind. Filed Mar. 24, 1882. (No model.)



Claim.—1. The combination, with the saw-plate A, having a recess, *a*, provided with curved ends *b c*, a tapering recess, *d*, formed in the curved end *c* of the large recess, and an offsetting portion, *f*, for the reception of the tooth, of the locking-plate B, having curved ends *g h*, tapering recess *i*, and a projection, *k*, and the locking-key D, adapted to slide in the recesses *d i*, substantially as described.

2. The combination of the recessed saw-plate A, locking-plate B, having curved ends, and a projection, *k*, provided with shoulder *s*, the tooth C, having a shoulder, *p*, and provided with a tapering shank, and the wedge D, adapted to slide in tapering recesses formed in the saw-plate and locking-plate, substantially as described.

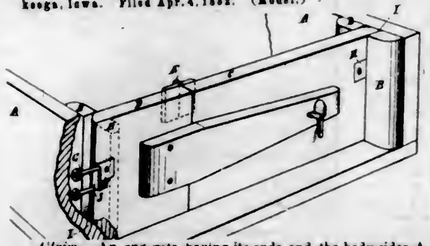
260,520. DROP-HANDLE. CHARLES S. BARNARD, New York, N. Y., assignor to S. A. Burns & Co., same place. Filed Aug. 22, 1880. Renewed May 26, 1882. (No model.)



Claim.—1. The longitudinally-perforated knob A, having shoulder B, combined with the metallic filling E and cap C, as and for the purpose specified.

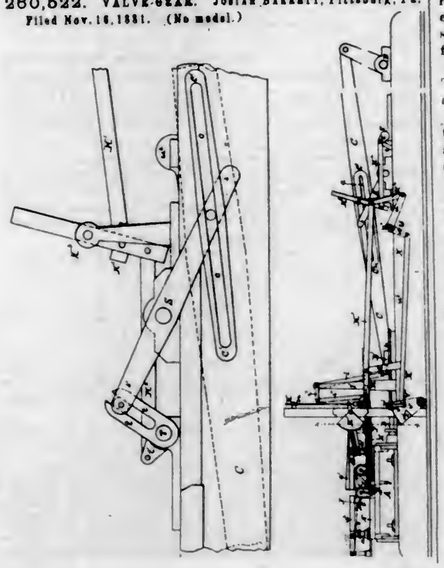
2. In drop-handles, the combination, with the knob A, of the cap C, the filling metal E, the pintle G, and the fork H, substantially as herein shown and described, and for the purpose set forth.

260,521. END-GATE FOR WAGONS. REUEL BARNARD, Tuskeega, Iowa. Filed Apr. 4, 1882. (Model.)



Claim.—An end-gate having its ends and the body-sides A connected by the staples G and hooks H, a staple being attached to each side-board flush with the angle I of the outside cleat, B, and a hook, H, being attached to the outside at each end of gate, whereby the end-gate will open at the joint E and the hook ends pass the staple ends when the ends of gate enter between the cleats, as described.

260,522. VALVE-GEAR. JOSIAH BARRETT, Pittsburg, Pa. Filed Nov. 16, 1881. (No model.)



Claim.—1. In combination with a cam-rod operating the exhaust-valves of a steam-engine, a cut-off located on the cam-rod and a slide mounted on the cam-rod and connected with the supply-valves of the engine, substantially as and for the purposes set forth.

2. In combination with a cam-rod operating the exhaust-valves of a steam-engine, a vibrating cut-off pivoted on the cam-rod and a slide mounted on the cam-rod and connected with the supply-valves, substantially as and for the purposes set forth.

3. A cut-off for steam-engines formed of two segmental cams adapted to be spread out or folded together to vary the cut-off, substantially as and for the purposes set forth.

4. The variable cut-off cams M M', mounted in the frame L, in combination with the slide *l* and rods *m m*, substantially as and for the purposes set forth.

5. The variable cut-off cams M M', mounted in the pivoted frame L, in combination with the rods *m m*, slide *l*, having spindle l^2 approximately at the pivotal point of the frame, and apparatus secured to the spindle for operating the slide, substantially as and for the purposes set forth.

6. In combination with the variable cut-off cams M M', mounted on the pivoted frame L, the rods *m m*, slide *l*, carrying a spindle, l^2, approximately at the pivotal point of the frame, shaft N, and rod *u*, connecting the spindle of the slide with the shaft, substantially as and for the purposes set forth.

7. In combination with a pendulum operated by the stroke of the engine, a cut-off pivoted on the cam-shaft, and connecting mechanism, whereby a vibrating motion is imparted to the cut-off, substantially as and for the purposes set forth.

8. The combination of the cut-off frame L, pivoted on the cam-rod H, and having an arm, l^3, the pendulum-shaft *i*, having an arm, i', rod i^2, and pendulum I, substantially as and for the purposes set forth.

9. The cam-rod H, having the spring-pawls R R', in combination with the slide *p* and cut-off apparatus for operating the pawls, substantially as and for the purposes set forth.

10. The combination of the cam-rod H, connected with the exhaust-valve apparatus, slide *p*, sliding thereon, and connected with the supply-valve apparatus, and a cut-off mounted on the cam-rod to operate the slide, substantially as and for the purposes set forth.

11. The combination of the cam-rod H, slide *p*, mounted thereon, spring-pawls R R', and vibrating cut-off cams M M', pivoted on the cam-rod, substantially as and for the purposes set forth.

12. The combination of the pivoted cut-off cams M M' and spring-pawls R R', having tripping devices *r* in the line of movement of the cams, substantially as and for the purposes set forth.

13. In combination with the pitman C, having the slot *c*, the rock-shaft S, working in the slot *c*, whereby, on the rising and lowering of the pitman, a rocking motion is imparted to the rock-shaft to operate the cam-rod of the engine, substantially as set forth.

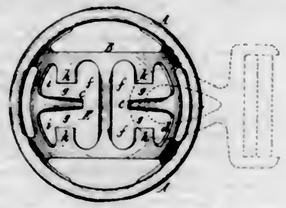
14. The combination of the pitman C, having the slot *c*, crank T, having the slotted arm *t*, and rock-shaft S, working in the slot *c* and slotted arm *t*, substantially as and for the purposes set forth.

15. The combination of the engine-pitman C, having slot *c*, the double crank T, having arm *t'*, connecting with the cam-rod and slotted arm *t*, and the rock-shaft S, working in the slot *c* and slotted arm *t*, substantially as and for the purposes set forth.

16. In combination with the reversing apparatus K, the double crank V, having the cogged segmental arm *v*, the pinion *v'*, and the handle v^2, substantially as and for the purposes set forth.

17. In combination with the reversing apparatus K and double crank V, the cogged segmental arm *v*, having the locking-seats *w'*, pinion *v'*, and handle v^3, having the spring-catch *w*, substantially as and for the purposes set forth.

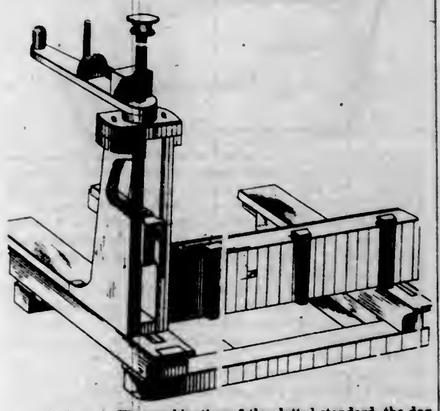
260,523. TRACE-CARRIER. JAMES M. BASSFORD, Buffalo, N. Y., assignor of two-thirds to William C. Letchworth and Ogden P. Letchworth, both of same place. Filed May 5, 1882. (No model.)



Claim.—1. A trace-carrier provided with an elevated frame, B, having a tongue, *c*, and an opening, E, constructed with enlarged portions *f f* and a contracted portion, *g*, substantially as set forth.

2. A trace-carrier composed of a base-frame, A, an elevated frame, B, having a horizontal bar, *d*, a tongue, *c*, an opening, E, and projecting pieces A, forming the contracted spaces *g*, substantially as set forth.

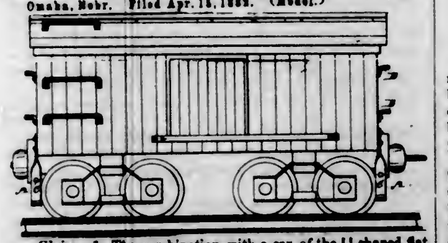
260,524. HEAD-BLOCK FOR SAW-MILLS. ROBERT M. BECK, Westminster, Md. Filed Apr. 3, 1882. (No model.)



Claim.—1. The combination of the slotted standard, the dog arranged therein, the threaded rod, rigidly connected at its lower end to the dog and adapted to fall therewith by force of gravity, and the crank adapted to rotate in a bearing formed in the standard, and having means for engaging at will with the rod to force the dog into the log, substantially as shown and described.

2. The combination, with the standard supporting the dog, of the log-beam forming a part thereof, and having wooden finding-strips vertically dovetailed therein at suitable intervals apart, substantially as shown and described, whereby the bearing-surface of the log-beam may be kept even by reducing the strips with the saw when worn, as set forth.

260,525. SAFETY-STEP FOR CARS. SAMUEL M. BERRY, Omaha, Nebr. Filed Apr. 18, 1882. (Model.)



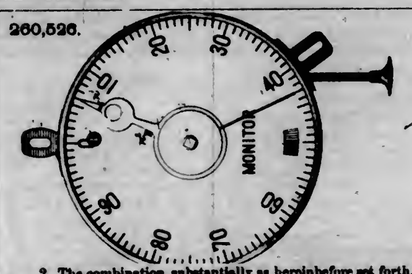
Claim.—1. The combination, with a car, of the U-shaped flat bars A, each provided with a cross-bar, C, and secured to the ends of the car on opposite sides of the draw-head, and reaching to within a short distance from the rails, substantially as herein shown and described, and for the purpose set forth.

2. The combination, with a car, of the U-shaped bars A, each provided with a cross-bar, C, and secured to the ends of the car on opposite sides of the draw-bar, and the hand-holds D, secured to the ends of the car, above the U-shaped bars A, substantially as herein shown and described, and for the purpose set forth.

260,526. FARM-REGISTER. JOHN B. BENTON, New York, assignor to the Railway Register Manufacturing Company, Buffalo, N. Y. Filed Oct. 31, 1881. (No model.)

Claim.—1. The combination, substantially as hereinbefore set forth, of the graduated dial of the register, the trip-hand movable over the face of said dial, an actuator to operate said trip-hand in the counting process, and a tell-tale hand which indicates upon the face of the machine whether the trip-hand is being reset was properly set to zero or the starting-point.

260,526.



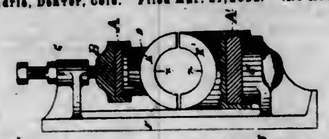
2. The combination, substantially as hereinbefore set forth, of a general register, a trip-hand movable over the face of a graduated dial, an actuator to operate said general register and said trip-hand simultaneously, or nearly so, for consecutive counting, and a tell-tale hand which indicates whether said trip-hand in being reset was turned exactly to zero or the starting-point.

3. The combination, substantially as hereinbefore set forth, of a trip-hand movable over the face of a graduated dial for consecutive counting, an alarm sounded for each actuation of said trip-hand, an actuator for operating said trip-hand and alarm, and a tell-tale hand which indicates upon the face of the machine the point or division from which the trip-hand was started in the counting process after being reset.

4. The combination, substantially as hereinbefore set forth, of the casing, the general register, the trip-hand, the alarm, the actuator for operating said register, trip-hand, and alarm simultaneously, or nearly so, a device operated from the outside of the casing to reset the trip-hand to zero to commence registering anew, and a tell-tale hand or pointer which indicates upon the face of the machine the point or division from which the trip-hand was started in the counting process after being reset.

5. The combination, substantially as hereinbefore set forth, of the trip-hand, the actuator for moving said trip-hand step by step in the counting process, the tell-tale hand, and a connection between said hands, whereby they turn together during the resetting operation.

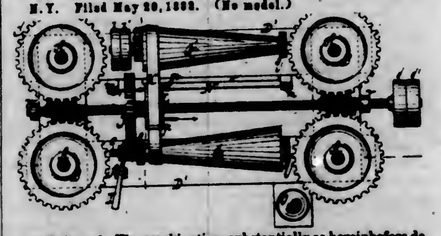
260,527. CAM-SHAFT BOX FOR STAMP-MILLS. HENRY BELTHOFF, Central City, assignor to himself and Charles F. Hendrie, Denver, Colo. Filed Mar. 21, 1882. (No model.)



Claim.—1. In a journal-box for the cam-shaft of a stamp-mill, the combination, with the base-plate F, provided with the bracket G and the boss G', of the journal-box E E', provided with cushioned extensions on its upper and lower sides and supported between the said bracket and boss, substantially as and for the purpose set forth.

2. In a journal-box for the cam-shaft of a stamp-mill, the combination, with the base-plate F, provided with the bracket G and the boss G', the cup-shaped cap B, and the screw C, of the upper box, E, provided with the boss D, the lower box, E', provided with the cup-shaped extension H, and the cushions A A', substantially as and for the purpose set forth.

260,528. POWER-PRESS. GEORGE B. BOOMER, New York, N. Y. Filed May 20, 1882. (No model.)



Claim.—1. The combination, substantially as hereinbefore described, of the follower, the revolving screw-nuts carried thereby, the stationary screws, the longitudinal shaft mounted in bearings

on the follower and provided with means to rotate the screw-nuts, and differential gearing carried by and moving with the follower and connected with the said shaft to retard the rotation thereof as it descends with the follower.

2. The combination, substantially as hereinbefore set forth, of the stationary screws, the revolving screw-nuts formed integral with worm-wheels, the follower connected to the screw-nuts, the worms engaging the worm-wheels, the machine-shaft carrying the worms, and the differential gearing operating to impart a retarded motion to said shaft in the descent of the follower.

3. The combination of the follower, the cone-pulleys journaled in bearings thereon, and the shaft of one provided with a pinion, the automatically-traveling belt-shifter moving on the follower, the stationary screws, the rotary screw-nuts secured to the platform, the operating-shaft journaled in bearings on the latter and arranged to rotate the screw-nuts, and a spur-wheel on said shaft meshing with the pinion on the shaft of the cone.

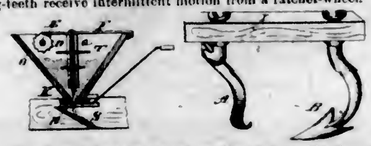
4. The combination of the follower, the belt-shifter traveling on the same, the two cords having one end connected with the belt-shifter and the other end provided with a weight, the cone-pulleys journaled on the follower and the shaft of one provided with a pinion, the stationary screws, the screw-nuts and operating-shaft rotating on the platform, and the spur-wheel on the shaft meshing with the pinion on the shaft of the cone, substantially as described.

5. The combination of the follower provided with attached revolving screw-nuts, the machine-shaft operating the screw-nuts, the stationary screws and differential gear connected with the machine-shaft and operating to retard its rotation as the follower and screw-nuts descend, substantially as described.

6. The cone-pulleys mounted on the platform, one having its shaft provided with a pinion which is fixed to the shaft by a feather-key to slide thereon, the shifting-lever engaging the pinion, the belt of the cone-pulleys, the traveling belt-shifter, and the means for imparting a reciprocating motion automatically to the belt-shifter, in combination with the stationary screws, the revolving screw-nuts, the follower carrying the screw-nuts, and the machine-shaft arranged in bearings on the platform to drive the screw-nuts and provided with a spur-wheel engaging said pinion.

260,529. GRASS-LAND SCARIFIER. WELCOME J. BURDICK, Hubbleton, Wis. Filed Jan. 23, 1882. (No model.)

Brief.—The hook-shaped knife is sharp at one side, and both it and the concave spear-shaped tooth are swiveled. The series of drag-bars are bolted to a cross-bar, which will hold down or elevate them by crank-screw and pinions. A spring-gate and stirring-teeth receive intermittent motion from a ratchet-wheel.



Claim.—1. In a grass-land scarifier, the combination, with the draw bars or beams I, of the peculiar spiral U-shaped knives A and spear-shaped teeth B, said knives and teeth being secured to said draw-bars by caster-joints, substantially as and for the purpose specified.

2. In a grass-land seeder and scarifier, the agitator or device herein described for ejecting and uniformly distributing the seeds from the seed-box, consisting of the ratchet-wheels D D, shaft E, spring-pawl F, and gate G, said gate being pivoted to said spring-pawl and adapted to rise and fall as the teeth of said ratchet pass beneath said spring, motion being communicated from the drive-wheel of the machine to the seed-distributer by chain-gear or other equivalent mechanism, substantially as set forth.

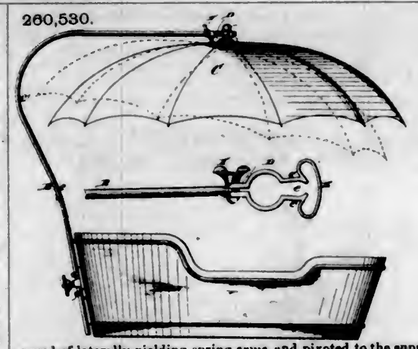
3. The combination of frame H, series of draw-bars I, U-shaped knives A and arrow-shaped teeth B, drive-wheels J J, revolving axle or shaft K', chain-wheel L, chain M, and chain-wheel N, said combination of elements being adapted by their co-operation to simultaneously cut the sod, loosen the soil, and distribute the seeds, substantially as and for the purpose specified.

260,530. CANOPY-SUPPORT FOR CHILDREN'S CARRIAGES. JAY F. BUTLER, Brooklyn, and URIAH MCCLINCHIE, New York, N. Y. Filed May 4, 1882. (No model.)

Claim.—1. The combination, with the support or staff adapted to be attached to the carriage-body, of a clamp secured to the end of the support or staff, and provided with laterally-yielding spring-arms, between which the upper end of the canopy-staff may be inserted or removed, substantially as described.

2. The combination, with the support or staff, of a clamp composed of laterally-yielding spring-arms, and pivoted to the support or staff to swing in a vertical plane, and the canopy having the upper end of its staff supported by the elasticity of the laterally-yielding spring-arms of the clamp, substantially as described.

260,530.

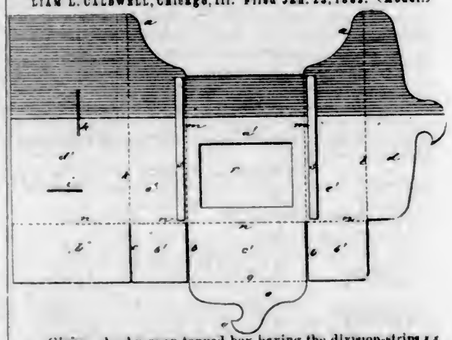


3. The combination, with the support or staff B, of the clamp D, composed of two laterally-yielding spring-arms adjustably connected with the support or staff by a pivot-bolt and thumb-nut, substantially as described.

4. The spring-clamp D, having the enlarged portion *d*, the clamping-arms *c' c'* being drawn in at each end and rendered elastic by the spring E, substantially as described.

5. The combination, with the canopy staff or support curved in the manner set forth, of the spring-clamp D and the canopy-top C, the latter being provided with a ball or knob upon the extremity of the crown-stick, substantially as described.

260,531. COMBINED CALENDAR AND LETTER-BOX. WILLIAM L. CALDWELL, Chicago, Ill. Filed Jan. 23, 1882. (Model.)



Claim.—1. An open-topped box having the division-strips *s s* and hole *r*, in combination with a series of removable and reversible cards, r, whereby a perpetual calendar and bill or letter space are formed, as described.

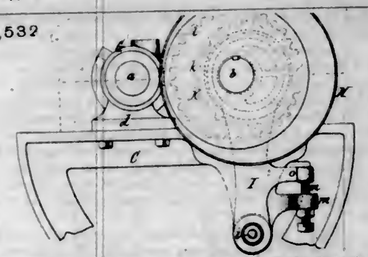
2. A combined calendar and bill or letter box constructed from a blank of paper or card-board having cuts *b b c*, forming bottom flaps, *b' b' b''*, and incisions *h i* in it, creased as at *k*, *l*, *m*, *n*, and *o*, provided with an aperture, *r*, in its front portion, *s'*, and with parallel strips *s s* outside of the creases *m m*, and formed with flaps *d e*, having tongued or hook-shaped extremities *f g*, essentially as and for the purposes herein set forth.

260,532. FRICTION-GEARING FOR ROLLER-MILLS, &c. CHARLES B. CAMPBELL, Buffalo, N. Y. Filed Mar. 11, 1882. (No model.)

Claim.—1. The combination, with the shafts *a* and *b*, of a friction-wheel, G, secured to the shaft *a*, a friction-wheel, H, arranged eccentrically around the shaft *b* and turning loosely on an eccentric hub or arbor, J, and means whereby the motion of the loose friction-wheel H is transmitted to the shaft *b*, substantially as set forth.

2. The combination, with the shafts *a* and *b*, of a friction-wheel, G, secured to the shaft *a*, a friction-wheel, H, turning loosely on a hub, J, and provided with a gear-wheel, K, and a gear-wheel, L, secured to the shaft *b* and meshing with the gear-wheel K, substantially as set forth.

260,532.

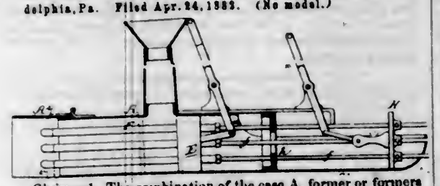


3. The combination, with the shafts *a* and *b*, of a friction-wheel, G, secured to the shaft *a*, a hub, J, arranged eccentric with the shaft *b*, and provided with an opening, *j*, which permits of the adjustment of the shaft *b* within said opening, a friction-wheel, H, turning on the hub J, and means whereby the motion of the wheel H is transmitted to the shaft *b*, substantially as set forth.

4. The combination, with the shafts *a* and *b*, of a friction-wheel, G, secured to the shaft *a*, an adjustable arm, I, provided with a hub, J, a friction-wheel, H, turning on the hub J, and provided with a gear-wheel, K, and a gear-wheel, L, secured to the shaft *b*, substantially as set forth.

5. The combination, with the shafts *a* and *b*, of a friction-wheel, G, secured to the shaft *a*, a friction-wheel, H, running in peripheral contact with the wheel G, means whereby the motion of the wheel H is transmitted to the shaft *b*, and adjusting devices whereby the pressure of the friction-wheels against each other and the distance between the shafts *a* and *b* can be regulated each independent of the other, substantially as set forth.

260,533. APPARATUS FOR FORMING UNDERGROUND DRAINS, &c., IN CEMENT. WILLIAM M. CAMPBELL, Mount Clemens, Mich., assignor of one-half to Calvin Datrick, Philadelphia, Pa. Filed Apr. 24, 1883. (No model.)



Claim.—1. The combination of the case A, former or formers F, and plunger E with mechanism whereby the said formers and plunger may be operated independently of each other, substantially as set forth.

2. The combination of the case, plunger, and former or formers with the lever G, connected to the said plunger, and the lever I, connected to the formers, substantially as specified.

3. The combination of the case, plunger, and former or formers with the rear extension, A', having an opening in the top, substantially as specified.

4. The combination of the case and plunger with a former or formers made partly of metal and partly of wood, as set forth.

260,534. SULKY-PLOW. WILLIAM L. CASADAY, New Carlisle, Ind. Filed Feb. 18, 1882. (Model.)

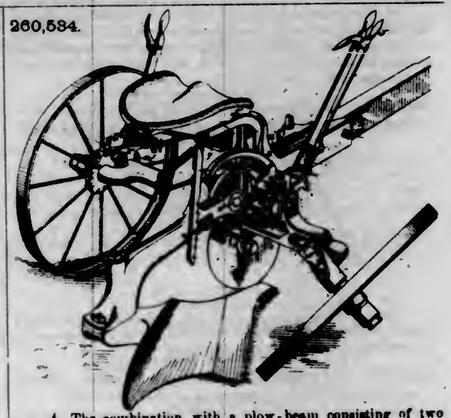
Brief.—The rear section of the plow-beam is jointed to the front, and has a locking-bar to make the sections rigid at will. The whole is raised by a cam-lever in vertical guides upon the frame. When unlocked the rear end of the plow drops and the point is elevated. Automatic devices aid in putting the plow into working order after being elevated. An inclosed coiled spring aids in turning the crank of the land-wheel.

Claim.—1. A plow-beam consisting of a forward section provided with vertical jaws adapted to slide upon a guide-bar of the plow-frame, and a rear section pivotally connected to said forward section and adapted to be adjusted vertically, substantially as described.

2. In a plow, the combination, with the frame, of a plow-beam consisting of a forward section provided with jaws adapted to slide on a guide-bar of the frame, and a rear section hinged to said forward section and adapted to be freely turned upward from its rear end, substantially as described.

3. In a plow provided with a jointed beam, the rear section of the plow-beam, provided with a bracket extending above the beam and adapted to receive a locking-arm or brace which is pivoted thereto, and arranged to lock the two parts of the beam together, as and for the purpose set forth.

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4. The combination, with a plow-beam consisting of two hinged sections, of a locking arm or brace pivoted at one end to a bracket on one of said sections, while its opposite end is adapted to engage with a notch on the other section, substantially as set forth.

5. The combination, with the rear section of the plow-beam, provided with an upwardly-projecting bracket, and the forward section provided with a notch or catch, of a locking-brace pivoted at its rear end to said bracket, while its opposite end is adapted to engage with said notch and provided with a spring-pressed lever, substantially as set forth.

6. The combination, with the plow-beam consisting of hinged sections, of a two-part locking-brace, one of said parts being pivoted to a bracket of one of the plow-beam sections, while the other part is screwed to said pivoted part and adapted to engage with a notch on the other plow-beam section, substantially as set forth.

7. The combination, with the sections of the plow-beam, of a locking-brace consisting of two independent parts connected so that the brace may be lengthened or shortened to vary the pitch or suction of the plow, substantially as set forth.

8. The combination, with the two sections of a hinged plow-beam, of a pivoted locking-brace provided at its free end with a spring-actuated catch-lever constructed to engage with the plow-beam when depressed and unlatch the main portion of the locking-brace, substantially as set forth.

9. The combination of two plow-beam sections, one of which is provided with two perforated ears or arms, while the other section is provided with a perforated end adapted to fit between said ears, and be held therein pivotally by a gudgeon, a bolt, and nut, which latter may be turned to compensate for friction and wear, as set forth.

10. The combination, with the frame of the plow and the plow-beam, of a rearwardly-projecting bracket rigidly secured to said frame, and supporting pivotally a depending notched bar or latch adapted to engage with a catch on the plow-beam, substantially as set forth.

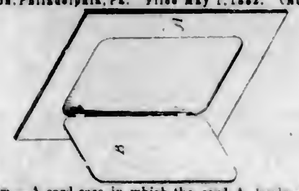
11. The combination, with the frame of the plow and the plow-beam consisting of a forward section and a recessed and slotted rear section, of a rearwardly-projecting bracket secured to said frame and supporting pivotally a depending notched bar, a loop or catch formed on one side of said rear section, and a plunger pivoted to the forward section of the plow-beam and extending rearwardly within the recess of the rear section of the beam, and provided with a laterally-projecting stud adapted to move within the slot of said rear section and disengage said notched bar and catch, as and for the purpose set forth.

12. The combination, with the frame and two-part plow-beam, of the locking-brace for holding the sections of the plow-beam rigidly together, a bracket secured to the frame and supporting a depending notched bar, a catch formed on or secured to the side of the rear section of the plow-beam, and a plunger pivoted to the forward section of the plow-beam and working within a recess of the rear section, and provided with a laterally-projecting stud extending through an elongated slot in said rear section and adapted to disengage said notched bar and catch, substantially as set forth.

13. The combination, with the lifting-lever sector having inclined teeth cast solid therewith and provided with an elongated slot, of an auxiliary sector-piece provided with cog-teeth and adapted to be adjustably secured to the sector, substantially as set forth.

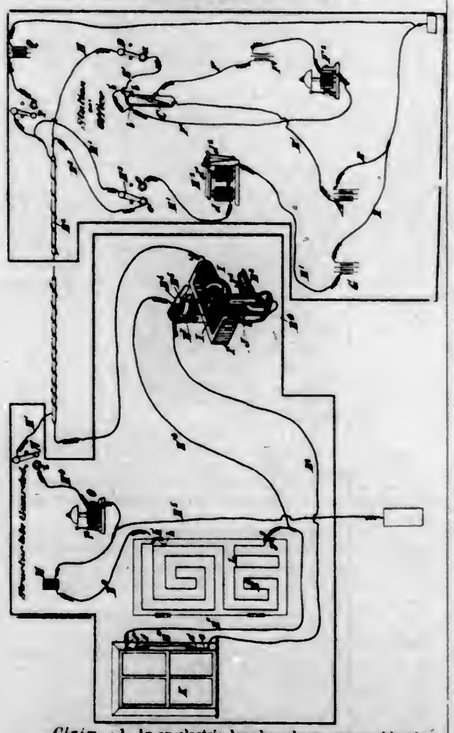
14. The combination, with the sleeve of the land-spindle and its coil-spring and lever, of a bracket secured to the axle-projection of the frame, and having outwardly-projecting lugs adapted to limit the movement of the spring, and thus protect the latter from undue strain, substantially as set forth.

260,535. PHOTOGRAPHIC-PICTURE CASE. JAMES H. CATESON, Philadelphia, Pa. Filed May 1, 1882. (No model.)



Claim.—A card-case in which the card A, having a hinged central portion, B, is combined with the backing D, substantially as described.

260,536. ELECTRIC BURGLAR-ALARM. CHARLES E. CHINNOCK, Brooklyn, N.Y. Filed Apr. 8, 1882. (No model.)



Claim.—1. In an electric burglar-alarm, the combination, with a wire covered with insulating material leading from the station or office where watch is kept to a structure to be guarded, of a wire or conductor surrounding the insulating material of the same and connected at one end with a battery, but unconnected at the other end with an electrical conductor, and a device at the station or office connected with it for giving an alarm, substantially as specified.

2. In an electric burglar-alarm, the combination, with a wire covered with insulating material leading from the station or office where watch is kept to a structure to be guarded, of a wire or conductor surrounding the insulating material of the same and connected at one end with a battery, but unconnected at the other end with an electrical conductor, a device at the station or office connected with it for giving an alarm, and a switch at the station or office, whereby the surrounding wire or conductor may be disconnected from the battery and alarm device, substantially as specified.

3. In an electric burglar-alarm, the combination, with a wire covered with insulating material leading from the station or office where watch is kept to a structure to be guarded, of a wire or conductor surrounding the insulating material of the same and connected at one end with a battery, but normally unconnected at the other end with an electrical conductor, an alarm device connected at the station or office with the surrounding wire or conductor, a switch connected to said surrounding wire or conductor at the structure to be guarded, and a wire leading to the ground, with which said switch may be put in contact, substantially as specified.

4. In an electric burglar-alarm, the combination, with the wire B', covered with insulating material B^3, of the surrounding wire H', the switch H^2, the battery G, a device for giving an alarm at the station or office, the switch N, and the electro-magnetic bell O, substantially as specified.

5. In an electric burglar-alarm, the combination, with a wire leading from the station or office where watch is kept, a portion of the electric circuit, including a door, a wired partition, or other like article, and a tap from said portion of the electric circuit, including a window, or vice versa, of an electro-magnetic switch located at the structure to be guarded and operating in conjunction with the portion of the electric circuit and the tap therefrom, before referred to, substantially as specified.

6. In an electric burglar-alarm, the combination, with a wire leading from the station or office where watch is kept, a portion of the electric circuit, including a door, a wired partition, or other like article, and a tap from said portion of the electric circuit, including a window, or vice versa, of an electro-magnetic switch and circuit-breaker located at the structure to be guarded and operating in conjunction with the portion of the electric circuit and the tap therefrom, before referred to, substantially as specified.

7. In an electric burglar-alarm, the combination, with a wire leading from the station or office where watch is kept, a portion of the electric circuit, including a door, a wired partition, or other like article, and a tap from said portion of the electric circuit including a window, or vice versa, of the electro-magnets I, polarized armature J', spring B^3, and contact-pieces B^3 B^4 B^5, substantially as specified.

260,537. BILL-FILE. W. ROCKWELL CLOUGH, Newark, N.J. Filed Mar. 1, 1882. (Model.)

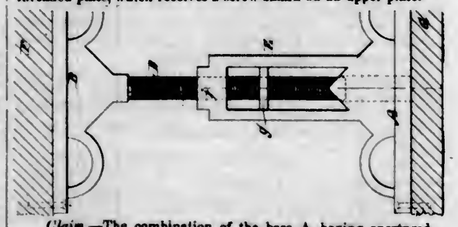


Claim.—1. The file or binder herein described, consisting of the parts *a a*, the radial arms *d d*, and the frame composed of the parts *b b* and *t*, substantially as specified.

2. A file or binder consisting of a flat frame composed of the parts *b b* and *t*, with a contracting and expanding open side opposite to the section *t*, and connected at the open side with the base *x* by the radial arms *d d*, and parts *a a*, substantially as set forth.

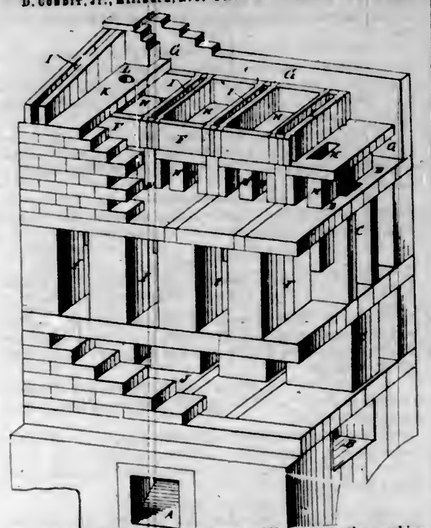
260,538. SHELF-SUPPORT. AARON COLE, Fillmore, Mo. Filed Dec. 13, 1881. (No model.)

Brief.—Consists of a base-plate having an aperture extending up in a projection in its central part and an extension with a threaded plate, which receives a screw-shank on an upper plate.



Claim.—The combination of the base A, having apertured upper part, *f*, an extension, E, and a plate, *g*, threaded to form a nut, with the upper plate, B, having the median screw-shank, D, whereby an intermediate as well as end supports is furnished, as described.

260,539. FURNACE FOR DEOXIDIZING IRON ORES. ISRAEL D. CONDIT, Jr., Millburn, N.J. Filed Oct. 11, 1881. (No model.)



Claim.—1. In a furnace for deoxidizing ores, the combination, with the inlet-flue A, the retorts H, and the transverse flues D, arranged beneath the retorts and communicating with said inlet-flue, of the flues F G I and the chambers K, substantially as shown and described, whereby the heat is distributed equally all around the retorts, as set forth.

2. In a furnace for deoxidizing ores, the combination, with the heat-inlet flue A and the flues D F G K I, surrounding the retorts H, of the heat-distributing chamber B and the vertical flues C, located directly beneath the retorts, substantially as herein shown and described, whereby the heat is distributed equally all around the retorts, as set forth.

260,540. BRACELET. SHUBAEL COTTLE, New York, N.Y. Filed May 16, 1882. (No model.)

Brief.—The body portion is composed of spiral convolutions of strips bent into half-round shape in cross-section and preferably combined with an internal spring.



Claim.—1. A bracelet or its equivalent having its body portion composed of spirally-wound convolutions of thin semi-tubular strips of sheet metal, with the convex side outward, as and for the purpose described.

2. A bracelet or its equivalent composed of a circular or oval spring wound into one or more convolutions, combined with an external casing composed of strips of half-round or concave sheet metal, wound in spiral convolutions about the said spring, with their convex sides outward, substantially as shown and described.

3. The method of making spirally-wound flexible bracelets or their equivalents, which consists in taking plated strips and forming them into semi-tubular or half-round shape, then winding these spirally upon a wire of base metal, then winding this wire and its spiral strips into larger convolutions for the wrist, and then dissolving the baser metals away and finishing the bracelet, substantially as described.

260,541. DYNAMO-ELECTRIC MACHINE. JOSEPH A. I. CRAIG, Montreal, Quebec, Canada, assignor of two-thirds to Edwin Ruthven Whitney and Charles Lucien Rossé, both of same place. Filed Oct. 28, 1881. (No model.)

Brief.—The commutator-brushes are formed of disks of wire-cloth arranged in groups and the groups separated by washers, the whole clamped upon a sleeve, which serves as a journal-bearing. A hollow spindle, upon which the brush rotates, is perforated, and serves to distribute lubricating material to the bearing.

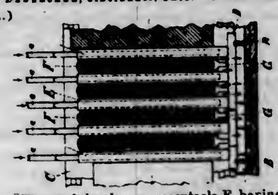
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Claim.—1. A brush or collector for a dynamo-electric machine, made up of disks cut from wire-cloth, said disks being separated at intervals by rings or washers.

2. In a revolving brush or collector for a dynamo-electric machine, the combination, with the wire disks *a a* and rings or washers D D, of the sleeve C, provided with flange *c* and nut *c'*, and revolving on a hollow shaft or journal, substantially as described.

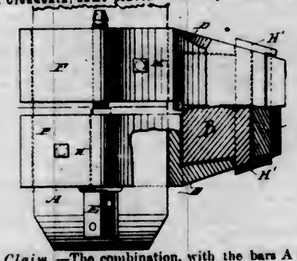
260,542. DEVICE FOR EXPRESSING STEARIC ACID, &c. GEORGE J. DAUSCHER, Cincinnati, Ohio. Filed June 2, 1882. (No model.)



Claim.—1. The straining bag or receptacle F, having the metallic trough-shaped shoe or runner G *g* lashed to its bottom edges, as and for the purpose set forth.

2. In a device for expressing fatty oils, the combination of receptacles F, having metallic shoes or runners G, tracks D, bearing-bars B *b b'* *b''*, trunk C, and receiving-trough A, substantially as set forth.

260,543. CARRIAGE-BRAKE. EDWIN S. DAVIS, Kelseyville, Cal., assignor of one-half to William P. Clendenin and Edward P. Clendenin, same place. Filed Apr. 22, 1882. (Model.)



Claim.—The combination, with the bars A and blocks B, notched at G, of the clamping-jaws D, bands F, and screws E H, as shown and described.

260,544. CLOCK-CASE. HENRY J. DAVIES, Brooklyn, N.Y. Filed Jan. 31, 1882. (No model.)



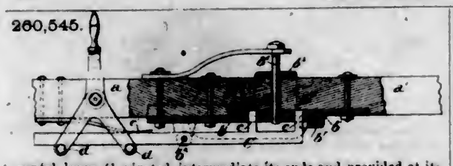
Claim.—1. The combination, with the side plate, *e*, having an opening surrounded by lips *e'*, of the panel D, of plush or fabric, applied to the inner side thereof, the back plate, *d'*, placed behind said panel, and clips e^3, secured to the side *e* and overlapping said plate *d'*, to clamp the said panel between it and the lips *e'*, substantially as specified.

2. The combination of the frame *a*, the sheet-metal covering *b* for said frame, overlapping the upper and lower inner edges thereof, and the panel C, of plush or fabric, with its back plate, b^3, both fitted within said frame and between the upper and lower inner edges of said covering, substantially as specified.

260,545. TONGUE FOR VEHICLES. JOHN B. DEHNING, Miami, assignor of one-half to George Wabaita, Jr., Sator, Ohio. Filed Apr. 18, 1882. (No model.)

Claim.—1. The combination, with a tongue composed of rigid and movable parts *a a'*, united by a swiveled joint, B, of a hori

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zontal lever, C, pivoted intermediate its ends and provided at its forward portion with means to lock the movable part of the tongue, and a device for tilting said lever on its pivot to depress its forward end, substantially as described.

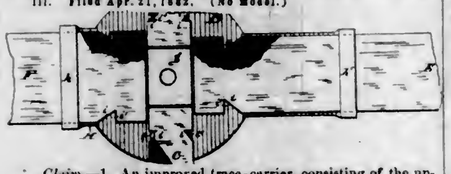
2. The combination, with a tongue composed of rigid and movable parts *a a'*, united by a swiveled joint, B, of the horizontal lever C, pivoted intermediate its ends and provided with means to lock the movable part of the tongue, and the pivoted hand-lever D, having means to elevate the rear end of the locking-lever by swinging said hand-lever either forward or backward, substantially as described.

3. The combination, with the tongue composed of the rigid and movable parts *a a'*, of the plate *b*, attached to the rigid part and provided with the grooved flange b^4, the plate *b'*, attached to the part *a'* and provided with the grooved flange b^3, both of said plates having coincident sockets b^4, the connecting-pin b^2, the locking-lever C, pivoted under the tongue, and means for tilting the locking-lever, substantially as described.

260,546. MANUFACTURE OF HYDRAULIC LIME AND HYDRAULIC CEMENT. EDWARD J. DE SMEDT, Washington, D. C. Filed May 19, 1882. (No specimens.)

Claim.—The manufacture of hydraulic limes and cements from hydraulic lime and cement stone by heating said stone at the time of calcination or afterward while maintaining it in contact with carbonic acid during the heating operation, as hereinbefore set forth.

260,547. TRACE-CARRIER. WALTER DOWNING, Van Orin, Ill. Filed Apr. 21, 1882. (No model.)



Claim.—1. An improved trace-carrier, consisting of the upper plate, A, the lower plate, B, having radial recesses *c d* in its upper surface and projections *i'* in said recesses, and clamping-screw D, substantially as herein shown and described.

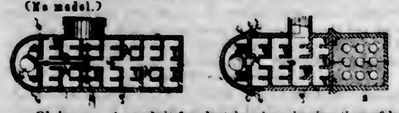
2. In a trace-carrier, the combination, with the upper plate, A, and clamping-screw, D, of the bottom plate, B, provided with radial recesses *c d*, the projections *i'*, and guttered extensions H H', having loops *h h'*, substantially as herein shown and described, and for the purpose set forth.

3. In a trace-carrier, the combination, with the upper plate, A, provided with the central recess, *f*, of the lower plate, B, provided with the central stud, *g*, the radial recesses *c d*, and the projections *i'*, and means for clamping said plates together, substantially as and for the purpose set forth.

4. The combination, with the straps C C, E, and F, formed with the notches *i i*, of the upper plate, A, and the lower plate, B, the latter being constructed with the projections *i' i'*, substantially as and for the purposes described.

5. The combination, with the lower plate, B, provided with the central stud, *g*, of the upper plate, A, provided with the hooks *a*, the central conical portion, *b*, the recess *f*, and the frame G, and the screw D, substantially as and for the purpose set forth.

260,548. UNDERGROUND CONDUIT FOR ELECTRIC WIRES. JOSIAH S. DU BOIS, Haddonfield, N. J. Filed Feb. 27, 1882. (No model.)



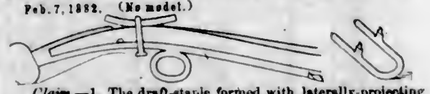
Claim.—1. A conduit for electric wires, having tiers of ledges for holding the wires, and an upper platform for the motor, in combination with a motor running on said platform, a carriage for wires running on one of the lower ledges, and a rod, D, pivotally connecting said motor with said carriage, substantially as set forth.

2. A conduit having smooth upper platform, C', for the motor and tiers of lower ledges attached to its sides, and provided with vertical partitions for separating the wires, substantially as set forth.

3. The lower conduit, G, for electric wires, consisting of an open trough provided at the upper edge of each side with an inwardly and an upwardly extending flange, in combination with the upper conduit, A, constructed to fit between the inwardly and upwardly extending flanges, substantially as set forth.

4. The underground conduit for electric wires, having tiers of ledges and a motor and carriage for the wires, said motor and carriage being connected by a hinged or pivoted rod, substantially as and for the purpose set forth.

260,549. HAME. JOHN G. EBERHARD, Akron, Ohio. Filed Feb. 7, 1882. (No model.)



Claim.—1. The draft-staple formed with laterally-projecting teats on its legs and adapted to be applied to a hame having two sets of holes arranged to receive the said teats and the ends of the legs of the staple.

2. The combination, with a hame having two sets of holes, of a draft-eye having teats on its legs, the combination being and operating as described.

3. In combination with a hame having a part of its outer surface finished or ornamented, a loop formed, substantially as described, so as to bear on the unfinished surfaces only of the hame, as and for the purposes set forth.

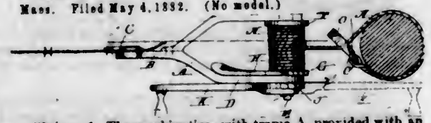
260,550. MEANS FOR CLEARING ICE FROM CAR-TRACKS. JAMES M. ELLIOTT, Columbus, Ohio. Filed Apr. 24, 1882. (No model.)

Brief.—Between the rails and sleepers of street-railway tracks are formed longitudinal recesses adapted to receive jointed pipes. Said pipes are connected to a source of heating supply, and for the purpose of melting ice and snow from about the rails.



Claim.—The combination, with the rails of a street-railway track, having longitudinal recesses in their under surface, of jointed pipes arranged underneath the rails in said recesses, substantially as shown and described, and for the purposes set forth.

260,551. WIRE-STRETCHER. GEORGE ELSEY, Springfield, assignor to the Worcester Barb Fence Company, Worcester, Mass. Filed May 4, 1882. (No model.)



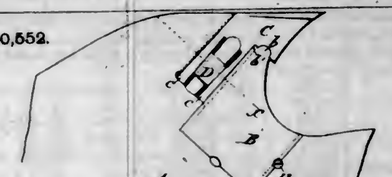
Claim.—1. The combination, with frame A, provided with an arm, B, supporting a wire-clamp, as described, and journal E, of the winding-wheel F, rope N, combined clamp and hook O O', pawl H, ratchet-wheels G and J, and operating arm or lever K, provided with pawl L, substantially as and for the purposes set forth.

2. In a wire-stretching machine, the combination, with the frame of the machine, of a ratchet-wheel and a double holding-pawl working in connection therewith, and an operating lever or arm provided with a ratchet device, for operation substantially as described, whereby the machine can be worked close down to the ground, and either side up, substantially as and for the purposes set forth.

260,552. SAW-TOOTH. CHARLES M. EMERSON, Indianapolis, Ind., assignor to Elias C. Atkins, same place. Filed Mar. 24, 1882. (No model.)

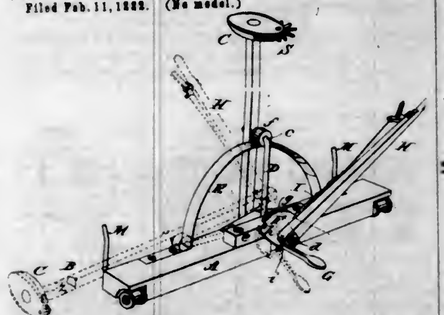
Claim.—1. The combination of the recessed saw-plate A, the removable throat-piece B, the tooth C, having one or more spring-arms, *c*, and the wedge D, having grooved edges and adapted to slide in contact with said spring-arms, substantially as described.

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2. The combination of the saw-plate A, having rectangular recesses *a a'*, the detachable throat-piece B, having an arm, B', provided with lug *b*, the removable tooth C, having spring-jaws *c c* and notch *c'*, and the wedge D, having grooved sides *d d*, adapted to slide in the space between the spring-arms *c c*, substantially as described.

260,553. HAND-LEVER AND DEVICE FOR THE MARKING-GUIDES OF PLANTERS. JOHN J. FARRAR, Aurelia, Iowa. Filed Feb. 11, 1882. (No model.)



Claim.—1. The combination, with the guide-stick B of the marker, of the crank D, secured at its wrist to said stick, and having its shaft or bearing end *d* in a box mounted on the frame or back cross-piece of the machine for supporting or carrying the marking-guide, substantially as specified.

2. In combination with the marking-guide B C, the crank D, by which it is carried, and the plate F, fast on the shaft of said crank, the spring catch or lever G, arranged for control by the foot of the driver, and engaging with a notch, *i*, in the plate F, for holding the marking-guide in a raised position when turning the machine or when moving it to and from the field, substantially as specified.

3. The bowed guide or support E, in combination with the marking-guide B C and crank D, carrying the guide-stick and provided with a roller, *f*, for travel on or over the bowed guide, essentially as and for the purposes herein set forth.

4. The combination, with the stick B of the marking-guide, and crank D, by which it is carried, of the crank J, having its axis coincident with that of the crank D, and connected at its wrist with the inner end of the stick B, to provide for the support of said end of the stick and depression of the marker end thereof, substantially as described.

5. The combination, with the marker C on the outer end of the guide-stick B, of the many-armed wheel S, journaled in the said marker, substantially as and for the purpose set forth.

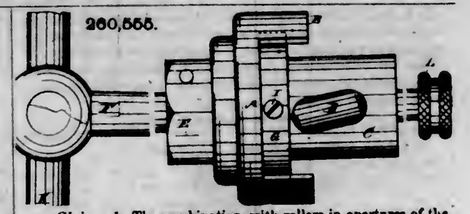
6. The combination, with the cross-piece A and guide-stick B, fitted to swing to opposite ends of said cross-piece, and cranks D J, carrying and controlling said stick, of the elbow-supports M M, arranged to support the stick B of the marking-guide when swung over to opposite sides of the machine, essentially as and for the purposes herein described.

260,554. PROCESS OF MANUFACTURING FELT BOOTS AND SHOES. JOSEPH K. FRICK, Rood City, assignor to Elbridge G. Studley, Grand Rapids, Mich. Filed Mar. 11, 1881. (No specimens.)

Claim.—The process herein described of making felt boots or shoes, which consists in felting the same to a reduced compass, then steaming or otherwise moistening them, then stretching or expanding the same to the required size, and finally lasting and treeing the article, substantially as described.

260,555. BOILER-TUBE EXPANDER. ZACHARIAH J. FERGUSON, Jackson, Tenn. Filed Mar. 30, 1882. (Model.)

260,556.
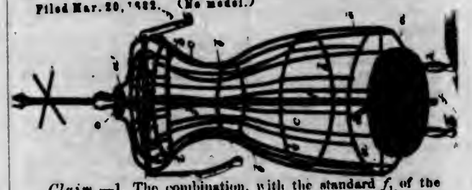


Claim.—1. The combination, with rollers in apertures of the cage and bearing on the spindle, of an adjustable collar, G, having the cavities J, as and for the purpose specified.

2. The combination of spirally-pitched cylindrical rollers D and the adjustable tube-gage G with the roller-cage C, spindle F, and the guard A, substantially as specified.

3. The adjustable tube-gage G, in combination with the spirally-pitched rollers D, roller-cage C, spindle F, and guard A, the gage having cavities J coincident with the rollers, substantially as specified.

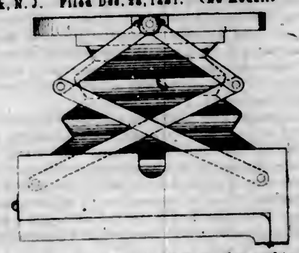
260,556. DRESS-FORM. THEODER R. FISCHER, Baltimore, Md. Filed Mar. 20, 1882. (No model.)



Claim.—1. The combination, with the standard *f*, of the withes *e*, rings *a b*, and slivers *d*, arranged substantially as described, and the cross-piece *i*, secured to the standard and provided with elbows *j*, substantially as shown and described.

2. The combination, with the withes *e*, rings *a b*, and slivers *d*, arranged as described, and supported upon the standard *f*, of the train-supporter *k*, of semi-elliptical form, having hooks *l*, adapted to engage with the ring *a* of the dress-form, substantially as shown and described.

260,557. PHOTOGRAPHIC CAMERA. MATHIAS FLAMMANG, Newark, N. J. Filed Dec. 28, 1881. (No model.)



Claim.—1. In a photographic camera, the combination, with a shallow main frame, of an extensible body and a front connected with said main frame and supported by or from the same, both said body and front being adapted to be contracted and received within the frame when not in use, substantially as specified.

2. In a photographic camera, the combination, with a main frame, of an extensible body, a front fastened thereto, and lazy-tong levers for retaining the front in position, both said body and front being adapted to be contracted and received within said frame when not in use, substantially as specified.

3. In a photographic camera, the combination, with a main frame, of an extensible body, a front fastened thereto, and two sets of lazy-tong or crossed levers, one pair of each set being connected with said main frame at distant points and another pair of each set being together connected to the front at the same point, whereby provision is afforded for oscillating said front and maintaining it at different angles, substantially as specified.

4. In a photographic camera, the combination, with a main frame, of an extensible body, a front fastened thereto, lazy-tong levers connecting the front with the said frame, and clamping-screws for securing the front and lazy-tong levers together, so as to admit of the front being swung up or down and retained in position, substantially as specified.

5. In a photographic camera, the combination, with a main frame, an extensible body, and a front attached to the latter, of two sets of lazy-tong levers secured to the interior of the sides of the frame and to the exterior of the sides of the front, whereby provision is afforded for contracting the body and front within the frame, substantially as specified.

260,558. BUFFING-WHEEL. HERBERT E. FOWLER, New Haven Conn. Filed Jan. 9, 1882. (No model.)



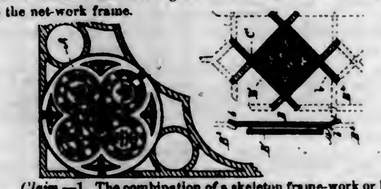
Claim.—1. The base-plate for a buffing-wheel, made of a disk with hooks at its periphery, in combination with bunches of fibrous material looped around such hooks, substantially as set forth.

2. The base-plate for a buffing-wheel, made of a metal disk having hooks projecting at opposite sides around its edges, in combination with bunches of fibrous material looped around the hooks, substantially as set forth.

3. In a buffing-wheel, the combination, with followers or clamps of metal disks having hooks around their edges and bunches of cords or threads looped around the hooks, substantially as set forth.

260,559. ARTIFICIAL STAINED GLASS. JONATHAN C. FOWLER, Jr., New York, N.Y. Filed Feb. 1, 1882. (No model.)

Brief.—Sheets of flexible transparent material are secured to net-work frames fastened together. A tile is secured by clamps to the net-work frame.



Claim.—1. The combination of a skeleton frame-work or back composed of thin narrow (preferably metallic) strips fastened together so as to form openings of diaper or net-work design, with a facing consisting of a number of flexible colored plates of diaphanous or translucent material fitted to the various sections and rigidly attached thereto and entirely covering both the strips and intermediate openings.

2. In a transparency consisting of a skeleton frame or back and a facing of transparent medium, the combination, with one section composed of a frame of thin narrow (preferably metallic) strips fastened together, so as to form a part of a diaper or net-work design and a body of diaphanous or translucent flexible material adhering thereto, of one or more sections of similar construction, and a means of attaching the different sections together, so that the transparent medium covers all the strips and intermediate openings.

3. The combination, with a portable screen consisting of a skeleton frame or back composed of thin narrow (preferably metallic) strips fastened together, so as to form openings of diaper or net-work design and a facing formed of a number of flexible colored plates of diaphanous or translucent material fitted to the various sections and rigidly attached thereto and entirely covering both the strips and intermediate openings, of devices at the outer edge of the screen adapted to support it in a swinging or fixed relation, as set forth.

4. The combination, with a screen consisting of a skeleton frame or back composed of thin narrow (preferably metallic) strips fastened together, so as to form openings of diaper or net-work design and a facing formed of a number of flexible colored plates of diaphanous or translucent material fitted to the various sections and rigidly attached thereto, of a decorated panel or tile, and also of a means of holding or clamping the panel of glass to the supporting-frame.

5. In a transparency consisting of a skeleton frame or back and a facing of transparent medium, the combination, with a number of thin narrow (preferably metallic) strips fastened together, so as to form openings of diaper or net-work design, of a body of diaphanous or translucent flexible material fitted to the various sections and rigidly attached thereto and entirely covering both the strips and the intermediate openings, and also of a coating of mica, gelatine, varnish, or other backing to stiffen and support the same, substantially as described.

6. The plates A, frame B, rivets C, and washers D, substantially as described.

7. The plates A, frame B, and extensions *b*, superimposed plate B′, and rivets C′, substantially as described.

8. The plates A, frame B B′, extensions *b*, and frame B², substantially as and for the purpose described.

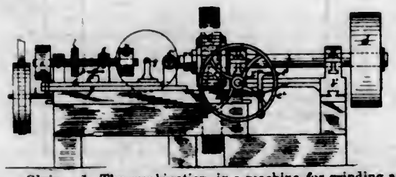
9. The plates A, frame B, projections G, panel E, and clamps *b*¹, substantially as and for the purpose described.

10. The plates A, frame B B′ *b*, rivets C′, window or transom frame F, and stop or catch K, substantially as and for the purpose set forth.

11. The plate A, frame B B′ *b*, rivets C′, window or transom frame F, bar J, stop K, and hinge H, substantially as and for the purpose set forth.

12. The plate A, frame B B′ *b*, rivets C′, a decorated panel or tile, clamps *b*², window or transom frame F, and hinge H, substantially as described.

260,560. MACHINE FOR GRINDING CIRCULAR KNIVES AND PLOW-COLTERS. CHARLES H. FRENCH, Pittsburg, Pa., assignor to Brown & Co., same place. Filed Mar. 28, 1882. (No model.)



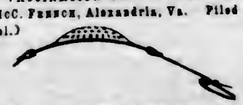
Claim.—1. The combination, in a machine for grinding and sharpening colters, of a sliding table for moving the colter across the face of the stone, a pivoted plate on said table, carrying the colter and power-driven friction-wheels for revolving the colter, and a device for supporting the colter against the stone, substantially as and for the purposes described.

2. The combination, in a machine for grinding and sharpening colters, of a sliding table, a plate pivoted thereon, power-driven friction-rolls for rotating the colter mounted on the pivoted plate, and an adjustable support for holding the colter against the action of the stone, substantially as and for the purposes described.

3. In a machine for grinding and sharpening colters, a pivoted plate mounted on the sliding table and carrying the colter and power-driven friction-wheels for rotating the same, substantially as and for the purposes described.

4. The combination, in a machine for grinding and sharpening colters, of a grindstone, a colter-support adjustable to, from, and across the face of the stone, power-driven friction-rolls for rotating the colter, and adjusting-screws whereby the friction-rolls may be caused to bite or bind on the colter, substantially as and for the purpose specified.

260,561. VACCINATION VESICLE AND PUSTULE SHIELD. DAVID MCC. FRENCH, Alexandria, Va. Filed Apr. 18, 1882. (No model.)



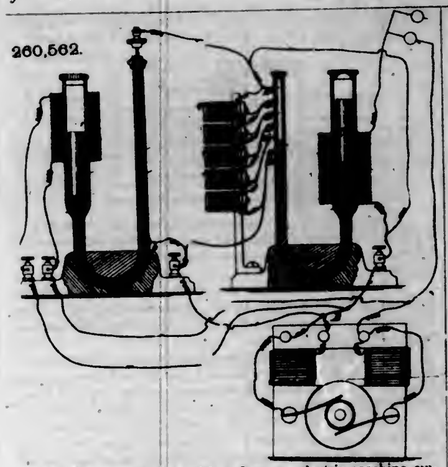
Claim.—A vaccination vesicle and pustule shield which consists of a rigid bulged plate, preferably perforated, having means for its attachment to the body, substantially as specified.

260,562. SWITCH AND INDICATOR FOR ELECTRIC LAMPS. EDWIN T. GREENFIELD, Brooklyn, and CHARLES S. BRADLEY, New York, assignors of one-third to Sigmund Bergmann, New York, N.Y. Filed Mar. 22, 1882. (No model.)

Claim.—1. The electro-magnet switch consisting of the tube containing mercury or analogous liquid, the helix or solenoid, the core therefor, and contact-points accessible to the mercury or other liquid, substantially as specified.

2. The combination, with a dynamo-electric machine employed to supply a current of electricity to electric lamps, of an electro-magnetic indicator consisting of the tube containing mercury or analogous liquid, the helix or solenoid, the core therefor, and contact-points accessible to the mercury or other liquid, substantially as specified.

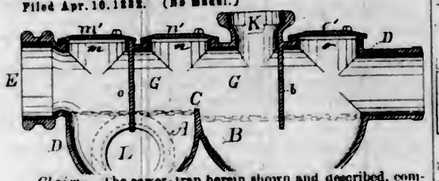
260,562.



3. The combination, with a dynamo-electric machine employed to supply a current of electricity to electric lamps, of a series of resistance coils or devices, an electro-magnetic switch, and an electro-magnetic indicator consisting of the tube containing mercury or analogous liquid, the helix or solenoid, the core therefor, and contact-points accessible to the mercury or other liquid, substantially as specified.

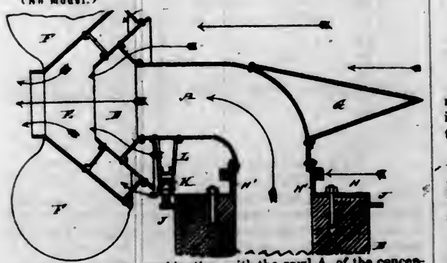
4. The electro-switch consisting of the tube containing mercury or analogous liquid and alcohol or other suitable insulating and non-oxidizing liquid above the same, the helix or solenoid, the core therefor, and the contact-points accessible to the mercury or analogous liquid, substantially as specified.

260,563. SEWER-TRAP. HENRY B. GREENLEAF, Boston, Mass. Filed Apr. 10, 1882. (No model.)



Claim.—The sewer-trap herein shown and described, composed of an outer shell or casing, D, having the inlet E on a higher level than the outlet F, and provided with the basins A B, bridge-wall C, curtains *a b*, forming the chamber G, hubs K and L, apertures *m*, *n*, and *o*, and covers *m*′, *n*′, and *o*′, all constructed and arranged substantially as and for the purpose shown and specified.

260,564. CHIMNEY-VENTILATOR. HERMANN HAHN, Schönberg, Mecklenburg-Strelitz, Germany. Filed Mar. 25, 1882. (No model.)



Claim.—1. The combination, with the cowl A, of the concentric funnels D E, held on the open end of the same, with the larger openings toward the opening of the cowl and of the wind-deflector G at the closed end of the cowl, substantially as herein shown and described, and for the purpose set forth.

2. The combination, with the cowl A, of the concentric funnels D E on the open end of the cowl, and the wings F on the outer funnel, E, substantially as herein shown and described, and for the purpose set forth.

3. The combination, with a chimney, of the top plate, H, forming a circular track, J, of the cowl A, provided with concentric funnels D E on the open end, the roller K, and the frame L, attached to the cowl A, and in which the roller K is journaled, substantially as herein shown and described, and for the purpose set forth.

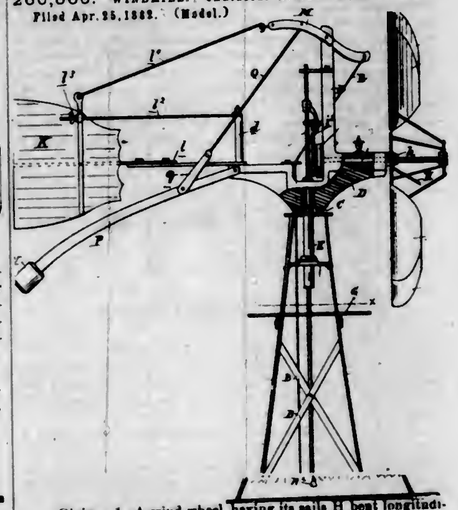
260,565. CLOAK. CHARLES F. HAMILTON, Boston, Mass., assignor to the Standard Rubber Company, same place. Filed Feb. 17, 1882. (No model.)



Claim.—1. A circular-cloak or outer garment provided with holes through the body thereof for the passage of the arms, located below the shoulders, and a pair of sleeves secured to the body of the garment along the rear sides of said arm-holes by about one-half of the circumferences of said sleeves, while the remaining portions of the circumferences of said sleeves are entirely disconnected from the body of the garment, substantially as and for the purposes described.

2. In combination with a circular-cloak or other outer garment, the arm-holes *a a*, located below the shoulders, the sleeves B B, secured to the body of the garment only along the rear sides of said arm-holes and sleeves, and means of securing the wrist ends of said sleeves together, substantially as and for the purposes described.

260,566. WINDMILL. CHRISTIAN B. HAHMAN, Lenark, Ill. Filed Apr. 25, 1882. (Model.)



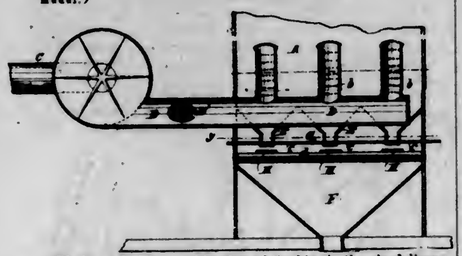
Claim.—1. A wind-wheel having its sails H bent longitudinally at an obtuse angle and arranged with one side of the angle in a vertical plane and the other side inclined at the proper angle to receive the force of the wind, substantially as herein described.

2. In a windmill, the combination, with the stock D, provided with the vertical post *d*, and the vane K, of the bar *l*, composed of two parts adjustably secured together, and the bar *l*², having its outer end screw-threaded and provided with the nut *l*³, substantially as and for the purpose set forth.

3. In a windmill, the combination, with the stock D, provided with the vertical standard *m*, and the vane K, of the lever M, pivoted to the said standard, the connecting-rod *l*², and the chain or rope *n*, substantially as and for the purpose set forth.

4. In a windmill, the combination, with the stock D, provided with the standard *m*, and the vane K, of the lever M, the connecting-rod *l*², the weighted lever P, provided with arm *q*, the connecting-rod Q, and the chain or cord *n*, provided with the weight *n*² at its end, substantially as and for the purpose set forth.

260,567. APPARATUS FOR DRYING GRAIN. NILS W. HAWKINSON, Litchfield, Minn. Filed May 15, 1882. (No model.)

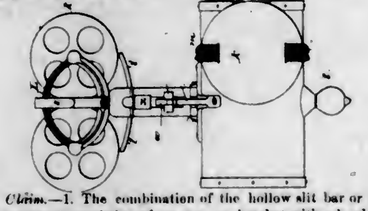


Claim.—1. The combination of the bin A, the air-delivery pipes D D', a blowing apparatus or device for forcing dry air through said pipes, the perforated air-distributing pipes S, mounted on the delivery-pipes, and the primary hoppers E with their slides G and the lower transverse feeders, H, substantially as and for the purposes herein set forth.

2. The combination, with the bin A, of the horizontal pipes D D', connected with a blast apparatus, and having the vertical apertured pipes S, the series of primary hoppers E, arranged below the said pipes, the reciprocating slides G, the transverse reciprocating feeders H, and the chute or general hopper F, disposed below the aforesaid hoppers, substantially as described.

260,568. STORE-SERVICE APPARATUS AND APPLIANCES. HARRIS H. HAYDEN, New York, N. Y., assignor to the Automatic Parcel Delivery Company, same place. Filed Aug. 4, 1881. (No model.)

Brief.—The rail consists of a split tube mounted on brackets whose heads rest in the rail. A buffer consists of a case containing a spring and stop-pin. The wheel-frame consists of two parts on opposite sides of the wheels. The wheel-frame is pivoted to the receptacle, and has a lateral stop adjustable in a vertical slot in the frame to bear against a stop on the receptacle. The guard-pin on the wheel-frame, projecting beneath the rail, has an incline on its under side. The wheel-frame has arms below the wheels to prevent tilting. The receptacle is open at one end and has a cap secured by elastic bands. A safety-hook is provided at the top of the wheel-frame.



Claim.—1. The combination of the hollow slit bar or tube and a support consisting of an arm or bracket with a head and neck adapted to the interior and slot of the rail, substantially as specified.

2. The combination of the case *g*, stop-pin F, and spring *h*, substantially as specified.

3. The combination, in the car, of the receptacle and the wheel-carrying frame pivoted thereto to permit a limited motion, substantially as specified.

4. The combination of the basket or receptacle, pivoted carrying-frame, and stop, limiting the side motion of the frame, substantially as set forth.

5. The frame consisting of the upper and lower parts, L L', connected to occupy positions on opposite sides of the wheels, substantially as described.

6. The stopping-pin *w*, adjustable in the slotted frame L, to fit any desired stop, substantially as and for the purpose set forth.

7. The guard-pin provided with an inclined side, *x*, for the purpose set forth.

8. The combination, with the frame, of the arms *i i*, for the purpose specified.

9. The car provided with a receptacle open at the end and having an end cap, substantially as specified.

10. The combination of the receptacle open at the end, the cap, and elastic retainers *m m*, substantially as specified.

11. A car provided with a safety-hook, *s*, for the purpose specified.

260,569. FEED-ROLLER FOR WOOD-PLANERS. EMMETT H. HERNDON, Sanford, Fla. Filed Mar. 28, 1882. (No model.)



Claim.—1. In a planing-machine, a feed-roller consisting of a series of rollers mounted loosely upon the same shaft, and each having an independent movement, substantially as and for the purpose set forth.

2. In a planing-machine, the combination, with the series of feed-rollers C, of an independent pressure-roller, K, bearing thereon, for each section of the feed-roller, substantially as and for the purpose set forth.

3. In a planing-machine, the combination, with the series of feed-rollers C, of the pivoted beams L, the pressure-rollers K, the cross-bar O, and the spring N, interposed between the said cross-bar and bearer, substantially as and for the purpose set forth.

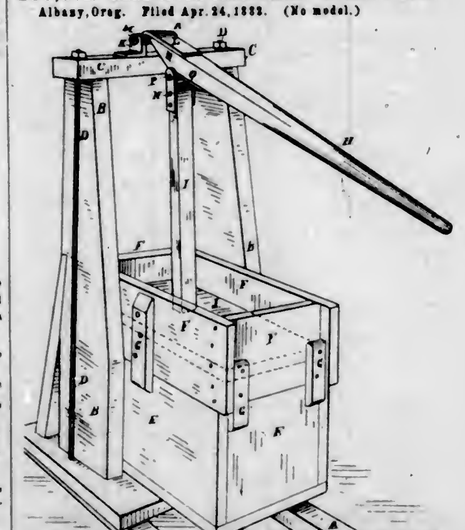
4. In a planing-machine, the combination, with the feed-rollers C, of the pressure-rollers K, the cross-bar O, the spring N, the rods P, and the weighted levers Q, substantially as and for the purpose set forth.

5. In a planing-machine, the combination, with the shaft E and the thimble F, provided with the head I, and secured to the shaft, of the roller C, provided with the central orifice, J, of longer diameter than that of the thimble, and having end bead-recess, H, substantially as and for the purpose set forth.

260,570. HAIR-RESTORATIVE. CHARLES HUGHES, New York, N. Y. Filed Apr. 10, 1882. (Specimens.)

Claim.—The herein-described hair restoring and invigorating compound, consisting of neat's-foot oil, petroleum, and alcohol, in about the proportions specified.

260,571. HAND-LEVER FRUIT-PRESS. ANDREW J. HUNT, Albany, Oreg. Filed Apr. 24, 1882. (No model.)

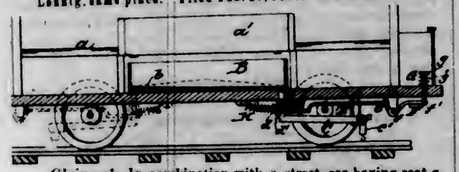


Claim.—1. A hand-lever fruit-press constructed substantially as herein shown and described and consisting of the frame A B C D, the box E, the hinged lever H, the hinged pressure-bar I, and the follower J, as set forth.

2. In a hand-lever fruit-press, the combination, with the frame A B C D, hinged lever H, and the hinged pressure-bar I, of the box E and frame F, as set forth.

3. In a hand-lever fruit-press, the combination, with the top bar, C, and the lever H, having beveled inner end, of the hinge K L M, substantially as herein shown and described, whereby the said lever can be swung down close to the side of the said top bar, as set forth.

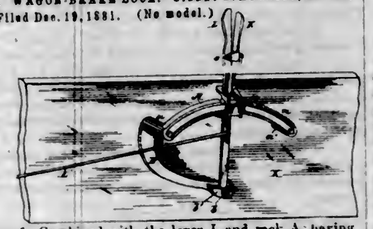
260,572. SAND-BOX FOR STREET-CARS. GEORGE F. HUNTINGTON, Philadelphia, Pa., assignor of one-half to George G. Lonsig, same place. Filed Feb. 27, 1882. (No model.)



Claim.—1. In combination with a street-car having seat *a*, provided with door *a'*, the box B, having inclined bottom *b*, pipe C, bifurcated at *c* to form branches *c' c'*, and having valve D, the treadle G, and mechanism interposed between said valve and treadle, substantially as shown and described.

2. In combination with a street-car having seat *a*, provided with door *a'*, the box B, having inclined bottom *b*, the pipe C, bifurcated at *c* to form branches *c' c'*, valve D, lever *d*, link E, bell-crank lever F, treadle G, and springs *g'* H, substantially as shown and described.

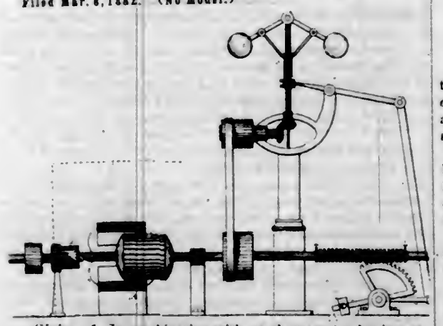
260,573. WAGON-BRAKE LOCK. SIDNEY E. HURLBUT, Racine, Wis. Filed Dec. 19, 1881. (No model.)



Claim.—1. Combined with the lever L and rack A, having notches *n* upon its upper edge, a sliding pawl-block, D, adapted to embrace the rack and lever, and provided with the depending projection *d* and the lifting-lever E, together arranged and operating substantially as described.

2. Combined with the lever L and rack A, having notches *n* upon its upper edge and arranged exterior to the lever L, the sliding pawl-block D, cast in a single piece, being recessed centrally to embrace the rack, and inwardly extended at its ends to embrace the lever both above and below the rack, and provided on its inner face with the depending projections *d*, all substantially as and for the purposes set forth.

260,574. ELECTROMOTOR. JOHN H. LEWIS, Morton, Pa. Filed Mar. 8, 1882. (No model.)



Claim.—1. In combination with an electromotor having an armature-shaft adapted and arranged to draw out or push the armature into the field-of-force magnets, a series of rings or flanges on said shaft, and a toothed segment arranged to mesh with said rings or flanges, substantially as and for the purposes set forth.

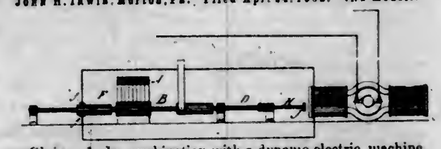
2. In combination with an electromotor having an armature-shaft adapted and arranged to draw out or push the armature into the field-of-force magnets, an adjustable sleeve upon said shaft, having a series of rings or flanges, and a toothed segment arranged to mesh with said rings or flanges, substantially as and for the purposes set forth.

3. In combination with an electromotor having an armature-shaft adapted and arranged to draw out or push the armature into the field-of-force magnets, a series of rings or flanges on said shaft, a toothed segment arranged to mesh with said rings or flanges, and a governor connected with said toothed segment, substantially as and for the purposes set forth.

4. In combination with an electromotor having an armature-shaft adapted and arranged to draw out or push the armature into the field-of-force magnets, an adjustable sleeve upon said shaft, having a series of rings or flanges, a toothed segment arranged to mesh with said rings or flanges, and a governor connected with said toothed segment, substantially as and for the purposes set forth.

5. An electromotor having an armature-shaft extending in each direction from the armature, and carrying upon one extension a commutator and a power-transmitter pulley and upon the other extension a pulley to drive the governor and the mechanism for moving the shaft longitudinally, whereby the shaft may be supported more steadily in the working of the machine, substantially as described.

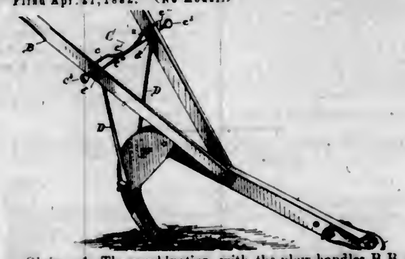
260,575. REGULATOR FOR DYNAMO-ELECTRIC MACHINES. JOHN H. LEWIS, Morton, Pa. Filed Apr. 24, 1882. (No model.)



Claim.—1. In combination with a dynamo-electric machine or generator, an exciting magneto-machine whose armature is adapted and arranged to be drawn out of or pushed into its field-of-force magnets, whereby the strength of the exciting-current may be varied at will, substantially as described.

2. The combination, with an electric-generator, of an exciting-machine having permanent magnets A, armature B, elongated shaft D, commutator F, screw H, regulated by wheel J, the conductors from said exciting-machine having connection with the bobbins surrounding the field-of-force magnets of the generator, substantially as set forth.

260,576. CULTIVATOR. JOSIAH G. JORDAN, Thomasville, Ga. Filed Apr. 21, 1882. (No model.)

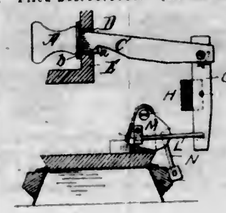


Claim.—1. The combination, with the plow-handles B B, of the cross-bar C, having the main portion *c*, the central curved part, *c'*, auxiliary part *c''*, and bent end parts, *c³ c³*, having threaded holes and set-screws *c⁴*, substantially as described, and for the purpose set forth.

2. The combination with the plow-handles B B, of the cross-bar C, having the main portion *c*, the central curved part, *c'*, and bent end parts, *c³ c³*, having threaded openings to take the set-screws *c⁴ c⁴*, and the beam-rods D D, all combined and arranged as and for the purpose described.

3. In combination with the plow-beam having the inclined end and groove *a*, the clevis E, and hook or ring employed therewith, substantially as described.

260,577. REED-ORGAN STOP-ACTION. GEO. B. KELLY, Boston, Mass., assignor to the Mason & Hamlin Organ Company, same place. Filed Dec. 16, 1881. (No model.)

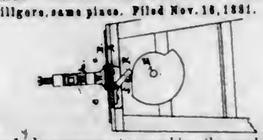


Claim.—1. In organs, the stop-knob A and its shank or bar C, having notch *a* and shoulder *b*, in combination with the board E, having guideway D for stop-bar C, and with the spring F, all substantially as described, for the purpose set forth.

2. The combination of the organ stop-bar C, a vertical lever, G, a bell-crank, M, a pitman, L, connecting the lever with the bell-crank, and a rod, N, connecting the bell-crank to an arm of the stop-valve, all substantially as and for the purpose described.

3. In an organ, the stop-knob A and the shank or bar having notch *a* and shoulder *b*, in combination with the board E, having guideway D for stop-bar C, and with the spring F, said stop-bar C being hung to a vertical lever, G, connected by a pitman-rod, L, to a bell-crank, M, in turn through a rod, N, connected to an arm of the stop-valve, substantially as described, and to operate as specified.

260,578. MACHINE FOR COMPRESSING DRY AND PLASTIC MATERIALS. CHARLES KILLGORE, Utica, N. Y., assignor to Ida W. Killgore, same place. Filed Nov. 16, 1881. (No model.)



Claim.—1. In a compressing-machine, the combination, with the bed A, the wheel H, provided with a single tooth, and the compressing devices, of the disk B, provided with the ratchet-teeth *a* and the apertures *c c'*, substantially as and for the purpose set forth.

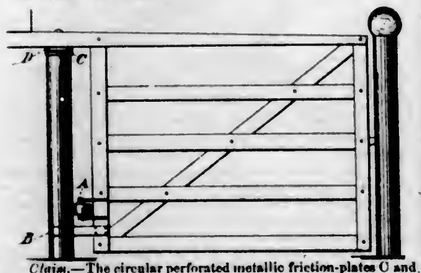
2. The combination of intermittently-rotated disk B, having apertures *c*, feed-hopper D, reciprocating plunger O, carrying dies *e*, the hinged trap S, and holding-cam I, substantially as shown and described, for operation as set forth.

3. The combination of apertured disk B, plunger O, carrying dies *e*, lever L, rod K, provided with adjustable roller *k*, and cam G, substantially as shown and described, for operation as specified.

4. The hinged trap S and its holding-cam, in combination with the apertured disk B, bed A, and compressing devices, substantially as and for the purposes set forth.

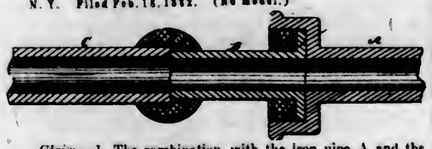
5. In a compressing-machine, the combination, with the rotating disk B, having apertures *c c'*, and the plunger O, provided with dies *e* at its lower end, of the rod *f*, having a tapering lower end and moving with the plunger, substantially as shown and described, whereby the disk will be held stationary while the dies are compressing the material, as set forth.

260,579. GATE. JOHN KIRKPATRICK, Lincoln, Ill. Filed Apr. 12, 1882. (No model.)



Claim.—The circular perforated metallic friction-plates C and D, in combination with the stirrup or band B and the friction-roller A, all constructed as and for the purposes herein set forth.

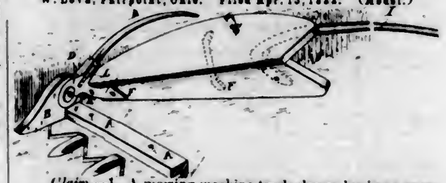
260,580. PIPE-COUPLING. THOMAS G. KNIGHT, Brooklyn, N. Y. Filed Feb. 18, 1882. (No model.)



Claim.—1. The combination, with the iron pipe A and the lead pipe C, of the drawn or laminated metal coupling ferrule or tube B, applied to couple the two together, and formed substantially in the manner and for the purpose described.

2. The combination, with the iron pipe A, having an enlarged mouth, of the lead pipe C and the drawn or laminated metal coupling ferrule or tube B, formed at one end with a flange received within the enlarged end of the iron pipe, and having its opposite end fitted within the lead pipe, the joints between the pipes and the coupling ferrule or tube being calked with lead or solder, substantially as described.

260,581. TRACK-CLEARER FOR MOWING-MACHINES. CHAS. W. LOVE, Fairpoint, Ohio. Filed Apr. 15, 1882. (Model.)



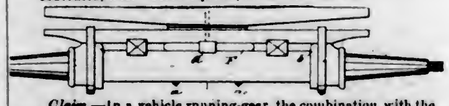
Claim.—1. A mowing-machine track-clearer having a coupling hinged to the end shoe of the finger-bar, two boards at an angle to each other and to the ground, and two slightly-bent rods, one attached to the rear of inclined boards and the other to the hinged coupling, as shown and described.

2. The combination, with the hinged coupling D, having an inwardly-projecting arm, of the board F, bolted at its forward end to said arm, placed at an angle of about forty-five degrees to the surface, and inwardly inclined, as shown and described.

3. The combination, with the board F, arranged as described, of a board, G, inclined upwardly toward its outer edge, as and for the purpose set forth.

4. The combination, with the boards F G, arranged as described, of the two curved rods I K, one attached to the rear of boards and the other to the hinged coupling D, as shown and described.

260,582. RUNNING-GEAR FOR WAGONS. REUBEN C. LYON, Centralia, Wis. Filed Apr. 21, 1882. (No model.)



Claim.—In a vehicle running-gear, the combination, with the block F, interposed between and fastened to the sand-board or bolster and the front axle and the reach H, of the U-shaped plate G, embracing the block F and connected to the reach, and the stay-rods or braces *d d*, connected to the reach coupling-bolt *f*, and the rods *a*, securing the block F in position, substantially as and for the purpose set forth.

260,583. FLUID INK. JEAN JACQUES MAGOT, Les Lilas, near Paris, France. Filed Aug. 23, 1881. (No specimens.) Patented in France Aug. 24, 1880, No. 136,302, and Aug. 23, 1881, No. 144,495; in Belgium Aug. 26, 1881, Nos. 55,540 and 55,541; in England Aug. 29, 1881, No. 3,762; in Germany Sept. 9, 1881, No. 17,515; in Italy Sept. 30, 1881, XXVI—383; in Canada Oct. 24, 1881, No. 13,595; in Luxemburg Nov. 18, 1881, No. 199; in Spain Dec. 20, 1881, No. 2,070; in Portugal Jan. 25, 1882, No. 725; in Sweden Feb. 1, 1882, and in Austria-Hungary Mar. 11, 1882, No. 3,256 and No. 1,894.

Brief.—Makes a mixture of two parts of bichromate of potash, soda, or ammonia and one part of ferrocyanide of potash dissolved in from three to four times as much water as the quantity of the albumen used, which may vary, the proportion of salts being preferably about six one-hundredths of the whole solution. Then adds a neutral soluble coloring-matter.

Claim.—The herein-described composition of matter for use as a fluid ink, consisting of albumen, bichromate of an alkali—such as soda, ammonia, or potash—ferrocyanide of potash, a suitable coloring-matter, and water sufficient to secure proper fluidity, the said ingredients compounded substantially as herein set forth.

260,584. ISOGRAPHIC PROCESS. JEAN JACQUES MAGOT, Les Lilas, near Paris, France. Filed Aug. 23, 1881. (No specimens.) Patented in France Aug. 23, 1881, No. 144,404; in Belgium Aug. 26, 1881, No. 55,541; in England Aug. 29, 1881, No. 3,762; in Germany Sept. 9, 1881, No. 17,515; in Italy Sept. 30, 1881, XXVI—383; in Canada Oct. 24, 1881, No. 13,595; in Luxemburg Nov. 18, 1881, No. 199; in Spain Dec. 20, 1881, No. 2,070; in Portugal Jan. 25, 1882, No. 725; in Sweden Feb. 1, 1882, and in Austria-Hungary Mar. 11, 1882, No. 3,256 and No. 1,894.

Claim.—The method herein described of treating prints to be reproduced, consisting in impregnating them with an acid solution containing alcohol prior to taking the impression, substantially as and for the purpose set forth.

260,585. ROLLING BEARING. FRANK W. MARSTON, Boston, Mass. Filed Mar. 12, 1881. (No model.)



Claim.—1. The improved rolling bearing herein described, consisting essentially in the rotary journal A, the bearing C, the rollers D, revolving in contact with said journal and bearing, and the sliding boxes E, independent of each other and of the rollers D, arranged substantially as and for the purpose set forth.

2. The combination of the fixed axle-box, the hollow bearing therein, and the rotary journal with the alternating series of independently-removable rollers and sliding boxes moved round in the annular space between the axle-box and the journal by the rotation of the latter, substantially as set forth.

3. The fixed axle-box having the hollow bearing C, the journal A, revolving therein, and the interposed rollers and sliding boxes, arranged as shown, in combination with the end bearings, F J, interposed between the ends of the rollers and the cap or ring that secures them in position, for the purposes set forth.

4. The combination of an axle, a series of rollers surrounding it, and an inclosing box or bearing, with end bearings, F J, of anti-friction material, suitably held in position, for the purpose set forth.

5. The improved axle-box herein described, embodying the cylindrical journal A, the shell B, with properly-secured end caps, and the bearing C, in combination with the rollers D, interposed boxes E, end bearings, F J, and dust-guard L, for the purposes set forth.

6. An iron axle for railway-cars, provided with a cylindrical sleeve of hard steel secured permanently thereon, in combination with a rolling bearing having the alternating series of independent rollers D and boxes E, interposed between the axle and the inclosing box and in contact with both, for the purpose set forth.

7. An iron axle for railway-cars, provided with a cylindrical steel sleeve forming the wheel-seat, and separated from the axle by an interposed non-crystallizable layer, M, in combination with a car-wheel and bearing, substantially as and for the purposes set forth.

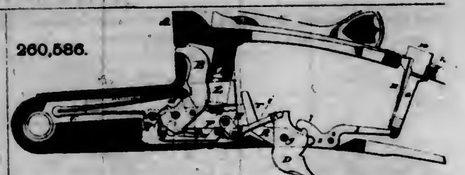
8. A set or pair of fixed axle-boxes, having hollow cylindrical bearings formed in them, and a rotary journal provided with one or more tight wheels mounted thereon, said journal extending into or through said bearings, in combination with a continuous series of alternating parallel rolls and sliding boxes interposed between each of said bearings and said journal, and moved around in the annular space between them by the rotation of the latter, substantially as set forth.

9. The improved mechanism herein described, consisting essentially of a set or pair of fixed axle-boxes having hollow cylindrical bearings connected by a rotary journal extending through them both and beyond one or both sides of each of said axle-boxes, said journal having rotation imparted to it by means of one or more tight wheels mounted thereon, in combination with an alternating series of continuous parallel rolls and sliding boxes within each bearing, all arranged substantially as and for the purpose set forth.

10. A rotary journal inclosed at or near each end by a fixed axle-box having a hollow cylindrical bearing therein, said journal having one or more tight wheels mounted thereon, by means of which it is rotated, in combination with an alternating series of continuous parallel rolls and sliding boxes interposed between each of said bearings and said journal, and moved round in the annular space between them by the rotation of the latter.

11. A rotary journal for railway-cars, having a disk or washer of hardened and polished steel interposed between its outer end faces and its anti-friction end bearings, in the manner and for the purpose substantially as described.

260,586. LOCK FOR FIRE-ARMS. WILLIAM MASON, Hartford, Conn., assignor to the Colts Patent Fire-Arms Manufacturing Company, same place. Filed Mar. 25, 1882. (No model.)



Claim.—1. The combination of the hammer B, the trigger D, the sear F in connection with the trigger above its pivot, and arranged to engage *s* shoulder on the hammer below its pivot, the lever H, the mainspring C, one arm hung to the hammer in rear of its pivot, the other arm bearing upon an arm on the lever H forward of its pivot, and the link I, connecting the lever H with the sear F, substantially as described.

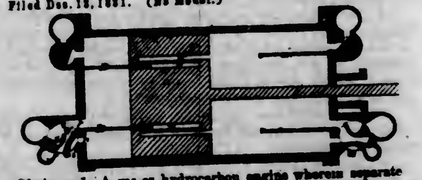
2. The combination of the hammer B, the trigger D, the sear F in connection with the trigger above its pivot, and arranged to engage a shoulder on the hammer below its pivot, the lever H, the mainspring C, one arm hung to the hammer in rear of its pivot, the other arm bearing upon an arm on the lever H forward of its pivot, and the link I, connecting the lever H with the sear F, a third arm, *t*, of the lever H, arranged above the forward end of the sear to throw the sear out of engagement during the last part of the forward movement of the sear, substantially as described.

3. The combination of the hammer B, the trigger D, the sear F in connection with the trigger above its pivot, and arranged to engage a shoulder on the hammer below its pivot, the lever H, the mainspring C, one arm hung to the hammer in rear of its pivot, the other arm bearing upon an arm on the lever H forward of its pivot, and the link I, connecting the lever H with the sear F, the said lever constructed with a shoulder, *u*, in rear of its pivot, and the hammer with a corresponding shoulder, *w*, forward of its pivot, substantially as described.

4. The combination of the hammer B, the trigger D, the sear F in connection with the trigger above its pivot, and arranged to engage a shoulder on the hammer below its pivot, the lever H, the mainspring C, one arm hung to the hammer in rear of its pivot, the other arm bearing upon an arm on the lever H forward of its pivot, and the link I, connecting the lever H with the sear F, a third arm, *t*, of the lever H, arranged above the forward end of the sear to throw the sear out of engagement during the last part of the forward movement of the sear, the said lever H constructed with a shoulder, *u*, in rear of its pivot, and the hammer with a corresponding shoulder, *w*, forward of its pivot, substantially as described.

5. The combination of the bolt L, by which the barrels are locked in their closed position, the lever R, the latch-lever *d*, and finger-piece 6 with the trigger, substantially as and for the purpose described.

260,587. GAS-ENGINE. ALBERT P. MASSEY, Cleveland, Okla. Filed Dec. 12, 1881. (No model.)



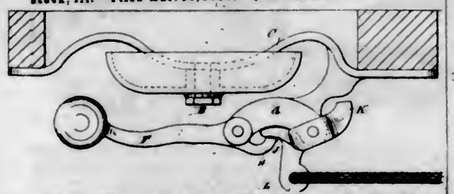
Claim.—1. A gas or hydrocarbon engine wherein separate chambers are maintained inside the cylinder for separate charges of air and an explosive mixture of gas and air until the moment of ignition, when the chambers are placed in free communication.

2. In a gas or hydrocarbon engine, a diaphragm situated within the cylinder, in combination with a corresponding recess in the piston, so as to maintain separate chambers within the cylinder during a portion of the stroke.

3. In a gas or hydrocarbon engine wherein the cylinder is provided with a diaphragm separating it into two chambers during a portion of the stroke, a valve with separate ports to admit at the same time air to one chamber and an explosive mixture to the other chamber of the cylinder.

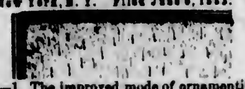
4. In a gas or hydrocarbon engine wherein the cylinder is provided with a diaphragm separating it into two chambers during a portion of the stroke, a valve constructed and arranged so as to keep apart separate charges of air and an explosive mixture, while admitting them at the same time into the separate chambers of the cylinder, but at the moment of ignition opening a communication between the two chambers.

260,588. STREET-CAR GONG. JAMES M. MAYBERRY, Woodstock, Ill. Filed Mar. 13, 1882. (No model.)



Claim.—The combination, with the hammer F, pivoted to a projection, G, of the bell-support C, and having the curved finger H, of the lever J, a stud, L, connecting with the pull cord or strap, and the check end K, all substantially as shown and described.

260,589. ORNAMENTING FUR AND OTHER GOODS. AMALIA MAYER, New York, N. Y. Filed June 6, 1882. (Model.)



Claim.—1. The improved mode of ornamenting, by pointing, fur, plush, and other goods or materials by inserting at numerous points in said goods, among the protruding fibers or filaments thereof, hairs having beads or bugles attached to their outer ends or portions, substantially as specified.

2. A fur, plush, or other fluffy material having hairs provided with beads or bugles on their outer ends or portions inserted at numerous points throughout the protruding fibers or filaments of the material, essentially as shown and described.

260,590. PEN-HOLDER FOR RULING-MACHINES. WILLIAM A. McADAMS, Brooklyn, N. Y. Filed Jan. 9, 1882. (No model.)



Claim.—1. The combination, with a pen-holder for a ruling-machine and a support therefor, of an upright pivot connecting said holder with its support, so that it may be readily swung or adjusted laterally, substantially as and for the purpose specified.

2. The combination, with an extension-piece or bracket, of two pen-holders carried thereby and separately pivoted, substantially as herein described, for adjustment laterally relatively to each other, as herein set forth.

3. The combination, with a pen-holder for a ruling-machine, and its support, of a horizontal pivot extending transversely to the length of the pen-holder and connecting the latter with its support, whereby provision is afforded for adjusting the pen-holder upward and downward independently of the other pen-holders of the machine, substantially as specified.

4. The combination, with the extension-piece or bracket A, the pen-holders B and C, and the angle-piece C', of the upright pivot *a*, connecting the pen-holder B and extension-piece A, the horizontal pivot *d*, connecting the angle-piece C' and extension-piece A, and the upright pivot B, connecting said angle-piece and pen-holder C, all substantially as specified.

5. The combination, with the pen-holder, of a clamp, D, provided with the claws *e* and the screw *b*, substantially as and for the purpose specified.

6. The combination, with the pen-holder provided with a lug, *f*, of the clamp D, provided with the claws *e*, and the clamping-screw *b*, substantially as and for the purpose specified.

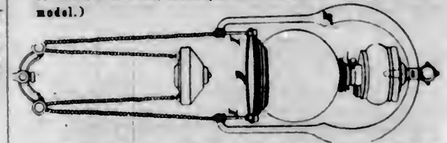
260,591. NUT-LOCK. ALEXANDER B. McCONNELL, New Orleans, La. Filed Mar. 22, 1882. (No model.)



Claim.—1. In a nut-locking device, a locking-plate holder composed of base-plate A, provided with an outwardly-pressed portion, *b*, whereby a hole is formed for the passage of the bolt and a means obtained for securing the locking-plate D in position, as described, and for the purpose set forth.

2. The locking-plate holder herein described, composed of base-plate A, provided with ridge *a*, and with an outwardly-pressed portion, *b*, whereby a hole is formed for the passage of the bolt and a means obtained for securing the locking-plate D in position, as and for the purpose set forth.

260,592. LAMP. WILLIAM S. McLEWEE, New York, assignor to Jacob J. Nichols, Brooklyn, N. Y. Filed Mar. 27, 1882. (No model.)



Claim.—1. The combination, with a burner comprising an upper portion, which can be elevated to facilitate lighting, a globe, shade, or like device supported on such upper portion, and a crown or holder resting on or impinging against said globe, shade, or like device, of guide-rods connected with the frame or support of the lamp and incapable of independent movement, and along which said crown or holder may be moved without moving the lamp frame or support, and by which said crown or holder is supported in its proper position, substantially as specified.

2. The combination, with a lamp-burner, a globe, shade, or like device capable of being detached therefrom, and a crown or holder resting upon or impinging against the globe, shade, or like device, of guide-rods which are fixed in the frame or support of the lamp, so that they are incapable of independent movement, and along which said crown or holder may be moved without moving the lamp frame or support, to enable the globe, shade, or like device to be inserted and removed, and which serve to suspend said crown or holder when the globe, shade, or like device is removed, substantially as specified.

3. The combination of the frame or lamp-support E, the guide-rods I, fixed in said frame or support, and the crown or holder D, fitting said rods and adapted to slide up and down thereon, substantially as specified.

4. The combination of the frame or lamp-support E, the guide-rods I, fixed at the upper ends in said frame or support and extending downward, and provided at the lower ends with heads, and the crown or holder D, fitting said rods and movable up and down thereon, substantially as specified.

260,593. CAR-WHEEL. EDWARD B. HEATYARD, Geneva, Wis. Filed Apr. 22, 1882. (No model.)



Claim.—A car-wheel formed of a tire having the annular web *a* and the two-part body B, the latter consisting of two centrally-apertured disks, *b b*, enlarged to form a hub, curved from thence to the outer rim, and having radial slots *c*, substantially as shown and described.

260,594. GEOMETRICAL PUZZLE. EDMUND MUNNS, Milwaukee, Wis. Filed Mar. 30, 1882. (No model.)



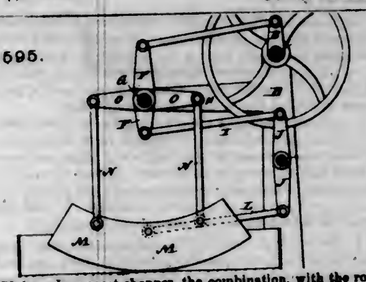
Claim.—1. In puzzles, the chart herein described, provided with the various symmetrically-shaped figures illustrated thereon, substantially as and for the purpose specified.

2. In puzzles, the peculiar-shaped movable blocks represented by figures from 1 to 9, respectively, said blocks being of the same relative sizes shown, substantially as and for the purpose set forth.

3. The puzzle herein described, consisting of the movable blocks of the shapes and relative sizes shown, and the chart representing the various symmetrical figures which said blocks are adapted to form, substantially as set forth.

260,595. MEAT-CUTTER. ADAM METZ, Burlington, Iowa. Filed Mar. 21, 1882. (No model.)

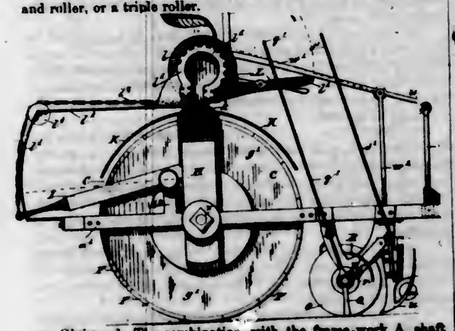
260,595.



Claim.—In a meat-chopper, the combination, with the rocking knife M, of the rods N, the shaft G, the arms O and F, at right angles to each other on this shaft G, the rods E, I, and L, the shafts A and K, the arm J, and the crank B, substantially as herein shown and described, and for the purpose set forth.

260,596. COMBINED REVOLVING PLOW OR SPADER AND ROLLER. ENOS M. MILES, Lawrence, Kans. Filed Sept. 24, 1881. (Model.)

Brief.—The spades are connected by springs with flanged disks upon the axle, and are provided with rollers, which work upon shifting disks, the latter being connected with a lever, by which they may be raised or lowered, whereby the depth of penetration of the spades may be regulated, or the spades retracted within the cylinder, so as to form a roller. The spader-shaft has screw-threaded ends, on which are screwed supplementary roller-shafts, the latter being adapted to be detached, so that the machine may be converted into either a single roller or spader, a spader and roller, or a triple roller.



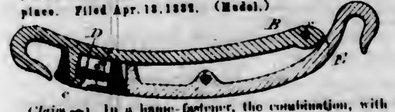
Claim.—1. The combination, with the frame-work A, shaft B, disks D, spades K, and slots F, of the collars *c*, provided with flanges *c'*, springs *c²*, disks G, having arms *g'*, and lever I, substantially as and for the purposes specified.

2. In a spader, the combination, with the disks G, lever I, and cover K, of the lever L, support *h*, chain P, support P, pulley P, and rack P, substantially as described, whereby the spades may be adjusted to any desired depth of thrust, as set forth.

3. In combination with the cylindrical body of the spader and its shaft B, the rollers V V, supplementary roller-shafts X, screwed on shaft B, and having flanges *x* and nuts *x'*, all arranged as shown and described.

4. The combination, with the shaft B, disks G G, and lever I, of the arms *g'*, having slots *g'*, and the dust-boxes H, having side openings, *h h'*, all as shown and described.

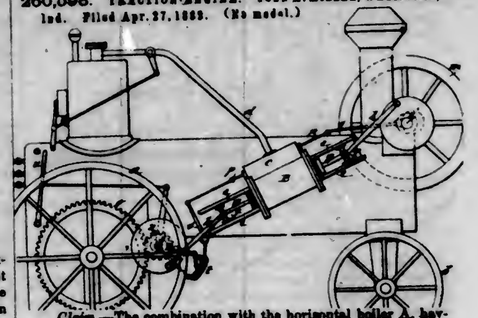
260,597. BANE-FASTENER. DAVID G. MILLER, South Frankfort, Mich., assignor of one-half to Christian C. Miller, same place. Filed Apr. 19, 1882. (Model.)



Claim.—1. In a bane-fastener, the combination, with the hinged shank B, of the lever E, pivoted to the case at the point on the lever E stated and described, and provided with the vertical end bearing, all substantially as shown and described.

2. The catch C, in combination with the hinged shank B, the locking device D, the lever E, pivoted as shown, and provided at its inner end with a vertical bearing, and case A, all in combination substantially as described, and for the purpose specified.

260,598. TRACTION-ENGINE. JOHN A. MILLER, Wadesville, Ind. Filed Apr. 27, 1882. (No model.)



Claim.—The combination with the horizontal boiler A, having an inclined cylinder, B, on each side, with a steam-chest, *e*, connected with the steam-dome by a pipe, *d*, of the slides *f* on ways *e*, the piston-rods *g*, the rods *h h*, the crank-shafts *i i*, the balance-wheel *m*, the pinions *n n*, and the gear-wheels *o* on sleeves o^2 of wheels *u*, whereby the engine may be used as a stationary or traction motor, as described.

260,599. STEAM-TRAP. RASMUS MORTENSEN, Milwaukee, Wis. Filed Apr. 20, 1882. (No model.)



Claim.—1. In a steam-trap, a secondary reservoir supported upon pivotal bearings in connection with the main reservoir or chest, and communicating therewith by open passages, through which water passes from the main reservoir to said secondary reservoir, said secondary reservoir being adapted to be actuated by the gravity of the water thus received, whereby the steam and water valves communicating from said main reservoir to the boilers are opened, substantially as set forth.

2. In a steam-trap, a main reservoir or chest, a frame supported upon pivotal bearings, in combination with said main reservoir, a secondary reservoir supported upon one end of said frame, provided with steam and water passages communicating with said main reservoir or chest, and a counterpoise supported upon the opposite end of said frame, said counterpoise being adapted by its gravity to cause said secondary reservoir, when emptied, to rise, whereby the steam and water valves communicating from said main reservoir to said boiler are closed, substantially as set forth.

3. In that class of steam-traps the steam and water valves of which are opened by the gravity of water in a water-reservoir and closed by the gravity of a counterpoise, the combination of the oscillating frame J, lugs *d d*, pawls O and P, arms C', crank B', bar A', lever G, and float F, one of said pawls being adapted to lock said frame when the secondary reservoir is filling and the other when it is emptying, said float being adapted to disengage said pawls from said frame at the proper time for opening and closing the steam and water valves, substantially as set forth.

4. The pawls O and P, provided with latches G and spring H, in connection with slide F, lugs *d d*, and frame J, as set forth.

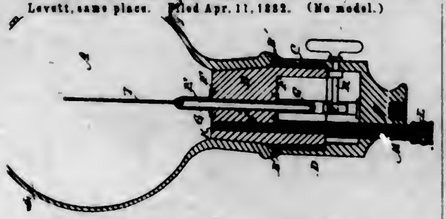
5. The combination of the valves Q and R, valve-rods S S, rod T, provided with slot W, arm V, and oscillating frame J, being adapted as it oscillates to open and close said valves, as set forth.

6. The device for connecting and simultaneously operating the valves Q and R, consisting in the combination of rods S S and T, said rods S being loosely socketed into said rod T, and springs *a* and *b*, said springs being adapted to draw said valves toward each other and into their seats, thereby counteracting the effects of expansion, as set forth.

7. The combination, with the reservoir A, of frame J, adjustable counterpoise M, pipes H and I, reservoir E, said pipes being connected with said reservoir A by hollow movable joints, frames K K, and pivots L L, as set forth.

8. The combination, with the reservoir A, of the inlet steam-passage C and outlet water-passage D, said passages being provided with valves Q and R, as set forth.

260,600. ELECTRIC INCANDESCENT LAMP. HANS J. MÜLLER, New York, N. Y., assignor to himself and Alexander Levett, same place. Filed Apr. 11, 1882. (No model.)



Claim.—1. An incandescent electric lamp made, substantially as herein shown and described, with carbon conductors passing through the glass stopper or plug of the globe or bulb for the purpose of preventing the formation of apertures for the access of air by the expansion and shrinkage of these conductors, as set forth.

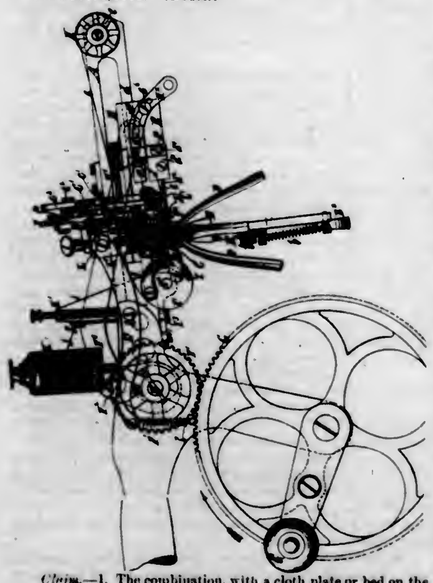
2. In an electric lamp, the combination, with the plug B, of the carbon conductors E, passing through it, the rings F in the ends of the plug, and the layer of precipitated metal around the projecting ends of the carbons and the projecting parts of the rings F, substantially as herein shown and described, and for the purpose set forth.

3. In an electric lamp, the combination, with the globe A, the plug B, and the base D, of the carbon conductors E in the plug, the contact strips P, and the key R, substantially as herein shown and described, and for the purpose set forth.

4. In an electric lamp, the combination, with the globe A, of the plug B, the tube J, the plug K in the upper end of the aperture J', the mercury M, and the plug L in the lower end of the tube J, substantially as herein shown and described, and for the purpose set forth.

5. In an electric lamp, the combination, with the globe A, of the plug B, the tube J, the plug K in the upper end of the aperture J', the mercury M, the plug L in the lower end of the tube J, the sealing-wax N, and the rubber cap O, substantially as herein shown and described, and for the purpose set forth.

260,601. CARPET-SEWING MACHINE. JOHN O'NEIL, New York, N. Y., assignor of one-third to Geo. F. Reed, same place. Filed Feb. 4, 1882. (Model.)



Claim.—1. The combination, with a cloth plate or bed on the top of which two pieces of material are to be supported in edge-to-edge contact, of a needle working horizontally over the apex of said plate or bed and adapted to penetrate the material obliquely to the face thereof, a thread-locking device, and operating mechanism for said needle and said thread-locking device, substantially as specified.

2. The combination of a cloth plate or bed on top of which two pieces of material are to be supported in edge-to-edge contact, a feed-wheel above said plate or bed, a needle working horizontally over the apex of said plate or bed, a thread-locking device, and operating mechanism for said feed-wheel, for said needle, and for said thread-locking device, substantially as specified.

3. The combination, in a sewing-machine, of a cloth plate or bed on top of which two pieces of material are to be supported in edge-to-edge contact, and which is capable of adjustment upward and downward relatively to all the other parts of the machine, a needle working horizontally over the apex of said plate or bed, a thread-locking device, and operating mechanism for said needle and said thread-locking device, substantially as specified.

4. The combination of the vertically-yielding cloth plate or bed on top of which two pieces of material are to be supported in edge-to-edge contact, and a spring for elevating said plate or bed, a needle working horizontally over the apex of said plate or bed, a thread-locking device, and operating mechanism for said needle and for said thread-locking device, substantially as specified.

5. The combination of the cloth plate or bed B, having a curved or arched apex, the lever B', the spring *b*, the feed-wheel C, the needle *d*², the thread-locking device, and operating mechanism for said feed-wheel, needle, and thread-locking device, substantially as specified.

6. The combination of the yielding cloth plate or bed on top of which two pieces of material are to be supported in edge-to-edge contact, a needle working horizontally over the apex thereof and adjustable upward and downward, a thread-locking device, and operating mechanism for said needle and for said thread-locking device, substantially as specified.

7. The combination of the yielding cloth plate or bed B, the feed-wheel C, the adjustable throat-plate M, the needle *d*², adjustable upward and downward, a thread-locking device, and operating mechanism for the said wheel, needle, and thread-locking device, substantially as specified.

8. The combination, with the cloth plate or bed adapted to support two pieces of material in edge-to-edge contact, of a needle working horizontally over the apex of said plate or bed, the oscillating hook, a guard plate or shield projecting beyond the nose of the hook, and operating mechanism for said needle and hook, substantially as specified.

9. The combination, with a yielding cloth plate or bed on top of which two pieces of material are to be supported in edge-to-edge contact, a needle working horizontally over the apex thereof, a feed-wheel, and a reciprocating presser above said plate or bed, a thread-locking device, and operating mechanism for said needle, feed-wheel, presser, and thread-locking device, substantially as specified.

10. The combination, with the yielding cloth-plate B, needle carrier or slide E, and hook I, of the driving-shaft F, wheel F', crank F⁶, and connecting-rod F⁵, for operating said carrier or slide, substantially as specified.

11. The combination, with the needle-carrier E, and shaft F, crank F⁶, and rod F⁵, of the feed-wheel C, and the lever *g*, pawl *g'*, ratchet-wheel *g*³, lever J, link *g*⁵, spring *h*, and adjusting-screw *i*, substantially as specified.

12. The combination, with the needle carrier or slide E and the crank F⁶ and rod F⁵, for operating it, of the feed-wheel C, the lever J, adapted to be actuated by the vibration of said rod, and mechanism through which a step-by-step motion is imparted from said lever to said feed-wheel, substantially as specified.

13. The combination, with the needle carrier or slide E and the crank F⁶ and rod F⁵, for reciprocating it, of the hook I, the shaft I', slotted arm I¹, and the pin *f* upon the needle carrier or slide engaging with said slotted arm, substantially as specified.

14. The combination, with the cloth plate or bed upon the top of which two pieces of material are to be supported in edge-to-edge contact, and the feed-wheel and mechanism for operating it, of a gage carried in front of said cloth plate or bed and said wheel and adapted to hold the edges of the pieces of material in proper relation to enter between said plate or bed and said wheel, substantially as specified.

15. The gage O, comprising channels *n* and set-screws *o*, substantially as specified.

260,602. WATER-CLOSET PAN. SIDNEY R. OSBORN, Brooklyn, N. Y., assignor of one-half to William Dean, same place. Filed May 16, 1882. (No model.)

Claim.—1. A water-closet pan having a concavo-convex bottom of non-corrosive material, which is fashioned into shape, with a lip clamped in an annular pocket or channel formed in the metallic part of the pan.

260,602.



2. A water-closet pan having a bottom composed of celluloid or collodion formed into a concavo-convex shape, with a lip which is clamped in an annular pocket or channel in the metal part of the pan.

3. In a pan for water-closets, the combination, with the metal part of the pan having an annular pocket or channel, of a celluloid bottom therefor fashioned into a concavo-convex form with an annular lip at its edge which is clamped in the pocket or channel, the joint being compressed, substantially as described.

4. A water-closet pan composed of a metal ring having the annular pocket or channel and lip, and the celluloid bottom suspended therefrom by a lip on its edge clamped in the pocket or channel of the ring, substantially as described.

260,603. MACHINE FOR STICKING AND SCALDING NAPS TO FELT HATS. SYLVESTER C. PALMER, South Norwalk, Conn., assignor to Ellen M. Palmer, same place. Filed May 6, 1882. (No model.)



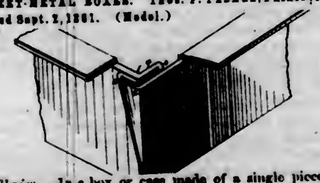
Claim.—1. A machine for sticking and scalding naps to felt hats, constructed substantially as herein shown and described, and consisting of the vat A, having partition B, the three large cylinders C, the two small cylinders F, the endless belt E, having cross-cleats J, the guide-rollers G H I, and the pressure-rollers L, and their hinged curved arms K, as set forth.

2. In a machine for sticking and scalding naps to felt hats, the combination, with the vat A, the rollers C, and the endless belt E, having cross-cleats J, of the smaller cylinders F, placed beneath the spaces between the cylinders C, and the guide-rollers G H, substantially as herein shown and described, whereby tapering loops will be formed in the endless belt to receive the hat-rolls, as set forth.

3. In a machine for sticking and scalding naps to felt hats, the combination, with the vat A, the cylinders C, the smaller cylinders F, placed beneath the center of the spaces between the cylinders C, and the endless belt E, having cross-cleats J, of the pairs of guide-rollers I, substantially as herein shown and described, whereby the loops of the said belt are contracted, as set forth.

4. In a machine for sticking and scalding naps to felt hats, the combination, with the vat A, the cylinders C, the smaller cylinders F, placed beneath the centers of the spaces between the said cylinders C, and the endless belt E, having cross-cleats J, of the pressure-rollers L and their hinged curved arms K, substantially as herein shown and described, whereby pressure will be applied to the hat-rolls while being operated upon by the cleats of the endless belt, as set forth.

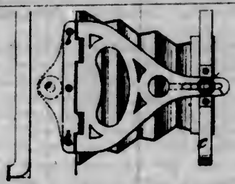
260,604. RE-ENFORCING THE CORNERS OF SEAMLESS SHEET-METAL BOXES. THOS. F. PALMER, Painesville, Ohio. Filed Sept. 2, 1881. (Model.)



Claim.—In a box or case made of a single piece of sheet metal, the contiguous sides extended around each corner and connected at the ends by a continuation of the surplus metal between the extensions, thus forming three thicknesses of metal around each corner, as shown and described.

260,605. PHOTOGRAPHIC CAMERA. H. CLAY PRICE, Montclair, N. J., assignor to the Scovill Manufacturing Company, Waterbury, Conn. Filed Jan. 11, 1882. (No model.)

260,605.



Claim.—1. The combination, with a camera-body composed of a shallow box and an extensible portion, to which the front is attached, of a frame connected to the said box and front, whereby the extensible portion may be contracted within the box and the frame laid across the front, substantially as specified.

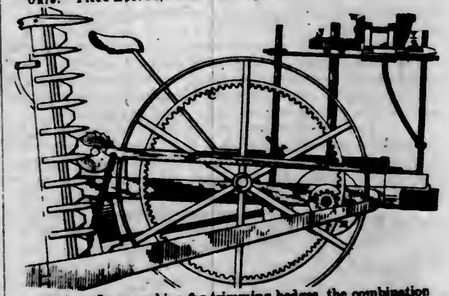
2. The combination, with a camera-body composed of a shallow box and an extensible portion, to which the front is attached, of two frames hinged to the sides of the box and connected to the front of the camera-body, so that the extensible portion may be contracted within the box and the frames folded across the front, substantially as specified.

3. The combination, with a camera-body composed of a shallow box and an extensible portion to which the front is attached, of two frames hinged to the sides of the box, so that when the extensible portion is contracted they may be folded across the front, and means whereby the front is connected to them, so as to afford the front an adjustment forward and backward, substantially as and for the purpose specified.

4. The combination, with a camera-body composed of a shallow box and an extensible portion, to which the front is attached, of two frames connected to the sides of the box by hinges in such manner that they may be folded across the front of said box and that they will admit of an upward and downward movement of said front, substantially as specified.

5. The combination, with a camera-body composed of a shallow box and an extensible portion, to which the front is attached, of two frames hinged to the sides of the box, so that they may be folded across it, and means connecting them to the front, so as to afford an adjustment of the latter at different angles, substantially as specified.

260,606. HEDGE-TRIMMER. GEORGE REED, Jr., Fremont, Ohio. Filed Apr. 24, 1882. (No model.)



Claim.—In a machine for trimming hedges, the combination of an operating mechanism, the standards T, and vertically-adjustable frame, the hinged cutter-bar being supported in position by means of the adjustable brace, the parts being arranged to operate substantially as set forth.

260,607. SUSPENDERS. JOHN A. RENDIN, Montreal, Quebec, Canada, assignor of one-half to John Alexander McGregor, same place. Filed Nov. 16, 1881. (No model.)



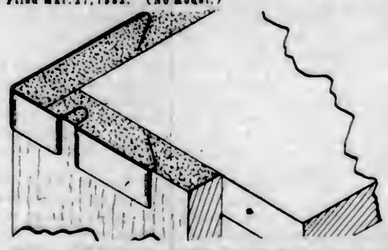
Claim.—In a brace or suspender, the shoulder-straps A B, arranged to have their back ends fastened to the center or side buttons of the trousers and provided with pulleys C D at their front ends, in combination with cords A' B', furnished with loops or button-holes *a b a' b'* at their ends, for attachment to front and back buttons, respectively, and passing through said pulleys C D and over supplementary pulleys C' D', attached to the shoulder-straps near their back ends, substantially as and for the purpose set forth.

anism for said needle and thread-locking device, substantially as specified.

2. The combination of a cloth plate or bed on top of which two pieces of material are to be supported in edge-to-edge contact, a feed-wheel above said plate or bed, a needle working horizontally over the apex of said plate or bed, a thread-locking device, and operating mechanism for said feed-wheel, for said needle, and for said thread-locking device, substantially as specified.

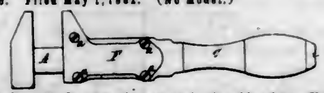
3. The combination, in a sewing-machine, of a cloth plate or bed on top of which two pieces of material are to be supported in edge-to-edge contact, and which is capable of adjustment upward and downward relatively to all the other parts of the machine, a needle working horizontally over the apex of said plate or bed, a thread-locking device, and operating mechanism for said needle and said thread-locking device, substantially as specified.

260,608. BOX CLAMP OR FASTENING. OLIVER P. RETSOUR, Rochester, N. Y., assignor to Thomas H. Groves, same place. Filed Mar. 27, 1882. (No model.)



Claim.—A box-clamp of thin strap or sheet metal, having end hooks or claws, and one or more intermediate hooks or claws near the center for starting the central portion of the clamp into the wood and holding it in place while being driven, as herein shown and described.

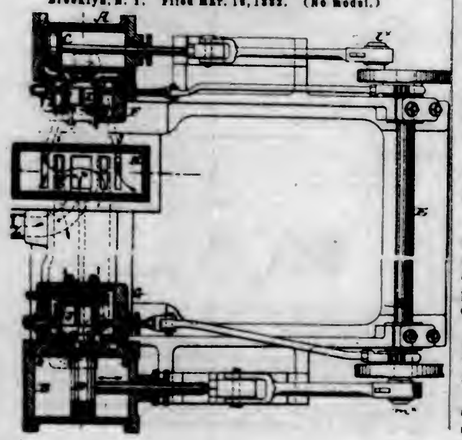
260,609. MONKEY-WRENCH. CHARLES RICHARDS, Cleveland, Ohio. Filed May 1, 1882. (No model.)



Claim.—1. In a monkey-wrench, the side plates, F G, provided with a groove inclosing loosely the shank A, and so fastened together as to cover the sides and edges of said shank, arranged to slide within the groove by means of the screw-stem threaded into the handle, substantially as and for the purpose specified.

2. In a monkey-wrench, the side plates, F G, surrounding the shank and provided with a groove for said shank and attached to the handle by a jointed connection of an annular groove and collar, in combination with the shank and stem threaded into the handle, substantially as described, and for the purpose set forth.

260,610. COMPOUND STEAM-ENGINE. FERDINAND ROCHOW, Brooklyn, N. Y. Filed Mar. 16, 1882. (No model.)



Claim.—1. The combination of two or more steam-cylinders with a steam-supply chest, H, and connecting-channels, and with a valve, N, placed in said chest H, and provided with connecting cavities or channels, whereby to let the steam into one of said cylinders directly, and take it from that into the other cylinder or cylinders expansively, or let it into all of the cylinders directly at the same time, as set forth, said chest H communicating with the atmosphere beneath the valve N, substantially as specified.

2. The steam-cylinder A and its chest F, ports *a b f*, and channels *g i*, combined with the chest H, having ports *j m p o h*, with the valve N, having cavities *r* and passage *q*, and with the cylinder B, having ports *d e* and channels *l n*, all arranged substantially as and for the purpose herein shown and described.

3. The reversing-valve N, constructed with four lips formed by its cavity *r* and passage *q*, in combination with the chest H, having ports *j m p o h*, and with the chests I and J and pipe L, all arranged substantially as described.

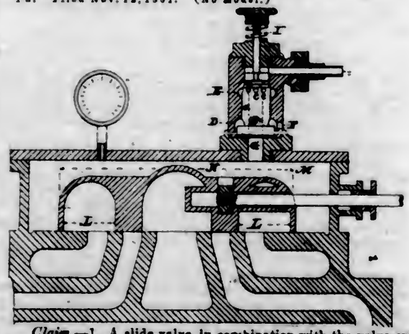
4. The steam-cylinders A and B, made without direct connection with the atmospheric air in their respective valve-chests, and provided each with its own slide-valve, and with two channels leading to a third valve-chest, H, within which chest H the connection of one or both of said cylinders with the atmosphere can be established by a separate valve, N, substantially as described.

260,611. WATER-WHEEL. JOHN B. RUTHERFORD, Netawaka, Kans. Filed Apr. 15, 1882. (No model.)



Claim.—The cylinders or wheels combined with and each eccentrically hung in each of two compartments of a double-cylinder casing, having a common supply-pipe, and discharge-openings arranged at distant points in the circumferences of the said compartments, substantially as and for the purpose specified.

260,612. BALANCED SLIDE-VALVE. EDWIN ROUD, Altoona, Pa. Filed Nov. 12, 1881. (No model.)



Claim.—1. A slide-valve, in combination with the valve-cylinder A, for regulating the pressure on the back of said valve, said cylinder being provided with a passage through it and a valve, O, at the small end of said cylinder, the area of the large end of cylinder A being in the same proportion to the small end of the cylinder as the area of said slide-valve is in proportion to that of the ports which it covers and moves, substantially as set forth.

2. The combination, with the valve-cylinder A, having its smaller end, *a*, provided with a valve, O, and a passage, B, in said cylinder, of the grooves D E, passage F, and steam-chest M, having slide N and ports L, substantially as set forth.

3. The combination, with a valve-cylinder of different diameters, as stated, the small end thereof comprising a valve, O, and provided with a passage, B, and holes C, opening into said passage, of the grooves D E, hole G, steam-chest M, having slide N and ports L L, and devices for regulating the pressure within the steam-chest, substantially as specified.

4. A slide-valve, in combination with a regulating-valve cylinder located in the passage leading thereto, said cylinder consisting of a larger and a smaller portion, and provided with a valve and passage, substantially as set forth.

5. Screw-threaded rod H and its nut, in combination with spring I, valve O, regulating-cylinder A, having passage B, and the slide-valve, substantially as set forth.

260,613. TANNING APPARATUS. JULIUS J. SCHMITT, St. Louis, Mo., assignor to George E. Schmitt, same place. Filed Apr. 28, 1881. (No model.)



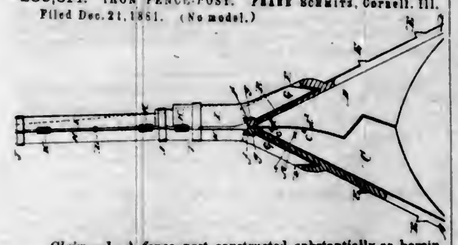
Claim.—1. The combination, in the vat A, of the shaft E, the disks C D, and the bars G, the latter being detachable from the disks, for the purpose described.

2. The combination of the vat A, the shaft E, the disks D C, the detachable bars G, and the belt N, substantially as described.

3. The combination of the vat A, the wheel B, the belt N, the pulley I, the shaft J and the standards K K, substantially as described.

4. The combination of the vat A, the wheel B, having the end disks, C C', and the central disk, D, the detachable bars G, and the belt N, substantially as described.

260,614. IRON FENCE-POST. FRANK SCHMITS, Cornell, Ill. Filed Dec. 21, 1881. (No model.)



Claim.—1. A fence-post constructed substantially as herein shown and described, and consisting of the inclined plates A B, the upright parts H I, and the bands J, as set forth.

2. In a fence-post, the inclined base-plates A B, constructed with interlocking webs C D, substantially as herein shown and described, whereby the said plates are strengthened and prevented from separately rising, as set forth.

3. In a fence-post, the interlocking base-plates A B, provided with the cross-ribs E on their outer sides, substantially as herein shown and described, whereby the said plates are prevented from rising, as set forth.

4. In a fence-post, the base-plates A B, provided with sockets F upon the outer sides of their upper ends, substantially as herein shown and described, whereby the said plates are adapted to receive the upright parts of the post, as set forth.

5. In a fence-post, the combination, with the base-plates A B, having sockets F, of the uprights H I, having inclined feet G, substantially as herein shown and described, whereby the said uprights will be firmly supported, as set forth.

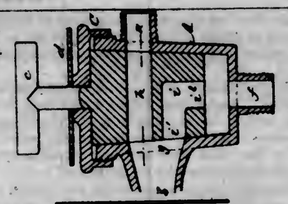
6. In a fence-post, the combination, with the base-plates A B and the uprights H I, of the bands J, substantially as herein shown and described, whereby the base-plates and uprights are securely bound together, as set forth.

7. In a fence-post, the combination, with the base-plates A B, provided with the sockets F and ribs *f*, of the uprights H I, provided with the feet G and the grooves *g*, substantially as herein shown and described, whereby the said feet are held from being drawn out of the said sockets, as set forth.

260,615. FAUCET. JOHN H. SHADDUCK, Hempstead, N. Y. Filed Apr. 20, 1882. (No model.)

Claim.—The combination, with the barrel A, of the faucet having a taper seat and elongated or enlarged general delivery opening *g*, the nozzle *b*, and cold and hot water inlets *e f*, of the taper rotating plug B, provided with an upper through transverse passage, *h*, and with a lower passage, *i*, having two one-sided terminal openings *i' i''*, at right angles or thereabout, with each other, and a bottom opening, *i'''*, substantially as and for the purposes herein set forth.

260,615.



260,616. CURTAIN-FIXTURE. AI B. SHAW, Medford, Mass. Filed Nov. 16, 1881. (No model.)

Brief.—The roller and slat are provided with a graduated scale of measurement as a guide in cutting and fitting the roller to its place.



Claim.—As a new article of manufacture, a shade roller or slat provided with a graduated scale of measurements as a guide in cutting and fitting to windows, substantially as and for the purpose set forth.

260,617. ELEVATED AUTOMATIC RAILWAY. WILLIAM F. SHERMAN, Chicago, Ill. Filed Nov. 5, 1881. (No model.)



Claim.—1. In an elevated railway, the combination, with the vertically-broad elevated track, A, of the suspended car C, having upper and lower grooved wheels fitted to the edges of the track, substantially as described, and for the purposes stated.

2. In an elevated-railway carrying-structure, a car provided with a hinged bottom and with mechanism for detachably holding the bottom closed, combined with automatic mechanism for closing the bottom after the load is discharged, substantially as described.

3. In an elevated-railway carrying-structure, the combination, with a car having a hinged falling bottom and provided with a detachable automatic catch for supporting the bottom, of a stationary roller, L, or its equivalent, arranged in position to take the weight of the car, and means for releasing the catch which supports the bottom, arranged to act while the weight is upon the roller, substantially as described.

4. In combination with the elevated track A and a cam, I, the suspended car C, having the hinged bottom *c'*, provided with a projection, *c*, and having the hooked lever C' arranged to engage said projection and to strike the cam, substantially as and for the purposes stated.

5. In the hinged bottomed car having the vibrating spring-actuated hooked lever C' arranged to engage the car-bottom, the combination, with said lever, of the supplemental levers C' and C', provided with hooks depending below said lever C' and connected therewith, substantially as and for the purposes set forth.

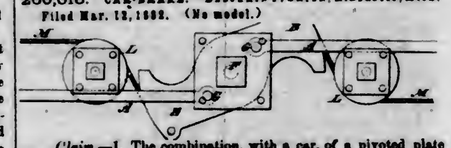
6. In an elevated-railway carrying-structure, the suspended car having a hinged bottom and detachable fastening for the same, and a spring, *c'*, or its equivalent, arranged to raise the car-bottom after the load has been discharged, substantially as described.

7. In combination with the track A, and with the frame of the suspended car C, the adjustable and removable bumper H, secured to the track, substantially as and for the purposes set forth.

8. The bumper described, consisting of the casting H, recessed to set over the rails, and provided with grooves *h h*, combined with the broad key H', whereby the bumper may be detachably held to the rail, substantially as described.

9. In the structure described, the combination, with the suspended car having a hinged bottom and a locking-lever, C', of the cam I, fixed to the track-rail, substantially as described, and for the purposes set forth.

260,618. CAR-BRAKE. BENJAMIN F. SMITH, Alabaster, Mich. Filed Mar. 13, 1882. (No model.)



Claim.—1. The combination, with a car, of a pivoted plate on the bottom of the same, longitudinally-sliding bar or rods piv-

oted to this plate and adapted to be operated by the adjacent car, and of ropes or chains attached to this plate and to the brakes, substantially as herein shown and described, and for the purpose set forth.

2. The combination, with a car, of a pivoted plate on the bottom of the car, longitudinally-sliding bars or rods pivoted to this plate and adapted to be operated by the adjacent car, ropes or chains attached to this pivoted plate and to the brakes, and of pulleys for guiding these ropes and chains, substantially as herein shown and described, and for the purpose set forth.

3. The combination, with a car, of the pivoted plate E, the bars or rods A, pivoted thereto, the springs C, and the ropes or chains M, attached to the plate E and to the brakes, substantially as herein shown and described, and for the purpose set forth.

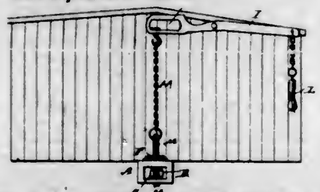
4. The combination, with a car, of the pivoted plate E, the rods or bars A, the ropes or chains M, attached to the plate E and to the brakes, and of the pulleys L and O, substantially as herein shown and described, and for the purpose set forth.

5. The combination, with a car, of the pivoted plate E, of the ropes or chains M, the bars or rods A, and devices for shortening these bars or rods A, substantially as herein shown and described, and for the purpose set forth.

6. The combination, with a car, of the pivoted plate E, of the ropes or chains M, the bars or rods A, and devices for shortening the bars or rods if the brake device is not to be operated, substantially as herein shown and described, and for the purpose set forth.

7. The combination, with a car, of the pivoted plate E, the ropes or chains M, the rods or bars A, the sleeve or tubular piece D, for receiving the adjoining ends of two sections of rods or bars A, and of the key B, substantially as herein shown and described, and for the purpose of adjusting the length of the rods, as set forth.

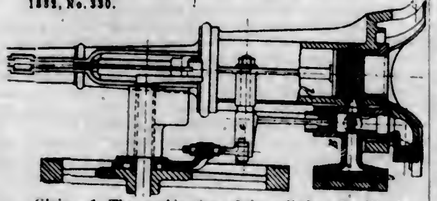
260,619. CAR-COUPLING. JOHN HENRY SMITH, Fairchild, Wis. Filed May 13, 1882. (Model.)



Claim.—1. The combination, with the draw-head A, of the coupling-pin M, the chains H and K, and the lever I, pivoted on the end of the car and provided with a handle, J, at its inner end, substantially as herein shown and described, and for the purpose set forth.

2. The combination, with the draw-head A, of the sliding bolt C, the spring E', the coupling-pin M, the chains H and K, the handle L, and the lever I, pivoted to the end of the car and provided with a handle, J, at its inner end, substantially as herein shown and described, and for the purpose set forth.

260,620. GAS-ENGINE. CHARLES MAX SOMBART, Magdeburg, Germany. Filed June 13, 1881. (No model.) Patented in Germany Oct. 26, 1881, No. 14,080, and in England Jan. 25, 1882, No. 330.



Claim.—1. The combination of the cylinder of a Bisschop gas-engine with a slide-valve casing, B, cast separately therefrom, and having projecting annular faced surfaces, as and for the purpose described.

2. The combination of the air-inlet of a gas-engine and rubber valve with a protecting perforated disk, *e*, in the air-chamber, substantially as set forth.

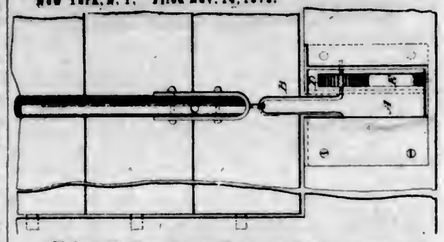
260,621. PRINTER'S QUOIN. OTTO C. SPAINDER, Cleveland, Ohio. Filed Mar. 11, 1882. (Model.)

Claim.—1. A printer's quoin in which two laterally movable and grooved wedges, A B, having the projections *e k* and connections a^2 b^2, are combined with a third ribbed wedge, C, of less height but longer than the others, and having stops or lugs *d*, as shown and described.



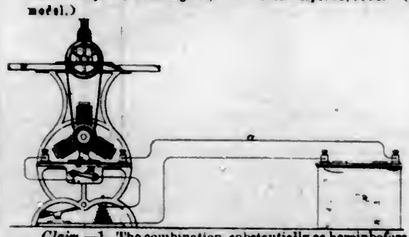
2. The combination, with the wedge A, of the wedge B, having on its inner side the rack *f*, and the central wedge, C, having the round holes *g*, as shown and described, whereby the wedge C may be driven home between the other two wedges by a key having a spindle, *h*, and pinion *i*, as shown and described.

260,622. BLIND-SLAT ADJUSTER. GEORGE W. SPRINGSTED, New York, N. Y. Filed Nov. 14, 1878.



Claim.—The looped lever B, adapted to engage with an oblong recess in socket C upon the slat-rod, and having its lower ends bent at right angles, one of which carries ratchet-wheel D, in combination with spring E, case A, mortised in the frame, and cap F, substantially as described.

260,623. MEANS FOR CONTROLLING ELECTRIC MOTORS. ELI T. STARR, Philadelphia, Pa., assignor of one-half to William J. Peyton, Washington, D. C. Filed Apr. 11, 1882. (No model.)



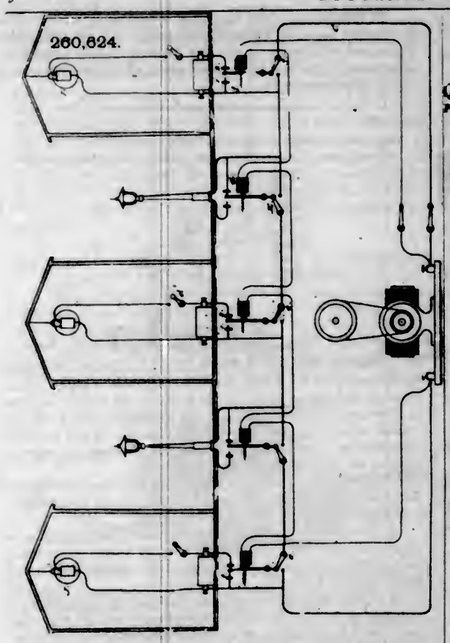
Claim.—1. The combination, substantially as hereinbefore set forth, of an electric circuit, an expansible and contractible spring resistance-coil to control the resistance of said circuit, and a pivoted treadle or lever movable in one direction on its pivotal connection to contract said spring-coil by pressure, while free to be returned to its normal position by the resilience of said spring when the pressure thereon is removed.

2. The combination, substantially as hereinbefore set forth, of an electric circuit, an electric motor connected in said circuit, a machine to be driven by said motor, an expansible and contractible spring resistance-coil forming part of said circuit, so as to control the resistance thereof, and a pivoted treadle movable in one direction on its pivotal connection to contract said spring-coil by pressure, while free to be returned to its normal position by the expansion of said spring when the pressure thereon is removed.

3. The combination, substantially as hereinbefore set forth, of an expansible and contractible resistance device, a guide therefor, and a pivoted treadle or lever connected with said device by a slotted or sliding connection, whereby the contraction and expansion of said resistance device takes place in a right line, notwithstanding the movement of the treadle around its pivot.

4. The combination, substantially as hereinbefore set forth, of an electric circuit, an expansible and contractible resistance device to control the resistance of said circuit, and a treadle or rest normally out of contact with said resistance device, so as to break said circuit, while capable of operation to close said circuit, and also determine the resistance to be offered to the passage of the current.

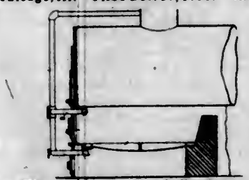
260,624. ELECTRIC LIGHTING. ELI T. STARR, Philadelphia, Pa., and WILLIAM J. PEYTON, Washington, D. C. Filed May 10, 1882. (No model.)



Claim.—1. The combination, substantially as hereinbefore set forth, of a dynamo-electric machine or generator, a secondary battery to be charged by said generator, an electric lamp to be run directly by the current of said generator, and switch mechanism for determining whether the current of said generator shall flow through the battery or through the lamp, whereby during the charging of said battery no light is given out at said clamp.

2. The combination, substantially as hereinbefore set forth, of a dynamo-electric machine or generator, a series of independent secondary batteries to be charged by said generator, a series of electric lamps to be run directly by the current of said generator, and switch mechanism for determining whether the current of said generator shall flow through said batteries or through said lamps, whereby during the charging of said batteries no light is given out at said lamps.

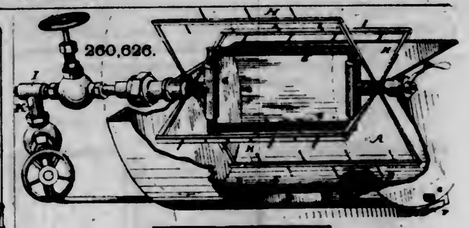
260,625. SMOKE-PREVENTING FURNACE. EDWARD R. STRUB, Chicago, Ill. Filed Dec. 27, 1881. (No model.)



Claim.—The combination, in a boiler-furnace, of a transverse steam-pipe just above the fuel-door, provided with downwardly-tending perforations, and a transverse steam-pipe placed beneath the front support of the grate and having perforations arranged in line with the interstices between the grate-bars, in combination with a fuel-door uniformly perforated throughout, and a solid fuel-door to shut off the air from the combined steam and air blast, all substantially as and for the purpose set forth.

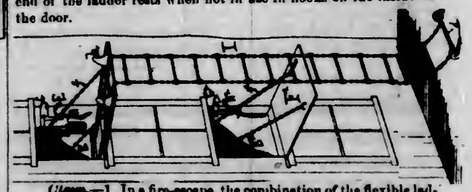
260,626. FEATHER-RENOVATOR. SAMUEL TATE, Sandusky, Ohio. Filed Apr. 18, 1883. (No model.)

Claim.—The combination, in a feather-renovator, of the receptacle A, the chamber C, formed by the partition B, the screened opening or chamber D, formed through the center of chamber C, the steam-pipe G, leading to the receptacle A, the branch pipe K, leading to chamber C, and the rake H, secured to the pipe G, substantially as shown and described.



260,627. FIRE-ESCAPE. JOSEPH H. TOWNSEND and EDWARD A. DUBBY, Brooklyn, N. Y. Filed Mar. 23, 1882. (No model.)

Brief.—When the combustible releasing-cord is burned the weight falls, releasing the latch which holds the door closed. A spring fastened in the recess tends to hold the latch down, but when the latch is removed pushes the door down. The roll on the lower end of the ladder rests when not in use in hooks on the inside of the door.



Claim.—1. In a fire-escape, the combination of the flexible ladder I with the swinging door F, having hooks A, chamber E, rod *g*, lever G, having toe *d*, spring H, and rod *e*, substantially as described.

2. The spring H, combined with the catch-lever G and with the door F, and arranged to bear on the catch-lever to hold the door closed and to throw the door open when the outer end of the catch is swung up, substantially as set forth.

3. The combination, in a fire-escape, of the door F, chain I, catch-lever G, weight *k*, which is connected with said catch-lever, and combustible cord *m*, substantially as and for the purpose specified.

4. The wall A, having recess E and rod *g*, combined with the door F, catch G, ladder I, and with the lower door, F^2, and catch G^1, substantially as herein shown and described.

260,628. NUT-LOCK. MARSHAL WALLACE, Little Rock, Ark., assignor of one-half to Dudley E. Jones, same place. Filed Mar. 30, 1882. (No model.)



Claim.—1. A nut-lock consisting of the nut C, the exterior of which is tapering and non-circular, as described, and formed at the smaller end with two or more slots extending in the direction of the length of the nut, and the clamping-collar D, with a corresponding tapering and non-circular opening adapted to fit over the smaller end of the nut, said parts being combined for the joint operation, as stated.

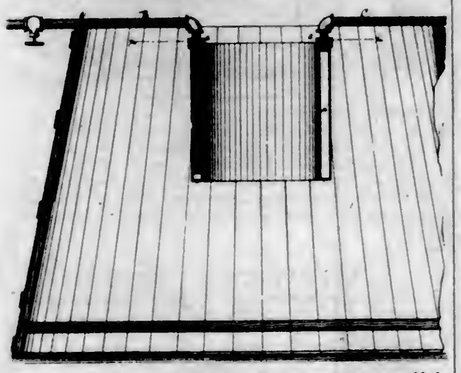
2. The combination, with a bolt, of the tapering nut C, having slots or incisions *b* at the smaller end, clamping-collar D, fitting on the nut, and means for causing the nut to turn by turning the collar, whereby the collar compresses the incised parts against the threads of the bolt when in contact with the material to be bolted to lock the nut from working loose, as set forth.

260,629. ORNAMENTED BIRD-SKIN. AUGUSTUS H. WARD, New York, N. Y. Filed May 24, 1882. (No specimens.)



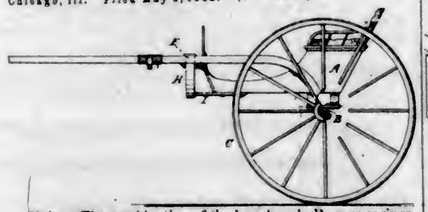
Claim.—As a new article of manufacture, a bird-skin having its inherent covering of feathers or down ornamented with attached supplementary feathers of different color from those composing said covering, substantially as and for the purpose described.

260,630. COOLER FOR BEER AND OTHER LIQUIDS. ALBERT ZOLLER, New York, N. Y. Filed May 8, 1882. (No model.)



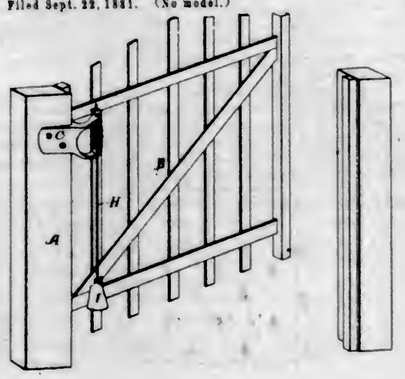
Claim.—The combination, with the cooling-cylinder provided with the annular space closed at the top and bottom by annular heads, of the supply-pipe B, composed of a horizontal branch and a vertical branch extending through the upper head of the cylinder into the annular space thereof, and the horizontal overflow-pipe C, also connected with the upper head of the cylinder, said horizontal portions of the supply and overflow pipes being arranged opposite each other in the same horizontal plane and adapted to rest directly on the top edge of the tun, and thereby suspend the cooling-cylinder centrally within the same, substantially as described.

260,631. TWO-WHEELED VEHICLE. ARTHUR A. ABBOTT, Chicago, Ill. Filed May 8, 1882. (No model.)



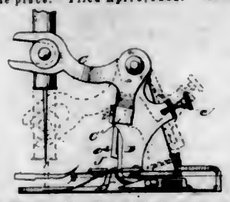
Claim.—The combination of the box A, axle B, cross-springs G G', spring H, and cross-bar E, substantially as shown and described, and for the purposes set forth.

260,632. SHEAVE-PULLEY FOR GATES. CHARLES E. ACKERMAN, Atlanta, Ga., assignor of one-half to R. Wolfe, same place. Filed Sept. 22, 1881. (No model.)



Claim.—A gate-pulley consisting of bracket C, having arms D, in which is placed sheave E, with pulley G, journaled in said sheave, and set-screw F, to allow of the ready fitting together or adjustment or removal of the several parts, all substantially as and for the purposes set forth.

260,633. COMBINED RUFFLER AND SCALLOP-PLAITER. JOHN AMADEN, Bryan, Ohio, assignor of one-half to Sidney M. Gleason, same place. Filed Apr. 5, 1882. (No model.)



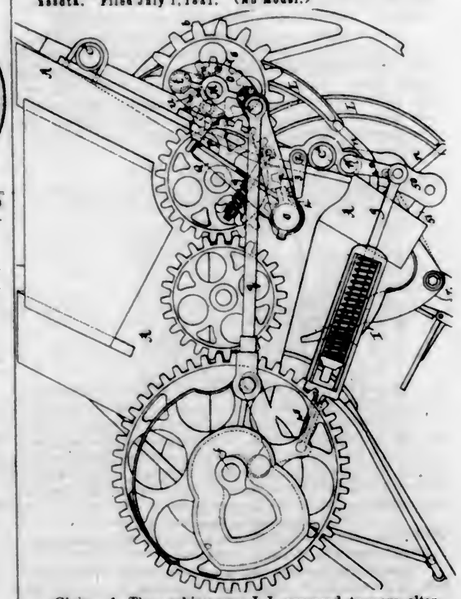
Claim.—1. The combination, with the spring-tongue E, swing-bar D, having the projection *i* and adjusting-screw *e*, and the mechanism to operate the reciprocating guide, of the lever C, adapted to be connected to the needle-nut, and having the arms C' C², one capable of striking the projection *i* of swing-bar D and the other operating the pawl of the guide-operating mechanism, substantially as and for the purpose set forth.

2. The combination of the strip-guide with the curved guide rod or rail and mechanism to reciprocate it back and forth thereon, substantially as and for the purpose set forth.

3. The combination of the scalloping and plaiting guide with the curved guide-rail, the pitman, the shaft having a crank-arm and a ratchet, the pawl, and bifurcated lever, substantially as and for the purpose specified.

4. The combination of the base-plate having an upright, the swinging bar having the curved spring-tongue and the adjusting-screw, the lever, the strip-guide, the curved guide-rail, the pitman, the ratchet having an eccentric or crank arm, and the pawl, substantially as and for the purpose set forth.

260,634. GRAIN-BINDER. JOHN P. APPLEBY, Minneapolis, Minn., assignor to the Minneapolis Harvester Works, of Minnesota. Filed July 1, 1881. (No model.)



Claim.—1. The packing-arms L L, arranged to move alternately in the same direction and in substantially the manner described, in combination with the two cranks N N, having a common axis of motion.

2. A needle-arm, K, arranged to vibrate between the two cranks N N, and having its guard T, spanning the axis of motion of said cranks, as set forth.

3. Packing-arms L, L, adapted to work through the floor of the grain-chute in the manner described, and formed or provided with projections *e e* at their upper edges, adapted to operate in the manner and for the purpose described.

4. A yielding or distensible pitman or connecting-rod, 48, formed of two parts, held together endwise by a spring, as set forth, in combination with the cam and lever for actuating it, and the fingers I I, and intermediate devices, through the medium of which said pitman operates the said fingers, all substantially as set forth.

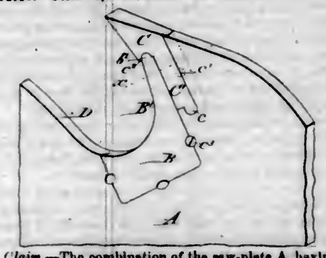
260,635. ROAD-SCRAPER. JOSEPH ASHENFELTER, Blue Springs, Nebr. Filed Feb. 9, 1882. (No model.)

Brief.—Composed of wooden sides extended at rear into handles and forward into flanges, which are overlapped by the side cutters of a steel shovel bolted thereto. The shovel with an inclined rear wooden portion forms the bottom of the scraper. The bail having rear S-shaped bends is pivoted to the side cutters. A wooden back is bolted between the wooden sides.



Claim.—The improved road-scraper herein shown and described, composed of the sides A' A A', back B, inclined bottom C, steel shovel D, bent to form the side cutters, D' D', and bail E, having S-shaped bends *c c*, by which it is pivoted upon the staple-bolts *f f*, the whole constructed and combined substantially as and for the purpose herein shown and specified.

260,636. SAW-TOOTH. ELIAS C. ATKINS, GEORGE S. BLACK, and CHARLES M. EMERSON, Indianapolis, Ind., assignors to said Atkins. Filed Apr. 19, 1882. (No model.)



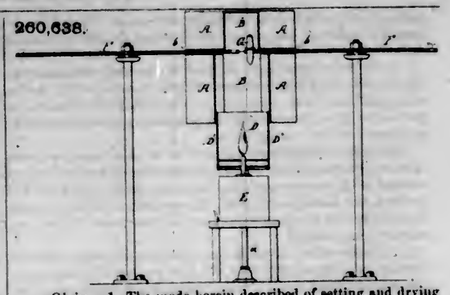
Claim.—The combination of the saw-plate A, having recesses A', A², and *a*², the rectangular locking-plate B, provided with a spring jaw or projection, B', having a lug, *b*², and the tooth or bit C, adapted to engage with said saw-plate and spring-projection, and provided with a shank, C', having lug *c*, adapted to engage in the recesses A² *a*², substantially as shown and described.

260,637. SNAP-HOOK. FRANKLIN C. AYRES, Deadwood, Dak. Filed Apr. 27, 1882. (No model.)



Claim.—In a snap-hook, the combination, with the frame A, having the recessed head *f*, and extending therefrom the section or hook portion *e*, of spring metal, having the beveled end H, of the pivoted section *y*, having the beveled end H', and the retracting-spring *s*, connected to the wall of the recess *g* and to the rear end of the pivoted section *y*, substantially as and for the purposes specified.

260,638. FORMING AND DRYING CIGAR-BUNCHES. JOHN J. BACH, Philadelphia, Pa. Filed Nov. 14, 1881. (No model.)



Claim.—1. The mode herein described of setting and drying bunches of tobacco for cigars, said mode consisting in confining the bunches in molds, and then slowly passing the molds, with their contents, through a heated chamber, as set forth.

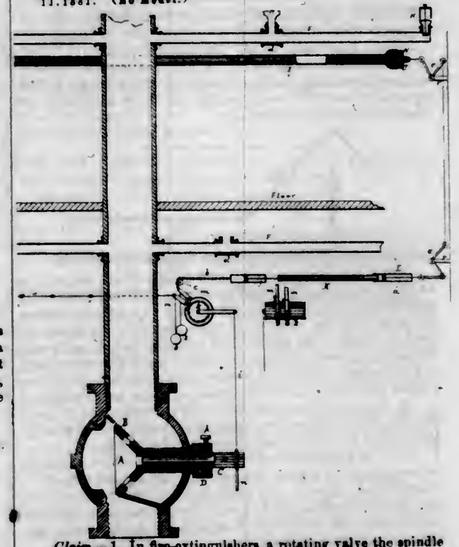
2. The combination of a casing, A, having a slot, *b*, means of heating the chamber B, inclosed by the casing, and a rotating disk, F, projecting into said chamber B, and adapted for the reception of a series of molds, G, as set forth.

3. The combination of the chamber B, having a slotted casing, A, the mold-carrying disk or disks F, the lamp E, and the combustion-chamber D of the latter communicating with the chamber B, as specified.

4. The combination of the mold-carrying disk or disks F, the heating device, and a chamber, B, having a slotted casing with hinged or detachable upper portion, as specified.

5. The within-described mold, comprising the lower cup-shaped portion, *g*, with flange *i*, and the upper portion or cap, *g'*, open at both ends, as set forth.

260,639. FIRE-EXTINGUISHER. JOHN W. BISHOP, New Haven, Conn., assignor to John P. Bishop, same place. Filed May 11, 1881. (No model.)



Claim.—1. In fire-extinguishers, a rotating valve the spindle of which is provided with grooves or ratchet-teeth at its outer end, in combination with one or more ratchet-arms, substantially as and for the purpose set forth.

2. In fire-extinguishers, a supply-valve consisting of the perforated conical valve A, and the perforated conical seat B, and stem C, provided with grooves or ratchet *e* at its outer end, in combination with the guide D and ratchet-arm *n*, substantially as set forth.

3. In fire-extinguishers, the perforated valve A, having the stem C, which carries the arm *n* on its outer end, the guide D, and perforated valve-seat B, in combination with one or more releasing devices holding in a suspended and fixed position one or more weights, whereby the valve is opened for the passage of water to

the pipe system when the releasing devices are affected by the requisite degree of heat, substantially as and for the purpose set forth.

4. In fire-extinguishers, the shaft *k*, provided with grooves or ratchet-teeth, and with a device which communicates the motion of the shaft to a link or rod, and arms *m*, with pawls, in combination with the valve-spindle having arm or arms *m*, substantially as and for the purpose set forth.

5. In fire-extinguishers, the grooved shaft *k*, having a device which communicates the motion of the shaft to a link or links which connect with the valve-spindle, in combination with arms and pawls *m*, and means for automatically operating said arms *m* when the surrounding temperature has exceeded a certain degree, substantially as described.

6. In fire-extinguishers, the combination, with means for letting on the water-supply upon the fusing of a soldered joint, of connecting-links of wood or cane between the soldered joints, substantially as set forth.

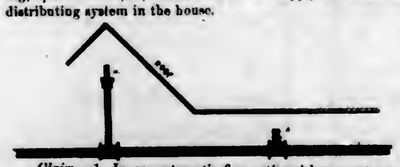
7. In combination with a system of fire-extinguishing pipes from which the water is excluded until a fire occurs, a whistle located at any convenient point in the pipe system, operated by the air in the pipes which is forced out by the admission of the water-supply, and provided with a valve to prevent the escape of water therethrough, substantially as described.

8. In fire-extinguishers, a releasing mechanism consisting of two or more parts not separable in action, one fitting within another, and retained in a fixed position by means adapted to release the parts from such position by the absorption of heat, whereby, upon the requisite increase in temperature, the movement of the parts will cause the operating devices to open the water-supply substantially as shown and set forth.

9. In fire-extinguishers, a releasing device consisting of a piston, J, and a tube, I, one end of said tube being closed, while the other end thereof is provided with a packing-joint to prevent leakage, said tube being adapted to receive a fluid or gas capable of expansion under heat, whereby as the fluid or gas expands the piston is forced out of the containing tube, substantially as and for the purpose set forth.

260,640. AUTOMATIC FIRE-EXTINGUISHER. JOHN W. BISHOP, New Haven, Conn., assignor to John F. Bishop, same place. Filed June 8, 1881. (No model.)

Brief.—Heat acting on fusible connecting devices releases a retaining cord which sustains a weight, F. Said weight, by falling, opens a valve, D, which controls the supply of water to the distributing system in the house.



Claim.—1. In an automatic fire-extinguisher constructed to keep the water out of the system of pipes until a fire occurs, an equilibrium-valve having the piston-rod *e*, with disks or heads on the same, with the chamber in which they move extending beyond the heads, to one end of which a pipe is attached, and a communication is made between one side of one of the piston-heads and the source of water-supply through the stop-valve D, in connection with the pipe A^3, substantially as shown and described.

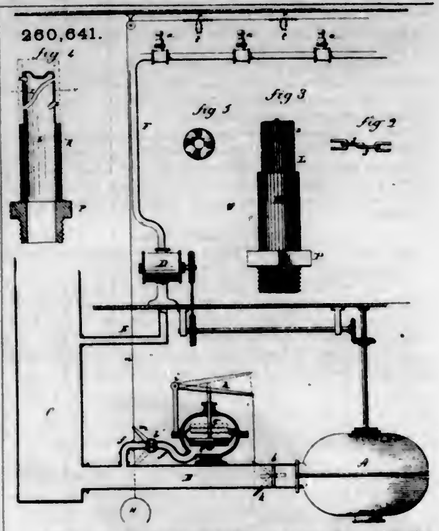
2. An equilibrium piston-valve having a supply-pipe, A', starting-pipe A^4, and stop valve or cock D, in combination with a discharge-pipe, C', substantially as shown and set forth.

3. In an equilibrium-valve having a piston-rod on which one or more heads are secured, the openings into the rod within the chamber that connects with a hole in the center of the rod that runs lengthwise of the rod, by means of which any water that may collect within the cylinder from leakage may be discharged outside of the cylinder, substantially as shown and set forth.

260,641. FIRE-EXTINGUISHING APPARATUS. JOHN W. BISHOP, New Haven, Conn., assignor to John F. Bishop, same place. Filed Sept. 12, 1881. (No model.)

Brief.—The water-wheel A receives water from the flume C, and the operation of the wheel imparts motion to the pump D, which pump draws water from the supply through the pipe E and discharges it into the pipe F, which leads to the distributing-pipes. The wheel A is put into operation by the releasing of the connections *r s*, which causes weight H to fall and open cock *l*, thereby permitting the water to flow to the chamber *c*, and thus, through the means shown, open the valve *b* in the supply-pipe B.

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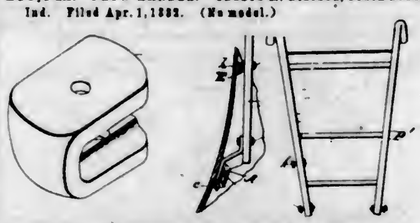
Claim.—1. In a fire-extinguishing apparatus, the combination of the following elements: first, a pump to receive the water and force it to the distributers; second, mechanism to communicate the power to the pump; third, mechanism, substantially such as described, communicating by fusible connections with the points or parts of the building to be protected, and so that when the said fusible connections are broken the power will be applied, substantially as described.

2. The combination of the following elements: first, a pump to receive water and force it to the distributers; second, a water-motor in connection with said pump, a gate or valve in the supply to the motor; third, mechanism, in connection with said gate, arranged to be operated by an inflow of water to open the gate to the motor; fourth, a valve in the pipe leading to said gate-operating mechanism, connected by fusible connections at points or parts of the building to be protected, and so that when said connections are broken the valve will be opened and permit the flow of water to the gate-opening mechanism, substantially as described.

3. In a fire-extinguisher, the distributer constructed of tubular shape, with projecting hollow rim at its outer end, and with spiral slots or openings on the side of the tube, extending through the said rim to the recessed center, substantially as described.

4. In a fire-extinguisher, a distributer constructed of tubular shape, with slots or openings on the side of the tube, extending over onto the outer end of the distributer, combined with a sleeve, R, adjustable on said sleeve to vary extent of opening and contract the water into a stream, substantially as described.

260,642. PLOW-HANDLE. TRULVE M. BISSELL, South Bend, Ind. Filed Apr. 1, 1882. (No model.)



Claim.—The combination, in a plow, of the angular bracket A, the slot *e*, and groove *b* therein, the U-shaped bracket E, the angular bracket C for the landside, the slotted portion, the grooved portion, and the offset *d* thereof, and plow-handles secured to said parts, substantially in the manner and for the purpose described.

260,643. GATE. JACOB E. BLACKBURN, Fredericktown, Ohio. Filed Apr. 10, 1882. (No model.)

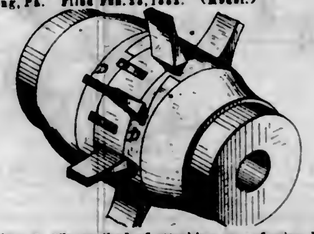
Claim.—In a gate, the adjustable hinge-loop F, having screw-

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threaded shank *f* and shoulders *e e*, nut H, having handle h for turning it, and the gate having perforated end post, G, and hollow casting *g*, adapted to receive and fit the shouldered end of loop F, constructed and combined substantially as and for the purpose herein shown and set forth.

260,644. HUB FOR VEHICLE-WHEELS. JOHN B. BLATT, Reading, Pa. Filed Feb. 23, 1882. (Model.)



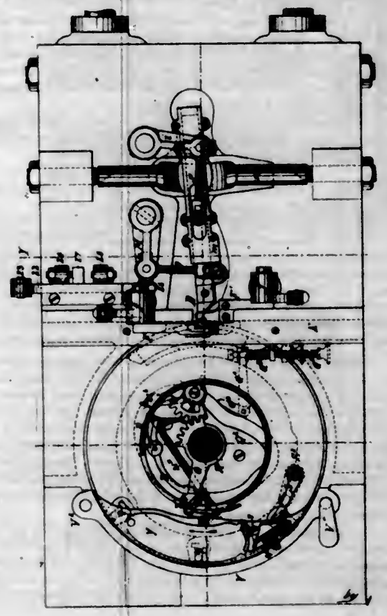
Claim.—1. The method of attaching re-enforcing bands to wooden hubs for vehicles, which consists in forming cylindrical grooves in the hub, then inserting or forcing wooden bands into the formed grooves, and then securing the bands to the hub, substantially as described.

2. As a new article of manufacture, a wooden band-blank with interlocking ends, substantially as described.

3. A wooden hub for a vehicle, having re-enforcing wooden bands let into formed grooves, substantially as described.

4. A wooden hub for a vehicle having re-enforcing wooden bands let into formed grooves and partially mortised for the shoulders of the spokes, substantially as described.

260,645. SEWING-MACHINE. LOUIS HOLLMANN, Penzing, near Vienna, Austria-Hungary, assignor to George Wood Richardson and Alexander Storer, both of Linwood, near Paisley, Great Britain. Filed Mar. 11, 1881. (No model.) Patented in Germany Aug. 13, 1879; in France Aug. 13, 1879; in Belgium Aug. 19, 1879; in England Dec. 14, 1880, No. 5,353; in Austria Apr. 8, 1881, and in India Aug. 26, 1881.



Claim.—1. In the shuttle Y, the combination of the oblong thread-box 2, with cover 3, spring nipping-lever 7, and flanges 16 17, through which the thread passes, substantially as and for the purposes described.

2. The combination of the rotary shuttle Y, the lever 7, pivoted to said shuttle, a spring acting on the lever to normally hold it in contact with a portion of the thread outside the shuttle-cavity, a finger, S, and means for operating the finger to cause the lever to release its nip on the thread, substantially as described.

3. In combination with the shuttle Y, the regulating-hook Z', carried by arm Q and operated by segment 20, arm 21, cam Q^2, and lever Z, substantially as and for the purposes herein set forth.

4. The combination of the cam-path Q^4, the piece Q^3, the arm Q', the regulating-spring Q^5, with the screw Q^6, the arm Q, the hook Z', segment 20, arm 21, and lever Z, substantially as described.

5. In combination with the hook D, the bar D', carrier *m*, with pivot m^1, and bar *n*, with arm n^1, gearing with cam K', constituting a device for imparting to the hook D its compound movement, substantially as herein described.

6. The combination of the needle L, lever-arm C, and cam K' with the needle-slide L', mounted on lever-arm C' and actuated by a cam, K', substantially as herein described.

7. The feeder-arms F F', mounted on rocking levers *f f'*, actuated by cams G G', in combination with levers f^1 f^2, actuated by cams I I', constituting the feed mechanism for the cloth, substantially as herein described.

8. In combination with the feeder-arms F F', rods f^1 f^2, and levers f^4 f^5, the links f^3 f^6, and rod f^7, operated by a treadle for raising the feeding-arms off the cloth, substantially as herein described.

9. In combination with the feeder-arm F, the nose F^2, operating, as herein described, for keeping the thread off the edge of the seam while the stitch is being made.

10. In combination with the shuttle Y, needle L, and hook D, the finger F^4 and operating-cam K', for drawing down the thread for the hook to enter, substantially as described.

11. In combination with the feeder-arm F and lever *f*, the the sliding bar 22, with projection 26, for limiting the amount of feed motion.

12. In combination with the sliding bar 22 and its projection 26, the projection 27 and adjustable stops 24 25, for regulating the length of stitch, as herein described.

13. The combination of the two cam-shafts H K with their cams K' K^2 K^3 K^4 K^5 K^6 G (J' I I', driven at the same speed through gearing K^7 K^8 K^9, for imparting the various motions to the needle L, needle-slide L', hook D, feeders F F', and finger F^4, substantially as herein described.

260,646. ELECTRIC CONDENSER. SPENCER BORDEN, Fall River, Mass., assignor of one-half to William C. Wood, Washington, D. C. Filed June 9, 1881. (No model.)



Claim.—1. In an electric condenser, the combination, with the alternating series of foil sheets and their insulating-sheets, of posts connected respectively with the opposite poles of the condenser, and the safety-connection for affording a direct relieving-current from one series of foils to the other series, substantially as described, and for the purposes specified.

2. An electric condenser, or a section thereof, composed of sheets of foil and alternating sheets of insulating material bound together at one edge, after the manner of a book, substantially as described.

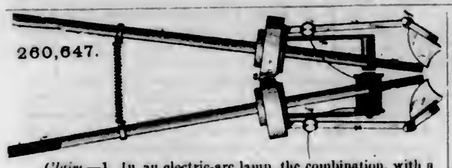
3. The combination, with the foil sheets of a condenser and a case inclosing the same, of the end plates or poles controlled by screws for forcing said poles into good contact with said foils and retracting the same, substantially as described.

4. The combination, with the foil sheets of a condenser and a case inclosing the same, of the end plates or poles controlled by screws cushioned with reference to said poles or plates, substantially as described, whereby electric contact of poles and foils is maintained under a yielding pressure, as set forth.

5. In an electric condenser, the combination of separated sections of foils and insulating-plates, opposite poles common to all of the sections, and separate adjustable electrical connections between each section and said poles, substantially as described.

260,647. ELECTRIC-ARC LAMP. SPENCER BORDEN, Fall River, Mass., assignor to William C. Wood, Washington, D. C. Filed Sept. 27, 1881. (No model.)

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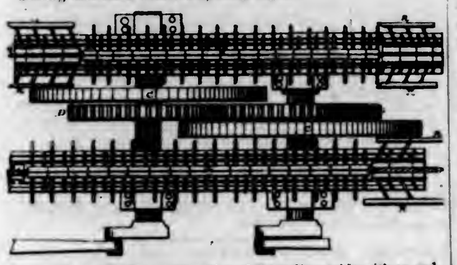


Claim.—1. In an electric-arc lamp, the combination, with a carbon candle, its tube, and feeding devices, of an electrode which is independent of the candle-tube and serves as a support for the tip of the candle and as a conductor for delivering the electric current to the extreme tip of said candle, substantially as described.

2. The combination of the jointed frame, the carbon tubes mounted therein, the springs for forcing the carbons downward angularly toward each other, the electrodes which support the carbons at their lower ends, the separating-spring, and the electro-magnet for counterbalancing the spring and drawing the electrodes and carbons toward each other for forming the arc.

260,648. PROPULSION OF STREET-CARS. RICHD. F. BRIDGWELL, San Francisco, Cal. Filed Jan. 30, 1882. (No model.)

Brief.—Upon an oblong frame having rounded ends is placed an endless set of friction-rollers, which are connected together by links. Upon the rollers are placed a series of blocks provided with teeth or cogs on their under side, adapted to mesh with a driving-wheel. On the blocks are clamping-jaws, between which the cable is clamped and guided by means of levers, which automatically open or close the clamping device. Rollers provided with weights are journaled on the ends of levers, and serve to operate and keep the blocks in close contact, the whole being operated by suitable gearing connected with a propelling-engine.



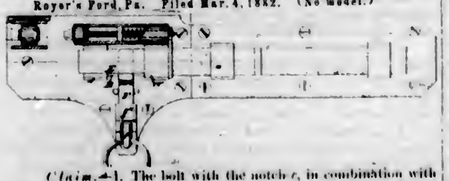
Claim.—1. The combination of the endless cable with an endless set of clamping-jaws which are made to clamp upon the cable and draw the cable along with them, and a suitable mechanism for closing the jaws on the cable, and then opening them before the jaws reach the end of the bed, substantially as shown.

2. The combination of a driving-wheel, an endless bed composed of a series of toothed blocks, which are connected together, suitable friction-rollers for supporting the blocks, and clamping-jaws which are made to automatically catch hold of and release themselves from the cable, substantially as described.

3. The combination of the clamping-jaws, the brace-rods N O, and tripping devices R, whereby the jaws are opened, so as to release the cable, substantially as set forth.

4. The combination of an endless movable bed carrying suitable clamping-jaws, which are movable upon the bed, the rods N O, which are attached to the jaws, and the wheels P, for closing the jaws upon the cable, substantially as specified.

260,649. SHUTTER-FASTENER AND ALARM. ISAAC BROOKS, Royer's Ford, Pa. Filed Mar. 4, 1882. (No model.)

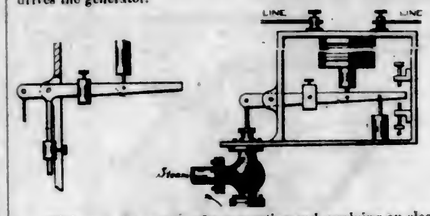


Claim.—1. The bolt with the notch *c*, in combination with the dog F, the slotted face-plate, the keeper *f''*, the spring *f'*, and the ring G, said dog being loosely fitted to the face-plate and having an open hook at bottom, which hook and the face-plate serve to hold the ring G in position, substantially as and for the purpose set forth.

2. The bolt, in combination with the face-plate having keepers of different depths, a hammer, and a cartridge-holder, and a spring-pressed dog loosely fitted to the keepers and engaging with the hammer, substantially as and for the purpose set forth.

260,650. CURRENT-GOVERNOR FOR DYNAMO-ELECTRIC MACHINES. CHARLES F. BRUSH, Cleveland, Ohio. Filed June 29, 1880. (No model.)

Brief.—An axial magnet in the main circuit controls a lever connected with the valve, which admits steam to the engine which drives the generator.



Claim.—1. In a system for generating and applying an electric current, the combination of the following-named instrumentalities, to wit: A dynamo-electric machine, a motor for driving said dynamo-electric machine, an external or working circuit upon which is placed one or more electric lamps, electromotors, or any device to be operated upon or actuated by the electric current, and a governor consisting of a hollow or axial magnet that is energized by current from said dynamo-electric machine, and that is associated with suitable valve or cut-off mechanism, said governor constructed and adjusted to control the speed at which the dynamo-electric machine is driven according to the varying condition of the current in said external or working circuit, substantially as shown.

2. In an electrical governor for regulating the speed at which a dynamo-electric machine is driven, an axial magnet for imparting motion to the moving parts of said governor, said axial magnet being energized by the current of the dynamo-electric machine to be controlled.

3. The combination, with a motor for driving a dynamo-electric machine, of a hollow or axial magnet influenced by the current of said dynamo-electric machine and a valve mechanism controlled by said axial magnet to govern the admission of steam, water, or equivalent driving agent to said motor, and thus to govern its speed in accordance with the varying condition of the said current, substantially as shown.

4. The combination, with a motor for driving a dynamo-electric machine, of two governors, one for controlling the speed at which said dynamo-electric machine is driven and answering to the variations in the condition of the external or working circuit, and the other constructed to act only when said speed tends to exceed a given and prescribed maximum.

5. In combination with an electric governor for regulating the speed at which a dynamo-electric machine is driven, the pendent weight *f*, substantially as and for the purpose shown.

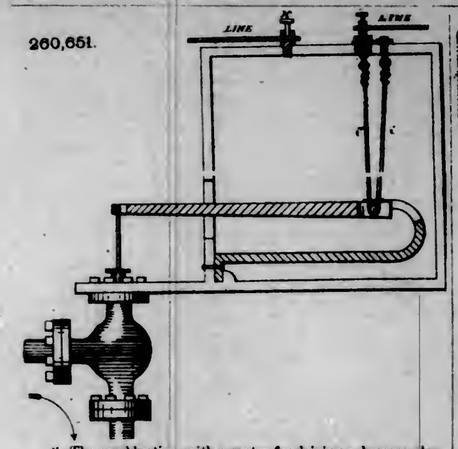
260,651. THERMIC REGULATOR FOR ELECTRIC-CURRENT GENERATORS. CHARLES F. BRUSH, Cleveland, Ohio. Filed July 16, 1880. (Model.)

Brief.—The valve of the steam-engine or other motor which drives a dynamo-electric machine is connected to a lever whose position is controlled by the expansion and contraction of a portion of the main circuit. A modification is shown in which the valve is connected to a device composed of two plates of metal of different expansibility. A coil in the main circuit surrounds these plates and supplies the heat by which their position is controlled.

Claim.—1. In a system for generating and applying an electric current, the combination of a dynamo-electric machine, a motor for driving said dynamo-electric machine, an external or working circuit, upon which is placed one or more electric lamps, electric motors, or any devices to be operated upon or actuated by the electric current, and a governor consisting of an electro-thermal device energized by the said electric current associated with suitable valve or cut-off mechanism, said governor constructed and adjusted to control the speed at which the said dynamo-electric machine is driven, substantially as shown.

2. The combination, with a dynamo electric machine and devices for regulating the speed of the dynamo-electric machine, of an electro-thermal device arranged and adapted to be energized by the electric current, and to actuate or control the speed-regulating devices of said dynamo-electric machine, substantially as set forth.

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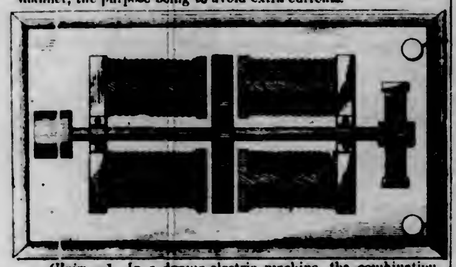


3. The combination, with a motor for driving a dynamo-electric machine, of an electro-thermal device influenced by the current of said dynamo-electric machine, and a valve mechanism controlled by said electro-thermal device to govern the admission of steam, water, or equivalent driving agent to said motor, and thus to govern its speed in accordance with the varying requirements or resistance of the circuit of the said current, substantially as shown.

4. The combination, with the working-circuit of a dynamo-electric machine and devices for regulating the speed of the dynamo-electric machine, of the wires *i i'*, or their equivalents, adapted by their difference in temperature to actuate or control said speed-regulating devices, substantially as set forth.

260,652. DYNAMO-ELECTRIC MACHINE. CHARLES F. BRUSH, Cleveland, Ohio. Filed June 1, 1880. (No model.)

Brief.—Surrounds the cores of the field-magnets with a continuous band of sheet copper or other suitable conductor. Over these bands are coiled the magnetizing-helices in the customary manner, the purpose being to avoid extra currents.



Claim.—1. In a dynamo-electric machine, the combination, with the moving coils or bobbins of conductors, of field-of-force magnets having their cores encircled by one or more closed conductors, substantially as set forth.

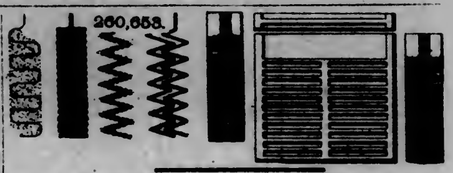
2. In a dynamo-electric machine, the combination of the moving coils or bobbins of conductor within which the electric current is induced and one or more field-of-force electro-magnets that are surrounded by one or more closed diamagnetic conductors, substantially as and for the purposes set forth.

3. In a dynamo-electric machine, the combination, with the moving coils or bobbins of conductor within which the electric current is induced, of one or more field-of-force electro-magnets that are surrounded by one or more closed diamagnetic conductors, and an exciting helix or helices, also surrounding said field-magnets, substantially as set forth, whereby the insulation of the apparatus is preserved during fluctuations in the current exciting said field-magnets.

260,653. SECONDARY BATTERY. CHARLES F. BRUSH, Cleveland, Ohio. Filed June 15, 1882. (No model.)

Claim.—In a secondary battery, an element consisting of a structure of étagère-like form, containing in the spaces between its shelves lead in a finely-divided state, substantially as set forth.

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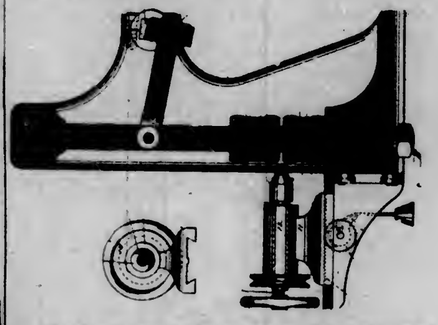


260,654. SECONDARY BATTERY. CHARLES F. BRUSH, Cleveland, Ohio. Filed June 15, 1882. (No model.)



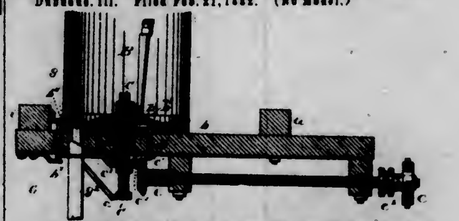
Claim.—The method of forming the plates of a secondary battery consisting in forming receptacles for oxide of lead in its surface, then applying oxide of lead to the plate and within such receptacles, and afterward subjecting the oxide of lead to pressure.

260,655. MACHINE FOR SWAGING NEEDLE-BLANKS. JAS. H. BULLARD, Springfield, Mass. Filed Aug. 10, 1881. (No model.)



Claim.—In a needle-forming machine, the combination of two compressing-dies, one fixed and the other movable, between suitable guideways or plates, and actuated by a crank and a pitman pivoted to two knuckle-bars toggled together, one of which bars is connected to a fixed pivot and the other to a plunger carrying said movable die, a revolving chuck or holder for holding and revolving the needle between said dies while being formed, and a movable carriage provided with a rack engaging with a revolving pinion actuated by an arm and a weight attached thereto, substantially as described.

260,656. COTTON-PLANTER. WILLIAM T. BUSHOWS, East Dubuque, Ill. Filed Feb. 21, 1882. (No model.)



Claim.—1. In a seed-planter, the seed-plate D, provided with the groove *d* in its periphery, the flanges *d' d''*, and openings *d'*, the said openings being arranged alternately around the rim of the seed-plate, thereby forming compartments in which the seeds are retained as the plate revolves, substantially as set forth.

2. The seed-plate D, adapted to revolve in the bottom of the hopper B, the said seed-plate having the groove *d*, and flanges *d' d''*, portions of which, *d' d''*, are cut away, mounted upon the vertical shaft C, in combination with the rock-shaft G and its tappet-arm *g'* and seed-arm *g*, all arranged to operate substantially as shown and described.

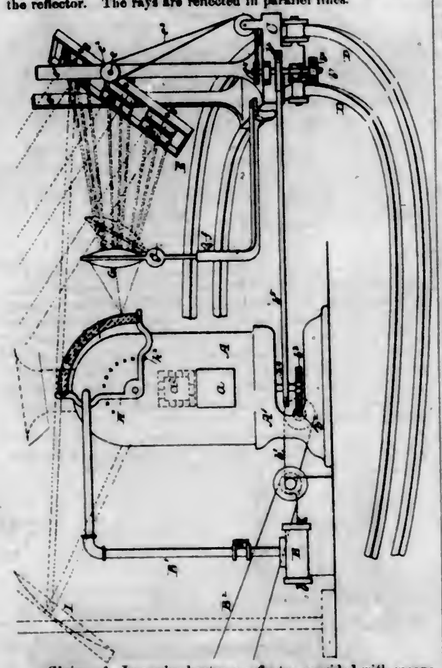
3. The vertical shaft C, bearing at its upper end the seed-plate D, and connected by a miter-gear with a horizontal shaft, E, the gear-wheel c' being provided with the removable pins c^3, in combination with the tappet-arm g^3, rock-shaft G, and arm g, the said arm g having its outer end bent at right angles and adapted to enter the slot b^2 made in the hopper and sweep the seeds from the compartment d^3 of the seed-plate into the discharge-spout H, substantially as and for the purpose set forth.

4. The gear-wheel c', provided with the removable tappet-pins c^3, in combination with the shaft c and seed-sweeping apparatus G g g' g^3 g^3, whereby the distance between the hills can be regulated at will, substantially as set forth.

5. The combination of the hopper B, casting b, forming the bottom thereto, the vertical shaft C, carrying at its upper end the seed-plate D, the shaft being provided with the miter-gear c', and the shaft E, having affixed thereto the chain-wheel e' and clutch e^3, the miter-gear wheel c' being provided with the removable tappet-pins c^3, in combination with the tappet-arm g^3, spring g^3, rock-shaft G, and arm g, having its outer end bent at right angles thereto and adapted to enter the opening b^4 in the hopper B, whereby it can sweep the seeds from the compartments d^3 into the discharge-pipe, substantially as shown and described.

260,657. METHOD OF AND MEANS FOR UTILIZING THE RAYS OF THE SUN. WILLIAM CALYER, Washington, D. C. Filed May 13, 1882. (No model.)

Brief.—The carriage C, carrying the reflector, moves automatically around the boiler on the track D. The reflector is automatically tilted by means of engine B, which receives steam from the boiler heated by reflected rays. The movement of the car and reflector is so timed that the sun's rays always fall perpendicularly upon the independent universally-adjustable reflecting-surfaces of the reflector. The rays are reflected in parallel lines.



Claim.—1. In a solar heater, a reflector provided with means whereby it may be automatically moved in a circular direction, substantially as and for the purpose set forth.

2. In a solar heater, a reflector provided with means whereby it may be automatically moved bodily in a circle and inclined, substantially as and for the purpose set forth.

3. The combination of a reflector, a heat-receiver, and means for automatically moving the former about the latter, substantially as and for the purpose set forth.

4. The combination of a reflector adapted to automatically move in the arc of a circle, and a heat-receiver located at the center of said circle, substantially as and for the purpose set forth.

5. The combination of a heat-receiver, a circular track about the same, and a reflector adapted to be moved upon the track, substantially as shown and described.

6. The combination of a reflector, a heat-receiver, a motor, and connecting mechanism adapted to automatically move the reflector about the heater, substantially as shown and described.

7. The combination of a reflector and concentrator, means whereby they are adapted to move in an arc of a circle, and a heat-receiver located at the center of said circle, substantially as and for the purpose set forth.

8. The combination of a reflector adapted to move in a circle, a steam-boiler located at the center of said circle, and an engine adapted by suitable connecting-pipes to be operated by the steam produced in said boiler, substantially as shown and described.

9. A heat-receiver provided with a movable glass shield, substantially as and for the purpose set forth.

10. The combination of a reflector, a heat-receiver, and a movable shield, substantially as shown and described.

11. The combination of a reflector, an adjustable concentrator, an adjustable shield, and a heat-receiver, substantially as shown and described.

12. The reflector consisting of the frame e^2 and pivotally-supported reflector-sections e^3, pivotally secured to pivotal bars E', substantially as shown and described.

13. The combination of the reflector E, car C, shaft b', friction-wheel b^3, and track D, substantially as shown and described.

14. The combination of the reflector E, pulleys e^3, and belts e^3 b^3 with the car C, shaft b', friction-wheel b^3, and track D, substantially as shown and described.

15. The combination of the car C, reflector E, and concentrator G, substantially as shown and described.

16. The combination of the boiler A, the cut-away base A', the centrally-located belt-wheel b^4, and the car C, substantially as shown and described.

17. The combination of the base A', centrally-located belt-wheel b^4, worm-gear b^3, and worm b^3, substantially as shown and described.

18. The combination of boiler A, pipe B', engine B, belt b', worm b^3, worm-gear b^3, belt b^3, and car C, substantially as shown and described.

19. The combination of the reflector E and boiler A, provided with a superheating-flue, as a^3, substantially as and for the purpose set forth.

20. A reflector consisting of independent reflecting-surfaces provided with means for universal adjustment, substantially as shown and described.

21. The method herein shown and described of utilizing the rays of the sun, which consists in solely reflecting separate portions of the same and directing each separate portion at or upon a single field, substantially as and for the purpose set forth.

22. The method of utilizing the sun's rays, which consists solely in reflecting separate portions of the same and directing each of said separately-reflected portions to, at, or upon a single common field, and concentrating them from said field to a common focus or field, substantially as and for the purpose set forth.

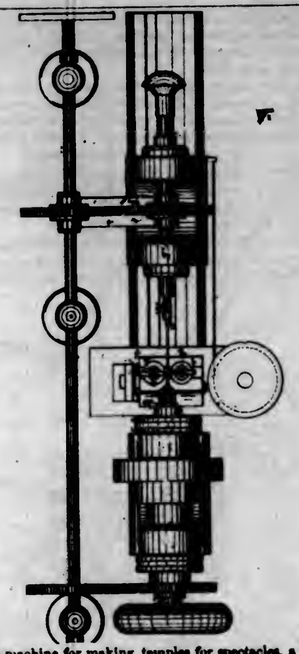
260,658. ART OF MAKING TEMPLE-WIRES FOR SPECTACLES. ROBERT A. CARTER, New York, N. Y., assignor to the Warwick Manufacturing Company, Newark, N. J. Filed Oct. 14, 1881. (No model.)

Claim.—1. A machine for making the temples of spectacles containing the following elements: first, a hollow chuck adapted to permit the wire to move through it longitudinally, and to prevent the wire from turning except with the chuck; second, a traveling carriage furnished with mechanism adapted to seize the end of the wire and gradually draw it through the chuck; third, a spindle or center caused to rotate in connection with the chuck or head; fourth, a knife arranged to reduce the thickness of the rod of wire between its ends, the whole operating in combination with mechanism for actuating the elements, substantially as set forth.

2. In a machine for making the temples of spectacles, the hollow chuck of the nature described, in combination with the traveling carriage carrying a spindle and vise adapted to revolve and to retain the end of the wire to be manipulated, and with a knife for reducing the thickness of the metal, and with a knife for cutting off the wire.

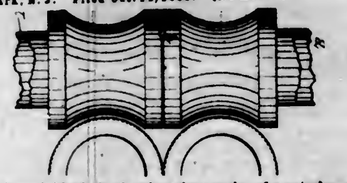
3. In a machine for making the temples of spectacles, the hollow chuck of the nature described, in combination with the traveling carriage carrying a spindle and vise adapted to revolve and to retain the end of the wire to be manipulated, and with a knife for reducing the thickness of the metal.

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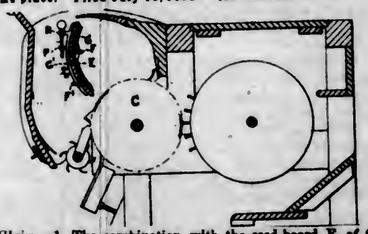
4. In a machine for making temples for spectacles, a traveling carriage furnished with mechanism adapted to seize the end of the wire and draw it through the rotating chuck, substantially as set forth.

260,659. TEMPLE-WIRE BLANK. ROBERT A. CARTER, New York, N. Y., assignor to the Warwick Manufacturing Company, Newark, N. J. Filed Oct. 14, 1881. (No model.)



Claim.—A blank for forming the temples of spectacles, consisting of a piece of wire having bolbs rolled at intervals, substantially as and for the purpose set forth.

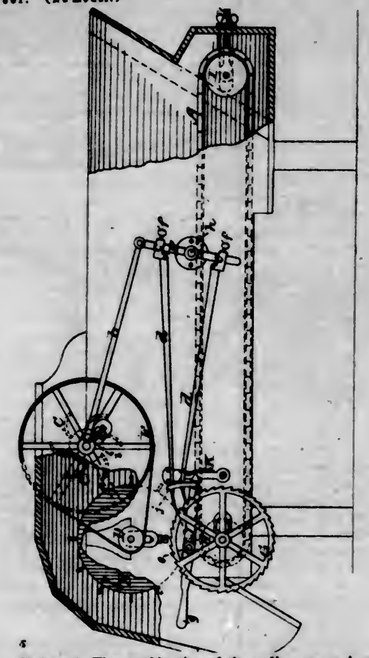
260,660. COTTON-GIN. JOSEPH E. CARVER, Bridgewater, Mass., assignor of one-half to the Eagle Cotton Gin Company, same place. Filed July 16, 1881. (No model.)



Claim.—1. The combination, with the seed-board E, of the holding-irons G, constructed with flanges G', extending up the sides of the seed-board, provided with slots, pins having screw-threaded eyes P and nuts P', and the thumb-screws Q, supported in projections R R on the holding-irons G, substantially as shown and described.

2. The combination, with the head A of the inner-roll box of a ginning-machine, provided with the slots F F', of the seed-board E, the holding-irons G, provided with recessed slots I, sliding nuts M, and thumb-screws N, substantially as shown and described.

260,661. COMBINED FEEDER AND BREAKER FOR COTTON-GINS. JOSEPH E. CARVER, Bridgewater, Mass., assignor to the Eagle Cotton Gin Company, same place. Filed May 16, 1881. (No model.)

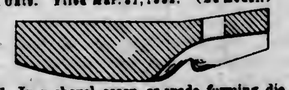


Claim.—1. The combination of the endless apron A, retaining-cylinder C, provided with carved teeth, and the breaking and feeding cylinder B, said cylinders being driven at different rates of speed, as and for the purpose specified.

2. The combination, with the dogs d d, of the sliding boxes e e on the rocker-beam F, and made adjustable independently of each other, substantially as and for the purpose specified.

3. The combination of the lever J, slotted guide j, spring-holder K, and dogs d d, substantially as and for the purpose set forth.

260,662. DIES FOR MAKING SHOVELS. WILLIAM CHISHOLM, Cleveland, Ohio. Filed Mar. 31, 1882. (No model.)



Claim.—1. In a shovel, scoop, or spade forming die, a pivoted pin in the shank thereof, having an axial movement in the line of the shovel length, and arranged to extend through a hole in the strap of the article, for gaging the plate to insure a uniform distribution of metal when being swaged and compressed into shape and symmetry to the implement when finished, substantially as described.

2. In dies for making shovels and other similar implements, an adjustable gage-pin having a movement in the line of the shovel length, in combination with a sliding gage in the shank of the die and the adjusting-screw, arranged in relation to said gage and pin substantially as described, and for the purpose set forth.

3. In combination with the dies for making shovels, scoops, &c., a pivoted gage-pin, E, and adjusting devices for determining the movement of said pin when in the hole of the shank and while the blank is being formed into shape by said dies, substantially as described.

260,663. SAW-JOINTER. JOHN A. CHURCH, Nevada City, Cal. Filed Mar. 2, 1882. (No model.)

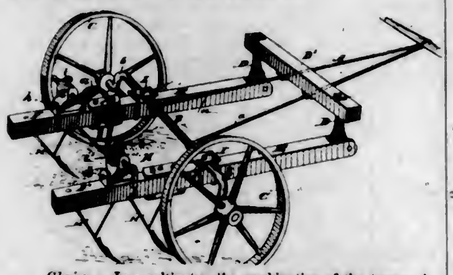
260,663.



Claim.—The improved saw-jointer, consisting of a single plate, A, of metal, having the upper portion formed as shown in Fig. 4, and provided with the hook *b'*, jointly with the bolt *a*, having a projection, *a'*, and tightening-nut *a'*, and file B, substantially as shown and described.

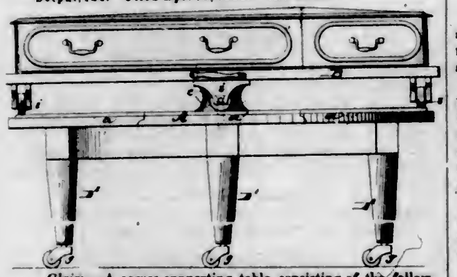
260,664. CULTIVATOR. WILLIAM L. COLTON and HERSCHEL A. SCHAMBERGER, Waterman, Ill. Filed Apr. 25, 1882. (No model.)

Brief.—Jointed drag-bars, the forward parts adjustable laterally on the axle. The rear sections carry the plows, are freely pivoted, and connected by an adjustable arch.



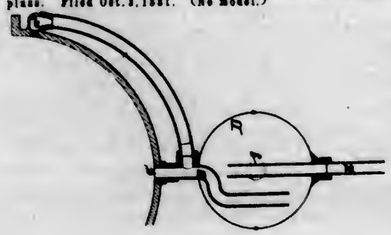
Claim.—In a cultivator, the combination of the tongue A, having cross-bar D', provided with the swiveled hangers D D, axle B, having swiveled or pivoted boxes I I, jointed parallel drag-bars E F and E F, connected respectively by the boxes *e*, and having couplings H H, provided with the set-screw *i*, and transverse connecting-arch G, substantially as shown and described, for the purpose set forth.

260,665. CORPSE-SUPPORTING TABLE. THOMAS CONDON, Delphi, Ind. Filed Apr. 15, 1882. (No model.)



Claim.—A corpse-supporting table consisting of the following elements: the rigid rotary top B, the table A, the folding sections thereof, the central leg, D', the folding legs D², the segmental stop portion *d* on the bottom of the folding sections *a a*, the rollers *i*, and a central pivotal support for the top B, all substantially in the manner and for the purposes set forth.

260,666. PLUMBER'S TRAP. PATRICK CONNOLLY, Brooklyn, N. Y., assignor, by mesne assignments, to Julia Connolly, same place. Filed Oct. 3, 1881. (No model.)

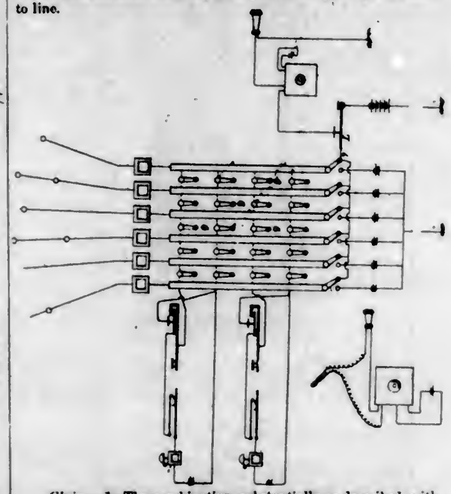


Claim.—1. In a plumber's trap, the pipes B E, extending each past the end of the other, and each having one of the two parts of the casing D secured to it, in combination with said casing, substantially as set forth.

2. The casing D, having an orifice, *g*, with provisions for properly closing it, in combination with the two pipes B E, arranged with their ends each extending in the interior of the casing D beyond the end of the other, as herein specified.

260,667. TELEPHONE-EXCHANGE SWITCH APPARATUS. GEORGE W. COE, Milford, Conn., assignor of two-thirds to James G. Smith, Hackensack, N. J., and Charles E. Buell, Washington, D. C. Filed Feb. 23, 1882. (No model.)

Brief.—The connecting-strips of the switch-board are joined in pairs to the terminals of loops provided with signaling-instruments and means for inserting a telephone and putting a battery to line.



Claim.—1. The combination, substantially as described, with a telephone switch-board, of a loop containing a signaling-key, and means for connecting any two subscribers' lines through said loop and signaling-key.

2. The combination, substantially as described, with a telephone switch-board, of a loop containing a signaling-key, means for connecting any two subscribers' lines through said loop and signaling-key, a battery or other suitable generator of electricity, and circuit-connections, as described, whereby the operation of the key alternately withdraws and introduces a signaling-current to a main line.

3. The combination, substantially as described, with a telephone central-office switch-board, of a loop containing an annunciator, battery, and signaling-key, and means for introducing said loop between any two telephone-lines.

4. The combination, substantially as described, with a telephone switch-board, of a loop containing a battery and annunciator, means for connecting the subscribers' lines for oral communication through said loop and battery, and a short-circuiting signaling-key for short-circuiting the battery in the loop through the annunciator.

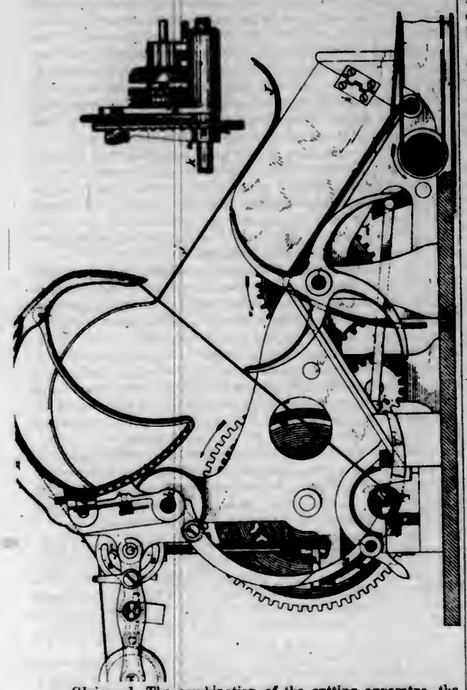
5. The combination, substantially as described, with two line-connecting strips or wires in a telephone switch-board, of a loop-wire the ends of which are connected to said line-strips, and a battery, annunciator, and signaling-key included in said loop.

6. The combination, substantially as described, with two line-connecting strips or wires in a telephone switch-board, of a loop-wire the ends of which are connected to said line-strips, and a spring-jack and annunciator included in said loop.

7. The combination, substantially as described, with two line-connecting strips or wires in a telephone switch-board, of a loop connected to said line-strips and devices for signaling to a subscriber's station, said devices being placed in the loop, so as to be in circuit between the lines connected by said loop.

8. The combination, substantially as described, with two line-connecting strips or wires in a telephone switch-board, of a loop connected to the line-connecting strips, a battery included in said loop, and a key, also connected in the loop, and operating to withdraw the battery from the connected lines.

260,668. GRAIN-BINDING MECHANISM. JOHN S. DAVIS, Toledo, Ohio, assignor to the Toledo Mower and Reaper Company, same place. Filed Apr. 23, 1881. (Model.)



Claim.—1. The combination of the cutting apparatus, the shield or lateral projection at the heel of the inner divider for evening the butts of the grain, the carrier extending inside of or beyond the divider toward the binding mechanism, and the inclined rods of the cut-off, also inside of the divider, to which cut-off the grain is conducted by the carrier with its butts acted upon by the shield preparatory to being delivered to the binding-receptacle over the cut-off in straightened condition, substantially as hereinbefore set forth.

2. The combination, substantially as hereinbefore set forth, of the intermittingly-moving carrier, the intermittingly-actuated cut-off, and means by which the carrier and cut-off are operated alternately, the one being operative while the other is inoperative, as described.

3. The combination of an intermittingly-moving carrier, a binding-receptacle toward which the grain is conducted by the carrier, and an intermittingly-actuated cut-off operated alternately with the carrier, substantially as and for the purpose hereinbefore set forth.

4. The combination, substantially as hereinbefore set forth, of the cutting apparatus, the intermittingly-moving carrier, the clearers, the intermittingly-actuated cut-off, and mechanism for moving the carrier and cut-off alternately, the one being operative while the other is inoperative, to regulate the delivery of the gavel to the binding mechanism, as described.

5. The combination, substantially as hereinbefore set forth, of the cutting apparatus, the inner divider, the carrier extending inside of or beyond the divider, the way or floor to and along which, past the divider, the grain is directed by the carrier, and the adjustable butt-guide having hinged connection with the divider-heel or lateral projection, and acting upon the grain to even it as it passes along said way or floor.

6. The combination, substantially as hereinbefore set forth, of the cutting apparatus, the carrier, the cut-off, the inner divider, and the butt-guide, to the action of which the grain is subjected after passing the divider and while supported by the cut-off.

7. The combination, substantially as hereinbefore set forth, of the carrier, the cut-off, the clearers serving to free the grain from the carrier as delivered to the cut-off, and the butt-guide acting upon the grain while moving along the cut-off.

8. The combination, substantially as hereinbefore set forth, of the cutting apparatus, the inner divider, the carrier delivering the grain inside of or beyond the divider, the cut-off to which the grain is directed by the carrier, the clearers freeing the grain from the carrier, and the butt-guide for evening the grain during its passage by way of the cut-off to the binding-receptacle.

9. The combination, substantially as hereinbefore set forth, of the cutting apparatus, the platform-carrier, the cut-off to and upon which the grain is delivered at the inner end of the platform by the carrier, the clearers freeing the grain from the carrier as delivered to the cut-off, and the packer acting upon the grain to direct it along the cut-off to the binding mechanism.

10. The combination of the carrier, the clearers consisting of the series of forked or slotted ended spring-teeth mounted between the belts of the carrier, and the cut-off consisting of a series of inclined rods projecting upward from between the carrier-belts and embraced by the clearer-teeth, substantially as and for the purpose hereinbefore set forth.

11. The combination, substantially as hereinbefore set forth, of the cutting apparatus, the carrier, the cut-off to which the grain is delivered by the carrier, the packer acting upon the grain between the rods of the cut-off, and the butt-guide for evening the grain as it is conducted by the packer along the cut-off to the binding-receptacle.

12. The combination of the platform carrier-belts, the inclined cut-off rods, the rock-shaft at the inner end of the platform, between the upper and lower surfaces of the carrier-belts, and supporting the cut-off, and the packer, these members being and operating substantially as hereinbefore set forth.

13. The combination, substantially as hereinbefore set forth, of the intermittingly-actuated carrier, the intermittingly-actuated cut-off, the binding-receptacle, the binding mechanism, and mechanism for actuating the cut-off and operating the binding mechanism during the intermissions in the operations of the carrier.

14. The combination, substantially as hereinbefore set forth, of the intermittingly-actuated carrier, the intermittingly-actuated cut-off operated alternately with the carrier, the packer, the binding-receptacle, the binder-arm, and mechanism for operating the binder-arm alternately with the carrier to bind a bundle while the cut-off is elevated and the carrier at rest, for the purpose described.

15. The combination, substantially as hereinbefore set forth, of the carrier, the rocking cut-off rods supported between the carrier-belts, and to which the grain is delivered by the carrier, the packer acting upon the grain between the cut-off rods when the cut-off is depressed and working clear of it when the cut-off is elevated, and the pressure-bar holding the accumulated grain down upon the cut-off and to the action of the packer.

16. The combination, substantially as hereinbefore set forth, of the binder-arm, the compressor pivoted thereto, and the bolt which automatically locks the compressor when the binding-arm starts into operation.

17. The combination, substantially as hereinbefore set forth, of the binding-receptacle, the packer, the binder-arm, the compressor hinged thereto, and mechanism which automatically locks the compressor as the binding-arm begins its forward movement.

18. The combination, substantially as hereinbefore set forth, of the cut-off, the packer, the binder-arm, the compressor, the locking-bolt, and the receptacle.

19. The combination, substantially as hereinbefore set forth, of the cut-off, its rock-shaft, its crank-arm, its pitman, and the jointed lever interposed between the crank-arm and pitman, and constituting a lock to hold the cut-off in its elevated position.

20. The combination, substantially as hereinbefore set forth, of a binder-arm, means for supplying binding material thereto under tension, a pulley around which the material passes, and by the strain on which material, as the grain accumulates against it, the pulley is rotated, clutch mechanism actuated by the pulley by direct engagement therewith during a portion only of the time of the revolution of the pulley while the binding material is being supplied, and grain-binding mechanism thrown into operation by said pulley-actuated clutch mechanism, for the purpose described.

21. The combination, substantially as hereinbefore set forth, of the binding-receptacle, the binder-arm, means by which the binding material is supplied under tension to the binder-arm, a pulley around which the binding material passes, clutch mechanism intermittingly and directly engaged with and actuated by said pulley at intervals or during portions only of its revolutions, mechanism for supplying the grain to the receptacle and forcing it against the binding material, binding mechanism, mechanism connected with the pulley-actuated clutch mechanism, and operated by the movements imparted to the pulley by the strain on the binding material to throw the binding mechanism into operation, and means by which said clutch mechanism and pulley are disengaged during the operations of the binding mechanism, and while the

pulley is being rotated, thus leaving the pulley free to supply the requisite amounts of material for securing bundles.

22. The combination of the binder-arm, the receptacle, the starting-pulley around which the binding material passes as conducted to the binder-arm, the clutch engaging with the pulley, the shaft upon which said clutch is mounted concentrically with the pulley, and means by which said shaft is moved endwise to throw the clutch into and out of engagement with the starting-pulley, substantially as and for the purpose hereinbefore set forth.

23. The combination of the packer, the binding-receptacle, the binder-arm, the spool supplying the binding material, the ratchet-toothed pulley around which the binding material passes as conducted to the binder-arm, and the clutch-disk and its pinion actuated by and rotating with the pulley for a portion of the time of its revolution in supplying the binding material, substantially as and for the purpose hereinbefore set forth.

24. The combination of the tension-pulley around which the binding material passes, and which is rotated by the strain upon said material by the pressure of the grain, the clutch engaged with and rotated by the pulley, the pinion attached to the clutch, the rack actuated by the pinion, and binding mechanism thrown into operation by mechanism connected with said rack, substantially as and for the purpose hereinbefore set forth.

25. The combination of the binding-receptacle, the packer, the binder-arm, the spool supplying the binding material to the binder-arm, the starting-pulley around which said material passes between the spool and binder-arm, the radius-bar, the rack thereof, the pinion engaging the rack, the rock-shaft to which the radius-bar is secured, and the clutch-connection between the starting pulley and the rack-engaging pinion, substantially as and for the purpose hereinbefore set forth.

26. The combination, substantially as hereinbefore set forth, of the ratchet-toothed starting-pulley, the toothed disk with which it engages, its pinion, the rack, the radius-bar, the toe on the rock-shaft, with which rock-shaft the radius-bar swings, the shipping-lever actuated by the toe, the spring locking-bolt, and the driving-gear with which it meshes.

27. The combination, substantially as hereinbefore set forth, of the starting-pulley, its ratchet, the toothed disk with which it engages, its pinion, the rack, the radius-bar, the toe on the rock-shaft, with which rock-shaft the radius-bar swings, the shipping-lever actuated by the toe, the spring locking-bolt, and its retracting-cam on the frame which throws the binding mechanism out of gear at the end of each complete movement.

28. The combination, substantially as hereinbefore set forth, of the starting-pulley, its ratchet, the toothed disk, the pinion carried thereby, its endwise-moving shaft, and the rocking-lever bearing on the actuating-gear to keep the disk and pulley out of gear after the binding mechanism starts.

29. The combination, substantially as hereinbefore set forth, of the starting-pulley, its ratchet, the toothed disk, the endwise-moving shaft, the thrust-spring on said shaft, the pivoted rocking lever, and the locking-notch in the actuating-gear, whereby when the binding mechanism is at rest the actuating-gear is prevented from moving and the toothed disk of the pulley-actuated clutch mechanism simultaneously locked in position to be thrown into operation by the forward movement of the starting-pulley.

30. The combination of the binder-arm, the starting-pulley, the clutch engaged with and rotated by the pulley, the pinion attached to the clutch, the rack actuated by the pinion, the rock-shaft, the radius-bar carrying the rack and attached to the rock-shaft, the shipping-lever acted upon by the rock-shaft, and the recoil-spring acting on the rock-shaft, substantially as and for the purpose hereinbefore set forth.

31. The combination, substantially as hereinbefore set forth, of the binder gear-wheel, the driving-gear having one or more spurs, Q', the spring-tooth or locking-bolt on the binder gear-wheel, the shipping-lever, the rock-shaft, its toe, the spring by which the rock-shaft toe is moved away from the shipping-lever, the radius-bar secured to the rock-shaft, the rack on the radius-bar, the clutch, its pinion, the starting-pulley, and the endwise-moving shaft on which said clutch and pinion are mounted.

32. The combination, substantially as hereinbefore set forth, of the adjustable racked radius-bar, the intermittingly-actuated pinion engaging the radius-bar rack, binding mechanism thrown into operation by the actuation of the radius-bar, and adjustable stop mechanism to vary the range of motion imparted to the radius-bar by the pinion to start the binding mechanism according to the sizes of the gavels.

33. The combination, substantially as hereinbefore set forth, of the starting-pulley, its ratchet, the clutch-disk, its pinion, and the radius-bar and rack adjustable to limit the range of motion of the bar.

34. The combination, substantially as hereinbefore set forth, of the grain-receptacle, the packer, the binder-arm, means for supplying binding material thereto under tension, the starting-pulley around which said material passes, clutch mechanism directly engaged with and actuated by the starting-pulley during a portion of its revolution in supplying the binding material, means by which the pulley is uncatched while revolving and supplying the binding material, grain-binding mechanism thrown into operation by said pulley-actuated clutch mechanism, and adjusting mechanism by which to regulate the amount of binding material required to be supplied to start the binding mechanism by the rotation of the starting-pulley, for the purpose described.

35. The combination, substantially as hereinbefore set forth, of the binding-receptacle, the packer, the binder-arm, means for supplying binding material thereto under tension, the starting-pulley, clutch mechanism directly actuated by the pulley by engagement therewith during a portion only of the time of the revolution of the pulley, the knotter, and mechanism which locks the binder-arm while the knot is being tied.

36. The combination, substantially as hereinbefore set forth, of the radius-bar, the rack thereon, the intermittingly-actuated pinion engaging said rack, binding mechanism thrown into operation by the movements of the radius-bar, and means whereby the binder-arm is locked while the knot is being tied.

37. The combination, substantially as hereinbefore set forth, of the intermittingly-actuated binder gear-wheel, the binder-arm, its rock-shaft actuated by connections with the binder gear-wheel, the knotter actuated by connections with the binder gear-wheel, and mechanism also actuated by connections with said gear-wheel to lock the binder-arm while the knot is being tied.

38. The combination, substantially as hereinbefore set forth, of the actuating or binder gear-wheel, the pitman, the sector-crank, the rock-shaft, the binder-arm mounted thereon, the detent taking into the notch on the sector-crank, and the tripping-slide operated by the pitman.

39. The combination, substantially as hereinbefore set forth, of the intermittingly-actuated binder gear-wheel, the driving-gear engaging said gear-wheel at intervals to impart a single revolution thereto at each actuation, the binder-arm, its rock-shaft, the oscillating sector-crank on said shaft, the knotter, its actuating mechanism, and the detent by which the sector-crank and binder-arm are locked during the tying of the knot.

40. The combination of the driving-gear, the binder gear-wheel intermittingly engaged therewith, and having imparted to it a revolution at each actuation, the knotter, its actuating mechanism operated by the binder gear-wheel, the binder-arm, its rock-shaft, mechanism operated by the binder gear-wheel for actuating the binder-arm, and mechanism, also actuated by the binder gear-wheel, for locking the binder-arm rock-shaft while the knot is being tied, substantially as hereinbefore set forth.

41. The combination of the binder-arm, the tying-bill always revolving in the same vertical plane, and beneath which the nose of the binder-arm passes, and the cord-guideway, substantially as and for the purpose hereinbefore set forth.

42. The combination, substantially as hereinbefore set forth, of the binder-arm, the revolving non-reciprocating tying-bill turning in opposite directions to cross and engage the cord ends, the cord-guideway, the knife, and the cord-clamp.

43. The combination, substantially as hereinbefore set forth, of the binder-arm, the non-reciprocating rotary tying-bill, beneath which the nose of the binder-arm passes, the cord guideway or slot in the knotter-cover, and mechanism by which the tying-bill is turned first backward to present it outside of or across the cord ends and then rotated forward to engage the cord ends, for the purpose described.

44. The combination, substantially as hereinbefore set forth, of the binder-arm, the rotary non-reciprocating tying-bill, the movable jaw thereof, mechanism by which the tying-bill is turned first in one direction to present it outside of or across the cord ends and then rotated in the opposite or forward direction to engage the cord ends, the spring acting on the rod of the movable jaw to close it, and mechanism by which said jaw is opened and closed while the tying-bill is nearing the position from which it started on its forward rotation, for the purpose described.

45. The combination of the non-reciprocating tying-bill, the movable jaw thereof, mechanism by which the tying-bill is given first a backward turn of a portion of a revolution to pass across or outside of the binding material and then a forward rotation to engage the binding material, the pivoted jaw of the tying-bill, the endwise-moving rod by which the jaw is normally held closed, means by which said rod is retracted to open the jaw and then released to allow it to close upon the binding material, the cutter, and the cord-clamp, substantially as and for the purpose hereinbefore set forth.

46. The combination of the conical volute-shaped non-reciprocating tying-bill provided with the shoulder 28, the pivoted jaw, and its endwise-moving rod, substantially as and for the purpose hereinbefore set forth.

47. The combination, substantially as hereinbefore set forth, of the conical volute-shaped portion of the tying-bill turning in opposite directions to first cross over or outside of and then to hook or engage the binding material, the tubular shaft thereof, the movable jaw of the tying-bill pivoted thereon, the slide-rod reciprocating at its end through the tying-bill and pivoted to its movable jaw, the spring acting on said rod, and means whereby the movable jaw is opened against the action of its spring, for the purpose described.

48. The combination, substantially as hereinbefore set forth, of the conical volute-shaped fixed member of the tying-bill, the retaining-shoulder thereon, the pivoted jaw, and its rearwardly-projecting end, which at the proper moment releases the cord from the retaining-shoulder.

49. The combination, substantially as hereinbefore set forth, of the non-reciprocating or fixed member of the tying-bill, its tubular shaft, means for turning it first one way and then the other, the pivoted jaw, the slide-rod, the stud thereon, which acts on a fixed incline to open the jaw at predetermined intervals, and the spring which closes the jaw.

50. The combination, substantially as hereinbefore set forth, of the non-reciprocating tying-bill, means by which it is turned first one way and then the other, the tying-bill shaft, the projection or tooth at the end thereof, the actuating-gear, and the guide-flange thereon, against which said tooth bears to hold the tying-bill in its locked position.

51. The combination, substantially as herein set forth, of the tying-bill, its spur-pinion, and the sector-gear on the main actuating-wheel, which gives it its backward quarter-turn at the commencement of its stroke.

52. The combination, substantially as hereinbefore set forth, of the tying-bill, its shaft, the pinion on said shaft, the actuating-wheel, and the sector-gears which give the backward and forward turns to the tying-bill shaft.

53. The combination, substantially as hereinbefore set forth, of the actuating-gear, the sector-gears 11 and 12 thereon, the guide-flange on the actuating-gear, the tying-bill shaft, and the pinion and projecting tooth thereof.

54. The combination of the tying-bill, its tubular shaft, the pinion thereon, the sector-gears acting on the pinion, and by which the tying-bill is turned first backward and then forward, the movable jaw pivoted to the tying-bill, its rod, the spring acting upon said rod to hold the jaw closed, and means whereby said jaw is opened to receive the binding material, substantially as and for the purpose hereinbefore set forth.

55. The combination, substantially as hereinbefore set forth, of the endwise-moving knife, its retracting-spring, its actuating-lever, and the driving-pin on the tying-bill shaft.

56. The combination, substantially as hereinbefore set forth, of the tying-bill and the tubular shaft thereof, composed of the two sections having flanged ends fitted together and secured by clamping.

57. The combination, substantially as hereinbefore set forth, of the stationary slotted binding-receptacle, the binder-arm working at its nose through the slot in the receptacle, the rock-shaft by which it is supported above the binding-receptacle, the swinging retainer between which and the binder-arm the grain is compressed in binding, means for positively locking said retainer during the binding operations, and means by which it is restored to its work-position after having yielded to admit of the discharge of a bound bundle from the receptacle.

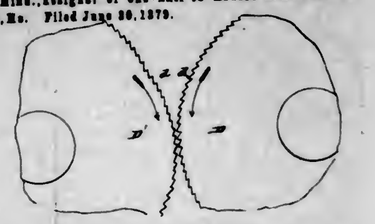
58. The combination, substantially as hereinbefore set forth, of the binding-receptacle, the retainer, the kicker, and the mechanism by which the kicker is locked and the retainer dogged while the knot is being tied.

59. The combination, substantially as hereinbefore set forth, of the rock-shaft, the kicker mounted thereon, the retaining-teeth, also mounted on said shaft, the locking-lever, and its latch, for the purpose described.

60. The combination, substantially as hereinbefore set forth, of the binding-receptacle, the rock-shaft at the side thereof, the locking-lever, the spring-latch, means for operating said latch, and means for actuating the rock-shaft, for the purpose described.

61. The combination, substantially as hereinbefore set forth, of the binding-receptacle, the rock-shaft at the side thereof, the locking-lever, the tappet and sector-gear of the rock-shaft, the spring-latch engaging the locking-lever, and the actuating-gear by which said latch, tappet, and sector-gear are operated.

260,669. ROLLER GRINDING-MILL. JAMES DAWSON, Clear Grit, Minn., assignor of one-half to Robert L. Downton, St. Louis, Mo. Filed June 30, 1879.



Claim.—1. In a roller grinding-mill, the combination of the rolls D D', having a dress composed of ribs or teeth running in a spiral direction, the ribs or teeth of one roll running reversely to the ribs or teeth of the other roll, with the sides *d* of said ribs or teeth of easy bevel and their opposite sides of sharper bevel, whereby the corresponding sides *d* of the ribs or teeth constitute the active or grinding surfaces of the rolls, substantially as specified.

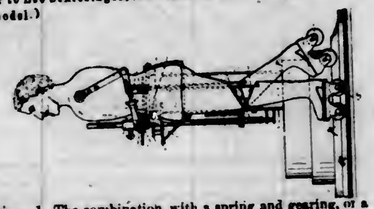
2. In a roller grinding-mill, the combination of the rolls D D', geared to revolve at different peripheral rates of speed, the roll D' running faster than roll D, and having a dress composed of ribs or teeth running in a spiral direction, the ribs or teeth of one roll running reversely to the ribs or teeth of the other roll, with the sides *d* of said ribs or teeth of easy bevel and their opposite sides of sharper bevel, whereby the corresponding sides *d* of the ribs or teeth of the rolls constitute the active grinding-surfaces, substantially as specified.

260,670. COMPOUND OIL. EMIL F. DIETERICHS, Cleveland, Ohio. Filed June 14, 1882. (No specimens.)

Brief.—Improvement on Letters Patent No. 150,303, dated April 28, 1874, No. 170,940, dated December 14, 1875, and No. 171,719, dated January 4, 1876.

Claim.—As a new manufacture, for the purposes described, a compound oil consisting of alumina compound dissolved in oil or fatty matter or in any oxyhydrocarbon or fluid hydrocarbon, substantially as specified.

260,671. SKATING TOY. JOHN DOYLE, Hoboken, N. J., assignor to Leo Schlesinger, New York, N. Y. Filed May 15, 1882. (No model.)



Claim.—1. The combination, with a spring and gearing, of a vertical shaft, a bar carried by such shaft, a toy figure having hinged legs and skates on the feet, and a pivot on which such toy figure can be swung, substantially as set forth.

2. The combination, with the spring-gearing and vertical shaft, of a bar, a toy figure with the hinged legs, a pivot for attaching the figure-links connecting to the hinged legs, wires passing through the bar, and cams for giving motion to such wires and figures, substantially as set forth.

3. The combination, with a bar revolved automatically, of a toy figure having hinged arms and legs, and skates on the feet, and mechanism, substantially as set forth, for raising the feet successively and swinging the figure, substantially as set forth.

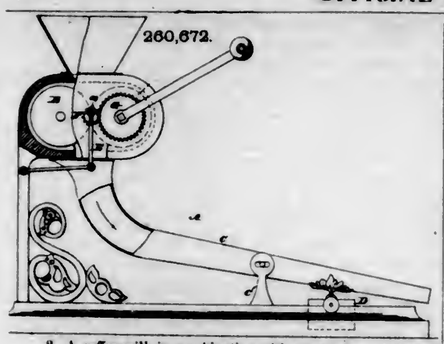
4. The combination, with the toy figure, of roller-skates connected with the feet, substantially as set forth.

5. The combination, with the toy figure having hinged legs and mechanism for supporting and moving such toy, of roller-skates having slots for the axes of the rollers, substantially as set forth.

260,672. MEANS FOR ROASTING COFFEE. JOHN W. DRUMMOND, Philadelphia, Pa., assignor to Frank Stevens, same place. Filed Apr. 12, 1882. (No model.)

Claim.—1. A coffee-mill, in combination with a roaster which communicates with the discharge portion of said mill by a suitable passage, substantially as and for the purpose set forth.

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2. A coffee-mill, in combination with a roaster consisting of a vibratory passage, into which said mill discharges, and a calorific device operating on said roaster, as set forth.

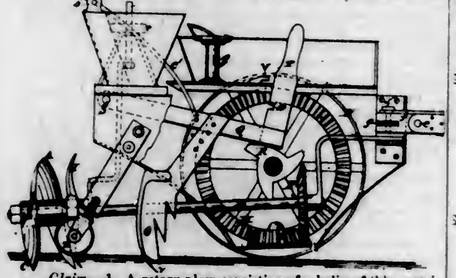
3. A coffee-mill, in combination with a roaster provided with shaking or vibrating devices which are operated by the action of the mill.

4. A coffee-mill consisting of two crushing burrs or cylinders and operating devices therefor, in combination with a conveying-tube and a roaster provided with a heating device, substantially as set forth.

5. The coffee-mill supported upon standards erected on a suitable base, in combination with a roaster which is also supported on said base, combined and operating substantially as set forth.

6. The mill A, vibrating tube C, arm E, and heating device D, combined and operating substantially as described, and forming an improvement in combined coffee mills and roasters, as stated.

260,673. PLOWING AND TILLING APPARATUS. JACOB FRIEDRSHOF, New York, N.Y. Filed July 13, 1881. (No model.)



Claim.—1. A rotary plow consisting of a helix of thin metal coiled edgewise around and along a central shaft that is arranged in the line of the advance of the plow when at work, said helix being concave on the forward side and convex on the rear side, and being constructed and operated by means of driving-gear, so that it enters the ground at the hind point, C, and turns in the direction whereby the screw advances, with respect to the ground, in the direction of the movement of the screw along the ground, substantially as described.

2. The combination of the slicer I with the rotary helical plow A, having concave front and convex rear sides, and arranged on a shaft whose axis is in the line of the movement of the plow along the ground, substantially as described.

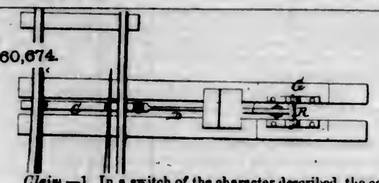
3. The combination of the clearer J with the rotary helical plow A, having concave front and convex rear sides, and arranged on a shaft whose axis is in the line of the movement of the plow along the ground, substantially as described.

4. The combination, with the rotary plow A, of the reciprocating saw-colter O, having a horn, X, substantially as described.

260,674. RAILROAD-SWITCH. JOSIAH GRAY, Chicago, Ill., assignor to himself and Westley Hallenbeak, Conrad B. Shafler, and Jacob B. Reed, all of same place. Filed Jan. 23, 1882. (No model.)

Brief.—The lower end of the loaded lever is secured to an elongated rock-shaft which works in boxes having broad rigid bases, the bifurcated end of the switch-rod being secured to the lever above said rock-shaft.

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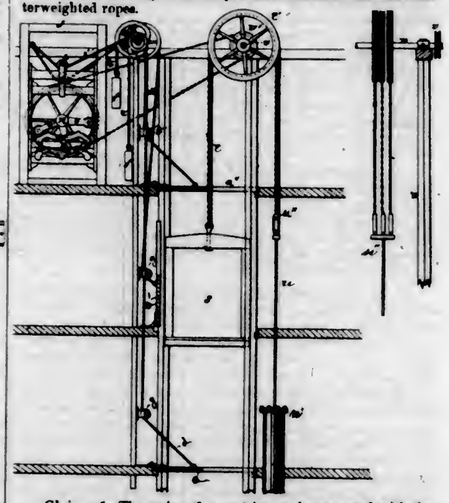


Claim.—1. In a switch of the character described, the combination of a loaded vibrating switch-lever having at its lower terminus an elongated rock-shaft terminating in journals, the blocks or boxes fixed to broad rigid bases, a bifurcated laterally-bracing connecting-rod, the tie-bar to which said rod is pivoted, the pivoted switch-rails, and the stationary main-track rails, all substantially as described.

2. In a ball-lever switch, the loaded lever, braced against lateral play by a rock-shaft, and broad supports therefor, in combination with a bifurcated connecting-rod or pitman, a tie-rod connecting the free ends of the beveled switch-rails, and the main-track rails, substantially in the manner and for the purposes described.

260,675. AUTOMATIC HATCHWAY-DOOR. EDWARD M. HACKETT, New York, N.Y. Filed Aug. 1, 1881. (No model.)

Brief.—A series of swinging hatchway-doors are connected by cords to counterweighted eccentrics. The latter are connected by cords and pulleys with a series of vertically-sliding frames having segmental cams acted upon by levers on a shaft. This shaft is connected by chain-gear with a wheel having projections and mounted on the hoisting-drum shaft. Multiple pulleys on this shaft carry multiple hoisting-ropes. Small doors in the jogs and over the rope-slots of the hatchway-doors are provided with slack and taut counterweighted ropes.



Claim.—1. The series of eccentrics, each connected with the door on the one side and with a balancing-weight, *f*, on the other side, substantially as herein described and set forth.

2. The combination of the cam-levers *o o' o''* with the cam-lever shaft, the cams, and the series of hatchway-doors, whereby the latter may be opened and closed within one revolution of the cam-lever shaft, substantially as described.

3. The series of cam-levers *o o' o''* and cam-lever shaft, in combination with segmental cams *m m' m''* and the series of hatchway-doors, and chain-gear connecting said cam-lever shaft, substantially as described.

4. In an automatic hatchway, the series of frames *k k' k''*, carrying segmental cams *m m' m''*, in combination with the cam-shaft levers and the series of hatchway-doors, substantially as described.

5. The series of frames containing segmental cams, in combination with the cam-shaft levers, and with the eccentrics connected to said frames and to the hatchway-doors, substantially as herein described and set forth.

6. The supplemental wheel r', containing projections on its periphery, with a chain passing over such periphery, in combination with the multiple hoisting ropes and pulleys of the elevator-car, the elevator-car, and with the cam-shaft and elevator-door-operating mechanism, substantially as described.

7. The slack and taut ropes, in combination with the small doors placed in jogs of the hatchway-doors, substantially as herein described and set forth.

8. The slack and taut ropes, in combination with the small doors placed over the rope-slots of the hatchway-doors, substantially as herein described and set forth.

260,676. SEDIMENT-COLLECTOR FOR BOILERS. DAVID HANNA, Ogdensburg, N.Y. Filed Feb. 28, 1882. (No model.)



Claim.—In a sediment-collector for steam-boilers, the combination, with the steam-chamber of the boiler, of the nozzle A, consisting of an upper conical imperforate plate, A^2, and an under conical plate, A', provided with perforations increasing in size from the center toward its periphery, feed-water pipe *a*, pan or collector B, and blow-off pipe C, substantially as and for the purpose herein shown and specified.

260,677. HEAD-REST FOR COT-BEDS. HENRY D. HARR, Oneida, N.Y. Filed May 26, 1882. (No model.)



Claim.—1. In a cot-bed, a pillow or head-rest automatically projected above the level of the bed by the action of the legs, substantially as set forth.

2. The combination, in a cot or other bed, of its folding legs with a supplemental frame arranged and adapted to elevate a head-rest or pillow, substantially as set forth.

3. The combination, in a cot or other bed, of a supplemental frame-work for supporting the head-rest or pillow, with a movable or adjusting arm or lever, whereby the head-rest is automatically elevated and held in position, substantially as herein set forth.

4. The combination, in a cot or other bed, of the folding legs B B, with the supplemental frame-work for supporting the head-rest, and the slack strip of canvas or other suitable material, substantially as set forth.

5. The combination of the folding legs B B, supports D D, curved braces *g g*, pivoted supports *d d*, and the slack canvas E, all constructed and arranged to operate substantially as and for the purpose set forth.

260,678. ROTARY ENGINE. DEXTER D. HARDY, Havana, assignor to the Hardy Rotary Engine Company, Chicago, Ill. Filed Nov. 29, 1881. (No model.)



Claim.—1. In a rotary engine, the combination of the internally-toothed cylinder A, having lugs T, ribs R, and holes J, with the disk D, shaft F', and the case S, substantially as and for the purpose set forth.

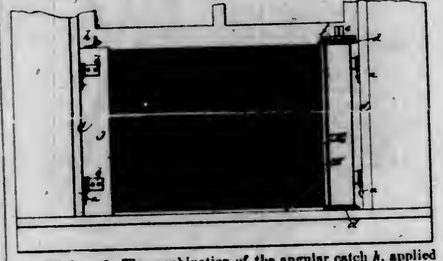
2. The combination, with the shell S, having heads H and M, of the internally-toothed cylinder A, having ribs R, holes J, and lugs T, with strips of metal at their extremities pressed outwardly by springs, the crescent C, having metal packing P, and the piston B, having recesses E, and shaft F, substantially as and for the purpose specified.

3. The internally-toothed cylinder A, having lugs T, disk D, and shaft F', the crescent C, bolted to the head M, the pinion B, having recesses E, and shaft F, in combination with the shell S, head H, and head M, having system of ports K' K' K G K and cavities K' G' K', substantially as and for the purpose herein set forth.

4. A rotary engine having an internally-toothed cylinder, A, made to revolve within a stationary outside shell, with recesses between said cylinder and said outside shell to receive steam through suitable passages from the inside of said cylinder, and for the purpose of counterbalancing the steam-pressure on the inside of said cylinder and preventing the friction that would otherwise result from the steam pressing said cylinder against the outside shell, substantially as specified.

260,679. SCREEN. OLIN HARLEY, Bluffton, Ind. Filed Apr. 4, 1882. (No model.)

Brief.—The netting-roller is mounted in brackets on the ends of a vertical beveled bar, the latter and a bar on the free end of the netting being hooked to the window-frame. A pivoted bar on the brackets presses the netting against the beveled bar. The netting-roller is governed by a pawl and ratchet. A pivoted hook on the netting-bar supports the sash.



Claim.—1. The combination of the angular catch *h*, applied to the strip J, the fastenings for this strip, the netting, the netting-roller, the pawl and ratchet therefor, the bar to which the roller is applied, and the fastenings for this bar, substantially as described.

2. The combination of the bar D, beveled on one edge and provided with head and foot pieces *d d*, the hooked fastenings, a roller, a ratchet-wheel, and a pawl, a pivoted bar, H, the netting, the strip J, and the angular hooked fastenings therefor, all substantially in the manner and for the purposes described.

260,680. MANUFACTURE OF PAPER-BOARD COMPOSED OF WOOD PULP. FRANCIS E. HEATH, Waterville, assignor to the Kennebec Fibre Company, Boston, Me. Filed Jan 18, 1882. (Specimens.)

Claim.—1. As a new article of manufacture, board for paper boxes composed of combined layers of chemical fiber and ground wood pulp, united substantially in the manner and for the purpose set forth.

2. In the manufacture of board for paper boxes composed of wood pulp, the combination of one or more layers of chemical fiber with one or more layers of ground wood or mechanical pulp, united to form a web or sheet, substantially in the manner and for the purpose described.

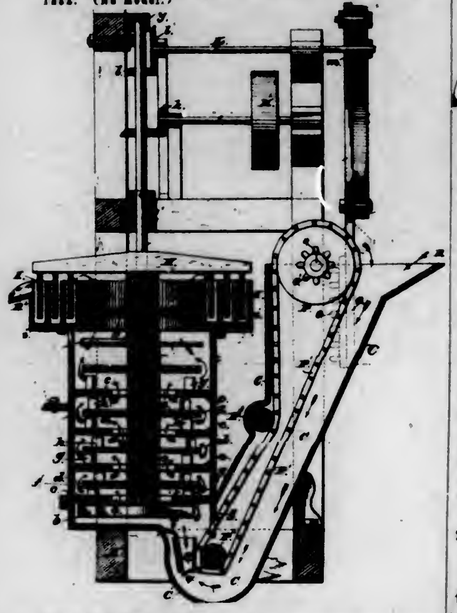
3. The herein-described process of making board for paper boxes, the same consisting in uniting in a cylinder paper-board machine separate layers of chemical fiber and ground wood pulp to form a combined web or sheet of the said two materials or substances, and subsequently drying and calendering the same, substantially as set forth.

260,681. SASH-HOLDER. HORACE L. HEATON, Columbus, Ohio. Filed Nov. 14, 1881. (No model.)



Claim.—The sash lock or holder herein shown and described, composed of the box or casing A, having the pivotal studs C, and reversible bolt B, having the slotted ears *h h*, thumb-notch *i*, flat head *f*, and side recesses, *f f*, constructed and combined substantially as and for the purpose set forth.

260,682. ORE-AMALGAMATOR. BENJ. HERSHEY, Erie, assignor of three-fourths to Charles Hitchcock, Joseph A. Ege, and Benjamin Thornton, all of Bradford, Pa. Filed Feb. 25, 1882. (No model.)



Claim.—1. The combination of the amalgamating-cylinder, the feed-spout communicating with its bottom, feed devices arranged within the spout, mechanism for causing the feed-devices to traverse the spout, the upright shaft, the annular stationary and revolving plates, and the spider at the bottom of the cylinder, composed of radial arms, substantially as described.

2. The combination of the amalgamating-cylinder, the feed-spout communicating with its bottom, feed mechanism, the curtain S, the upright shaft, the revolving spider composed of radial arms, and the plates *c d* within the cylinder, substantially as described.

3. The combination of the amalgamating-cylinder, the feed-spout communicating with its bottom, the upright shaft, and the stationary and revolving plates provided with angular lugs, substantially as described.

4. The combination of the amalgamating-cylinder, the feed-spout communicating with its bottom, a belt or chain provided with a cup, and devices for reciprocating the belt or chain, substantially as described.

5. The combination of the amalgamating-cylinder, the feed-spout communicating with its bottom, the belt or chain provided with a cup having a pivoted bottom, mechanism for causing the chain to intermittently move in reverse directions, and a trip-rod, Q, substantially as described.

6. The combination of the shaft L, its eccentric, the slotted slide provided with racks, the shaft *o*, the pinions thereon, the pulley on the shaft, and the belt or chain, substantially as described.

7. The combination of the spout C, the pulleys P P', the endless belt or chain provided with a cup, the shaft *o*, its pinions, the slide and rack, and mechanism for reciprocating the same, substantially as described.

8. The combination of the amalgamating-cylinder, the stationary plates *c*, provided with lugs *g*, the upright shaft, and the plates *d*, attached thereto and provided with lugs *h*, the respective lugs gradually increasing in length from the lower to the upper plate, substantially as described.

260,683. VENTILATOR. THOMAS J. HICKEY, Rondout, N. Y. Filed Dec. 19, 1881. (No model.)

Claim.—A new and improved article in manufacture in ventilators, consisting of a straight sleeve, *b*, of slightly larger diameter than the stove-pipe, and adapted to receive into its ends the sections of said stove-pipe, of a pipe, C, secured through said sleeve,

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the portion within being curved upwardly and projecting slightly above its top, the outer portion extending horizontally to a point over the center of the stove, bent downwardly, and provided with a damper, *c*, and having a nozzle, D, attached to its lower end, said nozzle having a brace, *d*, secured to its rim and attached to the stove-pipe, all arranged and combined to operate as set forth.

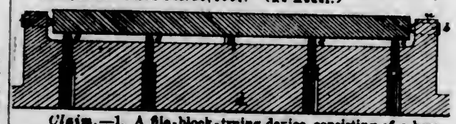
260,684. SPRING-WASHER FOR NUT-LOCKS. ANDERSON D. HOLLAND, Jacksonport, Ark. Filed Oct. 25, 1881. (No model.)



Claim.—1. The washer *c*, having the slits *d* and *e* and the spring-arms *g* and *n* bent in opposite directions, substantially as specified.

2. The combination, with the washer *c*, having the slits *d* and *e* and the curved arms *g* and *n* bent in opposite directions from the plane of its face, of the ratchet-ring *r*, having the central recess, *s*, around the bolt-hole, adapted to fit the contour of the nut, substantially as specified.

260,685. FILE-BLOCK HOLDER. WILLIAM H. INGLIS, Newark, N. J., assignor to James Kearney and James D. Foot, New York, N. Y. Filed Oct. 20, 1881. (No model.)



Claim.—1. A file-block-truing device consisting of a base adapted to hold the block firmly and appliances arranged to bear against the back of the block and adjustable, substantially as set forth.

2. The combination of the file-block, support, and set-screws extending through the support and bearing against the back of the block, substantially as set forth.

3. The combination of the support, adjustable bearings, block, and bolt *f*, substantially as specified.

260,686. CULTIVATOR. JENS L. JENSEN, Copenhagen, Denmark. Filed Feb. 1, 1882. (No model.)



Claim.—1. The combination, with the beam A, having standards A' A², arrow-head share *c*, having the shoe C connecting it with the rear standard, A², bolt or pintle *f*, and adjustable wings *a a*, of the adjustable auxiliary wings *b b* and means for holding the same in their adjusted position upon wings *a a*, substantially as and for the purpose herein shown and set forth.

2. In a cultivator, the combination, with a plow and plow-beam provided with the screw-threaded tap *m*, perforated cross-bars *n n*, and pin *p*, of the removable fender-bar *j*, hinged at one end in the nut *l*, and adjustable laterally or to either side in the perforated bars *n n*, substantially as and for the purpose herein shown and specified.

260,687. HARROW. JOHN N. JOHNSON, Raritan, Ill. Filed Apr. 26, 1882. (No model.)

Claim.—In a harrow, the pivotal teeth F, having the circular centrally-perforated heads F', in combination with the clamping-bars *e e*, detachable clamping-blocks E E', having sockets *h g i*, and nutted bolts *d*, inserted through the perforated circular heads F' and centrally through the clamping-blocks E E'; and connect-

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ing the parallel bars *e e*, substantially as and for the purpose herein shown and specified.

260,688. SLATE-FRAME. THOMAS KANE, Chicago, Ill. Filed Mar. 29, 1882. (No model.)



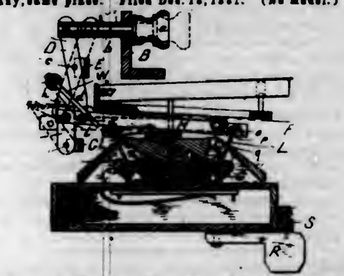
Claim.—1. As a new article of manufacture, a wood slate-frame having a binding or muffling attached thereto by machine-made stitches passing through and seated tightly in the edge, substantially as described and shown.

2. As an improvement in the art of attaching binding to wooden slate-frames, securing the same by machine-stitching passed through the binding and the previously-unperforated frame.

3. The slate-frame having the continuous grooves or depressions in its side faces, in combination with the binding material having its edges folded or doubled and secured in said grooves by stitching, as described and shown.

4. In a slate, a wooden frame constructed with the grain of the wood arranged obliquely to the edge of the frame, in combination with a binding or muffling material secured to the frame by threads passing through the same, substantially as described, whereby the splitting of the frame is avoided.

260,689. REED-ORGAN STOP-ACTION. GEORGE B. KELLY, Boston, Mass., assignor to the Mason & Hamlin Organ Company, same place. Filed Dec. 16, 1881. (No model.)



Claim.—1. The levers D, connected to organ-stops A, and the levers F, each connected, through a pitman-rod, H, and arm L, to a stop or swell valve constructed and arranged to operate together substantially as described, whereby when the stop is open the levers D will rest upon levers F at an angle to a straight line between their respective fulcrums, in combination with an abutment, *x*, of the pitman-rods H and arms W of a rocker-shaft, V, which is connected, through a crank-arm, Y, pitman-rod U, lever-arms *r s*, and pitman-rod S, to a knee or stop lever, E, all for operation of the arms W of rocker-shaft V upon the abutments *x* of pitman-rods H, as and for the purpose specified.

2. The combination, with an abutment, *x*, of the pitman-rod H, connected to a stop or swell valve of arms W, of a rocker-shaft, V, which is connected, through a crank-arm, Y, pitman-rod U, lever-arm *r s*, and pitman-rod S, to a knee or stop lever, E, all for an operation of the arms W of rocker-shaft V upon the abutments *x* of pitman-rod H, substantially as described, for the purpose specified.

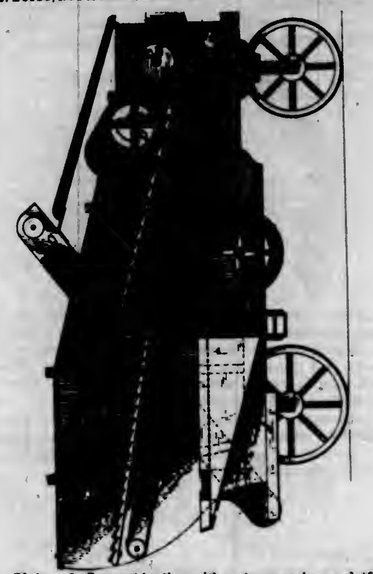
3. In a reed or other organ, the combination, substantially as herein described, of the hinged stop or swell valve provided with an upward-projecting lever-arm, L, having the hooked end *p*, with the sliding pitman-rod H, having its end constructed with an open-ended slot and provided with a pin, *o*, extending across said slot for the ready attachment and detachment of the hooked end of the lever-arm on the stop or swell valve.

260,690. NUT-LOCK FOR SCREWS, &c. HERMANN KEMMLER, Ebingen, Wurtemberg, Germany. Filed May 25, 1882. (No model.) Patented in Germany Mar. 25, 1882, No. 2,075



Claim.—The combination of a screw-pivot, A, having a fixed head, A', at one end and a threaded shank with square end, of a screw-nut, B, having socket-holes *b*, arranged in a circle concentric to the axis of the screw-pivot, of a locking cap-plate, C, having projecting pins *b'* and a square center hole, *a'*, fitting over the end of the screw-pivot, and of a fastening-screw, D, that is applied into a threaded socket-hole of the square end of the screw-pivot, substantially as set forth.

260,691. THRASHING-MACHINE. JOSEPH KOONS and ELMER E. KOONS, New Auburn, Minn. Filed Aug. 10, 1881. (No model.)



Claim.—1. In combination with a straw carrier or platform, carried at one end by a rock-shaft, flanged supporting and guiding plates T, pivoted at one end and slotted at the other, whereby they may be adjusted to vary the line of movement of one end of the platform without altering the movement of the other end.

2. In combination with the sections *a b* of the straw-carrier, connected with an intermediate rock-shaft, as shown and described, a separator consisting of a series of fingers projecting from a cross-bar carried by the arms of the rock-shaft, as set forth.

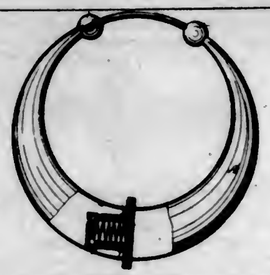
3. In combination with the sections *a b* of the straw-carrier, arranged end to end and having their proximate ends carried by an intermediate rock-shaft, a vibrating separator, substantially such as described, located between the sections and adapted to rise as they move apart, whereby a perfect separation of the stream of straw is effected.

4. In combination with a screen or screens, a grain-table provided with openings arranged diagonally across its face, and a raking device adapted and arranged to move in a straight line over the openings, whereby the grain is delivered gradually through them.

260,692. BAR-RING. GEORGE KEMMENTS, Newark, N. J. Filed June 30, 1881. (Model.)

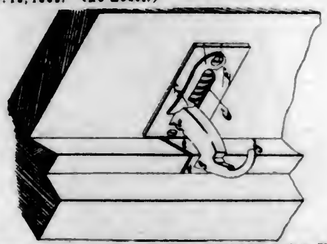
Claim.—1. The sleeve F, having transverse slots G G, the plate C, having aperture H, with two opposite notches, J, the end plate, C', having sleeve K with studs L, and the spring M, in combination with the segmental parts A A', as and for the purpose specified.

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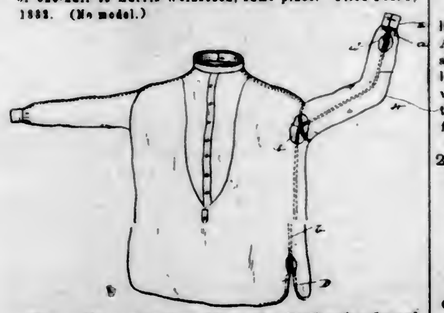
2. In a hoop ear-ring, the combination, with the segmental or analogous parts A and A′, pivoted to each other to swing out of the plane of the ring they form, of the ear-wire D, fastened to the end of one segmental part and fitting in a notch in the end of the other, substantially as herein shown and described, and for the purpose set forth.

260,693. LATCH. FREDERICK J. LEE, Oswego, Kans. Filed Apr. 18, 1882. (No model.)



Claim.—The combination of the slotted door-plate E, formed with a thumb-piece or handle, the slotted inside plate, F, the guides *h h* and posts *i i* on this plate, the spring G, applied on these guides, and the latch D, constructed with a handle on one end, a fulcrum-notch, a catch, *g*, and a handle, *g′*, all substantially in the manner and for the purposes described.

260,694. SHIRT. DAVID LUBIN, Sacramento, Cal., assignor of one-half to Harris Weinstock, same place. Filed Feb. 1, 1882. (No model.)



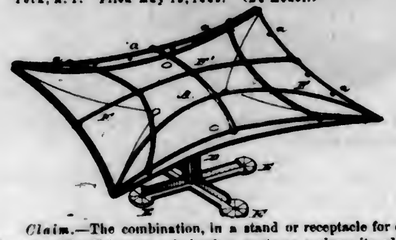
Claim.—The combination of the cord *a*, binding the edges of the sleeve-slit E, the cord *b*, looped to cord *a*, extended along the sleeve-seam, the seam at the side of the shirt-body, and looped to a cord binding the edges of the slit D, and the armhole-cord crossing the cord *b*, all substantially as described.

260,695. THIMBLE. DAVID LUBIN, Sacramento, Cal., assignor of one-half to Harris Weinstock, same place. Filed Feb. 1, 1882. (No model.)



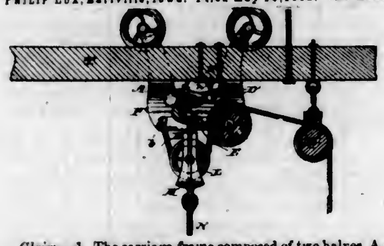
Claim.—A thimble having two annular guards or flanges, an indented crown, and an indented portion between said flanges, substantially as described.

260,696. FLOWER-STAND. ALBERTUS T. LUNDQUIST, New York, N.Y. Filed May 10, 1882. (No model.)



Claim.—The combination, in a stand or receptacle for cut flowers, of the dish or pan A, having apertures *a* along its edge, and set at a suitable angle on the cross or frame B, having stem C *c*, socketed standard D, having feet E and set-screw D′, and wire frame F F′, of a shape or outline conforming to that of the dish A, all constructed and arranged substantially as and for the purpose herein shown and described.

260,697. HAY ELEVATOR AND CARRIER. JOHN H. LUX and PHILIP LUX, Earlville, Iowa. Filed May 15, 1882. (No model.)

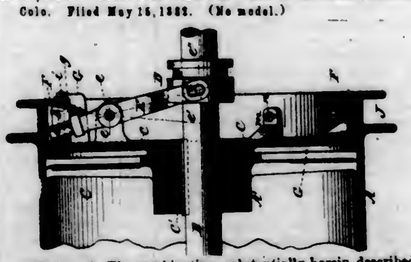


Claim.—1. The carriage-frame composed of two halves, A and A′, united by bolts *a a′*, and cast with the lugs *b* and concavities *b′*, forming the bell-shaped mouth B, substantially as set forth.

2. The combination of the sheave-frame M, provided with the sheave L, and having the shank M′ and rigid ball *m*, with the carriage A A′, provided with the studs E, pivoted socket or catch F, bell-shaped mouth B, and lever composed of the weighted long arm D, having offset *d* and short arm D′, constructed and combined as and for the purpose herein shown and specified.

3. The combination of the track-beam T, having the triangular combined stop and trip-block H, of triangular shape, carriage A A′, provided with the studs E, pivoted socket or catch F, bell-shaped mouth B, and lever composed of the weighted long arm D, having offset *d* and short arm D′, and sheave-frame M, provided with the hoisting-sheave L, and having shank M′ and rigid ball *m*, the whole constructed and arranged to operate in the manner and for the purpose herein shown and described.

260,698. FRICTION-CLUTCH. DAVID MCINTOSH, Denver, Colo. Filed May 15, 1882. (No model.)



Claim.—1. The combination, substantially herein described, in a friction-clutch for pulleys and hoisting-drums, of the disk C, fixed on the shaft, the sliding collar D, and a friction-band, F, with a lever, E, pivoted to said disk, having one end connected to one end of the friction-band and the other end to the sliding collar, and operating within an oblique slot in one or in the other connection, whereby the sliding movement of the collar will vibrate the lever by direct connection to apply and release the friction-band.

2. The combination, in a friction-clutch, of the disk C, fixed on the shaft, and the friction-band F, having the crosswise oblique slot *b* near one end, with a lever, E, pivoted to the disk having one end operating within the crosswise oblique slot of the band, and the sliding collar D, having a slotted connection with the other end of said lever, for operation as set forth.

3. The clutch-band F, having the end re-enforcing block *g* and the oblique slot *b* therein, and the set-screw H, pivoted to the other end of said band, in combination with the lever E, its operating-collar D, and the disk C, provided with the lug G, for the pivoted set-screw, the said re-enforced band end *g* having slots *h* and confining-screws *i*, substantially as described, for the purpose specified.

4. The combination of the friction-band F with the disk C, having the brackets *m* and screws *n*, the lever E, connected with the movable end of said friction-band, and the screws *i* and H, for confining said band to the disk, substantially as described, for the purpose specified.

5. The disk C of the friction-clutch device, having the hub-bearing C′, in combination with the drum or pulley having the sleeve A′ fitted to revolve upon said hub-bearing, the friction-band, and means for operating it, substantially as herein set forth.

6. The friction-clutch device herein described, consisting of the disk C, the lever E, pivoted to the face of said disk, the friction-band F, having the re-enforcing block *g* and the oblique slot *b* at one end and the set-screw H pivoted to the other end, and the sliding collar D, the said friction-band being supported by the bracket-screws *n* and having its lever connecting end movably confined to the disk, all constructed and adapted for application to the shaft and to the pulley or drum thereof, substantially as described, for the purpose specified.

260,699. WASH-BOARD. WILLIAM E. MCKINNON, Buena Vista, Miss. Filed Apr. 11, 1882. (Model.)



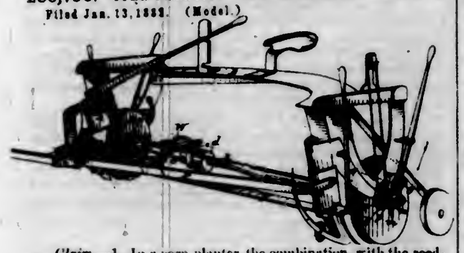
Claim.—1. In a wash-board, the combination of the frame A, two rubbing-surfaces composed of rollers, and an intermediate corrugated sheet of metal, G, the rollers B being spaced sufficiently far apart to allow the corrugations of the sheet metal to project up between them, and thus form recesses or pockets to catch the soap and water, substantially as shown.

2. The combination of the frame A, the rollers, the wires, and the tightening devices, substantially as described.

3. In a wash-board, the combination of the frame, the rollers, means for regulating the ease with which the rollers will revolve, and the corrugated metal plate, which is placed under the rollers, so as to catch the soap and water, substantially as set forth.

4. In a wash-board, the combination of the frame A, having its lower ends shaped as shown, with the removable feet R, having their upper ends correspondingly shaped, and provided with studs or projections, substantially as specified.

260,700. CORN-PLANTER. ENOS M. HILES, Lawrence, Kans. Filed Jan. 13, 1882. (Model.)



Claim.—1. In a corn-planter, the combination, with the seed-box, vertically-adjustable automatic seed cut-off, and the reciprocating seed-slide, of independent cut-off plates which are adapted to be inserted between said automatic cut-off and seed-slide, as shown and described.

2. In a corn-planter, the combination, with the rotating axle and marking devices hung loose thereon, of adjustable bars or levers which may be thrown into position for engaging or locking with said marking devices for holding them out of work, as hereinbefore specified.

3. In a corn-planter, the combination, with the rotating axle and marking devices hung loose thereon, of levers having notched outer ends, and means for adjusting said levers to throw them into position for holding the markers up or out of work, as shown and described.

4. In a corn-planter, the combination, with the rotating axle and marking-bars hung thereon, of clutch-boxes sliding on a feather, and means for adjusting them for the purpose of locking them with the markers, as shown and described, for the purpose specified.

5. In a corn-planter, the combination of the friction-clutch or locking devices, as described, with the carrying and covering wheels, the axle having the cam-grooved boss, and the seed-slide and lever, all as shown and described, to operate as specified.

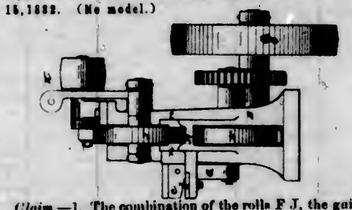
6. In a corn-planter, the combination, with the seed-slide and cam-grooved boss on the axle, of the lever having its front end made spherical, and the journal-box formed of two blocks having semi-spherical recesses in their opposite faces, and secured in a keeper fixed on a rigid portion of the machine, as shown and described.

7. In a corn-planter, the combination, with the rotating axle and markers hung loose thereon, and constructed with a half clutch-box, *n*, of the corresponding clutch-boxes, *m*, the hand-levers for adjusting them, and levers having notched ends for engaging with the markers, all as shown and described, for the purpose specified.

8. The combination of the reciprocating seed-slide and rotating axle having a cam-grooved boss, the pivoted lever for operating the slide, the markers, and clutch devices revolving with the axle, and placed circumferentially on the latter with reference to the seed-dropping devices, as shown and described, for the purpose specified.

9. In a corn-planter, the combination of the spring or foot piece W and the cam-grooved boss *d*, having shoulders arranged on opposite sides, with the rotating axle, the seed-hoppers and seed-slide, the lever for operating the latter, and means for adjusting it (seed-slide) when the machine is at rest, as shown and described.

260,701. MACHINE FOR STRAIGHTENING METALLIC STRAPS OR BANDS. LEWIS MILLER, Philadelphia, Pa., assignor to the Verres Iron Company, same place. Filed Mar. 15, 1882. (No model.)



Claim.—1. The combination of the rolls F J, the guide-table N, the vertically-movable anvil, the spring beneath this anvil, and the hammer P, substantially as and for the purposes described.

2. The combination of the two pairs of rolls F J, the levers K K, affording bearings for the upper pair of rolls, the spring between the upper ends of the levers K, the yielding anvil supported by a spring, the vertically-movable hammer, and the angular director Q, substantially as described.

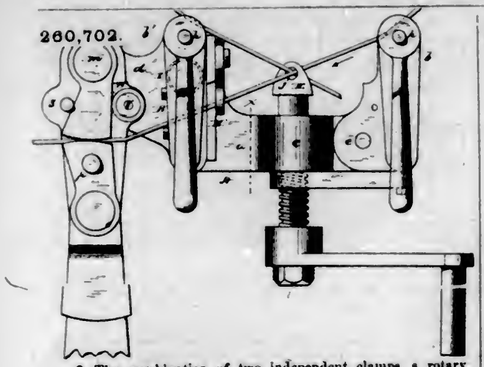
3. The combination, with the straightening devices described, of the knife-bed H, its knife *b*, the vertically movable knife-head G, its knife *c*, and the anti-friction roller *r*, applied to one of the cheeks of the main frame, substantially as described.

260,702. WIRE-TIGHTENER FOR BALES AND BUNDLES. LEWIS MILLER, Philadelphia, Pa., assignor to the Verres Iron Company, same place. Filed Feb. 15, 1882. (No model.)

Claim.—1. In a machine for tightening wire about bales and bundles and tying the same, the combination of clamps, a twister, shears, and a lever provided with a tightening-grip, substantially as described.

2. In a wire-band tightener and tyer, the combination of two independent clamps, a perforated twisting-eye, a screw-threaded shaft having this eye fixed to it and provided with a crank-arm, and a detachable nut, substantially as described.

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3. The combination of two independent clamps, a rotary twistor which forms the tie, a wire-cutter, and means for causing the twister to recede during the operation of twisting the wire, substantially as described.

4. The combination of clamps for the wire, a wire-twister, a tightening-lever, and clamping-segments applied to this lever, substantially as described.

5. The combination of two independent clamps for the bale-wire, a wire-twister to form the twisted tie, a tightening-lever for drawing the wire tightly about the bale or bundle, wire-clamping segments, a stop, and an elastic cushion for one of the segments, substantially as described.

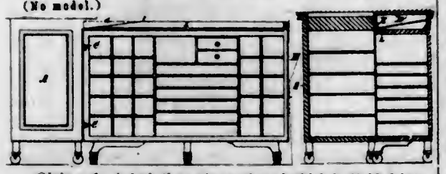
6. The combination of the frame A, the offsets *b b'*, the smooth-bore hub *c*, the offset *d*, the clamps, the twister, the shears, and a tightening-lever, substantially as described.

7. The combination of the anti-friction roller L, the clamps, the twister, the shears, and a tightening device, substantially as and for the purpose described.

8. In combination with two independent wire-clamps, a pair of wire-cutting shears, and a wire-tightening device, the arrow-head perforated twister or tyer applied to a shaft which moves endwise during the twisting operation and casts the twists or coils free from each other, substantially in the manner described.

9. The combination, in a wire-band tightener and tyer, of the twister, the clamp on the fixed offset *b'*, and the clamp on the pivoted offset *b*, substantially as described.

260,703. DESK. JOSEPH A. MOORE, DANIEL D. VAN WIE, and JOHN P. RECKER, Indianapolis, Ind., assignors to the Moore Combination Desk Company, same place. Filed Aug. 2, 1880. (No model.)



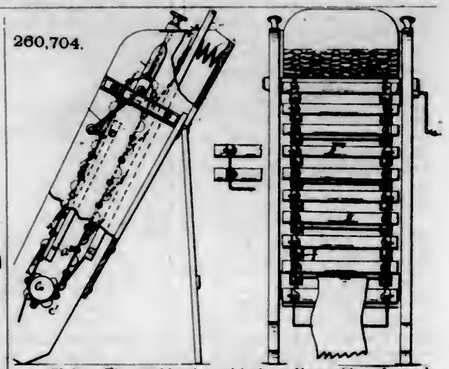
Claim.—1. A desk the main portion of which is divided into two parts, A and B, one of which is provided with the slides *d*, on which the top D rests, said top being of sufficient size to entirely cover said main portion and adapted to be moved back and forth on said slides, whereby it will either cover both the parts A and B or only the one to which it is attached, all substantially as shown and described, and for the purposes specified.

2. The combination, in a desk, of one wing having a movable top, a locking device for said top, and another wing hinged to the former and provided with a strike for operating said locking device when the wings are closed together, substantially as set forth.

3. The combination of the wing A, having the vertically-moving locking device or catch E, the sliding top D, mounted on said wing A, and provided with a notch or piece with which said catch may engage, and the wing B, the edge of which is adapted to come in contact with said catch, and thus automatically force it into engagement as said wings come together, all substantially as and for the purposes set forth.

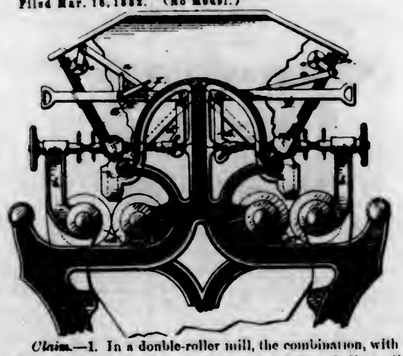
260,704. WASHING-MACHINE. WALTER A. S. MURPHY, Chicago, Ill., assignor of one-fourth to August Lindale, same place. Filed Sept. 28, 1881. (Model.)

260,704.



Claim.—The combination, with the endless rubber of a washing-machine, composed of slats having countersinks near their ends and transverse slots extended across said countersinks, of a bail having its arms journaled below the rubbing-surface of the endless rubber, and having its end parallel arms arranged to drop into the transverse slots in the adjacent slats and rest below the surface of said endless rubber, substantially as set forth.

260,705. ROLLER-MILL. UDOLPHO H. ODELL, Dayton, Ohio. Filed Mar. 16, 1882. (No model.)



Claim.—1. In a double-roller mill, the combination, with the roller-adjusting shafts, the swinging arms, and the grinding-rollers, of the upright levers provided with segmental or eccentric slots, a horizontal lever connected with the upper ends of the upright levers, and the hopper-gate mechanism connected with the horizontal lever, substantially as and for the purposes described.

2. In a double-roller mill, the combination of the laterally-movable grinding-rollers, the horizontal roller-adjusting shafts, the swinging journal-arms, the levers having segmental or eccentric slots, the through-shafts, the horizontal lever rods or bars connected with the slotted levers, the hopper-gates, and connecting devices between the hopper-gates and the lever rods or bars, substantially as described.

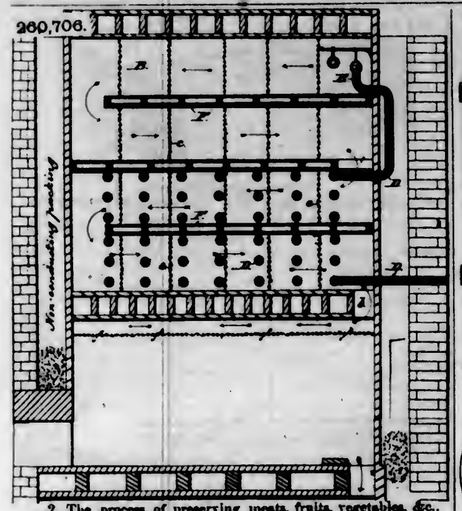
3. The combination, with the laterally-movable rollers, of the horizontal lever rods or bars, a coupling device for connecting and disconnecting the rods or bars, and connecting devices between the laterally-movable rollers and the horizontal lever rods or bars, substantially as described, whereby the rollers are capable of independent or simultaneous adjustment to permit one side only of the machine to be operated, as set forth.

4. The combination of the levers *d*, the lever rods or bars E E', the connecting-link G, and the latch I with the laterally-movable grinding-rollers and devices connecting the same with the lever rods or bars, substantially as described.

260,706. PROCESS OF AND APPARATUS FOR PRESERVING FOOD. ORIN PARKER, Washington, D.C. Filed Nov. 12, 1881. (No model.)

Claim.—1. The process of preserving meats, fruits, vegetables, &c., which consists in desiccating the air by freezing out the moisture and then passing this dried and cold air into the chamber containing the articles and maintaining its temperature above the freezing-point, as described.

260,706.

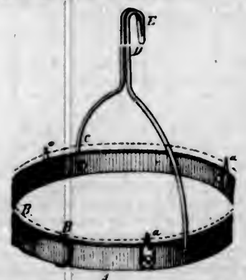


2. The process of preserving meats, fruits, vegetables, &c., which consists in expanding cooled and compressed air to reduce the temperature below the freezing-point and desiccate the air by freezing out the moisture, then raising the temperature above the freezing-point and maintaining such temperature about the articles to be preserved as described.

3. The process of preserving food which consists in desiccating the air by freezing out the moisture, then raising the temperature of this air by causing it to impart a part of its cold to the compressed air not yet expanded, and then admitting this air to the preserving-room and maintaining the temperature of the same slightly above the freezing-point, as described.

4. The combination of the expansion and desiccating chamber A, the preserving-room B, and the coil of compressed-air pipes D, located in the path of the air from the expansion-chamber to the preserving-room and opening into the expansion-chamber through a pressure-regulator, as described.

260,707. BAG-HOLDER. JOHN R. PENDLETON, Washington, D.C. Filed Apr. 22, 1882. (No model.)



Claim.—As an article of manufacture, the within-described bag-holder, consisting of elastic band A, spurs *a*, keepers B, handle D, and hook E, substantially as and for the purposes specified.

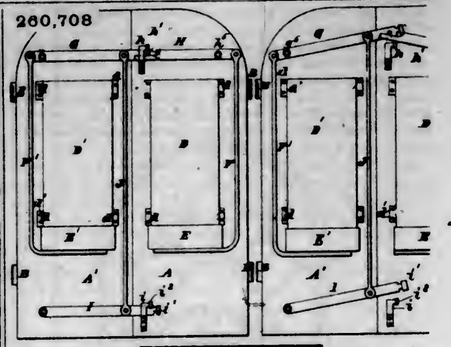
260,708. SHUTTER-FASTENER. MICHAEL A. PIGOTT, St. Louis, Mo. Filed May 9, 1882. (No model.)

Brief.—In case of fire water is forced through slats in the center of the shutters and falls in boxes or troughs. The weight of the water in said boxes or troughs raises levers, and thereby unlocks the shutters, which are thrown open by springs or other suitable means.

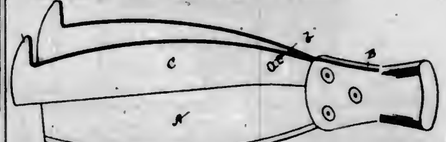
Claim.—1. The combination of shutters A A' with slats C, chutes D D', boxes E E', rods F F', levers G H, and hook *h*, substantially as set forth.

2. The combination of shutters A A' with slats C, chutes D D', boxes E E', rods F F', levers G H, hook *h*, rod J, arm I, and hook *i*, all substantially as set forth.

260,708

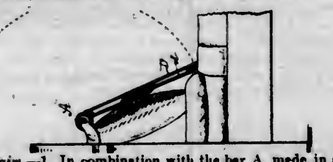


260,709. SUGAR-CANE STRIPPER. EMERY P. PUTNAM, La Chinche, La. Filed Nov. 10, 1881. (No model.)



Claim.—As a new article of manufacture, the cane-stripper consisting of the broad hooked cleaver A and the narrow hooked stripping-blade C, set at an angle and fixed at one end of the handle B, substantially as described.

260,710. PILLOW-SHAM HOLDER AND LIFTER. EBENEZER W. RIDER, Racine, Wis. Filed Apr. 22, 1882. (No model.)

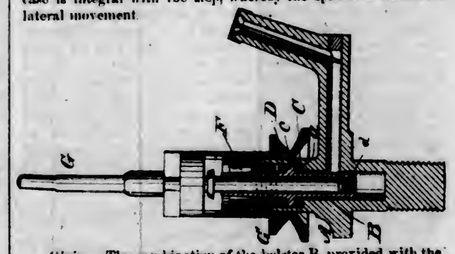


Claim.—1. In combination with the bar A, made in adjustable sections *a a'*, joined by the sleeve *a²*, and having end caps, *b*, the brackets C, having an elongated opening, *c'*, slot *c²*, and notches *c³*, all arranged to operate as set forth.

2. The bar A, having end caps, *b*, journal-pins *b'*, and lugs *b²*, in combination with the brackets C, elongated opening *c'*, slot *c²*, and notches *c³*, all arranged to operate substantially as shown and described.

260,711. BEARING FOR SPINNING-SPINDLES. ALBERT E. SHERMAN, Pawtucket, R.I. Filed July 29, 1881. Renewed Apr. 26, 1882. (No model.)

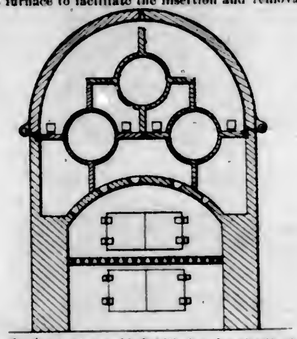
Brief.—The bolster provided with a cylindrical enlargement which is opposite the pull of the band and fitting loosely in the case is integral with the step, whereby the spindle is allowed a lateral movement.



Claim.—The combination of the bolster B, provided with the collar *c*, the elastic cushions C D on opposite sides of the said collar, and the thimble F with the bolster-case A, provided with the annular shoulder *a*, and the spindle G, stepped in the said bolster, whereby the jarring motion is prevented and the spindle adapted to be run at a higher rate of speed, substantially as set forth.

260,712. GAS APPARATUS. ROLAND H. SMITH, Pittsburg, Pa. Filed Apr. 13, 1881. (No model.)

Brief.—The retort-furnace is provided with two smoke-flues, one connecting with each end thereof, each flue being provided with a damper for controlling the temperature of each end of the retorts. The arched top of furnace is divided centrally and longitudinally, and each part thereof is hinged to the wall on opposite sides of the furnace to facilitate the insertion and removal of retorts.

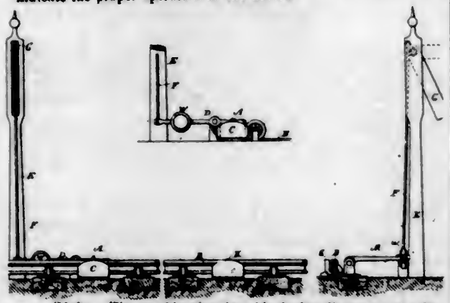


Claim.—1. A retort provided with four longitudinal flanges on the outside radiating from equidistant points, substantially as and for the purposes specified.

2. In combination with the furnace, the flanged retorts, set as described, and forming a series of flues, whereby the products of combustion are carried around said retorts and the heat is thoroughly utilized.

260,713. RAILWAY SIGNALING APPARATUS. ROBERT A. STANLEY and ROBERT STANLEY, Manchester, County of Lancaster, England. Filed Feb. 23, 1882. (No model.) Patented in England May 25, 1881, No. 2,227.

Brief.—The signal is brought to "danger" through a treadle-lever secured at its outer end to a counterweighted lever, which operates the signal-connection, and it is restored to its normal position through a pull from a treadle-lever in advance, the connection which restores the signal to "safety" extending to a station to indicate the proper operation of the device.



Claim.—The combination, in a block signaling apparatus for railways, of a main lever, A, mounted at right angles to the track, and constructed with a head, C, adapted to coact with the wheels of passing trains, a second lever, D, parallel to the track, adapted to transmit pulling impulses from said main lever, and provided with a counter-weight, a connecting rod or wire, F, transmitting said impulses to a pivoted semaphore-arm, G, a wire, H, leading from said second lever to a station ahead, a resetting-lever, K, similar to said main lever, and deflecting-pulleys to coact with said wire H, as and for the purpose hereinbefore described, and illustrated on the accompanying drawings.

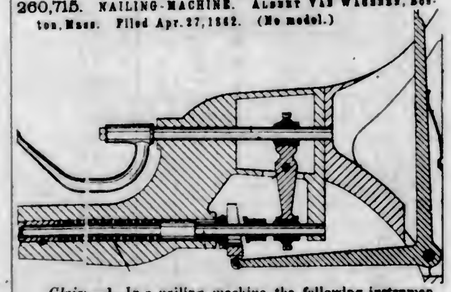
260,714. LEACHING APPARATUS. STEPHEN STAUBS, Pittsburg, Pa. Filed May 17, 1882. (No model.)

Claim.—In a leaching apparatus, a filter composed of a suitable tank having a series of perforated plates which separate the lower and upper portions of said tank, a sheet of muslin, or equivalent material, laid upon said plates, forming a basis for a layer of sand, and a second series of perforated plates for covering the sand, all substantially as and for the purpose set forth.

260,714.



260,715. NAILING-MACHINE. ALBERT VAN WAGENEN, Boston, Mass. Filed Apr. 27, 1882. (No model.)



Claim.—1. In a nailing-machine, the following instrumentalities, viz: the horn, mechanism connected therewith to support or keep the horn pressed upward, substantially as described, against the stock, the mechanically and automatically reciprocated horn-depressing device, the engaging device, and the variable intermediate or wedge and connected devices under control of the operator to change the position of the said intermediate or wedge, for the purposes set forth.

2. The horn, a lever connected therewith and mounted on a fixed fulcrum, and means to automatically and mechanically turn the said lever on its fulcrum to depress the horn after driving each fastening, combined with a variable intermediate or wedge made movable by the operator, independent of the regular mechanism of the machine, to control the extent of such depression of the horn, substantially as described.

260,716. SHIRT. ISAAC WALLACH, New York, N. Y., assignor to H. Wallach's Sons, same place. Filed May 13, 1882. (No model.)



Claim.—1. In a shirt or analogous garment, the combination, with the neckband and body portion of the garment, of a collar secured to the said body portion at its inner side and below the said neckband, substantially as and for the purposes set forth.

2. In a shirt or analogous garment, a collar secured to the inner side of the garment, and having that portion which folds over or about the neckband when the collar is turned out for use made thinner than the rest, substantially as and for the purpose set forth.

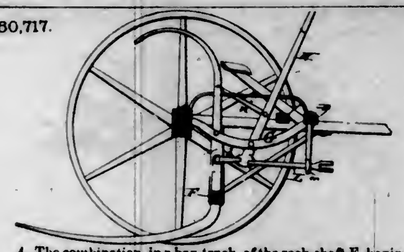
260,717. HAY-TRUCK. LEMUEL E. WARREN, Prattytown, assignor of two-thirds to George H. Smith, Webster, W. Va. Filed Dec. 20, 1881. (No model.)

Claim.—1. In a hay-truck, the combination of a rocking arm provided with tines with a draft-bar and the necessary connection between said parts, whereby the hay-rock is lifted by and carried on the tines by the forward draft of the team, all substantially as set forth.

2. In a hay-truck, the combination of a rocking bar provided with tines with lever H, draft-bar L, and link-connection *h*, all substantially as and for the purpose set forth.

3. The lever H, provided below its pivotal point with the draft-bar L, and link *h*, in combination with the tines, or their equivalent, all arranged to operate substantially as and for the purpose set forth.

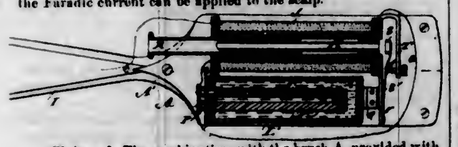
260,717.



4. The combination, in a hay-truck, of the rock-shaft F, having tines or their equivalent, with one or more clamping-teeth, lever H, link *h*, draft-bar L, and connecting-bar *s*, all constructed and arranged to operate substantially as and for the purpose set forth.

260,718. ELECTRIC BRUSH. JOHN W. WHARLEY, Jr., Bond Hill, Ohio. Filed Dec. 9, 1881. (Model.)

Brief.—An electric brush having an induction-coil, vibrating armature, and battery permanently attached to its back, whereby the Faradic current can be applied to the scalp.



Claim.—1. The combination, with the brush A, provided with metal pins D, of the battery L, the coil J, and the metal plate F, resting on the heads of the pins D and connected with the battery and coil, substantially as herein shown and described, and for the purpose set forth.

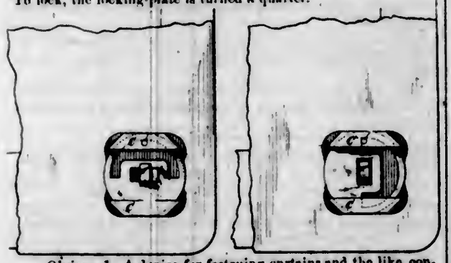
2. The combination, with the brush A, provided with metal pins D, of the battery L, the coil J, the metal plate F, resting on the heads of the pins D and connected with the coil, and of the metal plate X on the handle and connected with the coil, substantially as herein shown and described.

3. In an electric brush, the combination, with a battery, of spring-standards for holding it removably on the brush, substantially as herein shown and described, and for the purpose set forth.

4. In an electric brush, the combination, with the battery L, provided with projecting pins or studs O O', connected with the elements of the couple, of the apertured spring-standards P P', connected with the coil J, and of the standard Q, substantially as herein shown and described, and for the purpose set forth.

260,719. CARRIAGE-CURTAIN FASTENING. FELIX WESTWOOD, Wheeling, W. Va. Filed Apr. 14, 1882. (No model.)

Brief.—Tangs on the plates, which form recesses for the slotted locking-plate to turn in, pass through and secure the base-plates to the curtain. The movement of the locking-plate is limited by a fixed pin passing through the semicircular slot therein. The rectangular head of the stud is passed through the slots of the several plates when the locking-plate is turned to register therewith. To lock, the locking-plate is turned a quarter.



Claim.—1. A device for fastening curtains and the like, consisting of slotted base-plates secured to the curtain, and a locking-plate provided with a slot coinciding with the slot in the base-plates, and also provided with a semicircular slot in which a fixed pin or stud is received, the locking-plate being turned to bring its slot coincident with the slot in the base-plates to receive the elongated head and a fixed knob, and the pin and semicircular slot being adapted to limit the rotation of the locking-plate when said two slots are coincident, substantially as described.

2. The combination of the centrally-slotted base-plates, secured on opposite sides of the curtain, with the rotary centrally-slotted locking-plate provided at one side with a semicircular slot, the plates C, for retaining the locking-plate upon the outer base-plate, and the fixed stud or pin received in the said semicircular slot, substantially as described.

3. The combination, with the flat-headed knob, of the centrally-slotted base-plates that are secured to the curtain, the rotary locking-plate provided with a straight and a semicircular slot, the fixed stud or pin received in said semicircular slot, and the retaining-plates C, formed at their ends with shoulders that fit against the outer base-plate, and also provided with tangs which pass through the two plates and are bent upon the inner base-plate, so as to bind the plates firmly together, substantially as described.

260,720. CULTIVATOR. JOHN WEYMOUTH, Sangerville, Me. Filed Apr. 21, 1881. (No model.)



Claim.—The combination, with the cross-piece B, having slot C, of the angle-plate D, having wing E, provided with slot I and recess J, and wing F, having flange G, forming a bearing for the shank of a cultivator-blade, the square-headed bolt L, the washer M, having nibs N, and the nut O, as set forth.

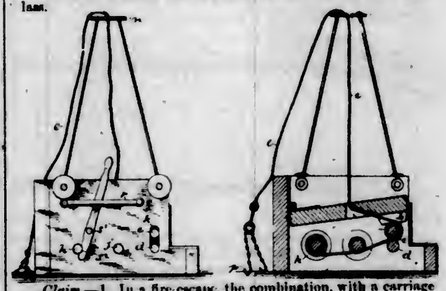
260,721. SUSPENDERS. HENRY C. WHITMARSH, New York, N. Y. Filed Mar. 31, 1882. (No model.)



Claim.—A cast-off for suspenders, consisting of a buckle or slide having a downward-extended portion carrying a stud or button, in combination with two independent suspender-ends having button-holes at both ends, substantially as set forth.

260,722. FIRE-ESCAPE. CHARLES P. WILLSON, Summit Point, W. Va. Filed Mar. 15, 1882. (No model.)

Brief.—The seat is hinged and bears against the clamping-rolls, forcing them together by the weight of the occupant. A brake on the outside of the car bears against the shaft of the wind-lass.



Claim.—1. In a fire-escape, the combination, with a carriage provided with a winding-roll, and clamping-rolls arranged in its lower part under the floor thereof, of a rope or wire wound around the winding-roll at its lower end and passing between the clamping-rolls, and a lever pivoted above the rolls and adapted to force the clamping-rolls together by the weight of the occupant or occupants, substantially as described.

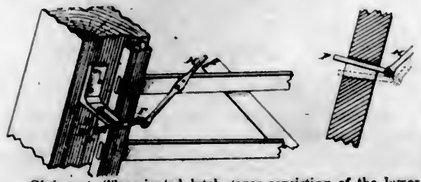
2. In a fire-escape, the combination, with a carriage, A, provided with a winding-roll, *b*, and clamping-rolls *c d*, arranged in its lower part under the floor thereof, of a rope, *e*, wound around

the winding-roll at its lower end and passing between the clamping-rolls and the seat *a*, hinged to the carriage, and provided with the projections *b b*, whereby the seat serves the double purposes of a seat and a lever to operate the clamping-rolls, substantially as described.

3. In a fire-escape, the combination, with a carriage provided with a winding-roll, an idler-roll, and clamping-rolls, all journaled in the sides of the carriage and arranged under the floor, of a rope or wire wound around the winding-roll at its lower end and passing around the idler-roll and between the clamping-rolls, and provided with a grappling-hook at its upper end, a lever adapted to force the clamping-rolls together, and a brake-lever for the winding-roll, substantially as described, and for the purpose set forth.

4. The combination of the carriage A, hinged seat *a*, having hole *l*, and projections *b b* on its lower face, inclined arms *s*, having ring *n*, roll *h*, idler *j*, and clamping-rolls *c d*, rope *c*, having a grappling-hook at its upper end, rack-bar *r*, and brake-lever *z*, substantially as described, and for the purpose set forth.

260,723. GATE-LATCH. PHILIP J. WIRE, Fork Union, Va. Filed Apr. 28, 1882. (No model.)

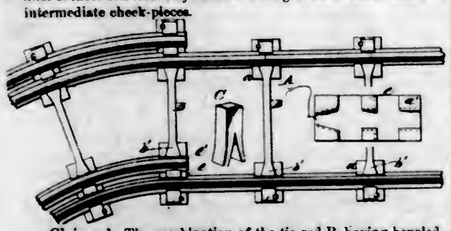


Claim.—1. The pivoted latch-lever consisting of the lower horizontal bar, F, and the long obliquely-extending arm H, rigidly connected with the end of said bar, in combination with the gate-post carrying the slotted right-angular plate C, and the wedge-shaped catch D, having the top flange, E, and the gate provided with an aperture for the passage of the latch-bar adapted to permit the downward movement of the latter, as and for the purpose set forth.

2. The latching-lever herein described, consisting of the lever-arm H, having a square hole in one end thereof, and provided with one or more bolt-holes to receive a fulcrum-pin, in combination with the latch-arm F, having the square arm G with screw-threaded end F' and the nut *g*, for the purpose set forth.

260,724. COMBINED RAILWAY CHAIR AND SLEEPER. ADDISON L. WITTNER, Jr., Summit Point, W. Va. Filed Apr. 1, 1882. (No model.)

Brief.—By the construction of blocks with transverse sockets having one beveled cheek and longitudinal dovetailed and beveled grooves to receive the enlarged ends of cross-bars (all chairs are combined with tie-rods to form sleepers. The rails are held in the chair-sockets by cheek-pieces secured by split keys set in grooves cut to correspond with each other in the cheek-pieces and the chairs. For use with double rails the chairs have two parallel sockets connected by recesses having beveled walls to receive intermediate cheek-pieces.

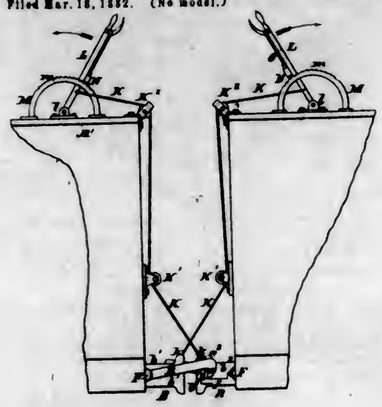


Claim.—1. The combination of the tie-rod B, having beveled tapering ends, with the sleeper A, having a transverse socket, a longitudinal dovetailed groove crossing its socket and cheeks *a' a²*, and the keyed cheek-piece *c*, substantially as and for the purpose set forth.

2. The combination of the tie-rod B *b'*, the sleeper A, having the rail-socket, the cheeks *a' a²*, and the dovetailed groove *b*, the cheek-piece *c*, and the forked key C with its arms turned outward, substantially as and for the purpose set forth.

3. The combination of the tie bar or rod B *b'*, the sleeper A, having the double rail-socket, the separating-partition *e*, having a dovetailed groove, the dovetailed block or slide *c'*, the sliding cheek-piece *c*, and the key C, substantially as and for the purpose set forth.

260,725. CAR-COUPLING. DANIEL W. WOODS, St. Louis, Mo. Filed Mar. 18, 1882. (No model.)



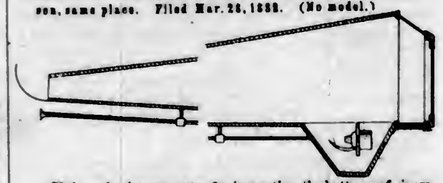
Claim.—1. The combination of a draw-head having side projection, *b'*, catch-block I, having dowel-stud *i*, and securing-bolt F, as set forth.

2. The combination of a draw-head having side projection, *b'*, catch-block I, having dowel-stud *i*, gravitating coupling-bar E, having toe G, a spring, H, and a bolt, F, forming a pivot for the coupling-bar, and the means for securing the catch-block, as set forth.

3. The combination of the draw-head having gravitating coupling-bar E, the line or chain K, arched ratchet-bar M *m*, lever L, and dog N, adapted to hold the coupling-bar in desired position for coupling.

4. The gravitating coupling-bar E, having hook *e'*, for ready disengagement of the supporting line or chain, as set forth.

260,726. SUBMARINE TELESCOPE. WILLIAM W. WRIGHTSON, Baltimore, Md., assignor of one-half to Thomas S. Wrightson, same place. Filed Mar. 28, 1882. (No model.)



Claim.—1. An apparatus for inspecting the bottoms of rivers, harbors, or other bodies of water, consisting of a tube having an opening at the top and closed at the bottom with glass, provided with a recess and lamp, substantially as described.

2. The tube A, open at the top and having a glass bottom, the vertical glass back, and the inclined glass sides, substantially as described.

3. The tube A, having a glass bottom and glass sides, the hinged shutters, and the lamp placed in a recess, substantially as described.

4. The tube A, provided with a recess, a suitable lamp placed therein, and the smoke-tube extending to the top, substantially as described.

260,727. IRONING-MACHINE. ALFRED G. YERBURY, Chicago, Ill. Filed Sept. 14, 1881. (No model.)

Claim.—1. In an ironing-machine, the combination, with the oscillating ironing-table supporting the fabric, of a vertically-reciprocating and laterally-moving iron, substantially as described.

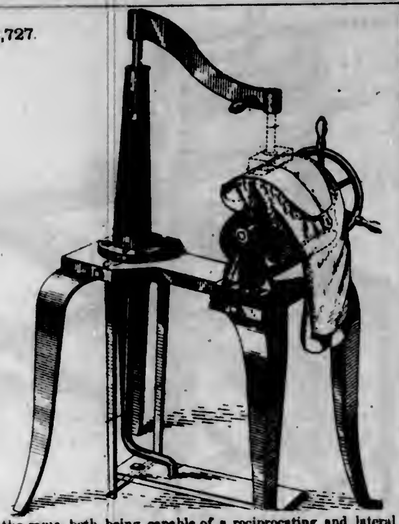
2. The combination, with the oscillating ironing-table, of a vertically-reciprocating and laterally-moving iron and a standard supporting the same above the table, substantially as described.

3. The combination, with a segmental ironing-table, of a counterbalancing-weight for the same, substantially as described.

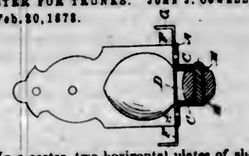
4. In an ironing-machine, the combination, with the treadle, of the arm and reciprocating rod which sustain the iron, said rod being provided with a suitable crank-arm pivoted to the treadle, substantially as described.

5. The combination, with the iron and with the rod sustaining the same, both being capable of a reciprocating and lateral movement, of an oscillating-segment ironing-table, substantially as described.

260,727.



260,728. CASTER FOR TRUNKS. JOHN J. COWELL, Newark N. J. Filed Feb. 20, 1878.

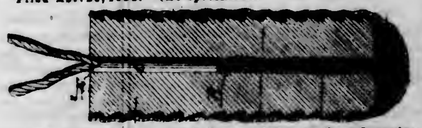


Claim.—1. In a caster, two horizontal plates of sheet metal, one provided with pendent ears for the support of a roller and the other with lips for bracing said ears, the two plates combined substantially as described, whereby one will rest on and a portion thereof project through an opening in the other, substantially as described.

2. The sheet-metal supporting-plate A, providing with an opening and projecting lips, in combination with the sheet-metal roller-plate provided with ears projecting through the opening in the supporting-plate, and prevented from withdrawal therefrom by the axle of the roller, substantially as set forth.

3. A caster composed of two plates, D and A, the former provided with ears E and G and the other with lips C, the ears E projecting through plate A, substantially as set forth.

260,729. FIRE-KINDLER. JAMES H. DAVIS, Ypsilanti, Mich. Filed Apr. 20, 1882. (No specimens.)



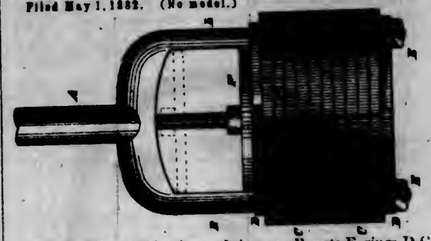
Claim.—1. A corn-cob kindler consisting of the cob-section A, the rigid plug C, driven into one end thereof, and the flexible wick secured in its place by said plug, substantially in the manner and for the purposes described.

2. A corn-cob kindler consisting of a corn-cob section saturated with inflammable material, a plug, C, of rigid material, also saturated with inflammable material, and a wick which is held in place by said plug, substantially as described.

3. The combination of a corn-cob, a rigid wooden plug, a wick, a core, G, and an inflammable closing end, F, substantially as and for the purpose described.

4. The new article of manufacture, to wit: a corn-cob saturated and coated with a product of petroleum and covered with a varnish which will prevent the evaporation of the petroleum, in combination with a wick and a plug for securing the wick in its place, substantially as described.

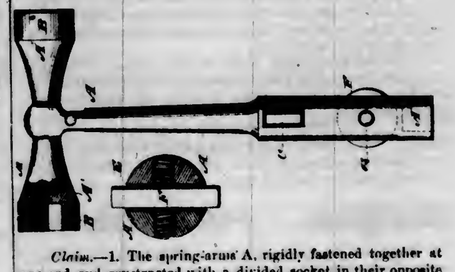
260,730. PUMP-BUCKET. PETER J. RITZDORF, St. Louis, Mo. Filed May 1, 1882. (No model.)



Claim.—In combination, rod A, arms B, nuts E, rings D C disk F, and guide-rod G, all arranged substantially shown and described.

REISSUES.

10,145. ADJUSTABLE SOCKET-WRENCH. FELIX CHANTRELL, Bridgeport, Conn. Filed May 29, 1882. Original No. 254,375, dated Feb. 28, 1882.



Claim.—1. The spring-arms A, rigidly fastened together at one end and constructed with a divided socket in their opposite ends, in combination with a right-and-left-hand screw and a thumb-wheel for adjusting the socket, substantially as and for the purpose set forth.

2. In a socket-wrench, the combination, with two arms rigidly secured together at one end and provided with an enlarged stock at their opposite ends, having a divided socket formed therein, said arms being made broadest in a line at right angles to their line of opening and closing, of a right-and-left-hand screw and a thumb-wheel for opening and closing the divided socket, substantially as and for the purpose set forth.

3. The combination, with the spring-arms A, rigidly secured together at one end, and constructed with a stock provided with a divided socket and with recesses E E, of the right-and-left-hand screw G and thumb-wheel F, substantially as and for the purpose set forth.

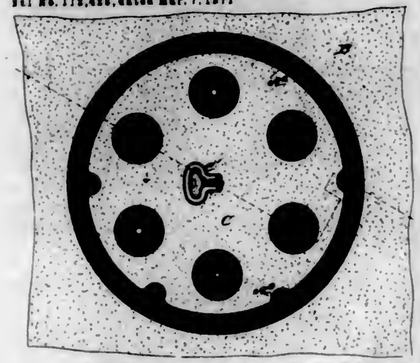
4. The combination, with the arms A, rigidly secured together at one end and provided with a divided socket at their opposite ends, a slot or mortise in one arm, and a projection, C, in the inner face of the other arm, of a right-and-left-hand screw and a thumb-wheel located between the two sections of the divided stock, substantially as and for the purpose set forth.

5. An adjustable socket-wrench consisting of two long arms rigidly secured together at one end and provided with a divided socket in their opposite ends, a right-and-left-hand screw and thumb-wheel for adjusting the socket, and two short arms formed integral with the fixed ends of the long arms and arranged at right angles thereto, substantially as and for the purpose set forth.

6. An adjustable socket-wrench consisting of two long arms rigidly secured together at one end and provided with a divided socket in their opposite ends, a right-and-left-hand screw and thumb-wheel for adjusting the socket, and two short arms formed integral with the fixed ends of the long arms and arranged at right angles thereto, the outer ends of said short arm being provided with sockets, substantially as and for the purpose set forth.

7. The three-armed T-wrench A, divided on a plane passing through its three arms and their end sockets, and having its sections held together by the socket-bands B B on the short arms and intermediate rivet through the long arm and near the end of long arm by reversely-threaded screws on wheel F, and correspondingly-threaded sockets in the opposite sections of long arm, as shown and described.

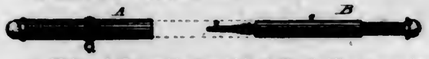
10,146. COVER FOR OPENINGS IN SIDEWALKS. DALE TILE MANUFACTURING COMPANY, (LIMITED,) New York, N. Y., assignee of William Dale, deceased. Filed June 6, 1882. Original No. 112,426, dated Mar. 7, 1871



Claim.—1. The combination of the metallic dish A A', bull's-eyes A', and wooden block C, or other non-slippery material, used as a filling for the cavity of the dish between and around the bull's-eyes, substantially as set forth.

2. In combination with the vault-cover composed of the parts A A' C, the openings A' near the periphery of the dish A and surrounding the non-slippery filling C, substantially as and for the purpose set forth.

10,147. COMBINED WATCH-CHAIN BAR AND PENCIL. LE ROY W. FAIRCHILD, New York, N. Y. Filed May 13, 1882. Original No. 218,081, dated Sept. 2, 1879.



Claim.—1. In combination with a hollow holding case or bar, a detachable extension-case constructed in telescopic sections, and adapted to be extended by the operation of withdrawing the extension-case from its holding-case and retracted by returning it thereto without further manipulation, substantially as described.

2. A detachable extension-case, B, having its exterior sliding section arranged to operate the point *e*, in combination with a hollow holding case or bar, A, the said parts being arranged to operate substantially as described, whereby the inner case, B, is extended by withdrawing it from the outer case and is contracted by shoving it into said outer case.

10,148. BENCH CLOTHES-WRINGER. EDGAR A. JOBBS, Sturgis, Mich. Filed Nov. 23, 1881. Original No. 240,723, dated Apr. 26, 1881.

Claim.—1. The combination, with the wringer-frame and wringer-rollers journaled therein, of a water-pan located below the wringer-rollers and between the side pieces of the wringer-frame, and supported on a vertical shaft journaled in the cross-bar of the wringer-frame, and a spring encircling the vertical shaft or pivot and serving to retain the pan in the desired adjustment, substantially as and for the purpose set forth.

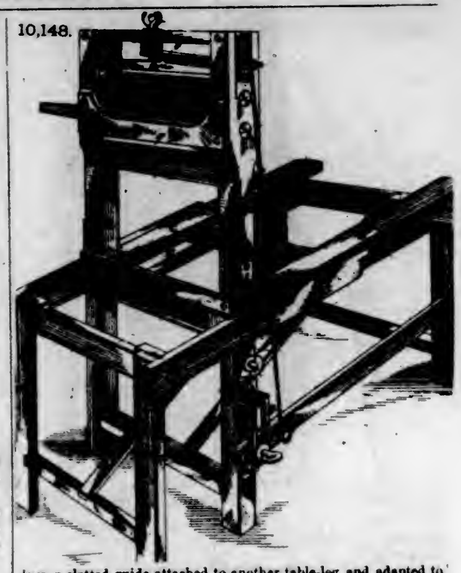
2. The combination, with the wringer-frame and wringer-rollers supported therein, of a rotary adjustable water-pan located beneath the rollers and supported on a vertical pivot, a spring for forcing the pan upwardly, and pins on the upper edge of the pan to retain it against accidental displacement, substantially as set forth.

3. The combination, with the wringer-frame and rollers supported therein, of a rotary adjustable water-pan provided with a vertical pivot or support, a cross-bar of the wringer-frame, constructed with an opening to receive the pivot of the water-pan and provided with a recess, and a spiral spring encircling the vertical pivot and seated in the recess of the cross-bar, substantially as set forth.

4. The combination, with the table and wringer-frame, of a plate secured to the wringer-frame and pivoted to the table, said plate having an open slot adapted to receive a set-screw attached to the leg of the table and be firmly secured thereby, substantially as set forth.

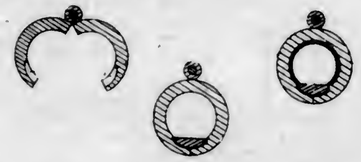
5. The combination, with the adjustable cross-bar located over the rollers, a lever bearing on said cross-bar, and a spring connecting-rod attached to the lever, of a lever pivoted to one of the table-

10,148.



legs, a slotted guide attached to another table-leg and adapted to receive the free end of the lever, the lower end of the spring connecting-rod being secured to the free end of said lever, and a set-screw attached to the lever and inserted through an elongated slot in the guide, substantially as and for the purpose set forth.

10,149. MANUFACTURE OF LAMP OR LANTERN GLOBES, CHIMNEYS, &c. ARCHIBALD W. PAULL, Wheeling, W. Va., and JOHN F. MILLER, Martin's Ferry, Ohio. Filed June 6, 1882. Original No. 256,153, dated Apr. 11, 1882.

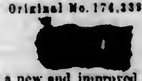


Claim.—1. As a new article of manufacture, a lamp chimney or globe having one or more lenses integral with and protruding from its outer surface at one or more points in its circumference and additional to the thickness of its side, substantially as and for the purposes described.

2. A sectional mold for making chimneys and similar articles, provided with a recess or recesses common to adjacent sections for containing a lens or lenses in the cavity of the mold, so that the article formed in the mold may unite with such lens or lenses when molded therein, substantially as and for the purposes described.

3. The method of making glass chimneys and globes with an attached lens or lenses, consisting of forming the lens or lenses in a separate mold or molds, placing the lens or lenses in a cavity or cavities in the side of the chimney or globe mold, and then forming the chimney or globe therein against the lens or lenses, so that the external surface of the chimney or globe shall unite with the inner surface of the lens or lenses, substantially as and for the purposes described.

10,150. STOCKING. CHARLES E. WAKEMAN, Pontiac, Mich., assignor of one-half to P. A. Hitchcock, same place. Filed June 5, 1882. Original No. 174,339, dated Feb. 29, 1876.



Claim.—As a new and improved article of manufacture, a fulled knit stocking provided with a lining of woolen loops and with a seamless leg and a seamless foot, substantially as described.

DECISIONS
OF THE
COMMISSIONER OF PATENTS
AND OF
UNITED STATES COURTS IN PATENT CASES.

DECISIONS OF THE U. S. COURTS.

U. S. Circuit Court—Southern District of New York.

MACKAY *et al. v.* JACKMAN. SAME *v.* SCOTT SOLE SEWING MACHINE COMPANY *et al.* SAME *v.* LEHMAN *et al.*

Decided April 15, 1882.

1. MACHINE, PROCESS, PRODUCT—INVENTION.

Where a person has invented a machine for sewing together the soles and uppers of boots and shoes by a chain-stitch without any welt, the stitch itself and the manner of forming it being well known, and the only new effect being the forming of the well-known seam in the well-known manner in a difficult place, theretofore inaccessible by any means that had then been discovered, and the inventor had taken out separate patents for the machine, the process, and the product, *Held*, that the entire invention lay in the machine, and that the patents for the process and product were invalid for lack of invention.

2. SAME—SAME.

After knowledge of a machine to make a shoe in a particular manner, there would be no room for an invention of that manner of making a shoe, or of a shoe made in that manner, and there would be no more room for the invehtor of the machine than for any one else. It may be doubtful whether such a process or product as this is by itself patentable.

3. SAME—MERE MECHANICAL OPERATION.

Mere mechanical operations like the looping and drawing threads to form stitches in sewing either by machinery or by hand do not amount to arts or processes, and such operations, apart from the means of performing them, do not appear to be within the reach of protection by the patent laws.

4. ARTICLE OF MANUFACTURE—INVENTION.

An article of manufacture, to be the subject of a patent, must be new as such in the sense of the patent laws, and must be the result of invention.

Mr. Elias Merriam and *Mr. J. J. Storrow* for the orator.

Mr. J. C. Clayton for the defendants.

WHEELER, *J.*:

These suits are brought upon two patents originally granted to Lyman R. Blake, dated August 14, 1860, one, No. 29,561, for an improvement in the construction of boots and shoes, and the other, No. 29,562, for an improvement in boots and shoes. These were to run fourteen years, and August 13, 1874, were extended seven years. They were acquired by the orator, and the former was reissued in No. 9,043, dated January 13, 1880, and both have expired since these suits were brought.

Before Blake's inventions boots and shoes were made by pegging through the outer sole, upper, and inner sole, by sewing a welt to the inner sole and upper, and then sewing the outer sole to the welt. Some very light shoes were made wrong side out by sewing through the inner sole, upper, and part way through the outer sole, and then turned, and some very low shoes were made by sewing common stitches directly through the inner sole, upper, and outer sole. Sewing parts of uppers and pieces of leather and cloth for other purposes together by chain-stitches made by machine, by drawing loops of the thread through the material, without drawing the rest of the thread through, was then known and practiced; but no boots or shoes made by sewing the soles and upper together by such stitches nor any method of so sewing them together was then known. No means to which that place was accessible for setting the stitches had then been discovered.

Blake invented an improvement in sewing-machines by which the soles and uppers of all kinds of boots or shoes could be sewed together without any welt by that kind of stitches, and it was not useful for, nor adapted to, sewing any other kind of stitches, nor in any other place. This improvement was patented to him in Letters Patent No. 20,775, dated July 6, 1858, and was highly useful to the public. He made boots and shoes on his machine, and was undoubtedly the first to produce such boots or shoes or to practice that mode of making them. He made application for a patent for this process of making boots and shoes and for the boots and shoes made by this process, as a new manufacture, June 30, 1859. The specification was returned to him for the erasure of one of the claims, with information that claims for the process and product could not be considered in the same application, July 30, 1859. He withdrew the claim for the product, with notice that he intended to renew it in a separate application, April 16, 1860, and did renew it July 21, 1860. The machine patent was granted for fourteen years, was extended seven years, was owned by the orator, and expired July 6, 1879. The defendant Jackman took a lease from the orator of a sewing-machine, with the right to use it under all three of the patents during the term of either, for license-fees for all boots and shoes made upon it and operated under that license. Since the expiration of the machine patent the defendant, the Scott Sole Sewing Machine Company, has made machines for sewing these boots and shoes by this method, and sold them for use to the defendants in the other cases, who have used them. These bills are brought for relief against these acts as alleged infringement; and in the case against Jackman the bill covers any arrears of license-fee there may be for the use of the machine, as this court has jurisdiction of that subject on account of the citizenship of the parties. No question as to that, however, is made for decision.

The machine patent appears to have always been of unquestioned validity. That was so related to the others that any question as to their validity would have been practically unavailing while that was in force, and no question appears to have been really made and contested about either until after that had

expired, and the actual validity of these two patents as granted does not appear to have ever been contested until now.

In *McKay* v. *Dibert* (19 O. G., 1351) these patents were in controversey. The infringement complained of appears to have been the use of a machine after the expiration of the machine patent. It seems to have been argued there that, as the exclusive right to make and use, and vend to others to be used, during the term of the patent had been granted in consideration of the full right which the public should have to the invention after the expiration of the term, the public would have the full right to the machine after that time, notwithstanding the other patents, and that they would practically be cut down to the life of the machine patent by the expiration of that. The court (Judge Nixon) appears to have held that the expiration of the machine patent left the machine free to all, except for use to infringe other patents with, but that its expiration could not affect the validity of other patents. That case is cited in the orator's brief at page 16, and this is all that is claimed from it. The same point was made upon the hearing on the motion for preliminary injunction in these cases, and was disposed of orally by Judge Blatchford upon the authority of that case. The question was also made whether a mere sale of the machine for use in making such boots and shoes would be an infringement, and it was held that it would be, and injunctions were granted. These questions appear to have been all that were then decided. A stenographic report of the proceedings upon that motion has been furnished and examined, and the question as to the validity of these patents when granted does not appear to have been considered. Both of these decisions, too, were made before those of the Supreme Court in *Miller* v. *Bridgeport Brass Company* (21 O. G., 201) and in *James* v. *Campbell*, (Ibid., 337.) So the questions as to the validity of these patents as made in these cases are now to be passed upon.

The first step is to ascertain exactly what Blake did invent. There are many peculiar and valuable qualities of this kind of stitch when used to bind together the surfaces of leather. Only the loops of the stitches are drawn through as made, and the wax is not scraped off and the thread frayed and worn as is the case when each stitch is set by drawing the whole length of the thread through from the ends. Each loop as drawn to place tightens the preceding loop and makes the seam very close. And they can be sewed by machine and drawn tighter than by hand, making the binding together of the surface of the leather very firm. These qualities are very useful in the sewing together of the soles and uppers of boots and shoes, but none of them are peculiar to that work or to the work in that place. The same qualities existed in this kind of sewing as used in uniting parts of uppers and elsewhere, and he had the advantage of knowing all about them. Had it been desirable to sew seams like those through soles and uppers in boots and shoes where the uppers would not have been in the way, it would have required no invention whatever to do it with the machines then in use and with this kind of stitch; or, had it been desirable to so sew any seams, it would have required no invention to take these stitches for them. The fitness of the seams was apparent, but the uppers were in the way of employing them. Blake invented means for getting by the uppers and sewing the seams there notwithstanding the uppers. He used his means to sew the seams there and accomplished a great thing; but not because he had made a new kind of seam or given a seam any new quality, but because he had put a well-known seam in a difficult place. This was all due to the machine and its operation, and when he had patented the machine he had patented all there was of it. If, after he had made his machine, and before he had made a boot or shoe with it, some one else, knowing all about it, had, by hand or other known means, made boots or shoes by sewing the soles and uppers together with this stitch, that other person would not have been entitled to a patent for either the process of sewing or the boot or shoe, for there would have been no invention in either. After knowledge of a machine to make a shoe in a particular manner there would be no room for an invention of that manner of making a shoe or of a shoe made in that manner, and there would be no more room for the inventor of the machine than for any one else. It may be doubtful whether such a process or product as these is by itself patentable.

Mr. Justice Grier in delivering the opinion of the court in *Corning* v. *Burden* (15 How., 252) said:

> A process *eo nomine* is not made the subject of a patent in our act of Congress. It is included under the general term "useful art." An act may require one or more processes or machines in order to produce a certain result or manufacture. The term "machine" includes every mechanical device or combination of mechanical powers and devices to perform some function and produce a certain effect or result; but when the result or effect is produced by chemical action, by the operation or application of some element or power of nature, or of one substance to another, such modes, methods, or operations are called "processes." A new process is usually the result of discovery—a machine of invention.

In *Cochrane* v. *Deener* (94 U. S., 780) Mr. Justice Bradley said:

> A process is a mode of treatment of certain materials to produce a given result. It is an act or a series of acts performed upon the subject-matter to be transformed and reduced to a different state or thing.

This language of Mr. Justice Grier, with more to the same import, was quoted with approval by Mr. Justice Bradley in *Tilghman* v. *Proctor*, (102 U. S., 707.) Neither of these definitions includes mere mechanical operations like the looping and drawing thread to form stitches in sewing, either by machinery or by hand; and such operations, apart from the means for performing them, do not appear to be within the reach of protection by the patent laws. (*O'Reilley* v. *Morse*, 15 How., 62; *Howe* v. *Morton*, Curtis on Pats., 269; *Burr* v. *Duryea*, 1 Wall., 570.) There is, of course, no doubt but that a boot or shoe might be the subject of a patent as an article of manufacture, but there would have to be something new about it as such in the sense of the patent laws. Blake did not invent a boot or shoe, nor a sewed boot or shoe, nor a boot or shoe sewed with this kind of stitches. All those were known and in use before. He invented a machine by which boots and shoes could be sewed with this kind of stitches in parts where they could not be so sewed before. The new effect was due to the operation of the machine. The patentability belonged to the machine, and not to the boot or shoe, as appeared before.

In *Collar Company* v. *Van Dusen* (23 Wall., 530) Mr. Justice Clifford on this subject said:

> Articles of manufacture may be new in the commercial sense when they are not new in the sense of the patent law. New articles of commerce are not patentable as new manufactures, unless it appears in the given case that the production of the new article involved the exercise of invention or discovery beyond what was necessary to construct the apparatus for its manufacture or production.

In this case that requisite does not appear.

Further, this machine, the process it went through with, and the work it wrought were so intimately connected that the machine could not be conceived of as an operative thing without involving the rest. The specification of the machine and its use in the machine patent included also a description of the process and product. This is shown by the patent itself, and is proved also by the testimony of experts examined as witnesses. It also appears to have been the view taken by Judge Nixon in *McKay* v. *Dibert*, where he suggests that a surrender and reissue of this patent in divisions would have avoided the incongruity arising from the expiration of the patents at different times.

In *Miller* v. *Bridgeport Brass Company* it is strongly intimated that whatever a patentee describes in the patent and does not claim is abandoned to the public, unless it was omitted to be claimed by inadvertence or mistake and a correction is sought immediately upon discovery of the omission. There is an allusion to the statute for defeating a patent by two years' public use and being on sale of the invention, as an illustration or reason, but the case does not seem to hold that two years are to be allowed in which to reclaim what is so described.

In *James* v. *Campbell* Norton had taken out a patent December 16, 1862, for a postmarking and postage-canceling stamp containing a combination of the postmarker and blotter and cross-bar connecting them, the blotter to be made of steel or other material which would answer its purpose, and to have on its face circular cutters inclosed in circular rings to cut the postage-stamp at the time of defacing it with ink. The specification described and the drawing showed the whole. The claims were for the canceling-stamp separately and for the combination of the canceling-stamp with the cross-bar. On the 5th day of January, 1863, twenty days after, he made application for a patent for a postmarking and postage-canceling stamp of the same construction as the other, except that the blotter was to be made of wood, cork, rubber, or similar material held by a tube fastened at one end of the cross-bar. The claims were for the blotter separately and for the blotter in combination with the cross-bar and postmarking device. This patent was granted. It was several times reissued, but the validity of it as originally granted came under consideration, and especially the claim for the combination. This combination was not the same as that patented in the former patent in any sense. That was a combination of a blotter with a cross-bar only, while this was a combination of a different blotter with a cross-bar and postmarker. The whole of this combination was described in the former patent, except the difference in the blotter of these patents.

Mr. Justice Bradley said:

> It is hardly necessary to remark that the patentee could not include in a subsequent patent any invention embraced or described in a prior one granted to himself any more than he could an invention embraced or described in a prior patent granted to a third person. Indeed, not so well; because he might get a patent for an invention before patented to a third person in this country if he could show that he was the first and original inventor and if he should have an interference declared. Now, a mere inspection of the patents referred to above will show that after December, 1862, Norton could not lawfully claim to have a patent for the general process of stamping letters with a postmark and canceling stamp at the same time, nor for the general combination of a post stamper and blotter in one instrument, nor for the combination of a post stamper and blotter connected by a cross-bar, for all these things, in one or other specific form, were exhibited in these prior patents.

The original patent was declared to have been invalid upon this ground.

As before shown, Blake's machine patent exhibited both the shoe of his product patent and mode of construction of his process patent, to which he was no more lawfully entitled than Norton was to his second patent for what was exhibited in the first. It is conceded in defendants' brief that there should be a decree for an account of license-fees against Jackman.

Let decree be entered for an account of license-fees in the case against Jackman, and dismissing the bill as to the residue, and dismissing the bills, with costs, in the other cases.

U. S. Circuit Court—Western District of Pennsylvania.

SHERIFF *et al.* v. FULTON *et al.*

Decided March 25, 1882.

1. REISSUE—LACHES—ENLARGED CLAIMS.
   An inventor, having in his original patent limited his claim of invention to a specified detail of construction, cannot, after a lapse of nine years, procure a valid reissue embodying the enlarged and comprehensive claims that might have been allowed in the original patent.
2. SAME—SAME—EQUITABLE ESTOPPEL.
   An acquiescence by the patentee and his assignees for a period of nine years in the terms of the patent as originally granted creates an equitable estoppel in favor of the public.
3. SAME—SAME—AMENDING CLAIM.
   Doubted whether, after a delay of nine years, the claim of a patent can be materially enlarged upon the suggestion that the original claim was defective in form and required amendment.

Messrs. Bakewell & Kerr for the complainants.
Messrs. Connolly Bros. & McTighe for the defendants.

ACHESON, *D. J.*:

This suit is upon Reissue Letters Patent No. 9,199, issued to Hugh Coll, May 18, 1880, the bill charging infringement and praying for an injunction, &c. The original letters patent, No. 110,205, were issued to Coll December 20, 1870. The invention, as the original and reissue both recite, consists in improvements to a siphon-pump, patented to said Coll June 8, 1869.

To the proper understanding of the case, therefore, a brief explanation of Coll's earlier letters patent, No. 90,930, dated June 8, 1869, seems necessary. They relate to the construction of a steam siphon-pump or water-elevator having outer and inner pear-shaped hollow heads, so that a jet or current of steam shall elevate water and discharge it through and from either or both the heads. These heads, respectively, have one end tapered down to the form of a tube or pipe, thus forming inner and outer discharge-pipes, the inner one being much smaller than the outer one. A steam-injection pipe is screwed into or cast on the other or rear end of the outer head and extends some distance into the inner head, which latter at its rear end is screwed on or otherwise fastened to or cast on the injection-pipe. Back of the discharging end of the steam-injection pipe inlets or openings are made in the inner head. The steam passing out of the injection-pipe into the inner discharge-pipe, and thence into and through the outer discharge-pipe, produces a vacuum in the heads, and the water coming up the induction-pipe to fill the vacuum is caught by the flow of steam and forced out of the discharge-pipes, and a regular current is established, which is kept up by the continuous pressure of the

steam. By closing up the annular space between the two discharge-pipes the water may be discharged entirely through the inner discharge-pipe, being slightly warmed by this method. The claim in this patent is exclusively for the combination of the inner and outer pear-shaped heads with the injection-pipe.

The invention secured by the letters patent of December 20, 1870, (No. 110,205,) is therein declared to be an improvement on Coll's said patented siphon-pump, and to consist "in modifications of form and construction," whereby it is adapted to new uses or made to accomplish old results in a better manner. The outer head being of the usual construction and having the usual water-inlet opening and an opening for the insertion of the steam-injection pipe, the material modification is stated to consist in cutting off the base or blunt end of the inner pear-shaped head at or near the broadest part and connecting this head in casting to the outer head by means of radial arms.

In the specification the patentee states the advantage thereby secured to be as follows:

This inner head, *d*, having a large unobstructed opening at its base, I have devised more particularly for use in pumping or ejecting bilge-water, the water out of tan-vats, &c. As some tan-bark is necessarily carried up with the water, the holes or passages for the water are apt to become clogged, unless ample room be left for the flow of both. I thus adapt the double head to the uses described.

The first claim of this patent (which is the principal and only material one) is in these words:

1. The inner head, *d*, open at its rear end, so as to leave an unobstructed opening around the steam-injection pipe for the passage of such pieces of such solid matter as may be brought up by the water, such inner head, *d*, being connected to the outer head, *a*, by means of radial arms a^1, all arranged substantially as described.

The application for the reissue (No. 9,199) was filed March 13, 1880, and is dated May 18, 1880. The specification of this reissue, after describing the invention and its advantages substantially as the original specification (No. 110,205) did, and stating that "this ejector operates on the same principle as my ejector patented June 8, 1869, does," proceeds to set forth other advantages neither mentioned nor hinted at in the original specification, (No. 110,205,) viz: that the jet of steam is protected and surrounded by the inner head, which acts as a breakwater or dam to break the force or impact of the inflowing current, and hence does not condense so rapidly as in the old form of ejectors, where it came directly in contact with the whole volume and unbroken force of the inflowing water in the outer head, and the force of the steam jet is thereby preserved; that the forward end of the outer chamber is closed and the entire discharge is through the inner head, and that the rear opening of the inner head extends over the induction-opening, and acts as a breakwater to deflect and turn the inflowing stream of water to the back part of the outer head and break its force.

The reissue (No. 9,199) has but one claim, which is as follows:

A water-ejector provided with an inner head or shell extending backward over the water-induction opening, and arranged with relation to the jet-pipe so as to protect the steam-jet from the direct impact of the inflowing current of water, the inner end of said head being provided with a large unobstructed opening, through which all the water passes to the discharge-outlet of the ejector, substantially as and for the purpose described.

Upon a comparison of the original patent of December 20, 1870, with the reissue, it is manifest that the claim made in the reissue is a great expansion of the original. Clearly the original patent did not cover, and could not rightfully cover, the inner head itself, for Coll's earlier patent showed an inner head, which, moreover, surrounded and protected the steam jet from the direct impact of the inflowing current of water and operated to retard the condensation of the steam.

The specification of the patent of 1870 declares that invention to consist "in modifications of form and construction" of Coll's siphon-pump theretofore patented. These modifications are distinctly set forth and explained in the body of the specification and are specifically claimed. In lieu of the inlets at the rear end of the inner head, the blunt end of this head is cut off, and at its rear end an unobstructed opening is left around the steam-injection pipe for the passage of such pieces of solid matter as may be brought up with the water. It is an essential feature of the device that the steam-injection pipe shall be inserted through the usual opening in the outer head into the inner head. Coll himself, testifying in this case in behalf of the plaintiffs, states that the difference between his patents of 1869 and 1870 is "a difference of construction only," and that "the difference is in the large unobstructed opening in the rear of the inner head, and the manner in which the head is secured to the outer head, and putting this nozzle in and across the space between the inner and outer heads." All this plainly appears both by the specification and the drawing, and is specified in the claim. Undoubtedly the claim is for the specific device described. But we search the reissue in vain for such limited claim. It has disappeared from the patent, and substituted therefor is a sweeping claim, covering every form of water-ejectors having an inner head or shell open at its rear end, and (within the limitations mentioned) so arranged with relation to the jet-pipe as to protect the steam-jet from the direct impact of the inflowing current of water. How comprehensive this claim is (or is supposed to be) can be best illustrated by reference to the siphon-pump made or sold by the defendants, and which the plaintiffs contend infringes the reissued patent.

The defendants' siphon-pump (which it is plain does not embody the specific device claimed in the patent of 1870) has a permanently-fitted bell-mouthed open-ended inner head or shell which extends backward across the water-induction opening, but the steam-injection pipe does not enter the outer head at all. The steam-nozzle, which is screwed into the end of the outer head, but does not extend into the head, has several apertures, through all of which steam-jets enter the outer head. The steam-nozzle is opposite the mouth of the inner head, but between the latter and the steam openings there is an open space. These features (with other peculiarities) are found in letters patent dated February 2, 1875, granted to Louis B. Fulton and Julius Proeger.

Now, it may well be that the claim made in the reissue was originally allowable when the patent of December 20, 1870, was granted; but Coll, having then limited his claim to a specific device, could he, after the lapse of more than nine years, procure a valid reissue embodying a claim so enlarged and comprehensive? I am of opinion that he could not. The delay was altogether unreasonable, and the reissue, therefore, without authority of law. The recent decisions of the Supreme Court in the cases of *Miller* v. *Bridgeport Brass Company* (21 O. G., 201) and *James* v. *Campbell* (21 O. G., 337) leave the question no longer an open one. An acquiescence by the patentee and his assignees for so long a period in the terms of the patent as originally granted created an equitable estoppel in favor of the public. (*Combined Patents Can Company* v. *Lloyd*, 21 O. G., 713.)

It was, indeed, urged in justification of the reissue that the first claim of the original patent was inoperative and invalid because it included as a constituent element with the inner head the radial arms by which the head is held in place, these arms, it is said, being a mere incident of convenience of construction and having no functional relation whatever to the inner head or any other part of the organism in securing the objects to be attained, and the claim therefore being bad under the doctrine of aggregation as enunciated in *Hailes* v. *Van Wormer*, (20 Wall., 353.) If this were so, however, it by no means follows that upon a surrender at so late a day to correct such mistake the scope of the patent could be so enlarged as was here attempted. But the original claim was not obnoxious to the objection suggested. The radial arms, or their equivalent, seem essential to secure all the objects contemplated. At any rate, the effect of including them was to limit the claim, not destroy it. Unquestionably the original claim was good for the specific device described.

Having reached the conclusion that the reissue sued on is invalid and the plaintiffs' case therefore failing, it is, of course, unnecessary to consider the other defenses relied on.

Let a decree be drawn, dismissing the bill, with costs.

THE

OFFICIAL GAZETTE

OF THE

United States Patent Office.

[BY AUTHORITY OF CONGRESS.]

VOL. 22—No. 2. TUESDAY, JULY 11, 1882. PRICE—$5 per year

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Subscriptions for 1882.

The OFFICIAL GAZETTE is published every Tuesday, two volumes a year, commencing in January and July. Terms: To all subscribers within the United States and Canada, $5 per annum; to foreign subscribers, $7; single copies, 10 cents; bound volumes, $3.50 per volume. No club rates. *Payment in advance.* All orders should be addressed to "The Commissioner of Patents, Washington, D. C."

Issue of July 11, 1882.

Patents	388	No. 260,731 to No. 261,118, inclusive.
Designs	11	No. 13,024 to No. 13,034, inclusive.
Trade-Marks	25	No. 9,522 to No. 9,546, inclusive.
Labels	4	No. 2,713 to No. 2,716, inclusive.
Reissues of patents	7	No. 10,151 to No. 10,157, inclusive.
Total issue	435	

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Cuba	....	....			
Denmark	....	....	*Total to citizens of foreign countries	17	3
Ecuador	....	....			
England	4	3			

DESIGNS.

13,024 to 13,028, inclusive.—BUTTON.—*John A. Deknatel*, Brooklyn, N. Y. Applications filed May 22, 1882. Term of patents 7 years.

13,029.—PIPE MOUTH-PIECE.—*William Demuth*, New York, N. Y. Application filed May 24, 1882. Term of patent 7 years.

13,030.—ORNAMENTAL CHAIN.—*John Etzensperger*, North Attleborough, Mass. Application filed May 15, 1882. Term of patent 3½ years.

13,031.—SCARF.—*Henry Heath*, New York, N. Y., assignor to *Fisk, Clark & Flagg*, same place. Application filed March 22, 1882. Term of patent 7 years.

13,032.—FRINGE.—*Henry A. Kehrenberg*, Philadelphia, Pa., assignor to *The Fair Hill Manufacturing Company, of Pennsylvania*. Application filed May 24, 1882. Term of patent 3½ years.

13,033.—PITCHER.—*Edward M. Pearson* and *Charles W. Franzheim*, Wheeling, W. Va., assignors to *The Wheeling Pottery Company*, same place. Application filed May 13, 1882. Term of patent 14 years.

13,034.—BURIAL-CASKET.—*Leo Stein*, Rochester, N. Y., assignor to *The Stein Manufacturing Company*, same place. Application filed May 19, 1882. Term of patent 7 years.

TRADE-MARKS.

[Certificates of registration of Trade-Marks numbered 8,191 and upward are registered under the act of March 3, 1881.]

9,522.—CROSSCUT WOOD-SAWS.—*E. C. Atkins & Co.*, Indianapolis, Ind. Application filed June 3, 1882.

"The word 'DIAMOND.'"

9,523.—FERTILIZERS.—*Daniel H. Baldwin*, New York, N. Y. Application filed June 12, 1882.

"The arbitrarily-selected letters 'D. B.'"

9,524.—SUBSTITUTE FOR LARD.—*Washington Butcher's Sons*, Philadelphia, Pa. Application filed June 5, 1882.
"The fanciful denomination 'OLIVE BUTTER.'"

9,525.—SUBSTITUTE FOR LARD.—*Washington Butcher's Sons*, Philadelphia, Pa. Application filed June 5, 1882.
"The fanciful denomination 'OLIVENE.'"

9,526.—CIGARS.—*Leopoldo Carvajal*, New York, N. Y. Application filed June 7, 1882.
"The pictorial representation of two female figures, shown as standing on either side of an oval shield which bears upon its center a monogram. Immediately above the shield, and between the female figures, is the royal arms of Spain, on either side of which is a string of medals overlapping each other, showing alternately the obverse and reverse sides thereof, the whole forming an arbitrary and fanciful design."

9,527.—MEATS.—*The Cleveland Provision Company*, Cleveland, Ohio. Application filed June 16, 1882.
"The word 'HAMLETTE.'"

9,528.—PLUG-TOBACCO.—*Elwell, Brackett & Hawes*, Boston, Mass. Application filed June 7, 1882.
"The arbitrarily-selected word 'DOMINO.'"

9,529.—ROCKINGHAM AND YELLOW WARE, TERRA-COTTA FLOWER-POTS AND HANGING BASKETS.—*Flentke, Harrison & Co.*, East Liverpool, Ohio. Application filed May 25, 1882.
"The picture of the boy holding in his left arm a pitcher and his right arm extended, holding in his hand a hat."

9,530.—SHIRTS.—*The Marley Manufacturing Company*, Newark, N. J. Application filed May 4, 1882.
"The word 'ACME.'"

9,531.—CHEWING AND SMOKING TOBACCO, CIGARS, AND CIGARETTES. *L. & E. Wertheimer*, New York, N. Y., and San Francisco, Cal. Application filed May 17, 1882.
"The word-symbol 'PILOT.'"

9,532.—PHOTOGRAPHIC PLATES.—*E. & H. T. Anthony & Co.*, New York, N. Y. Application filed May 29, 1882.
"The arbitrarily-selected word 'TROPICAL.'"

9,533.—CROSSCUT-SAWS.—*E. C. Atkins & Co.*, Indianapolis, Ind. Application filed June 3, 1882.
"The word 'FORESTER.'"

9,534.—REFRIGERATORS.—*D. Eddy & Son*, Boston, Mass. Application filed May 23, 1882.
"The word 'GLOBE.'"

9,535.—HALTERS.—*James W. Eldridge*, Hartford, Conn. Application filed April 25, 1882.
"The pictorial representation of a horse (or the head and neck of one) shown as fastened by a padlocked chain to a post or similar fixed object."

9,536.—FOUNTAIN-PENS.—*Le Roy W. Fairchild*, New York, N. Y. Application filed May 23, 1882.
"The fanciful words 'READY WRITER' upon the figure or outline of a fountain-pen."

9,537.—CANNED GOODS.—*Freeman & Shaw*, Baltimore, Md. Application filed May 23, 1882.
"A horseshoe expressed by the compound word 'HORSE-SHOE' or by a design of a horseshoe."

9,538.—WHISKY.—*S. J. Greenbaum*, Louisville, Ky. Application filed May 9, 1882.
"The six-pointed star and the words 'BELLE OF ANDERSON.'"

9,539.—ARTIFICIAL FERTILIZERS.—*Joshua Horner, Jr.*, Baltimore, Md. Application filed May 24, 1882.
"The arbitrary words 'SLAUGHTER HOUSE.'"

9,540.—METALS OF VARIOUS KINDS.—*P. R. Jackson & Co.*, Manchester, county of Lancaster, England. Application filed June 13, 1882.
"The figure of an arrow shooting through a hoop or ring."

9,541.—FLOUR.—*Jaques & Johnson*, Macon, Ga. Application filed June 5, 1882.
"The words 'NEW CONSTITUTION.'"

9,542.—LAGER BEER.—*Schmidt & Brother*, Cincinnati, Ohio. Application filed May 19, 1882.
"The words 'SCHMIDT & BROTHER, CIN., O.' in the form of an isosceles triangle, whether that be equilateral or otherwise."

9,543.—CANNED TOMATOES.—*W. Scott Whiteford*, Delta, Pa. Application filed May 19, 1882.
"The word-symbol 'RED SEAL' and the representation of the seal."

9,544.—CIGARS, CIGARETTES, AND ALL KINDS OF CHEWING AND SMOKING TOBACCO.—*Smith, Mendel & Co.*, Milwaukee, Wis. Application filed May 18, 1882.
"The picture of persons representing the Cabinet of President Garfield, with the word 'CABINET.'"

9,545.—CAST-STEEL.—*Walter Spencer & Co.*, Rothe[illegible], county of York, England. Application filed June 5, 1882.
"The word or figure 'DIAMOND,' or both."

9,546.—KNIVES, RAZORS, SCISSORS, AND ALL KINDS OF CUTLERY AND EDGE-TOOLS.—*James Veall*, Sheffield, county of York, England. Application filed March 15, 1882.
"The representation of an eye and the word 'WITNESS.'"

LABELS.

2,713.—Title: "THE FEMALE TONIC."—*Simeon Bishop*, Reno, Nev. Application filed April 8, 1882.

2,714.—Title: "DE CAMP'S PURE MALT VINEGAR."—*John De Camp & Co.*, Newfield, N. J. Application filed May 1, 1882.

2,715.—Title: "PROFESSOR NATTALI'S SAFE AND SURE CHOLERA AND SUMMER COMPLAINT CURE."—*J. G. Nattali*, Albany, N. Y. Application filed June 7, 1882.

2,716.—Title: "THE ENGLISH MILK WEED AND NUT OIL."—*Ella P. Weber*, Chicago, Ill. Application filed May 12, 1882.

PATENTS

GRANTED JULY 11, 1882.

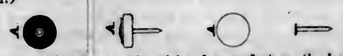
260,731. CAR-COUPLING. WILLIAM H. AUSTIN, Jeffersonville, Ind. Filed Apr. 18, 1882. (No model.)



Claim.—1. In a car-coupler, the combination of the catch-levers A A', pivoted in the draw-head, the inner ends of said levers being perforated for the passage of a bolt extending through the lever, and a separate coiled spring, one for each lever, said levers being centrally cut away for the reception of a cam for actuating the levers, substantially as set forth.

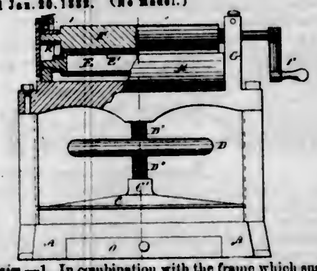
2. In a car-coupling device, the combination of one or more pivoted catch-levers, A A', having the hooks *a a'*, the ends *c*, passing over the bolts *d* and resting on springs *e*, the rib G, and cam B, actuated by levers C D, substantially as set forth.

260,782. ORNAMENTAL NAIL. CHARLES E. BAILEY and WILLIAM R. TALBOT, Providence, R. I. Filed May 11, 1881. (No model.)



Claim.—As an improved article of manufacture, the herein-described ornamental nail, consisting of the metallic nail or tack B, provided with the head A, formed from paper-pulp, substantially as and for the purpose specified.

260,783. COPYING-PRESS. LEONARD BAILEY, Hartford, Conn. Filed Jan. 20, 1882. (No model.)



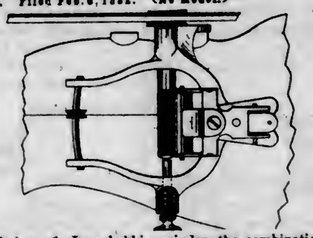
Claim.—1. In combination with the frame which sustains the screw and platen of a screw copying-press, the roller E, the adjustable pressure-roller F, having a handle, F', and the trough H, substantially as described.

2. In combination with the frame of a copying-press, the rollers E and F, the trough H, and the plates Q, substantially as described.

3. In a copying-press provided with a trough, H, and rollers E F above the cross-bar of the frame, the right and left screw D, operating between the cross-bar and the platen, substantially as described.

4. In a copying-press, the combination of the herein-described dampening device, arranged on the cross-bar, and the drawer O in the base, for holding the dampened pads, substantially as described.

260,784. BOBBIN-WINDER. GEORGE W. BAKER, Cleveland, Ohio. Filed Feb. 6, 1882. (No model.)



Claim.—1. In a bobbin-winder, the combination, with a presser-pad adapted to press against the bobbin, of a bracket provided with upwardly-projecting arms, and a curved thread-distributing bar secured to said arms below the upper ends of the latter, substantially as set forth.

2. In a bobbin-winder, the combination, with a presser-pad adapted to press against the bobbin, of a bracket provided with upwardly-projecting arms, and a curved thread-distributing bar secured to said arms and provided with end guards for the thread, and with a roller, substantially as set forth.

260,735. REFLECTOR FOR LAMPS. HENRY F. HARTLETT, La Grange, Mo. Filed May 31, 1882. (No model.)

Brief.—Reflector is horizontally removable from chimney without lifting it up.



Claim.—The reflector A, having at its top the opening *c*, extending across its front edge, as shown, and provided at its bottom with guide-flanges *d*, in combination with the flat supporting-plate B, having connected to it the split spring collar C, substantially as and for the purpose specified.

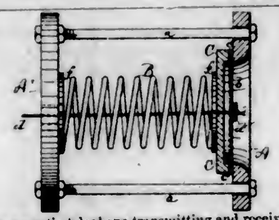
260,736. PROCESS OF SEPARATING CAUSTIC ALKALI FROM GLUTEN. HENRY C. BUCKB, Chicago, Ill. Filed June 5, 1882. (No model.)

Claim.—The process herein described of purifying gluten containing caustic alkali by removing the caustic alkali from the gluten by treating it with sulphurous gas, and washing the same with water, substantially as specified.

260,737. ACOUSTIC TELEPHONE. LISA BERGMAN, Medina, N. Y. Filed Mar. 31, 1882. (No model.)

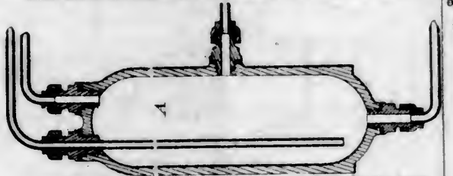
Claim.—1. In combination with the line-wire of an acoustic telephone, the receiving and transmitting device consisting of the front end, A, and back piece, A', the former loose on frame-rods *a a a a* and the latter fastened thereto, the mica diaphragm *b*, rubber ring *c*, back piece, C, spiral spring B, and rubber seats *f f*, all arranged and operating substantially as and for the purpose specified.

260,737.



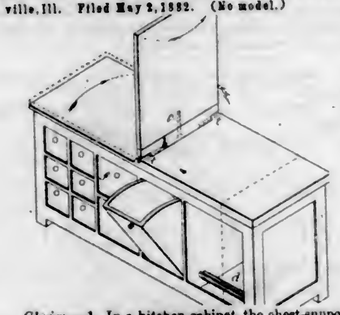
2. In an acoustic-telephone transmitting and receiving instrument, in combination with the usual line-wire and the diaphragm *b* and spring B, the front or transmitting and receiving end, *A C c*, adapted to move automatically back and forth on the rods *a a a a* (attached also to the back piece, A,) by the contraction or expansion of the line-wire, aided by the spring B, all substantially as specified.

260,738. KITCHEN-RANGE HOT-WATER RESERVOIR. EDWARD BOURNE, Allegheny, Pa. Filed Apr. 6, 1882. (No model.)



Claim.—The earthenware reservoir A, formed with the tapering internally screw-threaded inlet and outlet orifices *e f g h*, in combination with the metallic spuds *j*, formed with threads on their inner ends to register with and fit into said orifices *e f g h*, and provided with smaller threads on their outer ends, adapted to connect with the service-pipes, as shown and described.

260,739. KITCHEN-CABINET. NELSON P. BRADISH, Jerseyville, Ill. Filed May 2, 1882. (No model.)



Claim.—1. In a kitchen-cabinet, the chest-supporter *d*, consisting of a round bar having a groove longitudinally cut in one side of it, in combination with the bar *r*, secured to the bottom of the chest and adapted to oscillate in the groove of the bar *d*, the latter being secured at its ends in the walls of the cabinet, so as to admit of the adjustment herein referred to, for the purpose set forth.

2. In a kitchen-cabinet, the combination, with the bread-board, of the cross-bar *b*, pivoted at *c* to one end thereof, and hinged to the fixed half of the top of the cabinet in such manner that when turned to the vertical position the bread-board may be revolved about the pivot *c* as a vertical axis, so that either side of the bread-board may be uppermost when in a horizontal position.

260,740. PROCESS OF MANUFACTURING SUGAR. ABEL BEHAR, Saugatuck, Conn. Filed Oct. 2, 1878. Renewed Oct. 16, 1880. Again renewed June 17, 1881. Again renewed Jan. 20, 1882. (No specimens.)

Claim.—1. In the treatment of saccharine liquids or sweets, the process of effecting granulation and arresting fermentation and acidification, which consists in mixing with the liquid a solution of bicarbonate of soda and borax, substantially as set forth.

2. In the treatment of saccharine liquids or sweets, the process of effecting granulation by heat and the addition of bicarbonate of soda to the liquid, substantially as set forth.

3. In the treatment of saccharine liquids or sweets for the production of sugar, the process of arresting fermentation, which consists in the addition of borax to the liquid, substantially as set forth.

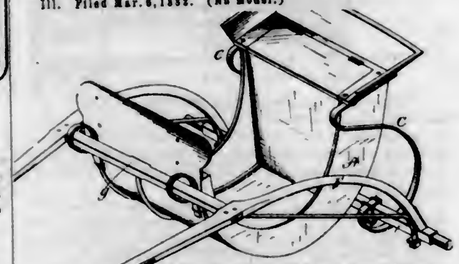
260,741. SEAL-LOCK. LUTHER C. BURGESS, Chicago, Ill. Filed Dec. 1, 1881. (Model.)



Claim.—1. In a seal-lock, the combination with the body B, provided with the chamber *f*, and the vertical grooves *h h*, for receiving the seal C, and the spring-bolt *i*, extending into the said chamber, of the main bolt A, having a projecting shoulder, *c*, for resting on the edge of the seal to confine it in place, substantially as and for the purpose described.

2. In a seal-lock, a main bolt, A, provided with a shoulder, *c*, adapted to hold a seal, C, in the body of the lock, a recess, *d*, to receive a secondary bolt, *i*, and with one rounded corner to permit the end of the bolt to be turned out from the chamber in the body of the lock when the seal has been broken, substantially as specified.

260,742. TWO-WHEELED VEHICLE. JOHN P. CALLAN, Aurora, Ill. Filed Mar. 6, 1882. (No model.)

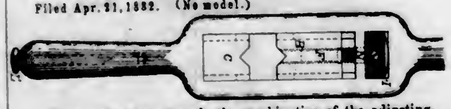


Claim.—1. In a road-cart or two-wheeled vehicle having springs at front and rear, a body, A, hung as described, with its front extending above and forward of the cross-bar *g*, which connects the thills, and with its rear extending upward and backward of the axle which supports the thills, and with its central portion hanging down between this bar and axle, and also between the thills, as and for the purpose set forth.

2. In combination with a road-cart body hung as shown and described, the S-shaped springs at the rear and springs at the front secured to the cross-bar *g*, as and for the purposes set forth.

3. The springs C, made in the form of a figure S, as shown and described, and applied, as shown, with the lower end curved around the axle, and with the horizontal part supporting the body or seat, and permitting the preponderance of the load to be between the axle and cross-bar.

260,743. TAP-WRENCH. MALCOLM CAMPBELL, Holyoke, Mass., assignor of one-half to Edward S. Packard, same place. Filed Apr. 21, 1882. (No model.)



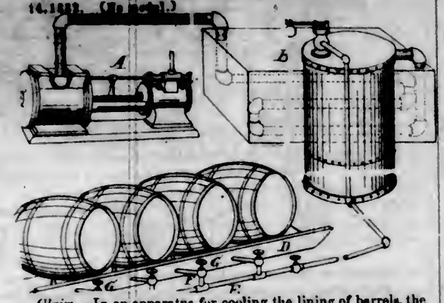
Claim.—In a tap-wrench, the combination of the adjusting-screw F, held and operated inside of the wrench-frame, and having a false head for the purpose of placing it in a fixed bearing, the fixed bearing N, the large splines D and small splines E, to hold the wrench-jaws, placed apart for the purpose of facilitating the removal of the wrench-jaws, the sliding jaw B, and the stationary jaw C, having their sides grooved to correspond respectively to the splines D and E, all combined and operated substantially as and for the purpose set forth.

260,744. WHEEL FOR VEHICLES. GEORGE H. N. CORTTIER, Wilsonville, Conn., assignor to himself and James Riley, Nashua, N. H. Filed Sept. 30, 1881. (No model.)



Claim.—In a vehicle-wheel, the combination, substantially as herein described, of the sectional felly A, having an annular channel, the block D, having united or beveled ends and interposed between the adjacent ends of the felly, the cushion C, having a rib, *e*, arranged in the channel of the felly, the tire B, and the bolt *d*, extending transversely through the several parts, and having a nut acting on the mitered or beveled block to expand the fellies and compress the cushion, as and for the purpose set forth.

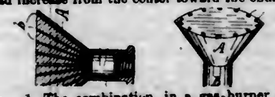
260,745. APPARATUS FOR COOLING THE GLUE LINING OF BARRELS. MARK L. DEMING, Cleveland, Ohio. Filed Jan. 14, 1882. (No model.)



Claim.—In an apparatus for cooling the lining of barrels, the combination of the air-pump A and the air-cooling apparatus B, air-receiver C, having the conducting-pipe E, provided with the branch pipes F F, with cocks G, and the trough D, for the purpose of first draining off from the barrels the surplus glue, then injecting cold air, thereby expelling the steam and hot air and setting or fixing the glue lining in the barrels, substantially as described.

260,746. GAS-BURNER. EDWARD B. DENNY, Newark, N. J. Filed Nov. 4, 1881. (No model.)

Brief.—The spaces between the jet-openings in the flat burner-head increase from the center toward the ends.



Claim.—1. The combination, in a gas-burner having the single flat head A, of a row of outlets *b*, supplied by diverging channels *c*, the whole operating as and for the purpose set forth.

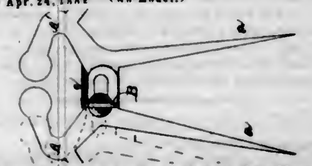
2. The combination, in a gas-burner, of the neck B, containing a feeding-channel, and the head A, consisting of a flat plate formed with flat top containing the row of outlets *b*, and provided with diverging channels *c*, connecting the outlets with the feeding-channel, substantially as and for the purpose described.

260,747. MANUFACTURE OF WATCH-CASES. JOHN C. DUNNER, Newport, Ky. Filed Nov. 25, 1881. (No model.)



Claim.—The method of manufacturing the centers and also the snap-rings of Louis XIV watch-cases, which consists in forming said centers, and similarly said snap-rings, to the largest diameter of the hinge parts, and then milling away the surplus metal between the projections, substantially as set forth.

260,748. CALF-WEANER. JOHN C. DUPEE, Decatur, Ill. Filed Apr. 24, 1882. (No model.)



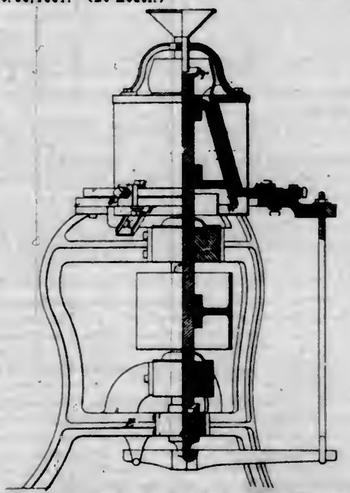
Claim.—As an article of manufacture, the calf-weaner having barbed arms A A', formed with the slot A'' and the rib C at their outer ends, and provided with the set-screw B, adapted to move in the slot A'', whereby a pivot is provided upon which the arms may swing when being inserted and removed, and by means of which lateral adjustment is controlled, substantially as shown and described.

260,749. METHOD OF TREATING FIBROUS VEGETABLE SUBSTANCES TO OBTAIN FIBER SUITABLE FOR PAPER-MAKING AND FOR TEXTILE AND OTHER PURPOSES. CARL DANIEL EKMAN, London, England. Filed June 8, 1881. (No specimens.) Patented in England July 13, 1881, No. 3,063; in France Nov. 10, 1881, No. 145,744, and in Belgium Nov. 12, 1881, No. 56,344.

Brief.—Improvement on Letters Patent No. 253,357, dated February 7, 1882.

Claim.—The method, substantially as hereinbefore described, of treating fibrous vegetable plants for wholly or partially resolving their fibrous constituents, which consists in boiling such substances under pressure in a solution containing sulphurous acid and magnesia or other alkaline equivalent having the properties of magnesia, as set forth.

260,750. METHOD OF AND APPARATUS FOR DEGERMINATING WHEAT. CHARLES L. GRATIOT, St. Louis, Mo., assignor to the Gratiot Manufacturing Company, Chicago, Ill. Filed Oct. 25, 1881. (No model.)



Claim.—1. The herein-described method of degerminating wheat by a continuous operation, consisting in first cracking the kernels longitudinally through the creases and then releasing the germ, fuzz, and crease-dirt from the cracked grain or half-kernels by subjecting them to the influences of gravity and centrifugal force, whereby they are thoroughly agitated, repeatedly turned and rubbed, and gradually fed along, substantially in the manner set forth.

2. The frustum-shaped degerminating-roll having furrows provided with rounded ridges Z, and extending from top to bottom of the roll in a direction diagonal to its axis, substantially as and for the purpose set forth.

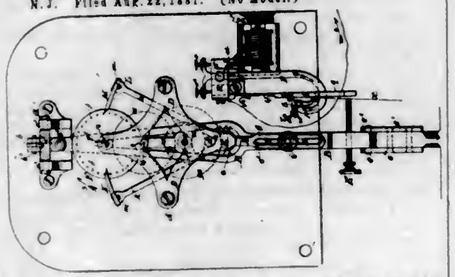
3. The combination of the case having continuous furrows extending from top to bottom, the frustum-shaped roll inclosed by said case, and having like but reverse continuous furrows on its exterior surface, extending from top to bottom diagonally to its vertical axis, and means by which said roll and case are suitably supported relatively to each other, whereby they are adapted to operate upon the kernels without grinding, substantially as and for the purpose set forth.

4. The combination of the frustum-shaped roll having the continuous furrows from top to bottom extending diagonally to its vertical axis, arranged at a greater angle to the axis of the roll at their lower or longer portions than at their upper or shorter portions, and provided with rounded ridges, and the corresponding case or shell having like formed continuous furrows on its inner surface arranged in a similar manner to those on the roll, but inclined in reverse direction, whereby the grains are cracked and cleaned without cutting or grinding, substantially as set forth.

5. In an apparatus for degerminating wheat by first cracking

and then cleaning the kernels in the manner described, the combination of the frustum-shaped roll having the furrows continuous from top to bottom on its exterior surface, and arranged diagonally to its vertical axis, the case having furrows on its inner surface similar to those of the roll, but inclined in a reverse direction, and supporting an adjusting mechanism, by which the roll and case may be spaced to operate upon different-sized kernels without grinding them, substantially as set forth.

260,751. ELECTRIC CLOCK. CARL GOLLMER, Jersey City, N. J. Filed Aug. 22, 1881. (No model.)



Claim.—1. The combination of the clock-train arbors F G H, and the arbor K of the stop and feed lever L, all arranged in the center line of the pendulum angle of oscillation within a slot or opening, *e*, through the upper part, B, of the pendulum, substantially as specified.

2. In combination with the pendulum and with the second-wheel F, having pins *f* secured to its circular surface, the bifurcated stop and feed lever L, provided with pawls M N, constructed as described, said lever receiving its motion directly from the pendulum, substantially as specified.

3. In combination with the wheel F, having pins *f* upon its surface, and with the pendulum having slot *e'*, the bifurcated lever L, having feed-pawls M N and slot *h*, and also provided with an adjustable pin securable in the said slot and working in the slot *e'* of the pendulum, substantially as and for the purpose set forth.

4. In combination with the gimbal a^3, the pendulum provided with the pivoted supporting edge-plate *b*, a pivotal joint, b^3, below the said gimbal, a slotted bar, B, straddling the train-arbors below the said joint, and a weighted rod, C, arranged to hook onto the lower end of the said bar B, all constructed substantially as and for the purpose set forth.

5. The combination of the clock-pendulum, the adjustable contact-screw E, secured to the said pendulum, the impulsion-spring Q, having uniform working-surface, without pawl, and being secured in an upright position at a distance from the pendulum's center line of oscillation, as shown, and the adjustable lever P of the electro-magnetic armature, said lever being pivoted in pendent position between the said spring and magnet, parallel with the spring and pendulum, to make and break the circuit by respective contact and release from contact with the said spring, substantially as herein shown and described.

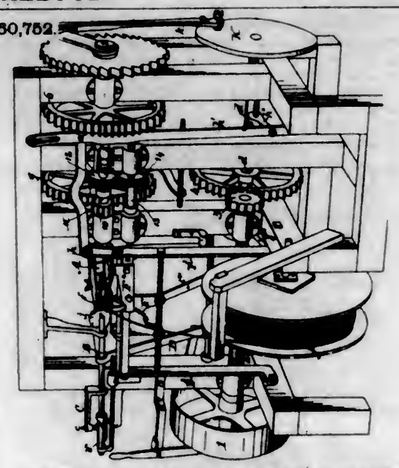
6. In combination with the spring Q, actuated by the pendulum, and the armature *u*, actuated by the electro-magnet, the suspension-lever P, carrying a pivoted sliding pawl, S, having two toes, *s r*, for making and breaking circuit-contact with the said spring, substantially as and for the purpose set forth.

7. In combination with the spring Q, actuated by the pendulum, and the armature *u*, actuated by the electro-magnet, the suspension-lever P, with curved lower end going through a slot, *q*, in the said spring, and the lever-pawl S, pivoted to the recurved end *p* of the lever P, and provided with two toes, *s r*, of different length, and adjusting stop-screw T, substantially as and for the purpose specified.

260,752. MACHINE FOR COILING WIRE. HIRAM S. HALL, Jamestown, N. Y. Filed June 22, 1881. (No model.)

Brief.—The end of the wire is locked between the ends of a cone and of a reciprocating shaft. The wire is fed along the cone by a carriage. The screw which moves the carriage determines the pitch of the coil. The wire-feed carriage, in its backward movement, drops away from its feed-screw and from the cone, and is moved back to its original position against the feed-screw and cone by levers operated by cams. During coiling a shield is thrown against the cone, and when the coil is severed from the wire the coil expands by its natural resiliency into the shield, and is drawn thereby from the wire.

260,752.



Claim.—1. The combination, in a machine for forming spiral-wire springs, of a forming-cone, A, having a recess and pin, with a locking-shaft, B, having a corresponding pin and recess, substantially as above described, for the purposes and operating substantially as above set forth.

2. In a wire-coiling machine, the combination of the cone A, adapted for interlocking with shaft B, with the shaft B, having a guide-guard, *b''*, a guide-slot, *b'''*, and with a guide-pin, *c*, for the purpose of guiding and holding the locking-shaft in proper position to lock with cone A, all substantially as above described.

3. The friction-break lever *e*, in combination with the cone-shaft M, carrying cone A, and the cam-pin *e''*, substantially as above described, and for the purposes above set forth.

4. The locking-shaft B and the lever D, having double-inclined plane *d''*, in combination with the pins *d'* on the counter-shaft *d*, to act on the sides of the double inclined plane *d''* to throw the locking-shaft B forward into contact with the cone A and back out of contact, substantially as above set forth.

5. The combination of the shaft *d*, carrying pins i''' i'''', the slotted lever f'''', having the double incline i', and the feed-carriage F, having a worm-pin, f''', with the worm *g*, for the purposes and substantially as above described.

6. In a wire-coiling machine, the rocking frame having the feed-carriage F, with a tension-feeding arm, *f*, and a rock-arm, g''', in combination with cam g'' on counter-shaft *d*, substantially as above described.

7. In a wire-coiling machine, the feed-carriage F, having lever f''', with inclined plane i', in combination with pin i''' in counter-shaft *d*, for the purpose of returning the feed-carriage, substantially as above described.

8. In a wire-coiling machine, the shears *h*, having connecting-rod *h'*, and rocking shaft having trip-arms h'' and h''', in combination with pin *i* on crank K, substantially as above set forth.

9. In a wire-coiling machine, the shield *j* and arm j', having the upright shaft j', with curved plate-arm j'', in combination with pin j'''', substantially as above set forth.

10. In a wire-coiling machine, the shield *j* and arm j''', upright shaft j', and curved plate-arm j''', in combination with the stop P', substantially as above set forth.

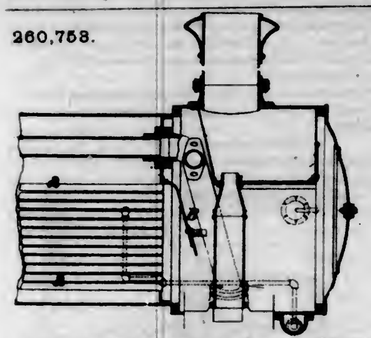
11. In a wire-coiling machine, the cone A upon shaft M, connected by gears with shaft S, and shaft *b*, having a ratchet-wheel, L, with a pawl, *k'*, with the slot and recess and rolling pin *k''*, having a connecting-rod, *k*, in combination with the crank K on revolving shaft *d*, substantially as above described.

12. In a machine for forming double-cone spiral springs, the cone-shaft M, bearing one half of the forming-cone, provided with a pin, *a*, and recess *a'*, in combination, substantially as above described, with the locking-shaft B, provided with a pin, *b*, and recess *b'*, and bearing the other half of the forming-cone.

260,753. SPARK-ARRESTER. RUFUS HILL, Camden, N. J. Filed Apr. 3, 1882. (No model.)

Claim.—1. A deflector or check-plate secured at its top to the flue-head of a tubular boiler and at its sides to the smoke-box, and inclined downwardly and outwardly from the flue-head, so as to present a discharge-space for the products of combustion, which is

260,753.



closed at its sides and is of gradually-increased transverse section, substantially as set forth.

2. The combination, with a locomotive smoke-box, of a screen or netting extending horizontally from the forward portion of the smoke-box to or near the exhaust-nozzle, and thence inclined upwardly to the periphery of the smoke-box between the steam-pipes and the opening of the stack, substantially as set forth.

3. The combination, with a screen or netting, as described, of a front plate and removable bonnet, substantially as set forth.

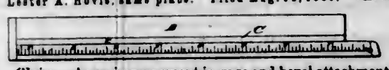
4. The combination, in a locomotive-boiler, of a flue-head, a deflector forming, with said flue-head, a discharge-space of gradually-increasing transverse area, and a screen or netting extending horizontally from the forward portion of the smoke-box to or near the exhaust-nozzle, and thence inclined upwardly to the periphery of the smoke-box, substantially as set forth.

260,754. PANTALOONS-SUPPORTER. ADOLPH HONOWITZ, Cincinnati, Ohio, assignor of one-half to Leopold Benjamin, same place. Filed Dec. 24, 1881. (No model.)



Claim.—A pantaloons-supporter consisting of the plate-spring A, the lower end or shank of which is inserted in a socket formed in the heel of a boot or shoe, thereby avoiding an external keeper, while the upper or free end of said spring bears snugly against the heel when not in use, and is provided with a lip, B, for the purpose described.

260,755. ADJUSTABLE PITCH-BOARD FOR SQUARES. CHARLES W. HOVIS, Clintonville, Pa., assignor of one-half to Lester A. Hovis, same place. Filed Aug. 13, 1881. (Model.)



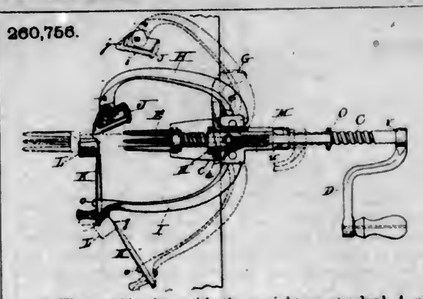
Claim.—As an improvement in gage and bevel attachments to squares, the combination, with the square, of the collar B', adapted to embrace and slide on one arm thereof, and comprising a top plate, *a*, provided with a set-screw, J, and having vertical end pieces, a' a', continued outwardly to form horizontal flanges a^2 a^2, and the bottom plate, K, secured to the latter, and having hanger V, between which and the bottom plate the bar or rule B is pivoted or hinged, all arranged and operating substantially as herein shown and specified.

260,756. APPLE-PARER, CORER, AND SLICER. CHARLES E. HUDSON, Leominster, Mass. Filed Mar. 9, 1882. (Model.)

Brief.—The paring and slicing and coring knives are located upon swinging arms, which, by means of the rotating crank-arm coming in contact with a cam-lever, throws said swinging arms away from the fork, so that an apple can readily be impaled upon said fork.

Claim.—1. The combination, in an apple-paring machine, of a slicer-knife, K, and curved corer L, with the hinged horizontal swinging arm or support I, said parts being constructed and arranged to operate with each other, substantially as and for the purposes set forth.

260,756.



2. The combination, with the upright or standard A and hinged horizontal swinging or supporting arm H, for supporting the paring-knife, of cam-lever F and threaded shaft C, said parts being arranged in relation to each other substantially as and for the purposes set forth.

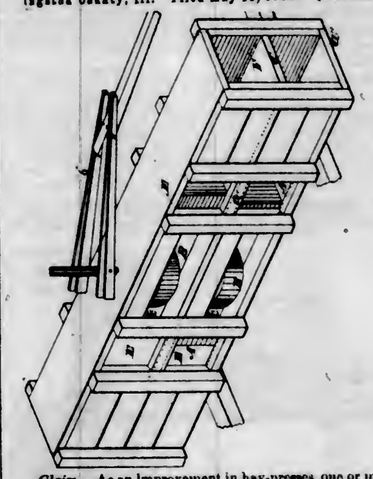
3. The combination, with standard or upright A, of the horizontal swinging arms H and I, which support the paring-knife and the slicer-knife and corer, respectively, and cam-lever F, said parts being arranged to operate simultaneously to swing back the paring-knife and the slicer-knife and corer, for the ready removal of the core by the automatic push-off and the placing of a new apple upon the fork, all substantially as shown and described, and for the purposes set forth.

4. The combination, with standard or upright A and threaded shaft C, of the hinged horizontal supporting and swinging arm H, cam-lever F, and pin *e'*, substantially as described, and for the purposes set forth.

5. The combination, with standard or upright A and the fork-shaft C, of the automatic push-off M, mounted upon the top of bearings *a a'* upon the upper part of the upright A, and provided with a slot, *s*, and being cut away upon its lower side, so as to form a notch, *t*, for the purposes described, said parts being arranged and constructed substantially as described, and for the purposes set forth.

6. The combination, with the upright or standard A and hinged horizontal swinging or supporting arm H, of the pivoted knife-head J, provided with a weight or counterbalance-projection, *j*, all substantially as and for the purposes set forth.

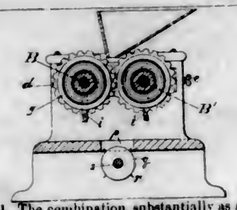
260,757. HAY-PRESS. JAMES KEMP, near Kempton, Livingston County, Ill. Filed May 13, 1882. (No model.)



Claim.—As an improvement in hay-presses, one or more plungers, A, slotted out horizontally and vertically and combined with an eccentric, B, and two anti-friction wheels, C C, operated to press a bale of hay at either end, in combination with pressing-boxes E, as and for the purpose specified.

260,758. MEAT-CUTTING MACHINE. CHARLES KIEGER, Baltimore, Md. Filed Nov. 12, 1878. Renewed June 10, 1881. (Model.)

260,758.



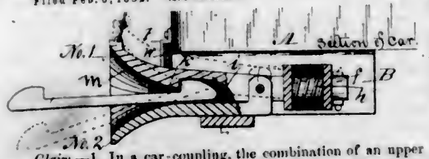
Claim.—1. The combination, substantially as set forth, of the shafts B B', each provided with a series of separate cutters having semicircular teeth and disks, all of the same thickness, and arranged to interlock, so that each cutter shall pass between a pair of the opposing series and in contact therewith, substantially as set forth.

2. In combination with the shafts B B', arranged to turn in opposite directions and at the same rate of speed, the series of cutters *d*, having semicircular teeth, and washers *g* of the same thickness, removably secured upon the shafts and arranged to interlock, as set forth.

3. In combination with the shafts B B', arranged to turn in opposite directions and at the same rate of speed, the washers *g* and cutters *d*, having semicircular teeth *e*, the said washers and cutters being arranged to turn in contact with each other and form a shearing cut, as set forth.

4. In combination with the shafts B B' and cutters *d*, having semicircular teeth, and washers *g*, of the same thickness as the cutters, the supplemental cutter *q r*, as set forth.

260,759. CAR-COUPLING. JOHN W. LANGFITT, Redfield, Iowa. Filed Feb. 8, 1882. (No model.)

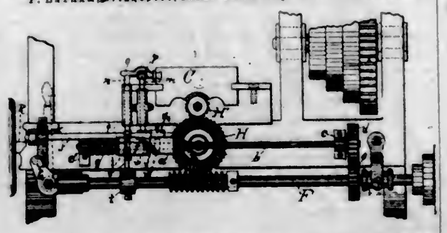


Claim.—1. In a car-coupling, the combination of an upper section and jaw, No. 1, having a flaring lip, *m*, a throat, *k*, and cavity i, with a corresponding lower jaw, No. 2, having a smooth top surface to operate, by force of gravity, in admitting, holding, and liberating the barb or head of a coupling-link, substantially as shown and described, for the purposes specified.

2. The locking device *s t w y*, in combination with a vertically-moving section and jaw, No. 1, of a draw-head, substantially as shown and described, to operate in the manner set forth, for the purposes specified.

3. The improved car-coupling, consisting of the longitudinally-divided draw-head No. 1 and No. 2, having a mouth, a throat, and a cavity, i, and a smooth top surface on the lower jaw, adapted to admit and retain the barb or head of a coupling-link, and a rear extension or bar, *f*, a supporting-frame and buffer device, and a locking device, *s t w y*, substantially as shown and described, to operate in the manner set forth, for the purposes specified.

260,760. FEED DEVICE FOR MILLING-MACHINES. EDWARD P. LATHAM, Bridgeport, Conn. Filed July 5, 1881. (No model.)



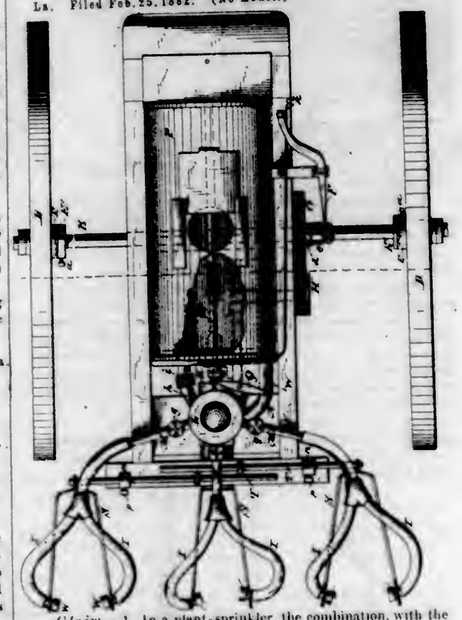
Claim.—1. In a milling-machine, the combination, with the worm-shaft F, having gear *e*, of the shaft *b*, having gear *d*, and pinion *a*, with the feed-driving gear H, whereby the carriage C is fed in a reverse direction, substantially as set forth.

2. The combination, with the carriage C and feed-gear H', of feed-driving gear H, the shaft *b*, having clutch-pinion *a*, clutch-sleeve *f*, fork-lever *h*, spring *g*, to carry the sleeve in contact with the pinion *a*, bearings *c c'* for the shaft *b*, as set forth.

3. The combination, with the fork-lever *h*, having bracket 2, of the finger *s*, attached to the worm-shaft F and operated by it to hold the clutch-sleeve *f* free and in readiness to be carried by the spring *g* in contact with the pinion *a* when the worm-shaft F drops, substantially as described.

4. The combination of the carriage C, having the toe *o*, with the stop-pin *n* and fork-lever *h*, substantially as described, and for the purpose set forth.

260,761. PLANT-SPRINKLER. GARRY G. LYNCH, Illawara, La. Filed Feb. 25, 1882. (No model.)



Claim.—1. In a plant-sprinkler, the combination, with the tank P, mounted on a carriage or truck, and having suitable distributing-pipes, of the pump K, chamber L, pipe *b*, provided with a suitable safety-valve, and the pipe N, communicating with the tank and chamber O, substantially as and for the purpose specified.

2. In a plant-sprinkler, the combination, with the pump K, chamber O, and pipe N, of the tank P, having the wire-gauze covering *l*, and the oscillating brush R, adapted to operate substantially as and for the purpose specified.

3. In a plant-sprinkler, the combination, with the tank thereof and distributing-chamber, of the pipes I, provided with nozzles and supported by arms S, which are connected to adjustable rods T, substantially as and for the purpose set forth.

260,762. VAPOR-BURNER. JOHN MADDEN, Cleveland, Ohio. Filed Nov. 21, 1881. (No model.)



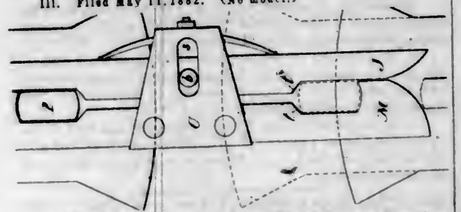
Claim.—1. In vapor-burners, the combination, with the combustion-chamber F, having a lining of wire-gauze and perforations leading from said chamber into the passage *d*, of a pipe, I, and the annular generating-chamber A, having a pipe-connection with the oil-reservoir and needle-valve mechanism, substantially as described, and for the purpose specified.

2. In vapor-burners, an annular vaporizing-chamber provided with induction and eduction pipes, and a combustion-chamber arranged within the area of said vaporizing-chamber, in combination with the base H, having a tube connected therewith leading into said combustion-chamber, and a diaphragm attached to and extending from the outside wall thereof to an annular slot, substantially in the manner as described.

3. An improvement in vapor-burners, consisting of the perforated combustion-chamber F, with a diaphragm, G, extending to the slot or opening *e*, with a passage, *d*, between the diaphragm and base, with a tube leading into said chamber above the needle-valve, in combination with the annular chamber A and pipes B D, substantially as and for the purpose set forth.

4. In vapor-burners, the combustion-chamber provided with perforations arranged in open relation with the passage *d* between the base and diaphragm G, in combination with the slot or opening *e* within the area of the generating-chamber, substantially as and for the purpose set forth.

260,763. CAR-COUPLING. PHILEMON MARKLEY, Lewistown, Ill. Filed May 11, 1882. (No model.)



Claim.—The combination of jaws M and J, clamp C, spring S, bar *b*, slot *s*, and flat-sided pin-holes, either straight or curved at *t t*, in combination with pins P P, substantially as herein described, and for the purpose set forth.

260,764. FERTILIZER-DISTRIBUTER. WALTER MARKS, Chaplaville, N. Y. Filed Mar. 6, 1882. (Model.)



Claim.—1. The herein-described feeding-shell for fertilizer-distributers, having vertical sides B, conical top C, and straight projecting lip, substantially as and for the purposes set forth.

2. The combination, with the rotating feed-cup I, of the stationary feed-shell D, provided with a curved projecting lip having a single discharge-orifice therein, and one or more yielding spring-clearers, E, attached to the interior of the feed-cup, projecting downward, and operating to clean the lip at each revolution of the feed-shell, substantially as and for the purposes set forth.

3. The herein-described feed-shell for fertilizer-distributers, provided with a projecting lip having its upper and lower surfaces formed in planes parallel to each other and to the bottom of the feed-cup, having its outer margin formed on a gradual curve, substantially as and for the purposes set forth.

4. The combination, with the rotary feed-cup I, stationary feed-shell C, provided with a projecting lip having discharge-orifice therein, of a suitable perforated supporting-frame for the feed-cup and the spreader L, attached to the frame, substantially as and for the purposes set forth.

260,765. BOTTLING-MACHINE. JOHN MATTHEWS, New York, N. Y. Filed Nov. 23, 1881. (No model.)

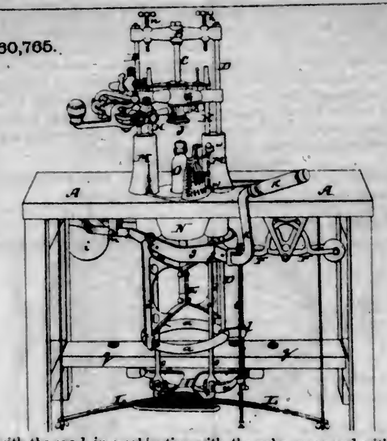
Brief.—Standards M inclose the sliding rods, keeping them from contact with the escaping liquid and serving as guides. A bottle-clasp, P, is attached to one of the standards.

Claim.—1. In a bottling-machine, the combination of the upper cross-head, B, with the rods D D, hollow ring *a*, the sectional yoke-frame E, table A, and mechanism, substantially as described, for moving the frame E, as herein shown and described.

2. The yoke-frame E, consisting of the hollow ring *a*, having sockets *b* and projecting eye *l*, the sectional lattice-frame *d*, having gudgeons *c c* and *e e*, the yoke proper, *g*, having sockets *f f* and *j*, and the weighted rods *h* and handle *k*, all combined substantially as herein shown and described.

3. The ring *a*, made hollow, perforated vertically to receive the rods D, and provided with bearings for the gudgeons *c*, and

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with the eye *l*, in combination with the yoke-frame and with the balanced frame F of a bottling-machine, substantially as herein shown and described.

4. The yoke proper, *g*, made hollow and with open ends for the reception of the rods *h*, and provided with sockets *e e* and *j*, in combination with the yoke-frame of a bottling-machine, substantially as herein shown and described.

5. The lattice-frame *d*, made of two equal parts, each having a gudgeon, *c*, and a gudgeon, *e*, combined with the ring *a* and yoke *g* in the yoke-frame of a bottling-machine, substantially as herein shown and described.

6. In a bottling-machine the hollow cross-head G, combined with moving rods H H, filling-head J, rods D D, screws *n n*, hollow upper cross-head, B, and plunger C, substantially as herein shown and described.

7. The treadle I, having pivots *p p*, combined with the hollow cross-bar r, having open ends and upwardly-projecting lugs *s*, substantially as herein shown and described.

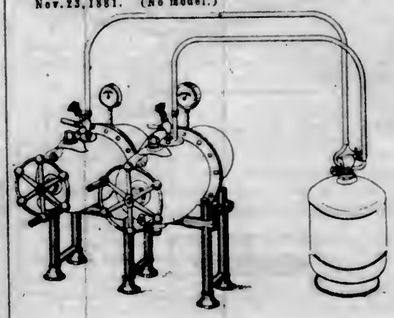
8. The treadle I, combined with its hollow cross-piece *r*, having lugs *s*, and with the operating-rods *o o* and spring L, all being directly connected substantially as herein shown and described.

9. In a bottling-machine, the stationary hollow posts M M, projecting above the table A, which is adapted to support the bottle, and combined with the sliding rods that move on each side of the bottle and carry one or more of the cross-heads of the machine, and that are surrounded by said posts, substantially as herein shown and described.

10. The combination of the hollow posts M with the pan N, with which they are united, and with the sliding rods for the cross-head or cross-heads of a bottling-machine, that pass through said hollow posts, substantially as herein shown and described.

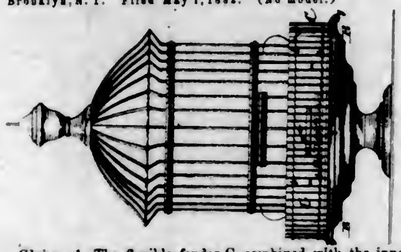
11. The hollow posts M M, embracing the sliding rods of the cross-head or cross-heads of a bottling-machine, and elevated above the bottle-supporting table A, and provided with lugs *w*, in combination with the bottle-clasping screens P, that are pivoted to said hollow posts, substantially as herein shown and described.

260,766. METHOD OF CHARGING FOUNTAINS WITH AERATED BEVERAGES. JOHN MATTHEWS, New York, N. Y. Filed Nov. 23, 1881. (No model.)



Claim.—The method herein described of charging a fountain with aerated beverages, by connecting it first with a reservoir that contains only gas under pressure, and then with another reservoir containing water and gas under greater pressure, meanwhile leaving the connection with the first reservoir uninterrupted, so that the fountain will first be charged with gas and then with water under greater pressure than the gas, the water expelling the surplus gas into the first reservoir, whereupon communication with both reservoirs is closed, substantially as specified.

260,767. FENDER FOR BIRD-CAGES. JOHN MAXHEIMER, Brooklyn, N. Y. Filed May 1, 1882. (No model.)



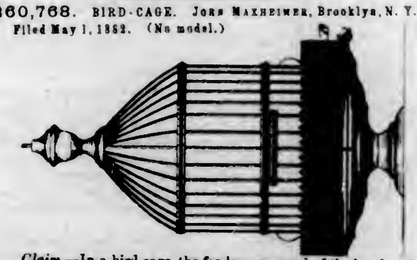
Claim.—1. The flexible fender C, combined with the inner continuous distending-band, D, and with the back and sides of a cage, substantially as described.

2. The fender C, having longitudinal connecting-cord *b* combined with band D and upright fastening-loops *d*, substantially as described.

3. The flexible fender C, combined with the continuous band D, and provided with opening section or sections *e*, having fastening device *f*, substantially as described.

4. The combination of the flexible fender C and band D with the fastening-clasps *g* at lower edge, by which clasps the fender can be secured to a cage, as described.

260,768. BIRD-CAGE. JOHN MAXHEIMER, Brooklyn, N. Y. Filed May 1, 1882. (No model.)



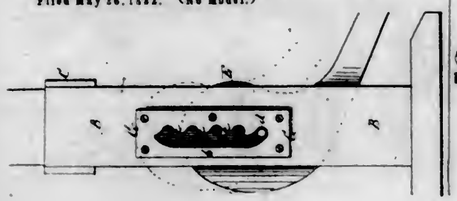
Claim.—In a bird-cage, the fender composed of the bands *a d*, spring *c*, and fabric or flexible covering D, substantially as and for the purpose specified.

260,769. FISH-BONE HOLDER FOR BIRD-CAGES. THEODORE L. MAXHEIMER, Brooklyn, N. Y. Filed May 2, 1882. (Model.)



Claim.—The spring-holder A, constructed with the inwardly-projecting clasps *a b*, which are formed from the wire body of the holder, substantially as described.

260,770. CARRIAGE-JACK. WILLIAM MCKENZIE, Perry, N. Y. Filed May 26, 1882. (No model.)



Claim.—The combination, in a carriage-jack, of the two metallic plates G G, set on opposite sides of the standards B B, provided with the inclosed slots *b b* and hook-shaped notches *c c* on one side of the slots, and the journals *d d*, attached to the cam E and projecting on opposite sides, the slots acting as guides to the journals in moving up and down therein and the notches serving as bearings to the journals at different adjustments, as herein shown and described.

260,771. MONKEY-WRENCH. CHARLES H. MILLER, Erie, Pa. Filed Dec. 21, 1881. (No model.)

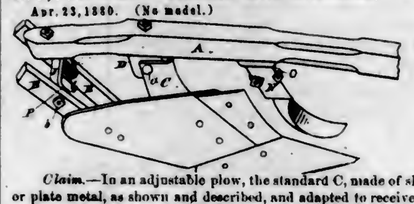


Claim.—1. In a monkey-wrench, a frame consisting of the stationary jaw A, neck-pieces C C, and hollow handle D, formed of one piece of metal, substantially as shown.

2. In a monkey-wrench, a frame consisting of the stationary jaw A, neck-pieces C C, and hollow handle D, in combination with the movable jaw B, having notches *b b'*, screw-stem B', and worm-wheel E, substantially as shown.

3. In a monkey-wrench, a frame consisting of a head or stationary jaw, A, neck-pieces C C, and hollow handle D, and having the lug *d* and lugs *e e e e*, formed of one piece of metal, substantially as shown.

260,772. PLOW. CHARLES F. MOCK, Louisville, Ky. Filed Apr. 23, 1880. (No model.)



Claim.—In an adjustable plow, the standard C, made of sheet or plate metal, as shown and described, and adapted to receive the point, mold-board, and landside, in combination with the head-piece D, the pivot-pin *a*, to connect the standard and head-piece, the adjustable beam A, angular slotted cross-bar J, pivot-bolts *b b*, and handles B, constructed and arranged to operate substantially as specified.

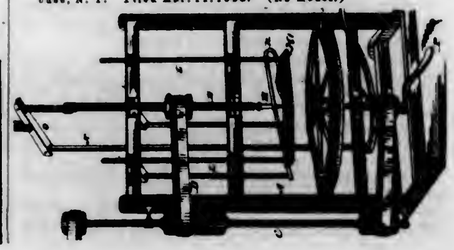
260,773. BLOW-PIPE. THOMAS T. MORRELL, Johnstown, Pa. Filed Mar. 30, 1882. (No model.)

Brief.—In the initial stages of chemical operations a less degree of heat is required. To afford this a small gas-pipe, *a*, is inserted in the pipe F, having at its end *d*, which is closed, several small perforations. A register, *f*, admits air to the pipe *a*, as desired, and is so constructed that it may be entirely closed.



Claim.—The gas-pipe *a* and register *f*, in combination with the blow-pipe, substantially as described, and for the purposes set forth.

260,774. HUB-BORING MACHINE. HARVEY A. MOYER, Syracuse, N. Y. Filed Apr. 11, 1882. (No model.)

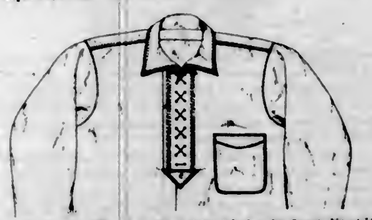


Claim.—1. In a hub-boring machine, the bed-plate H and upward-acting drill F, in combination with the vertically and laterally adjustable centering-clamps I, the plate H', slide-rods L, and lever K, the tapering downward-acting drill, and driving mechanism, substantially as shown and described.

2. In a hub-boring machine, the vertical downward-acting drill provided with the flat tapering point U and one or more adjustable bits E S, and the collar *e*, in combination with the pivoted upward-acting drill F and foot-lever P, hand-lever M, rod N, and swinging lever O, frame A, bed-plate H, and the driving mechanism, as shown and described.

3. In a hub-boring machine, the vertical downward-acting drill provided with the tapering double-shouldered screw-bit T *r f*, in combination with the upward-acting pivoted drill F and foot-lever P, hand-lever M, rod N, and swinging lever O, the frame A, bed-plate H, and driving mechanism, substantially as shown and described.

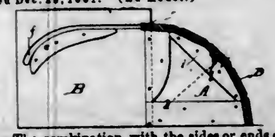
260,775. SHIRT. JOHN M. C. MURPHY, Boston, Mass. Filed Apr. 21, 1883. (No model.)



Claim.—1. The described shirt, having its front slit at its middle vertically and laterally and folded and plaited, as explained, and provided with the stay, the buttoning-fly, and buttons, and also with the lacing-holes and lacing arranged in the front lap and in the collar, all being substantially as set forth.

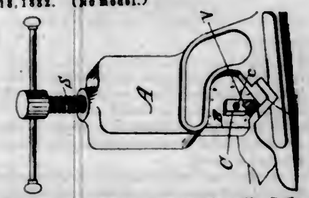
2. The shirt-front slit at its middle vertically and laterally and plaited, as described, and provided at the junction of the plait and folds with the stay, and having to the outer fold the buttoning-fly and to the inner fold buttons to engage with such fly, all being as set forth.

260,776. CYLINDER-DESK. ALBERT OTTENSEN, Jefferson, Ill. Filed Dec. 28, 1881. (No model.)



Claim.—The combination, with the sides or ends of desk provided with grooves *f*, of the pivoted sides A and a flexible slatted cover or curtain, D, having its first slat rigidly attached to the pivoted sides, and also having its rear slat provided with pins *i*, adapted to work in the said grooves, substantially as described.

260,777. PIPE-VISE. THOMAS PATTON, Chicago, Ill. Filed Mar. 18, 1882. (No model.)

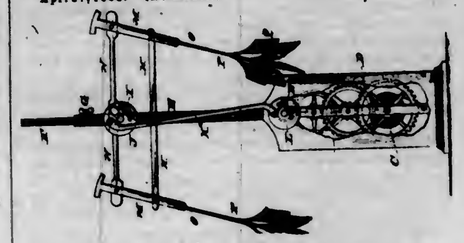


Claim.—1. In a pipe-vise, the secondary die, C, the secondary grip, V, and the standard A, having a recess, F, substantially as described, and for the purpose specified.

2. In an improved pipe-vise, the secondary die, C, the secondary grip, V, and the standard A, having a recess, F, in combination with the principal die, B, and the screw S, substantially as described, and for the purpose specified.

3. As an improvement in pipe-vises, the secondary die connected with the principal die upon one side, the secondary grip connected with the base of the vise upon one side, the dovetail for aiding in holding the secondary die in position, the set-screw which answers a like purpose, and the standard having a recess upon the same side with the secondary die for the purpose of permitting the free action thereof, substantially as described, and for the purpose specified.

260,778. AUTOMATIC FLY-BRUSH. JOHN M. PRAY, WILLIAM A. PRAY, and J. HAM HELGLEY, South Carrollton, Ky. Filed Apr. 27, 1883. (No model.)

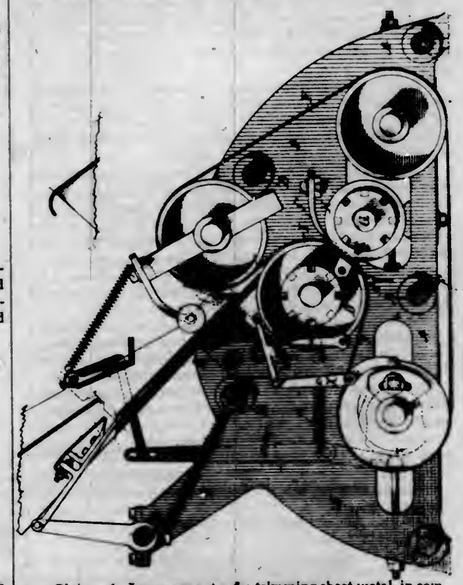


Claim.—1. In a fly-fan, the pivoted arms M, having flat springs O, carrying wire fingers P, provided with brushes Q, substantially as set forth.

2. In a fly-fan, the combination, as and for the purpose set forth, of the motor-box, the upright mounted upon said box and supporting the fans, and a rod extensible from said upright and adapted to bear against the ceiling of the room, so as to steady the device during operation.

3. The combination of the motor-box A, having upright E, provided with the extension-rod F, brackets H, and crank shaft I, having wheel J, the shaft B, having crank-wheel L, the pitman K, having curved ends, the fly-brushes M O P Q, the pitmen N, and suitable operating mechanism, substantially as set forth.

260,779. MACHINE FOR SHEARING SHEET METAL. GEORGE H. PERKINS, Philadelphia, Pa. Filed Oct. 23, 1877.



Claim.—1. In an apparatus for trimming sheet metal, in combination with shearing mechanism adapted to cut a sheet of sheet metal to a uniform width, a chute provided with two gates, one in advance of the other, and designed respectively to control the introduction of the sheet upon the chute and its introduction to the shearing mechanism.

2. In a machine for trimming sheet metal, in combination with a main chute provided with raised ways upon which a sheet of metal is fed and travels, a main gate the lower edge of which is curved so as to adapt it, in combination with the raised ways upon the chute, to buckle the sheet of tin, as and for the purpose specified.

3. In a machine for trimming sheet metal, in combination with a chute provided with raised ways upon which a sheet of tin is fed and travels, a pressure-roller adapted to bear between said ways and curve or buckle the sheet, as and for the purpose specified.

4. In combination, a bending-drum provided with a cutting-edge, an endless apron traveling over said drum, the side of which apron is in proximity to the cutting-edge, a shearing-shaft provided with a cutter adapted to register against said cutting-edge, and a hold-down or kindred contrivance which both holds a sheet of metal bent between the drum and apron closely against the surface of the drum and prevents the sidewise movement of the apron against the cutter, substantially as set forth.

5. In a machine for trimming sheet metal, in combination with a main chute adapted to receive a sheet of metal to be trimmed, and provided with pushers suitably operated to advance said sheet into contact with shearing mechanism, a spring-plate applied to one side of said chute, and the plunger, bell-crank, projector-arm, and means for actuating said arm, whereby the spring-plate is operated synchronously with the pushers, so as to cause the setting over of the sheet true against the opposite side of the chute synchronously with its advance.

6. In a machine for trimming sheet metal, in combination with mechanism for trimming the edge of a sheet of tin or kindred sheet metal, a primary chute adapted to receive the sheet to be trimmed, a gate for alternately closing said primary chute and opening it to permit of the escape by gravity of the sheet placed thereupon, a main chute so relatively placed with respect to the primary chute as to receive the sheet which descends by gravity from the latter, a supplemental gate controlling the main chute, pushers or equivalent means for forcing the sheet of tin down the main chute upon which it has been arrested by the supplemental gate, and into the shearing devices, and means for suitably operating the trimming mechanism, the main gate, and the pushers, substantially as set forth.

7. In a machine for trimming sheet metal, in combination with a chute upon which the sheet to be trimmed is finally delivered, and from whence it is fed to the shearing mechanism, pushers adapted at predetermined intervals and by suitable means to force the sheet down the chute, a spring-controlled arresting-gate, and means for locking said arresting-gate against the weight of the sheet to be trimmed as the latter descends upon the chute and prior to the time at which the pushers act to force it down the chute.

8. In a machine for trimming sheet metal, as a composite device for operating the spring-plate which adjusts the position of the sheet to be trimmed laterally upon the chute, the spring-controlled plunger, bell-crank, projector-arm, and means for actuating said arm.

9. In a machine for trimming sheet metal, in combination with a spring-plate which adjusts the position of the sheet upon the chute, the plunger, the bell-crank connected therewith, and the plunger-encircling spiral spring, whereby the plunger is adapted to transmit the throw of the bell-crank to the spring-plate until the latter is stopped by the setting up of the sheet against the opposite side of the chute, after which any further movement of the bell-crank is without influence upon the spring-plate by reason of the compression of the spring, substantially as set forth.

10. In a machine for trimming sheet metal, as a device for pushing the sheet down the chute and into the shearing mechanism, the pushers hereinbefore described, consisting of longitudinally-extending fingers, in combination with adjustable jaws.

11. In a machine for trimming sheet metal, in combination with the main gate, foot applied to the base thereof, as and for the purpose specified.

260,780. COVERING FOR TOP ROLLS OF SPINNING-MACHINES. EDWARD L. PERRY, Paterson, N. J., assignor to himself and HENRY S. WINANS, New York, N. Y. Filed July 27, 1881. (No model.)

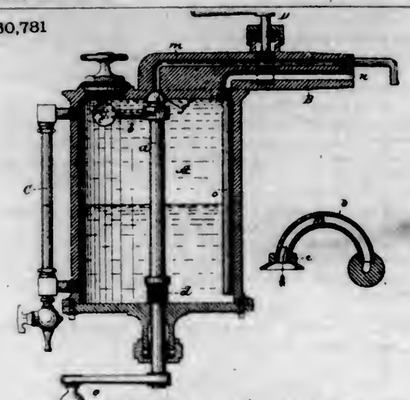


Claim.—1. A covering or cot for draft-rolls, having its interior formed of an elastic material and its exterior of plumbago, substantially as and for the purpose set forth.

2. A covering or cot for draft-rolls, formed of two independent layers, the interior layer being composed of rubber and the outer layer of plumbago, substantially as and for the purpose specified.

260,781. STEAM-ENGINE LUBRICATOR. EDWARD H. PHIPPS, New York, N. Y. Filed June 8, 1882. (No model.)

260,781

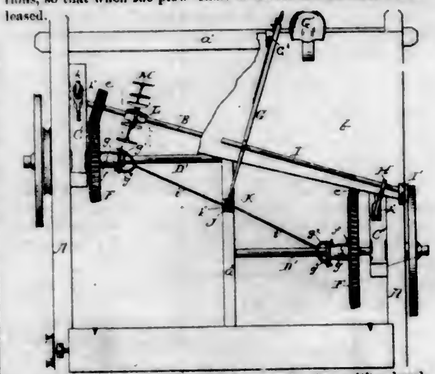


Claim.—1. In a steam-engine-cylinder lubricator, the combination of the following elements: a tank or chamber, A, provided with a threaded extension, B, a revolving spindle, *a*, having upon it a hollow arm, *b*, an exit-pipe, *m*, and a valve, D, provided with two openings, when the same shall be constructed and operate substantially as and for the purpose set forth.

2. In a steam-engine-cylinder lubricator, the combination of the following elements: a tank or chamber, A, provided with a threaded extension, B, a revolving spindle, *a*, having upon it a hollow arm, *b*, the helical spring *d*, the exit and inlet pipes *m* and *n*, and the valve D, with two openings, constructed and operating substantially as and for the purpose specified.

260,782. ROTARY PLOW. GEORGE PERRING, Ravenswood, Ill. Filed Apr. 22, 1882. (No model.)

Brief.—The geared sectional axles drive the oblique plow-shaft at both ends. Both the axles and the plow-shaft have adjustable bearings in an extended block or lever, which is rocked by hand-lever connections. This hand-lever has double connections, so that when the plow-shaft is raised the clutches are released.



Claim.—1. In a rotary plow, the combination, with a hand-lever, of a vertically-reciprocating piston located between the points of termination of the two half-axles, and the two rods connected thereto by swivel-joints extending respectively backward and forward to operate the clutches on the said half-axles, substantially as hereinbefore set forth.

2. In a rotary plow, the combination, with the axles, of the loose gear-wheels F, clutches *g*, rods *i*, piston J, plow-shaft B, pivoted levers C', rock-shaft I, with arm H and link *h'*, and lever G, substantially as and for the purpose specified.

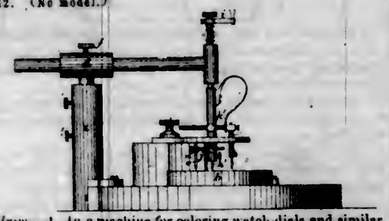
3. In a rotary plow, the combination, with lever C', fulcrumed on the carriage-axle, having a rectangular opening at one end and a recess at the other, of the movable head-block D', set-screw *d'*, adjustable bearing C, bolt *b'*, and oblique plow-shaft B, substantially as described.

4. A rotary plow consisting of a hand-lever, G, arms H, connecting-rods *h'*, levers C', shaft B, and piston J, rods *i*, clutches *g*, gear-wheels F, and pinions *e*, connected and arranged by the means and in the manner hereinbefore described and set forth.

5. In a rotary plow, the combination of the oblique plow-shaft, having pinions on or near its ends, with two half-axles terminating in a central longitudinal beam having loose gear-wheel meshing with said pinions, the whole arranged to drive said plow-shaft by the mechanism hereinbefore described and set forth.

6. In a rotary plow, a hub, L, having a flange in the face of which are recesses *m'*, formed to receive the shanks or standards of the plows, secured therein by nuts and bolts, as hereinbefore described and set forth.

260,783. APPARATUS FOR APPLYING COLOR TO WATCH-DIALS. THOMAS J. PROCTOR, Waltham, Mass. Filed June 8, 1882. (No model.)



Claim.—1. In a machine for coloring watch-dials and similar articles, the combination of the following elements, namely: a bed-plate to sustain the article being operated upon, and mechanism to hold a color or pigment scraping tool and guide it in a definite path over the said article, substantially as described.

2. The bed-plate, standard, and tool-actuating shaft mounted thereon, combined with the scraping-tool connected with the said shaft, as and for the purpose described.

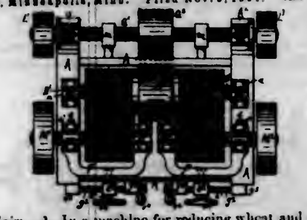
3. The bed-plate and tool-carrying shaft movable toward and from the said bed-plate, combined with the spring by which the said shaft is normally retained in the position most remote from the said bed-plate, substantially as described.

4. The bed-plate, tool-actuating shaft, and tool-carrying arm movable radially relative to the said shaft, combined with the pattern-surface by which the said radial movement is governed, substantially as described.

5. The combination of the bed-plate and scraping-tool and mechanism to move it in a definite path over the said bed-plate, the said tool being also movable toward and from the surface being acted upon, whereby its pressure on the said surface is governed by the operator, substantially as described.

6. The combination of the bed-plate, reciprocating tool-carriage, and actuating-shaft therefor, substantially as described.

260,784. WHEAT AND MIDDLINGS REDUCING MILL. JAMES PYE, Minneapolis, Minn. Filed Nov. 9, 1881. (No model.)



Claim.—1. In a machine for reducing wheat and middlings, two rolls mounted on one shaft and a driving pulley mounted between them on the same shaft, in combination with opposing rolls, whereby the several parts will operate as and for the purpose set forth.

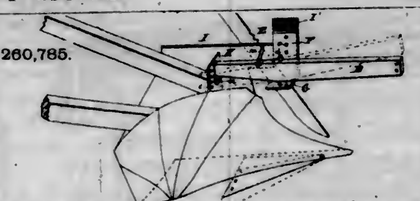
2. The rolls C' C' and intermediate pulley, D, formed in one piece, whereby they are adapted to be applied as and for the purpose set forth.

3. The combination of the rolls C' C', mounted upon one shaft, and with a pulley upon the same shaft between them, and the rolls E' E', counter-shaft G', counter-pulleys G' I' I', and adjustable roll-driving pulleys M' M', whereby all of said rolls may be operated by one set of belts, substantially as set forth.

4. The combination of roll E', boxes *c' c'*, yoke F, screw *c'*, nut *e'*, eccentric *g'*, and means for moving the eccentric, as set forth.

260,785. PLOW. JOHN QUIS, Wakeman, Ohio. Filed May 12, 1881. Renewed May 16, 1882. (No model.)

260,785.



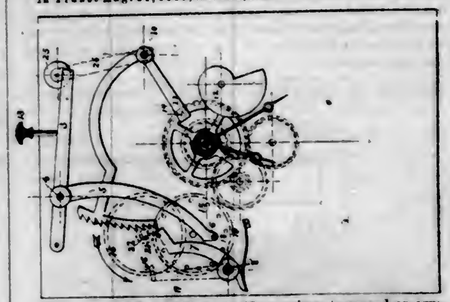
Claim.—The combination, with the short beam I, secured to the landside and provided with the arm I', having a row of vertical holes, and angular arm F, provided with holes *a b*, of the beam B, provided with the vertical pin *d* and the end perforated plate, *n*, and plate K, provided with adjusting-holes, substantially as described, and for the purpose set forth.

260,786. EXPLOSIVE POWDER. WILLIAM R. QUIRAN, San Francisco, Cal. Filed Oct. 14, 1881. (Specimens.)

Claim.—1. A low explosive composition consisting of an untriturated nitrate—such as nitrate of soda—in the form of small masses, grains, or crystals of determinate size, sulphur, pulverized or grained, carbonaceous material, either pulverized or in the form of non-porous small masses or grains of determinate size, the unpulverized ingredients remaining as separate grains in the mixture, and a small proportion of nitro-glycerine, which forms a coating in immediate contact with said small masses or grains, whereby the surfaces of the ingredients are so limited in extent as to retain the small proportion of nitro-glycerine susceptible to detonation by the ordinary blasting-cap, substantially as described.

2. The process of making a low explosive composition which consists in mixing crystals of nitrate of soda or its equivalent and carbonaceous material, as specified, either pulverized or in small non-porous masses or coarse grains of definite regulated size, the unpulverized ingredients remaining as separate grains in the mixture, mixing therewith sulphur in powder or grains, and adding a small proportion of nitro-glycerine, substantially as described.

260,787. REPEATING-CLOCK. JOSEPH ANTOINE JEAN REDIER, Paris, France. Filed Mar. 22, 1882. (No model.) Patented in France Aug. 21, 1880, No. 136,362.



Claim.—1. The shifting axis 10, carrying at one end an arm, 11, and at the other end an arm, 27, and which is actuated by a vertical arm, 26, as above described, and for the purposes set forth.

2. The movable axis 24, or its equivalent, carrying at one end a button, 29, for operating the same, and at the other end a cone, 25, which depresses the lever 3, thereby liberating the rack 9 conjointly with a vertical arm, 26, which imparts its motion to the shifting axis 10, as above described, and for the purposes set forth.

3. The combination of the lever 3, arm 5, pawl or arm 7, rack 9, and arm 11, which cause the clock to strike the hours and half-hours, with the upper axis, 24, cone 25, arm 26, shiftable axis 10, and arm 27, for causing the same to strike once for every five minutes elapsed, as above described and set forth.

1. The combination of the button 29, shaft or axis 24, cone 25, arm 26, shiftable axis 10, and arm 27 with a striking apparatus, and whereby by pressing upon the button a clock may be made to strike once for every five minutes elapsed.

260,788. RAILWAY-CAR. MOSES T. RIDOUT, Lakeside, Minn. Filed Apr. 27, 1881. (No model.)

Claim.—1. A cattle-car provided with a series of water-buckets hinged to the side of the car and counterbalanced, combined with a water pipe and valves having suitable connecting devices with said buckets, so that when the requisite quantity of water has been delivered to said buckets they will automatically overcome counterbalance, whic! by its downward motion, will close said water-valve.

260,788.



2. A cattle-car provided with a series of feed or water buckets, E, hinged to the side of the car and provided with elastic supports behind them, for the purpose set forth.

3. A cattle-car provided with a water-tank, I, from which water may be drawn at any time, combined with a pipe or pipes attached to the car, whereby water may be delivered to the animals for drink or to wet their skins, buckets E, with covers K and the crank-rod F, and suitable connecting devices, whereby said crank-rod may control the bucket-covers and the water-valve.

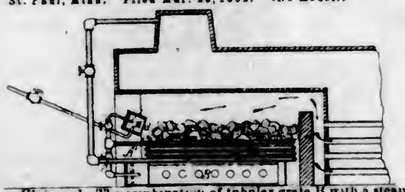
4. In a cattle-car, a series of feed-buckets placed against the side of the car, combined with a corresponding series of holes, G, in the roof and a removable chute or pipe, H, adapted to enter said holes to conduct a quantity of food to said buckets from the exterior of the roof.

5. The several buckets E and sleeve-valves *e*, combined with the operative crank-rod F, as set forth.

6. The valves *p p*, each provided with a pivoted valve-lever, *i i*, combined with the lever L, to which said levers *i* are jointed, whereby said valves may be controlled, as set forth.

7. A cattle-car provided with a set of water-pipes permanently attached and water cocks or valves set therein opposite each of a series of hinged water-buckets, combined with sustaining-springs and valve-connections, whereby when the proper quantity of water has been received the bucket will depress its sustaining-springs and close the water-cock.

260,789. HYDROCARBON-FURNACE. HERRMAN S. SARONI, St. Paul, Minn. Filed Mar. 25, 1882. (No model.)



Claim.—1. The combination of tubular grate B with a steam-supply pipe, C', air-inlets *e*, and incandescent refractory material arranged on said grate, the latter being provided on its upper side with perforations, through which the combined steam and air are applied to liquid hydrocarbons distributed over said refractory material.

2. In combination with a furnace, a tubular grate located therein, and a refractory material upon such grate, a coil of steam-pipe surrounding or combined with the same, substantially as stated.

3. In combination with a furnace, a tubular grate located therein, a refractory material disposed upon such grate, and a steam-coil surrounding or combined with such grate, an atomizer supplied with steam from such coil and with liquid fuel from a suitable tank, substantially as and for the purposes stated.

4. In combination, a furnace, a tubular grate located therein, a refractory material upon such grate, a superheating steam-coil surrounding or combined with such grate and delivering steam to the interior thereof and to an atomizer, and provision for supplying the interior of the grate with air, substantially as described.

5. In combination, the furnace, the tubular perforated grate therein, with provision for an air-supply, the superheating steam-coil supplied with steam from a suitable source and communicating with and supplying the tubular grate, and a liquid-fuel tank delivering its fuel to an atomizer connected with the said superheating-coil and located in the furnace above the grate, and a refractory material placed upon the grate to provide a distributing-surface for the heavier particles of the fuel, substantially as stated.

260,790. SHIRT. ISAAC SCHNEBR, New York, N.Y. Filed Apr. 14, 1882. (Model.)



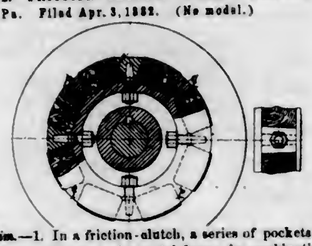
Claim.—1. A shirt provided with an extra yoke, B, extending across the back thereof, and with a bosom, C, extending from the ends of said yoke and cut in one piece therewith, substantially as shown and described.

2. A shirt provided with an extra yoke, B, forming a pocket, *a*, into which the collar may be folded, substantially as shown and described.

3. A shirt provided with extra yoke B, said yoke being free from the shirt along its upper edge, combined with the rolling collar G, all arranged substantially as shown and described.

4. The extra yoke B, provided with yoke-band E, and applied to a shirt having neckband D, in combination with fasteners *b*, substantially as shown and described.

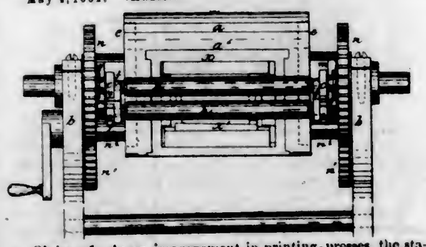
260,791. FRICTION-CLUTCH. WILLIAM SELLERS, Philadelphia, Pa. Filed Apr. 3, 1882. (No model.)



Claim.—1. In a friction-clutch, a series of pockets arranged about the circumference of a metal frame, in combination with a series of radial wedges and wooden friction-blocks, whereby each radial wedge secures two friction-blocks in each pocket, substantially as and for the purposes set forth.

2. In a friction-clutch, a circular metal frame, in combination with a series of wooden friction-blocks alternating with a series of radial wedges, whereby the friction-blocks are secured upon the circumference of the metal frame, substantially as and for the purposes set forth.

260,792. PRINTING-PRESS. ALFRED SHERLOCK, New York, assignor to George P. Byrne, Trustee, Brooklyn, N.Y. Filed May 4, 1881. (Model.)



Claim.—1. As an improvement in printing-presses, the stationary body forming the type-bed and ink-distributing surface, and provided with a flange-cam at each end, ink-roller carriers having each a roller attached thereto, adapted to work against the internal faces of the flange-cams, and open bearings for the ink-rollers, and rotating wheels on the hubs of the fixed body connected to the ink-roller carriers, substantially as and for the purpose hereinbefore set forth.

2. In a printing-press, a stationary irregularly-formed ink-distributing and chase-holding body, having at each end an irregularly-formed flange-cam, in combination with two ink-rollers and their carriers, provided with bearing-rollers adapted to work on the internal faces of the cams and hold the ink-rollers firmly to the periphery of the body in all positions, substantially in the manner and for the purpose hereinbefore set forth.

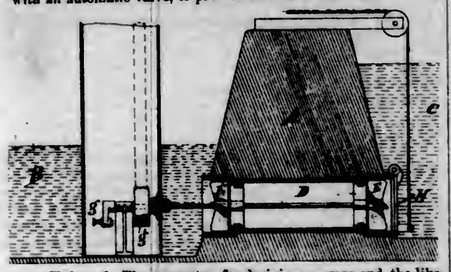
3. In a printing-press, in combination, the flattened body *a*, provided with the cams *c*, the ink-roller carriers *c*, provided with rollers *d*, and drivers *s s*, connected by moving connections to the ink-roller carriers, substantially as and for the purposes hereinbefore set forth.

4. In combination, the ink-rollers *h h*, plate *f*, sliding on piece *c*, provided with roller *d*, spring *i*, and cam *o*, substantially in the manner and for the purposes hereinbefore set forth.

5. The flanged radial grooves *m m* on driver *s*, the grooved roller *g*, the ink-roller carrier *f c d*, cam *o* on the end of the flattened body *a*, and the ink-rollers *h h*, in combination, constructed and operating substantially in the manner and for the purpose set forth.

260,793. DRAINAGE APPARATUS. CHARLES SHINKLE, Covington, Ky. Filed Sept. 14, 1881. (No model.)

Brief.—A cylinder which extends horizontally through the dam at or below the drainage level is provided with one or more propeller-wheels working upon an axial shaft, and is also provided with an automatic valve, to prevent back flow of water.

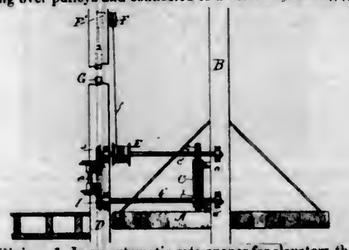


Claim.—1. The apparatus for draining swamps and the like into tide-water or other outlet, consisting in a dam separating the drainage catch-basin from the outlet waters, and one or more channels extending at or below the desired drainage level through said dam, and provided with valves acting automatically to prevent back flow, and a propeller-wheel operating in the cylinder upon a central shaft, substantially as specified.

2. In combination with the dam A, separating a catch-basin, B, from the outlet C, a cylinder, D, extending horizontally through the dam, and provided with one or more propeller-wheels, E, arranged upon a central axial shaft, and an outer valve, H, substantially as specified.

260,794. AUTOMATIC GATE-OPENER FOR ELEVATORS. JOHN P. S. SMITH, Chicago, Ill. Filed Dec. 6, 1881. (No model.)

Brief.—A vertical rack on the elevator engages alternately a pinion on each of two horizontal shafts mounted in the uprights and connected by gearing. A drum on one of the shafts has a cord passing over pulleys and connected to a vertically-sliding gate.

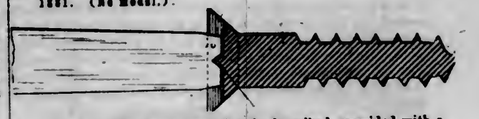


Claim.—1. In an automatic gate-opener for elevators, the combination, with a vertical rack secured to the floor of an elevator-truck, of two pinions alternately engaged by said rack and operating on horizontal shafts which are connected by a vertical shaft or other mechanical means to obtain a reversible motion, as and for the purpose set forth.

2. The combination, with the rack C, pinions *b* and *c*, of the drum E, rope *f*, pulleys F and F', and gate G, substantially as described, and for the purpose set forth.

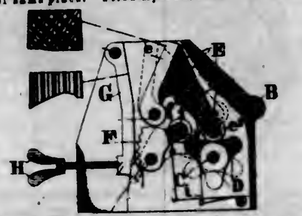
3. An automatic gate-opener for elevators, consisting of a vertical rack attached to the side of the platform of an elevator truck or cage and engaging alternately in its ascending or descending motion with two corresponding pinions placed respectively on horizontal shafts which are so connected as to obtain a reversible or contrary motion, a drum keyed to the upper horizontal shaft operated by the aforesaid means upon the approach or withdrawal of the elevator-truck, and a connecting-rope, all adapted to raise and lower a gate moving vertically in grooves, substantially as hereinbefore described and set forth.

260,795. SCREW. LEVI SMITH, Tidioute, Pa. Filed Oct. 8, 1881. (No model.)



Claim.—The wood-screw herein described, provided with a groove or nick of uniform depth, except where broken by a small projection at its center to fit into a notch in and hold the screw-driver, as set forth.

260,796. ORE-CRUSHER. LEWIS C. STRINGER, Wilmington, Del., assignor of one-half to V. C. Walker and R. T. Elliott, both of same place. Filed Apr. 14, 1882. (No model.)

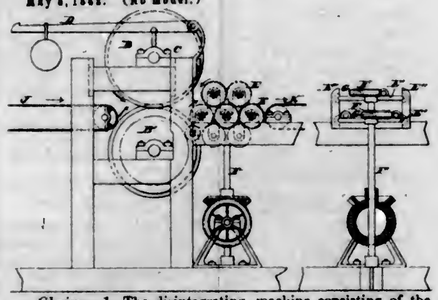


Claim.—1. The combination, with a fixed jaw, a main movable crusher-jaw, and mechanism, substantially as described, for giving it one oscillation in the revolution of the main shaft, of an auxiliary movable crusher-jaw, and mechanism, substantially as described, for giving it several oscillations in the same period of time.

2. The combination, with the fixed jaw G and the movable jaws E and F, of the cam D, substantially as described, adapted to give to one of the movable jaws a more rapid movement than the other.

3. The machine described, consisting essentially of the fixed jaw G, means for adjustment H, the movable jaws E and F, and the oscillating cam D, common to both said jaws, all constructed and arranged substantially as described.

260,797. DISINTEGRATING-MACHINE FOR MAKING FIBER FOR MATS, HATS, &c. ISAAC STEAD, Philadelphia, Pa. Filed May 8, 1882. (No model.)



Claim.—1. The disintegrating-machine consisting of the crushing-rollers B B', the rubbing or breaking rollers E E, moving laterally in opposite directions, and the feed and discharge aprons J K, combined and operating substantially as and for the purpose set forth.

2. The crushing-rollers B B' and laterally-moving rollers E E, slides E', mounted on the frame-work, and connected to the bearings of the rollers E, eccentrics F, connected to said slides, and the feed and discharge aprons J K, substantially as and for the purpose set forth.

260,798. GROUND-AUGER. WILLIAM STEPHENSON, Jordan, Ontario, Canada. Filed July 28, 1881. (No model.) Patented in Canada Mar. 12, 1881, No. 12,494.

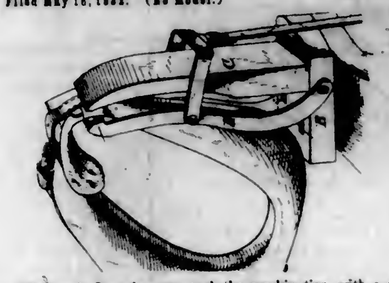
Brief.—The stem and handle are of tubing. The worm is attached to the lower end of a separate rod extending down through the handle and stem and secured at its upper end to the former.

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Claim.—As an improvement in earth-augers, the combination, with the tubular stock A and cross-handle B, of the radially-slotted disk C D, provided with bits, and having a central hub receiving the lower end of the stock, and the rod G, terminating at its lower end in the auger G', and extending up through both the tubular stock and the cross-handle, and exteriorly connected with the latter, all substantially in the manner and for the purpose described.

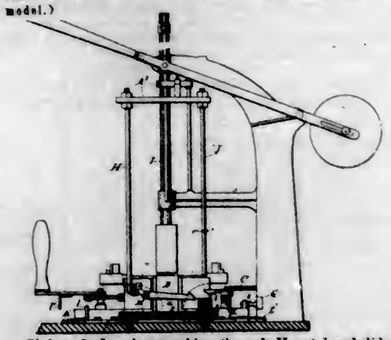
260,799. HARNESS-TOOL. JOHN A. STEWART, Hopkins, Mo. Filed May 16, 1882. (No model.)



Claim.—1. In a harness-tool, the combination, with a stationary jaw secured to a suitable plate or base, of an open or skeleton framed movable jaw adapted to receive and hold the work, substantially as shown and described.

2. The plate or base B, adjustably connected to the standard A, and having the stationary jaw C, in combination with the movable open-framed jaw D, substantially as and for the purpose specified.

260,800. PAPER-BOX MACHINE. FRANK H. STRIEBY and MATTHEW RADEIS, Cleveland, Ohio. Filed Aug. 30, 1881. (No model.)



Claim.—1. In a box-machine, the rods H and J and slides K and L, said rods and slides being adapted to regulate the distance through which the plunger of said machine shall travel during the different steps of forming a box, substantially as shown and described.

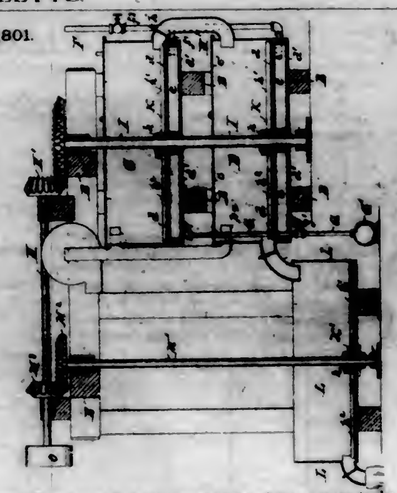
2. In a box-machine, the combination of the rods H and J, guides M, slides K and L, and holes *i* and *j*, all operating substantially as and for the purpose shown and described.

3. In a box-machine, the combination of the rods H and J, holes *i* and *j*, and slides K and L, said slides being operated respectively by means of the forward and rear folders, substantially as and for the purpose shown and described.

4. In a box-machine, the combination, with the stands F, provided with elongated slots near each end, of the slotted adjustable guides D, located one on each end of said stands, and provided with the plates *f*, adapted to receive the corners of the blanks, substantially as set forth.

260,801. OFFAL DRIER AND COOLER. MAX TANK, St. Louis, Mo. Filed Aug. 16, 1881. (No model.)

Claim.—1. The cooler I, consisting of a tank left open at top, the rotating shaft M', revolving stirrer K', having radial arms *k'* *k²*, with incline face *k²*, the drier consisting of two or more tanks, C D, closed at top, its two bottoms, *d d'*, forming a steam-space, *e*, the steam-pipe F, the water-pipe G, and the rotating shaft I, carrying stirrer K, of like construction to that in the cooler, all said parts combined and constructed as shown and described, by means whereof the dried offal can be immediately cooled and packed for use.



2. The combination of one or more driers, consisting of a tank or compartment having closed top, the bottoms *d d'*, forming a steam-space, *e*, the steam-pipe F, with its branches, the water-pipe G, with its branches, the shaft I, its stirrers K, having curved arms *k' k²*, with incline face *k²*, the feed and discharge pipes H and O, the cooler consisting of a tank, I, open at top, its shaft M', carrying stirrer K', the fan and its communications to the driers, and the top shaft and gearing meshing with said vertical shafts, all said parts constructed and operating substantially in the manner and for the purposes set forth.

260,802. PLUNGER FOR PUMPS. HENRY F. TEMPLE, Chattanooga, Tenn. Filed Jan. 31, 1881. (Model.)



Claim.—1. The combination, with a pump-rod, of an annular elastic bucket provided with an automatically-operating valve and adapted to adjust itself in the bore of a pipe or pump, substantially as and for the purpose described.

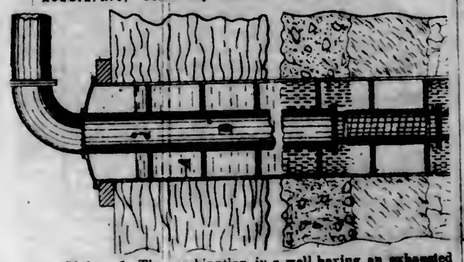
2. The combination, with a pump-rod, of an annular elastic bucket provided upon its inside with an annular groove, *c*, and upon its outside with a ring or flange, *c'*, and supporting an automatically-operating valve, as and for the purpose described.

3. The combination, with the pump-rod and with the annular elastic bucket, of the adjustable cap, the removable base-plate, and an automatically-operating valve arranged within the bucket, substantially as described.

4. The combination, with the pump-rod, the elastic bucket, and the valve, of the perforated plate or water-way, arranged between said valve and bucket and adapted to clamp the bucket to the base-plate, as and for the purpose described.

5. The combination, with the pump-rod, the base-plate, and the valve, of an adjustable cap movable upon the pump-rod and an elastic bucket held between the base-plate and said cap, substantially as and for the purpose described.

260,803. ARTESIAN VACUUM-WELL. DAVID H. TICHENOR, Newark, N. J. Filed May 10, 1882. (No model.)



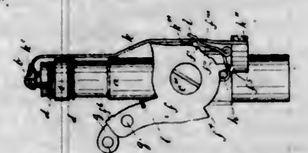
Claim.—1. The combination, in a well having an exhausted air-space maintained above the surface of the water in the manner set forth, of a suction-pipe arranged to draw off the water at some point below the top of casing and a casing provided with apertures at one or more points in its sides for draining the water from the strata at specific levels, substantially as and for the purpose set forth.

2. The combination, in a well having an exhausted air-space maintained above the surface of the water in the manner set forth, of a casing perforated at the sides, as described, at different levels and a suction-pipe provided with apertures in its sides covered with straining fabric, substantially as and for the purpose set forth.

3. The combination, with a casing closed at the bottom and perforated at the sides, as set forth, of a suction-pipe closed at the bottom and provided with straining-apertures in its sides and operating to draw off the water from some point below the cover, so as to maintain a partial vacuum in the upper part of the casing, substantially as herein set forth.

260,804. ELECTRIC GAS-LIGHTING APPARATUS. JACOB P. TIBBELL, Boston, Mass., assignor to the Electric Gas Lighting Company, Portland, Me. Filed Jan. 16, 1882. (No model.)

Brief.—The spring *l* moves the lever *f* back to its normal position after said lever has been pulled down with pawl *g*, to turn on or off the gas. The circuit through *k* is broken during both movements of the lever by the striking of the projections *f'* or *f''* against *k'''*.



Claim.—1. In a gas-lighting apparatus, the combination of burner *a* and insulated electrode *e'*, lever *f*, pawl *g*, ratchet-wheel *e'*, spring *l*, surrounding the stop-cock and acting in one end on lever *f* and in the other on lever *k*, the lever *k*, and its electrode *k'*, as described.

2. In a gas-lighting apparatus, the combination of lever *f*, pawl or lever *g*, and spring *l*, surrounding the stop-cock and acting in one end on lever *f* and in its other end on lever *k*, as described.

3. In a gas-lighting apparatus, the lever *f*, with its cam-faces *f' f'' f'''*, in combination with lever *k*, its projection *k''*, and the spring *l*, surrounding the stop-cock and acting in one end on lever *f* and in its other end on lever *k*, as set forth and described.

260,805. ELECTRIC GAS-LIGHTING APPARATUS. JACOB P. TIBBELL, Boston, Mass., assignor to the Electric Gas Lighting Company, Portland, Me. Filed Jan. 16, 1882. (No model.)

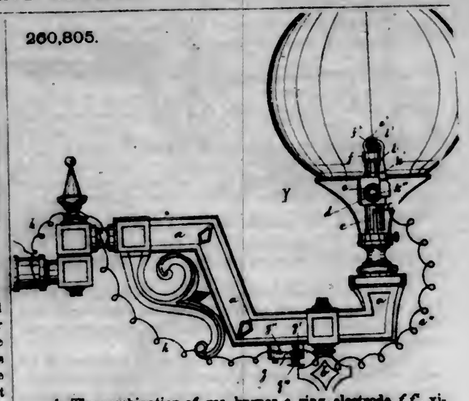
Brief.—The circuit-closer is located near the gas-cock, which latter is operated independently.

Claim.—1. In an electric gas-lighting apparatus, the combination of burner *a*, horizontal electro-magnet *d e* in the body of said burner, the vibratory armature *k'*, with its lever *l f*, insulated electrode *f f'*, and wire *e' e''*, to the switch *g*, as and for the purpose set forth.

2. In an electric gas-lighting apparatus, the combination of burner *c*, and arm or bracket *a*, having the switch *g* arranged and secured upon it, and located in relation to the key *b*, as and for the purpose set forth.

3. The combination of gas-burner *c*, vibrating arm or lever *l*, electro-magnet *d e*, arm *a* of bracket or chandelier, wire *k e''*, and switch *g*, located at the key *b*, all arranged and operated in a manner as described.

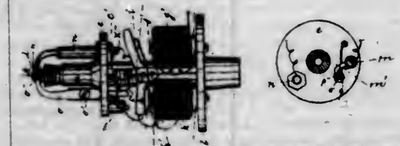
260,805.



4. The combination of gas-burner *c*, ring-electrode *f f'*, vibrating arm *l f*, having armature *k'* in its lower end, and the horizontal electro-magnet *d e*, located in the body of said burner *c*, as and for the purpose set forth.

260,806. AUTOMATIC ELECTRIC GAS-LIGHTING APPARATUS. JACOB P. TIBBELL, Boston, Mass., assignor to the Electric Gas Lighting Company, Portland, Me. Filed Dec. 27, 1881. (No model.)

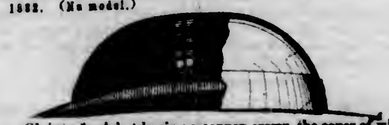
Brief.—Current through K K' K'' *c* turns on the gas by means of pivoted armature and arm *i* engaging lever *c* on gas-cock. Circuit is broken at *p* by spring-projection *i''* of arm *i* striking the lower end of pivoted lever *o*, whereupon the current passes through K''' to *n c* and produces igniting-spark, or an independent current may be used. A spring, *q*, makes the circuit at *p* again. The vibration of the arm *i* by means of the alternate currents does not affect the cock, the engaging-notch in the end of *i* being sufficiently wide.



Claim.—1. In an automatic electric gas-lighting apparatus, the rocking lever *c*, combined with the lever *i*, actuated by electro-magnets and spring *q*, the circuit-breaker *m' p*, and the top breaker, *n' o''*, at the burner-tip *d*, to make and break the circuit automatically through a branch or independent wire, as set forth.

2. In an automatic electric gas-lighting apparatus, the combination of lever *i* with rocking lever *o* and breaker parts *m' p*, to make and break the circuit of the electro-magnets *k l K' l'*, and breaker parts *n' o''* at the burner-tip *d*, as described.

260,807. HAT. CARL B. TOMS, Baltimore, Md. Filed May 2, 1882. (No model.)



Claim.—1. A hat having a convex crown, the cover of which consists of a single unseamed sheet of textile fabric united to the body throughout its area, substantially as described.

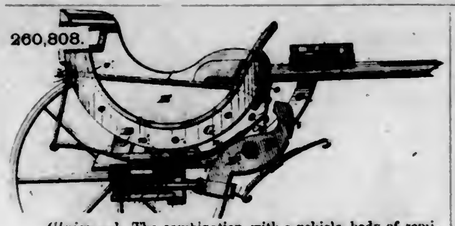
2. A hat having its cover, lining, and body formed of textile fabric firmly united together, the cover and lining being devoid of wrinkles or seams, as set forth.

3. A hat having its body re-enforced by a strip, *a*, cemented thereto and covered by a seamless piece of textile fabric, as set forth.

4. In combination with the crown formed of a composite body and seamless textile cover, the brim having upturned edge meeting the cover, the joint being secured by a strip, *c*, as set forth.

260,808. TWO-WHEELED VEHICLE. STEPHEN R. S. UPPERD, Batavia, assignor of one-half to R. E. Hall, Aurora, Ill. Filed Apr. 18, 1882. (No model.)

260,808.



Claim.—1. The combination, with a vehicle-body of semicircular form, of longitudinal tie-rods passing through the body and secured at their front and rear ends by nuts, substantially as set forth.

2. The combination, with the semicircular bed-pieces of the body, of a transverse rod passing through the sides of said bed-pieces and secured in bearings below the body, substantially as set forth.

3. The combination, with the semicircular bed-pieces of the body and with the side pieces of the supporting-frame, of a transverse rod passing through said bed-pieces and secured in movable bearings of the side pieces, substantially as set forth.

4. The combination, with the semicircular body, of a front and a rear swinging bail and a longitudinal spring or springs secured to said bails and to a cross-bar beneath the body, substantially as set forth.

5. The combination, with the supporting-frame of a semicircular body braced by tie-rods and balanced on a transverse rod, the latter being secured in bearings of the frame, of a forward and a rear swinging bail and a longitudinal spring or springs connecting said bails and secured to the frame, substantially as set forth.

6. The combination, with the side pieces of the frame and with the body, of a transverse rod secured near the forward end of the frame in bearings in said side pieces, and an S-shaped lever centrally fulcrumed on said rod and provided with a series of springs, substantially as set forth.

7. The combination, with the axle and the cross-bar arranged adjacent thereto, of a recessed block connecting said axle and cross-bar and adapted to receive a spring-rod, the latter being surrounded by a spiral spring and provided with a coupling-bail and an S-shaped lever whose lower end is adapted to engage with said coupling-bail, while its forward end is provided with a hooked spring to receive a swinging bail of the body, substantially as set forth.

8. The combination, with the body provided with a front and a rear swinging bail, of a central longitudinal spring adapted to be connected with said bails, an S-shaped lever centrally fulcrumed on a transverse rod near the forward end of the frame, the lower end of said lever being adapted to be connected with a spring-pressed rod, while the front edge of said lever is provided with a hook or hooks adapted to engage the forward swinging bail of the body, substantially as set forth.

9. The combination, with the semicircular body provided with swinging bails, as described, of a central longitudinal spring, an S-shaped lever, and a forward spring centrally secured to said lever, and provided at its upper end with a hook to engage the forward swinging bail and at its lower end with a hook to engage a connecting-bail secured to the under side of the cross-bar of the frame, substantially as set forth.

10. The combination, with the perforated front cross-bar of the frame and the perforated thill cross-bar, of parallel connecting-links, whereby the thills may be changed from a center to a side draft, and removable screw-bolts adapted to the perforations of the cross-bars, substantially as set forth.

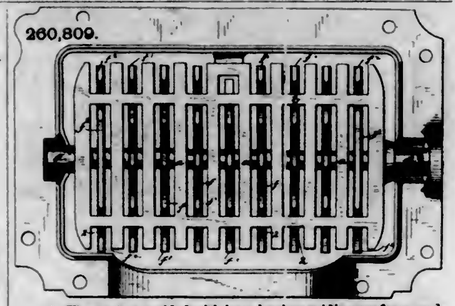
260,809. GRATE. GEORGE W. WALKER, Malden, Mass. Filed Mar. 10, 1882. (No model.)

Claim.—1. In a grate, the combination, with the fuel-supporting grate-bars, of the independent agitating device *e*, having projections *f f' f''*, corresponding to the spaces between the said bars, and a shaft, *i*, having cams *h* to act upon the said agitating device, whereby the said projections are thrust through the space between the grate-bars to agitate the fuel thereon, substantially as described.

2. The grate consisting of transverse bars and longitudinal bridge-pieces, combined with the downwardly-extended lugs *n*, having guides for an independent agitating frame, and bearings for its actuating cam-shaft, substantially as described.

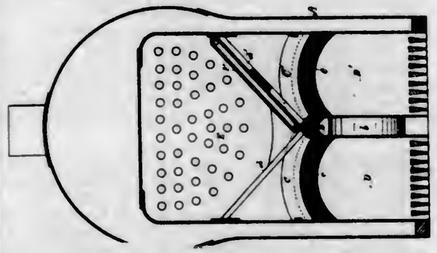
3. The herein-described agitating device, consisting of transverse bars provided with U-shaped depressions arranged, as described, to permit the upward movement of the transverse bars through the space between the bars of a corresponding grate, substantially as described.

260,809.



4. The grate, provided with lugs, having guiding-surfaces, and a journal-bearing, combined with the shaking device, guided by the said guiding-surfaces, and the actuating-cam therefor, and its cam-shaft, supported in the said bearings, substantially as described.

260,810. FIRE-BOX. ROBERT L. WALKER, Boston, Mass., assignor of one-half to Thomas Nickerson, same place. Filed Apr. 19, 1882. (No model.)



Claim.—1. The combination of the two fire-boxes D D', the fire-bricks C C', covering the two fire-boxes, as described, the combustion-chamber E, and the damper F, for controlling the communication between the two fire-boxes and the combustion-chamber, as and for the purposes set forth.

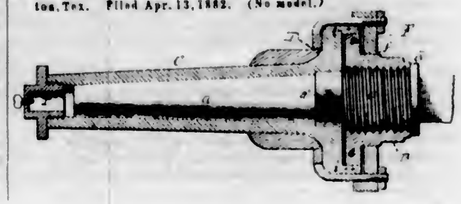
2. In combination with the fire-box divided longitudinally by the water-leg B, the damper F, constructed substantially as described, and supported on the inclined pipes *d d*, arranged substantially as shown, and adapted to brace and insure circulation in the water-leg B, as set forth.

3. The combination, with a water-leg for dividing a fire-box longitudinally, as described, of the pipe or hollow block which constitutes a medium for connecting the interior of the water-leg with the hollow shaft of a damper provided with interior water-ways, substantially as and for the purposes set forth.

4. The damper having interior water-ways and a shaft with hollow ends that communicate with these water-ways, provided at one end of its shaft with means for a water-tight connection to the pipe or block on the water-leg and at the other end of its shaft with means for receiving the thrust of a spring and for a water-tight connection to the interior of the boiler, substantially as and for the purposes set forth.

5. In a fire-box divided into two parts by a longitudinal water-leg, and having both parts covered with fire-brick, as described, a series of corrugations on the under side of those fire-brick and across the path of the products of combustion, substantially as and for the purposes set forth.

260,811. HUB-ATTACHING DEVICE. AUGUST WARTH, Galveston, Tex. Filed Apr. 13, 1882. (No model.)



Claim.—1. A metallic ring adapted to be adjusted around a shoulder on the axle-box, formed or provided with a plurality of rearward-extending bolts, substantially as described.

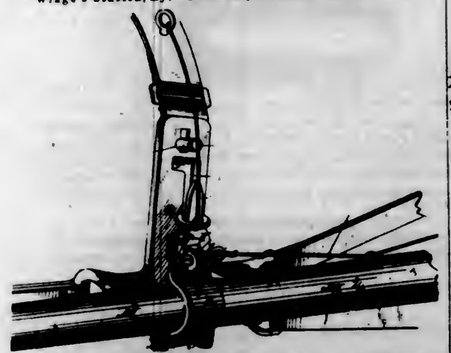
2. An axle-box formed with an annular shoulder at the rear of the fins and a plurality of longitudinal grooves, in combination with a metallic ring adapted to set around said shoulder, and formed or provided with a plurality of rearward-extending bolts with fastening means, substantially as described.

3. The combination, with an axle-box formed with an annular shoulder at the base of the fins and rearward-extending longitudinal grooves, of a metallic ring provided with a plurality of curved bolts, and an abutting cap fitting over the end of the axle-box and secured against the same, substantially as set forth.

4. The combination, with an axle-box formed with an annular shoulder at the base of the fins and rearward-extending longitudinal grooves, of a metallic ring provided with a plurality of curved bolts, an abutting cap fitting over the end of the axle-box and secured against the same, and a screw-threaded sleeve, substantially as described.

5. The combination, with solid spindle formed substantially as described, of the axle-box C, having the shoulder D and longitudinal grooves *b*, the ring E, having the bolts *a*, the abutting cap F, and screw-threaded sleeve B, substantially as described.

260,812. SHAFT-LOOP FOR HARNESS. ISAAC A. WILKINSON, Wingo's Station, Ky. Filed May 17, 1882. (No model.)



Claim.—1. The combination, with an inverted-T-shaped plate whose horizontal portion is semicircular in cross-section and provided with loops, as described, and whose vertical portion is provided with a metallic fastening device, of a shaft-embracing clasp pivoted to one of said loops, and adapted to be detachably secured to said vertical portion of the plate, and a clasp pivoted to one of the rear loops of the plate and adapted to secure the trace, substantially as set forth.

2. As a new article of manufacture, a shaft-loop for harness, consisting of an inverted-T-shaped plate, the horizontal portion of said plate being semicircular in shape in cross-section and provided with forward, rearward, and lower loops, while its vertical portion is provided with a guide-loop and a shaft-embracing clasp and a receiver-clasp, substantially as set forth.

3. The combination, with the inverted-T-shaped plate provided with a guide-loop and perforated projection and clasps, of a retaining-ring sliding on said guide-loop and adapted to secure the shaft-embracing clasp, and provided with a cord extending rearward through suitable guides to the driver, and a spring-key provided with a detaching-cord and adapted to be passed through the perforated projection of the guide-loop of the plate, and thus retain said clasp in position, substantially as set forth.

4. The combination, with the inverted-T-shaped plate and its pivoted clasps, of a shaft provided with a draft-plate secured to its under side, and provided with downwardly-projecting lugs, substantially as set forth.

260,813. FOAM-COLLECTOR FOR STEAM-BOILERS. ROBERT WHELAN, Chicago, Ill. Filed May 8, 1882. (Model.)



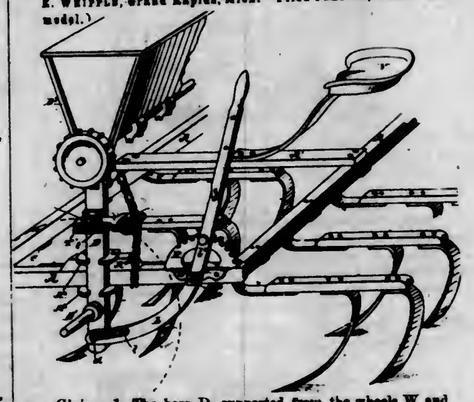
Claim.—1. In a foam-collector for steam-boilers, a drum having its body coiled spirally in a circumferential direction, as set forth, whereby a spiral passage is formed from the exterior to the interior of the drum.

2. In combination with the spirally-coiled drum *a*, the strips *c*, applied as shown, whereby the coils are separated and proper thickness of metal is secured to receive the end of the outlet pipe or pipes, as shown.

3. A foam-collector for steam-boilers, constructed substantially as shown and described, and provided with detachable caps, whereby access to its interior is permitted.

4. The herein-described foam-collector, consisting of the coiled body *a*, provided with strips *c*, caps *b*, and outlet-pipe *e*, substantially as shown and described.

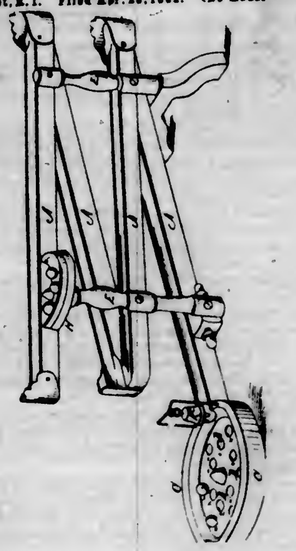
260,814. COMBINED SEEDER AND CULTIVATOR. EPHRAIM E. WHIPPLE, Grand Rapids, Mich. Filed June 27, 1881. (No model.)



Claim.—1. The bars D, supported from the wheels W and hinged to the seeder-box, combined with the vertically-adjustable frame A, substantially as described.

2. Combined with the vertical wheel-supported bars D, having the projection *d*, the frame A, vertically guided by said bars, and the rack or plate R, the lever L, provided with the pin *l'*, and adapted to spring laterally to engage and disengage said pin and the rack-plate, and arranged to slide on the pin *d*, substantially as and for the purposes set forth.

260,815. RAILWAY GAME APPARATUS. DANIEL L. WILCOX, Pawtucket, R.I. Filed Apr. 20, 1882. (No model.)

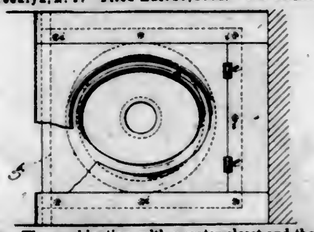


Claim.—1. In a railway game apparatus, the combination, with the series of tracks A, of a bell, K, suspended over the track at such a distance above it that the ball rolling beneath said bell will strike it, thereby causing it to ring, substantially as and for the purpose set forth.

2. In a railway game apparatus, the combination, with the series of tracks A and the home-field C, of a bell, K, placed over the track at the entrance to said field and at such a distance from the track that the ball in its course will strike it, causing it to ring, substantially as and for the purpose set forth.

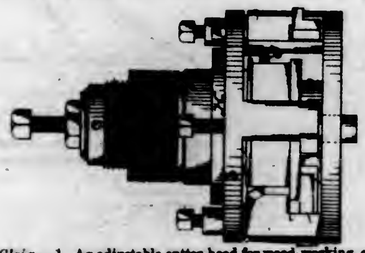
3. In a railway game apparatus, the combination, with the track A and post E, of the disk H, substantially as and for the purpose set forth.

260,816. DRIP-TRAY FOR WATER-CLOSETS. FREDERICK ADEE, Brooklyn, N. Y. Filed Mar. 27, 1882. (No model.)



Claim.—The combination, with a water-closet and the wood-work for the seat, of a sheet-metal drip-tray having a dishing form with holes near the edges, whereby said drip-tray is attached below the seat-frame and supported upon the wood-work *g*, and intervenes between the closet and the seat, substantially as specified.

260,817. ADJUSTABLE CUTTER-HEAD. GEORGE W. ANSBURY, Philadelphia, Pa. Filed Mar. 21, 1882. (No model.)



Claim.—1. An adjustable cutter-head for wood-working, composed of two flanges or disks carrying independent and disconnected posts or cutter-holders and set or retaining screws for such cutters, the posts on each flange passing into openings in the opposite flange, so as to lock or connect said parts together, substantially as shown and described.

2. An adjustable cutter-head for wood-working, composed of two flanges or disks carrying posts or cutter-holders, the free ends of the holders of one disk entering openings in the opposite disk, and means for adjusting said disks to and from each other, substantially as shown and described.

3. An adjustable cutter-head for wood-working, composed of two disks with posts or bolts secured thereto, the free ends of such posts entering openings in said disks, and means for securing the parts in position, substantially as described.

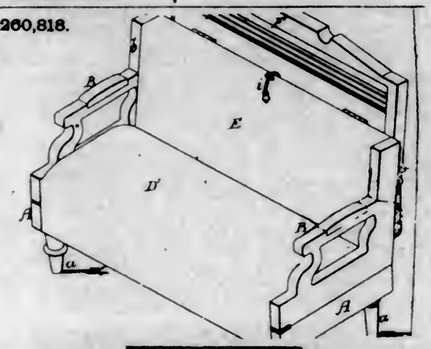
4. An adjustable cutter-head composed of two members carrying interlocking cutter-holders, one of said members having a depending slotted lug through which passes a set-screw which engages with a hub formed on the opposite member to hold said parts rigidly together when adjusted, substantially as shown and described.

260,818. SOFA-BED. CHARLES G. ANDRAETH, Philadelphia, Pa. Filed Nov. 3, 1881. (No model.)

Claim.—1. The combination of the base A of the sofa, having the portion D of the seat, the pivoted arms B, having the portion D' of the same, and the pivoted back E, having blocks *b*, for retaining the arms B, as set forth.

2. The combination of the pivoted back E of the sofa with the frame F, pivoted thereto, as described, whereby it is adapted to project above the back and in line therewith when said back is elevated, and to swing around so as to support the back when the latter is turned down, as set forth.

260,818.

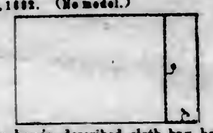


260,819. MANUFACTURE OF GLASSWARE. PHILIP ARNOUAST, Pittsburg, Pa. Filed Aug. 11, 1881. (No model.)



Claim.—The described improvement in the manufacture of glassware, consisting in pressing the mouth or neck to finished form with a dependent mass of glass, then withdrawing the plunger, then removing the article from the press-mold, and finally inserting it in a separate mold and blowing to form the body, substantially as described.

260,820. CLOTH BAG. JAMES ARRELL, Canajoharie, N. Y. Filed Apr. 20, 1882. (No model.)



Claim.—The herein-described cloth bag, having an upward fold near its bottom, and seams *e e f*, said bag in distended condition presenting a flat or satchel-like bottom, substantially as set forth.

260,821. PRINTER'S SHOOTING-STICK. FRANK L. ARMSTRONG, Philadelphia, Pa. Filed Aug. 3, 1881. (No model.)



Claim.—A shooting-stick in which a stem, A, having at the lower end projections *a a'*, is combined with a weight, D, and a sliding rod, B, guided on or in the stem A, all substantially as set forth.

260,822. DROP-PRESS BELT-PROTECTOR. OSCAR E. BANNING, West Cheshire, Conn. Filed Oct. 5, 1881. (No model.)

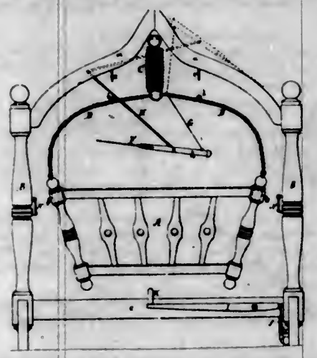


Claim.—1. The manner of suspending over the pulley of a drop-press the belt or rope by means of a spring or springs, A.

2. In connection with the springs A, the springs B, attached to and acting with the springs A.

3. In combination with the springs A and B, the shafts C and rolls D, forming a carriage rolling on the periphery of the pulley, thus keeping the belt or rope above and off from the pulley, substantially as and for the purpose set forth.

260,823. CRADLE. FRANK W. BARKER, Chelsea, Mass. Filed May 29, 1882. (No model.)

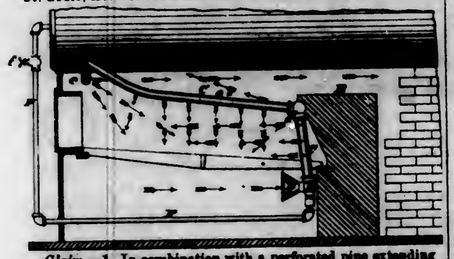


Claim.—1. The combination of the fan F and its sustaining-rods G H with the crib A, stand B, the spring C, and the two levers D D, all being arranged and applied substantially and to operate as set forth.

2. The combination of the treadle L and lever I, provided with the stud K, with the stand B, and with the crib A and its supporting-spring C and levers D D, all being substantially as set forth.

3. The combination of the treadle L, lever I, and stud K with the crib A and stand B and their supporting-spring C and levers D D, and with the fan F and its sustaining-rods G H, all being arranged and applied substantially and to operate as set forth.

260,824. SMOKE-CONSUMING FURNACE. GUSTAV A. BARTH, St. Louis, Mo. Filed Jan. 30, 1882. (No model.)



Claim.—1. In combination with a perforated pipe extending around the four sides of the furnace, the pipe F, injector E, and funnel-openings D, located at the rear of the furnace, substantially as and for the purpose set forth.

2. The pipe surrounding the furnace and provided with perforations pointing in different directions, and so arranged that one set of the perforations point directly back over the bridge-wall to increase the draft, as set forth.

3. The combination of steam-pipe F, injector E, funnel D, beneath the grate, vertical pipe C, transverse rear pipe, *c*, transverse front pipe, *c'*, above the combustion-chamber, side connecting-pipes, *c² c²*, and bridge-wall B, as set forth, the pipes O *c' c c² c²*, having perforations for directing the combined steam and hot air from beneath the grate into the combustion-chamber, as explained.

4. The combination of rear and side funnels, D, beneath the grate, at the rear end of the furnace, the rear and side vertical pipes, C, the rear and side injectors, E, and transverse and longitudinal perforated pipes *c' c c² c²* beneath the boiler, as set forth.

5. The front transverse pipe, *c*, having perforations for directing the combined hot air and steam over the bridge-wall to carry off the burned gaseous matter and to assist the draft, in combination with a system of pipes, O *c' c² c²*, at the rear end and sides of the furnace, the funnel D, and steam injector and pipe E F, as set forth.

260,825. OIL-STOVE. H. CLAY BASCOM, Troy, N. Y., assignor to the Florence Machine Company, Florence, Mass. Filed June 1, 1882. (No model.)

Brief.—The base-plate *c* of the drum may be made flat instead of concavo-convex, as shown, in which case the drum will tip slightly farther backward; or the plate *b* may be extended, so as to engage with the base-plate *c* or with the legs *d*, in order to prevent the drum from tipping too far. As illustrated, this result is accomplished by the edge of the plate *c* bearing against the posts *a*.



Claim.—The combination, with the base having supporting-posts, of the drum and the hinge-lugs provided with slots for the reception of the upper ends of the rear posts, substantially as described.

260,826. STOVE-LID. HENRY A. BAXTER, Salem, Ohio. Filed May 12, 1882. (No model.)



Claim.—1. The combination, with the outer ring or plate having a cup formed on its inner edge, provided with but a single open side, of the inner disk or plate provided with a lug adapted to be received into said cup, and provided with an upturned flange, which engages the edge of the outer plate above the opening in the cup to close the same, substantially as set forth.

2. The combination, with the outer annular plate or ring having a semicircular opening in its edge, and the central plate or disk having a corresponding semicircular opening, and provided with a lug adapted to be turned under the outer plate, of a bolt and nut, the former adapted to be inserted between the semicircular openings and act as a key to prevent turning of the inner plate, as set forth.

3. The combination, with the outer annular plate or ring having a shoulder around its inner edge, and a cup formed with one open side, of the central plate or disk resting on said shoulder, and secured to the outer plate by lugs on its under edge adapted to extend under the outer plate, and one adapted to enter the cup, and, as the inner plate is turned, pass through its open side and close the same, as set forth.

260,827. HORSE-COLLAR. JACOB H. BICKEL, Terre Haute, Ind. Filed Apr. 22, 1882. (No model.)

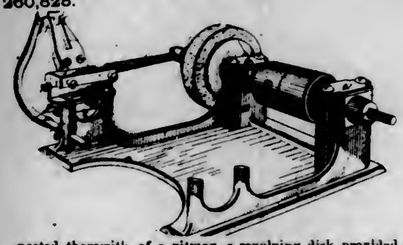


Claim.—As an improvement in horse-collars, the shoulder-cushion A, having neck-roll B, located in front of and at right angles thereto, and provided with a continuous seam, C, forming a welt, D, in front of and parallel to the shoulder-pad, in combination with the stiffening rod or wire E, arranged in said welt to prevent its being displaced, as set forth.

260,828. BURNISHING-MACHINE FOR BOOTS AND SHOES. CALEB J. BLAKELY, Janesville, Wis., assignor of two-thirds to L. E. Williamson and W. B. Webber, both of same place. Filed Jan. 3, 1882. (No model.)

Claim.—1. In a boot and shoe burnishing machine, the combination, with a reciprocating slide having a burnishing-tool con-

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nected therewith, of a pitman, a revolving disk provided with a transverse groove, a wrist-pin provided with a head adapted to fit within said groove and be radially adjusted therein, a sleeve encircling the wrist-pin and serving as the bearing for the pitman, and a nut for securing the wrist-pin in any desired adjustment for regulating the length of the stroke of the burnishing-tool, substantially as set forth.

2. In a boot and shoe burnishing machine, the combination, with a reciprocating slide having a burnishing-tool connected therewith, of a pitman, a revolving disk provided with a transverse groove, a wrist-pin provided with a head adapted to fit within said groove and be radially adjusted therein, a split sleeve encircling the wrist-pin and serving as a bearing for one end of the pitman, and a set-screw for adjusting the sleeve, substantially as set forth.

3. In a boot and shoe burnishing machine, the combination, with a reciprocating slide having an arm rigidly secured thereto, said arm being constructed with two yielding arms, of a burnishing-tool provided with a shank adapted to fit between said yielding arms, and a fastening-bolt extending through the shank of the burnishing-tool and the outer ends of the yielding arms, the construction being substantially as shown and described, whereby the burnishing-tool may be oscillated at right angles to the movement of the reciprocating slide and secured in any desired adjustment by its frictional engagement with the yielding arms, substantially as set forth.

4. In a boot and shoe burnishing machine, the combination, with a reciprocating slide provided with an outwardly-inclined lip, and an arm removably secured thereto by screws, said arm being bifurcated to form two elongated yielding arms, of a burnishing-tool fitted between the outer ends of said arms, and a fastening-bolt for securing the tool by frictional contact with said arms, the burnishing-tool being arranged to be adjusted at right angles to the movement of the reciprocating slide, substantially as set forth.

5. In a boot and shoe burnishing machine, the combination, with the slide-bearing constructed with a horizontal flange adapted to be secured to the frame of the machine, of a reciprocating slide having a burnishing-tool connected therewith, substantially as set forth.

6. In a boot and shoe burnishing machine, the combination, with the slide-bearing, of the slide having a burnishing-tool connected therewith, a wearing-plate fitting in a groove in the slide-bearing, and set-screws engaging the top and side of said wearing-plate, substantially as set forth.

7. In a boot and shoe burnishing machine, the combination, with a bifurcated arm removably secured to a reciprocating slide, of a hollow burnishing-tool provided with a shank adapted to fit between yielding arms, and bolt for securing the hollow burnishing-tool in proper adjustment, and a flexible gas-tube connected with the burnishing-tool.

8. A boot and shoe burnishing machine provided with the driving-shaft carrying a rotary buffing-wheel and a revolving disk, the latter having a pitman connected therewith which operates a reciprocating burnishing-tool, substantially as and for the purpose set forth.

260,829. STRAIGHT-WAY VALVE AND CASING. GILBERT L. HEADLEY, New Bedford, Mass. Filed Mar. 31, 1882. (No model.)



Claim.—The combination of the straight-way slide-valve having rack-teeth, and the pinion fixed upon a rock-shaft and engaging the teeth of said valve, with the herein-described two-part valve-box A, constructed with a detachable bottom, *a*, and a flanged upper portion, to which the detachable bottom is secured by bolts and nuts, each of said two parts being provided with a steam-port and with a screw-threaded socket, a^1, for connecting with the end of a pipe, said members being constructed and organized as shown and specified.

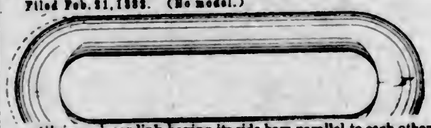
260,830. CANDLE-HOLDER. MICHAEL BRASSILL, Hartford, Conn., assignor to Joseph P. Smith, same place. Filed Feb. 23, 1882. (No model.)



Claim.—1. In a candle-holder, the combination of a guard-plate bearing upon one side elastic spring-fingers whereby a candle is held, and upon the other side elastic spring-catches for attaching the device to a socket, all substantially as described, and for the purpose set forth.

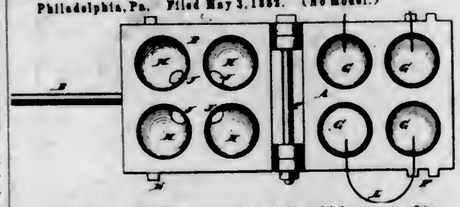
2. In a candle-holder, the combination of a guard-plate, *a*, elastic fingers *b*, elastic catches *c*, and socket *d*, all substantially as described.

260,831. CAR-COUPLING LINK. JOHN BRIDGE, Detroit, Mich. Filed Feb. 21, 1882. (No model.)



Claim.—A car-link having its side bars parallel to each other and circular and its ends D-shaped in cross-section, whereby the inner surfaces of the ends are vertical and parallel to each other and the entire outer surface of the link convex, substantially as and for the purpose specified.

260,832. MOLD FOR ALKALI BALLS. MARTIN M. BRIGHAM, Philadelphia, Pa. Filed May 3, 1882. (No model.)



Claim.—1. A mold for casting lye balls, which consists of two parts of metal, each provided with two or more hemispherical depressions arranged to register with each other, the upper of said parts being further provided with a cast-basin having its center raised, and apertures from the said basin between its sides and raised center into each of the hemispherical depressions in said part, the said apertures being so curved as to cause the melted lye to run directly through same, substantially as and for the purpose specified.

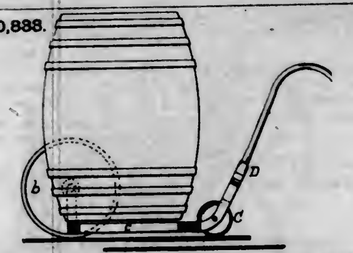
2. A mold for casting two or more lye balls at the same time, which consists of metal parts A and B, hinged together, and each provided with registering hemispherical depressions, the part B being provided with a basin, I, having a raised center, K, and also apertures J, said apertures being formed by three curved surfaces intersecting each other, substantially as shown.

3. In a mold for casting two or more lye balls at the same time, the metal parts A and B, hinged together at C, provided with registering-lugs E F or their equivalent, and each provided with the hemispherical depressions G H, the part B being further provided with the basin I, having raised center K, apertures J, substantially as shown and described, and rod or handle D.

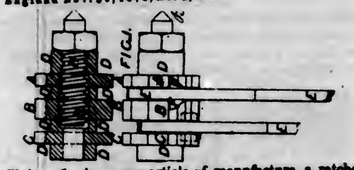
260,833. HAND-TRUCK. BENJAMIN H. BRISTOL, Naugatuck, Conn. Filed Feb. 14, 1882. (No model.)

Claim.—A hand-truck constructed with a bent and lowered axle-arm, A, in combination with wheels *b* on the axle, a supporting-frame, B, roller-wheel C, and the fixed and elevated handle D, substantially as is shown and described.

260,833.



260,834. RATCHET. JAMES BROWN, GEORGE ROBSON, and WILLIAM JAMES CORDNER, Barrow-in-Furness, County of Lancaster, England. Filed Nov. 23, 1881. (No model.) Patented in England Nov. 30, 1878, No. 4,891.



Claim.—1. As a new article of manufacture, a ratchet consisting of the toothed ratchet-wheels A, B, and C, fixed upon a shaft or journal, D_1, and operated by a spanner or spanners, E, substantially as described, and shown at Figs. 1, 2, and 3 of the drawings hereto annexed.

2. As a new article of manufacture, a ratchet consisting of double ratchet-wheels mounted on a journal, and operated by a spanner mounted on the journal, substantially as described, and shown in the drawings hereto annexed.

3. As a new article of manufacture, a ratchet constructed and having right and left action, substantially as herein described, and shown in Figs. 6 and 8 of the drawings hereto annexed.

260,835. CARD LATHE AND GRINDER. JOHN E. BROWN Westford, assignor of one-half to Frederick O. Sargent and Allan C. Sargent, Graniteville, Mass. Filed Mar. 20, 1882. (No model.)



Claim.—1. The combination of a traverse-screw, traverse-block, tool-post, tool-block, and a grinding-tool composed of an emery block held in a holder supported by the post, substantially as described.

2. The grinding-tool H, composed of the holder A, having the shank A', the plates A^3, set-screws A^4, separating-plate *m*, and emery block A^4, substantially as described.

260,836. CIGARETTE-CUTTING MACHINE. SAMUEL BROWN, Philadelphia, Pa., assignor to Charles G. Emery, Brooklyn, N. Y. Filed Aug. 5, 1881. (No model.)

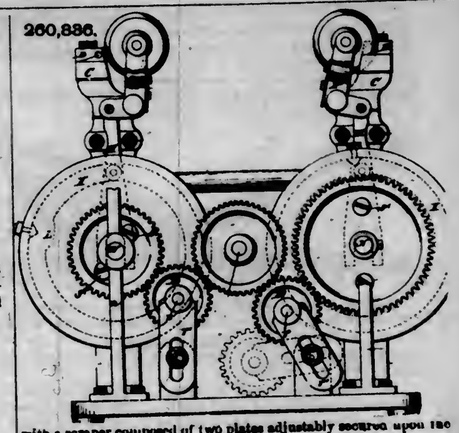
Claim.—1. The combination, in a machine for cutting cigarettes, of the cigarette-conductor, the rocking bearing carrying a rotary cutter, the pitman having a pivotal connection with the said rocking bearing, and mechanism for actuating the pitman, substantially as described.

2. The combination, in a machine for cutting cigarettes, of the cigarette-conductor, the rotary and vibratory cutter supported upon a rocking bearing, and the scraper composed of two adjustable plates secured upon the said rocking bearing, substantially as described.

3. The combination, in a machine for cutting cigarettes, of the cigarette-conductor with the rotary and vibratory cutter supported upon a rocking bearing provided with an adjustable scraper adapted to be maintained at all times in position along the sides of the cutter for keeping the same clean, substantially as described.

4. The combination, in a machine for cutting cigarettes, of the rotary and vibratory cutter mounted upon a rocking bearing

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with a scraper composed of two plates adjustably secured upon the said rocking bearing, substantially as described.

5. The combination, in a machine for cutting cigarettes, of the rotary and vibratory cutter with the scraper composed of two plates adapted to operate at all times on the sides of the cutter, substantially as and for the purpose described.

6. The combination, in a machine for cutting cigarettes, of the rotary and vibratory cutter with an adjustable block formed with an opening serving as a conductor for a continuous cigarette, substantially as described.

7. The combination, in a machine for cutting cigarettes, of the bracket C, formed with a recess for receiving the rotary cutter when the latter is vibrated to sever a cigarette, with the rotary and vibratory cutter and an adjustable block having a bore for the passage of the cigarette, said block being secured upon the bracket with the delivery end of its bore in position to deliver the cigarette over said recess in the bracket, substantially as described.

8. The combination, in a machine for cutting cigarettes, of the cigarette-conductor with the rocking bearing carrying the cutter and mounted upon a shaft adjustably secured in its bearings, whereby the same can be adjusted laterally with reference to the wear of the cutter, substantially as described.

9. The combination, in a machine for cutting cigarettes, of the rotary and vibratory cutter supported upon a rocking bearing, with the wheel I, having in one of its sides a cam-groove, and the pitman pivotally connected to the rocking bearing and carrying a roller arranged in the cam-groove, substantially as described.

10. The combination, in a machine for cutting cigarettes, of the rotary and vibratory cutter, supported upon a rocking bearing, with the wheel I, having a circular channel formed in one of its sides and a concavity in one of the walls of said channel, the cam-projection detachably secured to the wheel at a point in the channel opposite concavity, and the pitman provided with a roller projecting into the channel of said wheel, substantially as described.

11. The combination, in a machine for cutting cigarettes, of the cigarette-conductor and the rotary and vibratory cutter for cutting a continuous cigarette into regulated lengths, with the gear detachably secured to the wheel I and arranged to revolve upon the shaft upon which said wheel is mounted, whereby said gear can be detached and replaced by a gear having a different number of teeth, in order to vary the vibrations of the cutter, and hence vary the length of the cigarette, substantially as described.

12. The combination, in a machine for cutting cigarettes, of the rotary and vibratory cutter, the wheel I, adapted to actuate the devices for vibrating the cutter, the gear secured to said wheel, and a gear arranged to mesh both with the gear upon the wheel and with a gear upon the driving-shaft, all constructed and arranged to operate substantially as described.

13. The combination, in a machine for cutting cigarettes, of the rotary and vibratory cutter with the wheel I, adapted to actuate the devices for vibrating the cutter, the gear secured to said wheel, the gear upon the driving-shaft, and the intermediate gear supported by an adjustable arm capable of being lowered, so as to throw its gear out of mesh with the gear upon the wheel, all arranged to operate substantially as described.

14. The combination, in a machine for cutting cigarettes, of the rotary and vibratory cutter, the conductor for guiding and delivering a continuous cigarette to the cutter, the rocking bearing supporting the cutter and provided with a scraper for keeping the

cutter clean, the pitman having a roller, the wheel I, having a cam-groove to receive said roller, and the gears for actuating said wheel, all the parts being relatively arranged to operate substantially as and for the purpose described.

260,837. HORSESHOE-NAIL CLINCHER. HERMANN BRÜNING, St. Helena, Nebr. Filed Apr. 18, 1882. (Model.)



Claim.—1. In a farrier's tool for clinching horseshoe-nails, the combination of the lever A, secured to the lever B by the bolt or screw *a*, and the jaw C, connected at its lower end to the lever A and at its upper end to the lever B by means of the rod F and arm E, as shown and described.

2. The combination of the lever A, the jaw C, and the rod F, hinged or pivoted at *d* to the jaw C, and the arm E, pivotally secured to the lever B, having the jaw D, and provided with a sleeve for the passage of the rod F, adjustably secured therein by the pin or screw *b*, for the purpose of shortening or lengthening the rod F, to secure a different inclination of the jaw C, substantially as shown and described, and for the purpose specified.

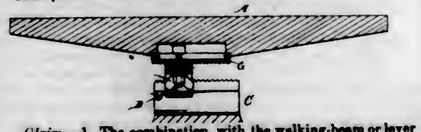
3. The combination of the lever A, the lever B, the spring H, the lower jaw or short lever, D, the upper or curved jaw, C, with its detachable tooth-plate G, secured to the lever A, and the bar F, and the arm and sleeve E, secured to lever B, all operating substantially as shown and described, and for the purpose specified.

260,838. AXLE-BOX FOR VEHICLE-WHEELS. DANIEL W. BRUTON, Harrisville, N. C. Filed Apr. 26, 1882. (No model.)



Claim.—The combination and arrangement, as described, of the spindle, the inner flanged axle-box revolving upon the latter, and an axle-box secured within the hub and mounted upon the said inner axle-box, between the flange of the latter and a flanged nut, as herein shown and specified.

260,839. ADJUSTABLE FULCRUM. DANIEL A. CAMERON, Port Huron, Mich., assignor of one-half to Frank Whipple, same place. Filed May 20, 1882. (No model.)



Claim.—1. The combination, with the walking-beam or lever A and its standard, of an intermediate fulcrum adapted to be adjusted in relation to both the standard and lever, substantially as described.

2. An adjustable fulcrum or bearing consisting of the plates C G and sliding bearings D, in combination with the rock-shaft E, substantially as and for the purposes specified.

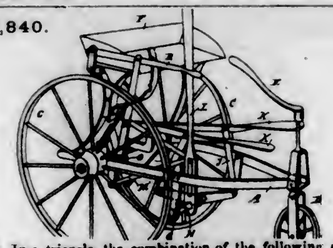
3. The combination, with the standard B and the serrated plates C, secured thereto, of the lever A, the serrated plate G, the sliding bearings F, having serrated lower surfaces, the rock-shaft E, having serrated upper surfaces, and means, substantially as described, for detachably securing the rock-shaft and the bearings to the plates C G, as set forth.

260,840. VELOCIPEDE. GLANDE H. CANDLER and JAMES WHITEHEAD, Detroit, Mich. Filed May 24, 1882. (No model.)

Claim.—1. In a tricycle, the combination, with the shaft H, the arms I I, the rods J J, the treadles K K, and the lever L, having a slot, *a*, of the rods M M', the pivoted frames N N', the double pawls P P', the ratchet O, and the axle B, substantially as and for the purpose specified.

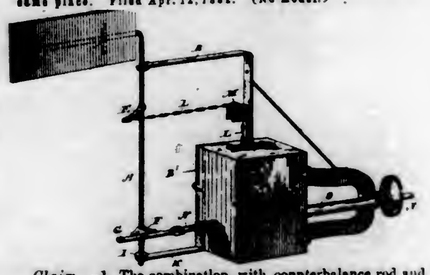
2. In a tricycle, the combination, with the axle B and the ratchet O thereon, of the pivoted frames N N', the double pawls P P', and mechanism, substantially as described, for alternately throwing opposite members of the pawls P P' into and out of engagement with the ratchet O, substantially as described.

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3. In a tricycle, the combination of the following elements for the purpose of reversing the motion of the driving-axle, to wit: lever R, pitman S, links T U U', rock-shafts V V', pawl-carriers, and cams, the parts being constructed, arranged, and operating substantially as and for the purposes described.

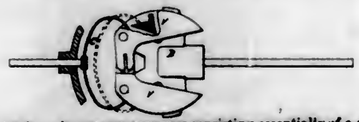
260,841. WINDMILL-GOVERNOR. BLANCHARD CHAMBERLAIN, Bellefontaine, Ohio, assignor of three-fourths to Joseph H. Wilson, Robert Lamb, H. E. Palmer, and O. H. Palmer, all of same place. Filed Apr. 12, 1882. (No model.)



Claim.—1. The combination, with counterbalance rod and chain L and feathering-rod N, of the rack G and vertical governor-shaft A, provided with vane-arm A', arm E, and segment-arm F, as set forth.

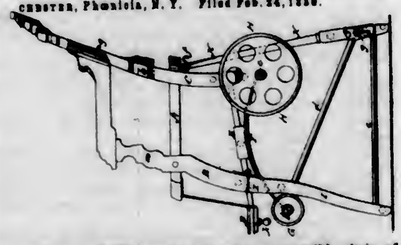
2. The combination of feathering-rod N, rack G, governor-shaft A, arms E, F, and A', vane C, bracket B, turn-table B', collar I, lug K, and securing device J, as set forth.

260,842. STEAM-GOVERNOR. DANIEL L. F. CHASE, Somerville, Mass. Filed Dec. 12, 1881. (No model.)



Claim.—In a steam-governor consisting essentially of a chamber or case and an inclosed centrifugal mechanism, the combination of the flier B, valves V V, spring C, and screw or spindle S, the whole arranged substantially as described, and for the purposes set forth.

260,843. CONVERTIBLE CHILD'S CHAIR. LEMUEL A. CHICHESTER, Phœnicia, N. Y. Filed Feb. 24, 1880.

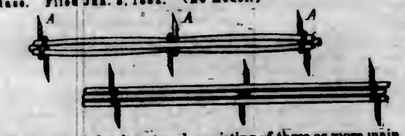


Claim.—1. The combination, in a convertible chair, of the rear projections, C, and rigid foot-rest D, the bars E connecting them, the springs F, borne by said bars, and the wheels G H on the said springs, all arranged to operate substantially as described.

2. The combination, in a convertible chair, of the wheels G H, the supporting-springs therefor, the seat below which said springs are suitably attached, the foot-rest D, rear projections, C, and stops *k* on said projections, substantially as and for the purpose described.

3. The combination, in a convertible chair, of the folding leg-frame, substantially as shown, the wheels G H, springs F to support them, bars E to sustain the springs, and projections from the seat to which the said bars are attached, all constructed and arranged to operate substantially as described.

260,844. BARBED FENCE-WIRE. NORMAN CLARK, Sterling, Ill., assignor of one-half to Isadore A. Upham, Springfield, Mass. Filed Jan. 5, 1882. (No model.)



Claim.—1. A fencing-strand consisting of three or more main wires (neither braided nor twisted with each other) having barbs A wrapped around one or more of said wires, and having the remaining wire or wires woven against said barbs, substantially as set forth.

2. A fencing-strand having three or more main wires (neither braided nor twisted with each other) and barbed pieces A wrapped around one or more of the main wires and projecting to form an angle, as shown, the ends of each alternate one of which pieces project in opposite directions, and having one or more main wires woven to bear within the angle, substantially as shown.

260,845. POCKET FOR BILLIARD-TABLES. HUGH W. COLLENDER, New York, N. Y. Filed Mar. 28, 1882. (No model.)



Claim.—The combination, with the pocket-iron, of a rubber jacket or covering and a rubber reticule or bag, all substantially as set forth.

260,846. TENT-POLE. ROBERT C. COOK, Chicago, Ill. Filed Mar. 2, 1882. (No model.)



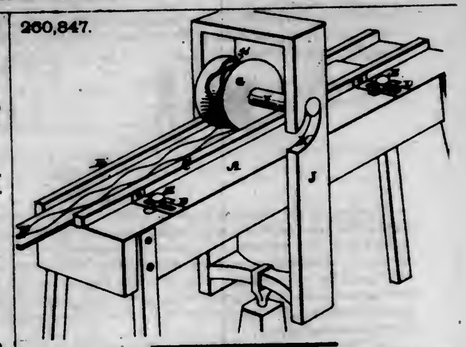
Claim.—1. The combination of the ridge-pole B and one or more supporting-poles C C, provided on their upper ends with the metallic ferrules or tips D D, having thereon the lugs F F and an eye or loop, E, substantially as and for the purposes specified.

2. As an improved manufacture, a tent-fixture consisting of the metallic ferrule or tip D, having thereon the eye E and the lugs F F, the said eye and lugs being arranged as shown and described with relation to each other and the part, D, and the latter being adapted to be applied to the vertical ridge-supporting poles of a tent, substantially as and for the purposes specified.

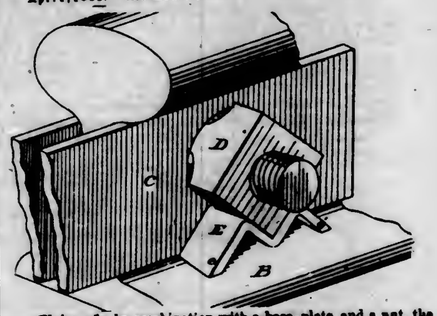
260,847. LEATHER-GREASER. CHARLES H. CORBY, San José, Cal. Filed May 1, 1882. (No model.)

Claim.—In a leather-greasing apparatus, the bed A, with its adjustable holding-guides B C, in combination with the frame J and the greasing-roller G, having its axle journaled in the sides of the frame, said roller adapted to travel over the upper surface of the bed between the guides, substantially as herein described.

260,847.



260,848. NUT-LOCK. PHILLIP GORMAN, Caliente, Cal. Filed Apr. 1, 1882. (No model.)

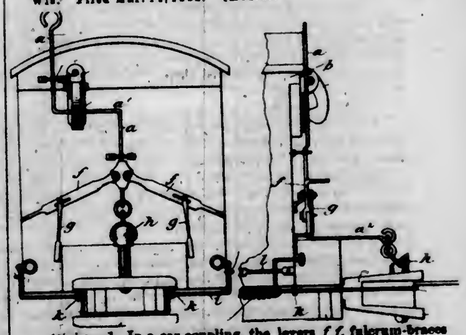


Claim.—1. In combination with a base-plate and a nut, the locking device E, formed as an inverted W, one of the ends or legs of which is longer than the other, said locking device operating in connection with the nut, and constructed substantially as herein described.

2. In combination with a base-plate and a nut, D, having its corners upon its inner face cut out, as shown, the locking device E, formed as an inverted W, the space between the centers having a back wall, *a*, and one of the ends or legs being longer than the other, said locking device operating in connection with the nut, and constructed substantially as herein described.

3. In combination with a rail, A, having a flange, B, the fish-plate C, and nut D, with its cut out corners, the locking device E, formed as an inverted W, the space between the centers having a back wall, *a*, and one of the legs or ends being longer than the other, said locking device operating in connection with the nut and constructed substantially as herein described.

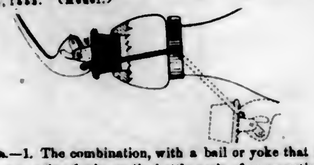
260,849. CAR-COUPLING. ANDREW DAPPERN, Sr., Madison, Wis. Filed Mar. 14, 1882. (Model.)



Claim.—1. In a car-coupling, the levers *f f*, fulcrum-braces *g g*, and rod *e*, having horizontal portions *a' a²*, in combination with pin and hook *c*, substantially as shown and described.

2. In a car-coupling, the bail *i*, working in slides *k*, in combination with springs *m*, as shown and described.

260,850. BOTTLE-STOPPER. CHARLES DE QUILFELDT, New York, N. Y., assignor to Henry W. Putnam, same place. Filed May 22, 1882. (Model.)



Claim.—1. The combination, with a bail or yoke that is applied to a supporting device on the bottle-neck, of an operating and locking lever that is pivoted to the yoke, of a stopper having a cap-piece with raised lugs, and of a connecting link or links pivoted to the lugs of the cap-piece and to the lever, the pivot-connection of the lugs and links being intermediately between the pivot-connections of the lever with the bail and with the links, respectively, substantially as set forth.

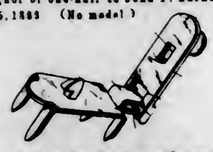
2. The combination, with a bail or yoke applied to the neck-band of the bottle, of an operating and locking lever that is pivoted to the yoke, of a stopper having a cap-piece with raised lugs, and of connecting-links which are pivoted to the lugs of the cap-piece and to the lever, the pivot connecting the lugs and links being intermediately between the pivot-connections of the lever with the bail and with the links, respectively, and being extended transversely through a slot or recess of the lever, substantially as set forth.

260,851. BOTTLE-STOPPER. CHARLES DE QUILFELDT, New York, N. Y., assignor to Henry W. Putnam, same place. Filed June 9, 1882. (Model.)



Claim.—The combination of a stopper having upright center lugs rounded off at their upper ends, of an operating and locking lever fulcrumed to the lugs and provided with an eccentric slot having a notch or recess at the end nearest to the fulcrum, and of a bail or yoke that is pivoted to the neck-band of the bottle and passed transversely through the slot of the locking-lever, substantially as and for the purpose set forth.

260,852. SHOE-FASTENER. HENRY J. DIETZ, St. Paul, Minn., assignor of one-half to John P. Burkhard, same place. Filed May 5, 1882. (No model.)



Claim.—1. As a new article of manufacture, a fastening device consisting of a leaf adapted to be secured to a shoe, glove, or other article, and a second leaf pivoted at one end to said first leaf and provided with means for its removable attachment to the overlapping portion of the shoe, &c., and adapted to be turned down upon said first leaf and secured thereto, substantially as and for the purpose set forth.

2. A fastening device for shoes, gloves, or other articles, consisting of two leaves hinged together at one end, one of said leaves being adapted to be secured to the shoe or glove, while the other leaf is provided with a button or its equivalent for engaging the overlapping portion of the shoe, and is adapted to be turned down upon the first leaf and be secured thereto, so that the entire device will be concealed by said overlapping portion of the shoe, substantially as and for the purpose set forth.

3. A fastening device for shoes, gloves, &c., consisting of two leaves hinged together at one end, one of said leaves being adapted to be secured to the shoe, and provided with a hook or catch, while the other leaf is provided with a button for engaging the overlapping portion of the shoe, and is slotted to receive said hook or catch, and adapted to have a limited longitudinal movement on the stationary leaf, whereby the strain on the overlapping portion of the shoe will operate to hold the leaves in locked position, substantially as and for the purpose set forth.

4. In a shoe, glove, or other similar fastening device, the combination, with a leaf provided with prongs by means of which it is secured in position, a hooked catch, and an oblong loop, of a leaf provided with a button, a slot for the passage of the catch, and an open slot provided with a pintle, the two parts or leaves being connected and adapted to operate as described.

5. The combination, with a lower leaf provided with a hook, and oblong loop, of an outer leaf provided with a slot to receive said hook, and with a button, and hinged to said lower leaf by means of a pintle passing through said elongated loop, whereby a limited longitudinal movement of the outer leaf is obtained, substantially as and for the purpose set forth.

260,853. METHOD OF OBTAINING DEXTRINE AND SACCHARINE MATTER FROM GRAINS. JAMES DUPP, Oswego, N. Y. Filed Feb. 27, 1882. (No specimens.)

Claim.—1. The method, substantially as herein described, of treating grain for the purpose of obtaining dextrine and saccharine matter, which consists of the following steps in combination: first, grinding the grain and passing the meal into the mash-tub and mashing and converting the mass with malt or saccharifying agent; second, passing the contents of the mash or converting tub into a second mill and regrinding it without arresting the conversion or transformation to liberate the unconverted starchy matter; third, separating the hulls, &c., from the saccharine liquor; fourth, passing the liquor into a tub or vat, where the conversion of the remaining unconverted starchy matter is completed.

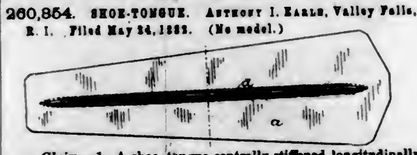
2. The process, substantially as above described, of regrinding the contents of the mash-tub after the usual operation of grinding and mashing with malt or other saccharifying agent, or saccharification, or after the first transformation of the freed starch is completed, for the purposes set forth.

3. In the process of producing dextrine and saccharine matter from grains, the sieving or separating of the contents of the mash-tub after cooking and full or partial conversion, and the regrinding of the unreduced starchy matter, substantially as and for the purpose set forth.

4. In the process of producing dextrine and saccharine matter from grains, the separation of the hulls and other objectionable matter from the mass after it has been cooked, fully or partially converted, and reground, substantially as described.

5. In the process of producing dextrine and saccharine matter from grain, after preliminary grinding in the dry state, the separation of the hulls and other objectionable matter from the mass by screening after cooking and full or partial conversion, substantially as described, to avoid the injurious effects caused by its presence.

260,854. SHOE-TONGUE. ANTHONY I. EARLE, Valley Falls, R. I. Filed May 24, 1882. (No model.)

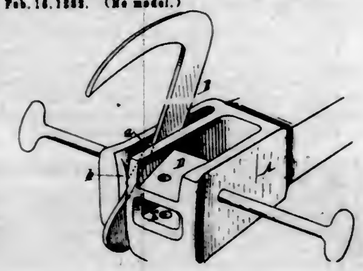


Claim.—1. A shoe-tongue centrally stiffened longitudinally, substantially as described.

2. The combination, with a shoe-tongue, of an inserted longitudinal central stiffener, substantially as described.

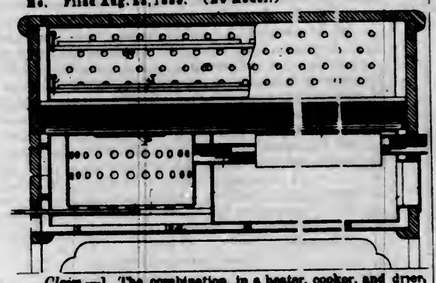
3. A shoe-tongue ribbed centrally and longitudinally on its outer surface and flush or smooth on its rear surface, substantially as described.

260,855. CAR-COUPLING. ALDRIDGE C. ELLIS, Birmingham, assignor of one-half to John Stanley, Detroit, Mich. Filed Feb. 16, 1882. (No model.)



Claim.—The combination, with the coupling A, provided with a detent, D, a recess to receive a pivoted hook, and with a lip, *b*, at the front end of said recess, of the hook B, a block, *a*, on the side of said hook, and the rod C, substantially as and for the purpose specified.

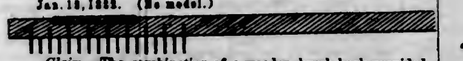
260,856. HEATER AND COOKER. SAMUEL ELLIS, St. Louis, Mo. Filed Aug. 22, 1880. (No model.)



Claim.—1. The combination, in a heater, cooker, and drier, of the outer wooden shell or case and the iron box containing the fire-place, said iron box being vertically, laterally, and immovably braced against and insulated from the wooden shell, substantially as and for the purpose hereinbefore set forth.

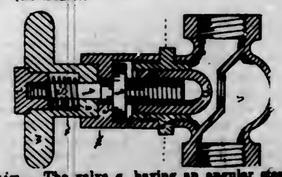
2. The combination, in a heater, cooker, and drier, of the outer wooden shell or case, the iron box containing the fire-place, and hollow iron braces which brace the iron box vertically, laterally, and immovably against the wooden shell, and also support the wooden shell and iron box wholly out of contact with each other, substantially as and for the purpose hereinbefore set forth.

260,857. HAIR-BRUSH. GEORGE F. ELLS, Deposit, N. Y. Filed Jan. 18, 1882. (No model.)



Claim.—The combination of a wooden brush-back provided with a circular recess in the top thereof, and a series of straight pins driven rigidly into the bottom of said back, with a circular looking-glass and a metallic casing surrounding said looking-glass, whereby the latter is protected and retained within the circular recess of the brush-back, substantially as and for the purpose described.

260,858. VALVE. JOHN A. FELT, Kent, Ohio. Filed Nov. 7, 1881. (No model.)



Claim.—The valve *c*, having an angular stem, *c'*, screw-threaded to receive the screw-threaded end of the valve-operating stem *b*, in combination with the valve-casing *c*, guide-nut *g*, shell *m*, having an internal flange or annular enlargement, *o*, valve-operating stem *b*, having the flange or enlargement *o*, the wheel *w*, having the hub *n*, with its lower end forming a seat, *o*, for spring *s*, and fitted loosely to an angular part of stem *b*, cap *i*, and spring *s*, bearing against the cap to press flange *o* against flange *o*, substantially as described.

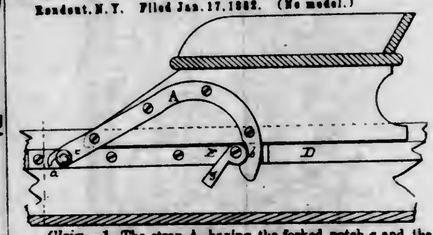
260,859. GALVANIC BATTERY. CHARLES FRIESEL, Madison, Wis. Filed Mar. 25, 1882. (No model.)



Claim.—1. In a galvanic battery of two fluids, the cloth partition T, paraffined around its edges and fastened by paraffine into a paraffined wooden box, A H B, for the purpose set forth in this specification.

2. In a galvanic battery of two fluids, the paraffined wooden frame F, united to the cloth partition T by means of paraffine, substantially as shown and for the purpose specified.

260,860. LOCK FOR WAGON-SEATS. SEBASTIAN GILSINGER, Rondout, N. Y. Filed Jan. 17, 1882. (No model.)



Claim.—1. The strap A, having the forked notch *a* and the recess *b* at opposite ends, combined with a receiving device and a locking-cam, substantially as shown and described.

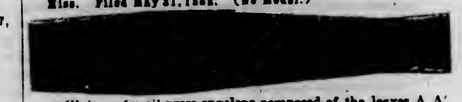
2. The strap A, having the forked notch *a* and recess *b* at opposite ends, combined with the plate D, having sockets *c d*, to receive the ends of the strap, the pin *e*, to engage with notch *a*, and the gravitating cam E, to engage the recess *b*, to lock the strap in the plate, substantially as shown and described.

260,861. NUT-LOCK. JAMES F. GOODRIDGE, Boston, Mass. Filed Sept. 27, 1881. (No model.)



Claim.—A plate of flexible metal provided with four lips adapted to abut against or be turned against the nuts of the four several bolts used in securing a fish-plate to its rails, a hole for receiving one of said bolts, and a slot to embrace the nut of another of said bolts, substantially as described, for the purpose specified.

260,862. OIL-PRESS ENVELOPE. JOSHUA J. GARNS, Jackson, Miss. Filed May 31, 1882. (No model.)



Claim.—An oil-press envelope composed of the leaves A A' A'', placed one after the other, end to end, and connected by flexible joint D C, all constructed as described and represented.

260,863. SEWING-MACHINE FOR MAKING BOTTLE-COVERS. GEORGE GRIESEL, San Francisco, Cal. Filed Feb. 20, 1882. (No model.)

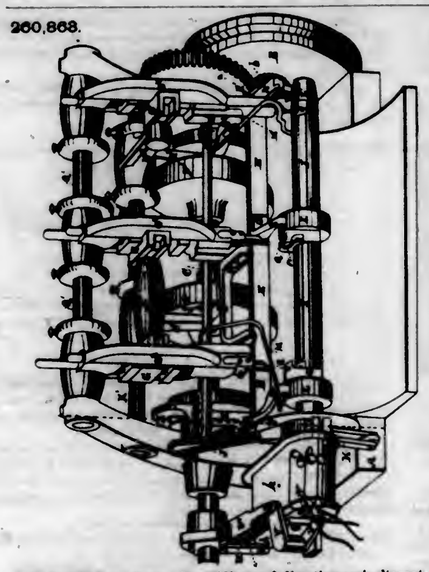
Claim.—1. In a machine for making bottle-covers of the stems or stalks of reeds, grasses, tule, and other similar fibrous material, the feeder-bar E, with its fingers *e e*, in combination with a means for imparting to said bar a forward-and-return sweep, as described, to extend it fingers over and draw in the material, substantially as herein described.

2. In a machine for making bottle-covers, as specified, the feeder-bar E, with its fingers *e e*, in combination with the means for giving to it a forward-and-return sweep, as described, consisting of the cams D D D' D', curved levers Z, rods Y, springs W, levers X, and side pieces, E', substantially as herein described.

3. In a machine for making bottle-covers of the stems or stalks of reeds, grasses, tule, and other similar fibrous material, the pawl N, constructed as shown, and attached to the feeder of the machine for feeding and guiding the stalks and stems at one end to form a double row and give to the covering a tapering shape, substantially as herein described.

4. In a machine for making bottle-covers of the stems or stalks of reeds, grasses, tule, and other similar fibrous material, as specified, the double pawl N, consisting of the pawl *m*, with its bifurcated lower arm for feeding the material to the needle, and the pawl *n*, hinged to the outer arm of the pawl *m*, and having it lower end project inwardly through the bifurcated arm of the pawl *m*, and

260,863.



held therein by springs *s*, for guiding and directing each alternate stem or stalk under the preceding one, substantially as herein described.

5. In a machine for making bottle-covers of the stems or stalks of reeds, grasses, tule, and other similar fibrous material, as specified, having a feeder, E, adapted to draw the stems under the needles, as described, and in combination therewith the double pawl N, attached to one end of the feeder, said pawl consisting of the feeding-pawl *m* and the guiding-pawl *n*, arranged to operate together, as shown, substantially as and for the purpose herein described.

6. In a machine for making bottle-covers, as specified, the forming-bar I, with its rollers L L L', in combination with the feeder E, and the double pawl N, consisting of a feeding-pawl, *m*, and a guiding-pawl, *n*, constructed and operating together, as shown, to double the material, substantially as herein described.

7. In a machine for making bottle-covers, as specified, the forming-bar I, for receiving the material, having its connections upon one end only and its other end free, in combination with a mechanism for raising and lowering said bar, substantially as and for the purpose herein described.

8. In a machine for making bottle-covers, as specified, a forming-bar, I, secured at one end to a pivot-shaft, H, by the connecting-casting A, in combination with the lever J, journaled upon the bar, I, and pivoted to the swinging arm or lever K, by means of which the said bar is raised and lowered, and held firmly when raised, substantially as herein described.

9. In a machine for making bottle-covers, as specified, the forming-bar I, in combination with the rollers L L', substantially as and for the purpose herein described.

10. The combination, in a machine for making bottle-covers, as specified, of the forming-bar I, guide-wires M M, and limiting-disk P, substantially as herein described.

11. In a machine for making bottle-covers, as specified, the needle-bars G G', the former adapted to stitch the stems at the bottom and middle and the latter at the top, in combination with a mechanism for operating the needle-bar G', sewing the top of the cover, one-half as fast as the needle-bars G, substantially as and for the purpose herein described.

12. In a machine for making bottle-covers, as specified, the needle-bars G G', in combination with the mechanism for operating needle-bar G', sewing the top of the cover, one-half as fast as the needle-bars G, consisting of the cams F F and bent levers H' H², journaled upon the shaft K', substantially as herein described.

13. In a machine for making bottle-covers, as specified, the combination and arrangement of the swinging needle-frames G', needle-bars G G', arms S S', bent levers H' H², and cams F F', substantially as and for the purpose herein described.

14. In a machine for making bottle-covers, as specified, the bar I, having the swinging pivoted threading-arms *r*, with pinions *s'*, in combination with the horizontal rack-bar T, and a mechanism for giving said rack-bar a lateral motion, substantially as and for the purpose herein described.

15. In a machine for making bottle-covers, as specified, having needles and a mechanism for operating them, as shown, the bar I, having the pivoted threading-arms *r*, said arms being adapted to throw the thread around the hooked end of the needle by means of their pivots *s* and pinions *s'*, and the laterally-moving horizontal rack-bar T, substantially as herein described.

16. In a machine for making bottle-covers, as specified, the bar I, having the swinging pivoted threading-arms *r*, with pinions *s'*, in combination with the horizontal rack-bar T and the means for giving to it a lateral motion, consisting of the bell-crank lever V, with its slotted end engaging with a pin, *t*, upon the projecting end of said rack-bar, levers U U', with their springs *u*, and the cam R upon the cam-shaft C, substantially as herein described.

17. In a machine for making bottle-covers, as specified, having needles and a mechanism for operating them, the horizontal bar I, having a mechanism, as shown, for raising and lowering it, said bar having the slotted needle-frames Q and swinging threading-arms *r*, operated by the laterally-moving horizontal rack-bar T, and having thread-directing grooves *w* and guides, substantially as herein described.

260,864. CIRCUIT-CLOSING KEY FOR ELECTRIC LAMPS. JOHN E. GUEST, Brooklyn, N.Y. Filed Apr. 24, 1882. (Model.)



Claim.—1. The combination, with a glass vessel containing mercury, of two electric conductors, *b c*, passing into each vessel, a turn-button supporting each vessel and conductors, stationary contact-surfaces, and contact-surfaces upon the turn-button, substantially as set forth.

2. The combination, in a circuit-closing key, of an insulating-vessel containing mercury, and into which vessel the metallic circuit-wires pass, and separate cells in the vessel, containing mercury around the ends of such wires, and means for moving the vessel and bringing the mercury therein into contact with the mercury in the cells for closing the circuit, substantially as set forth.

260,865. EXCAVATOR. HARVEY B. HALL, Homer, Ill. Filed Mar. 13, 1882. (No model.)

Brief.—The excavator-frame is mounted on wheels, and is formed of two parallel bars connected by cross-bars, through two of which slide grooved upright frames vertically adjustable on tongued standards by screw-rods with hand-wheels, the forward frame having downwardly-projecting arms carrying an axle with radial cutters, and disk-cutters attached to the ends of the said axle outside of the arms. The rear slide-frame carries a plow-cutter, with vertical side plates formed to force the earth up onto an endless apron, with cleats running on two rollers, one carried by the plowshare-standards and the other by a frame sliding in straps on the top of the excavator-frame and having a chute. The roller in the sliding frame is connected by a universal joint with a pinion driven by a gear-wheel on the shaft of one of the running-wheels.



Claim.—1. The combination of the wheel R', cog O', pinion N, joint *m*, frame K', roller T, rod V, plow J, and roller T', the rollers T T' carrying cloth K, provided with cleats *c*, all arranged in the manner and for the purposes specified.

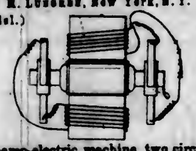
2. Wheel R', cog O', pinion N, universal joint *m*, sliding frame K', frame-bars B B', straps Y Y, roller T, and chute O, in combination with cloth K, cleats *c*, roller T', rod V, plow J, vertical frames E D, threaded rod A, and wheel H, substantially as described, and for the purposes set forth.

3. In a tile-ditcher, the frame-bars B B', having the cross-piece W', and vertical tongued frames C C, in combination with the grooved frame F, rod *f*, and wheel F', the bottom of the frame F being provided with two downwardly-projecting slotted arms, F⁸, through which is inserted a horizontal transverse shaft, F', that moves freely therein, the ends of said shaft extending out on either side of the frame-arms, and each extension having a longitudinal cutting-wheel, I', secured thereto, and the transverse knives B', rigidly united to a hub, F⁸, which is keyed to the shaft between the arms, substantially as described and set forth.

4. The wheel R', having cog O', that engages pinion N, in combination with the universal joint *m*, adjustable frame K', carrying-roller T, and chute O, in the manner and for the purpose set forth.

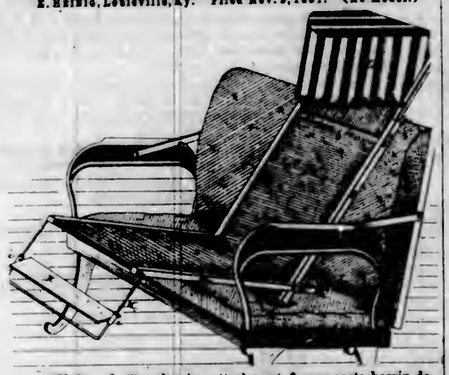
5. In a tile-ditching machine, the combination of the standard A'', bolted to frame B, the cross-piece B'', pivoted at B', the cords E'', united to cross-piece at D'', and carrying balls C' C'', the balls, cords, and end of cross-piece working in the slotted boxes F'' F'', in the manner and for the purposes set forth and described.

260,866. DYNAMO-ELECTRIC MACHINE. CHARLES D. HARRIS and CHARLES M. LUDGREN, New York, N.Y. Filed Apr. 17, 1882. (No model.)



Claim.—In a dynamo-electric machine, two circuits, both of which pass through the field-helices differentially and through armature-helices, and one circuit of which includes resistance—such as lights or other working devices arranged in series, substantially as specified—so that the electric energy in both circuits and the effective magnetism in the field are mutually developed in proportion to the resistance in one of the circuits, substantially as set forth.

260,867. SLEEPING ATTACHMENT FOR CAR-SEATS. FRED. E. HEINIG, Louisville, Ky. Filed Nov. 2, 1881. (No model.)



Claim.—1. The sleeping attachment for car-seats herein described, consisting of the seat *a*, back *b*, rollers H, hooks E and J, bands *b b'*, and the adjustable head and foot rests, all arranged and operating as set forth.

2. The back *b*, having rollers H journaled in its lower ends, the seat *a*, having brace I, and pivoted to the back, the hook J, engaging with the car-seat, and the band *b b'*, all combined as set forth.

3. The combination, in a sleeping attachment for car-seats, of a seat and back pivoted together, means for adjusting them with relation to each other, and adjustable hooks for securing them to the car seat and back, all substantially as described.

4. The combination, with a railroad-car seat, of the back and seat *b a*, pivoted together and provided with the hooks E and J, respectively, for engaging the top of the back and the back edge of the seat, as set forth.

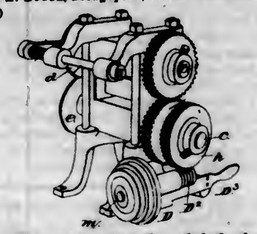
260,868. COMBINED CHAIN-BAR AND PENCIL. WILLIAM B. RICKS, New York, N.Y. Filed May 17, 1882. (No model.)



Claim.—1. A chain-bar consisting of the open-ended tube A and a detachable pencil or other implement case, B, arranged to fit therein and project at each end thereof, substantially as shown and described.

2. In combination with the open-ended tube A, the detachable case B, of greater length when closed than the tube A, the said parts being constructed and arranged for use substantially as shown and described.

260,869. MACHINE FOR CUTTING THE EDGES OF CORSETS, &c. JAMES A. HOUSE, Bridgeport, Conn. Filed May 25, 1882. (No model.)



Claim.—1. The circular cutters *d e* and feed-wheel *f*, combined with a feed-wheel, *f*, the axle or bearing of which is free to rise and fall to enable the said feed-wheel to adapt itself to the thickness of the material being fed and cut, substantially as described.

2. The upper cutting-disk, *d*, and its pin, combined with the feed-wheel *f*, having the slot S and the support for the said feed-wheel, whereby the cutting-disk is made to rotate the feed-wheel, substantially as described.

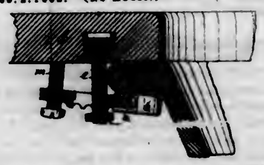
3. The cutting-disks, feed-wheels, shafts *b c*, and their connected gearing, combined with the worm-shaft *m*, held in the movable bearing D², substantially as and for the purpose described.

260,870. PILLOW. WASHINGTON HOSE, Boston, Mass. Filed Mar. 23, 1882. (No model.)



Claim.—As an improved article of manufacture, the tick or case divided by a partition, 3, into two pockets, both of which are permanently filled, one with feathers, as at *f*, and the other with hair, as at *h*, all substantially as described.

260,871. BASIN-CLAMP. JAMES P. HYDE, New York, N.Y. Filed Feb. 2, 1882. (No model.)



Claim.—1. The clamp for basin-flanges, having the transverse corrugations on the body adjacent to the slot for the bolt, substantially as set forth.

2. The clamp for basins, having yielding material—such as rubber—at the end or ends that bear upon the basin or its flange, as set forth.

3. The combination, with the slotted basin-clamp, of the attaching-bolt and the clamp-screw *m*, substantially as set forth.

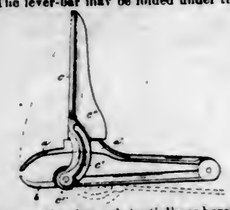
4. The basin-clamp having a lever adapted to press at one end against the basin or flange, a set-screw at the other end, and an intermediate fulcrum secured in the slab, substantially as set forth.

5. In a basin-clamp, the combination of a slotted lever having corrugations in the surface adjacent to the slot with a fulcrum-bolt adapted to engage in the corrugations of the lever, substantially as set forth.

6. In combination with the slotted-lever basin-clamp, the T-headed bolt provided with a projection for securing it in the marble, substantially as set forth.

260,872. SHINGLING-BRACKET. LUTHER C. JAQUES, Rock Rapids, Iowa. Filed Apr. 6, 1882. (No model.)

Brief.—The lever-bar is pivoted to the under jaw and has an inclined portion which bears against a corresponding incline on the upper jaw. The lever-bar may be folded under the jaws.

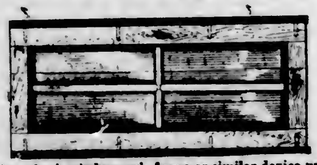


Claim.—1. The combination, substantially as hereinbefore set forth, with the hinged jaws *a* and *b*, of the lever-bar *c*, pivoted to the under jaw and arranged to turn up over the biting end of the said jaws and bear on the upper end of the said jaws and secure the same to the shingle, as set forth.

2. The combination, with the jaw *a*, having beveled projection *a'* and hinged to the jaw *b*, of the lever-bar *c*, pivoted to the jaw *b* and constructed with the bearing *c'*, beveled correspondingly to the bevel on projection *a'*, and arranged to bear on said projection, as set forth, and for the purposes described.

260,873. SASH. GEORGE H. JOHNSON, Bridgeport, Conn. Filed Apr. 27, 1882. (No model.)

Brief.—Detachable strips of yielding material wider than the thickness of the frame and projecting below the sides are secured thereto.



Claim.—1. A window-sash frame or similar device provided at its sides with independent and detachable strips of yielding material, said strips being wider than the thickness of the frame and projecting below the sides of the same, substantially as set forth.

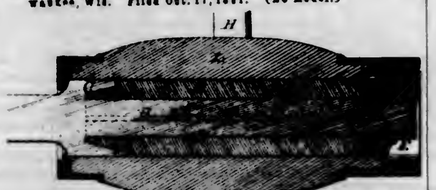
2. The strip A, of yielding material, formed and applied as described—that is to say, projecting beyond the faces of the sash throughout a part or the whole of its length—in combination with a sash or frame, whereby the latter shall be protected as against wear from contact with the casing, substantially as and for the purpose set forth.

260,874. COUPLING FOR PIPES. SAMUEL S. JONES and CHARLES M. RITTENHOUSE, Norristown, Pa. Filed Feb. 11, 1882. (No model.)



Claim.—In a coupling for tubes and pipes, the combination of the double-tapered hollow plain ferrule A and the correspondingly-flared plain collars C C', having flanges or shoulders H H', adapted to be driven up by blows struck upon the flanges, and all adapted to hold and crush or jam the ends of two pipes to form a close joint, in the manner described.

260,875. WAGON-AXLE BEARING. AMASA C. KASSON, Milwaukee, Wis. Filed Oct. 17, 1881. (No model.)



Claim.—1. In a wagon-axle bearing, the combination of the box B, provided with the two conically-shaped bearings at the ends, the axle A, provided with the interior cone, C, and the conically-shaped washer D, all constructed and operating substantially as and for the purposes set forth.

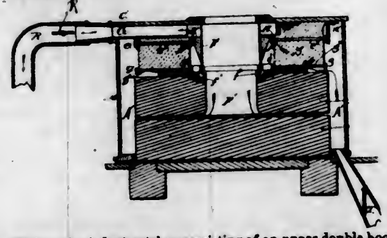
2. In a wagon-axle bearing, the combination of the axle A, provided with the conically-shaped shoulder C, the box B, provided with two conically-shaped bearings at the ends, annular oil-groove I, and oil-reservoir K, conically-shaped washer D, and nut G, substantially as and for the purpose set forth.

260,876. THILL-COUPLING. AMASA C. KASSON, Milwaukee, Wis. Filed Oct. 17, 1881. (No model.)



Claim.—The thill-coupling herein described, consisting of head D, having annular projection G, provided with annular groove *e* and central recess, *d*, and head E, having central circular projection, F, annular recess H, and oil-wells *b*, and bolt *a*, substantially as set forth.

260,877. DUST-CATCHER FOR MILLSTONES. GEORG KIRN, Stuttgart, Wurtemberg, Germany. Filed Sept. 3, 1880. (Model.) Patented in Germany Sept. 8, 1877, No. 3,386, and Dec. 20, 1878, No. 8,318; in Belgium Aug. 17, 1879, No. 47,343; in France Aug. 25, 1879, No. 130,867, and in Italy Dec. 18, 1879, No. 11,416.

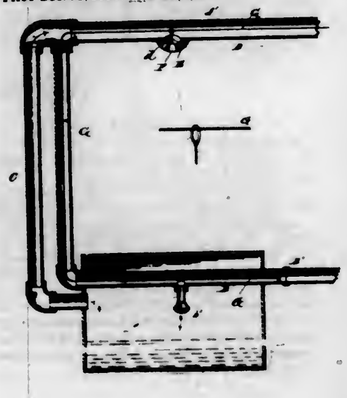


Claim.—1. A dust-catcher consisting of an upper double hoop and spokes, a lower double hoop and spokes, and a strip of flannel wound from the alternate spokes of one double hoop to those of the other, the other lower double hoop being attached solely to said flannel, substantially as set forth.

2. The lower hoop, *g g'*, of the dust-catcher, in combination with lifting-ring *b*, rock-shaft K, having arms J M, connected thereto, lever H, sliding cam *d*, shaft U, and dog P', substantially as set forth.

3. The combination of shaft U, wheel Q', disk Q, notched at *q*, lever H, having lug *p* and swell H', weight P, cord E', dog P', its gears, cam *d*, rock-shaft K, having arms J M, lifting-ring *b*, and the dust-catcher, substantially as set forth.

260,878. FIRE-ANNIHILATOR. ISIDOR KITZES, Cincinnati, Ohio. Filed Dec. 31, 1881. (No model.)



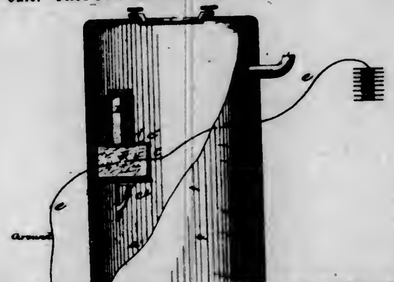
Claim.—1. In a fire-annihilator operated by melting of fusible connections, a generating-reservoir supplied with chemical gas-producing agent, and provided with water-inlet pipe and an independent gas-eduction pipe separate from the water-conduit pipe, having independent eduction-openings within a common distributing-pipe, substantially as described.

2. In a fire-annihilating device operated by melting of fusible connections, the combination of a gas-generating reservoir provided with independent water-induction pipe and gas-eduction pipe, coupled together outside of said reservoir, arranged as described, and adapted to intermingle their gaseous and aqueous contents within a common distributing-pipe, substantially as described.

3. In a fire-annihilating device, the combination of a gas-generating reservoir having a water-induction pipe provided with a regulating-valve actuated by a cord fastened to said valve, and controlled by a weight fastened by fusible connections, substantially as described.

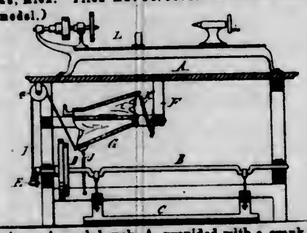
4. In a fire-annihilating device, the combination of a generating-reservoir provided with water-induction and gas-eduction pipes, and supplied with gas-generating chemicals, with the conduit-pipe D, having cord G and apertures *d*, closed with fusible caps E, said caps adapted, when melted, to release weight F, as and for the purpose intended, substantially as described.

260,879. FIRE-ANNIHILATOR. ISIDOR KITZES, Cincinnati, Ohio. Filed Feb. 15, 1882. (No model.)



Claim.—In a fire-annihilator, a gas-generator supplied with a chemical reagent and provided with an interior case, C, supplied with explosive material, said case having loosely resting thereon a vessel, D, containing a chemical reagent, in combination with the line-wires of an electric battery, all so arranged, as described, that when the electric current explodes the material within the case C the vessel D will be upset and fire-annihilating gas will be generated by intermingling the chemical reagents, substantially as described.

260,880. JEWELER'S WORK-BENCH. MILTON H. KNAPP, Adrian, Mich. Filed May 14, 1881. Renewed Jan. 14, 1882. (No model.)

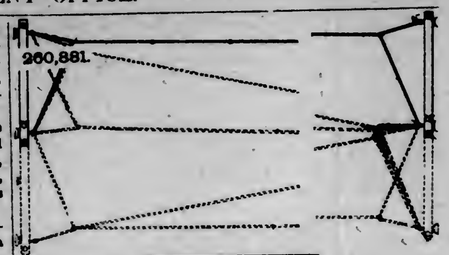


Claim.—A work-bench, A, provided with a crank-shaft, B, operated by a treadle, C, in combination with the bellows G, crank-arm E, frame F, pulley *a*, belt I, springs J K, and pulley D, substantially as set forth.

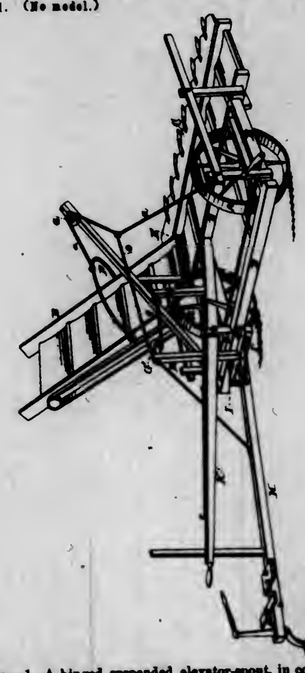
260,881. ANCHOR FOR CHECK-ROWERS. BENJAMIN KUHNS, Dayton, Ohio. Filed Dec. 8, 1881. (No model.)

Claim.—1. An anchor for check-rowers, combining in its structure two spaced anchor-pins, a connecting device between the anchor-pins, and a flexible gay-loop with which the check chain or cord is connected, substantially as and for the purposes described.

2. An anchor for check-rowers, in which are combined two anchor-pins, a rigid connection between the same, and an attached flexible gay-loop with which the check chain or cord is connected, substantially as described.



260,882. HEADER. MICHAEL M. LAUFENBURG, San Francisco Cal., assignor to Baker & Hamilton, same place. Filed May 18, 1881. (No model.)

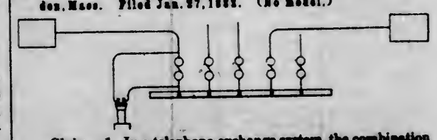


Claim.—1. A hinged suspended elevator-spout, in combination with the rope *a*, rope O, and lever K, whereby the weight of the forward part of the machine will be counterbalanced by the weight of the spout, substantially as herein described.

2. A hinged suspended elevator-spout, in combination with the rope *a*, rope O, lever K, and the posts M and N, substantially as and for the purpose herein described.

3. The standard M upon the pole and the standard N upon the lever K, in combination with the ropes *a* and O, the pulleys G G', and the elevator-spout D, all constructed, arranged, and operated as set forth.

260,883. TELEPHONE SYSTEM. THOMAS D. LOCKWOOD, Malden, Mass. Filed Jan. 27, 1882. (No model.)



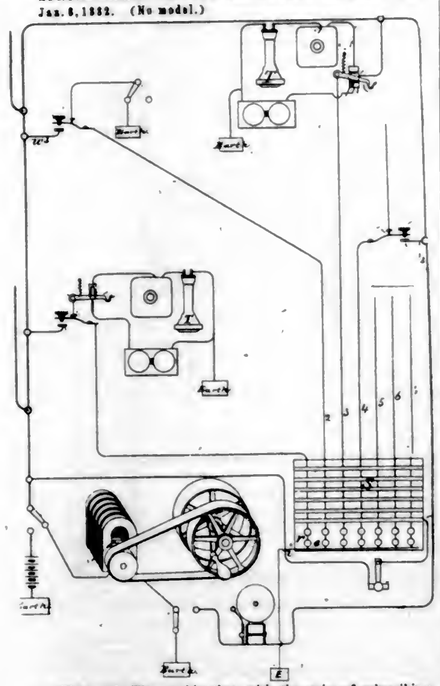
Claim.—1. In a telephone-exchange system, the combination with the switch-board for connecting the terminals of subscribers' lines at the central office, of a supervising and listening circuit, and means, substantially as described, for connecting the said circuit with the several subscribers' lines around a resistance, as set forth.

2. The combination, substantially as hereinbefore described, of a series of main lines, each having a resistance-coil in the main circuit, a normally-open derived circuit for each line bridging the resistance-coil, a normally-open telephone-loop common to the series of main-lines, and means for connecting the said telephone-loop with any one of the derived circuits, whereby the said derived circuit may be closed and the listening-telephones adapted to communicate with the main line connected therewith.

3. The combination, in a telephone-exchange, of a main line, an annunciator included in the circuit of said main line, listening-strips forming the open terminals of a telephone, a derived circuit normally open, bridging the annunciator of each line and terminating in springs extending between the two listening-strips, and a key circuit-closer, whereby the listenings-strips are connected with and into the derived circuit, for the purpose described.

4. In a system of telephonic communication, a line and terminal station and station apparatus, in combination with a resistance in said line at an intermediate point or way-station, and a derived circuit connected at both ends with the line and bridging or shunting the resistance, substantially as described.

260,884. ELECTRICAL SIGNALING APPARATUS FOR TELEPHONE-LINES. THOMAS D. LOCKWOOD, Malden, Mass. Filed Jan. 6, 1882. (No model.)



Claim.—1. The combination, with the series of subscribing-lines, of a signaling-circuit with normally open branches entering the substations, a source of electricity, such as a battery, a dynamo or a magneto electric machine in said circuit and switches, or circuit-changers at said substations for connecting the subscribers' lines with said branches, so that the subscriber signals over his own line, substantially as described.

2. The combination of the subscribers' lines, the signaling-circuit, with normally open branches entering the substations, the source of electricity, such as a battery, a dynamo or a magneto electric machine, an automatic or gravity telephone-switch at each substation, and contacts and connections, whereby the mere act of removing the telephone at any substation from its support establishes an electric connection at that station between the subscriber's direct line and the branch of the signaling-circuit and causes the signaling-current to traverse the said direct line, substantially as described.

3. The combination, with a switch permanently connected to line, of three contact pieces or points for said switch, connected one through a signal-bell to ground, another with a normally charged circuit, and the third to ground through a telephone, substantially as described.

4. In a telephone-exchange system, the combination of a series of subscribers' direct lines, each at its outer terminal normally connected through a signal-bell to ground, a dynamo-electric machine or other source of electricity, a supply-wire constantly charged with electricity from said source, common to a number of substations, and provided with an open branch extending to each substation of the series, and a key or switch at each station, adapted, when operated either manually or automatically by the removal of the telephone from its support, to transfer the private-line circuit from its normal ground-connection to the branch of the charged wire, substantially as described.

5. The combination, in the system of electrical signaling hereinbefore described, of a constant source of electricity having one terminal normally grounded, the said source being common alike to the central station and to each substation, normally open main and branch wires extending from the said source of electricity to each substation and to the signaling-key or circuit-closer at the central station, and means, as indicated, for transferring the current from the open branch wires to either end of the subscribers' lines, substantially as and for the purpose described.

6. The combination, in a telephone-exchange system, with a series of subscribers' lines, of a separate signaling-circuit, a continuous-current dynamo or magneto electric machine in a branch of said circuit, a battery in another branch, and a switch for connecting at will in said circuit said electric machine or said battery, substantially as described.

7. In a telephone-exchange system, a continuously-operating dynamo or magneto electric machine or equivalent source of electricity, located at any suitable point, and adapted, by means of main and branch conducting-wires, to supply all the necessary currents for signaling purposes to the central station and to each substation connected with the said exchange system, as described.

8. The combination, in an electrical system, with a series of lines, of a branch containing a dynamo-electric machine having its field excited in said branch, and switches or connectors for joining said branch to said lines individually for the purpose of signaling, substantially as described.

9. The combination of a series of subscribers' lines, signaling devices in the several lines at the central office, a distinct signaling circuit or circuits, a battery or other generator of electricity—such as a dynamo or magneto electric machine—electrically connected with said signaling circuit or circuits, and also with the central-office terminals of the subscribers' lines, and switches or circuit-changers at the substations for altering thereat the circuit-connections of the aforesaid generator, so as to operate for each station the signal device in the line whereon said station is placed, substantially as described.

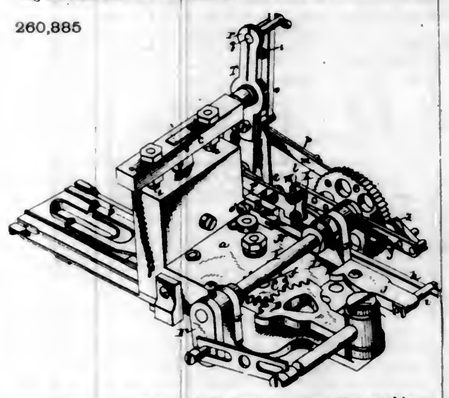
10. The combination of the subscribers' lines, the signaling devices or call-bells at the substations, the signaling devices or annunciators at the central office, one or more generators of electricity, a signaling circuit or circuits, switches or circuit-changers at the substations for altering the circuit-connections of a generator, so as to operate for each station the signal device or annunciator in its own line at the central office, and switches or circuit-changers at the central office for altering the circuit-connections of a generator, so as to operate the signal devices or call-bells at the substations, the generator-circuit, as well in the case of a subscriber calling the central office as of the latter calling the former, being composed in part of the signaling-circuit and in part of the direct line of the subscriber calling or called, substantially as described.

11. The combination, with the movable telephone support and switch, the spring for shifting the same when the telephone is removed, and a line-wire or conductor connected with said switch, of the contact-piece connected with the signal or call bell, the contact-piece connected with the telephone, and the intermediate contact-piece connected with a generator of electricity or means for operating a signal device, said switch being adapted to make contact with all said pieces, substantially as described, so that when the telephone is on the support the call-bell is connected in with the line-wire or conductor aforesaid, and when the telephone is removed the switch is shifted, cutting out the call-bell and connecting in the telephones, and in its movement temporarily connecting in the generator or signaling means, as set forth.

260,885. BUTTON-HOLE ATTACHMENT FOR SEWING-MACHINES. JNO. MCCREARY, Cohoes, and DAVID R. SMITH, Troy, N. Y. Filed Mar. 15, 1882. (Model.)

Brief.—The invention relates to mechanism for automatically turning the shaft, which shifts the cloth-clamp when one side of a button-hole has been worked, for the purpose of barring the end of the button-hole, bringing the material into position for working the other side, and reversing the movement of the cloth-clamp.

260,885



Claim.—1. In a button-hole attachment for sewing-machines, the combination, with the cloth-clamp provided with suitable projections, and the rock-shaft by means of which said clamp is shifted laterally, of intermediate mechanism, substantially as described, adapted to be connected with and operated by a moving part of the attachment, and to be thrown into operation at suitable intervals by the projections carried by the cloth-clamp, substantially as set forth.

2. The combination, with rock-shaft *f* and rotating shaft I, of intermediate mechanism adapted to rock the former on the rotation of the latter, the ratchet-wheel mounted on said shaft I, and mechanism for imparting an intermittent rotary movement to said ratchet-wheel, substantially as described.

3. The combination, with the cloth-clamp provided with adjustable projections or tappets, of the rock-shaft *f* and mechanism for actuating the same, adapted to be thrown into action by said tappets, substantially as described.

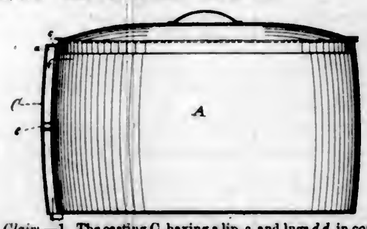
4. The combination, with the rock-shaft *f*, the double-cranked shaft I, mechanism for connecting said shafts, and the ratchet-wheel for actuating the shaft I, of the vertically-reciprocating slotted lever and intermediate devices connecting said lever and ratchet-wheel for actuating the latter, substantially as described.

5. The vertically-reciprocating slotted lever and the double-cranked ratchet-wheel shaft having a yielding connection therewith, in combination with tappets attached to and moving with the cloth-clamp for moving said lever into engagement with the ratchet-wheel-actuating devices, substantially as described.

6. The double-cranked ratchet-wheel shaft I, in combination with the double cam and the adjustable spring-stop, arranged and operating substantially as described.

7. The combination, with the rock-shaft *f*, of the double-cranked ratchet-wheel shaft I, mechanism connecting said shafts, levers W and Y, slotted lever T, and adjustable tappets connected to and moving with the cloth-clamp, arranged and operating substantially as and for the purpose described.

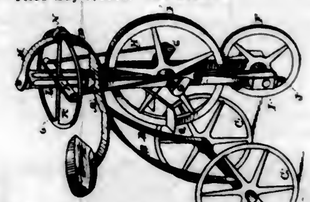
260,886. CULINARY BOILER. THOMAS L. MILLER, Burlington, N. J. Filed Nov. 18, 1881. (No model.)



Claim.—1. The casting C, having a lip, *c*, and lugs *d d*, in combination with the boiler A, having an opening or channel, *a*, leading into the flue *b*, substantially as described, and for the purpose set forth.

2. The casting C, having wings *f f*, in combination with the boiler A, substantially as and for the purpose set forth.

260,887. VELOCIPEDE. WILLIAM B. MORRIS, San Francisco, Cal. Filed May 2, 1882. (No model.)



Claim.—1. In a velocipede, and in combination with the backbone A, steering-fork D, and grooved cranked driving-wheel E, the bearing-wheel F, placed below the wheel E, so that its rim fits into and is propelled by the grooved rim of E, said wheel F having the vertically-moving journal-boxes I and the adjusting-screw J, substantially as and for the purpose herein described.

2. In a velocipede, and in combination with the cranked driving-wheel E, turning in the swiveled steering-fork D, the transverse arm K, guided as shown, the connecting-rods H, and an operating-lever, substantially as and for the purpose herein described.

3. In a velocipede, and in combination with the cranked driving-wheel E, turning in the swiveling steering-fork D, the transverse vertically-guided sliding bar K, and connecting-rods H, the ring O, connected with the sliding bar and moving loosely in the opening N, so as to accommodate itself to the movements of the fork from side to side, substantially as herein described.

260,888. GAS-BURNER FOR HEATING PURPOSES. JAMES MUSGRAVE, Cincinnati, Ohio, assignor of one-half to Alexander Reid, same place. Filed Dec. 9, 1881. (No model.)



Claim.—1. A gas-burner provided with flange a^2 and cap B, having perforations *b*, in combination with the reversible flame-regulator C, one end of which rests on the flange a^2, the other end extending above the openings *b* and so formed that the flame from the openings *b* will strike against said flame-regulator, substantially as and for the purposes specified.

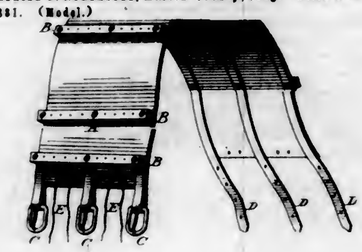
2. The combination of cap B, provided with openings *b*, cylinder A', cone *a'*, diaphragm *a*, yoke D, and stem *d*, provided with contracted orifice d^3, substantially as and for the purposes specified.

3. The combination of cap B, provided with openings *b*, cylinder A', diaphragm *a*, cone *a'*, flange a^2, provided with openings *a'*, cup C, yoke D, stem *d*, and orifice d^3, substantially as and for the purposes specified.

4. The combination of cap B, provided with openings *b*, cylinder A', diaphragm *a*, cone *a'*, flange a^2, provided with orifices a^4, cup C, yoke D, stem *d*, provided with contracted orifice d^3, lugs L, and shoulders *l*, substantially as and for the purposes specified.

5. The combination of the cylinder A', cap B, provided with opening *b*, diaphragm *a*, cone *a'*, flange a^2, and cup C, and provisions for introducing the external air into the space between the cylinder A' and the cup, substantially as and for the purposes specified.

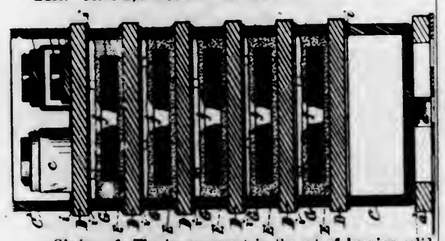
260,889. GRAIN-ADJUSTING BELT FOR HARVESTERS. NATHIEL T. NORTHCUTT, Marion County, Oreg. Filed Nov. 7, 1881. (Model.)



Claim.—1. In a harvester, the grain-adjusting belt composed of leather and provided with the sole-leather stripe B B, substantially as and for the purpose set forth.

2. The leather grain-adjusting belt provided with the sole-leather strips B B, in combination with the leather strips D D, having the buckles C C, and with lacing-strings E E, substantially as described.

260,890. METHOD OF AND APPLIANCES FOR BURNING SOLID EMERY-WHEELS. FRANKLIN B. NORTON, Worcester, Mass. Filed Apr. 26, 1882. (No model.)



Claim.—1. The improvement in the art of burning solid emery wheels, which consists in supporting the wheel by a level bed of quartz-sand upon a tile, enveloping its periphery in such sand, and subjecting it to the kiln-fires within a close protecting casing, substantially as hereinbefore set forth.

2. In an apparatus for burning solid emery-wheels, the rings G, for surrounding and protecting the wheels within the kiln, provided with overlapping joints *g*, adapted for permitting expansion of the ring and contents, substantially as hereinbefore set forth.

3. The tile or bat of refractory brick material, provided with a leveled surfacing of loose quartz-sand, employed as a bed for solid emery-wheels during the process of firing or burning, as set forth.

4. The combination, in an apparatus for burning emery-wheels, of the tiles D, the sectional rings G, and the quartz-sand filling E, as hereinbefore set forth.

5. The method of forming kiln-stands for the burning of solid emery-wheels hereinbefore described—viz., with the saggers C, tiles D, sectional rings G, clay flats *i*, and comminuted-quartz filling E, arranged in the manner shown, and embracing the wheels, substantially as set forth.

6. The combination, with the sectional ring G and comminuted filling material E, of the clay joint-bars J, as and for the purpose set forth.

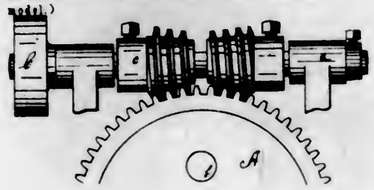
260,891. STRIPED KNIT HOSE-TUBE. JOHN H. OSBORNE, Philadelphia, Pa. Filed Apr. 11, 1882. (No model.)



Claim.—1. Striped knit hose-tubes from which to cut hose, having the defective spots due to the changing of color of the stripes arranged in longitudinal lines on alternate and diametrically-opposite sides, for the purpose of bringing said spots on the back of the hose when cut and preventing waste in cutting the hose from the said tube.

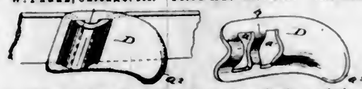
2. A striped knit tube from which to cut hose, which consists of a series of rings of various colors all knit into a continuous tube, and having the defective spots due to the changing of color of said rings arranged in longitudinal lines on alternate and diametrically-opposite sides, and for distances equal to substantially double the length of the hose to be cut from said tube, substantially as set forth.

260,892. WORM-GEAR MACHINERY. SAMUEL OVERTON and EDWARD WELLS, Chicago, Ill. Filed Aug. 13, 1881. (No model.)



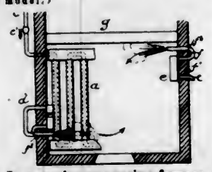
Claim.—The taporing worms *c* and *d*, made separate and attached to the same driving-shaft, and provided with suitable means of adjustment, in combination with the worm-gear A, substantially as shown, and for the purpose herein described.

260,893. ADJUSTABLE CLIP FOR DRIVING-REINS. GEORGE W. PARKS, Chicago, Ill. Filed May 24, 1882. (No model.)



Claim.—An adjustable clip, as described, consisting of the body D, provided with the elongated apertures *a a'*, the division part *b*, and having the outwardly-curved end *a*³, substantially as and for the purpose set forth.

260,894. SMOKE-CONSUMING APPARATUS. SIDNEY PARKES, Chicago, Ill., assignor to Abner W. Morrill and P. S. Morrill, Waterloo, and George H. Watson, Ackley, Iowa. Filed Apr. 3, 1882. (No model.)



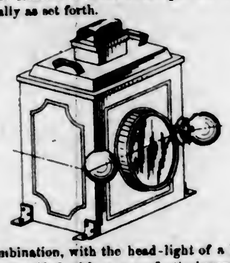
Claim.—1. In a smoke-consuming furnace, the pipe *e*, tubular grates *a*, bridge-wall *g*, and steam-jets *f f*, placed in diagonally-opposite corners of the furnace.

2. In combination with the superheater *b*, the pipe *e*, provided with cock *e'*, tubular grate-bar section, substantially as specified, pipe *d*, and pipes *f f*³ *f*³ and jet *f*, all constructed to operate substantially as specified.

260,895. SIGNAL ATTACHMENT TO LOCOMOTIVE HEAD-LIGHTS. WALTER W. RICHARDS, Philadelphia, Pa. Filed May 13, 1882. (No model.)

Brief.—Globes of different colors may be used.

Claim.—1. A signal for a locomotive head-light of the form of a hollow globe attachable to the head-light and visible from all sides, substantially as set forth.

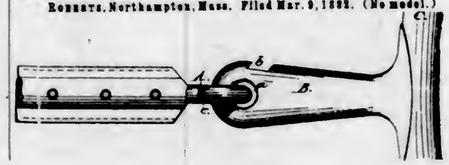


2. The combination, with the head-light of a locomotive, of a hollow globe provided with means of attachment to the front plates or corners of the head-light frame, whereby said globe is illuminated, but does not obstruct or affect the brilliancy of the head-light, substantially as set forth.

3. The combination, with the head-light of a locomotive, of the tubes projecting from the head-light frame, and the transparent globes attached to said tubes, so as to be readily removable therefrom, substantially as set forth.

4. The hollow globe or body provided with a neck, in combination with the head-light, the springs, and screws, substantially as and for the purpose set forth.

260,896. HAME AND TRACE ATTACHMENT. OSMOND O. ROBERTS, Northampton, Mass. Filed Mar. 9, 1882. (No model.)



Claim.—The combination, with a harness-tug and a clip formed with an undivided shank and an open loop, A, of a hame, C, having an extension, B, provided with an eye and a slot, *b*, the latter formed obliquely on the inside of said extension to reduce the same, so that the opening *c* of said loop A may pass over said reduced portion in the act of uniting or separating the tug and hame after each of said parts are completed independently, substantially as and for the purpose set forth.

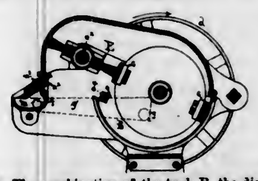
260,897. METHOD OF MAKING CARTRIDGE-CASES. THOMAS C. ROBINSON, Cambridge, Mass., assignor of five-eighths to E. Baker Welch, same place, and Lemuel P. Jenks, Boston, Mass. Filed Feb. 28, 1881. (No model.)



Claim.—The within-described mode of manufacturing cartridge-cases, the same consisting in subjecting a flat sheet of metal already coated with tin to the action of dies, whereby it is drawn into a case of the desired shape, in the manner set forth.

260,898. WOOL-OILING MACHINE. FREDERICK G. SARGENT and ALLAN C. SARGENT, Granitoville, Mass. Filed Oct. 21, 1881. (No model.)

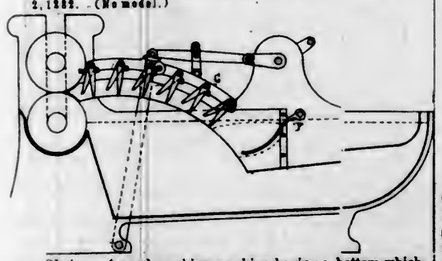
Brief.—Oil is carried up from the tank by distributing-bars secured to disks on a rotating shaft, and thrown therefrom, in the form of spray, by contact with a brush rotating upon a shaft placed on a line parallel with and slightly above that by which the said bars are carried. A plate is attached to a rock-shaft, and so adjusted as to be capable of being brought as close to the path of the revolving bars as desired, and is designed to remove from said bars any surplus oil or grease that may adhere thereto. Another plate, secured to the machine, removes from the revolving brush any surplus oil that may remain therein after its contact with the distributing-bars.



Claim.—1. The combination of the tank B, the distributing-cylinder provided with the bars *c*, and scraper *o* with the brush E, substantially as described.

2. The combination of the tank B and brush E with the plate *n*, trough *m*, and trough *s*, substantially as described.

260,899. WOOL-WASHING MACHINE. FREDERICK G. SARGENT and ALLAN C. SARGENT, Granitoville, Mass. Filed Mar. 2, 1882. (No model.)



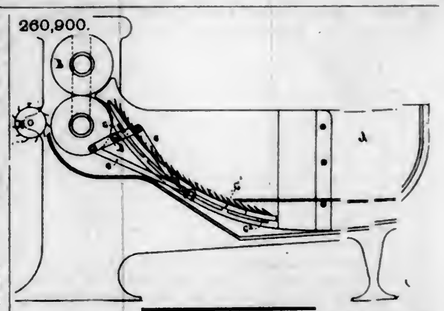
Claim.—A wool-washing machine having a bottom which has a downward inclination from the place the wool is fed into it to the point where it is taken by the carrier, whereby it is adapted to feed the wool forward to the carrier by gravity alone, substantially as described.

260,900. WOOL-WASHING MACHINE. FREDERICK G. SARGENT and ALLAN C. SARGENT, Granitoville, Mass. Filed Jan. 9, 1882. (No model.)

Claim.—1. The combination of the bowl A with the concavely-curved carrier-strips C C', adapted to move in the arc of a circle, substantially as described.

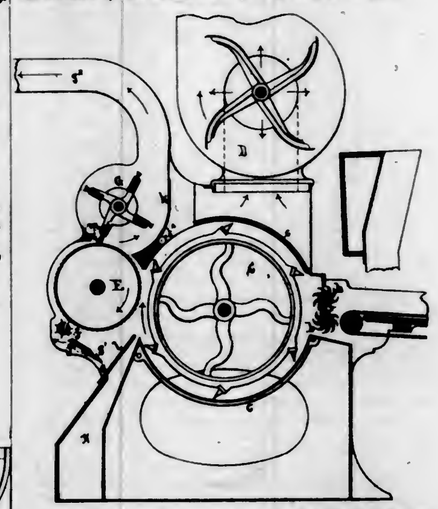
2. The combination of the bowl A and concavely-curved toothed carrying-strips C C' with the false bottom G, which overlaps the lower ends of the strips C C', substantially as described.

260,900.



260,901. BURRING-MACHINE. FREDERICK G. SARGENT and ALLAN C. SARGENT, Granitoville, Mass. Filed May 27, 1881. (No model.)

Brief.—A dead-air chamber having a grated inclined top is provided at the rear of the machine, into which the burrs or heavier particles of foreign matter are deposited after being knocked by the guard-cylinder from the wool held by the burring-cylinder. The rear wall of the chamber in which the brush-doffer operates is grated, and back of this grating another dead-air chamber is arranged, into which the lighter particles of the burrs or shives fall when the wool is thrown against the grating by the action of the brush-doffer. The guide-board below the burring-cylinder is made adjustable, by which the opening through which air is drawn into the machine by the exhaust-fan may be made larger or smaller.



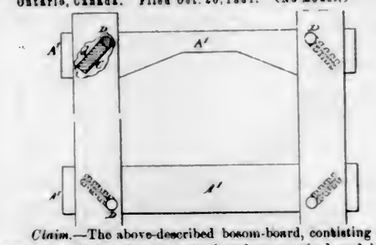
Claim.—1. The combination of a picker-cylinder, an exhaust-fan, a guard-cylinder, and a burring-cylinder with a dead-air chamber, substantially as described—that is to say, so that the light substances knocked from the burring-cylinder will pass over the openings into the dead-air chamber as they are drawn back into the machine by the inrushing current of air created by the fan.

2. The combination of the exhaust-fan D, the picker-cylinder C, the burring-cylinder E, and the guard-cylinder *f* with the guide-board *f*⁵ and dead-air chamber H, provided with an inclined grated back against which substances falling onto the guide-board are directed, substantially as described.

3. The combination of the exhaust-fan D, the picker-cylinder C, the burring-cylinder E, the guard-cylinder *f*, and the dead-air chamber H, provided with a grated rear wall, with the guide-board *f*⁵, provided with the adjustable slide-board *g*, substantially as described.

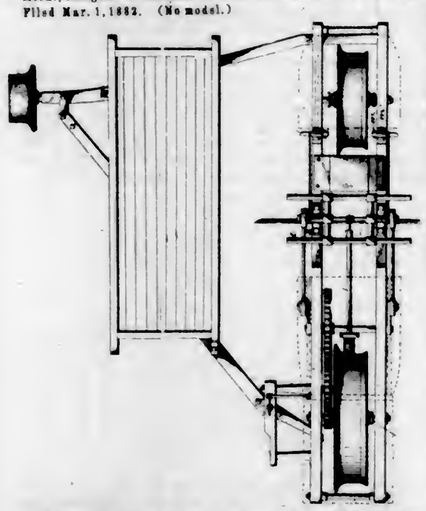
4. The combination of the picker-cylinder C and the burring-cylinder E with the doffer-fan cylinder G, provided with a grated case, behind which is placed a dead-air chamber, substantially as described.

260,902. IRONING-BOARD. GEORGE A. SCHRAM, St. Thomas, Ontario, Canada. Filed Oct. 20, 1881. (No model.)



Claim.—The above-described bosom-board, consisting of the central board, the side bars, A, slotted or mortised, and having pins D, and the end bars, A', provided with obliqne slots or grooves *d* and springs *c*, as and for the purpose specified.

260,903. HAND-CAR. GEORGE S. SHEFFIELD, Three Rivers, Mich., assignor of one-half to WARREN J. WILLITS, same place. Filed Mar. 1, 1882. (No model.)



Claim.—1. In a hand-car or railway-velocipede, the combination, with the driving-wheel and gearing for propelling the car, of an operating-lever provided with two parallel handles at its upper end, and with laterally-projecting foot-rests secured to its lower end, substantially as and for the purpose set forth.

2. In a hand-car or railway-velocipede, the combination, with the operating-lever, of a brake-lever secured thereto and provided with a brake rod and shoe, substantially as set forth.

3. In a hand-car or railway-velocipede, the combination, with the truck, of a laterally-projecting arm adjustably secured in bearings on the truck and carrying a guide-wheel, a diagonal brace secured to said arm and to the truck, and a tool-box or other receptacle adapted to be supported upon said arm and brace, substantially as set forth.

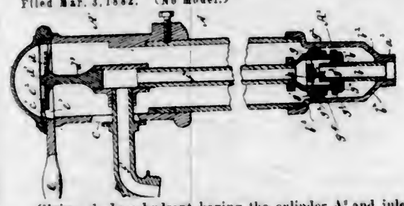
4. In a hand-car or railway-velocipede, the combination, with the truck and a laterally-projecting arm secured at one end to the truck and carrying a guide-wheel at its opposite end, of a diagonal brace secured at one end to said arm and at its opposite end to a frame projecting laterally from the truck, and a tool-box or other receptacle adapted to be supported upon said arm and brace, substantially as set forth.

5. In a hand-car or railway-velocipede, the combination, with the truck, of a crank-shaft and suitable gear, a lever provided with double handles, pitmen arranged on either side of said lever, and pendent arms pivoted to the forward end of the car and connected by pitmen to the operating-lever, substantially as set forth.

6. In a hand-car, the combination, with an operating-lever provided with two parallel handles at its upper end and with foot-rests at its lower end, of two seats arranged on opposite sides of the operating-lever and in close proximity thereto, substantially as and for the purpose set forth.

7. In a railway hand-truck or velocipede, the combination, with the main frame, of a laterally-projecting frame projecting inwardly from said main frame for the support of the diagonal brace to the lateral arm.

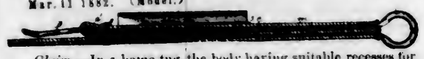
260,904. HYDRANT. GEORGE SHELLEY, Wilkes-Barré, Pa. Filed Mar. 3, 1882. (No model.)



Claim.—1. In a hydrant having the cylinder A^2 and inlet-pipe *b*, the combination, with the plunger *g*, having the annular shoulder *g'* and threaded extension, of the jam-nut g^3, nut g^4, annular washer g^5, and cup-washer g^2, substantially as and for the purposes set forth.

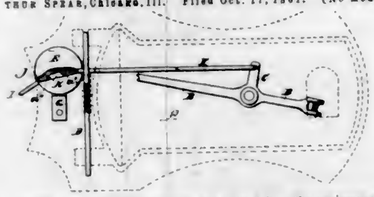
2. The combination, with the plate or disk *d*, connected with the discharge-pipe, and provided in its sides with inclined slots d^2, of the inclined threads e^2, fitted within the circle *e'*, rigidly connected to the handle *e*, substantially as set forth.

260,905. HAME-TUG. THOMAS A. SIMMONS, Kalamazoo, Mich., assignor of one-half to William Wagner, same place. Filed Mar. 11 1882. (Model.)



Claim.—In a hame-tug, the body having suitable recesses for the reception of the extended arms of the detachable draft-iron, the detachable buckle and its connecting-strap, provided with a recess to receive the end of the draft-iron arm, and the detachable loop, all secured in proper position by the rivet, substantially as described and shown.

260,906. FEED MECHANISM FOR SEWING-MACHINES. ARTHUR SPEAR, Chicago, Ill. Filed Oct. 17, 1881. (No model.)



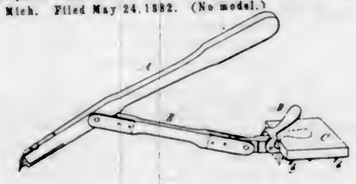
Claim.—1. The combination of the feed-bar, the reciprocating rod F, and the cam E, the latter having therein the cam-groove J, in the bottom of which is the cam-projection K, substantially as and for the purposes specified.

2. The combination of the feed-bar, the reciprocating rod F, and the adjustable cam E, having in its working-face the cam-groove J, containing the cam-projection K, substantially as and for the purposes specified.

3. The combination of the feed-bar, the reciprocating rod F, the vibrating arm C, pivoted to the said rod, and the cam E, containing in its working-face the cam-projection K, arranged in the bottom of a cam-groove in the said face, substantially as and for the purposes specified.

4. The combination of the feed-bar, the reciprocating rod F, and the adjustable cam E, the latter having thereon the arm or handle I and containing the cam-groove J, having therein the cam-projection K, substantially as and for the purposes specified.

260,907. CARPET-STRETCHER. SETH J. SPITLER, Greenville, Mich. Filed May 24, 1882. (No model.)



Claim.—A carpet-stretcher consisting of the lever A, provided with the hook or hooks *a*, connecting-bar B, and plate C, provided with spurs *b* and dog D, substantially as and for the purposes set forth.

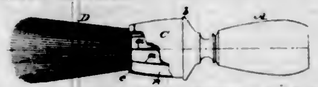
260,908. DEVICE FOR ATTACHING PLATES TO STOVES. EDWARD F. STAADE, Royer's Ford, Pa., assignor of one-third to William S. Easick, same place. Filed Apr. 13, 1882. (No model.)



Claim.—1. Stove-door A, having opening *a* and reversely-inclined lugs C C, the latter being formed on the back of the door, at the sides of said opening, in combination with plate B and a double-headed pin, D, passed through said door and plate, one head of said pin bearing against said inclined lugs and the other head bearing against the outside of said plate, as set forth.

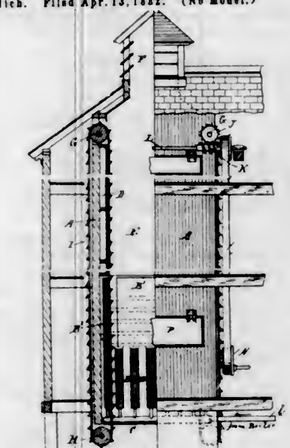
2. The stove provided with an oblong opening and the reversely-inclined lugs, in combination with the plate B, having a circular opening, and the double-headed pin D, the inner head of said pin being a flat T and the shank thereof being circular or cylindrical, substantially as and for the purpose set forth.

260,909. BRUSH. JOHN SULLIVAN, Philadelphia, Pa. Filed Mar. 3, 1882. (No model.)



Claim.—The wooden handle A, cylindrical socket B, integral with the handle, having splits *a* and bead *b*, and the ferrule C, having an inwardly-projecting flange, *c*, combined and operating substantially as and for the purposes set forth.

260,910. FRUIT-EVAPORATOR. JAMES M. TEASDALE, Howell, Mich. Filed Apr. 13, 1882. (No model.)



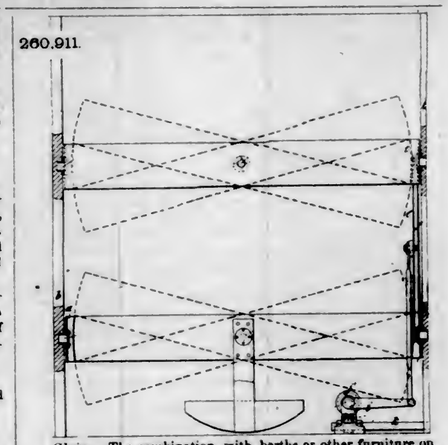
Claim.—1. The combination, with the shaft A, of the endless slatted belts I and a series of steam-heaters, B B', the heaters B' at the sides of the shaft extending above the center heaters, B, substantially as described.

2. The combination, with the shaft A, of the endless slatted belts I and a series of steam-heaters, B B', the outer heaters, B', extending around the interior of the shaft and above the central heaters, B, and the furring D, for making the shaft of equal inner diameter with the heaters B', substantially as described.

3. The combination, with the shaft A, of the endless slatted belts I, the steam-heaters B B', the shafts G, H, and L, gears on the ends of the shafts G, and worms K on the shaft L, substantially as described, and for the purpose specified.

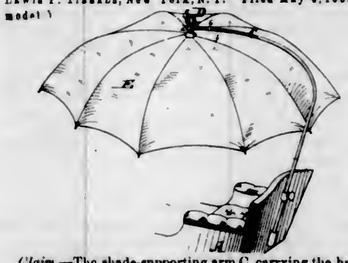
260,911. SELF-LEVELING BERTH. JOHN C. THOMPSON, Brooklyn, N.Y. Filed Sept. 2, 1881. (No model.) Patented in England Aug. 8, 1881, No. 3,458; in Belgium Sept. 15, 1881, No. 55,548; in France Nov. 2, 1881, No. 144,527, and in Germany Mar. 10, 1882, No. 17,215.

260,911.



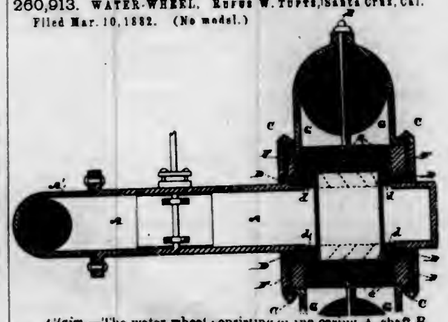
Claim.—The combination, with berths or other furniture on board ship, of worms or screws connected by suitable intermediate mechanism or attachments with the respective berths or series of berths, and working in worm-wheels or nuts on connecting-shafts, substantially as described, thereby preventing the independent movement of the berths or series of berths, while permitting their free simultaneous movement under the influence of gravity.

260,912. SHADE-HOLDER FOR CHILDREN'S CARRIAGES. LEWIS P. TIBBALS, New York, N.Y. Filed May 4, 1882. (No model.)



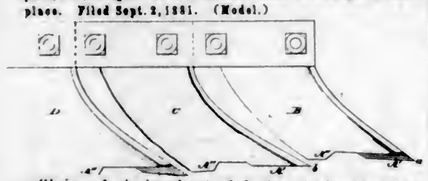
Claim.—The shade-supporting arm C, carrying the half-jaw *e*, in combination with the horizontally-movable jaw-piece F, pivoted to the shank of the jaw *e*, and having the other half-jaw, *d*, and with the ring G, the shanks of the jaws being tapering, and all arranged to constitute a means of holding the shade E suspended and allowing its removal in line with the arm C, substantially as described.

260,913. WATER-WHEEL. RUFUS W. TUPTS, Santa Cruz, Cal. Filed Mar. 10, 1882. (No model.)



Claim.—The water-wheel consisting of the casing A, shaft B, and rims D, having inclined flanges *d*, in combination with the water-wheels E, rigidly secured upon shaft B, and provided with curved inclined buckets *e*, rims F, the discharges G, and the bolts C, all arranged and constructed substantially as described, and for the purpose set forth.

260,914. ICE-PLOW TOOTH. WILLIAM F. VERRIER, Philadelphia, Pa., assignor to the Knickerbocker Ice Company, same place. Filed Sept. 2, 1881. (Model.)

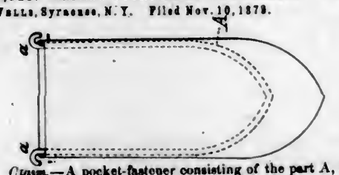


Claim.—1. An ice-plow tooth having a V-shaped cutting-point, and a V-shaped shoe which extends rearward from said cutting-point on the bottom of the tooth, substantially as and for the purpose set forth.

2. An ice-plow tooth having a V-shaped point, a V-shaped shoe, and a heel, substantially as and for the purpose set forth.

3. The tooth B, with a V-shaped point, a V-shaped shoe, and a heel, the tooth C, with a shoe and heel, and the tooth D, with a V-shaped point, a V-shaped shoe, and a heel, combined as described, said teeth increasing in depth in their order, for the purpose set forth.

260,915. SAFETY ATTACHEMENT FOR POCKETS. JAMES W. WELLS, Syracuse, N. Y. Filed Nov. 10, 1879.



Claim.—A pocket-fastener consisting of the part A, adapted to fit and distend the sides of the pocket, substantially as specified, and having the bent portions *a*, as and for the purposes described.

260,916. INSECTICIDE. JOHN H. WHEELER, Macy, assignor of one-half to R. W. Carr, Brazos County, Tex. Filed Dec. 22, 1881. (No specimens.)

Claim.—The herein-described composition of matter for destroying weevils, rats, or mice in corn-cribs, the same consisting of flowers of sulphur, ground sassafras-bark, and ground Cayenne pepper, mixed with water in the proportions specified, to form a thin paste.

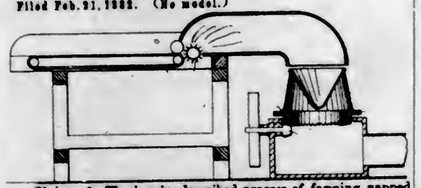
260,917. WAGON-JACK. ALVIN N. WOODARD, Millington, Mich. Filed May 10, 1882. (No model.)



Claim.—1. The combination of the base A and standard B thereof, the vertically-adjustable rack-bar C and bar F, the approximating ends of which are secured together and operated by the lever E, which is provided with a suitable head and stop-shoulder, *e*, substantially as and for the purposes set forth.

2. The combination of the base A and standard B thereof, the bars C F, lever E, and dog D, constructed, arranged, and operating substantially as and for the purpose specified.

260,918. METHOD OF AND APPARATUS FOR FORMING AND STICKING MAPPING-BATS. GEORGE YULE, Newark, N. J., and GILBS ATHERTON, Stockport, County of Chester, England. Filed Feb. 21, 1882. (No model.)



Claim.—1. The herein-described process of forming napped hats, consisting of forming the napping-bat within a hollow cone, and in sticking the hat-body to the napping-bat while in the cone.

2. The method herein described for sticking a hat-body to a nap-bat, consisting, first, in forming the nap-bat in the inside of a hollow perforated cone; second, in placing the hat-body in contact with the nap-bat inside the cone, and, third, in subjecting the hat-body and bat to a vibrating, rubbing, or rolling action before removal from the cone, as and for the purpose set forth.

3. In sticking the hat-body to a nap-bat formed inside a hollow cone before removal from the cone, and subjecting the tip to a subsequent hardening or sticking treatment by suitable mechanism, substantially as and for the purpose set forth.

4. The combination, in a conical rubber operating inside a hollow cone, as and for the purpose set forth, of two or more sectional parts vibrated or otherwise operated at different strokes or velocities, substantially as herein described.

5. The mechanism for operating the sectional parts of a conical rubber, consisting in the concentric shafts provided with crank-arms of different radii, the arms being operated by the same vibrating connecting-rod, substantially as shown and described.

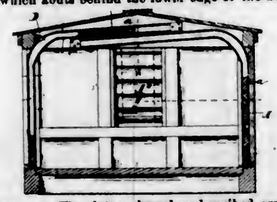
6. In combination with a hollow forming-cone operated as described, a rubbing-cone having a yielding surface adapted to conform to the hat-body inside the forming-cone, and vibrated or rotated within the hat-body while in the cone, substantially as and for the purpose described.

260,919. STOCK FOR SPRING-KEYS. JOHN ADT, New Haven, Conn. Filed Mar. 17, 1882. (No model.)

Claim.—As an article of manufacture, half-round wire for the manufacture of spring-keys, having the grooves *a* formed in its semi-cylindrical surface corresponding to the shape required for the ends of the keys, substantially as described.

260,920. RAILWAY-CAR. ARNO B. ALLEN, Farmington, Iowa. Filed Apr. 2, 1881. (No model.)

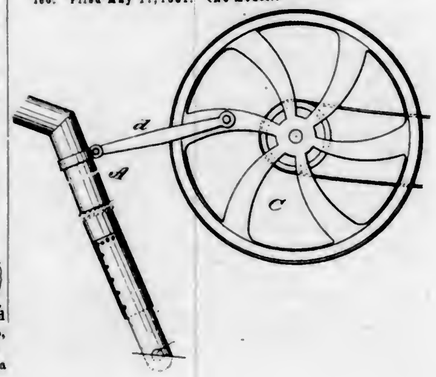
Brief.—Forms a flexible sliding door of slats arranged edge to edge, each slat being saliently curved on its upper and re-entrantly curved on its lower edge. The slats are united by flexible bands passing through perforations at right angles to their breadth and thickness. The door is held open by a hinged catch having a heel which abuts behind the lower edge of the door.



Claim.—1. The slats *a*, shaped as described, arranged edge to edge, and provided with perforations at right angles to their length and thickness, arranged to form a continuous passage, in combination with the flexible bands *b*, extending through the passage, substantially as and for the purpose described.

2. In a railway-car, the hinged catch D, arranged as described, in combination with the flexible sliding door, substantially as and for the purpose described.

260,921. PUMP. NESTOR R. ALPUCHE, Merida, Yucatan, Mexico. Filed May 17, 1881. (No model.)

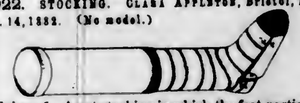


Claim.—1. The combination, with a tube having an unobstructed bore, and pivoted at its lower end in a water-reservoir, of mechanism, substantially as described, whereby a rapid vibratory motion is imparted to the tube, and the water raised therein by centrifugal action, substantially as set forth.

2. The combination, with the crank-wheel C and pitman *d*, of the tube A, having an unobstructed bore, and provided with the pivots *a a* at its lower end, and step-block B, substantially as described, and for the purpose set forth.

3. The combination, with the crank-wheel C and pitman *d*, of the tube A, having an unobstructed bore, and provided with the valve *e* and pivots *a a*, and step-block B, substantially as described, and for the purpose set forth.

260,922. STOCKING. CLARA APPLETON, Bristol, Pa. Filed Feb. 14, 1882. (No model.)

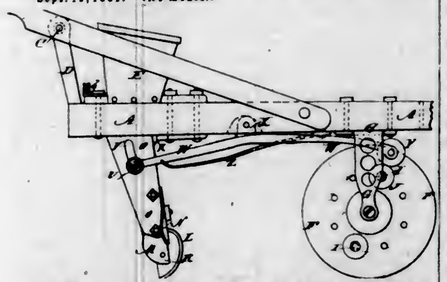


Claim.—1. A cut stocking in which the foot portion *b* is combined with a supplementary strip, *b'*, united to the foot at the edge *z*, adapted to form a lining for the toe and sole, and united to the heel of the stocking with said sole, all substantially as specified.

2. The mode herein described of forming a double heel on a cut stocking, said mode consisting in cutting the heel *a* with a surplus portion, *a'*, folding said surplus portion up onto the heel, and uniting it thereto at the upper edge, *z*, as set forth.

3. The mode herein described of forming a double toe and sole on a cut stocking, said mode consisting in cutting the foot *b* with a surplus portion, *b'*, adapted to form said toe and sole, folding said surplus portion over the foot, and uniting its edge *z* thereto, as set forth.

260,923. SEED-PLANTER. HENRY C. AUSTIN, Louisa, Ky., assignor to himself and William H. Moore, same place. Filed Sept. 19, 1881. (No model.)



Claim.—1. In a seed-planter, the combination, with the beam A, the hopper E, the slotted conductor-spout O, and the wheel F, having pins I, of the seed-dropping slides P, the sliding bar T, the pivoted lever W, and the spring Z, substantially as herein shown and described, whereby the seed will be removed from the hopper in uniform quantities and dropped to the ground at equal distances apart, as set forth.

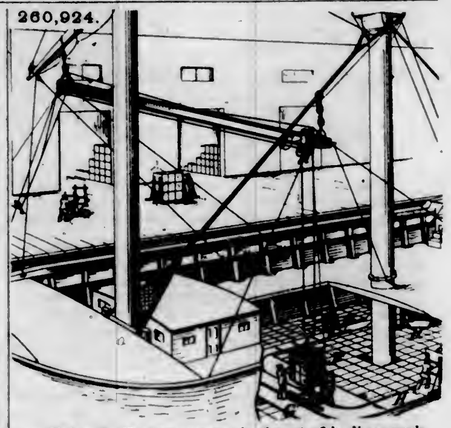
2. In a seed-planter, the combination, with the hopper E, the seed-spout O, and the operating mechanism, of the vertically-reciprocating seed-slides provided with seed-cups R in their sides, and the slotted plates S, placed in the said cups, substantially as and for the purpose set forth.

3. In a seed-planter, the combination, with the spout O, provided with slot V, the seed-slides P, and the drive-wheel F, provided with pins I, of the forked bar T, the lever W, and the pin U, substantially as and for the purpose set forth.

4. In a seed-planter, the combination, with the slotted spout O, the seed-slides P, and the drive-wheel F, provided with pins Q, of the forked bar T, the lever W, the pin U, and the bar *a*, hinged to the lower end of the said forked bar, substantially as and for the purpose set forth.

5. In a seed-planter, the combination, with the hopper E and the seed-slides P, provided with seed-cups R, of the rods *b* and the plates C, attached to the inner ends of the said rods, substantially as shown and described, whereby the cups of the seed-slides are adapted to be closed by turning the said rods, as set forth.

260,924. DEVICE FOR LOADING AND UNLOADING VESSELS. GIAMPAOLO BACCI, Philadelphia, Pa. Filed June 2, 1882. (Model.)



Claim.—1. The improvement in the art of loading vessels, which consists in the following successive steps, to wit: simultaneously transferring a determined number of cases or packages from a place of storage to a lifter, elevating said lifter and its load to a carriage traveling upon a track suspended above the deck of a vessel, releasing the lifter and its load from the carriage and lowering them together into the hold of the vessel, and delivering the load from the lifter to a stowage-truck, substantially as set forth.

2. The combination of a delivery-truck, a lifter, an elevating device, a suspended track-beam, a carriage adapted to travel thereon, mechanism for engaging and disengaging the lifter and carriage, and a stowage-truck, substantially as set forth.

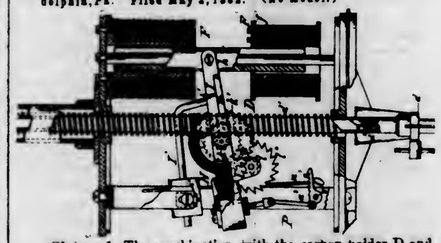
3. The combination of a lifter having swinging frames, as described, a hoisting-rope, a suspended track-beam, a carriage adapted to travel thereon, and mechanism for engaging and disengaging the lifter and carriage, substantially as set forth.

4. The combination of a lifter having swinging frames which support a load of cases or packages, and a stowage-truck having standards which release the lifter from the load, substantially as set forth.

5. The combination of a delivery-truck having movable clamping standards to receive a series of cases or packages, and a lifter having swinging frames adapted to embrace and simultaneously remove said series from the truck, substantially as set forth.

6. The combination of a suspended track-beam, a carriage adapted to travel thereon, elevating mechanism, and a stowage-truck traveling upon a portable track located in the hold of a vessel, substantially as set forth.

260,925. ELECTRIC-ARC LAMP. CHARLES E. BALL, Philadelphia, Pa. Filed May 2, 1882. (No model.)



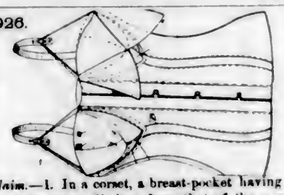
Claim.—1. The combination, with the carbon-holder D and tilting frame I, carrying a lever or fan, F, of the pivoted dog O, having an adjustable link-connection, P, substantially as shown and described.

2. The carbon-holder D, having a spiral thread or worm, *d'*, in combination with pinion *k*, substantially as shown and described.

3. The hollow carbon-holder D, in combination with pellet regulating-weights *d''*, substantially as described.

260,926. NURSING-CORSET. THOMAS H. BALL, Chicago, Ill., assignor to Ball, Proudlaner & Co., same place. Filed Jan. 26, 1882. (Model.)

260,926.



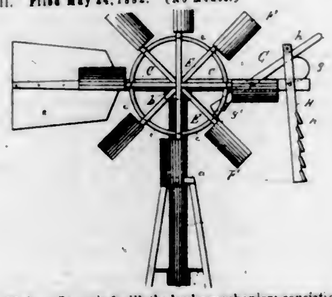
Claim.—1. In a corset, a breast-pocket having near its middle part a curvature distinct from that of the corset-body, and adapted to render a horizontal support to the breast, substantially as described.

2. In a corset, a breast-pocket having near its middle part a curvature distinct from that of the corset-body, and nearly horizontal in direction, in combination with supporting-straps attached at or near its sides, and connecting it over the shoulder with the back of the corset, substantially as and for the purpose described.

3. In a corset, a breast-pocket consisting of a lower part adapted to support the breast and an upper part composed of flaps F and G, of generally triangular form, and each having two free sides, substantially as and for the purpose described.

4. The lower part of the breast-pocket, composed of the spherically-triangular sections A, substantially as and for the purpose described.

260,927. WINDMILL. JOSHUA W. BARBER, Lenox Station, Ill. Filed May 24, 1882. (No model.)



Claim.—In a windmill, the brake mechanism consisting of the lever G, journaled in the frame-bars C, and provided with a foot-piece, *g'*, on its inner end, adapted to press against the bands *c* of the rods E, whereby the revolutions of the fans F and shaft D are decreased, of the vertical brake H, journaled between the outer ends of the frame C, and provided with slots *h'* upon its lower portion, and having its upper end slotted and adapted to receive the lever G, which is retained therein by the anti-friction pulley *h*, and of the spring *g*, arranged between the lever G and the frame-bars C, all arranged and combined substantially as shown and described.

260,928. EYEGLASS AND SPECTACLES COMBINED. GEORGE BACUS, Syracuse, N. Y. Filed Mar. 2, 1882. (No model.)

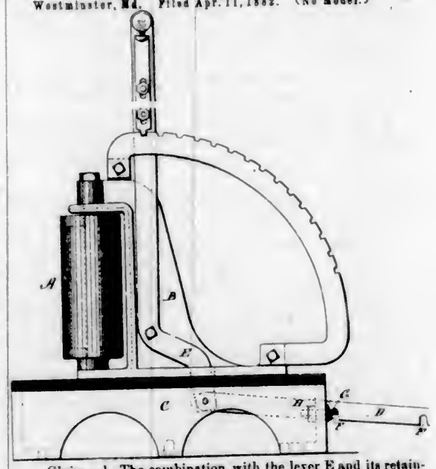


Claim.—1. The combination, with spring-connected lenses or eyeglasses, of two supporting-arms flexibly connected to the outer portion thereof and adapted to fold over onto the eyeglasses, and curved so as to correspond to the outline of the edges thereof and to pass around them when the glasses are folded, substantially as and for the purpose described.

2. The combination, with the eyeglass-frame *a b*, of the apertures *c*, between the lens and the spring *b*, and the supporting-arm *d*, hinged to the outer portion of said frame and formed to correspond to the outline of the upper edge of the adjacent lens and to terminate in the aperture *c*, substantially as described and shown.

3. The eyeglass and spectacles combined, consisting of the lens-frames *a a*, united by the spring *b*, and provided respectively with the apertures *c* at their junction with said spring, the arms *d d*, hinged to the outer portions of the lens-frames and formed to correspond with the outline of the upper edge of their adjacent lens and to terminate at the aperture *c*, and the spring-pad *s*, connected to the free end of the arm *d*, all constructed and combined substantially in the manner described and shown.

260,929. ROLLER-GAGE FOR SAW-MILLS. ROBERT M. BOOT, Westminster, Md. Filed Apr. 11, 1882. (No model.)



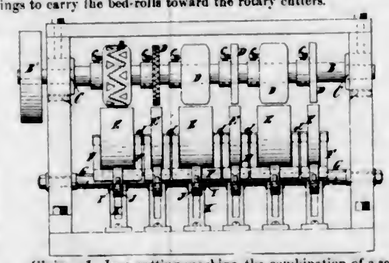
Claim.—1. The combination, with the lever E and its retaining-segment, the bracket B, carrying the roller-gage, and the bed-piece C, of the bar D, pivoted to the lever and having a series of recesses, F, for forming an adjustable connection with the bed-piece, substantially as shown and described.

2. The combination, with the lever E and its retaining-segment, the bracket B, carrying the roller-gage, and the bed-piece C, of the bar D, having recesses, as described, and the retaining-support G, secured to the bed-piece and adapted to serve as a compensating device, substantially as and for the purpose specified.

3. The combination, with the lever E, having a double elbow at its lower end and pivoted to the sliding bracket, of the quadrantal segment J, secured to the sliding bracket and extending from a horizontal to a vertical plane, substantially as shown and described, whereby the relative position of the lever and its retaining-segment shall remain unchanged when the bar D is moved from one adjustment to another, as specified.

260,930. MACHINE FOR CUTTING FELT, &c., INTO STRIPS. JOB W. BLACKMAN, Brooklyn, N. Y. Filed May 26, 1882. (No model.)

Brief.—A series of rotary cutters or knives are upon the shaft. Opposite to the knives are arranged bed-rollers. There are several bearings for the several bed-rollers, which are self-adjusting independently of each other. Springs or weights act upon the bearings to carry the bed-rolls toward the rotary cutters.



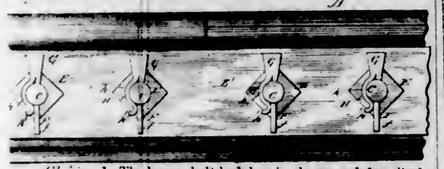
Claim.—1. In a cutting-machine, the combination of a series of rotary cutters or knives and oppositely-arranged bed-rolls, separate and independent bearings for said rolls, and separate springs or weights applied to the several bearings, substantially as and for the purpose herein described.

2. The combination, with the shaft B and knives or cutters D thereon, of the several bed-rolls, E, separate and independent bearings for said rolls, and separate springs or weights applied to the several bearings, substantially as and for the purpose herein described.

3. The combination, with the shaft B and cutters D, of the bed-rolls E, bearings F, fulcrum G, levers I, and weights J, substantially as and for the purpose herein described.

260,931. NUT-LOCK. ANSON R. BLOOMER, Yorkville, Ohio. Filed Apr. 15, 1882. (No model.)

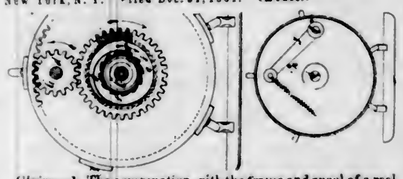
Brief.—Fish-plates that connect adjoining rails are secured by means of slotted bolts adapted to receive a wedge-shaped locking-key, one part of which fits into the slot of the bolt and the other part formed in an S-shaped spring-arm embracing one side of the bolt and bearing against yielding washers.



Claim.—1. The key or bolt-lock herein shown and described, the same consisting of the flat wedge F, head G, and clamp or part H, bent at its lower end into an S shape to form the rounded parts *k* and *k'*, all made in one piece, substantially as and for the purpose shown and set forth.

2. The combination of the railway-rails A A, fish-plates B and B', bolts C, having slots *a* at their outer ends, elastic or cushioned washers D, iron washers E, and keys or bolt-locks composed of the parts F, G, and H, constructed and arranged to operate substantially in the manner and for the purpose herein shown and described

260,932. FISHING-REEL. JAMES B. D'A. BOULTON, Jersey City, N. J., assignor to William Mills and Thomas Bate Mills, New York, N. Y. Filed Dec. 31, 1881. (Model.)



Claim.—1. The combination, with the frame and spool of a reel, of a non-rotary internally-toothed ring, the spur-wheel upon the spool, and a pinion engaging with said ring and wheel and adapted to be revolved around said wheel and between it and said ring and rotated on its axis by engagement with said ring, substantially as and for the purpose described.

2. The combination, with the frame and spool of a reel, of a non-rotary internally-toothed ring attached to the frame, a spur-wheel upon the spool, a rotary handle-plate, and a pinion pivoted to the handle-plate and engaging with said wheel and toothed ring and adapted to be revolved around said wheel, and at the same time rotated on its axis by reason of its engagement with said ring, substantially as described.

3. The combination, with the spool of a multiplying-reel and a handle geared therewith to rotate slower than said spool, of a ratchet-wheel, a coiled spring having an attached pawl or tooth engaging with said ratchet-wheel, and a friction-box containing said spring, the said box, spring, pawl, and ratchet-wheel being interposed between said spool and handle, and the whole being and operating substantially as described.

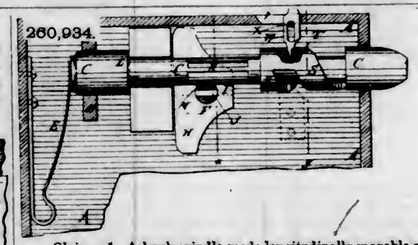
4. The combination, with the spool of a multiplying-reel, of a wheel adapted to rotate therewith and having in it a friction-box, a ratchet-wheel adapted to rotate in the same direction, but at a slower speed than said spool, and a spring coiled in said friction-box, and having at its inner end a pawl or tooth for engaging with said ratchet-wheel, substantially as described.

260,933. SIGNAL-LIGHT. MICHAEL BRADSILL, Hartford, Conn. Filed May 9, 1882. (Model.)



Claim.—In a signal-light, the combination of the rectangular frame provided with ways or guides and a hook, *k*, a colored-glass plate, H, a spring-holder therefor, a sliding shield, F, and retaining-spring therefor, all constructed and arranged substantially in the manner and for the purposes specified.

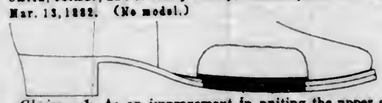
260,934. LATCH. JOHN BROWDER, Evansville, Ind. Filed Oct. 27, 1881. (Model.)



Claim.—1. A knob-spindle made longitudinally movable and provided with the teeth M, in combination with a latch, C, having the teeth N, and adapted to be retracted as it is turned by means substantially as described, whereby the latch may be unfastened by simply pulling or pushing the knob-spindle.

2. The combination, with a fixed stop, R, of a latch, C, adapted to be turned, and having a spiral shoulder, S, to work against the pin, as and for the purpose specified.

260,935. MANUFACTURE OF BOOTS AND SHOES. EDWARD H. BUCKLEY, Philadelphia, assignor of two-thirds to Joseph S. Smith, Colmar, and J. Henry Radey, Philadelphia, Pa. Filed Mar. 13, 1882. (No model.)



Claim.—1. As an improvement in uniting the upper and soles of a boot or shoe, the method herein described, which consists in channeling the outer sole, perforating the parts to be united, driving staples through said parts, embedding the heads of the staples in the prepared channel, clinching the ends of the said staples within the shoe, and finally covering the embedded heads of the same, all substantially as set forth.

2. That improvement in the art of uniting the upper and soles of boots and shoes which consists in channeling separate portions of the outer sole-surface of suitable length to receive the staple-head, perforating the parts to be united, driving the staples through the parts from the outside, embedding the heads in such prepared channels, and clinching the staple ends upon the insole, substantially as set forth.

260,936. WATER-GATE. CORNELIUS CALLAHAN, Chelsea, Mass. Filed Feb. 16, 1882. (No model.)



Claim.—1. The gate and its actuating-screw and the case or shell having a threaded opening at one side of it of greater diameter than the diameter of the said gate, combined with the screw-threaded collar *c*, provided with the packing 3, to close the said opening and retain the gate in working position, substantially as described.

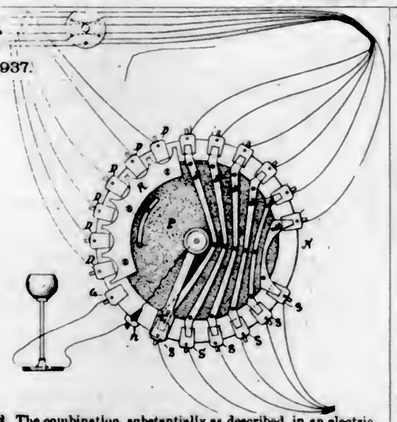
2. The shell or case *d*, the gate *a*, and the screw *c*, provided with the collar c^2, combined with the packing c^4, which wholly supports the said collar, and with the nut *m* and check-nut *n*, to operate substantially as described.

260,937. SWITCH FOR ELECTRIC-LIGHT SYSTEMS. WILLARD L. CANDEE, Brooklyn, N. Y. Filed May 3, 1882. (No model.)

Brief.—The invention relates to a hand-switch for cutting a chandelier out of circuit and simultaneously substituting therefor a drop or stand light, and vice versa. Arrangements made for one or more chandeliers in circuit.

Claim.—1. The combination, substantially as described, of two or more circuit-wires, a chandelier included in said circuits, a switch-plate or connector for completing the connection between the chandelier and the wire or wires forming the continuation of the circuit, switch contact points or studs connected to the various wires, and a circuit-closer for completing the circuit between said contact-points and a contact-point forming one terminal of a branch wire containing a single light.

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2. The combination, substantially as described, in an electric-light system employing a number of general-circuit wires that are used in turn, of a branch wire from each general circuit to a contact point or surface of a switch, and a conducting plate or spring arranged in the manner described, to bridge all of said contact-plates simultaneously with a contact-plate or point connected to a wire leading to a drop-light.

3. The combination, substantially as described, of a chandelier containing several electric lights or candles, each fed by an independent circuit-wire, a drop or stand light connected to a branch wire, contact plates, points, or studs forming the independent terminals of branch wires from the general circuits, a circuit-closer for completing the circuit between said plates, points, or studs and the drop-light, a circuit closer and breaker for breaking and closing the general circuits or their common return-wire, and means for simultaneously operating said circuit closing and breaking devices, as described.

4. The combination, substantially as described, of two or more general-circuit wires, including a chandelier, a branch wire containing a drop-light or stand-light, and means, as described, for simultaneously connecting all of said general-circuit wires to the drop-light and breaking the general-circuit wires around the drop-light containing the chandelier.

5. The combination, substantially as described, of the base-block and the contact-plate D, let into the edge of the block flush with the top surface, and formed at its portion projecting laterally from the block into a binding-post.

6. The combination, substantially as described, of an electric-light chandelier, two or more general-circuit wires, a switch interposed in said circuit-wires, contact points, plates, or studs connected to said circuits on either side of the switch, and circuit-closing springs *d*, mounted upon a common supp . t and adapted to complete said circuits at the same time.

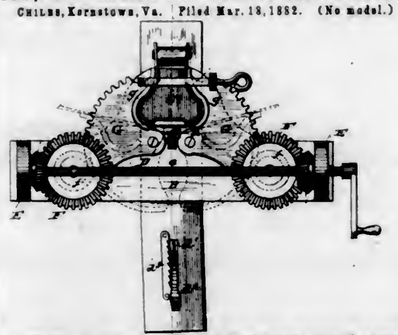
7. The combination, substantially as described, of a base-block of insulating material, contact plates or studs, each connected to one of several circuit-wires leading to an electric-light chandelier, and a circuit-closing plate constructed as described, and adapted to rest upon all of said contact plates or studs at once and upon a contact plate or stud connected to a stand-lamp.

8. The combination, substantially as described, of an electric-light chandelier, two or more independent general-circuit wires, switch devices for simultaneously breaking said independent circuits, means for completing a connection between all of said circuit-wires, and one pole of a stand or drop light, operating simultaneously with the circuit-breaking devices, and an independent circuit-closer connected to the other pole of the stand or drop light for connecting the latter to any one of the general circuits at a point beyond the circuit-breaker.

9. The combination, substantially as described, of the insulating-plate P, attached to stem T and carrying the circuit-closing springs *d*, and spindle W, carrying circuit-closing spring *k*, and movable independently of the stem T, so that connection may be made with any line-circuit point S before the circuit is broken by the turning of plate P.

10. The combination of the stem T, insulating-plate P, circuit-closing springs and plate *d* R, contact studs or points arranged about plate P, and connected in the manner described to the general circuits, to the drop-light, and to the chandelier, and independently-movable spindle W, carrying circuit-closing spring.

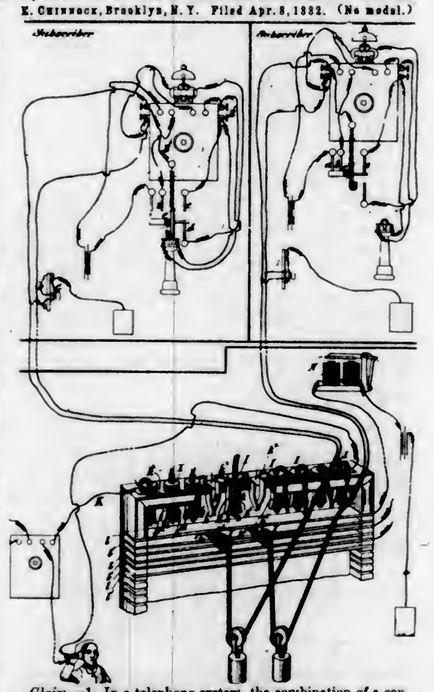
260,938. MACHINE FOR BENDING STIRRUPS. JOHN B. CHILES, Kernstown, Va. Filed Mar. 18, 1882. (No model.)



Claim.—1. As an improved article of manufacture, the sector-gear G, adapted to be pivoted as set forth, and provided with a former-plate, *g*, on one of its edges of the configuration of one-half of a stirrup, substantially as described.

2. The combination of the segmental gears G G, each provided with a former-plate, *g*, former-block C, clamping mechanism D *d' d²*, and operating mechanism F F *f f*, substantially as described.

260,939. TELEPHONE SYSTEM AND APPARATUS. CHARLES E. CHINNOCK, Brooklyn, N. Y. Filed Apr. 8, 1882. (No model.)



Claim.—1. In a telephone system, the combination of a central office, a complete metallic circuit comprising pairs of wires constituting loops extending between the central office and the places of business or residence of subscribers, means in the central office whereby the subscribers may indicate to an attendant there that they desire to be put in communication with others, and means whereby pairs of wires or loops which extend between the subscribers and the central office aforesaid, the said circuit may be closed at the place of removal, and the subscribers thus cut out of the circuit may be put into communication, substantially as specified.

2. In a telephone system, the combination of a central office, a complete metallic circuit comprising pairs of wires or loops extending to the central office and to the places of business or residence of subscribers, means in the central office whereby the subscribers may indicate to the attendant there that they desire to be put in communication with others, and means whereby pairs of wires or loops which extend between these subscribers and the central office may be removed from the circuit aforesaid, the said circuit may be closed at the place of removal, and the removed pairs of wires or loops may be united to form a private complete metallic circuit, affording communication between the subscribers to whom the pairs of wires or loops so removed and united belong, substantially as specified.

3. The combination, with telephone-instruments in a central office and at subscribers' places of business or residence, of a complete metallic circuit comprising pairs of wires constituting loops extending between the central office and the several subscribers' places of business or residence, means whereby any of the said pairs of wires or loops may be removed from the circuit, and means whereby, on the removal of any of the said pairs of wires or loops, the circuit may be closed at the place of their removal, substantially as specified.

4. The combination, with telephone-instruments in a central office and at subscribers' places of business or residence, of a complete metallic circuit comprising pairs of wires constituting loops extending between the central office and the subscribers' places of business or residence, means whereby any of the said pairs of wires or loops may be removed from the circuit, and means whereby, on the removal of any of the said pairs of wires or loops, the circuit will be automatically closed at the place of their removal, substantially as specified.

5. The combination, with telephone-instruments in a central office and at subscribers' places of business or residence, of a complete metallic circuit comprising pairs of wires extending between the central office and the subscribers' places of business or residence, plugs I, provided with metallic plates connected with the pairs of wires and insulated from each other, and the contact-pieces *k k'*, substantially as specified.

6. The combination, with telephone-instruments in a central office and at subscribers' places of business or residence, of a complete metallic circuit comprising pairs of wires constituting loops extending between the central office and subscribers' places of business or residence, means whereby any of the said pairs of wires or loops may be removed from the circuit and connected electrically with another pair of the said wires or loops, and means for closing the said circuit at the points whence the said pairs of wires or loops were removed from it, substantially as specified.

7. The combination, with telephone-instruments in a central office and at subscribers' places of business or residence, of a complete metallic circuit comprising pairs of wires extending between the central office and subscribers' places of business or residence, the plugs I, having metallic plates connected to the pairs of wires, but insulated from each other, the contact-pieces *k k'*, and the pairs of bars *l l'*, substantially as specified.

8. The combination, with telephone-instruments in a central office and at subscribers' places of business or residence, of a complete metallic circuit comprising pairs of wires extending between the central office and subscribers' places of business or residence, the plugs I, having metallic plates connected to the pairs of wires, but insulated from each other, the contact-pieces *k k'*, the pairs of bars *l l'* and the annunciators N, substantially as specified.

260,940. PITMAN-HEAD. CHARLES CLAPP, Trumansburg, N. Y., assignor to Gregg & Co., same place. Filed June 14, 1882. (No model.)



Claim.—1. The base or lower section of the pitman-head, consisting of a tubular shank for the attachment of the connecting-rod or pitman, the socket, the transverse groove between the socket and shank, and the locking yoke or stirrup on the opposite side of the socket.

2. The pitman-head cap constructed, as set forth, with a socket, a transverse flange on one side thereof, and a lug on the opposite side, for the purposes specified.

3. The sectional interlocking pitman-head hereinbefore described, consisting of the combination of the lower section, its transverse groove, and yoke with the upper section, its interlocking flange and stud, and the bolt which connects the two sections.

260,941. CAR-COUPLING. SANFORD P. CRAM, Medicine Lodge, Kans. Filed Apr. 16, 1882. (No model.)

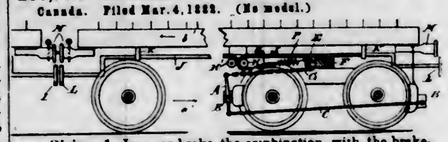


Claim.—1. In a car-coupling, the combination of a draw-head having the projecting hook *g*, recess H, and channels *a a' a²*, hinged part I, provided with the projecting arm L and finger M, set at right angles to each other, and spring K, constructed and combined to operate substantially in the manner and for the purpose herein shown and described.

2. In a car-coupling, the combination, with a hinged draw-bar and draw-head, of the stirrup R, having plate R', slotted at *r* and *s*, bell-crank T, having shaft *t* and bent arm *u w'*, and slotted beam or keeper S, constructed and combined substantially as and for the purpose herein shown and described.

3. The swinging buffer-block O and means for operating the same, in combination with the buffer-beam and draw-head of a railway-car, arranged to operate substantially as and for the purpose herein shown and specified.

260,942. CAR-BRAKE. ARTHUR CODD, Bowmanville, Ontario, Canada. Filed Mar. 4, 1882. (No model.)



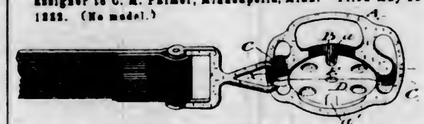
Claim.—1. In a car-brake, the combination, with the brake-shoe bars B B', of the lever A, rod C, the chain G, the pulleys E H H', and the rod J, provided with the buffers L, substantially as and for the purpose set forth.

2. In a car-brake, the combination, with lever A, the brake-shoes B B', the rod C, and the pulley E H H', of the chain G, the spring P, interposed in the chain, and the sliding rods J, provided with the buffers L, substantially as and for the purpose set forth.

3. In a car-brake, the combination, with the lever A, the brake-shoes B B', the rod C, and the pulleys E H H', of the chain G, the rods J, provided with the buffers L, and the projections K, secured to the under side of the car and provided with pulleys, substantially as and for the purpose set forth.

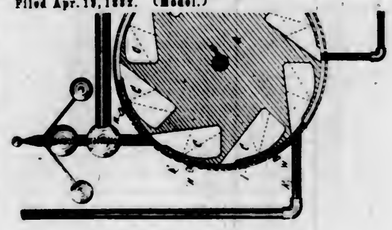
4. In a car-brake, the combination, with the lever A, the brake-shoes B B', the rods C, and the cylinder O, of the chains G, the sliding rods J, the piston on the forward end of one of the said sliding rods, and the spring P, interposed in the chain, substantially as and for the purpose set forth.

260,943. TRACE-CARRIER. TANIS LAS COMINS, Montevideo, assignor to C. M. Palmer, Minneapolis, Minn. Filed May 22, 1882. (No model.)



Claim.—The trace-carrier composed of the plate A, having hooks C C' and a central hollow hub, B, in combination with the rotating disk D, provided with openings *a a'* in its edge, and coiled spring *c*, substantially as and for the purpose set forth.

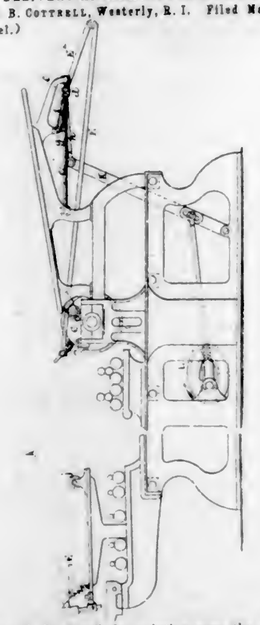
260,944. STEAM-WHEEL. ADRIAN P. COOPER, Tuscola, Ill. Filed Apr. 19, 1882. (Model.)



Claim.—1. The steam-plate E, fitted in grooves F of flanges G of the steam-wheel, and also secured by set-screws H, or equivalent means, substantially as specified.

2. The combination of an inclosing jacket, I J, with the steam-wheel A and steam-plate E, substantially as described.

260,945. DELIVERY APPARATUS FOR PRINTING-PRESSES. CALVERT B. COTTRELL, Westerly, R. I. Filed Mar. 29, 1881. (No model.)

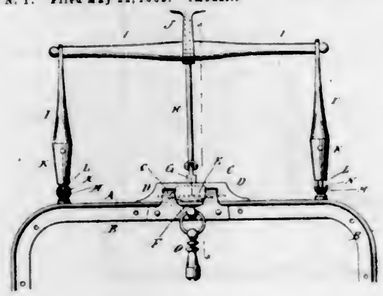


Claim.—1. In a cylinder printing-press, the combination, with the impression-cylinder, receiving-table, and delivery-grippers, of gripper-carrying rods, each composed of two jointed sections and capable of folding or flexure, slides connected with the rear sections of the said rods, gnides for the said slides, and supports on which the forward sections of said rods move longitudinally and operate as levers, substantially as herein described.

2. In a cylinder printing-press, the combination, with the impression-cylinder, receiving-table, and delivery-grippers, of gripper-carrying rods, each made of two sections which are jointed so as to be capable of folding or flexure, and the rear one of which consists of a slotted or forked lever, supports for the front sections of the said rods, guides for the rear sections thereof, and fixed fulcrums on which the lever-like rear sections slide, substantially as herein described.

3. The combination of the jointed folding delivery-gripper-carrying rods E E', having their rear sections of lever form, with slides *d*, gnides *e*, fulcrums *g*, supports *i*, levers K, and connecting-rods A, substantially as herein described.

260,946. HAND-BAG FRAME. HENRY S. CHAUS, Brooklyn, N. Y. Filed May 22, 1882. (Model.)



Claim.—1. A hand-bag frame constructed substantially as herein shown and described, and consisting of the frame A B, the fastening C D E F G, the rod H, the band J, the handle I, and the hinges L M N, as set forth.

2. In a hand-bag frame, the combination, with the stem G of the fastening and the handle I, of the hinged rod H, and the band J, substantially as herein shown and described, whereby the fastening can be unfastened by the hand that grasps the handle, as set forth.

3. In a hand-bag frame, the combination, with the part A of the frame and the handle I, of the slotted ball M, the stem L, having circular outer end, the pin N, and the cap K, substantially as herein shown and described, whereby a firm and ornamental hinge is produced, as set forth.

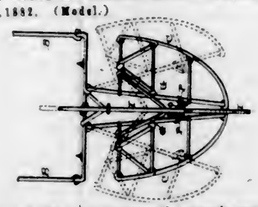
260,947. DEVICE FOR LEVELING TABLES. JOHN CRAWFORD, Perth Amboy, N. J. Filed May 16, 1882. (No model.)



Claim.—1. The combination of the flanged and threaded socket C, screw D, having the collar *d*, step or shoulder *e*, squared section, *f*, and tap *g*, cap E F, having the circular beveled aperture *h*, disk H, cup-shaped shoe I, and nut G, all constructed and combined substantially as and for the purpose herein shown and described.

2. The combination, with the legs B, of a billiard or other table, of the socket C, screw D, cap E F, disk H, concave or cup-shaped shoe I, and nut G, all constructed and combined to operate substantially in the manner and for the purpose herein shown and described.

260,948. MUZZLE. JAMES D. CROCKETT, Ripley, Miss. Filed Mar. 17, 1882. (Model.)

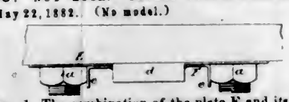


Claim.—1. The combination of a muzzle composed of two hinged or pivoted parts, and an operating-rod which extends below the muzzle, and which is connected with the two movable parts, so as to open them outward, substantially as described.

2. The combination of the part A, which is fastened to the animal's head by a cord or strap, B, with the two parts of the muzzle, which are connected thereto, and operating-rod for opening the two parts of the muzzle, substantially as set forth.

3. The combination of the muzzle composed of two hinged or pivoted parts, an operating-rod provided with suitable locking-hooks, and suitable loops or staples, which are secured to the movable parts, so that they can be locked together, substantially as specified.

260,949. NUT-LOCK. THOMAS CURRY, Philadelphia, Pa. Filed May 22, 1882. (No model.)



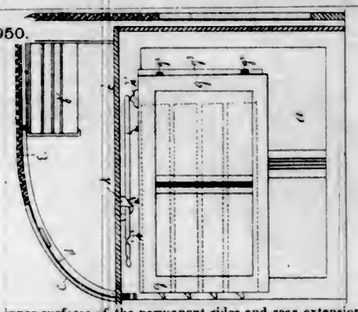
Claim.—1. The combination of the plate E and its openings *b* with the plate F, hinged to the said plate E and having wings *c*, the two plates being adapted to two bolts and to the nuts of the same, substantially as set forth.

2. The combination of the plate E, having the bent projection *d*, with the plate F, having a projection, *h*, adapted for introduction endwise into the bent projection *d* of the said plate E, substantially as specified.

260,950. DESK. ASHER COTLER, Buffalo, N. Y. Filed May 11, 1882. (No model.)

Claim.—1. A desk having its top provided with permanent sides only, curved in front and rear, and having the sides of its body portion extended in the rear and continuous grooves formed

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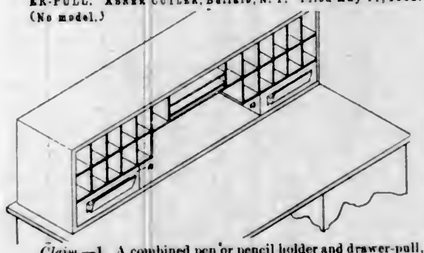


on the inner surfaces of the permanent sides and rear extensions, and a flexible cover adapted to slide back and forth in such grooves, and forming, when closed, the front, top, and rear portions of the cover of the desk, substantially as shown and described.

2. In a desk, the combination of the permanent sides *c c* and the rear extensions, *c'* *c'*, provided with the continuous grooves *d d*, with the flexible sliding cover *e*, as and for the purposes stated.

3. In a desk, the combination of the hinged drawer-case *g* with the lever *h*, pivoted thereon and provided with the notches h^1 and h^2, and the keeper *k*, in which the lever slides and with which the notches h^1 and h^2 engage to lock the case in its two extreme positions, substantially as shown and described.

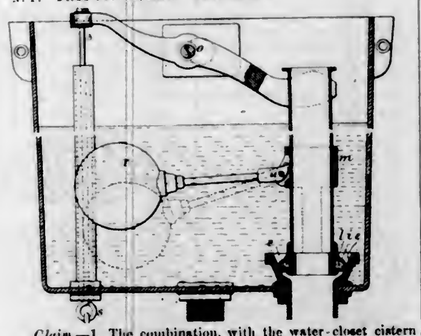
260,951. COMBINED PEN OR PENCIL HOLDER AND DRAWER-PULL. ASHER CUTLER, Buffalo, N. Y. Filed May 11, 1882. (No model.)



Claim.—1. A combined pen or pencil holder and drawer-pull, substantially as shown and described.

2. The pen or pencil holder *b*, adapted to be secured to the drawer of a desk and provided with the upper recess or groove, *c*, for the reception of pens or pencils, and the under recess or groove, *c*, by means of which the drawer can be pulled out, all substantially as shown and described.

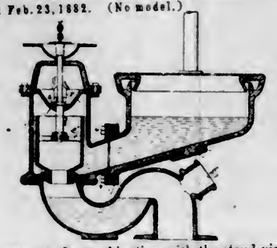
260,952. FLUSHING-VALVE. JOHN DEMAREST, New York, N. Y. Filed Feb. 23, 1882. (No model.)



Claim.—1. The combination, with the water-closet cistern and valve, of a float and a finger acting upon the valve-stem and mechanism for raising the valve, substantially as set forth.

2. The combination, with the water-closet cistern, of an overflow-pipe and valve, a seat for the valve, a guide for the overflow-tube, a float and arm pivoted to the guide, and a finger acting against the overflow-pipe, substantially as set forth.

260,953. WATER-CLOSET. JOHN DEMAREST, New York, N. Y. Filed Feb. 23, 1882. (No model.)



Claim.—1. In combination with the stand-pipe and its dishing cover, an open cylindrical dam having a valve at its lower end and a cross-bar below its top edge, a stem extending up from the cross-bar, and a pull-cup, and an arch-piece supporting the pull-cup and guiding the stem, substantially as set forth.

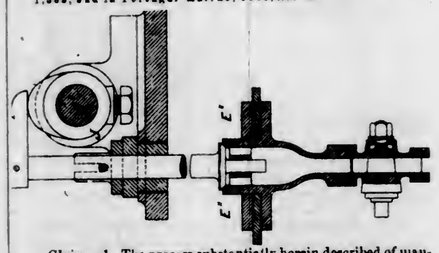
2. In a water-closet, the stand-pipe and its dishing cover, in combination with a lever above the dishing cover, the pull, and a connection from the lever to the supply-cistern, substantially as set forth.

3. In combination with the stand-pipe, the cover, and the dam, a pull connected with the dam, and an elastic washer around the pull and resting against the upper surface of the cover, substantially as set forth.

4. The combination, with the stand-pipe and overflow-dam, of a dishing cover bolted to the stand-pipe, a pull passing through the cover, a cross-bar within the dam, at a distance below its top edge, and a washer of elastic material around the stem and above the cross-bar, for the purposes set forth.

5. The combination, with the stand-pipe having a lateral inlet, of a porcelain basin, a metallic saddle for receiving the same, and to which the basin is secured by plaster, a hollow metallic ring-flange around the flange of the basin-outlet, and bolts for securing the parts together, substantially as set forth.

260,954. PROCESS OF AND APPARATUS FOR MANUFACTURING GAS. JOHN DIXON, Richmond, Colony of Victoria. Filed Aug. 1, 1881. (No model.) Patented in New Zealand June 1, 1881, No. 527; in England June 10, 1881, No. 2,528; in Victoria June 16, 1881, No. 3,025; in South Australia June 22, 1881, No. 161; in Tasmania June 23, 1881, No. 197; in France June 25, 1881, No. 143,648; in Cape of Good Hope July 2, 1881, No. 11,474; in Queensland July 26, 1881; in Belgium July 25, 1881, No. 55,380; in Italy Aug. 13, 1881, Vol. 13,242 and 296; in New South Wales Aug. 13, 1881, No. 967; in Canada Aug. 26, 1881, No. 13,317; in Sweden Sept. 12, 1881; in Austria-Hungary Oct. 15, 1881, No. 36,612 and No. 20,160; in India Oct. 24, 1881, No. 64; in Spain Nov. 2, 1881, No. 1,785; in Argentine Republic Nov. 19, 1881, No. 312; in Denmark Nov. 25, 1881, No. 1,583, and in Portugal Mar. 29, 1882, No. 783.

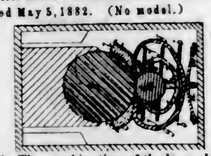


Claim.—1. The process substantially herein described of manufacturing illuminating-gas, which process consists of first charging a retort with a mixture consisting of black oxide of manganese, muriatic acid, nitric acid, water, bismuth, iron filings, zinc, mercury, and sodium, previously united and treated as described; of then injecting intermittently upon such mixture, while in a heated state, a flux mixture consisting of bismuth dissolved in nitric acid, antimony dissolved in hydrochloric acid, sodium held in kerosene, tin dissolved in nitric acid, mixed and dried as described, and augmented by kerosene and by nine-tenths of stock No. 1, consisting of copper, muriatic acid, water, zinc, bismuth, mercury, kerosene, sodium, and nitric acid, prepared as described, and six-sevenths of the united stocks of 2 and 3, consisting of bismuth, mercury, kerosene, and sodium united and treated substantially as described.

2. The method substantially herein described of making an illuminating-gas yielding a white light, which method consists of generating and combining, in a retort of suitable construction, the gases resulting from the decomposition of the herein-described metals, salts, acids, carbons, and hydrocarbons, consisting substantially of black oxide of manganese, muriatic acid, nitric acid, bismuth, iron, zinc, mercury, antimony, copper, charcoal, sodium, and kerosene, combined and treated substantially as described.

3. The means substantially herein described of intermittently supplying a flux mixture to a previously supplied retort-charge in the manufacture of a combination of gases for the purpose of producing an illuminating-gas yielding a white light, which means consist of the combination of a retort, A, a flux-chamber, F, connecting and injecting pipes E and E', fitted with suitable valves, E'', and a shaft fitted with cams and cog-gearing, substantially as described.

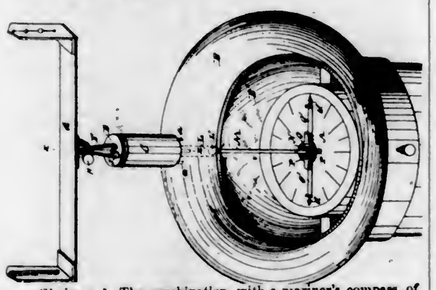
260,955. CAR-AXLE LUBRICATOR. WILLIAM DOE, New York, N. Y. Filed May 5, 1882. (No model.)



Claim.—1. The combination of the base-plate, the spring supported by the same, the concave plate secured to the upper end of the spring and carrying a pad for the journal, and a loose roller and two independent wicks, arranged substantially at right angles to each other, and each connected with the pad on the concave plate, one of said wicks extending under the base-plate and the other extending over the base-plate, substantially as shown and described.

2. The combination, substantially as hereinbefore described, of the base-plate, the spring supported by said base-plate, the concave plate secured to the top of said spring and supporting the pad, the roller mounted on an axle which has its bearings in lugs secured to the concave plate, the wicks *g h*, extending through the pad, and the wick *i*, the ends of which bear against the roller and are supported in lugs depending from the concave plate.

260,956. COMPASS-ALIDADE. FRANKLIN J. DRAKE, Gasport, assignor to James F. Secor, Jr., New York, N. Y. Filed Jan. 12, 1882. (No model.)



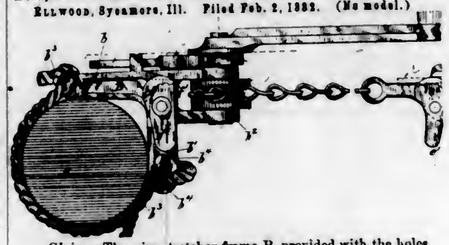
Claim.—1. The combination, with a mariner's compass, of an alidade and a pointer whose frame is not hung over but resting on the compass, which pointer is connected with the alidade, substantially as herein shown and described, and for the purpose set forth.

2. The combination, with the compass A and the binnacle B, of the alidade G and the pointer-frame O, connected with the alidade, and of the pointers Q, whose frame is not suspended over but resting on the compass, substantially as herein shown and described, and for the purpose set forth.

3. The combination, with the compass A and the binnacle B, of the standard C, the revolving pivot-plate D, the standard F, the alidade G, pivoted thereto, the telescoping-rod L M, the pointer-frame O, and the adjustable pointers Q, substantially as herein shown and described, and for the purpose set forth.

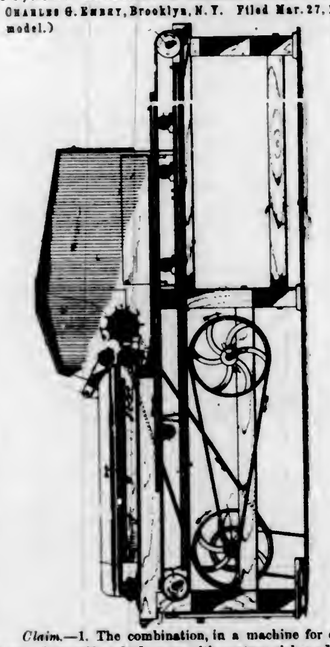
4. The combination, with the compass A and the binnacle B, of the standard C, the revolving pivot-plate D, the standard F, the alidade G, the screws H and J, the telescoping-rods L and M, and the pointer-frame O and the pointers Q, substantially as herein shown and described, and for the purpose set forth.

260,957. WIRE-STRETCHER. REUBEN ELLWOOD and ABRAM ELLWOOD, Sycamore, Ill. Filed Feb. 2, 1882. (No model.)



Claim.—The wire-stretcher frame B, provided with the holes *b'*, in combination with the rope, substantially as set forth.

260,958. MACHINE FOR DRESSING FINE-CUT TOBACCO. CHARLES G. EMERY, Brooklyn, N. Y. Filed Mar. 27, 1882. (No model.)



Claim.—1. The combination, in a machine for dressing tobacco, of an endless feed-apron with a rotary picker adapted to act upon and disentangle the tobacco delivered from the feed-apron and project it rearwardly, with an endless belt or apron traveling beneath the feed-apron and the picker for receiving and carrying rearwardly the disentangled tobacco delivered by the picker, substantially as described.

2. The combination, in a machine for dressing tobacco, of an endless feed-apron with a rotary picker adapted to disentangle the tobacco delivered from the feed-apron and project it rearwardly, an endless carrier belt or apron extending the length, or nearly the length, of the machine, located under both the feed-apron and the rotary picker, substantially as described.

3. The combination, in a machine for dressing tobacco, of an endless feed-apron and a yielding pressure-roller located near the delivery end of said apron, a rotary picker for disentangling and projecting rearwardly the tobacco delivered from the feed-apron, and an endless belt or apron for receiving and carrying forward to the delivery end of the machine the dressed tobacco, whether deposited directly thereon or in trays carried by the belt or apron, said belt or apron traveling below both the feed-apron and the rotary picker, and extending substantially the entire length of the machine.

4. The combination, in a machine for dressing tobacco, of an apron for feeding forward the tobacco, a pressure-roller for compressing the tobacco near the delivery end of the feed-apron, a picker for acting on the tobacco as it issues from between the pressure-roller and feed-apron, an endless carrying belt or apron located beneath the feed-apron and the picker, said belt or apron extending throughout the length of the machine, or nearly so, for carrying forward to the delivery end of the machine trays or screens introduced at the front of the machine beneath the feed-apron, substantially as described.

5. In a machine for dressing tobacco, the inclined flexible strips located at the edges of an endless feed-apron and having their lower free edges resting upon the said feed-apron, whereby the tobacco is prevented from falling over the edges of the same, substantially as described.

6. The combination, in a machine for dressing tobacco, of the rotary picker which carries the tobacco over and projects it to the rear in a disentangled condition, with the hood covering the said picker, and providing at the rear thereof a chamber into which the tobacco is projected, substantially as described.

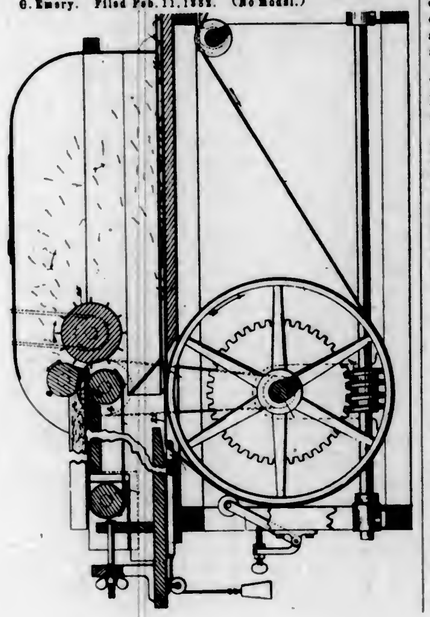
7. The combination, in a machine for dressing tobacco, of the rotary picker adapted to disentangle the tobacco and project it rearwardly with a hood providing a chamber into which the tobacco is projected from the rotary picker, and the endless belt or apron passing under said hood and picker and extending out to the rear of the hood, whereby the tobacco descending in the hood will fall upon trays or screens placed upon the belts and the latter be carried under and out from the hood to the delivery end of the machine, substantially as described.

8. The combination, in a machine for dressing tobacco, of an endless feed-apron with the rotary picker adapted to take the tobacco at the delivery end of the feed-apron and carry it over to the rear and project it tangentially into the air in a disentangled condition, a hood providing a chamber in which the tobacco is projected from the rotary picker, and an endless belt or apron traveling under the picker and the hood, substantially as described.

9. In a machine for dressing tobacco, a series of trays or screens suspended in a horizontal plane below the devices for feeding, picking, and carrying off the tobacco, whereby waste tobacco will be collected, substantially as described.

10. The combination, in a machine for dressing tobacco, of the rotary picker adapted to disentangle and project the tobacco rearwardly, with a hood covering said rotary picker and composed of two sections, the front section being detachable from the machine and the rear section being provided with doors, substantially as described.

260,959. CIGARETTE-MACHINE. CHARLES G. EMERY and WILLIAM H. EMERY, Brooklyn, N. Y., assignors to said Charles G. Emery. Filed Feb. 11, 1882. (No model.)



Claim.—1. The combination, in a cigarette-machine, of mechanism for feeding the tobacco, with the picker-cylinder arranged transversely to the feed and adapted to completely separate and disentangle the tobacco, so as to prepare it to form the filler suitable for a cigarette, the receiving-chamber with inclined sides for catching the tobacco thrown from the picker-cylinder, and a trough located at the bottom of the receiving-chamber and traversed by the endless tobacco or filler carrying belt, substantially as described.

2. The combination of the endless feed-belt, the rollers over which it passes, and the metal guard-plates which overlap the edges of the belt and are curved down over the lower feed-roller, substantially as set forth.

3. The combination of the feed-belt, its rollers, the overlapping side pieces of the frame, the curved metal plates, also overlapping the edges of the belt, and the upper feed-roller, substantially as set forth.

4. The combination of tobacco-feeding mechanism, mechanism for separating and disentangling the tobacco, and a receiving-chamber with sloping sides, substantially as set forth.

5. The combination of the tobacco-feeding mechanism, the picker-cylinder or disentangling and separating mechanism, the receiving-chamber with converging or sloping sides, and an endless filler-forming belt moving along the contracted bottom of the receiving-chamber, substantially as set forth.

6. The combination of the tobacco-feeding mechanism, the picker-cylinder, the receiving-chamber with sloping or converging sides, the trough at the bottom of the chamber, and an endless filler-carrying belt which moves through the trough, substantially as set forth.

7. In a cigarette-machine, the packing-chamber having the concave, semicircular, or crescent-shaped bottom in cross-section, in which the endless tobacco-carrying belt runs, and the raised flaring sides, substantially as set forth.

8. The combination of the endless filler-carrying belt and the packing-chamber in the bottom of which the belt travels, and which tapers or contracts from the end where the belt enters to its opposite end, so as to gradually compress the belt and the tobacco carried thereby, substantially as set forth.

9. The combination of the endless filler-carrying belt, tobacco-feeding mechanism, the picker-cylinder, the receiving-chamber into which the tobacco is thrown by the picker-cylinder, the sloping sides of said chamber, which direct the disentangled and separated falling tobacco onto the moving filler-carrying belt, the open packing-receptacle in which the tobacco may be manipulated and packed by an attendant, and in which it is compressed and reduced in bulk as the belt is drawn around it, one or more rollers or pulleys which press the tobacco into the curved belt, and tubular conductors of reducing diameter, which fold the belt completely around the filler and compress and form it therein, substantially as set forth.

10. The combination of the filler-forming mechanism, the bridge-plate onto which the filler passes when the carrying-belt leaves it, and the paper and tape conductor which guide the paper and the endless carrier-tape, substantially as set forth.

11. The combination of the final filler-forming tube, the bracket straddling the end of the tube, the fingers which spread the filler-carrying belt, and the roller over which the belt passes beneath the table, substantially as set forth.

12. The combination of the filler-forming mechanism, the bridge-plate which supports the continuous filler as the filler-belt leaves it, the hollow paper and belt conductor into the curved face of which the bridge-plate projects, the curved edge of the upper slotted face of the paper and belt conductor, and its tapering or funnel-shaped end with the overlapping edges, substantially as and for the purpose set forth.

13. The combined paper and tape or belt conductor in which the carrier-tape and paper travel, having the hollow vertical portion projecting beneath the table, and the horizontal portion with the funnel-shaped end, which directs the paper and belt around the completed filler and overlaps the edges of the paper, the conductor being formed substantially as shown in Fig. 15.

14. The combination of filler-forming mechanism, mechanism which simultaneously draws the paper and carrier-belt around the filler and overlaps the edges of the paper, mechanism for pasting the edge of the paper, and mechanism for cutting off the cigarettes into regulated lengths from the continuous cigarette, substantially as set forth.

15. The combination of filler-forming mechanism, mechanism for directing the paper and carrier-tape around the filler and overlapping the edges of the paper, a hook or catch which holds the tape down out of the way, pasting mechanism for applying paste to the paper, and mechanism for cutting off the cigarettes in regulated lengths from the continuous cigarette, substantially as set forth.

16. The combination of the filler-forming mechanism, the conductor for directing the paper and belt or tape around the filler and overlapping the edges of the paper, a pasting-disk which applies paste to the edge of the pape·, a tubular guide with overlapping edges which evenly distributes the paste on the paper, and a tubular guide which presses the edges of the paper together, substantially as set forth.

17. The combination of filler-forming mechanism, mechanism which simultaneously envelops the filler in the paper wrapper and directs the carrier-tape around it, pasting mechanism, a tubular guide which presses the edges of the paper together, a smoother for acting on the pasted edge of the paper, and mechanism for cutting off the cigarettes in regulated lengths from the continuous cigarette, substantially as set forth.

18. The combination of filler-forming mechanism, a conductor for directing the paper wrapper and carrier-tape around the filler, a hook or catch which holds the tape down out of the way, a pasting-disk, a tubular guide which presses the edges of the paper together, another hook or catch for holding down the tape, a smoother, the final forming-tube, and mechanism for cutting off cigarettes in regulated lengths from the continuous cigarette, substantially as set forth.

19. The combination of the filler-forming mechanism, the drum or pulley for the continuous wrapper, the tension therefor, the endless tape, the paper and tape or belt conductor, and pasting mechanism, substantially as set forth.

20. The combination of filler-forming mechanism, the endless paper wrapper, the carrier-tape of less width than the wrapper, mechanism for directing the wrapper and belt aronnd the filler, mechanism for pasting the wrapper, uniting its edges, and forming the continuous cigarette, and mechanism for cutting the continuous cigarette into regulated lengths, substantially as set forth.

21. The combination of the filler-forming mechanism, mechanism for directing the paper wrapper and tape around the filler, pasting mechanism, a guide which presses the pasted edges of the wrapper together, the guide-blocks through which the finished cigarette is delivered, and a cutter which severs the continuous cigarette into regulated lengths between the blocks, substantially as set forth.

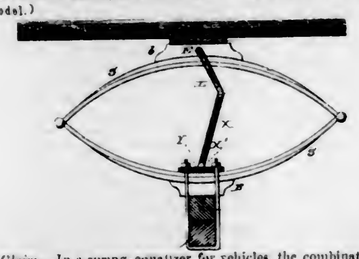
22. The combination of the rotating pasting-disk, its upright hub, the pinion thereon, the paste-receptacle, the shafting extending down into the paste-receptacle, the radial wings or blades thereon, and the pinion on the shaft, substantially as set forth.

23. The combination of the pasting-disk, its upright hub, the paste-receptacle, the rotating shaft extending into the paste-receptacle, and the inclined radial wings or blades thereon.

24. The combination of the pasting-disk, its upright hub, the paste-receptacle, and the inwardly-inclined walls of the receptacle, one of which is in contact with the rotating hub of the disk, there being a small space between the hub and the edge of the other wall, substantially as set forth.

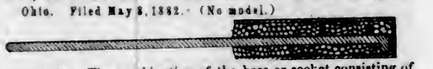
25. The combination of the endless carrier belt or tape Y, the tube S0, the tube S2, and mechanism for cutting the continuous cigarette into regulated lengths, the tube S2 being placed at such a distance from tube S0 as to allow the continuous cigarette to be manipulated or a portion pulled out in case of any obstruction or stoppage of it when advancing to the cutting apparatus.

260,960. SPRING-EQUALIZER FOR VEHICLES. FRANCIS LA FAYETTE EZELL, Nashville, Tenn. Filed Apr. 21, 1882. (No model.)



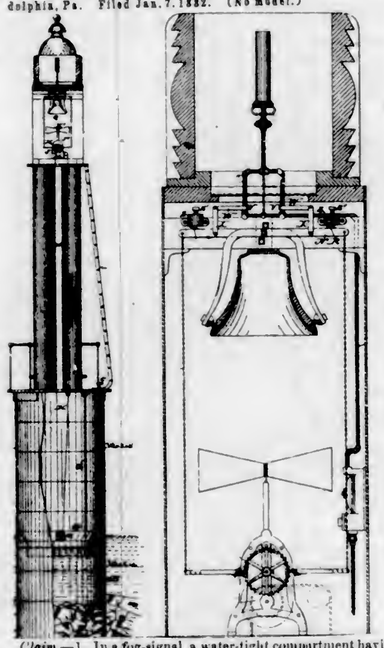
Claim.—In a spring-equalizer for vehicles, the combination of the transverse rock-shaft E, having its bearings in the middle of the head-blocks *b*, above the upper leaves of the spring, and provided with the fixed downward projecting arms L L, extensible arms X X' X X', pivoted at their upper ends in arms L and at their lower ends at *w* in the yoke Y, and springs S, whereby the play or stroke of said springs may be regulated by regulating the length of the extensible arms X X', substantially as shown and set forth

260,961. FENCE-POST. HERSCHEL V. FLICKINGER, Bucyrus, Ohio. Filed May 8, 1882. (No model.)



Claim.—The combination of the base or socket consisting of a cylindrical shell closed at its lower end, the fence-post consisting of a metallic rod bent or L-shaped at its lower end, and a packing of coarse gravel and coal-tar, as and for the purpose set forth.

260,962. FOG-ALARM AND BEACON. JOHN M. FOSTER, Philadelphia, Pa. Filed Jan. 7, 1882. (No model.)



Claim.—1. In a fog-signal, a water-tight compartment having a regulating-valve for the admission and exit of water, in order that it may be caused to rise and fall less rapidly inside of the compartment than outside, in combination with a float in said compartment rising and falling with the water admitted by said valve, a weight acting in opposition to the gravity of said float, and alarm mechanism which is operated by the descent of either said float or said weight, the operation continuing while the tide is at a standstill by reason of the regulated admission and exit of water, as above stated.

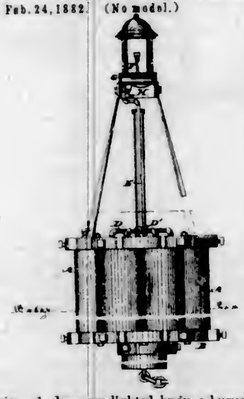
2. In a fog-signal, a compartment having an opening for the admissinn and exit of water, a float within said compartment rising and falling with the tide, a weight acting in opposition to said float, alarm mechanism operated by the descent of either said float or said weight, and a chain the slack of which accumulates on said float as it rises to compensate for the increasing pressure of the water outside.

3. In a fog-signal, a compartment having an opening for the admission and exit of water, a float within said compartment rising and falling with the tide, a weight acting in opposition to the gravity of said float, and alarm mechanism and lighting devices, both of the latter elements being operated simultaneously by said float and weight, in order that mariners may be able to ascertain their distance by noting the interval between observing the sight-signal and receiving the sound-signal.

4. In a fog-signal, a compartment having an opening for the admission and exit of water, a float within said compartment rising and falling with the water, a weight acting in opposition to the gravity of said float, a cord connecting said float and said weight, a drum turned by said cord in one direction or the other as the weight or the float descends, a double ratchet-wheel operated by said drum, levers provided with trip-pawls for engaging with the ratchets of said wheel, and hammers operated by said levers to sound an alarm, substantially as set forth.

5. In a fog-signal, a compartment having an opening for the admission and exit of water, a float within said compartment rising and falling with the water, a weight acting in opposition to the gravity of said float, a cord connecting said float and weight, a drum turned by said cord in one direction or the other as the weight or the float descends, a double ratchet-wheel operated by said drum, and having detachable teeth, levers provided with trip-pawls for engaging with the ratchets of said wheel, and hammers operated by said levers to sound an alarm, substantially as described.

260,963. SIGNAL-BUOY. JOHN M. FOSTER, Philadelphia, Pa. Filed Feb. 24, 1882. (No model.)

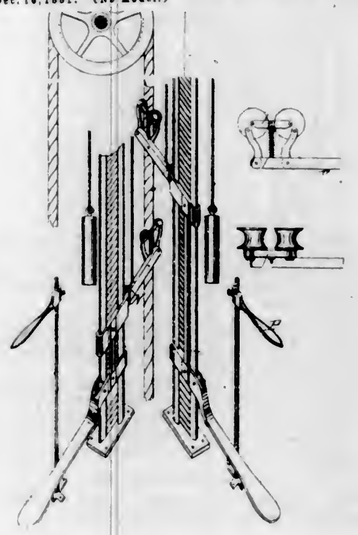


Claim.—1. In a gas-lighted buoy, a burner and pipe leading thereto, in combination with a series of gas-supplying cylinders or compartments, each of which has independent connection with said pipe, substantially as and for the purposes set forth

2. In a gas-lighted buoy, gas-burner F, pip E, and coupling D', in combination with central cylinder, A', a concentric series of gas-supplying cylinders, A, and the pipes D, whereby each cylinder has independent communication with said coupling.

3. A buoy having gas-holding cylinders formed of seamless wrought-iron tubes, the bodies of the tubes being lap-welded and the heads welded to the bodies, substantially as and for the purpose set forth.

260,964. MECHANISM FOR APPLYING POWER TO ROPES FOR HOISTING. ALVAH S. FRENCH, New York, N. Y. Filed Dec. 16, 1881. (No model.)



Claim.—1. The combination, with a rope, as for hoisting purposes, of one or more clamping devices connected with pedals to be operated alternately or otherwise, as hereinbefore set forth.

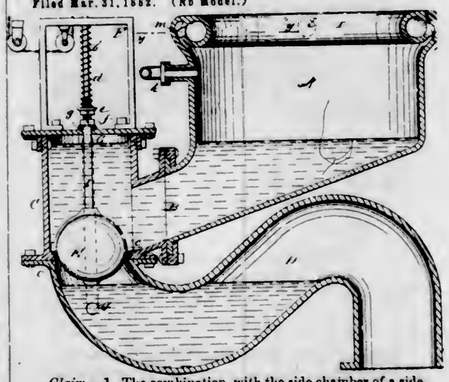
2. The combination of the rolls or sheaves pivoted eccentrically to vibrating arms, and with a link pivoted at each end to their centers, and a reacting spring, all mounted upon a supporting arm or bracket, as hereinbefore set forth.

3. The clamping device supported on a sliding arm connected to a pedal arranged to move up and down upon a guide, as and for the purposes hereinbefore set forth.

4. The clamping device connected to a pedal and a reacting weight for raising the same, as and for the purposes hereinbefore set forth.

5. The combination, with a single rope, of the clamping devices and pedals and guides with handles in such relation to the pedals that the operator may both use his weight and exert his strength in drawing on the rope, as hereinbefore set forth.

260,965. WATER-CLOSET. JOSEPH J. B. FREY, New York, N. Y. Filed Mar. 31, 1882. (No model.)



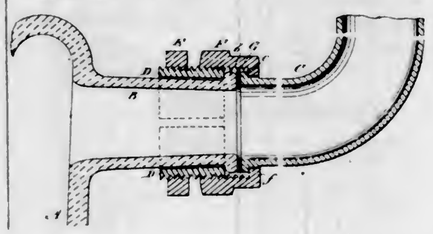
Claim.—1. The combination, with the side chamber of a side-outlet water-closet, the pull-rod by which the admission of water is controlled to said closet, and a valve on said rod constructed and arranged to close the lower discharge-opening in said chamber, of a nut or projection on said rod ontside of said chamber and a yielding cushion with which said projection is brought in contact when said valve is closed, essentially as and for the purpose herein set forth.

2. The combination, with the side chamber and pull-rod, having an attached valve for closing the lower discharge-opening in said chamber, of the spring *b*, the adjustable nuts *e f*, and the yielding cushion *g*, whereby provision is made for regulating the tension of said spring and for independently adjusting the closing action of said valve as controlled by said spring and cushion *g*, substantially as specified.

3. The valve E, of ball-shape, and made of rubber, in combination with the side chamber, C, the pull-rod *b*, and the adjustable spring *d*, essentially as described.

4. The combination of the bowl A and its attached vent-pipe or branch *k* with the upward vent-pipe, *i*, the vent-branch *h*, the side chamber, C, and the overflow-pipe G, whereby not only is provision made for ventilating both the bowl and side chamber, but an overflow for surplus water is provided from the bowl and side chamber, or either, substantially as described.

260,966. PLUMBER'S COUPLING FOR THE BOWLS OF WATER-CLOSETS. JOSEPH J. B. FREY, New York, N. Y. Filed Apr. 11, 1882. (No model.)

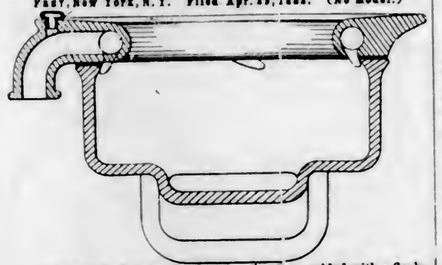


Claim.—1. A coupling for pipes having collars on their contiguous ends, consisting of a combination, with said pipes, of an enlarged externally-screw-threaded sleeve constructed in two or more longitudinal sections, and arranged upon one of said pipes, a freely-rotating coupling-nut arranged around the collar end of the adjacent pipe to receive the screw-threaded sleeve within it, and a yielding washer interposed between the collars of the pipes, substantially as shown and described.

2. The combination, with a bowl or receptacle constructed of porcelain, glass, or other like brittle material, and having a projecting pipe or branch, B, made with a collar, *b*, on its outer end, and forming an integral portion of said receptacle, of the enlarged externally-screw-threaded sleeve D, formed of two or more longitudinal sections, the coupling-nut F, a metal pipe having a collar, *c*, on its outer end, and the yielding washer G, interposed between the collars *b* and *c*, essentially as and for the purposes herein set forth.

3. The tie-nut E, in combination with the enlarged externally-screw-threaded sleeve D, formed of two or more longitudinal sections, the pipe or branch B, having a collar, *b*, on its outer end, the pipe C, provided with an end collar, *c*, the coupling-nut F, and the yielding washer G, substantially as shown and described.

260,967. SLOP-SAFE FOR WATER-CLOSETS. JOSEPH J. B. FARY, New York, N. Y. Filed Apr. 29, 1882. (No model.)



Claim.—1. A slop-safe for water-closets, provided with a flushing-rim or sprinkler arranged along one or more of the outer marginal sides of said safe, for washing the upper surface thereof, essentially as described.

2. A slop-safe for water-closets, provided with flushing rims or devices on both its inner and outer margins, substantially as described.

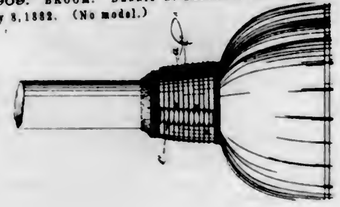
260,968. PIPE-COUPLING. JOSEPH J. B. FARY, New York, N. Y. Filed June 9, 1882. (No model.)



Claim.—1. The diametrically-divided coupling-nut D, provided with an internally-projecting flange, *d*, at or near its one end, in combination with the binding-nut G and the pipes or pipe-sections A B, the one of which has a collar, *b*, for engagement with the flange *d* of the coupling-nut and the other of which has a screw-thread onto which said nut screws, substantially as specified.

2. The combination of the yielding washer E, the diametrically-divided coupling-nut D, having a flange, *d*, on its one end, the pipe A, with its external collar, *b*, the pipe B, having an external screw-thread, *c*, onto which said nut fits, and the binding-nut G, substantially as shown and described.

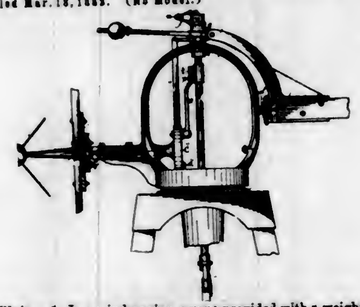
260,969. BROOM. DENNIS B. GAFFNEY, Utica, N. Y. Filed May 8, 1882. (No model.)



Claim.—1. In a broom, a brace, C, having teeth *c* projecting from each of its edges, substantially as and for the purpose described.

2. In a broom, a brace, C, having teeth along its edges, forming notches, as shown, in combination with the wire *a*, as herein set forth.

260,970. WIND-ENGINE. GEORGE GARSIDE, Kalamazoo, Mich. Filed Mar. 18, 1882. (No model.)



Claim.—1. In a wind-engine, a vane provided with a weighted extension beyond the point of hinging, said vane hinged in a manner to swing vertically in an oblique angle and also laterally in a horizontal angle, and provided with the friction-wheel, in combination with the camway, presenting such a configuration of its front edge for the engagement therewith of said friction-wheel as will cause the rear end of said vane to swing upward at an oblique angle during its lateral swing, substantially as set forth.

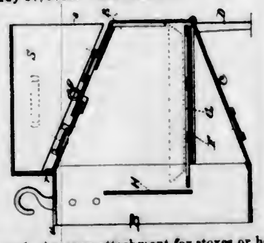
2. The combination of the brake-shoe with the friction-disk detachably secured to the crank-plate, substantially as described.

3. A pump-shaft provided with a collar having the recessed projection and a pivot, in combination with the pitman detachably pivoted to said collar and having the projecting end adapted to play in said recess, all substantially as described and shown.

4. The combination, with the wheel-shaft having the integral disk, of the wheel-spider provided with the integral brace-arm and detachably bolted to said disk, substantially as set forth.

5. In a wind-engine, the combination of the cap and head with the chilled rim-plate having the countersunk lugs, said rim forming both a track for the friction-wheels and a bearing for the tubular extension of the head and adapted for being replaced, substantially as stated.

260,971. STOVE-OVEN. EDWARD C. GODWIN, Norfolk, Va. Filed May 27, 1882. (No model.)



Claim.—1. An oven attachment for stoves or heaters, having the tapering front portion, C, the angular supporting-irons D, secured to the side walls thereof and strengthening the same, and the supporting-hooks L at the top of the rear part of the case, substantially as specified.

2. The oven attachment having the tapering front portion, C, transverse rear protector-plate, H, angular supporting-irons D, angular door E, lower and upper register-openings, and supporting-hooks L, substantially as specified.

3. The combination, with an oven attachment having an inclined top and a catch-projection, *t*, of the removable top shelf or support, S, having inclined lower edges, and a catch-flange, *r*, adapted to engage the catch-projection and hold the shelf or support in position on the top of the oven attachment, substantially as specified.

260,972. GAS BRACKET AND COCK. CHARLES H. GOODRICH, Boston, Mass. Filed May 22, 1882. (No model.)

260,972.

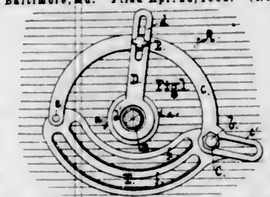


Claim.—The combination, in a gas-bracket having the fixed part A and extension A', of the part B and removable pivot-cock C, grooved longitudinally in its face, and having a transverse passage communicating with said groove, as and for the purpose set forth.

260,973. COMPOUND FOR GRAINING WOOD. JOHN T. GREENWOOD, Jr., Beloit, Wis. Filed Apr. 20, 1882. (No specimens.)

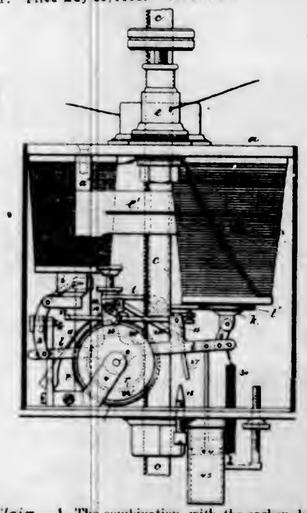
Claim.—The graining compound consisting of malt vinegar, brown sugar, fish-glue, alcohol, and oil of sassafras, mixed together in the proportions substantially as specified.

260,974. GUARD FOR VARIETY MOLDERS. GOTTFRIED GRILL, Baltimore, Md. Filed Apr. 26, 1882. (No model.)



Claim.—In combination with the spindle and rod *b*, the bell-shaped slotted guard and plate *c*, and the arm D, having at one end a ring which embraces the spindle, and is adjustably secured to the plate *c* at the other, as set forth.

260,975. ELECTRIC-ARC LAMP. JOHN H. GURNEY, Brooklyn, N. Y. Filed May 23, 1882. (No model.)



Claim.—1. The combination, with the carbon-holder, of a rack, a pinion engaged with such rack, ratchet-wheels *v* and *w*, a lever, solenoid-magnets in the main and shunt circuits connected to the said lever, two pawls or teeth acting in opposite directions, and stops to bring into action the pawl that acts to separate the carbons and to disconnect the same, substantially as set forth.

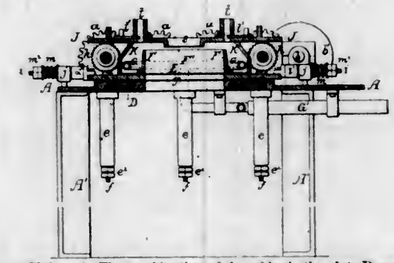
2. The lever *l* and pawl 25, in combination with the secondary lever, 27, having the tooth or pawl 26, pivoted to the lever *l*, the spring 20, the stops 17 and 18, the toothed wheels *v* and *w*, the pinion *r*, and carbon-holder and solenoid-magnets, substantially as set forth.

3. In combination with the carbon-holder rack, gear-wheel and toothed wheels, a lever, solenoid magnets to move the same in opposite directions, two pawls—one to raise the upper carbon, the other to feed the same—stops to bring into action and to disconnect the pawl that acts to separate the carbons, a friction-wheel, a brake, and a lever actuated by the magnet in the main circuit to apply friction while the current is passing through the lamp and to relieve the friction when the light is extinguished, substantially as set forth.

4. In combination with the circuit-closing block 36, springs 37 and 42, and lever 38, the stem 40, passing through the top plate, and the removable cap, substantially as set forth.

5. The combination, with the carbon-holder and rack *c*, pinion *r*, levers and pawls acting in opposite directions, and the solenoid-magnets in the main and shunt circuits, of the dash-pot 45, and connection to the lever *l*, substantially as set forth.

260,976. SHOT-MAKING MACHINE. HENRY M. GUILD, Woodbury, N. J., assignor to the American Machine Shot Company of the United States, Philadelphia, Pa. Filed Oct. 17, 1881. (No model.)



Claim.—1. The combination of the table A, the plate D, and shaking devices therefor with the casings *e*, having rods *f*, and supporting-springs for said rods, as set forth.

2. The combination of the table A, the plate D, and the shaking devices with the casings *e*, the rods *f*, the springs *e'*, and the nuts e^2, as set forth.

3. The combination of the table A, the plate D, and the shaking devices with the casings *e* and the spring-rods *f*, having rollers *f'*, as specified.

4. The combination of the shaking plate D of the machine with the longitudinal springs *m*, connected to the opposite ends of the plate, in line with the direction of movement of the same, as set forth.

5. The combination of the plate D, the pivoted rods *i*, with nuts m^2 and springs *m*, and the bolts *j*, having slotted heads, as set forth.

6. The combination of the plate D, the bolt *j*, with slotted head, and the pivoted rod *i*, with spring *m*, nuts m^2, and sleeve m^3, as set forth.

7. The combination of the shaking plate D, its perforated plate E and flange F, and means for heating said flange, as set forth.

8. The combination of the shaking plate D, its perforated plate E and flange F, the annular pipe G, the gas-supplying tube G', and the air-supplying branch G^2, as set forth.

9. The combination of the shaking plate D, its perforated plate E, and flange F with the cover-plate J, as specified.

10. The combination of the shaking plate D, its perforated plate E and flange F, the heating-pipe G, and the cover-plate J, having a hood inclosing said flange and heating-pipe, as specified.

11. The combination of the shaking plate D, its perforated plate E and flange F, the heating-pipe G, and the cover-plate J, having a central opening, *s*, the hood K, and valved flues *t*, as set forth.

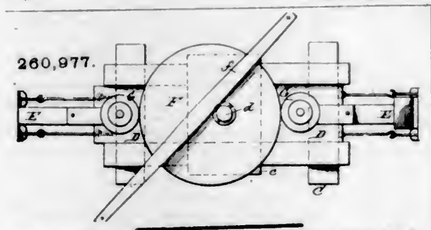
12. The combination of the plate D, the shouldered flange F, the bolts *n'*, with angular heads, and the turn-buckles *n*, with lugs n^3, as set forth.

13. The combination of the plate D, the shafts B B' and their ratchets *h*, and a friction-clutch, whereby the spur-wheel *a* is secured to the shaft B', as set forth.

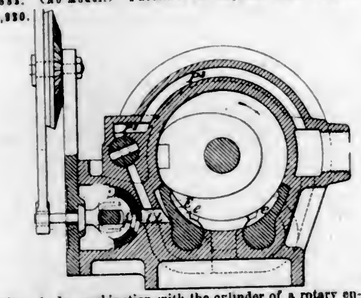
260,977. BALING-PRESS. JOHN B. HOCKEN, Lurtat, Colo. Filed May 26, 1882. (No model.)

Claim.—In a baling-press, the combination, with the stationary post *d*, having connected thereto the eccentric operating-wheel F, of the carrier D, having elongated opening *e*, plungers E, and anti-friction rollers G, said rollers also acting as fulcrums for the eccentric wheel, the whole combined and arranged to operate substantially as and for the purpose set forth.

260,977.



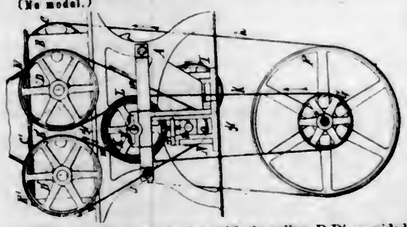
260,978. ROTARY ENGINE. RICHARD HODSON, Abbey Road, St. John's Wood, County of Middlesex, England. Filed Apr. 21, 1883. (No model.) Patented in England Sept. 9, 1881, No. 3,930.



Claim.—1. In combination with the cylinder of a rotary engine, divided up into compartments, a pair of abutment-valves to act upon the divided rotary piston, a double set of induction-passages controlled by an oscillating valve capable of receiving an endwise motion on its seat, and a plug-cock actuated by the reversing-gear, which brings the induction-passages alternately into communication with the exhaust-passage when the direction of rotation is required to be reversed, substantially as herein described.

2. In a rotary engine, the combination, with a reversing-valve which has an oscillating, and is capable of receiving an endwise motion, of a second oscillating valve forming the seat for the reversing-valve and controlling the steam-ports for the purpose of cutting off the steam at any required part of the stroke, as described.

260,979. ROLLER-MILL. NOAH W. HOLT, Buffalo, N. Y., assignor to Richard K. Noye, same place. Filed Apr. 4, 1882. (No model.)



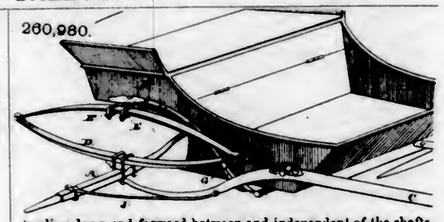
Claim.—1. The combination, with the rollers D D', provided with pulleys E E', of a tightener-pulley, N, a pulley, K, an open endless belt, *m*, passing around the pulleys E, E', N, and K, and a pulley, L, secured to the pulley K, and adapted to receive the driving-belt *k*, substantially as set forth.

2. The combination, with the fast rollers B B', provided with pulleys C C', the slow rollers D D', provided with pulleys E E', and the driving-shaft *f*, provided with pulleys F G, of the jack-pulley I, and an open endless belt, *k*, running around the pulleys C, C', F, and I, pulleys K, L, and N, an open endless belt, *k*, running around the pulleys G and L, and an open endless belt, *m*, running around the pulleys E, E', K, and N, substantially as set forth.

260,980. TWO-WHEELED VEHICLE. RENRY HORTON, Rutherford, Cal. Filed Mar. 13, 1882. (Model.)

Claim.—1. In a two-wheeled vehicle, the combination of shafts rigidly secured to the axle, the springs D, clipped to the axle and having cross-bars E, the body F, secured to the cross-bars and extending down and forward between and independent of the shafts, and the supports or braces G, bolted to the cross-bars E of the springs and to the forward lower portion of the body F, substantially as and for the purpose herein described.

260,980.



2. In a two-wheeled vehicle, the combination of shaft C, bent as shown and rigidly secured to the axle, the seat-supporting springs D, clipped to the axle, and connecting-links I, pivoted to the springs and to the shafts, substantially as and for the purpose herein described.

3. In a two-wheeled vehicle, the arrangement and combination of the shafts C, bent as shown, and clipped to the axle, the springs D, with the cross-bars E, body F, secured to said bars, supports or braces G, bolted to the bars and to the lower forward end of the body, and the pivoted or journaled connecting-links I, joining the springs with the shafts, substantially as herein described.

4. In a two-wheeled vehicle, the combination of shafts rigidly secured to the axle, the springs D, clipped to the axle and having adjustable cross-bars E, the body F, hinged, as shown at *m*, to one of the cross-bars and extending down and forward between and independent of the shafts, and the supports or braces G, bolted to both bars E and to the forward lower portion of the body F, substantially as herein described.

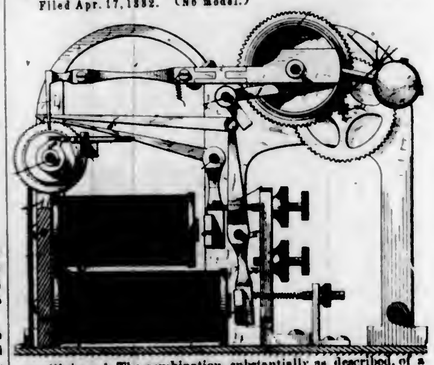
260,981. CARTRIDGE-LOADING IMPLEMENT. ARTHUR L. HOWARD, New Haven, Conn. Filed Sept. 8, 1880. (Model.)

Brief.—The radial slots in the cap permit the latter to spring sufficiently to hold the plunger and prevent splitting by the swelling of the parts.



Claim.—In a cartridge-loading implement, the combination, with a reversible plunger or rammer, of a knob or cap, C, having radial slots *d* in its under face and sides, substantially as and for the purpose set forth.

260,982. ELECTRIC CALL. GEORGE W. HOWERS, Chicago, Ill. Filed Apr. 17, 1882. (No model.)



Claim.—1 The combination, substantially as described, of a local relief-circuit, a rotating cylinder interposed therein, a gravitating circuit-closing lever, also interposed in said circuit, and actuating mechanism which, when in motion, operates to rotate forward the cylinder by a step-by-step movement and keep the circuit-closing lever elevated, but which, when at rest, holds the cylinder stationary and permits the circuit-closing lever to descend and make contact with the cylinder, and thus close the relief-circuit, with mechanism for disengaging the actuating mechanism from the cylinder upon the closing of the relief-circuit, and means for rotating the cylinder back to starting-point.

2. The combination of local relief and bell circuits, a rotating cylinder interposed in the bell-circuit and provided with a signaling projection or rib, a cylinder interposed in the relief-circuit, a gravitating circuit-closing lever forming part of both said circuits, and actuating mechanism which, when in motion, operates to rotate forward the cylinders by a step-by-step movement and to keep the circuit-closing lever elevated, but which, when at rest, holds the cylinders stationary and permits the circuit-closing lever to descend and make contact with either the projection on the cylinder in the bell-circuit to complete the bell-circuit or with the cylinder in the relief-circuit to set in operation the relief mechanism, according to the position of said cylinders, as set forth.

3. The combination, substantially as described, of the electro magnet or magnets in the main line, whose armature controls an actuating mechanism, the cylinder in the local bell-circuit having the signaling projection, the cylinder in the local relief-circuit, the electro magnet or magnets in the relief-circuit, whose armature controls a relief mechanism, a gravitating circuit-closing lever forming part of both local bell and relief circuits, and means for rotating the cylinders back to starting-point after they are released.

4. The combination, substantially as described, of the local bell and relief circuits, the ratchet-wheel and the two cylinders mounted on the same arbor with it, the actuating-pawl connected to the armature of the electro-magnets in the main line, the electro-magnets in the local relief-circuit, the ratchet-wheel keeper connected to the armature of said last-named magnets, the gravitating circuit-closing lever, the bell-crank lever for raising the circuit-closing lever, and the spring for rotating the ratchet-wheel and cylinders back to starting-point.

5. The combination, substantially as described, with the gravitating circuit-closing lever, of the friction-clutch and revolving fans for retarding the descent of the same.

6. The combination, substantially as described, with the gravitating circuit-closing lever, of the friction-clutch, the revolving fans, and the adjustable counter-weight.

7. The combination, substantially as described, with the gravitating circuit-closing lever, of the friction-clutch and regulating-fans for retarding its descent, and the bell-crank lever and armature-arm for causing it to rise every time the main circuit is closed.

8. The circuit-closing lever carrying the two insulated contact-fingers of unequal length at its forward end—one in the local bell-circuit and the other in the local relief-circuit—in combination with the cylinder in the local bell-circuit having the signaling projection or rib, and with the cylinder in the local relief-circuit, substantially as described.

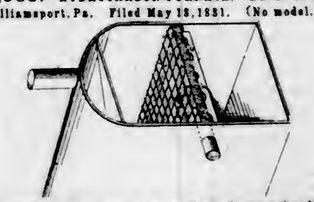
9. The circuit-closing lever consisting of the metal parts X Z, the former carrying the contact-finger and the latter the gravitating friction-block, and the insulating intermediate part, Y, connecting said parts X Z, substantially as described.

10. The combination, substantially as described, with the keeper and actuating-pawl, of the pivoted lever for holding the said actuating-pawl and keeper out of engagement with the ratchet-wheel during the closure of the relief-circuit, and the rotating cam for withdrawing said lever when the ratchet-wheel has reached normal or starting point.

11. The combination of a main charged line or circuit, a series of stations on said main line, each having an electro-magnet connected into the main line, a local bell-circuit, a local relief-circuit, two rotating cylinders—one having a signaling projection or rib and forming part of the local bell-circuit and the other forming part of the relief-circuit—a gravitating circuit-closing lever having a retarded downward movement, and adapted, when down, to close either the bell or the relief circuits, mechanism actuated by the armature of the main-line magnets for rotating forward the cylinders and for keeping the circuit-closing lever elevated during such forward rotation, electro magnet or magnets in the local relief-circuit, whose armature controls a keeper for said cylinders, means for bringing the cylinders back to starting-point upon the closure of the relief-circuit, and a key or other contrivance for opening and closing the main line, the signaling-projection on the rotating cylinder, which forms part of the local bell-circuit at each station, being arranged at different distances from the normal or starting point, so that upon the rupturing of the main circuit a given number of times by the signaling-key at any station, in the manner described, the circuit-closing levers at all the stations will be caused to drop and complete the relief-circuit and reset the instruments at all the stations save one, and at that one station complete the bell-circuit and give the signal, substantially as described.

12. The combination of a main charged line or circuit, a series of stations thereon, each provided with an electro-magnet connected to the main line, and through the magnetization and demagnetization of which an actuating mechanism is set into operation to advance a cylinder forming part of a local bell-circuit and another cylinder forming part of a relief-circuit, a gravitating circuit-closing lever forming part of both bell and relief circuits, and adapted to be moved rapidly upward by the operation of the aforesaid actuating mechanism, and to fall with a retarded motion to make contact either with a projection on the cylinder in the bell-circuit or with the cylinder in the relief-circuit, according to the location of said cylinders, an electro-magnet in the relief-circuit, which, when the relief-circuit is closed, operates to release and reset the cylinders at all the stations except the one called, and with means at each station for opening and closing the main circuit, substantially as described.

260,983. HYDROCARBON-FURNACE. DAVID B. HUBBARD, Williamsport, Pa. Filed May 18, 1881. (No model.)

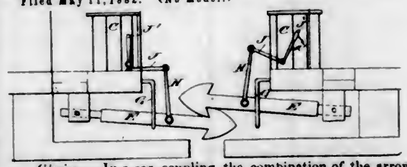


Claim.—1. The process or method of generating heat by the passage of air under pressure through a fibrous incombustible fire-bed saturated with fluid hydrocarbons, substantially as described.

2. A fire-bed composed of such fibrous incombustible material as will allow of a free passage of air through it, said fire-bed being provided with means, substantially as shown, for saturating it with fluid hydrocarbons, substantially as described.

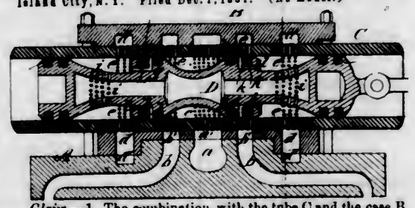
3. In a heat-generating apparatus, the combination of the following elements, viz: a combustion-chamber, an air-pressure chamber, and an intermediate fire-bed composed of fibrous non-combustible material, substantially as described.

260,984. CAR-COUPLING. SYLVESTER HUFF, Wabash, Ind. Filed May 11, 1882. (No model.)



Claim.—In a car-coupling, the combination of the arrow-headed or fluked draw-bar E E, pivoted to the under side of the car-platform, the right-angled guide frame and support G, the bail H, connected to the draw-bar, and the bell-crank lever J J', pivoted to the upper end of the bail H, and having its bearing at its angle at a point above the car-platform, substantially as shown and described.

260,985. STEAM PISTON-VALVE. WILLIAM S. HUGHES, Long Island City, N. Y. Filed Dec. 1, 1881. (No model.)

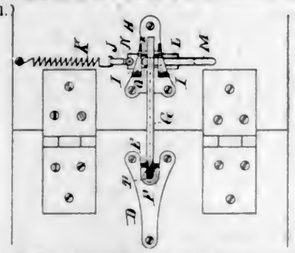


Claim.—1. The combination, with the tube C and the case B, having steam and exhaust passages, of the hollow piston-valve D, having enlarged packed ends, and provided with the intermediate annular flanges, *g*, forming a space between them and spaces between them and the ends, substantially as and for the purpose set forth.

2. The piston-valve D, formed between its packed ends with steam and exhaust cavities, and the tube C, formed with perforations *e*, in combination with the case B, formed with the connected ports *a' b' d*, substantially as shown and described.

3. The combination of case B, having steam-ports *b' d* and exhaust-port *a'*, tube C, apertured to correspond with the steam and exhaust ports of the case, and the hollow piston-valve D, formed with steam and exhaust cavities and with perforations *i*, substantially as described, for operation as set forth.

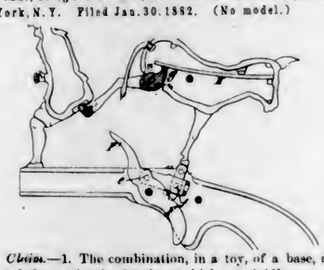
260,986. DOUBLE-ACTING LOCK-SUPPORT FOR TABLE-LEAVES. NICHOLAS A. HULL, Peru, Ind. Filed June 25, 1881. (No model.)



Claim.—1. In a support for table-leaves, the combination, with the locking devices, of the arm G, having the notch G' leading to the pivot-eye, and the pivot-casting D, having cast therewith the pivot E and pivot-jaw F, said jaw having a thickness less than the diameter of said pivot, substantially as and for the purpose set forth.

2. In a support for table-leaves, the combination of pivot-piece D E, pivoted arm G, having side groove, S, and bolt-hole P, bolt-piece O, carried in housing H I, and provided with stop N and the spring K, and finger-piece M, substantially as and for the purpose set forth.

260,987. MECHANICAL TOY. EDWARD R. IVES, Bridgeport, Conn., assignor to Ives, Blakeslee & Co., same place and New York, N. Y. Filed Jan. 30, 1882. (No model.)



Claim.—1. The combination, in a toy, of a base, an animal pivoted thereto by the fore legs, which are rigidly connected with the body and have an extension below the pivot, a lever, and a connection between said lever and extension for acting on the fore legs to rock the animal, substantially as specified.

2. The combination, in a toy, with a base and an animal mounted thereon, so as to be adapted to have a rocking movement imparted to its body upon the fore legs, and having hind legs pivoted to its body, of a horn or similar device extending from the base and acting on the hind legs after the body is impelled upward on the fore legs as a pivot, substantially as specified.

3. The combination, in a toy, with a base and an animal mounted thereon, so as to be adapted to have a rocking movement imparted to its body, and having hind legs pivoted to its body, and provided with an extension beyond the pivot, of a horn or similar device extending from the base for imparting an initial backward movement to the hind legs, and a spring having a bearing upon the extension of the hind legs for completing the backward movement of the said hind legs, substantially as specified.

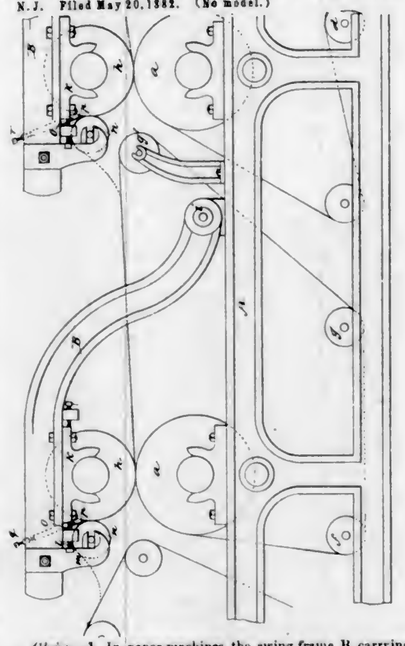
4. The combination, in a toy, with a base and an animal pivoted thereto by fore legs which are rigidly connected with the body and are provided with an extension beyond the pivot, of the lever F and the link G, connecting said lever with the extension, substantially as specified.

5. The combination, in a toy, with a base and an animal pivoted thereto by fore legs which are rigidly connected with the body and are provided with an extension beyond the pivot, and having its hind legs pivoted to the body, of the lever F, horn F', and the link G, connecting said lever with the said extension, substantially as specified.

6. The combination, in a toy, with a base and an animal pivoted thereto by the fore legs which are rigidly connected with the body and are provided with an extension beyond the pivot, and having its hind legs pivoted to the body, and provided with the projection *g*, of the lever F, horn F', the link G, connecting said lever with said extension, and the spring H, bearing on the projection *g*, substantially as specified.

7. The combination, in a toy, with a base, of a rocking animal and a cup-receptacle adapted to be reached by the hind legs of the animal when the animal is rocked, substantially as specified.

260,988. PAPER-MACHINE. WILLIAM O. JACOBI, Butler, N. J. Filed May 20, 1882. (No model.)

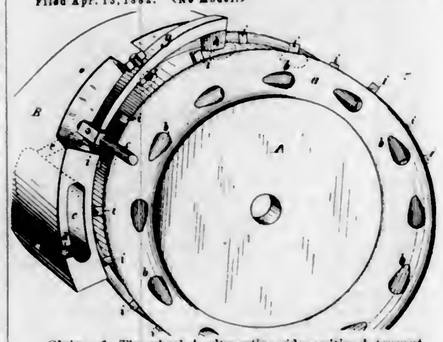


Claim.—1. In paper-machines, the swing-frame B, carrying the upper rolls, *h*, of the presses, and cushion-rollers *n*, substantially as shown and described.

2. The combination of the swing-frame B, carrying rolls *h n*, and the lower rollers, *a*, of the paper-machine, substantially as shown and described.

3. In paper-machines, the cushion-rollers *n*, upper press-rollers, *h*, and the doctors *o*, substantially as described, combined for operation as set forth.

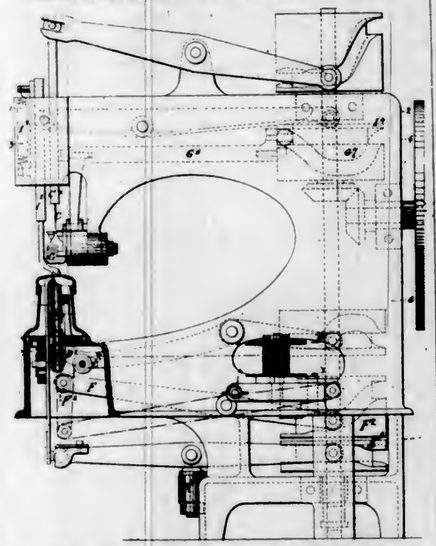
260,989. ROTARY ENGINE. DAVID M. JOHNSON, Trinity College, N. C., assignor to himself and David M. Payne, same place. Filed Apr. 13, 1882. (No model.)



Claim.—1. The wheel A, alternating side cavities, *b*, tangent ports *c*, slide-valve or cut-off *f*, oscillating lever *g*, provided with the lug *h*, and valve-operating pins *i*, as shown and described.

2. In rotary engines, cut-off *f* and lever *g*, provided with lug *h*, in combination with chest B and wheel A, provided with pins *i*, substantially as shown and described.

260,990. MACHINE FOR SEWING BOOTS AND SHOES. ALPHONSO KEATS, Newcastle-under-Lyne, County of Stafford, England. Filed Apr. 1, 1881. (Model.) Patented in England June 28, 1879, No. 2,619, and Dec. 23, 1879, No. 5,252; in Germany Dec. 25, 1879, No. 13,780; in France Dec. 26, 1879, No. 134,306, and in Austria May 4, 1880, No. 15,800.



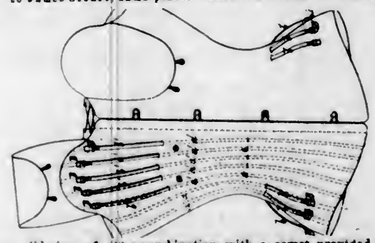
Claim.—1. The shuttle having a knife-edged nose for dividing the loop, a grooved segmental-shaped portion in rear of said nose, and a shoulder in rear of said grooved segmental portion, substantially as and for the purpose herein described.

2. The combination, with the hooked needle and the bracket-arm which contains the guide for said needle, of a bracket pendent from said bracket-arm, an oscillating shuttle-carrier pivoted into or having its bearings in said bracket, and a shuttle supported in and operated by said carrier, the said carrier being entirely above the work, substantially as herein described.

3. The combination, in an oscillating shuttle-carrier, of the horn G', the pivoted gripper G', the sliding bolt G', and a stationary cam for operating said grippers and bolt, substantially as herein described.

4. The combination, with the feeding device in a sewing-machine having a hooked needle and a shuttle above the work-support, and mechanism for operating the said device, of the rising and falling take-up roller F', its carrying-lever F, and mechanism for operating the said lever, the two said mechanisms being so timed that the operation of the said roller for tightening the needle-thread to complete a stitch shall precede the feeding movement, and the slackening of the said thread following the tightening of the stitch shall be concurrent with the feeding movement, as herein described.

260,991. CORSET. AUSTIN KELLAY, Brooklyn, N. Y., assignor to James Stuart, same place. Filed Jan. 10, 1882. (Model.)



Claim.—1. The combination, with a corset provided with springs or stays for supporting or sustaining the body thereof, of supplemental adjustable springs located in the bosom portions of the corset, one end of the said springs being held stationary and the other end adapted to slide in pockets in the corset, and clamps connected with the body of the corset for holding the sliding ends of the said springs in their adjusted position to regulate the fullness of the corset-bosom, substantially as described.

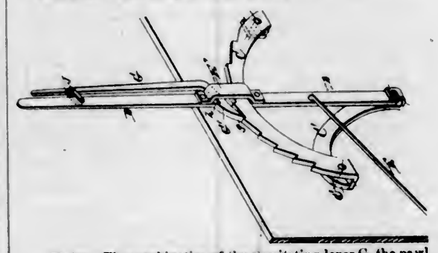
2. The combination, with a corset provided with springs or stays for supporting the body thereof, of supplemental springs arranged directly over said supporting springs or stays at the bosom portion of the corset, one end of the supplemental springs being held stationary and the other end adapted to slide in pockets in the corset, and clamps connected with the body of the corset for adjusting and binding the sliding ends of the said springs on the corset supporting springs or stays, to regulate the fullness of the corset-bosom, substantially as described.

3. The combination, with a corset having springs or stays for supporting the body thereof, of supplemental springs located in the hip portions of the corset, one end of said springs being held stationary and the other end adapted to slide in pockets in the corset, and clamps connected with the corset-body for adjusting and holding the sliding ends of said springs to regulate the fullness of the corset hip portions, substantially as described.

4. The combination, with a corset provided with springs or stays for supporting the body thereof, of supplemental springs arranged directly over said supporting springs or stays, one end of the supplemental springs being held stationary and the other ends adapted to slide in pockets in the corset, and clamps connected with the body of the corset for adjusting and binding the sliding ends of the said springs on the corset supporting springs or stays, substantially as described.

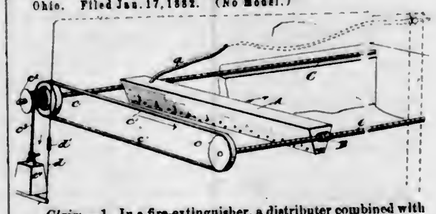
5. As an improved article of manufacture, a corset provided with supporting springs or stays, and with supplemental adjustable springs arranged in the bosom and hip portions of the corset, said supplemental springs having their ends arranged in pockets in the corset and adapted to slide at one end, for regulating the fullness of the bosom and hip portions of the corset, substantially as described.

260,992. WAGON-BRAKE. WILLIAM J. KERR, White Oak Grove, Mo. Filed May 5, 1882. (No model.)



Claim.—The combination of the gravitating lever G, the pawl G', and the shoulder formed on this lever with the vibrating hand-lever D, the loop E, the links J, and the toothed segment, substantially in the manner and for the purpose described.

260,993. FIRE-EXTINGUISHER. ISIDOR KITESS, Cincinnati, Ohio. Filed Jan. 17, 1882. (No model.)



Claim.—1. In a fire-extinguisher, a distributer combined with means whereby it is caused to automatically move forward and backward upon suitable supports, substantially as set forth.

2. In a fire-extinguisher, one or more distributers, each provided with a flexible supply-pipe, *a*, combined with means whereby the distributers are adapted to move back and forth, substantially as described.

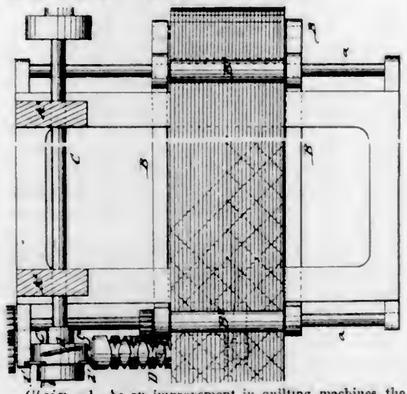
3. In a fire-extinguisher, the traveling distributers A, in combination with screws C, having each right-and-left-hand threads, and means whereby said screws are arranged to rotate in unison, substantially as described.

4. In a fire-extinguisher, the right-and-left-hand cut screws C, in combination with the boxes B, provided with teeth B' and means for communicating motion to said screws, substantially as described.

5. In a fire-extinguisher, the combination of the screws C and distributers adapted to travel on said screws, pulleys c, belt c', with the drum c^3, cord c^4, and weight c^4, substantially as described.

6. In a traveling fire-extinguisher, the combination of the screws C, having pulleys c, belt c', drum c^3, cord c^4, and weight c^4, with the lever D and cord d, having fusible joints d', substantially as described.

260,994. QUILTING-MACHINE. WILLIAM KOCH, New York, N. Y. Filed Mar. 1, 1882. (No model.)



Claim.—1. As an improvement in quilting-machines, the mechanism which imparts intermittent reciprocating motion to the feed-carriage, said mechanism consisting of a cylinder having spiral right-and-left-hand grooves engaging a swivel-fork of the carriage, in combination with feed-rolls and suitable actuating mechanism arranged to move the fabric in a direction parallel to the needle-bar, substantially as described

2. The combination of the wheel C' on the driving-shaft C, said wheel having a worm-segment and stop-flange, d', a pinion, C^2, having inclined teeth which are engaged by the worm-segment and stop-flange, respectively, with intermediate transmitting-gearing and with the feed-rollers B^1 B^2 of the feed-carriage, substantially as set forth.

3. The combination of a wheel, C', on the driving-shaft, said wheel having a worm-segment, d, and stop-flange d', a pinion, C^2, having inclined teeth which are engaged respectively by the worm-segment and stop-flange, a right and left hand spirally-grooved cylinder, D, on the shaft of the pinion C^2, and a longitudinally-guided carriage, B, having a swiveled fork, D', meshing with the grooves of the cylinder, so as to intermittently move the carriage and reverse its motion when arriving at opposite ends of the grooved cylinder, substantially as specified.

260,995. TEA OR COFFEE POT. EMILE KRIPPENDORFF, Wood Haven, assignor to the Lalance & Grosjean Manufacturing Company, New York, N. Y. Filed May 27, 1882. (No model.)

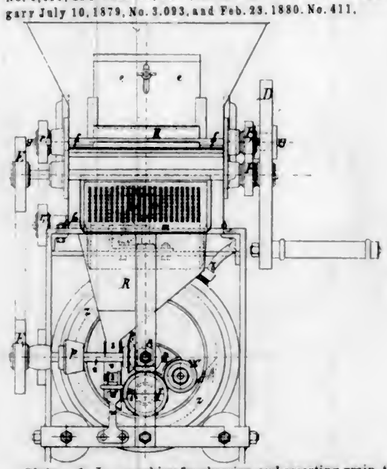


Claim.—1. The combination, substantially as hereinbefore set forth, with the body and spout of a tea or coffee pot or other like vessel, of a double-flanged collar encircling the base of said spout and uniting it with the body of said vessel.

2. The combination, substantially as hereinbefore set forth, of the body of a tea or coffee pot or other like vessel having an aperture formed in its side, a spout, projecting flanges formed respectively upon the edges of said aperture and spout, and a double-flanged collar for permanently uniting said flanges.

3. The combination, substantially as hereinbefore set forth, of the body of a tea or coffee pot or other like vessel having an aperture formed in its side, a spout, projecting flanges formed respectively upon the edges of said aperture and spout, a strainer interposed between said flanges, and a double-flanged collar for permanently uniting said flanges and securing said strainer in position.

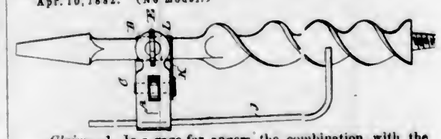
260,996. GRAIN CLEANING AND ASSORTING MACHINE. WILHELM KRUGER, Kalk, near Cologne, Germany. Filed Mar. 5, 1881. (No model.) Patented in Germany Dec. 29, 1878, No. 6,609, and June 12, 1879, No. 8,955, and in Austria-Hungary July 10, 1879, No. 3,093, and Feb. 23, 1880, No. 411.



Claim.—1. In a machine for cleaning and assorting grain, the combination of an inner cylinder having internal cells for collecting weed-seeds, a trough and conveyer-shaft for discharging said weed-seeds from the machine, and an outer reticulated cylinder for assorting the grain, and means for conveying the grain from the lower end of the cleaning-cylinder to the upper end of the assorting-cylinder, as and for the purpose set forth.

2. In a grain cleaning and assorting machine, the combination of the funnel R, movable discharge leg or tube e, the concentric cylinders H L, and feed mechanism, as and for the purpose set forth.

260,997. AUGER. SOLOMON KUHLMAN, Canton, Ohio. Filed Apr. 10, 1882. (No model.)



Claim.—1. In a gage for augers, the combination, with the pivoted jaws A B, the former provided with an apertured head, D, of the screw E, and the pivoted flanged arm K, substantially as herein shown and described, and for the purpose set forth

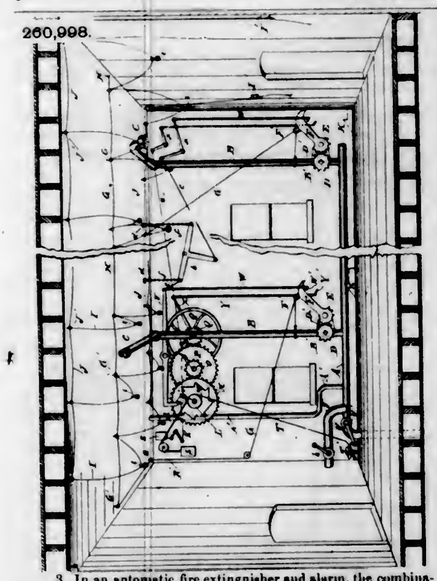
2. In a gage for augers, the combination, with the jaw A, provided with an apertured head, D, and the jaw B, provided with recesses F and H in opposite ends, of the screw E, and the gage rod or wire J, substantially as herein shown and described, and for the purpose set forth.

260,998. AUTOMATIC FIRE EXTINGUISHER AND ALARM. CLEMENS KOPKA, Phillipsburg, N. J., assignor to himself and John Gleubler, Easton, Pa. Filed Apr. 10, 1882. (No model.)

Claim.—1. In an automatic fire extinguisher and alarm, the combination, with the stand-pipe B and cock B', of the gear-wheel D, segment E, attached to lever F, the cords G, and loops I, of inflammable material, as shown and described.

2. In an automatic fire extinguisher and alarm, the combination, with the stand-pipes B, of the cocks B', the arms F, the cords or ropes G, the cords J, the cords or loops I, and the cleats I', substantially as herein shown and described, and for the purpose set forth.

260,998.



3. In an automatic fire extinguisher and alarm, the combination, with the stand-pipes B, of the cocks B', the cog-wheels D and E, the arms F, and the cords or ropes G, substantially as herein shown and described, and for the purpose set forth.

4. In an automatic fire extinguisher and alarm, the combination, with the stand-pipe B, of the cocks B', the arms F, the rope or cord G, the rod W, connected with an apparatus for shutting off the supply of water, and the rod Y, connected with an alarm apparatus, substantially as herein shown and described, and for the purpose set forth.

5. In an automatic fire extinguisher and alarm, the combination, with the stand-pipes B, of the cocks B', the arms F, the rope or cord G, the rod W, the pawl-lever V, and a train of wheels connected with a cock for shutting off the supply of water to the pipe B, substantially as herein shown and described, and for the purpose set forth.

6. In an automatic fire extinguisher and alarm, the combination, with the stand-pipe B, of the cocks B', the arms F, the cord or rope G, the pawl-lever V, the chain T, a drum, L, and a lever, U, of the cock U' of the supply-pipe A, substantially as herein shown and described, and for the purpose set forth.

7. In an automatic fire extinguisher and alarm, the combination, with the stand-pipes B, of the cocks B', the arms F, the cords or ropes G, the rod W, the pawl-lever V, a train of wheels, the chain T, attached to the drum connected with the train of wheels, the lever U, and the cock U' of the supply-pipe A, substantially as herein shown and described, and for the purpose set forth.

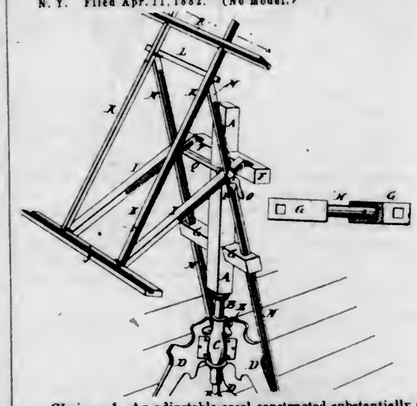
8. In an automatic fire extinguisher and alarm, the combination, with the stand-pipes B, of the cocks B', the arms F, the cords or ropes G, the rod W, the lever V, a train of wheels, the chain T, the lever U of the cock U', and the branch pipe g, substantially as described, and for the purpose set forth.

260,999. VEHICLE-WHEEL HUB. JULES LAJEUNESSE, Montreal, Quebec, Canada, assignor of one-half to Edmond Armant, same place. Filed Aug. 12, 1882. (No model.)



Claim.—The combination of the mortised wooden hub A, the encircling metallic ring having corresponding mortises with beveled edges and of greater diameter than those in the hub, and the tenoned spokes D, having a plane bearing-shoulder to rest on the outside of the hub within the mortise in the band, and also having inclines d, to bear on the beveled edges of such mortise.

261,000. ADJUSTABLE EASEL. WATSON F. LAMB, Brooklyn, N. Y. Filed Apr. 11, 1882. (No model.)



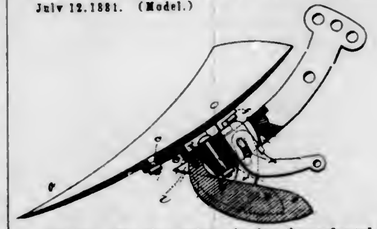
Claim.—1. An adjustable easel constructed substantially as herein shown and described, and consisting of the pedestals C D the standard A, having cross-bar F and roller G, the hinged and slotted bars M I and their clamping-rod, cam, and sleeve, and the work-supporting frame J K, having movable top board, R, as set forth.

2. In an adjustable easel, the combination, with the standard A, having cross-bar F and roller G, and the work-supporting frame J K, of the hinged crossed bars M I and the clamping-rod N, cam O, and sleeve Q, substantially as herein shown and described, whereby the work-supporting frame can be adjusted in any desired position, as set forth.

3. In an adjustable easel, the combination, with the hinged, crossed, and slotted supporting-bars M I, of the rod N, having hinged cam O at one end, and the sleeve Q, substantially as herein shown and described, whereby said bars can be readily secured in place, as set forth.

4. In an adjustable easel, the combination, with the adjustable and grooved side bars, K, of the work-supporting frame, of the sliding shouldered top board, R, having tongues S formed on its shoulders, substantially as herein shown and described, whereby the work will be held in place, as set forth.

261,001. SHOVEL-PLOW. JOHN LAWAIN, Brookston, Ind., assignor of one-half to John W. Holtzman, same place. Filed July 12, 1881. (Model.)



Claim.—The plow-point a, having the perforated notched bracket c, with the angular securing-arms f f and f', the latter having the shorter angle, in combination with the bifurcated and slotted standard, the bolts i and r, and the slotted sliding and locking catch, substantially as specified.

261,002. FIRE-ESCAPE. HENRY A. LEE, New York, N. Y. Filed Feb. 20, 1882. (No model.)

Brief.—T-shaped couplings which secure the ends of the sections of the post together also hold the cross-pieces by which the post is secured to the building. Flanges or steps are secured to the post at proper intervals.

Claim.—1. The combination, with a building, of a post made in sections, T-shaped couplings in which the adjacent ends of said sections are secured, cross-pieces also secured in said couplings and connecting the post with the exterior of the building at such distance therefrom that persons may slide down it, and flanges or like devices attached to the post, between said couplings, to serve as steps or resting-places, substantially as specified.

261,002



2. The combination, with a building, of the post D, composed of sections *a* of pipe, the T-shaped couplings *b*, connecting said sections, the cross-pieces E of pipe, also secured in said couplings and connecting the post to the exterior of the building, adjacent to the sills of the window-openings thereof, and flanges or like devices attached to said post between said couplings, to serve as steps or resting-places, substantially as specified.

3. The combination, with a building, of the post D, composed of sections, the T-shaped couplings *b*, connecting said sections, the cross-pieces E, also secured in said couplings and connecting the post with the building, and the couplings or sockets *b'*, secured upon the post intermediately between the couplings *b*, and provided with flanges or rings *d*, substantially as specified.

261,003. WINDING ATTACHMENT FOR CLOCKS. FREDK. W. LUTMATH, Washington, D.C. Filed Sept. 1, 1881. (No model.)



Claim.—1. In a time-keeper, the combination of a time-movement provided with a mainspring and balance, a winding-movement provided with a mainspring adapted to drive the same one week or longer, and automatic stop devices, substantially as shown, operated by the time-movement and engaging with the winding-train, whereby the winding-movement is caused to wind the mainspring of the time-movement at frequent intervals and stand at rest during the intermediate periods.

2. In a time-keeper, the combination of the following elements: a time-movement driven by a spring and governed by a balance, a winding-movement propelled by a spring and adapted to run a week or more by a single winding, a connection between the winding-arbor of the time-movement and one of the intermediate wheels and stop devices, substantially as shown, actuated by the time-movement and operating upon the winding-movement to permit its action at stated intervals only.

3. In a time-keeper, the combination of a time-movement provided with a mainspring and balance, a winding-train coupled to the winding-arbor of the time-movement and provided with a spring, whereby it may be driven to wind the time-movement for a week or more, a stop-lever acting in connection with the gear-train of the winding-movement, and a rotary shaft provided with an arm to trip said lever and actuated by the time-movement, as shown.

4. The combination, in a time-keeper, of the following elements: a winding-train containing a driving-spring and a sufficient number of gear-wheels to run down steadily under the action of the spring, a time-movement provided with a balance and a mainspring, a connection between the winding-train and the winding-arbor of the time-movement, and stop devices connecting with the time-movement and the winding-train to permit the movement of the latter at stated intervals.

5. In combination with the time-movement and its spring, the winding-train connected at its middle with the time-movement and at one end with the driving-spring F, the lever S, operating intermittently from the time-movement, and the stops *b*, *d*, and *e*, applied to the winding-train, as described and shown.

6. In a stop device for a winding-train, the combination of the wheel provided with the stud *e*, the wheel I, provided with the studs *d* and *f*, and a device, substantially as shown, for elevating and then releasing the lever.

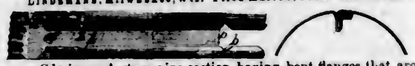
7. In combination with the time-movement and the winding-train, substantially as shown, automatic starting devices such as shown, connected with the winding-train, whereby the winding of the spring of the winding-train is caused to insure the starting of the movement.

8. In combination with the time-movement, the winding-train, the stop mechanism for the time-movement, and the starting devices therefor, connected with and operated by the stop devices of the winding-train, substantially as described and shown.

9. In combination with the winding-movement and the intermediate detent mechanism, the starting-lever moved in one direction by the detent mechanism and in another direction by the winding-stop of the winding-train.

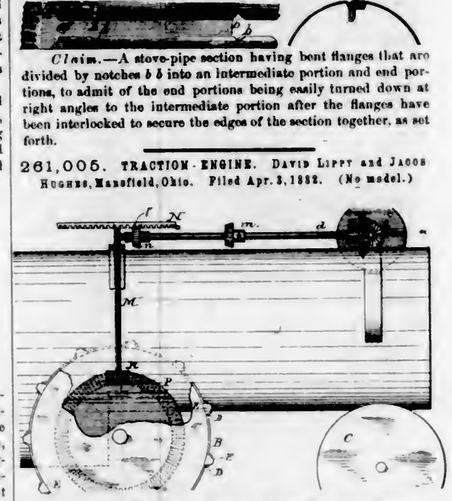
10. In combination with the balance D, the lever U, capable of movement in two directions, as described, the lever W, and stud T, applied to the winding-stop.

261,004. STOVE-PIPE. ALBERT J. LINDEMANN and CHARLES LINDEMANN, Milwaukee, Wis. Filed Mar. 30, 1882. (No model.)



Claim.—A stove-pipe section having bent flanges that are divided by notches *b b* into an intermediate portion and end portions, to admit of the end portions being easily turned down at right angles to the intermediate portion after the flanges have been interlocked to secure the edges of the section together, as set forth.

261,005. TRACTION-ENGINE. DAVID LIPPY and JACOB HUGHES, Mansfield, Ohio. Filed Apr. 3, 1882. (No model.)

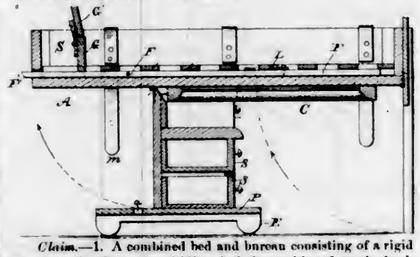


Claim.—1. In traction-wheels for engines, interchangeable segments or friction-surfaces provided with projections varying in size, substantially as and for the purposes set forth.

2. The wheel B, having grooves D and interchangeable blocks E, substantially as set forth.

3. In a traction-engine, the shaft *a*, gear-wheels *b c*, horizontal shaft *d*, having pinions *m n*, vertical shaft M, supplied with wheel N, having two sets of teeth, *o p*, the pinion R, and gear-wheel P, mounted on the axle of the traction-wheels, substantially as set forth.

261,006. COMBINED DRESSING-BUREAU AND BEDSTEAD. JOHN B. LOGAN, Indianapolis, assignor of one-half to the Indianapolis Patent and Copy Right Company, Marion County, Ind. Filed Nov. 25, 1881. (No model.)



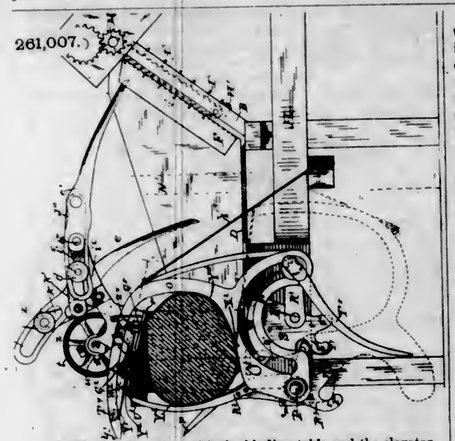
Claim.—1. A combined bed and bureau consisting of a rigid receptacle for drawers, a folding bed-frame hinged to the back board of the bureau, said frame having a partition for the reception of bedding, as described.

2. The combination of the bureau W, having the bottom piece, P', with the opening *a*, with the folding bed-frame A, having the receptacle S, partition G, folding end piece, B', with supports B and spring-catch F, substantially as set forth.

261,007. GRAIN-BINDER. FRANCOIS T. LOMONT and FRANCIS A. LOMONT, Cedar Rapids, Iowa. Filed Apr. 1, 1882. (Model.)

Claim.—1. The combination, with the binding-platform and the elevator, of the inclined table made in two parts, E E', the part E' being arranged to swing, and provided with a guide for the butts of the grain, substantially as set forth.

261,007.



2. The combination, with the binding-table and the elevator, of the inclined table formed in two parts, E E', the part E' being arranged to swing, and the mechanism for facilitating the travel of the butts of the grain, substantially as set forth.

3. The combination, with the binding-platform, the elevator, the inclined table, consisting of the stationary part E and the swinging part E', and the chain I, mounted on said swinging part E', of a flexible power-transmitting device for rotating said chain, substantially as set forth.

4. The combination, with the needle, the crank-shaft R, which reciprocates the needle, the clutch-plate T, secured to said shaft, the sliding clutch V, the cam-wheel T', and the sliding plate Y, which carries the clutch V, of the rock-shaft *c'*, arms *c d*, and the tripping-arm *p*, secured to the shaft *c'*, substantially as set forth.

5. The combination, with the needle, the tying and cutting mechanism, the shaft R, the crank R', which vibrates the needle, the wheel S, keyed to the shaft, the power-transmitting devices between wheel S and the tying and cutting mechanism, the shaft *h*, the vibrating gathering-arms on said shaft *h*, the wheel Z', the power-transmitting devices between wheel Z' and shaft *h*, and the wheel T, for rotating shaft R, of the sliding clutch around the shaft R, adapted to transmit power alternately to said wheel Z' and wheel T, substantially as set forth.

6. The combination, with the shaft R, which operates the needle, the fixed wheel S thereon, which operates the knotter and cutter, and the wheel Z', mounted loosely relatively to said shaft, of the power-wheel T^2, mounted loosely upon said shaft, and the mechanism adapted to alternately engage said wheel T^2 with the wheel Z' and with the shaft R, substantially as set forth.

7. The combination of the following elements, namely: the reciprocating arms for gathering the straw, the crank-shaft which operates them, the intermittently-operating needle, the intermittently-rotating shaft R, the continuously-rotating power-wheel T^2 thereon, the sliding clutch adapted to transmit power from said wheel T^2 alternately to the mechanism which operates the gathering-arms and to the shaft R, and an automatic tripping mechanism, which throws said clutch into engagement with the shaft R, substantially as set forth.

8. The combination, with the needle, of the shaft P', on which it is pivoted, the toothed segment R^3, the shaft R, the toothed segment S^3 on said shaft R, and the compressor R^2 on the shaft P', arranged, substantially as described, to drop when the binding has been completed and to be drawn toward the needle as the needle rises, as set forth.

9. The combination, with the needle, of the shaft P', on which it is mounted, the shaft R, having the crank R', the toothed segment S^3, the compressor R^2 on the needle-shaft, and the coiled spring S^2 between the compressor R^2 and the toothed segment R^3, substantially as and for the purposes set forth.

10. The combination, with the needle, of the shaft P', on which it is pivoted, the compressor R^2, the toothed segment R^3 on said shaft, the shaft R, having a crank, R', and the toothed segment S^3 on said shaft, having the teeth x^2 x^3 and the elongated curved surface x', substantially as set forth.

11. The combination, with the gathering-arms provided with the slots *l' l'* behind their pivots, and the links *k k'*, of the rollers made of rubber and situated within said slots, substantially as set forth.

12. In a grain-binder, the combination of two looping-tubes, two reciprocating knotting-hooks, a knife or cutter, and mechanism for reciprocating the knot-hooks and the cutter simultaneously, substantially as set forth.

13. The herein-described looping device, consisting of the revolving tube A^3, having the expanded head J^3, with the curved outer ends at J^4, and the inwardly-projecting tube L^3, situated centrally relatively to the part A^3, to form an open eye, M^3, and provided with a slot, L^3, substantially as set forth.

14. In a grain-binder, the herein-described knotter, consisting of the revolving tube A^3, having the looping-head J^3 J^4, with the open eye M^3 and the slot L^3, in combination with the reciprocating hook-rod D^3, and the sliding tube C^3, substantially as set forth.

15. The combination, with the two reciprocating hook-rods and the reciprocating knife, of a wheel adapted to reciprocate said rods and knife, substantially as set forth.

16. The combination, with the reciprocating hook-rods and the reciprocating knife, of the cross-head I^3 and pitman F^3.

17. In a grain-binder, a knotting mechanism adapted to tie two knots, one knot uniting the strands around the gavel and the other uniting the cut ends of the cords on the machine, substantially as set forth.

18. In a grain-binder, the combination of two knotting mechanisms, two cord-receptacles, and a needle or cord arm, arranged and operating substantially as set forth.

19. In a grain-binder, the combination of two looping-tubes arranged to be rotated simultaneously in opposite directions to form two separate knots, and means for guiding into said tubes before they rotate two parallel strands of cord, said strands coming respectively from opposite sides of the gavel, substantially as set forth.

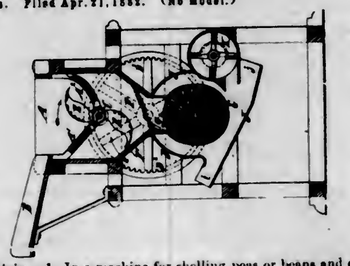
261,008. SAFETY-CATCH FOR BREASTPINS. ADOLPH LUTHY, New York, N.Y., assignor to himself and George W. Royes, same place. Filed Mar. 7, 1882. (No model.)

Brief.—The safety-hook is provided with a projecting heel, whereby the pin is thrown clear of the hook when it is desired to release the pin from engagement therewith.



Claim.—A locking device for a breastpin, consisting of a hook-shaped catch, C, an angular safety-hook, D, having an outwardly-extending spur, *d*, an inwardly-projecting hook *d'*, a lever-arm, *e*, and a projecting heel, *e'*, the arm *e* being at right angles to the arm that carries the hook *d'*, whereby it comes in contact with the pin and throws the latter out when said hook is withdrawn from the catch, substantially as described.

261,009. MACHINE FOR SHELLING PEAS AND BEANS AND CUTTING VEGETABLES. FRANCIS T. MALLON, Pawcatuck, Conn. Filed Apr. 21, 1882. (No model.)

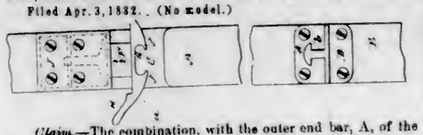


Claim.—1. In a machine for shelling peas or beans and cutting vegetables, the combination of a rotary shaft, curved or hooked knives or blades secured thereto and provided rearward of their cutting-edges with lateral projections, and a grating, between the bars of which the said knives or blades work, substantially as herein described.

2. The combination of the grating $A' A^3$, the bars of which are provided with lateral projections *f*, the shaft C, and the hooked knives or blades E, provided with lateral projections *e*, substantially as herein described.

3. The combination of the grating $A' A^3$, composed of bars having projections *f*, the bars and projections of the part A^3 having sharp edges, the shaft C, and the hooked knives or blades E, provided with projections *e*, substantially as herein described.

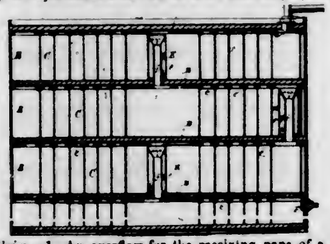
261,010. GATE-LATCH. WILLIAM H. MARSHALL, Oxford, Miss. Filed Apr. 3, 1882. (No model.)



Claim.—The combination, with the outer end bar, A, of the gate, provided with the recess C, the box J, and the sliding latch F, provided with the beveled projecting arms H, and the recess G, having inwardly-projecting lugs *f*, of the gate-post E, provided with the catch-plate D, having the horizontal projecting plate *a*, provided with the rib *b* at right angles thereto, and having the head *d*, substantially as and for the purpose set forth.

261,011. GAS-MACHINE. CHARLES MATTHEWS and WILLIAM HOLT, Chicago, Ill. Filed May 4, 1881. (No model.)

Brief.—The carbureting pans or chambers are provided with double overflow-tubes having openings near the bottom of the outer shell or tube, and also openings near the top of the inner shell or tube, whereby the heavier oil is passed from the bottom of one pan to the pan below to the bottom chamber. Air to be carbureted enters first the bottom chamber containing the heaviest oil and ascends through the overflow-tubes, coming in contact with the lighter oil in the top chamber, in order that both heavy and light oil may be vaporized and carried off more uniformly by the air.



Claim.—1. An overflow for the receiving-pans of a carburetor, consisting of an exterior tube, *e*, having a series of orifices, *h*, an interior tube, *f*, joined to the outer tube by an inclined plate having orifices *i*, leaving a passage, *g*, between the two tubes, whereby the heavy gasoline will flow from the bottom of the pan into the next lower pan, substantially as and for the purposes specified.

2. In a carburetor, a spiral air conduit or passage, C, formed by a thin piece of wood bent into a spiral form and covered with an absorbent material to permit the gasoline to permeate and penetrate over and through the spiral and present a large surface for contact with the air, substantially as specified.

3. In a carburetor, a receiving-pan, B, having an overflow operating from the bottom of the pan, in combination with a spiral air conduit or passage, C, formed of thin wood covered with an absorbent material, for passing the air through the pan in contact with the gasoline, substantially as and for the purposes specified.

4. In a carburetor, a receiving-pan, B, having an overflow, E, operating to take the gasoline from the bottom of the pan, in combination with a spiral air passage or conduit, C, and head or support D, to which the spiral is attached, for conducting air through the pan and preventing leakage or travel outside of the spiral, substantially as specified.

5. In a carburetor, a spiral air conduit or passage, C, consisting of thin wood bent into a spiral form and covered with an absorbent material, and attached to a head or support, D, by strips *c*, and a packing, *d*, for giving the air, in its passage through the carburetor, a circuitous line of travel and preventing leakage, substantially as specified.

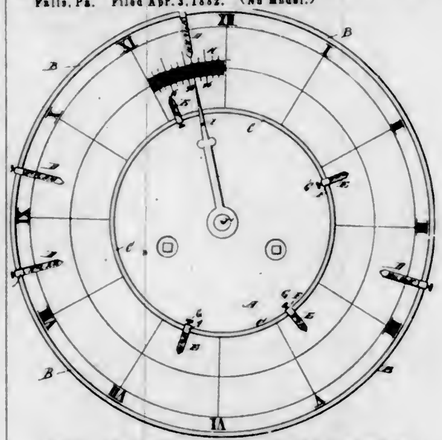
6. In a carburetor, an interior filling-pipe for the pans, consisting of a tube, H, a sleeve or tube, I, attached to the bottom of the pan, and a sleeve or tube, J, attached to the head or support, with openings or passages between the tubes for the passage of the gasoline to form a fluid joint and prevent leakage, substantially as specified.

261,012. CARPET-LINING. WILLIAM A. MADRAN, Providence, R.I. Filed Oct. 1, 1881. Renewed June 1, 1882. (Model.)



Claim.—A carpet-lining web loosely woven with a weft of the leaves of the cat-tail flag laid flat between the warp-threads, and having longitudinal strengthening-strips pasted to the flat sides of the weft, substantially as described.

261,013. TRAIN-INDICATOR. JOSEPH C. MCKENZIE, Beaver Falls, Pa. Filed Apr. 3, 1882. (No model.)



Claim.—1. A train-indicator constructed, substantially as herein shown and described, with an index-hand actuated by clock mechanism, moving over a graduated dial provided with flanges carrying adjustable indicator-tablets, the dial being adapted to receive a series of such flanges and tablets for indicating the movement of trains on one or more railway-lines in the stations, or for indicating the stops on the moving trains, as set forth.

2. The combination, with the clock-dial A, of the flanges B C and tablets D E, substantially as specified.

3. The tablets D E, constructed with a bent clip, F, and having a binding-screw, G, in combination with flanges B C of a clock-dial, A, substantially as specified.

4. The combination, in a train-indicator, of a clock the dial of which has the time-scale at hours and minutes for the hour-hand, and the two sets of adjustable tablets D E, substantially as specified.

5. The combination, in a train-indicator, of a clock the dial of which is provided with the time-scale in hours and minutes for the hour-hand, and the flanges B C, and the two sets of adjustable tablets D E, substantially as specified.

6. In a train-indicator consisting of a clock having flanges B C and the tablets D E, the hand or hands of the clock constructed with an offset, I, crossing flange C, substantially as specified.

261,014. FAUCET-FILTER. ARTHUR C. MCLACHLAN and JOHN CONNOR, Buffalo, N.Y. Filed Apr. 19, 1882. (No model.)

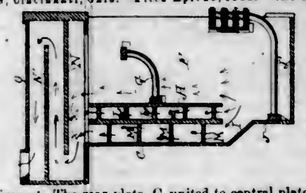


Claim.—1. The combination, with the filter D, having openings *d d* in its top and bottom, of a case provided in its side with an opening for inserting and removing the filter laterally, a sleeve, I, for securing the filter in the case, and means whereby the filter can be secured to the faucet, substantially as set forth.

2. The combination, with a case provided with a screw-thread, *a*, threaded ring B, and connecting-bars C, forming an opening in the side of the case, of the filter D, provided with openings *d d* in its top and bottom, and a threaded sleeve, I, for securing the filter in the case, substantially as set forth.

3. The combination, with the filter D, of the case A, having a screw-thread, *a*, and the coupling K, constructed with an undercut annular recess, *k*, and elastic ring *l*, seated in said recess, substantially as set forth.

261,015. FIRE-PLACE SMOKE-CONSUMER. WILLIAM T. MCMILLEN, Cincinnati, Ohio. Filed Apr. 28, 1882. (No model.)



Claim.—1. The rear plate, C, united to central plate, B, by checks M M, and the face-plate A, united to said central plate by checks L L, the three plates forming double vertical flues, being open at their bottoms to receive two independent volumes of smoke from the lower grate, H, and having top openings immediately under a crown-plate, so that the volumes shall be intermingled to aid in the consumption of the smoke, substantially as described and shown.

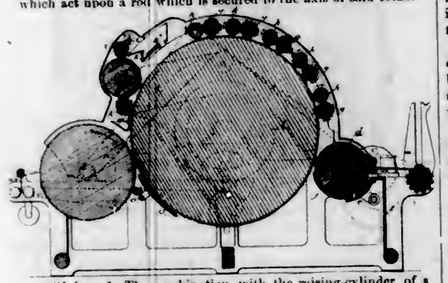
2. The plates A B C, having intervening retarding-checks, for the purposes herein specified, in combination with the grates H and G, substantially as set forth.

3. The grate H and plates A B C, the plate A being provided with grate G, in combination with the jambs F, the crown-plates N, N', and O, and chimney P, all arranged in suitable casing, and connected together in the manner and for the purpose specified.

4. The horizontal plates N, N', and O, the plate O having the rear chimney-opening, all arranged in the manner and for the purposes set forth.

261,016. CARDING-MACHINE. GEORGE B. MELLADEW, Boston, Mass., assignor to himself and J. Conrad Gerlach and Robert P. Barker, both of same place. Filed Aug. 17, 1881. (No model.)

Brief.—The rotary brush for cleaning the raising-cylinder is in turn cleaned by a cylinder provided with arms or blades. The dirt, &c., removed from the said brush is deposited in a suitable box. The doffer-comb is operated by means of two fluted disks, which act upon a rod which is secured to the axis of said comb.

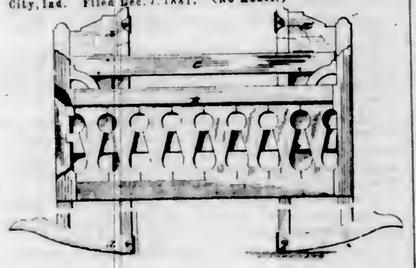


Claim.—1. The combination, with the raising-cylinder, of a rotary brush and a shaft or cylinder provided with rotating blades arranged in close proximity to each other, as and for the purpose specified.

2. The combination, with the brush f' and the cylinder f', of the box k^2, provided with the apron k', as and for the purpose set forth.

3. The combination, with the doffer-comb, of the disks r' and the rod *e*, with the enlarged end, as and for the purpose set forth.

261,017. FOLDING CRADLE. VINCENT A. MERRIFIELD, Michigan City, Ind. Filed Dec. 7, 1881. (No model.)



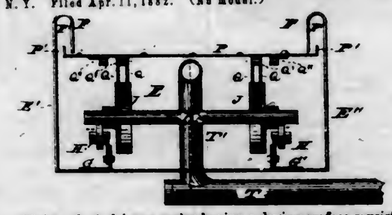
Claim.—1. In a folding cradle or crib, the combination of the divided rockers with the divided end pieces, suitably connected thereto, substantially as and for the purpose set forth.

2. In a folding cradle or crib, the combination of the divided rockers, each half-rocker hinged together, with the end pieces, suitably connected thereto, substantially as and for the purpose set forth.

3. In a folding cradle or crib, the combination, with the divided end pieces of the divided rockers, connected each half-rocker thereto by one or more standards, substantially as and for the purpose set forth.

4. In a folding cradle or crib, the combination, with the divided end pieces, of the divided rockers, the two halves of each rocker hinged together, and connected to the end pieces by one or more standards, substantially as and for the purpose set forth.

261,018. DRIER AND COOLER. FREDRICK H. C. MEY, Buffalo N. Y. Filed Apr. 11, 1882. (No model.)



Claim.—1. A drier or cooler having a drying-surface consisting of an endless apron composed of properly-disposed connected links and a series of transverse horizontal slats, said apron being constructed to operate within a closed compartment into which the drying or cooling medium is forced by suitable mechanism, substantially as and for the object specified.

2. An endless apron for a drier and cooler, consisting of a series of carrying-links, a series of links connecting said carrying-links, and a series of slats, substantially as described, said carrying-links being supported upon an anti-friction device, substantially in the manner as and for the purpose mentioned.

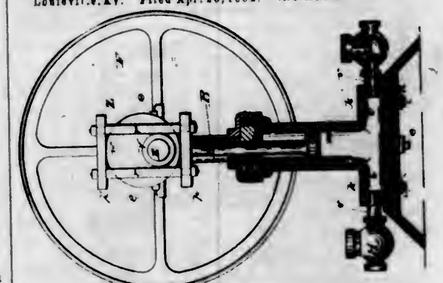
3. In driers and coolers, a compartment having its side walls downwardly bent into the shape of the letter U inverted, in combination with an endless drying-surface composed of a series of slats having upturned ends entering the space formed by the downwardly-bent sides, substantially as and for the purpose stated.

4. In drying-aprons for grain and the like, the carrying-links Q, consisting of the perforated head Q', body proper, and the tails *b b'*, said links being adapted for operation upon a carrier substantially in the manner as and for the object specified.

5. In drying apparatus, an endless apron consisting essentially of a series of carrier-links, Q, a series of connecting-links, Q', having plates R, another series of connecting-links, Q'', also provided with plates R, and a series of slats, I', fixed to the plates of the links Q' Q'', substantially as and for the object stated.

6. The combination, with the compartment E, of the supports G, having the gudgeons H and carrying-wheels J, of the endless apron having carrying-links the bases of which pass over the carrying-wheels, as described, and the sprocket-wheels, as stated, the whole being constructed and combined for operation substantially in the manner as and for the object specified.

261,019. PUMP. JOSEPH MEYRICK, Jr., and WILLIAM MELCHER, Louisville, Ky. Filed Apr. 20, 1882. (No model.)

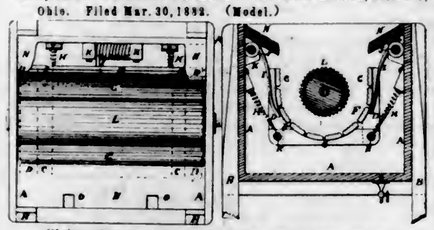


Claim.—1. In a plunger pump, the combination, with the eccentric and the collars on the counter-shaft of the guide-yoke Z,

having the corner guide-rods, *r r'*, upper plate, *p'*, and lower plate or head-plate, *p*, carrying the plunger-stem L, substantially as specified.

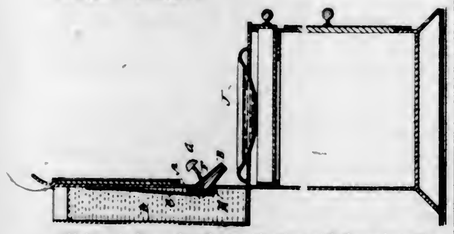
2. In a plunger-pump, the combination, with the bed-plate having the bearings *a*, recess *g*, and the bolt-apertures *b b'*, of the pillars B, tie-bolts *c*, box-heads *d*, counter-shaft E, pulley F, pump-body C, plunger P, and yoke-connection, with the eccentric and guide-collars on the counter-shaft, substantially as specified.

261,020. WASHING-MACHINE. GEORGE C. MILLER, Alliance, Ohio. Filed Mar. 30, 1882. (Model.)



Claim.—In a washing-machine, the combination, with the tub A, and the corrugated cylinder L, of the horizontal bars C, the upright bars D, pivoted thereto by rounds E, the supporting-springs H, the hinged rub-boards G F G, and the springs I, substantially as and for the purpose set forth.

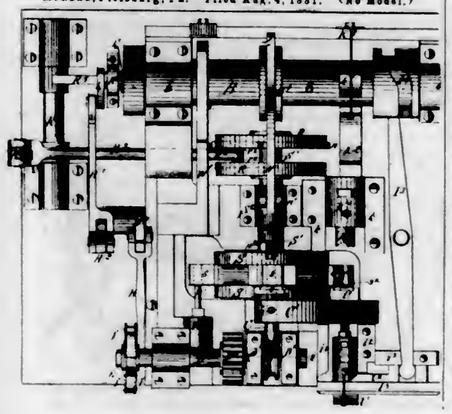
261,021. VALVE. MAX MILLER, Brooklyn, N. Y. Filed Apr. 18, 1882. (No model.)



Claim.—1. In a valve, the combination, with the spring-strip, of a packing or layer attached to the same and a curved wire or rod projecting from the same, substantially as herein shown and described, and for the purpose set forth.

2. In a valve, the combination, with the spout B, of the spring-strip C, attached to the inner surface of the wall or side A, the packing strip or disk E, attached to the inner surface of the strip at the free end of the same, and the curved wire or rod F, projecting from the inner surface of the strip C through the spout, substantially as herein shown and described, and for the purpose set forth.

261,022. MACHINE FOR MAKING BOLTS AND RIVETS. JAS. MORGAN, Pittsburg, Pa. Filed Aug. 4, 1881. (No model.)



Claim.—1. As a means for shearing blanks, the combination of feed-tube C, rotary moving dies *s*, and the means, substantially as described, for giving the dies a backward movement for partially severing the blank from one side and a forward movement to complete the severing of the blank from the other side, as set forth.

2. The combination of shear-tube C, dies *s*, rotary die-carrier S, shaft S', disks R, having hook-seats *r'* and connecting-ways *r* formed in their side faces, hook R', and means for imparting to the hook reciprocating motion with a length of stroke in excess of the distance between hook-seats in the line of stroke, substantially as and for the purposes set forth.

3. In a bolt and rivet machine, the combination of die-carrying shaft S', disks R, having in their adjacent side faces ways or edges *r* and hook-seats *r'* at the angles of the edges, such seats being formed with shoulders *r'* adjacent to the edges on either side, as described, and reciprocating hook R', having a length of stroke in excess of the distance between hook-seats, substantially as and for the purposes set forth.

4. As an improvement upon the combination composed of the feed and shear tube C, rotary moving die-head S, having dies *s*, pivoted bar N, rotary cam N', and wheel R, having lugs *n n*, the addition to the end of bar N of the feed-stop N', in virtue of which combination said stop is lowered to permit the free movement of said head and dies and raised to bring it to line with the feed-tube, substantially as set forth.

5. The combination of header K, dies *s*, having cavities *s' s'* therein, plunger *i*, spring I', sliding wedge I', lever I', and cam I', substantially as set forth.

261,023. WASH-BOILER. LUVICA C. MORRIS, Knightstown, Ind. Filed Apr. 15, 1882. (No model.)



Claim.—The herein-described improved wash-boiler attachment, consisting of pan or vessel B, having concave side C, down-turned rim or flange D, and the adjustable and detachable legs F, as herein described, for the purpose shown and specified.

261,024. ADDRESSING-MACHINE. MARTIN M. MORRISON, Kansas City, Mo. Filed Dec. 6, 1881. (Model.)

Claim.—1. The combination of the belt A, carrying type-blocks T, the polygonal roller B, the standard L, having a rounded end, the stirrup M, the spring-pawl N, having end hook, and the ratchet O, having a tooth for each side of pulley B, for the purpose specified.

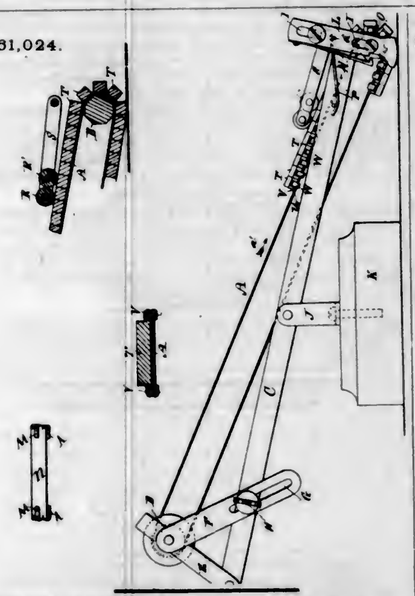
2. In an addressing-machine, the combination, with the pivoted frame C, of the rollers B and D, the belt A, carrying type-blocks T, the pivoted frame E, the brace F, and the locking-screw H, substantially as herein shown and described, and for the purpose set forth.

3. In an addressing-machine, the combination, with the pivoted frame C, of the belt A, carrying type-blocks T, and of the fork J, swiveled in a base, K, substantially as herein shown and described, and for the purpose set forth.

4. In an addressing-machine, the combination, with the pivoted frame C, of the rollers B and D, the endless belt A, carrying type-blocks T, the ratchet-wheel O on the end of the roller B, the standard L, and the hooked spring-pawl N, substantially as herein shown and described, and for the purpose set forth.

5. In an addressing-machine, the combination, with the pivoted frame C, of the rollers B and D, the endless belt A, carrying type-blocks T, the ratchet-wheel O, the standard L, the hooked spring-pawl N, and the spring P, substantially as herein shown and described, and for the purpose set forth.

261,024.



261,025. HAND-STAMP. JAMES MURDOCK, Jr., Cincinnati, Ohio. Filed Mar. 24, 1882. (No model.)

Claim.—A countersunk metallic plate, a conical-headed pin put through and soldered to said plate and having a threaded projection, a cup-shaped ferrule soldered to said plate, and a disk of solder within said ferrule united to said ferrule and to said conical-headed threaded pin, all combined substantially as set forth.

261,026. PISTON-PACKING FOR PUMPS. PHILIP A. MYERS, Ashland, Ohio, assignor of one-half to Francis E. Myers, same place. Filed Dec. 31, 1881. (No model.)



Claim.—1. In combination with the piston-rod, a disk, *b*, a cup-shaped packing having its edge free to move outward, an expansible disk within said packing, and a conical nut bearing centrally on said expansible disk, and adapted to be forced into and to expand the same, whereby the said free edge of the packing may be pressed outwardly, substantially as set forth.

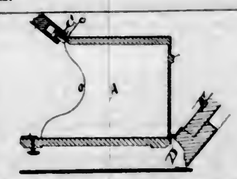
2. The combination of the cylinder, the piston-rod and piston, the packing, and the expansible disk within the packing, and the socket fixed to the upper end of the cylinder, adapted to receive the upper nut, and to turn it down to compress said packing, as set forth.

261,027. ORGAN-CASE. GEORGE NETTLETON, New Haven, Conn. Filed Feb. 28, 1882. (No model.)

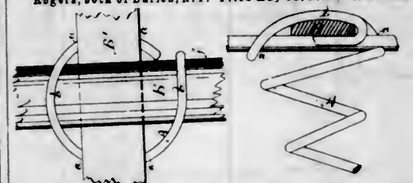
Claim.—1. Jointly with the case of an organ, piano, or similar musical instrument, a music-pocket, A, removably secured at its lower front end to the base of the instrument, at either side of the center thereof, and the vertically-sliding inner bolt, C, substantially as and for the purpose set forth.

2. Jointly with the music-pocket A, having recess *c*, the detachable hinge D and the vertically-sliding pin or bolt C, substantially as and for the purpose set forth.

261,027.

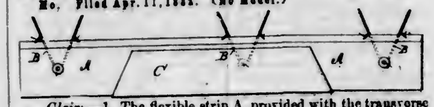


261,028. SPRING-BED. AMBROSE L. NORTON, Attica, N. Y., assignor of two-thirds to James H. Sutherland and Frank M. Rogers, both of Darien, N. Y. Filed May 31, 1882. (No model.)



Claim.—In a spring-bed, the metal spiral springs A A, having the top (and bottom) ring bent at *a a b b*, whereby they are adapted to receive the wooden slats B B', each of which is rounded on one side to fit into said bends, substantially as and for the purpose specified.

261,029. PANTALOON-GUARD. GEORGE R. OLBEY, St. Louis, Mo. Filed Apr. 11, 1882. (No model.)



Claim.—1. The flexible strip A, provided with the transverse ribs *a*, in combination with lapel or strip C, substantially as and for the purpose set forth.

2. The flexible strip A, ribs *a*, and lapel C, in combination with the spring-clips B, as and for the purpose set forth.

3. As a new article of manufacture, a protector for the legs of pantaloons, consisting of a strip of flexible material provided with ribs to prevent cloth from coming in contact with the boot or shoe, and provided with a spring-clip, whereby it may be secured to the garment, as and for the purpose set forth.

261,030. ROTARY CUTTER FOR TRIMMING BOOT AND SHOE HEELS. WILLIAM D. ORCUTT, Boston, Mass. Filed Apr. 7, 1882. (No model.)



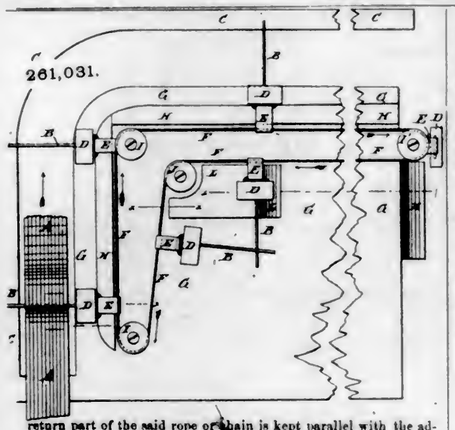
Claim.—A rotary cutter-head for trimming the edges of boot and shoe heels, composed of a series of disks or sections each provided with a series of cutting-teeth evenly distributed about and occupying a large portion of the periphery of said disk, with their front radial, or nearly radial, faces in planes parallel to the axis of the cutter-head, and a common core upon which said disks are mounted and to which they may be clamped, with their teeth arranged in spiral rows around, or partially around, said head, or in straight longitudinal rows, substantially as and for the purposes described.

261,031. WALL-PAPER CARRIER. WILLIAM J. PALMER, Flushing, N. Y. Filed Dec. 28, 1881. (Model.)

Claim.—1. In a wall-paper carrier, the combination, with the warp C G H and the endless rope or chain F, of the rods B, the blocks or shoes D, and the hinged arms E, substantially as herein shown and described, whereby the wall-paper is received, carried forward through the drying-room, and discharged automatically, as set forth.

2. In a wall-paper carrier, the combination, with the platform G and the return part of the endless rope or chain F, of the guide-pulley J, substantially as herein shown and described, whereby the

261,031.

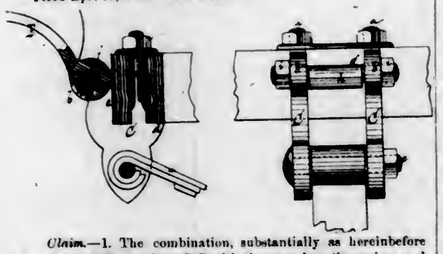


return part of the said rope or chain is kept parallel with the advance part to economize space, as set forth.

3. In a wall-paper carrier, the combination, with the platform G and the last pulley, I', of the series, of an inclined block, K, substantially as herein shown and described, whereby the blocks D and rods B are guided to the top of said platform after discharging the paper, as set forth.

4. In a wall-paper carrier, the combination, with the platform G and the guide-pulley J, of the block L, having beveled end, substantially as herein shown and described, whereby the blocks and rods are carried over the said guide-pulley, as set forth.

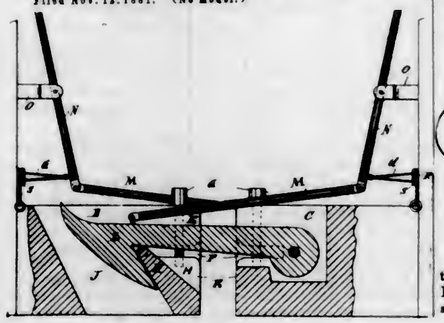
261,032. THILL-COUPLING. KARL PAUSCH, New York, N. Y. Filed Apr. 27, 1882. (No model.)



Claim.—1. The combination, substantially as hereinbefore described, of the brackets C C with the cross-bar, the spring, and the thill-iron, said brackets being provided with vertical bolts for their attachment to the cross-bar, with openings to receive the transverse bolt which passes through the eye of the spring, and with eyes to receive the pin which engages with the thill-iron.

2. As a new article of manufacture, a bracket provided with a vertical bolt, *a*, an eye, *b*, an opening to receive the transverse bolt *c*, and the shoulder *d*.

261,033. CAR-COUPLING. FRANK G. PETTUS, Mason, Tenn. Filed Nov. 12, 1881. (No model.)



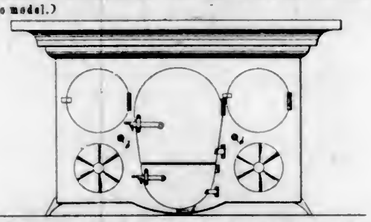
Claim.—1. The draw-head A, provided with the recesses C D, the slot J, the inclined transverse partition K, and the horizontal recess F in the vertical apertured partition E, which separates the recesses C D, substantially as shown and described, whereby the said heads are adapted to be used either with coupling-hooks or an ordinary coupling-link, or both, as set forth.

2. In a car-coupling, the combination, with the pivoted coupling-hooks L, of the rod M, pivoted to the said hooks, the rods N, pivoted to the end of the car and to the rod M, and the cords Q, attached to the lower end of the rod N, and passing through loops on the end of the car, substantially as and for the purpose set forth.

261,034. COMPOUND FOR COLORING TOBACCO. CHARLES S. PHILIPS, Brooklyn, N. Y. Filed Apr. 27, 1882. (No specimens.)

Claim.—The herein-described solution for coloring tobacco, consisting of carbon-black, nitrate of potash or equivalent salt, acetic or equivalent acid, and water, when mixed together substantially as and for the purpose specified.

261,035. COMBINED HEATER AND BASE FOR DRIERS. WILLIAM S. PLUMMER, San José, Cal. Filed Apr. 12, 1882. (No model.)



Claim.—1. The combination, with the furnace, the side walls, and the three-part U-shaped tube, having its side section of equal length to the side walls and its middle section opening into the furnace, of the two end walls having grooves or flanges to receive the ends of the side walls and the ends of the side sections of the tube, and the tie-rods *b*, for the double purpose of holding the end walls against the side walls to complete the case and sustaining and holding the tube in place around the furnace, as described.

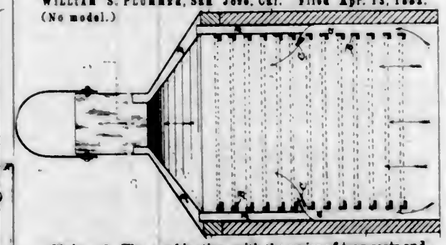
2. The combination, with the furnace and the side walls, of the perforated end walls, the three-part U-shaped tube, having its side sections of equal length to the side walls and opening through the perforation in the walls at both ends, and doors for closing said ends of the tube, substantially as shown and described.

3. The combination, with the side and end walls and the furnace, of the U-shaped tube surrounding the three sides of the furnace and opening into the furnace at its middle, and a partition extending through the three sections of the U-shaped tube and nearly to the front end, as and for the purpose described.

4. The combination, with the furnace and the outside casing, of the U-shaped pipe composed of side sections, G' G², and a middle or cross section, G, cast in one piece with its partition *k* and its two thimbles *i* and *j*, substantially as and for the purpose described.

5. The combination, with the outer casing, of the U-shaped pipe and the furnace, the middle section of said U-shaped pipe and the back wall of the furnace being connected together, as described, whereby the back end of the furnace is supported by said pipe, as set forth.

261,036. DRYING-CHAMBER FOR FRUIT-EVAPORATORS. WILLIAM S. PLUMMER, San José, Cal. Filed Apr. 13, 1882. (No model.)



Claim.—1. The combination, with the series of tray-seats and the walls of the drying-chamber, of the deflector-plates C and tubes D, arranged to take the hot air in the spaces outside the tray-seats and divert it partly underneath the upper sets of trays and carry

the balance to the escape-flue to quicken the draft and secure the rapid clearance of the heavy vapors from the fruit, as described.

2. The combination, with two or more vertical stacks of trays having an air-space between them, of the double deflector C, Fig. 3, and the tube D, opening below the same and extending up between the stack of trays, as shown and described.

261,037. COLLAPSIBLE LAMP-SHADE. NATHANIEL PLYMPTON, New York, N. Y., assignor to James I. Raymond and Milton H. Robertson, same place. Filed Apr. 17, 1882. (No model.)

Brief.—The shade is collapsible in the direction of its axis.



Claim.—As a new article of manufacture, a collapsible lamp-shade composed of rings or hoops and a flexible covering, and having an opening at the top and bottom, the opening at the bottom being larger than that at the top, so that the shade may be passed over a lamp-globe, which will support it at its upper part, substantially as herein described.

261,038. SPECIAL FERTILIZER FOR PLANTS. ALFRED FERDINAND POULLAIN-DUMESNIL, Vrasconil, Eure, France. Filed Nov. 11, 1881. (No specimens.) Patented in France Apr. 25, 1881, No. 142,511; in Belgium Apr. 25, 1881, No. 54,452; in England Apr. 28, 1881, No. 1,804, and in Austria Dec. 3, 1881, No. 38,342.

Claim.—1. As an improved article for bedding and growing plants, a fibrous absorbent material—as moss—impregnated with a fertilizing substance in the state of an impalpable powder—as the phosphates and nitrogenous substances—the said powder being made to adhere by means of milk applied to the moss, substantially as and for the purposes set forth.

2. The method herein described of preparing moss or other absorbent material for the bedding and culture of plants, which consists in first wetting the moss with an adhesive fluid, then impregnating the moss with a fertilizing substance in the state of an impalpable powder, and then drying the moss to remove the moisture, whereby fermentation is prevented, substantially as set forth.

261,039. METALLIC FENCE-POST AND CLAMPING DEVICE. E. R. POWELL, Burlington, Vt. Filed Mar. 4, 1882. (Model.)



Claim.—1. A fence-post, A, composed of two metal bars, *a* and *b*, secured together in T form in cross-section by clamps and keys, substantially as described.

2. The combination, with a fence-post composed of metal bars *a* and *b*, clamped together in T form, of the pointed triple-flanged shoe B, formed of two separate parts, *m* and *n*, the part *n* secured to bar *b* and the part *m* to both bars, *a* and *b*, substantially as described.

3. The clamp E and key F, having the wire seat *h* therein, in combination with the fence-post A, having the T form, as and for the purposes described.

4. The right-angle rivet-bolt *b'*, in combination with the shoe B, having flanges *m* and *n*, and the post A, formed in T shape from a single piece, or in two parts, *a* and *b*, substantially as and for the purposes described.

261,040. GLOVE-LINING. HENRY W. PRICE, Rockford, Ill. Filed Jan. 20, 1882. (No model.)



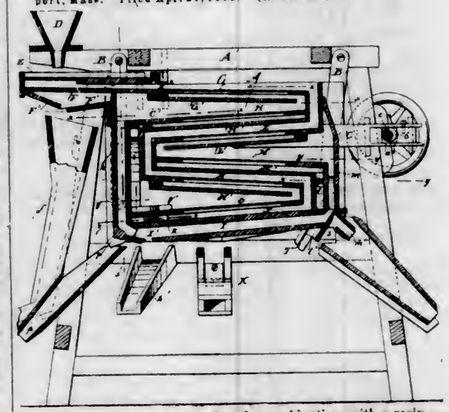
Claim.—1. A glove or mitten lining produced from a tubular knit or looped fabric, having the fingers produced by stitching and cutting, substantially as and for the purpose hereinbefore set forth.

2. A glove or mitten lining produced from a tubular knit or looped fabric, having the hand portion double by overlapping and the fingers and thumb produced by stitching and cutting, substantially as and for the purpose hereinbefore set forth.

3. A glove or mitten lining having a palm of single ply, a back and wristlet of double ply produced from tubular knit or looped fabric by cutting and folding, and fingers and thumb produced by stitching and cutting, substantially as and for the purpose hereinbefore set forth.

4. A thumb for glove or mitten linings, produced from a tubular knit or looped fabric by stitching and cutting, the forms overlapping or lapping past each other in the fabric, substantially as and for the purpose hereinbefore set forth.

261,041. COFFEE-GRADER. ELAM RAKESTRAW, Cambridgeport, Mass. Filed Apr. 21, 1882. (No model.)



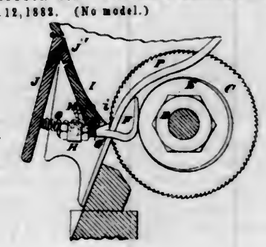
Claim.—1. In a coffee-grader, the combination, with a reciprocating shoe, A, of the screens G, H, L, M, N, and O, the chutes *h*, *i*, *l*, and *m* in the shoe A, the chutes I, J, and *o'* on the under side of the same, and the chutes *h'*, K, and Q on the frame of the shoe and below the shoe, substantially as herein shown and described, and for the purpose set forth.

2. In a coffee-grader, the combination, with a reciprocating shoe, A, of the screens G, H, L, M, N, and O, the chutes *h*, *i*, *l*, *n*, and *m* in the shoe A, the chutes I and J, the chutes *m'*, *l'*, and *p*, and the gates R S T, pivoted in the chutes I and J, substantially as herein shown and described, and for the purpose set forth.

3. In a coffee-grader, the combination, with a reciprocating shoe, A, of the screens G, H, L, M, N, and O, the chutes *h*, *i*, *l*, *n*, and *m* in the shoe A, the chutes I, J, and *o'*, and the chutes K and Q, and the hinged gate U in the inclined bottom of the chute K, substantially as herein shown and described, and for the purpose set forth.

4. In a coffee-grader, the combination, with a reciprocating shoe, A, of the screens G, H, L, M, N, and O, and the corresponding chutes for carrying off the different grades of coffee, the screens E and F, the chutes *e* and *f*, and the hopper D, substantially as herein shown and described, and for the purpose set forth.

261,042. COTTON-GIN. WILLIAM S. REDDEN, St. Louis, Mo. Filed Apr. 12, 1882. (No model.)



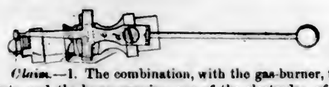
Claim.—1. In a cotton-gin, the combination of a cotton box or hopper, a hinged seed-board, and means for imparting positive vibratory motion to the seed-board, as set forth.

2. In a cotton-gin, the combination of a vibratory seed-board, I, having serrated edge *i i'*, forming teeth, the saws C, and a hopper, the teeth alternating with the saws, but not entering the spaces between the saws, as set forth.

3. The combination of vibrating seed-board I, rod G, eccentric E, spring O, and board J, substantially as set forth.

4. The combination, in a cotton-gin hopper, of the adjustable board J, screw-bolts L, nuts M, spring O, vibratory seed-board I, adjustable rod G, and eccentric E, substantially as set forth.

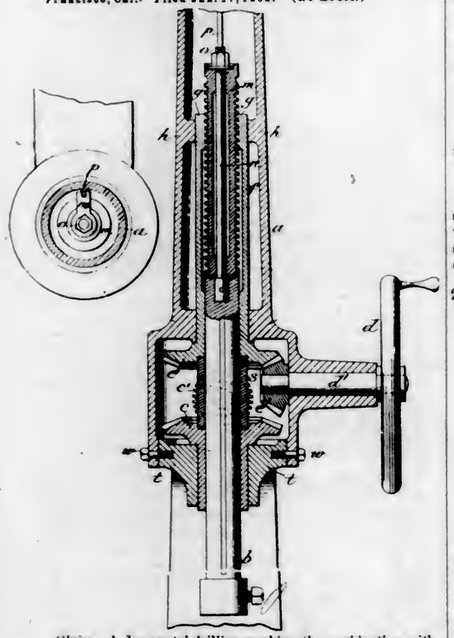
261,043. ELECTRIC GAS-LIGHTER. THOMAS H. RHODES, Brooklyn, N. Y., assignor to himself and the Smith & Rhodes Electric Company, (Limited,) New York, N. Y. Filed June 5, 1882. (No model.)



Claim.—1. The combination, with the gas-burner, the spark points, and the lever carrying one of the electrodes, of a spring cam and a projection on the lever acting on such spring-cam, for the purposes and as set forth.

2. The combination, with the gas-burner, of a lever, an electrode on the lever, a stationary spark-point, a sliding valve, and two arms on the lever, one at each end of the valve for moving the same, substantially as set forth.

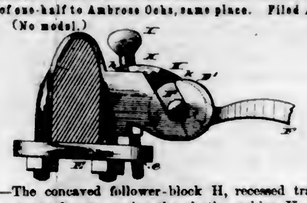
261,044. METAL-DRILLING MACHINE. JOHN RICHARDS, San Francisco, Cal. Filed Jan. 17, 1882. (No model.)



Claim.—1. In a metal-drilling machine, the combination, with the casing *a*, having feather *p*, the spindle *b*, provided with rod *n*, having nut *o*, and the threaded sleeve *m*, surrounding said rod and provided with notched projection *m'*, engaging with the feather *p*, of the threaded sleeve *f*, gears *e e'*, and hand-wheel *d*, substantially as described.

2. In a metal-drilling machine, the combination, with the casing *a* and spindle *b*, inclosed therein, of the threaded sleeve *m*, having a loose connection with said spindle, the threaded sleeve *f*, having gear *e'*, the gear *e* and hand-wheel *d*, for actuating the sleeves *f* and *m* to feed the spindle, and the gears *e e'* and cone-pulley C, for rotating said spindle, substantially as described.

261,045. THILL-COUPLING. JNO. H. ROBINSON, Fremont, Ohio, assignor of one-half to Ambrose Ochs, same place. Filed Apr. 11, 1882. (No model.)



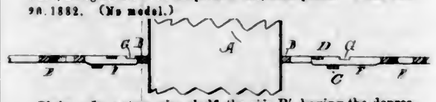
Claim.—The concaved follower-block H, recessed transversely in its concave face to receive the elastic cushion K, and provided with the rearwardly-projecting sleeve *h*, having a smooth bore, in combination with the clip-plate C D, recessed at *c*, thumb-screw I, and clip-bar E, having the screw-threaded hole *e*, as shown and specified.

261,046. WHEELBARROW. STEPHEN L. ROCKWELL, Jordan, N. Y. Filed Apr. 1, 1882. (Model.)



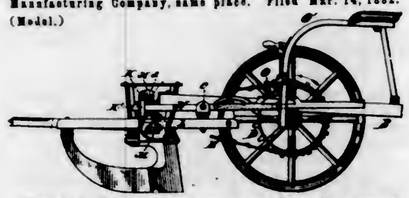
Claim.—In a wheelbarrow, the combination, with the side arms, A, and the tray B, of the downwardly-converging legs C, having their lower ends cut away on opposite sides to fit and lap upon each other, and secured together by bolts, and the cross-rail D, secured by bolts to the outside of corresponding legs on opposite sides, substantially as and for the purpose set forth.

261,047. STOVE-PIPE SHELF. BENOIT ROUX, Cincinnati, Ohio, assignor to J. E. Shepard & Co., same place. Filed Jan. 20, 1882. (No model.)



Claim.—In a stove-pipe shelf, the rim B', having the depressions C, as shown, and the cross-braces D within, in combination with the wings E, having the arms F, adapted to fit the depressions C on their under sides, and having the adjusting-gains G, substantially as and for the purpose herein set forth.

261,048. CORN-PLANTER. ANDREW RUNSTETLER and MICHAEL RUNSTETLER, Dayton, Ohio, assignors to the Farmers Friend Manufacturing Company, same place. Filed Mar. 14, 1882. (Model.)



Claim.—1. In a check-row corn-planter, the rocking lever K, pivoted to the runner-frame below the bar M and between the seed-boxes, for imparting motion from the driving to the seed-dropping mechanism, substantially as herein described.

2. In combination with the reciprocating bar of a corn-planter, the rocking lever K, pivoted to the runner-frame below the reciprocating bar and made adjustable radially to the line of its axis, substantially as herein set forth.

3. The combination of the reciprocating bar with the rocking lever pivoted upon the runner-frame below said bar with a pitman connected with the driving mechanism, substantially as described.

4. The combination, with a corn-planter having a drill attachment, of a pitman connecting the driving mechanism with the seed-dropping mechanism, arranged for automatically disconnecting the seed-dropping mechanism when the runners are raised, substantially as described.

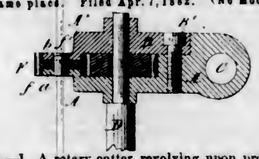
5. The combination, in a corn-planter having a drill attachment, of a pivoted lever under control of an operator and a pitman

connecting the driving mechanism with the seed-dropping mechanism, said lever serving to disconnect the driving mechanism from the seed-dropping mechanism.

6. In combination with the pitman H and lever N, the log O, attached to the main frame of the planter, for disengaging the pitman when the runners are raised, substantially as herein set forth.

7. In combination with the reciprocating bar M, the rocking lever K, pivoted to the runner-frame below the reciprocating bar, and adapted to operate as a hand-lever when the pitman H is disengaged, substantially as herein set forth.

261,049. ROTARY CUTTING-MACHINE. ETIENNE SALOMON, Montreal, Quebec, Canada, assignor of one-half to Edmond Armant, same place. Filed Apr. 7, 1882. (No model.)

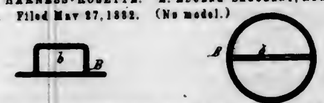


Claim.—1. A rotary cutter revolving upon projections from the cutter-stock, said projections being sunk in the sides of the cutter, substantially as and for the purpose described.

2. The combination, with a cutter-stock, of a spur driving-wheel and a rotary cutter, substantially in the manner herein set forth.

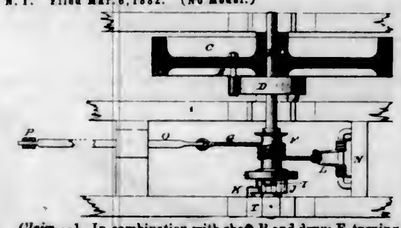
3. The combination, with the cutter-stock A, having removable piece B fastened thereto by screws B' and *f'*, and provided with eyes or lugs *a b*, of the rotary cutter F, revolved through toothed wheel E by shaft D, substantially as and for the purpose set forth.

261,050. HARNESS-ROSETTE. E. EUGENE SAUSSARD, Newark, N. J. Filed May 27, 1882. (No model.)



Claim.—A harness-rosette consisting of the body or base A, inclosing a wire, B, in its outer edge, which wire is bent to form the loop *b*, all substantially as and for the purpose herein specified.

261,051. WINDMILL-MOTOR. WALTER SCOTT, Hoosick Falls, N. Y. Filed Mar. 6, 1882. (No model.)

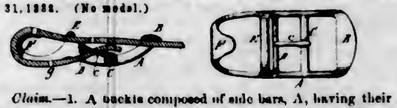


Claim.—1. In combination with shaft B and drum F, turning loosely thereon, fly-wheel C, turning loosely and connected to shaft B by a spring, substantially as and for the purpose specified.

2. The combination, with shaft B, fly-wheel C, and spring D, of the drum F, turning loosely on shaft B and connected to rod O by a rope or other flexible connection, substantially as and for the purpose specified.

3. In combination with the shaft B and revolving drum F loose thereon and adapted to revolve back and forth, the ratchet-wheel J and pawls I and K, substantially as and for the purpose specified.

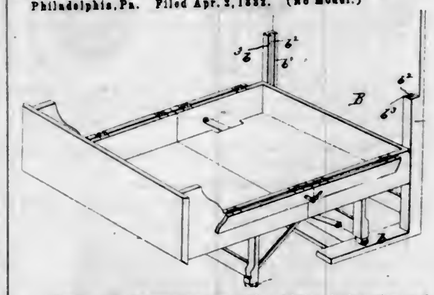
261,052. BUCKLE. EDWIN F. SEARS, Buffalo, N. Y. Filed May 31, 1882. (No model.)



Claim.—1. A buckle composed of side bars, A, having their rear ends connected by a cross-bar, B, and their connected front ends provided with a hook, F, an intermediate cross-bar, C, provided with a pivoted tongue, *c*, and a cross-bar, D, arranged between the cross-bar C and the hook F, and adapted to support the free end of the tongue, substantially as set forth.

2. A buckle composed of side bars, A, having their rear ends connected by a cross-bar, B, and their connected front ends provided with a hook, F, an intermediate cross-bar, C, provided with a pivoted tongue, *c*, a cross-bar, D, arranged between the cross-bar C and the hook F, and adapted to support the free end of the tongue, and a raised cross-bar, E, arranged between the cross-bar D and the hook F, substantially as set forth.

261,053. CABINET FOLDING BEDSTEAD. DAVID D. SHUPE, Philadelphia, Pa. Filed Apr. 3, 1882. (No model.)



Claim.—1. In combination with a folding bed-section and stationary head-board or immovable wall, a connection between said parts permanently secured at one edge to the bed-section, and at its other edge is loosely attached to the head-board or wall, so as to move up and down thereon when the bed-section is raised or lowered, substantially as shown and described.

2. The bar C, hinged at one edge to a folding bedstead and loosely connected at its opposite edge to a stationary head-board or immovable wall, substantially as shown and described.

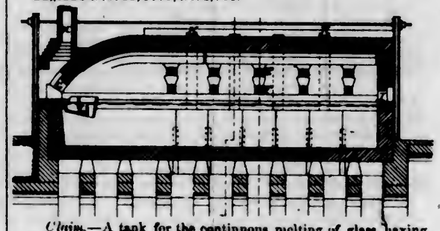
3. The head-board B, provided with feet *b* and vertical ways or guides *b'*, substantially as shown and described.

4. The head-board B, provided with ways or guides *b' b'*, substantially as and for the purpose set forth.

5. The combination, in a cabinet folding bedstead, of a stationary head-board having forwardly-projecting feet, with folding bed-sections, one of which is provided with a hinged bar carrying friction-rollers adapted and designed to enter grooves formed on said head-board, substantially as shown and described.

6. The combination of a stationary head-board or immovable wall and a folding bedstead carrying a hinged bar provided with friction-rollers at each end thereof, which are adapted and designed to enter vertical grooves or ways secured to said head-board or wall, substantially as shown and described.

261,054. CONSTRUCTION AND METHOD OF WORKING GLASS-MELTING FURNACES. FREDERICK SIEMENS, Dresden, Germany, assignor to Charles William Siemens, Westminster, England. Filed May 27, 1881. (No model.) Patented in England Nov. 22, 1878, No. 4,763.



Claim.—A tank for the continuous melting of glass, having gas and air ports, and of the depth herein described, for the purpose of forming below the upper fluid portion of the metal a layer of metal in a semi-fluid or partially-solid condition, as and for the purposes described.

261,055. BUTTON. HARRY A. SLAUGHTER, Higginsville, Mo. Filed Jan. 16, 1882. (No model.)



Claim.—In a separable button of the described class, the combination of the part A B C, having concentric serrations S encircling the central tubular threaded shank, A, and shoe D, having concentric serrations S' encircling the central threaded stem, E, substantially as and for the purpose herein shown and set forth.

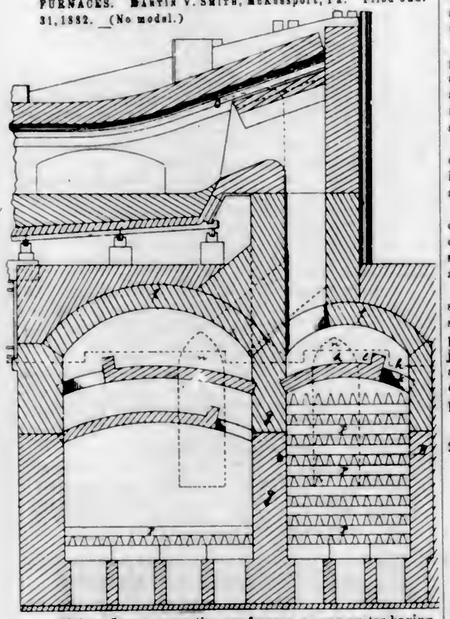
261,056. SMOKING-CARTRIDGE. EDWARD A. SMITH, St. Albans, Vt. Filed Dec. 5, 1881. (No model.)



Claim.—1. A tobacco cartridge for use in smoking-tubes, consisting of an open-ended shell, *c*, filled with compressed tobacco, longitudinal peripheral grooves *i* being left, as shown and described.

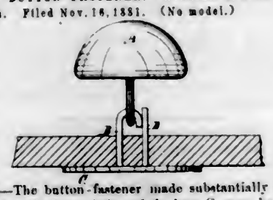
2. The flanged metallic collar *g*, split, in combination with a tobacco cartridge, as described.

261,057. REGENERATOR FOR METALLURGIC AND OTHER FURNACES. MARTIN V. SMITH, McKeesport, Pa. Filed Jan. 31, 1882. (No model.)



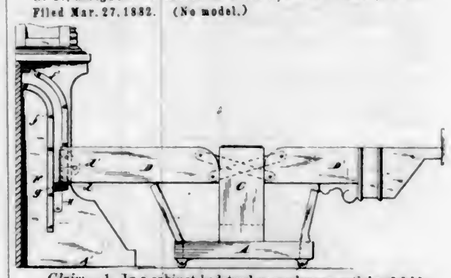
Claim.—In a regenerative gas-furnace, a regenerator having a shelf supported by the regenerator-walls below the furnace-flue and above the checker-work, said shelf having one or more ports and a ridge-wall extending along the shelf between the port and the furnace-flue, substantially as and for the purposes set forth.

261,058. BUTTON-FASTENER. WILLIAM S. SPENCER, Sturgis, Mich. Filed Nov. 16, 1881. (No model.)



Claim.—The button-fastener made substantially as herein shown and described, consisting of the base C, open hook B, and the arm or tongue D, as set forth.

261,059. ATTACHMENT FOR FOLDING AND MOVABLE FURNITURE. JOHN W. STANTON and JOHN SHIBLEY, New York, N. Y., assignors to Alfred J. Wolf, New York County, N. Y. Filed Mar. 27, 1882. (No model.)



Claim.—1. In a cabinet-bedstead or analogous article of folding furniture, the grooved inner side and rearwardly-guiding tracks, as shown, as and for the purpose intended, substantially as described.

2. In a cabinet-bedstead or analogous article of folding furniture, a grooved rear track, in combination with a traveling roller attached to the rear section of said article of furniture, as and for the purpose intended, substantially as described.

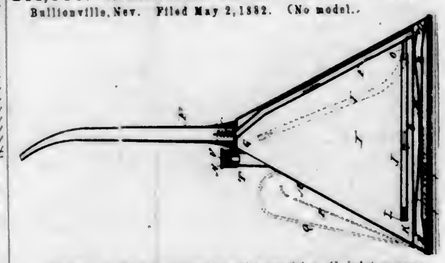
3. In a cabinet or folding bedstead or analogous article, a rear guide-track inclined upwardly and rearwardly, within which track a guide-roller attached to the rear section of said bedstead engages and travels, adapted when said bedstead is opened or closed to admit said section to be extended a required distance forwardly, substantially as described.

4. In a cabinet or folding bedstead or analogous article, the combination of the sectional side rail, D, with the casting G, having side and lower flanges, *d d'*, and pivoted roller *g*, substantially as described.

5. In a cabinet-bedstead or analogous article, a rear track inclined from front to rear, attached to each inner side surface of the case, and provided with a lower swinging stop-block adapted to support the roller or pin traveling within said track, substantially as described.

6. The combination, in a cabinet or folding bedstead, of the sectional front side rail, D', and rear sectional side rail, D, said rear side rail being provided with a corner-piece, G, supplied with a pivoted roller *g*, the peripheral surface of said roller *g* being adjusted within a rear grooved track, with said rear grooved track, and, further, in combination with a lower track, A', and intermediate parts and rollers *a* upon the base-piece A, as and for the purpose set forth, substantially as described.

261,060. SPRING-BOTTOM OIL-CAN. XAVIER ST. PIERRE, Bullionville, Nev. Filed May 2, 1882. (No model.)



Claim.—1. The combination of a partition, C, inlet-passage O, check-valve K, outlet E, check-valve G, and vent U with an oil-can having a spring-bottom, B, substantially as specified.

2. The flexible tube J, having a check-valve, K, in the free end, in combination with the inlet-passage O of a vacuum-chamber, D, within the spring-bottom B, and the ejecting-passage E, substantially as specified.

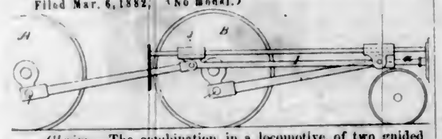
3. The check-valve K and metal ring L, in combination with the free end of the flexible suction-tube J, connected to inlet O of vacuum-chamber D, substantially as specified.

4. The combination of the check-valve U with the filler-stopper N of an oil-can having a vacuum-chamber, D, arranged within the spring-bottom B, substantially as specified.

5. The combination of the check-valve G with the nozzle F of an oil-can having a vacuum-chamber, D, within the spring-bottom B, and an ejecting-passage, E, therefrom to said nozzle, substantially as specified.

6. The combination, with a spring-bottom oil-can having a handle, Q, of a lever, P', to actuate the bottom by the hand of the operator holding the handle, substantially as specified.

261,061. LOCOMOTIVE. GEORGE S. STRONG, Philadelphia, Pa. Filed Mar. 6, 1882. (No model.)



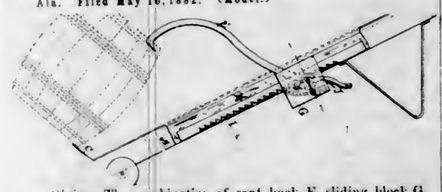
Claim.—The combination, in a locomotive, of two guided cross-heads connected to each other and to the piston-rod, two driving-wheels, A and B, and two rods, one connecting one cross-head to the crank-pin of one driving-wheel and the other connecting the other cross-head to the crank-pin of the other driving-wheel, all substantially as set forth.

261,062. MACHINE FOR SORTING GREEN PEAS. WILLIAM G. SOUDAM, Baltimore, Md., assignor to the Scott Manufacturing Company, same place. Filed May 9, 1882. (No model.)



Claim.—In a machine for sorting green peas, the combination, with the revolving screen, of the conveyer-feed having an inlet-spout tangential or inclined to the casing, and opening into the same in the direction of the turn of the conveyer, substantially as described.

261,063. BARREL-TRUCK. JOSEPH J. SWAIN, Montevallo, Ala. Filed May 10, 1882. (Model.)



Claim.—The combination of cant-hook E, sliding block G, ratchet I, and pawl J with a barrel-truck, substantially as described.

261,064. FIRE-ESCAPE. ANDREW SWANSON, New York, N. Y. Filed Mar. 17, 1882. (No model.)

Brief.—The folding ladders are hinged to the wall of the building and are counterbalanced by a weight hung in a tube on the inside of the wall, which is lifted by short ropes extending into the apartments. The side bars of the ladder are U-shaped and the rungs have beveled corners, to limit the movement of the rungs below a horizontal position.

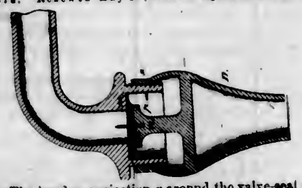


Claim.—1. An improved fire-escape ladder, consisting of the U-shaped bars *d* and the rounds *e*, pivoted to the said bars, and having their diagonally-opposite corners beveled or rounded, substantially as herein shown and described, whereby the opening movement is limited and the rounds prevented from passing below a horizontal position, as set forth.

2. In a fire-escape, the combination of the folding ladders B, constructed substantially as shown and described, and hinged to the wall of a building, with the chains *g*, the balance-weight A, and the tube *i*, secured to the inside of the building, as and for the purpose set forth.

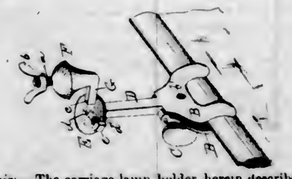
3. In a fire-escape, the combination, with the hinged and folding ladders B, the tube *i*, and the chains *f*, provided with the weight *h*, of the chains *k*, secured to the chains *f*, and extending outside of the tube, substantially as and for the purpose set forth.

261,065. STOP-VALVE. ELI THAYER, Worcester, Mass. Filed May 3, 1878. Renewed May 17, 1878. Again renewed Feb 20, 1880.



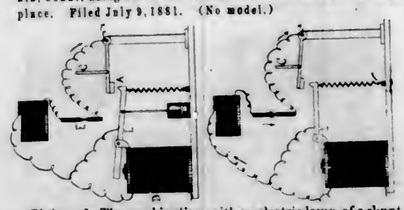
Claim.—The hand or projection *p* around the valve-seat *m*, in combination with the movable globe or section D, carrying the valve *h*, substantially as set forth.

261,066. CARRIAGE-LAMP HOLDER. CHARLES E. THOMPSON and EVELYN E. STEVENS, New Haven, Conn. Filed Nov. 3, 1881. (No model.)



Claim.—The carriage-lamp holder herein described, consisting of clamping-jaws B B, having holes *b' b'*, set-screw C, adapted to pass through said holes *b'* for the purpose of tightening said jaws upon the dash-board A or other portion of a vehicle, arm D, extending from one of said jaws and forming a continuation thereof, as shown, socket or holder E, having recess *e* and hole *d'*, bracket F, having rearwardly-extending shank G, provided with a recess, *d*, in each face, the set-screw *c*, having conical inner end and adapted to pass through the hole *d'* and engage the recesses *d* in the shank G when said shank is inserted within the recess *e*, and the screw-threaded rod *a* and thumb-screw *b*, substantially as set forth.

261,067. ELECTRIC-ARC LAMP. ELIHU THOMSON, New Britain, Conn., assignor to the American Electric Company, same place. Filed July 9, 1881. (No model.)



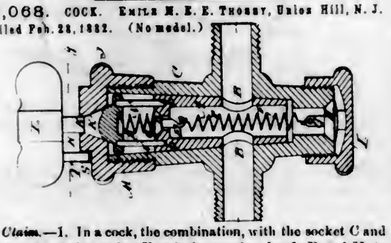
Claim.—1. The combination, with an electric lamp, of a shunt-circuit closer or cut-out constructed in two parts, movable with relation to one another, as described, an electro-magnet in the general circuit of the lamp for actuating one of said parts, and means connected with the regulating mechanism of the lamp for actuating the other.

2. The combination, with an electro-magnet in the general circuit of the lamp, a contact-piece movable by said electro-magnet and adapted to be set and held in position for electrical contact by the current which forms the arc, a second contact-piece adapted to make contact with the first when in position, and attached to or supported by the armature-lever, of the regulating mechanism and circuit-connections to said contacts, substantially as described, whereby when the armature-lever of the regulating mechanism is retracted to an abnormal extent a shunt or safety circuit is closed around the lamp.

3. The combination, substantially as described, with an electric lamp, of a shunt-circuit closer constructed in two parts, movable with relation to one another, an electro-magnet in the general circuit of the lamp for actuating one of said parts, retracting devices applied to the latter and adjusted below the tension of the currents used in operating the lamp, and an electro magnet or magnets for actuating the other part of the shunt-circuit closer, provided with retracting devices adjusted to such a tension that on an abnormal length of arc and a consequent diminution of current strength the shunt or safety circuit will be closed.

4. The combination, substantially as described, of the two movable contacts A, movable to and from one another, electro-magnet D, in the direct circuit at all times for actuating one of said contacts, and connecting devices between the regulating devices of the lamp and the other circuit-closer, as and for the purpose described.

261,068. COCK. EMILE M. E. E. THOMY, Union Hill, N. J. Filed Feb. 28, 1882. (No model.)



Claim.—1. In a cock, the combination, with the socket C and the plug A, of the spring F and the turning heads D and H, to which the ends of the spring are attached, substantially as herein shown and described, and for the purpose set forth.

2. In a cock, the combination, with the socket C and the plug A, of the cap J and the disk M, provided with a handle, L, and studs N, passing into the top of the plug, substantially as herein shown and described, and for the purpose set forth.

3. In a cock, the combination, with the socket C and the plug A, of the cap J, the disk M, provided with a handle, L, and studs N, passing into the top of the plug, and of the spring Q, between the plug and the disk M, substantially as herein shown and described, and for the purpose set forth.

4. In a cock, the combination, with the socket C and plug A, of the disk M, provided with studs N, passing into the plug A, and of the springs F and Q, substantially as herein shown and described, and for the purpose set forth.

5. In a cock, the combination, with the socket C and plug A, of the disk M, provided with a handle, L, and studs N, passing into the plug, of the springs F and Q, and the heads D and H, substantially as herein shown and described, and for the purpose set forth.

261,069. REACH-COUPLING FOR VEHICLES. WILLIAM H. TUPTS and LOUIS ROTH, Rams, N. Y., assignors to CYRUS D. Prescott, same place. Filed Apr. 15, 1882. (No model.)



Claim.—1. The combination, with the axle B and reach A, of the connecting devices consisting of the clamp C, formed in two sections, tightly and completely embracing or covering the axle at point of connection therewith, and an intermediate double joint or hinge, substantially as herein shown and described, whereby the axle is strengthened and adapted to have free vertical and lateral movements without straining the reach, as specified.

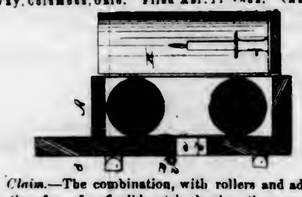
2. The combination, with the axle B and reach A, of the connecting devices consisting of the clamp C, formed in two sections, *c c'*, having slotted lugs *b* and securing bolts and nuts *a a*, casting D, provided with socket *d*, and coupling E, pivotally connected to one end in said casting D and provided at its other end with head *e'*, connected to clip F, secured to the reach, the several parts constructed and arranged relatively to each other, substantially in the manner as and for the purpose herein shown and specified.

261,070. CIGAR-LIGHTER. HENRY UEBER, Baltimore, Md. Filed June 5, 1880. (No model.)



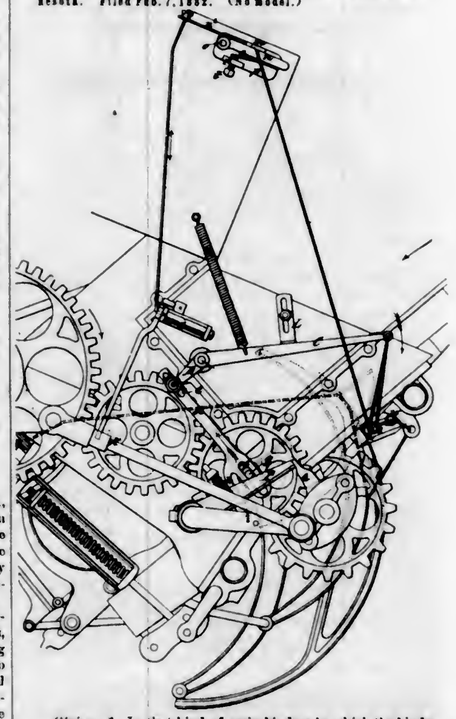
Claim.—In a portable cigar-lighter of the described class, the combination of the tape-fuse-containing case B, having cushion *b*, fuse C, and feed-wheel F, with the spring-actuated hammer E E, provided with a knife or cutter, *c*, substantially as and for the purpose herein shown and described.

261,071. STATION-INDICATOR. CHARLES G. ANDERSON, Columbus, assignor to Nathan Joseph, Zanesville, and Jason McVay, Columbus, Ohio. Filed Apr. 17, 1882. (No model.)



Claim.—The combination, with rollers and adjustable bearings therefor, of a flexible strip having the names of stations printed on it, the opening *a* through the front of the frame A, the recesses *b b* at the upper and lower edges of this opening, and the movable dovetail cover D, provided with fastenings, all constructed and arranged substantially in the manner and for the purposes described.

261,072. GRAIN-BINDER. JOHN F. APPLEBY, Minneapolis, Minn., assignor to the Minneapolis Harvester Works, of Minnesota. Filed Feb. 7, 1882. (No model.)



Claim.—1. In that kind of grain-binders in which the binder mechanism proper is periodically thrown into gear with some continuously-running motive device or part of the harvester, the combination, with the cord or other banding material, the said binder mechanism proper, and the said motive device, of a device or contrivance which operates to throw the said motive device into engagement with the said binder mechanism proper, and which is actuated by pulling the binder-cord taut between two points at which said cord is held fast, all substantially in the manner set forth.

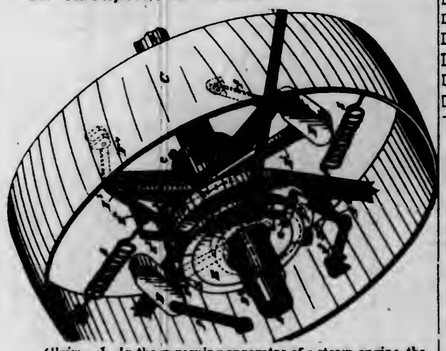
2. The combination, with the means for throwing the binder mechanism into gear with its motor, the cord, and the cord-holder, of a cord-clamp, means for automatically operating said clamp at the proper time, and means for transmitting the pull on the cord (while clamped) to said mechanism, substantially as set forth.

3. The combination, with the binder mechanism, the mechanism for starting the same, and the banding cord or other material, of a mechanism consisting essentially of an actuating-lever connected at one end to the starting mechanism and operated on at the other by the cord, a spring for returning said lever to its place, and a stop to regulate the amount of cord taken up by the said lever at each operation of the binder, as set forth.

261,073. PROCESS OF MAKING LEATHER. EZRA W. AVERY, Plymouth, N. H. Filed May 8, 1882. (No specimens.)

Claim.—The improvement in the process of making leather, which consists in treating the skins with sod-oil liquor after the depilation of the same, whereby the glue in the skins is softened and made capable of mixing and of being washed out with the oil used in the subsequent treatment of the skins, substantially as and for the purpose herein specified.

261,074. STEAM-ENGINE GOVERNOR. FRANK H. BALL, Erie Pa. Filed Apr. 28, 1882. (No model.)



Claim.—1. In the governing apparatus of a steam-engine, the combination, substantially as shown, of the following elements: a centrifugal governing device mounted upon the main shaft and having its frame firmly attached thereto, a drive-wheel mounted loosely upon said shaft and connected therewith, so as to receive its motion therefrom by being flexibly connected with said governor-frame, and, finally, a valve-moving eccentric mounted to move upon said shaft and geared to be so moved both by the flexible movement of said drive-wheel and the centrifugal movement of said governing device.

2. In the governing apparatus of a steam-engine, the combination, substantially as described, of the following elements: a centrifugal governing device connected with or receiving its motion from the main shaft of the engine and geared to operate upon the steam-supply valve, and a drive-wheel or driving-shaft which is connected to the main shaft or receives its motion therefrom by being connected with said centrifugal governing device, whereby the resistance of the load acts against or opposes the centrifugal force of the said centrifugal governing device, for the purposes mentioned.

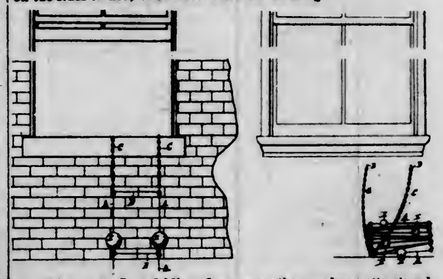
3. In the governing apparatus of a steam-engine, the combination, substantially as shown, of the following elements: a centrifugal governing device mounted upon the main shaft and operating concentrically therewith, and a drive-wheel mounted to move concentrically with said main shaft and connected therewith, so as to receive its motion therefrom by being connected with the centrifugally-moving parts of said governing device in a manner substantially as shown, whereby the resistance of the load opposes the centrifugal movements of the balls of the said governing device, for the purposes named.

4. The combination, substantially as shown, in the governing apparatus of a steam-engine, of the following elements upon the main shaft of said engine: a frame or cross-head, B, keyed upon said shaft, a disk, D, having an eccentric, D', mounted loosely on said shaft, centrifugal balls F F, connected by their arms F' F' to said disk, a drive-wheel, C, mounted loosely on said shaft, and, finally, the bars *f f* F' F' F' F', levers F' F', and the springs S S, arranged in connection with said cross-head, disk, and drive-wheel, substantially as and for the purposes mentioned.

5. In a steam-engine-governing device, the combination, with a frame fixed upon the main shaft, of the disk D, with eccentric D', centrifugal balls F, connected by arms to said disk, and adapted, substantially as shown, to move said disk upon the shaft, a yoke, D², upon said eccentric D', an eccentric, E, having an elongated shaft-opening and connected to said yoke D², substantially as shown, a pendant, E', for suspending said eccentric E from the frame, and, finally, springs S S, for opposing the centrifugal movement of the said balls F F, all substantially as and for the purposes mentioned.

261,075. FIRE-ESCAPE. SARAH TOWER BARR, Washington, D. C. Filed Feb. 28, 1882. (No model.)

Brief.—The sides and rungs are joined together by a three-looped joint, and movable wooden balls are arranged at intervals on the sides to keep the ladder from the building.



Claim.—1. In a folding fire-escape, the wooden balls placed at intervals upon the side bars and movable thereon, substantially as set forth.

2. In a folding fire-escape, the side bars, A A, and rounds B B, combined together by a three-looped joint, the former having movable wooden balls thereon at intervals, as shown, and for the purpose set forth.

3. The herein-described fire-escape, consisting of the chains C C, suitably fastened to the building and joined to the ladder, so as to be the same width apart as the side bars, the metallic side bars, A A, and rounds B B, made to open and close easily by having their ends constructed to form a three-looped joint, and the wooden balls E E, placed upon the side bars at intervals and movable thereon, substantially as set forth.

261,076. BOILER AND WATER-HEATER. WILLIS L. BROWNELL, Brooklyn, N. Y., assignor, by direct and mesne assignments, to Apollos Smith and Anna J. Brownell, same place. Filed Feb. 24, 1882. (No model.)



Claim.—1. The combination, with the body of a boiler or water-heater, of a head or end having an outwardly-turned flange inserted into said body, an independent ring inserted within and bearing directly upon said flange, and having its outer edge coincident, or nearly coincident, with the end of the body, and means for clamping said ring and body against opposite sides of said flange, substantially as specified.

2. The combination, with the body of a boiler or heater, of a head having an outwardly-turned flange inserted into said body, so that the body extends beyond the edge of the flange, and an independent ring inserted within the flange and projecting outward beyond the edge thereof, whereby an annular space for solder or molten metal is formed between said body and ring beyond the edge of the flange, substantially as specified.

3. The combination, with the head G, provided with the flange *a*, of the body A and ring I, bearing against opposite sides of the flange and projecting beyond the same, and the solder or metal K, introduced between the body and ring and against the edge of the flange, substantially as specified.

4. The combination of the body A, the head G, provided with the flange *a*, the ring I, the solder or metal K, and the rivets or bolts inserted through said body and ring, and also passing through the solder or metal K, substantially as specified.

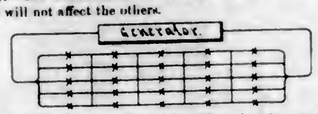
5. The combination, in a boiler or water-heater, of a body of iron or analogous metal, a copper lining therefor, a head of iron or analogous metal having an outwardly-extending flange, a copper lining or linings covering the head and the interior and exterior of the flange, an independent ring of iron or analogous metal extending beyond the edge of the flange, and solder or molten metal introduced between the ring and the lining of the body and beyond the edge of the flange, substantially as specified.

6. The combination, in a boiler or water-heater, of a body of

iron or analogous metal, a copper lining therefor, a head of iron or analogous metal having an outwardly-extending flange, a copper lining or linings for said head and the interior and exterior of said flange, an independent ring of iron or analogous metal inserted within said flange, and a ring of copper covering the same, both said rings extending beyond the edge of said flange, and solder or molten metal introduced between the rings and body-lining and beyond the edge of said flange, substantially as specified.

261,077. ELECTRIC-CIRCUIT SYSTEM. CHARLES F. BRUSH, Cleveland, Ohio. Filed June 4, 1880. (No model.)

Brief.—The conductors are so arranged that the breaking of one lamp will not affect the others.



Claim.—1. A system for transmitting electric currents to translating devices, consisting essentially in an electrical conductor divided along its length into two or more series of paths or branches, each path or branch of each series being electrically connected at opposite ends with the main conductor and translating devices interposed in said branch circuits, substantially as set forth.

2. A system for transmitting electric currents to translating devices arranged in multiple-arc series, consisting of a single conductor split or divided into two or more branches electrically connected at their ends with the main conductor and electrically connected with each other at one or more intermediate points, substantially as set forth.

261,078. BALE-TIE. JOHN W. CHAMBERS, Boulder, Colo., assignor of one-half to Amanda E. Campbell, same place. Filed Apr. 25, 1882. (No model.)



Claim.—The bale-tie composed of the wire or fastening having the loop *a* at one end and the loops *a'* *a²* at the other end, the loop *a* adapted to pass through the loop *a'* and the loop *a²*, to be bent down and passed or inserted into the loop *a*, substantially as and for the purpose set forth.

261,079. HORSE-DETACHER. JOHN H. CLOW, Sheridan, Oreg., assignor of one-half to Dewitt C. Coleman, same place. Filed Mar. 2, 1882. (Model.)



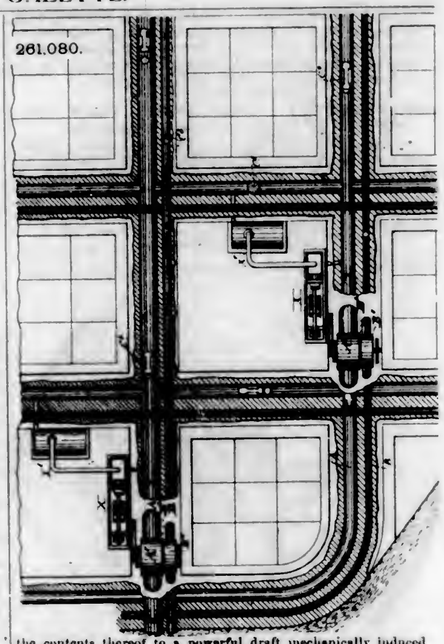
Claim.—In a safety draft-connection for vehicles, the combination, with the pivoted rod *e*, extending along the single-tree or neck-yoke in the central bearing, *g*, and end bearings, *h*, and having end hooks, *m*, of the angular lever *l*, having the arms *x* and *z* and wings *n n*, connected at its middle portion by the arm *r* to the rod *e*, the spring *w*, and the operating-strap *t*, permanently secured to the lower end of the lever *l* and detachably secured to the upper end thereof, substantially as specified.

261,080. SEWER AND MEANS FOR FACILITATING THE DISCHARGE OF SEWAGE. JOHN COMSTOCK, Hudson, Wis., and THOMAS E. JEFFERSON, Boston, Mass. Filed May 27, 1882. (No model.)

Brief.—The sewer system of a city is divided into working sections, each section being provided as to its main and branches with graduated air-inlets, and near its discharge-point with an exhaust mechanism, for the purpose of drawing in fresh air at the inlets and expelling the sewer-air at the discharge, and with a velocity to materially expedite the discharge of the sewage, drive through an obstruction, and effectually ventilate the system.

Claim.—1. The process of accelerating the movement of sewage and improving the capacity and usefulness of sewers, which consists in first rendering the sewers approximately air-tight, subjecting the contents thereof to a powerful air current mechanically induced toward its outlet, and in automatically preventing an inflow of air through such outlet, or an air-current in an opposite direction, substantially as herein specified.

2. The method of accelerating the discharge of sewage and improving the usefulness and capacity of sewers, which consists in first rendering said sewers approximately air-tight, in subjecting



the contents thereof to a powerful draft mechanically induced within said sewers in the direction of its outlet, in automatically preventing inflow of air through such sewer-mouth, or an air-current in an opposite direction, and in graduating the force of the draft to agree with the capacity of the sewer and the service to be performed, as set forth.

3. The method of removing obstructions from sewers, consisting in creating within such sewer a powerful air-blast in the direction of its exit, and in admitting air into the sewer behind the obstruction, in order that the pressure of said air against the obstruction will cause its ejection, as set forth.

4. The process of expediting the discharge of sewage in large cities and of eliminating the sewer-gas, consisting in dividing up the sewer system into independent working sections and mechanically inducing in each section a powerful draft in the direction of the sewer-outlet, in automatically preventing the backflow of air or gas from one section to another, and in discharging directly from each section the poisonous sewer-gas, as specified.

5. The method of expediting the discharge of sewage, reducing the amount of sewer-gas being generated, and eliminating that already generated, consisting in dividing the sewer system of a city into separate working sections and mechanically creating in each section a powerful draft induced toward the sewer-exit, and in automatically preventing a backflow of air, &c., in an opposite direction, as specified.

6. An approximately air-tight sewer divided into working sections and each section provided with a suction apparatus, and all operating together to create a powerful draft in the direction of the sewer-outlet, the apparatus nearest said outlet being of sufficient force to take all the draft from the preceding apparatus and to have a reserve force to create a partial vacuum in its particular section throughout the series, as set forth.

7. An approximately air-tight sewer and a powerful suction apparatus for creating a draft therein in the direction of its outlet, combined with means for graduating the inlet of air at will and means for preventing inflow of air through the sewer-outlet, as set forth.

8. An approximately air-tight sewer having sealed outlet, and inlets with means for regulating inflow of air, combined with means for creating in said sewer a powerful current of air in the direction of the sealed outlet, as set forth.

9. An approximately air-tight sewer having graduated inlets and connections with apartments of buildings and similar inlets from stoves, furnaces &c., combined with means for creating a powerful draft therein in the direction of the sealed outlet, as specified.

10. In combination with a sewer and its branches, rendered approximately air-tight as described, and having necessary graduated air-inlets, a power-fan or equivalent device for mechanically creating in such sewer a powerful draft in the direction of its outlet, said fan being capable of having its force adjusted at will in relation to the length of sewer to be operated upon, and means for automatically preventing a backflow of air or gas in said branches, substantially as specified.

11. An approximately air-tight sewer divided into working sections, as described, and each section having a powerful suction apparatus and a branch for the passage of gases, whereby the said gases are separated by said apparatus and the sewage in all the sections is expedited toward the main outlet, as set forth.

12. The conduits A B, connected together at *b*, and having graduated inlets, combined with the fans A' B', the motor X, and means for preventing backflow, as set forth.

13. In combination with an approximately air-tight sewer and powerful suction apparatus, as described, the man-hole cover C', having means for graduating the inlet of air at will, as set forth.

14. The combination of the conduit B and sewer A, the graduated pipe-inlets M m', the furnace-connection F, and the house-drains having means for preventing backflow, the suction apparatus A' B', and means for preventing backflow in the sewer, as set forth.

15. The sewer A, having submerged outlet Y, and graduated inlets, combined with the suction apparatus A' X, and adapted to serve as set forth.

16. The sewer A, bifurcated, as shown in Fig. 2, to allow the sewage to discharge through the submerged outlet Y and the poisonous gases to be carried farther along for discharge, burning, washing, or other treatment, as set forth.

17. The sewer A, trapped, as shown in Fig. 8, at or near its outlet, combined with the branch A² A² and with suction apparatus A', whereby backflow is automatically prevented, as specified.

18. A sewer branched or bifurcated as shown, adapted to separate the gas from the sewage and to discharge either at any point desired, combined with a powerful suction apparatus, and with proper means in each branch for automatically preventing backflow, as specified.

19. The hollow gate V, hinged at r, and having the stirrer or wheel V', combined with the sewer A, branch A² A², and motor.

20. The branch pipe A², fan A', and chimney T, combined with the bifurcated pipe A² and sewer A, and with the cocks or dampers *t'*, as and for the purposes specified.

21. The combination of a sewer or other main having submerged or sealed outlet or outlets with means for creating a powerful draft within the sewer or main in the direction of said outlet or outlets, substantially as specified.

22. The combination, with the sewer A, having sealed or submerged outlet Y, of the suction apparatus A' and means for operating it, as set forth.

23. The sewer A, trapped and sealed at Y, as shown in Fig. 8, combined with the fan A' and adapted to automatically prevent a current of air or gas in a reverse direction, as set forth.

24. A sewer having graduated inlets, substantially as described, and provided with sealed outlet or trap Y, as shown, combined with a powerful suction apparatus for creating a current of air within said sewer, its branches, and connections toward the sewer-outlet, as set forth.

25. A sewer rendered approximately air-tight, as described, and having graduated air-inlets and sealed outlet or trap Y, combined with the suction apparatus A', and adapted to serve as and for the purposes set forth.

26. The method of removing obstructions from sewers, consisting in creating within such sewer a powerful air-blast in the direction of its exit and in admitting air into the sewer through graduated air-inlets behind the obstruction, in order that the pressure of said air against the obstruction will cause its ejection, as set forth.

27. A sewer having means for producing a mechanical draft therein, and means for preventing backflow of air-currents, and inlets to admit concentrated blasts of air for the purpose of accelerating the movement of sewage or removing obstructions in sewers, as set forth.

28. A sewer having graduated man-hole inlets, as and for the purpose set forth.

29. A sewer having graduated inlets, in combination with a mechanical suction device, as set forth.

30. A sewer or main having graduated inlets and sealed outlet, as set forth.

31. A sewer or other main bifurcated near its outer end, with one branch submerged under water, permitting the outer passage of sewage, and the other branch combined with a suction apparatus for removing gases, vapors, &c., as set forth.

32. A sewer or main having graduated inlets and bifurcated near its outer end, with one branch submerged under water, permitting the outflow of sewage and preventing the inflow of air-currents, combined with a suction apparatus to incite a draft toward the exit of said sewer, as set forth.

33. The herein-described improvement in the art of sewering cities, consisting in dividing into working sections the sewage system of cities, and providing the sewers of each section with graduated inlets and independent suction apparatus and separate outlets for the removal of gas, &c., while the sewage has uninterrupted flow toward the main outlet, as set forth.

34. A sewer having connection with furnaces and an auxiliary conduit having connection with places to be ventilated, each provided with graduated inlets and with a suction apparatus hung upon a single shaft and impelled by a single motor, as set forth.

35. A sewer having connection with furnaces and an auxiliary conduit having connection with places to be ventilated, each provided with a suction apparatus hung upon a single shaft and impelled by a single motor, and means for preventing backflow, as set forth.

36. A sewer trapped as shown in Fig. 8, and having graduated inlets, combined with mechanical suction apparatus, as specified.

37. A sewer having means for preventing backflow of air-currents therein and suction apparatus for inciting a draft therein, and means for washing the gases by water or spray, as set forth.

38. The combination of a suction apparatus with a sewer, bifurcated near its outlet and provided with a hinged hollow gate at said outlet, said gate serving the double purpose of preventing ingress of air into the mouth of the sewer and directing the outlet of gases, &c., under water, as shown and set forth.

39. The combination of a suction apparatus with a sewer, bifurcated near its outlet and provided with a hinged hollow gate at said outlet and a wheel for forcing said gases under water, said gate serving the double purpose of preventing ingress of air into the mouth of the sewer and directing the outlet of gases, as shown and set forth.

40. A sewer system of a city divided into working sections, each section having independent suction apparatus, means for preventing backflow, and chimney for removing gas, &c., as set forth.

41. A sewer system of a city divided into working sections, each section having graduated inlets and independent suction apparatus and a separate chimney for removing gases, &c., as shown and set forth.

42. A sewer with graduated inlets C' and suction apparatus, as set forth.

43. A sewer with hinged double gate V, inlets C', and suction apparatus A', as set forth.

44. A sewer with hinged double gate V, and wheel V', and suction apparatus, as set forth.

45. A sewer having inlets C', in combination with double gate V, with wheel V', and suction apparatus A', as set forth.

46. A sewer, A, having fan A', and a branch sewer with check-valve *t'*, as set forth.

47. The sewer A, having fan A', in combination with branch sewer having check-valve *t'* and suction apparatus, as set forth.

48. The sewer A, having fan A' and graduated inlets C', in combination with branch sewer having check-valves *t'*, as set forth.

49. The sewer A, having fan A' and inlets C', in combination with branch sewer, with its suction apparatus.

50. The sewer A, having fan A' and inlets C', in combination with branch sewer having check-valve *t'* and its suction apparatus, as set forth.

51. The sewer A, suction apparatus A', graduated inlets C', and having sealed outlet V, in combination with a branch sewer and its fan, as set forth.

52. The sewer A, fan A', inlets C', and sealed outlet Y, in combination with branch sewer having its suction apparatus and check-valve *t'*, as and for the purpose set forth.

53. The sewer A, provided with graduated inlets C', as set forth.

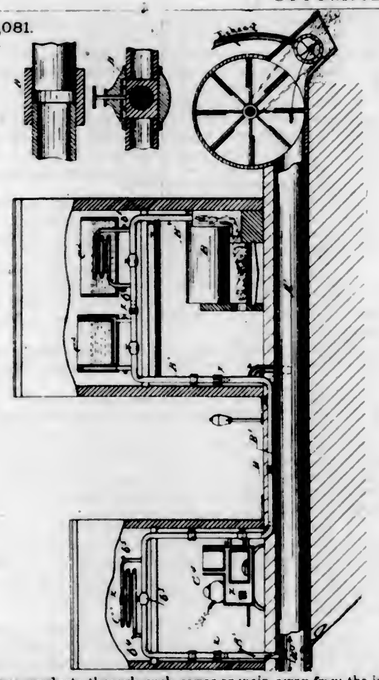
54. The sewer A, having sealed outlet Y and graduated inlets C', as set forth.

55. The sewer A, having sealed outlet Y and graduated inlets C', in combination with suction apparatus A', as set forth.

261,081. PROCESS OF AND APPARATUS FOR THE UTILIZATION OF PRODUCTS OF COMBUSTION. JOHN COMSTOCK, Hudson, Wis., and THOMAS E. JEFFERSON, Boston, Mass. Filed May 23, 1882. (No model.)

Claim.—1. The herein-described method of utilizing all the heat arising from the combustion of fuel, and eliminating the injurious products, consisting in connecting the heat-generating devices or devices with a sewer or other main, and in forcing such in-

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jurious products through such sewer or main away from the inhabitants by positive mechanical means, and through a series of heat-utilizing devices, such mechanical means being employed in connection with a chimney, or with the sewer or main, substantially as specified.

2. The herein-described method of utilizing all the heat arising from the combustion of fuel, and in conveying away the injurious portion of the products, consisting in connecting the fuel-consuming devices with an ordinary sewer or main, and in creating a powerful draft in such sewer or main by positive mechanical means, and automatically preventing backflow of such products, as set forth.

3. The process of utilizing all the products of combustion, consisting in conducting the same through a series of heat-utilizing devices, substantially as described, employing the smoke, gas, soot, &c., as fuel for a motor which induces a draft from the furnace or stove to the sewer, and using the surplus heat to prevent freezing of sewage, as specified.

4. The method herein described for utilizing all the products of combustion, and of employing the smoke, gas, soot, &c., and the sewer-gas as fuel for a motor which induces a draft from the furnace to the sewer, and of using the heat to prevent freezing of sewage, consisting in conveying the products of combustion to the sewer and forcing them through a furnace connected to such sewer by positive mechanical means, as specified.

5. The combination of a furnace with a main, and mechanical suction device for inciting a draft therein, and branches connecting said main with stoves, &c., provided with air-inlets, whereby the air may be admitted to mingle with the products of combustion for the purpose of creating more perfect combustion in said stoves, &c., as set forth.

6. The method herein described for creating a free and powerful draft in stoves, furnaces, and the like, of removing the smoke, gas, soot, &c., arising therefrom, and of utilizing the surplus heat, consisting in connecting such devices with the sewer or other main, and in mechanically creating therein a powerful draft in the direction of the exit to conduct the unutilized and injurious products through the sewer or main and away, and automatically preventing a backflow of air, gas, &c., within the sewer or main, as set forth.

7. The combination, with the sewer or other main, heating devices, connections through which the smoke, gas, soot, &c., are discharged into said sewer or main, and the suction apparatus, substantially as described, of the sewer-outlet submerged below the surface of the water, whereby the said gases, &c., are subjected to the action of water and cleansed, as herein specified.

8. The combination, substantially as described, of a system of sewer or other mains, a powerful suction apparatus for producing a partial vacuum therein, means for preventing backflow therein, and stoves, furnaces, and the like, for the combustion of fuel, connected to said mains, whereby the products of combustion from such stoves, &c., will be discharged first into said main and thence removed away from the people, as specified.

9. In combination with a furnace and a sewer or other conduit, the furnace G, for consuming the commingled gases, and the suction apparatus, as set forth.

10. The combination, with an approximately air-tight sewer or other main, means for preventing backflow therein, and means for creating therein a powerful draft in the direction of its outlet, of a furnace or other fuel-consuming apparatus, and a pipe or flue connecting said furnace with the said sewer, said pipe also connecting with rooms, tanks, ovens, stoves, or other fuel-utilizing devices located between the furnace and sewer, for the purpose of utilizing all the heat generated and removing away the injurious products, as set forth.

11. The combination, with a sewer or other main, mechanical means for creating therein a powerful draft, and means for preventing backflow, of a stove, furnace, or other fuel-burning device, and a pipe connecting the same with said sewer or main, said pipe leading through or connecting with tanks, ovens, or apartments in other buildings upon either side of a street or thoroughfare, for the purpose of utilizing to advantage all the heat arising from combustion of fuel in said furnace, &c., and removing the injurious gases and noxious products away from the inhabitants, as set forth.

12. The combination, with a sewer or other main, and means for inducing therein a positive and powerful draft in the direction of its outlet, of stoves, furnaces, &c., and flues for connecting said stoves, &c., with said main, such flues being provided with means for regulating the amount of draft and means for preventing a backflow of the products of combustion, as set forth.

13. The suction apparatus E, furnace B, and house-pipe B′, connecting said furnace with the sewer or other main in which the draft is created, combined with the intermediate heat-utilizing devices, arranged as shown, and connected with said pipe B′, as set forth.

14. The suction apparatus E, combined with the house-pipe B′, furnace B, heating devices C C′ C², &c., and cocks b^2 b^4 b^5, whereby any one or more of the devices may be connected with the pipe B′ at will, as set forth.

15. The conduit A and draft-inciting means E, combined with the furnace B, the house-pipe B′, having ventilators *x*, and with the series of heating devices C C′ C², &c., each having a governing-register, as specified.

16. The furnace B and house-pipe B′, having cocks b b' b^2, combined with the conduit and with mechanical means E, for inciting a draft therein, the said cocks serving to deflect the products of combustion arising from the furnace B in either of three directions at will, as set forth.

17. The combination of the furnace B and house-pipe B′, connecting the same with the conduit, the ventilators *x*, and heating devices C C′, &c., arranged upon both sides of a street, and governing cocks, with the fan E and expansible joint D, the whole adapted to serve as and for the purposes set forth.

18. The combination of furnaces, stoves, &c., and connecting-pipes leading to conduits or mains, having a separate fan for each conduit hung upon a single shaft, and operated by a single motor, E′, whereby the products of combustion are utilized to disinfect and purify the sewer-gas, and the surplus heat utilized to prevent the sewer from freezing, as set forth.

19. The combination of the conduit and means for inciting a powerful draft therein with the furnace B, house-pipe B′, connecting-flue B^3, and damper b^3, and with the check-valve b', adapted to automatically prevent a backflow of smoke, &c., as set forth.

20. The combination of the furnace, sewer, and connections between the two with the fan E, steam-generating furnace G, and engine, whereby the unconsumed products of combustion from said furnace B are utilized as fuel to generate the steam which is the motor used for impelling the draft, as set forth.

21. The combination of the furnace B, house-pipe B′, with intermediate section, *x*, perforated, as shown, slide B^3, the check-valves b', and means for graduating the draft at will, with the conduit and fan E, as set forth, and shown in Figs. 8 and 9.

22. The combination, with the sewer A, having submerged outlet for discharge of sewage, furnace B, and connections, of the fan E and means for conveying the poisonous gases away for discharge or further treatment, as described.

23. The combination of the sewer or conduit and fan with the branch A^4, leading to the interior of the perforated cylinder I′, the water-inlet pipe I, leading to the space between said cylinder and the flue, and the discharge-pipe *i*, whereby the ascending smoke and gases are subjected to falling spray and washed, as set forth.

24. The combination of fuel-consuming devices, the sewer having submerged exit, the connecting-pipes between the furnaces and said sewer, and the fan, whereby the products of combustion not previously utilized are discharged beneath the surface of the water, as set forth.

25. In connection with the system of utilizing products of combustion, the engine E′, fans E E′, sewer A, having submerged outlet, and the exhaust-steam connections leading to the point of said sewer-discharge to churn and agitate the water at that point, as specified.

26. The combination of the sewer having submerged outlet, the fuel-consuming devices, and connections with the fan E, the furnace G, the conductor leading the products of combustion from said furnace to the point of sewage-discharge, and the exhaust-steam connections for churning both sewage and products with the water, as set forth.

27. In the system of utilizing heat herein described, a fuel-consuming furnace combined with a blast-fan, a sewer or other main, a powerful mechanical suction apparatus, and with a series of heat-utilizing devices between such suction apparatus and furnace, as specified.

28. The combination of the furnace B, the blast-fan B′, and mechanical suction apparatus E with the series of intermediate heat-utilizing devices and means for automatically preventing backflow therein, as shown and set forth.

29. In promoting, perfecting, and utilizing combustion, a fuel-consuming device combined with a fan or similar device for feeding air to the flame, a positive mechanical suction device for drawing off the generated products of combustion, the sewer or other main, and a pipe, flue, or other means for connecting them, and means for preventing backflow of the products of combustion, &c., as specified.

30. In the system of utilizing heat herein described, a fuel-consuming furnace combined with a blast-fan and a powerful mechanical suction apparatus, and means for preventing backflow of products of combustion, substantially as shown and set forth.

31. In the system of the utilization of heat herein described, the house-pipe B′, located outside the apartments of a building, connections therewith, and cut-offs arranged within such apartments, and controlling and ventilating devices, combined with the conduit A′ and draft-inciting means, whereby the temperature of either or all of a series of apartments may be regulated at will or the heat be entirely cut off, as set forth, and as shown in Fig. 11.

32. The combination of the furnace B and sewer A and auxiliary furnace G with blast-fan B′ and positive suction apparatus E and intermediate heat-utilizing devices, as set forth.

33. The combination of the sewer A, furnace B, and auxiliary furnace G, with the fan E, substantially as set forth.

34. The combination of the furnace B, blast-fan B′, mechanical suction apparatus E, and the sewer A, substantially as shown.

35. The combination of furnace B, sewer A, branch A′, fan E, pipe b', and stoves, &c., for the purpose and substantially as set forth.

36. The combination of a furnace with a main, and mechanical suction device for inciting a draft therein, and branches connecting said main with stoves, &c., provided with air-lets, whereby the air may be admitted to mingle with the products of combustion for the purpose of creating more perfect combustion, and with means for preventing backflow of smoke, gases, &c., as set forth.

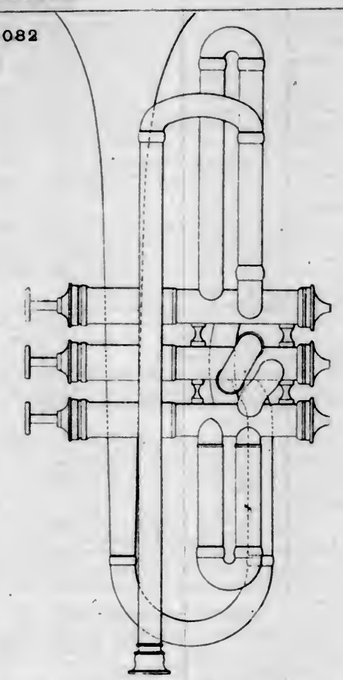
37. The method of utilizing the heat generated in furnaces, stoves, and the like by connecting said furnaces, stoves, &c., to a sewer or other main by a suitable conduit, and inciting in said sewer or main a powerful mechanical draft toward its exit, said heat-generating devices, conduits, and connections being provided with graduated means for admitting air to the products of combustion for the purpose of obtaining more perfect combustion, as set forth.

38. The method of utilizing the heat generated in furnaces, stoves, and the like by connecting said furnaces, stoves, &c., to a sewer or other main by a suitable conduit, and inciting in said sewer or main a powerful mechanical draft toward its exit, said heat-generating devices, conduits, and connections being provided with graduated means for admitting air to the products of combustion, and means for automatically preventing backflow, for the purpose of obtaining more perfect combustion, as set forth.

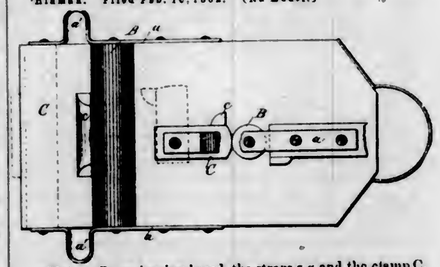
261,082. CORNET. CHARLES G. CODE, Elkhart, Ind. Filed Mar. 16, 1882. (Model.)

Claim.—The piston-valves, each having a single air-port for open tones and two ports for valve-tones, in combination with a valve system in which the first and third outer valves are connected by a pipe passing around the middle valve, as set forth.

261,082

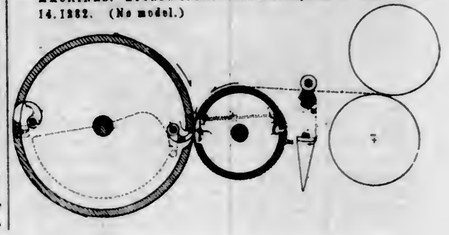


261,083. BOSOM-IRONING BOARD. ROSWELL F. COOK and EDGAR R. HIRMAN, Ilion, N. Y.; said Cook assignor to said Hirman. Filed Feb. 10, 1882. (No model.)



Claim.—In an ironing-board, the straps *a a* and the clamp C, hinged between the outer ends of said straps and provided with a lock-strip, *e*, in combination with the roller B, all arranged to operate as set forth.

261,084. SHEET-DELIVERY APPARATUS FOR PRINTING-MACHINES. LUTHER C. CROWELL, Brooklyn, N. Y. Filed June 14, 1882. (No model.)



Claim.—1. A rotating cylinder or carrier provided with means for collecting sheets upon its surface, in combination with mechanism for severing said sheets from the web while upon the surface of said cylinder or carrier, all substantially as described.

2. A rotary web-severing mechanism, as C D, one member of which is a cylinder or carrier provided with means for collecting or associating sheets upon its surface, all substantially as described.

3. The combination, with one member of a web-severing mechanism, of a cylinder or carrier, as C, provided with the other member of said web-severing mechanism, and with means for collecting or associating sheets upon its surface, all substantially as described.

4. A rotating cylinder or carrier provided with means for collecting sheets upon its surface, and with pins for securing a proper register of such collected sheets, in combination with mechanism for severing said sheets from the web while upon the surface of said cylinder, all substantially as described.

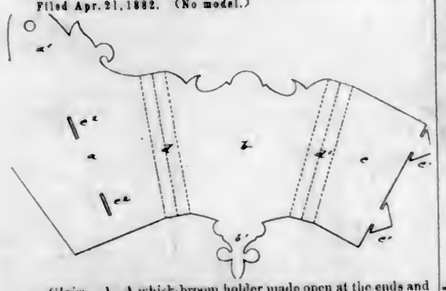
5. The combination of a cylinder provided with means for collecting two or more sheets upon its surface, and with pins for securing a proper register of such sheets, with co-operating folding mechanisms, substantially as described.

6. The combination, with a cylinder provided with means for collecting two or more sheets upon its surface and with pins for securing a proper register of such collected sheets, of a sheet-turner, substantially as described.

7. The combination, with rotary web-printing mechanisms, of a cylinder provided with means for collecting two or more sheets upon its surface, and with pins for securing the proper register of such collected sheets, and rotary cutting mechanisms, substantially as described.

8. The pair of rotating cylinders or carriers, as C D, one of which is provided with sheet-grasping jaws and one member of a web-severing mechanism, and the other of which is provided with the other member of a web-severing mechanism, a folding-blade, and means for collecting sheets upon its surface, substantially as described.

261,085. WHISK-BROOM HOLDER. CHARLES DE QUILLFELDT, New York, N. Y., assignor to Ballin & Liebler, same place. Filed Apr. 21, 1882. (No model.)



Claim.—1. A whisk-broom holder made open at the ends and formed of a back, a front, connecting side parts or gussets, and an overlapping back flap, the latter being fastened to the back by a suitable fastening device, substantially as set forth.

2. A whisk-broom holder made open at the ends and formed of a back, *a*, with a suspension part, *a'*, a front, *b*, having an extension, *b'*, intermediate folding side parts or gussets, *d d'*, and an overlapping back flap, *c*, the latter being connected by a suitable locking device to the back *a*, substantially as set forth.

3. A blank for a whisk-broom holder, consisting of a back, *a*, having slots *e'*, a front, *b*, side parts or gussets, *d d'*, and a back flap, *c*, having anchors *c'*, substantially as set forth.

4. A blank for a whisk-broom holder, consisting of a back, *a*, having slots *e'*, and a suspension part, *a'*, a front, *b*, having an extension, *b'*, a back flap, *c*, having anchors *c'*, and folding side parts or gussets, *d d'*, respectively, between back and front and front and back flap, substantially as set forth.

261,086. MINERAL-WATER FOUNTAIN. PAUL DUMMER and PETER MALMSTRÖM, New York, N. Y., assignors to Carl H. Schultz, same place. Filed Mar. 28, 1882. (No model.)

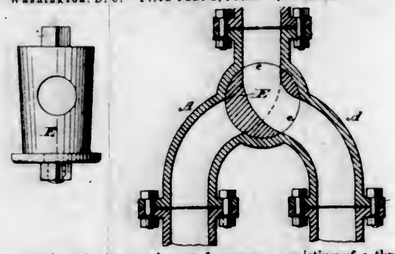
Claim.—1. In a fountain for mineral waters, the combination, with the two sections *a* and *b*, provided with flanges *c* and *d*, of the attachable and detachable tie-ring B, composed of sections which are recessed to embrace and inclose the flanges and cover their outer edges, and fastening devices for connecting the sections of the tie-ring, substantially as and for purposes set forth

261,086.



2. The combination of the two sections *a b*, provided with flanges *c d*, the upper faces of said flanges being beveled, with a sectional recessed tie-ring, B, the recess in said ring being of such a shape that it will draw the sections *a b* of the fountain toward each other as the said tie-ring is drawn together by the bolts *f*, substantially as hereinbefore described.

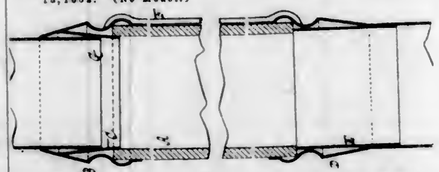
261,087. ATTACHMENT FOR PUMPS. GEORGE H. GASKINS, Pantego, N. C., assignor of one-half to Edmund A. Roderick, Washington, D. C. Filed June 2, 1882. (No model.)



Claim.—1. An attachment for pumps, consisting of a three-way branch piece having at its junction a two-way valve arranged as shown, and provided with an orifice conforming to the curves of the communicating nozzles, and of the same size as the openings in the nozzles, to form an unobstructed passage, substantially as specified.

2. The attachment for pumps herein described, consisting of a three-way branch piece, A, with suitable flanges, a two-way valve, E, with an aperture conforming to the connecting curves of the branches, and of the same size as their openings to form an unobstructed passage, and a handle, F, curved as shown, to indicate the position of the valve, all arranged substantially as shown, and for the purpose specified.

261,088. GLASS-TUBE JOINT FOR SPOUTS OF FLOUR-MILLS, &c. HERMANN GEBERICH, New York, N. Y. Filed Apr. 18, 1882. (No model.)



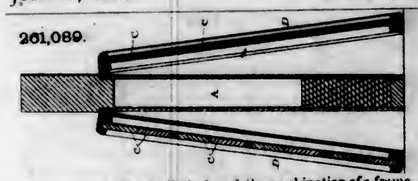
Claim.—1. The combination, substantially as hereinbefore described, with the glass tube A, of the upper frusto-conical external ring, B, and flaring internal ring, C, secured to the external ring, the whole being arranged in the manner specified.

2. The combination, substantially as hereinbefore set forth, with the glass tube A, of the lower frusto-conical external ring, D, and the internal cylindrical ring, E, secured to the external ring, the whole being arranged in the manner specified.

3. The combination, substantially as hereinbefore set forth, with the glass tube A, of the upper frusto-conical external ring, B, and flaring internal ring, C, the lower frusto-conical external ring, D, the internal cylindrical ring, E, and the brace-bars F, connecting the external rings, the whole being arranged in the manner specified.

261,089. BULLETIN-BOARD. JOSEPH S. GOLD, Columbus, Ohio, assignor of two-thirds to George W. Ball and Ripley C. Hoffman, both of same place. Filed Jan. 17, 1882. (Model.)

261,089.

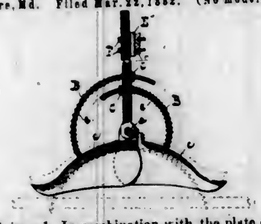


Claim.—1. In a bulletin-board, the combination of a frame, A, adapted to hold sign-boards C, with one or more bulletin-boards, D, attached thereto, substantially as shown.

2. A bulletin-board having suitable stops or projections, I, in combination with sign-boards C, having recesses E in their ends, substantially as described.

3. The combination of a bulletin-board provided with stops or projections I, and having one side of its molding or edge adapted to be turned backward, with the sign-boards C, adapted to be removed from or inserted therein, substantially as set forth.

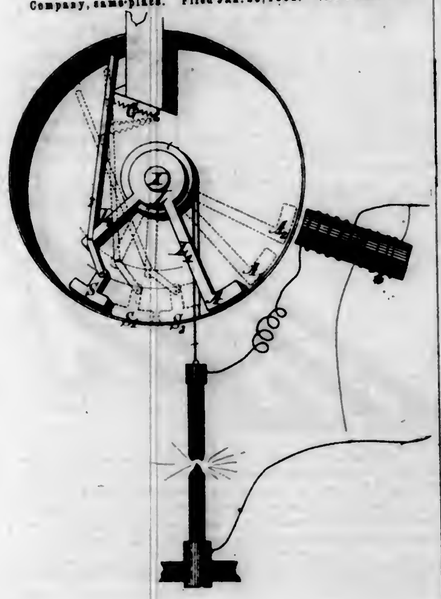
261,090. CIRCULAR-SAW GUARD. GOTTFRIED GRILL, Baltimore, Md. Filed Mar. 22, 1882. (No model.)



Claim.—1. In combination with the plate c, mounted above the saw and pivoted to an arm or support, the rod B, attached to the plate, passing through the support and having nut C, and spring c, as described.

2. In combination with the saw-guard and supporting-arms, the tubular standard G, the rod H passing therethrough and having a flange, *h*, and threaded end *i*, the jam-nut or clamp J, and arm E, whereby the latter and the standard are secured at one operation.

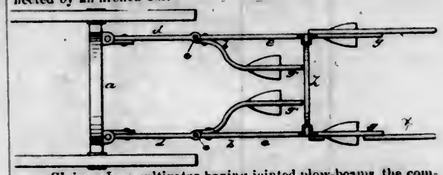
261,091. ELECTRIC-ARC LAMP. CHARLES D. HASKINS, New York, N. Y., assignor to the Union Electric Manufacturing Company, same place. Filed Jan. 25, 1882. (No model.)



Claim.—The combination, substantially as hereinbefore set forth, of the movable electrode of an arc-lamp, an electro-magnet vitalized by the light-producing current, and an intermediate regulating mechanism consisting of a drum mechanically connected with said electrode, and an armature and a clamping-lever connected together and pendulously suspended from the axis of said drum, said clamping-lever being adapted to act against the inner periphery of said drum.

261,092. CULTIVATOR. CARLOS W. HINDS, Waterman, Ill., assignor of one-third to J. J. A. Zeller, L. E. Phelps, and R. K. Swift, all of same place. Filed Apr. 20, 1882. (No model.)

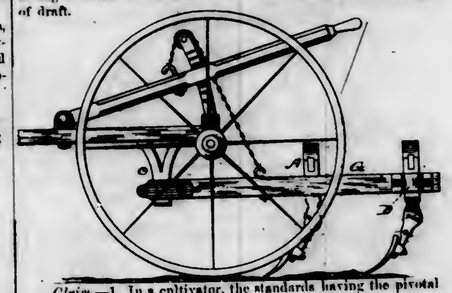
Brief.—Drag-bars in two sections vertically pivoted together. The handles and teeth upon the rear sections, which are also connected by an arched bar.



Claim.—In a cultivator having jointed plow-beams, the combination, with the parallel rear sections, *e*, provided with the handles *x* and connected by the transverse brace *h*, of the parallel-moving front sections, *d*, connected to the draft-beam, and the vertical pivot *c* in the joints connecting the front and rear sections, *d* and *e*, substantially as specified.

261,093. CULTIVATOR. CARLOS W. HINDS, Waterman, Ill., assignor of one-third to J. J. A. Zeller, L. E. Phelps, and R. K. Swift, all of same place. Filed Mar. 16, 1882. (No model.)

Brief.—Standards swiveled upon the drag-bars and a connecting arch rigid upon the standards. When the drag-bars are swung in either direction the shovels remain square with the line of draft.



Claim.—1. In a cultivator, the standards having the pivotal bearings *a*, the swinging beams provided with boxes D, engaging said pivotal bearings, and the transverse bar E, connecting said standards, substantially as specified.

2. In a cultivator, the combination, with the swinging beams G, of the standards A, swiveled thereto, and the connecting transverse bar or arch E, rigidly secured to said standards, substantially as specified.

261,094. HEEL-TRIMMING MACHINE. ALMEDON J. JOHNSON, Rochester, N. Y. Filed May 10, 1882. (No model.)

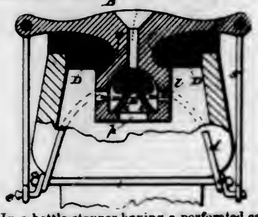


Claim.—1. The combination of the cutter E and the guide-rest G, provided with the convex surface *e f*, and adjustable vertically, longitudinally, and laterally, substantially as and for the purposes described.

2. The combination of the cutter E, the guide-rest G, the rod H, the split clamp I, the bolt J, and the set-screw *b*, all constructed, arranged, and adapted to operate substantially as and for the purposes specified.

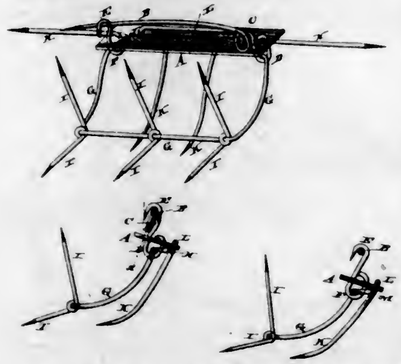
3. The combination of the molded cutter E, the adjustable guide-rest G, and the circular guard F, arranged to rest upon the upper above the heel-seat and prevent the cutter injuring the upper, substantially as described.

261,095. BOTTLE-STOPPER. JOSEPH W. JOHNSON, New Britain, Conn., assignor of one-half to Henry C. Williams, same place. Filed Apr. 20, 1882. (No model.)



Claim.—In a bottle-stopper having a perforated cap-plate, B, formed with a hollow valve-seat lug, *l*, below the perforation, and a rubber washer, D, around said lug, the rubber valve E, having an elastic conical pedestal or flange-support, *x*, resting on the bottom of the recess in the valve-seat lug having the apertures *a a* and *p*, and causing the valve to act quickly when relieved from outside pressure, substantially as specified.

261,096. CALF-WEANER. HARVEY L. JONES and HARRIS E. FULLER, Fredonia, Kans.; said Jones assignor to said Fuller. Filed Apr. 26, 1882. (No model.)



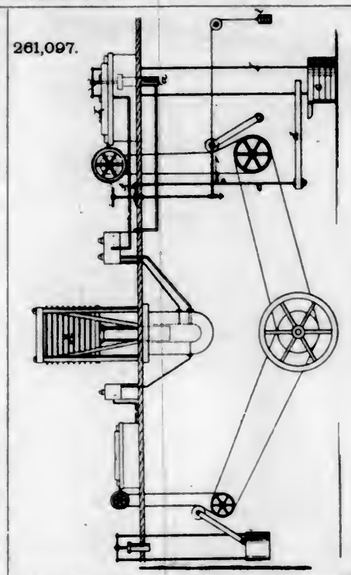
Claim.—The herein-described improved calf-weaner, consisting of the plate A, having safety latch-pin B C and catch E, forming staples D F on the under side of said plate, the wire bail G, hinged in the said staples, and having pointed ends H and barbs I, and the bail L, having pointed ends K, passing through perforations J in plate A, and secured by bending the legs of said bail so as to form shoulders M, as set forth.

261,097. HYDRAULIC PRESS. JOHN KELLOGG, Amsterdam, N. Y. Filed Mar. 7, 1882. (No model.)

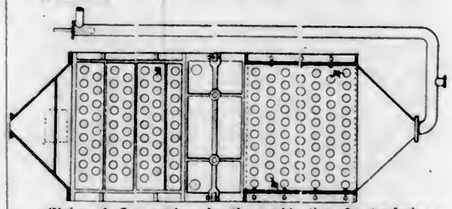
Claim.—1. As an improvement in the art of pressing oil from seed, subjecting the material under treatment in the press to an active pressure of the proper (maximum) degree during the time in which it has heretofore been left standing in the press subject to the degeneration of a previously-created pressure, all substantially as set forth.

2. As a novel means for applying an active maximum pressure to one or more of a series of presses after the movements of the platens to the full extent effected by the usual pumps, the combination, with one or more of such presses and the pump or pumps usually connected therewith, of an auxiliary pump which is constantly operative to keep up a given degree of pressure in the press or presses with which it may be put in connection, all substantially as set forth.

261,097.



261,098. MASH-COOLER. FREDERICK OTTO KUHL, Omaha, Nebr., assignor to Iler & Co., same place. Filed May 8, 1882. (No model.)



Claim.—1. In a mash-cooler, the combination of a stand-pipe having a top discharge-opening for the cooled mash with a cooling-column connected with the bottom of the stand-pipe, as and for the purpose set forth.

2. A mash-cooler comprising a series of superposed shells or sections having transverse water-tubes, detachable outer walls, inner walls provided with partition-strips, and doors leading into the mash-chamber, as and for the purpose set forth.

261,099. GRINDING-DISK. WILLIAM LEHMANN, Milwaukee, Wis. Filed Dec. 16, 1881. (No model.)

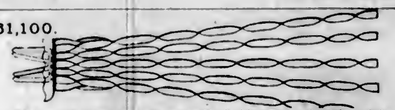


Claim.—1. As a new article of manufacture, a metallic grinding-disk provided with lands and furrows, the lands being provided with non-cutting corrugations, substantially as described.

2. The herein-described metal grinding-disk provided with the quarter-dress, and having a series of non-cutting corrugations upon the lands parallel with the back edges of the furrows.

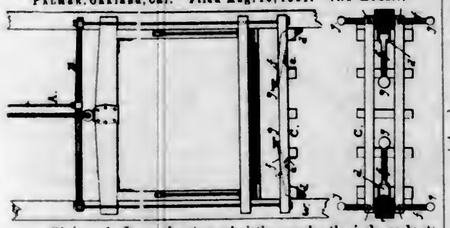
261,100. CANDLESTICK. GEORGE LUPTON, Brooklyn, N. Y. Filed Sept. 27, 1881. (No model.)

261,100.



Claim.—A Christmas-tree candle-holder formed with a drip-cup and socket, to which is attached a multiple-reflecting pendant or tassel composed of any number of narrow strips of tin or other bright metal crimped or twisted and clustered together, so as to produce the effect described, and for the purpose specified.

261,101. SAFETY DEVICE FOR ELEVATORS. CASSIUS C. PALMER, Oakland, Cal. Filed Aug. 10, 1881. (No model.)



Claim.—1. In an elevator or hoisting works, the independent traveling rope and cross-head, in combination with a clutch device beneath the floor or platform of an elevator, said clutch device being adapted to be thrown into action by the drop or pressure of the elevator when falling, but to be held out of action or inoperative as long as the rope, cross-head, and elevator travel uniformly together, substantially as herein described.

2. The safety-frame C, having clutches for engaging with the guides *w* of an elevator-shaft, in combination with said guides, and with a rope, A, whereby the frame is suspended and moved independently of but uniformly with and beneath the cage or platform of an elevator, substantially as herein described.

3. The combination, with the cage or platform of an elevator, of a safety clutch device supported and carried beneath the elevator floor or platform from and by an independent traveling rope, and adapted to move up and down uniformly with the elevator, substantially as described.

4. A frame, C, suspended beneath and caused to travel at uniform speed with an elevator cage or platform, and having a clutch or stop mechanism consisting of the pivoted levers *f*, and beads *g'*, projecting above the upper surface of the frame C, which is adapted to be operated by the drop or fall of the elevator down upon the said frame, substantially as herein described.

5. The combination, with the cage or platform of an elevator, of an independently-supported traveling frame moved and traveling uniformly with and beneath the elevator, and having a clutch device at each side, the operating mechanism of which projects above the surface of said frame and so as to be struck or acted upon by the weight or pressure of the elevator when it drops, substantially as herein described, for the purpose set forth.

261,102. METHOD OF RE-ENFORCING GARMENTS. LEVI PRICE, New York, N. Y., assignor to H. Wallach's Sons, same place. Filed Apr. 11, 1882. (No model.)



Claim.—As an improvement in the manufacture of wearing-apparel, the described method of strengthening those portions where two edges of the material are united throughout a portion only of their length, consisting in forming a tongue-like stay-piece by cutting and turning up a portion of the fabric of one of said edges and then uniting the said turned-up tongue-like stay-piece to the other of said edges, all substantially as set forth.

261,103. FRAME FOR TABLES. HENRY ROSS, Prairie du Sac, Wis., assignor of one-half to Albion P. Cummings, same place. Filed Apr. 15, 1882. (No model.)

Claim.—1. The metallic corner herein shown and described, composed of the web D, made tapering on its inside, inner flanges, *d d*, connected by the web or plate *d'*, and end plates, E E, projecting at right angles to each other from the edges of the web or

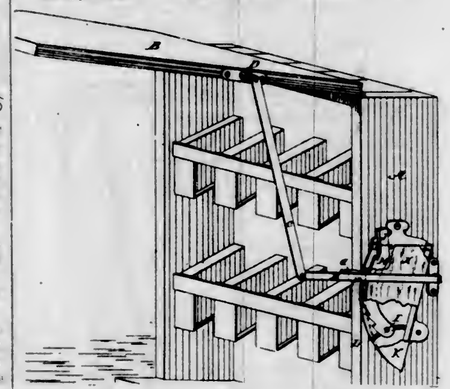
261,103.



body-plate D, and having inward-projecting flanges *e e*, substantially as and for the purpose set forth.

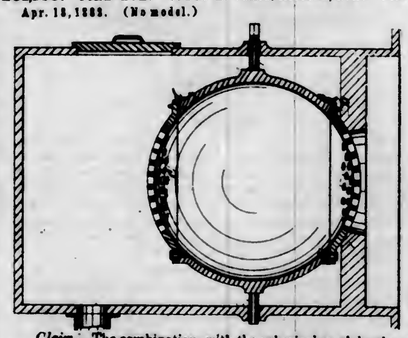
2. The combination of the metallic corner composed of the parts D *d d d'* E *e*, constructed as described, end pieces, C, side pieces, B, table-leaf A, and detachable leg F, the inner corner of which is cut off to form a tapering bevel, *f*, substantially as and for the purpose herein shown and specified.

261,104. TICKET-DOOR SUPPORTER. MELVIN H. TAPPAN, La Cygne, Kans. Filed Apr. 15, 1882. (Model.)



Claim.—The combination of a pivoted ratchet, H, with the supporting-lever E, pawl G, and brace C of the ticket-case door B, substantially as specified.

261,105. FIRE-BOX. CYRUS K. VILAS, Alstead, N. H. Filed Apr. 18, 1882. (No model.)



Claim.—The combination, with the spherical or globe-shaped fire box or chamber, adapted to revolve, and having the slotted or apertured covers, of the stove or heater provided in its bottom with an opening having the upper beveled edge, substantially as herein set forth.

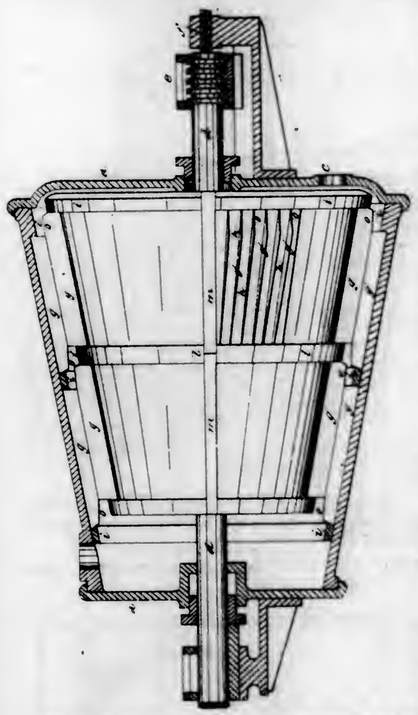
261,106. BOTTLE-CLEANER. CHARLES VONDERLINDEN, Rhinebeck, N. Y., assignor to himself and Lewis H. Livingston, Jr., same place. Filed Apr. 22, 1882. (No model.)



Claim.—1. A device for cleaning bottles, made substantially as herein shown and described, and consisting of a series of balls or blocks flexibly united with each other, and provided with bristles projecting from the sides and with bristles projecting from the ends, as set forth.

2. The combination, with the balls A, flexibly connected with each other and provided with bristles B and E, of the rod F, attached to one end of the chain of balls A, and the bristles E', projecting from the lower end of this rod, substantially as herein shown and described, and for the purpose set forth.

261,107. PULP-BEATING ENGINE. JOHN E. WARREN, Cumberland Mills, Me. Filed Feb. 15, 1882. (No model.)



Claim.—1. The combination, with the corresponding knives *g* on case and cone, of the separating-strips *h*, the ribs *i*, having openings *l*, and the keys *m*, whereby the knives *g* may be detachably secured, as described.

2. The fixed case-knives *g*, beveled at *o*, in combination with the overlapping cone-knives, adjustable endwise, as and for the purpose specified.

261,108. COVER FOR EAR-JEWELS. GEORGE W. WASHBURN, West New Brighton, N. Y. Filed May 16, 1882. (No model.)

Brief.—The spring and hinge are wholly concealed from view.



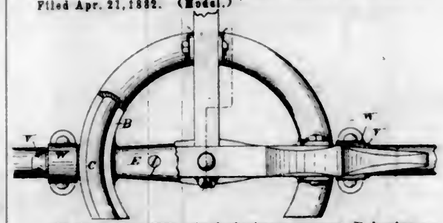
Claim.—In a self-closing cover for ear-jewels, a spring of wire held at both its ends in one half-cover, in combination with a hinge-piece attached to the other half-cover and terminating in a pintle-socket, which embraces said spring at mid-length, said spring and hinge-piece being wholly inclosed and concealed, substantially as herein specified, for the purposes set forth.

261,109. WATER-PROOF GARMENT. GEORGE WATKINSON, New Haven, Conn. Filed May 15, 1882. (No model.)



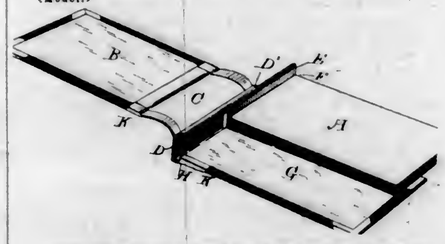
Claim.—The herein-described improvement in water-proof garments, consisting in the bag-shaped wrapper A, attached to or made a part of the garment, and provided with a flap, B, substantially as described.

261,110. FIFTH-WHEEL. ROBERT WEBER, Corsicana, Tex. Filed Apr. 21, 1882. (Model.)



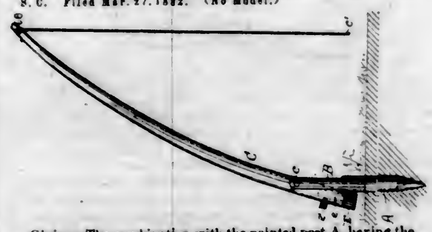
Claim.—In a fifth-wheel, the lower segment, B, having an axle-plate, E, provided with two pairs of clip-posts, J, in combination with two bolts, P, for the purpose of securing said segment-plate to the wood portion of the axle independent of the iron portion, and further provided with two tangs, V, in combination with two clips, W, for the purpose of binding said segment-plate and both parts of the axle rigidly together, as shown and described.

261,111. TEMPORARY BINDER FOR MEMORANDUM-BOOKS. JOHN R. WEBER, Bloomington, Ill., assignor of one-half to the Leader Publishing Company, same place. Filed Mar. 22, 1882. (Model.)



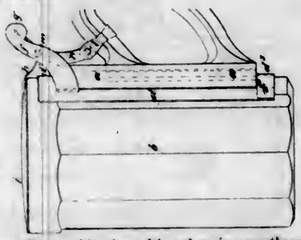
Claim.—The tablet A and strip E, glued together, in combination with the metallic back D, having grooved projection D' and right-angled projection H, and the covers B and G, the rear end of cover G serving in conjunction with the back D and its right-angled projection H to form a groove for the reception of the bottom side of strip E, the cover B having a hinge, while cover G is rigidly secured to the inside of projection H of back D, substantially as described, and for the purposes set forth.

261,112. GRAZING-POST. WILLIAM WEBSTER, Pacolett Depot, S. C. Filed Mar. 27, 1882. (No model.)



Claim.—The combination, with the pointed post A, having the pintle *a*, and the socket B, having standards *b' b²*, of the sweep C, pivoted thereto and provided with the weight E and shank *e*, adapted to be adjusted in the end of the sweep C by the screw *e'*, substantially as set forth.

261,113. MEANS OF AUTOMATICALLY OPENING AND CLOSING COVERS OR LIDS OF DRINKING-GLASSES, JUGS, &c. EDUARD WENDT, Dresden, Saxony, Germany. Filed May 29, 1882. (No model.)



Claim.—1. The combination, with a glass, jug, or other vessel, of a hinged lid, a handle movable upward and downward thereon, and a connection between said handle and lid, whereby the movement of the handle may effect the opening and closing of the lid, substantially as herein described.

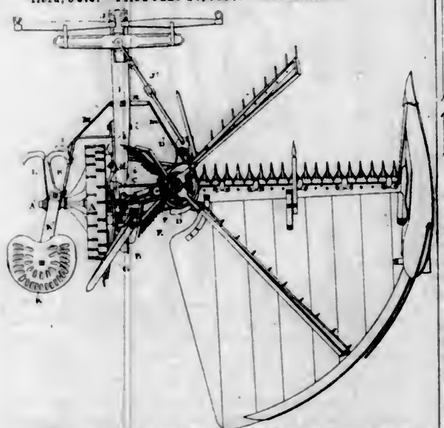
2. The combination, with a glass, jug, or other vessel, a hinged lid, a handle movable upward and downward on the vessel, and a connection between the said handle and the lid for opening and closing the latter by the movement of the handle, of a frame with which the said lid and handle are connected, and which is capable of attachment to and detachment from the vessel, for the attachment and removal together of the said lid and handle and their connections, substantially as herein described.

3. The combination, with a vessel and its movable handle *c*, of arms *f f'*, attached rigidly to the vessel, a lid, *i*, attached to an arm, *h*, hinged to the arms *f f'*, and a link, *k*, connecting the said arm *h* with the movable handle, substantially as and for the purpose herein set forth.

4. The combination, with the vessel and its vertically-movable handle, of bars *d d²*, attached to the exterior of the vessel to limit the movement of the handle, substantially as herein described.

5. The combination, with the vessel and the arms *f f'*, for supporting the lid, of a removable frame, *d d' d² d³*, having a hinged portion, *d³*, substantially as and for the purpose herein described.

261,114. REAPING-MACHINE. WILLIAM N. WHITELEY, Springfield, Ohio. Filed June 27, 1881. (No model.)



Claim.—1. In a mowing-machine having a single wheel, a main frame around the same, and a cutting apparatus connected to said frame by brace-rods jointed at both ends to said frame and cutting apparatus, respectively, but located on parallel planes, so as to constitute so-called "parallel rods," combined with a lever jointed to the main frame, a rigid link jointed at its ends to said lever and to one of said rods, respectively, and a segment-rack and latch to hold said lever in position, whereby the said cutting apparatus and parallel bars may be adjusted with reference to said main frame, and locked in position to make the whole structure rigid.

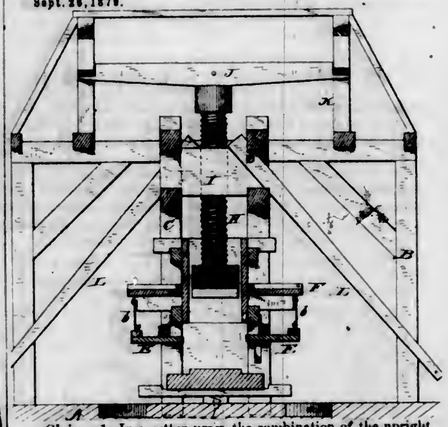
2. The main frame, tongue-bar B', and axle A', mounted thereon, in combination with the seat K K' and the casting L, bolted to said seat and tongue-bar, substantially as shown and described.

3. In a mowing-machine having a single wheel, a main frame around the same, a driver's seat mounted at the outer side of said wheel, and a cutting apparatus connected to said frame by so-called "parallel rods" jointed at both ends to said frame and cutting apparatus, respectively, combined with a lever jointed to said frame to move in a plane parallel with the line of progression, and a rigid link jointed at its ends to said lever and to one of said parallel rods, respectively, and a segment-rack and latch to hold said lever and connected parts rigidly in the relative positions to which they are adjusted, whereby the driver may control and move said lever and shift said adjustment while sitting on his seat and without turning his body to reach said lever.

4. In a mowing-machine having a single wheel, A, and a main frame around the same, a driver's seat, K, mounted at the outer side of said wheel, a cutting apparatus connected to said frame by rods F F F⁴, jointed at both ends to said frame and said cutting apparatus, respectively, but located in parallel planes, so as to constitute so-called "parallel rods," combined with a bell-crank lever, G, jointed to said frame to move in a parallel with the line of advance, a rigid link, F⁵, jointed at its ends to said lever G and bar F⁴, and a segment-rack and latch, as set forth.

261,115.—[Withdrawn.]

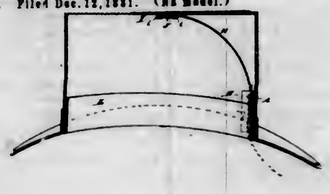
261,116. COTTON-PRESS. JAMES L. WILLIAMS, Huntsville, assignor of one-half to Nathan Pittmann, Ludi, Miss. Filed Sept. 26, 1879.



Claim.—1. In a cotton-press, the combination of the upright horizontally-rotary frame C, provided with a press-box and a nut, I, the screw H, the follower G on the lower end of this screw, the guide-bar J at the upper end thereof, the platform F, secured to and movable with the press-frame and arranged below the upper end of the press-box, and the sweeps I, secured rigidly and directly to the nut I, all substantially as and for the purposes described.

2. The combination of an upright horizontally-rotating frame, C, a platform, F, secured to the same below the top of the press-box and provided with suspension-hooks *b*, and the hinged doors E, provided with eyes to receive said hooks when the doors are raised, substantially as described.

261,117. HAT-INDICATOR. CHARLES SPANNER, Philadelphia, Pa. Filed Dec. 12, 1881. (No model.)



Claim.—1. A hat-indicator which consists of a name-plate or its equivalent, substantially as described, hinged to the hat or otherwise secured thereto, and arranged to be turned back into the hat or out beyond the rim, as and for the purpose specified.

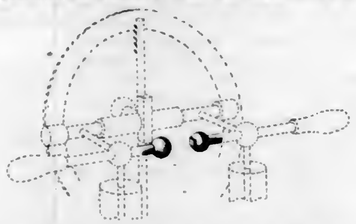
2. In a hat-indicator, the combination of card A, plate B, with its spring D, plate F, hinged to spring D and provided with extension *f*, wire H, and name-plate I, substantially as and for the purpose specified.

3. In a hat-indicator, the combination of card A, wire H, and name-plate I with a hinge by which the wire H is hinged to the card, substantially as and for the purpose specified.

4. In a hat-indicator, the combination of card A, wire H, and name-plate I with a hinge by which the wire H is hinged to the card, and mechanism to lock the said wire and its name-plate in a position above or below said hinge, as and for the purpose specified.

5. The combination of hat K and its sweat-band L with card A, wire H, name-plate I, and a hinge between said card and wire, as and for the purpose specified.

261,118. STATICAL ELECTRICAL APPARATUS. EDMUND B. BENJAMIN, New York, N. Y. Filed Mar. 24, 1882. (No model.)

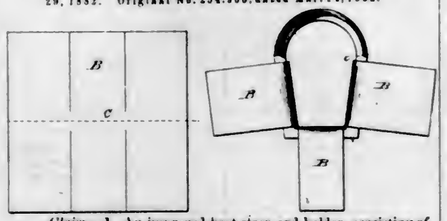


Claim.—1. In a statical electric machine, or in an apparatus for transforming dynamic into static electricity, a shield, plug, or cap of insulating material, in combination with the positive conductor or discharging-point of high-potential electricity, substantially as described.

2. In a statical electric machine, or in an apparatus for transforming dynamic into static electricity, the combination of the high-potential conductor, the low-potential conductor, and the shield, plug, or cap of insulating material, when said shield is arranged between the conductors substantially as described.

REISSUES.

10,151. BOOT-STRAP. JOHN B. BELCHER, Charlotte, Mich., assignor of one-half to Frank S. Belcher, same place. Filed May 29, 1882. Original No. 254,908, dated Mar. 14, 1882.



Claim.—1. An improved boot strap and holder, consisting of the metallic loop A and holder B, constructed and adapted for use substantially as shown and described.

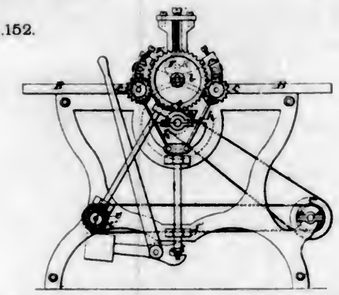
2. The combination of the metallic loop A, the cloth or rubber holder B, the cloth and rubber support D, and the rubber bootleg, as and for the purpose herein described and specified.

10,152. WOOD-POLISHING MACHINE. ALMON BRIDGMAN and JAMES L. PERRY, Berlin, Wis., assignors, by mesne assignments, to said James L. Perry and Charles A. Mather, same place. Filed Mar. 15, 1883. Original No. 183,530, dated Mar. 20, 1877.

Claim.—1. In a wood-polishing machine, the combination, with a sand-paper cylinder, of a presser-roll suspended above it in adjustable bearings, and yielding feed-rolls adapted to carry the stuff away from the cylinder and against the presser-roll, as set forth.

2. The combination of feed-rolls C, having stationary bearings in swinging arms, with presser-rolls having yielding and adjustable bearings in said arms above the bearings of the feed-rollers, as set forth.

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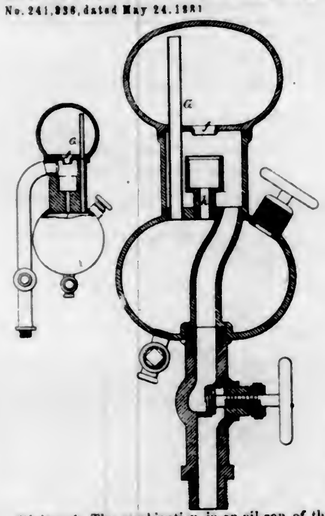


3. In a wood-polishing machine, the combination, with the sand-paper cylinder and the parallel pressure-roll, of feeding-rolls automatically pressed toward said pressure-roll, as set forth.

4. The combination, with an adjustable pressure-roll parallel with the sand-paper cylinder, of the adjustable feed-rolls and their swinging bearings, automatically pressed by suitable mechanism toward said pressure-roll, as set forth.

5. The combination, with a spirally-grooved cylinder, of sections of sand-paper and spiral clamping-wedges.

10,153. LUBRICATING DEVICE FOR STEAM-ENGINES. ALFRED CRAFT, Norristown, Pa. Filed June 16, 1882. Original No. 241,936, dated May 24, 1881.



Claim.—1. The combination, in an oil-cup, of the following elements: first, an oil-reservoir; second, a condensor; third, a tube, G, and, fourth, a contracted passage through which the water of condensation must find its way to gain access to the oil-reservoir, and through which, also, the oil must find its way in passing from the reservoir to the steam-chest, all substantially as set forth.

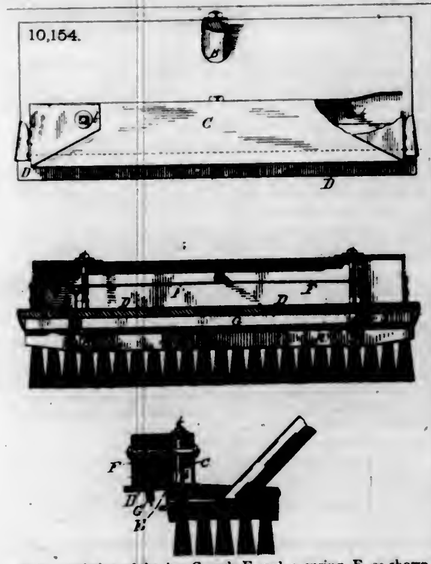
2. An oil-cup in which the following elements are combined, namely: first, an oil-reservoir; second, a condenser communicating with the steam-chest or steam pipe or space of a steam-engine; third, a tube, G, and, fourth, a receiver for the water of condensation, the said receiver communicating with the oil-reservoir through a contracted passage, all substantially as set forth.

10,154. COMBINED SCRUBBER AND MOP. GEORGE PIRRUNO, Ravenswood Ill. Filed Mar. 28, 1882. Original No. 155,833, dated Oct. 15, 1874.

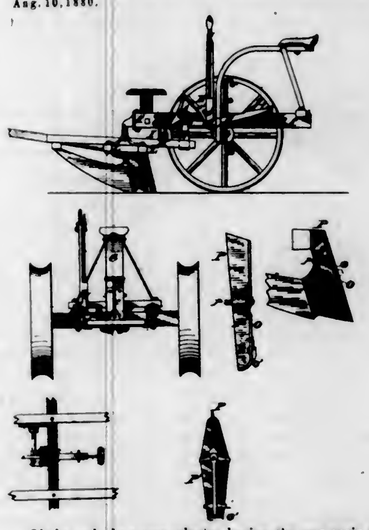
Claim.—1 The combination of the water-box C and the flexible strip D, forming part or all of the bottom and projecting beyond the side of said box, and the devices for exerting pressure on the strip, consisting of the bar G, rods F, and a spring, E, as shown and described.

2. A combined mop and scrubber consisting of a brush, a water-box placed longitudinally over and projecting from the side of the back of said brush, so as to form a longitudinal opening, and a rubber strip projecting beyond the side of said box, closing said opening, substantially as and for the purpose specified.

10,154.



10,155. CORN-PLANTER. MICHAEL RUDSTETLER, Dayton, Ohio, assignor to the Farmers Friend Manufacturing Company, same place. Filed May 15, 1882. Original No. 231,104, dated Aug. 10, 1880.



Claim.—1. In a corn-planter having the rear main frame mounted on supporting-wheels and the front runner-frame hinged or pivoted to the main frame, the combination of a foot-treadle and hand-lever adapted to be used in conjunction or independently for the purpose of elevating or depressing the runners, substantially as herein set forth.

2. In a corn-planter having the rear main frame mounted on supporting-wheels and the front runner-frame hinged or pivoted to the main frame, a foot-treadle for elevating or depressing the runner-frame, in combination with a hand lock-lever, the foot-treadle and hand-lever adapted to be used in conjunction for forcing and locking the runners into the ground or lifting and locking them out of the ground, substantially as herein set forth.

3. In a corn-planter having the rear main frame mounted on supporting-wheels and the front runner-frame hinged or pivoted to the main frame, a foot-treadle for elevating or depressing the runner-frame, in combination with a hand-lever rigidly connected therewith that either hand-lever or treadle may be used for forcing the runners into the ground or lifting them out of the ground, substantially as herein set forth.

4. The combination, in a corn-planter having the rear main frame mounted on supporting-wheels and a front runner-frame hinged or pivoted to the main frame, of a foot-treadle for elevating the runner-frame and a hand-lever for elevating or depressing the same, both arranged to move simultaneously when either is acted upon by an operator.

5. In a corn-planter having the main runner-frame mounted on ground wheels, a runner-frame hinged to the main frame, and having a transversely-arranged bar for reciprocating the seed-dropping device, the combination of a sprocket-wheel journaled on the main frame and connected by a clutch device with a driving-gear on the ground-wheel, a sprocket-chain, and a sprocket-wheel fixed to a shaft, with the transverse bar for reciprocating the latter to actuate the seed-droppers, all essentially as herein shown and described.

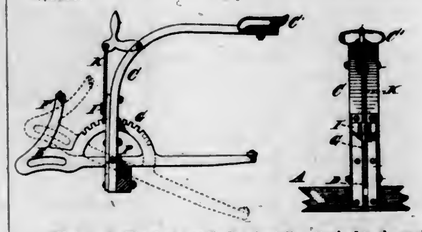
6. In a corn-planting machine, the slotted or open bracket Y, for connecting the pitman to the reciprocating bar, having the bearing or tramway Y', for supporting a forked pitman, X, substantially as herein set forth.

7. In a corn-planting machine, the bracket Y, made in two parts, with the slotted feet for adjusting the bracket to the stroke of the pitman, substantially as herein set forth.

8. In a corn-planting machine, the forked pitman X and wrist *r*, in combination with the adjustable bracket Y, having the wrist-bearing Y' and attached to the reciprocating bar, substantially as herein set forth.

9. The valve P, made in two parts, O O', and united by detachable fastening devices, whereby the lower portion is readily removed without disturbing the other parts of the seed-dropping mechanism, substantially as herein set forth.

10,156. CORN-PLANTER. ANDREW RUDSTETLER, Dayton, Ohio, assignor to the Farmers Friend Manufacturing Company, same place. Filed May 15, 1882. Original No. 228,998, dated June 1, 1880.



Claim.—1. The foot-treadle D, pivotally attached to the main frame, in combination with a locking device on said treadle, and frame for holding the treadle in any fixed position, substantially as herein set forth.

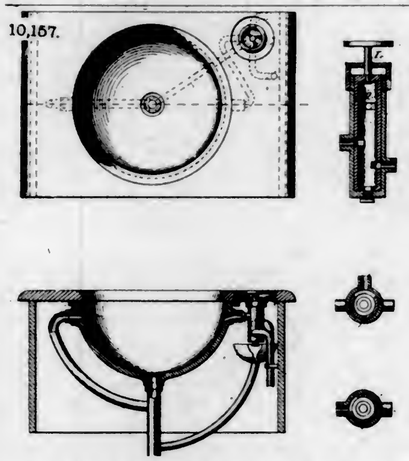
2. The combination, with the standard C and elevating and depressing lever pivoted thereto, of a locking device attached to the seat-standard for holding the runner-frame in any desired fixed position, substantially as herein set forth.

3. The combination, with the main frame, the elevating and depressing foot-lever D, carrying the segmental notched plate G, and provided with the slot E and foot-piece F, of the lock-bar K, mounted upon said standard and provided with a suitable operating device or devices, substantially as described.

10,157. STATIONARY WASH-STAND AND FIXTURE. PETER NICHOLAS BUNKE, Brooklyn, N. Y. Filed June 9, 1882. Original No. 252,074, dated Jan. 10, 1883.

Claim.—1. A stationary wash-stand composed of a supporting-slab, a basin provided with outlet and overflow openings, and

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an inlet-opening in the wall of the basin, and a valve constructed, as described, to allow the flow of hot or of cold water, or of hot and cold water mixed, said valve being supported by the slab and below the same, and provided with a stem or key projecting through the slab, but flush with the upper surface thereof, all arranged as set forth, so as to leave the top of the stand free from obstructions of any kind.

2. A stationary wash-basin constructed, as described, with outlet and overflow openings, and with an inlet-opening in its wall, inclined as shown, to prevent the water from spurting across the basin, all arranged as shown, so as to leave the inner surface of the basin free from projections or obstructions.

3. A valve for a wash-basin, constructed of a hollow spud and inclosing barrel, two inlet-openings in the barrel for hot and cold water, corresponding inlet opening or openings in the spud, and discharge-openings in the side and bottom of the spud and barrel, all as set forth, so that independent streams of hot and cold water may be admitted into the hollow chamber of the spud, and may be discharged separately or mixed through either or both discharge-openings.

4. The combination, substantially as hereinbefore set forth, of the discharge-pipe from the basin with the drip-basin and pipe, connected with said discharge-pipe beneath the basin, all constructed and operating substantially in the manner described.

5. The combination, substantially as hereinbefore set forth, in a stationary wash-stand, of the supports, the basin provided with an inlet-opening beneath the supporting-slab, and the overflow and discharge openings directly and openly connected with each other outside the basin, with a valve for supplying water of the same or of differing temperature to the basin, all constructed and arranged and operating substantially in the manner described.

6. The combination, substantially as hereinbefore set forth, in a stationary wash-stand, of the basin and its supports, the valve, and its connections with the handle of the valve placed in a recess of the slab, all constructed and operating substantially in the manner described.

THE HELIOTYPE PRINTING CO. BOSTON

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF UNITED STATES COURTS IN PATENT CASES.

DECISIONS OF THE U. S. COURTS.

U. S. Circuit Court—Northern District of Illinois.

PATTEE *et al.* v. MOLINE PLOW COMPANY *et al.*

Decided October, 1881.

1. COMBINATIONS—DIVISION AND RECOMBINATION OF ELEMENTS.
An element of a combination cannot be functionally subdivided so as to make valid claims for other combinations of the same elements.

2. SAME—OLD ELEMENTS—HOW PATENTABLE.
When the leading ideas are old and devices having the same principle have been used for carrying the idea into effect a patent can only stand on special improvements of the devices or on special combinations.

3. SAME—PATENT FOR DEVICE CANNOT MONOPOLIZE FUNCTION.
Where a result similar to that of the patent has been once obtained by one kind of a joint the invention of a special joint for producing the same result does not make the patent cover a function. The field is still open for others to make other joints, to be used in the same place, for accomplishing the same result.

4. SAME—SAME—RECOMBINATION BY OTHERS.
The defendants had the same right to recombine the same parts that the complainants had, so long as it does not use the same combinations.

5. INFRINGEMENT—CULTIVATORS—MOLINE PLOW COMPANY NOT INFRINGERS.
The Schröder, Eichholtz, Norton, Pattee, and Poling patents are all for combinations of old parts, and valid for such special combinations; but none of the patented combinations, so limited, are found in the defendants' machine.

Mr. A. McCallum for the complainants.
Messrs. West & Bond for the defendants.

BLODGETT, *D. J.*:

The bill in this case alleges the issue of the following patents by the United States Patent Office: First, patent issued to J. Schröder, September 24, 1867; reissued to complainants February 6, 1877. Second, patent issued to M. Eichholtz, April 6, 1869; reissued to complainants June 12, 1877. Third, patent issued to C. P. Norton, October 18, 1870; reissued to I. P. Pillsbury, August 26, 1873. Fourth, patent issued to James H. Pattee, March 5, 1872; reissued to complainants October 6, 1874. Fifth, patent issued to T. Poling, August 13, 1872. All of which patents were for improvements in cultivators, and have come by assignment into the ownership and control of the complainants.

It is further charged that the defendants, disregarding the exclusive right secured by the aforesaid patents to the complainants, have made and sold within this district cultivators according to, and in which are embodied, devices and inventions covered by the said patents as the same now stand reissued.

The bill contains the usual prayer for an injunction and an accounting for profits and damages.

The defendants by their answer deny the validity of the complainants' several patents. First, for want of novelty. Second, because the reissued patents are for different inventions than those shown by the original specifications and drawings. Third, they deny that the cultivators made by them infringe all or any of the complainants' patents.

It appears from the proof, as part of the history of the patents in question, that James H. Pattee, one of the complainants, devised what he considered a valuable improvement in cultivators, involving what he deemed a radical innovation on the then mode of constructing this implement, which was to make a two-horse straddle-row cultivator without a tongue or pole—in other words, a tongueless cultivator. The Pattee model, which is in evidence, shows the general idea of his invention—a cultivator with the ordinary device of an arched axle for straddling the rows of corn or other plants to be tilled, the axle jointed near the horizontal arms, which form the journals for the wheels, and supported on wheels, with the plow-beams hinged to the axle by joints, which allow them to oscillate or swing vertically and laterally. For this device he obtained the patent of March 5, 1872, which was subsequently reissued on the 6th of October, 1874. After this patent was obtained the complainants procured assignments of the Schröder, Eichholtz, and Norton patents, all of which were cultivators provided with tongues as an element of their organism, and secured reissues thereof covering certain features which are assumed to be essential to the tongueless machine; and they have also obtained an assignment of the Poling patent, which is a few months later in date than the Pattee patent.

What may be called the "Pattee cultivator" has two characteristic features: First, it operates without a tongue or pole, the draft animals being attached in such a way as that each animal, within certain limits, draws his own plow, the draft being distributed to each animal by means of the joints in the axle. Second, it has a jointed axle or coupling-yoke, by which the two plows are held together and made to operate at a certain distance apart.

It seems, for the purposes of this case, to be conceded that, in order to make this class of cultivators practical, there must be some provision for the flexion of the axle, so that each horse shall move its own plow, or the plow to which it is directly attached, independently of the other to a limited extent—that is, if the two plows are rigidly coupled or connected together and one horse moves faster than the other or deflects from the line of draft, the machine will have a sidewise motion, which will throw it upon or too close to the rows of plants it is intended to cultivate or require extra effort on the part of the plowman to keep it in line. A joint of some

kind, then, which shall operate to prevent the sidewise action spoken of and also divide the draft between the horses, is deemed a special desideratum in this class of cultivators and one of their chief merits. The flexion is obtained in complainants' machine under the Pattee patent by means of two joints, one at each end of the "axle A," as it is termed in the specification. The joints are made by means of the side plates, A and B, and a spindle, as shown. From these side plates stand the horizontal arms, which form the journals for the supporting-wheels, the plow-beams being attached to the axle just outside of the joints—that is, between the joint and inner end of the hub. These joints allow a free backward and forward motion, and the combined parts make the arched jointed axle described.

The principal defendant in this case, the Moline Plow Company, (the other defendants being officers of the corporation, and only charged with violating these patents by their action as such officers,) makes a tongueless straddle-row cultivator, which has an arched or bent axle, with wheels revolving upon the journals at the ends of the axle, and plows attached to the axle by a joint, allowing the plows to swing vertically and laterally, and the axle jointed in the middle of the arch by a torsion joint, which is prevented by lugs from turning only a certain distance; but the joint is placed in the middle of the axle instead of having two joints at the spring of the arch, as shown in the Pattee patent.

It is insisted on the part of the complainants that it is by the use of this jointed axle—that is, the axle jointed in the middle—and in the peculiar two-way joint by which the defendants' plow-beams are attached to the axle, so as to secure the requisite lateral and vertical motion to the plows, that certain claims in all these patents owned by the complainants are infringed. In other words, the complainants insist that the defendants' joint in the middle of their axle is but the equivalent of the two side joints in the Pattee axle, and is the same joint which is shown in the Pattee, and, at least, anticipated in the devices of Schröder, Eichholtz, and Norton.

The Schröder machine was a straddle-row cultivator, with a frame consisting of wheels, axle, and tongue, but with a peculiar device for securing the plows to the frame by means of what he terms an "arched beam-yoke," which was bolted or pivoted at its center to the tongue in such a manner as that "either end of said beam-yoke may be advanced or receded with its respective plow without disturbing the parallelism of the plow-beams," which are hinged or jointed to the yoke in such manner as to permit of their being oscillated laterally or vertically, and yet to sustain the plows in their upright positions without rear connections. The plows are attached to this vibrating bar or arched beam-yoke by a two-way joint, this two-way joint allowing a vertical and lateral motion to the plow, and at the same time the joint is so constructed as to hold the plows in an upright position. The arched beam-yoke consists of the centrally-vibrating beam or evener and the pendent side arms, which drop from the end of the evener. The joint by which the beams are attached to the pendant consists of two flat pieces of metal, one bolted to the top and the other to the under side of the end of the plow-beam, and bent so as to come together forward of the end of the beam. A bifurcated or split plate is made to pass on each side of the pendant, and is attached thereto by a bolt fastened through both parts of the split plate and the pendant, by which means the vertical movement of the joint is obtained. This split plate is carried back and flattened, so as to pass between the two plates which embrace the end of the plow-beams, and attached thereto by a bolt, so as to secure the lateral movement. The plows are drawn by means of a forked or two-pronged draft-bar, one limb of which is attached to the lower end of the pendent part of the yoke and the other either to the upper end of the pendant or to the end of the evener, and the whiffletrees are attached to the forward end of these two bars, where they converge into a hook or other device for attaching them.

The claims of this patent as reissued which the defendant is alleged to have infringed are the first, second, and third, which are as follows:

1. Two plow-beams, B B, connected together by an elevated beam-yoke, A, so that either may operate in advance of the other, while both are drawn forward in the line of progression by draft animals attached to each side of the machine, so that each animal draws in a manner its adjacent plow, the attachment of the plow-beams to said yoke being by joints, which permit the moving of the beams freely and independently in a lateral direction, combined and operating substantially as described, and for the purpose specified.

2. Two plow-beams, B B, connected together by an elevated beam-yoke, A, so that either may operate in advance of the other, while both are drawn forward in the line of progression by draft animals attached to either side of the machine, so that each animal draws in a manner its adjacent plow, the attachment of the plow-beams to said yoke being by joints which sustain the plows in an upright working position without rear connections or other support, and permit of their being moved or oscillated freely in a lateral direction, combined and operated substantially as described, and for the purposes specified.

3. Two plow-beams, B B, connected together by an elevated beam-yoke, A, so that either may operate in advance of the other, while both are drawn forward in the line of progression by draft animals attached to each side of the machine, so that each animal draws in a manner its adjacent plow, the attachment of the plow-beams to said yoke being by joints, which sustain the plows in an upright working position without rear connections or other support, and permit of their being moved or oscillated freely in a lateral or vertical direction, combined and operating substantially as described, and for the purpose specified.

5. The draft-bars *f f*, hinged to the beam-yoke A, and combined to operate with said beam-yoke and plow-beams B B, substantially as described, and for the purpose specified.

It will be seen that the first claim covers the two plow-beams connected together by a beam-yoke so arranged that one may operate in advance of the other, and the plow-beams being attached to the yoke by joints which permit each beam to move freely in a lateral direction, combined and operated substantially as described. In other words, as I understand and construe this claim, it is for a combination of these plow-beams, the particular and special kind of beam-yoke, and the joints by which the plow-beams are hinged to the yoke, so as to secure the lateral motion. The second claim is for precisely the same combination of parts, with the additional statement that the joints by which the plow-beams are attached to the yoke are to support the plows in an upright working position and permit of their being oscillated in a lateral direction, while the third claim is for the same combination of parts, with the additional statement that the joints attaching the plow-beams to the yoke must permit the beams to be moved or oscillated freely in a lateral or vertical direction. The fifth claim is for the combination of draft-bars connected with the beam-yoke and plow-beams as described.

By the first claim he covers as new the combination of certain parts as shown, and the joint allowing a lateral motion to the plows; and by the second and third claims he covers the other functions of the same joint.

Not the joint as such, on the assumption that no such joint was ever before made, but the result or operation of the joint. By the second claim that the joint sustains the plows in an upright position, and in the third claim that it allows the plow to move laterally or vertically. This joint, as shown in his mechanism, is simply a two-way joint, and when used in this combination, as described, permits all these movements or functions as a necessary part of its action in the mechanism, and also holds the plow in an upright position; and I cannot see how these claims for the result or functions of the joint can be deemed valid. It is the mechanism which is the subject-matter of the patent, and not the result of the mechanism.

The Eichholtz patent is for a tongued cultivator, parts of which are so arranged and combined as to dispense with wheels, and where each draft animal was attached to his own plow. It is not a tongueless cultivator, as will be seen, but consists of a beam-yoke, coupling the plow-beams together and to which the plow-beams are attached by a peculiar joint described, which allows the plows to be operated vertically and laterally; but they could not be dropped below a certain line, by reason of the extension of the "heel of the joint," as I call it, backward from the pivot. The claims in this reissue patent which are brought in question in this case are:

1. The combination of two plow-beams and the beam-yoke, connected together by joint-pieces, so that the yoke sustains the beams in upright working position without their being connected together in rear, and is itself supported in an elevated position, the beams having also lateral and vertical motion, substantially as and for the purpose specified.

Or, as I understand it, this claim is for a combination of this special kind of beam-yoke, so arranged as to support the plows in a vertical position upon the yoke.

2. Two plow-beams, B B, connected together by an elevated beam-yoke, A, so that either may operate in advance of the other while both are drawn forward in the line of progression, the attachment of the plow-beams to said yoke being by joints, which sustain the plows in an upright working position without rear connections or other support, and permit of their being freely moved independently in a lateral direction and in a limited vertical direction, permitting the necessary vertical movement of the plows and sustaining the beam-yoke in an elevated position, combined and operating substantially as and for the purpose specified.

It seems to me that the only material feature in this combination which is not found in the Schröder patent is the peculiar joint by which the plow-beams are attached to the yoke so that the yoke sustains the plows in an upright position and permits of a limited lateral and vertical motion of the beams. It may be remarked, and that is all I propose to say in reference to this joint, that it is but another form of a two-way joint. The pivot upon the yoke allows of a lateral motion to a limited extent. The peculiar joint, by which the plow-beam is attached to the plate pivoted upon the yoke, allows a limited motion upward and downward.

The machine covered by the Norton patent is a frame mounted on runners instead of wheels, and the frame is so jointed as to permit one plow to advance ahead of the other and the plow-beams to be vertically and laterally oscillated by the peculiar mechanism shown. This "sled," as it may be called, is arranged with cross-pieces, connected by runners and a tongue in such a manner as to produce the movements of an ordinary parallel rule, by means of which one plow may be drawn slightly ahead of the other and the irregularities of the working of the team compensated for, to a certain extent, by the mechanism shown. The plow-beams are attached to one of the forward vibrating bars, in connection with this parallel rule motion, so as to allow of a limited lateral and vertical motion, but are held upright by a peculiar arrangement of the joints. The claim in this reissued patent is for—

The main frame A B and runners E, arranged relatively to each other, so that either side of the main frame, together with its runner, may be advanced, and either plow-beam vertically or laterally oscillated, without disturbing the parallelism of the runners with each other or with the line of progression, substantially as described, and for the purposes specified.

It will be noticed that running all through these reissued claims is substantially the same idea, the same leading thought—that each plow is to be advanced in the line of progression without disturbing the parallelism of the beams and without materially disturbing the action of the other plow, within the limited scope of this allowable motion.

The peculiarity of the Pattee invention I have already sufficiently described.

The claims which, it is insisted, the defendant infringes are—

1. The combination, in a walking straddle-row cultivator, of the following instrumentalities, viz: two wheels, D D, axle A, and two plow-beams, K K, each beam carrying a handle and one or more shovels or plows, and independently hinged to the axle, so as to be retained in working position without rear connection or support, and moved freely in a lateral, vertical, and horizontal direction, substantially as and for the purposes specified.

4. The combination of the plow-beams K K, axle A, and wheels D D, the latter being hinged or pivoted to the axle to permit of one side moving in advance of the other, substantially as described, and for the purposes specified.

The Poling patent describes a tongueless straddle-row cultivator, the forward ends of the plow-beams of which run upon caster-wheels, and the plow-beams are held together by an arched or elevated beam-yoke jointed in the middle. In the Poling patent the casters are attached to the "axle," as he calls it, and the plow-beams are also attached to the axle by a joint in a way which admits of lateral motion only. They are rigidly attached, so far as any vertical motion independent of the yoke or axle is concerned, but the vertical motion of the plows is obtained by the joint in the axle. The plow beams are attached to the yoke by a joint, which permits of their free lateral movement; but the needful vertical motion is obtained by means of the joint in the middle of the yoke or axle.

I have thus described and discussed briefly each of the complainant's patents. The next inquiry is as to the novelty of those devices and whether the defendant infringes the same.

From the proof in this case it is quite clear to me that Pattee was not the first to conceive and embody in a working machine the idea of a tongueless straddle-row cultivator. The first machine shown in the proof which embodies this idea is that patented by Isaac Constant in November, 1851. It is a tongueless straddle-row cultivator, with all the elements for a working machine of that description, and so arranged as to be what may be called in this art "self-sustaining"—that is, it will stand upon its own supports. This was also done by Arnton Smith in January, 1855; by Whitely in 1860 to 1865; by E. W. Vangundy in February, 1864; by Pratt in October, 1864, and by Adam Young in November, 1866. All these show cultivators constructed without a tongue, with two plow-beams held together by a yoke, each plow drawn by its own draft animal and operating independently of the other.

The specifications in the patent of Arnton Smith show the idea which he intended to embody in his machine very clearly, as follows:

The nature of my improvements consists in so constructing them that they shall admit of a free and independent motion of each other by means of the hinged slide-rods D, in combination with the bar E and the coupling-rod F, said rod F answering the double purpose of a coupler and a double-tree, and thus dispense with the weight of a double-tree usually employed. * * *

Having thus connected the two plows together, as before described, and attached a horse to each plow, I proceed to plow two furrows at a time. By placing them between two rows of corn I can plow next to each row and throw the dirt either up to or away from the corn, or I can place the two plows on each side of a row of corn and plow each side of the corn-row, and throw the dirt away from the corn or throw the same toward it, and thus hill up the corn. * * *

I do not claim any of the separate parts of my plow as new, and I am aware that two plows have been united somewhat like mine, but so that both must advance together, and one must, when raised alone, rotate upon and affect the other, while my separate plows may move freely.

He shows in his plans the two plow-beams held together by a "coupling-rod," as he calls it, and to which the plows are jointed by swivel-joints. For the purpose of holding his plows in an upright position he has a rear connection, or "shackle-bar," as it is termed in the complainants' devices, shackling the two plows together. Here, then, we have in Smith's device two plows jointed to a beam-yoke in such a manner as to allow of a lateral and vertical motion to each plow independently of the other, and each animal draws his own plow. This is the first beam-yoke shown in the proofs in this case; but the disclaimer by Smith in his specification intimates certainly that other inventors or manufacturers had adopted the coupling-rod or beam-yoke prior to him. Nor was the idea of an arched beam-yoke new to Schröder, who is the first and oldest of the complainants' patentees. An arched beam-yoke is shown in the Constant patent of 1851. This beam-yoke is arched, so as to pass over the plants to be cultivated, and yet operates to hold the two plow-beams together. The same idea is also shown in the patents of Saville, Vaugundy, and Pratt, and the model of Whitely. I read from the specifications of Vaugundy's patent of 1861 this extract:

The central portion of the front bar, D—that is the arched coupling-bar—is bent upward, so as to pass over the tops of the rows of growing corn or other grain without injuring the crop, and the rear bar, E, is forked for the same purpose.

Nor was the idea of a jointed beam-yoke or axle, which would allow one plow to advance to a limited extent without the other, new to Schröder, Eichholtz, Norton, Pattee, or Poling. Constant made provision for it by the pivoting of his beam-yoke to the beam, as shown in his model, thereby securing the evener motion of Schröder and Eichholtz or parallel rule motion of Norton and Pattee. Vaugundy made express provision for it in his specification, as follows:

As the retaining-pins c c c c act as pivots, the longitudinal playing of the ends of the bar D upon the pins *b b* permit to a certain degree the independent movement of the two draft-beams in parallel lines, while a similar play of the ends of the bars E and F upon their retaining-pins *c c* within the slots in the share-beams B B' permit the end of either draft-beam to be elevated or depressed independent of the other.

So that here is express provision for the independent action of each plow to a certain extent, and provision also for the lateral and vertical movement, which is shown in the patents of the complainants.

Pratt says in his specification:

The invention consists in connecting together two plow-beams, arranged in such a manner that each beam will have an independent movement, or one to a certain extent independent of the other, whereby the implement is placed more under the control of the operator than usual and managed with less labor and with less fatigue to the team.

* * * * * * * *

One draft animal is attached to each beam A, and it will be seen from the above description that each beam A, in consequence of being connected by the cross-bars D D, as shown, is allowed a certain independent movement longitudinally, and may therefore be managed and operated with facility in case of meeting with obstructions, and the implement is not so liable to be strained or racked as when the rigid frames are used, nor the team so much fatigued.

In plowing or cultivating corn I remove the bars D D and put on curved metal bars H, as shown in Fig. 3.

Here we have in the Pratt device all of the substantial idea shown in Schröder—that is, the connection of the plow-beams by a beam-yoke, so that they are held together, and the beam-yoke is arched, so as to pass over the rows of plants, and each plow moves to a certain extent independently of the other by means of the joints at the point where the yoke is attached to the plow-beams. Indeed, it seems to me that Schröder's arched beam-yoke and Pattee's arched and jointed axle are fully anticipated in form of construction, function, and mode of operation by Pratt's curved metal bar H. And it is also noticeable that Pratt claims these characteristics as the patentable features of his devices, while they were not originally claimed (or at least allowed to them) by Schröder, Eichholtz, Norton, or Pattee.

In 1865 W. S. Weir attached the plow-beams of his cultivator to an arched axle, as shown by the proofs, by a two-way joint, which held the plows in an upright working position without rear connections, and permitted all the lateral and vertical motions claimed in the Schröder patent, while Adam Young, in November, 1866, and George E. Owens, in August, 1871, show the two plow-beams of a straddle-row cultivator connected together by an arched yoke with a joint in the middle, and for substantially the same purpose as used in Poling's device.

Young says in his specification:

In order to arrange the connections between the plows, so as to pass over the tops of corn-leaves, after the latter have considerably advanced in growth, as is always the case with the late or final plowing, the connecting-beams between the two plows are constructed in a peculiar manner by taking them in a vertical direction above each beam and conducting them horizontally across toward the other plow. There are two of these bent beams attached to each beam, and to each other in the horizontal part of them, so as to form a pair. Each pair of these beams is coupled together by a peculiar clamp arrangement, which admits of a ready adjustment of the parts to accommodate the width of the rows, as before recited. * * *

The sockets *a* are permitted to turn easily around their vertical axis, so as to allow one of the plows to be drawn ahead of the other without wrenching or straining any of the parts, and the beams C C' are pivoted to the sockets *a* or the handle B', so as to allow the requisite lateral motion of these parts.

Owens, in 1871, describes a tongueless straddle-row cultivator with an arched beam-yoke joined in the center by a ring, and he says that this arrangement permits one section or division of the implement to be eight to twelve inches in advance of the other. There is, then, shown by the proof in this case that at times long antedating all of the complainants' patents, all of the ideas or peculiarities of the complainants' several machines, the arched yoke of Schröder and Eichholtz, and the two-way joints were adopted and are older than the date of either the Schröder or Eichholtz patents. The idea of the jointed axle of Pattee, by which the rigidity of the cultivator-frame is avoided, and each draft animal operates his own plow to a certain extent independent of the other, is older in the art than either of the inventions covered by the complainants' patents. Not that in either of these preceding machines there is shown just the same kind of joint, structurally considered, as that shown in the Pattee patent, or an arched beam-yoke precisely like that of Schröder, but the idea and function of Pattee's axle and Schröder's beam-yoke seem to have been anticipated and worked out in practical machines by the several inventors from whose specifications I have so fully quoted.

I, perhaps, should not leave this branch of the case without referring to the evidence touching the Whitely cultivator, which appears in this record. This cultivator, a model of which is introduced in evidence, was never patented; but the proof shows that it was constructed and in use in the vicinity of Springfield, Ohio, from 1860 or 1861 up to 1873 or 1874, and the evidence shows that some hundreds of them were constructed and put to use in that locality, and that it was a popular and useful machine. It is true there is some dispute in the record as to the precise time in which Whitely completed and manufactured his machines; but I think the clear preponderance is in favor of the defendants' assumption that these machines were made as early as 1860, and that Whitely continued the manufacture of them for several years thereafter. This Whitely machine certainly embodies the main ideas that are developed, perhaps with more mechanical skill but not inventive genius, in the later devices of Pattee and Poling. The time when the Whitely machines were first made and introduced is fixed by the testimony of the witnesses as during the war, and it is hardly possible that a person could be mistaken as to a fact which occurred during a historical period of such impressive interest as our late civil war.

Arched and jointed beam-yokes, then, being old, and two-way joints being old, the complainants' inventors could have patents only for their special devices and combinations. These patents may be valid as shown—that is, the Schröder patent may be a valid patent for the combination of the peculiar parts which Schröder shows in his patent and claims as his peculiar invention. His peculiar arched beam-yoke or evener and his peculiar joint by which he sustains the plow may be valid, and the combination of them to make such a mechanism as he shows may be valid. He does not claim, in fact, to have invented a beam-yoke nor a two-way joint. He does not assert that he is the first to have made a joint of this character, but simply puts it into his combination. So, too, an arched beam-yoke, jointed in the middle, as shown in Poling's patent, must be confined to his special joint; and this was evidently the view of the Commissioner of Patents. Poling describes his device—his arched axle—and then is allowed one claim, as follows:

The bars A, constructed substantially as herein shown and described, and pivoted to each other at their inner ends, to adapt them to receive the plow-beams and draft, as and for the purpose set forth.

He describes the peculiar kind of axle. He describes how he secures the peculiar kind of joints shown by cutting the axle in two and pivoting the parts together. It is true this is a torsion joint, the same as is used by the defendant, but it is a peculiar kind of torsion joint; and, inasmuch as torsion joints were not new and the idea of a joint in the middle of the axle had been shown by Owens, I think Poling must be limited to his peculiar joint. He cannot claim the idea of a joint in the middle of the arch or axle, because that had been done by preceding inventors.

The defendants' arched yoke is a peculiar device by itself. It is an arched axle with a hinge in the center. It differs, not essentially, perhaps, in its mode of operation from Poling's, but it has another kind of joint—a different joint from Poling's. Not but what it has the same function, but Poling had no right, in the state of the art, to cover the function or to cover every joint at that place. He was not the first to joint the arch or axle of a cultivator in the middle for the purpose of obtaining the result which he obtained. The field was open to the defendant to make another kind of joint in the same place, which might accomplish the same result as Poling's, without infringement.

I therefore come to the conclusion that the defendant, in its combination of parts to produce its cultivator, does not infringe upon any of the special devices which are shown and covered by the complainants' patents. It is true that the defendant has an arched axle; but arched axles were old—older than Schröder's or any of the complainants' patents. It is true that defendant's axle is jointed in the center; but an arched axle or beam-yoke jointed in the center was older than Poling's. It is true that defendant uses a two-way joint, by which lateral and vertical motion of the plow-beam is secured, and the plow is held in an upright position, but this had been done by Wier and other inventors long before any of the complainants' patents were issued.

The patents of Schröder, Eichholtz, Norton, Pattee, and Poling all seem to me from the proof to be mere combinations of old parts, and, as I have said, may be valid as such combinations; but the defendant had the same right to combine other or the same parts so long as it did not use the same combination shown in complainants' patents, which I find it does not.

The bill is dismissed for want of equity.

U. S. Circuit Court—District of Rhode Island.

McWILLIAMS MANUFACTURING COMPANY v. BLUNDELL.

Decided February 24, 1882.

1. REISSUE—AMENDING CLAIM BY DROPPING USELESS ELEMENT.
   A patentee is not bound to include in the claim of his reissued patent an element of the original claim—a pin connecting a clamp-piece and a screw—which was not necessary or material to the combination, and which was found to be practically useless.
2. SAME—OMISSION OF PART OF ORIGINAL INVENTION.
   And, further, there is nothing in the policy or terms of the patent act which forbids the omission of part of the original invention from the reissued patent.
3. FIRM—TITLE—ASSIGNMENT.
   The title to a patent taken out in the name of one of the members of a firm and never assigned to the firm will not pass by sale of partnership property, although expenses incident to the issue of the patent were paid by the firm and the patent was used for the benefit of the firm while the partnership lasted.
4. INJUNCTION—PARTY IN INTEREST—AGENT.
   When the infringing articles bear the name of the defendant and the evidence points to the defendant as the principal person engaged in their manufacture an injunction will not be denied because the defendant holds himself out as the agent for another person.
5. REISSUE—ACQUIESCENCE IN USE UNDER ORIGINAL PATENT.
   Acquiescence by the patentee in the use by the defendant of the original defective patent does not authorize the use of the invention after the issuing of the reissued patent.
6. VALIDITY OF THE PATENT—FORMER SUIT.
   The fact that the judgment in a former suit was obtained without resistance does not, in the absence of collusion, make it less stronger evidence of the validity of the patent.
7. ACQUIESCENCE.
   A patentee is not guilty of acquiescence for neglecting to proceed at once against all who infringe.

8. INJUNCTION—SAME—NOT REFUSED BECAUSE DEFENDANT OFFERS TO GIVE BOND.

When the infringement is clear and the patent valid an injunction will not be refused because the defendant offers to give bond with surety to pay any damage awarded against him.

MOTION FOR A PRELIMINARY INJUNCTION.

Mr. Daniel R. Ballou for the complainant.
Messrs. Wm. W. & S. T. Douglas for the defendant.

COLT, *J.*:

The complainant, having acquired title by assignment to a certain patent issued August 3, 1869, to John McWilliams, and reissued March 23, 1880, for an improvement in die-holders for screw-presses, used largely in the manufacture of jewelry, asks that an injunction may issue against the defendant for an alleged infringement.

The old use of wedges to secure dies in the holder being subject to serious objections, this invention of McWilliams aims to overcome them. It consists in the use of a sliding clamp-piece, moving in a slot, arranged to adjust itself to the die, being forced against it by turning a screw inserted in one end of the holder. In the original patent we find described a pin connecting the moving clamp-piece with the screw. In the reissued letters patent under which the complainant brings suit, while the specification sets out that such a conecting-pin may be used, the claim seems to contain no reference to it as constituting a part of the invention. Practically it was found that the pin was useless, and the holders were consequently made without it. The defendant, in the die-holder alleged to be made by him, leaves out this pin, and in consequence denies any infringement upon the ground that he uses less than all the elements of the combination in the McWilliams patent. In other respects his die-holder appears identical with that of McWilliams.

We do not think the omission of the pin protects the defendant. Whether it is claimed in the reissue or not we do not deem important, because, in our view, it is not a necessary or material part of the combination. The machine works equally well without it. At most it is a simple subordinate thing, that might or might not be used, with little or no effect upon the result. In appearance, substance, and principle the die-holder sold in the market, and marked "H. Blundell & Co.," is like that made under the McWilliams patent.

Another ground of defense is that the reissued patent, by enlarging the scope of the original invention, is not for the same invention, and is therefore void, the counsel citing the recent case of *Miller* v. *Brass Company*, Supreme Court, October term, 1881. The main purpose of the reissue seems to have been to describe the invention more clearly and in greater detail. The only other difference we can find is, that while the claim in the original patent mentions the screw as being connected to the sliding piece, (probably referring to the pin,) no reference to any such connection is found in the claim in the reissue. The most, therefore, that can be urged is that the claim in the original embraces more than the claim in the reissue. We have already said that the omission of the pin does not seem to us to constitute an essential or material change; but even if this were not so, there is nothing in the policy or terms of the patent act which forbids the omission of a part of the original invention from the reissued patent. (*Carver* v. *Braintree Manufacturing Company*, 2 Story, 432; *Boomer* v. *Power Company*, 13 Blatchf., 107; *Knight* v. *Railroad Company*, 3 Fish., 1; *Chicago Company* v. *Busch*, 4 Fish., 395; *Parham* v. *Sewing Machine Company*, 4 Fish., 468; Bump's Law of Patents, 183.)

The reasoning of the Supreme Court in *Miller* v. *Brass Company* is applicable to cases of the enlargement of a patent in the reissue, and where it is for a different thing. In that case, in the original patent, two domes or reflectors, with other devices, were used in a lamp as a means of dispensing with a chimney, while in the reissue one dome was used with a new element—namely, a chimney added. Mr. Justice Bradley observes:

It is not only obviously a different thing, but is the very thing the patentee professed to avoid and dispense with.

The defendant further undertakes to prove by affidavits that McWilliams is not the original inventor of the die-holder; but the difficulty is that the time when his evidence fixes the prior use is several months after the time of the invention as sworn to by McWilliams and another, and it is well settled that it is the time of the discovery, and not of the application, which governs. Nor is the position taken by the defendant, that he is the owner of the patent, supported by sufficient proof. It appears that the patent was taken out when he and McWilliams were in partnership; that the expenses incident to the issue were paid by the firm, and the patent used for the benefit of the firm while the partnership lasted, and that afterward all the firm property was sold to him. He now swears that the invention was considered as partnership property, and that, consequently, he became the owner by this transfer. In view, however, of the fact that the patent was taken out in the individual name of John McWilliams, August 3, 1869, and, so far as appears, was never assigned in writing to the firm, but was transferred April 23, 1877, by written assignment, afterward recorded, to the McWilliams Manufacturing Company, and of the other evidence, the defendant is far from making out his claim of ownership. Nor do we see any reason for refusing an injunction, in case it is warranted upon other grounds, because the defendant testifies that he is only carrying on business as agent for William H. Blundell, who, it seems, is his son. The die-holders complained of, and which are sold in the market, are labeled "Henry Blundell & Co.," and the evidence points to the defendant as the principal person engaged in their manufacture. If he is not the real maker, he can be little injured by any restraining order. If he is the real maker, the addition of the word "agent" should not protect him.

The defendant further contends that there has been an acquiescence for years on the part of McWilliams and his assignee in his use of the patent. We must remember, however, that the reissued patent was not granted until March, 1880, and that no prior use under the defective patent can authorize the use of the invention after the issuing of the renewed patent. (*Stimpson* v. *Westchester Railroad Company*, 4 How., 380; *Hussey* v. *Bradley*, 2 Fish., 362; *Howe* v. *Williams*, 2 Fish., 395.)

In April, 1880, within a month after the reissue, suit was brought in this court by the complainant against Stephen T. Willetts for infringement, and answer made. At the June term, 1881, a decree was entered establishing the validity of the reissued patent and enjoining the defendant. The fact that the judgment was obtained without resistance does not, in the absence of collusion, make it less stronger evidence of the patentee's rights. (*Orr* v. *Littlefield*, 1 W. & M., 13; *Grover & Baker Company* v. *Williams*, 2 Fish., 133; *Potter* v. *Fuller*, 2 Fish., 251.) As this suit followed soon after entering the decree in the Willetts case, the complainant can hardly be charged with acquiescence. A patentee is not obliged to proceed at once against all who infringe, and he is not guilty of acquiescence for not so doing. (*Van Hook* v. *Pendleton*, 1 Blatchf., 187.)

To the allegation of the defendant that the public have not acquiesced in the invention it is sufficient answer to observe that the ground upon which such public acquiescence is important is that it shows exclusive possession by the patentee, and thus creates a presumption of title; and that, in this respect, positive adjudication, which we have here, is often more satisfactory than acquiescence. (*Potter* v. *Whitney*, 3 Fish., 77; 1 Low., 87.)

In this case the infringement seems clear, and upon the evidence submitted the patent is valid. Therefore the injunction should not be refused because the defendant offers to give bond with surety to pay any damages awarded against him. (*Tracy* v. *Torrey*, 2 Blatchf., 275; *Tilghman* v. *Mitchell*, 4 Fish., 615; *Gibson* v. *Van Dresar*, 1 Blatchf., 532.)

The motion is granted.

THE OFFICIAL GAZETTE OF THE United States Patent Office.

[BY AUTHORITY OF CONGRESS.]

VOL. 22—NO. 3. TUESDAY, JULY 18, 1882. PRICE—$5 per year

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Subscriptions for 1882.

The OFFICIAL GAZETTE is published every Tuesday, two volumes a year, commencing in January and July. Terms: To all subscribers within the United States and Canada, $5 per annum; to foreign subscribers, $7; single copies, 10 cents; bound volumes, $3.50 per volume. No club rates. *Payment in advance.* All orders should be addressed to "The Commissioner of Patents, Washington, D. C."

Issue of July 18, 1882.

Patents	400	No. 261,119 to No. 261,518, inclusive.
Designs	33	No. 13,035 to No. 13,067, inclusive.
Trade-Marks	17	No. 9,547 to No. 9,563, inclusive.
Labels	9	No. 2,717 to No. 2,725, inclusive.
Reissues of patents	9	No. 10,158 to No. 10,166, inclusive.
Total issue	468	

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Massachusetts	49	7	United States Army	....	....
Michigan	18	....	United States Navy	....	....
Minnesota	5	....			
Mississippi	1	....	Total to citizens of		
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Colombia, U. S. of	....	....	Switzerland	....	....
Cuba	....	....			
Denmark	2	....	Total to citizens of		
Ecuador	....	....	foreign countries	30	1
England	9	1			

DESIGNS.

13,035 and 13,036.—CARPET.—*Frank Allen*, Worcester, Mass., assignor to *Matthew J. Whittall*, same place. Applications filed May 26, 1882. Term of patents 3½ years.

13,037.—CARPET.—*Frank Allen*, Worcester, Mass., assignor to *Matthew J. Whittall*, same place. Application filed May 27, 1882. Term of patent 3½ years.

13,038.—CARPET.—*Frank Allen*, Worcester, Mass., assignor to *Matthew J. Whittall*, same place. Application filed May 29, 1882. Term of patent 3½ years.

13,039.—CARPET.—*William Allinson*, Philadelphia, Pa., assignor to *Horner Brothers*, same place. Application filed May 29, 1882. Term of patent 3½ years.

13,040.—CARD-COVER.—*Gustav Brueck*, New York, N. Y. Application filed June 8, 1882. Term of patent 3½ years.

13,041.—GLASSWARE.—*Edward T. Burgess*, Corning, N. Y. Application filed May 13, 1882. Term of patent 7 years.

13,042.—GLASSWARE.—*Edward T. Burgess*, Corning, N. Y. Application filed May 15, 1882. Term of patent 7 years.

13,043.—GLASSWARE.—*Edward T. Burgess*, Corning, N. Y. Application filed May 13, 1882. Term of patent 7 years.

13,044.—SOUVENIR.—*William H. Curry*, Baltimore, Md. Application filed June 3, 1882. Term of patent 3½ years.

13,045 to 13,047, inclusive.—CHAIN-LINK.—*Salomon Davidson*, New York, N. Y. Applications filed May 31, 1882. Term of patents 7 years.

13,048.—BUTTON.—*John A. Deknatel*, Brooklyn, N. Y. Application filed May 22, 1882. Term of patent 7 years.

13,049 and 13,050.—PIPE MOUTH-PIECE.—*William Demuth*, New York, N. Y. Applications filed May 24, 1882. Term of patents 7 years.

13,051.—WATCH-PENDANT.—*Ezra C. Fitch*, New York, N. Y. Application filed April 25, 1882. Term of patent 14 years.

13,052.—JACKET.—*Manning A. King*, New York, N. Y. Application filed May 4, 1882. Term of patent 3½ years.

13,053 to 13,061, inclusive.—OIL-CLOTH.—*Charles T. Meyer* and *Victor E. Meyer*, Bergen, N. J., assignors to *Edward C. Sampson*, New York, N. Y. Applications filed June 7, 1882. Term of patents 3½ years.

13,062.—ADVERTISING DISK OR PLATE.—*Elhanan L. Moodie*, New York, N. Y., assignor of one-half to *Charles H. Gillespie*, same place. Application filed April 4, 1882. Term of patent 3½ years.

13,063.—TOY FULMINATE-EXPLODER.—*Edward L. Morris*, Boston, Mass. Application filed April 15, 1882. Term of patent 7 years.

13,064.—CARPET.—*Thomas Onslow*, Philadelphia, Pa., assignor to the *Horner Brothers*, same place. Application filed June 7, 1882. Term of patent 3½ years.

13,065.—WRENCH.—*Blake F. Pickering*, Salmon Falls, N. H. Application filed May 13, 1882. Term of patent 7 years.

13,066.—INKSTAND.—*James G. Smith*, Cleveland, Ohio. Application filed April 8, 1882. Term of patent 14 years.

13,067.—CARPET.—*Thomas J. Stearns*, Boston, Mass., assignor to *The Roxbury Carpet Company*, same place. Application filed June 5, 1882. Term of patent 3½ years.

TRADE-MARKS.

[Certificates of registration of Trade-Marks numbered 8,191 and upward are registered under the act of March 3, 1881.]

9,547.—FIRE-ARMS.—*American Arms Company*, Boston, Mass. Application filed May 26, 1882.
"The word 'SEMI-HAMMERLESS.'"

9,548.—MARSH-MALLOW DROPS AND OTHER CANDIES.—*Boyd, McCook & Co.*, Philadelphia, Pa. Application filed June 17, 1882.
"The essential feature of the trade-mark being 'STAR,' whether expressed in word or pictorially."

9,549.—BUTTER-COLOR.—*Nathan S. Capen*, Brandon, Vt. Application filed June 19, 1882.
"The two cupids carrying a package on a parsnip, and the word 'CARROTINE' inscribed on said package, and the two cupids rolling the tub, and the arbitrarily-selected word 'CARROTINE.'"

9,550.—DICTIONARY OF THE ENGLISH LANGUAGE.—*The Century Company*, New York, N. Y. Application filed June 10, 1882.
"The words 'THE CENTURY.'"

9,551.—EDGED TOOLS.—*The Collins Company*, Collinsville, Conn. Application filed June 26, 1882.
"The word or picture denoting an emu."

9,552.—MEDICINES, OINTMENTS, LINIMENTS, PERFUMERY, AND COSMETICS.—*Ferdinand Damour*, Waterville, Kans. Application filed June 21, 1882.
"A circle and two triangles inclosed within an ellipse."

9,553.—TONIC.—*Gross & Delbridge*, Chicago, Ill. Application filed May 17, 1882.
"The arbitrarily-selected word 'HYDRASTIA' and monogram composed of the letters 'G D.'"

9,554.—CIGARS.—*W. R. Irby & Bro.*, New Orleans, La. Application filed June 23, 1882.
"A picture in which is represented a maiden in oriental costume, a vase containing a flowering plant, a fountain surmounted by a cherub holding above its head a vase from which flows a stream of water, a tessellated pavement with body of water in front and a couple of columns and shrubs or trees in rear thereof, the aforesaid details flanked on either side by flowers, leaves, and monograms, the latter composed of the letters 'W. R. I.'"

9,555.—AXLE-GREASE.—*A. Judson Wise*, Chicago, Ill. Application filed August 4, 1881.
"The word 'MODOC.'"

9,556.—SPOOL-COTTON.—*Kerr & Co.*, New York, N. Y. Application filed June 19, 1882.
"The letters 'N. M. T.'"

9,557.—BRUSHES.—*S. Maw, Son & Thompson*, 7 to 12 Aldersgate Street, London, England. Application filed June 18, 1881.
"A monogram composed of the letters S C M M T, inclosed in a trefoil."

9,558.—WASHING-POWDER.—*James Napier*, Brooklyn, N. Y. Application filed June 17, 1882.
"The words 'THE ROYAL' and the representation of a crown encircled by a closed belt."

9,559.—SOAP-POWDER OR CONCENTRATED SOAP.—*Rufus J. Paine*, Mansfield, Mass. Application filed April 6, 1882.
"The picture, cut, or engraving of the registrant, or of the upper portion of his body, and the fanciful name or word 'PUMITENE.'"

9,560.—BREAKFAST-COCOA.—*Henry L. Pierce*, Boston, Mass. Application filed June 10, 1882.
"The scrolls, bands, and arabesque frame-work bearing the words 'WALTER BAKER & Co.'s,' with the shield, upon which are three birds' heads and the monogram 'W. B. & Co.,' and other ornaments, as shown and described."

9,561.—CERTAIN MEDICINAL PREPARATIONS.—*Pollard & Co.*, Hot Springs, Ark. Application filed May 22, 1882.
"The device or pictorial design of a monkey seizing the tail of a cat which is springing upon a mouse making its escape through the floor and the fanciful term 'LIVE AND LET LIVE.'"

9,562.—COTTON GOODS.—*Tremont & Suffolk Mills*, Lowell, Mass. Application filed June 27, 1882.
"The silver 'S' on a yellow ground."

9,563.—COSMETIC.—*John Richard Williams*, Stockton, Cal. Application filed June 13, 1882.
"The words 'CREAM OF ROSES.'"

LABELS.

2,717.—Title: "JUNIPERUS WATER."—*Ezra H. Bailey*, Washington, D. C. Application filed June 10, 1882.

2,718.—Title: "LAKE DRUMMOND WATER."—*Ezra H. Bailey*, Washington, D. C. Application filed June 10, 1882.

2,719.—Title: "CEDAR WATER."—*Ezra H. Bailey*, Washington, D. C. Application filed June 10, 1882.

2,720.—Title: "JUNIPER WATER."—*Ezra H. Bailey*, Washington, D. C. Application filed June 12, 1882.

2,721.—Title: "PERFUMED WITCH HAZEL (HAMAMELIS ODORIFERANTE)."—*Clifford & Co.*, Boston, Mass. Application filed June 10, 1882.

2,722.—Title: "THE INDIAN OIL."—*John E. Healy* and *Charles Bigelow*, Boston, Mass. Application filed June 22, 1882.

2,723.—Title: "SAGWA INDIAN STOMACH AND LIVER RENOVATOR."—*John E. Healy* and *Charles Bigelow*, Boston, Mass. Application filed June 22, 1882.

2,724.—Title: "RESTORATIVE NERVINE."—*F. L. Miles*, Elkhart, Ind. Application filed June 19, 1882.

2,725.—Title: "VOIGT'S ZAHNWASSER."—*Adolph Voigt*, Chicago, Ill. Application filed June 19, 1882.

DISCLAIMER.

8,099, (Reissue.)—*Edwin D. Brainard*, assignee of *Frederick Hinckel*, Albany, N. Y., patent reissued February 26, 1878. IMPROVEMENT IN WASHING SHAVINGS IN BREWERIES. Disclaimer filed July 11, 1882, by the assignee.

Enters his disclaimer to the first and second claims in the specification attached to and forming a part of said letters patent, which are in the following words, to wit:

"1. The process of treating brewers' shavings loosely placed together in a vessel supplied with jets of water, substantially as described.

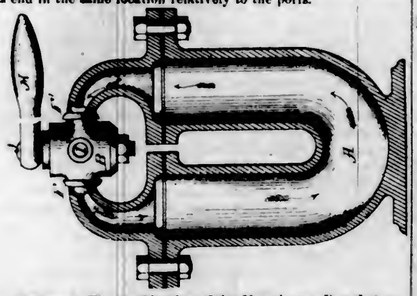
"2. The process of treating brewers' shavings with jets of water while such shavings are being rotated or agitated in a vessel, substantially as described."

PATENTS

GRANTED JULY 18, 1882.

261,119. WATER-FILTER. SAMUEL ADAMS, Milwaukee, Wis. Filed Aug. 8, 1881. (No model.)

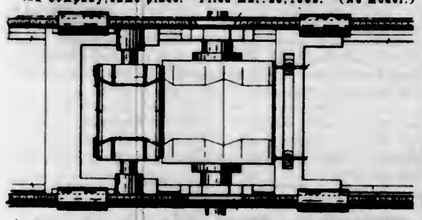
Brief.—The filter provides for reversing the current and also for permitting the stream to pass directly to the discharge. This is accomplished by having the induction and eduction pipes opposite to each other and at right angles to oppositely-arranged passages through the filter. Access to these several ports is so controlled by a concavo-convex stopper that any two of them can be brought into communication. One port of each series of ports is constructed eccentrically to its pipe, whereby the valve always rests its end in the same location relatively to the ports.



Claim.—1. The combination of the filter A, case B, and stopper C, said case being provided with oppositely-arranged inlet and outlet passages I and O and side passages, F and F', one of the ports to the respective opposite passages being formed at one side of the central line of said passages, all substantially as and for the purpose specified.

2. The combination of case B, one of the direct passages of which is provided with port X, formed at one side of its center, and one of the side passages of which is provided with port Y, formed at one side of its center, stopper C, provided with curved partition G, handle M, and filter A, all substantially as and for the purpose specified.

261,120. VENEER-DISH-BLANK MACHINE. JAMES R. ALLOCAN, Indianapolis, Ind., assignor to the Allgire Manufacturing Company, same place. Filed Mar. 23, 1882. (No model.)



Claim.—In a veneer-dish-blank machine, a cylinder revolved by frictional contact with the log, and having set in its surface two sets of knives, constructed to cut into the face of the log to different depths, for the purpose described, a knife for separating the veneer from the log, and a mechanism for causing said cylinder and said separating-knife to simultaneously approach the log, all combined substantially in the manner and for the purpose set forth.

261,121. FIRE-ESCAPE. FRANCIS A. A'NEALE, Topeka, Kans., assignor of one-half to George M. Stearns, same place. Filed Apr. 15, 1882. (No model.)

Brief.—The movable sections of the handles are pivoted at one end to the rigid sections and at the other end are seated in a bridge-piece, so as to be moved against the rope. The screws that hold the sides of the case and the cover together form the pivots of the movable sections of the handles.

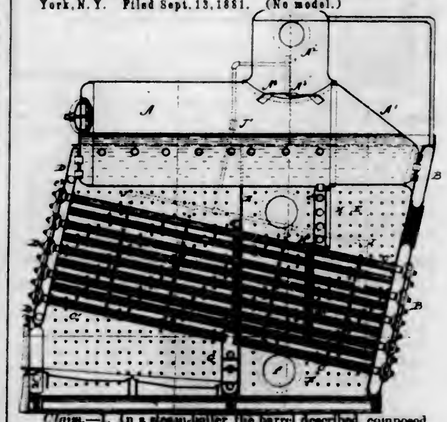


Claim.—1. The combination of the case A, having the handles *a a*, with the sections *a' a'*, adapted to move bodily in a lateral direction, and the rope C, all substantially as shown and described.

2. The combination of the case A, provided with the handles *a a*, having the bridge-piece *a²*, with the movable sections *a' a'*, grooved at *a³*, and having the slotted tenon *a⁴*, substantially as shown and described.

3. The combination of the case A, cover B, sections *a' a'*, and screws *a⁵ a⁵*, substantially as shown and described.

261,122. STEAM-BOILER. GEORGE H. BABCOCK, Plainfield, N. J., and STEPHEN WILCOX and NATHANIEL W. PRATT, Brooklyn, N. Y., assignors to the Babcock & Wilcox Company, New York, N. Y. Filed Sept. 13, 1881. (No model.)



Claim.—1. In a steam-boiler, the barrel described, composed of a cylindrical horizontal portion, A, and a tapered end, A', arranged as shown, in combination with a furnace at a lower level, and with pipes C and connections B D, substantially as herein specified.

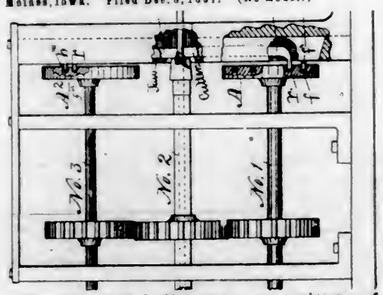
2. In a steam-boiler, the barrel A A', dome A², and stays A³, combined as and for the purposes herein specified.

3. In a steam-boiler, the independently-formed sectional water-legs E, in combination with the barrel A A' and connections for insuring an efficient circulation of water, as herein specified.

4. In a steam-boiler, the water-bridge G and suitable connections for supplying dense water thereto, in combination with inclined pipes C, communicating therewith, and with connections B D to a suitable barrel, A A', as herein specified.

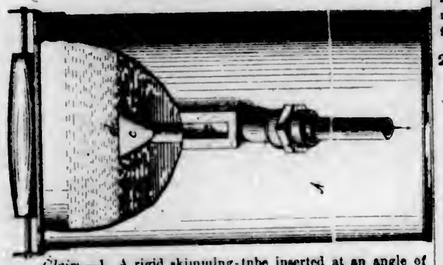
5. In a steam-boiler, the hanging bridge H and thimbles e^2 e^3, in combination with the barrel A A', tubes C, and connections B D, as herein specified.

261,123. WIRE-BARBING MACHINE. GEORGE C. BAKER, Des Moines, Iowa. Filed Dec. 3, 1881. (No model.)



Claim.—In a wire-barbing machine, the combination of the cam-wheel A, having continuous grooves *r* and *b e d f g*, the cam-wheel A^2, having continuous grooves *r* and *b' b'' b'''*, the rotating driving-shafts Nos. 1 and 3, and reciprocating cutter-carriers and jaws sliding in a fixed post, and provided with studs to engage the grooves in the cam-wheels, substantially as shown and described, to operate in the manner set forth, for the purposes specified.

261,124. MILK-SKIMMING APPARATUS. JAMES M. BAKER, Aurora, Ill. Filed Apr. 6, 1882. (Model.)



Claim.—1. A rigid skimming-tube inserted at an angle of about forty-five degrees through the side of the milk-can, and adapted to be adjusted lengthwise therein and to be readily withdrawn therefrom, substantially as shown and described.

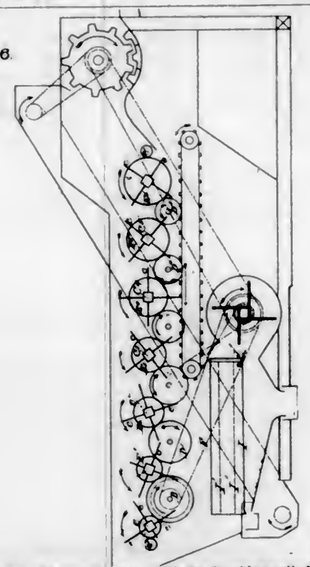
2. In combination with a can, the inclined skimming-tube B, made with the flaring mouth *c*, having its top line, *d*, at an angle to its length, as described, and whereby such line may be brought into a horizontal or a vertical position, as desired, by turning the tube in its bearing or support.

261,125. BOOT-STRAP. JOHN B. BULCHER, Charlotte, Mich. Filed June 3, 1882. (No model.)



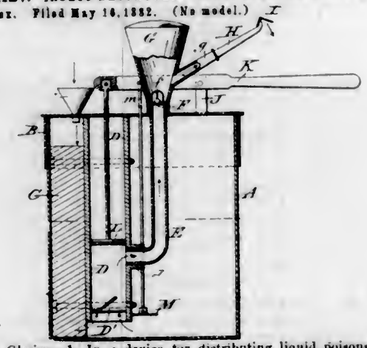
Claim.—The double metallic loop A and attaching strap B prepared and arranged as described, and adapted to be applied to a rubber boot leg in the manner herein set forth.

261,126. THRASHING-MACHINE. JOEL BENNITT, Palo, Mich. Filed June 6, 1881. (No model.)



Claim.—The combination, with the thrashing-cylinder, of the series of rake-shafts, the series of pulleys mounted thereon and decreasing in diameter successively from said cylinder, and the series of driving-pulleys increasing in diameter in the same order and engaging with the rake-shaft pulleys, and means for communicating rotary motion to one of said driving-pulleys, substantially as described.

261,127. INSECT-DESTROYER. JAMES E. BINKLEY, Columbus, Tex. Filed May 16, 1882. (No model.)



Claim.—1. In a device for distributing liquid poisons to plants, the combination, with the tank A, bearing C, pipe D, having projection *d* and valve D', vertical tube E, having valve F and guard *f*, and chamber G, having nozzle H and hood I, of the perforated removable cover B, having standard J, lever K, plunger L, and dasher M, substantially as shown and described.

2. The combination of the covered tank A, tubes D E, having suitable valves, chamber G, attached to the upper end of the tube E, and having a nozzle, H, provided with hood I, and the plunger L, dasher M, and lever K, substantially as and for the purpose described.

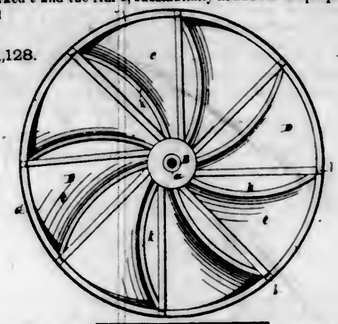
261,128. VENTILATOR WHEEL OR FAN. JAMES M. BLACKMAN, Chicago, Ill. Filed Apr. 8, 1882. (No model.)

Claim.—1. In a ventilator-fan, the scroll-shaped wings D, arranged in the wheel in a diagonal position, and each provided at its outer end with the part *d*, covering the space between the outer end of the part *e* of the wing and the rim *b*, substantially as and for the purposes specified.

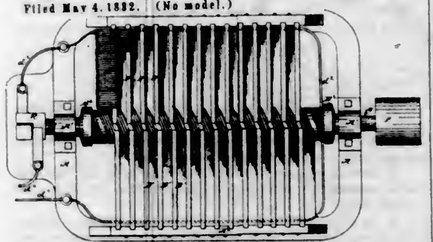
2. In a ventilator-fan, the combination of the disks B C, ribs E, rim *b*, and wings D, each wing being provided with a part, *d*

covering the space between the outer end of that part of the wing marked *e* and the rim *b*, substantially as and for the purpose specified

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261,129. MAGNETO-ELECTRIC MACHINE. JOHN B. BLAIR, Chicago, Ill., assignor of three-fourths to Aaron P. M. Jeffers, William S. Coffman, and Charles W. Lasher, all of same place. Filed May 4, 1882. (No model.)

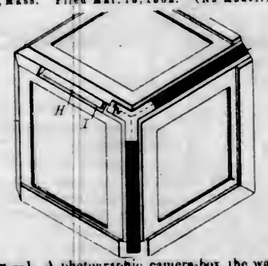


Claim.—1. In an electric generator, a rotating cylindric armature, B, provided with parallel spiral grooves *b b'* and intermediate flanges *b' b'*, combined with an induction-coil, B', deposited in said grooves, and with suitable magnets having their poles separated by a distance equal to the distance between the flanges of the armature, and arranged to proximate the armature, substantially as described.

2. The combination, with the spirally flanged and coiled armature B, of the two opposite series of coiled and connected arms D D', alternating in polarity in each series, and arranged to proximate the armature, so that when the flanges of said armature are opposed to the arms of one series they are also severally opposed to arms having the same polarity in the other series, substantially as described.

3. In combination with the spirally-flanged armature B, the magnets D or D', having their free ends concaved to partially embrace the armature, and set inclined, substantially as and for the purposes set forth.

261,130. PHOTOGRAPHIC CAMERA. THOMAS H. BLAIR, Cambridge, Mass. Filed Mar. 18, 1882. (No model.)



Claim.—1. A photographic camera-box the walls of which with the exception of the front and bottom, are composed of temporary, independent, and interchangeable parietes.

2. A photographic camera-box the walls of which, with the exception of the front and bottom, are composed of interchangeable temporary parietes, each of which is a holder for sensitized plates.

3. A photographic camera-box the walls of which, with the exception of the front and bottom, are composed of independent interchangeable plate-holders or parietes, the edges of said plate-holders being beveled and arranged as shown, whereby the edge of each plate-holder constitutes a bearing or abutment to sustain the other when the whole are assembled together, substantially as explained.

4. In a photographic camera-box the walls of which, with the exception of the front and bottom, are composed of independent interchangeable parietes or plate-holders, the combination, with said plate-holders, of bands which confine said holders together and permit of ready dismemberment, substantially as set forth.

5. In a photographic camera-box a portion of whose walls are composed of independent interchangeable parietes or plate-holders, the edges of such parietes or holders constructed with dual bevels of forty-five degrees angle, for purposes stated.

6. A photographic camera-box composed of a permanent front piece to support the lens, a permanent bottom piece to uphold the entire box and hinged or connected to the first, and remaining walls composed of independent interchangeable parietes or plate-holders.

7. In a photographic camera-box, a series of parietes or plate-holders, each provided on one side with a ledge or ridge which extends across near its edge, substantially as and for the purposes set forth.

8. In combination with the front B and bottom D, having beveled grooves on their inner faces, the plate-holders having their ends beveled to sit into said grooves and fitting together, substantially as set forth.

9. A plate-holder having a portion, I, of its edge cut away, in combination with flap H, adapted to be folded or contracted within the recess thus formed.

261,131. JELLY-GLASS. JACOB BORSHIRE, Sharpsburg, assignor to Adams & Co., Pittsburg, Pa. Filed June 5, 1882. (No model.)



Claim.—A jelly-tumbler having names upon its surface, in combination with a cover provided with means for covering the names and for exposing them singly to the sight, substantially as and for the purposes described.

261,132. PICTURE-FRAME. EDUARD BRODHAG, Jersey City, N. J., assignor to Lewis Pattberg & Bros., New York, N. Y. Filed June 9, 1882. (Model.)



Claim.—The combination of the molding A, having inner ring, *d*, and outer rim, *b*, with the molding C, having exposed part *e* and inner part, *f*, and with the body B of the picture-frame, all arranged so that the molding C is held in place by the rim *b* of the molding A, substantially as described.

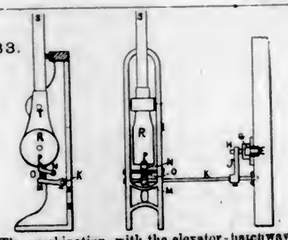
261,133. ELEVATOR-HATCHWAY GUARD. JOSEPH BYRNE, Newton, and GEORGE TAYLOR, Everett, Mass. Filed Apr. 17, 1882. (No model.)

Brief.—Inclines on the elevator-post operate a spring-actuated bar with friction-roll on the well-post. The spring-actuated bar is connected to an arm on a rocker-shaft, which is connected at its outer end to an arm bearing by means of a spring upon a latch engaging the notched end of a swinging guard.

Claim.—1. The combination, with the elevator-support B, having the inclines D, of the horizontal sliding arm or bar G, provided with a spring, F, the vertical arm J, the horizontal rocker-shaft K, provided with the arm M, having the spring O, and the rocking dog N, adapted to engage with the hatchway-guard R S, as and for the purposes set forth.

2. The combination, with the elevator-support B, having the inclines D, of the horizontal sliding bar G, provided with a friction-roll, E, spring F, and suitable guard-latching mechanism, as and for the purposes set forth.

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3. The combination, with the elevator-hatchway guard R S, of the rocker-shaft K, arm M, and spring-dog N, substantially as described, as and for the purposes set forth.

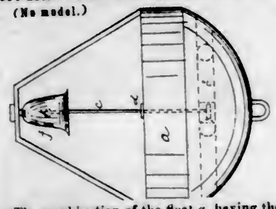
261,134. ROLLING-MILL. JOSEPH L. CHAPMAN, Philadelphia, Pa. Filed Feb. 27, 1882. (No model.)



Claim.—1. The device for holding stretchers on the couplings of a rolling-mill, consisting of the strap, clamp, and screw, said strap being rigidly fastened at one end to said clamp as a fixture thereof, constructed, combined, and operating substantially as and for the purpose set forth.

2. The band and screw, in combination with the clamp G, having an opening, *a*, and a lip, *a'*, the band being attached to said lip, substantially as and for the purpose set forth.

261,135. FOG-SIGNAL. WALTER R. CLOSE, Bangor, Me., assignor of one-half to Frank H. Clerque, same place. Filed Jan. 13, 1882. (No model.)



Claim.—The combination of the float *a*, having the bell *j* secured thereto, the rod *c*, secured to said float by a joint, allowing motion in any direction on a substantially horizontal plane, the grooves or tracks *b*, and the balls or wheels *l l*, operating substantially as and for the purposes set forth.

261,136. BICYCLE. B. FRANK. COOLEY, Brockport, N. Y. Filed Sept. 18, 1881. (No model.)

Claim.—1. Backbone B, constructed, as shown, with a widened and slotted upper end, spindle N, constructed with a mortise in the lower end thereof, together with the block *r*, secured therein, lever *p*, joint *x*, bar *o*, and ratchet D, all constructed, arranged, and operating substantially as and for the purpose set forth.

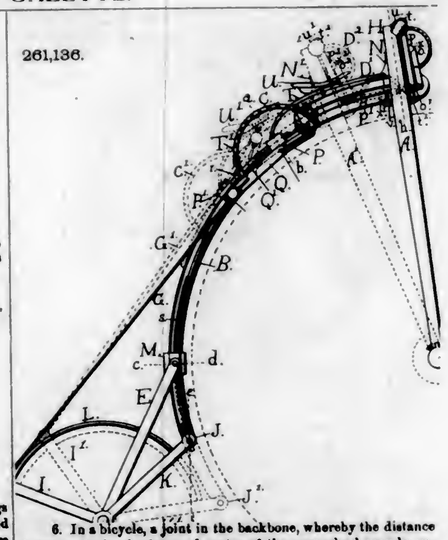
2. Seat-spring T, secured at its forward end to the rear side of the spindle and at its rear end to the block P, sliding upon the dovetailed tongue *r* upon the backbone B, whereby the position of the rider always remains the same relative to the spindle, all constructed, substantially as and for the purpose set forth.

3. Forked guide-bar E, together with the blocks M and M', sliding upon the tongues *s* and *s'* upon the backbone B, all constructed arranged, and operating substantially as and for the purpose set forth.

4. Joint J, the rigidly-connected forks K and I, bar L, connecting the same, rod U, lever Q, and ratchet C, all constructed, arranged, and operating substantially as and for the purpose set forth.

5. In a bicycle, a head-piece and spindle movable upon the backbone, together with a seat and spring, also movable upon the backbone, and secured to and moved by such head-piece and spindle, whereby the position of the rider may be varied at pleasure, substantially as and for the purpose set forth.

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6. In a bicycle, a joint in the backbone, whereby the distance between the head-piece and center of the rear wheel may be varied, and thereby the position of the rider changed at pleasure, substantially as and for the purpose set forth.

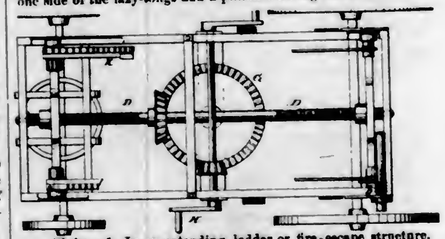
7. In a bicycle, the combination of a spindle and backbone united together by a sliding joint, substantially as and for the purpose set forth.

8. In a bicycle, the combination, with a joint in the backbone thereof, of a lever or combination of levers and ratchet or other equivalent devices, whereby such joint may be operated and held substantially as and for the purpose set forth.

9. In a bicycle, the combination, with a spindle and backbone united together by a sliding joint, of a lever or combination of levers and ratchet or other equivalent devices, whereby such joint between the backbone and spindle may be operated and held substantially as and for the purpose set forth.

261,137. FIRE-ESCAPE. GUSTAVE J. CRIEBLAIR, New York, N. Y. Filed June 26, 1880. (No model.)

Brief.—A horizontal gear-wheel, which is operated by an upright gear-wheel, turns the double-threaded screw operating from the center thereof. Auxiliary toggle-levers operated by a rope and windlass serve to make the initial lift. The ladders slide upon each other when to be folded, and the angle of the extended structure is adjusted by means of a rack attached to the lower arms of one side of the lazy-tongs and a pinion working therein.



Claim.—1. In an extending ladder or fire-escape structure, the ladder-sections I I, pivoted upon the center joints of the lazy-tongs, and adapted and arranged, as shown, to slide into each other and also fold, in combination with the lazy-tongs mechanism, substantially as and for the purposes described.

2. The combination of auxiliary toggle-levers, arranged to apply a lifting force to a central pivot near the top of the lazy-tongs, with said lazy-tongs mechanism, substantially as described.

3. The horizontal gear-wheel G, operated by the upright gear-wheel turned by the crank H, in combination with the upright gear-wheel secured to a double threaded screw-bar, D, as a means of operating the lazy-tongs mechanism, substantially as shown and described.

4. In an extending ladder composed of hinged arms or lazy-tongs mechanism and sliding and folding ladders, the auxiliary ladder P, arranged to be held at any desired inclination by the ratchet-wheel and pawl, substantially as shown and described.

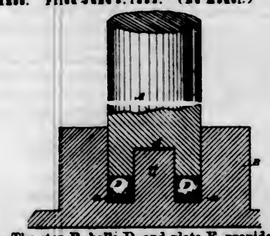
5. In an extending ladder or fire-escape structure operated by lazy-tongs mechanism, the ratchet-wheel and slide K, adapted to receive the lower arms of one side of the structure and lengthen or shorten the same, substantially as and for the purpose shown and described.

261,138. TICKET-PUNCH. LUTHER O. CROCKER, East Braintree, Mass. Filed May 22, 1882. (No model.)



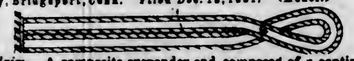
Claim.—A ticket-punch having the stripper E connected at its outer end to the jaw of the handle A and jointed by its inner end at *a* in the throat of the punch to the handle B, said last-named handle being provided with the lateral slot *d*, extending inwardly beyond the inner end of the stripper, substantially as specified.

261,139. STEP FOR VERTICAL SHAFTS. WILLIAM CROWE, Boston, Mass. Filed June 8, 1882. (No model.)



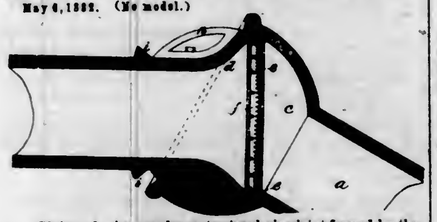
Claim.—The step B, balls D, and plate E, provided with the stud C, in combination with the shaft A, provided with the chamber *d*, when constructed and arranged to operate substantially as set forth.

261,140. SUSPENDERS. GEORGE H. W. CURTIS, Brooklyn, N. Y., assignor to the Wheeler & Wilson Manufacturing Company, Bridgeport, Conn. Filed Dec. 15, 1881. (Model.)



Claim.—A composite suspender-end composed of a continuous narrow strip of leather and a fibrous cord or braid sewed to the inner edge of said leather strip and sewed together to unite the edges and form the center of such suspender-end, substantially as before set forth.

261,141. PIPE-JOINT. JOHN L. DIBBLE, Brooklyn, N. Y. Filed May 6, 1882. (No model.)

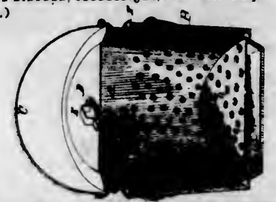


Claim.—1. An angular or torsional pipe-joint formed by the combination, with a spherical socket, *c*, including more than a hemisphere, of an inner tube or funnel, *d*, formed with a flaring mouth to fit the interior of the spherical socket within the diametrical line thereof, and a series of spherical segments, A, affixed to the tube or funnel around the flaring mouth, within the diametrical line, and engaging with the spherical socket, substantially as and for the purpose set forth.

2. The combination, with an angular or torsional pipe-joint, of the flexible packing-ring or yielding flap *e*, affixed near one edge around the rim of the inner or male part of the joint and left free at its outer edge, and arranged to overlie the junction of the male with the female or socket and rest against the surface of the socket in advance thereof, substantially as and for the purpose set forth.
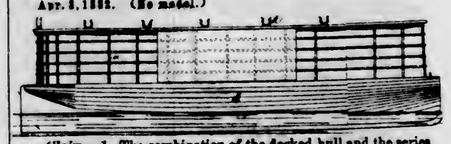
3. The combination, in a yielding pipe-joint, of the packing-ring or flap *e*, affixed to the edge of the male and pressing at its free edge against the surface of the female, with the overlying toothed or comb-like spring-ring *f*, arranged and operating substantially as and for the purpose set forth.

261,142. FOOD STRAINER AND STEAMER. JOHN DORSCH and GEORGE LINDNER, Canandaigua, N. Y. Filed Apr. 3, 1882. (No model.)



Claim.—The combination of vessel A, provided with slot *b*, cover D, handle C, kettle B, flange F, and adjusting-screw *a*, said flange F being adapted to be adjusted nearer to or farther from the top of said vessel, whereby the vessel may be used for either a steamer or for a strainer, as set forth.

261,143. LIFE-BOAT. DANIEL B. EDDY, Somerset, Mass. Filed Apr. 3, 1882. (No model.)



Claim.—1. The combination of the decked hull and the series of thwarts with the continuous guard extending around and above the deck and both above and below the thwarts and having openings in it on its opposite sides, essentially as set forth.

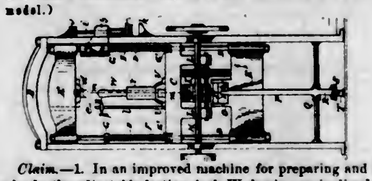
2. The combination of the decked hull and the series of thwarts with the continuous guard extending around and above the deck and the thwarts, and having openings in its opposite sides, and flexile or hinged covers to such openings, arranged and to operate substantially as set forth.

261,144. THILL-COUPLING. WALTER A. EDDY, Randolph, N. Y. Filed May 17, 1882. (No model.)



Claim.—In a thill-coupling, the combination of the shaft-iron and clip with the chucks C D, the upper one being beveled on one side and rectangular on the other side, the lower one being beveled on both sides and provided with a cup-shaped recess on its lower side for the reception of a rubber washer or spring, the two chucks being held and adjusted by a curved bolt, B, substantially as shown and described, and for the purpose set forth.

261,145. SHOE-HEELING MACHINE. MARTIN V. B. ETHERIDGE and FRANK M. ETHERIDGE, Lynn, Mass. Filed May 1, 1882. (No model.)



Claim.—1. In an improved machine for preparing and nailing heels, the adjustable lasting-jack W, having an inclined foot or rest, X, operating in combination with the wedge Y and driving-screw Z, substantially as and for the purpose specified.

2. The hand adjusting heel-plate *a*, having a smooth floor, *c*, and indented floor *b*, provided with the heel-driving plate *d* and spurs *e e*, for the purpose specified.

3. In combination with the lasting-jack W, the stationary measure Z, having a movable index-point, *n*, as set forth.

4. The wedge N, moving on the block O, operated by the levers P R, in combination with the cam M, producing the vertical movement of the gate E E', substantially as specified.

5. The combination of the heel-piercing device *f*, actuated by the guide-rod D through the slot *h*, and operating outside of the frame A, as set forth.

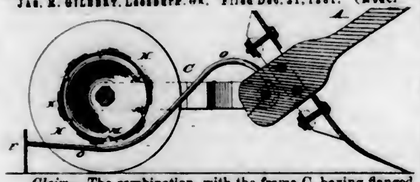
6. The combination of the adjustable lasting-jack W, the movable heel-plate *a*, and upper gate-head, E, all arranged substantially as set forth.

261,146. END-GATE FASTENING. LAUREN M. FITCH, Rome, N. Y., assignor to the Rome Spring Wagon Company, same place. Filed Apr. 15, 1882. (No model.)



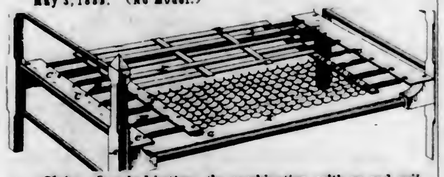
Claim.—The combination of a wagon-body having metallic clips D D, secured to its inner side near the end-gate opening thereof, and the end-gate having the pivoted metallic straps or latches secured to the inner side and near its ends, which straps or latches pass between the clips and wagon-body when the gate is closed, substantially in the manner herein shown and described.

261,147. COMBINED GARDEN-HOE AND SEED-PLANTER. JAS. R. GILBERT, Leesburg, Ga. Filed Dec. 31, 1881. (Model.)



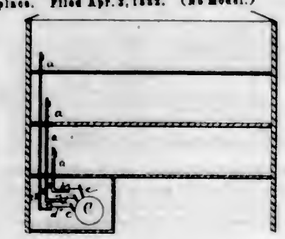
Claim.—The combination, with the frame C, having flanged rotary hopper or seeding-cylinder H, and pivoted beam A, of the rods or brackets O, pivoted upon the same bolt as beam A, extending rearward under the hopper, and carrying the covering-blade P, substantially as set forth.

261,148. BED-BOTTOM. THOMAS P. GLODY, New York, N. Y., assignor of one-half to Charles H. Dunks, same place. Filed May 3, 1882. (No model.)



Claim.—In a bed-bottom, the combination, with an end rail, springs E, and a flexible fabric, of an intermediate vibrating transverse bar, consisting of a flat plate having perforations in one edge, and means for securing the flexible fabric to the under side thereof, substantially as set forth.

261,149. WATCHMAN'S TIME-RECORDER. ALFRED B. GOODRICH, Buffalo, N. Y., assignor of one-half to William J. Beyer, same place. Filed Apr. 3, 1882. (No model.)



Claim.—1. In combination with the speaking tubes *a a a* of a building, &c., the flap *b*, hinged to the mouth of each tube, with an attached arm, *d''*, having a recording-instrument, *e*, at one end, and provided with a spring or counter-balance, *d'*, at the other end, all substantially as and for the purpose specified.

2. In combination with the pipes *a a a*, flaps *b*, arms *d' d''*, and pen *e*, the paper D, divided into time-spaces and set around a drum, C, which is revolved by suitable clock-work, all substantially as and for the purpose set forth.

261,150. HINGE. JAMES E. GOWEN, Peabody, Kans., assignor of one-half to Charles A. Haulenbeek, same place. Filed July 8, 1881. (Model.)



Claim.—A hinge formed of a blank, E, cut away at *g g* to form a strip, which is bent to form the knuckle *d*, and to bring the leaves B and *e* at right angles to each other, and a blank, D, having a rectangular slot, *f*, to form an upper and a lower strip, which are bent to form knuckles *c c*, and to bring the leaves A *b* at right angles to each other, and a pintle, C, substantially as set forth.

261,151. UMBRELLA-SLIDE. CLAUDIUS GRATALOUP and JEAN B. LUYMARIS, Paris, France. Filed Apr. 20, 1882. (No model.) Patented in France Oct. 15, 1881, No. 145,368.

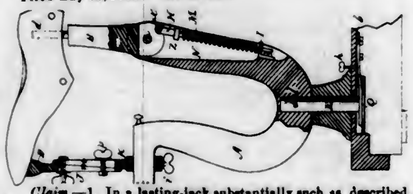
Brief.—One tubular runner has an upper overhanging notched cap, on which runner and beneath which cap is another runner carrying the stretchers. These two runners slide one on the other, so that free play is given to the stretchers in either opening or closing the umbrella.



Claim.—1. The combination of the runner-tube *b*, having slotted cap *c*, with the embracing-tube *g*, having crown-ring *k*, and with the stretchers or braces *f*, substantially as herein shown and described.

2. The tube *g* and crown-ring *k*, combined with the tube *b*, slotted cap *c*, spring *r*, stick *a*, and stretchers *f*, substantially as herein shown and described.

261,152. PEGGING-JACK. GEORGE P. HAYES, Rochester, N. H. Filed May 22, 1882. (No model.)



Claim.—1. In a lasting-jack substantially such as described, the jointed arm B, pivoted rod H, coiled spring M, nut *s*, and step I, in combination with the body A, arranged to operate substantially as specified.

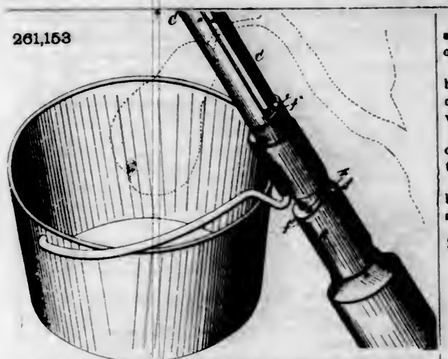
2. In a lasting-jack substantially such as described, the toe-piece D, having its body divided diagonally into the two sections J K, and made vertically adjustable by the screws *p* and slots *m*, the section K being fitted to the bracket C and rendered laterally adjustable thereon by the screw *i*, all substantially as set forth.

261,153. FRUIT-GATHERER. THADDEUS W. HESTS, Marianna, Fla. Filed May 10, 1882. (No model.)

Brief.—There are two cutting-blades, between which the stem of the fruit is passed, one rigid, the other free. In operation, the handle is turned, throwing the latter blade on the former. The free blade is held by a pin resting on the beveled edge of the shank of the rigid blade. The spring in the main shank plays in a notch in the bottom of the shank of the free blade, to throw it into position after a cut has been made.

Claim.—1. A fruit-gatherer consisting of the cutting-blades C C', the blade C being rigid on the bar A and the blade C' allowed to oscillate and at the same time caused to move endwise,

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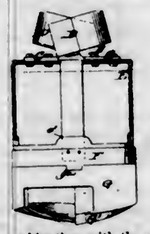


in combination with a spring applied to the shank of blade C', all substantially as and for the purposes described.

2. The combination, in a fruit-gatherer, of the blade C, rigid on bar A, the blade C', movable thereon, the beveled abutting surfaces *b e f'*, pin c, and the spring E, all arranged for joint operation, substantially in the manner described.

261,154. EARTH-AUGER. SIDNEY H. HOBB, St. Louis, Mo. Filed Oct. 19, 1881. (No model.)

Brief.—The rim or ring which carries the hinged cutting-bottom has sockets, into which are secured the lower ends of vertical bars whose upper ends are turned inward and secured to the auger-head. The ring or rim has lugs or lips, which enter corresponding recesses in the hinged cutting-bottom, to give rigidity while in action.

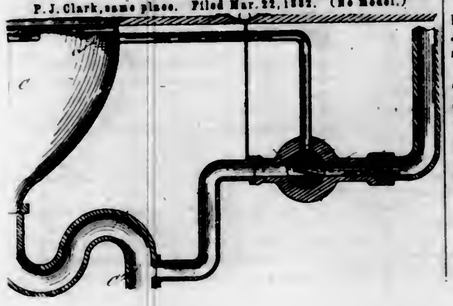


Claim.—1. The combination, with the auger-head, of the vertical bars E, bent inwardly at their upper ends and secured at their lower ends to the rim or ring F, carrying the hinged cutting-bottom, substantially as set forth.

2. The rim F, adapted to carry the cutting-bottom by a hinged joint, and provided with sockets for the bars E, substantially as specified.

3. As an improvement in earth-augers, the combination, with the lower rim, F, having the downwardly-projecting lips *a*, of the cutting-bottom G, hinged to said rim, and provided with a series of recesses, *g''*, and a spring lug or lip, *f*, the former to receive the lips *a* and the latter to engage a notch in the rim F, to hold the bottom and rim securely together, as set forth.

261,155. STOP-COCK INJECTOR FOR WATER-CLOSETS, &c. WILLIAM L. HOBBS, Meriden, Conn., assignor of four-tenths to P. J. Clark, same place. Filed Mar. 22, 1882. (No model.)



Claim.—1. An injector-plug for stop-cocks, consisting, substantially as before set forth, of a three-way plug, one of the ways of which is provided with an inwardly-projecting nozzle.

2. In a stop-cock injector, the combination, substantially as before set forth, of the shell provided with three or more ways or channels, and the three-way plug, one of the ways of which is provided with an inwardly-projecting nozzle.

3. The combination, substantially as before set forth, of the closet bowl or hopper, the stop-cock injector, and the pipe-connections.

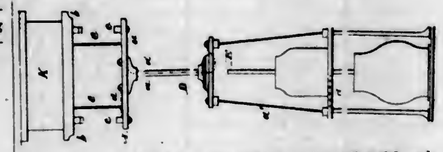
4. The combination, substantially as before set forth, of the bowl, the soil-pipe C', the air pipe or branch, an injector, and a stop-cock for cutting off the air in said branch.

261,156. SOAP TABLET. WILLIAM J. HOUSTON, San Francisco, Cal. Filed May 8, 1882. (No model.)



Claim.—A semi-oval soap tablet beveled and scarfed substantially in the manner as herein set forth and specified, for the purpose described.

261,157. ELECTRIC-LAMP FIXTURE. DANIEL N. HUBLBUT, Chicago, Ill. Filed June 15, 1881. (No model.)



Claim.—1. The case K, compensating spring-rollers *d d*, cords *e e*, cross-arm A, springs *b b*, points *c c*, spring C, insulation *f*, conductors *a a'*, and tube D, when connected with the electric lamp E, substantially as described, and for the purpose set forth.

2. The combination of the case K, conical compensating spring-rollers *d d*, cords *e e*, cross-arm A, spring *b b*, points *o c*, spring C, insulation *f*, conductors *a a a'*, and tube D with the lamp E, as described, and for the purpose set forth.

3. Automatic conical compensating spring-rollers and suspending-cords, or other equivalent device, combined with suitable stationary electrical contact-springs located at the point where the lamp is intended to be used, and corresponding electrical contact-surfaces upon the lamp, all constructed, arranged, and adapted to operate substantially as and for the purpose set forth.

261,158. FIRE-ESCAPE LADDER. FRANK G. JOHNSON, Brooklyn, N. Y. Filed Apr. 26, 1882. (No model.)

Brief.—A plate secured on the base of the lower section of the double ladders has chains and bolts attached to it, by which the ladder is raised from a horizontal to a vertical position. The angle of inclination of the ladder is adjusted by means of an oscillating supporting-frame operated by an elevating-screw which is carried by an oscillating socket-step. The ladders are extended by ropes and held in position by pawls and ratchet-wheels.

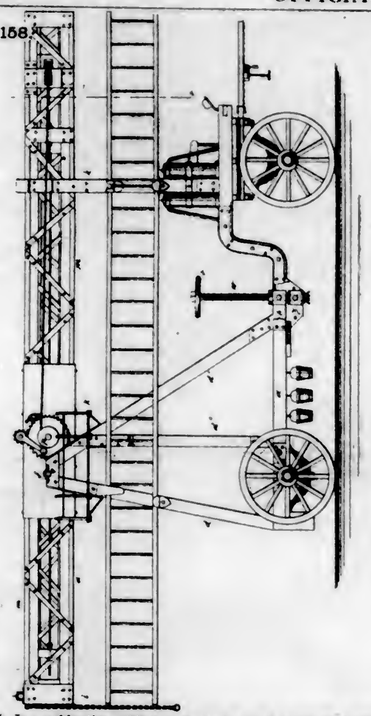
Claim.—1. In combination with a series of sectional double ladders, forming an extension-ladder, as described, the base-plate J, chains *o j*, and bolts and spring *t*, when constructed and operated substantially as set forth.

2. In combination with an extension-ladder, the oscillating carrying base and frame *d d' d'' b*, the ladder-plate *n'*, platform and gallery *k*, winch, drum, and pawl *p p' p'' p'''*, in combination with the actuating-ropes *n* and pulleys *s*, as described.

3. In combination with the oscillating supporting-frame of an extension-ladder, the sustaining-shaft *o*, rock-nut *y*, rocking pivot-step *x*, and operating-screw *w*, combined with the supporting-trunnions *f'*, all constructed, arranged, and actuated substantially in the manner and for the purpose set forth.

4. With an extension-ladder, the following elements in combination: the adjusting oscillating frame *d d'*, the ladder-trunnions *f'* and plate *n'*, and the extending ropes and pulleys *n s*, with the wheeled truck turn-table, when constructed and operated in the manner and for the purpose described.

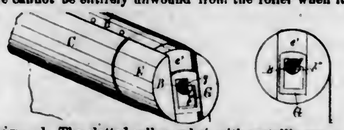
261,158.



5. In combination with the supporting and directing frame of an extension-ladder, the vertical supporting-post d^4 and trunnions f', the vertical post or strut h, and cross-timber and spring lock-plate h', when arranged in the manner and for the purpose substantially as set forth.

261,159. SPRING SHADE-ROLLER. DANIEL E. KEMPSTER, Boston, Mass. Filed Mar. 27, 1882. (No model.)

Brief.—A notch in the slotted plate, which slides in the slotted roller end, engages with the flat side of the spindle under a slow motion. The tacking-line for the shade on the outside of the roller coincides with the notched end of the sliding plate, so that the shade cannot be entirely unwound from the roller when it is locked.



Claim.—1. The slotted roller end e', with metallic cap e, in combination with a sliding plate, G, having a slot, with a single notch, g, in one end only of said slot, and the flat-sided portion b'' of the spindle B, substantially as shown and described.

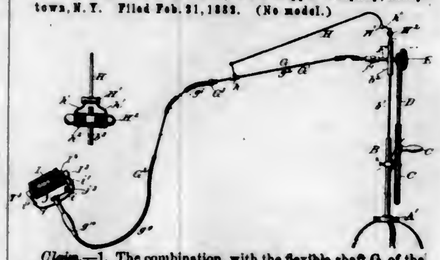
2. The spindle B, formed with the flat side b'', for preventing the slow rotation of the roller in one direction, in combination with the single notched slotted sliding plate G g, substantially as shown and described.

3. The combination of the spindle B, having the flat side b'', the roller C, having end cap, E, with slotted end e', metallic cap e, and the slotted plate G, having a notch, g, in one end only of said slot, the several parts being constructed and arranged for conjoint operation substantially as shown and described.

4. In combination, the roller C and its sliding locking-plate G and spindle B, with a marked tacking-line, H, on the outside of the roller, coinciding with the notched end of said locking-plate G, as set forth.

5. In a curtain-fixture or shade-roller, the spindle B, with its flat portion b'', arranged parallel with the bracket-notches b^2 b^4, in combination with the lip b, for holding said spindle right side up when the roller is in its brackets, as set forth.

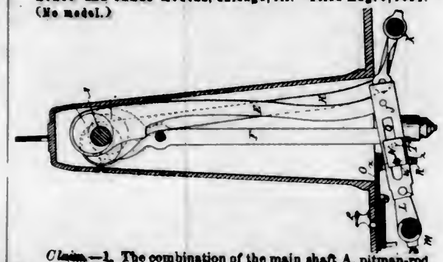
261,160. HORSE-BRUSHING APPARATUS. NATHAN L. KING, Catskill, assignor to the King Wool Clipper Company, Harrytown, N. Y. Filed Feb. 21, 1882. (No model.)



Claim.—1. The combination, with the flexible shaft G, of the shaft i, handle I', adjustable framing P, brush I, pulleys j j^2 j^3 I', and belt j', constructed and adapted to operate substantially as shown and described.

2. The combination, with the vertical sectional shaft B and flexible shaft G, of the sliding bearing A, spring-arm H, cross-piece H' and spring h^3, and cross-piece H², constructed and adapted to operate substantially as shown and described.

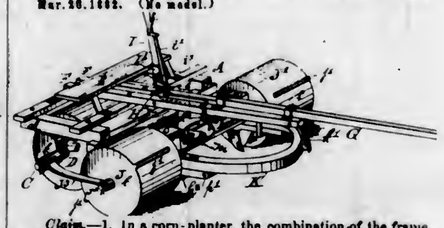
261,161. FEED MECHANISM FOR SEWING-MACHINES. OTTO KOHUP and JAMES MCGILL, Chicago, Ill. Filed Aug. 8, 1881. (No model.)



Claim.—1. The combination of the main shaft A, pitman-rod E, and lever J, having for its fulcrum the block N, pivoted in the slotted arm R of the sliding bar O, with rock-shaft M, having the arms L and a and the feed-bar W, substantially as shown and described.

2. The combination of the sliding bar O, having the downwardly-projecting arm R, provided with a slot, with the fulcrum-block N, pivoted within the said slot, and the lever J, embracing the said fulcrum-block by means of the slot Q, said lever being connected at one end with the pitman-rod E and at the other end with the arm L of the rock-shaft M, substantially as set forth.

261,162. CORN-PLANTER. CHRISTIAN J. LILLOH, Byron, assignor of one-half to Lewis G. Nelson, Kasson, Minn. Filed Mar. 16, 1882. (No model.)



Claim.—1. In a corn-planter, the combination of the frame A, beams F F, curved arms J', having boxes k, the curved frame K, the shafts C J', link k', and lever I I', whereby the rollers J J' are supported outside of the roller D, and are held parallel to the same and adapted to be raised and lowered, substantially as shown and described.

2. The combination of the roller J, provided with the cross-arm j^3, and the bell-crank m, provided with the cam m', substantially as shown and described.

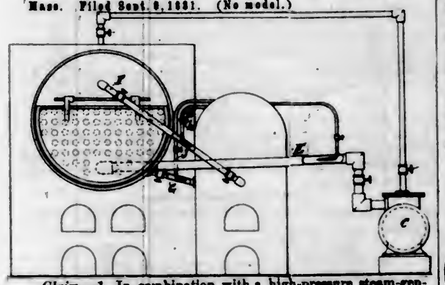
3. The combination of roller J, provided with band j^3, the bell-crank m, cam m', and cup j^5, substantially as shown and described.

4. The combination of roller J, arm j^3, bell-crank m, cam m', bracket M, bell-crank m^3, rod m^2, and feed-bar N, substantially as shown and described.

5. The combination of frame K, platform L, plows P, loops p^3, pins p^2, boxes O, slide N, plate R, bell-cranks m m^2, cams m' j^5, and roll J, substantially as shown and described.

6. The combination of the bar N, rod m^2, and projection o' with plate R, provided with rack-bar r and slotted for the pivot of pinion r', and projection o', substantially as shown and described.

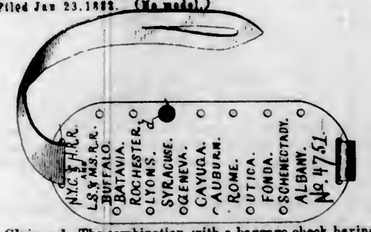
261,163. UTILIZING EXHAUST-STEAM. HARVEY T. LITCHFIELD, Hull, assignor of one-half to David Renshaw, Cohasset, Mass. Filed Sept. 9, 1881. (No model.)



Claim.—1. In combination with a high-pressure steam-generator and a generator of lower pressure, the pipe F, leading from the steam-space of the low-pressure boiler to the water-space of the high-pressure boiler, the high-pressure steam-jet pipe H, for forcing the steam from the low to the high pressure boiler, the exhaust-steam pipe E, leading into the water-space of the low-pressure boiler, the jet-pipe J, and the pipe G, all operating together in the manner set forth.

2. The method herein shown of controlling the pressure in boilers, arranged and operating as described, for utilizing exhaust-steam by conducting the surplus steam from the steam-space of the low-pressure boiler to the water-body of the high-pressure boiler, and also conducting the surplus water from the water-body of the low-pressure boiler to the water-body of the high-pressure boiler by means of jets of very high pressure.

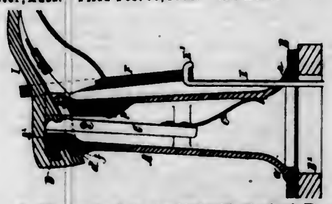
261,164. BAGGAGE-CHECK. CHARLES O. LYON, Fort. Ind. Filed Jan 23, 1882. (No model.)



Claim.—1. The combination, with a baggage-check having a list of stations thereon and provided with a perforation opposite the name of each of said stations, of a compressible soft-metal indicator secured in one of said perforations, substantially as shown and described.

2. The combination of a perforated baggage-check having the names of stations thereon, and a compressed indicator secured within one of the perforations and bearing an indicating-mark, substantially as shown and described.

261,165. METAL LAST AND JACK. SAMUEL MAWHINNEY, Worcester, Mass. Filed Feb. 10, 1882. (No model.)



Claim.—1. The standard A, provided with the beak D, and the tongue or lever C, with its top end fitted for locking a last and its lower end provided with a spring or means for affecting locking action therewith, said parts being combined for operation substantially as hereinbefore set forth.

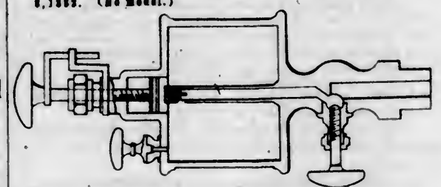
2. The combination, with the standard A, having the top seat for supporting a last, of the detachable extension-piece A^1, substantially as and for the purpose set forth.

3. The combination, with the standard A, provided with beak D and locking-tongue C, and revolubly supported in the base-plate B, of the rod E, provided with the top hook, E', for engagement with a shank-strap, and a treadle or means for operating said rod, substantially as and for the purpose set forth.

4. The combination, with the last-body I, formed with the seating-surface I' and cavity J, as described, of the central lug or projection, K, having an under bevel or curve, k, at its rear end, substantially as and for the purpose hereinbefore set forth.

5. The instep-block, formed of a thin shell of metal, with the bar L' connecting its side and supporting the attaching-spring, substantially as shown and described.

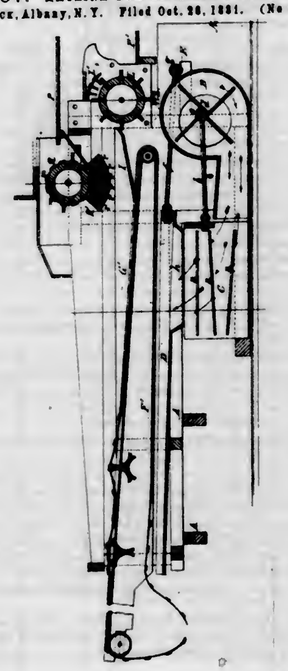
261,166. LUBRICATOR. ELIJAH MCCOY, Detroit, Mich., assignor to Henry C. Hodges and Charles C. Hodges. Filed June 8, 1882. (No model.)



Claim.—1. The combination, with a lubricator, of a double valve in its oil-exit conduit, said valve provided with an upper serrated seat, and the valve itself grooved in its lower face or seat, substantially as and for the purpose described.

2. The combination, with a lubricator, of an oil-exit pipe provided with a double valve at its upper extremity, said valve provided with an upper serrated seat and with a groove on the lower face of the valve or its seat, substantially as and for the purpose described.

261,167. MACHINE FOR THRASHING GRAIN. JAMES H. MELICK, Albany, N. Y. Filed Oct. 26, 1881. (No model.)



Claim.—1. The combination, with a straw conveying and separating mechanism, a winnowing-fan, and sieves, of a long-straw or rubbing cylinder and rubbing-concave, and a spike-cylinder and spike-concave, said thrashing mechanism being so arranged in relation to said straw-carrier and winnower that either is capable of operation in connection therewith at will.

2. The combination, with a straw conveying and separating mechanism, a winnowing-fan, and sieves, of a long-straw or rubbing cylinder and rubbing-concave, and a spike-cylinder and spike-concave, and a grain-board arranged below the rubbing-cylinder and near the rear side of the spike-cylinder, substantially as and for the purposes set forth.

3. In a thrashing-machine, the combination of a spike cylinder and concave, a straw-conveyer, winnowing-fan, and grain-sieves with a long-straw or rubbing cylinder, the said parts being arranged and operating substantially as shown and described.

4. In a thrashing-machine, the combination, with a straw-conveyer, of a rubbing or long-straw cylinder and a spike or short-straw cylinder, arranged so that either may be used in connection with the carrier at will, as and for the purposes set forth.

5. In a thrashing-machine, the combination, with a grain-board, of a rubbing or long-straw cylinder and a spike or short-straw cylinder, and mechanism for separating the thrashed grain from the straw and chaff, the said parts being arranged and operating substantially as shown and described.

261,168. HERNIAL TRUSS. CHARLES MORRILL, New York, N. Y. Filed June 6, 1881. (No model.)

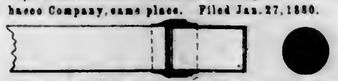
Brief.—A rubber ball or pad with circumferential retaining-groove is removably secured in recesses or openings in a rigid sustaining-plate.



Claim.—1. A hernial truss formed with a rigid sustaining pad-plate having a flat, or nearly flat, extent and with one or more socket-openings therein, in combination with an elastic pad inserted in said opening and held about its circumference therein, substantially as herein set forth.

2. An elastic adapting truss-pad formed with a circumferential recess, in combination with a rigid pad-plate having a socket-opening to receive and hold said pad by the engagement of the recess on the pad with the edge of the socket-opening, substantially as herein shown and described.

261,169. COMBINED CIGARETTE AND MOUTH-PIECE. ALBERT L. MUNSON, New York, N. Y., assignor to the Kinney Tobacco Company, same place. Filed Jan. 27, 1880.



Claim.—1. The combination of a cigarette, a tubular glass mouth-piece the inner end of which is unclosed, a foraminous or perforated diaphragm interposed between the two, and an auxiliary wrapper attached to, securing, and covering the point of juncture of the three elements, all substantially as and for the purposes as herein shown and set forth.

2. The combination of a cigarette the end of which is provided with a cap of porous material, and a tubular mouth-piece attachment abutting against the capped end of such cigarette, and secured thereto by a binding-wrapper that envelopes both the cigarette end and the end of the mouth-piece, all substantially as herein shown and set forth.

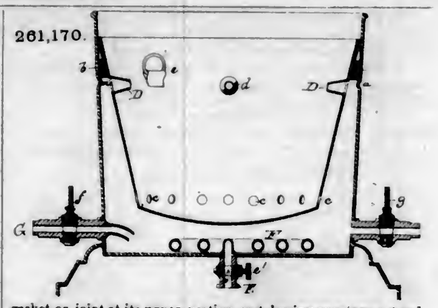
3. The combination of a cigarette, a tubular mouth-piece, and a securing-wrapper or strip of paper which is pasted one-half upon each covering and concealing the point of junction, all substantially as and for the purposes as herein shown and set forth.

261,170. STEAM-WASHER. ANDREW O'NEILL, New Haven, Conn. Filed Oct. 5, 1881. (No model.)

Claim.—1. In an automatic washer, the combination, with an outer boiler, of an inner boiler provided with suitable openings at or near its top and bottom, respectively, and a packing or gasket, *b*, to adapt it to be suspended vertically within and from said outer boiler, so as to leave a space between the bottoms and around the sides of said boilers within which the steam-heated water circulates and is forced upward, and a steam pipe or coil for heating and creating an upward current of water within said boilers, substantially as described.

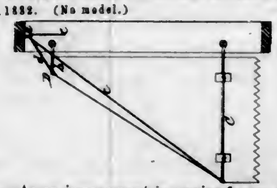
2. In an automatic washer, the combination, with an outer boiler having a continuous regularly-shaped bottom, of an inner tub or boiler suspended within said outer boiler by a steam-tight

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gasket or joint at its upper portion, and having openings *c d* and tubes D, and the steam-pipes E, F, and G, substantially as and for the purpose set forth.

261,171. AWNING. JAMES H. PARKER, Baltimore, Md. Filed May 17, 1882. (No model.)



Claim.—As an improvement in awning-frames, the supplemental top frame, D, suitably connected with the other portions of the awning-support, having pivotal connections, as shown, and adapted when applied to a window or other place to be swung outwardly at the top to admit air and light, all substantially as set forth.

261,172. ELECTRIC BELL. HENRY B. PORTER, Chicago, Ill. Filed Mar. 8, 1882. (No model.)



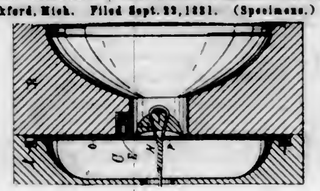
Claim.—As an improvement in electric bells, a bell, A, hammer B, helix C, U-shaped armature D, spring D', point *d'*, and L-shaped plate E, combined and arranged with reference to each other substantially as shown.

261,173. BLANK-CLIP. WILLIAM W. PRICHARD, Russell, Ky. Filed May 16, 1882. (No model.)



Claim.—A paper-clip consisting of a continuous piece of elastic wire provided with a file-point, A, a ring-guard, G, standing in a plane with said file-point, an upper limb, F, spring-coil E, and lower limb, D, having a screw-eye, B, or its equivalent, as shown and described, all arranged to operate as set forth.

261,174. ACOUSTIC TELEPHONE. WILLIAM D. G. QUIGLEY, Rockford, Mich. Filed Sept. 22, 1881. (Specimens.)



Claim.—1. A telephone-diaphragm made of animal hide while in a raw or green condition, substantially as set forth.

2. A telephone-diaphragm composed of animal hide stretched and secured in place and having a covering of paper, substantially as and for the purpose set forth.

3. The section or block A of the case, having the chamber O and the annular shoulder, as described and shown, in combination with an animal-hide diaphragm which is stretched in place and secured outside the outer edge of the shoulder, substantially as and for the purpose set forth.

4. The combination of the casing composed of blocks A B, the diaphragm mounted in the block A, and the spring call-lever pivoted in a socket or recess in the block B, and having the projecting thumb-piece and the head or button E, which strikes the diaphragm when the thumb-piece is operated, substantially as and for the purpose set forth.

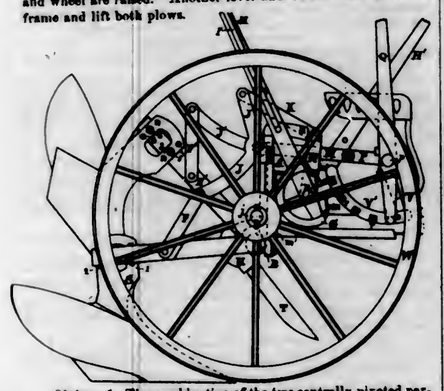
5. The combination of the block or section A, which carries the chamber C, and the section B, hinged thereto, and having the tapering sound-chamber, which is open through to the diaphragm, the blocks being closed together when ready for use, substantially as set forth.

261,175. MANUFACTURE OF COLORING-MATTER FROM NAPHTHYLAMINE. CARL RUMPF, Aprath, near Elberfeld, Prussia, Germany. Filed Apr. 21, 1882. (Specimens.)

Claim.—The new brown dye-stuff or coloring-matter which is produced by the action of diazo-naphtalene sulphonate of soda upon naphthylamine in an acid solution.

261,176. SULKY-PLOW. AUGUSTUS SANBORN, Barre, assignor of one-half to Joel Moores, Boston, Mass. Filed Feb. 11, 1880.

Brief.—The wheel-spindles are upon cross-heads or stub-axles, that slide up and down in guides upon a central vertical frame. An axle-bar is pivoted to the cross-heads and to the center of the frame, and a cross-bar above, pivoted in the same way, holds the cross-heads vertical and the wheels true when one is up and the other down. These cross-heads and wheels are moved up or down by segment-levers, from which two chains cross to opposite ends of the cross-heads. These levers also turn rock-shafts with crank connections to the plow, so that by one motion the plow and wheel on one side are lowered and by the same action the opposite plow and wheel are raised. Another lever and cranks rock the entire frame and lift both plows.



Claim.—1. The combination of the two centrally-pivoted parallel bars C and D, connecting the axles *j j*, raising one as the other is lowered, and holding the axles in their horizontal positions, substantially as described.

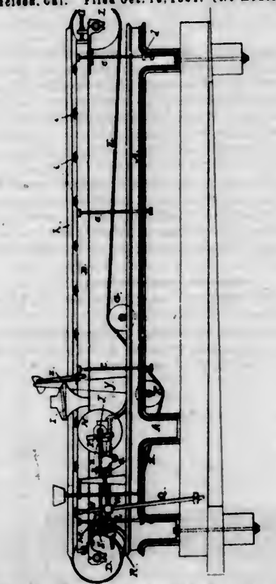
2. The combination of the hand-lever H with connections for operating or raising and lowering both the right and left hand plows and for operating both of the main supporting-wheels, by means of which one plow is raised while the other is lowered, one of the wheels by the same operation being automatically raised and the other lowered, and vice versa, substantially as described, and for the purpose specified.

3. The combination of the right and left hand plows with the primary hand-lever H, by means of which either plow can be raised from the furrow and the other plow inserted into the ground, and by means of which both right and left hand plows can be raised slightly from the ground, and the secondary hand-lever, Q, with its connecting-arms, by means of which both plows can be raised together still farther from the ground for transportation from place to place, substantially as and for the purpose described.

4. The combination of the lever H, segment G, chains *m m'*, vertically-adjustable axle-support B, and axle *j*, for raising and lowering the wheel W upon the main frame A, substantially as described.

5. The pivoted cutter T, hinged upon pivot *b*, in combination with connecting-link *e* and levers M and P', for raising the cutter when both plows are raised by the lever Q, substantially as described, and for the purpose specified.

261,177. ORE-CONCENTRATOR. CHARLES D. SMITH and WILLIAM A. SANDERS, Amador City, and GEORGE E. WOODBURY, San Francisco, Cal. Filed Oct. 18, 1881. (No model.)



Claim.—1. In an ore-concentrator, the combination of an endless belt and supporting-frame, devices for reciprocating the same, a driving-shaft, friction-gear, belt-carrying rollers, and connecting devices between said friction-gear and the rollers, and controlling mechanism, as described, whereby the relative position of the friction-wheels may be varied, and the rate of movement of the belt with respect to the longitudinal reciprocations may be changed, substantially as set forth.

2. In an ore-concentrating machine, the combination, with the belt-carrying rollers for moving the belt forward, and with the driving-shaft J, of the regulator described, consisting of a disk, N, mounted upon the shaft J, and disk or roller P, movable shaft O, and hand-lever Q, pivoted at the base of the machine and secured to the shaft O above, and connections R S, substantially as set forth.

3. A concentrator having a shaft, J, provided with crank or eccentric, which is connected with the vibrating frame by pitman L, the friction-wheel N, shaft O, and mechanism for moving and setting the same in a longitudinal direction, the friction-wheel P on the said shaft, working in contact with wheel N, and the worm R, by which the motion of the said shaft is communicated to the roller-driving shaft.

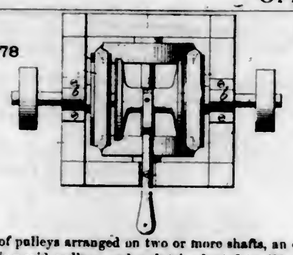
4. In an endless-belt concentrator, the india-rubber belt E, having its main body made thick and its edges thin, in combination with the guides h on the sides of the table, substantially as herein described.

5. In combination with an endless-belt concentrating-machine, the suspended rocking settler X, placed above the traveling belt to receive the pulp to be fed to the machine, and having a rocking motion imparted to it by mechanism in such manner that by virtue of the rocking motion the pulp is discharged, while the amalgam and quicksilver contained in the pulp is retained in such settler, substantially as herein described.

261,178. MECHANICAL MOVEMENT. DANIEL M. SOMERS and JOHN SPERRY, Brooklyn, N. Y. Filed Oct. 30, 1880. (No model.)

Claim.—1. In a mechanical movement, the combination of a

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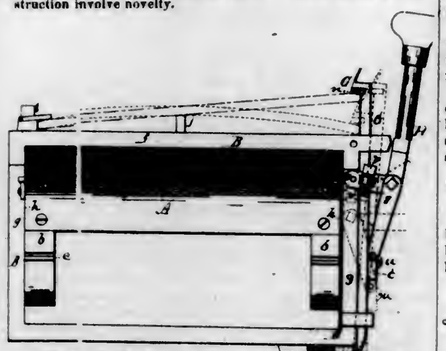
system of pulleys arranged on two or more shafts, an endless belt connecting said pulleys, and a clutch adapted to slide on the motor-shaft between its pulleys, substantially as shown and described.

2. In a mechanical movement, the combination of a shaft having two pulleys, two additional shafts, each provided with a belt-pulley, arranged in axial line with each other and at an angle to the first shaft, and an endless belt connecting the pulleys on said shafts, substantially as shown and described.

3. In a mechanical movement, the combination of a shaft provided with two pulleys, two shafts in axial line, each provided with a fixed pulley, an endless belt connecting the several pulleys, and a clutch sliding upon the motor-shaft in axial line between their respective pulleys and engaging therewith, substantially as shown and described.

261,179. STAVE-JOINTER. JONAS SPAULDING, Jr., Townsend, Mass. Filed Apr. 3, 1882. (No model.)

Brief.—A reciprocating carriage carries a laterally-swinging bar, which carries clamps for the stave. Various details of construction involve novelty.



Claim.—1. The carriage A, constructed with the convex form and guide-groove e, in combination with the swinging clamp-bar B and saw E, substantially as and for the purpose herein specified.

2. The swinging clamp-bar B, in combination with the carriage A, the said clamp-bar embracing the carriage and pivoted at adjustable centers thereto, substantially as and for the purpose herein specified.

3. The fixed clamp-hook i and fulcrum-block j, in combination with the operative clamp-hook G, the said fixed hook and block being adjustable to proportional distances from the hook G on the swinging bar B, substantially as and for the purpose herein specified.

4. The movable clamp-hook G, arranged to slide up and down at the end of the swinging clamp-bar B and to have a backward and forward swinging movement at its upper end, in combination with the fixed clamp-hook i and fulcrum-block j, substantially as and for the purpose herein specified.

5. The adjustable stops v c on the lever H, in combination with the swinging bar B and carriage A, substantially as and for the purpose herein specified.

6. The cam-projection x on the swinging bar B, in combination with the sliding clamp-hook G, provided with the slot y, the lever H, toggle arm or arms s, and counter-spring o, substantially as and for the purpose herein specified.

261,180. ART OF LUBRICATING AND PRESERVING STEAM-ENGINES. ALONZO TEMPLE, Bridgeport, Conn. Filed Dec. 12, 1881. (No specimens.)

Claim.—The improved method of lubricating the pistons, valves, pipes, and adjacent parts of steam-engines to prevent and remove incrustations of the engine and boiler, which consists in the application thereto of the herein-described compound of gambia, terra japonica, or catechu and water, substantially as herein described.

261,181. SEWING-MACHINE. RUDY T. THOMAS, New York, N. Y. Filed Apr. 26, 1882. (No model.)



Claim.—1. In the feeding mechanism of a sewing-machine, the vertical lever g^3, provided with an adjustable movable arm, combined with a cam to actuate the said arm and lever and vibrate the arm more or less, according to the position of the arm with relation to the said cam, substantially as described.

2. The shaft *a*, its cam *b*, the vertical lever and its adjustable movable arm to be acted upon by the said cam, combined with means to adjust the said arm, substantially as described.

3. The shaft *a*, its tapering cam *b*, the vertical lever and its adjustable movable arm, and means to adjust the said arm, combined with the pivoted horizontal feed-actuating lever g^3, substantially as and for the purpose described.

4. The lever *d*, provided with the arm *p*, and the horizontal feed-actuating lever, combined with a link or connecting-rod, h^3, whereby the feed-actuating lever is actuated from the lever *d* to raise and lower the usual under-feeding device, substantially as and for the purpose set forth.

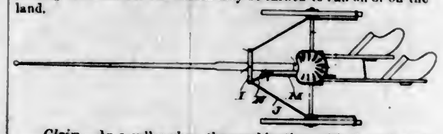
5. The three-armed lever *d p*, its adjusting-screw, and link or connecting-rod h^3, moved by it, combined with the feed-actuating lever g^3, with which one end of the said rod is connected, substantially as described.

6. The shaft *a* and the conical or tapering cam *b*, combined with the pivoted lever g^3, the arm *m*, pivoted thereto at m^3, and the adjusting-screw *n*, all substantially as and for the purposes set forth.

7. The bracket *c*, secured at its ends to the frame-work, the conical screws above the top of the said bracket to hold the shuttle-lever, and the shuttle-lever, combined with the collar and center screws below the said bracket, the feed-lever g^3, and the levers *d* and e^3, to move the levers c^1 g^3, substantially as described.

261,182. GANG-PLOW. EDWARD TOPHAM, Milpitas, Cal. Filed Mar. 23, 1882. (No model.)

Brief.—The tongue is loosely attached to the axle. A cross-bar pivoted on the tongue connects the hounds. By a lever vibrating the cross-bar the wheels may be turned to run on or off the land.



Claim.—In a sulky-plow, the combination, with the axle and tongue pivoted together, of the hounds J, the pivoted bars I, bent lever M, connecting-bar N, and ratchet-bar O, whereby the wheels and the plowshare are turned to or from the land, substantially as shown and described.

261,183. CAR-WHEEL. FRANK DELLA TORRE, Baltimore, Md. Filed Mar. 11, 1882. (No model.)

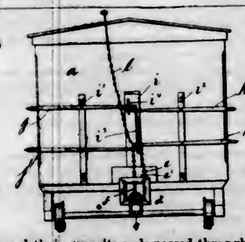


Claim.—In a railroad-car wheel, the combination of the body A, of cast-iron, a steel band, C, forming the main part of the tread of the wheel, and a ring, B, of phosphor-bronze, whereof the wearing-face of the flange and a portion of the tread of the wheel are formed, substantially as and for the purposes described.

261,184. CAR-COUPLING. CHARLES TROUP, Watseka, Ill. Filed Apr. 29, 1882. (Model.)

Claim.—1. The combination of the car provided with staples i^2 i^2, arranged one above the other, the lever-arms *j k*, pivoted to the end of the car and having one end extended beyond the side

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of the same and their opposite ends passed through the staples i^1 i^2, and connected respectively to the link-elevating hook and to the coupling-pin, and the lever-arms *k j'*, pivoted to the end of the car and having one end extended beyond the side of the same and their opposite ends carried within the staples i^1 i^2 and rested under and in position to raise the ends of levers *j k'* in the operation of the invention, substantially as and for the purposes set forth.

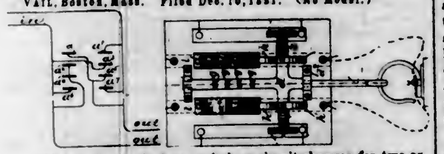
2. The combination, substantially as described, with the draw-head *d*, provided with vertical pin-hole d', and having mortise d^1 cut through its bottom in front of the said pin-hole, and having vertical grooves d^2 in its inner walls and openings d^3 extending from said grooves d^2 through the top of the draw-head, of the hook *e*, having its side arms placed and sliding in the grooves d^2 and through the openings d^3 and its end bar working in mortise d^1, and having pin e' secured to one of its side arms above the draw-head and connected to rod *j* and adapted to elevate the link, as set forth

261,185. BARB-WIRE FENCE. ANDREW J. UPHAM, Sterling, Ill., assignor to John H. Lawrence, same place. Filed Dec. 12, 1879.



Claim.—The cable A, consisting of two twisted strands, forming a loop, *a*, in combination with the main part *b* of the barb, which is bent around the cable at the loop, the ends *b' b'* passing each other and projecting beyond opposite sides of the cable, and the auxiliary part or keeper *c*, which crosses one of the ends *b'*, passes over the looped portion of part *b*, through the loop *a*, and out on the other side of the cable A, the position being such that the two set of points *b'* and *c'* are at right angles, whereby is formed a barb, in which the parts are firmly interlocked against displacement, and yet one would hold if the other were lost, all as hereinbefore set forth and explained.

261,186. TELEPHONE SWITCH APPARATUS. THEODORE N. VAIL, Boston, Mass. Filed Dec. 10, 1881. (No model.)



Claim.—1. A telephone-switch or circuit-changer for two or more line-circuits, comprising a movable telephone-support and contacts and connections, combined and arranged as set forth, whereby said switch or circuit-changer is adapted to include the telephone in either line-circuit, or in a loop composed of the fragmentary portions of any two of the lines, when the said telephone is removed from its support, and to be actuated positively by the replacement of the telephone to restore the normal condition of each line-circuit, and simultaneously to withdraw the telephone from all connection with any of the said line-circuits, substantially as described.

2. In a system of telephonic communication, the combination, with two or more line-circuits passing through an intermediate station, of a circuit-changer or telephone-switch comprising a movable telephone-support combined with contacts and connections, substantially as described, whereby the telephone, when in its support, is disconnected from the line-circuits, and which, when the telephone is removed, is actuated automatically to include the said telephone in that position in the two circuits in which it will be most frequently required for use.

3. The combination, with a telephone and two or more line-circuits, of a circuit-changing switch common to all the line-circuits, and comprising a movable telephone-support and contacts and connections, as explained, whereby said switch is adapted to automatically place the telephone, when removed from its support, in that position in the combined circuits where it is most frequently required, and automatically restore the normal condition of the several line-circuits, and the telephone, when the telephone is replaced in its support, and a stop or regulator adapted to be moved at will for the purpose of connecting the telephone in any other combination of the several line-circuits, substantially as and for the purpose set forth.

4. The combination, with a telephone and two or more line-circuits and contact-plates connected with said circuits, of a switch composed of a circuit-changing lever and movable contacts, and a stop therefor, the said lever being adapted on the removal of the telephone from its support to automatically connect the said telephone between any two fragments of the combined line-circuits, as may be determined by the adjustment of the said stop, substantially as described.

5. The combination, at a telephone-station, of a series of main or branch lines, a telephone common to all of the lines, a circuit-breaker, a circuit-changing switch forming a support or holder for the telephone, and contacts and connections, as indicated, whereby said circuit-breaker and switch are adapted, when the telephone is taken from its support, to automatically break the continuity of all the lines and connect any two of them together by an intermediate loop including the telephone, and when the telephone is replaced in its support to restore the continuity of the said lines and disconnect the telephone, and a regulating-stop, whereby it is determined which two lines shall be connected together on the removal of the telephone, substantially as specified.

6. The combination, at a telephone-station, of a series of main or branch lines, a telephone common to all of the lines, and a ground-wire, with a circuit-changing telephone-support and contacts and connections, as explained, whereby the said support is adapted to automatically break the continuity of the lines and to connect any one of the said lines, or fragment thereof, through the telephone, to the ground-wire, leaving all the other lines open when the telephone is removed, as specified.

7. In a system of telephone line-circuits, a main line and a series of branch lines having a common ground-terminal, combined with a telephone and a circuit-changing switch located at the point of convergence of all the lines, and comprising a movable telephone-support and contacts and connections, as explained, whereby said switch is adapted by the removal of the telephone from its support to automatically place the main line in connection through the telephone with any predetermined branch line, and when the telephone is replaced to restore the normal line-connections, and means, as indicated, to place the main line in circuit with any other of the branch lines, substantially as described.

8. The combination, substantially as hereinbefore set forth, of two or more main lines, a circuit-closer adapted to maintain the continuity of the said main lines when the telephone is in place, a compound lever consisting of two bars insulated from one another, and a telephone-support, a normally-open telephone-circuit, one terminal of which is connected to each of the two insulated bars, a series of plates forming normally-open terminals of the several line-circuits, and a sliding spring metallically connected to each of the lever-bars and adapted to travel over the series of line-plates, and a regulating-stop whereby the travel of said spring is arrested, and it is maintained in contact with any one of the said line-plates, substantially as specified, and for the purpose described.

9. The combination, in a telephone-switch or circuit-changer, of the compound lever composed of the two arms F F', insulated from one another, and each electrically connected to one of the terminals of a telephone and forming a telephone-holder, the circuit-closer I, the sliding spring J, the metallic plates *a*, each normally forming an open terminal of a line, and the regulating-stop E', all arranged substantially as and for the purpose specified.

10. The combination, in a telephone-switch, of the compound lever consisting of the two metallic bars insulated from one another, and carrying the circuit-spring J, with the regulating-stop E', for the purpose set forth.

11. The combination, substantially as described, with a series of contact-plates, of a movable telephone-support and two contact-springs mechanically connected with said support, and movable over said contact-plates, or the equivalents of said plates, as explained, so as to pass entirely across the intermediate plates in order to make contact with the outer ones of the series.

12. A telephone, a support therefor, and contact-pieces, combined with one another and with the double line of a metallic cir-

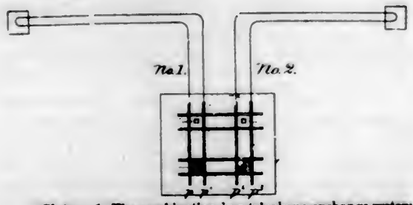
cuit, as explained, so that the said lines may be broken and the two wires on either side of the break may be connected with each other through the telephone, and that the replacement of the telephone on its support will automatically restore the normal condition of both lines, substantially as described.

13. The combination, with four or more line-wires and a telephone, of contact-plates electrically connected with said wires, a movable telephone-support, contact-springs electrically connected with the telephone-wire and movable with said support, a spring acting upon said support, and a stop for regulating its movements, or the equivalents of said parts, as explained, the said combination being and operating substantially as described.

14. The combination of a movable telephone-support, a series of three or more contact-plates each permanently connected with its individual wire or conductor, and a contact-spring mechanically connected with said support and movable into individual contact with any one of said plates, substantially as described.

15. The combination of a movable telephone-support, a spring for shifting said support when the telephone is removed, a series of contact-plates, a contact-spring mechanically connected with said support, and an adjustable stop for regulating the movement of the said support and its contact-spring, substantially as described

261,187. ELECTRICAL SWITCH-BOARD FOR METALLIC CIRCUITS. THEODORE N. VAIL, Boston, Mass. Filed Apr. 28, 1882. (No model.)



Claim.—1. The combination, in a telephone-exchange system, with a series of metallic circuits or loop-lines, of a switch-board having strips, bars, or plates arranged in pairs, and plugs or connectors for establishing the connection of the loop-lines with each other through said strips, bars, or plates, the latter extending across the switch-board, and being for their continuity independent of the plugs or connectors, substantially as described.

2. In a switch-board, the two sets or series of intersecting insulated strips arranged in pairs, in combination with plugs or connectors for connecting the strips of any pair with the strips of an intersecting pair, the said strips being electrically continuous independent of the plugs or connectors, substantially as described.

3. In an electrical switch-board or commutator, the conducting strips or bars, arranged in pairs, each pair permanently connected with the two ends of a metallic or loop circuit, and the connecting bars or strips, also arranged in pairs and disposed transversely with reference to the line-strips, in combination with the plug-connector provided with separate contact-plates, each adapted to make contact simultaneously with one line-strip and one connecting-strip, the connecting strips or bars of a pair having normally no electrical connection with each other, for the purposes set forth.

4. A switch-board consisting of a series of conducting line-strips or their equivalents, arranged in pairs for the reception of both ends of a line-circuit, a transverse series of connecting-strips, or equivalents therefor, also arranged in pairs, each pair crossing each pair of line-strips in such a manner as to form by each intersection a hole or plug-socket having for its linear boundary a portion of each of the four intersecting strips, and a plug or circuit-connector furnished with two contact-plates insulated from one another by the non-conducting portion of the plug, and placed oppositely to one another, whereby when the said plug is inserted each one of the pair of line-strips is respectively connected with one of the pair of connecting or cross strips, substantially as and for the purpose described.

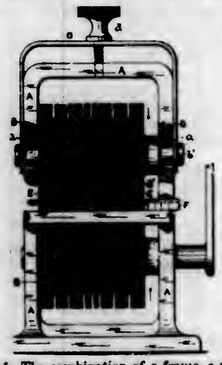
5. The combination, in a telephone-exchange system, of a compound signaling-circuit composed of two metallic circuits or loops, each normally forming a main line, two pairs of switch-board conducting bars, plates, or strips, each pair permanently connected with the two terminals of its own line, a pair of switch-board connecting bars or strips crossing transversely both pairs of line-strips, but normally insulated therefrom and without electrical connection with each other, and a plug-connector constructed, substantially as described, with two separate conducting-surfaces thereon, and adapted for insertion in the plug-sockets produced by the intersection of the transverse pair of strips with the two pair of line-strips, as and for the purpose specified.

6. In an electrical switch-board, plug-sockets formed by the intersection of continuous line strips, bars, plates, or wires, arranged in pairs, with continuous transverse connecting-conductors of like character, likewise arranged in pairs, as and for the purpose specified.

7. In a switch-board, strips, bars, or plates arranged to leave one or more square sockets between them, in combination with plugs adapted to fit said sockets, and having contact-pieces arranged as indicated, so that when inserted they connect adjacent strips, bars, or plates, substantially as described.

8. A switch-plug adapted for insertion in a square socket, and having contact-plates diagonally arranged so as to connect the conductors or adjacent sides of the square sockets, substantially as described.

261,188. LEATHER-CUTTING MACHINE. JOHN N. WAKE, Providence, R. I. Filed Apr. 21, 1882. (No model.)



Claim.—1. The combination of a frame, a pair of feed-rolls, mounted therein, adjustable with relation to each other, and composed of a series of feeding-sections which are separated at the circumference by annular spaces, with their cutting-edges inclined to the plane in which the material is fed, and a series of knives secured to the frame and entering said spaces, substantially as and for the purposes specified.

2. The combination of a frame having a side opening, as described, a pair of feed-rolls mounted therein, adjustable with relation to each other, and composed of a series of feeding-sections, which are separated at the circumference by annular spaces, and a series of knives secured to the frame and entering said spaces, substantially as and for the purposes specified.

3. The combination of the frame A, having a side opening, as described, the feed-rolls B B', yoke D, adjusting-screw *d*, and knives E, with their cutting-edges inclined to the plane in which the material is fed, substantially as described and shown.

261,189. SECTIONAL PIPE FOR UNDERGROUND ELECTRICAL WIRES. NATHAN U. WALKER, Walker's, Ohio. Filed Feb. 16, 1882. (No model.)

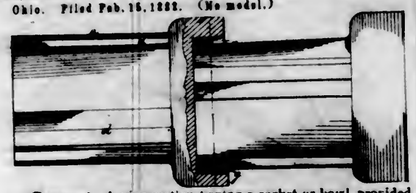


Claim.—1. A pipe-section having a longitudinal opening or slot with thickened edges, and provided with a detachable longitudinal plug for closing the slot in the pipe-section, substantially as and for the purpose specified.

2. A pipe-section having a longitudinal opening or slot with thickened edges, and provided with a detachable wedge-shaped longitudinal plug for closing the slot or opening, said plug having a flat upper or outer surface, substantially as and for the purpose specified.

3. A pipe-section having the transverse septum or diaphragm *c*, which divides it longitudinally into a wire-chamber and a drain-chamber, the longitudinal slotted rib *f*, the removable wedge-shaped longitudinal plug *g*, and the drain-channel or groove *h* in the bowl of the section, substantially as and for the purpose specified

261,190. SECTIONAL PIPE. NATHAN U. WALKER, Walker's, Ohio. Filed Feb. 16, 1882. (No model.)



Claim.—1. A pipe-section having a socket or bowl provided with inclines or eccentric inner surfaces, and having a series of longitudinal ribs on its exterior surface, said ribs corresponding in number to the inclines within the bowl, whereby duplicate sections may be centered in laying a line of pipe, substantially as specified.

2. A socketed pipe-section having inclined inner surfaces designed to co-operate in centering the entering pipe, which has projections or wedges on its outer surface to coact with the inclines of the socketed section, substantially as and for the purposes described.

3. A socketed pipe-section having inclines on the inner surface of the socket, in combination with the entering pipe having projections on its side, substantially as and for the purposes described.

261,191. SECTIONAL PIPE. NATHAN U. WALKER, Walker's, Ohio. Filed Feb. 15, 1882. (No model.)



Claim.—1. A socketed pipe-section having overlapping locking lugs or lips upon its inner side, and curved inclines extending between the locking lugs or lips, in combination with an entering section having projecting locking-lugs, substantially as and for the purposes described.

2. A socketed pipe section or branch having locking lugs or lips on the inner side of the socket, in combination with a reducing-piece having locking-lugs on its outer side to take under the lugs or lips in the socketed piece, substantially as and for the purposes described.

3. A reducing-piece having lugs on its external surface designed for taking under projecting lips on the interior of the socket of the pipe, and provided with a central bore and socket, substantially as and for the purposes described.

261,192. CAR-WHEEL. NATHAN WASHBURN, Allston, Mass. Filed Aug. 27, 1881. (No model.)



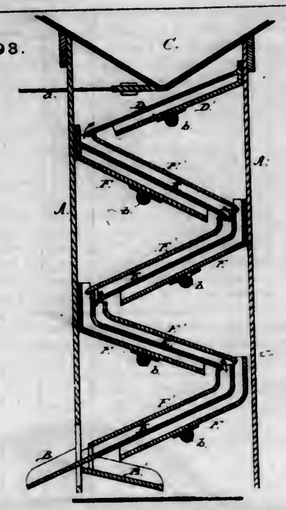
Claim.—1. The combination of a railway-car wheel having its body of cast-iron and its tire of cast-steel united in the process of casting the body within the tire, with a series of wrought-iron re-enforces, as described, arranged within and through the tire crosswise thereof, either at right angles with or obliquely to the opposite edges of the tire, all being substantially as set forth.

2. As an improved manufacture, a wheel-tire of cast-steel, having re-enforces, as described, arranged within it, substantially as set forth, and fixed therein by casting the steel upon them (the said re-enforces) when duly supported in the mold, all being essentially as explained.

261,193. APPARATUS FOR SEPARATING COCKLE AND SEEDS FROM WHEAT OR OTHER GRAIN. EBENEZER WINCHESTER, Rochester, Minn., assignor of one-half to Stewart B. Clark, same place. Filed Apr. 11, 1882. (No model.)

Claim.—The herein-described apparatus for screening and separating grain, consisting of the upright frame A, provided with the hopper C, discharge-openings B B', and the grain-sieves D E, cockle-boards D' F F', arranged in a zigzag manner from the top to the bottom of the apparatus, the arm *f*, having set-screw *d*, and the plate G, provided with the openings *e*, all substantially as and for the purpose specified.

261,198.



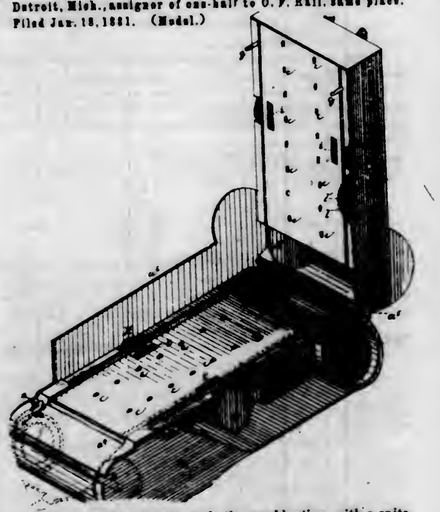
261,194. TROLLING-SPOON. LEWIS C. WYLLY, Patterson, Ga. Filed Apr. 26, 1882. (No model.)



Claim.—1. In trolling-baits, the spinner A, consisting of a single piece of metal of elongated screw form, and having taper or convex ends, substantially as and for the purpose set forth.

2. The elongated screw spinner A, having hooks B rigidly secured to the faces of said screw at equidistant intervals, substantially as and for the purpose set forth.

261,195. RECORDING TICKET-PUNCH. FRANK R. ALDERMAN, Detroit, Mich., assignor of one-half to O. F. Hall, same place. Filed Jan. 18, 1881. (Model.)



Claim.—1. In a ticket-punch, the combination, with a suitable casing and one or more punches, of devices for passing two ticket-slips simultaneously across the path of said punch or punches and means for winding up one of said slips within the casing and projecting the other slip out of said casing, substantially as described.

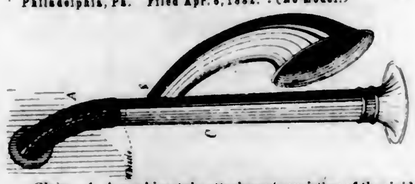
2. In a ticket-punch, the combination, with a series of punches suitably supported, of devices for passing two ticket-slips simultaneously across the paths of said punches and means for automatically winding up one of said slips, substantially as described.

3. In a ticket-punch, the combination of the two hinged case portions and the punches carried by one of said portions and the reels mounted at opposite ends of the other portion, and arranged respectively to deliver and wind up a ticket-slip which is passed across the paths of said punches, substantially as described.

4. In a ticket-punch, the combination of the two hinged case portions, one carrying the punches and a reel for a ticket-slip and the other provided at each end with a ticket-slip reel, means for driving forward the slips from the delivery-wheels, and automatic mechanism for turning the receiving-reel, the reels of the two case portions and the punches being so arranged that the slips drawn from the two delivery-wheels may pass flatwise, side by side, between the said case portions and across the paths of the punches.

5. The combination, with the feed-wheels *k k* and *k' k'*, mounted on transverse shafts journaled in suitable bearings, of the wheel *l*, engaging with one of said feed-wheels, and an automatic stop for arresting said wheel *l* after it has completed a revolution, substantially as described.

261,196. SPEAKING-TUBE ATTACHMENT. WILLIAM R. BALCH, Philadelphia, Pa. Filed Apr. 6, 1882. (No model.)



Claim.—1. A speaking-tube attachment consisting of the rigid combined mouth and ear tubes C and E, the flexible tube A, and the whistle hinged within tube C between the junction of tubes C and E and the flexible tube, the whole constructed, combined, and operating substantially as and for the purposes set forth.

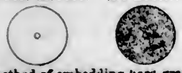
2. In combination with a speaking-tube, the mouth-tube C, the whistle, and the flexible tube A, the whistle being hinged within the mouth-tube, as shown, and for the purposes described.

261,197. GROOVE-CUTTER. WILLIAM F. BARNES and JOHN BARNES, Rockford, Ill. Filed Apr. 10, 1882. (Model.)



Claim.—A blade for cutter-heads, provided with end cutters bent at right angles to the plane of rotation in opposite directions and oblique to the axial or radial plane, and having its end cutters in the same plane of rotation and its side cutters on opposite sides of the blade, substantially as and for the purpose hereinbefore set forth.

261,198. DENTAL GRINDING-TOOL. RICHARD BARTON, Rockford, Ill. Filed July 13, 1881. (No model.)



Claim.—The method of embedding hard granular substances in the surfaces of a disk—namely, by rotating the disk in a lathe and pressing against the same with a roller the surface of which is charged with the granular material, substantially as described.

261,199. ICE-PITCHER. JUSTUS BRAUER, Philadelphia, Pa. Filed June 20, 1882. (No model.)

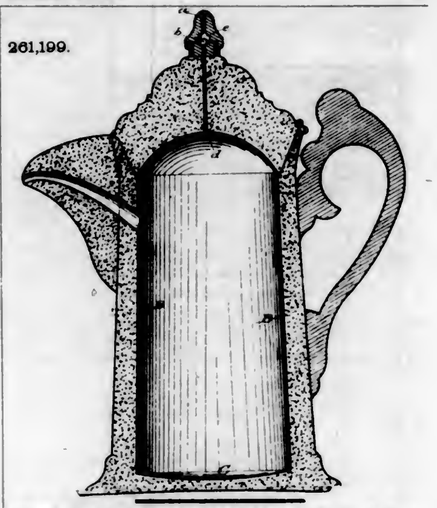
Claim.—1. An ice-pitcher having double walls, top and bottom, the space between which is packed with closely-rammed granulated cork of nearly uniform particles or size, substantially as specified.

2. An ice-pitcher having its top or cover provided with a perforation, *d*, having a cavity, *c*, in combination with a valve, *b*, substantially as and for the purpose set forth.

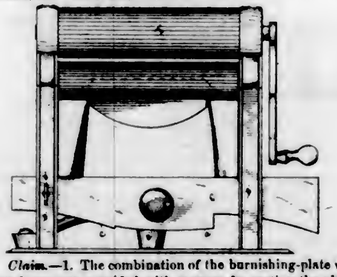
3. An ice-pitcher having its top provided with a removable knob, *a*, a perforation, *d*, having an enlarged cavity, *c*, for the reception of a ball-valve, *b*, as and for the purpose specified.

4. An ice-pitcher having double walls, top and bottom, packed with closely-rammed granulated cork of nearly uniform particles, in combination with the cover having a perforation, *d*, with cavity *c* for the valve *b*, as and for the purpose described.

261,199.



261,200. PHOTOGRAPHIC BURNISHER. HORACE W. BRAY, Paxa, Ill. Filed May 16, 1882. (Model.)



Claim.—1. The combination of the burnishing-plate with the pivoted supports provided with recesses for seating the plate, substantially as shown and described.

2. The combination of the bar C, provided with a double wedge, the supports on each side pivoted to the standards, the burnishing-plate, and the roller, substantially as and for the purpose described.

261,201. MICROMETER-GAGE. BENJAMIN H. BRISTOL, Naugatuck, Conn. Filed Feb. 17, 1882. (No model.)



Claim.—A micrometer-gage provided with a ring, G, into which a finger is to be inserted, whereby the gage may be retained in and be operated by one and the same hand.

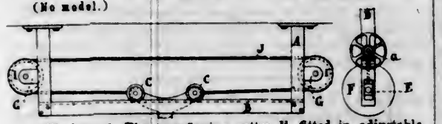
261,202. CEILING. JAMES BUDD, Boston, Mass. Filed Feb. 10, 1882. (No model.)

Brief.—The glass plates are held to the strips by fastenings independent of the moldings.



Claim.—A ceiling composed of glass plates fitted to the rabbet-strips B and moldings C, said plates being held to the strips by suitable fastenings independent of the moldings, and the latter secured to the strips covering the joints of the plates and strips, substantially as described.

261,203. MACHINE FOR TRANSFERRING THE GRAIN OF WOOD UPON GLASS. JAMES BUDD, Boston, Mass., assignor to the Glass Veneer Company, of Maine. Filed Apr. 20, 1882. (No model.)



Claim.—1. The transferring-roller F, fitted in adjustable bearings E, in combination with a reciprocating frame, D, substantially as and for the purpose set forth.

2. The combination, with the bearings E, of the screw *e*, bevel-gears *c d*, and shaft *b*, secured in the frame D, as set forth.

3. The combination of the frame D, wheels C, rails B, rope or chain J, and pulleys I, as and for the purpose specified.

261,204. BUTTON AND METHOD OF ATTACHMENT. JOEL CADBURY, Birmingham, County of Warwick, England, assignor to Green, Cadbury & Richards, same place. Filed May 18, 1882. (No model.) Patented in England Sept. 21, 1880, No. 3,823, and in France Nov. 27, 1880, No. 139,230.

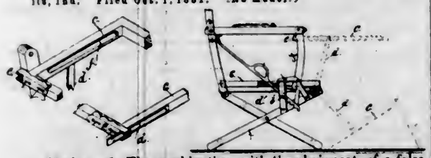


Claim.—1. The method of making and attaching buttons to gloves and other articles by forming the button with a metallic back conical in shape and provided with a central opening, pressing a portion of the fabric to which the button is to be attached through the conical open back, inserting a sphere, disk, or other shaped fixing-piece into the pocket or cupped part of the fabric, and finally closing or contracting the opening upon the said fixing-piece, thereby attaching the button to the glove or other article, substantially as described.

2. The method of attaching a hollow button of the character described to a glove or other article by pressing a portion of the material into the interior of the button through a suitable opening, placing a disk, sphere, or other fixing-piece in the cupped portion of the material, and closing the opening upon said fixing-piece and the material held thereby, substantially as described.

3. The combination of the hollow button, the fabric having a portion pressed into the interior of the button, and the fixing-piece placed in the cupped portion of the fabric inside the button, the back of said button being closed tightly upon the said fixing-piece, preventing its escape, substantially as described.

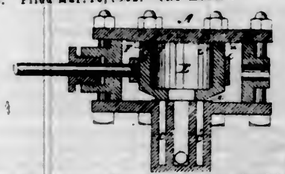
261,205. RECLINING-CHAIR. JOSEPH CHAMPIN, Indianapolis, Ind. Filed Oct. 1, 1881. (No model.)



Claim.—1. The combination, with the chair-seat, of a false seat and links *d*, pivoted at one end to the chair-seat, near the front edge, and at the other end to a position nearly central of the length of the false seat, whereby said false seat may be converted into a table or a foot-rest without detachment from the chair, substantially as set forth.

2. The sliding plates *e*, false seat *c*, and connecting-bars *d*, combined with each other and with a chair, substantially as described.

261,206. BALANCED SLIDE-VALVE. JOHN B. CONRAD, Portland, Oreg. Filed Mar. 16, 1882. (No model.)



Claim.—1. In a balanced slide-valve having a circular chamber, the inner and outer annular metal rings, cleft transversely, having inward chamfered bottom surfaces, and arranged with respect to each other so as to be steam-tight.

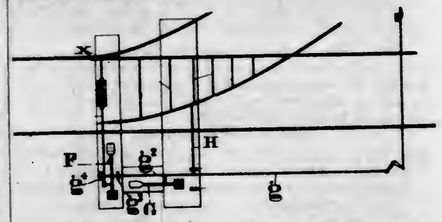
2. In a balanced slide-valve, the inner and outer annular metal rings, F F, cleft transversely, having inwardly chamfered bottom surfaces, and arranged with respect to each other so as to be steam-tight, in combination with a slide-valve having a chamfered top, *e e'*, over which the bottom of each ring slides, operating substantially as herein shown.

3. One or more annular metal rings cleft transversely, having chamfered inner surfaces, in combination with a slide-valve having a circular open chamber and chamfered top, as herein shown.

4. In a balanced slide-valve, the combination of valve E, having chamfered top, two annular metal rings, F F, cleft transversely, having inwardly-chamfered bottom surfaces, and arranged with respect to each other so as to be steam-tight, seats *a a*, and steam-chest A, operating substantially as herein set forth.

261,207. INTERLOCKING LEVERS. HENRY F. COX, Altoona, Pa. Filed Mar. 11, 1882. (No model.)

Brief.—The switch-lever is locked in its normal position by the signal-rod when said signal is at "safety," and when the signal is "dangered" the shifting of the switch locks it through a rod attached to the throw-rails.



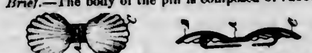
Claim.—1. In combination with the lever F, having staples located on each side of the same, as shown, the lever G, controlling the signal, having the rod g^3, adapted to enter the staples above the lever F and securely lock the latter, as described.

2. A switch having a rod, H, substantially as described, in combination with a lever controlling the signal, the construction being such that the signal-lever is locked by the switch-rod whenever the switch is out of its normal closed position.

3. In combination with the lever G, having the line of connection to the signal and also the rod g^3, the lever F, and the movable switch having the rod H, as described.

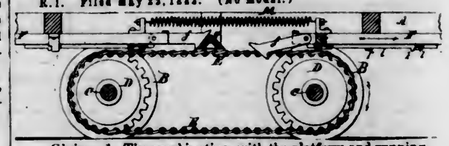
261,208. TIDY-PIN. CHARLES C. CROSMAN, North Easton, Mass. Filed Apr. 27, 1882. (No model.)

Brief.—The body of the pin is composed of rubber.



Claim.—The improved tidy-pin described, the same consisting of the heads B C, connected by the elastic body A, each of the heads being provided with an attaching-pin, substantially as and for the purposes specified.

261,209. CAR-STARTER. WARREN S. DWINELL, Providence, R.I. Filed May 22, 1882. (No model.)



Claim.—1. The combination, with the platform and running-gear of a car, of the gear-wheels D D, secured to the car-axles, the endless chain E, and the draw-bars F F, provided with the hinged pawls *f f*, constructed to apply the traction force to the chain and wheels, as and for the purpose described.

2. The combination, with the running-gear of a car, of the chain E, the draw-bars F F, provided with the hinged pawls *f f*, and the spring M, constructed to draw the draw-bars inward when released, as described.

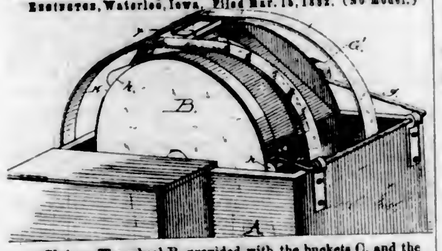
3. The combination, with the draw-bars F F and the pawls *f f*, of the rods *i i*, provided with the bolster *h* and stop *k*, constructed to raise and retain the pawl, as described.

4. The combination, with the platform and running-gear of a car, of the gear-wheels D D, the endless chain E, the draw-bars

F F, provided with the hinged pawls *f f*, and a rack and pinion constructed to operate the draw-bar, as described.

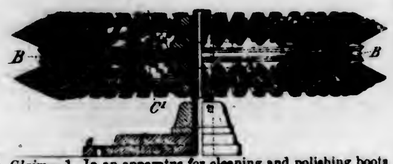
5. The combination, with a car and its running-gear, of the chain E, the draw-bars F F, provided with the pawls *f f*, and the spring G, having a bolt constructed to enter the draw-bar, and the bolt H, extending above the platform, constructed to release the draw-bars and apply the tractive force, as and for the purpose set forth.

261,210. MACHINE FOR MEASURING GRAIN. WARREN R. ENSIGNER, Waterloo, Iowa. Filed Mar. 15, 1882. (No model.)



Claim.—The wheel B, provided with the buckets C, and the cams A and sockets H on the periphery of the wheel, in combination with the rectangularly-bent rod G, provided with the arms *g g'* and the adjustable counterpoise G', all constructed substantially as and for the purpose set forth.

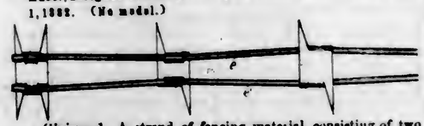
261,211. APPARATUS FOR CLEANING AND POLISHING BOOTS AND SHOES. GEORGE H. ELLIS, London, England, assignor to Frank William Marshall, same place. Filed Mar. 14, 1882. (No model.)



Claim.—1. In an apparatus for cleaning and polishing boots and shoes, the annular beveled brush-stocks A A', set back to back, in combination with the disk B, to which they are secured, the bosses *b*, and the spindle upon which the brush-stocks are rotated, substantially as and for the purpose specified.

2. In an apparatus for cleaning and polishing boots and shoes, the combination of the annular beveled brush-stocks A A', disk B, strengthening-pieces C C', bosses D, spindle *b*, and stand, substantially as and for the purposes specified.

261,212. BARBED FENCING. GEORGE ELLEY, Springfield, Mass., assignor to Isadore A. Upham, same place. Filed Mar. 1, 1882. (No model.)

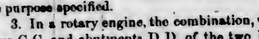


Claim.—1. A strand of fencing material, consisting of two main wires (not being twisted together) held at varying distances from each other by connecting-pieces attached to the main wires at the points where the main wires are nearest to and farthest from each other, substantially as shown.

2. A strand of barbed fencing material, consisting of the combination of two main wires, bent as shown, whereby they alternately approach and separate, (being neither twisted nor braided with each other,) with barbed connecting-pieces which are fastened to the main wires, as shown, at the places where the main wires are nearest to and farthest from each other, whereby the relative position of the main wires is maintained and movement of the barbed pieces on the main wires is prevented, substantially as shown.

3. The combination of wires *e* and *e'* at varying distances from each other, as shown, with connecting-pieces of unequal length between the points of contact with the wire, and provided with one or more barbs and having broad intermediate surfaces, substantially as shown, and for the purposes stated.

261,213. SOLE-FASTENING. JOSEPH M. ESTABROOK, Milford, Mass. Filed Apr. 10, 1882. (No model.)

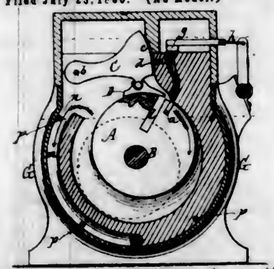


Claim.—As an improved article of manufacture, a metallic sole-fastening having its point made awl-shape, substantially as described—viz., broad and reduced at its two edges, and having a central point, and adapted to be clinched, substantially as described.

261,214. DESICCATED AND POWDERED FOOD. WILHELM EWALDT, Hamburg, Germany. Filed Feb. 7, 1882. (No specimens.)

Claim.—As a new article of manufacture, cooked, desiccated, and comminuted liver.

261,215. ROTARY ENGINE. VANDERLYN H. FELT, Kendall, N. Y. Filed July 23, 1880. (No model.)



Claim.—1. In a compound rotary engine provided with two cylinders, two eccentric pistons, and a slide-valve, the pistons A, constructed with a slot, *l*, and cavity *m* in its periphery, the cavity extending back under the abutment and allowing entrance of steam therein at the moment the packing passes the forward end of the abutment, as shown and described, and for the purpose specified.

2. In a rotary engine provided with two cylinders, two eccentric pistons, and a slide-valve, the combination, with the eccentric piston A, of the arm C and abutment D, the abutment being jointed to the arm so as to pack on the piston, and the arm being provided with a head, *c*, concentric with its pivot and resting against a packing, *d*, of the chamber, whereby a packing is made for the arm above the abutment, as shown and described, and for the purpose specified.

3. In a rotary engine, the combination, with the pistons A A, arms C C, and abutments D D, of the two loose sides G G, connected by screw-rods *p p*, and the loose circular rims *r r*, fitting in grooves of said sides, whereby the casing of the engine can be made to clamp to the sides of the pistons, arms, and abutments to pack the same, as herein shown and described.

261,216. MOUNTING MOTHER-OF-PEARL AND SIMILAR SUBSTANCES ON METAL. CHARLES P. FREY, Philadelphia, Pa., assignor to George P. Farmer, Montclair, N. J. Filed Apr. 29, 1882. (No model.)



Claim.—1. An ornamental face-plate for jewelry, &c., provided with an irregular-shaped cavity, *a*, in combination with a metal filling, *b*, in said cavity and a metal back or button, B, as and for the purpose described.

2. In an ornamental face-plate for jewelry, &c., an inlaid substance, *c*, of less thickness than the substance of the face-plate A, whereby a cavity, *a*, is produced, as and for the purpose described.

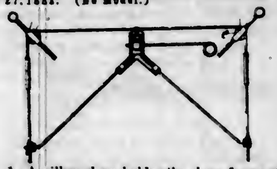
3. In an ornamental face-plate for jewelry, &c., two or more cavities, *d*, formed in the under surface of said face-plate A, in combination with metal fillings, and a metal back or button, B, substantially as and for the purpose described.

261,217. PIPE-WRENCH. ALBERT F. FIFIELD, Farmington, N. H. Filed May 29, 1882. (No model.)



Claim.—In the pipe-wrench provided with the hook-jaw and its shank, the screw and its nut, the tubular receiver, and the movable jaw and its operating-lever, the said movable jaw recessed at its upper part or end and jointed to the said lever, and arranged to slide through and against the shank of the hook-jaw, all substantially as set forth.

261,218. PILLOW-SHAM HOLDER. WILLIAM G. FOSTER, Chicago, Ill., assignor of one-half to Leverett R. Fitts, same place. Filed May 27, 1882. (No model.)



Claim.—1. A pillow-sham holder the sham-frame of which is in sections detachably connected together by socket-pieces or tubes sleeved upon and extending beyond their respective sections, whereby the extremities of said sections are aligned with each other, substantially as described.

2. The combination, with the frame of a pillow-sham holder, of the adjustable supplementary extensions arranged at the corners of the frame, substantially as described.

3. The combination, with the pivoted bracket and with the sham-frame, of the removable arms connecting said frame and bracket, substantially as described.

4. A pillow-sham holder the sham-frame of which has two pivotal movements, one upon its own axis and the other upon the axis of a pivoted supporting-bracket, substantially as described.

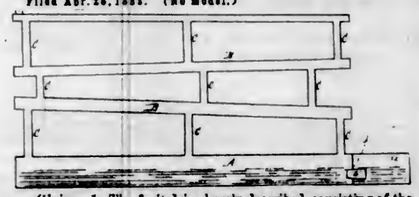
5. The combination, with a pivoted supporting-bracket provided with a circular and angular cam-face, of a rigid bracket and a spring adapted to lock said pivoted bracket in an elevated position, substantially as described.

261,219. WHIFFLETREE-IRON. CHARLES GARDNER, Leon N. Y. Filed Apr. 26, 1882. (Model.)



Claim.—The combination of the clip E, provided with the pivot F, shouldered pivot C, provided with the perforated lugs or branches *c' c'*, the plate D, provided with the seat *d*, cross-bar A, whiffletree B, and brace G, substantially as shown and described.

261,220. FRUIT-DRIER. ALONZO R. GAYHART, Chicago, Ill. Filed Apr. 26, 1882. (No model.)



Claim.—1. The fruit-drier herein described, consisting of the reservoir A, the flues B, inclined in different directions, and the pipe-supports C, arranged in different vertical lines and serving as steam-connections for the flues B, substantially as and for the purpose specified.

2. The fruit-drier herein described, consisting of the reservoir A, connected water-warming reservoir *a*, flues B, inclined in different directions, and the pipe-supports C, arranged in different vertical lines, and serving as steam-connections for the flues, the whole constructed, arranged, and combined to serve as and for the purpose specified.

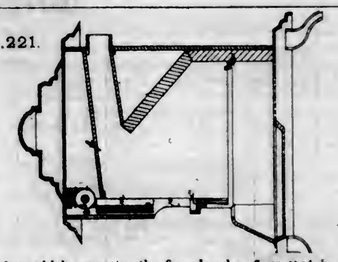
261,221. ADJUSTABLE BLOWER FOR FIRE-PLACES AND STOVES. GEO. W. GRIESENHEIMER, Pittsburg, Pa., assignor to Frank S. Bissell, same place. Filed May 15, 1882. (No model.)

Claim.—1. The combination, in a stove or fire-place, of the vertically-moving blower, with pulleys mounted rigidly upon a common shaft, substantially as and for the purposes described.

2. The combination of the blower, pulleys mounted rigidly upon a common shaft, and counter-balance or friction device, substantially as and for the purposes described.

3. A fire-place or stove having an adjustable blower operated by pulleys mounted upon a common shaft, provided with a division-plate which separates the fire-chamber from that in which the pulley-shaft is placed, substantially as and for the purposes described.

261,221.



4. A fire-place or stove having an adjustable blower operated by pulleys upon a common shaft, and vertical chambers outside of the fire-chamber, in which the pulley-weights are suspended, substantially as and for the purposes described.

261,222. VEHICLE-WHEEL. PETER GENDRON, Toledo, Ohio. Filed Apr. 26, 1882. (No model.)



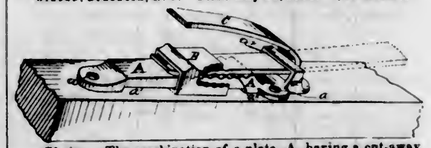
Claim.—1. In a wheel-hub, the flange A, provided with curved concave grooves or channels adapted to receive the bend of a wire which forms two spokes, and provided with projecting parts between the grooves, and with a collar, E, in combination with the bent wire spokes, the flange B, adapted to pass around the collar, and having a recess to receive the projecting parts between the spoke-grooves, and suitable devices for securing the two flanges together, substantially as described.

2. In a vehicle-wheel, the two-part hub, one part of which is provided with a center wall, upon which the other part is sleeved, and secured thereto by riveting or peening the outer edge of the center wall, substantially as specified.

3. In a wheel-hub, the flange A, having curved channels *a* and a collar, E *h*, in combination, the bent spokes and the flanges B, adapted to pass around said collar A, and having an annular depression, *f*, substantially as described.

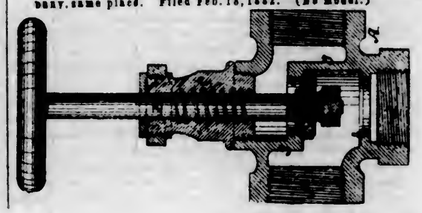
4. The combination, with the rim G, spokes D, and two hubs, of the cylinder C, means for keeping the hubs from turning on said cylinder, and nuts F F, screwing on the same, to separate the hubs, substantially as and for the purpose specified.

261,223. HOLDBACK-IRON FOR CARRIAGES. WILLIAM P. GIBSON, Brighton, N. Y. Filed May 13, 1882. (No model.)



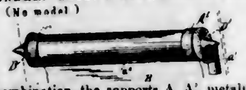
Claim.—The combination of a plate, A, having a cut-away portion, *a'*, slanted and ribbed upper face, *a²*, and slotted lug *a³*, with a ribbed slide, B, substantially as shown and described.

261,224. THREE-WAY VALVE. JOHN A. GROSNOR, New York, N. Y., assignor to the McNab & Harlin Manufacturing Company, same place. Filed Feb. 18, 1882. (No model.)



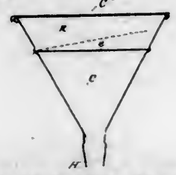
Claim.—The combination of the shell A, having three pipe-connections, *d*, *e*, and *f*, and two aligned valve-seats, *a* and *b*, with the valve-stem B and valve C, said valve being adapted to bear against either of said seats, substantially as and for the purpose specified.

261,225. CALENDAR. HENRY S. HACK, Taunton, Mass. Filed Aug. 5, 1881. (No model.)



Claim.—In combination, the supports A A', metallic strips *a a'*, calendar-strip B, spindle C, and end pieces, D D', arranged together as shown.

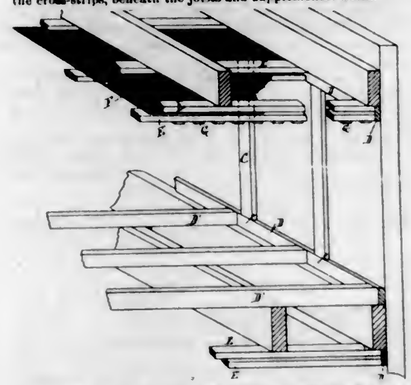
261,226. BLACKING-BOX. CHARLES W. HART, Troy, N. Y., assignor to Harriet A. Hart, same place. Filed Oct. 18, 1880. Renewed May 20, 1882. (No model.)



Claim.—A blacking-box having the cone-formed sides C, hollow handle H, diaphragm-plate *e*, and cover C'', arranged to form the blacking-inclosure R, as shown and described.

261,227. DWELLING. BENJAMIN R. HAWLEY, Chicago, Ill., assignor to Agnes Hawley, same place. Filed Feb. 13, 1882. (No model.)

Brief.—Strips across the joists, above and below, connect with horizontal strips adjacent to the walls. The furring-strips are placed between said horizontal strips, and paper is laid between the cross-strips, beneath the joists and supplemental strips.



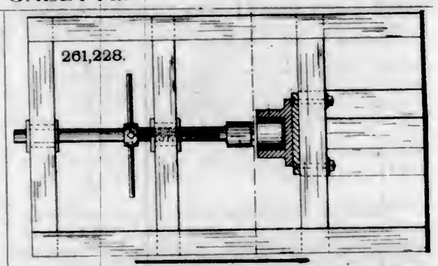
Claim.—1. The combination, with the ceiling and joists of a house, of the paper F and the supplemental strips E', secured to the under side of the joists, substantially in the manner and for the purpose set forth.

2. The combination of the furring-strips C, the horizontal strips D, and the air-channel-forming strips D' and E with the wall and joists, substantially as set forth.

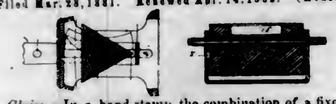
261,228. PROCESS OF AND APPARATUS FOR COMPRESSING PLASTIC AND OTHER MATERIALS. CHARLES HENZE and THEODORE C. BERCHT, Washington, D. C. Filed June 20, 1882. (No model.)

Claim.—1. The process herein described of compressing the materials herein named, or combination of such materials, into cakes, cubes, &c., and subjecting them to a bath of steam, substantially as and for the purpose specified.

2. As a new article of manufacture, cubes, cakes, &c., of bicarbonate of soda or other equivalent materials, compressed in suitable molds, and having a cemented crust or film of the same material, substantially as set forth.



261,229. HAND-STAMP. BENJAMIN B. HILL, Springfield, Mass. Filed Mar. 28, 1881. Renewed Apr. 14, 1882. (Model.)



Claim.—In a hand-stamp, the combination of a fixed frame provided with an inking-pad exposed on its lower side, an actuating-frame, a revolving die-block having a number of sides, as described, and pivoted upon journals having a bearing in said actuating-frame, an oscillating yoke loosely embracing the ends of said die-block, and a spring detent or catch mechanism between said yoke and die-block, so that the latter may be revolved in the yoke to bring and retain either of its printing-dies into position to be used for printing and for having the ink automatically applied for printing by the movement of the actuating-frame in the operation of printing, substantially as described.

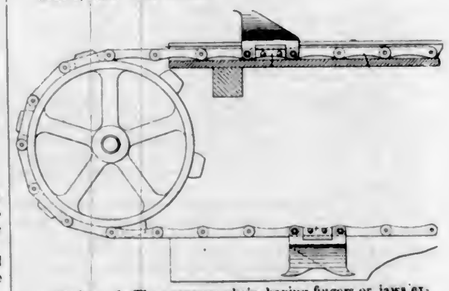
261,230. METAL FENCE-POST. JONATHAN HEGILL and ABSALOM G. SMITH, Hamilton, Ontario, Canada. Filed Oct. 1, 1881. (No model.) Patented in Canada Oct. 12, 1881, No. 13,526.



Claim.—1. In a metal fence-post having a hollow cylinder, projecting spiral rib, and bottom cut off parallel to the spiral rib, the vertical cutting-edge *d*, formed and constructed substantially as and for the purpose specified.

2. In a metal fence-post, the strip *c*, opening A, hole S, and shoulders *p p*, combined and constructed substantially as and for the purpose set forth.

261,231. ICE-CONVEYER. AUGUSTUS HUNT, Philadelphia, Pa., assignor to Knickerbocker Ice Company, same place. Filed June 8, 1882. (No model.)



Claim.—1. The conveyer-chain having fingers or jaws extending laterally outward, substantially as and for the purpose set forth.

2. A platform having rails secured thereto, in combination with a chain working between the rails, fingers connected to the chain and extending laterally outward above the rails, and operating mechanism for the chain, substantially as set forth.

3. A platform having rails secured thereto, in combination with a chain working between the rails, said chain being provided with fingers or jaws the lower ends of which move in the space between the rails and at their upper ends project or extend laterally outward above said rails, substantially as set forth.

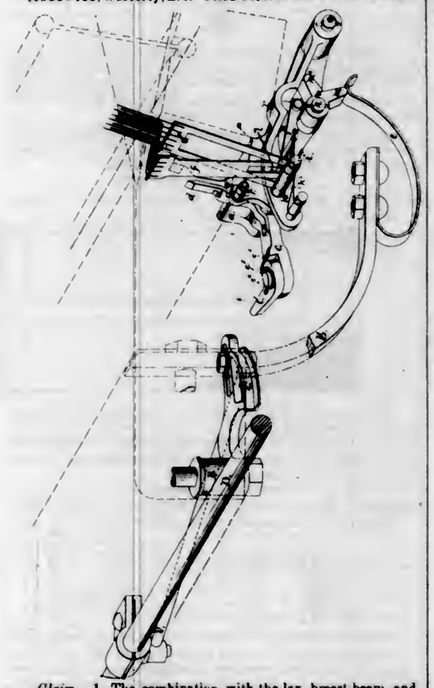
4. The platform provided with the tracks and rails on each side, in combination with the conveyer-chain having fingers or jaws and laterally-projecting lugs, substantially as and for the purpose set forth.

5. The conveyer-chain having fingers or jaws formed with inclined backs, substantially as and for the purpose set forth.

6. The conveyer-chain provided with laterally-projecting lugs which bear against rails or flanges at the top of the chain-space, substantially as and for the purpose set forth.

7. The conveyer-chain with fingers or jaws, in combination with the bottom guiding-board, substantially as and for the purpose set forth.

261,232. WEFT-STOP MECHANISM FOR LOOMS. THOMAS ISHERWOOD, Westerly, R. I. Filed Sept. 23, 1880. (No model.)



Claim.—1. The combination, with the lay, breast-beam, and shipping mechanism of the stop-lever, two pivoted weft-forks, a lever to support said forks, movable arms to raise said lever, and mechanism whereby said arms are operated to raise the lever and force the forks up into the warp-shed, and means whereby said forks are caused to feel for the weft-thread and raise the stop-lever, when the weft-thread is absent, into position to engage with the shipping mechanism, substantially as described.

2. The combination, with the bracket *a*, roller *r*, stop-lever *c*, and dagger *d*, of hinged lever *h*, means for operating said lever, and the weft-forks *f* and *c'*, the latter provided with a cam, *q*, and extension *s*, the whole adapted to be applied to a loom to operate a shipper mechanism to stop the loom when the shuttle fails to lay a weft-thread, as specified.

3. The combination, with the arm E and its spring *e*, adapted to be secured to the breast-beam of a loom, of a bracket, *a*, applicable to the lay of a loom, the sleeve *m*, provided with arms *m'* *m²*, hinged lever *h*, weft-forks *f* and *c'* and their springs, and a spring, *p*, adapted to move the fork *f* backward when raised into the shed and cause said fork to feel for the weft-thread backward while the reed moves forward, substantially as described.

4. The combination, with the spring *e*, its supporting-arm E, stop-rod D, rod *c*, and cam-arm *t*, of a bracket, *a*, roller *r*, hinged lever *h*, sleeve *m*, having arms *m'* and *m²*, weft-forks *f* and *c'*, stop-lever *c*, having pawl *c'*, and the dagger *d*, the whole forming a weft-stop mechanism for a loom, substantially as described.

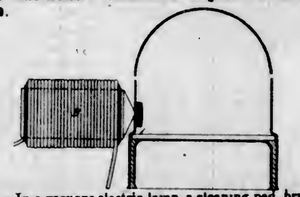
5. The weft-fork tines 1, provided with the slotted shoulders 2 and ends 3, combined with a plate to receive them, and a pin or wire, 4, to hold them thereupon, substantially as described.

261,233. BOLT-CASING. HOBART B. IVES, Fair Haven, Conn. Filed June 7, 1882. (No model.)



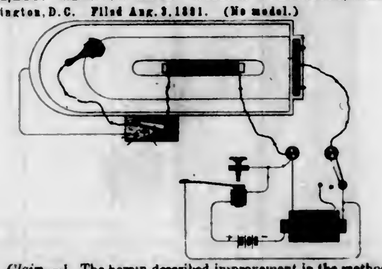
Claim.—The cylindrical case A, consisting of the two parts B and C, the part B formed with two heads, *a* and *b*, and with the perforation *c* through the outer head to guide the bolt, and also with the solid braces *d* to strengthen the head, the part C formed with the circular portion *m* to come against the inside of the outer head in the part B, and also with the beveled edges *r* to fit the braces *d*, the two parts fitted to set one over the other, and held together by a screw passing through the central holes, *s*, substantially as shown and set forth.

261,234. DEVICE FOR CLEANING ELECTRIC-LAMP GLOBES. JOHN JAMESON, Newcastle-upon-Tyne, England. Filed Apr. 10, 1882. (No model.) Patented in England Oct. 15, 1881, No. 4,439.



Claim.—In a vacuous electric lamp, a cleaning pad, brush, or scraper within its glass or light-transmitting portion serving as or actuated by an armature and adapted to be moved over the interior surface of the said glass, in combination with a magnetic or electro-magnetic apparatus serving to operate the cleaning device without access to the interior of the lamp.

261,235. ELECTRIC BATH. WILLIAM W. KARSNER, Washington, D. C. Filed Aug. 2, 1881. (No model.)



Claim.—1. The herein-described improvement in the method of applying electricity for remedial purposes, which consists in placing the patient in a bath and within the magnetic field of a submerged helix or electro-magnet placed in close proximity to the patient, and then subjecting him, first, to the influence of a direct battery-current, and, second, to the influence of a secondary or to-and-fro current, substantially as set forth.

2. The combination, substantially as herein set forth, of the battery, the primary and secondary wires of the induction-coil, an automatic vibrator in the primary circuit, the submerged helix or electro-magnet, which will be in close proximity to the patient, the bath-tub and hand-piece, the foot-plate, and the switches *f* and S.

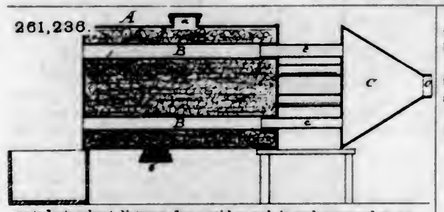
3. The combination of a battery, an electric circuit, a bath-tub, and a submerged helix or electro-magnet so placed as to be in close proximity to the patient, substantially as and for the purpose set forth.

261,236. PROCESS OF AND APPARATUS FOR FREEZING PARAFFINE AND OTHER PETROLEUM PRODUCTS. EDWD. KELLS, Cleveland, Ohio, assignor of one-half to David A. Dangler, same place. Filed May 22, 1882. (No model.)

Claim.—1. The herein-described process of freezing paraffine and other products of petroleum, the same consisting in forcing the material through pipes inclosed in a refrigerating-vessel by means substantially as described.

2. In an apparatus for freezing paraffine or other products of petroleum, the combination, with the refrigerating-vessel A, provided with the open pipes B B, and containing the refrigerating elements enveloping said pipes, of the conical chamber C, con-

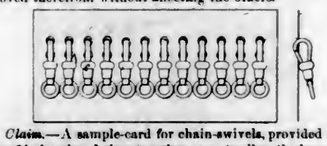
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nected at a short distance from said vessel A, and arranged to convey the material through the freezer in separate streams, substantially in the manner and for the purpose specified.

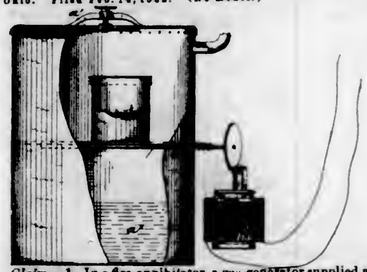
261,237. CARD FOR CHAIN-SWIVELS. CHARLES A. KENNEY, North Attleborough, Mass., assignor to Oscar M. Draper, same place. Filed May 22, 1882. (No model.)

Brief.—Each swivel can be readily secured to the card and removed therefrom without affecting the others.



Claim.—A sample-card for chain-swivels, provided with two rows of holes placed close together, so as to allow the loops to swing in the holes, as and for the purpose described.

261,238. FIRE-ANNIHILATOR. ISIDOR KITSEE, Cincinnati, Ohio. Filed Feb. 14, 1882. (No model.)
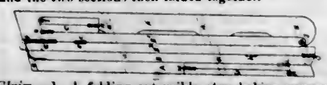


Claim.—1. In a fire-annihilator, a gas-generator supplied with a chemical reagent in separation, provided with an internal tilting-shelf supporting a vessel supplied with a chemical reagent in separation, connected to the line-wire of an electric circuit, all arranged as described, adapted by the making and breaking of the electric current to actuate the tilting device and intermingle the separate chemical reagents, substantially as set forth.

2. In a fire-annihilator, a gas-generator supplied with a chemical reagent, provided with a tilting device holding a vessel supplied with a chemical reagent, said tilting device having a shaft extending outside of said generator and provided with a detent, and held in tension by a pawl connected to an electric armature, as and for the purpose intended, substantially as described.

261,239. STEP-LADDER. GEORGE T. LAPE, Brooklyn, N. Y. Filed Nov. 16, 1881. (No model.)

Brief.—The supporting-legs are pivoted and jointed in such manner that the upper structure may be folded down on the lower one and the two sections then folded together.



Claim.—1. A folding extensible step-ladder composed of a lower ladder having supporting-legs pivoted or hinged thereto, and an upper ladder having jointed supporting-legs pivoted or hinged thereto, the two structures so constructed and so connected by pivots or hinges and the legs of the upper structure so jointed that the upper structure may be folded down upon the legs of the lower structure, and the parts thus folded and the lower structure then folded together, the integrity of the parts and their connections being preserved during the operations of adjustment, substantially as and for the purpose described.

2. A step-ladder, A B, and its tie-rods D, in combination with the extension-ladder A' B' B², the hinges F and G, and the brace-rods C, substantially as and for the purpose described.

3. The jointed ladder A-A', the legs B, the jointed legs B' B², the tie-rods D, and the brace-rods C, all combined substantially as and for the purpose described.

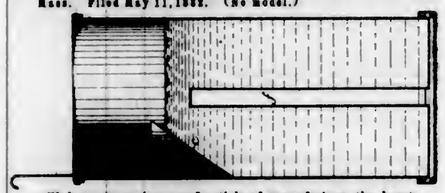
261,240. HARNESS-LOOP. HUGO LEIBE, Baltimore, Md., assignor of one-half to William H. Lorch, same place. Filed June 1, 1882. (No model.)



Claim.—1. As an improved article of manufacture, the harness-loop herein described, consisting of a plate provided with side and top bars, *f f'*, and transverse bottom bar, G, the same being adapted for attachment to a harness-saddle, as set forth, and to secure and permit of lateral play of the back-strap.

2. In combination with the saddle and tree having longitudinal slot, the loop *e*, having side and top bars, *f f'*, and transverse bottom bar, G, and the back-strap D, as set forth.

261,241. MILK-SKIMMER. WILLIAM E. LINCOLN, Warren, Mass. Filed May 11, 1882. (No model.)



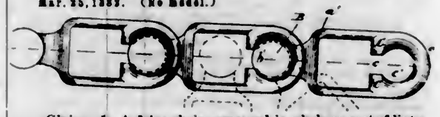
Claim.—As an improved article of manufacture, the herein-described skimmer, it having a guiding-wall shaped to fit and be guided by the wall of the vessel containing the liquid to be skimmed, and an inclined wall opposite to the said guiding-wall, substantially as and for the purpose described.

261,242. METALLIC LOOP FOR HALTERS. SAMUEL LOGAN Clinton, Ill. Filed Apr. 17, 1882. (No model.)



Claim.—An improved metallic loop for halters, consisting of a rectangular frame having a narrow vertical slot at one end adapted to receive and closely hold a strap, and a vertical recess at the opposite end formed by depressing the end of the lower bar of the frame, the end bar of the frame forming the outer wall of such recess, substantially as described, and for the purposes set forth.

261,243. DRIVE-CHAIN. CHARLES H. LOW, Sandwich, Ill., assignor of one-half to J. Phelps Adams, same place. Filed Mar. 25, 1882. (No model.)



Claim.—1. A drive-chain composed in whole or part of links provided with a central opening, which is divided into two unequal parts connected by a narrow passage, and having a button or beaded hook at one end larger than the coupling-opening, the shank of which hook may be passed through the passage connecting the two openings when the links are held in an unusual position, but when the latter are straightened out is prevented from passing out of the coupling-opening, substantially as and for the purposes set forth.

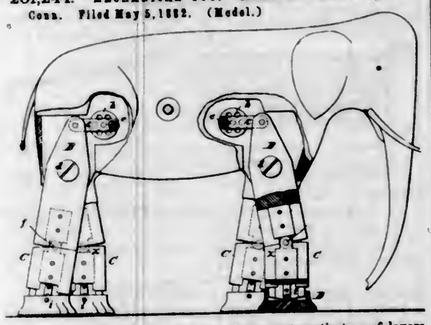
2. A drive-chain link provided with a central opening for sprockets, and a smaller opening in the end opposite the former for the reception of a coupling-hook having a head larger than the smaller opening in an adjacent link, the two openings being connected by a narrow passage, through which the coupling-hook may be passed when held in an unusual position, substantially as described.

3. In drive-chains, a link provided with a coupling-opening at one end distinct from the sprocket-opening, in combination with an adjacent link provided with a hook having a substantially upright headed shank with the head larger than the coupling-opening, which may be inserted therein when held in an unusual position, but is prevented from passing out of the latter when the links are brought into line with each other, substantially as described.

4. A drive-chain link provided with a central opening for the reception of sprockets, projections C, extending inward from the side bars, an opening, *d'*, in rear of the projections and smaller than the central opening, and a narrow passage, *e*, between the inner ends of the projections and connecting the two openings, and having at the opposite end a coupling-hook, B, with an enlarged head, *b'*, substantially as and for the purposes set forth.

5. A drive-chain link provided at one end with a coupling-hook, B, bent downward and upward, and having its shank *b* considerably wider than its thickness, and with a button or enlarged head, *b'*, on its upper end, in a plane parallel to the face of the link, substantially as described.

261,244. MECHANICAL TOY. HENRY O. LUND, Bridgeport, Conn. Filed May 5, 1882. (Model.)



Claim.—1. The combination, in an automatic toy, of levers B, pivoted to opposite sides, mechanism whereby the said levers are vibrated, as set forth, and blocks C, provided with feet and pivoted to the levers, so as to assume an angle thereto when carried forward, and swing automatically in line therewith when the lower ends of the levers move backward, substantially as set forth.

2. The combination, with the levers B and loosely-jointed blocks C, of flat feet D, loosely pivoted to the blocks, as set forth.

3. The combination, with the body of an automatic toy animal, of a coiled spring, *h*, one or more cords, *a*, extending through and attached to the outer end of said spring, and appliances for periodically drawing upon said cord or cords, substantially as specified.

261,245. MANIFOLD ORDER-BOOK. JAMES S. MCDONALD, Chicago, Ill. Filed Oct. 17, 1881. (Model.)



Claim.—An order-book in which the sheets of a set or series of orders differ in tint or color, and all of said set except one are perforated, substantially as and for the purpose described.

261,246. METHOD OF APPLYING WIRE CORK-FASTENINGS TO BOTTLES. EDWIN A. F. MOSES, Boston, Mass., assignor to Caleb W. Hodgdon, same place. Filed June 10, 1882. (No model.)

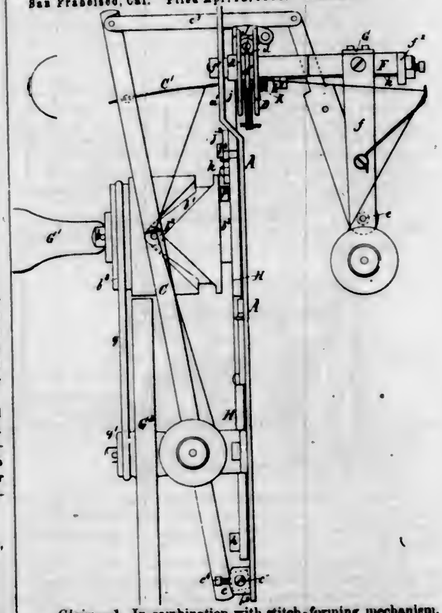


Claim.—The described method of securing wire cork-fasteners to bottles, the same consisting in inserting the neck *d* thereof within the loop *a*, of suitable size, and then twisting said loop to produce the twist *i* and residuary loop *h*, substantially as specified.

261,247. COMPOUND FOR RAILWAY-SIGNAL TORPEDOES. JEREMIAH A. HUNN, Dayton, Ky. Filed Nov. 23, 1881. (No specimens.)

Claim.—A compound for torpedoes, composed of chlorate of potash, gum-tragacanth, alcohol, antimony, sulphur auratum antimonii or golden sulphuret, sublimed sulphur or flowers of sulphur, and French chalk, in the form of small pellets, cakes, or pieces, and packages of gravel or its equivalent, as set forth, interspersed among the pellets, in the proportions substantially as set forth.

261,248. CARPET-SEWING MACHINE. ALBERT NEUSTADT, San Francisco, Cal. Filed Apr. 12, 1882. (Model.)



Claim.—1. In combination with stitch-forming mechanism, a suspended frame having one or more supporting flanged rollers which travel upon the edges of the carpet-strips or pieces of fabric to be united, substantially as and for the purpose described.

2. In combination with a sewing-machine frame and stitch-forming mechanism, the suspending and supporting flanged roller D' and the suspending and supporting roller D, having a projection or ridge, *d'*, substantially as and for the purpose described.

3. A gripper-feeding device applied on the sewing-machine above and on each side of the edges of the carpet or other fabric, opened out from the sides and closed against the sides of said edges, and having its feed-lever H pivoted to the frame A below the needle, in combination with stitch-forming mechanism mounted on a frame which is suspended upon, supported by, and moved on the edges of the carpet-strip, substantially as and for the purpose described.

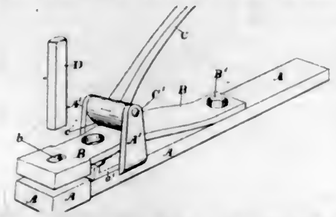
4. In a carpet-sewing machine, the combination of suitable actuating mechanism, the gripping-plates I, pivoted to the feed-bar H at *i* and to the head J of slide *j*, spring *k*, lever J', and cam *k'*, substantially as and for the purpose described.

5. A gripper-feeding device consisting of pivoted and perforated plates I, which are connected to a feeding-lever, H, in combination with a carpet-sewing-machine frame-plate, A, having a perforation through it for a horizontally-vibrating needle, substantially as and for the purpose described.

6. The combination of a stitch-forming mechanism, a gripper-feeding mechanism, a sewing-machine frame, and flanged rollers D D', which roll upon the edges of the carpet or other fabric to be united, substantially as and for the purpose described.

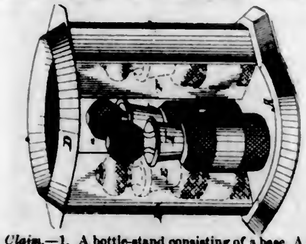
7. The combination of a stitch-forming mechanism, gripper-feeding mechanism, a sewing-machine frame having supporting flanged rollers D D', one of which has a V-shaped central circular ridge, d', a crank-handle, G', suitable speed-regulating gearing, and a steadying-handle, G, substantially as and for the purpose described.

261,249. SAW-GUMMER. WILLIAM NEWELL, Butler Township, Miami County, Ind. Filed Mar. 17, 1882. (No model.)



Claim.—The combination of the base A, provided with an enlarged head at its front end, in which is an orifice, *a*, and having a gage, *a'*, attached to its body just back of said head, the clamp portion B, secured to said base A by a bolt, B', and provided with a similar head to that on said base, in which is an orifice, *b*, corresponding to and in line with the orifice *a*, the clamping-lever C, and the punch-die D, all substantially as shown and described, and for the purposes specified.

261,250. BOTTLE-STAND AND REFLECTOR. B. OCKELMANN, Jersey City, N. J. Filed Jan. 27, 1882. (No model.)



Claim.—1. A bottle-stand consisting of a base, A, two upright mirrors, E and F, placed at an angle with an intervening blank space, *a*, between them, and of the top piece, D, substantially as described.

2. The bottle-stand consisting of the base A, mirrors E F G H, and top piece, B, the mirrors having a blank space, *a*, between them, all arranged substantially as described.

261,251. DRIVE-WELL POINT OR STRAINER. OSCAR B. OLMSTED, Beloit, Wis. Filed May 23, 1882. (No model.)



Claim.—1. A core or internal support for well-tube strainers, consisting of radial wings having lateral flanges or projections at their outer edges, substantially as shown and described.

2. In combination with a core or support consisting of radial wings united at their inner edges and provided with lateral flanges or projections at their outer edges, a covering of wire-gauze or strainer-cloth applied thereto, substantially as set forth.

261,252. DRIVE-WELL POINT OR STRAINER. OSCAR B. OLMSTED, Beloit, Wis. Filed May 23, 1882. (No model.)



Claim.—1. In a well-tube strainer, a central web or spider having radial wings, substantially as and for the purpose set forth.

2. An internal support for well-tube strainers, consisting of a series of wings united at their inner edges and radiating from the point of union, closed at the lower end, and provided with a coupling-ring at the upper end, substantially as shown.

3. A support or core for well-tube strainers, consisting of a series of radial wings meeting at their inner edges, one of said wings being enlarged on its outer edge, substantially as shown and described, to permit the firm attachment of the outer covering.

4. In a well-tube strainer, the combination of a core or web consisting of a series of radiating wings meeting at the center, and a strainer-covering surrounding said core, substantially as shown.

5. In combination with the core or support consisting of radial wings meeting at their inner edges, the wire-gauze covering O and perforated metal covering H, applied substantially as shown.

6. The herein-described strainer core or support for drive-well tubes, consisting of a series of radial wings united at the center and provided with a tapering point at its lower end and a coupling-ring at its upper end.

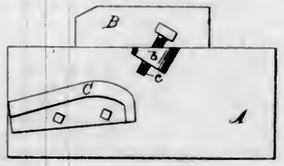
261,253. DRIVE-WELL POINT OR STRAINER. OSCAR B. OLMSTED, Beloit, Wis. Filed May 23, 1882. (No model.)



Claim.—1. A core or internal support for well-tube strainers, consisting of a series of radial wings united at their inner edges, and connected at their outer edges by bands or rings, substantially as shown and described.

2. In combination with a core consisting of a series of radial wings united at their inner edges, and connected at their outer edges by rings or bands, a strainer-covering surrounding the core, substantially as shown and set forth.

261,254. MANUFACTURE OF OX-SHOES. WILLIAM PEARCH, Plantsville, Conn., assignor of two-thirds to M. N. Woodruff and N. A. Barnes, both of Southington, Conn. Filed Feb. 20, 1882. (No model.)

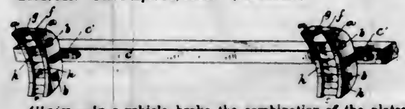


Claim.—1. The block A, having the swaging-die B upon its upper side, the attachable and detachable forming-block C, and the confining lug and screw *b c* upon one of its vertical sides, substantially as described, and for the purpose specified.

2. The series of dies for forming ox-shoes, consisting of the die-block A, swaging-die B, and former C, secured thereto, and the die-blocks E E, having the cutters *f f* and dies and punches D D' *n n n o o o*, substantially as described, and for the purpose specified.

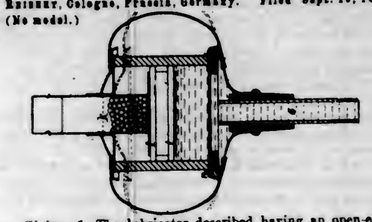
3. The die-blocks E E, having the cutters *f f* and dies and punches D D' *n n n o o o*, substantially as described, and for the purpose specified.

261,255. VEHICLE-BRAKE. RUSSELL M. QUACKENBUSH, Santa Rosa, Cal. Filed Apr. 14, 1882. (No model.)



Claim.—In a vehicle-brake, the combination of the plates *a a*, secured to the block *e f* by bolts and nuts, said plates having lapped edges A A, turned over on the edges of strips *d d* and under the block *e*, covering the edge thereof, the lapped edges on the face of the block forming a groove or recess to receive and secure the strips *d d*, also the button or key *g*, fixed at the top of the block at *f* to prevent displacement of the strips, and the bar *c*, secured to the plates *a a* by brace *c'*, substantially as described, and for the purposes set forth.

261,256. APPARATUS FOR LUBRICATING BEARINGS. HANS REISERT, Cologne, Prussia, Germany. Filed Sept. 19, 1881. (No model.)

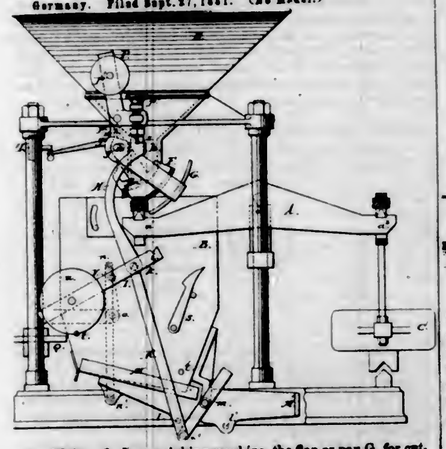


Claim.—1. The lubricator described, having an open-ended removable cylinder and removable piston working therein, in combination with a cover adapted to be elevated or pressed down upon the cylinder by suitable holding means, substantially as set forth.

2. The combination, in a lubricator, of a fixed base, movable cover, interposed removable cylinder, elastic holding means therefor, substantially as described, and a loaded piston, said combination being arranged to force out the lubricating material by the gravity of the piston, as herein specified.

3. The combination of the lubricator-cylinder provided with a movable cover and a base, on which it sits, with a piston operating by its own weight to force out the lubricating material, and having a rod or cylinder extending above the cover of the lubricator to form a means for applying additional force at intervals, substantially as set forth.

261,257. GRAIN-METER. CARL REUTHER, Homorf, Prussia, Germany. Filed Sept. 27, 1881. (No model.)



Claim.—1. In a weighing-machine, the flap or pan G, for cutting off the flow of grain, swung from fixed pivots, and having knife-edges or pivots Z provided on the ends thereof, in combination with the lever H and connections to the grain-receptacle door, substantially as set forth.

2. The combination of the cut-off flap or pan G with the partial pan F, swung upon the same center as, working above, and controlled by, the flap G, whereby the flow of grain is first partially checked by the interposition of the flap F, and then wholly stopped by the flap G, as set forth.

3. The combination, with the flap G and its connections to the door of the grain-receptacle, of the weight *y'*, mounted upon an adjustable lever above the flap G in such a manner as to retard the movement of the flap G for a time and then allow it to swing shut suddenly, whereby the flow of grain is cut off a little in advance of the complete filling of the receptacle, so that the grain then falling will exactly complete the filling, as set forth.

4. In a weighing-machine, the combination of the lever H, rod K, lever I_A and door M with the pivoted lever I, connected at one end with the lever H and rod K, and provided at the other end with the weight *u*, substantially as set forth.

5. In the weighing-machine for granular and pulverous substances, the combination of the bell-crank lever G and rod N with the door M, for controlling the opening of the latter.

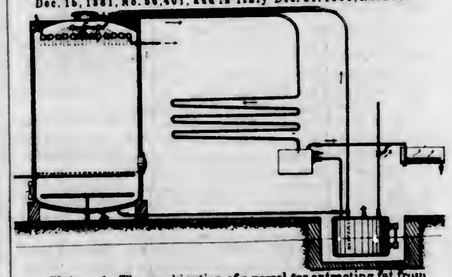
6. In the weighing-machine for granular and pulverous substances, the combination of the bar K and levers I and I_A, operating together, with the studs *l* and *l'*, whereby the lever I, and consequently the bar H, that operates on flaps, are brought into and maintained in the lowered position while the door M is open.

261,258. STEAM-BOILER. JAMES RODIN, Rondout, N. Y. Filed Mar. 16, 1882. (No model.)



Claim.—In a steam-chimney composed of an outer cylinder, B, and lining C, which forms an uptake-flue for carrying off the heated products of combustion, the steam-deflectors E, consisting of a series of annular flanges secured to the lining C, and projecting outwardly into the steam-space D in such manner that an annular opening will be formed between the perimeter of each of the said deflectors and the outer cylinder, B, as and for the purpose herein specified.

261,259. METHOD OF AND APPARATUS FOR EXTRACTING FAT FROM BONES. WERNER SCHNEIDER, Lohrberg, Bavaria, Germany. Filed Mar. 16, 1882. (No model.) Patented in Germany Nov. 23, 1881; in France Dec. 1, 1881; in Belgium Dec. 16, 1881, No. 56,401, and in Italy Dec. 21, 1881, No. 204.



Claim.—1. The combination of a vessel for extracting fat from bones, provided with a steam-heating coil near the bottom, a spray-coil near the top, a reservoir for the volatile solvent, a pipe provided with a stop-cock connecting the reservoir with said vessel, a pipe provided with a stop-cock connecting said reservoir with the said spray-coil, an intermediate collecting-chamber, and pipes connecting said collecting-chamber with the reservoir and vessel, substantially as described.

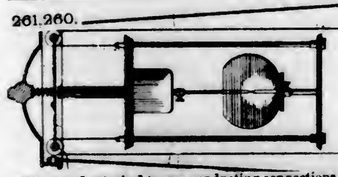
2. The combination of a vessel for extracting fat from bones, provided with a steam-heating coil near the bottom and a spray-coil near the top, a reservoir for the volatile solvent, a pipe provided with a stop-cock connecting the reservoir with said vessel, a pipe provided with a stop-cock connecting said reservoir with said spray-coil, an intermediate collecting-chamber, pipes connecting the collecting-chamber with the reservoir, an absorbing-tank, and pipes connecting the absorbing-tank with the collecting-chamber and reservoir, substantially as described.

3. The process herein described of extracting fat from bones, consisting of inclosing the bones and a volatile solvent in a vessel, then subjecting them to the action of heat under pressure of the heated solvent, then simultaneously allowing the escape of vapor to an adjacent vessel and the admission of a fresh supply of the solvent to the main vessel in the form of spray, whereby all the fat is extracted from the bones without interruption of the process.

261,260. ELECTRIC-LIGHT MAST. HENRY A. SEYMOUR, Washington, D. C., assignor to George W. Stockly, Cleveland, Ohio. Filed Feb. 13, 1882. (No model.)

Claim.—1. The combination, with pulleys electrically connected with the main conductor, and a switch for opening and closing the circuit between said pulleys, said switch provided with devices rendering it self-closing, of an electric lamp having flexible conductors connected with its terminals, and carried over said

261,260.



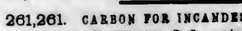
pulleys and attached to non-conducting connections, said lamp being arranged to have its chimney or tube open the switch when the lamp is raised to the desired position for use, substantially as set forth.

2. The combination, with the pulleys placed in electrical connection with the main conductor, of an electric lamp having short flexible conductors electrically connected with its terminals, said conductors extending around said pulleys, and hemp or equivalent rope attached to the other ends of the short flexible conductors, substantially as set forth.

3. The combination, with pulleys placed in the circuit of the main conductor, and a switch for opening and closing the circuit between the pulleys, of an electric lamp arranged to automatically open the circuit when elevated to its proper position for use, said lamp having short flexible conductors attached to its terminals and extending over said pulleys, and hemp or equivalent rope attached to the other ends of the short flexible conductors, substantially as set forth.

261,261. CARBON FOR INCANDESCENT LAMPS. HENRY A SEYMOUR, Washington, D. C., assignor to George W. Stockly, Cleveland, Ohio. Filed Dec. 17, 1881. (No model.)

Brief.—The object is to render the filament equally incandescent throughout any cross-section.

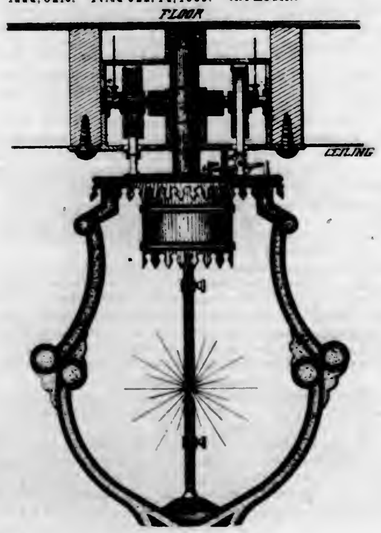


Claim.—1. In the manufacture of curved or bent carbons, the method of varying the conductivity of the different lengthwise layers of the carbon proportionate to their respective lengths, consisting in subjecting the outer and longer portion of the carbon to greater pressure than its inner or shorter portion.

2. A bent or curved carbon having its outer portion or edge more compressed or dense than its inner portion or edge, so as to compensate for the difference in length between the outer and inner edges of the carbon, substantially as set forth.

3. As a new article of manufacture, a bent or curved carbon in which the conductivity of its different lengthwise layers is in proportion to their respective lengths, substantially as set forth.

261,262. ELECTRIC-LIGHT APPARATUS. HENRY A. SEYMOUR, Washington, D. C., assignor to George W. Stockly, Cleveland, Ohio. Filed Jan. 14, 1882. (No model.)



Claim.—1. The combination, with an electric lamp and adjustable supporting-conductors connected with the lamp, whereby the same may be raised and lowered, of a switch mounted on the lamp and devices for automatically operating the switch when the lamp is elevated to its position for use, and causing the current to pass through the lamp, and for automatically shunting the current around or past the lamp when lowered out of position for use, substantially as set forth.

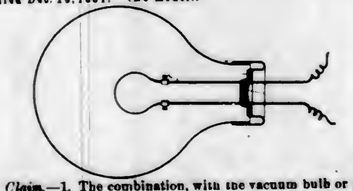
2. The combination, with a vertically-adjustable electric lamp and flexible supporting-conductors connected therewith, of a switch mounted on the lamp, a spring or equivalent device for moving the switch in one direction, and a stationary stud or projection arranged to automatically move the switch in the opposite direction when the lamp is raised to its position for use, substantially as set forth.

3. The combination, with a vertically-adjustable electric lamp and conductors arranged to be in electrical connection therewith in its different positions of adjustment, of a switch mounted on the lamp, and devices for automatically opening the shunt-circuit and closing the lamp-circuit when the lamp is raised to the proper position for use, and for automatically closing the shunt-circuit and opening the lamp-circuit when the lamp is lowered, substantially as set forth.

4. The combination, with a vertically-adjustable electric lamp and flexible supporting-conductors connected therewith, of a pivoted switch mounted on the lamp, a contact-point at each end of the switch, one being the terminal of a short circuit and the other being one of the lamp-terminals, a spring or equivalent device for moving the switch in one direction, and a stationary stud or projection arranged to automatically move the switch in the opposite direction when the lamp is raised to its position for use, substantially as set forth.

5. The combination, with a vertically-adjustable electric lamp and flexible supporting-conductors connected therewith, of a supporting-casing provided with spring-actuated drums to which the upper ends of the flexible conductors are attached, said casing being constructed with an opening within which the tube of the lamp may enter when the lamp is raised to its position for use, substantially as set forth.

261,263. INCANDESCENT LAMP. HENRY A. SEYMOUR, Washington, D. C., assignor to George W. Stockly, Cleveland, Ohio. Filed Dec. 16, 1881. (No model.)



Claim.—1. The combination, with the vacuum bulb or globe of an electric lamp and the conductors for supporting the carbon or burner, of a yielding disk hermetically sealed to the neck of the bulb, and a non-conducting disk or button secured within an aperture in said yielding disk, the conductors being sealed within said button, substantially as set forth.

2. The combination, with the vacuum bulb or globe of an electric lamp and the conductors for supporting the burner, of a yielding disk hermetically sealed to the neck of the bulb, and a glass button secured within an aperture in said yielding disk, the conductors being sealed within said glass button or disk, substantially as set forth.

3. The combination, with the bulb, of a corrugated metal disk sealed to the neck of the globe, and provided with the non-conducting button for supporting the conductors, substantially as set forth.

261,264. CARBON FOR ELECTRIC LAMPS. HENRY A. SEYMOUR, Washington, D. C., assignor to George W. Stockly, Cleveland, Ohio. Filed Jan. 10, 1882. (No model.)

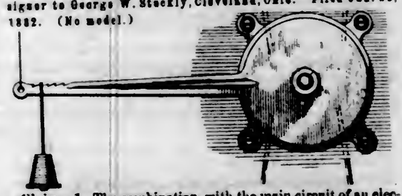
Brief.—The weak portions of one of the layers are re-enforced by the strong portions of the adjacent layers.



Claim.—1. An electric-lamp incandescent carbon composed of paper or paper-like substance, having two sets of long fibers arranged in layers, and the long fibers of one portion of the layers being at an angle to those of the other layers.

2. The method of manufacturing incandescent carbons for electric lamps, substantially as described, the same consisting in cutting layers or elementary filaments in different positions from paper having its long fibers parallel with each other, and combining a number of these layers having the fibers in different positions to form a complete blank or filament, and then carbonizing the whole.

261,265. THERMOSTATIC CUT-OUT FOR ELECTRIC LIGHTING SYSTEMS. HENRY A. SEYMOUR, Washington, D. C., assignor to George W. Stockly, Cleveland, Ohio. Filed Jan. 26, 1882. (No model.)



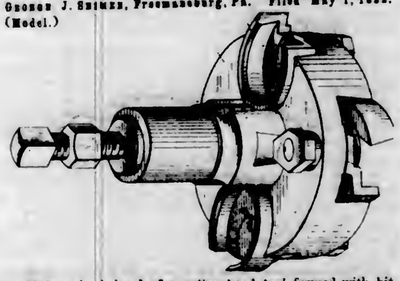
Claim.—1. The combination, with the main circuit of an electric lighting system, of a switch and suitable devices constructed and arranged to automatically cut out of circuit the electric conductors extending through a building when the temperature therein exceeds a predetermined degree and short-circuit the current through the main conductor, substantially as set forth.

2. The combination, with the main conductor of an electric lighting system and a switch constructed and arranged to electrically connect the main conductor with the electric conductor of a building, and when shifted to cut out of circuit the conductor of the building and divert the current through the main conductor, of means, substantially as described, located within the building provided with the conductor, and adapted to be actuated by abnormal heat in the building and automatically shift the switch and short-circuit the current, substantially as set forth.

3. The combination, with the main conductor of an electric lighting system and a switch constructed and arranged to electrically connect the main conductor with the electric conductor of a building, and when shifted to cut out of circuit the conductor of the building and divert the current through the main conductor, of fusible links or connections located in different parts of the building, and means, substantially as described, for shifting the switch upon the fusing of any one of said links, thereby cutting the conductor of the building out of circuit and diverting the current through the main conductor, substantially as set forth.

4. The combination, with the main conductor of an electric lighting system and a switch constructed and arranged to electrically connect the main conductor with the electric conductor of a building, and when shifted to cut out of circuit the conductor of the building and short-circuit the current through the main conductor, of a wire connected with the switch-lever and extending through the building and connected or joined at intervals by fusible joints or links, and a weight or its equivalent for shifting the switch and short-circuiting the current when the safety-wire is parted, substantially as set forth.

261,266. CUTTER-HEAD. SAMUEL J. SHIMER, Milton, and GEORGE J. SHIMER, Freemansburg, Pa. Filed May 1, 1882. (Model.)

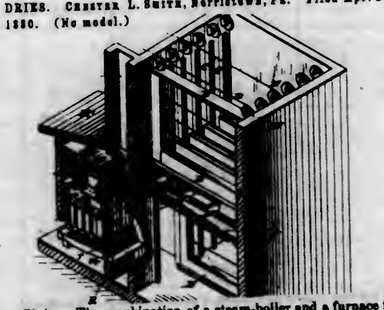


Claim.—1. A head of a cutter-head tool formed with bit-seat chambers alternately arranged on opposite sides of the single flange, and the bolt-hole structures formed or provided with keys or splines, substantially as described.

2. The combination, substantially as described, of the head formed with inclined bit-seats, alternately arranged on opposite sides of the flange, circular bits, and fastening-bolts with keyways or their equivalents, substantially as described.

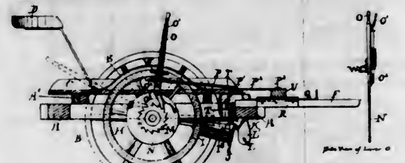
3. The organized cutter-head composed of the solid head with the formed bit-chambers with the double inclined surfaces and alternately arranged, the circular bits arranged in series, which partially overlap each other on the inner line of the cut, and the fastening bolts and nuts with locking means for preventing the turning of the bolts, substantially as described.

261,267. HEATING AND DRYING APPARATUS FOR LAUNDRIES. CHESTER L. SMITH, Norristown, Pa. Filed Apr. 27, 1880. (No model.)



Claim.—The combination of a steam-boiler and a furnace for heating the same, the fire-box of said furnace consisting in the whole or part of inclined metallic plates E, provided with flanges adapted to support and heat and or smoothing irons, with a chamber or space contiguous to such furnace, and a drying-room heated from said furnace, located above said space and provided with vertically-guided and counterbalanced drying frames or horses B, arranged to slide from the drying-room to the space below for the introduction and removal of the washed goods, the whole arranged to operate substantially as and for the purpose set forth.

261,268. REAPER AND MOWER. ENOS W. SNYDER, Germansville, and JONAS L. BACHMAN, Stony Run, Pa., assignors of one-third to William M. Bensinger, Slatington, Pa. Filed Mar. 27, 1882. (No model.)



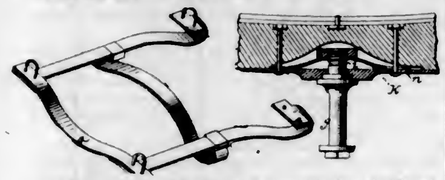
Claim.—1. As an attachment to a mower or reaper, a hand operating device consisting of the following elements: a ratchet, M, loose disk N, lever O, spring-lever O', hasp O^2, dog or pawl O', sleeve H', and collar H^3, in combination with the usual cutter-bar-operating gear, whereby the driver seated upon the machine is enabled to reciprocate the cutter-bar in advance of any forward movement of the machine, in the manner substantially as shown and described.

2. The sliding head Q, in combination with the slide R, double-tree U, hook S, relieving-spring T, connecting-rods P^2 P, pins P^2 P', hand-lever O, with spring-lever O', dog O^2, ratchet M, loose disk N, axle B', and the usual cutter-bar-operating gear, whereby the draft of the horses will first be exerted upon the spring T, and the rods P P^2, drawing forward the lever O, as described, will reciprocate the cutter-bar in advance of the forward movement of the machine, substantially as and for the purpose set forth.

3. In a mowing or reaping machine, the relieving-spring T, connected with the frame A, in combination with the sliding head Q, slides R, and double-tree U, whereby all the shocks and jars incident to the starting up or the draft of the machine while operating in the field are relieved, cushioned, and absorbed, substantially as described.

4. The combination of the lever O, provided with a stirrup, W, dog O^2, ratchet M, axle B', sleeve H', gears H and I, shaft I', crank K, and pitman L, whereby the operator with his foot may reciprocate the knife-bar in advance of the forward movement of the machine, substantially as and for the purpose set forth.

261,269. RUNNING-GEAR FOR VEHICLES. BURR M. SOULE, Cedar Rapids, Iowa. Filed May 2, 1882. (Model.)



Claim.—1. A horizontal spring for a vehicle, formed with end side extensions for the passage of clip-bolts and scrolled or curved at one end, substantially as described.

2. A horizontal spring for a vehicle, formed with end side extensions for the passage of clip-bolts, scrolled or curved at one end, and having midway between the ends a formed recess, substantially as described.

3. In a vehicle, the combination of horizontal springs formed with the side extensions for the passage of the clip-bolts, scrolled at one end and formed with a recess, and a transverse curved or semi-elliptical spring having the ends scrolled and folded over to fit in the formed recess of the horizontal springs, substantially as described.

4. In a vehicle, the combination, with a king-bolt, of a tension-spring arranged within the bolster for taking up the wear of the king-bolt, substantially as described.

5. The combination with a reach or reaches of a vehicle and a fifth-wheel, of an anti-rattler, substantially as described.

6. The combination, with a bolster having a formed recess or chamber, of a king-bolt with its screw-threaded portion *i* arranged within the chamber of the bolster, and spring K, passed over the screw-threaded portion *i* with nut, substantially as described.

7. The combination and arrangement of bolster having a central formed recess, a king-bolt with screw-threads *i*, spring K, formed with slot *s*, and bolts *s t*, substantially as described.

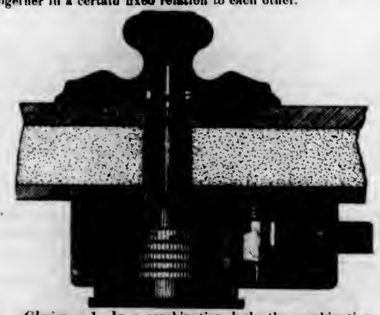
261,270. PROCESS OF BLEACHING HAIR. JOACHIM STEIN, New York, N. Y. Filed May 20, 1882. (No specimens.)

Claim.—1. The herein-described process of bleaching hair, which consists, first, in saturating it with a mixture composed of two solutions, one of peroxide of hydrogen and ammonia and the other of peroxide of hydrogen and cream of tartar, in the proportions indicated, and then in passing it through a solution of blue aniline and alcohol, in the manner and for the purposes described.

2. The composition consisting of peroxide of hydrogen and cream of tartar, as and for the purposes described.

261,271. PERMUTATION-LOCK. KNOBY STOCKWELL, Stamford, Conn., assignor to the Yale Lock Manufacturing Company, same place. Filed Feb. 6, 1882. (Model.)

Brief.—The parts are so constructed that they can only be put together in a certain fixed relation to each other.



Claim.—1. In a combination-lock, the combination of a spindle-sleeve, B, screw-threaded at its outer end for attachment to the door, and provided at its inner end with a flange, and adapted to be applied to a door, with a lock secured to said flange and thereby held in place, substantially as set forth.

2. The combination of a dial-ring provided with lugs and a sleeve provided with notches for fastening them together, substantially as set forth, whereby they can only have a certain fixed relation to each other, for the purpose specified.

3. The combination of a dial-ring and a sleeve, constructed and fastened together substantially as set forth, with a lock-case, whereby these three parts can only be fastened together in a certain fixed relation to each other, for the purpose specified.

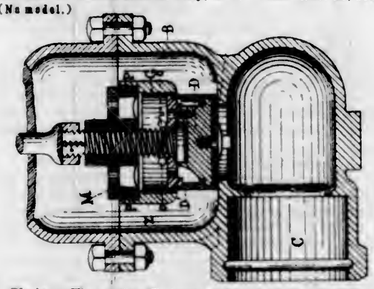
4. The combination of a dial-ring, a sleeve, a lock-case, a dial, a spindle, and a cam constructed and fastened together substantially as set forth, whereby they can only have a certain fixed relation to each other, for the purpose specified.

5. The combination, with a lock-case, of a spindle-sleeve, screw-threaded at its outer end for attachment to the door, and provided at its inner end with a flange and with centering or guide pins, whereby the lock-case can be connected to the sleeve only in a certain fixed relation, substantially as and for the purpose specified.

6. A tumbler for a combination-lock, provided with a movable fly, P, said fly turning on an annular projection, Q, and having a stop outside of the track of the driving-pin of the adjacent tumbler-cam, substantially as specified.

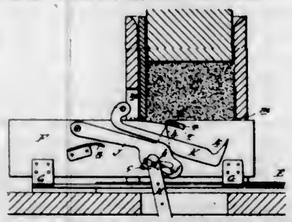
7. The combination of a lock-case, a screw-threaded and flanged sleeve for attaching it to a door, and the pin H, to prevent rotation of said case, substantially as specified.

261,272. HYDRANT. JAMES STORM, Waterford, assignor to Thomas A. Knickerbacker, Troy, N. Y. Filed Mar. 24, 1882. (No model.)



Claim.—The casting B, having the valve-case Z, provided with leak-holes O leading to the outside, and the surrounding water-ways P, in combination with the perforated cap M and solid valve D, substantially as described.

261,273. BRUSH-BUNCHING MACHINE. LOUIS STRICKEL, Detroit, Mich. Filed Dec. 28, 1881. (No model.)



Claim.—1. In a brush-bunching machine, a reciprocating plate having an inclined slot and means for adjusting its capacity at will, a detent for holding the bristles in the slot during the withdrawal, and a hook adapted to automatically prevent the withdrawal of the bristles not confined in the slot, as set forth.

2. In combination with the reciprocating plate F, provided with an inclined slot, *a*, and means for adjusting the capacity of said slot, the pivoted dog J, the treadle H, and suitable connections between the treadle, the dog, and the plate, whereby the movement of the treadle will impart a horizontal movement to the plate and a horizontal and vertical movement to the dog, substantially as described.

3. The reciprocating plate F, provided with an inclined slot, *a*, an adjustable stop, *o*, and a pivoted dog, J, in combination with the dog K, the hopper B, the detent *n*, and suitable means for imparting movement to the plate F, substantially as described.

4. The plate F, having slot *a*, stop *o*, and slot *c*, and the dog J, having the hook *k* and inclined slot *f*, combined with the treadle H and hopper, as and for the purposes set forth.

5. The reciprocating plate F, having slot *a*, stop *o*, and spring-stops *s*, combined with the dog K, having hook *k*, adapted to be thrown automatically into operation as the plate is withdrawn, as specified.

6. The combination of the plate F, dog J, stops *s*, lever H, dog K, and adjusting-stop *o*, as set forth.

7. In a device for the purpose described, and in combination with the plate F, dog J, and lever H, the dog K, the parts being constructed, arranged, and operating substantially as and for the purpose specified.

261,274. JOURNAL-BOX. FREDERICK H. SWEET, Williamsport, Pa., assignor to Rowley & Hermance, same place. Filed June 5, 1882. (No model.)



Claim.—1. The combination, substantially as set forth, of a fixed box or bearing having a central recess for the reception of a shaft-journal and a segmental guide formed upon its top on each side of said recess, and two adjustable cap-sections, each fitting upon one of the guides and adapted to bear at its inner end against the journal.

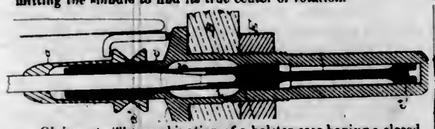
2. The combination, substantially as set forth, of a fixed box having a curved guide on each side of a central shaft-recess, two cap-sections fitting on said guides, and adjusting-screws bearing against the ends of the cap-sections.

3. The combination, substantially as set forth, of a box having curved guides on its top, two cap-sections fitting on said guides, and a lip or dust-guard.

4. A journal-bearing having an internal oil-reservoir, covered at top by curved guides extending from a central shaft-recess to the sides of the box, substantially as set forth.

261,275. SPINDLE AND BEARING THEREFOR. GUSTAVUS E. TAFT, Whitinsville, Mass., assignor to the Whitin Machine Works, same place. Filed Apr. 20, 1882. (No model.)

Brief.—The bolster and step are integral, and are supported in the bolster-case, against which they bear only at a point on said bolster forming a narrow belt by a light springy stem, thereby permitting the spindle to find its true center of rotation.



Claim.—1. The combination of a bolster-case having a closed bottom with a combined bolster and step provided with a light springy stem secured to or bearing against the bottom of the said case, substantially as and for the purpose described.

2. The combination of a bolster-case provided with superposed chambers of different diameters with a combined bolster and step having only a narrow belt fitting in the upper chamber of the case, and provided with a light springy stem secured at its lower end to the sides of the lower chamber of the said case, substantially as and for the purpose described.

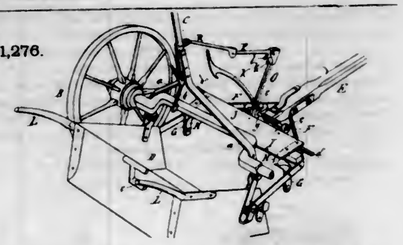
3. The combination of a bolster-case bored centrally to produce communicating chambers of different diameters, an internal shoulder-seat, *c'*, and a closed bottom, with a combined bolster and step provided with a bearing, *b*, having a double conical periphery above and under said bearing, and shouldered to rest upon the shoulder-seat *c'*, and a pendent springy stem having it lower end secured to the said case, substantially as and for the purpose set forth.

4. The combination of a live-spindle provided with a sleeve and whirl with a bolster-case having a chamber, c^3, of such diameter as will limit the motion of the step, as described, an internal oil-chamber, c^2, and a combined bolster and step provided with side perforations and a pendent springy stem, substantially as and for the purpose set forth.

261,276. ROAD-SCRAPER. WILLIAM H. TALBOT, Buchanan, Mich. Filed Mar. 23, 1881. (No model.)

Brief.—The scraper is raised and lowered by a lever pivoted to uprights on the sides of the box, and held thereto by a pivoted hook. The lever is connected with an arm mounted on a spring-actuated rod turning in bearings on a front end-gate by two levers forming a knuckle-joint. A pivoted spring-hook on the pole engages the end of the spring-actuated rod, and is released by a cam on the latter. Branch arms on the pole are pivoted to the uprights on the sides of the box. Arms on the gate are pivoted to hangers on the branch arms.

261,276.



Claim.—1. In combination with a scraper-box having an open end, an end-gate adapted to be released from a detaining-latch on the scraper-frame by the movement of the mechanism which changes the position of the scraper-box, substantially as and for the purpose specified.

2. In combination with a scraper constructed substantially as described, the end board or gate, I, adapted to be closed by a spring, substantially as and for the purposes specified.

3. In a road-scraper, the lever C, rods R P, lever O, shaft *g*, spring *i*, and cam *h*, in combination with the gate I and detaining-latch J, substantially as and for the purpose specified.

4. In a scraper, and in combination with the box D, axle A, lever C, hook *b*, stop *e*, tongue and frame E F, and latch J, the end-gate I, shaft *g*, spring *i*, cam *h*, lever O, and rods R P, substantially as and for the purpose specified.

5. The latch J, pivoted to the scraper-frame, in combination with the shaft *g* on the end-gate I, and the end-gate, as a means of detachably holding the latter from the scraper-box, substantially as described.

261,277. RAILROAD-RAIL JOINT. PAUL TATUM, Harmony Hill, Tex., assignor of one-half to James W. Flanagan. Filed May 26, 1882. (No model.)

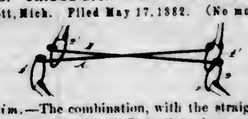
Brief.—Short joint-rails are provided with horizontal slots, through which pass fastening-strips secured to the bed-plate. The track-rails have diagonal incisions from opposite sides, by which tongues are formed, and the interposed short joint-rails have corresponding incisions and tongues, by which lock or lap joints are formed.



Claim.—1. In a railroad-rail joint, the short rail or joint-strip B, having horizontal slots G, in combination with the fastening-strips H, as described, for the purpose set forth.
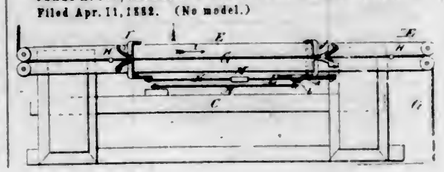
2. As an improvement in railroad-rail joints, the combination, with the rail ends having diagonal incisions from opposite sides by which tongues E are formed, of the interposed short rail B, having corresponding incisions and tongues by which lock or lap joints are formed, and horizontal slots G, and the fastening-strips H, as and for the purpose set forth.

261,278. BRIDLE-BIT. JOHN TAYLOR and CHARLES TAYLOR, Detroit, Mich. Filed May 17, 1882. (No model.)



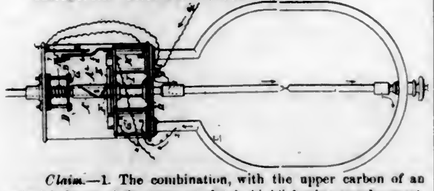
Claim.—The combination, with the straight bit A, having rings *b b'*, of the straight bit B, having rings *a a'*, the bits passed respectively through the rings *a' b'*, substantially as shown and described.

261,279. CHECK-ROW ATTACHMENT FOR CORN-PLANTERS. JAMES M. TOY, THOMAS D. TOY, and NELSON TOY, Washburn, Ill. Filed Apr. 11, 1882. (No model.)



Claim.—In a check-row attachment for corn-planters, the combination, with the cross-bar E, having the three-armed pivoted bars O, provided with pulleys P Q, and knotted rope or wire G, of the bifurcated levers I J, pivoted to the cross-bar E and connected together by the sectional rod K L, one section having a right-hand screw-thread and the other section a left-hand screw-thread, and said sections united by an adjusting-nut, M, pitman N, and seed-slide C, substantially as and for the purpose set forth.

261,280. ELECTRIC-ARC LAMP. CHARLES J. VAN DEPOELE, Chicago, Ill. Filed Feb. 11, 1882. (Model.)



Claim.—1. The combination, with the upper carbon of an electric lamp, of the two-part clutch A′ A″, having angular meeting surfaces, and suitable means for operating said clutch, substantially as described

2. The combination, with the upper carbon of an electric lamp, of the two-part clutch A′ A″, having beveled meeting edges, a spring above the part A′, and mechanism, substantially as described, for operating the lower part, A″, against the part A′, as set forth.

3. In an electric-arc lamp, the two-part clutch A′ A″, having beveled meeting edges, in combination with the armature E and suitable connecting mechanism between the armature and the clutch, whereby the movement of the armature will raise the clutch, substantially as described.

4. In an electric-arc lamp, and in combination with the rod and two-part tube, the spiral spring B and plate G, with its adjustable bolts, substantially as and for the purposes set forth.

5. In an electric-arc lamp, the armature E, pivoted at its center and actuated by a magnet at one end, having a continuous current passing through the same, and a magnet at the opposite end, through which a pulsating or derived or direct current is passing, substantially as and for the purposes set forth.

6. In an electric-arc lamp, the combination, with the two-part clutch A′ A″, of the vibrating armature E, and the cam F, secured to the armature and acting against the lower part, A″, of the clutch, substantially as described.

7. In an electric-arc lamp, the combination, with the clutch A′ A″ and the vibrating armature E, and connecting mechanism for operating said clutch, of the spring J, substantially as described, and for the purpose specified.

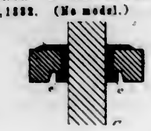
8. In an electric-arc lamp, the combination, with the two-part clutch A′ A″ and its operating mechanism, of the post K, carrying a detent engaging with the clutch to prevent it from rotating, substantially as described.

9. In an electric-arc lamp, the combination, with the clutch A′ A″ and the vibrating armature E, of the magnets G′ H and means, substantially as described, for passing a steady current through one magnet and a pulsating or intermittent current through the other, as set forth.

10. In an electric-arc lamp, the combination, with the two-part clutch A′ A″, the spring B, the vibrating armature E, and connecting mechanism between the armature and clutch, of the magnets G′ H, currents connecting both magnets with the main line, the spring J, and the circuit-breaker *f* in the circuit of the magnet H, and operated by said magnet, substantially as and for the purpose specified.

11. In an electric-arc lamp, the two-part cylinder, constructed as described, in combination with the spring B and plate G, adapted to clamp, raise, and release the rod R, being actuated thereto by the operation of a centrally-pivoted armature between two magnets, through one of which is passing a steady and through the other a pulsating current, substantially as and for the purposes described

261,281. FENCH. DWIGHT B. VAN DORN, Cleveland, Ohio. Filed Apr. 28, 1882. (No model.)

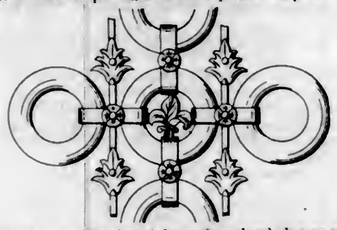


Claim.—1. The combination, with a fence-rail having a cam-shaped hole, of a cam-shaped bushing adapted to fit over a picket, and by engaging with the sides of the hole in the rail to grasp the picket and hold it in place in the said rail, substantially as shown and described.

2. In a fence, the combination, with the rail having a hole, B, and with a picket, C, of a bushing, D, provided with inclined lugs c c, substantially as set forth.

261,282. ORNAMENTAL SCREEN, HANGING, &c. ELIHU VEDDER, New York, N. Y. Filed Dec. 17, 1881. (No model.)

Brief.—Consists of colored glass or pottery tiles of open-work figures of varied shape hinged together by metal clasps and rods.



Claim.—1. Illuminated decorative colored glass or pottery tiles hinged together in the form of a flexible stained-glass window or screen, substantially as set forth.

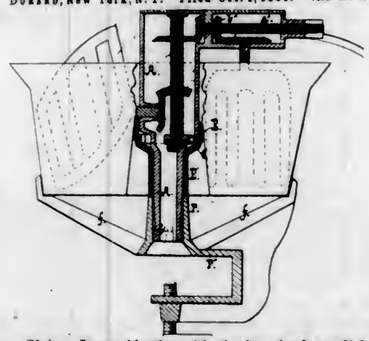
2. A screen or shield made of rings or open figures of glass or opaque or translucent material, and combined with clasps of metal, either plain or ornamental, as hereinbefore set forth.

3. The combination of rings or equivalent open figures, as described, with rods, either plain or ornamental, as heretofore set forth, in the formation of screens or shields, as shown and described.

4. As a new manufacture, a screen made of separate open forms of transparent, opaque, or translucent material, and devices uniting the same in a continuous reticulated hanging, substantially as set forth.

5. The within-described fastenings combined with the rings or tiles, and consisting of two sections, one perforated, the other of pliable material, with arms for extending through the perforations and bending into ornamental shapes, substantially as set forth.

261,283. DOUGH-KNEADER. DEXTER H. WALKER and LOUIS DURAND, New York, N. Y. Filed Oct. 4, 1881. (No model.)



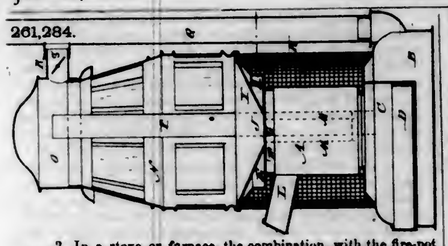
Claim.—In combination with the base having radial arms and boss F, provided with inclined bearings, the casing E′, having internal gearing, and being rigidly secured to the pan, and the casing A, inclosing the driving mechanism, and provided with inclined lugs at its lower end, substantially as set forth.

261,284. SMOKE-CONSUMER. ABRAHAM M. WATER, Quincy, Ill. Filed Apr. 14, 1882. (No model.)

Claim.—1. In a stove or furnace, the combination, with the fire-pot A, of the sieve K, surrounding it, the hot-air chamber E on the fire-pot, and the flues M, substantially as herein shown and described, and for the purpose set forth.

2. In a stove or furnace, the combination, with the fire-pot A, of the centrally-apertured plate F, the sides H, the funnel-shaped top I, and the flues M, substantially as herein shown and described, and for the purpose set forth.

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3. In a stove or furnace, the combination, with the fire-pot A, of the centrally-apertured plate F, the sides H, the funnel-shaped top I, having its inner lower edges overlapping the edges of the aperture G in the plate F, and the flues M, substantially as herein shown and described, and for the purpose set forth.

4. In a stove or furnace, the combination, with the fire-pot A, of the deflector I and the fuel-chute L below this deflector, substantially as herein shown and described, and for the purpose set forth.

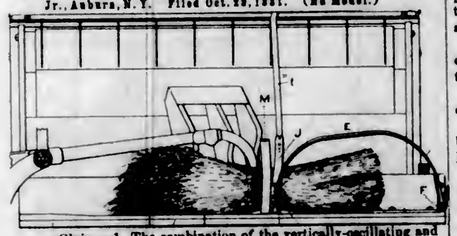
5. In a stove or furnace, the combination, with the fire-pot A, of the centrally-apertured plate F, the sides H, the funnel-shaped deflector I, the flues M, the hollow base B, the dome N, the chimney-pipe Q, and the flues P, substantially as herein shown and described, and for the purpose set forth.

6. In a stove or furnace, the combination, with the fire-pot A, of the apertured plate F, the sides H, the funnel-shaped deflector I, the flues M and P, the dome N, the hollow base B, the chimney-pipe Q, and the cylindrical sieve or net-work K, surrounding the fire-pot A, substantially as herein shown and described, and for the purpose set forth.

7. In a stove or furnace, the combination, with the fire-pot A, of the apertured plate F, the sides H, the funnel-shaped deflector I, the flues M P, the hollow base B, the dome N, the chimney-pipe Q, and the closed ash-pit C in the base B, substantially as herein shown and described, and for the purpose set forth.

8. In a stove or furnace, the combination, with the fire-pot A, of the apertured plate F, the sides H, the funnel-shaped deflector I, the flues M and P, the dome N, the hollow base B, the chimney-pipe Q, the pipe R, and the damper-valve S, substantially as herein shown and described, and for the purpose set forth.

261,285. SELF-BINDING HARVESTER. CYRENUS WHEELER, Jr., Auburn, N. Y. Filed Oct. 28, 1881. (No model.)



Claim.—1. The combination of the vertically-oscillating and horizontally-swinging binder-arm with the vertically-moving bundle-arresting arm J, having a bent foot, M, and pivoted connecting-piece E, substantially as described.

2. The combination of the vertically-oscillating and horizontally-swinging binder-arm with two vertically-swinging bundle-arresting arms, one hinged to the under side of the other and each provided with an upwardly-bent foot, the foot of the lower hinged arm moving in an arc inside of the other foot and having a slot for the passage of the upper arm through it, substantially as described.

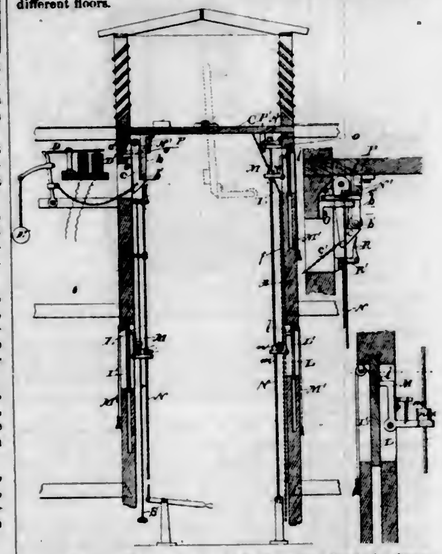
3. The combination of the pivoted bundle-arresting arm having a bent foot and a secondary arresting-arm hinged thereto and having a slotted bent foot, with the upwardly-inclined controller-piece I, substantially as described.

4. The combination, with the binder-table, of the vertically-swinging bundle-arrester, the pivoted bar E, and the stop H, substantially as and for the purpose described.

5. The combination of the binder-table, the vertically-oscillating and horizontally-swinging binder-arm, the pivoted bundle-arresting arm having a bent foot, the hinged secondary arresting-arm having a slotted bent foot, the controller-piece I, pivoted arm E, and stop H, the whole combined for joint operation, substantially as described.

261,286. ELEVATOR-SHAFT. SAMUEL W. WILLARD, West De Pere, Wis., assignor of one-half to Charles A. Willard, same place. Filed May 3, 1882. (No model.)

Brief.—A weighted centrally-pivoted trap-door at the head of the shaft is held closed by a pivoted hook. The latter being released, depending wedge-shaped tripper-arms on the door force back spring-latches, which support the caps of two tripping-rods slightly above brackets at the head of the shaft. The dropping of the rods extending through the shaft releases retaining-catches engaging vertically-sliding doors in the walls of the shaft at the different floors.



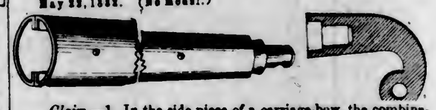
Claim.—1. In an elevator-shaft, a trap-door for closing its upper end, weighted as described, in combination with a catch adapted to secure it when closed, and means for tripping said catch from any convenient point in the building, as set forth.

2. The combination of the trap-door and connections with doors L′ and catches M, whereby as the trap-door opens it releases the doors L′ and permits them to open also, as set forth.

3. The combination of trap-door C, having arm *b*, with the catch and device for tripping it, as set forth.

4. The trippers P P′, depending from the trap-door C, in combination with the capped rods N, latches *o*, bracket O, and catches M, as set forth.

261,287. CARRIAGE-BOW. FREDERICK A. WITTICH, CHARLES E. STANROPE, and PETER W. STRAUBE, Ashtabula, Ohio. Filed May 23, 1882. (No model.)



Claim.—1. In the side piece of a carriage-bow, the combination, with a filler having longitudinal grooves formed in its opposite faces, of two case-sections having inwardly-bent edges, said edges being adapted to be received within the grooves in the filler, substantially as set forth.

2. In the side piece of a carriage-bow, the combination, with a case, of a tip secured to the lower end thereof, and a slat-iron recessed to receive the tip, and adapted to have its upper edge closed around the same to lock the two parts together, substantially as set forth.

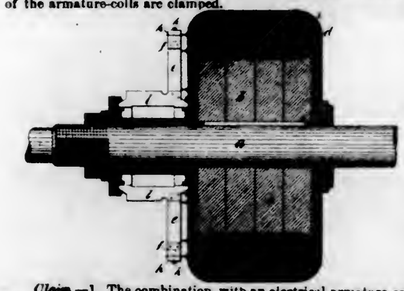
3. In the side piece of a carriage-bow, the combination, with a case, of a tip welded to the lower end thereof, and consisting of a stem provided with an extension, and a slat-iron recessed to receive the tip, and adapted to have its upper edge closed around the extension of the same to lock the two parts together, substantially as set forth.

4. In the side piece of a carriage-bow, the combination, with a case, of a tip welded to the lower end thereof, and a slat-iron re-

cessed to receive the tip, adapted to have its upper edge closed around the same to lock the two parts together, and provided with a shoulder which extends around its upper edge, substantially as set forth.

261,288. COUPLING FOR COMMUTATORS AND ARMATURE-WIRES. JAMES J. WOOD, Brooklyn, N. Y. Filed Oct. 26, 1881. (No model.)

Brief.—The coupling consists of two parts, one of which is attached to the commutator-segment, between which the terminals of the armature-coils are clamped.



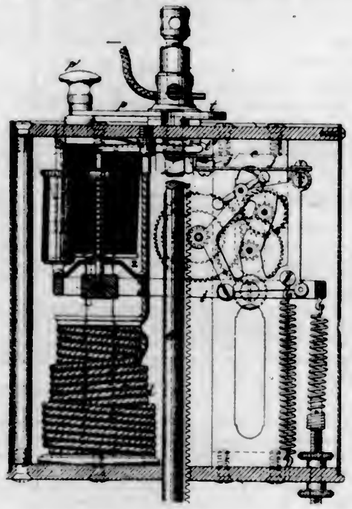
Claim.—1. The combination, with an electrical armature-coil and commutator-segment, of the clamp-block *f*, cap *h*, and clamp-screw *k*, arranged and operating substantially as and for the purpose set forth.

2. In combination with electrical armature-coils and commutator-segments, the clamp-block *f*, cap *h*, and clamp-screw *k*, with the ends of the armature-coils placed between the block and cap and on each side of the clamp-screw, substantially as herein shown and described.

3. The combination, with an armature-coil and commutator-segment, of the clamp-head *f* and cap *h*, with a clamp-screw, *k*, connecting the two, and marginal lips *i i* on the face of one part, with the ends of the armature-coils placed between the cap and block and between the lips and the sides of the screw, substantially as herein shown and described.

4. The combination, with the segment of a commutator and the strip *e* projecting therefrom, of the block *f*, affixed to the onter end of said strip, with the cap *h*, mounted upon the end of said block, and clamp-screw *k*, passing through the cap into the block, forming between them a clamping-socket to receive the ends of the armature-wires, substantially as herein shown and described.

261,289. ELECTRIC LAMP. JAMES J. WOOD, Brooklyn, assignor to the Fuller Electrical Company, New York, N. Y. Filed Jan. 28, 1882. (No model.)



Claim.—1. The combination, in an electric-arc lamp, of a safety-switch acting when closed to cut the lamp out of circuit, a spring or equivalent device acting constantly to close the said switch, a trigger catch or latch acting to hold said switch open, and an electro-magnet circuited in such relation with the arc that an abnormal length of arc shall cause the armature or movable part of said magnet to trip the said trigger-catch, release the switch and allow it to spring closed, and thereby antomatically throw the abnormal lamp out of circuit, substantially as herein set forth.

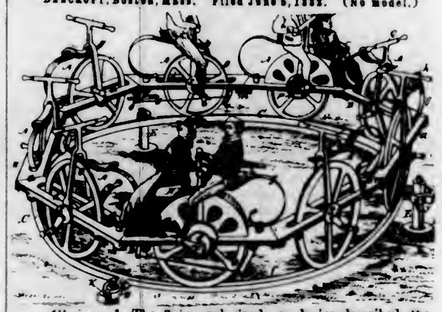
2. The combination, in an electric-arc lamp, of an electro-magnet circuited in operative relation with the arc and a corresponding armature operatively connected with mechanism for regulating the positions of the carbon-points, with a safety-switch arranged in operative relation with the said armature, constructed to be normally open, but when closed to cut the lamp out of circuit, and an operative connection from the said armature to the said switch, having an idle play or movement during the normal feeding movements of said armature, but which connection actuates the switch and closes the same when the said armature moves beyond the limit of its feed-motion due to an abnormal length of arc, substantially as herein shown and described.

3. The combination, in an electric-arc lamp, of a safety-switch normally open, but acting when closed to cut the lamp out of circuit, an electro-magnet circuited in a shunt from the arc-circuit, a corresponding armature operatively connected with mechanism to feed or regulate the position of the carbons, and having a limited idle play in its connection with said mechanism and an operative connection between said armature and safety-switch, whereby the armature becomes independently moved from the regulating mechanism when the latter is moved to its feeding limit by an abnormal attraction of the shunt-magnet due to abnormal arc, and thereby operates the safety-switch to throw the abnormal lamp out of circuit, substantially as herein described.

4. The combination, in an electro-lamp, of a hand-switch adapted for voluntarily circuiting or decircuiting the lamp, with a safety-switch adapted to close automatically by the mechanism of the lamp on the formation of abnormal arc or abnormal separation, the said safety-switch being arranged in operative relation with the hand-switch, whereby the closing and opening of the hand-switch automatically set the safety-switch in its open position, substantially as herein set forth.

5. The hand-switch *p*, formed with a contact-face, *p'''*, on one arm thereof, in combination with a safety-switch hammer, *t*, with means for retaining the same in open position, and arranged when closed to contact with said face *p'''*, whereby the movement of the hand-switch will move and set the safety-switch, substantially as herein shown and described.

261,290. FLYING VELOCIPEDE. THOS. H. WEEB and JAS. BANCROFT, Boston, Mass. Filed June 5, 1882. (No model.)

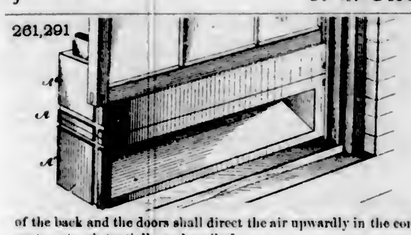


Claim.—1. The flying velocipede or device described, the same consisting of the velocipedes A, frame B, and track C, constructed and arranged to operate substantially as specified.

2. The post E, screw G, and key M, constructed and arranged to operate substantially as set forth.

261,291. VENTILATOR FOR WINDOWS. SAMUEL K. ADDOMS, Brooklyn, N. Y. Filed May 23, 1882. (No model.)

Claim.—1. In a ventilator for windows, adapted to be held under a window-sash, and provided with an air-passage for the circulation of air and with hinged doors for opening and closing said passage, the box or case having its back and portions of its ends extended above the opening in its top, the doors for said opening being hinged at the ends of said case and opening against the end extensions, whereby when the doors are open the vertical extension



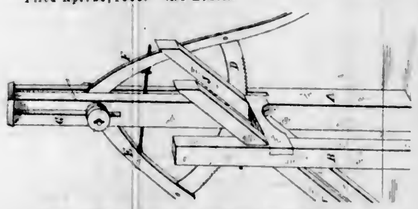
of the back and the doors shall direct the air upwardly in the compartment, substantially as described.

2. A ventilator for windows, adapted to be held under a window-sash, and consisting of a two-part case having an air-passage extending through the casing and opening both at the front of its lower part and at the top of its upper part or half, said two parts being hinged together at the back, whereby the case can be either folded so as to admit air into the lower portion of its front and then up through the casing and out through its top or be folded so as to bring the two portions of its back together and then adjusted under a window, so that the air shall pass directly through the upper part of the case, substantially as described.

3. The combination, in a ventilator for windows, of the part A' of a two-part case, having an open front and top, with the part A', having an open bottom and an opening in its top, and the vertical extensions of its back and ends and hinged doors, for closing its said opening, the said two parts of the casing having their back portions hinged together, whereby the ventilator can be folded for either night or day use, substantially as described.

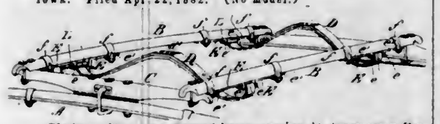
4. The combination, in a ventilator for windows, of the part A' of a two-part casing, having a back, two ends, and an open front, with the remaining part, A', of the casing, having a closed part, a top with a gauze-covered opening in it, a back extended above the top ends having correspondingly-extended portions, and doors for closing the gauze-covered opening, hinged so as to open against the end extensions, substantially as described.

261,292. DRAG-SAW. WILLIAM C. ALLEN, West Union, Ohio. Filed Apr. 20, 1882. (No model.)



Claim.—The combination, with the saw-buck having the perpendicular posts A B, the post A having an upwardly-extended portion provided with a long slot, C, and a short slot, G, at right angles with slot C, of the curved saw D, with its frame E F, hung in slot C of the standard A, and provided with a pivot, H, weighted and adapted to slide in the slot G of the post or standard A, substantially as shown and described, and for the purpose set forth.

261,293. BUGGY-SPRING. WILLIAM D. AMBRY, Muscatine, Iowa. Filed Apr. 22, 1882. (No model.)

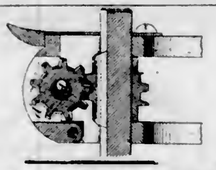


Claim.—The ogee-formed buggy-spring D, hung upon the bolts L, passing through the angles *e* of plates E, which plates E are held to the side bars, B, by means of clips *f*, and are adjustable along the bars through the clips, as shown and described.

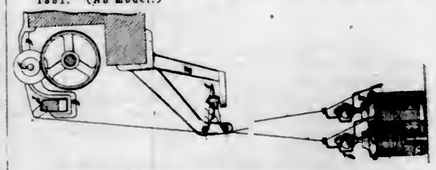
261,294. CONDENSER FOR ROVING-MACHINES. ABEL T. ATHERTON, Lowell, Mass., assignor to the Whitehead & Atherton Machine Company, same place. Filed Apr. 25, 1882. (No model.)

Claim.—The hereinbefore-described condenser, consisting of the external tube, in combination with the inner tube cast with a spiral bore of substantially cylindrical cross-section, and with smooth unbroken walls throughout, as herein shown and described.

261,294.



261,295. TENSION-EVENER FOR SILK-DOUBLING MACHINES. ORLO ATWOOD, New London, Conn. Filed Dec. 19, 1881. (No model.)

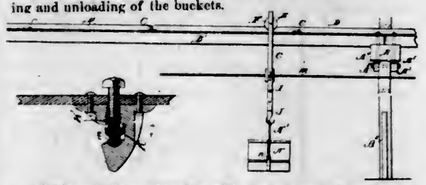


Claim.—1. In a doubling-machine, an evener consisting of a rod or bearer, on one side of which the strands are to pass, and a lever having two eyes for the strands, and pivoted between said eyes on the opposite side of said rod or bearer, substantially as and for the purpose herein described.

2. In a doubling-machine, an evener consisting of rods or bearers, on one side of which the strands are to pass, and a lever having two eyes for the strands, and pivoted between its eyes on the opposite side of and opposite the space between said rods or bearers, substantially as and for the purpose herein described.

261,296. ELEVATED ROPE CARRYING SYSTEM OR ENDLESS RAILWAY. AMBROSE J. B. BERGER, Easton, Pa. Filed June 6, 1881. (No model.)

Brief.—Laterally-adjustable posts are placed at suitable distances apart, provided with vertically-adjustable cross-pieces, which support longitudinal timbers, and arms provided with rails. A pendant is provided with a sheave or pulley at its upper end and a pivoted reversible tilting hook at the other, and arranged to support buckets, and to said pendant is secured a gripper, which grips an endless traveling rope. At suitable distances apart are inclined ways leading to a horizontal platform, adapted to facilitate the loading and unloading of the buckets.



Claim.—1. In combination with one or more elevated rails, D, and sheaves E, and their connections, moved by a rope, *m*, the inclined ways R' R', and horizontal platform R and car P, adapted to aid in engaging and disengaging buckets N, as herein specified.

2. In an elevated carrying system, the tilting hook J, in combination with the pivot-bolt I, and arranged to support suitable buckets, with capacity for not only being tilted, but also for being reversed in position, as herein specified.

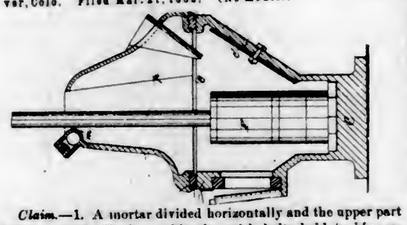
3. The clamping-piece K, spirally grooved on its interior to match the rope *m*, in combination with such rope, and with the rails D, screw L, bucket N, sheave E, pin F, and pendant G, as herein specified.

4. The rail D, in combination with the arms C and longitudinal timber B', supported on the T-pieces B of an elevated carrying-structure, and adapted to serve with a rope, *m*, and pendants G, sheaves E, and buckets N, as herein specified.

5. In a rope railway, the adjustable T-piece B, for vertical adjustment, in combination with the posts A, endless rope *m*, and carrying-buckets N, to allow the path of the buckets to be varied, as herein specified.

6. The elevated railway described, having two single lines of rigid stringers, B', connected at the ends of the road, supported at intervals, each with a single rail, D, thereon, in combination with a series of grooved sheaves, E, running on said rails, and supporting-pendants G and buckets N, and with the endless rope *m*, connected to said pendants, and with the end pulleys, H, all arranged to operate substantially as herein specified.

261,297. MORTAR FOR STAMP-MILLS. HENRY BOLTHOFF, Central City, assignor to himself and Charles F. Hendris, Denver, Colo. Filed Mar. 21, 1882. (No model.)

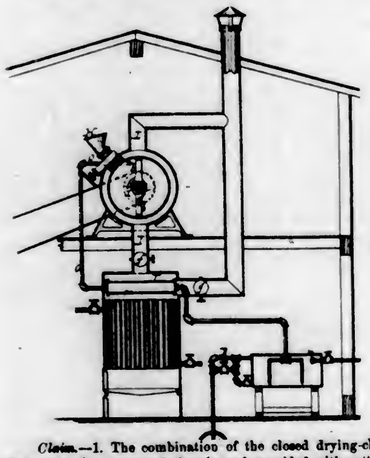


Claim.—1. A mortar divided horizontally and the upper part subdivided vertically, in combination with bolts held to lugs on said sections by nuts, as shown and described.

2. The base-section of a mortar, having the vertical socket-extensions *f* for posts *i* and openings from side to side for timbers *i'*, whereby the base is lengthened and utilized without widening the frame, as described.

3. The mortar for stamp-mills, divided at or about the middle of its height into upper and lower sections, and connected together with a packing of elastic material, *e*, between them, substantially as specified.

261,298. APPARATUS FOR TREATING OFFAL, &c. JOSEPH N. B. BOND, New York, N. Y., assignor to Joseph N. B. Bond, Jr., same place. Filed May 3, 1882. (No model.)



Claim.—1. The combination of the closed drying-chamber, the rotary shaft arranged therein and provided with cutting and agitating blades, the closed heating-jacket constructed as a part of and surrounding the exterior of the drying-chamber, but having no communication therewith, the flue connected with one side of the jacket and with the smoke-chamber of a furnace, and the flue connected with the other side of the jacket and with the smoke-stack of the furnace, substantially as described.

2. The combination of the closed drying-chamber, the rotary shaft arranged therein and provided with cutting and agitating blades, the closed heating-jacket surrounding the exterior of the drying-chamber and connected therewith, the flues connecting the jacket with the smoke-chamber and the smoke-stack of a furnace, the decomposing-chamber arranged in the smoke-chamber of the furnace and connected with the drying-chamber, and the closed condenser connected with the decomposing-chamber, substantially as described.

261,299. KNIFE-COUPLING FOR MOWING-MACHINES. ISAAC G. BOWEN, Fremont, Ohio, assignor of one-half to Byron R. Dudrow, same place. Filed Apr. 13, 1882. (No model.)

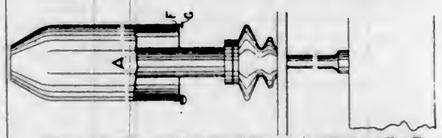


Claim.—1. The combination of the pitman A, threaded socket B, having fixed coupling-box D D', adjustable sliding box E E', adjusting-screw C, having square head C', bolt G, nut G', and plate H H', constructed and combined substantially in the manner and for the purpose herein shown and set forth.

2. The combination of the flanged plate I, having recessed head I', plate J, having the corrugated knuckle F, and bolt or screw L, substantially as and for the purpose herein shown and described.

3. The coupling-box composed of the following parts: fixed part D, having the cap or hood D', step *d*, bolt-hole *e*, and slot or aperture *f*, adjustable and detachable part E, having the cap or hood E', recess *g*, slot *h*, and lugs *k k*, nutted bolt G G', plate H, having the lip or extension H', screw C, having square head C', and threaded socket B, all constructed and combined substantially as and for the purpose herein shown and specified.

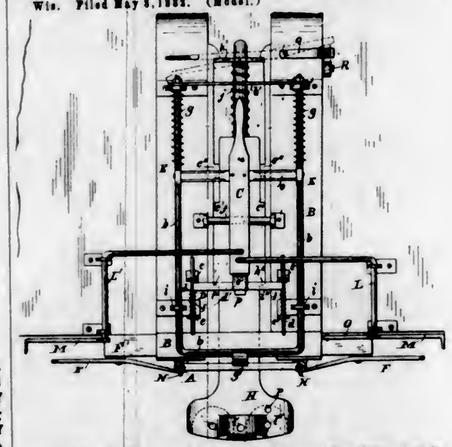
261,300. APPARATUS FOR SPINNING AND TWISTING FIBROUS MATERIAL. JNO. J. BRIGGHOUSE and EDWD. MITCHELL, Bradford, County of York, England. Filed May 26, 1881. (No model.) Patented in England July 30, 1881, No. 3,316.



Claim.—1. The combination of the cap A with the collar F, having the grooves or flanges G, substantially for the purpose and in the manner described.

2. The combination of a cap with a ring constructed to carry a traveler secured thereon, substantially for the purpose described.

261,301. CAR-COUPLING. FREDERICK W. HOOKS, Oak Grove, Wis. Filed May 8, 1882. (Model.)



Claim.—1. The combination, with the vertically-sliding frame A and horizontally-sliding frame B, of the lever C, pivoted in the frame B and adapted to be set for moving back the frame B by the backward movement of the draw-head, substantially as described.

2. The combination, with the vertically-sliding frame A, horizontally-sliding frame B, and lever C, of the horizontally-sliding frame D, substantially as described.

3. The combination, with the horizontally-sliding frame B, of the lever Q and weight R, substantially as and for the purposes set forth.

4. The lever C, in combination with the cranks L L' for setting the same, substantially as described.

5. The frame A, formed with the arms *b' b'*, in combination with the plate J, which holds the coupling-pin, substantially as and for the purposes set forth.

6. The draw-head provided with the rod P, in combination with the plate J and the frame A, substantially as described.

7. The draw-head H, formed with the link-chambers *c c'* and the lower link-chamber, *c''*, as and for the purposes set forth.

8. In combination with the draw-head, the bolt S, formed with the forward projection or lip, *s''*, as and for the purposes set forth.

9. In a car-coupling, the combination, with the movable draw-head H, of the vertically-sliding frame A, horizontally-sliding frame B, lever C, and frame D, the frame A being adapted to support the coupling-pin above the draw-head, substantially as specified.

10. In combination with the bell-crank lever L', the crank M', formed with the extension and provided with means for setting the lever C from the top or platform of the car, substantially as set forth.

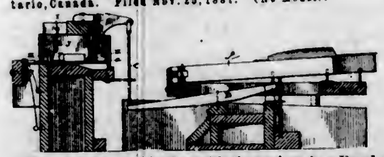
11. The combination, with the lever C, of the frame D, formed with the beveled lip or projection *c'*, as and for the purposes set forth.

12. The horizontal sliding frame B, formed with the beveled lip or projection *g'*, substantially as and for the purposes set forth.

13. The movable draw-head H, formed with the lug *p*, in combination with the horizontally-sliding frame B and lever C, substantially as described.

14. The movable draw-head H, vertically-sliding frame A, adapted to hold the coupling-pin, in combination with the horizontally-sliding frames B and D, lever C, and the lever Q and weight R, substantially as and for the purposes described.

261,302. ORGAN-ACTION. EDWIN BROWN, Bowmanville, Ontario, Canada. Filed Nov. 25, 1881. (No model.)



Claim.—1. In combination with the main valves F and the cut-off valves G, the squares D, sticker-bars C, and connections, substantially as described, between the squares and sticker-bars and valves, as and for the purpose specified.

2. The valve G, having plates *a*, the valve F, having staple E, and operating-connections B C D, so arranged and combined that the action of the valve F will operate all the stop-valves G in the series in one direction, as specified.

3. The combination of the rock-shaft I and arms J, part of which are arranged to bear upon the front and part on the rear side of the pins H, the stop-valve G, valves F, plates *a*, and operating-levers, as and for the purpose specified.

261,303. APPARATUS FOR CHARGING AND DISCHARGING SECONDARY BATTERIES. CHARLES E. BURLL, New Haven, Conn. Filed May 19, 1882. (No model.)

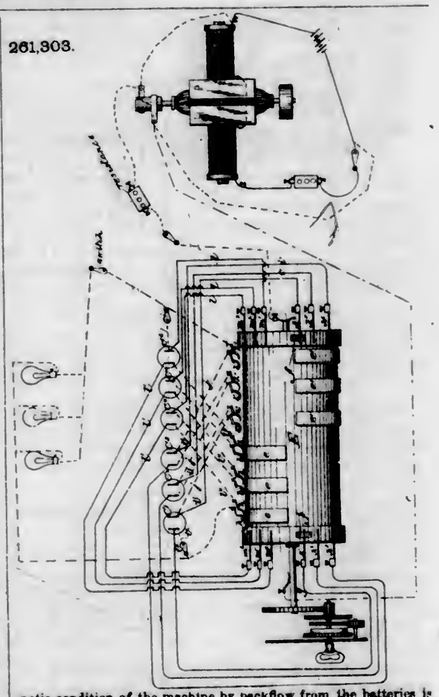
Claim.—1. The combination, substantially as described, of a charging-circuit including a dynamo-electric machine or battery, two series of secondary batteries, each of which series is composed of two or more pairs of plates or electrodes which are separately connected to independent branches of the charging-circuit, and switching devices for alternately connecting the independent charging-branches of one series successively to the charging-circuit, so as to successively charge the pairs of that series, and at the same time disconnecting the charging-branches of the pairs of the other series from the charging-circuit and interposing said other series into the working-circuit coupled for intensity.

2. The combination, substantially as described, with an electrical generating-machine, of a charging-circuit which includes the helices of the field-of-force magnets, a separate exterior charging-circuit which includes the helix of the armature, a working-circuit, two series of secondary batteries, each of which series is composed of two or more pairs of plates or electrodes, independent branches of the charging-circuit, and switching devices for alternately connecting the independent charging-branches of one series successively with the charging-circuit and disconnecting the charging-branches of the pairs of the other series from the charging-circuit and interposing said other series in the working-circuit coupled for intensity.

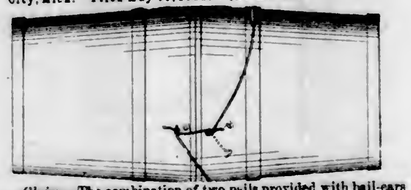
3. The combination, with an electrical generating-machine, of a charging-circuit which includes the helix of the armature, a working-circuit, two series of secondary batteries, each of which series is composed of two or more pairs of plates or electrodes, independent branches of the charging-circuit, and switching devices for alternately connecting the independent charging-branches of one series successively with the charging-circuit and disconnecting the charging-branches of the pairs of the other series from the charging-circuit and interposing said other series into the working-circuit coupled for intensity, whereby the reversal of the magnetic condition of the machine by backflow from the batteries is avoided and the loss of charge from backflow from the batteries, if the generator slackens speed or stops, is confined to one pair of plates or electrodes.

4. The combination, with an electrical generating-machine, of a charging-circuit which includes the helices of the field-of-force magnets, a separate exterior charging-circuit which includes the helix of the armature, a working-circuit, two series of secondary batteries, each of which is composed of two or more pairs of plates or electrodes, independent branches of the charging-circuit, switching devices for alternately connecting the independent charging-branches of one series successively with the charging-circuit and disconnecting the charging-branches of the other series from the charging-circuit and interposing said other series in the working-circuit coupled for intensity, and independent means for separately regulating the circuits which include the armature-helix and the field-of-force magnets, substantially as described.

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261,304. PAIL-FASTENER. ANDREW BURGLAND, South Bay City, Mich. Filed May 10, 1882. (No model.)



Claim.—The combination of two pails provided with bail-ears *a* and placed with their heads together, as described, of the hooks *c*, secured to the bail-ears of one pail and detachably engaging with the bail-ears of the adjoining pail, as set forth.

261,305. FOLDING BEDSTEAD. SANFORD S. BURR, Winnetka, Ill. Filed June 14, 1882. (No model.)

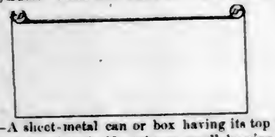
Claim.—1. The combination, with the counter-weighted folding bed and support or case to which the same is hinged, of a folding front or its equivalent, hinged to said case or bed and connected with the bed by a cord or other pliable connection, substantially as and for the purposes hereinbefore set forth.

261,305.



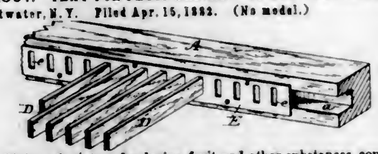
2. The combination of the case, the counter-weighted bed hinged thereto, and the front, hinged also to the case at a point below the bed-hinge and connected to the bed by a cord or other pliable connection, substantially as and for the purposes hereinbefore set forth.

261,306. SHEET-METAL CAN OR BOX. JAMES CARTWRIGHT, Cambridge, Mass. Filed Mar. 24, 1882. (No model.)



Claim.—A sheet-metal can or box having its top bent inwardly to form a complete inside tube or scroll bearing with its inturned edge against the body of the can and separating the space inclosed thereby from the interior of the can or box, as set forth.

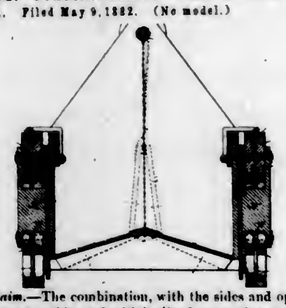
261,307. TRAY FOR FRUIT-DRIERS. GEORGE R. CHEESMAN, Atwater, N. Y. Filed Apr. 15, 1882. (No model.)



Claim.—1. A tray for drying fruit and other substances, consisting of a frame composed of end pieces, B, side pieces, A, having longitudinal grooves *a*, sheet-metal strips permanently attached to the sides A, and provided with rectangular perforations, and wooden slats D, with their ends entering the perforations in the metal strips, substantially as and for the purpose described.

2. In a fruit-drying tray, the combination of the longitudinally-grooved side pieces, A, and sheet-metal strips E, secured thereto, and provided with rectangular perforations, with slats D, of uniform size throughout their length, substantially as and for the purpose described.

261,308. DUMPING-WAGON. MOSES M. CLARK, New Haven, Conn. Filed May 9, 1882. (No model.)

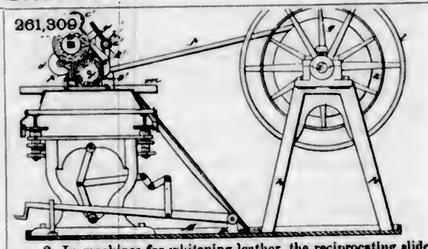


Claim.—The combination, with the sides and open bottom of a car, wagon, or bin, and with inclined supporting-strips G therein, of a longitudinally-divided and centrally-hinged movable flooring, resting upon said inclined strips to slope from the center to the sides, a longitudinal rotating shaft supported in bearings over the center of the hinged flooring, and chains extending from said shaft to the hip or hinge line of said flooring, substantially in the manner and for the purpose herein set forth.

261,309. MACHINE FOR WHITENING LEATHER. JOHN E. CLEMENT, Peabody, Mass. Filed Feb. 17, 1882. (No model.)

Claim.—1. In machines for whitening leather, the combination of shaft *i*, crank *q*, rod *p*, slide *n*, and arm *b* of the rocking hub C, substantially as described, for operation as set forth.

261,309



2. In machines for whitening leather, the reciprocating slide *n*, provided with gudgeon *r*, and the slotted arm *b*, substantially as shown and described, combined for operation as set forth.

3. The combination, with the cutter-head *f*, the rotary grinder *a'*, and means, substantially as described, for reciprocating the grinder across the cutter-head, forcing it down thereon, substantially as and for the purpose set forth.

4. The combination of grinder-shaft *w*, slide-rod *e'*, box *m'*, rod *f'*, and revolving crank-shaft *g'*, substantially as described, for operation as set forth.

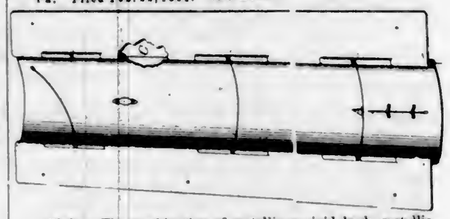
5. The combination of grinder-shaft *w*, screws *u*, brackets *t*, and boxes *v*, substantially as described, for the purposes specified.

6. The thrust-box *m'*, having apertured flange *n'*, in combination with the vibrating rod *e'* and grinder-shaft *w*, substantially as described.

7. The combination of adjustable tightener-pulley *o'*, pulley *d'* of the grinder-shaft, pulley *g* of the cutter-shaft, and belt *l'*, substantially as shown and described.

8. In a leather-whitening machine, the combination, with a rocking hub carrying the cutter-shaft, having pulley *g*, of the driving-belt *l'*, the tightening-pulley *o'*, and the pulley *d'* on the grinder-shaft, substantially as herein shown and described, whereby the belt is centered on the pulleys and prevented from shifting thereon, as set forth.

261,310. TEMPORARY BINDER. CHARLES P. CODY, Bradford, Pa. Filed Feb. 23, 1881. (No model.)



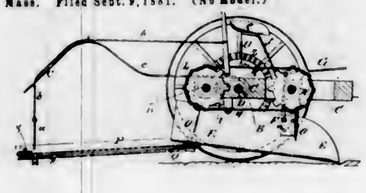
Claim.—The combination of metallic or rigid back, metallic or rigid bands, and longitudinal rods upon which to impale the bands, all for the purpose of a binder upon which to bind papers exterior to the back of sheets at said bands, substantially as shown.

261,311. HAME-CLIP. EDWARD D. COLE, Macon, Ill. Filed Apr. 3, 1882. (No model.)



Claim.—As an improved article of manufacture, the metal clip D, having tangs A' and A, one of which is extended to form a flat bearing, and is provided with the ears *c c*, extending from its end, the screw B, and encircling sleeve B', as shown and described.

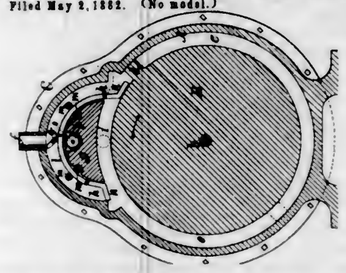
261,312. POTATO-DIGGER. EDWARD O. COOK, Worcester, Mass. Filed Sept. 9, 1881. (No model.)



Claim.—1. The combination, with the scoop E, of the frame Q, which is pivoted thereto at its forward end and provided with the rear supporting-wheel, R, the screen P, pivoted to said frame at its rear end, and mechanism for vibrating it, as specified, all arranged to operate as shown and described.

2. The combination, with the slotted frame C, axle B, and scoop E, whose forward end is vertically adjustable, of the vertical slides *m*, the chain-wheels L N, one of which is journaled in said slides, so as to move therewith, and the other on a fixed shaft, K, the endless chain M O, and the meshing gears H I J, all arranged as shown and described, to operate as specified.

261,313. ROTARY ENGINE. WILLIAM D. COOK, Harvard, Nebr. Filed May 2, 1882. (No model.)

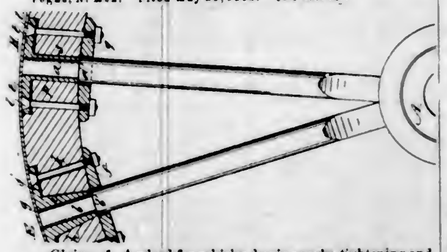


Claim.—1. In a rotary engine, the combination, with the steam-chamber C, provided with the pipe *f* and the ports *h*, of the slide, having a rack on its under face, and provided with the pivoted gates *n q* and the pinion *p*, substantially as and for the purpose set forth.

2. In rotary engines, the turning-valve *q* and the sliding plate *l*, carrying the gates *n*, in combination with the steam-chamber C and ports *h*, and the steam-supply pipe *f*, substantially as described, for operation as set forth.

3. In rotary engines, the combination of the shaft *o*, pinion *p*, and curved plate *l*, provided with a rack engaging the pinion and carrying the pivoted gates *n* at its outer end, substantially as described.

261,314. WHEEL FOR VEHICLES. WILLIAM F. CROWELL, Las Vegas, N. Mex. Filed May 20, 1882. (No model.)



Claim.—1. A wheel for vehicles, having spoke-tightening and felly-expanding devices placed at the ends or joints of the sections of the felly upon the ends of the spokes passing through the felly at the said joints, and having spoke-tightening devices placed in the felly upon the spokes intermediate between said joints, substantially as described.

2. The spoke-tightening and felly-expanding device E, consisting of the parts *h* and *f*, the part *h* being cast with the hollow conical portion *e* and extensions *j j*, substantially as shown and described.

3. The part *h* of the device E, having the hollow conical portion *e*, T-shaped side extensions, *i i*, and extending plates *j j*, in combination with the plates *f* and bolts *k k*, as and for the purposes set forth.

4. The spoke-tightening device H, consisting of the part *p* and the plate *q*, the part *p* being formed with the tube or sleeve *s*, substantially as described.

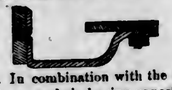
5. The part *p* of the device H, formed with the tube or sleeve *s* and the extensions *t t*, in combination with the plate *q* and the bolts *l l*, substantially as described.

261,315. FLAVORING-EXTRACT FOR SIRUP AND SUGAR. JOSIAH DAILY, Madison, Ind. Filed June 1, 1882. (Specimens.)

Claim.—An improved sirup or sugar, consisting of any ordinary sirup or sugar flavored with an extract of hickory, substantially as described.

261,316. ANIMAL-SLINGING RAILWAY. RICHARD J. DAVIES, Cambridge, Mass. Filed Feb. 1, 1882. (No model.)

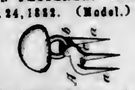
Brief.—The bottom of the hanger forms a chair with side walls to inclose the rail, and a set-screw passes through one of said walls and enters a groove in the rail.



Claim.—1. In combination with the hanger terminating at bottom in a clasp or chair having opposite side walls to inclose and support the rail in an upright position, a set-screw screwing through one of said walls and adapted to clamp the rail against the opposite wall.

2. In combination, the hanger terminating at bottom in a clasp or chair to uphold and steady the rail, the rail with its groove or indentation and the set-screw screwing through one side or wall of the clasp and adapted to enter the groove of the rail and to clamp such rail between it and the opposite side or wall of the clasp.

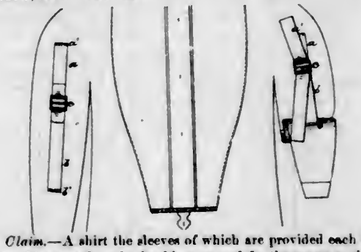
261,317. BUTTON-FASTENER. JOSEPH C. F. DICK, Belvidere, Ill. Filed Mar. 24, 1882. (Model.)



Claim.—1. The button-fastener A, consisting of a base-plate provided with end depending penetrating-points, *a*, one of which is bent to form a groove or loop to receive the button-eye and a tongue, *c* turned beneath the base-plate and closing the bottom of the groove or loop, all substantially as and for the purpose set forth.

2. An improved button-fastener, consisting of a base-plate provided with the end penetrating-points, *a*, one of which is bent to form a receiving loop or groove, *b*, and a depending tongue, *c*, adapted to be folded beneath the plate and close the bottom of the loop or groove, substantially as set forth.

261,318. SHIRT. CHARLES O. DOBBS, New York, N. Y. Filed June 5, 1882. (No model.)



Claim.—A shirt the sleeves of which are provided each with a pair of tapes, *a b*, and a buckle, *c*, as and for the purposes shown and specified.

261,319. MACHINE FOR MAKING COILED SPRINGS. JOHN DUBELMAN, Detroit, Mich., assignor of one-half to Geo. WM. KNAHN, same place. Filed Apr. 17, 1882. (No model.)

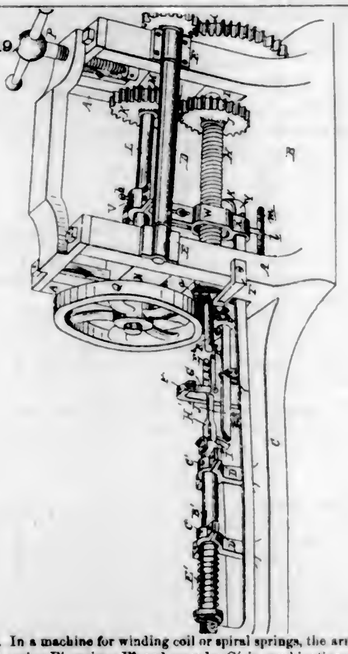
Claim.—1. The combination, with the rotating spindle R, of the heavy wheel Q, secured to a shaft mounted in two bearings, one of which is adjusted by a set-screw and the other adapted to have a free vertical movement, substantially as described.

2. The combination, with the standard A, of the bearing M, the screw P, for adjusting said bearing, the bearing N, adapted to have a free vertical movement in the standard, the shaft L, journaled in the bearings M N, the heavy wheel Q, mounted on the shaft L, the spindle R, and means for rotating the shaft L and spindle R in opposite directions, substantially as described.

3. The combination, with the heavy wheel Q and the spindle R, rotating in opposite directions, of the spring-jaws E^2 E^2 and connections, substantially as described, between said springs and the shaft of the spindle R, whereby a formed spring may be removed automatically from the spindle, as set forth.

4. The combination, with the spindle R and wheel Q, of the threaded shaft H, the arm Y, the rod B', spring E', springs E^2, having narrowed center portions, the standard F, and the spreader G, so pivoted in said standard that it can move past a vertical line only in one direction, substantially as described.

261,319.



5. In a machine for winding coil or spiral springs, the arm Y rod B', spring E', springs E², and spreader G', in combination with the threaded shaft H, for the purpose of withdrawing the coiled wire from the spindle of the machine, substantially as set forth.

6. In a machine for winding coil or spiral springs, and in combination with the rod B' and spring-jaws E², devices for opening and closing said jaws automatically, the hinged stop I' and lever J', substantially as and for the purposes set forth.

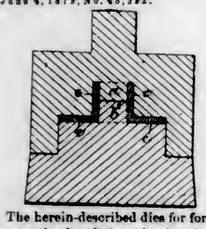
7. In a machine for the manufacture of coil or spiral springs, and as a means for supporting the end of the arm Y, the support W, pendent from and supported by the box V, adjustably secured upon the shaft L, substantially as set forth.

8. The combination, with the spindle R and the wheel Q, the shaft L and the threaded shaft H, of the hanger W, having guide X, the arm Y, the springs E², and connecting mechanism, substantially as described, between the arm Y and the springs E², as set forth.

9. The combination, with the spindle R, wheel Q, and the threaded shaft H, of the arm Y, bar B', springs E', spring-jaws E², spreader-bar G, hinged stop I, and the lever J, substantially as described.

10. The combination, with the spindle R and the wheel Q, of the threaded shaft H, the arm Y, the bar B', the hinged stop I, and the lever J', having lip *d* and spring *e*, substantially as described.

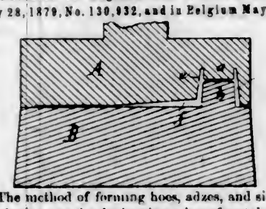
261,320. MANUFACTURE OF GAS AND WATER FITTINGS. SILAS DUFFIELD, Willenhall, County of Stafford, England. Filed May 22, 1882. (No model.) Patented in England May 16, 1879, No. 1,958; in France June 3, 1879, No. 131,016, and in Belgium June 4, 1879, No. 48,392.



Claim.—1. The herein-described dies for forming elbows, T's, and crosses for gas and other fittings, having the form shown and specified—that is to say, having one or more cores surrounded by annular spaces to form the upright cylindrical branch or branches, and continuous side spaces to form the ears or flanges depending from said upright branch or branches, substantially as described.

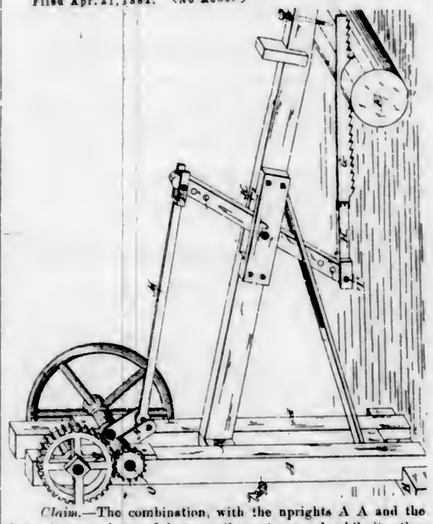
2. The method of forming elbows, T's, and similar joints for gas and steam fittings, consisting in pressing out from a bar of metal by means of suitable dies the unfinished joint having one or more upright branches with depending ears or flanges, and then completing the joint by bringing together the edges of said ears or flanges over a core or mandrel and uniting them, substantially as described.

261,321. MANUFACTURE OF HOES. SILAS DUFFIELD, Willenhall, County of Stafford, England. Filed May 22, 1882. (No model.) Patented in England Dec. 5, 1878, No. 4,974; in France May 28, 1879, No. 130,932, and in Belgium May 29, 1879, No. 48,347.



Claim.—The method of forming hoes, adzes, and similar implements at a single operation by heating a bar of metal to a welding state, placing it between a pair of dies of the form described and shown, and spreading the metal in the dies by blows from a steam stamp or hammer or other suitable device, substantially as set forth.

261,322. DRAG-SAW. FRANCIS M. ELLIOTT, Summum, Ill. Filed Apr. 21, 1882. (No model.)



Claim.—The combination, with the uprights A A and the beam C, secured to and between them at one end, while its other end has a pin, F, to hold the log, said beam having also a slot, K, at about the middle, of the centrally-pivoted lever I, having adjusting-apertures in each end, saw G H, lever M, and crank-shaft O and operating mechanism, substantially as shown and described, and for the purpose set forth.

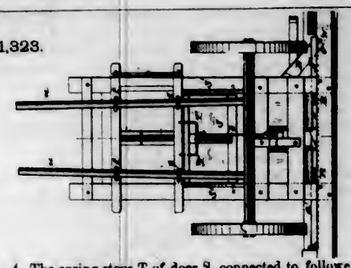
261,323. HAY-PRESS. GEORGE EATEL, Quincy, Ill. Filed Apr. 14, 1882. (No model.)

Claim.—1. The combination, with the lever E, jointed to the follower at G, of the toggle-jointed links F, jointed to the frame at I and to the lever at J, whereby the lever may be swung on either side of its fulcrum, pass between the links, and extend over the link-pivots, as shown and described.

2. The combination of the drum M and sweep Q with chain K, link N, lever E, links F, and follower D, substantially as specified.

3. The combination of notched bar *a'* with lever E, links F, and follower D, substantially as specified.

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4. The spring-stops T of door S, connected to follower D by cords *b c*, and lever *d*, for being tripped by said follower, substantially as specified.

5. The hinge-joints *f* of the two doors W, connected by rods *g*, in combination with hasp *h* and stud *i*, connecting the opening sides of the said doors, substantially as specified.

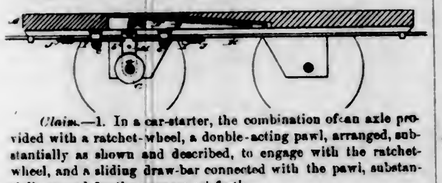
6. The wheels *r*, axle *q*, and beam *p*, combined with the baling-press, substantially as specified.

7. The combination, with a baling-press having wheels *r*, of the eye-studs *t* and poles *u*, substantially as specified.

8. The slack side *j* of the press-case, connected to the press by eye-stud *l* and rod *k*, substantially as specified.

9. The combination, with the doors W, having inwardly-projecting lips *n*, of the slack side *j*, having inwardly-beveled edges *m*, substantially as and for the purpose set forth.

261,324. CAR-STARTER. GEORGE A. EVANS, Kingsey, and HUGH T. EVANS, Parish of Notre Dame de Toute Grace, Quebec, Canada. Filed May 9, 1882. (No model.)



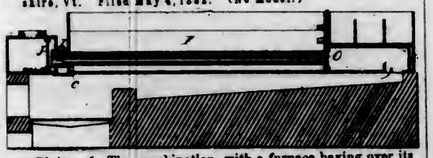
Claim.—1. In a car-starter, the combination of an axle provided with a ratchet-wheel, a double-acting pawl, arranged, substantially as shown and described, to engage with the ratchet-wheel, and a sliding draw-bar connected with the pawl, substantially as and for the purpose set forth.

2. In a car-starter substantially such as shown, a double-acting pawl or dog adapted and arranged to engage automatically with a ratchet on the car-axle when moved toward either end of the car.

3. In combination with a car-axle having a ratchet-wheel secured upon it, a swinging yoke mounted upon the axle and carrying a pawl or dog, a spring arranged to hold the yoke normally in an upright position, a sliding draw-bar, and intermediate connections between the pawl and draw-bar, whereby the movement of said bar is made to first tip the dog and cause it to engage with and turn the ratchet, then to disengage from the ratchet, substantially as explained.

4. The herein-described car-starter, consisting of axle *a*, provided with ratchet-wheel C, yoke D, pawl H, spring *b*, band or chain I, arms J, draw-bar K, spring E, and pulleys *c c* and G, all combined and operating substantially as set forth.

261,325. SAP-EVAPORATOR. PHILO S. EWINS, West Berkshire, Vt. Filed May 4, 1882. (No model.)



Claim.—1. The combination, with a furnace having over its front wall a smoke-box, of an evaporating-pan provided with a number of flues, and a sub-chamber or receptacle arranged across its back or rear end, and a deflector to cause the products of combustion to be carried beyond the rear ends of said flues before passing into the same, substantially as and for the purpose set forth.

2. The combination, with a furnace having over its front wall a smoke-box provided with a smoke-exit, of an evaporating-pan provided with a number of flues traversing its length, and having a heater or sub-chamber arranged at its back, and a deflector to cause the products of combustion to be carried beyond the rear ends of said flues and be directed against the bottom of the heater or sub-chamber before entering the flues in said evaporating-pan, substantially as set forth.

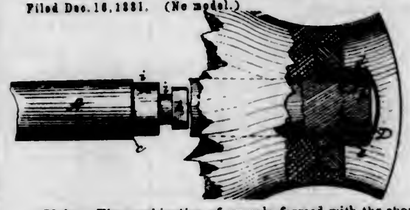
3. The combination, with a furnace having over its front wall a smoke-box provided with a sliding register-damper and a smoke-exit, of an evaporating-pan having a number of internal smoke-flues, substantially as and for the purpose set forth.

4. The combination, with the evaporating-pan, divided longitudinally into the sirup-compartment and the sections, the latter provided each with an internal smoke-flue, of the damper O, made in two parts, as and for the purpose set forth.

5. The combination, with the evaporating-pan, divided longitudinally into the sirup-compartment and the sections, the latter provided each with an internal smoke-flue, of the guard P, as and for the purpose set forth.

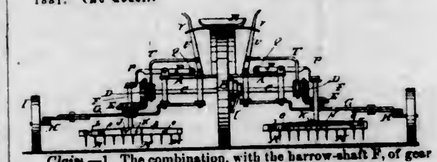
6. The evaporating-pan, divided longitudinally into the sirup-compartment, provided with the gate *f*, and the sections F, having the openings *e*, and the sap-heater, arranged transversely at the back of the evaporating-pan, and provided with the spout *d* and gate S, in combination, substantially as shown and described.

261,326. HUB-ATTACHING DEVICE. GEORGE K. FARRINGTON, Kirksville, Mo., assignor of two-thirds to Hosmer C. Farrington, same place, and Bradford S. Potter, Shippensburg, Pa. Filed Dec. 16, 1881. (No model.)



Claim.—The combination of an axle formed with the shoulder-bearings *i i* and button or projections *b*, lock-plate C, with projections *d d*, and cap-plate D, with extensions *k k*, all arranged for operation substantially as described.

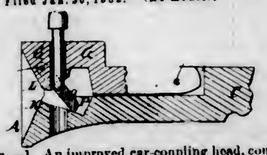
261,327. COMBINED MARKER, HARROW, SEEDER, AND ROLLER. JOHN C. FERRER, Marysville, Iowa. Filed Nov. 25, 1881. (No model.)



Claim.—1. The combination, with the harrow-shaft F, of gear D E, shaft C, supported on wheel B, the axle-bars G H, supported on wheels I, and the levers P Q, as shown and described.

2. The combination, with the shaft F, of the socketed couplings J, the radial bars L, hinged in said sockets, carrying teeth M, and having hooks O, the detachable hooked brace-rods N, the bars T, and the levers U, as and for the purpose specified.

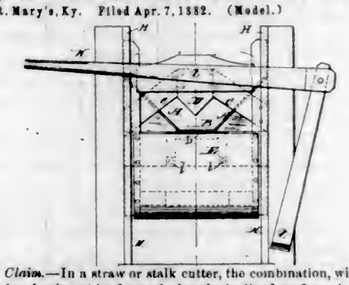
261,328. CAR-COUPLING. WILLIAM L. FISHER, Bay City, Mich. Filed Jan. 30, 1882. (No model.)



Claim.—1. An improved car-coupling head, consisting of the lower part, A, having its upper side recessed and provided with the slot F, and the upper part, B, provided with the tenon G and fitted in the said recess and slot, and having its jaw L a little in the rear of the lower jaw, K, substantially as and for the purpose set forth.

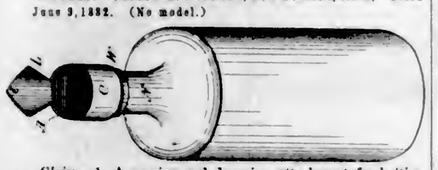
2. In a car-coupling, the combination, with the recessed shoulder of the part A, of the lugs I, formed upon the forward shoulders of the part B, substantially as herein shown and described, whereby the vertical play of the upper part of the coupling is limited, as set forth.

261,329. STRAW AND STALK CUTTER. JAMES T. FLANAGAN, St. Mary's, Ky. Filed Apr. 7, 1882. (Model.)



Claim.—In a straw or stalk cutter, the combination, with the feed-box having at its forward edge the inclined surfaces A A and the inverted-U-shaped bracket L, with its upper end isolated therefrom, and the lower ends of its legs fastened to a cross-piece or other support on the legs of the feed-box, of the sash carrying the reversed inclined cutters C C, and the central pointed cutter, D, gage E, and operating-lever H, substantially as and for the purpose set forth.

261,330. POURING AND DROPPING ATTACHMENT FOR BOTTLES. GEORGE H. FREEMAN, New Bedford, Mass. Filed June 3, 1882. (No model.)



Claim.—1. A pouring and dropping attachment for bottles and analogous vessels, consisting of a sleeve provided with a pouring or dropping lip adapted to be applied to the mouth of such vessel, as described.

2. A pooring and dropping attachment for bottles or analogous vessels, consisting of a sleeve provided with a pouring or dropping lip adapted to be applied to the mouth of such vessel or bottle and said lip folded over such mouth, as set forth.

3. A pooring and dropping attachment for bottles and analogous vessels, consisting of a sleeve provided with a pouring or dropping lip integral therewith, adapted to be applied to the mouth of such bottle or vessel and the lip folded over said mouth, as set forth.

4. A pouring or dropping attachment for bottles and analogous vessels, consisting of a sleeve of some flexible and practically liquid-proof material, having a pouring or dropping lip formed integral therewith, and adapted to be applied to the mouth of such bottle or vessel and the lip folded over such mouth, as set forth.

5. A pouring or dropping attachment for bottles and analogous vessels, consisting of a sleeve provided with a pouring-lip, and adapted to be applied to the mouth of such bottle or vessel and form a flange or rim above said mouth and between the latter and the pouring-lip, as described.

6. A pouring or dropping attachment for bottles and analogous vessels, composed of a sleeve provided with a pouring or dropping lip, L, terminating in a point, *l*, adapted to be applied to the mouth of such bottle or vessel, as and for the purpose specified.

7. A pouring or dropping attachment for bottles and analogous vessels, composed of a sleeve having a pouring-lip, L, of gradually-increasing diameter from the point of attachment to the sleeve to about midway of the length of the lip and from the latter point tapering to a point, *l*, at the extremity of the lip, as and for the purposes specified.

8. A pouring or dropping attachment for bottles and analogous vessels, composed of a sleeve provided with a pouring-lip and a lining for said sleeve of an absorbent material, the two being adapted to be applied to the mouth of such bottle or vessel, as described.

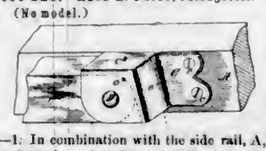
9. The combination, with the mouth of a bottle or analogous vessel and the sleeve C, having the pouring and dropping lip L, of the cord or wire W, substantially as and for the purposes specified.

10. The combination, with the mouth of a bottle or analogous vessel, of the sleeve C, having lip L of a practically liquid-proof material and the sleeve A of an absorbing substance, as and for the purposes specified.

11. As a new article of manufacture, a pouring and dropping attachment for bottles and analogous vessels, composed of a paper cap or sleeve provided with a pouring-lip and constructed to be fitted over the neck and around the month of such bottle or vessel, as set forth.

12. As a new article of manufacture, a pouring or dropping attachment for bottles and analogous vessels, composed of a paper sleeve having a pouring or dropping lip and a lining of blotting-paper, as described.

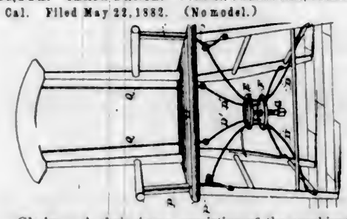
261,331. COT-BED. ABEL H. FROST, Chicago, Ill. Filed Jan. 16, 1882. (No model.)



Claim.—1. In combination with the side rail, A, leg B, and pivot D, the offset pivot-plate C, secured from rotation upon the side rail, extending over the leg to receive the pivot D, and having its offset part *c'* arranged to form a stop to arrest the leg when extended in the outwardly-inclined position, substantially as shown.

2. The pivot-plate C, having the three sides *c'*, *c²*, and *c³*, combined with the side rail, A, leg B, and pivot D, as shown, and secured to the side rail to prevent its rotation with the leg by suitable fastening, *c*, substantially as described.

261,332. CHAIR-BRACE. JOHN A. GALLAGHER, Chinese Camp, Cal. Filed May 22, 1882. (No model.)



Claim.—A chair-brace consisting of the combination and arrangement of the centrally-converging leg brace rods or wires D D', secured to the legs of the chair below the seat, the tightening-plates E and F, carrying screw G, the upper ends of wires D' D' being secured to back brace-rods, Q Q, and the arm brace-wires P, secured at their lower ends to the front legs and attached to the upper ends of rods D D, as shown, the whole constructed and arranged as set forth.

261,333. WAGON-BRAKE. VALENTINE GILSINORE, Charleston, Ark. Filed May 12, 1882. (No model.)



Claim.—The combination, with a wagon-body, *a*, and double ratchet *c*, composed of the parallel arcs *d d*, provided with ratchet-teeth *e* on their outer faces, with slot *h* between them, and radial arms *i i*, of the brake-lever *l*, pivoted to the radial arms at their junction, and provided with the vertical slot *t*, supplemental lever *m*, spring *n*, pawl *o*, provided with the slot *r*, and bolt *s*, passing through the slots in the pawl and brake-lever, substantially as described, and for the purpose set forth.

261,334. MUSHROOM-ANCHOR. ABRAM A. GOLDSMITH, Charleston, S. C. Filed Apr. 15, 1882. (Model.)



Claim.—1. A circular anchor having opposite concave faces, substantially as shown and described.

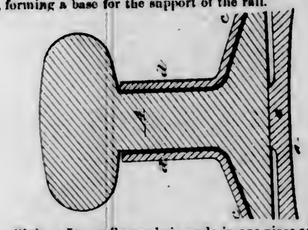
2. A circular anchor having opposite concave faces and of V-shaped or concave form on its periphery, essentially as specified.

3. In combination with a circular anchor, the loose encircling band for attachment of the anchor-chain, substantially as specified.

4. The combination of the circular anchor having opposite concave faces A A and a V-shaped or concave periphery, B B, with the loose anchor-chain band C, arranged to encircle said anchor within its concave periphery, essentially as shown and described.

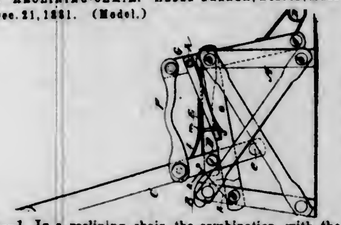
261,335. RAILWAY-JOINT. PATRICK H. GRACE, Sedalia, Mo. Filed June 20, 1881. (No model.)

Brief.—A chair is made in one piece and is provided with a concavity on its under side and at its outer ends with convex feet. Side plates rise from said feet, which conform in shape to the lower flange and web of the rail. A central longitudinal rib has a flat top, forming a base for the support of the rail.



Claim.—In a railway-chair made in one piece and having the crown or arch *a* on its under side, convex sides or feet-flanges *b b*, and rail-clamps or sides *c c' c d*, the inside central longitudinal rib or shoulder, *e*, having a flat top forming a broad base or support for the bottom flange of the rail A, substantially as described, for the purpose set forth.

261,336. RECLINING-CHAIR. ALDEN GRAHAM, Boston, Mass. Filed Dec. 21, 1881. (Model.)



Claim.—1. In a reclining-chair, the combination, with the base portion A, provided with the inclined upper rails, *c*, and cams B, of the side pieces C of the back, the side pieces of the bottom, the arms F, and the front side pieces, G, substantially as herein shown and described.

2. The combination, with the adjustable chair-back pieces C, chair-bottom or bottom side pieces, D, pivoted thereto and having a pivoted support at their forward ends in the stationary frame of the chair, and the rocking side front pieces, G, of the pivoted or pendent braces J and the stationary side pieces *c*, having upper notches or recesses, S, essentially as and for the purpose herein set forth.

3. The combination of one or more cords or chains, *k*, and pivoted or pendent braces J with the adjustable back, bottom, and front pieces of the chair, and with the stationary frame or base portion thereof, provided with cams B, and having recesses or notches S, for reception of the free ends of said braces, substantially as herein described.

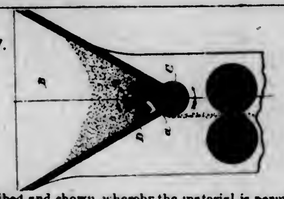
4. The combination, with the inclined upper rails, *c*, of the base and the side pieces D of the bottom, of the side pieces C of the back, provided with projecting pivots *f*, resting upon the said rails and connected to the pivoted front pieces, G, by arms F, substantially as and for the purpose set forth.

5. The combination, with the stationary frame or base portion of the chair, provided with upper notches or recesses, S, and cams B, of the articulated movable portion of the chair and pivoted or pendent braces attached thereto, the whole being arranged for operation substantially as and for the purposes specified.

261,337. FEEDING DEVICE FOR GRINDING-MILLS. WM. D. GRAY, Milwaukee, Wis., assignor to Edward P. Allis, same place. Filed Nov. 1, 1881. (No model.)

Claim.—1. The combination of the hopper and the main feed-roll at its base with the supplemental feed-roll, provided with longitudinal blades or ribs, and mounted in an exposed or uncovered position within the hopper immediately above the first-named roll,

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as described and shown, whereby the material is permitted to pass freely downward upon and around the last-named roll without interruption.

2. In combination with a pair of grinding-rolls, a feed apparatus consisting of a feed-roll, a hopper having rigid sides extended upward from said roll, and a second roll provided with longitudinal ribs and mounted within the hopper immediately above and parallel with the first-named roll, a free unobstructed space being left for the passage of the material continuously downward past the upper roll, as described and shown.

3. In combination with the hopper B and the feed-roll C, located thereunder, the second feed-roll, D, provided with the longitudinal ribs, and mounted in a free uncovered position within the hopper, immediately above the roll C, and driving mechanism, substantially such as described and shown, adapted to drive the rolls in opposite directions.

261,338. HAMMER. CHRISTOPHER J. GRELLNER, St. Louis, Mo. Filed Mar. 11, 1882. (No model.)

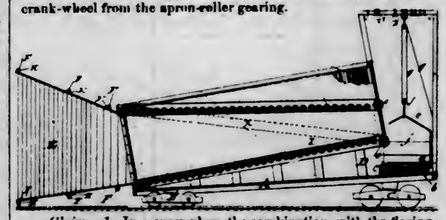


Claim.—1. The compound wedge composed of the shouldered part B C D, slotted obliquely at *c*, wedge E, and intermediate wedge, F, having point F', constructed and combined substantially as and for the purpose herein shown and set forth.

2. In a hammer, the combination, with the head having a tapering eye, *a*, and its handle inserted into said eye, of the compound wedge composed of the shouldered part B C D, slotted obliquely at *c*, auxiliary wedge E, and intermediate wedge, F, with its point F' inserted through the slotted part B C D, substantially as and for the purpose herein shown and set forth.

261,339. SNOW-PLOW. DAVID E. GROVE, Dallas, Tex. Filed Apr. 7, 1882. (No model.)

Brief.—A car or truck carries two vertical and two horizontally-inclined endless aprons with supporting-rollers, by which the snow is carried up and compressed, the upper horizontal apron being adjustable in inclination to regulate the amount of compression to which the snow is submitted, all said aprons being driven by rods and gear-wheels from an engine mounted on the truck. The compressed snow is received upon transverse aprons with rollers driven by engines mounted on the truck. Said aprons are supported and adjusted by ropes and tackle from an upright frame on the car. The snow is divided and directed onto each of the said aprons and prevented from falling between them by an angle-board above the adjoining ends. To the front of the car is a funnel with its sides flanged to lap the top and bottom plate, the amount of lap being governed by screw-rods with long nuts. To the front of the funnel is a reciprocating cutter-bar driven by an angle-lever and crank-wheel from the apron-roller gearing.



Claim.—1. In a snow-plow, the combination, with the flaring top and bottom plates and the flaring and flanged side plates of the funnel E, of the screw-rods F, the long swiveled nuts G, and the lugs H, substantially as herein shown and described, whereby the said funnel can be expanded and contracted, as set forth.

2. In a snow-plow, the combination, with the car A and the funnel E, of the bottom and side endless aprons, I K K, and their rollers J L L, the engine P, and the connecting gear-wheels U V, substantially as herein shown and described, whereby the snow received from the funnel is carried back to the rear end of the car, as set forth.

3. In a snow-plow, the combination, with the car A and the bottom and side endless aprons, I K K, and their rollers J L L, of the swinging frame O, the endless apron M and its rollers N, the chain-wheels W Y, and the endless chain X, substantially as herein shown and described, whereby the snow will be compressed or packed while being carried back through the car, as set forth.

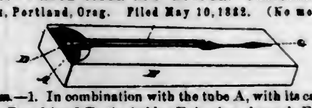
4. In a snow-plow, the combination, with the car A, the endless aprons I K K M, and their rollers J L L N, of the hinged frames *c*, the endless aprons *a*, the rollers *b*, and the engines *d*, substantially as herein shown and described, whereby the snow is discharged outside and clear of the track and cuts, as set forth.

5. In a snow-plow, the combination, with the car A, the hinged frames *c*, that carry the endless aprons *a*, and their rollers *b*, of the upright frame *i*, the baile *e*, and the pulley-blocks and ropes *f h g*, substantially as herein shown and described, whereby the said hinged frames can be readily adjusted at any desired elevation, as set forth.

6. In a snow-plow, the combination, with the car A, the endless apron I, and the endless aprons *a a*, of the V-shaped divider or knife *j*, substantially as herein shown and described, whereby the compressed or packed snow will be divided into two parts, as set forth.

7. In a snow-plow, the combination, with the funnel E and the rollers J, that carry the endless apron I, of the cutter-bar *k*, the bent lever *l*, the connecting-rod *m*, and the crank-wheel or crank *n*, substantially as herein shown and described, whereby ice and packed snow will be separated from the track, as set forth.

261,340. WATCH OILER AND HOLDER. FERDINAND GUNDORPH, Portland, Oreg. Filed May 10, 1882. (No model.)



Claim.—1. In combination with the tube A, with its capillary extension B and head D, the holder E, having channels F and G, and the enlarged space H, forming a continuation of the channels, substantially as and for the purpose herein described.

2. A holder or case for the capillary tube A B, consisting of the channels F and G, corresponding with the two parts of the tube, and the enlarged extension or continuation H of said channels, substantially as and for the purpose herein described.

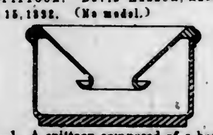
261,341. COMBINED SAFETY-HOOK AND BUCKLE. FRANCIS A. HARD, Cuero, Tex. Filed Apr. 25, 1882. (No model.)



Claim.—1. As an improved article of manufacture, the combined safety-hook and buckle, made substantially as herein shown and described, consisting of the hook A, frame B, sliding bar or plate E, and the keeper C, as set forth.

2. The combination, with the frame B, of the hook A, integral therewith, and provided with the slot *d*, and the keeper C, pivoted in said slot, substantially as and for the purpose set forth.

261,342. SPITTOON. DAVID HALLUM, East Liverpool, Ohio. Filed June 15, 1882. (No model.)

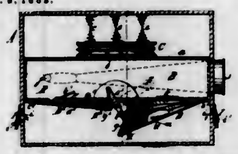


Claim.—1. A spittoon composed of a basin and a funneled lid, and provided with a rubber band encircling the joint between the basin and the lid, whereby the lid is firmly held to the basin by a fluid-tight joint, substantially as and for the purpose set forth.

2. A spittoon are composed of a basin and a detachable funnel-lid, forming a curve at the apex of the funnel of the lid, whereby the splash of the fluid from a rough movement of the vessel will be thrown back and be prevented from escaping out of the mouth of the funnel, substantially as and for the purpose set forth.

3. As a new article of manufacture, a spittoon composed of a basin and a funnel-shaped detachable lid, and provided with a fluid-tight rubber joint uniting the two sections.

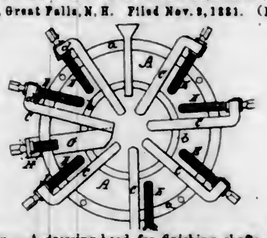
261,343. FOG-HORN. OLE CHRISTIAN HANSEN, Skudesnaes, Norway. Filed Mar. 18, 1882. (No model.) Patented in England May 24, 1881, No. 2,259; in Denmark July 6, 1881, No. 455; in Norway Aug. 2, 1881, No. 3,514; in Belgium Nov. 22, 1881, No. 54,209; in France Nov. 23, 1881, No. 145,989, and in Sweden Mar. 3, 1883.



Claim.—1. In a fog-signal apparatus, the combination, with a horn, J, and air-chamber B, of the bellows D D', having suitable link-connections, *g g'*, and the shaft E, provided with oppositely-placed cranks *e e'* and turn-handle F, substantially as hereinbefore set forth.

2. In a fog-signal apparatus, the combination, with the horn J, of the box A, having air-vents *i*, and provided interiorly with the rigid air-chamber B, the latter having a superadjacent spring-pressed regulating-bellows, *c*, and the subadjacent bellows D D', operated simultaneously by the revolving of the double crank-shaft E, substantially as and for the purpose hereinbefore set forth.

261,344. DEVICE FOR TURNING SHAFTING. JAMES M. HAWES, Great Falls, N. H. Filed Nov. 9, 1881. (No model.)



Claim.—A dressing-head for finishing shafts, composed of the ring-disk A, provided with two concentric guide-flanges, *a b*, the bearing-slides C C, and cutter G, guided in the two flanges, and the adjusting-screws E E H, screwing into the outer flange, *a*, for adjusting the said slides and cutter, substantially as and for the purpose herein specified.

261,345. METALLIC GATE AND HINGE. PETER HAYDEN, New York, N. Y. Filed May 2, 1882. (No model.)



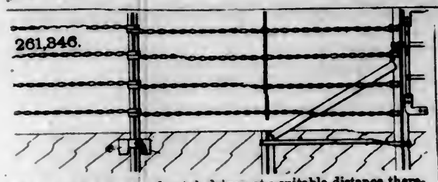
Claim.—1. The combination of a metallic fence-post constructed with radial leaves, as described, and adapted to be driven into the ground, the cast-metal clip G, having a central opening, *e*, receiving one of the leaves of the post and provided with a recess, *g*, and lateral arms *f*, and the key I, inserted in the recess *g*, to cramp the leaves of the fence-post to the lateral arms *f*, substantially as described.

2. The combination, with the post having wings or webs 1 2 3 4, of the pintle and catch-brackets G and I, each being provided with a recess, *g*, and the locking-pin I, having two plane faces at right angles, and an outer curved surface fitting said recess, substantially as described.

261,346. METALLIC FENCE-POST. PETER HAYDEN, New York, N. Y. Filed May 2, 1882. (No model.)

Claim.—1. In all-iron or steel-strand fences, the combination, with the end or gate posts, of a link connected at one end with said post near its bottom, a stub driven into the ground and connected with the other end of said link, and a brace abutting against the upper portion of the post and the upper end of the stub.

2. The combination, in an all-iron or steel-strand fence, with



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the end or gate posts, of a stub driven at a suitable distance therefrom and in the line in which strain is applied to the post, a link coupling said stub to the lower portion of the post, and an end brace abutting against the upper extremity of the stub and the body of the post, said end brace being U-shaped in cross-section and held in place by a tin turned down from the metal of said post, substantially as described.

3. The combination, with the end or gate posts, which are cruciform in cross-section, of the end stub, M, the link N, and the end brace, O, held in place on the post by turning down a tin thereon, the several parts being constructed and arranged substantially in the manner and for the purpose described.

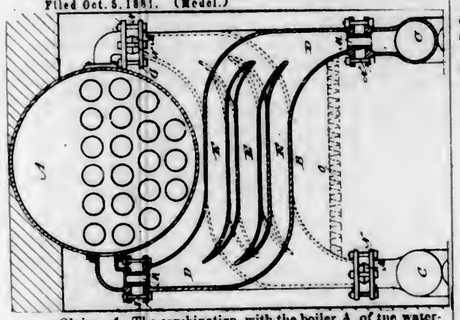
261,347. BOLTING-SIEVE. JACOB W. HANA, Blanchester, Ohio. Filed Apr. 17, 1882. (No model.)



Claim.—1. The combination of a sieve, a reciprocating rod which is attached directly thereto and provided with a projection, and a grooved pulley through which the rod passes, so that when the pulley is made to revolve the sieve will be reciprocated with the rod, substantially as shown.

2. The combination of the bolting-screen with the pulley D, composed of a number of curved pieces, *c*, which have the curved groove C formed in them, and rod F, having the projection G, substantially as set forth.

261,348. STEAM-BOILER. SAMUEL L. HILL, Brooklyn, N. Y. Filed Oct. 5, 1881. (Model.)



Claim.—1. The combination, with the boiler A, of the water-legs B, connected at the lower ends with the water-drums C on opposite sides of grate O, and parallel to the boiler, as shown and described.

2. The combination, with the steam-boiler A, of the water-drums C and the water-legs B, alternately crossing in opposite directions under the boiler, substantially as herein shown and described, and for the purpose set forth.

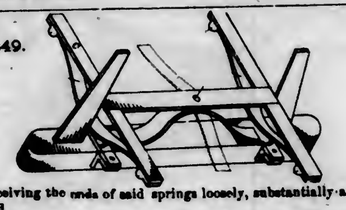
3. A boiler water-leg, B, having its median or transverse portion over the grate formed of the hollow branches E, arranged one above another, as shown and described.

4. The combination, with the boiler A, pipes D, and crossing pipes E, connected by bolted flanges, of the coupling-pipes M, tapering from the middle to each end and fitting against beads L, as shown and described.

261,349. BOLSTER-SPRING FOR VEHICLES. CHARLES A. HOWARD, Pontiac, Mich. Filed Mar. 2, 1882. (No model.)

Claim.—1. A removable spring mechanism consisting of two semi-elliptic springs, each provided at the middle of its convex surface with a shoe adapted for attachment to a wagon-bolster, and bars connecting the ends of each spring, and having sockets

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for receiving the ends of said springs loosely, substantially as described.

2. In a removable bolster-spring mechanism, the combination, with the semi-elliptic springs provided at the middle of their convex surfaces with shoes for engaging a wagon-bolster, of the bars connecting the ends of each spring, and a cross-brace connecting said bars, substantially as described.

3. In a removable spring mechanism for wagon-boxes, semi-elliptic springs provided with means for engaging a wagon-bolster, and bars provided with spring-sockets for uniting the free ends of the springs, substantially as described.

4. In a removable spring mechanism for wagon-boxes, the combination, with a brace and cross-spring, of a plate, E, and shoe E', and a spring-latch for holding the spring in place on or off the bolster, substantially as described.

5. In a removable spring mechanism for wagon-boxes, an adjustable shoe provided with a projecting wearing-plate adapted to receive the wear of the extremity of the center spring, substantially as described.

261,350. SETTING FOR JEWELS. HARVEY HUBBELL, Providence, R. I., assignor to Hutchison & Hubbell, same place. Filed May 31, 1882. (No model.)

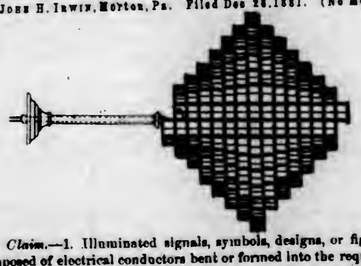
Brief.—The jewel-seat is formed of a stamped frame, the border of which is divided into blocks, which are bent over the beveled edges of the jewel.



Claim.—1. A frame for setting jewels, consisting of the rim *e*, on which the jewel rests, and a border formed into blocks *g g* and corners *f f*, constructed to hold the jewel, as described.

2. The combination, with the jewel A, of the frame B, having the rim *e*, the divided blocks *g g*, and the beveled corners *f f*, and the back plate, C, constructed as described.

261,351. INCANDESCENT ELECTRICAL ILLUMINATION. JOHN H. IRWIN, Morton, Pa. Filed Dec 26, 1881. (No model.)



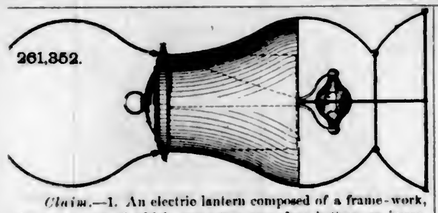
Claim.—1. Illuminated signals, symbols, designs, or figures composed of electrical conductors bent or formed into the required shape and having numerous electrical vacuous cells removably attached or connected thereto, substantially as described.

2. The conductors of an electric circuit formed of suitable material, running parallel to each other, said conductors having cavities or depressions therein or grasping devices affixed thereto, located substantially opposite to each other, as set forth, and adapted and arranged to hold incandescent electric lamps or vacuous cells forming electric connection with said lamps, substantially as shown and described.

3. The combination, with electric conductors running parallel to each other and having suitable devices thereon for grasping the lamps, of the vacuous cells or incandescent electric lamps so constructed as to fit into said grasping devices and form electric connection with the line, substantially as shown and described.

261,352. ELECTRIC LANTERN. JOHN H. IRWIN, Morton, Pa. Filed Nov. 12, 1881. (No model.)

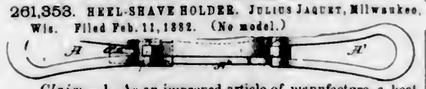
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Claim.—1. An electric lantern composed of a frame-work, the upper part of which supports a secondary battery, an incandescent electric light supported directly below such battery, and electrical connections for connecting such battery with the lamp, substantially as described.

2. An electric lantern composed of a frame-work, the upper part of which supports a secondary battery, an incandescent lamp supported directly below such battery, electrical connections for charging such battery, and electrical connections between such battery and the lamp, a bail for carrying the lantern, and a removable top to give access to the battery, substantially as described.

261,353. HEEL-SHAVE HOLDER. JULIUS JAQUET, Milwaukee, Wis. Filed Feb. 11, 1882. (No model.)



Claim.—1. As an improved article of manufacture, a heel-shave holder composed of two parts provided with holding-grooves, one part sliding upon the other and adapted to clamp between them a heel-shave blade and hold it securely in convenient position for sharpening, as set forth.

2. In a heel-shave holder, the part A, provided with grooved lips *a a*, and the part A', having slotted adjustable plate A^3, adapted to fit within the said grooved lips and to be set at any length required by the set-screw a^3, and having suitable recesses to sustain the shanks of a heel-shave blade, as set forth.

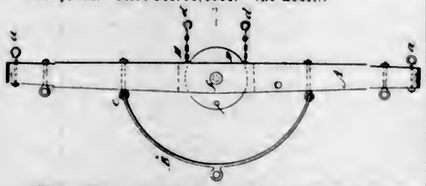
261,354. STOP-COCK. FERDINAND JOHNSON, Toledo, Ohio. Filed Mar. 22, 1882. (No model.)



Claim.—1. The combination, with a cock or faucet provided with an interior elastic or flexible tube and an opening to expose a portion of the latter, of the pivoted lever and the depending yoke or stirrup pivotally connected with the lever, substantially as described.

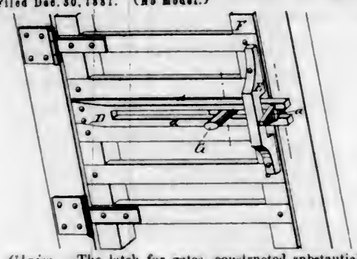
2. The combination, with the cock or faucet provided with an elastic or flexible tube, an opening exposing a portion of the same, and an upright stud, 7, having a lug, 8, of the lever pivoted to the stud and the depending yoke or stirrup embracing the cock or faucet and pivotally connected with the lever, substantially as described.

261,355. DRAFT-EQUALIZER. JEREMIAH C. JONES, Whitt, assignor of one-half to Alexander W. Robertson, Denton County, Tex. Filed Feb. 13, 1882. (No model.)



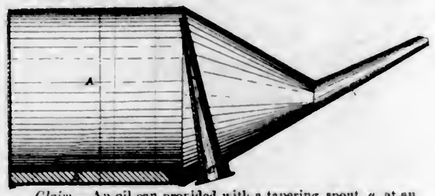
Claim.—The combination, with the double-tree A, provided with the hooks *a* at its ends, and the bail B, secured to its rear part, of the grooved pulley D, pivoted in a mortise at the center of the length of said double-tree, and the chain H, provided with hooks *d* at its ends, and secured at the center of its length in the grooves of the pulley, substantially as herein shown and described, and for the purpose set forth.

261,356. GATE-LATCH. ISAAC JOYNER, Jonesborough, Miss. Filed Dec. 30, 1881. (No model.)



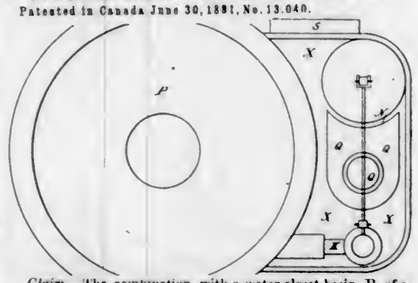
Claim.—The latch for gates, constructed substantially as herein shown and described, consisting of the bifurcated latch D, secured to the gate at one end and passing through the cleat at the other end, in combination with the harpoon-shaped catch *a* and the key G, substantially as and for the purposes set forth.

261,357. OIL-CAN. JOHN KAYE, Cardington, Pa. Filed Apr. 26, 1882. (Model.)



Claim.—An oil-can provided with a tapering spout, *a*, at an obtuse angle to one side of can, and having its terminus in a line with the other side, the tubular plug C, nearly equal in length to the diameter of the can, but at the point made equal to the small end of spout, and the counterbalance-weight E, arranged in line with the point where the spout commences and extending nearly the full length of cylinder, as shown and described.

261,358. WATER-CLOSET MECHANISM. DAVID S. KEITH, Toronto, Ontario, Canada. Filed Apr. 12, 1882. (No model.) Patented in Canada June 30, 1881, No. 13,040.



Claim.—The combination, with a water-closet basin, P, of a safe, X, communicating by an overflow, R, the said safe being provided with the cistern N, bell-trap overflow Q, and being cast in one piece with the basin and connected thereto by means of a pipe or passage, O, substantially as and for the purposes set forth.

261,359. TRACING-WHEEL. MARTHA E. KELLOGG, Flint, Mich. Filed Jan. 12, 1882. (No model.)

Brief.—The handle has at its lower end a transverse shaft, upon which is mounted two adjustable toothed tracing-wheels and a sharp-edged cutting-wheel between the tracing-wheels.

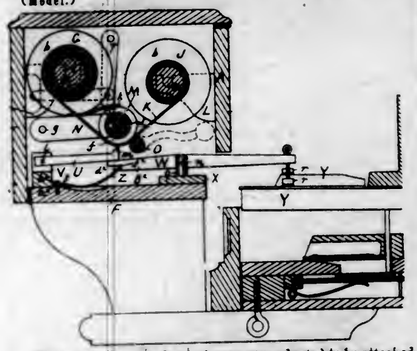


Claim.—1. In a tracing-instrument, the combination, with the shaft D on the end of a handle, A, of the toothed disks E and H and the cutting-disk F, substantially as herein shown and described, and for the purpose set forth.

2. In a tracing-instrument, the combination, with the shaft

D on the end of a handle, A, of the toothed disks E and H, the cutting-disk F, the washer G, and the collar J, and the screw K, substantially as herein shown and described, and for the purpose set forth.

261,360. KEY-BOARD ATTACHMENT FOR MUSICAL INSTRUMENTS. GEORGE B. KELLY, Boston, Mass. Filed Apr. 10, 1882. (Model.)



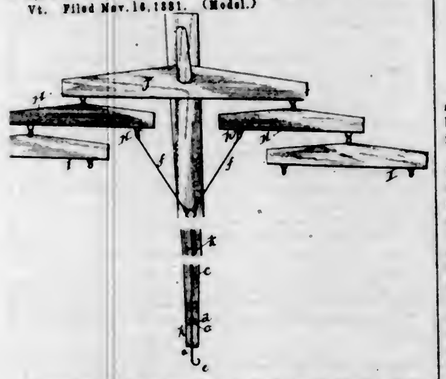
Claim.—1. In a mechanical apparatus adapted to be attached to a musical instrument, the combination, with the perforated music-sheet arranged to travel through said apparatus, of a hammer-lever, W, and a spring, Z, which spring is arranged to bear upon the end of said lever, so that the pressure of said lever upon the music-sheet will be the least when such bearing and the fixed end of said spring and the fulcrum of said lever are substantially in line with each other.

2. In a mechanical apparatus adapted to be attached to a musical instrument, the combination, with the perforated music-sheet arranged to travel through said apparatus, of a jack-lever, U, a hammer-lever, W, and a spring, Z, which spring is arranged to bear upon the end of said lever W, so that the pressure of the lever W upon the music-sheet will be the least when such bearing and the fixed end of said spring and the fulcrum of said lever W are substantially in line with each other.

3. A presser-roller or bar, M, attached to arms N, in combination with levers T, connected to a movable part of case A, so that said arms N will be operated, as described, by the opening and closing movements of said movable part, substantially as and for the purpose specified.

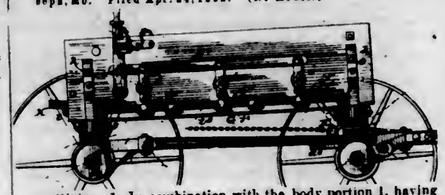
4. In combination with the arms N, carrying presser roller or bar M, the toggle-levers T, arranged to bear upon a raised portion of said arms N, substantially as and for the purpose specified.

261,361. DRAFT-EQUALIZER. JOHN H. KNOWLES, Johnson, Vt. Filed Nov. 16, 1881. (Model.)



Claim.—In a draft-equalizer consisting of the evener J, levers H H, and whiffletrees I I, the combination, with said levers and with the tongue or pole having the staple *k'*, of the rods *f f* and sliding rod *c*, having the eye *d*, connecting loop or link *o*, and hook *e*, for the attachment of a single or double tree, as and for the purpose herein shown and specified.

261,362. DUMPING-WAGON. HENRY F. W. KOEHLER, St. Joseph, Mo. Filed Apr. 24, 1882. (No model.)



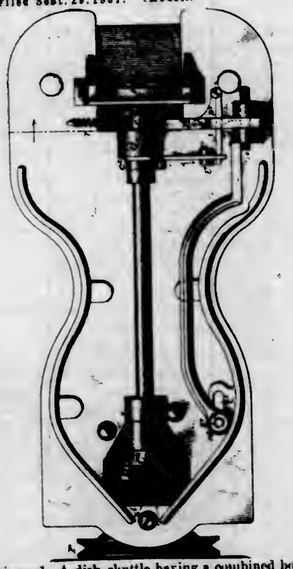
Claim.—1. In combination with the body portion I, having the central bar, i', the lever K, for oscillating the body portion, as described.

2. In combination with the lever K, the lever L, for securing the same.

3. In combination with the lever K, the lever L and the locking-plate for securing the latter.

4. In combination with a permanent side board and a dumping body portion, the levers L K J, combined and arranged as described.

261,363. SEWING-MACHINE. ARTHUR M. LESLIE, Chicago, Ill. Filed Sept. 29, 1881. (Model.)



Claim.—1. A disk-shuttle having a combined bobbin latch and ejector in a single moving part, constructed with a retaining-lip and an elastic ejecting-finger at two extremities on one side of its pivot, substantially as hereinbefore specified.

2. In combination with a rotary shuttle having an open bobbin-chamber in its outer face and provided with a radial bobbin-latch projecting into said chamber through its circumferential wall, a non-rotary bobbin-case constructed with a circumferential flange to engage with said latch, substantially as hereinbefore specified.

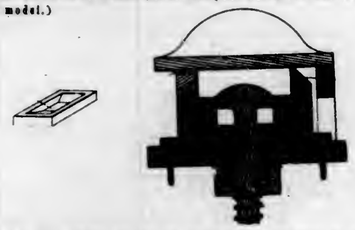
3. A bobbin-case constructed with an arm comprising a pair of blade-springs, between which the thread is drawn from the bobbin, and a screw for separating said springs more or less, to regulate the under tension, substantially as hereinbefore specified.

4. In combination with a cloth-plate having suitably-drilled and grooved depending lugs, a rotary under shaft carrying a lifting feed-cam and a stroke-cam, a feed-bar resting on said lifting-cam, and a retracting-spring applied to said feed-bar, a lever-arm crossing said feed-bar and pivoted thereto, a sliding yoke parallel to said feed-bar, having open forks at its respective ends to embrace said shaft and said lever-arm, and provided with an anti-friction roller to engage with said stroke-cam, a fulcrum-slide in front of said lever-arm, and a longitudinal steel pin in front of said fulcrum-slide, forming an abutment therefor and a support for the front end of the feed-bar, substantially as hereinbefore specified.

5. In combination with a feed-bar and fulcrum-slide working at right angles to each other, a steel pin parallel to the latter, forming at once a support for the front end of the feed-bar and a non-wearing abutment for the fulcrum-slide, substantially as hereinbefore specified.

6. A supplemental take-up comprising a helical spring with a loop at its outer extremity, a rocking arbor to which the inner end of said spring is attached, a lever-arm on the inner end of said rocking arbor, and a projection on the presser-bar coacting with said arm, substantially as hereinbefore specified.

261,364. BRICK OR TILE AND MOLD FOR ITS MANUFACTURE. SANFORD R. LOSING, Castleton, Vt. Filed Oct. 29, 1881. (No model.)



Claim.—1. A mold-box having a beveled cutting-edge, *m*, and pockets or outlets, substantially as set forth.

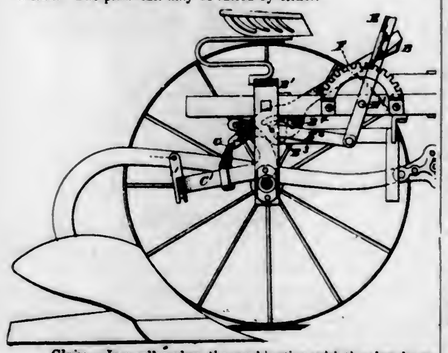
2. A mold-box having a beveled cutting-edge, *m*, grooves *i*, and adjacent pockets or outlets, substantially as set forth.

3. A brick or tile having one side even and the other side constructed with a depression or depressions, surrounded by a rim at all parts of the edge thereof, and with its edges rabbeted, beveled, channeled, notched, or otherwise formed for the purpose of receiving mortar or cement to effect a more perfect joint.

4. A brick or tile having one side even and the other side constructed with a depression or depressions, surrounded by a rim at all parts of the edge thereof, and provided with a depression and an orifice approximately near the center for the purpose of receiving a bolt or screw and washer to secure said tile.

261,365. SULKY-PLOW. LUPPS LUPPEN, Pekin, Ill. Filed Feb. 27, 1882. (No model.)

Brief.—Hand and foot lever, the latter guided and limited by a stud. The plow-bail may be raised by either.



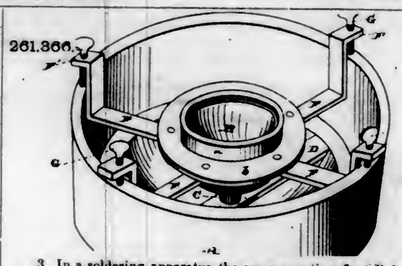
Claim.—In a sulky-plow, the combination, with the plow-beam and the yoke having an upwardly-curved arm, of the hand-lever E and sector F, the foot-lever B, having curved slot B^1, the guide-pin *b*, and the flexible connection C, substantially as shown and described.

261,366. SOLDERING-MACHINE. ALBERT LUSK, San Francisco, Cal. Filed May 2, 1882. (No model.)

Claim.—1. In a soldering apparatus, and in combination with the solder-pot A and float B, the guide-arms F and the adjusting-screws G, said screws having the extensions H moving in and guided by the holes I, substantially as herein described.

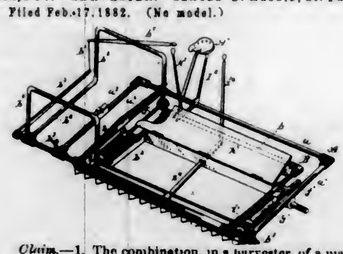
2. In a soldering apparatus, and in combination with the melting-pot A and the can support or float B, having the stem C projecting from its bottom, the removable transverse bar D, fixed across the pot, and having the hole E, to receive the stem, substantially as herein described.

261,366.



3. In a soldering apparatus, the can-supporting float B, having the sides *a* nearly or quite vertical, and the horizontal flange *b* extending outward from its base, substantially as and for the purpose herein described.

261,367. HARVESTER. SAMUEL D. MADDIN, St. Paul, Minn. Filed Feb. 17, 1882. (No model.)



Claim.—1. The combination, in a harvester, of a main frame, A, supported on wheels *c c'*, and a frame, B, a bar, b^3, supporting the cutters, platform, belt, and the connections with the driving-wheel, and adjustably connected to the main frame, substantially as set forth.

2. The combination of the main frame supported by the driving and supporting wheels, the adjustable frame B, bar b^3, and the cutters connected to the bar b^3, whereby the angle to the ground and elevation of the points of the cutters may be changed by adjusting said frame B with the bar or by turning the bar in its bearings in said frame B, substantially as set forth.

3. The combination of the supporting-frame A and the bar b^3, supporting the cutters and adjustable in its bearings in the frame A, as specified.

4. The combination, with the frame A, of the frame B, both hung to the bar b^3, the frame B being adjustable thereon, as set forth, and carrying the belts, elevators, and platform for the grain-binding appliances, substantially as specified.

5. The combination of the main frame A, adjustable frame B, carrying the belts, shafts, and connections, and the pinion *d'* on the bar b^3, geared to the driving-wheel and to the operating devices on the frame B, substantially as specified.

6. The main frame and front bar, b^3, combined with an adjustable frame consisting of back bars and connecting-bars and arched frames b^2 b^3, as specified.

7. The combination of the main and tilting frames and dividers attached to the tilting frame, as specified.

8. The combination, with the carrying-belt, of a sprocket-chain, *j*, and means whereby the chain may be driven faster or slower than the belt, for the purpose set forth.

9. The combination of the shafts *f f'*, carrying the belt *h*, the clutch-pulleys *i i'*, of different sizes, carrying the sprocket-chain *j*, and the clutch-lever s^1, substantially as set forth.

10. The combination, with the bar b^3 and cutters, of a plate secured to the bar b^3 and bent to form the flanges *e e'*, substantially as set forth.

11. The combination, with the main frame adjustable frame, and the knife-bar, of a rock-shaft having an arm, and studs upon the cutter-bar receiving the arm between them, substantially as set forth.

12. The combination of the cutter-bar, carried by the adjustable frame, and the rock-shaft, carried by the main frame, and provided with an arm fitting between fingers on the cutter-bar, substantially as specified.

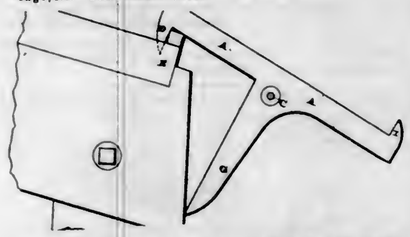
13. The main frame consisting of the bars *a a' a³ a⁴*, with sockets to receive the bar b^3, combined with the frame B, hung to the bar b^3, and consisting of the bars *b b' b² b⁴* and arched bars b^5 b^6, all substantially as set forth.

14. The combination of the main supporting-frame A, bar b^3, supported at both ends in said frame and carrying the cutters, and appliances whereby to turn the bar in the frame from the driver's seat, for the purpose set forth.

15. The combination of the main frame, tilting frame B, arranged within the main frame and hung to the front bar, b^3, and carrying the canvas k, and appliances for swinging the frame B on the front bar of the main frame from the driver's seat, as set forth.

16. The combination of the main frame, tilting frame B, and grain-divider C, connected to the latter frame to move therewith, as specified.

261,368. GALLEY-BRACKET. RIAL A. MARVIN, Reading, Mich., assignor to Paul Schneidewand and James L. Lee, Chicago, Ill. Filed Mar. 17, 1882. (No model.)



Claim.—1. A galley-bracket composed of the two parts A, united by a rod, C, each part having a downwardly-projecting hook, D, at its inner end, a stop at its outer end, and the projection G on its under side, the projection being formed at such an angle that the top of the bracket will assume an inclination substantially as shown.

2. A standing frame composed of the bases H, standards L, cross-bar J, and castings N, having the two projections O Q, in combination with a galley-bracket to catch thereon, substantially as described.

261,369. AUTOMATIC DRAG FOR SHIPS. JOHN MCADAMS Boston, Mass. Filed Apr. 3, 1882. (No model.)



Claim.—1. The combination, with a vessel, of fins or blades pivoted at one edge to the sides thereof and connected with mechanism by which they can be simultaneously turned on their pivoted edges to swing their free edges against the sides of the vessel and in front of their pivotal point, and connected devices for locking the fins in their folded position, but adapted to simultaneously release them, whereby the water, by the progress of the vessel, will be forced between the hull and fins and act to throw them rearward to a position transverse to the vessel, substantially as described.

2. As a means for stopping vessels, the pivoted elastic fins or blades adapted to swing forward to fold against the sides of the vessel, with their free edges in front of their pivotal connection with the vessel, the elasticity of the fins or plates permitting them to conform to the side of the vessel when folded by suitable mechanism and to spring away from the side of the vessel when released, substantially as described.

3. The combination, with a vessel and fins or blades connected with the sides thereof by pivots, upon which they are adapted to swing outward and inward, of a locking device for holding said fins or blades inward against the sides of the vessel, and a lever or feeler depending in front of the bow and connected with said locking device, substantially as described.

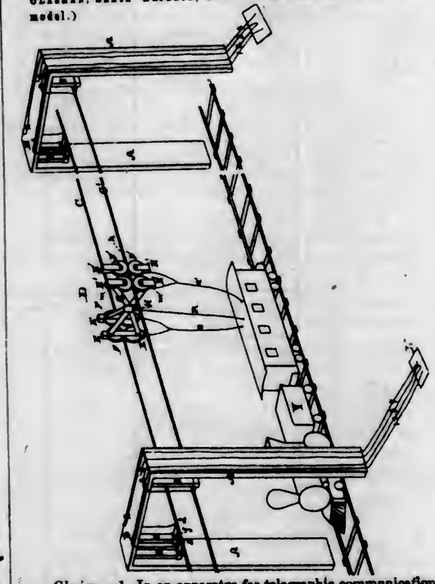
4. The combination, with a vessel, of hinged fins or blades C, the windlass G, and pawl *j*, for operating them and holding them inward, and the lever or feeler K and adjustable section K', connected with said pawl, substantially as described.

5. The combination, with a vessel, of the hinged fins or blades C, the windlass G, and pawl *j*, and the movable bowsprit or spar L, connected with said pawl, substantially as described.

6. The combination, with a vessel, of the fins or blades connected with the sides thereof by pivots, upon which they are adapted to swing outward and inward, and braces hinged to the outer portions of the fins or blades and to the sides of the vessel forward of the fins or blades, and each composed of hinged sections adapted to fold between the fins or blades and the sides of the vessel, substantially as described.

7. The combination, with a vessel, of the hinged fins or blades C, the hinged sectional braces E, and the stays F, on which said braces may slide, substantially as described.

261,370. RAILWAY-TRAIN TELEGRAPH. CHARLES F. MCGLASHAN, Santa Barbara, Cal. Filed Feb. 21, 1882. (No model.)



Claim.—1. In an apparatus for telegraphic communication between a number of moving railway-trains and any number of intermediate stations, two insulated main wires—one wire connected at one end with one terminal battery and the other wire at its opposite end with another terminal battery—in combination with a traveling truck connected electrically with the moving train and in contact with the main wires, and having inleading and outleading wires, said main wires being severed at the stations, and connecting wires from the severed ends passing to the instruments in the stations and connected with each other by switch-boards, substantially as set forth.

2. The means for establishing telegraphic communication with a number of railway-trains in motion and with any number of intermediate stations at the same time, consisting of the battery-wires *b a*, the insulated main wires C C', cut or broken at the several stations, and having their severed ends connected by wires 1 2 3 4 with the switch-boards K of the telegraphic instruments in said stations, and the traveling trucks D, with their central insulating-blocks, H, and insulated wires *e e'*, connecting the traveling trucks with the moving trains, substantially as herein described.

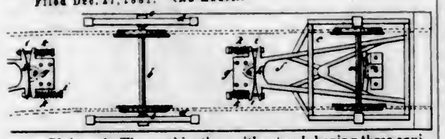
3. In a system of telegraphy for communicating with moving railway-trains and any number of intermediate stations at the same time, the combination of two main wires insulated and connected suitably with terminal batteries, said wires being severed at each station and their several ends insulated from each other, suitable inleading and outleading wires from the several ends of the main wires, telegraphic switches to which said inleading and outleading wires are conducted, and traveling trucks upon said main wires, connected with and accompanying the moving trains, and having inleading wires passing to and from said trucks and trains, substantially as herein described.

4. The posts A A, with their top beams, B, and double depending arms I, in combination with the main wires C C', secured to the arms and insulated therefrom, as shown, said wires being severed at the double arms I and connected by the insulating-cylinder *f*, substantially as and for the purpose herein set forth.

5. The posts A A, with their top beams, B, and depending arms I, in combination with the main wires C C', secured to the arms, and insulated therefrom by means of the bands *a*, plate *n*, connecting-tube *d*, and insulating-strip of gutta-percha *k*, substantially as and for the purpose herein described.

6. The combination herein of a moving car, the main wires C C', and a traveling truck, D, moving upon said wires, and connected with the car by means of a rubber tube, R, substantially as and for the purpose herein described.

261,371. CAR-TRUCK. JOHN MCLACHLAN, New Orleans, La. Filed Dec. 27, 1881. (No model.)

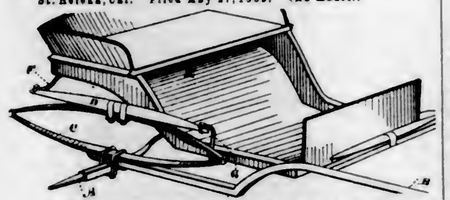


Claim.—1. The combination, with a truck having three equidistant pairs of wheels, whose front and rear axles are hung on pivoted frames and the middle one journaled in fixed pedestals, of the tongues *f*, blocks *g*, the rods *i*, extending loosely through blocks and head-piece *h* of the pivoted frames, and the springs, arranged as shown and described.

2. The combination, with the end axles, *a*, of the frames *c*, tongues *f*, having curved head-piece *h*, the rods *i i*, and the car-bottom blocks *g*, having curved faces, as and for the purpose specified.

3. The combination of axle-frames *c*, tongue *f*, blocks *g*, rods *i*, and springs *k*, substantially as shown and described, for operation as specified.

261,372. TWO-WHEELED VEHICLE. DANIEL R. MCLENNAN, St. Helena, Cal. Filed May 27, 1882. (No model.)



Claim.—In a two-wheel vehicle, the axle A, shafts B, clipped to the axle, side springs, C, clipped to the shafts and axle and lying parallel with the shafts, side bars, D, clipped to the tops of the springs and extending parallel with them, the body E, independent of the shafts, and the front and rear body loops or straps, G and F, bolted to the forward and rear ends, respectively, of the side bars, D, and extending under and across the body to support it, substantially as and for the purpose herein described.

261,373. HORSE-POWER. GEORGE W. MCVAY, Wadesville, W. Va. Filed May 22, 1882. (No model.)

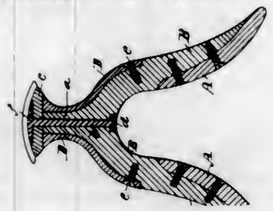


Claim.—1. In a horse-power of the described class, the separable frame composed of the cross-shaped ground-sill C C', uprights *d*, upper cross, D D', horizontal drum A, having bottom flange, *a*, and central shaft, B, having squared top part, *b*, and bottom gudgeon, *b'*, and spider E, the whole constructed and combined in the manner and for the purpose herein shown and specified.

2. In a horse-power of the described class, the horizontal pulley-frame G, having adjustable sliding boxes *i i* and shaft *h*, upon which are fixed the pulleys H and H', as and for the purpose herein shown and described.
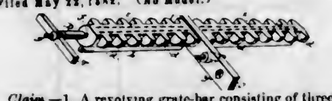
3. The combination, in a horse-power machine, of the following elements, viz: the ground-sill composed of the detachable sill-beams C C', crossing each other at right angles, uprights *d*, top cross composed of the separable arms D and D', horizontal pulley or master-wheel A, having bottom flange, *a*, and central shaft, B, spider E, having detachable lever-arms F, endless band or belt I, pulley-carriage G, having adjustable sliding boxes *i*, and shaft A, provided with the fixed pulleys H and H', the whole constructed, combined, and arranged substantially in the manner and for the purpose herein shown and specified.

261,374. SADDLE-TREE. THEODORE E. MEARNS, North Denver, Colo. Filed Nov. 26, 1881. (No model.)



Claim.—The combination, with the saddle-tree A, of the pommel B, secured by screws to the upper front part of the tree, and provided with the small neck *a*, having the hole *b*, and the metallic casing D, fitted and secured by screws on said neck, wooden cap *c*, having a recess in its upper face and resting on the upper ends of the neck and casing, and rivet *d*, passing through the hole *b* and provided with the head *f*, substantially as described, and for the purpose set forth.

261,375. GRATE. GEORGE B. MERRIAM, Philadelphia, Pa., assignor to the American Grate Bar Company, same place. Filed May 22, 1882. (No model.)

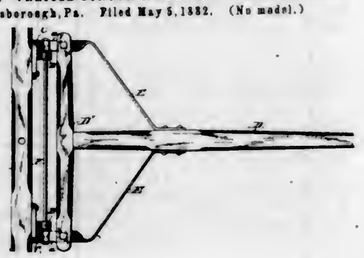


Claim.—1. A revolving grate-bar consisting of three sections, *a a b*, arranged vertically and substantially parallel, and connected at their upper parts by perforated necks *c*, the side sections carrying lugs *d*, substantially as set forth.

2. The combination, in a grate-bar, of a central web, *b*, side webs or sections, *a a*, having curved outer faces arranged substantially parallel to said web, and connected thereto at the upper edges by perforated necks *c*, and lugs *d*, projecting from said side sections, substantially as specified.

3. The combination, in a grate, of bars arranged in line with each other, and connecting shafts F, supported by a cross-piece, J, the bars and shafts having corresponding angular lugs and sockets, substantially as set forth.

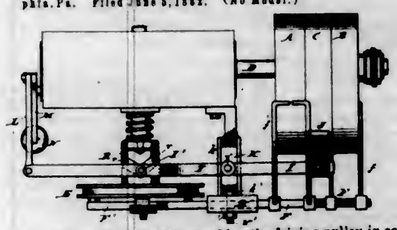
261,376. VEHICLE-TONGUE COUPLING. JOHN L. METCALFE, Waynesborough, Pa. Filed May 5, 1882. (No model.)



Claim.—1. The combination, with the tongue having a pintle or loops at its rear end, as described, of the front axle having the hooks B B, and the gravity-latches pivoted directly to the axle and working against the side of the same in a plane parallel therewith to close the outlet of the pintle from the hooks, as described.

2. The combination of the front axle having hooks B, and the gravity-latches pivoted to the axle in parallel position, so as to work across the hooks, the tongue having cross-bar D', and the brace-irons E E, connecting the tongue with the ends of the cross-bar and extending in rear of the latter, and provided with a pintle-rod, F, adapted to be received into the hooks of the axle, substantially as shown and described.

261,377. POWER-ELEVATOR. STEPHEN A. MORSE, Philadelphia, Pa. Filed June 5, 1882. (No model.)



Claim.—1. In a hoisting-machine, the driving-pulley, in combination with a brake, a weight or its equivalent to apply said brake, and cam mechanism to cause it to be removed from said driving-pulley, substantially as and for the purpose specified.

2. In a hoisting-machine, two idler-pulleys and a drive-pulley, in combination with belt-shifting mechanism and brake mechanism controlled by said shifting mechanism, a weight or its equivalent to apply said brake, and cam attachment to said shifting mechanism to cause the brake to be removed from the driving-pulley, substantially as set forth.

3. In a hoisting-machine, the drive-pulley C, in combination with brake-shoe J, pivoted lever I, having pin or roller I', oscillating hub R, having cam-slot *r*, and means adapted at all times to press said brake-shoe toward said drive-pulley, substantially as set forth.

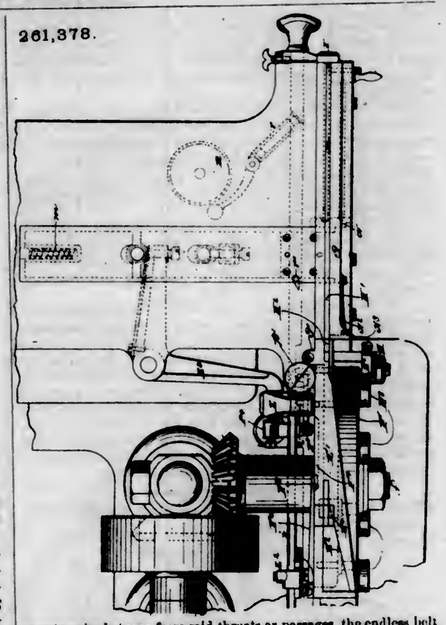
4. In a hoisting-machine, the combination of drive-pulley C, brake-shoe J, lever I, pivoted at *i* to the adjustable block K and provided with pin or roller I', hub R, having cam-slot *r*, and means adapted at all times to press said shoe-brake toward said drive-pulley, substantially as set forth.

5. In a hoisting-machine, the combination of idler-pulleys A B, drive-pulley C, shifting cam-wheel E, rods or bars F F', provided with shifters *f f'*, brake-shoe J, lever I, pivoted at *i* and provided with pin or roller I', hub R, having cam-slot *r*, and means to press said brake-shoe at all times toward said drive-pulley, the cam-slot *r* being actuated by the shifting cam-wheel, substantially as set forth.

6. In a hoisting-machine, the combination of drive-pulley C, brake-shoe J, lever I, pivoted at *i* and having cam-pin or roller I', hub R, having cam groove or slot *r*, rod L, bell-crank M, and weight N, substantially as and for the purpose specified.

261,378. TYPE-SETTING MACHINE. JOHN MOUTH, Middletown, Conn. Filed June 29, 1881. (No model.)

261,378.



Claim.—1. The combination, in a type-setting machine, with a case-rest provided with throats or passages coinciding with the channels of the case, of devices, such substantially as described, for removing single types from the said throats or passages, the endless belt traveling under and transversely with respect to said passages, and the plate E', arranged to support the belt between the belt-wheels, and provided with marginal ribs *e' e'*, projecting vertically on each side of the belt, for protecting and guiding the edges of the same, all essentially as set forth.

2. The combination, in a type-setting machine, with the case-rest provided with throats or passages coinciding with the channels of the case, of devices, such substantially as described, for removing single types from the said throats or passages, the endless belt traveling under and transversely with respect to said passages, and the lip or plate covering a portion of said belt between the belt-wheels, said plate being arranged to receive the heads of the falling type in order to cause the type to turn upon the belt, and also serving to hold the belt down, essentially as described.

3. The combination, in a type-setting machine, with the case-rest provided with throats or passages coinciding with the channels of the case, of devices, such substantially as described, for removing single types from said throats or passages, the endless belt traveling under and transversely with respect to the said passages, and the plate arranged over said belt, and provided with a series of slots arranged in part below the throats or channels in the case-rest and in part below the lower ends of the partitions between said throats or channels, the portions of said plate between the slots constituting the type-rests, and the plate being also adapted to hold down the endless belt along one edge, essentially as shown and described.

4. The combination, in a type-setting machine, of the endless belt for receiving the type from the cases, the belt driving-wheel F, around which the endless type-carrying belt passes, and the curved chute arranged over a portion of the belt passing around said wheel, the chute being constructed and arranged to receive and right the type carried by the belt at a point above the wheel, and to guide and deliver the type carried by the belt directly into the space between the line-breaker and the galley, substantially as described.

5. The combination, in a type-setting machine, of the yielding type-support H' with the head I, adapted to be pushed out from the main frame by the said type-support, and the rod carrying the hub or sleeve L', and connected at its inner end with a spring, and at its outer end secured to the aforesaid head by an adjustable connection, in order to adapt the same to galleys of various sizes, substantially as described.

6. The combination, in a type-setting machine, of the yielding type-support with the extensible head I, the sliding bar I', the rod and spring for retracting the same, and the jam-roller arranged to be forced inwardly by spring-pressure and wedged in between an incline and a sliding bar connected with the said extensible head, substantially as described.

7. The combination, with the yielding type-support and the extensible head I, of the sliding bar I', connected with said head, the jam-roller provided with a pin and arranged within a wedge-shaped recess at the side of said sliding bar, the spring I², the loose pin N, adapted to be moved forward by the line-breaker, and the two rods *n' n²*, one of which is connected with the pin of the jam-roller and the other arranged loosely in its guide-passage, said devices being adapted to operate substantially as and for the purpose set forth.

8. The combination, in a type-setting machine, with the indicator-rod, of the wedge or key upon the rod *i*, and the pivoted lever I², arranged to be raised by said wedge when the line of type is nearly completed and to act upon the indicator-rod, substantially as and for the purpose set forth.

9. The combination, in a type-setting machine, of the endless type-carrier belt with the main chute E', for delivering the type

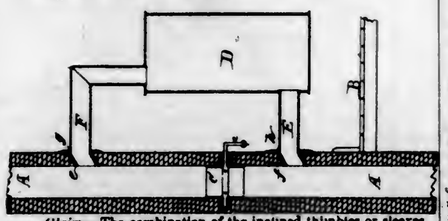
that are dropped from the cases onto the belt, and a short supplemental spout, E', through which small capitals, italics, or other signs or letters not provided for in the type-cases can be dropped by hand, so as to pass into the main spout and drop on the belt, substantially as described.

10. The combination, in a type-setting machine, of the vibratory packer, the type-carrier belt, the belt-wheel, and the main type-delivery spout with the spring-check F', arranged to enter said spout, so as to check the passage of type, and also arranged to be forced out of the spout by the action of the belt-wheel F at the proper moment for delivering the type in front of the packer, substantially as described.

11. The combination, in a type-setting machine, of the belt-wheel F, having a series of rollers, H', with the vibratory packer H, the spring H', vibrating with the packer and acted upon by said rollers, and the device for adjusting said spring, substantially as described.

12. The combination, in a type-setter, of the line-breaker with the band-wheel F, provided with a series of studs arranged upon one side thereof, the vibratory lever L, arranged to stand during the formation of a line of type normally out of the path of the studs, the rod moving independently of the line-breaker and arranged to be carried forward as the line is filled, the hub or sleeve secured upon said rod, and arranged to act upon the lever when the line is filled and to throw said lever into the path of the studs, the bell-crank lever actuated by said vibratory lever, and the slide connected with the line-breaker and operated by the bell-crank lever, all substantially as and for the purpose described.

261,879. HEATING-DRUM. DAVID OAYE, Cleveland, Ohio. Filed Jan. 30, 1882. (No model.)



Claim.—The combination of the inclined thimbles or sleeves *e f*, the pipes E F of the drum D, each pipe having the half-elbows *g h*, and the chimney A, having the damper C, all operating as shown and described.

261,880. PERFORATED PLATE FOR FORMING HAT-BATS. SEYMOUR C. PALMER, South Norwalk, Conn., assignor to Ellen M. Palmer, same place. Filed Apr. 18, 1882. (Model.)



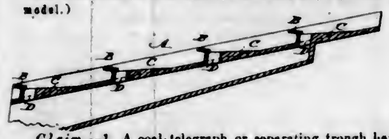
Claim.—1. A perforated plate for forming hat-bats, made, substantially as herein shown and described, with three radial division-lines, B, in its middle part, and a curved division-line, C, parallel with its circumference, and having angular plates D, attached radially to its under side beneath the division-lines B, as set forth.

2. The combination, with the perforated plate A, of the three radial division-strips B and the curved division-strip C, substantially as herein shown and described, whereby the bat will be formed in sections, as set forth.

3. The combination, with the perforated plate A, of the angular strips D, attached radially to its lower side, substantially as herein shown and described, whereby the bat-sections will be tapered along their radial edges, as set forth.

4. The combination, with the perforated plate A and the radial division-strips B, of the angular strips D, substantially as herein shown and described, whereby the bat-sections will be tapered along their radial edges, as set forth.

261,881. DEVICE FOR SEPARATING SLATE FROM COAL. FRED B. PARRISH, Wilkes-Barré, Pa. Filed May 11, 1882. (No model.)



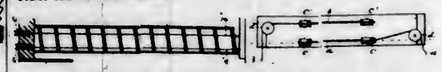
Claim.—1. A coal-telegraph or separating trough having seats, and tables arranged in front of said seats provided for the pickers, onto which the coal is passed as it slides down the trough, and having apertures in its bottom in proximity to the tables for escape of the picked or separated coal, substantially as specified.

2. The trough A, having a transversely-convex or reversely-shelving bottom, in combination with the tables C, onto which the coal to be separated from slate or other foreign substances is fed by said bottom, essentially as described.

3. The combination, with the trough A, having a transversely-convex or reversely-shelving bottom, *b b*, and apertures D for the separated coal, of the side tables, C, arranged to meet, at their forward ends on their upper surfaces, said bottom, and the seats B, for the pickers, arranged so that the apertures D are interposed between the tables and the seats, substantially as and for the purposes herein set forth.

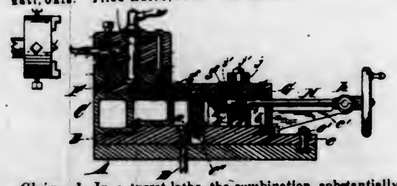
261,882. INSIDE WINDOW-BLIND. ROBERT PIZAR, Cleveland, Ohio. Filed Dec. 22, 1881. (No model.)

Brief.—The hoisting and tilting cords pass over two sets of pulleys arranged over them, so that the inside cords are manipulated from one side of the window and the outside cords from the other side of the window.



Claim.—In a window-blind, the combination, with the window-frame and the slats, of pulleys *c c'* and *d d'* and cords *a a'* and *b b'*, said cords being secured to the slats, as described, to incline the slats and to raise the same, substantially as set forth.

261,883. TURRET-LATHE. PETER W. RHINEHARDT, Cincinnati, Ohio. Filed Mar. 6, 1882. (No model.)



Claim.—1. In a turret-lathe, the combination, substantially as hereinbefore described, of a rotary turret-head composed of separate sections arranged vertically one above the other, a removable and replaceable filling-ring arranged intermediate the said sections, and adjusting-screws detachably connecting the sections together, whereby the height of the tool carried by the turret-head can be adjusted, essentially as set forth.

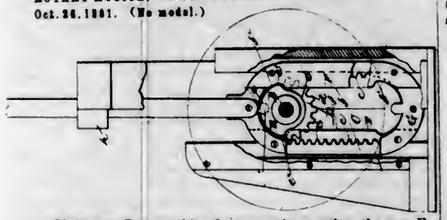
2. The combination of the bed provided with the bolt *e*, the swinging carriage B, provided with the segmental slot E, and connected with the bed by the center-bolt D, the horizontal slide F, carrying the rotary turret-head, and devices for adjusting the slide longitudinally, substantially as shown and described.

3. The combination of the bed A, having the curved groove *a*, the carriage B, swiveled on a center-bolt, D, and provided with the segmental slot E, the bolt *e*, having its head arranged in the groove of the bed and projecting through the slot in the carriage, the carriage C, transversely adjustable on the swiveled carriage, and the rotary turret-head mounted on the slide F, carried by the transversely-adjustable carriage, substantially as described.

4. In a turret-lathe, the combination of the supporting-bed A, the longitudinal slide F, carrying the turret-head and provided on its under side with a rack, G, the horizontal worm-shaft H H', pivoted at its rear portion, the vertically-adjustable journal-box *h'*, supporting the forward end of the worm-shaft, means for lowering the journal-box to tilt the worm-shaft and disengage its worm from the rack on the slide, and devices for shifting the slide when the worm is disengaged therefrom, substantially as described.

5. In a turret-lathe, the combination of the supporting-bed A, the longitudinal slide F, carrying the turret-head and provided on its under side with a rack, G, the horizontal worm-shaft H H', the vertically-adjustable journal-box *h'*, supporting the forward end of the worm-shaft, the transverse rock-shaft J, having a cam or eccentric to depress the forward portion of the worm-shaft and disengage it from the rack, and lever mechanism for shifting the slide when the worm is so disengaged, substantially as described.

261,884. DEVICE FOR CONVERTING RECIPROCATING INTO ROTARY MOTION. JNO. T. RICHARDSON, Palestine, Tex. Filed Oct. 24, 1881. (No model.)

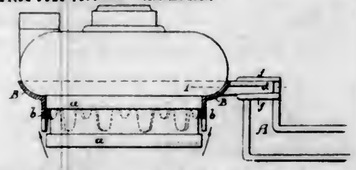


Claim.—1. In a machine for converting motion, the cam E, having the concentric faces *e e'*, each extending half around the cam and shoulders *e' e'*, in combination with the mutilated gear pinion D, having recess D' in the side opposite the gear-teeth, substantially as described.

2. In a machine for converting motion, the combination of the cam blocks or tracks F, having recesses *f' f'*, with the yoke C, having gear-teeth G, substantially as described, for the purpose specified.

3. In a machine for converting motion, the combination of the pinion D, having the recess D' and cams E, with the yoke C, having teeth G and cam-block F, provided with cam faces or tracks *f* and recesses *f' f'*, substantially as described, for the purpose herein set forth.

261,885. LAMP-HOLDER. ANTHONY ROSLORS, Philadelphia, Pa. Filed June 16, 1882. (No model.)



Claim.—1. The combination of a lamp-fountain having a shoulder or projection, *a*, with a lamp-supporting ring having on the under side projections *b*, adapted to engage with said projection or shoulder *a* and prevent the tilting of the fountain, as set forth.

2. The combination of the bracket-arm with the lamp-supporting ring having lateral projections *d* embracing said arm and secured thereto by cement, as set forth.

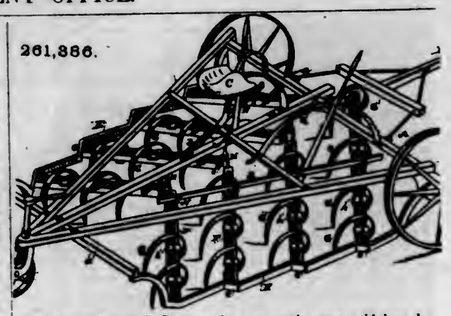
3. The combination of the lamp-supporting ring B, having lateral projections *d*, the bracket-arm A, having ribs *f*, and the cement, whereby said parts are secured together, as set forth.

4. The combination of the lamp-supporting ring having lateral projections *d*, the bracket-arm having ribs *f* and opening or openings *m*, and the cementing material, as set forth.

261,886. SULKY-HARROW. JOHN W. RUSH, Stockton, Cal. Filed Apr. 21, 1882. (No model.)

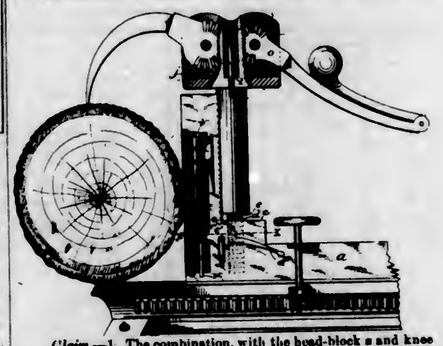
Claim.—1. In a harrow, the frame A, having the side beams, E E, with their inclined shoulders *e e*, in combination with tooth-carrying bars F, journaled in the shoulders *e*, and converging forward to a central line and journaled in strips or bearings H, substantially as herein described.

2. In a harrow, the forwardly-converging rocking bars F, constructed of two parallel strips having between them a slot, *f*, and their ends formed into pins or points *e*, as shown, in combination



with the spring-teeth G, secured at an angle upon said bars by means of the inclined supporting-blocks *g*, clips A, yoke-plates *h'*, and nuts, substantially as herein described.

261,887. SAW-MILL DOG. WILLIAM H. SANDERS and HENRY H. TALLEY, Petersburg, Tenn. Filed May 1, 1882. (No model.)



Claim.—1. The combination, with the head-block *a* and knee *c*, provided with the threaded hole *d*, of the standard *h*, threaded at its lower end and carrying at its upper end the jaws *k*, and curved dog *n*, pivoted between said jaws, whereby the dog can be raised and lowered to accommodate logs of different diameters, substantially as described.

2. The combination, with the head-block *a*, knee *b*, provided with the threaded hole *d*, and standard *h*, threaded at its lower end and carrying at its upper end the jaws *k*, of the dog *n*, provided with the pivoted segmental head *m*, having beveled gear, and lever *p*, having pivoted segmental head *o*, with beveled gear, the diameter of the segmental head *o* being less than that of the segmental head *m*, substantially as described.

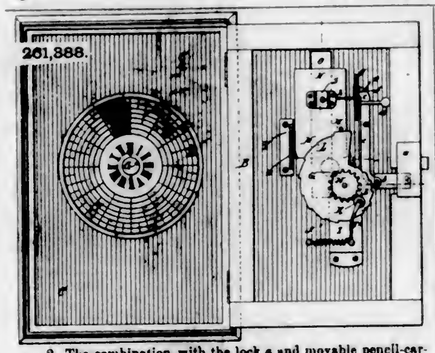
3. The combination, with the revolving jaws *k*, of the dog *n*, provided with the pivoted segmental head *m*, having beveled gear, folding lever *p r'*, having pivoted segmental head *o*, provided with bevel-gear, and lever *r*, at right angles to the other levers, and provided with beveled gear on each of its faces, adapted to engage with the heads *m o*, the heads *o* and *q* being of less diameter than the head *m* of the dog, substantially as described.

4. The combination, with the knee *b*, provided with the recess *u*, and rod *c*, of the standard *a'*, sliding on said rod, and provided with the semicircular gear *b'* and dog *c'*, and lever *d'*, provided with a pivoted segmental geared head, *c'*, substantially as described.

261,888. WATCHMAN'S REGISTER. CHARLES E. SAFFORD, New York, assignor to Richard Harper Laimbeer, Brooklyn, N. Y. Filed Oct. 12, 1881. (No model.)

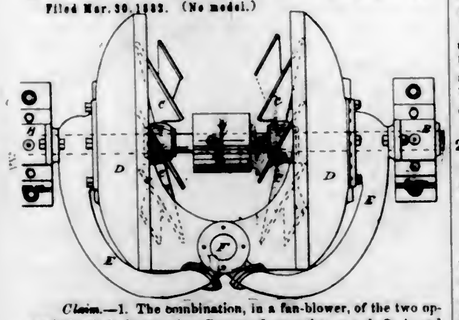
Claim.—1. The combination, with the hour-hand pivot of the mechanism of an eight-day clock, projecting through box-partition C and carrying an end crank-pin, G, of the gear-wheel H, having sixteen teeth and acted upon by spring-held wheel K, the scroll L, rigidly attached to wheel H and having its edge divided into sixteen arcs successively approaching nearer to the center, and the vertically-movable pencil-carrying plate N, having the stud M resting on said scroll, whereby the pencil will be daily lowered, so as to mark opposite to a different day of the week, as notated on the dial-plate F.

261,388.



2. The combination, with the lock *a* and movable pencil-carrier N, of the sliding plate *b*, the weighted lever *i*, the adjustable gage-rod *g*, and the eye-rod *h*, whereby the key-hole will be uncovered automatically at the end of a fixed time, as set forth.

261,389. FAN-BLOWER. EDWARD P. SCHNEIDER, Racine, Wis. Filed Mar. 30, 1882. (No model.)

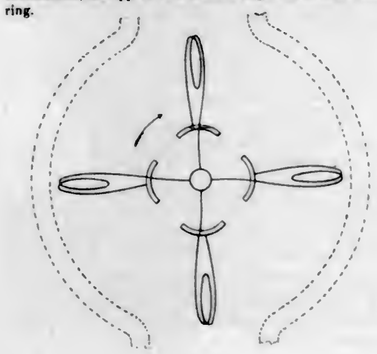


Claim.—1. The combination, in a fan-blower, of the two oppositely-pitched screw-fans C, secured upon the same shaft, A, and revolving in the open air against the opening of two concave concentric hoods, D, said hoods being provided with central discharge-pipes, E, uniting in one delivery-pipe, F, as shown and described.

2. The combination of the fans C, shaft A, bearings B, and the pulley G, secured upon shaft A centrally between the fans for the purpose of balancing the strain, as shown and described.

261,390. DYNAMO-ELECTRIC MACHINE. DANIEL A. SCHUYLER, New York, N. Y. Filed Dec. 27, 1881. (No model.)

Brief.—The armature-coils are divided into groups of four bobbins each, the bobbins of each group being ninety degrees apart. Each group has a separate commutator, and the similar terminal of all the bobbins are connected each to a separate plate of the commutator, the opposite terminals being connected to a common ring.



Claim.—1. The combination, with four armature-bobbins within a magnetic field formed by a positive and negative pole-piece and disposed symmetrically with relation to one another within the limits of that field, of a commutator-cylinder provided with separate plates or segments, to which the same ends of the bobbins are separately connected, positive and negative collecting-brushes arranged, as described, so as to collect the two opposite currents simultaneously generated in all the four bobbins, or in two of them only, and supply the same to a single outside circuit, and a common electrical joint for the other ends of the four bobbins, substantially as described.

2. The combination, with the armature coils or bobbins of a dynamo-electric machine divided into groups of four bobbins disposed symmetrically with relation to one another, as described, of sets of commutator plates or segments, one set for each group, each set containing four plates or segments, electrical connections from one end of the bobbins of each group to the separate plates or segments of its commutator set, and a common electrical joint for the other ends of the bobbins.

3. The combination, substantially as described, with two or more sets of armature-bobbins, said bobbins being disposed symmetrically with relation to one another in sets of four, in the manner described, of two or more corresponding commutator-cylinders, to which the sets of bobbins are independently connected, two positive and negative collector-brushes for each commutator-cylinder, and electrical connections from the positive brush of one cylinder to the negative brush of another, substantially as and for the purpose described.

4. An armature for a dynamo-electric machine whose bobbins are divided into sets, each of which contains four bobbins, the bobbins of each set being disposed symmetrically with relation to one another within the circumferential space included by all the bobbins, and provided with independent connections to a commutator-cylinder having four independent sections or segments.

261,391. SIDE-BAR WAGON. FRANK A. SCOFIELD and JAMES A. COOPER, Otid, Mich. Filed Jan. 26, 1882. (No model.)



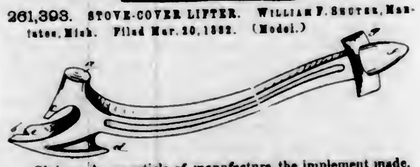
Claim.—The combination of the clip D, having ear *b*, as a bearing for the side bar upon side, and a recess, *a*, as shown, the rear axle, A B, partly received in said recess *a*, the equalizer E, spring F, having loose joint G, the side bar, C, plate *h*, and hooks *e*, securing the side bar, axle, and clips firmly together, and giving a firm bearing upon the side bar opposite the ear *b*, all as and for the purposes specified.

261,392. PINCH-BAR FOR MOVING CARS. SAMUEL F. SEELY, Toledo, Ohio, assignor of one-half to Joseph N. Clouse, same place. Filed Mar. 10, 1882. (No model.)



Claim.—A pinch-bar, A, with its shaft B, back or upward curved lip H, and its solid or pivoted shoe C, having a short and a long concaved projection, C' C², adapted to fit the face of the rail, all substantially as and for the purpose specified.

261,393. STOVE-COVER LIFTER. WILLIAM F. SHUTES, Manistee, Mich. Filed Mar. 20, 1882. (Model.)

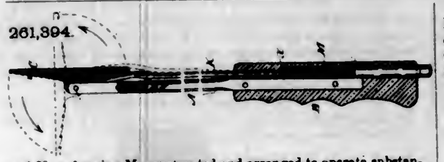


Claim.—As an article of manufacture, the implement made, substantially as herein shown and described, with the toe *c*, hook *d*, lip *c*, and hammer-face *a* at one end and the blade *f* and stop *g* at the other, as set forth.

261,394. CRANIAL TRACTOR. STEPHEN SLAYEN, North Smithfield, R. I. Filed June 2, 1882. (No model.)

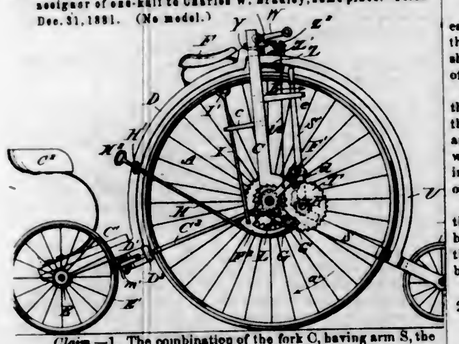
Claim.—The improved cranial tractor described, the same consisting of the body A, handle B, pivoted toothed rack-bar C,

261,394.



rod K, and spring M, constructed and arranged to operate substantially as and for the purpose set forth.

261,395. TRICYCLE. BENJAMIN F. SLOAN, Lexington, Ky., assignor of one-half to Charles W. Bradley, same place. Filed Dec. 31, 1881. (No model.)



Claim.—1. The combination of the fork C, having arm S, the above-ground wheel V, journaled in the front forked end of said arm, a steering-lever pivoted at the upper end of said fork and having a quadrant-plate, X, and the reach D, having projections Y Y, as shown and described.

2. The combination of the fork C, having a curved slotted top brace, U, with a lateral projection, the brake-shoe Z, pivoted to the under side of said brace, having transversely-apertured block Z', and provided with grooved pulley Z², the cord U', passing over said pulley and attached to each treadle-bar, and the lever n, having wedge-shaped projection m, as and for the purpose set forth.

3. The combination, with the bars D' D', of the longitudinally-slotted segmental guide-bar D², arranged below and projecting laterally beyond said bars, and the fork C, having pivoted thereto a frame, C³, secured by pin passing through rollers m', whereby the strain is taken off the reach-bars D', as described.

4. The combination, with the seat F, of the treadle-bars G, pawls L, ratchet-wheels J, shaft B, wheel M, pawl N, ratchet-wheel O, and drive-wheel, all relatively arranged as shown and described.

5. The combination of the rods H, quadrant F³, guide-loop H', and handle H³, whereby the power may be augmented by the action of a person in the seat C³, as described.

6. The combination of the rod I, having loop I', treadle-bar G, and the arm c on fork C, whereby the rider can add to the driving-power, as described.

7. The combination of the lever S', pinion T², cog-wheels K' K³, pinion P', and block R', adapted to slide up the arm S, whereby the speed may be increased, as set forth.

8. In a tricycle, the combination, with the shaft B, of the wheel A, loosely mounted thereon, the combined cog and spur wheel P O, made integral with the hub Q, the combined spur and cog wheel J K, rigidly mounted on the shaft, the pawl N of the disk M, the treadle-bars G, the pawl L, the pinion T, the cog-wheel T', the shaft B, the sliding blocks R', and the lever S', substantially as herein shown and described, and for the purpose set forth.

9. In a tricycle, the combination, with the shaft and wheels, of treadle-bars and cogs and pinions arranged in two sets at opposite sides of the fork, substantially as herein shown and described, and for the purpose of rotating the shaft and wheels faster or slower than the treadles, as may be desired.

10. In a bicycle or tricycle, the combination, with the treadle-bars G and the brake Z, of the cord U', substantially as herein shown and described, and for the purpose set forth.

11. In a tricycle or bicycle, the combination, with the brake Z, provided with the projection Z', of the cord U', the pulley Z', the treadle-bars G G, and the lever n, provided with a wedge-shaped projection, m, substantially as herein shown and described, and for the purpose set forth.

12. In a tricycle, the combination, with the curved reach-bars D', of the slotted segmental guide-bar D², and the frame C³, pivoted to the bottom of the fork C and passing through the slot of the guide-bar D², substantially as herein shown and described, and for the purpose set forth.

261,396. SHEET-METAL CAN. EDWARD SMALL, Baltimore, Md. Filed Mar. 23, 1882. (No model.)

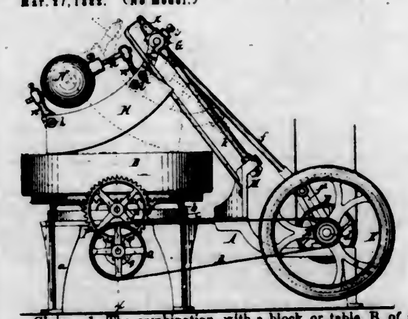


Claim.—1. A can having inside-fitting heads, a shoulder near each end of the can-body to receive the heads, and a side seam in the body consisting of a double seam extending only between the shoulders and a single seam from each of said shoulders to the end of the body, as set forth.

2. A can whose heads fit within the ends of the body having the herein-described construction, consisting of the body side seam, the ends of which have an edge, *g*, on one side of the seam, and an edge, *d*, on the other side, being a single thickness on each side, which abut one directly against the other, and the head having an inward crimped rim, *n*, with which the single thickness aforesaid of the body side seam is in contact, as set forth.

3. A can whose heads fit within the ends of the body having the construction shown, consisting of a beveled extremity, *k'*, of the body side double seam to coincide with the inside shoulder, *x*, and the head having an inward-crimped rim, *n*, resting partly over the beveled extremity, as set forth.

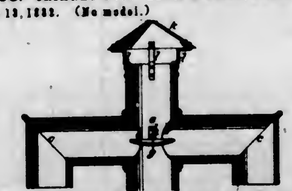
261,397. MEAT-CUTTER. JOHN E. SMITH, Buffalo, N. Y. Filed Mar. 27, 1882. (No model.)



Claim.—1. The combination, with a block or table, B, of a gang of curved knives, H, provided with a cross-head, G, inclined guide-rods *k*, upon which the cross-head G slides, connecting-rod *f*, and crank F *f'*, substantially as set forth.

2. The combination, with a table or block, B, of a gang of curved knives, H, provided with an adjustable weight, N, and suitable mechanism, whereby a rocking motion is imparted to the gang of knives, substantially as set forth.

261,398. CHIMNEY-TOP. LEWIS C. SMITH, Berlin, Wis. Filed May 13, 1882. (No model.)

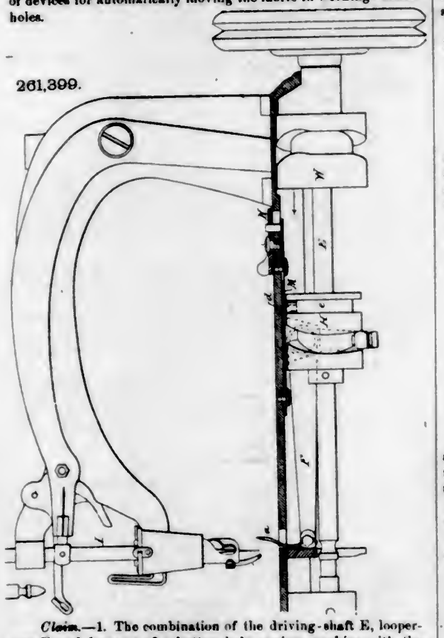


Claim.—The cross-shaped draft-top for chimneys, consisting of the vertical pipe having the raised cap *h*, the lateral downwardly-turned elbows *e*, intersecting the main vertical pipe at the central space, *c*, and the upwardly-concave deflecting-disk *g*, transversely arranged in said central space, substantially as specified.

261,399. BUTTON-HOLE SEWING-MACHINE. JAMES F. SMULLEN, Philadelphia, Pa., assignor to the National Sewing Machine Company, (Limited,) same place. Filed Apr. 24, 1882. (No model.)

Brief.—By means of the construction embraced by the claims the looper may be depressed or the needle elevated without moving other parts of the machine, thus facilitating the introduction of devices for automatically moving the fabric in working button-holes.

261,399.



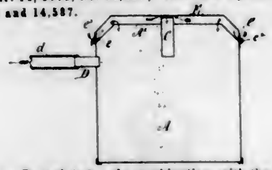
Claim.—1. The combination of the driving-shaft E, looper-arm F, and looper *a* of a button-hole sewing-machine with the scroll-cam H, movable longitudinally on the said shaft, substantially as set forth.

2. The combination of the adjustable bar M on the bed-plate, the looper-arm, and shaft E with the scroll-cam confined longitudinally to the said bar, substantially as specified.

3. The combination of the driving-shaft, scroll-cam H, and bar M with the disk N, having a cam-slot adapted to a pin extending upward from the bar, substantially as described.

4. The combination of the needle-arm with the scroll-cam W, and with mechanism for adjusting the said cam longitudinally on the driving-shaft.

261,400. INHALER. MATHIEU SOUVIELLE, Montreal, Quebec, Canada. Filed Apr. 15, 1882. (No model.) Patented in Canada Mar. 16, 1882, No. 14,427; extended Apr. 13, 1882, Nos. 14,556 and 14,557.



Claim.—In an inhaler, the combination, with the box A, having an outlet-tube, D, at one side, and provided with a fixed perforated head, A', having an inlet-tube, C, the solid cover E, secured at one edge by the hinges *e*, and provided at its opposite edge with the catch *c'*, whereby when the cover is closed there will remain a narrow space between its lower edges, *e*, and the upper edges of the walls of the box, substantially as described.

261,401. KNIFE. ALFRED W. SPERRY, Hartford, assignor to the Williams Brothers Manufacturing Company, Glastonbury, Conn. Filed Mar. 7, 1882. (No model.)



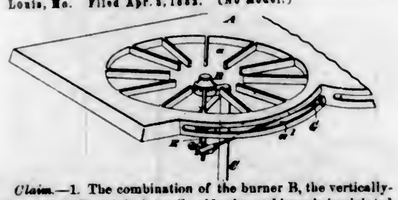
Claim.—The combination of the blade, slotted handle, and a cast-metal bolster in which the tang is embedded, the said bolster having cross-pieces *g' m* and side pieces, *f f*, forming a rectangular frame, inclosing a solid portion of the handle at the end thereof adjacent to the blade, substantially as set forth.

261,402. GLASS IMITATION STONE FOR JEWELRY. JAMES F. SPRAGUE and FRANCIS J. KIPLING, Providence, R. I. Filed Jan. 27, 1882. (No model.)



Claim.—The method of forming a glass imitation stone and adapting the same to fit the metallic rim or setting, which consists in first bending the glass plate to the form of a cylindrical segment and then acid-etching the edges of the curved front surface, substantially as described.

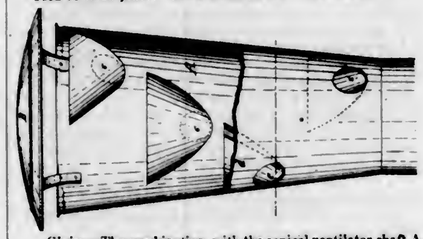
261,403. VAPOR-BURNER. CHARLES A. STOCKSTROM, St. Louis, Mo. Filed Apr. 5, 1882. (No model.)



Claim.—1. The combination of the burner B, the vertically-arranged valve E, and the lever G, said valve and lever being jointed together and rotating together, and said valve rising and falling as the lever is swung around, substantially as described.

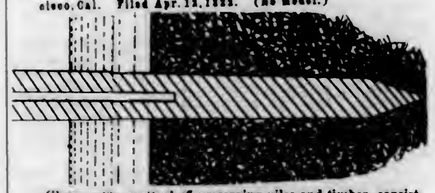
2. The combination of the top A, having the slot *a'*, the valve E, the burner B, and the lever G, substantially as described.

261,404. VENTILATOR. ALEXANDER B. SCHNEER, Brooklyn, N.Y., assignor of one-half to Henry Krone and William Meyer, both of same place. Filed Mar. 3, 1882. (No model.)



Claim.—The combination, with the conical ventilator-shaft A, provided with the cap B and openings *c*, arranged spirally therein, of the half-funnel-shaped plates *c*, secured to the inner wall of the shaft around said openings, substantially as and for the purpose set forth.

261,405. PRESERVING PILES. WILLIAM TAGGART, San Francisco, Cal. Filed Apr. 13, 1882. (No model.)

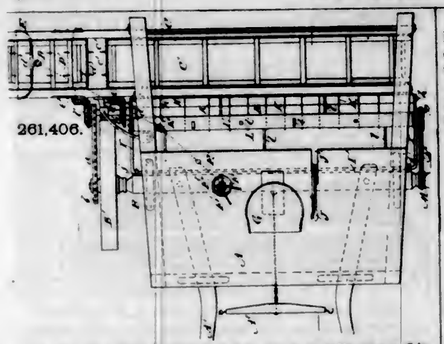


Claim.—The method of preserving piles and timber, consisting in boring the timber longitudinally, then introducing steam or hot water under pressure, and finally forcing a preservative solution into the hole under pressure, substantially as herein described.

261,406. HAY RAKE AND LOADER. OTIS D. THOMPSON, Elkhart, Ind. Filed Apr. 25, 1882. (No model.)

Claim.—1. In a hay rake and loader, the combination, with the platform A, of the horizontal carrier C, the curved stay-rods I, provided with loops *i* at the ends, the rake-head H, provided at

261,406.



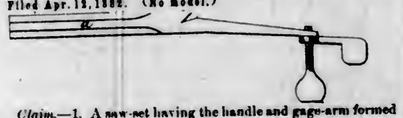
the ends with pivots passing into the eye *i*, the binding-screw *i'* in the eyes *i*, and the rake-teeth K on the head H, substantially as herein shown and described, and for the purpose set forth.

2. In a hay rake and loader, the combination, with the horizontal carrier C, of the elevator D, the shaft *f'*, the tubular boxes *g'*, through which this shaft *f'* passes, and the plates *g*, attached to the tubular boxes *g'*, and the ends of the side bars of the elevator D, substantially as herein shown and described, and for the purpose set forth.

3. The combination, with the platform A, of the horizontal carrier C, the curved stay-rods I, provided with loops *i*, the rake-head H, provided at the ends with pivots passing into the loops *i*, screws *i'*, the rake-teeth K on head H, and rotary rake L, having bent teeth *l* hung upon the rods I, substantially as and for the purpose set forth.

4. In a hay rake and loader, the combination, with the horizontal carrier C, of the elevator D, the shaft *f'*, the tubular boxes *g'*, forming bearings for shafts *f'*, the plates *g*, attached to the boxes *g'*, and the ends of the side bars of the elevator D, and the bail E, with its rope or chain E' passed in contact with a pulley, E', on the frame of the platform A, and connected to a hand-wheel or lever-shaft, F F', located upon said platform near the driver's seat, substantially as and for the purpose specified.

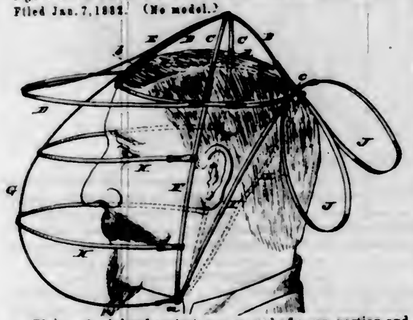
261,407. SAW-SET. BENJAMIN S. TREADWAY, Cassopolis, Mich. Filed Apr. 12, 1882. (No model.)



Claim.—1. A saw-set having the handle and gage-arm formed in one piece and the binding-notch formed in the body thereof, substantially as described.

2. A saw-set having the handle and gage-arm formed in one piece, a binding-notch at the junction of the handle and arm, and a set-screw on the end of the gage-arm, for the purpose set forth.

261,408. HEAD-PROTECTOR. ROBERT W. TURNER, Kosse, assignor of one-half to A. P. Thornton, Thornton Station, Tex. Filed Jan. 7, 1882. (No model.)

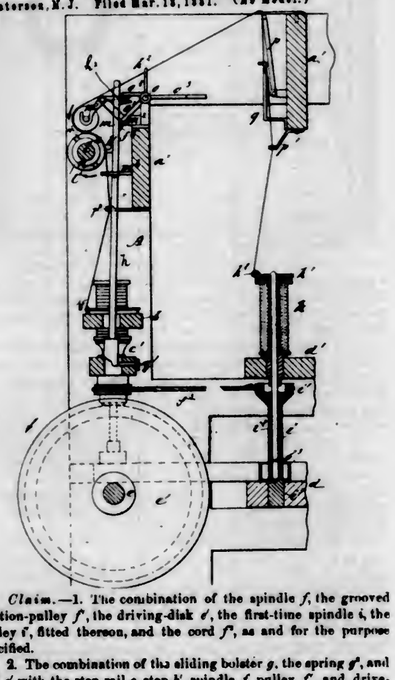


Claim.—1. A head-protector composed of a cap portion and a skeleton face-mask attached to the cap portion by the adjustable sliding connections *b d*, as and for the purpose described.

2. The cap portion composed of head-band A, crown-pieces B C, and brim D E, in combination with the skeleton face-mask composed of chin-piece F, front piece, G, and stays H, substantially as shown and described.

3. The combination of the cap composed of pieces A B C D E, the skeleton face-mask F G H, and the back piece, I, and twin loops J J, substantially as and for the purpose described.

261,409. MACHINE FOR THROWING SILK. JOSEPH E. TYRAN, Paterson, N.J. Filed Mar. 16, 1881. (No model.)



Claim.—1. The combination of the spindle *f*, the grooved friction-pulley *f'*, the driving-disk *c'*, the first-time spindle *i*, the pulley *i'*, fitted thereon, and the cord *f'*, as and for the purpose specified.

2. The combination of the sliding bolster *g*, the spring *g'*, and rail *c'* with the step-rail *c*, step *b'*, spindle *f*, pulley *f'*, and drive-disk *c'*, as shown and described.

3. The combination of sliding bolster *g*, the spindles, the rod *h*, having a beveled lower end and provided with lug *h'*, the pulley *n*, provided with lug *n'*, the rock-shaft *o*, having arms *o' o² o³*, and the fallers *p*, to stop the spindle, as specified.

4. The combination of shaft *l* and means for rotating the same, feed-roll *l'*, pivoted arms *m'*, rock-shaft *o*, having arms *o' o² o³*, fallers *p*, rod *h*, and the pulley *n*, having lugs *n'*, as shown and described.

5. The bar *g'* and sliding bolster *g*, formed with the incline *g²*, in combination with the beveled stop-motion rod *h*, the spindle, and the friction-pulleys, as and for the purpose specified.

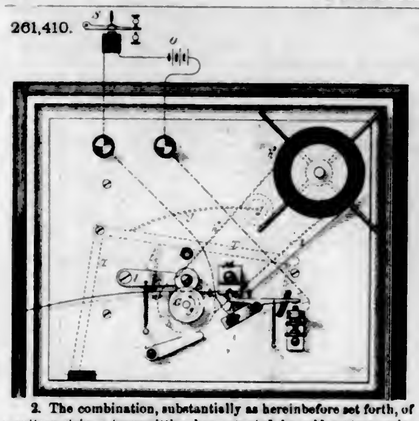
6. The spring-actuated pin *q'*, combined with the beveled rod *h* of the stop-motion, the apertured rail *c'*, and the sliding bolster *g*, substantially as and for the purpose set forth

261,410. AUTOMATIC TELEGRAPH-TRANSMITTER. HENRY VAN HOEVENBERGH, Elizabeth, N.J. Filed May 16, 1882. (No model.)

Brief.—A device designed for learners' use. A prepared strip perforated with messages is inserted into the instrument and carried under a transmitting-stylus, which automatically makes and breaks a circuit through a reading-sounder. Should the student fail to correctly read any letter or word, he presses lever T' to the right, and thereby causes the motor to reverse the reel, lift the stylus, and rewind the transmitting-strip, after which, on reversal of this lever, the message or word is repeated.

Claim.—1. The combination, substantially as hereinbefore set forth, of a pattern-strip, a transmitting-key actuated by said pattern-strip, a motor, and independent devices for imparting an advance and a retrograde movement, respectively, from said motor to said pattern-strip.

261,410.



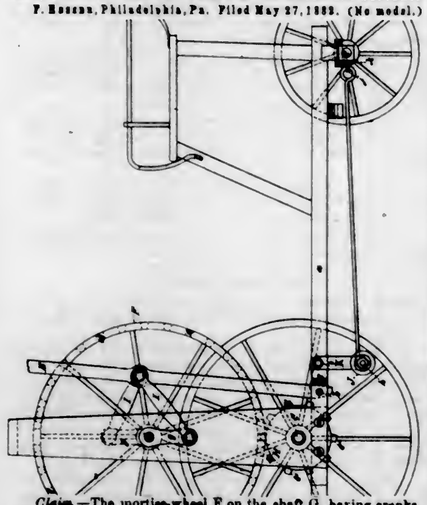
2. The combination, substantially as hereinbefore set forth, of a pattern-strip, a transmitting-key actuated by said pattern-strip, a motor, independent devices for communicating an advance and a retrograde movement, respectively, from the motor to the pattern-strip, and means for throwing either of said devices into action and the other simultaneously out of action, as set forth.

3. The combination, substantially as hereinbefore set forth, of a pattern-strip, a transmitting-key actuated by said pattern-strip, a revolving reel, a motor, independent devices for temporarily imparting an advance and a retrograde movement, respectively, from said motor to said pattern-strip and reel, and means for removing said key from said pattern-strip during the retrograde movement.

4. The combination, substantially as hereinbefore set forth, of a pattern-strip, a transmitting-key actuated by said pattern-strip, a motor, independent devices for imparting an advance and a retrograde movement, respectively, from said motor to the pattern-strip, and an adjustable device for varying the rate of speed of the pattern-strip while the latter is actuating the key.

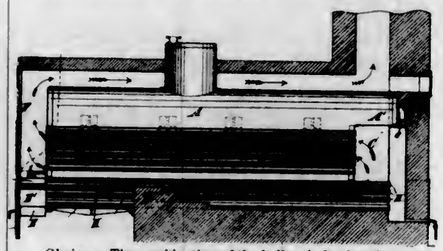
5. The combination, substantially as hereinbefore set forth, of a pattern-strip, a transmitting-key actuated by said pattern-strip, a motor for imparting motion to said pattern-strip, a friction-plate, one or more friction-pads attached to an axis of said motor, and an adjustable cam for regulating the pressure of said friction pad or pads against said friction-plate.

261,411. VELOCIPEDE. JOSEPH E. VAN METER and BENJAMIN F. HOUSER, Philadelphia, Pa. Filed May 27, 1882. (No model.)



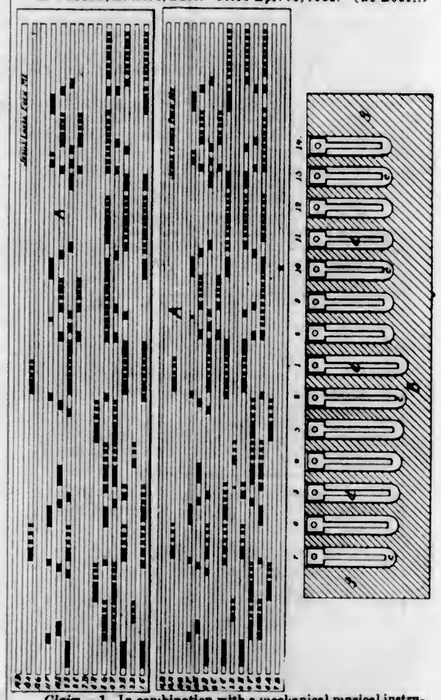
Claim.—The mortise-wheel F on the shaft G, having cranks *g g*, in combination with the pinion H, axle C, levers E E, and connecting-rods I I, for the propulsion of the velocipede, substantially as described.

261,412. STEAM-GENERATOR. HENRY VOGT and WILLIAM D. ADAMS, Brooklyn, N. Y. Filed Feb. 11, 1882. (No model.)



Claim.—The combination of the boiler A, having the rearward extension, A′, the front water-chamber, E, provided with the fire-door opening E′, which is surrounded by water, the rear water-chamber, G, extending upward to the extension A′, tubes or pipes connecting both said water-chambers with the boiler, feed and blow-off pipes connected with said chambers, and two vertical series of tubes, H, extending horizontally between said chambers and arranged in opposite sides of the furnace, all organized and adapted to operate substantially as herein described.

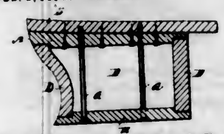
261,413. MECHANICAL MUSICAL INSTRUMENT. WILLIAM A. WEBBER, Medford, Mass. Filed Apr. 13, 1882. (No model.)



Claim.—1. In combination with a mechanical musical instrument, a perforated music-sheet which has its note-holes arranged in parallel rows, with the lowest bass-note at the central row and the remaining bass-notes in the rows at one side thereof and the treble-notes in the rows at the other side of said central row or lowest bass-note, all substantially as and for the purposes described.

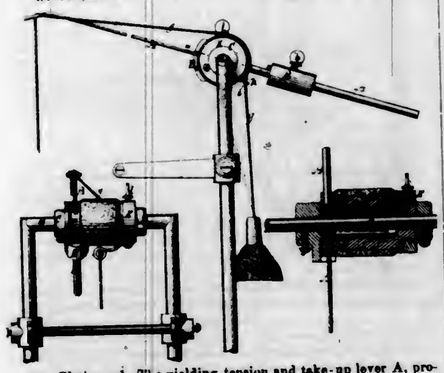
2. In a mechanical musical instrument, a reed-board, B, having reed-chambers *c* and reeds *d*, arranged, as described, with the lowest bass-reed at the center and the remaining bass-reeds at the side thereof running toward one end of the board, the treble-reeds running from the center toward the other end of the board, substantially as set forth.

261,414. BOOT OR SHOE HEEL. MARTIN B. WOOD, Estillville, Va. Filed Jan. 6, 1882. (Model.)



Claim.—The combination, with the sole B, of the tap-plate A, attached thereto and rabbeted on the lower edge, the shell D, the bottom plate, E, rabbeted on its upper edge, and the screws G, substantially as shown and described.

261,415. YARN-TENSION DEVICE AND TAKE-UP FOR KNITTING-MACHINES. WILLIAM H. ABEL, Laconia, N. H. Filed Nov. 30, 1878.



Claim.—1. The yielding tension and take-up lever A, provided with an adjustable counter-weight, B, substantially as and for the purpose herein specified.

2. The stop D, in combination with the vibratory weighted tension and take-up lever A, substantially as and for the purpose herein specified.

3. In combination with the cylindrical friction-surface *f*, the adjustable yarn eye or loop *i*, and a support or bearing for the loop, whereby it may be adjusted with reference to the friction-surface, substantially as and for the purpose herein specified.

4. In combination, the dead-weight take-up with the friction device for regulating the tension of the yarn, substantially as shown and described.

261,416. COVER FOR PITCHERS. HUDSON H. C. ARNOLD, St. Louis, Mo., assignor of one-half to Gustav Frey, same place. Filed Mar. 10, 1882. (No model.)

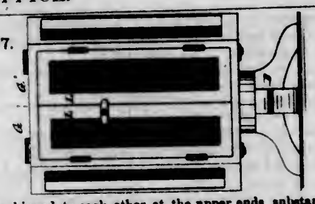


Claim.—1. The stand C, lever D, having weighted lower end and pivoted to the stand, and chain or connecting device or means D′, in combination with lid B, having hinged part B′ connected to the upper end of the lever, as set forth.

2. The combination of pitcher A, cover or lid B B′, spring-catches E, stand C, lever D, and chain or rod D′, all substantially as and for the purpose set forth.

261,417. PROVISION-SAFE. THOMAS ATKINSON, Galena, Kans., assignor to himself and C. W. Sears, same place. Filed May 27, 1882. (Model.)

Claim.—1. In a provision-safe, the combination, with a vertical shaft, of a casing mounted on this shaft and formed of two



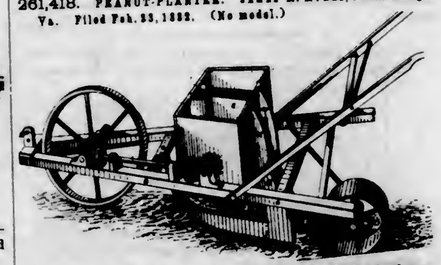
sections hinged to each other at the upper ends, substantially as herein shown and described, and for the purposes set forth.

2. In a provision-safe, the combination, with a vertical shaft, of a sleeve mounted loosely on the same and carrying shelves, and of a casing mounted on the shaft independently of this sleeve and covering this sleeve and its shelves, substantially as herein shown and described, and for the purpose set forth.

3. In a provision-safe, the combination, with the vertical shaft A, of the head C, the sleeve D, the brackets and shelves E, and the casing G, formed of two hinged sections, G′ and G², substantially as herein shown and described, and for the purpose set forth.

4. In a provision-safe, the combination, with the vertical shaft A, of the sleeve D, the brackets and shelves E, the hinged sections G′ G², the doors L, the studs *a*, and the hooks *b*, substantially as herein shown and described, and for the purpose set forth.

261,418. PEANUT-PLANTER. JAMES R. AYERS, Petersburg, Va. Filed Feb. 23, 1882. (No model.)



Claim.—1. The peanut-planter having the feed-wheel provided with alternate projections and recesses on its periphery and cups arranged on the projections, in combination with the hopper having side compartments and an intermediate compartment communicating therewith, said intermediate compartment having an opening for admitting the wheel, substantially as shown and described.

2. The feed-wheel having alternate projections and recesses formed on its periphery, and cups secured to the projections, having their cavities of a gradually-narrowing diameter from rim to bottom, substantially as shown and described, whereby only one peanut shall be taken up at a time by a cup and that shall readily be discharged therefrom by gravity.

3. The feed-wheel having alternate projections and recesses formed on its periphery, and having cups constructed with conical cavities, as shown, secured to the projections, and one wall of each recess made radial and beveled laterally at the rear end of a cup and the other inclined toward the mouth of a cup and beveled laterally at the upper end, substantially as shown and described, whereby the peanut shall be assisted in passing from the cup into the recess in front thereof and be loosely held in the said recess to insure accuracy in dropping it at the proper moment.

261,419. TOY BANK. CHARLES A. BAILEY, Cobalt, Conn. Filed Mar. 2, 1882. (Model.)



Claim.—1. A soft-metal toy bank having cast walls and top secured together by means of solder on the inside, substantially as specified.

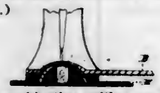
2. A toy money-bank having a longitudinal slot, *a*, in its top

B, a rising figure, C, and trigger-rod *d'*, connected thereto, a jumping figure, D, its notched lever-arm *h*, and actuating-spring S, substantially as specified.

3. In a toy-bank, the combination, with the slotted top B and the jumping figure D thereon, of the trigger-rod *d'*, its catch *p*, the notched lever-arm *h*, and the spring S, substantially as specified.

4. In a toy bank, the slotted top, the lever and spring, and the jumping figure actuated thereby, the rising figure, and the draw-rod operating the same, and serving as a trigger to set and release the jumping figure, substantially as specified.

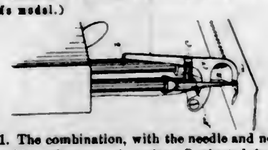
261,420. HEMSTITCH ATTACHMENT FOR SEWING-MACHINES. GEORGE W. BAKER, Cleveland, Ohio. Filed May 5, 1882. (No model.)



Claim.—1. The combination, with a presser-foot provided with a slot, of a gage arranged within said slot and provided with a slot parallel with that of the presser-foot, said gage being secured to the machine and so arranged relative to the presser-foot that a portion of the goods to be stitched may be passed between them, substantially as set forth.

2. The combination, with a presser-foot provided with a slot, as described, of a slotted gage arranged adjacent to said slot and secured to the presser-foot by arms B and C, substantially as set forth.

261,421. HEMSTITCH ATTACHMENT FOR SEWING-MACHINES. GEORGE W. BAKER, Cleveland, Ohio. Filed May 5, 1882. (No model.)

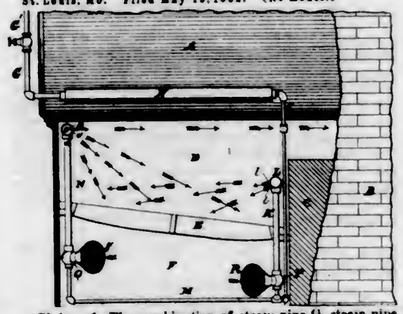


Claim.—1. The combination, with the needle and needle-bar of a sewing-machine, of an arm, A, a piece, C, pivoted thereto, and provided with a hook, *a*, and means, substantially as described, for reciprocating said hook.

2. The combination, with the needle and needle-bar of a sewing-machine, of the arm A, set-screw *c*, spring F, and pivoted piece C, having the looper *a* and lug *b*, substantially as set forth.

3. The combination, with the piece C, of the adjustable end piece or looper, *a*, substantially as set forth.

261,422. SMOKE-CONSUMING FURNACE. GUSTAVE A. BARTH, St. Louis, Mo. Filed May 15, 1882. (No model.)

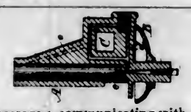


Claim.—1. The combination of steam-pipe G, steam-pipe H beneath the boiler, vertical pipes K K, having air-funnels R R, horizontal combined air and superheated steam pipe L, having orifices *l*, and connecting-pipes I J, as set forth.

2. The combination of boiler A, pipes G, H, I, J, K, L, M, N, and O, injectors P Q, and funnels R S, the pipes L O, having perforations *l o o'*, all substantially as and for the purpose set forth.

261,423. VAPOR-BURNER. MARTIN L. BEST, Canton, Ohio, assignor of one-half to Levi L. Miller, same place. Filed May 19, 1882. (No model.)

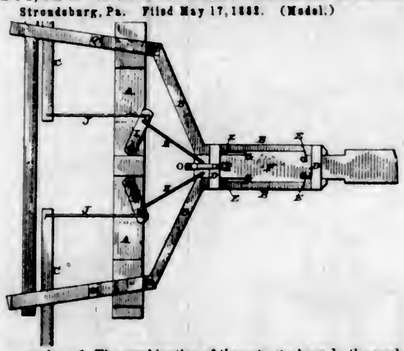
Claim.—1. In a vapor-burner, the combination, with the furnace C, arranged at the lower end or base of the burner-tube A,



of the inclined passage *c*, communicating with said furnace and at or near the upper end of the burner-tube with the interior thereof or with the burner-tip, substantially as and for the purpose set forth.

2. In a vapor-burner, the furnace C, passages *d c*, and drip-cup B, all constructed and arranged as shown, and for the purpose described.

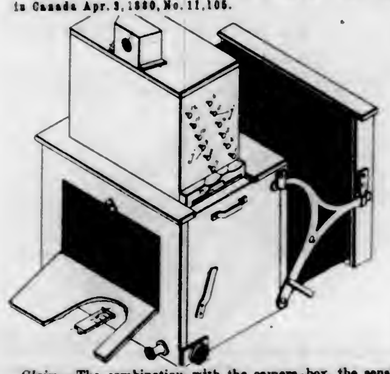
261,424. AUTOMATIC BRAKE. NATHANIEL W. BISSELL, Stroudsburg, Pa. Filed May 17, 1882. (Model.)



Claim.—1. The combination of the axle, the hounds, the guiding-bands, the endwise-moving tongue, the two sets of connecting-rods, the levers pivoted upon the top of the axle, and the brake, the parts being arranged and operated substantially as shown.

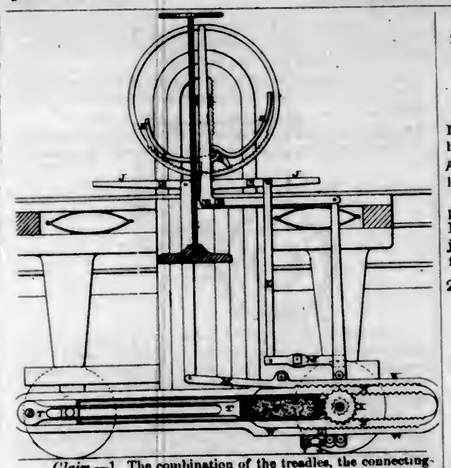
2. The combination of the hounds, the supporting-bands, the endwise-moving tongue, and the pivoted lever having the prong or projection to catch in the hole Q, which is made in the rear end of the tongue, substantially as set forth.

261,425. PHOTOGRAPHIC APPARATUS. THOMAS H. BLAIR Franklin, assignor to the Blair Tourograph and Dry Plate Company, Boston, Mass. Filed Feb. 24, 1880. Renewed May 20, 1882. (No model.) Patented in England Feb. 4, 1880, No. 498; in France Feb. 6, 1880, No. 134,937; in Belgium Feb. 7, 1880, No. 50,511; in Germany Mar. 28, 1880, No. 12,097, and in Canada Apr. 3, 1880, No. 11,105.



Claim.—The combination, with the camera-box, the sensitized-plate box, and the longitudinally-sliding plate-carrier of the photographic apparatus hereinbefore described, of the glove, mitten, or other close covering for the hand of the operator, arranged in an opening in the camera-box in a position to permit the transfer of the plate from the carrier to the plate-box, or the reverse, substantially as hereinbefore set forth.

261,426. BRAKE AND STARTER FOR STREET-CARS. RICHARD F. BRIDGWELL, San Francisco, Cal. Filed Jan. 9, 1882. (No model.)



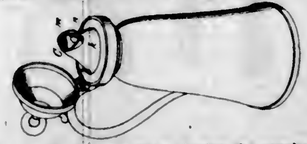
Claim.—1. The combination of the treadles, the connecting-rods, and the levers with the rack-bars, spur-wheels upon the axle, the air-cylinder and the piston, the rack-bars being connected to the piston, substantially as shown.

2. The combination of the treadles, the connecting-rods, and the levers for raising and lowering the smaller rack-bar, and the spur-wheels upon the axle with an operating-lever for throwing the rack-bar W in and out of gear with the wheel X, the air-cylinder, and piston, whereby one of the rack-bars is made to compress air in a cylinder by the momentum of the car when stopping and the other rack-bar is made to utilize this compressed air in starting the car, substantially as described.

3. The combination of the two rack-bars, a suitable supporting-stirrup, and the weighted levers upon which the rack-bars rest, whereby they are held in such a position when free to move that they will not engage with the wheels upon the axle, substantially as set forth.

4. The combination of the two rack-bars pivoted together at one end to the piston T, an air-cylinder, V, the spur-wheels upon the axle, and suitable mechanisms for operating the rack-bars independently, substantially as specified.

261,427. MOLASSES-PITCHER. JAMES BULLUSS, Jr., Birmingham, Conn. Filed May 13, 1882. (No model.)



Claim.—1. A sirup-pitcher having the annular internal mouth-rabbet, *b*, and the angular grooves *d* below the same, and the removable pouring-spout C, having the circular flanges *g* and *z*, and the studs *h*, substantially as specified.

2. A pouring-top for a sirup-pitcher, having an upward and forward inclined extension, *l*, of the rear wall of the spout, forming a covering for the pouring-lip, protecting the same and forming a guide for the pouring, substantially as specified.

3. In a pouring-top for a sirup-pitcher, the combination, with the pouring-lip *m*, drip-opening *p*, and drip-lip *n*, of the rear inclined cover-wall, *l*, over the throat and protecting the pouring-lip, substantially as specified.

4. A pouring-top for a sirup-pitcher, having the inclined drip-tube *c*, extending from the drip-opening through the throat, substantially as specified.

261,428. HEEL FOR BOOTS OR SHOES. ALBERT H. CHRISTENSEN and GUSTAV LUND, Crée-Kjobing, Denmark. Filed May 25, 1882. (No model.) Patented in Denmark June 12, 1881.

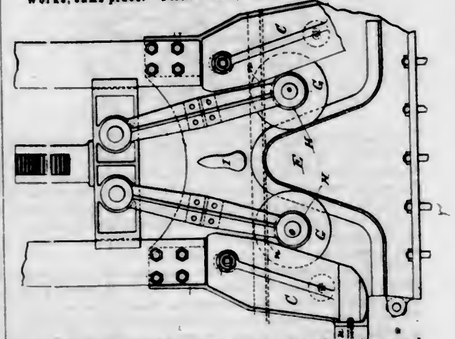
Claim.—1. In a sectional heel, the combination of the section *h*, its disk D, provided with holes *d*, and the spring S, carrying the locking-pin P, with the section *h'* and its disk D', provided with holes *d'*, substantially as and for the purposes specified.



2. The combination, with the section *h* of the heel, and its disk D, provided with a projection, *p*, of the section *h'*, and its disk D', having a central aperture, *d'*, adapted to fit around said projection *p* to form a pivot for the disk D', substantially as and for the purposes specified.

3. The combination of the section *h*, its disk D, having square projections *p'*, and a screw-shank, *s*, of the disk or locking-plate D', having a square opening, *d''*, adapted to fit over said square projection, and the nut *n*, substantially as and for the purposes specified.

261,429. BENDING-MACHINE. JOHN CHRISTIANSEN, Chicago, Ill., assignor to the Union Foundry and Pullman Car Wheel Works, same place. Filed Oct. 3, 1881. (No model.)



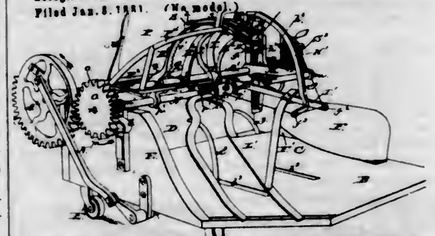
Claim.—1. The combination, with the depending pitmen and bending-rolls, of the hinged guides and set-screws *v*, for adjusting the inclination of the same, the former E, and the anti-friction rolls *m*, as and for the purpose set forth.

2. Jointly with the rolls G and H, having common axes, the hinged and adjustable guides C and former E, as and for the purpose set forth.

261,430. COMPOUND FOR USE IN THE MANUFACTURE OF LININGS, PLUGS, AND TUYERES FOR FURNACES AND CONVERTERS, &c. WILLIAM J. CLAPP, Nantyglo, County of Monmouth, and THOMAS GRIFFITHS, Blaenavon, County of Monmouth, England. Filed Mar. 7, 1882. (No specimens.) Patented in England Mar. 23, 1881, No. 1,372.

Claim.—The refractory compound herein described, consisting of a strong solution of borax and alum, asbestus, graphite, or fire-clay or other brick material, as and for the purpose herein set forth.

261,431. GRAIN-BINDER. ROBERT J. CLARK, Chestnut Level, assignor of one-third to John C. Rutter, Summit Hill, Pa. Filed Jan. 3, 1881. (No model.)



Claim.—1. The twister-wheel B', having the cup or cavity *d'*, the notches *e'*, and the slot *e'*, as set forth.

2. The twister-wheel B', having teeth *e'*, in combination with the pawl C, having toe *c'*, and heel *c'*, and the guide-bars R' R', the former having the rack *r'* and the latter the bevel *r'*, as set forth.

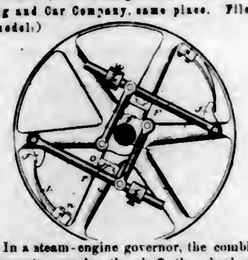
3. The sprocket-wheel G, arm H, having pin *h'*, and the spring *h'*, in combination with the ratchet-annulus L, having the radial finger *l'* and catch *k*, as set forth.

4. The frame P, guide R, needle T, bracket I', and guide I', connected together, in combination with the lever M', pivoted directly to the frame P, whereby the throw of the lever moves the other parts to adapt the machine to bind different lengths of grain, as set forth.

5. The guide R and knife S', the latter arranged in an obliqne line with the path in the former, in combination with the needle T, having the wire-carrying head V, as set forth.

6. The knife S', in combination with the needle-head V, having the arm D', and plate E', as set forth.

261,432. GOVERNOR FOR SHIFTING ECCENTRICS. WILLARD A. CLARK, Stillwater, Minn., assignor to the North Western Manufacturing and Car Company, same place. Filed May 9, 1882. (No model.)



Claim.—1. In a steam-engine governor, the combination of the following elements, namely: the shaft, the wheel carried by the shaft, the sleeve and eccentric mounted loosely on the shaft, the weight-arms pivotally connected to the eccentric, the pivots of the weight-arms passing through the spokes, the cams J J, carried by the pivots on the side of the wheel opposite to the weight-arms, and the springs L L, arranged to bear against the cams, substantially as set forth.

2. In an engine-governor of the class described, the combination of the shaft, the wheel attached thereto, the eccentric and sleeve mounted loosely on the shaft, the weight-arms pivoted to the wheel, the centripetally-acting springs to return the weight-arms, the sockets P, carried by the wheel and projecting laterally therefrom, and the cushions O in the sockets, all arranged and operating substantially as set forth.

261,433. COLLAR. J. W. ALFRED CLUETT, Troy, N. Y. Filed May 13, 1882. (No model.)

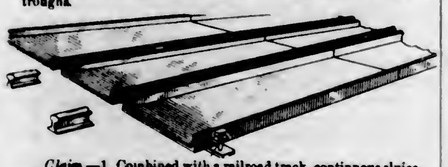


Claim.—1. In a turn-down collar, a guide-interlining to designate and fix the line for turning down the body over the band in the laundry, substantially as set forth.

2. A turn-down collar composed essentially of the face body and band made in one piece, the back body and band made in one piece, and the guide-interlining, the lower edge of which is hemmed to form a head, substantially as set forth.

261,434. DEVICE FOR REMOVING SNOW AS IT FALLS UPON AND CONTIGUOUS TO RAILROAD-TRACKS. LEE D. CRAIG, San Francisco, Cal. Filed Apr. 8, 1882. (No model.)

Brief.—Troughs or sluice-boxes are arranged contiguous to the rails, and, being properly graded by adjusting devices, act to melt and conduct the snow away by means of a stream of water flowing through them. Rolls also are arranged at the sides of a car to roll back the masses of drifts which may overhang the troughs.

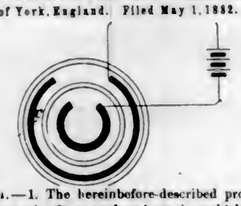


Claim.—1. Combined with a railroad track, continuous sluice-boxes placed contiguous to such track, substantially as and for the purpose set forth.

2. In combination with a railroad-track and with contiguous sluice-boxes, for the purpose described, and adjusting device for grading and leveling the boxes, as set forth.

3. In combination with a car having upper bearings in a jointed frame and loose lower bearings, the self-adjusting rolls C, as described.

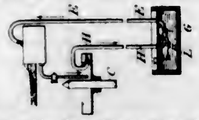
261,435. SECONDARY BATTERY. CHARLES CUTTRISS, Leeds, County of York, England. Filed May 1, 1882. (No model.)



Claim.—1. The hereinbefore-described process of coating plates or electrodes for secondary batteries, which consists in immersing the same in an oxidizing solution consisting of a mixture of sulphuric acid, bichromate of potassium, nitric acid, and water, and subjecting them at the same time to electrical action.

2. The oxidizing solution for coating secondary-battery plates hereinbefore set forth, consisting of a mixture of sulphuric acid, nitric acid, and bichromate of potassium, with or without the addition of water.

261,436. WATER-ELEVATOR. HENRY FELIX LOUIS WORMS DE ROMILLY, Paris, France. Filed Aug. 19, 1881. (No model.) Patented in France July 8, 1878, No. 125,507; in Belgium July 10, 1878, No. 45,635; in England July 20, 1878, No. 2,908; in Germany July 22, 1878, No. 3,753, and in Italy Sept. 30, 1878, XX, 328.



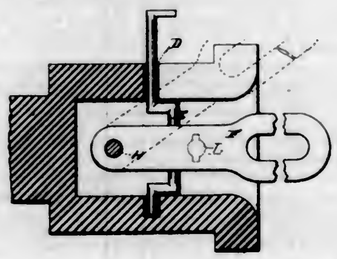
Claim.—The combination, with the drum, the liquid-receptacle above it and the one below it, of the descending pipe H, having nozzle L, the ascending pipe E, having mouth-tube F and orifice G larger than that of nozzle L, and the down-tube M, as and for the purpose specified.

261,437. MANUFACTURE OF FUR-FACED HATS. WILLIAM E. DOUBLEDAY, New York, N. Y. Filed Mar. 1, 1882. (No model.)



Claim.—The herein-described improvement in the art of making hats which have a flowing nap of fur, the same consisting in applying to a hat-body which has been previously felted and shrunk to the desired size a bat of fur of greater size than the hat-body, next turning the lower edge of the fur bat over the edge of the hat-body to form a facing for the under brim of the hat, and subsequently sticking the fur to the outer surface of the hat and to the under surface of the brim, substantially as set forth.

261,438. CAR-COUPLING. ROBERT H. DOWLING, Newark, Ohio, assignor of one-half to Charles H. Follett, same place. Filed May 20, 1882. (No model.)



Claim.—1. In a car-coupling, a draw-head having a lateral slot in which a permanently-pivoted link works, in combination with a link-guide journaled in the side walls of the draw-head, a recess, D, in the bottom wall thereof, and a permanently-pivoted link, F, having an enlarged slotted head, substantially as specified.

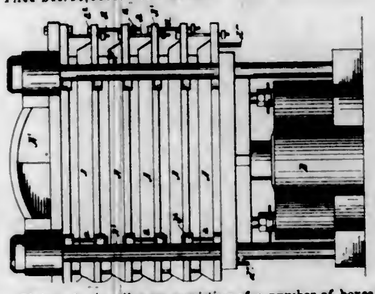
2. In a car-coupling, a draw-head having a lateral side slot, in combination with a link-guide journaled therein and adapted to fit a recess in the lower wall of the draw-head, substantially as specified.

261,439. SHOE. LOO CHEW FAN, San Francisco, Cal. Filed Jan. 30, 1882. (No model.)



Claim.—The improved shoe, consisting of the upper united at the front of the foot, in combination with the tongue extending to the toe end of the upper and stitched beneath and to the abutting portions, and the tip C, stitched over the outside of the said joint and extending from the toe up to the lower end of the front opening, whereby the front seam or joint is covered on one side by the tongue and on the opposite side by the tip, all substantially as set forth.

261,440. OIL-PRESS. WILLIAM R. FOX, Cincinnati, Ohio, assignor to the Planters Oil Machinery Company, same place. Filed Dec. 24, 1881. (No model.)



Claim.—1. An oil-press consisting of a number of boxes located one above another, and an appropriate pressing device, the bottom of said boxes being each provided with a series of longitudinal channels for conducting the oil into troughs formed in either end of the bottom, substantially as described.

2. In an oil-press, a series of boxes, A, located one above another, and each provided with the side flanges, *b*, the upper surface of the bottom of each box being provided with the channels *c*, and the lower face of the bottom of said boxes being provided with the channels D and the plate D', secured to said bottoms and provided with openings *e*, corresponding in position to the channels D, substantially as and for the purposes specified.

3. The boxes A, each provided with the channels D, and having secured thereto the plate D', provided with openings *e*, corresponding in position to the line of the channels D, each of said openings being provided with a ball-valve, E, substantially as and for the purposes specified.

4. The removable mat F for oil-presses, having the end flanges, *f f*, the bottom of said mat being provided with a series of openings, *f'*, and the rear flange, *f*, being provided with the openings *h'*, substantially as and for the purposes specified.

5. The combination of the boxes A, provided with side flanges, *b*, and channels *c*, and the removable mat F, provided with the end flanges, *f f*, and the openings *f'*, said openings being directly over the channels *c* when the mats are in the boxes, substantially as and for the purposes specified.

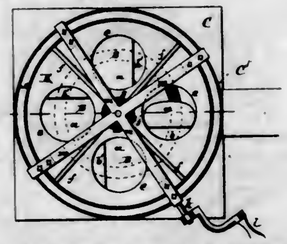
6. The combination of the boxes A, provided with channels *c* and side flanges, *b*, yoke *b'*, and recess *h*, and the removable mat F, provided with openings *f'*, corresponding in position to the line of the channels *c*, and the end flanges, *f*, one of said flanges being provided with the lug *g*, to fit under the yoke *b'*, substantially as and for the purposes specified.

7. The boxes A, located one above another, the bottom of each box being provided with the channels *c* and D, and having secured to the lower face of the bottom the plate D', provided with openings *e*, in combination with the removable mat F, provided with end flanges, *f f*, and openings *f'* in the bottom of the mat, and *h'* in the rear flange, *f*, substantially as and for the purposes specified.

8. In an oil-press, two or more boxes, A, each box being suspended from the one above it by bolts *a*, and all being suspended from the frame A', in combination with a press located below said boxes, substantially as and for the purposes specified.

9. The combination of the boxes A, suspended from the frame A', each box being provided with the adjustable wings A^2 and the posts A^3, substantially as and for the purposes specified.

261,441. MEASURING DEVICE OR APPARATUS. LEVI DODDS GOODFRIEND, Weldon, assignor to himself and Lloyd G. Spencer, Chicago, Ill. Filed Nov. 7, 1881. (No model.)



Claim.—1. In a measuring apparatus, the combination of a plate or bottom and a circular track attached thereto and provided with a curved depression, as described, with a rotary plate carrying a series of measures or receptacles provided with hinged bottoms, which are gradually allowed to open, and are then closed by the curved depression in the said track, substantially as shown and set forth.

2. In a measuring apparatus of the character set forth, a track, D, provided with a depression formed with the two curved or bent parts *d* and *d'*, arranged as described, in combination with a rotary plate carrying a series of attached measures or receptacles provided with hinged or piroted bottoms, which are gradually allowed to open, and are then closed by the curved or bent portions, in the manner and for the purpose described.

3. The plate or disk A and receptacles or measures B, located thereon, and each having a hinged flap or bottom, *a*, and guideway or track D, having a depression therein, in combination with the receptacle or cover E, having compartments provided with openings *e*, and a suitable mechanism for rotating the plate A, the receptacles or measures B, and receptacle or cover E, to bring each measure or receptacle B successively into position to be filled and discharged, substantially as specified.

4. The plate or disk A, receptacles or measures B, each having a hinged flap or bottom, *a*, receptacle or cover E, having compartments, each provided with an opening, *e*, and a suitable mechanism for rotating the plate A, receptacles or measures B, and receptacle or cover E, in combination with a bin or receptacle, F, for receiving and discharging measured quantities into the bin or receptacle F, substantially as specified.

5. The plate or disk A, receptacles or measures B, each having a hinged flap or bottom, *a*, in combination with the plate or support C, having an opening, *c*, track D, having a depressed portion, *d d'*, shaft *k*, gear-wheels *i j*, and shaft or rod *k*, substantially as and for the purposes specified.

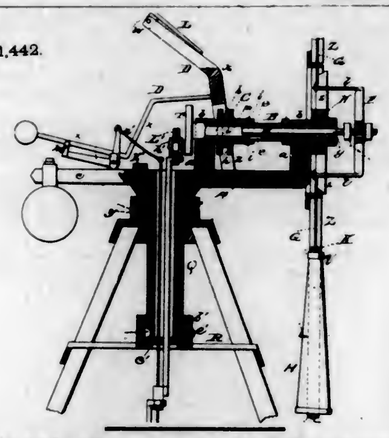
261,442. WINDMILL. JOHN B. GORNELL, La Otto, and ORANGE H. POST, New Era, Ind. Filed Apr. 1, 1882. (No model.)

Claim.—1. In a wind-engine, the central spider, W, of the wheel-frame, its recessed arms *z*, and the arms Z of the frame, the outer rim, J, and the inner rim-sections, K, the slats H and their cross-pieces *q* and pivots *r*, and the bent link-connections *s*, substantially as specified.

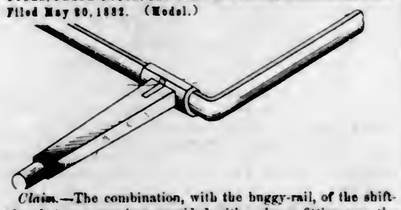
2. In a wind-engine, the bent governor-arm D and its vane L and the bent weight-arm *x*, in combination with the angle-lever M, its transverse bearing *m'*, and the operating cord or rope *n'*, substantially as specified.

3. In a wind-engine, the combination, with the casting A, having the hollow stem Q and the wheel, its hollow slotted shaft B, center slide-rod, E, sliding collar F, governor, and vane, of the counterbalance-weight *o'*, substantially as specified.

261,442.

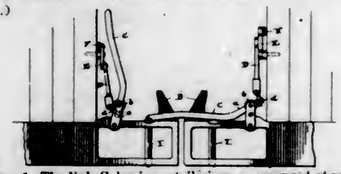


261,443. SHIFTING-RAIL FOR VEHICLES. ALEXANDER GOULD, FRANK GOULD, and THOMAS HARRIS, Alexandria, Ohio. Filed May 20, 1882. (Model.)



Claim.—The combination, with the buggy-rail, of the shifting-bracket or corner-iron provided with a sleeve fitting over the rail and having a slot and fastening device constructed and adapted to operate substantially as specified.

261,444. CAR-COUPLING. JAMES A. GOWANS and JOHN MACMILLAN, Paris, Ontario, Canada. Filed Apr. 27, 1882. (No model.)



Claim.—1. The link C, having a tail-piece, *a*, arranged at an angle thereto and provided with pivot-journals *b*, combined with the studs B, and the arms *e*, pivoted upon the draw-heads in such a manner that they may fall forward until the inner end surface of the link-aperture abuts against the adjacent stud B, but are prevented from passing backward beyond a vertical line, and with means, substantially as described, for manipulating said links and arms, as set forth.

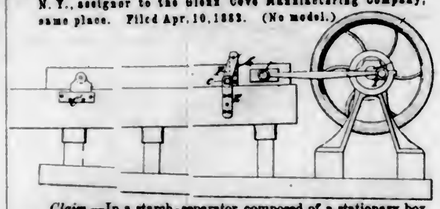
2. The link C, having tail-piece *a*, with journals *b*, as shown, the pivoted arms *e*, link *d*, rod D, and bell-crank E, combined with the vertical rod H, pivoted to the car-body at *g*, and with connections between said rod H and bell-crank E, whereby the link C may be thrown in or out of service as the rod H is forced in the proper direction laterally, as set forth.

3. In a car-coupling in which the coupling-link is pivotally connected to the draw-head and connected to the horizontal rod F by a rod and bell-crank, as specified, the combination of a vertical rod, H, connected to the rod F and extending to the top of the car, the said rod H being pivoted to the back of the car upon a pin passing through a vertical slot, substantially as and for the purpose specified.

4. In a car-coupler in which the coupling-link is pivotally connected to the draw-head and operated by the horizontal rod F, the combination of a spring, J, arranged to act against the horizontal rod F at or near the joint *f*, for the purpose of holding the coupling-link in a horizontal or vertical position, substantially as and for the purpose specified.

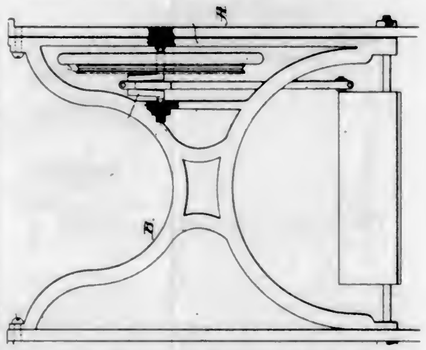
5. A coupling-link, C, provided with a tail-piece pivotally connected to the draw-head, in combination with the rod D, connected at one end directly to the link C and at the other end to the bell-crank E, pivoted upon the end of the car, substantially for the purpose specified.

261,445. STARCH-SEPARATOR. PAUL H. GRIMM, Glen Cove, N. Y., assignor to the Glenn Cove Manufacturing Company, same place. Filed Apr. 10, 1882. (No model.)



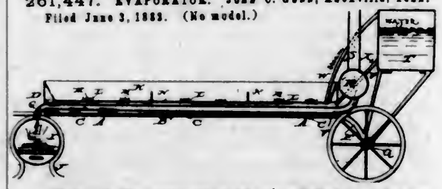
Claim.—In a starch-separator composed of a stationary box or receiver, a bolting-frame, and mechanism for reciprocating the latter, the herein-described devices for supporting the bolting-frame on and above the box or receiver, consisting of the vertical standards E E, rigidly secured to and projecting above the side walls of the box or receiver, the vertical standards G G, rigidly secured to and projecting above the side walls of the bolting-frame, and the short links F F, having their lower ends pivoted to the standards on the box or receiver and their upper ends pivoted to the standards on the bolting-frame, all substantially as shown and described.

261,446. SEWING-MACHINE TREADLE. WILLIAM L. GROUT, Orange, Mass., assignor to the New Home Sewing Machine Company, same place. Filed June 19, 1882. (No model.)



Claim.—The side pieces, A, the brace B, provided with the bearing-bars and the adjustable bearing-screws, combined with the crank-shaft supported at each end in the said bearing-screws, and the balance-wheel thereon, as shown and described.

261,447. EVAPORATOR. JOHN C. GUNN, Knoxville, Tenn. Filed June 3, 1882. (No model.)



Claim.—1. The combination of the pans D K, fire-box I, flues Q, and the smoke cylinder and stack, as set forth.

2. The pan D, forming the bed of a barrow or truck in combination with the evaporating-pan K and means for heating water in the space between said pans, as set forth.

3. The combination of the truck-frame A, mounted on wheels, as shown, pan D, fire-box I, having legs J, evaporating-pan K, flues Q, the smoke box and stack, the tank T, and the pipes U W, as and for the purpose set forth.

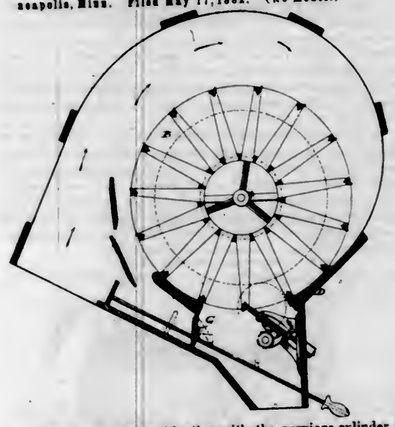
4. The combination of the pan D, pan K, having perforations L and covering-pipes M, and means for heating water between said pans, as set forth.

261,448. BILLIARD-CUE TIP. GEORGE M. HAMMOND, Geddes, assignor of one-half to T. William Meachem, Onondaga Valley, N. Y. Filed Mar. 11, 1882. (No model.)



Claim.—In combination with a billiard-cue provided with the tenon *t*, the tip proper, *a*, and leather ferrule *b*, formed in one piece of leather, substantially as shown and described.

261,449. DUST-ARRESTER. CHARLES M. HARDENBERGH, Minneapolis, Minn. Filed May 17, 1882. (No model.)

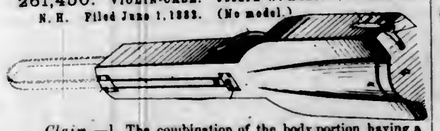


Claim.—1. In combination with the pervious cylinder, its casing, and the two flour-receiving pockets, the rod provided with the scraper and the valve-operating device.

2. In combination with the casing and the two flour-receiving pockets, the intermediate valve, G, and means, substantially as described, extending to the exterior of the apparatus, for the purpose of operating said valve.

3. In combination with the pervious cylinder, the casing, and the two flour-receiving pockets, a scraper adapted and arranged, substantially as described, to discharge the flour from the upper into the lower pocket.

261,450. VIOLIN-CASE. JOSEPH W. HARLOW, Portsmouth, N. H. Filed June 1, 1882. (No model.)



Claim.—1. The combination of the body portion having a transverse open end, a recessed end hinged to one edge of said open end, a packing between the adjoining edges of the parts, and a device for binding the lid or cover on the open end of the body portion, substantially as described.

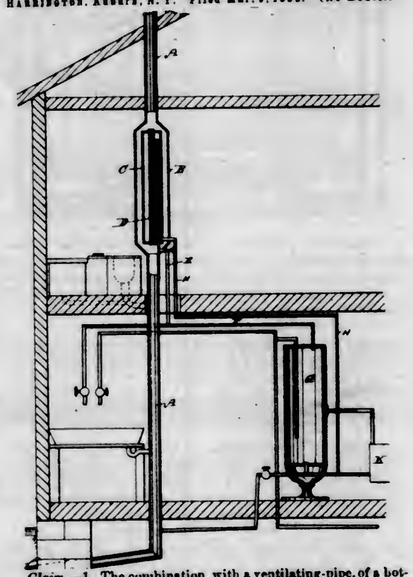
2. The combination, with the body portion, and the hinged lid provided with a slotted catch, of the flat spring provided with a threaded extension and a thumb-nut, substantially as described.

3. The combination, of the body portion provided with a transverse open end and neck, the lid or cover hinged to one edge of said open end and provided with a slotted catch, a packing to form a sealed joint between the parts, a spring having a threaded extension, and a nut on the latter, substantially as described.

4. A violin-case composed of a body portion provided with a transverse open end and a longitudinal bowed spring or springs, in combination with the recessed hinged lid or cover, provided on the interior of its end wall with a bowed spring, substantially as described.

5. The combination, in a violin-case, of the body portion provided with a transverse end and an arched top wall, the recessed lid or cover, hinged to one edge of said end and provided with an arched top, and a device for locking the lid or cover against the outer end of the body portion, substantially as described.

261,451. DEVICE FOR VENTILATING SOIL-PIPES. JOHN D. HARRINGTON, Auburn, N. Y. Filed Mar. 9, 1882. (No model.)



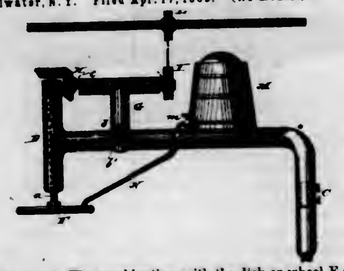
Claim.—1. The combination, with a ventilating-pipe, of a hot-water vessel located in the said pipe and adapted to permit of the passage of the gases through and around the same, substantially as and for the purpose set forth.

2. The combination, with the pipe A, provided with an enlargement, B, of the vessel C, adapted to contain hot water, and located in the enlargement B, substantially as herein shown and described, and for the purpose set forth.

3. The combination, with the pipe A, provided with an enlargement, B, of the vessel C, adapted to contain hot water, and provided with a tube, D, extending longitudinally through it, substantially as herein shown and described, and for the purpose set forth.

4. The combination, with the pipe A, of the vessel C, adapted to contain hot water, the inlet-tube E, extending to the top of the vessel C, the outlet-tube H, and the boiler G, substantially as herein shown and described, and for the purpose set forth.

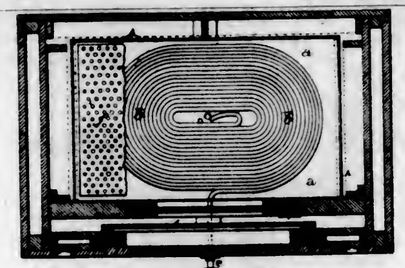
261,452. WOOL-OILING MACHINE. EDWARD M. HAWSON, Stillwater, N. Y. Filed Apr. 17, 1882. (No model.)



Claim.—1. The combination, with the disk or wheel F and mechanism for imparting to it a revolving motion, of the tank M, having a pipe, N, adapted to discharge its contents upon the disk or wheel, substantially as and for the purpose set forth.

2. The combination, with the shaft *a*, having the disk or wheel F at one end and the pinion E at the other end, the shaft *c*, having the pinion H and the pulley I, and the driving mechanism, of the tank M, having a faucet, *m*, and pipe N, leading to the disk F, substantially as and for the purpose set forth.

261,453. LIQUID-COOLING APPARATUS. GEORGE C. HOBONOS, Allegheny, Pa. Filed Dec. 31, 1881. (No model.)



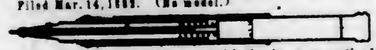
Claim.—In a refrigerator, the combination of an ice-chamber, A, provided with an ice-pan, *a*, the pipe *b*, connected at its inner end to a supply-source for the liquid and provided with a cock at its outer end, and the perforated plate *f*, placed on the top of the pipe, substantially as shown.

261,454. LEAD AND CRAYON HOLDER. JOSEPH HOFFMAN, New York, N. Y., assignor to Joseph Reckendorfer, same place. Filed Mar. 14, 1882. (No model.)



Claim.—The combination of the stem, the lead-containing tube and jaws or lead-grasping device carried thereon, the spring-impelled tip or nozzle, and the sliding point-protecting sleeve adapted to move said tip against the stress of the spring, substantially as and for the purposes hereinbefore set forth.

261,455. LEAD AND CRAYON HOLDER. JOSEPH HOFFMAN, New York, N. Y., assignor to Joseph Reckendorfer, same place. Filed Mar. 14, 1882. (No model.)



Claim.—1. The combination, with the inner case, the lead-clamp, the lead-clamp-operating mechanism, and the reacting spring, of the outer sleeve or ferrule fast to the inner case and a sliding extension-tube intermediate between the said sleeve and case, adapted to move the lead-clamp-operating mechanism against the stress of the reacting spring, and also to be moved back and forth, so as to lengthen or shorten the handle of the pencil, substantially as hereinbefore set forth.

2. The intermediate combined extension-piece, pressure-cap, and point-protector, in combination with the outer sleeve or ferrule, the inner case, the lead-clamping mechanism, and the reacting spring, substantially as hereinbefore set forth.

261,456. LEAD AND CRAYON HOLDER. JOSEPH HOFFMAN, New York, N. Y., assignor to Joseph Reckendorfer, same place. Filed Mar. 28, 1882. (No model.)



Claim.—1. The combination, with the sheath or case and stationary ratchet, of the reciprocatory propelling-tube, the lead-carrier contained therein and moved thereby, and the pawl or detent attached to the carrier, and acting in connection with the ratchet to retain the carrier in position during the return movement of the follower-tube.

2. The combination of the case or sheath and ratchet connected therewith, the reciprocating propelling-tube, the lead-carrier contained therein, and provided with a retaining pawl or detent to engage the ratchet, the pressure-cap, and the retracting-spring, substantially as and for the purposes hereinbefore set forth.

3. The combination, with the case or sheath and a retaining-ratchet connected therewith, of the lead-carrier and its pawl or detent, and the reciprocatory propelling-tube, adapted to have a movement of partial rotation for the purpose of throwing the pawl into or out of engagement with its ratchet.

4. The combination, with the pencil case or sheath and the double ratchet connected therewith, of the lead-carrier and its double pawl, and the reciprocatory propelling-tube containing the lead-carrier and adapted to have a movement of partial rotation for the purpose of bringing the carrier-pawl into engagement with one or the other of the ratchets on the ratchet-tube, substantially as and for the purposes hereinbefore set forth.

5. The case or sheath and double retaining-ratchet connected therewith, in combination with the lead-carrier and its double pawl, the reciprocatory propelling-tube adapted to have a movement of partial rotation, and a locking device for maintaining the said tube in either one of the positions to which it may be brought by rotary movement, substantially as and for the purposes hereinbefore set forth.

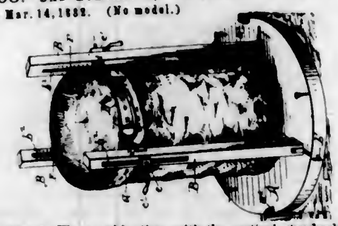
261,457. LEAD AND CRAYON HOLDER. JOSEPH HOFFMAN, New York, N. Y., assignor to Joseph Reckendorfer, same place. Filed Mar. 29, 1882. (No model.)



Claim.—1. The combination, with the sheath or case and the reciprocatory ratchet-tube, of a lead-carrier provided with a pawl to engage the ratchet of said tube, and also with a stem or radial extension which extends through a longitudinal slot in the case and has frictional contact therewith in such manner as to act to prevent the carrier from following or partaking of the return movement of the ratchet-tube, substantially as hereinbefore set forth.

2. In a lead or crayon holder in which the lead-carrier is adapted to be advanced step by step by a pawl-and-ratchet movement, the combination, with the sheath, the reciprocatory ratchet-tube, and the lead-carrier, of a pawl attached thereto and adapted to be moved into and out of contact with the ratchet-tube, and a pawl-shifter operated from the exterior of the sheath to throw the pawl into and out of engagement with said ratchet-tube, substantially as and for the purposes hereinbefore set forth.

261,458. BAG-HOLDER. JULIUS HOLBRAMP, Comfort, Tex. Filed Mar. 14, 1882. (No model.)

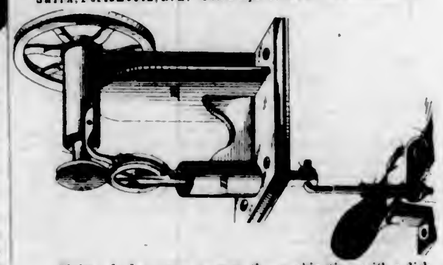


Claim.—1. The combination, with the vertical standards B, radially adjustable, as set forth, of the vertically-adjustable hooks C and adjustable ring D, substantially as described.

2. In combination with the table A, the standards B, hooks C, ring D, and staples F, substantially as described.

3. The combination, with the slotted table A, slotted standards B, provided with tenons at their lower ends, and pins *b'*, of the hooks C, provided with threaded shanks *c*, lever-nut *c'*, and adjustable ring D, substantially as described, and for the purpose set forth.

261,459. SEAM PRESSER. JOSHUA C. JELLISON and WINFIELD SMITH, Portsmouth, N. H. Filed Apr. 8, 1882. (No model.)

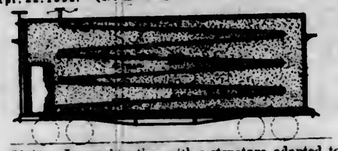


Claim.—1. In a seam-presser, the combination, with a disk having a concaved periphery constructed with its deepest portion milled and with smooth sides, of an adjustable wheel having a convexed periphery, substantially as and for the purpose set forth.

2. In a seam-presser, the combination, with a disk having a concaved periphery, of a wheel having a convexed periphery, a spindle in the upper end of which said wheel is mounted, and devices to elevate the spindle and bear the periphery of the wheel against that of the disk.

3. In a seam-presser, the combination, with a disk having a concaved periphery, of a wheel having a convexed periphery, a spindle in the upper end of which the wheel is mounted, and devices to apply foot-power to the spindle to elevate it and bear the periphery of the wheel against that of the disk.

261,460. REFRIGERATING AND DRYING GRAIN, &c. HENRY C. JOHNSON and FRANCIS M. MCMILLAN, Washington, D. C. Filed Apr. 22, 1882. (No model.)



Claim.—In combination with a structure adapted to receive grain in bulk, a series of pipes or tubes carried through the structure at short distances apart throughout the same, and a receiver or vessel charged with compressed gas, and communicating directly with the pipes or tubes, as and for the purpose set forth.

261,461. FIRE-PROOF SAFE. HENRY C. JOHNSON and FRANCIS M. MCMILLAN, Washington, D. C. Filed Apr. 6, 1882. (No model.)



Claim.—1. In combination with a safe, a gas-receiver inside of the safe, provided with an escape-valve opening into the safe, a lever bearing upon the valve and serving to hold the plug to its seat, and a fusible device adapted and arranged to hold the lever down upon the valve until a given temperature is reached, and then to release the lever and valve, as explained.

2. In combination with the safe, a receiver placed within the safe, provided with valve C, wire or rod *d*, and fusible nut or block *e*, all arranged to operate as shown and described.

3. In combination with a gas-receiver within a safe and provided with an escape-valve, a fusible block or device located on the outside of the safe, and an intermediate connection between the valve and fusible block, as and for the purpose specified.

261,462. COOLING AND VENTILATING CARS. HENRY C. JOHNSON and FRANCIS M. MCMILLAN, Washington, D. C. Filed Apr. 26, 1882. (No model.)



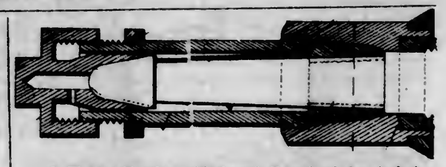
Claim.—1. The herein-described cooling apparatus for cars, consisting of gas-receiver B, expansion coil or chamber C, tank E, fan F, and friction-gear, substantially such as shown and described, for imparting motion from the truck-wheels to the fan.

2. In combination with a refrigerating apparatus substantially such as described, a casing surrounding the expansion coil or chamber or a part thereof, and provided with a liquid-chamber and a fan arranged to deliver air into the liquid-chamber, substantially as explained, whereby the air is caused to pass upward through the liquid.

3. In combination with a refrigerating apparatus substantially such as shown and described, a fan arranged to supply air thereto, and a supply-pipe for the fan, provided with a filtering-chamber, as and for the purpose set forth.

261,463. VEHICLE-AXLE. HENRY M. KELLER, Newark, Ohio. Filed May 29, 1882. (No model.)

Claim.—1. The combination, with a spindle and axle-box, of a nut provided with oil-chambers and a cup-bearing and adapted to be adjusted to compensate for wear on the parts, substantially as and for the purpose set forth.



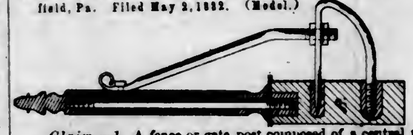
2. The combination, with the spindle and axle-box inclosing the latter, of a nut provided with an oval-shaped cup to receive the head of the spindle, and adapted to be adjusted upon the box to compensate for wear on the journals and bearings, substantially as and for the purpose set forth.

3. The combination, with a spindle provided with an oval-shaped head having longitudinal grooves, of a cylindrical box inclosing the spindle and provided with an oil-opening, and a nut adapted to be screwed onto the outer end of the box, and provided with oil-chambers, and a conical cup or bearing, substantially as and for the purpose set forth.

4. The combination, with an axle-spindle provided with an oval-shaped outer end, of a sleeve secured upon the inner end of the spindle and provided interiorly with an annular shoulder and a tapering bearing, a conical collar adapted to said bearing, a box inclosing the spindle, and a nut provided with oil-chambers, as shown, and an oval-shaped cup or bearing to receive the outer end of the spindle and adapted to be screwed onto the outer end of the box, substantially as and for the purpose set forth.

5. The combination, with spindle, of a sleeve provided with an interior shoulder and a tapering bearing, a nut arranged on the inner side of said sleeve, and washers interposed between said sleeve and nut, a tapering collar provided with interior longitudinal ribs, which engage corresponding grooves of the spindle, and with exterior grooves for the passage of oil, a longitudinal brace to retain said collar in place, a box inclosing the spindle and screwed into the outer end of the sleeve, and an outer nut screwed onto the outer end of the box, substantially as and for the purpose set forth.

261,464. IRON FENCE AND POST. RICHARD KENNARD, Clearfield, Pa. Filed May 2, 1882. (Model.)



Claim.—1. A fence or gate post composed of a central rod fixed in a base-post, with tubular pipe-sections surrounding the same, in combination with a gate-attaching ring, E, formed with hinge-eye *m*, secured to one of the pipe-sections, substantially as described.

2. The combination, with a base block or stone, of a bracing means consisting of a metallic loop set therein, and a brace-rod attached to the upper pipe-section of the post, and formed with screw-threads at the lower end, which passes through a bolt-hole in the upper arm of the loop in the base-block, and provided with adjusting and locking screw-nuts, substantially as described.

3. A fence-post composed of a central rod fixed in a base-post and surrounded by tubular sections, in combination with longitudinal rails between the sections, and bracing means attached to one of the tubular sections, and the lower end provided with screw-threads and adjusting and locking nuts, operating in the arm of a loop set in the base stone or block, substantially as described.

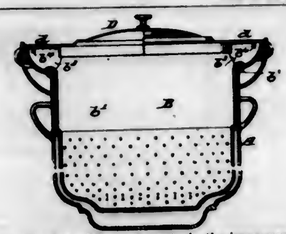
4. The combination of a fence-post composed of a post-rod and surrounding tubular sections with a base-plate surrounding the post-rod and covering the top of a base-block formed with a hinge-block, substantially as described.

5. In an iron fence, the combination of a post-rod and surrounding tubular sections, the upper one of which is formed or provided with an extension, *i*, and the longitudinal rails, the top one being formed with a slot, *g'*, substantially as and for the purpose set forth.

261,465. COOKING UTENSIL. JACOB LEVY, St. Louis, Mo. Filed June 6, 1882. (No model.)

Claim.—1. The combination of the outer pot, A, the inner perforated pot, B, having the lips b^2 b^2, and the lid D, having the projections *d d*, substantially as described.

2. The combination of the outer pot, A, the inner perforated pot, B, having the lips b^2 b^2, and the lid D, having the projections *d d*, said pots being relatively shaped to form the annular space C, substantially as described.



3. The combination of the outer pot, A, the inner perforated pot, B, having the lips b^2 b^2 and extending at b^3 above the outer pot, and the lid D, having the projections d d, substantially as described.

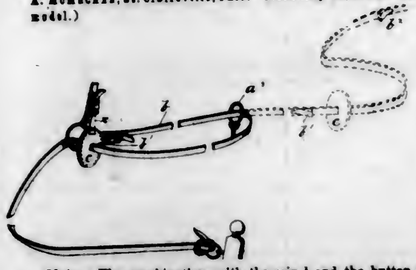
261,466. VENTILATOR FOR MINING-SHAFTS. CHARLES S. LITTENBERGER, Indianola, Iowa. Filed May 11, 1882. (No model.)



Claim.—1. A shaft provided with a vertical partition extending from the top to near the bottom of said shaft, in combination with a steam-nozzle arranged in one of the compartments thus formed for the purpose of creating an upward current in the same, as set forth.

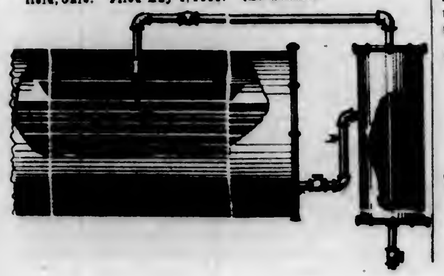
2. A mining or other shaft having a partition, B, extending vertically from the top to near the bottom, in combination with the stack E, built over and forming an upward extension of the smaller of the compartments thus formed, and provided with the door F, and steam-supply pipe G, having nozzle H, as and for the purpose set forth.

261,467. HITCHING-STRAP. JOHN E. MCMECHAN and WILLIAM A. MCMECHAN, St. Clairsville, Ohio. Filed May 15, 1882. (No model.)



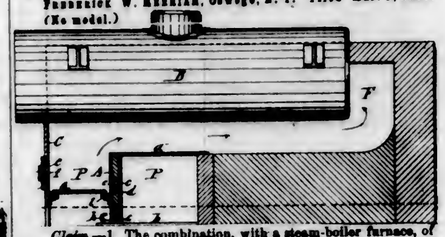
Claim.—The combination, with the rein b and the button c, having slot c', and placed upon and sliding freely to and fro on the rein b, of the stops b' b^3, made fast to the rein b, the stop b^3 being located at the free end of the rein, and the stop b' being located at such distance from the free end of the rein as to provide sufficient length of rein for a hitching-strap, substantially as set forth.

261,468. BOILER-CLEANER. JAMES E. HENDERSHALL, Springfield, Ohio. Filed May 4, 1882. (No model.)



Claim.—A steam-boiler cleaner or lime-extractor consisting, in connection with the boiler and a sediment-receiving drum, of the longitudinal horizontal sediment-trough K above the flues, the cap-plate L above said trough, and the passage or passages a between the trough and cap-plate, the sediment-carrying pipe P, and the return-pipe D, substantially as specified.

261,469. VARIABLE FIRE-ARCH FOR STEAM-BOILERS. FREDERICK W. KERRIAN, Oswego, N. Y. Filed Mar. 9, 1882. (No model.)



Claim.—1. The combination, with a steam-boiler furnace, of a variable fire-arch consisting essentially of a prolonged pit communicating with a fire-door, and a bridge-wall arranged movable intermediately of the length of said pit, substantially as set forth.

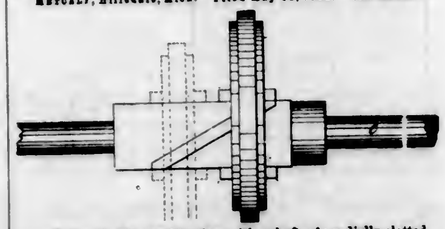
2. The combination, with the boiler B and its furnace, of the pit P, the movable bridge-wall A, and movable plate a, as shown and set forth.

3. In combination with the boiler B and its furnace, the pit P, track b, movable bridge-wall A, and movable plate a, as described and shown.

4. In combination with the boiler B, its furnace, and pit P, the track b, metallic frame C, mounted movably on said track and provided with the ledge l, the fire-brick or tile d, movable plate a, grate G, and feed-door D, as shown and set forth.

5. In combination with the boiler B, its furnace, pit P, and movable bridge-wall A, the front plate, C, provided with the feed-opening e, the door D, provided with a smaller feed-opening, f, and the supplemental door g over the opening f, substantially as and for the purpose specified.

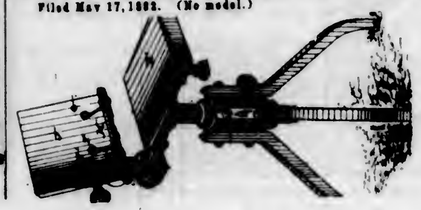
261,470. ECCENTRIC. GEORGE T. HETCALF and DWIGHT W. HETCALF, Hillsdale, Mich. Filed May 16, 1882. (No model.)



Claim.—1. The combination, with a shaft, of a radially-slotted eccentric, a block loosely arranged within the slotted eccentric and rigidly secured to the shaft, and suitable means whereby the eccentric may be made to move along the said block, substantially as and for the purpose specified.

2. The combination, with a shaft, of the radially-slotted eccentric, the block loosely arranged therein and secured to the shaft, and the slotted slide loosely inclosing the block and having diagonal ribs loosely in engagement with the eccentric, substantially as shown and described, whereby the eccentric may be adjusted with respect to the longitudinal center of the shaft, for the purpose set forth.

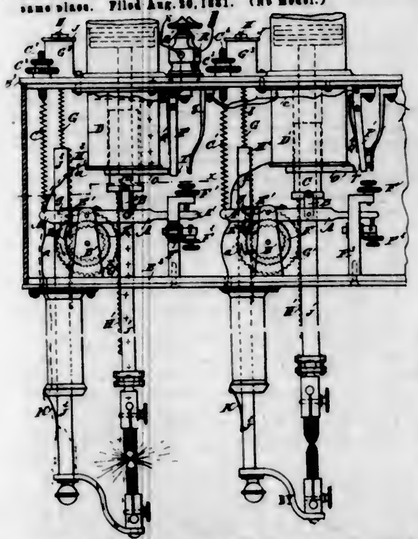
261,471. READING-DESK. HYRUM H. HOOBS, Woodford's, Md. Filed May 17, 1882. (No model.)



Claim.—1. The combination, with a book-rest having a supporting-ledge in which are formed on its upper face rearwardly-extending grooves, of the springs for holding the book open, having a central upwardly-bowed portion passing under the rest and adapted to bind against the bottom of the grooves, said bowed portion imparting greater elastic movement, as set forth.

2. As a new article of manufacture, the herein-described reading-desk, consisting of the base, the adjustable standard, horizontal arm centrally swiveled upon the same, the desk pivoted to the horizontal arm, the adjusting-screw in the arm and under the desk, and the vertical standard loosely mounted in the opposite end of the said arm and provided with an adjustable book-support, as and for the purpose set forth.

261,472. MULTIPLEX ELECTRIC LAMP. HANS J. MULLER, New York, N. Y., assignor to himself and Alexander Lovatt, same place. Filed Aug. 26, 1881. (No model.)



Claim.—1. In an electric lamp, the combination, with the helix-core, of a lever pivoted thereto and to suitable standards, a pawl pivoted to this lever, a ratchet-wheel acted upon by the pawl, a cog-wheel which is fast on the same shaft with the ratchet-wheel, and a rack on the carbon-holder, substantially as herein shown and described, and for the purpose set forth.

2. In an electric lamp, the combination, with the helix D, of the core C, the lever A, pivoted to standards B', the pawl E, the ratchet-wheel F, the cog-wheels G' and G^2, all of said wheels being fast on the same shaft, and the racks H' H^2 on the carbon-holders J' J^2, substantially as herein shown and described, and for the purpose set forth.

3. In an electric lamp, the combination, with the helix D, of the core C, the lever A, pivoted to standards B', the spring C', the pawl E, the ratchet-wheel F, the cog-wheels G' G^2, all of said wheels being fast, and the racks H' H^2 on the carbon-holders J' J^2, substantially as herein shown and described, and for the purpose set forth.

4. In an electric lamp, the combination, with the carbon-holder J^2, of the spring G, the insulating-cap H, and the cap or plate J, substantially as herein shown and described, and for the purpose set forth.

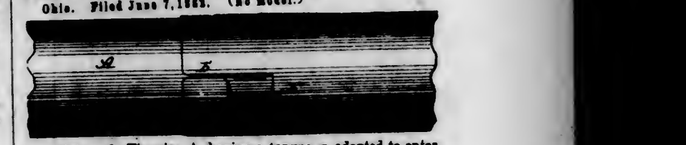
5. In an electric lamp, the combination, with the lever A, of the pawl E, the spring E', and check-stud g, substantially as herein shown and described, and for the purpose set forth.

6. In an electric lamp, the combination, with two or more helices having pole-pieces and two or more sets of carbons which are regulated in position by means of said helices, of as many pivoted armatures and corresponding contact-strips, minus one, as there are helices, substantially as shown and described, and for the purpose set forth.

7. In an electric lamp, the combination, with two or more helices having pole-pieces and two or more sets of carbons which are regulated in position by means of said helices, of as many pivoted armatures P, pressure-springs Q, and contact-strips S, save one, substantially as herein shown and described, for the purpose set forth.

8. In an electric lamp, the combination, with the tubular casing I, of the arms L' L^2, both attached to said casing, provided with eyes M' M^2, substantially as herein shown and described, and for the purpose set forth.

261,478. STOVE-PIPE JOINT. JAMES HAUGHTON, Dayton, Ohio. Filed June 7, 1882. (No model.)

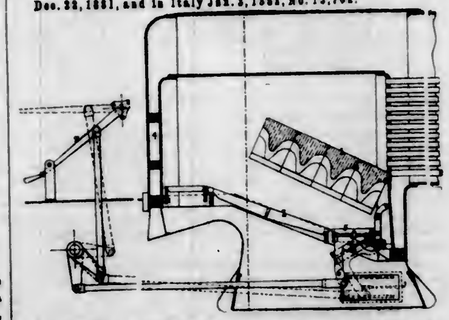


Claim.—1. The pipe A, having a tongue, a, adapted to enter the slot b' and space b of the pipe B, substantially as shown and described.

2. The pipe B, having a space, b, cut in it, a slot, b', and notch b^2, said space being adapted to receive the tongue a of the pipe A, substantially as shown and described.

3. The combination of the pipe A, having a tongue, a, formed in its circumference, with the pipe B, having a space, b, cut in it, a slot, b', and notch b^2, all arranged substantially as shown and described.

261,474. FIRE-BOX FOR LOCOMOTIVES. PAUL AUGUST NEPILLY, Saarbrücken, Germany. Filed Mar. 7, 1882. (No model.) Patented in Germany July 28, 1880, No. 12,856, and Apr. 28, 1881, No. 15,597; in Austria-Hungary Feb. 18, 1881, No. 40,571 and No. 5,019; in France Dec. 20, 1881; in Belgium Dec. 22, 1881, and in Italy Jan. 3, 1882, No. 13,762.



Claim.—1. A boiler-furnace having a fire-screen of fire-proof material made with a series of rounded ribs at its under surface, an inclined grate, and a rear vertical grate, 3, substantially as and for the purposes set forth.

2. A boiler-furnace having a fire-screen of fire-proof material, and with a series of rounded ribs at its under surface, an inclined grate, a rear vertical grate, and a dumping-grate, substantially as shown and described.

3. A boiler-furnace having a fire-screen with a series of rounded ribs on its under surface, a main grate, a rear vertical grate, 3, a dumping-grate, and a horizontal coking-grate, substantially as shown and described.

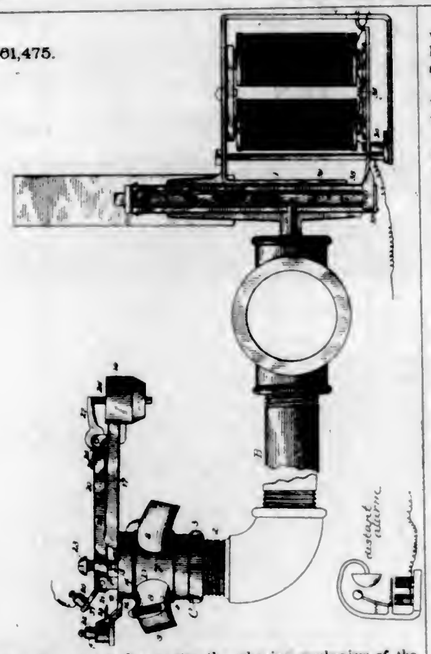
261,475. FIRE EXTINGUISHING AND ALARM APPARATUS. WILLIAM NEBACHER, Cleveland, Ohio. Filed Mar. 3, 1882. (No model.)

Claim.—1. A fire extinguisher and alarm apparatus consisting of a water-pipe or a series of water-pipes, each having a valve and distributing apparatus, mechanism acting in connection with a stop fusible at comparatively-low temperature for holding the valve in a closed position, a properly-insulated wire, with earth and battery connections, including in the circuit a distant alarm, and also including the mechanism for holding the valve, with a break in said line at the valve-holding mechanisms, the said break being closed when the stop is melted and the valve freed.

2. In an apparatus for automatically letting on water or giving alarm, a releasing apparatus consisting of a fusible plug or body held in a case, and acting as a resistance while solid, but yielding when melted, said plug operating in connection with suitable lever or equivalent mechanism, substantially as described.

3. In a fire alarm or extinguishing apparatus, a fusible stop or dog of wax or like material, included in a box or case, and serv-

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ing, while solid, to dog or stop the releasing mechanism of the alarm or water-supply, as set forth.

4. The combination, with the distributer, the valve-chamber, and valve, of the cup 19, the fusible plug, and the levers 27 20.

5. The combination of the distributer and its valve with the independent cup 19, the pivoted catch 27, the lever 20, and the spring 24.

6. The revolving distributer D, having the curved nozzles inclined upward and downward, as shown, and having the flat discharge-orifices.

7. The combination of the valve-chamber B, the valve E and its stem, the perforated cap-plate 14, having the cup 19 and carrying the lever 20, and adjusting-screw 23.

8. The cup 19, having the perforated bottom, in combination with a fusible plug, a plate, 25, and a lever or levers connected with the valve of the distributer.

9. In combination with the distributer of a fire-extinguisher, a valve adapted to shut off the water from said distributer, and means for automatically raising said valve when released, a lever adapted to hold such valve in a closed position, a fusible or meltable plug adapted to hold the lever against the valve, an electric circuit in connection with said lever, and a point opposite the end of the lever, also in the electric circuit, the parts being arranged as specified, whereby the melting of the plug releases the valve and closes the circuit, substantially as described.

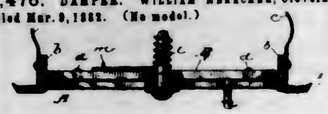
10. The combination of the valve 1 and its stem, the pivoted lever J, and the cam-grooved brackets L L'.

11. The valve 1 and its stem, in combination with the pivoted lever J and the cam-grooved brackets L L', having straight ends.

12. The combination of the supply-valve, the standard having inclined grooves, the cross-bar, the two-part spindle, and the weighted lever.

13. In combination with the supply-valve, the weighted lever connected therewith and adapted to open the same by falling, the stop-lever adapted to hold up the weighted lever while the valve is closed, a temporary magnet, and electrical connections to the battery adapted to remove said stop-lever and allow the weighted lever to fall and open the valve.

261,476. DAMPER. WILLIAM MERACHER, Cleveland, Ohio. Filed Mar. 9, 1882. (No model.)

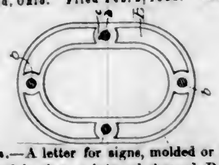


Claim.—1. The combination of the valve plate or seat A, the valve B, the spring *l*, and the wire *k*, provided with a loop or equivalent device adapted to hold the valve closed against the force of the spring, as set forth.

2. The combination of the valve seat or plate A, the valve B, the pin *a*, slitted at its end, the spring *l*, and the pin *m*, substantially as described.

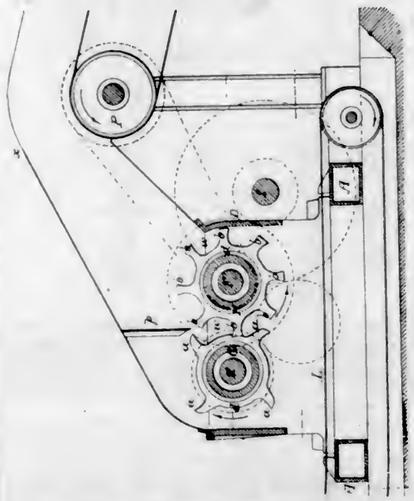
3. Combined with the valve-seat adapted to fit an opening, and having springs *c*, the lugs *d d* on such seat, adapted to bear on the edge of the opening.

261,477. RAISED LETTER FOR SIGNS. WILLIAM MERACHER, Cleveland, Ohio. Filed Feb. 2, 1882. (No model.)



Claim.—A letter for signs, molded or pressed from plastic material, and having an integral channel, B, and integral lugs *a* in such channel, and having bolts *b* embedded in such lugs in the process of forming the letter, substantially as described.

261,478. SUGAR-CANE SHREDDER. JNO. PARKER, New York, N. Y., assignor of one-half to James Langlands Cochrane, same place. Filed May 12, 1882. (No model.)



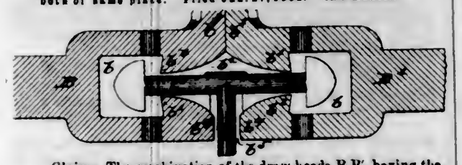
Claim.—1. The combination, in a cane-shredding machine, of the drum G, having teeth *a*, and the drum H, having teeth *b*, with gearing through the medium of which the said drums are driven, the former rapidly and the latter slowly, in the direction of their arrows, and with feed mechanism, substantially as described, whereby the canes are fed to the drum H in a direction transversely to their length, as set forth.

2. The combination of the toothed drums G and H, gearing for rotating the same in opposite directions and at different speeds, a guard-plate, *p*, and an endless conveyer and chute, whereby the canes are fed to the drum H in a direction transversely to their length, as set forth.

3. The combination, in a cane-shredding machine, of a toothed shredding-drum, a drum whereby the canes are fed in bundles to said shredding-drum, feeding mechanism whereby the canes are delivered to said feeding-drum in a direction transversely to their length, and a conveyer whereby the shredded canes are carried from the machine, as set forth.

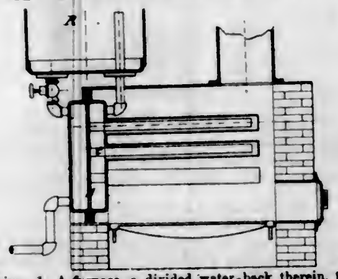
4. The combination of the drums G and H and driving-shaft I of a cane-shredding machine, with gearing, substantially as described, whereby the strains on the drums G and H, due to the action upon the canes of the teeth of the drum G, are caused to exercise a counteracting influence on the shaft I, as set forth.

261,479. CAR-COUPLING. JOHN A. PORTER, St. Louis, Mo., assignor of two-thirds to William L. Huse and James L. Huse, both of same place. Filed Jan. 27, 1882. (No model.)



Claim.—The combination of the draw-heads B B', having the shoulders *b'*, the laterally-elongated mouths *b*², and the flanges *b*³, projecting beyond the lower flanges, *b'*, and the coupling-bolt *c*, having the flattened heads *c c* and the handle D, substantially as described.

261,480. HEAT-GENERATING APPARATUS. WILLIAM E. PRALL, New York, N. Y. Filed Dec. 27, 1880. (No model.)



Claim.—1. A furnace, a divided water-back therein, tubes open at both ends and leading from one compartment of such water-back into tubes opening into the other compartment at one end, closed at the other end, and surrounding the other tubes, combined with the water-tank R, connected with said water-back upon opposite sides of its diaphragm, and adapted to operate to insure circulation of heated water throughout the apparatus, substantially as specified.

2. In a water-heater, a multitubular water-back provided with a diaphragm dividing it into chambers, whereby the heating-tubes are separated from the supply-tubes and circulation is induced from the heating-tubes independent in its movement of the water supplied to take its place, combined with the receiving-drum R, connected to the water-back on opposite sides of its diaphragm, a water-supply, and a valve or cock connected with said drum and operated to produce either a forced or natural circulation through the apparatus, substantially as specified.

261,481. CLOTHES-PIN. WILLIAM H. PRouty, Boston, Mass., assignor of one-half to Peter Collamore, same place. Filed Mar. 16, 1882. (Model.)



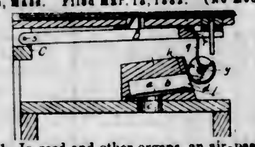
Claim.—A clothes-pin composed of the jaw *a*, provided with the line-receiving notch *d*, and the jaw *b*, pivoted to the end of jaw *a*, as shown, and extending over the said notch, whereby it may be rotated on the said pivot to uncover the said line-receiving notch, or to cover and lock the line therein, the said jaws flaring apart at their free ends, substantially as and for the purpose specified.

261,482. NUT-LOCK FOR CARRIAGE-TOP PROPS. SILAS H. RAYMOND, South Bend, Ind. Filed May 9, 1882. (Model.)



Claim.—The nut-locking attachment for the top-joints of carriages herein described, consisting of the spring C, provided with the curved portion *c*, with its eye *c'*, having a straight section, as shown, arch *c''*, and laterally-extended portion *c'''*, in combination with the bolt A, provided with the flat portion or depression *a*, and the nut E, with its angular-sided extension *e*, substantially as and for the purposes described.

261,483. VALVE FOR REED-ORGANS. JOHN P. RICHARDSON, Cambridge, Mass. Filed Mar. 13, 1882. (No model.)



Claim.—1. In reed and other organs, an air-passage leading to a reed, a valve for said air-passage made of a strip of flexible material and fixed at one end, and a roller having the other end of said valve secured to it, in combination with an arm from which said roller is suspended so as to rotate, and mechanism constructed and arranged to act upon said carrying-arm for the roller in a manner to move the roller forward and backward over said air-passage, all substantially as and for the purpose described.

2. In reed and other organs, an air-passage leading to a reed, a valve for said air-passage made of a strip of flexible material and fixed at one end, and a roller having the other end of said valve secured to it, in combination with an arm from which said roller is suspended so as to rotate, and which is constructed and arranged to exert a yielding pressure in relation to said roller and its movement, and mechanism constructed and arranged to act upon said carrying-arm for the roller in a manner to move the roller forward and backward over said air-passage, all substantially as and for purpose described.

3. In reed and other organs, an air-passage leading to a reed, a valve for said air-passage made of a strip of flexible material and fixed at one end, and a roller having the other end of said valve secured to it, in combination with an arm from which said roller is suspended so as to rotate, and which is constructed and arranged to automatically move said roller in one direction, and mechanism constructed and arranged to act upon said carrying-arm for the roller in a manner to move said roller in one direction and to allow it to be moved in an opposite direction over said air-passage, all substantially as and for the purpose described.

4. In reed and other organs, an air-passage leading to a reed, a valve for said air-passage made of a strip of flexible material and fixed at one end, and a roller having the other end of said valve secured to it, in combination with an arm from which said roller is suspended so as to rotate, and which by its spring exerts a yielding pressure in relation to said roller and its movement, and to automatically move said roller in one direction, and mechanism constructed and arranged to act upon said carrying-arm for the roller in a manner to move said roller in one direction and to allow it to be moved in an opposite direction over said air-passage, all substantially as and for the purpose described.

5. In a reed or other organ, an air-passage, *d*, leading to a reed, a valve, *f*, for said air-passage made of a flexible material and fixed at one end, a roller, *g*, having the other end of valve *f* secured to it, in combination with an arm, *q*, having a hook end, *p*, for the suspension of the roller *g*, and with a lever, B, to which said arm *q* is attached, arranged to be operated, all substantially as described, for the purpose specified.

6. In combination with a roller, *g*, having an axial pin, *a*, and an arm, *q*, having a hook end, *p*, in which said roller is arranged to rotate, an air-passage, *d*, leading to a reed, *b*, &c., of a reed or other organ, all substantially as described, for the purpose specified.

261,484. APPARATUS FOR MELTING SNOW. FRANCIS D. RIKER, Brooklyn, N. Y. Filed Apr. 14, 1882. (No model.)

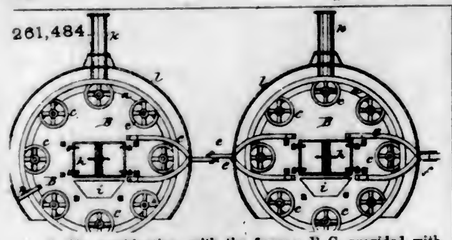
Brief.—The melting-roller consists of a cylindrical flanged shell revolving on rollers attached to disk-shaped heads, constituting the end walls of a furnace, said furnace having the escape-flue tube coiled thereon inside of the cylindrical shell. Two of said rollers are joined by braces, and the forward one is provided with a draft-pole.

Claim.—1. An improved snow-melting apparatus, consisting of a roller fitted to revolve upon rollers on the heads of a stationary furnace, substantially as herein shown and described, and for the purpose set forth.

2. The hollow roller A, provided with flanged rings *a a*, the heads B B, fitted with rollers *c*, and the furnace C, attached to the heads B B and provided with the escape-flue D, substantially as described, combined for operation as set forth.

3. The furnace C, coiled escape-flue D, and chimney *k*, in combination with the stationary heads B B and revolving cylindrical shell *b*, substantially as shown and described.

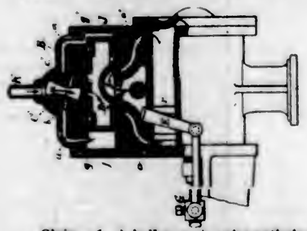
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4. The combination, with the furnace B C, provided with rollers c, of the roller A, provided with flanged ends and the hood *l*, substantially as and for the purpose set forth.

5. In a snow-melting apparatus, the combination, with two or more rollers, A A, fitted to revolve upon rollers on the heads of the stationary furnaces B C, of the braces *e* and the draft-pole *f*, substantially as and for the purpose set forth.

261,485. STEAM-ACTUATED VALVE. WESLEY ROYER, Toledo, Ohio. Filed Mar. 16, 1882. (No model.)



Claim.—1. A hollow main valve entirely free to move within its chest, having a flat face or sole-plate, and formed with a central crown-port, *m'*, and end ports, *k k'*, and central recess or cavity, *i*, in its sole-plate, in combination with the ceiling of the valve-chamber, having two steam-passages, *a a'*, and two exhaust-passages, *h h'*, as set forth.

2. The combination of main valve D, constructed as shown, valve-chest ceiling, having passages *a a' h h'* and port *m*, service-pipe K, and an auxiliary oscillating valve, C, intermediate of service-pipe and port *m*, as set forth.

3. An auxiliary valve, C, provided with central duct, *n*, lateral branches *b b'*, and end ducts, *c c'*, as set forth.

4. The auxiliary valve C, having central duct, *n*, lateral branches *b b'*, and end ducts, *c c'*, in combination with steam-ports *a a'* and exhaust-ports *h h'*, as set forth.

5. The auxiliary valve C, located preferably above the slide-valve D in chest B, with which it communicates by duct *n* and ports *m m'*, and thence to steam-cylinder, said duct *n* being branched, *b b'*, for alternate connection with passages *a a'* to the slide-valve chamber, and having ducts *c c'*, for alternate connection of exhaust-passages *h h'* from slide-valve chamber into the general exhaust, as and for the purposes set forth.

6. In the two-chambered chest B, the combination of the slide-valve D, the steam and exhaust passages *a a' h h'*, the positively-oscillated auxiliary valve C, having spindle *f*, arm E, connecting-rod H, lug G, and piston-rod I, as and for the purpose set forth.

7. In combination with the steam-ports K *m m' a a'* and the exhaust-ports *h h'*, the positively-oscillated auxiliary valve C, having the ducts or passages *n b b' c c'*, for the purpose indicated.

8. In combination with the steam-ports *m m' a a' c c'* and the exhaust-ports *h h' d e* P, the hollow steam-actuated main valve D, having the ports *m' h h'* and the cavity *i*, as and for the purposes designated.

9. The auxiliary valve C in chest B, which communicates with slide-valve D in said chest by duct *n* and ports *m m'*, and thence to the steam-cylinder, said duct *n* being branched, *b b'*, for alternate connection with passages *a a'* to the slide-valve chamber, and having ducts *c c'*, for alternate connection of exhaust-passages *h h'* from slide-valve chamber into the general exhaust, as and for the purposes set forth.

261,486. PIPE-WRENCH. JOHN E. SANDAHL, Indianapolis, Ind. Filed May 26, 1882. (No model.)

Claim.—In a pipe-wrench, the screw-threaded ribs *c c*, formed upon and integral with the bar A, in combination with nut *e* and sliding jaw B, recessed as shown and described, and fitting

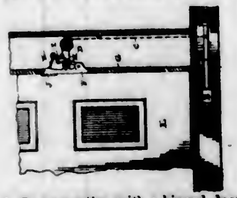
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to and sliding on the bar A without touching ribs *c*, substantially in the manner and for the purpose set forth.

261,487. DOOR-BALANCE. WILLIAM P. SEXTON, Sr., and WILLIAM P. SEXTON, Jr., Toronto, Ontario, Canada. Filed Feb. 20, 1882. (No model.)

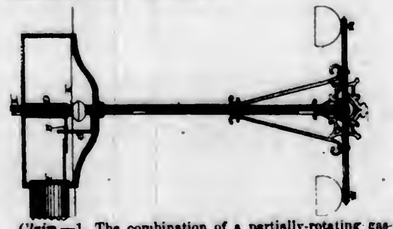
Brief.—A weighted lever in the casing above or below the door takes the place of a spring placed generally in the upright frame.



Claim.—1. In connection with a hinged door, a pivoted and weighted lever connected by a chain to a lever pivoted to the door-jamb, in combination with a lever also pivoted to the door-jamb, its other end being connected to the back edge of the door by a link.

2. The combination, with the pivoted lever A, provided with an adjustable weight, B, of the chain C, the levers E I, the roller *e*, the link K, and the casting F, one end of the link K being connected to a door and the casting F secured to a door-jamb, substantially as and for the purpose specified.

261,488. VENTILATION. JOHN R. SHIRLEY, Providence, R. I. Filed Mar. 8, 1882. (No model.)



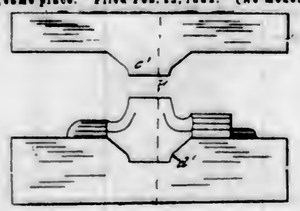
Claim.—1. The combination of a partially-rotating gas-fixture with a center-piece that is made in two pieces, one of which is secured to the fixture, substantially as shown.

2. The combination of a partially-rotating gas-fixture with a center-piece made in two parts, one of which is secured to the fixture so as to be operated by it, a connecting rod or arm, a valve, flue, and an arm attached to the fixture for operating the valve, whereby when the fixture is turned both the center-piece and valve will be opened or closed, substantially as set forth.

3. The combination of the pipe-drop and partially-rotating gas-fixture with the chamber, air-flue leading from chamber, sleeve D, arm E, valve F, and arm G, substantially as specified.

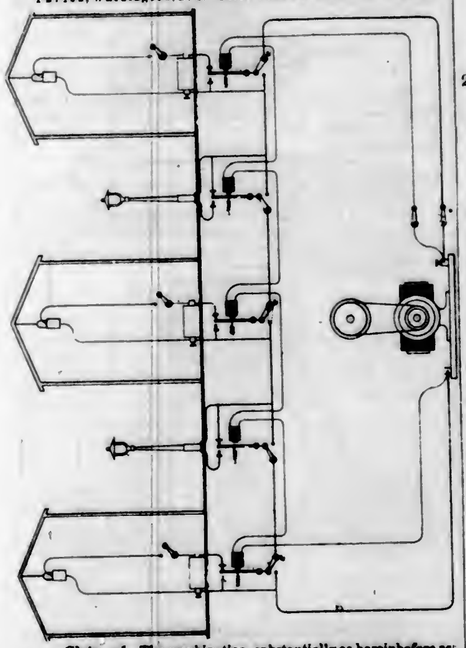
4. A center-piece formed of two pieces, each one of which has holes through it, one of the pieces being made movable, substantially as set forth.

261,489. DIE FOR FORMING HAMMERS. CARLTON J. STANNARD, Hartford, Conn., assignor to the Hartford Hammer Company, same place. Filed Feb. 23, 1882. (No model.)



Claim.—The dies *c* and *d*, parting at and near the ends on substantially the vertical center of the forging, but provided at the central part, the former with the projections *c'* reaching across the forging and the latter with the corresponding recesses, *d'*, all substantially as described, and for the purpose set forth.

261,490. ELECTRIC LIGHTING AND POWER-DISTRIBUTING SYSTEM. ELI T. STARR, Philadelphia, Pa., and WILLIAM J. PEYTON, Washington, D. C. Filed June 20, 1882. (No model.)



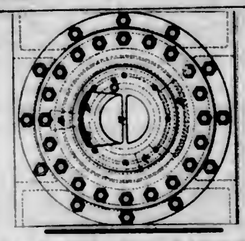
Claim.—1. The combination, substantially as hereinbefore set forth, of a dynamo-electric machine or generator, a main line to receive the electric current of said generator, a series of independent storage-batteries electrically connected with said main line to be charged therefrom, a working-circuit for each of said independent batteries, including electrical apparatus to be operated by the energy of said batteries, and a switch for each of said batteries, whereby any one or more of said batteries and the apparatus worked by it may be cut out from the main line for an indefinite period without cutting out the others.

2. The combination, substantially as hereinbefore set forth, of a dynamo-electric machine or generator, a main line over which the current of said generator is conducted, a series of independent storage-batteries to be charged from said main line, a series of switches, one for each of said batteries, to simultaneously throw said batteries into the circuit of the charging-line, a single independent line, including electro-magnets, to operate said series of switches, and a second series of switches, one for each of said batteries, by which any one or more of said batteries may be cut out from the main line for an indefinite period without cutting out the others or interfering with their operation.

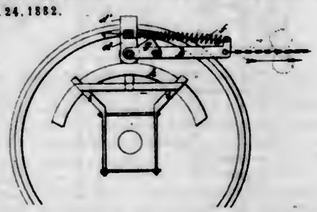
261,491. HEAT-INTERCHANGING APPARATUS FOR REFRIGERATING-MACHINES. LOUIS SUSSE, London, England, and DUGALD CLERK, Glasgow, Scotland. Filed May 19, 1881. (No model.) Patented in England Aug. 10, 1881, No. 3,336.

Claim.—In heat-interchanging apparatus for refrigerating-machines, the combination of a number of metal vessels of graduated sizes, each having one end closed and the other end formed with a flange, the said vessels being bolted together by their flanges and placed one within the other, with thin spaces between them, and the said spaces being connected by passages in two series, for water and air, respectively, with the water-spaces and air-spaces alternating with each other, and connected to inlet and outlet passages arranged so that the water and air may pass in opposite directions, substantially as and for the purposes set forth.

261,491.



261,492. CAR-STARTER. HANS C. E. STILHOFF, Copenhagen, Denmark, assignor of one-half to Christian Sorensen, same place. Filed June 5, 1882. (No model.) Patented in Denmark Jan. 24, 1882.



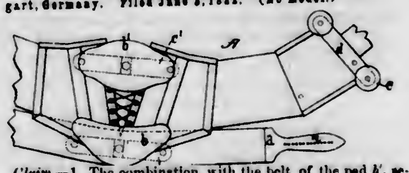
Claim.—In a car-starter of the described class, the combination, with one or more of the wheels of the car or vehicle, of the arm *d*, arranged to move in the arc of a circle having the axle for its center, and having the yoke *d'*, provided with a pivoted clutch or catch-pawl, *e*, actuated by a spring, *f*, to engage the contiguous rim or face of the wheel, and draft-bar *b*, pivoted to the arm *d*, and provided with a block or stud, *g*, adapted to release or disengage the pawl from the wheel, substantially in the manner and for the purpose herein shown and set forth.

261,493. CANISTER, MEASURE, AND BUCKET. CHARLES F. SMITH, Cincinnati, Ohio. Filed June 12, 1882. (No model.)



Claim.—As a new article of manufacture, the combined or convertible canister, measure, and bucket, consisting of body A *a a' a'' a'''*, hoops C and F, bottom B, head E *e*, nails D G, lifter-ears *i j*, and bail K, the whole being combined as and for the purpose set forth.

261,494. ABDOMINAL BANDAGE. WILHELM TEUFEL, Stuttgart, Germany. Filed June 3, 1882. (No model.)



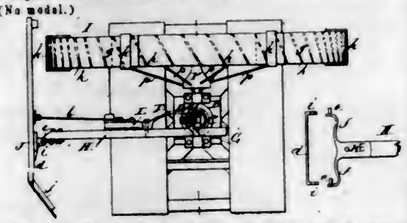
Claim.—1. The combination, with the belt, of the pad *b'*, secured on one side of the belt at the middle of the latter, the bow-spring C, secured on the opposite side of the belt, and the girths or straps *f f'* at the ends of the belt, adapted to be engaged with the ends of the springs, substantially as described.

2. The combination, with the belt A, having at its ends the girths *f'*, of the girths or straps *a*, the pad *b*, and bow-spring C, the belt being provided with devices for engaging the girths or straps at its ends, and the spring having at its ends studs or buttons for engaging the ends of the girths or straps *g*, substantially as described.

3. The belt A, provided at its ends with girths or straps *f f'*, and with the springs *d*, each having a small soft pad at each one of its ends, substantially as described.

4. The belt A, provided with a lacing, B, end girths or straps, springs *d*, with pads at their ends, and buttons for engaging the girths, a pad, *b*, spring C, and girths or straps *a*, said members being constructed and organized substantially as shown and described.

261,495. WIND-WHEEL. OTIS D. THOMPSON, Elkhart, Ind., assignor to David Thompson, same place. Filed Jan. 25, 1882. (No model.)



Claim.—1. In a wind-wheel, the combination, with the outer rim-sections, *g*, provided with the diagonal slots *h*, and the inner sections, *g'*, of the sails N, having their inner ends secured to the said inner sections and their outer ends provided with the projections *e*, fitting into the said slots and flush with the outer surface of the rim, substantially as and for the purpose set forth.

2. In a wind-wheel, the combination, with the outer rim-sections, *g*, provided with the slots *h*, the sails N, provided with the projections *e*, and the spokes O, of the plates *k*, bent over and around the said sections, and bolted to the spokes, substantially as and for the purpose set forth.

3. In a wind-wheel, the combination, with the stepped head-plate B and its crank-shaft D, of the head-block C, provided with the upright arms *b b'*, and having the tube E rigidly secured to it, substantially as and for the purpose set forth.

4. The combination, with the spokes O of the wheel and the guy-rods *p*, of the bell P, placed upon the crank-shaft D, substantially as and for the purposes set forth.

5. In a wind-wheel, the combination, with the tube E, the grooved head *s*, the vane J, and the connecting-rod *l*, of the weighted lever L and the cord or chain T, substantially as and for the purpose set forth.

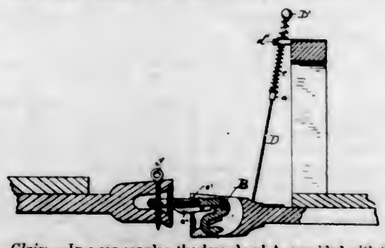
6. The head-block C, cast with the plate G, for holding the vane-arm H, substantially as described.

7. In a wind-wheel, the combination, with the head-block C, provided with the plate G, of the vane-arm H, provided with the arms *f*, having pivots *e*, and the vane J, provided with the plate *d*, having the angle-pieces *i* at its ends, substantially as and for the purpose set forth.

8. In a wind-wheel, the combination, with the vane J, provided with the plate *j''*, of the diagonal extensions *j j*, made of sheet metal and secured to the curved arms *j' j'*, which are integral with the plate *j''* of the vane, substantially as and for the purpose set forth.

9. The combination, with the connecting-rod formed with the head *s*, having the groove *s'*, of the chain or wire T and the tube E, the chain being connected to the weighted arm L, and leading through the grooves *s'* and tube to the ground or platform, substantially as and for the purposes set forth.

261,496. CAR-COUPLING. EDWARD L. TILTON, Gaffney City, S. C., assignor of two-thirds to Abner C. Spencer and John J. Brown, same place. Filed June 3, 1882. (No model.)



Claim.—In a car-coupler, the draw-head A, provided with the shaft B and bar E, having hook F, link G, and spring *e'*, in combination with the arm C, rod D, springs *e e'*, and handle D', as and for the purpose set forth.

261,497. RAILWAY-RAIL CHAIR. THOMAS TOSTEVIN, Council Bluffs, Iowa. Filed Dec. 16, 1881. (No model.)

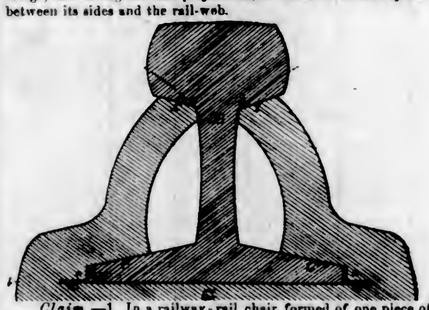
Brief.—A chair is formed of one piece of metal, bent to pass under the base of the rail, with a bearing midway thereunder, and to fit under the heads of the rail, and having its top and exterior ends beveled to form a key.



Claim.—An improved railway-rail chair formed of one piece of metal bent in the form substantially as herein specified, having the top and interior ends beveled to form a key or wedge when driven on the rail.

261,498. RAILWAY-RAIL CHAIR. THOMAS TOSTEVIN, Council Bluffs, Iowa. Filed Mar. 20, 1882. (No model.)

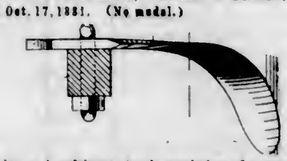
Brief.—A chair is formed of one piece of metal, the sides being braced diagonally between the head of the rail and its lower flange, and having outward projections, in which are formed spaces between its sides and the rail-web.



Claim.—1. In a railway-rail chair formed of one piece of metal, the sides A A', braced diagonally between the rail-table and lower flange, and having an outward projection, as and for the uses and purposes herein set forth.

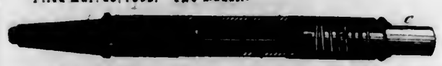
2. A railway-rail chair formed of one piece of metal, and having the spaces shown at *d d'* and shoulder *e e'*, as and for the uses and purposes herein set forth.

261,499. CULTIVATOR. ROBERT L. TURNER, Olena, Ohio. Filed Oct. 17, 1881. (No model.)



Claim.—A cultivator-tooth consisting of a two-edged blade curved at its lower end, as shown, combined with a frame-work and arranged inclinedly thereto, with the plane of its unbent portion in the line of draft, substantially as and for the purpose described.

261,500. LEAD AND CRAYON HOLDER. RICHARD W. UHLIG, New York, N. Y., assignor to Joseph Rockendorfer, same place. Filed Mar. 23, 1882. (No model.)

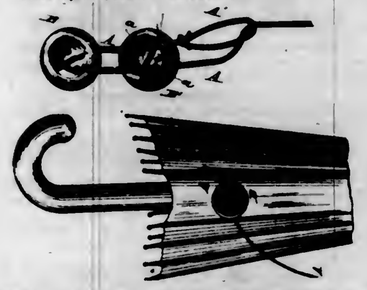


Claim.—1. The combination, with the sheath and the lead clamping and releasing mechanism of a lead and crayon holder, of a lead-carrier loose within the sheath, and stop-gage mechanism arranged and operating to arrest the forward movement of the carrier, at the time and in the manner substantially as and for the purposes hereinbefore described.

2. The combination of the sheath, the longitudinally-movable lead-containing tube, the lead clamping or grasping device, the carrier loose within the lead-containing tube, and provided with a finger or projection extending through a slot in the said tube, and a rib or shoulder within the sheath adapted to coact with the projection on the carrier, substantially as and for the purposes hereinbefore set forth.

3. The combination of the sheath, the longitudinally-movable and rotary lead-containing tube, the carrier loose within said tube, and provided with a finger or projection extending through said tube, and the spiral rib or shoulder within the sheath, adapted to coact with the projection on the carrier, substantially as and for the purposes hereinbefore set forth.

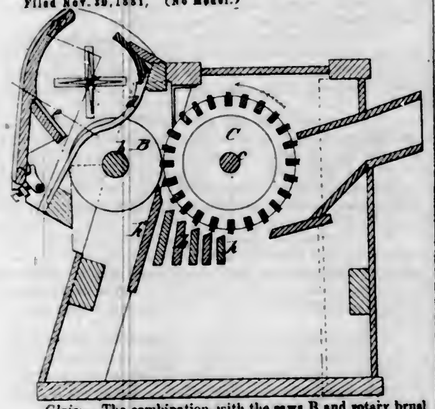
261,501. BAG AND SAIL TIE. JOHN L. VANDERMARK, Pullman, Ill. Filed Apr. 24, 1882. (No model.)



Claim.—1. A bag or sail tie composed of a tying-cord, A, and a pair of buttons, B and B', of identical construction, each being concavo-convex in cross-section, and provided with two oblong cord-holes, *a a*, and a central rib, *b*, between and at right angles to the cord-holes, substantially as and for the purpose herein shown and described.

2. In a tie of the described construction, the combination, with the tying-cord A and button B, having two oblong cord-holes, *a a*, and a central rib, *b*, between and at right angles to said cord-holes, of a clamping-button having a convex swell or rise, *d*, a curved channel, *a'*, and oblong openings *a a*, substantially as and for the purpose herein shown and specified.

261,502. COTTON-GIN. JACOB VAN LANDT, Marshall, Tex. Filed Nov. 30, 1881. (No model.)



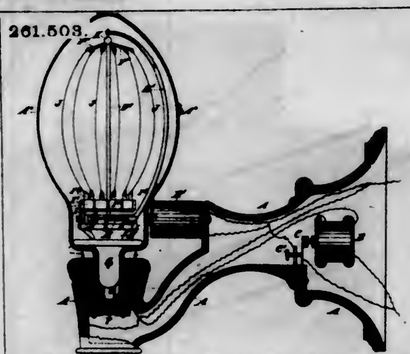
Claim.—The combination, with the saws B and rotary brush C, of the dust-boards A' A, the board A' extending with its sharpened edge close to the saws and inclined downwardly therefrom, and the boards A being slightly beveled in an opposite direction, for the purpose specified.

261,503. AUTOMATIC INCANDESCENT ELECTRIC LAMP. WILLIAM L. VOELKER, Norton, Pa., assignor to John M. Irwin, Trustee, same place. Filed Jan. 23, 1882. (No model.)

Brief.—The interruption of the current by the breaking of a carbon automatically shifts the carbon-carrier, so as to bring another carbon into circuit.

Claim.—1. In an automatic incandescent electric lamp held firmly in position, the combination of numerous carbon filaments pivoted between supports within the vacuous chamber, one of such supports being provided with an armature and arranged and adapted to be revolved by an electro-magnet on the outside of said vacuous chamber, substantially as described.

261,503.

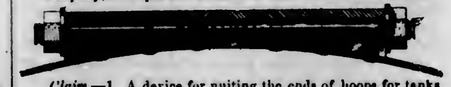


2. In an automatic incandescent electric lamp held firmly in position, the combination of numerous carbon filaments pivoted between supports within the vacuous chamber, one of such supports having an armature and electrical connections between said carbon filaments, and the electro-magnets B and B', and between said electro-magnets, substantially as described.

3. In combination with an automatic electric lamp held firmly in position, and having numerous carbon filaments, adapted and arranged to rotate within the vacuous chamber between supports, one of which is provided with an armature, the electro-magnets B and B', of unequal strength, and electrical connections between said electro-magnets and the carbon filaments, substantially as and for the purposes described.

4. In an automatic incandescent electric lamp of the character herein specified, electro-magnets B and B', lamp-bulb A*, support H, bearing arm H', incandescing filaments of carbon J, rod F, disk I, pieces I', screws I², and armature L, actuating pawl L', the whole combined and arranged to operate substantially as shown and described.

261,504. CLAMP FOR TANK AND OTHER HOOPS. WM. H. WHEELER, Beloit, Wis., assignor to the Eclipse Wind Engine Company, same place. Filed Mar. 13, 1882. (No model.)



Claim.—1. A device for uniting the ends of hoops for tanks and other purposes, consisting of the combination of a clamp, provided with a longitudinal arched recess, and a draw-bolt inserted therein for the purpose of tightening the same, substantially as described.

2. A clamp for tank and other hoops, provided with flanges or projections upon its under side, forming a recess for the insertion therein of the end of the hoop, substantially as described.

3. A clamp for uniting the ends of tank and other hoops, provided with a longitudinal arched recess for the reception of the draw-bolt, which arched recess is deeper at the ends than at the point of union, substantially as and for the purpose set forth.

4. The combination of a clamp for tank and other hoops, provided with flanges or projections upon its under side, forming a recess for the insertion therein of the ends of the hoop, and also provided with a longitudinal arched recess having its outer ends deeper than at the point of union, with a draw-bolt inserted therein and a hoop attached thereto, substantially as described.

261,505. FISHING-FLOAT. OLIVER G. WILSON, Gallatin, Tenn. Filed Apr. 6, 1882. (No model.)

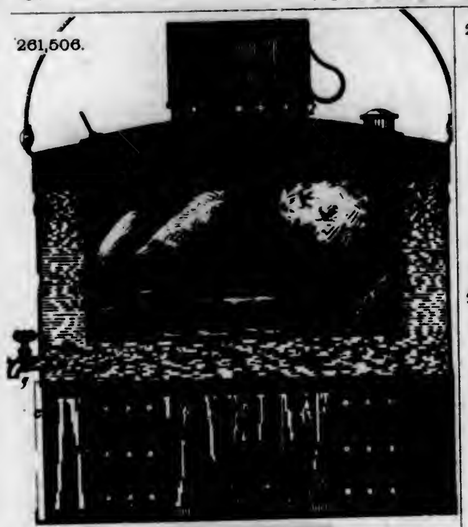


Claim.—The combination, with the body *a*, of the stem *b*, provided at each end with the stem-guide holes *d d'* and friction-holes *e e*, substantially as described, and for the purpose set forth.

261,506. DINNER-BUCKET. SOLOMON WIEHLER, Canal Dover Ohio. Filed Mar. 16, 1882. (No model.)

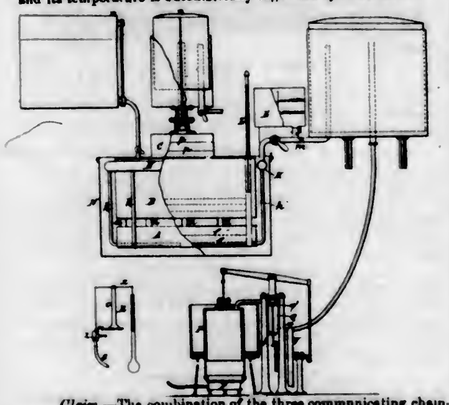
Claim.—A lunch-bucket provided with the ring *l*, having perforations, as shown.

261,506.



261,507. APPARATUS FOR THE MANUFACTURE OF ILLUMINATING-GAS. ARTHUR WITTAMER, Antwerp, Belgium. Filed Oct. 5, 1881. (No model.) Patented in Belgium Jan. 24, 1881, No. 53,670; in France Apr. 15, 1881, No. 142,340, and in England July 13, 1881, No. 3,069.

Brief.—Air is forced to a holder by a caloric-pump, and before being carbureted is dried and purified by passing through a layer composed of hydrate and oxide of lime, sawdust, and chaff and a second layer composed of oxide of lime, chaff, and sawdust saturated with sulphuric acid. The carbureted air is passed through a condenser in contact with plates, for the removal of the excess of oil-vapor. The carburetor is placed in a water-chamber, and its temperature is automatically regulated by a thermostat.

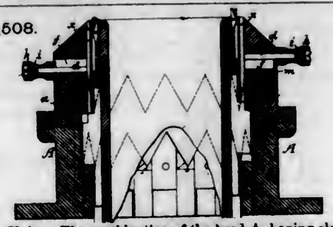


Claim.—The combination of the three communicating chambers A B C with the water-tank N, the air-pipe H, surrounding the carburetor-chamber B, the pipes A, descending from the air-pipe H to the lower oil-chamber, A, the perforated partitions within said oil-chamber, and means for forcing the air through said air-pipes, substantially as described.

261,508. KNITTING-MACHINE. ARTHUR WHORTON, Philadelphia, Pa., assignor of one-half to Charles Shirtcliff, same place. Filed Apr. 15, 1882. (No model.)

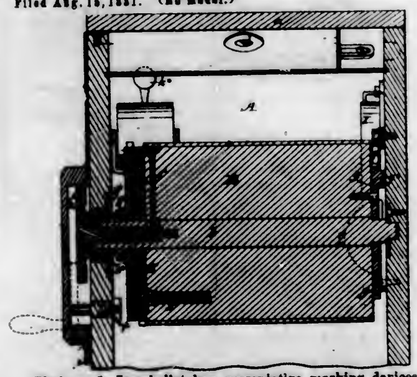
Brief.—The invention is designed for use in knitting-machines adapted to produce what is known as "tuck-work." By the means enumerated in the claim the movable portions of the cams are readily shifted from an operative to an inoperative position, and vice versa, and locked or retained in such position after adjustment.

261,508.



Claim.—The combination of the head A, having slots *f*, with recesses *m*, the cams having slides *x*, with stems *d*, the bolts *h*, and the springs *i*, as set forth.

261,509. BALLOT-BOX. STEPHEN T. BACON, Boston, Mass. Filed Aug. 15, 1881. (No model.)



Claim.—1. In a ballot-box, permutative marking devices, substantially as described, in combination with means, as indicated, for shifting or changing said devices so as to produce an unknown mark to be printed upon the ballots, as set forth.

2. The combination, in a ballot-box, of permutative marking devices, as described, with means, as indicated, located without the box, for shifting or changing said devices to produce an unknown mark or series of marks, substantially as and for the purpose set forth.

3. The combination, with permutative marking devices, as specified, of a setting-knob and confining-screw provided with a place for the application of a seal, substantially as described.

4. In a ballot-box, a series of permutative marking-wheels located within said box and connected with each other and with a setting-knob outside the box by a series of pins and grooves, substantially as described.

5. In a ballot-box, permutative marking wheels or disks connected with each other and with an operating-knob, in the manner described, so that the last wheel of the series is turned by the knob through the preceding wheel, and the latter can be turned, independently of the former, in either direction, substantially as described.

6. The combination of the rollers for receiving the ballot, permutative marking devices, as described, and means, as indicated, for shifting or changing said devices at random, so as to produce an unknown mark or series of marks to be printed on the ballots as they are voted, substantially as described.

7. In a ballot-box, a permutative marker comprising a series of marking wheels or devices, combined with a setting-knob by which the relative positions of the marking wheels or devices can be changed at random, setting up an unknown combination of marks, as explained, the said wheels or devices being connected in series, so that the last is operated by the knob through the first and the latter independently, substantially as described.

8. The combination, in a ballot-box, of rollers and permutative marking devices, as specified, carried on the shaft of one of said rollers within the box, and a knob for setting said devices located outside the box, substantially as described.

9. The combination of permutative marking devices, as specified, a knob for setting the same, and a screw for holding them in place when set, substantially as described.

10. The combination, in a ballot-box, of a roller, permutative marking devices, as specified, a knob for setting said devices, a crank for rotating together the roller and marking devices, and an escutcheon for covering and protecting said knob and crank when not in use, substantially as described.

11. The combination, with the inclined shelf or table and feed-rollers of a ballot-box, of a hinged lid or top for covering said shelf or table when the box is not in use, and extension-rests *n*, for supporting said lid when the box is in use, so that the lid forms a prolongation of said shelf or table, substantially as described.

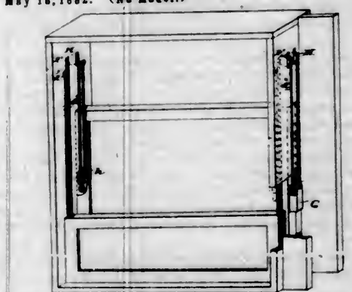
12. An anti-fraud ballot-box comprising, in combination, the following elements: the box with lid or cover, a ballot table or shelf leading to the mouth of the box, permutative marking devices, ink-roller therefor, knob for setting said devices, screw for holding them in position, and a crank for rotating the rollers and marking devices, the knob, screw, and crank being accessible from without the box, substantially as described.

13. The combination, with the receiving-rollers of a ballot-box and permutative marking-wheels, of a lever carrying at one end a shoe for raising one of said rollers out of contact with the other while setting the marking-wheels, substantially as described.

14. The combination, in a ballot-box, of the main roller, marking wheels or disks mounted on the shaft of said roller, a setting-knob for spinning said wheels or disks and changing their position relative to said roller and to each other, and a confining-screw for clamping said disks or wheels to the end of said roller, substantially as described.

15. The combination, with the main roller, marking-disks, and confining-screw, of spring-pins embedded in said roller and pressing upon the disk next to the end thereof, substantially as and for the purpose described.

261,510. SASH-BALANCE. CHAS. E. BOGLE, Milton, Pa., assignor of one-half to Hamlin P. Billmeyer, same place. Filed May 16, 1882. (No model.)



Claim.—The combination of the stationary pulleys F H, the sashes provided with the pulleys *e* A, the cord fastened at its ends and passing from the points of fastening under said pulleys *e* A on the sashes, and thence over the fixed pulleys, and the weight G, situated by the side of the sashes, and provided with a pulley which engages with the cord between the fixed pulleys F and H, substantially as set forth.

261,511. SMOOTHING AND POLISHING THE SURFACES OF CARBON ELECTRODES. CHARLES W. BROWN, Wakefield, assignor to the American Bell Telephone Company, Boston, Mass. Filed Nov. 17, 1881. (No specimens.)



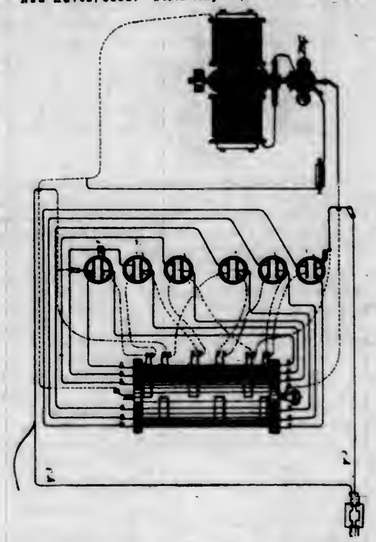
Claim.—A carbon electrode or button for battery-telephones, having a surface such as is produced by polishing with carbon—that is to say, a dense and polished surface free from foreign matter, substantially as described.

261,512. SECONDARY BATTERY. CHARLES F. BRUSH, Cleveland, Ohio. Filed June 9, 1881. (No model.)



Claim.—The herein-described process or method of coating or combining lead or other plates with reduced porous lead, said process consisting in coating the said plates with a suitable compound of lead, and then reducing the latter to the metallic state in the dry way by means of a reducing atmosphere, substantially as set forth.

261,513. MODE AND DEVICE FOR CHARGING AND DISCHARGING SECONDARY BATTERIES. CHARLES E. BOGLE, New Haven, Conn. Filed May 19, 1882. (No model.)



Claim.—1. The combination of the following elements, namely: an electrical generating-machine, a developing-circuit, a charging-circuit, two series of secondary batteries, and a working or discharging circuit, with devices, substantially as described, for placing said machine charged into the charging-circuit with one or more secondary batteries, and for withdrawing said machine from said charging-circuit and leaving the charging-circuit open, with circuit-controlling devices, substantially as described, made operative by the action of said machine to switch the charging-circuit from one of said series of secondary batteries and connect said charging-circuit with another series of secondary batteries after a predetermined flow of current from said generating-machine has taken place, independent branches of the charging-circuit connected to each of the secondary batteries of a series, and switching devices, substantially as described, for alternately connecting the independent charging-branches of one series to the charging-circuit proper and at the same time disconnecting the charging-branches of the other series of batteries from the charging-circuit proper and interposing said other series in the working-circuit coupled for intensity, the whole operating in the manner and for the purpose set forth.

2. The combination, with the wind-wheel W, of the electrical generating-machine, the automatic switch L, adapted to act with the movement of the wind-wheel to open the charging-circuit V when the speed of the windmill falls below predetermined velocity, switch devices, substantially as described, for changing the charging-circuit after a given action of the machine has taken place, independent branches of the charging-circuit connected to each of the secondary batteries of a series, and switching devices, substantially as described, for alternately connecting the independent charging-branches of one series to the charging-circuit proper and disconnecting the charging-branches of the other series of batteries from the charging-circuit proper and interposing said other series in the working-circuit coupled for intensity, as set forth.

3. The combination, with an electrical generating-machine, of the wind-wheel W, the pump Z', the pipe *n*, the reservoir or tank, the siphon N', the water-wheel O', switch devices, substantially as described, for changing the charging-circuit after a given action of the machine has taken place, two series of secondary batteries, independent branches of the charging-circuit connected to each of the secondary batteries of a series, and switching devices, substan-

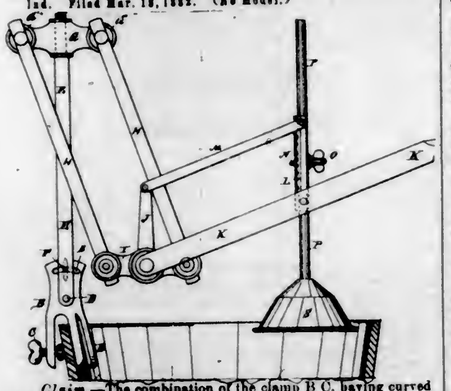
tially as described, for alternately connecting the independent charging-branches of one series to the charging-circuit proper and disconnecting the charging-branches of the other series of batteries from the charging-circuit proper and interposing said other series in the working-circuit coupled for intensity, as set forth.

261,514. CARPET-SWEEPER. ALEXANDER G. CHAMPLIN, Grand Rapids, Mich. Filed May 31, 1881. (Model.)



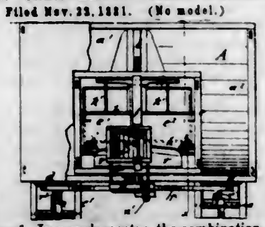
Claim.—The combination of pieces C C C brush-roller R, drive-wheel F, located directly beneath the roller, yoke Y, pivot P, and spring T, said spring placed between the end of the case and the arm of the yoke Y to prevent the wheel F from dropping out of place, all substantially as described.

261,515. WASHING-MACHINE. JOSEPH I. DALBEY, Frankfort, Ind. Filed Mar. 18, 1882. (No model.)



Claim.—The combination of the clamp B C, having curved slot B', the standard E, hinged thereto by the bolt D, the hand-screw F, the swiveled cross-bars G I, having end bearings, the swinging bars H, the arm J, the lever K, the clamp L, and the bar M, whereby the pounder may be secured to the tub and operated, as described.

261,516. GRAIN-METER. ROBERT H. EDMISTON, American, Kans. Filed Nov. 23, 1881. (No model.)



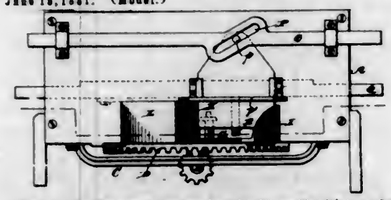
Claim.—1. In a grain-meter, the combination, with the bin A, provided with the compartments a' a^2, of the adjustable hopper e, provided with the compartments e' e^2, the partition h, having openings i, and the oscillating frame k, carrying the pans k', substantially as herein shown and described, whereby the quantity at each discharge can be accurately regulated by raising or lowering the said hopper, as set forth.

2. The combination of spout s, hopper e, provided with chutes v and apertured partition h, oscillating frame k, pans k', and divided bin A, substantially as shown and described.

3. In grain-meters, the spouts k', combined with divided bin A, rocking frame k, pans k', and hopper e, substantially as and for the purpose set forth.

4. In grain-meters, the combination, with the bin A, provided with the spouts c', having hinged gates d, the oscillating frame k, and the feed-spout s, provided with the yoke t, of the double-crank arm n, the three-armed lever p, the link r', and dogs r, substantially as and for the purpose set forth.

261,517. FERTILIZER-SOWER. JACOB L. HALTEMAN, Milton, assignor to the Hoosier Drill Company, Richmond, Ind. Filed June 18, 1881. (Model.)



Claim.—1. The combination, in a fertilizer-distributer, of the plane-faced horizontal rotary disk at the bottom of the hopper with an angular extension projecting rearwardly from the hopper at one side of the discharge-orifice, said extension forming the tangential scraper for the rotary plate and the curved wall for guiding into the hopper such material as passes under the scraper, substantially as described.

2. The combination, in a fertilizer-distributer, of the plane-faced horizontal rotary disk at the bottom of the hopper with an angular rearward extension of the hopper, said extension being closed at its top and forming the tangential scraper K for the rotary disk, and the curved wall L, which extends over the periphery of the disk, substantially as and for the purposes described.

3. The combination, in a fertilizer-distributer, of the hopper having a plane-faced rotary disk located in its bottom, and extended under the discharge-opening and beyond the side of the hopper, with the discharge-passage formed by the plate I and scraper K, and the vertically-movable gate located to open or close the discharge-opening, and the horizontal longitudinally-movable bar for operating the gate, having an oblique slot, in which a stud on the gate is received, substantially as described.

4. The combination, with the hopper having a horizontal plane-faced rotary disk for feeding forward the fertilizing material, of the horizontal longitudinally-movable agitator Q, consisting of a horizontal bar provided with one or more teeth located over the disk and alongside of the discharge-opening, substantially as described.

5. The combination of the reciprocating agitator Q, pitman S, rotating plate B, and stud S', substantially as and for the purpose specified.

261,518. MANUFACTURE OF BLUE AND VIOLET COLORING-MATTERS. HORACE KOECHLIN, Lorrach, Baden, and OTTO N. WITT, Mulhausen, Alsace, Germany. Filed Apr. 30, 1881. (Specimens.) Patented in France Mar. 19, 1881, No. 141,643; in Germany Mar. 19, 1881, No. 15,915; in England Mar. 23, 1881, No. 1,373; in Belgium Apr. 4, 1881, No. 54,288; in Austria Apr. 23, 1881, No. 1,895, and in Sweden May 25, 1881.

Claim.—1. The formation of blue and violet coloring-matter, by the reaction upon a phenol, under the conditions indicated, of a nitroso amine or phenol or a chloroquinonimide in the presence of a reducing agent or a paramido body in the presence of an oxidizing agent, substantially as described.

2. A blue or violet coloring-matter produced by the reaction as above described, and having the characteristics set forth.

REISSUES.

10,158. CHILD'S CARRIAGE. WILLIAM E. CRAGDALL, New York, N. Y., assignor, by mesne assignments, to Charles W. V Dare, Brooklyn, N. Y. Filed June 20, 1882. Original No. 100,131, dated Feb. 22, 1870; Reissue No. 3,072, dated May 17, 1870; Reissue No. 4,223, dated Jan. 8, 1871.

Claim.—1. The box D, pivoted at its front or outer portion to the frames A, in combination with the seat C, substantially as and for the purpose described.

2. The box D, pivoted at its front portion to the frames A, in combination with the seat C and rest b, substantially as and for the purpose described.

3. The wheels F on rockers B, in combination with body and seat A C, substantially as and for the purpose described.

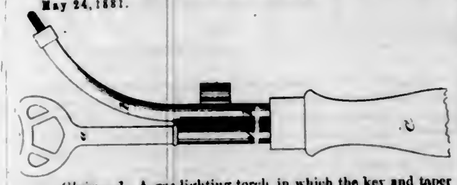
4. The frame A, seat C, box D, bed B, and wheels F, combined and operating together substantially as described.

10,158.



5. The frames A, seat C, and foot-board E, combined with the toy-box D, which is pivoted at its front portion, and with the rest b, all arranged for operation substantially as specified.

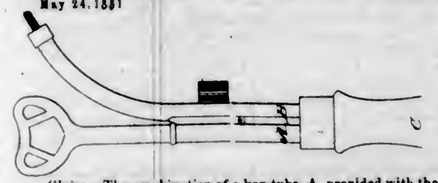
10,159. GAS-LIGHTING TORCH. ELLIOTT P. GLEASON, Brooklyn, assignor to E. P. Gleason Manufacturing Company, New York, N. Y. Filed June 19, 1882. Original No. 241,793, dated May 24, 1881.



Claim.—1. A gas-lighting torch in which the key and taper tubes are constructed of one and the same piece of metal, substantially as described.

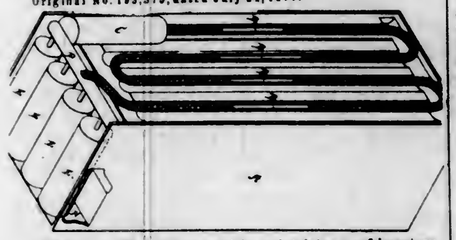
2. The combination of a key-tube, A, and a taper-tube, B, constructed of one and the same piece of metal, with a curved tube, B', for the support and guide of the end of the taper, a key, n, and a handle, C, substantially as described.

10,160. GAS-LIGHTING TORCH. ELLIOTT P. GLEASON, Brooklyn, assignor to E. P. Gleason Manufacturing Company, New York, N. Y. Filed June 19, 1882. Original No. 241,793, dated May 24, 1881.



Claim.—The combination of a key-tube, A, provided with the wings c, and a taper-tube, B, with a handle, C, all constructed and operating substantially as and for the purpose specified.

10,161. REFRIGERATING BY MEANS OF AMMONIA. ROBERT H. LUCAS, San Francisco, Cal., assignor to Francis M. McMillan and Henry C. Johnson, Washington, D. C. Filed June 21, 1882. Original No. 193,375, dated July 24, 1877.



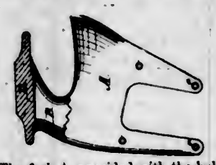
Claim.—1. The improvement in maintaining a refrigeratory action in moving structures, consisting in storing anhydrous ammonia in closed vessels, in a liquid form, and connecting said vessels with a pipe or connected series of tubes inside of said structure, substantially as above set forth.

2. In a portable refrigerator, the combination of the detachable closed vessel C, in which is stored anhydrous ammonia in a liquid form, with the detachable water-tanks E and pipes B and D, substantially as and for the purpose set forth.

3. The connected series of tubes B B B, having the detachable closed vessel C, in which is stored anhydrous ammonia in a liquid form, attached to one end, in combination with one or more detachable water-tanks, E, connected with its opposite end, substantially as and for the purpose described.

4. In combination with an expansion-pipe, a portable vessel adapted to contain a compressed or liquefied gas, and to be placed in communication with or detached from the expansion-coil, substantially as and for the purpose set forth.

10,162. SADDLE-TREE. HENRY C. STILL and JOSEPH R. STILL, Austin, Tex. Filed Apr. 19, 1882. Original No. 195,415, dated Sept. 18, 1877.



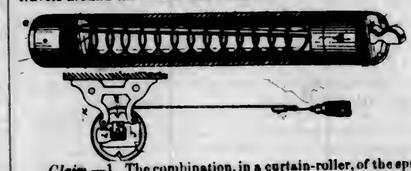
Claim.—1. The fork A, provided with the hollow pommel B, cast in one piece with the fork, substantially as herein shown and described.

2. The fork A, having the hollow pommel B cast in one piece with the fork, and provided with a cap, D, secured to the upper end of the hollow pommel, substantially as herein shown and described.

3. The saddle-tree fork, substantially as specified, having fork A and hollow neck B formed in one piece from cast metal, and removable cap D, substantially as described, and for the purpose set forth.

10,163. SPRING CURTAIN-ROLLER. BENJAMIN I. HICKS, Brooklyn, N. Y., assignor of one-third to Samuel R. Scottron, same place. Filed Feb. 24, 1882. Original No. 250,344, dated Nov. 29, 1881.

Brief.—The spindle is seated concentrically in the roller at one end and at the other end is eccentrically seated in a plug and travels around the axis of the roller.



Claim.—1. The combination, in a curtain-roller, of the spring the rod, the sparred cap, the notched tenon, the spring-cap, and the peculiarly-slotted bearing h of the bracket-support, substantially as described.

2. The combination, with a shade, of a shade-roller inclosing a spindle concentrically arranged within said roller at one end and eccentrically seated therein at the other, the latter end being adapted to travel around the axis of the roller, and a spring secured respectively to the spindle and the roller, substantially as herein specified.

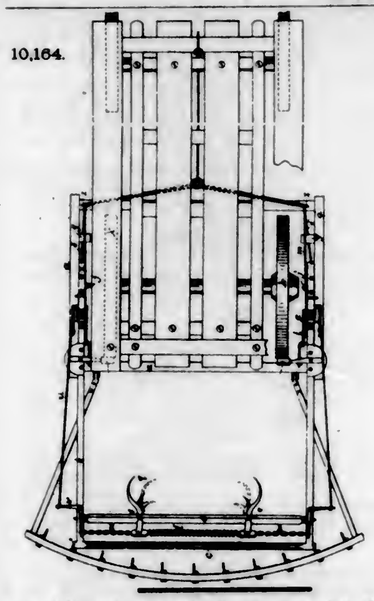
3. The combination, with a shade, of a shade-roller inclosing an eccentrically-bored plug, a spindle concentrically arranged within the shade-roller at one end and eccentrically seated within the aforesaid plug at the other end, and thus adapted to travel around the axis of the roller, also a spring secured respectively to the spindle and the roller, substantially as herein specified.

10,164. HAY RAKER AND LOADER. ALBERT VOSS, Pittsfield, Vt., assignor, by mesne assignments, to Charles La Dow, Albany, N. Y. Filed Jan. 7, 1882. Original No. 73,133, dated Dec. 10, 1867.

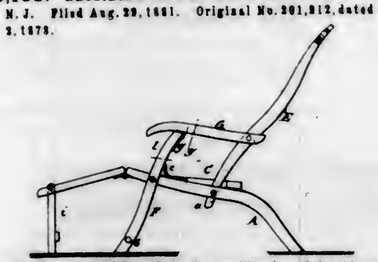
Claim.—1. The combination of lifting-wheels, a rocking frame, a friction device for lifting the frame by the rotation of the wheels, a lever and connections for operating the friction device, and a stop for the lever to strike against for the purpose of loosening the friction, substantially as described.

2. The hay-rake f, having its teeth arranged to present a concave or dished front at the side where the hay is accumulated in raking, to gather the hay toward the center, substantially as set forth.

10,164.

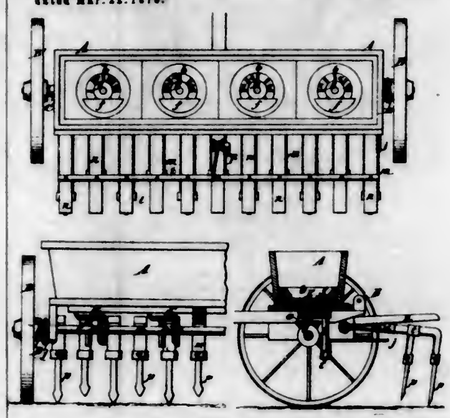


10,165. RECLINING-CHAIR. ADAM COLLIGNON, Westwood, N. J. Filed Aug. 29, 1881. Original No. 201,812, dated Apr. 2, 1878.



Claim.—In a folding chair, the combination of the side pieces, A, provided with stops *c*, the back pieces, E, pivoted to the side pieces, arms G, pivoted to the back pieces, the legs F, having arm-supports *l*, pivoted to the side pieces, and ratchet devices *e g*, substantially as herein shown and described.

10,166. SEEDER AND CULTIVATOR COMBINED. WILLIAM D. STROUD, Oshkosh, Wis., assignor to Ralph Emerson and William A. Talcott. Filed Apr. 14, 1882. Original No. 101,173, dated Mar. 22, 1870.



Claim.—1. In a seeding-machine, the combination of a horizontally-rotating toothed feed-wheel arranged in the bottom of the hopper, a discharge-orifice into which the material to be sown is conducted by the feed-wheel, and a cut-off plate or shield arranged over said orifice and the periphery of the feed-wheel, whereby uniformity in feeding is obtained and clogging prevented.

2. In a seeding-machine, a horizontally-rotating feed-wheel arranged in the bottom of the hopper and having a discharge-orifice arranged near its periphery, in combination with a pivoted gate or gage adapted to work across the throat of the orifice to regulate the quantity to be discharged.

3. The revolving seed-distributer E, having the paddles *e* and beveled wheels *c*, cut-off plate *f*, and seed-cup *b*, arranged relatively to one another and to the sliding gage *l*, connecting-bar *k*, discharge-tubes *g*, and driving-shaft C, substantially as and for the purposes hereinbefore specified.

4. The spring-lag *m*, supplemental lag *n*, cultivator-tooth *p*, and collars *q* and *t*, arranged relatively one to the other, substantially as and for the purposes hereinbefore specified.

5. The combination of the seed-box A, supporting and driving wheels B and B', driving-shaft C, with beveled wheels *a*, coupling D, lever *j*, revolving seed-distributers E, having paddles *e* and beveled wheels *c*, cut-off plates *f*, seed-cups *b*, sliding gages *l*, bar *k*, discharge-tubes *g*, scatterers *i*, spring-lags *m*, supplemental lags *n*, cultivator-teeth *p*, collars *q* and *t*, connecting-bar *o*, bar *s*, and sheave *r*, with cord and crank, substantially as and for the purposes hereinbefore specified.

ELIOTYPE PRINTING CO. BOSTON

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF UNITED STATES COURTS IN PATENT CASES.

DECISIONS OF THE U. S. COURTS.

U. S. Circuit Court—Northern District of New York.

BARKER *v.* STOWE.

Decided January 4, 1882.

1. MOTION TO REOPEN—FORMER SUIT—NO DECREE ENTERED.

Where a former suit between the same parties and upon the same issues had been decided before the pending suit was instituted, but by an oversight no decree had been entered, and upon discovery of the defect the prevailing party had obtained leave to enter and had entered said decree. *Held*, that the pending case should be opened to permit the party to file in the case a certified copy of the decree.

2. DECISION AS A DECREE—DATE OF DECREE.

Where the decision of a circuit court is a simple one—such as affirmance or reversal or the like—it constitutes a decree, from which appeal may be taken to the Supreme Court, and a decree afterward entered will be regarded as having the date of the decision.

3. SUIT BARRED BY FORMER SUIT.

This suit barred by the decree in the former suit between the same parties and upon the same issues, in which it was held that the invention claimed by the plaintiff was anticipated, and that his patent was invalid.

Mr. George E. Buckley for the plaintiff.
Mr. Walter L. Dailey for the defendant.

BLATCHFORD, *J.*:

This suit is brought on the same reissued Letters Patent No. 6,531, granted July 6, 1875, to W. C. Barker, for an improvement in buckets for chain-pumps, involved in the suit of *Barker* v. *Shoots*, decided herewith. The defendant in this suit is the same person who was defendant in the suit of *Barker* v. *Stowe*, (15 Blatchf. C. C. R., 49, 14 O. G., 559,) brought on the same patent. By stipulation the testimony in the suit against Shoots and in this suit was taken simultaneously, and it is, all of it, entitled in both cases, and it is stipulated that the evidence in one case "shall be good for both." The decision in the case against Shoots disposes of all questions in this case except that of infringement and a question as to the former suit against Stowe.

The answer sets up that the defendant's buckets are secured to him by letters patent granted to him, No. 160,125, dated February 23, 1875.

The defendant's bucket in the present case—Lovell Exhibit No. 2—is precisely like the one described in the decision in the former suit against him as the one alleged then to infringe. It is clearly an infringement of claims 1 and 2 of No. 6,531.

The answer sets up that in 1876 the plaintiff filed a bill in this court setting up the same matters and cause of action as are contained in this bill; that the defendant appeared on process and answered the bill, setting up the same matters previously set up in this answer; that a replication was put in; that evidence was thereafter taken in said suit; that the cause was heard on the merits on pleadings and proofs at the June term, 1878; that in July, 1878, the court made a decision determining that the said patent, No. 6,531, was void for want of novelty, and that the bill be dismissed, with costs; that the defendant refers to said bill, answer, replication, decision, decree, and judgment record in said former suit; that said court had jurisdiction of said cause, the parties thereto, and the subject-matter thereof; that said judgment and decree are valid and remain in force; that the right of the plaintiff to the relief sought in that cause was duly passed upon and adjudicated, and that the plaintiff is estopped by said former judgment and decree from asserting the same in this cause. This answer was verified March 27, 1880.

The record of the defendant's testimony, under date of November 24, 1880, contains an entry that the defendant offers in evidence a certified copy of a decree in said suit against him, and also the opinion of the court in said suit, marked "Defendant's Exhibit 5," and that the plaintiff objected to the same as immaterial and because the proofs on which the decision and opinion were based were not introduced.

The same record, under date of February 19, 1881, states that it is agreed between the respective attorneys "that all documentary evidence heretofore offered in evidence, that is properly certified to, shall be admitted in evidence without objection." The record of the plaintiff's testimony, under date of March 22, 1881, contains an entry that the defendant's counsel gives notice that he will read and produce on the hearing of this case the judgment roll, decision, and decree in the said former suit against the defendant, and also the evidence of Orrin O. Witherill, taken in said suit, filed with the clerk, and also all of the exhibits used on said trial; and that the plaintiff's counsel objected for the reason before stated under date of November 24, 1880, and because the matter is irrelevant. This cause was brought to a hearing at the June term, 1881. It then appeared that nothing had been produced and marked "Defendant's Exhibit 5," and that no decree had ever been signed or entered in the former suit. This present suit was begun in November, 1879. The bill does not refer to the former suit. It alleges infringement in the past generally. When it was filed there had been no decree entered in the former suit. The proof of infringement made in this case is of an infringement on October 6, 1879. The plaintiff, in giving testimony as a witness in this case on the 11th of June, 1880, testifies that he heretofore brought a suit in this court against this defendant, and that the case was dismissed on the evidence of O. O. Witherill. This evidence, when given, was duly objected to by the defendant's counsel on the

ground that the fact must be proved by the record, and that the decision in the case could not be proved by parol, accompanied by the statement that the defendant's counsel offers to produce the decision, and followed by the statement that the counsel for the plaintiff will produce "the original of said records, on which said bill was dismissed." Nothing of that kind was done by either party. This case, though argued orally at the June term, 1881, awaited the submission of printed briefs by the respective counsel. The plaintiff's brief was submitted to the defendant's counsel in July, 1881. It took the ground that no decree had ever been entered up on the former suit; that there was no judgment or decree therein against the plaintiff when he commenced this suit, and none since; that no part of the record in the former suit had been put in evidence, nor had a copy of the decision rendered in the former suit been produced in this suit; that the defendant must therefore be regarded as having abandoned the matter, and that in the absence of a decree and a judgment the former suit could be no bar. Thereupon the defendant gave notice to the plaintiff of an application to the court to sign and enter a decree in the former suit.

The decision in the former suit, as found in 15 Blatchf. C. C. R., 49, was filed in the clerk's office July 11, 1878. The said application was made on an affidavit made by the defendant's solicitor in that suit, the same person who is the defendant's solicitor and counsel in this suit, setting forth that he was not familiar with the practice in such a case; that after such decision had been filed he supposed, and was so informed by Mr. Wright, an experienced practitioner in this court, that the clerk would enter the final decree on the filing of the decision and entering the order dismissing the bill, and that the costs could be taxed at any time and inserted in the judgment; that he supposed the decree had been entered when this suit was brought; that on the 3d of August, after receiving the plaintiff's brief, he went to the clerk's office at Utica and learned that no formal final decree had been entered, and that he then prepared a decree to be signed. The said application was made, and was opposed by the plaintiff. The judge who decided the former case granted the application and signed a decree. It sets forth that the cause was heard on the pleadings and proofs at the June term, 1878; that the decision of the court was made and filed July 11, 1878, "whereby it was decided that the claim in the Reissued Letters Patent No. 6,531, granted to the plaintiff, had been anticipated, and that the bill of complaint herein be dismissed, with costs;" and it then orders, adjudges, and decrees "that the bill of complaint be, and the same is, hereby dismissed, and that said defendant recover from the plaintiff the costs of this action, when taxed and adjusted by the clerk of this court, and that defendant have execution therefor." This decree was entered and enrolled August 27, 1881, the roll consisting of the bill, answer, replication, and decree. Meantime the defendant's counsel had submitted his printed brief in this case, asking in it that a decision in this case be withheld until the decree in the former suit could be perfected and become a part of the evidence in this case.

The plaintiff's brief in reply was put in, and suggested that the defendant had stated that he should not get a copy of the record in the former suit to file as an exhibit, because he had spent as much money as he was going to spend in the matter. A certified copy of the enrolled decree was sent to me, but I informed the defendant's solicitor that he must apply, on notice to the plaintiff, for leave to have it considered as evidence. The decision of the case was delayed to allow such application to be made. It was made at the October term, 1881, on notice, and was opposed by the plaintiff. The form of it was a motion for an order opening the case, and for leave to put in in this suit the certified copy of the judgment record and decree in the former suit. The costs had been taxed at $202.35. The defendant, in an affidavit for the motion, denied that he ever stated that he would not incur the expense of procuring a copy of the decree on the former suit, and that he believed, until informed to the contrary by his attorney, that the decree had been in fact entered and would be a bar to this suit, and that he was at all times willing to incur the expense of entering the same and procuring a certified copy of it as evidence in this cause. The motion was also based on the said affidavit by the defendant's solicitor used on the motion to have the decree signed.

Many affidavits on both sides have, since the October term, been furnished to me directed to the question as to whether the defendant had said that he would spend no more money in defending the suit, leaving the common defense to be carried on by the defendant in the Shoots case, and as to whether he had intentionally refrained from having the decree in the former suit entered. It seems strange that the decree was not entered. Yet the answer of the defendant, sworn to by him in March, 1880, and signed by his solicitor, not only speaks of a decision in the former case dismissing the bill therein, but refers to the decree and judgment record therein as having been made and as existing, and as being an estoppel in this suit. In view of this the plaintiff went on to take proofs in this suit; and in the plaintiff's opening proofs in June, 1880, the former suit was mentioned by him as a witness as a suit which had been dismissed, and his counsel then and there gave notice on the record that he would produce the original of the records on which the bill in that suit had been dismissed. Afterward, when in the defendant's proofs the entry was made that a certified copy of a decree in the former suit and of the opinion of the judge therein, marked "Defendant's Exhibit 5," was offered in evidence by the defendant, (though no such papers were then produced or marked,) the plaintiff did not object to the making of the entry because nothing was produced, and did not allege that there was no decree, but objected because the proofs were not offered on which the decision had been based. Afterward, when in the plaintiff's proofs the defendant gave notice that he would read and produce on the hearing the judgment roll, decision, and decree in the former suit, the plaintiff objected on various grounds, but did not state that there was no such decree. It seems, therefore, entirely reasonable that the case should be opened so far as to allow the certified copy of the enrolled decree in the former suit to be put in evidence by the defendant and become a part of the proofs herein. The plaintiff's counsel suggests that there was no decree against the plaintiff in the former suit when this suit was brought, and that the decision filed amounted to nothing. In *Silsby* v. *Foote* (20 Howard, 290, 295) the Supreme Court held that the pronouncing of a decision by a circuit

court and its entry in the minutes when the judgment or decree is a simple one—"such as an affirmance or reversal and the like"—constitutes a decree from which an appeal may be taken to that court. Here the decision in the former suit was a dismissal of the bill. The decree signed in the former suit states that that was the decision, and that it was made and filed July 11, 1878.

The decree in the former suit must be regarded as having the date of July 11, 1878; and the question is as to whether it is a bar to this suit. It is properly set up in the answer. The suit was between the same parties and founded on infringement of the same patent. The bill in the former suit asks for profits and damages from the date of the reissue, and for treble damages, and for a perpetual injunction. The bill in the present suit makes the same allegations and asks the same relief. The issue of the inability of the plaintiff to recover in the suit because the invention claimed had been anticipated was tendered by the answer in the former suit, and was found in favor of the defendant, as appears by the decree. That issue cannot be again tried between the parties. If in the former suit that issue had been found in favor of the plaintiff, it could not have been again tried in this suit; and in this suit nothing would have been open but the question of infringement, if the bucket claimed to infringe were different from the infringing bucket in the former suit. Within the principles laid down in *Cromwell* v. *County of Sac*, (4 Otto, 351,) and applied by this court in *Smith* v. *Town of Ontario*, (18 Blatchf. C. C. R., 454,) it must be held that this suit is barred by the decree in the former suit.

A decree will be entered granting the defendant's motion and dismissing the bill, with costs.

WALTERS *et al.* v. CRANDAL.

Decided December 13, 1881.

HARNESS-BUCKLES—PATENT CONSTRUED AND LIMITED BY STATE OF THE ART.

Claim 4 of the reissued Patent No. 8,829, for an improvement in harness-buckles, construed, in view of the patent to Douglas, July 14, 1863, to be limited to the particular manner of pivoting the buckle-frame shown and described, and a device in which the part is pivoted in a different manner does not infringe.

Mr. A. v. Briesen for the plaintiffs.

Mr. G. W. Hey and *Mr. C. H. Duell* for the defendant.

BLATCHFORD, *J.:*

This suit is brought on reissued Letters Patent No. 8,829, granted to Robert Loercher July 29, 1879, for an improvement in harness-buckles, the original patent, No. 47,574, having been granted to Cyrus W. Saladee, as inventor, May 29, 1865. The specification of the reissue, including what is inside of brackets and what is outside of brackets, omitting what is in italics, is as follows:

Figure 1 is a plan [view, and] *view.* Fig. 2 *is* a section [of my improved buckle for harness, &c.,] *the red lines showing the strap to which the buckle is secured.*

I call my improved buckle a "snap-buckle," for it is self-acting, and lacks the ordinary "long tongue."

My invention *is more particularly applicable to the plate and rivet buckle described in my application "A," and* consists in pivoting the buckle [to the projecting end of a metallic plate, carrying a loop, in combination with fastening-pins; also, in a peculiar construction of buckle, as hereinafter more fully described,] *in a groove in the tongue, (or part that resembles the common tongue,) so that a spring shall make the front end of the tongue snap under the front bar of the buckle, which is provided with a short stud which passes through the strap to be held and takes in a corresponding hole in the tongue.*

In the drawings, A is the metallic buckle-plate, provided with rivets *a*, by which it is secured to the upper surface of the strap. B is the metallic loop for confining the loose end of the [other strap] *strap*, [which loop is rigid on the plate A.]

The plate A, rivets a, and loop B are similar to the plate, rivets, and loop described in my application "A."

E is the tongue, and is the [The] front end *or combination* of [the] plate *A* [A.] *It* is provided with a grooved recess, *e*, in its under side *about one inch from the end, and* in which the back bar of the buckle is pivoted. G is the buckle, its back bar, *o*, being provided with a short liver, *x*, and turing in the groove *e*. The under side of the front bar of the buckle is provided with a short stud, *i*, which takes into a corresponding indentation, *v*, in the upper side of the [plate A] *tongue E.*

I is a flat steel spring, the front end of which is secured by a rivet to the front end of [plate A] *tongue E*, the rear end of said spring pressing [against the] *down up* lever *x* of the back bar of the buckle, so as to keep it in the groove *e*, and at the same time force the front ends of the [plate A, which is] tongue [shaped] and [the] buckle together, so as to make the stud *i* take into the hole *v*.

If preferred, the stud *i* may be put upon the tongue [or plate A] instead of upon the buckle, and may take into a corresponding hole in the front bar of the buckle.

In using my improved [buckle] *snap-buckle*, the strap to be held is placed between the front bar of the buckle and the tongue, and drawn as tightly as desired, the spring forcing the front bar down upon the strap, so that the stud shall take into each hole of the strap as it arrives. The front side of stud *i* should be rounded off somewhat, so as to allow the strap to slip over it when being tightened.

There is a peculiar advantage possessed by this buckle. It is not necessary to slacken the strap in order to unbuckle it, as is the case with other buckles. I have only to lift up the front bar of the buckle about an eighth of an inch in order to lift the stud *i* out of the hole in the strap, which thus frees the strap. The importance of this advantage is self-evident.

Reading in the foregoing what is outside of brackets, including what is in italics, and omitting what is inside of brackets gives the specification of the original patent.

The claims of the reissue are as follows:

1. The buckle G, in combination with the plate A, having the tongue-extension, all substantially as shown and described.
2. The buckle-frame pivoted to the tongue-extension portion of plate A, all substantially as set forth.
3. The buckle-frame G, provided with stud *i*, in combination with the buckle-tongue A, having an indentation for the reception of said stud, substantially as specified.
4. The plate A, provided with the loop and with fastening-pins, in combination with the buckle-frame, which is pivoted to said plate, substantially as set forth.

The claims of the original patent were these:

1. Constructing a buckle so as to be unbuckled without slackening the strap, in the manner described.
2. The buckle G, in combination with the tongue E.
3. Pivoting the buckle to the tongue, in the manner described.
4. Forming the tongue E as a continuation of plate A, in the manner described.
5. The stud *i*, or its equivalent, operating as described, in combination with the indentation *v*.

Only claim 4 of the reissue is alleged to have been infringed. The infringing structures are complainants' Exhibit No. 3 and defendant's Exhibit No. 4. The former is constructed in accordance with the description contained in Letters Patent No. 206,298, granted to the defendant July 23, 1878. It has a hollow case or shell, made of sheet metal, and provided at the bottom with a plate, which forms a part of the case or shell. Both ends of the case are open. There is a buckle at each end, attached by a joint to a short piece of flat sheet metal so as to project outwardly. Each of these two short pieces is of two thicknesses, the metal being bent to form the joint for the buckle, and is beneath and close up against the lower surface of the bottom plate. In order to secure each short piece to the bottom plate there is a fourth flat piece of metal, lying longitudinally underneath and somewhat shorter in length than the bottom plate, which has at each extreme end of it two integral upwardly-projecting pins or fins, lying in line side by side, one on each side of the center of its width, and extending each to the outer edge, each of which enters and passes through a separate hole for it through each of the two thicknesses of the short piece which carries the buckle, (the two holes for each pin or fin being coincident,) and then enters a

separate hole for it in the bottom plate, and is intended to be bent over and down and clinched inside the shell against the upper surface of the bottom plate, there thus being four of such pins or fins, two for each short buckle-piece. There is in the bottom plate for each pin or fin another hole, so placed that when the pin or fin is bent over its end may go through such hole and so leave a smoother clinch inside the shell. When the pins or fins are in place and clinched the buckles are held firmly and the structure becomes a unit.

Defendant's Exhibit No. 4 differs from complainants' Exhibit No. 3 only in two respects. There is in it, instead of the two buckle-plates, a continuous plate of a single thickness, carrying a buckle at each end of it, the metal at each end being bent into two thicknesses, and there are no extra holes in the bottom plate to receive the ends of the pins or fins after they are clinched. In all other respects the two structures are alike.

The structure of the Saladee device is such that the pivoting of the buckle in the groove is effected by pivoting in the groove the back bar of the buckle, the back bar having on it a short lever, and the rear end of the spring pressing against the lever so as to keep the back bar snugly in the groove and prevent its escaping therefrom while it turns in it. This method of pivoting the buckle to the tongue is made a peculiar feature in the original patent, and is specially covered by the third claim of that patent. But for the action of the spring on the lever of the back bar of the buckle there would be no pivoting of the back bar in the groove and no pivoting of the buckle to the tongue. Take away the spring and the whole structure would be inoperative, for not only would such pivoting disappear, but the stud would not take into its hole. Nothing different results from the language of the reissue. The structure is not and cannot be altered. The meaning of the language of claim 4 of the reissue in saying that the combination is "with the buckle-frame, which is pivoted to said plate, substantially as set forth," is that the buckle-frame is pivoted to the plate by means of the spring, or what is in law and in fact a mechanical equivalent for the spring.

In view of the patent granted to Frank Douglas July 14, 1863, the pivoting of the buckle in the defendant's structures cannot be regarded as being effected by the same means, or equivalent means, as in the Saladee structure. In Douglas's there are a plate, a loop on the plate, fastening-pins on the plate, and a buckle-frame, which is pivoted to the plate. In combination, all the features are found in Douglas's which are found in Saladee's. Not that the Douglas structure anticipates claim 4 of the Saladee reissue properly construed, but it limits its construction so that the defendant's structures do not fall within it. The pivoting in the Douglas structure is effected by having the leather strap confine the bar in the groove. It is true that it requires the metal and the leather combined together to make the pivoting in Douglas's, and that in the Saladee structure and the defendant's structures there is pivoting by the metal alone without the leather, but this is of no importance in principle. No one of the three structures is of any use except as applied to articles of leather. Moreover, the Saladee structure is a buckle for harness solely, and it cannot be converted into the defendant's structures without destroying its peculiar arrangement of pivoting.

The bill must be dismissed, with costs.

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U. S. Circuit Court—Southern District of New York.

THE THATCHER HEATING COMPANY *et al. v.* BURTIS *et al.*

1. INVENTION—FIRE-PLACE HEATER—AGGREGATION—COMBINATION.

Combining with one form of machine a device or element well known in other forms of machines of the same class—as arranging in a fire-place heater of a well-known type a fuel-receptacle common in ordinary cook-stoves—is not broadly patentable. It is a mere aggregation of old devices, each performing its ordinary function in the ordinary way and not co-operating to produce any new result.

2. SAME—SAME—CHANGES IN ADJUSTMENT.

The invention, if any, resides in the means employed to adjust the parts into efficient relations with each other in the new organization.

Mr. B. F. Lee for the complainants.
Mr. A. J. Todd for the defendants.

WALLACE, *J.*:

This action involves the validity of the first and second claims of the letters patent issued to John M. Thatcher for an improvement in fire-place heaters, bearing date June 14, 1870. It is conceded that these claims are to be construed broadly, so as to cover the combination of a fire-place heater having a body projecting outward from the mantel or frame and a furnace-like portion in the chimney behind the mantel, with a fuel-receptacle within the cylinder of the heater, which will preserve a supply of unignited coal while the heater is in operation, and an opening through which the magazine can be fed from above, the magazine extending to this opening. Inasmuch as the heater was old and the fuel-receptacle with the described opening was old when located within an ordinary coal-stove, what Thatcher accomplished was merely the advantageous location of the fuel-receptacle within the fire-place heater. As the complainants' expert, Mr. Brevoort, states, "the problem Thatcher had before him was to place this fuel-magazine within the Bibb and Augee heater." It must be conceded that it was not obvious that such a fuel-magazine could be advantageously employed in such a heater. Attempts had been made by others to do the same thing without satisfactory results; but Thatcher's organization was a success, and immediately commended itself to the public. But Thatcher's broad claims cannot be sustained. There may have been patentable novelty in the means he employed to adjust the parts in the new organization, but there was none in merely bringing those parts together. They did not perform any new function in the new arrangement.

The fuel-magazine does just the same work in the new structure it did in the ordinary coal-stove. All the other parts of the fire-place heater operate precisely as they would if the ordinary fuel-pot were used instead of the substituted magazine. The parts do not co-operate to produce a new result. By their aggregation the new structure contains all the advantages which resided before separately in several structures. The new heater is therefore a better heater than any which preceded it; but it does not present a patentable combination irrespective of the means employed to adjust the several parts into efficient relations to each other.

As concededly the claims of the patent are not to be limited to any such combination, they must be held void for want of patentable novelty.

The bill is dismissed, with costs.

THE OFFICIAL GAZETTE OF THE United States Patent Office.

[BY AUTHORITY OF CONGRESS.]

VOL. 22—NO. 4. TUESDAY, JULY 25, 1882. PRICE—$5 per year

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Issue of July 25, 1882.

Patents	303	No. 261,519 to No. 261,821, inclusive.
Designs	31	No. 13,068 to No. 13,098, inclusive.
Trade-Marks	15	No. 9,564 to No. 9,578, inclusive.
Labels	3	No. 2,726 to No. 2,728, inclusive.
Reissues of patents	3	No. 10,167 to No. 10,169, inclusive.
Total issue	355	

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Minnesota	4				
Mississippi	1		Total to citizens of the United States	305	16
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Bermuda			New Zealand		
Brazil			Russia		
Canada	4		Spain		
Chili			Sweden		
Colombia, U. S. of			Switzerland		
Cuba					
Denmark			Total to citizens of foreign countries	29	2
Ecuador					

DESIGNS.

13,068 and 13,069.—FRINGE.—*Theodore Abbott*, Philadelphia, Pa., assignor to *John C. Graham*, same place. Applications filed June 16, 1882. Term of patents 14 years.

13,070.—FRINGE.—*Theodore Abbott*, Philadelphia, Pa., assignor to *John C. Graham*, same place. Application filed June 19, 1882. Term of patent 14 years.

13,071.—OIL-STOVE.—*H. Clay Bascom*, Troy, and *Tobias S. Heister*, Lansingburg, N. Y., assignors to *The Florence Machine Company*, Florence, Mass. Application filed May 25, 1882. Term of patent 14 years.

13,072.—PRINTING-TYPE.—*Charles H. Beeler, Jr.*, Philadelphia, Pa., assignor to *MacKellar, Smiths & Jordan*, same place. Application filed May 26, 1882. Term of patent 14 years.

13,073 to 13,076, inclusive.—PRINTED FABRIC.—*James M. Bryce*, Beverly, N. J. Applications filed May 18, 1882. Term of patents 3½ years.

13,077.—SHOE.—*Alfred Cook*, Lynn, Mass. Application filed May 10, 1882. Term of patent 14 years.

13,078.—CHAIN-LINK.—*Salomon Davidson*, New York, N. Y. Application filed May 31, 1882. Term of patent 7 years.

13,079.—FRINGE.—*Anthony Donzel*, Philadelphia, Pa., assignor to *John C. Graham*, same place. Application filed June 10, 1882. Term of patent 14 years.

13,080 to 13,083, inclusive.—PRINTED FABRIC.—*John Glen*, Brooklyn, N. Y. Applications filed May 18, 1882. Term of patents 3½ years.

13,084.—PRINTED FABRIC.—*John Glen*, Brooklyn, N. Y. Application filed June 9, 1882. Term of patent 3½ years.

13,085 and 13,086.—FRINGE.—*George E. Goucher*, Philadelphia, Pa., assignor to *John C. Graham*, same place. Applications filed June 16, 1882. Term of patents 14 years.

13,087.—FRINGE.—*John C. Graham*, Philadelphia, Pa. Application filed June 16, 1882. Term of patent 14 years.

13,088 and 13,089.—CARPET.—*Arthur L. Halliday*, Yonkers, N. Y., assignor to *The Bigelow Carpet Company*, Clinton, Mass. Applications filed June 10, 1882. Term of patents 3½ years.

13,090.—CHAIN-LINK.—*James L. Heeley*, Attleborough Falls Mass., assignor to *Davidson Brothers*, New York, N. Y. Application filed June 19, 1882. Term of patent 7 years.

13,091.—TYPE.—*William W. Jackson*, Philadelphia, Pa., assignor to *MacKellar, Smiths & Jordan*, same place. Application filed June 5, 1882. Term of patent 7 years.

13,092.—PRINTING-TYPE.—*William W. Jackson*, Philadelphia, Pa., assignor to *MacKellar, Smiths & Jordan*, same place. Application filed May 26, 1882. Term of patent 7 years.

13,093.—BANDBOX.—*Robert Luckner, Sr.*, New Orleans, La. Application filed May 15, 1882. Term of patent 3½ years.

13,094 and 13,095.—FRINGE.—*Laurence J. McDonald*, Philadelphia, Pa., assignor to *John O. Graham*, same place. Applications filed June 10, 1882. Term of patents 14 years.

13,096 and 13,097.—FRINGE.—*Frederick Reuter*, Brooklyn, N. Y., assignor to *John O. Graham*, Philadelphia, Pa. Applications filed June 16, 1882. Term of patent 14 years.

13,098.—TYPE.—*John K. Rogers*, Brookline, Mass. Application filed March 16, 1882. Term of patent 3½ years.

TRADE-MARKS.

[Certificates of registration of Trade-Marks numbered 8,191 and upward are registered under the act of March 3, 1881.]

9,564.—AERATED BEVERAGES.—*Burroughs, Wellcome & Co.*, Snow Hill, London, England. Application filed September 28, 1881.
"The arbitrarily-selected words 'AQUA VIVA.'"

9,565.—COMPOUND TO BE USED IN THE PLACE OF BUTTER AND LARD FOR COOKING PURPOSES.—*Samuel H. Cochran*, Everett, Mass. Application filed June 7, 1882.
"The word 'PUROLA.'"

9,566.—OIL-CUPS, VALVES, COCKS, AND FAUCETS.—*Cooper, Jones & Cadbury*, Philadelphia, Pa. Application filed June 15, 1882.
"The symbol of a keystone."

9,567.—WATCH-CASES.—*Michael H. Cronin*, Philadelphia, Pa. Application filed June 29, 1882.
"The combined figure of a crown and star."

9,568.—MEDICINES.—*The Déclat Manufacturing Company*, New York, N. Y. Application filed June 29, 1882.
"The word 'GLYCO-PHÉNIQUE.'"

9,569.—CIGARS, CIGARETTES, AND MANUFACTURED TOBACCO.—*Julius Ellinger & Co.*, New York, N. Y. Application filed June 29, 1882.
"The words 'EL MONTERO.'"

9,570.—CIGARS, CIGARETTES, AND MANUFACTURED TOBACCO.—*Julius Ellinger & Co.*, New York, N. Y. Application filed June 29, 1882.
"The words 'LA SOLANA.'"

9,571.—SIRUP.—*Joseph Firmenich*, Buffalo, N. Y. Application filed June 29, 1882.
"The arbitrarily-chosen word and figure 'No. 6.'"

9,572.—MACHINERY OF VARIOUS KINDS, AND PARTS OF MACHINERY. *P. R. Jackson & Co.*, Manchester, county of Lancaster, England. Application filed June 13, 1882.
"The figure of an arrow shooting through a hoop or ring."

9,573.—DRY PASTE FOR CLEANING GOLD AND SILVER PLATED WARE, NICKEL, AND GLASSWARE.—*A. E. Jeanneret*, Boston, Mass. Application filed June 16, 1882.
"The fanciful word 'DIAMOND' and fac-simile signature of the registrant."

9,574.—VIOLIN-STRINGS.—*Sherman, Clay & Co.*, San Francisco, Cal. Application filed February 4, 1882.
"The letters 'C C C' in the form of a monogram and the arbitrary number '300.'"

9,575.—ACCORDIONS.—*Sherman, Clay & Co.*, San Francisco, Cal. Application filed February 4, 1882.
"The arbitrarily-selected word 'PEERLESS.'"

9,576.—BAKING-POWDER.—*Winfred Y. Walrath*, Syracuse, N. Y. Application filed June 19, 1882.
"The arbitrary symbols of a hen resting in a nest suspended from an egg."

9,577.—CERTAIN MEDICAL COMPOUND.—*Hulbert H. Warner*, Rochester, N. Y. Application filed June 29, 1882.
"In connection with the words 'KIDNEY CURE,' or otherwise, the words 'DR. CRAIG'S,' and the following device: Within a representation of a garter which bears the Latin words 'Experto credo' is a pair of scales or balance. Above is a mortar and pestle, and two olive branches below."

9,578.—BROWN AND BLEACHED SHEETINGS AND DRILLINGS.—*Whitman & Welch*, New York, N. Y., and Hartford, Conn. Application filed June 19, 1882.
"The pictorial representation of an elephant and the arbitrarily-selected word 'JUMBO.'"

LABELS.

2,726.—Title: "LIQUID WATERPROOF STOVE POLISH."—*Ayling, Kohn & Co.*, Chicago, Ill. Application filed June 22, 1882.

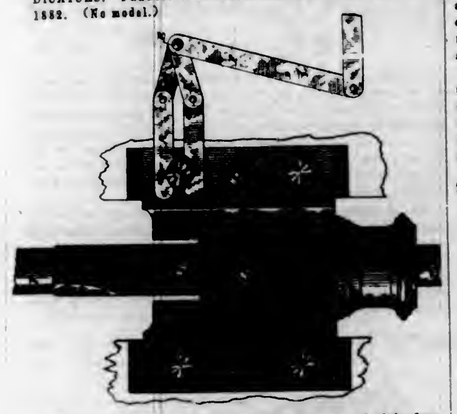
2,727.—Title: "DURABLE SHELF COVERS."—*Herman Force* and *John U. Buchanan*, Montrose, N. Y. Application filed July 3, 1882.

2,728.—Title: "ELECTRO-MAGNETIC SPECTACLES."—*Edgerton O Paddock*, Boston, Mass. Application filed July 1, 1882.

PATENTS

GRANTED JULY 25, 1882.

261,519. ADJUSTABLE STAND FOR OPERATING STEAM-INDICATORS. FRANCIS W. BACON, Boston, Mass. Filed Apr. 17, 1882. (No model.)

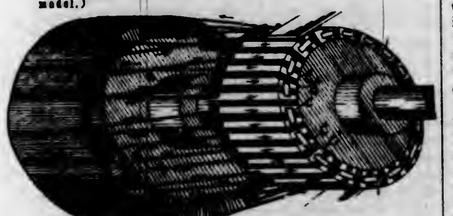


Claim.—1. A portable adjustable stand composed of the four links or plates A, A', B, and B', pivoted together, substantially as and for the purposes described.

2. The combination of the links or plates A, A', B, and B', pivoted together, as set forth, the hub C, provided with two threaded holes at right angles to each other, and the screw-pin E, fitted to and adapted to be interchangeably used in either of said threaded holes, substantially as described.

3. As a means of operating the barrel of a steam-indicator, the combination of the links or plates A, A', B, and B', pivoted together in pairs, a pantograph pivoted at one end to a fixed support and provided at the other end with the tapering pin *e*, as a means of connecting it to the links B and B', the pin F, and the cord *w*, all constructed, arranged, and adapted to operate substantially as and for the purposes described.

261,520. COMMUTATOR FOR DYNAMO-ELECTRIC MACHINES. R. EDWARD BALL, New York, N. Y. Filed Feb. 15, 1882. (No model.)



Claim.—1. An armature for dynamo-electric machines, having each end of every bobbin thereof connected to a separate block in the commutator-ring and such blocks coupled together in pairs, so that a current generated in one of said bobbins must pass to and through a pair of commutator-blocks before passing to a succeeding bobbin, substantially as shown and described.

2. In combination with an armature of a dynamo-electric machine, a commutator therefor having twice as many blocks as there are bobbins or sections on the armature-ring, so as to provide for each end of every such section being connected to a separate commutator-block, such blocks being coupled in pairs, substantially as shown and described.

3. An armature for dynamo-electric machines, the bobbins or sections whereof are disconnected from each other, each end of every bobbin being connected to a separate block in the commutator, such blocks being coupled together in pairs, and thereby forming an indirect connection for said bobbins, substantially as shown and described.

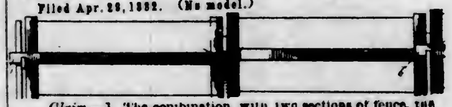
261,521. MANUFACTURE OF FELTED GOODS. DEMPSTER BEATTY, Mishawaka, Ind., assignor to the Grand Rapids Felt Boot Company, Grand Rapids, Mich. Filed June 1, 1882. (Model.)



Claim.—1. As a means for preventing the occurrence of seams and wrinkles in the manufacture of felted goods, a flexible cover adapted to be fitted and drawn closely upon the bat of wool which is placed on the pattern-board substantially as described.

2. The herein-described flexible cover, open from end to end, and provided with suitable lacing, said cover being made to conform to the shape of the pattern-board employed in the manufacture of a felt boot, shoe, or analogous article, and being adapted to be fitted and drawn tightly and secured upon the bat which is laid over the pattern-board, substantially as described.

261,522. PORTABLE FENCE. HENRY C. BEEBE, Canton, Ill. Filed Apr. 26, 1882. (No model.)

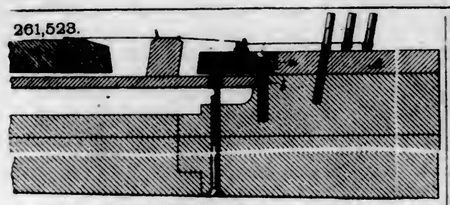


Claim.—1. The combination, with two sections of fence, the central rails of each extending beyond the upright posts at either end, one extension having a mortise in its upper edge and the other in its under edge, of a brace set obliquely to said fence, having two mortises corresponding to and engaging with the mortise in the upper edge of the central rail of one section and the mortise in the under edge of the central rail of the other and contiguous section of fence, substantially as hereinbefore set forth.

2. A portable fence consisting of any desired number of sections, each section having a central rail which extends beyond the posts of the same, said rail having a mortise in the upper edge of one and in the under edge of the other extension, the relative position of each section being such that the upper mortise in the rail of one section will be opposite the under mortise in the rail of the other, in which position they are engaged or connected by the corresponding mortises in a brace set obliquely to said fence, alternately on one side and then on the other, substantially as and for the purpose hereinbefore described and set forth.

261,523. SOUNDING-BOARD FOR UPRIGHT PIANOS. HENRY BENNING, New York, N. Y. Filed Apr. 14, 1882. (No model.)

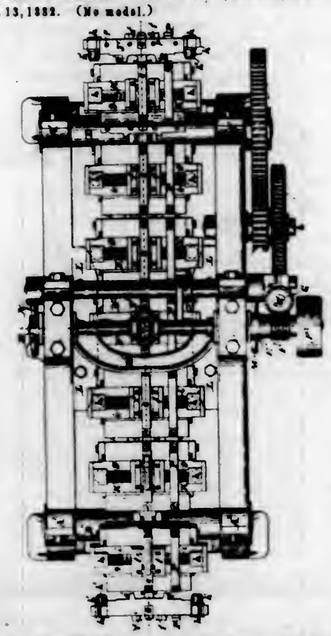
261,523.



Claim.—1. In upright piano-fortes, a wrest-block adapted to carry the tuning-pins, a plate adapted to carry the agraffes, and a sounding-board extended beyond the line of agraffes in the plate, in the manner described, all combined substantially as and for the purposes specified.

2. In upright piano-fortes, a wrest-block adapted to carry the tuning-pins, a plate adapted to carry the agraffes and supported near its free edge, as shown, and a sounding-board extended beyond the line of agraffes in the plate, in the manner described, all combined substantially as and for the purposes specified.

261,524. MACHINE FOR SHAPING AND DRESSING REEDS AND REED-PLATES. MELLEN BRAY, Newton, Mass. Filed Feb. 13, 1882. (No model.)



Claim.—1. In a milling-machine, the combination of a rotary cutter, an endless chain or belt, a series of carriages mounted upon said chain or belt and each provided with means of clamping the article to be milled thereon, and mechanism for moving said series of carriages in succession in a straight line beneath the rotary cutter, substantially as described.

2. The combination, in a milling-machine, of a rotary cutting-tool, an endless chain or belt arranged to move in a straight line while passing beneath the cutting-tool, a series of carriages mounted upon and carried by said chain or belt, a pair of clamping-jaws mounted upon each of said carriages, and a fixed or stationary cam-plate for operating one of said jaws, substantially as and for the purposes described.

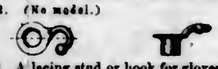
3. In a milling-machine, the combination of a rotary cutting-tool, an endless chain or belt, a series of carriages mounted upon and carried by said chain or belt, means of clamping the object to be milled thereto, a pattern-cam secured to each of said carriages, and mechanism connected with the shaft of the cutting-tool and arranged to be operated upon by said pattern-cam to raise or lower the cutter, substantially as and for the purposes described.

4. The combination of an endless chain or belt, one or more carriages mounted thereon and carried thereby, the supporting-bar *e*, secured in a fixed position on said carriage, the plates K K, provided with the jaws *f f*, the blocks A A, having mounted thereon the trucks *h'*, the springs *i i* and *j j j j*, and the stationary cam-plates L L, all constructed, arranged, and adapted to operate substantially as and for the purposes described.

5. The combination, in a milling-machine, of a rotary cutter mounted in movable bearings, an endless chain or belt, a series of carriages mounted upon said chain or belt, and each provided with means of clamping thereto an article to be milled, mechanism for moving said carriages in succession in a straight line beneath the cutting-tool, and a pattern-cam constructed and arranged to raise and lower the cutting-tool as each carriage is passed beneath said cutter, for the purposes specified.

6. The combination, in a milling-machine, of the cutter-shaft F, the boxes E E, levers M M, set-screws *k k* and *l l*, the rocker-shaft N, the lever O, the truck *m*, and the pattern-cam P, all arranged and adapted to operate substantially as and for the purposes described.

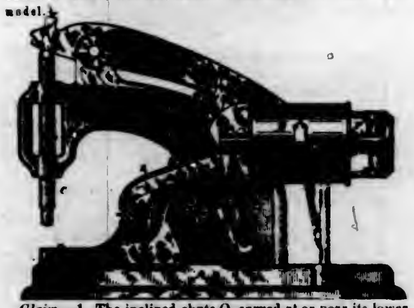
261,525. LACING-HOOK. MELLEN BRAY, Newton, Mass. Filed Apr. 17, 1882. (No model.)



Claim.—1. A lacing stud or hook for gloves, boots, and other articles, consisting of a flat disk-like portion adapted to rest upon the material when applied for use, a hook bent in a plane parallel, or nearly so, to said disk-like portion, and also bent upward or offset to bring it above the level of the disk-like portion and parallel therewith, and means of securing it to a glove or other article, and adapted to have its end drawn down upon the material by the lacing-cord, substantially as described.

2. A lacing-hook for gloves, boots, and other articles, consisting of a flat disk-like portion adapted to rest upon the material when applied for use, a hook bent in a plane parallel, or nearly so, to said disk-like portion, and also bent upward or offset to bring it above the level of the disk-like portion and parallel therewith, and a tubular shank, all made from one piece of metal, substantially as described.

261,526. MACHINE FOR SETTING LACING-STUDS. WILLIAM CLAXTON BRAY, Newton, Mass. Filed Mar. 15, 1882. (No model.)



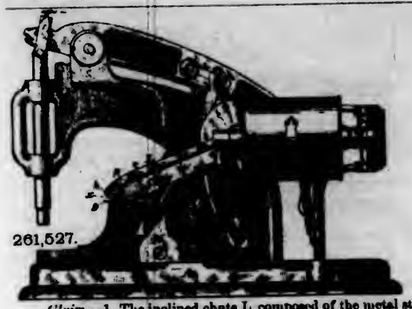
Claim.—1. The inclined chute O, curved at or near its lower end, as set forth, and adapted to guide the studs throughout its entire length with their axes in a horizontal plane, in combination with the roadway *p*, curved upward at its rear end and adapted to turn the studs from a horizontal into a vertical position, and mechanism interposed between said chute O and the roadway *p* for separating the studs and delivering them one at a time to said roadway, substantially as and for the purposes described.

2. The combination of the inclined chute O, the curved roadway *p*, the sliding block M, provided with the lug or stop *d* and arm *e*, and mechanism for imparting to said sliding block a reciprocating motion, substantially as described.

3. The combination of the inclined chute O, the curved roadway *p*, the sliding block M, provided with the lug or stop *d* and arm *e*, the spring *f*, the lever N, and the feed-plunger L, provided with the cam-surface *f'*, all arranged and adapted to operate substantially as and for the purposes described.

261,527. MACHINE FOR SETTING LACING-STUDS. WILLIAM CLAXTON BRAY, Newton, Mass. Filed Mar. 15, 1882. (No model.)

Brief.—Improvement on Letters Patent No. 212,124, dated February 11, 1879, and No. 244,738, dated July 26, 1881.



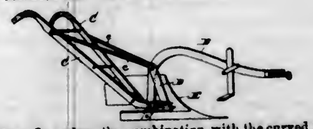
261,527.

Claim.—1. The inclined chute L, composed of the metal strips or plates i and *p*, connected together by the ties *r*, with the plate *p* in a vertical plane parallel to the plate i, and arranged with its lower edge in position to guide the stud by the upper portions of the shoulders between the heads and shanks of the studs when said studs hang by their hooked heads upon the edge of the plate i, substantially as and for the purpose described.

2. The combination of the inclined chute L, the shaft I, provided with the bevel-gear wheel *a*, the shaft *c*, provided with the bevel-gear wheel *b*, the fingers *g* and *h*, connected to the shaft *c*, and means of imparting to the shaft I an oscillating motion about its axis, substantially as and for the purposes described.

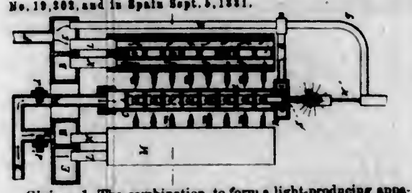
3. The combination of the shaft I, provided with the bevel-gear wheel *a*, the shaft *c*, provided with the bevel-gear wheel *b* and cross-piece *k*, the sleeve *f*, provided with the slot *l* and mounted upon the shaft *c*, a friction-pad adapted to bear against the sleeve *e*, the fingers *g* and *h*, carried by said sleeve, the inclined chute L, and means of imparting to the shaft I an oscillating motion about its axis, substantially as and for the purposes described.

261,528. PLOW. JAMES M. BUCHANAN, Indianapolis, Ind. Filed Oct. 21, 1881. (No model.)



Claim.—In a plow, the combination, with the curved beam B, of the handles C, extended forward of the standard or beam, the braces *e e*, the plow E, and the brace-bar D, extended obliquely forward from the bracing-point of the beam and bolted to the plow-share and handle-extension, substantially as set forth.

261,529. MEANS AND APPARATUS FOR PRODUCING INTENSE WHITE LIGHT. CHARLES CLAMOND, Paris, France. Filed May 29, 1882. (No model.) Patented in England Mar. 14, 1880, No. 2,110; in France May 20, 1880, No. 136,771; in Belgium May 28, 1880, No. 51,576; in Germany May 5, 1881, No. 16,640; in Italy June 23, 1881; in Austria Aug. 20, 1881, No. 19,302, and in Spain Sept. 5, 1881.



Claim.—1. The combination, to form a light-producing apparatus, of a main air-tube of refractory material, tubes arranged at the sides of the main air-tube, which tubes have lateral jet-orifices opening toward said air-tube and are arranged to be supplied with a mixture of air and gas, and a pipe to supply gas to the end of the main air-tube, where the gas and air mix to produce the illuminating-jet, all arranged substantially as set forth.

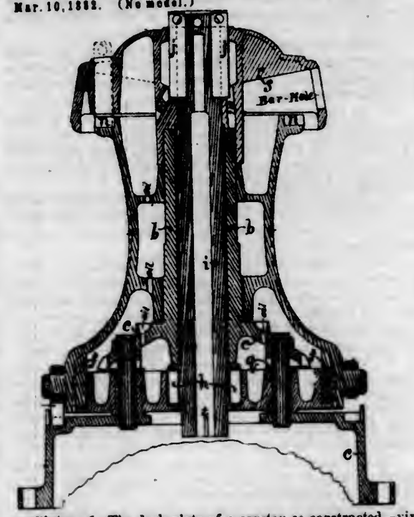
2. The combination of the tube C, provided with internal deflectors, a jet-aperture, S, and a terminal chamber, *t*, the chambers M, provided with lateral jet-apertures *s* and means for supplying them with a mixture of gas and air, a gas-pipe, G, leading to the chamber *t*, and a suitable incandescing material, I, arranged in the focus of the jet at aperture S, all arranged to operate substantially as set forth.

3. The combination of the tube C, the air-pipe and its branches, the air-chamber B, air-pipes K, gas-chamber E, gas-pipes F, G, and L, partitioned chambers M, terminal chamber *t*, and a suitable incandescing material, I, all arranged substantially as set forth.

4. An incandescing tip composed of magnesia threads made into the form of a basket, substantially as set forth.

5. The combination, with the incandescing tip, made from magnesia threads, of the inclosing basket T', made from highly-refractory metallic wire, substantially as set forth.

261,530. CAPSTAN. DAVID M. B. COFFIN, Newton, Mass. Filed Mar. 10, 1882. (No model.)



Claim.—1. The deck-plate of a capstan as constructed—viz., with lateral openings connecting the inclosed space beneath the deck-plate with the exterior, for the purpose of admitting the intermeshing of an intermediate gear with the center gear within and an annular gear without, substantially as described.

2. The spindle of a capstan as constructed—viz., the lower part hollow and attached to the deck-plate and the upper part a shaft attached to a center gear located beneath the fixed part of the spindle, substantially as described.

3. The center gear, with its upward prolongation or shaft and pin, in combination with the deck-plate, two-part spindle, barrel, and lever-head, substantially as described.

4. The combination of a center gear within the cavity beneath the deck-plate with an intermediate gear protruding through the deck-plate and an annular gear exterior to the deck-plate.

5. An intermediate gear located in an opening through the deck-plate and partly within the inclosed space beneath the deck-plate and partly outside the deck-plate, substantially as described.

6. An intermediate gear, in combination with a center gear within the inclosed cavity beneath the deck-plate and an annular gear exterior to the deck-plate, substantially as described.

7. An intermediate gear so located and journaled to the deck-plate as to intermesh with a center gear within the inclosed space beneath the fixed part of the spindle, and an annular gear, substantially as described.

8. A deck-plate as constructed—viz., a deck-plate or base spreading outward and downward from its connection to the spindle and in a circle passing between the intermediate gear-journals and the annular gear, whereby a large circumferential or annular section is obtained through which to make the openings for gears *g*, substantially as shown.

9. The combination of the center, intermediate, and annular gears as constructed—viz., the center and annular gears having their teeth supported by flange at the top, and the intermediate gear at the bottom, substantially as described.

10. The deck-plate as constructed—viz., with the described openings having re-enforcement at their sides of thick metal, substantially as shown.

11. The deck-plate as constructed—viz., with openings, through which protrude intermediate gears.

12. A capstan-lever head as constructed—viz., with bar-holes or lever-sockets conforming to the ordinary shape of the bar-sec-

tion in the outer rim, but entirely open from beneath inside of that rim, or substantially so.

13. The lever-head as constructed—viz., with a depending rib or bearer to bear upon and form a rest or vertical stop against the upper side of the bar in the bar-socket or lever-socket.

14. The capstan as constructed—viz., with a center gear in the cavity beneath the deck-plate detachably connected to the lever-head by means of an upward extension or shaft inside the fixed portion of the spindle, substantially as described.

15. The pawl-pockets on the deck-plate as constructed—viz., with outwardly-open drainage-spaces.

16. The deck-plate as constructed—viz., with pawl-lugs reenforced by detached or separate flanges to each, substantially as described.

17. The described construction of the upper end of the capstan-barrel *d*—viz., with an annular or continuous series of ratchet-teeth abutting toward the axis of the barrel against a continuous or annular flange, substantially as described.

18. In combination with the barrel and deck-plate of a capstan, the pawl as constructed—viz., with a through circular opening provided with a through-recess, like a keyway, in combination with a wrist or journal fixed to the barrel and having a spur or lug at its outer end, substantially as described.

19. In combination with the barrel and deck-plate of a capstan, the capstan-pawl as constructed—viz, with a recess on the inside toward the capstan-barrel, in which is jointed or hinged a tongue, substantially as described.

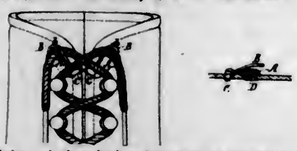
20. The capstan as constructed—viz., with a deck-plate inclosing a center gear in the space beneath it, and an upward extension or shaft of the center gear through the hollow spindle, said shaft connected by a ratchet mechanism to the lever-head, and said center gear connected by intermediate gears and an annular gear to the lower part of the capstan-barrel, substantially as described.

21. The capstan as constructed—viz., with the lever-head connected to the top of the barrel by ratchet mechanism, in combination with the annular barrel-gear, intermediate gears, the center gear inclosed beneath the deck-plate, its upward extension or shaft, and its ratchet mechanism, and hollow spindle, substantially as described.

22. The ratchets *m n*, in combination with the center gear located beneath the deck-plate, its shaft *i*, hollow spindle *b*, and the lever-head, substantially as described.

23. The barrel of a capstan as constructed—viz., with the fleeting ribs or welts *e* to abut at their lower ends against a raised zone of the barrel, the middle of the welts being flush or of equal elevation from the general surface of the contiguous part of the barrel with the raised zone, substantially as shown.

261,531. SHOE-LACING FASTENING. CLIFFORD A. COOK, Milford, Mass. Filed May 1, 1882. (No model.)



Claim.—A shoe-lacing fastening, substantially as described, consisting of the base A, the rivet D, the securing-hook C, and the lace-securing prong B, the last forming a sharp angle with the base and arranged at a right angle to the hook, whereby the strain on the lacing is made across the hook and binds the lacing in the corner of the angle, as and for the purpose set forth.

261,532. SAFE BOLT-WORK. WILLIAM CORLISS, Providence, R.I. Filed May 7, 1879. Renewed Dec. 30, 1881. (Model.)

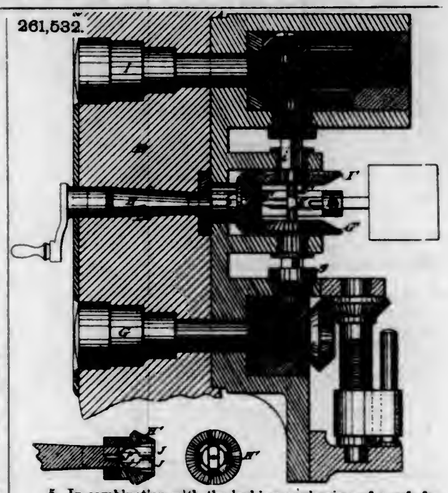
Claim.—1. In a safe for valuables, an operating-shaft controlled in position by a revolving threaded counter-bolt, in combination with the locking and door-opening mechanisms, substantially as herein set forth.

2. In combination with the locking and the door-opening mechanism of a safe, the two bolts *g* and *i*, each formed with screw-threads and mounted in a correspondingly-threaded support, and the two operating-shafts G and I, arranged substantially as and for the purposes herein specified.

3. In combination with the operating-shaft G and the transverse locking-bolt *g*, the shaft H, loose gear-wheel H′, movable wings J, and a lock or locks controlling the operation of said wings, as herein specified.

4. The shaft H, gear-wheel H′, wings J, and a lock or locks controlling the latter, in combination with two transverse locking-bolts, *g i*, and the two operating shafts G I, as herein specified.

261,532.



5. In combination with the locking mechanism of a safe for valuables, the shaft H, gear-wheel H′, and single spring *j*, connecting the wings J J, and having a centering-pin, *j*, all adapted to serve as herein specified.

6. The combination of the shaft H, gear-wheel H′, wings J J, and means, *j*, for drawing them inward with the pointed pin K and one or more locks operating said pin, as herein specified.

7. In combination with the operating-shaft G I, cross-bolts *g i*, and pin K, the stop K′, arranged to perform the double functions of preventing the withdrawal of the cross-bolts *g i* until the pin K is properly thrown and of preventing the disengagement of the mechanism from the shaft H until the cross-bolts *g i* are fully inserted, as herein specified.

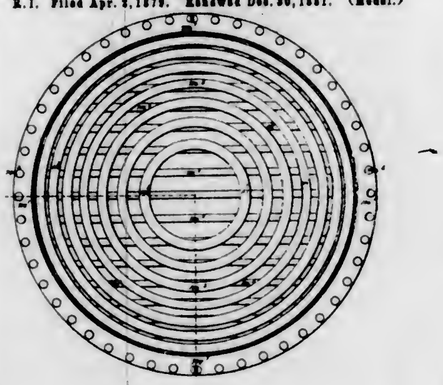
8. In combination with the operating-shaft G, the pin K, and cross-bar K′, wings J J, shaft H, gear H′ G′ I′, and cross-shaft *g*, combined and arranged as and for the purposes herein specified.

9. The combination, with a principal operating-shaft, of a transverse bolt worked by an independent mechanism, and suitable devices operated by a lock for connecting and disconnecting the latter and the transverse bolt, substantially as herein specified.

10. The combination of means for engaging the door strongly with the casing, mechanism for operating the same, a connecting and disconnecting piece, K, and a lock or locks controlling such disconnecting-piece, substantially as herein specified.

11. In a safe for valuables, the combination of an independent spindle, mechanism operated thereby to liberate the locking-bolt, and a lock or locks applied within the safe, controlling the engagement of the spindle with the aforesaid mechanism, substantially as herein specified.

261,533. BURGLAR-PROOF SAFE. WM. CORLISS, Providence, R.I. Filed Apr. 2, 1879. Renewed Dec. 30, 1881. (Model.)



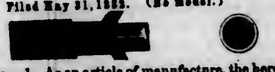
Claim.—1. A wrought-iron basket-work composed of the stout ring m', perforated as shown, in combination with the curved ribs or transverse pieces m^2, extending through the same and strongly secured therein, adapted to serve in a spherical safe, and to contribute to the strength thereof by their direct connection, as herein specified.

2. The spherical safe described, of wrought and cast metal, the wrought metal being composed of two parts or sets of parts, the part m' being perforated and receiving the parts m^2 in the holes thereof, and strongly secured together in addition to the junction effected by the cast metal, substantially as herein specified.

3. In a spherical safe, the independent hoops or rings m^2, of wrought metal, in combination with the basket m' m^2, of strongly-joined pieces, and the whole enveloped in a harder cast metal, M, as herein specified.

4. A safe constructed in sections, having each of its parts separately formed with basket-work of wrought metal and presenting at the joint the duplicate basket-work, said parts overlapping one upon the other, one without and the other within the joint *a e*, substantially as and for the purposes herein specified.

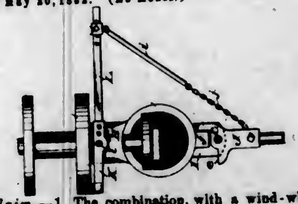
261,534. FLEXIBLE SHAFTING. FRANK A. CURTIS, Meriden, Conn. Filed May 31, 1882. (No model.)



Claim.—1. As an article of manufacture, the herein-described flexible shaft, consisting of the non-metallic core wrapped with a fabricated covering, substantially as described.

2. As an article of manufacture, the herein-described flexible shaft, consisting of the non-metallic core wrapped with a fabricated covering, the fabricated surface protected by wire wound thereon, substantially as described.

261,535. WIND-ENGINE. HENRY CROFT, Jr., Springfield, Ohio. Filed May 20, 1882. (No model.)

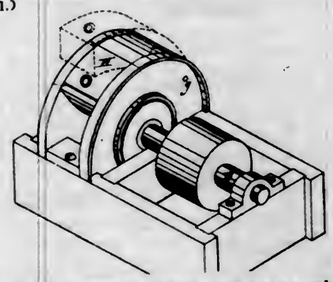


Claim.—1. The combination, with a wind-wheel and its hinged or pivoted tail-vane, of a pivoted brake arm or lever arranged substantially parallel to the wheel-hub, extending beyond the same, and having its end directly connected to the tail-vane at a point in rear of its pivot by means of a chain or equivalent device, whereby in automatically actuating the brake the chain or equivalent device is drawn around the hinge of the tail-vane and a compound leverage secured thereby, substantially as described.

2. The combination, with the pivoted brake-lever and the tail-vane, of the link *i* or equivalent device made adjustable upon the brake-lever, for the purpose specified.

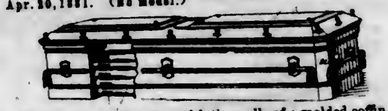
3. The pivoted brake-lever K L, having a yielding or elastic part in its construction, in combination with the adjustable link *i*, chain *j*, and tail-vane J.

261,536. MACHINE FOR REDUCING WOOD TO PULP FOR PAPER. AUGUSTUS CROSBY, Benton, Me. Filed July 6, 1880. (Model.)



Claim.—In a machine for reducing wood to paper-pulp, the combination, with a grinding-surface and a feed box or cell for holding the wood to be ground, of a weight or pressure-block, H, hinged or pivoted at or near one end, so as to exert a leverage and form a wedge-shaped piece between its under side and the grinding-surface, and constructed to operate substantially in the manner and for the purpose described.

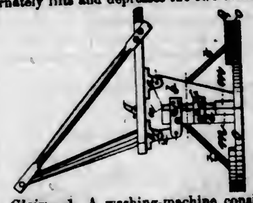
261,537. COFFIN. TAYLOR E. DANIELS, Chicago, Ill. Filed Apr. 20, 1881. (No model.)



Claim.—In combination with the walls of a molded coffin, the embedded frame comprising the corrugated and perforated side and end plates, C, and the corrugated and perforated corner-plates D, said corner-plates having lateral projections *t*, adapted to hook through holes in the said side and end plates, substantially as described.

261,538. WASHING-MACHINE. DEWITT DAVIS, Chicago, Ill. Filed Jan. 21, 1882. (Model.)

Brief.—The device is to be placed in a suds box or tub having preferably a perforated false bottom. The rocking of the chair alternately lifts and depresses the two sections of the pounder.



Claim.—1. A washing-machine consisting of the combination of a tilting chair-seat and a two-part open or skeleton plunger having each part hinged to the said seat, substantially as and for the purpose specified.

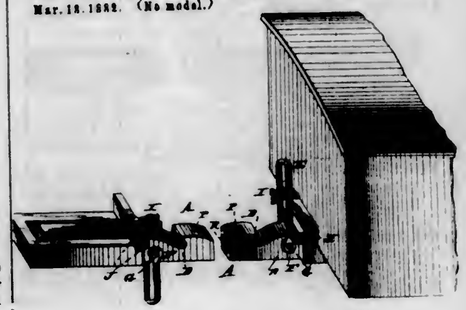
2. The combination of the two-part open or skeleton plunger, each part provided with the vertically-extending cross-pieces *m m*, the tilting chair-seat A, the uprights *b* and *c*, hinged at their upper ends to the said seat and at their lower ends rigidly fastened to the plunger, and guides operating in connection with the said uprights, substantially as and for the purpose specified.

261,539. SAP-PAIL COVER AND HOLDER. LAFAYETTE DAVIS, Busti, N. Y. Filed Apr. 28, 1882. (No model.)



Claim.—In combination with a sap-pail, the frame B for holding the same to the tree, having a stationary cover, C, and means for attaching the same to the tree, substantially as shown, and for the purpose set forth.

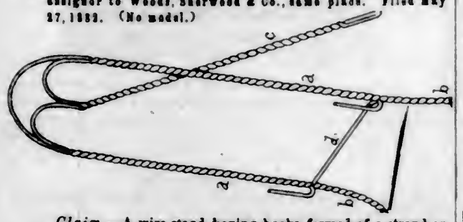
261,540. CAR-COUPLING. PETER H. DENNIS and JUDSON A. STANTON, Sauk Rapids, Minn., assignors to said Dennis. Filed Mar. 18, 1882. (No model.)



Claim.—1. The combination of the longitudinally-sliding draw-bar B, having hook A and hinged link E, with the forked spring or catch I, as set forth.

2. The combination of the longitudinally-sliding draw-bar B, having hinged link E, the forked spring or catch I, and the cross-bar J, as set forth.

261,541. WIRE STAND. GEORGE D. DUDLEY, Lowell, Mass., assignor to Woods, Sherwood & Co., same place. Filed May 27, 1882. (No model.)



Claim.—A wire stand having hooks formed of a strand or strands of the side bars, *a*, and legs or feet *b* formed of the remaining strand or strands of the bar, together with the wire or wires forming the cross-bar *d*, substantially as described.

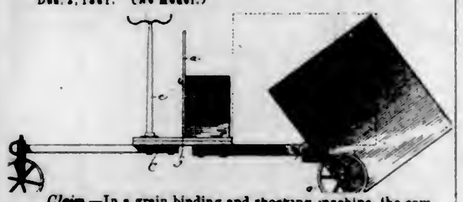
261,542. PROCESS OF MANUFACTURING GEM-SETTINGS. THOMAS W. FERLEY, Providence, R.I. Filed Jan. 28, 1882. (No model.)

Brief.—Two settings are made at the same time with the soldering hitherto required for one.



Claim.—The improved process of constructing gem-settings herein described, consisting in soldering double-end prongs D D to slotted rings C C by flowing solder upon the projections *c c* of said prongs into contact with said prongs and rings at the places of their engagement, and sawing asunder the double setting so formed and finishing each part into a single gem-setting, substantially as specified.

261,543. MACHINE FOR BINDING AND SHOCKING GRAIN. CYRUS D. FOX, Roscoe Township, Winnebago County, Ill. Filed Dec. 3, 1881. (No model.)



Claim.—In a grain binding and shocking machine, the combination of the pivoted box A, the adjustable concave head-block B, provided with the compressing-arm *a*, and platform C, substantially as shown, and for the purpose specified.

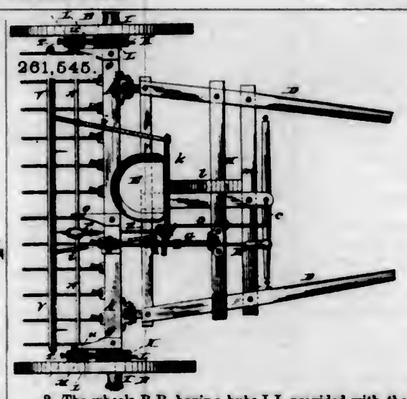
261,544. CHAIN-LINK. WILLIAM GERHARD, Philadelphia, Pa. Filed Feb. 25, 1882. (No model.)



Claim.—As an article of manufacture, a chain-link made of steel covered with iron, the iron and steel being welded together to form a solid link, substantially as and for the purpose specified.

261,545. HORSE HAY-RAKE. WILLIAM F. GOELLER, Rock Falls, assignor to Thomas A. Galt and George S. Tracy, Sterling, Ill. Filed Dec. 10, 1881. (Model.)

Claim.—1. The levers L L, hinged together at their lower ends and crossed above their outward bow, the hub I, and the rod N, provided with the grooved wheels M M, the latter containing each the cam-shaped head T, constructed and operating as and for the purpose described.



2. The wheels B B, having hubs I I, provided with the annular grooves K K, the levers L L, the rod N, provided with the lever P and heads T T, the chain R, and foot-lever S, in combination substantially as shown, and for the purpose mentioned.

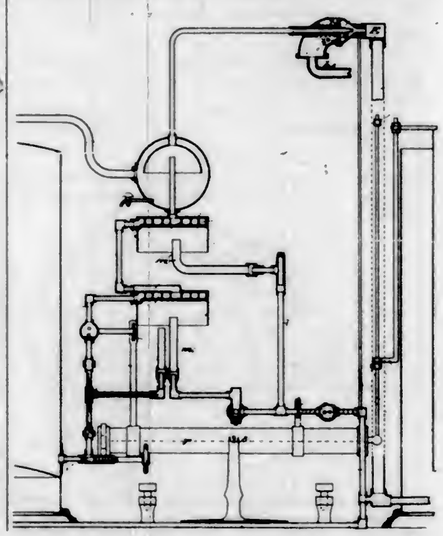
3. The rake-head A, the rod N, having the plates *u* and heads T and lever P, the levers L L, wheels B, having the annular recesses K, and the foot-lever S, in combination as shown, substantially, and for the purpose specified.

4. In a horse hay-rake, the levers L L, operated in pairs by having their lower ends hinged together, and shaped to conform to the convexity of the hubs I, and being crossed upon each other above the hub I, and having their upper ends extending above the point of their mutual crossing, in combination with interposed means whereby the levers can be locked or clamped upon the hubs I, substantially as shown, and for the purpose described.

5. The combination of the lever S, provided with the lateral extensions *g*, the chain R, the lever P, rod N, provided with the wheels M M, the levers L L, and the carrying-wheels B B, having the annular recesses K in the hubs thereof, substantially as shown, and for the purpose mentioned.

6. The combination of the hounds *i i*, cross-head *k*, standard *l*, rod N, journaled in the upper ends of backwardly-extended brackets O O, rigidly attached to axle A, and cleaner V, whereby the cleaner is positively held clear of the rake-teeth until the dumping mechanism is set in operation, as set forth.

261,546. HYDROCARBON-GAS GENERATOR. J. MORTIMER GOLDSMITH, Boston, Mass. Filed Sept. 16, 1881. (No model.)



Claim.—1. In a gas-generating apparatus, the combination, with the reservoir for liquid to be converted into gas and the retort and pipe connecting the said reservoir and retort and stop-cock in the said pipe, of the actuating-lever for the said cock, it having an unstable load, as described, and the movable gas-receiving chamber and connecting mechanism between it and the said lever, as described, whereby the cock is closed when the gas-receiving chamber becomes filled and again opened as soon as the said chamber is emptied, substantially as described.

2. In a gas-generating apparatus, the gas-generating retort and movable gas-receiving chamber and pipe connecting them, combined with the air-injector in the said pipe, the valve controlling its air-inlet passages, and actuating-lever for the said valve provided with an unstable load and connected with and operated by the said movable chamber to control the said valve, substantially as and for the purpose set forth.

3. The gas-generating retort, and receiving-chamber, and burner to heat the said retort, and pipe connecting the said burner with the interior of the said receiving-chamber, combined with a cock in the said pipe, constructed as described, its actuating-lever provided with an unstable load, and the connecting mechanism between it and the said chamber, whereby the said cock is partially but not wholly closed when the said chamber is filled and is wholly opened when the said chamber is emptied, substantially as and for the purpose described.

4. In a gas-generating apparatus, the combination, with the movable gas-receiving chamber provided with an arm, and one or more cocks or valves controlling the generation of the gas, of the actuating-lever therefor provided with an unstable load, as described, and with a rod having projections or collars to be engaged by the said arm in the movement of the chamber, whereby the chamber at the end of its movement in either direction operates the lever to shift its load from one arm to the other and the latter operates the valve or cock and retains it in one condition while the gas-receiving chamber is being filled or emptied, substantially as described.

5. The combination, with the retort and gas-receiving chamber, of the condensation-chamber *f*, having an inlet-passage extended upward through its bottom connected with the said retort, and an outlet-passage at its top, and the diaphragm *f'*, properly located to intercept the vertical flow of gas from the said inlet to the said outlet passage, substantially as described.

6. The air-injector A, having the conical chamber A', the stationary tapering hollow jet-piece A^3 therein, connected with the gas-supply pipe, and the perforated flange A^2 on the chamber A', combined with the sleeve A^{10}, surrounding the jet-piece, and provided with a valve fitting and corresponding with the perforated flange, said sleeve and valve being movable around the jet-piece to cut off the air-supply independently of the passage of the gas or vapor, substantially as described.

7. The controlling cocks or valves and their actuating-lever, provided with an unstable load, combined with the connecting-links between the said lever and cocks or valves, slotted, as described, to permit independent movement of the lever before the cocks are affected thereby, substantially as described.

8. The controlling cocks or valves and gas-receiving chamber, combined with the tubular actuating-lever partially filled with a heavy liquid, and connecting mechanism between it and the said cocks or valves and between it and the gas-receiving chamber, substantially as described.

9. The liquid-reservoir and heating-burner thereunder, combined with a retort, and an outlet-pipe leading from the lower portion of the said reservoir thereto, and the safety-valve connected with the upper portion of the said chamber, and its escape-pipe connected with the passage by which gas is led away from the retort, substantially as described.

10. The retort consisting of a cast-metal chamber having a spiral partition arranged with gradually-increasing width between the successive convolutions thereof, and a covering-plate having a smooth surface fitted thereon, thus forming a chamber with a spiral channel of increasing size from one end to the other, substantially as and for the purpose described.

11. The oil-supply pipe, a gas-generating apparatus, and the liquid-reservoir *a* and its safety-valve, combined with the heating-burner C, under said reservoir, for maintaining a pressure within the said chamber to expel the liquid therefrom, substantially as described.

12. The combination, with the hydrocarbon-reservoir and fixing-retort, of the pipe leading therefrom and pivoted starting-burner and its automatically-operated cock, whereby the said burner is brought into communication with the interior of the reservoir when the burner arrives beneath the retort in its movement on its pivot, substantially as described.

13. The hydrocarbon-reservoir and fixing-retort, combined with the fixed gas and starting-burners, both mounted on pivoted pipes, whereby one may be removed from beneath the retort when the other is placed there, substantially as and for the purpose described.

14. The fixing-retort and hydrocarbon-reservoir, and the starting-burner connected with the interior thereof, combined with wicking or fibrous material within the passage conveying the liquid to the said burner, as and for the purpose set forth.

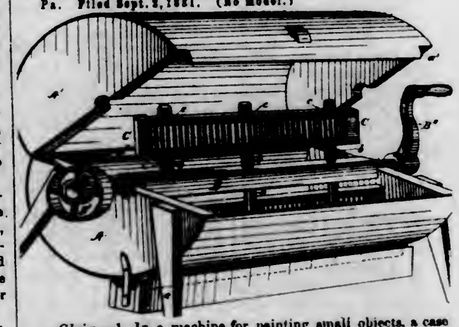
261,547. VALVE. J. MORTIMER GOLDSMITH, Boston, Mass. Filed Mar. 3, 1882. (No model.)



Claim.—1. The combination of the valve shell or case *a* and stem-socket *f* with the stem *g*, its socket-closing flange *m*, and the valve *i*, slotted and loosely connected to said stem by a pin or pins, *k*, substantially as shown and described.

2. The valve *i*, slotted and connected to its stem by a pin or pins, *k*, combined with the said stem, a flange, *m*, thereon, an intermediate spring *p*, the valve shell or case *a*, and the valve-seat *d*, substantially as shown and described

261,548. PAINTING-MACHINE. ELMER GREEN, North East, Pa. Filed Sept. 2, 1881. (No model.)



Claim.—1. In a machine for painting small objects, a case having a paint-vat connected therewith, in combination with a revolving shaft having radial arms provided with supports, all arranged substantially as set forth.

2. The combination, substantially as described and for the purposes mentioned, consisting of a case, A A', revolving shaft B, supports *b b c c*, projecting from the shaft, and a dipping-vat located as shown.

261,549. CORDER FOR SEWING-MACHINES. FRANK HALL, Elizabeth, N.J. Filed Sept. 15, 1881. (Model.)

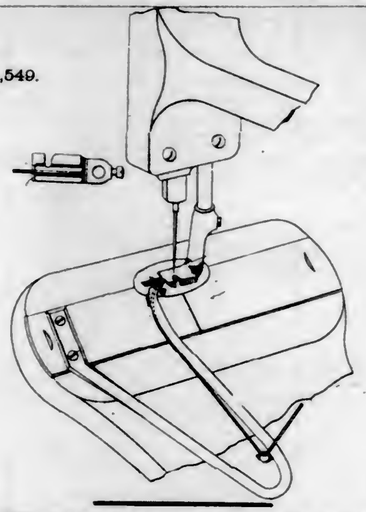
Claim.—1. In a cording attachment for sewing-machines, a presser-foot having parallel longitudinal grooves and a knife-like guiding-blade projecting beyond the grooves and body of the foot in a line with the ridge between the grooves, in combination with the corder-arm, substantially as described.

2. In a cording attachment for sewing-machines, a presser-foot having parallel grooves and a knife-like guiding-blade projecting beyond the grooves and body of the foot in line with the ridge between the grooves, said blade being curved at the end, in combination with a corder-arm, substantially as set forth.

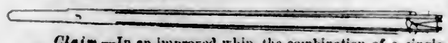
3. A corder-arm having a tubular cord-guide near its delivery end and a guide-heel parallel, or nearly so, with the direction of the feed, said guide-heel being provided with a groove which is open at the front and tapered toward the needle, whereby said heel is adapted to serve as a guide for the fabric as well as for the cord, substantially as described.

4. An acutangular corder-arm whereof the attaching member is provided with a flattened perforated shank adapted to fit the slide-plate and is slightly inclined upward from said shank, and whereof the cord-delivery member is provided with anitable cord-guides, the attaching and delivery ends of the arm being in line with and apart from each other in the direction of the feed, substantially as described.

261,549.

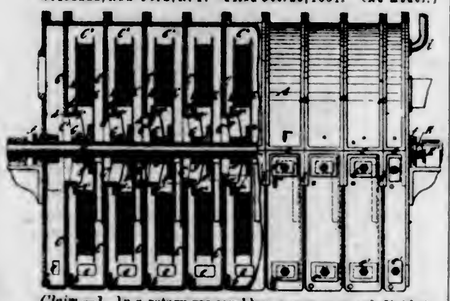


261,550. WHIP. DAVID C. HULL, Westfield, Mass. Filed Apr. 22, 1882. (No model.)



Claim.—In an improved whip, the combination of a single solid stick or whip-body split from one end for a portion of its length into any desired number of divisions, and an angular spike provided with wings inserted endwise between said divisions and secured substantially as described.

261,551. ROTARY GAS SCRUBBER OR WASHER. CHARLES W. ISBELL, New York, N. Y. Filed Oct. 29, 1881. (No model.)



Claim.—1. In a rotary gas-scrubber, a case or vessel divided longitudinally in a horizontal plane, and transverse partition-plates having central openings and also divided in a horizontal plane, the upper portions of the said partition-plates being formed integral with the upper portion of the case and the lower portions of said plates integral with the lower portion of the case, substantially as specified.

2. In a rotary gas-scrubber, the horizontally-divided case or vessel, the upper and lower portions of which are each composed of separable flanged sections, and the horizontally-divided partition-plates, one-half of each of said partition-plates being integral with one of said separable sections, substantially as specified.

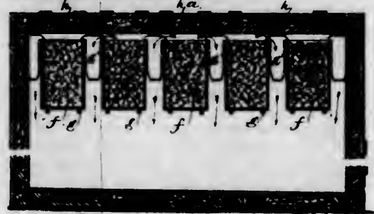
3. The combination, with the case or vessel having transverse partitions C, each with a central opening, C', forming compartments C^2, of the rotary shaft E, a single spider, G, secured to said shaft in each compartment, comprising the hub g, the ring g', and flanges g^2, plates A A', secured to said flanges, and annular plates between the plates A A', all substantially as specified.

4. In a gas-scrubber, the combination of a case or vessel having transverse partitions in which are central openings, a rotary shaft carrying groups of annular plates in the compartments between said partitions, and intermediate bearings bolted to said partition-plates and supporting the shaft between the ends of the case or vessel, substantially as specified.

5. In a rotary gas-scrubber, the combination of a case or vessel with transverse partitions, dividing the vessel into separate compartments, and which have central openings and other openings independent of said central openings for the passage of water or liquid, substantially as specified.

6. In a rotary gas-scrubber, the combination of the case or vessel, the partition-plates C, having central openings, C', for gas and side openings, j, for water, and the hoods k, covering the openings j, substantially as specified.

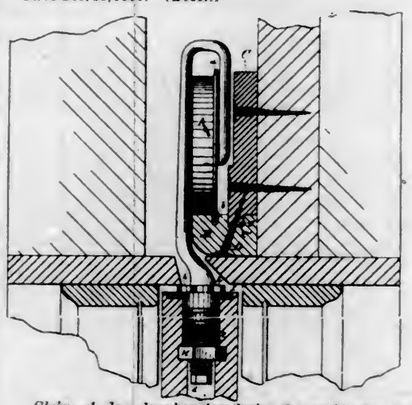
261,552. REFRIGERATOR. JAMES JACKSON, New York, N. Y. Filed Jan. 3, 1882. (No model.)



Claim.—1. In a refrigerator, the combination of the removable tanks f, rods or girders g, T-shaped pieces g', and doors for allowing of the removal of the tanks for cleaning and replenishing, substantially as set forth.

2. In a refrigerator, the combination of the removable tanks f, rods or girders g, separating-pieces, and doors or covers k, substantially as shown and described, and for the purposes set forth.

261,553. DOOR-HANGER. DAVID L. JAQUES, Cleveland, Ohio. Filed Dec. 22, 1881. (Model.)



Claim.—1. In a door-hanging device, the combination, with a strip or piece of wood, of a track connected therewith by a mortise-and-tenon joint to retain the track against lateral displacement, and screws inserted through the track from below upwardly into the upper strip or piece, whereby by tightening or loosening the screws the track will be raised or lowered, substantially as set forth.

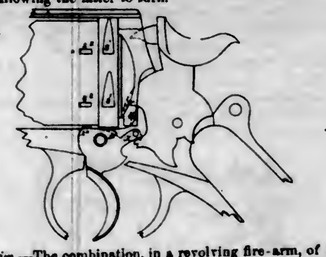
2. In a door-hanging device, a roller provided with a hanging-rod, the lower end of said hanging-rod being provided with a sleeve, said sleeve being in turn provided at its lower end with a screw-thread adapted to engage with a nut, whereby the door to which said hanger is attached may be adjusted, substantially as set forth.

3. In a door-hanging device, the combination, with the hanger-rod having a roller journaled in its upper portion, and provided with a downwardly-projecting shank, of a sleeve encircling said shank, and a stationary nut engaging the screw-threaded lower portion of said sleeve, the upper end of the sleeve being provided with lugs for rotating the sleeve and the door, substantially as set forth.

261,554. REVOLVING FIRE-ARM. MICHAEL KAUFMANN, London, England. Filed Apr. 20, 1882. (No model.) Patented in Belgium Oct. 15, 1878, and Aug. 20, 1881, No. 55,511; in France Apr. 20, 1881, No. 142,428; in England Sept. 9, 1881, No. 3,913, and in Italy Feb. 11, 1882, No. 13,834.

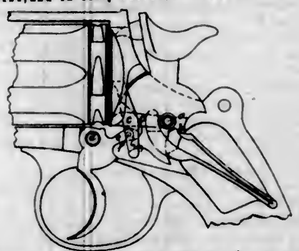
Brief.—A projection on the pivoted gate in rear of the cylinder engages with a shoulder on the hammer and turns the latter slightly, whereby the cylinder-stop, through the connections between the stop and hammer, is withdrawn from the notch in the cylinder, allowing the latter to turn.

261,554.



Claim.—The combination, in a revolving fire-arm, of a stop for normally locking the cylinder with one of its chambers in alignment with the barrel, with a pivoted gate and mechanism, substantially as described, intermediate the gate and stop, whereby when the gate is moved to gain access to the cylinder for loading the stop is released from engagement with the cylinder, as set forth.

261,555. LOCK FOR FIRE-ARMS. MICHAEL KAUFMANN, London, England. Filed Apr. 20, 1882. (No model.) Patented in Belgium Oct. 15, 1878, and Aug. 3, 1880, No. 53,209; in England Oct. 21, 1880, No. 4,208; in France Apr. 20, 1881, No. 142,428, and in Italy Feb. 11, 1882, No. 13,834.



Claim.—1. In combination with the hammer, trigger, and pawl, a lever mounted upon the hammer-pivot and resting upon the pawl, and a mainspring one arm of which engages with the hammer and the other rests upon the upper edge of the lever, whereby the latter is actuated with a thrust in a vertical plane passing through the pivot and the bearing on the pawl, as set forth.

2. In combination with the hammer, trigger, and central lever, the lock-spring having lateral stud p, adapted to rest upon the central lever, D, as set forth.

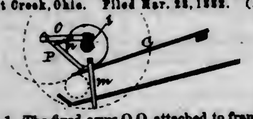
261,556. SLEIGH. DAVID M. KIRKPATRICK, Kansas City, Mo. Filed May 25, 1882. (No model.)



Claim.—1. The combination, with the body having openings in its sides and provided with staples or their equivalent, of the doors arranged to cover the same and provided with suitable rods adapted to slide in the staples, their upper front corners adapted to be supported by the points of the body and be retained in that position, as set forth.

2. The combination, with the body constructed of sheet metal, braced on the inside by suitable ribs or braces mounted on runners, and having openings cut or otherwise formed in its sides, of the doors formed of like material and adapted to slide outside and over said openings to close the same, as set forth.

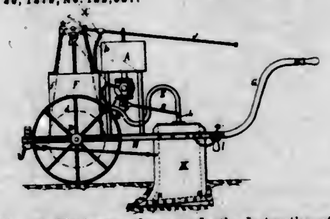
261,557. SHEAF-DISCHARGER FOR GRAIN-BINDERS. JOSIAH KNOOP, Lost Creek, Ohio. Filed Mar. 28, 1882. (No model.)



Claim.—1. The fixed arms O O, attached to frame F and support E, and cleaner P, with retractive springs s, in combination with the discharging-arms a a, substantially as and for the purpose set forth.

2. In an automatic binder, the combination of the fixed arms O O, carrying the cleaner, with the retractive spring to hold the cleaner in its normal position, said cleaner being adapted to be operated by the sheaf-discharging arms.

261,558. METHOD OF AND APPARATUS FOR THE DESTRUCTION OF PHYLLOXERA. PAUL LAMBERT, Paris, France, assignor to the Society "La Reconstitution Viticole," same place. Filed Jan. 20, 1882. (No model.) Patented in France July 20, 1878, No. 123,027.



Claim.—1. The improved process for the destruction of phylloxera, which consists in injecting into the soil carbon bisulphide, sprayed or vaporised by a jet or blast of air or steam, substantially as set forth.

2. An apparatus for destroying phylloxera, which consists of a plow, a reservoir for the destructive liquid, a pipe for conveying said liquid to the plowshare, and means for developing a gaseous blast and directing it upon said liquid in such manner as to spray it and drive it into the earth, substantially as set forth.

3. The combination of a plow, a reservoir for the destructive liquid, a pipe leading therefrom, an intermittently-opening cock or its specified equivalent, supplying said pipe, an air-pump, or bellows, and a blast-pipe leading therefrom joining the pipe conveying the liquid, arranged to spray the liquid as it emerges from the said pipe, and to convey it into the earth, substantially as set forth.

4. The combination of the reservoir A, cock B, pipe g, pump F, blast-pipe E, and hollow share K, having perforations k k, substantially as and for the purposes set forth.

5. The combination of revolving shaft C, pump F, driven therefrom, cock B, or its specified equivalent, also driven from said shaft, reservoir A, pipes g and E, plowshare K, and brake J, substantially as set forth.

6. The combination of reservoir A, cock B, pipe g, air-pump F, pipe E, branch pipe j, and hollow share K, substantially as set forth.

261,559. FENCE-POST. JOHN F. LANDERS, Auburn, Mass. Filed Apr. 21, 1882. (No model.)



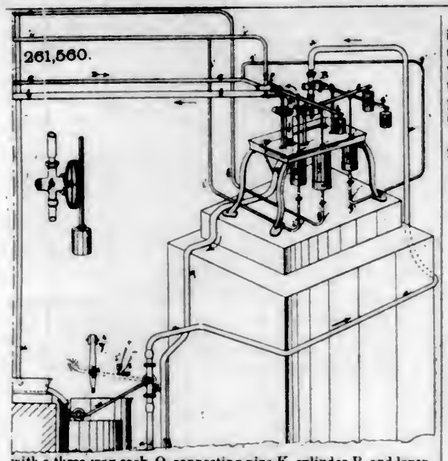
Claim.—A wooden shaft, A, provided with nails D and hooks C, inclosed in a coating of hydraulic cement B, the hooks projecting through the cement, to which wires may be fastened, substantially as shown and described.

261,560. HYDRAULIC AIR-COMPRESSOR. CARL A. MAYNOYER, Paris, France. Filed Nov. 25, 1881. (No model.) Patented in France June 13, 1881; in Belgium June 25, 1881; in Germany Oct. 4, 1881; in England Oct. 10, 1881, and in Austria-Hungary Oct. 29, 1881.

Claim.—1. A hydraulic air-compressor consisting of a water-reservoir, a low-pressure air-reservoir, a high-pressure air-reservoir, a safety device to prevent the water from entering into the system of air-pipes, a pneumatic reversing-gear, and connecting water and air-pipes, substantially as set forth.

2. In a hydraulic air-compressor, the combination of the water-reservoir F, having a float, Q, connecting-rod ss, and lever e,

261,560.



with a three-way cock, O, connecting-pipe K, cylinder P, and lever C, whereby the automatic opening or closing of the cocks E and D is accomplished, substantially as specified.

3. The combination of the water-reservoir F, the low-pressure air-reservoir M, the high-pressure air-reservoir K, air-pipes *c* and *d*, connecting the water-reservoir F and high-pressure reservoir K, cock L, air-pipes *f* and *g*, connecting the high-pressure reservoir with cock L, air-pipe *i*, connecting cock L with the low-pressure reservoir M, cylinder D, air-pipe *i'*, connecting pipe *i* with cylinder D', and the weighted lever *h*, all substantially as described.

4. In a hydraulic air-compressor, the combination of the water-reservoir F, high and low pressure air-reservoirs M and K, connecting air-pipes *c d g g'*, cylinder Y, and weighted lever B', whereby cock B is automatically closed in case of too high a pressure in reservoir K, substantially as set forth.

5. In a hydraulic air-compressor, the combination, with the water-reservoir F and the high and low pressure air-reservoirs K and M, of the safety device H H' and connecting air-pipes *c d g i* and water-discharge pipe *u*, substantially as described.

6. In a hydraulic air-compressor, the combination of the water supply cock A, having a lever, *w*, with float *v*, latch *y'*, having nose *x'*, and electric contacts *z z'*, substantially as set forth.

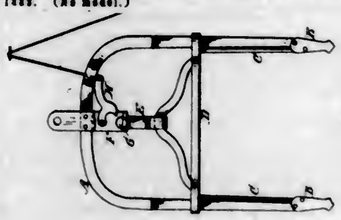
261,561. METHOD OF MAKING HORSESHOE-NAILS. WILLIAM W. MIBER, Boston, Mass. Filed Oct. 17, 1881. (No model.)



Claim.—1. That improvement in the art or method of forming blanks for animal-shoe nails which comprehends rolling a rod to form upon one of its faces the depressions *b*, leaving full portions *h* at intervals for the heads of the nail-blanks to be cut therefrom, then rolling and drawing the rod and setting or forcing in the sides thereof, as at 2 3 near the portions *h*, and cutting the same into blanks, substantially as described.

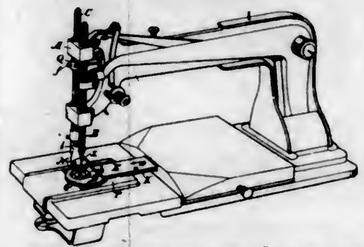
2. As an improved article of manufacture, a nail-rod from which to cut animal-shoe-nail blanks, the said rod having formed in it, at one side, a series of concavities or depressions, *b*, between thick head-forming portions *h*, the edges of the rod being forced in at 2 3, near each head-forming portion, to outline one-half the neck and shank of each nail-blank to be cut from the said rod, substantially as described.

261,562. HAY-FORK. JACOB NEY, Canton, Ohio. Filed Mar. 30, 1882. (No model.)



Claim.—The hay-fork A, having pivoted to the extremities of its tines the levers B, with spear-pointed ends, and connected to the bars C, in combination with the vertically-sliding frame D, which embraces the tines of the fork at its ends to form guides, the bifurcated extension E, connection G, and the hooked lever H, pivoted to the frame F and adapted to embrace the connection G upon its under side, substantially as and for the purpose set forth.

261,563. EYELET-HOLE ATTACHMENT FOR SEWING-MACHINES. HERBERT L. PHELPS, New York, assignor, by mesne assignments, to the National Machine Company, Troy, N. Y. Filed Apr. 6, 1880. (No model.)



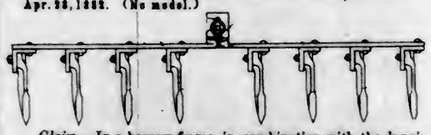
Claim.—1. The combination, with the circular feed-ring, feed-ring carrier, ring-like presser, and means for intermittingly rotating the feed-ring and moving its carrier to and fro, substantially as described, of the work-supporting plate P, having the oblong needle-hole *c*, and secured to the feed-ring carrier, and thereby movable to and fro with the feed-ring, substantially as set forth.

2. The combination, with the circular feed-ring, feed-ring carrier, ring-like presser, and means for intermittingly rotating the feed-ring and moving its carrier to and fro, substantially as described, of the work-supporting plate P, having the oblong needle-hole *c*, and secured to the feed-ring carrier, and thereby moved to and fro with the feed-ring, and the work centering and supporting stud R, arranged on said plate P at one end of said needle-hole, substantially as set forth.

3. The combination, with the reciprocating feed-ring carrier E, and feed-ring D, journaled in said carrier and having the ratchet-toothed rim and work-holding points, substantially as described, of the cap-ring O, secured to the feed-ring carrier and covering the ratchet-rim of the feed-ring, substantially as set forth, whereby the latter is protected and prevented from being displaced in putting the eyelet-hole work upon and detaching it from the feed-ring.

4. The combination, with the circular feed-ring, means for rotating and moving it to and fro, substantially as set forth, cylindrical presser-bar C, and circular ring-like presser N, mounted on said presser-bar and adapted to be vibrated by and with the feed-ring, of devices, substantially as described, for adjusting the circular presser into coincidence with said circular feed-ring at different distances from the axis of said cylindrical presser-bar, as set forth.

261,564. HARROW. WILLIAM H. PLATT, Dayton, Ohio. Filed Apr. 28, 1882. (No model.)



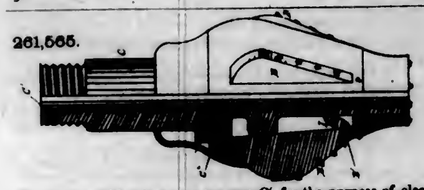
Claim.—In a harrow-frame, in combination with the longitudinal beams composed of angle-iron, two transverse beams, B C, bolted thereto and having their adjusting ends bent up, as shown, so as to overlap or abut against each other, with pins or bolts passed through elongated slots in the said abutting ends, whereby hinges are formed which have vertical as well as pivotal play, substantially as specified.

261,565. EXPANSION-BIT FOR WELL AND ROCK BORING. HENRY C. REICHARDT, Pottsville, Pa. Filed Apr. 8, 1882. (No model.)

Claim.—1. In an expanding bit for diamond drilling-machines, the expanding arms B B B, operated by a series of cams, X X X, a single cam operating each arm.

2. In an expanding bit for diamond drilling-machines, the combination of the expanding arms B B B, operated by the cams X X X, in connection with the small water-ways C^2 C^2 C^2, communicating with a larger water-way, C', for the purpose of clearing the cams and arms of dirt and grit, and the lug H, which prevents the cams X X X from passing the arms B B B, as shown and set forth.

261,565.



261,566. TAG. EDWARD A. G. ROULSTONE, Boston, Mass., assignor of one-half to Stiles Frost, same place. Filed May 15, 1882. (No model.)

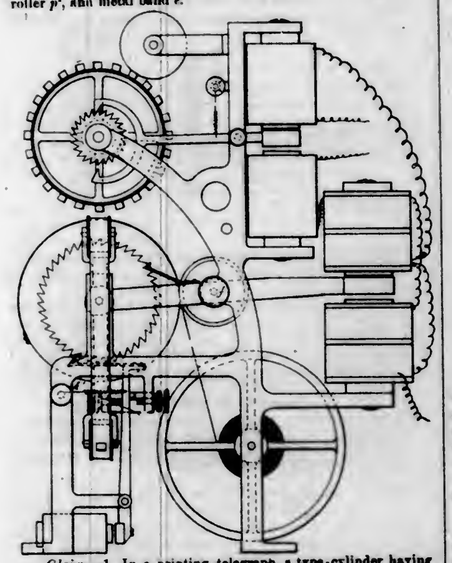


Claim.—1. The herein-described improvement in the manufacture of tags, consisting in perforating the tag near each edge, as at *a a*, then inserting the wire through said perforations and transversely across the tag, the projecting ends of the wire bent down, returned upon the opposite side, and beneath the transverse portion of the wire above, and so that the wire closes upon the opposite sides of the tag, and then turned at right angles therefrom to form fastening-legs, substantially as described.

2. The tag constructed with the holes *a a* and the notch *d* at the edge, with the wire fastening interlaced with the tag through said holes *a a*, and turned through the notch *d* at the sides, substantially as described.

261,567. PRINTING-TELEGRAPH. EDWARD A. SCHOETTEL, Brooklyn, N. Y. Filed Mar. 18, 1882. (No model.)

Brief.—The type are arranged in rows, as shown in Fig. 2. A traveling band is passed between the type and press cylinders, said band having perforations, through which any desired letter may be printed. These perforations are arranged at distances in the traveling strip equal to the width of the type-cylinder, and the strip is moved forward on letter-space after each impression by means of ratchet R and pawl O. The paper is fed forward at the completion of each line by the electro-magnet L, which is energized by a local circuit closed through the perforation by lever *p'*, roller p^2, and metal band *e*.



Claim.—1. In a printing-telegraph, a type-cylinder having its surface covered with type arranged in longitudinal rows, each row of said type being adapted to print only one letter or symbol, in combination with an escapement to rotate and control said type-cylinder, and mechanism to press the paper toward the type-cylinder and against a traveling band provided with one or more apertures to prevent printing of the paper at more than one place at one time.

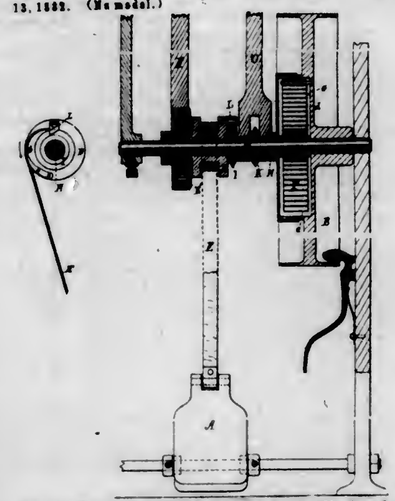
2. In a printing-telegraph, a type-cylinder having its surface provided with type arranged in longitudinal rows, each row of said type being adapted to print only one kind of letter or symbol, in combination with means to intermittently rotate said type-cylinder, a printing-cylinder of uniform diameter, means to press the said type and printing cylinders together, and means to prevent said type printing in more than one place at one time.

3. In a printing-telegraph, a type-cylinder having its surface provided with type arranged in longitudinal rows, each row of said type being adapted to print only one kind of letter or symbol, in combination with means to rotate said cylinder, a printing-cylinder adapted to be moved to or from said type-cylinder, means to move it, and a band located between said type and printing cylinders, said band being provided with one or more apertures through which only one type may print at a time.

4. In a printing-telegraph, a series of rows of type, each row being of one kind, in combination with an escapement to bring any desired row into printing position, and means to press the paper sheet toward said type-wheel along its entire length, and against a traveling band provided with an aperture to prevent the said type from printing at more than one place at a time.

5. In a printing-telegraph, a type-cylinder having its surface provided with type arranged in longitudinal rows, each row of said type being adapted to print only one kind of letter or symbol, in combination with means to rotate said type-cylinder, a printing or press cylinder adapted to rotate and move to or from said type-cylinder, means to move said press-cylinder toward the type-cylinder, means to cause the type to print in lines across the paper, but at a place corresponding to one letter at a time, and means to rotate said press-cylinder upon the completion of each printed line to bring a fresh part of the paper into position to be printed to form another printed line immediately below.

261,568. TREADLE. FRED PEARLY SHOW, Orange, Mass., assignor to himself and JAMES H. DODGE, same place. Filed Feb. 13, 1882. (No model.)

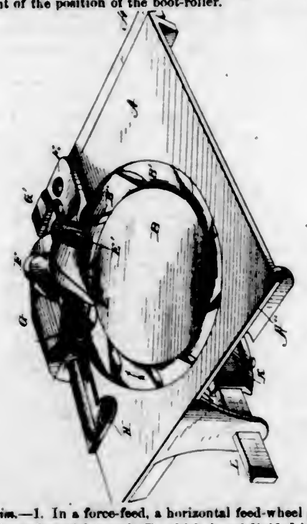


Claim.—The combination for raising the treadle A and revolving the wheel B, it consisting of the belt E, pulley D, volute spring G, tubular shaft H, wheels I K, pawls L M, and the volute mainspring P, all being arranged and applied to the shaft C, the wheel B, treadle A, and the hangers F and O, substantially and to operate as set forth.

261,569. FERTILIZER-DISTRIBUTER. JACOB W. SPANGLER, York, Pa. Filed Jan. 4, 1882. (Model.)

Brief.—Horizontal troughed or pocketed feed-wheel having tangential ribs, into which mesh the notches of the vertical cut or discharging wheel for forcing out the material being fed. Feed-wheel is provided with depending sweeps journaled in a spider free from other contact over troughed bed-plate for forcibly discharging siftings. Cap is arranged over discharge-orifice, in which is jour-

naled a cut-off for graduating the material being sown. Pivoted lever carrying adjustable sprocket-wheel is acted upon by boot-elevating roller for regulating feeding mechanism, combined with a lever adapted to be disconnected for operating fertilizer-feed independent of the position of the boot-roller.



Claim.—1. In a force-feed, a horizontal feed-wheel provided with a circumferential trough, B, which is subdivided into compartments or pockets, substantially as described.

2. In a force-feed, the horizontal feed-wheel having a circumferential pocketed trough, combined with a cut-wheel arranged above said pockets and operating in connection therewith, substantially as described, to empty them of their contents.

3. A force-feed wheel rotated in a horizontal plane and having a circumferential trough provided with pockets or compartments, combined with a cut-wheel deriving motion from such feed-wheel and arranged relatively thereto, so as to begin to enter one pocket simultaneously with its leaving the other pocket, to thereby effect a continuous feed, substantially as described.

4. A force-feed wheel provided with a circumferential trough having pockets or compartments and adapted to receive a rotary motion, combined with a cut-wheel having an active edge of substantially the same contour as the bottom of the pockets, to enter said pockets at their innermost edge, and thence traverse them throughout their length and width to clear them of their contents, substantially as specified.

5. A force-feed wheel provided with pockets, combined with a cut-wheel to clear such pockets of their contents, and a plow extended forward of the cut-wheel relatively to the direction of its rotation, to divert from such cut-wheel any injurious matter, substantially as specified.

6. The casting E, provided with a socket forming a bearing for the cut-wheel of the force-feed, and terminating in a plow or point, substantially as and for the purpose described.

7. A throat-cap, G, held in place at one end by the casting E, combined with a throated bed-plate and means to attach it thereto, whereby the cap may be turned aside or removed at pleasure.

8. The throat-cap and the casting E, arranged substantially as described, and adapted to receive the cut-wheel between them, substantially as and for the purpose set forth.

9. The bed-plate having a discharge-throat and the cap G therefor, combined with the gate J, arranged therein to regulate the extent of opening in said cap, the bearing for said gate in the bed-plate, and an arm projecting from said gate, and adapted to be moved to raise or lower the gate within the opening of the cap, substantially as specified.

10. A bed-plate having a throat and a cap therefor provided with an opening, a gate arranged within said cap to govern the extent of the opening, an arm projecting from said gate, and a cam-slotted plate in which said arm is arranged, and whereby the gate is raised or lowered, substantially as and for the purpose specified.

11. A bed-plate having a throat and a cap therefor provided with an opening, and a gate arranged within the same, combined with a cam-slotted plate arranged upon a projecting bar, and adapted to be adjusted upon said bar and held in any adjustment to govern the extent of the throw of the gate, substantially as specified.

12. In a feeder for fertilizer-distributers, a feed-wheel and a bed-plate with which it is connected, combined with a trough arranged beneath the wheel and bed-plate in line with the periphery of the feed-wheel, and opening in the discharge-throat to catch and utilize siftings, substantially as specified.

13. In a feeder for fertilizer-distributers, a bed-plate having an opening to receive a feed-wheel, combined with such feed-wheel, a trough arranged beneath the two in line with their meeting edges, and sweeps on said feed-wheel, fitting in said trough, to move the contents thereof into the discharge-throat, substantially as described.

14. In a feeder for fertilizer-distributers, the bed-plate provided with a casting comprising an imperforate trough to catch the siftings, a socket to receive the feed-wheel, and a throat into which said trough opens, substantially as shown and described.

15. The combination of the feeders with the pivoted lever P, the adjustable sprocket-wheel T, chain U, driving-wheel, crank W, and operating-lever Z, substantially as and for the purpose specified.

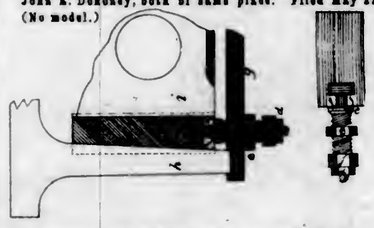
16. A feed-wheel having a trough, combined with a cut-wheel, arranged with its active edge or edges above said wheel and in operative proximity to its trough, to scoop the material from said trough into the discharge-opening, substantially as shown and described.

17. A boot-elevating roller and a feed-regulating mechanism for fertilizer-distributers, combined with an operating-lever adapted to be disconnected from the boot-roller to operate the fertilizer-feeder independently of the position of the boots, substantially as shown and described.

18. The boot-roller Y and its supporting-arm X, combined with a crank, W, and a lever, Z, connected therewith, and adapted to lock the crank in any given position, and with a lever, P, with which said crank is in connection for raising and lowering it, and a driving-chain carried by said lever P, whereby the feeders of a fertilizer may be operated at pleasure independently of the position of the boots, substantially as specified.

19. The bed-plate A, having a central opening, and the spider having the hub C, and arranged beneath said bed-plate, combined with the feed-wheel, supported wholly by said spider, and arranged beneath the bed-plate, so as to revolve free of frictional contact therewith, substantially as shown and described.

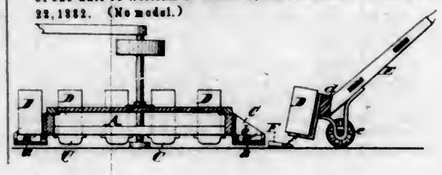
261,570. WEDGE-BOLT FOR LOCOMOTIVES. JOHN SULLIVAN, Elmira, N. Y., assignor of two-thirds to La Mott Ames and John E. Dohoney, both of same place. Filed May 23, 1882. (No model.)



Claim.—1. The combination, in a wedge-bolt for locomotives, of the bolt *a*, the threaded shell *b*, and the nut *d* at the bottom, all as substantially set forth.

2. In a driving-box adjustable wedge-bolt for locomotives, the combination of a bolt, washer, threaded shell, and nut at the bottom, by which combination the bolt is rendered adjustable, so as to secure a perfectly tight joint between the head of the bolt and the wedge and to hold the wedge rigidly in its place, substantially as set forth.

261,571. MEANS OF REMOVING FILLED CANS FROM FILLING-TABLES. JOHN W. VAN DYKE, Brooklyn, N. Y., assignor of one-half to William B. Emerson, Millburn, N. J. Filed Apr. 22, 1882. (No model.)

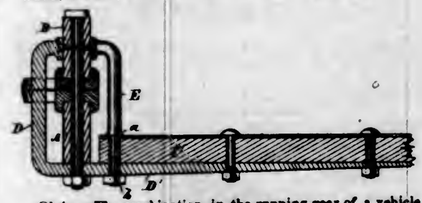


Claim.—1. The table A, constructed with brackets or supports having the cavities *a'*, whereby provision is made for the simultaneous removal of a number of cans from said table by the insertion of plates underneath the same, substantially as and for the purpose herein set forth.

2. The combination, with a table, A, having brackets or supports constructed with cavities *a'*, of a series of plates, *f*, attached to a cross-bar, *d*, whereby a number of cans may be removed at one and the same time from the said table, substantially as and for the purpose herein set forth.

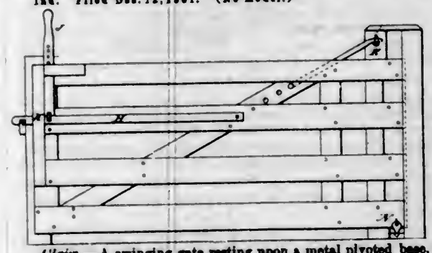
3. The combination of the truck E, constructed with a series of plates, *f*, the guides or tracks F, and a table constructed with brackets or supports, each having a bottom cavity, *a'*, all substantially as and for the purpose herein set forth.

261,572. RUNNING-GEAR FOR VEHICLES. WILLIAM S. WARD, Newark, N. J. Filed May 31, 1882. (No model.)



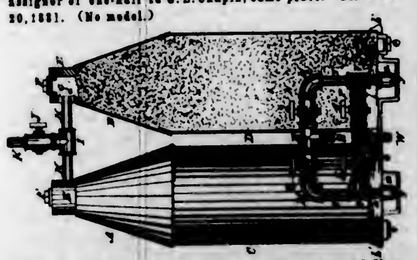
Claim.—The combination, in the running-gear of a vehicle, of the axle A, the bolster B, the brace D, and the reach C with the brace E, provided with a shoulder, *a*, and screw and nut *b*, and secured at the upper end to the bolster, the lower end passing through the reach and the arm B' of the said brace, thereby bolting them together, as and for the purpose described.

261,573. FARM-GATE. EDWARD G. WHEELER, Indianapolis, Ind. Filed Dec. 12, 1881. (No model.)



Claim.—A swinging gate resting upon a metal pivoted base, N, upon which, with the hinge E, the gate is supported and swings on being opened and closed, in combination with the extended arm of hinge, made with hooked end, and inserted into openings in supporting-brace, the fastening-bar H, and adjustable support J, substantially as described, and for the purposes set forth.

261,574. WATER-FILTER. ANNA A. WILLEBY, Chicago, Ill., assignor of one-half to G. L. Chapin, same place. Filed Oct. 20, 1881. (No model.)

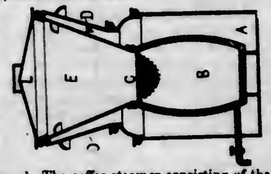


Claim.—1. In water-filters, two separate tapered sand-filtering chambers, A C *f*, B D *f*, combined with inlet-pipes A *b b* T T and N N S and outlet-pipes I, H H, and K, so that the incoming impure water shall first be subjected to the larger sand area alike in both chambers, and then be subjected to a gradual decreased sand area till the filtering process is complete, and combined with lower discharge-pipes, P P, O, and W, so that either chamber may be cleaned of extraneous matter by a downward flow of water from the other chamber, wherein the filtering process is continued, the cleaning process commencing at the top or small end of the chamber and the cleansing-water being subjected to a gradually-increased sand area till the bottom of the chamber is reached and the extraneous matter removed, substantially as and for the purpose specified.

2. In a water-filter, the pipe-connections E E, provided with holes for filling in the sand, with plug-stoppers F F, in combination with side pipes, H H, and discharge-pipe K, as specified.

3. In water-filters, the two tapered filtering-chambers A C, B D and bottoms *f f*, in combination with the pots or pipe-connections Z Z, with screens above, as and for the purpose specified.

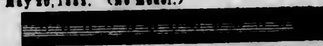
261,575. COFFEE-STEAMER. FRANK A. ALLEN, Cambridge, assignor to the Oriental Tea Company, Boston, Mass. Filed Mar. 20, 1882. (No model.)



Claim.—1. The coffee-steamer consisting of the boiler A and inclosed coffee-vessel B, provided with the elevated steam-jacket D, and conical steeping-vessel E, provided with the strainer C, whereby the extracting-liquid may be kept hot in said steeping-vessel while the beverage percolates into the said coffee-vessel beneath, substantially as described, as and for the purposes set forth.

2. The combination, with the boiler A, having the inclosed coffee-vessel B, of the elevated conical steeping-vessel E, provided with a strainer, C, and cover L, and steam-jacket D, extending from the top of the boiler and surrounding the sides of the said steeping-vessel, substantially as shown and described, as and for the purposes set forth.

261,576. CIGARETTE. OSCAR W. ALLISON, Rochester, N. Y., assignor to himself and John A. Allison, same place. Filed May 20, 1882. (No model.)



Claim.—1. As a new article of manufacture, cigarettes the tobacco filling of which contains transverse perforations, substantially as described.

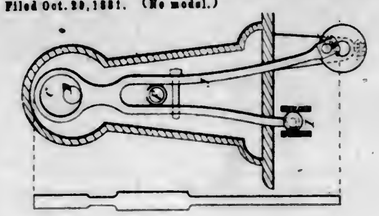
2. The combination, with a suitable cigarette-casing, of the tobacco filling provided with transverse perforations, substantially as described.

261,577. HARNESS-SADDLE. ALPHEUS ARTER, New Lisbon, Ohio. Filed May 20, 1882. (No model.)



Claim.—A pad-plate for harness-saddles, provided with end flanges, *e e*, curved as shown, and extending from the points *f f* to the points *d d*, whereby the sides of the girth are prevented from curling and the leather protected from injury, as shown and described.

261,578. SEWING-MACHINE. ELOI BOUSCAT, Norwalk, Ohio. Filed Oct. 20, 1881. (No model.)



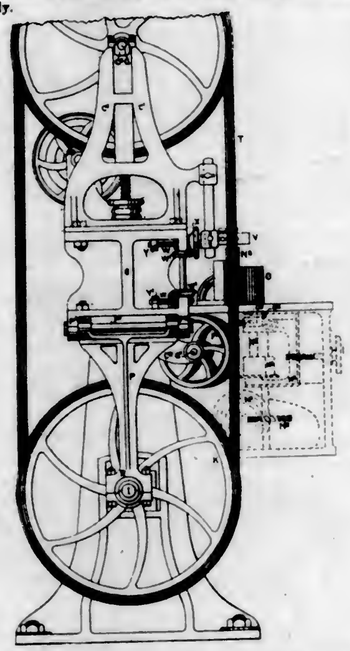
Claim.—1. In sewing-machines, a pendent bifurcated lever arranged in relation to and in combination with the eccentric C on the needle-bar-operating shaft, shuttle-carrier, and shaft operating the feed mechanism, substantially as described, and for the purposes set forth.

2. In sewing-machines, the combination, with the eccentric on the upper shaft and the bifurcated lever, of a pivoted stud or fulcrum arranged in connection with the said lever, causing the same to be vibrated by said eccentric in a horizontal direction conjointly and synchronously with the vertical reciprocating movement thereof, thereby producing a duplex action of the lever, for the purpose specified, and substantially as set forth.

3. In sewing-machines, the combination of the eccentric C, bifurcated lever, pivotal stud or fulcrum F, feed-shaft and shuttle-carrier, and their respective connections to the bifurcations of the lever, substantially as described.

261,579. BAND SAWING-MACHINE. JAMES A. BROWN, Chelsea, County of Middlesex, England. Filed Oct. 11, 1880. (No model.) Patented in England Sept. 22, 1879, No. 3,797.

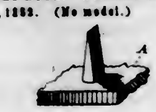
Brief.—The upper saw-pulleys are vertically and laterally adjustable and have spring-supports. The lower saw-pulleys are removable. The saw-blades have a lateral adjustment by means of guides above the work and guide-wheels below, movable simultaneously.



Claim.—1. The combination of the adjustable double guide-brackets C', carrying the adjustable set of saw-pulleys, with the guide-brackets C², carrying the guide-rollers F', with the connecting-gearing W', for the purpose of adjusting the saw-blades into position for regulating the thicknesses of the timber or other material to be cut, substantially as described.

2. The herein-described improved band sawing-machine, having the top vertically and laterally adjustable pulleys, F, and the removable lower pulleys, K, held in place by the swinging bracket P, in combination with the guide-pulleys F' and the adjusting means X W W', substantially as set forth.

261,580. BELT-HOOK. WILHELM BUCHHOLZ, Cleveland, Ohio. Filed Apr. 3, 1882. (No model.)



Claim.—1. In a belt-hook, the plate A, provided with one or more openings or notches formed in the said plate, substantially as and for the purpose shown and described.

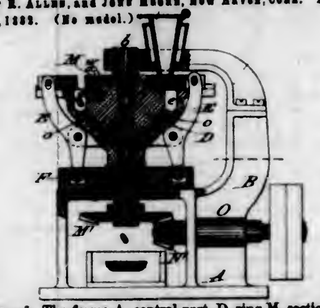
2. In a belt-hook, the combination, with a plate, of two series of teeth located one on each side of the transverse center of the plate, and adapted to be bent in an opposite direction and at a different angle from each other, substantially as set forth.

261,581. COVER-FASTENER FOR TOBACCO-PAILS. ANDREW BURGLAND, Bay City, Mich. Filed June 10, 1882. (No model.)



Claim.—As a means for securing covers upon pails, the sheet-metal straps E, removably secured to the pail by the ears and bail thereof, and adapted to be folded over upon and secured to the cover, substantially as and for the purposes described.

261,582. BULLET-CASTING MACHINE. CHARLES M. BURTON, HUBERT R. ALLEN, and JOHN MEGRE, New Haven, Conn. Filed Apr. 14, 1882. (No model.)

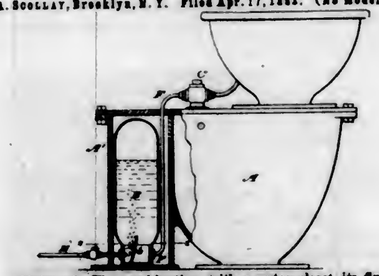


Claim.—1. The frame A, central part, D, ring M, sections N, levers E, cam F, bevel-gear wheel M', pinion N', and shaft O, carrying a tight and loose pulley, all the said parts constructed and combined as shown and set forth.

2. The central part, D, made as described, in combination with the ring M, sections N, levers E, and cam F, as shown and set forth.

3. In a machine for casting bullets, the central part, D, having journals on its ends, and provided with the central perforation, *b*, circular groove *c*, and passages *e*, connecting the groove with the central perforation, as set forth.

261,588. PRESSURE-RESERVOIR FOR SUPPLYING FLUSH-WATER TO WATER-CLOSETS. RICHARD R. COGGIN and JOHN A. SCOLLAY, Brooklyn, N. Y. Filed Apr. 17, 1882. (No model.)



Claim.—1. The combination, with a water-closet, its flush-valve and a service-pipe for supplying the flush-water, of a tight reservoir connected with the flush-valve by a supply-pipe, and with the service-pipe, the said pipes and a check-valve arranged to prevent the water from the reservoir from flowing backward into the service-pipe, all arranged to operate substantially as set forth.

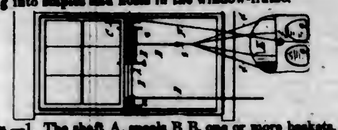
2. The combination, with a closet-trunk provided with an extension, A', of a tight reservoir, B, mounted in said extension, a service-pipe, E, provided with a check-valve, *a*, a pipe, F, to supply water from the reservoir to the flush-valve C, and the said flush-valve, all constructed and arranged to operate substantially as set forth.

3. A combined air and water chamber or reservoir of the character described, provided with an inlet-pipe entering it at the side near its bottom, and an outlet-pipe in its side near the bottom, and a breakwater arranged between the inlet and outlet to deflect the current upward and to prevent the formation of a direct current through the reservoir, whereby the air would be gradually withdrawn, substantially as set forth.

4. The combination, with the closet and its flush-valve, the pipes E and F, and the check-valve *a*, of the tight reservoir B, provided with the breakwater *b*, all arranged to operate substantially as shown, and for the purposes set forth.

261,584. FIRE-ESCAPE. LEWIS COLLER, Flint, Mich. Filed Jan. 9, 1882. (No model.)

Brief.—A friction-strap encircles the internally-toothed gear. A pinion engaging this toothed gear has a projecting arbor, to which the rope-shaft is secured. A rope is attached to the end of the friction-strap and placed within reach of the occupant of the basket. The gearing and friction-strap are inclosed in a case which is attached to the window-frame by hooks and studs on the case fitting into staples and holes in the window-frame.



Claim.—1. The shaft A, spools B B, one or more baskets, E, ropes D, and a brake mechanism for such shaft, combined with the brake-casing M, having hooks *g* and studs *h'*, the staples *m* and holes *n*, the bearing *b*, and a brake-operating rope passed through the basket to enable the occupant to control the descent of the basket.

2. The combination of the shaft A, spools B B, rope or ropes D, and one or more baskets, E, with a brake mechanism, the casing M therefor supporting the shaft at one end and the bearing *b* for the other end of such shaft, the whole forming a fire-escape for ready use in a window, as shown and described.

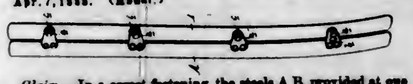
3. The combination of the shaft A and bearing *b* for one end thereof with a brake mechanism having an arbor, and a casing adapted to receive and support the other end of said shaft within a window-frame, substantially as shown and described.

4. The brake consisting of the internally-toothed gear G, the friction-strap I, encircling the same, the pinion H, and its projecting arbor *e*, combined with an inclosing case, M, provided with means for detachable connection with a window-frame and with the shaft A, supporting a basket, and a brake-rope connected to strap I to regulate the descent of the basket, substantially as shown and described.

5. In a fire-escape, the case M, provided with hooks *g* and studs *h'*, in combination with staples *m* and holes *n*, forming a removable bearing for the shaft A, substantially in the manner described.

6. The combination of the shaft A and its bearings *b*, the spools B B, basket E, and ropes D and F with a brake having the arbor *e*, and a casing, M, provided with hooks *g g* and pins *h' h'*, adapted to engage eyes and holes, respectively, in a window-frame to removably support the shaft and its appurtenances in a window, substantially as shown and described.

261,585. CORSET-CLASP. GEORGE H. COLLEY, Jackson, Mich., assignor of one-half to Charles W. Higby, same place. Filed Apr. 7, 1882. (Model.)



Claim.—In a corset-fastening, the steels A B, provided at one end with an ordinary stud, *a*, and loop *b*, in combination with additional fastenings, consisting of studs *a* on one steel and rigid hook-plates *c* on the other steel, each of said hook-plates having an opening smaller than the head of the stud *a*, and all having slots leading directly from the larger openings, and in a vertical line, substantially as and for the purpose specified.

261,586. BOX OR RECEPTACLE FOR CONTAINING HAIR-PINS, TOOTH-PICKS, &c. HORTON E. CONVERSE, Winchendon, Mass. Filed Aug. 15, 1881. (No model.)

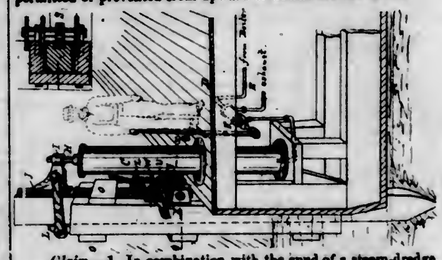
Claim.—The combination of the reversible close-bottomed body A and the separate close-bottomed socket-base B, both the



upper and lower ends of the body being formed to fit accurately in the base-socket, and thereby adapted to hold the articles either covered or uncovered, substantially as and for the purpose herein specified.

261,587. DEVICE FOR CONTROLLING THE SPUDS OF DREDGES. ROYS J. CRAM, Detroit, Mich., assignor of one-half to A. B. CRAM, same place. Filed Mar. 20, 1882. (No model.)

Brief.—The spud is vertically adjustable in guides, and is operated by a steam-piston having clamping devices consisting of two plates united by a bar or link. Said spud has a rack gearing with a pinion on a shaft carrying ratchet-wheels with oppositely-inclined teeth, and by means of pawls and devices for throwing the same in and out of connection with the ratchets the spud is permitted or prevented from upward or downward movement.



Claim.—1. In combination with the spud of a steam-dredge, a steam-cylinder and clamping device, substantially as herein described, for raising said spud, as shown.

2. In combination with the spud of a steam-dredge, the clamp composed of the arm I, plates J L, and links K, and the piston of a steam-cylinder and connections therewith, substantially as and for the purposes set forth.

3. In combination with the spud adapted to a vertically-reciprocating motion within guides, and provided with a rack upon one side, a clamping device, a steam-piston, connections between the piston and the clamping device, the shaft R, carrying the pinion S and ratchet-wheels T, the pawls U, and devices, substantially as described, for disengaging said pawls, for the purposes set forth.

4. In combination with the spud adapted to vertically reciprocate between guides, and provided with a rack upon one side, a clamping device, a steam-piston, connections between the piston and the clamping device, the shaft R, pinion S, ratchet V, and pawl W, and device Z, for engaging or disengaging said pawl, substantially as and for the purposes specified.

261,588. BOLT. GEORGE CRUTTENDEN, Jr., Montclair, N. J., assignor to Mary L. Cruttenden, same place. Filed Nov. 2, 1881. (No model.)



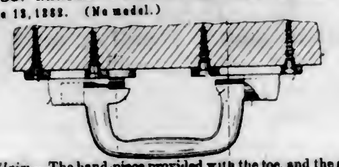
Claim.—1. The combination, with a bolt and bearers therefor, of a lever arranged between the bearers engaging with the bolt between two shoulders, and adapted to impel the bolt in either direction, and to have its head, which engages with the bolt, jammed against either bearer after moving the bolt to the greatest extent, so as to lock the bolt in position, substantially as specified.

2. The combination, with the bolt A, having the slot *c*, and the base-plate B, having bearers B' B', of the lever C, pivoted to the base-plate at *a*, and having the round disk-like head C', eccentric to the pivot *a*, fitting said slot and adapted to be jammed against either bearer, substantially as specified.

3. The combination, with a bolt having a rounded or tapered end, and bearers therefor, of a keeper or catch-piece provided with holes for receiving screws or nails, elongated transversely to the

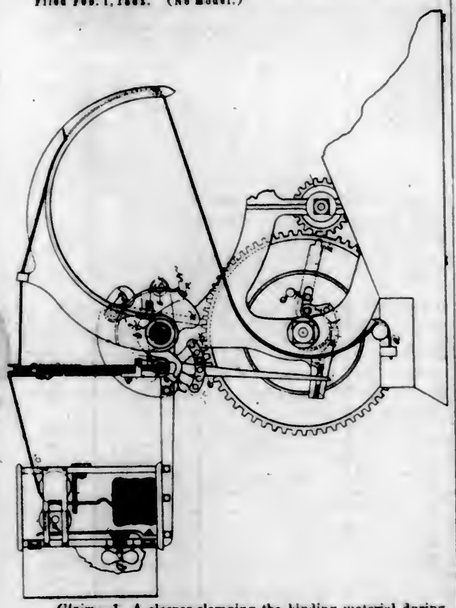
bolt, and adapted to be moved by the rounded or tapered end of the bolt into line therewith, substantially as specified.

261,589. HANDLE. THOMAS L. DANNERY, Boston, Mass. Filed June 13, 1882. (No model.)



Claim.—The hand-piece provided with the toe, and the socket-pieces to hold the hand-piece, combined with a movable handle-holding block or device, to operate substantially as described.

261,590. GRAIN-BINDER. JOHN S. DAVIS, Toledo, Ohio, assignor to the Toledo Mower and Reaper Company, same place. Filed Feb. 1, 1882. (No model.)



Claim.—1. A clasper clamping the binding material during the accumulation of the grain to form a gavel, and positively actuated by the pull of the binding material as it is strained by the pressure of the grain to throw binding mechanism into action with certainty when a sufficient quantity of grain has been accumulated to form the gavel, substantially as hereinbefore set forth.

2. The combination, substantially as hereinbefore set forth, of apparatus for supplying the binding material, a receptacle in which the grain is accumulated under pressure against the binding material, and a clasper gripping the binding material and positively actuated by the pull of the binding material as strained by the pressure of the accumulating grain to throw binding mechanism into action, and automatically actuated to release the binding material and leave it free to be supplied under tension to secure the bundle.

3. The combination, substantially as hereinbefore set forth, of a receptacle in which the grain is accumulated under pressure against the binding material, a binder-arm from which the binding material passes under tension to the receptacle, an oscillating clasper clamping the binding material before its passage to the receptacle by way of the binder-arm and actuated by the strain exerted upon it by the binding material to throw binding mechanism into action upon the accumulation of a gavel, and tripping mechanism for releasing the binding material from the clasper after the starting of the binding mechanism, for the purpose described.

4. The combination, substantially as hereinbefore set forth, of a receptacle in which the grain is accumulated under pressure against the binding material, a binder-arm from which the binding material passes under tension to the receptacle, an oscillating clasper clamping the binding material before its passage to the receptacle by way of the binder-arm and actuated by the strain exerted upon it by the binding material to throw binding mechanism into action upon the accumulation of a gavel, and mechanism by which to vary the amount of movement which is required to be imparted to the clasper to start the binding mechanism, for the purpose described.

5. The combination, substantially as hereinbefore set forth, of a clasper clamping the binding material and rocked in one direction by the pull of the binding material as it is strained by the pressure of the grain, a rock-shaft with which the clasper is automatically rocked in the opposite direction when the binding material is released, a binder-arm, and tripping mechanism actuated upon the movement of the binder-arm to release the binding material from the clamp of the clasper, for the purpose described.

6. The combination of the clasper, the rock-shaft to which it is secured, the spring acting upon the rock-shaft, the tripper acting on the clasper-clamp, and the binder-arm acting by its heel attachment upon the tripper, substantially as and for the purpose hereinbefore set forth.

7. The combination of the binder-arm, its heel attachment provided with the guideway, the tripper provided with the tappet actuated by said guideway, the clasper, and the spring-actuated clamp of the clasper acted upon by the tripper, substantially as and for the purpose hereinbefore set forth.

8. The combination of the rocking binder-arm, its heel attachment provided with the guideway, the tripper, its tappet acted upon by said guideway, the clasper, its spring-actuated clamp acted upon by the tripper-nose, the rock-shaft to which the clasper is secured, the spring acting on the rock-shaft, and the trip-arm or tappet on the rock-shaft acting upon tripping mechanism to throw the binding mechanism into action.

9. The binder-arm having the heel attachment provided with the curved guideway having the inclined end or lip N', substantially as and for the purpose described.

10. The combination of the tripper and the binder-arm having the guideway and the inclined rib or projection n', substantially as and for the purpose hereinbefore set forth.

11. The combination, substantially as hereinbefore set forth, of the rocking clasper clamping the binding material and actuated by the strain on the binding material to rock it positively in one direction, the rock-shaft upon which the clasper is mounted, the spring acting on the rock-shaft to rock it in the direction opposite to that in which it is rocked by the movement imparted to it by the clasper, the trip-arm or tappet-rod on the rock-shaft acting upon tripping mechanism by which clutch mechanism for throwing binding mechanism into action is operated, and means by which to vary the amount of movement required to be imparted to the clasper to cause the tappet-rod to actuate the tripping mechanism, for the purpose described.

12. The combination of the rocking clasper clamping the binding material, its rock-shaft, the perforated bracket on the rock-shaft, the trip-arm or tappet-rod loosely mounted on the rock-shaft, and the adjustable stud of the bracket for seting on the tappet-rod, substantially as and for the purpose hereinbefore set forth.

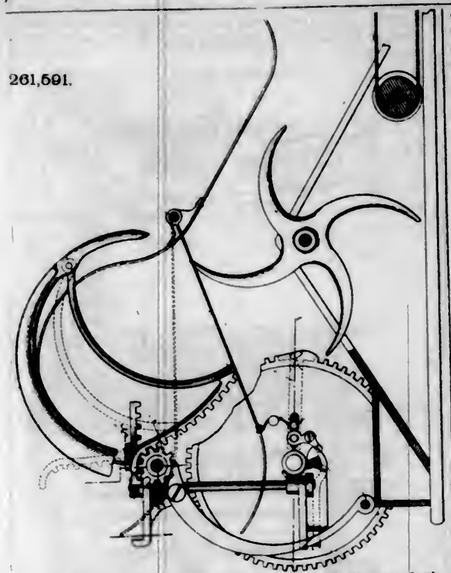
13. The combination of the cord-holding box, the rollers between which the cord passes, the springs acting upon one of said rollers, the bracket-arm or guide-bar through an eye in which the cord is threaded before being passed between the rollers, and the binder-arm, substantially as and for the purpose hereinbefore set forth.

14. The combination of the roller mounted to rotate in fixed bearings, the roller mounted to rotate in sliding bearings, the springs acting on said sliding bearings, the cross-bar connecting the springs, the set-screw acting on said cross-bar, and the cord-guide beneath the rollers, as and for the purpose set forth.

261,591. GRAIN-BINDER. JOHN S. DAVIS, Toledo, Ohio, assignor to the Toledo Mower and Reaper Company, same place. Filed Apr. 23, 1881. (No model.)

Claim.—1. The combination of the stationary binding-receptacle, the fixed way to which the grain is delivered from the platform and along which the grain is conducted and supplied directly to the receptacle without intermission in the supply until accumulated in quantity sufficient to form a gavel, the vertically-yielding pressure bar or frame overhanging the way and acting upon the grain as delivered to and moved along it, and the float independent of and overhanging the binding-receptacle, crossing from side to side thereof and bearing upon the grain with a yielding pressure as accumulated, confined, and compacted in the receptacle, substantially as and for the purpose hereinbefore set forth.

261,591.



2. The combination, substantially as hereinbefore set forth, of the binder-arm, the binding-receptacle, the carrier, the way extending therefrom to the binding-receptacle, the vertically-yielding pressure bar or frame supported on the binder-arm shaft and overhanging the way, the packer, and the float crossing from side to side of the binding-receptacle, and to and beneath which the grain is presented by the packer as forced into the receptacle.

3. The combination of the carrier, the stationary slotted way, the slotted binding-receptacle, the packer working in the slots of the way and receptacle, the pressure bar or frame, and the float, substantially as and for the purpose hereinbefore set forth.

4. The combination of the rocking binder-arm, the compressor pivoted to rock on the binder-arm remote from its heel end or near its nose and actuated by the pressure of the grain as the gavel is accumulating, and clutch mechanism actuated by the movement of the compressor to start the binder-arm and co-operating binding mechanism into action when the grain to form a bundle has been accumulated, substantially as hereinbefore set forth.

5. The combination, substantially as herein set forth, of a grain-receptacle, a float, a binder-arm, a compressor pivoted to the binder-arm and actuated by the pressure upon the float caused by the inflowing grain, and clutch mechanism actuated by the compressor to throw the binding mechanism into action.

6. The combination, substantially as herein set forth, of the grain-receptacle, the packer, the float, the binder-arm, the compressor actuated by the float, and clutch mechanism actuated by the compressor.

7. The combination, substantially as herein set forth, of the binding-receptacle, the packer, the pressure bar or frame, the float, the binder-arm, the compressor actuated by the float, and clutch mechanism actuated by the compressor.

8. The combination, substantially as herein set forth, of the binding-receptacle, the packer, the endless apron, the pressure bar or frame, the float, the binder-arm, the compressor, and clutch mechanism actuated thereby.

9. The combination, substantially as herein set forth, of the binder-arm, the compressor pivoted thereto, the rack carried by the compressor, the pinion actuated thereby, and the sector-rack on the radius-bar of the shipping mechanism, which is thus actuated by the movement of the compressor.

10. The combination of the compressor pivoted to the binder-arm and yielding to the pressure of the grain as the gavel is accumulating, clutch mechanism actuated by the movement of the compressor to start the binder-arm and co-operating binding mechanism into action when the grain to form a bundle has been accumulated, and adjustable mechanism by which to regulate the range of movement of the compressor to vary the size of the gavels, substantially as hereinbefore set forth.

11. The combination of the receptacle, the binder-arm, the compressor pivoted to the binder-arm and yielding to the pressure of the grain, clutch mechanism actuated by the compressor to start the binding mechanism, and mechanism by the adjustment of which the range of movement of the compressor about its pivotal connection with the binder-arm may be varied to alter the size of the gavels, substantially as hereinbefore set forth.

12. The combination, substantially as hereinbefore set forth, of the binder-arm, the compressor pivoted thereto, clutch mechanism actuated by the movement of the compressor as it yields to the pressure of the grain, and a stop acting to dog the compressor against yielding movement when the clutch mechanism acts to start the binding mechanism.

13. The combination, substantially as herein set forth, of the compressor, the pinion actuated thereby, the sector-rack on the radius-bar, and the turning button, for the purpose described.

14. The combination, substantially as herein set forth, of the compressor, the pinion actuated thereby, the sector-rack on the radius-bar, the turning button, and a stop which limits the motion of the rack, for the purpose described.

261,592. WAGON-AXLE. AUGUSTUS V. DEMAREST, Leslie, Mich. Filed May 10, 1882. (No model.)

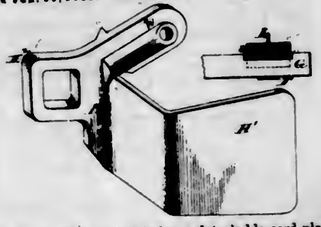


Claim.—1. In combination with an axle and the two skeins thereof, the rods D, secured at the outer ends to the wooden axle, within the skein, and at their inner ends to the bolts which bold the bolster, hounds, axle, and rods together and form the struts for the truss-rod below, substantially as set forth.

2. The combination, with the axle A, the skeins B, the hounds F, brace G, and bolster E, of the two rods D, having hooked ends to enter the axle proper, the truss-rod C, having seats e and passing through the skeins, and the bolts H, passing through and securing together the bolster, hounds, axle, rods, and braces, and also serving to strain against the seats e of the truss-bar, substantially as described.

3. The combination, with the axle A, of the truss-rod C, having seats e, the braces G, having screw-threaded ends e, and the bolts H, screwing through the ends e and against the seats e, substantially as described.

261,593. GRAIN-BINDER. FRED A. DENNETT, Milwaukee, Wis. Filed Jan. 30, 1882. (No model.)



Claim.—1. In a grain-binder, a detachable cord placing and guiding eye-bar provided with supports on the frame for its ends, into which it is adapted to be thrust from the end of the binder, as set forth.

2. The detachable cord placing and guiding eye-bar having spring take-up *g*, as set forth.

3. The casting H, having arm H', in combination with the packer and needle, as set forth.

4. The combination of casting H, arm E, and spring F with the detachable cord placing and guiding eye-bar, as set forth.

261,594. ATTACHMENT FOR GRAIN-BINDERS. FRED A. DENNETT, Milwaukee, Wis. Filed Jan. 24, 1882. (No model.)

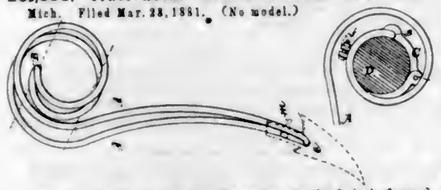


Claim.—1. A flap hinged to the frame-work of a grain-binder and supported by a spring in position to receive the grain as a bundle is being collected and formed, as set forth.

2. The combination, in a grain-binder, of a hinged flap, B, and spring C, as set forth.

3. In a grain-binder, the hinged flap having a bearing-plate, *c*, secured to it, in combination with a spring, C, as set forth.

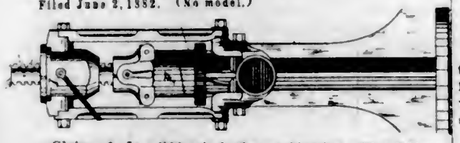
261,595. CULTIVATOR. CHARLES H. EGGLESTON, Marshall, Mich. Filed Mar. 28, 1881. (No model.)



Claim.—1. In a cultivator, the spring-standard A A, formed of a single piece of steel rod doubled upon itself at the point B, and the folded end formed into two equal spirals adapted to partially encircle the bar D, and the free ends *e* turned in to form a loop, in combination with a securing-clamp, substantially as herein shown and described.

2. The combination of the hinged clamp C with the bar D and spiral standard A A, substantially as herein shown and described.

261,596. LIFTING-JACK. HIRAM R. FERRIS, Cleveland, Ohio. Filed June 2, 1882. (No model.)

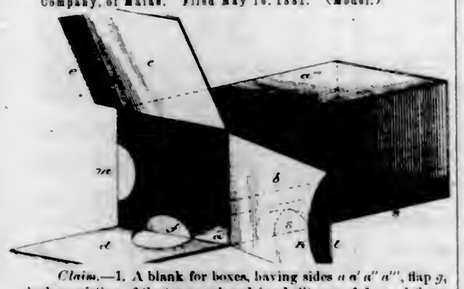


Claim.—1. In a lifting-jack, the combination, with a lifting-shaft provided with ratchet-teeth, of a shaft-supporting device located above the frame, said shaft-supporting device being provided with a means of adjustment, substantially as shown and described.

2. In a lifting-jack, the combination, with a lifting-shaft provided with ratchet-teeth, of an adjustable supporting device, substantially as and for the purpose shown and described.

3. In a lifting-jack, the combination, with a lifting-shaft provided with ratchet-teeth, as described, of the upper and lower automatic engaging devices, one of said devices being adapted to engage with the said shaft for the purpose of raising it and the other being adapted to engage said shaft for the purpose of supporting it, substantially as shown and described.

261,597. PAPER BOX. HENRY P. FISKE, Portland, Me., assignor, by direct and mesne assignments, to the Maine Box Company, of Maine. Filed May 16, 1881. (Model.)

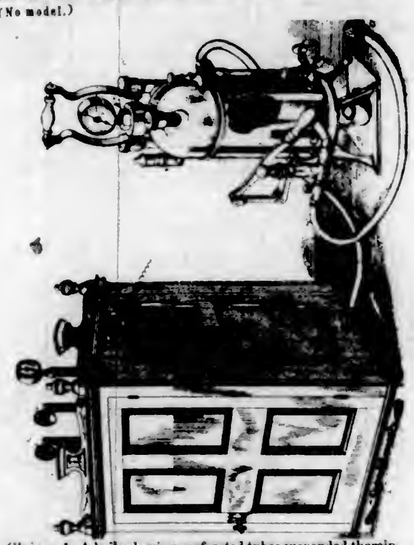


Claim.—1. A blank for boxes, having sides *a a' a'' a'''*, flap *g*, lock consisting of the tongues *h* and *j* and slits *w z* and *s*, end flaps, *b c d*, and lock consisting of the tongues *k* and *m* and slit *l*, substantially as and for the purposes set forth.

2. A lock for the sides of boxes, consisting of the flap *g*, tongues *h* and *j*, and slits *s* and *w z*, substantially as described, for the purposes set forth.

3. A lock for boxes, consisting of the cover *b*, with its flap *k* and slit *l* situated in the line of the fold between the cover *b* and the flap *k*, and the tongue *m* on the front of the box, which is to be inserted in the slit *l* as the box is closed, substantially as described.

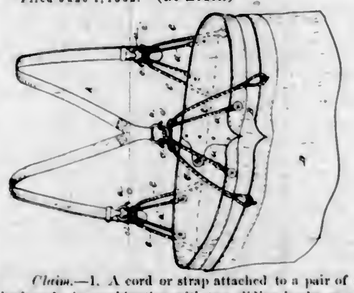
261,598. APPARATUS FOR ADMINISTERING MEDICATED BATHS. MAX GOLDBERG, Milwaukee, Wis. Filed Mar. 30, 1882. (No model.)



Claim.—1. A boiler having perforated tubes suspended therein that are adapted to contain roots, said boiler having connections for supplying the vaporized essence of the roots to a receptacle wherein a patient may be enveloped in such vaporized essence, as set forth.

2. The combination, with a boiler having tubes suspended therein for containing roots having medicinal properties, of a bathing-receptacle and a connecting-tube, as set forth.

261,599. OVERALLS. JOSEPH S. GOODMAN, Columbus, Ohio. Filed June 1, 1882. (No model.)



Claim.—1. A cord or strap attached to a pair of overalls at both ends, in combination with two sliding hooks, as set forth.

2. As a new article of manufacture, a pair of overalls having a series of cords or straps attached thereto or formed in one piece therewith, each cord having two sliding hooks, as and for the purpose set forth.

3. A cord or strap attached to a pair of overalls at both ends, in combination with two hooks, as set forth.

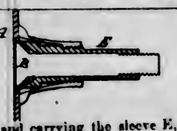
261,600. PRODUCTION OF SOLUBLE ALIZARINE-BLUE COLOR. JOHANNES H. H. O. GÜRKE, Höchst-on-the-Main, Germany, assignor to Farbwerke, vormals Meister, Lucius & Brüning, same place. Filed Mar. 1, 1882. (No specimens.) Patented in England Feb. 9, 1882, No. 627.

Claim.—The dark-yellow coloring-matter produced by the reaction of sulphite of ammonia upon the coloring-matter known as "commercial alizarine blue," substantially as herein set forth.

261,601. TOP-PROP FOR CARRIAGES. ALBERT F. HALL, Newark, N. J. Filed Dec. 7, 1881. (No model.)

Claim.—1. In a carriage-prop, the plate A, having the recesses B and D, stops F, and opening C, in combination with the

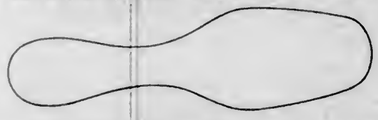
261,601.



post, screw-threaded and carrying the sleeve E, all substantially as and for the purposes specified.

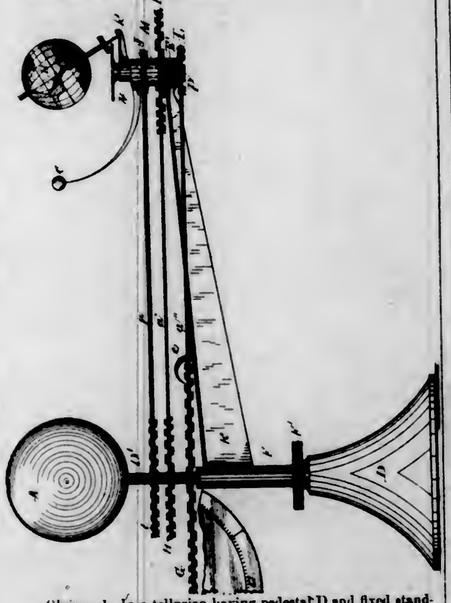
2. The combination of the post, sleeve E, and prop-nut I, substantially as and for the purpose set forth.

261,602. PROCESS OF LASTING BOOTS AND SHOES. GILBERT HAWKES, Lynn, Mass. Filed Jan. 21, 1882. (No model.)



Claim.—That improvement in the art of lasting boots and shoes which consists in turning the edge of the upper over upon the inner sole, then applying a fabric coated with a fusible cement adhesive from the action of heat, and attaching the fabric to the inturned edge and to the inner sole by applying heat while the parts are under pressure, all substantially as set forth.

261,603. TELLURIAN. GEORGE A. HENDERSON, Decatur, Ill. Filed Feb. 15, 1882. (No model.)



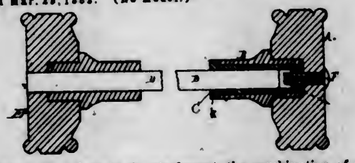
Claim.—1. In a tellurian having pedestal D and fixed standard D', carrying sun-globe A, the combination, with these, of the earth and moon supporting bracket E and sleeve F, provided with milled head F', as shown and described.

2. In a tellurian, the sleeve F, provided with milled head F' and earth-bracket E, having earth and moon globes and operating mechanism at its outer end, and provided with indicator *e*, in combination with pedestal D and standard D', and the stationary graduated band-wheel G and band *a''*, as shown and described.

3. In a tellurian having pedestal D and fixed standard D', supporting sun-globe A, and provided with fixed band-wheels G H, the combination, with these, of the bracket E, projecting from sleeve F, having milled head, and provided with sleeve N, carrying the earth-globe, the shaft P, and band-wheels K L at its outer end, and the bands *a' a''*, adapted, when the bracket is rotated round the sun-globe, to illustrate, because of the difference in size of wheels H K, the precession of the equinoxes, substantially as shown and described.

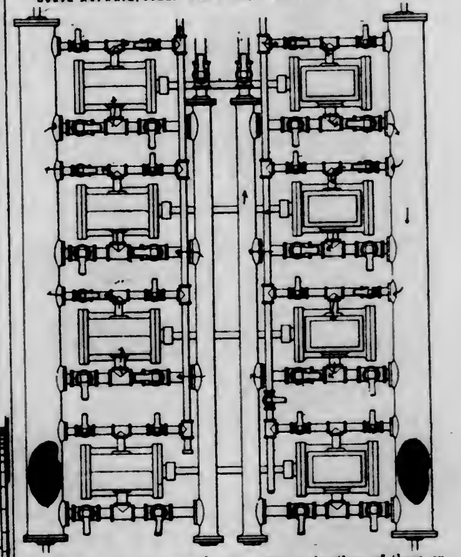
4. In a tellurian, the fixed band-wheel G, band *a''*, and standard D', in combination with wheel L and shaft P, the sleeve N, supporting globe B, and the bracket E, sleeve F, and head F', operating to impart by the friction of said shaft and sleeve more rapid polar motion to the earth-globe, whereby an additional set of planetary movements may be illustrated, as and for the purpose specified.

261,604. KNOB ATTACHMENT. OLIVER M. HIDDEN, Detroit, Mich., assignor to the Union Door Knob Company, same place. Filed Mar. 29, 1882. (No model.)



Claim.—In a door-knob attachment, the combination of the shank B, having inclined inner walls, yoke C, having legs with inclined outer surfaces, and stops *a*, spindle D, and screw F, with the knob A, all constructed and operating substantially as and for the purpose set forth.

261,605. AIR-COMPRESSING APPARATUS. EBENEZER HILL, South Norwalk, Conn. Filed May 18, 1881. (No model.)



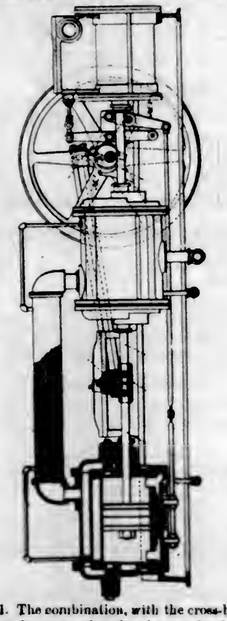
Claim.—1. The combination, with each other, of three or more air-compressing engines of equal size, attached by suitable connections in such a manner that the first and second compressors, or the greater number, (where more than three are used,) work on separate bodies of air and force it into the third or the lesser number, and thence into a reservoir or place for use, as hereinbefore set forth.

2. In an air-compressing apparatus, a system or series of power-engines effecting aerial expansion, and having cylinders of equal capacities, with air-compressors effecting stage-compression, having cylinders of equal capacities, so arranged and constructed as that the high-pressure steam effects the highest compression and the low-pressure steam the initial compression, substantially as described.

3. The combination of a number of air-compressors of equal capacities with a supply-conduit common to each, and a common discharge-reservoir common to each, as hereinbefore set forth.

4. The combination of a number of compressors of equal capacities for performing stage-compression, and a corresponding number of engines of equal size effecting aerial expansion, with suitable connections and valves, arranged in a system, so that any one engine and compressor can be interchanged for any other in the system, as hereinbefore set forth.

261,606. COMPOUND AIR-COMPRESSOR. EBENEZER HILL, South Norwalk, Conn. Filed Dec. 16, 1880. (No model.)

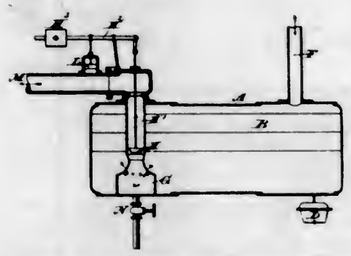


Claim.—1. The combination, with the cross-head, of the horn G and its sleeve for connecting the piston-rods of air-compressing pumps, as hereinbefore set forth.

2. The combination of a positive-movement air-inlet valve with compound cylinders in which serial compression is produced, whereby the working pressure of the inlet-cylinder is rendered practically uniform by the proportionate sizes of the several cylinders, as hereinbefore set forth.

3. In compound air-compressors, the combination of water-spaces in the cylinders and intermediate cooling apparatus with suitable inlet and outlet pipes, whereby the water will be caused to circulate in the direction of the air during the operation of compression, as hereinbefore set forth.

261,607. RESERVOIR FOR STORING AND SUPPLYING COMPRESSED AIR. EBENEZER HILL, South Norwalk, Conn. Filed Dec. 19, 1881. (No model.)



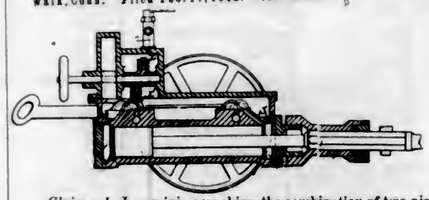
Claim.—1. The combination of a reducing and regulating or governing valve and trap with the air-reservoir located between the compressor and the machines or apparatus to be operated by the air, as hereinbefore set forth.

2. The combination of the reservoir, the condensing-plates, and a trap, with intermediate connections, as hereinbefore set forth.

3. The combination of the reservoir with air-outlet pipe having openings from the lower portion thereof into the reservoir, as hereinbefore set forth.

4. The combination of the air-inlet pipe and a reservoir having deflecting-plates with a channel on one edge of each, with pipes leading therefrom and a water-trap, as hereinbefore set forth.

261,608. MINING-MACHINE. EBENEZER HILL, South Norwalk, Conn. Filed Feb. 17, 1882. (No model.)



Claim.—1. In a mining-machine, the combination of two pistons armed with cutting-tools, said pistons working in cylinders whose axes converge toward the cutting-point, as hereinbefore described.

2. A mining-machine having the combination of two cylinders with the same valve-chest and a simultaneously-moving valve covering and opening diagonally-located ports and operating two pistons inclined toward each other, as hereinbefore set forth.

3. A mining-machine having the combination of two pistons slightly inclined toward each other and carrying cutting-tools, mounted substantially as described, to have a vibratory action laterally or a prying action upon the material, as hereinbefore set forth.

4. A mining-machine having the combination of two pistons carrying cutters with fish-tail or similar cutting-edges, arranged to work at a right angle to each other and converging to the same point, as hereinbefore set forth.

5. A mining-machine having, in combination with its working piston or pistons, a cushioning-chamber of larger diameter than the bore of the cylinder, and a disk to work in said chamber, with a small inlet-port behind it, leading from the main valve-chest, as and for the purposes set forth.

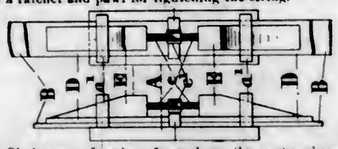
261,609. STOVE. GEORGE E. HOPKIN, Philadelphia, Pa. Filed June 6, 1882. (No model.)



Claim.—In combination, the tie-plate E, with the side plates, A and B, fitted to each other and bound together by the rod F, substantially as and for the purpose herein set forth.

261,610. ARCHERY-BOW. CHARLES A. HOWE, Philadelphia, Pa. Filed Sept. 1, 1881. (No model.)

Brief.—The flat springs forming the bow are clamped together by a wedge and screw-clamp. The bow-tips are provided with a ratchet and pawl for tightening the string.

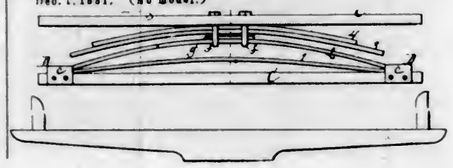


Claim.—1. In a bow for archery, the center piece, A, provided with the staples *a'*, the wedges E, and the screw *e*, as and for the purposes substantially as set forth.

2. In a bow for archery, the slotted clip *b*, provided with the ratchet-roller *b²* and pawl *b³*, arranged as described, as and for the purposes substantially as set forth.

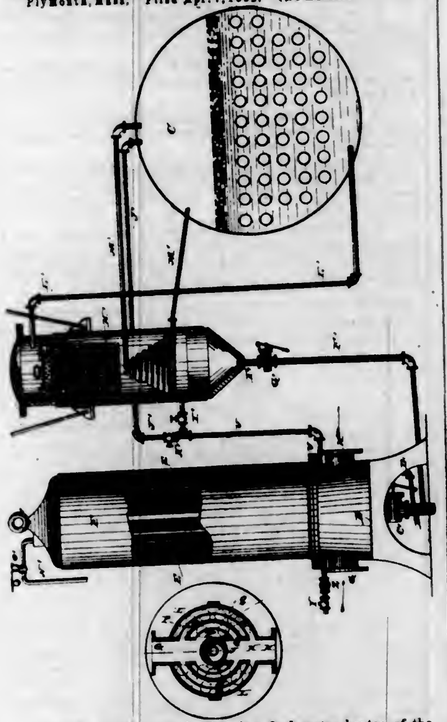
3. In a bow for archery, the bow blades or arms D, in combination with the longer bow-blades B and the center clamping-piece, A, as and for the purposes substantially as set forth.

261,611. BOLSTER-SPRING. SAMUEL IDE, Medina, N. Y. Filed Dec. 1, 1881. (No model.)



Claim.—A bolster-spring consisting of the two spring-bars C C, fitting loosely between the stakes and upon the bolster of the wagon, the spring 1 resting upon the lower bar and against the stops *b b* at opposite ends, and the series of springs 2 3 4, attached to the upper spring-bar and having free ends, the lower spring being independent of the upper ones and serving as a bumper to the same, as herein shown and described.

261,612. FEED-WATER HEATER AND FILTER. N. A. T. JONES, Plymouth, Mass. Filed Apr. 7, 1882. (No model.)



Claim.—1. The combination, in a feed-water heater, of the tank having the water-space, the feed-pipe U, extending nearly to the top of said tank, where it is provided with a goose-neck, X, a pipe connecting said feed-pipe with the steam-space of the generator, and a valve controlling such connection, as set forth.

2. In a feed-water heater, the combination of the base having exhaust-steam passages and tubes, the feed-water pipes connected to said base, and a detachable shell or tank forming the water-space and being destitute of pipe-connections, as set forth.

3. In a feed-water heater, the base having dishing top or tube-sheet I, central tooth, J, and vertical segmental partitions M N O, in combination with the tubes E, having partition-plates R, as set forth.

4. The combination of the base, the tubes E, the shell F, the feed-pipe T, connected to the base and extending a short distance into the water-space, and the feed-pipe U, extending nearly to the top of the water-space and having goose-neck X, as set forth.

261,613. FEED-WATER HEATER AND FILTER. N. A. T. JONES, Plymouth, Mass. Filed Apr. 7, 1882. (No model.)

Claim.—1. In a feed-water heating and filtering apparatus, the combination of the filtering-tank having a filter located in its upper end with a feed-pipe passing through the steam-space of the generator, or connected with a reservoir located therein, before delivering the feed-water in the lower end of the filtering-tank, as set forth.

2. In a feed-water heating and filtering apparatus, the combination, as set forth, of the exhaust-steam heater, the steam-generator, the filter, and the feed-pipe taking the feed-water from the heater and conveying it through the steam-space of the generator before it delivers it into the filter.

261,614. SCOOP. WILLIAM P. T. JOPE, Pittsburg, Pa. Filed June 23, 1882. (No model.)

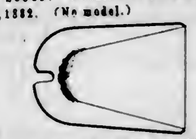


Claim.—1. A scoop having a groove or corrugation formed in the upper face of the blade for the reception of the handle, substantially as and for the purposes described.

2. A scoop having a groove formed in the upper surface of the blade for the reception of the handle, and a bar or strap riveted to the bottom of the groove to form the under strap of the scoop, substantially as and for the purposes described.

3. A scoop consisting of the blade *a*, lower strap, *c*, and upper strap, *e*, provided with a rounded enlargement, *e'*, substantially as and for the purposes described.

261,615. SCOOP. WILLIAM P. T. JOPE, Pittsburg, Pa. Filed June 23, 1882. (No model.)



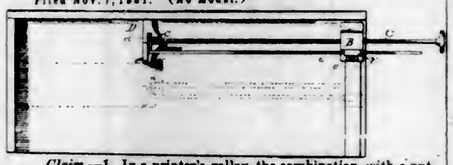
Claim.—1. A scoop the blade of which has a handle-recess cut into the rear end and terminating at a point sufficiently above the shoulder to permit the riveting of the straps to the bent-up portion of the blade and back of the shoulder thereof, substantially as and for the purposes described.

2. A scoop having a handle-recess cut into the back end, said recess being provided with parallel sides and a rounded end, substantially as and for the purposes described.

3. A scoop having its straps riveted to the bent-up portion of the blade back of the shoulder, and a handle-recess formed in the blade, which does not cut through the shoulder, substantially as and for the purposes described.

4. A scoop, the handle-recess in the blade and the enlargement of the straps of which are cut on rounded or circular lines, substantially as and for the purposes described.

261,616. PRINTER'S GALLEY. FRANK KEPPER, Chicago, Ill. Filed Nov. 7, 1881. (No model.)



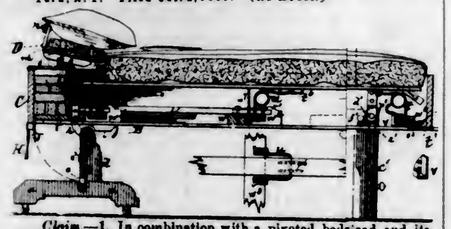
Claim.—1. In a printer's galley, the combination, with a nut, B, having a dovetail mortise in its under surface to receive and slide on a track placed across the open end of a galley, and tapped to receive a screw, C, carrying a head, D, of said galley and screw, as and for the purpose specified.

2. The combination, with a printer's galley having a track, *a*, of an adjustable nut, B, carrying a screw, C, and detachable block D, made of different sizes, and having a T-slot, *d*, to receive the flanged end of the screw C, as and for the purpose described.

3. In a printer's galley constructed as hereinbefore described, the combination, with an adjustable nut, B, of a gage-block, *e*', rod *e*, and head E, pivoted to said nut, as and for the purpose specified.

4. The combination of a printer's galley having ledges on one end and side, and provided with a track running across the bed-plate at its open end, with a mortised nut, screw, and detachable block, and gage-rod and gage-block, substantially as and for the purpose hereinbefore described and set forth.

261,617. SWINGING BEDSTEAD. ABRAHAM W. LOZIER, New York, N. Y. Filed Oct. 3, 1881. (No model.)



Claim.—1. In combination with a pivoted bedstead and its extension-bar *m*', having ring r^3 and hook s^3, the curtain-rod *n*', provided with the projections *o*' *o*' and adapted for the curtain F, substantially as shown and described.

2. The combination of the slab *m*, cross-pieces *o o*, and hinge-connection between said slab and cross-pieces with the folding rail *n*, slotted bars *p p*, and clamping devices *q* on frame B, substantially as shown and described.

3. The combination of the end piece, *a*, post *d*, bar *s*, and block *g* with the arm *h*, rigidly attached to the frame B of a swinging bed, and turning in and upon the bar *s* and block *g*, substantially as shown and described.

4. The pivoted frame B, having covering-plates *j*, and combined with the supporting-standards A, to which said frame is pivoted, said plate and standard having their ends shaped eccentrically, substantially as specified.

5. In a swinging bed, the combination of the swinging frame B, provided with a movable catch, J, with the stationary cross-piece *b*, having aperture *c*, and catch-plate *l*, all arranged to give access to said catch when locked, substantially as shown and described.

6. The combination of swinging bed-frame B, standard A, and adjustable stop *s*', substantially as specified.

7. The bed-frame B, provided with the recessed blocks *w*, in combination with the spring-bed E, setting in said recessed blocks, and with the spring-latches *y y*, to lock the spring-bed to the said blocks, substantially as shown and described.

8. In a swinging bed, the combination of the frame B, having arms *h*, with the standards A, having posts *d* and bearings thereon, and with the spring-bed E, substantially as shown and described.

9. The swinging bed-frame B, combined with stationary support and with the curtain H, which is attached to one end of the frame B to serve its purpose when the frame B is in the horizontal and also when in the vertical position, substantially as specified.

10. A combined bed and desk consisting of the spring-bed E, open frame B, and of the lid K, which is hinged to the spring-bed to form a support for articles when the bed is horizontal and a desk when vertical, substantially as shown and described.

11. In combination with swinging bed-frame B, the folding bar *m*', hinged thereto, and the curtain F, suspended therefrom, substantially as herein shown and described.

12. A swinging bed composed of the standards A, bed-frame B, spring-bed E, bolster D, box C, pivoted legs *c*' *c*', spring-bolt *f*', and catch J, all arranged substantially as shown and described.

13. In a swinging bedstead having an open front, the curtain G, arranged over said open front and fitting behind the rim of the frame, substantially as shown and described.

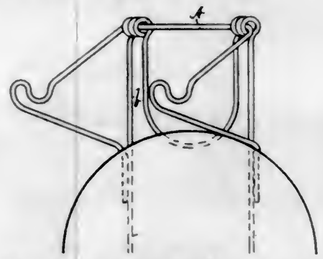
14. The combination of the side rails, *x*', provided with slots, with the swinging legs *c*', fitting in said slots, substantially as shown and described.

15. The combined bed and clothes-press consisting of the bed-frame B, the spring-bed E, and of the rods *n*', substantially as herein shown and described.

16. The open bed-frame B, mounted on pivots, and provided on its inner side, behind its top rail, with concealed hooks *l*', rod *j*', inserted therein, and curtain G upon said rod, substantially as shown and described.

17. A swinging bedstead having frame B, with open face, a spring-bed, and a curtain, G, all arranged to have the bed freely placed therein, ventilated when in use, and its contents concealed when in an upright position, substantially as specified.

261,618. LANTERN-HOLDER. EDWIN LUPKIN, Monroe, Me., assignor of one-half to Edmund H. Nealley, same place. Filed May 23, 1882. (No model.)



Claim.—In a lantern-holder of that class made from wire or like material, provided with proper clasps for holding the lantern, and having a frame of said wire extending upward upon each side of the vertical center of said lantern, the cross-bar A, uniting the upper ends of said frame, substantially as and for the purposes set forth.

261,619. METALLIC STRIP FOR FENCES. WARD E. MASSEY, Dubuque, Iowa. Filed Apr. 10, 1882. (Model.)



Claim.—1. A metallic fencing-strip corrugated or crimped on its edges, substantially as shown and described.

2. A pair of rolls or swage-blocks having the edges of their operating-surfaces corrugated, substantially as shown and described.

261,620. SAIL-HANK. CARL A. MATHIESEN, Brooklyn, N. Y. Filed Sept. 29, 1881. (No model.)



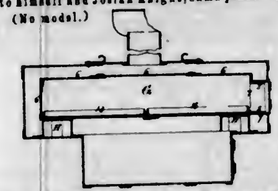
Claim.—1. The combination, in a sail-hank, of the parts *c* and *d*, hinged together at *e* to form the leech-rope eye *a*, means for hooking the ends of *c* and *d* together, and the tapering pin *f*, inserted between the parts *c* and *d*, so as to press upon the side of the leech-rope, substantially as set forth.

2. The combination of the leech-rope eye *a*, the mast-hoop, the straps *d*' and *e*', and the hook *o*, substantially as set forth.

3. The combination, with the leech-rope eye *a*, straps *d*' and *e*', hooks *o*, of the mast-hoop and tapering pin *f*, introduced between the parts of the leech-rope eye, substantially as set forth.

4. The combination, with the parts *d* and *e*, hinged together at *c*, and forming the leech-rope eye, of the tapering pin having a longitudinal slot, and the rivet or screw passing through said slot, for the purposes and as set forth.

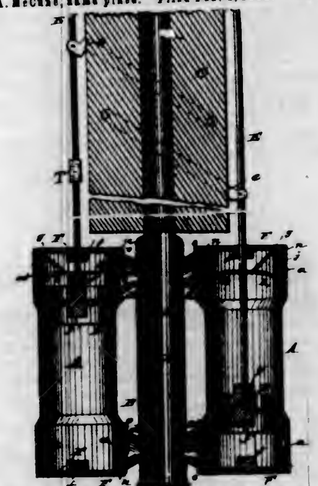
261,621. CAMP-STOVE. SAMUEL J. MCDOWELL, Boston, Mass., assignor to himself and Josiah Knight, same place. Filed Jan. 23, 1882. (No model.)



Claim.—1. The combination of the sectional oven G, provided with the openings 7 and flange 8, with the sectional oven-case and the separate sleeve 9, adapted to such case and flange, all being arranged and constructed substantially as set forth.

2. The combination of the outer casing and oven, constructed in sections, and arranged and provided with the flange 8 and sleeve 9, as described, with one or more shallow pans 13, arranged in the oven and upon its bottom and charged or to be charged with sand, as explained.

261,622. DOUBLE-ACTING SUBMERGED FORCE-PUMP. M. FRANK MCNELLY, Sterling, Ill., assignor of one-half to William A. McCune, same place. Filed Feb. 4, 1882. (No model.)



Claim.—1. The cylinder A, constructed as shown, with the portion swept by the plunger D made narrower than where the valves are seated, provided with the heads F and projections *f*, the valves *a a* and *a*' *a*', and the three-armed lever *g*, all arranged as and for the purpose specified.

2. The core B, bisected by the partition *c*, and provided with the annular wings *d* and flanges *o*, in combination with cylinders A and valves *a a*', substantially as shown, and for the purpose described.

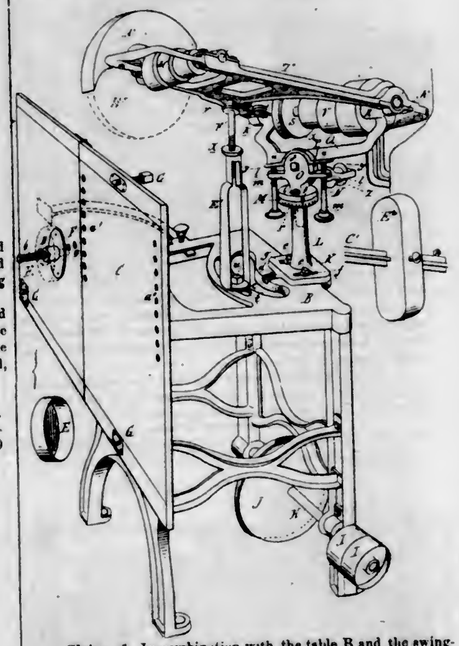
3. The cylinders formed with enlarged end sections, in which inlet and outlet valves are seated, and the heads F, formed with the stops *f*, in combination with plungers D, formed with bosses *f*', the piston-rods E, and operating mechanism, as shown and described.

4. In a cylinder-pump having a reciprocating piston, the pivoted three-armed lever G, adapted to operate the inlet and outlet valves, whereby the contents of said pump may be discharged, substantially as shown and described.

261,623. PREPARATION OF WHALEBONE. HUBERT W. MORGAN, Westfield, Mass., assignor to himself and Edwin R. Lay, same place, and James T. Morgan, Winsted, Conn. Filed Feb. 3, 1882. (No specimens.)

Claim.—A new compound or liquid preparation of whalebone, consisting of whalebone dissolved in an alkali, substantially as hereinbefore described.

261,624. SAW-GUMMING MACHINE. SANFORD F. OLNEY, Detroit, Mich. Filed Sept. 7, 1881. (No model.)



Claim.—1. In combination with the table B and the swinging frame T, the adjustable standard L, the disks M, N, O, and P, the yoke Q, and the adjustable support E' F', substantially as and for the purpose specified.

2. In a device for the purposes described, and in combination with the standard L and disks M and N, the disks O P, for the purpose of allowing a horizontal rotary motion of the swinging frame T and a vertical rotary motion of the same, substantially as set forth.

3. In a machine for the purposes described, the frame T, adapted to swing upon the trunnions R, and provided with a tail-arm, C', laterally adjustable upon said frame by means of the disks B' D', substantially as specified.

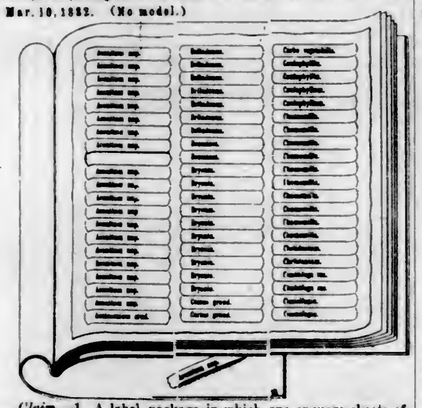
4. In a device for the purposes described, and as a means for arresting the descent of the swinging-wheel frame, the standard E', radially adjustable upon the table, and provided with an adjusting-screw, F', screwing vertically into its upper end, substantially as set forth.

5. In a device for gumming saws, the disk *o*, adjustable in a horizontal radial direction on its supporting-standard L, and provided with arms *l l* and set-screws *m m*, in combination with the yoke Q, provided with a disk, P, and lugs *n*, as and for the purpose specified.

6. In a machine for gumming saws, the vertical table C, provided with a series of holes, and an adjustable arbor, D, and with set-screws G, and a disk-plate, F, in combination with a device, substantially as described, for securing the saw to the table against the disk-plate F, and screws G, as and for the purpose specified.

7. In a machine for the purposes described, and as a means for supporting the swinging frame upon its standard, the yoke Q, provided with trunnions and bearings R, for supporting the swinging frame T with a weighted arm, C', and with a disk, P, by which it is adjustably secured upon the supporting-standard L, in combination with said standard and the swinging frame T, substantially as and for the purposes specified.

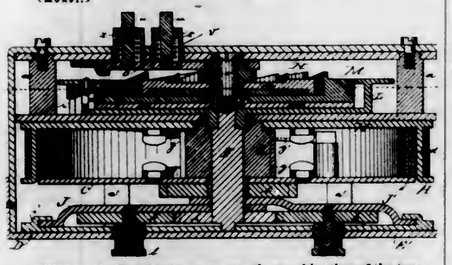
261,625. LABEL-PACKAGE. ORVILLE L. PARMENTER, Cincinnati, Ohio, assignor to George W. Smith, same place. Filed Mar. 10, 1882. (No model.)



Claim.—1. A label-package in which one or more sheets of labels are arranged in columns, with intervening and surrounding blank spaces, and coated with an adhesive substance on their rear, and partially separated with a cutting or incising instrument, and mounted upon a suitable backing by adhesion of the blank portions, the labels proper being left unattached, substantially as and for the purpose set forth.

2. A label-package in which a number of sheets prepared and mounted as above described and claimed are bound into the form of a book in the manner designated and shown.

261,626. MEASURING-INSTRUMENT. JOSEPH H. PERRY and SAMUEL A. OGGOMAN, Piper City, Ill. Filed Mar. 11, 1882. (Model.)



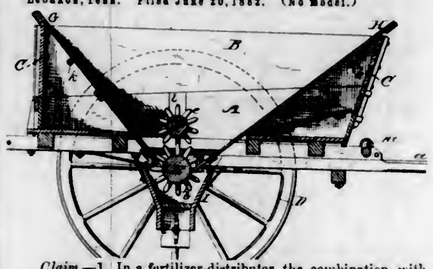
Claim.—1. In a lumber-measure, the combination of the tape-line spool H, having spring *e* and pawls *g'*, the frame-plate C, with stud *f* and pawls *g*, the arbor F, having spur-wheel *h* rigidly mounted on the lower end, index-plate L, rigidly secured to the upper end of said arbor, the ratchet-wheel G, with gear-wheel *b*, and suitable coupling-gears for transmitting a variable motion from wheel *b* to wheel *h*, all substantially as and for the purpose set forth.

2. In a lumber-measure, the arbor F, carrying index-disk L and spur-wheel *h*, both rigid therewith, the ratchet-wheel G, coupled with spool H by pawls *g'*, and having spur-wheel *b*, in combination with spindles I I' I² I², each having mounted two pinions, and with arms J J, carrying coupling-wheels *k*, and arranged to be locked for engaging at either side with one of the pinions on spindles I, for adjusting the speed of the index-plates to accommodate different lengths of boards to be measured, all substantially as and for the purpose set forth.

3. In a lumber-measure, the frame-plate B, having segmental flange *r*, the index-disk L, secured to arbor F and having pawl *p*, the stationary disk *m*, having segmental flange *r'*, the index-disk M, having pawl *p'*, and the index-disk N, both index-disks M and N being provided on their rim with ratchet-teeth that correspond with the figures on the faces, and each of said pawls having a tail end and being pivoted to cause said tail ends to come in contact with and travel along the segmental flanges, the whole being constructed and arranged substantially in the manner set forth.

4. In a lumber-measure, the plate B and the index-disks M and N, having ratchet-teeth to their upper faces, in combination with the plate A, having springs *s*, opening P, and arm O, with tubular extensions that carry spring-stems *w*, all substantially as and for the purpose set forth.

261,627. FERTILIZER-DISTRIBUTER. JOHN G. PHILPOT, Lebanon, Tenn. Filed June 20, 1882. (No model.)



Claim.—1. In a fertilizer-distributer, the combination, with the roller F, provided with double-edge knives *c*, of the lower roller, E, having double-edge knives *b*, with screw-shanks *d*, said knives being detachably connected to said roller and reversible thereon, substantially as and for the purpose set forth.

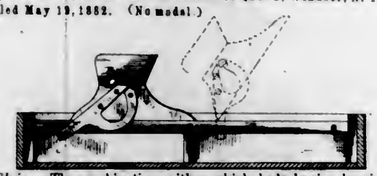
2. In a fertilizer-distributer, the combination, with the removable roller F, having knives *c*, and the roller E, arranged below the body of the machine, and provided with removable double-edge cutting-knives *b*, of the adjustable and reversible gates G H, said gates being held in position by the clamping-rods *k*, substantially as and for the purpose set forth.

3. In a fertilizer-distributer, the combination, with the body A, having adjustable and removable gates G H, and removable roller F, of the roller E, having removably connected thereto the reversible double-edge cutting-knives *b*, substantially as and for the purpose described.

4. In a fertilizer-distributer, the body A, provided with removable and adjustable gates G H, and removable roller F, in combination with the roller E, constructed as described, gear-wheels *f g*, and clutches *h*, substantially as and for the purpose specified.

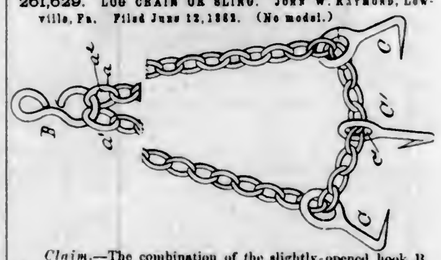
5. In a fertilizer-distributer, the body A, provided with the removable roller F and removable gates G H and roller E and hinged door K, in combination with the side and end sections, B C, and rods *k*, substantially as and for the purpose set forth.

261,628. SEAT-LOCK. WILLIAM G. QUEAL, Windsor, N. Y. Filed May 15, 1882. (No model.)



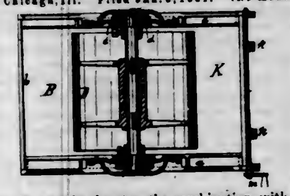
Claim.—The combination, with a vehicle-body having longitudinal rails on which slides the seat, of a seat provided with a metallic plate at each side, having a lip or extension adapted to bind against the sides of the longitudinal rails to prevent lateral strain or movement.

261,629. LOG CHAIN OR SLING. JOHN W. RAYMOND, Lowville, Pa. Filed June 12, 1882. (No model.)



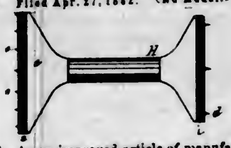
Claim.—The combination of the slightly-opened hook B, chain A, provided with the link *a*, having the indentation a^2, and the hooks C, C, and C', the point of the latter lying in the same plane with its eye and the points of the former lying in a plane at a right angle to that of their eyes, substantially as shown and described.

261,630. GRAIN-ELEVATOR. ELIAS ROBERTS and WILLIAM H. LOTZ, Chicago, Ill. Filed Jan. 3, 1881. (No model.)



Claim.—In a grain-elevator, the combination, with the gates I for receiving grain, of the tank A and boot B, said boot being provided with a gate or door, K, substantially as and for the purpose described and shown.

261,631. CARPET-STRETCHER. JERRY E. ROBINSON, Springfield, Mass. Filed Apr. 27, 1882. (No model.)

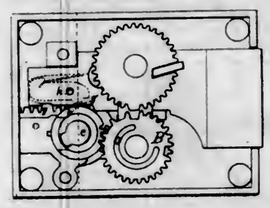


Claim.—1. As an improved article of manufacture, a carpet-stretcher consisting of the piece H, provided with spurs *d* to engage in the floor and spurs *e* to engage in the carpet, substantially as shown.

2. The piece H, shaped as shown, in combination with pieces *e* and *i*, said pieces being provided with spurs, substantially as shown.

3. A carpet-stretcher consisting of a piece, H, having spurs at each end projecting at an angle, substantially as shown.

261,632. PERMUTATION-LOCK. WILLIAM W. SCOTT, New Britain, Conn., assignor to the Kompshall Manufacturing Company, same place. Filed May 22, 1882. (No model.)

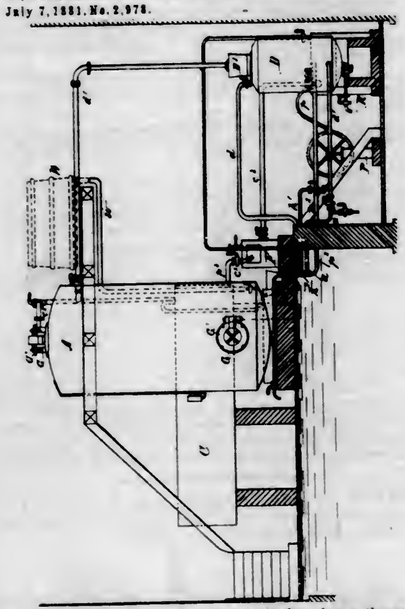


Claim.—The combination, substantially as hereinbefore set forth, of the lock-bolt having the notches *g g'*, the longitudinally-moving key-shaft carrying the follower, and the dog or its equivalent for obstructing the longitudinal movement of said follower through the slot *g'* during the ordinary manipulation of the lock, said dog being also adapted to be moved for permitting such movement when desired.

261,633.



261,634. METHOD OF AND APPARATUS FOR SEPARATING AND RECOVERING THE FATTY MATTERS FROM BONES. FRIEDRICH SELTSAM, Forchheim, Bavaria, Germany. Filed July 28, 1881. (No model.) Patented in Belgium May 18, 1880, No. 51,484, and July 11, 1881, No. 55,141; in France May 19, 1880, No. 136,750, addition July 12, 1881, and in England July 7, 1881, No. 2,978.



Claim.—1. In the art of extracting fat from bones, the process hereinbefore described, which consists in forcing a solvent—such as benzine or its equivalent—into a charge of bones by means of compressed air, expelling the air from said charge by means of the tension of the solvent vapors, isolating said charge from contact with atmospheric air, increasing the tension of the solvent vapors to permeate the charge and dissolve out the fat, and removing the solution of the fat and solvent by means of the tension of said vapors, substantially as described.

2. In the art of extracting fat from bones, the process hereinbefore described, which consists in introducing into the charged

261,633. METHOD OF AND APPARATUS FOR SEPARATING AND RECOVERING THE FATTY MATTERS FROM BONES. ALFRED L. SCRANTON, Rochelle, Ill., assignor of one-half to Abner R. Scranton and A. Hubert Scranton, both of same place. Filed Apr. 3, 1882. (No model.)

Claim.—1. The combination, with a cabinet having a movable cover provided with a funnel and a horizontal pipe, of a supplemental cover arranged below the movable cover and provided with a depressed central portion, and a pipe or pipes for conveying water into the interior of the cabinet, substantially as set forth.

2. The combination, with a cabinet, of a hinged cover provided with an inlet-pipe and a horizontal pipe whose ends are diagonally cut away for the purpose described, of a supplemental cover having a central depressed portion, a downwardly-projecting flange or rim supported upon lugs within the cabinet, pipes for conveying water to near the bottom of the water-chamber, and vents and plugs, substantially as set forth.

3. The combination, with a can having a downwardly-projecting rim, of an inverted-T-shaped arm, a catch secured to the bottom of the cabinet, and provided with an open slot adapted to receive the horizontal portion of said arm, substantially as set forth.

but open, extracting-vessel, a solvent—such as benzine or its equivalent—heating said solvent to generate vapors to expel the air from said vessel and its charge, closing said vessel hermetically, and increasing the tension of the vapors, as specified, and allowing the same to cool slowly, and when cooled again increasing the tension of the vapors to about one-half atmosphere, for the purposes set forth, and, finally, expelling the benzine-charged fat into a distilling apparatus, substantially as described, for the purpose specified.

3. The combination, with the digesting-vessel A, of the reservoir R and the level-indicator r^3, the pump P, and the connecting-pipes between the reservoir, pump, and digesting-vessel, whereby a charge of solvent may be forced into said vessel by means of compressed air, and whereby the quantity of solvent charged is indicated, substantially as and for the purpose specified.

4. The combination, with the condenser C, of the Woulfe's flask or receiver F, having the air-escapes f^1 f^2 and the level-indicator f', of the inlet-pipe c^2, the outlet-pipe for the benzine, r^2, and the stop-cock f^4, and the reservoir R, and their connecting-pipes, all arranged and constructed for operation substantially as and for the purpose specified.

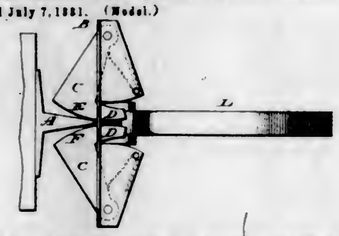
5. The apparatus hereinbefore described, which consists of an extracting-vessel, A, a condenser, C, a receiver, F, a still, D, and pump P, in combination with a solvent-reservoir located below the extracting-vessel, condenser, and receiver, and a water-reservoir located above said devices, substantially as and for the purposes specified.

6. The apparatus hereinbefore described, which consists of an extracting-vessel, A, a condenser, C, a receiver, F, a still, D, a solvent reservoir, R, and a water-reservoir, W, and a compressing-pump, in combination with the system of connecting-pipes, as shown and described, whereby said devices are made to form an uninterrupted and air-tight circuit, and whereby any one or more of said devices may be cut out of said circuit, substantially as described, for the purposes specified.

7. The condenser C, composed of a series of connected pipes, increasing in diameter from one end of the series to the other, in combination with an inclosing-case and partitions c', interposed between the pipe-sections and arranged to conduct the cooling agent alternately from one end to the other of said pipe-sections, substantially as and for the purposes specified.

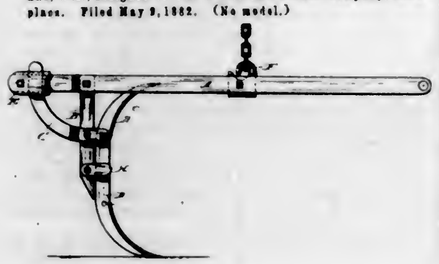
8. The receiver F, constructed substantially as described, and provided with a glass face, f, and the leveling-indicator f', for the purposes specified.

261,635. GATE-LATCH. GUSTAVUS L. SMITH, Taunton, Mass. Filed July 7, 1881. (Model.)



Claim.—The spring-catches C C, pivoted to the rear of plate B, and having faces E and F projecting through said plate and lips D D at their inner extremities, in combination with stop A and lever L M, which controls both catches, but allows either to be depressed upon the closing of the gate, substantially as described.

261,636. CULTIVATOR-TOOTH. JAMES H. SMITH, Fond du Lac, Wis., assignor to the Wheel and Seeder Company, same place. Filed May 9, 1882. (No model.)

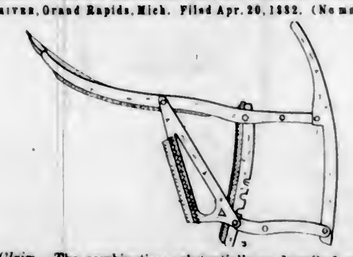


Claim.—1. The combination, with the beam A, reversible cultivator-tooth D, and pivoted standard B, of the double brace C, connected at its upper end to the rear end of said beam, and its lower end embracing and connected to said standard and the shank of said tooth, substantially as and for the purpose herein shown and described.

2. The combination, with the beam A, reversible cultivator-tooth D, and pivoted standard B, of the double brace C, connecting said standard and tooth with the beam, and the clips H H, for centrally connecting the shank of the tooth to the standard, substantially as and for the purpose specified.

3. The combination, with the beam A, composed of the parallel bars a a, and having a friction-clutch at its rear end, of the standard B, pivotally connected at its upper end between said bars a a, the reversible tooth, the double brace C, connected at its upper end to said beam by the friction-clutch and embracing and connected to said standard and tooth, and the clips H H, all arranged substantially as herein shown and described.

261,637. FOLDING RECLINING ROCKING-CHAIR. ARTHUR C. SAIVER, Grand Rapids, Mich. Filed Apr. 20, 1882. (No model.)



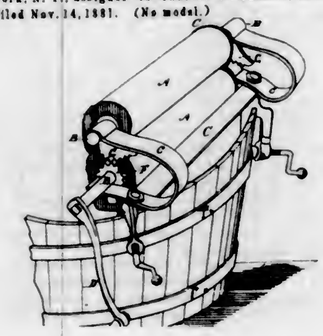
Claim.—The combination, substantially as described, of the rockers, the rigid frame forming the back and back legs, pivoted to said rockers, the seat-frame provided with notches in its forward under sides, pivoted to the back frame, the rigid arms pivoted to the back frame, the front legs pivoted to the rockers, and the pivoting cross-bar e, connecting the front legs and arms and providing a bearing for the notches of the seat-frame, as set forth.

261,638. SPRING-ROLLER ATTACHMENT FOR SEED-PLANTERS. NATHAN STANLY, Kinston, N. C. Filed May 29, 1882. (No model.)



Claim.—The combination, with the frame of a seed-planter, of the springs C C, secured to the sides of the same, and provided near their lower ends with boxes D D, the shaft E, journaled in said boxes and having roller F, the plate or scraper G, connecting the springs C in rear of the roller, the set-screws I, arranged in the frame-beams and bearing against the springs C, and the chain H, all arranged and operating substantially as set forth.

261,639. CLOTHES-WRINGER. CHARLES K. STIMSON, New York, N. Y., assignor to Charles W. Bassett, Newton, Mass. Filed Nov. 14, 1881. (No model.)

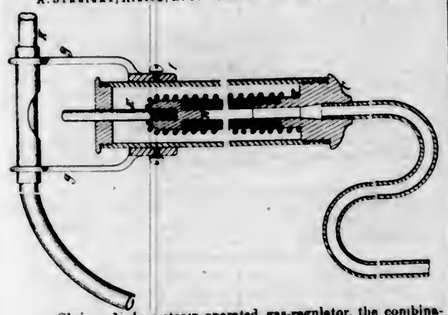


Claim.—1. In a wringing-machine, the gear F, secured on the driving-shaft, in combination with the cam G, loose on the opposite shaft, adapted to engage with each other when the rollers are turned backward, for the purpose set forth.

2. The combination of the rollers A A, shafts B B, crank D, and suitable supporting and pressure devices with the gears F and toothed loose cams G, substantially as and for the purpose set forth.

3. In a clothes-wringer having elastic rollers pressed forcibly together, the combination, with such rolls and their shafts, of a gear and cam arranged as shown and described, said cam having a portion, g, of arc form, whereby when the rolls are separated by the gear and cam they will be held at a fixed distance from each other, for the purpose set forth.

261,640. GAS-REGULATOR FOR VULCANIZERS, &c. JOHN A. STRAIGHT, Albion, N. Y. Filed Nov. 11, 1881. (No model.)



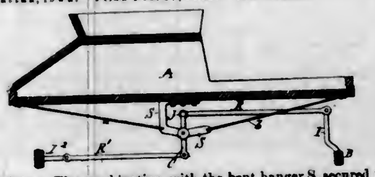
Claim.—1. In a steam-operated gas-regulator, the combination of the elastic tube A, the support C, the plug B, and flexible gas-tube H, substantially as shown and specified.

2. The combination, in a steam-operated gas-regulator, of the tube A, support C, plug B, the coil-spring D, and flexible gas-tube H, substantially as shown and described.

3. In a steam-operated gas-regulator, the spiral spring D, in combination with the elastic tube A, the said elastic tube being inclosed by the spiral spring, substantially as specified.

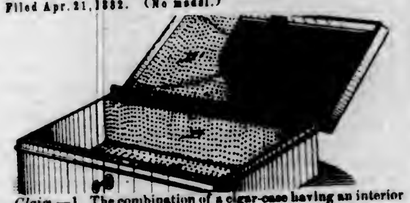
4. The combination, in a steam-operated gas-regulator, of the tube A, support C, plug B, cut-off tube G, gas-tube H, arms g g', and ring I, all substantially as shown and described, and for the purpose specified.

261,641. BOX-STAY FOR VEHICLES. EDWIN J. STRONG, Powhattan, Iowa. Filed Feb. 17, 1882. (No model.)



Claim.—The combination, with the bent hanger S, secured to the under face of the bottom of the box A and steadied by braces a b, of the vertical compensating-link C, pivoted at its middle to the hanger, and parallel rods R R', pivoted at their inner ends to the opposite ends of the link C, and pivoted at their outer ends to the braces I I', secured respectively to the front and rear axles, substantially as described, and for the purpose set forth.

261,642. CIGAR-CASE. CHARLES N. SWIFT, New York, N. Y. Filed Apr. 21, 1882. (No model.)

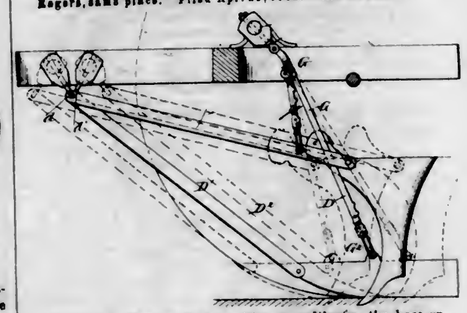


Claim.—1. The combination of a cigar-case having an interior perforated lining arranged at a suitable distance from the bottom and from two opposite side walls, one side wall of the lining being set back at a greater distance from the side wall of the case than the other, with a moisture-supplying pad inserted into the wider space thus obtained between the side walls of the lining and case, substantially as set forth.

2. The combination of a cigar-case having an interior perforated lining arranged at a suitable distance from the sides and bottom of the case, and made double at one side thereof, with a moisture-supplying pad inserted in the space between the double side wall of the lining and the side wall of the case, substantially as set forth.

3. In a cigar-case, the cover or lid having a moisture-supplying pad, means for retaining the same, and a perforated lining extending over the pad, and the retaining devices, so as to form a small air-space between pad and lining, substantially as described.

261,643. SEEDING-MACHINE AND CULTIVATOR. JOSEPH W. THOMAS, Springfield, Ohio, assignor to Thomas, Ludlow & Rogers, same place. Filed Apr. 29, 1882. (No model.)



Claim.—1. In a seeding-machine or cultivator, the hoes or teeth, in combination with clearers and jointed pressure-rods connecting said clearers with a lifting-roller, substantially as described.

2. The combination, with the hoes or teeth and the devices for adjusting said hoes or teeth from a single line or row to a zigzag position, and vice versa, of clearers, means for simultaneously adjusting the clearers to conform to such adjustment of the teeth, and jointed pressure-rods for holding said clearers down to their work.

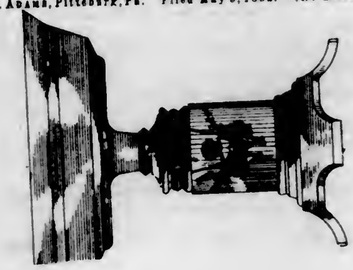
3. The combination of the hoes or teeth, the clearers arranged to alternate with said teeth, a lifting-roller for adjusting said hoes and clearers, and independent jointed pressure-rods connecting said hoes and clearers with the lifting-roller.

4. The clearers, in combination with the lifting-roller, jointed pressure-bars connecting the clearers with said roller, and means for shifting said clearers from a single line or row to a zigzag position, and vice versa, substantially as described.

5. The jointed pressure-rod connecting the hoe or clearer with the lifting-roller, provided with the shouldered or locking joint between its parts G and G', the part G' having a groove or socket for the reception of and in combination with the sliding and adjustable extension-piece G^3, the whole constructed and operating substantially as described.

6. The jointed pressure-rods composed of the bifurcated and shouldered link G, bifurcated shouldered link G', having a socket formed in it, and the sliding extension-piece G^3, adjustable in said socket, in combination with the spring I, applied to the shouldered joint between the parts G and G', substantially as and for the purpose described.

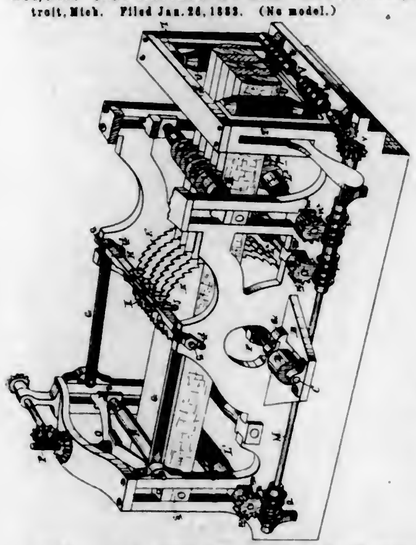
261,644. GLASSWARE. SAMUEL G. VOGELEY and ADOLPHUS A. ADAMS, Pittsburg, Pa. Filed May 3, 1882. (No model.)



Claim.—1. As a new article of manufacture, a transparent hollow stem, stand, or support for lamps or other articles, having an independent ornamental article or object inserted or inclosed therein, substantially as and for the purpose specified.

2. In an ornamental article of glassware—such as a lamp, salver, or like article—the combination of a transparent stem and independent detachable ornamental article inclosed thereby, and a detachable bottom plate for closing the stem, substantially as and for the purpose specified.

261,645. GANG CIRCULAR-SAW MILL. JOHN G. WINTER, Detroit, Mich. Filed Jan. 26, 1883. (No model.)



Claim.—1. In a circular gang mill, the saw-guides supported by a swinging frame and operating upon the saws in a position vertical, or nearly so, to the axis of the saws, said swinging frame consisting of a bar, H, and side bars, G, the bar H being provided with trunnions *c c*, to move in guide-slots *d* in the supporting-frame, and the side bars, G, pivoted to said supporting-frame, substantially as and for the purposes specified.

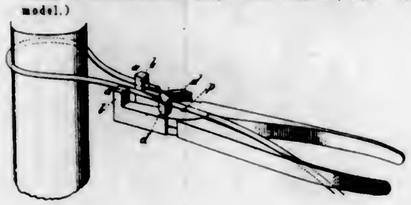
2. The combination, with the bar H, of the jaws J, pivoted thereto, and having inclined adjoining faces, and the wedge-bolt L *k*, for expanding the upper ends and contracting the lower ends of said jaws, substantially as described.

3. The combination, with the bar H, of the pivoted jaws J, having recesses *g* in their adjoining faces, the bolt L, having a wedge-head, *k*, the nut *k*, acting against the upper ends of the jaws, and a spring between said jaws, below their pivotal points, substantially as described.

4. In a saw-mill, the feed-rollers L′ L″ L‴ and the retaining-rolls U U, both the feed and the retaining rolls being provided with pinions on their ends, in combination with the connected shafts M V at right angles to each other, and provided with worms *o o′ o″ u u*, for operating the feed and retaining rolls, substantially as described.

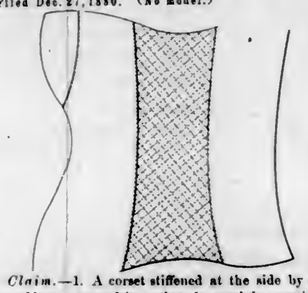
5. The combination, with a gang-saw mill, of the sliding frames T, the rollers U, the springs X, and the cam-lever W, substantially as and for the purpose specified.

261,646. WIRE TWISTING, CUTTING, AND SPLICING TOOL. ORRIN O. ADAMS, Lowell, Mich. Filed June 17, 1882. (No model.)



Claim.—A pair of pinchers having the jaws *a a* formed with the perforated angular extremities or lugs *b b*, and the cutting projections or nippers *d d*, back of said angular projections, or nearer the fulcrum-joint, substantially as specified.

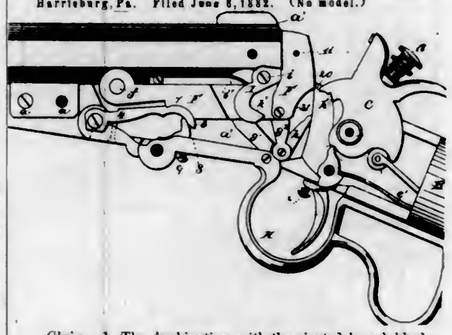
261,647. CORSET. CHAUNCEY P. ALLEN, Waterbury, Conn. Filed Dec. 27, 1880. (No model.)



Claim.—1. A corset stiffened at the side by means of two series of bones secured in pockets in overlying portions of the corset, one series crossing the other at an angle, substantially as set forth.

2. The combination, in a corset, of two overlying sections arranged between the arm and hip, each section consisting of two sheets stitched to form bone-pockets at an angle to those of the other section, substantially as set forth.

261,648. BREECH-LOADING FIRE-ARM. PETER A. ALTMAIER, Harrisburg, Pa. Filed June 6, 1882. (No model.)



Claim.—1. The combination, with the pivoted breech-block, of the crank-lever G, pivoted in the breech-block, the guard-lever H, and toggle *g′*, connecting the two said levers, the pawl *h*, pivoted to the free end of the lever G, and the hammer C, the parts being arranged substantially as shown, whereby the breech is opened and the hammer cocked by a single movement of the guard-lever.

2. The pivoted extractor I, arranged under the rear end of the barrel, and the swinging breech-block F, pivoted forward of the extractor, and provided with a spring-pin projecting from its side in such relation to the extractor as to engage the incline *k′* of the latter in opening the breech and extract the shell, and constructed, as described, to pass the end of the extractor in closing the breech, as set forth.

3. The breech-block F, pivoted under the barrel at *f*, and provided on its under side with the recess 7, the lever 4, pivoted in the frame below the breech-block, and the guard-lever H, provided with the adjustable dog 8, arranged to engage the free end of the lever 4 and press the same against the breech-block to tightly close the breech, as set forth.

4. The sleeve 10, provided with firing-pin 12 for rim-fire shells, arranged in a recess in the breech so as to have longitudinal movement therein, and a firing-pin, 13, for center-fire shells, arranged in the sleeve and to move therewith or independently, in combination with the hammer, as set forth.

5. The hammer C, provided with a rigid firing-nose, and with a sliding pin in its front face and a screw, 18, in the top, said screw having a recess in its side for the reception of the end of the sliding pin, whereby the pin is adjusted, in combination with a double firing-pin arranged as shown, so that either rim or central fire shells may be used at the will of the operator.

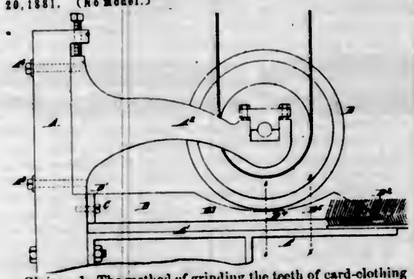
261,649. UNDERGROUND CONDUIT FOR TELEGRAPH, TELEPHONE, AND OTHER WIRES. J. BERNARD APPLE, Philadelphia, Pa., assignor of one-half to William S. Hassall, same place. Filed Nov. 8, 1881. (No model.)



Claim.—1. A testing case or station for electric-wire conduits supported on a firm porous bed, and provided with the pipe D, having an upwardly-closing valve, E, and strainer F, substantially as and for the purpose set forth.

2. The drain-pipe D and valve E, in combination with the testing-station and the bed which supports the station, but allows water to trickle through it from said pipe without undermining, substantially as and for the purpose set forth.

261,650. METHOD OF AND APPARATUS FOR GRINDING THE TEETH OF CARDS. GEORGE ASHWORTH and ELIJAH ASHWORTH, Manchester, County of Lancaster, England. Filed May 29, 1881. (No model.)



Claim.—1. The method of grinding the teeth of card-clothing herein described, consisting of parting the teeth in straight lines and feeding the clothing with the line thus opened to a revolving grinding-wheel, substantially as set forth.

2. In a machine for treating card-teeth, the plow D, mounted below the wheel B, in combination with said wheel, substantially as set forth.

3. In a machine for grinding card-clothing, the combination with the grinding-wheel B, of a plow, D, having the point D^4, wide breadths D^2 D^3, and a narrow breadth at the part D^4, arranged as shown relatively to the grinding-wheel B and to a table, A′, for supporting and guiding the card-clothing, as herein specified.

261,651. DEVICE FOR CARRYING AND EXHIBITING FINGER-RINGS. ROBERT D. BARRS, Buffalo, N. Y. Filed Apr. 25, 1882. (No model.)

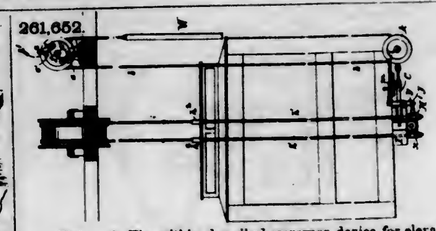


Claim.—1. In a device for carrying and exhibiting finger-rings, a sheet of flexible material provided with projecting supports adapted to hold rings, substantially as set forth.

2. The flexible sheet A, provided with supports B, adapted to hold rings, and having a suitable fastening device, whereby the package can be secured when the sheet is rolled up, substantially as set forth.

3. The flexible sheet A, provided with projecting supports B, secured to a portion of said sheet, and having its portion which is not occupied by said supports adapted to be folded over said supports, substantially as set forth.

261,652. GOVERNOR FOR ELEVATORS. CYRUS W. BALDWIN, Chicago, Ill. Filed June 6, 1882. (No model.)



Claim.—1. The within-described governor device for elevators, consisting of a pulley, arms pivoted thereto, springs connected to said arms, and a stop-plate arranged to be struck by said arms when thrown beyond the periphery of the pulley, substantially as specified.

2. The combination, with the elevator and its operating-rope *b*, of the pulley E, arms *e e*, pivoted to the pulley, with their free ends in the direction in which the pulley revolves when the cage is descending, springs, and stop-plate, substantially as set forth.

3. The combination of the pulley, stop, arms, and blades *f′*, substantially as specified.

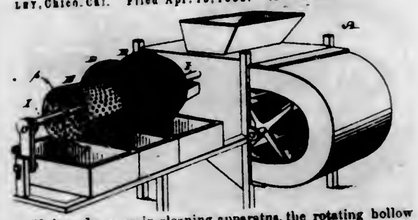
4. The combination, with the brakes, governor, and rope *b*, of the screw-shaft F, drum *k*, and nut G, connected to the brake-arms, substantially as specified.

5. The combination, with a cage, of independent suspension-cables, brakes, and appliances constructed to apply the brakes upon the breaking of either cable, substantially as set forth.

6. The combination, in an elevator, of suspension-cables connected independently to a lever, H, upon opposite sides of its pivot-point, and appliances constructed and operating to apply the brakes upon the tilting of the lever, substantially as set forth.

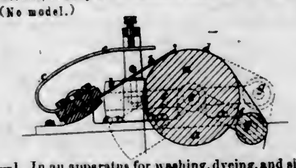
7. The combination of the cage, independent suspension-cables, lever H, drum *k*, rope *b*, weight W, governor E, and notched lever J, spring-rod *u*, and stop-pin *i* on the drum, substantially as set forth.

261,653. GRAIN-CLEANING APPARATUS. THOMAS S. BAYLEY, Chico, Cal. Filed Apr. 18, 1882. (No model.)



Claim.—In a grain-cleaning apparatus, the rotating hollow screen D E, having depressions *a* formed at intervals in its length, in combination with the preliminary cleaner A, the shaft I, the universal joint K, and the vertically-adjustable box O, substantially as herein described.

261,654. APPARATUS FOR WASHING, DYEING, &c. WILLIAM BIRCH, Salford, County of Lancaster, England. Filed Apr. 15, 1882. (No model.)



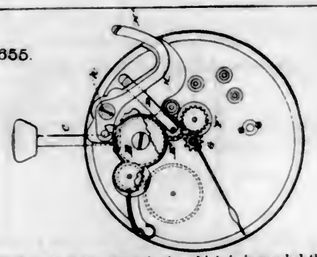
Claim.—1. In an apparatus for washing, dyeing, and similarly treating fabrics, the combination of a rotating roller with a thin flexible pressing bar or plate adapted to bear on the roller and remove superfluous liquid from the fabric as it passes between the roller and plate.

2. The combination of the rotating roller and presser-plate with a tension-bar carried by weighted levers mounted on the axis of the said roller, substantially as set forth.

261,655. STEM HAND-SETTING AND WINDING MECHANISM FOR WATCHES. ABRAHAM BITNER, Lancaster, Pa. Filed Nov. 18, 1881. (No model.)

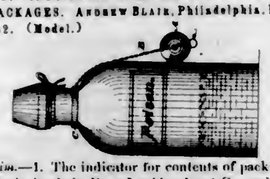
Claim.—The tilting bar D, fulcrumed at *b*, as shown, having

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inclined surface *d* and a yoke in which is journaled the pinion E, and the curved lever H H′, pivoted at A and acting upon the incline *d* to throw the pinion E in either of two directions at will, combined with the winding-wheel B, stem C, the said pinion E, minute-wheel F, pinion G, and center staff, the whole being arranged and adapted to serve as and for the purposes set forth.

261,656. INDICATOR OR ADVERTISER OF THE CONTENTS OF PACKAGES. ANDREW BLAIR, Philadelphia, Pa. Filed June 8, 1882. (Model.)



Claim.—1. The indicator for contents of packages, consisting of the block A, chain B, and rubber band C, combined and operating substantially as and for the purpose set forth.

2. The perforated ball A, the chain B, with ring *a*, and rubber band C, combined and operating substantially as and for the purpose set forth.

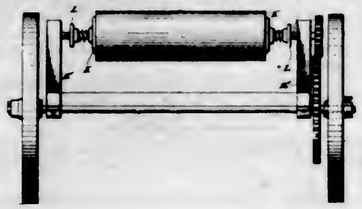
261,657. SPARK-ARRESTER. ANDREW BLAKE, Peru, Ind. Filed May 4, 1882. (No model.)



Claim.—1. In a spark-arrester, the upright cylinder-shaped netting D, provided with the rings *d′* at its base, and with upright straps d^2, adapted to support the deflector A, the deflector A and receiver B, provided with hangers *b′*, its lower end resting within the funnel-shaped top *c′* of the pipe C, and the pipe C, provided with the funnel-shaped top, all combined to operate substantially as shown and described.

2. In a spark-arrester, the netting D, deflector A, receiver B, and pipe C, provided with funnel-shaped hood c^2, and deflector c^3, whereby a downward draft is maintained through the receiver B and pipe C, substantially as shown and described.

261,658. APPARATUS FOR SETTING OUT OR TAKING UP BARB FENCE-WIRE, CHECK ROW WIRE FOR CORN-PLANTERS, &c. NATHAN C. BOLIN, Red Oak, Iowa. Filed Apr. 24 1882. (No model.)



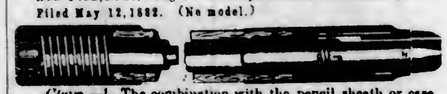
Claim.—1. In a machine for letting out and taking up check cords or wires, the combination of a vehicle or conveyance, a rotary shaft, a spool loosely mounted on said shaft and adapted to revolve independent of the same, and adjustable devices for braking or regulating the free rotation of the spool on its supporting-shaft in setting out the wire or cord and for locking the spool to the shaft in rewinding the wire or cord, substantially as described.

2. In a machine for setting out and taking up check cords or wires, the combination of a wheeled frame, a rotary shaft driven by gearing from the wheel-axle, a spool loosely mounted on said shaft and adapted to revolve independent of the same, and tension devices acting on the spool for retarding its rotation on the shaft in setting out the cord or wire and for locking the spool to its shaft for rewinding the cord or wire, substantially as described.

3. In an apparatus for setting out and taking up check cords or wires, the combination of the rotary shaft, the spool loosely mounted thereon and adapted to rotate independent of the same, means for driving the shaft, and the tension device composed of the disks K and L and an interposed spring, one of said disks being capable of adjustment to compress the spring and cause the other disk to engage the spool to retard the free rotation thereof on its carrying-shaft, substantially as described.

4. In an apparatus for setting out check cords or wires, the combination of the main frame supported on wheels, the independent rotary shaft driven by one or both of the wheels and detachably supported in bearings on the main frame, a spool loosely mounted on said detachable shaft and adapted to rotate independent thereof, and tension devices for regulating the rotation of the spool on its carrying-shaft in setting out the cord or wire or for locking the spool to its shaft in rewinding the cord or wire, substantially as described.

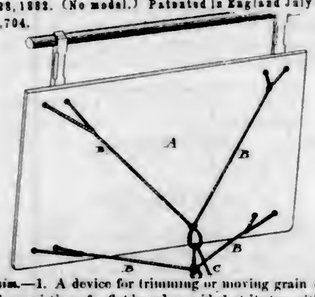
261,659. LEAD AND CRAYON HOLDER. CLAUS W. BOMAN, New York, N. Y., assignor to Joseph Reckendorfer, same place. Filed May 12, 1882. (No model.)



Claim.—1. The combination with the pencil sheath or case and the longitudinally-movable lead-containing tube, of an expansible lead-clamping ring composed of a coil of one or more turns of wire carried by the said tube, and having its ends connected to the said tube and sheath in such manner as to be thereby caused to expand or contract, according to the direction in which the tube is moved, substantially as and for the purposes hereinbefore set forth.

2. The combination, with the pencil-sheath and longitudinally-movable lead-containing tube, of the pressure-cap, the retracting-spring, and the expansible lead-clamping ring, composed of a wire coil carried by said tube and connected at its ends to the tube and the sheath, substantially as and for the purposes hereinbefore set forth.

261,660. GRAIN-TRIMMER. WILLIAM S. BRICE and WILLIAM P. THOMPSON, Liverpool, County of Lancaster, England. Filed Apr. 28, 1882. (No model.) Patented in England July 2, 1880, No. 2,704.



Claim.—1. A device for trimming or moving grain or other material, consisting of a flat board provided at its top with a handle by which to control its movement, and also provided in the front with a single hauling-line applied substantially as shown, the board being free to tip forward and backward at the will of the operator.

2. The device for trimming or moving grain and like material, consisting of the flat upright board provided with a handle at the top, with a hauling-rope applied, substantially as shown, to its front, and with supporting-legs, substantially as described, adapted to travel upon the floor and sustain the lower edge of the board above the same.

3. In a device for trimming and moving grain, the combination of a flat upright board, a hauling-rope, a handle, and adjustable sustaining-legs, substantially as described, whereby the lower edge of the board may be permitted to rest upon the floor or sustained above the same at will.

4. In combination with the grain moving or trimming board, as described, the upper hauling-rope, B, provided with a loop, the lower hauling-rope, and the rope or cable C, passed through the loop of the upper rope and attached to the lower rope, in the manner described and shown.

5. The combination, in a device for trimming and transporting grain and similar material, of a flat board, A, a hauling-rope, C, connected with the board, substantially as described, to maintain the same in an upright position, and a handle, D, applied to the top of the board, substantially as shown, whereby the attendant is enabled to control the position of the board and the direction in which it moves.

6. The combination of the flat board A, having a handle at the upper side, a hauling-rope attached to the front side, and the hinged legs F, provided with rollers G.

261,661. LUBRICATOR. WARREN M. BEINKHOFF, Auburn, N. Y. Filed June 27, 1882. (No model.)

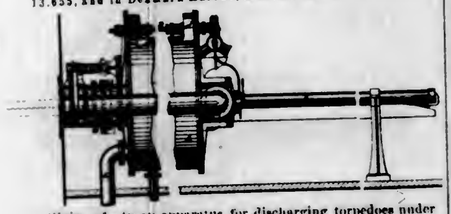


Claim.—1. As a means of lubricating hangers, journals, axles, &c., an oil-conductor made of wood or other suitable material, and provided with a chamber integral therewith for holding a supply of oil, substantially as described.

2. A combined oil cup and conductor for lubricating hangers, journals, axles, &c., consisting of a block of wood or other suitable material, having one end constructed for bearing against the journal, and provided on its opposite end with an oil-chamber formed integral with the conductor, substantially as described.

3. A combined oil cup and conductor for lubricating hangers, journals, axles, &c., consisting of a block of wood or other suitable material, having one end constructed for bearing against the journal, and provided on its opposite end with an oil-chamber, said conductor having one or more openings for wicking extending from the oil-chamber to the end which bears against the journal, substantially as described.

261,662. SUBMARINE TORPEDO-GUN. PETER BROTHERHOOD, Lambeth, County of Surrey, England. Filed May 10, 1882. (No model.) Patented in England Oct. 12, 1881, No. 4,451; in France Oct. 31, 1881, No. 145,592; in Italy Dec. 31, 1881, No. 13,655, and in Denmark Mar. 21, 1882, No. 2,572.

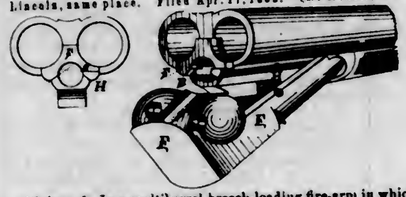


Claim.—1. In an apparatus for discharging torpedoes under water, the combination of a series of tubes rotating on an axial bearing, a trough for receiving the torpedoes and directing them into the tubes, a torpedo-propelling rod at the receiving ends of the tubes, a pipe for introducing water or other fluid into the tubes in rear of the torpedo, and a pipe at the discharge end of the tubes for emptying them of water, substantially as described.

2. In an apparatus for discharging torpedoes under water, the combination of a stationary cylindrical casing, rotating perforated heads at the ends thereof, parallel tubes secured to the heads in line with the perforations, a trough for directing the torpedoes to the tubes, a torpedo-propelling rod, and pipes connecting respectively with the receiving and discharging ends of the tubes for supplying and discharging fluid to and from the tubes, substantially as described.

3. The combination, with the tubes rotating on a supporting-axis, of a torpedo-guiding bar pivoted at the discharge end of the tubes, and mechanism for swinging said bar on its pivot into or out of line with the tubes, substantially as described.

261,663. BREECH-LOADING FIRE-ARM. ALEXANDER T. BROWN, Syracuse, N. Y., assignor of one-half to Howard H. Lincoln, same place. Filed Apr. 17, 1882. (No model.)



Claim.—1. In a multibarrel breech-loading fire-arm in which the barrels are hinged to the frame and the breech is opened by tilting the barrels, a frame provided at or near the hinge-joint with one or more projecting studs, and two or more sliding extractors arranged on the barrels, as shown, so that when the barrels are tilted the extractors engage with said studs and start the shells successively, as and for the purposes set forth.

2. In a three-barreled gun, the combination of the two cartridge-extractors operated by two lever-studs, one of said extractors being longer than the other for the purpose of pushing its cartridge farther out than the other does, substantially as specified.

3. In a three-barreled gun, the combination of two cartridge-extractors and two operating-lever studs, one of said extractors being provided with a shoulder to abut against and aid in ejecting the other extractor-head, substantially as and for the purpose specified.

4. The combination of the arm G and head F, rigid with each other, with the arm H, studs K L, and hinged breech-piece E, the arm H being longer than the arm G, and the whole adapted to serve as and for the purposes set forth.

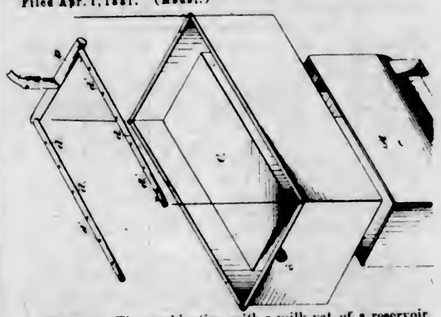
261,664. WAISTBAND ATTACHMENT. ALFRED BROWN, Ottawa, Ontario, Canada, assignor of one-half to Wm. Edwards Brown, same place. Filed Feb. 13, 1882. (No model.)



Claim.—1. An elastic strap or removable attachment to the waistband of pantaloons, consisting of inelastic ends, a central inelastic portion, and elastic sections attached intermediately to the inelastic portions, substantially as shown and described, said inelastic portions being provided with button-holes or other contrivances for securing the strap to the garment, substantially as and for the purpose set forth.

2. An elastic strap for removable attachment to the waistband of pantaloons, consisting of elastic portions E, the inelastic section C, and the inelastic end sections, A A, cut slanting at *a*, substantially as and for the purpose set forth.

261,665. MILK-COOLER. DANIEL BROWN, South Otselic, N. Y. Filed Apr. 1, 1881. (Model.)



Claim.—1. The combination, with a milk-vat, of a reservoir, C, having a recess, *c*, of corresponding horizontal shape to that of the vat, and a surrounding space to contain the cooling medium, and adapted to be suspended above said vat, so as to surround the

same, out of contact therewith at its top and sides, whereby air is permitted to circulate freely around and over said vat, substantially as and for the purpose specified.

2. The combination, with a milk-vat, A, of a reservoir, C, corresponding in horizontal shape to the shape of the vat, and having at its lower portion a recess, *c*, to receive the vat, and a surrounding space to receive the cooling medium, and having water-supply pipes D *d'*, perforated pipes *d*, and overflow *e'*, substantially as and for the purpose shown and described.

261,666. RAILROAD-JOINT AND NUT-LOCK. WILLIAM P. BROWN, Zanesville, Ohio. Filed Nov. 5, 1881. (No model.)

Brief.—The fish-plates are inwardly inclined, and are provided with oblique slots adapted to receive slotted inclined flat-necked bolts, which are secured by keys.



Claim.—1. In a fish-plate, the inwardly-inclined plates having the oblique slots, adapted to receive the inclined flat or flat-necked bolts, substantially as specified.

2. The combination, with the obliquely-slotted fish-plates having outer inclined walls and the flat or flat-necked bolts, of the keys adapted to pass through slots in said bolts, substantially as specified.

3. The combination, with the obliquely-slotted fish-plates having outer inclined walls, of wedge form washers, slotted to receive the bolts and adapted to be interposed between the fish-plate and the bolt-head or end fastening, substantially as specified.

4. The combination, with the rails, of the obliquely-slotted fish-plates, having their outer walls slightly inclined toward each other, the bolts, and the wedge-fastening devices designed to take up the slack between the parts automatically, substantially as specified.

261,667. MAGAZINE FIRE-ARM. JOHN M. BROWNING and MATTHEW S. BROWNING, Ogden City, Utah. Filed Mar. 20, 1882. (No model.)



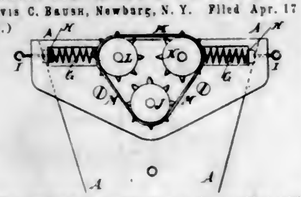
Claim.—1. In a magazine-gun, the combination, with the magazine closed except at the rear end thereof, and having the spring-follower, of the receiver D, the carrier pivoted in the bottom of such receiver, and the grooved block 3, against which the head of each cartridge is forced by the magazine-spring in position to be acted on by the succeeding cartridge.

2. The combination, in a magazine-gun, of the receiver D, the magazine situated below the barrel, and having the spring, the pivoted carrier, and the block 3, mounted thereon and having an inclined groove, whereby each cartridge is pressed back against such block and may be forced into the magazine by means of the succeeding cartridge.

3. The combination of the pivoted carrier, the block 3, having inclined groove, and the receiver having grooves *a* in its walls above the carrier when at its lowest position, whereby an angular way is formed for the insertion of cartridges into the magazine from above, substantially as described.

4. In a magazine-gun, the combination of the pivoted carrier having the projection 2, the locking-sleeve having longitudinal groove, the cam 12, and the incline 13 on the frame.

261,668. MACHINE FOR FELTING AND SCALDING HAT-BODIES. JARVIS C. BAUSH, Newburg, N. Y. Filed Apr. 17 1882. (Model.)



Claim.—1. The combination, with the vat A, provided with the perforated steam-chest B, of the polygonal rollers C D E, the latter, D E, journaled in laterally-yielding bearings, and means, substantially as described, for revolving said rollers, as and for the purpose set forth.

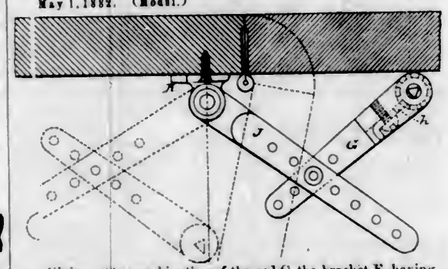
2. The combination, with the vat A, provided with the perforated steam-chest B, of the polygonal rollers C D E, of different diameters, the sliding bearings F, the springs G, the set-screws I, the chain-wheels J K L, and the belt M, substantially as and for the purpose set forth.

261,669. STOVE-TOP. WILLIAM P. BUELL and JOHN WRIGHT, Gallipolis, Ohio; said Buell assignor to Henry Koehler, Pomeroy, Ohio. Filed Nov. 7, 1881. (No model.)



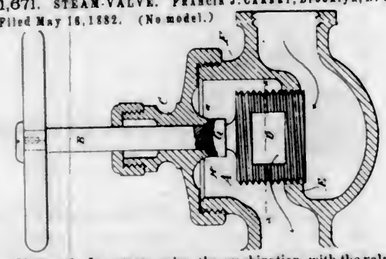
Claim.—The stove-sections A' A', provided at their junction with overlapping lugs *a a*, each projecting downwardly beyond the section, in combination with a washer, *b*, arranged between the lugs, and the pivot *d*, passing transversely through said lugs, as and for the purpose specified.

261,670. DOOR-SPRING. MALCOLM CAMPBELL, Holyoke, Mass., assignor of one-half to Edward S. Packard, same place. Filed May 1, 1882. (Model.)



Claim.—The combination of the rod C, the bracket E, having the polygonal seat *e*, nut F, having a polygonal body and polygonal perforation, the bracket D, having a round perforation, the ratchet H, having a polygonal perforation, arms G and J, the former embracing the ratchet and provided with the sliding bolt *b*, and adjustably connected to the latter, and the pivot-bracket K, substantially as shown and described.

261,671. STEAM-VALVE. FRANCIS J. CAREY, Brooklyn, N. Y. Filed May 16, 1882. (No model.)

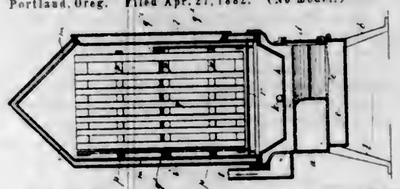


Claim.—1. In a steam-valve, the combination, with the valve-box F and cap C, of the spindle B, the externally-threaded hollow valve-plug A, provided with side openings, D, and of the partition E, provided with a threaded port, substantially as herein shown and described, and for the purpose set forth.

2. In a steam-valve, the combination, with the valve-box F and the cap C, provided with a central downward projection, H, of the spindle B, provided with a collar, G, the threaded hollow plug A, provided with side openings, D, and the horizontal partition E, provided with a threaded port, substantially as herein shown and described, and for the purpose set forth.

3. In a steam-valve, the combination, with the valve-box F and the cap C, provided with a central downward projection, H, having a half-head recess on its lower edge, of the spindle B, provided with a collar, G, having a half-head, *a*, on its upper edge, and of the valve-plug D, substantially as herein shown and described, and for the purpose set forth.

261,672. SANITARY STEAMING-STOVE. HENRY CARTWRIGHT, Portland, Oreg. Filed Apr. 27, 1882. (No model.)

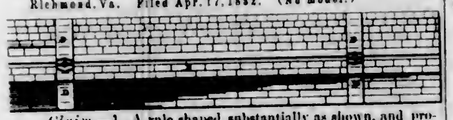


Claim.—1. The combination, with a furnace, *a*, covered at its upper end by an evaporating-pan, *h*, which is provided with a supply-tube, *j*, for introducing water into the pan, of a casement, *i*, having double walls *w*, and a vent-pipe, *o*, substantially as described, and for the purpose set forth.

2. The combination, with the casement *i*, provided with door *l*, of the racks q q^5, substantially as described, and for the purpose set forth.

3. The combination of the furnace *a*, covered at its upper end by the evaporating-pan *h*, having a supply-tube, *j*, casement *i*, open at its lower end, and fitting over the evaporating-pan, and pyramidal at its upper end, and composed of double walls *w*, and provided with vent-pipe *o*, door *l*, and racks q q^5, substantially as described, and for the purpose set forth.

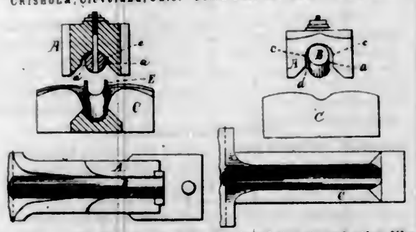
261,673. SCALE FOR PRINTED MATTER. JNO. H. CHATAIGNE, Richmond, Va. Filed Apr. 17, 1882. (No model.)



Claim.—1. A rule shaped substantially as shown, and provided with a central groove, in combination with slides on which are the names of the different kinds of type, and which catch at its center in the groove, and are provided with suitable prongs or handles, by which the slides can be moved, substantially as shown.

2. The combination of a rule shaped substantially as shown, and provided with a groove at its center, with a metallic plate secured to one end of the rule, and which forms pointers or projections, and one or more spring-slides, which are adapted to catch in the central groove and be adjusted back and forth upon the rule, substantially as set forth.

261,674. DIE FOR FORMING SHOVEL-STRAPS. WILLIAM CHISHOLM, Cleveland, Ohio. Filed Feb. 25, 1882. (No model.)

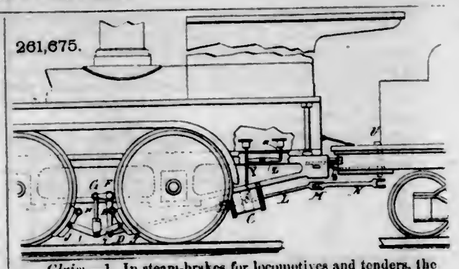


Claim.—1. For forming the shanks of shovels and other like articles, the combination of a mandrel with the shank or socket dies, the said mandrel being secured to the die A, whereby the shank or socket of the shovel is compressed around said mandrel into a circular form, or nearly so, in cross-section, and in length more or less along the strap or socket, substantially as set forth.

2. In combination with the upper die for forming the straps or shanks of shovels, the mandrel B, connected thereto, arranged in such relation to said die as to admit of the space *a* between the mandrel and die-face for the admission of the metal plate in forming and completing said shank, in connection with the die C, substantially in the manner as described.

3. In combination with dies for forming the shanks and sockets of shovels, &c., the mandrel B, secured to the die A, formed to correspond to the curve, bend, and shape of that portion of the handle secured in the said socket or shank, substantially as described, and for the purpose set forth.

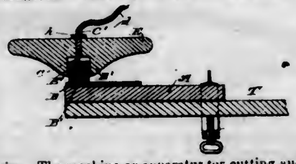
261,675. STEAM-BRAKE FOR LOCOMOTIVES AND TENDERS. DAVID CLARK and JOHN LEE, Hazleton, Pa. Filed May 15, 1882. (No model.)



Claim.—1. In steam-brakes for locomotives and tenders, the combination, with the lever M, connecting-rod L, and arm K, connected with the brake-shaft of the locomotive, and the lever O and connecting-rod P, connected with the brake-lever of the tender, of a connecting-bar, N, about equal in length to the coupling-bar *b*, substantially as herein shown and described, whereby the tension of the brake will not be affected by passing around curves, as set forth.

2. In steam-brakes for locomotives and tenders, the combination, with the valve of the steam-cylinder that operates the brakes, of the foot-standards Y *a* and connecting-lever Z, substantially as herein shown and described, whereby the engineer can control the brakes with his foot, as set forth.

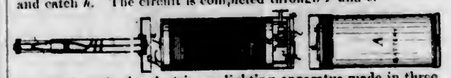
261,676. PAPER-CUTTING MACHINE. ELBERT J. CLARK, Winnebago, Ill. Filed Apr. 7, 1882. (No model.)



Claim.—The machine or apparatus for cutting and trimming paper herein shown and described, the same consisting of the graduated bed A, having holes *c c*, screws D D, slotted presser-bar B, and cutter C, mounted in a handle, E, having parallel guides E' E', the whole constructed and combined substantially in the manner and for the purpose herein shown and set forth.

261,677. APPARATUS FOR LIGHTING GAS BY ELECTRICITY. CHARLES L. CLARKE and JOHN LEIGH, Manchester, County of Lancaster, England. Filed Mar. 20, 1882. (No model.)

Brief.—The current passes from the battery through the ring *u*, spring *f*, post *e*, and wire 2 of the inner coil to the burner-tip, and back to the vibrating circuit-breaker *i*, operated by the button *f* and catch *h*. The circuit is completed through *v* and *o*.



Claim.—1. An electric gas-lighting apparatus made in three detachable sections with screw-connections, whereby they are adapted to screw together, the adjoining ends of the detachable sections having corresponding contact-fingers, substantially as described, whereby the requisite metallic connections between the sections are established by simply screwing the parts together.

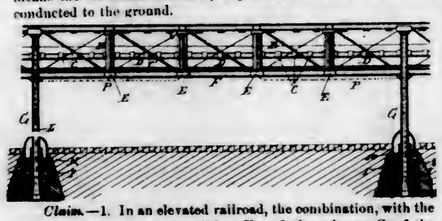
2. An electric gas-lighting apparatus consisting of three detachable sections adapted to be screwed together to form one portable instrument, one section composed of a tube carrying the terminal sparking-points, the middle section carrying the induction-coil, condenser, and circuit-breaker, and the third section comprising the battery, all substantially as described.

3. A portable gas-lighting apparatus consisting of an induction-coil, condenser, sparking-points, and circuit-breaker, with a battery, A, detachably secured to the induction-coil casing by a screw-ring, *c*, the said casing and battery having corresponding contact-points to form electrical connections when the battery is screwed to the casing.

4. An electric gas-lighting device having a circuit-breaker consisting of a contact-point and vibrator, with a push-spring, two-armed catch carried by the spring, and two stop-pins, substantially as set forth.

261,678. MODE OF CHECKING VIBRATIONS IN ELEVATED RAILROADS, &c. THOMAS COATES, Waterville, N. Y. Filed June 3, 1882. (No model.)

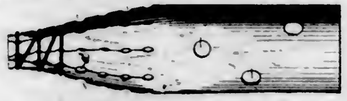
Brief.—Stringers and transverse girders are supported by hollow columns, in the interior of which are placed iron bars, the lower ends passing through the stone base and concrete foundation into the ground. Iron bars suitably connected to the transverse girders are also connected with the bars entering the ground, by which means the vibrations caused by a passing train are checked and conducted to the ground.



Claim.—1. In an elevated railroad, the combination, with the stringers D, the transverse girders E, and the columns G, of the iron bars N P L, substantially as herein shown and described, whereby the vibrations caused by a passing train are checked and conducted to the ground, as set forth.

2. The mode of checking vibrations in elevated railroads and other structures, substantially as herein shown and described, which consists in connecting iron bars with the frame of the structure, and then extending the said bars into the ground, as set forth.

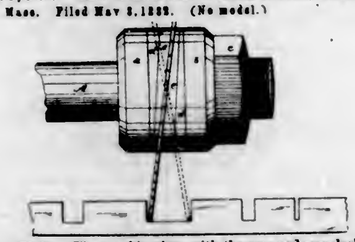
261,679. PERFORATED BOTTLE-PACKING. FREDERICK A. CORY, Lakeview, Mich., assignor of one-half to Charles H. Buckley, same place. Filed June 13, 1882. (No model.)



Claim.—1. A strip of veneer adapted for use as bottle-packing by means of a series of perforations disposed in parallel lines, and extending transversely over that portion only which constitutes the neck portion of the wrapper or packing, substantially as shown and described.

2. A bottle-wrapper the upper or neck portion of which comprises strips integral with the body portion, and having edges which from side to side are broken or notched, substantially as shown and described.

261,680 SAW-MANDREL. JOSEPH S. COOK, Whitinsville, Mass. Filed May 8, 1882. (No model.)



Claim.—The combination, with the saw and mandrel, of the washers *d* and *e*, one of which is provided with a series of peripheral notches, *i*, and the other with lug *l*, adapted to enter either of said notches *i*, for locking the two washers together and insuring the saw being properly held.

261,681. UMBRELLA-CLOTH. NORMAN COOK, New York, N. Y. Filed Feb. 12, 1881. (No specimens.)

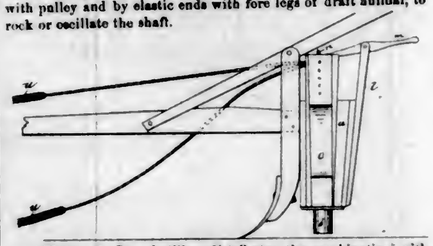
Brief.—The cloth is of a character known in commerce as "Italian cloth," and is composed when it leaves the loom of a double indigo-dyed cotton warp and an undyed woolen weft. The piece is dyed in a wool-dye. Both the warp and weft is thus given a permanent dye.



Claim.—The umbrella-covering fabric described, having an interior face composed principally of cotton-dyed yarns A, and an exterior face composed principally of wool-dyed yarns B, substantially as set forth.

261,682. FERTILIZER-DISTRIBUTER. JOHN T. COOPER, Somerville, Ala. Filed Oct. 10, 1881. (No model.)

Brief.—Vertical shaft with pulley and tapering feed-groove journaled in cross-bar having tenoned ends fitting adjustably in slots of upright arms attached to hopper, the ends of said bar being pressed by spring-plates to hold it in place. Lever for raising and lowering shaft, to regulate flow of fertilizer. Cord connected with pulley and by elastic ends with fore legs of draft animal, to rock or oscillate the shaft.



Claim.—1. In a fertilizer-distributer, the combination, with the hopper *a*, provided with slotted arms *c*, of a cross-head, *d*, vertically adjustable in said slotted arms, shaft *h*, journaled in the cross-head, and provided with a tapering groove, *k*, in its lower end, and lever *m*, substantially as described, and for the purpose set forth.

2. The combination, with the hopper *a*, slotted arms *c*, cross-head *d*, shaft *h*, turning in the cross-head, and provided with the tapering groove *k* and lever *m*, of the spring-plates *o*, provided with ratchet-teeth *p*, substantially as described, and for the purpose set forth.

3. The combination of the hopper *a*, slotted arms *c*, cross-head *d*, having bail *n*, spring-plates *o*, provided with ratchet-teeth *p*, shaft *h*, having tapering groove *k*, and pulley *i*, standard *l*, and lever *m*, substantially as described, and for the purpose set forth.

261,683. CAR-COUPLING. FRANCIS CONDREY, Fort Wayne, Ind. Filed June 1, 1882. (No model.)



Claim.—In a car-coupling, the rock-shaft B, supported in bearings above the draw-head and bent, at or near its center, to form the depending crank-bend B', which extends beneath the draw-head of the car, in combination with the curved bail E, secured to the horizontal portion of the crank-bend, and projecting upward through the bottom wall of the draw-head, substantially as shown and described.

261,684. WIND-WHEEL. FRANK G. CORNELL, Grand Rapids, Mich., assignor to the Cornell Manufacturing Company, of Michigan. Filed Feb. 16, 1881. (Model.)

Brief.—A solid wheel provided with a hinged tail-vane and with a regulating-vane in front of said wheel, which, under an excessive pressure of wind, operates the tail-vane, thereby throwing the wind-wheel out of the wind.

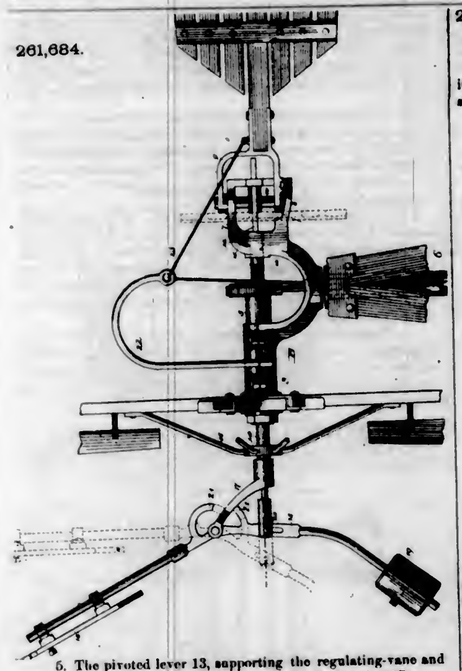
Claim.—1. In a windmill, the combination of the rigid wind-wheel mounted in front of its bearings, the pivoted tail-vane and a regulating-vane pivoted in front of the main wheel and connected directly to the tail-vane, whereby the movement of the said regulating-vane under excessive pressure of the wind will turn the tail-vane to one side and tend to throw the wheel out of the wind, substantially as described.

2. The combination of the main casting B, supporting the shaft of the main wheel on one branch and provided with arms 7 and 8 on the other, in combination with the shaft 9 of the tail-vane, the pivot 10, and the rack-and-pinion connection, whereby the said tail-vane is connected to the regulating-vane, substantially as described.

3. The combination, with the main wheel, of the hollow shaft supported in the main casting B, the sleeve 5 and eccentric thereon the tube 14, and bracket 17, whereby the regulating-vane is supported in front of the main wheel, substantially as described.

4. The combination, with the main shaft, pipe 14, and bracket 17, of the spider 16, substantially as described.

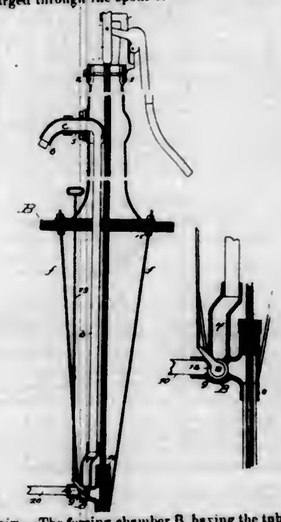
261,684.



6. The pivoted lever 13, supporting the regulating-vane and having the stops 21 21, in combination with the bracket 17.

261,685. PUMP. FRANK G. CORNELL, Grand Rapids, Mich., assignor to the Cornell Manufacturing Company, of Michigan. Filed Jan. 27, 1882. (No model.)

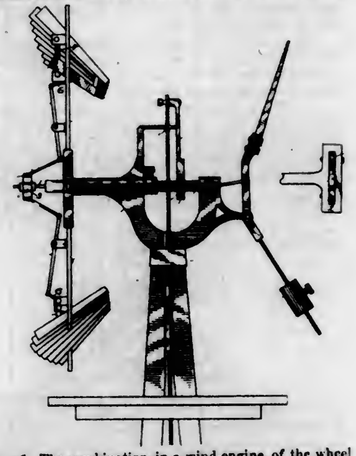
Brief.—The water elevated by the pump can, by turning the cock 12, be turned into an underground tank through pipe 10 or be discharged through the spout 6.



Claim.—The forcing-chamber B, having the tubular parts connecting to the discharge-pipes, and the part 8 in line with the piston-rod, in combination with the said discharge-pipes, the pipe extending into the well with the piston-rod, and with the aligning and sustaining rods *f f*, connected to the platform, substantially as described.

261,686. WIND-ENGINE. FRANK G. CORNELL, Grand Rapids, Mich., assignor to the Cornell Manufacturing Company, of Michigan. Filed Jan. 27, 1882. (Model.)

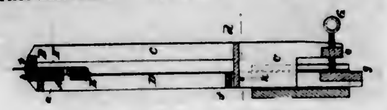
Brief.—The rod is much shortened in front by connecting its front end to the sections *o* by levers 4, 5, and 6, instead of by a single rod.



Claim.—1. The combination, in a wind-engine, of the wheel mounted in rear of the head, a governor-vane in front of said head and a rod connected to the governor-vane, and sections of fans connected to said rod by means of levers and links, substantially as described.

2. The combination, in a wind-engine, of the wheel mounted in rear of the head, and a governor-vane in front, and a rod connected to the governor-lever, and sections of fans connected to said rod by means of the links 4 6 and the levers 5, substantially as described.

261,687. SAW-SET. JOHN P. CONRAD, Poughkeepsie, N. Y. Filed Mar. 20, 1882. (No model.)

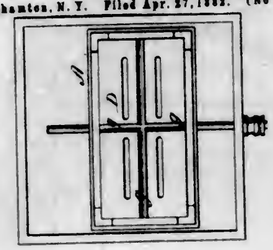


Claim.—1. The frame C, having the jaw B, offset *c*, cross-plate *d*, and cross-bar *e*, and the frame D, having the jaw A, bolster E, slots *h*, and cross-plates *f* and *g*, combined with the connecting-bolt *i* and set-screw G, substantially as and for the purpose described.

2. In a combined saw-set and vise having two jaw-carrying frames, one of such frames, D, having longitudinal slots *h*, combined with a bolt, *i*, connecting the two frames, substantially as shown and described, whereby the frames may have a vertical adjustment, and also be moved toward and from each other.

3. The combination, substantially as shown and described, of jaws A B, jaw-carrying frames D C, bolt *i*, set-screw G, adjustable bolster E, and bevel-anvil F, constructed and arranged to operate as and for the purpose specified.

261,688. BALANCED SLIDE-VALVE. JOHN J. DE LANCEY, Binghamton, N. Y. Filed Apr. 27, 1882. (No model.)



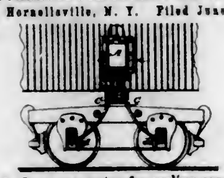
Claim.—1. The balance-plate D, formed with flanges and oil-grooves, as shown and described, in combination with the slide-valve A, face-plate C, and steam-chest, substantially as described.

2. The balance-plate D, formed with flanges and oil-grooves, in combination with a slide-valve provided with spring-actuated packing-bars *c*, and the face-plate C, substantially as described, and for the purpose set forth.

3. In slide-valves, the balance-plate D, fitted for movement with the valve, and formed with oil-grooves upon its upper side, in combination with face-plate C, having a central aperture, *m*, substantially as shown and described.

4. The combination of the slide-valve A, formed with perpendicular faces, the square packing-bars *c*, fitted in grooves in the upper edges of the valve, the balance-plate D, provided with oil-grooves upon its upper side, and the face-plate C, supported by the rests *k*, all substantially as described, for operation as set forth.

261,689. APPARATUS FOR COOLING CAR-AXLES. STEPHEN W. DOANE, Hornellsville, N. Y. Filed June 2, 1882. (No model.)



Claim.—1. In an apparatus for cooling car-axles, a tank or reservoir adapted to be detachably secured to the side of a car, and provided with stop-cocks and with rubber hose having metallic tips or ends which pass through holes in the axle-boxes for supplying water to the axles, substantially as and for the purpose specified.

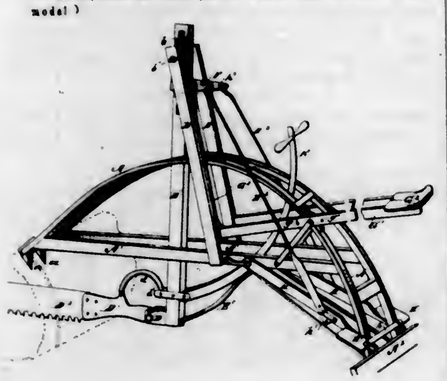
2. In an apparatus for cooling car-axles, a tank or reservoir adapted to be detachably secured to the side of a car, and provided with stop-cocks and with rubber hose having metallic tips or ends, and screw-attachments for holding said tips or ends at any suitable point, substantially as and for the purpose specified.

261,690. FASTENING FOR GLOVES, &c. BENJAMIN D. EATON, Johnstown, N. Y. Filed May 8, 1882. (No model.)



Claim.—The plates A, pivoted together at *a*, the spring *b*, secured to one of said plates and extending to a point slightly above the pivotal point *a*, and the bar *c*, pivoted to the spring and extended across above the point *a*, and pivoted to the opposite plate, as set forth.

261,691. SAWING-MACHINE. LUCIUS S. EDELBLUTE, Cincinnati, Ohio, assignor of one-half to Rufus P. White and Horace W. Smith, both of same place. Filed May 16, 1881. (No model.)



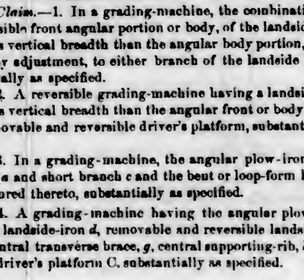
Claim.—1. The combination of the saddle G^3, secured to the levers G', the latter being pivoted to the supporting-frame, the connecting-rods G^3, and bracket F, adjustably secured to the saw-lever B' in such a manner as to be capable of longitudinal adjustment on said saw-lever, substantially as and for the purposes specified.

2. The combination of the stirrups H', secured to one end of the levers H, the other ends of said levers being pivoted to the supporting-frame of the machine, the connecting-rods H^3, and bracket F, adjustably secured to the saw-lever B' in such a manner as to be capable of longitudinal adjustment on said saw-lever, substantially as and for the purposes specified.

3. In a sawing-machine, the combination of the supporting-frame A A', the levers G', adjustably secured to said frame and provided with the saddle G^3 and rods G^3, the levers H, adjustably attached to the supporting-frame and provided with the stirrups H' and rods H^3, the saw-lever B' and bracket F, adjustably secured to the said saw-lever, and the hand-lever E, substantially as and for the purposes specified.

4. The combination of the saw-lever B' and hand-lever E, the latter being secured to the former, and capable of being held at any desired angle to said saw-lever by the brace E', said brace being provided with adjusting-slot *e*, substantially as and for the purposes specified.

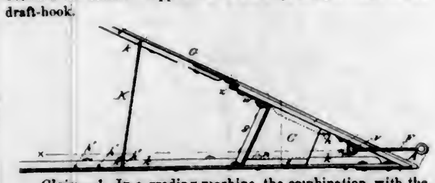
261,692. WAGON-AXLE CUTTER. FREDERICK L. ELLIS and JAMES M. ELLIS, Millsdale, assignors to J. B. Savage, Southington, Conn. Filed Sept. 8, 1881. (No model.)



Claim.—The combination of the revolving cutter-head having the tool-post mounted thereon and made adjustable radially, and the universal jaws for adjusting the cutter-head concentrically upon the axle-arm, substantially as described, and for the purpose specified.

261,693. GRADING-MACHINE. SILVANUS P. EVANS, Georgetown, Ohio. Filed Apr. 26, 1882. (No model.)

Brief.—Main portion consists of a long side and a short side secured to a loop-iron on the landside. An extension of less vertical breadth than the loop-iron is reversibly secured to either wing thereof. A reversible and angularly-adjustable wing-extension is detachably secured to either branch of the oblique wing, and is adjusted by a hook-brace. The main portion is braced, and has a reversible driver's seat, one edge of which rests on a cleat, the other between the braces. Upper and lower loops are provided for the draft-hook.



Claim.—1. In a grading-machine, the combination, with the reversible front angular portion or body, of the landside-extension, of less vertical breadth than the angular body portion, and reversible, by adjustment, to either branch of the landside thereof, substantially as specified.

2. A reversible grading-machine having a landside-extension of less vertical breadth than the angular front or body portion, and a removable and reversible driver's platform, substantially as specified.

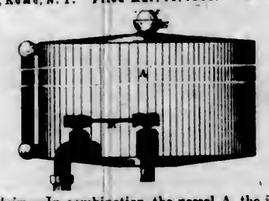
3. In a grading-machine, the angular plow-iron having the wing *a* and short branch *c* and the bent or loop-form landside-iron *d* secured thereto, substantially as specified.

4. A grading-machine having the angular plow-iron, loop-form landside-iron *d*, removable and reversible landside-extension B, central transverse brace, *g*, central supporting-rib, *h*, and reversible driver's platform C, substantially as specified.

5. In a grading-machine having the landside-iron *d*, landside-extension B, and oblique grading-wing G, the double-loop hitch D, secured to said wing in rear of the angular end of the grader and off from the landside, and the draft-link F, connected to the upper loop of the hitch and extending over the top of the wing, substantially as specified.

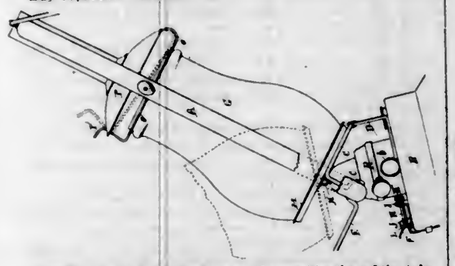
6. A road-grading machine having an oblique grading-wing, and hinged thereto the reversible and angularly-adjustable wing-extension G, and the adjustable brace K, connecting said wing-extension to the extension of the landside, substantially as specified.

261,694. CONDENSER FOR ALE AND BEER. JAMES W. EVENDEN, Rome, N. Y. Filed Mar. 10, 1882. (No model.)



Claim.—In combination, the vessel A, the inlet-cock B, outlet-cock C, and a rod, M, for connecting the two together, whereby fresh ale or beer is admitted into the vessel as often as the cock C is turned, substantially as shown.

261,695. LANTERN. GEORGE E. FIFIELD, Danforth, Me. Filed May 15, 1882. (Model.)



Claim.—1. In a tubular lantern, the combination of the tube A, parted in its lower horizontal sections, *a*, with the supporting-wire C, as shown and described.

2. The combination of the lamp B, provided with short horizontal tubes *b*, and the tubes A, carrying the globe G, matching the horizontal section *a* of the tube A to the horizontal tubes *b*, as shown and described.

3. In a tubular lantern, the combination, with the lamp B, of the tubes A, carrying the globe G, and the bent wire C, attached to the tubes A and hinged to standards D, projecting from the top of the lamp, substantially as herein shown and described, and for the purpose set forth.

4. In a tubular lantern, the combination, with the lamp B, of the tubes A, the hinge-wire C, the circularly-bent wire E, and the latch F, substantially as herein shown and described, and for the purpose set forth.

5. In a tubular lantern, the combination, with the lamp B, of the tubes A, the hinge-wire C, the circularly-bent wire E, the latch F, and the locking-rod H, substantially as herein shown and described, and for the purpose set forth.

6. In a tubular lantern, the combination, with the lamp B, of the hinged tubes A, carrying the globe G, and having their lower ends, *a*, cut off on a bevel to fit short beveled projecting tubes *b* of the lamp B, substantially as herein shown and described, and for the purpose set forth.

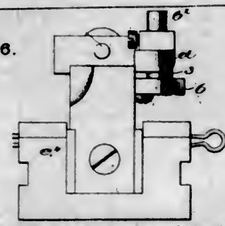
7. The combination, with the globe G, hinged wire C, and plate M, of the spiral springs N, connecting said plate M and wire C, as shown and described.

8. In a tubular lantern, the combination, with the tubes A, of the swinging globe-supporting plate M and the springs N, substantially as herein shown and described, and for the purpose set forth.

261,696. HEEL-TRIMMING MECHANISM. MOSES FIFIELD, Natick, assignor to James W. Brooks, Trustee, Cambridge, Mass. Filed June 17, 1882. (No model.)

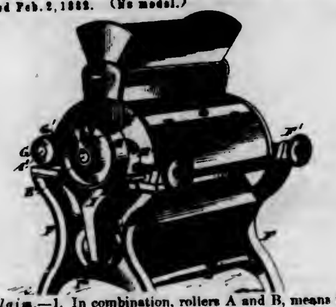
Brief.—Improvement on Letters Patent No. 166,795, dated August 17, 1875.

261,696.



Claim.—In a heel-trimming machine having a knife, *d*', the adjustable plate *b*, having the pin *b*', combined with the vertically-adjustable gage *d*, having a straight side, S, whereby the face of the gage may be adjusted in the line of the face of the knife, and the same knife be adapted to form heels of different heights, substantially as described.

261,697. ROLLER-MILL. JOHN M. FINCH, Jackson, Mich. Filed Feb. 2, 1882. (No model.)



Claim.—1. In combination, rollers A and B, means for adjusting one of the same in relation to the other independently of its driving mechanism, and driving mechanism which is adjustable independently of the relative position of the rolls, substantially as set forth.

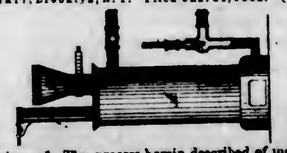
2. In combination with the rolls A and B, one of which is adjustable, wheels or pulleys G and H, stud I', supporting-wheel H, and dog K, and suitable means for connecting the dog to the wheel and roll shaft, so as to transmit motion from one to the other, substantially as set forth.

3. In combination with the shaft B' and wheel H, the bracket and stud I I', supporting the wheel at its center independently of the shaft, and leaving the shaft free to be moved with the adjustment of the roll without affecting the wheel, substantially as set forth.

4. In a roller-mill, the bracket I I', the frame F, and the pulley or wheel H, in combination with the eccentric-bolt L L', for adjusting the driving mechanism independently of the roller-shaft, substantially as set forth.

5. In a roller-mill, in combination with the shaft B', a wheel, H, which is independently adjustable and independently supported in line with the axis of said shaft, and suitable means for connecting said wheel with the shaft in such manner as will cause motion to be communicated from one to the other without reference to the adjustment of either, substantially as set forth.

261,698. PROCESS OF MANUFACTURING GAS. THOMAS B. FOGARTY, Brooklyn, N. Y. Filed Jan. 24, 1882. (No model.)



Claim.—1. The process herein described of manufacturing gas, which consists in injecting or forcing air and steam into or through incandescent carbon in a suitable producer; then passing the gas produced thereby through a condenser to remove undecomposed steam; then passing the gas through carbon and alkali raised to a high temperature; then injecting steam into the same; then passing the gas into a highly-heated retort and again injecting steam, and then purifying the gas by washing it with ammoniacal liquor substantially as described.

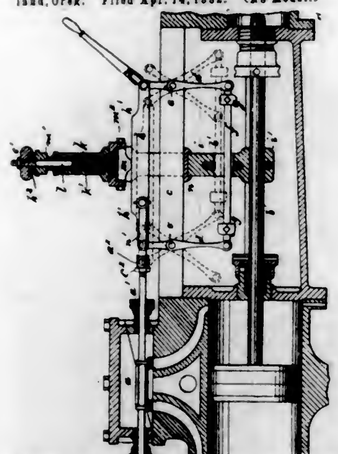
2. In the production of gas by the decomposition of steam, the process of removing nitrogen from the same, which consists in separating or removing the undecomposed steam from the crude gas, then causing such gas to pass through carbon and alkali raised to a high temperature, and then injecting steam into the gas at a lower temperature, substantially as described.

261,699. HORSE HAY-FORK. CHAS. E. FRIEL, Fredericton, New Brunswick, Canada. Filed June 2, 1882. (No model.) Patented in Canada Nov. 12, 1881, No. 13,888.



Claim.—In a horse hay-fork, the combination of the longitudinally-slotted stock A A, having bolts *d*, *e*, *g*, and *k* and fixed hook S, sliding bar D, having oblong slots *d'* and *e'* and projecting arm D', trigger-lever B, link C, locking-link E, having notches *f h* and solid point F, pivoted on bolt *k*, all constructed and combined substantially as and for the purpose herein shown and set forth.

261,700. DIRECT-ACTING STEAM-PUMP. JOHN GATES, Portland, Oreg. Filed Apr. 14, 1882. (No model.)



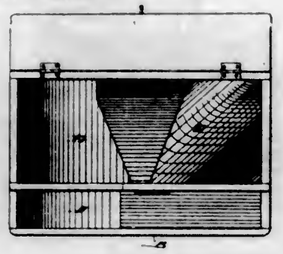
Claim.—1. In direct-acting engines, the combination of pivoted rock-bars *d*, collar-bar *f*, shuttle-bar *h*, connected to the valve-stem, and spring-dog *m*, carried by the piston-rod, substantially as described, for operation as specified.

2. The combination, with the valve-stem *a'*, the pivoted bar *d*, the fixed guide *b'*, and collar-bar *f*, of the shuttle-bar *h*, connected to the valve-stem by link *n'*, the tubular post *k*, the spring-actuated rod *l*, and the dog *m*, substantially as and for the purpose set forth.

3. The combination of check-nut a^3, collar a^2, links *n'*, and valve-stem *a'*, substantially as described.

4. In direct-acting engines, the standards *i*, post *k*, spring *k'*, rod *l*, dog *m*, shuttle-bar *h*, and side bars, *c*, substantially as described, combined for operation as set forth.

261,701. COAL-BOX. PETER GORMON, Buffalo, N. Y. Filed Mar. 17, 1882. (Model.)



Claim.—1. The combination, with the box provided in its side with a bottom opening, C, of the projecting trough B, provided with an incline, D, from the upper edge of one end to about the middle and of the beveled blocks E on the bottom of the box in the inner corners, substantially as herein shown and described, and for the purpose set forth.

2. The combination, with the box A, provided with an opening, C, of the trough B, provided with an incline, D, the beveled blocks E, and the cover H for part of the trough B, substantially as herein shown and described, for the purpose set forth.

261,702. CAR-COUPLING. RICHARD E. GRAY, Williamsport, Pa. Filed May 31, 1882. (No model.)



Claim.—1. The combination of the draw-bar, the pivoted hook-coupling device thereof, the coupling-pin, and a guide or support for said pin above said coupling-hook, so as to permit said pin to automatically lock said coupling-hook to the draw-bar when in its coupling position, substantially as described.

2. The combination, substantially as hereinbefore set forth, of the draw-bar, the pivoted hook-coupling device thereof, the coupling-pin, the guide or support for said pin above said coupling-hook, so as to permit said pin to automatically lock said coupling-hook to the draw-bar when in its coupling position, and mechanism, substantially as described, extending to the side of the car to raise said pin to uncouple the cars.

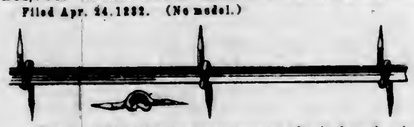
3. The combination, substantially as hereinbefore set forth, of the draw-bar, the pivoted hook-coupling device thereof, the coupling-pin, and the latch to uphold said pin to prevent the coupling-hook being locked by an accidental or unauthorized movement of said hook.

4. The combination, substantially as hereinbefore set forth, of the draw-bar, the pivoted hook-coupling device thereof, the coupling-pin, the latch to uphold said pin, and a pivot common to said coupling device and said latch.

5. The improved twin coupling hereinbefore described, consisting of the combination of the draw-bars, the pivoted hooks thereof, the coupling-pins, and the latches to uphold said pins.

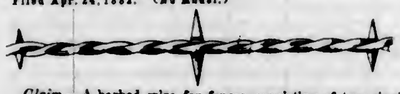
6. The combination, substantially as hereinbefore set forth, of a draw-bar and its coupling devices, an arm or bar constituting a guide for the vertically-moving coupling-pin of said coupling devices, a forked frame, one of the members of which is fastened above and the other below said draw-bar, and a lever extending to the side of the car, having its fulcrum in said forked frame and connected with the coupling-pin to raise it.

261,703. BARBED FENCE-WIRE. JACOB HAISH, De Kalb, Ill. Filed Apr. 24, 1882. (No model.)



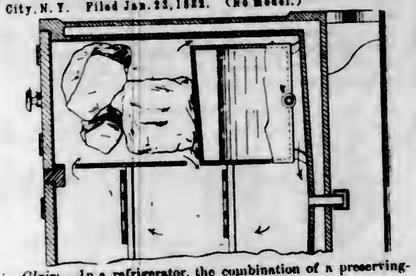
Claim.—A barbed fence-wire composed of a single main wire provided with a longitudinal depression to form two sharp corners, as described, and a series of wire barbs wound around the main wire and rigidly secured thereto by depressing portions of the wire barbs into the depression in the main wire, whereby the sharp corners of the depression are caused to indent the wire barbs, substantially as and for the purposes described.

261,704. BARBED FENCE-WIRE. JACOB HAISH, De Kalb, Ill. Filed Apr. 24, 1882. (No model.)



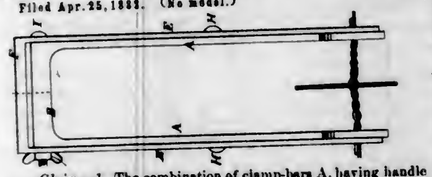
Claim.—A barbed wire for fences, consisting of two single wires, each provided with a longitudinal groove, and straight metal barbs provided with uneven surfaces, the two wires being twisted upon each other and around the barbs, which are held in place between the two wires by such twisting and by the grooves in the wires and the uneven surfaces of the barbs, substantially as specified.

261,705. REFRIGERATOR. JOSEPH HAMMERL, Long Island City, N. Y. Filed Jan. 23, 1882. (No model.)



Claim.—In a refrigerator, the combination of a preserving-chamber, an ice-box, a partition with air-openings *d d'*, a water-cooler supported by the bottom of the refrigerator and having a sloping top, which constitutes the bottom of the ice-box and serves as a water-shed to direct the drip-water to the preserving-chamber, from which it runs to the trap therein, and the air-flue H, whereby two continuous currents of air are maintained from the ice-box to the preserving-chamber, one through said flue and the other through the opening *d'*, and one current from the preserving-chamber to the ice-box, substantially as described.

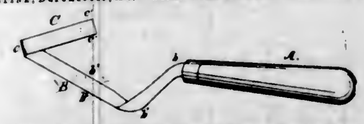
261,706. WIRE-SPLICER. FRANK M. HARRIS, St. Charles, Mo. Filed Apr. 25, 1882. (No model.)



Claim.—1. The combination of clamp-bars A, having handle B and notches C, with the clamp-bars E, having handle F and notches G, substantially as specified.

2. The handle F, having bars E, provided with notches G and slots K, in combination with handle B, having bars A, provided with notches C, rivets H, and bolt I, substantially as specified.

261,707. HAND WEEDER AND SCRAPER. SPURGEON I. HASELTINE, Dorchester, Mo. Filed June 8, 1882. (No model.)

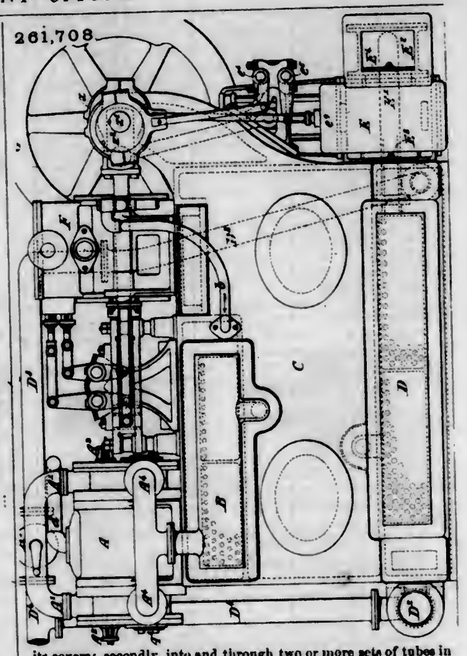


Claim.—1. A hand weeder and scraper composed of a handle and a blade, B C, set off therefrom, the blade extending at an angle with the line of the handle and turning back upon itself at an acute angle, substantially as shown and described.

2. An improved hand weeder and scraper, composed of a handle, A, and a sharp cutting-blade, B C, set off therefrom, the extending part of the blade B having the cutting-edges b^2 b^2 in a line at an angle with the line of the handle, and turning back upon itself at an acute angle, *c*, and a returning cutting-blade, C, having cutting-edges *c' c'*, substantially as herein shown and described.

3. An improved hand weeder and scraper, composed of a handle, A, and a blade, B C, having the cutting-edges b^2 b^2 *c' c'*, the extending part of the blade B making an acute angle with the line of the handle, and at a point, *c*, being in a line with the line of the handle, turning back upon itself at an acute angle and forming the returning-blade C, substantially as shown and described.

261,708. REFRIGERATOR FOR COOLING AIR. ALFRED SEALE HASLAM, Derby, County of Derby, England. Filed Dec. 17, 1881. (No model.) Patented in England June 22, 1881, No. 2,740.



Brief.—The air in being cooled never comes in direct contact with the heat-absorbing water circulating around and through it, so it can absorb no moisture therefrom, and the moisture originally in the air is reduced by being converted into snow and removed.

Claim.—1. A refrigerator in which the air to be cooled passes, first, into a compressor, A, cooled externally by water flowing around its spirally-channeled cylinder and around the valves in its covers; secondly, into and through two or more sets of tubes in a condenser, B, situate immediately beneath the said compressor A, within which tubes the moisture in the air is condensed by the action of the water flowing around them; thirdly, to an air-reservoir—such as C—the greater part of which reservoir is situate immediately beneath the said condenser B, and serves also as a bed-plate for the engine F; fourthly, into and through the tubes of a collector and separator, D, the space within the said collector and around the said tubes being connected by pipes with the air-expansion cylinder E, the cold room and the compressor A, as and for the purpose specified; fifthly, into an air-expansion cylinder, E, situate midway of the end of the refrigerating apparatus and vertically beneath the crank-shaft of the motive-power engine F, which engine is arranged on a level with the compressor A, and above the condenser B and air-reservoir C, the whole of the several parts above named being arranged substantially as and for the purpose specified.

2. The combination of the compressor A, condenser B, collector D, expansion-cylinder E, and engine F, in the manner and for the purpose herein specified.

3. An air-compressor having spiral channels around its cylinder for the circulation of the water, whereby it is cooled, and channels in its end covers around the inlet and outlet valves of the compressor, whereby they may be cooled by the said water, the said inlet and outlet valves being constructed and arranged as and for the purpose set forth.

4. In an air-compressor, an inlet-valve consisting substantially of a valve-disk having a central stem (preferably made hollow for strength and lightness) working within a fixed sleeve, and connected by means of buffed cap-piece and a rod, or its equivalent, with a spiral spring contained within a casting situate on the outside of the cylinder-cover, the whole arranged and operating as and for the purpose specified.

5. In an air-compressor, an air-outlet valve consisting substantially of a valve-disk having a hollow stem working within a fixed sleeve fitted in the cylinder-cover, and accessible from the outside thereof, in combination with a rod situate within the hollow sleeve, one end of said rod bearing against a spiral spring contained within the hollow stem of the valve-disk, and a second spiral spring or an equivalent elastic medium placed around the rod situate centrally within said sleeve, whereby shock to the working parts is prevented, all substantially as and for the purpose specified.

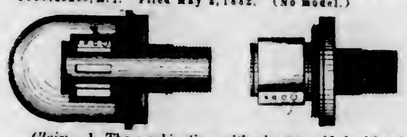
6. In combination with the condenser of a refrigerating-machine, in the tubes of which condenser the compressed air is cooled by water circulating around them, a collector and separator wherein

the compressed air is further cooled and freed from moisture, such collector and separator being constructed and connected by pipes and valves with the compressor, the expansion-cylinder, and the cold room in the manner and for the purpose specified.

7. In a refrigerating-machine, an expansion-cylinder—such as E—fitted on one side or face with a supply-valve, and a cut-off valve made adjustable in the manner described, and on the opposite or an adjacent side or face with an exhaust-valve, which allows the expanded air to pass off through short straight ports, the said exhaust-valve being capable of adjustment in the manner shown and readily accessible from the snow-box, which is fitted with a cover of wood or other light non-conducting material, all substantially as and for the purpose specified.

8. In combination with the toothed fly-wheel of a refrigerator, the safety starting device hereinabove described, consisting substantially of a lever, g^3, in combination with a short arm or rocking piece, g', carrying a pawl, g, and a spring, g^2, as and for the purpose specified.

261,709. AUTOMATIC FIRE-EXTINGUISHER. OSRO C HEATH, Providence, R. I. Filed May 2, 1882. (No model.)



Claim.—1. The combination, with a base provided with a distributer designed to spread water or other fluid, of a cap adapted to cover and protect the distributer, and a base-plate secured with low fusible material to the cap and detachably fastened to the base, as and for the purpose set forth.

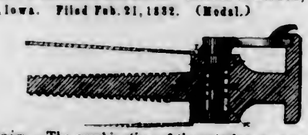
2. The combination, with the screw-threaded base provided with a distributer designed to spread water or other fluid, of a cap adapted to cover and protect the distributer, and secured with low fusible material to a base-plate, and the base-plate provided with a screw-thread, substantially as and for the purpose set forth.

3. The combination, with the screw-threaded base provided with the lateral flange, and a distributer designed to spread water or other fluid, of the cap, the base-plate having the screw-thread and the polygonal peripheral surface, and a packing-annulus, substantially as and for the purpose set forth.

4. A revolving distributer having a series of perforations or fluid-exits in its side of progressively greater diameters from the top to the bottom of the distributer, substantially as set forth.

5. The combination, with a base provided with a distributer designed to spread water or other fluid, and a cap adapted to cover and protect the distributer, of an interposed plate detachably fastened to said base and firmly secured to the cap with a low fusible material, as and for the purpose set forth.

261,710. WHIFFLETREE-HOOK. ALONZO D. HICKOX, Columbus City, Iowa. Filed Feb. 21, 1882. (Model.)



Claim.—The combination of the rotating snap consisting of the vertical pivotal part around which the spring is wrapped, and the horizontal arm which catches in the notch made in the hook, with the body of the hook having the chamber E made in it, the said chamber being provided with a stop upon its top, a vertical notch through its top, and a slot made in its interior, substantially as shown.

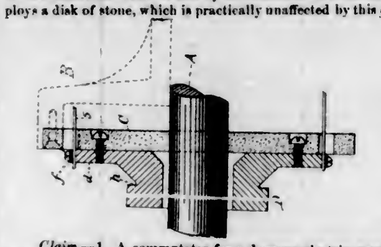
261,711. SPINNING AND DOUBLING MACHINE. ENOCH HIRD, Bolton, County of Lancaster, England. (No model.) Patented in England Aug. 9, 1880, No. 3,243; in Germany Feb. 15, 1881, No. 16,604; in France Feb. 28, 1881, No. 141,405, and in Belgium Mar. 2, 1881, No. 53,991. Filed Nov. 5, 1881.



Claim.—The combination, with the bolster-rail B, traverse-rail M, elongated bolster E, and spindle D, of the bobbin-stand having the nut E^3 at the lower end, the loose collars o o, the washer p, shrunk on the top of stand, the sleeve having nut E', and flanged sleeve E^2, as and for the purpose specified.

261,712. COMMUTATOR FOR DYNAMO-ELECTRIC MACHINES. WILLIAM HOCHHAUSER, New York, N. Y. Filed Mar. 2, 1882. (No model.)

Brief.—To avoid the difficulties which arise from the warping of the disk supporting the commutator-plates in commutators of this character when heated by the action of the machine employs a disk of stone, which is practically unaffected by this cause.



Claim.—1. A commutator for a dynamo-electric machine or electric motor, constructed of a supporting plate or disk of stone, to the face of which are directly secured the commutator plates or segments.

2. As a new article of manufacture, a commutator for a dynamo-electric machine or electric motor, constructed substantially in the manner described, of a disk of stone, E, and commutator-plates D d, the angular portions d of which rest against the face of the disk with an extended bearing-surface and are secured directly thereto.

3. The combination of the spider-arms, the insulating-disk of stone secured directly to said spider-arms, and the commutator-plates attached directly to the face of the disk.

4. The combination, substantially as shown and described, of the commutator angle-plates D d, the clamping-seats formed upon the upper end of the portions d, clamping-plates f, a disk of stone supporting the commutator-plates, and conductors from the armature passing through perforations in the disk C.

5. The combination, substantially as described, of a supporting-disk of stone, the angle-plate D d, cast in one piece, the conductor-wire from the armature resting upon the end of said plate, and clamping-plate f.

6. The combination, substantially as described, with a supporting-disk of stone, of commutator-plates, each consisting of a longitudinal portion forming a bearing for the commutator-brush, and a portion extending at right angles from the first-named portion, with an extended flattened bearing-surface, as shown, and seated against the supporting-disk, and means, as described, for holding the latter portion against the disk.

261,713. LIFE-PRESERVING MATTRESS. MARSHALL H. HOLMES, St. Paul, Minn., assignor to himself and JACOB R. STAINER, same place. Filed Jan. 17, 1882. (No model.)



Claim.—The combination of a buoyant mattress having a central aperture removably filled, the surrounding buoyant frame B, sliding in ways of state-room, the straps b c, the handles d, the ropes f, and the strap G, secured at its ends under cross-pieces g of frame b, substantially as shown and described.

261,714. ELEVATOR. JOHN V. HOPE, Wednesbury, County of Stafford, England. Filed June 28, 1882. (No model.)

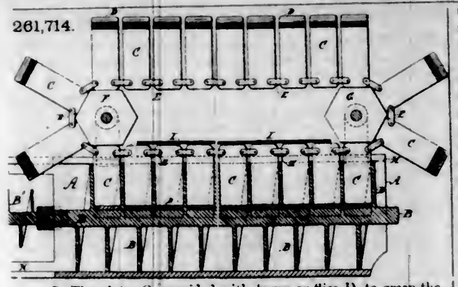
Claim.—1. The method of preventing the grain or liquid raised in a screw-elevator from slipping back, which consists in stopping up each space between complete revolutions of the screw with a movable stop capable of a vertical motion only when in the screw.

2. The method of loosening the grain beneath an elevator, consisting in digging into it with a rotating series of vanes or cutters.

3. The combination of the Archimedean-screw elevator and a series of plates, one entering it at each revolution of the screw and rising with the grain in a vertical line to the top.

4. The combination of the tube A with slot H and series of plates C, projecting through the slot and guided thereby, substantially as described.

261,714.



5. The plates C, provided with horns or flies D, to grasp the screw-shaft, and guided at the other end by slot H.

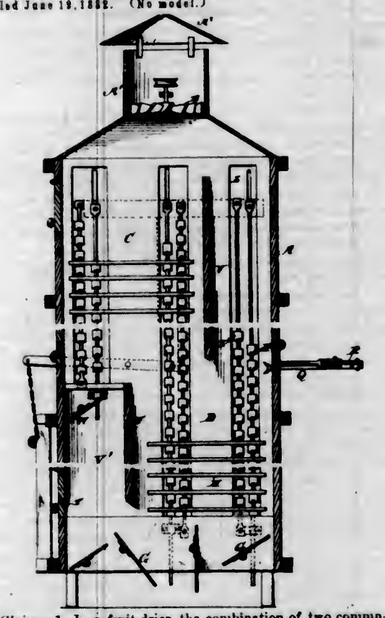
6. The combination of the tube A, legs N, and the revolving chain of plates C.

7. The combination of the tube A, split for the passage of the plates C, and the casing I, substantially as and for the purposes described.

8. In combination with a screw-elevator, chain E of plates C, passing over pulleys F G at top and bottom, and being propelled by motion of the screw.

9. In combination with a screw, B, and traveling plates C, a small subsidiary feeding-screw, B'.

261,715. FRUIT-DRIER. CLARENCE HOPKINS, Milford, Del. Filed June 19, 1882. (No model.)



Claim.—1. In a fruit-drier, the combination of two communicating compartments, D and C, arranged one above the other in different vertical planes, a passage leading from the lower compartment to the upper part of the drier, a passage leading from the bottom part of the drier to the lower compartment, and mechanism for causing the fruit-carrying trays to ascend through both of said communicating compartments, substantially as described.

2. The combination, in a fruit-drier, of the two communicating compartments D and C, located in different planes, with a passage leading from the lower compartment to the top of the drier, a passage leading from the bottom of the drier into the upper compartment, the dampers at the bottom of the drier for controlling the admission of air, mechanism for raising the trays, and devices for shifting horizontally the trays from one compartment into the other, substantially as described.

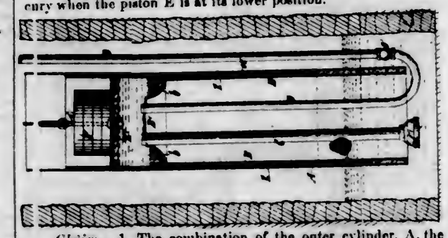
3. The combination, in a fruit-drier, of the two communicating chambers D and C with the mechanism for shifting the trays from one compartment into the other, consisting of the horizontally-sliding rods passing through the casing, and the pivoted levers for actuating said rods, substantially as described.

4. In a fruit-drier, the combination, with the upper and lower communicating compartments, C and D, arranged in different vertical planes, of the fixed bars I, arranged respectively in the upper and lower compartments, and each provided with a series of pivoted arms, I', the vertically-reciprocating bars K, arranged respectively at the sides of the fixed bars, and provided with pivoted arms K', frames N, connected with the reciprocating bars, and mechanism for alternately raising and lowering said frames, substantially as described.

5. In a fruit-drier, the two chambers C and D, arranged one above the other in different vertical planes, the lower part of the chamber C communicating with the upper part of the chamber D through a horizontal passage, in combination with mechanism for elevating the fruit-trays through both of said chambers, and means whereby the trays may be transferred from the upper part of the lower chamber into the lower part of the upper chamber, substantially as described.

261,716. LIQUID-ELEVATING APPARATUS. JACOB C. HOUSTON, New York, N. Y., assignor to Joseph M. Deuel and George W. Olney, same place. Filed Jan. 17, 1882. (No model.)

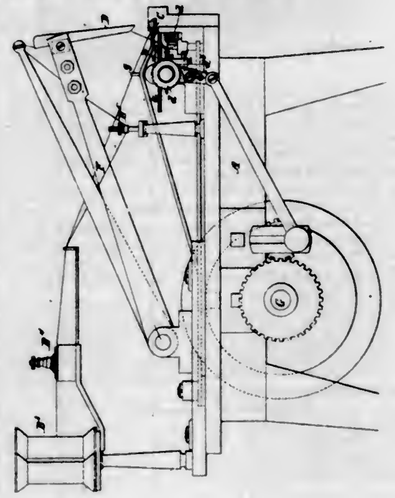
Brief.—The space b forms a reservoir for the surplus mercury when the piston E is at its lower position.



Claim.—1. The combination of the outer cylinder, A, the inner cylinder, B, open at the bottom, and its head B', closing the upper end, the suction and discharge pipes C and D, extending upward through the inner cylinder and through the head B', and the hollow cylindric piston E, substantially as specified.

2. The combination of the outer cylinder, A, the inner cylinder, B, provided with the head B' and the annular reservoir b for mercury, the suction and discharge pipes C D, projecting through the head B', and the hollow cylindric piston E, substantially as specified.

261,717. ART OF AND MACHINE FOR MANUFACTURING STIFFENING RIBS AND BLADES. JAMES A. HOUSE, Bridgeport, Conn., assignor to Warner Brothers, same place and New York, N. Y. Filed Feb. 11, 1881. (No model.)



Claim.—1. The mode described for forming stiffening-strips from stiff fibers, consisting in first bringing the fibers parallel to each other; second, forming bundles or cords of such fibers; third, arranging a series of these bundles or cords parallel to each other; and, finally, uniting them by passing threads across and between the bundles and interlocking the same.

2. The combination, in a machine for forming flat strips from stiff fibers, of a channeled plate for receiving and guiding bundles or ribs formed of said fibers with the channels arranged to maintain said bundles parallel in close proximity, devices for feeding the bundles through said channels, and appliances whereby binding-threads are carried across and between the bundles and interlocked, as set forth.

3. The combination, in a machine for uniting ribs or bundles of stiff fibers, of a channeled plate, feeding appliances, a shuttle, and devices for reciprocating the same, a series of needles, and appliances whereby they are reciprocated between the channels, substantially as set forth.

4. The combination, with the frame A, provided with a shuttle-race and a shuttle, B, of an arm or frame carrying a series of needles, a channeled plate, *d*, through which to pass a series of ribs, feed-rollers E E, a thread-carrier, C, and appliances for reciprocating the shuttle, needle-carrier, and thread-carrier and for operating the feed devices, substantially as set forth.

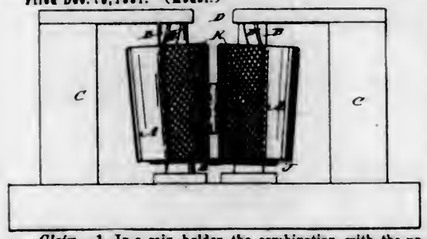
5. The combination, with the feed-rolls, of the adjustable blocks *s s'*, substantially as set forth.

261,718. FOOT-REST FOR ROCKING-CHAIRS. FRIEDRICH HUSSER, Cleveland, Ohio, assignor of one-half to Solomon Schmuck, same place. Filed Apr. 29, 1882. (No model.)



Claim.—The combination, with the rockers A B and pivoted foot-board C, of the adjustable arm D E, the arm D being secured to the foot-board and the arm being pivotally secured to a rocking-chair, substantially as set forth.

261,719. REIN-HOLDER. LESLIE R. HYDE, Montague, Tex. Filed Dec. 16, 1881. (Model.)



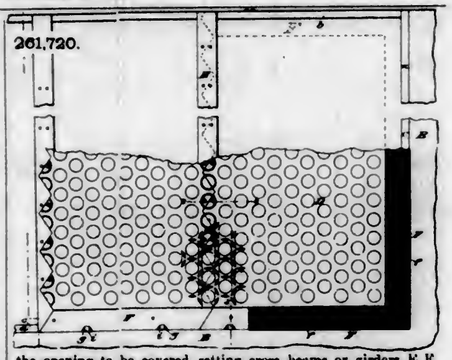
Claim.—1. In a rein-holder, the combination, with the upright shafts B, provided with spiral grooves F, of the sleeves A, mounted loosely and eccentrically on the shafts, and provided with pins G, passing into the grooves F, substantially as herein shown and described, and for the purposes set forth.

2. In a rein-holder, the combination, with the upright shafts B, provided with spiral grooves F, of the sleeves A, mounted loosely and eccentrically on the shafts B, and provided with the pins G, passing into the grooves F, the plate H, attached to the bottom of one sleeve, and the plates J J, attached to the bottom of the other sleeve, substantially as herein shown and described, and for the purpose set forth.

3. In a rein-holder, the combination, with the frame C, provided with a slot, D, in its upper transverse bar, E, of the shafts B, provided with spiral grooves F, the sleeves A, mounted loosely and eccentrically on these shafts, and provided with pins G, passing into the grooves F, substantially as herein shown and described, and for the purpose set forth.

261,720. ILLUMINATING-TILE. JOSHUA K. INGALLS, Glenora, N. Y. Filed Apr. 28, 1882. (No model.)

Claim.—1. The improved process of laying illuminating-plates which consists in forming a ledge, *e*, on opposite sides of



261,720.

the opening to be covered, setting cross-beams or girders E E transversely across said opening at intervals, laying sections D D of illuminating-plates, each of a length equaling the width of said opening, transversely across said opening, with their ends resting on said ledges, and with their meeting edges fitting together over said girders, whereby the girders are concealed and the edges of both plates are supported by them, substantially as set forth.

2. A composite illuminating-tile consisting of sections of illuminating-plate, each section forming an uninterrupted continuation of the illuminating-surface of the adjoining section, and having a length equaling the width of the opening to be covered, the several sections laid across said opening and fitted together edge to edge, in combination with supporting-girders extending across said opening beneath and in contact with the meeting edges of the illuminating-sections, thereby forming bearers for said edges, substantially as set forth.

3. The combination of a section of illuminating-plate formed with uniformly-distributed lens-sockets, and having on its edge a row of divided or incomplete sockets, with a second similar section adapted to meet the first edge to edge, and formed on its meeting edge with divided or incomplete sockets, coinciding with those on the edge of the first section, and adapted, when the two sections are fitted together, to form continuations of and to complete said sockets, thereby forming a row of sockets along the seam, and with a supporting-girder extending beneath said row of sockets and forming a bearer for the meeting edges of both sections, substantially as set forth.

4. A composite illuminating-tile consisting of sections of illuminating-plate provided with equidistant and symmetrically-arranged lens-sockets, set with lenses, and with upwardly-projecting anti-slipping knobs disposed around and between said sockets, the sections fitting together edge to edge, the lenses and knobs on one section forming an uninterrupted continuation of those on the adjoining section, and the line of separation between the sections extending through the plate and avoiding the knobs, whereby the seam or joint is rendered but slightly apparent, in combination with a supporting-girder extending beneath the said joint and forming a bearer for both meeting edges, substantially as set forth.

5. A composite illuminating-tile consisting of sections of illuminating-plate fitting together edge to edge, each section provided with equidistant and symmetrically-arranged lens-sockets, and with upwardly-projecting anti-slipping knobs disposed around and between said sockets, and the lenses and knobs on each section forming an uninterrupted continuation of those on the adjoining section, and the line of separation between each two sections extending through and dividing the lens-sockets of one row and avoiding the projecting knobs, in combination with a supporting-girder arranged beneath said row of sockets, and with blind lenses set in said sockets, substantially as set forth.

6. A composite illuminating-tile consisting of two or more illuminating-sections fitting together edge to edge, the line of their junction extending diagonally back and forth in zigzag direction through a row of lens-sockets, substantially as shown, and for the purposes set forth.

7. The combination of an illuminating-section, D, having one or more sides formed in a zigzag outline, and provided with half-lens sockets on said zigzag side, said half-sockets having bottom webs, in combination with another like section having a zigzag edge fitting to and interlocking with that of the first section, substantially as set forth.

8. The combination of two or more illuminating-sections, D D, adapted to bridge an opening or vault, and to fit together edge to edge, with a margin, F, extending along the edge of the open-

ing, cast or formed in one piece with the illuminating portion of the sections, and that on one section forming an uninterruped continuation of that on the adjoining one, substantially as set forth.

9. The combination of two or more sections of illuminating-tiling adapted to be laid side by side and fitting together edge to edge, so as to produce a continuous illuminating-surface, and each formed with a margin, F, cast or made in one piece with the illuminating portion of the sections, so disposed that when the sections are laid together to form a composite tile the margin will extend around the outer edge thereof and surround the entire illuminating-surface, substantially as set forth.

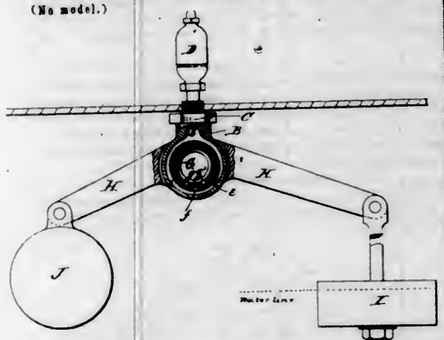
10. The combination, with sectional illuminating-tiles formed to fit together edge to edge, and so produce a continuous illuminating-surface, of a sectional border of checkered or otherwise ornamented non-slipping surface, arranged to surround the illuminating-surface when the sections are laid together, and provided with deep grooves at intervals simulating and parallel with the joints between the sections, substantially as set forth.

11. The combination, with illuminating-sections D D, formed with a recessed margin, F, of sectional border-plates *f f*, having a checkered or other anti-slipping upper surface fitting into said recessed margin, substantially as set forth.

12. The combination, with plate or section D, of the fastening for confining it to the stone, consisting of diagonal hole *h* in the latter and pin or spike *i* set in said hole, and its head overhanging the edge of the plate, and with the border-plate *f* fastened over and concealing said pin, substantially as set forth.

13. The combination of stone B and girder E, with spur *d* on the latter projecting diagonally downward into the stone, substantially as shown and described.

261,721. HIGH AND LOW WATER ALARM FOR STEAM-BOILERS. THOMAS JAMES, Braddock, Pa. Filed Mar. 25, 1882. (No model.)



Claim.—1. In a steam-boiler alarm, a cylindrical valve and valve-seat arranged horizontally and having the steam-ports on the bottom, in combination with weights attached to the valve, substantially as described, whereby the valve is held to its seat by the downward pull of the weight.

2. The combination, in a steam-boiler alarm, of the body B, having recess *a* and passage *b*, tube *c*, having port *f*, and a loose open-ended cylindrical valve, G, having ports *g*, substantially as described.

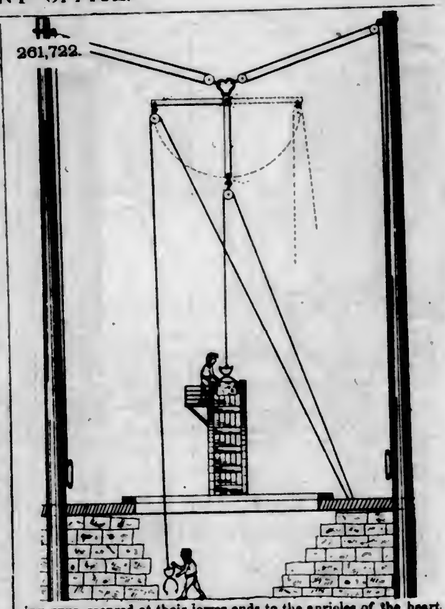
3. The combination of the body B, having recess *a* and passage *b*, tube *c*, having port *f*, valve G, having ports *g g'*, lever H, carrying at its ends, respectively, the weights I J, related as described, and whistle D or other audible alarm, substantially as described.

261,722. HOISTING AND LOWERING APPARATUS. J. HARRISON JOHNSON, Washington, D. C. Filed May 4, 1882. (No model.)

Claim.—1. The herein-described balance-beam, of right-angular form, adapted to turn at the vertex of the angle, so that the arm of the beam carrying the weight will assume a pendent position, while the other arm is thrown out horizontally, as set forth, and for the purpose specified.

2. The herein-described right-angular balance-beam, pivoted at the vertex of the angle, and provided with hoisting and lowering tackle at each end, its arms being adapted to alternately assume a pendent position, whereby the load is landed in the same vertical plane, as set forth.

3. The combination, with the right-angular beam, pivoted at the vertex of the angle, and the heart-shaped ring, of the support-



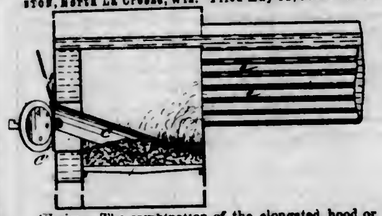
261,722.

ing-guys, secured at their lower ends to the auricles of the heart-shaped ring, as set forth.

4. The combination, with the right-angular balance-beam, pivoted at the vertex of the angle in a bail, of the heart-shaped ring, in the apex or lower point of which rests the said bail, as set forth.

5. The combination, with the right-angular beam, pivoted at the vertex of the angle and provided with rings swinging on the ends of its arms, of the hoisting and lowering tackle, the blocks of which are hooked or otherwise secured to the said swinging rings, as set forth.

261,723. SMOKE-BURNER FOR FURNACES. JAMES JOHNSTON, North La Crosse, Wis. Filed May 12, 1882. (No model.)



Claim.—The combination of the elongated hood or partial tube C, provided with means for shifting it and moving it in and out of the fire-box of a locomotive or other steam boiler, and the hinged perforated lid or screen C, essentially as and for the purposes herein set forth.

261,724. CORN-PLANTING MACHINERY. JAMES HERVA JONES, Rockford, Ill., assignor to Emerson, Talcott & Co., same place. Filed Nov. 28, 1881. (Model.)

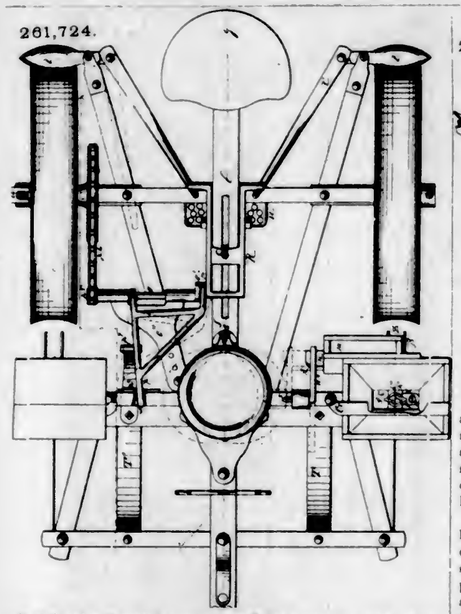
Claim.—1. The combination, with a seed-slide provided with removable seed-cells, of a plate to support the seed on the removal of the seed-slide, for the purpose hereinbefore set forth.

2. A seed-supporting plate adapted to enter the seed-box on substantially the same plane of the seed-slide, to support the seed contained in the seed-box on the removal of the seed-slide, for the purpose hereinbefore set forth.

3. The combination, with a seed-slide provided with removable seed-cells, of a seed-supporting plate fitted to engage the seed-slide in a manner to be drawn into the seed-box on substantially the same plane of the seed-slide on the withdrawal of the seed-slide from the seed-box, for the purpose hereinbefore set forth.

4. The combination, with the bottom of the seed-box, provided with a vertical tube slotted in the lengthwise direction of

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its axis, of a two-part gravity cut-off, the respective parts being capable of an independent vertical movement in the tube, substantially as and for the purpose hereinbefore set forth.

5. The combination, with the bottom of the seed-box, provided with a vertical tube slotted in the lengthwise direction of its axis and in the direction of the movement of the seed-slide, of a two-part gravity cut-off, the respective parts having a flange to enter the vertical slots in the tube, and capable of independent vertical movements in the tube, substantially as and for the purpose hereinbefore set forth.

6. The combination, with the seed-slide provided with seed-cells and a bottom of a seed-box provided with a vertical tube slotted in the lengthwise direction of its axis and in the direction of the movement of the seed-slide, of a two-part gravity cut-off, the respective parts thereof having a flange to enter the vertical slots in the tube, their lower ends resting on the seed-slide, and the parts capable of independent vertical movements in the tube, substantially as and for the purpose hereinbefore set forth.

7. The herein-described two-part gravity cut-off, consisting of like halves capable of limited independent relative movement endwise, substantially as and for the purpose hereinbefore set forth.

8. The combination, with the vertical tube of the seed-box and with the two-part gravity cut-off, of a transverse pin to limit the vertical movement of the two-part gravity cut-off, substantially as and for the purpose hereinbefore set forth.

9. The combination, with the bar connecting the main seed-slides, of a lever pivoted to said bar and adapted to engage a notch in the inner end of the supplemental seed-slide, as and for the purpose set forth.

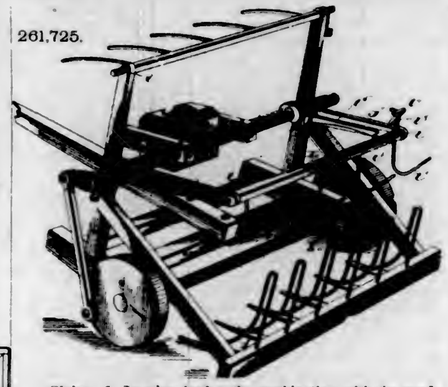
10. The combination, with the bar connecting the main seed-slides, of a lever connected to said bar to operate the slides and a lever pivoted at one end on said bar, while its opposite end is adapted to engage a slot in the supplemental seed-slide, whereby the latter is caused to move in unison with the main seed-slides, substantially as set forth.

11. The combination, with the carrying-wheel, of a vibrating lever mounted on a crank-shaft, the latter having a sprocket-wheel and chain-belt connection with said carrying-wheel, substantially as set forth.

12. The combination, with the vibrating lever, of a bracket-arm arranged beneath said lever and adapted to raise said lever out of engagement with the connecting-bar of the seed-slides, substantially as set forth.

261,725. HAY-LOADER. HENRY M. KELLER, Newark, Ohio. Filed May 29, 1882. (No model.)

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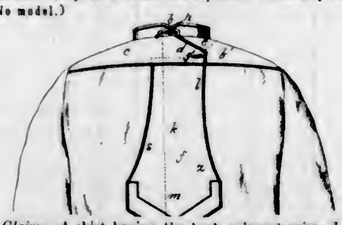


Claim.—1. In a hay-loader, the combination, with the standards and base-blocks, of a shaft supported in bearings of the latter and carrying ground-wheels, a rake provided with inclined teeth and guard-loops and secured to arms which are pivoted to said standards, a crank-shaft supported in bearings of the standards and carrying the fork, said crank-shaft being connected by a crank and link to one of the ground-wheels, substantially as set forth.

2. In a hay-loader, the combination, with a frame adapted to be secured to a wagon, of the wheel-shaft and wheels, a rake secured by pivoted arms to the standards of the frame, a crank-shaft supported in bearings of said standards and carrying the fork and provided with a weight or counterpoise, and a pivoted finger-bar arranged at the upper ends of the standards, substantially as set forth.

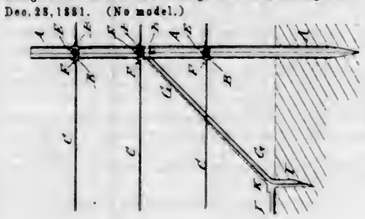
3. In a hay-loader, the combination, with the rake and the standards, one of which is provided with a laterally-projecting stud, of a finger-bar supported in bearings of the standards and provided with a depending hook adapted to engage said stud, the weighted crank-shaft, arms J J', and fork L, the latter being provided with prongs F, hook P, and a spring, P, and stops l, all arranged substantially as set forth.

261,726. SHIRT. ISAAC B. KELLER, Lebanon, Pa., assignor of one-half to Cyrus G. Rauch, same place. Filed May 20, 1882. (No model.)



Claim.—A shirt having the back yoke-extension, *d*, beyond the back slit, *b*, provided with a second button-hole, *g'*, beyond the neck button-hole, and a shield-shaped re-enforcement, *k*, having a broad lower end, *m*, secured to the back below the back slit, an upper end secured to the back yoke-extension, a lateral edge, *s*, joining the back at one side of the back slit, and a portion, *z*, lapping over the back at the other side of the slit, substantially as specified.

261,727. IRON FENCE-POST. JOHN J. KIMBALL, Naperville, assignor to himself and George T. Beers, Chicago, Ill. Filed Dec. 28, 1881. (No model.)



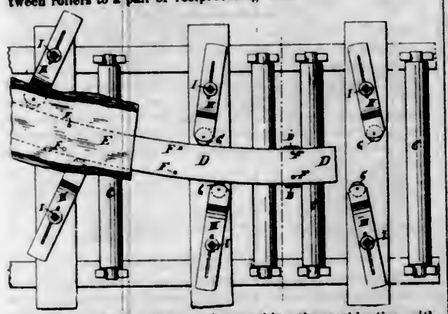
Claim.—1. An improved fence-post consisting of the three-winged body A, having hooked lugs B formed on the edges of two of the wings, the webs D between the said hooked lugs, and the lugs E in the angle of the wings, substantially as and for the purpose set forth.

2. The combination, with the wire C and the key F, of the body A, provided with hooked lugs B on the edges of the wings and the lug E in the angle of the wings, substantially as and for the purpose set forth.

3. The combination, with the three-winged post provided with the webs D, of the brace G, having its upper end shaped to fit in the angle of the wings under the said web and its lower end provided with the foot I, the stop-flange J, and the head K, substantially as and for the purpose set forth.

261,728. GANG SAWING MACHINE. CHARLES S. KING, Montrosdale, Pa. Filed Apr. 28, 1882. (No model.)

Brief.—The log is placed upon a pattern, which is guided between rollers to a pair of reciprocating saws.



Claim.—1. In a gang sawing machine, the combination, with the pattern D, of the rollers G and slotted knees H, substantially as herein shown and described, whereby the said rollers can be readily adjusted to guide patterns of different curves, as set forth.

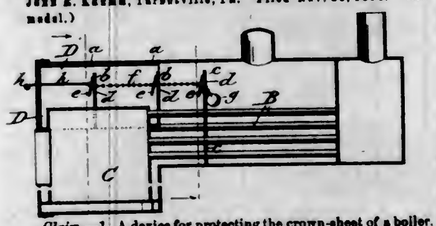
2. The combination, with the pattern D, spikes F, and saws B, of the guide-rolls G, turning on axes practically parallel to the saw-blades B, and fixed to the saw-bench in arcs of circles corresponding to the form of said pattern, as shown and described.

261,729. RULER. GUNNAR L. KNOX, Jersey City, N. J. Filed Apr. 17, 1882. (Model.)



Claim.—The ruler A, formed with the gutter or groove *a*, in combination with the strip C of absorbent material and the bent plate B, substantially as described.

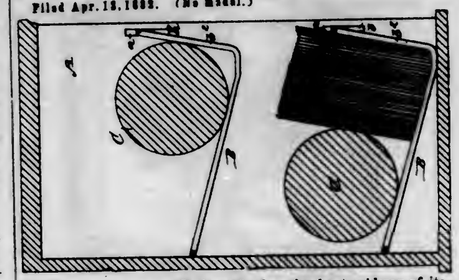
261,730. CROWN-SHEET PROTECTOR FOR STEAM-BOILERS. JOHN E. KRUMM, Turbotville, Pa. Filed Nov. 28, 1881. (No model.)



Claim.—1. A device for protecting the crown-sheet of a boiler, consisting of a water tank or box, D, having partitions *b*, said partitions having openings *d* and valves *e*, connected by a chain or rod, *f*, weight *g*, valve-rod *h*, and apertures *a a*, for escape of steam, placed on top of the fire-box and extending a suitable distance down the sides of the same, substantially as shown and described.

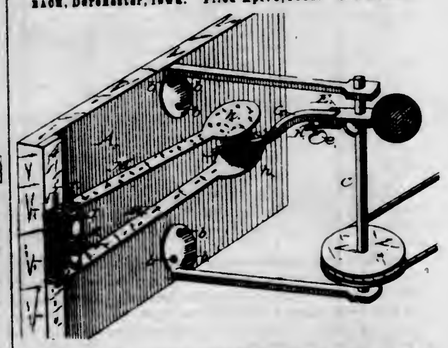
2. In a steam-boiler, the fire-box C and tubes B, in combination with a water-tank, D, having apertures *a a* in its top, partitions *b*, extending slightly above the water-line, and having openings *d* and valves *e*, connected by chain *f*, valve-rod *h*, and partition *c*, having opening *d* and valve *e*, provided with a weight, *g*, and chain *f*, substantially as shown, and for the purposes described.

261,731. ENVELOPE-CASE. JACOB C. LAHR, Elkhart, Ind. Filed Apr. 13, 1882. (No model.)



Claim.—The rack B, formed of a wire bent midway of its length, then upward at *b'*, then horizontally outward at *b²*, and then formed into hooks *b*, in combination with the case A, provided with the grooves *a*, substantially as and for the purpose herein described.

261,732. ALARM SPEED-INDICATOR. CHARLES J. LANGENBACH, Dorchester, Iowa. Filed Apr. 3, 1882. (No model.)



Claim.—In an alarm speed-indicator, the revolving spindle C, swinging arm G, and revolving ball *g*, in combination with the sounding-springs H H, all constructed to operate substantially as and for the purpose set forth.

261,733. STIRRUP TOE-GUARD. RUFUS E. LARCOM, Beverly, Mass. Filed May 6, 1882. (No model.)

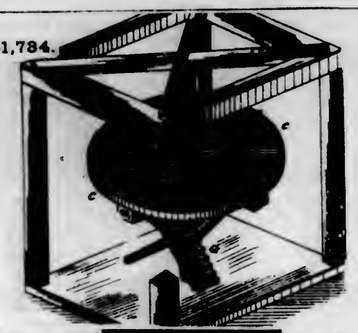


Claim.—The stirrup herein described, consisting of the arch *a'* and foot-rest *a*, rigidly and immovably united together, the front wires, *b b*, secured at their lower ends to the under side of the fixed foot-rest and at their upper ends to the arch, the bent side wires, *b' b'*, secured at their upper and lower ends to the front wires adjacent to the rest, and the arch and the brace-wire *b²* extending horizontally around the front and side wires and united therewith at a point above the fixed rest, all as herein shown and described.

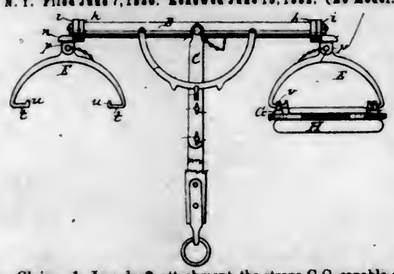
261,734. ROTARY SWING. ERICK LARSON, Bethany, Miss. Filed Apr. 17, 1882. (No model.)

Claim.—In a rotary swing or roundabout, the horizontal rotary platform C, having the man-hole *a*, and provided with the stairway G, arranged under the man-hole and fixed upon and rotating with the platform, as shown and set forth.

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261,785. DRAFT ATTACHMENT. HIRAM LAWTON, Rochester, N. Y. Filed June 7, 1880. Renewed June 15, 1882. (No model.)

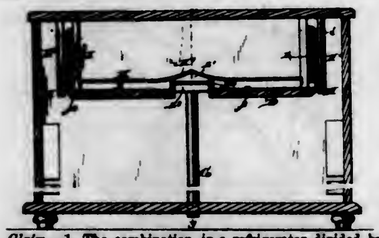


Claim.—1. In a draft attachment, the straps C C, capable of longitudinal adjustment, the evener B, pivoted within said straps, and the segment D, as shown and described, and for the purpose specified.

2. In a draft attachment, the solid heads A A on the ends of the evener B, the turning-heads *i i*, engaging therewith and capable of adjustment to any position, and secured by bolts or screws, the swivel-bearings *p p*, turning in the heads *i i*, and the whiffletrees E, pivoted to the swivel-bearings, as shown and described, and for the purpose specified.

3. In a draft attachment, the whiffletrees E, provided with the bearings *t t*, and steps *u u*, and the hames provided with legs *v v*, having sockets fitting over said bearings and capable of sliding on and off, as herein shown and described.

261,786. REFRIGERATOR. CHARLES H. LEONARD, Grand Rapids, Mich. Filed June 16, 1882. (No model.)



Claim.—1. The combination, in a refrigerator divided by a slotted horizontal partition into an ice-chamber and a provision-chamber, of the removable walls I, located above the partition and separating the ice-chamber from the side flues or air-passages, substantially as described.

2. The combination, in a refrigerator, of the partition dividing the refrigerator into an ice-chamber and a provision-chamber, with the perforated removable ice-rack, K, substantially as described.

3. The combination, in a refrigerator, of the removable walls I, separating the ice-chamber from the side flues or air-passages, and the removable ice-rack K, supported upon a partition between the side walls, substantially as described.

4. The combination, in a refrigerator, of the partition D, dividing the box into an ice-chamber and a provision-chamber, and having a vertical slot or opening, with the sheet-metal drip-pan *f*, located upon the partition, and having a corresponding slot or opening flanged along its edges, and the perforated ice-rack K, having a central raised or arched portion, K', which spans the opening through the drip-pan and the partition, substantially as described.

5. The combination, in a refrigerator, of the slotted partition dividing the refrigerator-box into two compartments, with the perforated removable ice-rack arched along its middle portion and provided on its under side with a series of notched cross-bars, and the walls I, separating the ice-chamber from the flues or air-passages leading up from the provision-chamber, substantially as described.

6. A refrigerator consisting of a box divided by a horizontal slotted partition into an upper and a lower chamber, the vertical air-passages H', separated from the upper ice-chamber by removable walls I, and the removable perforated ice-rack K, supported by and somewhat elevated above the partition, and the drip-pan located upon said partition and provided with a central opening, said members being constructed and organized substantially as described.

261,787. STREET-RAILROAD TRACK. THOMAS P. S. LEONARD, Highlandtown, Baltimore County, Md. Filed Feb. 18, 1882. (No model.)

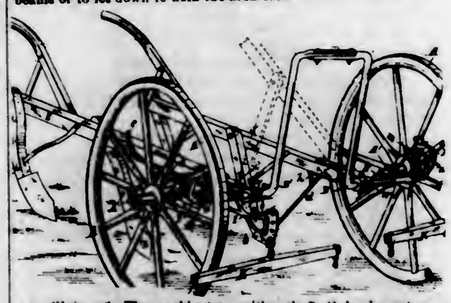
Brief.—On foundation-plates rest the stringers, upon which the rails lie, said parts being secured by castings combining in one piece a chair for the rails and a grasp for the stringers, the same being provided with ears projecting at right angles from one side, and connected to the opposite track by a flat cross-tie bar secured by bolts.



Claim.—In a street-car track, the combination of a track-rail, a stringer on which the rail lies, a casting combining in one piece a chair for the rail and a grasp for the stringer, and having two ears, *e*, projecting at right angles from one side, a thin, flat cross-tie bar placed with its thin edge upward and its end entered between the two ears, and a bolt passed through the ears and the end of the cross-tie bar, as set forth.

261,788. CULTIVATOR. THOMAS A. LEWIS and OSCAR W. CALL, Urbana, Ill. Filed Apr. 5, 1882. (No model.)

Brief.—The crank-axles are swiveled vertically to allow independent turning of the wheels; also provided with a hook-bar to lock them rigid. Shoes or supports arranged to rest upon the beams or to let down to hold the arch erect.



Claim.—1. The combination, with a shaft, B, having return-bends F, of the independent right-angled crank-axles A', having vertical pivot-stems G, passing through eyes in the bend F, and connected at the vertex of the right angle with the shaft by hook-braces H, whereby the draft may be applied, as described.

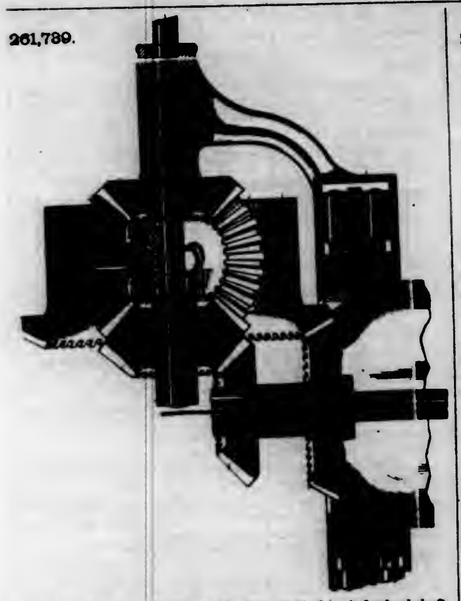
2. The combination, with plow-beams having pins A^3, of the bars *d e* and braces A, each pivoted to the beams, as and for the purpose specified.

261,789. GEARING FOR WINDMILLS. MYRON E. MARTIN, Rutland, assignor of one-half to the Baker Manufacturing Company, Evansville, Wis. Filed Dec. 8, 1881. (Model.)

Claim.—1. In a windmill, the combination, with the wind-wheel shaft, of the swiveled gearing, substantially as and for the purpose set forth.

2. In a windmill, the combination, with the wind-wheel shaft, of the compensating or balancing gearing, substantially as and for the purpose set forth.

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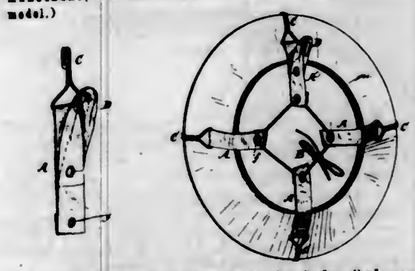


3. In a windmill, the combination, with the wind-wheel shaft, of a swiveled and compensating gearing connecting the same with the machinery to be driven, and operating substantially as set forth.

4. In a windmill, the combination, with the stationary tower and the wind-wheel shaft carried by a turn-table turning upon the tower, of a compensating or balancing gearing connecting the wind-wheel shaft and driven machinery and acting upon the stationary tower, substantially as set forth.

5. In a windmill, the combination, with the wind-wheel shaft, of the swiveled gearing carried by and located upon the wind-wheel shaft, substantially as set forth.

261,740. PLAQUE AND PICTURE HANGER. ELIZABETH L. MARUCHEAU, San Antonio, Tex. Filed May 26, 1882. (No model.)



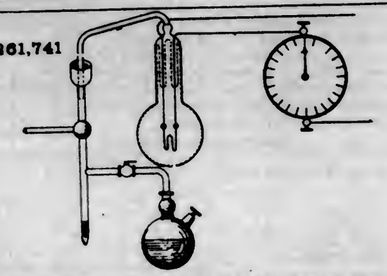
Claim.—The adjustable plaque-holder herein described, comprising the flexible or pliable bands or tapes A, having outer hooks, C, and inner eyelets or openings, *f*, the adjustable and retaining cord B, passed through the openings in the band, and the suspension-loop D, as and for the purpose set forth.

261,741. MODE OF MAKING ELECTRIC LAMPS AND CARBONS FOR THE SAME. HIRAM S. MAXIM, Brooklyn, assignor to the United States Electric Lighting Company, New York, N. Y. Filed Feb. 14, 1881. (No model.)

Claim.—1. The above-described process of preparing carbons for electric lamps, which consists of, first, removing the occluded gases by means of heat and the air-pump, then subjecting the conductors to a high heat in an attenuated atmosphere of hydrocarbon vapor or other equivalent carbonaceous gas, and afterward exhausting the surplus gases, substantially as set forth.

2. In the preparation of electric carbons, the cementing and consolidation of the conductors by the deposition of pure carbon

261,741

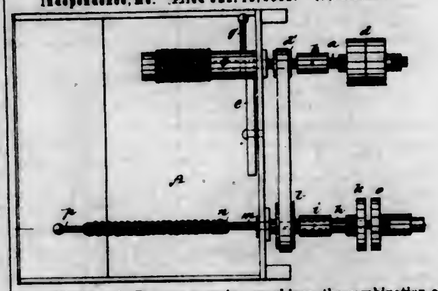


from an attenuated atmosphere of hydrocarbon vapor or other equivalent carbonaceous gas, substantially as and for the purpose set forth.

3. The above-described process of regulating the resistance of electric carbons, which consists in heating them in a hydrocarbon or equivalent gas by means of an electric current until their resistance is brought to the required standard, as indicated by a galvanometer acted on by the same current.

4. The hereinbefore-described method of making carbon conductors for electric lamps of a standard resistance, which consists in preparing such conductors of an approximately-uniform size and of a higher than the standard resistance and then subjecting them to the action of an electric current in a hydrocarbon or equivalent gas until the resistance is reduced to the required point, substantially as set forth.

261,742. YARN-SCOURING MACHINE. WILLIAM MCAPEE, Independence, Mo. Filed Jan. 18, 1882. (No model.)

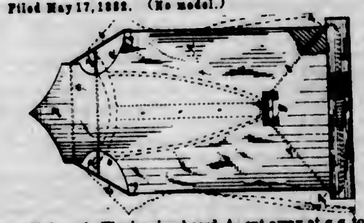


Claim.—1. In yarn-scouring machines, the combination of shaft *a*, roller *e*, pivoted arm *c*, roller *f*, and rod *g* with the box A, substantially as shown and described.

2. In yarn-scouring machines, the tubular shaft h, pulley *h*, hooked rod *m*, pulley *o*, and lever *p*, substantially as shown and described, combined for operation as set forth.

3. The combination, with box A, of shaft *a*, provided with pulley *d'*, roller *e*, adjustable roller *f*, shaft h, provided with pulleys *h i*, and hook-rod *m*, provided with pulleys *o*, substantially as described, for operation as set forth.

261,743. IRONING-BOARD. DAVID MCARTHUR, Oswego, Kans. Filed May 17, 1882. (No model.)



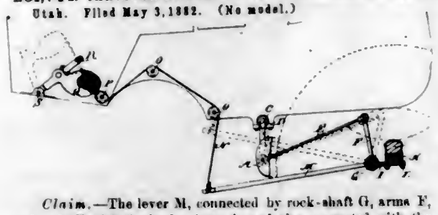
Claim.—1. The ironing-board A, cut away at *a a* to form a head, B, in one piece with the body, and having a hole through the head, as described, in combination with the continuous flexible cord C, passing through said hole, and having its ends attached at *b b* to the shoulders of the board, as described.

2. The ironing-board A, cut away at *a a* to form a head, B, in one piece with the body, and having a hole through the head, as described, in combination with the continuous elastic cord C,

passing through the head and fastened at the shoulders, and the springs D D, as and for the purpose described.

3. The combination, with the board A, having diagonal holes *f* and opening *g*, of the longitudinally-chambered tail-piece E, having a tongue-and-groove joint with the board, the concealed spring *e*, and the cords F F, with means for fastening them in the hole *g*, substantially as shown and described.

261,744. CARRIAGE-BRAKE. AGGUS MCKELLAR, Fort Douglas, Utah. Filed May 3, 1882. (No model.)



Claim.—The lever M, connected by rock-shaft G, arms F, and rods E with the brake-shoes A, and also connected with the foot-lever R by wire rope N and eccentric arm Q of said foot-lever, said rope passing over guide-pulleys O, around the cut-away of the carriage-body, and under roller P to said lever-arm, substantially as described.

261,745. FERTILIZER-DISTRIBUTER. EDWIN D. MEAD, Shortsville, N. Y., assignor of one-half to the Farmers Friend Manufacturing Company, Dayton, Ohio. Filed Apr. 21, 1882. (No model.)

Brief.—The horizontal troughed feed-wheel is cleared of its contents in rotation by a vertically-journaled concavo-convex discharging-wheel (rotated by frictional contact with the feed-wheel) located in the mouth of the exit-orifice. Adjacent to the discharge-wheel and below the shield is adjustably pivoted a cut-off for graduating the flow of material being sown.



Claim.—1. In a fertilizer-distributer, the combination of a horizontal rotary wheel or disk for carrying the material with a vertically-arranged rotary wheel for discharging the material through the delivery-orifice, substantially as described.

2. In a fertilizer-distributer, the combination of a horizontal rotary feed wheel or disk, having a concave face for carrying the material, with a vertically-arranged rotary wheel adapted to the concavity of the feed wheel or disk, for discharging the material through the delivery-orifice, substantially as described.

3. In a fertilizer-distributer, the combination of a horizontal rotary feed wheel or disk for carrying the material with a vertical wheel arranged to rotate above the feed-wheel at one side of the delivery-orifice, for discharging the material from the wheel through the said orifice, substantially as described.

4. In a fertilizer-distributer, the combination of a horizontal rotary feed wheel or disk for carrying the material with a vertical wheel rotated by frictional contact with the top surface of the feed wheel or disk, for discharging the material therefrom through the delivery-orifice, substantially as described.

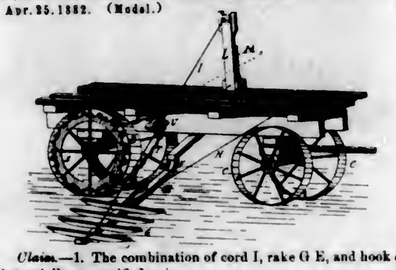
5. In a fertilizer-distributer, the combination of a top plate, A, and a horizontal rotary feed wheel or disk for carrying the material, with a vertical wheel, H, rotating in a bearing supported by said top plate and arranged in the delivery-orifice to discharge the material, substantially as described.

6. In a fertilizer-distributer, the combination of a horizontal rotary feed wheel or disk for carrying the material, a vertically-arranged rotary wheel for discharging the material from the feed wheel or disk through the delivery-orifice, and a pivoted gate arranged to move horizontally toward and from the vertical wheel for regulating the discharge, substantially as described.

7. The top plate of the secondary hopper, provided with a depending flange having a lateral discharge-orifice, and a shield or cover extending over the discharge-orifice, substantially as described.

8. The combination of the top plate of the secondary hopper, provided with a depending flange having a delivery-orifice, and a shield or cover projecting over the delivery-orifice, with a horizontal rotary feed wheel or disk and a vertical discharge-wheel rotating in the delivery-orifice to discharge the material, substantially as described.

261,746. HAY-LOADER. GEORGE MEADER, Fowler, Ind. Filed Apr. 25, 1882. (Model.)



Claim.—1. The combination of cord I, rake G E, and hook *d*, substantially as specified.

2. The combination, with the clutch-drum J, rake G E, and cord I, of a lever, M, arranged to shift the clutch and act as a brake upon the cord, substantially as described.

261,747. CAR-AXLE LUBRICATOR. WILLIAM G. MITCHELL, New York, N. Y. Filed May 20, 1882. (No model.)



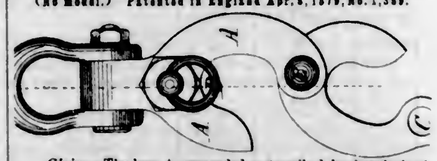
Claim.—In a lubricator for journal-boxes, the combination of the open frame composed of concave end pieces, *a*, united by traverses *b*, and provided with depending lugs *c*, the spiral spring C, having its upper coil attached to the lugs, a wiper-roller, B, journaled in said lugs, the aprons E E, secured to the traverses *b* and projecting upward to bear on opposite sides of the journal, and absorbent pieces D D, suspended from the said traverses and connecting with the lower portions of the aprons, substantially as described.

261,748. BAG-HOLDER. WILLIAM T. MOORE, Richview, Ill. Filed Mar. 20, 1882. (Model.)



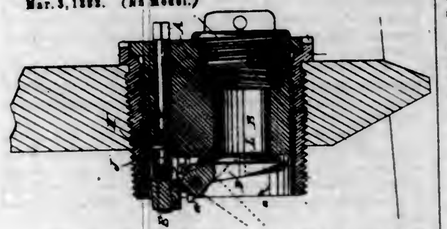
Claim.—The bag-holder herein described, consisting of the slotted shouldered standard, the base, the L-shaped rack-bar pivoted in the slot of the standard, the adjustable tube fitted to the standard, and having the spring-arms provided with teeth or fingers at its upper end, substantially as specified.

261,749. BOAT-DETACHING HOOK. CHARLES F. C. MORRIS, London, County of Middlesex, England. Filed Feb. 24, 1881. (No model.) Patented in England Apr. 8, 1879, No. 1,389.



Claim.—The loop A, suspended as described, having the hook pivoted thereto by bolt E at a point which throws the weight supported thereby toward the open side of the loop, and the spring-pin D, operating to hold the hook closed, all the parts co-operating in the manner set forth.

261,750. FAUCET. GUSTAV A. NAUMANN, Newark, N. J. Filed Mar. 3, 1882. (No model.)



Claim.—1. The combination, with the plug A, provided with an aperture, B, of the swinging valve D on the inner end of the plug, the block E, and the screw-spindle F, substantially as herein shown and described, and for the purpose set forth.

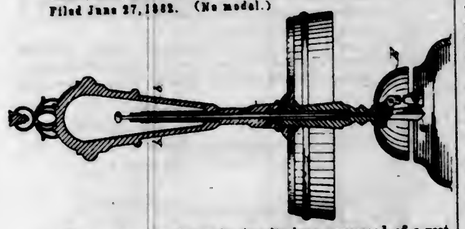
2. The combination, with the plug A, provided with an aperture, B, of the swinging gate or valve D, provided at its upper end with teeth *a*, the block E, provided with teeth engaging with the teeth *a*, and devices for moving this block E to and from the inner end of the plug, substantially as herein shown and described, and for the purpose set forth.

3. The combination, with the plug A, provided with an aperture, B, of the swinging valve D, provided with teeth *a*, the block E, provided with teeth engaging with the teeth *a*, and the screw-spindle F, for moving the block E to and from the inner end of the plug A, substantially as herein shown and described, and for the purpose set forth.

4. The combination, with the plug A, provided with an aperture, B, of the swinging valve D, provided with teeth *a*, the block E, provided with teeth engaging with the teeth *a*, the screw-spindle F, provided with a collar, H, and the plate J, substantially as herein shown and described, and for the purpose set forth.

5. The combination, with the plug A, provided with an aperture, B, of the swinging valve D, for closing the inner end of the aperture B, and the screw cap or plug C, for closing the outer end of the aperture B, substantially as herein shown and described, and for the purpose set forth.

261,751. CASTER-FRAME. EDMUND A. PARKER, Meriden, Conn., assignor of one-half to E. H. Rowley, New York, N. Y. Filed June 27, 1882. (No model.)



Claim.—A caster-frame having its base composed of a rest portion, A, and bell E, arranged to form a continuous design, in combination with a central standard, touch-rod, and bell-clapper, as and for the purposes set forth.

261,752. WASHING-MACHINE. STEPHEN PARKS, Vernon Centre, N. Y. Filed May 13, 1882. (Model.)

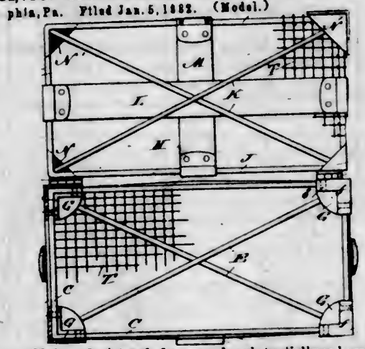


Claim.—1. The combination, with a washing tub or receptacle having a semicircular corrugated or ribbed bottom and interior side bearings, *d d*, of the disks B B', having on their outer faces convex centers and dish-shaped or concave rims and journals *b' b'*, and connected together near their peripheries by rubbing-bars *d*³, substantially as and for the purpose herein shown and described.

2. The combination, with a washing tub or receptacle having a semicircular corrugated or ribbed bottom and interior side bearings, *d d*, of the disks B B', having on their outer faces convex centers and dish-shaped or concave rims and journals *b' b'*, and connected together near their peripheries by rubbing-bars *d*³ and strengthening and bracing bars *d' d'*, substantially as and for the purpose herein shown and described.

3. The herein-described washing-machine, consisting of the washing tub or receptacle having interior bearings, *b b*, circular recess *g*, and exterior conical cap, G, disks B B', constructed as shown, and provided with short journals *b' b'*, and connected by rubbing-bars *d*³, gear-wheel E, secured to outer face of disk B, longitudinally-adjustable shaft F, having pinions *e* on its inner end and operating-crank *f* and disk *f'* on its outer end, and the spring-latch H, substantially in the manner as and for the purpose specified.

261,753. TRUNK-FRAME. JAMES W. PATTERSON, Philadelphia, Pa. Filed Jan. 5, 1882. (Model.)



Claim.—1. A trunk-frame made substantially as herein shown and described, and consisting of a frame made of metal bars or rods covered with wire-netting, as set forth.

2. The combination, with a trunk-frame made of metal bars or rods, of a covering-layer of wire-netting attached to these rods or bars and of an external layer of water-proof material, substantially as herein shown and described, and for the purpose set forth.

3. In a trunk-frame, the combination, with the end bars, B, top and bottom bars, C D, and diagonals E, of the corner blocks or pieces F and G, substantially as herein shown and described, and for the purpose set forth.

4. In a trunk cover or lid, the combination, with the frame J, of the curved crossed diagonals K, the covered longitudinal metal strap L, the transverse metal strap M, and the corner blocks or pieces N N', substantially as herein shown and described, and for the purpose set forth.

5. In a trunk-frame, the combination, with the body A, constructed of end bars, B, top and bottom bars, C D, and diagonals E, and corner blocks or pieces F G, of the lid H, constructed with a frame, J, united by diagonals K, longitudinal and transverse metal straps L and M, and corner-blocks N N', the latter, at the front of the lid, being provided with flanges *a*, overlapping the front upper corner-blocks, F, of the frame-body, substantially as herein shown and described, and for the purpose set forth.

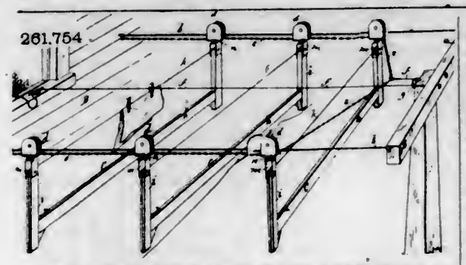
6. In a trunk-frame, the combination, with the end bars, B, the top and bottom bars, C D, and the diagonals E, of the metal plate Q', uniting the diagonals and the top bar, C, at the front of the trunk, and adapted to hold the lock Q, substantially as herein shown and described, and for the purpose set forth.

7. In a trunk-frame, the combination, with the end bars, B, the top and bottom bars, C D, and the diagonals E, of the plates S, uniting the diagonals at the ends of the trunk-frame, and adapted to hold the handles R, substantially as herein shown and described, and for the purpose set forth.

261,754. CLOTHES-DRIER. DAVID H. PAYNE and JEROME H. PAYNE, Troy, N. Y. Filed Mar. 25, 1882. (No model.)

Claim.—1. The clothes-drying apparatus consisting of horizontal rails *b*, sheaves *d*, suspended racks C, provided with lines *k*, the connections *e*, the drawing-rope *f*, and means for supporting the ends of the rails, substantially as described, combined for operation as set forth.

261,754.



2. In a clothes-drier, the suspended racks or frames C, provided with sheaves *d* and lines *k*, combined with supporting-rails projecting from the side of a house, and connecting chains or cords, substantially as shown and described.

3. The sheaves *d* and swiveling hangers *m*, combined with clothes-racks C and lines *k*, substantially as and for the purposes set forth.

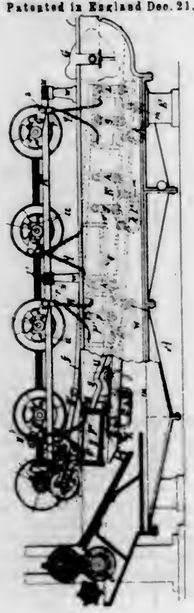
4. The spring *l*, combined with racks C and lines *k*, substantially as and for the purpose set forth.

261,755. HOP-TRELLIS. FRANK G. PENNELL, Hoosick, N. Y. Filed May 29, 1882. (No model.)



Claim.—In a hop-trellis, the reversible stakes *a*, obliquely rising supporters *b*, connected by their lower ends thereto, and the rings *c*, connecting the upper ends of each set of supporters, substantially as specified.

261,756. WOOL-WASHING MACHINE. JOHN PETRIE, Jr. Rochdale, County of Lancaster, England. Filed Mar. 6, 1882. (No model.) Patented in England Dec. 21, 1881, No. 2,720.



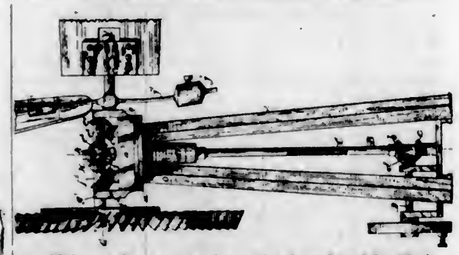
Claim.—1. In machinery for cleansing wool or other fibrous material, the vat or tank provided with barred grid J and movable frame A^3, the bars *b* of said frame being disposed between the bars *a* of said grid and arranged parallel therewith, substantially as set forth.

2. The combination, with plungers F', suspended from link *r*, pivoted at its upper end to the wrist-pin of crank *t*, which is secured to a shaft, *t*, of the mechanism for operating said shaft, substantially as set forth.

3. In combination with a tank and stationary grid, a wool-feeding frame reciprocated longitudinally and vertically, as described, and the bar *f*, bell-crank levers *g*, the slotted ears suspended therefrom, the bars or rods *m*, the connecting-rod U, and the devices for operating said rod U and bar *f*, substantially as set forth.

4. In machinery for cleansing wool or other fibrous material, the combination of the vat or tank for containing the material to be cleansed and the liquid to effect such cleansing, the barred grid J, and transferring-frame A^3, with an inclined frame at one end of said vat, having its upper surface roughened and adapted to receive and transfer the wool from said frame A^3 to the squeezing-rolls, substantially as shown and described.

261,757. DEVICE FOR CONVERTING MOTION. LUDWIG PATTERSON, Chicago, Ill. Filed Oct. 28, 1881. (No model.)

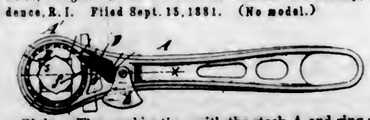


Claim.—1. The combination of the shafts B and C with the spindle G, pivoted concentrically with said shafts and operating them through mechanism connected to said spindle on opposite sides of its pivot, substantially as set forth.

2. The combination of a pair of concentric shafts, a pair of bevel-wheel sleeves, c^2 and f^2, for operating said shafts, and the wheel H, substantially as set forth.

3. The combination of a fixedly-mounted shaft, D, a pair of concentric shafts, a pair of bevel-wheel sleeves, c^2 and f^2, for operating said concentric shafts, and the wheel H, substantially as set forth

261,758. RATCHET-DRILL. WILLIAM PIERSON, New York, N. Y., assignor of one-fourth to Charles H. Peabody, Providence, R. I. Filed Sept. 15, 1881. (No model.)



Claim.—The combination, with the stock A and ring-shaped head A', provided with a pawl, D, of the interchangeable sockets fitted to said ring-shaped head, each having the annular groove *c*, and provided with ratchet-teeth, and the key *d*, inserted in said head and adapted to enter the groove in either socket, substantially as specified.

261,759. DIRT-SCRAPER. JAMES PORTEOUS, Fresno City, Cal. Filed Mar. 7, 1882. (No model.)

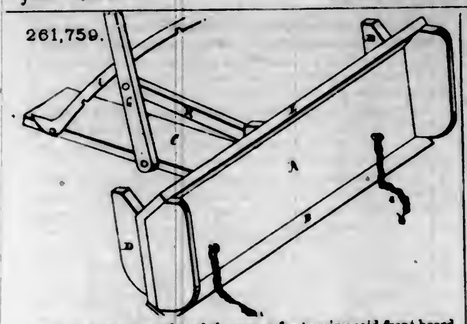
Brief.—Consists of a scraper-board having runners on its rear and a hinged tail-board. The scraper-board is tilted by means of a lever and connecting-link, the lever being pivoted to the tail-board and adjustable upon a rack thereon.

Claim.—1. A dirt-scraper consisting of the front or scraping-board, A, having the runners D D, or their equivalent, and the tail-board C, hinged to or journaled upon the rear of the front board, substantially as and for the purpose herein described.

2. In a dirt-scraper, the front or scraping board, A, and the tail-board C, hinged or journaled upon the rear of the front board, in combination with a mechanism for turning said front board back to a vertical position, and turning it forward to upset it, substantially as set forth.

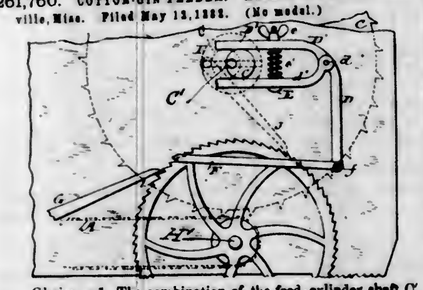
3. The dirt-scraper consisting of the front board or scraper, A, with its runners D D, tail-board C, hinged or journaled to the

261,759.



rear of the front board, and the means for turning said front board back or forward, consisting of the lever G, link H, and rack I, substantially as herein described.

261,760. COTTON-GIN FEEDER. ANDREW C. PORTER, Batesville, Miss. Filed May 13, 1882. (No model.)



Claim.—1. The combination of the feed-cylinder shaft C', apron-shaft H', the ratchet H, ratchet-lever F, bell-crank D D', arm *d'*, bolt and nut E *e*, spring *e'*, and eccentric *e*, substantially as shown and described.

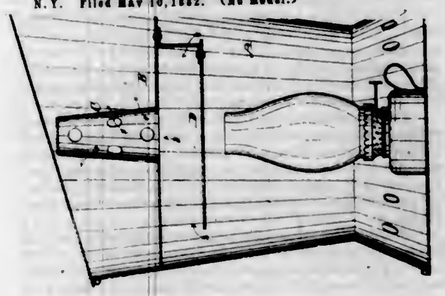
2. The combination, with the feed-cylinder C and ratchet H, of the bell-crank D D', arm *d'*, eccentric C, ratchet-lever F, disk I, and ratchet J, substantially as shown and described.

261,761. KNOB ATTACHMENT. GEORGE PRICE, Birmingham, County of Warwick, England. Filed Feb. 2, 1882. (No model.) Patented in England Mar. 10, 1881. No. 1,031.



Claim.—In a knob attachment, the combination, with the knob and the spindle provided with the spring-catch B, of the tube D, constructed independently of the knob and its neck, and having an interior series of teeth, said tube being adapted for use either in the knob-neck or in the door, as and for the purposes set forth

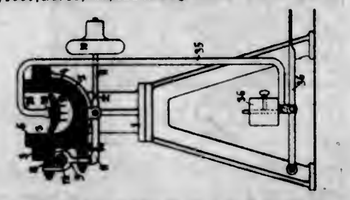
261,762. PEANUT-WARMER. CHARLES B. QUICK, Penn Yan, N. Y. Filed May 10, 1882. (No model.)



Claim.—1. The warmer consisting of the case A and the pan B, provided with the perforated tube C and deflector D, substantially as shown and described.

2. The pan B, provided with the perforated tube C, having the upper end closed, and the deflector D, secured to the under side of the pan, substantially as shown and described.

261,763. TOBACCO-CUTTING MACHINE. O. ALBERT REISIGER and CHRISTIAN PETAI, Stuttgart, Würtemberg, Germany. Filed Sept. 20, 1880. (No model.) Patented in Germany June 29, 1880, No. 11,762, and in England Oct. 15, 1880, No. 4,209.



Claim.—1. The combination, in a tobacco-cutting machine, of the knife, with the carriage provided with a trough for holding the tobacco, and supported upon guides, the screw arranged to move the carriage forward, and also arranged to be driven by the driving-shaft that actuates the cutting devices, and mechanism for automatically releasing the carriage from connection with the feed-screw, whereby after the completion of its forward movement it can be pushed back by hand, substantially as described.

2. In a tobacco-machine, the carriage arranged to convey the tobacco to the cutting-knife, in combination with the vertically-movable half-nut 9, the rotary leading-screw, and mechanism arranged to cause the engagement of the nut with the screw, and also to automatically effect the disengagement of said parts, substantially as described.

3. The trough 6 of the carriage, the cover 28, the cover-rod 29, vertically-movable rod 35, and treadle, combined and arranged substantially as described.

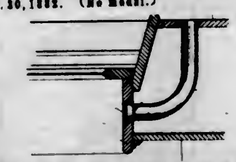
4. The combination, with the carriage and its trough 6, of the tobacco fork or holder 32, the cover 28, cover-rod 29, and vertically-movable rod 35, and treadle, substantially as described.

5. The combination, with the carriage and the stationary trough, of the knife 24, the slide 27, the cover, and the devices for depressing the cover, substantially as described.

6. The combination, in a tobacco-cutting machine, of the carriage for conveying the tobacco to the knife, the rotary leading-screw and connection for imparting a positive forward feed to the carriage, the knife-shaft actuating the leading-screw by means of a pawl and ratchet and connecting-rod, and the lower cutter-shaft, 21, with the gears 20 and 22, arranged as described, whereby the knife-shaft will rotate at a greater rate of speed than the said leading-screw, substantially as described.

7. The combination, in a tobacco-cutting machine, of the stationary trough with the carriage provided with a receptacle for holding the tobacco, and arranged to traverse the stationary trough, the screw for feeding the carriage forward to the knife, the vertically-movable half-nut 9, the swiveled lever 11, and the stop *x*, arranged for operation substantially as described.

261,764. VENTILATOR. WILLIAM W. ROBINSON, Ripon, Wis. Filed Mar. 20, 1882. (No model.)

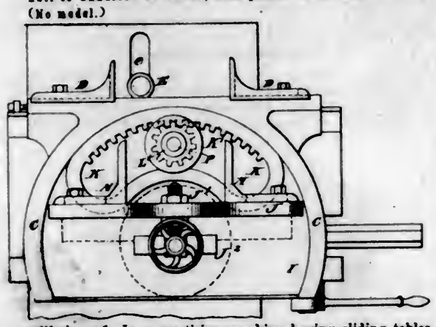


Claim.—1. A ventilator-tube having one end enlarged, and a register placed at the top or inlet opening of said enlargement, and having openings the sum of the areas of which is equal to the area of the exit-opening of the tube, for the purpose set forth.

2. In a ventilator-tube, the combination, with a register placed at one end, of a diaphragm or screen placed in the same end as and immediately under the register, for the purpose set forth.

3. In a ventilator-tube having its end enlarged, as described, the combination, with a register placed at the top of said enlargement, of a diaphragm or screen immediately below the register and at the bottom of said enlargement, for the purpose set forth.

261,765. ADJUSTABLE TABLE FOR WOOD-WORKING MACHINES. JAMES W. ROYCE, Cortland, N. Y., assignor of one-half to Sandford B. Elwell, same place. Filed Mar. 16, 1882. (No model.)



Claim.—1. In a mortising-machine having sliding tables working at right angles to each other, and oscillating disk adapted to carry the work and present the same to the bit at any desired angle, the adjustable arms to govern such angle as they impinge upon the stop L, and adjustable clamps, as and for the purpose set forth.

2. The combination of the frame A, having slot *e*, and the adjustable pin E with the sliding table B, carrier C, having adjustable arms D, the disk I and adjusting and locking means L O, the arms N, and adjusting-clamps, as specified.

3. The combination, with the stud P and operating flanged pinion L, of the slotted disk I K, arms N, and double adjusting-clamps J J' J², as set forth.

261,766. MANUFACTURE OF BROWN DYE-STUFF. CARL RUMPFF, Aprath, near Elberfeld, Germany. Filed May 16, 1882. (No specimens.)

Claim.—1. The product described, consisting of a new brown dye-stuff or coloring-matter which is produced by the action of diazoazoxylolsulphonate of soda upon naphthylamine in acid solution.

2. The mode of preparing the within-described dye-stuff, consisting in adding to a solution of amidoazoxylolsulphonate of soda, first, muriatic acid, then a solution of sodium nitrite, and then naphthylamine in acid solution, substantially as set forth.

261,767. MANUFACTURE OF BROWN DYE-STUFF. CARL RUMPFF, Aprath, near Elberfeld, Germany. Filed May 16, 1882. (Specimens.)

Claim.—1. The product described, consisting of a new brown dye-stuff or coloring-matter which is produced by the action of diazoazotoluolsulphonate of soda upon naphthylamine in acid solution.

2. The mode of preparing the within-described dye-stuff, the same consisting in adding to a solution of amidoazotoluolsulphonate of soda, first muriatic acid, then a solution of sodium nitrite, and then an acid solution of naphthylamine, substantially as set forth.

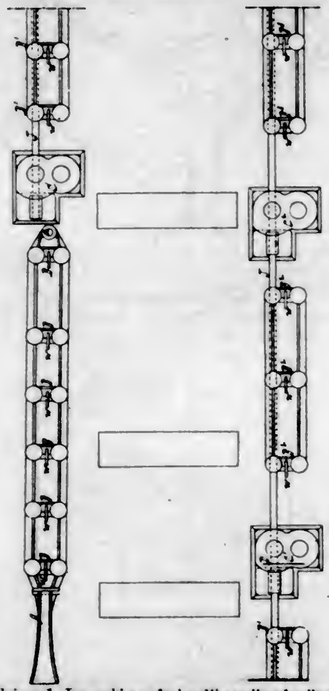
261,768. REFLECTOR. CONRAD SCHILLING, Pekin, Ill. Filed June 5, 1882. (No model.)



Claim.—1. The reflector herein shown and described, consisting of the polygonal concave frame A, having the rim *a* and central circular back, B, reflector-mirrors C, conical clamping-button D, elastic washer E, and screw F, constructed and combined substantially as set forth.

2. The combination of the bracket or support G, having hook I, and reflector A B C D E F, hinged to the lower end of said support, and provided with the perforated strap H, substantially as and for the purpose herein shown and specified.

261,769. MACHINERY FOR CARRYING, CUTTING, AND CAMBERING RAILROAD-RAILS. WILLIAM K. SEAMAN, Scranton, Pa. Filed Mar. 21, 1882. (No model.)



Claim.—1. In machinery for handling railroad-rails, the combination of a series of guide-rolls, B B' B², a series of grip or forwarding rollers, C C' C², a cambering-machine, E, and a driving-shaft which is directly geared together with the axle of the fixed roller of each pair of grip or forwarding rollers, substantially as and for the purpose set forth.

2. The combination, substantially as hereinbefore described, with a horizontal shaft, J, of a series of vertical axles arranged in pairs, one axle in each pair carrying a fixed roller and being mounted in fixed bearings and geared to the horizontal shaft, while the other axle of each pair has an eccentric portion and can be turned in its bearings, a roller mounted loosely on the eccentric portion of this axle, and a nut or equivalent device for securing the axle in the required position.

3. The combination, substantially as hereinbefore described, with a horizontal shaft, J, of two pairs of vertical axles arranged in pairs, one axle of each pair carrying a fixed roller, and being mounted in fixed bearings and geared to the horizontal shaft, while the second axle in each pair has an eccentric portion and can be turned in its bearings, a roller mounted loosely on each of these second axles, a nut or equivalent device for securing each of these second axles in the required position, and a bending-roller situated between and slightly in advance of these loose rollers.

4. The combination, substantially as hereinbefore described, of two pairs of grip-rollers *b b'* and *d d'*, an axle, *k*, journaled in bearings intermediate said rollers, and provided with an eccentric portion, a bending-roller, *j*, mounted loosely on the eccentric portion, and means for adjusting the axle and its roller in the required position, substantially as described.

5. The combination, substantially as hereinbefore described, of a series of guide-rollers and grip or forwarding rollers, two hot-beds, F F', one in advance of the other, additional guide rollers and grip or forwarding rollers situated between the rails of the first hot-bed, F, and means for moving these additional guide-rollers and grip or forwarding rollers above or below the level of said hot-bed.

6. The combination, substantially as hereinbefore described, of a series of guide-rollers and grip or forwarding rollers, two hot-beds, F F', one in advance of the other, additional guide-rollers and grip or forwarding rollers situated between the rails of the

first hot-bed, F, and mounted in movable supports, levers O O U, connected to these supports, a rod, P, connected to all these levers, and the lever Q, for actuating the rod P.

7. The combination, substantially as hereinbefore set forth, of the guide-rollers *h i*, the support K, which forms the bearings for the axles of said guide-rollers, the rock-shaft L, on which is mounted the support K, and the lever O, for swinging the support, together with the guide-rollers, up or down.

8. The combination, substantially as hereinbefore set forth, of the grip or forwarding rollers *b d*, the telescopic axle of the roller *b*, the axle *c* of the roller *d*, the support R, the posts S, which form guides for the support, and mechanism for raising and lowering said support together with the rollers *b d*.

261,770. FOLDING COT. CHARLES T. SUGAR, Utica, N. Y., assignor to the C. T. Sugar Manufacturing Company, same place. Filed June 24, 1882. (No model.)



Claim.—1. In a folding cot, the extensions *s* of the lower sectional cross-bars, and the pivoted side braces, N, having the notched ends *p* and pivoted slide-bearings *r*, substantially as specified.

2. In a folding cot, the slotted upright connection D and the oblique braces H, pivoted to the sections E of the cross-bar by their upper ends, and connected at their lower ends by the slide-pivot *l* engaging the slot of said upright connection.

3. In a folding cot, the combination, with the sectional cross-bars, standards, and rails, of the slotted center strips, D, the oblique braces H, and the side braces, N, substantially as specified.

261,771. GUANO-DISTRIBUTER. JOHN T. SOSS, Troy, Ala. Filed May 3, 1882. (No model.)

Claim.—1. The combination, in a guano-distributer, of the spherical flanged rotary crusher and feeder D, a rigid tubular section, C, a hopper, and a discharging-tube fitted into the said section C, substantially in the manner described.

2. The combination of the spherical flanged crusher and feeder D, the rigid coupling-tube in which this feeder D is applied, the hand-crank E on the latter, the tube F, the funnel, and the hook attachment B, all substantially in the manner and for the purposes described.

261,772. FIRE-GUARD FOR PLACES OF AMUSEMENT. WILLIAM C. SHAFFER and SAMUEL H. PLUSH, Philadelphia, Pa. Filed Mar. 7, 1882. (No model.)

Brief.—A weighted dog or pawl is automatically released from the ratchet-wheel by the burning of a cord or by electric means, which allows the curtain and weight to fall, a fan-brake on the journal of the curtain-shaft acting as a retarding device. Simultaneously with the fall of the curtain a bar, also on the end of the curtain-shaft, strikes a toggle, which throws the trap-doors above open, and also opens a water-cock.

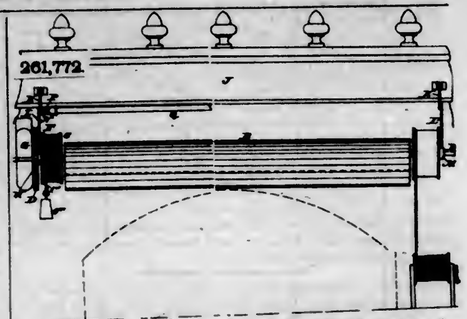
Claim.—1. The fire-proof curtain B and its shaft B', in combination with drum C, weighted cord C', ratchet-wheel F, dog H, and devices for automatically releasing said dog from said ratchet-wheel on the outbreak of fire, substantially as set forth.

2. The curtain and its shaft, in combination with the drum C, weighted cord C', ratchet-wheel F, dog H, fan G, and devices for automatically releasing said dog from said ratchet-wheel on the outbreak of fire, substantially as set forth.

3. Shaft B', provided with arm M, in combination with arm or bar L, toggle K, and trap-door J, ratchet-wheel F and dog H, and devices which automatically release said dog from said ratchet-wheel on the outbreak of fire, substantially as set forth.

4. Cord L', in combination with arm L, toggles K, trap-door J, and shaft B', carrying arm M, substantially as set forth.

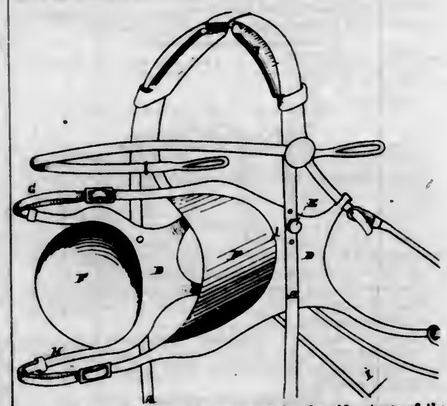
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5. Key N, cock or valve P, and the water-pipe governed thereby, in combination with shaft B', arm M, bar L, ratchet F, dog H, and devices which automatically release said dog from said ratchet on the outbreak of fire, substantially as set forth.

6. Shaft B', provided with drum C, cord C', and weight C'', in combination with ratchet-wheel F, weighted dog H, catch R, weight R'', and a cord, the burning of which allows the latter weight to free said dog, which then automatically separates from said ratchet-wheel, substantially as set forth.

261,773. BLIND-BRIDLE. JOSEPH C. SIMPSON, Oakland, Cal. Filed Mar. 27, 1882. (No model.)



Claim.—1. The part D, supported by the side straps of the bridle, extending back, as shown, the front having an opening into which the blind is fitted, substantially as herein described.

2. In a bridle, in combination with the extensions D, the curved blinds F, secured to said extensions, and as shaped, to give full freedom and ventilation to the eye while circumscribing the vision, substantially as herein described.

3. In a bridle, and in combination with the extensions D, blinds F, and side straps, A, the screw, nut, and washer E, to secure the blind and allow it to be set, substantially as herein described.

4. In a bridle, and in combination with the cheek-pieces D and blinds F, as shown, the straps or bands G and H, connecting the branches or extensions above and below the eyes, and having the adjusting slides or buckles, substantially as and for the purpose herein described.

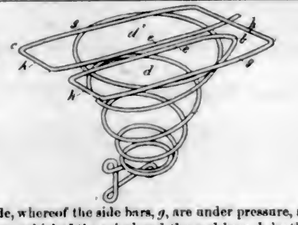
5. In a bridle, and in combination with the blinds F, supported and pivoted to the bridle so as to be movable about their point of support, the adjustable front straps or bands, G H, and the rear band, I, and the throat latch or lash connected with the blinds and adjustable, substantially as herein described.

261,774. BED-SPRING. WILLIAM SINGLETON, Versailles, Ky. Filed May 18, 1882. (No model.)

Claim.—1. A spiral spring having its upper portion extended in horizontal rectangular form to provide a bearing, substantially as specified.

2. A spiral spring having at its upper portion the horizontal rectangular extension, forming two parallelogram bearings, *d d'*.

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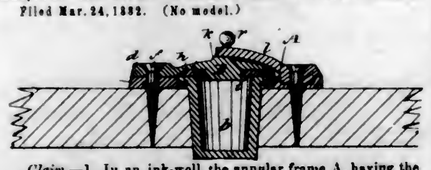
side by side, whereof the side bars, *g*, are under pressure, supported by the upper whirl of the spiral and the end bars, *h*, by the middle bars, *e*, substantially as specified.

261,775. COMBINED PACKING AND TOY BOX. HARRISON D SMITH and FRED A. SMITH, Cincinnati, Ohio. Filed June 6, 1882. (No model.)



Claim.—A combined packing and toy box composed of an ordinary packing-box, A, and a sliding tube, C, provided with the opening or openings *c*, both being ornamented with fragmentary pictures which register, substantially as herein set forth.

261,776. INK-WELL. WILLIAM EMERSON SMITH, Berwick, Pa. Filed Mar. 24, 1882. (No model.)

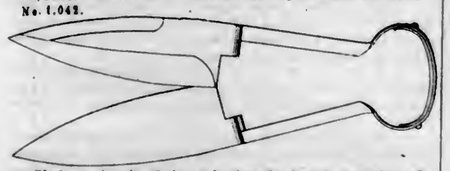


Claim.—1. In an ink-well, the annular frame A, having the ear B and cam *c*, in combination with the cover D, having an ear, *d*, with the beveled surface *e*, substantially as specified.

2. In an ink-well, the combination of the cover D, having the packing-ring *h* and inclined ridge *k*, the arm *l* and annular frame A, as herein specified.

3. In an ink-well, the well *b*, having the flange *a*, the cover D, having the packing-ring *h*, and provided with inclined ridge *k*, the annular frame A and the pivoted arm *l*, in combination, substantially as specified.

261,777. SHEEP-SHEARS. THOMAS AUSTIN SORBY and ROBERT HENRY SORBY, Sheffield, County of York, England. Filed July 18, 1881. (No model.) Patented in England Mar. 11, 1881, No. 1,043.



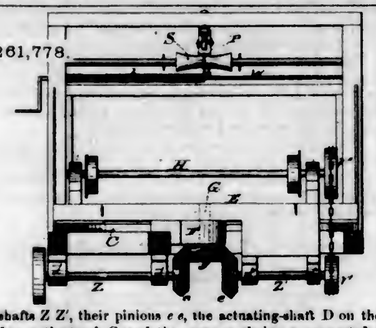
Claim.—A pair of shears having the bow in one piece of metal and a spring plate or plates attached to said bow for the purpose of opening the said shears, substantially as set forth.

261,778. STRAW-STACKING ATTACHMENT FOR THRASHING-MACHINES. DUDLEY D. SPRAGUE, California, and PEARLEY J. SPRAGUE, Higbee, assignors to themselves and Charles D. Sprague, Sedalia, Mo. Filed Apr. 20, 1882. (No model.)

Claim.—1. The combination, with the frame of a thrasher, a pivoted laterally-movable stacker, and the transverse windlass W on the main frame, of the governing rope or chain *b* and guys L, the swivel-pulley L' over the pivotal center of the stacker, and the guide-pulley S between said swivel-pulley and the windlass, substantially as specified.

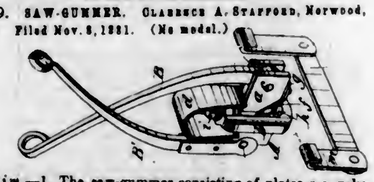
2. The combination, with the stacker, pivoted bolster E, supporting the stacker, the pivot-bolt G, and center pinion, *g*, of the

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shafts Z Z', their pinions *e e*, the actuating-shaft D on the main frame, the track C, and the ropes or chains *a*, connected to each end of the bolster and wound in reverse directions on said actuating-shaft, substantially as specified.

261,779. SAW-GUMMER. CLARENCE A. STAFFORD, Norwood, Mich. Filed Nov. 8, 1881. (No model.)



Claim.—1. The saw-gummer consisting of plates *a a*, yoke *b*, die-block C, cutters *f h*, spring *d*, and cam-levers B B', substantially as shown and described, combined for operation as set forth.

2. In saw-gummers, the combination of block C, carrying a removable cutter, cam-levers B B', and the head A, provided with a fixed cutter, substantially as shown and described.

3. The yoke *b*, provided with screw *i* and cutter *h*, in combination with the plates *a*, die-block C, and operating-levers B B', substantially as shown and described.

4. The gage consisting of bar *l* and hooks *m*, for use in connection with the gummer, as set forth.

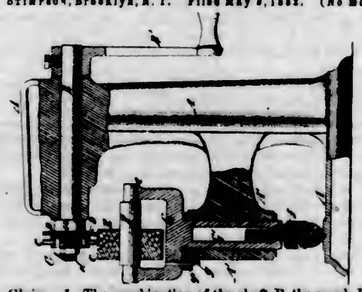
261,780. EGG CASE OR BOX. JOHN L. STEVENS, Chicago, Ill., assignor to George A. Smith and Edward Hempstead, same place. Filed Dec. 21, 1881. (Model.)



Claim.—1. An egg-box constructed with flaring sides A, united near their upper corners by the strips *o*, in combination with the removable partitions B, constructed with flaring ends, substantially as and for the purposes specified.

2. The new article of manufacture consisting of a flexible flaring-sided paper box having flexible interlocking partitions and braces, the ends of which are beveled and form abutments for the flaring sides of the box, as herein shown and described.

261,781. PUNCHING AND PINKING MACHINE. EDWIN B. STIMPSON, Brooklyn, N. Y. Filed May 9, 1882. (No model.)



Claim.—1. The combination of the shaft B, the crank B', the wheel C, carrying hollow punches *c*, and provided at the inner ends of the punches with the annular recess *d*, and the bed-roll E, substantially as herein described

2. The combination of the roll E, the fork G, the stem or shank G', the guide A', the guide-pin *g*, and its guide *g'*, all substantially as described.

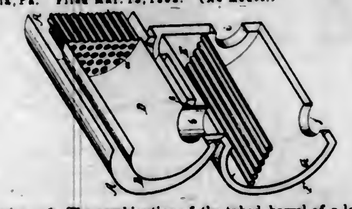
3. The combination of the shaft B, carrying a punching-wheel or a pinking disk or cutter, the roll E, shaft F, fork G, stem or shank G', screw *f*, and guide-pin *g* and its guide *g'*, substantially as described.

261,782. TUYERE. JACOB STOLL, Milwaukee, Wis. Filed Oct. 24, 1881. (No model.)



Claim.—In combination with the tube A and the jacket B, the head C, formed with the chamber *d*, and the perforations *c* and *e*, substantially as and for the purposes set forth.

261,783. LOCOMOTIVE-BOILER. GEORGE S. STRONG, Philadelphia, Pa. Filed Mar. 13, 1882. (No model.)



Claim.—1. The combination of the tubed barrel of a locomotive-boiler with a fire-box structure consisting of two outer cylindrical shells, one above the other, two inner cylindrical and communicating casings, one for each shell, the upper inner casing forming a combustion-chamber and the lower inner casing a fire-chamber, all substantially as set forth.

2. The combination, in a locomotive-boiler, of the cylindrical shell or barrel A, containing the usual horizontal tubes, *x*, and continued to the rear of the boiler, and the inner cylindrical casing, D, forming a combustion-chamber and terminating in the tube-sheet *a*, with the outer cylindrical shell, F, and the inner cylindrical casing, G, forming the fire-chamber, and with connections between the two outer shells and two inner casings, all substantially as described.

3. The combination of the upper cylindrical shell and casing, within which is the combustion-chamber, and the lower cylindrical shell and casing, within which is the fire-chamber, with the connection *b*, situated near the firing end of the structure, and forming the sole communication for the passage of the products of combustion from the lower to the upper chamber, substantially as set forth.

261,784. WATER-TUYERE FOR FORGES. NILS O. SWENSON, Terraville, Dak. Filed Jan. 23, 1882. (No model.)



Claim.—1. A water-tuyere constructed substantially as herein shown and described, and consisting of the face-plate A, having air-pipes F, the water-chamber surrounding the air-pipes and provided with inlet and outlet passages J K, the air-chamber L, and the adjustable valve-plate O, as set forth.

2. In a water-tuyere, the combination, with the face-plate A, having apertures C and the water-chamber E, having inlet and outlet passages J K, of the air-pipes F, connected by webs H, substantially as herein shown and described, whereby the water is made to circulate around the said pipes, as set forth.

3. In a water-tuyere, the combination, with the air-pipes F, of the valve-plate O, having apertures R S T, substantially as herein shown and described, whereby the passage of air through the said pipes can be regulated and controlled, as set forth.

4. In a water-tuyere, the valve-plate O, having center apertures, R, side apertures, S, and elongated apertures T, substantially as herein shown and described, to adapt it for use in regulating the air-blast, as set forth.

5. In a water-tuyere, the combination, with the adjustable valve-plate O and the wall of the air-chamber L, of the lever U, substantially as herein shown and described, whereby the said valve-plate can be readily adjusted, as set forth.

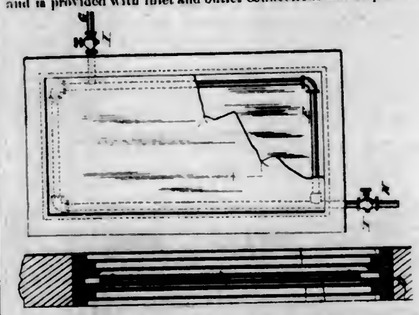
6. The combination, with the face-plate A, having cross-barred central opening, B, and the openings C, of the air-pipes F, rotary valve-plate O, having holes R S T, and air-chamber L, having an inlet-pipe, M, as and for the purpose specified.

7. The tuyere air-pipes F, connected by webs H, and with the partition I, in combination with the surrounding water-chamber E, having an inlet, J, on one side of said partition, and an outlet, K, on the other side, whereby the continuous circulation of water may be easily maintained, as set forth.

8. The tuyere valve-plate O, combined with a screw-pivot, P, carrying an end nut and projecting centrally from the cross-bars D, as and for the purpose specified.

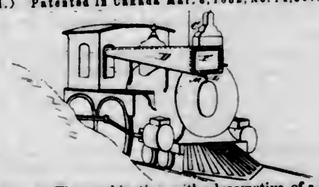
261,785. LOCOMOTIVE-WINDOW. JOHN M. TAYLOR, Fredericton, New Brunswick, Canada. Filed Apr. 15, 1882. (No model.) Patented in Canada Feb. 27, 1882, No. 14,274.

Brief.—A heating-coil of pipe is placed between double panes and is provided with inlet and outlet connections and stop-cocks.



Claim.—The improved window for locomotive, steamboat, and other cabs, consisting of double sashes or panes of glass or other transparent medium with an inclosed space between said sashes or panes containing a heating-coil of pipe, F, having inlet and exhaust connections G H and stop-cocks I, substantially as specified.

261,786. RAILWAY-LOCOMOTIVE. JOHN M. TAYLOR, Fredericton, New Brunswick, Canada. Filed Mar. 29, 1882. (No model.) Patented in Canada Mar. 8, 1882, No. 14,367.



Claim.—1. The combination, with a locomotive, of a lookout-tube extending from the cab forward beyond the front end of the engine, substantially as specified.

2. The combination, with the lookout-tube, of a heating device, substantially as and for the purpose described.

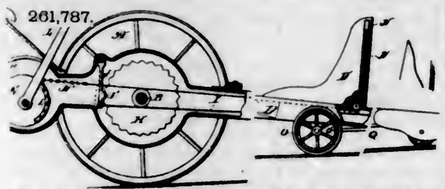
3. The heating-coil H, in combination with the lookout-tube D and window F, substantially as herein shown and described.

261,787. HARVESTER. RICHARD THUPSTON, Hibb's Corners, Pa. Filed May 26, 1882. (No model.)

Claim.—1. A mowing-machine having the cutter-bar secured at its center to the front end of the tongue, the rear end of the tongue being secured in the center draft-frame, which has bearings for the driving-shaft B and a rearward extension for supporting the driver's seat, and the elevating mechanism, whereby the weight at the front end of the tongue is counterbalanced and too great strain on the horses' necks prevented, substantially as described.

2. In combination with the tongue having the cutter-bar and grain-collecting mechanism at its front end, the stanchion D', hav-

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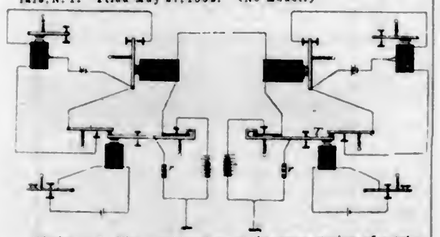


ing a vertical slot in which is secured the neck-yoke, which is caused to travel in the slot by means of the rope or chain attached thereto, and extending back to the cam E at the rear of the draft-frame, the said cam being provided with a suitable lever for operating it and a ratchet and dog for retaining it in position, whereby the front end of the tongue can be raised from the ground, substantially as specified.

3. The drive-wheels A, shaft B, center draft-frame, C, cams H, secured to the shaft, levers J, pivoted in the frame C, and actuated by the cams H, connecting-rods I, and bell-crank lever K, for conveying the motion of the levers J to the cutter-bar, in combination with a cutter-bar of any suitable construction secured to the front end of the tongue, substantially as shown.

4. In combination with a cutter-bar secured to the front end of the tongue, mechanism for actuating it, and the endless aprons for conveying the grain to the outer ends of the cutting devices, the grain-receiver or slide S, sliding in slots or grooves in the apron, guard T, provided with springs for restoring it to its normal position, and a suitable tripping-dog, V, which catches against the catch P', secured to the apron, whereby the grain is collected in gavels and deposited at regular intervals on the ground, substantially as shown and described.

261,788. DUPLEX TELEGRAPH. BENJAMIN THOMPSON, Buffalo, N. Y. Filed May 27, 1882. (No model.)



Claims.—1. The combination, at the same station of a telegraph-line, of a transmitter, a receiving-relay, a differentially-wound receiving-instrument in a local circuit, circuit-connections from one of the differential coils to a circuit-closer controlled by the relay, and circuit-connections from the other coil through a circuit closer or breaker controlled by the transmitter, as and for the purpose described.

2. The combination of a relay, a transmitter, a differentially-wound receiving-instrument in a local circuit, a circuit closer and breaker controlled by the transmitter and electrically connected with one differential coil upon the receiving-instrument, and a contact-point on the relay electrically connected with the other differential coil.

3. The combination of a receiving-relay, a local battery, one pole of which is connected to the armature-lever thereof, a differentially-wound receiving-instrument whose coils are connected at one end to the other pole of the battery, relay contact-points controlling one of the differential coils, a transmitter, and a circuit closer and breaker operated thereby in the circuit of the other differential coil.

4. The combination, substantially as described, upon the same telegraph-line, of two transmitters, two main-line batteries, one for each transmitter, two relays in the main-line circuit, and, in connection with each relay and transmitter at the same station, a differentially-wound receiving-instrument, the circuit of one of whose coils is controlled by the relay, while the circuit of the other is made and broken by the movements of the transmitter.

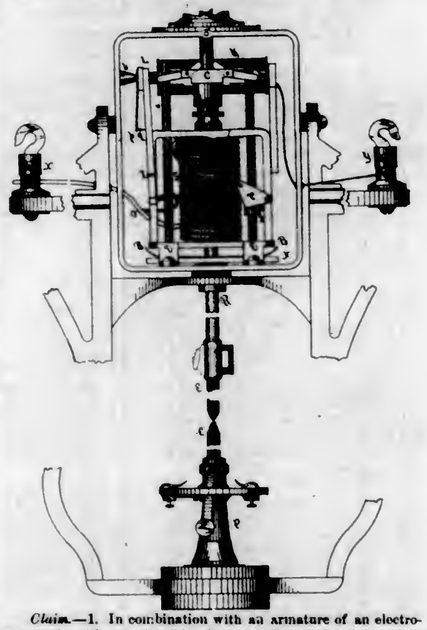
261,789. LOCK. WILLIAM C. THOMPSON, Minneapolis, Minn. Filed Oct. 19, 1881. (No model.)



Claim.—1. The combination of a divided key hub or cylinder with a safety-tumbler adapted to close a portion of the key-hole and leave the front part of the cylinder unlocked when at rest, but locking said part of the cylinder when pressed back into its recess, substantially as described.

2. The combination of a divided key hub or cylinder and safety-tumbler with a flat or sheet-metal key provided with a notch to allow the safety-tumbler to return to its former position after being depressed by the insertion of the key, substantially as set forth, and for the purpose described.

261,790. ELECTRIC-ARC LAMP. ELIHU THOMSON, New Britain, Conn., assignor to the American Electric Company, same place. Filed Dec. 17, 1880. (No model.)



Claim.—1. In combination with an armature of an electro-magnet placed in a derived circuit around the electrodes, a retractile spring connected to devices moving automatically in accordance with changes in the direct current operating the lamp.

2. In an electric lamp, the combination of a shunt-controlling electro-magnet in a derived circuit around the electrodes, an armature, a retractile spring therefor, an armature and an electro-magnet in the direct circuit, and devices acting upon the retractile spring, whereby its tension is automatically varied in correspondence with the movements of the armature of the direct-circuit electro-magnet.

3. In an electric lamp, the combination of a lifting-armature, springs serving as an elastic seating for the same, a retractile spring connected to the armature which controls the feed according to the consumption of the electrodes, and intermediate devices whereby the lifting-armature automatically varies the tension of the retractile spring.

4. In an electric lamp, a clutch for lifting the carbon-carrier to form the arc, consisting of a movable body with adjustable portion A, in which are pivoted clamping-jaws J J, whose inner clamping ends rest upon the carrier at points above the line joining their pivots, whereby a movement of the outer ends of said jaws upward, imparting a downward movement to their inner ends, locks said clutch, while a downward movement of the outer ends reverses said action, substantially as described.

5. In an electric lamp, the combination, with the retractile spring of an electro-magnet, of a compensating knee or toggle joint, B B', substantially as and for the purpose described.

6. In an electric lamp, in combination with a pillar supporting the lower electrode, a detachable foot-clamp consisting of a lever, as, provided with projections e e, screw *b*, and plates *c c* upon said pillar, cut away at their sides, whereby said clamp-lever may be released by a partial rotation, substantially as described.

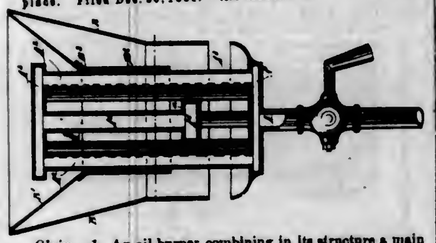
7. The combination, with the derived-circuit electro-magnet and the electro-magnet controlling the feed mechanism, of a derived circuit to said feed-regulating electro-magnet, a carbon or other resistance-surface in said derived circuit, and a slit spring or comb whose teeth are arranged to successively make contact with the carbon, as or for the purpose described.

8. In an electric-light regulator, a supplemental tripping electro-magnet acting upon the clutch devices of the carbon-holder, and switch devices controlling the flow of current through said electro-magnet, operated by an electro-magnet in a derived circuit around the carbons, and adjusted to be called into action only by an abnormal increase of the current in said derived-circuit electro-magnet consequent upon an abnormal increase of resistance in the arc.

9. In an electric-light regulator, the combination of a supplemental safety electro-magnet acting upon the clutch devices of the carbon-feeding mechanism to trip the same, switch devices controlling the flow of current through said electro-magnet, and devices operating the switch and adjusted to be called into action only by an abnormal increase of the arc resistance, substantially as described.

10. In an electric-light regulator, a supplemental tripping electro-magnet whose terminals are connected to the main circuit, in combination with a normally-closed shunt-circuit, including contact-points under the control of an electro-magnet in a derived circuit around the carbons, substantially as described.

261,791. APPARATUS FOR BURNING PETROLEUM. KORNAT THONACH, Berlin, Germany, assignor to Siegmar Elster, same place. Filed Dec. 30, 1881. (No model.)



Claim.—1. An oil-burner combining in its structure a main oil-supply pipe, A, a series of tubes, A^3, end chambers, A' and A^2, depending pipe A^4, provided at its lower portion with burner-orifices, and an adjustable funnel, B, substantially as described.

2. The combination of the main pipe A, the series of tubes A^3, the end chambers, A' and A^2, the depending pipe A^4, having burner-orifices *a* at its lower portion, the movable sleeve B^2, surrounding the series of tubes, and the funnel B, movable with the sleeve, substantially as described.

3. The combination of the main pipe A, the series of vertical tubes A^3, the end chambers, A' and A^2, the depending pipe A^4, provided at its lower end with a mouth-piece or chamber having burner-orifices *a*, the movable sleeve B^2, surrounding the series of tubes, the perforated truncated cone or plate B', supported by the sleeve, and the funnel B, carried by the cone or plate and movable with the sleeve, substantially as described.

261,792. GRAIN-ELEVATOR AND HOISTING APPARATUS. JOHN E. WALSH, New York, N. Y. Filed June 3, 1882. (No model.)

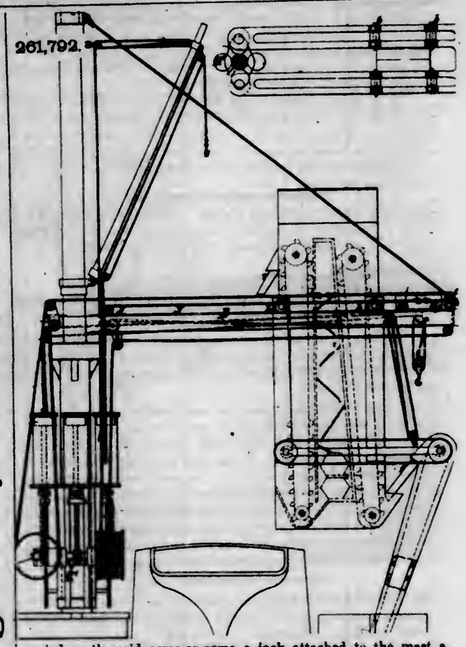
Claim.—1. The combination of a mast erected on a wharf or other place, an arm or arms supported thereon and adapted to be swung around into different positions, and a grain-elevator supported by and adapted to travel along such arm or arms, substantially as specified.

2. The combination of a mast erected on a wharf or other place, arms supported thereon and adapted to be swung around into different positions, and a grain-elevator supported by said arms, so that it may travel along them and extend up between them, substantially as specified.

3. The combination of a mast erected on a wharf or other place, an arm or arms supported thereon and adapted to be swung around into different positions, a grain-elevator supported by said arm or arms, so as to be adapted to travel along the same, and means whereby the mechanism of the grain-elevator may be driven irrespective of the position of the grain-elevator upon the said arm or arms, substantially as specified.

4. The combination of a mast erected on a wharf or other place, an arm or arms supported by the mast, so as to be susceptible of being moved into different positions, a grain-elevator supported on the said arms or arms, a jack attached to the mast, a windlass connected to the jack, and tackle connecting the windlass with the grain-elevator, so that the latter may be moved along the arm or arms into any desirable position, substantially as specified.

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5. The combination of a mast, a gaff connected thereto, a jack affixed to the mast, and means connecting the jack to the gaff, so as to enable it to raise and lower the same, substantially as specified.

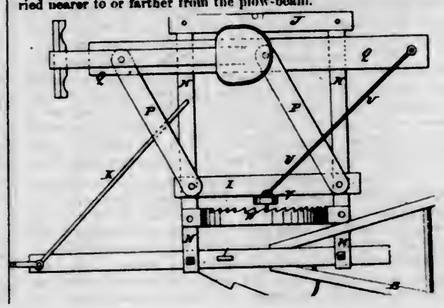
6. The combination of a mast, an arm supported thereby, a carriage adapted to travel along the said arm, a jack affixed to the mast, and means for connecting the jack with the said carriage, for the purpose of enabling the jack to move the same into different positions, substantially as specified.

7. The combination of a mast, an arm supported thereby, a carriage adapted to travel along the same, tackle extending below the carriage, whereby articles may be hoisted, another set of tackle connected with the carriage for moving it, and jacks connected with the separate sets of tackle, substantially as specified.

8. The combination of a mast, tackle connected therewith, a windlass, a jack supported on the mast, a rack-bar attached to the rod of the piston or plunger of the jack, and a piston engaging with the rack-bar and connected to the windlass, substantially as specified.

261,793. RIDING ATTACHMENT FOR PLOWS. CHARLES H. WARRE, Lewisville, Ind. Filed Nov. 28, 1881. (No model.)

Brief.—The driver's seat is mounted upon a sliding bar connected by pivoted bars to the frame, and by a lever and rod is carried nearer to or farther from the plow-beam.



Claim.—1. A riding attachment for plows, constructed substantially as herein shown and described, and consisting of the frame and its brace, the vertically-adjustable wheel, and the sliding bar having pivoting-bars and carrying a driver's seat, and the adjusting rod and lever, as set forth.

2. In a riding attachment for plows, the combination, with the frame H I J, of the pivoting-bars P, the sliding bar Q, carrying the driver's seat, and the connecting-rod U, and lever V, substantially as herein shown and described, whereby the plow can be controlled and the machine balanced by adjusting the said sliding bar, as set forth.

261,794. DENTAL HAND-PIECE. AUGUST WEBER, New York, N. Y., assignor of one-half to George E. Hodge, same place. Filed Oct. 7, 1878. Renewed Jan. 24, 1882. (Model.)



Claim.—1. In a dental hand-piece, the combination of the spindle G, having a shoulder, *m*, cap B, having a shoulder, *t*, and notch *c*, with the sleeve C and spring *g*, substantially as and for the purpose described.

2. In a dental hand-piece, the combination of the casing A, having an internal screw-thread, *f*, and an external screw-thread, M, the cap B, having the shoulder *t* and notch *c*, and screw-threaded to engage the casing-threads M, the ring C, having a projection, *b*, to engage the notch *c*, the spring *g*, connected with said ring, the spindle G, having one end slit and provided with means to engage a dental tool, the shoulder *m* on said spindle, the hollow shouldered spindle D, adapted to compress the slitted end of the spindle G, the adjusting and locking devices E F, and the spring *n*, all constructed and arranged to operate substantially as described.

261,795. DENTAL DRILL. AUGUST WEBER, New York, N. Y., assignor of one-half to George E. Hodge, same place. Filed July 29, 1881. (Model.)



Claim.—1. The screw-threaded spindle, split and provided with jaws *b* to form a chuck, as described, the fixed collar *d* thereon, and the rotating sleeve *e*, shorter than the spindle, with its forward end resting against the tapering backs of the said jaws, combined with the loose nut *f*, having screw-threads in engagement with screw-threads on the spindle, and located between the inner end of the sleeve *e* and the fixed collar, substantially as and for the purpose described.

2. The screw-threaded spindle, split and provided with jaws *b* to form a chuck, as described, the fixed collar *d* thereon, and the rotating sleeve *e*, shorter than the spindle, with its forward end resting against the tapering backs of the said jaws, combined with the loose nut *f*, having screw-threads in engagement with screw-threads on the spindle, and located between the inner end of the sleeve *e* and the fixed collar, and with the outer casing, *i*, and the tubular bearing-nut *k* inserted therein, the said casing and nut sustaining and serving to form bearings for both ends of the said sleeve, all substantially as described.

3. The screw-threaded spindle, split at its end to form a chuck, the loose nut and fixed collar thereon, the rotating sleeve connected with the spindle frictionally, and the adjustable bearing-nut *k*, combined with the casing *i*, provided within it with a tapering bearing for the tapering external forward end of the sleeve *e*, and with the bearing-nut *k*, into which the rear end of the said sleeve is entered, substantially as shown, and for the purpose described.

4. The screw-threaded chucking-spindle, its loose nut *f* and fixed collar *d*, and the rotating sleeve *e*, combined with the washers *g k*, the adjacent faces of which are, respectively, convex and concave and their remote faces flat, the said washers being interposed between the loose nut and the sleeve, with their flat faces next adjacent thereto, whereby the said washers are enabled to move one upon another, substantially as and for the purpose described.

5. The screw-threaded spindle, split and provided with jaws *b* to form a chuck, as described, the fixed collar *d* thereon, and the rotating sleeve *e*, shorter than the spindle, with its forward end resting against the tapering backs of the said jaws, combined with the loose nut *f*, having screw-threads in engagement with screw-threads on the spindle, and located between the inner end of the sleeve *e* and the fixed collar, and with the outer casing, *i*, and its tubular bearing-nut *k*, to sustain both ends of the sleeve, and the cover F^2, secured upon the casing, all substantially as shown and described.

6. The tubular covering *a* and its stop a^1, combined with cover F^2, casing *i*, and shield *p*, as and for the purpose set forth.

261,796. AMBULANCE-COT. HENRY M. WELLS, New York, N. Y., assignor of one-half to Joseph J. Walton, same place. Filed Apr. 4, 1882. (No model.)

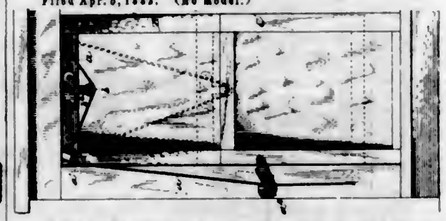


Claim.—1. A portable invalid-cot consisting of the longitudinally-flexible bottom, stiffened by transversely-arranged strips, and provided with side guards and lifting-handles, substantially in the manner and for the purposes described.

2. The combination of the cot-body formed of two thicknesses of canvas, stiffened transversely by strips, the flexible side guards adapted to receive stretcher-staffs, and the handles secured to said guards and so disposed that the lifting-power can be distributed and changed according to the requirements of the patient, substantially as described.

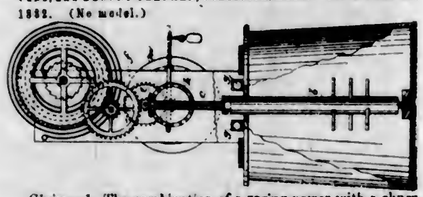
3. The combination of the binding-rope C, the transversely-slatted and longitudinally-flexible cot-bottom, the flexible guards, and the pillow applied to the head of the cot, substantially as and for the purposes described.

261,797. SASH-BALANCE. WILLIAM WIMER, Union City, Ind. Filed Apr. 5, 1882. (No model.)



Claim.—The combination, with the window-frame A, having a cord, *a*, attached in one corner of the upper sill, adapted to pass over the pulley *a'* on the opposite corner of said sill, of the sash B, provided with a T-shaped hanger, *b'*, secured centrally to its upper portion, and having a pulley, *b*, journaled in the lower end of its depending arm b^1, the said cord *a* being held by the clamping device a^1 after passing around the pulleys *b* and *a'*, substantially as shown and described.

261,798. CHURN-POWER. HENRY M. WISE, VICTOR M. STEVENS, and BENNET CHAPMAN, Oskaloosa, Kans. Filed June 15, 1882. (No model.)



Claim.—1. The combination of a spring-power with a churn having a vertical dasher in the described arrangement, consisting of the attachment of the power to the churn-top by the rods *g*, eye-stud *h*, and key *i*, and gearing said power with the dasher by bevel-wheels *k* and *l*, said dasher being supported in brackets *d* and *e* of the said power apparatus above the churn-top, substantially as described.

2. The combination, with the transmitting-shaft *j* of a spring-power apparatus geared with the churn-dasher *c*, of a weighted brake-lever, *n*, having a series of notches along it for securing the weight in different positions, substantially as described.

261,799. ADJUSTABLE EYEGLASS. FRANK R. WOODWARD, Hill, N. H. Filed Sept. 27, 1881. Renewed June 28, 1882. (Model.)

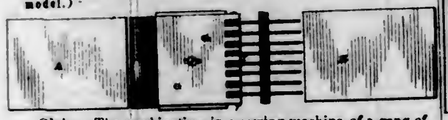
Claim.—In an eyeglass, the combination, with the spring B, secured to the lens-frame A and provided with the socket D at its free end, of the spring B', secured to the lens-frame A', having its

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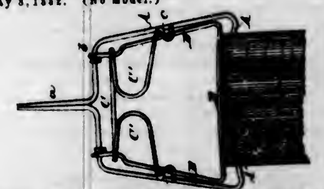
free end bent upward and provided with the slide E, substantially as shown and described, whereby the parts are prevented from being accidentally separated and provision made for accurately adjusting the parts to the required tension, as set forth.

261,800. CIRCULAR SAWING MACHINE. SAFFORD ADAMS and SAFFORD ADAMS, Jr., Rome, N. Y. Filed May 17, 1882. (No model.)



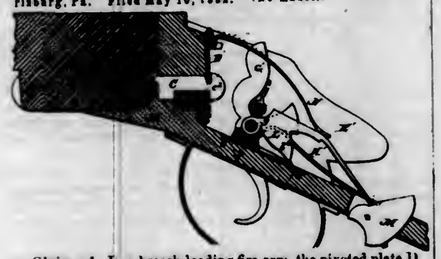
Claim.—The combination, in a sawing-machine, of a gang of saws with a plate, G, adjustable lengthwise of and parallel with the table, and provided with the fingers or projections I, which extend in between the saws, so as to form a support for the lumber, substantially as shown.

261,801. MOP-HEAD. JOSEPH K. ALTERS, Maiden Rock, Wis., assignor of one-half to John H. Brasington, same place. Filed May 3, 1882. (No model.)



Claim.—The improved mop-head herein shown and described, composed of the frame A, arched at A' and having shank *a*, hinged wire frame B, and wire spring-latch C, constructed and combined substantially as and for the purpose herein shown and described.

261,802. LOCK FOR FIRE-ARMS. PETER A. ALTMAIER, Harrisburg, Pa. Filed May 10, 1882. (No model.)



Claim.—1. In a breech-loading fire-arm, the pivoted plate D, secured to and operated by the shaft of the side lever, F, the locking-bolt C, extending through said pivoted plate, so as to be withdrawn by the latter, and the hammers arranged in the rear of said plate, so as to be cocked by the same, substantially as described.

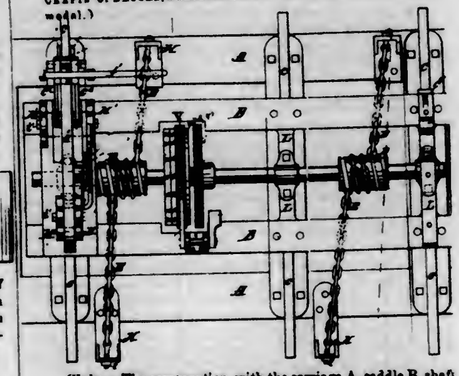
2. The combination of the hammer, the trigger, and the locking-dog I, the latter mounted on the same pivot with the hammer and provided with a point which engages with a detent in the trigger to hold the latter in engagement with the hammer, and a rearward-extending arm resting upon and operated by a secondary trigger, M, and a spring, N, to press said parts into engagement, all arranged and operating substantially as set forth.

3. In a breech-loading fire-arm, the side lever, F, its rock-shaft, the plate D, rigidly secured thereto, and locking-bolt C, in combination with the lever P, and its shaft provided with the arm *o*, and the hammers, arranged substantially as described, whereby the hammers may be cocked independently by the lever P, or the barrels unlocked and the hammers cocked by the lever F, at the will of the operator.

261,803. ROASTED PEA-GRITS. HERBERT H. BEACH, Rome N. Y. Filed Nov. 1, 1880. (No specimens.)

Claim.—Roasted pea-grits, as a new article of manufacture.

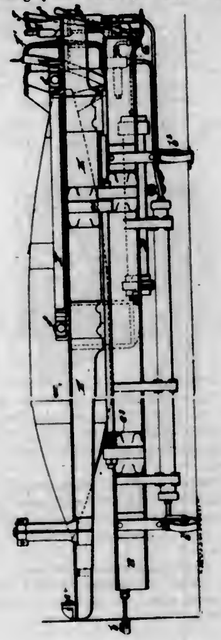
261,804. LOG-SETTING APPARATUS FOR SAW-MILLS. CHAPIN C. BROOKS, Lancaster, N. H. Filed Apr. 17, 1882. (No model.)



Claim.—The combination, with the carriage A, saddle B, shaft F, spirally-grooved drums D, and chains E, of the angle-plates H, secured to the carriage A diagonally across from each other in lines tangent to the average position of the spiral groove where it receives their respective chains, as shown and described.

261,805. APPARATUS FOR LAUNCHING TORPEDOES. PETER BROTHERHOOD, Lambeth, County of Surrey, England. Filed May 10, 1882. (No model.) Patented in England Sept. 21, 1880, No. 3,823; in France Oct. 2, 1880, No. 135,958; in Austria Oct. 2, 1880, No. 35,279; in Germany Oct. 5, 1880, No. 13,382; in Belgium Oct. 7, 1880, No. 53,783, and in Italy Oct. 17, 1880, No. 12,359.

Brief.—The torpedo rests on a carriage which slides lengthwise on a lower directing-carriage. A spring-catch holds the torpedo to its carriage until it is released automatically, when the torpedo-carriage is forced forward. The lever which opens the valve to the propelling-cylinder uncouples the two carriages.



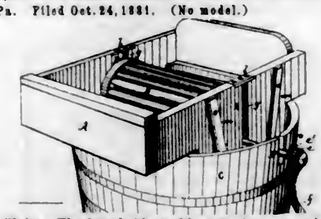
Claim.—1. In an apparatus for launching torpedoes, the combination of a carriage to rest on the deck of a vessel, a lower frame arranged to move longitudinally on the carriage, mechanism, substantially as described, for moving said frame, an upper frame arranged to move longitudinally on the said lower frame, and means for securing a torpedo to said upper frame and automatically releasing it at the proper moment, substantially as described.

2. In an apparatus for launching torpedoes, the combination of a carriage, a lower frame arranged to move longitudinally on the same, a compressed air-receiver, a cylinder connected therewith, a piston within the cylinder connected with the lower frame, and an upper frame arranged to slide longitudinally on the lower frame and provided with means to carry a torpedo, substantially as described.

3. In an apparatus for launching torpedoes, the combination of the carriage B, pivoted to the deck of a vessel, an air-receiver, C, and cylinder D, carried by said carriage, a piston within the cylinder, a frame, E, arranged to slide on the carriage and connected with the rod of the piston, and a frame, F, arranged to slide on the other sliding frame, and provided with devices for holding and automatically releasing a torpedo, substantially as described.

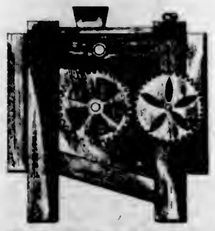
4. In an apparatus for launching torpedoes, the combination of a carriage, B, pivoted to the deck and having wheels arranged to travel on curved ways, a compressed air-receiver, C, and cylinder D, attached to the carriage, a piston fitted to the cylinder, a lower sliding frame, E, connected with the piston-rod, an upper sliding frame, F, arranged to slide on said lower sliding frame, and provided with flanges f' and hooks f^2, to retain the wings on a torpedo, a hook, a', bolt g, lever g', rod g^2, handle g^3, and air-cock G, substantially as and for the purpose described.

261,806. WASHING-MACHINE. LEWIS O. CAMERON, Bellevue, Pa. Filed Oct. 24, 1881. (No model.)



Claim.—The detachable washing attachment consisting of the frame A, having tapering side pieces, A' A', cut away at the points j, and having slots k k and springs g g located therein, grooved segments h h, detachable corrugated strips n, and fluted or corrugated roller B, provided with journal or axis e, having hand-crank f, the several parts constructed and relatively arranged to operate substantially in the manner herein shown and described.

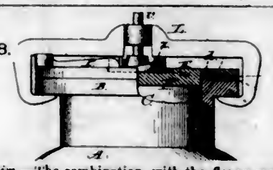
261,807. WINE AND CIDER PRESS. HENRY J. CAMPBELL, Altoona, Pa. Filed June 21, 1882. (No model.)



Claim.—1. The combination of the frame having a suitable hopper toothed at its lower edge, the cutting-cylinder, the inclined plane, wholly or partly perforated, the V-shaped trough having a straining-spout, the pressing-rollers, and suitable operating mechanism, as set forth.

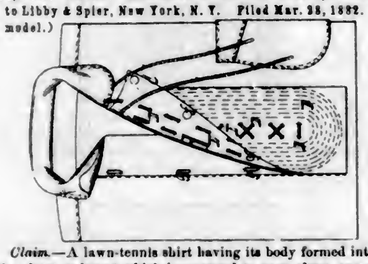
2. The combination, with the pressing-rollers, arranged and operating as herein described, of a stationary scraper bearing against the lower roller and a hinged door bearing in like manner against the upper roller, and affording access to the interior of the machine, as set forth.

261,808. JAR-COVER FASTENER. JOHN C. C. CARLTON, Atlanta, Ga., assignor of one-half to McBride & Co., same place. Filed Jan. 7, 1882. (Model.)



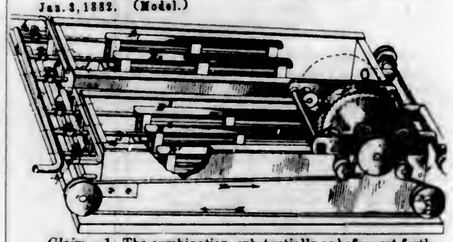
Claim.—The combination, with the flange-mouth jar A and the annularly-channeled cover having the bearing n in its top, of the double-hook bracket L and the lever-cam P, having the inclined bearings z and the stem v, to which the bracket is pivoted, substantially as specified.

261,809. SHIRT. HAMILTON S. CONANT, Brooklyn, assignor to Libby & Spier, New York, N. Y. Filed Mar. 28, 1882. (No model.)



Claim.—A lawn-tennis shirt having its body formed integral with a front or breast which is arranged to open along one of its vertical edges and provided with holes on opposite sides of its vertical central line, in combination with a cord which is drawn through such holes alternately above and below the front in imitation of lacing.

261,810. ICE-MAKING APPARATUS. THOMAS COOK and OTTO ALBRECHT, Philadelphia, Pa. Filed Feb. 6, 1880. Renewed Jan. 3, 1882. (Model.)



Claim.—1. The combination, substantially as before set forth, of two water-tanks, two connected freezing-coils, one in each tank, and forming a continuous channel for the refrigerant, and means for controlling and reversing the flow of the refrigerant through said freezing-coils.

2. The combination, substantially as before set forth, of two water-tanks, two connected freezing-coils, one in each tank, and forming a continuous channel for the refrigerant, a separate induction-pipe for each freezing-coil, and an exhaust-pipe common to both freezing-coils.

3. The combination, substantially as before set forth, of a water-tank, a fixed freezing-coil therein, and a traversing-saw.

261,811. CATERER'S DISH. SAMUEL P. COUES, Brooklyn, assignor of one-half to Joseph J. Walton, New York, N. Y. Filed Mar. 16, 1882. (No model.)

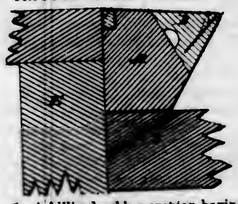


Claim.—1. In combination with the flanged dish, constructed with or without compartments and with suitable fastenings, the removable, flanged, and dished cover, constructed with a supporting-flange, and adapted to serve, when reversed, as a dining-plate, substantially as described.

2. The combination of the dish provided with hooked lips on its flange, with a removable dish-cover provided with a supporting-flange and a pivoted handle, substantially as and for the purposes described.

3. The new article of manufacture consisting of the flanged dish A, fastenings b', the removable dished plate-cover, the flanged support for this cover when it is used as a dining-plate, and the pivoted handle therefor, substantially as and for the purposes described.

261,812. BILLIARD-CUSHION. STEPHEN DE GARMO, New York, assignor of one-half to William Henry Wiggins, Brooklyn, N. Y. Filed June 3, 1882. (Model.)

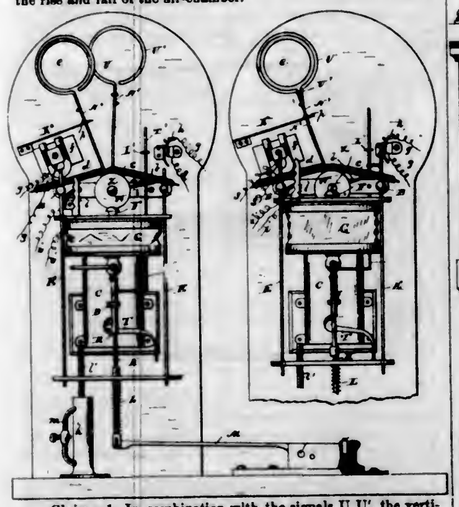


Claim.—1. A billiard rubber cushion having inclosed one or more longitudinal strips of hair-cloth placed with the woof or hair on end, substantially as and for the purpose set forth.

2. A billiard rubber cushion having inclosed one or more longitudinal strips of hair-cloth, a, placed with the woof or hair a' on end and diverging upward with the face of the cushion toward the concussion-edge b of the latter, substantially as and for the purpose set forth

261,813. RAILWAY SIGNALING APPARATUS. JOHN A. KUHBY, Boston, assignor of one-fourth to Timothy E. Stuart, West Newton, Mass. Filed Oct. 10, 1881. (No model.)

Brief.—Two disks are set to "danger" by the passing train operating a vertically-moving frame carrying an expansible air-chamber, one of said disks being returned to "safety" through the collapse of said air-chamber, which was expanded in "dangering" the signals, the remaining disk being returned to "safety" through the establishment of a circuit upon the arrival of the train at the next signal station in advance. An electric signal-bell is also rung at station in rear of the one where the signals are being set to "danger" through a contact-maker which is actuated during the rise and fall of the air-chamber.



Claim.—1. In combination with the signals U U', the vertical frame E, and elastic chamber G, the loosely-connected rod K and its spring L, the actuating-lever M, connecting with the track-lever P, and the vertical rod T', secured to the loosely-connected rod K, the whole arranged and adapted to operate to set the signals U and set and return the signal U' to normal position, substantially as specified.

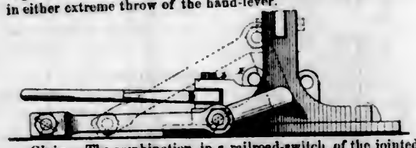
2. In combination with the flexible chamber G and its actuating mechanism, the contact-maker l and its connecting-wires i i, communicating with a suitable battery and an electric alarm, Z', at a distant station, substantially as specified.

3. In combination with the traveling frame E, the contact-maker h, communicating by suitable wires, g g, with an electro-magnet, f, and a suitable battery, the said magnet being adapted to control the signal-releasing mechanism at a distant station, substantially as specified.

4. In a signaling apparatus, the combination, with a flexible chamber, G, its lower end having a fixed connection with a suitable support and its upper end being connected with a traveling frame, of a loosely-connected rod, K, a pawl-lever adapted to engage a shoulder on the said rod, the actuating-lever, and a spring adapted to gradually raise said frame and expand the chamber and then release the pawl-lever, whereby the parts are returned to their normal position, substantially as shown and described.

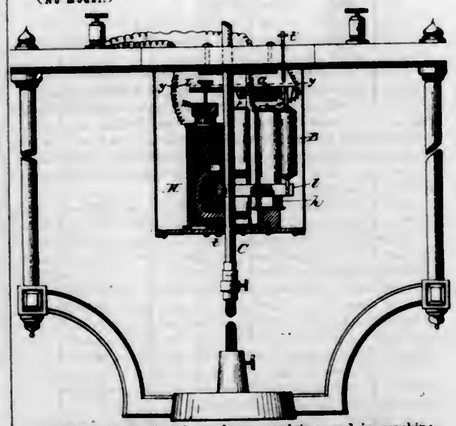
261,814. RAILROAD-SWITCH STAND. ARCHIBALD HARLEY, Topeka, Kans. Filed Mar. 25, 1882. (No model.)

Brief.—The crank-arm to which the switch-rod is united is secured on the rock-shaft to which the hand-lever is fixed at an angle to said lever, whereby the same throw of the rails is secured in either extreme throw of the hand-lever.



Claim.—The combination, in a railroad-switch, of the jointed switch-lever secured upon a rock-shaft, with the crank-arm connected with the switch-rod and fixed upon said rock-shaft at an angle to the lower or inner section of the switch-lever, whereby when the switch-lever is brought into a vertical position the crank-arm will be in an inclined plane, and thereby admit of the same throw being given to the switch-rod when the switch-lever is vibrated at either side of the standards between which it is mounted, substantially as described.

261,815. ELECTRIC-ARC LAMP. JAS. A. JENNEY and CHAS. D. JENNEY, Fort Wayne, Ind., assignors to the Fort Wayne Electric Light Company, same place. Filed Mar. 11, 1882. (No model.)



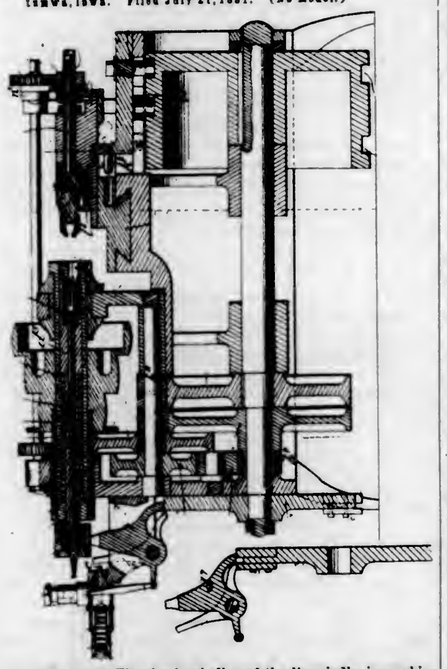
Claim.—1. In electric-arc-lamp regulators, and in combination, a solenoid whose core has an adjustable connection with one end of a pivoted lever, and a weight and shunt-helix at the other end of said lever, substantially as and for the purposes set forth.

2. In electric-arc-lamp regulators, the combination of a solenoid whose core has an adjustable connection with one end of a pivoted lever, a weight and shunt-helix at the other end of said lever, and a carbon-clutch, substantially as and for the purposes set forth.

3. In an automatic electric-arc-lamp regulator, the coarse-wire helices H H, the fine-wire helices k k, with soft-iron cores fixed in their centers, the pivoted lever L, the soft-iron U-magnet M, the soft-iron armature A, the balancing-weight B, the clutch, the adjustable screw-tops t and t', and the supporting-frame, combined and operating substantially as described and set forth.

4. In a roller-clutch to be applied to the carbon or carbon-holder in an automatic electric-arc-lamp regulator, a bent lever pivoted to the clutch-collar by its shorter arm, and to the lifting-piece, lever, or other device of the regulator by the other or longer arm, and to the roller at its angle or apex, substantially as described and set forth.

261,816. METAL-SCREW MACHINE. ALLEN JOHNSTON, Ottumwa, Iowa. Filed July 21, 1881. (No model.)



Claim.—1. The chuck-spindle and the die-spindle, in combination with the system of gearing comprising the shaft parallel with the axes of said spindles, toothed gears between the said shaft and the chuck-spindle at one end of said shaft, and toothed gears and links between the said shaft and the die-spindle at the opposite end, said gears and links being constructed, substantially as described, to allow one of said spindles to have a lateral movement with respect to the other, as set forth.

2. The combination, with the revolving chuck, the die-spindle, movable lengthwise in its bearings, the revolving shaft or sleeve, the clutch for revolving said spindle with said shaft or sleeve when engaged, the longitudinal slide, and the cam and connections for advancing said slide to bring the threading-tool into action upon the stock held in said chuck, and for effecting or controlling the return of the same, of the stop-clutch comprising a projection on the spindle, and a non-rotating projection extending inside the circular path of the end of the former projection, and arranged to engage it when the spindle is drawn forward in its bearings, one of said projections having a long contact-surface, so as to permit a longitudinal movement to the spindle without disengaging the projections, substantially as described.

3. The safety stop-clutch described, comprising, in combination with the spindle, the clutch device carried by and revolving with the same, and the non-rotating clutch device for engaging the clutch device on the spindle when the latter is drawn forward in its bearings, the spring connected with one of said devices, and arranged to yield and allow said device to be moved longitudinally when the two devices do not fairly engage, substantially as described.

4. The combination, with the chuck adapted to receive and grasp a rod or long screw-stock, the series of cutting-tools—such as turning, milling, or threading tools—laterally and longitudinally movable supports or slides, and the feed-clamp or device for taking hold of the rod or screw-stock, of the automatic mechanism for reciprocating the laterally and longitudinally movable supports or slides to bring the aforesaid cutting-tools into action on the aforesaid rod or screw-stock, the automatic mechanism for relieving and restoring the pressure of the chuck-jaws, and the automatic mechanism for advancing said clamp a determined distance when the pressure of the chuck-jaws is relieved, so as to advance the rod step by step, substantially as described.

5. The combination, with a hollow revolving spindle and a chuck carried thereby, of a feed-clamp, mechanism for closing, advancing, opening, and returning said clamp, and friction devices carried by a tube held in place in aforesaid spindle by means of a collar, so that said friction devices are free to revolve with the rod or screw-stock when the latter is grasped by the chuck-jaws or to remain stationary when it is grasped by the feed-clamp, substantially as described.

6. In a chuck, the combination, with the wedges formed by the ends of a slotted tube, of the stay-pieces, also formed by the ends of a slotted tube, and arranged alternately with the wedges, substantially as described.

7. The combination, with a tube having its ends slotted to form stay-pieces, of chuck-jaws secured to said tube, and wedges held in position between the stay-pieces, substantially as described.

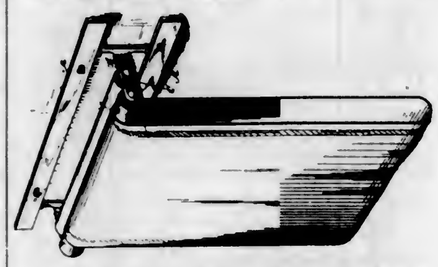
8. The combination of a solid head, stay-pieces fastened thereto, chuck-jaws, and wedges longitudinally movable between the stay-pieces, the solid head, and the chuck-jaws, substantially as described.

9. A four-motion feed-clamp comprising, in combination, a slide, a lower jaw, an upper jaw, a follower, and a spiral spring interposed between the follower and the upper jaw, substantially as described.

10. The combination, with the chuck, the longitudinal slide, the threading-tool comprising a die-spindle, a clutch for engaging the said spindle during the threading operation, and the second clutch for engaging the spindle during the unthreading operation, and mechanism for reciprocating said slide to bring the threading-tool into and out of action, of the spring tending to draw the die-spindle backward or away from the chuck, so as to engage the first-named clutch, but adapted to yield and allow the spindle to be drawn forward when required, substantially as described.

11. The improved automatic screw-machine, comprising, in combination, the hollow rotary spindle, the chuck, mechanism for opening and closing said chuck, the feed-clamp, mechanism for operating said feed-clamp, the laterally-moving tool-holder, the series of tool-slides thereon, the cams and connections or equivalent mechanism for moving said tool-holder and tool-slides back and forth in lines at right angles to each other, gears for communicating motion from the chuck-spindle to the said cams, the die-spindle with sleeve and clutches supported on one of said tool-slides, toothed gears for conveying motion from the chuck-spindle to the die-spindle, and the cutting-off tool, substantially as described.

261,817. TOWEL-RACK. JAMES H. MALLORY, La Porte, Ind. Filed Apr. 15, 1882. (No model.)



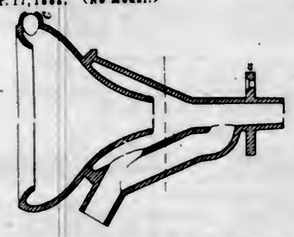
Claim.—1. A towel-rack combining in its structure the horizontally-swinging roller-supporting arms, pivoted to a frame and provided with slotted bearings, the rollers having journals arranged in said slotted bearings, and a spring acting on one of said rollers, substantially as described.

2. The combination, in a towel-rack, of a frame adapted for attachment to a door or wall, two roller-supporting arms pivoted to said frame and adapted to swing horizontally, said arms having elongated bearings, two rollers having journals arranged in said bearings, one of which is adapted to slide in its bearings toward and from the other roller, and springs carried by the roller-supporting arms and acting on the roller adapted to slide in its bearings, substantially as described.

3. The combination, in a towel-rack, of horizontal roller-supporting arms having elongated bearings, two rollers having journals arranged in said bearings, one of the rollers being adapted to move in its bearings toward and from the other roller, and springs whereby the said roller is subjected to pressure, substantially as described.

4. A knockdown towel-rack consisting of parallel bars A, roller-supporting arms C, having horizontal slots c, and spindles pivoted between the bars and adapted to swing between the same, rollers having journals adapted to the slots in the said roller-supporting arms, and springs carried by the latter and acting on one of the rollers, substantially as described.

261,818. WATER-CLOSET. GEO. C. PHILLIPS, Boston, Mass. Filed Apr. 17, 1882. (No model.)

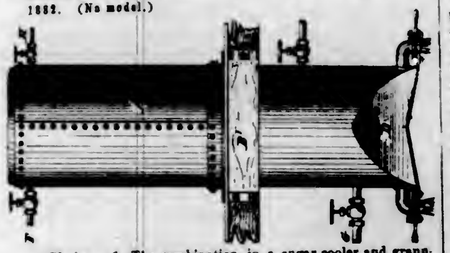


Claim.—1. The combined water-closet bowl and hopper having the ventiduct extended upward alongside of and against the outer surface of the hopper and formed in part by the hopper, as set forth.

2. The bowl extended downward within the hopper, in combination with the hopper provided with the ventiduct leading out of the lower part of it, and also with the passage or duct *d*, leading from the hopper into the ventiduct from the space *e* about the extension of the bowl within the hopper, all being substantially as set forth.

3. The bowl and hopper in one piece, and arranged as described, and provided with the ventiduct projecting upward from the hopper and formed in part thereby, and having main and auxiliary openings leading into it from the hopper, all substantially as set forth.

261,819. SUGAR COOLER AND GRANULATOR. JOSEPH FIRMENICH and FRANK FIRMENICH, Buffalo, N. Y. Filed May 16, 1882. (No model.)



Claim.—1. The combination, in a sugar cooler and granulator, with the outer shell, A′, having on its lower end the flattened portions D and discharge gates or valves in the corners of said flattened portion, of the inner shell, A″, extending to near the lower end of said exterior shell, the supply-pipes E and H, discharge-pipes F and G, and the beater shaft or shafts N, with the agitators Q, the whole being constructed for operation substantially in the manner as and for the object specified.

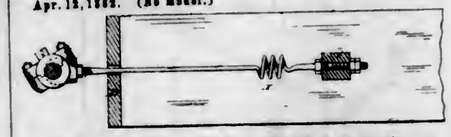
2. In sugar coolers and granulators, an exterior shell, A′, having its lower end flattened and tapered off, so as to gradually contract the interior space in said shell on two opposite sides, as specified, and provided with discharge-valves in the lowest points of said flattened and tapering portion, substantially as and for the purpose stated.

3. In sugar coolers and granulators, two shells, as described, the outer one being flattened or contracted on its lower end and provided with discharge valves or gates in the corners, substantially as specified.

4. In sugar coolers and granulators, two shells, as described, contracted at the lower end, as specified, and provided with discharge-valves at the lowest part, two series of agitators or beaters revolving in opposite directions within the inner shell, supply-pipes for the frigorific and calorific media, and two sets of means for discharging the former medium, as and for the object stated.

5. In sugar coolers and granulators, an exterior shell, A′, having its lower end flattened and tapered off, so as to gradually contract the interior space in said shell, substantially as specified, and provided with discharge-valves in the lowest points, in combination with suitable means for heating and cooling (or either) the interior of said shell, substantially in the manner as and for the object specified.

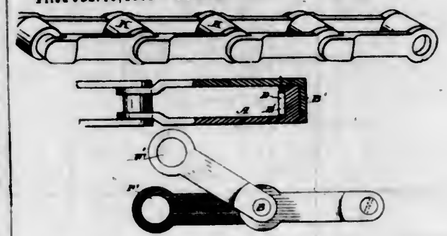
261,820. PITMAN. MILFORD HARMON, Jackson, Mich. Filed Apr. 12, 1882. (No model.)



Claim.—1. A pitman which consists of a single member, attached at one end directly to the crank-pin, another portion of which is attached directly to the part to be reciprocated, said parts being connected by means of an elastic longitudinally-extensible device, substantially as set forth.

2. A pitman for imparting a reciprocating motion, having the portion F and the coil I formed integrally, substantially as set forth.

261,821. CHAIN. FRANCIS M. LECHNER, Columbus, Ohio, assignor to the Lechner Mining Machine Company, same place. Filed Jan. 19, 1882. (Model.)



Claim.—1. A chain-link the side bars of which are detachably connected together at one end by lateral projections which are formed integrally with the side bars, and which engage directly with each other to form a hinge having an axis perpendicular to the side bars, and locking devices connected permanently with and carried by the side bars, and arranged to be carried into and out of engagement by the side bars when they move around said axis, in combination with an anti-friction roller adapted to be mounted on the hinge-connection between the side bars provided as aforesaid, substantially as set forth.

2. A chain-link constructed with the side bar A, the side bar A′, and the end bar B′, formed integrally with the side bar A′ and perpendicular thereto, means formed integrally with the side bar A, for detachably connecting said end bar to side bar A, and arranged to move into and out of engagement with end bar B′ on straight lines, and locking devices connected permanently with the side bars, and carried into and out of engagement when the side bars are rocked relatively to each other in different but parallel planes, whereby the link is adapted to have an anti-friction roller passed longitudinally onto said end bar B′, and to lock said roller in position when the side bars are oscillated, substantially as set forth.

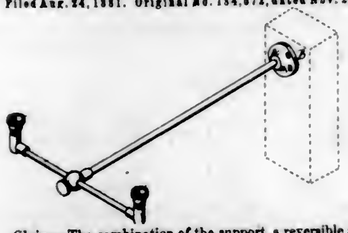
3. The side bar A, with the end bar B, and projection E, in combination with the side bar A′, having the laterally-projecting bar B′, provided with the socket *b*, slot D, and the stop *d*′.

4. The side bar A′, with the socketed or hollow end bar B′, provided with a slot, D, and with the recess *d*, communicating with the slot D and with the socket, in combination with the side bar A, having the end bar B, and the projection E, adapted to pass through the slot D into the recess *d*, substantially as set forth.

5. The side bar A′, having at one end the eye F′ and at the other end the laterally-projecting end bar B′, formed integrally with the side bar A′, and provided with a socket formed on straight lines transverse to the side bar, in combination with the opposite side bar, A, having the eye F at one end and the laterally-projecting bar B at the other end, formed on straight lines transverse to the side bar, and adapted to slide longitudinally into the end bar B′, and means, substantially as described, for locking the two side bars together when they are in the same plane.

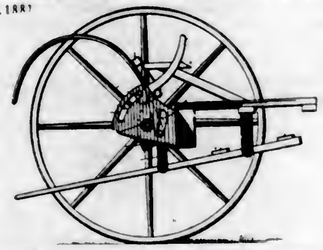
REISSUES.

10,167. LAMP-BRACKET. SAMUEL S. BARRIS, Brooklyn, assignor, by mesne assignments, to H. E. Shaffer, Rochester, N. Y. Filed Aug. 24, 1881. Original No. 184,572, dated Nov. 21, 1876.



Claim.—The combination of the support, a reversible and adjustable lamp or candle holder, and a fastening device for securing the lamp or candle holder at any adjustment, as set forth.

10,168. HORSE-RAKE. CORNELIUS BOLLINGER, Harrisburg, Pa. Filed May 19, 1882. Original No. 237,951, dated Feb. 22, 1881.

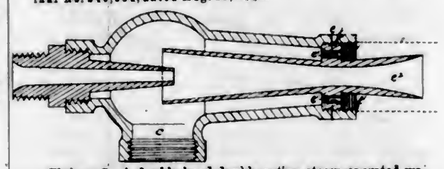


Claim.—1. The combination of an ascending and descending rake-head, rake-teeth, a rear tooth-support arranged in supporting-guideways in which it is adapted to rock and rise and fall, and means for operating the rake-head to cause the rear tooth-support to first rock in its bearings to throw the points of the teeth rearward and upward and then ascend to lift the teeth.

2. The combination of the axle, the plates or castings provided with the short journals for the ground-wheels and with guideways, the rake-head and rear tooth-support, and means for causing the rake-head and tooth-support to ascend and descend in said guideways, substantially as described.

3. The combination of the axle, the plates or casting provided with guideways, the rake-head and rear tooth-support, and means for causing the rake-head and tooth-support to ascend and descend in said guideways, substantially as described.

10,169. EJECTOR. HUGH COLL, Black Hawk, assignor to J. B. & Wm. J. Sherriff, Pittsburg, Pa. Filed June 24, 1882. Original No. 246,084, dated Aug. 23, 1881.



Claim.—1. A double-head double-acting steam-operated water-ejector having a detachable inner head attached to the outer head by a flange provided with openings for the passage of water from the outer head into the discharge-pipe *f'*, substantially as and for the purposes described.

2. A double-head steam-operated ejector having a detachable inner head attached to the outer head by a flange, an outward extension, *e'*, of the inner head beyond the outer head, and discharge-openings leading from the chamber of the outer head through the flange into the said extension, substantially as and for the purposes described.

THE ELIOTYPE PRINTING CO BOSTON

DECISIONS
OF THE
COMMISSIONER OF PATENTS
AND OF
UNITED STATES COURTS IN PATENT CASES.

DECISIONS OF THE U. S. COURTS.

Supreme Court of the United States.

JOHNSON *et al. v.* THE FLUSHING AND NORTH SIDE RAILROAD COMPANY.

Decided May 8, 1882.

1. REISSUE—METALLIC ROOFING—NEW MATTER.

Where the original patent was for a complicated contrivance consisting of a number of old devices combined and specially adapted to the fastening of metallic coverings to buildings, and all the parts of the device were described as absolutely essential to the purposes set forth, and, after a delay of fifteen years, the patent was reissued to cover the fish-plate joint used by the defendant by omitting several of the devices essential to the combination described in the original patent, and by making separate claim for the parts which remain, giving to those parts a new and essential function, which they could not perform under the original patent, *Held*, that the reissued patent describes another device operating in a different way and for a different purpose from that described in the original patent, and is therefore void.

2. SAME—SAME—LACHES.

It appearing that the fish-plate joint in question was in general use throughout the entire life of the original patent, *Held*, that there was no error in the original patent caused by inadvertence, accident, or mistake which could have escaped the notice of the patentee and his associates for fifteen years, and even if the patentee had the right to a reissue, if applied for in seasonable time, he had lost it by his laches and unreasonable delay.

3. LETTERS PATENT TO JOHNSON EXAMINED AND HELD TO BE VOID.

Reissue letters patent granted Asa Johnson, April 16, 1872, examined and found to be invalid by reason of new matter and want of novelty in the invention.

APPEAL from the Circuit Court of the United States for the Eastern District of New York.

Mr. Thos. Bracken and *Mr. B. F. Butler* for the appellants.

Mr. A. McCallum and *Mr. S. D. Law* for the appellee.

STATEMENT OF THE CASE.

On May 19, 1857, an original patent was granted Asa Johnson, the inventor, and to William Hughes and Henry Link, his assignees, for an improved mode of fastening sheet metal on roofs, &c. The specification declared the invention to be "a new and usefnl mode of self-adjusting fastenings for fastening metallic coverings to buildings, and in any and all other places where metals require fastening and their contraction and expansion demand accommodation." Appended to the specification are five figures illustrative thereof, which are referred to and described.

The specification then proceeds as follows:

In the operation of my invention, after sheeting the roof, if the boards do not exceed an inch in thickness, I bore a hole at the point where I wish to insert the stud about the size as seen in vertical dotted lines in Figure 2. The holes may be made larger or smaller to allow for contraction and expansion, so that the studs can move freely in any direction required. The bottom plate is then screwed firmly to the boards by the screws *s s*, seen in Figs. 2 and 4, and the screw 1 passes through the metallic covering into the stud 2, thus firmly fastening the covering K to the stud, as seen in Fig. 2.

It will be further seen that the cord 7 passes through the stud 2, Fig. 4, and then through the bottom plate, and is fastened together, as at *g*, in said figure, thus always keeping the stud in an erect position until attached to the metal. If the covering contract on a line parallel with the connecting-pin 8, the adjustable connecting-rod 2 will move on it toward one of the flanges, 4, when it expands it will move toward the opposite flange, thus moving toward the point of contraction, and from the point of expansion with this metallic covering.

The adjustable stud, in addition to its parallel and longitudinal movement, is capable of a diagonal movement, thus accommodating itself to any direction required by the metal contracting or expanding.

I contemplate using them as general fasteners when it is necessary to allow for the contraction and expansion of the material used, not confining myself to buildings only. I may find, in using my adjustable fasteners, it necessary to make some of them (those that are in parallel lines with the flanges) to fit up close to the sides of the studs, as seen at 1 1 in Fig. 2, allowing them to move in but one direction on the pin 3, which slides in the slots in the flanges 4 4.

The claim was thus set forth:

In the self-adjusting fastener, as described, for the purpose of attaching metallic coverings to buildings and accommodating itself to the contraction and expansion of the metal, and for fastening metals in all other places when the contraction and expansion demand accommodation, substantially as set forth, or any mechanical device equivalent thereto.

At the expiration of the original term of the patent, fourteen years, an extension of seven years was granted to Johnson, who subsequently assigned a two-third interest in his extended patent to his co-complainant, Thomas S. Sandford. Afterward, on April 16, 1872, Johnson surrendered his original patent and took out a reissue of that date. The specification of his reissue describes the invention generally as "a new and useful mode of self-adjusting fastenings for fastening metallic coverings to buildings, and for use in any and all other places where metals require fastening, and their contraction and expansion require accommodation." Then follows a reference to and description of the same five illustrative figures which form part of the specification of the original patent.

The specification then proceeds as follows:

The principle of my invention consists in connecting the metal to be fastened with a bolt or pin arranged to slide in slotted bearings in the direction of expansion or contraction, said adjustable bolt and its bearings being combined with the materials to be fastened.

I have found my adjustable fastener peculiarly useful in fastening metallic roofs to buildings, and I proceed to describe its construction and use.

In using my self-adjusting fastener for fastening metallic roofs to buildings I connect the sliding bolt or pin with the roof by means of a stud fastened to the same, and I form the side plates, which contain the bearings for the sliding bolt, in connection with and as flanges of a bottom plate, which is secured fast to the under side of the wooden sheathing of the building.

In the drawings, 1 indicates the screws for attaching the metallic roof to the stud. 2 is the stud. 3 is the adjusting bolt or pin, to which the metallic roof is connected by the stud and screw, said bolt passing through the stud 2 and through the slots of the side plates or flanges. 4 4 are the side plates or flanges, provided with slots, which form the bearings of the adjusting-bolts. 5 is a bottom plate, used as a convenient means of attaching the side plates to the wooden sheathing of the building. 6 6 are the slots in the side plates, in which the adjusting-bolt slides. 7 is an india-rubber cord, which may be used in applying the adjustable fastener to buildings. It is connected with the stud by being passed through an opening in it. It then passes down on each side of the stud and through an opening in the bottom plate, where it is fastened, as indicated at *g* in the drawings, and is used for keeping the stud in an erect position until after the stud has been inserted through the sheathing from below and until it is attached to the metal roof. Without some contrivance of this kind it would be difficult in the position indicated to keep the stud in position while the connection was being made.

S S are screws for attaching the bottom plate, and with it the side plates, to the sheathing. G is the sheathing of the roof, greatly enlarged in thickness in proportion, to illustrate the details of the connection of the adjustable fastener to buildings. H is the metallic roofing.

The method of using the invention in attaching metallic roofing to buildings is as follows: After sheathing the roof a hole is bored in the sheathing, at the point where the adjustable fastener is to be used, of sufficient size to allow the connecting-stud to move in the same with the expansion or contraction of the metallic roof. These holes receive the slotted flanges or side plates, 4 4, and they are indicated in the drawings by the letter *a*. (See Fig. 2.) They should be of the shape and size required by the extent and direction of the contraction and expansion to be allowed for. The flanges or side plates are inserted in the holes, and the bottom plate is then firmly secured to the boards or sheathing G by the screws S S, as seen in Fig. 2. Where the sheathing is sufficiently thick a hole may be bored into it to receive the fastener from above. The side plates, 4, and adjusting-bolt 3 are thus connected with the building. The connection with the metallic roof is then effected by holding the stud in an erect position by means of the rubber cord and attaching the stud to the roofing by means of the screw 1. Both the wooden sheathing and the metallic roof are thus connected to the self-adjusting mechanism, consisting of the slotted side plates and the bolt which slides in them.

It is obvious that if the metal of the roofing contracts or expands in a line with the slots in the side plates, that the bolt will adjust itself to such contraction or expansion by sliding in the slots in the proper direction. On the other hand, in cases where the line of contraction or expansion may be diagonal, or at right angles to the line of the slots in the side plates, the connecting-stud is arranged to slide upon the adjusting-bolt, as it is shown it may do in Figs. 2 and 3. Where, however, the movement is only sensible in the direction of the slots, the side plates are made to fit up close, as seen at Fig. 2 in the illustrations marked *, where the side plates or flanges are seen in cross-section, so that the only practical adjustability shall be in the direction of the slots.

I contemplate using my invention as a general fastener where it is necessary to allow for the contraction and expansion of the material used, not confining myself to buildings only.

The first claim of the reissue was substantially identical with the one claim of the original patent. The second claim of the reissue was as follows:

I claim—

In combination with the adjusting-bolt and slotted side plates, suitably connected to and combined with the materials to be fastened together for the purpose of accommodating the expansion and contraction of such materials with reference to each other, substantially as specified.

The bill in this case was filed to restrain the defendant railroad company from infringing the second claim of the reissued letters patent. The infringement complained of was the use by the railroad company of what is commonly known as the "fish-plate joint" for uniting the ends of railroad-rails. It consists of two iron plates of proper shape and size to fit the web, which is the upright portion of the rail between its head and base. The plates are fastened one on each side of and near the ends of two abutting rails by means of bolts and nuts, the bolts passing through corresponding holes formed in both the plates and rails. In order to permit the rails to expand and contract with the changes in temperature, their ends are not allowed to form a close joint, and the holes, either in the fish-plates or in the rails, are made larger than the bolts, and are elongated in the direction of the length of the rails. By these means the expansion and contraction of the rails are "compensated" without injury to the joint.

The defenses set up in the answer of the appellee were the invalidity of the reissue, because, as was alleged, the original patent was not lawfully surrendered and the reissue was not lawfully issued and want of novelty in the invention covered by the second claim of the reissue. The appellee also denied infringement.

The circuit court dismissed the bill, holding that the reissued patent was void because it was not for the same invention as that described in the original patent.

The appeal of the complainants has brought the case to this Court for review.

Mr. Justice WOODS delivered the opinion of the Court.

The appellee insists that the invention covered by the second claim of the reissued patent, of which infringement is charged, is neither described in the specification nor claimed in the claim of the original patent, and that the reissue is therefore broader than the original patent, and consequently void. It takes but slight comparison of the original and reissued patents to show that this contention of the appellee is well founded.

The original patent was for a complicated contrivance consisting of a number of old devices combined, and specially adapted to the fastening of metallic coverings to buildings, and for use in all other places where metals require fastening and their contraction and expansion require accommodation. To make the invention of any practical value for the purpose suggested in the specification to the original patent and for use in the other places referred to all the parts of the device therein described, except, perhaps, the rubber cord, which is only for temporary use in applying the device, are absolutely essential. Nowhere in the specification is it indicated or suggested that any part of the device described can be dispensed with. It is perfectly clear that the stud and bottom plate of the contrivance are absolutely necessary to the only specific use mentioned in the specification. If these are left out, there is no connection between the two materials to be fastened together—namely, the metal roof and the wooden sheathing under it. As the declared purpose of the invention is the fastening of these two materials together, it is difficult to see how the parts of the device essential to the fastening can be discarded and the invention still remain perfect and unchanged. On recurring to the second claim of the reissued patent we find that the metal roof to be fastened, the stud, the bottom plate, and the screw which fastens the metal roof to the stud are all eliminated from the invention, and there is nothing left but the adjusting-bolt 3 and the slotted side plates, 4 4. As thus left it is impossible to apply in a practical manner the device to the fastening of sheet-iron to a roof or the fastening of any sheet metal to anything whatever. If the second claim of the reissued patent, as insisted by appellants, covers the fish-plate joint used by the appellee, it must cover a combination of (1) the two materials to be fastened together; (2) two slotted side plates on opposite sides of the materials to be fastened, which serve as clamps to hold such materials in position; (3) the adjusting-bolt. The claim is so interpreted by the expert witness of appellants. Under the original patent the materials or things to be fastened together are the metallic covering of the roof and the under surface of the wooden sheathing on which it is laid. The slotted plates or flanges are fastened to the under side of the sheathing by the bottom plate, which connects the flanges, and they form a support for the adjusting-bolt; but the slotted flanges do not embrace or clamp any part of the wooden sheathing or any part of the metallic covering of the roof, much less do they embrace or clamp at the same time the sheathing and the metallic covering, which are the things to be fastened together. But in the reissued patent the slotted plates not only furnish bearings for the bolt, but perform a new and essential function of furnishing a strong lateral support to the materials to be fastened together by clamping the same between them. We find, therefore, that in the reissued patent several of the devices essential to the combination described in the original patent are left out and a separate claim made for the parts which remain, and to these parts a new and essential function is given, which they could not perform under the original patent. It is therefore perfectly clear that the second claim of the reissued patent was not covered by the original patent. It describes another device operating in a different way and for a different purpose.

Under the circumstances of this case there can, in our opinion, be but one conclusion, and that is that the second claim of the reissued patent is void.

There was no error in the original patent caused by inadvertence, accident, or mistake which could have escaped the notice of the patentee and his associates for fifteen years. It is not open to dispute that the fish-plate joint precisely such as the appellants claim is covered by their reissued patent was in general use during nearly the entire life of the original patent. Why did not the patentee earlier discover that all this use of the fish-plate joint was really an infringement on his patent and apply for a reissue and assert his rights? He has rested supinely until the use of the fish-plate joint has become universal, and then, after a lapse of fifteen years, has attempted by a reissue to extend his patent to cover it. We think it is perfectly clear that his original patent could not be fairly construed to embrace the device used by the appellee, which appellants insist is covered by their reissue. If the reissued patent covers it, it is broader than the original, and is therefore void. (*Giant Powder Company* v. *Cal. Vigorit Powder Company*, 6 Saw., 508; *Powder Company* v. *Powder Works*, 98 U. S., 126; *Ball* v. *Langle*, 102 U. S., 128; *James* v. *Campbell*, decided at the present term.) Even if the patentee had the right to a reissue if applied for in seasonable time, he has lost it by his laches and unreasonable delay. (*Miller* v. *The Bridgeport Brass Company*, decided at the present term.)

The defense of want of novelty set up in the answer is, in our opinion, also sustained by the evidence. The testimony shows that the device of employing slotted plates and bolts, to allow of expansion and contraction, caused by changes in temperature, was applied in the manufacture of locomotives long before the year 1843, the earliest date at which Johnson, the original patentee, claims to have conceived his invention. By this contrivance the expansion and contraction of the boiler of the locomotive upon its frame, caused by alternate heating and cooling, was accommodated. This device was in common use before the year 1843, and it much more nearly resembles the fish-plate joint used for uniting the iron rails of a railroad than it does the contrivance described in the original patent of Johnson. Many other instances of the application of the principle of this device prior to the date of Johnson's original patent are shown by the evidence. Among these were the use by the Newcastle & Frenchtown Railroad Company in 1837 of iron rails embodying substantially the present fish-plate joint, and the use of the same device by the Oswego & Syracuse Railroad Company in 1848. In the first of these instances but one plate was used for each joint, and there was an oblong hole in one end only of every rail. In the second instance two plates were used to every joint, and the holes in both ends of the plates were oblong. There are other instances of the use of this device for joining iron rails, which the record discloses. The evidence leaves no doubt upon our minds that the device now used by the appellee, and which is alleged to be an infringement on appellants' patent, was well known and publicly used for several years before the application of Johnson for his original patent in 1857.

An attempt is made to elude the force of the testimony on the question of novelty by introducing evidence to show that Johnson, as early as the year 1843, made a small model of a device similar, as is claimed, to the present fish-plate joint, and also some drawings upon the fly-leaf of a book of the same contrivance, and these, it is claimed, show that Johnson was the first inventor of the fish-plate joint, and that his patent, afterward obtained in 1857, cut off the claims of intermediate inventors, if any such there were. We have examined the model referred to, and cannot see that it contains any suggestion of the fish-plate joint. It is simply an oblong strip of sheet-iron, having its sides bent over so as to form flanges, and with four oblong holes in each flange corresponding with similar holes in the other, and a bolt to pass through the corresponding holes in the flanges. The model is a single piece of sheet-iron, supposed to represent an iron rail. There is no suggestion that it is to be connected with any other rail, and there are no plates or bars with which to make the connection. If the model suggests anything, it is simply the use of a bolt in slotted holes, which, as the testimony in this case shows, was a device in common use in many ways long before the year 1843. It is alleged that the model spoken of was made by Johnson when he was about twenty years of age. It does not appear that at this time he had ever seen an iron rail such as those to which a fish-plate joint can be applied, or that he had ever seen a railroad. According to Johnson's testimony the model, when finished, was placed by him upon the plate under the eaves of a wood-house, where it remained unseen by any one for thirty-three years, until the spring of 1876, when he returned to the place where he had lived in 1843 and got the model for the purposes of this suit. It is sufficient to say that the proof fails to show that Johnson in 1843, or at any time before the fish-plate joint for uniting iron rails came into use, was the inventor of that device, or that he ever invented it at all. It was not described in his original patent, and he never set up any claim to it until the year 1872, when its use had become universal wherever railroads were constructed.

On both grounds, therefore—the invalidity of the reissued patent and want of novelty in the invention which appellants contend was covered by the original patent—we are of opinion that the circuit court was right in dismissing the bill. Its decision must therefore be affirmed.

U. S. Circuit Court—Southern District of New York.

JENNINGS *et al.* v. KIBBE *et al.*

Decided February 20, 1882.

1. DESIGNS—TEST OF IDENTITY—ORDINARY OBSERVER.
   The true test of identity of a design is sameness of appearance; in other words, sameness of effect upon the eye of an ordinary observer, bringing to the examination of the article upon which the design has been placed that degree of observation which men of ordinary intelligence give.
2. SAME—SAME—VISUAL COMPARISONS.
   Where the designs are of simple character and no testimony as to infringement is submitted by the defendants, it is not improper for the court to compare the defendants' design with the patents, and determine the question of identity by such comparison.

Mr. A. v. Briesen for the plaintiffs.
Mr. J. R. Bennett for the defendants.

BLATCHFORD, *J.*:

This suit is brought on two letters patent for designs. One is No. 10,388, granted to Abraham G. Jennings, for fourteen years, on January 1, 1878, for a design for lace purling. The other is No. 10,448, granted to Warren

P. Jennings, for seven years, on February 12, 1878, for a design for a fringed lace fabric.

The specification of No. 10,388 says:

Figure 1 represents a photographic illustration of my new lace purling. Fig. 2 is a photographic illustration of the same design, made of coarser threads.

This invention relates to a new design for a lace fabric, and consists in providing the pillars thereof with more or less irregular laterally-projecting loops, thereby imparting to the entire fabric a puckered, wavy, purl-like appearance, which is indicated in the photograph. The loops on the pillars are placed close together to increase the effect.

The claim is this:

The design for a lace purling the pillars whereof are provided with irregular laterally-projecting loops, substantially as shown.

The specification of No. 10,448 says:

The accompanying photograph illustrates a face view of my new design.

This invention relates to a new looped fringe applied in series to lace fabrics.

A represents the lace fabric of usual kind. B B are the disconnected fringes applied thereto. Each fringe B is formed with loops at both sides of a central stem or rib along its entire extent, as shown, thus producing a peculiar full and yet loose effect. The fringes are arranged in series of rows and suspended from the lace fabric.

The claim is this:

The design for a lace fabric provided with disconnected doubly-looped fringes B, leaving loops at both sides of a central stem or rib, substantially as shown.

The answer denies infringement and sets up various defenses to both patents. In taking proofs for final hearing, the counsel for the defendants being present, the plaintiffs put in evidence the two patents and assignments to the plaintiffs and a nubia. The counsel for the defendants admitted on the record of proofs that the said nubia was purchased from the defendants' firm prior to the commencement of this suit. The plaintiffs then rested their case. The defendants took no testimony. The plaintiffs bring the case now to final hearing on the foregoing evidence, without introducing any witness to show the identity of design between what is found in said nubia and in the plaintiffs' patents. The defendants contend that it is not sufficient for the plaintiffs to show merely the sale of the nubia by the defendants and to leave the court to inspect the nubia and compare it with the patents, but that the plaintiffs must produce a witness to testify to identity of design.

In *Gorham Company* v. *White* (14 Wallace, 511) the Supreme Court considered directly the question of identity in regard to a patent for a design. It held that the true test of identity of design is sameness of appearance, in other words, sameness of effect upon the eye; that it is not necessary that the appearance should be the same to the eye of an expert, and that the test is the eye of an ordinary observer, the eyes of men generally, of observers of ordinary acuteness, bringing to the examination of the article upon which the design has been placed that degree of observation which men of ordinary intelligence give. The court compared in that case the design of the patent with the designs on the defendants' articles, and arrived at the conclusion from such comparison that the designs of the defendants were, in their effect as a whole, notwithstanding variances, substantially the same as the design of the patent and infringements. In addition to this there was the testimony of witnesses on both sides on the question, and the court was of opinion, also, that the testimony proved the infringements.

In view of the proper test of identity, as above given, and of the simple character of the designs in the present case, and of the absence of any testimony on the part of the defendants, I am of opinion that the absence of testimony as to identity does not make it improper for the court in this case to compare the defendants' nubia with the patents as to design, and determine the question of identity from said comparison. It is not intended to imply that the practice can be extended to any other patent than one for a design or that it ought to be extended to all patents for designs.

On such comparison it is found that the defendants' nubia infringes both of the patents, and a decree in the usual form in favor of the plaintiffs, with costs, will be entered.

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MATTHEWS *v.* PUFFER *et al.*

Decided January 18, 1882.

1. PRACTICE—SUBPŒNA—PRIVILEGED ATTENDANCE.
Where on a motion to set aside the service of a subpœna on the ground of privilege of attendance within the district, and the point had been raised that the defendant was not a non-resident, and the motion had been denied on the ground that the defendant had failed to show that he was a non-resident of the State, *Held*, on the renewal of such motion, that the defendant had lost his right to show that he was a non-resident. It is not a newly-discovered fact.

2. SAME—WAIVER OF PRIVILEGE.
The objection to the service of a subpœna as made while defendant was protected by a privilege may be waived as well by not making it when he ought to make it, or by not making it in a proper way, as well as by not making it at all. It is one of those irregularities which must be promptly availed of.

Mr. A. v. Briesen for the plaintiff.

Mr. E. C. Webb for the defendants.

BLATCHFORD, *J.*:

The defendant Alvin D. Puffer heretofore made a motion to this court, founded on affidavits, to set aside the service made on him of the subpœna to appear and answer herein. The suit is one for the infringement of letters patent. The motion was opposed and denied by an order made December 30, 1881. The reasons set out in the motion-papers as grounds for the motion were that the service was made upon the said defendant while he was attending the examination of witnesses in the office of the counsel for the plaintiff herein, in the city of New York, in a cause of interference then depending between him and the plaintiff before the United States Patent Office, and when he was lawfully attending at said office "in his right as a party to said interference cause." The moving affidavits did not show where the defendant resided or where he carried on business, but merely that he "went to New York" to attend such examination, not stating from what place he went. The motion was made upon the bill as a part of the moving papers. The bill speaks of the defendants as "doing business" at Boston and New York and as being citizens of the United States. In opposition to the motion it was shown by affidavits on the part of the plaintiff that the defendant served had a place of business in the city of New York and one also in Boston. In regard to him the plaintiff said in an affidavit—

His place of residence in New York is not known to me, and I have been unable to ascertain it.

The defendant, after hearing the affidavits in opposition to the motion, chose to submit it for decision, and did not ask leave to withdraw it and renew it on further papers or to put in further papers.

The court, in denying the motion, said:

It does not anywhere appear that A. D. Puffer is a citizen of Massachusetts, or is not a citizen of New York, or does not reside in New York. The bill alleges that he does business at New York and is a citizen of the United States. It is shown that he has a place of business in New York city. The motion is denied.

The defendant now, without leave, renews the motion on papers showing that at the time of the service he was a citizen and a resident of the State of Massachusetts. This was a fact which the defendant was called upon to show on the first motion. It is not a newly-discovered fact. It was involved in and pertinent to the first motion. It was called to the attention of the defendant by the opposing papers, and yet the judgment of the court was invoked on the case. The court had jurisdiction of the subject-matter of the suit. The service of the subpœna was made on the defendant personally in this district. The objection to the service as made while the defendant was protected by a privilege was one which the defendant could waive, and one which he might waive by not making it when he ought to make it, or by not making it in a proper way, as well as by not making it at all. It is one of those irregularities which must be promptly availed of.

In the present case it must be held that the defendant lost his right to show that he was a citizen and resident of Massachusetts, and the motion to set aside the service of the subpœna is denied.

THE OFFICIAL GAZETTE OF THE United States Patent Office.

[BY AUTHORITY OF CONGRESS.]

VOL. 22—No. 5. TUESDAY, AUGUST 1, 1882. PRICE—$6 per year

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Subscriptions for 1882.

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Issue of August 1, 1882.

Patents	375	No. 261,822 to No. 262,196, inclusive.
Designs	37	No. 13,099 to No. 13,135, inclusive.
Trade-Marks	9	No. 9,579 to No. 9,587, inclusive.
Labels	6	No. 2,729 to No. 2,734, inclusive.
Reissues of patents	6	No. 10,170 to No. 10,175, inclusive.
Total issue	433	

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks and Labels.	States.	Patents and Designs.	Trade-Marks and Labels.
Alabama			Nebraska	1	
Arizona Territory	1		Nevada		
Arkansas			New Hampshire	2	
California	5	1	New Jersey	9	
Colorado	4		New Mexico Territ'y		
Connecticut	20	2	New York	84	3
Dakota Territory	1		North Carolina	1	
Delaware	1		Ohio	36	
District of Columbia	5		Oregon		
Florida			Pennsylvania	54	3
Georgia	3		Rhode Island	5	
Idaho Territory			South Carolina		
Illinois	24	2	Tennessee	1	
Indiana	14		Texas	5	
Indian Territory	2		Utah Territory		
Iowa	9		Vermont	1	
Kansas	5		Virginia	3	
Kentucky	8	1	Washington Territ'y		
Louisiana			West Virginia	2	
Maine	4	1	Wisconsin	7	1
Maryland	5		Wyoming Territory		
Massachusetts	43		United States Army		
Michigan	9		United States Navy		
Minnesota	3				
Mississippi	1		Total to citizens of the United States	397	14
Missouri	19				
Montana Territory					

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks and Labels.	Countries.	Patents and Designs.	Trade-Marks and Labels.
Argentine Republic	1		England	3	1
Australia			France	1	
Austria	1		Germany	2	
Barbadoes			Italy		
Belgium			New Zealand		
Bermuda			Russia	1	
Brazil			Spain		
Canada	4		Sweden	2	
Chili			Switzerland		
Colombia, U. S. of					
Cuba			Total to citizens of foreign countries	15	1
Denmark					
Ecuador					

DESIGNS.

13,099.—CURRY-COMB.—*Henry C. Brill*, Southington, Conn., assignor to *The Southington Cutlery Company*, same place. Application filed May 6, 1882. Term of patent 14 years.

13,100.—CARPET.—*Frank Allen*, Worcester, Mass., assignor to *Horner Brothers*, Philadelphia, Pa. Application filed July 5, 1882. Term of patent 3½ years.

13,101.—FIRE-IRON STAND.—*Rodolphe Christesen*, New Britain, Conn., assignor to *The Russell & Erwin Manufacturing Company*, same place. Application filed May 31, 1882. Term of patent 7 years.

13,102 to 13,106, inclusive.—CARPET.—*Eugene A. Crowe*, Boston, assignor to *The Lowell Manufacturing Company*, Lowell, Mass. Applications filed June 21, 1882. Term of patents 3½ years.

13,107.—COFFIN-EMBLEM.—*Lewis B. Davis*, Indianapolis, Ind. Application filed May 9, 1882. Term of patent 7 years.

13,108 and 13,109.—CARPET.—*Edwin Fisher*, Boston, assignor to *The Lowell Manufacturing Company*, Lowell, Mass. Applications filed June 21, 1882. Term of patents 3½ years.

13,110.—CARPET.—*John Fisher*, New York, N. Y., assignor to *The Lowell Manufacturing Company*, Lowell, Mass. Application filed June 21, 1882. Term of patent 3½ years.

13,111.—CARPET.—*Walter J. Gadsby*, Boston, Mass., assignor to *The Roxbury Carpet Company*, same place. Application filed July 1, 1882. Term of patent 3½ years.

13,112.—PRINTED FABRIC.—*John Glen*, Brooklyn, N. Y. Application filed June 9, 1882. Term of patent 3½ years.

13,113.—FRINGE.—*George E. Goucher*, Philadelphia, Pa., assignor to *John C. Graham*, same place. Application filed June 16, 1882. Term of patent 14 years.

13,114 and 13,115.—CARPET.—*William Kerr*, Philadelphia, Pa., assignor to *Van Deventer & Horne*, New York, N. Y. Applications filed June 26, 1882. Term of patents 3½ years.

13,116.—CARPET.—*John Arthur Lees*, Kidderminster, county of Worcester, England, assignor to *Horner Brothers*, Philadelphia, Pa. Application filed June 21, 1882. Term of patent 3½ years.

13,117.—FRINGE.—*Laurence J. McDonald*, Philadelphia, Pa., assignor to *John C. Graham*, same place. Application filed June 16, 1882. Term of patent 14 years.

13,118 to 13,121, inclusive.—CARPET.—*Thomas Onslow*, Philadelphia, Pa., assignor to *Horner Brothers*, same place. Applications filed June 21, 1882. Term of patents 3½ years.

13,122 to 13,125, inclusive.—CARPET.—*George W. Pugh*, Philadelphia, Pa., assignor to *Horner Brothers*, same place. Applications filed June 21, 1882. Term of patents 3½ years.

13,126.—CARPET.—*Alfred Redfern*, Philadelphia, Pa., assignor to *Van Deventer & Horne*, New York, N. Y. Application filed June 26, 1882. Term of patent 3½ years.

13,127.—FRINGE.—*Frederick Reuter*, Brooklyn, N. Y., assignor to *John C. Graham*, Philadelphia, Pa. Application filed June 16, 1882. Term of patent 14 years.

13,128.—TAG-FASTENER.—*John C. Rhodes*, Mattapoisett, Mass. Application filed June 15, 1882. Term of patent 14 years.

13,129.—CARPET.—*Stephen Smith*, Philadelphia, Pa., assignor to *Horner Brothers*, same place. Application filed June 21, 1882. Term of patent 3½ years.

13,130 to 13,135, inclusive.—CARPET.—*Charles W. Swapp*, Boston, assignor to *The Lowell Manufacturing Company*, Lowell, Mass. Applications filed June 21, 1882. Term of patents 3½ years.

TRADE-MARKS.

[Certificates of registration of Trade-Marks numbered 8,191 and upward are registered under the act of March 3, 1881.]

9,579.—SMOKING AND CHEWING TOBACCO, CIGARS, CIGARETTES, CHEROOTS, AND SNUFF.—*L. & E. Wertheimer*, New York, N. Y., and San Francisco, Cal. Application filed June 19, 1882.
"The arbitrary word-symbol 'CREOLE BEAUTY.'"

9,580.—HAM, BACON, AND LARD.—*Henry Denny & Sons*, Chicago, Ill. Application filed May 13, 1882.
"The pictorial representation of a thistle."

9,581.—CIGARS, CIGARETTES, AND MANUFACTURED TOBACCO.—*Julius Ellinger & Co.*, New York, N. Y. Application filed June 29, 1882.
"The arbitrary words 'LA BELLE SEÑORA.'"

9,582.—CIGARS.—*E. Goslinsky & Co.*, San Francisco, Cal. Application filed May 8, 1882.
"The word 'KIKO.'"

9,583.—HAY-KNIVES.—*Hiram Holt & Co.*, East Wilton, Me. Application filed June 24, 1882.
"The word 'LIGHTNING.'"

9,584.—READY-MIXED PAINTS.—*John Lucas*, Philadelphia, Pa. Application filed June 29, 1882.
"The fanciful words 'BARN, BRIDGE, AND BUILDING' and the representation of a painter's palette containing the monogram 'B B B.'"

9,585.—READY-MIXED PAINTS.—*John Lucas*, Philadelphia, Pa. Application filed June 29, 1882.
"The arbitrary words 'ITALIAN VILLA.'"

9,586.—MEDICINAL PREPARATIONS.—*Otto A. Thiele*, Milwaukee, Wis. Application filed June 24, 1882.
"The letters 'O,' 'A,' and 'T,' arranged within the points of a triangle, outside the cross-lines formed by an inverted triangle laid upon the first triangle, in connection with the representation of a human eye in the center of the device."

9,587.—STEEL.—*Walter Spencer & Co.*, Rotherham, county of York, England. Application filed June 29, 1882.
"A crescent, the letter 'Z,' and a diamond."

LABELS.

2,729.—Title: "DR. CAMPBELL'S ANTIBILIOUS POWDER."—*J. William Boyken* and *J. Anton Boyken*, New York, N. Y. Application filed July 6, 1882.

2,730.—Title: "DR. L. E. KEELEY'S DOUBLE CHLORIDE OF GOLD CURE FOR THE OPIUM HABIT."—*Leslie E. Keeley*, Dwight, Ill. Application filed June 30, 1882.

2,731.—Title: "HOP CELERY & CHAMOMILE BITTERS."—*Herbert W. Lake*, Waterbury, Conn. Application filed July 6, 1882.

2,732.—Title: "VOICE BARS."—*Bradford McGregor*, Covington, Ky. Application filed June 5, 1882.

2,733.—Title: "ECLECTIC LINIMENT."—*Henry H. Rice*, Meriden, Conn. Application filed May 12, 1882.

2,734.—Title: "RALPH'S SCOTCH SNUFF."—*Stewart, Ralph & Co.*, Philadelphia, Pa. Application filed June 26, 1882.

DISCLAIMERS.

246,521.—*Joseph M. Lauby*, Brodhead, Wis., patent dated August 30, 1881. IMPROVEMENT IN STOVE-PIPE THIMBLES. Disclaimer filed July 28, 1882.

Enters his disclaimer to that portion of claim 1 which is in the following words, to wit: "and the short iron tube *e*, connecting the two flanged rings and riveted to the same, substantially as described." And to that portion of claim 2 which is in the following words, to wit:
"2. The combination of the flanged ring *a*, having the tubular projection *c*, with the flanged ring *b*, the tube *e*, riveted to both rings, and the thumb-screw *f*, all constructed."

8,803. (Reissue.)—*Cornelius T. Tomkins*, Newark, N. J., patent dated July 15, 1869. IMPROVEMENT IN PROCESSES OF TREATING GYPSUM. Disclaimer filed July 25, 1882.

Enters his disclaimer to the whole of the second claim, forming part of said reissue letters patent, which is in the following words:
"2. As a new article of manufacture, the minutely crystalline acicular form of sulphate of lime herein described, suitable for use in the manufacture of paper, &c., as set forth."

PATENTS

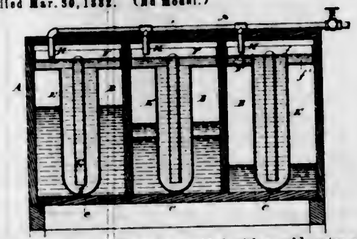
GRANTED AUG. 1, 1882.

261,822. AUDIPHONE. CHARLES ATKINSON, Chicago, Ill., assignor to Charles G. Truedell, same place. Filed June 1, 1882. (No model.)



Claim.—The instrument for increasing sounds and their articulation in the ear, consisting of the hollow body A, having the opening B, ear-tube C, and perforated partitions D E, forming the chamber F, substantially as described.

261,823. MILK-COOLER. ABRAHAM S. BERNER, Perkasie, Pa. Filed Mar. 30, 1882. (No model.)



Claim.—1. A milk-tank provided with a cold-water or ice vat resting on the bottom and occupying its middle part, said vat being provided on the top with a tray or pan which opens into it, and which closes the top of the chamber or tank in which said vat sets, the said tray supporting the vat in an upright position by fitting within the tank, the orifice of which it closes, substantially as and for the purpose specified.

2. A milk tank or chamber provided with a cold-water or ice vat resting on the bottom and occupying the middle part thereof, said vat being provided on the top with a tray or pan which opens into it, and which closes the top of the chamber or tank in which said vat rests, in combination with means to feed cold water to said pan and discharge it from the bottom of said vat, the said tray supporting the vat in an upright position by fitting within the tank, the orifice of which it closes, substantially as and for the purpose specified.

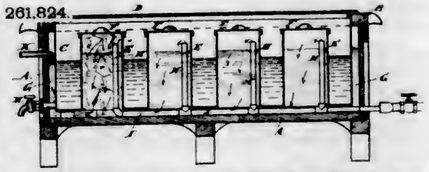
3. In a cooler, the combination of tank A, provided with compartments B, having cocks C, cover or lid D, having supply-pipes H, vat E, having tray or pan F, and discharge-vent G, as shown and described.

4. In a cooler, the chamber B, in combination with vat E, similar in shape, but of less section-area in cross-section, rounded on the bottom, as at *e*, and provided at the top with a pan or tray, F, having the inner flange, *f*, and fitting within the top of said chamber to close in the milk with a water-lid, as shown and described.

261,824. MILK-COOLER. ABRAHAM S. BERNER, Perkasie, Pa. Filed Mar. 15, 1882. (No model.)

Claim.—1. A cold-water tank, in combination with a milk-

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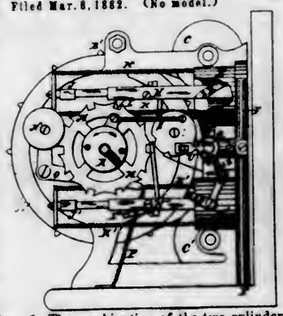
vat suspended therein, said milk-vat being provided with a series of vertical tubular projections extending from the bottom upward and opening through the bottom into the water-tank, and feed or supply pipes which extend up into said tubular projections to feed the cold water into them near the top and allow of its downward circulation in a large number of places into the tank, an overflow, and means to force the water from the overflow back through the feed-pipes, substantially as and for the purpose specified.

2. In a milk-vat, the combination of the water-tank A, milk-vat C, provided with a series of tubular projections, E, open at the bottom into the water-vat, overflow K, from space or compartment G, between tank A and vat C, and at one end supply-pipes I and vertical feed-pipes H, by which a constant circulation of cold water about the bottom and sides of the milk-vat is obtained from one end to the other, substantially as and for the purpose specified.

3. In a milk-cooler, the water-tank A, in combination with milk-vat C, secured to a rail or frame, B, and by which it is suspended in the tank A, making a water-space, G, all around, said vat being provided with tubular projections E, open at both top and bottom, and in which ice is placed, caps F, overflow K, and feed-pipes H, which extend up into said projections E nearly to the top, but close to the side thereof, substantially as and for the purpose specified.

4. In a milk-vat, the combination of water-tank A, milk-vat C, provided with tubular projections E, open on the top and bottom, feed-pipes H, extending up into said projections E and reaching nearly to the top, but located close to the side thereof, and cover D, substantially as and for the purpose specified.

261,825. STATION-INDICATOR. HENRI E. BISSELL, Hartford, Conn. Filed Mar. 8, 1882. (No model.)



Claim.—1. The combination of the two cylinders E and E', provided with pistons, piston-rods, and spring-pawls L and L', and

the counteracting-springs K and K', with the ratchet-wheel M and the rotating barrel B, substantially as described.

2. The combination of the locking-wheel N, the lever O, and the spring P with the ratchet-wheel M and its operating-pawl L, substantially as described.

3. The combination of the rocking frame R and the sliding nut X, with the screw Y upon the shaft of the wheel M, and the collets 2^A 2^B, provided with interlocking studs, with the rotating mechanism of a station-indicator, substantially as described.

4. The combination of the rocking frame R, the sliding nut X, the screw Y, and the collets 2^A 2^B, operated by the turning of the wheel M, as described, with the mechanism for operating the valve Q and the pawls L L', the bar 2^D, the levers 2^C 2^D, and the cams 2^E upon the piston-rods H and H', whereby said valve and said pawls are operated, substantially as described.

5. In a station-indicator, an automatic reversing mechanism composed of an interlocking device between fixed collets, and a traveling nut on the shaft of the propelling-wheel, operated by the direct movement of the said wheel, whereby the said reversing is caused to be started, and a cam upon the connecting-rod of the piston, operated by the return of the said rod after moving the propelling-wheel, whereby the said reversing is completed, substantially as described.

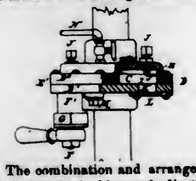
6. A station-indicator provided with reversing mechanism, substantially as described, by which it is adapted to run from end to end alternately and reverse automatically by successive impulses of air, as herein set forth.

7. An automatic station-indicator provided with two actuating-cylinders and connecting mechanism, substantially as described, by each of which it is operated in one direction only, as herein set forth.

8. In a station-indicator, the sliding adjustable pulley 2^S, the rod 2^G, the cord 2^R, and the pulley 2^Q, in combination with the tension-cord 2^T, for maintaining an exact and equable tension upon the slip containing the names of stations, substantially as described.

261,826. GATE-VALVE. REINHOLD BOEHLER, Gerken, N.Y., assignor of two-thirds to Burhans Van Steenbergh, same place. Filed Jan. 7, 1882. (No model.)

Brief.—The valve-chest is in two parts, one of which contains the valve-seat and the other the adjusting and stopping set-screws. The valve-gate is moved on or off its seat by means of the lever and cam. The waste-cup K, covered by cap L, and the blow-off M constitute the means for removing obstructions from the valve-chest.

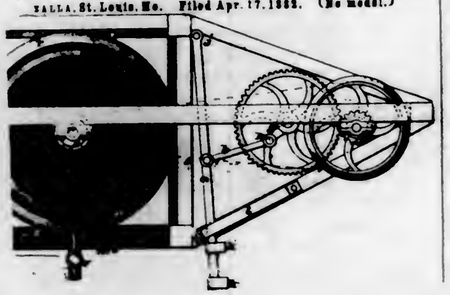


Claim.—1. The combination and arrangement of the gate C and valve-chest D with the locking and adjusting screws J J, substantially as and for the purpose herein described.

2. The combination and arrangement of the gate C and the valve-chest D with the waste-cup K and its cap L, substantially as and for the purpose herein stated and shown.

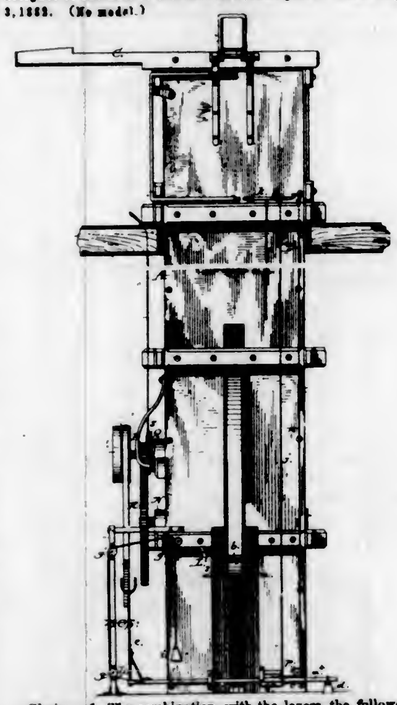
3. The combination of the valve-chest D and the gate C with the blow-off plugs or valves M and N, provided and arranged substantially as and for the purpose herein mentioned.

261,827. CENTRIFUGAL HYDRO-WRINGER. TRECILE L. BOSTALLA, St. Louis, Mo. Filed Apr. 17, 1882. (No model.)



Claim.—In a centrifugal hydro-wringer, the combination of the lever *a*, adapted to be lengthened or shortened by inserting or removing a bar in collars *k k'*, link *b*, secured to an arm of gear-wheel with brackets and guards and intermediate means of communicating motion, substantially as herein shown and described.

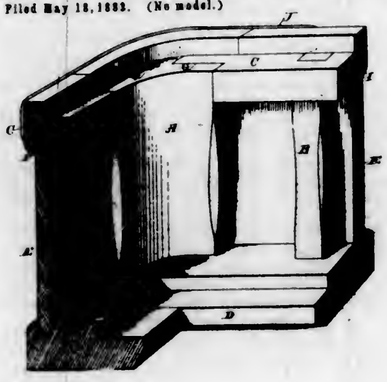
261,828. HAY-PRESS. JAMES B. BROWN, Washington, D. C., assignor of one-half to Clarence Hall, same place. Filed May 3, 1882. (No model.)



Claim.—1. The combination, with the levers, the follower, the pulleys, and the windlass-shaft, of the gear-wheels and the ratchet device, as and for the purpose set forth.

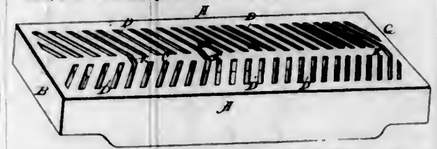
2. The combination, with a hay-press adapted to press hay by an upward movement of the follower, of the belt-shifting device composed of the bar a^4, rod *e*, provided with lug *c* and weights *i d*, cords *h* and *n*, the lag *l*, connected to the moving follower, the lever *k*, and the wire connecting the sliding bar with said lever, substantially as and for the purpose set forth.

261,829. CARRIAGE-BODY. ALTON J. CALKINS, Omro, Wis. Filed May 18, 1882. (No model.)



Claim.—The corner-posts A, provided with recesses G G and grooves F F, in combination with rails C and D, panels E, and irons J J, substantially as and for the purpose specified.

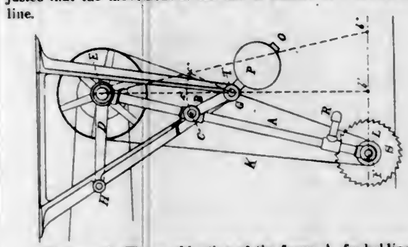
261,830. FURNACE-GRATE. GARDINER CAMPBELL, Milwaukee, Wis. Filed Sept. 27, 1881. (No model.)



Claim.—The furnace-grates herein described, having continuous unbroken sides A A and ends B and G, in combination with the central bar, C, and diagonally-arranged cross-bars D, said central bar, C, being connected at one end to the end bar B and severed from the opposite end bar at its opposite end, leaving space for expansion at the end of said central bar, toward which said cross-bars converge, and adapted to permit of the expansion of said converging cross-bars and central bar independently of said side and end bars, substantially as set forth.

261,831. MECHANISM FOR HOLDING AND GUIDING CIRCULAR SAWS. WILLIAM G. CHAPIN, Brooklyn, N.Y. Filed Mar. 11, 1882. (No model.)

Brief.—The saw is hung in a pivoted frame which is pivoted to a lever carrying a counterbalance-weight, the upper end of the frame being held from lateral movement, the parts being so adjusted that the movement of the saw is limited to a horizontal line.



Claim.—1. The combination of the frame A, for holding a circular saw or tool, having the shaft F, supporting each saw or tool, and shaft E, supporting a driving-pulley, which shaft E is pivoted to the arm D, or suitable means to prevent its having a lateral movement, with the crank B, for supporting and guiding the frame A, and support G, upon which the crank B is pivoted, substantially as described.

2. The combination of the frame A, for holding a circular saw or tool, having shaft E, which shaft is pivoted to the arm D, or suitable means to prevent its having a lateral movement, and supports a driving-pulley, and shaft F, supporting the saw or tool, with the crank B, for supporting and guiding the frame A, and the arm O, supporting the weight P, for counterbalancing the frame A, substantially as described.

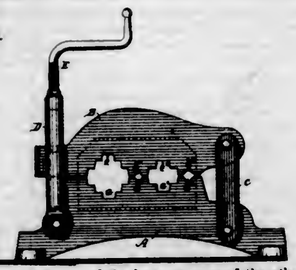
3. The combination of the frame A, having shafts E and F, upon which said shaft F is a saw or tool, S, with one or more cranks or arms, B, pivoted to the frame between the shafts E and F to a suitable support, G, the shaft E being pivoted or suitably attached to the arm or arms D, which is also pivoted to the support H, substantially as described.

261,832. PIPE-VISE. WILLIAM P. CLARK, Belmont, N.Y. Filed June 2, 1882. (No model.)

Claim.—1. The combination, in a vise, of two jaws constructed to be clamped together, each jaw provided with two or more recesses and one or more projections, and one constructed to be moved endwise over the other, so as to bring different recesses in line with each other and to allow of the projection in either jaw to pass into a recess in the other, and suitable means for clamping the jaws together, whereby many different-sized openings may be made, substantially as described.

2. The combination, in a vise, of two jaws constructed to be clamped together, each jaw being provided with two large recesses and a small recess between the large ones, and one constructed to be moved endwise over the other, so that the projection containing one small recess shall pass into a large recess in the opposite jaw and the projection containing the small recess in said opposite

261,832.



jaw shall pass into one of the large recesses of the other jaw to clamp the pipe or rod, and suitable means for clamping the jaws together, substantially as described.

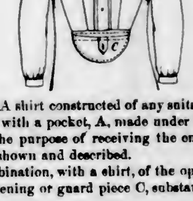
3. The combination, in a vise, of two jaws connected together so as to traverse one over the other lengthwise, each jaw provided with two pipe-recesses, and the projection between the recesses in one jaw having a smaller recess to pass over either recess in the other jaw and a device for clamping the jaws together, substantially as and for the purpose specified.

4. The combination, with the base A, provided with two notched recesses, of the traversing jaw B, also having two recesses, the pivoted connections C, and the clamp D, the base, jaw, and connections all being loosely connected to allow of the notched projection between the recesses in one jaw passing over either of the recesses in the other jaw, substantially as and for the purpose specified.

5. The combination, with the base A, provided with two notched recesses of different sizes, of the traversing jaw B, also having two recesses, the pivoted connection C, and the clamp D, the base, jaw, and connections all being loosely connected to allow of the notched projection between the recesses in one jaw passing over either of the recesses in the other, substantially as described.

6. The combination, with the base A, provided with the recesses *a a' a²*, of the jaw B, also having recesses *b b' b²*, the swinging clamp D, and the pivoted connection C, all constructed substantially as and for the purpose specified.

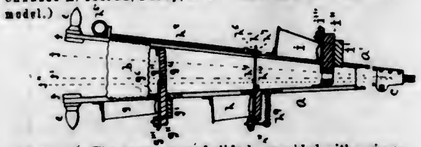
261,833. SHIRT. MAGGIE J. CONNORS, New York, N.Y. Filed July 27, 1881. (No model.)



Claim.—1. A shirt constructed of any suitable material, open in the back and with a pocket, A, made under the center plait of the bosom for the purpose of receiving the ends of the necktie, substantially as shown and described.

2. The combination, with a shirt, of the opening or pocket A and the strengthening or guard piece C, substantially as described and shown.

261,834. HAND-PLANTER FOR SEED AND FERTILIZERS. CHARLES A. COOPER, Danby, N.Y. Filed Mar. 26, 1881. (No model.)

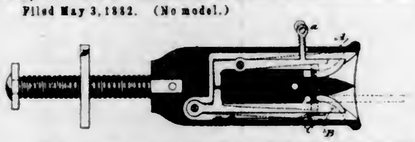


Claim.—1. The pumpkin-seed slide A^1, provided with a circular feed-orifice having its upper edge beveled, and with a projection, A''', which sweeps the groove in the base-block A'', and with an aperture, A^5, in the end of the slide farthest from the hopper A, in combination with the rod A^4 and spring A^4, said slide having in itself the functions of an adjustable plate feed-slide, and of the groove-scraper, and being always ready to be operated by the ring A^5, near one of the handles of the implement, as shown and described.

2. In a combined corn and pumpkin-seed planter and fertilizer-distributer, the combination of the hoppers *g*, *h*, and *i*, and their feed-slides placed at intervals one above the other and constructed with adjustable feed-orifices, whereby as the end boards, *a a'*, are opened the fertilizer falls first, the corn next, and the pumpkin-seeds last, as shown and described.

3. In a combined corn and pumpkin-seed planter and fertilizer-distributer having hoppers *g*, *h*, and *i*, placed one above the other, and dropping the fertilizer first, the corn next, and the pumpkin-seeds last, the combination of feed-slides constructed withbeveled upper edges to the feed-orifices, and with perpendicular walls to the lower part of the feed-orifices below the beveled upper edges, the beveled edges facilitating the separation of the quantity to be fed from the contents of the hopper, and the lower perpendicular walls retaining the seed and fertilizer in the slides, as set forth.

261,835. CAR-COUPLING. JOHN I. DAVIS, Jeffersonville, Ind. Filed May 3, 1882. (No model.)



Claim.—1. In a car-coupler, the hooked lever A, pivoted as shown, with angle-arm at the rear end, in combination with the lever B and spring C, the whole inclosed in a draw-head made in two parts, and having double openings at the end and secured together, substantially as and for the purpose described.

2. In a car-coupler having an upper and lower recess in the forward end of the draw-head to admit coupling-links, the combination of hooked levers interacting upon each other by projections at the rear end at right angles to the levers, a spring secured on the inner side of the draw-head for actuating the same, with means for operating the same from the sides or top of the car, substantially as described.

3. In a car-coupler, the combination of the divided draw-head having upper and lower recesses to receive links, the interacting levers A and B, pivoted as shown, the spring C, and handle *a*, substantially as described.

261,836. PLOW SHARE AND POINT. WILLIAM DIONA, Marengo, assignor of one-half to Pratt A. Spicer, Marshall, Mich. Filed Dec 23, 1881. (No model.)



Claim.—1. A plowshare having a corrugated cutting-edge, and its upper surface having a series of parallel concave grooves of variable curvature or width in their cross-section, and the lower surface of said share substantially flat, as and for the purpose specified.

2. The combination, with a plow-point having its upper surface provided with a concave groove and its lower surface substantially flat, said groove being of variable curvature or width in its cross-section, of a plowshare having a series of similar parallel concave grooves, substantially in the manner as and for the purpose specified.

261,837. GRAIN-SPOUT. WILLIAM D. DICKSON, Peoria, Ill. Filed Mar. 31, 1882. (No model.)

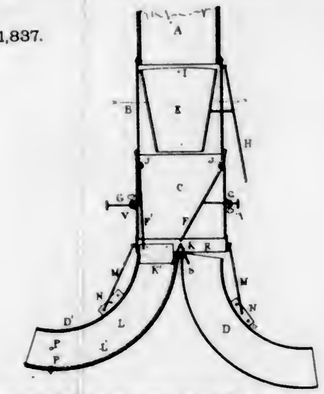
Claim.—1. The rods and handles G and collars and set-screws V, in combination with the linings L L', bent over at their upper edges and held to the section C by the bent strips J J', substantially as and for the purpose specified.

2. As a removable lining for the two spouts D D' of a bifurcated grain-spout, the combination of the linings L L', bolts P P', and the clips K K', substantially as specified.

3. The combination, with the short section R, hinged to the section C of a bifurcated grain-spout, of the two curved spouts D D', hinged to said section R, the perforated plate N, and the hooked rod M, substantially as and for the purpose specified.

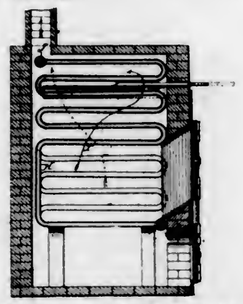
4. The sections B, C, and R, hinged together, as shown, at the

261,837.



points S' and S', in combination with the two outwardly-curved spouts D D', hinged at S to said section R, and provided with devices for retaining them at different desired angles, substantially as and for the purpose set forth.

261,838. HEATER. STEPHEN DUCOLIN, Norwood, N. Y. Filed May 26, 1882. (No model.)



Claim.—1. In a heater, the combination of the fire-box formed of pipes, as described, the continuations of said pipes coiled above the fire-box, the water supply and exit pipes, and the adjustable damper-plate, all constructed and arranged substantially as set forth

2. As an improvement in heaters, the herein-described fire-box, formed of pipes connected to a water-supply, the continuations of said pipes coiled above the fire-box and connected to the water-exit pipe, the cast-iron front, and the adjustable damper-plate, all arranged and operating substantially as set forth.

261,839. SEWING-MACHINE SHUTTLE. GEO. D. ELDREDGE, Chicago, Ill., assignor to the Eldredge Sewing Machine Company, same place. Filed Mar. 19, 1881. (No model.)



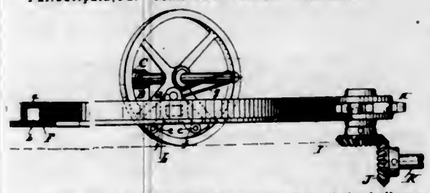
Claim.—1. The shell A, in combination with the tension-spring, bent near its rear end to form a fulcrum, with both ends free to vibrate about said fulcrum within certain limits, and arranged inside of the shell, substantially as described.

2. The shell A, in combination with the tension-spring, bent as described, and having each end free to vibrate within certain limits, and the adjusting-screw, substantially as described.

3. The shell A, provided with the apertures a^2 a^3, in combination with the thread-guide E, provided with the bent finger *e*, by which it is attached to the shell, substantially as described.

4. The shell A, in combination with the tension-spring C, provided with a bend, *c*, at one end, and at the other connected loosely to the shell to permit free vibration, and thread-guide E, constructed as specified, substantially as described.

261,840. PUG-MILL FOR TEMPERING CLAY. JAMES EVANS, Philadelphia, Pa. Filed June 19, 1882. (No model.)



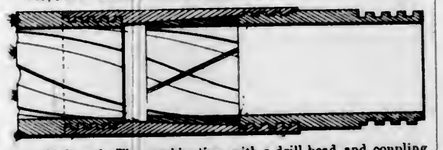
Claim.—1. In a pug-mill, the combination of the hollow or chambered rim and endless chain G, located therein, with the sprocket-wheel H, bevel-gears I and J, and shaft K, as set forth.

2. In a pug-mill, the hollow rim composed of segments of metal or wood to form a chamber for receiving an endless belt which drives the pug-wheel, as set forth.

3. The endless chain G, adapted to travel within the hollow rim, and provided with a link, L, a portion of which projects above the upper edge of the rim, and to which the axle of the pug-wheel is attached, whereby motion is imparted in a circular direction to the pug-wheel, as set forth.

4. The link L, provided with the projections *d* and *f f*, and friction-wheels *e e*, as set forth.

261,841. TUBULAR ROCK-DRILL. HENRY W. FLEMING, Denver, Colo. Filed Oct. 7, 1881. (No model.)



Claim.—1. The combination, with a drill-head and coupling forming upper and lower shoulders, of the intermediate recessed tubing, substantially as set forth.

2. The combination, with a tubular rock-drill head composed of several sections, the bore of one of said sections being made conical or tapering and the bores of the adjacent sections made smaller, so that their ends shall constitute annular seats, of a conical core-lifter located within the conical or tapering bore of the middle section, substantially as set forth.

3. The combination, with a tubular rock-drill head, of a core-extractor provided with spiral grooves on its inner surface, substantially as set forth.

261,842. COMBINED HOG-TROUGH AND FENCE. MARSHALL P. FRENCH, Leonard, Nebr. Filed Mar. 24, 1882. (No model.)



Claim.—1. The combination, with a hog-trough and the pivoted cover B thereof, of a fastening device, substantially as described, by which the said cover can be firmly and rigidly locked open or closed or at any intermediate point, whereby large hogs may be prevented from feeding in troughs intended for smaller animals, as set forth.

2. The combination, with a hog-trough and the pivoted cover F, of the support G, the lever H, fastened rigidly to and turning with the cover, and a fastening-pin passing through both the lever and the support, substantially as described.

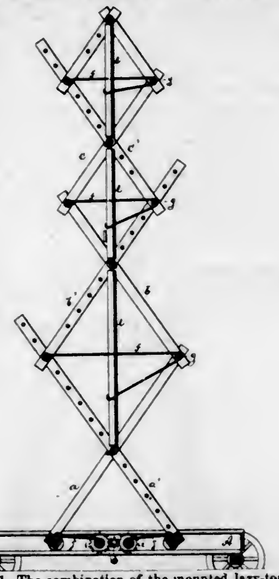
3. The combination, with the pivoted cover of a trough, of the slotted lever H, fence-post C, having a series of holes therein, and the pin I, all constructed and arranged substantially as and for the purpose specified.

4. The combination, with a hog-trough, of a centrally-pivoted cover adapted to open or close the same from either side, a locking device, substantially as described, for holding the same in the desired position, the posts B, and the barbed wires E, the lower of said barbed wires being sufficiently close to the cover to prevent a hog from reaching and pushing down the outer edge of the cover in attempting to get to the open side of the trough, as set forth.

261,843. FIRE-LADDER. DAVID FRIEDHEIM, New York, N. Y. Filed Apr. 6, 1882. (No model.)

Brief.—Rods pivoted to the central rungs of the ladder automatically lock the lazy-tongs when elevated. Each ladder is extended above its connection with the succeeding ladder above.

261,843

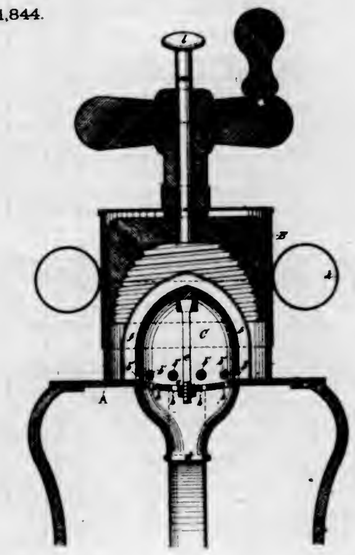


Claim.—1. The combination of the mounted lazy-tongs *a a' b b'* with rod *e*, pivoted to a central rung, and provided with a hook at its lower end to engage the succeeding central rung, substantially as herein specified.

2. The combination of the mounted lazy-tongs *a a' b b'* with pivoted rod *e*, having hook at lower end, and having rope *f* passing over pivot *g*, substantially as specified.

3. The combination of the frames *a b c* with the ladders *a' b' c'*, each of the ladders being extended above its connection to the succeeding ladder, substantially as and for the purpose set forth.

261,844.



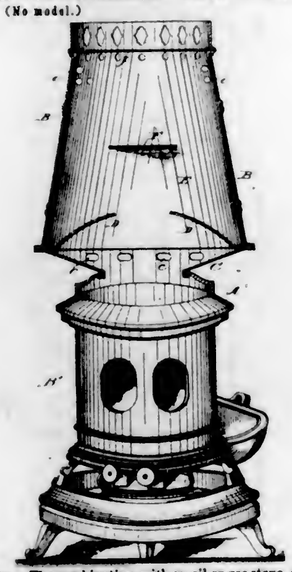
261,844. LEMON-SQUEEZER. CHARLES GERRERT, Philadelphia, Pa., assignor of one-half to Francis Pfab, same place. Filed June 3, 1882. (No model.)

Brief.—A cone attached to the bed-plate is provided with a series of radial knives on its outer surface and with perforations. A rotary follower provided with screw-threads on its inner surface is mounted in a removable case directly over the cone. The lemon rotates with the follower, thereby causing the knives on the cone to separate the pulp from the skin.

Claim.—1. The cone C, having knives *f* projecting from its surface, in combination with the bed-plate A and follower F, having a screw-threaded surface, the cone having perforations *b'* at its base, and the bed-plate a concavity, *c*, provided with perforations *b*, substantially in the manner and for the purpose set forth.

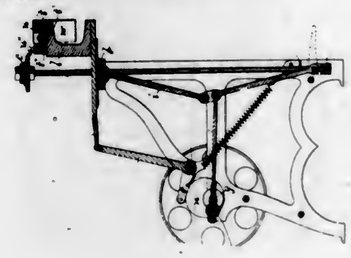
2. The conical follower F, having a screw-threaded surface and a stem, *g*, provided with a handle, in combination with the cone C, having knives *f*, and the detachable cap E, substantially as and for the purpose set forth.

261,845. HEATING-DRUM ATTACHMENT FOR OIL AND GAS STOVES. JULIUS S. GILMAN, New York, N. Y. Filed Feb. 11, 1882. (No model.)



Claim.—The combination, with an oil or gas stove, of the hot-air attachment consisting of a drum or shell having openings through the upper portion thereof, and inverted coniform-shaped base portion C, having a series of cold-air inlets, *c*, a coniform-shaped conductor, D, arranged directly over said base portion C, a spreader, F, arranged above said conductor, and the base A, having a central opening through which pass the heat and flame from the stove B', substantially in the manner as and for the purpose herein shown and described.

261,846. PAPER-BOX MACHINE. GEORGE W. GLAZIER, Salem, and ALBERT G. POTTER, Lynn, Mass. Filed Feb. 17, 1882. (No model.)



Claim.—1. In a paper-box machine, the vertically-movable head *c*, in combination with the horizontally-movable box-rest *l* and automatic connecting mechanism, substantially as described, for operating said head and box-rest in a manner and for the purpose set forth.

2. In a paper-box machine, the expansive former, as described, consisting of guide-plate *t* and laterally-adjustable plates *u u*, having right and left screw-threaded ears *u' u'*, in combination with the right-and-left-handed screw *v v*, as and for the purpose set forth.

261,847. FIRE-ESCAPE. JOHN GRAFF, New York, N. Y., assignor of one-half to Andrew Mills, same place. Filed Apr. 5, 1882. (No model.)

Brief.—The links which connect the ladder-sections are wider than the sections, to keep the ladder off from the building. Swinging catches on the building steady the ladder, and a folding platform is secured and braced to the lower end of the ladder.

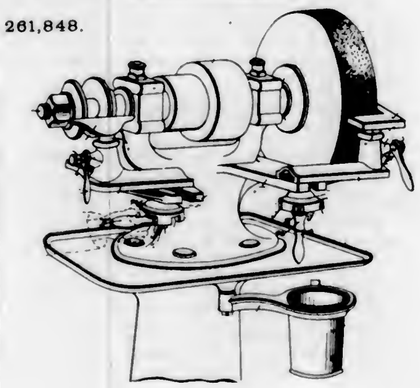


Claim.—1. The ladder A, composed of jointed aligned sections *a a*, which are united to and by outer links, B B, through their end rungs, said links B being wider than the ladder and constituting toe-plates to hold the same off a wall, substantially as described.

2. The combination of the flexible ladder A with the platform E, braces *d*, and eyes *e*, substantially as specified.

3. The combination of the ladder A and its widened lower portion, E, with the swinging catches F F, substantially as and for the purpose stated.

261,848.



261,848. EMERY-GRINDER. BENJAMIN H. HADLEY, Providence, R. I. Filed Apr. 5, 1882. (No model.)

Claim.—1. In an emery-grinder, the combination of the journal-box provided with the circumferential grooves with the recessed collars, one made fixed upon the shaft and the other made movable thereon, substantially as and for the purpose specified.

2. In an emery-grinder, the combination of the rest-holder and rest-holding bracket with the fastening-bolt, the pivoted lever loosely secured to the bolt, and the notched nut, substantially as described.

3. In an emery-grinder, the combination of the rest-holder and rest-holding bracket, the pivoted lever loosely secured to the fastening-bolt, and the notched nut with the rest, the rest-holding screw, and the loose pendent wrench, all arranged substantially as described.

261,849. CIGAR-MACHINE. OSCAR HAMMERSTEIN, New York, N. Y., assignor to Malvina Hammerstein, same place. Filed Dec. 7, 1881. (No model.)



Claim.—1. The process herein described of applying a cigar-wrapper to and around the filler, which process consists in holding the wrapper by air-pressure flat on a perforated table, and in thereupon gradually rolling it around the filler, the unrolled portion being meanwhile held to the table by air-pressure, substantially as specified.

2. The table A, having holes *a* disposed in an area of the form of the wrapper of a cigar or cigarette, in combination with the conduit C and air-propelling apparatus D, all arranged to hold the entire wrapper on said table by suction, substantially as specified.

3. The perforated table A, combined with apparatus for creating suction of air through the perforations, and combined with the projecting pin *e*, substantially as described.

4. The table A, having apertures *a*, that lead to the air-suction apparatus, in combination with the projecting pin *e* and gage *f*, substantially as specified.

5. A table, A, perforated and combined with air-suction apparatus, and provided with the depression or groove *g*, substantially as specified.

261,850. MAGNETO-ELECTRIC MACHINE. OTTO HEIKEL, Jersey City, N. J., assignor to the National Electric Light and Power Company, New York, N. Y. Filed May 3, 1878. Patented in France May 13, 1878.



Claim.—1. The commutator made of separate segmental blocks, with flanges between separate grooved rings, loose upon a tube or shaft, and clamped by a nut at the end of the tube or shaft, there being a space between the plate and shaft for the circuit-wires, substantially as set forth.

2. The combination, in a commutator, of the segmental blocks *i*, with flanges, the insulating-rings grooved to support the blocks, a central tube or shaft smaller than commutator, and leaving a space beneath such blocks for the insulated wires, the nut to clamp the blocks and rings, and the removable faces to the commutator, substantially as set forth.

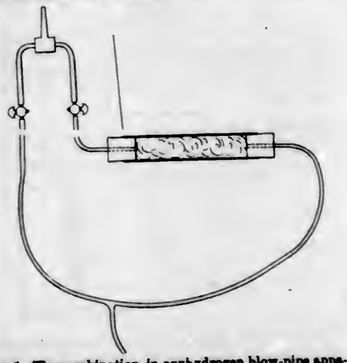
261,851. METAL-SEAMED PAPER SACK. IRA W. MOLLETT, Chicago, Ill., assignor of one-half to William H. Altman, same place. Filed Feb. 3, 1882. (Model.)



Claim.—1. As a new article of manufacture, a paper sack seamed up at its opposite edges by metal clamps, as specified.

2. The method of closing metal-seamed sacks—viz., bringing the top ends of the metal clamps together, forming central plaits, 1, on both sides of the top portion of the sack, folding the corners D D D D of the plaits to one side of the sack, and then bending the tip so formed over to the side to form a handle to the sack, as specified.

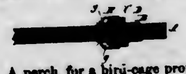
261,852. MEANS FOR PRODUCING THE OXYHYDROGEN BLOW-PIPE FLAME. FREDERIC E. IVES, Philadelphia, Pa. Filed Mar. 25, 1882. (No model.)



Claim.—1. The combination, in oxyhydrogen blow-pipe apparatus, of a chamber containing a filling of cotton or other porous material with an oxygen-supply tube, all substantially as and for the purpose specified.

2. The means for producing the oxyhydrogen blow-pipe flame, consisting of a chamber containing a porous filling which is saturated with a volatile liquid hydrocarbon, and an oxygen-supply, all substantially as described.

261,853. BIRD-INSECT CATCHER AND TRAP. JAMES KELK, Hamilton, Ontario, Canada. Filed Mar. 25, 1882. (No model.) Patented in Canada Dec. 14, 1881, No. 15,236.



Claim.—1. A perch for a bird-cage provided near its ends with annular bands C, having annular recesses D formed upon them, the recesses filled with a noxious compound to prevent insects from getting on a bird while on the perch, substantially as and for the purpose specified.

2. In combination with the perch A, cylinder B, and ring C, the cap E, forming recess *g*, substantially as and for the purpose specified.

261,854. COMBINED IRON AND CONCRETE FENCE-POST. IRA S. KINSBURY and GEORGE W. PECK, Monticello, Ind. Filed Mar. 31, 1882. (No model.)



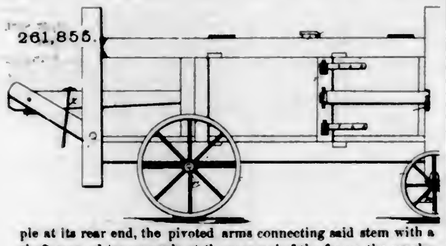
Claim.—The combination, with the metallic post A, of the concrete base B, made outwardly tapering from its upper end downward and from its lower end upward, the tapering portion at the upper end serving to prevent the vertical displacement of the base, substantially as set forth.

261,855. BALING-PRESS. JOHN W. KITCHEN, Shullsville County, Ind. Ter. Filed June 28, 1882. (No model.)

Claim.—1. The combination of the bed-frame mounted upon axles, the rear one of which revolves in suitable boxes under said frame, the press-box, the follower sliding in the latter, and having a rearward-projecting stem, arms pivoted to the rear end of said stem and to a transverse shaft at the rear end of the frame, and a rope connecting the rear end of the follower-stem with the revolving axle, as set forth.

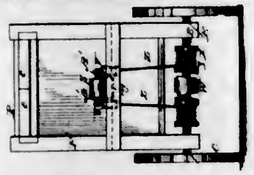
2. The combination and arrangement, as described, of the press-box, the follower having a hinged stem provided with a sta-

261,855.



ple at its rear end, the pivoted arms connecting said stem with a shaft secured transversely at the rear end of the frame, the revolving rear axle having a staple, and a rope having hooks at both ends to engage the staples of the revolving axle and the follower-stem, as set forth.

261,856. BALING-PRESS. JOHN W. KITCHENS, Skullyville County, Ind. Ter. Filed June 22, 1882. (No model.)



Claim.—1. In a baling-press, the combination of the frame mounted upon wheels, the rear axle being revolving, the press-box, the follower having rearward-projecting stem, the shaft mounted transversely at the rear end of the frame, and having a roller supporting said stem, the pulleys journaled upon said axle adjoining said stem, and the ropes secured to said stem passing over the pulleys and connected to clutches upon the revolving axle, as set forth.

2. In a baling-press, the combination of the sills L, having brackets N, the press-box, and the doors J, hinged to the sills, and having hinged supports M, as set forth.

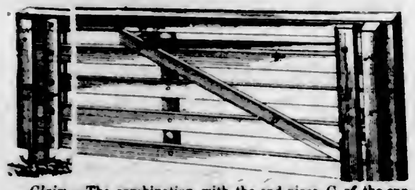
3. The combination of the frame, the revolving axle B, having double-faced clutch-collar W and spirally-grooved clutches X, the press-box, the longitudinally-sliding follower having stem S, the shaft T, having roller U and pulleys V, and the ropes Z, connecting the follower-stem with the clutches X, as set forth.

261,857. EGG-BEATER. GEORGE M. KITTERMAN, San Rafael, Cal. Filed Feb. 10, 1882. (No model.)



Claim.—In a beater or mixer for liquids or semi-liquid substances or compounds, the screw-threaded beater-stem A, having upon its lower end the whip or wire loops, and provided with means for alternately rotating said beater-stem in opposite directions, consisting of the threaded nut D, supporting the standards E E, carrying the cross-head F and ring G, and the coiled spring I, constructed, arranged, and operating substantially in the manner as herein set forth and specified.

261,858. GATE. CHARLES B. KNIGHT, Lakeville, N. Y. Filed May 8, 1882. (No model.)



Claim.—The combination, with the end piece, C, of the supporting bracket or crane, of the strip I, removably secured to the same by bolts and nuts, one of which passes through and secures a separating-block, J, and another having journaled thereon a roller, K, whereby the parts may be readily separated, as set forth.

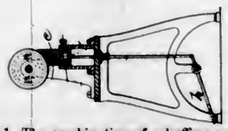
261,859. BINDING FOR WIRE-CLOTH. JULIUS LESSE, Minneapolis, Minn. Filed June 24, 1881. (No model.)



Claim.—1. The combination, with a wire bolting-cloth, of a slightly-elastic non-metallic fabric binding inclosing both sides of the edges, and extending out beyond the edges and held thereto by stitches passed through the three thicknesses of cloth and binding, substantially as shown and described, for the purpose specified.

2. The combination, with the bolting-frame, of the wire bolting-cloth described, having slightly-elastic binding around its edge, and a protecting-strip, *a*, on the surface of the binding to protect the same, as and for the purpose specified.

261,860. MACHINERY FOR BUFFING AND POLISHING. MORRIS H. LEVETT, New York, N. Y., assignor of one-half to Alexander Levett, same place. Filed Apr. 27, 1882. (No model.)

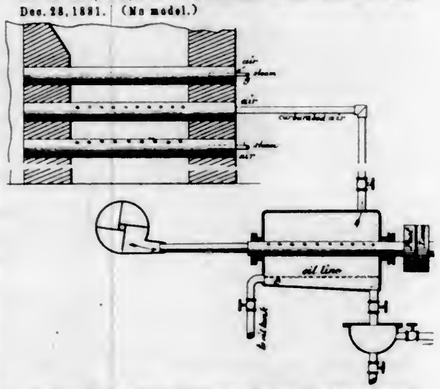


Claim.—1. The combination of a buffing or polishing device with a polishing-material supply provided with a suitable operating device, arranged relatively to each other to permit the workman while operating the polishing device to apply the polishing material to the device or withhold it, at will, without intermitting the operation of polishing, substantially as described and shown.

2. A device for supplying polishing materials to wheels or rotary devices, consisting of a supply-carrier provided with a suitable mechanism to actuate it, whereby the workman can move the polishing material to and away from the rotary device at will and without intermitting the operation of polishing, substantially as described.

3. The polishing-material-supplying device shown, consisting of a supply-holder, *c*, provided with a suitable carrier and presser to actuate it, substantially as described.

261,861. BURNING AND CARBURETING AIR. HARVEY T. LITCHFIELD, Hull, and DAVID RUSSHAW, Cohasset, Mass. Filed Dec. 28, 1881. (No model.)



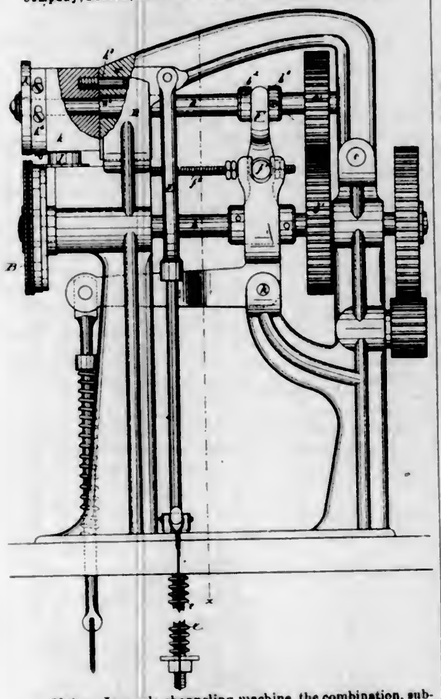
Claim.—1. A furnace composed of stationary perforated pipes arranged along or across the furnace, the central one being adapted to receive carbureted air and the others to receive air or air and steam, the perforations in said pipes being arranged in directions facing each other, by which the jets issuing therefrom are made to come in violent contact with each other, by which a thorough and intimate mixture is made to take place and a thorough combustion of the same, substantially as herein described.

2. In combination with a furnace provided with stationary pipes, as set forth and shown, the carburetor having the rotating perforated pipe, said pipe being adapted to receive air under pressure, whereby air is forced against the surface of the oil, and also air is mixed with the saturated air within the chamber, in the manner set forth.

3. The combination, with a furnace substantially as described, of the carburetor provided with the rotating perforated air-pipe, the steam-pipe, and heavy-oil trap and pipe-connections, in the manner and for the purpose set forth.

4. The carburetor constructed with a downwardly-inclined bottom, the oil-trap, and the perforated rotating air-pipe passing longitudinally through said carburetor, by means of which pipe the air passing therethrough is more completely saturated with the volatile vapor of the oil, in the manner set forth and described.

261,862. SOLE-CHANNELING MACHINE. AUGUSTUS F. LITTLEFIELD, Lynn, assignor to the Improved Sole Sewing Machine Company, Boston, Mass. Filed Feb. 25, 1882. (No model.)



Claim.—In a sole-channeling machine, the combination, substantially as hereinbefore set forth, of the shaft *a*, carrying the feed-wheel A, the knife-carrier K, mounted on the shaft *a*, as described, the shaft *b*, carrying the feed-wheel B, the arm F, connecting the two shafts, the stationary guide I, and mechanism, substantially as described, for giving a simultaneous endwise movement to both shafts, as and for the purposes set forth.

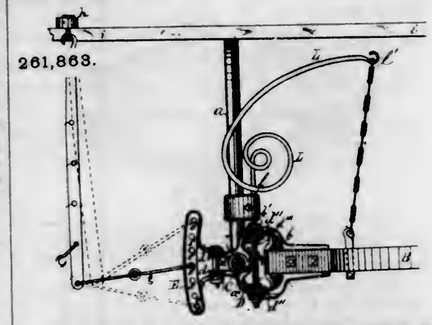
261,863. CULTIVATOR. LUPPE LUPPEN, Pekin, Ill. Filed Mar. 29, 1882. (No model.)

Claim.—1. In a cultivator coupling-joint, in combination with the axle, plow-beam, and sleeve C, a joint-piece, D, having rearwardly-projecting arms, by which it is secured to the plow-beam and forwardly-projecting arms *d*, by which it is secured to a clevis, E, having means of securing the draft-hooks thereto in higher and lower planes, substantially as and for the purpose specified.

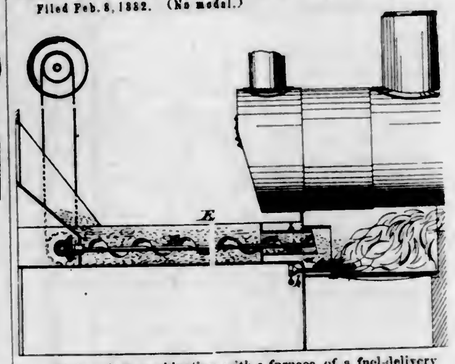
2. In a cultivator coupling-joint, in combination with the axle, plow-beams, clevis E, and sleeve C, mounted on the axle, substantially as described, a joint-piece, D, which partially surrounds the sleeve C and is intermediate between the plow-beam and clevis, and connected to both by joints, which, while they permit lateral flexure, hold the parts rigid as regards vertical flexure, substantially as and for the purpose specified.

3. In combination with the axle, plow-beams, sleeve C, and joint-pieces D, having rearwardly-projecting arms, by which it is secured to the plow-beam, and forwardly-projecting arms *d*, by which it is secured to a clevis, E, constructed substantially as described, a spring connected at one end to the axle and at its other end to the plow-beam, and adapted to coact with the draft-clevis, substantially as and for the purpose specified.

261,863.

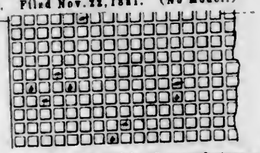


261,864. FEEDING LIGHT FUEL. HENRY MASON, Chicago, Ill. Filed Feb. 8, 1882. (No model.)



Claim.—The combination, with a furnace, of a fuel-delivery conveyer or tube, E, having a contracted end or smaller tube, *b*, opening directly into the fire-chamber, a screw arranged in the fuel-delivery conveyer or tube, and having one end supported in the contracted end or smaller tube thereof, and an air or steam jet arranged below the delivery-mouth of the said contracted end or smaller tube, substantially as and for the purposes described.

261,865. FABRIC FOR CARPET-LINING. HENRY W. MATHER, Bloomingdale, and JOSEPH KNAUBY, Millburn, N. J., assignors to said Mather. Filed Nov. 22, 1881. (No model.)



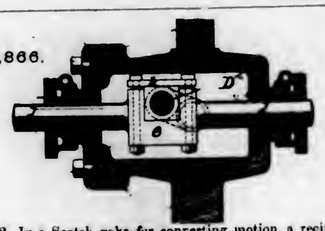
Claim.—1. As an improved article of manufacture, a fabric made from one sheet of felted material, having depressions formed by compression in one face only and elevations between said depressions, substantially as specified.

2. As an improved article of manufacture, a carpet-lining made from a single sheet or thickness of felted material, and having depressions and elevations formed in and on one side only by means of compression, substantially as set forth.

261,866. DEVICE FOR CONVERTING MOTION. EDGAR E. MILLER, Canton, Ohio. Filed May 17, 1882. (No model.)

Claim.—1. The device for converting reciprocating into rotary motion, embodying the combination of a reciprocating traverse-rod carrying a box or bearing for the crank-pin and a yoke or equivalent support for the bearings of the traverse-rod, substantially as set forth

261,866.

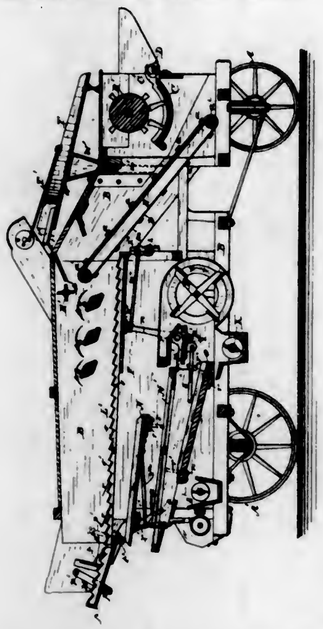


2. In a Scotch yoke for converting motion, a reciprocating box or bearing for the crank-pin, provided with extensions at opposite sides, adapted to move in bearings in or upon the ends of the yoke, substantially as set forth.

3. In a yoke device for converting reciprocating into rotary motion, the yoke D, adapted to receive a reciprocating rod, *d*, carrying the crank-wrist bearing, substantially as specified.

4. In a yoke device for converting reciprocating into rotary motion, the yoke D, provided with a detachable end or head, *c*, in combination with the traverse-rod *d* and crank-wrist bearing, substantially as set forth.

261,867. THRASHING AND SEPARATING MACHINE. JACOB MILLER, Canton, Ohio. Filed June 20, 1881. (No model.)



Claim.—1. In combination with the carrier D', the overhanging beater E' and beaters *b b b*, whereby the straw and grain are deflected downward after they leave the carrier and upward and onward by the beaters *b b*, as set forth.

2. In a thrashing and separating machine, the combination of the short carrier D' and floor E with the overhanging beater E', beaters *b b b*, vibrating table F, open straw-carrier L', and the extension M, arranged in the manner described and set forth.

3. The combination, with the shaking table or carrier L', supported at its rear end by the inclined links *d*, of the upwardly-inclined slatted extension M, supported at its front end by the links *d* and at its rear end by the links *p'* inclined at a greater angle than the links *d*, whereby the straw is given an upward toss in discharging it from the machine and the grain thrown forward on the riddles, substantially as specified.

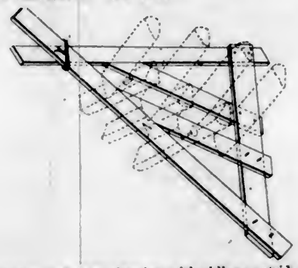
4. The combination, with the cylinder and carrier, of the trough *w'*, located immediately behind the cylinder-post and extending nearly down to the carrier D', whereby an upward draft from the cylinder is prevented from passing up through said trough or spout, as and for the purpose set forth.

5. The castings or bell-crank levers *s*, provided with the enlarged portions *s'''*, and in combination with a shaker or shakers, as described, to counterbalance the upper carrier.

6. The bell-crank levers or castings *s*, provided with enlarged portions *s'''*, in combination with the shoes O and N, riddle N', rods *s*, arms *r'''*, and rods *r''''*, whereby the weight of the shaker or carrier L' and table F is counterbalanced and the vibrating parts of separator nicely adjusted.

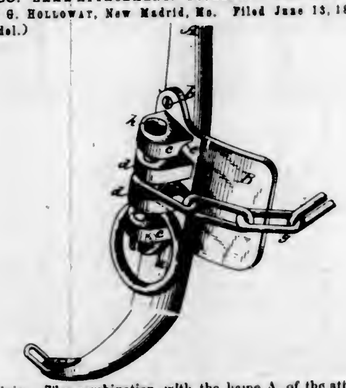
7. The combination of the shaft *h*, provided with the crank-arms *n'*, with the weighted rods *n'''*, table F, carrier L', bell-crank lever *n'*, rods *s*, shoes O and N, and riddle N', whereby all the parts—viz., the table F, carrier L', shoes O and N, and riddle N'—have a simultaneous and uniform reciprocating motion imparted to them, as set forth.

261,868. FENCE. ROBERT L. PARCOAST, Charlotte, Mich. Filed Mar. 8, 1882. (No model.)



Claim.—A fence-bracket with oblique outside and vertical inside braces attached to a base-board, in which the outside braces are crossed and tied at the top, and in which the top of the vertical braces are attached to the outside braces upon the under side, all substantially as set forth and described.

261,869. HAME ATTACHMENT. THOMAS R. PANGLE and RICHARD G. HOLLOWAY, New Madrid, Mo. Filed June 13, 1882. (Model.)



Claim.—The combination, with the hame A, of the attachment consisting of the plate B cast at its outer or forward end with flanged loops *c d*, and the pin *h*, said plate extending back beyond the hame and curved or inclined inwardly, substantially as and for the purpose set forth.

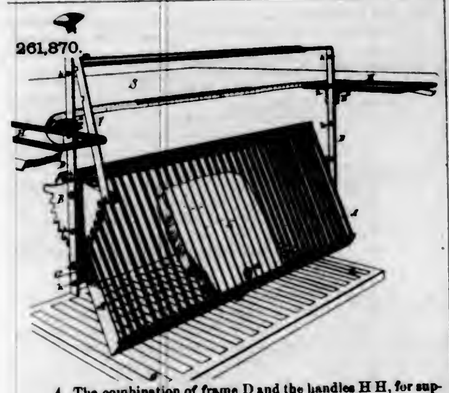
261,870. GRIDIRON AND TOASTER. FREDERICK S. PERKINS, Burlington, Wis. Filed June 8, 1882. (No model.)

Claim.—1. The combination of the frame A and the frame D, to which it is pivoted, and which is provided with handles or supports for sustaining it upon the edge of the stove-aperture, and which is so placed as to permit the frame A to be introduced into the fire-box and below the top of the stove, near the fire, substantially as and for the purposes set forth.

2. The frames D and A in combination, the former being provided with a cover and a removable bottom, permitting the substitution of one differently shaped, substantially as set forth.

3. The combination of frame A, frame D, gears B and C, and rod F, substantially as and for the purposes set forth.

261,870.



4. The combination of frame D and the handles H H, for supporting it, made adjustable vertically thereon, substantially as and for the purposes set forth.

5. The combination of frame A, frame D, handles H H, gears B and C, and rod F, substantially as and for the purposes set forth.

6. The combination of frame A and the frame D, to which it is pivoted, frame D being provided with handles H H, removable and vertically adjustable thereon, substantially as and for the purposes set forth.

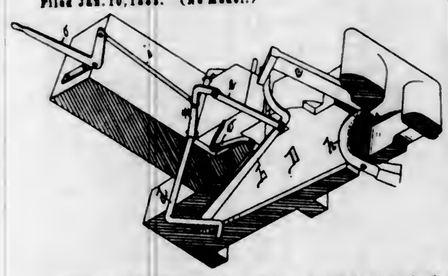
261,871. PAPER BOX. DANIEL E. POWERS, New York, N. Y., assignor to himself and John S. Chase, same place. Filed June 14, 1881. Renewed Jan. 11, 1882. (No model.)



Claim.—1. The within-described method of manufacturing paper boxes by first cutting the paper strip with offsets *a a'*, winding the same, with a suitable cement, on the head B, and extending beyond the head, and folding inward and cementing the edge of the last coil or layer, all substantially as and for the purposes herein specified.

2. The paper box described, formed of the plane-piece B and flexible strip A A' A², having the offsets *a a'*, applied together, as herein specified.

261,872. CAR-COUPLING. DANIEL P. PRESCOTT, Vernon, Vt. Filed Jan. 10, 1882. (No model.)



Claim.—1. In a car-coupling, the draw-bar D, having a horizontal chamber in the rear of its mouth to receive a pin-lifting lever and a pin-supporting latch, the lever *b*, pivoted within said draw-bar and having its free end extending near to the rear side of the coupling-pin hole therein, the latch A, pivoted to hang at the rear side of the draw-bar mouth and to swing therein, the pin *c*, having the slotted arm *r*, and appliances, substantially as described, for swinging lever *b* up and down, all combined and operating substantially as set forth.

2. In combination, the shaft *d*, having the arm *a* thereon, lever *b*, rod *e*, pin *c*, and the link *w*, substantially as set forth.

3. The coupling-pin *c*, having the slotted arm *r* thereon, the lever *b*, to engage with said slotted arm, and appliances, substantially as described, for lifting said lever *b*, all combined and operating as set forth.

4. In combination, shaft *d*, having arm *a* thereon, spring *o*, rod *e*, and lever *b*, substantially as set forth.

5. In combination with the draw-bar of a car-coupling, having oblong coupling-pin holes therethrough, the flat-sided coupling-pin *c*, provided with the slotted arm *r*, substantially as set forth.

261,873. IGNITING MECHANISM. THEODORE C. PRINCE, South Norwalk, Conn., assignor of one-half to James P. Pannult, same place. Filed June 17, 1882. (No model.)



Claim.—1. The combination of the frame A, having partition D and rest K, with the shaft E and the wire spring or igniter I, secured to the lower cross-piece of said frame, coiled around shaft E, and supported upon rest K, as set forth.

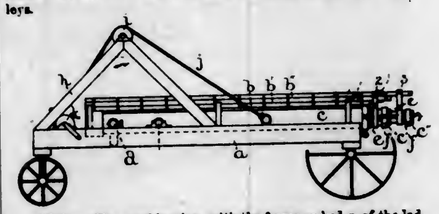
2. The combination of the frame A, having roller C and transverse shaft E, with a roll of igniting-tape placed loosely upon said shaft, the end of said roll being passed over roller C and back to shaft E, to which it is made fast, substantially as and for the purpose set forth.

3. In an igniting mechanism, the combination, substantially as described, of the frame, the transverse shaft holding the igniting-tape, and a spring-wire igniter secured to the bottom of the frame, and coiled around the transverse shaft in order to give it sufficient tension, as set forth.

4. The combination of a lamp-burner, the diaphragm of which is provided with an opening, U, the collar Q, having arms R, provided with hooks S, and the igniting mechanism consisting of the frame A, having partition D, shaft E, roller C, rest K, spring-igniter I, and the roll N of fulminate-tape, all constructed and arranged substantially as set forth.

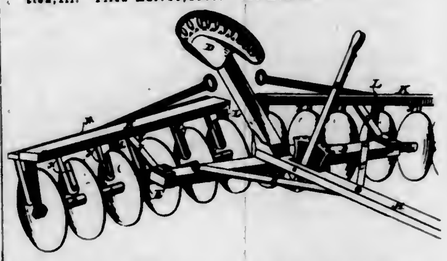
261,874. FIRE-LADDER. GEORGE W. RICH, Portland, Me. Filed Apr. 22, 1882. (No model.)

Brief.—The ladders are secured to the telescopic tubes, and the tubes are prevented from turning on their own axes by pins moving in grooves on the outside of the tubes. The tubes and ladders are elevated and lowered by a winch and system of pulleys.



Claim.—The combination, with the frame or bed *a*, of the ladders *b b' b''*, tubes *c c' c''*, bands 1 2 3, pins *e*, grooves *f*, frame A, pulleys *i*, band *j*, and crank and windlass *k*, all as herein set forth, and to operate as described.

261,875. DISK-HARROW. HENRY H. ROSS, Waterman Station, Ill. Filed Mar. 16, 1882. (No model.)



Claim.—1. In a disk-harrow, a gang of disks composed of two independent sections, substantially as described, a non-rotating

axis-rod whereon said sections revolve, and a draft-connection attached to said rod at its middle, between said sections.

2. In a disk-harrow, a draft-tongue, A, and a cross-piece, B, at the rear of the same, combined with brackets or arms E, attached to said cross-piece with joints which permit said arms to swing in a horizontal plane and also to partly rotate on a horizontal axis, combined with gangs of disks the axis-rods whereof are pivotally attached to the rear ends of said arms, and are thereby enabled to move in a horizontal and vertical direction, as set forth.

3. In a disk-harrow, a draft-frame and gangs of revolving disks, combined with connecting arms or brackets E, each of which is provided with an arm, J, string-piece K, and hangers L, whereby the ends and middle of the axis-rods G are supported, as set forth.

4. In a disk-harrow, a draft-frame and two independent gangs of disks attached by their centers to brackets extending backward from said draft-frame, combined with rods H, extending from the inner ends of said gangs forward to the hand-lever and the slide S, whereby said gangs may be coupled or left independent in their movements, as set forth.

5. A section of harrow-disks, constructed with a tubular axis, as set forth, to wit: said disks are placed upon a piece of suitable pipe of proper length, spaced by thimbles or sleeves of other pieces of pipe of proper size to slip over the first, and extending from one disk to another, and the whole rigidly fastened and held together by screw-nuts on the ends of the pipe first mentioned.

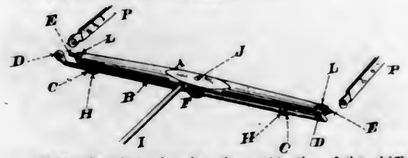
6. In a disk-harrow, a disk-gang set up in sections upon hollow shafts, as set forth, combined with non-rotating rod, which extends through the gang, and constitutes a continuous axis, as described.

7. In a disk-harrow, disk-gangs set up upon tubular hubs, constituting complete and independent sections, substantially as described, combined with non-rotating axis-rods secured to the hangers at their ends, and draft-connections attached to the centers thereof.

8. In a disk-harrow, a set of disks comprising three or other number less than the whole number of the gang, connected rigidly together and fixed upon a shaft, whereby said section may constitute an independent member of the gang, as set forth.

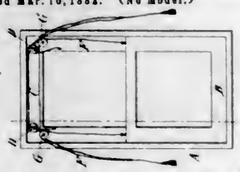
9. In a disk-harrow, a series of revolving disks combined with U-shaped scrapers, the two vertical portions of each being in a plane or planes substantially parallel with the axis of said disks, one of said vertical parts constituting the scraper contignous to the face of the blade and extending to the edge of the same, and the other vertical portion constituting the shank attached to that part of the frame whereby the scraper is supported, whereby matters detached from the blade may freely pass over the point of the scraper without arrest by the shank, substantially as set forth.

261,876. HORSE-DETACHER. ROBERT RUSSELL, BOONE, Iowa. Filed Sept. 28, 1881. (No model.)



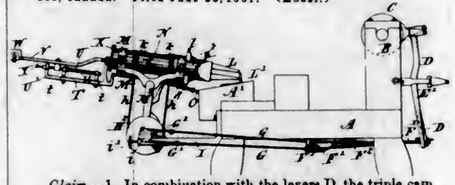
Claim.—In a horse-detacher, the combination of the whiffletree A, having staples C, ferrules I, and draw-pins E, the continuous rock-shaft B, journaled in the staples or bearings C, and provided with washers or shoulders H, arranged on the shaft between the staples, central arm, F, and bent end plates or arms, D, adapted to cover the ends of the draw-pins, the traces P, attached to said pins, and the strap I, secured to the arm F, all substantially as and for the purpose shown and described.

261,877. SASH-BALANCE. S. HOWLAND RUSSELL, New York, N.Y. Filed Mar. 10, 1882. (No model.)



Claim.—In a sash-balance, the combination of the sash B, having cord F attached to its top at each side and passing over pulleys G on the top part of the upper sash, with the sash C, having cord E attached thereto and passing over pulleys D on the top of the window-frame, substantially as and for the purpose set forth.

261,878. NAIL-PLATE FEEDER. LOUIS M. SENECAL, St. Henri, assignor of one-half to James de Gaspé Stuart, Montreal, Quebec, Canada. Filed June 23, 1881. (Model.)



Claim.—1. In combination with the levers D, the triple cam operating by its rotation to give to said levers lateral motion.

2. The barrel or cylinder holding the nail-plate formed in two parts, and rotated in different proportions of a complete revolution, as and for the purposes set forth.

3. The combination, with the cylinder K, of spring N, engaging with recess in cylinder K', and rotating it for the desired distance, and projection N^3, acting against stop N^2 to arrest revolution of K', all substantially as herein described.

4. The combination, with cylinder rotated alternately in opposite directions and holding the nail-plate, of nipping-levers which, by means of a projection on the end of one engaging with a cam on the rim of the cylinder, simultaneously shut the nippers and feed the nail-plate forward, all substantially as herein set forth.

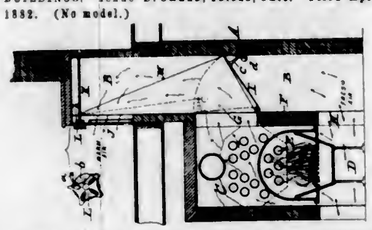
5. The combination of the rod U, carried in projection from tilting frame, the nipping-levers V V' pushing same forward, the spring u returning same to normal position, and the screw Y, carried independently in projection T, all constructed and operating substantially as herein set forth, and for the purposes described.

6. In a nail-plate feeder, the combination, with the cylinder carrying the nail-plate, of the nose-pieces L, pivoted near their rear ends to the said cylinder, and the set-screws *l*, which pass through the rear ends of the said nose-pieces to adjust their forward ends to nail-plates of different widths.

7. The combination, with one of the standards carrying the cylinder, of the levers R and P, operated by cam Q on shaft H, and arm O, connected adjustably with lever P, and having thereon spring S, operating against lever R, all constructed, arranged, and operating substantially as described, and for the purposes set forth.

8. The combination of the arm O, pivoted to the nail-cutting machine, lever P, and ring O', with projection on same dropping into ring P', carried on end of said lever, all substantially as described, and working together to put nail-plate feeder in gear for action.

261,879. APPARATUS FOR HEATING AND VENTILATING BUILDINGS. ISAAC D. SMEAD, Toledo, Ohio. Filed Apr. 20, 1882. (No model.)



Claim.—1. In combination with the furnace-chamber provided with an air-inlet, D, one or more flues, B, each communicating with the furnace-chamber by passages G and H, and each furnished with a valve, I, having its lower end hinged at the lower end of opening G, whereby it is adapted either to simultaneously open passage G and close the flue below it or to close the passage G and open the flue, as set forth.

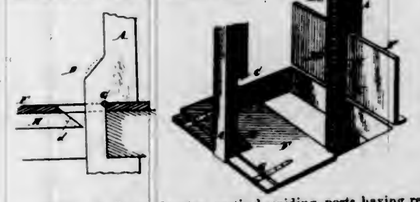
2. In combination with a furnace-chamber and a flue, communicating as explained, the valve I, arranged, as shown and described, to control the delivery of warm and cold air to the flue, hinged at its lower end, and provided with an arm, *e*, on its rear face, and a shaft or spindle located above the valve and connected with arm *e*, as shown, whereby the movement of the shaft or spindle is caused to tightly close the valve against its seat.

3. In combination with opening G, the valve I, provided with a rearwardly-projecting arm, *e*, and a chain connected with the outer end of said arm, and with a winding or elevating device above the same, whereby the valve is pressed firmly to its seat and caused to close the opening G when the chain is drawn upward.

4. In combination with the furnace-chamber, flue, air-inlet, and valve I, arranged as set forth and shown, a shaft or spindle above the valve, connected therewith as explained, and provided with ratchet *b* and the pawl *a*, arranged to engage with the ratchet, and thereby to prevent the rotation of the shaft.

261,880. ELEVATOR. WILLIAM STEVENS, Philadelphia, Pa. Filed Apr. 3, 1882. (No model.)

Brief.—The uprights are cut away and a portion of the rack on the under side of the folding hatchway-doors, so as to form a continuous rack when the doors are opened.

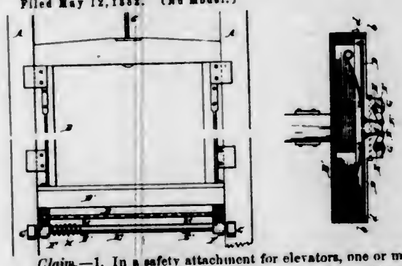


Claim.—1. In an elevator, vertical guiding-posts having recesses for the doors when opened, in combination with said doors having guiding-pieces upon their under sides, which, when the doors are raised, fit into the recesses in the posts and make the guide for the cage continuous.

2. In an elevator, a recessed guide-post, in combination with a door provided with a guide-piece secured thereto, and which fits into said recess in the guide-post when the door is raised, and makes the guiding-surface continuous throughout.

3. In an elevator, the vertical guide-posts A, provided with recesses C, having oblique or curved bottoms D, in combination with hinged doors F, provided with guide strips or pieces H, said pieces being adapted to fit into and close up the entire recesses in the posts vertically when the doors are opened.

261,881. ELEVATOR. WILLIAM STEVENS, Philadelphia, Pa. Filed May 12, 1882. (No model.)



Claim.—1. In a safety attachment for elevators, one or more vanes attached to and moving with the platform, in combination with clamping devices, also carried by said platform, and connecting mechanism, whereby said vane or vanes positively actuate said clamping devices to cause them to clamp the stationary framing and arrest the descent of the platform.

2. In an elevator, the combination of guide-posts A or their equivalent, platform, or cage B B', vane or vanes D, and oppositely-acting clamping mechanism adapted to be actuated by said vane to clamp each of said posts upon their two opposite faces and arrest the fall of the cage or platform.

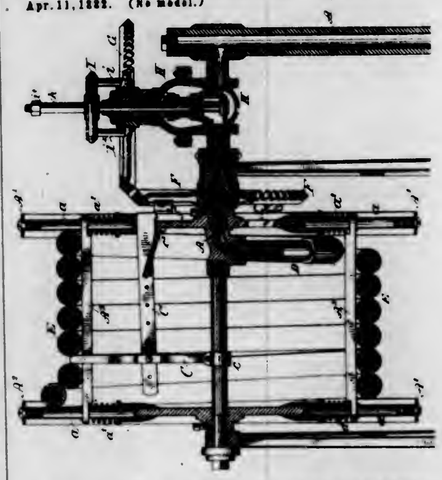
3. In an elevator, the combination of a platform and vertical guides therefor with a vane or vanes, D, shafts E, having cranks E' and clamps G, and links *e*, substantially as set forth.

4. In an elevator, the combination of a platform and vertical guides therefor with a vane or vanes D, springs H, or their equivalent, and clamping mechanism actuated by said vane or vanes to clamp the guides and arrest the fall of the platform.

5. In an elevator, the combination of vertical guide-posts A, platform B B', vane or vanes D, shafts E, provided with cranks E' and clamping-surfaces G, links *e*, and springs H, or their equivalent, substantially as and for the purpose specified.

6. In an elevator, the combination of posts or guides A, platform B B', vanes D, hinged at *d* to said platform, links *e*, and shafts E, having cranks E' and clamps G, as shown and described.

261,882. AUTOMATIC HOSE-REEL. LEVI W. STOCKWELL, Cleveland, Ohio, assignor to Alfred Adams, same place. Filed Apr. 11, 1882. (No model.)



Claim.—1. The combination, substantially as hereinbefore set forth, of the hose-reel, the water-supply pipe, the water-supply valve, mechanism for automatically operating the valve by the rotation of the reel, and a detachable connection between the automatic mechanism and the valve, by which the latter may be actuated either automatically by the movement of the reel or by hand.

2. The combination, substantially as hereinbefore set forth, of the hose-reel, the water-supply valve, a wheel, G, actuated by the rotation of the reel to automatically operate the valve, the hand-wheel for operating the valve, and the detachable clutch or connection between the hand-wheel and the automatically-actuating wheel.

3. The combination, substantially as hereinbefore set forth, of the hose-reel, the water-supply pipe, the water-supply valve, the valve-stem, the wheel G, for automatically operating the valve by the revolution of the reel, the hand-wheel sliding on the valve-stem, and the pins thereon for engagement with the wheel G.

4. The combination, substantially as hereinbefore set forth, of the hose-reel, the water-supply pipe constituting one of its bearings, the gear-wheel turning freely on the reel-shaft, detachable driving-connections between the reel and said gear-wheel, (which connections automatically engage, when released by the unwinding of the hose from the reel,) the water-supply valve, and the second gear-wheel actuated by the first one, and turning with the valve-stem, to open the valve automatically as the hose is unwound from the reel.

5. The combination, substantially as hereinbefore set forth, of the hose-reel, the water-supply pipe constituting one of its bearings, the actuating gear-wheel, detachable driving-connections between the hose-reel and gear-wheel, the water-supply valve mounted upon its stem, and the detachable connection between the valve-stem and gear-wheel to actuate the latter either automatically by the unwinding of the hose or by hand, as preferred.

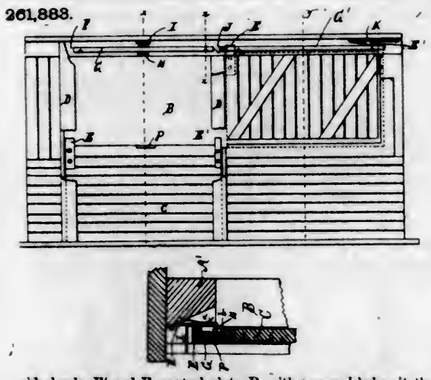
261,883. GRAIN-CAR DOOR. GEORGE O. TANNER, Indianapolis, Ind. Filed Aug. 9, 1881. (No model.)

Brief.—The door has a narrow hook at one upper corner and a broad hook at the other, which, when the door is raised, pass through corresponding slots in the elevated bearing-rail. The broad hook bridges the narrow slot in sliding the door to and fro. A spring-actuated hook with lever-arm above the door-opening engages a groove and plate in the central upper edge of the door to suspend it.

Claim.—1. The grain-car door C, provided at one end with the narrow hook E' and at the other end with a wide hook, E, and the central upper edge provided with a metallic plate, P, with a groove, *b*, below it, combined with the slide-rail G G', having narrow opening J for the hook E' and wide opening F for the hook E to pass through, the hinged hook R, with lever-arm I, hook H, and spring *a*, substantially as shown and described.

2. In combination with a door, C, provided with narrow and

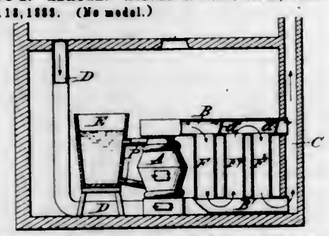
261,883.



wide hooks E' and E, central plate, P, with groove *b* below it, the hook H, and spring *c*, substantially as shown and described.

3. The door C, with the hook E at one end and the hook E' at the other end, combined with the slide-rail G G', having opening J for the hook E' to pass through, substantially as shown and described.

261,884. HEATER. ROBERT M. WEIR, Boone, Iowa. Filed Mar. 13, 1882. (No model.)



Claim.—1. The combination of the furnace A, horizontal flues B B', two or more connecting-flues, F F', one or more perforated dampers, *a*, placed in the upper horizontal flue, the water-vat E, and the pipe P, leading therefrom to the furnace, substantially as and for the purpose described.

2. The combination of the furnace A, horizontal flues B B', vertical connecting-flues F F' F², dampers *a a*, water-vat E, pipe P, and ventilating-pipe D, all substantially as shown and described.

261,885. ORNAMENTAL GLASS AND PROCESS OF ETCHING THE SAME. SAMUEL WEST, Boston, Mass. Filed May 5, 1882. (Model.)



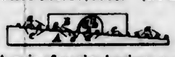
Claim.—1. That improvement in the art or method of etching glass which consists in warming the glass to a temperature somewhat below the melting-point of wax and spreading molten wax over only those portions of the surface that are to be protected from the action of the acid and then subjecting the glass to the action of acid, substantially as described.

2. That improvement in the art or method of etching glass which consists in subjecting the plate to the etching-acid in varying depth, whereby the different portions of its surface are affected with varying rapidity, substantially as described.

3. That improvement in the art or method of etching which consists in providing portions of the surface of the plate to be etched with a covering of wax, it being applied in a molten state by suitable implements manipulated by the hand of the operator and then subjecting the plate to the action of acid, substantially as described.

4. As an improved article of manufacture, an etched plate having the portions of its surface acted upon by the etching-acid removed to a gradually-varying depth, substantially as described.

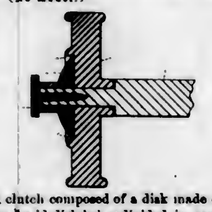
261,886. PRINTER'S QUOIN. WILLIAM B. WHITMORE, Newburyport, Mass., assignor of one-half to Charles W. Brown, same place. Filed Feb. 17, 1882. (No model.)



Claim.—1. A pair of quoins having on each of their contiguous sides a series of steps presenting planes parallel to the outer or opposite sides of the quoins, said contiguous sides being inclined in their directions, as a whole, to said outer or opposite sides, substantially as described.

2. The combination of quoin A, having notches or recesses *a*, with quoin B, having opening *b*, said quoins forming a pair for joint operation, and having on their contiguous sides bearing-planes parallel to the outer or opposite sides of the quoins, substantially as and for the purpose specified.

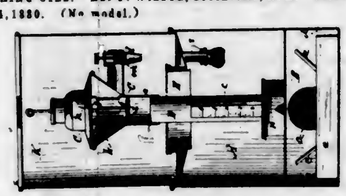
261,887. CLUTCH. RUEL W. WHITNEY, New York, N. Y., assignor to himself and John Criswell, Jr., Glenville, Ohio. Filed Mar. 23, 1882. (No model.)



Claim.—1. A clutch composed of a disk made convex on one side, the periphery of said disk being divided, in combination with a recess formed in the face of a wheel or pulley, all operating substantially as and for the purpose shown and described.

2. A clutch composed of a concavo-convex disk, having its periphery divided into one or more parts, whereby the circumference of said disk is adapted to be enlarged, and thus engage with the inner wall of a recess formed on a wheel or pulley, substantially as and for the purpose shown and described.

261,888. APPARATUS FOR STORING, DRAWING, AND MEASURING OILS. ELI F. WILDER, Greenville, N. H. Filed Sept. 14, 1880. (No model.)



Claim.—1. An oil or liquid storing apparatus provided with a chamber, B, below its reservoir A, inclosed except an opening to gain access to the inside, and with a receptacle, shelf, or bottom, *d*, therein, protected by a guard, *e*, at its open edge, substantially as and for the purpose herein specified.

2. In an apparatus for storing and drawing oils and other liquids, a fixed tube, D, extending upward from the reservoir above the cover thereof, and constructed to form part of a pump-body, adapted to have joined thereto one or more removable pumps, C H, the body part of which tightly fits the same, substantially as and for the purpose herein specified.

3. In an apparatus for storing and drawing oils and other liquids, a can-emptying pump, I, arranged in a vertical position, and provided with an outer drawing-tube, *v*, elevated sufficiently to pass a can or oiler beneath it, and of proper length to reach the bottom of the can inside thereof, with a tube or passage, *w*, leading from the upper end of the drawing-tube, near the top of the pump, down and into the pump-body near the bottom thereof, and with a discharge-pipe, *y*, leading from the pump-body near the top thereof, substantially as and for the purpose herein specified.

4. The combination of the handle G, the two pumps H I, and the cover or lid E, substantially as and for the purpose herein specified.

261,889. ADVERTISING-CARD. HARRIS C. WILKINSON, Brooklyn, N. Y. Filed May 25, 1882. (No model.)

Claim.—1. As a new article of manufacture, an advertising-

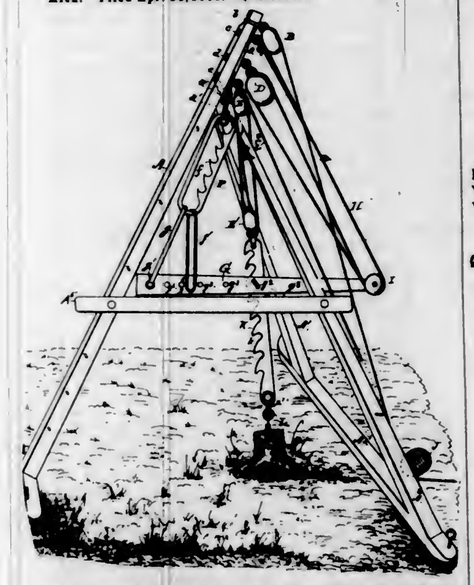


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card, A, provided with a pocket or receptacle, B, the front or exposed side of which is provided with a layer or coating of a compound capable of evolving light, substantially in the manner and for the purpose described.

2. As a new article of manufacture, an advertising-card, A, provided with a match-receptacle, B, the front or exposed side of which receptacle is provided with a layer or coat of a compound capable of evolving light and with a roughened surface, *a*, upon which matches may be ignited, constructed substantially in the manner and for the purpose described.

261,890. STUMP-EXTRACTOR. JACOB WILSON, St. Charles, Mich. Filed Apr. 14, 1882. (No model.)



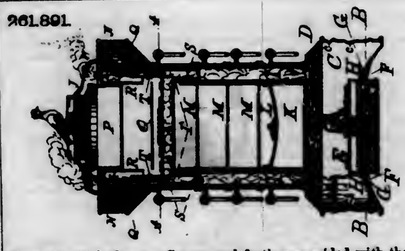
Claim.—1. In a stump-puller, the combination, with the tripod-frame, of the vertically-adjustable bar G, provided with the pulleys I, link F, provided with hooked-shaped notches *f*, connected to the frame and bar G, bar K, provided with hooked-shaped notches *k*, detachably connected to the bar G and to the tackle-block E by chain or rope E², and the hoisting rope or chain H, substantially as and for the purpose herein shown and described.

2. In a stump-puller, the combination, with the tripod-frame, of the vertically-adjustable bar G, provided with the pulleys I, link F, provided with hooked-shaped notches *f*, connecting links *a' g*, and supplemental link *f'*, bar K, provided with hooked-shaped notches *k*, tackle-blocks E E', and chain or rope for connecting the upper end of said bar K with the frame, tackle-blocks B D, pulley J, and a hoisting-rope H, the several parts arranged and operating substantially in the manner as and for the purpose herein shown and described.

261,891. DINNER-PAIL. DAVID WOLF, Louisville, Ky. Filed May 29, 1882. (No model.)

Claim.—1. The combination, in a dinner-pail, of the lamp E, provided with two or more ears, G, with the centrally-perforated bottom of the heating-chamber C, provided with notches F,

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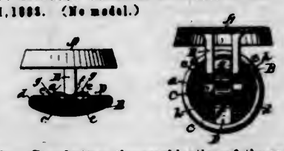
through which the ears G pass, and further provided with the retaining-collar H, as shown and described.

2. The combination of the lamp E, chambers C D, steam-pipes I, and circulating-pipe S, as described.

3. The combination of the heating apparatus E C D I, dishes K M, and bail J, hooking into the pipes I, as described.

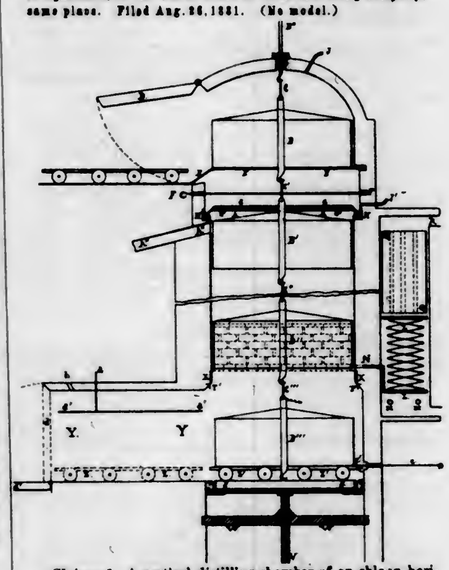
4. The combination of the heating apparatus E C D I, dishes K M, bail J, and top dish, P R, secured to the pipes I by the bail J, as shown and described.

261,892. BUTTON. FREDERIC B. WOOD, Providence, R. I. Filed June 1, 1882. (No model.)



Claim.—In a button, the combination of the spring-plate C provided with the elevation *a* and springs *c c*, with the post E, provided with the opposite spurs *e e*, and the spring-strap D, provided with the upward curves *g g*, substantially as described.

261,893. APPARATUS FOR DRY DESTRUCTIVE DISTILLATION. HENRY WURTS, New York, N. Y., assignor, by mesne assignments, to the Union Chemical Manufacturing Company, same place. Filed Aug. 26, 1881. (No model.)



Claim.—1. A vertical distilling-chamber of an oblong horizontal section, without external fire space or flues, provided with lids, doors, or valves, closing both over the top and under the bottom, containing a series of receptacles or cases of corresponding oblong section linked or hooked together with interspaces between, forming a connected chain suspended constantly from the upper

end of the chamber, with means of arresting their descent at each interspace, said chamber being connected by pipes at its lower end with a tubular gas-heater or coil external to the said chamber and inclosed in a distinct highly-heated fire-space, all constructed, combined, and operating substantially as set forth.

2. A vertical distilling-chamber of oblong horizontal section, provided with lateral recesses in its two broader sides, at their lower ends, furnished with perforated or cellular refractory brick walls, forming part of the internal walls of the said distilling-chamber itself, said recesses also containing horizontal tubes which convey heated gas behind said perforated or cellular walls from an external tubular gas-heater or coil, all combined, constructed, and operating substantially as specified.

3. In the series or chain of vertical cases in the distilling-chamber herein described, the combination of the laterally-movable link above each case, with the hook rigidly fixed to the case immediately above, and the vertically-movable sole, combined and operating together in the manner and for the purposes substantially as set forth.

4. The combination, with a retort or distilling-chamber, of an antechamber or vestibule situated at a higher level, and provided with a gas-tight door, through which to introduce into said antechamber a freshly-charged case, and furnished with one or more horizontally-hinged valves or doors, closing gas-tight at the base of the antechamber and between it and the distilling-chamber below, and furnished with a gas-induction pipe at top, together with means, as set forth, of attaching and suspending said charged case from the crown or apex of the said antechamber internally, all combined and constructed in the manner and for the purposes substantially as set forth.

5. The combination of the gas-induction pipe J at the top with the air-eduction pipe J′, Fig. 2, at the bottom of the antechamber, by which said antechamber is emptied of air before opening communication with the distilling-chamber below, the whole arranged substantially in the manner specified.

6. In combination with a retort or distilling-chamber, a lateral chamber, Y Y, at a lower level, provided with a gas-tight door, and a vertically-movable sole, forming part of the said distilling-chamber, all constructed, combined, and operating together substantially as set forth.

261,894. MANURE-FORK. HENRY ALBERS, New Bremen, Ohio. Filed June 10, 1882. (No model.)

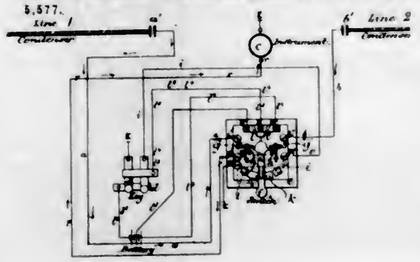


Claim.—1. In combination with a pivoted fork, the ferrule C, having the hole *d*, communicating with the vertical slot *b*, and the hole *d′*, having the recess *e*, to receive the push-pin D, as shown and described.

2. The combination, with a pivoted fork having a semicircular plate provided with notches on the periphery, of the push-pin D, constructed as shown, having arms *i i′*, connected by the bar *h* and thumb-knob *g*, and operated by the spring *f*, as described, and for the purpose set forth.

3. The combination of the push-pin D, constructed as described, with the ferrule C, having holes *d d′*, recess *e*, slot *b*, spring *f*, semicircular plate E, having notches *c c′*, and pivoted fork A, the whole operating as shown and specified.

261,895. ELECTRIC TELEGRAPH. JAMES ANDERSON, 88 Old Broad Street, London, and BENJAMIN SMITH, Princes Street, Hanover Square, County of Middlesex, England. Filed Feb. 1, 1882. (No model.) Patented in England Dec. 20, 1881, No. 5,577.



Claim.—1. The combination, substantially as set forth, with two telegraph-lines, of a receiving-instrument, a transmitting-instrument, and a switch, which latter, when in one position, permits the receiver to respond to signals coming over either line, and in the second position causes the receiver to respond to signals received over one line and throws the transmitter into the other line, and in the third position reverses the relations of the transmitter and receiver to the respective circuits, so that messages can be received from either circuit and transmitted over the other.

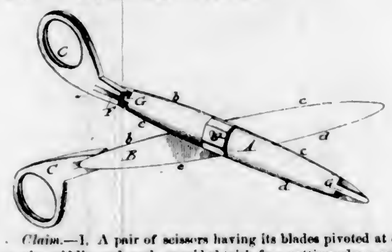
2. The combination, substantially as set forth, of two telegraph-lines which are both grounded through a receiving-instrument or recorder common to both lines, the switch-lever, and its central, right, and left contacts and connections, the battery, and the transmitting-key, the organization being such that when the switch-lever is in its normal central position both lines will pass through the recorder, when the switch is set over to one side one line will pass to earth through the recorder and the other line will be put in circuit with the key and battery, and when the switch is set over to the opposite side the relations of the lines to the recorder and to the key and battery will be reversed, for the purpose set forth.

3. The combination, substantially as set forth, of two telegraph-lines, the receiving or recording instrument common to both lines, the switch-lever, and its central, right, and left contacts and connections, the battery, the transmitting-key, and the second recorder placed in the battery-circuit between the key and switch, for the purpose set forth.

4. The combination, substantially as set forth, of two telegraph-lines, the receiving or recording instrument, the three-point switch-lever and its contact-blocks and connections, the contact-arms *g g*, the battery contact-springs *l l′*, the battery, the circuits *P P′* of the battery contact-springs, and the transmitting-key.

5. The combination, substantially as set forth, of the two telegraph-lines, the switch lever or handle, the battery contact-springs *l l′*, the battery, the circuits *P P′* of the battery contact-springs, which circuits include different strengths of battery, and the transmitting-key.

261,896. SCISSORS AND SHEARS. THOMAS BAKER, Dan, Kans. Filed May 17, 1882. (No model.)



Claim.—1. A pair of scissors having its blades pivoted at or near the middle, and each provided with four cutting-edges, substantially as described and shown, whereby the single instrument is given four pairs of cutting-edges.

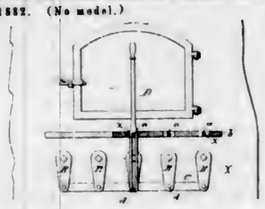
2. A pair of scissors having its blades provided with cutting-edges at both ends, and with handles applicable at will to either end of the blades.

3. In combination with the centrally-pivoted blades provided with the ribs thereon, the grooved removable handles.

261,897. SOAP. JOSEF BARKMANN, Vienna, Austria-Hungary. Filed June 30, 1882. (Specimens.)

Claim.—Soap in thin sheets, essentially as and for the purpose described.

261,898. GRATE. LEMUEL SANNISTEN, Philadelphia, Pa., assignor to the American Grate Bar Company, same place. Filed June 2, 1882. (No model.)



Claim.—1. The combination, with the rock-bars A, provided with crank-arms or wheels having pins *d*, of a rock-lever adapted to be connected at one end to one of said pins, and having a fulcrum at a point above the axis of the bars, substantially as set forth.

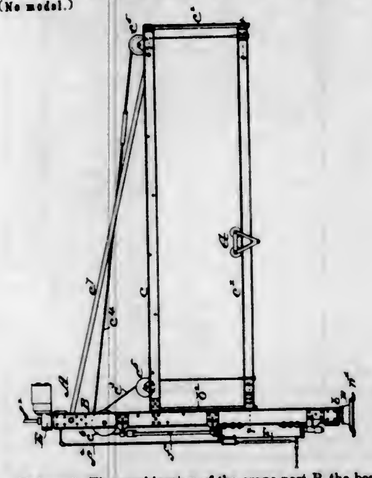
2. The combination of the bars, arms having pins *d*, and lever D, adapted to a fulcrum above the axis of the grate-bar to have a vertical as well as a swinging movement, substantially as and for the purposes set forth.

3. The combination, in a grate, of the rocking bars having crank-arms, and a frame constructed to afford a series of fulcra for the detachable lever D, substantially as set forth.

4. The combination of the bars having crank-arms, and the flange *b*, having one or more fulcrum-openings to receive the lever D, substantially as set forth.

5. The combination, with the bars and arms, of a lever in two sections, one having its fulcrum above the axis of the bars and connected to one of the crank-pins and the other being fitted detachably to the lower section, substantially as specified.

261,899. CRANE. ROBERT BARRETT, St. Louis, Mo., assignor of one-half to Paul A. Pfau, same place. Filed June 21, 1882. (No model.)



Claim.—1. The combination of the crane-post B, the bearing *b′*, the beam *c*, the bearing *c′*, and the adjustable beam *c′*, substantially as described.

2. A crane-jib having a vertically-adjustable horizontal beam, *c′*.

3. The combination of the crane-post B, the cylinder F, the chains *c² c²*, the beam *c*, and the beam *c′*, substantially as described.

4. The combination of the crane-post B, the journal *b*, the step D, the rollers *d′ d′ d′*, and the plate *d*, substantially as described.

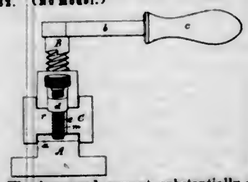
5. The combination of the crane-post B, the journal *b′*, the bearing E, and the friction-rollers *e e*, substantially as described.

6. The combination of the crane-post B, the cylinder F, the piston *f′*, the stop *f²*, and the spring H, substantially as described.

7. A crane-jib having a vertically-adjustable beam, *c′*.

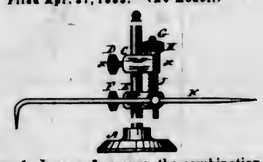
8. The combination of the post B, the journal *b*, the step D, and the rollers *d′ d′ d′*, said rollers being separated from each other, substantially as described.

261,900. SAW-SET. SYLVANUS BARTLETT, Keene, N. H. Filed Feb. 11, 1882. (No model.)



Claim.—The improved saw-set, substantially as described, consisting of the base or frame A, having screw-receiving orifices, the bed *a*, hooked lips *b*, and arm *d*, as described, the screws B and *e*, the flanged nut D, and the recessed adjustable gage C, with its tooth-stop *m* and the screw *f* in one piece with it, (the said gage,) all being arranged and to operate essentially as set forth.

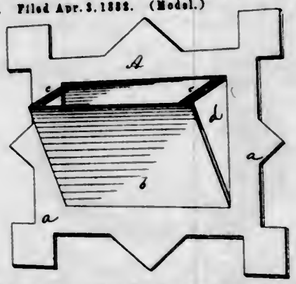
261,901. SURFACE-GAGE. CHARLES E. BILLINGS, Hartford, Conn. Filed Apr. 27, 1882. (No model.)



Claim.—1. In a surface-gage, the combination of the slide C, having a clamp, D, the slide E, the screw and nut G H, and the spring J, substantially as described.

2. In a surface-gage, the slide E, carrying the pointer K, and furnished with a clamping device, the slide C, provided with a clamping device, and a connecting screw adjustment, substantially as described.

261,902. WALL-POCKET. GEORGE S. BLAMPEY, New York, N. Y. Filed Apr. 3, 1882. (Model.)



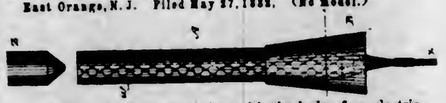
Claim.—The combination of a flexible sheet, A, divided into a margin, *a*, and a central flap, *b*, in one piece therewith, so that the same side of sheet A constitutes the fronts of said margin and flap, with back *d* and ribbons *c c* to constitute a wall-pocket, substantially as specified.

261,903. MILKING-STOOL. JOHN W. BRAYMAN, Canisteo, N. Y. Filed May 2, 1882. (No model.)



Claim.—A milking-stool provided with a pail-holder, B, constructed with a wire rim, *a*, and thin strap-metal bottom strips, *c d*, and feet *f f f*, all formed and united substantially as and for the purpose herein specified.

261,904. ELECTRIC-LIGHT CARBON. EDWARD J. BROOKS, East Orange, N. J. Filed May 27, 1882. (No model.)



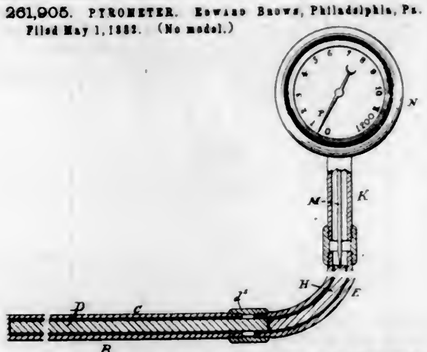
Claim.—1. The combination, with the body of an electric-light carbon, of metallic wires in the form of a netting connected with the conducting-wire, substantially as herein specified, for the purpose set forth.

2. The combination, in a tubular carbon for electric lights, of internal and external tubular metallic nettings or coating, connected with the conducting-wire, substantially as herein described, for the purpose set forth.

3. The tubular carbon A, having internal and external wire-nettings, *w w*, in combination with a conducting-wire, *x*, connected with each of said nettings, substantially as shown, for the purpose set forth.

4. In combination with a tubular carbon having an external wire-netting connected with a conducting-wire, an insulating-holder, B, having a hole in its bottom through which the netting-wires extend, substantially as herein specified.

261,905. PYROMETER. EDWARD BROWN, Philadelphia, Pa. Filed May 1, 1882. (No model.)



Claim.—In a pyrometer, the combination of the differential expansion-stem B, the curved connecting-pipe E, containing the sliding bar H, for conveying the motion of the expansion-stem to the connecting-rod M at an angle with the stem, substantially as herein described.

261,906. BUFFING-ROLL. JOHN G. BUZZELL, Lynn, Mass. Filed June 9, 1882. (No model.)



Claim.—1. In a buffing-roll composed of two longitudinally-divided sections hinged or otherwise connected at their inner edges, a curtain properly secured to each connected edges and spanning or covering the space between said sections, thereby preventing the passage of dust or dirt through said space, substantially as specified.

2. In an abrading-roll, the combination of shells *a b*, the flexible back *f*, secured at its edges to said shells, and curtain *k*, secured to said shells and extending across the space between the same, substantially as specified.

261,907. MACHINERY FOR MANUFACTURING BOTTLING-WIRES. ORRIL R. CHAPLIN, Boston, Mass., assignor of two-thirds to Daniel C. Knowlton and William A. Haaleed, both of same place. Filed Dec. 21, 1881. (No model.)

Brief.—The wire is intermittingly fed through cutters and into a trough having a hinged cover. A pair of spoon-shaped clamping-jaws, which reciprocate transversely between the open jaws of a holding-clamp, are moved downward and catch the wire near its middle. At the same time the trough-lid is raised, and allows the clamps to lift the wire out of the trough. As these jaws move away from the trough the holding-clamp sweeps the wire around upon the spoon-shaped jaws, and holds the two ends while the wire is twisted by the spoon-shaped jaws. When the wire has been twisted it is caught by a pair of revolving jaws, which carry the twisted wire horizontally around and deposit it in a receiver. A registering device is applied to the machine to designate the number of wires twisted.

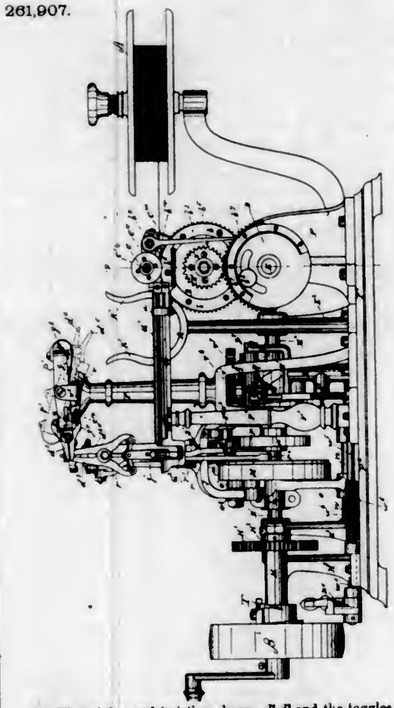
Claim.—1. The combination, with cogged hub B' and feed-rolls B and C, of the compound intermittent gear D and its actuating-shaft, the gear D, constructed, as shown, to increase or diminish the cogged portion of its periphery and feed forward a greater or less length of wire, as desired.

2. The rod h^4, cam h^5, and connecting link or lever, in combination with the perforated cutters *h h'*.

3. The conductor G, provided with a hinged lid or cover, in combination with the movable cutter *h'* and its actuating mechanism, which acts to raise the lid G', and the spring *a*, which exerts pressure on the lid to keep it closed, substantially as described.

4. The conductor G, in combination with the reciprocating frame J *j*, toggle-clamps-d^3 d^3, connecting-rod p^3, lever *p*, and cam p^6.

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5. The seizing and twisting clamps d^3 d^3 and the toggles, connecting-rod, lever, and cam which operate to open and close the clamps, in combination with shaft *m*, provided with pinion j^3, upright shaft m', provided with gears j^4 and j^5, and the cogged segment on the periphery of cam-wheel M, operating together to cause rotation of the shaft *m*, and consequently of the clamps, and to twist the wire, substantially as described.

6. The combination of the toggle twisting-clamps d^3 d^3 with the connecting-rod p^3, lever *p*, and cam p^6, which operate to open and close the clamps, as shown and described.

7. The combination of the toggled twisting-clamps d^3 d^3, shaft *m*, pinion j^3, gear j^4, upright shaft m', gear j^5, and cogged segment j^7, set fast on the periphery of cam-wheel M, which operate to revolve the clamps d^3 d^3, substantially as described.

8. The toggle-clamps d^3 d^3, head r^2, and spindle r^4, in combination with connecting-rod s', connecting-lever s^2, and cam s^6.

9. The toggle-clamps d^3 d^3, head r^2, and spindle r^4, in combination with link r^3, rod *r*, and its actuating-cam.

10. The combination of toggle-clamps d^3 d^3, head r^2, spindle r^4, connection s', lever s^3, cam s^6, link r^3, rod *r*, and its cam.

11. The clamps d^3 d^3, toggles p^3, connecting-rod p^5, lever *p*, and its actuating-cam, in combination with toggled clamps d^3 d^3, connecting-rod s', lever s^3, and its actuating-cam s^6, as described.

12. The reciprocating frame J *j*, with its rock-shaft *n*, lever *o*, link o^{12}, and cam o^4, in combination with seizing and twisting clamps d^3 d^3 and their toggles p^3 p^5, connecting-rod p^5, and lever *p*, with its actuating-cam, for the purposes specified.

13. The combination of carrying-head P', with the shaft e^2 and its gear, and the sector e^7 and cam e^{11}, which operate to semi-rotate the head, substantially as described.

14. The carrying-head P', in combination with the shaft e^2 and mechanism to semi-rotate the head, as shown and described, and the cam-shaped edge *e*, spring g^{10}, and link g^{12}, which operate to tilt the head, all as set forth.

15. The carrying-clamps d^3 d^3 and their toggles, in combination with frame *g*, toggle-arms g^2 g^4, connecting-rod g^{11}, lever *q*, and actuating-cam q^4, substantially as described.

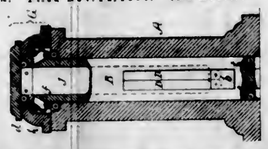
16. The carrying-head P' and its operating mechanism, as shown and described, in combination with clamps d^3, toggles p^3 p^5, connecting-rod p^5, lever *p*, and actuating-cam.

17. In combination with the mechanism for cutting and twisting, as above specified, cam q^3, lever *q*, feed-pawl *w*, retaining-pawl w', and ratchet R^2.

18. The ratchet-wheel R^2, provided with notch w^3, and feed-pawl *w* and its lever and cam, in combination with retaining-pawl w', stop-motion pawl w^4, rock-shaft w^5, lever w^6, and clutch T, for stopping the machine.

19. The safety-pawl trip-lever T', in combination with the ratchet-wheel R^2, stop-motion pawl w^4, and feed-pawl *w*, to free the feed-pawl from the ratchet whenever the stop-motion pawl is engaged in the notch, substantially as described.

261,908. PARLOR-EASEL. ERNEST G. CHORMANN, Philadelphia, Pa. Filed Nov. 14, 1881. (No model.)



Claim.—1. The combination of the pedestal A and the central slide, B, having at the top a flat cap, G, projecting on both sides of the slide, the whole forming, when the slide is extended, a support for two pictures placed back to back, and when the slide is depressed constituting a flat-topped pedestal adapted to support a statuette, as set forth.

2. The combination of the hollow pedestal A, having a flat top, with the extension-slide B, having arms D hinged thereto, said arms being adapted to fold together and enter the pedestal with the slide B, but resting upon and being supported by the flat top of the pedestal when the slide is extended, all substantially as described.

3. The combination of the hollow pedestal A, the extension-slide D and its hinged arms, the second extension-slide, J, and the cap G, made in two sections, *d* and *h*, the former being attached to the slide J and the latter being adapted to slide thereon, all substantially as set forth.

261,909. TRACK-CLEARER. WILLIAM H. CLARK, Chicago, Ill., assignor to himself and James K. Lake, same place. Filed Apr. 10, 1882. (No model.)

Brief.—Diagonal draw-bars with perforated heads capable of sliding on a central longitudinal rock-shaft, but ordinarily held by a spring on said rock-shaft from so sliding, carry scrapers. Said rock-shaft has at one end a crank-arm operated by a rod passing up through the car-frame to revolve the rock-shaft, which has at the rear end a pulley or drum with two grooves receiving oppositely-wound chains leading over pulleys to the scrapers to raise them at will from the track. At each side of the car-frame hangers project downward and receive in suitable sockets the ends of transverse pressure-resisting bars, with interposed springs or bumpers extending across the car-frame and attached to the scrapers, enabling either scraper to rise independently.

Claim.—1. The combination of the diagonally-arranged draw-bar, the scraper attached to the rear end of said diagonal bar, and the transverse pressure-resisting bar for attaching the scraper in position and permitting free vertical play of the same, substantially as described.

2. A scraper or plate, in combination with a diagonal draw-bar, a transverse pressure-resisting bar, a rock-shaft for supporting the draw-bar, and a bracket or hanger located on the opposite side to that of the scraper for attachment of the transverse bar, substantially as and for the purposes specified.

3. The scrapers or plates A A', diagonal draw-bars B B', and transverse bars C C', in combination with the shaft G and brackets or hangers F F', substantially as and for the purpose specified.

4. The scrapers or plates A A', diagonal draw-bars B B', transverse bars C C', rock-shaft G, and brackets F F', in combination with the pulley I and chains *j j'*, substantially as and for the purposes specified.

5. The scrapers or plates A A', diagonal draw-bars B B', transverse bars C C', rock-shaft G, and brackets or hangers F F', in combination with the pulley I and the grooves *i i'*, chains *j j'*, and pulleys *l l'*, substantially as and for the purpose specified.

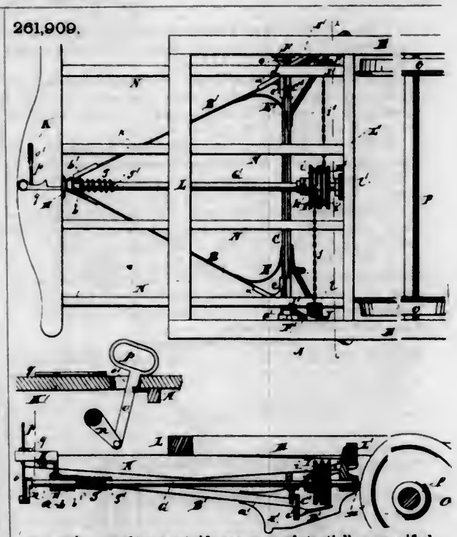
6. The scrapers or plates A A' and diagonal draw-bars B B', having heads *b b'*, in combination with the shaft G and spring or bumper *g*, for allowing the scrapers to yield in case of too great resistance, substantially as specified.

7. The scrapers or plates A A' and transverse independent bars C C', in combination with the brackets or hangers F F' and springs or bumpers *e e'*, for allowing a yielding movement of the scrapers in case of too great side pressure, substantially as specified.

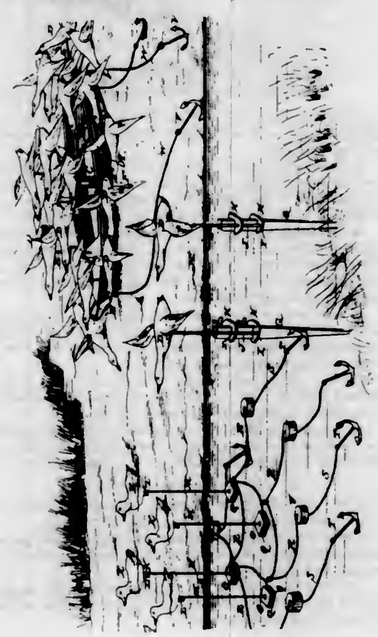
8. The scrapers or plates A A', diagonal draw-bars B B', and transverse reciprocating bars C C', in combination with the shaft G, brackets or hangers F F', and springs or bumpers *e e'*, for allowing a yielding movement of the scrapers in use, substantially as and for the purpose specified.

9. The scrapers or plates A A', diagonal draw-bars B B', transverse resisting-bars C C', and brackets F F', in combination with the rock-shaft G, pulley I, having grooves *i i'*, chains *j j'*, pulleys *l l'*, crank *n*, and foot-treadle *o p*, substantially as and for the purposes specified.

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261,910. DECOY. CHARLES T. COCHAL, Uniontown, Md. Filed May 29, 1882. (No model.)



Claim.—1. A decoy set or outfit consisting of a flock of floating, a flock of flying, and one or more staff, decoys, all constructed and arranged substantially as set forth.

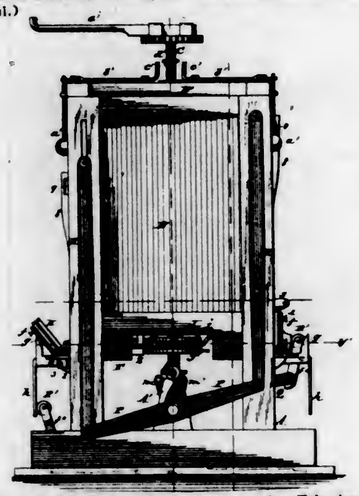
2. The combination, with a boat, of decoys representing flying birds mounted upon arms or levers operated by treadles, so that the said decoys may be swung together over the boat, thus covering its occupant out of sight, as set forth.

3. The boat A, having bell-crank levers C, provided with arms F, in combination with decoys representing flying birds attached to said arms F, substantially as and for the purpose set forth.

4. The combination, with a flock of flying decoys attached to a boat, substantially as described, of one or more staff-decoys representing single birds in advance of said flock, as set forth.

5. The flock or set of floating decoys, having swiveled or loosely-connected wires carrying weights moving freely upon said wires, and provided with annular grooves to receive the connecting-lines, in combination with the anchor-ropes having buoys or floats, substantially as set forth.

261,911. BRICK-MACHINE. JAMES C. CONROY, Allegheny, and HENRY D. KILGORE, Pittsburg, Pa. Filed June 26, 1881. (No model.)



Claim.—1. In a brick-machine, the clay-receiver F, having a yielding face-piece, Y, substantially as herein described, and for the purpose set forth.

2. In a brick-machine, the mold-rest *e*, having guides *e*, pressure-apron *f*, projection *g*, and pendant h, in combination with the pressure-rollers E' and flexible face-piece *y* of the receivers F, substantially as herein described, and for the purpose set forth.

3. In a brick-machine, the combination, with the clay-receivers F F and disconnected plungers L L, of the revolving disks I J, having adjustable pins *l*, and arranged intermediate of and operating said plungers, substantially in the manner as and for the purpose herein shown and described.

4. In a brick-machine, the frame *w*, having arms 2, springs 3, and cutting-wire 4, in combination with the flexible face-piece *y*, knife 5, and operating mechanism, substantially as herein described, and for the purpose set forth.

5. In a brick-machine, the combination of the knife 5, weighted latch *a'*, and operating mechanism, substantially as herein described, and for the purpose set forth.

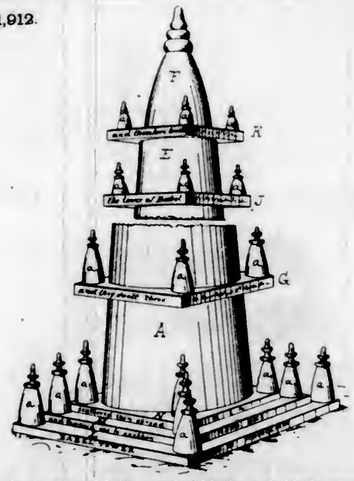
6. In a brick-machine, the combination of the arm O on shaft C and arms *m m'* on shaft C', for operating the arms P and Q, substantially as herein described, and for the purpose set forth.

261,912. TOY BUILDING-BLOCKS. WILLIAM E. CRANDALL, New York, N. Y. Filed Feb. 14, 1882. (No model.)

Claim.—1. Toy building-blocks consisting of a series of conical blocks in combination with a series of rectangular blocks, substantially as is shown and described.

2. In a series of conical and rectangular blocks, the combination of a series of removable ornamental corner-blocks, substantially as is shown and described.

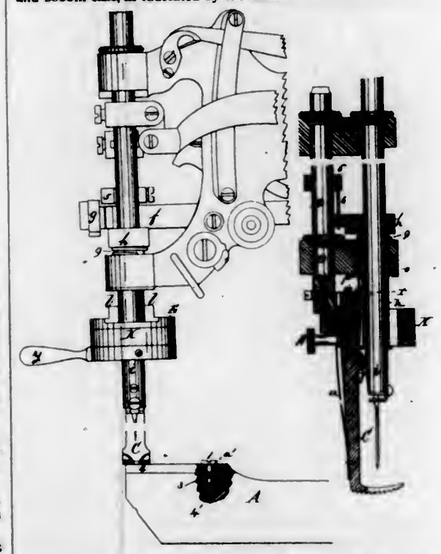
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3. A series of hollow conical blocks, each block constructed to be received within the other, substantially as is shown and described.

261,913. SEWING-MACHINE. GEORGE H. W. CURTIS, Brooklyn, N. Y., assignor to the Wheeler & Wilson Manufacturing Company, Bridgeport, Conn. Filed Mar. 11, 1881. (Model.)

Brief.—The invention relates to means for operating the universally-feeding presser-foot and to the construction of the bobbin and bobbin-case, as indicated by the claims.

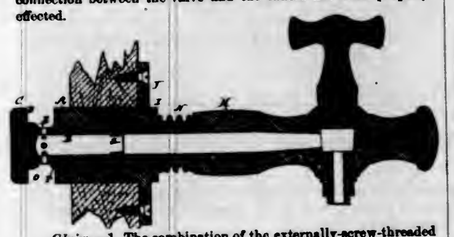


Claim.—1. The combination, with the presser-bar D and the feeding presser-foot C, of the rock-shaft *f*, arm *g*, collars h and 5, feed-cam *j*, and spring 9, substantially as shown and described.

2. The combination, with the bobbin-case F, of the disk *s*, provided with a sleeve, *v*, having a stud, *w*, an elastic tension-pad, *4*, adjusting screw pin *a*, and the bobbin G, having a recess, *x*, in its hub, substantially as shown and described.

261,914. BEER-FAUCET. RUDOLPH EBERHARD, San Francisco, Cal., assignor of one-half to Jacob Beegli, same place. Filed Dec. 21, 1881. (No model.)

Brief.—The flow of the liquid cannot take place until the connection between the valve and the faucet has been properly effected.



Claim.—1. The combination of the externally-screw-threaded plug-valve B, having the rear smooth portion or plug, O, of larger diameter than the screw-threaded portion, the terminal flange C, the packing-washer D, and the outlet-openings E, located in rear of the screw-thread, with the bushing A, having an internal screw-thread and smooth end chamber, P, for the reception of the correspondingly-shaped plug-valve, and the faucet-barrel A, adapted for connection with the bushing and plug-valve, as and for the purpose set forth.

2. The combination of the external packing-washer and spiral pressure-spring with the faucet-barrel and bushing, as and for the purpose set forth.

261,915. LAMP OR LANTERN. JOHN H. EWING and EDWARD L. BILL, Wheeling, W. Va. Filed June 23, 1881. (No model.)



Claim.—1. The combination, with a globe or its equivalent having one or more apertures formed in it, of lenses and devices attached to the globe and adapted to engage with the lenses and to interpose them in the luminous pencils passing through said apertures, substantially as set forth.

2. The combination, with a globe or its equivalent having one or more apertures formed in it, of lenses and metallic annuli attached to the globe and adapted to engage with the peripheries of the lenses and to interpose them in the luminous pencils passing through the said apertures, substantially as set forth.

3. The combination, with a globe or its equivalent having one or more apertures formed in it, of lenses and metallic annuli located in said apertures and provided with flanges to clasp the peripheries of the lenses, and with rims to engage with the inner faces of the globes, substantially as set forth.

4. The combination, with a globe or its equivalent having one or more apertures formed in it, of lenses, devices attached to the globe and adapted to support said lenses in the luminous pencils passing through the apertures, and plates of colored glass arranged to color the light transmitted through the lenses, substantially as set forth.

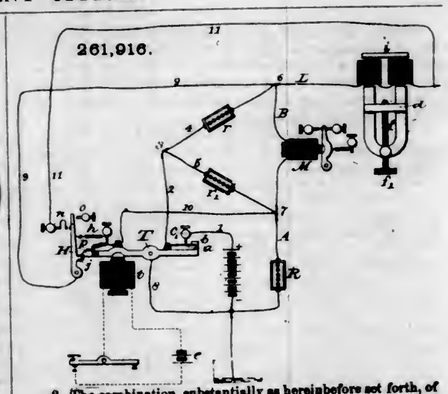
5. The combination, with a globe or its equivalent having one or more apertures formed in it, of lenses, devices attached to the globe and adapted to support the lenses in the luminous pencils passing through said apertures, and screens to intercept the light transmitted through the lenses, substantially as set forth.

261,916. DUPLEX TELEGRAPH. STEPHEN D. FIELD, New York, N. Y. Filed Nov. 16, 1881. (No model.)

Brief.—A device for avoiding effects of static charge and discharge in duplex telegraphs. An electro-magnet having a closed magnetic circuit is placed in the main line, near the receiver, and provided with a permanent magnet for adjustment with relation to the cores of the magnet, thereby providing an adjustable electro-magnetic device for overcoming the effects referred to above.

Claim.—1. The combination, substantially as hereinbefore set forth, of a duplex-telegraph apparatus, a main line, one or more cores of soft iron, one or more permanent magnets for maintaining said cores in a normally-polarized condition, and one or more coils or helices enveloping said cores and included in the main circuit at a point between the main line and the receiving-instrument of the duplex apparatus.

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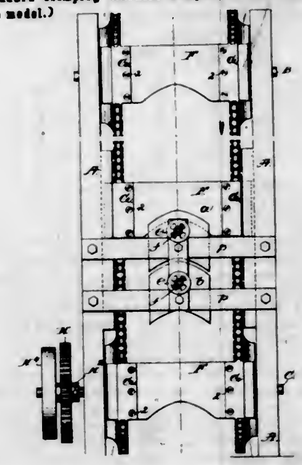


2. The combination, substantially as hereinbefore set forth, of a duplex-telegraph apparatus, a main line, an electro-magnetic inductor included in the main circuit at a point between the main line and the receiving-instrument, a permanent magnet for maintaining the core or cores of said inductor in a normally-polarized condition, and means for adjusting or regulating the action of said permanent magnet upon said cores.

3. The combination, substantially as hereinbefore set forth, of a main line, an artificial line, a battery, a key or transmitter which connects or disconnects said battery to and from said main and artificial lines simultaneously, a receiving-instrument which is rendered neutral to outgoing currents by the equal and opposite action thereupon of the main and artificial lines, an electro-magnetic inductor in the main line, a normally-open shunt around said inductor, and a device actuated by the transmitter, whereby said shunt is temporarily closed at the time the connection between the battery and the main and artificial lines is either broken or closed.

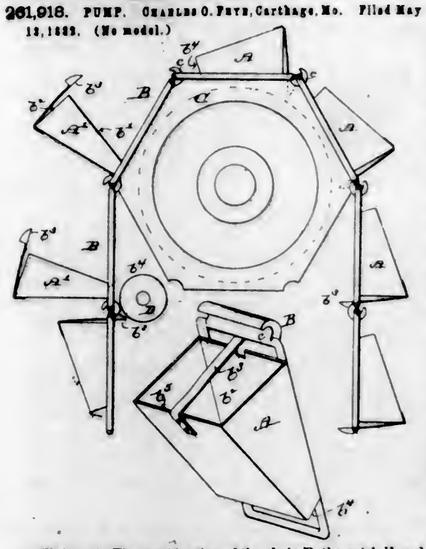
4. The combination, substantially as hereinbefore set forth, of a main line, an artificial line, a battery, a key or transmitter which connects and disconnects said battery to and from said main and artificial lines simultaneously, a receiving-instrument which is rendered neutral to outgoing currents by the equal and opposite action thereupon of the main and artificial lines, an electro-magnetic inductor in the circuit of the main line, a normally-open shunt-circuit which, when closed, unites the terminals of the electro-magnet of the receiving-instrument, a normally-open shunt-circuit around said inductor, and a circuit-closer actuated by said key or transmitter, whereby both said shunts are temporarily closed at the time the connection between the battery and the main and artificial lines is either broken or closed.

261,917. CRIMPING-MACHINE FOR BOOTS OR SHOES. JOHN W. D. FIFIELD, North Brookfield, Mass., assignor to the Steddard Crimping Machine Company. Filed June 8, 1881. (No model.)



Claim.—In a crimping-machine, the two carriers E and a series of crimping-forms connected therewith at each end, and sprocket wheels or drums to move the carriers and forms, combined with crimping-jaws to operate substantially as described, the edges of the said forms being arranged parallel with the shafts of the wheels which support the said carriers.

261,918. PUMP. CHARLES O. FRYE, Carthage, Mo. Filed May 13, 1882. (No model.)



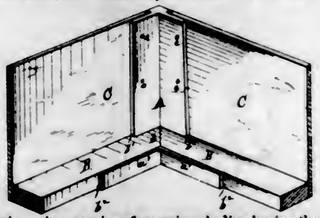
Claim.—1. The combination of the chain B, the catch b^2, and the bucket A, substantially as described.

2. The combination of the chain B and the bucket A, the latter being hinged to the former, and having the shoulder b^4, to prevent the bucket, when turning upon the chain, from dropping beyond the desired limit, substantially as described.

3. The combination of the chain B, the bucket A, and the catch b^2, said bucket being hinged at its lower end to the chain, and said catch connecting the chain and bucket at the upper end of the latter, and being made in the form of a spring, as and for the purpose described.

4. The combination of the chain B, the bucket A, and the catch b^2, the latter extending from the edge b^3 of the bucket, as and for the purpose described.

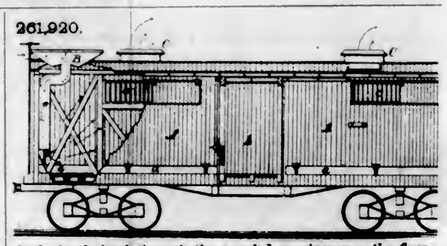
261,919. CORNER-IRON FOR BUGGIES. DENNIS E. GIBBONS, Lake Forest, Ill. Filed May 18, 1882. (No model.)



Claim.—A corner-iron for carriage-bodies, having the upright provided with mortise a^2 and cut-under shoulder, the base-extensions a, provided with inner upright flanges, a', in combination with the sills mortised on their lower surfaces at b^2, shouldered on their outer edges at b', and mitered together at b, and the side and end boards, C, beveled to fit the cut end shoulder, a^3, of the upright, substantially as shown and described.

261,920. STOCK-CAR. HENRY A. GOUGH, New Rochelle, assignor to the Gough Heating and Ventilating Company, New York, N. Y. Filed Sept. 16, 1880. (No model.)

Claim.—1. The combination, with a close stock-car, of guarded openings near the floor of the car and a ventilating apparatus whereby the foul air is withdrawn through the top of the car and



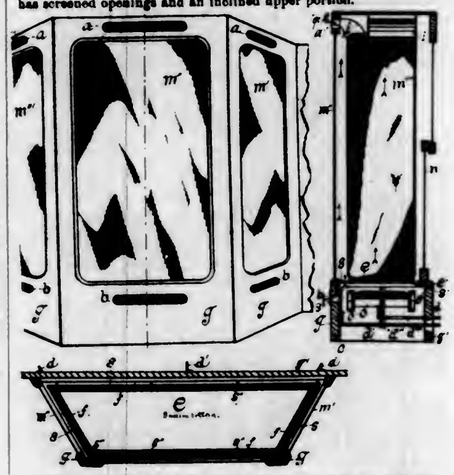
fresh air admitted through the guarded openings near the floor, substantially as described.

2. The combination, with a close stock-car, of an apparatus for forcibly injecting air and delivering it near the bottom of the car, of suitable guarded openings in the sides of the car, near the top thereof, whereby fresh air may be forced into the car and foul air freely allowed to escape through the openings, substantially as described.

3. The close stock-car, substantially as hereinbefore described, provided with the guarded openings near the floor, the guarded openings or windows near the top, the air-induction apparatus, and the ventilating apparatus, as and for the purposes specified.

261,921. VENTILATING WINDOWS. HERMAN HART, Muncie Ind., assignor to Sarah Hart, same place. Filed Apr. 1, 1882. (No model.)

Brief.—A double show-window has screened openings at top and bottom provided with slides operated by levers or cords. The upper openings have deflectors. The floor of the window-casing has screened openings and an inclined upper portion.



Claim.—1. The inlets b, outlets a, deflectors i, frame s, blocks s'', screens f, bottom s', cleats s', slides e, and mechanism for operating said slides, in combination with the frame g and glass m m'' m''', as set forth.

2. In a show-window, the screened openings b, provided with slides f' f'', which are raised and lowered by the cords t t', one end of each being attached to the said slides and the other to the hooks u at one corner of the frame g.

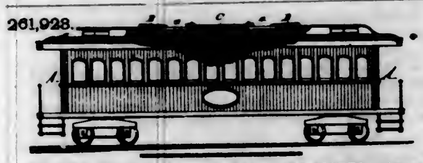
261,922. POLISHING COMPOUND. FREDERICK MEISER, Baltimore, Md. Filed June 16, 1882. (No specimens.)

Claim.—The polishing compound herein set forth, consisting of coal, red paint, ocher, and loam, substantially as described.

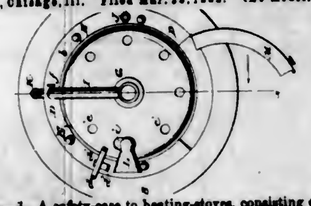
261,923. SAFETY ATTACHMENT FOR RAILWAY-CARS. EDWARD NERR, Jersey City, N. J. Filed June 1, 1882. (No model.)

Claim.—As an improvement in railway-cars, the combination of the car-roof having transverse escape-openings, with sliding roof-sections, guiding-ways, and mechanism arranged at the interior of the car, consisting of two rack-bars, d d, arms d', pinions d^2, turned in opposite directions to each other, gear-wheel f, handles f', and hanger-plate e, substantially as described.

261,924.



261,924. SAFETY-CASE FOR HEATING-STOVES. AUGUST W. NERR, Chicago, Ill. Filed Mar. 23, 1882. (No model.)



Claim.—1. A safety-case to heating-stoves, consisting of the base B, the water-reservoir formed by the chamber a'', and having therein a chamber, C, door M, provided with ports j j, valves E E, roof F, having therein the ports c c, rotary cover G, having therein the ports d d', air-tube L, escape-tube I, filling-tube J, and draw-off K, substantially as shown and described.

2. The combination, with a heating-stove, A, of the base B, water-reservoir formed by the chamber a'', and having therein a chamber, C, door M, provided with ports j j, valves E E, roof F, having therein ports c c, rotary cover G, having therein the ports d d', air-tube L, escape-tube I, filling-tube J, smoke-flue H, and draw-off K, substantially as shown and described.

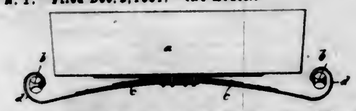
261,925. SCREW-DRIVER. EDUARD NERSIG, Jersey City, N. J. Filed May 23, 1882. (No model.)



Claim.—1. In a screw-driving implement, the combination of the tubular handle A, having a stirrup, B, with a nut, C, retained by said stirrup, and with a screw-spindle, D, passing through said nut and revolving therein, the nut being arranged with a projecting stop, f, that engages a ratchet, f', at the lower end of the handle, substantially as set forth.

2. In a screw-driving implement, the combination, with the tubular handle A, having a stirrup, B, at the lower end of a nut, C, that is adapted to engage by a stop, f, the teeth of a ratchet, f', at the lower end of the handle, of a spiral screw-spindle, D, said spindle being guided at the upper end by a sleeve-bearing in the tubular handle, and provided at the lower end with a bit-socket and movable collar, substantially as set forth.

261,926. BUGGY-SPRING. FREDERICK A. ISHAM, Plattsburg, N. Y. Filed Dec. 5, 1881. (No model.)

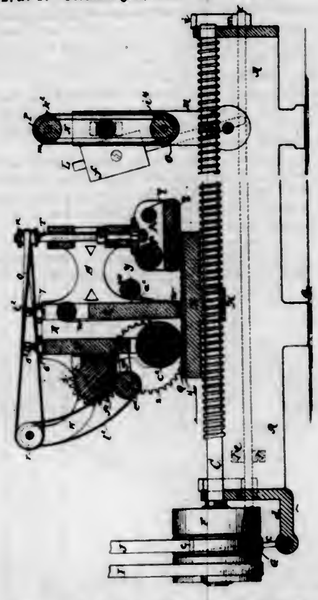


Claim.—1. The springs c c, the side bars, b, and the shackles on said side bars for connecting the springs and side bars, combined and arranged substantially as shown and described.

2. The body of a vehicle and side bars therefor, combined with springs attached crosswise of such body and having their ends curved downwardly under and then upwardly over and around the side bars, and attached to such side bars at points adjacent to and facing the sides of the body, substantially as described.

3. Sockets or shackles for securing the ends of side-bar vehicle-springs to the side bars, composed of a pintle or bolt adapted to receive the end of a spring and a shell or casing to sustain said pintle or bolt and adapted to be applied in or upon the side bars, substantially as described.

261,927. PLATE-PRINTING MACHINE. JOSEPH S. IVES, New York, N. Y. Filed Aug. 3, 1881. (No model.)



Claim.—1. In a plate-printing press, the combination, with a suitable bed or frame, A, provided with an impression-roller and an inking mechanism, of a plate-carrying reciprocatory carriage, B, suitably mounted on said frame, and a screw-shaft adapted to move said carriage back and forth, all substantially in the manner and for the purposes set forth.

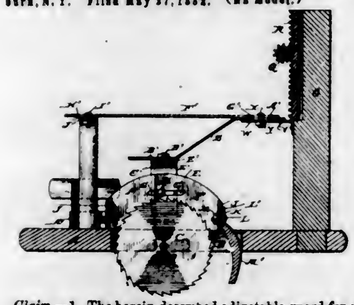
2. In combination with the bed and carriage of a plate-printing press, an impression-roller mounted in a movable frame and adapted to be drawn down into a position to do the printing and to be elevated out of such position by the rolling action of the work and plate against the periphery of the said impression-roller, as set forth.

3. In combination with the bed or frame on which travels the reciprocatory carriage of a plate-printing press, inking, wiping, and cleaning devices, all mounted in one frame in close proximity to each other and at a sufficient distance from the impression-cylinder of such a press as to permit the putting onto and removal from the plate of the paper to be printed while the plate is traveling between the impression-cylinder and the group of devices recited, as set forth.

4. In combination with the plate-carrying carriage B and the bed or frame A of the machine, the inking, wiping, and polishing mechanisms mounted in one frame or stand, a single drive-pulley,

r, mounted in said stand and imparting all the rotary motions necessary to the said mechanisms, and means, substantially as described, by which the carriage B is made to effect the lifting of roll a^3 of the inking mechanism, all in the manner described.

261,928. GUARD FOR CIRCULAR SAWS. THOMAS JACK, Auburn, N. Y. Filed May 27, 1882. (No model.)

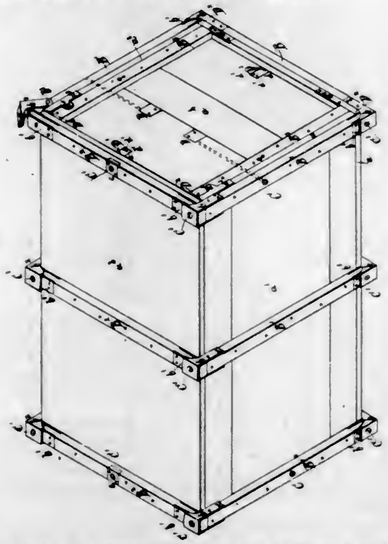


Claim.—1. The herein-described adjustable guard for circular saws, consisting of the side pieces, F, having slots G, and laterally-projecting ends J, having slots K, the angle-plates E' E', slotted at both ends, the plate I', having narrow curved guard M', and the connecting bolts and nuts, as set forth.

2. The combination, with the herein-described circular-saw guard, of the bracket Z, slotted at both ends, the rack R, having slotted bracket V, suitable connecting-bolts, and mechanism for adjusting the rack R, as set forth.

3. The combination of the rack R, having slotted rack V, mechanism for adjusting said rack, the slotted plate or bracket Z, the slotted arm F', the slotted angle-plates J', having curved guards K', and the adjustable circular-saw guard, all arranged and operating substantially as set forth.

261,929. COMMERCIAL OR PACKING BOX. HENRY JOHNSON, Washington, D. C. Filed June 1, 1882. (No model.)



Claim.—1 A commercial packing-box for transportation of goods, having its bottom, sides, and top provided with battens, and interlocked and fastened by means of said battens and elbow or corner clasps and screws, substantially as and for the purpose described.

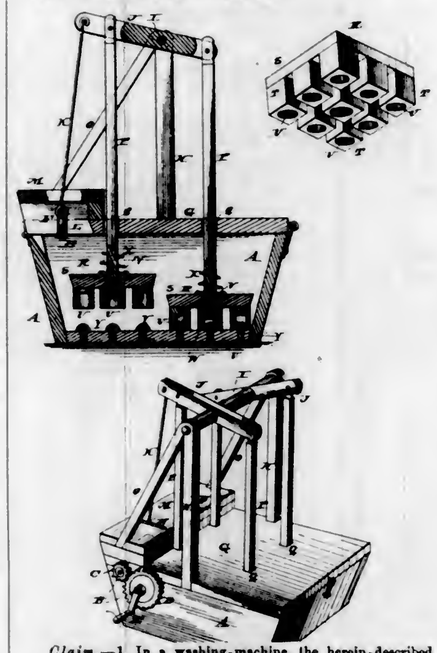
2. A commercial packing-box, A, provided with the removable top a^3, having battens, and with swinging clasps b^3, attached to the removable side a^2, substantially as and for the purpose described.

3. The combination of the flanged nuts D^3, having angular flanges d^3, and stop and gage lugs d^5, with the parts of a packing-box, substantially as and for the purpose described.

4. The top a^3 of a packing-box, having slotted plate c', inclined gutter c^3, and socket-hole f, in combination with the end boards, a^1 a^2, having dowel-pins c^2, and with end or corner clasping devices, substantially as and for the purpose described.

5. In the box A, the combination of the parts a a' a^1, having central apertures for the fastening screw-bolts at each end, the parts a^1 a^3, having apertures e, and the top a^3, having central nuts, e, at each end, and the screw-bolts C, substantially as and for the purpose described.

261,930. WASHING-MACHINE. ALVIN C. KEYES, Livonia, N. Y. Filed May 5, 1882. (No model.)



Claim.—1. In a washing-machine, the herein-described pounders, consisting of blocks S, having studs T, provided with recesses U and central perforation, V, to receive the stem P, having plate W, sliding in the central recess, U, and spring X, arranged to force the pounder-block in a downward direction upon the stem, as set forth.

2. As an improvement in washing-machines, the suds-box A, having knobs Y, arranged, as shown, in the bottom thereof, in combination with the pounders arranged to slide vertically upon their stems, and having recessed studs T and suitable operating mechanism, as set forth.

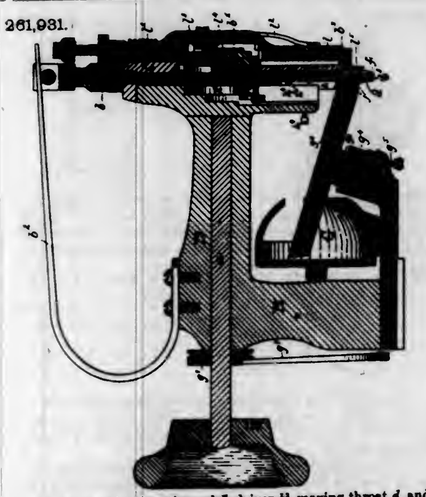
261,931. NAILING-MACHINE FOR BOOTS OR SHOES. JOS. E. KIMBALL, Abington, Mass. Filed June 23, 1880. (Model.)

Claim.—1. In a nailing-machine, the combination of the awl, throat, and driver with mechanism, substantially as described, for actuating the awl to bring its axis in line with the axis of the throat and driver just before the awl passes through the throat, and to move the awl and awl-bar out of the way of the driver after the awl is lifted up out of the throat, all substantially as described.

2. In a nailing-machine, the feed-foot m, arranged to feed the material forward and leave it in contact with throat f, in combination with awl F, arranged to pass down sidewise and through throat f as soon as the material is left in contact with it by feed-foot m, and to rise out of throat f and move away from that throat, and with driver b^3, moving vertically in line with throat f, all substantially as described.

3. The throat d, open for a part of its length and mounted on a moving throat-bar, d', in combination with mechanism, substantially as described, for moving the throat-bar d', as set forth.

261,931.



4. In combination, the awl F, driver b^3, moving throat d, and throat f, with mechanism, substantially as described, for carrying throat d out of the way of the awl and bringing it back into line with the driver and throat f.

5. The divided throat f, in combination with levers f' f'' and driver-bar b, cut away, as described, to permit the upper ends of the levers f' f'' to approach each other, in order that throat f may open.

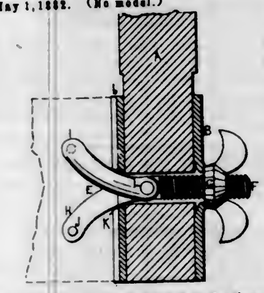
6. The presser-bar h, carrying the presser-point h' and presser h^3, substantially as described.

7. In combination, the guideways g g' and locking mechanism substantially such as is described, operating, as described, to lock the guideways during a portion of each revolution of the main shaft.

8. In combination, throat f, moving throat d, one or more guideways, g g', blade j, driver b^3, and awl F, substantially as described.

9. In combination, one or more guideways, g g', the spring-plate g^3, presser h^3, and blade j, whereby the plate g^3 is forced toward the guideways just before the blade moves across its mouth, substantially as and for the purpose set forth.

261,932. SAW-HANDLE. CARRY W. KNAPP, Geneva, Ohio. Filed May 1, 1882. (No model.)

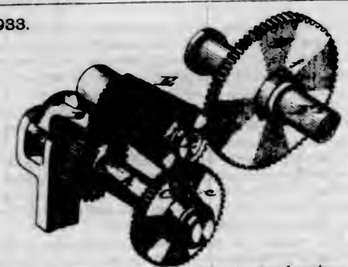


Claim.—1. The arms H I, jointed to the threaded stem F, in combination with the radial grooved plate and clamp-plate, substantially as and for the purpose set forth.

2. In saw-handles, the screw-stem F, extending through the handle, provided at one end with a thumb-nut, and the other jointed to the arms H I, in combination with a clamping-plate on one side and a radial grooved plate on the other, constructed and arranged substantially as and for the purpose set forth.

261,933. DEVICE FOR CHANGING SPEED. EDWARD KNAPP, St. Louis, Mo., assignor of two-thirds to George D. Bernard, same place. Filed June 3, 1882. (No model.)

261,933.



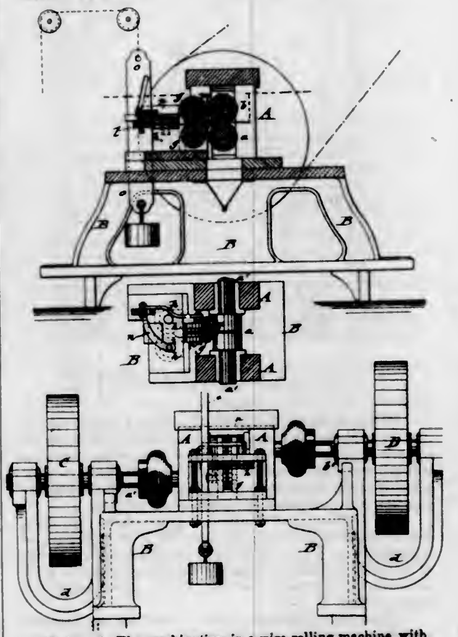
Claim.—1. The herein-described device for changing speed, consisting of the gear B, the gear C, the shaft A, the arm D, the cone-gear E, the gear F, and the shaft F', substantially as described.

2. The combination of the shaft A, the sliding gear C, the arm D, and the adjustable cone-gear E, substantially as described.

3. The combination of the shaft A, the arm D, the cone-gear E and the gear F, and the shaft F', substantially as described.

4. The combination of the shaft A, the gears B C, the adjustable cone-gear E, the shaft F', and the gear F, substantially as described.

261,934. MACHINE FOR ROLLING AND REELING WIRE. THEODOR KUHNS, Schwelm, Prussia, Germany. Filed Nov. 2, 1881. (No model.)



Claim.—1. The combination, in a wire-rolling machine, with the drawing-rolls a b, of one or more sets of guide-rolls, g h, of which one roll of each set has an eccentric shaft, levers n n' applied to said shafts, slotted slide-piece o, and means for raising and lowering said slide-piece, so as to raise or lower one roll of each set of guide-rolls for introducing the wire, substantially as set forth.

2. The combination, in a wire-rolling machine, of intermediate oscillating conduit-tube, winding-up drum, having curved and slotted guide-frame for the conduit-tube, the latch, and the weighted lever, whereby the tube is carried up and retained at the larger end of the drum, substantially as set forth.

3. In a wire rolling and winding machine, a conically-tapering winding-drum, G, having obliquely-arranged wings r around the smaller end of the drum for taking hold of the end of the wire, as described

4. In a wire rolling and winding machine, the combination of the conically-tapering drum G with radially-sliding pins *s*, slide-pieces *s'*, pins *s²*, and disk Z, whereby they can be thrown outside or drawn back into the drum, so as to remove the wire-roll, as set forth.

5. The combination of the drawing-rolls *a b*, one or more sets of guide-rolls, *g* and *h*, fixed guide-tubes *t* and *m*, a conduit-tube, and a winding-drum, substantially as described.

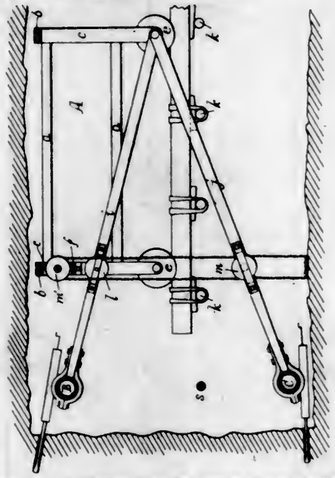
6. The combination, with wire rolling and shaping devices, of a conducting-tube, a curved guide for this tube, provided with an arresting-notch therefor, and means for moving the tube from the smaller end of the winding-drum into said notch and leaving it there, substantially as described.

7. The combination of the drum G, oblique wings *r*, the stationary slotted guide-frame, the movable conduit-tube, the loaded arm *w'*, and the devices *w w² w³*, substantially as described.

8. The combination of the tapered winding-up drum, oblique wings *r*, radial pins *c*, and means for protruding these pins or retracting them, substantially as described.

9. A wire-winding drum of tapered form, having a flange on its larger end and a series of oblique wings, *r*, on its smaller end, in combination with means for guiding and directing the wire from a rolling-machine upon this drum, substantially as described.

261,935. DRILL-CARRIAGE. BRADFORD H. LOCKE, Central City, Colo. Filed Dec. 8, 1881. (No model.)



Claim.—1. In a drill-carriage for mining or other similar operations, composed of a supporting-frame movably adjusted and adapted to furnish free space within the interior of the excavation, the combination of the pivoted cranes and their operative mechanism acting as a support to the drill-column with its drills and their operative mechanism, substantially as described.

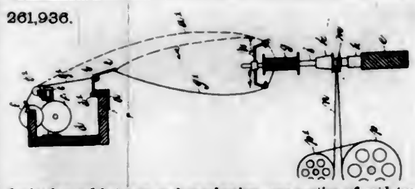
2. A drill-carriage for mining or other similar operations, movably adjusted on a temporary track, the latter resting on and being secured to pins or bolts or their equivalents sunk in the side of the tunnel and sufficiently above the bottom of the tunnel to allow of removal of the débris during drilling operations, as hereinbefore stated.

3. In a drill-carriage for mining or other similar operations, the combination of the supporting-frame A, movably adjusted, and its roller or wheel trucks *f*, bolted to the frame, operating-wheels *e e*, &c., the pivoted cranes *i* and *j*, and their operating pulleys or blocks *l m* and *l' m'*, to effect the raising and lowering of the drill-column, as and for purposes stated.

261,936. TENSION DEVICE FOR SILK-SPINNING MACHINES. JAMES W. LOVATT, Paterson, N. J. Filed Sept. 13, 1881. (No model.)
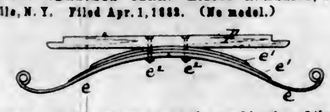
Claim.—1. A tension device for silk-spinning machines, consisting of a wire bent so as to fit the rail of the machine, the free part of said wire, opposite the rail, being bent, as described, so as to form a tension eye and leader for the thread, substantially as shown and described, and for the purpose set forth.

2. The combination, with mechanism for delivering yarn or thread and a mechanism for taking up the same, of the tension



device located between such mechanism, one portion of said tension device being bent so as to conform to and be secured to the rail of the machine, the other portion being bent to form the eye *b* and leader *c* for the thread, substantially as shown and described.

261,937. CARRIAGE-GEAR. MILTON E. MAXSON, Hornellsville, N. Y. Filed Apr. 1, 1882. (No model.)



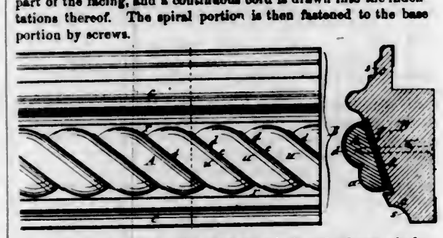
Claim.—1. In a side-bar gear, the combination of the bars A A, sill F, shackles or loops G, quarter-elliptic springs *e e*, semi-elliptic springs *e' e'*, and clips or bolts *e²*, substantially as shown and described.

2. The combination of the sill F, semi-elliptic springs *e' e'*, resting upon and secured to the lower quarter-elliptic springs, *e e*, and means, substantially as shown and described, for connecting said springs *e e* to the side bars, as and for the purpose set forth.

3. As an article of manufacture, a spring comprising a lower pair of quarter-elliptic springs and superimposed semi-elliptic springs, means for securing the same together, and means for connecting the quarter-springs to a vehicle-gear, all substantially as shown and described.

261,938. MOLDING. JOHN MAXWELL and JOHN EISSFIELD, Oneida, N. Y. Filed Dec. 14, 1881. (No model.)

Brief.—The fabric is applied to the convex side of the spiral part of the facing, and a continuous cord is drawn into the indentations thereof. The spiral portion is then fastened to the base portion by screws.



Claim.—The combination, with the spiral semi-columnar body A, of the facing *a*, of woolen, silk, or other textile fabric, applied to the convex side of said body and lapping onto the back thereof, and the continuous cord *d*, wound around the body A over the facing *a*, and drawn into the indentations *e e*, substantially as described and shown.

261,939. NUT-LOCK. WILLIAM M. MAY, Pittsburg, Pa. Filed May 11, 1882. (No model.)

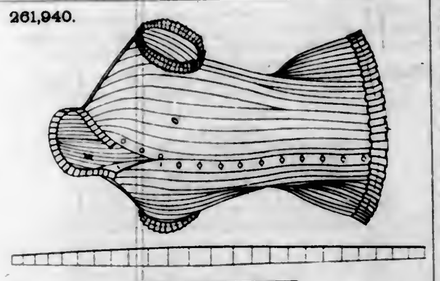


Claim.—The combination of the bolts C, nuts D, anchor-plate *a*, having key-hole slot *b*, stud *c*, and locking-plate E, having key-hole slot *g* and spring *s*, substantially as described.

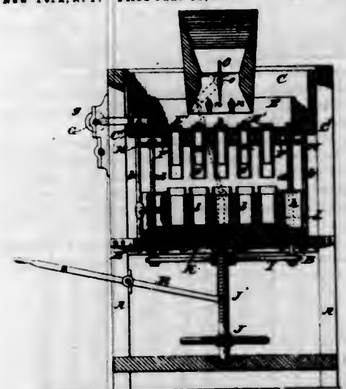
261,940. LIFE-PRESERVER. EDWARD MAYNARD, Brooklyn, N. Y. Filed Sept. 3, 1881. (No model.)

Claim.—In combination with a life-preserving waist or sacque having vertical ranges of pockets, corks of large size inserted in such pockets at the breast and back portions and of smaller size in the lower portions, whereby the largest displacement and floating power are at the breast and back portions, substantially as and for the purposes described.

261,940.



261,941. PACKAGE-FILLING MACHINE. JAMES MCCREDDEN, New York, N. Y. Filed June 15, 1882. (No model.)



Claim.—1. In a package-filling machine, the combination of a distributing-box provided with discharging-apertures, and a rack composed of cross-bars of different heights, arranged to vibrate over and at suitable times to close such apertures, substantially as set forth.

2. In a package-filling machine, the combination of a distributing-box, a series of measuring-tubes composed of telescopic sections, which are attached respectively to said distributing-box and to an adjustable plate or frame, and a screw-shaft for supporting and adjusting said plate, whereby the capacity of said measuring-tubes is regulated, substantially as set forth.

3. In combination with the measuring-tubes of a package-filling machine, vent-holes arranged in the upper end of such tubes to facilitate the discharge of the contents thereof.

4. In combination with the measuring-tubes of a package-filling machine, plugs or valves arranged to open vent-holes in the walls of such tubes at the time when their contents are being discharged, substantially as described.

5. The combination, in a package-filling machine, of a distributing-box containing a vibrating rack, and a supply-pipe or hopper provided with a cut-off device arranged to close the mouth of such hopper previous to such rack being put in motion, substantially as above set forth and described.

261,942. ATTACHMENT FOR CORN-PLANTERS. JOSEPH A. MCDANIEL, Letterville, Iowa. Filed Mar. 30, 1882. (No model.)



Claim.—1. The supplemental seeding attachment for application to corn-planting machines, the same consisting essentially of the supplemental frame provided with hoppers and conducting-spouts, substantially as described and shown, whereby it is adapted for temporary use upon existing machines.

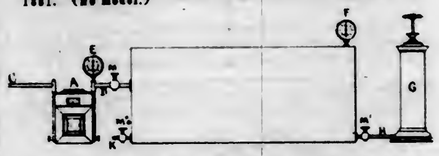
2. The attachment for corn-planting machines, consisting of the base-board, the hoppers, and the conducting-spouts having their lower ends adapted for application to the runner-heels, and their upper ends inclined inward, as and for the purpose described.

3. The auxiliary or supplemental attachment for corn-planting machines, embracing, in combination, the base-board F, its hoppers, the outwardly-inclined and downwardly-extended conductors and their shoes, and the furrow-openers attached to the lower end of said conductors, and adapted, as described, for use upon the runners of a corn-planter.

4. In a supplemental attachment for corn-planting machines, the combination, with the conducting-tubes J, of the hoppers G H, provided with openings or passages adjacent to the mouths of the tubes, as described, whereby the delivery of the seed from the hopper into the mouth of the tube by hand is facilitated.

5. A potato-planting attachment for corn-planting machines, consisting of a frame provided with supplemental hoppers, conducting-spouts, and attaching devices, substantially as set forth, for temporary application to a corn-planter.

261,943. METHOD OF AND APPARATUS FOR TESTING METERS. THOMAS MCSPEDON, New York, N. Y. Filed Oct. 14, 1881. (No model.)

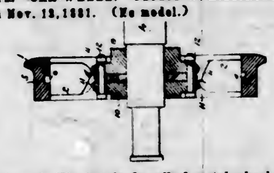


Claim.—1. The method, substantially as herein described, of testing the accuracy of meters connected to a supply-main without detaching them from the main by filling a closed tank from which the air has been exhausted, and whose capacity is determined in units of the same denomination as that of the meter, with fluid delivered from the meter by means of the pressure in the main until an equilibrium of pressure has been established at the meter and in the tank, and then comparing the known measurement of the tank with the quantity indicated by the index as having been delivered through the meter.

2. The combination, with the delivery-port of a meter and with a supply-main connected to its induction-port, of a fixed closed measuring-tank of determinate capacity connected to its eduction-port, substantially in the manner and for the purpose herein set forth.

3. The combination, with a fluid-meter and its supply-pipe, of a measuring-tank connected with the outlet from the meter, a cut-off valve controlling said outlet, and an air-pump for exhausting the air from the tank, substantially in the manner and for the purpose herein set forth.

261,944. CAR-WHEEL. GEORGE W. MILTIMORE, Chicago, Ill. Filed Nov. 13, 1881. (No model.)



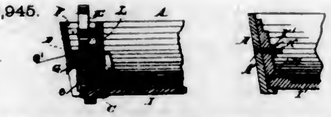
Claim.—1. The herein-described metal-wheel, consisting of a rim, spokes provided with bearing-shoulders against which hub-plates rest on opposite sides, the inwardly-projecting ends of which spokes bear upon the axle, substantially as described.

2. The spoke 2, made of bar-iron twisted by a quarter-turn to form the shoulders 11, and cut away at its inner end, as shown, so that the ends of all the spokes will form a common bearing, substantially as described.

261,945. HOT-AIR REGISTER. WALTER C. MUNSON, Brooklyn, N. Y. Filed Mar. 3, 1882. (No model.)

Claim.—1. In a hot-air register, the combination of the frame A, formed with hole A' therein, the valves I, the connecting-rod L, the sectoral lever E, formed with recess *e'* and provided with

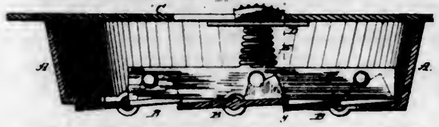
261,945.



spring *e*, the recessed end piece C, having the internally-screw-threaded boss D integral therewith, the end piece H, formed with the hole K', the screw G, and the bolt K, substantially as shown and described.

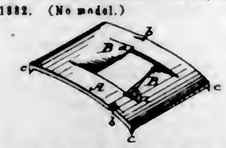
2. The combination of the frame A, formed with the hole A' at one end, and the perforated corner-pieces B, with the sectoral lever E, formed with recess *e'* and provided with spring *e*, the recessed end piece C, having the boss D integral therewith, the end piece H, formed with the hole K', the screw G, the bolt K, and the valves I, arranged to operate as shown and described.

261,946. SLIDE-CENTER REGISTER FOR HOT AIR. WALTER C. MUNSON, Brooklyn, N.Y. Filed Mar. 11, 1882. (No model.)



Claim.—In a hot-air register, the vertical set-spring E and sliding friction-plate D, in combination with the connecting-rod F, valves B, and frame-plate C, as shown and described.

261,947. NUT-LOCK. FRANCIS MURPHY, Chicago, Ill. Filed Feb. 28, 1882. (No model.)



Claim.—1. A nut-lock formed from plate metal, slightly elliptical, and provided with torsional spring wings or leaves B, twisted, as described, to present knife edges or corners on opposite sides of the plate adapted to grasp or become embedded in the adjacent faces of a nut and fish-plate, substantially as described.

2. In a nut-lock provided with wings B B, as described, the combination therewith of projections *b b*, to hold the nut, as hereinbefore set forth.

3. The plate A, formed with the wings B and projection *b*, and also provided with corner spurs, *c*, substantially as and for the purpose set forth.

4. The plate or washer A, formed with a central passage or opening for the bolt, and provided with twisted and expanded wings or leaves B, substantially as shown and described.

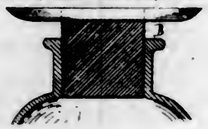
261,948. REFLECTOR-BRACKET. HIRAM K. NEEDHAM, St. Louis, Mo., assignor to the Missouri Glass Company, same place. Filed Apr. 22, 1882. (No model.)

Brief.—The reflector may be revolved around any one of three axes.



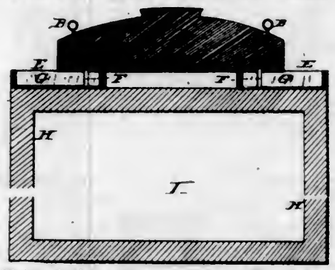
Claim.—The combination of the arm A with the base of an illuminating-burner and the described coupling P D and reflector B, substantially as and for the purposes set forth.

261,949. CORK OR STOPPER OF BOTTLES. ROBT. H. T. NESBITT, Leavenworth, Kans. Filed May 16, 1882. (No model.)



Claim.—The cork or stopper having in its upper end a horizontal tray, substantially the shape of and adapted for the insertion of a tooth-brush, substantially as shown and described.

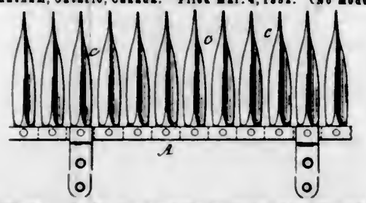
261,950. TOWEL-RACK. THOMAS S. PAGE, Toledo, assignor, by mesne assignments, to John N. Stewart, Cleveland, Ohio. Filed Apr. 9, 1881. Renewed May 26, 1882. (Model.)



Claim.—1. As an improvement in towel-racks, the board A, having pivoted arms D, in combination with the pivoted brackets E, having slots G, by which they may be extended upon their pivots, as described, for the purpose set forth.

2. The combination of the board or rack A, having pivoted extensible brackets E, provided with slots G, and hooks or nails K, with the wall-protector H I, having eyes or staples J, capable of being supported upon nails or hooks at the outer ends of said extension-brackets, as herein described, for the purpose set forth.

261,951. ATTACHMENT TO HARVESTERS. DAVID PATTERSON, Chatham, Ontario, Canada. Filed Mar. 4, 1882. (No model.)



Claim.—1. An attachment to harvesters, consisting of the supplemental finger-bar A, provided with fingers located above and projecting downward in front of the guard-fingers, each of said supplementary fingers having a convex lower face and provided with a longitudinal rib on its upper face, substantially as and for the purpose specified.

2. A supplemental finger-bar and fingers attached to harvesters, such fingers being double concave upon their upper face in cross-section and convex upon their lower face lengthwise of the finger, and terminating in a vertically-flat toe at their front ends, substantially as described.

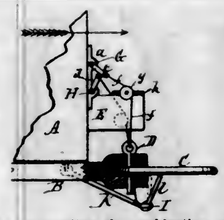
261,952. WATER-PROOF BOOT OR SHOE. HENRY F. C. PEARSON, Andover, Mass. Filed June 14, 1882. (No model.)



Claim.—As an improved article of manufacture, a rubber boot or shoe provided with a lining of leather secured to the vulcanized stock by means of water-proof cement, substantially as set forth.

261,953. CAR-COUPLING. DAVID B. PRATT, Perry Centre, N. Y. Filed Feb. 10, 1882. (No model.)

261,953.



Claim.—In a car-coupling, the combination, with the crank-rods G H and connections *f p*, of the frame consisting of the jointed rods I K K, the outer rod, I, being hinged so as to turn axially, and provided with a plate, *l*, standing angularly under the link, serving to raise the same, and capable of turning between the ends of the draw-heads when they strike together, as herein shown and described.

261,954. SPRING BED-BOTTOM. ADDISON F. PUMPHREY, Wake Forest, N. C., assignor of one-fourth to Sidney Abernathy, same place. Filed May 31, 1882. (No model.)



Claim.—1. A spring provided with a dished or cup-shaped extension-top adapted readily to be flattened, and formed of a number of coils of less pitch than the body-coils, substantially as described.

2. A spring provided with an attaching-bend having in the lower member a hook adapted to lie flat against the slat for receiving the tack or its equivalent, substantially as described.

3. The combination, with springs having extension-tops, as explained, of connection-braces diagonally disposed and extending under the extension-tops, so as to stiffen the same, substantially as described.

4. The combination, with twin springs, of connection-braces diagonally disposed and crossing each other, and extending under the connecting-wires of the twin springs, substantially as described.

5. The combination, with an extension-top spring, of a brace located partly under the extension-top to support the same, and having a portion bent upward, so as to be flush with said top, substantially as described.

6. The combination, with the springs, of continuous or unjointed wire braces, diagonally disposed and crossing each other between the springs, and provided with lateral crooks, substantially as described.

7. The combination, with springs having extension-tops, of a connection-brace joined at one end to the body-coils of one spring and at the other to the top coils of another spring, so as to support part of one extension-top and the whole of the other, substantially as described.

8. The combination, with the springs having dished or cup-shaped extension-tops formed of a number of coils, of braces extending under said tops and serving to uphold the same when flattened, substantially as described.

9. An extension-top spring having the spring-wire bent across and under the extension-top, so as to form a supporting-brace integral with the spring, substantially as described.

10. In combination with springs having attaching-bends, a supporting slat provided with a web or flange beneath, adapted to allow said bends to embrace the slat without embracing the web or flange, substantially as described.

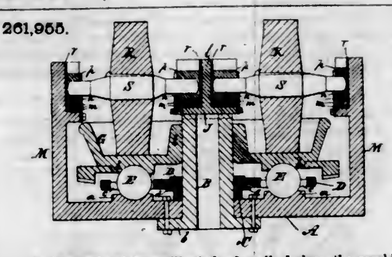
11. The combination, with springs having flat, or nearly flat, extension-tops formed of a number of coils, of the upper slats resting on and attached to said springs, substantially as described.

261,955. PULVERISING-MILL. JOHN R. RICHARDSON, Pittsburg, Pa. Filed May 19, 1882. (No model.)

Claim.—1. The combination of bed-plate A, having concave circular rail *a*, balls E, supporting the pan, and guide-plate D, having oblong openings *e* and anti-friction rollers *c*, substantially as described.

2. The combination, with balls E, supported on rail *a* of bed-plate A, of the guide-plate D, having openings *e* and inclined slots *g*, and the anti-friction rollers *c*, having shafts *f*, substantially as described.

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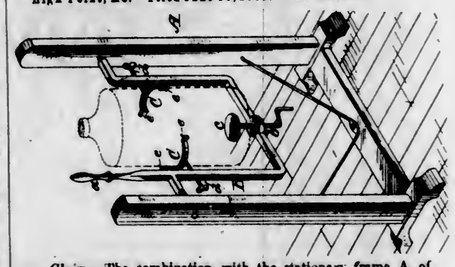
3. In a pulverizing-mill of the described class, the combination of the bed-plate A, guide-plate D, center post, B, having flange *b*, bolted to said bed-plate, and loose collar C, substantially as described.

4. The combination of post B, grooved at its top, with box-saddle J, having tongue *k* and journal-box recesses, boxes *p*, and shafts S, substantially as described.

5. The combination of standards M and wall *l* with convex-ended shaft S and interposed plate of hard metal, substantially as described.

6. The combination of post B, having the box-saddle J, independent journal-boxes *p*, and standards M, having similar boxes *p*, with the rollers R, mounted on the independent shafts S, substantially as described.

261,956. ADJUSTABLE CAM-SWING. JOSEPH L. RINKER, High Point, No. Filed June 16, 1882. (No model.)



Claim.—The combination, with the stationary frame A, of the swing B, provided with handle *a*, thumb-screws *d*, and clamps C, and the screw-rod *b*, having dies *c*, substantially as and for the purpose set forth.

261,957. HOSE-NOZZLE. FREDERICK W. ROBERTSHAW, Pittsburg, Pa. Filed Feb. 21, 1882. (No model.)



Claim.—1. In a hose-nozzle, the combination of threaded shell A, having chamber *c* and flange *d*, with threaded hollow plug B, having openings *i* and closed end *g*, substantially as described.

2. In a hose-nozzle, the combination of shell A, having chamber *c* and flange *d*, with the movable plug B, having openings *i*, closed end *g*, and spiral notches *u*, substantially as described.

3. In a hose-nozzle, the combination, with shell A, of the movable hollow plug B, having holes *e*, collars *p*, ring or strip *t*, and packing *q*, substantially as described.

4. The combination of threaded shell A and set-screw *l* with plug B, having cylindrical portion *k* and collar *p*, substantially as described.

261,958. PROCESS OF MANUFACTURING SUGAR. CARL SCHEIBLER, Berlin, Germany. Filed Mar. 21, 1882. (No specimens.) Patented in Belgium Mar. 4, 1882. No. 57,259; in France Mar. 4, 1882, No. 147,715; in England Mar. 4, 1882, No. 1,057; in Luxemburg Mar. 12, 1882, No. 187, and in Italy Mar. 31, 1882, XXVIII, 212.

Claim.—The process of obtaining sugar from saccharine juices or solutions, which consists in treating the same with cane

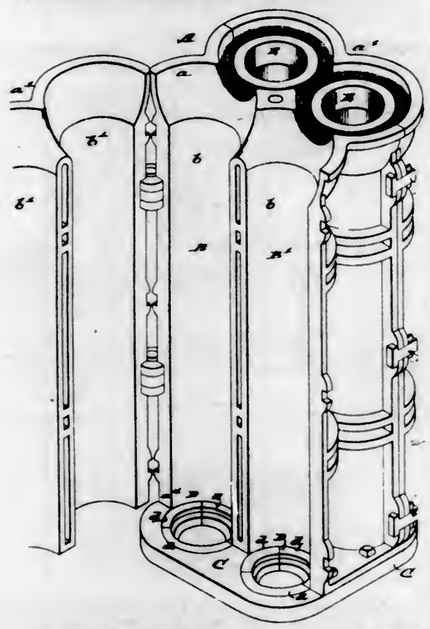
tic lime in the usual manner, removing therefrom the organic and inorganic non-sugary bodies that combine with the lime, and finally treating the juices or solutions with strontium saccharate or caustic strontium, substantially as and for the purposes specified.

261,959. VALVE. ELIS SCHRÖDER, Upsala, Sweden, assignor to Richard Schram, 9 Northumberland Street, Strand, London, England. Filed Jan. 30, 1882. (No model.) Patented in England Feb. 2, 1881, No. 449; in France May 10, 1881, and in Belgium May 13, 1881.



Claim.—The combination, with a lift-valve and its seat, of equalizing or stopping-up pieces around the valve, substantially as set forth, whereby the area of the outer fluid-escape aperture is reduced and made substantially equal to the area of the inner fluid-escape aperture, for the purposes specified.

261,960. PIPE-MOLDING APPARATUS. FREDERICK SHICKLE, St. Louis, Mo. Filed Mar. 23, 1882. (No model.)



Claim.—1. The combination, in a flask where sand or clay is used for molding pipes and other castings, of the central part, *a*, and the side parts, *a' a'*, said central part, *a*, having between the drags a space or spaces, for the purpose described.

2. The combination, in a flask where sand or clay is used, of the part *a*, the parts *a' a'*, and the bottom C *a*, having between the drags therein a space or spaces for venting the gases from the drags, substantially as described.

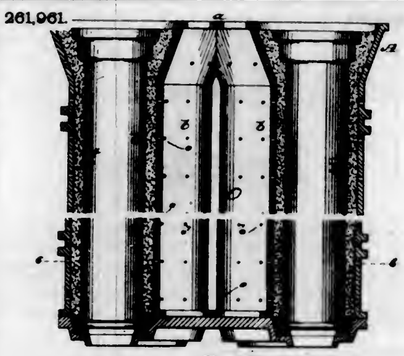
261,961. PIPE-MOLDING APPARATUS. FREDERICK SHICKLE, St. Louis, Mo. Filed Mar. 30, 1882. (No model.)

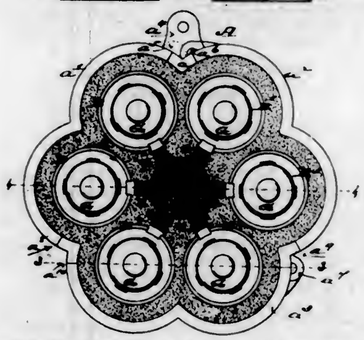
Claim.—1. The combination of the part *a*, having the top a^{12}, the parts *a' a²*, and the bottom C, substantially as described.

2. The part *a*, having the top a^{12}, for the purpose of supporting the basin E, substantially as described.

3. The combination, in a flask where sand or clay is used, of the part *a*, the parts *a' a²*, and the bottom C, said part *a* having

261,961.

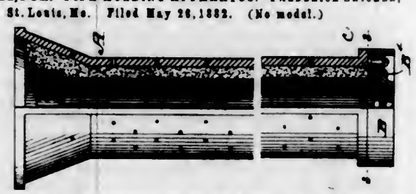




between the drags therein a space or spaces for venting the gases from the drags, substantially as described.

4. The combination, in a flask for molding pipes and other castings, and where sand or clay is used, of the central part, *a*, and the outer parts, *a' a²*, said central part, *a*, being hollow between the drags to enable the gases to pass off from the drags.

261,962. PIPE-MOLDING APPARATUS. FREDERICK SHICKLE, St. Louis, Mo. Filed May 26, 1882. (No model.)



Claim.—The combination, in the flask A, of the bottom B, having the removable portion B', and the bead-ring C, substantially as described.

261,963. PIPE-MOLDING APPARATUS. FREDERICK SHICKLE, St. Louis, Mo. Filed Apr. 29, 1882. (No model.)

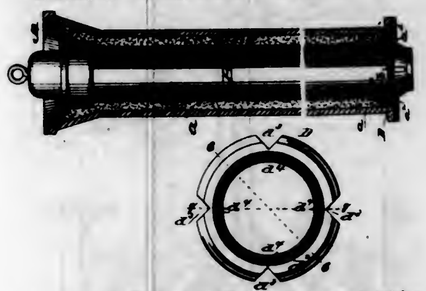


Claim.—1. A bead-ring for forming the whole of the bead on a pipe, said ring being detachable from the mold and being divided horizontally, as and for the purpose described.

2. A bead-ring, C, divided to form the parts *c* and *c' c' c'*, substantially as described.

3. The combination of the part *c*, having the flange c^2, and the sections *c' c' c'*, substantially as described.

261,964. PIPE-MOLDING APPARATUS. FREDERICK SHICKLE, St. Louis, Mo. Filed Apr. 22, 1882. (No model.)

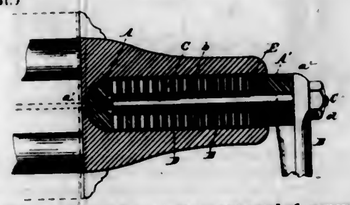


Claim.—1. The bead-ring D, having one or more notches, d^2 d^2, for the purpose described.

2. The combination of the bead-ring D, the pattern B, and the catches *b b*, for the purpose described.

3. A metal bead-ring weakened at one or more points, for the purpose described.

261,965. ARMATURE FOR DYNAMO-ELECTRIC MACHINES. ELMER A. SPERRY, Cortland, N. Y. Filed Oct. 24, 1881. (No model.)

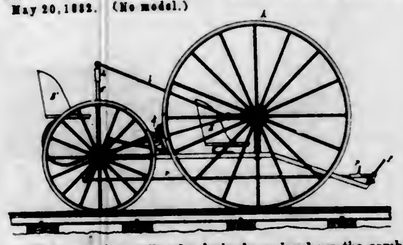


Claim.—1. An annular armature constructed of segments of thin sheet metal, overlapping at their extremities and supported by rods secured to outer continuous rings, said segments being connected by metallic contact in continuous circuits in line of magnetic axis or circumference and insulated in groups from each other laterally or at right angles to said magnetic axis, substantially as and for the purpose set forth.

2. An annular armature for an electric machine, constructed of segments of thin sheet metal, overlapping at their extremities in metallic contact, disposed between continuous rings on either lateral edge, said segments bearing projections on their internal and external edges of equal radial length, which are of such form as to leave rectangular depressions on opposite sides of the core which are equal in shape and capacity, substantially as and for the purpose shown.

3. The combination, with the projections or arms of the armature-shaft and the armature having the core composed of the segments and the rings A A', of the insulated rods C, fixed in the first-named rings, passing through the latter, and having one end only fixed to the projections of the shaft, substantially as described.

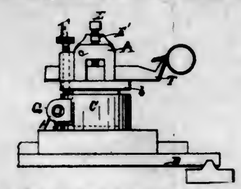
261,966. HAND-CAR. HOSEA T. STOCK, Toledo, Ohio. Filed May 20, 1882. (No model.)



Claim.—1. In a railroad velocipede or hand-car, the combination of driving-wheel A, crank B, spindle *b*, tubular axle *c*, and hub *a*, said spindle revolving inside of said axle *c*, and said hub revolving on the outside of said axle *c*, substantially as shown and described, for the purposes specified.

2. In a railroad velocipede or hand-car, the combination of the auxiliary detachable levers E E and rods *i i* with hand-cranks B B and driving-wheels A A, substantially as shown and described, for the purposes specified.

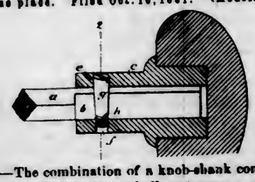
261,967. TOOL-POST FOR LATHES. JOHN E. SWEET and CHARLES E. LIPE, Syracuse, N. Y. Filed May 26, 1881. (No model.)



Claim.—1. For use in a lathe, a tool-post cast or forged in one piece, its lower portion or stem cylindrical in cross-section, and its upper end provided with a recess or mortise, jointly with a turning-tool or cutter, and one or more set-screws or other equivalent devices for clamping said tool down upon the bottom of said recess or mortise, to thus confine the force exerted by the set-screw wholly to the mass of the single integral tool-post.

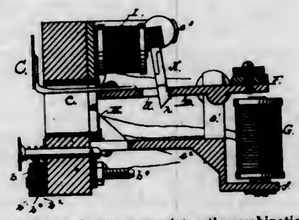
2. The combination, with a tool-post having a cylindrical lower portion or stem, its upper end provided with a recess or mortise, and a tool clamped down upon the bottom thereof, of a socket for said post to rest in, a device for clamping said socket tightly to and around the cylindrical portion of the post, and a screw for adjusting the post to different points of elevation, substantially as and for the purpose set forth.

261,968. KNOB ATTACHMENT. WARREN H. TAYLOR, Stamford, Conn., assignor to the Yale Lock Manufacturing Company, same place. Filed Oct. 10, 1881. (Model.)



Claim.—The combination of a knob-shank constructed, substantially as described, with a spindle cut away as described, and the wedging-bolt, which enters the shank at one side of the spindle, passes the spindle, and enters the opposite wall of the shank, and when driven home bears against the spindle and secures it in any adjusted position, substantially as and for the purpose described.

261,969. TELEPHONE CENTRAL-OFFICE APPARATUS. CHARLES E. TURNER, Auburn, N. Y. Filed Mar. 6, 1882. (No model.)



Claim.—1. In an electric annunciator, the combination, with the pivoted lever D, carrying the drop or shield C and a catch for holding and dropping said lever, of an electro-magnet arranged to raise said lever in position to engage with said catch, substantially as and for the purpose specified.

2. In an electric annunciator, the combination, with the pivoted lever D, carrying the drop, of the catch H, arranged to automatically engage said lever and hold it up, the electro-magnet I, arranged to disengage said catch from said lever, the electro-magnet G, arranged to raise said lever and drop, and means for closing electric circuits through the coils of said magnets, substantially as specified.

3. In an electric annunciator, the combination, with the lever D, carrying the drop or shield C, a catch for automatically engage-

ing and holding up said lever, an electro-magnet for disengaging said catch from said lever, and the spring-jack B, having one of its parts connected with the line-wire and the other part connected with the ground through said magnet, said jack being adapted to receive one or more plugs and break the ground-connection of the line-wire, substantially as specified.

261,970. CARRIAGE-CURTAIN FASTENING. HORACE A. TARSON, Machias, Me. Filed May 2, 1882. (No model.)

Brief.—The button, rigidly secured to the carriage-frame, has an L-shaped groove in it, in which a lug on the plate on the curtain, which fits down over the button, moves, and is turned by a thumb-piece on the outside to lock it.



Claim.—In a curtain-fastening, the combination, with the stationary pin E, having the L-shaped groove *e*, of the socket D, formed with thumb-piece *c*, lug *d*, and flange *b*, for securing it to the curtain by plates B C, substantially as and for the purpose set forth.

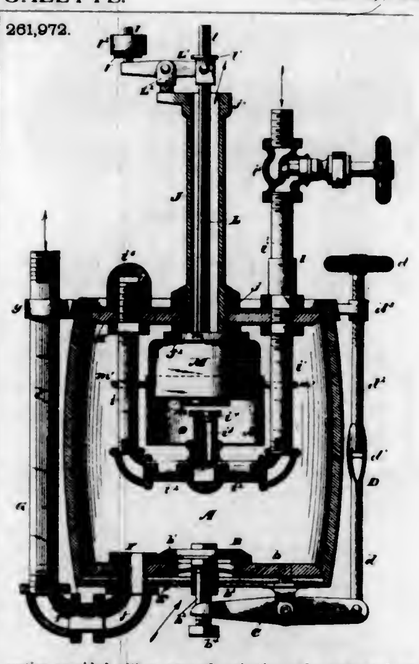
261,971. REVERSIBLE ENVELOPE. JOHN G. WALLACE, Cincinnati, Ohio, assignor of one-half to J. R. Mills & Co., same place. Filed Jan. 16, 1882. (Model.)



Claim.—1. A reversible envelope formed of two rectangular blanks, A B, placed across each other midway and gummed together, having the projecting ends or flaps ungummed, as shown, so that the flaps may be folded over on the body of the envelope on either side, substantially as and for the purpose herein shown.

2. A reversible envelope formed of two rectangular blanks, A B, placed across each other and secured, as shown, in combination with the eyelets C in the body or back of the envelope and the elastic band D, passing through the eyelets for securing the flaps when the said flaps are turned on either side of the body of the envelope, substantially as and for the purpose herein shown.

261,972. WATER-ELEVATOR. JOHN S. WALLACE, Nelsonville, Ohio. Filed Apr. 17, 1882. (No model.)



Claim.—1. In a portable water-elevator, the combination, with a cylinder or barrel, of a water-inlet at the bottom of said cylinder and a valve arranged in said inlet and provided with devices for regulating said valve, a water-discharge pipe, an air-inlet pipe arranged to project through the upper end or head of the cylinder and provided with a contracted opening for the admission of compressed air within the cylinder, an exhaust-pipe adapted to exhaust the air within the cylinder and provided with a valve-rod and a buoyant valve, the latter being adapted to rest upon the contracted opening of the air-inlet when exhausting the air in the cylinder, substantially as set forth.

2. In a portable water-elevator, the combination, with the cylinder or barrel having a water-inlet, of a valve arranged within the latter and adapted to be opened by its buoyancy, and provided with a lever and an operating-rod whereby said valve may be closed either partially or entirely, as desired, substantially as set forth.

3. In a portable water-elevator, the combination, with the cylinder or barrel provided at its bottom with a water-inlet, of a valve arranged within the latter and connected to a lever, which latter is connected to a two-part operating-rod, the parts of the latter being swiveled together, the upper part of said rod being screw-threaded and arranged within a screw-threaded bracket or eye to regulate the valve, substantially as set forth.

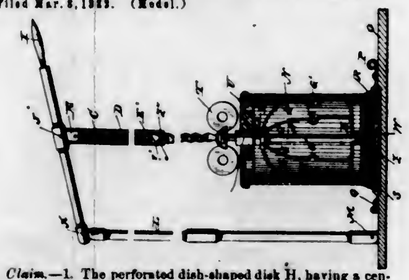
4. In a portable water-elevator, the combination, with the upper end or head of the cylinder or barrel, of an air-pipe consisting of two parallel vertical portions projecting through said head and adapted to be connected with an air-pump, and a horizontal portion provided with an upward projection and a contracted outlet, an air-exhaust pipe projecting through said head and provided with a valve-rod and valve, the latter being provided on both its upper and lower sides with elastic cushions and adapted to be guided between the vertical portions of said compressed-air pipe, substantially as set forth.

5. In a portable water-elevator, the combination, with the air-inlet and exhaust pipes, of a valve-rod and a buoyant valve, the latter being provided with rings through which said inlet-pipes pass, whereby said valve is guided when raised by the water, substantially as set forth.

6. The combination, with a portable elevator, of a discharge-pipe provided with a valve-chamber, (one or more,) of a valve-rod supported by a lever adapted to receive weights, and a cushioned valve, substantially as set forth.

7. The combination, with a portable water-elevator, of a discharge-pipe and a cylindrical valve-chamber suitably connected to said pipe, a valve-rod supported by a lever fulcrumed on an arm or bracket of said chamber and provided with a stud or arm at each end to receive weights, and a valve connected to said rod and supported within its chamber by laterally-projecting pins or guards, substantially as set forth.

261,973. CHURN. JOHN E. WHEELDON, South Carrollton, Ky. Filed Mar. 8, 1882. (Model.)

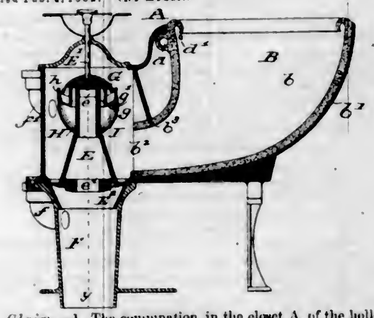


Claim.—1. The perforated dish-shaped disk H, having a central opening therein, through which the rod A passes, the beaters G, provided with inward depressions, G', said beaters being secured and arranged at equidistant points around the outer edge of the disk, the upper ends of the beaters being centered on and rigidly secured to a sliding collar encircling rod A, said collar being provided with a hole for the reception of a set-screw, and by means thereof the collar, beaters, and disk are rendered adjustable on the rod, in the manner and for the purposes specified.

2. In a rotary churn, as herein specified, the fan T, consisting of two vertical metallic wings rigidly secured to a collar, said collar encircling the main shaft and being adjustable thereon by means of a set-screw, for the purposes set forth.

3. The vessel N, provided with cover U, and having flaring bottom R, said bottom fitting a corresponding recess in the base-piece, and being secured thereto by keys P and Q, in combination with the standard L and the handle I, which is secured to the tube C, the parts being united in the manner and for the purposes specified.

261,974. WATER-CLOSET. PETER WHITE, St. Louis, Mo. Filed Feb. 4, 1882. (No model.)



Claim.—1. The combination, in the closet A, of the hollow and empty discharge-valve E, having inlet *e* and covered by cap G, with the float H, lever *h*, and chamber I, substantially as set forth.

2. In a water-closet, the combination of chambers I, having vent *f'*, and discharge and float valves, as described, with trunk F, having vent *f*, substantially as and for the purposes set forth.

3. In combination with chamber I, adjoining bowl B, and provided with valve E, the vertical and detachable trunk F, having vent *f*, substantially as set forth.

261,975. AUTOMATIC TELEGRAPH. JOHN ABSTERDAM, New York, N. Y., assignor of two-thirds to Louis G. Dreyfus, same place. Filed Dec. 21, 1881. (No model.)

Brief.—A roller having a pliable metallic surface adapted to be pressed into the perforations of an ordinary transmitting-strip, thereby making contact with the lower or transmitting roller, which may have a like surface. The lower surface may be a plane instead of a roller.



Claim.—1. In an electro-telegraphic transmitter, the combination, substantially as hereinbefore set forth, of a contact-roller and a drum or its equivalent, formed one or both with an elastic, flexible, and cushion-like acting-face, as described.

2. In an electro-telegraphic transmitter, a contact roller or wheel having an elastic, flexible or pliable, and cushion-like acting-face, substantially as and for the purposes hereinbefore set forth.

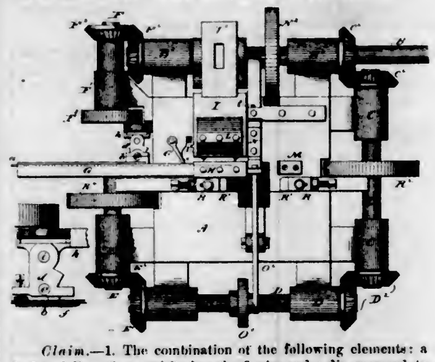
3. In an electro-telegraphic transmitter, the combination, substantially as hereinbefore set forth, of the rotating transmitting-drum, and the contact roller or wheel arranged so that it will revolve by contact with said drum or with the strip passing between it and said drum, and formed with an elastic, flexible or pliable, and cushion-like acting-face, substantially as and for the purposes hereinbefore set forth.

261,976. BOOK-MARK AND PAPER-CUTTER. FRANK D ADAMS, Auburn, Cal. Filed Apr. 1, 1882. (No model.)



Claim.—The combined paper-cutter and book-mark, consisting of the straight elastic blade B, and the tongue A, connected thereto at one end and curved toward and from the plane of the blade, and the handle C, substantially as shown and described.

261,977. MACHINE FOR MAKING SPLIT KEYS. JOHN ADT, New Haven, Conn. Filed Mar. 17, 1882. (No model.)



Claim.—1. The combination of the following elements: a feed to deliver the requisite length of wire and a die arranged to swage and form a semi-annular groove, *l*, in and around the half-round of the wire, substantially as described.

2. The combination of the following elements: a feed to deliver the requisite length of wire, a die arranged to swage and form a semi-annular groove, *l*, in and around the half-round of the wire, and a cutter arranged to separate the blanks at the groove so formed, substantially as described.

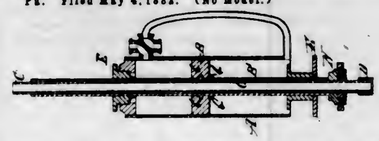
3. The combination of the former *s*, to which the flat surface of the blank is presented, the bearing-piece P, presented in front of the former, and the bender N', to produce the preliminary bend, substantially as described.

4. The combination of the former *s*, the bender N', the bearing-piece P, and mechanism, substantially such as described, to present the said bearing-piece to support the former during the preliminary bend, and then remove it therefrom, with the side benders, R', to complete the key, substantially as described.

5. The combination of the following elements: a feed to deliver the requisite length of wire, a die arranged to swage and form a semi-annular groove, *l*, upon the half-round of the wire, a cutter arranged to separate the blanks at the groove so formed, a former, *s*, to which the flat surface of the blank is presented, a bearing-piece, P, presented in front of the former, and the bender N', to produce the preliminary bend, substantially as described.

6. The combination of the following elements: a feed to deliver the requisite length of wire, a die arranged to swage and form a semi-annular groove, *l*, upon the half-round of the wire, a cutter arranged to separate the blanks at the groove so formed, a former, *s*, to which the flat surface of the blank is presented, a bearing-piece, P, in front of the former, the bender N', to produce the preliminary bend, and mechanism, substantially such as described, to present the said bearing-piece to support the former during the preliminary bend, and then remove it therefrom, with the side benders, R', to complete the key, substantially as described.

261,978. ROTARY DRILL. ROBERT ALLISON, Port Carbon, Pa. Filed May 4, 1882. (No model.)



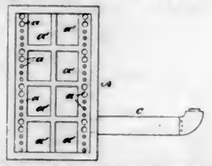
Claim.—1. In a rotary drill, the combination of the driving mechanism, a cylinder and piston, a hollow rotary rod passing through the piston and extending beyond the ends of the cylinder, and so attached to the piston that it receives longitudinal motion from it, a drill-rod held by the hollow rotary rod, and a four-way cock, substantially as and for the purposes set forth.

2. In a rotary drill, the combination of the driving mechanism, a cylinder and piston, a hollow rotary rod passing through the piston and extending beyond the ends of the cylinder, and so attached to the piston that it receives longitudinal motion from it, and a drill-rod held by the hollow rotary rod, as and for the purposes set forth.

3. The combination, in a rotary drill, of a cylinder and piston, a hollow rotary rod passing through the cylinder and through the

piston, and which receives its longitudinal motion from the piston, a clutch on the hollow rotary rod, mechanism for rotating this rod, and a drill-rod fastened to the hollow rotary rod by the clutch, substantially as and for the purposes set forth.

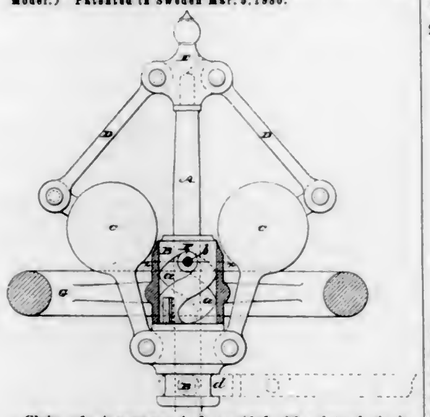
261,979. UNDERGROUND CONDUIT FOR ELECTRIC WIRES. SAMUEL ADDISON, Philadelphia, Pa., assignor of seventeen thirty-seconds to William Allen and Alexander C. McCurdy, same place. Filed Mar. 10, 1882. (No model.)



Claim.—1. The block having ducts *a*, with lateral communicating openings and passages *a'* intermediate of the ducts, substantially as and for the purpose set forth.

2. The block having lateral openings in each side which communicate with the longitudinal ducts of the block, located diagonally in reverse order on opposite sides of the block, substantially as and for the purpose set forth.

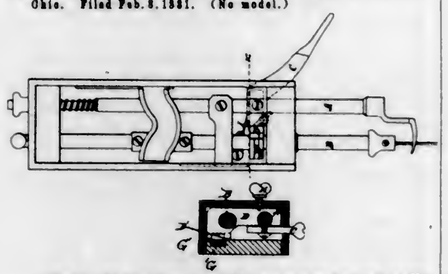
261,980. GOVERNOR FOR STEAM-ENGINES. ANDERS BICK, Korsnäs, Great Kopparberg, Sweden. Filed Oct. 8, 1881. (No model.) Patented in Sweden Mar. 5, 1880.



Claim.—1. A governor-shaft provided with a lateral pin, in combination with a sleeve which is adapted to move up and down on said shaft, and provided with a spiral way that receives said pin, and a pair of governor-balls attached to said sleeve, and operating substantially as set forth.

2. A governor-shaft provided with a lateral pin, in combination with a sleeve which is adapted to move up and down on said shaft, and provided with a spiral way that receives said pin, a fly-wheel attached to said sleeve, and a pair of governor-balls attached to said sleeve, and operating substantially as set forth.

261,981. SEWING-MACHINE. GEORGE W. BAKER, Cleveland, Ohio. Filed Feb. 8, 1881. (No model.)



Claim.—The combination, with the pressure-bar and needle-bar, of the clutch-bar D, having an aperture embracing the pressure-bar so closely that when the said clutch-bar is tilted or inclined it will clutch the pressure-bar, and having also an aperture embracing the needle-bar, but elongated in the direction of the pressure-bar, so that the edges of said aperture will not clutch the needle-bar at any point of its movement, and means, substantially as described, for operating said clutch-bar.

261,982. DRAWER-PULL. THEODORE C. BARNARD, Meriden, Conn. Filed June 17, 1882. (No model.)

Claim.—In a drawer-pull, the combination of the ornamental face-plate D, having the aperture *a*, and threaded stem C, having the flanged shoulder *c' c*, and tenon *d* at its reduced outer end, with shell or thimble B, having the side apertures, *b*, and end aperture, *a*, and handle-ring A, substantially as and for the purpose herein shown and specified.

261,983. COMPOSITION FOR PRESERVING SAUSAGES. JOHANN F. BARTH and HENRY BARTH, Cincinnati, Ohio. Filed Dec. 1, 1881. (No specimens.)

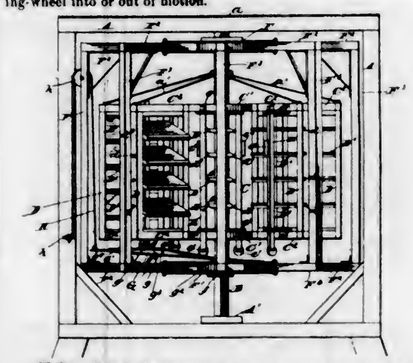
Claim.—The composition herein described for preserving sausages, consisting of starch, molasses, borax, Cayenne pepper, water, and salt in or about the proportions specified.

261,984. APPARATUS FOR PACKING DRIED FISH. JAMES H. BAXTER, Portland, Me., assignor to himself and Charles A. Dyer and David L. Fernald, both of same place. Filed May 31, 1882. (Model.)

Claim.—The fish-compressing mold C, constructed of two longitudinal sections hinged together on their one side, and of cylindrical contour on their interior, with a series of transverse grooves, *c c'*, in and through them for the reception of binding strings or cords, in combination with one or more hooks and fastenings, *e f*, for holding the molds locked with the fish under pressure, substantially as and for the purposes herein set forth.

261,985. WIND-ENGINE. UDNEY N. BEARDSLEY, Bloomingdale, Mich. Filed Nov. 3, 1881. (No model.)

Brief.—The mill is provided with a cam-track, G, which opens and closes the blades D' of the wheel C, thus throwing the operating-wheel into or out of motion.



Claim.—1. In a horizontal wind-engine, the combination of the wind-wheel C, rigidly attached to the vertical shaft B, with the outer wheel loosely mounted upon said shaft B, and provided with cam-track G, substantially as described, for the purpose specified.

2. In a horizontal wind-engine, the wind-wheel C, having disks C', arms or spokes C², vertical frames D, provided with blades D', loops *d'*, and bars or rods E, constructed and arranged substantially as described, for the purpose specified.

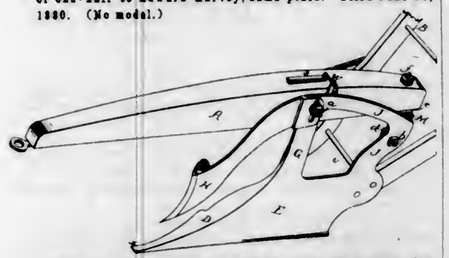
3. In a horizontal wind-wheel, the outer skeleton wheel having disks F F', loosely mounted on the vertical shaft B, arms or spokes F², vertical timbers F³, and tail-vane F⁴, substantially as described, for the purpose specified.

4. In a horizontal wind-engine, the cam-track G, having plates *g g'*, timber *g²*, stud *g³*, and aperture *g⁴*, in combination with suitably-supported blades D and means for operating them, substantially as described.

5. In a horizontal wind-engine, the combination of the cam-track G, having plates *g g'*, and stud *g³*, with the outer or skeleton wheel having disks F F', loosely mounted on the shaft B, arms F², vertical timbers F³, tail-vane F⁴, suitably-supported blades D, and means for operating them.

6. In a horizontal wind-engine, the combination of the cam-track having plates *g g'*, with the wind-wheel C, having disks C', arms or spokes C², and vertical frames D, provided with the blades D', arranged to be opened or closed by said cam G, substantially in the the manner described and set forth.

261,986. PLOW. CHARLES BEIDLER, Allentown, Pa., assignor of one-half to Edward Harvey, same place. Filed June 14, 1880. (No model.)



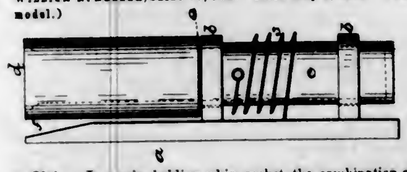
Claim.—1. The combination of the beam A, the plow having a standard, G, with rearwardly-projecting frame J, adjacent to the beam, the transverse bolt *a*, whereby the plow is pivoted to the beam, devices whereby the rear end of the plow may be adjusted both vertically and laterally, and filling-pieces *s*, introduced between the beam A and frame J in the rear of the bolt *a*, as specified.

2. The combination of the beam A, the plow having a standard, G, adjustable in respect to the beam, the slotted colter H, and the bolt *a*, passing transversely through the beam, standard, and slotted colter, and serving to secure said standard and colter to the beam, as set forth.

3. The combination of the beam A, the plow having standard G and frame J, the rod *w*, having a vertical portion adapted to the beam, and a horizontal portion projecting laterally beyond the same, and filling-pieces *s*, hung to said rod and capable of sliding thereon, as set forth.

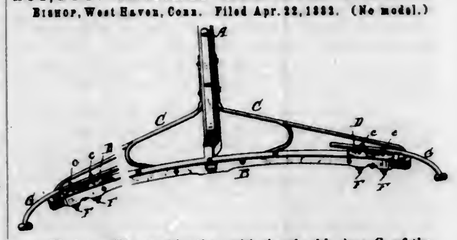
4. The combination of the beam A, the plow having a standard, G, adjustable in respect to the beam, the slotted colter H, the shank of which has a shoulder bearing on the standard, and the bolt *a*, passing through the beam, standard, and slotted colter, and serving to secure said parts together, as set forth.

261,987. COMBINED WHIP-SOCKET AND REIN-HOLDER. WILLIAM M. BELLAH, Saint Jo, Tex. Filed May 3, 1882. (No model.)



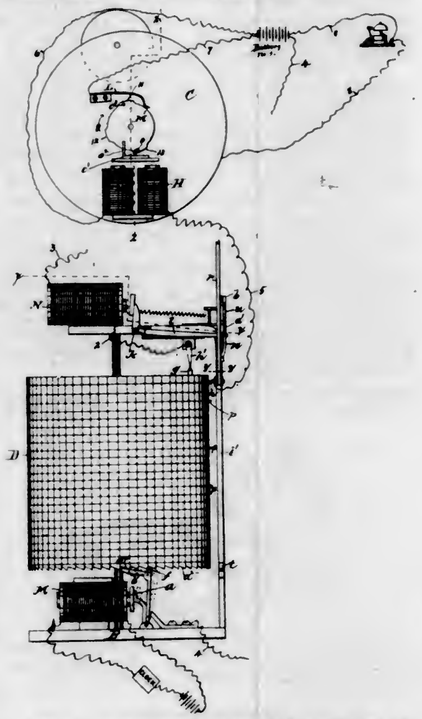
Claim.—In a rein-holding whip-socket, the combination of the serrated bearing-plate *a*, having the journal-bearings *b*, the socket *d*, having the serrated eccentric face *f*, shoulder *e*, and stem *c*, and the spring *s* around said stem, and attached thereto and to the bearing-plate, whereby the eccentric face is brought to bear automatically, substantially as specified.

261,988. ADJUSTABLE VEHICLE-POLE. FREDRICK W. BISHOP, West Haven, Conn. Filed Apr. 22, 1882. (No model.)



Claim.—The combination, with the shackle-iron G, of the metal block D, having concave projecting seats E and transverse recess *b*, and the eyebolts F as a means for securing the shackle-iron to the block and admit of its adjustability, substantially as and for the purpose specified.

261,989. ELECTRIC SIGNAL. GEORGE W. BLODGETT, Boston, and AARON D. BLODGETT, Newton, assignors to themselves, JAMES P. EMERSON, Wakefield, and GEORGE H. WOODRUFF, Boston, Mass. Filed Dec. 17, 1881. (No model.)



Claim.—1. In an automatic time-signal, the combination of a cylinder mounted upon a vertical shaft, turning in a frame open at one side, and provided with pin-holes arranged upon the intersections of parallel horizontal and parallel vertical lines, and an electro-magnet and devices operated therefrom, arranged below the lower end of the cylinder to turn the latter step by step, substantially as set forth.

2. In an electric signal, the combination of a rotary metallic cylinder, means for rotating the same at a predetermined rate, a number of series or rows of holes on said cylinder, each series being arranged so that all the holes composing it shall successively occupy a given space once during each rotation of said cylinder, minute-electrodes or pins inserted as desired in said holes, a single movable electrode located in a circuit which is closed through a signaling device when contact is made between said single elec-

trode and any one of the minute-electrodes of the cylinder D, a circuit closed through an electro-magnet by the rotating body once during each complete rotation thereof, and mechanism, substantially as described, operated by the armature of said electro-magnet to move the single electrode a distance equal to the space between each row or series of minute-electrodes and the next, as set forth.

3. In an electric signal, the combination of an electric circuit including a signaling device, a series of minute-electrodes, and a single electrode operated, substantially as described, to automatically close said circuit and operate the signal at predetermined times, a mechanically-rotated drum having projections 11 12 13 and pins o o^2, the contact-spring I, the electro-magnet H, and the armature having stops o' o^3, said parts being arranged and operated, as described, to give a definite number of signals in succession at one closing of the circuit and a different signal by the next closing, as set forth.

4. The combination of the rotary cylinder having ratchet-teeth formed on one of its ends, an electro-magnet, an armature for said magnet, a pawl operated by the armature to rotate the cylinder step by step, and a stop carried by the armature to limit the step-by-step rotations of the cylinder, as set forth.

5. The combination of the sliding toothed rod r, having a spring or arm, s, the arm l, oscillated vertically by the armature of an electro-magnet, pivoted so as to oscillate laterally, and held with a yielding pressure against the toothed side of the rod r, the pivoted dog b, and a pivoted latch, a, adapted to be moved by the spring s and disengage the arm l and dog b from the rod r, whereby said rod is released and allowed to fall, as set forth.

6. The combination of the cylindrical body D, having minute-electrodes p, means for rotating said cylinder step by step, the adjustable single electrode, mechanism, substantially as described, for adjusting the single electrode step by step, and an electric circuit closed through an electro-magnet by the cylinder once during each rotation thereof, and mechanism, substantially as described, operated by the armature of said electro-magnet to adjust the single electrode, as set forth.

7. In an electric signal, the combination, in a single electric circuit, of a metallic rotary cylinder having holes arranged in parallel rows or series, pins or minute-electrodes inserted as desired in said holes, an electro-magnet having an armature adapted to rotate the cylinder step by step, a single electrode located on an adjustable slide, a secondary electro-magnet through which a circuit is automatically closed at the completion of each rotation of the cylinder, and mechanism, substantially as described, operated by the armature of the secondary magnet to adjust the single electrode and cause it to coincide with a new row of holes after each complete rotation of the cylinder, as set forth.

261,990. SAFETY DEVICE FOR HORSES. NOBLE A. BOND, East Palestine, Ohio. Filed May 25, 1882. (No model.)



Claim.—The combination, with ordinary harness, of the rigid bar A, attached at its forward end to the bit-ring and at its rear end to the pole or shaft, substantially as shown and described.

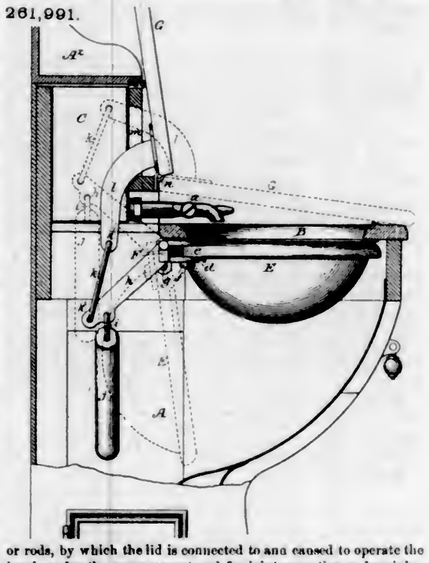
261,991. WASH-STAND. NATHAN O. BOND, Fairfax Court-House, Va., assignor of one-half to Theodore J. Mayer, E. Kurtz Johnson, Fred W. Pratt, James L. Barbour, and P. Tenney, all of Washington, D. C. Filed Dec. 21, 1881. (No model.)

Brief.—The wash-stand is made in the form of a desk, and is so arranged that when the lid G is raised the bowl E is moved up into position, and when the lid G is closed the bowl is emptied into the receptacle D.

Claim.—1. In a wash-stand, the combination, with a hinged lid or cover, of a hinged bowl connected to and operated by the cover, substantially in the manner and for the purposes hereinbefore set forth.

2. The combination of the wash-stand case, the hinged bowl, the hinged cover or lid, and the lever-arms and connecting links

261,991.



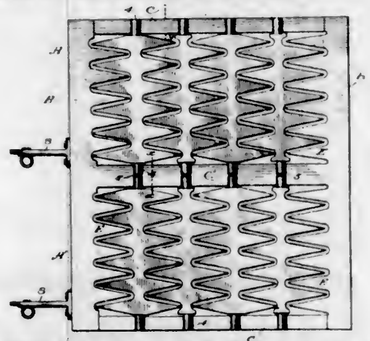
or rods, by which the lid is connected to and caused to operate the bowl, under the arrangement and for joint operation as hereinbefore set forth.

3. The wash-stand case and the hinged bowl, in combination with the hinged lid or cover, the lever-arms, and the connecting links or rods connecting said lid and bowl, and the counterbalance-weights, the combination being and acting substantially as hereinbefore set forth.

4. In combination with the wash-stand case, the hinged bowl and the mechanism for actuating the same, the slop vessel or compartment, and the conduit for conducting the contents of the bowl to the slop-vessel, the whole being arranged substantially as and for the purposes hereinbefore set forth.

5. The combination of the wash-stand frame provided with a raised fresh-water-tank containing-case, against which the lid or cover rests when lifted and thrown back, the hinged bowl, the hinged lid or cover, and the intermediate mechanism connecting said bowl and cover, substantially as and for the purposes set forth.

261,992. BOILER-FURNACE GRATE. WILLIAM BOWERS, Carbondale, Pa. Filed June 22, 1882. (No model.)



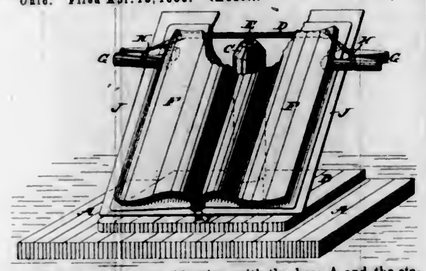
Claim.—1. In a grate composed of two or more sections, A A', the combination of the end bars, B B, having stationary quadrant-shaped teeth E, the side bars, C C C', and a series of grate-bars pivoted in bearings in such side bars and having interlocking teeth.

2. The described grate-bars, having the central rib, 2, and a series of semicircular or double-quadrant-shaped teeth, E, adapted to interlock with corresponding teeth on adjoining bars, in combination with means for simultaneously oscillating such bars.

3. A grate-bar composed of a central rib, 2, and a series of teeth, F, set at right angles thereto, such teeth having the flat lozenge-shaped upper surface, sharp corners, and being beveled to an approximately semicircular lower edge, for the purposes set forth.

4. In a furnace-grate, the side bar, C', having the divided bearing-grooves in its upper face and constructed of a tapered or beveled cross-section, for the purpose set forth.

261,993. BOOK-HOLDER. WILLIAM B. BROWN, West Union, Ohio. Filed Apr. 13, 1882. (Model.)



Claim.—1. The combination, with the base A and the stationary post C, of the revolving plate B and the rod D, pivoted in the upper end of said post, and carrying spring-clips at its ends, substantially as and for the purpose set forth.

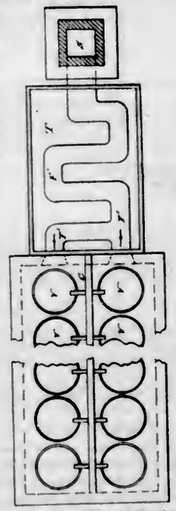
2. The combination of the base-plate A, plate B, revolving thereon, stationary post C, rotary bar D, and the paper-clips G, substantially as specified.

3. The paper-clips G and springs H, in combination with revolving rod D, stationary post C, rotary plate B, and the stationary plate A, substantially as specified.

4. The knob-stud I, rotary plate B, post C, rotary arms D, and paper-clips G, in combination, substantially as specified.

5. The combination of board J with table B, rod D, and post C, substantially as specified.

261,994. DEVICE FOR ECONOMIZING HEAT FROM THE PRODUCTS OF COMBUSTION. OLIVER L. P. BROWN, Syracuse, N. Y., assignor of one-half to Daniel H. Gowtag, same place. Filed Jan. 22, 1881. (No model.)



Claim.—1. As a means for utilizing the heat accompanying products of combustion at their exit from the fire-flue proper or their entrance in the usual within-described smoke-box, the substitution for the chimney or stack of a tortuous prolongation of the smoke-flue or smoke-box and an apparatus arranged to absorb the heat from the products of combustion in their passage through said prolonged flue, and an exhaust-fan connected with the discharge end of the latter, substantially as specified and shown.

2. The combination, with a furnace or fire-arch, of the tortuous prolonged flue F', tank or chamber T, exhaust-fan E, and blower B, substantially as described and shown.

3. The combination, with a furnace or fire-arch, of the tortuous prolonged flue or smoke-box F', exhaust-fan E, and the duct P, substantially as and for the purpose set forth.

4. The combination, with a furnace or fire-arch, of the prolonged flue or smoke-box F'; the duct P, and blower B, substantially as shown and set forth.

5. The combination, with a furnace or fire-arch, of the prolonged flue F', exhaust-fan E, duct P, and blower B, substantially in the manner and for the purpose shown and set forth.

261,995. SECONDARY BATTERY. CHARLES F. BRUSH, Cleveland, Ohio. Filed June 9 1881. (No model.)



Claim.—1. In a secondary battery, two or more plates or elements having their edges embedded in suitable cement, substantially as set forth.

2. In a secondary battery, two or more plates or elements having their edges embedded in suitable cement, and the end plates having their outer surfaces covered, or practically covered, by cement, substantially as set forth.

3. In a secondary battery, the combination, with a trough or receptacle and two or more plates or elements, of cement placed on the interior of the trough or receptacle, the edges of the plates being embedded in said cement, substantially as set forth.

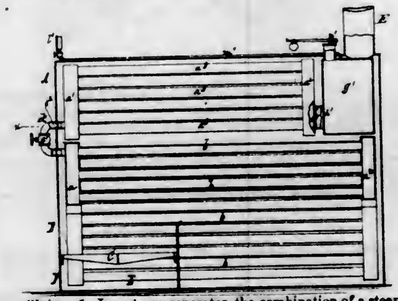
4. In a secondary battery, the combination, with two or more plates or elements, of separating and insulating strips, and cement placed between the edges of the plates or elements, substantially as set forth.

5. In a secondary battery, the combination of two or more plates provided with an active coating and having their edges embedded in suitable cement, substantially as set forth.

6. In a secondary battery, the combination of two or more plates constructed with cells, grooves, or cavities, and provided with an active coating and having their edges embedded in suitable cement, substantially as set forth.

7. In a secondary battery, the combination, with two or more plates, each provided with an active coating, of a trough or receptacle, strips interposed between the edges of the plates, and a coating of cement on the inner surface of the trough or receptacle, substantially as set forth.

261,996. STEAM-GENERATOR. OSCAR F. BURTON, Brooklyn, N. Y. Filed Dec. 17, 1881. (No model.)



Claim.—1. In a steam-generator, the combination of a steam-chamber composed of front and rear heads, connected by longitudinal tubes and communicating with a steam-dome, with a water-chamber located below the steam-chamber, and composed of front and rear heads connected by longitudinal tubes and constituting an arched top and open sides to a combustion-chamber, a feed-pipe connected with the water-chamber and containing a valve, a float located in a tube communicating with the upper part of the water-chamber, a connection between said float and the valve in the feed-pipe, and means, such substantially as described, for intermittently or at determined intervals supplying small

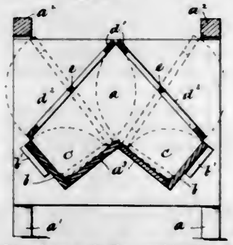
charges of water from the water-chamber to the steam-chamber, substantially as and for the purposes described.

2. In a steam-generator, the combination of a steam-chamber located within the upper part of an inclosing shell, and composed of front and rear heads connected by longitudinal pipes and communicating with a steam-dome, with a water-chamber located within said shell below the steam-chamber, and composed of front and rear heads and longitudinal pipes connecting said heads and constituting an arched top and open sides to a combustion-chamber at the front of the shell, a feed-pipe connected with the lower part of the water-chamber and containing a valve, a vertical tube having its lower end connected with the upper part of the water-chamber, and containing a float, a lever-and-rod connection between the float and the valve in the feed-pipe of the water-chamber, and pipes and valves for delivering water from the upper part of the water-chamber to the steam-chamber, substantially as and for the purpose described.

3. In a steam-generator, the combination of two steam-chambers located in the upper part of a surrounding shell, and composed of two sets of independent front and rear heads, arranged side by side and connected by longitudinal tubes, and both of the rear heads communicating with a common steam-dome, with a water-chamber located below the steam-chamber, and composed of front and rear heads connected by longitudinal tubes, forming the top and sides of a combustion-chamber, automatic mechanism for keeping the water-chamber constantly filled with water, two pipes connecting the respective front heads of the steam-chamber to the upper portion of the water-chamber, and valves located in said pipes and operated at stated intervals to intermittently and alternately deliver small charges of water from the water-chamber into the two steam-chambers, where such charges of water successively flash into steam, substantially as and for the purposes described.

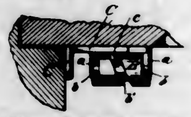
4. In a steam-generator, the combination of the water-chamber composed of the heads a a^* and longitudinal pipes b, two steam-chambers located above the water-chamber and composed of the heads a' a^2 b' b^2 and pipes a^3 and b^3, the steam-dome g', connected with both the said steam-chambers, pipes c' d', connecting the respective steam-chambers with the upper portion of the water-chamber, and stop-valves e' f', operated to intermittently and alternately charge the steam-chambers with small quantities of water from the water-chamber, all substantially as and for the purposes described.

261,997. SHEEP-RACK. AARON F. BUTTERS, Marshall, Ohio. Filed Apr. 29, 1882. (Model.)



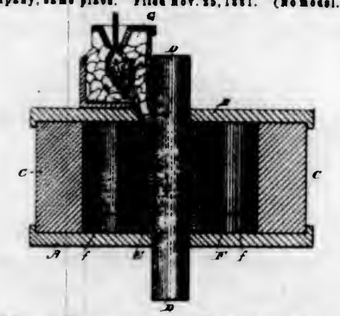
Claim.—In a sheep-rack, the combination, substantially as hereinbefore set forth, of the inclined boards a^2, having their upper edges abutted together, the boards b, hinged to the lower edges of boards a^2, and turning outward and forming troughs c, and the frames d, pivoted and turning inward to bring their lower ends near to the apex of the inclined boards a^2 or outward to bring their lower ends near to the outer edge of the unfolded boards b and over the troughs c, as set forth.

261,998. SASH-HOLDER. WILLIAM C. CARSON, Denton, Tex. Filed Apr. 10, 1882. (Model.)



Claim.—In a window-sash lock, the combination of the following elements, viz: a revolving locking-block spirally grooved on its face, and mounted centrally in a frame having seats or grooves for its journals, and a locking-plate fitting into the said frame directly under said locking-block, and adapted to be thrust out or in by the action of the spiral groove in said block on the upwardly-projecting centrally-placed spur on said plate, said spur coming directly under said block, all as set forth.

261,999. APPARATUS FOR CASTING CHILLED ROLLS. JOHN M. CASE, Columbus, Ohio, assignor to the Case Manufacturing Company, same place. Filed Nov. 25, 1881. (No model.)

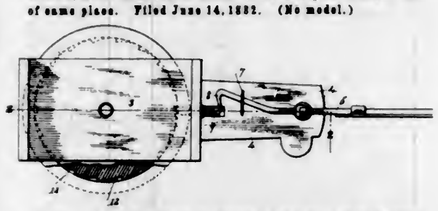


Claim.—1. The combination, with a mold for metals, of one or more strainers placed within the mold-cavity between the gate and the parts of the cavity where smooth or uniform surface or surfaces of the casting are desired, thereby permitting the passage of the strained metal to such parts and the incorporation of the strainer in the casting, substantially as shown and described.

2. The combination, with a mold for metals, of one or more strainers placed within the mold-cavity, and a preliminary straining device, G, on the exterior of the mold, consisting of a receptacle containing a body of broken stone or like material, through which the metal is poured, substantially as herein shown and described.

3. The combination, with the mold A B C, of any desirable number of baskets or strainers E F, placed one within another within the mold to intercept slag, dross, or impurities in the molten metal and prevent their approach to the surface of the casting.

262,000. WINDMILL-GOVERNOR. BLANCHARD CHAMBERLAIN, Bellefontaine, Ohio, assignor of three-fourths to J. H. Wilson, Robt. Lamb, H. E. Palmer, and George H. Palmer, all of same place. Filed June 14, 1882. (No model.)



Claim.—1. A mill tower or derrick, 1, having a series of holes or notches, 12, for locking the rotary head of the mill by means of a suitable bolt or catch, and a cap-plate, 2, provided with a beveled projecting edge, 2*, to protect said holes or notches, as described.

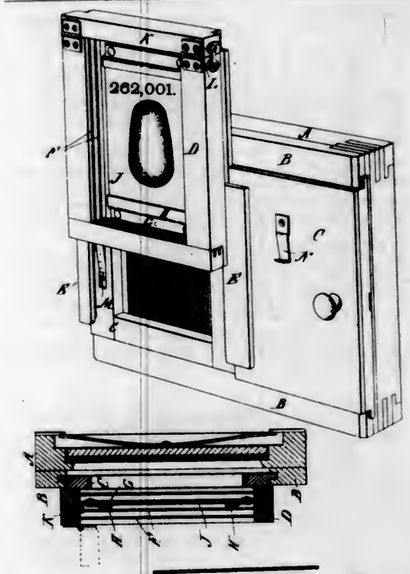
2. In combination with a windmill-stop-bolt device, the vane 5, pivoted on top of the rigid tail-piece 4, to operate said stop-bolt device, substantially in the manner described.

3. The combination of the vane 5, having an arm inclined or beveled at its inner end, 8, the trigger 9, stop-bolt 11, holes or notches 12, to engage said stop-bolt, and a suitable spring, 13, to press the bolt into engagement with the holes or notches when released by the vane, substantially as set forth.

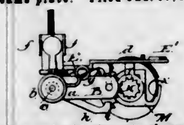
262,001. VIGNETTING ATTACHMENT FOR PHOTOGRAPHIC-PRINTING FRAMES. WILLIAM L. CHAMPLIN, Whitestown, N. Y. Filed June 3, 1882. (No model.)

Claim.—1. The combination, with the photographic-printing frame A, of the slide C, the transversely-sliding frame D, the hinged end piece or door, K, and the sliding plate G, substantially as herein shown and described, and for the purpose set forth.

2. The combination, with the photographic-printing frame A, of the slide C, the transversely-sliding frame D, the sliding plate G, and the spring M, substantially as herein shown and described, and for the purpose set forth.



262,002. EMBROIDERING ATTACHMENT. FRANKLIN H. CHILTON, New York, N. Y., assignor to the Empress Embroiderer Company, same place. Filed Jan. 30, 1882. (No model.)



Claim.—1. In an embroidering attachment, the presser-foot, oscillating thread-carrier, and the thread-detainer, the carrier and detainer being connected by mechanism to have a simultaneous movement communicated from a rack and pinion, substantially as set forth.

2. In an embroidering attachment, the open presser-foot, the movable thread-carrier I, having at its end the elongated point m and the shorter point, n, the thread-detainer having the lip n' and extended portion N, the whole adapted to operate substantially in the manner hereinbefore described.

3. The presser-foot, oscillating thread-carrier, and pivoted thread-detainer having a movement simultaneous with that of the carrier and being cut to receive the actuating-cam, substantially as set forth.

4. In an embroidering attachment, the oscillating thread-carrier, thread-detainer, and pinion and rack operated by the vertical post, the horizontal arm, and actuating-lever, the carrier and detainer being connected by mechanism to have a simultaneous movement communicated from the rack and pinion, substantially as set forth.

5. The actuating-lever having jaws to receive the end of the horizontal arm connected with the vertical post, the rack and pinion, thread-carrier, and the thread-detainer, the carrier and detainer being connected by mechanism to have a simultaneous movement communicated from the rack and pinion, substantially as set forth.

6. The actuating-lever having jaws to receive the end of the horizontal arm connected with the vertical post, the rack and pinion, thread-carrier, and thread-detainer, substantially as set forth.

7. The thread-carrier I, consisting of the shank and the hook-shaped extension J, having at its end the elongated point m and immediately above it the shorter point, n, the carrier being adapted to move in the arc of a circle, the elongated point m, to sustain the embroidering-thread, and the shorter point, n, to carry it against a thread-detainer, substantially as set forth.

262,003. EMBROIDERING ATTACHMENT FOR SEWING-MACHINES. FRANKLIN H. CHILTON, New York, N. Y., assignor to the Empress Embroiderer Company, same place. Filed Jan. 30, 1882. (No model.)

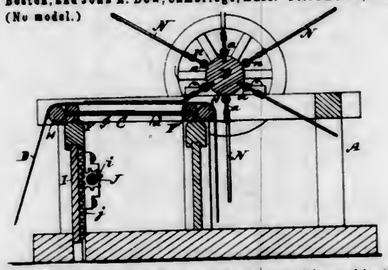
Brief.—Improvement consists in operating the spiral shaft directly from the lever, which is provided with a rectangular slot or loop to inclose the shaft.



Claim.—1. The thread-detainer and thread-carrier adapted to be operated from the spiral shaft, in combination with the lever by which motion is imparted to the shaft, substantially as set forth.

2. The lever E, having the loop d and extension m, in combination with the shaft M and with a thread-carrier and thread-detainer, substantially as set forth.

262,004. CARPET-BEATING MACHINE. TITUS S. CHURCH, Boston, and JOHN E. DOW, Cambridge, Mass. Filed Dec. 3, 1881. (No model.)

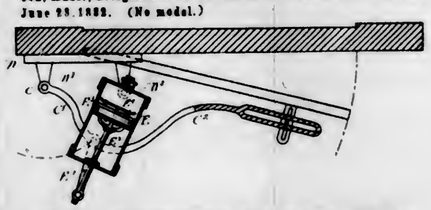


Claim.—1. The shaft J, having the pinions i i, in combination with the board I, provided with the racks j, and supporting the table or bed C, substantially as described.

2. The bed or table C, formed of the perforated parallel pieces F F, end pieces, g g, rods d, and the rollers H H, substantially as and for the purposes set forth.

3. The bed or table C, hinged in the frame and resting upon the vertically-moving board I, in combination with the cylinder B, provided with beaters, as and for the purposes set forth.

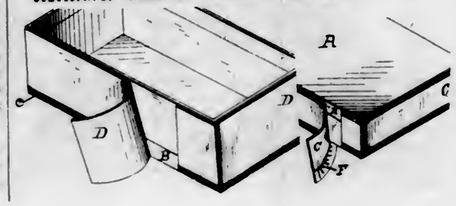
262,005. DOOR-SPRING AND PNEUMATIC DOOR-CHECK. WALTER C. CLARK, Auburndale, and EDWARD W. GILLON, Boston, Mass., assignors to P. H. Drake, New York, N. Y. Filed June 28, 1882. (No model.)



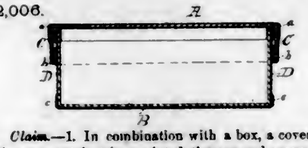
Claim.—1. The combination of the forked lever C' C' C', provided with the spring S, axle D', and base D, with the bail-link E', piston-rod E', piston E', and cylinder E, all operating together with the post A' and bracket A', substantially as described, and for the purpose set forth.

2. The combination of the cylinder E, piston E', and valve E' with the valve V, all operating together, substantially as described, and for the purpose set forth.

262,006. ORNAMENTATION OF PAPER BOXES. I. CLOTH, Cohoes, N. Y. Filed June 14, 1882. (No model.)



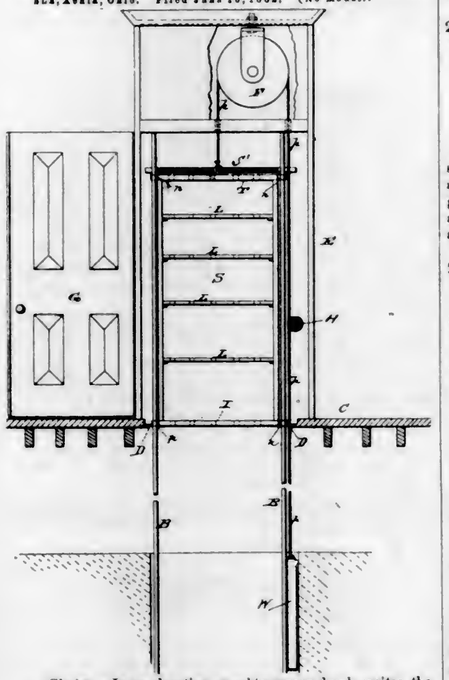
262,006.



Claim.—1. In combination with a box, a covering provided with ornamental stripes printed thereon and arranged upon said covering in a manner adapting them to appear at and cover the edges or corners of said box, substantially as described.

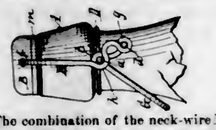
2. In a covering for a paper or pasteboard box, the combination, with the top covering, A, and bottom covering, B, of the bands or side coverings, D and C, for said box and its top or cover, provided with ornamental stripes printed thereon, substantially as set forth.

262,007. SUBTERRANEAN DUMB-WAITER. JOHN L. CONNALLE, Xenia, Ohio. Filed June 10, 1882. (No model.)



Claim.—In an elevating or subterranean dumb-waiter, the incasement E, having the operating-roller H and pulley F, and the lateral guide-strips B, extending down into the well or sub-cellar, the ventilated safe S, having the lateral bearings *n*, and the rope or chain *p*, extending from said safe over said pulley, around said roller, and downward, carrying the counterbalancing-weight W, substantially as specified.

262,008. BOTTLE-STOPPER. JETHRO B. CRAWFORD, Rochester, N. Y. Filed June 8, 1882. (No model.)



Claim.—The combination of the neck-wire D, provided with pivots *a a*, the lever G, pivoted to the neck-wire, and provided with projecting ends having pins *d d*, and the bail E, attached to the stopper-cap, pivoted at its lower ends to the pins *d d*, and having bends *h h*, forming hooks, which catch under the pivots of the neck wire when the fastening is closed, as herein shown and described

262,009. BRACKET FOR INKSTANDS. ADDER CUTLER, Buffalo, N. Y. Filed May 11, 1882. (No model.)



Claim.—1. A bracket carrying an inkstand at its outer end, adjustably pivoted to a case of pigeon-holes upon a desk or table, and a protecting cover or pad, likewise secured to the case of pigeon-holes, combined and operating substantially as shown and described.

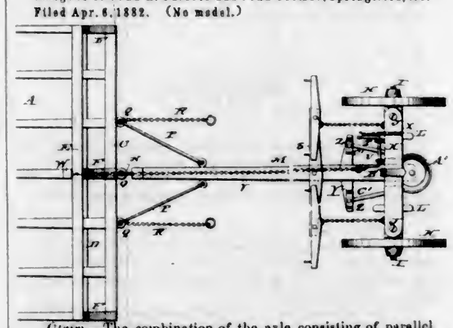
2. The combination, with the bracket A, having the cylindrical socket *a'* and the ring or seat *e*, for holding the inkstand, the depending screw-threaded rod *b*, and the adjusting thumb-nut *d*, of the protecting pad or cover *g*, loosely pivoted to the spring-arm g^3, substantially as shown and described, and for the purpose stated.

262,010. TIRE-TIGHTENER. JESSE B. CYPERT, Waynesborough, Tenn. Filed June 2, 1882. (No model.)



Claim.—The tire-tightener herein shown and described, consisting of the staff or body A, having screw-threaded projection A' and bifurcated bulging legs *a a*, provided with the shoes *b b*, and guide-collar E, in combination with the screw B, having nut C, and provided with the fixed head D, having the lip *d*, substantially as and for the purpose herein shown and described.

262,011. HORSE HAY-RAKE. JOSEPH DAIN, Jr., Meadville, assignor to John H. Onstott and John Coombs, Springfield, Mo. Filed Apr. 6, 1882. (No model.)



Claim.—The combination of the axle consisting of parallel beams K K', the stub-axles I, pivoted between said beams and having wheels H, the cross-pieces L, forming supports and guides for said stub-axles, the tongue M, pivoted cross-bar Y, having swiveled foot-rests Z, pivoted rods C', connecting the ends of the cross-bar with the inner ends of the stub-axles, and the rake A, connected to the front end of the tongue, substantially as set forth.

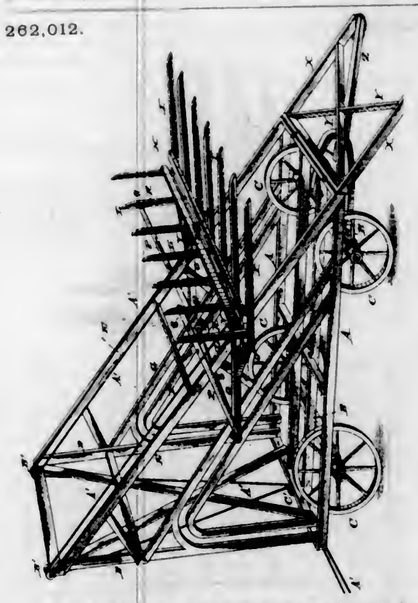
262,012. HAY-STACKER. JOSEPH DAIN, Jr., Meadville, assignor to John H. Onstott and John Coombs, Springfield, Mo. Filed Apr. 7, 1882. (No model.)

Claim.—1. In a hay-stacker, the herein-described frame having two divergent tracks, the upper end of the lower of which is curved downwardly to the horizontal or base frame, and guide-beams equidistant from the lower track, in combination with a carrier having two sets of wheels or rollers, traveling the one upon the upper and the other upon the lower track, as set forth.

2. In a hay-stacker, the combination, with the frame having tracks, substantially as described, of the carrier consisting of two toothed frames hinged together and adjustable in relation to each other by the braces P, pivoted upon the rod S, and bolts Q, adjustable in any one of a series of perforations, R, in the teeth L of the upper frame, and equipped with rollers adapted to travel upon the tracks of the frame, as set forth.

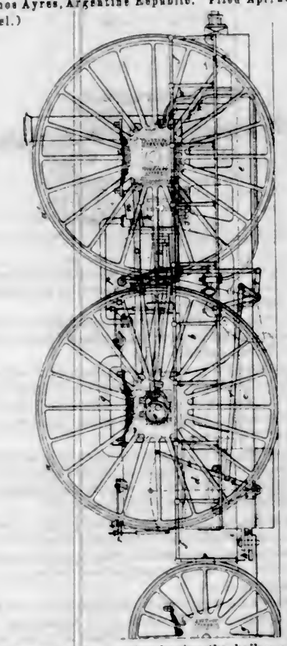
3. The combination of the frame having inclined tracks, the carrier having flanged rollers V, provided with annular grooves W, and the draft-ropes secured at the upper corners of the track and reeved over said grooved wheels or rollers, as set forth.

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4. The combination of the frame A, having axles and wheels B C, tongue Z, and inclined track E, with the extension hinged to the lower end of said inclined track, and consisting of sides X, connected by diagonal braces Y, as set forth.

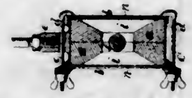
262,013. LOCOMOTIVE. LEON DEBARNOT and JULES JACQUOT, Buenos Ayres, Argentine Republic. Filed Apr. 29, 1882. (No model.)



Claim.—In a locomotive having the boiler and the body of the tender hung below the wheel-axles, the pivot-joint connecting the engine and tender, consisting of the two pairs of rigid plates *h*, which form the stoker's floor or platform, meshing together in horizontal planes and held together by the vertical pin *i*, as shown and described.

262,014. WITHDRAWN.

262,015. ELECTRIC-ARC LIGHT. CHARLES F. DE LA ROCHE, Paris, France. Filed Jan. 7, 1882. (No model.) Patented in Belgium Dec. 12, 1881, No. 56,465, and Feb. 6, 1882, No. 58,982; in France Dec. 24, 1881, No. 146,541, and in Italy Dec. 31, 1881.



Claim.—1. The combination, with the carbons or electrodes in an electric lamp, of a chamber composed of refractory material, in which the carbons or electrodes may move freely and without resistance from the chamber toward each other, and within which the voltaic arc is produced, said chamber being provided with openings in opposite sides, through which light is emitted, substantially as herein described.

2. The combination, with the refractory chamber *f*, of the plates *n n*, substantially as and for the purpose herein described.

262,016. SPRING-VEHICLE. GEORGE DELKER, Henderson, Ky. Filed Dec. 7, 1881. (No model.)



Claim.—1. A body of phaeton shape, or elevated at back, supported from the centers of side springs, E E, through the medium of side bolsters, G G, to which the flat base A of the body is secured, substantially as herein described.

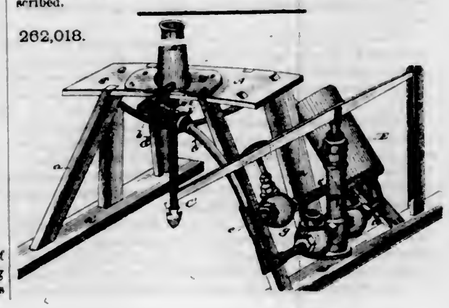
2. The combination of a body, H, having a flat base, *h*, and an elevated back, with side bolsters, G G, rear supporting-braces, J J, side springs, E E, and connecting bolts or clips I I, substantially as and for the purposes set forth.

262,017. COLLAR-FASTENER. CLINTON DERBY, Wye Mills, Md. Filed Dec. 23, 1881. (No model.)

Claim.—1. The combination of the spring-rack A, having the re-bent or re-turned shank A', the plate B, having the re-bent portion or plate B', and an eye and the loop C, substantially as set forth.

2. The combination, with a horse-collar, of the spring-rack A, having the re-bent or re-turned shank A' inserted through a slit cut into and passed under the leather and out through a second slit therein, and finally clinched over the top edge of one side of the collar, the plate B, having the re-bent portion B', likewise inserted, passed under the leather, and clinched over the top edge of the other side of the collar, and the loop C, substantially as described.

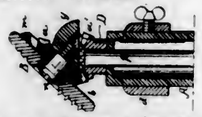
262,018.



262,018. STUMP-EXTRACTOR. JOHN DESMOND, Jonesville, Mich. Filed Mar. 6, 1882. (No model.)

Claim.—In a stump-extractor, the combination of the pump D, tank E, and pipes *d* and *e'*, having cocks and valves, with cylinder B, having a piston and piston-rod, C', substantially as shown and for the purpose described.

262,019. PEG-FLOAT. EMANUEL DICKINSON, Philadelphia, Pa., assignor to Wm. H. Horn and John J. Horn, same place. Filed June 13, 1882. (No model.)

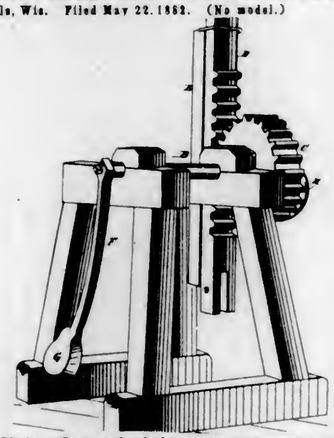


Claim.—1. The combination, in a peg-float, of the rotary cutter B, having an annular bearing-surface, *b*, with a supporting-frame, D, having a segment or ring, *m*, adapted to said bearing-surface *b* of the cutter, as set forth.

2. The combination, in a peg-float, of the standard A, the rotary cutter B, having a bevel-wheel, *a*, and annular bearing-surface *b*, and the frame D, having a central bearing, *w*, and segment or ring *m*, as set forth.

3. The combination of the standard A and its shaft *p*, having bevel-wheel *a'*, with the rotary cutter B and the supporting-frame D, having a ring, *d*, adapted to turn on the upper end of the standard A, and having a set-screw, *x*, whereby it may be secured thereto after adjustment, as set forth.

262,020. MECHANICAL MOVEMENT. ANTON DILGER, Rockville, Wis. Filed May 22, 1882. (No model.)



Claim.—In a mechanical movement, the combination, with the shaft B, having pinion C, and pendulum F, secured thereon, of the rack D, engaging the pinion C, as shown and described.

262,021. ALE AND BEER FAUCET. JOSEPH H. DORGAN, Plattsburg, N. Y. Filed Jan. 7, 1882. (No model.)

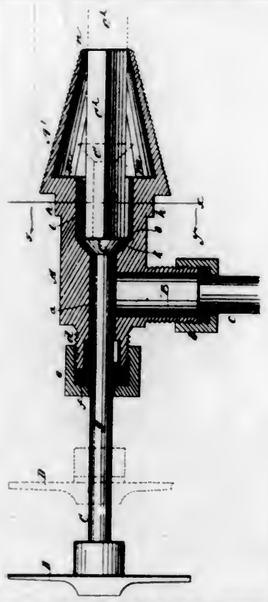
Brief.—The object of the invention is to so interrupt and agitate the liquid in its passage through the faucet as to produce foam on the liquid.

Claim.—1. In a faucet, the combination, with the valve-rod C, provided with the valve C' and the cylindrical portion *g*, of the body A, provided with the different-sized apertures or chambers *a l*, the valve-seat *k*, and the hollow cone A', provided with the shoulder *m*, substantially as and for the purpose set forth.

2. In a faucet, the combination, with the body A, provided with the different-sized apertures *a l*, the valve-seat *k*, and the cone A', provided with the shoulder *m*, of the valve-rod C, provided with the valve C', the cylindrical portion *g*, and the square extension C³, of about the size of the outer end of the cone, substantially as and for the purpose set forth.

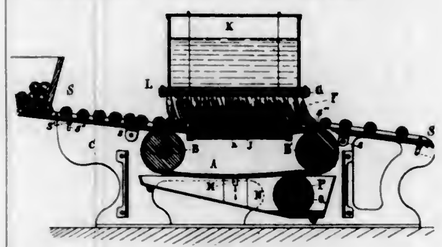
3. The body of the faucet, having an attached and enlarged hollow cone at its forward or inner end, constructed to form a shoulder, *m*, outside of and around the valve-chamber of the faucet, in combination with the valve C', the valve-seat *k*, forming a shoulder, as described, and the extension C³ of the rod C, forming

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a shoulder or shoulders on the back of the valve, whereby the liquid passing through the faucet is interrupted and agitated to produce froth or foam, as herein set forth.

262,022. CIGAR-COLORING MACHINE. NAPOLEON DU BAUL, Cincinnati, Ohio. Filed Mar. 16, 1882. (No model.)



Claim.—1. In a cigar-coloring machine, the combination of a rolling and color-imparting member, A, with a suitable stationary brush, F, substantially as set forth.

2. The combination of endless bibulous belt A, having the flat surface *a*, and stationary brush F, substantially as and for the purpose described and set forth.

3. The combination, in a machine to color cigars, of a rolling and color-imparting member, A, and reservoir K, with feeding-pipe M, cock O, trough N, distributing-roller or wallower P, and the stationary brush F, substantially as and for the purpose described and set forth.

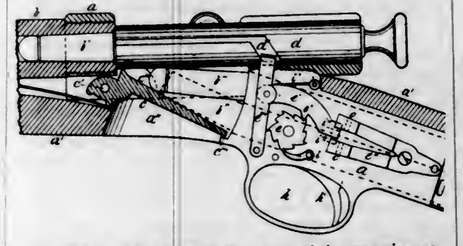
4. In a machine to color cigars, the automatic feeding device consisting of the reservoir K, pipe M, cock O, trough N, and distributing-rollers P, the whole being combined and adapted to operate substantially as and for the purposes set forth.

5. In a machine to color cigars, the combination of bibulous endless belt A, stationary brush F, and the delivering-chute S', having its receiving end projecting rearward beyond the zenith or highest point of the delivery-drum, substantially as described, and for the purpose set forth.

6. In a machine to color cigars, the combination, with a revolving color-imparting member, A B B', of a stationary brush, F, so attached by screws H as to be capacitated for being set parallel and at any fixed distance or obliquity and of reversal end for end, substantially as and for the purpose described and set forth.

7. In a machine to color cigars, the combination of an adjustable brush, F, with a revolving color-imparting apron, A D E, and stationary concave support J therefor, substantially as and for the purpose described and set forth.

262,023. MAGAZINE FIRE-ARM. WILLIAM H. ELLIOT, New York, N. Y. Filed Mar. 22, 1882. (No model.)



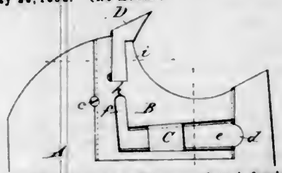
Claim.—1. In a magazine fire-arm, a tubular magazine provided with a cartridge-propelling spring and follower, and with obstructions or ribs projecting from the inner surface of the tube, said ribs being arranged upon opposite sides of the magazine-tube and in such relation to each other that the ribs on one side shall be opposite to the spaces between the ribs on the other side, whereby the cartridges are prevented from moving with dangerous rapidity, substantially as shown and described.

2. In a magazine fire-arm having a bolt for closing the chamber which moves in a line with the barrel, and is provided with grooves *d'*, a double tubular magazine located in the butt-stock, and in combination therewith the following feeding devices: a ratchet, *e*, pivoted to the side of the receiver and provided with notches, each alternate notch being high and each other alternate notch being low, and a revolving pawl actuated through a suitable connection by the bolt, and provided with point *e'* to work in the ratchet and point *e''* to raise the feed-pawls, whereby the cartridges are fed from the tubes alternately, substantially as shown and described.

3. In a magazine fire-arm, a tubular magazine provided with obstructions or ribs for preventing a too rapid movement of the cartridges, and with the usual cartridge-propelling spring, and in combination therewith a follower, *n*, provided with flanges *n'*, whereby it is forced to make a lateral or vibratory movement while moving toward the mouth of the magazine, substantially as shown and described.

4. In a magazine fire-arm, a tubular magazine provided with ribs arranged at regular intervals and in rows upon each side of the tubes, but having one of the ribs in the mouth of the magazine arranged at an irregular distance from the others, and in combination therewith a follower provided with two or more flanges arranged at the same distance apart that the ribs are placed, whereby the follower is stopped in the mouth of the magazine, substantially as shown and described.

262,024. DETACHABLE SAW-TOOTH. CHARLES M. EMERSON, Indianapolis, Ind., assignor to Elias C. Atkins, same place. Filed May 20, 1882. (No model.)



Claim.—The combination of the saw-plate A, having recesses *a*, the locking-plate B, having recesses *e* and *g*, and provided with spring-projection *i*, the tooth D, inserted in the recess *g*, and the wedge or key C, adapted to slide in the recess *e*, whereby the tooth is secured, substantially as described.

262,025. LUBRICATOR. BODO EHRLANDT, Philadelphia, Pa. Filed June 7, 1882. (No model.)

Claim.—1. In a lubricator, a rotary pumping device provided with vanes *a* and openings *b*, operated by the journal and adapted to raise the oil or fluid, substantially as and for the purpose set forth.

2. The disk-pump, in combination with a fixed deflector, substantially as and for the purpose set forth.

3. A bearing having horizontal passages *e f*, the one above

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the other, ducts *g*, which connect them, and ducts *h*, which allow the lubricating-liquid to flow down from them upon the journal, in combination with a box having passage *c*, which communicates with said passages *c* and *f*, and the rotary pumping-disk, operating as set forth.

4. A bearing having transverse channel *d*, a longitudinal channel, *e*, in its top, another longitudinal channel, *f*, in its middle portion, a series of vertical ducts, *g*, connecting said channels *e f*, and a series of vertical channels, *h*, extending from said channel *f* to the bottom or inner face of the bearing.

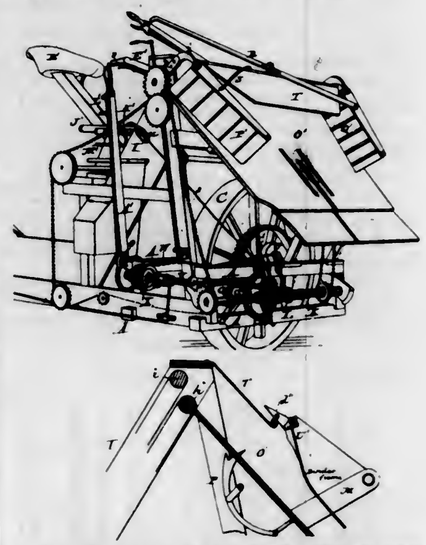
5. The overflow-passages *r*, in combination with the ledges H and shelf J, substantially as and for the purpose set forth.

6. The shelf J, intermediate of the journal and bottom of the box, in combination with the wall *h*, having an outlet or opening, *p*, and the space *m'*, substantially as and for the purpose set forth.

7. The box B, provided with the lower space, *m*, and opening *p*, in combination with the rotary disk, substantially as set forth.

8. The journal and box, in combination with the conical washers M P and packing N, substantially as and for the purpose set forth.

262,026. GRAIN-HARVESTING MACHINE. GEORGE RUTHELY, Whitewater, Wis. Filed Apr. 8, 1882. (No model.)



Claim.—1. In a combined harvester and binder, the combination of a grain-receiving table, O, and two adjustable endless belts, P' and Q', located upon opposite ends of said table to act upon the ends of the grain, substantially as described and shown, whereby a longitudinal adjustment of the grain may be effected and the grain prevented from assuming an oblique position across the table.

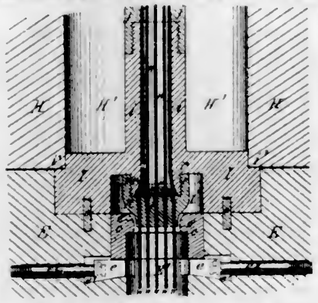
2. In a combined harvester and binder, the combination, with the binding-table, of two endless swinging belts located at opposite ends of said table, and means, substantially as described, whereby the lower ends of said belts may be adjusted transversely of the table at will, independently of each other, whereby the grain may be adjusted longitudinally and also adjusted transversely at either end independently of the other.

3. The bracket for sustaining the upper end of the grain-adjuster, constructed, as shown, with bearings for the journals of the adjuster-roll *a'*, and with the removable upper end, as described and shown, to permit the ready removal of said adjuster-roll.

4. In a grain harvesting and binding machine, the combination, with the grain-elevator and the binding-machine, of the intermediate deck or apron secured at its upper end to the elevator-frame and at its lower end to the binder-frame, substantially as described and shown, whereby the deck is held down in position against the pressure of the inflowing grain.

5. In combination with the harvester-frame and the adjustable binder-frame, the intermediate deck or apron secured rigidly to the elevator-frame and connected with the binder-frame by a sliding connection, substantially as described and shown.

262,027. MACHINE FOR MAKING ELECTRIC CABLES. JOHN FARRELL, Pittsburg, Pa. Filed Dec. 22, 1881. (No model.)



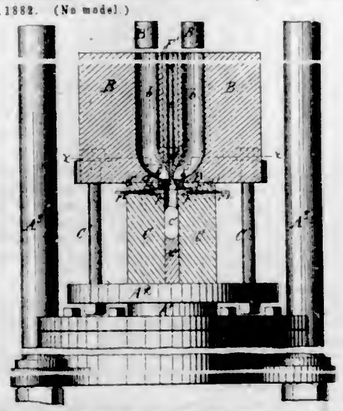
Claim.—1. The combination of lead-cylinder H, tubular support E, mandrel R, die c, sliding wedges e, and screw-rods e^2, substantially as described, whereby the die is made adjustable toward and from the mandrel.

2. In combination with the platen D^2, a tubular support, E, and lead-cylinder H, both being bound to the platen by bolts, as described, die c, secured on the support, mandrel-head I, secured above the die, mandrel R, secured to the head between the head and die, and guides o, substantially as set forth, whereby provision is made for ready access to the mandrel between the die and head.

3. The mandrel R, having a series of two or more perforations, r^2, side by side through its interior and intermediate grooves, r', on its exterior surface, substantially as described, with reference to directing a flow of lead into the spaces between wires and the formation of a solid body of lead between and around the wires below the point of the mandrel.

4. The flattened tubular mandrel R, in combination with a mandrel-head, I, having passages i' i' through the same on sides corresponding to the flattened sides of the mandrel, substantially as set forth.

262,028. MANUFACTURE OF LEAD-COVERED ELECTRIC CONDUCTORS. JOHN FARRELL, Pittsburg, Pa. Filed Jan. 26, 1882. (No model.)



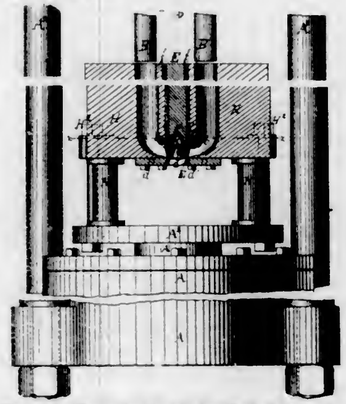
Claim.—1. A wire-holder for a lead-press, provided with an interior opening for passage of two or more wires, with open spaces between wires, and grooves or depressions in the side walls of such opening for directing a flow of lead into the spaces between wires, substantially as set forth.

2. In combination with the die of a lead-press, a wire-holder having an interior opening for passage of two or more wires in common through the same to the die, with open spaces between wires, and with grooves in the side walls of such opening for directing a flow of lead into the spaces between wires, substantially as set forth.

3. A wire-holder for a lead-press, having a common interior passage for two or more wires, with open space between wires, and grooves or depressions formed in the outer surface of the walls of such passage, arranged opposite each other in pairs corresponding in position with the spaces between wires, substantially as and for the purposes set forth.

4. The combination of lead-cylinder B, tubular support C, die D, resting on the support with its upper face raised above the lower surface of the cylinder, as described, and a wire-holder secured directly to the body of the cylinder above the die for passing wires to the die, substantially as set forth.

262,029. MANUFACTURE OF LEAD-COVERED ELECTRIC CONDUCTORS. JOHN FARRELL, Pittsburg, Pa. Filed Jan. 20, 1882. (No model.)



Claim.—1. The method herein described of making lead-covered electric cables, consisting in arranging the conducting-wires at intervals in circular or equivalent order, directing two separate lead-supplies simultaneously into a common body upon the inner and outer sides of the line of wires, and subjecting both lead-supplies to pressure at the point of junction, whereby an adhesive metallic union is formed between the two around the separate wires, substantially as set forth.

2. In combination with one or more lead-cylinders and the die of a lead-press, a wire-holder for conducting two or more wires to the die, a lead-supply passage from a lead-cylinder to the die outside the holder surrounding the wires, and a lead-supply passage from a lead-cylinder to the die within the wires through the interior of the holder, substantially as set forth.

3. In combination with the cylinder and die of a lead-press, a wire-holder for passing wires through the cylinder to the die, one or more lead-chambers within the cylinder leading to the die outside of and surrounding the wires, a lead-chamber within the wire-passage in the holder leading to the die, and lead-passages communicating between such exterior and interior chambers, substantially as set forth.

4. In a lead-press for making pipe-like electric conductors, the combination of a die, a wire-holder for passing wires to the die, a lead-supply chamber outside the holder leading to the die, a lead-supply chamber within the wire-passage in the holder leading to the die, and a core secured in or near the mouth of the latter chamber, substantially as set forth.

5. A mandrel for a lead-press, provided with an annular wire-passage, e, and a lead-supply chamber within such passage, in combination with a core secured in the mouth of such chamber, substantially as set forth.

6. In a press for covering electric-circuit wires with lead, the combination of a die for shaping the exterior of the lead covering, a wire-holder, as described, for passing wires separately to the die, a lead-chamber leading to the die through the interior of the holder within the wire-passage, and a core for directing the flow of lead from such chamber outward toward the walls of the die, substantially as set forth.

7. A lead-cylinder, H, having two or more lead-chambers therein converging to a common discharge, in combination with central wire-holder, E, provided with wire-passage e, and having within such wire-passage a lead-chamber, C, with lead-passages a b leading therefrom to each of the surrounding lead-chambers, substantially as set forth.

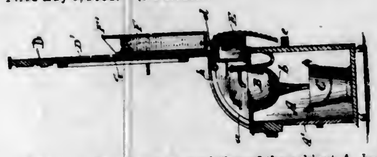
8. In combination with the die of a lead-press, a wire-holder having separate wire-passages leading to the die, with grooves or depressions in its inner and outer walls at the point between such passages, a lead-supply chamber leading to the die outside of and surrounding the holder, a lead-supply chamber leading to the die through the interior of the holder, and a core for deflecting outward the flow of lead from the latter chamber, substantially as set forth.

9. A lead-press cylinder having two or more lead-chambers therein converging to a common discharge, with a bottom wall, n, integral with the cylinder, projecting under such chambers, in combination with plungers for forcing lead from the chambers, a die, D, secured to the outer face of wall n, through which the lead is forced, a wire-holder secured to the cylinder between the lead-chambers, a lead-supply chamber, C, within the wire-holder, and a core at the mouth of the latter chamber for shaping the interior of the lead covering of the wires, substantially as set forth.

10. In combination with a lead-cylinder and plunger, such cylinder having a lead-discharge in the same direction as the plunger-stroke, a die secured to the cylinder in the line of such discharge, and a wire-holder secured directly to the body of the cylinder above the die, substantially as set forth.

11. A mandrel, E, for a lead-press, having a central lead-supply chamber, C, therein, a passage, e, for two or more conducting-wires, surrounding the central chamber, and lateral lead-passages a, leading from the exterior through the wire-passage to the central chamber, substantially as set forth.

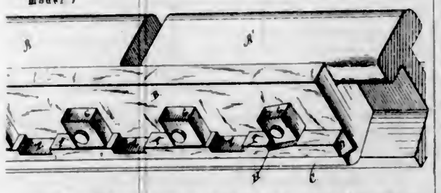
262,030. WASH-STAND. RALPH D. FARRELL, Genesee, Ill. Filed May 8, 1882. (No model.)



Claim.—1. In a lavatory consisting of the cabinet A, having basin B and waste-water receptacle C, and provided with the back D' D', having hinged mirror G, the water-tank F, secured upon the back piece, D', back of the hinged mirror, the said tank being of greater width than the mirror, and having a raised top, F', extending up above its front part, substantially as and for the purpose shown and set forth.

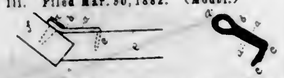
2. As an article of manufacture, the improved wash-stand or lavatory herein shown and described, the same consisting of the cabinet A, containing the bowl B and a suitable waste-water receptacle, upwardly-extended back piece, D, slotted at d, sliding slat-cover E, water-tank F, affixed to the back of the extended back piece, D, and having a raised back, F', suitably-arranged pipes and faucets for conveying the water from the tank to the bowl, and hinged mirror-frame G, all constructed, arranged, and combined substantially in the manner and for the purpose herein shown and specified.

262,031. COMBINED FISH-PLATE AND NUT-LOCK. DANIEL FAULKNER, Paris Crossing, Ind. Filed June 2, 1882. (No model.)



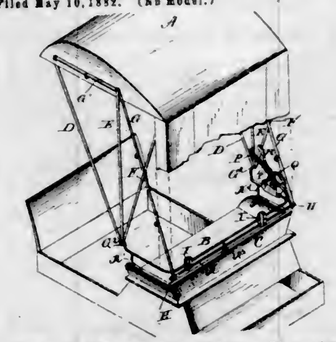
Claim.—The combination, with the rails and the fish-plate B', of the fish-plate B, having the flange C, the key D, having the recesses E and H, and the nuts, one of which is adapted to engage with the recess H, substantially as shown and described.

262,032. JOINT-FASTENER. ROBERT W. FERGUSON, Decatur, Ill. Filed Mar. 30, 1882. (Model.)



Claim.—The joint-fastener described, formed of a single piece of wire or other metal bent upon itself forming the loop a', closely-pinched sides a a, and points c c, beveled in opposite directions and slightly diverged, substantially as set forth.

262,033. CARRIAGE-TOP. EMANUEL FLECK, La Grange, Ind. Filed May 10, 1882. (No model.)



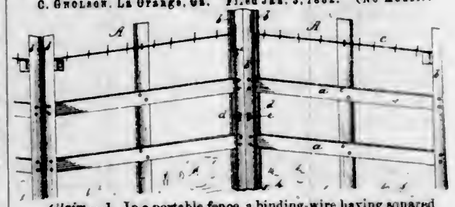
Claim.—1. In a carriage-top, the clamp M, consisting of the parts N and N', and provided with a cross-piece, P^4, and semicircular ring O, in combination with the hand-lever P, having spring P^3, and locking-lever R, provided with eccentric Q, all arranged in the manner and for the purposes specified.

2. The combination of the railing L, clamps I I, consisting of the pieces J J' and the cross-rod K, the two parts of each clamp, when united, having double slots passing through from side to side, and into which the railing L and cross-rod K, respectively, are placed, the two parts of each clamp being secured by bolts i i in the manner and for the purposes specified.

262,034. POWDER FOR POLISHING GLASS. DANIEL FORBES, Meriden, Conn. Filed June 19, 1882. (No specimens.)

Claim.—The herein-described glass-polishing powder, composed of lead, tin, and copper, calcined and ground, substantially as described.

262,035. WIRE BLOCK-BINDING PORTABLE FENCE. WM. C. GHOLSON, La Grange, Ga. Filed Jan. 3, 1882. (No model.)



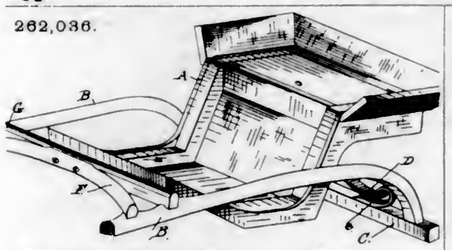
Claim.—1. In a portable fence, a binding-wire having squared blocks secured to the ends thereof, in combination with separable panels having recesses for receiving the wire, which extends longitudinally along the panels and is adapted to be wound upon the blocks, substantially as shown and described.

2. In a portable fence, the combination of two or more panels, A, having upright bars b b' at each end, the bar b being arranged on opposite sides of the panel and projecting slightly beyond the bar b', and the wires c of such a length as to pass through three joints of the panels, and having squared blocks at their ends adapted to wind the wires and hold them by contact with the bars b b', substantially as shown and described.

262,036. ROAD-CART. GEORGE HALE, Aurora, Ill. Filed June 2, 1882. (Model.)

Claim.—1. In a two-wheeled vehicle, in combination with the body and with the thills and with the cross-bar G, the two torsional springs bent in the shape shown and described, and applied and secured at the front of the vehicle to the body and to the

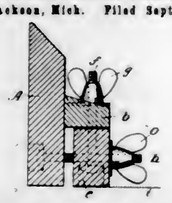
262,036.



thills and to the cross-bar, in the manner and for the purpose set forth.

2. In a two-wheeled vehicle, the two torsional springs bent as shown, and applied to the thills, cross-bar, and body, as set forth, combined with the single-leaved semi-elliptic rear spring, placed transversely of the body and directly connected to the rigid jacks, all as set forth.

262,037. DEVICE FOR TIGHTENING BOLTING-CLOTH. MILFORD HARMON, Jackson, Mich. Filed Sept. 19, 1881. (No model.)

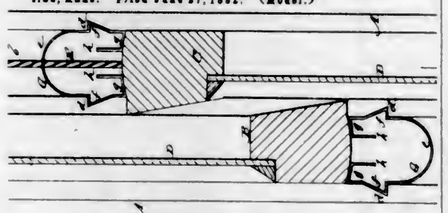


Claim.—1. In a shaker-frame, the combination, with the cloth-bar and a supporting-bolt, of a supporting-rib provided with slots, for the purpose set forth.

2. In a shaker-frame, the combination of the supporting-rib and the cloth-bar having a supporting-bolt passing through it perpendicularly, and an adjusting-bolt passing through it horizontally into the side rail of the shaker-frame, for the purpose set forth.

3. In a shaker-frame, the combination of the side bar, A, rib *b*, bolts and nuts *f g h o*, substantially as set forth.

262,038. SASH-FASTENER. WILLIAM P. HAYHURST, Argentine, Kans. Filed June 27, 1882. (Model.)



Claim.—1. The spring-bowed window-fastener and sash-supporter G, constructed with locking-wings *f f*, substantially as specified.

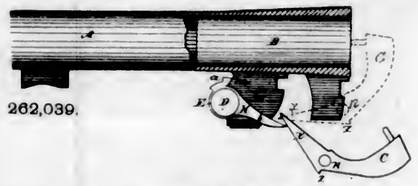
2. The detachable spring-bowed window-fastener and sash-supporter G, constructed with the locking-wings *f f*, in combination with the window-frame A, having notches *d d* for engagement of said wings with said frame, essentially as described.

3. A detachable and reversible spring window-fastener and sash-supporter constructed with a bowed portion, *e*, terminating in outwardly-bent locking-wings *f f*, feet *g g*, and finger-pieces *h h*, substantially as shown and described.

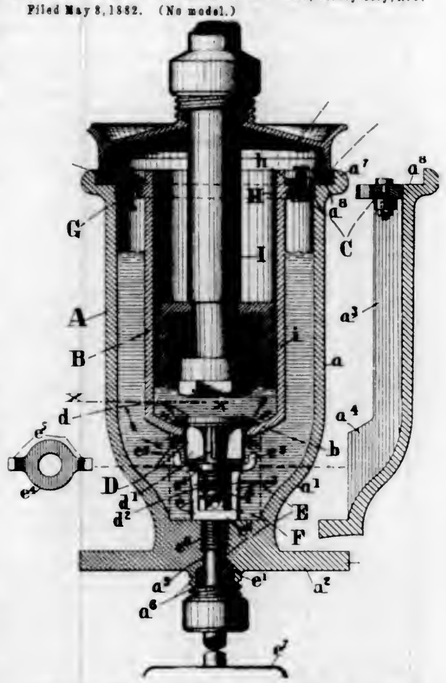
4. The spring-bowed window-fastener and sash-supporter G, having locking-wings *f f* and constructed with a notched crooked portion, *i*, for passage of the sash-weight cord through or within it, essentially as specified.

262,039. BREECH-LOADING FIRE-ARM. GIDEON HAYNES, Jr., Boston, Mass. Filed Mar. 27, 1882. (No model.)

Claim.—In a drop-breech self-cocking gun, the pin D, arms H H, collet E, and sleeves *d d*, in combination with the dog G and levers O O, constructed, combined, and arranged to operate substantially as specified.



262,040. DASH-POT. HENRY S. HAYWARD, Jersey City, N. J. Filed May 8, 1882. (No model.)



Claim.—1. In combination with a receptacle, A, and a vessel, B, having a valve-opening in the lower part of the vessel, as described, a valve, D, and mechanism E, substantially as described, located below the valve, for adjusting the position of the valve to increase or diminish the area of opening for the passage of the fluid, as set forth.

2. In combination with the valve D, having the shank d^3, the adjusting device having the frame portion and shank portion capable of vertical movement, substantially as described.

3. In combination with the valve D, having the shank d^3, the sleeve F and spring *f*, for giving the valve its downward movement.

4. In combination with the valve, the adjusting device E, having the frame portion *e*, with base-piece e^3, vertical arms e^2, cap-piece e^1, with projection e^5, and the shank portion, with screw-threads, as described.

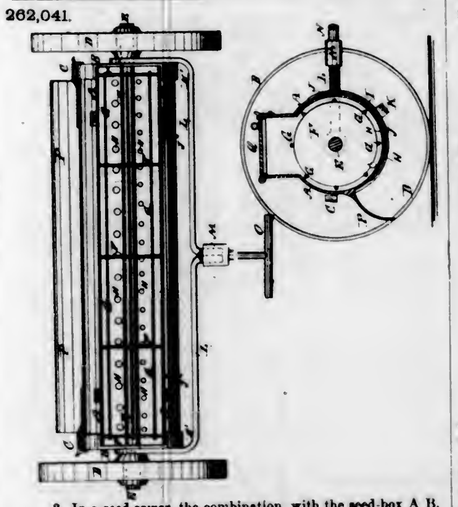
5. In combination with the main valve D, the auxiliary valves G and H, substantially as and for the purpose described.

262,041. SEED-SOWER. JOHN F. HEADY, Ghent, Ky. Filed Apr. 7, 1882. (No model.)

Claim.—1. In a seed-sower, a seed-box consisting of a shell having perforations in its bottom and flanged ends detachably secured together by springs on the shell engaging with the ends, substantially as herein shown and described.

2. In a seed-sower, the combination, with the seed-box consisting of the shell A, provided with two or more rows of holes of unequal size in its bottom, and the ends B, of the valve-plate I, the bands J, and the springs K, secured to the shell, and their free ends resting on the ends, substantially as and for the purpose set forth.

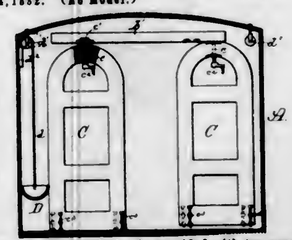
262,041.



3. In a seed-sower, the combination, with the seed-box A B, of the curved guard-plate P, rigidly secured to the forward side of the seed-box and projecting down below the bottom of the said seed-box, substantially as and for the purpose set forth.

4. In a seed-sower, the seed-box A B, provided with discharge-apertures H in its bottom, the hinged cover Q, and the curved guard-plate P, and the valve-plate I, in combination with the wheels D, the axle E, and the stirring-reel F G, formed upon the axle, substantially as and for the purpose set forth.

262,042. STOCK-CAR. JOHN HENRY, Chicago, Ill. Filed June 14, 1882. (No model.)



Claim.—1. The car-body A, provided with tramways B, having L-shaped ends *b* and cross-bars *b'*, supported by hangers attached to the roof of the car, said tramways being adapted to receive the partitions C, substantially as shown and described.

2. The adjustable partitions C, suspended from the tramways B by the screw-bolts *c*, having heads *c'* and cranks c^2, and provided with bolts c^3, adapted to enter suitable holes in the floor of the car and retain the partitions in place, substantially as shown and described.

3. The combination of the partitions C with the tramways B, having L-shaped ends *b*, all arranged to operate substantially as shown and described.

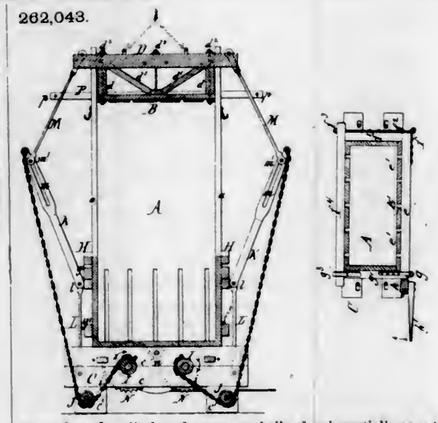
262,043. BALING-PRESS. NATHAN W. HERRING, Millport, Pa., assignor of one-half to Fred B. Keeney, Warsaw, N. Y. Filed Apr. 11, 1882. (No model.)

Claim.—1. In a baling-press, the combination, with drums I, chains or ropes *i*, and the follower B D, of the pivoted levers K, provided with slots *m*, and rods M, attached to the follower with their upper ends, and having at their opposite ends a sliding connection with the slotted portions of the levers K, substantially as set forth.

2. The combination, with the press-box A, provided with timbers *f f'*, of the door E and combined hinges and bolts *f f'*, whereby the door is attached to the timbers *f f'*, substantially as set forth.

3. The combination, with the press-box A, provided with timbers *f'*, of the locking-timbers *g'*, provided with tenons g^2, constructed as described, and straps or bails g^3, substantially as set forth.

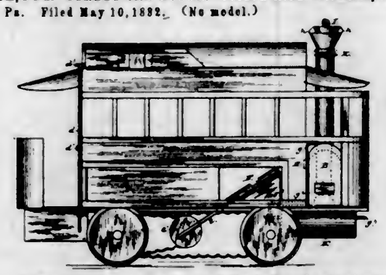
262,043.



4. The combination, with the press-box A, of the supporting-frame C, composed of horizontal timbers *c c*, arranged one above the other, and supported on legs *c'*, drums I, journaled between the contiguous faces of the timbers *c c*, and guide-rollers J, supported in the legs *c'* below the drums I, substantially as set forth.

5. The combination, with the press-box A, follower D, actuating-levers K, and connecting-rods M, of the side pieces, P, secured to the press-box near its upper end, and transverse bolts *p*, connecting the side pieces, P, on the outer sides of the connecting-rods M, substantially as set forth.

262,044. STREET-CAR MOTOR. JOSEPH HILL, Williamsport, Pa. Filed May 10, 1882. (No model.)



Claim.—1. In combination with the boiler of a street-car motor, the water-tank C, water-supply pipes *a a*, condensers E E, and deadener g^3, substantially as and for the purposes set forth.

2. In combination with the boiler of a street-car motor, the water-tank C and supplementary tanks D D, substantially as and for the purposes described.

262,045. FRUIT-EVAPORATOR. FRANK A. HOOKER and FRANK S. BELCHER, Charlotte, Mich. Filed June 17, 1882. (No model.)

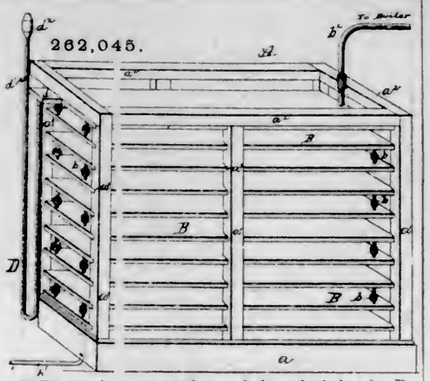
Claim.—1. The combination, with the frame A, its uprights *a'*, and grooves a^2, of the sections B, adapted to enter the said grooves and to be readily removed therefrom, substantially as set forth.

2. The combination, with the frame A, its uprights *a'*, and grooves a^2, of the sections B, connected by the unions *b* at alternate ends, said unions being adapted to be disconnected, whereby the sections, or any one of them, can be easily removed from the frame, as described.

3. The sections B, joined by unions *b* and provided with rivets *g* and collars *g'*, placed around said rivets, whereby sagging and bulging of the sections are prevented, as set forth.

4. The pipe D, secured to the projection *d* of the upper steam-section, descending vertically to a point slightly below the lower section, bent and carried upwardly parallel with the descending portion to a point slightly above the upper section, and having a nozzle, d^2, around its end, into which it projects, and provided further with a vent-pipe, *d'*, and vent-holes d^4, substantially as set forth.

262,045.

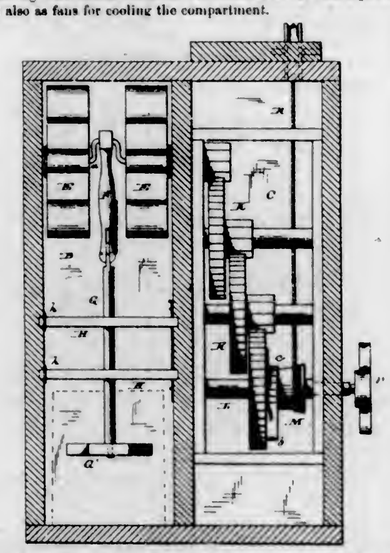


5. The nozzle d^5, arranged around the end of the pipe D, which projects into it, as shown, and provided with a funnel, d^3, substantially as shown and described.

6. The frame A, its uprights and grooves, the steam-sections B, supply-pipe b^2, waste-pipe b', and safety-pipe d^4, all combined to operate substantially as shown and described

262,046. CHURN-POWER. JOHN R. HUTCHINS, Okolona, Miss. Filed June 14, 1882. (No model.)

Brief.—The case is composed of three compartments, a train of wheels, a vertically-reciprocating dasher, guides therefor, and revolving wind-blades which serve as balances for the churn-power and also as fans for cooling the compartment.

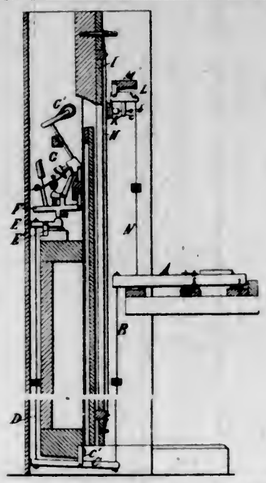


Claim.—The combination of the loaded rotary blades E, the dasher connected by a pitman and a rod, G, to the crank *a*, the guides H H, having hinged sections, the train of wheels in chamber C, the winding-drum, the rope passed over pulleys, and the weight in chamber D, all substantially as described.

262,047. UPRIGHT-PIANO ACTION. JACOB JACOBSEN, New York, N. Y. Filed Jan. 21, 1881. (No model.)

Claim.—1. The combination of the vertical strings, the keys placed horizontally or at right angles to said strings, the key-connected dampers operating upon the front of said strings, and the key-connected vertical actions, arranged in the rear of the sounding-board and causing impact by hammer with the rear side of the vertical strings directly opposite the point of impact of the damper, as set forth, for the purpose of imparting to an upright piano the

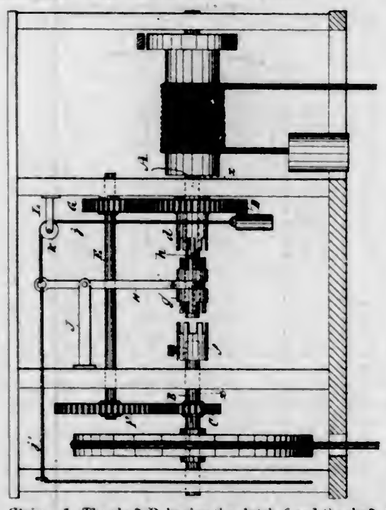
262,047.



fullness of tone and instantaneousness of damping heretofore peculiar to square or horizontal pianos.

2. In combination with the fly-butt F, of the action G and with the key-connected rod D, arranged rearward of said action, as shown, the lever E, fulcrumed at E', and having a curved rise at its free end acting against a curved teat or projection, *a*, at the under side of the fly-butt F, for transmitting the movement of the key A from the said rod D to the action, as set forth.

262,048. HOISTING-MACHINE. VERNON C. JARBOE, Wyandotte, Kans. Filed Dec. 28, 1881. (No model.)

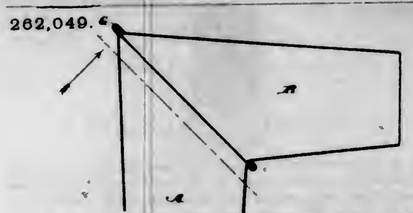


Claim.—1. The shaft B, having the clutch *f*, and the shaft A, having the loose cog-wheel formed with the clutch *d*, in combination with the double clutch *g*, substantially as and for the purposes set forth.

2. The shaft B, provided with the wheel C and clutch *f*, and the shaft A, provided with the loose wheel D and the double sliding clutch *g*, the wheel D being provided with the clutch *d*, in combination with the shaft E, wheels F and G, and means, substantially as described, for shifting the sliding clutch, as and for the purposes set forth.

262,049. ELBOW FOR PIPES. PATRICK KEARNS, Wilmington, Del., assignor to Flinn & Jackson, same place. Filed June 8, 1882. (No model.)

262,049.

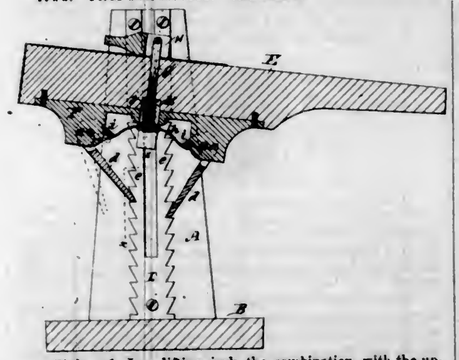


Claim.—1. A stove-pipe elbow composed of two tapering pipe-sections swiveled together at their larger ends, substantially as and for the purpose described.

2. A stove-pipe elbow composed of two tapering pipe-sections swiveled together at their larger ends by bending the edge of one section to form a bead and turning up the edge of the other section to embrace the bead, substantially as and for the purpose described.

3. The blanks herein described for forming a pipe-elbow of two tapering sections swiveled at their larger ends, said blanks being formed with the inward end curves C and two straight edges, D, diverging from the ends of said curves, and one of the blanks being formed with the inward end curve E and the other blank with the outward double-curved edge, E', substantially as shown, and for the purposes described.

262,050. LIFTING-JACK. HENRY C. KEELER, Council Bluffs, Iowa. Filed Dec. 28, 1881. (No model.)



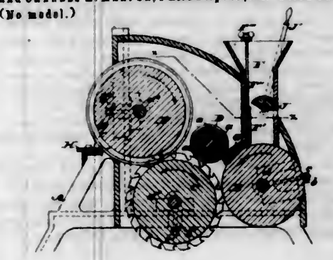
Claim.—1. In a lifting-jack, the combination, with the uprights A, provided with the slotted plates D, having notched projections *c*, of the lever E, provided with the studs, and the adjustable spring-actuated pawls *a*, substantially as and for the purpose set forth.

2. The pawls *d d*, formed with the lips or projections *i i*, in combination with the adjustable spring *h*, substantially as and for the purposes set forth.

3. In combination with the pivoted pawls *d d*, provided with the lips *i i*, the sliding bolt *g*, spring *h*, and the eccentric lever H, substantially as and for the purposes set forth.

4. The lever H, eccentrically pivoted to the upper end of the bolt *g*, in combination with the spring *h*, pivoted pawls *d d*, main lever E, and the stepped plates D D, substantially as and for the purposes described.

262,051. MACHINE FOR CUTTING GRAIN. THOMAS KELLEY and CHARLES H. HARPER, Philadelphia, Pa. Filed Oct. 22, 1881. (No model.)



Claim.—1. The feeding-cylinder B, carrying-cylinder C, and cutting-cylinder E, in combination with the spiral cylinder D, substantially as and for the purpose set forth.

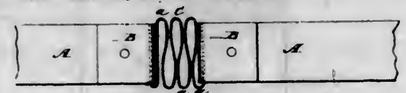
2. The hopper F and cylinder B, in combination with the adjustable gate F' and the valve J, with the operating-handle J', substantially as and for the purpose set forth.

3. The feeding and carrying cylinders and the laying and guarding cylinder, in combination with the guarding-block G, substantially as and for the purpose set forth.

4. The feeding and carrying cylinders, in combination with the cutting-cylinder and clearers, substantially as and for the purpose set forth.

5. The cylinders B C D E and their bearings, in combination with the casing having segmental slots *b*, horizontal slots *b'*, and vertical slots *b''*, the bolts *c c' c''*, and the tightening-nuts, substantially as and for the purpose set forth.

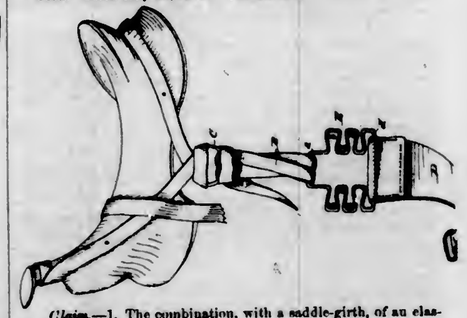
262,052. BARREL-HOOP. QUINCY KING, Colorado Springs, Colo. Filed May 24, 1882. (No model.)



Claim.—1. The special construction shown—that is, a spring formed of loops lying flat against the barrel, thus obviating liability of being caught by some obstruction and broken or pulled off by rough handling of the barrel.

2. The combination with a barrel-hoop, of an elastic or spring section, C, consisting of a rod or bar of spring metal bent in a series of loops, *a*, substantially as described.

262,053. SADDLE-GIRTH. QUINCY KING, Colorado Springs, Colo. Filed May 24, 1882. (No model.)



Claim.—1. The combination, with a saddle-girth, of an elastic or spring section, E, consisting of two series of wire loops, *b*, head *a*, and connecting-bar *d*, substantially as described.

2. The combination of bar *e* and buckle-tongue *f* with an elastic or spring section, E, of a saddle-girth, consisting of two series of loops, *b*, head *a*, and connecting-bar *d*, substantially as described.

262,054. FIRE-DAMP INDICATOR. ISIDOR KITSEE, Cincinnati, Ohio. Filed Dec. 31, 1881. (No model.)



Claim.—1. In a fire-damp indicator, a safety-lamp provided with one or more pieces of metal readily expansible by heat within the perforated inclosure, said inclosure farther provided with the terminal ends of the wires of an electric battery so arranged that when said metal expands an electric circuit is completed, substantially as described.

2. In a fire-damp indicator, the combination of a safety-lamp supplied within the space inclosed by its perforated surrounding with one or more pieces of metal, B, readily expansible by heat, with the current-wires A, said wires being connected to an electric battery, all so arranged as to actuate an alarm-annunciator connected to said battery, as and for the purpose intended, substantially as described.

3. An automatic fire-damp-indicator system consisting of a series of safety-lamps, each of said lamps within perforated surroundings being provided with one or more pieces of metal readily expansible by heat, in combination with the wires of an electric circuit, all so arranged that when one or more of the metal pieces within any one of the series of lamps expands it will close an electric circuit and actuate an alarm-annunciator attached to a terminal battery, whereby notice will be given of the existence and location of fire-damp in dangerous volume, substantially as described.

262,055. FIRE-DAMP INDICATOR. ISIDOR KITSEE, Cincinnati, Ohio. Filed Apr. 20, 1882. (No model.)



Claim.—1. In a fire-damp indicator, a mine safety-lamp provided with substance readily fusible by heat within the perforated inclosure, and further provided with a rotating disk having peripheral teeth, arranged in groups, and with a metallic spur near the said peripheral teeth, said disk and said spur being respectively connected to the circuit-wires of an electric battery so arranged that when said disk is rotated an electric circuit will be opened and closed, substantially as described.

2. In a fire-damp indicator, an electric apparatus having attached sounding alarm mechanism, one wire of the circuit of which is connected to a metallic rotatable disk having peripheral teeth arranged in groups, and the other circuit-wire of which is connected to a metallic spur coincident with said peripheral teeth, said disk being held in tension by a cord anchored or sealed within substance readily fusible by heat, inclosed within the perforated surroundings of a safety mine-lamp, substantially as described.

3. In a fire-damp indicator, the combination of a mine safety-lamp having within the space inclosed by perforated surroundings a piece or pieces of substance readily fusible by heat, said fusible substance connected to a pawl holding a rotatable disk having peripheral teeth arranged in groups, and, further, in combination with a metallic spur near said peripheral teeth, all so arranged that when the fusible substance is ruptured an electric current is broken and closed and an alarm-annunciator will be actuated, as and for the purposes set forth, substantially as described.

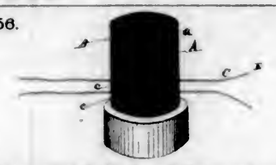
4. In a fire-damp indicator, the combination of the safety-lamp A, supplied with interior substance, H, readily fusible by heat, the rotatable disk D, having peripheral teeth *d*, arranged in groups, provided with detent *d'*, the weight *g'* and its cord *g*, the pawl *f*, and its retaining-cord *h*, with the circuit-wires C C of an electric battery, said battery having attached annunciator, all arranged as described, adapted, when the fusible substance H is melted, to actuate the operative mechanism and open and close an electric circuit, thereby transmitting distinctive signals at a terminal point, as and for the purpose intended, substantially as described.

5. An automatic fire-damp-indicator system consisting of a series of safety mine-lamps, each of said series of lamps within perforated surroundings being provided with substance readily fusible by heat, and having sealed within said fusible substance a cord which holds a pawl within the detent-notch of a rotatable metallic disk having peripheral teeth arranged in groups, in combination with the wires of an electric battery, each of said disks adapted, when rotated, to open and close the electric circuit and actuate one of a code of specific alarms on a terminal annunciator, whereby notice will be automatically given of the existence and exact location of fire-damp in dangerous volume, substantially as described.

262,056. FIRE-DAMP INDICATOR. ISIDOR KITSEE, Cincinnati, Ohio. Filed Apr. 22, 1882. (No model.)

Claim.—1. In a fire-damp indicator and annunciator, a safety-lamp or similar device provided within its perforated inclosure with an ignitible substance connected to a wire or wires of an electric circuit, which substance is so adapted that when it is severed by ignition it will allow contact devices to make or break an electric circuit, substantially as described.

262,056.



2. In an automatic fire-damp indicator and annunciator, the combination of a mine-lamp or analogous device having perforated surroundings, and provided with interior substance ignitible when the fire-damp within said perforated surroundings becomes inflamed, with the wire or wires of an electric circuit, all so arranged that when said ignitible substance is burned or severed at any point the electric circuit will be broken or closed and a signal transmitted to a terminal station, as and for the purpose intended, substantially as described.

3. The within-described system of fire-damp indicators and annunciators, consisting of a series of mine-lamps or analogous devices arranged in routes, having within their perforated inclosures a piece or pieces of substance ignitible when the increase of fire-damp to a given degree enters into combustion, in combination with the wire or wires of an electric circuit, all so arranged that when any one of the devices attached to any lamp on the route is actuated a signal will be given at a terminal station, as and for the purpose indicated, substantially as described.

262,057. FIRE-DAMP ANNUNCIATOR. ISIDOR KITSEE, Cincinnati, Ohio. Filed Dec. 31, 1881. (No model.)



Claim.—1. In a fire-damp indicator, a safety-lamp having within its perforated inclosure a piece or pieces of substance easily fusible by heat, said fusible substance being connected to the wire or wires of an electric battery, and so arranged that when said substance is fused the circuit will be broken, substantially as described.

2. In a fire-damp indicator, an electric apparatus having its circuit-wires connected to a substance easily fusible by heat, within the perforated surroundings of a mine safety-lamp, and so arranged that when said substance is fused it will break the circuit and actuate alarm mechanism connected to said electric apparatus, as and for the purpose set forth, substantially as described.

3. In a fire-damp indicator, a mine-lamp having a perforated inclosure, provided within said perforated inclosure with a piece or pieces of substance easily fusible by heat, said fusible substance being connected to the circuit wire or wires of an electric battery, all so arranged that when said substance is fused it will break the circuit and actuate alarm mechanism operated by said electric battery, substantially as described.

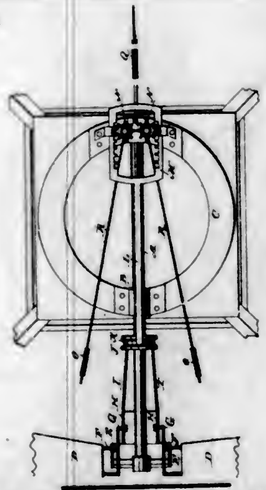
4. In an automatic fire-damp indicator, the combination of the mine-lamp A, having interior substance, C, easily fusible by heat, said fusible substance C being connected to the circuit-wires B B, with an alarm mechanism operated by an electric battery, all so arranged that the circuit is broken by fusing of the substance C, and thereby said alarm mechanism is set in motion, substantially as described.

5. An automatic fire-damp-indicator system consisting of a series of safety-lamps, each of said series of lamps being provided with one or more pieces of substance easily fusible by heat, in combination with an electric circuit, all so arranged that when the fusible substance within any one of said series of lamps is melted the electric circuit will be broken, whereby an alarm-annunciator will be actuated and indicate the existence of fire-damp in dangerous volume, substantially as described.

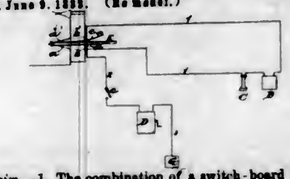
262,058. WINDMILL. CORNELIUS KUNKEL, Oregon, Mo. Filed May 19, 1882. (No model.)

Claim.—In a windmill, the combination, with the hub E, the vanes D, pivoted thereto and provided with the cranks G, the sliding ring H, the rods I, and the hub J, of the forked head K, the rod L, the toothed yoke M, the pinions N, and the equalizing-vanes O, substantially as and for the purpose set forth.

262,058.



262,059. ELECTRICAL SWITCH-BOARD AND SIGNALING APPARATUS. THOMAS W. LANE and FRANK W. HARRINGTON, Boston, assignors to Charles Williams, Jr., Somerville, Mass. Filed June 9, 1882. (No model.)



Claim.—1. The combination of a switch-board having a series of line-circuit strips, each adapted to be separated into two distinct parts at a given point, a circuit comprising two strips, *b b'*, arranged, as described, with relation to the points where the line-circuit strips are separable, a magneto-generator or its equivalent connected with the strip *b*, a switch adapted to cut the generator into and out of the circuit, and a plug, substantially such as herein described, adapted to separate one of the line-circuit strips into two parts and connect the strips *b b'*, respectively, with the separated parts of said line-circuit strip, or to connect one strip and disconnect the other, as described, whereby when said plug is inserted into the line-strip the operator's local circuit can be cut out and a signal can be sent to line, or when two line-strips are connected through the switch-board they may be temporarily separated from each other and a signal may be sent to either independently, as set forth.

2. The improved plug for an electrical switch-board, composed of the outwardly-projecting springs *d e* and a stock or body, *g*, supporting and insulating said springs, and provided with a recess, *i*, adapted to receive one of said springs, substantially as and for the purpose specified.

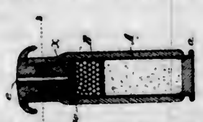
262,060. SAP-SPOUT. HIRAM A. LAWRENCE and ZEPHANIAH S. LAWRENCE, West Shefford, Quebec, Canada; said Zephaniah S. Lawrence assignor to said Hiram A. Lawrence. Filed Oct. 29, 1881. (No model.) Patented in Canada Nov. 2, 1880, No. 11,924.



Claim.—1. A sap-spout consisting of a tube, a flat stem extending through the tube lengthwise, and having the head of the stem exposed or projecting from one end of the tube and its point exposed or projecting from the other end, as and for the purpose set forth.

2. A sap-spout consisting of a tube, a flat stem extending through the tube lengthwise, and having its point exposed or projecting from one end thereof, and a drop-director at the other end of the tube, which extends beyond the plane of the outer side of the tube, as set forth.

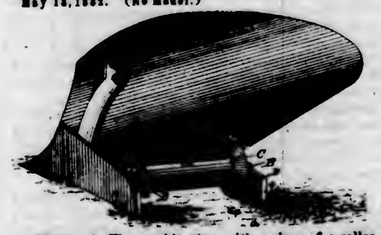
262,061. CARTRIDGE-LOADING IMPLEMENT. ALBERT D. LAWS, Bridgeport, Conn. Filed Apr. 13, 1882. (No model.)



Claim.—1. A device for compressing filled cartridge-cases, consisting of a tube, A, contracted near one end, forming a shoulder, *x*, and an inwardly-projecting cylindrical nipple of uniform smaller diameter than the contracted end, and adjusted to extend to the pivot where the bore begins to enlarge to form the shoulder, substantially as set forth.

2. The combination of the tube A, contracted to form the shoulder *x*, and the rigid cylindrical nipple D, extending to the point where the bore begins to enlarge, and having a central opening, as set forth.

262,062. PLOW. WILLIAM A. LEE, Winfield, Kans. Filed May 18, 1882. (No model.)

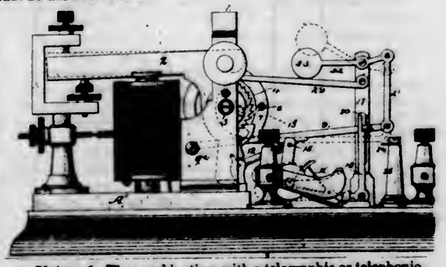


Claim.—1. The combination, with a plow, of a roller placed horizontally in the rear of the mold-board, and provided at one end with a beveled flange, and journaled in plates adapted to be adjustably bolted to the plow, substantially as set forth.

2. The combination, with a plow having a fallow landside or sole D secured opposite the landside of the plow, and the slotted bearing-plates B, adjustably bolted to the inner sides of said landside and fallow-landside, of a roller provided at one end with a beveled flange and journaled in said bearing-plates, substantially as set forth.

262,063. TELEGRAPH AND TELEPHONE SIGNAL. WILLIAM W. LE GRAND, Louisville, Ky. Filed Nov. 14, 1881. (Model.)

Brief.—A telegraph-sounder is provided with an individual-signal attachment, whereby when a called operator is not at his instrument it is left cut out of circuit with a signal displayed and a bell ringing. It so continues until his return, so that he knows that he has been called.



Claim.—1. The combination, with a telegraphic or telephonic receiving-instrument and an electric circuit in which said instrument is arranged to be connected, of a signal arranged to be operated by the movement of said instrument in response to a predetermined number of electrical impulses when connected in said circuit, and a shunt or cut-out mechanism operated by the instrument for cutting itself out of circuit simultaneously with the operation of the signal, substantially as described.

2. The combination, with a telegraphic sounder and an electric circuit in which said sounder is arranged to be connected, of a visual signal and a circuit-breaker arranged to break said circuit, and devices for causing the operation of said signal and circuit-breaker in response to a predetermined number of movements of the sounder, substantially as described.

3. The combination, with a telegraphic receiving-instrument or sounder and a local circuit in which it is connected, of a circuit-breaker or cut-out arranged to disconnect said instrument from the local circuit, and mechanism controlled by said instrument for operating said circuit-breaker in response to a predetermined number of electrical impulses passing over the local circuit, substantially as described.

4. In an electro-telegraphing instrument, the armature-lever 2, formed with the rear downward extension, provided with a diagonal slot, substantially as and for the purpose set forth.

5. The upright standard or arch 1, formed or provided with the metallic rim 7, having an insulated plug, 8, substantially as described.

6. The combination, with the upright standard or arch 1, formed or provided with the metallic rim 7, having the insulated plug 8, of a scape-wheel, 4, carrying a spring-finger, 6, and an electro-magnet and armature, substantially as described.

7. The combination, with an electro-magnet and armature, of the lever 9, connecting-arm 21, signal 23, and operating means, substantially as described.

8. The combination, with an electro-magnet and armature, of an insulated shaft carrying a scape-wheel, 4, with a spring-finger, 6, forming an electrical connection with the metallic rim 7, provided with insulated plug and notched disk 26, and a drop-lever, 29, operating substantially as described.

9. The combination, with an electro-magnet and armature, of the actuated ratchet-wheel 4, carrying the notched disk 26, provided with a movable finger, 28, operating in conjunction with the dog 30 on lever 29, substantially in the manner as described.

10. The combination, with an electro-magnet and an armature formed with an extension at its rear end, of the lever 12, with lift 14 and transverse pin 15, engaging with the lower end of the armature-lever for actuating the lever 9 of the signal device, substantially as described.

11. The combination, with an electro-magnet and an armature-lever formed with a slot at its rear lower end, of the pallet 10, attached to lever 9, formed or provided with a transverse pin, engaging with the slot of the armature-lever, substantially as described.

12. The combination, with an electro-magnet and an armature-lever formed with a slot at its rear lower end, of the pallet 10, attached to lever 9, with transverse pin working in slot of the armature-lever, and the scape-wheel 4, substantially as described.

13. The combination, with an electro-magnet and an armature, constructed substantially as described, of lever 12, with lift 14 and transverse pin 15, and lever 9, with pallet 10 and transverse pin, substantially as described, and for the purposes set forth.

14. The combination, with an electro-magnet and armature for actuating the lever 9, of a pawl-lever, 16, for sustaining the signal in an uncalled position, substantially as described.

15. In combination with an electro-magnet and armature, a gravity-escapement composed essentially of frame 31, escapement-wheel 32, ratchet devices, pinion 34, sector 37, and pallet 38, substantially as described.

16. The combination, with an electro-magnet and armature, a gravity-escapement, constructed substantially as described, connecting slotted bar 40 and actuating-lever 12, substantially as described.

17. The combination of an electro-magnet and armature, a gravity-escapement constructed substantially as described, means for connecting the armature and escapement, and L-shaped lever 16, for supporting the signal in an uncalled position, substantially as described.

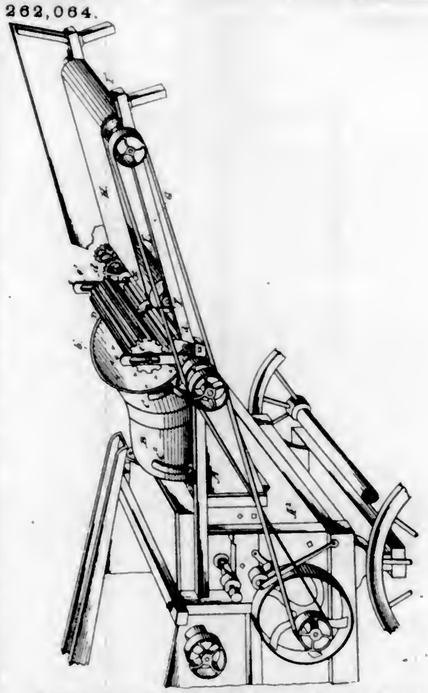
18. The combination, with an electro-magnet, an armature, and the means, substantially as described, for displaying a signal, of the conducting-post 25, with spring 24 at its upper end, and a vibrating bell or gong, substantially as described.

19. The combination, with a telegraphic or telephonic receiving-instrument and a circuit in which the same is arranged to be connected, of a circuit-breaker operated by the instrument for breaking said circuit, and a branch circuit connected around said circuit-breaker and including a second circuit-breaker, arranged to break said branch circuit in response to a predetermined number of electric impulses, substantially as described.

262,064. FEEDING APPARATUS FOR THRASHING-MACHINES. WILLIAM H. LIGHTCAP, Hazel Green, Wis. Filed Jan. 16, 1882. (No model.)

Claim.—1. The combination, with a thrashing-machine provided with wings A A', of the concaved cylindrical casing B, armed upon its interior with teeth *b*, and arranged at an incline between said wings, supports, or bearings C C', C² C³, and suitable means, substantially as described, for revolving said casing, as and for the purpose set forth.

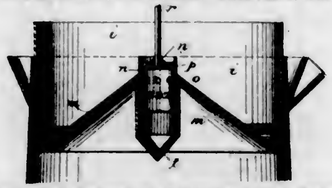
262,064.



2. The combination, with a thrashing-machine, of the concaved cylindrical casing B, armed with teeth *b*, feed-rollers D E, provided with grooves *d d*, and mounted at the receiving end of said casing, and suitable means, substantially as described, for operating said rollers and casing conjointly, as set forth.

3. In a thrashing-machine, the combination of the distributer B, feed-rollers D E, band-cutting knife F, and suitable means, substantially as described and shown, for operating the distributer and feed-rollers conjointly from the driving-shaft of the thrashing-cylinder, as and for the purposes set forth.

262,065. APPARATUS FOR OBTAINING CREAM FROM MILK. WILLIAM E. LINCOLN, Warren, Mass. Filed Jan. 2, 1880.



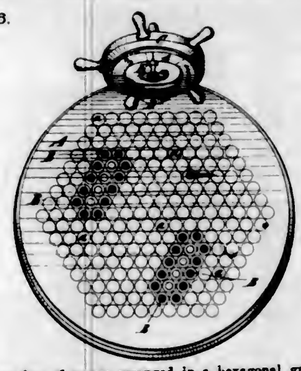
Claim.—1. In an apparatus for obtaining cream from milk, the herein-described device for removing the separated cream from the top of the milk, consisting of a cream-receptacle made to fit closely into the top of the milk-vessel, the said receptacle being provided with an opening in its bottom to allow the cream to pass up from the milk-vessel into the cream-receptacle, substantially as described.

2. In an apparatus for creaming milk, the combination, with the milk-vessel, of a cream-receptacle shaped to fit closely in the top of said vessel, and provided with an opening in its bottom and a valve to control the passage of the liquid through the said opening, substantially as and for the purpose described.

262,066. GAME. HOSARY LINTON, Boston, Mass., assignor to Edward F. Linton, East New York, N. Y. Filed July 1, 1881. (No model.)

Claim.—1. The combination of a board or platform provided

262,066.

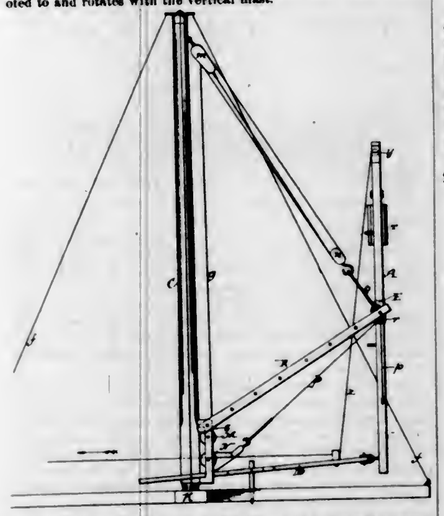


with a number of spaces arranged in a hexagonal group, and adapted to receive pieces or checks, and a rotary device for indicating how many pieces or checks the players are entitled to place on the board or platform, substantially as specified.

2. The game consisting in placing upon a board provided with a series of spaces a number of distinguishable pieces or checks possessed by different players, and according to the following method: first, operating a device to ascertain how many pieces or checks a player may place on the board; second, so disposing of the pieces or checks as to surround or conduce toward surrounding the pieces or checks of another player; and, third, taking the pieces or checks, when surrounded, from the board and replacing them with the pieces or checks of the player or players who effect the surrounding of them, all substantially as herein described.

262,067. PILE-DRIVER. RICHARD LOBB and EDWIN LOBB, Iowa City, Iowa. Filed May 21, 1881. Renewed June 15, 1882. (No model.)

Brief.—The hammer-guides are vertically adjustable, as also to an incline, in slides on the outer end of the boom, which is pivoted to and rotates with the vertical mast.



Claim.—1. The combination of a mast, a boom, hammer-guides, and mechanism to move the boom in or out from the mast and to move the hammer-guides up or down or to an incline, substantially as described.

2. The combination of a mast, a boom, hammer-guides, slides, and operating mechanism, substantially as described.

3. The combination, with a mast, a boom, and hammer-guides, of pulleys on the sides of the boom, ropes on the pulleys bail, and windlass, substantially as described.

4. The combination, with a mast, a boom, and hammer-guides, of ropes, tackle, and windlasses, substantially as described.

5. The combination of hammer-guides, trip-wedges, shears having anti-friction rollers, slides, and operating mechanism, substantially as described.

6. The combination of a mast, a boom, hammer-guides, shears, hammer, and supporting and operating mechanism, whereby the hammer can be dropped at various points around the mast, substantially as set forth.

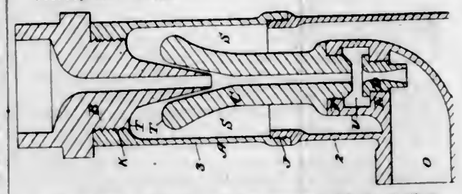
262,068. DOOR-HANGER. TIMOTHY LYNCH, Dundee, N. Y. Filed June 20, 1882. (Model.)



Claim.—1. The combination, substantially as described, of the axle *b*, rollers *e e*, track *f'*, and rail *f''*, the said rollers being both journaled on the said axle, and arranged the one on the track and the other under and bearing against a rail secured above the track, substantially as and for the purposes set forth.

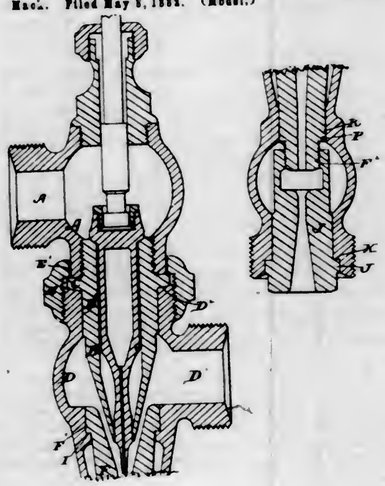
2. The combination, substantially as described, of the axle *b*, having portions *b' b²* and the intermediate shoulder, *b³*, the roller *e*, journaled on portion *b'*, the sleeve *d*, provided with flange *d'*, and journaled on portion *b²* and bearing up against shoulder *b³*, the roller *e*, journaled on sleeve *d*, and the irons *a'*, substantially as set forth.

262,069. INJECTOR. WILLIAM B. MACK, Boston, Mass. Filed Feb. 18, 1882. (Model.)



Claim.—In an injector, the combination, with the shell or casing made in two separable sections, 2 3, of the combining-cone C, screwed to its seat in the section 2 of the casing, and having its tapered end and a portion of its cylindrical body projecting beyond the joint of the sections, whereby when the sections are separated a pipe-wrench may be applied to the cylindrical portion of the combining-cone to unscrew it without liability of defacing or in any way injuring the flaring end portion of the cone, substantially as described.

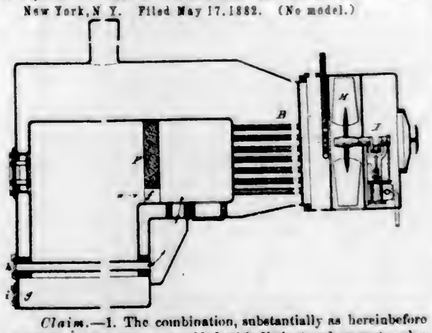
262,070. INJECTOR. WILLIAM B. MACK and JOHN D. MACK, Boston, Mass.; said John D. Mack assignor to said William B. Mack. Filed May 8, 1882. (Model.)



Claim.—1. In an injector, the combination of the casing-sections A D, the steam-cone screwed to the section A, adapted to move freely into and out of the other section, and having a flange interposed between the two sections, and a flanged coupling-nut screwed to the section D and bearing upon the flange of the steam-cone outside of the section A, as set forth.

2. The combination of the section D, the combining-cone resting on a seat in said section, and having a device for preventing rotation, and the delivery-cone bearing on a seat in the section D, formed to receive a wrench at its projecting end, and internally threaded at its inner end to engage with an externally-threaded portion of the proximate end of the combining-cone, whereby both the combining and delivery cones are drawn simultaneously to their seats, as set forth.

262,071. LOCOMOTIVE-FURNACE. EDWARD J. MALLETT, Jr., New York, N. Y. Filed May 17, 1882. (No model.)



Claim.—1. The combination, substantially as hereinbefore set forth, of the furnace provided with distinct and separate valve or register controlled inlets, which introduce air into the furnace both at a point where it will pass through the fuel and also at a point where it will meet and mingle with the fuel-gases, the boiler, the suction-fan applied directly to the head of the boiler or smoke-box, and a condenser or cooling appliance for cooling the gases drawn into the fan.

2. The combination of the furnace provided with distinct and separate valve or register controlled inlets, which introduce air into the furnace both at a point where it will pass through the fuel and also at a point where it will meet the fuel-gases, the boiler, and the suction-fan applied directly to the head of the boiler or smoke-box, substantially as hereinbefore set forth.

3. The combination, with the boiler of a locomotive, of a suction-fan applied directly to the front of the boiler or smoke-box casing, so as to constitute in effect the head of said casing, and a water-spraying appliance intermediate between the fine-head of the boiler and the fan.

262,072. BOILER OR OTHER FURNACE. EDWARD J. MALLETT, Jr., New York, N. Y. Filed May 17, 1882. (No model.)

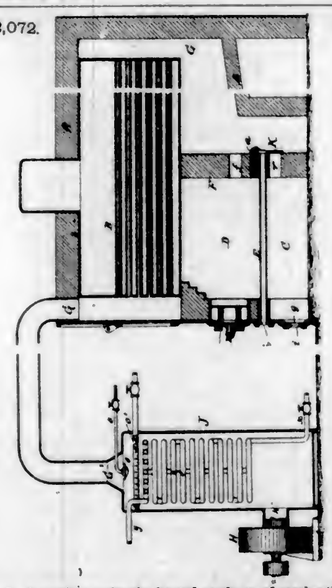
Claim.—1. The combination, with the fire-box, separated from the conducting-flue by a partition or division wall, substantially as described, the ash-pit, the suction-fan or air-exhauster, and the air-inlets which introduce air into the furnace at a point where it will meet the fuel-gases, of air-inlets which admit air to the fire-box at a point above the grate-surface, and a flame-passage leading from the ash-pit to the conducting-flue, substantially as and for the purposes hereinbefore set forth.

2. The combination, with the flame-passages in the septum-wall and the ash-pit, of the fire-door and the switch-damper, connected with and operated by the said door so as to close either the passage in the septum-wall or that in the ash-pit, according as the door is open or shut, substantially as hereinbefore set forth.

3. The combination, with the air-exhausting appliance, the hollow grate-bars, and the registers controlling admission of air thereto and also to the ash-pit, of the septum-wall and ash-pit, provided each with a flame-passage leading to the conducting-flue, and a switch-damper or system of dampers adapted to operate in connection with said passages, substantially as hereinbefore set forth.

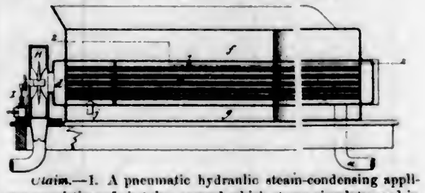
4. The combination of furnace, suction-pan or air-exhausting appliance, and intermediate condensing apparatus, consisting of a drum or casing, pipe through which water is caused to circulate, inclosed in said drum, and means, substantially as described, whereby the heated gases drawn from the furnace through the drum and around the pipe are moistened, substantially as and for the purposes hereinbefore set forth.

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5. A condenser for the heated products of combustion which pass from a furnace, consisting of a drum or case connected to the chimney or discharge-flue of the furnace, so as to receive therefrom the heated furnace-gases, pipe through which water is caused to circulate, inclosed in said drum, and water or steam jets for keeping moist the heated gases which pass through the drum and around the water coil or pipe, substantially as hereinbefore set forth.

262,073. APPARATUS FOR CONDENSING EXHAUST-STEAM AND HEATING AIR AND WATER. EDWARD J. MALLETT, Jr., New York, N. Y. Filed May 17, 1882. (No model.)



Claim.—1. A pneumatic hydraulic steam-condensing appliance consisting of air-tubes around which steam circulates and in part condenses, and water-jets which further condense the steam by direct contact of the water therewith.

2. The combination, with the chamber or receptacle into which the exhaust-steam of a steam-engine is discharged, of air-tubes or pneumatic steam-condensing appliances, and a water-sprayer which discharges water into said receptacle or chamber, substantially as and for the purposes hereinbefore set forth.

3. The combination of a feed-water receptacle, an exhaust-steam chamber into which the exhaust-steam of the engine is discharged, air-tubes passing through said chamber, means for maintaining draft through said tubes, a water-spraying appliance by which water is brought into direct contact with that portion of the exhaust-steam not condensed by the air-tubes, and pipes or ducts leading from said chamber to the feed-water receptacle, substantially as hereinbefore set forth.

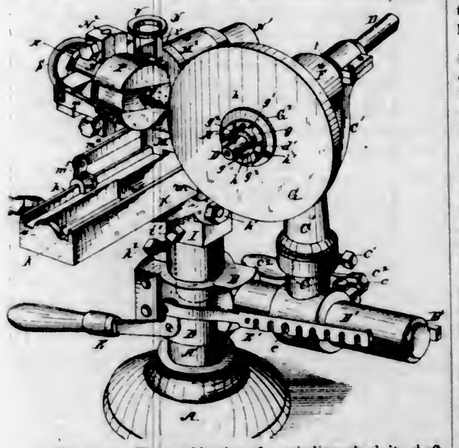
4. The combination, with the feed-water tank of a locomotive-tender, of an exhaust-steam receptacle or chamber, means for spraying or discharging water from the tank into the chamber, and air-tubes passing through said chamber, substantially as hereinbefore set forth.

5. The combination of the upper or cold-water chamber, the lower or hot-water chamber, the intermediate exhaust-steam receptacle, pneumatic condensing-tubes passing through said receptacle, and a water-sprayer which delivers water from the upper chamber to the exhaust-steam receptacle, substantially as hereinbefore set forth.

6. The combination, with the water-tank, of the exhaust-steam-receiving chamber, air-tubes passing therethrough, the suction-fan, and means for condensing that portion of the exhaust-steam not condensed by the air-tubes, substantially as hereinbefore set forth.

262,074. MACHINE FOR GRINDING DRILLS. PHILO MALTBY, Cleveland, Ohio. Filed Apr. 21, 1882. (No model.)

Brief.—The tool is brought to the proper angle on the stone, the cam resting with one of its shoulders against the roller. A quarter-revolution of the cam and chuck grinds one lip of the drill from the back of the lip to the cutting-edge. The succeeding one-fourth revolution of the cam brings the next lip of the drill in position for grinding. By rotating the chuck and cam in the opposite direction the lip may be ground from the cutting-edge to the back of the lip. The cam gives to the lip the requisite clearance.



Claim.—1. The combination of a grinding-wheel, its shaft mounted in a frame having an upright stem adjustably secured in a standard on a carriage adapted to move on a horizontal arm, a lever and set-screws, whereby the wheel may be adjusted toward and from the tool-holder and rotary adjustment about its stem effected, and of a tool-holder and set-screw for its adjustment rotarily about its upright support, a carriage mounted upon guideways secured to said stem by a hinged joint, and a pitman-and-lever connection, whereby the tool-holder may be adjusted longitudinally across the grinding-surface, substantially as specified.

2. The combination of a grinding-wheel, its shaft mounted in a frame having an upright stem adjustably secured in a standard on a carriage adapted to move on a horizontal arm secured to an adjustable sleeve upon an upright support, by means of which sleeve a vertical adjustment of the wheel is effected, a lever and set-screw for adjusting the wheel toward and from the tool-holder, and a set-screw for effecting about its stem a rotary adjustment of a tool-holder and set-screw for its adjustment rotarily about its upright support, a carriage mounted upon guideways secured to the stem by a hinged joint, and a pitman-and-lever connection, whereby the tool-holder may be adjusted longitudinally across the grinding-surface, for effecting a rotary adjustment in an upright plane, substantially as specified.

3. The combination, with the grinding-wheel and the means for adjusting it vertically, rotarily, and horizontally back and forth, of the tool-holder mounted upon a standard mounted upon a carriage mounted upon guideways secured to an upright stem by means of a hinged joint, and the upright stem supported upon a suitable base in which the said stem is swiveled, and the set-screws, whereby the tool-holder may be adjusted rotarily or at an angle to the grinding-wheel, substantially as specified.

4. The combination of a grinding-wheel, its shaft mounted in a frame having an upright stem adjustably located in a standard on a carriage adapted to move on a horizontal arm, and a lever and pin, *e*, and a set-screw, whereby the wheel may be adjusted horizontally to and from the tool-holder and rotarily about its stem, and the tool-holder mounted on a sliding bed hinged to a standard located vertically in an upright, and the set-screws, whereby the tool-holder may be adjusted rotarily, the pitman and lever attachments, whereby it may be adjusted horizontally across the periphery of the grinding-wheel, and the hinge-joint, whereby it may be adjusted at any desired angle to the wheel, substantially as specified.

5. In combination with the chuck-carriage M, mounted on a carriage-way, as shown, hinged to an upright standard, and provided with set-screws, the lever fulcrumed to the carriage-way and connected with the carriage, whereby said carriage may be moved back and forth laterally across the periphery of the grinding-wheel, substantially as specified.

6. In a grinding-machine, the combination of a tilting carriage-way, a clamp, and a chuck-carriage, and means for forcing the said carriage and clamp together or apart, as and for the purpose set forth.

7. The combination, with the sleeve carrying a frictional roller and having a spring-restrained mandrel mounted therein, of a chuck-clamp and chuck carrying a cam-disk, and means for rotating the chuck and disk and presenting different surfaces of the tool to the grinding-surface, substantially as and for the purpose specified.

8. The combination of a sleeve carrying a frictional roller and having a spring-restrained mandrel mounted therein, a chuck-clamp, and a chuck carrying a cam-disk, and means for rotating the chuck and disk, whereby the mandrel is reciprocated, and suitable means for throwing the mandrel in or out of operation, substantially as specified.

9. The combination of the grinding-wheel G, shaft D, mounted in the frame C', having an upright stem adjustably secured in the standard of the carriage C, the arm B', and means for adjusting the wheel vertically to and from the tool-holder, and rotarily with the tool-holder, and carriage M, and ways K, having hinged joint, and set-screws and lever, whereby the said holder is adjusted rotarily longitudinally and rotarily in an upright plane, substantially as specified.

10. The combination of the grinding-wheel G, hub G', having shank H, provided with pins *h*, and the flange G³, provided with apertures *g'*, inclines *g*, and set-screw *h'*, as and for the purpose set forth.

11. The combination of the wheel G, the hub G', having shank H, provided with pins *h*, the inclines *g*², and apertures *h*³, the flange G³, provided with inclines *g*, apertures *g'*, and set-screw *h'*, and the shaft D, having pins *d'*, substantially as and for the purpose set forth.

12. The combination of the standard A', the post I, carrying the bar i² and i', pins i² i', and the chuck or tool-holding frame, substantially as and for the purposes specified.

13. The combination of the pitman *m'* and crank-lever *m*² with the frictional guide-frame K, the carriage M, having standard M³, and with the adjustable clamp-clutch *m'*, as and for the purpose specified.

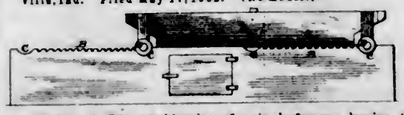
14. The carriage M, having standard M³, the cylinder M' and sleeve N, combined with the spring *s'*, the mandrel O, and chuck-clamp N², substantially as and for the purposes set forth.

15. The mandrel O, having a feather-lug, *s'*, combined with the cylinder M', sleeve N, having a recess for the lug, cap N', spring *s'*, and chuck-clamp N², as and for the purposes specified.

16. The cam-disk R and its operating means S, combined with the friction roller or stop R³ and with the spring-restrained mandrel O, and a clamp for the tool-holder, as and for the purpose set forth.

17. The guide-disk T, having differentially-sized apertures *t*, combined with the chuck, chuck-clamp, and grinding-wheel, as and for the purposes set forth.

262,075. EVAPORATING-PAN. JAMES H. MATHERS, Orangeville, Ind. Filed May 17, 1882. (No model.)



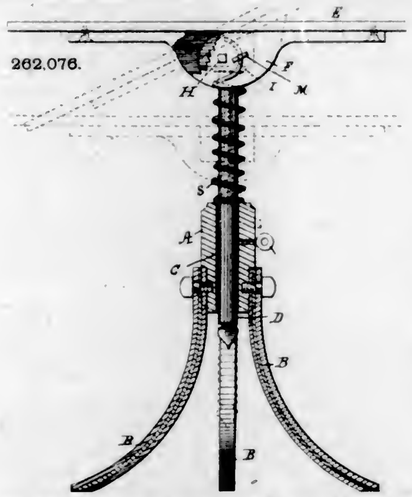
Claim.—1. The combination of a single furnace having the racks B extending from opposite sides, a laterally-moving double pan provided with the shafts E, and pinions D, substantially as shown.

2. The combination of the furnace A, having the racks B, provided with the recesses C in their top edges, the double pan, the shafts E, and pinions D, substantially as set forth.

262,076. ADJUSTABLE TABLE. JOHN M. MAY, May's Island, Iowa. Filed June 2, 1881. (No model.)

Claim.—1. The combination of the table-top, the vertically-movable standard, the head-block fixed to the top of this standard and connected to the table-top, the tubular base through which

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said standard passes, the helical spring S, confined between the block and base, and the set-screw T, substantially as described.

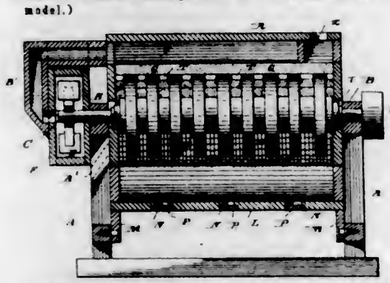
2. The combination of the laterally-yielding cheek-plates F, forming battens for the table-top, the flat-faced block G on standard D, the pivotal bolt H, the segmental slots I, and the pinch-bolt K, all arranged for adjusting the table-top, substantially as described.

262,077. PYROXYLINE COMPOUND. WILLIAM MCCAINE, St. Paul, Minn., assignor to Helen J. McCaine, same place. Filed Nov. 17, 1881. (Specimens.)

Claim.—1. The use of the essential oil of cassia or cinnamon in the manufacture of compounds containing pyroxyline, substantially as herein described.

2. A pyroxyline compound containing a certain proportion of the essential oil of cassia or cinnamon, as and for the purpose described.

262,078. GRAIN-DECORTICATOR. PETER N. MCCHESNEY and JOHN W. CRAIG, Washington, D. C. Filed May 9, 1882. (No model.)



Claim.—1. The combination, with the central rotary shaft, C, provided with a series of decorticators, G, and the upper and lower casings provided with suitable feed and discharge apertures, of the air-exhaust passage Y, provided with a foraminous bottom, the tube B', leading to the exhaust-fan casing, and the fan E, located on the main shaft of the machine, substantially as specified.

2. The combination, with the rotary decorticating-disks G, of the upper casing, R, provided with slots S, and inclined sides lined with decorticating material, and the adjustable brush-sections T, carrying a series of brushes corresponding in number and position with the decorticating-disks, substantially as specified.

262,079. RESTORING RUBBER-WASTE. CHARLES J. MCDERMOTT, Sandy Hook, Conn., assignor to the New York Belting and Packing Company, of Connecticut. Filed July 1, 1882. (No model.)

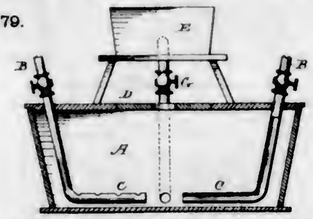
Claim.—1. The method of recovering rubber by treating the waste or scrap with a compound of chromium—such as bichromate of potash—in connection with nitric acid, substantially as described.

2. The method of recovering rubber by boiling the waste or scrap in dilute acid by means of live steam injected into the mass, substantially as described.

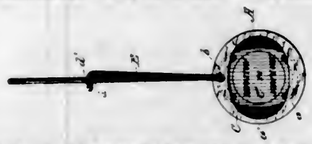
3. In the treatment of fibrous rubber waste or scrap with acid, the addition of manganese to the bath, substantially as described.

4. The method of treating fibrous rubber waste or scrap by boiling the same in a solution of acid, bichromate of potash, and manganese by means of live steam injected into the mass, substantially as described.

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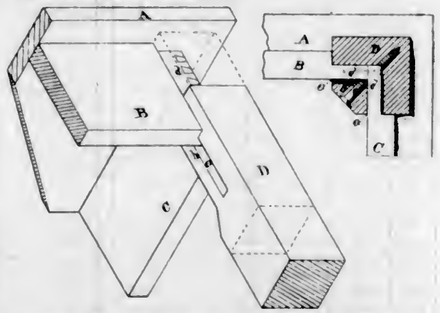
262,080. BAGGAGE CHECK AND CLASP. JAMES H. MCLEARY, San Antonio, Tex. Filed Oct. 21, 1881. (No model.)



Claim.—1. A baggage-check consisting of a shell having a circular chamber and an opening of elongated form leading to said chamber, a destination-plate of elongated form which is adapted to be inserted into the chamber through the said opening and turned therein, and a wire clasp for holding said parts together and securing them to the baggage, substantially as shown and described.

2. In a baggage-check, the combination of the perforated shell A, having a circular chamber and elongated opening in one side, the destination-plate C, provided with curved slots near each end, and a wire clasp, E, adapted to pass through both shell and plate to secure them to the baggage, substantially as shown and described.

262,081. KNOCKDOWN TABLE. ELISHA METZ, Rochester, N. Y., assignor of one-half to Louise Lamont, same place. Filed May 23, 1881. (No model.)

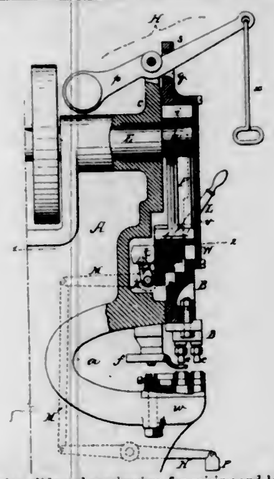


Claim.—The combination, in tables, of rails having their adjacent tenoned ends joined and fastened together, and a leg having a longitudinal slot or recess formed in each of two adjacent faces or sides of its head, said slots extending inward to and joining each other at the axis of the leg, and together constituting a space in which to receive the said joined ends of the rails, with means for fastening said rails and leg together.

262,082. METAL-PUNCHING MACHINE. FREDERICK B. MILES, Philadelphia, Pa. Filed Sept. 27, 1881. (No model.)

Claim.—1. The combination, in a punching-machine, of a punch-carrying slide and mechanism for raising and lowering the same independently of the driving-shaft of the machine with an adjustable reciprocating block, G, operated from the driving-shaft, and with mechanism whereby the said block may be adjusted to the slide, so as to control the same, or from the slide, so as to free the same from the control of the said block, all substantially as set forth.

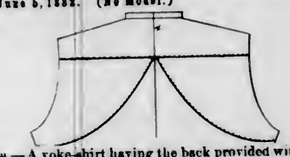
262,082.



2. The combination of the connecting-rod F, adapted at its upper end to the eccentric pin *h* of the shaft E, and terminating below in a horizontal cylinder, *j*, with a block, G, adapted to and adjustable on the said cylinder, all substantially as set forth.

3. The combination of the vertically reciprocating and adjustable block G with a slide having bearings for the under side of the block and projections *v v* for the upper side of the said block, substantially as specified.

262,083. SHIRT. ELIZABETH P. MILLER, Fairhaven, assignor to Thomas M. Dunham and Edward Dunham, New Bedford, Mass. Filed June 5, 1882. (No model.)



Claim.—A yoke-shirt having the back provided with separate strengthening-pieces, joining the yoke on its lower edge, extending downward around the arm-scye, and thence a short distance down the side seam, and from this point, by a curve inward and upward, to or near the center of the back at the yoke, substantially as described, and for the purpose set forth.

262,084. CIGAR-MOLD. FREDRICK C. MILLER, New York, N. Y. Filed Feb. 2, 1882. (No model.)

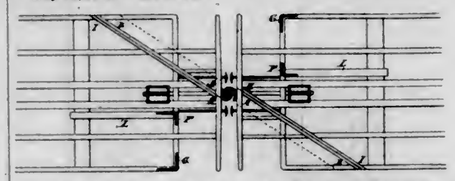


Claim.—1. In a cigar-mold, an upper cup composed of cast metal having one, or more than one, opening for the passage of one, or more than one, fastening device for connecting it to a suitable backing, and provided with lugs or bearings, whereby it is adapted to be employed in connection with a wooden matrix, substantially as specified.

2. In a cigar-mold, an upper cup composed of cast metal having one, or more than one, opening for the passage of one, or more than one, fastening device for connecting it with a suitable backing, and provided with lugs or bearings having straight sides, whereby it is adapted to be employed in connection with a wooden matrix without liability of injury from strain, substantially as described.

3. In a cigar-mold, an upper cup composed of cast metal having one, or more than one, opening for the passage of one, or more than one, fastening device for connecting it to a suitable backing, and provided with lugs or bearings having pins projecting therefrom, substantially as described.

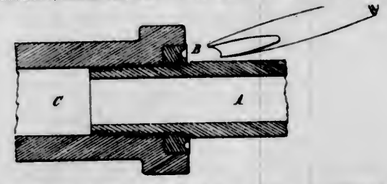
262,085. RAILWAY-CAR. JOHN MILTON, Hamilton, Va. Filed May 12, 1882. (No model.)



Claim.—1. A passenger-car having each end constructed with an independent detachable and weaker corner-section on one side of a longitudinal line and with the ordinary rectangular outline on the other side of said longitudinal line at the same end, substantially as and for the purpose described.

2. A passenger-car having each end constructed with guards G and F on one side and an independent corner-section on the other, substantially as and for the purpose described.

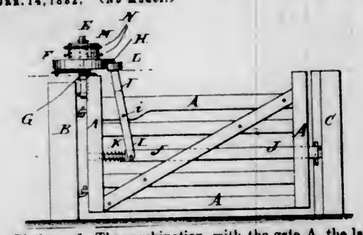
262,086. HERMETICAL JOINT FOR IRON PIPES. THEODORE MITHOFF, Lancaster, Ohio. Filed Apr. 7, 1882. (No model.)



Claim.—1. A gas-tight joint for iron piping, consisting of a collet of pure wrought-iron, a screw-threaded pipe end, and a countersunk coupling, the collet being inserted in the countersink and secured therein by calking, as set forth.

2. A gas-tight joint consisting of wrought-iron collet B *b*, wrought-iron pipe A, having tapered extremity *a*, and a countersunk coupling, C *c c'*, the collet being calked within said countersink, as set forth.

262,087. GATE. JAMES W. MORRISON, Logansport, Ind. Filed Jan. 14, 1882. (No model.)



Claim.—1. The combination, with the gate A, the latch J, and its spring K, of the lever I, the cam-wheel F, the spring G, and an operating mechanism, substantially as herein shown and described, whereby the gate can be operated by turning the said cam-wheel, as set forth.

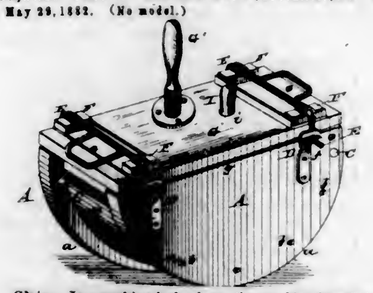
2. The combination, with the gate A, the latch J, and its spring K, and the levers P, and wires O, of the latch-lever I, the cam-wheel F, the spring G, the pulley M, and the chains N, substantially as herein shown and described, whereby the cam-wheel can be turned to open and close the gate, as set forth.

262,088. TOOTH-REGULATOR. WILLIAM M. MORRISON, St. Louis, Mo. Filed Jan. 25, 1882. (No model.)



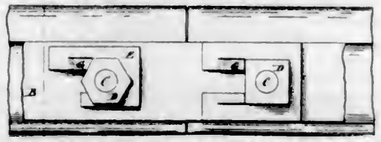
Claim.—The combination, with a ring, F, cemented to a tooth, of an arm, H, formed to engage a spring, for the purpose set forth.

262,089. CHURN. THOMAS M. MOYER, Brookfield, Mo. Filed May 29, 1882. (No model.)



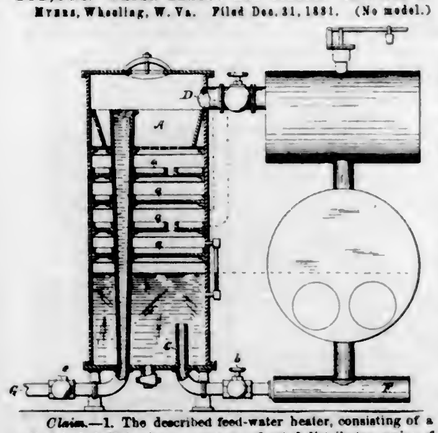
Claim.—In a working-body churn, the combination of churn-body composed of the segmental sides A A, having flanges *a a* and curved bottom B, and cover G, provided with the fixed transverse dasher H, having apertures h and h', rigid handle G', plugged vent-hole i I, and means for fastening it upon the churn-body, substantially as and for the purpose herein shown and described.

262,090. NUT-LOCK. FRANCIS MURPHY, Chicago, Ill. Filed Nov. 5, 1881. (No model.)



Claim.—A locking-plate having a slot extending to its edge or periphery, allowing it to be placed on the bolt when the nut is in position, such plate being provided with one or more tongues adapted to be turned outward to present the end thereof to the edge of the nut, whereby the nut is prevented from turning and the locking-plate from slipping off the bolt, as described.

262,091. WATER HEATER AND FILTER. THEODORE A. MYERS, Wheeling, W. Va. Filed Dec. 31, 1881. (No model.)



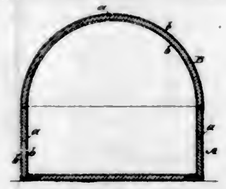
Claim.—1. The described feed-water heater, consisting of a cylindrical shell having an upper perforated distributer, series of shallow pans having overflow-openings, a stand-pipe surrounded by the shelves to admit water to a point above the said shelves, a live-steam pipe, D, entering the shell above the perforated distributer, and a discharge-pipe.

2. In a feed-water heater constructed substantially as described, the stand-pipe having the tubular elliptical upper portion tapering to a cylindrical section at the lower end.

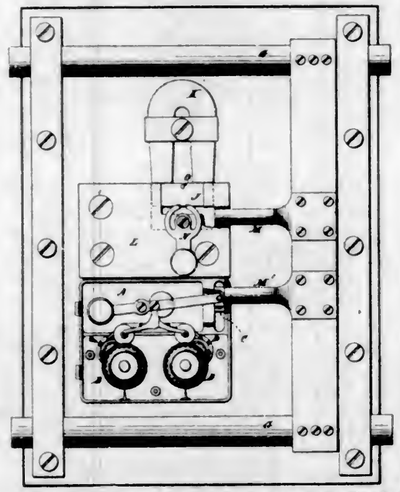
262,092. BURIAL-CASKET. MICHAEL J. NAUGHTON, Philadelphia, Pa. Filed July 3, 1882. (No model.)

Claim.—The burial case, casket, or coffin formed of composite pieces of sawdust and asphaltum and felt sheathings, substantially as and for the purpose set forth.

262,092.



262,093. TIME-LOCK. HENRY F. NEWBURY, Brooklyn, N. Y. Filed June 20, 1881. (Model.)



Claim.—1. The combination of a chronometric or time lock, and a supplemental locking mechanism consisting of a dog or check and means for holding such dog or check out of action during the normal condition of the time-lock, some part of this supplemental mechanism being arranged in proximity to the lock, substantially as set forth, whereby the supplemental dog or check will be brought into action to prevent the retraction of the door-bolts of the safe or vault on which the time-lock is used on the occurrence of a shock capable of breaking or displacing the parts of such lock.

2. The combination of a chronometric or time lock, and a supplemental guard or check provided with a spring-stop or equivalent detent of convenient construction arranged to hold such guard or check, under the normal action of the mechanism, out of engagement with the bolt-work of the safe or vault door on which the lock is used, or with the parts controlling such bolt-work, but also adapted to yield upon the occurrence of a shock capable of breaking or displacing the parts of the movement, and thus release such supplemental guard or check and permit it to come into action to prevent the retraction of the bolt-work, substantially as described.

3. In combination with a chronometric or time lock, and a supplemental guard or check to prevent the withdrawal of the bolt-work of the safe on which such lock is used in case the parts of the time-movement become broken or displaced by a shock, a latch or stop to prevent the return of such supplemental guard or check to its normal condition.

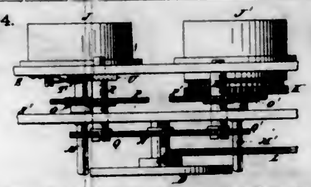
4. In combination with a supplemental guard or check designed to prevent the withdrawal of the bolt-work of a safe or vault door upon the breaking or displacement of the parts of the time-lock in such safe or vault, a pendulum latch or detent for holding such supplemental guard or check in its locking position, substantially as described.

262,094. TIME-LOCK. HENRY F. NEWBURY, Brooklyn N. Y. Filed June 22, 1881. (Model.)

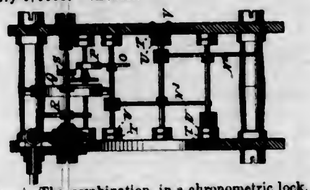
Claim.—1. The combination, in a chronometric or time lock, of the lock bolt or dog, the mainspring of the time-movement, and connecting mechanism between the two, some part of which is made yielding for the purpose of interrupting the operative continuity of the mechanism under the force of a shock, substantially as above set forth.

2. The combination, in a chronometric or time lock, of the lock bolt or dog, the mainspring of the time-movement, connecting mechanism between the two, some part of which is made yielding for the purpose of interrupting the operative continuity of the mechanism under the force of a shock, and a latch or dog for holding the yielding device out of engagement with the other parts of the train, substantially as above set forth.

262,094.



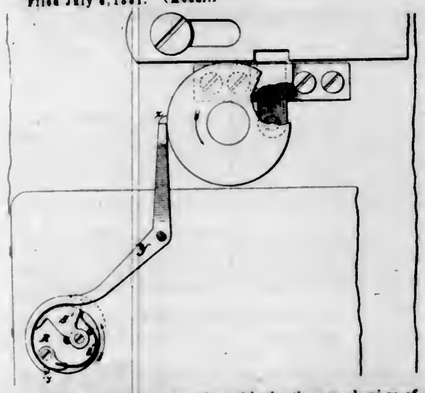
262,095. TIME-LOCK. HENRY F. NEWBURY, Brooklyn, N. Y. Filed July 6, 1881. (Model.)



Claim.—1. The combination, in a chronometric lock, of the staffs of the time-movement and supplemental or secondary bearings to prevent the disengagement of the train in case the staffs become broken, substantially as described.

2. The combination, in a chronometric lock, of the staffs of the time-movement, supplemental or secondary bearings to prevent the staffs, if broken by a shock, from being moved apart, and stops mounted on or arranged in combination with the staffs to prevent them from longitudinal displacement, substantially as and for the purpose described.

262,096. TIME-LOCK. HENRY F. NEWBURY, Brooklyn, N. Y. Filed July 6, 1881. (Model.)



Claim.—1. In combination with the time mechanism of a chronometric lock, a device pivoted or otherwise secured to one of the wheels or other revolving parts thereof, and arranged to be moved from its normal position by centrifugal action whenever the speed of the time-movement is unduly accelerated, and a device arranged to be acted upon by such centrifugal device when thus moved from its normal position, substantially as and for the purpose set forth.

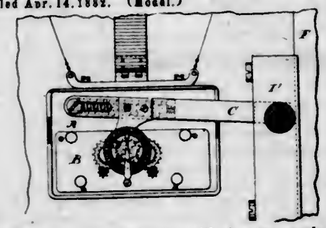
2. In combination with a device pivoted or otherwise secured to one of the wheels or other revolving parts of a chronometric lock, and arranged to be moved from its normal position by centrifugal force generated by the revolution of such part when running at an abnormal speed, suitable means for preventing the movement of such device while the parts are running at their normal speed, and a device arranged to be acted upon by the centrifugal device when moved from its normal position, substantially as and for the purpose set forth.

3. In combination with a centrifugally-acting device secured to one of the wheels or other revolving parts of a chronometric lock, a fixed stud for arresting the revolution of such part when such centrifugal device is moved by any unusual increase in the speed, substantially as and for the purpose set forth.

4. In combination with a centrifugally-acting device secured to one of the wheels or other revolving parts of a chronometric lock, a supplemental bolt or check arranged to be brought by the action of such centrifugal device into engagement with the lock-bolt or some other part to prevent the retraction of the door-bolts, substantially as and for the purpose set forth.

5. In combination with a device pivoted or otherwise secured to one of the wheels or other revolving parts of a chronometric lock, and arranged to be moved from its normal position by centrifugal force whenever the speed of the time-movement is unduly accelerated, a device arranged to be acted upon by such centrifugal device when thus moved from its normal position, and supplemental or auxiliary bearings for the staffs of the wheels composing the clock-train, whereby the continuity of the train between the mainspring and the centrifugal device will be preserved, substantially as and for the purpose set forth.

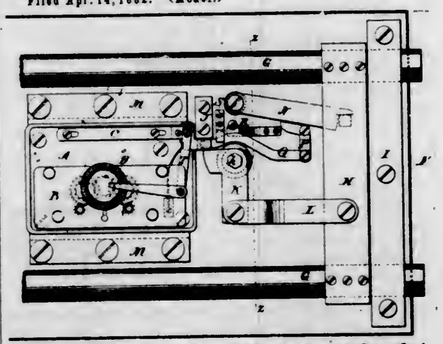
262,097. TIME-LOCK. HENRY F. NEWBURY, Brooklyn, N. Y. Filed Apr. 14, 1882. (Model.)



Claim.—1. In combination with the time mechanism of a chronometric lock, a yielding or flexible support therefor, and means for preserving the continuity of the connection between the parts thus flexibly mounted and the adjacent parts, substantially as described, whereby the time mechanism of the lock is held at such distance from the door or wall of the structure in which it is used as to protect it from injury under the force of an explosion directed against the exterior of the structure, and of a character to break the parts of clock-work of the lock if mounted in any of the methods heretofore practiced, the control of the lock over the door-bolts being thereby preserved.

2. In combination with a chronometric lock, a yielding support or supports suspending such lock from the top of the safe or vault in which it is used and at a distance from any of the vertical walls thereof, whereby it is protected from injury by the force of an explosion or other shock directed against the exterior of the safe or vault.

262,098. TIME-LOCK. HENRY F. NEWBURY, Brooklyn, N. Y. Filed Apr. 14, 1882. (Model.)

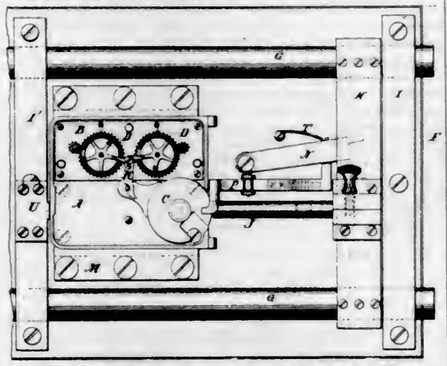


Claim.—1. The combination of a time-lock mounted on a flexible or frangible support, whereby it is made capable of movement relatively to the door or wall to which it is attached, a supple-

mental checking device, and means for connecting the same with the bolt or equivalent part of the lock, in the manner set forth, whereby such supplemental device is under the control of the lock when the latter is operating normally, but is disconnected therefrom when the lock is subjected to a sudden and heavy shock.

2. The combination, with a time-lock secured in place by a flexible or a frangible support, of a supplemental locking mechanism detachably connected therewith, and an abutment for supporting the lock against the backward thrust of the door-bolts.

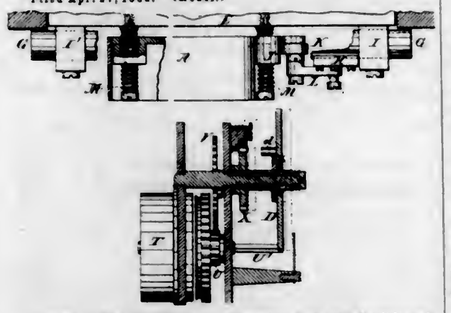
262,099. TIME-LOCK. HENRY P. NEWBURY, Brooklyn, N. Y. Filed June 26, 1882. (No model.)



Claim.—1. The combination, substantially as and for the purpose set forth, of a time-lock, a flexible or frangible support for holding the same in place under normal conditions, but permitting it to move under the force of a heavy and sudden shock, a supplemental lock or check, and an intermediate detent mechanism for holding such supplemental device normally out of engagement with the door-bolts, but permitting it to come into action when the main lock is moved.

2. The combination, substantially as and for the purpose set forth, of a time-lock, a flexible or frangible support for holding the same in place under normal conditions, but permitting it to move under the force of a heavy and sudden shock, a supplemental lock or check, and intermediate detent mechanism for holding such supplemental device normally out of engagement with the door-bolts, but permitting it to come into action when the main lock is moved, and an abutment for supporting the main lock against the backward thrust of the door-bolts.

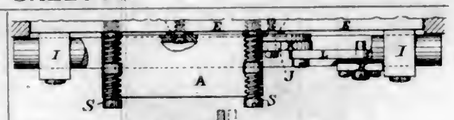
262,100. TIME-LOCK. HENRY P. NEWBURY, Brooklyn, N. Y. Filed Apr. 27, 1882. (Model.)



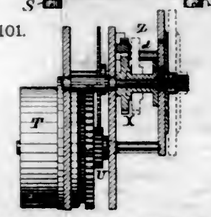
Claim.—The combination, with a time-lock, of a flexible and elastic mounting and means, substantially as described, for preventing the premature retraction of the lock-bolt when the time mechanism is subjected to a shock sufficient to break its more delicate parts.

262,101. TIME-LOCK. HENRY P. NEWBURY, Brooklyn, N. Y. Filed Apr. 27, 1882. (No model.)

Claim.—1. The combination, with a time-lock, of a supplemental support for holding the lock in operative connection with the door-bolts of the safe or vault in which the lock is used in case the main fastenings are destroyed, and means for preventing the retraction of the lock-bolt when the time mechanism is subjected to a shock sufficient to break its more delicate parts, substantially as and for the purpose specified.

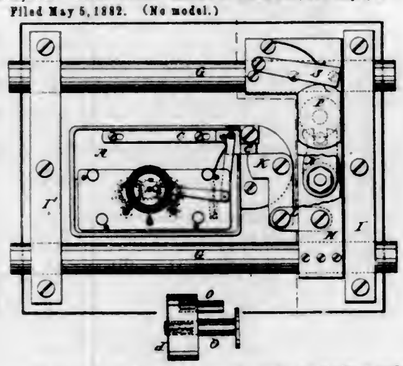


262,101.



2. The combination, with a time-lock, of a supplemental support for holding the lock in operative connection with the door-bolts of the safe or vault in which the lock is used in case the main fastenings are destroyed, such support being attached to the same door as the lock and provided with springs to graduate the shock, and means for preventing the retraction of the lock-bolt when the time mechanism is subjected to a shock sufficient to break its more delicate parts, substantially as specified.

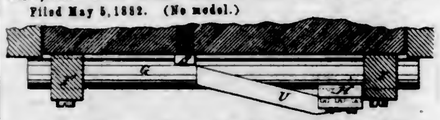
262,102. TIME-LOCK. HENRY P. NEWBURY, Brooklyn, N. Y. Filed May 5, 1882. (No model.)



Claim.—1. The combination of a lock, door-bolts guarded thereby, a spindle for operating such bolts, and a movable connecting device arranged between the spindle and the bolts and in proximity to the lock, whereby the spindle and the door-bolts may be disconnected on the occurrence of a sudden and heavy shock directed against the lock, substantially as and for the purpose set forth.

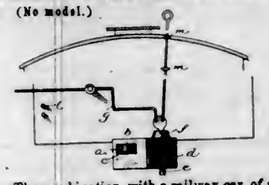
2. In combination with a movable connecting device arranged between the spindle of a vault or safe door and the door-bolts of the same, substantially as and for the purpose described, a latch or stop to hold the parts out of engagement when once disconnected.

262,103. TIME-LOCK. HENRY P. NEWBURY, Brooklyn, N. Y. Filed May 5, 1882. (No model.)



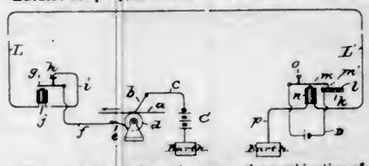
Claim.—The combination of the bolts of a safe or vault door, a lock for guarding the same, and a supplemental guard or check attached to the door in proximity to the lock and the bolt-work, whereby such supplemental check is caused to lock the door independently of the lock by being forced into engagement with the bolt-work when the door is subjected to a sudden and heavy shock calculated to break or displace the lock, substantially as and for the purpose set forth.

262,104. CAR-COUPLING. MATHEW OWENS, Quincy, Ill., assignor of one-half to Hermann Folker, same place. Filed May 23, 1882. (No model.)



Claim.—The combination, with a railway-car, of a draw-head having an enlarged and flaring cavity, *d*, adapted to receive the link from the draw-head of an opposite car, and provided with a boss, *f*, and pin *e*, said draw-head having also a small cavity adapted to fit snugly to the link and hold it in proper direction, a bent lever, *g*, a catch, *i*, and a vertical rod, the lever and the rod being connected to the pin *e*, and all the parts being arranged to operate as shown and described.

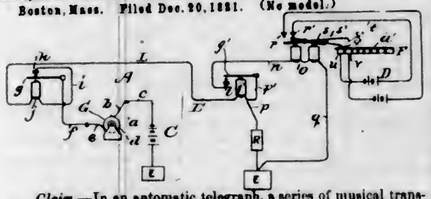
262,105. AUTOMATIC TELEGRAPH. ALBERT L. PARCELLS, Boston, Mass., assignor to the Merchants Union Telegraph Machine Company, of Maine. Filed Sept. 27, 1881. (No model.)



Claim.—1. In a telegraph system, the combination of a main line and its battery or batteries, a series of differently-toned vibrating reeds or circuit-breakers at the transmitting-station, means for independently putting into vibration any of the said reeds, a series of stylus-pointed vibrating reeds or circuit-breakers at the receiving-station, corresponding in tone to the series of reeds at the transmitting-station, a series of local circuits including the stylus-pointed reeds, a conducting-bed, and local batteries, and means for moving a chemically-prepared receiving-strip between the bed and the stylus-pointed reeds, whereby, by successively putting in vibration the transmitting-reeds, marks or prints are made on the receiving-strip successively and in longitudinal rows, thus producing a condensed message on a short receiving-strip, substantially as described.

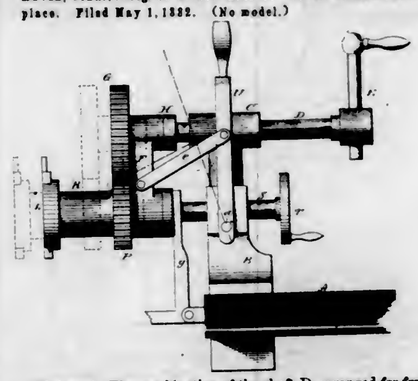
2. In an automatic telegraph system, the combination of a main line and its battery or batteries, a series of differently-toned vibrating reeds or circuit-breakers at the transmitting-station, a transmitting-strip having its perforations arranged successively in longitudinal rows, and having as many longitudinal rows of perforations as there are transmitting-reeds, means for making the circuit successively through the perforations of the different rows, so as to cause the vibration of the corresponding transmitting-reeds, a series of stylus-pointed vibrating reeds or circuit-breakers at the receiving-station, corresponding in tone to the reeds at the transmitting-station, a series of local circuits including the stylus-pointed reeds, a conducting-bed, and local batteries, and means for moving a chemically-prepared receiving-strip between the bed and the stylus-pointed reeds, whereby, by the operation of the transmitting-strip, marks or prints are recorded on the receiving-strip successively in longitudinal rows corresponding in relative position to the perforations in the transmitting-strip, substantially as described.

262,106. AUTOMATIC TELEGRAPH. ALBERT L. PARCELLS, Boston, Mass. Filed Dec. 20, 1881. (No model.)



Claim.—In an automatic telegraph, a series of musical transmitting-reeds, a series of receiving-reeds, and means for sending currents of one polarity through every alternate reed of each series and currents of an opposite polarity through the other reeds, as and for the purpose specified.

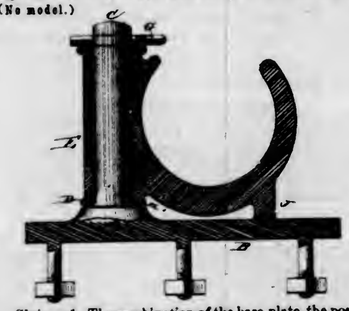
262,107. SPOKE-TENONING MACHINE. HILAIRE PARE, New Haven, Conn., assignor of one-half to Arthur Skinner, same place. Filed May 1, 1882. (No model.)



Claim.—1. The combination of the shaft D, arranged for free revolution and longitudinal movement in its bearing C, the arm F thereon, carrying the cutter-head R below and in line parallel with the shaft D, pinions connecting the shaft D and the cutter-head, and the centering-mandrel S, arranged longitudinally through the cutter-head, substantially as described.

2. The combination of the shaft D, arranged for free revolution and longitudinal movement in its bearing C, the arm F thereon, carrying the cutter-head R below and in line parallel with the shaft D, pinions connecting the shaft D and the cutter-head, and the centering-mandrel S, arranged longitudinally through the cutter-head, with the hand-lever U, connected to the arm which carries the cutter-head, substantially as described.

262,108. OAR-LOCK. JOHN W. PARKER, Clinton, Mass., assignor to Edward Greenwood, same place. Filed May 3, 1882. (No model.)



Claim.—1. The combination of the base-plate, the post formed thereon, the hook or stirrup swiveled to the post, and the lug J, formed on the hook or stirrup, substantially in the manner and for the purposes described.

2. The combination of the base-plate, the post formed thereon, the cone seat at the base of the post, the tube E, having a countersunk lower end resting on the cone seat, and the hook or stirrup formed on one side of the said tube, substantially as described.

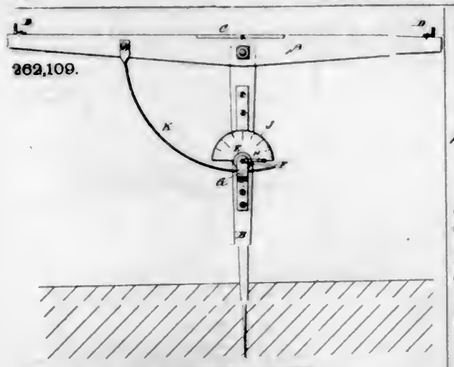
3. As a new article of manufacture, the base-plate B, the post C, and the lugs, all cast entire, for the purpose described.

262,109. GRADING-INSTRUMENT. FRANK PARTER, Defiance, Ohio. Filed Apr. 28, 1882. (Model.)

Claim.—1. In a grading-instrument, the combination, with a pivoted bar, of a quadrant-arm projecting from the lower edge of the same, a dial fixed on the stake, a roller, and a pointer-hand, which curved arm rests against the roller and rotates the same when the pivoted bar is inclined more or less, substantially as herein shown and described, and for the purpose set forth.

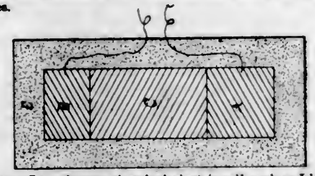
2. In a grading-instrument, the combination, with the stake B and the bar A, pivoted thereon, of the indicator-dial J, secured on the stake, the journaled roller E, the hand H, the quadrant-arm K, projecting from the lower edge of the bar A, and the sight-vanes D on the ends of the upper edge of the bar B, substantially as herein shown and described, and for the purpose set forth.

262,109.



262,110. THERMO-CHEMICAL ELECTRIC BATTERY. ANDREW PATTERSON, Idlewood, Pa. Filed May 6, 1882. (No model.)

Brief.—A mass of sulphuret of copper is interposed between two blocks of copper, one of which is heated and the other cooled. Applicant claims that the thermal current generated by the flow of heat across the junction will be assisted by a current due to the chemical decomposition and recomposition which the sulphuret undergoes.



Claim.—In a thermo-chemical electric cell such as I have described, the combination, in the relation of positive and negative elements, of substances capable of having their electrical relations reversed by the reversal of their relative temperatures, with an interposed mass of a compound substance capable of decomposition and recomposition by the joint action of heat and an electric current, as and for the purpose specified.

262,111. THERMO-ELECTRIC BATTERY. ANDREW PATTERSON, Idlewood, Pa. Filed May 6, 1882. (No model.)



Claim.—1. The combination, as a thermo-electric couple, of two compact masses of dissimilar thermo-electrically-excitable substances, A and B, arranged to have the heat applied directly to one of them and by conduction across the junction to the other, as described and shown.

2. In combination with the said elements A and B, the supplemental heat-conductors D and F, as and for the purpose specified.

3. In combination with said elements A and B, the envelope E, partially inclosing said elements, as and for the purpose specified.

262,112. SLATING COMPOUND. GEORGE W. PECAN, Brooklyn, N. Y. Filed Mar. 20, 1882. (No specimens.)

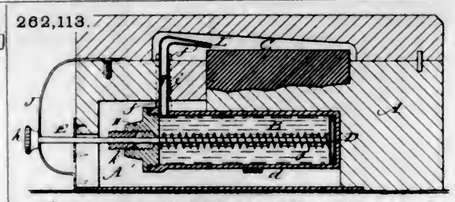
Claim.—1. The slating compound composed of pumice-stone, dyed and subsequently dried, substantially as herein described, and a binding menstruum composed of an alcoholic solution of shellac and oil, for the purpose specified.

2. The slating compound composed of pumice-stone, dyed with an infusion of logwood, and subsequently dried, substantially as herein described, and a binding-menstruum consisting of an alcoholic solution of shellac and oil, for the purpose specified.

262,113. OIL-STONE. JAMES B. PRINCE and BURRELL A. PRINCE, Browns Hill, Va. Filed Feb. 11, 1882. (No model.)

Claim.—1. The combination, with a block, of an oil-stone and reservoir arranged one above the other in cavities of said block, the said reservoir being connected by a pipe with a space

262,113.



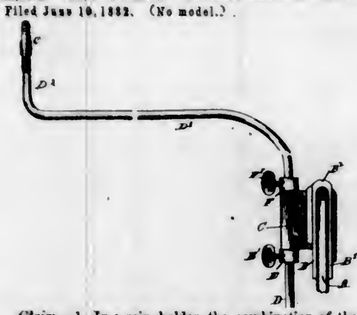
over the stone, and provided with means for forcing the oil through said pipe, for the purpose specified.

2. The block A, formed with the chamber A', in combination with the reservoir B, provided with the piston-head D, rod E, discharge-tube *g*, and filling-tube *f*, substantially as described.

3. The reservoir B, provided with the discharge-tube *g* and filling-tube *f*, in combination with the piston-head D, rod E, spring *j*, and stuffing-box *k*, substantially as and for the purposes described.

4. The oil-stone herein shown and described, consisting of the chambered block A, in which the stone is set, the reservoir B, held in the chamber of the block and provided with the discharge tube *g*, filling-tube *f*, piston-head D, rod E, spring *j*, and the cover K, the block being provided with the bow J, substantially as set forth.

262,114. REIN-HOLDER. DAVID E. PLATTER, Canton, Ohio. Filed June 10, 1882. (No model.)



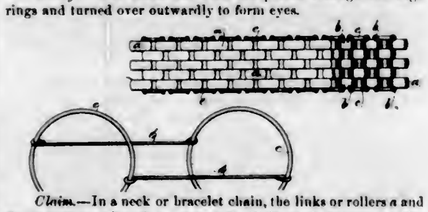
Claim.—1. In a rein-holder, the combination of the clamping-plates B B' with the socket B^2, and the swinging rod having the part D, mounted loosely in the socket, the collars E and F, and the stop f^3, substantially as set forth.

2. In a rein-holder, the combination of the clamping-plates B B', having the socket B^2, the vertically-adjustable swinging holder, the collar E below the socket B^2, the collar F above the socket, and provided with shoulders, and the stop f^3, arranged to engage with said shoulders, substantially as set forth.

3. In a rein-holder, the combination, with the clamp and the cross-head C, of the holder having the adjustable part D and the part D^2, pivotally connected with the cross-head.

262,115. NECK OR BRACELET CHAIN. MORRIS POLLAK, New York, N. Y., assignor to Lincoln, Tifft & Co., same place. Filed June 16, 1882. (No model.)

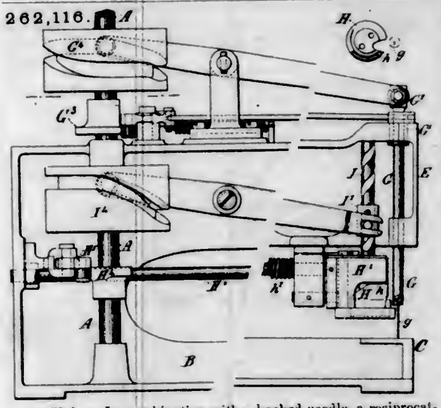
Brief.—The transverse wires are passed through the edge rings and turned over outwardly to form eyes.



Claim.—In a neck or bracelet chain, the links or rollers *a* and the transverse wires that connect the links, each transverse wire being bent at both ends to form an eye or hook, in combination with the edge links, *c*, that are received in to said eyes or hooks, substantially as set forth.

262,116. SEWING-MACHINE. JOHN W. RAMSDEN, Leeds, County of York, England. Filed Sept. 10, 1881. (Model.) Patented in England Apr. 8, 1881, No. 1,548, and in France June 4, 1881, No. 143,224.

262,116.



Claim.—In combination with a hooked needle, a reciprocating circular shuttle provided with a segment-shaped grooved rib or projection for the reception of the needle-hook as the point of the shuttle enters the loop of the needle-thread, and a reciprocating shuttle-carrier in which such shuttle is mounted, such carrier being actuated by a cam on the cam-shaft, so timed as to advance the shuttle toward the needle when the loop is fully formed, in order that the shuttle may enter the loop without the aid of a divider and release it from the loop.

262,117. WIND-ENGINE. HENRY J. RELYEA, Richmond, Ind., assignor to Henry C. Fox, same place. Filed June 21, 1882. (No model.)



Claim.—1. In a wind-engine having simultaneously and independently veering vane and wind-wheel frames and governor-wing, the cam N upon the vane-frame, in the described combination with arm O, and spring P upon the wind-wheel frame, for the purpose set forth.

2. In a wind-engine whose vane and wind-wheel are on jointed frames controlled by gravitating governor-wing, the combination, with brake mechanism consisting of wheel Q, spring R, and projection S, of the cam or eccentric N, constituting a rigid projection from the vane-frame, and the pivoted arm O and spring P upon the wheel-frame, substantially as and for the purpose set forth.

262,118. CHURN. DR ELBERT A. REYNOLDS, Lyons, Mich., assignor to Servah E. Reynolds, same place. Filed Dec. 15, 1881. (No model.)

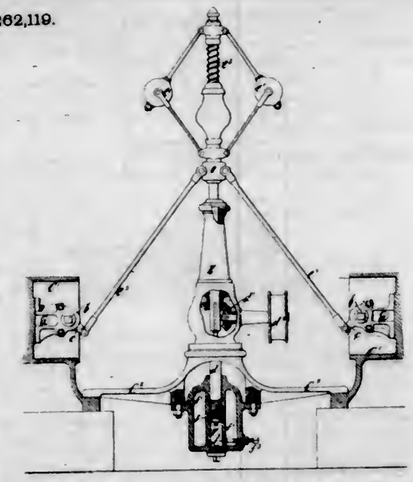


Claim.—1. The herein-described mechanism for operating churns, consisting of the tubular shaft C, having gear-wheel H, shaft F, journaled in said tubular shaft, and having pinion I, wheel J, having internal gear, and the lever M, pivoted upon the axis of wheel J, and having loose gear-wheel O, all arranged and operating substantially as and for the purpose set forth.

2. The combination of the cover B, having recess L and gear-wheel J, lever M, arranged in said recess, pivoted upon the axis of said gear-wheel, and having loose pinion O, shafts C F, and pinions H I, all constructed, arranged, and operating substantially as herein described, for the purpose shown and specified.

262,119. AIR COMPRESSING OR PUMPING ENGINE. GEORGE H. REYNOLDS, New York, N. Y., assignor of two-thirds to Cornelius H. Delamater and George H. Robinson, both of same place. Filed Jan. 10, 1882. (No model.)

262,119.



Claim.—1. The combination, with an air compressing or pumping engine provided with a cut-off valve, of a governor connected with the cut-off-valve gear, and a spring which is compressed when the governor rotates with excessive rapidity, and serves by its resilience to return the governor to its normal position and to open the cut-off valve against the pressure of the motive agent upon it, substantially as specified.

2. The combination, with two air compressing or pumping engines provided with cut-off valves and connected so that each is adapted to carry the other over the center, of a single governor connected with the cut-off-valve gear of both engines for controlling their operation, substantially as specified.

3. The combination, with two air compressing or pumping engines provided with cut-off valves arranged side by side, and connected so that each is adapted to carry the other over the center, of a single governor arranged between said engines, and rods connecting the governor with the cut-off-valve gear of both engines, substantially as specified.

4. The combination, with two air compressing or pumping engines connected so that each is adapted to carry the other over the center, of a single governor for controlling the operation of both engines, a ram-cylinder, and ram connected with the governor and adapted to act upon the valve-gear through the governor, and a controlling-valve adapted to open automatically to admit the compressed air to act upon said ram when the pressure of air exceeds that desired, substantially as specified.

5. The combination, with two air compressing or pumping engines connected so that each is adapted to carry the other over the center, of a single governor for controlling the operation of both engines, a ram-cylinder, and a ram applied directly to the governor-spindle for operating the cut-off-valve gear through the governor, and a controlling-valve adapted to open automatically to admit the compressed air to act upon said ram when the pressure of air exceeds that desired, substantially as specified.

6. The combination, with an air compressing or pumping engine and a governor for controlling its operation, of a ram-cylinder and a ram adapted to act upon the engine through the governor, and a controlling-valve mounted on the ram-cylinder, and adapted to open automatically to admit the compressed air to act upon said ram when the pressure of air exceeds that desired, substantially as specified.

7. The combination, with an air compressing or pumping engine and a governor for controlling its operation, of a ram-cylinder and a ram applied directly to the governor-spindle, and adapted to act upon the engine through the governor, and a controlling-valve adapted to open automatically to admit the compressed air to act upon said ram when the air-pressure exceeds that desired, substantially as specified.

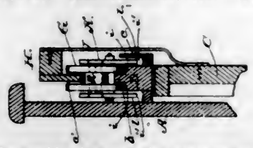
8. The combination, with an engine-governor, of a ram-cylinder and a ram applied to the lower end of its spindle, and a controlling-valve mounted upon said cylinder, and adapted to open automatically to admit compressed air to act upon said ram, substantially as specified.

9. The combination, with a ram-cylinder and a ram, of a controlling-valve adapted to open automatically to admit compressed

air to said cylinder to operate upon said ram, and a port or passage leading from the outlet side of said valve to the atmosphere, and adapted to be closed by said valve when the latter is open to admit air to act upon the ram, substantially as specified.

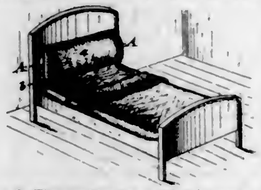
10. The combination of the valve-shell F', having seats g g'; the valve A, working between said seats, and the valve-stem h', having a longitudinal groove or passage, h^2, for the escape of air, substantially as specified.

262,120. DOOR-HANGER. HENRY E. RICHARDS, Ottawa, Ill. Filed May 28, 1880. Renewed Mar. 25, 1882. (Model.)



Claim.—The combination, with the lower track-rail, D, having the raised rib b and side recesses, i, the wheels G G', resting on said rail, the gate C, and the top track-rail, H, having rib c' extending down between the flanges of the wheels and connected to the gate by the depending plates J, of the stops upon the under side of the upper track-rail engaging the hub of the wheels between its flanges, and the box K upon the journals of one of the wheels, having lower edges, l, extending down into the recesses i, substantially as specified.

262,121. ADJUSTABLE BOLSTER-HEAD FOR BEDSTEADS. MORITZ RICHTER, Norwich, Conn. Filed June 22, 1882. (No model.)



Claim.—1. The combination, with the head-posts of a bedstead, of a head-bolster connected thereto by pivot-links, so as to be capable of use as a bolster or be adapted to be thrown up against the head-board of the bedstead, substantially as and for the purpose set forth.

2. The combination, with the head-posts of a bedstead, of a head-bolster connected thereto by pivot-links, and composed of an upper section, a lower section hinged thereto, and means whereby the upper section may be set higher or lower on the lower section, substantially as and for the purpose set forth.

3. The combination of a head-bolster, A, composed of an upper hinged section, a, having pivoted and spring-acted rack-bars d d and an operating-cord, c', and of a lower section, a', having fixed interior lugs, d^3, with exterior pivot-links, b b, applied to the head-posts of the bedstead, substantially as set forth.

262,122. ELEVATOR-BUCKET. WILLIAM D. RINEHART, Chicago, Ill., assignor of two-thirds to the Link Belt Machinery Company, same place. Filed June 16, 1882. (No model.)

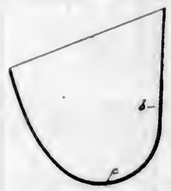


Claim.—A bucket or receptacle for elevator purposes, composed of paper, paper-pulp, or analogous fibrous material properly molded and pressed into shape and adapted to be attached to a belt.

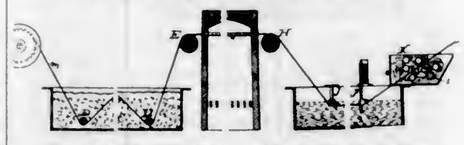
262,123. ELEVATOR-BUCKET. WILLIAM D. RINEHART, Chicago, Ill., assignor to the Link Belt Machinery Company, same place. Filed June 16, 1882. (No model.)

Claim.—An elevator-bucket composed of two or more previously-shaped shells of paper or paper-stock nested together with any suitable interposed cementing material and united, (under compression,) substantially as set forth.

262,123.

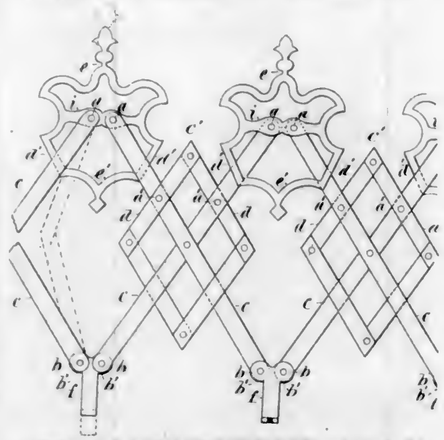


262,124. COATING METALS WITH ZINC. HENRY ROBERTS, Johnstown, Pa. Filed Dec. 17, 1880. (No model.)



Claim.—The method of removing the surplus of melted metal from the wires on emerging from the bath by working the wiping material k, so as to present constantly fresh surfaces, substantially as herein specified.

262,125. CRESTING. TIMOTHY ROGERS, Springfield, Ohio, assignor to the Rogers Iron Fence Company, same place. Filed May 8, 1882. (No model.)



Claim.—1. A cresting adjustable in height and length, the main cross-bars of which have their ends pivoted to separate pivots upon the ornament and feet of the same, as herein set forth.

2. In an adjustable cresting adapted to be folded, an ornament having two separate pivots in the same horizontal plane, by which it is connected with the top ends of two of the main cross-bars, whereby said ornament is held in vertical line irrespective of the adjustment, as specified.

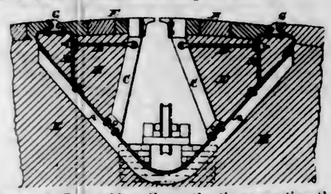
3. In an adjustable cresting, a supporting foot-piece provided with two separate pivots in the same horizontal plane, by which it is connected with the lower ends of two of the main cross-bars, the pivots of said foot-piece being in line with the pivots of the ornament to allow of vertical and horizontal adjustment and facilitate compact folding of the cresting.

4. In an adjustable cresting adapted to be folded, the arrangement of the ornaments and foot-pieces alternately upon opposite sides of the main cross-bars, to strengthen the cresting and to permit the overlapping of the members upon both sides in folding, whereby it is rendered more compact when folded, as hereinbefore set forth.

5. In an adjustable cresting constructed with the main cross-slats pivoted in the middle and flexibly connected at the ends with the ornaments and foot-pieces, as hereinbefore specified, the combination therewith of the intermediate quadrangular frame flexibly connected at the angles to adapt it to conform to the adjustment of the cresting, and having the upper bars of said frame pivoted to the main cross-slats above the middle pivot of the latter to allow it to be folded in with the other members of the cresting, as specified.

262,126. CONSTRUCTION OF CABLE RAILWAYS. HENRY ROOT, San Francisco, Cal. Filed Sept. 3, 1881. (No model.)

Brief.—Rails are connected together by means of bent ties, to which are secured upright supports, secured to which are slot-irons, the whole being supported on a masonry foundation and embedded in a bed of concrete forming the tunnel.



Claim.—1. In a cable railway, the tie connecting the rails and the upright supports for the slot-irons, in combination with a concrete foundation, substantially as and for the purpose herein described.

2. In a cable railway, the track-supporting ties A, in combination with the concrete foundation, substantially as and for the purpose herein described.

3. The combination of the rails G, ties A, and the tube formed of concrete or equivalent material, substantially as herein described.

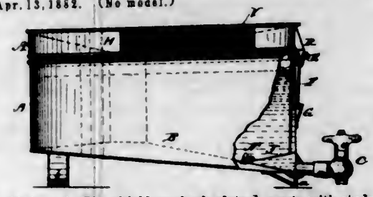
4. In a cable railway, the rails and slot-irons supported and united by the ties A, in combination with a continuous surrounding mass of concrete or equivalent material, forming a bond and a support for the roadway, substantially as and for the purpose herein described.

5. In an underground cable railway, a structure consisting of the rails, the slot-irons, and connecting-ties, consisting of bent bars embracing and supporting the tube, substantially as set forth.

6. The combined rails, slot-irons, and connections, supported by a masonry foundation built to form the tube or part thereof, substantially as set forth.

7. In a tramway-track for wire-rope railroads, a tube to receive the rope or cable, made of concrete or equivalent material, open at the top, and combined with iron ribs, substantially as set forth.

262,127. CREAMER. JOHN H. RUDY and THEOPHILUS WEAVER, Harrisburg, Pa.; said Weaver assignor to said Rudy. Filed Apr. 13, 1882. (No model.)



Claim.—1. The shield or check-plate J, made with studs K, to step on the bottom B of can A, next its wall, and held at its middle on the convex rise of said bottom by the fixed stud N thereon, in combination with the stem D, link F, and staple G, or their equivalents, for locking the same to place, substantially as set forth.

2. The close-fitting can-lid A', having its top plate, H, dished downward centrally or sloped on its under side toward a focal dropping-point to run off drops from condensation of vapor arising from the milk, in combination with the can having central pipe, S, arranged directly underneath said point to convey said condensations thereby out of the can, as and for the purpose set forth.

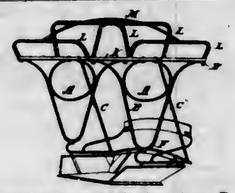
262,128. VEHICLE-TOP. CYRUS W. SALADEE, Torrington, Conn. Filed June 10, 1882. (No model.)

Claim.—1. In a carriage-top, the side braces, B B, bent of one piece of metal, and in combination with the intermediate stay, A, and the side bar, K, of the canopy, substantially as and for the purpose set forth.

2. The intermediate stay, A, combined with the side brace, B, and secured thereto by the bolts P and intermediate washer, O, as and for the purpose set forth.

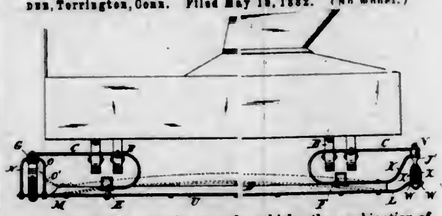
3. The curtain-knob B', carried by a bracket, combined with the bolt E and its nut, substantially as and for the purpose set forth.

262,128.



4. The combination, with the bent brace B, of the eye-piece F, secured to the bend of the brace and perforated to receive the pivot-pin, substantially as set forth.

262,129. RUNNING-GEAR FOR VEHICLES. CYRUS W. SALADEE, Torrington, Conn. Filed May 19, 1882. (No model.)

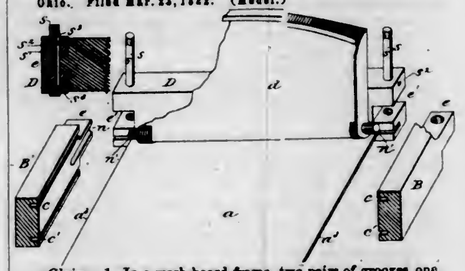


Claim.—1. In a running-gear for vehicles, the combination of the perch or perches connecting the axles, the bolsters, and braces C C, connected to the bolsters, arranged at the corners of the gear, and supporting the springs upon which the body rests, substantially as and for the purpose set forth.

2. The combination of the body, the springs B B, attached to the bottom of the body at the sides, then crossing each other below the body, and spring-supporting braces C C on opposite sides, supported by the frame, substantially as shown and described.

3. The combination of the saddle-clip having prongs X X and shoulder J', and pin, with the perch-braces K L, and rear axle, I, substantially as and for the purpose set forth.

262,130. WASHING-MACHINE. JAMES T. SARGENT, Cleveland, Ohio. Filed Mar. 23, 1882. (Model.)



Claim.—1. In a wash-board frame, two pairs of grooves, one pair lying wholly or chiefly on one side of a plane passing at or about midway between the rubbing-faces of the board, and the other pair being in like position as regards the same plane, but on the other side thereof, in combination with a reversible sliding brand-board capable of being removed at pleasure from either pair of grooves and inserted in the other pair, substantially as set forth.

2. In a double-faced wash-board, a removable and reversible brand-board, e, adapted to be set, by suitable grooves, in a separate position as regards the opposite rubbing-faces of the wash-board, and in either such position extend a little below the upper back edge of the cross-bar H and a little distance from it, substantially as set forth.

3. In a double-faced wash-board, the combination of a removable head-piece, a reversible brand-board, and two pairs of grooves in the inner faces of the side bars, whereby to adapt the position of the brand-board for use with the opposite rubbing-faces of the wash-board, substantially as set forth.

4. In a double-faced wash-board, a removable head-piece and a reversible protector, combined substantially as set forth, whereby the protector shall be reversed or reversible by or on the removal of the head-piece.

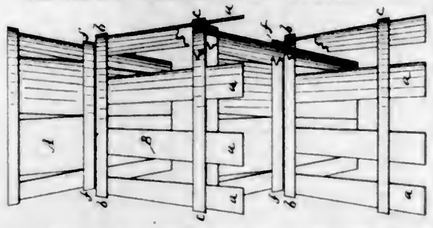
5. In combination with a wash-board, a removable head-piece, a reversible protector, and a reversible brand-board, substantially as set forth.

262,131. TRAVELING-BAG LOCK. MORRIS SCHWERIN, Newark, N. J. Filed May 8, 1882. (Model.)



Claim.—The lock frame or box A, cast or struck up from a single piece of metal, and made to inclose the parts of the lock and to form a support for the handle-fastenings, substantially as shown and described.

262,132. PROTECTING-SUPPORTER FOR FRUIT-PACKAGES. EDWARD S. SCOFIELD, Ridgeway, assignor to Selden D. Redman, New York, N. Y. Filed Mar. 27, 1882. (No model.)



Claim.—1. The protecting-supporter B, constructed of strips of wood, paper, or other material, bound by hoops and made open at both ends to receive the basket or package and forming a base to said package, as herein shown and described.

2. The package A and supporter B, the package resting within the top of the supporter, the supporter forming a base to the same, the supporter having on its inside and near the bottom a hoop, e, which forms a stop to rest on top of the package below, the package and supporter being made in one body, as herein shown and described.

3. The combination of the package A and the supporter B, made open at both ends, the small end of the package fitting in the small end of the supporter and being supported by it, the bottom of the supporter being of greater diameter to form a firm base, as set forth.

4. The combination of two or more packages, A A, and two or more supporters, B B, arranged in pairs, the small ends of each package and of its supporter fitting together, and the large end of each supporter fitting on top of the package below it, thus forming a stack, as herein shown and described.

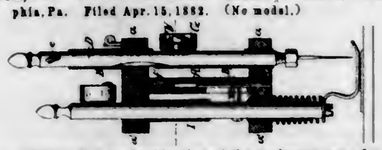
262,133. ARTIFICIAL PAVING AND BUILDING MATERIAL. ALEXANDER L. SCOTT, Philadelphia, Pa., assignor of part to himself, WILLIAM H. ADDICKS, and WILLIAM HOWARD BAKER, same place. Filed May 15, 1882. (No specimens.)

Claim.—1. As a new composition of matter, the artificial conglomerate-rock compound formed of a combination of native Trinidad asphaltum, coal-tar pitch, oxide of lead, asbestus, litharge or alum, refuse foundry-sand or its equivalent, and pulverized and broken granite or rock of a similar flinty nature, in the proportions and substantially in the manner hereinbefore set forth, and for the purposes specified.

2. The method hereinbefore described of treating asphaltic, bituminous, or composite blocks or surfaces for paving and other uses by subjecting the same to a bath or wash of warm dilute sulphuric acid in which leather scraps have been steeped immediately after the application of pressure, substantially as described, and for the purposes specified.

3. The method hereinbefore described of treating asphaltic, bituminous, or composite blocks or surfaces for paving and other uses by subjecting the same to a bath or wash of warm dilute sulphuric acid immediately after the application of pressure, substantially as described, and for the purposes specified.

262,134. SEWING-MACHINE. ROBERT W. SCOTT, Philadelphia, Pa. Filed Apr. 15, 1882. (No model.)

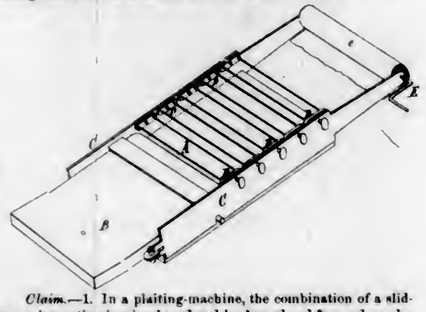


Claim.—1. The combination of the stationary arm of a sewing-machine and its projections *a a*, and the needle-bar and needle-arm, with the sleeve B, applied to the said projections and slotted to permit the free movement of the pin which connects the needle-arm to the needle-bar, all substantially as set forth.

2. The combination of the presser-bar and its rod or pin *m*, and the stationary arm and projections *a' a'* of the same, with the guiding-sleeve I, adapted to the said projections and slotted to admit the pin *m*, substantially as specified.

262,135. PLAITING-MACHINE. OSCAR G. SHAHB, Blanco, assignor of one-half to A. W. Maureaud, Blanco County, Tex. Filed May 4, 1882. (No model.)

Brief.—The plaiting-frames are turned and the material drawn through them. The frame next to the ironing-board is turned back to form the first plait, and thus until all the plaits are formed. The ironing-board is then moved under the plaits. The plaits are now sprinkled, and ironed with a hot sad-iron. The ironing-board is then removed and the material released.



Claim.—1. In a plaiting-machine, the combination of a sliding reciprocating ironing-board and backward and forward revolving plaiting-frames D, substantially as and for the purpose described.

2. In a plaiting-machine, the frame A C, having plaiting frames D, in combination with the longitudinally-sliding ironing-board B, substantially as and for the purpose described.

3. The revolving plaiting-frame D, hung in the side pieces, C, of the frame A C, and having thumb-wheels *d'*, substantially as and for the purpose described.

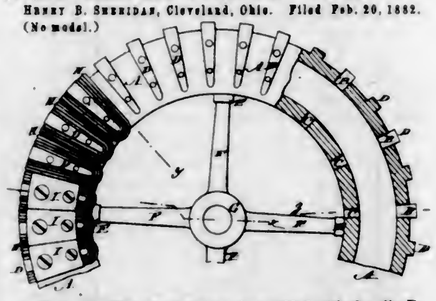
4. In a plaiting-machine, the combination of the revolving frame D, frame A, having a pinion, *a*, and an ironing-board having a rack, *b*, substantially as and for the purpose described.

5. The combination of the revolving frame D, frame A C, having guide-rollers a^2 a^3, and the sliding ironing-board B, substantially as and for the purpose described.

6. The combination of the revolving frame D, frame A C, and the ironing-board B, having guide-rollers b' b^2, substantially as and for the purpose described.

7. In a plaiting-machine, the combination of the frame A C, plaiting-frames D, ironing-board B, and windlass E, substantially as and for the purpose described.

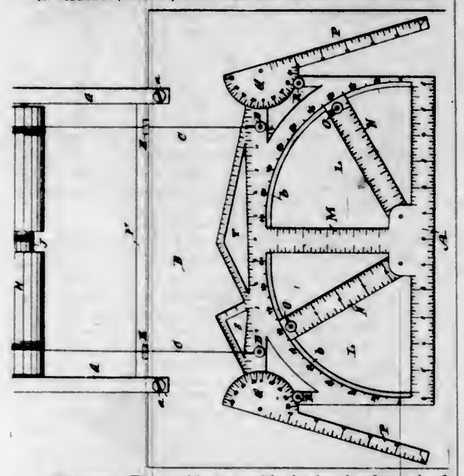
262,136. ARMATURE FOR DYNAMO-ELECTRIC MACHINES. HENRY B. SHERIDAN, Cleveland, Ohio. Filed Feb. 20, 1882. (No model.)



Claim.—1. The armature-core A, provided with the ribs D, crossing its circumference and having their tapering ends bent over and secured to the sides thereof, in combination with the helices H, bent twice at right angles and embracing the ribs and securing-plates I, substantially as and for the purpose set forth.

2. The helices H, tapered at their ends, bent twice at right angles and adapted to bear against opposite sides and circumference of the core, substantially as herein shown and described.

262,137. INSTRUMENT FOR PROJECTION-DRAWING. JUSTUS M. SILLIMAN, Easton, Pa. Filed Dec. 30, 1881. (No model.)



Claim.—1. The combination, with the drawing-frame A, of the wires C, the roller or shaft H on which these wires are wound, the wire J, wound on the roller or shaft H in the inverse direction of the wires C, and of the weight K, attached to the lower end of the wire J, substantially as herein shown and described.

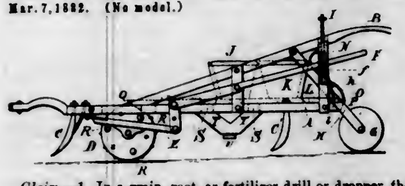
2. The combination, with the drawing-frame A, of the wires C, the guide-blocks E, the shaft or roller H, the wire J, and the weight K, substantially as herein shown and described, and for the purpose set forth.

3. The combination, with the drawing-frame A, of the wires C, the guide-blocks E, provided with apertures increasing in size on a curved line from the outer toward the inner surface, the wire J, and the weight K, substantially as herein shown and described, and for the purpose set forth.

4. The combination, with the drawing-board B, of the drawing-frame A, the arms G G, the guide-blocks E, the roller H, the wires C and J, and the weight K, substantially as herein shown and described, and for the purpose set forth.

5. The combination, with the drawing-frame A, of one or more triangles projecting from its upper edge, which triangles have their legs or shanks inclined differently and provided with different-graduated scales, whereby crystallo-graphic drawings can be made, substantially as herein shown and described, and for the purpose set forth.

262,138. GRAIN, ROOT, AND COMPOST DROPPER. JAMES J. SLATER, Lindale, Ohio, assignor of one-half to Thomas W. Townsley and James B. Townsley, both of same place. Filed Mar. 7, 1882. (No model.)

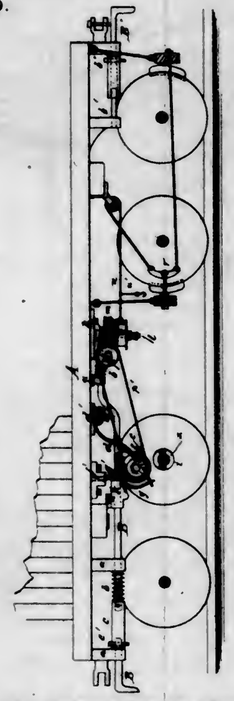


Claim.—1. In a grain, root, or fertilizer drill or dropper, the combination of forward or carrying wheel D in vertically-vibrating frame E, connected by link *c* with a lever, F, that engages in the rear of the implement in catch *f*, and the floating roller G in vertically-swinging frame H, having notches *h* for engagement of the levers I, whereby the forward or carrying wheel is thrown downward out of engagement with the delivery-slide and the rear covering-float is rendered rigid, for the purpose explained.

2. In a walking seed-planter, the combination of slide-actuating ground-wheel D and earth-compacting float G, journaled in vibrating frames E and H, capable of optional depression by the combined levers F S and catches *f h*, substantially as set forth.

262,139. AUTOMATIC CAR-BRAKE. BENJAMIN F. SMITH, Alabaster, Mich. Filed May 15, 1882. (No model.)

262,139.



Claim.—1. In brake mechanism, the combination of the slide-rod B, provided with cam *h*, the spring-arm *d*, carrying pulley *e* and sprocket-wheel *f*, and the plate *g*, connected to the spring-arm, together and with the axle provided with the pulley *i*, substantially as described.

2. In brake mechanism, the combination of the pulley *e*, sprocket-wheel *f*, chain *p'*, sprocket-wheel *p*, worm *o*, and spur-wheel *m*, fitted for operating the winding-drum, substantially as described.

3. In brake mechanism, the combination of the spur-wheel *m*, the winding-drum *s*, the pin *l*, formed with a beveled head, cam *t*, and buffer-rod B, substantially as described, for operation as set forth.

4. The combination of the buffer-rod B, cam *t*, pin *l*, spur-wheel *m*, winding-drum *s*, rope *u*, and brake-lever *v*, substantially as described, for operation as set forth.

5. In brake mechanism, the combination of the spur-wheel *m*, fitted for rotation from the car-axle, the winding-drum *s*, formed with beveled edges to engage the spur-wheel, and the buffer-rod B, operating by its backward movement to engage the winding-drum and spur-wheel, substantially as described.

6. In brake mechanism, the pulley *e*, fitted for rotation by contact with the pulley on the car-axle, the sprocket-wheel *f*, chain *p'*, sprocket-wheel *p*, and worm *o*, fitted to operate the winding-drum of the brake, chain, or rope, substantially as described, combined for operation as set forth.

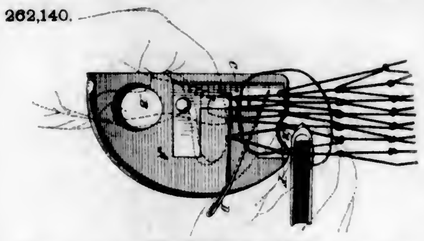
262,140. KNITTING-BOARD FOR MANUFACTURING NETS. NATHANIEL D. SOLLERS, Cove Point, Md. Filed Apr. 3, 1882. (Model.)

Brief.—The invention consists of a board provided with means for holding it conveniently in the hand and devices for engaging the threads or twine in the several stages in the process of tying the knots to form the meshes.

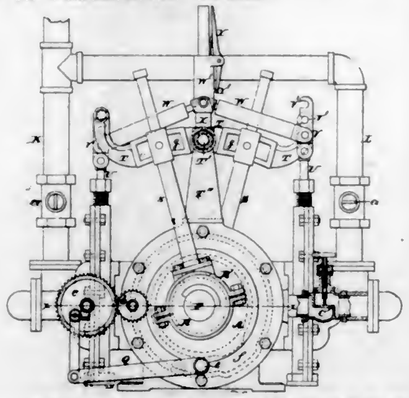
Claim.—1. A knitting-board for making nets, having a holder for the meshes and a hook to prevent the thread from slipping while the knot is being tied, substantially as shown and described.

2. A knitting-board of nearly-semicircular form, having a perforation through which a finger of the hand may be inserted, in combination with an adjustable holder, substantially as described, and a hook secured to the board to hold the thread in tying the knot, as shown and described.

262,140.



262,141. ROTARY ENGINE. WILLIAM SPRAGUE, Philadelphia, Pa. Filed Mar. 22, 1881. (No model.)



Claim.—1. In a rotary engine, the combination of the concentric piston-wheels and the movable abutment-blocks with two pistons and cylinders of different areas on the same shaft, a communicating pipe, and a compound check and stop valve, live steam being supplied to one cylinder and passing thence as exhaust-steam to the other cylinder, substantially as set forth.

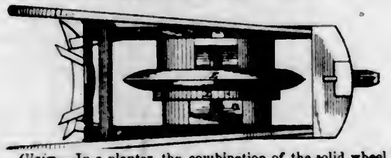
2. The combination, with the eccentrics, of the arms S, the rocking lever T, with slots *g*, and the valve-stems, substantially as and for the purpose set forth.

3. The hooks V' of the stems U, and levers W, in combination with collar X and sleeve W', substantially as and for the purpose set forth.

4. The combination, with the levers W, collar X, and sleeve W', of the catch Y and spring X', substantially as and for the purpose set forth.

5. The combination of double cylinders, valve mechanism, and reversing mechanism, constructed and operating substantially as and for the purpose set forth.

262,142. SEEDER AND PLANTER. HENRY J. SPRATLIN, Grantville, Ga. Filed May 17, 1882. (Model.)

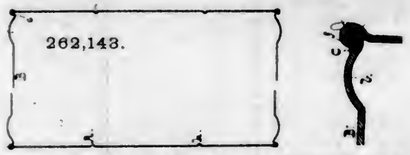


Claim.—In a planter, the combination of the solid wheel E, provided with the flange L, having openings through it for the seed to drop through, and having the stirring devices I, with the seed-boxes G H, and slides K, substantially as shown.

262,143. SHEET-METAL CAN. WILLIAM H. H. STEVENSON, Baltimore, Md. Filed Mar. 31, 1882. (No model.)

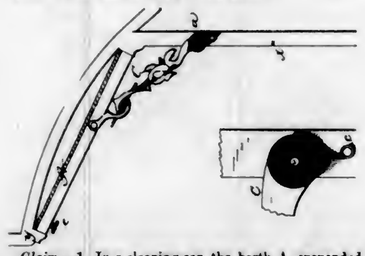
Claim.—1. A sheet-metal can having a gutter formed in the edge of its head, into which the edge of the walls is turned over in a curve non-contiguous to the upturned edge of the head, the raw edges of both walls and head lying in substantially the same horizontal plane and being covered by solder which secures the joint, as set forth.

262,143.



2. A sheet-metal can having a series of indented grooves at substantially equal distances from each other and from the heads, whereby a practically continuous surface is afforded for the attachment of the label and the walls are sustained against collapse, as set forth.

262,144. SLEEPING-CAR. GARLAND B. ST. JOHN, Cedar Rapids, Iowa. Filed Dec. 30, 1881. (No model.)



Claim.—1. In a sleeping-car, the berth A, suspended on the movable arm C, which is pivoted to its ends and at the sides of the car, midway between the two extreme positions of the berth, to act as a support and also as a fulcrum upon which to swing the berth up and down, substantially as set forth.

2. In a sleeping-car, the combination of berth A, arm C, and spring *a*, substantially as and for the purpose set forth.

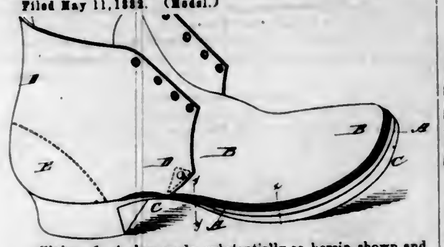
3. The combination of berth A, partition B, and movable arm C, substantially as and for the purpose set forth.

262,145. REFRIGERATOR. ELVERSO STOUT, Ottumwa, Iowa, assignor of one-half to John R. Shepherd, same place. Filed Mar. 9, 1882. (No model.)



Claim.—The combination of the ice-chamber *a*, having perforated floor B, the pans C E, forming water-ways leading from the ice-chamber with the receptacle-chambers D F below the pans, the construction being such that the receptacle-chambers may be opened without admitting air to the ice-chamber, as and for the purpose described.

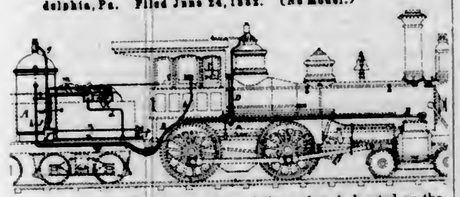
262,146. SHOE. THOMAS J. STRICKLAND, Randolph, Mass. Filed May 11, 1882. (Model.)



Claim.—1. A shoe made, substantially as herein shown and described, with the instep part of the inner sole left free, the edge of the forward part of the inner sole sewed to and between the outturned edge of the vamp, and the edge of the outer sole and the heel of the inner sole secured to the inturned edge of the counter and quarters and the outsole by pegs or nails, as set forth.

2. The mode of making shoes, substantially as herein shown and described, which consists in sewing the projecting edge of the forward part of the inner sole to and between the outturned edge of the vamp and the edge of the outsole, leaving the instep part of the inner sole free, sewing the outturned edges of the rear part of the vamp and the forward part of the quarters to the edge of the outsole only, and securing the heel of the inner sole to the inturned edges of the counter and quarters and the heel of the outsole by pegs or nails, as set forth.

262,147. FEED-WATER HEATER. GEORGE S. STRONG, Philadelphia, Pa. Filed June 24, 1882. (No model.)



Claim.—1. The combination of the casing A, located on the tender of the locomotive, and having internal heating-tubes and a filter, a pipe or pipes for conveying steam from the locomotive to said tubes, a feed-pump, also on the tender, for the maintaining the feed-water under pressure in the casing A, and a discharge-pipe leading from the casing to the boiler of the locomotive, as set forth.

2. The combination of the heater A, the exhaust-steam pipe B, and the safety-valve blow-off pipe D, communicating with said pipe B, as set forth.

3. The combination of the heater A, the exhaust-steam pipe B, the blow-off pipe D, and the chest *b*, having a sliding valve, *b'*, with port *b*, as set forth.

4. The combination of the heater A, the exhaust-steam pipe B, the blow-off pipe D, and the chest *b*, having a sliding valve, *b'*, with port *b* and rod *b'*, as specified.

5. The combination of the heater and feed-pump with the live-steam coil having a discharge-branch communicating with the steam-chest of the pump, as described.

6. The combination of the heater and feed-pump with the live-steam coil having two branches, *m m'*, the former communicating with the steam-chest of the pump, and the branch *m'* serving as a drain-pipe for the water of condensation.

7. The combination of the heater, the feed-pump, and the live-steam coil having a draining-branch, *m'*, communicating with the suction-pipe of the feed-pump, as set forth.

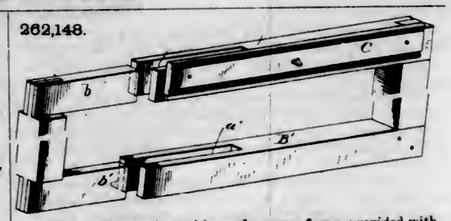
8. The combination of the heater, the feed-pump, the live-steam coil having a draining-branch, *m'*, the receptacle F, the pipes *n n'*, the gage *p*, and the valved pipe *s*, leading from the pipe *n'* to the suction-pipe of the pump, as specified.

9. The combination of the heater with two or more steam-coils, and with inlet and outlet chests having as many branches as there are coils, as specified.

262,148. WINDOW-SCREEN FRAME. JOHN E. STUART, Newark, N. Y. Filed Apr. 29, 1882. (No model.)

Brief.—The horizontal bars are slotted at their ends to receive laterally-projecting tongues on an upright shouldered side bar. The slotted ends and tongues are adapted to be cut away to reduce the width of the frame.

262,148.



Claim.—The horizontal bars of a screen-frame, provided with open slots in their ends, in combination with an upright shouldered bar provided with laterally-projecting tongues entering and filling said slots in the horizontal bars, adapting said slotted ends and the laterally-projecting tongues to be cut away for reducing the size of the frame, substantially as described.

262,149. MILK-STRAINER. GEORGE W. SUTPIN, Dundee, Ill. Filed Apr. 11, 1882. (No model.)



Claim.—1. In a milk-strainer, the U-shaped body A B C, provided with a strainer, I, in its upward bend C, and an outlet, J, above said strainer, as shown and described.

2. The combination, with the U-shaped body A B C and strainer I, of the pocket H in the bottom of the bend B, as shown and described.

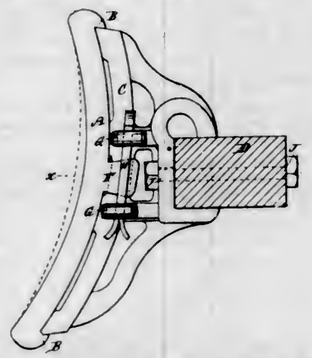
3. The combination, with the U-shaped body A B C, of the deflecting-cone E in the receiving side A and above the settling-chamber or main body B of the device, as shown and described.

4. The combination, in a milk-strainer provided with pocket H and strainer G in trap-section B, of the tap or plug I, substantially as shown and described.

5. The combination of receiver A, trap-section B, and straining and discharging section C in a milk-strainer, substantially as specified.

6. The combination of receiver A, fall-breaker E, trap-section B, sediment-trap G H, strainer-section C, and strainer I, substantially as specified.

262,150. BRAKE-SHOE. BENJAMIN M. TIFFANY, Ionia, Mich., and FRED. M. TIFFANY, Aurora, Ill., assignors of one-third to Sumner J. Ricker, Aurora, Ill. Filed Apr. 7, 1882. (No model.)



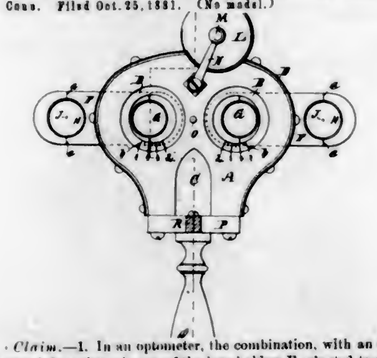
Claim.—1. The combination, with a brake-head provided with a tapering notch or recess in one of its longitudinal edges, of a brake-shoe provided with rearwardly-projecting flanges at its

ends, and a wedge-shaped wing projecting rearwardly from the shoe and fitting in the recess of the head, and means, substantially as herein shown and described, for securing the wing in said recess, as set forth.

2. The brake-head C, provided with recesses E in the edges, and with an apertured lug, G, above and below one of the recesses, combined with a brake-shoe, A, provided with a wing, F, and the key H, substantially as herein shown and described, and for the purpose set forth.

3. The combination, with the brake-head C, provided with recesses E and apertured lugs G, of the brake-shoe A, provided with a wing, F, the key H, the brake-shoe beam D, and the bolt J, substantially as herein shown and described, and for the purposes set forth.

262,151. OPTOMETER. ALFRED A. TROWBRIDGE, Danbury, Conn. Filed Oct. 25, 1881. (No model.)



Claim.—1. In an optometer, the combination, with an eye-apertured face-plate, A, one of the lens-holders F, adapted to slide back and forth in said face-plate, substantially as and for the purpose set forth.

2. In an optometer, the combination, with an eye-apertured face-plate, A, and lens-holders F, sliding in said face-plate, of the shield L, the hood D, the frame P, scale R, and adjustable carrier S, substantially as and for the purpose set forth.

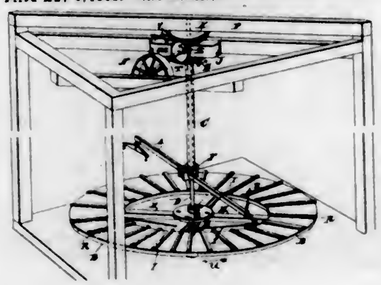
3. In an optometer, the combination, with the face-plate A B C, provided with the marks *b*, the shield D, and the devices F G H, provided with the marks *a*, of the frame having the handle Q, the scale-rod R, and the sliding card-carrier with pointer S', substantially as and for the purpose set forth.

4. In an optometer, the combination, with the plate A, provided with eye-apertures B, and with marks or a scale, *b*, in the edges of the apertures, of the sliding frames F, containing a lens, G, and an apertured disk, H, and provided with a mark, *a*, at each end, substantially as herein shown and described, and for the purpose set forth.

5. In an optometer, the slide F, constructed substantially as herein described and shown, with a lens, G, at one end and an apertured disk, H, at the other end, as set forth.

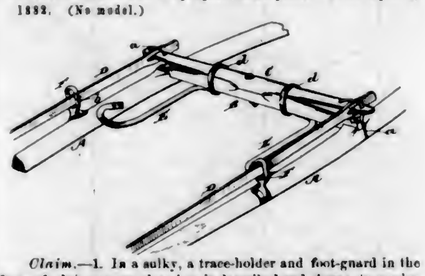
6. In an optometer, the slide F, provided with a lens, G, at one end and an apertured opaque disk at the other end, and with a mark or line, *a*, at each end, these marks corresponding with the centers of the lens and disk, respectively, substantially as shown and described, and for the purpose set forth.

262,152. HORSE-POWER. CHARLES H. TOMEY, San Antonio, assignor of one-half to Hancock & Hancock, Austin, Tex. Filed May 6, 1882. (No model.)



Claim.—In a horse-power, the combination of the hollow or sleeve shaft C, carrying the sweep or lever A, and bevel-gear wheel J, with the revolving platform B, solid shaft D, bevel-gear wheel K, and driven shaft M, having the pinion L, all constructed and relatively arranged as herein shown, to operate in the manner set forth.

262,153. SULKY. JOHN V. UPINGTON, Lexington, Ky., assignor of one-half to James T. Upington, same place. Filed Apr. 18, 1882. (No model.)



Claim.—1. In a sulky, a trace-holder and foot-guard in the form of a loop, arranged, as herein described and shown, to receive the trace and retain it from contact with the shafts and the driver's feet, substantially as set forth.

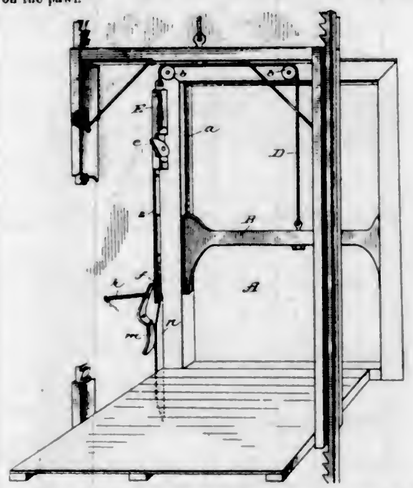
2. In a sulky having stirrup-braces for the driver's feet, a trace-holder in the form of a loop arranged in relation to the said stirrup-braces, as herein described and shown, for the purpose of retaining the traces from contact with the driver's feet and the shafts, substantially as described.

3. A trace-holder and foot-guard composed of a loop provided with one or more rollers, for the purpose of affording a rolling bearing for the trace and at the same time retaining the latter from contact with the driver's feet, substantially as described.

4. The trace-holder and foot-guard F, provided with a roller, *b*, and a curved base-plate, *c*, adapted to be attached to the side of the shaft, substantially as described.

262,154. ELEVATOR. CHARLES H. VINCENT, Lynn, Mass., assignor to Wm. A. S. Smyth and Wm. H. Hodgdon, both of same place. Filed May 1, 1882. (No model.)

Brief.—The gate is raised by hand. A spring-actuated pawl on the side of the well engages a pallet on the counter-weight of the gate, and is released by a cam on the car engaging a cam-leaf on the pawl.



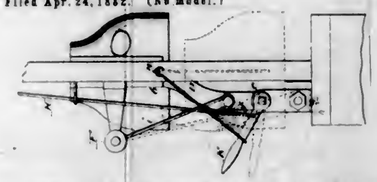
Claim.—1. The sliding gate B and suspended block E, in combination with a spring-catch adapted to engage with the said block, and a releasing device carried by the lift or platform.

2. The combination of the gate B, the suspended block E, having pallet *e*, the spring-pawl attached to the side of the well, and the cam *s* on the platform or lift.

3. In combination, the vertically-movable block E and pallet *e*, pivoted therein, the pawl *f*, attached to the side of the elevator-well, a device carried by the elevator-car, adapted to engage with the said pawl when the elevator reaches that point and push it forward to engage with the pallet *e* when the block is depressed, substantially as and for the purposes described.

4. In combination, the spring *h* and pawl *f*, the movable gate or bar B, and intermediate connecting devices, substantially as described, adapted to engage with the pawl and hold the bar suspended, as described, and a device carried by the elevator-car, whereby upon the departure of the car from that point the spring *h* is caused to operate a release of the said bar, substantially as described.

262,155. DROP-HAMMER. AIMÉ VUILLIER, Portland, Conn. Filed Apr. 24, 1882. (No model.)
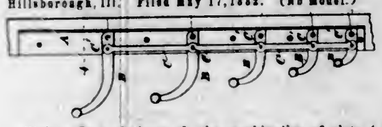


Claim.—1. In a drop-hammer, the combination therewith of the hinged stop-lever D, arranged to be turned into or away from the path of the hammer, the hand-lever E, in connection with said stop, and a catch to hold the stop in its active position, substantially as described.

2. In a drop-hammer, the combination of the two stop-levers D D, one arranged at each side, the rock-shaft F, and connections *i i* from said shaft to said levers, whereby the movement of one is imparted to the other, substantially as described.

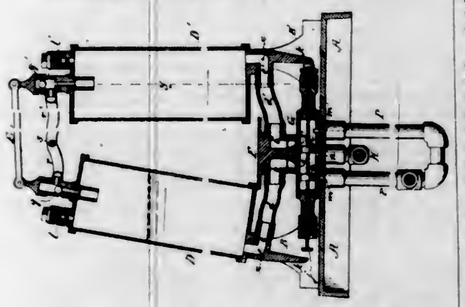
3. In a drop-hammer, the combination of the two stop-levers D D, one arranged at each side, the rock-shaft F, and connections *i i* from said shaft to said levers, whereby the movement of one is imparted to the other, with a spring, *h*, arranged outside the pivot, on which the lever or levers turn, substantially as described.

262,156. FOLDING CLOTHES-RACK. MATTHEW M. WALSH, Hillsborough, Ill. Filed May 17, 1882. (No model.)



Claim.—In a clothes-rack, the combination of plate A, two or more pivoted hooks B, and connecting-strip C, substantially as set forth.

262,157. HYDRAULIC AIR-COMPRESSOR. WILLIAM WARD, Philadelphia, Pa. Filed May 10, 1882. (No model.)



Claim.—1. The combination, in a hydraulic air-compressor, of the following elements, namely: first, two connected vessels, each hung out of center to a pivot separate from that of the other; second, a valve, ports, and passages, whereby water under pressure is directed to one vessel simultaneously with the exhaustion of water from the other vessel; third, mechanism whereby the vessels during the act of tilting are caused to operate the valve, and, fourth, discharge-valves for permitting the compressed air from one vessel to be forced to the delivery-pipe while the discharge-valve of the other vessel is closed, all substantially as set forth.

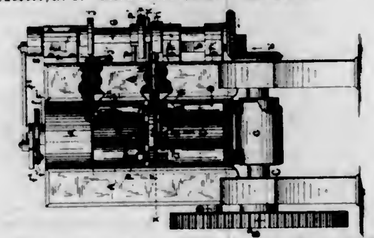
2. The combination of the two vessels D D', each pivoted out of center to its own pivot-pin, the connecting-rod E, the flexible tubular connections *r r* of the discharge-valve chests, with the delivery-pipe, and the flexible tubular connections *d d'*, forming inlet-passages, all substantially as specified.

3. The combination of the two connected vessels D D' and arms *k k*, one on each vessel, the valve-chest G, and its valve, having a spindle projecting from each end of the said valve-chest, substantially as set forth.

4. The combination of a hydraulic air-compressor and a pipe for directing water thereto with a regulating-valve controlled in one direction by a spring and in the other direction by the pressure of water which has passed the valve, all substantially as described.

5. The valve-chest M, its inlet and outlet branches *t t'*, the valve W, the piston *r'*, connected to the valve and adapted to a cylinder, Y, with the passage 2, forming a communication between the cylinder and interior of the valve-chest M, and spring *s*, interposed between an adjustable bearing, *y*, and the said piston, all substantially as set forth.

262,158. NUT-MAKING MACHINE. WILLIAM E. WARD, Port Chester, N. Y. Filed Dec. 19, 1881. (No model.)



Claim.—1. As an improvement in nut-blank machines wherein revolving roulette-carriers are employed, a carrier having a series of nut-blank receptacles or molds provided with cutting-edges, and a cutting-punch which co-operates with said cutting-edges for cutting blanks from a bar of metal in contact with said carrier and across a receptacle or mold, substantially as described.

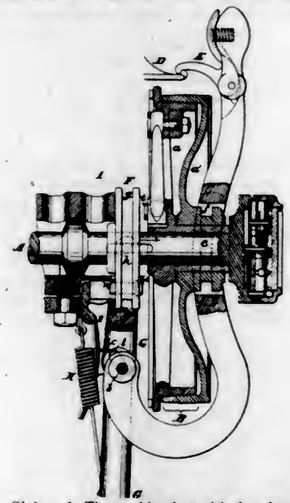
2. The combination, substantially as before set forth, of an intermittingly-revolving carrier, a plunger for removing the nut-blank from the carrier and a shearing-die for finishing the sides and corners of the blank.

3. The combination, substantially as before set forth, of a reciprocating cross-head provided with a punch for cutting blanks in succession from a bar, a punch for cutting the central hole in the nut-blank, and a plunger for transferring the blanks to a shearing-die, a crowning-die, J, a die, L, and a shearing-die, M, co-operating respectively with the punches and plunger above specified, and an intermittingly-revolving carrier for receiving, holding, and transferring each nut-blank in succession to the positions where the several operations for finishing it are performed.

4. The combination, substantially as before set forth, of a reciprocating punch for cutting nut-blanks in succession from a bar, a guide for such bar, an intermittingly-revolving carrier containing a series of receptacles for said blanks, a crowning-die arranged in axial alignment with each of such receptacles successively and with the punch, and adapted by suitable mechanism, as described, to approach the carrier at stated times to serve as a stationary mold for forming the top surface of the blanks in conjunction with the said reciprocating punch.

5. The combination, substantially as before set forth, of the following elements or mechanisms for making nut-blanks from cold bars of metal, viz: mechanism for guiding the bar of stock to the machine, mechanism for clamping the bar of stock in said guide while blanks are successively punched therefrom, mechanism for punching nut-blanks from such bar and transferring them to an intermittingly-revolving carrier provided with a series of receptacles for the blanks, mechanism for crowning the blanks, mechanism for punching a central hole in the blanks, mechanism for discharging the blanks from the roulette-carrier into and through a shearing-die, and trimming and shearing the same, and a roulette-carrier adapted by suitable mechanism, as described, to receive and hold the blanks one after another and transfer them to the several positions where the operations of crowning, perforating, and shearing of the blanks are to be performed.

262,159. CLUTCH AND STOP DEVICE. SIMON W. WARDWELL, Jr., Woonsocket, R. I. Filed Feb. 23, 1882. (No model.)



Claim.—1. The combination, with the wheel B, consisting of the sections *a a'*, of the lever C, carrying studs *e*, adapted to a groove, *f*, in the hub of the section *a'*, and bent inward to conform to the face of said section, substantially as set forth.

2. The combination of the shaft A, disk F, provided with a stud, *s*, spring-lever L, and spring-bar J, carried by the frame and arranged to be struck by the stud when the latter is carried inward, substantially as set forth.

3. The combination of the shaft A, disk F, stud *s*, devices for changing the longitudinal position of the stud, and a spring-bar, J, arranged to be struck by the stud when the latter is carried inward, substantially as set forth.

4. The combination of a driving-shaft, a wheel carrying a stud, *s*, a spring-lever arranged to be depressed by the stud and to spring back into the path thereof, a spring-bar arranged to be struck by the stud after it passes the lever, and appliances for moving the stud into and out of line with the lever and bar, all substantially as set forth.

5. The combination of the shaft A, wheel B, carrying a stud, *t*, disk F, carrying a stud, *s*, adjustable in respect to the wheel B, and spring-bearing for one or both of the studs, substantially as set forth.

6. The combination, with the driving-shaft of a machine, of a movable stud, *s*, and bearings arranged to be struck by said stud when the same is carried to one side, and to clamp the latter in a predetermined position, as specified.

262,160. WAX-THREAD SEWING-MACHINE. SIMON W. WARDWELL, Jr., Woonsocket, R. I. Filed Feb. 23, 1882. (No model.)

Claim.—1. The bed-piece A, carrying the driving-shaft, in combination with a detachable block, A', adapted to the bed, and with shuttle-operating and loop-spreading mechanism having its bearings in and carried by said block, substantially as set forth.

2. The detachable block A', in combination with the frame having a steam-chamber formed therein below said block and closed thereby, as set forth.

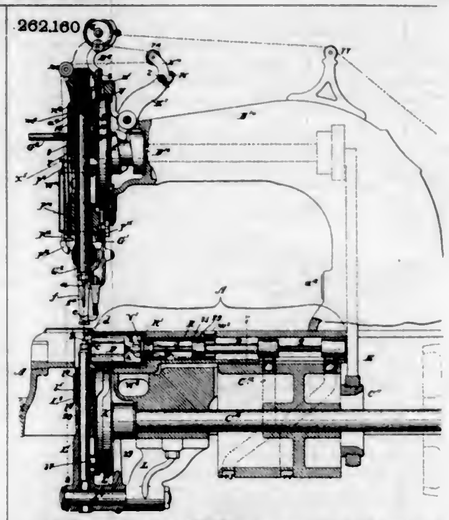
3. The combination, with the case R', having a spirally-slotted sleeve, R, and with the shuttle and driving-rod *g*, of a shaft, P, carrying a stud, 89, adapted to the slot of said sleeve, and a cam-cylinder, C^3, having grooves 43 44, adapted to receive studs *p' g'* on the shaft P and rod *g*, substantially as set forth.

4. The combination, with the lever L', of the awl-bar M, provided with a sleeve, L^3, having a lug, 38, a spring bearing said sleeve downward, bar N, and bar N^2, substantially as set forth.

5. The combination of the lever L', the awl-bar M, sliding thereon, sleeve L^3, sliding on the lever connected to the bar, and having a stud, 38, and spring i^2, substantially as set forth.

6. The combination, with the thread-pulley G, provided with flanges *s'*, of a lever, D^4, provided with biting-lugs *s s'*, and with devices for vibrating the lever to grip and release the pulley, substantially as set forth.

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7. The combination, with the presser-foot bar and elevating devices, and with the thread-pulley G and lever D^4, constructed and arranged, as set forth, to clamp and unclamp the same, of appliances constructed to swing the lever and unclamp the pulley as the foot is elevated, substantially as set forth.

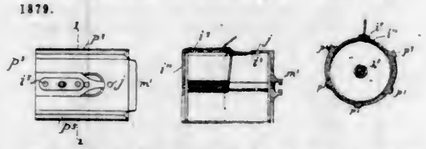
8. The cam-ring G^3, provided with a fixed shank, 9, pivoted beveled-ended handle 9^a, and rod m^4, bearing on the end of said handle, in combination with the presser-foot bar, pulley G, clamp-lever, ring m^3, and slide V, constructed to vibrate said lever, substantially as set forth.

9. The combination, with the presser-foot sleeve, gripping-rings 7 8, and operating mechanism of the spring p^{10}, arranged, as specified, to depress the front sides of said rings.

10. The combination, with the rings 7 8 and spring p^{10}, of an adjusting device for varying the force of said spring, as set forth.

11. The detachable steam-casing W^{14}, adapted to the arm and communicating with pipes p^{13} p^{14}, as specified.

262,161. SHUTTLE FOR WAX-THREAD SEWING-MACHINES. SIMON W. WARDWELL, Jr., Providence, R. I. Filed Aug. 1, 1879.

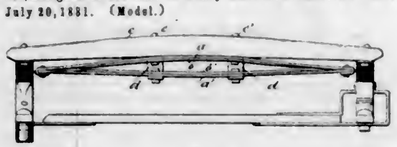


Claim.—1. A cylindrical shuttle for sewing-machines, provided with a series of three or more external parallel longitudinal ribs, arranged to bear upon the faces of the curved race to hold the body of the shuttle free from contact with the race and afford room for the reception of threads, as set forth.

2. The combination of a case having its top recessed and formed with guides, and a detachable L-shaped bracket fitting in the guides of the case, and having a spring-finger, *i*, adapted to engage with a shoulder of the case, substantially as set forth.

3. The bobbin provided with a recess, *l*, having a sharpened edge, as set forth.

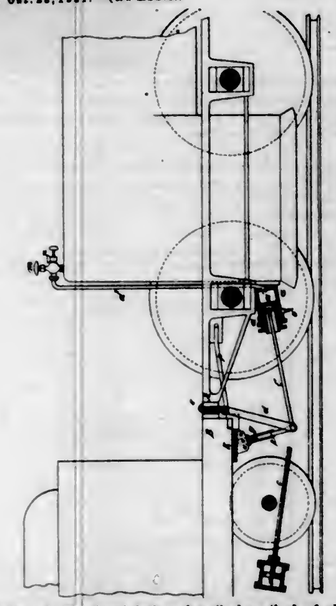
262,162. SPRING FOR VEHICLES. GEORGE W. WARREN, Bristol, assignor of one-half to Henry Warren, Goshen, Ind. Filed July 20, 1881. (Model.)



Claim.—1. A suspension vehicle-spring composed of two main leaves having their ends rigidly secured together, in combination with the lap-leaves made shorter than the main leaves and secured in contact with the inner sides of the main leaves, substantially as shown and described.

2. The vehicle-spring composed of the main leaves *a a'*, having their ends rigidly secured together, in combination with the side bar, *e*, to the under surface of which the upper main leaf is secured, and the bars *d*, connected to the lower main leaf of the spring for supporting the bed of the vehicle, substantially as shown and described

262,163. LOCOMOTIVE. HENRY WATERMAN, Hudson, N. Y. Filed Oct. 22, 1881. (No model.)



Claim.—1. The hereinbefore-described method of placing upon the driving-wheels of a locomotive an amount of weight not due to the weight of the engine, it consisting in combining with the frame of the engine and the tender a cylinder and piston, a connecting-rod, pivoted oscillating links, a supporting vibratory stud, and a shoe-piece for supporting the upper end of said stud, substantially as set forth, and for the purpose described.

2. The combination of the frame A of the engine, the brackets *e*, links *d d*, the elongating vibratory stud *f g*, a shoe-piece, *k*, having different holes or joints for connecting it with the upper end of the stud, a piston-rod, *c*, steam or air cylinder *a*, and piston *a'*, the parts being arranged for joint operation substantially as set forth.

3. The vibratory supporting-stud *f g*, constructed and arranged substantially as shown and described, whereby it is made to aid in transferring a portion of the weight of the tender to the driving-wheels of the engine, and in returning the parts to their proper positions for reapplication by the admission of steam or compressed air to the cylinder *a*, substantially as set forth and described.

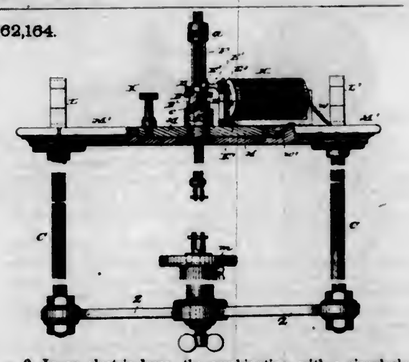
4. The shoe-piece *k*, constructed as shown, it having a series of holes or joints for regulating in different degrees the amount of weight to be placed upon the engine, substantially as set forth.

5. The pivoted oscillating links *d d*, in combination with the rear cross-bar of the frame of an engine, their upper ends being arranged at such a distance from each other as to allow the free vibration of a draw-bar between them, and their lower ends so near to each other as to form a central point upon which a portion of the weight of the tender may rest, substantially as shown.

262,164. ELECTRIC-ARC LAMP. JOHN E. WATSON, Louisville, Ky. Filed Apr. 27, 1882. (No model.)

Claim.—1. In an electric lamp, the combination, with the carbon-holder, of a clamping device and inclined planes governing the vertical movements thereof, substantially as specified.

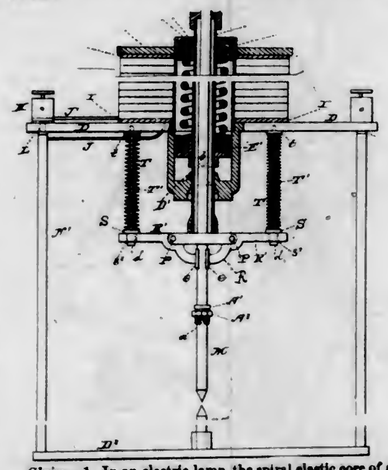
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2. In an electric lamp, the combination, with a circularly-moving governing-clamp operated on inclined planes having a circular or screw-like action, of a carbon-holder and the armature of an electro-magnet or helix, substantially as specified.

3. In an electric lamp, the combination, with a gravitating carbon-holder and the armature of a helix or electro-magnet, of a cam-socket through which the carbon-holder passes, a socket-bearing, a clamping-lever and springs, and a connection between said clamping-lever and armature, substantially as specified.

262,165. ELECTRIC-ARC LAMP. JOHN E. WATSON, Louisville, Ky., assignor of five-eighths to James F. Callaway and George S. Allison, both of same place. Filed Mar. 11, 1882. (No model.)



Claim.—1. In an electric lamp, the spiral elastic core of steel or other material subject to magnetic induction having its whirls or convolutions separated, in combination with a helix, substantially as specified.

2. The spiral elastic core, of steel or other material subject to magnetic induction, having its whirls or convolutions separated, in combination with a helix, substantially as specified.

3. In an electric lamp, an automatic feeding-clamp, in connection with the carbon-holder, the electro-magnet or helix and its connections, the elastic magnet-core, and the lifting-tube connecting said magnet-core and the feeding-clamp, substantially as specified.

4. The combination, with an electro-magnet and its spiral elastic core, of the guide-bearings, fastening-sockets, the lifting-tube, carbon-holders, base-plates, side posts, clamping device, carbons, and binding-posts, substantially as specified.

5. In an electric lamp, the combination, with the helix or electro-magnet and its connections, of the elastic magnet-core and the automatic feeding-clamp, substantially as specified.

262,166. CIGAR-MOLD AND BOX PRESS. HENRY J. WATERMAN, New York, N. Y. Filed June 30, 1882. (No model.)

262,166



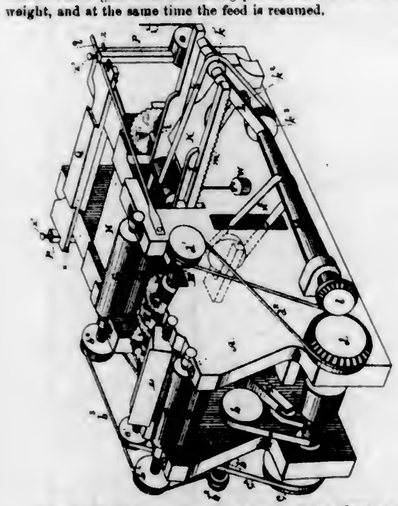
Claim.—1. The combination of a screw-spindle having an annular collar at the lower end with a removable follower having a center socket, and with removable covering-plates attached to the follower, the smaller covering-plate being of wedge shape and provided with beveled sides fitting into the beveled sides of the larger plate, substantially as specified.

2. The combination of a screw-spindle having an annular collar at the lower end with a detachable follower having a center socket, removable covering-plates, means for attaching the covering-plates to the follower, said follower being provided with strengthening-ribs extending from the center socket, and being cast integral therewith, substantially as specified.

3. In a cigar box and mold press, a follower having a center socket for the screw-spindle, means for detachably securing it to the spindle, and strengthening-ribs extending radially from the socket, and being cast integral therewith, substantially as set forth.

262,167. WOOD PLANING AND SAWING MACHINE. JAMES F. WELCH, Globe, Ariz. Filed Apr. 18, 1882. (No model.)

Brief.—The wood is planed, sawed longitudinally by adjustable circular saws, and then strikes a stop, which operates at the same time to stop the motion of the feed-rolls and to cause a traveling saw to traverse the bed laterally. This saw is automatically thrown out of gear with its driving-pinion and drawn back by a weight, and at the same time the feed is resumed.



Claim.—1. In a wood-working machine, the planer or surfacer D and the gang or set of ripping-saws F, in combination with the cutting-off saw J and the means for revolving said saw and causing it to travel across the work, consisting of the table I, upon which said saw is journaled, lever K, standard L, rack *m*, and pinion *n*, shafts C and M, gears *d* and *l*, pulleys *j k' k² k³ n'*, and belts *k n'*, substantially as herein described.

2. In a wood-working machine, the planer or surfacer D and the gang or set of ripping-saws F, in combination with the cutting-off saw J, traveling table I, with its rack *m*, and the means for automatically throwing said table in and out of gear to cause it to travel with the saw across the work, consisting of the sliding stop Q, spring-arms *q*, arms P, rocking shaft O, arm *o*, rod *o'*, rocking bracket *p*, pinion *n*, and the returning-weight W, substantially as herein described.

3. In a wood-working machine, the feed-rollers B and G, driven by means of the driving shaft C, pulleys *b b' b'*, and belts *a b'*, the planer or surfacer D, and gang or set of ripping-saws F, in combination with the cut-off saw J and traveling table I, operating as shown, and the means for stopping the feed-rollers B and G to allow the cut-off saw to accomplish its work, consisting of the lever S, affected by the movement of table I, and the lever T, with the spring *u* and tightener-pulley *t* in contact with the driving-belt *a*, and operating to stop said belt when removed therefrom, substantially as herein described.

262,168. WINDOW-SCREEN. ELMER J. WELLS, Kimball, Dak. Filed May 8, 1882. (No model.)

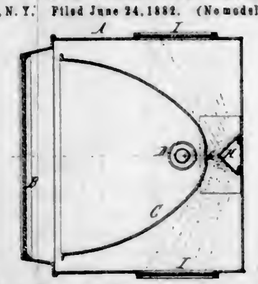
Brief.—Consists of a main screen with holes at its upper end and a short screen with holes hinged to the screen-frame and bent to form a chamber with part of the main screen.



Claim.—1. The combination of a screen, B, having the holes C through its upper end, with a hinged short screen, E, having the holes J, which short screen is constructed and arranged to operate substantially as set forth.

2. The combination of the screen B, which covers the entire frame A, and is provided with the holes C, and a short screen, E, which is so bent as to form a chamber in the upper end of the frame, and which short screen is pivoted to the frame, so as to be opened outward to allow the dead insects to be cleaned out, substantially as specified.

262,169. LOCOMOTIVE HEAD-LIGHT. EDWARD WILHELM, Buffalo, N. Y. Filed June 24, 1882. (No model.)

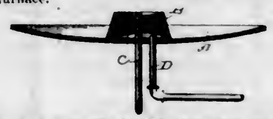


Claim.—1. In a head-light, a reflector provided with an opening arranged behind the burner, whereby light is emitted backwardly into the head-light case for illuminating signal plates or lenses applied to said case, substantially as set forth.

2. The combination, with a head-light case provided with signal plates or lenses, of a reflector constructed with an opening arranged behind the burner, and an auxiliary reflector, whereby the light emitted backwardly through such opening is directed toward the signal plates or lenses, substantially as set forth.

262,170. HYDROCARBON-BURNER. HOMER T. YARYAN, Toledo, Ohio, assignor to himself and Edward E. Dwight, same place. Filed Apr. 27, 1882. (No model.)

Brief.—The oil passes through the tube C to the cap B, from which it overflows, to be sprayed by the steam issuing from under said cap. The cup A deflects the mixed steam and oil toward the top of the furnace.



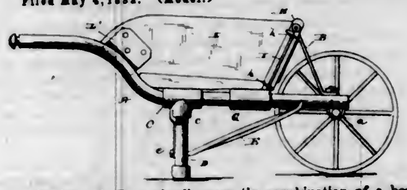
Claim.—1. A burner for liquid hydrocarbons, consisting of the concave plate A, the oil-pipe C, steam-pipe D, and cap B, the parts being combined and adapted to operate substantially as described.

2. The combination of the concave disk A, cap B, and the oil and steam pipes, the cap B being notched on its upper edge and provided with a cover, *m*, substantially as described.

3. A burner for liquid hydrocarbons, consisting of an overflow-cap, an oil-supply pipe and deflecting-plate, and a pipe for supplying a blast between the overflow-cap and the deflecting-plate, substantially as described.

4. In a hydrocarbon-burner, the concavo-convex deflecting-plate A, in combination with oil-supplying devices and a blast, substantially as and for the purpose set forth.

262,171. WHEELBARROW. JOHN BEAR, Springfield, Ohio, assignor to the Tricycle Manufacturing Company, same place. Filed May 4, 1882. (Model.)



Claim.—1. In a wheelbarrow, the combination of a beam with a coupling, a supporting-leg, and an interposed pointed disk or bottom adapted to indent the beam when the leg is screwed well into the coupling, substantially as set forth.

2. In a wheelbarrow, a coupling provided with an upwardly-extending projection adapted to receive the head-board standard, and an inwardly-projecting lug adapted to be connected with the bottom board, said lug being integral therewith, as shown and set forth.

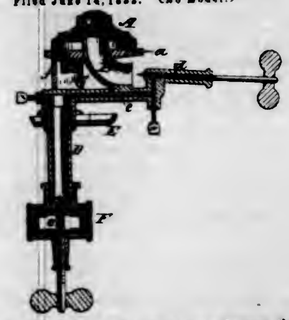
3. In a wheelbarrow, the side boards of the body adapted to extend down against the outside of the beams, and provided with elastic clips adapted to embrace the inner sides of the beams, whereby the boards are secured in position against lateral displacement, substantially as set forth.

4. In a wheelbarrow, the combination, with the beams and supporting-legs, of the V-shaped brace secured to the latter and adapted to prevent lateral shift, and the diagonal braces secured to the forward ends of the beams and passing through the legs, said diagonal braces being adapted to adjust the journals by means of tightening-nuts, substantially as set forth.

5. In a wheelbarrow, the combination of the beam, the head-board brace, and U-shaped journal, having arm adapted to extend through the beam and brace, and provided with nut, substantially as shown.

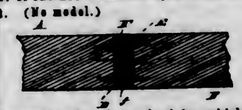
6. In a wheelbarrow, the combination of the couplings, the head-board standards, suitably braced with the grooved head-board, and lateral binding-rod, substantially as described.

262,172. VAPOR-BURNER FOR STOVES. MARTIN L. BEST, Canton, Ohio, assignor of one-half to Levi L. Miller, same place. Filed June 14, 1882. (No model.)



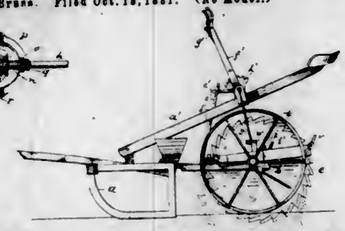
Claim.—In a heat-generating vapor-burner, the combination, with the burner-cap A, disk *a*, tube *b*, and mixing-chamber B, of the passage *c* and furnace C, arranged directly under the disk *a*, and having three inclosing-sides, *f*, substantially as and for the purpose set forth.

262,173. TIRE-TIGHTENER. JOHN R. BOSELL, New Salem, Ohio, assignor of one-half to Milton Sparry, same place. Filed May 29, 1882. (No model.)



Claim.—The combination, in a wheel for vehicles, of the tire C, fellies A and B, faced, respectively, with the ribbed plates D and E, top plate, G, having bolt-hole *g* and slot *h*, and detachable washers F, having ribs *f*, adapted to "nest" with one another and with the ribs of the end plates, D and E, substantially as and for the purpose herein shown and described.

262,174. CORN-PLANTER. ROBERT BRUCE and SIDNEY T. BRUCE, Marshall, Mo.; said Sidney T. Bruce assignor to said Robert Bruce. Filed Oct. 15, 1881. (No model.)



Claim.—1. In a corn-planter, the disk *e*, having pinion *f*, secured to its hub, and collar *g*, surrounding said pinion, and having recesses *p* and segmental gears *r* secured to its outer surface, so as to cover said recesses, substantially as shown and described.

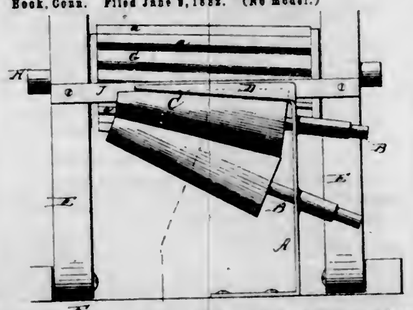
2. In a corn-planter, the combination, with the disk *e*, constructed as described, of the crank-shaft *h*, journaled in the axle *d* and frame *b*, and having pinion *g* and projection *o* rigidly secured thereto, the bevel-pinion *i*, journaled upon shaft *h*, and the spiral spring *u*, secured to said pinion *i* and projection *o*, substantially as shown and described.

3. In a corn-planter, the combination, with the disk *e*, having gearing, as described, and the shaft *h*, having crank *j* and the pitman *l*, of the swivel-bolt *m*, secured to the dropping-slide *k*, near one end thereof, substantially as shown and described, whereby the pitman shall be adapted to the oscillation of frames *a* and *b*, as set forth.

4. In a corn-planter, the combination, with the frame *b*, hinged at its forward end to the frame *a*, and carrying the disk *e*, of the frame *c*, having independently-moving sides supported upon the wheels *t*, and hinged to the frame *b*, the cross-rod *s*, having central crook, *d'*, and suitable means connected with the rod for adjusting the frame *b* and disk *e*, substantially as shown and described.

5. In a corn-planter, the combination, with the frame *b* and rod *s*, having notched plates *m'*, of the frame *c*, hinged to the ends of said rod, and having lugs *l'* fitting in the notches of said plates, the catches *k'*, adjustable rods *y*, and beam *a'*, and means connected with rod *s*, for raising and lowering the frame *b* and the disk *e*, substantially as shown and described.

262,175. HAT-SHAVING MACHINE. HUGH CAMPBELL, Sandy Hook, Conn. Filed June 9, 1882. (No model.)



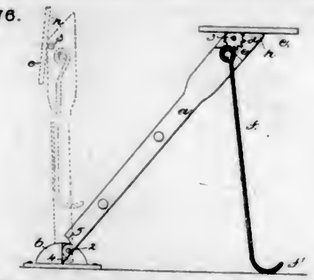
Claim.—The combination of the conical rollers arranged one above the other, the stationary concavo-convex rest D, arranged over the top roller, the vibrating frame E, the cylinder-bearing shearing-blades, and the guard J, secured to said frame, all constructed and arranged to operate substantially in the manner and for the purposes described.

262,176. STOOL. ALPHONSO H. CONN, Rockland, Me. Filed May 26, 1882. (No model.)

Claim.—1. The base and standard pivoted thereto and provided with shoulders to limit its movement on the said pivot, combined with the seat and leg, pivoted to the said standard near its free end and provided with pinions meshing together, substantially as described.

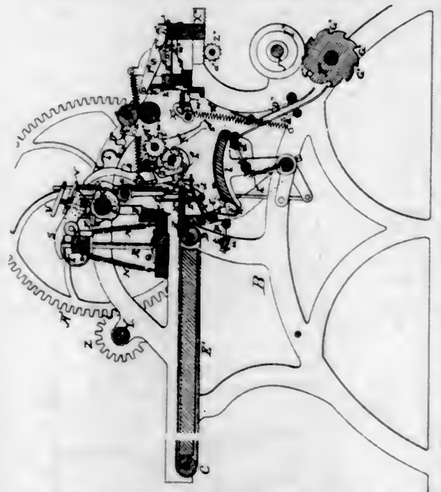
2. The base and standard pivoted thereto and beveled to form a seat-receiving portion, combined with the seat and leg pivoted to the said standard near its free end and provided with pinions meshing together, to operate substantially as described.

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3. The base and standard pivoted thereto and beveled at its free end to form a seat-receiving portion, combined with the seat and leg pivoted to the said standard and provided with pinions meshing together, the said leg consisting of a rod extended down at either side of the standard and provided with a foot portion transverse to the said standard, substantially as described.

262,177. CIGARETTE-MACHINE. JOHN COWMAN, New York, N. Y., and WILLIAM E. DICKINSON and THOMAS J. LUMIS, Hartford, Conn., assignors to the COWMAN MANUFACTURING COMPANY, New York, N. Y. Filed Mar. 23, 1882. (No model.)



Claim.—1. The board P, suspended horizontally by the springs N, in combination with the loosely-sustained vertical post R, dog S, and cam X, substantially as set forth.

2. In a cigarette-machine in which the tobacco is rolled by a flexible apron, the means herein described for forming the tobacco-pocket, consisting of the roller *d*, secured between the sliding plates *b*, which are supplied with springs *c*, and means for depressing the plates, substantially as set forth.

3. The combination of the tobacco feed-table, tobacco-knife, upper and lower slides, and upper and lower strippers, the upper slide being adapted to drop the strip of tobacco upon the lower slide and the lower slide then to drop it into the rolling-pocket, substantially as set forth.

4. In a cigarette-machine, the combination of the rolling-apron having cigarette-pocket, the roller *w'*, for closing the pocket and moving it forward, and the rod or roller *p*, provided with mechanism whereby it is rocked upward while the pocket is being closed and then downward again during the forward movement of the pocket, substantially as set forth.

5. The apron having its rear edge secured upon a rod, and sufficiently slack in its adjustment to have a cigarette-pocket formed at its end, in combination with the roller *w'*, secured between bars, which are provided with mechanism to give them a vertical movement and also an oscillatory movement, the roller being employed for closing said pocket and carrying it forward, and with mechanism for giving the rod at the rear edge of the apron an upward movement while the pocket is being closed and then a downward movement, substantially as set forth.

6. The combination of the traveling jaws extending across the entire width of the paper for feeding said paper to the knife in the manner described, the upper jaw having a spring-tension downward on the lower jaw, and provided in its ends with pins *t''*, which, upon the forward movement of the jaws, ride up inclined surfaces and are gradually forced into their pockets, whereby at the extremity of the forward movement the spring is permitted to close the jaws against the paper, substantially as set forth.

7. In a cigarette-machine, the combination of the tobacco feed-table, the tobacco-knife, upper and lower slides, and upper and lower scrapers, the slides being secured upon the lower ends of the swinging bars, the upper ends of which have a spring-tension toward the rear, and are adapted to be moved toward the front by cams, substantially as set forth.

8. In a cigarette-machine, the presser-board P, suspended by springs in a horizontal position, in combination with the post R, set loosely in bearings, and means for depressing the post, substantially as set forth.

9. The combination of the traveling jaws or bars T' U'', for feeding the paper to the knife, the upper jaw having a spring, *s''*, and pins *t''*, with the inclines *w''* and *x''*, substantially as specified.

10. In a cigarette-machine, the combination of the paper-cutter and traveling feed-jaws, the cutter having a spring-tension upward, and provided with mechanism which is actuated to depress the knife by the forward movement of the feed-jaws, substantially as set forth.

11. In a cigarette-machine, the combination of the paper-cutter having a spring-tension upward, and suspended by the pivoted bars P^3, the traveling feed-jaws T' U'', and the spring-bars S^2, which engage the bars P^3 upon the forward movement of the feed-jaws, substantially as set forth.

12. The apron having its rear edge secured upon a rod, and adapted to have a cigarette-pocket formed in it, in combination with the roller for closing the pocket and carrying it forward, and with the rod *t*, link *x*, lever *y*, and cam *a'*, the rear end of the lever having a spring-tension downward, substantially as set forth.

13. In a cigarette-machine, the combination of the traveling feed-jaws, the clamping-jaws, and the plates H^2, secured adjacent the ends of the feed-jaws by pins I^2, which enter inclined elongated slots, said plates being provided to raise or lower the upper clamping-jaw when actuated by the feed-jaws, substantially as specified.

14. In a cigarette-machine, the combination of the feed-jaws extending across the machine, the lower jaw being secured between racks X'', with the mechanism for imparting a traveling movement to them, which consists of the said racks, the pinions, and the bar *b''*, having a rack on its end, the movement of the bar *b''* being controlled by the pin *f''* impinging a cam-surface, substantially as set forth.

15. In a cigarette-machine, the combination of the feed-jaws with the bar *b''* and intermediate mechanism, the bar having a rack provided with adjustable bearings, whereby the extent of the movement of the jaws may be regulated, substantially as described.

16. In a cigarette-machine, the combination of the pivotally-secured pasting apparatus, the set-screw and locking-nut, and the frame against which the set-screw acts, substantially as and for the purpose set forth.

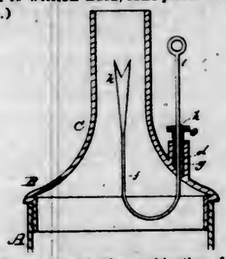
17. In a cigarette-machine, the combination, with the pivotally-secured pasting apparatus, of the bar E^4, spring-pin F^4, and frame upon which the pin acts, whereby the apparatus may be elevated and sustained in that position and the paste-rollers turned independently of the other parts of the machine, substantially as set forth.

18. In a cigarette-machine, the pasting apparatus consisting of two rollers geared together, in combination with the gear-wheel which imparts motion to the lower roller, and is mounted loosely upon the end of its axle, the ratchet-wheel rigidly secured on the end of said axle, and the spring-pawl secured on the said gear-wheel in appropriate relation to the ratchet, whereby the motion of the gear-wheel may be communicated to the axle, and at the same time permit the axle to be turned by a hand-wheel while the said gear-wheel is at rest, substantially as set forth.

19. In a cigarette-machine, the roller F'', having a series of pockets, G'', and a series of annular grooves, H'', in combination with the series of cutters I'', the roller having mechanism to impart an intermittent motion to it, substantially as set forth.

20. The roller F'', having longitudinal pockets G'' and annular grooves H'', in combination with the series of cutters I'', and with the ratchet M'' and pawl N'', actuated by a cam to move the ratchet, substantially as set forth.

262,178. TORCH. JOHN B. DUNN, Terre Haute, Ind., assignor of one-half to William Mack, same place. Filed May 4, 1882. (No model.)



Claim.—In an oil-torch, the combination of the threaded and chambered aperture *d* in the breast, the perforated screw *e*, packing *g*, and U-shaped wire feeder *f*, having the upwardly-turned, forked, and flattened end *h*, substantially as specified.

262,179. PLUSH TRIMMING. GEORGE F. SMITHER, New York, N. Y. Filed Apr. 25, 1882. (No model.)



Claim.—As a new and improved article of manufacture, a woven plush trimming consisting of the usual weaving-warp and a superimposed warp of chenille, the two warps being suitably united by transverse shuttle-threads, and the completed fabric having selvages formed on its edges in the weaving, substantially as set forth.

262,180. SUPPORT FOR TELEPHONES. AMOS HADLEY, Washington, D. C. Filed Mar. 7, 1882. (No model.)

Brief.—A swinging arm is attached to the side of a desk, the telephonic instruments being carried by said arm. The line and battery connections are made by means of flexible conductors.



Claim.—1. The combination, with a desk or table, of a platform, A, pivotally secured at or adjacent to one side thereof, and a telephonic apparatus arranged upon said platform, substantially as set forth.

2. The combination of a desk, pivoted platform A, telephonic apparatus supported thereby, and flexible wires connecting the said apparatus with the line-wires, as specified.

3. The combination of the desk and pivoted platform, supporting a telephonic apparatus and arranged at a level above the top of the desk, substantially as set forth.

4. The combination of the desk, platform, telephonic apparatus, and hollow pivotal rod B at the side of the desk, receiving the transmitting-wires, substantially as set forth.

5. The combination, with the platform A, of the signaling-instrument *d*, transmitter *f*, and inclined plate *g*, as set forth.

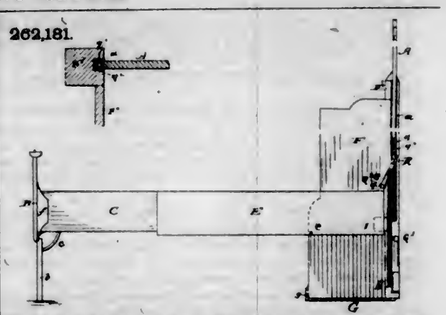
6. The combination, with the supporting-platform, of a standard, *e*, and signaling and transmitting instruments secured to opposite sides thereof, substantially as specified.

7. The combination of the desk, platform, telephonic instrument, switch-plate D, and switch F, substantially as specified.

262,181. FOLDING BED. HENRY S. HALE, Philadelphia, Pa. Filed Mar. 16, 1882. (No model.)

Claim.—1. In a folding bed, the combination, with the vertically-swinging part and the vertically-sliding head-board connected therewith, of the anti-friction rollers, arranged, substantially as set forth, in proximity to the head-board, to provide a rolling bearing-surface therefor, whereby it is prevented from binding in its guide, as described.

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2. In a folding bed, the combination, with the swinging part, the sliding head-board connected therewith, and the head-board frame provided with grooves for the head-board, of anti-friction rollers situated in said grooves parallel with the head-board, and other anti-friction rollers at right angles to the plane of the head-board, whereby the head-board is prevented from binding either at its edges or upon its faces in its guide, substantially as set forth.

3. In a folding bed, the combination, with the swinging part and the sliding head-board, of the intermediate links or levers united directly to the lower edge of the head-board by pivots and adapted to be connected with the swinging part of the bed, substantially as set forth.

4. In a folding bed, the combination, with the swinging bed and the sliding head-board, of the links or levers connected to said head-board and adapted to be detachably connected automatically to the swinging bed, substantially as set forth.

5. In a folding bed, the combination, with the swinging bed provided with pins or arms at the inner end and a sliding head-board, of the intermediate links or levers connected to the head-board and provided with open sockets adapted to be detachably engaged with the pins or arms on the swinging bed, and means for automatically detaching said pins from said links or levers, substantially as set forth.

6. In a folding bed, the combination, with the swinging part and a counterbalancing-weight adapted to be attached to and detached from the swinging part, of means, substantially such as described, for automatically engaging said counterbalancing-weight with the swinging part when the latter is moving through the lower part of its path, and means, substantially such described, for automatically disengaging the weight from the swinging part when the latter is in the upper part of its path.

7. In a folding bed, the combination of the swinging part, the sliding head-board, the intermediate connecting devices, means, substantially such as set forth, for automatically disengaging the head-board from the swinging part, and stops arranged, substantially as set forth, to prevent the downward movement of the head-board before the swinging part of the bed has reached its uppermost position.

8. In a folding bed, the combination of the swinging part, the sliding head-board, means, substantially such as described, for automatically engaging the sliding head-board with the swinging part of the bed, springs arranged, as set forth, to draw the head-board downward, and means, substantially such as set forth, for automatically disengaging said springs and the sliding head-board from the swinging part of the bed.

9. In a folding bed, the combination of the swinging part provided with a constant weight, I, at its inner end, another separate detachable weight, means, substantially such as set forth, to engage said detachable weight with the swinging part of the bed when the latter is traveling through the lower part of its path, and means, substantially such as set forth, for disengaging said separate detachable weight from the bed when it is in the upper part of its path.

10. In a folding-bed, the combination, with the swinging bed provided with a constant weight at its inner end, of the sliding head-board and intermediate devices which connect the head-board with the bed while the latter is traveling through the lower part of its path, and which are disconnected from the bed when it is in the upper part of its path, substantially as set forth.

11. The combination, with the counter-balance having its ends recessed, of the supporting-brackets, each provided with a single central web, substantially as set forth.

12. In a folding bed, the combination, with the sliding sections, of the cross-rail K, connected to the foot-board, and the bolster-blocks *m*, connected with the bottom or panel portion, H, substantially as set forth.

13. In a folding bed, the combination, with the sliding rail-sections, of the bolster-blocks *m*, attached to the panel or bottom H, the bars J, cross-bar K, and the supporting-bars M M, having the spring-supporting bars connected therewith, substantially as set forth.

14. In a folding bed, the combination, with the inner side rails, E E, the outer rails, C C, the foot-board, and the uprights F, of the plates or blocks *f f*, secured stationarily relatively to the side pieces C C of the swinging part, and arranged to brace said side pieces and foot-board and to overlap the ends of the uprights F, substantially as set forth.

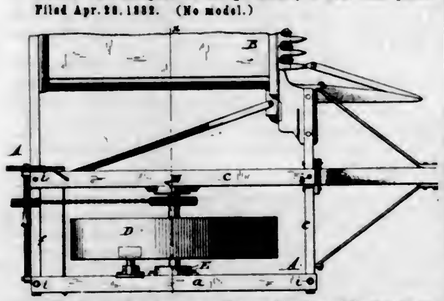
15. In a folding bed, the combination of the side rail-sections C C, the foot-board A, secured rigidly to said rail-sections, the legs *b b*, united to the foot-board by a hinge-connection, and the segment-brace *c*, for holding the legs firmly relatively to the swinging part and the foot-board, substantially as set forth.

16. In a folding bed, the combination, with the side rail-section E, having a groove or way in its inner face, and the sliding rail-section C, of the inner roller, *d*, and the outer roller, *d'*, both situated on the same side of the bed and interposed between the two rail-sections, each roller being arranged, as set forth, to prevent the rail-sections from rocking about the other roller, substantially as set forth.

17. In a folding bed, the combination, with the head frame or casing F F, of rail-sections E E, hinged to said frame or casing, the sliding rail-sections C C, the rollers *d d'*, interposed between the overlapping ends of said rail-sections E and C, and arranged to support said overlapping ends vertically, said rail-sections E and C being constructed to cover and conceal the slats and spring-supports, whereby the swinging part of the bed is capable of longitudinal expansion and contraction, and turning bodily up or down upon its hinge without exposing laterally any of the interior parts of said swinging portion and without necessitating a support from the floor for the overlapping ends of the sections, substantially as set forth.

18. In a folding bed, the combination, with the head frame or casing F F, of the rail-sections E E, hinged to said frame or casing, the counterbalancing-weight applied to said sections inside of the line of hinging, and the sliding rail-sections C C, arranged, substantially as set forth, to be moved up nearer to said counterbalancing-weight before the bed is turned up, whereby the swinging portion of the bed can be counterbalanced by a decreased weight.

262,182. HARVESTING-MACHINE. JOB HARRISON, Whitewater, Wis., assignor to George Esterly & Son, same place. Filed Apr. 28, 1882. (No model.)



Claim.—1. In a harvester, the combination of the transverse timbers *e* and *f*, sustaining the grain-platform, two pairs of longitudinal timbers arranged and secured to the transverse timbers in the manner described and shown, the main wheel, and the wheel-supporting plates E, each bolted at opposite ends to two of the longitudinal timbers.

2. In a harvester, the combination, with the grain platform and elevator, of the frame for sustaining the same on the main wheel, consisting of two transverse extended timbers, *e f*, the outside longitudinal timbers, *a b*, one above the other, the inside timbers, *c* and *d*, one above the other, the corner standards, *g h*, the vertical bolts passed through both the longitudinal and transverse timbers, and the plates E, secured at their two ends to the longitudinal timbers, as shown.

3. In combination with the main wheel and axle and the carrying-plates E, the two outside frame-timbers, one above another, the two inside timbers arranged in like manner, and the two transverse timbers *e* and *f*, bolted firmly to and between the inside and outside timbers, as described, and extended beyond the inside timbers to support the main platform, as set forth.

4. The main wheel and axle and the axle-supporting plates E, each bolted at opposite ends to two longitudinal timbers, in combination with the two transverse timbers *e* and *f*, connected rigidly with the ends of the four longitudinal timbers in the manner described and shown.

5. In a harvester, a main wheel and axle, combined with two supporting-plates at opposite ends of the axle, each plate being bolted at opposite ends firmly to two longitudinal timbers secured rigidly in and forming part of the main frame, as shown.

6. In combination with the elevator-frame having the open notches or seats, the elevator-rolls, and the fastening boards or timbers encircling the journals of the rolls and detachably secured to the elevator-frame, as described and shown.

7. In combination with the elevator-frame having the open notches in its edge, the elevator-rolls having their notches seated in said notches, the inside timbers or boards encircling the journals of the rolls and sustaining the edges of the canvas, and the fastening-bolts uniting the timbers or boards to the elevator-frame.

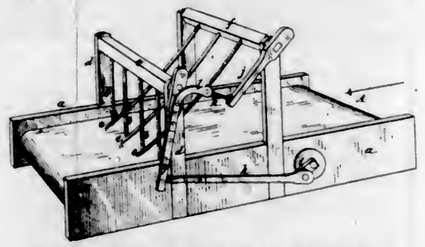
262,183. HOSE-NOZZLE. HUGH F. HOGAN, Albion, Ind., assignor of three-fourths to George Reif, Charles Kurtz, and Michael Buts, all of Cincinnati, Ohio. Filed May 20, 1882. (No model.)



Claim.—1. A hose-nozzle having a tapering spiral water-passage of gradually-increasing curvature, substantially as specified.

2. The spirally-grooved inside guide or attachment, C, adapted to be introduced into the opening of a hose-nozzle, substantially as specified.

262,184. GRAIN-SPREADER FOR THRASHING-MACHINES. ARTHUR H. JOHNSON, Woodland, Cal. Filed Feb. 20, 1882. (No model.)

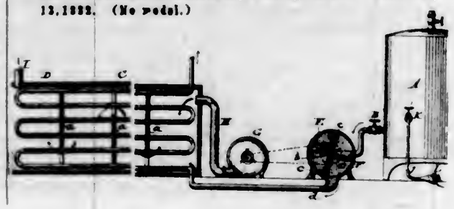


Claim.—1. In a grain-spreader for thrashing-machines, the combination of the grain-carrier and the vibrating spreading-fingers with the vibrating regulating-fingers, whereby the grain is prevented from piling up as it is fed beneath the spreading-fingers.

2. In a grain-spreader for thrashing-machines, the combination of the grain-carrier, the spreading-fingers, and the vibrating regulating-fingers arranged to operate between the spreading-fingers and above the grain fed through said spreading-fingers, substantially as described, for the purpose specified.

3. The combination of the grain-carrier, the vibrating spreading-fingers, and the regulating-fingers, the crank-arm, and link-connections for co-operation in a grain-spreader, substantially as described, whereby the regulating-fingers will rise as the spreading-fingers are vibrated against the feed of the grain and will fall upon the grain as said spreading-fingers move with the feed of the grain.

262,185. REFRIGERATION OF BUILDINGS. HENRY C. JOHNSON and FRANCIS H. MCMILLAN, Washington, D. C. Filed May 13, 1882. (No model.)



Claim.—1. In combination with a cooling apparatus, substantially such as described, an air-forcing apparatus and a motor operated by the gas which effects the cooling, and arranged to actuate the air-forcing apparatus, substantially as set forth.

2. In a cooling apparatus, the combination of a gas receiver or vessel, an expansion chamber or coil, and a motor located between the receiver and expansion chamber or coil, whereby it is adapted to be operated by the gas passing from the former to the latter.

3. The cooling apparatus herein described and shown, consisting of receiver A, coil or chamber C, surrounding chamber D, motor E, and fan or blower G, communicating with chamber D, substantially as set forth.

4. In a cooling apparatus, substantially such as described and shown, a receiver adapted to contain liquefied gas, communicating with the expansion-chamber of the cooling apparatus, and provided with pipe J and valve or cock K, said pipe or cock being entirely independent of the circulating-pipes of the cooler, as and for the purpose set forth.

262,186. HORSE-HOOF MOISTENER. GEORGE A. KENNY, Lynn, Mass., assignor of one-half to Sawyer & Chase, same place. Filed May 20, 1882. (No model.)



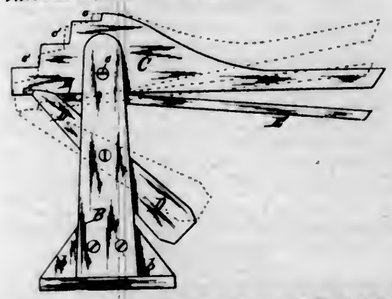
Claim.—The combination, with a horseshoe, of a sponge or pad, and a holding device composed of the flat elastic overlapping plates 2 2 2 2, pivoted together and adapted to rest on said shoe, all substantially as described.

262,187. TWINE-CUTTER. ELLIS D. READ, Worcester, Mass. Filed Dec. 6, 1881. (No model.)



Claim.—The combination of the cap B, having the shield *f*, the finger *b*, and the knife C, located flat upon and flush with the top of the cap, and having the oblique cutting-edge *e*, substantially as and for the purpose herein specified.

262,188. LIFTING-JACK. WARD SPRAGUE, Sandy Creek, N. Y., assignor of one-half to Justus Lyman Bulkley, same place. Filed June 12, 1882. (No model.)

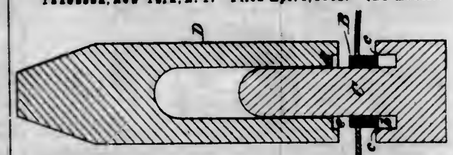


Claim.—1. The combination of the lock-bar D, pivoted between the standards B, with the lever C, pivoted between the standards B, and provided with a series of graduated steps, *c'*, and a notch, *c²*, substantially as shown and described.

2. In a lifting-jack, the escapement-lever E, pivoted to the under side of the lever C, and the lock-bar D, substantially as shown and described.

3. The combination of the lever C, pivoted between the standards B, provided with a series of graduated steps, *c'*, a notch, *c²*, and having pivoted to its under side the escapement-lever E, with the lock-bar D, pivoted between the standards B and adapted to enter the notch *c²*, substantially as shown and described.

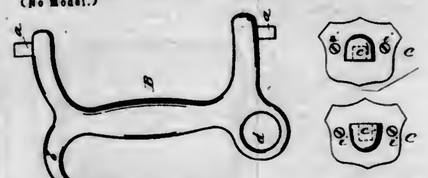
262,189. SECURING SNUGS OR RINGS ON BOILERS. JOHN THOMSON, New York, N. Y. Filed Apr. 1, 1882. (No model.)



Claim.—1. The method or process described of securing snugs or rings in boiler-heads, which consists in enlarging the aperture at certain points in the boiler-head designed to receive the snug or ring, said enlargements extended completely through the thickness of the metal of the head, and compressing the ring or snug to cause it to fill said points of enlargement of the aperture by the metal of its external circumference, substantially as shown and described, and for the purpose set forth.

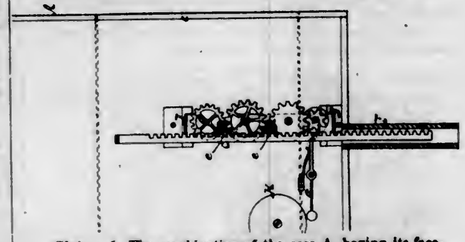
2. The dies for securing rings on boilers, consisting of mandrel C, formed with groove *b* and beveled edge *c*, and set D, having recess *d* and beveled edge *e*, substantially as described, combined for use as specified.

262,190. HANDLE ATTACHMENT FOR TILTING CHAIRS. CHARLES F. VALIANT, State Centre, Iowa. Filed Mar. 31, 1882. (No model.)



Claim.—A handle attachment for chairs, consisting of the curved piece B, journaled in the plates C C, and provided with the stop *b* and towel-supporting ring *d*, substantially as shown and described.

262,191. DEVICE FOR TEACHING ARITHMETIC. HERMANN WAGNER, Elizabeth, N. J. Filed Apr. 22, 1882. (No model.)



Claim.—1. The combination of the case A, having its face-plate provided with openings *a*, the carrier F, the shaft *f*, for raising the carrier, the index *i*, and the dial *j*, substantially as and for the purposes described.

2. The combination of the case A, having its face-plate provided with openings *a*, the carrier F, the shaft *f*, for raising the carrier, the index *i*, the disk *j*, and the alarm, substantially as and for the purposes described.

262,192. PISTON FOR STEAM-ENGINES. GEORGE W. WILLIAMS, Winona, Minn., assignor of one-fourth to William E. Smith, same place. Filed Apr. 24, 1882. (No model.)



Claim.—In a piston-packing expander, the combination, with the threaded stem B and the sleeve-nut A, of the springs C D, the sleeve-nut F, jam-nut G, and the chord-spring or equalizer E, substantially as specified.

262,198. NUT-LOCK. JOHN E. WOOTTEN, Philadelphia, Pa. Filed June 28, 1882. (No model.)

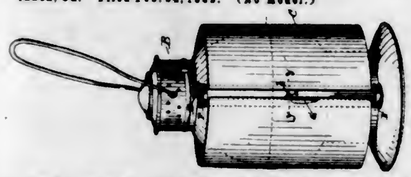


Claim.—1. As a new article of manufacture, an elastic filling for lock-nuts, consisting of a quadrangular block cut from a sheet of india-rubber or analogous elastic material, having rectilineal ribs or ridges upon its surface, at an angle to the line of direction of said ribs or ridges, substantially as set forth.

2. The combination of a rigid inclosing case or shell and a threaded quadrangular block of rubber or equivalent elastic material inserted and sprung into annular form in said case, substantially as set forth.

3. The combination of a rigid inclosing case or shell, a threaded quadrangular block of elastic material fitting in annular form within said case, end flanges or projections serving to retain said block endwise within the case, and a lateral stop or spur to prevent independent axial movement of the case and block, substantially as set forth.

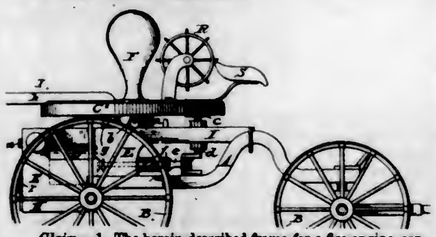
262,194. SIGNAL-LANTERN. ALEXANDER JAMES YOUNG, Atlanta, Ga. Filed Feb. 24, 1882. (No model.)



Claim.—1. The combination, with the hand-lantern B, of the slotted cylinder A, having a stud, *b*, the winding crank-shaft D and bearings therefor secured in the ends of said cylinder, and the screen C, having wire G with loop *a*, all as shown and described, whereby the screen is adapted to be drawn out and secured around the lantern for the purpose of giving a signal, as and for the purpose set forth.

2. In a lantern-signal attachment, the combination, with the slotted cylinder A and screen-winding shaft D, of the pieces E, having central holes to adapt them for bearings for said shaft, and the metal caps F, applied as shown and described.

262,195. FIRE-ENGINE. BENJAMIN J. C. HOWS, Syracuse, assignor to the Remington Agricultural Company, Ilion, N. Y. Filed Apr. 24, 1882. (No model.)



Claim.—1. The herein-described frame for a fire-engine, consisting of the side bars, A, curved near the front, so as to permit the front wheels to turn under them, and the bed or horizontal frame I, for supporting the operating mechanism, the said parts being constructed and arranged substantially as shown and described.

2. In combination with the frame, constructed as set forth, the double-crank shafts *d*, having bearings at opposite sides of their cranks and provided with pinions C at their upper ends, said crank-shafts with their pinions being arranged in the arc of a circle to engage with the driving-wheel C', substantially as shown and described.

3. The combination, in a fire-engine, of a horizontal rotary gear-wheel mounted upon the frame of the engine, a series of pumps located at the rear end of the frame, and a series of pinions meshing with the gear-wheel at its opposite side, and secured upon crank-shafts connected with the pump-pistons by pitmen extending backward beneath the gear-wheel, substantially as shown.

4. In a fire-engine, the combination, with the pump-cylinder, of a heater arranged to protect the apparatus from the effects of cold, substantially as described.

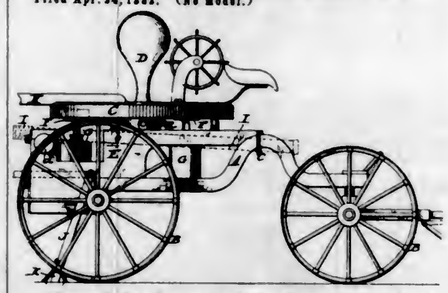
5. In combination with a fire-engine provided with a horizontal drive-wheel, an extensible sweep constructed to operate substantially as described, whereby the leverage can be changed at will and the sweep shortened or doubled up when not in use, substantially as set forth.

6. In a fire-engine, a detachable tongue provided with means for connecting it with the operating lever or sweep, whereby the team can be changed from hauling to operating the engine without detaching it from the tongue.

7. In a fire-engine, the horizontal driving-wheel C', provided with a sweep located at one side and a seat located at the opposite side, whereby the seat is brought into proper position for the driver when the sweep is arranged longitudinally of the engine, as set forth.

8. The seat S, pivoted upon the drive-wheel C', whereby the driver is enabled to change his position so as to adapt it to the team, whether hauling the engine or operating the pumps, as described.

262,196. FIRE-ENGINE. BENJAMIN J. C. HOWS, Syracuse, assignor to the Remington Agricultural Company, Ilion, N. Y. Filed Apr. 24, 1882. (No model.)



Claim.—1. In a horse-power fire-engine, the combination of a horizontal rotary driving gear-wheel provided with a sweep or lever, a rotary pump, and a pinion secured to the pump-shaft and meshing directly with the driving-gear, whereby all intermediate mechanism between the driving gear-wheel and the pump is dispensed with.

2. The combination, substantially as herein described, of a horizontal driving gear-wheel and a series of rotary pumps arranged concentrically about the supporting post or axle of said wheel, and adapted to be directly driven thereby, as explained, whereby the post is relieved of unequal side strain.

3. The herein-described fire-engine, consisting of frame A, wheels B, driving-wheel C, mounted upon the top of the frame, rotary pumps G, located beneath the driving-wheel, and pinions F, secured upon the pump-shafts and meshing with wheel C, as shown.

4. In a fire-engine, the combination of a support or bracket, *c*, at the forward part of the engine, and a roller, *d*, at the rear part thereof, whereby the suction-pipe can be passed longitudinally to place upon said bracket and rollers, as explained.

5. In combination with the frame A, mounted on wheels, the pivoted arms J, having the cross-bar K secured thereto, the arms J being of such length and so pivoted in relation to the wheels as to cause said cross-bar to rest upon the ground and against the wheels when lowered, substantially as and for the purpose set forth.

REISSUES.

10,170. RAILWAY-FROG AND RAIL-COUPLING. JAMES W. CLARK, Buffalo, N. Y. Filed Sept. 8, 1879. Original No. 114,400, dated May 2, 1871.

Brief.—A small notched wedge-plate spaces the point from the wings, and, by means of a bolt passing down through it and a base-plate whose edges turn up and overlie the outer bases of the wings, holds said point and wings in fixed horizontal relation. Similar bolts farther back upon the point and similarly fastened have a like function, beside preventing endwise variation of the point.

10,170.



Claim.—1. The arrangement of the bolts *g' g'* with the notches *g g*, point C, rails B B, and base-plate E, as hereinbefore set forth.

2. The wedge-plate F and bolt *f'*, arranged with the rails B B, point C, and base-plate E, substantially as and for the purpose hereinbefore set forth.

3. The combination and arrangement, with the rails D D D' D', of the wrought-iron base-plate J, with overlapping edges *j j*, and fish-plates *k k*, secured by bolts, substantially as hereinbefore set forth.

4. The combination and arrangement, with the rails D D D' D', base-plate J, flanges *j j*, and fish-plates *k k*, of the wedge-blocks N N and bolts *n n*, as hereinbefore set forth.

5. The wings B B, contracted at *b b*, and the frog D D C, in combination with the wedge-plate F, having the notch *f*, and located wholly between the point of the frog and the contracted portions of the wings, as set forth.

10,171. COMPOUND TO BE USED IN THE PLACE OF BUTTER FOR COOKING PURPOSES. SAMUEL H. COCHRAN, Everett, Mass. Filed June 29, 1882. Original No. 238,999, dated June 6, 1882.

Claim.—1. The described method or process of purifying and flavoring beef-suet oil, which consists in mixing therewith slippery-elm bark, substantially in the proportions and in the manner and for the purpose shown and described.

2. The described method or process of purifying and flavoring cotton-seed oil and its equivalent oils, which consists in mixing therewith slippery-elm bark in the proportions, substantially and in the manner and for the purpose shown and described.

3. The combination of beef-suet oil, cotton-seed oil and its equivalents, purified and flavored as described, with beef-stearine and slippery-elm bark, substantially in the proportions set forth, and for the purposes shown and described.

4. A combination of beef-suet oil, cotton-seed oil and its equivalents, with beef-stearine, substantially in the proportions and in the manner and for the purpose shown and described.

10,172. STOPPER FOR VOLATILE-SALTS BOTTLES. ALCOCK HUBBARD, New York, assignor to S. S. Newton & Co., Binghamton, N. Y. Filed Mar. 28, 1873. Original No. 134,600, dated Jan. 7, 1873.



Claim.—1. The combination of the bottle A, the screw-cap E, having an apertured diaphragm, G, therein, and the packing-block I, made as described, and all arranged to operate as set forth.

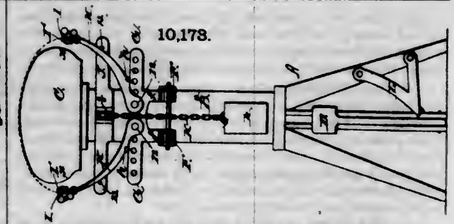
2. In a bottle-stopper, the combination of the discharge-tube, screw-threaded externally, and having a valve-seat at its upper end, and a cap screw-threaded internally to engage with the screw-thread of the discharge-tube, and provided with a stopper adapted to fit the valve-seat, and having eccentric discharge port or ports and a chamber above said ports adapted to collect material discharged by said ports and deliver the same through a central orifice substantially as set forth.

10,173. APPARATUS FOR FORMING AND SHAPING CORSETS. JAMES ALFORD HOUSE, Bridgeport, Conn. Filed May 26, 1882. Original No. 251,854, dated Jan. 3, 1882.

Claim.—1. In an apparatus for forming and shaping corsets, a stationary form adapted to be heated, clamps, disconnected from and entirely independent of the said form to engage the edges of the corset, and means to actuate the clamps while the form remains stationary, as described, to stretch the corset about the form, as and for the purpose set forth.

2. The form adapted to be heated and curved, clamps to engage the edges of the corset, combined with the independent holding-arms, arranged in pairs to support the opposite ends of the said clamps, the pivots of each pair of holding-arms at opposite

10,173.



ends of the clamps being made independently movable vertically toward and from the form, whereby the clamps are enabled by their unequal movement to draw the corset about and fit the same to the form, substantially as described.

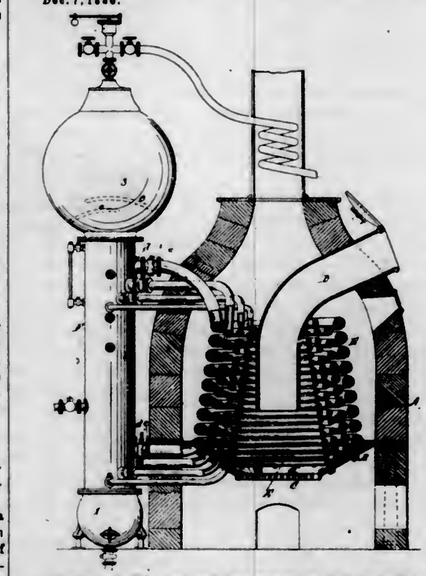
3. In an apparatus for forming and shaping corsets, a form adapted to be heated and clamps to hold the edges of the corset, combined with clamp-holding arms, adapted to be moved toward and from the sides of the form, to fit the corset closely to the bulges of the form, substantially as described.

4. The combination of the sliding carrier-frames, the evener-bars pivoted to said frames, the holding-arms, the corset-clamps, and the form, substantially as and for the purpose hereinbefore set forth.

5. The combination of the vertically-sliding carrier-frames, the evener bars independently pivoted thereto, the pivoted clamp-holding arms, the corset-clamps, the form, and means for depressing the evener-bars, substantially as and for the purpose hereinbefore set forth.

6. The combination of the clamp-holding arms, the vertically-sliding independently-adjustable carrier-frames to which said arms are pivoted, the evener-bars, the treadle, and the link connecting the evener-bars and treadle, these members being and operating, substantially as hereinbefore set forth, to form the corset of varying size at the hip and bust, as described.

10,174. STEAM-GENERATOR AND FURNACE. MAURICIO M. MONSANTO, New York, assignor, by mesne assignments, to himself and Benjamin Odio, New York, and Felipe Perese, Brooklyn, N. Y. Filed June 8, 1882. Original No. 235,275, dated Dec. 7, 1880.



Claim.—1. The inclined fire-supporting bed-plate B, surrounding the grate and provided with perforations and downwardly-projecting perforated lugs, in combination with and supporting the coils, as set forth.

2. In a circulating or coil boiler, the nest consisting of a series of concentric coils arranged spirally and conically, and located con-

trally within shell A, combined with and extending to the plate B and around the grate, each communicating with an outside chamber and encircling and extending below the fuel-magazine to the grate, substantially in the manner and for the purpose set forth.

3. In a circulating-coil steam-generator, a series of independent coils rising spirally and conically from a perforated plate surrounding the grate, arranged so that the air from the perforated plate passes up between them, said coils being of different diameters, and the coils being independently connected to a stand-pipe and provided with separate stop-cocks, by means of which each or any of them may be disconnected from said stand-pipe or removed in the manner and for the purpose set forth.

4. The combination, with a water-coil steam-generator, of the stand-pipe provided with flanged projections, each arranged to connect with a separate and independent section of water-coil and of different diameters, the mud-drum 1, arranged below the coil-connections and communicating directly with the stand-pipe and enlarged for the purpose of retaining the water in a quiescent state whereby the sediment is carried from all the coils to the drum and there caused to precipitate in the manner and for the purpose shown.

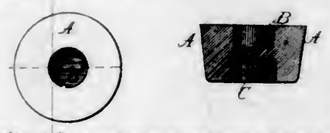
5. The combination, in a water-coil steam-generator, of the coils varying in diameters, for the purpose shown, the stand-pipe F, provided with enlarged mud-drum 1, central section, 2, provided with upper and lower flanged projections and the steam-section 3, forming the steam-dome, said dome being provided with the steam and water separators c, all operating and arranged in the manner set forth and described.

6. The combination, in a circulating-coil boiler, of a grate, a perforated plate surrounding the same, and a series of vertically-arranged concentric coils extending downward to the perforated plate, substantially as described.

7. The combination of a series of concentric coils surrounding the combustion-chamber and extending downward to the perforated plate and an independent stand-pipe or circulating-reservoir, the said coils being connected with said stand-pipe above and below, but the upper connection being below the water-level in said stand-pipe, substantially as shown and described.

8. In a circulating-coil boiler, the combination of a series of concentric tubes surrounding the combustion-chamber and an exterior stand-pipe, the said coils being each independently connected above and below and with the stand-pipe, and each being provided with stop-cocks or valves at both ends, cutting off communication with the stand-pipe, substantially as described.

10,175. VENT-BUNG. FREDERICK PENTLARGE and PHILIPP HEISCH, Brooklyn, N. Y., assignors, by mesne assignments, to said Frederick Pentlarge. Filed July 3, 1882. Original No. 192,386, dated June 26, 1877; Reissue No. 8,733, dated May 31, 1881.



Claim.—1. In a vent-bung made and constructed substantially as described, a transverse web having recesses formed respectively upon its inner and outer faces.

2. In a vent-bung made and constructed substantially as described in Figs. 1 and 2, the recess C on one side of the bung, of greater size than the recess B on the other side of the bung.

THE HELIOTYPE PRINTING CO BOSTON

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF UNITED STATES COURTS IN PATENT CASES.

DECISIONS OF THE U. S. COURTS.

U. S. Circuit Court—District of Connecticut.

COES v. THE COLLINS COMPANY.

Decided January 16, 1882.

CLAIM—CONSTRUCTION—SPECIFIC DEVICES.

A claim drawn up in terms to cover a result, viz: An improved Coes wrench, so constructed that the thrust or back strain of the rosette-screw when the wrench is used shall be borne by the shank, instead of the handle, of the wrench, construed, in view of the state of the art, to be for the specific devices described in the patent, and *Held* not to be infringed by defendant's article, which attained the same result by a different means.

Mr. George L. Roberts for the plaintiff.
Mr. William E. Simonds for the defendant.

BLATCHFORD, *J.*:

This suit is brought on Reissue Letters Patent No. 3,483, granted to Loring Coes, the plaintiff, June 1, 1869, for an improvement in wrenches, the original Patent No. 40,590 having been granted to Thomas H. Dodge, as assignee of George C. Taft, the inventor, November 10, 1863, for an improvement in wrenches. The specification of the reissue is signed by Loring Coes, and is as follows, including what is inside of brackets and what is outside of brackets, omitting what is in italics:

Figure 1 represents a perspective view of [a Coes wrench having the said Taft improvement applied thereto,] *my improvement*, and Fig. 2 represents [sections of detached parts of the wrench shown in Fig. 1] *a detached view of the rosette and therewith connected.*

Similar letters of reference indicate like parts in the drawings.

* * * * *

[The nature of the said Taft invention relates to a mode of constructing the Coes wrench, patented April 16, 1841, in such a manner that the handle shall be relieved from the back thrust or strain of the rosette-screw when the wrench is used.

In my said wrench the rosette presses against the ferrule, and the ferrule in turn against the front end of the handle, whereby the handle was often split and broken.

[In the drawings,] A is the shank of [the] *my* wrench; B, the stationary jaw, and B′ the sliding jaw, through the part B″ of which the operating-screw C works. D is the rosette, formed in one piece, *as shown*, with the screw C, [as shown,] and journaled at *a* to [the] ferrule E. Parallel grooves, *d d d* [in this instance,] are cut in the shank A, [at right angles to the line of motion of the movable jaw B′,] in which [grooves] projections *e e e* of the rosette turn.

The projections *e e e* are made parallel to each other, and are beveled on one side, as shown to lessen the friction of the rosette [in] upon turning.

The operation is as follows: To adapt the opening between the jaws to the size of the object to be clasped thereby the operator turns the rosette to the right or left, as the size of the object [may require,] *will indicate*, which will turn the screw in the part B″ of the sliding jaw B′, [thereby increasing or diminishing, as the case may be,] [and, as to the way turned, will increase or diminish] the distance between the jaws, as required. The [advantage] *advantages of having a rosette* of this [improvement] *form* is that *it sustains* the pressure which [would otherwise] *otherwise would* come [upon] *on* the [handle is transferred to the shank of the wrench, thus obviating one, and really the only serious, objection to the said Coes wrench] *ferrule E, which pressure is often so great as to break it off or displace it, thus rendering the whole wrench useless.*

Having thus described my improved wrench,

I am aware that the [rosettes] *rosette* of screw-wrenches [have] *has heretofore* been constructed with [screw-threads,] *a screw-thread*, and [such devices are not claimed] *I do not claim such device;* but

What [is claimed as the invention of the said George C. Taft, and desired to have secured] *I claim, and desire to secure* by Letters Patent, is—

Reading in the foregoing what is outside of brackets, including what is in italics, and omitting what is inside of brackets, gives the text of the specification of the original patent.

There are three claims in the reissue, as follows:

1. An improved Coes wrench, so constructed that the thrust or back strain of the rosette-screw when the wrench is used shall be borne by the shank, instead of the handle, of the wrench, substantially as described.

2. A notch formed at right angles to the line of motion of the movable jaw in the shank of a Coes wrench for relieving the handle from the back strain of the rosette-screw, substantially as described.

3. The combination of two or more parallel grooves, *d*, in the shank A with two or more corresponding projections, *e*, on the rosette D, the same not being spiral, but running at right angles to the line of motion of the jaw, substantially as described.

There was only one claim in the original patent, as follows:

The combination of the parallel grooves *d d d* in the shank A with the corresponding projections *e e e* on the rosette D, the same not being spiral, but running at right angles to the line of motion of the jaw, thus relieving the ferrule from all strain, while retaining the rosette in the same relative position as respects the handle of the wrench, substantially as and for the purpose set forth.

The defendant's wrench, which is alleged to infringe claim 1 of the reissue, is made in accordance with the description in Letters Patent No. 50,364, granted to Jordan and Smith, October 10, 1865, for an improved wrench.

The plaintiff's wrench and the defendant's wrench, both of them, contain improvements engrafted upon the form of wrench shown in Letters Patent No. 2,054, granted to Loring Coes, the plaintiff, April 16, 1841, for an improvement in the method of constructing screw-wrenches, and reissued to him, No. 139, June 26, 1849, for an improvement in screw-wrenches.

The main feature of the Coes wrench of 1841 was the moving of the adjustable jaw by a screw placed at the side of and parallel with the main bar, which carried the permanent jaw at one end of it and the handle at the other end, the screw taking into an attachment to the adjustable jaw, and working that jaw to and fro without itself moving otherwise than by rotation, and having on its end farthest from the fixed jaw a rosette or milled head, which never approached to or receded from the fixed jaw, and could therefore be rotated so as to rotate the screw by the thumb of the hand which held the wrench, because the rosette always retained the same position relatively to the handle of the wrench. A wooden handle was slipped over the handle end of the main bar, and a screw-nut on that end bearing against the adjacent end of the wooden handle held the other end of the wooden handle against a ferrule and that against an iron plate and that against a shoulder on the main bar. The iron plate projected out on the

same side with the rosette and next that face of it farthest from the fixed jaw. The plate carried the revolving end of the screw, the bearing-point projecting beyond the face of the rosette, such revolving end, rosette, and screw being practically one piece and revolving together. In order to prevent the screw and the rosette from being carried bodily toward the fixed jaw by the sliding of the adjustable jaw on the main bar a notch as long as the width of the periphery of the rosette was cut in or out of the substance of the main bar opposite the place intended for the permanent position of the rosette, and the periphery of the rosette turned within the notch, so that the edge of the rosette face nearest to the fixed jaw would catch against the edge of the notch, the angle of the notch being toward the fixed jaw. But while this Coes wrench of 1841 had advantages, it had difficulties. There was a pressure against the plate by the rosette-face farthest from the fixed jaw and by the end of the screw in its bearing, and thus the back strain or thrust from the bite of the jaws was communicated through the adjustable jaw, its attachment, the screw, and the plate to the ferrule, and so to the wooden handle, before it reached the main bar through the screw-nut at the handle end. The plate and the ferrule were often broken or bent and pushed out of place, and the wooden handle was split or crushed. It became desirable, therefore, to devise a way of taking off this back thrust before it could reach the plate or the ferrule, and thus the wooden handle, and of bringing it against the resisting strength of the main bar itself between the plate and the fixed jaw. Taft did this by his invention of 1863. He took the Coes wrench of 1841, with its main bar, fixed jaw, adjustable jaw, attachment thereto, screw, bearing, plate, ferrule, wooden handle, screw-nut, and extension of main bar, all as they were, and in place of one rosette he put in three parallel rosettes with narrower peripheries, revolving at right angles to the line of motion of the adjustable jaw in three parallel grooves in the adjacent face of the main bar, each groove bearing against both faces of its rosette, so as not only to prevent the rosette and the screw from being carried bodily toward the fixed jaw, but to cause the back thrust to be received by the side of the groove farthest from the fixed jaw instead of, as before, by the plate. The grooves being cut in the main bar, the back thrust was intercepted by them, and the plate and the ferrule, and thus the wooden handle, were relieved from all liability to injury from the back thrust, while the rosette was retained in the same relative position to the handle which it had in the Coes wrench of 1841.

In the original patent of 1863 the plate and the ferrule together are called the "ferrule E," and it is stated that by the new arrangement the pressure which would otherwise come on the ferrule is taken off from it, such pressure being often so great as to break it off or displace it, thus rendering the whole wrench useless.

The claim in that patent states that the arrangement relieves the ferrule from all strain, while the rosette is retained in the same relative position as respects the handle of the wrench.

The reissue states that the nature of the invention relates to a mode of constructing the Coes wrench patented in 1841 in such a manner that the handle shall be relieved from the back thrust of the screw, the arrangement of the wrench of 1841 being that the rosette pressed against the ferrule, (the ferrule E being the plate and the ferrule together,) and the ferrule against the front end of the handle, whereby the handle was often split and broken. It is not said in the reissue that the rosette continues to maintain always the same position relatively to the handle, but that is necessarily implied in speaking of the wrench improved upon as the Coes wrench patented in 1841, and is a necessary result of what is described in the text and shown in the drawings. The reissue also states that the advantage of the improvement is that the pressure which would otherwise come upon the handle is transferred to the shank of the wrench.

In the monkey-wrenches used before the Coes patent of 1841 a screw-nut on the body of the main bar moved the movable jaw, a screw being cut on the body of the main bar, as shown in figure 2 of the Coes patent of 1841. In that form the direct linear or columnal strength of the main bar was availed of to resist the back thrust. When the Coes improvement of 1841 was introduced that advantage was thrown away. The improvement of Taft in 1863 was an effort to restore that advantage and yet retain the Coes improvement of 1841.

In the defendant's wrench the Coes wrench of 1841 is taken with its main bar, fixed jaw, adjustable jaw, attachment thereto, screw, rosette, bearing, and plate; but underneath the plate a screw-nut is put on the extension of the main bar, a screw-thread being cut in the extension, and this screw-nut is screwed up tightly against the bottom of the plate, so that the back thrust comes against the extension at the screw-thread. The wooden handle is slipped over the end of the extension and is held up against the bottom of the said screw-nut by a screw-nut at the extreme end of the extension below the handle. The rosette is the same as the Coes rosette of 1841, and always maintains the same position relatively to the handle.

The first claim of the reissue, which is the only claim alleged to have been infringed, is a claim to—

An improved Coes wrench, so constructed that the thrust or back strain of the rosette-screw when the wrench is used shall be borne by the shank, instead of the handle, of the wrench, substantially as described.

Mr. Waters, an expert for the plaintiff, testifies that the defendant's wrench is, in his judgment, the same in its construction and mode of operation as the wrench described in the reissue and referred to in the first claim, because the essential novelty of the wrench described in the reissue consists in a mode of construction to relieve the Coes wrench of the difficulty described in the reissue; that this is done in the reissue by bringing the back thrust to bear against projections on the main bar running across it, against which the rosettes on the screw act; that in the defendant's wrench the end thrust is taken on the plate, and then through the screw-nut comes on the shank by means of the threads inside of the screw-nut and the threads on the shank, which bear against the former threads, and that this is only an equivalent for the projections on the main bar in the reissue, against which the rosettes bear.

Another of the plaintiff's experts, Mr. E. S. Renwick, states that the two wrenches obtain by substantially the same means the result of sustaining the strain of the movable jaw and of the rosette-screw by the shank or bar of the wrench in this: that in the defendant's wrench the rosette and the screw are combined with the rectangular part of the shank, or its equivalent, by

a notch which limits the movement of the rosette and screw in both directions without the intervention of the handle, the notch having its upper shoulder formed by a portion of the rectangular shank itself and its lower shoulder formed by the upper surface of the plate, which plate is rigidly secured to the shank, and that holding the lower shoulder of the notch to the shank by the screw-nut in the defendant's wrench is a well known substitute for the Taft method of holding the lower shoulders of the grooves to the shank by the substance of the material of which they are composed.

It is entirely clear, as is testified to by Mr. H. B. Renwick, the defendant's expert, that if in the Coes wrench of 1841 the back thrust of the screw reaches the plate, it is transmitted through it and the wooden handle and the nut at the end of the shank, which is an extension of the main bar, to the shank, so that it is borne by the shank. It comes back thus to the column formed of the main bar and shank as one piece. If the plate bends, or the ferrule is displaced, or the wooden handle is broken, those are incidents of the pressure, and those incidents happen only because the thrust is being resisted by the shank. Taft brought the pressure back to the main bar by taking it off by the grooves and rosettes before reaching the plate, thus relieving not only the wooden handle and the end nut, but also the plate. He did this by right-angled grooves and rosettes interposed before reaching the plate. If the first claim of the reissue claims any more than this, it cannot be maintained. As a claim to so constructing a Coes wrench of 1841 that the back thrust shall be borne by the shank ultimately through the plate and the handle and the end nut it would cover the Coes wrench of 1841. As a claim to having the shank bear the thrust at some points before the handle is reached without reference to the mechanical means it is invalid. It must be regarded as a claim to the means shown substantially as described. As such it is not infringed. Taft left the plate and the handle and the end nut outside of the course of the back thrust. The defendant's wrench does not leave the plate outside of such course. In it the thrust acts fully on the plate, and a screw-nut is interposed between the handle and the plate having on it and on the shank the usual spiral threads. The two inventions are inventions in different directions, though both have a common ultimate object and design. The wooden handle is relieved in both. But that is not sufficient to make out infringement. The plate is relieved by Taft, and not by the defendant. Claim 1 of the Taft reissue must be read as a claim to an improved Coes wrench constructed substantially as described. What is said in it about the bearing of the thrust by the shank instead of the handle is merely a statement of a result which the construction will affect, and is not a statement of means or mechanism. It is a claim to means, to the mechanism described, which effects the result stated. The means employed by the defendant are different, and are not a mechanical equivalent for the means in the reissue.

The bill is dismissed, with costs.

U. S. Circuit Court—Southern District of New York.

COHURN *et al.* v. SCHROEDER *et al.*

Decided March 8, 1882.

1. NEW TRIAL—NEW EVIDENCE MUST AFFECT THE RESULT.

Motion to have a decree opened and leave granted to put further defenses to the patent denied where it appeared that the new evidence would not affect the result.

2. ENGLISH PATENT—DATE OF FILING COMPLETED SPECIFICATION.

An invention is not patented in England, within the meaning of the third division of section 4920 Revised Statutes, until the completed specification has been filed.

3. PROVISIONAL SPECIFICATION MUST BE PUBLISHED BEFORE DATE OF PATENTEE'S INVENTION.

An English provisional specification is not a bar to the grant of a patent in this country, and when relied on as a printed publication under section 4920 Revised Statutes it seems that the defendant must show that it was actually published before the date of the patentee's invention.

4. NEW TRIAL—CHANGE OF ISSUE—NO NEW QUESTIONS.

Motion for opening a decree on account of an alleged change of issue made by the filing of a disclaimer by the patentee, denied where it appeared that the effect of the disclaimer was merely to limit the claim of the patent and the issue, and where the parties had full opportunity to try, and diligently availed themselves of the opportunity to try, the question which would be open if the case should be again opened.

Mr. Andrew J. Todd for the plaintiffs.

Mr. Samuel Greenbaum for the defendants.

WHEELER, *J.*:

This cause has now been further heard upon motion of the defendants to have the decree opened and leave granted to put in as further defenses to the patent an English provisional specification, left by James Ritchie Butchard, January 22, 1866, at the office of the Commissioner of Patents in England, with a petition for a patent, and other evidence of prior knowledge and use. The invention is understood to have been made in February, 1866. The introduction of the provisional specification would be unavailing unless it would bring the case within the third division of section 4920 Revised Statutes—

That it had been patented or described in some printed publication prior to his supposed invention or discovery thereof.

In *Smith* v. *Goodyear Dental Vulcanite Company* (93 U. S., 416) the invention was found to have been made in the spring of 1855, and there was an English provisional specification and patent in evidence. The court, at page 498, on this subject said:

Of the English patent of Charles Goodyear it is enough to say that though the provisional specification was filed March 14, 1855, the completed specification was not until the 11th of September following. It was therefore on the last-mentioned date that the invention was patented.

This specification is printed in a book entitled "Specification of Patents," and as printed in 1866 found in the Astor Library, in the city of New York; and it is urged that this would show a sufficient description in a printed publication. If this would be a sufficient printed publication, it would not be printed until the specification had been left for some time at least, and this invention was so soon after that that this publication would not appear to be, and probably was not, made until after the invention. The other new evidence shown consists of affidavits of knowledge and use in England, France, and Canada, and at Buffalo, New York. The evidence of such knowledge and use in a foreign country would not of itself defeat the patent or be material. (Rev. Stats. sec. 4923.) The new evidence of use at Buffalo is set forth in the affidavit of John W. Sherwood to the effect that in 1856 he there—

Personally made large numbers and quantities of said bottomless trays divided into compartments containing two or more inside cells, as above stated; that the same were at that time in common use for drug-store and other purposes.

This evidence, if it was in and should gain credit to its full extent, would not show a knowledge and use of

this invention as patented as the patent has been construed.

An urgent appeal is made for the opening of the decree on account of the alleged change of issue made by the filing of the disclaimer. As the issue was framed and understood by all parties, evidence of structures of more than two tiers was applicable, and as much so as it would be since two-tier structures have been disclaimed, and apparently the defendants strove to obtain and introduced all the evidence they could obtain of prior knowledge and use of structures of more than two tiers, and the plaintiffs strove to meet it. So there is not only no new issue, but the parties were not in any way misled in supposing that the issue left after the disclaimer was filed was not in the case before.

The defendants claimed and appear to have supposed that proof of two-tier structures would be sufficient to defeat the patent. They also apparently well understood that, *a fortiori*, proof of more than two-tier structures would, and to have acted fully upon that understanding. The disclaimer did not broaden the issue, but narrowed it. The parties have had a full opportunity to try, and have diligently availed themselves of the opportunity to try, the question which would be open if the case should be again opened. Therefore the filing of the disclaimer does not effect this question. There is no proof of any specific new evidence to be offered, except that of Sherwood, accompanying the motion. It is really an application to prepare the case over again, although it has already been once apparently thoroughly prepared and presented. This, although quite frequently thought by losing parties to be desirable, is not by any rule of law or practice allowable.

The motion must be denied.

U. S. Circuit Court—Southern District of New York.

HOLLIDAY *et al. v.* PICKHARDT *et al.*

Decided March 11, 1882.

1. PRELIMINARY INJUNCTION—DECISION OF PATENT OFFICE.

On a motion for a preliminary injunction, question being raised whether the patentee's description would make the product claimed by him, and it appearing that this point was decided in favor of the patentee by the Patent Office on a direct issue between him and another patentee whom the defendants represented, *Held*, for the purposes of the motion, that the product claimed could be obtained by following the description of the patent.

2. SAME—SAME—INTERFERENCE IN PATENT OFFICE.

The successful party to an interference is entitled to preliminary injunction against the representatives of the defeated party in case the infringement is clear, and the decision of the Patent Office in an interference between the parties as to the identity of the products sufficient proof of infringement.

Messrs. Dickerson & Dickerson for the plaintiffs.

Mr. George Gifford and *Mr. J. Van Santvoord* for the defendants.

BLATCHFORD, *J.*:

Professor Seeley testifies that he practiced the process set forth in No. 250,247, using the exact proportions and materials specified therein, and produced thereby a product a sample of which is Exhibit B. He says that Exhibit A (the defendants' article) seems to him to be identical with B; that he has tested them in various ways to determine their similarity, and that he is clearly of opinion that A is the product described in No. 250,247, and claimed in the first claim thereof.

Professor Morton for the defendants does not say that A is not identical with B. What he says is that B is manifestly not the product obtained by following the directions of No. 250,247, and that he does not hesitate to say that B was not made by following said directions.

Professor Chandler does not say that A is not identical with B. What he says is that he has examined B, and from his knowledge and experience of the plaintiffs' process is convinced that B was not made by said process.

Dr. Eudesmann does not say that A is not identical with B. What he says is that he has found that B is a product which could not be produced by following the directions of No. 250,247.

There is therefore no dispute as to the identity of A with B. The contention of the defendants is merely that B cannot be produced by following the directions in No. 250,247. Their experts do not exhibit any article which they say they produced by following the directions in No. 250,247, nor do they give any analysis of B.

In the interference before the Patent Office Professors Morton and Chandler testified that they had followed the directions given in Holliday's specification, and had been unable to produce what he claimed those directions would produce. The Patent Office then directed Holliday to satisfy it that he could obtain the product claimed by the process described in his specification. The report of the Examiner shows that, in his presence, Holliday, by following the directions of the specification and using fuming sulphuric acid tested by Baumé's hydrometer at over 69° and almost exactly 70°, produced a true sulpho-conjugate acid salt of rosaniline capable of being dyed in a hot-acid bath and preserving its color, not passing into blue through crimson, and made from fuchsine by the reaction of fuming sulphuric acid thereon. This report was confirmed by the Commissioner of Patents, and he rejected the testimony of the chemists, who said that they had followed the instructions and had been unable to produce the alleged product. This very point, therefore, as to whether Holliday's description would make his product was decided in his favor by the Patent Office on a direct issue as to it between him and Caro, whom the defendants represent. There is nothing more now presented on that subject than was before the Patent Office, and for the purposes of this motion it must be held that B was made by following the Holliday description. The Patent Office also decided that Caro's product and Holliday's product were identical. It does not appear that A is not the same thing which was before the Patent Office as Caro's product. The Patent Office also decided the question of priority of invention in favor of Holliday. Under such circumstances the plaintiffs are entitled to an injunction. (*Hanford* v. *Westcott*, 16 O. G., 1181.)

The fact of the granting of a patent to Caro has no tendency to show that the product A, which is the same Caro product that was before the Patent Office in interference, does not infringe No. 250,247.

The motion for a preliminary injunction is granted.

THE

OFFICIAL GAZETTE

OF THE

United States Patent Office.

[BY AUTHORITY OF CONGRESS.]

VOL. 22—NO. 6. TUESDAY, AUGUST 8, 1882. PRICE—$5 per year

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Erratum.

OFFICIAL GAZETTE, August 8, 1882, Volume 22, page 494, Patent No. 262,547, in title, second line, after residence of inventors insert *assignors to the Sandusky Plow Company, Sandusky, Ohio.*

Issue of August 8, 1882.

Patents	355	No. 262,197 to No. 262,551, inclusive.
Designs	36	No. 13,136 to No. 13,171, inclusive.
Trade-Marks	15	No. 9,588 to No. 9,602, inclusive.
Labels	1	No. 2,735
Reissues of patents	4	No. 10,176 to No. 10,179, inclusive.
Total issue	411	

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks and Labels.	States.	Patents and Designs.	Trade-Marks and Labels.
Alabama	2	.....	Nebraska	1	.....
Arizona Territory	.....	.....	Nevada	.....	.....
Arkansas	2	.....	New Hampshire	1	.....
California	9	.....	New Jersey	12	.....
Colorado	1	.....	New Mexico Territ'y	.....	.....
Connecticut	15	.....	New York	77	6
Dakota Territory	.....	.....	North Carolina	1	.....
Delaware	1	.....	Ohio	27	2
District of Columbia	2	.....	Oregon	1	.....
Florida	.....	.....	Pennsylvania	43	.....
Georgia	.....	.....	Rhode Island	9	.....
Idaho Territory	.....	.....	South Carolina	.....	.....
Illinois	28	.....	Tennessee	4	.....
Indiana	11	.....	Texas	3	1
Indian Territory	.....	.....	Utah Territory	.....	.....
Iowa	5	.....	Vermont	1	1
Kansas	2	.....	Virginia	3	.....
Kentucky	7	.....	Washington Territ'y	1	.....
Louisiana	3	.....	West Virginia	1	.....
Maine	7	.....	Wisconsin	8	.....
Maryland	6	.....	Wyoming Territory	.....	.....
Massachusetts	45	4	United States Army	.....	.....
Michigan	10	.....	United States Navy	.....	.....
Minnesota	5	.....			
Mississippi	3	.....	Total to citizens of the United States	371	14
Missouri	14	.....			
Montana Territory	.....	.....			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks and Labels.	Countries.	Patents and Designs.	Trade-Marks and Labels.
Australia	.....	.....	England	8	1
Austria	2	.....	France	.....	1
Barbadoes	.....	.....	Germany	.....	.....
Belgium	1	.....	Italy	.....	.....
Bermuda	.....	.....	New Zealand	.....	.....
Brazil	.....	.....	Russia	1	.....
Canada	6	.....	Spain	.....	.....
Chili	.....	.....	Sweden	.....	.....
Colombia, U. S. of	.....	.....	Switzerland	2	.....
Cuba	.....	.....			
Denmark	.....	.....	Total to citizens of foreign countries	20	2
Ecuador	.....	.....			

DESIGNS.

13,136.—SPOON OR FORK HANDLE.—*Louis O. Hiller*, Meriden, Conn., assignor to *The Meriden Silver Plate Company*, same place. Application filed July 12, 1882. Term of patent 14 years.

13,137 and 13,138.—CARPET.—*Joseph Beazer*, Stourport, county of Worcester, England, assignor to *Matthew J. Whittall*, Worcester, Mass. Applications filed June 16, 1882. Term of patents 3½ years.

13,139.—SPONGE-BASKET.—*William B. Burk* and *George W. Burk*, Philadelphia, Pa. Application filed June 23, 1882. Term of patent 3½ years.

13,140.—CAKE OR BISCUIT.—*Fredrick G. Case*, Cambridgeport, Mass. Application filed June 27, 1882. Term of patent 3½ years.

13,141.—TOY SHOVEL.—*Isaac P. Chalfant*, Philadelphia, Pa. Application filed May 22, 1882. Term of patent 7 years.

13,142.—CLOCK-CASE.—*Henry J. Davies*, Brooklyn, N. Y. Application filed June 24, 1882. Term of patent 7 years.

13,143.—SPOON AND FORK HANDLE.—*Francis Dimier*, New York, N. Y., assignor to *Theodore B. Starr*, same place. Application filed June 21, 1882. Term of patent 14 years.

13,144.—TOY MONEY-BOX.—*Louis Kyser* and *Alfred C. Rex*, Philadelphia, Pa. Application filed June 1, 1882. Term of patent 3½ years.

13,145 and 13,146.—PRINTED FABRIC.—*John Glen*, Brooklyn, N. Y. Applications filed July 1, 1882. Term of patents 3½ years.

13,147 to 13,156, inclusive.—WALL-PAPER.—*Eduard Leissner*, New York, N. Y. Applications filed June 30, 1882. Term of patents 3½ years.

13,157.—CHARM FOR WATCH-CHAINS, &c.—*Herbert G. Mackinney*, Providence, R. I. Application filed June 29, 1882. Term of patent 3½ years.

13,158.—SUPPORT FOR A COFFIN-HANDLE.—*William R. McComas*, Oakley, assignor to *Crane, Breed & Co.*, Cincinnati, Ohio. Application filed June 12, 1882. Term of patent 3½ years.

13,159.—COFFIN ORNAMENT.—*William R. McComas*, Oakley, assignor to *Crane, Breed & Co.*, Cincinnati, Ohio. Application filed June 12, 1882. Term of patent 3½ years.

13,160.—GLASSWARE.—*Frederick S. Shirley*, New Bedford, Mass. Application filed July 6, 1882. Term of patent 7 years.

13,161.—PRINTING-TYPE.—*Carl Müller*, Chicago, Ill., assignor to *Marder, Luse & Co.*, same place. Application filed June 20, 1882. Term of patent 7 years.

13,162.—STAMPED HAT-LINING.—*Frank L. Petrini*, New York, N. Y. Application filed June 29, 1882. Term of patent 7 years.

13,163 to 13,167, inclusive.—CARPET.—*Charles A. Righter*, Philadelphia, Pa., assignor to *Jas. & Geo. D. Bromley*, same place. Applications filed June 26, 1882. Term of patents 3½ years.

13,168.—CALENDAR.—*Timothy E. Whalen*, Rochester, N. Y. Application filed May 18, 1882. Term of patent 3½ years.

13,169.—BRACKET.—*Charles C. Cox*, Arlington, Mass. Application filed July 6, 1882. Term of patent 7 years.

13,170.—FANCY CARD.—*Samuel Garre*, Brooklyn, assignor to *Obpacker Brothers*, New York, N. Y. Application filed July 11, 1882. Term of patent 3½ years.

13,171.—CLOCK-CASE.—*Frank H. Hotchkiss*, Birmingham, Conn. Application filed April 14, 1882. Term of patent 3½ years.

TRADE-MARKS.

[Certificates of registration of Trade-Marks numbered 8,191 and upward are registered under the act of March 3, 1881.]

9,588.—CRACKERS.—*Adolph L. Bauman*, Dayton, Ohio. Application filed July 11, 1882.
"The word or sign of a horseshoe."

9,589.—TRUSSES.—*Bartlett & Butman*, Boston, Mass. Application filed July 7, 1882.
"The arbitrarily-selected words 'COMMON SENSE.'"

9,590.—LAGER-BEER.—*Berliner Brauerei-Gesellschaft Tivoli*, Berlin, Germany. Application filed June 30, 1882.
"The word 'TIVOLI' and the cross described."

9,591.—PIANOS.—*John Church & Co.*, Cincinnati, Ohio. Application filed July 10, 1882.
"The word 'EVERETT.'"

9,592.—SHERRY-WINE.—*Thomas Osborne*, London, England. Application filed July 12, 1882.
"The words 'DUFF GORDON.'"

9,593.—PRESERVING COMPOUND.—*The Preservaline Manufacturing Company*, New York, N. Y. Application filed July 11, 1882.
"The arbitrarily-selected word 'PRESERVALINE.'"

9,594.—BRANDY.—*Renauld & Niederstadt*, New York, N. Y. Application filed June 24, 1882.
"The representation of a helmet."

9,595.—PICKAXES, HATCHETS, AXES, AND HAMMERS.—*Henry H. Trenor*, New York, N. Y. Application filed June 12, 1882.
"The phrase 'OLD WASHOE.'"

9,596.—VESSELS OR APPARATUS FOR COOLING MILK AND FOR RAISING CREAM.—*Vermont Farm Machine Company*, Bellows Falls, Vt. Application filed July 15, 1882.
"The word-symbol 'CREAMER.'"

9,597.—CERTAIN MEDICAL COMPOUNDS.—*Hulbert H. Warner*, Rochester, N. Y. Application filed June 20, 1882.
"The picture of an iron safe and the word 'SAFE' when associated with such a picture."

9,598.—LAGER-BEER, BEER, ALE, AND PORTER.—*David G. Fuenging, Jr.*, New York, N. Y. Application filed July 14, 1882.
"The arbitrary letter 'Y,' containing the arbitrary symbol of a horse's head within its upper open part."

9,599.—COTTON GOODS.—*The Boott Cotton Mills*, Lowell, Mass, Application filed June 12, 1882.
"The picture of a crowing cock in connection with the figure '2' and the '+.'"

9,600.—COTTON GOODS.—*The Boott Cotton Mills*, Lowell, Mass. Application filed June 12, 1882.
"The picture of a crown, on either side of which is a dragon, in combination with the arbitrary word 'ARGYLE.'"

9,601.—COTTON GOODS.—*The Boott Cotton Mills*, Lowell, Mass. Application filed June 12, 1882.
"The picture of a castle in connection with the arbitrary word 'WARWICK.'"

9,602.—HOSE.—*George P. Dodge*, Manhasset, N. Y. Application filed July 8, 1882.
"The representation of an anchor within a diamond."

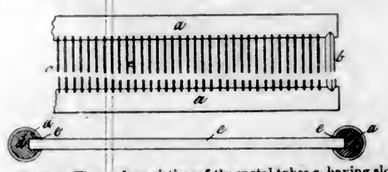
LABELS.

2,735.—Title: "SCHOTT'S CONCENTRATED ESSENCE OF GINGER & MACE."—*Justus J. Schott*, Galveston, Tex. Application filed July 13, 1882.

PATENTS

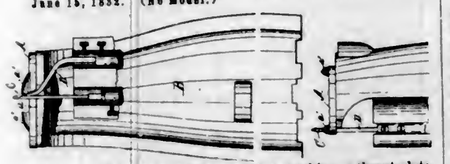
GRANTED AUG. 8, 1882.

262,197. REED FOR LOOMS. MATHEW ARAM, Paterson, N. J. Filed Jan. 25, 1882. (No model.)



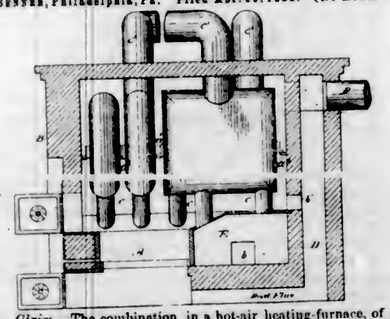
Claim.—The reed consisting of the metal tubes *a*, having slots *c*, the dents or blades *c*, and protecting-rods *b*, the tubes being filled with lead or analogous substance, *d*, substantially as described.

262,198. THROAT-PLATE FOR BOOT AND SHOE SEWING MACHINES. FRANK BEAN, Boston, Mass., assignor to the Improved Sole Sewing Machine Company, same place. Filed June 15, 1882. (No model.)



Claim.—In a boot and shoe sewing machine, a throat-plate having the hollow projection *a'* at one end of the throat *a*, this projection being sloped and curved substantially as shown, made hollow to allow the cast-off to work within it, and serving as a guide, when inserted in the channel, on which the work can be rocked or turned, substantially as and for the purposes set forth.

262,199. HOT-AIR HOUSE-HEATING FURNACE. A. PENROSE BENNER, Philadelphia, Pa. Filed Apr. 29, 1882. (No model.)



Claim.—The combination, in a hot-air heating-furnace, of a fire-box, a cold-air receptacle surrounding the fire-box and inclosed by brick-work, a series of separate heaters, each communicating at its base with the cold-air receptacle, and all being confined by and suitably arranged within the brick-work, whereby the products of combustion may circulate among or around the heaters, and an independent hot-air-distributing pipe attached to the upper part of each heater, substantially as and for the purposes set forth.

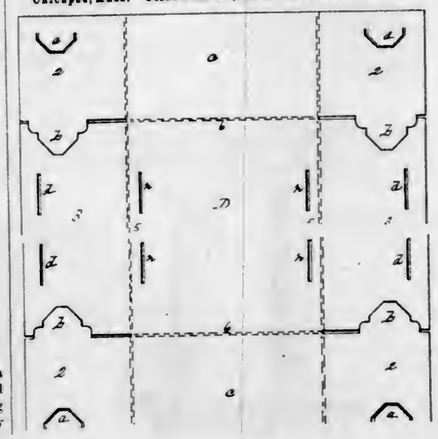
262,200. BARBED FENCE-WIRE. CHARLES G. BODMAR, De Kalb, Ill. Filed Apr. 2, 1879.



Claim.—1. The combination, with the twisted strands, of four pointed barbs, each barb consisting of two barbed pieces, both rectangularly bent, with a loop or eye at the middle, and placed with one prong of each piece resting in the eye of the other, and with one cable-strand passing through each eye, substantially as set forth.

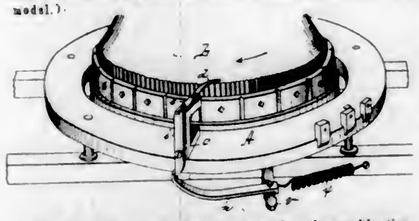
2. A barbed fence-wire consisting of the strands *a b*, twisted together, and the four-pointed barbs, each composed of the two wires *c d*, the wire *c* being bent around the strand *a*, so as to form the loop *f* at the center, and so that the two prongs *e e'* stand at right angles to each other, and the piece *d* being bent around the strand *b*, so as to form a loop, *g*, at the center, and so that the two prongs *h h'* stand at right angles, or nearly so, to each other, the prong *e'* passing through loop *g* and the prong *h'* passing through the loop *f*, and the two prongs *e h* passing out from between the two twisted strands *a b*, the prongs *e h* being in parallel lines and the prongs *e' h'* being in parallel lines at right angles to lines of the said prongs *e h*, as specified.

262,201. KNOCKDOWN PAPER BOX. PATRICK E. BOWE, Chicopee, Mass. Filed June 26, 1882. (No model.)



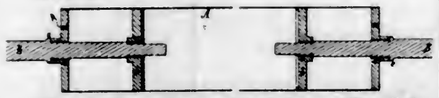
Claim.—A blank for a knockdown paper box, provided with the folding-lines 5 6, and consisting of the central part, D, the side and end parts, 3 3 and e e, and the corner-flaps 2 2 2 2, each of said corner-flaps being provided with locking-flaps *a* and *b*, and said sides and central portions of said blank having the locking-slits *d* and *s* therein, all as set forth.

262,202. STOP-MOTION DEVICE FOR KNITTING-MACHINES. JAMES BRAMLEY, Springfield, Mass. Filed Feb. 16, 1882. (No model.)



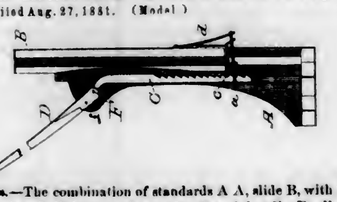
Claim.—In a circular-knitting machine, the combination, with the shaft 2 and gear 3, of the shipper-lever r, having arm *n* thereon, the lever *d*, the spring *x*, and the levers *e* and *i*, substantially as set forth.

262,203. DRIVING-CYLINDER FOR YARN-SPOOLING MACHINES. JAMES K. BROWN, Lewiston, Me. Filed Apr. 3, 1882. (No model.)



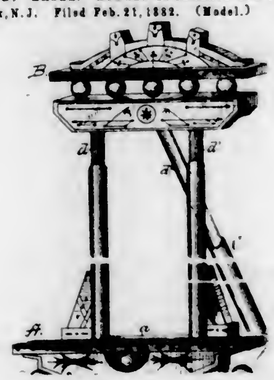
Claim.—The combination of the hollow metallic cylinder having heads at and near each end of it, as described, with one journal provided with right-hand screw-threads screwed into the heads at one end, and also with another journal provided with left-hand screw-threads screwed into the heads at the other end of each cylinder, all being substantially as set forth, each journal also having a shoulder, as explained.

262,204. LIFTING-JACK. WALTER S. BURGIN, Washington, Vt. Filed Aug. 27, 1881. (Model.)



Claim.—The combination of standards A A, slide B, with the adjustable bar C, link *a*, pawl *c*, spring *d*, and handle D, all arranged to constitute a jack, as specified.

262,205. EASEL. EDWARD D. CAMERON and FRANK LONG, Newark, N. J. Filed Feb. 21, 1882. (Model.)

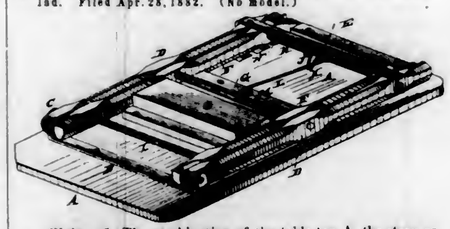


Claim.—1. In an easel, the combination of two tubes attached to a base bar or plate of the easel, and standards fixed to the top bar or plate to register and adjust within the tubes in the base, said top section having a pivotally-attached extensible back-support, substantially as described.

2. As a new article of manufacture, an extensible and contractible easel, consisting of a lower section provided with tubes, an upper section with telescoping rods, and a pivotally-connected extensible and contractible back-support, substantially as described.

3. An easel composed of a base portion provided with vertical receiving means, a top section provided with descending means adapted to fit snugly within the receiving means and be adjusted and held at suitable heights by frictional contact alone, and a back-support pivoted or hinged for varying the inclination of the easel, substantially as described.

262,206. FOLDING TABLE. WILLIAM H. CARR, Columbus, Ind. Filed Apr. 28, 1882. (No model.)



Claim.—1. The combination of the table-top A, the strap or casting B, having hangers C, the outer legs, D, pivoted to said hangers, the inner legs, F, of equal length with legs D, to which they are connected by central pivoting-bolt, the round H, spring J, having loop K, and the rod L, substantially as set forth.

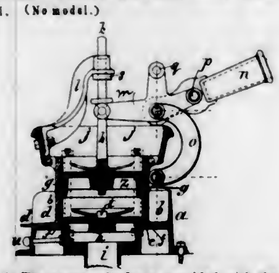
2. The combination of the table-top A, having notches N and batten M, the rod L, having one end secured to said batten and the other near the end of the table-top, the legs D D, hinged under the table, and the legs F F, pivoted to legs D D, having round H, and spring J, provided with loop K, as set forth.

262,207. PREPARING ANIMAL FATS FOR CULINARY USES. SAMUEL H. COCHRAN, Everett, Mass. Filed June 28, 1882. (No specimens.)

Claim.—1. The described method or process of purifying and deodorizing oil obtained from swine-fat, which consists in mixing therewith slippery-elm bark, substantially in the proportions and in the manner and for the purpose shown and described.

2. The compound composed of the oil obtained from swine-fat, cotton-seed oil and its equivalents, deodorized and purified by slippery-elm bark and beef-stearine, substantially in the proportions and in the manner and for the purpose described.

262,208. PUMP. DAVID N. B. COFFIN, Newton, Mass. Filed Dec. 8, 1881. (No model.)



Claim.—1. The pump-cylinder *g*, provided with the overjutting attached reservoir or basin *j* and the annular series of vertical, or approximately-vertical, delivery-orifices *w*, substantially as shown.

2. The barrel *g*, having the overjutting reservoir *j*, provided with the water-ways *w*, in combination with the base *a*, having the pipe-chamber *h*, the packing-seat *e*, and valve-seat, substantially as shown.

3. The barrel *g*, having the overjutting reservoir *j*, provided with the water-ways *w*, in combination with the base *a*, having the pipe-chamber *h*, the packing-seat *e*, and valve-seat, the water-way *b*, formed by the barrel and base, and the spout *d*, substantially as described.

4. The adjustable lever-socket *n*, in combination with the lever *m* and the plunger *k*, substantially as described.

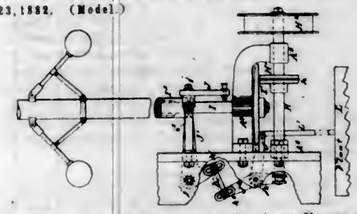
5. The double knob or necked lever, in combination with the adjustable lever, substantially as described.

6. The combination of the central guide, valve-seat, valve-guard, and annular valve, constructed as described, the valve having free play and space to vibrate between the seat and guard, substantially as described.

7. The valve-seat having the oblique radial bars, in combination with the free annular valve, substantially as shown.

8. The combination of the two links *o*, two levers, *m*, and lever-socket *n*, substantially as described.

262,209. GOVERNOR FOR STEAM-ENGINES. ORONOR H. CORLISS, Providence, R. I. Filed June 14, 1880. Renewed Jan. 23, 1882. (Model.)



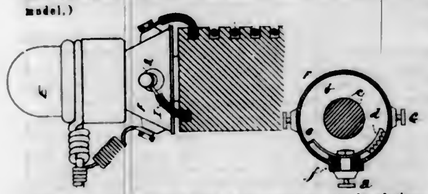
Claim.—1. In combination with the sleeve I', moved automatically as the speed of the engine changes, the driving-shaft H and wheel H' A with a train of connections communicating an endwise motion thereto according to the changes of I', and with a disk or wheel, I', and shaft I, communicating motion to the governor at variable velocities, substantially as herein specified.

2. In combination with means I' H' J' J', for automatically changing the velocity ratio of the governor with changes in the velocity of the engine, the adjusting means k' k^2 and link K, adapted to change the motions of the parts relatively to each other, as herein specified.

3. In a steam-engine, the combination, with the governor, of a device, H', adjusted automatically by the governor, or so as to vary the velocity of the governor relatively to the engine as the speed increases and diminishes and hold the speed of the engine the same under different loads, as herein specified.

4. In a steam-engine or analogous motor, the device H', adjustable to vary the velocity of the governor relatively to the engine, in combination with two independent means, K and L, for adjusting the same, one controlling it by the changes in the speed and the other controlling it by the changes of level of a float, as herein specified.

262,210. COMBINED INSULATOR, LIGHTNING-ARRESTER, AND CONNECTOR. WILLIAM H. ECKERT, EDWARD A. ECKERT, and JOHN A. SEELT, Cincinnati, Ohio. Filed Jan. 6, 1882. (No model.)



Claim.—1. The combination of the insulator, the insulating-pin supporting the same, and the metallic mass supported on said pin and provided with means, substantially as described, whereby it may be made a portion of the line-circuit, substantially as and for the purpose set forth..

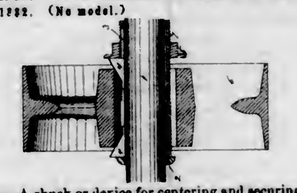
2. The combination of the insulator, the insulating-pin supporting the same, and the hollow metallic box supported by the pin and provided with means whereby it may be made a portion of the line-circuit, and a lightning-arrester within said box, provided with means whereby it may be connected with an earth-wire, substantially as and for the purpose set forth.

3. The combination of the insulator having a bottom cavity, the insulating-pin supporting the same, the hollow metallic box reaching up into said cavity and supported by the pin and provided with means whereby it may be made a part of the line-circuit, and a lightning-arrester within said box, provided with means whereby it may be connected with an earth-wire, substantially as and for the purpose set forth.

4. The combination of the insulator, the insulating-pin supporting the same, the hollow metallic box supported by said pin and provided with means whereby it may be made a portion of the line-circuit, the separable bottom to said box, and the lightning-arrester within said box, provided with means whereby it may be connected with an earth-wire, substantially as and for the purpose set forth.

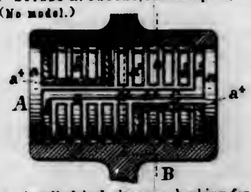
5. The combination of the insulator, its pin of insulating material having a tapering part below the insulator, the hollow metallic box fitting on and supported by the tapering portion of the pin and provided with means whereby it may be made a portion of the line-circuit, and the lightning-arrester within said box provided with means whereby it may be connected with an earth-wire, substantially as and for the purpose set forth.

262,211. CHUCK FOR CENTERING AND SECURING PULLEYS TO SHAFTS. JAMES EMERSON, Williamsett, Mass. Filed June 2, 1882. (No model.)



Claim.—A chuck or device for centering and securing pulleys upon shafts or mandrels, consisting of a tubular sleeve provided with slots or openings and an exterior screw-thread, a series of keys, each having its outer edge inclined to its inner edge, and a nut adapted to be turned upon the threaded sleeve and force said keys to a firm bearing in the hub of the pulley, and against a shaft or mandrel placed within said sleeve.

262,212. DEVICE FOR LUBRICATING LOOSE WHEELS AND PULLEYS. LUTHER R. FAUGHT, Philadelphia, Pa. Filed July 1, 1882. (No model.)

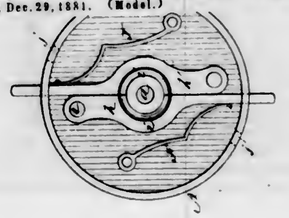


Claim.—1. A cylindrical sleeve or bushing for loose wheels or pulleys, having a central cylindrical bore suited to the shaft of the wheel or pulley, a series of longitudinal and transverse channels or passages upon its periphery, separated one from the other by partitions the diameter of which is uniform throughout and corresponds with the bore of the wheel or pulley, and an opening leading from one of said channels to the inner surface of the sleeve, substantially as and for the purpose set forth.

2. The combination of a loose wheel or pulley, a sleeve or bushing secured centrally therein, and a series of longitudinal and transverse channels or passages interposed between the hub of the wheel or pulley and the sleeve, and communicating at different points with openings in the hub and sleeve, respectively, substantially as set forth.

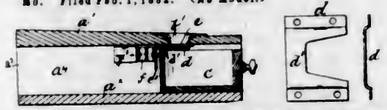
3. The combination of a loose wheel or pulley, a channeled sleeve or bushing secured centrally therein, and a wick or cord of fibrous or absorbent material inserted in said channels and leading to a radial opening formed in the sleeve, substantially as set forth.

262,213. BUTTON. GABE FELSENTHAL, Brownsville, Tenn. Filed Dec. 29, 1881. (Model.)



Claim.—A button consisting of the top A, having the central post, *a*, and slotted rim, the bottom B, the sleeve *d*, having head E, with groove *f*, and the spring-pressed jaws *h h'*, arranged on pivots *e*, and having beveled recesses *i*, substantially as shown and described.

262,214. SHOT-CABINET. AUGUSTUS F. FLEMING, Rich Hill, Mo. Filed Feb. 1, 1882. (No model.)



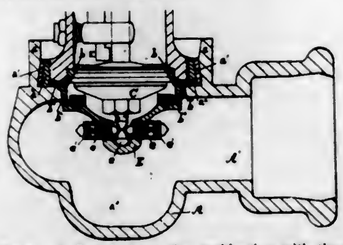
Claim.—The combination, with the till of a shot-cabinet, having a discharge-opening in its bottom, the spring *f*, and the valve *e*, having a breast-plate, *e'*, made fast to the spring *f*, of the plate *d*, having its intermediate portions bent down, and having the cross-bar *d'*, substantially as set forth.

262,215. FASTENING FOR GLOVES, SHOES, &c. SIMON FLORSHEIM, Chicago, Ill. Filed May 24, 1881. (Model.)



Claim.—A fastening for gloves, mittens, or shoes, consisting of a link, B, having at one end an eye, *b*, for pivotally securing said link directly to the material by a rivet, and having at the other end, central with the eye *b*, a hook, *c*, to engage with a stud, *d*, also secured to material, the edge of the link leading into said hook being formed in a diagonal line to facilitate the disengagement of the hook from the stud, and the hook *c* being secured to the glove to engage from the finger end of the glove, substantially as shown and described.

262,216. HYDRANT-VALVE. JAMES FLOWER, Detroit, Mich. Filed May 12, 1882. (No model.)



Claim.—1. In a hydrant, the combination, with the main valve provided with a central downward-projecting spindle or head and the auxiliary valve, of the spring bolts or catches arranged upon the auxiliary valve and adapted to engage the said spindle or head of the main valve, substantially as described.

2. The auxiliary hydrant-valve provided with the spring-bolts and casings therefor, said bolts being arranged to be forced toward the center of the valve by their springs to engage a suitable head or spindle of a main valve, substantially as described.

262,217. ABSORBENT LAST. THOMAS J. FOSTER, Granger, Ind. Filed Nov. 23, 1880. (No model.)



Claim.—A device for drying the interior of boots or shoes, consisting of a solid block or last-shaped form, made of soapstone, clay, or plaster-of-paris, and adapted to fit and substantially fill the interior of said boot or shoe, substantially as herein specified.
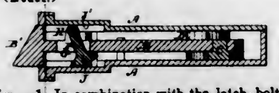
262,218. PIN-TURNING TOOL. ANTON GRIEBE, Buffalo, N. Y. Filed Dec. 28, 1881. (No model.)



Claim.—1. In a hand turning-tool adapted for turning pins, the combination, with a slotted body, of a cutter having a cutting-edge in a plane parallel with that of the tongue of said body, said cutter being pivoted within the slotted body and adjustably retained in position by set-screws acting upon the curved tail portion of said cutter, substantially in the manner as and for the object specified.

2. As an improved article of manufacture, a hand turning-tool adapted for turning pins, consisting essentially of a slotted body having a handle on one end and a tongue on its other end, said slotted body being provided with a cutter having an enlarged head provided with a cutting-edge in a plane parallel to that of the said tongue, said cutter being pivoted within the slotted body and adjustably retained in position by set-screws, the whole being constructed for operation substantially in the manner as and for the object specified.

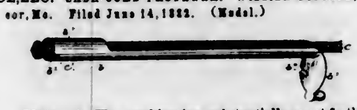
262,219. LATCH. JOHN GERARD, New Britain, Conn., assignor to the Nashua Lock Company, Nashua, N. H. Filed Apr. 16, 1882. (Model.)



Claim.—1. In combination with the latch-bolt B and the case A, the rocking sector F, pivoted to said bolt and held to a rolling motion on said case by a tooth, J, substantially as described.

2. The combination of the latch-bolt B, provided with a slot, G, the sector F, pivoted to said bolt and fitted to rock within said slot, and the case A, said case and sector being provided with a tooth and notch, whereby said sector is confined to a rolling motion on said case, substantially as described.

262,220. SASH-CORD FASTENER. WILLIAM GOPCUPH, Windsor, Mo. Filed June 14, 1882. (Model.)



Claim.—1. The combination, substantially as set forth, of the sash *a*, constructed with the groove *a'*, the outer or open side of which is made narrower than the inner portion and open at its top, the rod *b*, having the sash-cord fastened thereto and adapted to be placed down in the groove *a'*, and means for securing the said rod in the said groove, as set forth.

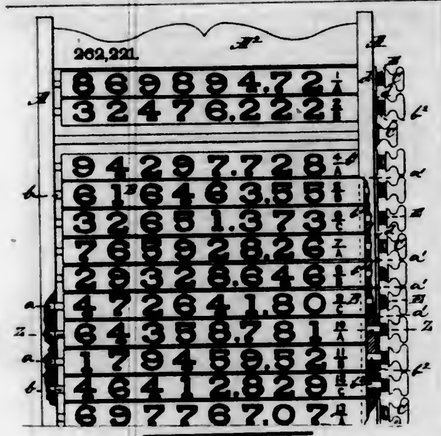
2. The cord-holding rod *b*, having the cord *e* attached thereto, and provided with the plate *b'*, extended at right angles from its upper end, said plate being adapted to be turned under a screw-head or equivalent construction projected from top of sash and secure the rod within the groove *a'*, substantially as set forth.

3. The combination, substantially as set forth, of the sash *a*, constructed with the groove *a'*, the outer or open end of which is made narrower than the inner portion and terminating in the socket *a''*, the rod *b*, having the sash-cord secured thereto, and constructed to fit snugly the inner portion of groove *a'*, and adapted to be placed in the said groove, with its portion *b'* seated in the socket *a''*, and means for securing the said rod in the said groove, as set forth.

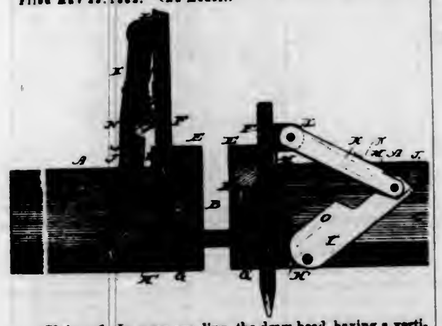
262,221. ARITHMETICAL FRAME. JOHN GOULD, Chatham, N. J. Filed Jan. 14, 1882. (Model.)

Claim.—1. An arithmetical device having a frame, A, provided with a series of slats, B, which have their ends journaled and are capable of being revolved at will, and are controlled in an upright position by a continuous vertical slot or groove, *a'*, substantially as shown and described.

2. An arithmetical device having a frame, A, provided with a series of slats, B, capable of being revolved at will and controlled in position by a vertical slot or groove, *a'*, of the projecting axis *b'*, washers *d d*, springs E, and handles C C, substantially as shown and described.



262,222. CAR-COUPLING. WILLIAM E. GRISHAM, Selma, Ark. Filed May 29, 1882. (No model.)



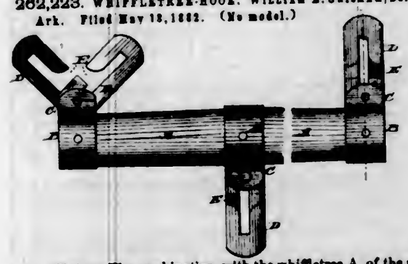
Claim.—1. In a car-coupling, the draw-head having a vertically-sliding coupling-pin, a lever hinged in the bottom of said draw-head, and a hinged rod connecting the said lever and coupling-pin, substantially as set forth.

2. The draw-head A, having mouth or recess B, slot C, bearings E G, and slots D H', in combination with the coupling-pin F, having lug L and the lever I, and connecting-rod K, having shoulders M, all arranged substantially as set forth.

3. In a car-coupling, the combination, with the vertically-sliding coupling-pin, of the lever I and connecting-rod K, having shoulders M and the flat spring N, as set forth.

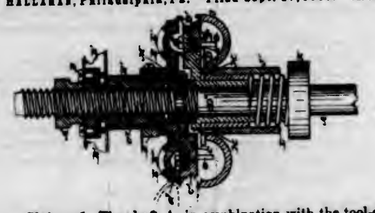
4. The combination of the draw-head having recess B and slot C, the vertically-sliding coupling-pin, the lever I, having bulge O, and the connecting-rod K, as set forth.

262,223. WHIFFLETREE-HOOK. WILLIAM E. GRISHAM, Selma, Ark. Filed May 18, 1882. (No model.)



Claim.—The combination, with the whiffletree A, of the strap B, having brackets C C, and the flat sheet-metal links D D, pivoted permanently between said brackets, one above and covering the other, with which it is in close contact, thus forming virtually a double link, said links being provided on opposite sides with slots E, as and for the purpose set forth.

262,224. EDGE TRIMMER AND BURNISHER. DANIEL F. HALLAHAN, Philadelphia, Pa. Filed Sept. 27, 1880. (Model.)



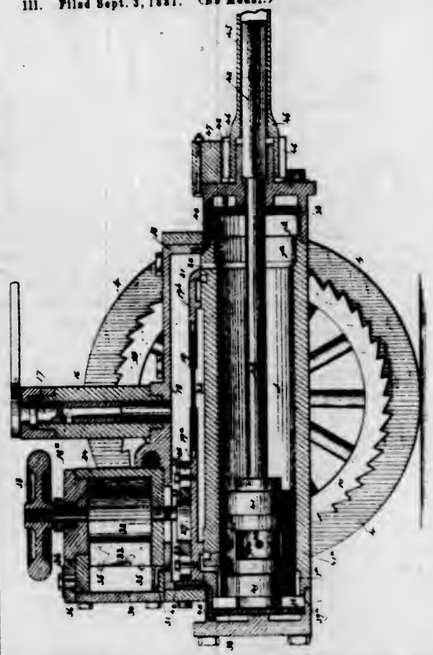
Claim.—1. The shaft A, in combination with the tool-carrying spiders B C and the rand-guide E, said spider C having a hub, C', which encircles the shaft A, and the rand-guide having a hub, E', which encircles said hub C', the spider B tightening against both hubs C' E', substantially as and for the purpose set forth.

2. The cutters C' D', in combination with an adjusting device consisting of the disk F, with radial slots, the pins G, and the rotatable sleeve, substantially as and for the purpose set forth.

3. The shaft A and spider D, with hub D'', in combination with the inclosed nut M and collar K, substantially as and for the purpose set forth.

4. The rotary cutter and rand-guide, in combination with an additional rotary guide loosely fitted over said rand-guide, substantially as and for the purpose set forth.

262,225. COAL-MINING MACHINE. JONATHAN W. HARRISON, Richmond, Mich., assignor to George D. Whitcomb, Chicago, Ill. Filed Sept. 3, 1881. (No model.)



Claim.—1. In a reciprocating mining-machine operated by steam or compressed air, the combination, with a slide-valve controlling the ports of the drill-cylinder and a chest containing said valve and receiving steam or air directly from the boiler or reservoir, of a vertical rotary engine operating said slide-valve by a cam on its piston-rod, and itself driven by steam or air from the slide-box, as set forth.

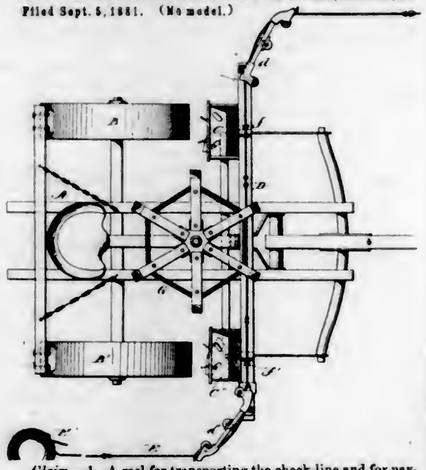
2. The two-part slide valve for reciprocating mining-engines, having its ends or shells joined by a right-and-left threaded screw for adjusting the lead of the valve, and carrying independently-adjustable guides at one end for regulating the cut-off, substantially as shown and described.

3. In combination with a circumferentially-grooved piston-head and its attaching-pin, the annular ring or packing filling the said groove, covering the end of the pin, and having cut-away portions or slots to allow of the removal of the head on shifting the packing, as set forth.

4. In a reciprocating mining-engine, the combination, with a non-circular drill-rod, of its supporting-sleeve projecting beyond the cylinder, having a similar non-circular bore, and mechanism, constructed as shown and described, applied directly to the said sleeve for allowing rotary adjustment through it to the drill-rod.

5. The wheel locking and unlocking device, consisting of ratchets 10, pawls 11, shaft 14, having eccentrics 13, and lever 12, combined substantially as described.

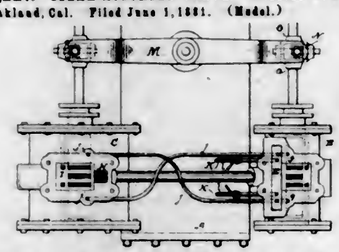
262,226. MEANS FOR REELING AND UNREELING CORN-PLANTER CHECK-LINES. GEORGE D. HAWORTH, Decatur, Ill. Filed Sept. 5, 1881. (No model.)



Claim.—1. A reel for transporting the check-line and for paying out and taking up the same, mounted on the planter-frame on an axis located between the longitudinal vertical planes of the forked arms or levers actuating the seeding devices and the pulleys guiding the check-line thereto, and in combination with said levers and pulleys, arranged and operating substantially as described.

2. A yielding or dragging anchor for corn-planter check-lines, composed of a portion of the check-line made into a coil or bundle, adapted to be used to compensate for the dragging of said anchor, substantially as described.

262,227. STEAM-ACTUATED VALVE. WILLIAM D. HOOKER, Oakland, Cal. Filed June 1, 1881. (Model.)

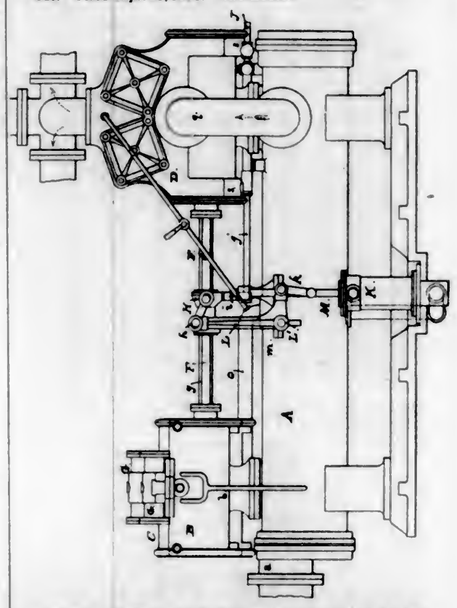


Claim.—1. The combination, with one prime auxiliary-valved direct-acting engine, of one or more secondary engines having no auxiliary valves, so that the steam supplied by the auxiliary-valved engine shall drive simultaneously the valves of all the secondary engines, substantially as shown and described, and for the purpose set forth.

2. An auxiliary-valved engine adapted to supply steam to drive simultaneously the main valves of all the secondary engines, substantially as shown and described.

3. The combination, with an auxiliary-valved engine and an engine or engines having no auxiliary valves, of the pipes or passages connecting the engines with the condenser controlled by the auxiliary valve, substantially as set forth.

262,228. PUMPING-ENGINE. WILLIAM D. HOOKER, Oakland, Cal. Filed Sept. 21, 1881. (No model.)



Claim.—1. The combination, with a pumping-engine, of a condenser through which the water raised by the pump is drawn and caused to circulate before entering the suction-inlet of the pump.

2. In a pumping-engine, the combination, with a pump and its operating-engine, of a condenser so connected with the exhaust of the engine and the suction of the pump that a vacuum is formed and maintained in the interior of the condenser on both sides of the tubes, tube-sheets, and other partitions that separate the condensing-space from the water-way of the condenser, substantially as described.

3. In a pumping-engine, a condenser having a pump or pumps mounted on one end, with the suction connected with the water-way of the condenser, in combination with an engine or engines mounted upon the other end of the same condenser in a position to drive the said pump or pumps by direct action, and having the exhaust thereof connected directly with said condenser, substantially as described.

4. The combination of the pumps D D, engine-cylinders B C, each having its valve-chamber and valve G, the condenser having the exhaust of the engine and the suction of the pump, respectively, connected thereto, as described, and the auxiliary valve E, all applied to operate together substantially as and for the purpose described.

5. In combination with the low-pressure engine having its valve G moved by steam-pressure derived from the high-pressure engine, the secondary steam-supply P, having a cock, *p*, substantially as and for the purpose described.

6. The combination, with the two piston-rods F F, of a yoke or connection which is fixed to and carried by one rod, but is loosely connected with the other rod, so that the piston thereof can have a motion at the termination of its stroke independently of the movement of the piston of the other rod, substantially as described.

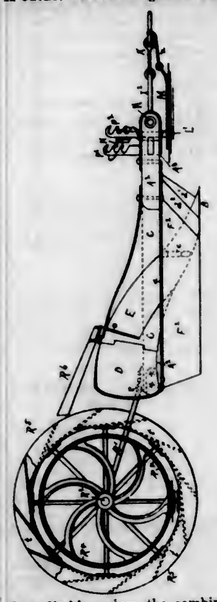
7. In combination with the piston-rod F, having the yoke H fixed to it, the rod F', loosely connected to the yoke, and having the adjustable stops *s s*.

8. In combination with the low-pressure cylinder having its valve G moved by steam-pressure derived from the high-pressure engine, the auxiliary valve E and the pipes *d d*, connecting the ends of the valve-chamber G' with the auxiliary valve, and provided with cocks *c*, substantially as set forth.

9. In combination with the valve E, having the lug W, the valve-rods with their shouldered ends, and the removable cap Y, substantially as described.

262,229. DITCHING-PLOW. JOSEPH L. HOUSE, Hutchinson, Minn. Filed Mar. 17, 1882. (No model.)

Brief.—A hinged mold-board and a hinged wing attached to the guard-plate. A bucket-wheel to irrigate the mold-board.



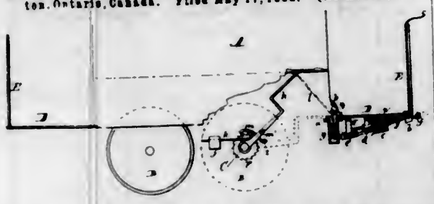
Claim.—1. In a ditching-plow, the combination of curved plate C, share B, connected to said plate, mold-board E, hinged to share B, and adjustable wing D, connected to curved plate C, substantially as and for the purpose set forth.

2. The combination of curved plate C, adjustable wing D, hinged thereto, ratchet-bar *s*, for adjusting the wing, and lever G, for operating the bar, substantially as set forth.

3. The combination, with ditching-plow, of a frame, R', hinged thereto, a shaft, R², provided with wheels R' and journaled in the frame, and a bucket-wheel, R², connected to shaft R² and revolved thereby, and having its lower edge below the sides of the ditch, substantially as and for the purpose specified.

4. The combination, with the ditching-plow, of a shoe, M, connected to the forward part of the plow, standard L', connected to shoe M, lever N, pivoted to standard L', for raising and lowering said standard, and notched standards P' P², for lever N to engage with, the several parts being arranged to operate as set forth.

262,230. CAR-STARTER. EDWARD EMILIUS JARVIS, Hamilton, Ontario, Canada. Filed May 17, 1882. (No model.)

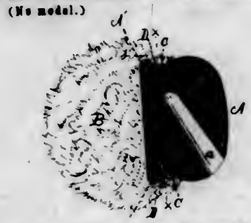


Claim.—1. In a car-starter, the combination of the lever *h*, loosely hung at one end directly on the car-axle C and elevated by a weight, a pawl, *m*, pivoted to the lever, the ratchet-wheel F, rigidly secured to the axle, and the draw-head connected with the lever, substantially as described.

2. In a car-starter, the combination, with the lever *h*, draw-head *f*, and chain *l*, of the sheaves *g e c*, and brackets *e' b d*, substantially as specified.

3. In a car-starter, the combination of the weighted pawl *m*, lever *h*, ratchet-wheel F on axle, rod *k*, and weight *j*, substantially as and for the purpose specified.

262,231. WINDOW-WASHER. GEORGE A. KEENE, Lynn, assignor of one-half to Oscar F. Howe, Boston, Mass. Filed Apr. 7, 1882. (No model.)



Claim.—1. In a window-washer, the combination, with the sponge B, of the block-head A, to which the sponge is secured, said block-head being constructed with the rounded edge A', in order to prevent injury to the fiber of the sponge, substantially as and for the purpose set forth.

2. In a window-washer, the combination of the sponge B and grooved block-head A C, said sponge being secured to said block-head by means of staples D, driven into the groove C, whereby the sponge is secured in position without being materially compressed, substantially as and for the purpose described.

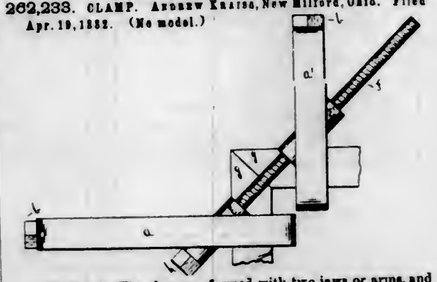
262,232. RECEPTACLE FOR STORING AND TRANSPORTING SUBSTANCES. WOLDEMAR KOWALEVSKY, Moscow, Russia. Filed Jan. 3, 1882. (No model.) Patented in France Nov. 18, 1881, and in England Nov. 25, 1881, No. 5,150.



Claim.—1. A receptacle of spheroidal or similar form, constructed of two halves joined together at their edges and re-enforced with exterior-flanged ribs arranged at right angles, or nearly so, to the equatorial joint, substantially as set forth.

2. A receptacle of spheroidal or similar form, constructed of two halves joined together at their edges, said receptacle being provided with two exterior-flanged ribs arranged at right angles to each other and to the equatorial joint, a handling-ring, and a bung, all constructed and arranged substantially as set forth.

262,233. CLAMP. ANDREW KRAISS, New Milford, Ohio. Filed Apr. 19, 1882. (No model.)



Claim.—1. The clamp *a*, formed with two jaws or arms, and a screw, *b*, for clamping articles between the arms, and a suitable opening, *e*, to receive screw-rod *f*, in combination with clamp *a'*, similarly formed, and with screw-rod *f*, extending through said openings, one of which is screw-threaded to receive the screw-threaded part of rod *f*, for the purpose of clamping together an article held in clamp *a* and an article held in clamp *a'*, substantially as described.

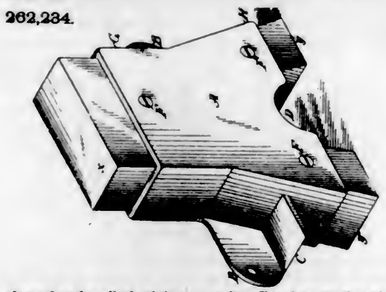
2. The clamps *a a'*, each formed with one or more slots, *d*, to receive sleeves *e e'*, one of the sleeves being threaded, and seats *c*, to receive pins *i*, in combination with sleeves *e e'*, pins *i*, and the screw-threaded rod *f*, substantially as described.

262,234. WASH-BENCH. LADD J. LEWIS, Grand Rapids, Mich. Filed Feb. 3, 1882. (No model.)

Claim.—1. The socket or hollow casting A, composed in one piece of the rectangular part G and the flaring part H, for securing a wash-bench standard and legs, substantially as set forth.

2. The combination, with the socket or hollow casting A.

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formed as described, of the ears or lugs B and supporting-plates C, all cast in one piece, substantially as set forth.

3. The combination of the hollow cast socket A, formed, as described, with the legs and standard joined within the socket, so as to fill it and brace against each other for greater security, substantially as set forth.

262,235. FIRE-BALLOON. GUSTAVUS A. LILLIENDAHL, Jersey City, N. J., assignor to Charles A. Johnson, Brooklyn, N. Y. Filed Jan. 23, 1882. (No model.)

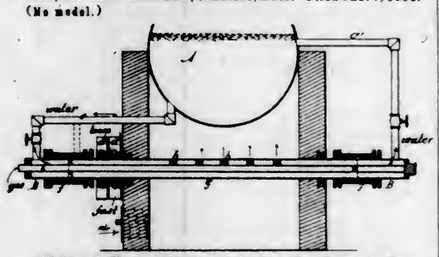


Claim.—1. The combination, with a fire-balloon, of a fire-protecting device made of asbestus paper or other suitable light non-combustible material adapted to surround the flame, substantially as described.

2. The combination, with a fire-balloon, A, of the chimney B, made of asbestus paper or other suitable light non-combustible material adapted to surround the flame, substantially as and for the purpose herein specified.

3. The combination, with the balloon A, having cross-wires *a' a'*, of the non-combustible chimney B, provided with means for attaching it to said balloon, substantially as and for the purpose specified.

262,236. HYDROCARBON-FURNACE. HARVEY T. LITCHFIELD, Hull, and DAVID RENSHAW, Cohasset, Mass. Filed Jan. 7, 1882. (No model.)



Claim.—1. The combination, in hydrocarbon-furnaces, of a rotating hydrocarbon vapor or gas pipe with a rotating pipe through which water flows, said pipe being concentrically arranged and adapted to supply gas from the inner pipe through periphery of the outer pipe, in the manner shown and described.

2. The combination, in a hydrocarbon-furnace, of an inner and outer pipe having lateral passages concentrically arranged, and adapted to rotate together, said pipes being jointed to the stationary supply-pipes in the manner shown and described.

3. The combination, in hydrocarbon-furnaces, of double rotating pipes, one of which is concentrically arranged within the other, the outer one adapted to have passed through it a cooling medium by which the gases passing through the inner pipe are prevented from depositing their carbon substances on the surface of said inner pipe, in the manner shown.

4. In furnaces for burning hydrocarbon or the vapor thereof, or other gases, as fuel, the double concentric rotating pipes, in combination with stationary ends, said pipes being adapted to circulate water from the boiler through them, in the manner set forth.

5. The combination, in furnaces for burning gases as fuel, of the rotating pipes, the stationary end pipes, the double stuffing-boxes, and the circulating water or air pipes, substantially in the manner set forth and described.

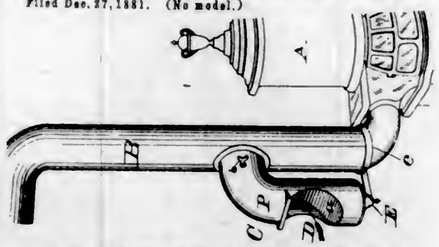
6. The combination, in hydrocarbon-furnaces, of double rotating pipes, one of which is arranged concentrically within the other, the outer one being perforated and adapted to have air forced into and through it and into the furnace, by which means the gases passing through the inner pipe are prevented from depositing carbon, and the combustion in said furnace is greatly improved, in the manner set forth.

262,237. ROTARY DISK-CUTTER HOLDER. ALEXANDER MCDONALD, Cambridge, Mass., assignor to the McDonald Stone Cutting Machine Company, Nashua, N. H. Filed May 29, 1882. (No model.)



Claim.—The combination of the cutter-spindle support-piece *e*, the lipped slide *i*, the pivoted and recessed block C, and the lipped arm A, arranged and adapted and provided with clamps *k*, and adjusting-screws, substantially and to operate as set forth.

262,238. VENTILATOR. THOMAS MINCHIN, Chicago, Ill. Filed Dec. 27, 1881. (No model.)



Claim.—The combination, with the stove A and pipe B, of the bracket E, having a band, *c*, surrounding said pipe, and the curved ventilating-pipe P, resting on the bracket, and communicating at its upper end with the pipe B, said ventilating-pipe being provided with a curved or inclined bottom, *a*, an opening, D, extending up from the lower edge of the bottom, and a damper, *b*, arranged in the upper curved end of the pipe, as and for the purpose specified.

262,239. BOOT OR SHOE. LEE E. MOORE, Boston, Mass. Filed May 18, 1882. (No model.)



Claim.—A boot or shoe having an external welt, an outturned upper, and an inner sole, these parts being connected at the inner edge of the welt by a line of stitches, which pass through the welt from its under side, thence through the upper, and into and diagonally through the edge proper of the inner sole, said welt being folded, or partially folded, over its inner line of fastening down upon the outturned upper, and secured at its outer edge to the upper and outer sole by a line of vertical stitches, substantially as specified.

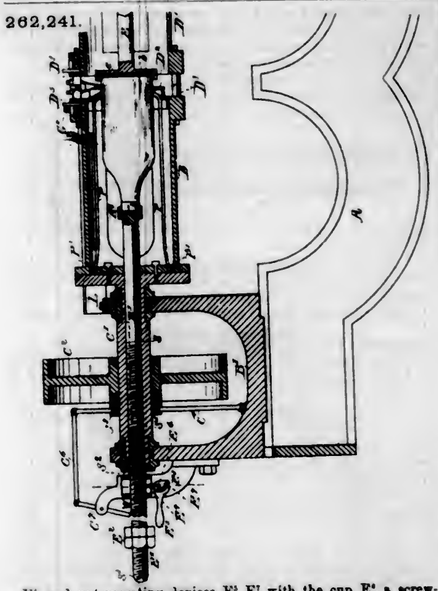
262,240. ADVERTISING DEVICE. FRANK S. NEWBY, Indianapolis, Ind. Filed May 27, 1882. (No model.)

Claim.—For advertising purposes, the combination of an explosive package, B, advertising-bills A A, fastening C, and blocks D D, substantially as described, and for the purpose set forth.

262,241. WEAVING-MACHINE FOR COVERING BOTTLES. S. OAKMAN, Winchester, assignor to Luther A. Wright, Boston, Mass. Filed Feb. 5, 1881. (Model.)

Claim.—1. The combination of the driving-shaft C', the nut

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E', and nut-operating devices E² E' with the cup E⁴, a screw-threaded rod supporting the same, the cup *e*, and rod E, all operating together substantially as described, and for the purpose set forth.

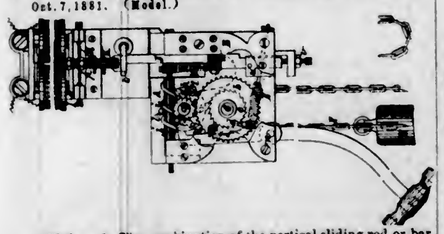
2. The combination of the shaft C', provided with a driving-pulley, C², the jaw-holding cylinder D, and its jaws D² with the jaw-holding cylinder D', its jaws D², and the shaft C, all operating together substantially as described, and for the purpose set forth.

3. The combination of the post-carrying mechanism with the vibrating switch-lever K', shield K, and parting cam H H', all operating together substantially as described, and for the purpose set forth.

4. The combination of the cylinder D, its jaws D², the cylinder D', its jaws D², and their driving mechanism with the wedge-cam H' and channeled guide-piece D', all operating together as described, and for the purpose set forth.

5. The combination of the driving-shaft C', the differentially-screw-threaded rod E', the nut E', nut-operating-devices E² E', and cup E⁴ with the cup *e* and rod E, all operating together substantially as described, and for the purpose set forth.

262,242. TELEGRAPHIC FIRE-ALARM APPARATUS. AUGUSTUS C. PALMER and AUGUSTUS H. PALMER, Utica, N. Y. Filed Oct. 7, 1881. (Model.)



Claim.—1. The combination of the vertical sliding rod or bar J, armature I, and pivoted lever and stop L, substantially as specified.

2. The combination of the vertical sliding rod or bar J, armature I, and link K, substantially as specified.

3. In combination with a vertical sliding rod connected with the armature and operating as specified, lever L and revolving arm M, substantially as and for the purpose set forth.

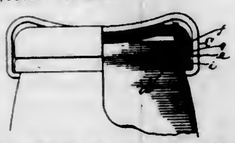
262,243. LATCH. EMERY PARKER, New Britain, Conn., assignor to the Nashua Lock Company, Nashua, N. H. Filed May 13, 1882. (Model.)



Claim.—1. In a latch-case, the combination of the lever C, having the projection H, and the bub F, having the recess G, with the spring E and the bolt B, substantially as described.

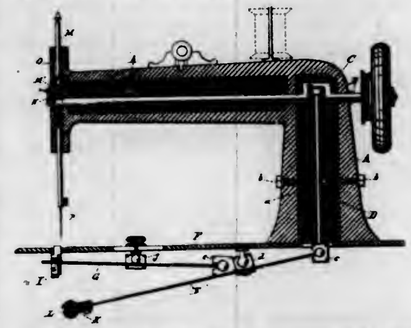
2. The sectors J, pivoted through the bolt B, and provided with the pin L, in combination with the bolt B and the case A, substantially as described.

262,244. FRUIT-JAR. FRANCIS H. PERRY, Providence, R. I. Filed Apr. 1, 1882. (No model.)



Claim.—In a fruit-jar, the combination, with the neck provided with the upper shoulder, *d*, and the lower shoulder, *e*, having the rounded outer edge, of the cover B, having the curved concave surface *g* and flat lower edge, and the rubber ring *f*, lying upon the upper shoulder and extending toward the lower shoulder when the cover is in place, but not extending between said lower shoulder and the lower flat edge of the cover, which rests directly upon said lower shoulder and projects outwardly over the rounded edge of the same to form the upper wall of the space *h*, all as specified, and for the purpose set forth.

262,245. SEWING-MACHINE. WILLIAM REDETT, Fredericksburg, Ohio. Filed Jan. 31, 1882. (No model.)



Claim.—1. In a sewing-machine, the combination of a crank, a pivoted pitman, shuttle-driving lever connected at one end to said pitman by a universal joint, and having the shuttle-carrier secured to its opposite end, and feed-driving levers connected by universal joints to said shuttle-lever and connected to the feed-bar, substantially as set forth.

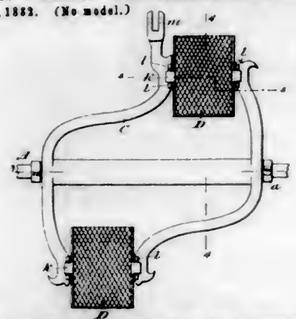
2. In a sewing-machine, the combination of the levers G and H, said levers having a circular motion, substantially as described, with the feed-bar I, said feed-bar being provided with a longitudinal slot, *k*, and vertical slot *i*, by means of which the ends of the levers G and H are adapted to operate said feed-bar, substantially as set forth.

3. In a sewing-machine, the combination, with the slotted feed-bar, of the levers G and H and adjustable fulcrums *g* and *h*, said levers being connected to and operated by the shuttle-lever, substantially as set forth.

4. In a sewing-machine, the combination of the needle-plate P with the piece *w*, hole *u*, and recess *r*, with a shuttle provided with a spring-point, *p*, substantially as set forth.

5. In a sewing-machine, a shuttle-carrier adapted to embrace the shuttle and carry it free and clear of any bearing or supporting surface, and provided at one end with a spring-retainer and at its opposite end with a locking-catch, substantially as set forth.

262,246. TREADLE. HENRY RUSSE, Baltimore, Md. Filed May 18, 1882. (No model.)



Claim.—1. The combination of knife-edge supports B B, provided with lugs *a a*, and treadle-frame C, having angular notches *c c* engaging said knife-edges, substantially as set forth.

2. The combination of knife-edge supports B B, provided with perforated lugs *a a*, and treadle-frame C, having notches *c c*, and formed with slots *d d*, arranged opposite and to coincide with the perforations in the lugs *a a*, to engage the transverse treadle-rod of a sewing or other machine, substantially as described.

3. The combination of knife-edge supports B B, having lugs *a a*, and united by bar *b* with treadle-frame C, adapted to fit between said lugs *a a*, and having notches *c c*, substantially as set forth.

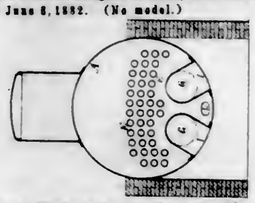
4. The combination of treadle-frame C with foot-rests D D, mounted thereon on knife-edge supports, substantially as described and shown.

5. The combination of treadle-frame C, having walls *e e* and knife-edges *g g*, with foot-rest D, having notches *h h*, substantially as set forth.

6. The combination of treadle-frame C, having cross-bar *f* and knife-edges *g g*, with foot-rest D, having notches *h h*, and wire eye or eyes *j*, substantially as set forth.

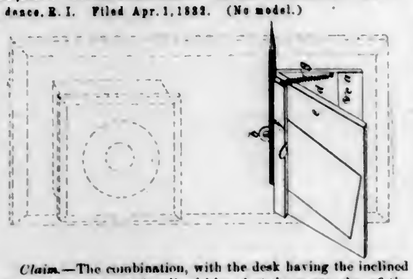
7. The combination of treadle-frame C, having walls *e e*, knife-edges *g g*, and stops *l l*, of foot-rest D, having notches *h h*, and ear or ears *k*, substantially as set forth.

262,247. TUBULAR STEAM-BOILER. GARDIS H. RHODAN, Hartford, Conn., assignor to Henry B. Beach & Son, same place. Filed June 8, 1882. (No model.)



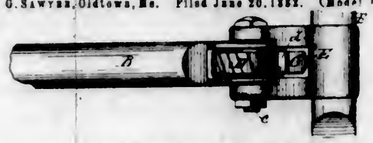
Claim.—The boiler having the stack of flue-tubes and the two return-flues arranged with an advance flue, and connected therewith by the separate branch tubes, as described, and also having the bottom cleaning-holes arranged in line or range between such branch tubes, all being substantially as explained.

262,248. TELEPHONE-DESK. EDGAR W. SALISBURY, Providence, R. I. Filed Apr. 1, 1882. (No model.)



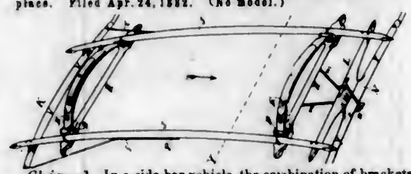
Claim.—The combination, with the desk having the inclined table *e* and flat top of the clip *f*, hinged at the upper edge of the table, and adapted to either lie upon the inclined portion of the desk or to be turned back and stand upon its rear edge upon the desk-top, and one or more springs arranged to hold said clip in both of its said positions, substantially as described.

262,249. THILL-COUPLING. ALLEN J. SAWYER and ENOCH G. SAWYER, Oldtown, Me. Filed June 20, 1882. (Model.)



Claim.—In a thill or pole coupling, the shakle K, provided with a suitable bolt, *c*, spring G, with latch *d*, in combination with the thill-iron, with or without sockets, and having slotted ears C and slotted disk D, substantially as and for the purpose set forth.

262,250. SIDE-BAR VEHICLE. JOSEPH SCHNEIDINGHOFF, Cincinnati, Ohio, assignor to Bahmann & Schneidinghoff, same place. Filed Apr. 24, 1882. (No model.)



Claim.—1. In a side-bar vehicle, the combination of brackets M, swings D, transverse elliptic spring E, and the transverse perch H, substantially as and for the purposes specified.

2. The combination of spring E, supporting-pieces A B, provided with swing D, and cross-perch H.

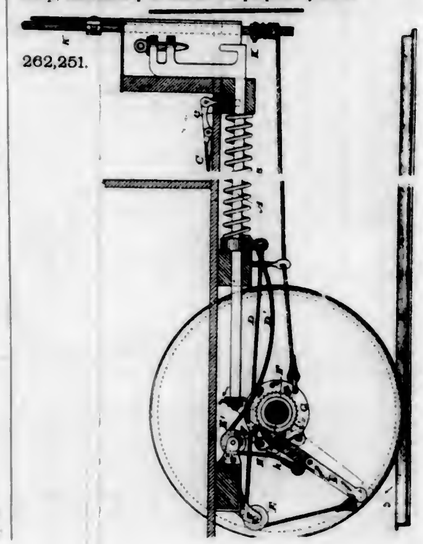
3. The spring-attaching device consisting of base A, studs B, rods C, swing D, and rod d^2, substantially as and for the purposes specified.

4. The spring-attaching device consisting of base A, studs B, rod C, swing D, consisting of transverse piece *d*, and the two arms, d' d', substantially as and for the purposes specified.

5. The spring-attaching device consisting of base A, studs B, rods C, swing D, and the transverse piece *d*, connected to the arms d', in combination with a semi-elliptic spring and the cross-bar, substantially as and for the purposes specified.

6. In combination with a side-bar running-gear, the cross-perches H, brackets M, swings D, semi-elliptic springs, and braces *m m* between the forward cross-perch and the head-block or pivot-bolt *p*, substantially as and for the purposes specified.

262,251.

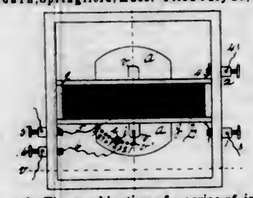


262,251. CAR-STARTER. RICHARDS C. SMITH, Baltimore, Md. Filed June 24, 1882. (No model.)

Claim.—1. The combination of the draw-bar, the ropes connected therewith, the jointed lever pivoted to rock about the axle, and to the inner and outer sections of which the ropes are attached, the pawl rocking with the lever, and the ratchet on the axle, substantially as and for the purpose hereinbefore set forth.

2. The combination of the axle, the ratchet thereon, the pawl, the pawl-carrier, the lever pivoted to the pawl-carrier and abutting against the pawl when rocked upward, the ropes D D', and the pulleys around which they pass, substantially as and for the purpose hereinbefore set forth.

262,252. ELECTRIC SIGNALING APPARATUS. HORATIO W. SOUTHWORTH, Springfield, Mass. Filed July 28, 1881. (Model.)



Claim.—1. The combination of a series of instruments in a circuit, each having an electric signaling apparatus, magnetic needle *c*, coil *b*, and contact-point or mercury-cup *e*, the cups being set in different positions in the different instruments, and means, substantially as described, for sending an electric current through all of said coils simultaneously, substantially as set forth.

2. In combination with a device for sending an electrical current, a series of instruments in a circuit, each having a coil, needle *i*, mercury-cup *e*, the cups being set in different positions in the different instruments, and a battery, *k*, connected with said needle and cup, and the alarm-bell *s* in circuit with the needle, cup, and battery, substantially as set forth.

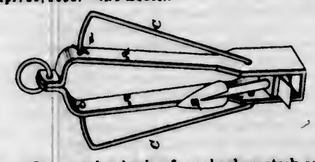
262,253. SEWING-MACHINE TENSION. ARTHUR SPEAR, Chicago, Ill. Filed Nov. 23, 1881. (No model.)



Claim.—1. The combination, in a sewing-machine tension, of the shouldered face-plate A, the shouldered tilting spring-lever E, the regulating-screw B, the bolt D, and the disks C C, the said shoulders being located to engage each other, and thereby prevent the said lever from slipping longitudinally when acted on by the said screw, substantially as and for the purposes specified.

2. The combination, in a sewing-machine tension, of the face-plate A, the screw B, the disks C C, the bolt D, and the lever E, having curled-up edges *a'' a''*, substantially as and for the purposes specified.

262,254. ANCHOR. ROBERT R. SPRUDEN, Astoria, Oreg. Filed Apr. 25, 1882. (No model.)



Claim.—In an anchor having for a shank or stock an open frame, A, substantially as shown, and in combination therewith the bars C C, forming an expanding frame, connected with the main frame A, operating and constructed substantially as and for the purpose herein described.

262,255. TRACK-SPLICE. HUGH L. SUTHERLAND, Canton, Miss. Filed Mar. 10, 1882. (No model.)

Claim.—1. In a device for splicing traces, the flanged plate B, having partition D and openings G, in combination with the cap-plate F, having openings G, as set forth.

2. The plate B, having upturned flanges B', connected by a brace, D, forming a transverse partition, in combination with the cap-plate F and connecting-bolts or rivets, as set forth.

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262,256. MAKING WHISKY. EDMUND H. TAYLOR, Jr., Frankfort, Ky. Filed Feb. 23, 1882. (No specimens.)

Claim.—1. In the manufacture of whisky, the process which consists in screening, straining, or otherwise mechanically separating the bran and other coarse matter from the slop, and then cooking fresh meal for subsequent operations with this screened slop, substantially as specified.

2. In the manufacture of whisky, the process which consists in screening the slop, cooking fresh meal with such screened slop, and then cooling the cooked product with another addition of said screened slop, substantially as set forth.

3. In the manufacture of whisky, the process which consists in screening the slop, cooking fresh meal with said screened slop, cooling the cooked product with another addition of said screened slop, and diluting the mash with still further addition of screened slop, all substantially as set forth.

262,257. MANUFACTURE OF BASE-BALLS. THOMAS P. TAYLOR, Bridgeport, Conn. Filed July 6, 1882. (Model.)

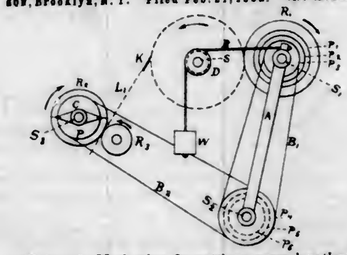


Claim.—1. A ball having a filling of istle fiber, as set forth.

2. A ball provided with a filling composed of tempered and compacted istle fibers, as set forth.

3. The mode of making balls, as described, consisting in collecting a mass of istle fibers, condensing and molding the same by heated dies to form a spherical filling, and then covering the latter, substantially as specified.

262,258. VENEER-CUTTING MACHINE. ROBERT H. THOMPSON, Brooklyn, N. Y. Filed Feb. 21, 1882. (No model.)



Claim.—1. Mechanism for cutting veneer lengthwise of the grain, consisting of a friction-roller held in contact with the log, so as to be rotated thereby, cone pulleys or drums connected therewith, and a shaft or other equivalent mechanism which operates the knife or knives for cutting the veneer lengthwise of the grain, which knife or knives may be made to cut any desired uniform size simply by changing the position on the cone pulleys or drums of the belts or other means by which the power is transmitted from the friction-roller and to the shaft for operating the cutting knife or knives, substantially as described.

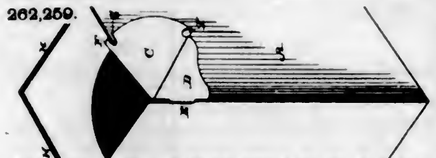
2. In a veneer-cutting machine, the combination of the friction-roller R', moved by the log, with the cone-pulley having steps P' P^2 P^3, belt B', connecting with the cone-pulley having steps P^4 P^5 P^6, and the roller R^2, turning the knife for cutting the veneer lengthwise of the grain, and the roller R^2, substantially as described.

262,259. CANISTER. JOHN H. TIDEMAN, San Francisco, Cal., assignor to A. Schilling & Co., same place. Filed May 22, 1882. (No model.)

Claim.—1. In a containing vessel or canister having the opening B, the closing plate or cover C, having the flange D hinged to the corner or angle, and the guide-lip F, substantially as herein described.

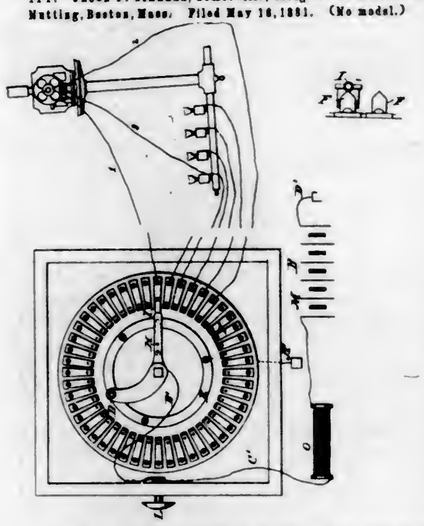
2. In a containing vessel or canister having the opening B in

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the top and the slot G in the side beneath the top, the plate C, hinged to the corner or angle of the vessel, and provided with the guide-lip F, projecting above the top, while the edge of the plate projects beneath the top and moves through the slot G, substantially as herein described.

262,260. APPARATUS FOR LIGHTING GAS BY ELECTRICITY. JACOB P. TIRRELL, Somerville, assignor to William R. Nutting, Boston, Mass. Filed May 16, 1881. (No model.)



Claim.—1. The combination, in an apparatus for lighting gas by electricity, of the burner and appliances, substantially as described, whereby the battery is automatically put to earth through a coil just before a connection is made with the lighting devices at the burner, substantially as set forth.

2. In apparatus for lighting gas by electricity by the contact-spark, a switch or circuit-closer for operating a magnet or a series of magnets directing the current to a series of burners, provided with appliances whereby the battery is automatically put to earth through a coil just before it is connected to the electro-magnet on each burner, substantially as and for the purpose set forth.

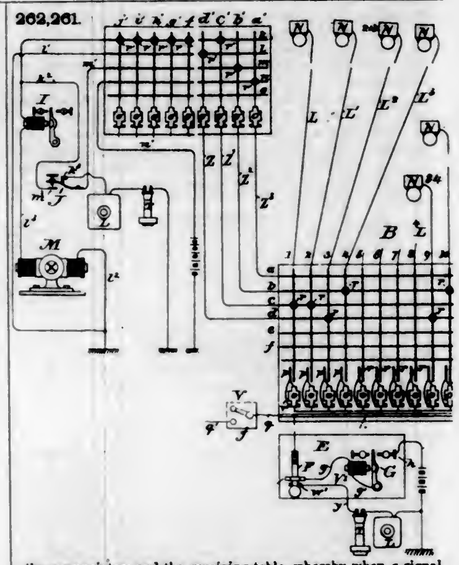
3. The combination of the series of conducting-plates F F F, or their equivalents, insulated from each other, and each connected to an electro-magnet on a burner, the conducting-arm H, connected to a primary coil and one pole of a battery, and moving over and making contact with the plates F F F, the conducting-ring E, or its equivalent, connected to the earth, the conducting-arm K, connected to the arm H, and making contact with the ring E only when the arm H breaks contact with the conducting-plates F F F, the coil O, and the battery M B, substantially as and for the purpose set forth.

4. The combination of a series of conducting-plates separated and insulated from each other, arranged in a circle and with turned-up and pointed inner ends, and a revolving arm pivoted at the center of the circle and passing over and making contact with the edges of the ends of the turned-up plates, substantially as and for the purpose set forth.

262,261. TELEPHONE-EXCHANGE SYSTEM. FREDERICK O. VAILL, Denver, Colo. Filed May 10, 1882. (No model.)

Claim.—1. The combination, in a telephone-exchange, of a main switch-board, a series of main lines connected therewith, a series of annunciators, one for each line, a receiving-table provided with telephones and alarm devices, connecting devices between

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the annunciators and the receiving-table, whereby when a signal is received over any main line the receiving-table is automatically connected with said line, and an auxiliary switch-board permanently connected, as indicated, with the main switch-board, whereby any two lines connected together upon the main switch-board may be supervised by an operator at the auxiliary board, irrespective of the distance between the said main and auxiliary switch-boards.

2. In a telephone-exchange system, the combination, substantially as hereinbefore set forth, of a main switch-board adapted for the reception of a series of main lines, and an auxiliary switch-board, the vertical conducting-bars of the latter being each connected through the electro-magnet of an annunciator with a corresponding connection-bar of the main switch, whereby when any two main circuits are connected together upon any connection bar or strip of the main switch-board a branch circuit is established through the auxiliary switch-board, for the purposes specified.

3. In a telephone-exchange system, the combination, with a series of main lines extending to sub-stations and a main switch-board therefor, of an auxiliary switch provided with a calling-generator, receiving and transmitting telephones, a steady battery, and a ground-wire, each in separate branch circuits, and having its vertical strips connected by wires with the horizontal strips of the main switch, whereby when one or more line-circuits are connected with a connection-strip the corresponding vertical strip of the auxiliary switch with that one of the four branches to which it is plugged becomes a terminal of the said line circuit or circuits, as and for the purposes specified.

4. A main switch-board having its vertical conducting-bars connected with a series of main lines, combined with an auxiliary switch-board whose vertical strips or bars are permanently connected each with a corresponding horizontal connecting-strip of the main switch, and having its horizontal bars or strips severally connected, one with an electrical generator, one with the earth direct, one with receiving and transmitting telephones, and one with a steady battery, substantially as described.

5. In a telephone-exchange, an auxiliary or disconnecting switch-board having its vertical conducting-strips connected through a series of annunciator-magnets with the connecting-strips of a main switch-board and its horizontal conducting-strips severally connected permanently to an electrical generator for signaling purposes, transmitting and receiving telephones, a constant battery, and a ground-wire, substantially as and for the purposes specified.

6. The combination, with an annunciator normally connected in the main line circuit between the main line and the ground terminal thereof, of a normally-open derived circuit consisting of the metallic base and drop or shutter of said annunciator, a wire connecting the same with the main circuit at a point on the line side of the annunciator, and a metallic support or anvil common to a series of annunciators and permanently connected through a

signaling-instrument or one or more telephones to earth, whereby when a call-signal is received and the annunciator-drop falls upon the metal support the derived circuit, including the receiving-instruments, is automatically established without breaking the original circuit through the annunciator to earth, as described.

7. The combination, with a main circuit to earth, including an annunciator-helix, of a normally-open derived circuit comprising the metallic frame and drop of said annunciator, a wire connecting the same with the main circuit, and a contact-bar connected to earth through a receiving-instrument, the said normally-open circuit being adapted to close automatically upon the reception of a call-signal by means of the contact between the drop and the contact-bar, independent of the original circuit through the annunciator to each, which remains intact.

8. As a means of automatically and simultaneously signaling any two sub-stations located on different main lines, the combination, in a system of electric switching and signaling, of a series of connection-strips, each adapted to temporarily unite any two main lines, and an electrical generator common to the series and normally in electrical connection with each and every connection-strip of the said series, substantially as described.

9. As a means of automatically signaling any two sub-stations located on different lines in a telephone-exchange system, the combination of a series of connection-strips in a switch-board with a generator or source of electricity, having one pole or electrode connected with the earth and the other or complementary pole normally connecting, by means of branch wires, with all or a part of the said series of connection-strips, substantially as specified.

10. In a telephone-exchange system, a series of sub-station lines, switch devices, substantially as indicated, for the direct interconnection of any two of said lines, and auxiliary devices combined therewith for the simultaneous establishment from a point at or near the junction between the said two lines of a branch circuit extending to an auxiliary switch and normally connected thereat with an operative electrical generator, whereby the act of connecting two lines together is caused to automatically signal the stations located thereon, but transferable at will from the said generator to a telephone, a constant battery, or a direct ground-wire, substantially as specified.

11. In a telephone-exchange system, a series of main lines, a main switch-board therefor, an auxiliary switch-board having each of its vertical strips connected electrically with a connecting-strip of the main switch, and an annunciator included in the circuit of the connecting-wire between the said main and auxiliary switches, combined with an electrical generator permanently connected with one of the horizontal strips of the auxiliary switch-board to which the vertical strips are all normally plugged, whereby when one or more main lines are connected together on any main switch-connecting strip the generator-circuit is closed and a signal automatically transmitted to the sub-stations of each line so connected, and the annunciator of the auxiliary switch caused simultaneously to drop and indicate that a connection is made, substantially as hereinbefore described.

12. A series of main lines, a main switch-board therefor, and an auxiliary switch-board connected, as described, with the main switch-board, in combination with an annunciator connected in circuit between the two switch-boards, a telephone or telephones, a key or switch, and wires connecting the said key and the telephones with one of the horizontal strips of the auxiliary switch-board, whereby when the said horizontal strip is connected with any two subscribers' lines by being plugged to a vertical strip in contact with such lines conversation may be listened to or either sub-station spoken with without disturbing the communication between the said two lines, as specified.

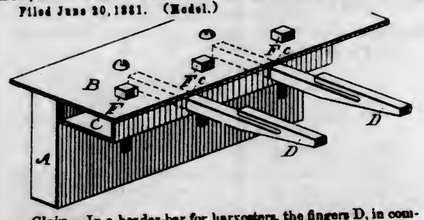
13. The combination, substantially as described, of a switch-board connecting-strip, a key or switch permanently connected therewith, a telephone or telephones in a branch circuit to earth and normally connected by the back limit or bridge of said key with the key and switch-board strip, and a branch wire from an electric generator terminating in a front contact or anvil for said key, whereby the said key when pressed is adapted to transiently sever its normal contact with a telephone and form a new contact with the generator, for the purposes specified.

14. In a telephone-exchange system, a series of main lines, a main switch-board therefor, and an auxiliary switch-board connected in the manner described with the main switch-board, in combination with an annunciator connected in circuit between the two switch-boards, and a ground-wire permanently attached to one of the horizontal conducting-strips of the auxiliary switch-board, whereby when any two sub-station lines are connected together and the vertical strip of the auxiliary switch corresponding to the connection-strip in use is plugged to the said grounded strip the connection of the central station with the sub-station lines is constantly maintained without interfering with the communication of the connected lines.

15. The combination, substantially as hereinbefore described, of a main switch-board, an auxiliary switch-board, wires connecting the horizontal conducting-bars of the main switch with the vertical conducting-bars of the auxiliary switch, and an annunciator-helix arranged between the said switch-boards in the circuit of the said conducting-wires, for the purposes specified.

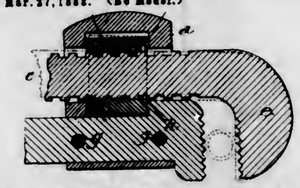
16. The combination, substantially as hereinbefore set forth, of a series of main lines, a switch-board whereby any two of the same can be placed in direct communication one with another, and an auxiliary switch-board adapted for the convenient supervision of the same when so connected with an annunciator, and a constant battery connected on one side with the earth and on the other with one of the horizontal conducting-strips of the auxiliary switch, whereby when any vertical strip forming a branch of two connected main lines is plugged to the said horizontal strip the annunciator appertaining to the said vertical strip is included in the circuit of the said battery, is thus caused to drop, and cannot be replaced until both lines are disconnected, and the battery-circuit thus broken, as described.

262,262. HEADER-BAR. GEORGE B. VROMAN, Oakdale, Cal. Filed June 20, 1881. (Model.)



Claim.—In a header-bar for harvesters, the fingers D, in combination with the means for securing them, consisting of the horizontal upper plate, B, secured to the header-beam, and the channel-shaped underlying plate, C, having notches c, in which the shank of the fingers fit, and the bolts F passing through plates B C to clamp the fingers between said plates, substantially as herein described.

262,263. PIPE-WRENCH. CALEB C. WALWORTH, Boston, Mass. Filed Mar. 27, 1882. (No model.)



Claim.—1. The main body of the wrench and its fixed jaw and the independent guide for the movable jaw fixed on the said body of the wrench at the opposite side to the fixed jaw, combined with the movable jaw and its adjusting-nut surrounding the shank thereof, the said jaw and nut being fitted loosely in the said guide and the said nut bearing directly upon the said main body of the wrench, substantially as described.

2. The main body or shank *a* of the wrench, provided with a jaw at the end thereof and a guide, the said guide and jaw being fixed relative to one another at opposite sides of the said shank *a*, combined with a movable jaw and adjusting-nut therefor mounted loosely in the said guide, the said main body of the wrench being provided with a pivotal bearing-point for the portion of the said adjusting-nut that lies between the shanks of the said fixed and movable jaws, whereby the said guide is relieved of all strain, substantially as described.

262,264. PIPE-CUTTER. CALEB C. WALWORTH, Boston, Mass. Filed June 10, 1882. (No model.)



Claim.—1. In a pipe-cutter, the combination, with the stock and its claw, of the cutter-carrying block provided with a pin or arbor, and the cutter consisting of a hub portion and a cutting-disk made independently and rigidly connected together to oper-

ate as a single piece, the said hub portion having a central opening to rotate upon the said arbor, substantially as described.

2. As an improved article of manufacture, the cutter consisting of the cutting-disk having a threaded central opening, combined with the hub portion threaded and shouldered to receive the said disk and having a central opening to receive the arbor, substantially as and for the purpose described.

262,265. FLYING TARGET. AMOS WORNER, Cincinnati, Ohio, assignor of one-half to Henry Varwig, same place. Filed Mar. 15, 1882. (No model.)



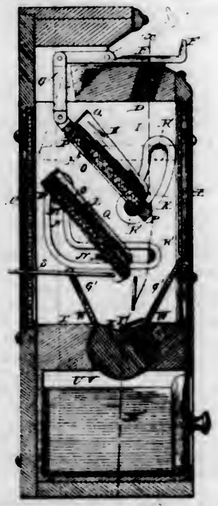
Claim.—A dish-shaped flying target or shell provided with an internal fulminate and permanently secured to an annular cap, the opening of which is protected with a light cover, said annular cap serving as the means whereby said target or shell is thrown from the trap, substantially as herein described.

262,266. SHOE-LAST. ELLERY C. WRIGHT, Campello, Mass. Filed May 23, 1882. (No model.)



Claim.—The last B, having the groove *b* and the screw C located therein, in combination with the instep portion A and the fastener D, secured to the latter, and having the curves *c d g*, slot *f*, and opening therein the hole *e*, the last being larger than the head of the screw C, whereby two movements are required to put the instep in place and remove it, and the fastener is held with suspended elasticity, as set forth.

262,267. FARE-BOX. SAMUEL ALEXANDER and FRANK BOYLE, Galveston, Tex. Filed Feb. 18, 1882. (Model.)

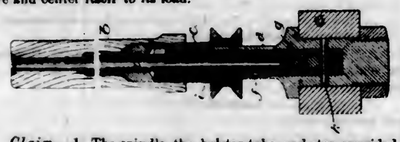


Claim.—1. The chute or slide L, having pins or studs at its front and rear ends working in right-angular curved guide-slots N N in the sides of the box by means of an operating-rod, S, as set forth.

2. The combination of the slide or chute L, having lateral pins or studs M, working in right-angular curved slots N in the sides of the box, the connecting-arms E', cranks D', cylinder X, having a portion of its surface concaved, partition T, having the transverse slot provided with concaved walls, and the inclined guides G', substantially as herein shown and specified.

262,268. SPINDLE-BEARING. GEORGE H. ALLEN, Ayer, Mass. Filed Apr. 13, 1882. (No model.)

Brief.—The bolster-tube containing the step is of less diameter externally than the internal diameter of the supporting-tube, and prevented from rotation therein by means of a pin inserted through a hole bored at right angles to their length, said pin being smaller than such hole, by which means the spindle is enabled to move and center itself to its load.

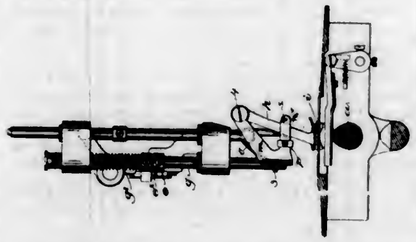


Claim.—1. The spindle, the bolster-tube, and step provided with transverse holes or openings for the reception of a pin or stud, and the supporting-tube provided centrally with a passage or oil-well greater in diameter than the bolster-tube, and in which passage the said bolster-tube is loosely placed, combined with the pin or stud *h*, to prevent the rotation of the bolster-tube with the spindle, yet permit the said bolster-tube and step to move sufficiently in the supporting-tube to enable the spindle to find its proper center of rotation, as and for the purpose described.

2. The supporting-tube, the step, and the bolster-tube, held loosely in the supporting-tube, combined with the pin *h*, extended through holes of the bolster-tube and step to hold the said tube and step loosely, as and for the purpose set forth.

3. The spindle, its step, and the bolster-tube having its upper portion reduced in diameter externally, combined with the supporting-tube, whereby the upper end of the bolster-tube is adapted to be moved farther than its lower end before being arrested by the supporting-tube, substantially as and for the purpose described.

262,269. SEWING-MACHINE. CHARLES H. BAYLEY, Boston, Mass., assignor of one-half to George W. Brown, same place. Filed May 13, 1882. (No model.)

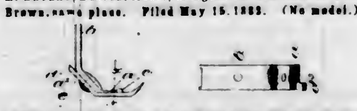


Claim.—1. The presser-bar and means to lift it, combined with the presser-foot pivoted thereto, and having its shank inclined backward in the direction of the forward movement of the feeding device, substantially as described.

2. The presser-bar and means to lift it, combined with the presser-foot pivoted thereto, and having its shank inclined backward in the direction of the forward movement of the feeding device, and with the four-motioned under-feeder *i*, to operate all substantially as described.

3. The shaft *a*, its cam *b*, the link *d*, the block *e*, pivoted thereon, and the lever *c*, combined with the presser-bar and the presser-foot pivoted thereto, and having its shank inclined backward in the direction of the forward movement of the feeding device, substantially as described.

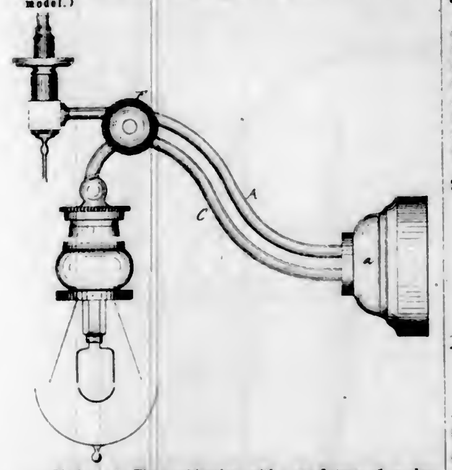
262,270. PRESSER-FOOT FOR SEWING-MACHINES. CHARLES H. BAYLEY, Boston, Mass., assignor of one-half to George W. Brown, same place. Filed May 15, 1882. (No model.)



Claim.—1. The presser-foot having the rising portion a^2 back of its heel, combined with an arm made adjustable thereon vertically to extend more or less below the under side of the foot, substantially as and for the purpose described.

2. The arm provided with the heel *d*, and the presser-foot having the rising portion a^2 back of its heel, and cut away at its under side to receive the said arm, combined with an adjusting device to hold the heel of the arm against the portion a^2 of the presser-foot and retain the arm at a greater or less distance from the under side of the presser-foot, substantially as described.

262,271. COMBINED GAS AND ELECTRIC-LIGHT FIXTURE. SIGMUND BERGMANN, New York, N. Y., assignor of one-half to Edward H. Johnson, same place. Filed Apr. 27, 1882. (No model.)



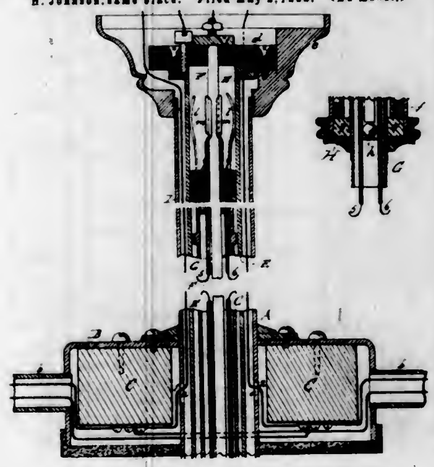
Claim.—1 The combination, with a gas-fixture, of an electric-lamp-carrying tube supported from the gas-fixture and insulated therefrom, substantially as set forth.

2. A combined gas and electric-light fixture composed of the gas-tube and one or more electric-lamp-carrying tubes supported from the gas-tube at a definite minimum distance therefrom, and insulated from such gas-tube, the gas and electric tubes being parallel for a portion of their length, substantially as set forth.

3. The combination, with the gas-tube A, of the electric-lamp tube C, secured to the gas-tube, and the cap *a*, supported from the gas-tube and covering the inner end of the electric-lamp tube, substantially as set forth.

4. The combination, with the gas-tube A, of the electric-lamp tube C, the cap *a*, having insulating-center *b*, and the insulating-clamp F, substantially as set forth.

262,272. ELECTRICAL EXTENSION-CHANDELIER. SIGMUND BERGMANN, New York, N. Y., assignor of one-half to Edward H. Johnson, same place. Filed May 2, 1882. (No model.)

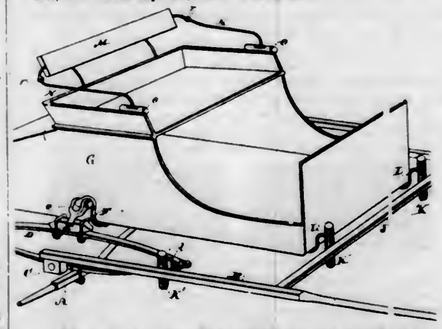


Claim.—1. In an extension-chandelier for electric lamps, the combination, with the stationary and movable parts sliding one upon or within the other, of contacts, as described, permitting a rotary as well as a sliding movement of such movable part, substantially as set forth.

2. In an extension-chandelier for electric lamps, the combination, with a stationary tube and stationary rod acting as conductors of opposite polarity, of an intermediate sliding tube carrying two sets of contact-springs connected with conductors within said sliding tube, substantially as set forth.

3. In an extension-chandelier for electric lamps, the combination, with the external covering-tube, of the stationary conducting-tube and rod supported at their upper ends by an insulating-block, the intermediate sliding tube having an insulating-head through which the rod passes, contact-springs carried by said insulating head and rubbing on stationary tube and rod, insulated conductors passing through said sliding tube and connected with said contact-springs, and projecting insulation on the lower end of the central rod, substantially as set forth

262,273. TWO-WHEELED VEHICLE. JOHN A. BILS, Pleasanton, Cal. Filed Apr. 21, 1882. (No model.)

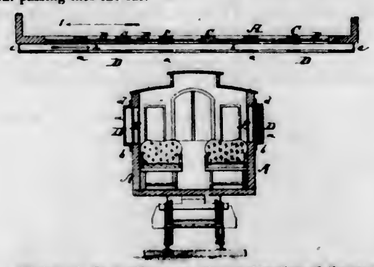


Claim.—1. In a two-wheel vehicle, the axle A and springs D, in combination with the shafts B and the boxes C, bolted to the shafts and having the cushions *a*, receiving between them a bolt or pin, *w*, secured to the springs and set by a screw, *d*, substantially as and for the purpose herein described.

2. In a two-wheel vehicle, the shafts B, with their cross-bar J, having slotted tubes K, with springs *h*, and the hinged cross-rod F, in combination with the body G, loosely journaled upon rod F, and having arms L, extending within the slotted tubes K, substantially as and for the purpose herein described.

262,274. DUST-PROTECTOR FOR RAILWAY-CARS. WILLIAM A. BOYDEN, Jersey City, N. J., assignor to the McMab & Harlin Manufacturing Company, New York, N. Y. Filed Nov. 30, 1881. (No model.)

Brief.—A car has a channel on the outside, through which a current of air passes that tends to divert any cinders, dust, &c., from passing into the car.

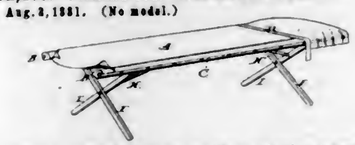


Claim.—1. In a railway-car, the combination of the car-body having posts or panels C between the windows with the posts or panels *a*, held by connecting-pieces *b* and *d* at a distance from the posts or panels C to form a channel on the outer side of the car for a current of air traveling in a direction opposite to that in which the car is moved, substantially as specified.

2. The combination of the railway-car with the outer posts or panels, *a*, and traversing sieve *e*, substantially as described.

3. A railway-car constructed, substantially as described, with an outer double wall along that part of the car which has the windows B, said double wall furnishing end openings for the admission and escape of counter currents of air, and side openings that are aligned with the car-windows B, substantially as specified.

262,275. FOLDING COT. JOHN S. BURTON, Paris, Ill. Filed Aug. 3, 1881. (No model.)



Claim.—1. In folding cots, a pillow or head-rest constructed by folding back one end of the canvas or covering, stitching it across, and forming a case to receive a suitable pillow, that can be withdrawn at any time needed.

2. The web of unyielding material upon the stitched part of the fabric across the lower edge of the pillow, as described.

3. The manner of supporting and raising the pillow or head-rest by drawing and securing the ends of the under portion thereof to the side rails, as described.

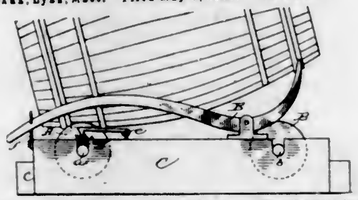
4. In a folding cot, the manner of securing the fabric to the side rails by a groove and cleat to the foot of the pillow, folding back the extended end of the fabric, stitching it across the lower edge, and forming a case for holding a pillow, as described.

262,276. METHOD OF COATING WALLS WITH FLOCK. J. H. CAMPBELL, New York, N. Y. Filed July 1, 1882. (No model.)



Claim.—The method herein described of covering walls with flock, which consists, first, in sizing the wall, then varnishing the same after the size is dry, and, finally, applying a layer of flock by means of a strong air-current, substantially as and for the purpose set forth.

262,277. SKID FOR SUPPORTING BARRELS. ALBERT A. CLARK, Lynn, Mass. Filed May 5, 1882. (No model.)

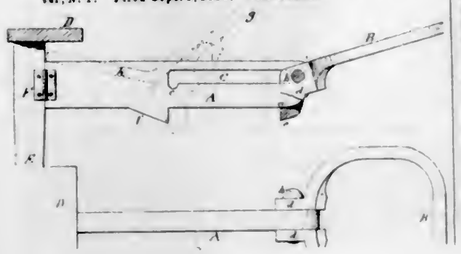


Claim.—1. A skid or frame for supporting barrels, having rollers A B, a locking device for one of said rollers, and a lever for elevating the end of a barrel, substantially as described.

2. In combination, the frame C, rollers A and B, and a locking device for one of said rollers, substantially as described.

3. In combination, the frame C, the roller A, a locking device for said roller, and a lever, E, adapted to bear upward the end of a barrel when mounted thereon, substantially as described.

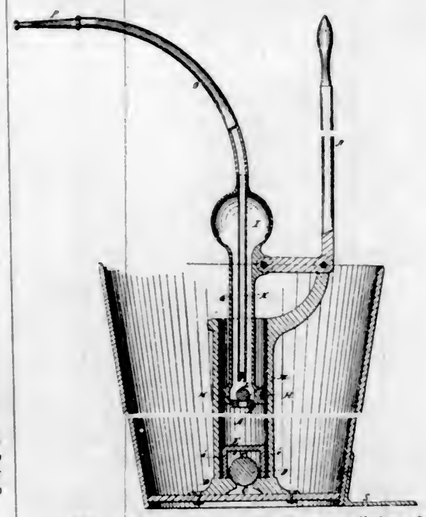
262,278. FOOT-REST FOR CHAIRS. MORRIS M. COFF, Rochester, N. Y. Filed Sept. 9, 1881. (No model.)



Claim.—1. The combination, with a chair or table, of the bar A, having slot C, notch e, and stop *f*, and the stirrup B, having check-pieces *d d*, screw or rivet *b*, and check-bar *e*, as and for the purpose set forth.

2. The combination, with a chair or table, of the bar A, having slot C, and the stirrup B, having check-pieces *d d*, screw or rivet *b*, and check-bar *e*, as and for the purpose set forth.

262,279. PUMP. WILLIAM N. COSGROVE, Faribault, Minn., assignor to Robert Morrell, Passaic, N. J. Filed May 15, 1882. (No model.)

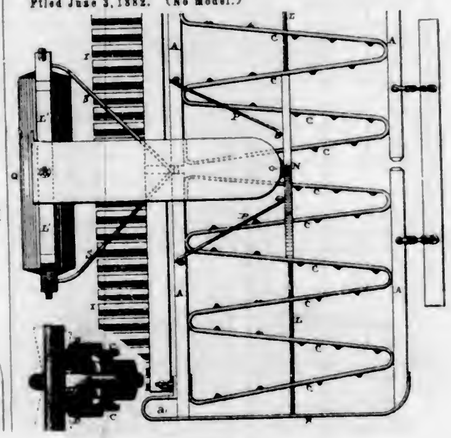


Claim.—1. The combination, with the pump-cylinder and its induction-port, of the ball-valve D and the cage E, dropped loosely over the said ball-valve, and operating to limit the movement of the same.

2. The combination, with the hollow piston, of the plain screw-ring screwed thereon and forming the seat for the valve L, with said valve and the pipe K, having the slotted lower end, substantially as described.

3. The combination of the pump-cylinder, the induction-passage and the valve therein, and the cage with the hollow piston, the air-chamber, the ball-valve in the piston, the pipe K, and the operating lever or handle, substantially as described.

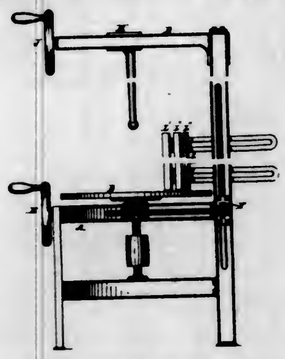
262,280. HARROW. SAMUEL DAVIS, Mount Vernon, Ohio. Filed June 3, 1882. (No model.)



Claim.—1. In a barrow, the combination of the front and rear beams, A, with the iron bar C, to which the teeth are secured, and which is bent diagonally back and forth between the front and rear beams, substantially as shown.

2. The combination, with the I-shaped iron bar C, of the casting secured to the side of the beam, and which has a cup-shaped socket formed in its outer side, the cup-shaped bearing against which the tooth is clamped, and the clamping-eyebolt and harrow-tooth, whereby the harrow-tooth is given a universal motion, substantially as set forth.

262,281. MACHINE FOR TURNING EARTHENWARE VESSELS. JOHN W. DRUMMAD, Akron, Ohio, assignor of three-fourths to Julius S. Lane, same place. Filed May 22, 1882. (No model.)

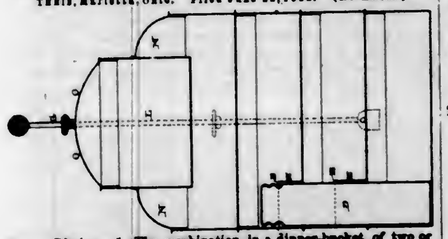


Claim.—1. In combination with the wheel B, a fixed outside-former, the cross-section of which is substantially an arc of a circle, and an inside-former of less diameter than the desired vessel, and arranged by devices, such substantially as shown, for causing the inside-former to approach and recede from the wheel and outside-former, substantially as and for the purpose hereinbefore set forth.

2. In combination with a fixed table, an outside-former the general horizontal section of which shall be the segment of a circle, and an inside-former having a less diameter than the vessel to be made, both adapted to revolve together above said table, and the latter arranged by devices, such substantially as shown, to approach and recede from both the table and outside-former, substantially as shown, and for the purpose specified.

3. The herein-described outside-former, consisting essentially of a series of perpendicular parallel slats, the intermediate ones of which are placed farther from the center of the wheel than the end ones, substantially as and for the purpose hereinbefore set forth.

262,282. DINNER-BUCKET. WILLIAM H. EYE and HENRY P. TUBIS, Marietta, Ohio. Filed June 22, 1882. (No model.)



Claim.—1. The combination, in a dinner-bucket, of two or more of the sections, having an opening made through them and provided with a flange, E, with a bottle which is passed down through them, substantially as shown.

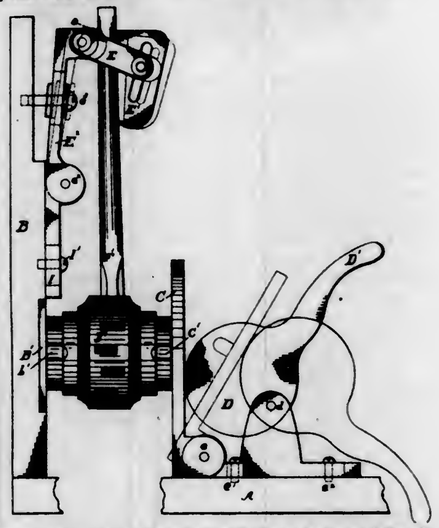
2. In a dinner-bucket composed of a number of sections, the combination of a handle-rod provided with the projections I and the hooks which are placed upon opposite sides of the bucket, substantially as described.

3. The combination, in a dinner-bucket, of a number of sections, which are placed one upon the top of the other, with a handle-rod provided with projections I, and hooks, which are placed upon opposite sides of the bucket and which are turned in the same direction, substantially as set forth.

4. In a dinner-bucket, the combination of the cup L, the cover N, having an opening for the lower portion of the cup to pass through, and a cover for the cup, which is adapted to close the opening made through the cover N for the cup, substantially as specified.

262,283. SPOKE-SETTING MACHINE. ANDREW M. FISHER, Linden, Mich. Filed Jan. 10, 1882. (No model.)

Brief.—Stationary and adjustable cam-operated face-plates, each provided with centering-studs, hold the hub firmly, while the shifting-stirrup holds the spoke in such position as to give it any predetermined set.



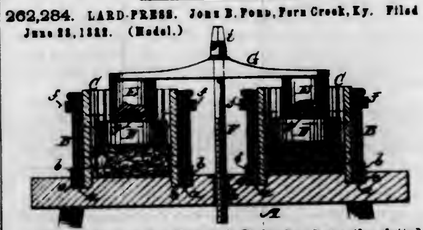
Claim.—1. A spoke driving and setting device consisting of a stationary face-plate provided with a centering-stud, a hinged face-plate provided with a centering-stud, and a cam and lever adapted to impinge against the back of the said face-plate, whereby the plate may be clamped upon the hub or released, substantially as described.

2. A stationary face-plate and a hinged face-plate governed by a cam and lever, each plate having a centering-pin, and the said hinged face-plate made adjustable to and from the stationary face-plate, substantially as described.

3. The combination, with the stirrup E and its block, of an adjustable support, E', whereby the dish of the wheel may be determined, as required.

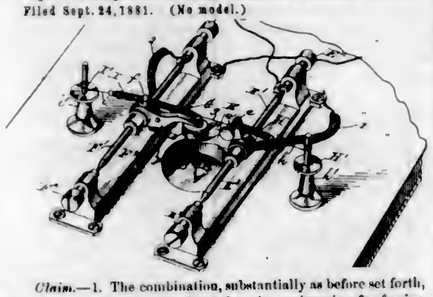
4. The spoke setting and driving device consisting of upright B, with face-plate D', and shifting-stirrup E, together with the hinged face-plate C and lever and cam mechanism for locking and releasing the said face-plate, substantially as described.

262,284. LARD-PRESS. JOHN B. FORD, Fern Creek, Ky. Filed June 22, 1882. (Model.)



Claim.—The removable vessels B, having feet *c*, the slatted tubs C, followers D, and plungers E, in combination with the bench or table A, formed with grooves *a*, and the screw-rod F, having loosely connected to it the presser-bar G, constructed and arranged to operate substantially as and for the purpose set forth.

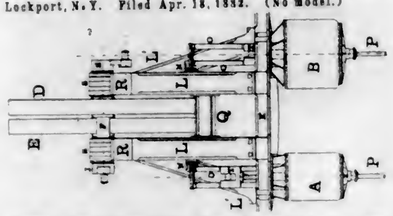
262,285. ELECTRIC TELEPHONE. JAMES P. FREEMAN, Chicago, Ill., assignor to the Home Telephone Company, of Illinois. Filed Sept. 24, 1881. (No model.)



Claim.—1. The combination, substantially as before set forth, of the diaphragm, the two electrodes, the mainspring for forcing one electrode against the other and the latter against the diaphragm, and the compensating-springs for modifying the action of the mainspring.

2. The combination, substantially as before set forth, of the diaphragm, the electrodes, two pivoted arms supporting the electrodes, the mainspring acting on both said arms for forcing one electrode against the other and the latter against the diaphragm, and a compensating-spring for each arm for modifying the action of the mainspring.

262,286. VERTICAL PUMPING-ENGINE. HARVEY F. GASKILL, Lockport, N. Y. Filed Apr. 18, 1882. (No model.)



Claim.—The combination, with the single frame, of two engines, each having a high and low pressure cylinder, a crank for each cylinder, the two cranks being at right angles to each other on a single shaft, a pump to each cylinder, and a fly-wheel, the shafts and fly-wheel being mounted on the frame and the cylinders hung below it, substantially as described.

262,287. SOLE-FASTENING WIRE. LOUIS GODDU, Winchester, Mass., assignor to Gordon McKay, Newport, R. I., and James W. Brooks, Cambridge, Mass., Trustees. Filed June 26, 1882. (No model.)



Claim.—As an improved article of manufacture, a twisted sole-fastening wire having its sides toothed or serrated as described, for the purposes set forth.

262,288. MEANS FOR EXTINGUISHING FIRES ON RAILWAY-TRAINS. ALMON M. GRANGER, Medford, Mass. Filed Apr. 12, 1882. (No model.)

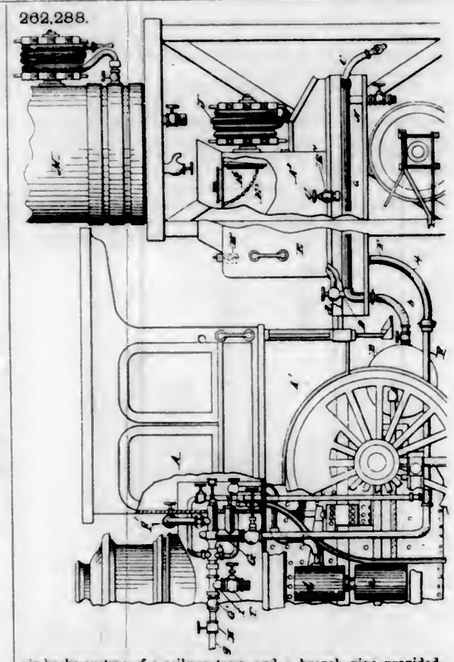
Claim.—1. The combination of a tender-tank with the air-brake system of a railway-train and a branch pipe provided with a cock or valve through which compressed air will pass from said air-brake system to said tank, the valve in the branch pipe being suitably turned.

2. The combination of a tender-tank having an outlet-fixture adapted for the attachment of a hose-pipe with the air-brake system of a railway-train and a branch pipe provided with a cock or valve through which compressed air will pass from said air-brake system to said tank, the valve in the branch pipe being suitably turned.

3. The combination of a reservoir adapted to contain fire-extinguishing fluid and compressed air with the air-brake system of a railway-train and a branch pipe provided with a cock or valve and adapted to receive a hose through which compressed air will pass from said air-brake system to said reservoir, for the purpose of being subsequently used to expel the liquid, and thereby extinguish fire.

4. The combination of a tender-tank with a safety-valve, the

262,288.



air-brake system of a railway-train, and a branch pipe provided with a cock or valve through which compressed air will pass from said air-brake system to said tank, the valve in the branch pipe being suitably turned, said safety-valve allowing the air to escape when the pressure becomes excessive.

262,289. CAR-COUPLING. LOUIS GRAHAM, Philadelphia, Pa., assignor of one-half to Joseph P. Ferrell, same place. Filed Jan. 28, 1882. (No model.)



Claim.—1. The improved draw-bar hereinbefore described, the front face of the head of which is curved from its lower edge upwardly and backwardly, so as to present an angular or curved surface or top front face, while the back face of said head is provided as to its upper portion with an arc-shaped projecting flange and as to its lower portion with a correspondingly arc-shaped seat.

2. In a car-coupler, the combination of a draw-bar head corred upwardly and backwardly as to its top front face, and provided with an arc-shaped flange upon its upper rear portion, and with an arc-shaped seat in its lower rear portion, a horizontal longitudinal channel or slot for a link, and a vertical hole for a link-pin.

3. The combination, to form an automatic car-coupling, of two draw-bars the heads of which are oppositely curved from the lower portion of their front or meeting faces upwardly and backwardly, and which are each provided with a rearwardly-extending flange and with a rearwardly-opening seat, whereby upon collision one or the other head is enabled to travel up and over the other until it drops to the rear of the top portion thereof, and until its seat registers in line with the flange upon the lower head.

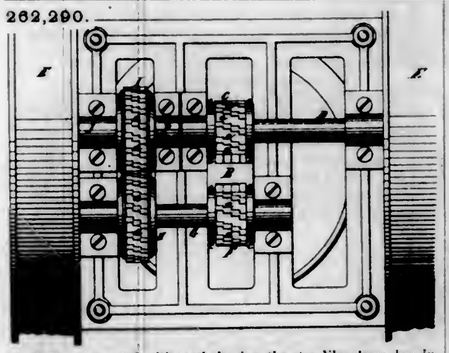
4. In combination with a draw-bar, a rod or link connection and one or more levers, each playing in spring-keepers, the arrangement being such that the combined parts form a connected system substantially as and for the purposes set forth.

5. In combination with a coupling-lever, a spring-keeper, substantially as and for the purposes set forth.

262,290. HYDRAULIC ELEVATOR. ARTHUR GRANVILLE, New York, N. Y. Filed June 2, 1882. (No model.)

Claim.—1. The combination, with the winding-drums, the cylinder, and piston of a hydraulic apparatus, of the double-faced

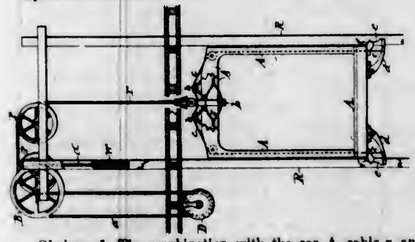
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rack B, constructed with teeth having the step-like shape herein described, and having the flat rabbet *b*, and the gears C and F, constructed with similar teeth, and having the flat cylindrical or roller portions *c*, the whole arranged for joint use and operation, substantially as and for the purpose herein set forth.

2. The organized apparatus comprising the hydraulic cylinder A, the double-faced rabbeted rack B, constructed with the step-like teeth, the shafts D and G, carrying the gears C and F, each constructed with the step-like teeth, and having the cylindrical flat-faced or roller-like portions *c*, the gears H and I, having the step-like teeth and placed upon the shafts G and J, and the winding-drums E, the said parts being constructed, combined, and arranged with reference to each other substantially as and for the purpose herein set forth.

262,291. ELEVATOR. HIRAM GRAVES, Syracuse, N. Y. Filed Apr. 24, 1882. (No model.)



Claim.—1. The combination, with the car A, cable *r*, and safety-grips adapted to engage the two guide-rails of the elevator-way, of the strap *b*, spring *s*, pulleys *h h*, and the rope *c*, passed through said strap and over the pulleys *h h*, and connected at its two extremities with the safety-grips, respectively, at opposite sides of the car, substantially as set forth and shown.

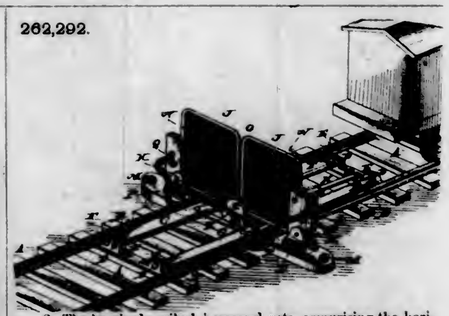
2. The combination, with the car A and cable *r*, of the strap *b*, spring *s*, pulleys *h h*, bifurcated levers *d d*, dogs *e e*, resting on the levers *d* and adapted to engage opposite sides of the guide-rails R R, and the rope *c*, passing through the strap and over the pulleys *h h*, and connected at its extremities with the levers *d d*, all constructed and combined substantially in the manner described and shown.

262,292. RAILROAD-GATE. PETER HAUSEMAN, Speedwell, assignor of one-third to W. A. Richmond, Rural Retreat, Va. Filed May 10, 1882. (No model.)

Brief.—Horizontal tread-plates, to be engaged by the wheel-flanges, are mounted on the cross-ties adjacent to the inner sides of the rails in suitable bearings, and are provided with lateral arms projecting from the plates and engaging with a spring, which automatically closes the gate. The pivoted gates are connected to the plates by angular arms extending from the same under the rails. A foot-block provided with upturned flanges is secured to the tie and supports the gate. On the tie are also secured bumpers, to prevent breakage of the gates when thrown open.

Claim.—1. The combination, with the horizontal tread-plates arranged adjoining the inner sides of the rails in suitable bearings, and provided with lateral arms or levers projecting from the plates at their inner sides and engaged by a flat spring or its equivalent, of the pivoted gates connected to the plates by angular arms or levers extending from the same under the rails and connected to the gates, as set forth.

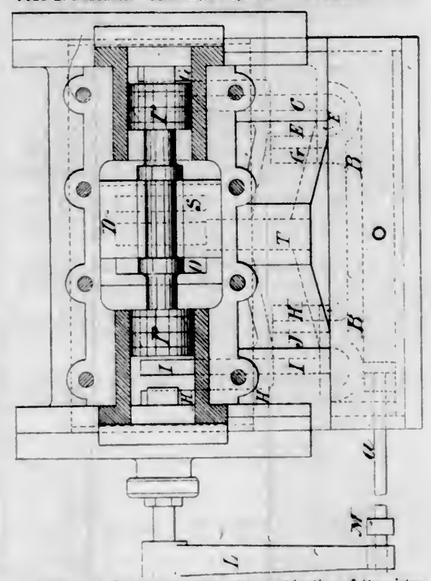
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2. The herein-described improved gate, comprising the horizontal tread-plates C C, having bearings D D and D' in brackets E E, secured on the cross-ties, lateral inwardly-projecting arms or levers G G, engaged by a flat spring, H, or its equivalent, and outwardly-extending angular operating arms or levers P P, the cross-tie A, having foot-block R, provided with plate S, having upturned flanges T T, brackets L L, and cushions or bumpers M M, and the gates J J, pivoted in brackets L L, and provided with openings Q Q, through which pass the ends of levers P P, as set forth.

3. The horizontal tread-plates C C, having bearings at their ends and center, and their ends curved downwardly or inclined, and provided with inwardly-projecting lateral arms G G, engaged by a flat spring, H, or its equivalent, as and for the purpose specified.

262,293. STEAM-PUMP. JAMES HENSHALL, Philadelphia, Pa., deceased, Isabella A. Henshall, Administratrix, assignor to John E. Henshall. Filed Apr. 24, 1882. (No model.)



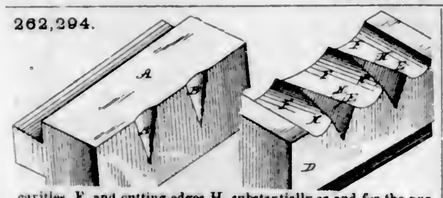
Claim.—1. In a steam-pump, the combination of the piston of main valve, having separate induction and eduction ports, with auxiliary valve having its steam-port and exhaust-ports, substantially as described.

2. In a steam-pump, the main pump-driving cylinder having ports H J I and E C G, in combination with the valve B B, substantially as and for the purpose set forth.

262,294. DIE FOR POINTING OR SHARPENING HARROW-TEETH. JOSEPH HERRENK, Joliet, Ill. Filed Mar. 23, 1882. (No model.)

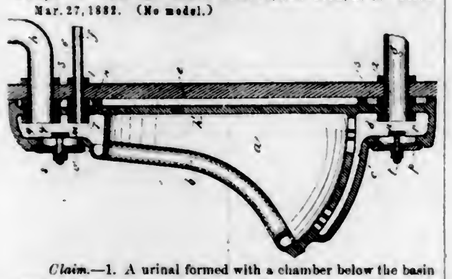
Claim.—The die A, provided with one or more inclined concavities B, in combination with the die D, provided with one or more inclined V-shaped recesses, E, and with two or more con-

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cavities, F, and cutting-edges H, substantially as and for the purpose set forth.

262,295. URINAL. JAMES P. HYDE, New York, N. Y. Filed Mar. 27, 1882. (No model.)



Claim.—1. A urinal formed with a chamber below the basin portion, having two openings, one for the waste-pipe and the other for a removable cap, substantially as set forth.

2. A urinal formed with a chamber below the basin portion, having two openings at opposite sides, in combination with a waste-pipe passing into one of the openings and permanently connected, and a removable cap to close the other opening, substantially as set forth.

3. In a urinal, a back plate having openings for the water-supply and waste pipes, in combination with such pipes and nuts upon the same, whereby the urinal is supported by the said pipes and nuts, substantially as set forth.

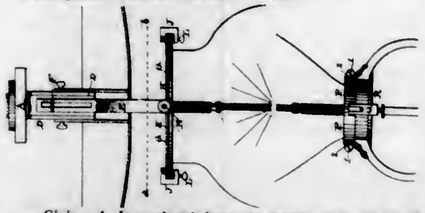
4. The combination, with a urinal-basin having a back plate with openings for the respective pipes, and a chamber in the upper part of the urinal above the basin, of water-supply and ventilating pipes opening into such chamber, and nuts to secure the urinal to the pipes, substantially as set forth.

5. A urinal formed with a chamber in the upper part of the basin, having two openings, one at each side, one for receiving the supply water-pipe, the other for a removable cap, substantially as set forth.

6. In a urinal, a back plate having openings for the respective pipes, and chambers *m n* and passages *b c*, having openings, substantially as specified.

7. A urinal having a back plate with openings for the supply water and ventilating pipes, and a chamber into which such pipes open, substantially as set forth.

262,296. ELECTRIC-ARC LAMP. ROBERT A. JOHNSTON, Cleveland, Ohio, assignor of one-half to Alphonse Charbonneau, same place. Filed Jan. 9, 1882. (Model.)



Claim.—1. In an electric lamp, the combination of the box D, slotted supports E, and the globe having the lower carbon-holder secured to it, substantially as shown.

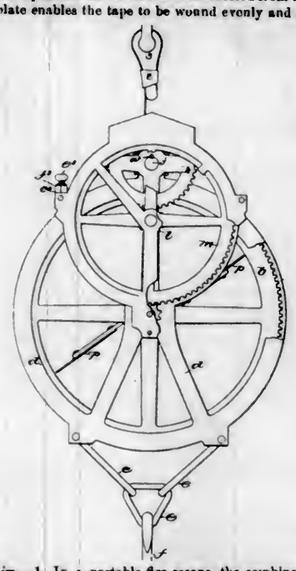
2. The combination of the globe having the frame or ring P secured to it, the clamps, and the laterally-adjustable lower-carbon holder, substantially as described.

3. The combination, in an electric lamp, of the globe, the metallic frame attached to its lower end, the hinged clamps, and the lower-carbon holder, whereby the holder can be adjusted laterally, substantially as set forth.

4. The combination of an electric lamp with a number of hinged feet which are attached to the lower end of the globe, and which feet automatically open outward when the lamp is placed upon a support, substantially as specified.

262,297. FIRE-ESCAPE. HUGH KENNAN, Worcester, Mass., assignor of three-fourths to Michael H. Murphy and Peter Magone, same place. Filed Mar. 31, 1882. (No model.)

Brief.—A flexible suspending-tape is wound upon the reel, which is connected by a multiplying train of wheel-work with a fly or fan, which is located within the reel. When the tape is to be rewound upon the reel the reel is disconnected from the fly, and a guide-plate enables the tape to be wound evenly and tightly.



Claim.—1. In a portable fire-escape, the combination of the following elements: a reel, a regulating-train of wheel-work to control its rotation, a suspending cord or tape wound on the said reel, and means to connect the said tape and reel, either one with a building and the other with the body of a person, whereby the apparatus may be either lowered with the person or remain at the top of the building, as desired, substantially as described.

2. The winding reel or drum and regulating-train of wheel-work connected therewith, combined with the governing fan or fly, the said governing fan or fly being located within the said reel and having its bearings in the journals thereof, substantially as described.

3. The combination, with the reel and its regulating-train mounted upon a frame-work, provided with a supporting-link, of a cord or tape wound upon the said reel and provided with an eye or link and grappling-hooks, and a supporting-belt, each adapted to be connected with the said link or eye, substantially as described.

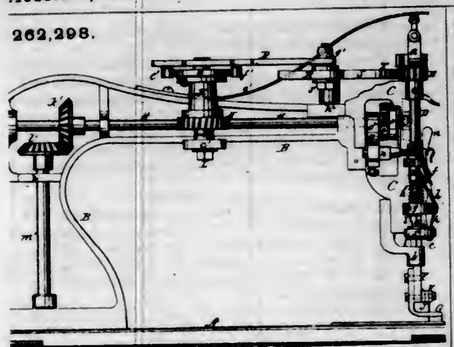
4. The tape or cord winding reel and governing-train, adapted to be disconnected therefrom in its backward movement, combined with a detachable guide and friction device for the said tape, whereby it may be wound tightly and evenly upon the said reel in the backward rotation thereof, substantially as described.

262,298. SEWING-MACHINE. WILLIAM KOCH, New York, N. Y. Filed June 15, 1881. (Model.)

Claim.—1. In a sewing-machine, a presser-foot, in combination with a presser-foot-carrying bar, a vertical shaft, a collar operating in conjunction with said bar and shaft and adapted to have a horizontal motion, a geared wheel fixed to said vertical shaft, a bell-crank lever with a curved rack and slotted arm, a pattern-cam, and a bar for connecting said arm and cam, substantially as and for the purpose described.

2. In a sewing-machine with a presser-foot feed, the following elements in combination: a worm fixed to the driving-shaft of the machine, a worm-wheel engaging therewith, a pattern-cam, a bell-crank lever with one arm slotted and connected by a rod or bar with the cam and the other arm provided with a curved rack.

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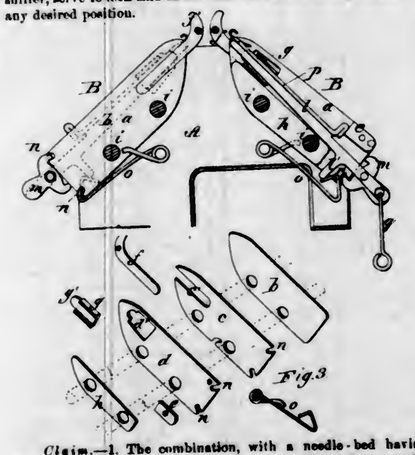
and a gear-wheel fixed to a vertical shaft, constructed to turn in its bearings, whereby the horizontal motion of the feed may be automatically effected, substantially as and for the purpose described.

3. In a sewing-machine, the combination of a presser-foot, a vertical bar carrying said foot, a horizontally-movable collar connected with said bar, a vertical shaft, D, a pivoted lever, *h*, sliding sleeve *d*, with collar and projecting arm *f*, a fork and mechanism for operating the same, a bell-crank lever, a connecting-bar, a pattern-cam, and a gear-wheel fixed to said vertical shaft, all constructed and arranged to operate substantially as and for the purpose described.

4. In a sewing-machine, the presser-foot, its carrying-bar, a collar thereon, a vertical shaft extended through a slot in such collar, and adapted to be connected therewith, as described, an elbow-lever geared to said vertical shaft and having a slotted arm, a pattern-cam, O, deriving a rotary motion from the driving-shaft, substantially as shown, and a slotted bar, P, adjustably connected with the elbow or bell-crank lever, and deriving motion from the cam by rollers fitted to its periphery, substantially as specified.

262,299. KNITTING-MACHINE. ISAAC W. LAMB, Parshallville, assignor of one-half to Charles E. Wakeman & Co., Pontiac, Mich. Filed July 15, 1881. (Model.)

Brief.—The needle is adapted to be thrown out of action (and is at the same time allowed to retain the stitch in its hook) by means of the shifters on which it rests. The needle-bed sections are made up of a series of plates and spacing-pieces. The jacks are removably held in the sections. A curved wire spring secured to each section and operating on a lug of the needle-shifter, in connection with a latch pivoted on the outer or lower end of the shifter, serve to lock said shifter and the needle resting thereon in any desired position.



Claim.—1. The combination, with a needle-bed having grooves and apertures *d'* formed in the partitions between the grooves, of the oscillatory shifters *l* and the grooved pieces *g*, arranged in said apertures *d'*, as and for the purpose specified.

2. The combination of the plate *c*, provided with the slot *c'* for receiving the jack, and the plates *b* and *d*, one on either side of plate *a*, for retaining the jack within the slot *c'*, with the removable jack *f*, substantially as herein explained.

3. A needle-bed section consisting of the plates *b c d* and spacing-pieces *e h*, said parts arranged with relation to one another, as described.

4. The combination, with the needle-bed sections *a*, comprising the pieces *b c d e h*, of the rods *i*, passing through said pieces and provided with end nuts, whereby the sections and the parts of each section are detachably held together, as described.

5. The combination of the bent-wire springs *o* with the slotted needle-bed, and with the needle-shifters *l*, each provided with a lug, *l'*, whereby the needle-shifters are retained within their grooves when in use, and provision is made for their ready removal when desired, substantially as herein explained.

6. The combination of the spring *o*, needle-shifter *l*, latch *m*, and notched bed-sections *a*, for securing the automatic locking of the needle-shifter, substantially as and for the purpose herein described.

7. The links or wires *q*, combined with the oscillating needle-shifters *l*, pivoted latches *m*, and bed-sections *a*, substantially as herein explained.

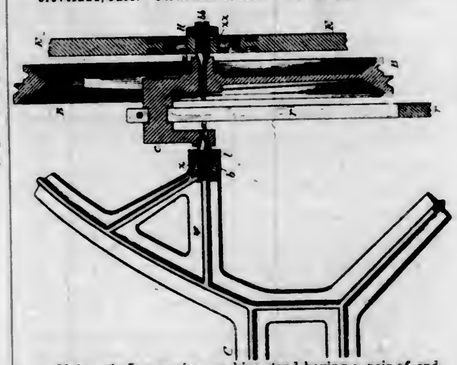
8. A needle-bed section consisting of the plates *b* and *c*, the latter having slots *c'*, plate *d*, provided with aperture *d'*, and spacing-pieces *e h*, in combination with the jack *f*, arranged in slot *c'*, and switch-bar *g*, arranged in the aperture *d'*, as shown and described.

9. The combination, with the plate *d*, provided with the aperture *d'*, formed as shown, of the grooved piece *g*, having a rounded lug, *g'*, upon which it is adapted to turn in the said apertures *d'*, as and for the purpose specified.

10. The combination, with the plate *c*, provided with the slot *c'*, of the jack *f*, arranged in said slot *c'*, as and for the purpose specified.

11. The combination of the oscillatory shifters *l* and the spaced needle-bed sections *a*, having plates *d*, provided with apertures *d'*, with the flanged pieces *g*, whereby the needles are supported by the shifters and held beneath the flanges of the pieces *g*, for the purpose specified.

262,300. SEWING-MACHINE STAND. ARTHUR M. LESLIE, Cleveland, Ohio. Filed Jan. 9, 1882. (No model.)



Claim.—1. In a sewing-machine stand having a pair of end frames united by a central brace, the combination, substantially as herein specified, of a central brace constructed with an inclined rigid projection extending to and across the line of the band-wheel axis, and provided in said line with an internally-screw-threaded socket, an end frame having a like socket in the same line, a pair of bearing-screws adjustable in said sockets and having conical bearing-points, and a band-wheel and pitman-crank (in one part) drilled to receive said bearing-points, as shown and described, for the purposes set forth.

2. In a sewing-machine stand having a pair of end frames rigidly united by a central brace which supports an inner bearing for the band-wheel, a distinct detachable band-wheel guard having a ribbed and drilled supporting-leg fitted with an attaching-screw, in combination with an end frame having a groove to receive the rib of said lug and a tapped hole to receive said screw, substantially as herein specified.

262,301. TRANSFERRING AND CALLING IMPLEMENT FOR TELEPHONE-EXCHANGES. LEWIS MANN, Detroit, Mich. Filed June 16, 1882. (No model.)

262,301.



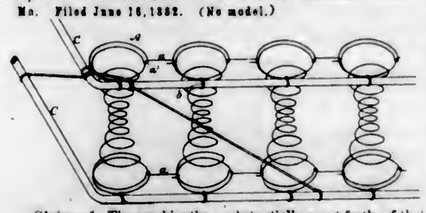
Claim.—1. A transferring and calling implement for telephone-exchanges, consisting of a single metallic needle connected with one terminal of a battery-wire, and adapted to transmit an electric impulse along any other wire by contact therewith, in combination with a movable insulating-case for inclosing the point of the said needle, substantially as described.

2. A transferring and calling implement for telephone-exchanges, consisting of a single metallic needle connected with one terminal of a battery, and adapted to transmit an electric impulse along any other wire by contact therewith, in combination with an insulating-case covering the head of the needle and a movable insulating-case protecting the point of the needle, substantially as described.

3. A transferring and calling implement for telephone-exchanges, consisting of a metallic needle connected with an electrical conductor, an insulating-case inclosing the head of the needle, adapted to be worn upon the finger, and a movable insulating-case inclosing the point of the needle, said movable case provided with suitable means whereby it may be movably secured upon the end of the stationary case, substantially as described.

4. A transferring and calling implement for telephone-exchanges, consisting of a metallic needle, an insulating-case inclosing the head of the needle, adapted to be worn on the finger, a movable insulating-case inclosing the point of the needle, said movable case provided with a suitable interior spring, and in combination therewith a flexible electric cord, which passes through the side of the case and is connected with the needle, substantially as and for the purpose described.

262,302. SPRING BED-BOTTOM. PETER H. MELLON, St. Louis, Mo. Filed June 16, 1882. (No model.)



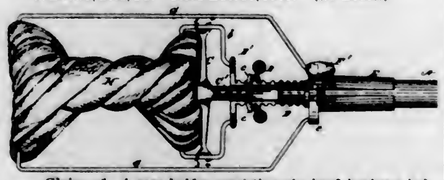
Claim.—1. The combination, substantially as set forth, of the upper and lower rigid metallic frames and the bed-bottom springs.

2. The combination of the series or bank of connected springs, the angular frame-sections to which the springs are connected, and the collars joining the ends of the sections, substantially as set forth.

3. The combination, substantially as set forth, of the series of connected springs, the upper and lower rigid frames to which the springs are connected at top and bottom, and a stay at each corner, which is secured to the lower frame a suitable distance from the corner, then to the upper frame near the corner, passes across the corner, is again secured to the upper frame, and then passes to the lower frame, as described.

4. The combination, substantially as set forth, of the bed-bottom springs, each of which is formed with a loop therein, through which the end of the outer coil is passed and connected with the adjoining spring, and connections or links which also serve to connect the springs.

262,303. COMBINED MOP HEAD AND WRINGER. JOSEPH G. MOONY, Erie, Pa. Filed Mar. 21, 1882. (No model.)

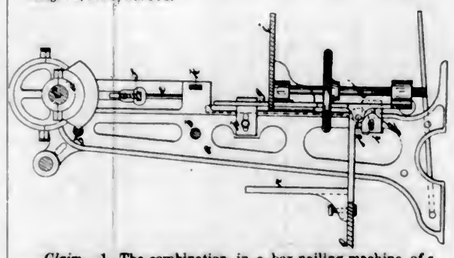


Claim.—1. A mop-holder consisting of a head having a hollow slotted shank and a slotted collar, a clamping-jaw fixed to the slotted collar, and a nut working upon the screw-threads upon the outer side of the shank, and unattached to any other part, and of a movable jaw having a T-shaped shank fitting within and working in the slot in the hollow shank, and adapted to be moved by the nut upon the hollow shank.

2. The combination, with the mop head and handle of a mop, of the frame G and ferrule E, open on one side and provided with lugs, in which operates a clamping-screw, F', substantially as and for the purposes mentioned.

3. As a new article of manufacture, a wringer attachment for mops, consisting of a frame, G, and ferrule E, having thereon a clamping device for holding the said device at various points upon the handle, as set forth.

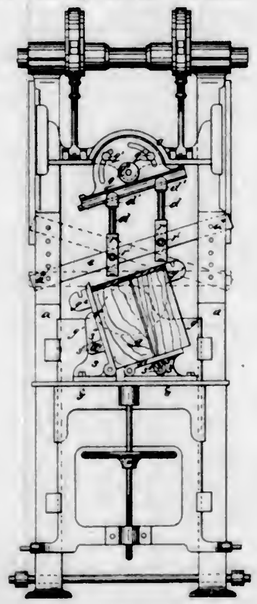
262,304. BOX-NAILING MACHINE. FREDERICK MYERS, New York, N. Y. Filed June 26, 1882. (No model.) Patented in England Sept. 1, 1880, No. 3,555; in France Mar. 1, 1881, No. 141,455; in Belgium Mar. 22, 1881, No. 54,181; in Germany Mar. 29, 1881, No. 17,866; in Austria June 4, 1881, and in Spain Aug. 12, 1881, No. 864.



Claim.—1. The combination, in a box-nailing machine, of a work-holding table, an open back plate, and a back stop in rear of said back plate, arranged for nailing partitions in boxes, as described.

2. The combination, in a box-nailing machine, of a work-holding table, an open back plate, a back stop in rear of said back plate, arranged for nailing partitions in the boxes, and a gate for supporting said back stop, that closes up against the open back plate when said back stop is not used, substantially as described.

262,305. BOX-NAILING MACHINE. FREDERICK MYERS, New York, N. Y. Filed Apr. 28, 1882. (No model.)



Claim.—1. In a nailing-machine, the combination, with the nail-driving mechanism, of devices, substantially as described for supporting the boxes at an angle, whereby the nails which are driven vertically by the nail-drivers will be driven obliquely into the wood, substantially as described.

2. The combination, with the table *f* of a nailing-machine, of the adjustable supporting-plates c^3 c^3, substantially as above set forth, and for the purpose specified.

3. The combination, with the said supporting-plates c^3 and c^3, of the adjustable auxiliary cross-head *q*, pivoted to the main cross-head and adapted to support the nail-drivers, and the adjustable bar *e*, for supporting the nail-boxes, substantially as above set forth, and for the purposes specified.

4. The combination, with the auxiliary cross-head and the nail drivers or plungers, of the rod or bar *t*, having the recesses or grooves and provided with a flat face, substantially as above set forth, and for the purposes specified.

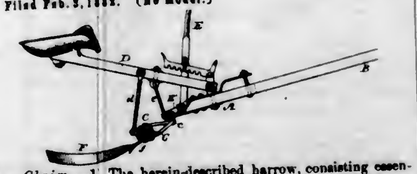
5. The combination, with the cross-head *c* of a nailing-machine, of the adjustable auxiliary cross-head *q* and the adjustable bar *e*, for the support of the nail-boxes, substantially as described.

262,306. ANIMAL-TIE. EARL C. NEWTON, Batavia, Ill. Filed Mar. 7, 1882. (No model.)



Claim.—An improved animal-fastener, consisting of the swinging tie C, furnished with the swivel D, for receiving a strap, cord, or chain, all adapted to be hinged or pivoted to a stall or manger, substantially as shown, for the purpose set forth.

262,307. HARROW. FREDERICK NIEWITS, Millington, N. J. Filed Feb. 3, 1882. (No model.)



Claim.—1. The herein-described harrow, consisting essentially solely of a tongue, a single transverse gang-bar connected to the tongue and also constituting a crusher-bar, and curved trailing harrow-teeth carried by the bar, substantially as set forth.

2. The combination of a draft frame or tongue, a single transverse bar hinged thereto, a lever for swinging the bar on its hinge-connection to vary its relation to the frame and to the ground, harrow-teeth carried by the bar, and a driver's seat supported on the bar, substantially as set forth.

3. The combination, substantially as set forth, of a draft frame or tongue, a single transverse gang-bar in rear thereof and hinged thereto, so as to rise and fall in rear of the tongue or frame, harrow-teeth carried by said bar, and a lever for raising and lowering or swinging the bar on its hinge to vary its relation bodily to the frame and ground.

4. The combination of a draft frame or tongue, a single transverse bar hinged thereto, harrow-teeth carried by the bar, and a seat-standard pivoted on the frame or tongue and supported on the transverse bar, substantially as set forth.

5. The combination of a draft frame or tongue, a single transverse bar hinged thereto, harrow-teeth carried by the bar, a seat-standard pivoted on the frame or tongue and supported by pivoted rods on the transverse bar, a lever on the frame, a connection between the lever and transverse bar, and a detent, substantially as set forth.

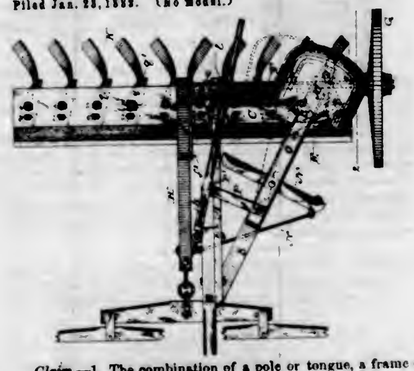
6. The trailing harrow-tooth herein described, having a continuous curved cutting-edge and two opposing cutting-faces which press upon the soil in opposite directions relatively to the draft and insure the rectilinear motion of the machine.

7. A dragging or trailing harrow-tooth curved sinnously or reversely relatively to a longitudinal central line, and having a continuous sinuous rocker-shaped cutting-edge.

8. The combination of a draft frame or tongue, a transverse bar, and a series of harrow-teeth, each of which is sinuously or reversely curved relatively to the draft-line, substantially as and for the purpose set forth.

9. The combination of the draft frame or tongue, a single transverse bar connected therewith, and a series of harrow-teeth carried by the bar, which teeth are formed with a continuous cutting-edge, and are shaped so as to present two opposing cutting-faces to the soil, substantially as and for the purpose set forth.

262,308. HARROW. FREDERICK NIEWITS, Millington, N. J. Filed Jan. 23, 1882. (No model.)



Claim.—1. The combination of a pole or tongue, a frame or axle to which the tongue is connected, a carrying-wheel which supports one side of the frame, a harrow which supports the other, and a draft-connection on the harrow-beam, substantially as set forth.

2. The combination of a frame, a carrying-wheel supporting one side of the frame, and a harrow supporting the other, the harrow being connected with the side or end of the frame at or about its middle, and having harrowing teeth or implements arranged in a gang normally substantially parallel with the axle of the machine, as set forth.

3. The combination of a frame, a pole attached thereto, a carrying-wheel at one side of the frame, a harrow at the other, a pivotal connection between the harrow and frame which permits the harrow to rock vertically in line with the draft, and a lever for raising and lowering or rocking the harrow-beam relatively to the frame, substantially as set forth.

4. The combination of a frame, a pole or tongue attached thereto, a carrying-wheel at one side of the frame, a harrow at the other, and a hinge-connection between the frame and harrow, which permits the latter to rock freely transversely to the line of draft to conform to undulations of the ground when the machine is in operation, substantially as set forth.

5. The combination of a pole or tongue, a frame, a carrying-wheel at one side of the frame, a harrow at the other, a pivotal connection between the frame and harrow, which permits the latter to rock vertically in line with the draft, a lever for rocking it, and a hinge-connection which permits the harrow to rock transversely to the line of draft to conform to undulations of the ground, substantially as set forth.

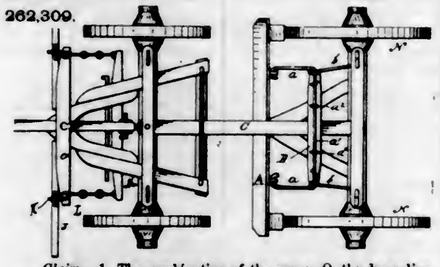
6. The combination of the pole or tongue, a sulky-frame, a carrying-wheel which supports one side of the frame or axle of the machine, a harrow which supports the other, a seat on the frame, and mechanism for adjusting the seat laterally to bring the weight of the driver more or less on the harrow, substantially as set forth.

7. The combination of the frame, the axle rocking in bearings on the frame, the carrying-wheel at one end of the axle, the downwardly-projecting arm at the other, the bearing or supporting plate in which said arm has its bearing, and the hinge-connection between the plate and harrow, substantially as set forth.

8. The trailing or dragging harrow-tooth herein described, having the two cutters or teeth, the trailing upper or main one, which extends downwardly and backwardly and is curved outwardly from the line of draft, and the trailing shorter spur or cutter, which also extends downwardly and backwardly and is curved outwardly from the line of draft reversely to the other portion of the tooth.

262,309. AUTOMATIC WAGON-BRAKE. JOHN L. OGLE and FRANK H. TURNBAR, Graham, Mo., assignors of one-half to Corwin Johnston and Isaac F. Brown, same place. Filed May 20, 1882. (No model.)

262,309.



Claim.—1. The combination of the evener O, the depending rod H, the brake-chain, the brake-beam A, the spring F, the lever D, the link *d*, the pivotal supporting-arms *a'* and the strengthening-rods *b b*, substantially as shown and described.

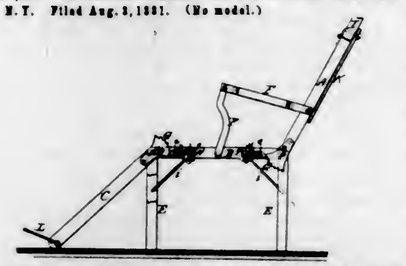
2. The combination of the brake-beam A, the pivotal supporting-arms *a a*, and the wheels N, the reach C, the bar D under the reach, the link *d*, and the spring F, the brake-beam being supported at a point below the center of the wheel, whereby when the shoes are in contact with the wheels the friction has a tendency to increase the drawing of the brake-beam downward, substantially as shown and described.

262,310. WASTE-PIPE COUPLING. LOUIS B. ORLIGER, Canton, Ohio, assignor of two-thirds to Harry Fife and Theobold & Co., same place. Filed Mar. 30, 1882. (No model.)



Claim.—As an improved article of manufacture, a pipe-coupling consisting of the sleeve B, composed of a single section of rubber tube of equal internal diameter throughout its length, and having beads around each end, substantially as and for the purpose set forth.

262,311. RECLINING-CHAIR. ERNEST ORTLEPP, New York, N. Y. Filed Aug. 3, 1881. (No model.)



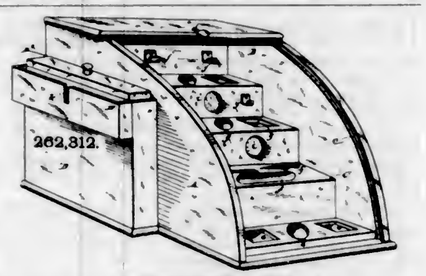
Claim.—1. The combination of the separable sections A C, their lugs *a a*, and the section B, having recesses *b* to receive said lugs, the legs E and the removable bolts D, to connect said sections and legs to admit of their formation into a chair and their separation and compact folding for transportation or storage, substantially as shown and described.

2. The separable sections A B C, bolts D, legs E E K, pawls and racks to unite sections A and C with section B at any desired angle, rods *i*, head and foot rests, and arms F, all constructed and arranged, as shown and described, to form a convertible knockdown reclining-chair, substantially as specified.

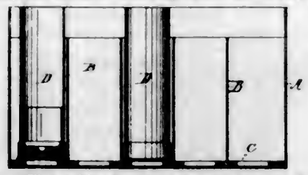
262,312. WRITER'S CABINET. WILLIAM H. REARDEN, Washington, D. C. Filed May 15, 1882. (No model.)

Claim.—1. In a writer's cabinet, the combination, with its case A, of the attached pocket D, having the supplemental chamber D', provided with a vertical slot, *k*, and the cover D², as and for the purpose set forth.

2. As a new article of manufacture, the writer's cabinet herein described, consisting of the case A, having the cover B, and a stair-stepped arrangement of shelves, C, provided with cavities or means adapted to hold the various articles or utensils herein described, the pocket D, and supplemental chamber D' *k*, substantially as and for the purpose set forth.

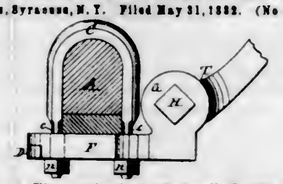


262,313. BOX FOR PACKING CARTRIDGE-SHELLS. ALFRED A. REED, Boston, Mass. Filed Apr. 13, 1882. (No model.)



Claim.—The packing-box above described, provided with the partitions B and the inner or false perforated bottom, C, substantially as and for the purposes set forth.

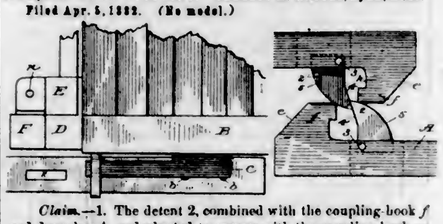
262,314. THILL-COUPLING. BATTRES REVOIR and JUDSON L. THOMSON, Syracuse, N. Y. Filed May 31, 1882. (No model.)



Claim.—1. The combination, with the clip C, of the stationary clip-bar D, provided with the eye E, the bar F, hinged on the rear prong e of the clip and provided with the eye G, and the coupling-bolt H, substantially as described and shown.

2. In combination with the clip C, the stationary clip-bar D, provided with the eye E and lip L, the bar F, hinged on the rear prong e of the clip and provided with the eye G and lip L, and the coupling-bolt H, all constructed and combined substantially in the manner described and shown, for the purpose set forth.

262,315. CAR-COUPLING. CHARLES M. RHODES, Lynn, Mass. Filed Apr. 5, 1882. (No model.)



Claim.—1. The detent 2, combined with the coupling-hook *f* and draw-bar A, and adapted to engage with the coupling hook or link of an adjoining car and disengage it from the hook *f*, substantially as described.

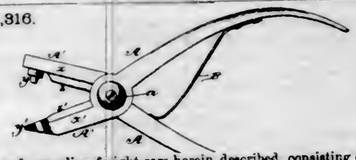
2. The movable fender-block F, combined with the draw-bar A, having the coupling-hook *f*, and the detent 2, adapted to engage with the coupling hook or link of an adjoining car and disengage it from the hook *f*, substantially as described.

3. The movable fender-block F, combined with the actuating-levers 7 and 88, either or all of them, substantially as described.

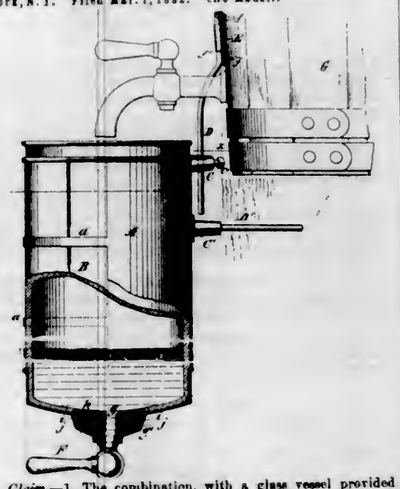
262,316. DEVICE FOR SEALING AND UNSEALING FREIGHT-CARS AND THE LIKE. JAMES C. RICHARDSON, Boscobel, Wis. Filed Oct. 21, 1881. (Model.)

Claim.—As a new article of manufacture, the device for sealing and unsealing freight-cars herein described, consisting of the cross-levers A A, having the operating-jaws *x x'*, the eyelet-punch *y* and socket, and the cutting-edges *z z'* near the pivot, and also having the chisel end *y'* adapted to precede the cutting-edge *z'* and open the seal-laps for the action of the said cutters by a single thrust, and the spring B, the whole constructed, arranged, and combined to operate for the specific purpose set forth.

262,316.



262,317. LIQUID-MEASURE. CHRISTOPHER RISSNER, New York, N. Y. Filed Mar. 1, 1882. (No model.)



Claim.—1. The combination, with a glass vessel provided with a draw-off cock at the bottom, of a surrounding jacket cut away to expose the contents of the vessel and having narrow bands which serve as gradnations for said vessel, and attaching devices for securing the same to a barrel or other support, substantially as described.

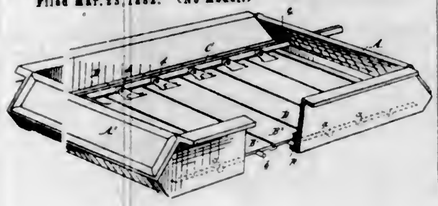
2. The combination of the graduated glass vessel provided with a draw-off cock at the bottom, the metallic jacket cut away to expose the contents of said vessel, and the attaching devices, substantially as described.

3. The combination, with the glass vessel and surrounding metallic jacket, of devices whereby the measure can be secured adjustably either to an upright or a horizontal surface, substantially as described.

4. The combination of the bent attaching-rod and the plate provided with tongues struck up from said plate, substantially as described.

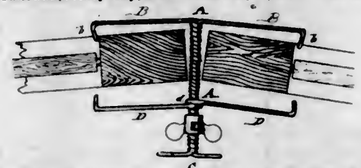
5. The combination, with the glass vessel, its jacket, and the faucet or draw-off cock, of the beveled nut, cup-shaped attachment, and washers for securing the faucet or draw-off cock to the said vessel and jacket, substantially as described.

262,318. LOCOMOTIVE ASH-PAN. JAMES RITCHIE, Detroit, Mich., assignor to himself and W. H. D. Mowth, same place. Filed Mar. 23, 1882. (No model.)



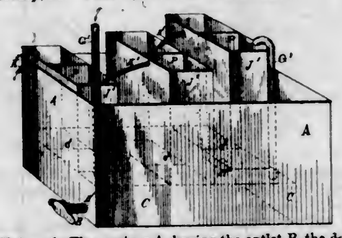
Claim.—In a locomotive ash-pan having front and rear draft-doors, the rear door being slotted, as shown, the combination of said slotted rear door, A *e*, with the rod C, the slats B, having central journals, *b*, and forwardly-projecting lugs *c*, and the pins *d*, as and for the purposes specified.

262,319. SHUTTER-FASTENER. EDUARD RITZ and ADOLPH GÄRTNER, Jersey City, N. J. Filed July 1, 1882. (No model.)



Claim.—A shutter-fastening device consisting of a threaded shank, A, having laterally-extending outer arms, B, and an inner handle, C, of a movable binding-piece or bridge, D, and of a clamping thumb-nut, E, substantially as set forth.

262,320. MILK-COOLING APPARATUS. JOSEPH ROBERTS, Salisbury, Pa. Filed Apr. 6, 1882. (No model.)



Claim.—1. The receiver A, having the outlet B, the detachable vessel C, provided with a series of closed conduits, D, communicating at alternate ends, and having the inlet-tube G' and the outlet-tube G², and a series of channels, F, between said conduits communicating at alternate ends and open at the bottom only, all constructed, combined, and operating substantially as and for the purpose described.

2. In an apparatus for cooling milk or other liquids by means of a current of cold water, the combination of the receiver A and the vessel C within the receiver, said vessel having the series of separated closed conduits D, communicating at alternate ends, the arrangement of said conduits with relation to each other and the top and sides of the vessel, and the bottom of the receiver being, as described and shown, so as to form a series of communicating channels, whereby the current of water may flow in one direction through the closed conduits while the liquid to be cooled flows in the opposite direction through said channels, substantially as and for the purpose set forth.

3. The vessel C, having a series of closed communicating conduits, and between the latter the communicating channels F, open at the bottom only, and having the inlet-tube G' and the outlet-tube G², said vessel being adapted to be inserted within and used in connection with a suitable receiver, substantially as and for the purpose described.

262,321. METAL-SCREW MACHINE. SYLVESTER H. ROPER and CHARLES F. ROPER, Boston, Mass. Filed Apr. 17, 1882. (Model.)

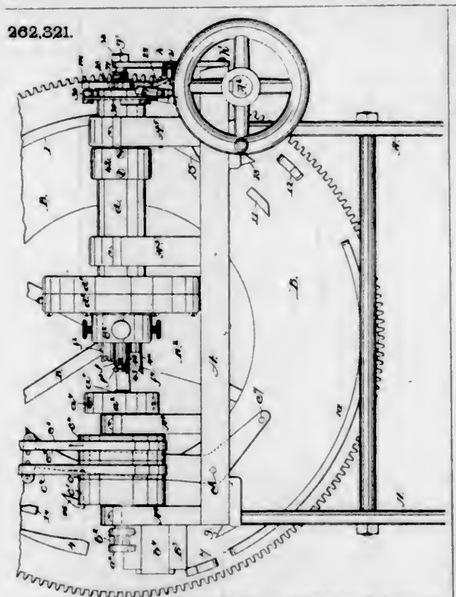
Claim.—1. In a screw-making machine, the rotating chuck and the sliding carriage, combined with the rotating shaft *e*, its crank-pin to actuate the tool-holder *e*², means to prevent the entire rotation of the said tool-holder on the said crank-pin, as set forth, and with the reducing and threading tools carried by the said holder, substantially as described.

2. The sliding carriage, the tool-holder thereon, its tail-piece, and the swiveling bearing, combined with the shaft *e*, its crank-pin, and with means to rotate the said shaft intermittingly, substantially as described.

3. The chuck herein described, it comprehending the longitudinally-movable split tube *a'*, the sleeve *a*, the head *a²*, the struts *a³*, and the adjustable fulcra *a⁴*, all substantially as described.

4. The movable carriage, the rotating shaft *e*, its crank-pin, the tool-holder *e²*, mounted thereon, and means to lock the said

262,321.



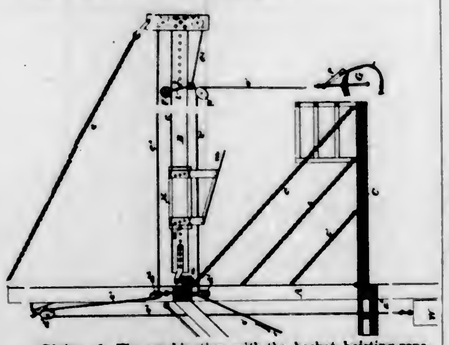
tool-holder in position as the carriage is being moved, combined with the reducing, threading, and feeding devices, substantially as and for the purpose described.

5. The tool-holder and the feeding-tool provided with cutting-teeth, combined with a chuck and means to move the tool-holder to draw or feed the rod forward through the said chuck, substantially as described.

6. The feeding-tool herein described, it comprehending the spring-jaws 43 44, provided with teeth 45, and extended from the holding-shank 50, substantially as described.

7. In a screw-making machine, the combination of the following instrumentalities, viz: the rotating chuck, the fast and loose pulleys thereon, the belt-shipper to control the position of the driving-belts on the said pulleys, the slide to open and close the chuck, the carriage, the tool-holder attached thereto, means to revolve but not to rotate the said tool-holder, the reducing, threading, and feeding tools carried by the said tool-holder, and the disk provided with a series of cams, as described, to actuate the said belt-shipper, slide, chuck, carriage, and tool-holder in the order and for the purpose set forth.

262,322. HOISTING APPARATUS. JAMES ROUGHAN, Boston, Mass. Filed July 6, 1882. (No model.)

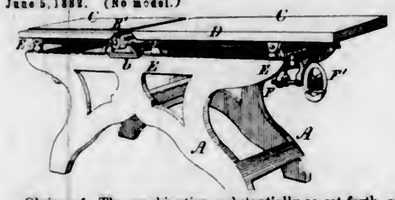


Claim.—1. The combination, with the basket, hoisting-rope, hoisting-block, and jib in a hoisting apparatus, of a weight tending to draw the said hoisting-block to the outer end of the said jib, substantially as described.

2. The combination of the basket G, weight W, block P, jib B, rail r, grooved wheel F, loop l, ropes c' and c², and suitable directing-pulleys, substantially as described.

3. The combination of the basket G, provided with the latch p, the weight W, block P, jib B, loop l, ropes c' and c², suitable directing-pulleys, and frame-work H, provided with projection m, substantially as described.

262,323. MACHINE-TABLE. EDWIN A. ROWLEY, Williamsport, Pa., assignor to Rowley & Hermance, same place. Filed June 5, 1882. (No model.)



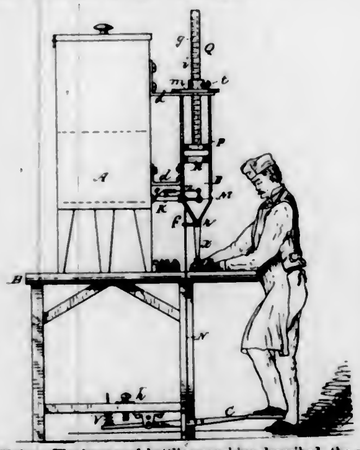
Claim.—1. The combination, substantially as set forth, of a fixed frame having four segmental guides upon its top, a movable yoke connected to blocks fitting in said guides, and a table supported upon said yoke.

2. The combination, substantially as set forth, of a table supported at each of its corners by a block fitting a segmental guide secured to a fixed frame, and mechanism by which the blocks are moved simultaneously in the guides.

3. The combination, substantially as set forth, of a fixed frame, segmental guides secured thereto, a yoke connected to blocks fitting the guides, and an adjusting-screw rotating in a bearing on the frame, and engaging a nut pivoted to a lever connected to the yoke.

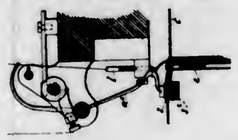
4. The combination, substantially as set forth, of a fixed frame, segmental guides secured thereto, and a device for independently adjusting the guides upon the frame.

262,324. BOTTLING-MACHINE. MELVIN L. SEVERY, Boston, Mass. Filed May 29, 1882. (No model.)



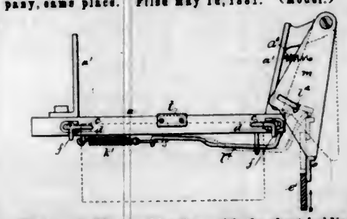
Claim.—The improved bottling-machine described, the same consisting of the tanks A D, pipe K, valves q r, rods N s, lever M, float R, piston P, rod Q, and treadle C, constructed and arranged to operate substantially as specified.

262,325. BOOK-SEWING MACHINE. DAVID M. SMYTH, Hartford, Conn., assignor to the Smyth Manufacturing Company, same place. Filed Apr. 24, 1882. (No model.)



Claim.—The combination, in a machine for sewing books, of a holder to support the sheet while being sewed, needles for introducing the threads, a tubular shield protecting the transverse cord, and means for supporting the same in the proper position in relation to the sewing mechanism, substantially as set forth.

262,326. BOOK-SEWING MACHINE. DAVID MCCONNEL SMYTH, Hartford, Conn., assignor to the Smyth Manufacturing Company, same place. Filed May 16, 1881. (Model.)



Claim.—1. The combination, with the sheet-holding arms in a book-sewing machine, of the fingers c c, for supporting the sheet, and mechanism, substantially as described, for withdrawing the fingers and allowing the sheet to drop upon the sheet-holding arm, substantially as set forth.

2. In a book-sewing machine, the combination, with the sheet-supporting fingers c c, of the adjustable gages d d, and mechanism, substantially as described, for moving the fingers and for conveying the sheet to the sewing mechanism.

3. The combination, in a feeding mechanism for book-sewing machines, of the fingers c c, gages d d, levers f f and h, links g g, spring k', cam-plate m, latch-bar l, and lifter, substantially as set forth.

4. The method herein specified of partially opening the folded sheets or signatures in a book-sewing machine, consisting in placing the said folded sheets upon a table with the back folds upwardly, and moving such sheets along to a lip upon the table, which is of a height to arrest one part of the end signature and allow the other part of such signature to pass over the same and partially open the sheet, substantially as set forth.

262,327. PULVERIZING-MACHINE. L. C. SPAINHOUR, Wilmington, Del., assignor of one-half to V. C. Walker and R. T. Elliott, both of same place. Filed Apr. 22, 1882. (No model.)



Claim.—1. In combination with three rolls arranged as described, a movable directing-plate, as described, the construction being such that the material under treatment may be subjected to a single or double grinding action, according to the position of the plate.

2. In combination with the rolls b', f, and d, the movable directing-plate J, as described.

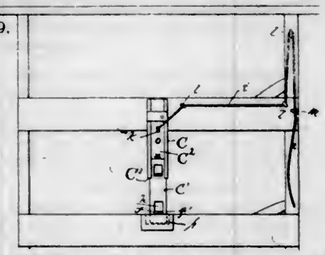
3. The mill described, having the rolls b' d f, the intermediate roll, b', having the greater diameter, the adjustable journal-boxes, and the movable directing-plate, combined and arranged as and for the purpose described.

262,328. TRUSS-PAD. JOSEPH S. STARSON, San Francisco, Cal. Filed June 10, 1882. (No model.)



Claim.—In a truss-pad, the combination of a series of small balls, furnished with female screw-threads, with a series of screw-shafts inserted vertically in the face of the pad-plate, and upon which the balls adjust vertically, substantially as described.

262,329. SLEEPING-CAR BERTH. HENRY A. STONE, Brooklyn, N. Y., assignor to Andrew Randall, same place. Filed Dec. 31, 1881. (No model.)

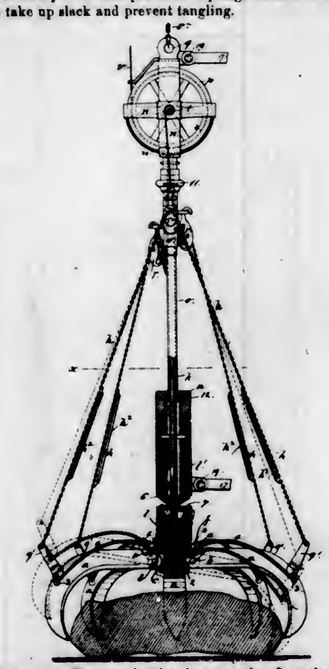


Claim.—1. The combination, substantially as hereinbefore set forth, of the upper ladder-section, C², its stop n, the swiveled guide D for such section, the lower ladder-section, C', sliding in the upper section, the folding steps, their trip-cams, and the stop for the lower section, as specified.

2. The combination, substantially as hereinbefore set forth, of the retaining-cord i, its guides, and the holder m with the upper ladder-section, C², its stop n, the swiveled guide D for such section, the lower ladder-section, the folding steps, their trip-cams, and the stop for the lower section, as specified.

262,330. GRAPPLE. ROY STONE, New York, N. Y. Filed Jan. 16, 1882. (No model.)

Brief.—Spring-actuated grapple-claws are secured to a rod carrying their operating mechanism, through a ball-and-socket joint and a weighted coupling. Parallel bars hinged to a vertical mast are secured to the stem of the grappler, whereby it is sustained in substantially a vertical position. Springs secured to the claw-chains take up slack and prevent tangling.



Claim.—1. The combination, in a grapple, of a series of radial claws, a crown or head to which they are hinged, springs for closing the claws, chains for opening the same, and a sliding sleeve to act upon such chain, substantially as set forth.

2. The combination, with the hinged claws and their head, of a ball-and-socket joint, a rod connected to the same, and mechanism for opening and closing the claws, substantially as set forth.

3. The combination, in a grapple, of hinged claws, a ball-and-socket joint, a coupling, and the actuating-rod, substantially as set forth, whereby the claws are retained in their proper relation to the rod, substantially as set forth.

4. The combination, with the hinged claws and universal joint, of the rod *k*, sliding sleeve, chains, pulleys for the chains, and mechanism for moving the sleeve endwise, substantially as set forth.

5. The combination, with the grapple and hoisting mechanism, of the vertical mast and parallel bars, substantially as set forth.

6. The combination, with the hinged claws and chains for opening the same, of the rubber straps k^3 or their equivalent, for taking up the slack of the chains and preventing entanglement, substantially as set forth.

262,331. PORTABLE WINDOW GUARD OR SCREEN. WM. P. TODD, New Rochelle, N. Y. Filed May 11, 1882. (No model.)

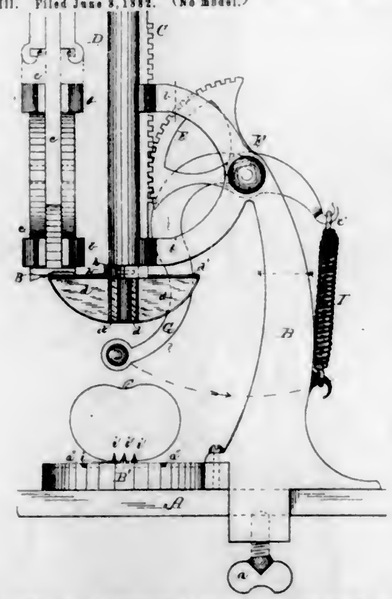


Claim.—1. The cinder-deflector described, having a suitable rigid framing, in combination with a flexible portion, E, extended with a yielding force, and adapted to serve in the front of a car-window to deflect the air and cinders, as herein specified.

2. The cross-bars B C, pivots *d d*, and frame A, in combination with each other and with the flexible material E, arranged to serve substantially as herein specified.

3. In a cinder-deflector for windows, the upright or frame A, having the offset *a* to receive the sash M, the material E, extending outward to act on the air, and the lower cross-bar, C, receiving the weight of the sash and holding it supported at the two widely-separated points, W' and W², all substantially as herein specified.

262,332. APPLE CORER AND SLICER. LUKE TOZER, Marion, Ill. Filed June 8, 1882. (No model.)

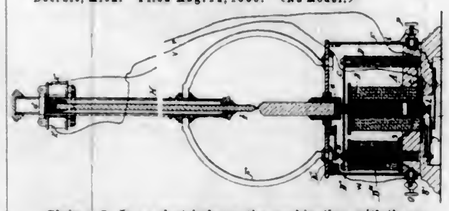


Claim.—1. In a machine for coring and slicing apples, having a standard adapted to be secured to the edge of a table or other suitable support, the combination of the lateral forked arms *b b*, provided with slots *c c* for the reception of a rack, C, and the transverse slot C, adapted to receive the segment-gear, the said segment-gear E being pivoted on the shaft F, which passes through the standard at the junction of the arms, and having a rear extension terminating in a hook, *e'*, with the spring I connected with said hook and the hook *e''* on the standard, substantially as and for the purpose specified.

2. A machine for coring and slicing apples, consisting of a standard, B, and removable block or bed-plate B', a segment-gear, E, pivoted upon a shaft, F, and adapted to swing within a transverse slot, *c*, and engage with the rack C, and the tube D, attached to said rack and provided with blades *d d* at its lower end, its upper end curved, as shown, all arranged to operate substantially as and for the purpose specified.

3. In a machine for coring and slicing apples, the combination, with the standard and segment-gear, of the rack C, supported by and adapted to reciprocate within slots *e e* at the end of the arms *b b*, and the tube D, secured to the front side of said rack and provided with a series of blades, *d d*, secured to its lower end, substantially as shown, and for the purpose specified.

262,333. ELECTRIC-ARC LAMP. CHARLES J. VAN DEPOELE, Detroit, Mich. Filed Aug. 12, 1880. (No model.)



Claim.—1. In an electric lamp, the combination, with the upper and lower carbons and the magnets for operating said carbons, of means for sending a steady current through the carbons and a separate intermittent current through the magnets, and a spring supporting the lower carbon and constructed to close a short circuit when the steady current is interrupted, substantially as described.

2. In an electric lamp, the combination, with the upper and lower carbons, of means for sending a steady current through said carbons, the electric magnet D''', the spring C, supporting the lower carbon, a circuit-breaker, E, and suitable electric circuits between the parts named and the terminal connections, substantially as described.

3. In an electric lamp, the combination, with the upper and lower carbons included in the main steady circuit, as described, of a separate electro magnet or magnets for operating each carbon, a spring supporting the lower carbon, an armature secured to said spring, and means for causing an intermittent current to pass through the magnets of both carbons, substantially as described.

4. In an electric lamp, the combination, with two carbons included in a steady main circuit, as described, of means for rapidly vibrating one of said carbons and feeding either carbon toward the other by a separate or derived circuit, substantially as set forth.

5. In an electric lamp, the combination, with the upper and lower carbons, of a magnet or magnets for each carbon, and means for simultaneously sending an intermittent current through said magnets, whereby the lower magnet will receive a rapid vibration and the upper magnet be allowed to fall gradually, substantially as described.

6. In an electric lamp, the combination, with the lower carbon and means for rapidly vibrating said lower carbon, of the upper carbon, and a device for rapidly and alternately clamping and releasing said upper carbon, substantially as described.

7. In an electric lamp, the combination, with a vibrating lower carbon, of an upper carbon, a clamping device to support and release said carbon, an electro magnet or magnets for operating the clamping device, and suitable means for sending an intermittent current through said magnet or magnets, substantially as described.

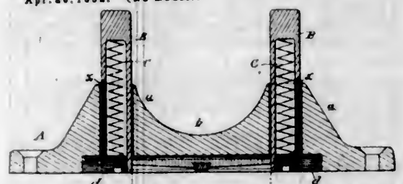
8. In an electric lamp, the combination, with the lower carbon, of the upper carbon, the support H, the magnets K K, armatures *e e*, embracing the support, and suitable means for sending an intermittent current through said magnets, substantially as described.

9. In an electric lamp, the combination, with the lower carbon, of the upper carbon, the slotted tubular support H, the electro-magnets K, having armatures *e e* to embrace the support H, the bar *d*, carrying the upper carbon and magnets, and means for sending an intermittent current through said magnets, substantially as described.

10. In an electro-magnet, the combination of the lower carbon, spring C, armature B, and magnet A, of the upper carbon, support H, magnets K, clamps *e e*, and means for simultaneously sending an intermittent current through the magnets A K K and a steady current through the carbons, substantially as described.

11. In an electric lamp, the combination, with the upper and lower carbons and devices, substantially as described, for operating them by an intermittent current, of a circuit-breaker for causing said intermittent current and means for regulating the rapidity of the movements of said circuit-breaker, substantially as described.

262,334. OAR-LOCK. JOHN VINCENT, St. James, Mich. Filed Apr. 26, 1882. (No model.)



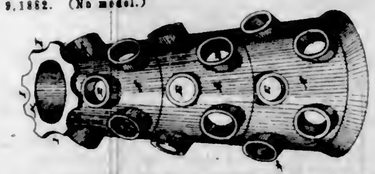
Claim.—1. A rowlock having two vertically-sliding thole-pins supported on springs, substantially as and for the purpose specified.

2. In a rowlock, the combination, with the plate A, of the sliding thole-pins B and the springs C, substantially as described.

3. In a rowlock, the combination, with the plate A, of the hollow sliding thole-pins B, having slots *x*, the stops *d*, the springs C, and a suitable locking device, substantially as described.

4. In a rowlock, the combination, with the plate A and the studs *a* thereof, of the hollow sliding thole-pins B, having slots *x*, the stops *d*, the springs C, the bar D, adapted to engage with recesses in the thole-pins at *y*, the bar F, and a spring, E, all constructed and operating substantially as and for the purpose specified.

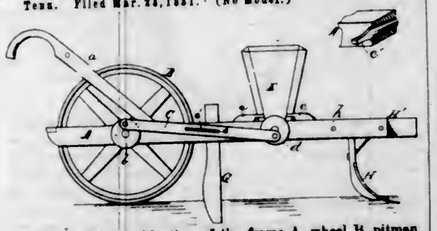
262,335. FLOWER-POT. GEORGE A. WAGNER, Wellsport, Pa., assignor of one-half to Nathan Bolt, same place. Filed June 9, 1882. (No model.)



Claim.—1. A pot for the cultivation of flowers, berries, and the like, the plants being adapted to grow through openings in the sides thereof, having a horizontal circumferential flange around its top, the edge of which is provided with curved recesses, as and for the purpose specified.

2. The combination of two or more pots of conical shape and gradually-decreasing size, provided with openings in their sides through which the plants are adapted to grow, and having suitable bottoms, the pots being adapted to be placed in the order of their size on one another, the uppermost one having a horizontal circumferential flange around its top, the edge of which is provided with curved recesses, as and for the purpose set forth.

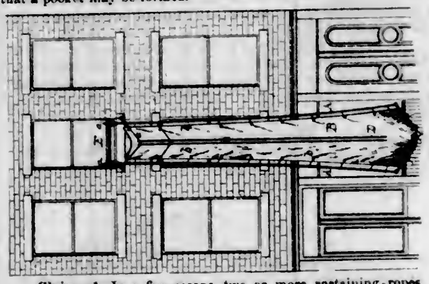
262,336. CORN-PLANTER. SIDE H. WILLIAMS, Wilsonville, Texas. Filed Mar. 21, 1881. (No model.)



Claim.—The combination of the frame A, wheel B, pitman C, provided with slot *c*, crank-wheels *b d*, seed-cylinder D, and the oscillating taper-pin *d'*, the whole constructed and operating substantially as and for the purpose set forth.

262,337. FIRE-ESCAPE. HATTIE D. WILSON, New York, N. Y. Filed Mar. 2, 1882. (No model.)

Brief.—The life-lines are secured at their upper ends to cross lines, which also serve to draw the sides closer together. Guys and cords are attached to the lower flaring end of the chute, so that a pocket may be formed.



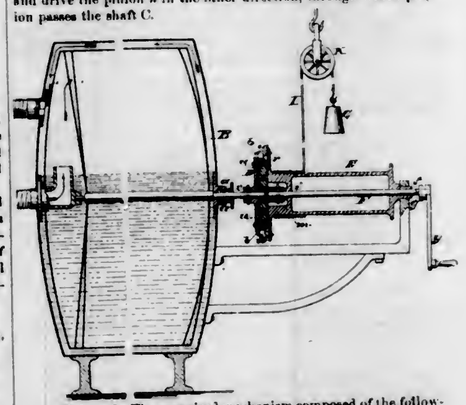
Claim.—1. In a fire-escape, two or more sustaining-ropes with rings or hooks and with a flexible guide or chute secured thereto, in combination with one or more cross-lines, *c*, and life-lines D, substantially as is shown and described.

2. In a fire-escape, two or more sustaining-ropes, with a flexible guide or chute, in combination with cords C and guys *d*, whereby a pocket may be formed at the lower end of the escape, substantially as is shown and described.

3. In a fire-escape, two or more sustaining-ropes, a flexible guide or chute having flaring sides, the cords C, and guys *d*, combined, whereby a pocket may be formed at the lower end of the escape, substantially as shown and described.

262,338. ACTUATING MECHANISM FOR PUMPS AND OTHER DEVICES. JAMES P. WILSON, Newark, N. J. Filed Dec. 31, 1880. (Model.)

Brief.—Motion is imparted to the shaft C by means of the drum E, cord I, and weight W. When the weight is run down it is wound up, and during the process of winding the shaft C continues its motion without interruption by means of the pinions *u*, which revolve the drum E in one direction to wind up the weight, and drive the pinion *s* in the other direction, through which pinion passes the shaft C.



Claim.—1. The organized mechanism composed of the following elements: first, a winding-drum provided with a suitable rope and weight; secondly, a shaft to be driven; thirdly, a pawl and ratchet connecting the drum and driven shaft; fourthly, mechanism interposed between the drum and driven shaft to continue the rotation of the said shaft when the movement of the drum is reversed, the whole combined and arranged substantially as and for the purpose herein set forth.

2. The combination, with the pump-shaft C, of the disk D, constructed with the external ratchet-teeth and internal gear-teeth, the drum E, provided with a pawl or pawls, the shaft F, provided with a pinion on its inner end, and one or more spur-pinions attached to the drum E, the whole arranged for joint use and operation, substantially as and for the purpose herein set forth.

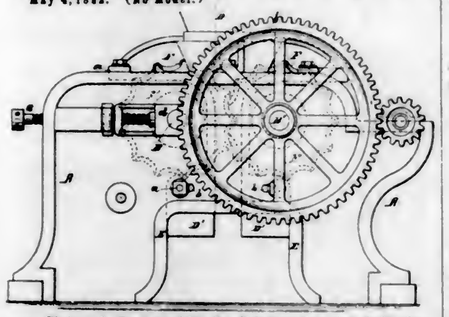
262,339. PROCESS OF COLORING CLAY FOR BRICKS, TILES, &c. JAMES C. ANDERSON, Highland Park, Ill. Filed Mar. 25, 1882. (No specimens.)

Claim.—1. The within-described process of incorporating col-

oring-matter with clay, the same consisting in reducing the coloring-matter into a fine-powdered condition, and then mixing and thoroughly incorporating the same while dry with a dry, or practically dry, clay while said clay is being reduced to a fine powder, as set forth.

2. In the manufacture of bricks, tiles, &c., from clay in which the natural coloring-matter is wanting, the process herein described of incorporating the desired shade of coloring-matter with the clay while both are in a dry, or practically dry, and powdered condition, as set forth.

262,340. CLAY AND CLAY-SHALE PULVERIZER OR DISINTEGRATOR. JAS. C. ANDERSON, Highland Park, Ill. Filed May 4, 1882. (No model.)



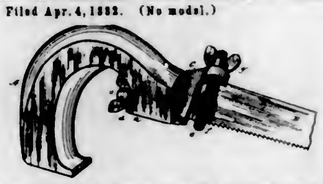
Claim.—1. In a machine for disintegrating clay shale, clay, and other like material, the double grids D' D', forming the lower portion of the feed-hopper, as set forth.

2. In a machine for disintegrating clay shale, clay, &c., the double grids D' D', made adjustable on the frame and forming the lower portion of the feed-hopper.

3. In a machine for disintegrating clay shale, clay, &c., the combination of the double grids forming a portion of the feed-hopper with the double set of disintegrating-disks, as set forth.

4. In a machine for disintegrating clay shale, clay, &c., the disintegrating-disks secured to the shafts B B', and being provided with serrated hatchet-shaped peripheries, as set forth.

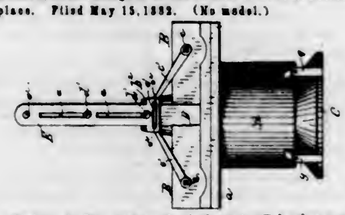
262,341. SAW-HANDLE. EMANUEL ANDREWS, Williamsport, Pa. Filed Apr. 4, 1882. (No model.)



Claim.—1. In combination with the curved handle A, having a shoulder at *a*, the plate C, provided with bolt *b*, and groove *c*, which holds the blade, and removably and adjustably secured to said handle, as and for the purpose set forth.

2. The plate C, removably and adjustably secured to the handle A, which is curved and has a shoulder, as described, in combination with hook-bolt *f* and blade B, the hook-bolt *f* passing around the blade B, and adjusted as described.

262,342. TURBINE WATER-WHEEL. RANSOM H. ARMSTRONG, Hudson, Mich., assignor of one-fourth to Levi R. Peirson, same place. Filed May 15, 1882. (No model.)



Claim.—1. In a water-wheel, the gates C, having semi-cylindrical ends journaled in the sides of the cap B by the pivot-pins *e*, one end of which extends beyond the cap, and has secured thereto the levers *c'*, adapted to enter the slot *c*' of the valve-rod E, substantially as and for the purposes set forth.

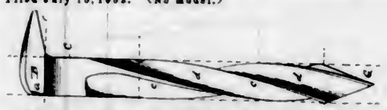
2. The combination of the gates C, journaled in the cap B, and provided with levers *c'*, having pins *c*², with the valve-rod E, sliding upon the standard D and guide-plate *d*, and provided with a slot, *c'*, adapted to receive the pins *c*² of the levers *c'*, substantially as shown and described.

3. In a water-wheel, the valve-rod E, in combination with the cap B, its standard D, guide-plate *d*, pins *d'*, the gate C, levers *c'*, and pins *c*², all arranged to operate substantially as shown and described.

262,343. MORTAR AND PLASTER. WILLIAM ARROUQUIER and THOMAS BARRETT, Worcester, Mass. Filed Mar. 24, 1882. (No specimens.)

Claim.—A mortar or plaster composed of powdered soapstone, lime putty, alum, mineral coal, and saccharine acid, in the proportions substantially as above described.

262,344. SPIKE. WILLIAM H. BAILEY, Minneapolis, Minn. Filed July 18, 1882. (No model.)



Claim.—A spike comprehending a head with straight parallel sides and upwardly-beveled hook or head, a rectangular shank or neck below the head, a spirally-grooved body in cross-section, rectangular and of uniform sectional area and twist, and a point which is double beveled, all combined and constructed to operate substantially in the manner and for the purposes specified.

262,345. CATTLE-TIE. CYRUS M. BAKER and LINCOLN BAKER, Bingham, Me. Filed June 27, 1882. (Model.)



Claim.—The improved cattle-tie, consisting of the U-shaped bow A, of spring metal, having the closed eye *a* formed upon one of its free ends and the catch *b* on the other, in combination with the slotted curved yoke B, which is hinged or pivoted to the closed eye and adapted to be engaged with the catch, substantially in the manner and for the purpose set forth.

262,346. CAR-COUPLING TOOL. TIMOTHY BARRETT and THOMAS A. ROSS, Boston, Mass. Filed Mar. 27, 1882. (No model.)

Claim.—1. In an implement for coupling cars, the main bar or shank and pin-grasping jaws, provided with holding portions both at their ends and sides, combined with means to operate the said jaws both at the opposite end of and at an intermediate point on the said main bar, substantially as described.

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2. In a car-coupling implement, the main shank-pin-holding jaws and means to operate the said jaws from the end of the said shank, combined with the lateral link-raising projections, whereby the operator at the top of the car is enabled to guide a link into the draw-head or to raise a pin, substantially as described.

3. The main bar, U-shaped in cross-section, and jaw fixed at the end thereof, combined with the pivoted jaw and its operating slide-bar, U-shaped in cross-section and mounted in the channel of the said main bar, substantially as described.

4. The main bar, U-shaped in cross-section, and the pin-holding jaws, combined with the jaw-operating slide-bar, U-shaped in cross-section, mounted in the channel of the said main bar and provided with friction-rollers, substantially as described.

5. The main bar, provided with handle or holding-projection at the end thereof, and another at an intermediate point in its length, and the jaw fixed at the end of the said bar, combined with the pivoted jaw and its operating slide-bar, provided with two handles co-operating with the said holding-projections of the fixed bar, the link connecting the said jaw and slide-bar, and the actuating-spring for the said slide-bar, whereby the said jaws are automatically closed, substantially as described.

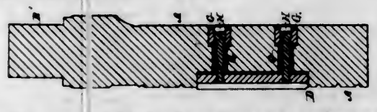
262,347. ORNAMENTING BUTTONS. OTTO BARTHELS, New York, N. Y. Filed Mar. 27, 1882. (No model.)



Claim.—1. That improvement in the art of ornamenting metallic surfaces which consists in laying upon the part to be ornamented a sheet of metallic leaf, then forcing the same into concaved figures by a tool which shall form such figures and attach therein portions of the metallic leaf at one and the same operation, substantially as set forth.

2. As an improved manufacture, a button having its face surface ornamented with concaved figures containing a lining of metallic leaf held therein by atmospheric pressure, all substantially as set forth.

262,348. ADJUSTABLE REAMER. GEORGE A. BATES, Hartford, Conn., assignor to himself and Oscar B. Parinton, same place. Filed Oct. 8 1881. (No model.)



Claim.—1. A reamer provided with two bearing-surfaces and one cutting-edge, arranged in a triangular position around the body of the reamer, substantially as described.

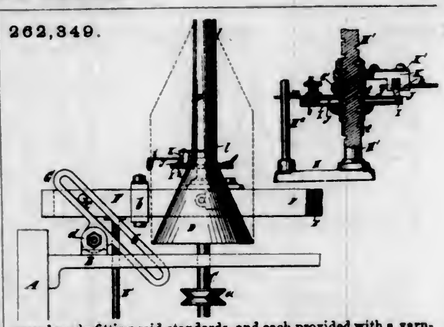
2. In combination with the body A of a reamer and the adjustable cutter F, the concentric adjusting-screws G H, arranged to act between the body and cutter, substantially as described.

262,349. BOBBIN-BUILDER FOR YARN-WINDING MACHINES, &c. CHARLES E. BEAN, Fall River, Mass., assignor of two-thirds to Seth H. Wotherbee and Matthew C. Yarwood, both of same place. Filed Mar. 28, 1882. (No model.)

Brief.—In winding yarn in conical layers upon bobbins having conical bases progressive upward movement is given to the yarn-guides at each traverse of the guide-rail by the mechanism specified in the claims. To regulate the progressive movement to suit yarn of different sizes the extent of movement of the ratchet-wheels is limited by adjusting either the cam or the shields. The return movement of the pawl being effected by the tension of the yarn in the yarn-guide, the progressive movement stops when the yarn breaks.

Claim.—1. The combination, with a rising and falling guide-rail and screw-threaded standards thereon, of ratchet-wheels upon and engaging with the screw-threads of said standards, swinging

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arms loosely fitting said standards, and each provided with a yarn-guide and a pawl for engaging with its ratchet-wheel, and means for swinging said arms to cause the pawls carried thereby to actuate said ratchet-wheels, substantially as and for the purpose specified.

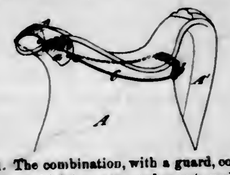
2. The combination, with a rising and falling guide-rail and screw-threaded standards thereon, of ratchet-wheels upon and gearing with the screw-threads of said standards, swinging arms loosely fitting said standards, and each provided with a yarn-guide and a pawl for actuating its ratchet-wheel, a bar carried by said rising and falling rail, and adapted to engage with the swinging arms to actuate them, and a cam for reciprocating said bar as it rises and falls, substantially as and for the purpose specified.

3. The combination, with the rising and falling rail E and bar F, of the cam G, adapted to be adjusted to vary the length of movement of the bar F, the screw-threaded standard H', ratchet-wheel I, arms K K', and finger *l*, the pawl *h*, and yarn-guide *i*, substantially as specified.

4. The combination of the screw-threaded standard, a ratchet-wheel screwed thereon, a swinging arm loosely fitting the standard and carrying a pawl for actuating the ratchet-wheel, and also carrying a yarn-guide, mechanism for moving the swinging arm positively in one direction, and an adjustable shield having an opening through which said pawl may drop into engagement with the ratchet-wheel, and adapted to be turned to keep said pawl out of engagement with the wheel through any desired portion of its movement, substantially as and for the purpose specified.

5. The combination of the screw-threaded standard H', the guide-rod H², the ratchet-wheel I, screw-threaded and engaging with said standard, the arm K, carrying the pawl *h* and yarn-guide *i*, the rotary shield J, provided with an opening, *f'*, and an arc-shaped slot *e*, and the arm *m* and clamping-screw *n*, all substantially as herein specified.

262,350. DETACHABLE PITCHER-SPOUT COVER OR GUARD. OTIS T. BIDDELL, New York, N. Y. Filed May 13, 1882. (No model.)



Claim.—1. The combination, with a guard, cover, or strainer for a pitcher-spout, which is constructed so as to underlap the spout or the edges thereof, whereby it will be prevented from rising, of a connection or connections whereby the guard, cover, or strainer may be detachably secured to a pitcher, and which comprise an elastic or extensible portion or portions, substantially as and for the purpose herein described.

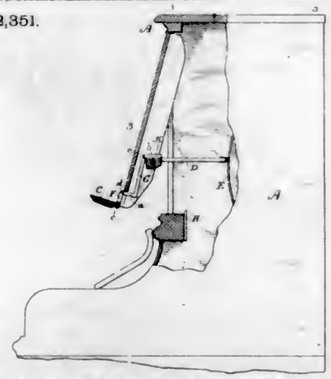
2. The combination, with a guard, cover, or strainer for a pitcher-spout, of a connection or connections adapted to embrace or encircle the neck of a pitcher below its mouth, and comprising an elastic or extensible portion or portions, substantially as and for the purpose herein described.

3. The combination, with the spout cover, guard, or strainer B, having lips *a*, of the wire connection C, encircling the neck of the pitcher, and comprising a spiral spring, *b*, substantially as herein described.

262,351. MUSIC-RACK FOR PIANOS. HENRY BERNING, New York, N. Y. Filed Apr. 14, 1882. (No model.)

Claim.—1. In a hinged rack, a desk and one or more sup-

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porting-arms, said desk and supporting-arms being connected by intermediate mechanism with each other and both with the rack, as described, whereby the unfolding of either the desk or the supporting-arms from the rack shall simultaneously unfold the other from the rack and the closing in of either upon the rack shall simultaneously close in the other on the rack, substantially as and for the purposes set forth.

2. In a hinged rack, a desk and one or more supporting-arms, said desk and supporting-arms being connected by intermediate mechanism with each other and both with the rack and a latch device, all as described, whereby the unfolding of the desk from the rack shall simultaneously raise the latch, locking the rack, and throw out the supporting-arms, and the closing in of the desk upon the rack shall simultaneously draw in the supporting-arms and throw down the latch, substantially as and for the purposes set forth.

3. The combination, substantially as and for the purposes set forth, of the frame or support A, the rack B, the desk C, the supporting-arms D, the links F, G, and K, all connected as described.

4. The combination, substantially as and for the purposes set forth, of the frame or support A, the rack B, the desk C, the supporting-arms D, the links F, G, and K, and the catch H, all connected as described.

262,352. CARPET-CLEANER. MARTIN HEITMILLER, Vienna, Austria-Hungary, assignor to Mayer, Langfelder & Hammerschlag, same place. Filed Sept. 5, 1881. (No model.) Patented in France Feb. 3, 1881, No. 140,936, and in Austria-Hungary Apr. 10, 1881, No. 11,852 and No. 4,734.

Claim.—1. The herein-described method of cleaning carpets, which consists in the following successive steps, to wit: first, combing or raising the nap; second, beating and brushing the carpet to loosen and remove the dust; third, dividing or opening the nap to expose the weft and removing the dust therefrom by a blast of air; and, finally, again brushing the carpet, substantially as set forth.

2. In a carpet-cleaning machine, the combination, with two or more carrying-belts, of clamping devices detachable from and adjustable upon said belts to hold the opposite edges of a carpet, whereby carpets of different lengths may be stretched upon said belts, as described.

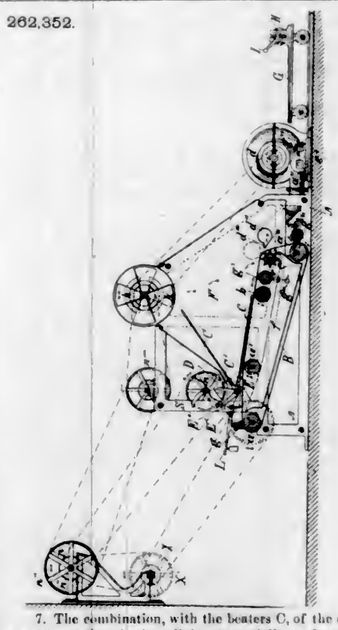
3. In a machine for cleaning carpets, the combination of two or more carrying-belts adjustable as to length with clamping devices detachable from and adjustable upon said belts to hold the opposite edges of the carpet, whereby said carrying-belts and clamping devices can be adjusted to carry carpets of different lengths, as described.

4. The combination, with the clamp K, constructed as set forth, and provided with a pin, k', and strap B^3, having button k'', of the belt B, provided with loops b', all constructed for operation substantially as and for the purpose specified.

5. In a carpet-cleaning machine, a pair of carrying-rolls and an endless belt provided with a series of loops, b', attached to said belt at different points, in combination with clamps provided with straps B^3 and buttons k^3, whereby carpets of varying lengths may be carried by said belts, as set forth.

6. In a carpet-cleaning machine, the combination, with the looped beaters C, of a concussion-roller covered with flexible material to receive the impact of the beater ends and cause them to rebound, substantially as and for the purpose specified.

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7. The combination, with the beaters C, of the carrying-rolls a a' a'' and the elastic roll b, substantially as described, for the purpose specified.

8. The combination, with the carrying-rolls a a'', the beaters C, and the blast-pipe d'', of the ribbed roller e, all constructed and arranged for operation as and for the purpose specified.

9. The combination, with the adjustable carrier-belts B and the adjustable carrying-roller a'', of the adjustable brush g'', substantially as and for the purpose specified.

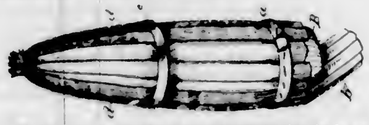
10. The combination, with the endless belts B, the carrying-rolls a a'', the ribbed roll e, and the blast-pipe d'', of the brush g'', all constructed and arranged for operation substantially as shown and described.

11. The combination, in a carpet-cleaning machine, of beaters, an air-blast pipe, a brush to straighten the fibers of the nap of the carpet previous to its being subjected to the action of beaters, a brush to clean the dust from the under side of the carpet, a ribbed roller to divide the nap prior to subjecting the carpet to the action of the air-blast, a brush to finally clean the carpet, and suitable carrying-rolls, all constructed and arranged for operation substantially as shown and described.

12. In a carpet-cleaning machine, a dust pan or receptacle, a series of carrying-belts for supporting the carpet, arranged to travel around said dust-pan, a series of beaters, and a brush to act upon the upper and under side of the carpet, respectively, located above the dust-pan, an air-blast pipe to remove the dust not removed by the beaters, and a blast-fan to carry off the dust not collected by the dust-pan, all arranged for operation substantially as and for the purpose specified.

13. The combination, with the beater-shaft, the springs E, the beaters, and their holders C''', having each a pin, c', of the vertically-adjustable rail c, slide-blocks P, adjusting-screws O, and the slotted standards S, all arranged for operation substantially as and for the purpose specified.

262,353. BOTTLE-ENVELOPE. HENRY BELL, Baltimore, Md. Filed May 27, 1882. (No model.)

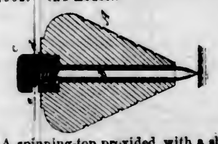


Claim.—1. An envelope for a bottle, having its lower end open and a number of the strips forming the same made longer, than the rest to form a flap or bottom for the envelope, substantially as shown and described.

2. An envelope for a bottle, consisting of the blank A, formed of suitable strips of vegetable fiber, which are sewed to a cross-strip, a, near their lower ends, and a number of which are made longer than the rest to form a bottom, b, in combination with means for securing the ends of the cross-strip together and for closing the upper end of the envelope, substantially as shown and described.

3. The combination, with the bottle-envelope, of the loose band secured to two strips, the ends of which are bound to the upper end of the envelope to support the said band at any desired elevation around the envelope, substantially as shown and described.

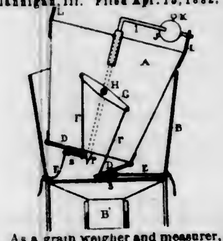
262,354. SPINNING-TOP. JOHN O. BENNER, New Orleans, La. Filed June 3, 1882. (No model.)



Claim.—1. A spinning-top provided with a sliding pin, and a head recessed to receive a percussion cap or disk at the end of the pin, substantially as shown and described.

2. In tops, the combination of the sliding pin b and recessed head c, substantially as shown and described.

262,355. GRAIN WEIGHER AND REGISTER. CHARLES J. M. BURROUGHS, Flannigan, Ill. Filed Apr. 15, 1882. (No model.)



Claim.—1. As a grain weigher and measurer, a box having a vibratory movement upon an axis near its center of gravity, and divided into two equal chambers by a vertical partition through the line of said axis, each of said chambers having an automatically opening and closing bottom, in combination with a weight secured to an arm pivoted at a top corner of said partition and capable of swinging from side to side of said box.

2. The box A, having partition P, and supported near its center of gravity by the axis H, in combination with the doors D having spring-catches S and cords or chains E, the rods F, lever G, pivoted arm I, ball J, and pegs L, substantially as and for the purpose specified.

3. The box A, having partition P, and axis H, the arm I, pegs L, ball J, lever G, rods F, spring-catches S, cords E, and doors D, in combination with the supporting-box B, arm T, pawl V, wheels N, R, and Y, and dial-plates connected thergwith, substantially as and for the purpose set forth.

4. The box A, having partition P, and axis H, the arm I, weight J, doors D, catches S, cords or chains E, rods F, and lever G, in combination with the supporting-box B, having funnel-shaped bottom B', and the spout b, pivoted at its center of gravity to the extremity of said bottom B', substantially as and for the purpose specified.

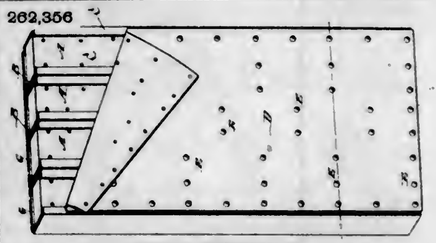
262,356. FIRE-PROOF SHUTTER. CORNELIUS BERRIAN, Clinton, Iowa, assignor to Sarah W. Berrian, same place. Filed Apr. 12, 1882. (No model.)

Brief.—Consists of strips of wood having their longitudinal edges covered by channel-irons and inclosed by sheets of metal secured by transverse bolts.

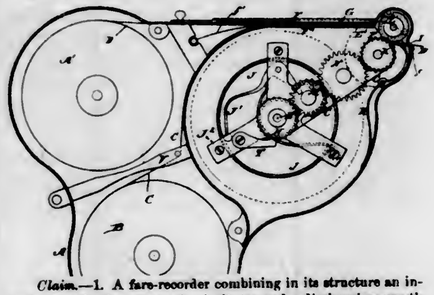
Claim.—1. A shutter constructed of strips of wood, having the longitudinal edges covered by channel-irons, and of metal sheets or plates held on the strips by belts or rivets, substantially as herein shown and described, and for the purpose set forth.

2. In a shutter, the combination, with the wooden strips A, of the channel-irons B, covering the longitudinal edges of the strips, the metal plates or sheets D, and the rivets or bolts E, substantially as herein shown and described, and for the purpose set forth.

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262,357. MACHINE FOR ISSUING AND RECORDING TICKETS. JOSEPH HENRY BUTTERLY, London, England. Filed Dec. 28, 1881. (No model.) Patented in England Oct. 19, 1880, No. 4,256.



Claim.—1. A fare-recorder combining in its structure an inclosing case having an opening in its top and a discharging-mouth at one end for the ticket-strip and two spools arranged transversely within the case and parallel to each other, a fixed plate located beneath said opening in the top of the casing, two paper strips, one for the ticket and the other for the recording-strips, respectively, arranged on said spools and extending both in the same direction over said plate, a carbonized or chemically-prepared transfer-strip between said paper strips below the opening in the top of the case, feed-rollers for unwinding the paper strips, and a spool for receiving the recording-strip as it is unwound, substantially as described.

2. The combination, in a fare-recorder, of the inclosing casing A, having an opening through which the ticket-strip is drawn out and an opening through which access is had to the strip for the purpose of working upon it, with the spools A' and B, upon which the ticket and the record strips are respectively wound, the plate F', located below the top opening in the casing, the feed-wheels K and L, for feeding forward both strips, the transfer-strip bold at one end and passing forward between the paper strips between the top opening in the casing and the said fixed plate, and the spool E, for receiving the record-strip, actuated by a train of gearing driven by one of said feed-rolls, substantially as described.

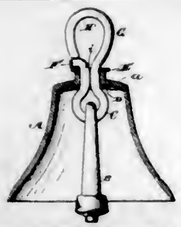
3. The combination, in a fare-recorder, of the main inclosing casing, having an opening through which access is had to the ticket-strip for the purpose of writing upon it, with the spools upon which the ticket and the recording strips are wound, the transfer-slip passing between said strips, the spool E, for receiving the recording-strip, driven by a train of gearing within the main casing from one of the feed-rolls, the bell J and its striking-hammer, actuated by a pin upon the gear M, said members all being arranged within the main casing, substantially as described.

4. The combination, with the main casing A, of the ticket and recording strips and the spools upon which they are wound, the plate R, having an upper curved end, S, for guiding the ticket-strip to the discharge-opening I of the main casing, the feed-rolls, transfer-slip, and spool for receiving the second strip as it is unwound, said members being organized substantially as described.

262,358. TEAM-BELL. ASHER A. BEVIS, East Hampton, Conn., assignor to the Bevin Brothers Manufacturing Company, same place. Filed Apr. 25, 1882. (Model.)

Claim.—1. The combination with a bell having a perforation through its head, of the wire clapper-bolt bent to form a loop for suspending the clapper, and having its two ends passed up through the bell-head, one of said ends being clinched upon the bell-head and the other being bent into hook or loop form, substantially as described.

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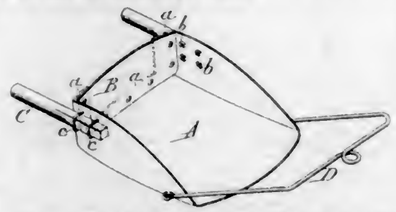


2. The combination, with a bell having a perforation through its head, of the wire clapper-bolt bent to form a loop for suspending the clapper, and having its two ends both passing through the perforated bell-head and through a washer fitted against the head of the bell, one of said ends of the wire being clinched upon the upper washer and the remaining end of the wire being bent into hook or loop form, substantially as described.

3. The combination, with a bell having a perforation through its head, of the wire clapper-bolt bent to form a loop for suspending the clapper, and having its two ends passed through the perforated head and through washers fitted to the top and bottom side of the bell-head, one of said ends of the wire being bent to form a hook above the outer washer and the remaining end of the wire being clinched upon the said washer, substantially as described.

262,359. ROAD-SCRAPER. WILLIAM G. BEVERLY, Portsmouth, Ohio. Filed Mar. 15, 1881. (No model.)

Brief.—The back is riveted to flanges bent up from the bottom and sides and overlapping it outside.



Claim.—An earth-scraper consisting of the bowl A, having flanges *a* at the bottom and sides separated by V-shaped notches, and the back B, which is riveted thereto, substantially as shown and described.

262,360. FLUE-FAN. DONALD M. BLISS, Westmoreland Point, New Brunswick, Canada. Filed May 31, 1882. (No model.)

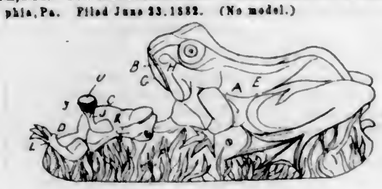


Claim.—1. The rotary fan B, supported in pipe A by the cross-bar d^3, and fitted for operation by clock-work contained in the case D at the side of the pipe, substantially as shown and described.

2. The combination of the fan B, pivoted to cross-bar d^3, provided with handle *f*, the arm *i*, and catch *k* with the pipe A, substantially as shown and described.

3. The supporting-bar d^3, formed with the longitudinal aperture *d*, for receiving the pivot-screw *e*, and for use in oiling a fan, substantially as described.

262,361. TOY SAVINGS-BANK. JAMES H. BOWEN, Philadelphia, Pa. Filed June 23, 1882. (No model.)



Claim.—1. A toy savings-bank composed of a money-receptacle, A, having an aperture, B, through which to receive money, a stationary money stand or rest, C, and a money-projecting device, D, connected to and forming part of the toy and operating to forcibly strike the money and project or throw it from the money stand or rest into the money-receptacle, substantially as described.

2. A toy savings-bank composed of a money-receptacle, A, having an aperture, B, through which to receive money, and that is arranged to open and close, of a money stand or rest, C, and of a money-projecting device, D, combined and arranged and operating together substantially as described, for the purpose specified.

3. A toy savings-bank composed of a money-receptacle, A, having an aperture, B, through which to receive money, and that is arranged to open and close, of a money stand or rest, C, of a money-projecting device, D, and of mechanism for opening and closing said aperture and operating said money-projecting device, all combined and arranged and operating together substantially as described, for the purpose specified.

4. A toy savings-bank composed of a money-receptacle, A, made either in whole or in part in the image of a living being, and to have the mouth thereof open and close, of a money stand or rest, and of a money-projecting device, each and both in the form of the leg or other limb or part of a living being, combined and arranged together and operating together substantially as and for the purpose described.

5. A toy savings-bank composed of a money-receptacle, A, made in the image of a frog, E, sitting upon a mound, F, and having its mouth H arranged to open and close, of a money support or rest, C, made and attached to the image of a frog lying upon its back upon said mound, and of a money-projecting device made of a leg of said recumbent frog, combined and arranged to operate together substantially as and for the purpose described.

6. A toy savings-bank composed of a money-receptacle, A, having an aperture provided with an opening and closing lid, G, of a money stand or rest, C, and of a swinging money-projecting device, D, in combination with a shaft, N, a coiled spring, O, an operating lever, P, links *m r*, connecting-lever P' and lid G to said shaft N, and notched arm *t*, engaging with money-projecting device, all substantially as and for the purpose and operation described.

262,362. VEHICLE-POLE. CHRISTOPHER C. BRADLEY, Syracuse, N. Y. Filed June 3, 1882. (No model.)



Claim.—1. As a new article of manufacture, a vehicle-pole constructed of longitudinal strips A A' and intermediate stay-pieces or blocks, all secured together by suitable fastening devices, substantially as set forth.

2. In a vehicle-pole, the combination, with longitudinal strips A A', of a vertical rib or plate, C, interposed between the distended portions of the strips A A', and a block, B, interposed between the rear portions of the strips A A', substantially as set forth.

3. In a vehicle-pole, the combination, with the longitudinal strips A A', of a block, D, secured between said strips, and provided with serrations or ribs *d*, whereby the strips are held in their proper relative position, substantially as set forth.

4. The combination, with a vehicle-pole, of a hook, K, provided with a divided loop, L, having ears *l* projecting below the pole, and a bolt, *m*, passing through the ears *l*, whereby the loop can be adjusted on the pole when the bolt *m* is released, and can be contracted and secured to the pole in the desired position by tightening the bolt *m*, substantially as set forth.

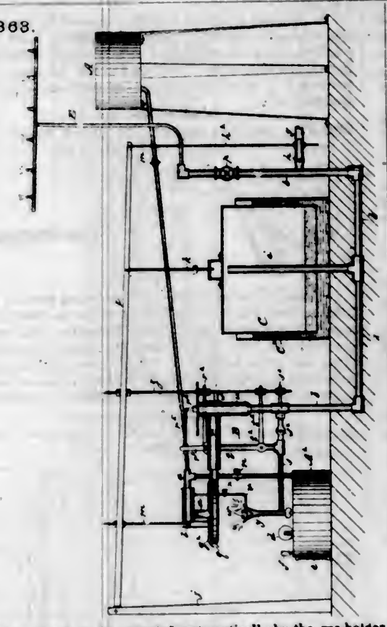
262,363. HYDROCARBON-GAS APPARATUS. THOMAS J. BROWN, Baltimore, Md., assignor of one-half to Clark Davis Forsyth, same place. Filed Jan. 3, 1882. (No model.)

Claim.—1. The combination, with the burner, the retort, the gas-holder, and the pipe *b*, of the pipes *t* and *s*, having alternately-opening valves t^2 and s^2, and means for connecting these to the gas-holder, as described, whereby valve t^2 is made to supply the burner when the apparatus is making gas and the holder is up, and the valve s^2 is made to supply the burner from the gas-holder when the retort is out of action and the holder is down, as set forth.

2. The combination, with the retort and the gas-holder, of the pipes *r s t u*, having valves or cocks r^2 s^2 t^2 u^2, and a burner for the retort, the pipe *b*, and means for connecting these cocks or valves with the gas-holder, as described.

3. The combination of the lever *v*, the connecting-pipe, the retort, burner, and the gas-holder with the valves r^2 s^2 t^2 u^2, the inlet oil-cock, and the discharge-cock for the gas-holder, all connected

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to and arranged to be operated automatically by the gas-holder through said lever, as and for the purpose described.

4. The combination, with the volatilizing and mixing devices, the gas-holder, and the connecting-pipes, of the waste-gas cock h, the inlet oil-cock *l*, the lever *i*, and the rods *m*, *k*, and k^3, substantially as shown and described.

262,364. TRUNDLE-WHEEL. JOHN T. BROWN, Providence, R. I. Filed May 15, 1882. (No model.)



Claim.—1. A trundle-wheel provided with a solid hub having a convex side, from the center of which an elongated bearing projects, ending in a rounded knob, substantially as described, as a new article of manufacture.

2. The combination, in a trundle-wheel, with the wheel B, of the hub A, the bearing *b*, the knob *c*, and the stick D, having the hook *d* near its end, adapted to engage said bearing *b*, as described.

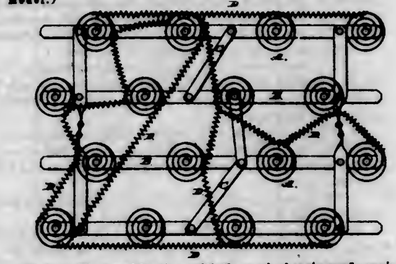
262,365. SPRING MATTRESS OR BED-BOTTOM. WORTHINGTON BULKELEY, Cleveland, Ohio. Filed Feb. 8, 1882. (No model.)



Claim.—1. In a jointed folding bed-bottom upon the slats of which are secured spiral springs, the combination, with the springs and slats, of the hinge-bars W W, secured to the slats and bent upwardly toward the top level of the springs, and whose ends are twisted to connect and form a pivoted joint at right angles to the plane of the slats, substantially as and for the purpose herein set forth.

2. In a spring bed-bottom constructed in folding divisions, the combination, with a pair of hinge-bars, W W, secured to and projecting upwardly and outwardly from the adjacent slats, and twisted so that their outer faces shall project in a plane at right angles to the face of the slats, of an interposed connecting-link, C, pivoted at each end to the end of the hinge-bars, substantially in the manner and for the purpose herein set forth.

262,366. SPRING MATTRESS OR BED-BOTTOM. WORTHINGTON BULKELEY, Cleveland, Ohio. Filed Feb. 8, 1882. (No model.)



Claim.—The combination, with the conical springs of a spring-mattress, of one or more single continuous spiral connecting-coils, led two or more times around the top coil of each of the conical springs to form, without extraneous fastenings, a continuous elastic bearing-surface, substantially in the manner and for the purpose herein set forth.

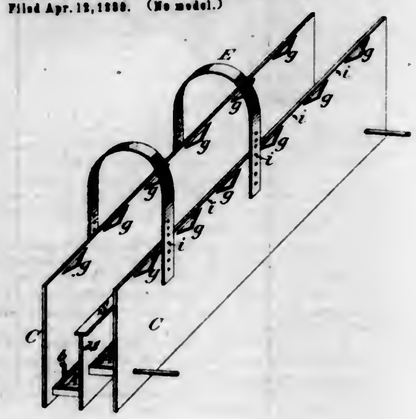
262,367. WINDOW. MARSHALL H. BEAN, Dayton, Wash. Filed Dec. 30, 1881. (No model.)

Brief.—The sashes are pivoted eccentrically by means of lugs on the lower portion of their inner edges, and have spring-bolts which engage in a series of holes in the side frame. The lower edge of the lower sash abuts against a sill-strip and the upper edge of the upper sash abuts against a lintel-strip.



Claim.—The combination of the frame A, provided with the two series of holes b^2, arranged in the arc of a circle, the lintel weather-strip b, the sill weather-strip b', the sash C, placed in the upper portion of the frame A, with its top rail abutting on the inner side of the strip b, and having lugs c fixed on the inner side and near its lower end and pivoted eccentrically, the sash C', placed in the lower part of the frame A, with its lower rail abutted against the outer side of the weather-strip b' and its meeting-rail abutted against the inner side of the abutting rail of the upper sash, C, provided with lugs c', pivoted eccentrically, and the keys e put through holes in the side rails of the sashes and arranged to enter one of the holes b^2, substantially as set forth.

262,368. TREADLE. ALLEN R. BUSHNELL, Lancaster, Wis. Filed Apr. 13, 1880. (No model.)



Claim.—1. Double longitudinal parallel treadles, each attached to and operating upon the moving mechanism for imparting motive power with them at more than one point, so as to be wholly supported thereby, and so constructed as to be conveniently operated by one or more persons standing upon them alternately with their whole weight, substantially as described.

2. The combination, with double treadles, of shoulder straps, lifts, or braces for the operators to lift or brace against with their shoulders to increase their motive power beyond their own weight, substantially as described.

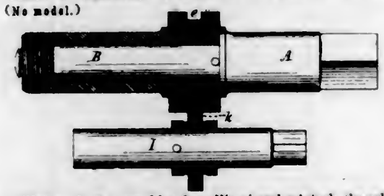
3. The combination, with double treadles, of side guards provided with hand-holds and shoulder-brace hooks and of a center guard provided with a seat or seats, substantially as and for the purposes described.

4. These double treadles provided with raised edges or flanges, substantially as described.

5. The combination, with these double treadles with double cranks, of the connecting-rod M, substantially as and for the purposes described.

6. The double treadles A A, each rigidly boxed by one end to and working directly upon the opposite arms of one double crank without the intervention of lever, pitman, or other connection, substantially as described.

262,369. MACHINE FOR ORNAMENTING JEWELERS' STOCK. JAMES W. CAMERON, Providence, R. I. Filed Nov. 11, 1881. (No model.)

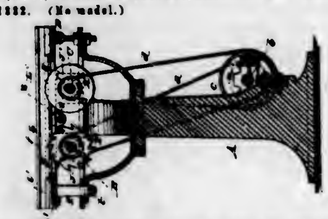


Claim.—1. In a machine for rolling jewelers' stock, the roller-die having in its opposite sides the annular recesses extending toward its axis such a distance from a line near its periphery that the clamping-collars will impinge only against narrow marginal surfaces of said roller-die, as shown and described, and for the purpose set forth.

2. The roller-die having hollow cylindrical hubs projecting from the ends or sides thereof, in combination with the collars seated upon said hubs, substantially as described.

3. A roller-die having hollow hubs upon which are fitted clamping-collars, the hubs and die being bored for mounting upon a supporting-arbor.

262,370. BOX-TRIMMING MACHINE. JEREMIAH CASEY, New York, N. Y., and JOHN M. STEVENS, Allentown, Pa. Filed Mar. 27, 1882. (No model.)



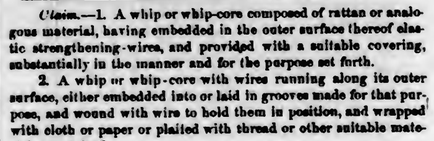
Claim.—1. In a box-trimming machine, the combination, with two cutter-heads on a shaft, one of which is adjustable relatively to the other, and a pair of polishing-wheels on a parallel shaft, in line with the cutter-heads and similarly adjustable, of a table and a gage-slide thereon having guide-bearings, and openings for the operating portions of the cutter-heads and polishing-wheels, substantially as specified.

2. A box-trimming machine having parallel shafts B and C, respectively, carrying fixed and adjustable cutter-heads E and F and fixed and adjustable polishing-wheels G and H, and a table over the same having an adjustable gage-slide, S, and the yokes or bearings J J', connecting the slide to the adjustable head and wheel, substantially as specified.

3. In a box-trimming machine, the combination, with cutter-heads and polishing-wheels, of a table having a fixed side guide L and bottom bearing *l*, and between the two the slots *g* and the slide S, having the side guide L', bottom bearing *l'*, and the intermediate slots, *g*, substantially as specified.

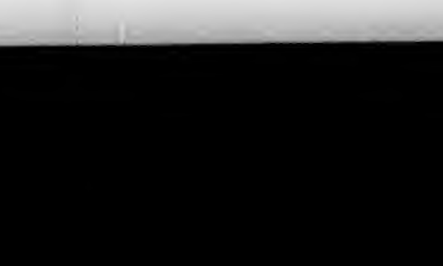
4. In a box-trimming machine, the combination of the parallel shafts, the adjustable cutter, and polishing-heads F and H, provided with grooved hubs *h h'* and the folding table D, its slide-gage S, operating-screw Z, set-screw *s*, and the yokes or journal-bearings J J', engaging the grooves of said hubs, substantially as specified.

262,371. NURSING-CORSET. CHARLES M. CHADWICK, Brooklyn, N. Y. Filed May 18, 1882. (No model.)



Claim.—A corset having busks extending from the top to the bottom, secured in the front meeting edges, the front edge of the breast portions of the corset detached from the busk-sections and provided with a stay in these detached edges, and pivoted at the lower end to the body of the corset in rear of the busk, with a connection from the upper end of the busk-section across over the breast to the body of the corset, substantially as described.

262,372. MATCH BOX AND SAFE. CHARLES W. CHAMBERLIN, Lanark, Ill. Filed Dec. 23, 1881. (Model.)



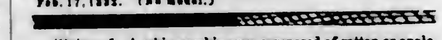
Claim.—An upright match-box having a line of perforations, F, an extended top-apertured back, B, a flap, C, pasted to said back, and having wings D folded over box-ends G, whereby the matches may be always suspended in a vertical position and reached from the top, as described.

262,373. HOG-SORTING APPARATUS. ROBERT W. COLE, Sioux City, Iowa. Filed May 22, 1882. (No model.)



Claim.—In a device for sorting hogs and other animals, the combination, with the passages C, provided with openings H, of swinging or sliding gates A B, arranged to close one or both passages at a time, as shown and described.

262,374. WHIP. MORRIS M. COPP, Rochester, N. Y. Filed Feb. 17, 1882. (No model.)

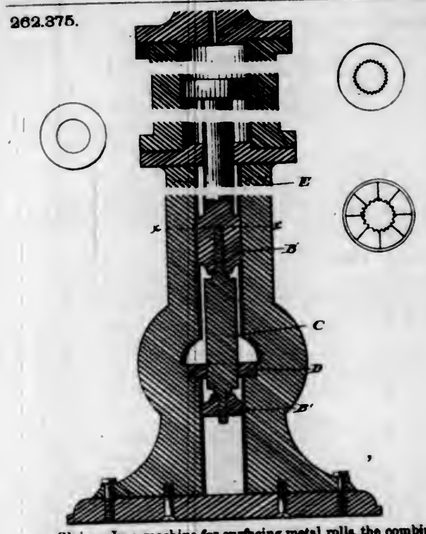


Claim.—1. A whip or whip-core composed of rattan or analogous material, having embedded in the outer surface thereof elastic strengthening-wires, and provided with a suitable covering, substantially in the manner and for the purpose set forth.

2. A whip or whip-core with wires running along its outer surface, either embedded into or laid in grooves made for that purpose, and wound with wire to hold them in position, and wrapped with cloth or paper or plaited with thread or other suitable material, as set forth.

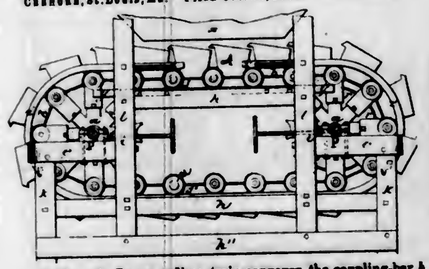
262,375. MACHINE FOR SURFACING ROLLS. WILLIAM M. COSGROVE, Faribault, Minn. Filed Jan. 26, 1882. (No model.)

262,375.



Claim.—In a machine for surfacing metal rolls, the combination of a press-frame, a cutting die or dies, cross-heads sliding in the frame to support and guide the roll while passing through the die or dies, and the piston of the press for imparting motion to the roll and cross-heads, substantially as described.

262,376. DEVICE FOR CONVEYING GRAIN, &c. GEORGE CRESSON, St. Louis, Mo. Filed Oct. 11, 1881. (No model.)



Claim.—1. In an endless train-conveyer, the coupling-bar *b*, in combination with a car, A, axles *u*, wheels *q q*, tracks *j j' s'*, spider *a*, shafts *z*, and offset-track *y*, as and for the purposes specified.

2. In an endless train-conveyer, the cars A, having the angular projection *a*, in combination with the connecting-bars *b*, with the sleeve *s* or tube *t*, the axle *u*, wheels *q*, tracks *j j' s'*, spiders *a*, shaft *z*, hopper *x*, pulley *r*, and boxes P, as and for the purposes shown.

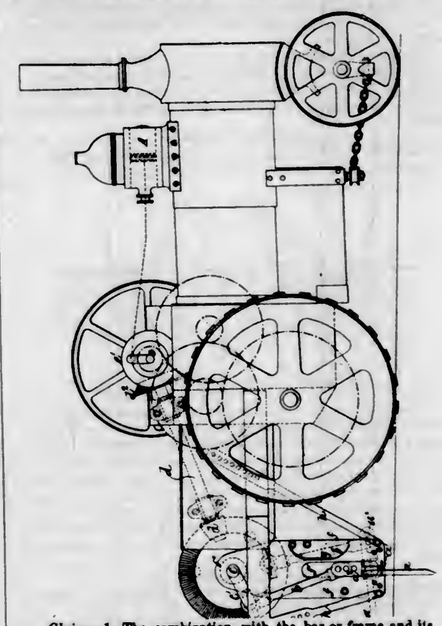
3. In an endless train-carrier, the spider *a*, with or without the adjusting parts, in combination with the shaft *z*, box P, screws *i*, tracks *j j'*, curved iron *s' s'*, connecting-bars *b*, cars A, axles *u*, and wheels *q*, as and for the purposes named.

4. In an endless train-conveyer, the offset *y* in the upper track having the slots *y'*, in combination with the tracks *j j'*, spider-arms *a*, shafts *z*, boxes P, connecting-bars *b*, axles *u*, wheels *q*, car A, hopper *x*, and pulley *r*, as and for the purposes specified.

5. The arrangement of the axle *u* between two cars for forming a coupling or a hinge-axis, the front end of one car and the rear end of another car resting thereon, whereby only one axle to each car is made use of, as and for the purposes set forth.

262,377. MACHINE FOR DIGGING LAND. WM. E. CROSSBY, Chelmsford, and ARTHUR CAREY, Rochford, County of Essex, England. Filed Mar. 11, 1882. (No model.) Patented in England May 24, 1881, No. 2,379, and in France Nov. 29, 1881, No. 134,032.

Brief.—The spading implements are borne upon the rear of the steam-carriage and receive motion from belt or gear connection. The diggers are arranged upon a cross-head which travels in vertical guides. The cross-head reaches the bottom before the cranks have quite reached their full stroke, causing the cross-head to suddenly rock, turning the spades and throwing the earth.



Claim.—1. The combination, with the bar or frame and its attached spades, tines, or digging implements, of mechanism for reciprocating said bar or frame upward and downward, stationary guides wherein said bar or frame is guided during its ascent and descent, thereby causing the spades, tines, or implements to enter the ground in straight lines, and means for turning or swinging said spades, tines, or implements upward and outward quickly as said bar or frame approaches the end of its downward movement, substantially as and for the purpose specified.

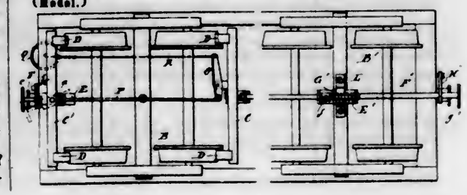
2. The combination, with the bar or frame and its attached spades, tines, or implements, of mechanism for reciprocating said bar upward and downward, and guides for said bar adjustable to different inclinations, substantially as and for the purpose specified.

3. The combination, with the bar or frame and its attached spades, tines, or implements, of the crank-shaft and rod for reciprocating said bar, and guides for said bar or frame, provided at their upper ends with eyes, whereby they are suspended concentrically to said crank-shaft, substantially as specified.

4. The combination, with the bar or frame provided with journals, and its rigidly-attached spades, tines, or implements, of guides for said journals, wherein the bar or frame may turn, and a crank-shaft and connecting-rod connected with said bar or frame for reciprocating it upward and downward and for turning it, substantially as and for the purpose specified.

5. The combination of the spades or tines *a*, the bar *a'*, provided with journals *a''*, the slotted guides *f*, provided with caps *f'*, and the crank-shaft *e* and connecting-rod *b*, substantially as specified.

262,378. CAR-BRAKE. LAFAYETTE D. DAWLEY, Ada, and ADDISON R. SPAULDING, Lake City, Minn. Filed May 17, 1882. (Model.)

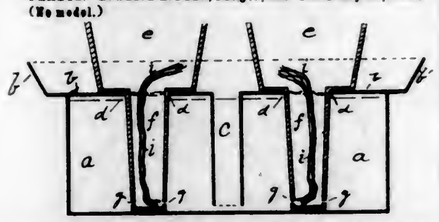


Claim.—1. The combination, with the cross-pieces C C', of the buffer-rods F F' and plates or housings E E' with the springs G G', substantially as described.

2. The combination of the cross-pieces C C' of the buffer-rods F F', the plates or housing E E', the springs G G', and the levers H H', for throwing the buffer-rod out of line, substantially as shown and described.

3. The combination, with the lever H, pivoted to the end of the car, and the cross-bar C', of the plate-housing E, pivoted to the bar C', the buffer-rod F, provided with the head *e*, the spring G, and the adjusting-collar *e'*, substantially as and for the purpose set forth.

262,879. AUTOMATIC WATERING DEVICE FOR POT-PLANTS. EPHRAIM K. DEAN, Bangor, Me. Filed May 11, 1882. (No model.)



Claim.—In an automatic watering device for out-door plants, the combination of the reservoir *a*, having a substantially air-tight cover, *b*, surrounded by a rim, *b'*, for collecting the rain-fall, a tube, *c*, for conducting the same to the reservoir and limiting evaporation, one or more openings, *d*, and pots *e*, having downward extensions or tubes *f*, forming a part of said pots and containing a part of the earth of the same, communicating by means of openings *g* directly with the water in the reservoir, and substantially filling the openings *d* in the cover *b*, as and for the purposes set forth.

262,880. CARPET-STRETCHER. MURRAY O. DUGGAN, St. Louis, Mo. Filed Apr. 18, 1882. (Model.)



Claim.—1. The combination, with stock A, having points B, serrated face C, and arms D, of pivoted jaw F, having serrated face G, substantially as described.

2. The combination of the adjustable bar J, having points K, with jaw F, substantially as described.

3. The combination of the adjustable bar J, having points K, with jaws F C and stock A, substantially as described.

4. The combination of latch L with the pointed adjustable bar J and jaw F, substantially as described.

5. The combination of latch L and spring N with the adjustable pointed bar J and jaw F, substantially as described.

6. The stock A for a carpet-stretcher, having points B, serrated face C, and arms D, constructed and arranged substantially as described.

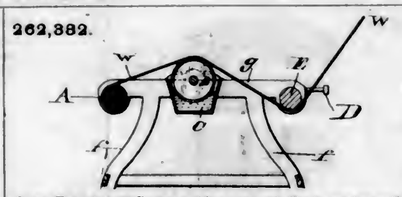
262,881. BUGGY. PIERRE DOHERTY and MARSHALL D. DOHERTY, Crawfordsville, Ind. Filed Apr. 8, 1882. (No model.)



Claim.—In a buggy or phaeton having the side-bar frame or gear A, the combination, with said frame or gear and the inclined spring-bars E E, supporting the seat and foot-rest, of the double-branch springs I, extending in the direction of the length of the spring-bars, and reversed underneath for attachment to the frame, substantially as specified.

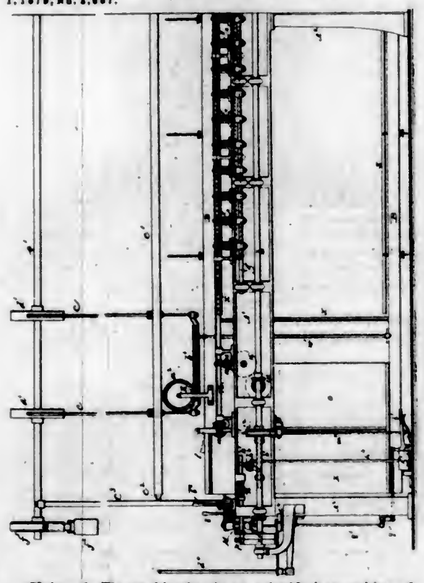
262,882. MACHINE FOR PASTING AND HANGING WALL-PAPER. COLON W. DOYLE, Lincoln, Nebr. Filed Feb. 11, 1882. (No model.)

Claim.—In a paper-hanging machine, the combination of the



frame F, paste-pan C, removable paper-spindle A, pasting-roller B, stretching-roller E, and adjustable gage D, all substantially as and for the purpose described.

262,883. EMBROIDERING-MACHINE. JAMES EDGETON, St. Gallo, Switzerland. Filed Apr. 17, 1882. (No model.) Patented in France Dec. 9, 1878, No. 101,438, and in England July 1, 1879, No. 2,857.



Claim.—1. The combination, in an embroidering-machine, of the following elements, namely: first, a traversing frame carrying the fabric to be embroidered; second, a series of embroidering devices; third, mechanism whereby the said devices are operated, and, fourth, mechanism whereby during the operation of the embroidering devices the frame may be traversed continuously, substantially as set forth.

2. The combination, in an embroidering-machine, of a frame, B, carrying the fabric to be embroidered, mechanism by which the said frame is suspended from the fixed frame, and permitted to be moved vertically, horizontally, or at any angle with a pantograph-wheel, F, mechanism through the medium of which the said wheel is caused to traverse the frame continuously, and devices whereby the said wheel can be caused to revolve in different planes, all substantially as set forth.

3. The combination, in an embroidering-machine, of a traversing frame carrying the fabric to be embroidered, and having a plate, *e*, with a pantograph-wheel, F, and gearing for operating the same, and causing it to act on one side of the plate, and with a presser acting on the opposite side of the plate to force the same against the wheel, and mechanism by which the presser can be retracted from the plate, substantially as described.

4. The combination, in an embroidering-machine, of a traversing frame carrying the fabric to be embroidered, a pantograph-wheel, F, and mechanism through the medium of which the frame may be traversed continuously by the wheel, and a series of embroidering devices carrying needle-bars, which are provided with hooked needles, and which are adapted to oscillate as well as reciprocate, with mechanism whereby the needles are oscillated in unison with the said wheel, all substantially as set forth.

5. The combination, in an embroidering-machine, of a traversing frame carrying the fabric to be embroidered, a pantograph-wheel, F, and mechanism for revolving the same and causing it to traverse the frame continuously, with a series of embroidering devices, the loopers and hooked needles of which are combined with the said wheel, and with intervening mechanism by which the needles and loopers are caused to co-operate with the wheel, all substantially as set forth.

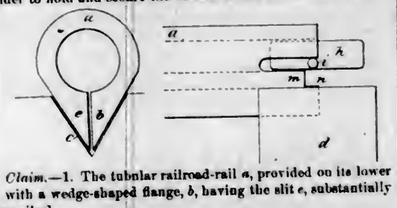
6. The combination, in an embroidering-machine, of the following elements, namely: a frame carrying the fabric to be embroidered, and mechanism for moving the same continuously, with a series of crocheting devices, each of which consists of a tubular looper, a supporting-plate, 2, a tubular presser, 24, and a hooked needle, 22, and mechanism for so operating the same that the fabric is held by the presser against the plate during the retraction of the needle, all substantially as set forth.

7. The combination of the frame B, the guided rod *c'*, and rails *b'*, suspended therefrom and adapted to wheels on the frame, with the shaft *c'*, having wheels attached to the said guided bar by straps *c c*, all substantially as specified.

8. The shaft *u*, arms *u'*, and wire 7, in combination with the levers *o' o'*, having segmental terminations 8, screw-shaft *u'*, and mechanism connected with the belt-shifter to stop the machine if a thread breaks, as set forth.

262,884. TUBULAR RAILROAD-RAIL. JACOB ELMER, Biloxi, Miss. Filed Jan. 5, 1882. (No model.)

Brief.—The wedge-shaped flange of the tubular rail has a longitudinal slit. The ends of the rails are connected by a cylindrical bolt having a lever or rod at right angles therewith, said bolt entering the adjacent ends of two rails, one end of each rail being made square and the other end provided with a slot and shoulder to hold and secure the handle of the cylindrical bolt.

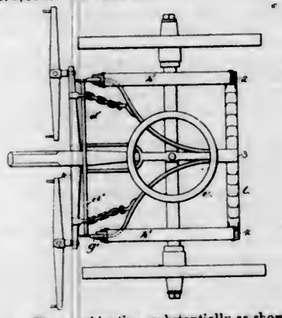


Claim.—1. The tubular railroad-rail *a*, provided on its lower side with a wedge-shaped flange, *b*, having the slit *c*, substantially as described.

2. The combination, with a tubular railroad-rail, *a*, provided with a wedge-shaped flange, *b*, having the slit *c* on its lower side, of a wedge-shaped seat adapted to receive the flange of the tubular rail, substantially as described.

3. The combination, with the tubular railroad-rails *a a*, each square at one end, and provided with the slot *l* and shoulder *m* at the opposite end, of the cylindrical adjusting-bolt *h*, provided with the lever *i*, substantially as described, and for the purpose set forth.

262,885. VEHICLE. ISRAEL O. ENDICOTT, Manchester, N. H. Filed Dec. 6, 1881. (No model.)

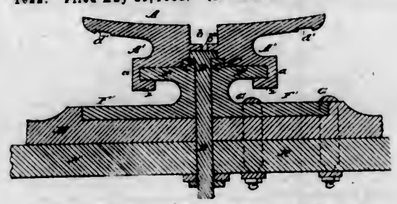


Claim.—1. The combination, substantially as shown and described, of the platform *e*, supporting the front end of the vehicle-frame, the side springs *h'*, connected with the platform at their front ends through the links *g'* and at their rear ends by a cross-spring, *l*, and connecting-links 2, the draw-bars *m*, extending directly from the links *g'* to the axle, and the draft-connections, to operate as and for the purpose specified.

2. The combination, substantially as shown and described, of the vehicle-frame, the ring *d*, connected therewith, the platform *e*, the connecting-bolt *f*, the cross-piece *d'*, the side springs loosely linked to such cross-piece, and connected with a cross-spring at their rear ends by loose joints, draw-bars *m*, and draft-connections, all as and for the purpose specified.

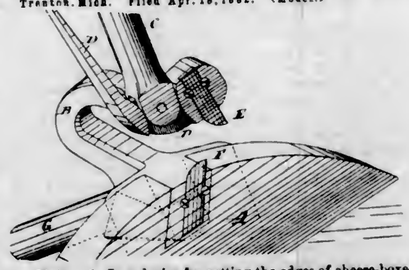
3. The combination of the longitudinal frame-work *a*, transverse portion *j'* and axle thereunder, the side springs *h*, mounted on the said axle, the swinging link *g*, the transverse spring connected with the said side springs, and the radial draw-bars pivotally connected with the said side frames and axle, all arranged and to operate substantially as and for the purpose set forth.

262,886. FIFTH-WHEEL. FRANCIS LA F. EDELL, Nashville, Tenn. Filed May 29, 1882. (No model.)



Claim.—The combination of the circular disk A', having flange *a*, provided with the inwardly-projecting lips *x x*, and cast in one piece with the spring-seat A, having central oil-chamber, *b*, provided with the inlet *b'* and central bottom aperture, *b²*, and provided with the central recess, C', below the oil-chamber, circular bearing-plate F, having gaps or notches *z z* and central collar, C, and king-bolt D, constructed and combined substantially as and for the purpose herein shown and described.

262,887. MACHINE FOR REDUCING THE HEIGHT OF CHEESE-BOXES. NEWELL N. FAIRCHILD and FRANK J. FAIRCHILD, Trenton, Mich. Filed Apr. 18, 1882. (Model.)



Claim.—1. In a device for cutting the edges of cheese-boxes, the combination, with the circular segmental gage-board A, of the blade F, secured rigidly to its lower face, the handle G, and bent arm B, secured to its upper face, and the radial handle C, as shown and described.

2. The combination, with the gage-board A, the fixed blade F, the handles G and C, and the bent arm B, of the hand-lever D, pivoted to the end of arm B and provided with a fixed cutter, E, as shown and described.

262,888. MANUFACTURE OF ORNAMENTAL GLASS AND GLASSWARE. THEOPHILUS D. FARRALL, New York, N.Y. Filed Apr. 8, 1882. (No specimens.) Patented in England July 4, 1881, No. 2,913.

Claim.—1. The process of treating glass for decorative, ornamental, and other purposes by applying to the glass while in a heated state the crystals of metallic nitrates or chlorides or of metallic nitrates and chlorides, substantially as described.

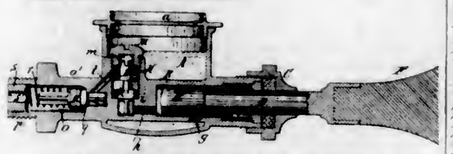
2. The process of ornamenting glass or glassware by applying to the glass while in a heated state the crystals of metallic nitrates or chlorides or of metallic nitrates and chlorides, and afterward subjecting the mass to the action of coal or illuminating gas, substantially as described.

3. The process of ornamenting glass or glassware by applying to the glass while in a heated state the crystals of metallic nitrates or chlorides or of metallic nitrates and chlorides, and afterward subjecting the mass to the action of coal or illuminating gas, and the subsequent exposure of the mass to the fumes of strontianite, substantially as described.

4. Glass or glassware ornamented or decorated by the crystals

of metallic nitrates or chlorides or metallic nitrates and chlorides fixed by heat with or without exposure to the action of coal or illuminating gas and with or without a subsequent exposure to the fumes of strontianite, substantially as described.

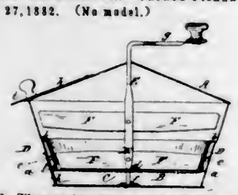
262,389. OIL-PUMP. EDWARD G. FELTHOUSEN, Buffalo, N. Y. Filed Jan. 19, 1882. (No model.)



Claim.—1. In a lubricating-pump, the combination of an oil-reservoir, A, a pump-cylinder, B, provided with an inlet-orifice, *g*, a check-valve chamber, H, a passage, *h*, leading from the pump-cylinder B to the chamber H, a check-valve chamber, O, arranged in a shank projecting from the reservoir A, and a passage, *i*, leading from the chamber H to the chamber O, substantially as set forth.

2. The combination, with the reservoir A and pump-cylinder B, of a check-valve chamber provided with a flat seat, and a check-valve composed of an elastic disk, *l*, disk-holder l, and screw-bolt *l'*, provided with wings *l''*, substantially as set forth.

262,390. COFFEE-ROASTER. GEORGE FISHER, Toledo, Ohio. Filed June 27, 1882. (No model.)



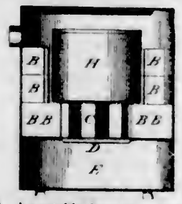
Claim.—1. The combination, substantially as described, in a coffee-roaster, of the closed pan and a revolving stirrer, with ring-band perforated-bottom device secured to the interior wall of the pan, whereby to form the double-wall space and the bottom chamber, for the purpose specified.

2. The attachable ring-band perforated-bottom device formed with outward-turned top circumferential rim *b*, in combination with the closed pan and the revolving stirrer, substantially as set forth.

3. In combination, in a coffee-roaster, the closed pan, the perforated bottom, the rimmed ring-band, and the revolving stirrer having the plates, and secured by its cranked stem to the bottom by the inner and outer washers, *d e*, the latter seated in a cavity, *f*, formed in the bottom, as set forth, for the purpose specified.

4. The coffee-roaster herein described, consisting of the closed pan, the perforated bottom, the rimmed ring-band, the revolving stirrer, the top pivoted cover, *i*, the fixed button *j*, and the side covered opening, *k*, all constructed and adapted for use as set forth.

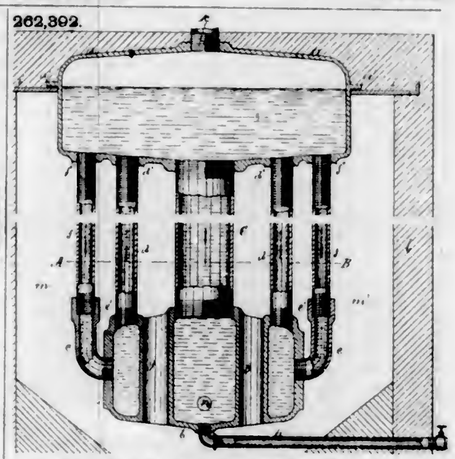
262,391. PORTABLE FURNACE TO FACILITATE THE MEANS OF FIRING DECORATED CHINA, GLASS, &c. ELLEN M. FORD, Port Richmond, N. Y. Filed Oct. 3, 1880. (No model.)



Claim.—1. A portable furnace or stove in or with which a pot or box or other suitable inclosure may be constructed or placed to contain articles of pottery, porcelain, glass, &c., for being fired at any time during the process of manufacture or decoration.

2. The combination of the said furnace or stove with the said pot or box or other inclosure, for the purpose described.

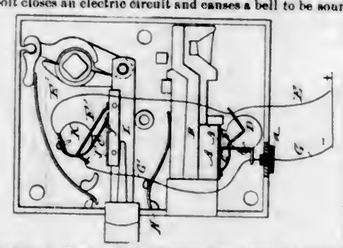
262,392. STEAM-GENERATOR. FRANK W. FOSTER, Malden, Mass. Filed May 22, 1882. (No model.)



Claim.—In a steam-generator, the upper cast-iron head, *a*, and lower cast-iron head, *b*, the latter provided with flue-passages *g g*, the central connecting wrought-iron pipe, C, and vertical circulating wrought-iron pipes *d d*, *e e*, and *f f*, connecting said hollow heads *a* and *b*, and blow-off pipe *h*, and feed-water pipe *n*, connected with the said head *b*, substantially as described.

262,393. ELECTRIC BURGLAR-ALARM AND DOOR-BELL. JAMES P. FREEMAN, New York, N. Y. Filed June 17, 1882. (No model.)

Brief.—The act of withdrawing either the key-bolt or the knob-bolt closes an electric circuit and causes a bell to be sounded.



Claim.—1. In a lock, the combination, with the key-bolt B, of the insulating-block A, the metal strip A', attached to the same, and the contact-strips C and F, connected with the opposite poles of a battery, substantially as herein shown and described, whereby the circuit will be closed and an alarm-bell sounded when the bolt is drawn into the lock—that is, when the door is unlocked—as set forth.

2. In a lock, the combination, with the key-bolt B, of the insulating-block A, the strip A', the contact tongues or strips C and F, attached to an insulating-button, D, and the negative and positive wires G E, connected with the battery and an alarm-bell, substantially as herein shown and described, and for the purpose set forth.

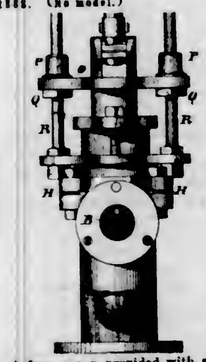
3. In a lock, the combination, with a door-bolt, of two separate contact strips or tongues connected with the opposite poles of the battery and with an alarm apparatus, an insulating-block on the bolt, and a metal strip on this block, substantially as herein shown and described, and for the purpose set forth.

4. The combination, with a lock, of contact-strips in the same, of a strip for closing the circuit, attached to the bolt, of wires leading to the contact-strips projecting over the edge of the door, of contact-strips attached to the door-frame, of a battery, and a gong, substantially as herein shown and described, and for the purpose set forth.

5. The combination, with a lock, of the contact strips or tongues in the same, the strip for closing the circuit on the bolt of the lock, the wires E and G, the contact-strips M N, the insulating material L, the contact plate or strip O, the V-shaped spring R, the battery T, and the alarm-bell Q, substantially as herein shown and described, and for the purpose set forth.

6. The combination, with a lock, of contact tongues or strips in the same, a bolt provided with a strip for closing the contact, the wires E G, the strips M N, the insulating material L, the strip O, the V-shaped spring R, the hook R', the battery T, and the alarm-bell Q, substantially as herein shown and described, and for the purpose set forth.

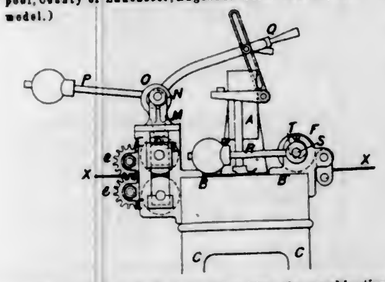
262,394. FORCE-PUMP. GEORGE J. FRITZ, St. Louis, Mo. Filed Feb. 7, 1882. (No model.)



Claim.—1. A force-pump provided with a descending duct between the upper part of the plunger-cylinder and the chamber beneath the eduction-valve, as set forth.

2. In a force-pump, the combination of plunger-cylinder, cross-head secured to the plunger, guide-standards secured to the pump-cylinder, and sleeves and nuts connecting the cross-head with the standards, as set forth.

262,395. BELT-SEWING MACHINE. MAURICE GANDY, Liverpool, County of Lancaster, England. Filed Feb. 28, 1881. (No model.)



Claim.—1. In a belt-sewing machine, the combination of feeding-rollers E F, a cam-worm, G, a feed-wheel, J, eccentrics N, and connecting-links M between the eccentrics and feeding-roller bearings, the several parts coacting substantially as described, for the purpose specified.

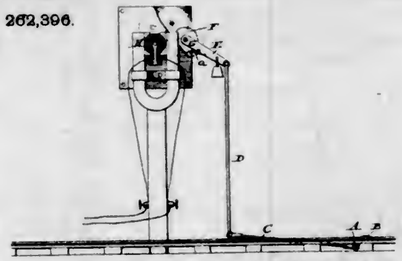
2. In a machine for sewing belts, the combination of a sewing-machine, A, a bed-plate, B, a pair of feeding-rollers, E, nipping-rollers F, and an adjustable gage, H H, the several parts coacting substantially as described, for the purpose specified.

3. In a machine for sewing belts under tension, the combination, with a sewing-machine, A, of a bed-plate, B, a pair of feeding-rollers, E, one of which is carried in sliding journal-boxes L, nipping-roller P, an intermittent feeding-wheel, J, shafts O S, eccentrics N T, and weighted levers P R, the several parts coacting substantially as described, for the purpose specified.

262,396. MAGNETO-GENERATOR FOR RAILROAD-SIGNALS. WESLEY W. GARY, Boston, Mass. Filed May 9, 1882. (No model.)

Brief.—The magneto-electric generator is set for action by a passing train, so as to automatically operate after the train ceases to act thereon, whereby a prolonged motion is imparted to the generator.

Claim.—1. In combination with a magneto-electric generator, mechanism, substantially as described, for operating said generator, adapted and arranged to be set for action by a passing train



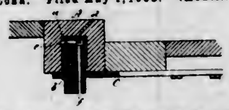
and to be automatically put in action as the train ceases to act upon it.

2. In combination with a magneto-electric generator and gearing for transmitting motion thereto, mechanism, substantially such as described and shown, for operating the gearing, adapted and arranged to be thrown into an operative position by a passing railway-train without affecting the gearing, and subsequently to act upon said gearing.

3. The combination of a magneto-electric generator, a device, substantially as shown, to be operated by passing trains, and intermediate mechanism, substantially as described, whereby a single movement of the operating device will cause prolonged or continuing motion to be imparted to the magneto-generator.

4. The combination of a magneto-electric generator, a train of driving-gear connected therewith, and an operating-lever connected at one end with the driving-gear, and arranged with its opposite end in position to be moved by passing railway-trains.

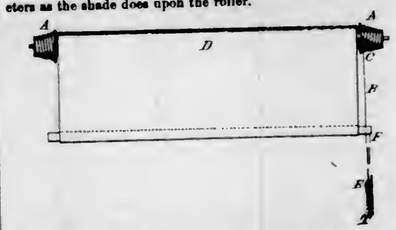
262,397. LOCK FOR SLIDING DOORS. EDWARD A. GAUCHET, Fair Haven, Conn. Filed May 1, 1882. (Model.)



Claim.—The combination of the socket a, arranged in the door-post, and the bar C, attached to the door, extending over the door-post, and constructed with an eye corresponding to the socket, with the removable bolt D, constructed to be introduced through the eye in the bar into the socket, and a locking mechanism within said bolt to engage with the socket when so introduced, substantially as described.

262,398. CURTAIN-FIXTURE. PAUL E. GERARD, New York, N. Y. Filed Apr. 12, 1882. (No model.)

Brief.—One end of the cord is attached to a conical spirally-grooved cord-spool and the other end to one lower corner of the shade, and winds and unwinds on the spiral with the same diameters as the shade does upon the roller.



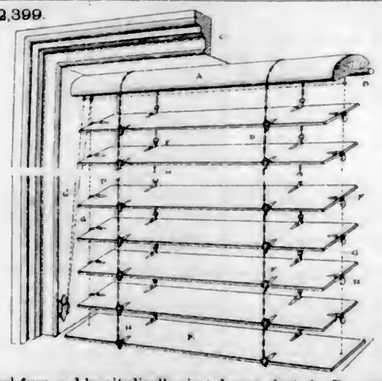
Claim.—A shade-fixture consisting of the combination, with the shade and its roller, of a conical spiral, A, cord B, spring and pulley E, and fixed point T, arranged substantially as shown and described.

262,399. INSIDE WINDOW-BLIND. ALEXANDER C. GIBSON and WILLIAM W. GIBSON, Toronto, Ontario, Canada. Filed Mar. 27, 1882. (No model.)

Brief.—The chains pass over the half-oval top piece, and are secured to the slats by spear-ended staples, the ends of which are bent down and forced into the slats. The loops of said staples stand at an angle to the plane of the slat.

Claim.—1. In a window-blind composed of horizontally-suspended slats flexibly connected together, a top piece, A, of semi-

262,399.

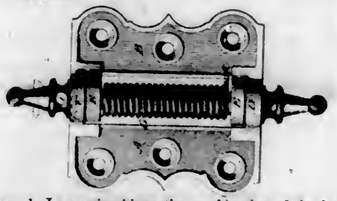


oval form, and longitudinally pivoted upon pivot-pins B, centrally located at either end of the piece A, near the flat side thereof, in combination with a chain, D, passing over the oval side of the piece A, and suitably secured thereon, the said chain being connected to each slat by rings H, suspended from staples clinched upon the edges of the slats, and having their open or looped portions at an angle thereto, substantially as and for the purpose specified.

2. In connection with a window-blind composed of horizontally-suspended slats, a staple formed from a spear-ended piece of sheet metal, the points of the spear ends being bent at right angles to form the prongs *f*, the center of one spear end being stamped out to form the prong *g*, while the center of the other spear end has a hole, *h*, stamped through it to receive the end of the prong *g*, substantially as and for the purpose specified.

3. In connection with a window-blind composed of horizontally-suspended slats, a staple formed out of a double spear-ended piece of sheet metal, with the points of the spear ends bent at right angles to form prongs, the prongs at one end being forced into the top side of the slat, while the prongs at the other end are forced into the opposite side, the loop of the staple formed by thus bending it around the slat being set at an angle, substantially as described.

262,400. SPRING-HINGE. WILLIAM GILFILLAN, New Haven, Conn., assignor to Sargent & Co., same place. Filed Feb. 13, 1882. (No model.)

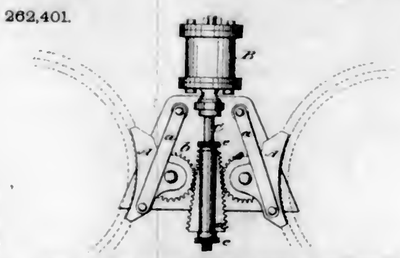


Claim.—1. In a spring-hinge, the combination of the leaves constructed with their respective ears C D and E E with pintle F, having a longitudinal groove, *d*, and extending through the ears to form a bearing on which the leaves will turn, a spiral spring around said pintle and between the ears of the one part, one end bearing upon one leaf, the other end turned inward and extending into the groove of the pintle, the head of the pintle and the corresponding ear, C, of the leaf, upon which the spring does not bear, constructed with engaging shoulders, whereby the tension of the spring may be adjusted or entirely removed, substantially as described.

2. In a spring-hinge, the combination of the leaves constructed with their respective ears C D and E E, the pintle constructed with the transverse notch *h*, and extending through the ears to form a bearing upon which the leaves will turn, a spiral spring around said pintle and between the ears of the one part, one end bearing upon one leaf, the other turned inward and taking its bearing in the notch *h* of the pintle, and shoulders *e* on the leaf upon which the spring does not bear, and corresponding shoulder, *f*, on the pintle to engage the said pintle with the said leaf, substantially as described.

262,401. BRAKE MECHANISM. JOHN C. GLASS, Verona, Pa. Filed May 18, 1882. (No model.)

262,401.



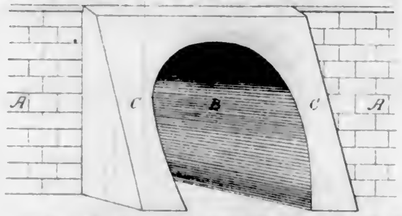
Claim.—1. The combination, in a brake, of the steam or air cylinder B, piston-rod C, toothed wedge *d*, and the toothed wheels *b*, pivoted in the brake-blocks, as shown and described.

2. The combination of the cylinder B, piston C, toothed wedge *d*, toothed wheels *b*, brake-blocks A, and supporting-links *a*, as shown and described.

3. In brake mechanism, the wedge-shaped block *d*, attached upon the rod C by the nuts *e e*, so that it may be adjusted, substantially as described.

262,402. CONSTRUCTION AND REPAIR OF TUNNELS, CULVERTS, &c. JOHN C. GOODRIDGE, Jr., New York, N. Y. Filed Feb. 18, 1882. (No model.)

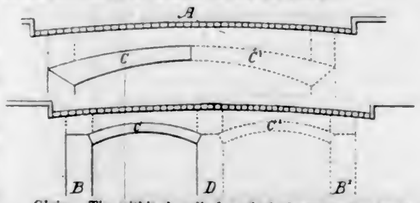
Brief.—A mold is built around and against the mouth of the culvert and béton or concrete put therein in a plastic state. When set the mold is removed. The face of the buttress is constructed at a considerable angle, so as to act as a strut as well.



Claim.—The monolithic structure or buttress C, herein described, formed by casting in proper layers in a previously-made mold built against the wall to be supported, and around and against the mouth of the culvert, béton or concrete, and then removing the mold as soon as the béton has set, as set forth.

262,403. METHOD OF CONSTRUCTING UNDERGROUND TUNNELS AND ARCHES. JOHN C. GOODRIDGE, Jr., New York, N. Y. Filed Feb. 18, 1882. (No model.)

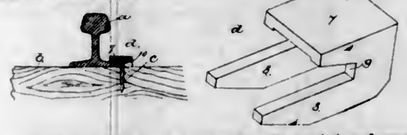
Brief.—The trenches on each side of the arch are formed and filled with concrete, and the earth is shaped under where the connecting arch is to be placed, the concrete put in, and when set the earth is removed from beneath, to form the tunnel.



Claim.—The within-described method of constructing underground tunnels or arches, consisting in forming two or more trenches, filling the same with béton, concrete, or masonry, shaping the surface of the earth contiguous thereto and over where it is proposed the tunnel shall be, so as to conform to the inner surface of the roof of the proposed tunnel or arch, building the roof of said tunnel or arch upon said earth, using the same to support the work while in process of construction, and subsequently excavating the earth inclosed between said walls and roof, in order to form the tunnel, substantially as described.

262,404. FASTENING OR CHAIR FOR RAILS. SORHAM GRAY, Boston, Mass. Filed Dec. 22, 1881. (No model.)

Brief.—A fastening consisting of prongs adapted to be embedded in the sleeper beneath the rail and a bridge-like portion connecting said prongs, adapted to rest upon the rail-fastening spike and the base of the rail.

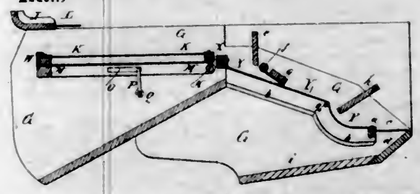


Claim.—1. A fastening or chair for rails, consisting of prongs or pointed wings adapted to be embedded in the sleeper beneath the rail, and a bridge-like portion connecting the said wings and adapted to rest on the head of the rail-fastening spike, whereby downward pressure on the rail is transmitted to the spike, substantially as and for the purpose described.

2. In a fastening or chair, the combination of the prongs adapted to be driven into the sleeper beneath the rail, the bridge portion arranged, as described, to rest on the top of the spike, and the projection 10 thereon for engaging the head of the spike and forcing it laterally over the flange of the rail, substantially as described.

3. In a fastening for railway-rails, the fastening-spike *c*, having its lower portion fluted, spirally twisted, and provided with a chisel-edge, and having its upper end untwisted and provided with a head projecting on all sides, combined with the chair *d*, having prongs and a connecting bridge-like portion provided with a projection, 10, as described, the said prongs being adapted to pass beneath the rail, and the bridge-like portion being adapted to rest upon the head of the spike and overlap the flange of the rail, substantially as set forth.

262,405. SEPARATOR-SHOE FOR THRASHING-MACHINES. HENRY M. GRUEN, Lowell, Wis. Filed Dec. 16, 1881. (No model.)

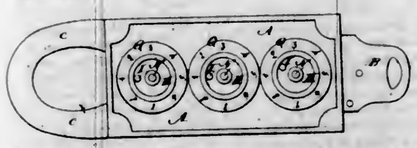


Claim.—1. In a thrashing-machine, the combination, with the shoe G, the sieve K, and the hinged frame M, of the hooks W and the cross-bars X, substantially as herein shown and described, whereby the said sieve is kept in place, as set forth.

2. The combination, with the sieve K, of the crank-rod P Q R and the frame M, hinged to the sides of shoe G, and having longitudinal slots O to allow it to be actuated by the said crank-rod for adjusting the sieve, as described.

3. The combination, with the shoe G, of the screen Y, rod Z, bar *a*, having fingers *c*, the tail-boards *d e h*, and hinged board *g*, as and for the purpose specified.

262,406. PERMUTATION-PADLOCK. ROBERT D. GREEN, Columbus, Miss., assignor to himself, Clarence T. Gifford, Aberdeen, Miss., and Rufus S. Rickoy, New Orleans, La. Filed Nov. 25, 1881. (Model.)



Claim.—1. In a permutation-lock, the case constructed substantially as herein shown and described, and consisting of the slotted center plate, B, the front plate, A, connected with the center plate, B, by screws D, and the sliding back plate, C, connected with the center plate, B, by the bar R and screws S, whereby the said back plate can be moved to secure and release the bow or shackle, as set forth.

2. In a permutation-lock, the combination, with the stationary side plate A, the movable side plate C, and the center plate, B, having screw *b* and slot *c*, of the bow or shackle *c*, having a screw-hole in one end and a grooved tenon, *d*, at the other end, substantially as herein shown and described, whereby the said bow can be fastened and released by moving the said side plate, as set forth.

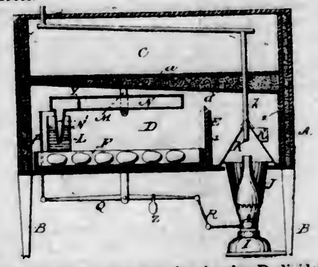
3. In a permutation-lock, the combination, with the stationary side plate A, the movable side plate C, and the center plate, B, of one or more disks, H, having pins I, depressed ratchet-wheels J, having annular rows of perforations, the cups L, having slots O and annular rows of perforations, the spring-pawls Z *a*, and the pins U, substantially as herein shown and described, whereby the sliding side plate is held from moving until the slots of the said cups are brought into the line of movement of the said pins, as set forth.

4. In a permutation-padlock, the combination, with the plate C and cups L, of the plate B, having the pin U′, and the bar R, having pins U U, as and for the purpose specified.

5. In a permutation-padlock, the latch W, pivoted at one end to plate B, and having a shoulder at the other end, in combination with the plate C and bar R, having a rabbet to engage said shoulder, as and for the purpose specified.

6. The combination, with the plate B, having a rearward projection and recess, *g*, adapted to receive a seal, of the disk A, pivoted in said recess and provided with an arm, *i*, extending above said plate, as and for the purpose specified.

262,407. INCUBATOR. JAMES M. HALSTED, Oakland, Cal., assignor to Kate K. Halsted, same place. Filed Mar. 10, 1882. (No model.)



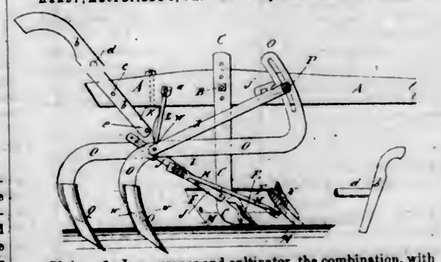
Claim.—1. In an incubator, the chamber D, divided into a hatching-compartment and a heating-compartment by the vertical partition E, the said heating-compartment being metal lined, as shown, in combination with a heating device communicating its heat to the interior of the metal-lined chamber, as set forth.

2. In an incubator, the heating-chamber D, with its partition E, in combination with the heater K within said chamber, and the lamp I, the chimney of which extends within the heater, substantially as and for the purpose herein described.

3. In an incubator, the combination and arrangement of the lamp I, casing J, heater K, with its cup K′ within the hatching-chamber, and the exit-pipe *k*, substantially as herein described.

4. An incubator consisting of the combination and arrangement of the brooding-chamber C, hatching-chamber D, with its partition E, open above, the heater K within chamber D, and pipe *k*, and the lamp I, with the casing J, substantially as herein described.

262,408. COMBINED SCRAPER AND CULTIVATOR. DANIEL HARDY, MacFarland's, Va. Filed Apr. 25, 1882. (No model.)



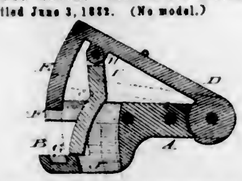
Claim.—1. In a scraper and cultivator, the combination, with the scraper F and blade M, of the separable flange N, substantially as herein shown and described, whereby a small amount of soil will be thrown around the plants, as set forth.

2. In a scraper and cultivator, the combination, with the plow-beam A and the standards K, of the standards O, having their forward ends curved upward and slotted, the jointed crank-rod W, and the braces Z, substantially as herein shown and described, whereby the said standards will be firmly supported and can be readily adjusted, as set forth.

3. In a scraper and cultivator, the combination of the beam A, standard C, brace J, standard K, cross-bar W, arms Z, scraper F, and stay H, substantially as and for the purpose set forth.

4. In a scraper and cultivator, the combination of the standard O, having recesses V, the separable point R, and the shovel O, having tooth U, and the strap T, substantially as shown and described, whereby said shovel and point are firmly and adjustably connected with the standard, as set forth.

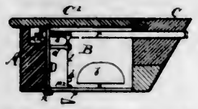
262,409. GATE-LATCH. WILLIAM A. HAWKINS, Hawkinstown, Va. Filed June 3, 1882. (No model.)



Claim.—1. In a gate-latch, the combination of the box or case A, having notch B, recess G, and slots F J, in combination with the hinged arm D, having hook E, and pivoted trip-lever I, as herein shown and specified.

2. The combination of the gate-post having pin K, the gate having latch provided with the transverse notch B, and hooked arm D, having pivoted trip-lever I, and means for lifting the said arm D, substantially as herein described.

262,410. BILLIARD-TABLE. RUDOLPH HERMAN, Cleveland, Ohio. Filed May 19, 1882. (No model.)



Claim.—The combination, with the rails A, of the bell-ringing device consisting of the support D, having the arm *d*, to which is pivoted the spring-lever *l*, operated by the push-rod *r*, actuated by the billiard-ball, and provided with the spring *s*, for returning the rod after the blow, and also provided with the thumb-nut *n'*, for adjusting the same, and the bell *b*, all constructed, combined, and arranged to operate substantially as described.

262,411. BUGGY. ERNEST C. HILDEBRAND, New Haven, Conn. Filed May 27, 1882. (No model.)



Claim.—1. A rocker-plate for a buggy-body or other light carriage-body, said plate having a loop-head permanently attached thereto.

2. A door consisting of two hinged parts, in combination with the body of a buggy or phaeton and hooks and eyes for connecting said door detachably to said body.

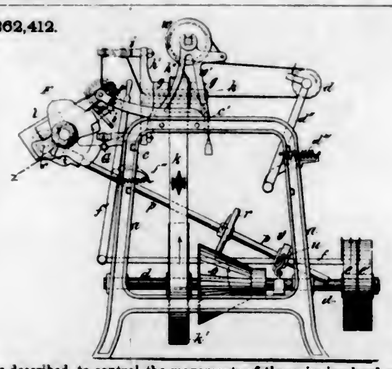
3. In combination with the fixed back part of a vehicle-body, a movable rear seat detached from said fixed back part, and a front seat hinged by vertically-movable pintles to allow said front seat to be turned forward out of the way of the said rear seat and afterward folded back upon and within the latter.

4. Vertically-slotted pieces attached to or forming part of a wagon-body or buggy-body, in combination with a seat having pintles which sit within said slots, and another seat operating on shifting arms, the two seats folding together, as set forth.

262,412. TWINE-BALLING MACHINE. LOUIS J. HIRT, Brooklyn, assignor to McLaughlin & Loyd, New York, N. Y. Filed Aug. 3, 1881. (No model.)

Claim.—1. The combination, with the swinging head *l* and its ball-spindle, of the gearing within said head, the sliding shaft *p*, the wheel *r*, the driving-cone *o*, and mechanism, substantially

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as described, to control the movements of the swinging head and its connections, as and for the purpose specified.

2. The combination, with the swinging head *l* and its ball-spindle and a supporting-frame, of the gearing within said head, the cam F, connecting with said gearing, the stop G, acting against the cam, the sliding shaft *p*, the wheels *r*, and the driving-cone *o*, substantially as and for the purpose specified.

3. The combination, with the swinging head *l*, of the gearing *p' o' s' s'' o' o''*, and cam F, secured to and adapted to move with said head, the stop G, the sliding shaft *p*, the wheel *r*, the driving-cone *o*, and a supporting-frame, substantially as and for the purpose specified.

4. The combination of the swinging head *l* and its ball-spindle, the sliding shaft *p*, the intermediate gearing connecting the shaft and the ball-spindle, the wheel *r*, and controlling mechanism, substantially as described, with the weighted bearing-lever *v* and the cone *o*, as and for the purpose specified.

5. The combination, with the swinging head and the supporting-frame, of a shipping bar or lever, a detent or catch to hold the same, and mechanism, substantially as described, for moving the shipping-lever when released, and to swing the head, whereby the shipper is released by the terminal descending movement of the head, as set forth.

6. The combination, with the swinging head *l* and the supporting-frame, of the shipping-bar *f*, the lever *f'*, the detaining-pin *f''*, the spring *f'''*, the projection *v'* on the swinging head, and cam F and stops G, for governing the movement of said head, substantially as and for the purpose specified.

262,413. PLOW. FONTAIN P. HOKE, Sullivan, Ill. Filed Apr. 28, 1882. (No model.)

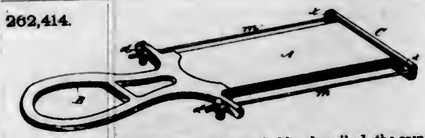


Claim.—1. The detachable plow-standard *d*, having the perforated lugs *l' n*, and provided with the perforated rear brace, *e*, formed integral therewith, for the attachment of the landside plow-handle and the rear end of the beam, the said rear brace, *e*, being curved forward at its upper end, and provided with the inwardly-projecting arm *b*, having its under face serrated, substantially as herein shown and described, and for the purpose set forth.

2. The combination, with the standard *d*, provided with the perforated lugs *a l'* and rear brace, *e*, curved forward at its upper end, and provided with the upwardly-projecting arm *b*, having its under face serrated, of the plow-beam *q*, pivoted between the lugs by the bolt *s*, and provided with the vertical hole *r* and slot *u*, stirrup *v*, and key *w*, substantially as described, and for the purpose set forth.

262,414. OIL-STONE HOLDER. CHARLES T. HOWARD, Brockton, Mass. Filed July 3, 1882. (No model.)

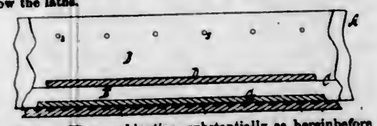
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Claim.—The improved oil-stone holder described, the same consisting of the handle B, head-stock C, rods m m, and screws *d d*, constructed and arranged to operate substantially as specified.

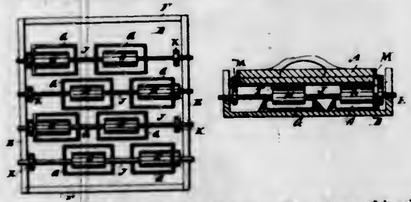
262,415. FIRE-PROOF BUILDING. PHILIP G. HUBBERT, New York, N. Y. Filed Apr. 18, 1882. (No model.)

Brief.—A fire-proof sheathing-layer is placed above and also below the laths.



Claim.—The combination, substantially as hereinbefore set forth, with the wooden floor-beams of a building, and with ceiling-laths fastened to the lower edges of the beams, of the sheathing-layer formed of a fire-proof composition, above the laths, between the beams, and the corresponding layer below the laths, for the purpose specified.

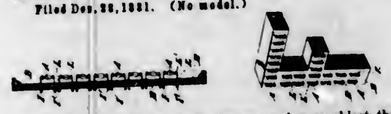
262,416. INKING APPARATUS FOR BLOCK-PRINTING. JAS. HUTCHISON, Newark, N. J. Filed Dec. 12, 1881. (No model.)



Claim.—1. In an apparatus for coloring the patterns of band printing-blocks, the combination, with the box D, of two or more shafts J, two or more color-rollers H thereon, and two or more color-cups G, the friction-rollers K, and the frame L, substantially as herein shown and described, and for the purpose set forth.

2. In an apparatus for coloring the patterns of hand printing-blocks, the combination, with the box D, having sides E, higher than the ends F, of two or more shafts J, two or more color-rollers H, two or more color-cups G, the friction-rollers K, and the frame L, substantially as herein shown and described, and for the purpose set forth.

262,417. ELECTRICAL SIGNS. JOHN H. IRWIN, Morton, Pa. Filed Dec. 28, 1881. (No model.)



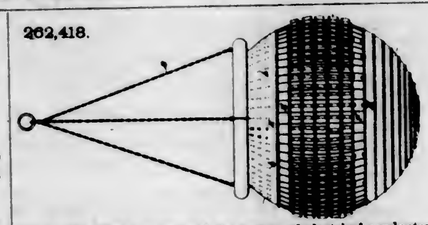
Claim.—1. An electrically-luminous sign or object, the sign or object being composed of numerous removable vacuous cells arranged upon a background or support, with conductors passing through the same, and electrical wires arranged upon the interior or opposite side of such background or support, connecting said vacuous cells in multiple arc, substantially as and for the purposes described.

2. A supporting background for electrically-luminous cells A, having conductors I I' and pins or wires L passing from the conductors to the front of the support, said pins terminating in devices L', adapted and arranged to grasp the extremities of the vacuous cells, completing electric connection therewith, substantially as and for the uses and purposes shown and described.

262,418. INCANDESCENT ELECTRIC ILLUMINATOR. JOHN H. IRWIN, Morton, Pa. Filed Dec. 29, 1881. (No model.)

Claim.—1. An incandescent electric illuminator composed of a hollow reflecting-support, numerous incandescent electric lamps

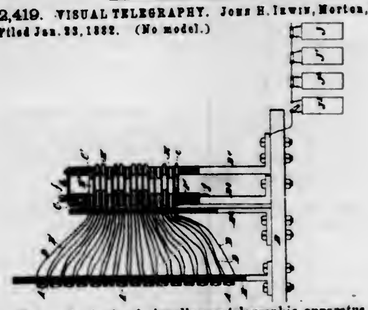
262,418.



arranged upon the exterior of the same, and electrical conductors for such lamps, concealed in the interior of said support, substantially as described.

2. A hollow reflecting support or background adapted and arranged to support upon its surface a number of incandescent electric lamps or vacuous cells, the conductors to said lamps being concealed within the structure, substantially as shown and described.

262,419. VISUAL TELEGRAPHY. JOHN H. IRWIN, Morton, Pa. Filed Jan. 23, 1882. (No model.)



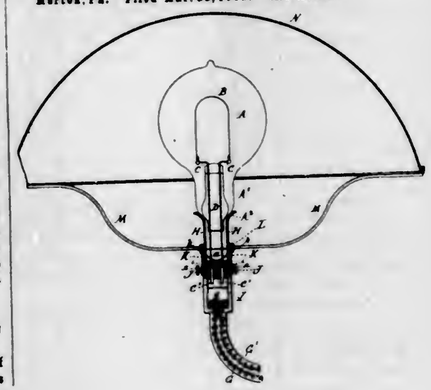
Claim.—1. A visual signaling or telegraphic apparatus having the following elements, viz: numerous incandescent electric lamps mounted upon a supporting background, conductors from each of said lamps, and push-pins to make or break electrical connection with such conductors, substantially as described.

2. In a visual signaling or telegraphic apparatus, the combination, with the electric lamps and their separate electric conductors, of the pins E and the switch G, substantially as and for the purposes set forth.

3. In a visual signaling or telegraphic apparatus, the combination, with the electric lamps and their separate electric conductors, of the pins E, the plates B^3 and B^4, and the switch G, substantially as and for the purposes described.

4. The combination, with the vacuous cells A, of support B, conducting sheets or plates B^3 and B^4, non-conducting plate B^5, switch G, and resistance-coils J, J', J^3, and J^4, the whole arranged to operate substantially as shown and described.

262,420. INCANDESCENT ELECTRIC LAMP. JOHN H. IRWIN, Morton, Pa. Filed Mar. 23, 1882. (No model.)



Claim.—1. In an electric lamp of the character described, a supporting-socket formed of two or more parts insulated from each other and provided with set-screws or binding-posts, forming electrical connection with the lamp and securing it firmly within the socket, substantially as described.

2. In an electric lamp of the character described, a support having set-screws or binding-posts adapted and arranged to press against the conductors to the interior of the lamp, forming electrical connection therewith and holding the lamp securely in place, substantially as described.

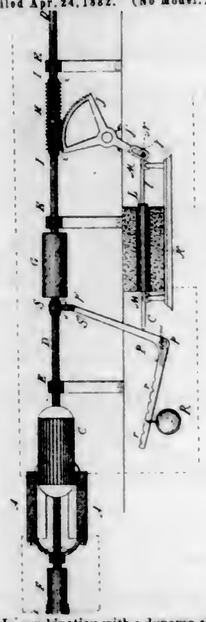
3. In an electric lamp of the character described, a supporting-socket formed of two or more parts insulated from each other and having connection with the conductors to the main circuit, in combination with set-screws or binding-posts adapted and arranged to engage with the conductors to the interior of the lamp and hold the lamp in the socket, substantially as described.

4. In an electric lamp of the character described, the combination, with conductors G and G′, of the slitted socket H, formed in two or more parts insulated from each other, and having set-screws adapted and arranged to secure the lamp in place and complete the electrical communication therewith, substantially as described.

5. In an electric lamp of the character described, the combination, with conductors G and G′, of the slitted socket H, having set-screws passing through a perforated insulating-block upon the interior of the socket, substantially as and for the purposes described.

6. In an electric lamp of the character described, the combination, with the socket H, of the insulating-block I, located upon interior of said socket, and having perforations *i*, and the set-screws *j*, extending through said socket to the perforations in the insulating-block, substantially as described.

262,421. DYNAMO-ELECTRIC MACHINE. JOHN H. IRWIN, Morton, Pa. Filed Apr. 24, 1882. (No model.)



Claim.—1. In combination with a dynamo-electric generator, a solenoid in the main or a shunt circuit, coupled with the shaft of the armature and intermediate mechanism, whereby the retractile force of the solenoid in drawing in its core causes the armature to be correspondingly drawn out of its field-of-force magnets, substantially as and for the purposes described.

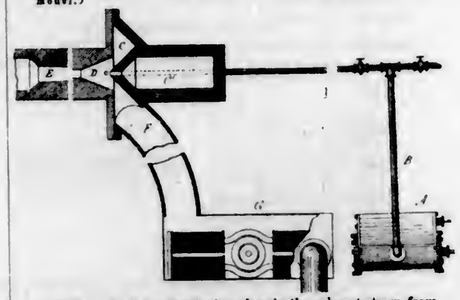
2. In combination with a dynamo-electric generator, a solenoid in the main or a shunt circuit, coupled with the shaft of the armature and intermediate mechanism, whereby the retractile force of the solenoid in drawing in its core causes the armature to be correspondingly drawn out of its field-of-force magnets, and mechanism for pushing back the armature into its field-of-force magnets and correspondingly pushing out the core of the solenoid, substantially as and for the purposes described.

3. In combination with a dynamo-electric generator, a solenoid in the main or shunt circuit, coupled with the shaft of the armature, mechanism by which the position of the armature within its field-of-force magnets may be fixed as desired, mechanism by which the retractile force of the solenoid in drawing in its core causes the armature to be correspondingly drawn out of its field-of-force magnets, and mechanism for pushing back the armature into its field-of-force magnets and correspondingly pushing out the core of the solenoid, substantially as and for the purposes described.

4. In a dynamo-electric generator, the combination, with the field-of-force magnets A, of armature C, having shaft D, sleeve H, bearing rings or flanges thereon, collars I, toothed segment J, solenoid K, and core L, said core being upheld by a shaft, *l*, mounted upon friction-wheels M and engaging with an arm, J′, upon segment J, substantially as shown and described.

5. The combination, with the field-of-force magnets A, of armature C, shaft D, ring S, held in place upon said shaft by means of collars *s*, and having a slotted tongue, S′, lever P, bearing-weight R, sleeve H, toothed segment J, solenoid K, and core L, the shaft of said core being mounted upon friction-wheels M and engaging with an arm, J′, upon segment J, substantially as shown and described.

262,422. COOLING DEVICE FOR ELECTRICAL GENERATORS. JOHN H. IRWIN, Morton, Pa. Filed Apr. 7, 1882. (No model.)

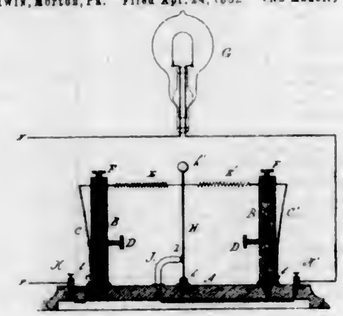


Claim.—1. A cooling device wherein the exhaust-steam from an engine passes through the steam-pipe of an ejector of the character described, whose branch pipe is connected with a chamber or receptacle containing an electric generator, which chamber has free communication with the open air, whereby a constant current of air is drawn through the chamber and through the electric generator, as set forth.

2. The combination, in a cooling device, of an ejector of the character described, a chamber or receptacle open at one end to the air, to which chamber the branch pipe of the ejector is attached, and an electric generator placed in said chamber or receptacle, substantially as and for the purposes set forth.

3. In combination with an electric generator, a chamber or receptacle in which the generator is placed, said chamber being connected with an air or fluid supply, and an ejector of the character described, operated by exhaust-steam, all arranged as and for the purposes set forth.

262,423. SAFETY DEVICE FOR ELECTRIC LAMPS. JOHN H. IRWIN, Morton, Pa. Filed Apr. 24, 1882. (No model.)



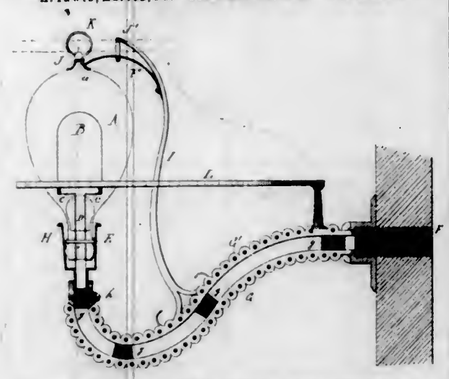
Claim.—1. In combination with an incandescent electric lamp having a carbon incandescing filament, a safety device in the main circuit, consisting of a spring having a resistance equal to the normal resistance of the circuit, adapted and arranged to be thrown out of circuit by another spring when the resistance of the main circuit is abnormally increased, substantially as described.

2. In combination with an incandescent electric lamp having a carbon incandescing filament, a safety device in the main circuit, consisting of the springs E E′, rod H, having a contact-piece, and the arm J, with electrical connections, substantially as and for the purpose set forth.

3. In combination with an incandescent electric lamp having a carbon incandescing filament, a safety device in the main circuit, having the springs E E′, provided with adjusting set-screws F F′, for securing said springs at the requisite tension, substantially as described.

4. In a safety device for electric lamps, base A, posts B, arms C and C′, set-screws D and F, rod H, contact-piece I, arm J, and binding-posts K and K′, the whole combined and arranged to operate substantially as shown and described.

262,424. INCANDESCENT ELECTRIC-LAMP SUPPORT. JOHN H. IRWIN, Morton, Pa. Filed Mar. 23, 1882. (No model.)



Claim.—1. A bracket for electrical lamps, composed of two parallel conductors insulated from each other and made practically inflexible by interposed blocks, substantially as described.

2. A bracket for electrical lamps, composed of two conductors insulated from each other, and made practically inflexible by interposed blocks, and having electrical connection with a socket adapted and arranged to receive the base of the lamp and form electrical connection therewith, substantially as described.

3. A support for electric lamps, consisting of two conductors placed parallel to and insulated from each other, as specified, and having electrical connection with a socket adapted and arranged to receive the base of the lamp, forming electrical connection therewith, and an arm extending from one of said conductors to the top of the lamp, substantially as shown and described.

4. A support for electric lamps, consisting of two conductors secured parallel to and insulated from each other, as specified, and having electrical connection with a socket adapted and arranged to receive the base of a lamp, forming electrical connection therewith, and an arm extending from one of said conductors to the top of the lamp, said arm bearing a spring and cap passing over a projection upon the top of the lamp-bulb, substantially as shown and described.

5. A support for electric lamps, consisting of two conductors secured parallel to each other and insulated from each other, as specified, one of said conductors having electrical connection with a socket adapted and arranged to receive the base of the lamp and form electrical connection therewith, the other conductor bearing an arm extending to the top of the lamp, substantially as shown and described.

6. A support for electric lamps, consisting of two conductors placed parallel to and insulated from each other, as specified, one of said conductors having electrical connection with a socket adapted and arranged to receive the base of a lamp and form electrical connection with one of the conductors extending to the interior thereof, the other supporting-conductor bearing an arm extending to the top of the lamp, and forming electrical connection with a conductor passing to the socket at the base of the lamp, substantially as shown and described.

7. In an electric lamp and support, the combination, with the lamp, of socket H, conductors G and G′, running parallel to each other, insulators *g*, and screws *h*, the whole arranged to operate substantially as shown and described.

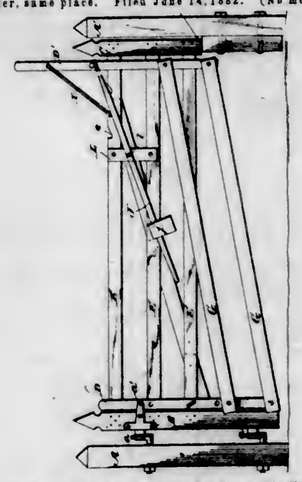
8. The combination, with an electric lamp, of socket H, supporting-conductors G and G′, insulators *g*, screws or bolts *h*, arm I, spring I′, cap J, and ring K, the whole arranged to operate substantially as shown and described.

9. The combination, with an incandescent electric lamp, of socket H, supporting-conductors G and G′, insulators *g*, screws *h*, arm I, spring I′, cap J, ring K, and hinges P, substantially as shown and described.

10. The combination, with an incandescent electric lamp, of the thimble M, the conductors C, the conducting-strips *h*′, the socket H, and spring-detent N, located upon the outside of said socket, all constructed and arranged substantially as and for the purposes described.

11. The combination, with an incandescent electric lamp, of the thimble M, the conductors C, the conducting-strips *h*′, the socket H, the spring-detent N, located upon the outside of said socket, and the conducting-bracket G G′, all constructed and arranged substantially as and for the purposes described.

262,425. FARM-GATE. ANTHONY IKER and ALBERT IKER, Lancaster, Pa., assignors of one-third to Robert M. Slaymaker, same place. Filed June 14, 1882. (No model.)



Claim.—1. In combination with the vertically-immovable upper part of the gate, the vertically-movable lower part having the standard D′, and a supporting-link attached to said standard and adapted to drop into any one of a series of notches in said immovable part, substantially as set forth.

2. The counterbalance-lever J and weight *j*, in combination with vertically-movable standard D′, having stud D², the vertically-immovable slats E, embraced by said standard, and adjustable supporting devices for said standard, operating substantially as and for the purpose set forth.

3. In combination with gate-post A′ and upright bar C, having recess *c* in its bottom, the vertically-adjustable block H, having on its top a rib adapted to enter said recess.

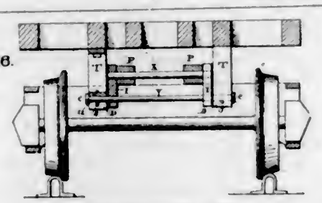
4. A gate having a vertically-immovable upper part and a lower part which is independently adjustable vertically at either end, the adjustment of the rear end being effected by means of a pin, a series of holes in the rear upright bar, D, and a hole in one of the slats *e*, substantially as set forth.

262,426. CAR-TRUCK. ROBERT E. IAMOND, New York, N. Y. Filed May 1, 1882. (No model.)

Claim.—1. The combination, with the truck provided with links carrying bearings *u*, of brackets connected to the car-platform and provided with open sockets to receive the bearings *u*, substantially as set forth.

2. The combination of the links having bearings *u* and suspended to the truck, and brackets connected to the body and provided with sockets and keys or movable locking devices, for the purpose set forth.

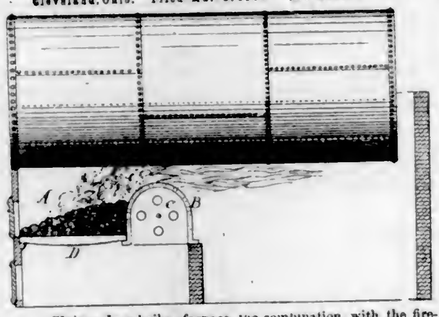
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262,427. GAS-PROOF CEMENT. WALTER M. JACKSON, Providence, R. I. Filed June 5, 1882. (No specimens.)

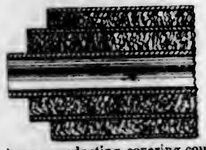
Claim.—The cement herein described, consisting of glycerine, gelatine, and litharge, or yellow oxide of lead, combined as specified.

262,428. SMOKE-CONSUMING FURNACE. HENRY JEROME, Cleveland, Ohio. Filed Mar 3, 1882. (No model.)



Claim.—In a boiler-furnace, the combination, with the fire-box, of a reversible perforated arched air-supplying chamber or box, which serves as the top of the bridge-wall and rear of the fire-box, and is provided with longitudinal flanges, which are alternately used to support the grate-bars, and an air-supplying register, substantially as described.

262,429. BOILER-COVERING. HENRY W. JOHNS, New York, N. Y. Filed Mar. 17, 1877.

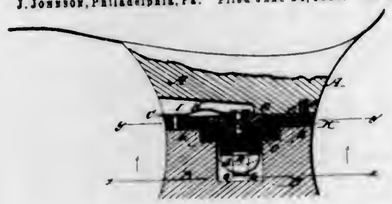


Claim.—1. A non-conducting covering composed of a layer or cushion of asbestus surrounded and covered by a layer of hair felt, loose hair, or other fibrous or porous material, the whole surrounded and protected by a wall or jacket, substantially as herein-before set forth.

2. A non-conducting covering composed of a fire-proof lining or cushion next to the surface to be protected surrounded by hair felt, hair, or other porous or fibrous material, the space occupied by the fibrous or porous material being divided into practically air-tight chambers, substantially as and for the purposes set forth.

3. A non-conducting covering composed of a layer or cushion of asbestus surrounded and covered by a layer or mass of binding material, substantially as described.

262,430. REVOLVING HEEL FOR BOOTS AND SHOES. HENRY J. JOHNSON, Philadelphia, Pa. Filed June 24, 1882. (Model.)

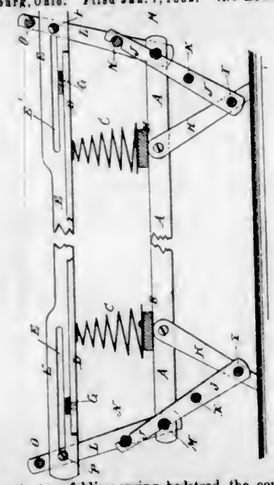


Claim.—1. In a revolving heel for boots and shoes, the combination, with the plate C, attached to the stationary part of the heel, and the plate K, attached to the rotary part of the heel, of the spring H and pin I, substantially as herein shown and described, whereby the rotary part of the heel will be held firmly in place and can be readily released and adjusted, as set forth.

2. In a revolving heel for boots and shoes, the combination, with the stationary plate C, having circular projection E and square projection F, the rotary plate K, having circular central opening, M, the screw G, and the nut P, of the circular plate N, having square central opening, O, substantially as herein shown and described, whereby the said stationary and rotary plates are firmly connected together, as set forth.

3. In a revolving heel for boots and shoes, the combination, with the screw G, having slotted end, and the nut P, having radial grooves in its outer side, of the locking key-plate S, substantially as herein shown and described, whereby the said nut is kept from working loose, as set forth.

262,431. FOLDING SPRING-BEDSTEAD. EDWARD J. JOHNSON, Twinsburg, Ohio. Filed Jan. 7, 1882. (No model.)

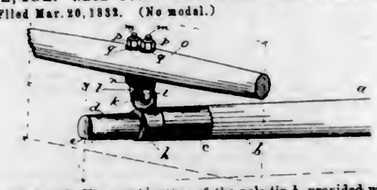


Claim.—1. In a folding spring-bedstead, the combination, with the legs H, the locking-bars J, and the slotted side rails, E, of the hinged end frames, L M N O, substantially as herein shown and described, whereby the said legs are locked in place and released, as set forth.

2. In a folding spring-bedstead, the combination, with the side rails, E, having slots E', of the hinged end frames, L M N O, and the screws or pins P, substantially as herein shown and described, whereby the said side rails are forced downward and the springs are compressed by swinging the said end frames inward, as set forth.

3. In a folding bedstead, the combination, with the bottom slats D, of the cross-bars G, secured to the ends of the side slats and resting loosely upon the ends of the intermediate slats, substantially as herein shown and described, whereby the said intermediate slats are allowed to move up and down independently while being kept in their proper relative position, as set forth.

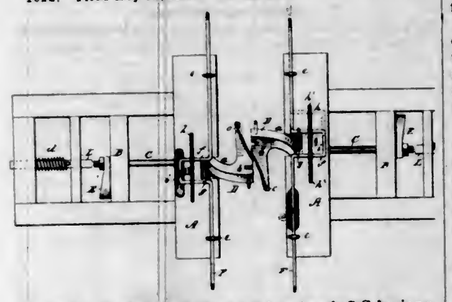
262,432. NECK-YOKE. AUGUST KAHLER, Princeton, Ky. Filed Mar. 20, 1882. (No model.)



Claim.—1. The combination of the pole-tip *b*, provided with a flat or square side, with the tag *h*, similarly formed, and provided with the eye *k*, staple *l*, and neck-yoke *o*, substantially as described, and for the purpose set forth.

2. The combination of the pole *a*, pole-tip *b*, having ferrule *c* and bolt portion *d*, provided with a flat side, tag *h*, similarly formed and provided with an eye, *k*, staple *l*, having screw-threaded shanks, neck-yoke *o*, and rubber block *s*, substantially as described, and for the purpose set forth.

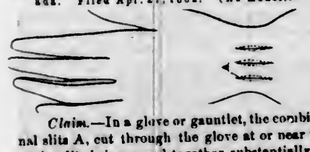
262,433. CAR-COUPLING. JACKSON J. KENNEDY, Cleveland, Tenn. Filed May 16, 1882. (No model.)



Claim.—1. The rotary adjustable draw-bar shaft C, having a weighted arm and a goose-neck hook formed with an upward arch, *a*, thickened head *b*, and beveled-faced beak *c*, projecting downwardly in diagonal position to the vertical and horizontal lines, in combination with a spring for sustaining the shock of coupling, as set forth.

2. The combination, with the rotary shaft C, having coupling-hook D, and arm *g*, of the rod F, having loop *f*, the keeper *h*, and the lug *i*, arranged, as shown and described, for operating the coupling-hooks and locking them in coupled or uncoupled position, as set forth.

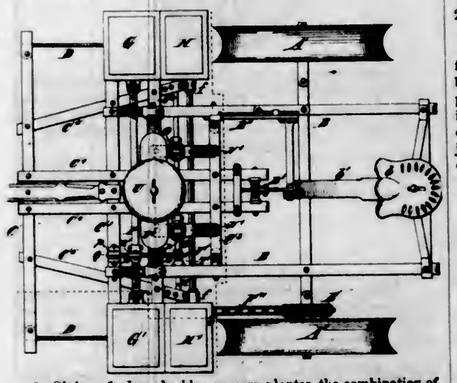
262,434. GLOVE. CARL P. A. KOEHLER, Toronto, Ontario, Canada. Filed Apr. 27, 1882. (No model.)



Claim.—In a glove or gauntlet, the combination of longitudinal slits A, cut through the glove at or near the wrist, the edges of the slits being sewed together, substantially as and for the purpose specified.

262,435. COMBINED SEEDER AND FERTILIZER-DISTRIBUTER. BENJAMIN KUHNS, Dayton, Ohio. Filed June 14, 1882. (No model.)

Brief.—The fertilizing material is drilled continuously, while the corn is dropped intermittently. The operations may, however, be reversed.



Claim.—1. In a double-row corn-planter, the combination of two kinds of dropping devices, one adapted to drop corn and the other to drill fertilizing material, both dropping devices being mounted on the frame of the planter and connected, whereby the same driving mechanism is adapted to plant the seed and drill the fertilizing material simultaneously in either drills or check-rows.

2. In a double-row corn-planter, the combination of two kinds of dropping devices, one adapted to drop corn and the other to automatically drill fertilizing material, both dropping devices being mounted on the frame of the planter and connected, whereby the same driving mechanism is adapted to plant the seed and drill the fertilizing material.

3. In a double-row corn-planter, the combination of two kinds of dropping devices, one adapted to drop corn and the other to continuously drill fertilizing material, both dropping devices being mounted on the frame of the planter and operated by the same driving mechanism for depositing the seed and continuously drilling the fertilizing material while checking.

4. In a double-row corn-planter, the combination of two kinds of dropping devices, one adapted to drop corn and the other to continuously drill fertilizing material, both dropping devices being mounted on the frame of the planter and operated by the same driving mechanism for depositing the seed and continuously drilling the fertilizing material between the check-rows while checking.

5. A combined double-row corn-planter and fertilizer-drill attached to and mounted on the frame of the planter, the dropping mechanisms of each being connected with the driving mechanism of the planter, whereby one of the droppers will operate as a drill, and the other as a check-rower.

6. In a double-row corn-planter, the combination of two kinds of dropping devices, one for dropping corn and the other for drilling fertilizing material, with a chamber having a suitable cut-off valve or slide below each fertilizer-dropping device for receiving and holding the fertilizing material preparatory to discharging it in check-rows.

7. In a double-row corn-planter, the combination of two kinds of dropping devices, one for dropping corn and the other for drilling fertilizing material, both dropping devices being mounted on the frame of the planter and connected by the same driving mechanism, with cut-off valves or slides and a chamber intermediate of the fertilizer-dropping devices and valves for receiving and holding the fertilizing material preparatory to discharging it in check-rows.

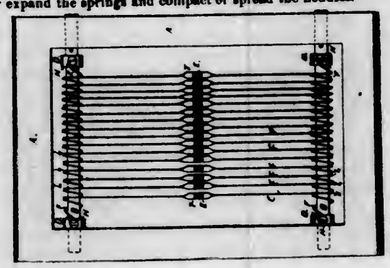
8. In a corn-planter having combined in its construction fertilizer-distributer mechanism with the seeding devices, the two being connected together by a crank-shaft and lever mounted in bearings *p p'*, or their described equivalents, and adapted to operate the seeder-bar P and the fertilizer cut-off M *m m'* simultaneously or independently, substantially as and for the purpose specified.

9. In a corn-planter, the crank-shaft Q, having pin *q* and mounted in journal-bearings *p p'*, the bearing *p'* being provided with a top plate, *p''*, having notches or slots *r r'*, in which pin *q* either oscillates or rests for the check-rowing or drilling operation of the machine, substantially as herein set forth.

10. The fertilizer-discharge spouts composed of the parts I J J' L, attached to the runner-frame and detachably secured together by the coupling-spout box K K' *k*, and having an intermediate slot or opening, in which the cut-off M *m m'* operates, substantially as herein set forth.

262,436. HEDDLE AND MEANS FOR MOUNTING THE SAME. JOHN L. LAIRDSON, Lowell, Mass. Filed Oct. 25, 1879.

Brief.—The heddle is formed from a flat strip of wire of uniform thickness throughout its length, the middle portion thereof being twisted around to a position at right angles to the ends and punched for the eye. The heddles are spaced upon their supporting-bars by being placed between the coils of spiral springs encircling said bars. The springs are attached at their ends to adjustable clamps, which may be moved upon the bars to contract or expand the springs and compact or spread the heddles.

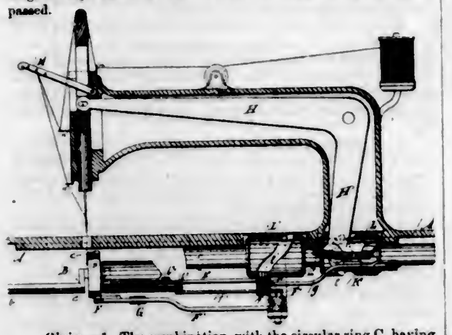


Claim.—1. A heddle formed of flat wire of uniform thickness throughout its length, and having the portion about the eye twisted around to a position at right angles to the other portions thereof, substantially as and for the purpose herein specified.

2. The combination, with the heddles C C and bars B B, of the springs F F and adjustable clamps D D, substantially as and for the purpose herein specified.

262,437. SEWING-MACHINE. AUGUSTE LAMBERT, Fosses-Namur, Belgium. Filed May 16, 1882. (No model.) Patented in Belgium Apr. 8, 1882, in France Apr. 11, 1882, in England Apr. 12, 1882, and in Italy Apr. 18, 1882.

Brief.—The needle-thread is spread upon a rotary hook or ring, through which the shuttle with its thread is subsequently passed.



Claim.—1. The combination, with the circular ring C, having its inner face conical and provided with the projections *c c'*, of the toothed ring D, fitted and adapted to turn freely in ring C, and provided with the hook *d* and the inclined projection *d'*, substantially as and for the purpose set forth.

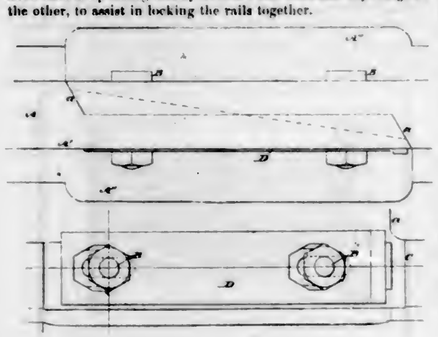
2. The combination, with the toothed looper C D, constructed as described, the frame B, and the drive-shaft provided with the grooved cam I, of the bent lever F' F'', provided with rack F on its outer end and with the roller *f* on its inner end, substantially as and for the purpose set forth.

3. The combination, with the drive-shaft provided with the grooved cam L, the frame B, and the shuttle, of the rod E, provided with the hook *e* and projection *e'*, the slide *f*, the slotted bar *f'*, connecting-rod *g*, lever K, segment *k*, and elbow-lever H H', provided with the rack I, substantially as and for the purpose set forth.

4. The combination, with the drive-shaft provided with the grooved cams L L', the toothed looper C D, and the shuttle, of the bent lever F' F'', having rack F at its outer end, the rod E, slotted bar *f'*, connecting-rod *g*, lever K, segment *k*, rack I, and elbow-lever H H', substantially as and for the purpose set forth.

262,438. RAILROAD-RAIL JOINT. FRANCIS LIGHTFOOT, Media, assignor of one-half to Benjamin H. Lightfoot, Allegheny, and James M. Price, Lansdowne, Pa. Filed Mar. 30, 1882. (No model.)

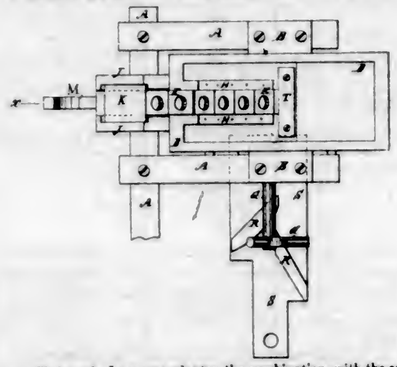
Brief.—The rail ends, while being upset to retain the same weight of metal, are reduced in width to overlap one another, while maintaining at the joints the ordinary width of tread, and have each a lip fitting closely between the base and top flange of the other, to assist in locking the rails together.



Claim.—1. Railroad-rails having their contiguous ends upset so as to be reduced in width though retaining full weight, the upset ends lapping so as to form a tread about equal to that of the full rail.

2. A railway-rail having a longitudinally-projecting lip, C, in combination with a second rail, said lip being introduced into the space between the tread and the base of said second rail and overlapping the neck thereof, substantially as shown.

262,439. CORN-PLANTER. THOMAS J. LINDSAY and WILLIAM J. MISER, Windfall, Ind. Filed Dec. 21, 1881. (No model.)



Claim.—1. In a corn-planter, the combination, with the seed-box D, the spout J, and the slide S, of the endless chain of seed-dropping blocks E, the hexagonal pulleys F I, the shaft G, the three-armed wheel Q, and the two inclines R, substantially as herein shown and described, whereby the said endless chain of blocks is moved forward to drop the seed by the reciprocating movement of the said slide, as set forth.

2. In a corn-planter, the combination, with the endless chain of seed-dropping blocks E, the hexagonal pulley I, and the seed-guiding spout J, of the angular plate K, substantially as herein shown and described, whereby the seed is kept in the cavities of the blocks until the said blocks are passing beneath the said pulley, as set forth.

3. In a corn-planter, the combination, with the guide-spout J, having slot L in its lower end, and the furrow-opening shoe M, having hooked slot N, of the rivet or bolt O and the wedge-key P, substantially as herein shown and described, whereby the said shoe is secured to the said spout detachably, as set forth.

262,440. PYROTECHNIC SIGNAL. EDWARD F. LIXTON, East New York, N. Y., assignor to the Unexcelled Fireworks Company, of New York. Filed May 10, 1882. (No model.)



Claim.—A pyrotechnic shell composed of a case inclosing a non-inflammable colored or glittering substance in a comminuted form, an explosive cartridge, and a fuse projecting from the case and connecting with the cartridge, substantially as described.

262,441. TOY BALLOON. EDWARD F. LIXTON, East New York, N. Y., assignor to the Unexcelled Fireworks Company, of New York. Filed Apr. 18, 1882. (No model.)



Claim.—A toy balloon having its body composed of the side pieces shaped in imitation of an animal or the like, and of the elliptic lanceolate gore inserted in the top or back portion of the article, substantially as and for the purpose described.

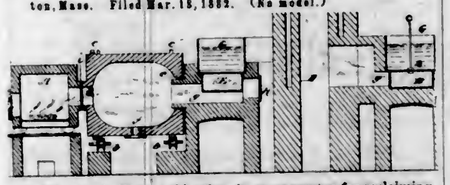
262,442. PYROTECHNIC TRAIL. EDWARD F. LIXTON, East New York, N. Y., assignor to the Unexcelled Fireworks Company, of New York. Filed Mar. 23, 1882. (No model.)

262,442.



Claim.—A pyrotechnic trail combining in its structure the combustible case A, the pyrotechnic devices B, the case-consuming layers of inflammable substance F, interposed between the pyrotechnic devices, and the firing-matches G, connected with the latter and with the layers of inflammable substance, substantially as and for the purpose described.

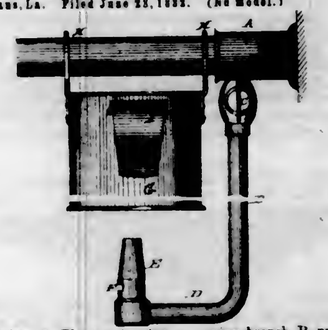
262,443. APPARATUS FOR RECLAIMING SODA FROM THE SPENT LIQUORS OF PULP-MILL DIGESTERS. WILLIAM L. LONGLEY, Westbrook, Me., assignor to Samuel D. Warren, Boston, Mass. Filed Mar. 18, 1882. (No model.)



Claim.—1. The combination, in an apparatus for reclaiming soda from the spent liquor of pulp-mill digesters, of a fire-box, a rotating boiler or cylinder in axial arrangement with the outlet from the fire-box, and a series of evaporating-trays in axial communication with the agitator on its reverse side or end to that on which the fire-box is situated, essentially as described.

2. The combination, with the chimney D and the surrounding valved tanks Q, of the subjacent trays E, connected with the agitator by the channels *g*, having valves *k*, and in line with the axis of said agitator, as and for the purpose specified.
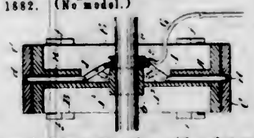
262,444. GAS COOKING APPARATUS. EVERT D. LYONS, New Orleans, La. Filed June 23, 1882. (No model.)



Claim.—1. The gas-bracket A, having branch B, provided with cock C, and L-shaped pipe D, having an atmospheric burner, in combination with a cooking-vessel adapted to be suspended upon the said bracket A, as set forth.

2. The combination, with the bracket A, having branch B, provided with cock C, and L-shaped pipe D, having burner E, of the vessel G, having hooks H H and handle I, substantially as shown and specified.

262,445. PULLEY. JAMES MALLEN, Wellsville, Ohio. Filed Mar. 20, 1882. (No model.)



Claim.—1. The combination, with a fast pulley, of a loose pulley consisting of a plain tire-like band surrounding the said fast pulley, and means, substantially as herein shown and described, for securing it upon and engaging and disengaging it with the fast pulley as set forth.

2. The loose pulley C, consisting of a tire-like band provided with the inclined notches *d* upon inner side, in combination with the fast pulley B, the bars H, sliding in ways in the fast pulley, and means, substantially as shown and described, for projecting the said bars into the notches of the loose pulley, as set forth.

3. The combination, with the fast pulley B, provided with the lugs or plates *f*, the sliding bars H, and means, substantially as herein shown and described, for operating the said bars, of the loose pulley C, consisting of a tire-like band, and provided with the notches *d*, as and for the purpose set forth.

4. The combination of fast pulley B and the loose pulley or band C, provided with the inclined notches *d*, of the sliding collar E, the sliding bars H, the bar J, pivoted to the said sliding bar and collar, the bar J', pivoted to the hub of the fast pulley and to the center of the bar J, and the operating-lever G, substantially as and for the purpose set forth.

262,446. ROTARY COLTER. ABRAHAM J. MABRY, St. Louis, Mo. Filed Feb. 5, 1880.

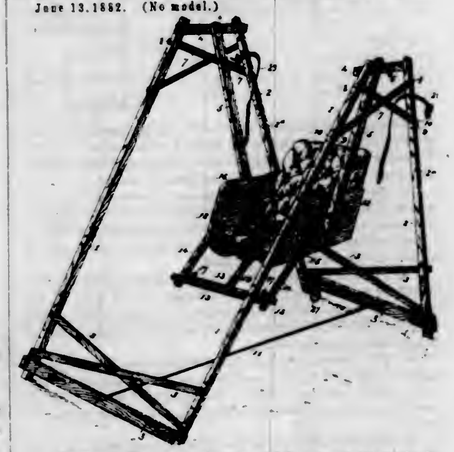
Brief.—A rotary colter formed by slitting radially the central portion of the blade and bending the cut parts outward alternately in opposite directions, so as to form an expanded or increased axial bearing for the disk.



Claim.—1. A rotary colter or cutter made from a single plate of metal, and having lateral expansion at the central portion from its peripheral plane, such expansion not extending to the periphery of the blade.

2. A rotary cutter or colter formed of a single plate of metal, with its central portion radially slitted and the cut parts bent outward alternately in opposite directions to form the bearing for the disk.

262,447. SWING. GEORGE W. MASON, Washington, D. C. Filed June 13, 1882. (No model.)



Claim.—1. The standards 1 1 and 2 2, connected in pairs by transverse bars or braces 3 near the bottom, in combination with a suitable seat, 12, swung by pendent arms 5 from the connected tops of said paired standards, substantially as described.

2. A reversible swing adapted to rest independently on the floor or ground or to be suspended through the medium of its supporting-frame from an attachment above it, substantially as described.

3. A reversible swing constructed, substantially as herein described, to adapt it to rest independently on the floor or ground or to hang from a suspension-point above it at a variable height, substantially as and for the purposes set forth.

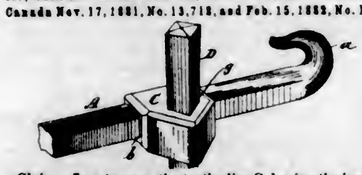
4. The combination of the swing-seat 12 and hinged supporting frame or standards 1 2, adapted to be folded together for transportation in manner substantially as herein shown and described.

5. The combination, with a swing-seat, of a hinged or jointed foot-rest adapted to be folded up in front of the seat and attached so as to constitute a guard, substantially as shown and described.

6. The combination, with a swing, of a hinged foot-rest folding beneath the seat, substantially as shown and described.

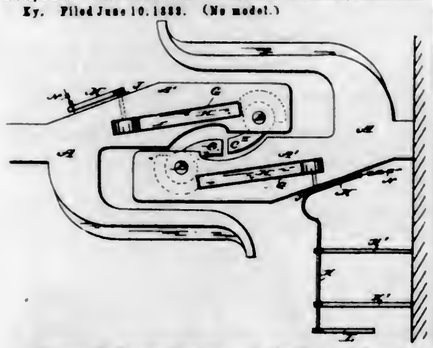
7. The combination, with a swing-seat, of a hinged or jointed foot-rest, 13 14, and a strut or brace, 19, to sustain it in position for use, substantially as described.

262,448. HARROW. JOSEPH MAUNDER, Little Britain, Ontario, Canada. Filed June 20, 1882. (Model.) Patented in Canada Nov. 17, 1881, No. 13,718, and Feb. 15, 1882, No. 14,184.



Claim.—In a harrow, the tooth-clips C, having the horizontal apertures *b* and vertical apertures *g* intersecting each other, in combination with the tooth-beams A, having triangular notches *c* and removable tapering teeth D, substantially as and for the purpose herein shown and set forth.

262,449. CAR-COUPLING. MICHAEL J. MCCROHN, Louisville, Ky. Filed June 10, 1882. (No model.)



Claim.—1. The combination, with the U-shaped draw-head A, of the hook C, attached to the pintle B in the end of the shank A', and the latch H, pivoted in the shank A', substantially as herein shown and described, and for the purpose set forth.

2. The combination, with the U-shaped draw-head A, of the spindle B in the end of the shank A', the hook C on this spindle, the spiral or inclined shoulder D on this spindle, and the latch H, pivoted in the shank A', substantially as herein shown and described, and for the purpose set forth.

3. The combination, with the U-shaped draw-head A, of the spindle B, the hook C, the spiral shoulder D, the latch H, provided with a notch, *a*, and the cam-finger I, attached to a shaft, J, in the draw-head, substantially as herein shown and described, and for the purpose set forth.

4. The combination, with the U-shaped draw-head A, of the spindle B, the hook C, the spiral shoulder D, the latch H, provided with a notch, *a*, the cam-finger I, the shaft J, and the shaft K, substantially as herein shown and described, and for the purpose set forth.

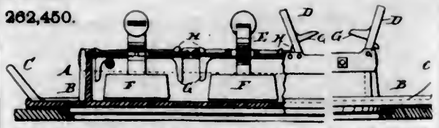
5. The combination, with the U-shaped draw-head A, of the spindle B, the hook C, the spiral shoulder D, the latch H, provided with a notch, *a*, the cam-finger I, the shaft J, the shaft K, the arm M, and the chain N, substantially as herein shown and described, and for the purpose set forth.

6. The combination, with the U-shaped draw-head A, provided with a beveled recess, E, in the bottom, the spindle B, the hook C, and the projection F on the lower part of the spindle, substantially as herein shown and described, and for the purpose set forth.

262,450. SAD-IRON HEATER. PLATT MCDONALD, Plymouth, Ind. Filed May 3, 1882. (No model.)

Claim.—1. In a sad-iron heater, the combination, with the metal box A, of the transverse swinging lids D, provided with lugs G, projecting from the inner surfaces, and with recesses *a* in

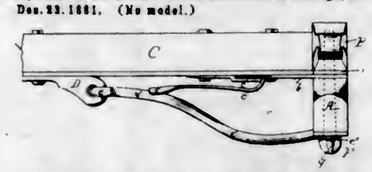
262,450.



the swinging edges, substantially as herein shown and described, and for the purpose set forth.

2. In a sad-iron heater, the combination, with the metal box A, of the transverse swinging lids D, provided with lugs G, projecting from the inner surfaces, recesses *a* in the swinging edges, and check-studs H on the upper surfaces, substantially as herein shown and described, and for the purpose set forth.

262,451. KING-BOLT. HUGH MCFARLAND, Chicago, Ill. Filed Dec. 22, 1881. (No model.)



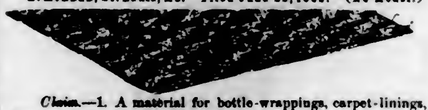
Claim.—1. A continuous king-bolt and guard, commencing from a position on the reach hereinbefore specified, and pursuing a longitudinally-curved course to the point of oscillation on the under side of the axle, where it merges into a head, from which extends upward a vertical pintle, all of which is made in one piece, substantially as and for the purpose set forth.

2. A king-bolt entering the point of oscillation from beneath, at which point it is provided with a head convex on its under side to enter and oscillate in a concave or socket bearing, said socket having arms on either side extending in the length of the axle and secured to the under surface thereof by bolts or screws, as and for the purpose specified.

3. The combination, with a king-bolt having a continuation or guard extending from the point of oscillation on the under side of the axle to and secured at a given point on the reach, of a spring located above and pressing downward on said guard, as and for the purpose set forth.

4. The combination, with a wagon or similar vehicle in which king-bolts are necessary, of a continuous king-bolt and guard entering the point of oscillation from beneath, the head of which rests and oscillates in a socket secured to the under surface of the axle, and having a spring located above and pressing downward on the continuation thereof, substantially as and for the purpose set forth.

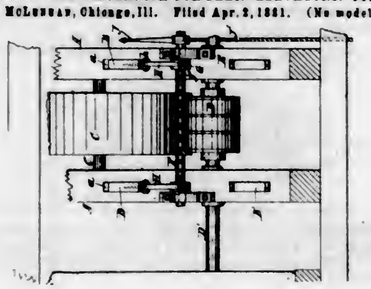
262,452. BOTTLE-WRAPPING, CARPET-LINING, &c. JAMES B. MCLEAN, St. Louis, Mo. Filed June 22, 1882. (No model.)



Claim.—1. A material for bottle-wrappings, carpet-linings, &c., provided with oblong perforations with raised edges, substantially as and for the purposes specified.

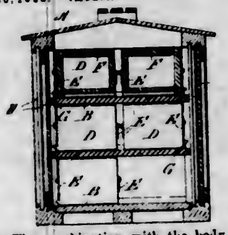
2. A material for bottle-wrappings, carpet-linings, &c., provided with oblong perforations with raised edges, said perforations being arranged in zigzag lines or oblique ranges, as set forth.

262,453. STOP MECHANISM FOR GRAIN-ELEVATORS. JOHN A. MCLENNAN, Chicago, Ill. Filed Apr. 2, 1881. (No model.)



Claim.—In a grain-elevator, the combination of the pivoted horizontal beam B with the doubly-pivoted bar H, rocking arm G, shaft F, and lever J, substantially as and for the purpose described.

262,454. FREIGHT-CAR. EDWIN MCMANUS, Randolph, N. Y. Filed May 20, 1882. (Model.)



Claim.—1. The combination, with the body A of a freight-car, of the rigidly-fixed floors B and partitions C, dividing the car into equal compartments opening at the sides of the car, as shown and described.

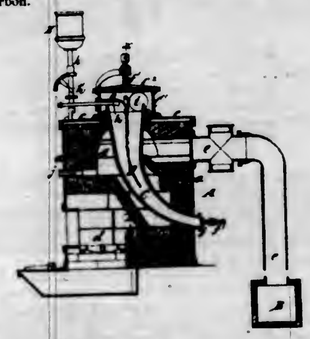
2. The combination, with the car A, floors B, and partitions C, of the sliding doors H, forming the whole of the car-sides, as shown and described.

3. The combination, with the car A and floors B and partitions C, dividing the car into equal compartments opening at the sides of the car, of the duplicate drawers D, fitting the compartments, as shown and describ

4. The combination, with the car A, floors B, partitions C, and drawers D, of the stop-pins G, to keep the drawers in place, as shown and described.

262,455. HYDROCARBON-GAS APPARATUS. EMILE MERTZ, Basle, Switzerland, assignor of one-half to Brustlein, Sury & Co., New York, N. Y. Filed Jan. 24, 1882. (No model.) Patented in France Mar. 27, 1880, No. 135,908; in Spain Jan. 20, 1881, No. 1,446; in England Mar. 28, 1881, No. 1,368; in Belgium Mar. 28, 1881, No. 54,202, and in Italy Apr. 9, 1881, No. 12,834.

Brief.—A hood connected by a pipe to the smoke-flue of the furnace is applied to the upper end of the retort after the removal of the cover and during the period at which the retort is burned out for the purpose of conducting the products to the stack. The retort is burned out by admitting air at the lower end for removing deposited carbon.



Claim.—1. The combination, with a retort oven or furnace, of a retort set in an inclined position, made tapering from near its upper end downward, and having its ends projecting beyond said oven or furnace, and provided with removable covers at both ends and a pipe at the upper and larger end of said retort for introducing liquid hydrocarbon, substantially as and for the purpose herein described.

2. The combination, with a retort oven or furnace having a suitable smoke-flue, of a retort set in an inclined position and having both its ends projecting beyond the oven or furnace, and removable covers at the upper and lower ends of the retort, the smoke-flue of the furnace being provided with a hood and pipe, which may be applied to the upper end of the retort when the cover is removed, for conducting away the smoke while burning out the retort, substantially as described.

3. The combination, with the inclined retort C, tapering from near its upper end downward, of the removable diaphragm-plate *g* and the pipe h, for supplying liquid hydrocarbon, arranged and operating substantially as herein described.

262,456. HARROW. MONTRAVILLE P. MICHELL, Waterman Station, Ill. Filed Feb. 3, 1882. (No model.)



Claim.—The connecting-bars C, doubled to form loops or boxes C', and riveted at *b b* between said boxes, in combination with the tooth-bars A, having cylindrical parts *a*, substantially as and for the purpose herein shown and described.

262,457. COMPOUND FOR TREATMENT OF NEURALGIA. HENRY FRANCIS MILLS, London, England. Filed Apr. 10, 1882. (No specimens.) Patented in England Jan. 4, 1882, No. 44.

Claim.—The herein-described medical compound, consisting of a mixture of water, hops, camphor, and sal ammoniac in about the proportions set forth.

262,458. JOINT FOR CURTAIN-RODS. ALBERT H. MOORE, Boston, Mass. Filed May 24, 1882. (No model.)

Brief.—A joint for curtain-rods is formed of an equatorially-ribbed ball, with rod-attaching pins secured to the ball and capable of turning on a pivot radial to the ball and eccentric to the axis of the pin, passing through a cup-flange on the pin. The pin passes through a chambered collar-plate.

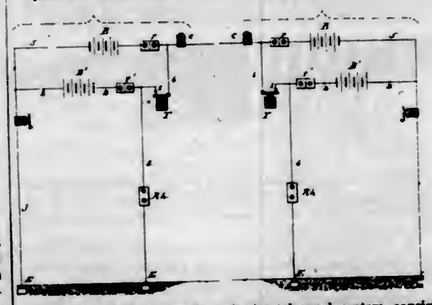


Claim.—1. A joint for drapery-curtain rods, consisting of a ball and two rod-connecting pins, one of which is connected to said ball by a pivot that is radial to the center of the ball and eccentric to the axis of the pin, substantially as described.

2. A joint for drapery-curtain rods, consisting of a ball provided with an ornamental equatorial band and two rod-connecting pins connected to said ball by pivots that are radial to the center of the ball and eccentric to the axes of the pins, substantially as described.

3. The combination, with the two curtain-rods D D, of the ball A, the flanged pins B B, the eccentric radial pivots *e*, and the chambered collars C C, all arranged and adapted to operate substantially as and for the purposes described.

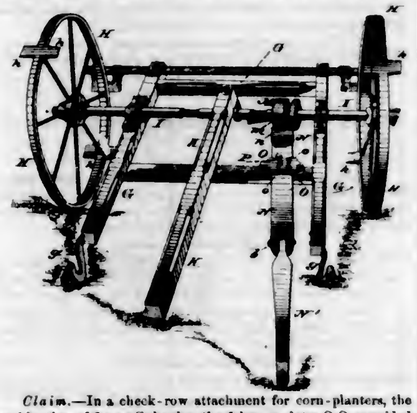
262,459. DUPLEX TELEGRAPH. GARRET S. MOTT, Philadelphia, Pa. Filed May 29, 1882. (No model.)



Claim.—1. A station for a duplex-telegraph system, consisting of a relay, transmitter, back stop, 1, and conductors 2, 5, and 6, having two batteries, B B', in circuit, with ground-conductors 3 and 4, one including said relay and the other a resistance in circuit, substantially as set forth.

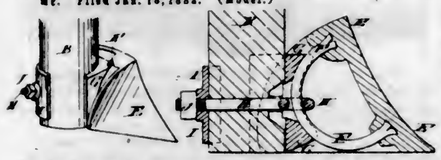
2. The combination of transmitter, conductors 2, 5, and 6, forming, with the armature of the transmitter, a local circuit containing two batteries and resistances *r r'*, with ground-wires 3 and 4 and resistance R 4 and relay, all substantially as described.

262,460. SEEDING-MACHINE. JACOB C. MONDEL, Arrowsmith, Ill. Filed Jan. 25, 1881. Renewed July 10, 1882. (No model.)



Claim.—In a check-row attachment for corn-planters, the combination of frame G, having the fulcrum-plates O O, provided with a double series of registering apertures *o* and the adjustable bolt P, lever N N', jointed at *b*, and provided with the stud *n*, squared axle I, provided with the laterally-adjustable cam M, and lever K, provided with a square stirrup at its rear end, through which said axle is inserted, substantially as and for the purpose herein shown and described.

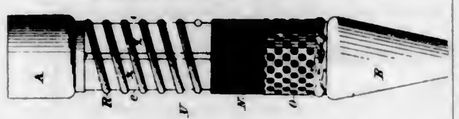
262,461. FURROW-OPENER. GEORGE W. NUTTER, Corinna, Me. Filed Jan. 18, 1882. (Model.)



Claim.—1. An adjustable furrow-opener, constructed substantially as herein shown and described, and consisting of the opener E, made with a double mold-board, the curved bar F, the bearing-block G, the eyebolt H, and the washer I, as set forth.

2. The combination, with the marker-leg B, of the double mold-board E, the curved bar F, the bearing-block G, the eyebolt H, and the washer I, substantially as herein shown and described, whereby the opener can be readily adjusted and will be securely held, as set forth.

262,462. DRIVE-WELL POINT AND STRAINER. OSCAR B. OLMSTED, Beloit, Wis. Filed June 23, 1882. (No model.)



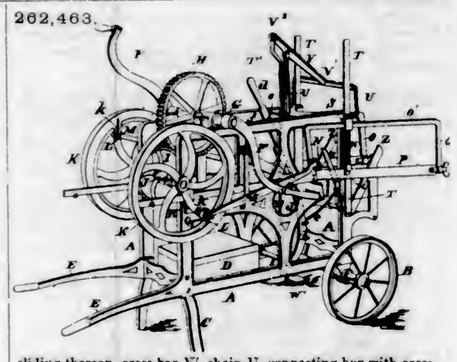
Claim.—1. An internal support for drive-well strainers, consisting of a web or spider having radial wings united at their inner edges and a wire wound around said web or spider, substantially as described and shown.

2. In combination with a web or core having radial wings, a wire wound spirally upon the web, and a strainer or gauze covering surrounding the wire, substantially as set forth.

3. In combination with a core or web having radial wings, a wire wound spirally around said core, a gauze covering surrounding the wire, and a perforated metal jacket enveloping the gauze, as and for the purpose set forth.

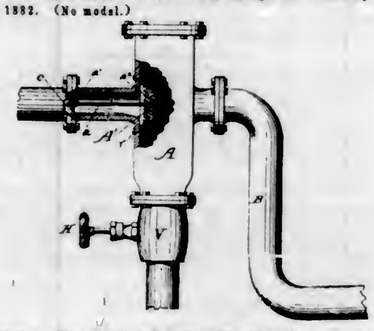
262,463. DRAG-SAWING MACHINE. THOMAS F. OSBORN, St. Louis, Mo., assignor of one-half to James H. Purdy, same place. Filed Nov. 28, 1881. (No model.)

Claim.—1. The combination, with saw P and frame O, having sliding bar *o'*, of the vertical guide-bar T, gravitating box S, sliding thereon, cross-bar V', chain U, connecting box with cross-bar, standard T', rod W, having stirrup W', and the lever V, hinged to the standard and connecting the cross-bar with the rod, as set forth.



2. The combination of duplicate saws P O *o'* P O *o'*, vertical guide-bars T T, boxes S S, sliding on said bars, chains U U, cross-bar V', lever V, standard T', rod W, and stirrup W', pitmen M M and fly-wheels K K, the said fly-wheels and pitmen adapted to move the saws in opposite directions to equalize strain, as set forth.

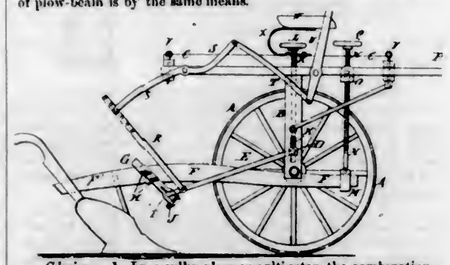
262,464. FISH-TRAP. JOHN OTTER, Chicago, Ill. Filed Apr. 21, 1882. (No model.)



Claim.—The chamber A, having its side walls to stand at right angles to those of the supply-pipe B and affording water-space for fish and other solid matters above, below, and on each side of the column of water passing through the supply-pipe, in combination with perforated diaphragm A', substantially as and for the purpose described.

262,465. SULKY-PLOW, &c. WILLIAM B. PACKARD, Bloomington, Ill. Filed Apr. 24, 1882. (No model.)

Brief.—The bail or plow-crank is pivoted at each end upon studs or blocks, which have vertical movement in the frame by screws having hand-wheels. Vertical adjustment of the front end of plow-beam is by the same means.



Claim.—1. In a sulky plow or cultivator, the combination, with the plow-beam F and its eye G, having a clamp, I J, and set-screws H, of the bail E, connected to an adjustable bolt, D, controlled by a hand-wheel screw, K, and the slotted upright bow or frame B, which receives the bolt D, substantially as shown and described, and for the purpose set forth.

2. In a sulky plow and cultivator, the combination, with the plow-beam F and its eye G, having the clamp I J and screws H, and the pivoted bail E, of the bars R and T and levers S and U, substantially as shown and described, and for the purpose set forth.

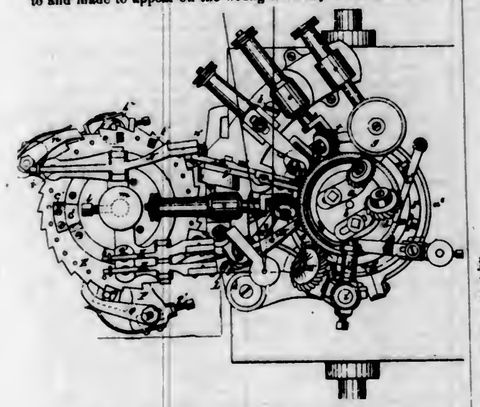
262,466. PATTERN-WHEEL FOR KNITTING-MACHINES. JAMES A. PAGE, Lowell, Mass. Filed Aug. 25, 1881. (No model.)



Claim.—An improved pattern-wheel constructed, substantially as herein shown and described, with the ratchet-teeth *a'* and the plain portion *b* at one side of the said ratchet-teeth, having pins *m* and holes *m'*, and the removable blocks *l*, provided with holes *c'* near their ends, one set of holes fitting over pins *m* and the other set receiving screws *n*, passing through said holes, and thence into the holes *m'*, as set forth.

262,467. KNITTING-MACHINE. JAMES A. PAGE, Lowell, Mass. Filed Dec. 12, 1881. (Model.)

Brief.—The invention is adapted to knit a striped fabric. Novel mechanism is provided for operating the pattern-wheel, by which the yarn-guides are thrown into and out of action and the shears for severing the withdrawn yarn is operated. By the means set forth in the fifth claim the cut-off ends of the yarn are carried to and made to appear on the wrong side only of the fabric.



Claim.—1. The combination, with the needle-cylinder B, of the loose ratchet-wheels E and G, the vertical shaft D, the pivoted rocking arm F, carrying at opposite ends the pawls *o* and *p*, and suitable means for operating said arm, substantially as shown and described.

2. The combination, with the yarn-guiding levers M, the ratchet-wheel having cams thereon, an eccentric-strap, a pawl-carrier, a rod connecting the pawl-carrier with said strap, the needle-cylinder, the levers K L, and mechanism for connecting lever K with the ratchet-wheel, of the ball-jointed pitmen, arranged as and for the purpose specified.

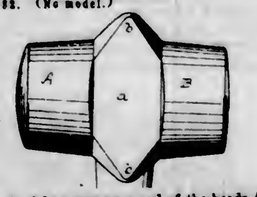
3. The combination, with the hinged arm *w*, finger-piece *w'*, dog *o*, ratchet-wheel E, ratchet-wheel G, having pin *f'*, and means for operating said wheel G, of the pattern-cam H, pawl *r*, arm *u*, and ratchet-wheel I, substantially as shown and described.

4. The combination of the pawl *p*, pin *g'*, washers *k'*, slotted pawl-carrier F, adjustable plates *k'*, ratchet-wheel E, bracket C, and mechanism for operating the said pawl-carrier F, substantially as shown and described.

5. The combination, with the needle-cylinder and needles, the loop-wheel *e*, the shears, and suitable means for operating said shears, of the finger *e'*, extending in front of the shears and terminating near said loop-wheel *e*, the wheel F, having spiral teeth adapted to work between the needles, the plate P, adapted to press on the beards of the needles, and the finger F, all as shown and described, whereby the cut-off yarn end is kept above the top of the needles and then bent inwardly by the finger, as described.

6. The combination, with the carrier F and suitable means for operating it, the pawl *p*, and the ratchet-wheel G, of the adjustable plates *k'*, as and for the purpose set forth.

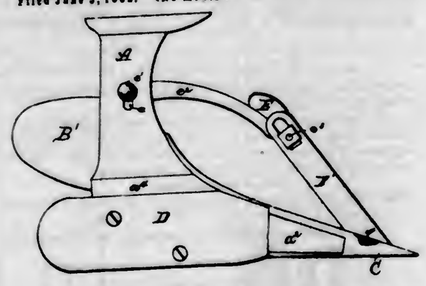
262,468. HAMMER. THOMAS PARTLAN, Rondout, N. Y. Filed Apr. 18, 1882. (No model.)



Claim.—1. A hammer composed of the heads A B, in which the bulk of the metal is distributed, and the sunken socket-walls *a a*, whereby the heads are balanced, substantially as described.

2. In a double-headed hammer in which the bulk of the metal is arranged in the heads, the connecting socket-walls *a a*, sunk below and between said heads and extended longitudinally to afford a compensating increase of bearing for the handle, substantially as set forth.

262,469. PLOW. JAMES A. PEER, North Manchester, Ind. Filed June 3, 1882. (No model.)

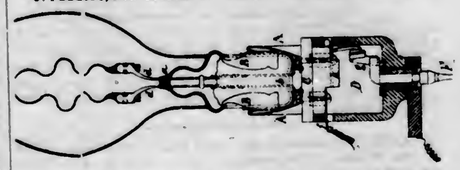


Claim.—1. The standard A, having a ledge, *a'*, recess *a'*, projection *a'*, dovetail recess *a'*, and an inclined flange, *a*, adapted to receive the cutter and mold-board, substantially as shown and described.

2. The plow-point C, made wedge shaped and recessed transversely the rear portion of its length, and having projecting from its ends the loop or bar *c*, substantially as shown and described.

3. The combination of the standard A, projection *a'*, and recess *a'* with the landside D, its pin *d*, and plow-point C, all arranged to operate substantially as and for the purposes set forth.

262,470. SWITCH FOR INCANDESCENT LAMPS. CHARLES G. PERKINS, New York, N. Y. Filed Nov. 1, 1881. (Model.)

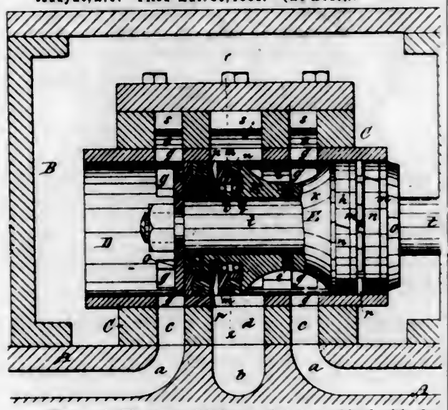


Claim.—1. A switch for incandescent lamps, consisting of a spring, *g*, secured to the handle F, in combination with the switch-box D, the lid of which has two lugs, *h h*, between which is a contact-plate, E, for the purpose of putting the lamp in or out of circuit, substantially as described.

2. In a switch for incandescent lamps, the combination of the lid C of the switch-box, and the pieces A A, secured to the upper side of the same, with the contact-plate E and spring *g*, said spring being secured to the handle F, and so constructed that by turning the handle it will describe an arc around the under side of the lid C and be made to snap on or off the contact-plate E, substantially as described.

3. The switch-box D, having two bayonet-grooves in the opposite sides of the top thereof, in combination with the disk or cover C, having the projection *e* on one side and the metallic spring *f* on the opposite side, which fit into the grooves at the top of the switch-box for the purpose of securing the lid to the same, and so arranged as to form a means of electrical connection with the contact-spring *g*, substantially as described.

262,471. STEAM PISTON-VALVE. WALTER S. PHELPS, Wortendyke, N. J. Filed Mar. 23, 1882. (No model.)

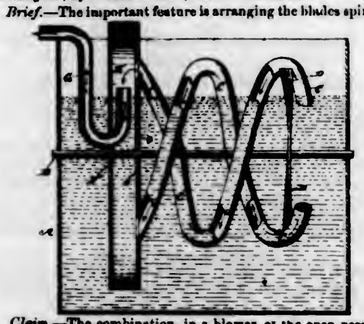


Claim.—1. The grooved follower-ring *p*, combined with the compressing-rings *m* and packing-rings *n* of the piston-valve, substantially as and for the purpose set forth.

2. A piston-valve provided with two compression-rings, *m*, and packing-rings *n*, separated by a follower, *p*, the outer rings, *m*, being fitted to receive steam from the chest and the inner rings from the cylinder, substantially as shown and described.

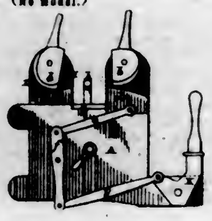
262,472. AIR-FORCING APPARATUS. WILLIAM Q. PREWITT, Lexington, Ky. Filed Dec. 1, 1881. (No model.)

Brief.—The important feature is arranging the blades spirally.



Claim.—The combination, in a blower, of the open vessel A, for containing water, with the coil of spiral tubes C, connected with one of the sides of a rotary air-receiver, E, and located to revolve about a horizontal axis within the water-vessel, and the stationary air-discharge pipe G, entering the said receiver, substantially as shown and described.

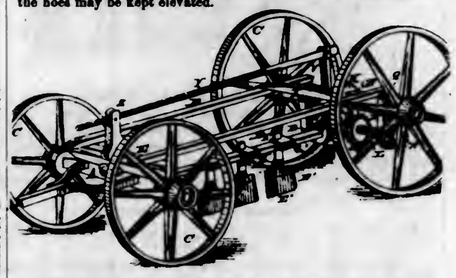
262,473. TIRE-UPSETTER. JOHN RAIBLE, Verona, Pa. Filed Dec. 29, 1881. (No model.)



Claim.—In a tire-upsetter, the combination of the frame A, having the rounded portion *a*, the sliding block *d*, the levers K *f*, links *e g*, cams *b*, and the slotted gage J, having the bent end *h*, to catch over the top of the tire between the cams, and thus prevent the tire from bulging, substantially as shown.

262,474. COTTON-CHOPPER. WILLIAM O. RAINS, Edom, Tex. Filed Apr. 15, 1882. (No model.)

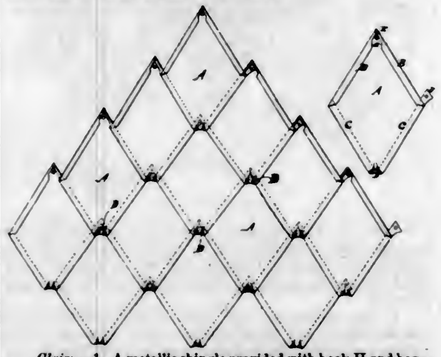
Brief.—The hoes are all upon one side of the shaft. The loose gear-wheel slides in or out of gear upon the shaft. The inner end of this wheel is shaped in bevel or cam form, and when out of gear and the hoes turned up it binds against a hanger, by which means the hoes may be kept elevated.



Claim.—The combination, with the rotary chopping-shaft provided with the sliding gear-collar, the inner face of which is beveled round to form a shoulder, of a cross-piece, X, having a downwardly-extending perpendicular stop-piece, C', substantially as set forth.

262,475. METALLIC ROOFING-SHINGLE. EPHRAIM B. RUPP, New Windsor, Md., assignor to the Anglo-American Roofing Company, New York, N. Y. Filed Oct. 8, 1881. (No model.)

Brief.—A perforated hook on the side of the shingle enters a notch in the upper flanges at the top of the adjoining shingle. By means of a notch cut at the lower end of the lower flanges on the under side of the shingle the upper flanges of the next adjoining shingles fit snugly up against the shoulders formed by the depression at the lower point of the shingle.



Claim.—1. A metallic shingle provided with hook H and having its edges turned over on opposite sides of its face to form engaging-flanges, and the meeting edges of the flanges notched or cut out, as shown, to receive the hook of the adjacent shingle when laid, for the purposes herein specified.

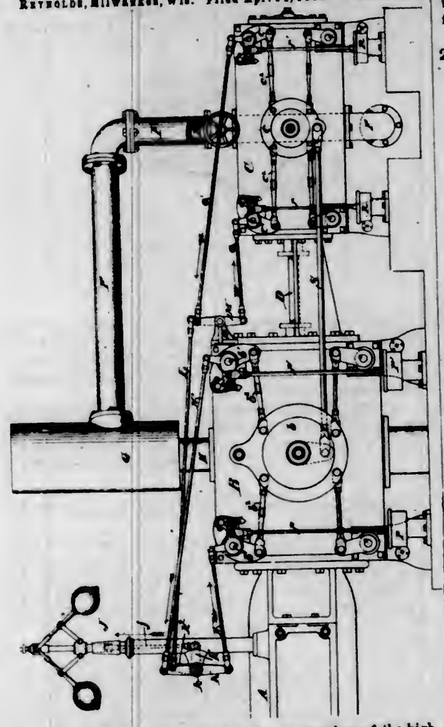
2. In a metallic shingle having its edges turned over on opposite sides of its face to form engaging-flanges, a perforated hook, H, adapted to pass under the upper flanges of the next shingle in the order of laying, and adapted to fasten the two shingles to the roof, as described, for the purposes specified.

3. In a metallic shingle having its edges turned over on opposite sides of its face to form engaging-flanges, the indentation or depression D, substantially as described, for the purposes specified.

4. The combination, in the metallic shingle A, having the flanges B B and C C, of the flange *b* with the notch *a* and shoulder formed by the indentation or depression D, substantially as described, for the purposes specified.

5. The combination, in the metallic shingle A, of the flanges B B and C C on opposite faces thereof, and the notches *a a* with the hook H, flange *b*, and indentation or depression D, substantially as herein shown and described, for the uses and purposes specified.

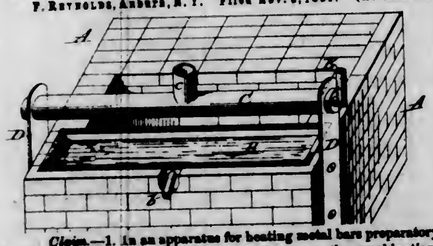
262,476. VALVE-GEAR FOR COMPOUND ENGINES. EDWIN REYNOLDS, Milwaukee, Wis. Filed Apr. 14, 1882. (No model.)



Claim.—1. The combination of the steam-valves of the high and low pressure cylinders, and an intermediate receiver which receives the exhaust-steam from the high-pressure cylinder and delivers it to the low-pressure cylinder, with automatic governor mechanism for regulating the steam-valves of both cylinders and causing them to simultaneously cut off earlier or later in the strokes of the piston, substantially as described.

2. The combination, with the gears giving motion to the steam-valves of the two cylinders of a compound engine, of the regulator J, rocker-arms K and M, and links or rods L, N N', and O O', arranged to simultaneously lengthen or shorten the cut-off or closing movement of said valves, substantially as described.

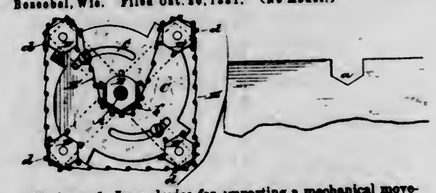
262,477. FURNACE FOR HEATING METAL BARS. SAMUEL F. REYNOLDS, Auburn, N. Y. Filed Nov. 3, 1881. (No model.)



Claim.—1. In an apparatus for heating metal bars preparatory to forming collars or shoulders upon the same, the combination, with a forge, of a perforated water-pipe inclosed in an air-pipe having a longitudinal slot, said pipes being adapted to force water under pressure of an air-blast against those portions of the bars upon which collars or shoulders are to be formed, substantially as set forth.

2. The combination, with the furnace A, having water-trough or tank B, of the air-pipe C, having a longitudinal slot, *d*, and the perforated water-pipe E, arranged within said air-pipe, whereby water may be forced under pressure of an air-blast against portions of metal bars placed over said furnace, substantially as and for the purpose described.

262,478. MECHANICAL MOVEMENT. JAMES C. RICHARDSON, Rosebel, Wis. Filed Oct. 20, 1881. (No model.)



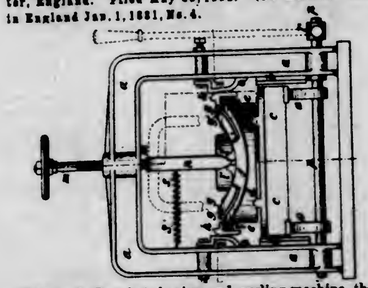
Claim.—1. In a device for imparting a mechanical movement, a series of loosely-journaled reel-rollers, combined with a reel-shaft and connections, substantially as described, whereby an independent rotary motion is imparted to said rolls, as and for the purposes specified.

2. In a mechanical movement, the fixed sleeve B *b b'* and endless chain E, combined with the roller-heads D *d*, as set forth.

3. The heads C *c*, combined with rollers D *d*, the chain E, fixed sleeve B *b* and power-connections, as set forth.

4. The combination of the fixed sleeve or bearing B *b b' b'*, heads C *c*, and rollers D D *d* with the endless chain E and shaft A, having proper power-connections, as specified.

262,479. APPARATUS FOR SHAPING AND CURLING HAT-BRIMS. THOMAS ROWBOTHAM, Hazel Grove, County of Chester, England. Filed May 22, 1882. (No model.) Patented in England Jan. 1, 1881, No. 4.



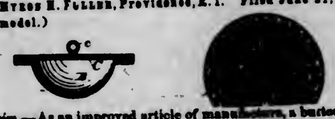
Claim.—1. In a hat shaping and curling machine, the combination, with the bail or fork *n*, having tapering ends of the curved plates *l*, provided with the vertical end projections *l'*, having inclined faces, substantially as and for the purpose set forth.

2. In a hat shaping and curling machine, the hat-block mounted upon a table adapted to be forced upward, in combination with inclines *h* and *i*, plates *f f*, expanding former *l l*, and the forks *n n*, substantially as and for the purposes set forth.

3. In an apparatus for curling hat-brims, the rising table *e*, forks *n n*, the hat-block placed upon the table-plates *f f*, expanding former *l l*, inclines *h* and *i*, and the spring *o*, substantially as and for the purposes set forth.

4. In a hat shaping and curling machine, the adjustable gage stops *t*, combined with hat-block *e* and plate *f*, substantially as and for the purpose set forth.

262,480. BUTTON. EDWARD H. ROTCH, FREDERICK W. ALLEN, and MYRON H. FULLER, Providence, R. I. Filed June 21, 1882. (No model.)



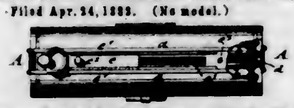
Claim.—As an improved article of manufacture, a button consisting of a central portion composed of one metal, a rim portion composed of another and contrasting metal, and a shank-plate having a suitable eye, the several parts being united by upsetting the wall or edge of the rim in the manner set forth.

262,481. PROCESS FOR CRYSTALLIZING TIN-PLATE. FRANKLIN RUDOLPH, Chicago, Ill. Filed Jan. 27, 1882. (No specimens.)

Brief.—The plates are heated after application of the acid.

Claim.—The process herein described of crystallizing tin plates, consisting of first removing the oil or greasy matter adhering thereto, then covering said plates with a mixture of acids, and then exposing such plates with the acid thereon to the action of heat, substantially as set forth.

262,482. POCKET-BOOK FRAME. SIMON SCHRUBB, New York, N. Y. Filed Apr. 24, 1882. (No model.)



Claim.—1. A pocket-book frame provided with an exterior guard, to which the closing-flap is applied, jaws that are pivoted to the lower ends of the guard, guideways on the upper part of the guard, and the sliding cover for opening or closing the slot, substantially as described.

2. A pocket-book frame provided with an exterior guard, to which the closing-flap is applied, jaws that are pivoted to the lower ends of the guard, inwardly-projecting stops *d*, to prevent the jaws from closely uniting, guideways on the upper part of the guard, and the sliding cover for opening or closing the slot, substantially as described.

262,483. FIRE-PROOF BUILDING. JOHN J. SCHILLINGER, New York, N. Y. Filed Mar. 23, 1882. (No model.)

Brief.—Metallic caps cover the tops of the wooden girders and the interposed wedge-shaped bricks.



Claim.—The combination, with the wooden floor-beams in a building, of wedge-shaped hollow bricks the narrow ends of which are fastened to the beams, shoulders formed on the vertical faces of said bricks, cleats secured to the beams and engaging with said shoulders, filling-pieces secured to the bottom edges of the beams, and caps fastened to the top edges of the beams and overlapping the narrow ends of the bricks, substantially as and for the purpose set forth.

262,484. FIRE-PROOF BUILDING. JOHN J. SCHILLINGER, New York, N. Y. Filed Mar. 23, 1882. (No model.)

Brief.—Wedge-shaped tiles fit upon the inclines on the upper surfaces of the hollow bricks, that fit between two adjacent beams, and metal caps protect the girders at the top.



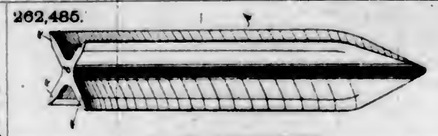
Claim.—1. The combination, substantially as hereinbefore described, with the wooden floor-beams in a building, of hollow bricks fitting between two adjacent beams, shoulders formed on the opposite sides of said bricks, cleats secured to the beams and engaging with said shoulders, inclines formed on the upper surfaces of the bricks, wedge-shaped protecting-tiles which fit the inclines of the bricks and are fastened to the sides of the beams, and filling-pieces fastened to the bottom edges of the beams.

2. The combination, substantially as hereinbefore described, with the wooden floor-beams in a building, of hollow bricks fitting between the adjacent beams, shoulders formed on the opposite sides of said bricks, cleats secured to the beams and engaging with said shoulders, inclines formed on the upper surfaces of the bricks, wedge-shaped protecting-tiles which fit the inclines of the bricks, filling-pieces fastened to the bottom edges of the beams, and caps fastened to the top edges of the beams and overlapping the upper edges of the protecting-tiles.

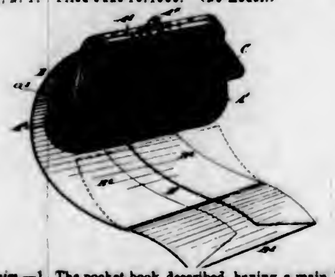
262,485. TORPEDO-EXPLODER. JAMES S. SCHOONOVER, Titusville, Pa. Filed Apr. 14, 1882. (No model.)

Claim.—As an improved article of manufacture, the torpedo-exploder A, consisting of the small central web, *b*, having the radial wings *a a*, all made in one piece, substantially as and for the purpose set forth.

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262,486. PURSE. PAUL SCHRADER and WILLIAM STAHL, New York, N. Y. Filed June 13, 1882. (No model.)

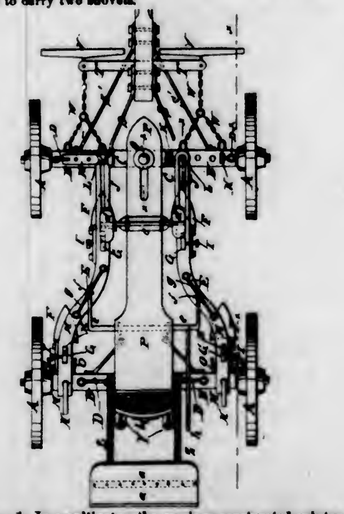


Claim.—1. The pocket-book described, having a main body, A, adapted to serve as a purse, in combination with the holder B, arranged to envelop the same, secured by an independent fastening, C D, so that either may be opened and closed without disturbing the other, as herein specified.

2. The bill-holder B, with its inside flaps, B^2, and folded end flap, B^3, in combination with the purse A and metal frame A^2, both the purse and the bill-holder being attached to the single metallic frame A^2, but provided with separate fastenings, substantially as herein specified.

262,487. CULTIVATOR. WILLIAM SCOTT, Buffalo, W. Va. Filed Jan. 23, 1882. (Model.)

Brief.—Four wheels and double arches. The plow-beams and the seat-board are connected to the front axle by slotted links for convenience in turning and to allow a limited free movement. An armed rock-shaft lifts the rear end of the plow-beams, which slide up and down on guides. The plow-beams are shod with iron and curved to carry two shovels.



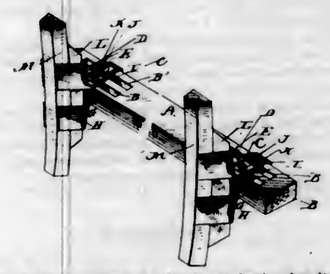
Claim.—1. In a cultivator, the carriage constructed substantially as herein shown and described, and consisting of the wheels A, axles B, arched bars C, slotted seat-board P, and king-bolt Q, as set forth.

2. In a cultivator, the combination, with the forward axles B and plow-beams E, of the rigid slotted clevises J, the angle-bars K, and the pins L, substantially as herein shown and described, whereby the plow-beams will be drawn and the forward axles will be free to play in turning the cultivator, as set forth.

3. In a cultivator, the combination, with the plow-beams E and the rear axles B, of the facing-plates M, having their projecting rear ends perforated, and the upright rods N, substantially as herein shown and described, whereby the rear ends of the plow-beams are supported and are allowed to have a free vertical play, as set forth.

4. In a cultivator, the combination, with the seat-board P, of the U-shaped rod e, hinged to the said seat-board and provided with the foot-rests *d* at its ends, substantially as and for the purpose set forth.

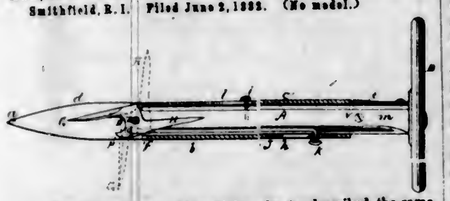
262,488. VEHICLE-BRAKE. DYAS SHELTON, Santa Rosa, Cal. Filed June 8, 1882. (No model.)



Claim.—1. In a vehicle-brake, the bar A, having longitudinal slots B B′ therein, the upper and lower clamps consisting of the rear projections, backs, and wings, formed integral, also the strap I, all of which are secured to the bar and are adjustable laterally thereon, substantially as described, and for the purposes set forth.

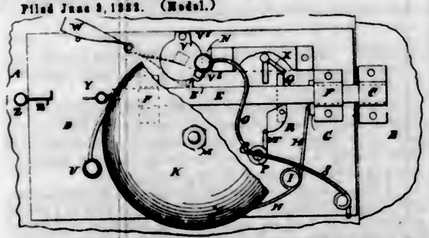
2. The bar A, provided with slots B B′, the upper and lower clamps, constructed as specified, and the back strap, I, in combination with the block L and shoe M, all arranged so as to conform to the change occasioned by the dishing of a vehicle-wheel, substantially as described, and for the purposes set forth.

262,489. CRANIAL PERFORATOR. STEPHEN SLATER, North Smithfield, R. I. Filed June 2, 1882. (No model.)



Claim.—The improved cranial perforator described, the same consisting of the body A, terminating in the point *a*, and provided with the pivoted knife D, rod J, sheath C, and handle B, constructed and arranged to operate substantially as and for the purpose specified.

262,490. DOOR-ALARM. CHARLES A. SMITH, St. Louis, Mo. Filed June 3, 1882. (Model.)

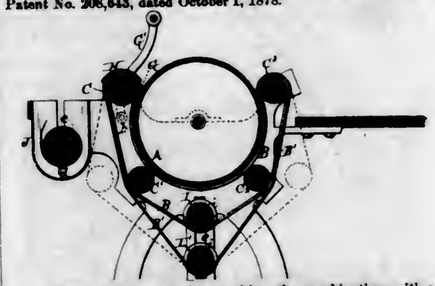


Claim.—1. The combination of sliding bolt E, pin G, spring H, bar Q, swinging cam R, hammer N O, spring S, bell K, and suitable knob or key for operating the bolt, as set forth.

2. The combination of knob V, tumbler V′, with pins V^2 V^3, sliding bolt E, secured to the plate F and having pin or stud E^2, hammer U, bar Q, cam R, pin G, keeper C, spring H, hammer N O, spring S, and bell K, all made substantially as and for the purpose set forth.

262,491. IRONING-MACHINE. HAMILTON E. SMITH, New York, N. Y. Filed Oct. 11, 1881. (No model.)

Brief.—Improvements upon the machine covered by Letters Patent No. 206,643, dated October 1, 1878.



Claim.—1. In an ironing-machine, the combination, with a polishing-roller and an apron, of movable journal-boxes G, carrying the roller which supports the apron at the receiving end of the machine, and a lever-frame connected with the journal-boxes for manipulating the same, substantially as and for the purpose described.

2. In an ironing-machine, the combination, with a polishing-roller and an apron, of movable journal-boxes G, carrying the roller which supports the apron at the receiving end of the machine, and a gravitating lever-frame connected with the journal-boxes and acting by gravity to retain the apron carrying the roller in proper working position, substantially in the manner shown and described.

3. In an ironing-machine, the combination, with a polishing-roller and apron, of movable journal-boxes carrying the roller which supports the apron at the receiving end of the machine, and a segment-guard attached to and moving with the journal-boxes, serving to support and guide the material to be introduced into the machine, all substantially in the manner and for the purpose described.

4. The combination, with a polishing-roller and apron-supporting rollers, of an inner or main apron and outer or polishing apron, both running over the rollers, substantially as shown and described, but detached from each other, for the purpose set forth.

5. The combination, with a polishing-roller and apron-supporting rollers, of an inner or main apron and an outer or polishing apron, both running over the rollers, substantially as shown and described, but detached from each other, and independent tightening-rollers, one to each apron, for the purpose set forth.

6. The combination, with a polishing-roller and apron-supporting rollers, of an apron or aprons made in sections, and a tightening roller or rollers having flanges for separating and guiding the sections of the apron, substantially as shown and described.

262,492. GRAIN-BINDER. GEORGE H. SPAULDING, Rockford, assignor of three-fourths to Wm. A. Knowlton, Winnebago County, and the McCormick Harvesting Machine Company, Chicago, Ill. Filed May 11, 1878.

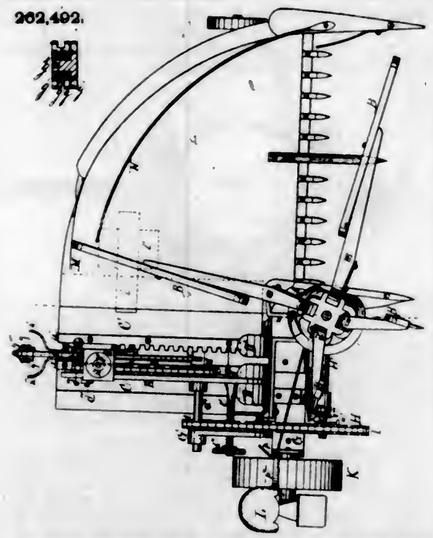
Claim.—1. The combination, with a quadrant-shaped platform, of a wire or rod secured to its forward portion and extending rearward in inward inclination from the curved outer rim of the platform, the rear portion of the wire or rod being practically concentric with the corresponding portion of the platform-rim, substantially as set forth.

2. The combination, with a quadrant-shaped platform, of a wire or rod secured to its forward portion and extending rearward in inward inclination from the outer rim of the platform, the rear portion of said wire or rod extending beyond the curved outer rim of the platform, and being practically concentric therewith, substantially as set forth.

3. The combination, with a binder-platform having a single-rack groove, of a band-carrying arm provided with three concentric wheels, the two outer wheels being rigidly secured together and the middle wheel being free, the side of the groove opposite to the rack being provided with a spring-detent whose free end projects inwardly, substantially as set forth.

4. The combination, with a band-carrying arm provided with a slotted bearing-plate, and a binder-platform whose groove has a rack formed on one side thereof and a spring-detent secured to the opposite side, with its free end projecting inward, of three concentric wheels, the two outer ones being rigidly secured together and

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the middle one being free, the middle wheel and one outer wheel being provided with annular grooves in which the bearing-plate fits, substantially as set forth.

5. The combination, with a binder-platform whose groove has one side provided with a spring-detent whose free end projects inwardly, of a band-carrying arm provided with a plate and three concentric wheels connected to the latter, the two outer wheels being rigidly secured together and the middle wheel being free, one outer wheel and the middle wheel being grooved to receive the bearing-circle of the plate, said plate being provided with a V-shaped slot opening into said bearing-circle, substantially as set forth.

6. The combination, with a binder-platform provided with an upright, and a harvester-platform provided with an upright on the driving-wheel end of the cutter-bar, of a screw-shaft which connects said two uprights and maintains both platforms in desired relative position, substantially as set forth.

7. The combination, with a harvester-platform and a binder-platform, having their under sides connected together by guides and guideways, of an upright secured to the binder-platform, an upright secured to the harvester-platform, and an adjusting device which connects said two uprights, substantially as set forth.

8. The combination, with an upright shaft carrying the rake, a horizontal shaft gearing therewith, a loose wheel on the latter shaft, and clutch mechanism operated by the rake-arms, of a belt running to the binder-platform from the loose wheel, a vehicle provided with band-carrying arms and traveling on an elevated track, and a shaft which connects the vehicle-actuating belt and the loose wheel, substantially as set forth.

9. The combination, with an upright shaft carrying the rake, a horizontal shaft gearing therewith, and a belt-wheel loosely mounted on the latter shaft, of a sliding bar adapted by engagement with the rake-arms to throw said wheel in clutch with the shaft, a spring which tends to retract the bar, and a spring-detent adapted by engagement with a stud on the belt-wheel to release said clutch engagement, substantially as set forth.

10. The combination, with an upright shaft carrying the rake, a horizontal shaft gearing therewith, a loose wheel mounted on the latter shaft, and rake-arms provided with depending studs, of a sliding bar adapted by engagement with the studs to throw the wheel in clutch with its shaft, a spring which tends to retract the bar, and a spring-detent which releases the clutch engagement by engaging with a stud on the wheel, together with a belt which passes to the binder-platform, a vehicle traveling on an elevated track and provided with band-carrying arms, and a shaft which connects the vehicle-actuating belt and the loose-wheel belt, substantially as set forth.

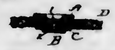
11. The combination, with the longitudinally-slotted platform and the elevated crane-like arm horizontally overhanging the same, of a vehicle to which the forward band-carrying arm is pivoted, and by which it is moved in the platform-slot, said band-carrying arm having its upper extremity pivoted to the belt or chain which actuates said vehicle, substantially as set forth.

12. The combination, with a binder-platform formed with a longitudinal slot, in which the band-carrying arms work, and an elevated trackway, of a vehicle which is moved over the latter by a suitable belt or chain, together with a forward band-carrying arm adapted to have suitable movement imparted thereto by direct pivotal connection, respectively, with said vehicle and belt or chain, substantially as set forth.

13. The combination, with a binder-platform formed with a longitudinal slot, in which the band-carrying arms work, and an elevated trackway, of a vehicle actuated in movement over the latter by a suitable belt or chain, together with a band-carrying arm which is directly connected with both said vehicle and belt or chain, substantially as set forth.

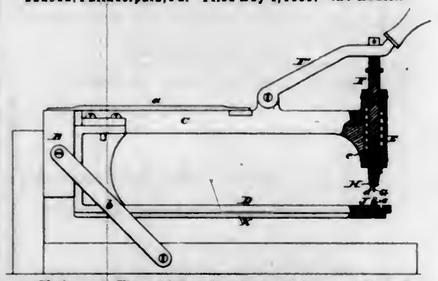
14. The combination, with the chain operating the moving vehicle on the elevated trackway, intermediate shaft provided with sprocket-wheels on both ends, and connecting chain belt, of the main sprocket-wheel loosely mounted on the front horizontal shaft, which latter is rotated by bevel-gearing with the vertical shaft supporting the reel and rake-arms, together with shaft-clutch mechanism and shifting bar adapted to be actuated by engagement with studs formed on said reel and rake-arms, substantially as set forth.

262,493. BUTTON. WILLIAM STEBO, Virden, Ill. Filed May 3, 1882. (No model.)



Claim.—As an improved article of manufacture, a button composed of the perforated head A, shoe B, and a shank, 2, adapted to be secured to the head A by upsetting, substantially as described, and a washer, C, fitting loosely upon the said shank between the shoe and the fabric, and being of greater diameter than the said shoe, substantially as and for the purpose set forth.

262,494. EYELET-EMBOSSING MACHINE. SAMUEL STERNBERGER, Philadelphia, Pa. Filed May 4, 1882. (No model.)



Claim.—1. The eyelet-embossing machine consisting of a guided plunger with a working-face, G H, and a perforated bed, J, substantially as and for the purpose set forth.

2. An eyelet-embossing machine consisting of a guided plunger having a working-face, G H, and a perforated bed, J, the latter being detachably secured to a table, D, which is permanently attached to the frame of the machine and occupies a position between the base and the upper arm thereof

262,495. OVEN AND ROLL FOR FLATTENING GLASS. ALLEN D. STEVENSON and GEORGE F. WILSON, New Castle, Pa. Filed May 16, 1882. (No model.)

Claim.—1. The process of flattening glass, consisting in first blowing the glass into cylinders, splitting the same, and then subjecting it to heat within a heating-chamber of a furnace, and finally passing it from the heating-chamber between flattening-rolls to a cooling-chamber, substantially as set forth.

2. In a combined heating and cooling oven, the combination, with a set of flattening-rolls arranged within the oven, of a curved or semi-circular hood or screen supported above the rolls to protect the latter from dust, &c., substantially as set forth.

3. In a combined heating and cooling oven for glass, the combination, with the flattening-rolls and the stone of the cooling-chamber, of a stationary and a hinged guard arranged respectively one on either side of said stone, substantially as set forth.

4. In a combined heating and cooling oven for glass, the combination, with the flattening-rolls and their shafts, of pulleys mounted on the frame of the oven and chains passing around said

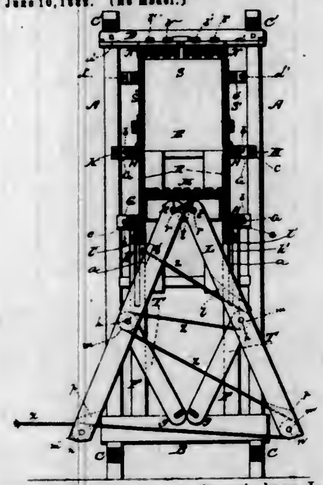
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pulleys and secured at one end to the upper shaft of the rolls and provided with weights at their opposite ends, substantially as set forth.

5. In a combined heating and cooling oven for glass, the combination, with the heating and cooling chambers, of a set of hollow flattening-rolls mounted on shafts, which latter are journaled in brackets or housing on each side of the oven and are provided with intermeshing gear-wheels, pulleys, and weighted chains, said chains being connected to the shaft of the upper roll and adapted to pass around the pulleys, substantially as set forth.

262,496. BALING-PRESS. JOHN J. STOPPLE, Belleville, Tex. Filed June 10, 1882. (No model.)



Claim.—1. In a baling-press, the main levers L, having rounded meeting ends *i*, independently pivoted to the follower, and the oblique pivoted equalizing-link *e*, connecting the ends of said main levers, substantially as specified.

2. In a baling-press, the toggle-levers T T, pivoted at their upper ends to the main levers, and having the lower meeting ends, *g*, rounded concentrically with reference to the sill-bearings, substantially as specified.

3. In a baling-press having vibratory main levers L, the end openings, *k'*, in the lower portion of the baling-box, and the vertically-reciprocating doors R in connection therewith, said doors being raised independently of the follower and directly and automatically in pressing a bale by the action of the main levers L L, substantially as specified.

4. In a baling-press, the main doors S S' of the press-box, hinged at their lower edges, the centrally linked and headed clamps V, and the internally-shouldered battens *c* of the side doors, one of which is provided with end notches, *d'*, to engage the heads of the jointed clamps, substantially as specified.

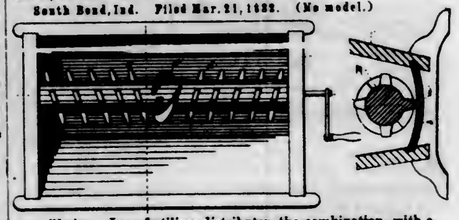
5. In a baling-press, the perforated pivot-pins h of the toggle-levers, connecting the same to the main levers, and the transverse bolts *k* through the heads of the toggle-levers and through said pivot-pins, substantially as specified.

262,497. PREPARED COCOANUT. EDWD. STOW and CHAS. B. OVERHAUSH, Eufaula, Ala. Filed May 19, 1882. (Specimens.)

Brief.—The grated nut, glucose, and "A" sugar are heated together in a copper below boiling until the sugar is absorbed. Then granulated sugar is rubbed in dry.

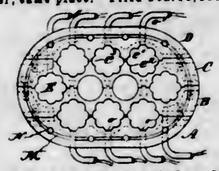
Claim.—An improved preparation of cocoanut for food purposes, consisting of grated cocoanut, sugar, and glucose, as herein described and set forth.

262,498. FERTILIZER-DISTRIBUTER. JACOB STRATER, South Bend, Ind. Filed Mar. 21, 1882. (No model.)



Claim.—In a fertilizer-distributer, the combination, with a hopper provided with a suitable opening for the passage of the material, of a shaft or cylinder provided with a spiral agitator arranged above said opening, and with teeth arranged spirally on either side of the agitator and at opposite inclinations, to form a right and left hand spiral conveyer for the material, substantially as set forth.

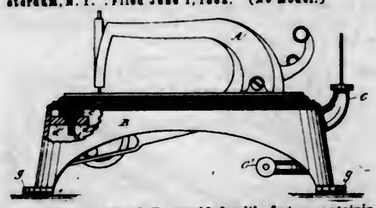
262,499. CONDUIT FOR ELECTRICAL CONDUCTORS. SAML. D. STROHM, Philadelphia, Pa., assignor of one-half to Harrison Snyder, same place. Filed Feb. 18, 1881. (No model.)



Claim.—1. A conduit for electrical conductors, composed of the sections A B C D, having their opposing sides, respectively, grooved or channeled to form passages, said sections having transverse and longitudinal flanges, whereby they are bolted together, substantially as shown and described.

2. A conduit for electrical conductors, consisting of chambered sections, substantially as described, having longitudinal channels with fluted sides, forming bearings for tubes or cables, substantially as set forth.

262,500. SEWING-MACHINE STAND. DENNIS SWEENEY, Amsterdam, N. Y. Filed June 1, 1882. (No model.)



Claim.—1. Stand B, provided with feet *g*, containing the holes *g'*, combined with the spool-holders C and C', a thread-guide, D, and lugs *d'*, containing the holes *d''*, and adapted to receive the pins *d* and support a sewing-machine, all substantially as described.

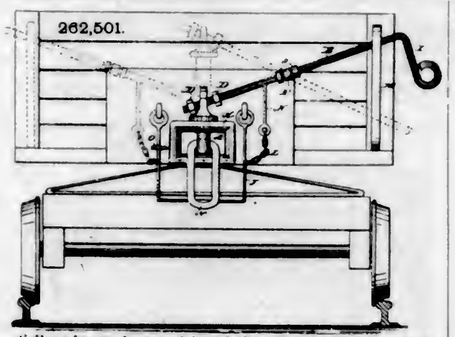
2. The stand B, provided with feet containing screw-holes *g'*, combined with the spool-holders C and C', thread-guide D, lugs *d'*, having therein the holes *d''* to receive the pin *d*, and the packing *e*, all substantially as set forth.

3. The stand B, provided with feet *g*, containing screw-holes *g'*, combined with the lugs *d'*, having therein the holes *d''*, and the spool-holder C, all as described and set forth.

262,501. CAR-COUPLING. WILLIAM H. SWINFORD, Cherokee, Ala. Filed June 10, 1882. (No model.)

Claim.—1. The combination, with the draw-head K and the coupling-pin A, of the lever E, jointed to the coupling-pin, and mounted loosely in the end of an arm, G, swiveled on the end of the car, the arm M, the chain L, and the pivoted bail J, substan-

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tially as herein shown and described, and for the purpose set forth.

2. The combination, with the draw-head K and the coupling-pin A, of the lever E, jointed to the coupling-pin, and mounted loosely in the end of an arm, G, on the end of the car, the handle I at the end of the lever E, the guide-bar H, the arm M, the chains L, and the pivoted bail or U-shaped frame J, substantially as herein shown and described, and for the purpose set forth.

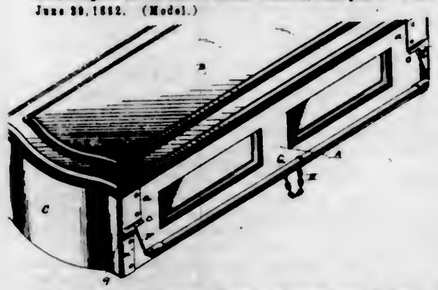
3. The combination, with the draw-head K and the coupling-pin A, of the lever E, jointed to the coupling-pin, and mounted loosely in the end of an arm, G, on the end of the car, the arm M, the chain L, the pivoted bail J, and the check-frame O, substantially as herein shown and described, and for the purpose set forth.

262,502. IRONING-BOARD. AUGUST O. TANNENBERG and JOHN R. BARNUM, Newton, Kans. Filed Dec. 23, 1881. (Model.)



Claim.—The boards A B, hinged and connected together by tongues and grooves D C, and provided with the angular transverse grooves F in the under side of the tongues of board B and in the upper surface of the tongues of board A, in combination with the arms G, connected by mortise and tenon with board A, the brace H, hinged to the board B and having at the upper end a strap, J, with a series of apertures, K, and the pin L, projecting from the board A, as shown and described.

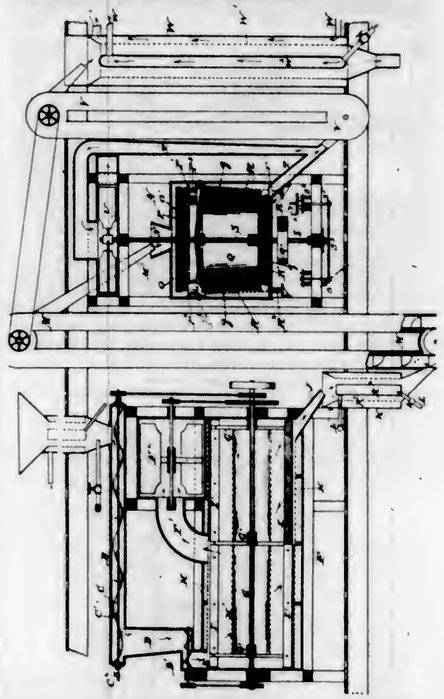
262,503. BURIAL-CASKET. ANDREW W. TAYLOR, Salisbury, Md., assignor of one-half to RUBIN WINFREE, same place. Filed June 30, 1882. (Model.)



Claim.—1. The combination, in a rectangular casket, of long handles or bars, chain-checks, crank-connections, and the metal ends formed with sockets and stops, substantially in the manner and for the purposes described.

2. The metallic casket head or foot consisting of the broad flanges *a*, the narrow flanges *a'*, the intermediate sockets, the shoulders *c*, and the base-flange *b*, all combined and forming an integral part, substantially as described.

262,504. PROCESS OF AND APPARATUS FOR CLEANING GRAIN. WILLIAM L. TETER, Philadelphia, Pa., assignor to the Eclipse Improved Wheat Cleaning Machine Company, Camden, N. J. Filed Oct. 7, 1881. (No model.)



Claim.—1. The herein-described process for cleaning grain, which consists in first heating the grain, then steaming it to moisten its outer coating, then treating the moistened grain with cold-air currents and friction or attrition, and when cold reheating said grain and subjecting it to a second frictional treatment and air-currents, substantially as and for the purpose specified.

2. The herein-described process for cleaning grain, which consists in first heating the berry throughout and steaming the same, then subjecting said grain to attrition and at the same time exhausting the loosened coatings and moisture, causing the internal heat to come to the surface of the berry during the attrition action, then reheating the grain, then subjecting it to a second attrition, and finally subjecting said cleaned grain to dry heat before being ground, substantially as and for the purpose specified.

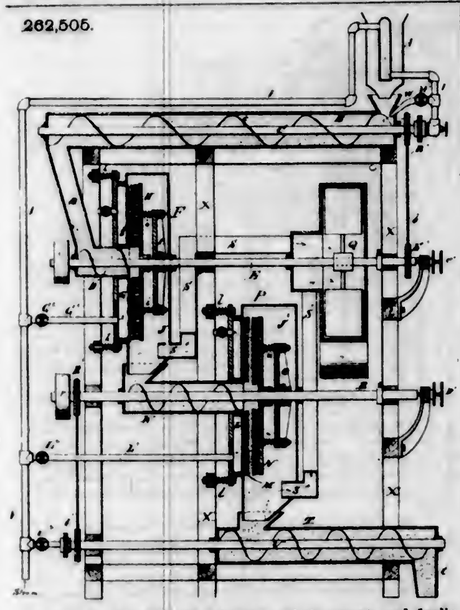
3. A grain-cleaning apparatus which consists of a steaming device, in combination with a conveyer by which the grain is fed from the steamer, an attrition and drying machine, F, a heater, K, through which the grain is passed to dry it, a brush or finishing-machine, N, provided with suction-fan U and suction-tube T, opening into the discharge-tube of said machine N and a drier, W, through which the grain is passed, substantially as and for the purpose specified.

262,505. PROCESS OF AND APPARATUS FOR CLEANING GRAIN. WILLIAM L. TETER, Philadelphia, Pa. Filed Dec. 23, 1881. (No model.)

Claim.—1. The herein-described process for cleaning grain, which consists in first heating said grain without moistening it to draw the internal moisture to the surface, and then treating it to friction or attrition and air-currents to remove the outer or bran coating, and then thoroughly heating the perfectly-cleaned grain with dry heat and without air-currents, all and for the purpose specified.

2. The herein-described process for cleaning grain, which consists in the following steps, to wit: first heating the grain with dry heat, then slightly moistening it, then subjecting it to the combined action of dry heat, hard friction, and currents of air, then subjecting it to dry heat, slight friction, and air-currents, and finally heating it after it has had its outer coating entirely removed, substantially as and for the purpose specified.

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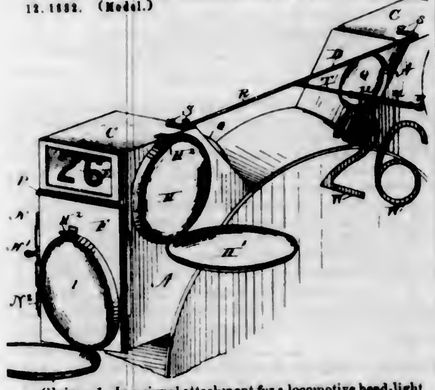
3. Apparatus for cleaning grain, which consists of the combination of a heater, an attrition-machine, a finishing-machine, and a suction-fan, the finishing and attrition machines being adapted to have currents of air sucked through all or part of them.

4. In apparatus for cleaning grain, the combination of heater A, conveyer B, with its steam-axle C, conveyer D', attrition-surface *g* and its steam-box G, brush H and casing J, fan Q, and pipe S, as described.

5. In apparatus for cleaning grain, the combination of heater A, conveyer B, with its steam-axle C, conveyer D, attrition-surface *g* and its steam-box G, brush H, means by which it is adapted to springing action, fan Q, casing J, pipe S, conveyer K, brushes M and N, means by which they are both adapted to springing action, casing J', pipe S', and a heater, T.

6. The combination of heater A, conveyer B, steam-pipe W, and attrition-machine F, substantially as described.

262,506. SIGNAL ATTACHMENT FOR LOCOMOTIVE HEAD-LIGHTS. WILLIAM H. TRIBLL, Bloomington, Ill. Filed May 12, 1882. (Model.)



Claim.—1. In a signal attachment for a locomotive head-light, as herein set forth and described, the reflectors L and M and front glass, H, all arranged in the manner and for the purposes specified.

2. In a signal attachment for a locomotive head-light, the reflector K and glass I in side door, F, substantially as described, and for the purposes set forth.

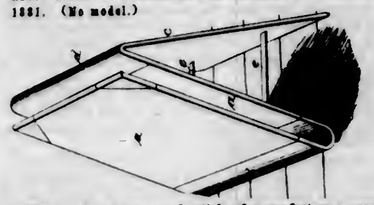
3. In a signal attachment for a locomotive head-light, the door F, having a circular outside threaded rim, to which is secured a threaded cap provided with a glass, I, and cover I', the door being hinged to the front casing, A, and provided with a vertical sliding rod to secure said door to a tubular receptacle, N', on the back B, substantially as described.

4. In a signal attachment for a locomotive head-light, the reflector L and lettered side glass, E, substantially as described, and for the purposes set forth.

5. The rod R, secured to the top of casing C, and having the right-angled projection T, to which are appended and secured the figures W W by means of the tubes *u u* and nut V, the figures W W being illuminated by the light from the window Q, substantially as described, and for the purposes set forth.

6. In a signal attachment for a locomotive head-light, the reflectors L and M, in combination with the glass Q, secured in a rim, in the manner and for the purposes specified.

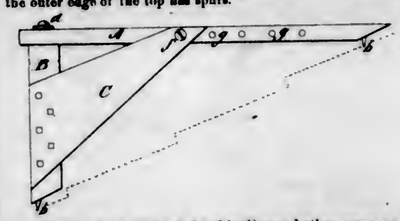
262,507. COMBINED PICTURE-EXHIBITOR AND PORTFOLIO. HENRY T. THOMAS, New Rochelle, N. Y. Filed Dec. 23, 1881. (No model.)



Claim.—As an improved article of manufacture, a combined picture-exhibitor and portfolio consisting of the three stiff boards *a a a*, connected together by flexible hinges *b d* and flexible braces *c c*, the whole adapted to hold and exhibit a series of pictures, substantially as described and shown, and for the purpose set forth.

262,508. ROOF-SEAT FOR SHINGLING. WILLIAM P. THORNTON, Joliet, Ill. Filed May 10, 1882. (No model.)

Brief.—Consists of an upright with spurs at its foot and a top adjustable thereon by means of slots and set-screws. Side supports on the upright engage, by means of screws, the top, and the outer edge of the top has spurs.



Claim.—1. A roof-seat for shingling and other purposes, provided with spikes or anchoring devices at either or both ends, and consisting of a front upright, a top adjustable on and over the upper end of said upright, and side braces connecting the upright with the top and adjustable along the top, substantially as specified.

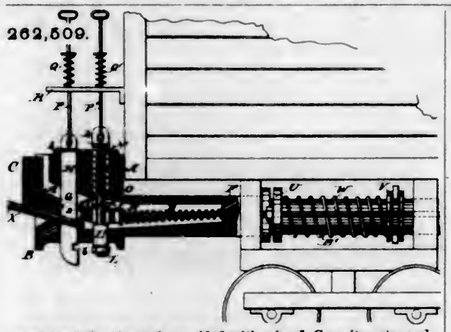
2. In a roof-seat for shingling and other purposes, provided with suitable spikes or claws for holding it in position, the combination of the front upright, B, the top A, having longitudinal slots *e e* and adjustable on and over the upper end of said upright, the fastenings, screws, or devices *d d*, the side braces, C C, uniting said support and top, and the screws or fastenings *f f*, arranged to engage with the top at different points in its length, essentially as shown and described.

262,509. CAR-COUPLING. HENRY D. THORP, Fort Wayne, Ind. Filed June 6, 1882. (No model.)

Claim.—1. The combination, with the draw-head B, of the latch A, contained in the draw-head, and provided at its outer end with a head, C, and having its shank surrounded by a spring, D, substantially as herein shown and described, and for the purposes set forth.

2. The combination, with the draw head B, of the latch A,

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contained therein, and provided with a head, C, on its outer end, the fixed collar E, and the spring D, surrounding the shank of the latch, substantially as herein shown and described, and for the purposes set forth.

3. The combination, with the draw-head B, of the latch A, provided with a head, C, and an aperture, G, with a tongue or projection, *a*, the spring D, and the coupling-pin H, provided with a notch, *b*, substantially as herein shown and described, and for the purposes set forth.

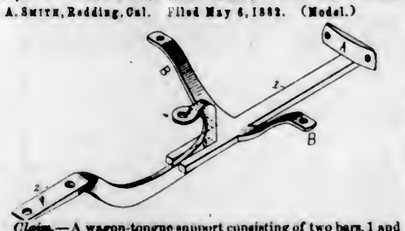
4. The combination, with the draw-head B, of the latch A therein, the spring D, the coupling-pin H, the pin or bolt K, and devices for raising the pins H and K, substantially as herein shown and described, and for the purpose set forth.

5. The combination, with the draw-head B, of the latch A, the spring D, the coupling-pin H, the pin or bolt K, the spring N, surrounding the pin or bolt K, and pressing it downward, and of devices for raising the pins H and K, substantially as herein shown and described, and for the purposes set forth.

6. The combination, with the draw-head B, of the latch A, the spring D, the coupling-pin H, the pin or bolt K, the rods P P′, and the springs Q Q′, substantially as herein shown and described, and for the purposes set forth.

7. The combination, with the draw-head B, of the latch A, the spring D, the coupling-pin H, the pin or bolt K, the rods P P′, the springs Q Q′, and the levers S and T, substantially as herein shown and described, and for the purpose set forth.

262,510. TONGUE-SUPPORT. JOHN E. TIFFIN and WILLIAM A. SMITH, Redding, Cal. Filed May 6, 1882. (Model.)



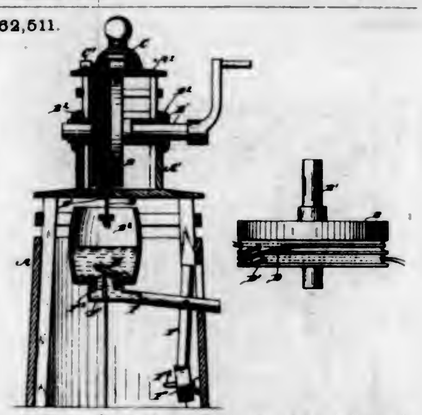
Claim.—A wagon-tongue support consisting of two bars, 1 and 2, 1 having cross-head A, curved arms or braces B B, and slot C, bar 2 entering slot C at D, and having an upturned end or part terminating at E, and curving from D to F, with flat horizontal terminus or part, which horizontal terminus, together with the upturned part E, the curved braces B B, and cross-head A, is furnished with bolt-holes, for the purposes specified, all substantially as set forth.

262,511. WATER-ELEVATOR FOR WELLS. JACOB C. TISE and CHARLES H. TISE, Winston, N. C. Filed June 1, 1882. (No model.)

Claim.—1. In a water-elevator for wells, the combination, with the buckets, of a windlass having a double-grooved pulley, B, and the small pulley located below said double-grooved pulley, whereby the bucket rope or chain can be passed under said small pulley, so as to carry it from one groove to the other of the upper pulley, substantially as described.

2. The combination, in a water-elevator, of the windlass and buckets, each having a discharge-opening and a valve in its bottom, with a single swinging tubular discharge-spout having at its receiving and openings on opposite sides, and mounted upon a shaft, so as to be brought under and upon the valve of either bucket, substantially as described.

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3. The combination, in a water-elevator, of the windlass and the buckets, each having a valve and a discharge-opening in its bottom, with the tubular spout F, mounted upon a rock-shaft and having at its receiving end the two chambers F′, separated by a partition, *f*, with studs F″ on opposite sides, substantially as described.

4. The combination, in a water-elevator, of the windlass and buckets, each provided with a valve and a discharge-opening in its bottom, with the tubular spout F and the hollow rock-shaft G′, connecting with said spout, substantially as described.

5. The combination, in a water-elevator, of the double-grooved pulley B with the lower small pulley, D′, the rope passing around said pulleys as described, and a brake or stop mechanism for the upper double-grooved pulley, substantially as set forth.

262,512. SCALE-COVER. ELODIE TOUTANT, New Orleans, La. Filed Oct. 7, 1881. (No model.)



Claim.—The scale-cover consisting of the case A, having end flaps, *c*, in combination with a removable transparent front, C, having an opening, *c*, formed therein near one end, and provided with a bead, *d*, along its lower edge, substantially as and for the purpose specified.

262,513. DIAL FOR WATCHES AND CLOCKS. JOHN J. D. TREVOR, New York, N. Y. Filed May 9, 1881. (No model.)



Claim.—1. In combination with the ordinary fixed dial and hands of a time-piece, two supplemental independently-adjustable dials, one having on its face the divisions of minutes and the other of hours, substantially as and for the purpose described.

2. In combination with the ordinary fixed dial and hands of a time-piece, two supplemental independently-adjustable dials, one bearing on its face the divisions of minutes and the other of hours, with means for adjusting the same with reference to said hands, without moving the latter, substantially as described.

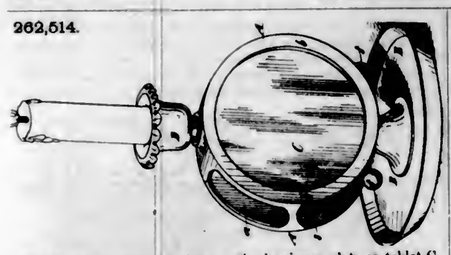
3. In combination with the plate 4, the supplemental independently-adjustable dials 8 and 11, substantially as described.

4. In combination with the plate 4, the supplemental independently-adjustable dials 8 and 11, provided with annular racks and shafts provided with pinions and wheels, substantially as described.

262,514. COMBINED MATCH-BOX AND CANDLE STICK. WM. TROTTER, Jr., Oyster Bay, N. Y. Filed Jan. 14, 1882. (No model.)

Claim.—1. The match-box A, of circular or analogous form,

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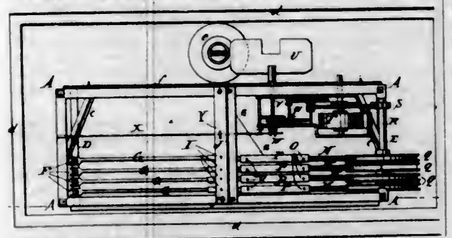


having one or more openings, *a*, the luminous plate or tablet C, and bezel *b*, and the circular tray B, on which said box is supported, substantially as specified.

2. The combination, with the match-box A, having one or more openings, *a*, a luminous plate or tablet, C, and bezel *b*, of the tray B, supporting said box, and the candle holder or socket D, supported upon said box, substantially as specified.

262,515. AUTOMATIC ADVERTISING DEVICE. ORLANDO S. TRUSSELL, Rockland, Me. Filed May 4, 1882. (No model.)

Brief.—A ground-glass plate is inserted in the lower part of the frame to mellow the light from the lamp.



Claim.—1. An advertising mechanism constructed substantially as herein shown and described, and consisting of a series of card-supporting frames, a series of cords and pulleys, a series of weighted bent levers, a series of cams operating the levers and frames, a clock-work driving the cams, and a set of dancing figures, also operated by the clock-work, as set forth.

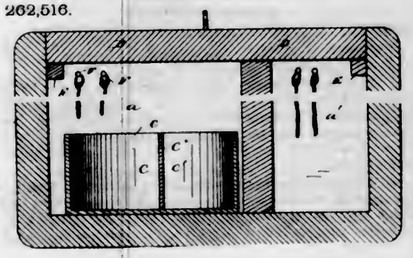
2. In an advertising mechanism, the combination, with the frame A and the clock-work T, of the vertically-sliding card-supporting frames G, the cords and pulleys K L, the weighted bent levers M, and the cams Q, substantially as herein shown and described, whereby the said card-supporting frames will be automatically raised and lowered at regular intervals, as set forth.

3. In an advertising mechanism, the combination, with the frame A and the card-supporting frames G, having sliding guide-rods I, of the stationary rods F, substantially as herein shown and described, whereby the said frames are kept in place while moving up and down, as set forth.

4. In an advertising mechanism, the combination, with the frame A and the card-supporting frames G, of the sliding guide-rods I and the stationary guide-frame J, substantially as herein shown and described, whereby the said frames are made to move up and down in straight lines and without binding, as set forth.

5. In an advertising mechanism, the combination, with the clock-work T, having prongs W upon the end of its fan-shaft, of the wire X, the branched cord Z, and the dancing figures *a*, substantially as herein shown and described, whereby the said figures will be operated by the said clock-work, as set forth.

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262,516. PROCESS OF BATING AND TANNING HIDES. MARSHALL TURLEY, Council Bluffs, Iowa. Filed Nov. 1, 1881. (Model.)

Claim.—The process herein described of bating and tanning hides, which consists in first subjecting the same to the combined action of carbonic and sulphurous acid gases, then partially tanning, and afterward subjecting the partially-tanned hides to the action of the said combined gases, and finally tanning in the usual manner, substantially as specified.

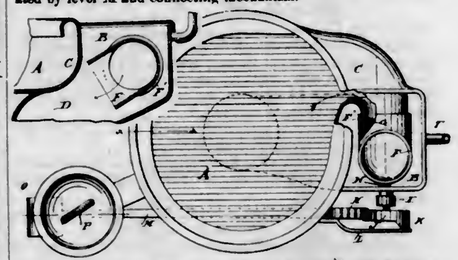
262,517. TOY. OSCAR URE and ROBERT G. HENDRIE, New York, N. Y. Filed June 18, 1882. (No model.)



Claim.—The combination, in a toy for children, of the tubular or hollow handle A, through which air is forced, the stopper B, placed in one end of said handle for retaining the air that has been forced into it, the aperture C, through which the air is forced, and the bladder or sack E, the parts being constructed and arranged substantially as set forth and for the purpose specified.

262,518. WATER-CLOSET. THOMAS H. WALKER, Kansas City, Mo. Filed Nov. 18, 1881. (No model.)

Brief.—Water is retained in the bowl by elbow F, which, when turned, as shown in Figure 4, permits the water to flow out of the bowl and carry its contents therewith. The elbow is operated by lever M and connecting mechanism.



Claim.—1. In a water-closet, the combination, with the bowl A, provided with the extension or box B and the elbow C, and the waste-pipe E, of the elbow F and means for rotating the said elbow, substantially as and for the purpose set forth.

2. In a water-closet, the combination, with the bowl A, provided with the extension or box B and the elbow C, of the elbow F, provided with the annular end flange, F′, the packing G, and means for rotating the said elbow, substantially as and for the purpose set forth.

3. In a water-closet, the combination, with the bowl A, provided with the extension or box B and the elbow C, of the elbow F, the pintle H, the segmental cog-wheel J, and the lever M, provided with the segmental rack N, substantially as and for the purpose set forth.

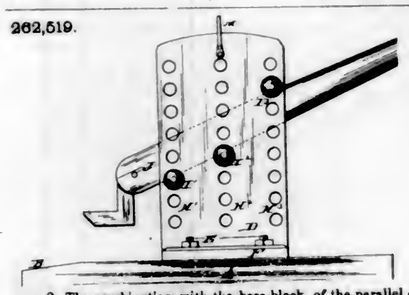
4. In a water-closet, the combination, with the bowl A, the box B, and the elbow C, of the elbow F, the pintle H, the segmental cogged wheel J, the weighted lever M, provided with the segmental rack N, the pull P, and the guide R, substantially as and for the purpose set forth.

5. In a water-closet, the combination, with the bowl A, of the box B, the elbow C, the tilting elbow F, the pintle H, the cog-wheel J, provided with a cam-projection, K, the lever M, provided with an extension, L, and a rack, N, and of the pull P, substantially as herein shown and described, and for the purpose set forth.

262,519. LIFTING-JACK. MILO PETTER WALTERS, Fort Madison, Iowa. Filed June 20, 1882. (No model.)

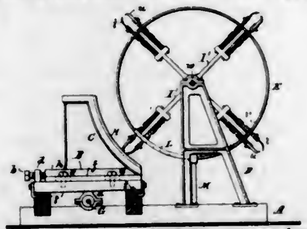
Claim.—1. The combination, with the base-block having a beveled front edge and a depression or recess, of the parallel correspondingly-perforated plates and transverse pins or bolts, and the lever having curved transverse grooves on its under face, and a pivoted or hinged lifting-toe, substantially as set forth.

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2. The combination, with the base-block, of the parallel correspondingly-perforated upright plates or standards having horizontal flanges, a plate binding against the under side of the base-block, the transverse pins, and lifting-lever, substantially as set forth.

262,520. HIDE AND PELT WORKING MACHINE. EDMUND D. WARREN, Woburn, Mass. Filed Mar. 23, 1882. (No model.)



Claim.—1. The combination, with the carriage and means for reciprocating the same in front of a wheel, E, of a curved bed-plate, C, secured adjustably upon the carriage, and the screws *b*, extending through the studs on the carriage and bearing on the bed-plate, substantially as set forth.

2. The combination, with the bed-plate C, of an elastic bed, H, vulcanized to the bed-plate, as specified.

3. The combination of the fleshing-knife and an elastic smoothing-tool arranged to operate in advance of the knife, substantially as specified.

4. The combination, with the wheel E, of the tool-shafts, springs *g*, and nuts *p p'*, substantially as specified.

5. The combination, with the bed and hide-working tools, of a water-pipe arranged and adjustable to throw streams of water upon the tools and bed or upon the tools alone, substantially as set forth.

6. The combination of the reciprocating bed, revolving wheel carrying the hide-working tools, and stationary pipe M, and pipe L, swiveled to the pipe M, substantially as set forth.

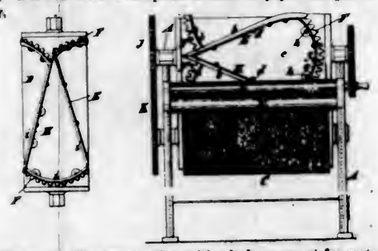
262,521. BREECH-LOADING FIRE-ARM. ANDREW E. WHITMORE, Springfield, Mass., assignor to the Colts Patent Fire-Arms Manufacturing Company, Hartford, Conn. Filed May 4, 1882. (No model.)



Claim.—In that class of fire-arms in which the barrels are hinged to an arm extending forward from the frame, so as to tilt up at the breech, and commonly called "breakdown arms," the combination of the bolt *b*, arranged in a lug on the barrels in rear of the pivot, with a shoulder, *f*, on the frame in rear of the lug, and a shoulder, *h*, forward, by which, in the moving of the barrels, the bolt will be thrown backward to engage said shoulder, substantially as described.

262,522. MACHINE FOR CUTTING MATERIAL FOR UMBRELLA OR PARASOL COVERS. EDWIN WICKSTEAD, Jersey City, N. J., assignor of two-thirds to Charles E. Carson and Samuel H. Carson, Brooklyn, N. Y. Filed May 10, 1882. (No model.)

Brief.—The knife-holders, which form the shorter side of the triangles, are interchangeable with other holders of a larger size. The knives are arranged approximately in the form of alternately-reversed triangles and disposed around the circumference of the roller. The bed-roller is composed of disks of paper clamped together.



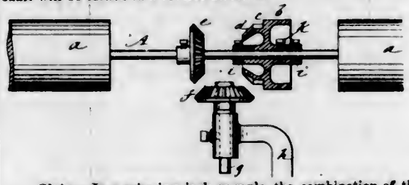
Claim.—1. The combination, with a bed or support for material to be cut, of a roller carrying knives arranged approximately in the form of triangles which are alternately reversed around the circumference of the roller and are arranged with their lengths approximately parallel with the axis of the roller, substantially as specified.

2. The combination, with a bed or support for material to be cut, of a roller carrying knives arranged approximately in the form of alternately-reversed triangles, and holders for the knives which are at the bases or shorter sides of the triangles, adapted to be removed and replaced by others opposite different points in the length of the knives forming the longer sides of the triangles, substantially as specified.

3. The combination, with a bed-roller and means for adjusting it vertically, of a roller carrying knives arranged approximately in the form of alternately-reversed triangles and disposed around the circumference of the roller and other rollers, between which material passes to said knives, substantially as specified.

262,523. MECHANISM FOR REVERSING THE ROTATION OF THE SPINDLES OF SPINNING JACKS AND MULES. JOHN WIGGINS, Uxbridge, and JOHN B. GREENHALGH, Waterford, Mass. Filed Feb. 18, 1881. (No model.)

Brief.—For reversing the direction of the revolution-spindles in mule-spinners to reverse twist on yarn. The race-belt pulley is so adjusted upon the cylinder-shaft as to run either fast or loose thereon. When fast a right-hand twist is imparted to the yarn. When it is desired to give a left-hand twist thereto said pulley is loosened upon its shaft and a bevel-gear loose upon a shaft fitted for endwise adjustment in a bracket is brought into engagement with a bevel-gear fast upon the cylinder-shaft, upon which said shaft will be turned in a reverse direction.



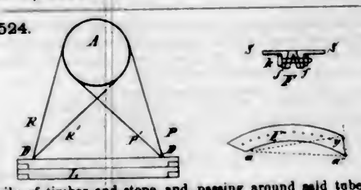
Claim.—In a spinning jack or mule, the combination of the race-belt C, the shaft A, having cylinders *a a*, the spindle *x*, bands x^2, the race-belt pulley *b*, having a gear-wheel, *d*, attached thereto and adjustably held on the shaft, as described, a gear-wheel, *e*, rigidly connected to the shaft, and a loosely-revolving and adjustable connecting-gear adapted to connect the same, as described.

262,524. BUOYANT AND SUBAQUEOUS TUNNEL. JOHN T. WILLIAMS, Philadelphia, Pa., assignor of one-half to George F. Payne, same place. Filed Aug. 15, 1881. (No model.)

Brief.—Between the beveled flanges of the tube or tunnel plates are segmental angular ribs having oblique joints, whereby the plates can be readily removed and applied in repairing. The tube is anchored to its crib by braces starting from a given point, thence proceeding to and around the tube, and returning to their starting-point.

Claim.—1. The buoyant tube A for a subaqueous tunnel or thoroughfare, when constructed as herein described, together with the double loop or double system of tension-braces, in which a guy or tension-brace starts from its point of attachment to the anchor-

262,524.



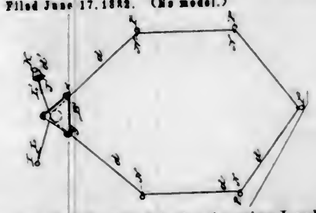
ing-cribs of timber and stone, and, passing around said tube A, returns to the same point of attachment, substantially as set forth.

2. The combination, in a buoyant tube for a subaqueous tunnel, of the flanged sheets and annular ribs in segments, the flanges of said sheets forming oblique joints with said ribs, and the annular ribs meeting at oblique joints, substantially as described.

3. In the construction of buoyant subaqueous tunnels, plates having beveled flanges to adapt them to be readily applied and removed in repair, substantially as described.

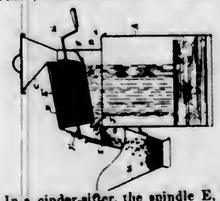
4. A buoyant subaqueous tunnel composed of plates and means, substantially as set forth, whereby any part can be taken out and changed while said tunnel is in actual use as a thoroughfare, all combined and constructed substantially as described.

262,525. TETHER-HOLDER. JOHN D. WILSON, Greenleaf, Kans. Filed June 17, 1882. (No model.)



Claim.—The inclosing wire *d*, having the springs L and L' at opposite ends, and attached at one end to the fixed stake I and at the other to the windlass J, in combination with the triangular pulley-frame B', secured horizontally on the top of corner-post O, and having the pulley B and suitably-arranged stakes or wire-supports P, arranged substantially as described, and for the purpose set forth.

262,526. CINDER-SIFTER. JOHN T. WILSON and WILLIAM J. HALLARD, Toronto, Ontario, Canada. Filed Apr. 25, 1882. (No model.)



Claim.—1. In a cinder-sifter, the spindle E, bent to form a spiral, E', in combination with the screening-cylinder D, secured around said spindle and spiral, as and for the purpose specified.

2. The combination, with the screening-cylinder D and the spiral E', having its ends extended to form journals, of the supporting-case B, and means, substantially as described, for conducting cinders from the case to the interior of the screen and out of the screen and cylinder, as set forth.

262,527. MEAL-BOLT. ROBERT WILSON, Greenup, Ky. Filed Apr. 18, 1882. (No model.)

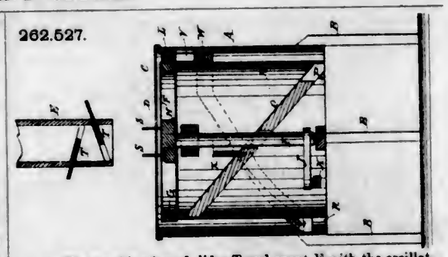
Claim.—1. The combination of the bolting-disk F, the oscillating wheel-frame G H, the vertical cylindrical case A, the inner cylinder, N, and the chutes O and Q, as shown and described.

2. The combination of the oscillating bolting-disk F, the spring-bumper L, mounted thereon, and the fixed bumpers M, as shown and described.

3. The combination, with the scraper V, wheel-frame G H, bolting-disk F, and the flat portion W, of the chutes Q, as shown and described.

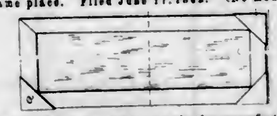
4. The combination, with the disk F and hub H, oscillating about a vertical axis, and the spout E over said axis, of the pins S, fixed in the hub H and oscillating in the line of delivery of the spout E, for spreading the meal radially upon the disk, as shown and described.

262,527.



5. The combination of slides T and spout E with the oscillating bolting-disk F, substantially as described.

262,528. ART OF MANUFACTURING SLATES. ROBERT O. WINSLOW, Chicago, Ill., assignor of one-half to Oliver W. Barrett, same place. Filed June 17, 1882. (No model.)



Claim.—1. An improved process in the manufacture of slates, which consists of applying to the surface of press-board or other suitable material a composition of silicate, bone-black, and water in the proportions given, one or more coats being applied to form the writing-surface, which is sandpapered after the application of each coat, and finally finished by being varnished with a composition consisting of gutta-percha, carbon, and liquid silicate, equal parts, and water three parts, substantially as set forth.

2. As a new article of manufacture, a slate or writing-tablet prepared by the process herein described.

262,529. ELECTRICAL ARMATURE. JAMES J. WOOD, Brooklyn, N. Y., assignor to the Fuller Electrical Company, New York, N. Y. Filed July 2, 1881. Renewed June 21, 1882. (No model.)

Brief.—The armature is provided with radial plates, which engage with a hub or shaft to prevent displacement.



Claim.—1. An annular or Gramme armature formed with radial plates or bars embedded between its coils embracing the core, and a hub or shaft to which the radial plates are secured, substantially as herein set forth.

2. The combination, with an annular armature and its driving-hub, of plates or projections extending radially from the armature, embedded between the coils or sections and engaging with the hub, substantially as and for the purpose set forth.

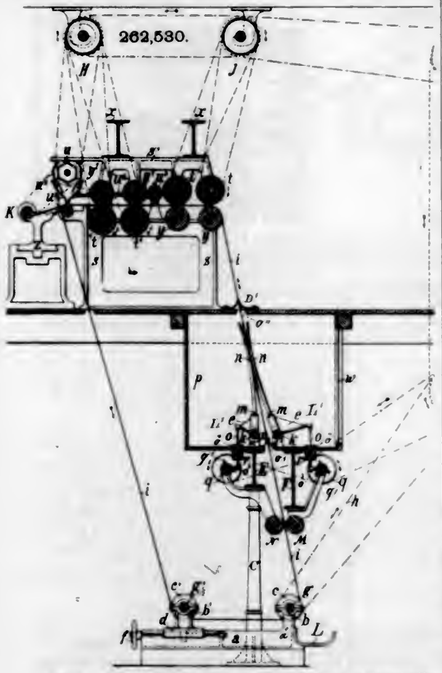
3. An annular armature formed with one or more radial plates or projections introduced or embedded between its coils or sections, in combination with a central hub formed with corresponding slots to engage therewith, substantially as and for the purpose set forth.

4. An annular or Gramme armature constructed with a plate or plates, *g*, introduced or embedded radially between its coils and encircling the core thereof, with a prolongation extending therefrom and adapted to engage with the driving-hub, substantially as and for the purpose set forth.

5. A Gramme or annular armature constructed with one or more plates or projections extending radially therefrom, in combination with a driving-hub adapted to enter the armature from one end, and provided with one or more peripheral slots or recesses to engage said projections, and a projecting peripheral flange or shoulder on one end, whereby the armature may be easily slid onto or off from the hub, yet obtains a positive driving connection therewith when placed thereon, substantially as herein shown and described.

262,530. CARPET-CLEANING MACHINE. JOHANN ZACHERL, Dobling, near Vienna, Austria-Hungary. Filed Dec. 31, 1881. (No model.)

262,530.



Claim.—1. The herein-described method of mechanically treating carpets and analogous fabrics, which consists of the following automatic and successive steps, to wit: first, subjecting the carpet to the action of beaters; secondly, brushing its upper and lower surfaces; and, thirdly, distributing on the nap of the carpet an insecticide, substantially as described.

2. The herein-described method of treating carpets, which consists in the following successive steps, to wit: first, beating the carpet upon both sides simultaneously; second, brushing it in a like manner successively—that is, first its upper, then its under side—and, lastly, distributing over the nap-surface of the carpet an insecticide, substantially as and for the purpose specified.

3. In a machine for cleaning carpets, an insecticide-distributer arranged to distribute the insecticide over the nap-surface of the carpet after being acted on by the cleaning devices, as set forth.

4. In a carpet-cleaning machine, the combination, with the endless carrier-belts *i*, the pulleys *e e'*, the rolls *y y y' y' j*, and the brushes *t t t' t'*, of the insecticide-distributer consisting of a bolt or screen and a reciprocating distributing-spout, substantially as and for the purposes specified.

5. In a carpet-cleaning machine, the combination, with the belts *i*, pulleys *e e'*, rolls *y y y' y' j*, brushes *t t t' t'*, and the beaters *n*, of the insecticide-distributer composed of a bolt or screen and a reciprocating distributing-spout, all arranged to operate substantially as and for the purpose specified.

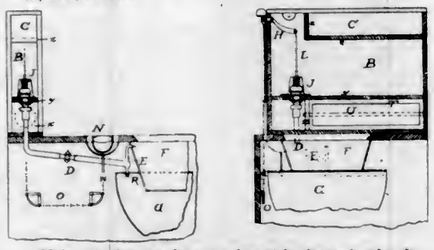
6. In a carpet-cleaning machine, the combination, with the cleaning mechanism, of the insecticide-distributer composed of the bolt *u*, its inclosing case *u'*, and distributing-spout *u''*, the eccentric *u²*, and connecting-rod *u⁴*, all arranged to operate as and for the purpose specified.

7. In a carpet-cleaning machine in which is employed a series of independent endless belts for carrying the carpet, the combination, with each of said belts, of an adjustable tightening-pulley, *e'*, whereby the tension of one or more of the series of belts may be adjusted independently of the remaining belts, substantially as and for the purpose specified.

8. In a carpet-cleaning machine, the combination, with the carrying devices for the carpet, of beating mechanism and a dust-chamber inclosing the same, said chamber having openings for the passage of the carpet, provided with dust-guards D D', substantially as and for the purpose specified.

9. In a carpet-cleaning device, the combination, with the endless belts *i*, pulleys *e e'*, rolls N M *y y y' y' j*, the brushes *t t'*, and devices for distributing an insecticide over the nap-surface of the carpet when cleaned, of the chamber *p*, constructed as set forth, and the beating mechanism, all arranged for operation substantially as and for the purpose specified.

262,531. WATER-CLOSET ATTACHMENT. HENRY BARNES and HERBERT HAIMES, Kilburn, County of Middlesex, England. Filed Apr. 25, 1882. (No model.) Patented in England Nov. 15, 1881, No. 5,003.

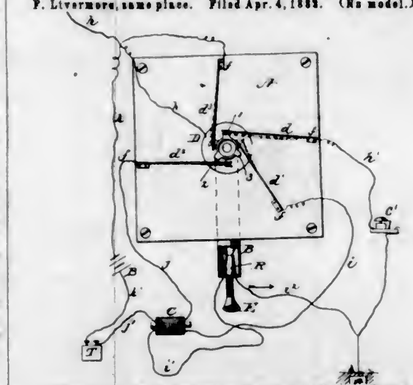


Claim.—1. A water-closet attachment having a chamber for a liquid deodorizer or disinfectant and a branched discharge-pipe, which is connected with said chamber and delivers a portion of each discharge horizontally and the remainder downward, substantially as herein described, for the purposes specified.

2. In a water-closet attachment, substantially as herein described, an upright flat box, A, provided with an L-shaped partition, *z*, and a bottom, *y*, forming within said box a chamber, B, for a liquid deodorizer or disinfectant, and a short upper chamber, C, for paper, as shown, for the purposes set forth.

3. In a water-closet attachment substantially as herein described, an upright flat box, A, provided with an elevated bottom, *y*, and a vertical partition, *x*, beneath said bottom, forming a roller-chamber, T, beneath the chamber B, for a liquid deodorizer or disinfectant, and above the water-closet seat, as specified, for the purpose set forth.

262,532. SWITCH FOR TELEPHONES. SAMUEL H. BARTLETT and HENRY E. WAITE, New York, N. Y., assignors to Charles F. Livermore, same place. Filed Apr. 4, 1882. (No model.)



Claim.—1. In a telephone-switch, a swinging crank-arm, to which the receiver or ear-piece is permanently attached, provided with spurs or contact-points moving with said arm, in combination with arms connected with the signaling apparatus, transmitter, and receiver, whereby the signaling apparatus may be thrown out of and the transmitter and receiver into the line or circuit, and vice versa, with a positive movement by the movement of said crank-arm, substantially as described.

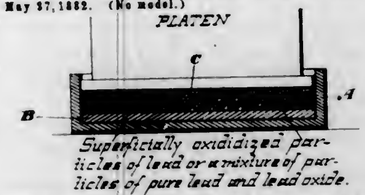
2. The tubular crank-arm through which the wires or flexible tube passes to the receiver or ear-piece, said arm being provided with spurs or contact-points moving with it, in combination with arms connected with the signal apparatus, transmitter, and receiver, whereby said signal apparatus can be thrown out of and the transmitter and receiver into the line or circuit, and vice versa, with a positive movement by the movement of said crank-arm, substantially as described.

3. In a telephone-switch, a pivoted crank-arm, to which the receiver or ear-piece is permanently attached, provided on its pivotal portion with cams or spurs and tangentially-arranged arms operating in connection therewith, in combination with a signal apparatus, transmitter, and receiver connected with said arms and with the line wires or circuit, substantially as described.

4. In a telephone-switch, a tubular rock-shaft, to which the receiver or ear-piece is permanently attached, provided with spurs or cams, in combination with spring-arms acted upon by said spurs or cams and a signaling apparatus, transmitter, and receiver connected with said arms and with the line-wire, substantially as and for the purpose described.

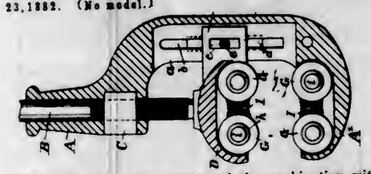
5. In a telephone-switch, the combination of the rock-shaft, to which the receiver or ear-piece is permanently attached, and which is provided with cams or spurs, the spring arms or bars operating in connection therewith, and a signaling apparatus, receiver, transmitter, and battery connected with said arms, substantially as described, whereby a closed circuit is formed for the transmitter to work in when thrown into action, said parts being arranged and operating substantially as described.

262,533. PROCESS OF MAKING ELEMENTS FOR SECONDARY BATTERIES. CHARLES F. BRUSH, Cleveland, Ohio. Filed May 27, 1882. (No model.)



Claim.—A process for making secondary or storage electric battery elements, or material from which said elements can be constructed, said process consisting in covering one or more or all of the surfaces of a suitable metallic and electro-conducting core or body either with superficially-oxidized particles of lead or with a mixture of particles of pure lead and lead oxide, and afterward applying pressure sufficient both to weld said particles or mixture into a compact and firmly-coherent mass and to weld the mass to said core or body, substantially as specified.

262,534. PIPE-CUTTER. JESSE CONWAY, Baltimore, Md., assignor of one-half to John N. Conway, same place. Filed June 23, 1882. (No model.)



Claim.—1. In a pipe-cutting tool, the combination, with the movable cutter-head and slotted body in which the cutter-head moves, of a guideway formed on the side of the body by two parallel ribs, *z*, and a flat-shanked bolt to carry the cutter-head, and said bolt provided with a long head, *d*, which occupies the guideway, as set forth.

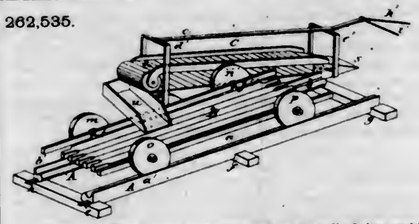
2. In a pipe-cutting tool, the combination of two rotary disk-cutters, G, each cutter having a hub-shoulder, *h*, on each side, and a steel trimmer, I, provided with a beveled and serrated edge, *k*, and having one side adapted to set close up to the side of the two cutters, while the two ends fit the aforesaid shoulders, as set forth.

3. In a pipe-cutting tool, the combination, with the tool-body, of a cutter-head carrying rotary disk-cutters, and a guide-plate having at one end a V-shaped or right-angled notch to rest upon the pipe, and the other end loosely pivoted, whereby the notched end may move independent of the cutter-head, as and for the purpose set forth.

262,535. EXCAVATING MACHINERY. SAMUEL CRAIG, North Benton, Ohio. Filed Apr. 6, 1882. (No model.)

Brief.—A frame having a plow at the forward end and roller at the rear end, said roller carrying a pulley to drive the forward roller of a pair carrying an endless belt discharging onto a chute, is placed to the side of a car constructed with a bottom of removable slats to facilitate dumping. Said dumping-car runs on a track formed of the ordinary rails laid on the side with fish-bars beneath the webs at the joints and secured by spikes driven through the web.

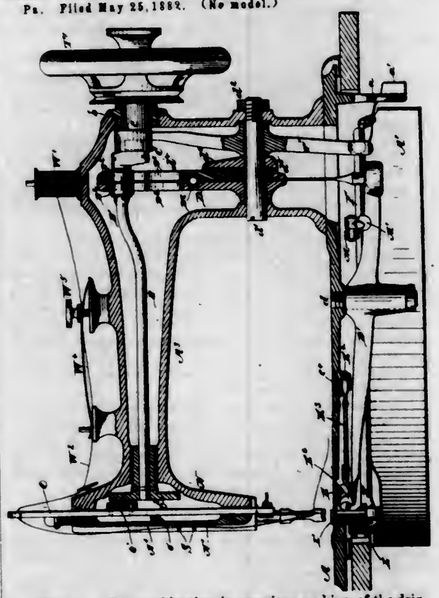
262,535.



Claim.—1. The track A, constructed as described, in combination with the car B, constructed as described, for the purpose set forth.

2. The combination of the track A, the car B, and the excavator C, each and all constructed as described, for the purpose set forth.

262,536. SEWING-MACHINE. LEVIS H. DAVIS, West Chester, Pa. Filed May 25, 1882. (No model.)



Claim.—1. The combination, in a sewing-machine, of the driving-shaft, mounted above the bed-plate and provided with a crank-bend, and an oscillating lever provided at its upper end with a cam-slot having its walls formed with the several curves, substantially as shown, and for the purpose described, said slot embracing the crank-bend of the shaft, and the lower end of said lever being loosely connected to the rear end of the shuttle-lever, whereby the herein-described varying movement is communicated to the shuttle from the driving-shaft, substantially as described.

2. As a means for causing the forward movement of the shuttle and the upward movement of the needle to stop at the same instant for causing the needle and shuttle to begin their reverse movements simultaneously, and to cause a decrease in the speed of the shuttle while the needle takes the loop from off the heel of the shuttle, and then to effect an increase in the speed of the latter to complete the stitch, the combination of the vertical oscillatory lever, provided at its upper end with the herein-described cam-slot having its walls formed with the several curves herein shown and specified for effecting the irregular movement on the part of the lever requisite for effecting said movements on the part of the shuttle, the said slot embracing a crank-bend in the driving-shaft, which plays in the cam-slot to effect the varying movement of the shuttle, the horizontal oscillatory shuttle-lever being connected at one end to said vertical oscillatory lever, and at its remaining end provided with the shuttle-carrier, the needle-bar having a cross-head, and suitable intermediate connecting devices, substantially as described.

3. The combination, in a sewing-machine, of the oscillatory lever for operating the shuttle-lever, having an upper bearing-surface which acts against a crank, and a second lever supported by said oscillatory lever, and having a bearing-surface which acts from a reverse direction against said crank, the bearing-surfaces of these levers being maintained in contact with the crank by spring-pressure, whereby a clamping mechanism is provided and lost motion avoided, substantially as described.

4. The combination, in a sewing-machine, of the oscillatory lever for operating the shuttle-lever, having at its upper end the cam-slot embracing a crank portion of the driving-shaft, with a second lever having at its upper end a like cam-slot embracing the crank-portion of the driving-shaft, these said levers being located side by side, and having a spring-resistance between them which shall normally throw one lever slightly in advance of the other, whereby a clamping mechanism is provided and lost motion avoided, substantially as described.

5. The combination, in a sewing-machine, of the oscillatory lever D, which actuates the shuttle-lever, and which is provided with a cam-slot embracing a cranked portion of the driving-shaft, with the lever d^1, mounted alongside said oscillatory lever and having a like cam-slot, and the spring D^3, located between the two levers and acting upon both, the said lever d^1 entering a lmb in the oscillating lever D, substantially as described.

6. The combination, in a sewing-machine, of the shuttle driven in a regularly-curved race, with the shuttle-carrier adapted to clamp the shuttle at either extreme of the race and to hold the shuttle loosely at the point where the thread is taken over it, substantially as described.

7. The combination, with the shuttle-carrier, of means, substantially as described, for actuating the carrier so as to cause it to loosely support the shuttle at that point where the needle-thread is passing over the shuttle, and to automatically and gradually grip the shuttle as it reaches either end of the race, substantially as described.

8. A carrier for a sewing-machine shuttle, composed of a pair of jaws adapted to hold and support the shuttle, one of said jaws being rigid with an oscillatory lever and the remaining jaw being pivotally connected to the rigid jaw, and also connected with a second lever, which is pivoted to the bed-plate in such position that as the carrier brings the shuttle in position to allow the thread to pass over the shuttle the said second lever will operate to release the pivoted jaw from the shuttle, and also to gradually close the pivoted jaw upon the shuttle as the carrier reaches either end of the race, substantially as described.

9. The combination, with a shuttle-carrier adapted to automatically grip and release the shuttle in the manner described, of the ring e', fitted within an eye at one end of the lever E^2, and the screw e^4, passing through said ring into the bed-plate, and having its head binding solely upon said ring, whereby the pivotal center of the lever can be shifted, substantially as described.

10. The combination, with the table or support for a sewing-machine, of the bed-plate hinged to the said table or support, and formed at one of its hinge-corners with a lug adapted to engage with said support after the bed-plate has been raised, so as to hold the latter in an upright position, substantially as described.

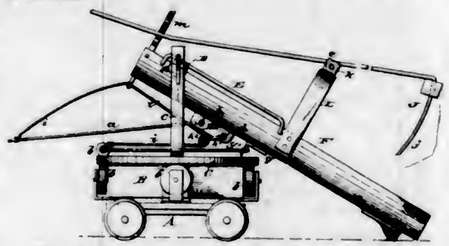
11. The combination, in a sewing-machine, of the grease-pan provided with a short vertical tube, A^4, in its bottom, of the bolt A^5, passing up through said tube and hooked onto the hinged bed-plate, and a thumb-nut, a^3, fitted upon said bolt below the grease-pan, whereby the hinged bed-plate can be held down, substantially as described.

12. The combination, in a sewing-machine, with the curved arm P, of the disk Q, carrying a coiled spring having one free end, and provided with an arm having a lip, Q^4, and the disk R' of the take-up arm, formed with a series of holes into which the free end of the spring is received, whereby the tension of the spring can be varied, substantially as described.

13. The combination, with the curved arm P and the expansion-spring p acting thereon, of the disk Q, carrying a coiled spring having one free end, and provided with an arm, Q', having a lip at its outer end, the disk R' of the take-up arm, fitted against the disk carrying the spring, and having a series of holes into which the free end of the spring is engaged, the screw e, passing through both disks into a stud upon the curved arm, and the needle-bar having a roller located to act against the curved arm, so as to compress the spring p, substantially as described.

262,537. MACHINE FOR REMOVING SNOW FROM RAILROAD-CUTS. WILLIAM DEETZ, Spafford, Wis. Filed Apr. 12, 1882. (No model.)

Brief.—The truck is provided with friction-rollers, on which turns the circular plate, having slotted guide-standards to receive rollers, on which run the longitudinal bails of the scoop. The scoop has an arched standard with lugs holding a rod to serve as pivot for the extended cut-off operating-rods, and also pulley-and-cord attachments to enable it to be thrust forward and backed and turned on the truck.

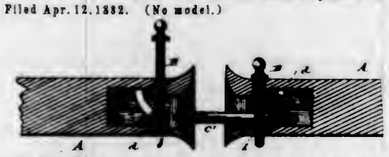


Claim.—1. The combination, with the base portion B, provided with friction-wheels b, of the circular plate C, having vertical standards c c, provided with guides D D, and the scoop F, provided with the longitudinal side bails, E E, adapted to be moved in said guides, substantially as and for the purpose specified.

2. The combination of the scoop having the arched standard L, provided with perforated lugs e e and a transverse rod, the cut-off J, consisting of a head, I, having a series of projecting tines, its outer tines or forks, j j, extended rearward, and having eye-loops k k, by which the cut-off is journaled on the transverse rod, and a projecting handle formed from said tines j j, extending rearward for operating the cut-off, substantially as herein shown and described.

3. The combination, with the base B, provided with friction wheels b, of the circular plate C, having vertical standards c c, provided with guides D D, the scoop F, provided with the longitudinal bails E E and a pivoted cut-off, and means, substantially as described, for moving said scoop over rearwardly and turning it around to dump it, substantially as specified.

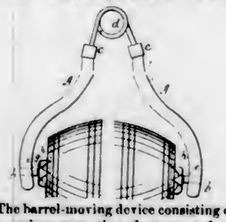
262,538. CAR-COUPLING. WILLIAM DEETZ, Spafford, Wis. Filed Apr. 12, 1882. (No model.)



Claim.—In a car-coupler, the combination, with the locking-pin B, connecting-link c', and roller D, having journals d d, of the recessed draw-head having the curved or segmental slots c c through the sides thereof for the reception of the journals of said roller D, whereby in coupling the cars the roller will be thrown backward and upward, so as to fall down directly on top of said link, as and for the purpose herein shown and described

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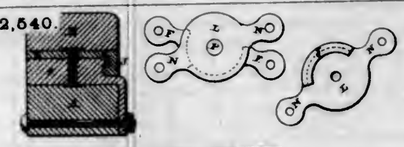
262,539. DEVICE FOR ROLLING BARRELS. ROBERT H. DOWLING, Newark, Ohio, assignor of one-half to Charles H. Pollett, same place. Filed May 20, 1882. (No model.)



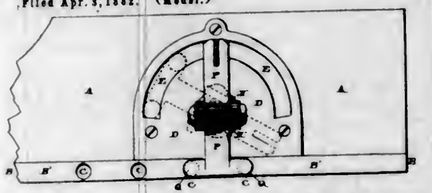
Claim.—The barrel-moving device consisting of a pair of arms, A A, having a spring-connection, d, at one end, and provided at the other end with the pivoted clutches A, substantially as specified.

262,540. WHIFFLETREE-COUPLING. FRED A. HAVENS, Wethersfield, Conn. Filed Apr. 3, 1882. (Model.)

Claim.—A coupling for whiffletrees, composed of the casting I, having the flange I' extending partially around its upper edge, the lugs F, extension G, and stops E, the casting L, having the flange J on one side, and lugs N, in combination with the pivotal bolt P and bolt H, substantially as shown and described.



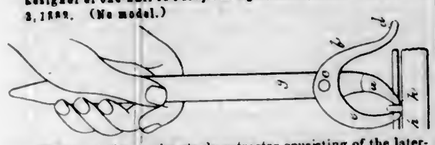
262,541. SEAT-LOCK. FRED A. HAVENS, Wethersfield, Conn. Filed Apr. 3, 1882. (Model.)



Claim.—1. In a seat-lock, the combination of the base-plate having a circular slot in its upper edge and a central slot, F, with the pivotal plate, which is swiveled in the central slot, so as to have both a sliding and a turning movement, substantially as shown.

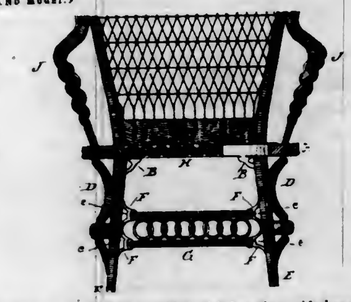
2. The combination of the base-plate having the two slots made through it, as shown, the pivotal plate, which is swiveled in the slot F, the spring locking-lever provided with studs, and the cleat having suitable holes made in it, substantially as set forth.

262,542. STAPLE-EXTRACTOR. HENRY A. REES, Mira, Iowa, assignor of one-half to Joseph A. Ogle, same place. Filed June 3, 1882. (No model.)



Claim.—A fence-wire staple-extractor consisting of the laterally-arranged jaws a c, having the straddle-notches k, pivoted together at c, and provided one with a lever-handle, g, and the other with a short fulcrum-extension, b, terminating in line, or nearly in line, with the biting ends of the jaws, substantially as specified.

262,543. CHAIR. LEVI HEYWOOD and EDWARD L. TAFT, Gardner, Mass., assignors to said Heywood, Seth Heywood, Henry Heywood, George Heywood, Alvin M. Greenwood, Amos Morrell, and Charles Heywood, all of same place. Filed May 5, 1882. (No model.)



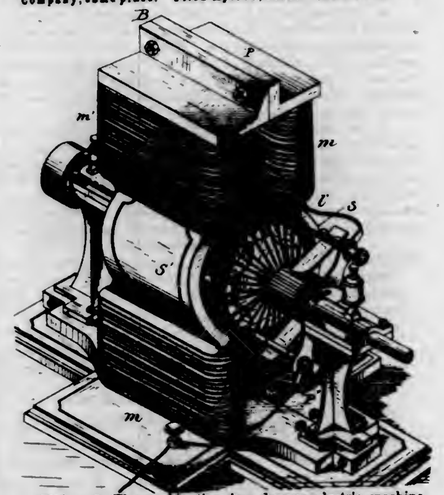
Claim.—1. A chair provided with front legs, side braces fixed thereto, rear legs to which said braces are hinged, metal brackets to support the seat-frame at its rear, metal sockets on the front legs, and a brace or stretcher removably secured by screws in said sockets, combined and arranged substantially as shown and described.

2. In a chair, the combination of a removable seat with brackets B, fixed to the back legs, and hinged folding front legs, substantially as and for the purpose described.

3. The removable seat and the front legs, having side braces fixed thereto, combined with the rear legs, and brackets C and strands c c, for hinging the side braces and the connected front legs to adapt the chair to be folded or knocked down, substantially as shown and described.

4. In a chair, the combination of folding front legs, E, removable front brace or stretcher, G, brackets B, seat-frame H, and yielding arms J, all arranged, combined, and constructed as and for the purpose described.

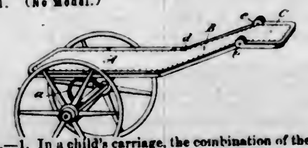
262,544. DYNAMO-ELECTRIC MACHINE. JAMES A. JENNEY, Fort Wayne, Ind., assignor to the Fort Wayne Electric Light Company, same place. Filed Apr. 15, 1882. (No model.)



Claim.—1. The combination, in a dynamo-electric machine, of four electro field-magnets, which, with their connecting-plates and field-segments, are made in two solid continuous masses of iron, so formed and joined in a plane passing either vertically or horizontally through the center of the armature-axis that the field-magnets in such casting shall be in line with each other and in the two castings parallel with each other, and which are wound with their field-coils in such directions that the two magnets in each casting shall have their similar poles joined in the field-segment connecting them, and that the two field-segments shall be of opposite magnetic polarity with respect to each other, said two castings to constitute, when joined and bolted together, the entire iron frame-work of the machine, exclusive of the armature and its mounting, with a cylindrical soft-iron armature, smooth and uniform in thickness in surface, mounted and revolving between the field-segments aforesaid, upon an open skeleton or frame-work of wood and brass or other non-magnetic material, adjustable in all directions from its central axis, the whole constructed, combined, and operating substantially as described and set forth.

2. In a dynamo-electric machine, a skeleton or frame-work for the mounting and carrying of a cylindrical iron armature, consisting of two hubs, made of brass or other non-magnetic material, with radiating arms of like material, adjustable in length by being set as screws into their hubs, and supporting at their extremities wooden bars pressing against the inner surface of the armature, substantially as described and set forth.

262,545. CHILD'S CARRIAGE. WILLIAM C. LEWIS, New York, N. Y., assignor to Lewis & Macdougall, same place. Filed Oct. 12, 1881. (No model.)



Claim.—1. In a child's carriage, the combination of the entire body, composed of the sections A and B, hinged at d, fixed rigidly at its forward end upon the front axle, with a frame upon which said body is adapted to slide horizontally, fixed at its rearward end on the rear axle, all constructed and arranged to operate as and for the purpose specified.

2. In a child's carriage, the combination of the entire body, formed of the sections A, B, and C, hinged together, as specified, and fixed rigidly at its forward part to the front axle, with the

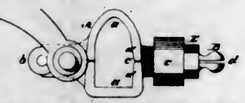
frame D, fixed at its rearward end to the rear axle, and the cross-braces *f* and *g*, and the rollers *h*, all constructed and arranged to operate as and for the purpose described.

3. In a child's carriage, the combination, with the body A B C, fixed rigidly upon the front axle, and the frame D, upon which said body may slide horizontally, fixed on the rear axle, of the cord F, the pulleys *k*, *l*, and *m*, and the pull E, all constructed and arranged to operate as and for the purpose specified.

4. The combination, in a child's carriage, of the body composed of the sections A, B, and C, hinged together, as described, and rigidly fixed on the front axle, the frame D, on which the said body may slide horizontally, fixed on the rear axle, together with the handle *e* and the catch *p* on the side edges of the section C of the body, with the recess in the handle-arms, substantially as and for the purpose specified.

5. The combination, in a child's carriage, of the body composed of the sections A, B, and C, hinged together, as described, and rigidly fixed on the front axle, the frame D, on which the said body may slide horizontally, fixed on the rear axle, together with the handle *e*, hinged to said frame, and the cord G, secured to the rear section of the body and adapted to extend around the cross-bar of the handle, substantially as and for the purpose specified.

262,546. CLIP FOR VEHICLES. FRANCIS LIGHTFOOT, Media, assignor of one-half to James M. Price, Lansdowne, and Benjamin H. Lightfoot, Alleghany, Pa. Filed Mar. 18, 1882. (No model.)

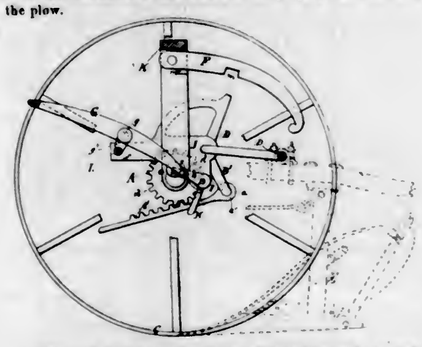


Claim.—1. The clip A, having the inclined faces *a'*, for wedging action, and provided with a divided stem and the tightening-nut, combined and operating substantially as and for the purpose set forth.

2. Clip A, having the inclined faces *a'*, for wedging action, and provided with divided tapering screw-threaded stem B, in combination with nut C, having a tapering bore, so that it will climb on said stem and cause the clip to bind on the axle, substantially as shown.

262,547. POWER-LIFT FOR PLOWS. FRANCIS F. SMITH, Sandusky, and JOHN W. LOCKWOOD, Gypsum, Ohio. Filed Apr. 28, 1882. (Model.)

Brief.—The crank-arm of the plow-bail is hinged to a cogged plate and held beneath the hub and out of gear in a stirrup. A foot-lever brings the cogged plate in gear with the cogged hub, when the revolution of the wheel will carry up the bail and raise the plow.



Claim.—1. The combination, with a cogged gear, A, applied to the axle-supporting wheel, of a cogged rack, A', applied directly to the rigid crank-arm D' of the lifting bail or bar of a plow or other implement, and a stirrup for the rack, said gear and rack being normally out of gear, and combined and brought into gear with each other by the actuating-lever and rocking stirrup, whereby the revolution of the wheel causes the rigid crank-arm to be turned and the bail or bar and plow-beam to be raised to any desired height, substantially as described.

2. The combination of the treadle-lever G and rocking stirrup H, having a slotted connection, *e d*, the swinging cogged rack A', cogged surface A, and the lifting bail or bar D, having a crank-arm, D', substantially as and for the purpose described.

3. The combination of the self-latching hook F with the plow-lifting bar D D' and the cogged gearing A A', substantially as and for the purpose described.

4. The lifting-bar D, to which the plow is attached, provided with a rigid crank-arm, D', and a toothed rack, A', pivoted directly to said arm, substantially as and for the purpose described.

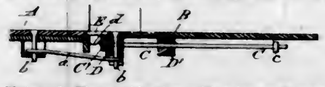
5. The bracket J, provided with the sleeve or eye-bearing I, for the axial portion of the rocking stirrup H to rest and roll in, substantially as described.

6. The combination, with the rack-bar A' and toothed surface A, of the rocking stirrup H, for supporting the rack-bar out of gear and for lifting it in gear, substantially as described.

7. The rocking stirrup H, provided with a slotted crank-arm, *b*, substantially as and for the purpose described.

8. The combination, with the stirrup H, gearing A A', and the lifting-bar D D', of the treadle-lever G, provided with a fulcrum-support, L, forward of the arched bar K, substantially as and for the purpose described.

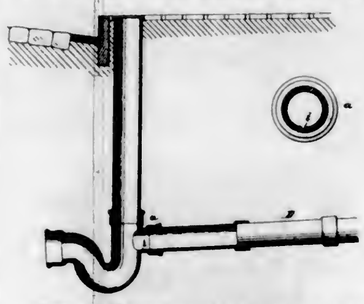
262,548. SAFETY-BRIDGE FOR LOCOMOTIVES. WILLIAM B. WOOD, Bowling Green, Ky. Filed May 18, 1882. (No model.)



Claim.—1. The combination, with a locomotive-tender, of a sliding safety-bridge supported in suitable bearings beneath said tender, and connected at its forward end to the locomotive, whereby it is capable of being automatically extended or drawn out from beneath the tender upon the uncoupling of the locomotive while in motion, substantially as described.

2. The combination, with the locomotive A and tender B, having transverse beams D D', of a sliding bridge, C, composed of parallel rods supported by said beams, said bridge having suitable connections and stops, and being attached to the locomotive by means of chains *d d*, whereby the bridge is automatically extended upon the accidental uncoupling of the locomotive while in motion, substantially as described.

262,549. TRAP FOR WATER-WASTE DETECTORS. WILLIAM E. WORTHEN, New York, N. Y. Filed Mar. 31, 1882. (No model.)



Claim.—1. The combination, in a waste-water detector, of a trap connecting with an inflow sewer-pipe, and provided at its junction with said pipe with a V-shaped groove, *i*, substantially as and for the purpose set forth.

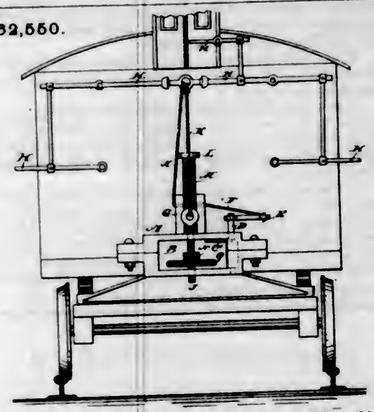
2. A sewer-trap provided with an inlet branch, *a*, having an internal V-shaped groove, *i*, substantially as and for the purpose set forth.

262,550. CAR-COUPLING. PETER ZEBNER, Mifflin, Ohio. Filed June 2, 1882. (No model.)

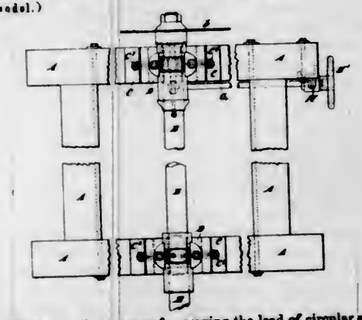
Claim.—1. In a car-coupling, the combination, with the draw-head A, of the swinging flanged plate C, attached to a vertical shaft, D, provided with an arm, E, the rope or chain F, attached to this arm, the coupling-pin J, the rope or chain K, the apertured block G, and the standard M, provided with an apertured arm, L, substantially as herein shown and described, and for the purpose set forth.

2. In a car-coupling, the combination, with the draw-head A, of the swinging flanged plate C, the shaft D, provided with an arm, E, the coupling-pin J, the apertured block G, the standard M, provided with an apertured arm, L, the ropes or chains F K, and levers for operating the above devices, to which levers both ropes or chains F K are attached, substantially as herein shown and described, and for the purpose set forth.

262,550.



262,551. BEARING FOR CIRCULAR-SAW SHAFTS. GUSTAVUS H. ZUCHSCH, Indianapolis, Ind. Filed Jan. 13, 1882. (No model.)



Claim.—1. As a means for varying the lead of circular saws, the pillow-blocks D, bottom supports, C, top supports, C', and adjusting-lever E, combined with each other and with the saw-arbor B, as and for the purposes herein specified.

2. The hand-wheel H' and nut H, rod G, lever E, and adjustable pillow-block D, arranged to be moved forward and backward thereby, in combination with the saw-arbor B, and with the swiveling pillow-block serving as a bearing for the other end thereof, all substantially as and for the purposes herein specified.

3. In a circular sawing machine, a swiveling pillow-block, D, having a conical pivot, D', and attaching and adjusting means D^2, in combination with a bed-plate or support, C, having a corresponding conical hole, and having also riders C^1, siding to hold down the block arranged to serve relatively to the saw-arbor A, and to means for adjusting one or both the pillow-blocks forward and backward, as herein set forth.

REISSUES.

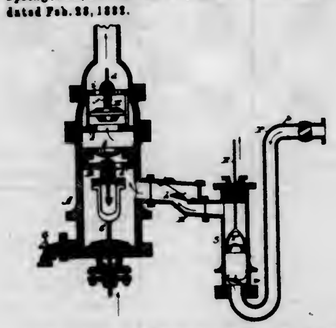
10,176. WIRE BALE-TIE. LEMUEL E. EVANS, New York, N. Y., assignor to Harriet B. Evans, Trustee. Filed July 13, 1882. Original No. 229,382, dated June 29, 1880.



Claim.—1. A bale-tie fastening consisting of a wire band which is doubled at one end, the said doubled end being then bent back on itself and twisted to form an eye which receives and connects with the free end of the band, substantially as and for the purpose described.

2. In a wire bale-tie, an eye formed of two strands of wire at one end of the band, the said strands, after forming the loop of the eye, being secured by twisting them with the main portion of the band, and the said eye receiving and connecting with the free end of the band, substantially as described.

10,177. FEED-PUMP FOR STEAM-BOILERS. JOHN HOUPT, Springtown, Pa. Filed July 8, 1882. Original No. 254,331, dated Feb. 28, 1882.



Claim.—1. In a pump for feeding hot water to steam-boilers, the combination of the cylinder A, piston B, the latter having the relief-valve *b*, the spring check-valve *h* in the supply-pipe, and the outlet-valve in the discharge end of said cylinder, all arranged to operate as shown and described.

2. In a pump for feeding hot water to steam-boilers, the combination, with cylinder A, piston B *b*, and outlet and check valves, of the auxiliary feed-pump consisting of cylinder S, valved piston T, and valve *u*, all as shown and described, to operate as hereinbefore specified, to produce an artificial pulsation and overcome any undue back-pressure in the cylinder and supply-pipes.

10,178. PICTURE-EXHIBITOR. AUGUST LUECKEL, Brooklyn, assignor to S. Hildesheimer & Co., New York, N. Y. Filed Apr. 18, 1882. Original No. 253,730, dated Feb. 14, 1882.



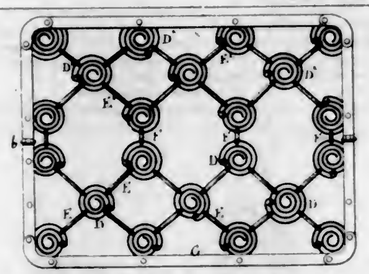
Claim.—1. The combination, with the frame A, consisting of the sheet *a* and leg *b*, of the card *c*, attached to the face of sheet *a*, and the leaves *d*, folding at the side edges, *e*, upon the card *c*, as shown and described.

2. The combination, with the frame A, consisting of sheet *a* and leg *b*, of the bordering *f*, consisting of ruffled and fringed woven fabric, as shown and described.

10,179. SPRING BED-BOTTOM. SAMUEL H. REEVES, South Orange, N. J. Filed Dec. 6, 1881. Original No. 179,671, dated June 13, 1876.

Claim.—1. A spring bed-bottom composed of two longitudinal and severally-complete sections, each consisting of a bottom surface or frame-work comprising longitudinal and cross slats, spiral or helical springs, and connections between the top coils of said springs and an outer rim, forming a top or resting surface, said sections being located side by side and so combined that each is capable of yielding upon the movements of an occupant without materially disturbing the other section or an occupant thereon, substantially as specified.

2. A spring bed-bottom composed of two longitudinal and severally-complete sections, each consisting of a bottom surface or frame-work comprising longitudinal and cross slats, spiral or helical springs, and connections between the top coils of said springs



and an outer rim, forming a top or resting surface, said sections being hinged together side by side at the top or resting surface, so that each is capable of yielding upon the movements of an occupant without materially disturbing the other section or an occupant thereon, substantially as specified.

3. In a spring bed-bottom, the combination of upright springs and obliquely-extending connections between the springs, substantially as herein set forth.

4. In a spring bed-bottom, the combination of upright springs arranged in rows so disposed that the springs in one row are opposite the spaces between those of the adjacent row or rows, and obliquely-extending connections between the springs, substantially as herein set forth.

5. The spriog bed-bottom composed of a bottom surface or frame-work consisting of longitudinal slats tied or united by cross-slats, a number of spiral or helical springs secured to said bottom frame-work, links connecting the top coils of the said springs, and a frame or rim attached to the top coils of the outer rows of said springs, the whole combined and organized substantially as and for the purposes herein set forth.

THE HELIOTYPE PRINTING CO BOSTON

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF UNITED STATES COURTS IN PATENT CASES.

DECISIONS OF THE U. S. COURTS.

U. S. Circuit Court—District of Indiana.

GOTTFRIED v. THE CRESCENT BREWING COMPANY.

Decided January 26, 1882.

1. LETTERS PATENT NO. 42,580 CONSTRUED AND HELD TO BE INVALID.

Letters Patent No. 42,580, issued to J. F. T. Holbeck and M. Gottfried, for a method of preparing casks for receiving pitch or other melted substance, to render them impervious, by forcing an air-blast through a grate-fire, the heated air and products of combustion being thence driven into the cask through a pipe leading from the top, examined and held to be invalid, whether construed to be for the use of a hot blast generally or for the use of a deoxygenated and non-combustible blast.

2. SAME—FORMER DECISIONS.

The decisions in *Gottfried* v. *Fortune* and *Gottfried* v. *Best Brewing Company* followed as to the questions there raised.

3. PITCHING BARRELS—PRIOR PUBLICATION.

The invention is anticipated by the prior German publication, *Der Bierbrauer*, describing a method of drying the interior of casks or vessels by warm or hot air by an apparatus substantially like the plaintiff's in construction, mode of operation, and effect, and differing only in the particular that the hot air is drawn from the furnace through an exhaust-passage by a fan located between the furnace and valve, and thence driven with the products of combustion into the cask. The applicant has merely applied the old devices to a new use.

4. SAME—SAME—NEW USE OF OLD DEVICES.

Merely applying old and well-known mechanical contrivances to a new purpose will not support a claim for a patentable invention or process.

5. SAME—NO NEW PRINCIPLE OR RESULT.

The patent in this case was not even for the application of an old machine to a new use, it appearing that the interior of molds and casks had been previously heated by a hot blast for the same purpose, but by different means.

Messrs. Banning & Banning for the plaintiff.
Messrs. Parkinson & Parkinson for the defendant.

GRESHAM, *J.*:

Letters Patent No. 42,580 were issued to J. F. T. Holbeck and M. Gottfried, May 3, 1864, for a new and improved mode of pitching barrels. This suit was brought by the plaintiff, as assignee and owner of the patent, against the defendant for infringement and for an injunction and account.

The invention consists in preparing casks for receiving pitch or other melted substance which will render them impervious by introducing into the casks a blast of highly-heated air. The mechanism described in the patent consists of a furnace with a vertical central opening and grate-bars near the bottom over an ash-pit. A rotary fan forces the air through a pipe into the ash-pit and up through the fire on the grates, the heated air and products of combustion being thence driven into the cask through a pipe leading from the top, or near the top, of the furnace or fire-chamber. When the cask is sufficiently heated it is removed and rolled until the interior surface is thoroughly coated with the melted pitch.

The defendant's device need not be described, as it is not denied that it is substantially the same in construction and mode of operation as the complainant's.

The defense is that the patentees were not the original and first inventors of the alleged improvement; that the same had been described in certain English letters patent and foreign printed publications, and had been in public use in this country prior to the supposed invention or discovery.

It was held by Judge Blodgett in *Gottfried* v. *Fortune* (13 O. G., 1128) that the plaintiff's invention was not anticipated by the Davison and Symington patent for a method of cleansing, purifying, and sweetening casks, vats, and other vessels. And in a number of later cases, decided by Judge Dyer and reported in volume 17 OFFICIAL GAZETTE, page 675, it was held that the plaintiff's invention was anticipated by neither the Davison and Symington patent, the Cochran and Galloway patent for a machine for removing the inconvenience of smoke or gases generated in furnaces or fire-places by the combustion of coal or other inflammable substances, and, in certain cases, for directing the heat and applying such smoke or gases to various useful purposes; the Boville patent, which consisted in part of an improved mode of heating a blast by blowing the same partly through and partly over the fire in a retort or fire-proof chamber and thence through suitable pipes into a smelting-furnace; the Neilson patent for an improved application of air to produce heat in fires in forges and furnaces, nor the Devaux patent for certain improvements in smelting ironstone or iron ore by forcing a blast of pure air through a fire in an inclosed apparatus and thence driving forward the products of combustion through a pipe into a smelting-furnace containing the ore. In these cases Judge Dyer also held that the Beck machine for heating the interior of beer casks and barrels preparatory to pitching them was simply an imperfect and abandoned experiment, and could not therefore prevail against the plaintiff's invention.

Thus far the record in this case presents questions which were ruled on by the learned judges in Illinois and Wisconsin.

The Seibel machine is constructed of strong sheet-iron, about eighteen inches high, five or six inches wide, and three feet long. It rests upon four small feet an inch long. A long iron handle is attached to the top of one end and a perforated pipe runs through and near the bottom of the machine. The machine, containing ignited charcoal, is inserted in the cask through the man-hole. The nozzle of a blacksmith's bellows is then

inserted into the perforated pipe through an opening in one end of the machine. The bellows is manipulated and the interior of the cask is heated with the products of combustion or gases until the hard pitch or other suitable substance previously placed in the cask is sufficiently melted for practical use. The evidence shows that this machine was constructed and used by Conrad Seibel, at St. Louis, as early as 1856, where it was generally used by brewers in pitching casks; that it was used elsewhere in the United States for the same purpose, and that it is yet so used.

The defendant also relies upon an essay, entitled the "Newest Discoveries," published in Germany, in 1861, in a paper called *Der Bierbrauer*, as anticipating the plaintiff's invention. This essay discusses the different methods of heating barrels and casks and rendering them impervious. After giving his views at some length on the subject of drying casks or vessels by warm or heated air, the writer concludes as follows:

In case of superfluous water or steam power a fan, being at command, can be attached, and thus blow the air through the vessels. Hereby the fan draws the air out of a channel which connects with the somewhat roomy ash-place of a small pit or shaft furnace, which is fed with coke or charcoal whenever warm air is desired. The ash-place has an opening from the side provided with a small door to mix the burning air, in case it gets too hot, with cold air.

The defendant introduced a model in connection with this publication which represents a grate in a furnace over an ash-pit. An exhaust-passage connects a rotary fan with the ash-pit, and a discharge-pipe from the fan is provided with one or more nozzles, which introduce the heated air and gaseous products into as many casks. In the side of the ash-pit is a cold-air inlet, which may be wholly or partially closed by a small door. The fan is adjusted between the furnace and the casks, and thus draws the air by suction from the outside through the fire and the exhaust-chamber and forces it forward into the casks. I think from the evidence a skillful mechanic familiar with the art and with this publication before him could readily have constructed this model. In this mechanism the fan is between the furnace and the casks, and draws the air through the fire by suction, and then drives the heated blast or products of combustion forward into the casks, while the plaintiff's mechanism has the furnace between the fan and the casks, and forces the cold air into the fire and the heated blast into the casks, the difference being in mechanical arrangement only and not in principle or effect.

The Cochrane and Slate patent is also relied upon here for the first time as anticipating the plaintiff's invention. This English patent was issued on the third day of January, 1850, and provides for the application of a hot deoxygenated blast for heating and drying molds for castings instead of casks. The device consists of an external cylinder of sheet metal having an interior cylinder fixed within it, the lower part of which is perforated. A fire-place made of fire-brick and supplied with small coke is constructed in a chamber or furnace resting on or over the cylinder when in use. The furnace contains outlets for the escape of the products of combustion. A mold in a mold-box is inserted within the inner cylinder and the drying apparatus is placed in position over the cylinders. The blast is then forced from the outside through a pipe into the fire-chamber through, or partly through, the fire, and the heated blast and gases are thence driven down through and around the mold, which is quickly dried. The hot blast or products of combustion, which are here used to disperse moisture and dry molds, are utilized by the plaintiff in heating the interior surface of beer-casks. The subsequent application of pitch or other resinous substances is no part of the plaintiff's invention.

It is not claimed that Holbeck and Gottfried were the first to prepare the interior of barrels and casks for pitching by the application of heat, but it is insisted that their invention was novel in the character of their hot blast, it being deprived of oxygen, the use to which it was applied, and the manner in which the application was made. The first claim reads:

1. The application of heated air under blast to the interior of casks by means substantially as described and for the purposes set forth.

If the patentees deemed it important to use a hot blast from which the oxygen had been consumed, and it were their intention to cover such a blast, that intention was not clearly expressed in drafting the specifications and claims. If they deemed a non-combustible hot blast a part of their invention, why did they not cover it in plain terms in their patent? But construing their patent as providing for such a blast, the evidence shows that its properties had been long known and that such a blast had been actually used in heating beer-casks preparatory to pitching them. The plaintiff's arrangement of a rotary fan, an ash-pit, fire-grates, fire-chambers, and connecting and discharge pipes for forcing air from the outside into actual contact with the fire, and then driving the decomposed blast into casks, was not novel. The German publication described a mechanism substantially like the plaintiff's in construction, mode of operation, and effect. There was no invention in the manner in which the patentees applied the decomposed blast to the interior surface of casks, nor am I able to see that they were entitled to a patent for the use which they made of the hot blast. The patentees took old and well-known mechanical contrivances for accomplishing useful results and applied them to a new purpose. In this there was nothing to support a claim for a patentable invention or process. The various instrumentalities which the patentees employed in their use of the hot blast operated just as they had previously operated when the same blast was used for other purposes. They employed old mechanism without producing a new effect. It may be true that this device produced a better result, but that of itself was not enough to sustain the patent.

In delivering the opinion of the Court in *Roberts* v. *Ryer* (1 Otto, 150) Chief Justice Waite says:

It is no new invention to use an old machine for a new purpose. The inventor of the machine is entitled to the benefit of all uses to which it can be put, no matter whether he had conceived the idea of the use or not.

And, says Justice Story in *Bean* v. *Smallwood*, (2 Story, 408)—

The thing itself which is patented must be new and not the mere application of it to a new purpose or object.

The plaintiff's patent was not even for the application of an old machine to a new use. The interior of molds and other receptacles had been previously heated by a hot blast, and the patentees used a blast of the same character to heat the interior of beer-casks. No new application of a natural force or element in nature was pointed out or described in the patent.

This case is different in some essential respects from the cases which were decided by Judges Blodgett and Dyer.

The bill is dismissed for want of equity.

U. S. Circuit Court—Southern District of New York.

SCHNEIDER *v.* LOVELL *et al.*

Decided February 10, 1882.

1. REISSUED LETTERS PATENT NO. 7,511—LAMP-BURNERS—INADEQUATE DESCRIPTION.

A patent for an improvement in shade-holders for lamps claimed, *inter alia*, a shade or globe so arranged and constructed that the burner performs its required functions without the use of a chimney, the specification affording no further explanation of the principle which is to govern the construction of the shade as to its size and proportions, and it appearing from evidence produced that a shade made of the shape, size, and proportions illustrated in the drawings would not give light when used alone to the same degree as when used with an ordinary chimney, and that the shades actually used by the patentee and the defendants were not the shade of the drawings, but were the result of further adaptation and experiment, *Held*, that the words "whereby the burner performs its functions without the use of a chimney" mean that the arrangement will give as good a light as with the use of a chimney.

2. SAME—PATENT CONSTRUED.

That the most favorable view that can be taken of the patent is that it is for a shade of the size, height, and proportion shown in the drawings.

3. SAME—INFRINGEMENT.

That as the defendants' shade was different from that shown in the drawings, it did not infringe.

Messrs. Gifford & Gifford for the plaintiff.
Mr. J. P. Fitch for the defendants.

BLATCHFORD, *J.*:

This suit is brought on Reissue Letters Patent No. 7,511, granted to the plaintiff February 13, 1877, for an improvement in shade-holders for lamps, the original Patent No. 182,973 having been granted to Carl Votti, as inventor, October 3, 1876.

The specification of the reissue says:

My invention relates to lamps; and it consists in a transparent shade-holder, or holder of a material allowing the passage of light, and shade or globe so arranged that an ordinary lamp-burner can be used without a chimney, as will be hereinafter more fully set forth.

In the annexed drawing, Figure 1 is a vertical section of my invention. Fig. 2 is a plan view of the shade-holder.

A represents an ordinary lamp-burner, provided with a circumferential flange, *a*, for the support of the cone *b*, and which, ordinarily, also serves to support the chimney or cylinder. This flange is provided with suitable perforations, through which air is admitted both inside and outside of the cone.

Instead of using the flange *a* for the support of the ordinary chimney, I place on the same my shade-holder B, which is made of glass or other suitable transparent material, or material that will allow of the passage of light, and which is provided with a tubular extension or socket, *c*, that fits over the cone *b*, leaving an air-space between its inner surface and the outer surface of said cone. From said socket extends a broad dish-shaped flange, *d*, which is provided with a rim, *e*, and which serves to support and retain the shade C. The flange *d* is perfectly closed, so that no air will pass to the flame except what is admitted through the perforations in the burner-flange *a*, and by these means I am enabled to produce a bright flame without the use of an ordinary chimney or cylinder. The advantages of this arrangement will be apparent, since it allows of keeping the burner clean, and of trimming the wick without difficulty, and the annoyance of broken chimneys is avoided.

It will be seen that with the shade-holder and shade arranged, as shown and described, the ordinary burner will perform the required functions without the use of a chimney.

I am well aware that transparent shade-holders are of themselves not new; hence I do not claim such, broadly, as being my invention.

The claims of the reissue are as follows:

1. In a lamp having a burner, the combination of a shade-holder made of material that will admit of the passage of light, and a shade or globe, arranged and constructed substantially as described, whereby the burner performs the required functions without the use of a chimney, as set forth.

2. The shade-holder B, constructed of material that will admit of the passage of light, and provided with a downwardly-extending socket, *c*, and dish-shaped flange *d*, with rim *e*, in combination with a globe or shade, C, and burner A of a lamp, as and for the purposes herein set forth.

3. The combination, in a lamp, of the burner A, having perforated flange *a* and cone *b*, the shade-holder B, with central socket *c*, and a shade or globe, C, substantially as and for the purposes herein set forth.

One of the defenses set up in the answer is that in the specification of the reissue there is not given, as required by the statute, a description of the invention, and of the process of making, constructing, and using it in such full, clear, and exact terms as to enable any person skilled in the art or science to which it appertains to make, construct, and use the same; nor is there explained in or by said specification the principle of the alleged invention and the best mode in which said Votti has contemplated applying that principle so as to distinguish it from other inventions, and that therefore the patent is void.

In the specification nothing is said as to the shape or size of the parts, or proportion of the parts, of the shade C. Nothing is said about it except to call it a "globe" or "shade" and to designate it as "C" by a letter of reference to the drawings. Nothing is said as to the diameter of the contraction at the narrowest part of it, near its top, as compared with the diameter of the socket *c* of the shade-holder, and nothing as to its height or as to the degree of flare of the shade-holder. These things are shown by the evidence to be material in constructing an arrangement of the kind which will give as good a light as with the use of a chimney. The object of the arrangement is stated in the specification to be to use an ordinary burner without a chimney and to dispense with the ordinary chimney. This can only mean that as good a light is to be produced without as with a chimney. The meaning of the words "a bright flame," in their context, is as bright a flame as the chimney will produce. The meaning of the expression that "the ordinary burner will perform the required functions without the use of a chimney." This is to be done by having "the shade-holder and shade arranged as shown and described," yet the features of construction and shape and size and proportions of the shade are not set forth. So, too, in claim 1, "a shade or globe, arranged and constructed substantially as described," is spoken of, yet nothing is described as to the construction of the shade. It is true that by looking at C in the drawings a shade of a certain form is shown. But the drawings are not said to be on a scale. Looking at the drawings and making a shade from them gives but one form of shade at most, and there is no statement of the principle which is to govern the construction of the shade as to size and proportions. It is shown that a shade made as nearly as can be ascertained of the form and proportions shown in the drawings will cause the burner to give light to some degree, but by no means to the same degree as the ordinary chimney will with the same burner.

It is not the shade of the drawings that has been made and sold by the plaintiff under the patent, nor have the defendants made or sold the shade of the drawings. To reach the shades of either the plaintiff or the defendants required experiment, adaptation, and invention beyond anything shown in the drawings.

Construing the patent as covering a shade of the form and dimensions and size and height and proportions shown in the drawings, no such shade has been made or sold by the defendants, and so there has been no infringement. This is the most favorable view which can be taken of the patent.

The bill is dismissed, with costs.

U. S. Circuit Court—District of Rhode Island.

WHITE *et al. v.* HEATH.

1. LAMPS—INFRINGEMENT BY IMPROVER.
A patent for the application of the power of carbonic-acid gas to extinguishing flames in an ordinary lamp containing inflammable oil by means of a closed receptacle holding such gas is infringed by one who uses the main elements of the combination, but has made certain changes in the gas-holding receptacle—viz., alterations in form and location—whereby the receptacle is less liable to get broken, and at the same time the gas comes into more immediate contact with the flames in case of an explosion.

2. SAME—SAME—CHANGES AND IMPROVEMENTS WILL NOT RELIEVE INFRINGER.
One who uses the combination secured by the patent is none the less an infringer because he has made changes in details of construction which might be patentable as improvements.

3. PRELIMINARY INJUNCTION—EXCLUSIVE POSSESSION—VALIDITY OF PATENT—USE.
An injunction is seldom refused where exclusive possession is shown for some time, though not for a long period, where large and numerous sales have taken place without dispute, and where the validity of the patent is not questioned by the defendant.

4. SAME—PROSPECTIVE INFRINGEMENT.
Injunction granted before any sales had actually been made by the defendant where it appeared probable from the circumstances that the defendant is about to engage in the business.

5. SAME—NON-USER DURING SUIT.
The mere assertion of the defendant in the affidavit attached to his answer that he has no intention of making and selling any of the infringed articles during the pendency of the suit is not a good reason for withholding an injunction.

Mr. Wilmarth H. Thurston for the complainants.
Mr. Warren R. Pirce for the defendant.

COLT, *D. J.*:

This is an application for a preliminary injunction. The complainants, having acquired title by assignment to a certain patent issued to Charles S. Westland for an improvement in lamps, charge the defendant with an infringement. This patent (No. 206,061) was issued July 16, 1878, and the claim is as follows:

> The combination, with a lamp for burning explosive or inflammable oils or fluids, of a closed receptacle containing carbonic-acid gas under pressure, so located with relation to the burner that in case of an explosion the compressed gas will be liberated, substantially as and for the purposes set forth.

The object of this invention was to avoid the danger from fire in the event of an explosion of a lamp in which kerosene or this inflammable fluid might be used, by means of a closed receptacle or chamber of glass or other fragile material charged with carbonic-acid gas fitting about or into the oil-reservoir. Immediately upon the issuing of the patent Westland sought capital to establish the business of manufacturing the lamp. Among those whom he met was the defendant Heath, and on September 16, 1878, he sold to him one-third interest in the patent. On July 3, 1879, the complainants, White and Fairbrother, bought the remaining two-thirds, and on January 28, 1881, they also purchased the other one-third of Heath and another person to whom he had transferred a part. We thus find that the defendant was interested in this patent up to January 28, 1881. On March 1, 1881, the defendant took out Letters Patent No. 238,234, for an improvement in safety-lamps, and he claims that the lamps complained of are made under this patent. The position taken by the plaintiffs is, first, that the lamps in question are not made under the defendant's patent, because the main features of that patent, which consisted of certain details in the construction of safety-lamps, are omitted; second, that even if made under that patent they would be an infringement of the Westland patent.

The inquiry whether the lamps made by the defendant conform to his patent we deem, under the circumstances, immaterial. The only defense offered by Heath is his patent, and if that does not protect him he is guilty, under the evidence, of the charge of infringement. An examination of the defendant's patent shows that it embraces the main elements of the Westland patent. It consists of a combination, with a lamp for burning explosive oils, of a closed receptacle containing carbonic-acid gas, so located that in case of an explosion the compressed gas will be liberated. What is claimed in the specification is an improvement in certain details of construction, whereby the passage of the gas to the inside of the reservoir and to the flame is insured. These details relate mainly to the construction of the gas-receptacle, it having "grooves or flutes" running down into the oil-reservoir, the defendant claiming that by his invention the gas-chamber is less liable to get broken, and at the same time the gas comes into more immediate contact with the flame in case of an explosion. But admitting that the defendant has worked out an improvement in details in the gas-receptacle, still he had no right to use all the main elements of the Westland patent. Westland's patent was the application of the power of carbonic-acid gas in extinguishing flames to an ordinary lamp containing any inflammable oil, like kerosene, by means of a closed receptacle holding such gas. Changes in the details of construction of such receptacle might be patentable as improvements, but would not protect the party against the charge of an infringement of the former patent. But the general idea of a receptacle with tubes extending into the oil is not absent from the Westland patent, for the specification sets out that gas-tubes may extend up into the oil from the bottom, and that small closed vials of compressed gas may be dropped into the oil at the top. The defendant does not undertake to prove that his patent is not an infringement by any evidence further than his statement in his affidavit that, on consultation and advice with eminent experts and counsel in patent matters, he believes that his improved safety-lamp is not an infringement upon any rights properly claimed by the Westland patent. We are of the opinion that he is guilty of an infringement for the reasons given.

The validity of the Westland patent is not questioned by the defendant. Capital to the extent of $20,000 has been invested in the manufacture of these lamps and a successful business established. Large and numerous sales have taken place without dispute. Exclusive possession is shown for some time, though not for a long period. Under these circumstances an injunction is seldom refused. (Curtis' Law of Patents, sec. 413; *Orr v. Littlefield*, 1 W. & M., 13; *Potter v. Muller*, 2 Fish., 465.)

The statement of the defendant in his affidavit that the only lamps he has made were for experimental use should not, in view of other undisputed testimony, affect the granting of an injunction. It appears that these lamps were exhibited at the fair of the Massachusetts Charitable Mechanics' Association, held in the fall of 1881, and that circulars were distributed to the public setting off their advantages. It further appears that the lamp has been otherwise advertised. If sales have not actually been made, such a wrong is threatened, and that is sufficient to call for an injunction. (Bump's Law of Patents, 294; *Poppenhusen v. Gutta Percha Company*, 2 Fish., 74.) Nor is the assertion of the defendant in his affidavit that he has no intention of making or selling any of said lamps during the pendency of this suit a good reason for withholding an injunction. The complainants are not obliged to rest their interest on the mere assertion of the defendant that he will not repeat the act of infringement. (Bump's Law of Patents, 295; *Jenkins v. Greenwald*, 2 Fish., 37.)

The motion for a preliminary injunction is granted.

THE
OFFICIAL GAZETTE
OF THE
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[BY AUTHORITY OF CONGRESS.]

VOL. 22—No. 7. TUESDAY, AUGUST 15, 1882. PRICE—$5 per year

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Issue of August 15, 1882.

Patents	359	No. 262,552 to No. 262,910,	inclusive.
Designs	29	No. 13,172 to No. 13,200,	inclusive.
Trade-Marks	11	No. 9,603 to No. 9,613,	inclusive.
Labels	3	No. 2,736 to No. 2,738,	inclusive.
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Connecticut	17	....	New York	64	11
Dakota Territory	....	....	North Carolina	2	....
Delaware	....	....	Ohio	25	....
District of Columbia	5	....	Oregon	....	....
Florida	2	....	Pennsylvania	43	1
Georgia	2	....	Rhode Island	7	....
Idaho Territory	....	....	South Carolina	....	....
Illinois	38	....	Tennessee	3	....
Indiana	17	....	Texas	3	....
Indian Territory	....	....	Utah Territory	1	....
Iowa	5	1	Vermont	1	....
Kansas	3	....	Virginia	....	....
Kentucky	6	....	Washington Territ'y	....	....
Louisiana	2	....	West Virginia	1	....
Maine	4	....	Wisconsin	13	....
Maryland	3	....	Wyoming Territory	....	....
Massachusetts	40	1	United States Army	....	....
Michigan	10	....	United States Navy	....	....
Minnesota	1	....			
Mississippi	....	....	Total to citizens of the United States	362	14
Missouri	14	....			
Montana Territory	....	....			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks and Labels.	Countries.	Patents and Designs.	Trade-Marks and Labels.
Argentine Republic	....	....	England	5	....
Australia	....	....	France	5	....
Austria	....	....	Germany	6	....
Barbadoes	....	....	Italy	....	....
Belgium	....	....	New Zealand	....	....
Bermuda	....	....	Russia	1	....
Brazil	....	....	Spain	....	....
Canada	5	....	Sweden	1	....
Chili	1	....	Switzerland	1	....
Colombia, U. S. of	....	....			
Cuba	....	....	Total to citizens of foreign countries	26	....
Denmark	1	....			
Ecuador	....	....			

DESIGNS.

13,172.—HEATING-STOVE.—*Edgar W. Anthony*, Boston, Mass., and *Thomas J. Gould*, Providence, R. I., assignors to *The Smith & Anthony Stove Company*, Boston, Mass. Application filed May 19, 1882. Term of patent 14 years.

13,173.—CORSET.—*James Bowers*, Newark, N. J. Application filed July 8, 1882. Term of patent 7 years.

13,174.—CARPET.—*Hugh Christie*, Boston, assignor to *The Lowell Manufacturing Company*, Lowell, Mass. Application filed July 14, 1882. Term of patent 3½ years.

13,175.—BOTTLE.—*John F. Corrigan*, New Bedford, Mass. Application filed July 7, 1882. Term of patent 7 years.

13,176.—BUTTON.—*John A. Deknatel*, Brooklyn, N. Y. Application filed June 30, 1882. Term of patent 7 years.

13,177.—ORNAMENTAL CHAIN.—*Salomon Davidson*, New York, N. Y. Application filed July 13, 1882. Term of patent 7 years.

13,178.—SPOON OR FORK HANDLE.—*George Gill*, Bridgeport, Conn., assignor to *The Rogers & Brittin Silver Company*, same place. Application filed July 6, 1882. Term of patent 7 years.

13,179.—COMB.—*Charles H. Graef*, Edgewater, N. Y. Application filed June 3, 1882. Term of patent 7 years.

13,180.—SEWING-MACHINE STAND.—*Arthur M. Leslie*, Cleveland, Ohio. Application filed January 12, 1882. Term of patent 14 years.

13,181.—WATCH-CHAIN AND ATTACHMENT.—*Calvin W. Little*, Denver, Colo. Application filed June 27, 1882. Term of patent 7 years.

13,182.—FOOT-RAIL BRACKET.—*Carleton W. Nason*, Montclair, N. J., assignor to *The Nason Manufacturing Company*, New York, N. Y. Application filed July 19, 1882. Term of patent 14 years.

13,183 to 13,187, inclusive.—CARPET.—*Edward Poole*, Boston, assignor to *The Lowell Manufacturing Company*, Lowell, Mass. Applications filed July 14, 1882. Term of patents 3½ years.

13,188 to 13,195, inclusive.—CARPET.—*Oscar Righter*, Philadelphia, Pa., assignor to *Dornan Brothers & Co.*, same place. Applications filed June 22, 1882. Term of patents 3½ years.

13,196.—TYPE.—*John K. Rogers*, Brookline, Mass. Application filed March 16, 1882. Term of patent 14 years.

13,197.—PRINTING-TYPE.—*John K. Rogers*, Brookline, Mass. Application filed July 13, 1882. Term of patent 3½ years.

13,198 and 13,199.—CARPET.—*Emil G. Sauer*, New York, N. Y., assignor to *The Lowell Manufacturing Company*, Lowell, Mass. Applications filed July 14, 1882. Term of patents 3½ years.

13,200.—FABRIC.—*Henry Selling*, New York, N. Y., assignor to *H. Selling & Co.*, same place. Application filed July 19, 1882. Term of patent 3½ years.

TRADE-MARKS.

[Certificates of registration of Trade-Marks numbered 8,191 and upward are registered under the act of March 3, 1881.]

9,603.—CIGARS.—*Julian Alvarez*, New York, N. Y. Application filed July 20, 1882.
"A view of registrant's factory."

9,604.—CIGARS.—*Bock y Ca.*, New York, N. Y. Application filed July 20, 1882.
"A fac-simile of registrants' firm-signature."

9,605.—CEMENT OR ADHESIVE LIQUID.—*Noah L. Freese*, Salem, Mass. Application filed July 20, 1882.
"A pictorial representation of the registrant and a fac-simile of his signature."

9,606.—SOAP.—*Charles S. Higgins*, Brooklyn, N. Y. Application filed July 19, 1882.
"The arbitrarily-selected word 'AMARANTH.'"

9,607.—TOBACCO-PIPES.—*Frederick J. Kaldenberg*, New York, N. Y. Application filed July 7, 1882.
"The representation of a sun-burst."

9,608.—LAUNDRY AND TOILET SOAP.—*Lautz Bros. & Co.*, Buffalo, N. Y. Application filed July 17, 1882.
"The arbitrarily-chosen word-symbol 'TOWEL.'"

9,609.—WATCH-MOVEMENTS.—*May & Son*, New York, N. Y. Application filed June 21, 1882.
"A representation of an anchor and the letters 'M. & S.'"

9,610.—MIXTURE OF PULVERIZED COCOA-BEANS AND GRANULATED EXTRACT OF MALT.—*J. A. Schiedt*, Philadelphia, Pa. Application filed July 10, 1882.
"The fanciful coined word 'MALTO-COCOA.'"

9,611.—CIGARS.—*Elias Valle*, New York, N. Y. Application filed July 20, 1882.
"The words 'LA FLOR DE MURIAS' and the registrant's fac-simile signature, 'ELIAS VALLE.'"

9,612.—CIGARS.—*Elias Valle*, New York, N. Y. Application filed July 20, 1882.
"The words 'LA FLOR DEL MAZO' and the registrant's fac-simile signature, 'ELIAS VALLE.'"

9,613.—MEDICAL COMPOUND FOR THE CURE OF DYSPEPSIA.—*Gastrine Manufacturing Company*, New York, N. Y. Application filed April 4, 1882.
"The arbitrary word-symbol 'GASTRINE.'"

LABELS.

2,736.—Title: "CHAMBERLAIN'S COLIC CHOLERA AND DIARRHŒA REMEDY."—*Chamberlain & Co.*, Des Moines, Iowa. Application filed June 16, 1882.

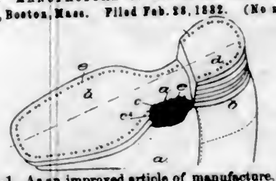
2,737.—Title: "HOWES' INSTANT RELIEF."—*Margaret K. Howes*, New York, N. Y. Application filed July 20, 1882.

2,738.—Title: "WHITE LIGHT NEW PROCESS FLOUR."—*Jewell Milling Company*, Brooklyn, N. Y. Application filed July 3, 1882.

PATENTS

GRANTED AUG. 15, 1882.

262,552. MANUFACTURE OF BOOTS OR SHOES. HIRAM R. ADAMS, Boston, Mass. Filed Feb. 28, 1882. (No model.)

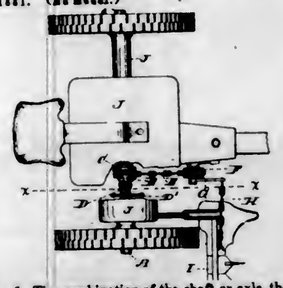


Claim.—1. As an improved article of manufacture, a boot or shoe having an outer sole, inner sole, and upper united by staples having holding-projections 3 thereon, such as described, and inserted through the soles and upper with the cross-bar of the staple next the inner sole, substantially as described.

2. That improvement in the art or method of manufacturing boots and shoes which consists in first perforating the outer sole, inner sole, and upper for the reception of the sole-fastenings, inserting the sole-fastenings through the holes in the inner sole from its upper or tread face, then placing the perforated portions of the upper and the outer sole over the projecting ends of the sole-fastenings, and forcing or pressing the soles and upper closely together, substantially as described.

3. The herein-described method of connecting the inner and outer soles and upper of a boot or shoe, which consists in punching holes in the said soles and upper for the reception of the metallic fastenings, and subsequently inserting the metallic fastenings into the inner sole, placing the latter, with its inserted fastenings, upon a thin form, *f*, placing the perforated portions of the upper over the fastenings, applying the outer sole to the said fastenings, and then hammering or pressing the outer sole upon the fastenings and forcing the soles together, substantially as shown and described.

262,553. CLUTCH. HORACE R. ALLEN, Indianapolis, Ind. Filed Dec. 27, 1881. (No model.)

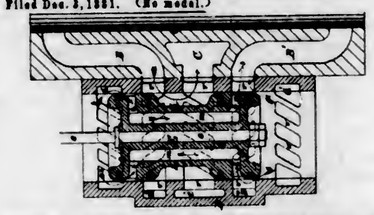


Claim.—1. The combination of the shaft or axle, the rigidly-mounted disk thereon, having serrations or projections on its side, a loosely-mounted sheave or pulley on the same shaft or axle, having corresponding serrations or projections on the side next said disk and a hub on the other side smooth, except as to a circumferential groove and a notch therein, and a latch-bolt adapted to force said pulley into engagement with said disk, except when said notch arrives opposite its head, when it slips over, as specified, and engages with said head and is held thereby until said lock-bolt is withdrawn, whereby said pulley is made to revolve a determinate distance, and is then held in position until released, substantially as set forth.

2. The combination, with the clutch-pulley B, of the latch-bolt D, which engages therewith by means of its head, and is provided with a projecting pin on its upper side, which fits into a diagonal groove in the foot-lever whereby it is operated, whereby when said foot-lever is rotated said bolt is caused to force said pulley back or forth or release it from engagement, substantially as set forth.

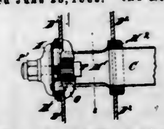
3. The combination of the disk C, fixedly mounted upon the axle A, and having notches or serrations in one of its sides, the pulley B, loosely mounted upon the axle and having corresponding notches or serrations upon the side next said disk, and a rim, *b*, and face *b'* upon the other side, the latter having the notch *b''* therein, and the latch-bolt D, having the head *d*, which is adapted, as specified, to engage with either said rim, said face, or said notch, all substantially as shown and described, and for the purposes specified.

262,554. PISTON-VALVE. JOHN H. ALLEN, Brooklyn, N. Y. Filed Dec. 3, 1881. (No model.)



Claim.—A cylindrical case, D, with circumferential cavities G G', in combination with a sliding piston-valve, E, consisting of a central hollow cylinder or piston, *h*, and upper and lower disks, *b b'*, connected together, arranged to operate in the manner and for the purpose substantially as described.

262,555. STEAM-BOILER. GEORGE H. BABCOCK, Plainfield, N. J., STEPHEN WILCOX and NATHANIEL W PRATT, Brooklyn, N. Y., and EDWIN H. BENNETT, Bayonne, N. J., assignors to the Babcock & Wilcox Company, New York, N. Y. Filed Sept. 8, 1881. Renewed June 23, 1882. (No model.)



Claim.—1. In a steam-boiler having tubes C extending through the furnace, with front and back connections therefor, the construction of such connection in two sheets, D' D², strongly stayed across, said connections being formed independently of the barrel and united thereto by thimbles, substantially as herein specified.

2. In a steam-boiler having tubes C and connections therefor, made in separate sheets D' D², the malleable cast ring M, expanded in and adapted to form an easily-finished face for steam-tight contact with the cover N, as herein specified.

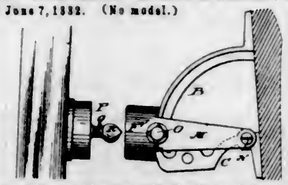
3. In combination with the plates D' D² and tubes C, the malleable casting M M' M², expanded into both the sheets, and strongly bracing across the space, adapted to serve substantially as and for the purposes herein specified.

262,556. WIRE RACK. JOSHUA BAILEY, Columbus, Ohio. Filed May 8, 1882. (No model.)



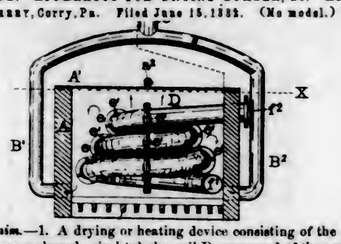
Claim.—A rack for holding folded newspapers, affording separate accommodations for each paper or papers, consisting of a single piece of wire bent in the form of an oblong frame, secured together at its ends and having projecting loops made in its sides, substantially as shown and described.

262,557. DOOR-CHECK. RICHARD H. BARNARD, Chicago, Ill. Filed June 7, 1882. (No model.)



Claim.—The combination, with the frame A, having segmental plate B, of the pivoted cylindrical casing having holding-spring G, and a set-screw for securing said casing in any position to which it may be adjusted, as set forth.

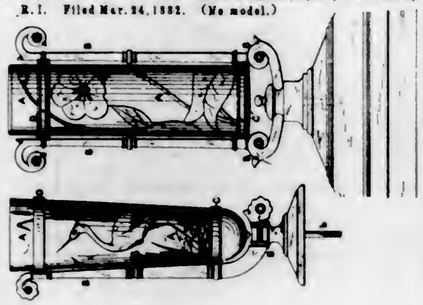
262,558. APPARATUS FOR DRYING LUMBER, &c. ALVIN W. BARRY, Corry, Pa. Filed June 15, 1882. (No model.)



Claim.—1. A drying or heating device consisting of the furnace A, cone-shaped spiral tubular coil D, composed of the curved sections d' d^2 d^3 d^4, connected together substantially as specified, in combination with a suitable air-forcing device, substantially as specified, whereby a free and gradually-narrowing circular or curved passage is given to the air, as and for the purposes specified.

2. The furnace A, and cone-shaped spiral tube D, having on its under lower portion the fire-protecting caps or troughs H, in combination with an air-forcing device, substantially as and for the purposes described.

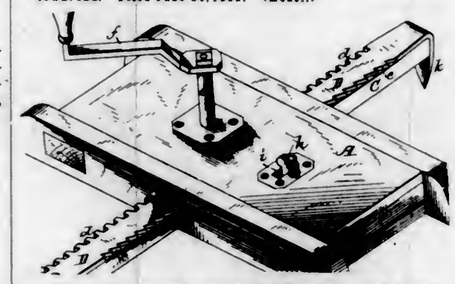
262,559. STOVE-URN. AMOS C. BARROW, Jr., Providence, R. I. Filed Mar. 24, 1882. (No model.)



Claim.—1. The improved stove-urn herein described, consisting of a vase and a skeleton supporting-frame composed of a base-support and a top holder for the vase, and a standard or standards connecting said base-support and top holder, the whole being adapted to be secured to a stove, substantially as and for the purpose specified.

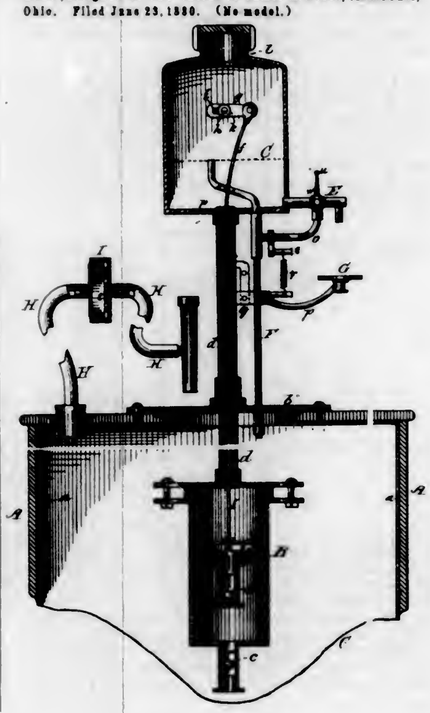
2. The combination, with a stove, of an urn consisting of a vase and a skeleton supporting-frame composed of a base-support, C, and top holder, D, for the vase, and a standard or standards, B, rigidly secured to said base-support and top holder, substantially as described and shown.

262,560. CARPET-STRETCHER. GEORGE W. BARTON, Thorntown, Ind. Filed June 26, 1882. (Model.)



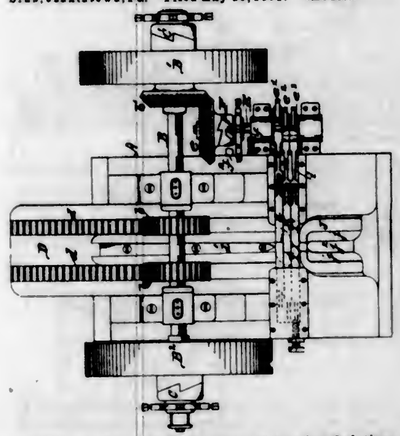
Claim.—In a carpet-stretcher, the frame or casing A, provided with teeth or spurs *l*, and inclosing the pawl *a*, spring *b*, and pinion B, in combination with the bar C, passing through an opening in said frame or casing, and having connected to it a plate, D, formed with ratchet-teeth *c*, rack-bar *d*, and claw *k*, substantially as and for the purpose set forth.

262,561. OIL-CABINET. GEORGE H. BENNETT, Leavenworth, Kans., assignor of two-thirds to James H. Foote, Cincinnati, Ohio. Filed June 23, 1880. (No model.)



Claim.—1. The tank or barrel A and reservoir C, communicating therewith through the tube *d*, and the cylinder B, connected to the lower end of said tube within the tank or barrel and containing piston D, operated by rod *f*, in combination with the return-pipe F, pipe *e*, and two-way faucet E, constructed and arranged to operate substantially as and for the purpose set forth.

262,562. MACHINE FOR MAKING PITCHFORKS. PETER H. BIRD, Jenkintown, Pa. Filed May 25, 1881. (Model.)



Claim.—1. The method or process of tapering fork-tines by drawing or moving the same lengthwise through dies simultaneously with moving said dies toward each other transversely of the tine, substantially as set forth.

2. A machine for drawing fork-tines, provided with overlapping dies with registering openings, forming a matrix, said dies being constructed and adapted to slide in opposite directions simultaneously, whereby their matrix is gradually diminished in diameter or area, substantially as set forth.

3. In combination with overlapping dies G H, designed and adapted to slide upon one another, a table, D, designed and adapted to move transversely thereto, so as to draw tines through said dies while their matrix is being diminished in area or diameter, substantially as set forth.

4. The combination, with overlapping dies G H, having lugs g^2 h^2, of table D, having spreader d', for causing said dies to slide upon one another as the table advances, substantially as shown and set forth.

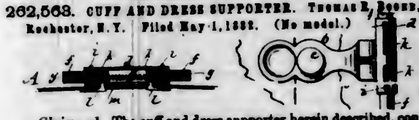
5. The table D, having head J, with opening f^2, designed for the reception of a fork-blank, and the tongs for holding the same, substantially as shown and set forth.

6. In combination with table D, having racks *d* and knocker M, the shaft B, with pinions *b b* and clutches C C', weight T, and levers K K' L L' N, whereby the forward and backward movement of said table is effected, substantially as shown and described.

7. In combination with the drawing-dies G H, the dies I I', for cleaning the tine about the head, substantially as shown and described.

8. In combination with sliding dies G, H, and I, the shaft E, having eccentrics or cranks c' c^2 c^3, and clutch F, with cams f f', whereby one half-revolution of said shaft brings said dies into position for drawing and the other half-revolution opens said dies, substantially as shown and described.

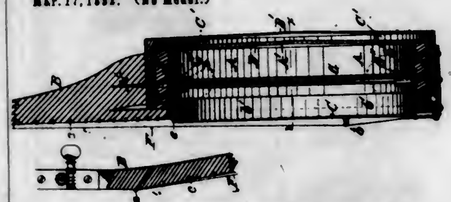
262,563. CUFF AND DRESS SUPPORTER. THOMAS E. BROWN, Rochester, N. Y. Filed May 1, 1882. (No model.)



Claim.—1. The cuff and dress supporter herein described, consisting of the clasp *a b*, clamping-screw *c*, barrel *d*, slides *f f*, spring or springs *g*, and the inclined hook-points *l l*, arranged to operate in the manner and for the purpose specified.

2. A cuff or dress supporter consisting of two jaws with a set-screw, forming a clasp, and a tubular cross-head with slides therein, provided with hook-points, forming a holder, the slides being pressed outward by a spring, as and for the purpose specified.

262,564. BANJO. BENJAMIN BRADBURY, Brooklyn, N. Y. Filed Mar. 17, 1882. (No model.)



Claim.—1. A banjo or musical instrument having the following size and proportions, to wit: sixteen inches and three-sixteenths from the inner edge of the nut *a* to the coincident edge of the bridge *b*, seven inches and five-eighths across the parchment, and the relative distances between the frets herein specifically described, these special proportions in this particular size of instrument producing the advantageous results herein more particularly set forth.

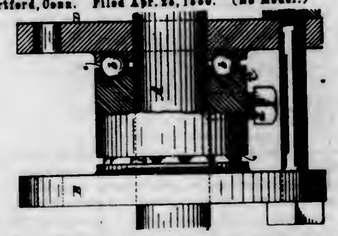
2. A banjo-head constructed with the inner or usual box, A, and an outer shell, B, with an open space, *a*, between the said box and shell and extending around the sides and back or bottom thereof, and studs or blocks C', interposed at intervals between the box and shell to retain the former out of contact with the latter and to prevent the transmission of sound from the former to the latter, all substantially as and for the purpose herein set forth.

3. The tubular metallic brace G, placed within the box A underneath the parchment C and strings F, and in relation with the end of the staff B, and a nut substantially as described, for longitudinally adjusting the said brace, the whole combined to adjust the position of the staff with reference to the box and strings, substantially as and for the purpose herein set forth.

4. The combination of the lugs *g* of the hoop *b'*, screws *i*, passing through nuts formed in the said lugs, the lugs *f* of the hoop *e*, having their outer ends underneath the heads of the screws *i*, the brackets *k* of the box A, said brackets having nuts receiving the threads of the screws *i* coincident with the nuts of the lugs *g*, and the parchment C, attached to the hoop *e* and strained over the hoop *b'*, the whole constructed, combined, and arranged to attach the hoops *b'* and *e* and parchment C to the box of the instrument by means of the same screws that serve to strain the parchment upon the hoop *b'*, substantially as and for the purpose herein set forth.

5. The combination of the screws H'', having bulbs *p*, with the brace G, having nuts G' and G'', and the buttresses H, within the box A, having the staff B, all substantially as and for the purpose herein set forth.

262,565. JOURNAL-BEARING. GEORGE H. BRAYTON, Boston, Mass., assignor to the Brayton Petroleum Engine Company, Hartford, Conn. Filed Apr. 28, 1880. (No model.)

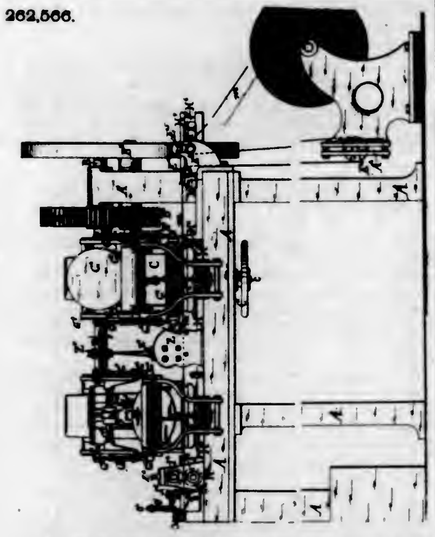


Claim.—The combination, with a propeller-shaft, of a journal-box annularly channeled on one side, a similarly-channeled abatement-plate secured to the box, an interposed collar annularly channeled at both ends and secured to said shaft, and sets of spheres occupying said channels, substantially as and for the purposes specified.

262,566. LABEL-MACHINE. THOMAS A. BRIGGS, Providence, R. I., assignor to himself, John B. Perkins, Taunton Mass., and Fred Talcott, Rockville, Conn. Filed Oct. 6, 1881. (No model.)

Claim.—1. The levers G, carrying suitable inking-rolls and springs, as shown, and mounted on a center, G', below the upper bearing of the toggle-lever F² F', in combination with the bed or platen F, toggle-lever F', and a connection, G', adapted to communicate the motion, substantially as and for the purposes herein specified.

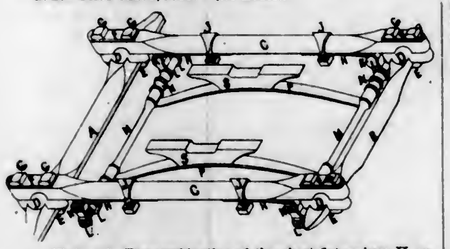
262,566.



2. One or more printing mechanisms, in combination with continuously-acting feed-rollers receiving the paper uniformly, and with intermittently-acting feed-rollers, and with provisions E^{10}, for taking up the slack, and with a single adjusting device, H', connected to the train of mechanism impelling both sets of feed-rolls, so that one adjustment suffices for both, as herein specified.

3. The depressor O, provided with wires or teeth arranged at right angles to its surface, as described, and mechanism for depressing it after each operation of the knife J', in combination with such knife, and with mechanism, substantially as described, for feeding and printing the labels, as herein specified.

262,567. CARRIAGE-SPRING. CALVIN M. BROWN, Newport, N.H. Filed Jan. 9, 1882. (No model.)



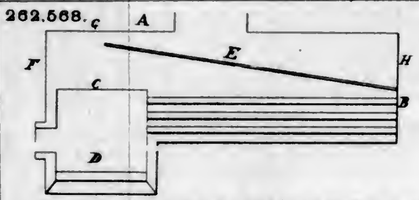
Claim.—1. The combination of the short flat springs H, secured under the side bars, C, toward the ends thereof, the drop-links L, pivoted to the ends of the said springs, the straight cross-rods M, connected to the lower ends of the said drop-links, and the long curved side springs, P, connected at their ends with said cross-rods and held in position therewith by means of the tubular screw-threaded nuts N, all being constructed and arranged substantially as shown and described, as and for the purposes set forth.

2. The combination, with the side bars, C C, rocker B, and bed-piece A, of the flanged double-seated chairs D, provided with bolt-holes, and having connected therewith the screw-bolt clasps E, whereby the ends of said side bars are rigidly secured to the said rocker and bed-piece, substantially as shown and described, as and for the purposes set forth.

3. The combination of the tubular screw-threaded nuts N with the cross-rods M, side springs, P, and drop-links L, constructed and arranged substantially as described, as and for the purposes set forth.

262,568. PORTABLE STEAM-BOILER. JOSIAH BURNETT, Phelps, N.Y. Filed Apr. 13, 1882. (No model.)

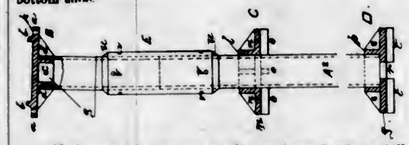
262,568.



Claim.—In combination with a boiler, the smooth inclined partition plate or sheet E, extending nearly the entire length of the boiler, placed at an angle in one direction, fastened to the head H and to the sides of the boiler as far as it extends in a water-tight joint, substantially as and for the purposes herein set forth and described.

262,569. PILE. HENRY CASE, Brooklyn, N.Y. Filed Feb. 18, 1882. (No model.)

Brief.—A hollow sectional metal pile having bevel-ended splicing-sleeves shrunk thereon, flanged and tenoned cap-pieces, sliding flanged brace-shoe, and flanged and ribbed perforated fixed bottom shoe.



Claim.—1. An improved pile, constructed substantially as herein shown and described, consisting of two or more sections of pipe butted together and spliced with one or more bevel-ended sleeves of smooth interior, flanged and tenoned cap, flanged and ribbed perforated fixed bottom shoe, and sliding flanged brace-shoe, all arranged as set forth.

2. The combination, with a pile, of a flanged brace-shoe capable of sliding up and down upon the pile, and having a bore concentric with the same, substantially as herein shown and described.

3. The combination, with a pile, of a flanged brace-shoe capable of sliding up and down upon the pile, and of straight bore, and a fixed bottom shoe, substantially as herein shown and described.

4. The combination, with a sectional iron pile adapted to be sunk or placed in position by means of hydraulic appliances, of a bevel-ended splicing-sleeve of smooth interior, when said sleeve is applied in a heated state to and shrinks about the abutted ends of the pile-sections, substantially as herein set forth.

262,570. ROAD-CART. WILLIAM CROWIN, Fond du Lac, Wis. Filed May 26, 1882. (No model.)



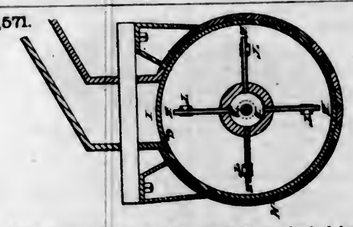
Claim.—1. The combination, in a road-cart or rear-entrance vehicle, of an adjustable lateral moving seat, A a' a', with the body B, having a slide-rod, C, affixed by eyes or staples e e e, working in connection with seat-eyes a' a', the wheel y, and stirrup e, all substantially as and for the purposes set forth in the specification.

2. The combination, in a lateral movable carriage-seat, of the screw-eyes a' a', slide-rod C, screw-eyes or staples e e e, and pin d with the seat A and body B, substantially as and for the purposes described.

262,571. PULVERIZER. LEWIS S. CHICHESTER, Jersey City, N.J., assignor to FRANK M. HAYES, same place. Filed Apr. 4, 1882. (No model.)

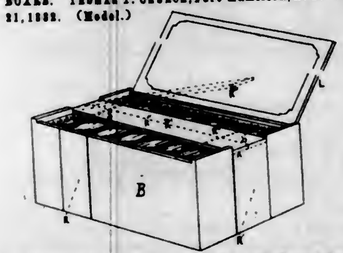
Claim.—1. The combination, in a pulverizing-machine, of spherical receiving-hub D, radial tubes E E, provided with air-inlets T at or near the ends thereof, and concussion-ring G, constructed and operating together substantially as described.

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2. In a pulverizing-machine, the hollow spherical hub provided with hollow radiating arms having hooded air-receiving openings or slots at or near the outer ends, as and for the purpose described.

262,572. DEVICE FOR REVENUE PROTECTION IN CIGAR-BOXES. THOMAS T. CHURCH, Fort Hamilton, N.Y. Filed Jan. 21, 1882. (Model.)



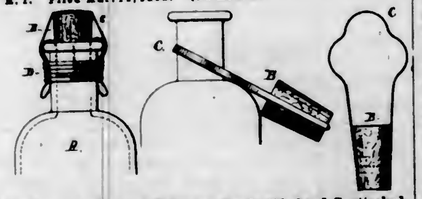
Claim.—The slats R'' and R''', the strip S, and the revenue stamp R', in combination with the cigar-box B.

262,573. SHOE. PETER E. CLARK, Beverly, Mass. Filed July 5, 1882. (No model.)



Claim.—As an improved article of manufacture, a shoe having the edges of the material bound and strengthened by a stay-piece, substantially as described.

262,574. BOTTLE-STOPPER. DANIEL S. COOKE, Providence, R.I. Filed Mar. 11, 1882. (No model.)



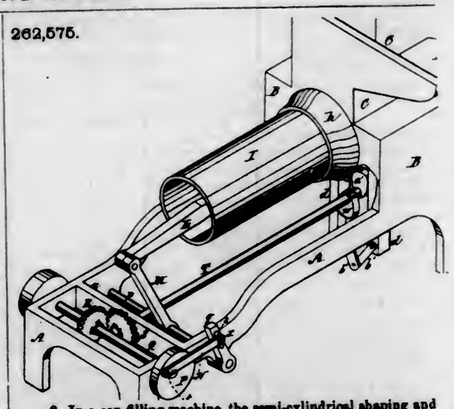
Claim.—1. The cork B, having the flexible band C, attached thereto, adapted to be folded over the neck of the bottle and be secured thereto, as shown and described.

2. The cork B, provided with the flexible band C, formed in trefoil shape, attached thereto, whereby the loops formed on each side, upon being bent into position to be secured to the vessel, are equal, as described.

262,575. MACHINE FOR FILLING CANS WITH MEAT, FISH, &c. AUGUSTUS ORCUTT, Boston, Mass. Filed Jan. 9, 1882. (No model.)

Claim.—1. In a can-filling machine, the combination, with the chute C, of a pair of semi-cylindrical cutters, G, so pivoted or hinged together as to open and close in the arc of a circle having its center in or near the line of their circumference, whereby they are adapted, when open, to receive the material from the chute, and when closing or advancing toward each other to gather together, cut off, and firmly compress the said material received from the chute and properly shape it to fit the can to be filled, substantially as set forth.

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2. In a can-filling machine, the semi-cylindrical shaping and compressing cutters G, adapted to receive the material from the chute, and so pivoted or hinged together as to open and close in the arc of a circle having its center in or near the line of their circumference, in combination with the chute C and the levers d, actuated by the cams w s' on the shaft T or other suitable operating mechanism, substantially as described.

3. In a can-filling machine, the combination, with a pair of semi-cylindrical shaping and compressing cutters, G, so pivoted or hinged together as to open and close in the arc of a circle having its center in or near the line of their circumference, and form when closed a true cylinder, of a reciprocating piston or plunger, I, adapted to accurately fit within the space or chamber formed by the said cutters when closed, and thereby insure the discharge of the entire contents of the chamber, whereby the machine is prevented from becoming clogged by the introduction of any portion of the material in the chamber between the piston and the inner surfaces of the cutters, substantially as set forth.

4. In a can-filling machine, the combination, with the semi-cylindrical shaping and compressing cutters G, of the reciprocating hollow piston I, having a head, i, provided with an automatic vacuum-valve, a, adapted to admit air into the chamber E in front of the piston as it is withdrawn, substantially as and for the purpose described.

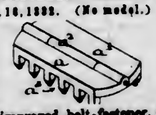
5. In a can-filling machine, the combination, with the semi-cylindrical shaping and compressing cutters G, operating as described, and the casing B and chute C, of the reciprocating piston or plunger I, with its connecting-rod L, lever M, rock-shaft p, slotted lever q, connecting-rod N, and actuating-disk P, all constructed to co-operate substantially in the manner and for the purpose set forth.

6. In a can-filling machine, the combination, with the reciprocating piston I and its actuating mechanism, of the shaft T and mechanism connected therewith for operating the semi-cylindrical cutters G, so connected as to cause the cutters to be entirely closed, to form a true cylinder, before or immediately after the piston reaches them on its forward stroke, substantially as described.

7. In a can-filling machine, the combination, with the casing B, the shaping and compressing cutters G, and the reciprocating piston I, of the can-supporting bars l, made of U or V form in cross-section, and arranged with their open sides outward to form outlets or exit-passages for the escape of the air from the can as it is being filled, substantially as set forth.

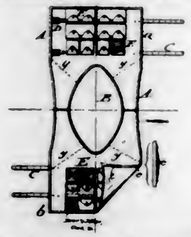
8. In a can-filling machine, the can-supporting bars l, secured to a removable ring, 25, attached to the front of the casing B, said ring forming a guide for the sliding gate H, substantially as described.

262,576. BELT-FASTENER. ALBERT DIHN, Dittmer's Store, Mo. Filed Mar. 16, 1882. (No model.)



Claim.—An improved belt-fastener, consisting of the centrally-hinged plates provided with downwardly-projecting teeth upon each side of the hinge, said plates having a flat surface upon the side from which the teeth project, with the bulging hinge upon the opposite side, substantially as set forth.

262,577. CARTRIDGE-CARRYING JACKET. SELDEN A. DAY, Bowling Green, Ohio. Filed Feb. 11, 1882. (No model.)



Claim.—1. The herein-described cartridge-jacket, consisting of the front and back sections, *a b*, provided with pockets E, united at the shoulders and separable at the sides below the arms, substantially as described and shown.

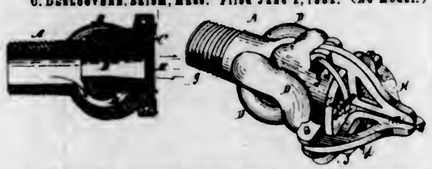
2. A reversible cartridge-jacket consisting of the sections *a b*, provided with pockets E and united by shoulder-pieces, but separable at the sides, as explained, whereby it is adapted to be straightened out to the full length of the two sections and folded longitudinally through the middle, as and for the purpose set forth.

3. A cartridge-jacket separable at the sides below the arm-openings, substantially as shown and described, and having pockets E, grouped on opposite sides of a line passing longitudinally through the middle, whereby the jacket is adapted to be folded to hang upon a saddle, as explained.

4. The herein-described jacket, provided with pockets E, adapted to receive cartridges, and padded with buoyant material, whereby it is adapted to serve both as a cartridge-carrier and a life-preserver.

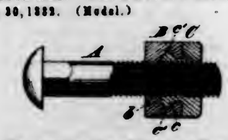
5. The jacket A, separable beneath the arms at each side, provided with pockets E, and furnished with straps and buckles C D, applied at the sides, as shown, whereby they are adapted to hold the garment in place either upon the body or upon the saddle, as explained.

262,578. SPRAY-NOZZLE FOR FIRE-EXTINGUISHERS. LOUIS C. DESLOOVERE, Salem, Mass. Filed June 2, 1882. (No model.)



Claim.—The improved nozzle described, the same consisting of the body A, ducts D D D, annular opening C, orifice E, cap G, arms H, and springs J, constructed and arranged to operate substantially as specified.

262,579. LOCK-NUT. WILLIAM S. F. DILLON, Madeira, Ohio. Filed June 30, 1882. (Model.)



Claim.—The combination of the nuts B and C by means of a recess, *b*, in the face of nut B, having slots *b' b'*, opposite each other, with internal grooves, *b'' b''*, meeting slots *b' b'* in opposite directions, and a boss, *c*, on nut C, having elongated flanges *c' c'*, opposite each other, to correspond in detail to the nut B, substantially as herein specified.

262,580. HANDLE FOR DISH-PANS. CORNELIUS H. DODDS, Troy, N. Y. Filed June 21, 1882. (No model.)

Claim.—1. The herein-described pan or vessel, the same being provided with a soap dish or receptacle located upon the outside and upper part of the vessel, projecting therefrom and forming one of the handles, and provided also with a handle located upon the outside and opposite the soap-receptacle, substantially as shown and described.

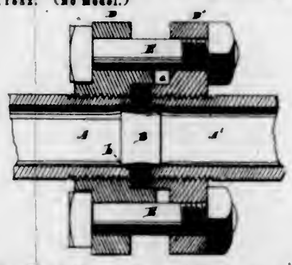
2. In combination with the pan or vessel, a soap dish or receptacle applied upon the exterior thereof, serving also as one of the



handles, and provided with a movable cover, substantially as and for the purposes set forth.

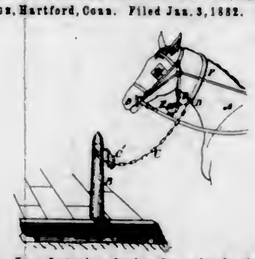
3. In combination with the pan or vessel, the two oppositely-disposed handles, one being provided with a perforated bottom and movable cover, and serving as a soap dish or receptacle, substantially as set forth.

262,581. PIPE-JOINT. WILLIAM W. DOOLITTLE, Chicago, Ill., assignor to himself and Jacob W. Shinkle, same place. Filed Apr. 7, 1882. (No model.)



Claim.—The iron or similar unyielding pipes A A', having screw-threads formed in their exterior surfaces, in combination with the metal ring B, arranged within the ends of the pipes, the interposed packing-ring, and the internally-threaded coupling device engaging the screw-threads formed in the pipes and serving to draw the ends of the latter toward each other, substantially as shown and described.

262,582. FASTENING DEVICE FOR HORSES. JAMES W. ELDRIDGE, Hartford, Conn. Filed Jan. 3, 1882. (No model.)



Claim.—In a fastening device for animals, the combination of the chain C, provided with the loop C' at one end, and the chain D, provided with a padlock attached to one end, and into one link of which the chain C is welded, substantially as described.

262,583. BRICK-MACHINE. EDWARD FALES, Keokuk, Iowa, assignor of one-half to F. T. Hughes, same place. Filed July 11, 1882. (No model.)

Claim.—1. In a brick-machine, the combination of the shaft C, provided with eccentrics D D, of equal size, with the plungers E E and molds R R, whereby two bricks can be made at each revolution of the main driving-shaft.

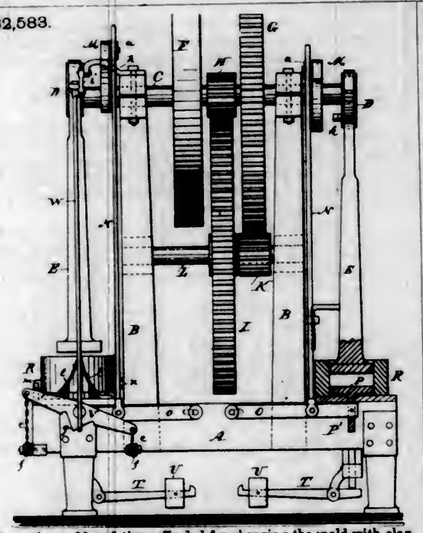
2. The shaft C, provided with the eccentrics D, secured thereto in the manner substantially as described, whereby the full power or force of machine is exerted or expended on a single brick, as set forth.

3. In a brick-machine, the combination of the oscillating mold-wheel with the pivot-bar S and weighted lever T, as and for the purpose set forth.

4. The mold-wheel R and pivot-pin S, provided with the wheel *d*, in combination with the chain *e*, pivoted bar V, bar W, links A and *i*, and pin *k* on the eccentric, whereby the mold-wheel is caused to make a half-revolution in opposite directions, as set forth.

5. The main driving-shaft C, provided with the eccentrics M M and friction-wheels *a*, in combination with the bent bars N, pivoted bar O, and bar P', whereby the brick is suddenly ejected

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from the mold and time afforded for charging the mold with clay, as set forth.

6. In a brick-machine, the combination of the mold-wheel, the mold-cavities of which are provided with loose bottoms and adapted to be raised to eject the brick and lowered again into position by a detachable bar secured to the operating parts, as set forth.

7. In a brick-mold, the loose bottom P, provided with a dovetailed segmental groove, *o*, in combination with the dovetailed ejecting-bar P', as and for the purpose set forth.

8. The mold-wheel R, provided with a pin, *s*, in combination with the grooved stroke-bar *p*, whereby any surplus dirt is removed from the mold and the mold left evenly full, as set forth.

262,584. MANUFACTURE OF LEATHER FROM ARTIFICIAL SKIN. AMBROSE G. FELL, New York, N. Y. Filed Dec. 5, 1881. (Specimens.)

Claim.—1. In the manufacture of leather, the method of forming a homogeneous mixture of fiber and gelatine by displacing the air and other foreign substances from said fiber and applying thereto the gelatine or a compound thereof, substantially as described.

2. In the manufacture of leather, the method of producing an artificial skin or web by boiling cotton or other fiber in water or a suitable solution, as indicated, and applying to said fiber gelatine or a compound thereof, substantially as described.

3. In the manufacture of leather, the method of forming an artificial skin or web by boiling cotton or other fiber in water, applying gelatine thereto, treating said fiber with bichromate of potash or its equivalent, and exposing to light, substantially as described.

4. The method of forming a homogeneous and insoluble compound of fiber and gelatine, consisting in displacing the air and other foreign substances from said fiber, applying gelatine thereto, treating with bichromate of potash or its equivalent, and exposing to light, substantially as described.

5. The method of producing an artificial skin or web by boiling cotton or other fiber in water or a solution, then treating said fiber in a bath composed of water, gelatine, and bichromate of potash, in approximately the proportions specified, drying the gelatinized fiber thus formed on a smooth slab or surface, and exposing to the action of light, substantially as described.

6. The method of producing an artificial skin or web by forming a homogeneous compound of fiber and gelatine in substantially the manner specified, and spreading said compound to dry upon a sheet of glass or other translucent substance, substantially as described.

7. In the manufacture of leather, the method of producing an artificial skin or web by treating fiber while in a roll between burlaps or other material in a bath of boiling water or solution, and in a second bath of gelatine compound, then unrolling the gelatinized fiber thus formed upon a sheet of glass or other material, and allowing it to wholly or partly dry thereon, substantially as described.

8. The improvement in the art of manufacturing leather, consisting in treating fiber in a roll between other material with a gelatine compound, spreading the gelatinized compound upon a suitable surface, as explained, and applying additional gelatine thereto, substantially as described.

9. The improvement in the art of manufacturing leather, consisting in forming a homogeneous mixture of fiber and gelatine, spreading the same upon a suitable surface and subjecting it to pressure thereon, so that the artificial skin or web, when moistened and removed, can be readily and evenly split, substantially as described.

10. The improvement in the art of manufacturing leather, consisting in forming a web or sheet of fiber and gelatine, as explained, treating said web or sheet with a chromic salt, spreading said web or sheet upon a suitable surface—such as glass—allowing it to wholly or partly dry thereon, and removing by the application of moisture, substantially as described.

11. The method of producing a colored or enameled surface upon a sheet or web of gelatinized fiber, such as described, by applying a layer of colored gelatine thereto and drying in close contact with a smooth surface, substantially as set forth.

12. In the production of an artificial skin for the manufacture of leather, the method of treating fiber to exclude the air and other foreign substances therefrom by immersing in a bath of boiling water or suitable solution, as described.

13. Leather composed of a homogeneous mixture of fiber and gelatine, substantially as described.

14. As a new article of manufacture, leather composed of a homogeneous mixture of fiber and gelatine, rendered insoluble by treatment with a chromic salt and exposure to light, substantially as described.

15. Leather composed of fiber and gelatine, and having an enameled surface, substantially as described.

16. Leather composed of a homogeneous mixture of fiber and gelatine, and having two distinct surfaces corresponding respectively to the flesh and grained sides of leather made from natural skins, substantially as described.

17. The process, substantially as described, of making leather by homogeneously combining gelatine and fiber to form an artificial skin, and then tanning the same.

18. Leather composed of gelatine and fiber homogeneously combined so as to form an artificial skin, and subjected to the process of tanning, substantially as described.

19. The process, substantially as described, of making leather by homogeneously combining gelatine and fiber to form an artificial skin, and then tawing the same.

20. Leather composed of gelatine and fiber homogeneously combined so as to form an artificial skin, and subjected to the process of tawing, substantially as described.

21. The process of forming an artificial skin by homogeneously combining fiber and gelatine, substantially as described.

22. Artificial skin formed by homogeneously combining gelatine and fiber, substantially as described.

23. The process of making leather, substantially as described, by combining gelatine and fiber to form an artificial skin, the same being acted upon by chromic acid or its compounds, substantially as described.

24. Leather composed of gelatine and fiber homogeneously combined so as to form an artificial skin, and acted upon by chromic acid or its compounds, substantially as described.

25. The process of making leather, substantially as described, by homogeneously combining gelatine and fiber to form an artificial skin, the same being acted upon by chromic acid or its compounds, and then tanned or tawed, as set forth.

26. Leather composed of gelatine and fiber homogeneously combined so as to form an artificial skin, and acted upon by chromic acid or its compounds, and then tanned, substantially as described.

27. Leather composed of gelatine and fiber homogeneously combined so as to form an artificial skin, and acted upon by chromic acid or its compounds, and then tawed, substantially as described.

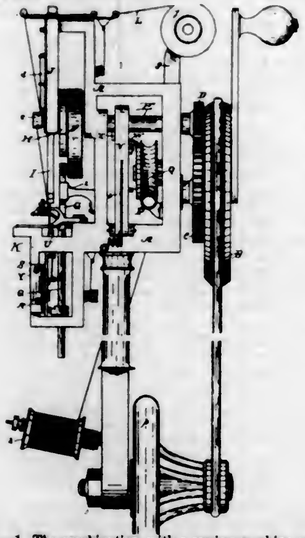
262,585. CAR-DOOR LOCK. J. HYDE FISHER, Deerfield, Ill. Filed May 10, 1882. (Model.)



Claim.—1. The fastener C' *a a* G, pivoted to and combined with an angular dish or plate, C, whereby the fastener is adapted to be swung to abut against the door and back from it, so that the door will slide over it, as and for the purpose specified.

2. The combination of the recessed fastener C' *a a* G with the hasp and key H I, as and for the purpose set forth.

262,586. SEWING-MACHINE. GEORGE GOWISE, Oakland, Cal. Filed June 10, 1881. (Model.)



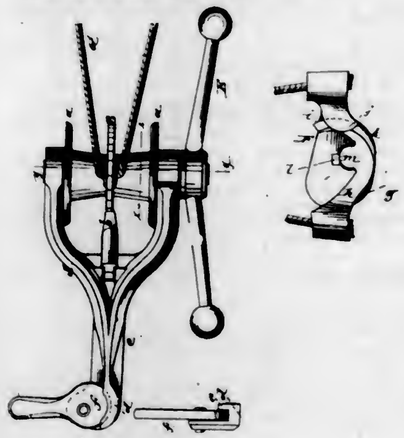
Claim.—1. The combination, with a sewing-machine consisting of a main frame, a bracket, and fly-wheel, forming a balance-weight, needles and mechanism for operating the same, and a wheel to which step-by-step movement is imparted by mechanism substantially as described, of a supporting-cable, upon which said wheel bears, whereby the machine is moved bodily upon the cable, substantially as set forth.

2. The combination, with the main frame A, of the main drive-wheel and intermediate gears, the shaft E, and the supporting wheel with its impelling mechanism, the cam F, the pitmen H and G, together with connections carrying the upper and lower needles, substantially as described.

3. The combination, with the pitman G, of the bell-crank lever R, needle S, arm T, and stud U, substantially as described.

4. The combination, with the plate L, arranged in described relation to the needles, of the presser-foot M, provided with arms *m* and the needle-plate and arms *m'*, substantially as described.

262,587. WIRE-STRETCHER. JACOB HAISH, De Kalb, Ill. Filed Mar. 18, 1882. (No model.)



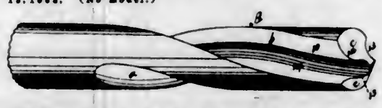
Claim.—1. In a wire-stretching apparatus, a winding-drum supported in a frame provided with a central holding-ratchet, and carrying a wire-clamping device arranged in relation to each other to bring the straining-points practically in the same line, and thereby prevent side pressure and turning, substantially as described.

2. In a wire-stretcher, the combination of a frame carrying a winding-drum, a ratchet located at or near the center of the drum, and adapted to receive a rope, a pawl arranged on the frame for engaging the ratchet, and a wire-clamping device composed of a fixed flange and a pivoted eccentric arranged on one end of the frame, substantially as described.

3. The wire-clamping iron F, composed of the two parts *g* and *h*, one having an opening, *l*, and the other having an eccentric and a stud, *m*, provided with a projection adapted to the said opening for detachably connecting the two parts, substantially as described.

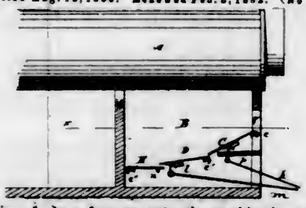
4. The wire-clamping iron F, composed of the two parts *g* and *h*, the former part having an opening, *l*, and an upward projection provided with a lip, *i*, and the latter part having an eccentric, *k*, to pass under the lip and stud *m*, provided with a projection adapted to the said opening for detachably connecting the parts, substantially as described.

262,588. TWIST-DRILL. CALVIN L. HARTSHORN, Worcester, assignor to Theodore P. Farmer, Boston, Mass. Filed May 19, 1881. (No model.)



Claim.—A twist or fluted drill provided on opposite sides of its stock with two correspondingly-shaped grooves, *a b*, and having the side 10 of each groove which forms the cutting-edge or lip of convex curvature along its entire length, so that when the end of the drill is ground away to form the point lips or cutting-edges 12 of convex form or curvature will be produced, the opposite side, 14, of each groove being of concave curvature to form a clearance for the discharge of the chips, all substantially as and for the purpose set forth.

262,589. FURNACE-GRATE. WILLIAM E. HAYDEN, Kewanee, Ill. Filed Aug. 12, 1880. Renewed Feb. 8, 1882. (No model.)



Claim.—1. In a furnace-grate, the combination of two or more grate-sections arranged in rear of each other, as described, and each section composed of a series of independent longitudinal grate-bars, those of each section being adapted to vibrate independently of the other, substantially as shown and described.

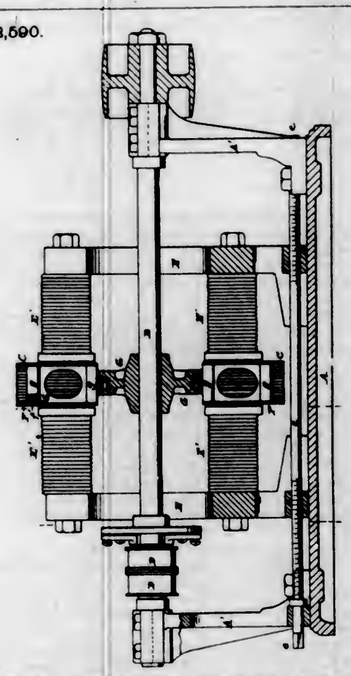
2. In a furnace-grate, the combination of two or more sections consisting of independent longitudinal grate-bars pivoted at one end, and having their free ends supported and adapted to rise and fall together, as described, the series of independent bars forming the rear grate-section being adapted to receive the coals from the forward section, and having their rising and falling ends arranged under the rising and falling ends of the forward section, substantially as described.

262,590. MAGNETO-ELECTRIC MACHINE. CHARLES HESLER, St. Louis, Mo. Filed Nov. 18, 1880. (No model.)

Claim.—1. The armature bobbin or spool of a magneto-electric machine having a corrugated section, plate, or ring of iron wound between the layers of copper wires composing the bobbins, so as to form ventilating-passages through the same and bring the magnetic field into close proximity to said wires, as described.

2. The combination, in the armature spool or bobbin of a magneto-electric machine, of the corrugated section, plate, or ring and bobbin plates or frame F, having openings *f'*, as described, and for the purpose set forth.

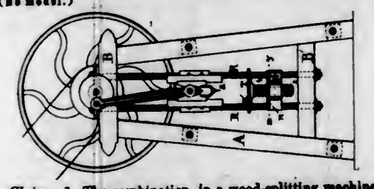
262,590.



3. The combination, in a magneto-electric machine, of the bobbin-spider and the removable bobbins having the plates F, substantially as described.

4. The combination, in a magneto-electric machine, of the shaft B, the four sets of magnets E' E' E' E', and the two sets C C of rotating armature-bobbins, the two outer sets of magnets being adjustable toward and from the armatures and the two inner sets of magnets being stationary.

262,591. WOOD-SPLITTING MACHINE. EDWIN A. HILBRETH and STANLEY D. HILBRETH, Harvard, Mass. Filed Feb. 21, 1881. (No model.)

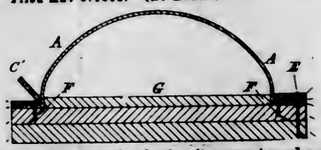


Claim.—1. The combination, in a wood-splitting machine, of the balance-wheel, crank-shaft, and pitman driving the reciprocating ax *a*, the crank-box in which the crank-shaft revolves, main frame-rods B B, passing through said crank-box and connecting the same with the bed-nut N, which is rigidly secured to said main frame-rods below the table T, and the adjustable screw-table adapted to be raised or lowered in relation to the reciprocating knife *a* by revolving the screw-table in the bed-nut N, substantially as described.

2. The combination, in a wood-splitting machine, of the reciprocating knife *a* for splitting the wood, the adjustable screw-table T, upon which the wood to be split is placed, said table T being set nearer to or farther from the reciprocating knife *a* by revolving said screw-table and its supporting screw-column *t* in the bed-nut N beneath, and a suitable locking device to fasten the screw-table at any desired height to prevent it from working downward under the repeated blows of the ax *a*, substantially as described.

3. The combination, in a wood-splitting machine, of the adjustable screw-table T *t*, adapted to be raised or lowered by revolving the same in a bed-nut, N, and stops *n n'*, to prevent the face of the bed-nut from coming in contact with the base of the revolving table T, preventing the screw-table from setting when down, substantially as described.

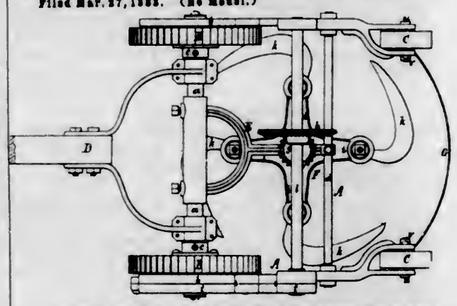
262,592. BOOT OR SHOE. SOLOMON K. HINDLEY, Worcester, Mass. Filed May 5, 1882. (No model.)



Claim.—1. A boot or shoe having its upper turned outward upon an upper sole, a folded welt resting upon such outwardly-turned portion, the edge of one flap thereof being flush with the sole-edge, and its center being substantially over the line of juncture of the upper with the upper sole, the welt, upper, and upper sole being united by a seam or row of fastenings outside the body of the upper and passing through the center of the welt, and having a bottom sole attached to and beneath the upper sole by another seam or row of fastenings by the side of the first, and going through both flaps of the welt, the upper, the upper sole, and the bottom sole, all substantially as described.

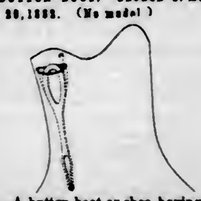
2. An improved boot or shoe having its upper turned outward upon the sole, a welt resting upon such outwardly-turned portion, the welt, upper, and sole being united by a seam or row of fastenings outside the body of the upper and by another seam or row of fastenings outside of and by the side of the first, passing through the welt, upper, and sole or soles, whereby the parts are all united by two seams or rows of fastenings outside the body of the upper, all substantially as set forth.

262,593. LAWN-MOWER. JAMES HOUSE, Reading, Mass. Filed Mar. 27, 1882. (No model.)



Claim.—The frame A, having the slotted prongs in front, in combination with the bolts *a*, nuts *e*, wheels C, the series of rotary sickles arranged behind these wheels, and the combined guard and presser G, located in front of the wheels, the guard and the sickles being in fixed relation to the frame, whereby the last two are adjusted together, and the pressure varies directly with the cut, as set forth.

262,594. BUTTON-BOOT. GEORGE C. HOW, Haverhill, Mass. Filed June 20, 1882. (No model.)



Claim.—A button boot or shoe having in its leg portion an elastic or contractile pocket for receiving and holding a buttoning hook or implement, and to operate therewith, substantially as set forth.

262,595. FURNACE-DOOR. ANDREW HOWATSON, Paris, France, assignor to James W. Tucker. Filed Mar. 28, 1881. (No model.) Patented in France Mar. 22, 1879.

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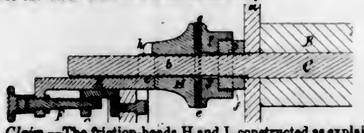
Claim.—1. In combination with the furnace-door, an independent or loose handle, substantially as described, and intermediate mechanism, substantially as described, for communicating the movement of the handle, when lifted, to the mechanism for controlling the supply of air, all the parts being attached to and moving with the door, as set forth.

2. In combination with the independent handle, the furnace-door having an air-aperture, and a cover-plate adapted to regulate the supply of air through the aperture, the cover-plate itself being provided with a hinge-journal having a cam attached thereto, as described, and being united by proper connections to the controlling mechanism, as set forth.

3. In combination with the cover-plate B of the door A, having loose handle C, the connecting-rod *b*, the vessel D, and piston *d*, the whole being attached to and moving with the door, as described.

262,596. FRICTION MECHANISM FOR THE WARP-BEAMS OF SLASHERS. CHARLES E. HUNTON, Waltham, Mass. Filed Mar. 20, 1882. (No model.)

Brief.—The head I is rotatable with the beam by means of the prismatic nut screwed upon the beam-shaft and adapted to a prismatic socket in the head. Rotation of the head H is prevented by its ears *k*, which rest upon the bearing. The head H, by means of the abutting slide E, controlled by its adjusting-screw, may be forced against the head I to move the warp-beam laterally of the slasher and to reduce by friction between the heads the revolution of the beam under the draft of the warp.



Claim.—The friction-heads H and I, constructed as explained, and arranged and combined, substantially as set forth, with the slasher warp-beam B, its shaft C, nut D, supporting bearing-slide E, and its adjusting-screw F, the said slide and screw being adapted to the creel, and to operate therewith and the friction-heads, essentially in manner as specified.

262,597. PROCESS OF MAKING SURGICAL JACKETS. WILLIAM H. JOHNSTONE, Philadelphia, Pa. Filed Oct. 11, 1880. Renewed Mar. 11, 1882. (No model.)

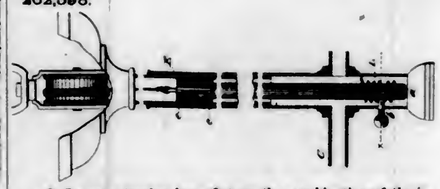
Claim.—1. The process of making a mold from the body or part of the body of the patient by stretching the latter by suitable mechanism for extending the same over a pan or vat containing plaster-of-paris or its equivalent, in which said body is partially immersed, and then piling or passing plaster-of-paris over and upon the same to form a complete mold around the part from which the mold is to be taken, substantially as and for the purposes described.

2. The process of constructing a closely-conforming stiff jacket or envelope for any part of the body of a patient by mechanically extending the latter horizontally, taking therefrom a conforming mold, taking a cast of the interior of the mold, and fitting or conforming the said jacket over the cast thus taken, substantially as and for the purposes described.

262,598. EXTENSION LAMP-FIXTURE. AUGUSTUS H. JONES, Meriden, Conn. Filed May 4, 1882. (No model.)

Claim.—1. In an extension lamp-fixture, the combination of the inner stationary tube, the outer tube adjustable thereon and carrying the lamp-support, the head arranged within said stationary tube and connected to the movable part of the fixture below, said head constructed with a recess eccentric to the inner tube, and a shoe arranged in said eccentric recess, mechanism, substantially such as described, to impart rotation to the head or shoe, whereby the eccentricity of the head produces through the shoe an engagement with the inner tube, substantially as described.

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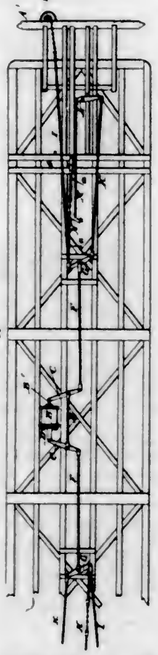


2. In an extension lamp-fixture, the combination of the inner stationary tube and outer adjustable tube, to which the lamp is attached, a rod within the outer tube, arranged for rotation, but without vertical movement, independent of the outer tube, extending up within the inner tube, provided at its lower end with means for rotating the rod, and at its upper end, within the inner tube, constructed with an eccentric rotated by said rod, and a shoe which, with the said eccentric, forms a clamp within the inner tube to hold the fixture, substantially as described.

3. In an extension lamp-fixture, the combination of the inner stationary tube and outer adjustable tube, to which the lamp is attached, a rod within the outer tube, arranged for rotation, but without vertical movement, independent of the outer tube, extending up within the inner tube, provided at its lower end with means for rotating the rod, and at its upper end, within the inner tube, constructed with an eccentric rotated by said rod, and a shoe which, with the said eccentric, forms a clamp within the inner tube to hold the fixture, and a spring arranged to automatically turn said rod and eccentric into the clamping position, substantially as described.

262,599. POWER-BRAKE. JOHN I. KINSEY, South Easton, Pa. Filed Sept. 30, 1881. (No model.)

Brief.—To prevent loss of power or motion in the brake mechanism, to take off or prevent the usual strain upon the brake-rod, brake-staff, and platform of the car, a stay or check is connected to the floating levers at one end where the latter are journaled to the brake-shaft connecting-rods and the other end of said stay is securely bolted to the car.

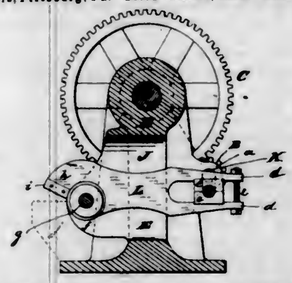


Claim.—1. In a power-brake, as a means for relieving or preventing the strain upon the brake rod and staff and car-platform, the stay or check N, arranged substantially as herein shown and described.

2. In a power-brake, the combination, with the floating lever G, brake-rod I, and brake-staff H, of the stay or check N, substantially as herein shown and described, whereby the distortion of the brake-staff is prevented, as set forth.

3. In a power-brake, as a means for preventing lost motion and power and for making the brake-cylinder piston effective for the full length of its stroke, the combination of the check or stay N with piston-rod B', brake-rod I, and staff H, and their connected and connecting brake mechanism, substantially as herein specified.

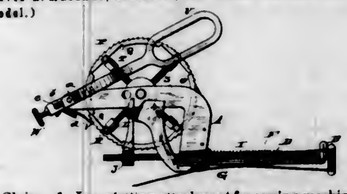
262,600. MACHINE FOR PUNCHING AND SHEARING METAL. J. L. LEWIS, Pittsburg, Pa. Filed Feb. 21, 1882. (No model.)



Claim.—1. In a vertical power punching-machine having a main driving-shaft operating a punching or eccentric shaft and revolving at a higher speed than said eccentric shaft, the combination, with such punching-machine and main driving-shaft, of a lever-shear arranged to vibrate in a plane perpendicular to the axis of said eccentric shaft and operated directly by said driving-shaft, substantially as described, whereby the punch may be slowly operated in the usual manner and the shear may be rapidly operated independently but simultaneously therewith.

2. In a vertical power punching-machine having a main driving-shaft operating a punching or eccentric shaft and revolving at a higher speed than said eccentric shaft, the combination, with said punching-machine and such main driving-shaft, of a lever-shear arranged transversely in the body of the punching-machine, having its cutting-jaw at one side and its tail at the other side of the body of the punching-machine, and an intermediate fulcrum, substantially as described, whereby an extended lever may be used and sufficient power and momentum developed for heavy work.

262,601. PLAITING ATTACHMENT FOR SEWING-MACHINES. DAVID L. MASTERS, Braddock, Pa. Filed Feb. 25, 1882. (No model.)



Claim.—1. In a plaiting attachment for sewing-machines, the combination of the ratchet-wheel O, adjustable pins R, and clamping-nuts T, for operating a plaiting mechanism, substantially as herein described.

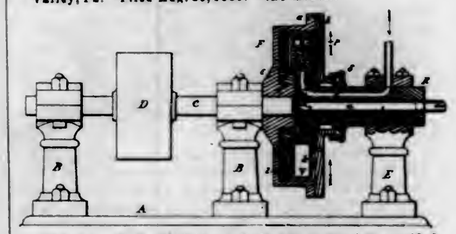
2. In a plaiting attachment for sewing-machines, the combination of the lever U, having adjustable axis for the pawl V, ratchet-wheel O, adjustable pins R, clamping-nuts T, and a plaiting mechanism, substantially as herein described, and for the purpose set forth.

3. In a plaiting attachment for sewing-machines, the combination of the frame A, having an attaching-arm, A, ratchet-wheel O, having pin or pins R projecting from the side of said wheel, adjustable pawl V, lever U, adjustable lever K, having cam N, arm D, having spiral spring, and blade F, arranged and operating as herein described, and for the purpose set forth.

4. In a plaiting attachment for sewing-machines, the combination of the frame A, having an attaching-arm, A, pawl V, wheel O, having a pin or pins, R, projecting from the side of said wheel, lever U, levers J and K, each having a cam, N, arms D and E, each having a spiral spring, and blades F and G, arranged and operating with relation to each other substantially as and for the purpose described.

5. In a plaiting attachment for sewing-machines, the combination of the frame A, having an attaching-arm, A, ratchet-wheel O, having pin or pins projecting from the side of said wheel, adjustable pawl V, lever U, adjustable levers J and K, each having a cam, N, arms D and E, each having a spiral spring, and blades F and G, arranged and operating as and for the purpose set forth.

262,602. ROTARY STEAM-ENGINE. JOHN MCGOWAN, Coal Valley, Pa. Filed Aug. 26, 1881. (No model.)



Claim.—1. A revolving-cylinder steam-engine provided with a concentrically-arranged internal disk containing the exhaust-passage, and a bevel-edged fan-shaped stationary abutment, through which extends the inlet-passage, in combination with three hinged doors, in the form of a right angle, swinging laterally into side pockets or recesses in the cylinder while passing the said stationary abutment, and by the force of the ingoing steam opened outwardly and directly across the concentric main space of the cylinder, each with its front edge resting in its appropriate radial groove formed in the inner face of the removable head of the engine, whereby a proper and resistant bearing is given the front edge of each swinging door, as shown and set forth.

2. A revolving cylinder-engine operated by steam and provided with an internal stationary abutment, in combination with laterally-swinging doors or valves the pintles of which are arranged radially, or nearly so, to the axis of the engine.

262,603. MANUFACTURE OF ARTIFICIAL MARBLE, STONE, AND TILE. JOHN W. MCKNIGHT, Washington, D. C. Filed Dec. 23, 1881. (No specimens.)

Claim.—1. The herein-described solution or compound, consisting of salt of sorrel, saltpeter, iodine, black-lead, copperas, zinc salts, caustic potash, carbonate of soda, litharge, steatite, extract of hemlock, and chlorids of lime, to be employed with hydraulic cement or other desirable or suitable material for the manufacture of artificial stone or marble, as set forth.

2. The method herein described of forming designs in relief upon artificial stone or marble slabs, blocks, or walls by building up or molding the design of the compound described, colored or not, and suitably thickened with cement or other material.

3. The method herein described of forming designs or letters in relief on artificial stone or marble slabs or blocks, the same consisting in placing in the mold a stencil-mold having the designs or letters cut therein, filling said designs or letters with the compound suitably colored, then backing or filling up the mold with the artificial stone or marble compound, allowing it to set, and then taking the same from the mold and removing the stencil-mold, as set forth.

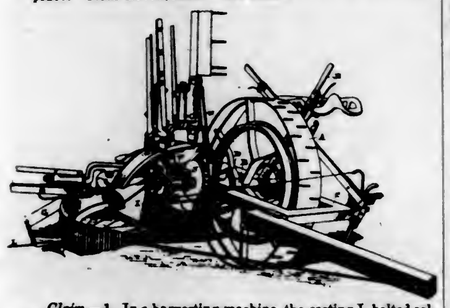
4. The method herein described of forming surface designs upon blocks or slabs of artificial marble or stone and upon artificial-stone walls or other surfaces by building up such designs upon such surfaces in plain or artistic colors and plastering the remaining portions flush with the designs, substantially as specified.

5. The method herein described of forming variegated surfaces upon blocks or slabs of artificial marble or stone by grating the hereinbefore-mentioned compound, suitably colored and hardened, and sifting the same upon a surface of glass or other smooth material, and forming the body upon the sifted material, substantially as specified.

6. As a means of ornamenting and protecting walls and surfaces of buildings or building material, the compound herein described, mixed or not with hydraulic cement, and applied substantially in the manner described.

7. The improved artificial grinding or polishing material herein described, consisting of the compound named and abrasive or polishing substances, mixed and molded as set forth.

262,604. HARVESTING-MACHINE. JOHN C. MCLACHLAN, Patterson, Ontario, Canada, assignor to Peter Patterson, same place. Filed Nov. 8, 1881. (No model.)



Claim.—1. In a harvesting-machine, the casting I, bolted solidly to the grain-table, and provided with a cross-head, H, adapted to connect to and move vertically in the main frame, and with bearings for carrying the spindle of the driving-pinion, substantially as described.

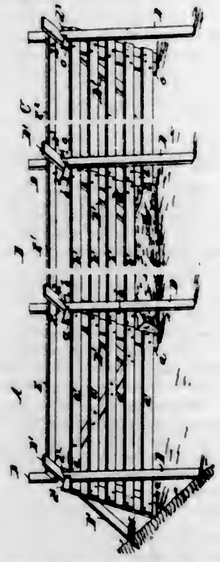
2. In a harvesting-machine, the casting I, provided with the cross-head H, bearings h h, and forming a rake-jack to support the entire rake mechanism, substantially as described.

3. In a harvesting-machine, a casting bolted rigidly to the grain-table and constructed to form the sliding cross-head connecting the table and main frame, in combination with a lifting-lever pivoted on said casting and a chain connected to the lever and passing through the cross-head, substantially as and for the purpose specified.

4. In a harvesting-machine having a rolling rake-head, a friction-roller secured to the rake-head by a bolt passing through an elongated hole or slot made through the internally-projecting end of the rake-head.

5. In a harvesting-machine, the combination, with a rake-wheel, R, provided with pins or projections W, of the sleeve T, arm T', flange T'', spindle S, spring U, and the lever V, substantially as and for the purpose specified.

262,605. FENCE. ELBERT MEYER, Boulware, Mo. Filed Jan. 16, 1882. (No model.)



Claim.—The improved fence consisting of panels or sections A B C, whose uprights or posts, to which the rails are nailed, are not driven into the ground, but placed in line with each other, their upper faces beveled to a V-shaped bearing, and the inclined braces D D', whose lower ends are driven in the ground, while their upper ends have notches *d d'*, which, engaging each other, serve to support erect both posts of two contiguous sections of the fence, substantially as herein specified.

262,606. CUFF-BUTTON. JAMES W. MILLER, Newark, N. J. Filed Mar. 15, 1882. (No model.)



Claim.—1. In a screw-fastening for buttons or studs, the shoe or plate thickened at the edge by a wire or otherwise, as explained, and having the said thickened portion extended and coiled around the shank of the button, substantially as described.

2. The combination, substantially as described, of the disk or face of the button, the shank or pillar, and a screw-fastening device coiled about the shank or pillar, and comprising a plate or shoe having its edge thickened by a wire or by other means, such as indicated.

3. The combination of the pillar or shank of the shoe or plate and a wire or extension of said shoe or plate rising from the latter and coiled around, but detached from the pillar or shank, the outer edge of said extension being closer to the said pillar or shank than that of said shoe or plate, substantially as described.

4. In a button or stud, a screw-fastening device having its inner free end overlapping or extending beyond the outer end, and having its outer edge approaching the shank or pillar as it rises toward the disk or face of the button, substantially as described.

5. In combination with the disk or face and pillar or shank of a button or stud, a screw-fastening device attached to the lower end of the shank or pillar, and provided with two free ends, the inner end being bent inward and upward, substantially as described.

6. The combination, with the shank or pillar, of the attached screw-fastening device having its inner end above and within the edge of the lower coil, and turned upward toward the disk or face of the button, substantially as described.

7. The combination, with the shank or pillar, of the shoe or plate attached to its lower end, and a wire or extension of the said shoe or plate coiled above the same and bent inward toward the pillar or shank, substantially as described.

8. In a screw-fastening device for buttons or studs, the shoe or plate thickened at the edge by a wire or otherwise, as explained, and having the said thickened portion extended and coiled around the shank of the button, and bent inward and upward, substantially as described.

9. The plate or shoe thickened at its outer edge, and strengthened at the center by a wire surrounding the pillar or shank, substantially as described.

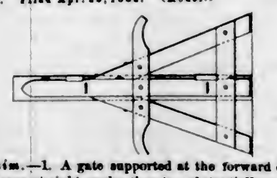
10. The coiled extension of the shoe or plate, flattened where it joins the plate or shoe to impart elasticity thereto, substantially as described.

11. A screw-wire or extension of the plate or shoe of a screw-fastening device, provided with an enlarged head at its inner end, substantially as described.

12. In a screw-fastening device attached to the pillar or shank of a button or stud, and provided with two free ends, a shoe or plate of the form shown, thickened both on the outer curved edge and on the irregular chord of the arc, substantially as described.

13. A button or stud comprising the disk or plate, pillar or shank, shoe or plate thickened on the several edges and strengthened at the center, and the extension of said shoe or plate, coiled as explained, and flattened where it joins the plate or shoe, substantially as described.

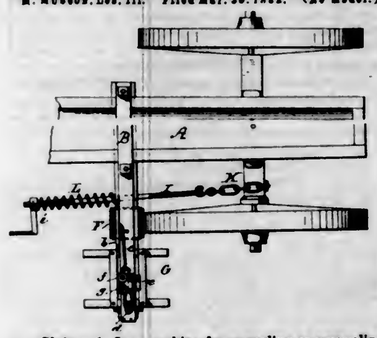
262,607. WIRE GATE. SILAS E. MILLETT, Millett's Station, Mich. Filed Apr. 28, 1882. (Model.)



Claim.—1. A gate supported at the forward end by an A shaped brace at right angles thereto, substantially as described.

2. A gate supported at the forward end by an A-shaped brace at right angles thereto, the brace being further strengthened by a second horizontal bar near its top, which serves for a handle, substantially as described.

262,608. MACHINE FOR REELING FENCE-WIRE. ANDREW M. MUNSON, Lee, Ill. Filed Mar. 30, 1882. (No model.)



Claim.—1. In a machine for respooling or unspooling fence-wire, the combination, with the revolving reel or spool G, of the carrier H, provided with guide-wheels *e f g*, said carrier adjustable upon the bar B, substantially as and for the purpose set forth.

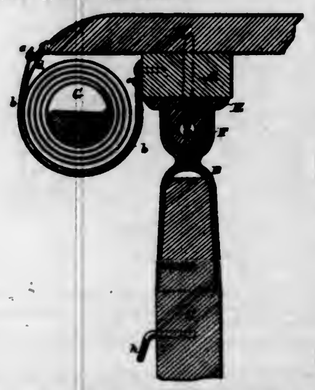
2. The horizontal bar C, having at its outer end a boxing, D, substantially of the form shown and described, in combination with the friction-roller F, shaft E, and reel G, as and for the purpose set forth.

3. In a machine for respooling or unspooling fence-wire, the horizontal bars B C, boxing D, and friction-roller F, journaled therein by means of the spool or reel shaft E, in combination with the rod I, chain K, and spiral spring L, substantially as and for the purpose specified.

4. In a machine for respooling or unspooling fence-wire, the combination, with the adjustable carrier H, provided with guide-wheels *e f g*, of the adjustable stop *d*, substantially as and for the purpose described.

5. A machine for respooling or unspooling fence-wire, consisting of the horizontal bars B C, boxing D, shaft E, friction-roller F, adjustable carrier H, operated by a rod and lever, *c b*, rod I, chain K, and spiral spring L, said machine adapted to be bolted to any ordinary wagon, and operated by the frictional contact of the friction-roller with one of the wheels of the said wagon, substantially as shown and described.

262,609. CARRIAGE-TOP. ELIJAH MYRICK, Harvard, Mass. Filed July 12, 1880. (No model.)

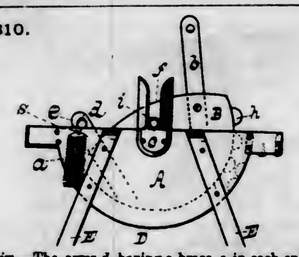


Claim.—1. The combination of the post-cap D, formed with a recess above to receive the tenon *f*, the tenon *f*, secured to the top rave, A, and the pin F, all arranged to allow the removal of the raves A and top B from the posts C, substantially as described.

2. The casting D, attached to the post C, said casting being formed with a web, H, and flange J, to support the ends of the curtain-rollers, and connecting the posts C to the frame-work of the carriage-top, substantially as and for the purpose described.

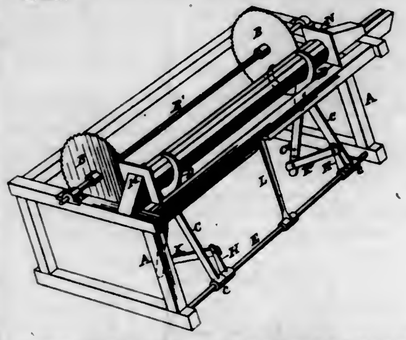
262,610. WASHING-MACHINE. WILLIAM H. NEFF, Cowen, Ind. Filed Mar. 21, 1882. (Model.)

262,610.



Claim.—The arms d, having a brace, e, in each end of which are secured the hooks S, in combination with the reciprocating rubber, the springs, and the suds-box, all arranged as shown and described, and for the purpose set forth.

262,611. LATH-TRIMMING MACHINE. GEORGE W. NICHOLS and WILLIAM TAYLOR, Clinton, Iowa. Filed Mar. 18, 1882. (No model.)



Claim.—1. The combination, with the saws B B, adjusted the length of a lath apart, of the compress-arms D D, having the lever-arms C C', the connecting-arms H K, the rock-shaft E, and the lever I, substantially as and for the purposes described.

2. The combination, with the compress-arms D D, having the lever-arms C C', of the rock-shaft E, connecting-arms H K, and lever I, substantially as and for the purposes described.

3. In combination, the saws B B, adjusted the length of a lath apart, the compress-arms D D, having lever-arms C C', the connecting-arms H K, the rock-shaft E, the lever I, and the stationary and movable head-blocks M N, substantially as and for the purposes described.

262,612. LATHE-CHUCK. CHARLES PARHAM, Philadelphia, Pa. Filed Apr. 5, 1882. (No model.)

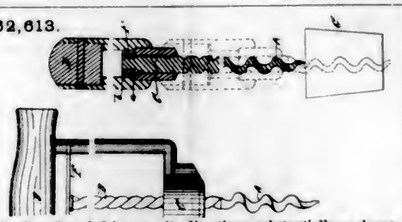


Claim.—The combination, substantially as set forth, of a socket, jaws fitting freely in a recess therein, clamping-screws each of which engages a thread in the socket and is adapted to bear at its inner end upon one of the jaws, spur-pinions formed or secured on the outer ends of the clamping-screws, and a collar fitted to slide longitudinally upon the socket and carrying a series of racks each of which engages the pinion of one of the clamping-screws.

262,613. CORKSCREW. JOSEPH PITT, Brooklyn, N. Y., assignor of one-half to Truman P. Deane, same place. Filed July 6, 1882. (No model.) Patented in England Oct. 18, 1881, No. 4,462.

Claim.—1. In a corkscrew, the threaded or twisted stem carrying the pointed screw for entering the cork, the two parts being

262,613.



twisted or threaded in opposite directions, substantially as shown, and for the purposes set forth.

2. The threaded or twisted stem, the reversely threaded or twisted screw mounted thereon or forming a part thereof, and the cross-piece mounted upon the top of the stem, these parts being combined and arranged substantially as and for the purposes set forth.

3. The handle, the twisted or threaded stem, the box connected with said handle, and the reversely-twisted screw, all combined substantially as shown, and for the purposes set forth.

4. In a corkscrew of the character herein set forth, the combination, with the threaded stem carrying the reversely-threaded screw, of the cross-piece mounted thereon and prevented from turning by the guides or standards which connect the box with the handle, substantially as set forth.

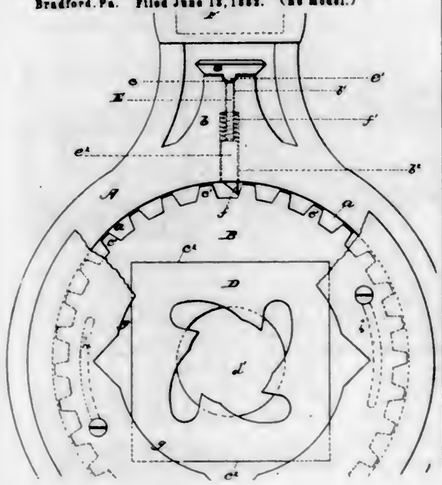
5. The herein-described improved corkscrew, composed of the threaded or twisted stem, the reversely threaded or twisted screw, the box connected with the handle, and the cross-bar, all arranged substantially as explained, so that by pushing down upon the handle the screw is turned into the cork, in the manner and for the purposes set forth.

262,614. BRICK-KILN. STEPHEN JAMES PLANT, York, Ontario, Canada. Filed Nov. 8, 1881. (No model.)



Claim.—In a brick-kiln, the combination of a series of down-draft-kilns provided with bottom flues, C, connecting with the main flue D, with the continuous flue J, surmounting all the kilns and connecting with the crown of each kiln, both the bottom flues and the continuous flue being provided with regulating valves or dampers, whereby the heat in any one or more of the kilns can be conducted from the dome of the kiln by the continuous flue and then delivered into any one of the other kilns at the dome of the same, substantially as described.

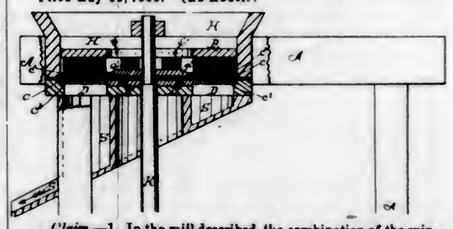
262,615. SCREW-CUTTING DEVICE. HARRY R. PROCTOR, Bradford, Pa. Filed June 15, 1882. (No model.)



Claim.—1. In a thread-cutter for pipes and bolts, the combination herein shown and described of the rod E, having on one end the beveled dog *f* and on the opposite end the knob *e*, provided with the teeth or ribs for engagement with the groove *c*, and operated by the spring *f'*, working in the hole *b'*, with the wheel B and the body A, constructed as described, having the extension *b*, recess *a*, holes *b' b²*, and flange *a'*, as and for the purpose set forth.

2. The combination herein shown and described of the body A, having the extension *b*, handle-projection F, recess *a*, and flange *a'*, the wheel B, having teeth *c'*, recess *c²*, projection *d*, plates C *d³*, and die D, rod E, dog *f*, spring *f'*, groove *c*, and knob *e*, having ribs *c'*, the whole operating as described.

262,616. OATMEAL-MILL. FRANK C. RANDALL, Joliet, Ill. Filed May 23, 1882. (No model.)

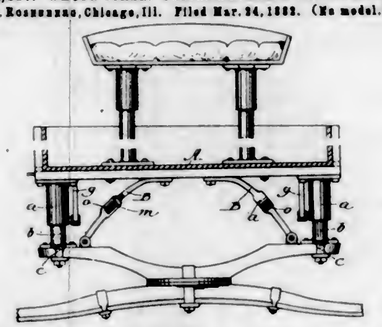


Claim.—1. In the mill described, the combination of the spindle K, perforated runners *a* and *a'*, perforated stationary plate D', perforated stationary plate *c*, provided with the knife-edges *i*, stationary plate B, provided with the brushes *y*, and central eye, husk A, and hoop H, arranged to operate in the manner and for the purpose set forth.

2. In the mill described, the combination of the runners *a* and *a'*, having the perforations *c²* and *c³* arranged opposite to each other, the intermediate stationary perforated plate, *c*, having the knife-edges *i*, and spindle *k*, as and for the purpose set forth.

3. In the mill described, the runner *a'*, provided with the perforations *c³*, in combination with the runners *a*, provided with the perforations *c²*, having their lower ends reamed out, perforated plate *c*, having knife-edges *i*, and spindle K, all arranged to operate in the manner and for the purpose set forth.

262,617. WAGON-SCALE. FREDRICK A. RENKOFF and CHARLES F. ROSENBERG, Chicago, Ill. Filed Mar. 24, 1882. (No model.)



Claim.—1. In a scale-wagon, the combination, with the wagon-body, of a series of recoil-springs and an equalising-frame, substantially as described.

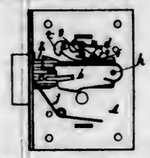
2. A scale-wagon provided with yielding braces, substantially as described.

3. A scale-wagon in which an equalising-frame and yielding braces are combined, substantially as described.

4. In a scale-wagon, the combination, with the running-gear provided with projecting hollow posts, of a wagon-body having dependent standards to inclose said posts and a series of recoil-springs seated within said posts and standards, substantially as described.

5. In a scale-wagon, the combination, with the running-gear provided with projecting hollow posts, of a wagon-body having dependent standards to inclose said posts, a series of recoil-springs seated within said standards and posts, and an equalising-frame secured to the wagon-body, which said frame consists of cross-rods having crank-arms attached to said projecting hollow posts, and of side bars jointed to the rods, all substantially as described.

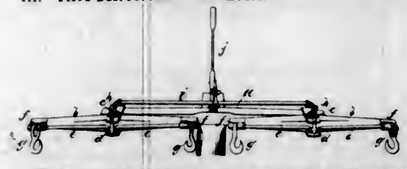
262,618. LOCK. JAMES ROACH and PATRICK W. SALMONS, Terryville, Conn. Filed Jan. 24, 1882. (Model.)



Claim.—1. A lock consisting of the combination of a bolt provided with a spring to force it to a locking position, a latch adapted to hold the bolt withdrawn, one or more tumblers, one or more tumbler-springs adapted to operate on both a tumbler and the latch, as shown, and a rod having a projection and arranged to project beyond the lock-plate, and adapted to be turned to operate on the latch and release the bolt and allow the bolt to be forced to a locking position by the action of a spring without the application of a key, substantially as shown.

2. In a lock, substantially as shown, the combination of the bolt *c*, having notch *k*, and provided with a spring to force it to a locking position, the latch *a*, pivoted as shown, and having end *t*, adapted to engage with the bolt at notch *k*, the rod *e*, located as shown, and provided with projection *m*, adapted to operate on the end *o* of the latch when the rod *e* is turned, one or more tumblers, *b*, having springs *f*, which operate both to cause the latch to engage with the bolt and to give the requisite action to the tumbler, all constructed and operating substantially as shown.

262,619. HORSE-DETACHER. MARION M. ROBERTS, Gossett, Ill. Filed Dec. 10, 1881. (No model.)



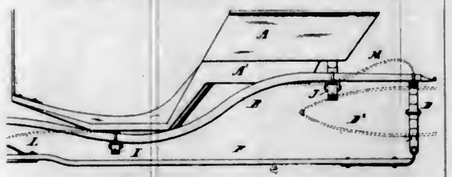
Claim.—In a horse-detacher, the combination of the double-tree *a*, single-tree *b*, clips *c*, tumblers *d*, latch-bolts *e*, ferrules *f*, hooks *g*, rods *h*, rock-shaft *i*, lever *j*, and rod connecting said rock-shaft and said lever, all constructed, arranged, and operating substantially as shown and described, and for the purposes specified.

262,620. MANUFACTURE OF DYE-STUFF. CARL RUMPFF, Aprath, near Elberfeld, Prussia, Germany. Filed May 16, 1882. (Specimens.)

Claim.—1. The product described, consisting of a new brown dye-stuff or coloring-matter which is produced by the action of diazoazobenzolsulphonic acids upon naphthylaminsulphonic acid.

2. The process of preparing the within-described brown dye-stuff, consisting in combining diazoazobenzolsulphonic acid with a solution of naphthylaminsulphonate of soda, as set forth.

262,621. PHAETON. CYRUS W. SALADEE, Torrington, Conn. Filed July 8, 1882. (No model.)



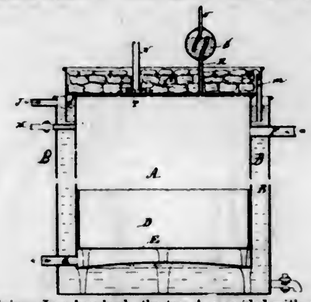
Claim.—1. In a road-wagon, the combination of a frame, a phaeton-body, and side bars formed to approximate the shape of the body, substantially as and for the purpose set forth.

2. In a pleasure-carriage, a drop-front body suspended upon side bars formed to approximate the outline of the body, substantially as set forth.

3. In combination, the phaeton-body, bent side bars, B, and cross-springs I J, substantially as set forth.

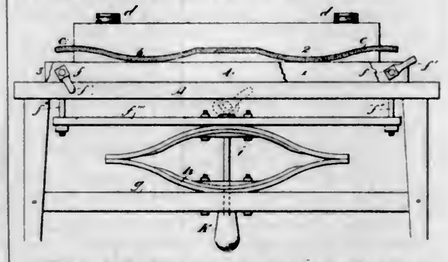
4. In a side-bar wagon, the combination, with the phaeton-body, of side bars, B, with the rear ends higher than the front, and springs supporting the side bars.

262,622. SEPARATING-TUN OR HOP-BACK. JOHN SCHAFHAUS, New York, N. Y. Filed Apr. 15, 1882. (No model.)



Claim.—In a hop-back, the tun A, provided with outlet and inlet pipes, and a strainer, E, above the outlet-pipe, in combination with vessel B, having suitable overflow and outlet pipes, tank C, constructed as described, whereby it forms a cover for said tun, provided with channel-way P, located in the bottom of said tank, having perforated sides, and pipe N, overflow-pipes *m*, attached to tank C and arranged to carry surplus water into the space between tun A and vessel B, and the pipes R *r* and vessel S, acting as a water safety-valve to prevent danger of any increase of pressure in said tun, substantially as set forth.

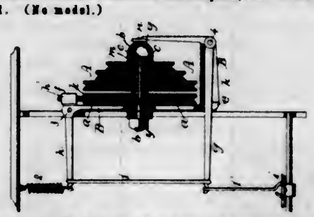
262,623. HARNESS-PAD PRESS, &c. CHRISTIAN C. SCHWANER, Wittorset, Iowa. Filed Apr. 15, 1882. (No model.)



Claim.—1. In a device or machine for shaping harness-pads, the combination of vertically and laterally adjustable and parallel side bars with a pair of die-blocks, to operate in the manner set forth, for the purposes specified.

2. A pad-shaping and pad-forming machine composed of the following elements, to wit: a bench or base, A, a pair of horizontal die-blocks, Nos. 1 and 2, a pair of adjustable crimping-bars, Nos. 3 and 4, a movable frame, *f f'' f'''*, a spring, *h*, and treadle *k*, substantially as shown and described, to operate in the manner set forth, for the purposes specified.

262,624. DEVICE FOR TRANSMITTING AND ARRESTING MOTION. JAMES T. SHAW, Philadelphia, Pa. Filed Aug. 18, 1881. (No model.)



Claim.—1. In a device for transmitting and arresting motion, the combination, with the leg or hanger of the machine, of the frame B, pulley *a*, stud *b*, nut *y*, and hollow spindle *c*, substantially as and for the purpose set forth.

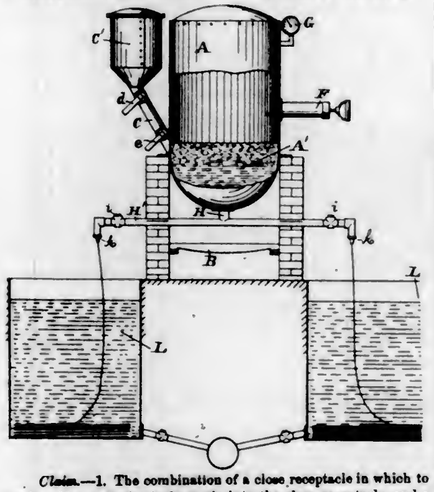
2. The combination of the frame B, brake-arm *h*, pivoted thereto at 3, and having socket *h'*, vertically-adjustable brake *f*, pivoted lever *g g*, carried by said frame B, vertical rod 1, connecting said brake-arm *h* and lever *g*, spring 2, attached at its lower

end to the long end of the brake-arm and at its upper end to the under side of the bench or table supporting the machine, and the rod 1′ and treadle *i*, substantially as and for the purpose set forth.

3. The combination of the fixed stud *b*, pulley *a*, hollow spindle *c*, forming the hub of said pulley, loose friction-disk *k*, and endwise-moving pulley A, having an extended conical hub, *m*, having cavity *n*, substantially as and for the purpose set forth.

4. The combination, with the treadle *i* and the lever *g*, of the guides *c e*, as and for the purpose described.

262,625. APPARATUS FOR MAKING WIRE-SOLDER. EDWARD SMALL, Baltimore, Md. Filed May 23, 1882. (No model.)

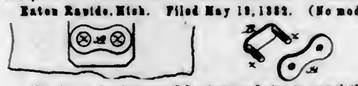


Claim.—1. The combination of a close receptacle in which to melt solder, a device to force air into the close receptacle, and a feeder provided with two valves, as set forth.

2. The combination of a close solder-melting receptacle provided with a draw-off nozzle, a device to force air or gas into the close receptacle, and a chiller, as set forth.

3. The process of manufacturing wire-solder, which consists in feeding the cold solder into a close melting-receptacle, forcing air or gas into the close receptacle, and expelling a continuous stream of molten solder from the receptacle simultaneously, as hereinbefore set forth.

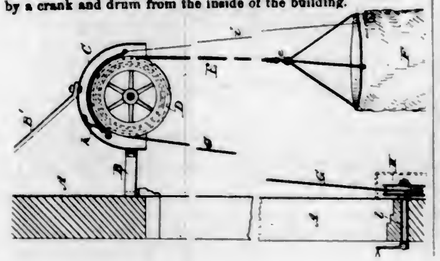
262,626. FASTENER FOR BOOT-STRAPS. WILLIAM SMITH, Eaton Rapids, Mich. Filed May 19, 1882. (No model.)



Claim.—An improved boot-strap fastener, consisting of the plate B, having an inner oval face, substantially as described, and end projections or pins bent at right angles therefrom, and a washer adapted to fit on such projections or pins, all substantially as described, and for the purpose set forth.

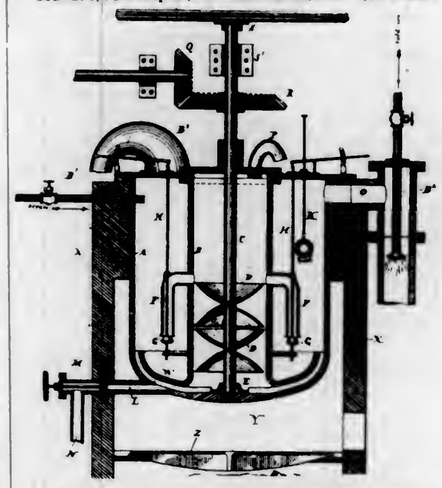
262,627. FIRE-ESCAPE. WILLIAM H. SOUTHER, San Francisco, Cal. Filed July 20, 1882. (No model.)

Brief.—A double drum incased in a hood or cover carries a lowering-rope and a winding-rope, which winding-rope is operated by a crank and drum from the inside of the building.



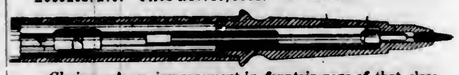
Claim.—The fire-escape herein described, consisting of the bracket B and brace B′, supporting a hood, C, containing a double drum, D, having a large and small groove, the rope E, provided with bag F, the rope G, and drum H, arranged near the ground, the brake-lever *a*, having a hook, *g*, to engage with notches in the flange of the drum D, and the rope G, all constructed and arranged as shown, and for the purpose specified.

262,628. APPARATUS FOR AMALGAMATING. JOHN L. STEWART, Philadelphia, Pa. Filed Dec. 24, 1881. (No model.)



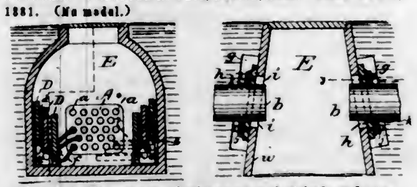
Claim.—In a device for amalgamating precious metals, an exterior pot or vessel, in combination with the interior cylinder, B, provided with an outwardly and upwardly flaring end or flange, W, located above the bottom of said exterior vessel, and having openings and valves for controlling said openings for the return of the amalgam bath to said cylinder, as described, and for the purpose specified.

262,629. STYLOGRAPHIC FOUNTAIN-PEN. JACOB ULLRICH, Hoboken, N.J. Filed Nov. 18, 1881. (No model.)



Claim.—As an improvement in fountain-pens of that class having gravity-valves with spindles extending into the air-tubes, an air-tube provided with a removable air-chamber having a cross-section of larger area than that of the cross-section of the air-tube, substantially as set forth.

262,630. SUBTERRANEAN SYSTEM OF ELECTRICAL CONDUCTORS. THEODORE N. VAIL, Boston, Mass. Filed Nov. 2, 1881. (No model.)



Claim.—1. In a system of subterranean electrical conductors, the combination of a series of tubes embedded in a suitable protective material, and containing insulated wires, with a series of test boxes or chambers connecting the different sections of the said tubes, and containing connection-boards provided with individual binding-screws connected together in pairs by conductors attached to said boards, as described, whereby the conducting-wires entering the said testing-chambers from different directions are connected together to form continuous lines of communication, as and for the purpose specified.

2. In a system of underground electrical conducting-wires, a testing box, chamber, or vault combined with a testing or connection board or boards fitted with binding-screws, and adapted to act as an intermediate connector between different wires entering the said chamber, the said boards being hinged and adapted to swing on their axes, and thereby assume any desired position, substantially as specified.

3. A connection-board hinged or pivoted to its supports, and provided with binding-screws, substantially as and for the purpose described.

4. In the herein-described system of underground electrical conductors, a series of testing or connecting boards placed in a flush-box, testing chamber or vault, and ranged in front of one another, as described, each board being hinged separately at its edge to a stationary bracket, the several hinges being successively ranged in different planes, as and for the purpose specified.

5. The combination, with a stationary bracket, post, or jaw, of a series of testing-boards hinged thereto at different successive and proportionate distances from the central line of the said bracket, substantially as described.

6. In a system of underground electrical conducting or testing chambers or vaults, a testing or connecting board hinged to a fixed axis to admit of being swung in either direction, arranged in the said testing-chambers, and by means of binding-screws symmetrically attached thereon and short conducting-wires extending over its surface adapted to connect the wires entering the said chamber from one direction to the wires entering from other directions, and means, substantially as indicated, for the attachment of testing devices to any wire arranged thereon.

7. In a system of subterranean tubes and testing-chambers connecting the different sections of the same, the combination, with a testing-chamber and tube, of the elastic packing material placed in position at the end of the tube, a gland for compressing the same, and the screws whereby the said gland is attached, or their equivalent, substantially as described.

8. The combination, with an underground testing-chamber and tube entering the same, of the slide-joint between the said tube and the wall of said chamber, substantially as described.

9. In a test-box, and in combination with the conductors entering said box and the wires connecting and completing the circuits of said conductors, a branch testing-circuit and means, as indicated, for electrically connecting the branch circuit with any one of said connecting-wires without breaking their connection with their respective conductors, substantially as described.

10. The combination, with a connection-board having a series of wires led over its surface, and abutments adjacent to said wires, of a flexible conducting-cord connected with a testing-circuit, and a plug or wedge for making contact with any one of said wires by wedging the wire between itself and the adjacent abutment, substantially as described.

11. A connection-board having electrical line-wires carried over its surface, connected by binding-screws, in combination with testing apparatus and devices for connecting the same to the said line-wires, consisting of a telephone one terminal of which is connected to the ground and the other to a plug or wedge, a hole perforated in the testing-board under each wire for the insertion of the said wedge, and an abutment of non-conducting material, *f*′, against which the wire to be tested is pressed to insure a good electrical connection, as described.

262,631. PROCESS OF MAKING CHAIN-SWIVELS. JAMES E. WALCOTT, Providence, R. I., assignor to Frederick I. Marsy, same place. Filed Feb. 20, 1882. (No model.)

Claim.—The herein-described method of making chain-swivels, the same consisting in the following steps, namely: first inserting a stock-piece of wire through a holder into a blank-forming die and then moving the blank-forming die laterally to cut off the portion of wire which projects within it, then driving a punch into the blank-forming die upon the piece of wire left therein to swage the same into the form of a blank, and then transferring the blank to a finishing-die and swaging it to proper shape therein by means of a punch which is provided with a tenon or projection which is forced into the blank to form the central cavity of the swivel simultaneously with the formation of its exterior surface.

262,632. FAUCET. CHARLES WHITTAKER, Chicago, Ill. Filed Oct. 24, 1881. (No model.)

Brief.—The valves controlling the cold and hot water supply are opened or closed to the extent desired, both at the same time or each separately, by means of the peculiarly-shaped cam M. By the index on the outside of the valve-case the person using the water can regulate its temperature. The valve-seats A A′ are removable.

262,632.



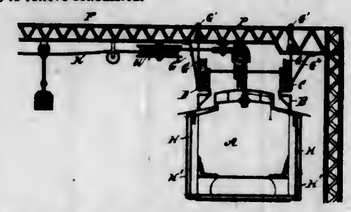
Claim.—1. In faucets, the combination of the partially circular, partially elliptical shaped cam M, valve-stems J J, valves H I, and inlet-ducts F G, said cam being adapted by such shape when revolved to open and close said ducts, both simultaneously and alternately, as set forth.

2. The combination of case E, inlet-ducts F G, valve-rods J J, stoppers H I, and removable valve-seats A′ A′, as set forth.

3. The combination of case E, inlet-ducts F and G, screw-cap N, stem B, provided with handle A, disk C, cam M, valve-rods J J, provided with rollers L, and stoppers H I, with removable valve-seats A′ A′ and index-plate C, substantially as set forth.

262,633. ELEVATED RAILWAY. LEVI J. WING, New York, N.Y. Filed Apr. 14, 1881. (No model.)

Brief.—Hangers suspended from trussed beams support longitudinal channel-bars, which act as stringers to support the rails. The grip is operated by levers and cords from within the car to start and to stop and to shift hold from one cable to another. A covering-plate protects the cable. Air-cylinders with pistons operate to relieve concussion.



Claim.—1. The combination, in an elevated railway, of trussed arches across the street, supported on posts at each end, pendants or hangers supporting longitudinal channel-bars, and the rails supported in said channel-bars, substantially as hereinbefore set forth.

2. The combination of a suspended car with an overhanging track, a cable, and clamping-jaws operated by levers on the inside of the car, as hereinbefore set forth.

3. The combination of the cable and clamping-jaws with the cylinders, mounted on and firmly fastened to the car, and their pistons, whereby the car is propelled, as hereinbefore set forth.

4. The clamping-jaws, yielding carrying-rolls, and pivotal axis for the upper jaw, combined as and for the purposes hereinbefore set forth.

5. The clamping-jaw M, mounted on a pivotal axis and operated by a cord, spring, and lever, as and for the purposes hereinbefore set forth.

6. In an elevated railway, the combination of a cover or shield with the cable, for protecting it from the weather, as hereinbefore set forth.

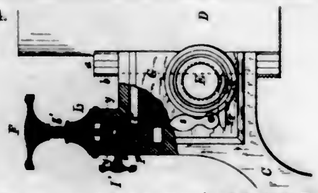
262,634. MICROSCOPE. PHILIP H. YAWMAN, Rochester, N. Y. Filed May 2, 1881. (No model.)

Claim.—1. The combination, with the relatively movable stand and body of a microscope, of differential screws *e* and *g* and a suitable clamping device for arresting the rotation of one of the screws, substantially as described.

2. The combination, with the arm C, of the movable block H, carrying body D, differential screws *e* and *g*, and clamp *i* substantially as described.

3. The combination, with the arm C and the movable block H, supporting the body D, of the adjusting-screws *e* and *g*, one of which is free to revolve while the other is secured to the block by a suitable clamp.

262,634.



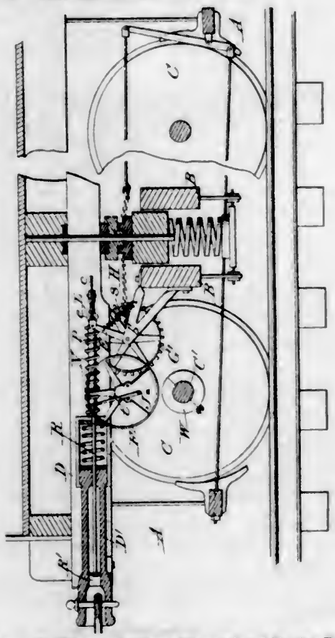
4. The combination, in a microscope, of the body D, slide *a*, arm C, movable block H, fine-adjustment screw *g*, and pinion and rack *b c*, for coarse adjustment between the body and the block, the slide *a* being fitted to move in both the arm and the block, substantially as and for the purposes set forth.

262,635. STAPLE. HIRAM R. ADAMS, Boston, assignor to Daniel W. Gooch, Trustee, Melrose, Mass. Filed Dec. 8, 1881. (No model.)



Claim.—As an improved article of manufacture, a staple provided with the series of spiral projections broadest at their upper ends, substantially as shown and described.

262,636. AUTOMATIC CAR-BRAKE. AUGUST J. BRAG, Chicago, Ill. Filed Mar. 13, 1882. (No model.)



Claim.—1. The combination of the push-rod R, pipe P, having coiled spring N, the pivoted lever L, adjustable link *e*, bell-crank E, and friction-wheel F, substantially as and for the purpose described.

2. The combination, with the draw-bar coupling-link, brake-lever, and axle, of the push-rod R, having head R', pipe P, attached to said rod and having coiled spring N, the pivoted lever L, having eye *e*, the adjustable connecting-link *e*, bell-crank E, friction-wheel F, elastic band W, secured to the axle C', shaft S', gears G G', and brake-chain H, substantially as and for the purpose described.

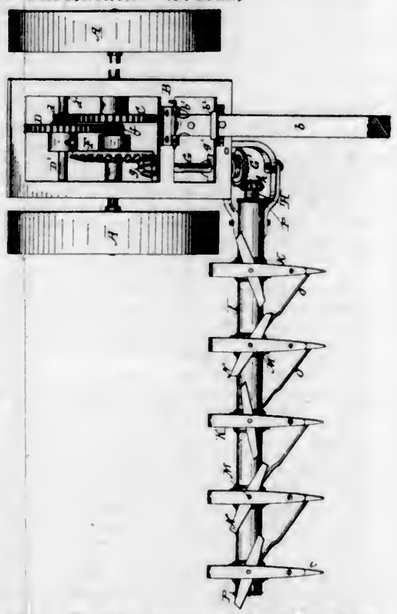
3. The combination of the pawls O O', bars *r r*, cam-piece r^2, and spring r^3 with ratchet end S^3 of shaft S, substantially as described and shown.

4. The pawls O O', bars *r r*, having offsets *r' r'*, cam-piece r^2, and hand *t*, in combination with shaft S, substantially as shown and described.

5. The friction-wheel F, having box J, provided with cover T, and containing pawls O O', bars *r r*, cam-piece r^2, spring r^3, in combination with shaft S, substantially as described and shown.

6. The friction-wheel F, having box J and cover T, in combination with pawls O O', bars *r r*, cam-piece r^2, spring r^3, hand *t*, and notches *m m' m²*, substantially as described and shown.

262,637. MOWING-MACHINE. LOREN BLANCHARD, Musson, Mich. Filed Apr. 29, 1882. (No model.)

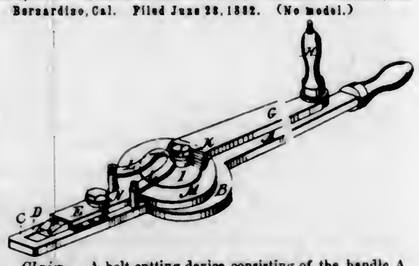


Claim.—1. The shaft G, having journal-bearings at each end for the operating-shaft and bevel-gear G', the shaft H, having bevel-pinion A, and having rigidly mounted along its length bevel-gears A', the cylindrical finger-bar I, vertical shafts M, having gears *m*, adapted to engage with the gears A', and the revolving cutting-knives N, mounted upon said shafts M, substantially as and for the purpose set forth.

2. The combination of the cylindrical finger-bar I, shaft H, having gears A', vertical shafts M, having bevel-gears *m*, the cutters N, and the hinged finger-guards K, forming journal-bearings for said shafts M, substantially as and for the purpose set forth.

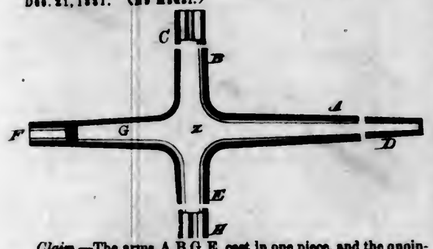
3. The shaft H, having the series of bevel-gears A', combined with the cylindrical finger-bar I, having cap P, and with a series of cutters, N, operated by said gears A', substantially as and for the purpose set forth.

262,638. CARRIAGE-BOLT CUTTER. JOSEPH S. BRIGHT, San Bernardino, Cal. Filed June 28, 1882. (No model.)



Claim.—A bolt-cutting device consisting of the handle A, with its table B and slotted extension C, in combination with the eccentric I, having the operating-handle G and turning within the eccentric-strap M, and the reciprocating cutter F, moving in the guide E and jointed or hinged to the eccentric-strap extension N, substantially as herein described.

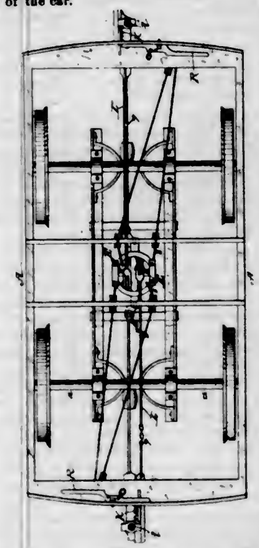
262,639. PRINTER'S TOOL. ROBERT BUCKINGHAM, Chicago, Ill., assignor to himself and William Porter, same place. Filed Dec. 21, 1881. (No model.)



Claim.—The arms A B G E, cast in one piece, and the quoin-keys C H, hammer-lever F, and shooting-stick D, combined as and for the purpose specified.

262,640. GRIP APPARATUS FOR CABLE-WAYS. HENRY CASSELLY, San Francisco, Cal. Filed Aug. 20, 1881. (No model.)

Brief.—The grip and operating mechanism are mounted independently of the car-body, and both have a longitudinal movement independent of the car when the grip grasps the cable. Fixed jaw-bars of the centrally-located grip are provided with a head. Movable jaws having a yoke are operated therefrom by an intervening rock-shaft provided with a cam. Vertically-moving roller-guides pivoted in supporting-levers are arranged on both sides of the cable, whereby the cable may be prevented from being laterally drawn from the grip in turning curves. The grip is operated from either end of the car.



Claim.—1. The combination of a car, a grip for seizing a moving cable, and grip-operating mechanism at one or both ends of the car, said grip and operative mechanism mounted independently of the car-body, and both having a longitudinal movement independent of the car when the grip grasps the cable, for the purpose set forth.

2. The fixed jaw-bars of the grip provided with the head B, in combination with the movable jaw-bar provided with the yoke F, and the intervening rock-shaft provided with cam-arms *e* D, and levers E, substantially as and for the purpose described.

3. A centrally-located grip and a device on the end of the car for operating the same, in combination with a rigid connecting-rod and a flexible connecting-rod, substantially as set forth.

4. The combination of a central grip and flexible connecting-rod with a sliding rack-bar at the end of the car, substantially as specified.

5. The vertically-movable vertical roller-guides N N', arranged on both sides of the cable near the supporting or carrying rollers, for the purpose set forth.

6. The centrally-located grip provided with the vertical roller-guides N N' and disengaging-bosses 4 4, in combination with the cords 3 and 5 and the lever R, whereby the roller-guides and bosses may be operated simultaneously or separately, substantially as described.

7. The centrally-located grip, its operating device at the end of the car, and the rigid rod H, in combination with the hanger I', provided with the anti-friction roller I, for the purpose set forth.

8. The collar B, cast on the upper end of the fixed jaw-bar of the grip, and the movable jaw-bar provided with the yoke F, in combination with an intervening double-acting cam, *e* D, and a lever, whereby the movable jaw is raised by moving the lever in either direction, substantially as described.

9. The vertical roller-guides N N', in combination with the pivoted supporting-levers P and the central movable bar, T, located in the grip-shank, substantially as and for the purpose set forth.

10. The levers P, for supporting the roller-guides N N', provided with a bifurcation, in combination with and inclosing the edge of the grip-shank, as described.

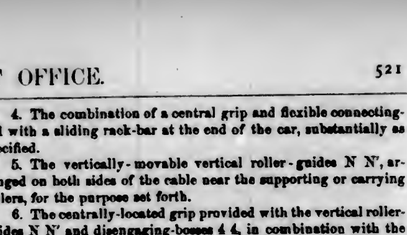
262,641. TABLE-HINGE. J. WALLACE CHILDS, Kansas City, Mo. Filed July 6, 1882. (Model.)



Claim.—1. A hinge having leaf-supporting flanges D D', provided with a gravitating pawl, *c*, and an engaging-lug, *c'*, substantially as and for the purpose specified.

2. Flanges D D', having pawl *c* and engaging-lug *c'*, in combination with a hinge having a recess, c^2, or means for allowing sufficient movement of the table-leaf above a horizontal plane to unlock the pawl, substantially as shown.

262,642. FAN-BLOWER. JOHN W. COLLINS, Chicago, Ill. Filed Mar. 11, 1882. (No model.)



Claim.—In a fan-blower, the combination of the disk D, located on the fan-shaft at the rear of the fan-chamber, the hub F, placed next the disk D, and provided with forwardly and outwardly extended arms F', and the fans G, extending on their rear edges in contact with the disk D to, or nearly to, the hub, substantially as shown, and for the purposes set forth.

262,643. INCLINED-PLANE RAILWAY. RICHARD COLLINS, Chicago, Ill. Filed Mar. 16, 1882. (No model.)

Brief.—A series of inclined sections are connected together by short ascending planes, forming a continuous line. A series of triangular trucks are operated by suitable motive power, whereby the cars are transferred from the lowest point of one section to the highest point of the succeeding section.

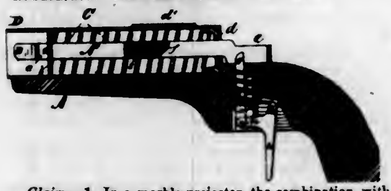


Claim.—1. An inclined-plane railway consisting of a series of sections, as described, connected by a short ascending plane, forming a continuous line or road, in combination with a truck or series of trucks operated by suitable motive power, whereby the cars

are transferred from the lowest point or terminus of one section to the highest point of the succeeding section, substantially as set forth.

2. In an inclined-plane railway, the combination, with the car or cars D, of the triangular truck *a*, the series of catches E, and the weights F, substantially as described.

262,644. TOY MARBLE-SHOOTER. JAMES F. CONNELLY, Newark, N.J. Filed Mar. 31, 1882. (No model.)



Claim.—1. In a marble-projector, the combination, with the hollow cylinder D and stock A, of the sliding clamp A′, provided with fingers B, recess or perforation *s*, finger-piece *e*, and disk or seat *b*, a spring, C, adapted to operate in conjunction with said cylinder and clamp, as described, and the trigger composed of a bolt, lever, and spring, all arranged and operating substantially as and for the purpose set forth.

2. A marble-projector consisting of a stock, A, cylinder D, clamp A′, provided with seat *b*, finger-piece *e*, recess or perforation *s*, and fingers B, adapted to automatically grasp a marble, a spring, C, adapted to operate in conjunction with said cylinder and clamp, as described, and a trigger, the several parts being arranged with relation to each other, and operating substantially as described.

3. In a marble-projector, the combination, with the stock A and barrel D, of a marble-clamp, A′, and spring C, the marble-receiving extremity of the clamp lying at or near the mouth of the barrel and the opposite extremity of said clamp projecting from the opposite end of the said barrel, forming a finger-piece adapted to allow the clamp to be drawn back preparatory to the process of projecting the marble, all substantially as herein set forth.

262,645. AUTOMATIC TELEPHONE-EXCHANGE. M. DANIEL CONNOLLY, Philadelphia, Pa., THOMAS A. CONNOLLY, Washington, D. C., and THOMAS J. MCTIGUE, Pittsburg, Pa., assignors to Spencer D. Schuyler, New York, N. Y. Filed Aug. 29, 1881. (No model.)

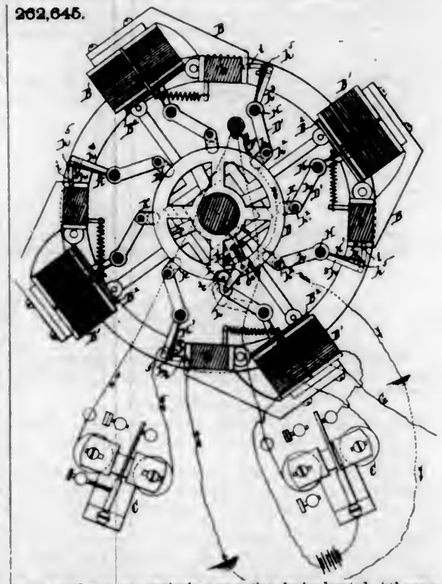
Brief.—The switching mechanism consists of a number of disks capable of independent rotation by means of pawls and ratchets operated by magnets in circuit of the central-office battery and a number of swinging frames, each connected with a subscriber's line. Each disk carries a pivoted arm, by means of which contact is made with the swinging frames of the several lines as required. When such contact is made the arm is swung on its pivot and breaks the ground-connection. The normal circuit of a subscriber's line is from his station to a switch operated by the swinging frame of his own line, then to a polarized relay, which closes the office-battery circuit, to his disk and its pivoted arm to ground. Connection with another subscriber is through the relay and disk of the calling party and swinging frame of the party called. Signals are sent by a reversed current, which will not affect the relay.

Claim.—1. In a telephonic exchange having a series of normally-disconnected lines grounded at the place of convergence and in circuit with connecting mechanism, the combination, with such mechanism, of a main battery or dynamo-electric machine and motor or equivalent mechanical operating devices, and suitable means for controlling said battery or dynamo-electric machine and motor or equivalent device through said lines and for effecting the necessary movements of such connecting mechanism, substantially as set forth.

2. In a telephonic exchange comprising a series of lines or conductors leading to and grounded at a central station and in circuit at such station with connecting mechanism, the combination of generators at the stations or distant termini of said lines for sending electric impulses over said lines, and a main battery or dynamo-electric machine, and motor or equivalent operating device at the central station operating responsively to impulses sent over said lines from the subscribers' or station batteries to produce the necessary movements of the connecting mechanism for the connection and disconnection of said lines, as set forth.

3. In a telephonic-exchange system comprising a series of normally-disconnected lines converging to a central station provided with mechanism for connecting said lines, said mechanism being moved by a main battery or equivalent dynamo-electric machine, and motor or equivalent operating device located at the central station and controllable by electric impulses sent from the batteries located at the remote ends or at distant points on said lines and operating through the latter, the combination, with said lines, central connecting mechanism, main and line batteries, of relays located at the central station and operated by said line-batteries to throw on the main battery and thereby effect the necessary movements of the central mechanism for connecting and disconnecting the lines, as set forth.

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4. In a telephonic-exchange system comprising a series of independent lines converging to a central station provided with connecting mechanism, a main battery for operating said mechanism, relays for throwing on said battery, and line-batteries for operating said relays, switches in each line in the circuit between the line-batteries and the relays, and capable of being operated from other lines, whereby one subscriber calling another may cut out the relay of the latter, as set forth.

5. In a telephonic-exchange system comprising a series of disconnected lines converging to a common station, means at said station for connecting any two of said lines, and controllable from the distant stations, and relays in said lines for admitting current to operative devices at said central station, a switch or shunt located between the relay and the connecting mechanism and operated automatically by a calling or seeking member, substantially as described, whereby the relay of a sought line is temporarily cut out.

6. The combination, in a telephone-exchange or electric line-connecting apparatus, of a series of conductors normally grounded at a central or common station, each of said conductors having in circuit a relay, an engaging-finger sustained on a ring or traveler, a ground and line switch all in circuit, and a movable section or contact bar normally out of circuit but carrying said switch, whereby when a given line is worked for calling or connecting its finger will be carried into engagement with the contact-bar of another line, the grounds of both lines being thereby broken, the calling-line through the movement of its finger and the other through the movement of its switch, the lines connected and a through circuit established over both, substantially as described.

7. The combination, in a telephone-exchange or line-connecting apparatus, of a relay adapted to respond to currents sent over a line in circuit therewith, a battery connected with said relay so as to be thrown onto a short independent line when said relay is closed, an electro-magnet in circuit with such battery, a step-by-step progressive movement connected with the armature of said magnet, a wheel or traveler in circuit with the relay-line, but arranged to be moved by said step-by-step progressive movement, whereby when a working-current is sent over said line through said relay the battery is thrown onto the short line and the wheel or traveler caused to move and carry the finger along, substantially as specified.

8. The combination, in a telephone-exchange or electrical line-connecting apparatus, of a series of relays and switching devices normally in circuit therewith and arranged to operate substantially as described, whereby when two lines are connected through the medium of such connecting apparatus the relay of a sought or called line will be cut out, while the relay of the calling or seeking line will remain in circuit, substantially as set forth.

9. The combination, in an automatic line-connecting apparatus, with the switching or connecting devices and their operative mechanism, of relays constantly in the path or circuit of the calling-lines, to provide for the restoration to normal of said calling-line.

10. In a telephonic-exchange apparatus, a movable finger normally in circuit with the ground at a central exchange or connecting device and forming a portion of the circuit of a line leading from a distant station to such central exchange, said finger being mounted on a ring or carrier and adapted and designed, when its carrier is moved, to come in contact with sections or bars forming parts of other conductors or lines and by such contact to break its normal ground and secure circuit to ground at another distant station over the contacted line, substantially as set forth.

11. In a telephonic-exchange apparatus, a movable conductor pertaining to a given line and normally out of circuit, in combination with devices, as set forth, whereby the movement of said conductor by a calling-line breaks the normal or central ground of its own line and establishes circuit between the two lines, substantially as set forth.

12. In a telephonic-exchange line-connecting apparatus, a relay, in combination with a switching device which normally completes circuit to ground at central station through said relay, and which upon being duly moved, substantially as described, cuts out such ground and leaves a called line in unbroken or continuous circuit with the calling-line, as specified.

13. In a telephone-exchange apparatus having conducting-fingers which are caused to travel in the act of establishing coincidence of lines and to come into contact with movable conductors in the path thereof, means, substantially as described, whereby the movable conductor of a given line is shifted out of said path when the traveling conductor or finger of the line to which it pertains has left home.

14. In a telephonic line-connecting apparatus, and in combination with the lines or conductors leading into and out of said apparatus, receiving-conductors or contact-bars in circuit therewith and arranged, substantially as described, so that they may be moved by the conducting-finger of any line and isolated thereby from possible contact of other conducting-fingers.

15. In a telephonic apparatus, a receiving-conductor through which circuit may be made from a calling to a called line, said conductor being constructed and arranged substantially as described, whereby when the line to which it pertains is employed in seeking or effecting coincidence or connection with another line such conductor will be shifted beyond the reach of the other operating-lines or their traveling contact devices.

16. In a telephonic-exchange apparatus adapted for automatic circuiting purposes, the combination of the following elements, viz: a traveling circuiting finger, stud, or contact device normally grounded in circuit with a telephonic line, mechanism for causing said circuiting-finger to travel, a relay to bring said mechanism into action, a switch between said finger, and a distant line-terminal for effecting diversion of circuit from ground through another line, and a movable conductor coinciding with the home or normal position of said finger.

17. In a telephonic or telegraphic line-connecting apparatus, the combination, with a series of parallel travelers carrying conducting-fingers normally grounding the respective lines leading thereto, of a corresponding series of receptive conductors traversing said travelers at intervals, and adapted for engagement of the fingers, said travelers and fingers being adapted and designed to move transversely to said receptive conductors, the latter being constructed and arranged to swing or be moved by contact of said fingers, whereby any finger may engage with any disengaged traversing conductor but that pertaining to its own line, shift the same out of path of the other fingers, switch said receiving-conductor into circuit with its line, and break the central ground of both lines.

18. The combination of a series of lines grounded at subscribers' or distant stations and at a central exchange, (or a station common to all,) batteries at each independent station and at the central station, a switch or connecting mechanism at the central station actuated by battery thereat, and operating responsive to currents sent from the batteries at the independent local stations to cut out the grounds of any two lines (or all of the lines in pairs) at the central station, and to restore the same, substantially as set forth.

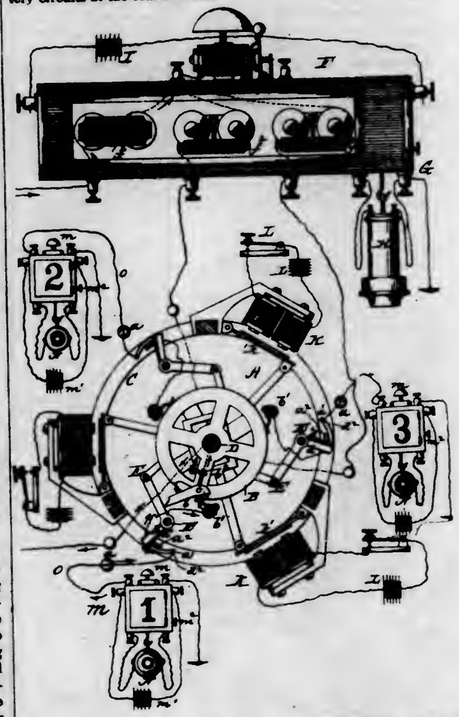
19. In a telephonic exchange, the combination, with a traveling carrier, of a contact piece or finger normally in circuit with ground or a return wire, and operating to change said circuit to a different line by impingement against another conductor.

20. A device for actuating an automatic circuit-changer, and for receiving and sending alarm-signals, consisting of a make-and-break mechanism, an automatic pole-changer or reversing-key, and an electric bell, substantially as shown and described, whereby a central switch mechanism may be operated to effect connection of normally-independent lines, and when such connection is effected alarms may be sent and received without disturbing said switch mechanism.

21. The combination, with switch mechanism for effecting connection of normally-independent lines, of a polarized relay at a central station and make-and-break mechanisms, an automatic pole-changer or reversing-key, and an electric bell at subscribers' stations, whereby when such switch mechanism has been actuated to the desired extent for effecting the connection of lines the direction of current from the make-and-break mechanism is automatically reversed to enable an alarm to be sent therefrom over the line without actuating the relay in circuit, substantially as shown and set forth.

262,646. ELECTRIC SWITCH. M. DANIEL CONNOLLY, Philadelphia, Pa., assignor to Spencer D. Schuyler, New York, N. Y. Filed Nov. 28, 1881. (No model.)

Brief.—The apparatus is similar to that of automatic exchanges, but the annunciators are in the internal circuits of the apparatus, and the switch is operated by a key-board and local-battery circuits at the central office.



Claim.—1. A rotary switching device or circuit-changer comprising a series of travelers provided with contact-makers and transverse conductors, which form parts of the circuits of independent lines, such travelers being adapted and designed to move so as to bring such circuit-makers successively into contact with said transverse conductors, in combination with means, substantially as stated, for producing by manual operation movement therein to effect the connection of normally-independent lines, such means being located at the switch out of line-circuit and uncontrolled by electric impulses sent over said lines, as set forth.

2. The combination of a switching device or circuit-changer in which the connection of any two normally-independent lines is effected by a rotary movement of a traveler pertaining to one of such lines with means, substantially as stated, for producing such movement by manual operation, and an annunciator with appurtenances for throwing a battery onto line and placing a telephone in circuit at the central office or point of connection, substantially as set forth.

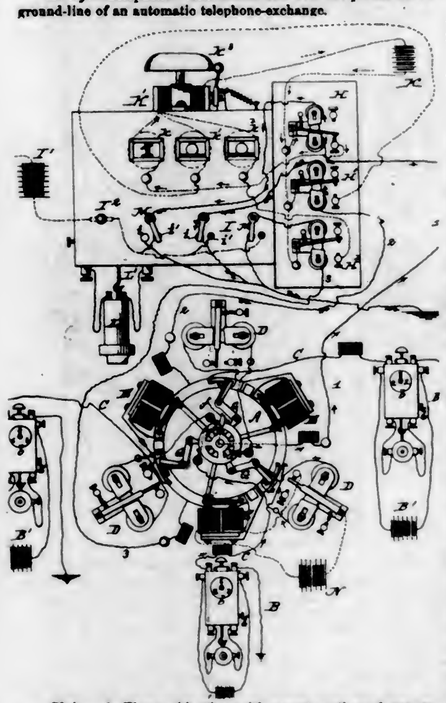
3. The combination, with a rotary switching device or circuit-changer adapted and designed to effect connection of normally-independent lines, of means located at the switch for moving the same by manual operations and an annunciator and appurtenances for throwing a battery onto line and placing a telephone in circuit at the central office or point of connection, such annunciator being located in the internal circuit of the switch, whereby when two lines are connected an alarm may be sent over both from the central office and communications passing over such connected lines be received at such office, substantially as set forth.

4. The combination of a series of subscribers' or local boxes having means for receiving and sending electric alarms and telephonic communications, a switching device having line connections with such boxes and designed and adapted to effect connection of any two such lines by rotary movement of one of the contacting devices of such lines, means, substantially as stated, for producing such rotary movement by manual operation at the central office or place of connection, and an annunciator with appliances for throwing a battery onto line and placing a telephone in circuit, substantially as and for the purpose set forth.

5. The combination of a rotary switching device comprising a series of travelers carrying contact-fingers and transverse conductors, forming parts of line-circuits, means, substantially as described, for moving said travelers by manual operation, so as to bring said fingers successively in contact with said conductors, and an annunciator with appliances for throwing a battery onto line and placing a telephone in circuit, as set forth.

262,647. AUTOMATIC TELEPHONE-EXCHANGE. M. DANIEL CONNOLLY, Philadelphia, Pa., assignor to Spencer D. Schuyler, New York, N.Y. Filed Nov. 8, 1881. (No model.)

Brief.—Telephone annunciators and bell are placed in the ground-line of an automatic telephone-exchange.

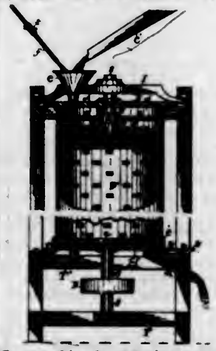


Claim.—1. The combination, with an automatic exchange or switch capable of effecting connection of independent lines without manual assistance, of an annunciator or alarm in a local circuit, and relays in the ground-circuits of lines leading into said exchange or switch, said relays, when worked, operating said annunciator or alarm by opening or closing the local circuit thereto, substantially as set forth.

2. The combination, with an automatic exchange or switch capable of effecting connection of independent lines without manual assistance, said exchange or switch having polarized relays in the lines leading thereinto, of an annunciator or alarm in a local circuit and polarized relays in the ground-circuits of said lines, and adapted to operate said annunciator or alarm, said line and ground relays being arranged to be influenced respectively by currents of unlike direction, whereby a current of one direction will actuate the line-relays to work the switch without affecting the annunciator, while a reverse current will operate the annunciator without affecting the switch.

3. The combination of an automatic exchange or central-office switch, a series of subscribers' or local boxes on lines leading into said switch, and having appliances for sending currents of unlike direction over said lines, polarized relays arranged reversely to each other, and located in line and ground circuits of the exchange or switch, an annunciator or alarm in a local circuit which may be opened or closed by working said ground-circuit relays, a local return-signal battery with a manual switch for shifting from ground to battery, a telephone, and means for placing same in circuit with the boxes, whereby currents of one direction sent from boxes over line will operate the switch to effect connection of lines without influencing the annunciator, while currents of an opposite direction sent over a line not in engagement with another will cause the annunciator to be operated, and the central office may return a signal back over line and place a telephone therein to communicate with the signaling subscriber, substantially as set forth.

262,648. GRAIN-DECORTICATING MACHINE. JACOB CORNWELL, Cadillac, Mich. Filed Feb. 13, 1882. (No model.)



Claim.—1. In a machine for removing testa from grain, the combination, with a toothed cylinder-case and cylinder, a case-chamber, and agitating arms or sweeps above the cylinder, of means for delivering grain and water commingling into said case-chamber, all substantially as set forth.

2. In a machine for removing testa from grain, a cylinder-case and cylinder having teeth, a case-chamber above said cylinder, and means for stirring the grain therein, in combination with means for delivering grain and water into said case-chamber to effect the objects stated, all substantially as specified.

3. In a decorticating-machine, the combination, with a toothed cylinder-case and cylinder and the upper case-chamber, of a cover having a funnel-orifice and spouts adapted to deliver grain and water from separate sources through the orifice of said cover, all substantially as specified and shown.

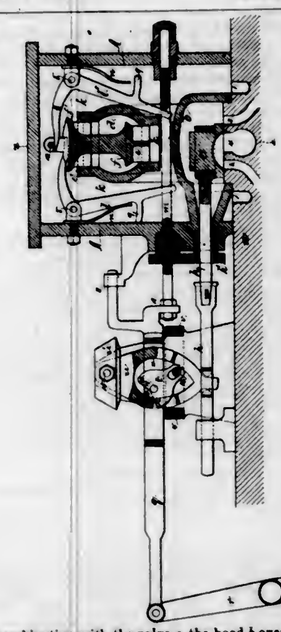
4. In a decorticating-machine, a toothed cylinder and cylinder-case, the upper case-chamber, and means for agitating the grain therein, in combination with a cylinder-case cover having an orifice and spouts adapted to deliver grain and water through said orifice, all substantially as set forth.

262,649. CUT-OFF VALVE. MICHAEL M. CUMMISKEY, Paterson, N. J. Filed Feb. 13, 1882. (No model.)

Claim.—1. The combination, with the slide-valve *c* and mechanism for moving the same, of the balanced valves *f f'* and mechanism for opening the same at or about the time the valve *c* has reached its extreme movement, substantially as set forth.

2. The steam-chest A, valve-seat *a*, and steam and eduction

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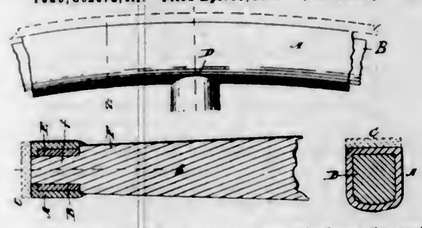
ports, in combination with the valve *c*, the hood *b* over said valve, the passages *d*, valve-seats *e e'*, and valves *f f'*, substantially as set forth.

3. The combination, with the valves *f f'*, of the bent levers *l l'*, slotted rod *m*, valve *c*, and valve-chest and steam ways and ports, substantially as set forth.

4. The combination, with the valves *f f'* and valve-seats *e e'*, of the levers *l l'*, connected to the valve-stem, the springs *s*, stops 9, and slotted valve-rod *m*, substantially as set forth.

5. The rocker *t* and pendulous lever *u*, in combination with the valve and rod *h*, the rocker-rod *g*, the pivot-bolt 16, and the rod *m* and valves actuated therefrom, substantially as set forth.

262,650. FELLY FOR VEHICLE-WHEELS. EBENEZER DARROW, Geneva, Ill. Filed Apr. 15, 1882. (No model.)



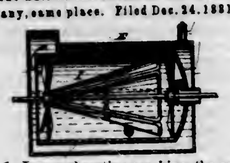
Claim.—1. A felly composed of a metal tube continuous in periphery and a filling of wood or equivalent material, substantially as and for the purposes described.

2. A felly composed of a metal tube and a filling of wood or equivalent material, and provided with a spoke-socket of a diameter in its outer part sufficient to receive the whole thickness of the spoke, and abruptly diminishing to a diameter in its inner part sufficient only to receive the tenon, substantially as and for the purposes described.

3. A felly composed of the metal tube A, provided with apertures D in its inner wall and opposite smaller apertures in its outer wall, and of the wood or equivalent filling B, provided with corresponding apertures, E, passing quite through it, substantially as and for the purpose described.

4. The hereinbefore-described method of constructing a felly, consisting in forcing a filling of wood or equivalent material into a metal tube, and then bending and at the same time compressing the tube thus filled between rollers, for the purpose of making the tube and filling fit each other tightly.

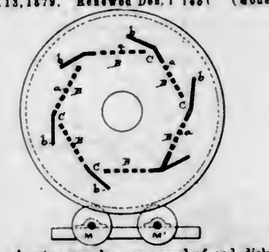
262,651. CARBURETOR. HENRY C. DE WITT, Chicago, Ill., assignor of one-half to the Excelsior Gas Light and Manufacturing Company, same place. Filed Dec. 24, 1881. (No model.)



Claim.—1. In a carbureting-machine, the combination of a drum having a closed metallic end and an open end, and a jacket of textile material covering the cylindrical portion and solid end, and a head-piece or diaphragm stretched across the open end of the drum, all constructed and arranged substantially as and for the purpose specified.

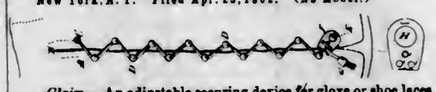
2. In a carbureting-machine, the combination of the metallic drum having a closed and open end, and a jacket of textile material covering the cylindrical portion and closed end of said drum, and stretched across the open end of said drum, with the disseminator I and air-inlet and gas-outlet pipes, as described.

262,652. APPARATUS FOR CRUSHING AND PULVERIZING ORE, CEMENT, &c. MILES B. DOOUR, San Francisco, Cal. Filed Oct. 13, 1879. Renewed Dec. 1 1881 (Model.)



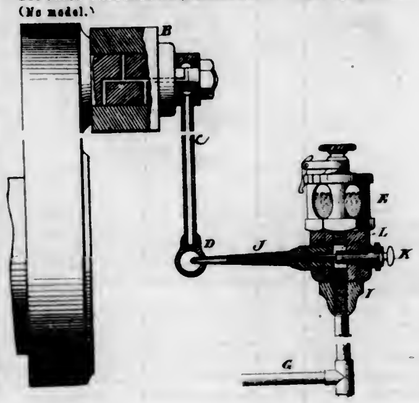
Claim.—A rotary crusher composed of end disks, and a polygonal crushing-chamber having straight sifting sides, openings *c*, and overlapping chutes *b*, all substantially as described.

262,653. GLOVE OR BOOT FASTENING. HENRY W. DUCKER, New York, N.Y. Filed Apr. 25, 1882. (No model.)



Claim.—An adjustable securing device for glove or shoe laces, which consists of the plate F, provided with the aperture H for attaching the same to a suitable stud on the shoe or glove, and the small holes *i i*, through which the lacing-cord is passed, as described, and adjustably secured therein, all for the purposes set forth.

262,654. CRANK-PIN AUTOMATIC OILER. HUGH DUFFEY and JESSE VANDENBURGH, Cortland, N.Y. Filed Apr. 17, 1882. (No model.)



Claim.—1. The stationary vessel E, chamber L and open connections therewith, and the hollow spindle J, combined with a bulb operating loosely upon said spindle and having open connection with a tube, C, which moves with the crank-pin, and which is adapted to feed the oil thereto by means of the centrifugal force, substantially as specified.

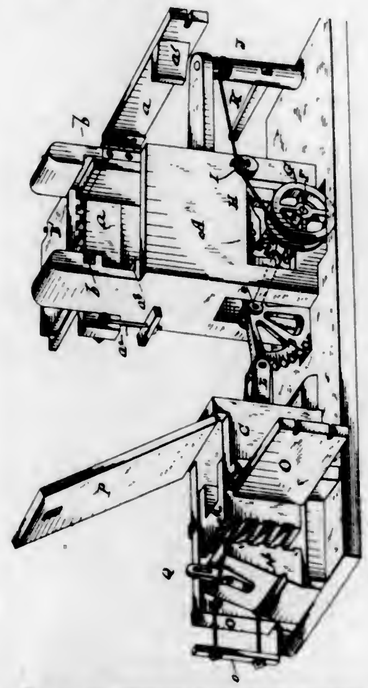
2. The grooved or recessed crank-pin B, tube C, moving therewith, the hollow bulb B, having open connection with said tube and with the spindle J, upon which it revolves, the stationary vessel E, chamber L, jam-nut I, and reciprocating piston K, all combined and arranged to serve as and for the purposes set forth.

262,655. TOOL FOR TRUING EMERY-WHEELS. JAMES E. HUMASON, Beaver Falls, Pa. Filed Apr. 25, 1882. (No model.)



Claim.—A tool for truing emery-wheels or other like hard substances, consisting of the combination of the split body A, having cavity a''' and a projecting diamond, C, resting in a casing, a^4, therein, and the clamping-sleeve B, all constructed to operate as described.

262,656. HAY AND COTTON PRESS. JOHN PENIMORE, Orleans, Ind. Filed July 1, 1882. (No model.)



Claim.—1. The combination of two independent presses and a geared sector connected to their platen, the oscillating supports for the sector pivoted to the shaft, provided with pulleys, and means, substantially as shown and described, for operating the shaft in opposite directions, substantially as and for the purpose as set forth.

2. The combination of two independent presses, a sector connected to their platen, an oscillating support for the sector, a shaft provided with a pinion and with pulleys, ropes coiled about the pulleys in opposite directions and about a standard in opposite direction, and means for rotating the standard in opposite directions, substantially as and for the purpose as set forth.

3. The combination of the press A, one of the uprights of which is cut away, as at a^2, with the doors a, provided with the beveled projections a' and with the sliding platen B.

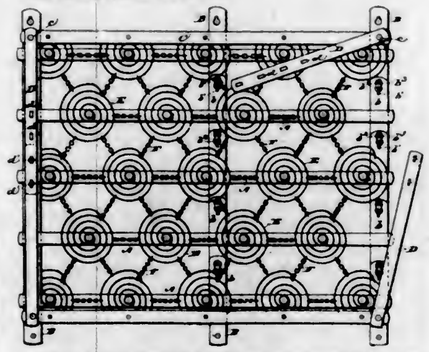
4. The combination of the sector D, platen B, arms E E, pivot e, shaft F, pinion R, and means for operating the shaft in opposite directions at will, substantially as shown and described.

5. The combination of the platens B and M and connecting-rod L, the sector D, and arms E E, the pinion R, the shaft F, the pulleys G G, the ropes H H, and the standard J and the lever K, one of said ropes being wound about its pulley and the shaft in opposite direction to the other and at opposite ends of the shaft, substantially as shown and described.

262,657. MANUFACTURE OF PLATED JEWELRY. THEODORE W. FOSTER, Providence, R. I. Filed May 19, 1882. (No model.)

Claim.—The improved method of manufacturing articles of jewelry from plated stock, which consists in, first, cutting out a front plate slightly larger than the interior space of the rim or bezel; second, in striking the stock of the front plate thinner at its edges from an area corresponding to the interior space of the rim or bezel and trimming off the surplus thinned stock; third, in soldering the plate with thinned edges to the rim or bezel; and, fourth, in burnishing the thinned edge to a rounded corner, whereby the gold at the front of the plate is made to extend over and cover the thinned edge of the base metal and conceal it from view, substantially as described.

262,658. SPRING-BED. EDWIN P. FOWLER, Brooklyn, N. Y. Filed Mar. 8, 1882. (No model.)



Claim.—1. In a spring-bed, a bottom frame-work consisting of longitudinal slats and cross-slats, which latter are composed of sections b b b, &c., provided with slots b' b' at their ends, and joined together by pivots or bolts b^3 b^3, which pass through said slots and permit the sections to move lengthwise upon each other, substantially as and for the purposes set forth.

2. In a spring-bed, a bottom frame-work consisting of longitudinal slats and cross-slats, which latter are composed of sections b b b, &c., each of which sections is attached to one of the longitudinal slats, and are connected together between the longitudinal slats by a slip-joint, whereby the said frame-work can be adjusted in width, and the longitudinal slats can be adjusted at uniform distances apart in any of the various adjustments of the width of the frame-work, as set forth.

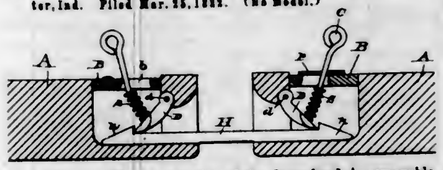
3. In a spring-bed wherein the bottom frame-work is constructed so as to be adjusted to various widths, the combination therewith of cross top stay-strips which are made to be adjusted in length so as to coincide with the width of the frame-work, substantially as set forth.

4. In a spring-bed which is adapted to be rolled up, cross top stay-strips formed of two parts pivoted to the side of the bed, and adapted to be attached together when the bed is unrolled, substantially as described.

5. In a spring-bed which is adapted to be rolled up, and also to be adjusted to various widths, a top cross stay-strip formed of two parts, D D′, pivoted to the side of the bed, the part D having a series of holes, d, and part D′ having a series of lugs, d', for the purpose set forth.

6. In a spring bed-bottom, the combination, substantially as set forth, of the following elements: longitudinal slats, on which are mounted the springs of the bed; transverse slats, to which the said longitudinal slats are attached, and which are adjustable in length, and are sufficiently pliant to permit the bed to be rolled up; longitudinal top stay-strips along the sides of said bed; and, finally, transverse top stay-strips at the ends of said bed, which are pivoted and can lie parallel with the longitudinal stay-strips when the bed is rolled up, and can lie across the bed when opened, and are adjustable in length, so as to coincide with the width to which the bed may be adjusted.

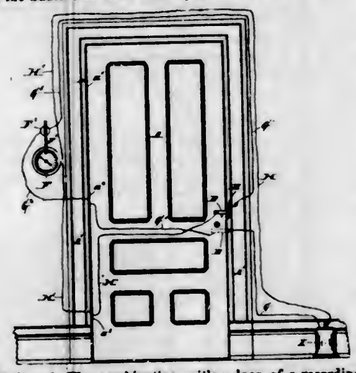
262,659. CAR-COUPLING. EZRA E. FRANTZ, North Manchester, Ind. Filed Mar. 25, 1882. (No model.)



Claim.—The combination of the draw-head A, removable plate B, having slot b, the catch D, pivoted within the draw-head, and having an arm or lever, C, provided with coiled spring S, and the coupling-bar H, having beveled heads A A, all constructed and arranged as and for the purpose described.

262,660. ELECTRICAL CIRCUIT FOR WATCHMEN'S TIME-RECORDERS. JAMES F. GILLILAND, Indianapolis, Ind. Filed Nov. 5, 1881. (No model.)

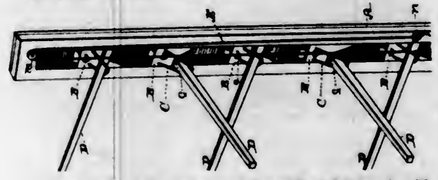
Brief.—This device is intended for the use of watchmen, and operates only when the door is locked. In that case the raising of the latch closes the circuit and a registering device in the circuit records the number of visits made by the watchman.



Claim.—1. The combination, with a door, of a recording or signaling apparatus and an electrical circuit, of which both the lock and the latch of the door and metallic portions upon the door-casing with which said lock and latch are adapted to come in contact form a part, said circuit being brought into operation only when said lock and said latch are each brought into contact with the corresponding part on the casing, substantially as set forth.

2. The door A, lock-bolt B, strike or other metallic portion C, wire G G′ G^2 G^3, spring E, latch D, wire H H′, battery I, and recording or signaling apparatus F, said several parts operating in combination with each other, substantially as described, and for the purposes specified.

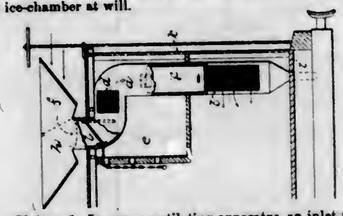
262,661. CLOTHES-DRIER. ELLIOT H. GORDON, Ferndale, Cal. Filed May 22, 1882. (No model.)



Claim.—The clothes-drier consisting of the tall frame A, with its beveled guide-cleats a a, the vertically-adjustable sliding brackets or blocks B, the lower ends of which are framed or cut out to form a side shoulder, c, upon opposite sides of successive brackets, the inclined links C, folding arms D, secured in the links by staples d, and supported under the shoulders e of the brackets to incline laterally alternately in opposite directions, and the connecting-cord E, secured to each bracket, and arranged as shown, substantially as herein described.

262,662. CAR-VENTILATOR. HENRY A. GOUGH, New Rochelle, assignor to the Gough Heating and Ventilating Company, New York, N. Y. Filed Apr. 11, 1882. (No model.)

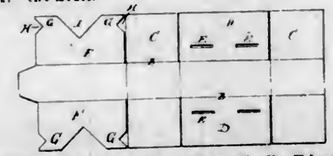
Brief.—Air is admitted to the car either through or around the ice-chamber at will.



Claim.—1. In a car-ventilating apparatus, an inlet-pipe having a large opening below to discharge fresh air into the car, a damper to control the supply of air to this large opening, and a small opening above to supply air to an ice-box or other cooling-chamber, the whole constructed and arranged substantially as described.

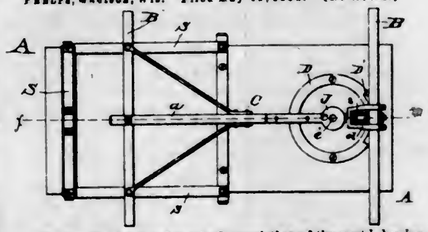
2. In a car-ventilating apparatus, an inlet-pipe having a large opening below to discharge fresh air into the car, a damper controlling the supply of air to this large opening, a small opening above to supply air to an ice-box or cooling-chamber, and a damper controlling the supply of air to the inlet-pipe, the whole constructed and arranged substantially as described.

262,663. PAPER BOX. PHILLIP GRIFFITHS, Philadelphia, Pa., assignor to Frank Hardcastle, Chicago, Ill. Filed Feb. 20, 1882. (No model.)



Claim.—The end piece, D, provided with slits E lengthwise of the piece, in combination with the flap or end piece, F, having a notch, I, in the end and notches H in the sides thereof, whereby locking-projections G are formed with inclined edges on each side thereof, substantially as and for the purposes set forth.

262,664. WAGON-GEAR. CHRISTIAN HANSON and OLIVER M. PHELPS, Madison, Wis. Filed May 19, 1882. (No model.)



Claim.—1. A jointed reach, C, consisting of the part b, having the cylindrical head b', with hubs e e, in combination with the part a, having circular plates c c, substantially as shown and described.

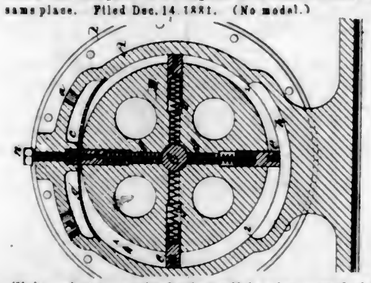
2. The circle D, provided with the flange f, in combination with the lower part, D′, having projection p' and L-shaped lugs l l, substantially as shown and described.

3. A jointed reach, C, consisting of part a, having circular plates c c, and part b, having cylindrical head b', provided with hubs e e, in combination with the axle B and brace d, substantially as described and shown.

4. The combination of a circle, D, having flange f, lower part, D′, with projecting part p, provided with projection p', and having swivel P and L-shaped lugs l l, king-bolt k, and brace e^2, substantially as shown and described.

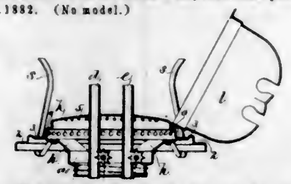
5. A circle, D, having flange *f*, lower part, D′, having projecting part *p*, with projection *p′*, L-shaped lugs *l l*, king-bolt *k*, and swivel P, in combination with the springs S, and with a jointed and swiveled reach, C, swiveled into the front axle, B, and jointed at J, with the center of said joint coincident with the center of the circle D, substantially as shown and described.

262,665. ROTARY ENGINE. THOMAS HAWKINS, San Francisco, Cal., assignor of one-eighth to William Edward Crist, same place. Filed Dec. 14, 1881. (No model.)



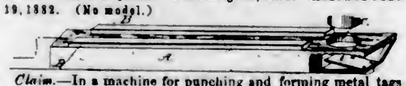
Claim.—A steam-engine having radial spring-pressed pistons operating in a steamway between the cylinder and case, of uniform width from plate *g* to a point marked 1, increasing in width to a point marked 2, and then continuing at an increased width to the plate *g*, substantially as and for the purpose specified.

262,666. LAMP-BURNER. HIRAM W. HAYDEN, Waterbury, Conn., assignor to Holmes, Booth & Haydens, same place. Filed Apr. 17, 1882. (No model.)



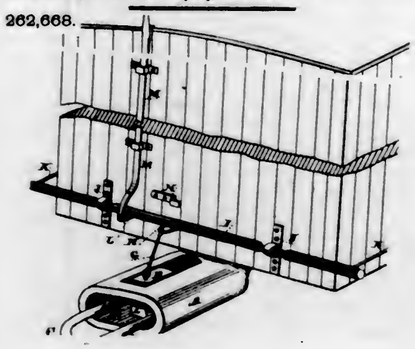
Claim.—The combination, with the base *a* and its arms *h*, of the air-distributer supported by such arms, the two wick-tubes passing through the base and air-distributer, the wick-raiser wheels, and the two shafts carrying the same, the hinged cone having duplex flame-slots, and means for holding the chimney in position, substantially as set forth.

262,667. MACHINE FOR PUNCHING AND FORMING METAL TAGS. FREDERICK E. HUEBIG, Louisville, Ky., assignor to Disk & Graveson, same place. Filed Aug. 20, 1881. Renewed June 19, 1882. (No model.)



Claim.—In a machine for punching and forming metal tags for tobacco, the plate A, provided with the guides B B and die C, in combination with a main punch provided with recesses in its face, and the triangular punches *b b*, all constructed to operate substantially as and for the purpose set forth.

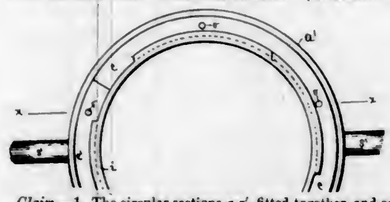
262,668.



262,668. CAR-COUPLING. CLARKE HENDRICKS, Modesto, Cal., assignor of one-third to E. B. McKinney, same place. Filed June 3, 1882. (No model.)

Claim.—The car-coupling device consisting of the draw-head A, hook-pin E, pivoted at F below the plane of the link-opening, the rock-shaft I, link G, staple H, vertical rod M, secured to rock-shaft by staple L, and handle K, inserted in rock-shaft, all constructed, arranged, and operated as set forth.

262,669. FIFTH-WHEEL FOR VEHICLES. ADOLPH E. HERMANS, Ravenna, Ohio. Filed June 26, 1882. (No model.)



Claim.—1. The circular sections *a a′*, fitted together, and one of them formed with an annular groove, *c*, in combination with segments *c c′*, attached to section *a*, substantially as described.

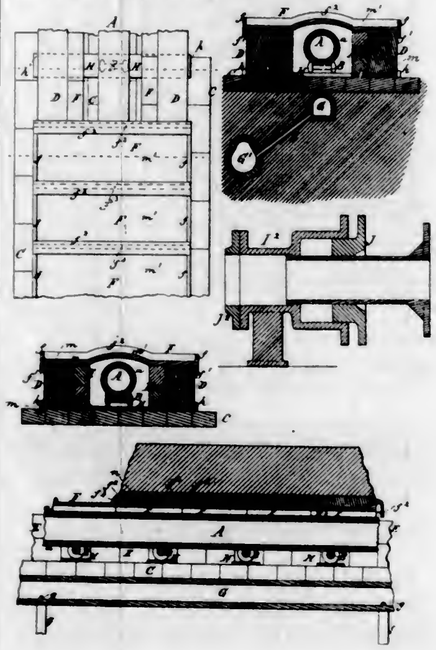
2. Section *a′*, formed with flange *i* and groove *c*, in combination with section *a*, provided with segments *c c′* attached thereto, substantially as described.

3. Section *a*, formed with flange *c* and provided with segments *c c′*, in combination with section *a′*, having an annular groove to receive the segments, substantially as described.

4. Section *a*, formed with arms *s s*, and section *a′*, formed with arms *s′ s′*, and a circumferential groove, *c*, in combination with segments *c c′*, attached to section *a*, substantially as described.

262,670. TUNNEL FOR UNDERGROUND STREET-MAINS. BIRDSILL HOLLY, Lockport, N. Y. Filed Oct. 31, 1881. (No model.)

Brief.—Upon the foundation are laid the side-wall timbers, which are held from spreading by cross-plates having upturned end flanges. Inside the timbers are laid the porous brick walls, the whole being covered by a flanged roof-covering holding cement. The foundation is porous, and is connected by tile-connections with the sewer for drainage.



Claim.—1. The combination, with underground steam street-mains, of the foundation C, walls E, plates H, timbers D D, junction-boxes, as I, and plates F, this combination being such that while the mains can expand and contract longitudinally the junction-boxes are held immovable, and also such that the mains are properly insulated by suitable materials, while water is excluded by a suitable substance applied upon the covering-plates F, substantially as and for the purpose described.

2. The plates F, made with grooved flanges, solid tongues, and end flanges, in combination with the timbers D, substantially as and for the purpose described.

3. The combination, with underground steam-mains, of supports B, plates H, junction-boxes, as I, and timbers D, substantially as and for the purpose described.

4. The combination, with underground steam street-mains, junction-boxes, as I, and timbers D, of the flanged plates F *f′*, substantially as and for the purpose described.

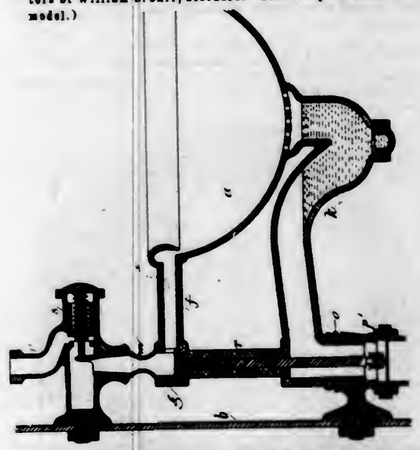
5. The combination, with underground steam street-mains, junction-boxes, as I, and timbers D, of the plates F, having flanges *f f′*, which form chambers for cement, substantially as and for the purpose described.

6. The porous brick walls E and foundation C, in combination with the tile G, substantially as described.

7. The combination of the main A, walls E, timbers D, covering F, foundation C, tile G, pipe *g*, and sewer or other receptacle, G′, substantially as and for the purpose described.

8. A street steam-main inclosed and insulated substantially as described, and having its cover F made of plates jointed together and removable in sections, and which sustains the weight of the earth of the roadway or street at a point above the steam-main, and which also excludes the water from the main, substantially as described.

262,671. SWINGING URINAL. CLARA E. HOGUE (formerly Clara E. Carr) and GEORGE D. SCOTT, New York, N. Y., Executors of William S. Carr, deceased. Filed May 18, 1882. (No model.)



Claim.—1. In a swinging urinal, a basin, waste-pipe trap, tubular arm, and connecting-column, made in one piece of porcelain or equivalent material, in combination with the hollow plug *m*, thimble *o*, and waste-pipe coupling, substantially as set forth.

2. In a swinging urinal, the combination, with the supply-pipe and valve, of a basin, waste-pipe trap, tubular arm, and column, made of one piece of porcelain, a conical plug, *m*, a conical thimble, *o*, and a stem extending from the plug *m* to the bridge of the thimble *o*, substantially as set forth.

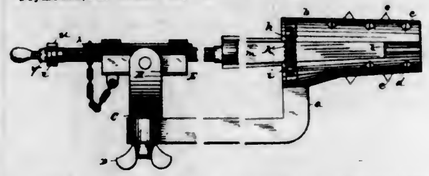
262,672. SUSPENDER-BUCKLE. CHARLES L. HOSFORD, Haydenville, Mass. Filed June 6, 1882. (No model.)



Claim.—1. As an improved article of manufacture, a suspender-buckle composed of two plates, one of which is provided with two side flanges, each having an oblong slot therein, while the other is provided with two side lugs adapted to rest in the said oblong slots, a rearwardly-curved biting-edge, and a hook, all of the above adapted to operate as described.

2. The combination, with the rear plate provided with two side flanges slotted and bent, as described, to form guides, of a front plate provided with side lugs adapted to enter the slots of said flanges, an upper biting-edge, and a hook at its lower end, substantially as set forth.

262,673. SUPPORT FOR ROCK-DRILLS. JOHN R. HOWELLS, Plymouth, Pa. Filed May 6, 1882. (Model.)

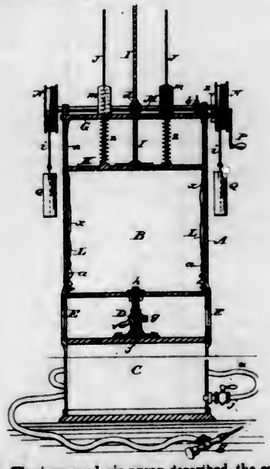


Claim.—1. In a drilling-tool for miners' use, a drill holder or head consisting of hinged sections provided with teeth and expanded by means of a wedge, substantially as shown and described.

2. In a drilling-tool for miners' use, a drill-holding head or cylinder composed of two sections and expanding mechanism, said sections being secured to each other on one side by hinges and on the other by a spring for withdrawing the sections, substantially as set forth.

3. In a drilling-tool for miners' use, the combination, substantially as hereinbefore set forth, of the sections *c d*, groove *l*, expanding-wedge *p*, and contracting-spring *k*.

262,674. AIR-PUMP. LEWIS S. HOYT, Stamford, Conn., assignor to himself and John M. Culver, North Abington, Mass. Filed May 23, 1882. (No model.)

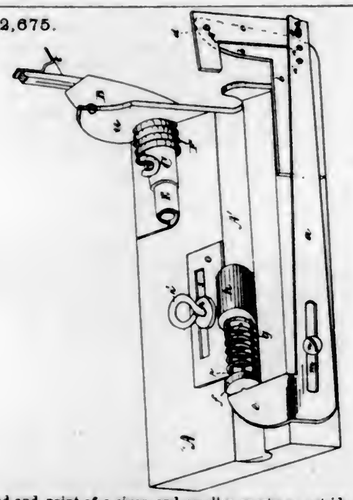


Claim.—The improved air-pump described, the same consisting of the case A, having the receiver C and pump B, connected by the ducts or pipes *f h*, and provided with the stop-cock D and duct *g*, in combination with the rack I, shaft M, pinion *d*, pulley N, weight Q, ratchet *b*, gear *z*, pinion *s*, crank P, and pipe U, constructed, combined, and arranged to operate substantially as and for the purpose set forth and specified.

262,675. COMBINED CIGAR PERFORATOR AND CUTTER. FREDRICK JACOB, Newark, N. J. Filed Mar. 17, 1882. (No model.)

Claim.—1. A combined cigar-puncturer and tuck-cutter composed of the following elements, to wit: a suitable bed or support, as A, a cutting blade or knife, as B, having a reciprocating motion, a guide-plate, as *a*, a socketed cylinder or thimble, as *h*, provided with a central aperture intersecting with said socket to receive the

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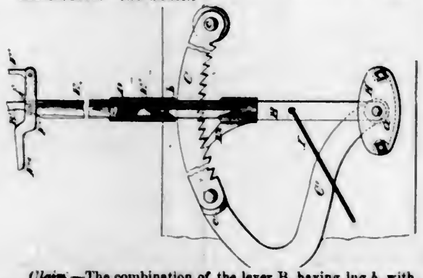


head and point of a cigar, and smaller apertures outside of said central aperture to receive and guide the needles, a needle head or carrier provided with two or more puncturing-needles whose points enter the said smaller apertures, as described, and means, substantially as herein shown, for operating the said cutting and puncturing devices, as and for the purposes set forth.

2. The combination of a suitable bed or support, as A, a socketed cylinder or thimble, as *h*, provided with two or more apertures passing longitudinally therethrough and intersecting with said socket to receive and guide puncturing-needles, a needle head or carrier provided with two or more puncturing-needles whose points enter the said apertures, as described, and a spring arranged and acting in conjunction with said needle-head and cylinder, as set forth, whereby a cigar is pierced longitudinally and eccentrically, as and for the purposes described.

3. In a cigar punctnrer and cutter, the combination, with a bed, knife, and handle, of a socketed cylinder or thimble provided with a central and surrounding apertures passing therethrough and intersecting with said socket, as described, a needle head or carrier provided with two or more puncturing-needles whose points enter said surrounding apertures, a bar, as *a c*, and lever, as *c*, operating in conjunction with said handle and needle-head, as described, for the purpose set forth.

262,676. BRAKE-LEVER. JENS JENSEN, Racine, Wis. Filed Jan. 19, 1882. (No model.)



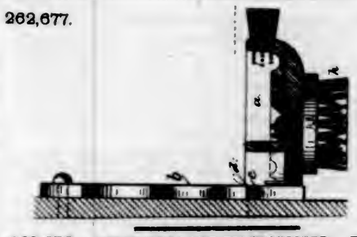
Claim.—The combination of the lever B, having lug *b*, with the ratchet C and the sliding latch E, having pocket E', spring D, cut-away portion E², finger E³, grooves *c c*, and longitudinal depression *c'*, all as shown and described, and for the purpose set forth.

262,677. COMBINED SOAP-HOLDER AND BRUSH. MICHAEL J. A. KRAUS, New York, N. Y. Filed Aug. 27, 1881. (No model.)

Claim.—1. The soap-holder provided with a brush the bristles or tufts of which project outwardly from the soap-holder, substantially as set forth.

2. The soap-holder and brush with a wall-plate and eyes and hooks by which the soap-holder is connected removably with the wall-plate, substantially as set forth.

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262,678. AUTOMATIC LAMP-EXTINGUISHER. WILLIAM H. KIMBALL, Boston, Mass. Filed Apr. 15, 1882. (No model.)

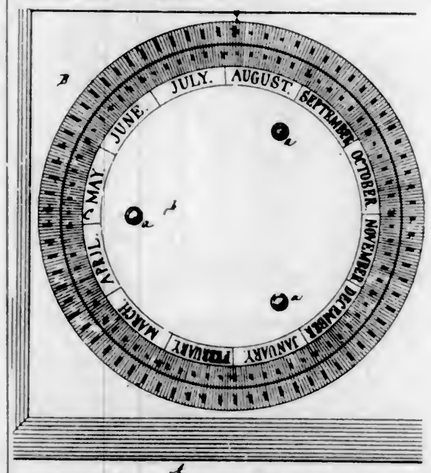


Claim.—1. A self-extinguishing lamp consisting of a reservoir having a vertically-adjustable burner and wick-tube, and provided with a horizontal indicator or dial and a vertically-sliding rod or pointer, as and for the purposes set forth.

2. The combination, with the reservoir A and burner B, of the vertically-adjustable screw-tube E, surrounding the lower portion of the wick-tube, and provided with a stop or retaining device adapted to hold a portion of the wick in the same horizontal plane as the lower end thereof, substantially as described, as and for the purposes set forth.

3. The combination, with the reservoir A and burner B, of the horizontal dial or indicator P and vertically-sliding pointer or rod S, connected with the burner and adapted to traverse the dial by adjustment of the burner, substantially as described, as and for the purposes set forth.

262,679. MECHANICAL CONTRIVANCE FOR COMPUTING TIME. JAMES MACLAGAN, Toronto, Ontario, Canada. Filed Oct. 20, 1881. (Model.)



Claim.—The combination, with the frame A, of the stationary disk and revolving disk arranged with the stationary disk, both disks having numerals thereon, as described, and a pane of glass arranged over said disks, having a circular central opening, *b*, and turning appliances or knobs *a* projecting through said opening and connected to revolving disk, substantially as and for the purpose herein shown and described.

262,680. MANUFACTURE OF ROSANILINE COLOR. FRIEDRICH MANN, Buffalo, N. Y., assignor to J. F. Schoellopf, Jr., same place. Filed Mar. 11, 1882. (Specimens.)

Claim.—1. The process of producing a red dye-stuff or coloring-matter, which consists in treating rosaniline or a suitable salt thereof with sulphate of carbyl or ethionic acid, substantially as described.

2. The product herein described, consisting of a red compound or dye-stuff formed from reaction of rosaniline and sulphate of carbyl, substantially as described.

262,681. SCREW-PROPELLER. FRITS MARIENOM, Düsseldorf, Prussia, Germany. Filed June 3, 1882. (No model.) Patented in Germany July 2, 1881, No. 18,245.

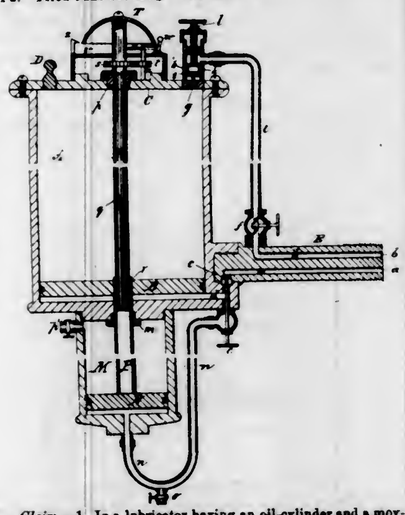


Claim.—1. A screw-propeller having concavo-convex blades of parabolic form and spirally-arranged parallel wings at right angles with the faces of the blades, substantially as described.

2. A screw-propeller having concavo-convex blades of parabolic form that increase in width from the hub to the circumference, said blades being provided with spirally-arranged parallel wings at right angles to the faces of the blades, substantially as described.

3. The blades of a screw-propeller, having their front surfaces longitudinally and laterally convex, increasing in width from the hub to the circumference and provided with spirally-arranged parallel wings at right angles to the faces of the blades, substantially as described.

262,682. FORCE-FEED LUBRICATOR. ROBERT G. MCAULEY, Detroit, Mich., assignor of three-fourths to Louis B. Fulton, Thomas J. McTighe, and Francis A. Pollock, all of Pittsburg, Pa. Filed June 22, 1882. (No model.)



Claim.—1. In a lubricator having an oil-cylinder and a movable piston subject to like steam-pressure on both sides thereof, the combination therewith of an auxiliary steam-cylinder having a piston connected to the piston of the oil-cylinder and subject to direct steam-pressure in one direction only, substantially as described, whereby the equilibrium in the oil-cylinder is overcome and the oil ejected by the preponderance of pressure exerted by the piston of the auxiliary steam-cylinder.

2. In a lubricator, the combination of a cylinder, A, forming an oil-chamber, piston B, auxiliary steam-cylinder M, having piston N, connected to piston B, steam-connections admitting steam-pressure simultaneously on both sides of piston B and on one side only of piston N, and an escape for the oil, substantially as described.

3. In a lubricator, in combination with the oil-ejecting piston B, a shaft, R, rotated by the movement of piston B and projecting outside the cylinder, a gong, T, fixed on the end of shaft R and rotating therewith, a hammer for said gong, and a rotary tripping wheel or cam operated by said shaft, substantially as described.

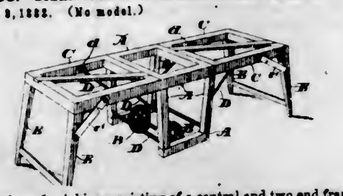
4. The combination, with rotating shaft R, having gong T, with a peripheral scale marked thereon, of the stationary pointer *z*, substantially as described.

5. The combination of piston B, having feather *r*, spirally-grooved shaft R, wheels *s* and *t*, shaft *u*, cam *x*, spring-hammer *w*, and gong T, substantially as described.

6. In a lubricator, the combination of oil-cylinder A, having a port, *d*, and piston B, check-valve *g*, operating-stem *l* and pipe *e*, auxiliary steam-cylinder M, having piston N, connected to piston B, pipe *n*, communicating with port *d*, and arm E, communicating on one hand with pipe *e* and on the other with port *d* and pipe *n*, substantially as described.

7. In a locomotive-lubricator having cylinders A' A' H', pistons B' B' G', connected substantially as shown, pipes *c'* and *h'*, connected to the dry-pipe, and check-valves *g'*, the combination therewith of the pipe *k'*, leading to the live-steam space of the boiler, valve *l'*, therein, and check-valve *m'* in pipe *c'*, substantially as described.

262,683. BIER. GEORGE W. MOORMAN, Edinburg, Ind. Filed June 9, 1882. (No model.)



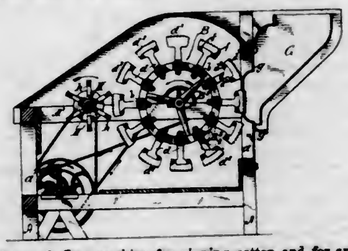
Claim.—1. A bier consisting of a central and two end frames, the latter being hinged to the former and adapted to be folded down or extended, substantially as set forth.

2. The combination, in a bier, of the central frame-work, A, trucks B, end frames, C, braces D, and folding legs E, substantially as described, and for the purposes specified.

3. The combination, in a bier, of the frame-work, the trucks B, and the folding end legs, E E, arranged and operating as specified, whereby said bier can first be set in position on said legs, and said legs be afterward folded up and moved on said trucks, all substantially as set forth.

4. The combination, with the folding legs of a bier, of the double-notched hasp *e'*, whereby said legs may be held securely in either their folded or unfolded position, substantially as set forth.

262,684. COTTON-GIN. J. HENRY MORRISON, Norwich, assignor of one-half to Wm. H. Osborn, Windham, Conn. Filed Mar. 21, 1882. (No model.)



Claim.—1. In a machine for ginning cotton and for analogous purposes, a shaft or cylinder, in combination with saws made in sections and hinged to said shaft or cylinder, substantially as and for the purpose described.

2. The stripping or ginning cylinder provided with hinged

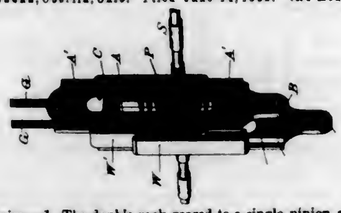
arms, in combination with removable stripping-saws, substantially as described.

3. The hinged arms provided with stripping saws or teeth, in combination with bushing sleeves or boxes and their pivotal rod or shaft, substantially as described.

4. The stripping-saws made in sections and hinged to the carrying drum or shaft, in combination with the rack-bars, substantially as described.

5. The combination, in a machine for ginning cotton and for analogous purposes, of a cylinder, removable strippers or saws made in sections, hinged arms, and rack-bars, arranged and operating substantially as described.

262,685. MACHINE FOR CONVERTING MOTION. WILLIAM B. MUSSER, Oberlin, Ohio. Filed June 14, 1882. (No model.)



Claim.—1. The double rack geared to a single pinion so as to work simultaneously on opposite sides of it, substantially as described, and for the purpose set forth.

2. The two cogs at each end of each rack, formed and spaced as described, and for the purpose of producing lateral motion of the racks, substantially as set forth.

3. The wings or guides automatically adjusted, holding the racks always in gear with the pinion, substantially as described, and for the purpose set forth.

4. The combination of the self-adjusting racks, pinion, and guides, substantially as described, and for the object set forth.

262,686. TOY FLYING-MACHINE. CHARLES F. MYERS, Washington, D.C. Filed Mar. 16, 1881. (No model.)



Claim.—1. A flying-machine operated by a spring, substantially as shown, and for the purpose described.

2. A flying-machine having pivoted wings and arms provided with cogs rigidly secured thereto in order to effect a flying or flapping movement of the wings by partial rotation of the cogs, substantially as shown, and for the purpose described.

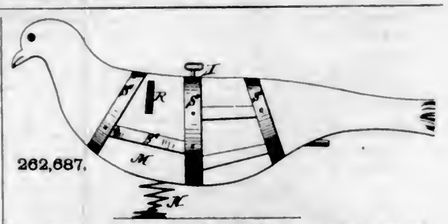
3. A flying-machine operated by a spring or springs in connection with a cog-wheel, rack, ratchets, and a pawl, substantially as shown, and for the purpose described.

4. The combination of the pawl *d*, arm F, and ratchet *c*, substantially as shown, and for the purpose described.

5. The barrel *b*, having ratchet *c*, arbor *a*, and crank *f*, in combination with rotary arm E and rack C, substantially as shown, and for the purpose described.

6. The barrel *b*, arbor *a*, crank *f*, rotary arm E, and rack C, in combination, substantially as shown, and for the purpose described.

262,687. FLYING-MACHINE. CHARLES F. MYERS, Washington, D.C. Filed Oct. 25, 1881. (No model.)



Claim.—1. The combination of trigger *a*, pinion *b*, secured on arbor B, cog-wheel *h*, and automatic trigger *a'*, substantially as shown, and for the purpose described.

2. The combination of ratchet *b'*, secured on arbor B', pawl *p*, actuated by spring S''', and automatic trigger *a'*, substantially as shown, and for the purpose described.

3. The combination of trigger *a*, automatic trigger *a'*, having bearings *b''* and *h'*, and pawl *p*, substantially as shown, and for the purpose described.

4. A flying-machine actuated by springs released *seriatim* by means of triggers, substantially as shown and described.

5. The combination of cog-wheels *h* and *h'''*, trigger-bar *a'* and *a'''*, nut *h''*, and guides *b''* and *h'*, substantially as shown, and for the purpose described.

6. The combination of pawl *p*, ratchet *b'*, springs C' and S''', and barbed head of automatic trigger *a'*, substantially as shown, and for the purpose specified.

7. The combination of the wheels *e* and *e'*, crank or connecting bar *e''*, arm F, and rack E', substantially as shown, and for the purpose described.

8. A flying-machine constructed and arranged by means of pawls and ratchets to admit winding the springs on separate arbors, the springs being caused, by triggers, to act *seriatim* on one and the same pair of wings, substantially as shown and described.

9. The combination of the barrels D and D', guides *b''* and *h'*, and automatic trigger *a'*, substantially as shown, and for the purpose described.

10. The combination of sections *a''* and *b''*, secured by thumb-screws S, substantially as shown, and for the purpose described.

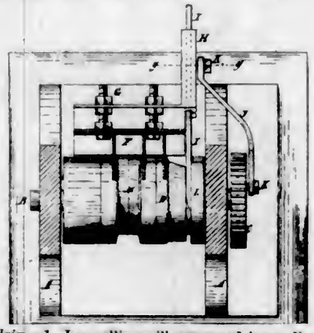
11. The combination of shell M, legs N, and feet Y, substantially as shown, and for the purpose described.

12. The combination of skeleton frame I and shell M, substantially as shown, and for the purpose described.

13. The combination of the arms L and wings G, substantially as shown, and for the purpose described.

14. In a flying-machine, the wings G, constructed to taper from the arms thereof, where greatest strength is required, to the extremities thereof, where least strength is needed, and of elastic material, to produce elastic reaction of the wings, substantially as shown and specified.

262,688. MACHINE FOR ROLLING BLANKS FOR TOOLS. NILS P. NELSON, Chicago, Ill., assignor of one-half to Seth Piper, same place. Filed Aug 11, 1881. (Model.)



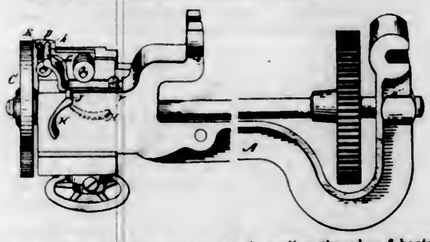
Claim.—1. In a rolling-mill, upper and lower dies converging toward one side, in combination with a sliding plate arranged at their divergent edges, substantially as and for the purpose described.

2. In a rolling-mill, the combination of the upper and lower dies, D, each having a single laterally-inclined face, the two being arranged convergently for the purpose of rolling a triangular cutting-tool, substantially as described.

3. The corresponding laterally-inclined dies D, in combination with the dies E, shaped as described and provided with severing-edges, substantially as and for the purpose described.

4. The combination, in a rolling-mill, of the dies, the reciprocating sliding plate I, and connecting-rod J, for the purpose of moving the reciprocating sliding plate in connection with the dies, substantially as specified and shown.

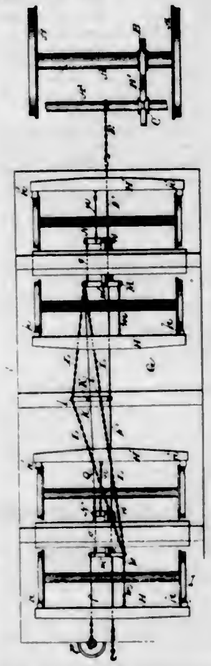
262,689. CHANNELING-MACHINE FOR BOOTS OR SHOES. THOMAS NOLAN, Brockton, assignor to Charles Albert Shaw, Boston, Mass. Filed June 23, 1882. (No model.)



Claim.—1. In a machine for channeling the soles of boots and shoes, the cutter G, eccentric-shaft J, and lever H, in combination with the knife D and arm A, substantially as specified.

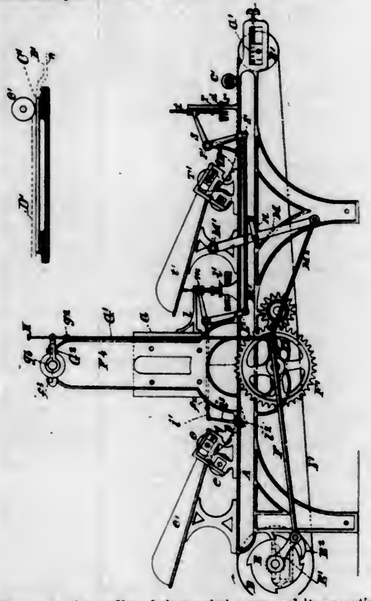
2. In a machine for channeling the soles of boots and shoes, a cutter or gouge for forming a stitch-groove in the bottom of the channel, adapted to be moved into and out of contact with the sole and its operating means, in combination with a knife for cutting the channel and forming the channel-flap, substantially as set forth.

262,690. CAR-BRAKE. HARMON F. NOTBOHM, Janesville, Wis. Filed Jan. 3, 1882. (No model.)



Claim.—In a system of braking railway-trains, the combination, with the bottom, truck, and wheels of a car, of the pivoted lever K, the rod F and its connections, the doubled chain L, arranged as described, and the bars or levers M N, links *m n o*, and the brake-bars and brake-shoes, all connected, arranged, and operating substantially as shown and described, and for the purpose set forth.

262,691. MACHINE FOR MAKING PIES. WALTER S. OVENS, Buffalo, N. Y., assignor to Charles E. Benedict and George B. Webster, same place. Filed Oct. 3, 1881. (No model.)



Claim.—1. An endless belt or chain gear and its operating mechanism, having a series of attachments for receiving, holding, and delivering the pie-plates, in combination with a pair of rollers for rolling out the first sheet of dough, a fruit-box and its operating mechanism for supplying the fruit or other material, and a roller for trimming the edge of the pie, substantially as described.

2. The endless belt or chain gear and its operating mechanism, having a suitable device for receiving and holding the plates, substantially as specified, in combination with a pair of rollers for rolling out the first sheet of dough, a fruit-box for supplying the fruit, a circular brush for moistening the dough around near the edge of the pie, a second pair of rollers for rolling out the covering-sheet, and a roller for trimming the edge of the pie, substantially as described.

3. In a pie-machine, the combination of an endless plate-carrier, substantially as described, a pair of rollers for rolling out the first sheet of dough, a fruit-box, and a second pair of rollers and their operating mechanism for rolling out the second sheet of dough, the whole being combined and arranged for joint operation substantially as described.

4. A pie-machine having a first and second pair of rollers, a fruit-box arranged between the first and second pair of rollers, and an endless plate-carrier and their operating mechanism, in combination with a perforating device and a trimming-roller and their operating mechanism, for the purposes described.

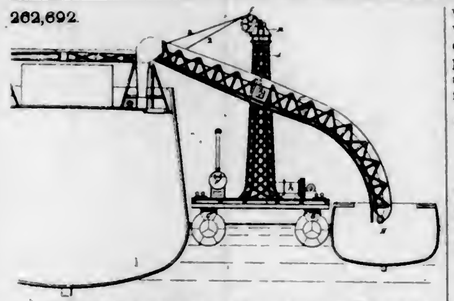
262,692. ELEVATOR. JAMES RIGG, Chester, County of Chester, England. Filed May 5, 1882. (No model.) Patented in England Oct. 8, 1881, No. 4,345; in France Apr. 3, 1882, No. 143,246, and in Belgium Apr. 11, 1882, No. 57,573.

Claim.—1. A floating or portable elevator having the elevator-frame suspended from a column or support by ropes or chains in such manner that it can be raised or lowered and swung horizontally about the column or support without moving said support.

2. The combination of the tower or pedestal A, carrying a projecting head capable of rotation, with suspension-ropes 3, hung from pulleys therefrom and carrying the elevator-frames C C', substantially as described.

3. In a floating or portable elevator, the combination of a motor, *l*, carrying pulleys *e* and *f*, endless rope 2, actuating the elevator, and tension weight or spring to take up the varying length of rope required as the elevator-frames are raised and lowered.

262,692.



4. The mode of driving an elevator by an endless driving-rope passing up the tower or trunk A and round a pulley on the shaft, from which the elevator chain of buckets is driven.

5. In a floating or portable elevator, the combination of a central tower, A, with elevator-frames E suspended from it in such manner that they can be raised or lowered and caused to partially rotate round it, so as to be lowered down and placed fore and aft on the ponton or barge when not in use, substantially as described.

6. The elevator-frame C, curved or bent so that its end shall be capable of projecting nearly vertically into a hatchway or other space, while the remaining portion or the other end of the frame is at a considerable angle with the vertical.

7. The combination of the curved elevator-frame C, having curved guides 6, with the guide rollers or slides 5, working in the guides 6, for the purposes described.

8. The combination of the spindles 4 with the links *d*, the curved guiding device 5 and 6, and the buckets carried on the spindles 4 by lugs, substantially as described.

9. In combination with a linked chain of buckets, a safety-chain, F, through links of which the spindles of the chain of buckets pass.

10. The combination of a side trough, such as shown in Figs. 11 and 12, 13 and 14, with a chain or band of buckets of an elevator, substantially as described.

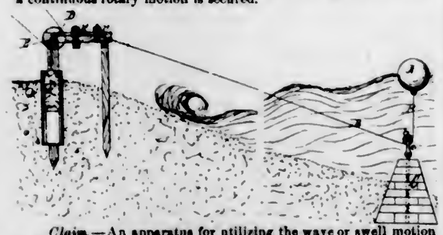
11. The combination of an elevator for elevating coal, with carrying bands or troughs, with adjustable guides for carrying the coal to the various bunkers on board ship.

12. The combination of the elevator C, trough *k*, hopper K, and spout *i*, for leading the coal into the hopper outside the ship.

13. In combination with an elevator for elevating coals, a spout, *i*, arranged outside the skin of the ship and placed dipping into the coal-bunker port.

262,693. WAVE-POWER APPARATUS. ISAIAH L. ROBERTS, Jacksonville, Fla., assignor to Domas Barnes, Brooklyn, N. Y. Filed Dec. 23, 1881. (No model.)

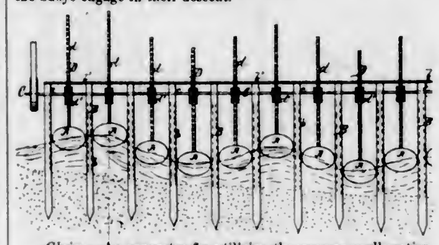
Brief.—Extending out from the shore is a series of buoys whose longitudinal axis extends over such a number of swells or waves that some are rising and others falling at the same time, each buoy being anchored to the bed of the body of water by being attached to one end of a cable, the other end of which carries a weight, said cable passing over a clutch on a rotating shaft, whereby a continuous rotary motion is secured.



Claim.—An apparatus for utilizing the wave or swell motion of a body of water to rotate a shaft for the production of power, consisting of a series of buoys the longitudinal axis of which series extends out from the coast or shore of the body of water over the distance of such a number or succession of waves or swells as that some of the buoys of the series will at all times be rising, while others are falling, in said waves or swells, and each buoy having an attached cable running freely through an anchorage on the sea-bottom, and thence to and over a shaft in bearings on the shore, and with a counter-weight upon its end beyond the shaft, said shaft being provided with devices in connection with each cable, which permit the cable to run freely in the direction of the buoy without rotating the shaft, but which rotate the shaft when the cable runs in the opposite direction, whereby the buoys may be placed indiscriminately on the line of the lateral axis of the series, all combined and arranged to operate as and for the purposes specified.

262,694. WAVE-POWER APPARATUS. ISAIAH L. ROBERTS, Jacksonville, Fla., assignor to Domas Barnes, Brooklyn, N. Y. Filed Dec. 16, 1881. (No model.)

Brief.—A series of buoys whose longitudinal axis extends out from the line of the shore at an angle to a line drawn at right angles to the direction of travel or motion of the waves or swells, and reaching over a number of said waves or swells, whereby a continuous rotary motion in one direction is secured for a shaft with which the buoys engage in their descent.



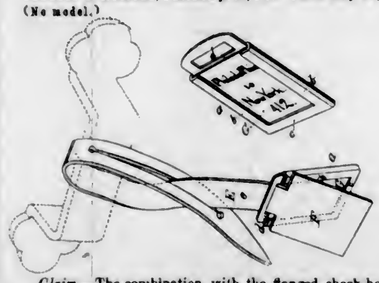
Claim.—An apparatus for utilizing the wave or swell motion of a body of water to continuously and uninterruptedly rotate in one direction a shaft, composed of a series of buoys extended out from the coast or shore of the body of water over the distance of such a number or succession of the waves or swells that some of the buoys of the series will be at all times rising while others are falling, and with the longitudinal axis of said series at an angle to a line drawn at right angles to the direction of the travel or movement of said waves or swells, together with a shaft common to all the buoys of the series, and mechanism intermediate said buoys and shaft which rotates the shaft by the reciprocatory motion of said buoys, substantially as described.

262,695. MANUFACTURE OF ARTIFICIAL INDIGO. CHRISTIAN RUDOLPH, Höchst-on-the-Main, Germany, assignor to Farbwerks, vormals Meister, Lucius & Brüning, same place. Filed Apr. 18, 1882. (Specimens.)

Claim.—1. The process of manufacturing an artificial indigo from benzaldehyde, which consists in first converting the same into monobenzylidenacetone by the ordinary well-known method, then converting said monobenzylidenacetone into its orthonitro substitution derivative, separating this orthonitro product from isomers by crystallization, filtration, and distillation, and finally converting it into the indigo-blue coloring-matter by digestion in a weak alkaline lye.

2. A blue coloring-matter or dye-stuff (an artificial indigo) prepared by the process herein set forth.

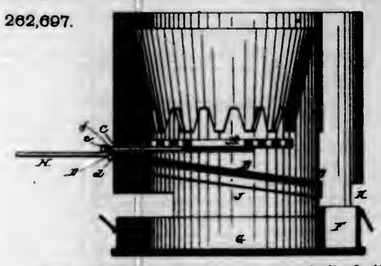
262,696. CHECK-HOLDER AND CHECK FOR BAGGAGE. CHARLES S. RUSSELL, Philadelphia, Pa. Filed May 20, 1882. (No model.)



Claim.—The combination, with the flanged check-holder *a*, having the transverse slot *d*, of the strap E, having the enlargement or flap F at its end, adapted to cover the face of the holder and the check in the same, substantially as specified.

262,697. COAL AND ASH SIFTER. JOS. S. SACKETT, Plattsburg, N. Y., assignor of one-half to William E. Chatterton, same place. Filed May 5, 1882. (No model.)

262,697.

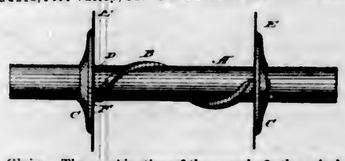


Claim.—1. The combination of grate A, inclined sifter B, adapted to be operated together by a single handle, the ash-pan G, and the coal-receptacle F, as shown and described, and for the purposes specified.

2. The combination of the inclined oscillating sifter B, having the perpendicular post E, arm D, and orifice *b*, with the grate A, having the arm C and orifice *a*, substantially as set forth.

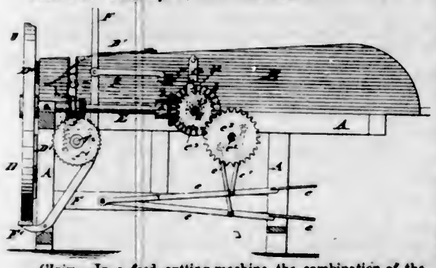
3. The handle or shaker H, having the curved grasping-flanges *d d* and *e e* and the post *c*, as shown and described, and for the purposes set forth.

262,698. HANGING SAWS. WALTER H. SAWYER and RUFUS J. PERLTS, Fort Valley, Ga. Filed Dec. 22, 1881. (No model.)



Claim.—The combination of the saw-shaft, the spiral rib, the collars C, and the saws having notched eyes, substantially as and for the purpose set forth.

262,699. FEED-CUTTING MACHINE. HENRY SCHWOBE, Sherwood, Wis. Filed Apr. 7, 1882. (No model.)



Claim.—In a feed-cutting machine, the combination of the lever F, the pivoted arm *i*, a bell-crank lever, *i'*, the supporting-lugs, the fork *i*^{3}, the clutch *i*^{2}, the transverse shaft *d*, the spiral spring, transmitting gear-wheel *e*^{3}, the double-crank shaft *e*^{2}, the brake F, the fly-wheel, and stop *i*^{5}, substantially as described.

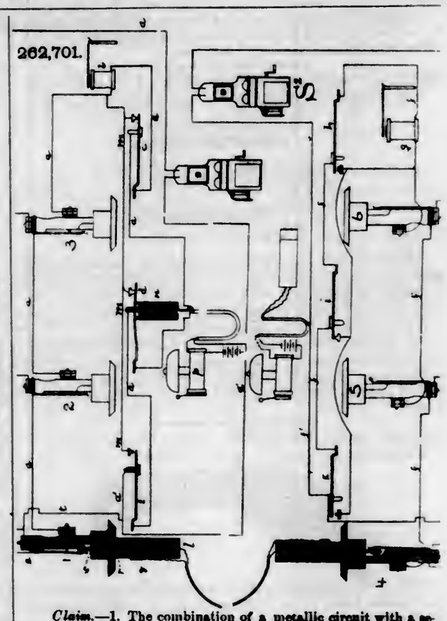
262,700. MICROPHONE. CHARLES E. SCRIBNER, Chicago, Ill., assignor to the Western Electric Manufacturing Company, same place. Filed Dec. 27, 1881. (No model.)



Claim.—The combination, in a microphone, of the electrodes suspended in loose contact with an adjustable stop, whereby the separation of the electrodes is prevented when loud sounds are directed against the diaphragm.

262,701. CIRCUIT FOR MULTIPLE SWITCH-BOARDS OF TELEPHONE-EXCHANGES. CHARLES E. SCRIBNER, Chicago, Ill. assignor to the Western Electric Manufacturing Company, same place. Filed Feb. 1, 1882. (No model.)

262,701.



Claim.—1. The combination of a metallic circuit with a series of switches and test-keys, one switch and one test-key upon each of the multiple boards, and a branch line or connection from the switches to the return-wire of said metallic circuit, whereby the circuit is completed as the test-keys are cut out when said metallic circuit is united, as described, with any other metallic circuit upon either of the boards.

2. Three or more multiple switch-boards, to which the same complete metallic telephone-circuit lines are connected, and test-keys, one test-key for each line on each board, and the connection to the return-wire from the switches of each line, whereby any two circuits may be united upon either of the boards, while the test-keys are cut out, as and for the purpose specified.

3. The shunt-wire *m*, provided with contact-points, in combination with the test-keys and circuit-wires, whereby the annunciator *b* is shunted when the calling battery is looped into the circuit at either of the test-keys.

262,702. FILTER. JOSEPH SHAW and OLIVER G. BURNHAM, Chicago, Ill. Filed Feb. 23, 1882. (No model.)



Claim.—1. In a filtering apparatus, the combination, with the open vessel A, having its bottom provided with ribs *b* and intermediate grooves, *b'*, and with the transverse space B', in which the grooves terminate, of the perforated plate C, resting on the ribs *b*, the strainer-cloth D, resting on the plate C, and the suction-pump E, connected with the space B', substantially as described, and for the purposes set forth.

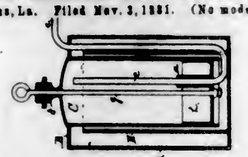
2. In the filter described, the open trough A, having an inclined end, *a*, substantially as shown, and for the purposes set forth.

262,703. LIFE-PRESERVER BATHING-SUIT. RICHARD C. SIBLEY, New York, N. Y. Filed July 6, 1881. (No model.)



Claim.—In combination with a bathing-suit, the flat belt B, having the tube *b*, the belt being attached to the garment directly under the arms, substantially as described.

262,704. GAS-GENERATING MACHINE. MARK R. SPELMAN, New Orleans, La. Filed Nov. 3, 1881. (No model.)



Claim.—1. In a gas-generating machine, the combination, with a gasometer, a gas-exit pipe, *e*, and rod *g*, adjustably sustained in position, of the vessel *a*, fitted to the lower end of rod *g* and provided with a perforated bottom, and sleeve *a*, surrounding the pipe *e*, as described, and for the purpose set forth.

2. In a gas-generating machine, the combination, with a casing, A, and its cover B, of the gasometer C, provided with the stuffing-box *f*, rod *g*, with perforated vessel *h*, the perforated guide H, and exit gas-pipe *e*, substantially as and for the purpose set forth.

262,705. HAME ATTACHMENT. JOHN A. SPENCE and ROBERT C. THOMPSON, Newark, N. J. Filed Mar. 3, 1882. (No model.)

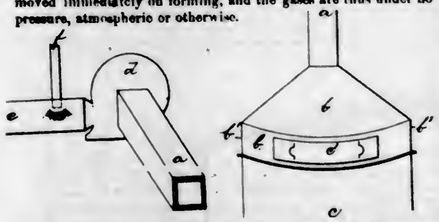


Claim.—1. The combination of the draft-eye composed of the outer portion, *b*, and inner portion, *c*, forming a recess therein, the clip *c*, having a pivotal adjustment in said recess, as herein described, whereby the outer or exposed surface of the draft-eye is unbroken by any unsightly protuberance or perforation, as set forth.

2. The combination, with the collar and hame arranged thereon, of a draft-eye, *b*, lying against or in close proximity to the collar-pad A, a clip engaging with said draft-eye, the pivotal extremity of said clip passing between the exposed surface *b'* and pad A, all said pivotal parts being concealed, as herein set forth, for the purposes stated.

262,706. METHOD OF AND APPARATUS FOR RENDERING FATS, &c. FERDINAND SULZBERGER, New York, N. Y. Filed Apr. 27, 1882. (No model.)

Brief.—The essential feature of the process is an air-suction, kept up from the start, and by which the vapors of fat, &c., are removed immediately on forming, and the gases are thus under no pressure, atmospheric or otherwise.



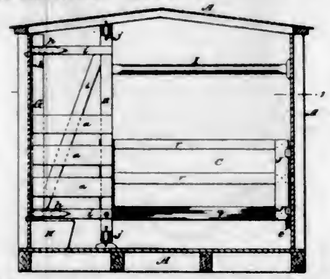
Claim.—1. In a rendering apparatus, the combination of the tank *c*, the dome *b*, the pipe *a*, the fan *d*, the pipe *e*, and the pipe *f*, and suitable means for heating the tank *c* and rotating the fan *d*, substantially as and for the purposes set forth.

2. In a rendering apparatus, the combination of the tank *c*, the dome *b*, the pipe *a*, the fan *d*, the pipe *e*, and suitable means for heating the tank *c* and rotating the fan *d*, substantially as and for the purposes set forth.

3. In a rendering apparatus, the combination of the tank *c*, the pipe *a*, the fan *d*, the pipe *e*, and the pipe *f*, and suitable means for heating the tank *c* and rotating the fan *d*, substantially as and for the purposes set forth.

4. The process of rendering fats, consisting in melting the fat, catching the gases, vapors, steam, &c., drawing the same away as soon as they come from the surface of the fat by means of a partial vacuum created in the part of the apparatus where they are caught, and then condensing them, substantially as and for the purposes set forth.

262,707. STOCK-CAR. STEPHEN P. TALLMAN, Dunellen, N. J. Filed June 10, 1882. (No model.)



Claim.—1. In a stock-car provided with shallow stalls and partition-gates to turn up into said stalls, the posts E, suspended by their upper ends and provided with means for securing the free end of the gate thereto, substantially as and for the purposes set forth.

2. In a stock-car provided with shallow stalls to house the heads of the animals, and gates hinged to the partitions to separate their bodies, the partition between adjacent stalls, hinged to the car and arranged to swing around horizontally, substantially as and for the purposes set forth.

3. The combination, in a stock-car provided with shallow stalls, and partition-gates to turn up into the same, of the fixed bars I I, arranged across the car above the gates, and the said gates, all arranged substantially as and for the purposes set forth.

4. The combination, to form a swinging and folding partition in a stock-car, of a stall-partition arranged and hinged to swing horizontally, and a partition-gate pivoted in said partition and arranged to turn up on end alongside of it, the stall-partition being provided with means for fastening it in position when turned out into the car, substantially as set forth.

5. In a stock-car, the combination, with a partition-gate, C, arranged to turn up on edge, of the elastic fastening secured to the opposite side of the car, and provided with a recess to receive the gate-stile, and spring-blocks *a* to press laterally upon the stile when it rests in the said recess, substantially as set forth.

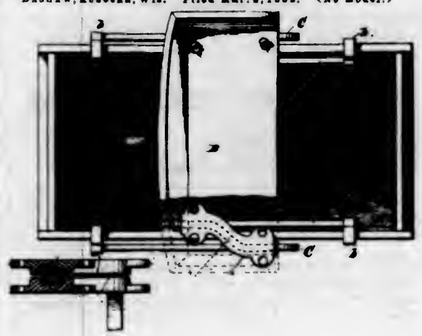
6. The gate C, arranged to turn up into the shallow stall, and provided with a lower slat, *g*, constructed substantially as and for the purposes set forth.

7. The combination, in a stock-car provided with shallow stalls, as shown, of the suspended post E, provided with pin *e* and detent *g*, the cleats *d d* to steady the foot of said post, and the gate C, with a notch to engage the pin *e* in the post, substantially as set forth.

8. The combination, in a stock-car provided with shallow stalls, as shown, of the bar I', hung from the post B, the suspended post E, and the gate C, all constructed and arranged substantially as set forth.

9. A stock-car provided with shallow stalls to house the heads of the animals, divided into two series, said series being arranged at opposite ends and on opposite sides of the car, and the stall-partition nearest the center of the car arranged to swing around horizontally, whereby a wider passage is made for convenience in loading and unloading, substantially as set forth.

262,708. SEAT-SPRING. EMIL THICKTORIUS and JOHN N. BASHAW, Kenosha, Wis. Filed Mar. 2, 1882. (No model.)



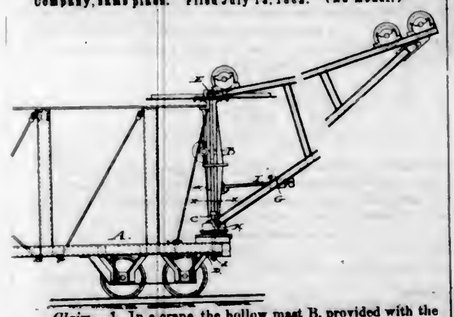
Claim.—1. The spring for vehicle-seats, composed of two arms, one arranged to extend on the outside and the other on the inside of the vehicle-body and connected to the seat by an approximate S-shaped or diagonal portion, substantially as and for the purpose set forth

2. The seat socket or bracket composed of two parts, each part having a diagonal or curved groove, in combination with a spring-bar, substantially as and for the purpose set forth.

3. The single coiled spring, curved at the top of the coil to permit one arm to rest on the outside and the other arm on the inside of the box or body of a vehicle, in combination with means for attaching and supporting a seat, as and for the purpose set forth.

4. The single coiled spring, curved substantially as shown, to permit one arm to rest on the inside and the other arm on the outside of the box or body of the vehicle by means of two hooks, one curved to the right and the other one to the left, as and for the purpose specified.

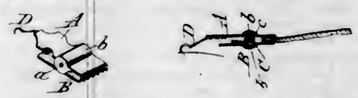
262,709. TRAVELING CRANE. JOHN THOMPSON, Bucyrus, Ohio, assignor to the Bucyrus Foundry and Manufacturing Company, same place. Filed July 13, 1882. (No model.)



Claim.—1. In a crane, the hollow mast B, provided with the interior ribs or webs, *b a*, converging to a central hub, *b*, in combination with fastening devices to secure the said mast to its supports, substantially as set forth.

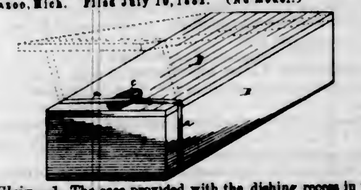
2. The mast B and removable shoes H at its base, in combination with the crane-arms F, interposed yoke G, provided with a ball-seated nut, *e*, and screw I, having its end resting in socket *f*, all constructed, arranged, and operated substantially as described.

262,710. NAPKIN-HOOK. THOMAS TODD and GEORGE E. VINCENT, Schenectady, N. Y. Filed July 7, 1881. (No model.)



Claim.—A napkin-holder composed of the jaws or plates A B, having serrated gripping-edges and transverse concavo-convex recesses *b b*, a coiled spring, C, arranged in said recesses and adapted to hold the gripping-edges of the plates in contact, a hinge-pin, *c*, inclosed in said spring and attached to lugs at each end of the recesses *b b*, and a hook, D, secured to the upper end of the outer or front plate, all as and for the purpose described.

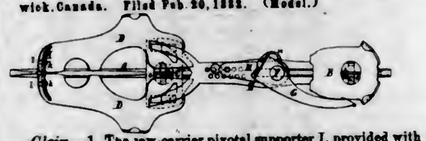
262,711. MAIL-SHIPPING CASE. SAMUEL E. WALBRIDGE, Kalamazoo, Mich. Filed July 10, 1882. (No model.)



Claim.—1. The case provided with the dishing recess in the forward end of the cover, the ungrooved portion each side of said recess and the groove, extending from said portion around the case, in combination with the rubber band, substantially as set forth.

2. The combination of the case, having a band-retaining groove and a finger-recess in the cover, with the cover-retaining band, all substantially as set forth.

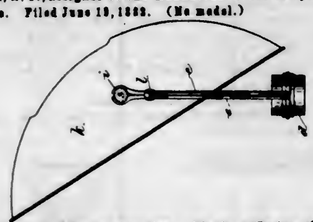
262,712. SKATE. JAS. A. WHELPLEY, Greenwich, New Brunswick, Canada. Filed Feb. 20, 1882. (Model.)



Claim.—1. The jaw-carrier pivotal supporter I, provided with the slots *e*, *h*, *i*, and *i'*, arranged as set forth, in combination with the jaw-carriers and toe-post of the runner, notched, as explained, to engage with such supporter in manner as specified.

2. The runner having the notches in its toe-post and the perforated tenons to its median and heel posts, as described, in combination with the two rests B C, having the concavo-convex and slotted projection *a*, and also with the jaw-carrier pivotal supporter I, constructed and provided with slots, as set forth, and also with the jaw-carriers notched at their toes or front parts in manner to connect with the said supporter, all being substantially as represented.

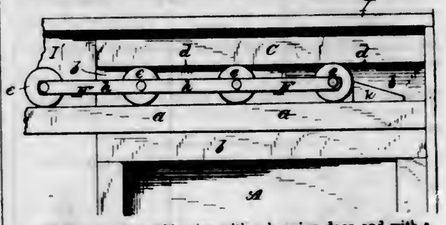
262,713. REFLECTOR FOR LAMPS. JAMES H. WHITE, New York, N. Y., assignor to the Manhattan Brass Company, same place. Filed June 19, 1882. (No model.)



Claim.—1. The combination, with the reflector, of the lugs upon the outside, the arms with frictional grasping-fingers at the ends, and the collar *d*, substantially as set forth.

2. The combination, with the lamp-burner, of a reflector having an opening for the chimney, lugs on the outside of the reflector, a collar around the lamp-burner below and independent of the chimney-holder, arms extending up to the lugs, and clamping-fingers, substantially as set forth.

262,714. DOOR-HANGER. WILLIAM H. WILDER, Caledonia, N. Y. Filed Dec. 29, 1881. (No model.)



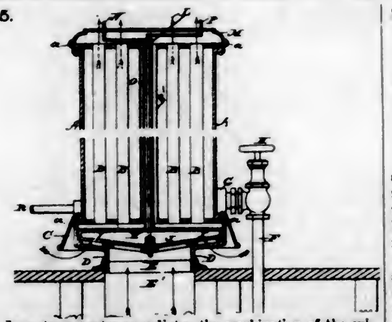
Claim.—1. In combination with a hanging door and with a traveling carriage and stationary bed for the same, the cap-piece I I', whereby lateral and vertical displacement of the door is obviated and running off of the carriage from its track is prevented, these parts being arranged substantially as and for the purpose set forth.

2. In a hanging door, one or more free and unattached carriages, F, each made with a series of cylindrical rollers adapted to run upon the surface of a beam or batten, and also made of a length equal to the breadth of the door, and whereby, when the door has been shifted to the end of its route of travel and the carriage arrested in its travel, one or more of the rollers shall be left some distance from the door, to take up its weight when the door reaches it or them on its return movement.

262,715. STEAM HEATER OR RADIATOR. EDWIN A. WOOD, Utica, N. Y. Filed May 29, 1882. (No model.)

Claim.—1. In a steam heater or radiator, the combination of the cylinder A and perforated base C, with the register-disks I and J resting on and within said base, and devices, substantially such as described, for operating the register-disks from the top of the radiator, as set forth.

262,715.



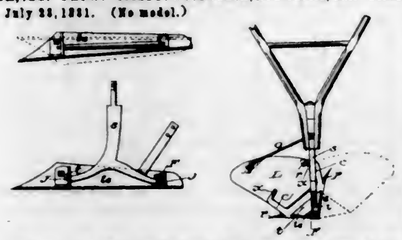
2. In a steam heater or radiator, the combination of the cylinder A, provided with a central tube, B', with devices, substantially such as described, for operating the registers, as and for the purpose set forth.

3. In a steam heater or radiator, the tube B', in combination with the register-operating tube L and operating-rod O, as set forth.

4. The register I, provided with the cross-bar K, in combination with the operating-tube L and crank N, as set forth.

5. The register J, pivoted in the bottom of the base C, and provided with the operating-rod O and handle P, in combination with the tube L, as set forth.

262,716. PLOW. SILAS F. WOODWORTH, New Castle, Cal. Filed July 28, 1881. (No model.)

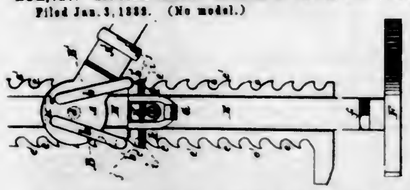


Claim.—1. The combination, in a reversible plow, of the share or point P, adapted to receive either mold-board right or left, the pivoted landside *l s*, the notched arms C C, and standard S, substantially as described.

2. The combination, in a reversible plow, of the angular landside *l s*, journals J J, frogs *f* and F, and standard S, substantially as described.

3. The combination, in a reversible plow, of the point P, adapted to receive the lugs *a a*, and arms C C, having notches *x x*, to engage with the lugs *r*, substantially as and for the purpose specified.

262,717. LIFTING-JACK. CHARLES A. YOUNG, Sidney, Nebr. Filed Jan. 3, 1882. (No model.)

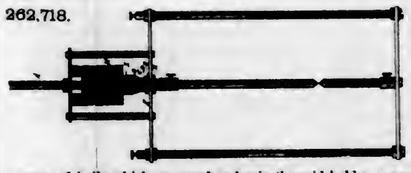


Claim.—The combination, with the standards, rack-bar, pivoted lever-head, and stirrups or links, of the bracket or support H, projecting from one of the standards and having pins *h*, and the reversing arm or lever G, provided with wings *i*, cams *j k*, and slots *g*, by which said reversing-lever is adjustable upon the pins or studs *h*, as and for the purpose set forth.

262,718. ELECTRIC-ARC LAMP. GEORGE S. YOUNG, Blackwall, County of Middlesex, and ROBERT J. HATTON, Stratford, County of Essex, England. Filed May 27, 1882. (No model.) Patented in England Apr. 6, 1882, No. 1,889.

Claim.—1. The combination, in an electric lamp, of the electrode-holder, a sleeve thereon, formed with inclined interior, and
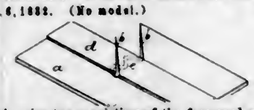
262,718.



a range of balls which surround and grip the said holder, a magnet in the circuit to the lamp for moving the sleeve, and a stop-tube on the lamp-frame for relieving the grip of the balls on the holder when the latter requires adjustment, substantially as set forth.

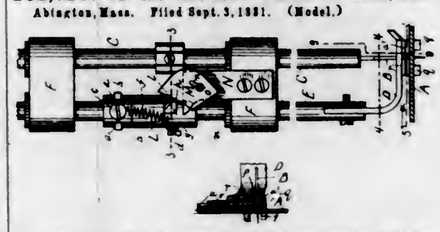
2. The combination, in an electric lamp, of the electrode A, a sleeve, B B', thereon, formed with inclined interior, and range of balls C, which surround and grip the said holder, an electro-magnet in the circuit to the lamp, a stop-tube, D, on the lamp-frame F, for relieving the grip of the balls C on the holder when the latter requires adjustment, and a sleeve, G', with spring G, for supporting the balls, substantially as set forth.

262,719. PRICE-TAG. J. ARTHUR ADAMSON, Philadelphia, Pa. Filed Mar. 6, 1882. (No model.)



Claim.—A price-tag consisting of the face-card *a*, the staple-like pins *b*, and the supplemental strip *d*, the latter being secured to the back of the card *a* and fitting between the prongs of the pins *b*, so as to hold the same in place, as set forth.

262,720. SEWING-MACHINE. WILLIAM Y. ALLEN, East Abington, Mass. Filed Sept. 3, 1881. (Model.)



Claim.—1. In a sewing-machine, the combination, with the presser-foot having a downwardly-projecting gnide, *q*, for the goods, of the cloth-plate provided with a recess or slot, *s*, into which said guide is adapted to project, substantially as described.

2. A presser-foot for sewing-machines, having a guide, *q*, for guiding the goods to be sewed, in combination with mechanism constructed and arranged to move said presser-foot horizontally and laterally relative to the line of sewing as it is raised and lowered, all substantially as and for the purposes described.

3. A presser-foot for sewing-machines, having a guide, *q*, for guiding the goods to be sewed, a stationary plate, M, with its edge or abutment *l*, loose and fixed collars I L, spring *f*, connecting said collars I L, in combination with the presser-bar E, and a pressure-spring J therefor, all substantially as and for the purpose described.

4. The combination, with a presser-foot for sewing-machines, having a guide, *q*, for guiding the goods to be sewed, of the groove or channel *a'* in and along said guide *q*, all substantially as and for the purpose described.

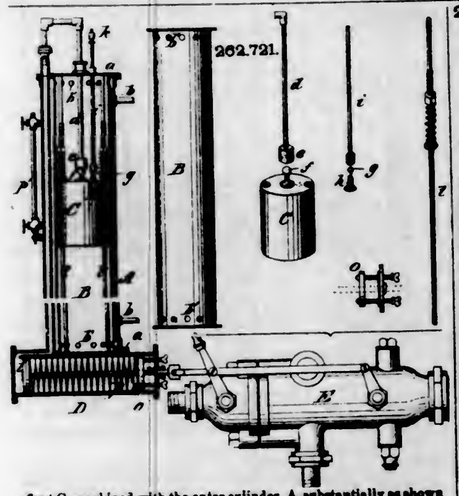
262,721. FEED-WATER APPARATUS. FRANK S. ANDERSON and CHARLES SAUER, Easton, Md. Filed Apr. 14, 1882. (No model.)

Claim.—1. The feed-water governor consisting of cylinders A and B, float C, valve *f*, and steam-pipe *d*, substantially as described, combined for operation as set forth.

2. The feed-water governor and alarm consisting of cylinders A and B, float C, provided with valve *g*, and steam-pipe *i* of the whistle *k*, substantially as described, combined for operation as set forth.

3. The combination, in feed-water apparatus, of cylinders A and B and float C, whistle *k*, and steam-pipe *d i*, substantially as shown and described.

4. In feed-water apparatus, the inner cylinder, B, fitted with

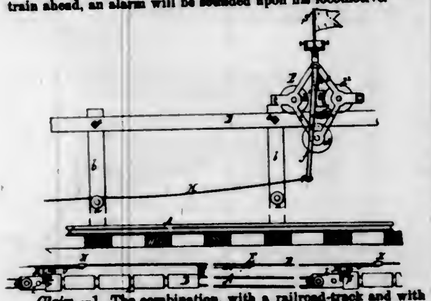


float C, combined with the outer cylinder, A, substantially as shown and described.

5. In feed-water apparatus, the cylinder D, provided with spring-cushioned piston *l* and rod *n*, connected for stopping and starting feed-water-feeding devices, combined with the cylinder A and the inner apertured cylinder, B, containing a float that rises and falls with the water-level in the boiler, substantially as described.

262,722. SAFETY-SIGNAL FOR RAILROAD-TRAINS. JOHN ARBUCKLE, Brooklyn, N. Y. Filed Jan. 26, 1882. (No model.)

Brief.—A signal is drawn in rear of a train to prevent a following train from colliding therewith, each train also being provided with a device traveling in the path of said signal, whereby, should the engineer of the rear train fail to see the signal of the train ahead, an alarm will be sounded upon his locomotive.



Claim.—1. The combination, with a railroad-track and with a car moving thereon, of a signal apparatus attached to the car on the track and moving at a distance behind said car.

2. The combination, substantially as hereinbefore described, of the main track A, the secondary track D, the truck E, moving on the secondary track, the rope or chain H, connecting said truck to the car on the main track, and the signal secured to the truck E.

3. The combination, substantially as hereinbefore described, of the main track A, the secondary track D, the truck E, moving on the secondary track, the rope or chain connecting said truck to the car on the main track, the signal secured to the truck E, and the brake for arresting the motion of the truck when the car stops.

4. The combination, substantially as hereinbefore described, of the main track A, the secondary track D, the truck E, moving on the secondary track at a distance behind the last car of a train on the main track, and the truck N, attached to the locomotive of a following train.

262,723. MACHINE FOR MAKING SHEET-METAL PIPE. WILLIAM AUSTIN, Philadelphia, Pa. Filed Apr. 3, 1882. (No model.)

262,723.

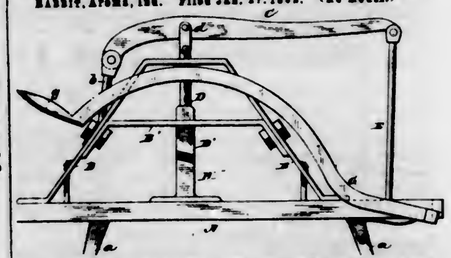


Claim.—1. In a machine for forming ribbed sheet-metal pipe, the combination of two co-operating rolls with cylindrical surfaces, provided respectively with a narrow spiral rib and a corresponding spiral groove extending from end to end thereon, one of said rolls being also provided with means, substantially as described, for retaining the edge of the blank sheet therein, whereby the machine is adapted to perform simultaneously the operations of bending the blank into a cylindrical form and of raising a narrow spiral rib therein.

2. In a machine for forming ribbed sheet-metal pipe, the combination of the cylindrical roll C, having a narrow spiral rib thereon, the smooth roll B, having a corresponding groove therein, each roll being also provided at both ends with screw-threads, as described and shown, whereby the rolls are adapted to produce a blank having spiral strengthening-ribs, and also screw-threads in the ends.

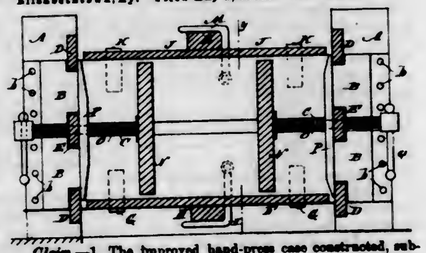
3. The spirally-ribbed roll C, having the groove *h*, and the flattened ends of the ribs adjacent to said groove, in combination with the spirally-grooved roll B, having its surface adapted to conform to the flattened surface of the first roll, as described and shown, whereby the blank is provided with oblique ribs merging into flattened edges.

262,724. MACHINE FOR SHEARING METAL. JOSEPH W. BABBIT, Aroma, Ind. Filed Jan. 27, 1882. (No model.)



Claim.—The combination of the frame B, having upright *b*, lever C, connecting-rod E, shaft F', having arm F, curved lever G, stationary jaw H, and movable jaw D', the shank D of which is hinged in lever C, substantially as and for the purpose herein shown and specified.

262,725. HAY AND COTTON PRESS. WILLIAM W. HARP, Elizabethtown, Ky. Filed May 3, 1882. (No model.)

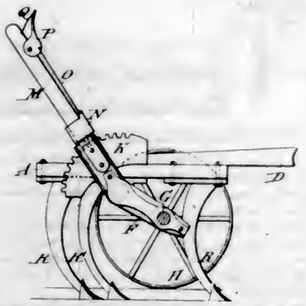


Claim.—1. The improved hand-press case constructed, substantially as herein described, with sides B, posts A, and ends D, boxed or notched together, and bottom and top hinged to the sides and secured by cross-bars and hooks, as set forth.

2. The combination, in a press, of upright bars A, side bars, B, secured thereto with space C between them to guide the followers N by their end lugs, E, said followers being actuated by screws O, threaded through the ends of the press, substantially as shown and described.

262,726. COMBINED WHEEL CULTIVATOR AND GANG-PLOW. DAVID L. HARNUM, Wilson, N. Y. Filed Apr. 26, 1882. (No model.)

262,726.



Claim.—1. In a combined wheel cultivator and gang-plow, the combination of the short axle E, having arm F and stud G, the perforated plate L, rigidly secured to the inner side of the axle-arm, and the lever M, having its lower end inserted in and secured to the grooved portion of the plate L, substantially as shown and described.

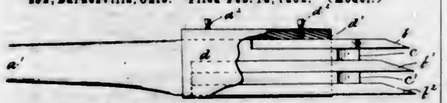
2. In a combined wheel cultivator and gang-plow, the combination, with the frame having segmental racks K, of the short axles E, supported in bearings *a b*, and having arms F, provided with studs G, the wheels H, mounted on said studs and having hub-caps I, the perforated bearings L, secured to the inner sides of the axle-arms and provided with grooves for the reception of the levers M, which are securely bolted to said plates and are provided with spring-pawls N, substantially as shown and described.

262,727. FIRE-BRICK. WILLIAM G. BRYDELY, Portsmouth, Ohio. Filed June 23, 1882. (No model.)



Claim.—A fire-brick having convexly-curved sides, terminating in a rounded upper edge and provided on said upper edge with depressions *a*, each having a curved base, and on its flat under surface with transverse grooves *b*, corresponding with the depressions in the upper edge of the adjacent brick, substantially as shown and described.

262,728. MINING-TOOL. JOB SORTON and PALMER L. DAWSON, Barnesville, Ohio. Filed Feb. 18, 1882. (Model.)



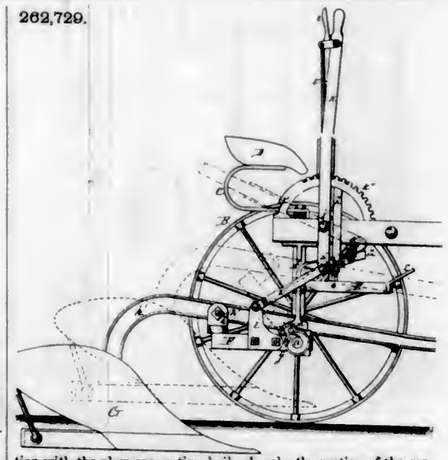
Claim.—1. The combination of the stock *a*, having on one edge the lateral shoulder a^2 and on its opposite edge the lateral shoulder a^3, formed on a line in advance of the shoulder a^2, and having an extension, *c*, beveled to an edge on the line with the shoulders a^2 a^3, the cutter *b* resting against the shoulder a^2, and a series of cutters, b' b^2, abutted against the shoulder a^3, and a removable piece, *c'*, placed between the cutters b' b^2, and having its end beveled to an edge in line with the shoulders a^2 a^3, the cutting-edges of the extension *c* and piece *c'* being at right angles to the cutting-edges of the blades, and abutted against the flat sides of said blades and to a line intermediately between the edges thereof, and a clamping device, substantially as set forth.

2. The combination, with the stock *a*, having on one edge the lateral shoulder a^2 and on the opposite edge the lateral shoulder a^3, formed on a line in advance of the shoulder a^2, and a series of cutting and filling pieces abutted against the shoulders a^2 and a^3, of an adjustable sleeve, *d*, placed over the end of the stock and over the cutters, and held by set-screws d^2 d^3, substantially as set forth.

262,729. SULKY-PLOW. GEORGE S. BRIGGS, Rockford, Ill. Filed Dec. 12, 1881. (No model.)

Brief.—The wheel is locked by a foot-lever and is unlocked by a cam when the plow-bail reaches the proper height. A branch arm from the foot-lever releases the hand-lever latch at the moment of locking the wheel.

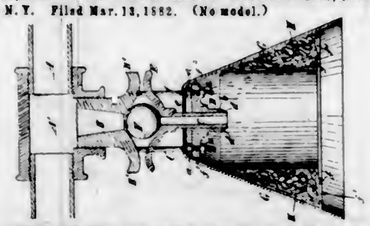
Claim.—1. In a sulky-plow, the angle-lever *m*, formed with segmental end pieces, the clutch-pin *n*, engaging therewith and with the hub of the carrying-wheel, and the collar *f*, in combination with the plow-supporting bail, whereby the motion of the carrying-wheel is imparted to said bail to raise the plow, substantially as shown and described.



2. In a sulky-plow, the angle-lever *m*, formed with ends *m''* and provided with suitable upward-acting spring, the pin *n*, collar *f*, recessed hub H, and axle *a*, in combination with the bail F, provided with the adjustable cam *o*, whereby the clutch mechanism may be disengaged automatically at any predetermined point, substantially as shown and described.

3. The combination of a pivoted foot-lever, a supplemental lever pivoted thereto and independently fulcrumed, an upward-acting segment connected with said supplemental lever and working in a recess of a segmental ratchet, and a hand-lever provided with a detent engaging the teeth of the ratchet and connected to the plow-supporting bail, substantially as shown and described.

262,730. FIRE-EXTINGUISHER. ROBERT BRIGGS, Brooklyn, N.Y. Filed Mar. 13, 1882. (No model.)



Claim.—1. The combination, with the nozzle B and the flaring deflector B' thereon, of the oppositely-flaring deflector E, a support wherein said deflector may be secured by fusible metal, and the spherical valve F interposed between said deflectors, substantially as and for the purpose herein described.

2. The combination, with the nozzle, of the flaring lower deflector, separable from the nozzle and providing for the free escape of water over its upper edge around its circumference, and the spherical or convex-faced valve adapted to be held against the outer side of said nozzle by fusible metal, and supported when open immediately in front of the nozzle by said deflector, substantially as and for the purpose specified.

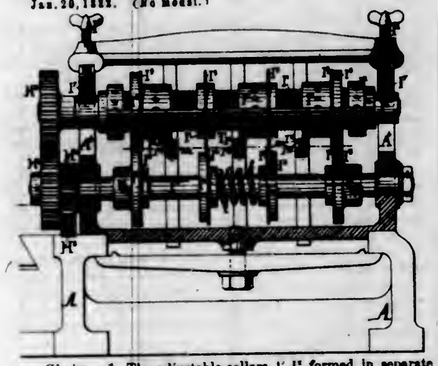
3. The combination, with the nozzle, of a spherical or convex-faced valve adapted to be held closed against the exterior of the nozzle by fusible metal, and an adjustable support for sustaining the valve when open immediately in front of and at any desired distance from the nozzle, substantially as and for the purpose specified.

4. The combination of a flanged nozzle, B, an adjustable hanger or bearing, D, a cup, E, provided with the tube or stem *c*, fusible metal *d*, and the valve F, substantially as specified.

5. The combination, with an automatic fire-extinguisher and a valve therefor held to its seat by fusible metal, of a body of combustible material adapted to ignite by contact with flame suspended in proximity to the fusible metal, substantially as and for the purpose specified.

6. The combination, with an automatic fire-extinguisher and a valve therefor held to its seat by fusible metal, of the hood or petticoat G and combustible H, substantially as and for the purpose specified.

262,731. CUTTER FOR LABEL-MACHINES. THOS. A. BRIGGS, Providence, R. I., assignor of two-thirds to John B. Perkins, Taunton, Mass., and Frederick Talcott, Rockville, Conn. Filed Jan. 20, 1882. (No model.)

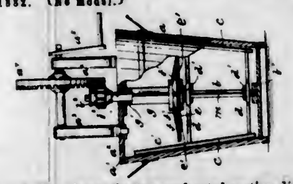


Claim.—1. The adjustable collars I' I^2, formed in separate pieces, engaged together by screw-threads, as shown, in combination with the rotary cutters I^1 I^3 and with the shaft of a rotary shears, as herein specified.

2. The adjustable guide-fingers I^4 and I^5, the former lying beneath and supporting the paper, and the latter formed with a sharp edge, which rests upon the upper surface of the paper, in combination with the pair of rotary knives I^1 I^3, and adapted to support the paper along narrow lines and hold it in a plane condition during the slitting and cross-cutting, as herein specified.

3. The feeding-rolls I^3 I^3, mounted on the same shaft as the longitudinal shearing means I^1 I^3, and arranged outside of the line of the shears, as shown, whereby the feeding is wholly done by said rolls acting on the waste paper at the edges of the strip, substantially as set forth.

262,732. CHURN. CYRUS J. BROWN, Meadow Gap, Pa. Filed Mar. 2, 1882. (No model.)



Claim.—1. In a churn, the two perforated suction-disks placed in contact one above the other and having a diameter less than the diameter of the churn to permit a free circulation of the milk around them, submerged in the body of the milk, and means whereby they are operated and the milk drawn between them from above and below by suction, substantially as set forth.

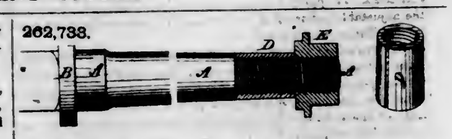
2. The combination, in a churn, of the paddle-frame having upright bars *c'* fixed on the ends of the radial arms and extended upward above the said radial arms, and the suction-disk *e*, having a diameter slightly less than the diameter of the paddle-frame and fixed on the shaft thereof above the upper set of radial arms, with the disk *f*, fitted snugly to and coinciding with the disk *e*, the upper ends of the said bars *c'* being carried upward past and revolving about the periphery of the upper disk, substantially as set forth.

3. In a churn, the disks *e* and *f*, having a diameter less than the diameter of the churn, and provided with a series of radial channels, *e'* and f', perforated by openings e^2 and f^2, and having the surfaces between said channels plain and arranged to rub one against the other, and supported within the churn below the surface of the body of the milk, and operated substantially as set forth.

262,733. VEHICLE-AXLE. RUSH BULL, Mellsville, Wis. Filed Apr. 24, 1882. (No model.)

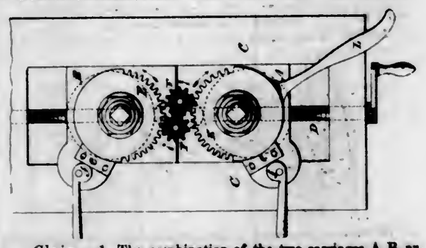
Claim.—The method of taking up the wear of axle-journal boxes, which consists in removing from the journal the sleeve D

262,733.



and turning off the end of the same to reduce its length, then re-applying said sleeve, and screwing up the outer or flanged nut, E, as shown and described.

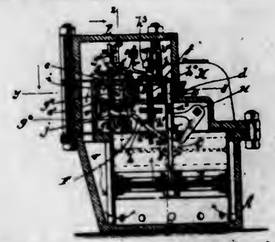
262,734. MACHINE FOR TURNING CONCAVES. WILLIAM H. BUCKLEY, Meriden, Conn. Filed Dec. 19, 1881. (No model.)



Claim.—1. The combination of the two carriages A B, arranged between guides for movement toward or from each other, a right-and-left-hand screw arranged to move the carriages toward and from each other, each of said carriages carrying a tool-post pivoted thereon, so as to turn in horizontal planes and on opposite sides of the work to be done, the said two posts connected by mechanism, substantially such as described, whereby the tools carried by the posts are turned upon the pivot of their respective posts as a center in the same direction of movement, substantially as described.

2. The combination of the two carriages A B, arranged between guides for movement toward or from each other, a right-and-left-hand screw arranged to move the carriages toward and from each other, each of said carriages carrying a tool-post pivoted thereon, so as to turn in horizontal planes and on opposite sides of the work to be done, the said two posts connected by mechanism substantially such as described, whereby the tools carried by the posts are turned upon the pivots of their respective posts as a center in the same direction of movement, with a clamp on one or both carriages to secure the tool-posts in a fixed position, substantially as described.

262,735. PISTON-METER. THOMAS L. CALEIN, Newark, N.J., assignor to the United States Water Meter Company, New York, N.Y. Filed Apr. 12, 1882. (No model.)



Claim.—1. The combination, substantially as hereinbefore described, of the two sets of poppet-valves controlling the flow of liquid from and to the chambers *a b*, the independently-movable valve-stems, each carrying one set of said valves, and a spring-actuated tripping-lever having two arms for alternately moving the sets of valves in opposite directions, substantially as described.

2. The combination, substantially as hereinbefore described, of the two sets of puppet-valves controlling the flow of the liquid from and to the chambers *a b*, the independently-moving valve-stems, the spring-actuated tripping-lever for alternately moving the sets of valves in opposite directions, the piston-rod which actuates said tripping-lever, and the locking-lever above the valves.

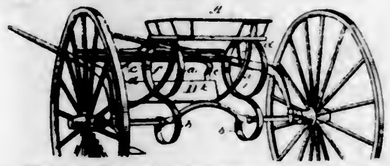
3. The combination, substantially as hereinbefore described, of the two sets of puppet-valves controlling the flow of the liquid from and to the chambers *a b*, the independently-moving valve-stems, the spring-actuated tripping-lever, the piston-rod which

actuates said tripping-lever, the locking-lever above the valves, and the adjustable collars g^2 h^2.

4. The combination, substantially as hereinbefore described, of the two sets of poppet-valves controlling the flow of the liquid from and to the chambers *a b*, the spring-actuated tripping-lever acting upon the backs of the valves g' h', the piston-rod which actuates said tripping-lever, and the projections *w* on the inner surfaces of the valves.

5. The combination, substantially as hereinbefore described, of the case A, the bonnet D, having the hole a^6, the piston having a vertically-projecting rod, C, guided in the opening of the bonnet and provided with a lateral stud, *k*, bell-crank lever I, the transverse rock-shaft H, on which said bell-crank lever is mounted, and mechanism for transmitting the motion of the rock-shaft to the operating mechanism.

262,736. ROAD-CART. JAMES B. CALLAN, Quincy, Ill. Filed June 26, 1882. (No model.)



Claim.—1. In a road-cart or trotting-sulky, the combination of the springs *a a* and the springs *b b*, both constructed as described, and attached to the axle and the seat, as set forth.

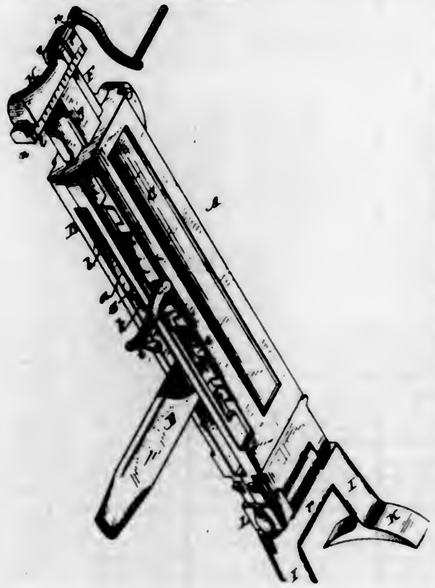
2. The combination of the seat and axle, the springs *a a*, and the braces *d d*, adapted to be attached either to the shaft or foot-board, substantially as described.

3. The combination of the seat, the axle, the springs *a a* and *b b*, the foot-board, and the supporting-arms, substantially as described.

4. In combination with the axle of a road-cart or trotting-sulky, the springs *b b*, suspended from the axle, and upper springs between the said springs *b b* and the seat, substantially as described.

5. The combination of the seat, the springs *a a*, braces *d d*, and suspending-springs suspended from the axle and supporting the upper spring, substantially as described.

262,737. MACHINE FOR REPAIRING VEHICLE-WHEELS. WILLIAM CALLAWAY, Walnut, assignor of three-fourths to Reuben Kaley and Henry B. Pershing, Marshall County, Ind. Filed May 31, 1882. (No model.)



Claim.—1. The frame A, having upon its interior sides steps *e* and grooves *f*, in combination with the standard F, provided with roller G, and the lever D, having head E and curved edge *j* and pins *e*, substantially as and for the purpose set forth.

2. The frame A, having pivoted to its lower end legs I, with feet K, and the clamp L, in combination with the standard F and means for operating it, substantially as and for the purpose specified.

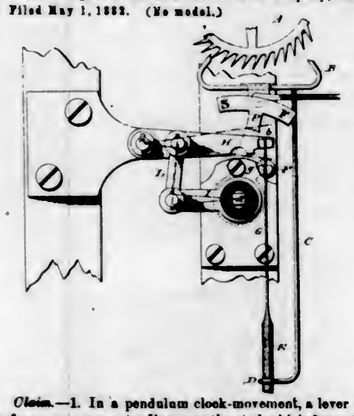
3. The standard F, and means for operating it, said standard having bed *l*, guide *m*, and bearing *p*, in combination with the felly-rest H and screw-rod *n*, and the flange *e*, substantially as and for the purpose described.

4. The frame A, having steps *e*, guide grooves or slots *b*, and the lever D, having head E, with curved edge *j*, flanges *d*, and pins *e*, in combination with the standard F, carrying roller G and stops *k*, constructed to operate substantially as and for the purpose set forth.

5. The frame A, consisting of the two detachable sections B C, said frame having pivoted to it the legs I, with feet K, and the clamp L, in combination with the standard F, carrying at its top the adjustable felly-rest H, with the flange *e*, substantially as and for the purpose set forth.

6. The frame A, constructed, as described, in two sections, each of which has grooves *f*, steps *e*, and slots *b*, and the hinged or pivoted legs I, having feet K, and the clamp L, in combination with the standard F, formed with guides *g*, bearing *h* for roller G, the adjustable felly-rest H, and means for operating said standard, substantially as specified.

262,738. CLOCK-MOVEMENT. HIRAM CAMP, New Haven, Conn., assignor to the New Haven Clock Company, same place. Filed May 1, 1882. (No model.)



Claim.—1. In a pendulum clock-movement, a lever hung to the frame, one arm extending over the stud which forms the center of vibration of the pendulum, the pendulum-rod extended through the said stud and hung to the arm of said lever above, with mechanism, substantially such as described, around and concentric with the center shaft to operate said lever to raise and lower the pendulum, substantially as described.

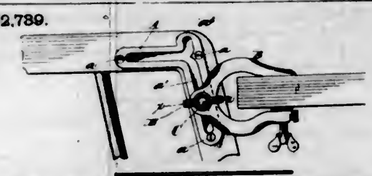
2. In a pendulum clock-movement, a lever hung to the frame, one arm extending over the stud which forms the center of vibration of the pendulum, the pendulum-rod extended through said stud and hung to the arm of the said lever above, a second lever hung to the frame and substantially parallel with the pendulum-lever, a connection from said second lever to the first at a point nearer its fulcrum than the point where the pendulum-rod is hung, substantially as described.

3. The combination of the lever I, arranged in a bearing on the frame concentric with and surrounding the center shaft, the lever H, hung to the frame, its one end extending over the stud F, which forms the center of vibration of the pendulum, the pendulum-rod hung to said end of the lever H, and a connection, L between the said two levers, substantially as described.

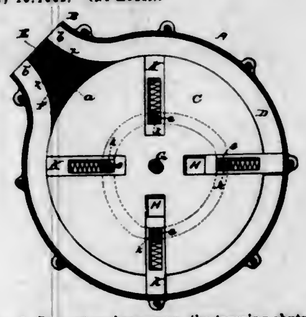
262,739. ATTACHMENT FOR NURSERY-CHAIRS. FRANKLIN S. GARNER, Taunton, Mass. Filed Apr. 3, 1882. (No model.)

Claim.—The combination of the slotted plate adapted to be attached to a child's chair with the clamps, the bolt upon which the clamps are mounted, adjustable in the slot of the plate, and the thumb-screw for locking the bolt at the desired adjustment in the slot, substantially as described.

262,739.



262,740. BEER-PUMP. WILLIAM J. CARVER, Louisville, Ky. Filed May 13, 1882. (No model.)



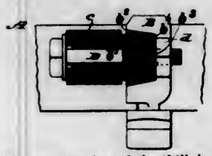
Claim.—1. In a rotary beer-pump, the tapering abutment E between the inlet and outlet passages, and having the scraper F, bearing on the rim-face of the wheel at the inner termination of the outlet-passage, substantially as specified.

2. A rotary beer-pump having the circumferential passage D, outlet and inlet passages, *b'* and *b*, eccentric grooves *d* in the side walls, radially-slotted piston-wheel C, and yielding slide-piston K in the piston-wheel engaging the eccentric grooves, substantially as specified.

3. In a rotary beer-pump, the combination, with the radially-slotted wheel C and the eccentric grooves *d*, of the slotted pistons K, their movable transverse bearings *h*, engaging the eccentric grooves, and their spring-bearings *e* between said transverse bearings and the ends of the pistons, substantially as specified.

4. The rotary beer-pump consisting of the case-rim A, having neck B, the tapering abutment E, scraper F, the eccentrically-grooved side-walls, L, radially-slotted piston-wheel C, slotted pistons K, transverse bearings *h* therein, and springs *s*, substantially as specified.

262,741. THILL-COUPLING. JOHN B. COLLINS, St. Louis, Mo. Filed Mar. 10, 1882. (No model.)



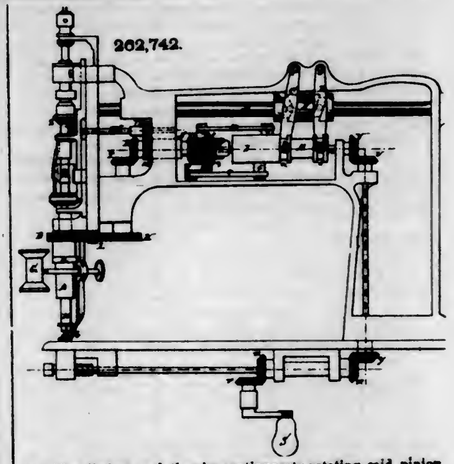
Claim.—The combination of the thill-iron C, having a conoidal eye, *c*, extending across its end, and the headed bolt D and nut *d*, with the clip B, having extension *b*, and conoidal bearing *b'*, adapted to extend nearly through eye *c*, its central perforation screw-threaded at b^2, all substantially as shown and described.

262,742. EMBROIDERING-MACHINE. EMIL GOEBELY, Paris, France. Filed June 10, 1882. (No model.)

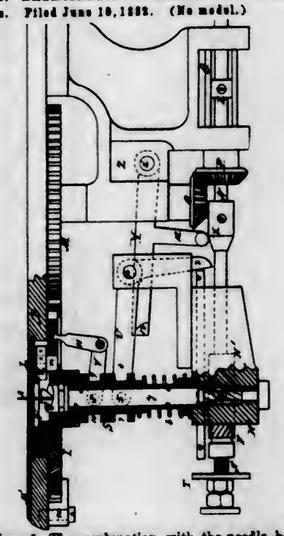
Claim.—1. In an embroidering-machine, the combination, with the continuously-rotating thread-carrier, of mechanism, as described, for controlling the movement of said thread-carrier according to the direction of the feed, as set forth.

2. The combination, with the shafts, gearing, and crank-handle for controlling the feed, and the thread-carrier and gearing for transmitting motion to the same, of a frame connected and revolving with one of the shafts operated from said crank-handle, a pinion mounted on a cross-shaft in said frame and connected with the train of gearing transmitting motion to said thread-carrier, sleeves or cylinders mounted loosely on said shaft and connected with said pinion and cross-shaft by cranks and pitmen, and levers vibrated by a cam on the main shaft for imparting a reciprocating motion to said cylinders, and thereby continuously rotating said pinion and the thread-carrier with which said pinion is connected, substantially as set forth.

262,742.



262,743. EMBROIDERING-MACHINE. EMIL GOEBELY, Paris, France. Filed June 10, 1882. (No model.)



Claim.—1. The combination, with the needle-hooks, looper, and reciprocating blade or blades, of devices, as described, for turning said hooks, looper, and blade or blades about a common center, so as to follow the direction of the universal feed, substantially as described.

2. The combination, with the needle-hooks, looper, and devices for oscillating said looper, of the gear-wheel I, the reciprocating blades carried in ways of said wheel, and connecting-gearing for connecting said wheel with the device which controls the direction of the feed, so that said looper and blades will follow the movement of the feed, substantially as described.

3. The combination, with the looper-rod and washer or plate thereon, of the rod *v*, lever U, sleeve S, reciprocated by said lever, lever V, and slide *a*, supporting the blade or blades G, substantially as described.

4. The combination, with the blade or blades, of the sleeve, levers, and rods for advancing said blade or blades on each backward movement of the looper-rod, and mechanism, as specified, for returning said blade or blades on each return movement of said looper-rod, substantially as described.

5. The combination of the reciprocating sleeve and connections for imparting motion to the slide carrying the blade or blades, the looper-rod, and mechanism, as specified, for depressing said sleeve at each backward movement of said rod, the conical nut on said rod, and the lever operated by said nut to raise said sleeve at each forward movement of said rod, substantially as described.

262,744. MEDICINAL COMPOUND. THEODORE CORNWELL, Cortland, N.Y. Filed May 2, 1882. (No specimens.)

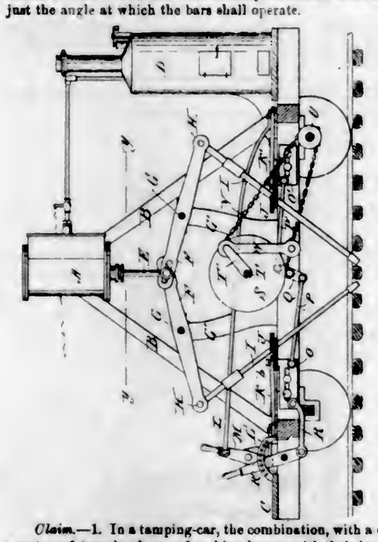
Claim.—The herein-described medicinal and tonic beverage, consisting of cider-brandy, soft water, phosphoric acid, or solution of acid phosphates, sugar-sirup, and essence or extract of orange-peel, in the proportions substantially as specified.

262,745. MANUFACTURE OF SOAP. SAMUEL CRUMP, Montclair, N.J. Filed July 11, 1882. (No specimens.)

Claim.—A cake, bar, or piece of soap having a coating or film of paraffine or analogous agent, substantially as set forth.

262,746. TAMPING-CAR. WILLIAM E. DAVIES, Derringer, Pa. Filed May 15, 1882. (No model.)

Brief.—On a car are arranged tamping-bars which pass through adjustable guide-plates provided with longitudinal slots, and are pivoted to rocking levers connected to a piston-rod operated by suitable motive power. The guide-plates are operated by means of hand levers and rods suitably connected thereto, to adjust the angle at which the bars shall operate.



Claim.—1. In a tamping-car, the combination, with a car and a motor, of tamping-bars and rocking levers, with their inner ends connected to a piston-rod or motor and their opposite ends to the tamping-bars, whereby the latter are simultaneously depressed and in like manner elevated, substantially as and for the purpose set forth.

2. In a tamping-car, the combination, with a car, of rocking levers, a motor for operating them, tamping-bars attached to these levers, and adjustable guide-plates through which the tamping-bars pass, substantially as herein shown and described, and for the purpose set forth.

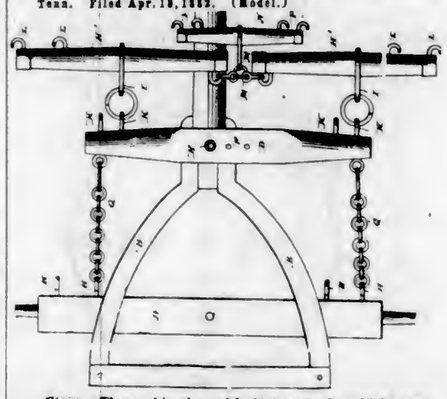
3. In a tamping-car, the combination, with a car, of rocking levers, a motor for operating them, tamping-bars connected with these levers, adjustable guide-plates for these levers, and devices for adjusting these plates, substantially as herein shown and described, and for the purpose set forth.

4. In a tamping-car, the combination, with the engine A, of the rocking levers F, the tamping-bars I, the guide-plates J, the elbow-levers K K', the rods L L', and the lever M, substantially as herein shown and described, and for the purpose of moving the guide-plates J in the direction of their length, as set forth.

5. In a tamping-car, the combination, with the engine A, of the rocking levers F, the tamping-bars I, the guide-plates J, provided with longitudinal slots N, the sliding plates O O', provided with studs *b*, and of devices for moving the plates O O', substantially as herein shown and described, and for the purpose set forth.

6. In a tamping-car, the combination, with the engine A, of the rocking levers F, the tamping-bars I, the guide-plates J, the sliding plates O O', the rods P P', the levers Q and R', and the rod R, substantially as herein shown and described, and for the purpose set forth.

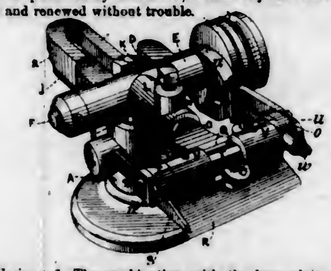
262,747. DRAFT-EQUALIZER. JOHN S. DEARING, Pulaski, Tenn. Filed Apr. 18, 1882. (Model.)



Claim.—The combination, with the tongue of a vehicle, plow, cultivator or other similar structure, of an adjustable transverse bar and the whiffletrees secured thereto, with connections for the outer traces, and the whiffletree secured to the inner ends of the first-mentioned whiffletrees, having connections for the inner traces, the whole arranged substantially as and for the purposes specified.

262,748. POWER-SHEARS FOR CUTTING KNIT OR WOVEN FABRICS, &c. WILLIAM DIESEL, Philadelphia, assignor of one-half to Conyers Batton, Germantown, Pa. Filed June 23, 1882. (No model.)

Brief.—The shears can be adjusted vertically and horizontally, so that they can be set in any desired position; also, to permit the adjustment of the blades relative to one another, so as to compensate for the wearing away of their cutting-edges; and, also, to render the parts readily detachable, so that they can be readily replaced and renewed without trouble.



Claim.—1. The combination, with the base-plate and the shears, of the telescoping standard B, adjustable both vertically and axially, arm S, adjustable horizontally, and their respective clamping devices, substantially as set forth.

2. The combination, with the shears and the base-piece, of the socket L and shank O and clamping device, substantially as set forth.

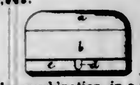
3. The combination, with the stationary blade, of an oscillating blade adjustable in the arc of its oscillation, substantially as set forth.

4. The combination of the blade S, the slot *t* in the head of the rock-shaft, and the clamping device *u*, substantially as set forth.

5. The combination of a laterally-adjustable fixed blade with an oscillating blade adjustable both longitudinally and in the arc of its oscillation, substantially as set forth.

6. The combination of the rock-shaft T and the crank *o*, secured thereto, with the eccentric-strap *u* and curved slot *p* and the clamping device, whereby said crank and strap may be adjusted relatively to one another, substantially as and for the purposes set forth.

262,749. JEWEL-CASE. JUAN MARIN DONARIN, Paris, France. Filed Nov. 16, 1881. (No model.) Patented in France May 8, 1879, No. 130,645.
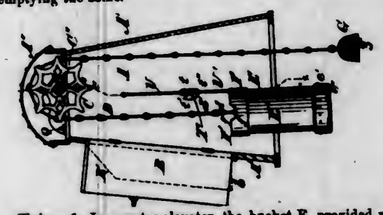


Claim.—1. The combination, in a jewel-case, of a shell composed of two pieces of sheet metal stamped into shape, and each having integral with it a portion of the hinge of the case, one piece forming the bottom and the lower portions of the sides of the case and the other piece forming the lid and the upper portions of said sides, and a cartouche made of sheet metal stamped into shape and projecting above the portions of the sides of the shell which are formed integral with the bottom, substantially as herein described.

2. A cartouche for a jewel-case, made of sheet metal stamped into shape, and adapted to support the jewel at all parts and to retain it in place, substantially as herein described.

262,750. WATER-ELEVATOR. ELIJAH F. DUNAWAY, Covington, Ky. Filed Aug. 27, 1881. (No model.)

Brief.—The bucket E has a flanged top, in which are the spouts F F', and which serves as a weight to tip the bucket. It also has a beaded flanged bottom, and between the bead *c'* and the bottom *e* is a float, E'', which makes the bucket buoyant and causes it to easily tip when it strikes the water. A casting, T, unites the swinging levers U and U', and has a projecting point, *t'*, which catches the lower flange, *e'*, of the bucket for the purpose of emptying the same.



Claim.—1. In a water-elevator, the bucket E, provided with spouts F F' and notches *f f* at its top, and beaded band *c' c''* and bottom *e*, constructed substantially as and for the purpose specified.

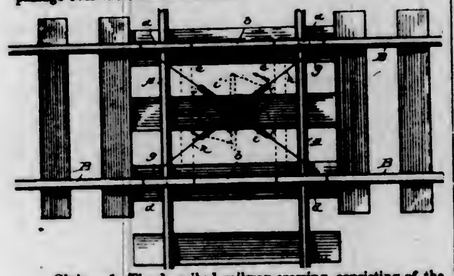
2. The spout-bucket E, suspended by a bail, *d*, from a drive-chain; D, and having a weighted top, F F', and beaded bottom *e c' c''*, for operation in connection with a swinging lever for tilting and thereby discharging it of its contents, substantially as herein set forth.

3. In a water-elevator, the spout-bucket suspended from a drive-chain, and having a weighted top and beaded bottom, in combination with pivoted lever mechanism for tilting the bucket, substantially as and for the purposes set forth.

4. In a water-elevator, the device for tilting the bucket, comprising a pair of swinging levers, U U', hinged together, and provided with a lug arranged and adapted to engage the bucket, substantially as and for the purpose described.

262,751. RAILWAY-CROSSING. EDWARD E. DWIGHT, Toledo, Ohio. Filed Apr. 27, 1882. (No model.)

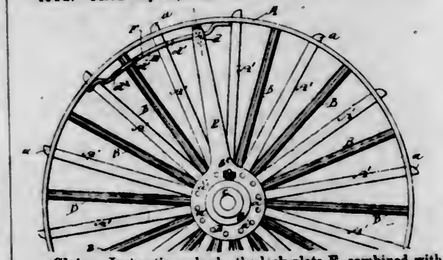
Brief.—The crossing consists of continuous uncut rails, over which pass pivoted bridge-sections of the crossing line rails, adapted to be moved simultaneously either to connect the upper rails and render them continuous or to break such connection and leave free passage over the uncut track-rails.



Claim.—1. The described railway-crossing, consisting of the uncut main-line rails A A, the rails B B, placed at an angle thereto, the fixed pieces *b b*, in line with the said rails B B and placed between the rails A A, and bridge-pieces *d*, pivoted between the said rails B *b*, and adapted to be moved simultaneously either to connect the said rails B *b* or to permit unobstructed passage over the rails A A, substantially as described.

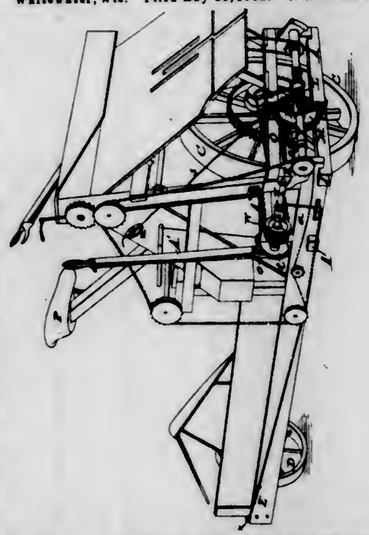
2. The combination of the main rails A A, the rail-pieces B *b b*, the hinged bridge-pieces *d*, the pivoted arms *i*, and the links *k*, substantially as described.

262,752. TRACTION-WHEEL. CHARLES M. KNOX, Mount Joy, Iowa. Filed May 10, 1882. (Model.)



Claim.—In traction-wheels, the lock-plate F, combined with lever E and adjustable traction-teeth *a*, substantially as shown and described.

262,753. GRAIN-HARVESTING MACHINE. GEORGE NETHERY, Whitewater, Wis. Filed May 23, 1882. (No model.)



Claim.—1. In combination with the harvesting-frame supported by the single driving-wheel, substantially as shown, the longitudinally-sliding tongue, the two diagonal braces connected therewith, and the diagonal brace extending from the main shoe to the main frame, substantially as described.

2. In a harvesting-machine, the rectangular main frame having the grain-platform connected rigidly therewith, in combination with the single supporting-wheel mounted within said frame, the tongue connected with the inner corner of the frame, and three diagonal braces, G, H, and J, arranged in relation to the tongue and frame in the manner described and shown.

3. In combination with the wheeled main frame, the divided driving-shaft, the universal coupling, the two rigid supports attached to the main frame, and the movable support or bearing E', located at the rear end of the frame, substantially as shown.

4. In a harvester, the combination of the horizontal rectangular main frame having the rack-plates thereon, the main wheel, its axle, and the adjusting-pinions mounted thereon, the horizontal shaft Y sustained upon and across the rear end of the frame in immediate proximity thereto, the winding-drum mounted upon

said shaft and provided with chains connecting with the winding-drum on the main axle, and the ratchet-lever co-operating with a ratchet-wheel on said shaft and extending thence upward adjacent to the driver's seat, as shown, whereby the driver is enabled to raise and lower the machine by hand, and the strains of the lifting-chain applied to the main frame in such manner that the latter is retained in its rectangular form.

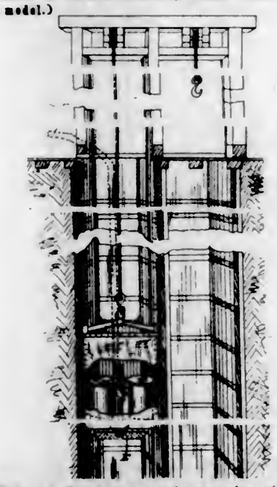
5. In combination with the main frame of the harvester, the upright standard F', connected with the said main frame by a horizontal sliding connection, substantially as described, means, substantially as described, for moving said standard, the vertical shaft H', mounted in said standard and provided with a pinion, I', at its lower end, the horizontal drawing-shaft K', and the sliding pinion J', seated upon said shaft and arranged to drive the pinion I', as described and shown.

6. In a harvester, the combination of the main frame and its supporting-wheel with the rack-plates thereon, the main wheel and axle, the frame-supporting pinions mounted upon said axle and engaging with the racks, the locking-dog O', to prevent the rotation of said pinions, and a manual device, substantially as shown, for holding said dog out of action, said device extending upward in the manner described in position to be operated by the driver.

7. In combination with the main frame, its racks, the main wheel and axle, the pinions T, the dog O', arranged, as described, to prevent the movement of the pinions, the cord *s*, extending upward from said dog, and the spring-clamp U, acting to hold the cord, whereby the operator is enabled to disengage the dog O' and hold the same out of action during the vertical adjustment of the frame, thus leaving the one hand free for the management of the team.

8. In combination with the main frame and the frame-elevating chain, the angular plate having at its upper end the overhanging jaw to receive and sustain the pulley, as set forth.

262,754. APPARATUS FOR PUMPING WATER FROM MINES. WILLIAM H. PERRY, Park City, Utah. Filed Mar. 29, 1882. (No model.)



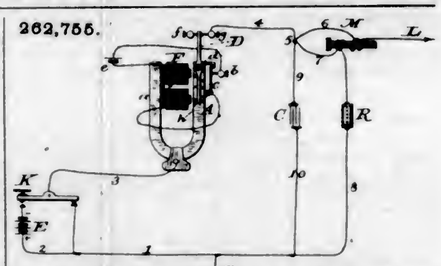
Claim.—1. In an apparatus for emptying mines of water, an air and water tight floating bed supporting mechanism for raising water, and adapted to steadily descend the shaft of the mine as the water is discharged, substantially as described.

2. The combination, with an air and water tight floating bed, of a pump supported thereon, and suitable means for discharging water from the pump, whereby the bed and pump will steadily fall as the level of the water supporting the bed is lowered by the pump, substantially as described.

3. In combination with a tank which forms the floating bed of a steam-pump, a screen-chamber below and protecting the suction-opening in said tank, through which the water is admitted to the pump, substantially as described.

262,755. DUPLEX TELEGRAPH. STEPHEN D. FIELD, New York, N.Y. Filed Apr. 26, 1881. (No model.)

Claim.—1. The combination, substantially as hereinbefore set forth, of a main line, an artificial or compensating line, a battery an electrotome, a key for connecting said battery simultaneously



to the main and artificial lines through the electrotome, and a condenser having one of its terminals connected directly to the main and artificial lines at their point of junction, and the other terminal with the earth.

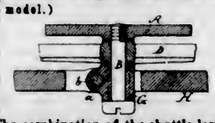
2. The combination, substantially as hereinbefore set forth, of a main line, an artificial or compensating line, a battery, an electrotome, a key for connecting said battery to the main and artificial lines through the electrotome, a receiving-instrument upon which the currents in the main and artificial lines produce equal and opposite effects, and a condenser having one of its terminals connected directly to the main and artificial lines at their point of junction and the other terminal with the earth.

3. The combination, substantially as hereinbefore set forth, of an electro-magnet, a vibrating fork, reed, or armature, an automatic circuit-breaker actuated by the vibrations of said armature, and a rigid pivoted contact-lever for opening and closing a main-line circuit.

4. The combination, substantially as hereinbefore set forth, of a vibrating rheotome, and a rigid pivoted contact-lever mounted thereupon, and having a frictional connection therewith.

5. The combination, substantially as hereinbefore set forth, of a vibrating bar, a rigid contact-lever pivoted thereto at or near its center of gravity, and two fixed stops between which the said contact-lever plays for breaking and closing a telegraphic circuit.

262,756. SEWING-MACHINE. FRANKLIN PEBLL, Philadelphia, Pa., assignor to the American Buttonhole, Overseaming and Sewing Machine Company, same place. Filed Apr. 11, 1882. (No model.)



Claim.—The combination of the shuttle-lever and feed-lever of a sewing-machine with a fixed pin, B, serving as a pivot for the shuttle-lever and forming part of a universal joint, by which the said feed-lever is hung, substantially as set forth.

262,757. SLATE ATTACHMENT. JOHN FOWLER, Louisville, Ky. Filed Apr. 11, 1882. (No model.)



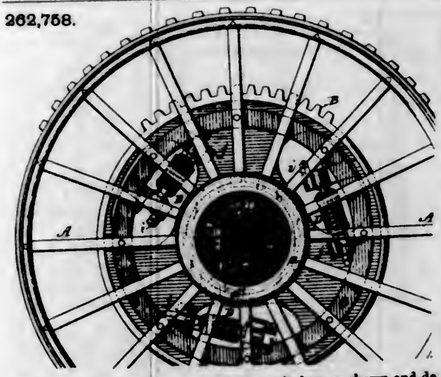
Claim.—A slate-frame having a spring-holder, D, for pencils attached to its edge or face by the part E, the rubber cushion *k*, under said part, and the screw-eye *l*, passing through the rubber cushion, substantially as specified.

262,758. TRACTION-WHEEL. ABRAHAM O. FRICK, Waynesborough, Pa. Filed Jan. 26, 1881. (Model.)

Claim.—1. A traction-wheel for a traction-engine, consisting of the combination of a driving gear-wheel and parallel ground-wheel, each having a separate axle or bearing and a spring or springs interposed between the axles or bearings, and an elastic link or links connecting the sides or rims of the driving-gear and ground-wheel, substantially as described, whereby an elastic or spring connection is maintained between the gear and ground wheel, permitting both vertical and rotary play.

2. In a wheel having its axle-spring seated within its hub, the combination, with the hub and a hollow non-rotating box therein, of a removable box, *c*, carrying the axle and fitting snugly within the main box, and one or more springs located beneath the said

262,758.



box *c* and between the same and the main box, as shown and described.

3. A traction-wheel composed of a running-wheel and a gear applied to each other and connected by springs, as described, combined with the axle and a spring-seat box carrying the axle, located within the hub of the running-wheel, as shown and described.

4. The combination of wheel A, having hub *a*, box *b*, spring-seated box *c*, the heads *e* and *f*, and the wheel B, arranged to revolve upon the peripheral portion of head *f* and flexibly connected with wheel A, as described.

262,759. RAILROAD SAFETY-SWITCH. JAMES H. GAMBLE, Nobe, Ill. Filed Jan. 25, 1882. (No model.)

Brief.—To set the spring switch-rails for the siding a flanged wheel upon the locomotive shifts a pivoted bar laterally, and a gravitating latch with a releasing-lever locks them in position until tripped by a rod upon the rear car. The forward end of the shifting-lever is upturned to trip an arm which controls a spring-catch, which secures the mechanism for depressing the flanged wheel, whereby said wheel may assume its elevated position after having acted upon the pivoted switch shifting-lever.

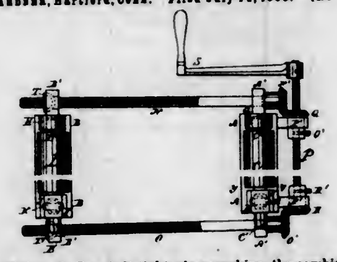


Claim.—1. The combination, with the spring switch-rails *c c'* and pivoted rail *h*, pivoted midway between the main track-rails and provided with the lug *h'* on its free end, of the lever *i*, fulcrumed on a shaft secured to the frame of a cow-catcher, and carrying at its forward end a wheel, *m*, having a central flange, *m'*, spring *n*, chain *o*, pulley *o'*, crank-shaft *o²*, connected with a lever in the cab, spring-catch *o³*, rod *o⁴*, and tripping-lever *p*, substantially as described, and for the purpose set forth.

2. The combination, with the lever *i*, having its fulcrum in the cow-catcher and carrying the flanged wheel *m*, of the spring switch-rails *c c'*, pivoted rail *h*, catch-lever *q*, provided with the pin *q'*, and slotted lever *s*, provided with an arm, *s'*, arranged to be struck in the forward movement of the cars by a vertical adjustable rod, *t*, secured to the rear car of a train, substantially as described, and for the purpose set forth.

3. The combination, with the main-track rails *a*, siding *b*, spring switch-rails *c c'*, and pivoted rail *h*, provided with the lug *h'*, catch-lever *q*, having the pin *q'*, slotted lever *s*, provided with the arm *s'*, and vertical rod *t*, adjustably secured to the rear car, of the lever *i*, carrying the flanged wheel *m*, spring *n*, chain *o*, pulley *o'*, crank-shaft *o²*, connected with a lever in the locomotive-cab, spring-catch *o³*, rod *o⁴*, and tripping-lever *p*, substantially as described, and for the purpose set forth.

262,760. BELT-TIGHTENING MACHINE. FREDERICK M. GARDNER, Hartford, Conn. Filed July 14, 1882. (No model.)



Claim.—1. In a belt-tightening machine, the combination of the cam-roller C with the bar A, said roller being hinged at one end and provided with a detachable fastening at the other, substantially as described.

2. In a belt-tightening machine constructed substantially as shown, the square C' upon the end of the journal of the cam-roller C, substantially as described.

3. In a belt-tightening machine, the adjusting device J L between the bar A and the roller C, in combination with said bar and roller, substantially as described.

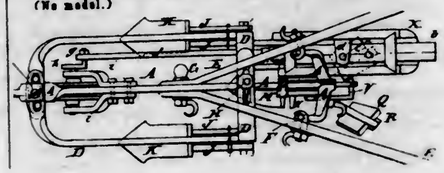
4. The dovetailed swivel-nut T, in combination with its dovetailed socket in the part B' and the screw N, substantially as described.

5. The combination of the screws N C, provided with swivel-nuts resting in the bar B, and with bearings in the bar A, the bevel-gear wheels N' C', the rod P, and the bevel-gear wheels Q R, provided with the set-screws Q' R', whereby either screw N or C can be turned without the other, substantially as described.

262,761. ART OF BREWING MALT LIQUORS. JOS. F. GRUT Columbus, Ind., assignor to himself and Gaff, Gaut & Thomas, same place. Filed Jan. 26, 1882. (No specimens.)

Claim.—In the art of brewing malt liquors from barley, malt, and corn, the process of mashing, which consists in steeping a percentage, as set forth, of hulless corn-flakes simultaneously with malt and hops, whereby the preliminary cooking of the corn product is eliminated from the mashing process and the subsequent fermentation improved.

262,762. COMBINED SEED-PLANTER AND CULTIVATOR. GEORGE L. GIPPORD, San Antonio, Tex. Filed Feb. 17, 1882. (No model.)

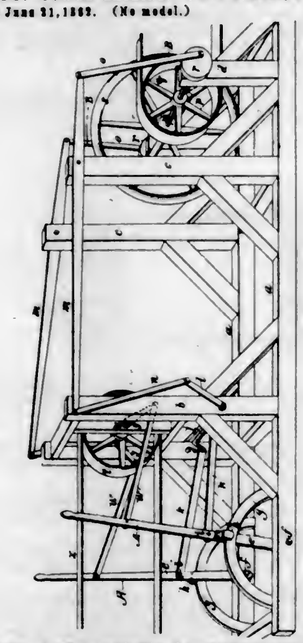


Claim.—1. In a combined seed-planter and cultivator, the combination, with the beam A, of the side bars, D, having their rear parts bent downward, rearward, and upward to receive the plow-standards, and their ends bent inward and slotted to receive the fastening-bolts, substantially as herein shown and described, whereby the plows can be adjusted at any desired distance apart, as set forth.

2. The combination of the beam A, widened at the front end and provided with a transverse row of holes, the bolt B, the draft-hook C, and the front-curved, slotted, overlapping side bars, D, as described.

3. In a combined seed-planter and cultivator, the combination, with the bent rear part of the beam A, of the opening-plow standard N, the double beam R, carrying the covering-plows, and the curved and slotted brace V, substantially as herein shown and described, whereby the said opening and covering plows can be adjusted together or separately, as set forth.

262,763. POWER-MACHINE. DAVID K. HALL, Unity, Wis. Filed June 21, 1882. (No model.)



Claim.—1. The combination, in a power apparatus, of a pulley, *i*, and a crank-shaft connected with levers *c*, said levers being connected to a crank-shaft, *j*, and said crank-shaft *j* connected to the driving-shaft *p*, pulley or cog-wheel *q*, and a balance-wheel *s*, substantially as described.

2. The combination, in a power apparatus, of hand-levers *c*, connecting-levers *k*, crank-shaft *j*, connecting-rods *n* and *o*, levers *m*, and shaft *p*, having crank-wheels *r*, balance-wheel *s*, and pulley *q*, substantially as described and set forth.

3. In a power apparatus, the combination of the power-receiving portion A thereof and the power-delivering portion B thereof with the power-transmitting levers *m*, substantially as described and set forth.

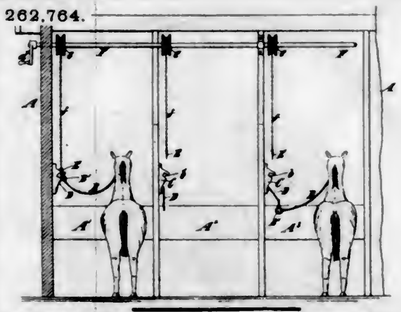
262,764. ANIMAL HITCHING AND RELEASING DEVICE. ROBERT H. HART, New York, N. Y. Filed May 18, 1882. (No model.)

Claim.—1. The fastening device consisting of the stock-piece C, the hinged hasp D D', and the removable pin or key E, all substantially as specified.

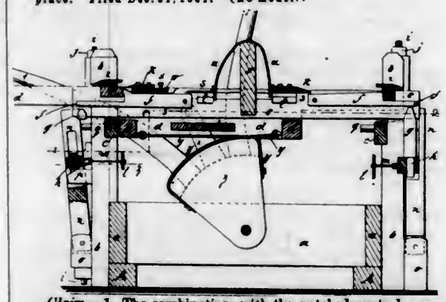
2. The fastening device composed of the stock-piece C, inclined at the top and provided with the notch *b*, the hinged hasp-piece D, provided with the hinged lip or flap D', and the removable key or pin E, substantially as specified.

3. The combination of the rings B', the notched stock-pieces C, hasp-pieces D, lips or flaps D', pins or keys E, cords or chains *f*, and shaft F, all substantially as specified.

262,764.



262,765. SHINGLE-SHAVING MACHINE. JAMES M. HARVEY, Palmyra, Tenn., assignor to himself and Thomas J. Laird, same place. Filed Dec. 21, 1881. (No model.)



Claim.—1. The combination, with the notched posts *b*, connected by cross-bar *c*, of the horizontal sliding knife-sash *d*, having its connected middle parts extended downwardly, the fixed sash *e*, arranged between the side bars of sash *d*, the two hinged platforms, *f*, resting on stud *g*, rabbeted, and having vertical play, with the outer ends beneath the cross-bars of sash *e*, the mortised hinged latch *h*, and the catch-bar *i*, carrying an adjustable nut, *j*, having two shoulders and beveled below the lower shoulder, as shown and described.

2. The combination, with the latch *h*, of the spring *l*, the rod *m*, the slotted bar *n*, hinged to a support, *o*, the guide-arm *p* on post *b*, the loose pin *g*, arranged in a hole of post *b*, the knife-sash *d*, adapted to strike said pin, and the shouldered catch-bar *i*, whereby the shingle is released when the knife-sash reaches its forward movement, as described.

3. In a shingle-machine, the combination, with the stationary sash *e* and the hinged platforms *f*, of the studs *g*, the latches *h*, and the catch-bars *i*, substantially as herein shown and described, whereby the said platforms can be adjusted to give the proper taper to the shingles, as set forth.

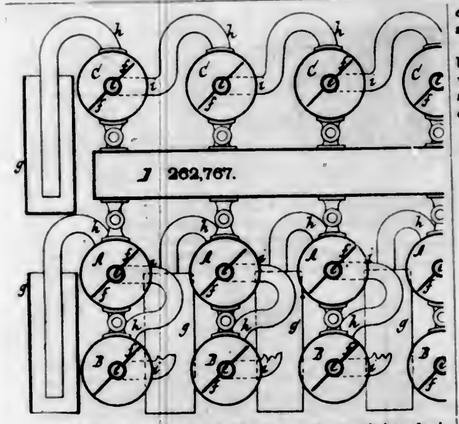
4. The combination of the stop-bar *r*, arranged between the ends of posts *b* and attached to the ends of sash *e*, the toothed rear flanged plates, *s*, the blocks *t*, sliding in grooves of sash *e*, the springs *u*, and the standard *v*, all said parts being arranged so that the knife will withdraw the toothed dog on its return-stroke, as described.

5. The combination, with the knife-sash *d*, of the flexible cross-straps *y*, the sector *z*, pivoted at the axis of the cylinder of which it forms a part, the two levers 1 1, curved in opposite directions, and the lever 2, having crank-pin 3, as and for the purpose specified.

262,766. TANNING COMPOUND. CHAS. T. HAYDEN, Whitesborough, Tex. Filed May 4, 1882. (No specimens.)

Claim.—The herein-described compound for use in tanning, consisting of soft water, sulphuric acid, terra-japonica, leachings from horse-manure, starch, dog-fennel, cured leaf-tobacco, broom-weed, and common salt, in the proportions specified.

262,767. APPARATUS FOR MANUFACTURING SODA BY THE AMMONIA PROCESS. HENRI J. E. HASSENDTER, Anglet, assignor to the Société Anonyme des Produits Chimiques du Sud-Ouest, Paris, France. Filed Dec. 23, 1881. (No model.) Patented in France June 16, 1881, No. 142,090.



Claim.—1. The herein-described apparatus, consisting of primary cylinders, C, secondary cylinders, A B, and receiver D, communicating with said cylinders, said cylinders being provided with inlet-tubes *e* and rakes or stirrers *f*, substantially as set forth.

2. The herein-described apparatus, consisting of primary cylinders, C, secondary cylinders, A B, and receiver D, communicating with said cylinders, said cylinders being provided with inlet-tubes *e*, rakes or stirrers *f*, and water-valves *g*, substantially as set forth.

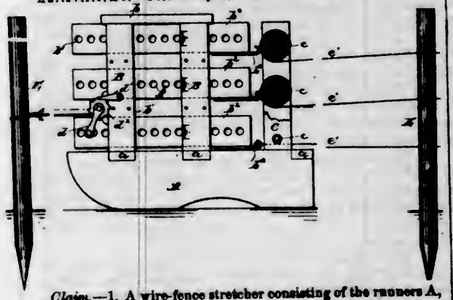
3. The herein-described apparatus, consisting of primary cylinders, C, and secondary cylinders, A B, and receiver D, communicating with said cylinders, said cylinders being provided with inlet and communicating tubes *e h i* and rakes or stirrers *f*, substantially as set forth.

4. The herein-described apparatus, consisting of primary cylinders, C, and secondary cylinders, A B, and receiver D, communicating with said cylinders, said cylinders being provided with inlet and communicating tubes *e h i*, rakes or stirrers *f*, and water-valves *g*, substantially as set forth.

5. The herein-described apparatus, consisting of primary cylinders, C, and secondary cylinders, A B, said cylinders being provided with perforated revolving tubes *e* and rakes or stirrers *f*, supported on said tubes, substantially as and for the purpose set forth.

6. The herein-described apparatus, consisting of primary cylinders, C, and secondary cylinders, A B, with the connecting-pipes, said cylinders being provided with tubes *e*, perforated longitudinally and extending throughout the length of such cylinder, substantially as set forth.

262,768. BARBED-WIRE STRETCHER. WILLIAM HUDSON, Hallsville, Mo. Filed July 6, 1882. (No model.)

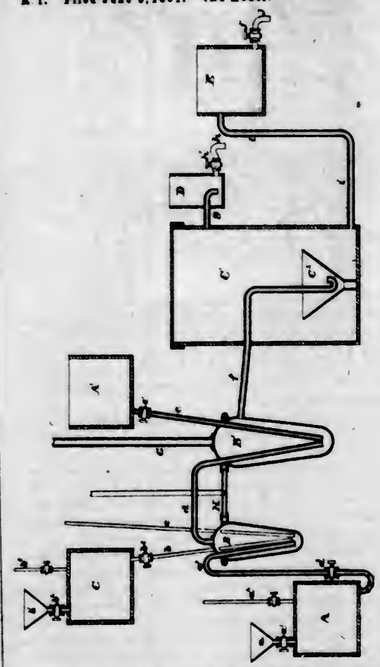


Claim.—1. A wire-fence stretcher consisting of the runners A, secured by braces *a a*, the vertical standards B, windlass D, and horizontal stretcher-bars b^2, provided with a series of holes, b^2, into which is inserted the lever b^2, and having hooks upon their rear ends adapted to hold the wires while being stretched, substantially as shown and described.

2. A wire-fence stretcher consisting of the runners A, secured by braces *a a*, provided with vertical standards B, windlass D, and horizontal stretcher-bars b^2, provided with a series of the holes b^2, into which is inserted the lever b^2, and having a vertical wire-roller frame, C, arranged upon its rear portion, and provided with rollers *c*, adapted to receive the rolls of fence-wire, substantially as shown and described.

3. A wire-fence stretcher consisting of the runners A, secured by braces *a*, the vertical standards B, stretcher-bars b^2, provided with holes b^2, adapted to receive the lever b^2, hooks b^2, and pins b^2, and provided with a windlass, D, adapted to receive the draft-rope *e*, substantially as shown and described.

262,769. PROCESS OF AND APPARATUS FOR THE PRODUCTION OF NITRO-GLYCERINE. WALTER N. HILL, Newport, R. I. Filed June 6, 1881. (No model.)



Claim.—1. The process of producing nitro-glycerine by mixing glycerine with a portion only of the acid required for its conversion into nitro-glycerine, allowing reaction to take place with the aid of agitation by air or otherwise, passing the partially-converted mixture into another and larger vessel, and adding the necessary additional quantity of acid to complete the conversion, substantially as described.

2. The combination of two reaction or mixing vessels of different sizes connected by a pipe, two acid-tanks, each connected by a pipe to one of said mixing-vessels, and a glycerine-tank connected by a suitable pipe to one of said mixing-vessels, substantially as described.

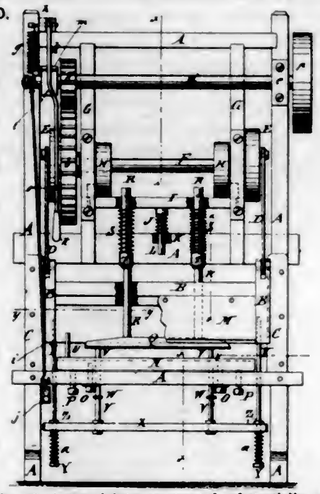
3. The combination of two acid-tanks, two reaction or mixing vessels of different capacities connected together and to the acid-tanks by suitable pipes, a separating-vessel connected by a pipe with the second or larger mixing-vessel, and means of supplying glycerine to one of said mixing-vessels, all arranged and adapted to operate substantially as and for the purposes described.

4. The combination of the acid-tanks A and A', the reaction or mixing vessels B and B', the separator C', the receivers D and E, arranged at different levels, suitable pipes connecting the several vessels, means of supplying glycerine to the mixing-vessel A, and means of controlling the flow of spent acid from the receiver E, all arranged and adapted to operate to produce a continuous operation, substantially as described.

262,770. BASKET-STAVE JOINTER. WARREN E. HIBBERT, Evanswood, Wis. Filed Apr. 28, 1882. (No model.)

Brief.—The blank is laid upon a concave former and clamped in the center by a convex former operated by cams from the driving-shaft. While thus bent the reciprocating cutter descends, surrounding the formers. Suitable mechanism is provided for throwing the working parts in and out of gear.

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Claim.—1. A stave-jointer constructed, substantially as herein shown and described, with a sliding sash carrying knives positioned to shaped both edges of the staves at once, and with a stave-clamp composed of an upper block adapted to work between the knives and a lower block over which the knives pass, secured to the frame of the machine, as set forth.

2. In a stave-jointer, the sliding sash B, fitted with knives M, combined with the stave-clamp blocks Q N, having curved faces, substantially as and for the purpose set forth.

3. A basket-stave jointer constructed substantially as herein shown and described, and consisting of the frame A, the form N, the vertically moving sash B, carrying the knives M, the spring-pressed cam driven holder Q, the gear-wheels *b c*, and mechanism for throwing the gearing into and out of gear, as set forth.

4. In a basket-stave jointer, the combination, with the frame A and the driving-gearing *b c*, of the sash B, carrying the knives M, the form N, having concaved face, the holder Q, having convexed face and provided with suspension-rods R, the cross-bar I, the cams H, and the springs J S, substantially as herein shown and described, whereby the staves are held and jointed, as set forth.

5. In a basket-stave jointer, the combination, with the frame A, the sash B, provided with knives M, the form N, and the gear-wheels *b c*, of the holder Q, having suspension-rods R, the cross-bar I, the cams H, and the springs J S, substantially as herein shown and described, whereby the staves will be securely held while being jointed, as set forth.

6. In a basket-stave jointer, the combination, with the sash B, provided with the knives M, the gear-wheels *b c*, and the driving-shaft *d*, of the rod and lever *i j* and the spring *g*, substantially as herein shown and described, whereby the said gear-wheels can be thrown into and out of gear, as set forth.

7. In a basket-stave jointer, the combination, with the sash B, provided with the knives M, the gear-wheels *b c*, the driving-shaft *d*, and the hinged bearing-arm *f*, of the catch-plate *m* and the swinging lever *k*, having shoulders *l*, substantially as herein shown and described, whereby the said gear-wheels are locked in gear, as set forth.

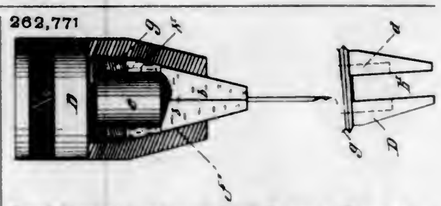
8. In a basket-stave jointer, the combination, with the sash B, provided with the knives M, the gear-wheel *b*, and the locking-lever *k*, having inclined projection *n*, of the trip-pin *o*, substantially as herein shown and described, whereby the said locking-lever will be tripped automatically to throw the gear-wheels out of gear at each revolution of the said gear-wheel, as set forth.

9. In a basket-stave jointer, the combination, with the knife-sash B and the gage-pins V, of the rods Y, the springs *a*, and the cross-bar X, substantially as herein shown and described, whereby the said gage-pins are withdrawn and projected by the movements of the knife-sash, as set forth.

262,771. DRILL-CHUCK. JOHN H. HOAGUE, Chicopee, Mass. Filed June 29, 1882. (No model.)

Claim.—The combination, with the threaded shell B, having the conical surface *f*, of the conical plug D, having the threaded bushing *g*, slot *b'*, and counterbore *d*, and the plug C, having the

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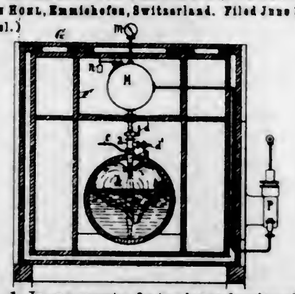
threaded bushing A, and provided with the stem *c*, all arranged to operate in the manner and for the purpose set forth.

262,772. ORGAN-STOP KNOB. SAML. J. HODGSON and GEO. C. PUTTIS, New Haven, Conn. Filed Apr. 17, 1882. (No model.)



Claim.—The herein-described disk for organ-stop knobs, consisting of the outer disk made from pyroxyline compound, combined with fibrous backing, the said backing secured to the outer disk by an adhesive material of which a solvent of pyroxyline is a component part, substantially as described.

262,773. APPARATUS FOR DRAWING LIQUOR FROM KEGS. HEINRICH HOHL, Emmichofen, Switzerland. Filed June 3, 1882. (No model.)



Claim.—1. In an apparatus for tapping or drawing off liquor from kegs or casks, a tubular stem provided with a suitable cock, and having at one end a flexible bag or bladder capable of being introduced within the keg or cask, and distended therein by means of air, water, or other fluid, substantially as described.

2. The combination, in an apparatus for tapping kegs or casks, of the tubular stem connected with a flexible bag or bladder and screw-threaded along a portion of its length, with the elastic bushing fitted upon the stem and adapted to be inserted in the bung-hole of the keg or cask, the nut or collar held upon the tubular stem against one end of said bushing, and the tightening-nut which works upon the stem and bears against a washer that fits against the remaining end of the elastic bushing, whereby by tightening up said nut the elastic bushing will be compressed and caused to bulge out, so as to form a tight joint at the bung-hole of the cask, substantially as described.

3. The combination, in an apparatus for tapping kegs or casks, of a cock, *d*, and a branch pipe, d^3, having a suitable cock, of the flexible bag or bladder connected with one end of the tubular stem, substantially as described.

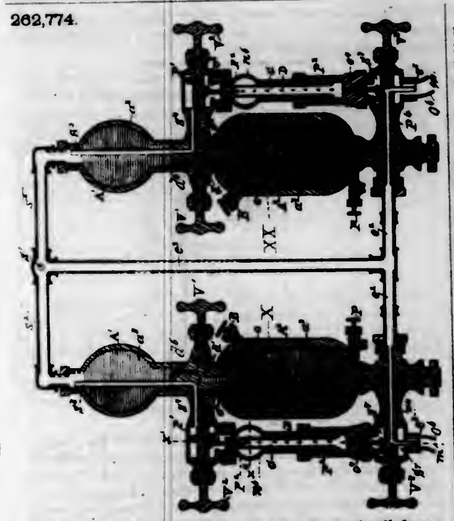
4. The combination, with the casing having an ice-chamber, of the receiver M, located within said chamber, the tubular stem connecting at one end with the receiver and at its opposite end connected with a flexible bag or bladder, and a suitable cock for controlling the flow of air or water from the receiver into the flexible bag or bladder, substantially as described.

5. In an apparatus for tapping kegs or casks, the tubular stem *a*, connected with a pipe, d^3, having a suitable cock, in combination with the flexible bag or bladder A, connected to one end of the tubular stem, substantially as described.

262,774. LUBRICATOR. TIMOTHY HOLLAND, Troy, N. Y. Filed June 26, 1882. (No model.)

Claim.—1. The combination of a lubricating-vessel containing an oil and water chamber that is connected with a steam-boiler so as to receive steam-pressure therefrom, and constructed to deliver oil to a conduit-pipe, a conduit-pipe to connect said lubricator with one of the steam-cylinders of a locomotive, and a steam-pipe connecting said conduit-pipe with the steam-boiler, as and for the purposes herein set forth.

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2. In a lubricating device constructed to supply oil from a pendent nozzle in descending drops within a glass tube that is larger than the oil-pipe and its nozzle, and which glass tube connects, so as to be steam-tight, with a conduit-pipe at the lower end of the tube, the combination of a steam-pipe connecting with said glass tube to force the descending drops through the latter and the connected conduit-pipe, and a steam-pipe connecting said conduit-pipe with the boiler, as and for the purposes set forth herein.

3. In a lubricating device, the combination of an upper chamber connected with the steam-boiler, a lower oil and water chamber connected with the upper chamber by a pipe, and provided with an oil-overflow outlet near its top, having a pendent discharge-nozzle, and an intermediate valve on the pipe connecting the two chambers to regulate the steam-pressure upon the oil and water in the lower chamber and the flow of condensation from the upper chamber thereto, as and for the purposes herein described and set forth.

4. In a lubricating device connected with the steam-boiler so as to receive pressure therefrom, the interiorly-arranged pipe S', open at its upper end, and its horizontal connection S^4, made with the annular space *a* in the pipe I', as and for the purposes herein described.

5. In combination with the glass tube of a lubricating device, an exteriorly-placed protecting-pipe constructed with oppositely-arranged sight-openings through which to observe the flow of oil through the pipe, and a clamp constructed with oppositely-arranged plugs, and a thumb-screw to secure the plugs within the sight-openings of the exterior protecting-pipe, as shown and described.

6. The combination, with the exterior transparent tube which receives the oil from the lubricating-vessel and delivers it in visible drops to a conduit-pipe leading to the cylinder of an engine, of a puppet-valve, *n*, and a chamber, S', provided with a valve-seat, *n'*, arranged intermediate the said tube and the pipe, substantially as described.

7. A lubricating device in combination, consisting of two lubricating-vessels, X and X X, connected with the boiler at S' by the branch steam-pipes S^2 S^3, and each having a conduit-pipe for attachment to a locomotive steam-cylinder, and each conduit-pipe connected with the boiler, as shown and described.

262,775. OIL-CUP. TIMOTHY HOLLAND, Troy, N. Y. Filed Apr. 19, 1882. (No model.)



Claim.—1. A glass reservoir or oil-cup provided with a neck and having an externally-screw-threaded collar for engaging the detachable nozzle, secured against rotation upon the neck by a retaining-wire, which is passed around the cup, substantially as described.

2. A glass oil-cup provided with a neck and having an externally-screw-threaded collar for engaging the detachable nozzle rigidly held upon the neck by a wire, which passes around the cup from end to end and is secured at its ends to the said collar, substantially as described.

3. A glass oil-cup formed with a projecting neck and upon its opposite sides with a groove extending along the said neck and terminating at or near the edge thereof, said groove being adapted to receive a retaining-wire for attaching a metal collar upon the neck and preventing its rotation independent of the same, substantially as described.

4. The combination of the glass oil-cup provided with a neck and having a groove extending around the cup on opposite sides from end to end, with the externally-screw-threaded collar fitted upon the neck and a retaining-wire fitted in the groove and connected at its ends with the collar, the said groove having its terminals located in the neck at or near the edge thereof, substantially as described.

5. The combination, with the glass oil-cup, of the externally-screw-threaded collar fitted upon a grooved neck of the cup, the retaining-wire held upon the cup and having its ends received in the grooved portions of the neck and secured to the collar, and a nozzle or nipple adapted to be screwed upon or off from the collar thus secured, substantially as described.

262,776. AUTOMATIC FIRE-EXTINGUISHER. CHARLES L. HORACK, Brooklyn, N. Y. Filed Apr. 21, 1882. (No model.)



Claim.—1. In fire-extinguishers, an automatic distributer provided with a series of openings arranged so as to produce intersecting streams, combined with a series of valves arranged to cover said openings, as set forth.

2. In fire-extinguishers, an automatic distributer provided with a series of openings arranged so as to produce intersecting streams, combined with a series of valves arranged to cover said openings, as set forth, the arrangement being such that the pressure of the extinguishing-fluid partly balances said valves, the remaining pressure being taken up by one common brace.

3. In fire-extinguishers, an automatic distributer provided with a series of openings, combined with a series of valves arranged to cover said openings, the arrangement being such that the pressure of the extinguishing-fluid partly balances said valves, the remaining pressure being taken up by a single support.

4. In fire-extinguishers, an automatic distributer provided with a series of openings, combined with a series of valves arranged to cover said openings, the arrangement being such that said valves rest against a common support, adjusted so as to become relieved by the heat of a fire, as set forth.

5. In fire-extinguishers, an automatic distributer provided with a series of openings, combined with a series of separate and independent valves, all said valves being held in position by means of one soldered joint, as set forth.

6. A ring or link shaped distributer for fire-extinguishing purposes, having a series of perforations arranged along its inner surface in such a manner as to produce intersecting streams, for the purpose set forth.

7. A ring or link shaped distributer for fire-extinguishing purposes, having a series of perforations arranged along its inner surface in such a manner as to produce intersecting streams, said inner surface being protected by a cap, substantially as set forth.

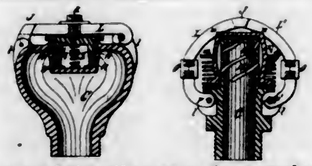
8. In fire-extinguishers, an automatic distributer provided with a series of openings, combined with a series of valves arranged to cover said openings, said valves being made to rest against a bracing-piece adjusted and forced toward the valves by means of screw-threads.

9. In fire-extinguishers, an automatic distributer provided with a series of openings, combined with a series of valves arranged to cover said openings, said valves being made to rest against a bracing-piece, provided or connected with a spring for the purpose of removing said bracing-piece after it has become relieved by the heat of a fire.

262,777. AUTOMATIC FIRE-EXTINGUISHER. CHARLES L. HORACK, Brooklyn, N. Y. Filed May 5, 1882. (No model.)

Claim.—1. In an automatic fire-extinguisher, a valve closing one or more outlets, said valve being partly balanced by the pressure of the extinguishing-fluid, the remaining pressure being taken

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up by a brace transferring said pressure to a lever secured so as to become released by the action of heat, substantially as described.

2. In an automatic fire-extinguisher, a valve closing one or more outlets, said valve being partly balanced by the pressure of the extinguishing-fluid, the remaining pressure being taken up by a lever secured by a thin film of solder, and arranged to become entirely detached from the sprinkling-cup after the soldered joint has been broken and the valve removed from its seat, substantially as described.

3. In an automatic fire-extinguisher, a valve closing one or more outlets, said valve being partly balanced by the pressure of the extinguishing-fluid, and held in position by means of a lever arranged so as to become released by the action of heat, substantially as described.

4. In an automatic fire-extinguisher, a valve closing a series of outlets arranged so as to produce intersecting streams, said valve being held in position by means of a lever arranged so as to become released by the action of heat, substantially as described.

5. In an automatic fire-extinguisher, a valve closing one or more outlets confined by a lever arranged to be relieved by the action of the heat of a fire, said valve being adjusted in its position by screw-thread arrangement, substantially as described.

6. In an automatic fire-extinguisher, the combination of a valve closing one or more outlets and confined by a lever arranged to be relieved by the action of the heat of a fire, and a screw passing through the lever and resting upon the valve, substantially as described.

7. In an automatic fire-extinguisher, a valve closing one or more outlets, confined by a lever arranged to become released by the action of the heat of a fire, said lever containing screw-thread arrangement for adjusting the valve, substantially as described

8. In an automatic fire-extinguisher, the combination of a valve closing one or more outlets and partly balanced by the pressure of the extinguishing-fluid, a lever confining the same until relieved by the action of heat, and a spring arranged so as to assist in opening said valve, substantially as described.

9. In a fire-extinguisher, a sprinkling-cup with a recess the walls of which contain the perforations for the discharge of the extinguishing-fluid, substantially as described.

10. In an automatic fire-extinguisher, a sprinkling-cup with a recess the walls of which contain the outlets for the extinguishing-fluid, substantially as described.

11. In an automatic fire-extinguisher, a valve closing one or more outlets, said valve having two separate seats, one above and the other below the outlet or outlets, substantially as described.

12. In an automatic fire-extinguisher, a valve closing one or more outlets, said valve being partly balanced by the pressure of the extinguishing-fluid and connected with a spring arranged to assist in opening said valve, substantially as described.

13. In an automatic fire-extinguisher, a valve constructed as a cap or plug, said valve being arranged so as to be partly balanced by the pressure of the extinguishing-fluid, substantially as described.

14. In an automatic fire-extinguisher, a cap or plug-shaped valve closing one or more outlets, said outlets being directed toward the circumference of said valve, substantially as described.

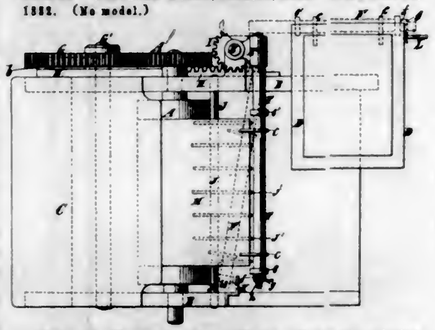
15. In automatic fire-extinguishers, a distributer provided with a series of openings arranged so as to produce intersecting streams, combined with a valve preventing the discharge of the extinguishing-fluid upon a fire until released by the action of the heat of a fire, substantially as set forth and described.

16. In automatic fire-extinguishers, a distributer arranged to discharge the extinguishing-fluid in different directions, so as to make it meet at a point outside of the distributer, combined with a device preventing the discharge of the extinguishing-fluid upon a fire until released by the action of the heat, substantially as set forth and described.

17. In an automatic fire-extinguisher, a valve closing one or more outlets, said valve being partly balanced by the pressure of the extinguishing-fluid, combined with a brace arranged to take up and transmit the remaining pressure to a soldered joint, substantially as set forth and described.

18. In an automatic fire-extinguisher, a valve closing one or more outlets, said valve being partly balanced by the pressure of the extinguishing-fluid, combined with a connecting-piece between said valve and a seal, which seal is arranged to be broken by the heat of a fire, substantially as set forth.

262,778. DELIVERY APPARATUS FOR PRINTING-MACHINES. BERTHOLD HUBER, Taunton, Mass. Filed Feb. 13, 1882. (No model.)



Claim.—1. The combination, with the cylinder of a printing-press adapted to rotate at the time the sheet is taken by the delivery apparatus, of delivery-grippers which are adapted to move toward and from the cylinder in a horizontal plane parallel with the axis of the cylinder, and which in their movement toward the cylinder are carried past the position at which they take the sheet, and which are started in their movement in the direction requisite for carrying off the sheet before they arrive in the position at which they take the sheet, substantially as specified.

2. The combination, with the cylinder of a printing-press, of a horizontal bar carrying delivery-grippers and fulcrumed at one side of the press, and mechanism, substantially such as described, for swinging said bar from a position approximately parallel with said cylinder outward to the side of the press where the sheet is delivered, substantially as specified.

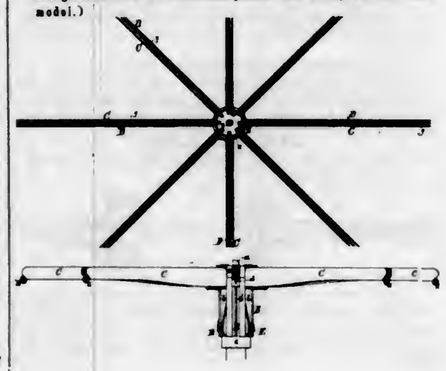
3. The combination, with the cylinder of a printing-press, of a horizontal bar carrying delivery-grippers and fulcrumed at one side of the press, and mechanism, substantially such as described, for swinging said bar toward the cylinder, past the position at which it takes the printed sheet, and for swinging said bar away from the cylinder to deliver the printed sheet at the side of the press, substantially as and for the purpose specified.

4. The combination, with the cylinder A and the delivery-table D at the side of the press, of the upright shaft E and the horizontally-swinging gripper-carrying bar fulcrumed on said shaft, substantially as specified.

5. The combination, with the cylinder A, of the upright shaft E, the swinging gripper-carrying bar F, the sector or pinion I on the shaft E, and the cam-wheel G and rack-bar H, for oscillating said shaft, substantially as specified.

6. The combination of the bar F, with fixed grippers c, the movable shaft e, with grippers d, the spring e^3, the toe f, the loose lever g, and the stationary stops K and L, substantially as specified.

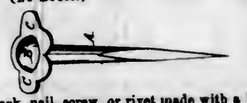
262,779. CLOTHES-DRIER. GEO. W. HUTCHINS, Dover, N. H., assignor to John W. Foss, same place. Filed May 8, 1882. (No model.)



Claim.—1. In the clothes-drier, the combination of the grooved rotary head B, its series of wires or cords, D, and the series of radial arms C and their supporting-latches E, all arranged and applied substantially and to operate as and for the purpose set forth.

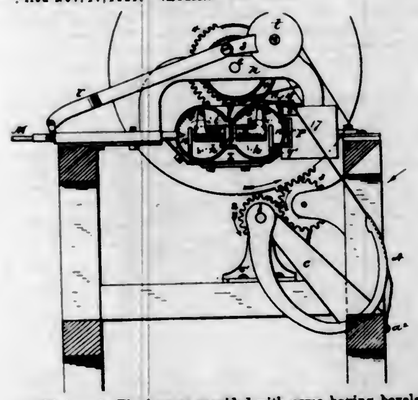
2. The combination of the grooved rotary head and its two ferrules with the series of radial arms and the series of radial wires and their spring-latches, all arranged and to operate substantially as shown and explained.

262,780. NAIL. JOHN HYSLOP, Jr., Abington, Mass. Filed Apr. 19, 1882. (No model.)



Claim.—A tack, nail, screw, or rivet made with a head having a raised center, B, and an ornamental flange, C, substantially as herein shown and described, whereby the said head will have a wide holding-surface and will be highly ornamental, as set forth.

262,781. GRAIN-BINDER. HARVEY R. INGLEBUR, Carroll, Iowa. Filed Nov. 17, 1881. (Model.)



Claim.—1. The loopers provided with arms having beveled faces, in combination with a plate having circular recesses formed on its face, into which the said loopers are withdrawn and revolved by suitable mechanism in opposite directions, substantially as described.

2. The combination of the rotary and reciprocating loopers, the plate, with its circular recesses, and the revolving tapering pin, substantially as described.

3. The combination of the loopers, the plate having the recesses, the revolving tapered pin, the reciprocating cord-grasper and its sheath, and the cord-holder, substantially as described.

4. The combination of the needle-arm, the loopers K K', the reciprocating grasper M, the revolving tapered pin O, the guards 14, and the cord-holding device P, substantially as described.

5. In a grain-binder, the independently-rotating center pin, upon which the cord is drawn after the knot is formed, and on which the slack of the cord is taken up while the knot is being tied, in combination with a suitable knot-tying mechanism, substantially as described.

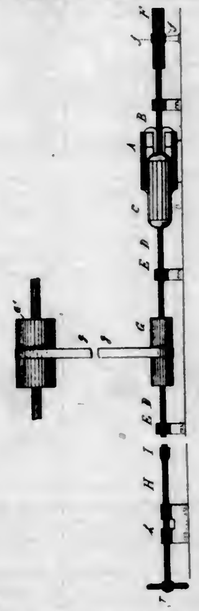
6. In a grain-binding machine, the cord holding and cutting device P, provided with the arms y' and z, and the knife 16, for holding and cutting the cord and retaining the spool end after the cord is severed, substantially as described.

7. In a grain-binding machine, the plate g, provided with circular flanges and the partition i, forming two circular recesses, h h, into which the loopers are withdrawn and revolve, substantially as described.

8. The combination of the rotary and reciprocating loopers K K', spiral springs x, surrounding the looper-shafts, plate g, with its slotted sleeves j j', and the connecting and operating mechanism, substantially as described.

9. The combination of the platform H, having the central depression, I, the rotary and reciprocating loopers, the plate g, with its recesses, the reciprocating cord-grasper, the revolving tapering pin, and the holding and cutting device, substantially as described.

262,782. DYNAMO-ELECTRIC MACHINE. JOHN H. IRWIN, Morton, Pa. Filed Feb. 25, 1882. (No model.)



Claim.—1. In a dynamo-electric machine, the combination of an armature adapted and arranged to be drawn out of or pressed into the field-of-force magnets and a commutator adapted and arranged to have movement across the face of its brushes, substantially as described.

2. In a dynamo-electric generator, the combination, with the armature, of a screw connected therewith and adapted and arranged to control the position of the armature within the field of the exciting-magnets, substantially as shown and described.

3. The combination, with the field-of-force magnets A, of an armature, C, shaft D, screw H, bearing wheel J, and commutator F, the whole arranged to operate substantially as shown and described.

4. In a dynamo-electric machine, the combination of inclosing field-of-force magnets, an inclosed armature, and a commutator, the armature and commutator being adjustable back and forth by the same mechanical means, substantially as described.

5. In a dynamo-electric machine, the combination of the field-of-force magnets, an armature and a commutator, both adjustable back and forth, and the latter elongated, so as to be at all times subject to sufficient contact with the commutator-brushes, substantially as described.

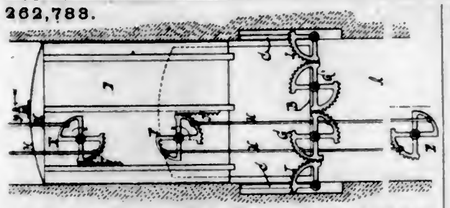
6. In combination, in a dynamo-electric machine having inclosing field-of-force magnets and an inclosed armature, a shaft to which both the armature and the commutator are directly secured, provided with a clutch adapted to permit free revolution of the shaft while the same may be moved back and forth, substantially as described.

262,783. HATCHWAY-DOOR-OPERATING MECHANISM. ERNST AUGUST JACOBS, Chicago, Ill. Filed May 20, 1882. (No model.)

Brief.—Levers on the doors engage operating-levers in the edge of the hatch-hole. The operating-levers engage each other, and one of them is connected by vertical rods with an opening-lever and a closing-lever, one above and the other below the hatch-hole. A rack on the car engages said levers on opposite sides of their fulcra.

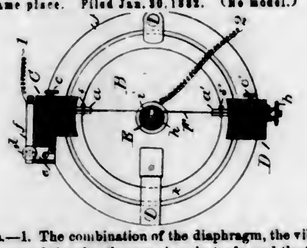
Claim.—The combination, substantially as hereinbefore set forth, of the opening-lever and closing-lever arranged respectively below and above the hatch-hole, the operating-levers arranged on one edge of the hatch-hole in engagement with each other, the vertical rods connecting both the opening-lever and the closing-lever to one of the operating-levers, the hinged doors, the door-levers en-

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gaging the operating-lever, and the elevator-car having one of its sides provided with devices for engaging the opening and closing levers on opposite sides of their fulcra, in the manner specified.

262,784. TELEPHONE-TRANSMITTER. WILLIAM W. JACQUES, Boston, Mass., assignor to the American Bell Telephone Company, same place. Filed Jan. 30, 1882. (No model.)



Claim.—1. The combination of the diaphragm, the vibrating electrode operated thereby, the opposing electrode, and the torsion-spring connected with said opposing electrode, substantially as described.

2. The combination, with the diaphragm and electrode carried thereby, of a torsion-spring carrying the second electrode, substantially as described.

3. In a contact-telephone, the combination, with a diaphragm or vibratory plate carrying one electrode or contact of a varying resistance, of a torsion-spring, a radial arm attached thereto, and carrying the second or complementary electrode or contact-piece, and means, as indicated, whereby the degree of torsion is adjusted for the purpose of varying the initial pressure between the electrodes, substantially as hereinbefore set forth.

262,785. DIAMOND-SETTING FOR EAR-RINGS, &c. LEON P JEANNE, New York, N. Y. Filed June 17, 1882. (No model.)

Brief.—The platinum of the setting reflects the light on the stone, while the gold covering on the outer sides of the cramps give the appearance of a gold setting.



Claim.—1. A diamond-setting made, substantially as herein shown and described, of platinum, with a gold covering on the outer surfaces or sides of the cramps, as set forth.

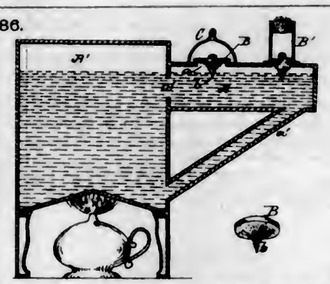
2. The combination, with a diamond-setting made of platinum, of tapering gold coverings on the outer surfaces or sides of the cramps, substantially as herein shown and described, and for the purpose set forth.

3. The combination, with a diamond-setting provided with a transverse aperture in one cramp, of a loop passed through this aperture, and of an ear-wire to which this loop is attached, substantially as herein shown and described, and for the purpose set forth.

262,786. SEED-GERMINATING APPARATUS. RASMUS JENSEN, Hoevang, near Thisted, Denmark, assignor, by means assignments, to Thorburn & Titus, New York, N. Y. Filed Mar. 29, 1882. (No model.) Patented in Sweden July 29, 1880; in Denmark Sept. 24, 1880, and in Germany Oct. 7, 1880.

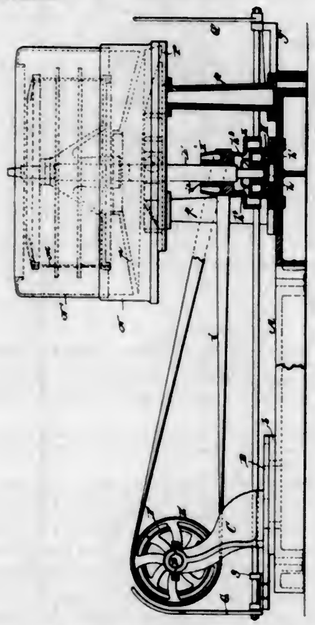
Brief.—A seed-germinating apparatus consisting of a water-tank with means for heating and circulating water therein, a porous dish (upon which the seed to be germinated is placed) covering an opening in the top or lid of the tank, and having a teat adapted to dip into and absorb the water, and a glass cover for the dish.

262,786.



Claim.—In a seed-germinating apparatus, the combination, with the water-tank A, provided with suitable devices for heating water and circulating it therein, and having the opening *a* in the lid of the tank, of the disk plate or piece B, of a porous substance, having the tip-piece *b*, adapted to dip into the water in the tank, together with the transparent cover C, all constructed and arranged to operate as and for the purpose specified.

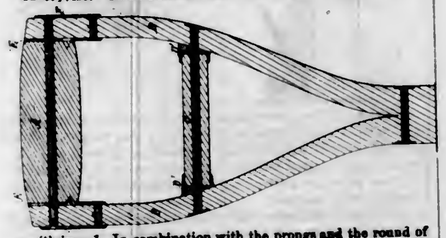
262,787. CENTRIFUGAL MACHINE FOR MAKING SUGAR. CHARLES G. JOHNSEN, New Orleans, La. Filed Mar. 6, 1882. (No model.)



Claim.—In a centrifugal sugar-machine, the herein-described rotary basket-spindle, the hollow step-bracket H, secured to the base-plate, the step-bearing A, seated in the step-bracket and composed of a tubular metal casting, with a step in its partly-closed end for the spindle, a ring, h', fitted in said casting, a sleeve, h^3, and an oil-chamber, h^5, the belt-pulley I, located on the basket-spindle above said step-bearing, and formed with an oil-passage, i^2, and with an enlarged portion, I_1, constituting the brake-wheel, the rotary basket M, mounted upon the spindle and formed of a perforated shell or drum, with a bottom, m', and cap m^2, the tapering hub m^3 on the bottom of the basket, the double wire-gauze sieve of different grades located against the perforated basket or drum for draining off the fluid, the ring-plate P, mounted upon standards that rise from the bed-plate, the radial arms of the ring-plate for supporting the casing N, that incloses the basket, the tubular bearing R, for the spindle, located centrally on the ring-plate, the springs R', located around a flange, *r*, on the ring-plate, and having their inner ends fitted in seats r^3, the bolts S, connected with

a flange, r', on the central bearing, R, by pairs of horizontal plates T, bolted at their ends on said flange r' and to the radial bolts S by means of vertical bolts *t*, the springs t', located upon the vertical bolts between the flange of the central tubular bearing and the horizontal plates, that are bolted together in pairs, the nuts t'', for clamping said plates upon the springs, and the cap-washers U on the horizontal bolts, and clamping the ends of springs R', said members being all constructed, relatively arranged, and organized as and for the purpose specified.

262,788. SHOVEL-HANDLE. WILLIAM HOLMAN JOHNSON, Industry, Mo. Filed June 8, 1882. (No model.)

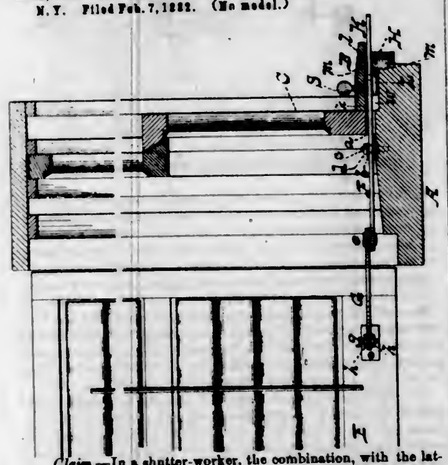


Claim.—1. In combination with the prongs and the round of the handle, two metallic re-enforces arranged between and fastened to said prongs and round, and arranged on their connecting-rivet, all being substantially as described.

2. In combination with the round, the prongs, their connecting-rivet, and the end clasps applied to it and the prongs, as described, the two metallic re-enforces arranged between the round and the prongs and upon their connecting-rivet, and secured to the round, and also to both prongs and end clasps, by means substantially as described.

3. The combination of the two metallic shoes with the brace, its supporting-rivet, and the two handle-prongs, combined with the round or hand grip, all being essentially as set forth.

262,789. SHUTTER-WORKER. WILLIAM KAUFMAN, New York, N. Y. Filed Feb. 7, 1882. (No model.)



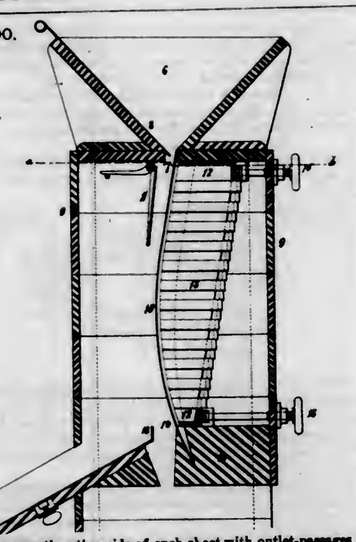
Claim.—In a shutter-worker, the combination, with the laterally-curved lever F and its curved connecting-plate G, of the blind E, sill-fulcrum *c*, bead B, slot *k*, bearing-plate L, attached to and moving with lever F, set-screw S, and the slit rubber weather-packing H, seated in the working-slot *k*, substantially as specified.

262,790. MAGNETIC SEPARATOR. JUAN KING, Carrizal Bajo, Chili. Filed Dec. 27, 1881. (No model.) Patented in England June 28, 1881, No. 2,826.

Claim.—1. The combination of a non-magnetic sheet and a series of magnets on one side of said sheet with two outlets and a hopper and pendent flap or plate, 11.

2. The combination of a non-magnetic sheet and apparatus for directing a stream of ore, grain, or other substances in contact

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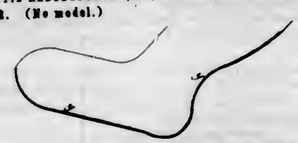


with or near the other side of such sheet with outlet-passages and a frame carrying a series of magnets and devices, 15 16, for adjusting said frame.

262,791. MANUFACTURE OF DYED FABRICS. MARTIN LANDENBERGER, Jr., Philadelphia, Pa. Filed Apr. 22, 1882. (No specimens.)

Claim.—As an improvement in the manufacture of figured composite fabrics of cotton and wool, the mode herein described of imparting variety to the patterns produced, said mode consisting in first imparting to cotton yarn a dye which will not be affected by the dye for the wool, combining such dyed cotton yarn with the undyed woolen yarn in the manufacture of fabric, and subsequently subjecting the fabric to the action of a dye for the wool, as set forth.

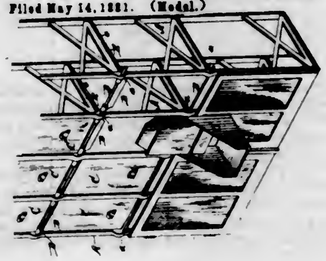
262,792. HOSIERY AND METHOD OF CUTTING THE SAME. MARTIN LANDENBERGER, Jr., Philadelphia, Pa. Filed Mar. 20, 1882. (No model.)



Claim.—1. A sock or stocking having the foot shaped by cutting, and in having in the foot one seam extending along the sole from the heel to the point of the toe, as set forth.

2. A stocking having the foot, heel, and ankle shaped by cutting, and having a single seam extending from the point of the toe along the sole, around the heel, and up the ankle, as set forth.

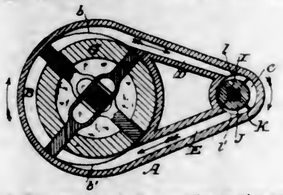
262,793. METALLIC BILL-FILE. JOHN C. LANG, Washington, D. C., assignor to the National Shelf and File Company, same place. Filed May 14, 1881. (Model.)



Claim.—1. A case or receptacle for file-holders, consisting of a series of frames, A, having cross-bars E, bearing-ledges *e*, and perforations *a*, whereby said series may be secured together by the rod B, substantially as and for the purposes set forth.

2. In a file-case, a series of frames, A E *e*, and the rod B, having the index-plate hung thereto, in combination with the removable file-case C K, as and for the purposes set forth.

262,794. DEVICE FOR TRANSMITTING MOTION AND POWER. LEOPOLD LAPYAN, St. Louis, Mo. Filed July 24, 1882. (No model.)



Claim.—1. In a machine for transmitting motion and power, a chamber provided with a shaft having means for inducing a current in a liquid confined therein, a conduit therefrom to a secondary chamber provided with means adapted to be operated by said liquid current, and a return-conduit connecting said chambers, substantially as and for the purpose set forth.

2. A casing provided with two non-directly communicating chambers and two non-directly communicating conduits, each of said chambers having therein means for producing a current in a liquid confined therein, substantially as and for the purpose set forth.

3. The combination of a driving-shaft having a disk mounted rigidly thereon and provided with sliding valves, a surrounding case or chamber provided with valve-guides, separate conduits connecting said case or chamber with a second case or chamber having located therein a second shaft, disk, guides, and valves, substantially as shown and described.

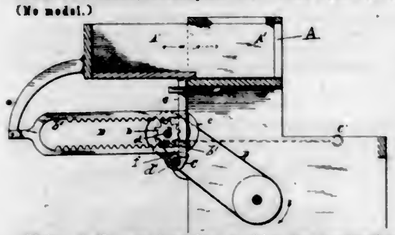
4. In a machine for the transmission and application of motion and power to practical uses, the combination of a driving-shaft, a driven shaft, a body of liquid confined about each of said shafts and in a conduit which completes a circuit about said shafts, and means, substantially as described, for inducing a current in said liquid by the rotation of either of said shafts.

5. The combination of a driving-shaft, a driven shaft, a case or chamber about each, a curved conduit completing a circuit about said shafts, and means, substantially as described, for inducing a current in a liquid confined in said cases and conduit, substantially as shown and described.

6. The combination of the chambers B C, conduits D E, disks G J, valves H K, and guides *b b' l l'*, substantially as shown and described.

7. The combination of the shaft F, the shaft I, chambers B C, and curved conduits D E, and means, substantially as described, for inducing a current in a liquid confined in said chambers and conduits, substantially as specified.

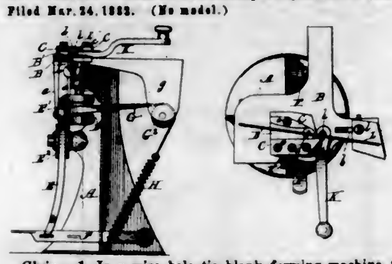
262,795. SAND-MOLDING MACHINE. JOHN LATSHAW and SAMUEL ALLISON, Indianapolis, Ind. Filed June 16, 1882. (No model.)



Claim.—1. In a sand-molding machine, the combination of the drawer A', bracket *a*, double rack B, having toothless portions *b'*, pivotally secured to the bracket *a*, the pinion *b*, and means for meshing the rack with either side of the pinion at will, substantially as shown and described.

2. In a sand-molding machine, the combination, with the sand-drawer A', of the bracket *a*, a double rack, B, having toothless portions *b'*, and pivotally secured to the bracket, a bifurcated guide, *c*, a pinion, *b*, a cam, C, and means, substantially as shown and described, for operating the pinion and cam, substantially as and for the purpose set forth.

262,796. MACHINE FOR FORMING BLANK HOOKS FOR WIRE BALE-TIES. EDWIN S. LUNOX, Worcester, Mass., assignor to the Washburn & Moen Manufacturing Company, same place. Filed Mar. 24, 1882. (No model.)

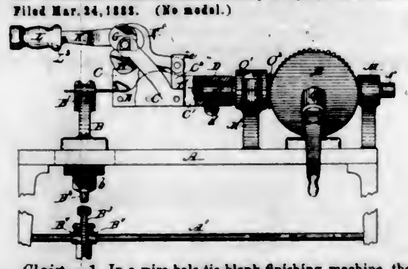


Claim.—1. In a wire-bale-tie-blank-forming machine, the combination of a revolving shaft, carrying pegs which hold the wire and, when turned, bend it into a hook or S shape, and a lever also carrying pegs, between which the wire is held, and serving, when turned, to bend back the end of the tie, all substantially as described and shown.

2. The combination, with the revolving shaft D, provided with pegs *d d* upon its upper end for bending the wire, of the guides C C, for preventing the lateral movement of the wire during such bending operation, all substantially as described, and for the purposes set forth.

3. The combination, with the revolving shaft and lever, provided respectively with pins for bending the wire, of adjustable gage L, all substantially as shown and described.

262,797. MACHINE FOR FINISHING THE BLANKS OF WIRE BALE-TIES. EDWIN S. LUNOX, Worcester, Mass., assignor to the Washburn & Moen Manufacturing Company, same place. Filed Mar. 24, 1882. (No model.)



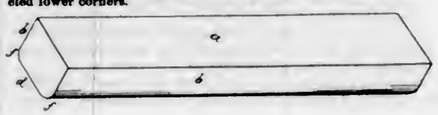
Claim.—1. In a wire-bale-tie-blank-finishing machine, the combination of a chamber composed of side and bottom plates, in which the tie is introduced, and a blade for pressing and forming the same, attached to an arm or lever connected with said chamber and operated by means of an eccentric, all constructed and operating substantially as described, and for the purposes set forth.

2. In a wire-tie-blank-finishing machine, the combination of a chamber having side walls and bottom, in which the blank is received, and means for holding and forming the blank therein, a revolving spindle connected with and rotating the same, and jaws for holding the main strand of the wire and the end of the return-piece, all substantially as and for the purposes set forth.

3. The handle L, having catch L', and sliding lengthwise on lever K, the lever K, secured to disk G, in combination with the forked arm F, pivoted to plate C, and carrying blade H, and the part C having a chamber therein, and the catch *e*, substantially as shown and described.

262,798. RAILROAD-TIE. ALBERT B. LINDSMAN, Philadelphia, Pa., assignor of one-half to Hamilton Disston, same place. Filed July 10, 1882. (No model.)

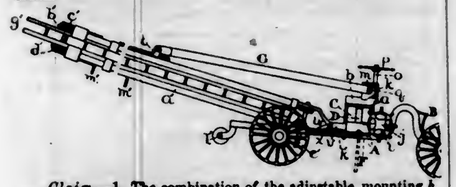
Brief.—Consists of a slab of wood having a hewn or planed upper surface, sawed edges and under surface, and rounded or beveled lower corners.



Claim.—The within-described railroad-tie, the same consisting of a slab of wood having a hewn or planed upper surface, sawed edges and under surface, and rounded or beveled lower corners, as set forth.

262,799. EXTENSION FIRE-LADDER. MANUM LITTLEFIELD, Portland, Me. Filed May 16, 1882. (No model.)

Brief.—The lower end of the ladder and the lower ends of the brace are connected to a mounting that fits on and moves over a semicircular base and is turned in a slot therein by suitable gearing. The ladder is elevated by gearing at the lower ends of the brace and extended by chains and sprocket-wheels operated by a crank.

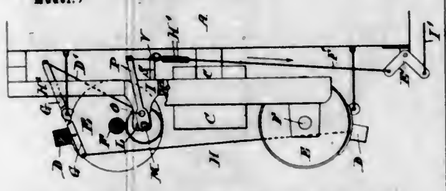


Claim.—1. The combination of the adjustable mounting *b*, moving on the semicircular parts C, the horizontal shaft A, worm *g*, and the ladders *a' g'*, connected with the adjustable mounting, as and for the purposes herein set forth.

2. The combination of the adjustable mounting *b* with the extensible ladders *a' g'* and the bifurcated brace G, connecting with the mounting and ladders, as herein set forth, and operating as described.

3. The combination of the adjustable mounting *b*, the ladders *a' g'*, the brace G, the horizontal shaft A, with its gear *f*, worm *g*, shaft *m*, gear *n*, worm *q*, the windlass *e'*, the wheels at the top of the ladder *a'*, and the chains, all operating as and for the purposes herein set forth.

262,800. CAR-BRAKE. PETER LORD, Montreal, Quebec, Canada, assignor of two-thirds to JEAN BAPTISTE VINET and AVILA SERAPHIN VINET, both of same place. Filed July 5, 1882. (No model.)



Claim.—1. The combination of the wheels and axles of a car and brakes operated by a lever, G, as described, with bar M, pulleys A', having conical recess, as described, conical pulley B', having neck C', actuating-chain D', and levers P and T, operated as described, the whole substantially as shown and set forth.

2. The combination of the bar M and levers P and T, each provided with an operating mechanism and operating the bar M, as described, with pulley A', having conical recess, conical pulley B', having neck C', and axle F, whereby the chain D' and lever G are operated substantially as described, for the purposes set forth.

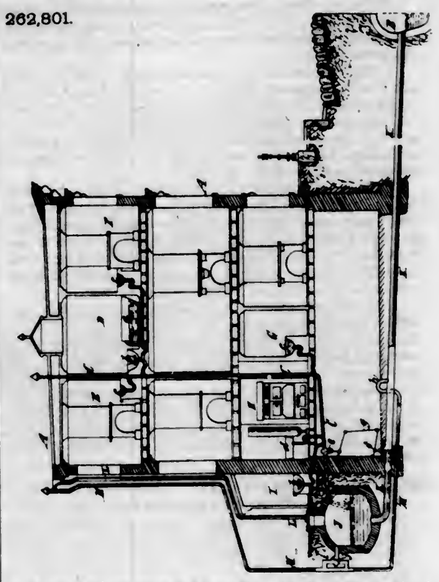
262,801. CONNECTING THE WASTE-PIPES OF BUILDINGS WITH SEWERS. CHARLES A. LOBBTS, Brooklyn, N.Y. Filed Apr. 14, 1882. (No model.)

Claim.—1. The combination, with the soil or waste pipe of a building, and with a sewer, of a receiving-chamber with which said soil or waste pipe connects, a drain pipe or conduit connecting said receiving-chamber with the sewer, and valves in said soil or waste pipe and said drain pipe or conduit, whereby provision is afforded for closing the communication between the soil or waste pipe and said chamber when the latter is in communication with the sewer and for closing the communication between said chamber and the sewer when the soil or waste pipe is open, substantially as and for the purpose herein described.

2. The combination, with the soil or waste pipe of a building, and with a sewer, of a receiving-chamber with which said soil or waste pipe connects, and a drain or conduit connecting said receiving-chamber and sewer, and valves or gates in said soil or waste pipe, and said drain or conduit connected so as to be operated simultaneously, substantially as herein described.

3. The combination, with the soil-pipe C and drain or conduit

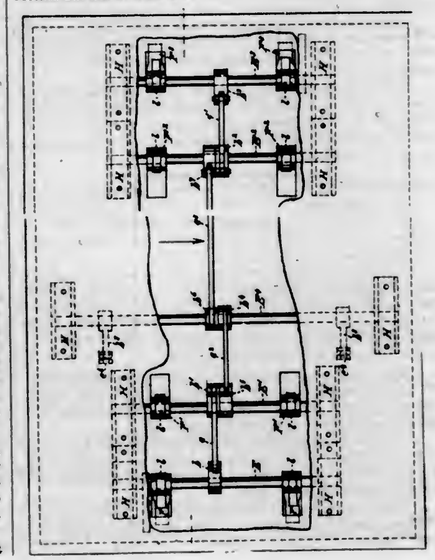
262,801.



K, of the receiving-chamber J, provided with the overflow-valve *j*, and the overflow-pipe M, extending above said chamber and open to the atmosphere, substantially as herein described.

262,802. RAILROAD-GATE. RICHARD W. MAFFITT and JOHN BRANNAN, Philadelphia, Pa. Filed Aug. 21, 1881. (No model.)

Brief.—A system of levers having short arms is mounted on rocking shafts arranged transversely beneath the road, and are connected to a main operating-shaft. An upright rod connected to the main rocking shaft and to the gate by a lever is adapted to raise and lower it. Counter-weights are attached to the gate. The first-mentioned levers are operated by means of levers bearing upon the short arms in one direction of their movement and upon springs in the other, whereby on either side of the gate the short-armed levers will be operated by the train moving in one direction but not in the other.



Claim.—1. The combination of the receiver and sliding breech-bolt having a nose, E, and capable of a slight rotary motion, with a magazine-frame and pivoted separator having a lever, c^4, at one end and a tooth, c^3, at the other, substantially as set forth.

2. The combination of the receiver and sliding breech-bolt having a nose, and capable of a slight rotary motion, with a magazine-frame having recessed ends and a pivoted cartridge-separator adapted to said recessed ends, and having a lever and tooth to be operated by the nose of the breech-bolt, substantially as described.

3. The combination of the magazine-frame having pins b^3 with a magazine having at each end springs g^4 g^5, provided with holes, and one of the springs having a ring, g^6, as and for the purpose set forth.

4. A cartridge-magazine consisting of a paste-board box inclosed in a skeleton metal frame composed of a cross-rib, g^7, longitudinal ribs g^8, and end springs, g^4 g^5, secured to said ribs, in combination with magazine-frame having pins on which said springs may catch, substantially as set forth.

262,804. LAMP. MOSKA MARICHARSKI, London, England. Filed July 10, 1882. (No model.) Patented in England Apr. 22, 1880, No. 1,659; in Germany Dec. 30, 1880, No. 15,435; in France Dec. 30, 1880, No. 140,438; in Belgium Jan. 31, 1881, No. 53,890, and in Austria Jan. 4, 1882.

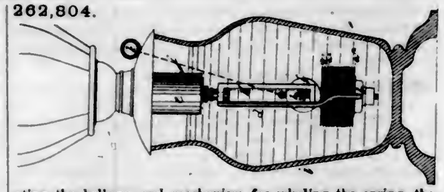
Brief.—The bellows are extended upon raising *f*, and oil flown in to fill the vacuum thus formed. On pulling up *k* the spring secured to axis *g* and to spring-case is raised and coiled by rack *k'* and pinion A. When released it tends to return to its normal position, thus forcing oil through tubes *d* to the wick. Instead of the spring *f*, a weight may be used.

Claim.—1. As an improvement in lamps, the combination, with the oil-reservoir *i*, of the bellows *a a' a²*, with their valve-chamber *b*, valve *c*, and discharge-pipes *d d*, and mechanism for operating said bellows, substantially as set forth.

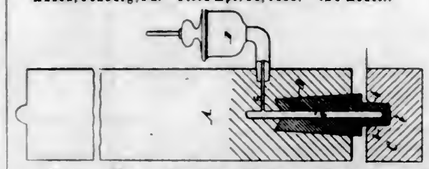
2. In a lamp, the combination of the upper or wick reservoir, *e*, having automatic valve *l*, feed-pipes *d d*, valve-chamber *b*, and valve *c*, bellows *a a' a²*, and suitable mechanism for operating said bellows, substantially as set forth.

3. The improved self-feeding lamp herein shown and described, composed of the reservoir *i*, inside reservoir, *e*, having automatic valve *l*, feed-pipes *d d*, bellows *a a' a²*, spring *f* for operating the bellows, and mechanism for winding the spring, the whole constructed and combined to operate substantially in the manner and for the purpose herein shown and specified.

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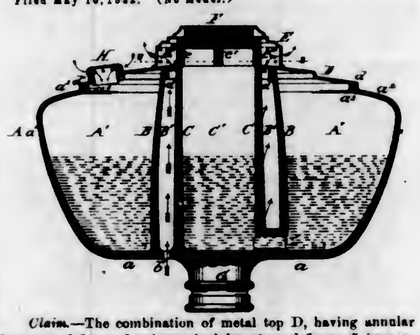


262,805. BEARING FOR MILL-SPINDLES, &c. HENRY T. MASON, Foxburg, Pa. Filed Apr. 24, 1882. (No model.)



Claim.—The combination, with the spindle A, the toe B thereof, having perforations *b*, and the channels *a c* in the toe and spindle, of the step C and an oiling device, substantially as described.

262,806. GLASS LAMP. LOUIS G. MASSOW, St. Louis, Mo. Filed May 10, 1882. (No model.)



Claim.—The combination of metal top D, having annular downturned flange *d* and marginal downturned flange *d'*, burner-neck E, having neck-flange *e*, and provided with air-holes *e'*, and lamp-body A B C, the cap adapted to fit the top of the body, as set forth.

262,807. CLOTHES-WASHING APPARATUS. DENNIS MCDONALD, Niagara Falls, N.Y. Filed Apr. 20, 1881. (Model.)



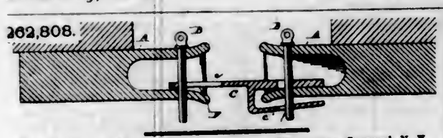
Claim.—1. A clothes-washing apparatus consisting of the frame A, containing the wash-tub C, the boiler-receptacle E, provided with the lining G and ventilating-orifices *g*, and the removable boiler F, provided with the flattened water-circulating pipe F', substantially as shown and described.

2. The combination of the boiler F, having a concavity or recess in the bottom, and the flattened water-circulating pipe F', arranged within the said concavity or recess and terminating within said boiler, substantially as shown and described.

262,808. CAR-COUPLING. THOMAS F. MCNAIR, Dawson, Ga. Filed July 6, 1882. (No model.)

Claim.—The coupling-link consisting of a flat plate and a bent extension having apertures for the coupling-pins, as described, and adapted to be applied substantially in the manner specified.

262,808.



262,809. CAR-COUPLING. NORMAN MERRENDER, Seward, N. Y. Filed May 22, 1882. (No model.)



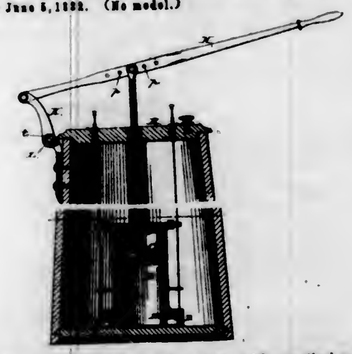
Claim.—1. In a car-coupling device, the combination, with a lifting-bar, E, carrying a coupling-pin, D, suspended freely therefrom, of a vertical lever, F, pivoted in a slot in the draw-bar, so that its upper end, fitted loosely in a beveled notch on the under side of the lifting-bar, shall operate, when swung out of the vertical in either direction, to lift the bar and coupling-pin, substantially in the manner and for the purpose herein set forth.

2. The combination, with the hinged lift-bar E and coupling-pin K, and with the vibrating lever F, pivoted in a vertical slot in the draw-bar under the lift-bar, of a sliding bar, H, working in a longitudinal aperture in the draw-head, extending from the lever E to the throat of the draw-head B, and adapted to throw the lever into its vertical position by the entrance of the coupling-link into the throat of the draw-head, substantially in the manner and for the purpose herein set forth.

3. The combination, with the vibrating lever F, actuating the hinged lift-bar E and coupling-pin D in a car-coupling device, of the horisontal hand-levers N N, pivoted to the under side of the draw-bar or car-frame, and adapted to actuate the vibrating lever F, substantially in the manner and for the purpose herein set forth.

4. The combination, with the vibrating lever F, actuating the hinged lift-bar E and coupling-pin D in the car-coupling device, of the vertical lever H, pivoted to the draw-head or car-frame, and adapted to actuate the vibrating lever F, substantially in the manner and for the purpose herein set forth.

262,810. CHURN. BRADFORD S. MILES, Gray's Summit, Mo. Filed June 5, 1882. (No model.)



Claim.—1. The combination, in a churn, with a vertical partition adapted to divide the churn into two compartments, of a pump fitted in said partition, having its inlet and outlet ports on opposite sides thereof and controlled by reversible valves, substantially as herein described.

2. In a churning apparatus, the combination, with the body or cylinder of the churn, of a detachable partition, C, carrying a pump, B, a dash, W, interchangeable with said partition and pump, and a pivoted lever, H, adapted to operate the pump or dash, all substantially in the manner and for the purpose herein set forth.

3. The combination, with the pump B, interposed between the compartments in the churn A, of the adjustable valves E, cross-bars F, from which the valves are suspended, adjusting-rods G, actuating the cross-bars, pins *i i* on the ends of the valves, grooves *a a*, engaging said pins, and lateral slots *m m*, permitting the pins to pass out from the grooves, all substantially in the manner and for the purpose herein set forth.

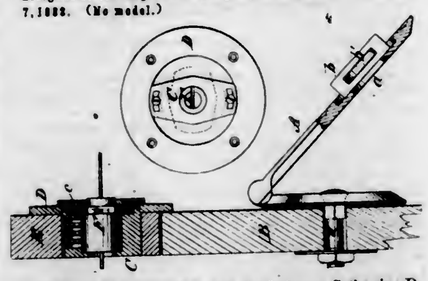
262,811. MAGNETO-TELEPHONE. GEORGE F. MILLIKEN, Boston, Mass., assignor of two-thirds to James Wentworth Brown and Henry D. Hyde, both of same place. Filed Apr. 24, 1882. (No model.)



Claim.—1. The combination, substantially as hereinbefore set forth, of a diaphragm capable of responding to sonorous vibrations, and a hollow cylindrical helix of insulated wire supported independently of said diaphragm, and having a yielding connection therewith.

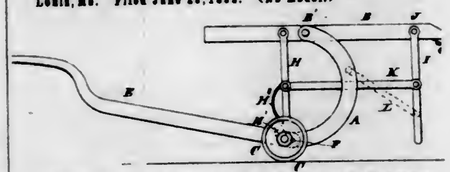
2. The combination, substantially as hereinbefore set forth, of a diaphragm capable of being thrown into vibration, one or more stationary permanent magnets, and an independently-supported hollow cylindrical helix of insulated wire situated in the field of force of said permanent magnet or magnets, and having a yielding connection with said diaphragm.

262,812. TRUNK-LOCK. FRANK W. MIX, Terryville, Conn. assignor to the Eagle Lock Company, same place. Filed Apr. 7, 1882. (No model.)



Claim.—The combination, with the lock-case C, the ring D, and the turning plug F, provided with the button *e*, of the hinged hasp A, provided with the legs *b*, having grooves *b'*, substantially as and for the purpose set forth.

262,813. WAREHOUSE-TRUCK. PATRICK H. MONTAGUE, St. Louis, Mo. Filed June 26, 1882. (No model.)



Claim.—1. In a truck, a top or table having pivotal connection to segments upon each side, substantially as set forth, in combination with supporting-wheels C.

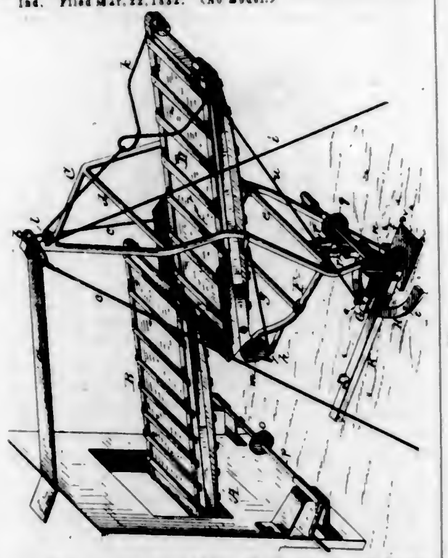
2. The combination of top or table B with pivots or trunnions B', engaging in the segmental bars A, handles or levers E, and wheels C, substantially as set forth.

3. The combination, with the top B and segments A, of the pivoted legs H I, substantially as and for the purpose set forth.

4. The combination, in a truck, of the segments A, top or table B, pivoted thereto, wheels C, connected to the segments by axle D, the handles E, and legs H and I, with hooks H' upon the legs H, engaging the axle D, for the purpose set forth.

5. The combination, with the top B, of the turn-table R, having pivotal connection to the same, and ribs and grooves acting to hold the turn-table in its longitudinal position and to allow its tilting when in its transverse position, substantially as set forth.

262,814. STRAW-STACKER. JONATHAN J. MOORE, Thorntown, Ind. Filed Mar. 22, 1882. (No model.)



Claim.—1. In a straw-stacker, the combination, with the carrier D, of the pivoted frame or derrick C and swinging frame F, connected to the carrier and frame or derrick to enable them to be folded together when not in use or for transportation, substantially as set forth.

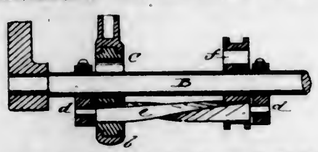
2. In a straw-stacker, the combination of the carrier D, provided at the feed end with hopper E, the pivoted frame or derrick C, and frame F, substantially as and for the purpose specified.

3. The combination, with the carrier D and pivoted frame or derrick C, of the swinging frame F, bail *g*, and rope *i*, substantially as and for the purpose described.

4. The pivoted frame or derrick C, the swinging frame F, and the carrier D, in combination with the pivoted arm G and segmental bar H, adapted to be engaged with or disengaged from each other to move and hold the pivoted frame or derrick in the desired position, substantially as and for the purpose set forth.

5. The pivoted frame or derrick C, carrier D, pulleys *n q*, mounted on said derrick, and vertical rollers *r*, substantially as and for the purpose specified.

262,815. REVERSING-GEAR FOR ENGINES. THOMAS MOORE, O'Fallon, Ill., assignor to himself and James Moore and Robert Rutherford, same place. Filed Jan. 17, 1882. (No model.)



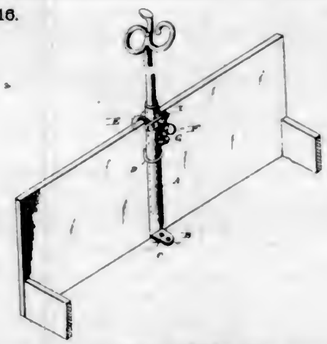
Claim.—1. The spiral shaft *e*, carried by arms *d*, and the eccentric ring C on the spiral shaft, in combination with the main shaft, substantially as shown and described, for operation as set forth.

2. The apertured disk *f*, lever *g*, spiral shaft *e*, eccentric C, and shaft B, substantially as described, combined for operation as set forth.

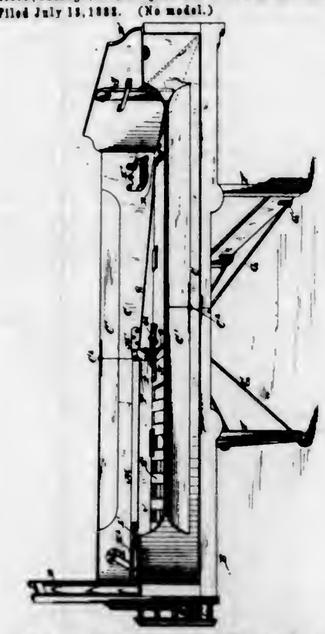
262,816. REIN-HOLDER. WILLIAM J. MORGAN and HARRY GLENN, Hillsborough, Ohio. Filed July 8, 1882. (Model.)

Claim.—In combination with the upright tube and the movable standard, provided with rein-rings at the top, the bifurcated clasp having hooked ends adapted to set over the upper rail of the dash-board, and a set-screw at the rear adapted to bear against the rein-holding spring attached to the tube, so as to hold the tube in place against the dash-board, substantially as specified.

262,816.



262,817. CABINET FOLDING BEDSTEAD. WILLARD A. MORRISON, Chicago, Ill., assignor to Levi C. Boylington, same place. Filed July 15, 1882. (No model.)



Claim.—1. The combination, in a folding bedstead, of a flexible bed-bottom with swinging brackets supported by one of the frame-sections for supporting one end of the flexible bed-bottom, with connecting-rods pivoted to the opposite frame-section, and also pivotally connected with the swinging brackets, whereby when the bedstead is unfolded the connecting-rods will throw said brackets toward the end of the bed, and thereby spread out and stretch the flexible bed-bottom, substantially as described.

2. The combination, in a folding bedstead, of a flexible bed-bottom with brackets fixed to one of the frame-sections and adapted to support the ends of a cross-bar at one end of the flexible bed-bottom, and also to admit of the said bar being lifted from its seat in said brackets, substantially as described.

3. The combination, in a folding bedstead, of a flexible bed-bottom with suitable swinging brackets, which receive the ends of a cross-bar connected with one end of the flexible bed-bottom, said brackets being provided with channels in which the ends of said bar are adjustably held by means of set-screws, and also adapted to admit of the ready removal of the bar therefrom, substantially as described.

4. The combination, with the frame-sections or side rails of the bedstead, of fixed brackets, swinging brackets, a flexible bed-bottom, and means for automatically throwing the swinging brackets toward the end of the bedstead when its sections are unfolded, substantially as described.

5. The combination, with the frame-sections or side rails of the bedstead, of fixed brackets, swinging brackets, a flexible bed-bottom having its end cross-bars removably held by said brackets, and means for automatically throwing the swinging brackets toward the end of the bedstead when its sections are unfolded, substantially as described.

6. The combination, in a folding bedstead, of the frame-sections with catches secured to the inner end of one section, the spring-latches for engaging said catches, and a pivoted lever connected with the latches for simultaneously lifting or operating the same, substantially as described.

7. The combination, in a folding bedstead, of the frame-sections with catches secured to the inner end of one section, the spring-latches for engaging said catches, and a pivoted lever connected with the latches by wires and bell-crank levers for simultaneously lifting or operating the same, substantially as described.

8. The combination, with the frame-sections in a folding bedstead, of hinges for the legs, each hinge comprising a strap secured to the leg and provided with a pair of leaves which are received in a recessed under side portion of the bed-frame and are pivoted to the sides of a plate secured above said recesses, substantially as described.

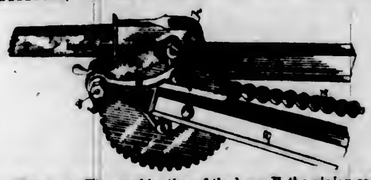
9. The combination, with the frame-sections in a folding bedstead, of the folding legs with their hinges, each comprising a strap secured to the leg and formed with a pair of leaves, a block located on the under side of the bed-frame and formed with recesses for the said leaves, and a plate located above these recesses and formed with legs, to which the leaves of the strap are pivoted, substantially as described.

262,818. BLACKBOARD-RUBBER. GEORGE MORGAN, East River, Conn. Filed May 16, 1882. (No model.)



Claim.—A blackboard-rubber having its rubbing-surface composed of combined chamois-skin and fabric, so as to present the two materials to the working-surface, substantially as described.

262,819. RAILROAD TIE AND RAIL ELEVATOR. TRUMAN C. HARMON, Williston, Vt. Filed Feb. 2, 1882. (No model.)



Claim.—1. The combination of the lever F, the pinion-socket E, the slotted supports *e*, braces *c*, pawl *b*, wheel C, and chain, substantially as shown.

2. The combination of the uprights B, the castings A, applied thereto, the gear-wheel C, bolt *a*, spring-dog braces *c*, slotted supports *e*, and operating lever and pinion, substantially as set forth.

262,820. HARROW. FREDERICK NIENWITZ, Millington, N. J. Filed Feb. 3, 1882. (No model.)



Claim.—1. The combination, substantially as set forth, of the tongue or draft frame, the vibrating crusher or rang bar, the vibrating cutter or gang bar in rear of the crusher, and the vibrating seat support or coupling, whereby the gangs may flex to conform to undulations of the ground.

2. The combination, substantially as set forth, of the vibrating tongue or draft frame, the vibrating crusher or gang bar, the vibrating cutter or gang bar in rear of the crusher, the vibrating seat support or coupling, and the vibrating lever, for the purpose set forth.

3. The combination, substantially as set forth, of the vibrating tongue or draft frame, the vibrating crusher or gang bar, the vibrating cutter or gang bar in rear of the crusher, the vibrating seat support or coupling, the vibrating lever, and a detent, for the purpose described.

4. The combination, substantially as set forth, of the tongue or frame, the crusher or gang bar, its hinge connection with the frame, the vibrating cutter-bar, the fulcrum or pivot on which it vibrates, and the hinge-connection between the bars.

5. The combination, substantially as set forth, of the tongue or frame, the crusher or gang bar, its hinge connection with the frame, the cutter-bar, the pivot or hinge connection between the bars, and the fulcrum or pivot of the cutter-bar in rear of the hinge-connection.

6. The combination, substantially as set forth, of the tongue or frame, the crusher or gang bar, its hinge connection with the frame, the cutter-bar, the hinge connection between the bars, and a seat standard or coupling pivoted on the frame and supported on the cutter-bar by pivoted rods in rear of its hinge-connection.

7. The combination, substantially as set forth, of the tongue or frame, the crusher or gang bar, its hinge connection with the frame, the cutter-bar, the hinge connection between the bars, a seat standard or coupling pivoted on the frame and supported on the cutter-bar by pivoted rods in rear of its hinge-connection, and a lever for vibrating the gangs.

8. The combination, substantially as set forth, of the tongue or frame, the crusher or gang bar, its hinge connection with the frame, the cutter-bar, the hinge connection between the bars, a seat standard or coupling pivoted on the frame and supported on the cutter-bar by pivoted rods in rear of its hinge-connection, a lever for vibrating the bars, and a detent for locking the lever.

9. The combination, substantially as set forth, of the frame, the gang or crusher bar, its hinge connection with the frame, the cutter-bar in rear of the crusher, the hinge connection between the bars, harrow-teeth carried by the bars, a seat standard pivoted on the frame and supported on the rear bar by pivoted rods in rear of its hinge connection with the front bar, a lever on the frame, a link connection between the seat-standard and lever, and a detent.

10. The combination, substantially as set forth, of a tongue or frame, a gang or crusher bar, a cutter-bar in rear of the crusher, harrowing teeth or devices, and hinge or pivot connections or joints between the bars and tongue or frame, which permit a vertical rocking vibration or flexure of the parts relatively to the ground and to each other.

11. The trailing or dragging harrow-tooth herein described, which is formed with a flat end for attachment to the gang-bar, and is then twisted and curved relatively to the draft-line to present a curved dragging cutting-edge to the soil, the cutting-blade of the tooth extending rearwardly in substantially the same general plane with the flat surface of attachment.

12. The combination of a crusher-bar with a series or gang of curved trailing harrow-teeth having flat surfaces for attachment and secured on the under face of the bar, the flat surfaces extending rearwardly beyond the bar, substantially as set forth.

13. The combination, substantially as set forth, of a pole or tongue, a crusher-bar secured thereto and having an upwardly-inclined crushing-face for operating upon the soil, and a series of disintegrating faces or spurs secured on the inclined crushing-face of the bar, so as to give it a ribbed surface, and projecting rearwardly beyond the face of the bar, the spurs being arranged with small open spaces between them to constitute an open-slotted comb-like crusher.

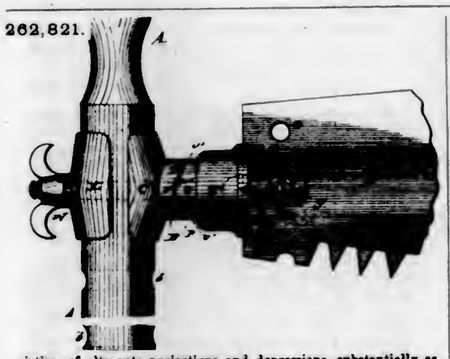
14. The combination of the crusher-bar, the harrow-teeth having the flat surfaces of attachment, and the rearwardly-projecting flat spurs, substantially as set forth.

15. The combination, substantially as set forth, of the tongue or draft frame, the vibrating gang bar or crusher hinged thereto, the vibrating cutter or gang bar in rear of the crusher and hinged thereto, an adjusting-lever on the frame, and a connection between the cutter-bar and lever.

262,821. SAW-HANDLE. JAMES OHLEN, Columbus, Ohio. Filed June 2, 1882. (No model.)

Claim.—1. In a handle attachment for crosscut-saws, the cup-shaped ferrule F, having diametrically-opposed notches *s* in its outer rim, a central opening, *r*, a circular bearing, *t*, extending around the inner end of the same, and an annular shoulder, *s*, con-

262,821.

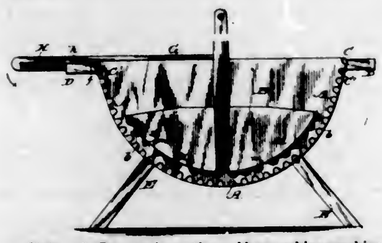


sisting of alternate projections and depressions, substantially as specified.

2. In a handle attachment for crescent-saws, the combination, with the perforated handle and blade, of the threaded tang *e*, thumb-nut N, outer clamp-plate, L, and inner clamp-plate, C, having a toothed bearing, B, of the notched ferrule F, having the inner circular bearing, *t*, and toothed shoulder *s*, substantially as specified.

3. The handle attachment for crescent-saws, consisting of the threaded tang *e*, outer clamp-plate, L, thumb-nut N, inner clamp-plate, C, having the toothed bearing B, and the ferrule F, having the rim-notches *n* and the inner toothed bearing, *s*, substantially as specified

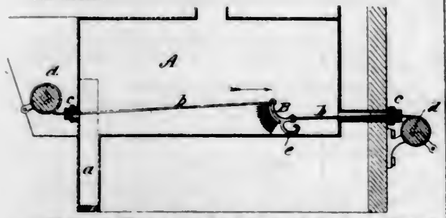
262,822. WASHING-MACHINE. PETER T. OLIPHANT and SIMEON PRITCO, Harrodsburg, Ind. Filed May 26, 1882. (No model.)



Claim.—1. In a reciprocating-rubber washing-machine, the combination, with the suds-box having the bearings *f* in its extended side bars D, of the tilting rubber-frame G H G, provided with the trunnions *g*, stirrups L, having trunnions *l*, and reciprocating rubber provided with elongated boxes *k*, whereby it is suspended upon said trunnions, substantially as set forth.

2. The combination, in a reciprocating-rubber washing-machine, of the suds-box A B D, tilting frame G H G, reciprocating rubber pivoted to said frame, and wire catch I, fastened to one of the arms G, and adapted to engage with its hooked end one of the arms K of the reciprocating rubber, substantially as set forth.

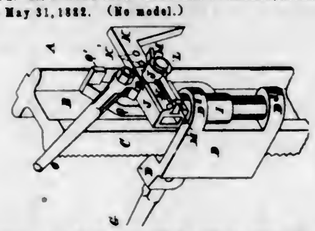
262,823. APPARATUS FOR REMOVING SCALE FROM BOILERS. WILLIAM ORD, Brooklyn, Ohio. Filed Apr. 13, 1882. (No model.)



Claim.—1. The apparatus for cleaning boilers, consisting of the brush B, provided with the heel *e*, wires *b b*, and the rollers *d d*, combined together and with a boiler, substantially as shown and described.

2. The brush B, constructed, substantially as shown, with the heel portion *e*, and fitted for reciprocation upon the bottom surface of a boiler, substantially as shown and described.

262,824. SAW-MILL DOG. HERMANN OVERTHOP, St. Louis, Mo. Filed May 31, 1882. (No model.)

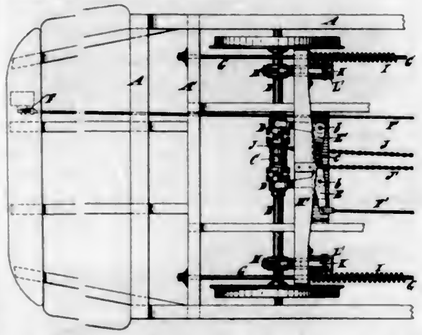


Claim.—1. The combination of knee A, block D, provided with spring-block within it, and adjustable vertically on the knee, lever G, having eccentric head H for holding the block D to its adjustment, shaft I, turning in block D, adjustable dog K, and lever O, having eccentric head P, and adapted to depress the dog, as set forth.

2. The adjustable dog K, working in a sleeve, J, and being held to its adjustment by a pin, L, and sliding piece M, substantially as set forth.

3. The dog K, secured to the block D, by which it can be vertically adjusted, the block being connected to the serrated rib C of the knee A, and being held to its adjustment by a spring-block, E, and lever G H, substantially as set forth.

262,825. CAR-STARTER. THOMAS OWENS, Yonkers, N. Y. Filed Apr. 21, 1882. (No model.)



Claim.—1. The combination of the two car-axles having ratchet-wheels fast upon them, drums having a clutch-connection one with each axle, cross-heads connected each with the drum at the opposite end of the car, a spring or springs arranged between said cross-heads, and levers connected with said cross-heads, and carrying pawls for engaging with said ratchet-wheels to start the car, substantially as and for the purpose described.

2. The combination of the axles B B′, ratchet-wheels M, drums C C′, clutch-pieces D D′, guide-rods G, cross-heads H H′, springs I, connections J J′, and pawl-carrying levers K K′, all substantially as herein described.

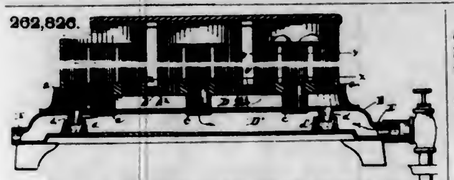
3. The combination, with an axle and cross-head of the kind herein described, of the ratchet-wheel M, the lever composed of the plates *d*, fitting loosely at the sides of said wheel, the pawl *g*, and the stirrup L or L′, which is attached to said cross-head and receives the lever through it, substantially as set forth.

262,826. STEAM-RADIATOR. WILLIAM H. PAGE, Norwich, Conn. Filed Apr. 20, 1882. (No model.)

Claim.—1. In a steam-radiator, a group of three elliptical steam-tubes, one arranged to communicate by means of a cylindrical tube with a lower live-steam chamber and the others with an upper condensed-steam chamber, and a supporting-base having its condensed-steam chamber connected with its live-steam chamber, substantially as and for the purpose set forth.

2. In a steam-radiator, the group of three elliptical steam chambers or tubes having the outer walls of the outer tubes extended above the upper end of the middle tube, which communicates by means of a cylindrical tube with the live-steam chamber, said tubes having an external screw-threaded surface, in combination with the base having an upper and a lower chamber and a screw-threaded flange or boss around an opening therein, substantially as and for the purpose set forth.

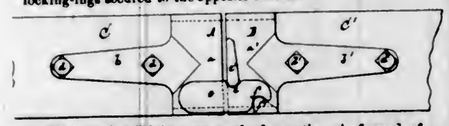
262,826.



3. In a radiator, an integral section comprising a group of elliptical tubes, an upper and a lower expansion-chamber, and a supply-pipe of smaller area than the tube into which it discharges, and secured to a base having a live-steam chamber and a superimposed condensing-chamber, substantially as shown and described.

262,827. RAIL-JOINT. WILLIAM PETHLER, New Dorp, assignor to William S. Corwin, New York, N. Y. Filed June 7, 1882. (No model.)

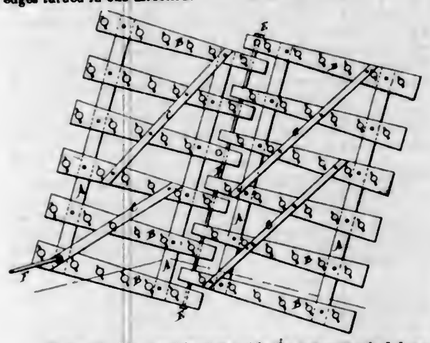
Brief.—A joint is formed of two sections provided with attaching-arms, one having a locking-arm adapted to fit between locking-lugs secured to the opposite section.



Claim.—A rail-joint composed of a section, A, formed of a box, *a*, an attaching-arm, *b*, and a locking-arm, *c*, and of a section, B, composed of a box, *a′*, an attaching-arm, *b′*, and locking-lugs *c′ f′*, substantially as shown and described.

262,828. APPARATUS FOR DEEPENING CHANNELS. GUSTAV PETERSEN, Galveston, Tex. Filed Apr. 17, 1882. (No model.)

Brief.—A hollow cylinder (with heads through which passes an axle turning in elongated boxes having clevises at each end) having spade-shaped teeth forms a rotary harrow. Connected to said harrow is a flat harrow-frame with three-pronged teeth, the prongs of said teeth being arranged in a triangle, with the cutting-edges turned in one direction.



Claim.—1. The combination, with the rotary toothed drum I J and the boxes L, provided with the clevises M, of the toothed frame A B, provided with the clevis F, both the drum and frame being adapted to be drawn from a vessel in line with each other, substantially as shown and described.

2. The improved branch-pointed teeth *a a a b* for a sand-removing implement, substantially as specified.

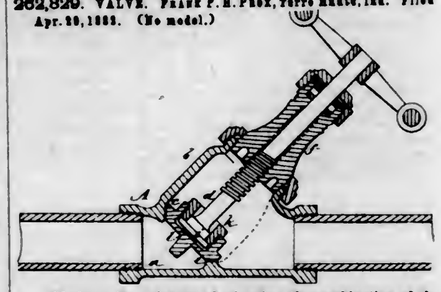
3. The improved channel-deepening implement, consisting of the branch-pointed teeth *a a a b*, in combination with a frame, A B, and a clevis, F, substantially as specified.

4. The drum I J, having axles K, boxes L, teeth O, and end clevises, M, substantially as specified.

5. The improved rotary channel-deepening implement, consisting essentially of a drum, I J, with teeth O, attached by eye-studs P and pins Q, and said drum provided with axles K and boxes L and hitching-clevises M, substantially as specified.

6. The improved branch-pointed teeth *a b*, for a channel-deepening and sand-bar-removing implement, having the front knife-edges, *d*, the points being arranged in a triangle, substantially as specified.

262,829. VALVE. FRANK P. H. PROX, Terre Haute, Ind. Filed Apr. 20, 1882. (No model.)



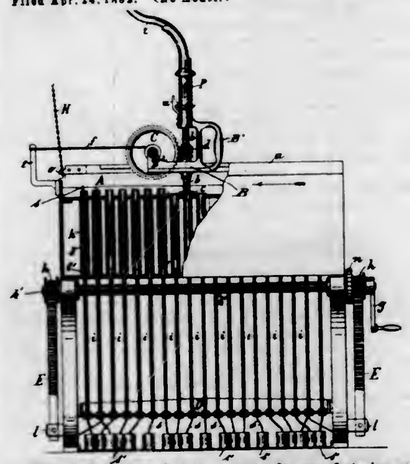
Claim.—In a globe or check valve, the combination of the straight tube or channel-way *a*, formed with valve-seat *e* and neck *b*, with the cap *f*, stem *d*, provided with flange *i*, screw-ring *k*, disk *l*, and valve-plug *c*, all constructed, arranged, and operating substantially as shown and described.

262,830. CLOTHES-POUNDER. JOSEPH P. B. RABEY, Howard, Ind., assignor of one-half to William G. Cook, same place. Filed May 29, 1882. (No model.)



Claim.—The improved clothes-pounder herein shown and described, composed of the small funnel A, having sleeve *a*, large funnel B, connected to sleeve *a* by straps *b* to form the apertures or air-openings *d*, and provided with the inside lugs, *c*, staff C, and detachable plate D, having the cross or flanges E E, apertures F, circumferential notches *f*, and socket G, the whole constructed and combined substantially in the manner and for the purpose shown and set forth.

262,831. APPARATUS FOR MANUFACTURING CANDLES. ADOLPH REGNAT, Berlin, Germany, assignor to Louis Claude Adolphe Motard and Charles Eugene Motard, same place. Filed Apr. 24, 1882. (No model.)



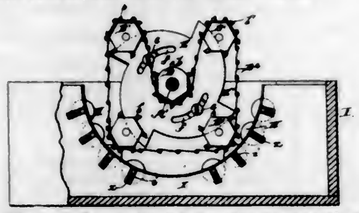
Claim.—1. In a machine or apparatus for manufacturing candles, the combination of the molding-trough A, having the molds

or formers *k* and parallel ways *a a*, and carriage B, sliding in said ways and provided with the arbor *b*, circular cutter *c*, and mechanism for rotating said cutter, substantially as set forth.

2. The combination of the trough A, having molds *k*, ways *a a*, and standard *e*, carriage B, having the rotary arbor *b*, provided with the cutter *c* and worm *d*, cog-wheel C, keyed upon the shaft B^3 of carriage B, and gearing with its worm *d*, cord *f*, doubled around the standard *e*, and wound around shaft B^3, and mechanism for rotating the arbor *b*, substantially as set forth.

3. The combination of the trough A, having molds or formers *k*, ways *a a*, and projection *e*, sliding cutter-carriage B, chain H, having hooked spring R at its upper end, pivoted belt-shifter Q, having link *q* and weight M, shaft r^1, having fixed pulley K and loose pulley K', coupling r', and flexible shafting *r*, adapted to impart rotary motion to the arbor of the cutter-carriage, all constructed and combined to operate substantially as and for the purpose herein shown and set forth.

262,832. YARN-SCOURING MACHINE. JAMES C. RICHARDSON, Boscobel, Wis. Filed Nov. 1, 1881. (Model.)



Claim.—1. In a yarn-scouring machine, a compound expanding roller composed of a slotted frame, independent rolls journaled therein, and cam-faced heads, means for imparting to such independent rolls a continuous and independent rotary motion, and spring bearing-surfaces, the whole adapted to serve as and for the purposes set forth.

2. In a yarn-scouring machine, a reservoir, A, and a contained removable box or frame, I, having spring-rolls arranged semicircularly, segmentally, or circularly, combined with a revolving compound expanding roller, the independent rolls C of which make contact with said spring-rolls, and said rolls C having an independent rotary motion, as and for the purpose set forth.

3. In a yarn-scouring machine, means, substantially as described, for contracting the compound expanding roller to allow of the placement of the skeins or hanks, and means, substantially as described, for imparting to each independent roll C an independent rotary motion, combined with flexible or spring bearings, arranged as shown, as set forth.

4. The independent rolls C, journaled in the frame-arms D *d*, combined with the endless chain B, B', B^3, &c., and arranged to make contact with a series of rolls provided with spring-bearings, substantially as set forth.

5. The removable box or frame I, having sockets *i* and springs *s*, the rolls H, arranged in the form of a segment, combined with the reservoir A, and the compound expanding roller having the independent rolls C, as and for the purposes specified.

6. The head-plate E, slotted at *f*, and set-screws *e*, combined with the cam-faces E', the rolls C, rolls H *s*, and motive power, substantially as and for the purposes set forth.

7. In a yarn-scouring machine, the cams E E', combined with the rolls C and frame D *d*, and adapted to adjust the tension of the yarn upon the rolls C at will, as specified.

262,833. EAR-PIERCER. FREDERICK ROSENBERG, New York, N. Y. Filed Feb. 16, 1882. (No model.)

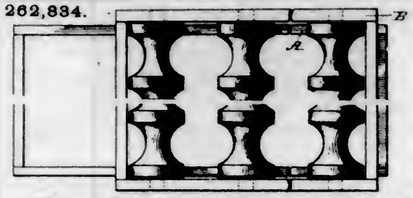


Claim.—1. A handle-shank, *a*, having a recessed spindle, *f f*, made fast thereto, in combination with the point A, whereby the shank is made to support the point and gage the distance to which it shall go in piercing, as described.

2. The hollow ear-piercing point A, formed with the perforation *i*, as and for the purposes set forth.

3. The implement made substantially as herein shown and described; consisting of the hollow point A, having perforation *i*, handle B, and cover E, the handle being provided with the shank *a* and spindle *f*, substantially as described.

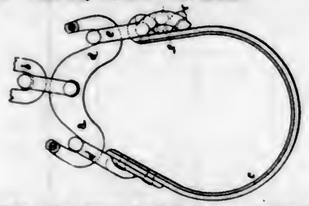
262,834. EGG RACK AND HOLDER. JAMES C. RUNDLETT, Cape Elizabeth, Me. Filed June 26, 1882. (No model.)



Claim.—1. The combination of the stationary bed-frame, the movable frame, and a series of rollers carried by the movable frame, adapted to hold the eggs, substantially as set forth.

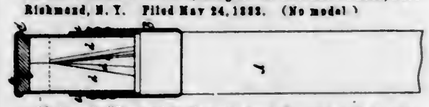
2. The combination of the bed-frame, the movable frame having slotted end and side pieces, and a series of grooved rollers having flanges adapted to run upon the upper edge of the bed-frame, substantially as described.

262,835. HORSE-HOPPLE. ALBERT T. SAYRE, Wedgewood, N. Y. Filed May 17, 1882. (No model.)



Claim.—In a hopple, the leather strap *c*, having the metallic eye *d*, rigidly secured thereto, and the eye *e*, adjustably secured thereon, in combination with the coupler *a a*, provided with the projections or hooks *f*, all substantially as described, and for the purpose set forth.

262,836. COMBINED PENCIL SHARPENER AND HOLDER. PHILIP SCHRAG, New York, assignor to Eberhard Faber, Port Richmond, N. Y. Filed May 24, 1882. (No model.)

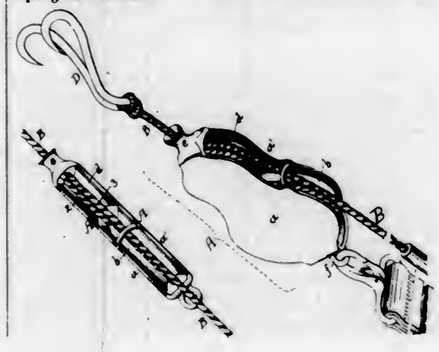


Claim.—1. The combination, substantially as hereinbefore described, of the pencil-holder, the screw-socket secured to or formed at the butt-end of said holder, the cap *a*, containing the cutting-blades *d*, and the tube *c*, fastened to the cap and provided with a screw-thread corresponding to the thread in the screw-socket.

2. The combination, substantially as hereinbefore set forth, of the cap *a*, the head *b*, secured in said cap and having radiating grooves, and the cutting-blades fitted into and retained by said grooves.

262,837. FIRE-ESCAPE. PHILIP S. SCOVEL, Bordentown, N. J. Filed Feb. 28, 1882. (No model.)

Brief.—The rope is rove around the concave peripheries of the guides, so that when the rope is subjected to tension increased friction will be produced by the lateral crowding of one part of the rope against another.

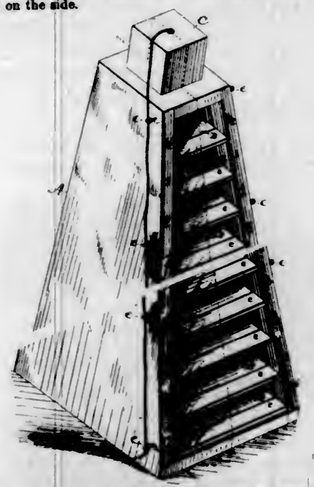


Claim.—1. The combination of the two rope-guides *b d*, located one above the other, and both having concave peripheries, the frame A, having a central tubular projection or eye, *c*, and the rope B, rove around the guides *b d*, as described, whereby when the pendent portion of the rope is subjected to tension a lateral crowding of one part of the rope against the other is the result, as set forth.

2. The combination of the frame A, having a central tubular projection or eye, *c*, the two concave rope-guides *b d*, located one above the other, the diameter of the lower guide being greater than that of the upper guide, and the rope B, rove around the guides, as set forth.

262,838. PAPER-BAG HOLDER. RICHARD M. SHAFFER, Cranberry, W. Va. Filed May 29, 1882. (No model.)

Brief.—The holder-case has a series of detachable shelves resting on side cleats and behind front stops. A slot in the center of the rear portion of the shelves contains a sliding base provided with a pin for the bags. A twine-receptacle with an eyelet is hinged to the top of the holder, and screw-eyes for the twine are located on the side.



Claim.—1. A paper-bag holder consisting of a case with detachable shelves, having a stop device for the same and an upwardly-projecting pin at its rear edge, substantially as shown and described.

2. A paper-bag holder consisting of a case having cleats or ways *a* and strips *c*, in combination with detachable shelves having an upwardly-projecting pin at the back end, as shown and described.

3. The shelves having a slot or groove, and a pin mounted upon a sliding base, in combination with a paper-bag holder, as shown and described.

4. The combination, with a paper-bag holder, of a hinged box, C, with eyelet in the top, and the screw-eyes *e*, arranged on the sides of the bag-holder, substantially as shown and described.

262,839. RAILWAY-JACK. ISRAEL SHONDY, Jr., and DANIEL W. SHONDY, Paw Paw Grove, Ill. Filed June 17, 1882. (No model.)

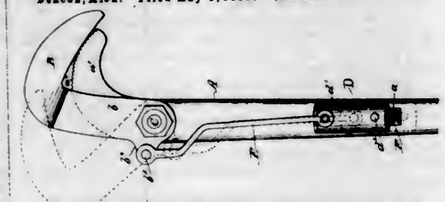


Claim.—1. In a jack for elevating railroad-tracks or other weights, the combination of the rolls or shafts having ratchets held in engagement with gravity or spring pawls, the loose handles or cranks capable of engagement with or disengagement from the aforesaid rolls or shafts, and the upright supporting-frame, substantially as and for the purpose set forth.

2. In a jack, the combination, with the windlass-cylinders and their ropes or chains, of the pulley-blocks having a grappling-hook or toothed projection, and the dogs pivoted upon said blocks, substantially as and for the purpose set forth.

3. In a jack, the combination, with the windlass-cylinders having ratchets, of the cranks or handles having each a slot, *f*, and a tooth, *f'*, substantially as and for the purpose set forth.

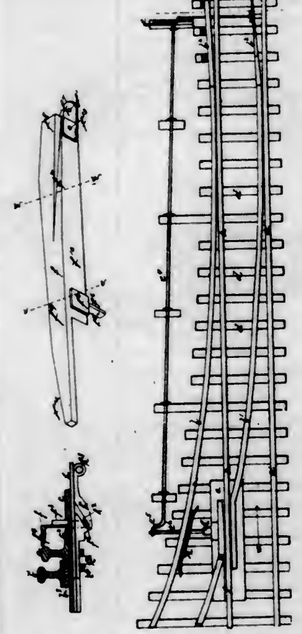
262,840. WRENCH. RICHARD SIMMONS and WILLIAM TYACK, Beacon, Mich. Filed May 1, 1882. (No model.)



Claim.—In combination with the handle portion A, having slot *a*, curved and serrated extension *a'*, and opening a^2, the bent arm B, having the projection b^2, the pivot-bolt C, the sliding block D, the connecting-rod E, and spring F, combined and arranged substantially as and for the purpose set forth.

262,841. RAILROAD-FROG. JAMES A. SMITH, Pittsburg, Pa. Filed Mar. 4, 1882. (No model.)

Brief.—A switch-lever in two detachable parts has one attached to a rod for operating the switch-rail points and the other operating a rod with a crank, throwing a slide with a vertical longitudinal slot, (having a horizontally-inclined slot cutting it,) within which plays a stem (with transverse pins playing in the inclined slot) pendent from a horizontally and vertically pivoted switch-piece with inclined groove, deepest at the pivoted and widest at the free end, adapted to be elevated and shifted radially up onto the main rail by the action of said pins in the inclined slot. The slide may also be thrown by an angle and trip lever connection operated by car-wheels on the main line.



Claim.—1. The combination, with an elevated switch-rail, of a vibrating section having a horizontal and vertical pivot and an

inclined slide adapted to move the vibrating section radially and to elevate the pivoted end thereof, substantially as and for the purpose specified.

2. The combination, with the elevated switch-rail, of a vibrating section having a vertical and horizontal pivot and an incline or groove which increases in width and decreases in depth from the pivoted end of the section, an inclined slide for actuating the vibrating section, an angle-lever, and a trip-lever, *g*, substantially as and for the purpose specified.

3. The switch-lever composed of two parts, one pivoted loosely and operating the switch and the other removably fastened to the pivoted part and rigidly fastened to a crank-rod, substantially as and for the purposes described.

4. The combination, in a railway-frog, of a pivoted piece having a pendent stem provided with a laterally-projecting pin, with a slide having lateral inclined slots therein, the edges of which, operating upon the pin, give the piece *f* a vertical movement, and the ends of which, operating upon the pin, give the piece *f* a radial movement on its pivot, substantially as and for the purposes described.

5. The piece *f*, having a deep narrow inclined groove f^*, extending along its side, the lowest point of said groove being next the pivotal point of the piece *f* to shift the weight from the thread to the flange in passing from the switch to the main track, substantially as specified.

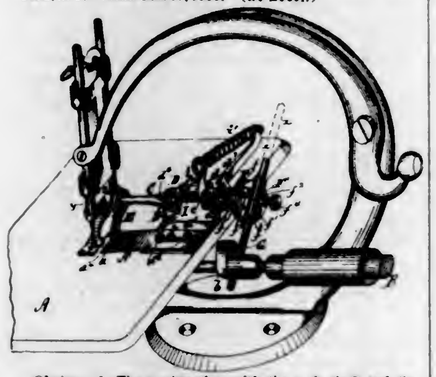
6. The piece *f*, of angular form at its free end, and provided at its opposite end with a horizontal and a vertical pivot, said piece having the inclined groove f^*, substantially as and for the purpose specified.

7. The slide *h*, having a central longitudinal slot and inclined slots in its sides opening into the central longitudinal slot, in combination with a pivoted or vibrating crossing section, having a pendent stem provided with lateral pins, substantially as and for the purposes described.

8. The combination of the angle-lever *g* with the angle-lever *i*, the slide *h*, having the central longitudinal slot and inclined slot, and a vibrating crossing section having a stem and pins to engage with the slide, substantially as and for the purposes described.

9. The combination of the angle-levers *g* and *i*, slide *h*, crank-rod c^4, lever *a*, rod c^3, and switch-bars *b*, operated thereby, substantially as and for the purpose specified.

262,842. CUTTING ATTACHMENT FOR SEWING-MACHINES. JOHN SMITH, Conshohocken, Pa., assignor, by mesne assignments, to the Willcox & Gibbs Sewing Machine Company, New York, N. Y. Filed Dec. 27, 1880. (No model.)



Claim.—1. The combination, with the rock-shaft and the blade carried thereby, of the tappet-rod, adjustable in the direction of its length, the spring, and the cam for operating on said tappet-rod, substantially as described.

2. In combination with rock-shaft C, carrying blade E, and collar F with flange *f*, the disk F', with sleeve f^2 and slots f^3, whereby the adjustment or throw of said blade may be regulated, substantially as shown and described.

3. In combination with the rock-shaft C, having collar I, with arm or goose-neck *i*, and bearing-stock D', having projecting arm d^3, the retracting-spring i^2, whereby the return motion of said shaft is effected and the blade E thereon held elevated when not in use, substantially as specified.

4. The combination, with the main shaft B and its cam *b*, of the rock-shaft C, adjustable tappet-rod G, and retracting-spring i^2, substantially as shown and described.

5. In combination with the cloth-plate A and shaft C, carrying the vibrating blade E, the adjustable plate A', constructed and arranged substantially as described, and located in front of the needle, whereby it acts as a cutter-bar in connection with said vibrating blade when the latter is in operation, and serves as a guide for the fabric being sewed when said blade is unshipped or out of position for trimming, as set forth.

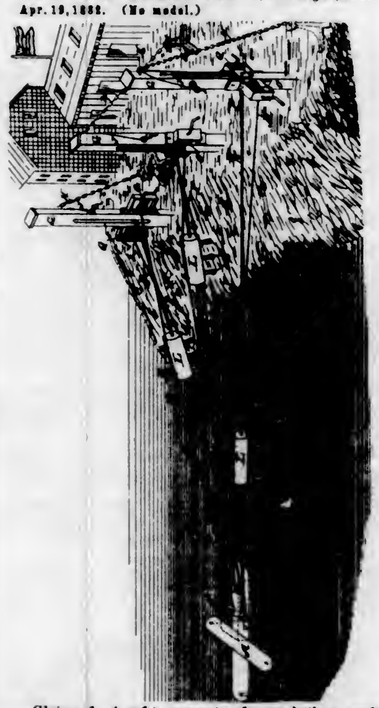
6. In combination with the bearing-stock D', having lug d^3, the rock-shaft C, carrying movable blade E, and the cutter-bar A', secured to said lug d^3, whereby said stock supports both the movable and rigid blades of the cutting attachment, substantially as shown and described.

7. The shaft C and blade E, in combination with the bearing-stock D', having kerf d^6 and clamping-screws d^5, whereby the shaft C may be adjusted to compensate for wear of the blade E, and the cutter-bar A', adjustable on said stock, substantially as shown and described.

8. The combination, with the sewing-machine shaft B, having cam *b*, of bearing-stock D', rock-shaft C, carrying blade E and tappet-rod G, cutter-bar A', arm or projection d^3, and retracting-spring i^2, substantially as shown and described.

9. In a cutting attachment for sewing-machines, the combination, with an adjustable cutter-bar, A', located in front of the needle, of a rock-shaft, C, carrying a vibratory blade, E, and mechanism, substantially as described, whereby when the upper blade, E, is in operation its backward motion is limited, but when not in operation may be thrown back sufficiently to permit the use of the bar A' as a guide.

262,843. SAFETY APPARATUS FOR SEA-BATHERS. LORENZO D. SMITH, Baldwin, and JOHN B. SMITH, Patchogue, N. Y. Filed Apr. 19, 1882. (No model.)



Claim.—1. A safety apparatus for sea-bathers, made substantially as herein shown and described, and consisting of a carrier on which ropes for holding the bathers can be attached, mounted movably on a cable fastened to the shore and to an object in the water some distance from the shore, as set forth.

2. In a safety apparatus for sea-bathers, the combination, with an anchored buoy or float, a standard on shore, and a cable attached to the buoy and to the standard, of a movable carrier on the cable, and a series of ropes attached to the carrier and adapted to be attached to the bathers, substantially as herein shown and described, and for the purpose set forth.

3. In a safety apparatus for bathers, the combination, with the float or buoy A, the cable D, and the standard G, of the carrier L, and the vertically-adjustable block F, to which the land end of the cable is attached, substantially as herein shown and described, and for the purpose set forth.

4. In a safety apparatus for sea-bathers, the combination, with the float or buoy A, the cable D, and the standard G, of the carrier L, and the ropes M and P, attached to the same, substantially as herein shown and described, and for the purpose set forth.

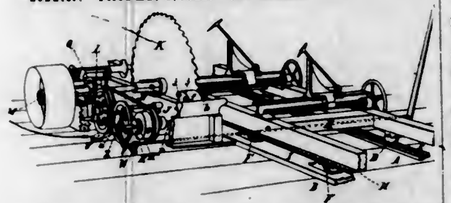
5. In a safety apparatus for sea-bathers, the combination, with the float or buoy A, the cable D, and the standard G, of the carrier L, the ropes M and P, and the windlasses O and Q, substantially as herein shown and described, and for the purpose set forth.

6. In a safety apparatus for sea-bathers, the combination, with the float or buoy A, the cable D, and the standard G, of the carrier L, provided with eyes or loops S, the ropes T, provided with snap-hooks *s*, and of the ropes M and P, substantially as herein shown and described, and for the purpose set forth.

7. In a safety apparatus for sea-bathers, the combination, with the float A, the cable D, and the standard G, of the carrier L, the ropes M and P, and the pulley N on the float A, substantially as herein shown and described, and for the purpose set forth.

8. In a safety apparatus for sea-bathers, the combination, with the float A, provided with balancing-weights C, the cable D, and the standard G, of the carrier L and the ropes M and P, substantially as herein shown and described, and for the purpose set forth.

262,844. CIRCULAR-SAW MILL. SAMUEL R. SMITH and EDWARD MYERS, Cincinnati, Ohio, assignors to Smith, Myers & Schuler. Filed May 8, 1882. (No model.)



Claim.—The saw-mill carriage J, resting at its front side upon track C on bed-sill A by wheels D, journaled to its under side, and at its rear side by inverted track H upon wheels F, journaled in steps G on the bed-sill B, substantially as set forth.

262,845. PUMP-PLUNGER. PHILIP H. SPRAGUE and TOBIAS A. SPRAGUE, Cornell, Ill. Filed Jan. 21, 1882. (No model.)

Brief.—The main plate A has an internally-inclined flange *b*, to hold the packing D, and a screw-threaded projection, *d*, to connect with ring B and hold said ring closely against the sleeve.



Claim.—1. The main plate A, formed with the inclined flange *b* and the collar *d*, in combination with the ring B and the sleeve D, substantially as and for the purposes set forth.

2. The adjustable flaring ring B, in combination with the sleeve D and the main plate A, formed with the inclined flange *b*, substantially as described.

3. The main plate A, formed with the inclined flange *b* and the threaded collar *d*, in combination with the sleeve D, threaded flaring ring B, and the ring *h*, substantially as and for the purposes set forth.

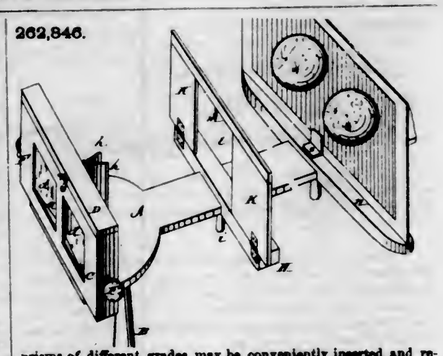
4. The main plate A, formed with the flange *b* and with the internally-threaded collar *d*, substantially as and for the purposes set forth.

5. The ring B, cast with the cross-piece *k*, and the main plate A, cast with the cross-piece *n*, in combination with the disk *a'*, formed with the arms *j j*, substantially as described.

262,846. STEREOSCOPE. W. LE COUNT STEVENS, New York, N. Y. Filed Mar. 23, 1882. (Model.)

Claim.—1. In a stereoscope, a lens-cell consisting of a box divided into two compartments and provided with a hinged cover, substantially as herein shown and described, whereby lenses or

262,846.



prisms of different grades may be conveniently inserted and removed, as set forth.

2. In a stereoscope, a lens-cell consisting of a box having an adjusting-screw at each end, substantially as herein shown and described, whereby the lenses can be adjusted independently of each other, as set forth.

3. In a stereoscope, the cell C, spring *e*, screws F, and follower E, in combination, substantially as herein specified.

4. In a stereoscope, the combination of the hinged screens *k* and lens-cell C, as herein specified.

5. In a stereoscope, the combination of the folding screens K, hinged screens *k*, and lens-cell C, as herein specified.

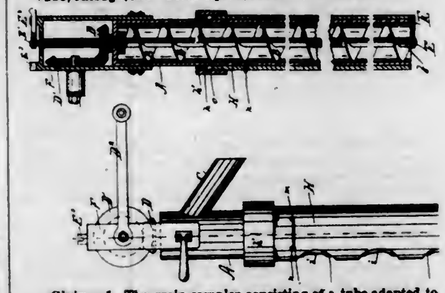
6. In a stereoscope, the folding screens K, hinged to the sliding cross-bar H, and provided with the central opening, *l*, between them, substantially as and for the purpose set forth.

7. In a stereoscope, the picture-holders J, for supporting the two halves of a stereograph at an angle with the optical axes of the stereoscope, said angle being either greater or less than a right angle, substantially as specified.

8. In a stereoscope, the slide I and adjustable picture-holders J, in combination, substantially as shown and described.

9. In a stereoscope, the combination, with the folding and sliding screens K, provided with the central opening, *l*, of the two plane-sided prisms L, arranged with their bases inward, substantially as and for the purpose set forth.

262,847. GRAIN AND SEED SAMPLER. SYLVANUS H. STEVENS, Chicago, Ill. Filed Apr. 6, 1882. (No model.)



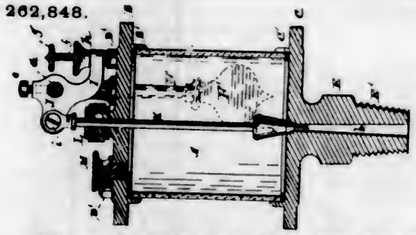
Claim.—1. The grain-sampler consisting of a tube adapted to be inserted vertically through the body of seeds or grain, and having suitable inlet and outlet openings, a screw-conveyer rotating in said tube, and devices for operating said conveyer, located at the top of the apparatus, substantially as specified.

2. The grain-sampler consisting of a tube adapted to be inserted vertically through the body of the grain, and having suitable inlet and outlet openings, a screw-conveyer rotating in said tube, devices for operating said conveyer, and a valve at the bottom of the tube, substantially as and for the purpose specified.

3. The combination, with the sampler consisting of the tube having a suitable inlet and outlet for the grain and window-openings for viewing the same, the screw-conveyer, and the devices for rotating the conveyer, of the movable outer tube having openings registering with the window-openings in the main tube, substantially as and for the purpose set forth.

262,848. AUTOMATIC FEEDING DEVICE FOR OIL-CUPS. JAS. STEWART, Chicago, Ill. Filed Mar. 10, 1882. (No model.)

262,848.



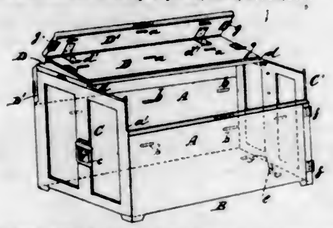
Claim.—1. A rocking snaft arranged in a bearing supported above the top plate of the vessel containing the lubricant, in combination with a valve rod or stem extending through the top plate of the said vessel and connected at its upper end with the rocking shaft, and an oscillating arm or pendulum connected with the said shaft, substantially as described.

2. A swinging arm or pendulum and a rock-shaft, in combination with an adjustable arm for controlling the movement of the rock-shaft, and a valve rod or stem located within the cup or receptacle and carrying a valve or plug for automatically opening and closing the valve or plug for feeding purposes, substantially as specified.

3. A swinging arm or pendulum and a rock bar or shaft, in combination with an adjusting arm or lever having a stop, and a valve rod or stem passing within the cup or receptacle, and carrying a valve or plug for regulating the flow of the oil or lubricant and automatically feeding the same, substantially as specified.

4. A swinging arm or pendulum and rock-shaft G, in combination with the arm or lever I, stop *f*, ear or connection J, valve rod or stem K, and valve or plug *j*, all located and carried by the feed cup or receptacle, substantially as and for the purposes specified.

262,849. TRUNK. EMIL STIENEL, Stockholm, Sweden. Filed Apr. 18, 1882. (No model.) Patented in Sweden May 31, 1880; in Belgium Aug. 3, 1880, No. 56,188; in France Aug. 3, 1880, No. 134,988, and in Italy Sept. 30, 1880, No. 12,108.



Claim.—The herein-described convertible trunk, composed of the fixed sides A A, having bottom B and end piece C, extended above the sides, detachable end piece C′, and detachable reversible lid or cover composed of the hinged middle sections, D D, and side wings, D′ D′, the whole constructed and combined substantially as and for the purpose shown and set forth.

262,850. MANUFACTURE OF BARS OF METAL. WILLIAM C. STIFF, Birmingham, County of Warwick, England. Filed Mar. 22, 1882. (No specimens.) Patented in England Nov. 28, 1881, No. 5,192.

Claim.—The method of producing an ornamental bar of metal herein described, consisting in twisting a bar of metal, then rolling or compressing it, then subjecting it to a second twisting operation, and finally finishing it by rolling or compressing it again, as and for the purpose herein set forth.

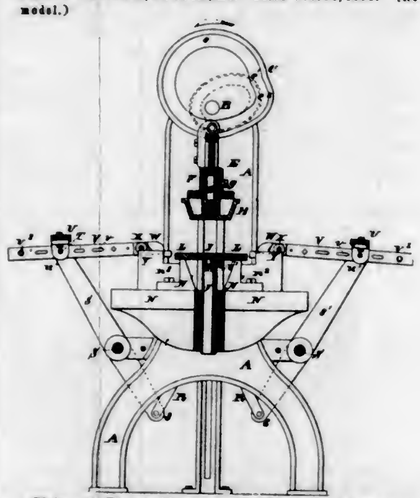
262,851. PLANE-GUIDE. WILLIAM H. STINSON, Scandia, Kans. Filed May 23, 1882. (No model.)

Claim.—1. In a dado-plane guide, the combination, with the work-support or base having the curved slotted plate, of the pivoted guide adapted to permit the base to pass through it, and the adjusting-screw passed through the slot of aforesaid plate and into or through the bottom bar of said guide, substantially as and for the purpose set forth.

2. In a dado-plane guide, the combination of the base having the curved slotted plate and flanged graduated plate, the adjustable gage having an adjustable plate provided with a lateral projection, and the pivoted guide adjustable by means of a set-screw passed through the slotted plate and into or through itself, substantially as and for the purpose specified.



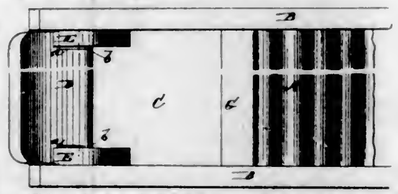
262,852. MACHINE FOR FORMING SHEET-METAL PANS. ROBERT J. STIRRAT, St. Louis, Mo. Filed Feb. 24, 1882. (No model.)



Claim.—1. The combination of pan-forming dies, cams C C and D, pitman P, toggle-block and rod Q R, rock-shaft S with arms *s* and *s′* and folding-tools V W, constructed to operate substantially as set forth.

2. The combination of shaft B, cam D, having groove *d*, pitman P, having pin O, toggle-block Q, guides *a′ a′*, rods R, arms *s s s′ s′*, rock-shafts S S, pintle-rod T, bars U U and V V, tools W W, and tool-guides Y Y, as set forth.

262,853. WASH-BOARD. ROSWELL H. ST. JOHN, Toledo, Ohio. Filed May 26, 1882. (Model.)



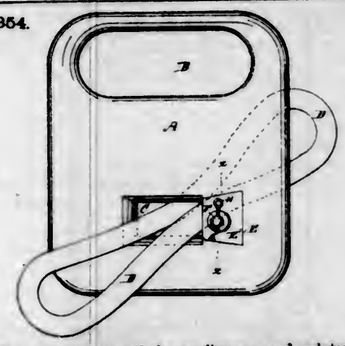
Claim.—1. A wash-board having a dash-board, D, pivoted between its side bars, the shoulders *a* on said dash-board, the cams having notches in them, and springs adapted to act on the pivotal portions of the said board by retracting them in the notches, substantially as described.

2. The combination of a wash-board, a pivoted dash-board, springs acting on the latter, and cams having notches in them, adapted to receive and, in connection with the springs, to hold said board in the working position, substantially in the manner described.

3. The combination of a spring-actuated folding dash-board, the notched cams rigidly fixed to the sides of the board, the cross-bar G, and the inclined cross-board H, all constructed and arranged substantially in the manner and for the purposes described.

262,854. CAR-COUPLING. FRANK SWEETLAND, Edwardsburg, Mich. Filed Mar. 23, 1882. (Model.)

262,854.



Claim.—1. A link-guide for coupling cars, made substantially as herein shown and described, and consisting of a plate provided with a slot through which the link can pass, and with a removable key for closing part of this slot in the plate, as set forth.

2. In a link-guide for coupling cars, the combination, with the plate A, provided with slots B and C, of the removable key E for closing part of the slot C, substantially as herein shown and described, and for the purpose set forth.

3. In a link-guide for coupling cars, the combination, with the plate A, provided with slots B and C, of the blocks E′ E′ and the bolt F, substantially as herein shown and described, and for the purpose set forth.

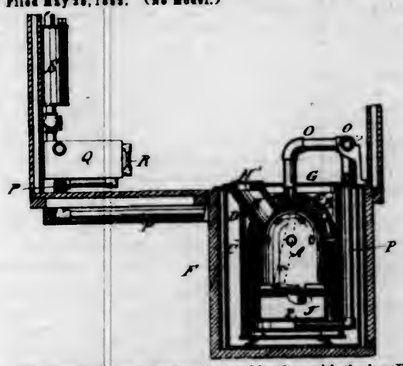
4. In a link-guide for coupling cars, the combination, with the plate A, provided with the slots B and C, of the key E, and the coupling-link D, having its sides pressed together at the middle, substantially as herein shown and described, and for the purpose set forth.

262,855. PIPE-COUPLING. STEPHEN P. M. TASKER, Philadelphia, Pa. Filed Sept. 19, 1881. (No model.)



Claim.—As an improvement in couplings for thin malleable-metal seamless tubings, the combination of two contiguous sections of thin seamless iron tubing, the whole thickness of the metal of the meeting ends of which is spun, impressed, or otherwise formed into screw-threads, with a collar or coupling-cylinder threaded to correspond with and screw upon the threaded sections, substantially as set forth.

262,856. CAR-HEATER. JAMES M. THAYER, Randolph, Mass. Filed May 25, 1882. (No model.)



Claim.—1. In a car-heater, the combination, with the box F, suspended from the bottom of the car, of the furnace A, the water-jacket B, the casing D, the hot-water-feed pipes O, and the return-pipes P, substantially as herein shown and described, and for the purpose set forth.

2. In a car-heater, the combination, with the box F and the top plate, G, of the furnace A B D, the grate J, the link-piece K′, the lever M, and the cover N, for closing the opening G′ in the top plate, G, above the lever M, substantially as herein shown and described, and for the purpose set forth.

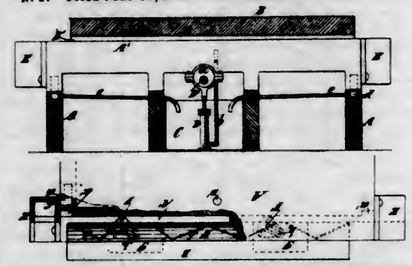
3. In a car-heater, the combination, with the box F, of the furnace A, the water-jacket B, the casing D, the top plate, G, and the registers J′, substantially as herein shown and described, and for the purpose set forth.

4. In a car-heater, the combination, with the furnace A, the water-jacket B, and the casing D, held below the bottom of the car, of the hot-water-feed pipes O, the return-pipes P, and the hot-water reservoir Q, substantially as herein shown and described, and for the purpose set forth.

5. In a car-heater, the combination, with the furnace A, the water-jacket B, and the casing D, held below the bottom of the car, of the hot-water-feed pipes O, the return-pipes P, the hot-water reservoir Q, the supply and condensing tank S, and the valved connecting-pipe T, substantially as herein shown and described and for the purpose set forth.

6. In a car-heater, the combination, with the furnace A, the water-jacket B, and the casing D, held below the bottom of the car, of the hot-water-feed pipes O, the return-pipes P, the hot-water reservoir Q, the condensing-tank S, the connecting-pipe T, and the safety-valve T′, substantially as herein shown and described, and for the purpose set forth.

262,857. OILING PLANERS, &c. HUGH THOMAS, New York, N. Y. Filed June 16, 1882. (No model.)



Claim.—1. The combination, with the ways or grooves of a planer or other machine, of an oil-supply tank, pipes leading therefrom to the ways or grooves, overflow boxes or chambers at the ends of the ways or grooves, and pipes or passages for conducting oil from said boxes or chambers, substantially as described.

2. The combination, with the ways or grooves of a planer or other machine, of an oil-supply tank below the same, a pump and pipes for supplying oil to the ways or grooves, overflow boxes or chambers at the ends of said ways or grooves, and pipes for returning oil from said boxes or chambers to said tank, substantially as described.

3. The combination, with the ways or grooves A′, of the oil-supply pipes *b*, having downwardly-turned ends *b′*, the overflow boxes or chambers E, and pipes or passages for conducting oil therefrom, substantially as described.

4. The combination, with the V's B′, having grooved faces, and the ways or grooves A′, of the reversible rolling feeders F, loosely secured in the V's and adapted to drag in the ways or grooves, substantially as described.

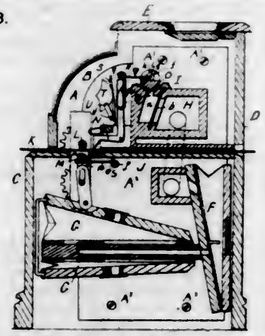
262,858. MECHANICAL MUSICAL INSTRUMENT. GEO. W. TURNER, Boston, Mass., assignor to the American Automatic Organ Company, same place. Filed May 19, 1882. (No model.)

Claim.—1. In a musical instrument provided with a wind-chest, reeds, and reed-chambers having air-passages to the reeds, all substantially as shown and described, a valve adapted to be operated and constructed and arranged to roll over upon its seat in its movement to open and close the air-passage to the reed belonging to it, all substantially as described.

2. In a mechanical musical instrument provided with a wind-chest, reeds, and reed-chambers having air-passages to the reeds, all substantially as shown and described, a series of valve-actuating fingers controlled by the music-sheet, in combination with valves hinged one to each of said fingers, and each constructed and arranged to roll over upon its seat in its movement to open and close the air-passage to the reed belonging to it, all substantially as described.

3. In a mechanical musical instrument provided with a wind-

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chest, reeds, and reed-chambers having air-passages to the reeds, all substantially as shown and described, a series of valve-actuating fingers controlled by the music-sheet, in combination with valves hinged one to each of said fingers, and flexibly connected to a stationary support, and each constructed and arranged to roll over upon its seat in its movement to open and close the air-passage to the reed belonging to it, all substantially as described.

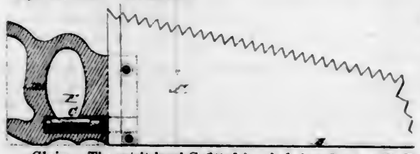
4. In a mechanical musical instrument, the combination, with an air-passage, *c*, opening to a reed-chamber, *a*, and an actuating finger or lever, N, of a valve, O, having slot and hole *f*, and of a rod, R, connecting said valve to said finger, and having cross-head *l*, all substantially as described, and for the purposes specified.

5. In a mechanical musical instrument, the combination, with an air-passage, *c*, opening to a reed-chamber, *a*, and an actuating finger or lever, N, of a valve, O, which is hinged to said finger, and is constructed and arranged to roll over upon a concave seat in its movement to open and close its said air-passage, substantially as described.

6. In a mechanical musical instrument, the combination, with a feed-roller, L, and presser-roller, M, of slotted brackets s and angular levers S, both supporting the presser-roller, and arranged and combined therewith to operate upon and allow the presser-roller to move, all substantially as described, for the purposes specified.

7. In a mechanical musical instrument, the combination, with a feed-roller, L, and presser-roller M, of slotted brackets s and angular levers S, both supporting the presser-roller, and of cams T, attached to an operating-shaft, U, all substantially as and for the purposes described.

262,859. HAND-SAW. JOHN E. TYLER, Rozobel, N. C. Filed Apr. 25, 1882. (No model.)



Claim.—The spirit-level C, fitted in a hole bored in handle B, from the end to which the blade is attached, and having a slit, G, coincident with the slit H of the handle for the saw-blade, and having said blade entered therein, substantially as described.

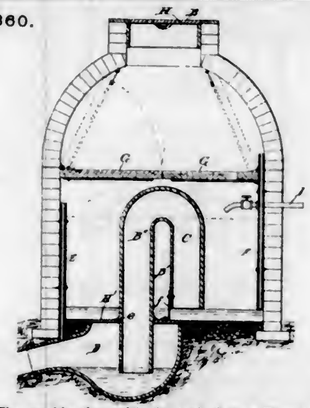
262,860. SEWER-FLUSHING APPARATUS. WILLIAM H. VIBBARD and GEORGE H. CHANDLER, Kalamazoo, Mich.; said Chandler assignor to said Vibbard. Filed June 9, 1882. (No model.)

Brief.—An air-tube leads from the trap into the tank to prevent the trap from unsealing by siphoning. Also, an air-tube extends from near the bottom of the tank to above the frost-doors, to supply air when the frost-doors are closed. The frost-doors are hinged to the inside of the tank above the siphon. A flange on the long leg of the siphon, resting on the lid of the trap, and supporting devices on the short leg hold the siphon in place.

Claim.—1. The combination, with the tank A, of the siphon B″ C, the trap D, inclosing the long leg of the siphon, and the tube E, leading from the trap to the tank, substantially as described, and for the purpose specified.

2. The combination, with the siphon B″ C and tank A, of the frost-doors G G, hinged to the tank at a point above the siphon, substantially as and for the purpose specified.

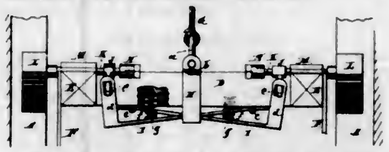
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3. The combination, with the tank A, trap D, and plate H, of the curved siphon B″ C, having a flange, *f*, on its long leg to rest on the plate H, and means for supporting the short leg of said curved siphon above the said plate H, substantially as described.

4. The combination, with the tank A, siphon B″ C, and frost-doors G G, of the air-tube F, opening above and below the doors, substantially as and for the purpose specified.

262,861. SAFETY ATTACHMENT FOR ELEVATORS. FREDERICK W. VOSBURGH, Chicago, Ill., assignor to Peter J. Singer, same place. Filed May 26, 1882. (No model.)



Claim.—1. In a safety attachment for elevators, a lifting or controlling lever, pivoted at one end and provided at its other end with a cross-head, in combination with a device adapted to come in contact with a rail or bar and connected with the cross-head on the lifting or controlling lever and means for operating the latter, substantially as described.

2. The combination of a lifting or controlling lever, pivoted at one end and provided at its other end with a cross-head, with an eccentric adapted to come in contact with a rail or bar and connected with the cross-head on the lifting or controlling lever and means for operating the latter, substantially as described.

3. The combination of a lifting or controlling lever, pivoted at one end and provided at its other end with a cross-head, with an eccentric adapted to operate on a rail or bar, a rock-shaft connected with the eccentric, a connecting device between the rock-shaft and the cross-head on the lifting or controlling lever, and means for operating the latter, substantially as described.

4. The combination of a lifting or controlling lever, pivoted at one end and provided at its other end with a cross-head, with an eccentric adapted to operate on a rail or bar, a rock-shaft connected with the eccentric, an arm or lever attached to the rock-shaft and connected with the cross-head on the lifting or controlling lever, and means for operating the latter, substantially as described.

5. The combination of a lifting or controlling lever, pivoted at one end, an eccentric adapted to operate on a guide rail or bar, devices connecting the eccentric with the controlling lever, and a stirrup supporting the lifting and controlling lever, substantially as described.

6. The combination of two lifting or controlling levers, each pivoted at one end and provided at the other end with a cross-head, with devices adapted to operate against rails or bars and connecting with the cross-heads on the lifting or controlling levers, and means for operating the latter, substantially as described.

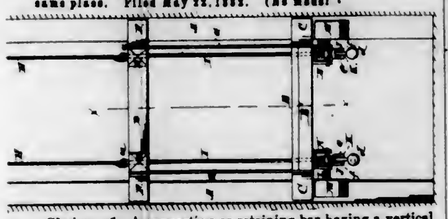
7. The combination of two lifting or controlling levers, each pivoted at one end and provided at the other end with a cross-head, with eccentrics adapted to operate against rails or bars, devices connecting said eccentrics with the cross-heads on the lifting or controlling levers, and means for operating the latter, substantially as described.

8. The combination of two lifting or controlling levers, each pivoted at one end and provided at the other end with a cross-head, with eccentrics adapted to operate on rails or bars, rock-shafts connected with the eccentrics, devices connecting the rock-shafts with the cross-heads on the lifting or controlling levers, and means for operating the latter, substantially as described.

9. The combination of two lifting or controlling levers, each pivoted at one end and provided at the other end with a cross-head, with eccentrics adapted to operate on rails or bars, rock-shafts connected with the eccentrics, arms or bars attached to the rock-shafts and connected with the cross-heads on the lifting or controlling levers, and means for operating the latter, substantially as described.

10. An eccentric, L′, having a diagonal face for enabling it to be used on guide-rails located at diagonal corners of the case or platform, substantially as and for the purposes described.

262,862. SAFETY ATTACHMENT FOR ELEVATORS. FREDERICK W. VOSBURGH, Chicago, Ill., assignor to Peter J. Singer, same place. Filed May 23, 1882. (No model.)



Claim.—1. A supporting or retaining bar having a vertical movement, and adapted to operate a clutching mechanism, substantially as specified.

2. The combination of a suspending or retaining bar with arms or levers, rock-shafts, eccentrics, and a connection between the suspending or retaining bar and the hoisting cable or cables, substantially as and for the purposes specified.

3. A clutch mechanism consisting of a suspending or retaining bar, arms or levers, rock-shafts, and eccentrics adapted to be attached to an elevator cage or platform, and connected with a hoisting-cable, substantially as and for the purposes specified.

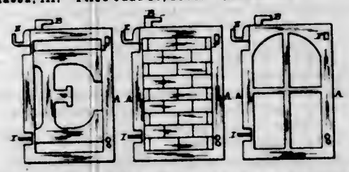
4. The combination of a suspending or retaining bar, arms or levers, rock-shafts, and eccentrics with a rod or link and a hoisting-cable, substantially as and for the purposes specified.

5. The combination of a retaining or supporting bar, arms or levers, rock-shafts, and eccentrics with a rod or link and return-spring around the rod or link and a hoisting-cable, substantially as and for the purposes specified.

6. The combination of the suspending or retaining bars J, the arms or levers K, rock-shafts L, hangers N, and eccentrics M, with the rods or links I, springs c, and hoisting-cables H, substantially as and for the purposes specified.

7. The combination of the suspending or retaining bars J, arms or levers K, rock-shafts L, hangers N, and eccentrics M with the rods or links I, springs c, bars O P, spring *i*, and hoisting-cable H, substantially as and for the purposes specified.

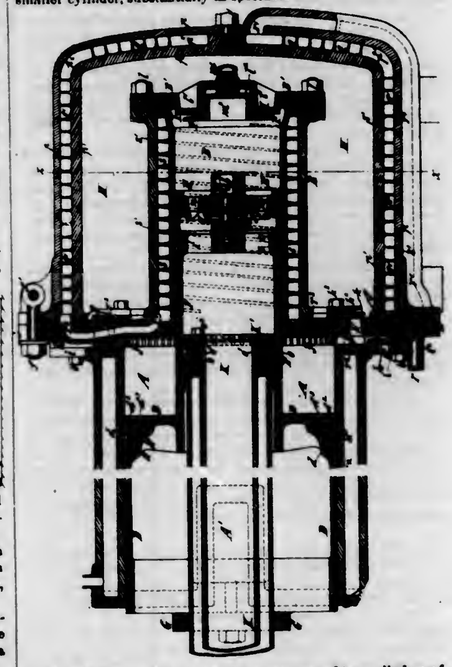
262,863. TOY BUILDING-BLOCK. ABRAM R. WALTERS, Atkinson, Ill. Filed June 20, 1882. (No model.)



Claim.—A toy building-block composed of a flat plate having the two hooks formed upon one of its corners, projections I, and suitable ears and perforations, whereby the plates can be attached together, substantially as shown and described.

262,864. AIR-COMPRESSOR. JOHN B. WARING, New York, N. Y., assignor of one-half to Milan C. Hallock, Chicago, Ill. Filed Jan. 14, 1882. (No model.)

Claim.—1. The combination, in an air-compressor, of two cylinders of unequal size arranged in line, two pistons connected together and fitting said cylinders, suction-valves for admitting air to the larger cylinder upon the inner side of its piston, valves for passing air therefrom to the smaller cylinder upon the outside of its piston, a discharge-valve or valves for said smaller cylinder, and a pipe or conduit for admitting compressed air to act upon the inner side of said smaller piston, substantially as specified.



2. The combination, in an air-compressor, of two cylinders of unequal size arranged in line, two pistons connected together and fitting said cylinders, suction-valves for admitting air to the larger cylinder upon the inner side of its piston, valves for passing air therefrom to the smaller cylinder upon the outside of its piston, a discharge-valve or valves for said smaller cylinder, and a pipe or conduit for admitting compressed air to act upon the inner side of said smaller piston, substantially as specified.

3. The combination, in an air-compressor, of two cylinders of unequal size arranged in line, two pistons connected together and fitting said cylinders, suction-valves for admitting air to the larger cylinder upon the inner side of its piston, valves for passing air therefrom to the smaller cylinder upon the outer side of its piston, and discharge-valves for said smaller piston, arranged in said piston, and providing for the discharge of air through said piston, substantially as specified.

4. The combination, in an air-compressor, of two cylinders of unequal size arranged in line, two pistons fitting said cylinders, a hollow trunk connecting said pistons and communicating with a reservoir, suction-valves for admitting air to the larger cylinder upon the inner side of its piston, valves for passing air therefrom to the smaller cylinder upon the outer side of its piston, and discharge-valves for passing air through said smaller piston into said trunk, substantially as specified.

5. The combination, in an air-compressor, of two cylinders of unequal size arranged in line, two pistons fitting said cylinders, a hollow trunk connecting said pistons, a stationary discharge-pipe fitting closely within said trunk, suction-valves for admitting air to the larger cylinder upon the inner side of said piston, valves for passing air therefrom to the smaller cylinder upon the outer side of its piston, and a discharge valve or valves for passing air through said smaller pistons into said trunk, substantially as specified.

6. The combination, in an air-compressor, of two cylinders of unequal size arranged in line, two pistons connected together and fitting said cylinders, a reservoir or receiver surrounding the smaller cylinder, suction-valves for admitting air to the larger cylinder upon the inner side of its piston, valves for discharging air therefrom to the reservoir or receiver, a valve or valves whereby air passes from said receiver or reservoir to said smaller cylinder upon the outer side of its piston, and a discharge valve or valves for said smaller cylinder, substantially as specified.

7. The combination, in an air-compressor, of two cylinders of unequal size arranged in line, two pistons connected together and fitting said cylinders, a head between said cylinders and common to both, a reservoir or receiver surrounding the smaller cylinder and secured to said common head, valves on opposite sides of said common head for admitting air to the larger cylinder upon the inner side of the piston and for discharging air therefrom into said reservoir or receiver, and valves for admitting air from said reservoir or receiver to the smaller cylinder upon the outside of its piston, and for discharging air from said smaller cylinder, substantially as specified.

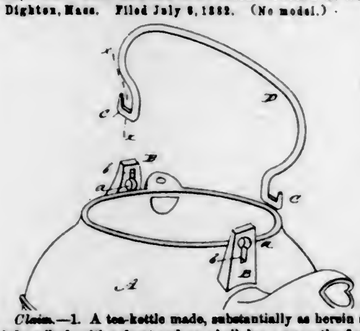
8. The combination, in an air-compressor, of two cylinders of unequal size arranged in line, a water-jacket surrounding the smaller cylinder, two pistons connected together and fitting said cylinders, an air reservoir or receiver surrounding said smaller cylinder, and a water-jacket surrounding said reservoir or receiver, whereby the air in said reservoir or receiver is cooled by contact with both water-jackets, substantially as specified.

9. The combination, in an air-compressor, of two cylinders of unequal size arranged in line, a water-jacket around said smaller cylinder, an air reservoir or receiver surrounding said smaller cylinder, a water-jacket around said reservoir or receiver, and pipes or passages for supplying water to the jacket of the reservoir or receiver, thence conducting said water to the jacket of said smaller cylinder, and finally discharging the water therefrom, substantially as specified.

10. The combination, in an air-compressor, of two cylinders of unequal size arranged in line, a reservoir or receiver surrounding the smaller cylinder, water-jackets for both said cylinders and for said reservoir or receiver, and pipes or passages for supplying water to the jacket of the reservoir or receiver, and for conducting water from said jacket to the jacket of the smaller cylinder, thence to the jacket of the larger cylinder, and finally for discharging the water from the jacket of said larger cylinder, substantially as specified.

11. The combination, in an air-compressor, of the two cylinders, and the reservoir or receiver H, composed of two parts fitting one within the other, and having a spiral passage along its side or cylindric portion and its closed end, substantially as specified.

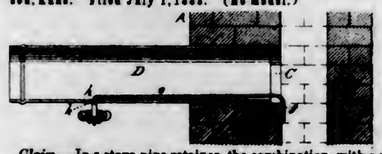
262,865. TEA-KETTLE AND BAIL. JOSEPH B. WARREN, Dighton, Mass. Filed July 6, 1882. (No model.)



Claim.—1. A tea-kettle made, substantially as herein shown and described, with a front and rear bail, lug, or ear, the front ear being provided with a circular aperture and a downwardly-projecting slot, and the rear ear being provided with a circular aperture and an upwardly-projecting slot, substantially as herein shown and described, and for the purpose set forth.

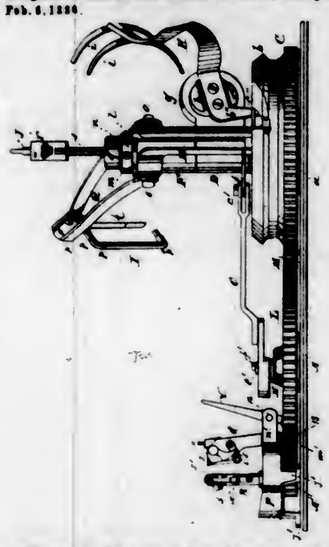
2. The combination, with a kettle provided with a front ear having a circular aperture and a downwardly-projecting slot and a rear ear having a circular aperture and an upwardly-projecting slot, of a bail having the hook ends flattened or squared, substantially as herein shown and described, and for the purpose set forth.

262,866. STOVE-PIPE RETAINER. ADAM WEAVER, Atchison, Kans. Filed July 1, 1882. (No model.)



Claim.—In a stove-pipe retainer, the combination, with a perforated slotted stove-pipe, of a piece of wire, *a*, extending horizontally within the pipe D, bent downward at the end *g*, beyond the end of the pipe, to form a catch, and bent downward at the end *h* to project through the perforation *h* in the bottom of the pipe and form a handle, substantially as specified.

262,867. GRAIN-BINDER. ANDRUS S. WEAVER, Joy, N. Y., assignor to himself and Charles H. Morse, Chicago, Ill. Filed Feb. 6, 1880.



Claim.—1. The combination of a main wheel, I, provided with grooves *a' b'*, a casting, P, to carry the knot-tying devices and grippers, and a wheel, C, provided with a groove, *d*, said three parts, I, P, and C, being arranged substantially as and for the purposes specified.

2. The wheel C, provided with a groove or channel, *d*, in combination with a standard, B, sleeve D, with projecting arm *f*, sleeve F, and needle-arm G, pivoted to the sleeve F, and having a rear extension, H, traveling in the groove *d*, substantially as and for the purposes specified.

3. The combination, in a grain-binder, of the compressor E, connected with sleeve D, and arranged to sweep the platform, with the needle-arm G pivoted upon the sleeve F, and arranged to rise when the compressor commences its travel toward the knot-tying mechanism, and to then travel forward simultaneously with the compressor, all constructed and adapted for operation substantially as described.

4. The combination, with the spring-grippers, of the needle I, bent at its lower end, as described, the stationary plate 1, and the pivoted gripper 3, normally held against said plate by spring-pressure, said needle being arranged so that its bent lower end will pass between the two jaws thus formed both in its descent and in its ascent, in the manner and for the purpose specified.

5. A cord-gripper consisting of a standard, Q, having thereon a plate or piece, 1, and the parts or pieces marked 3, 5, and 6, substantially as specified.

6. The knot-tying devices consisting of the shaft R, and head S, with the arm T, said parts being constructed substantially as described, in combination with the casting P, provided with channels *b' f'*, substantially as set forth.

7. The combination, with the wheel L, for actuating the knot-tying mechanism and carrying pin or post N, of the slotted bar O and the sleeve D, arranged upon standard B, and carrying the compressor-arm, the slotted bar being pivoted to arm *f* upon the sleeve, said members being constructed and arranged for operation substantially as described.

8. The combination, in a grain-binder, of the needle and the knot-tying mechanism, with the slide-bar U, arranged to carry the cord over the knot-tying devices after the cord has been brought down by the needle and grasped by the gripping mechanism, and the vibratory lever V, arranged to actuate the slide-bar at the proper moments, substantially as described.

9. The wheel L, provided with grooves or channels *a' f'*, in combination with the cord-grippers, knot-tying devices, sliding bar U, lever V, and sliding plate or bar *m'*, substantially as and for the purposes specified.

10. The needle I, provided with a hook, *g'*, in combination with the knot-tying devices for the purpose of removing the cord from the head S, substantially as specified.

11. The knife or cutter *a''* on the shaft R of the knot-tying devices, in combination with the slot 14 in the standard Q, substantially as specified.

12. The hook S, arranged so as to catch and hold the cord at the proper time during the descent of the needle-arm, and provided with a slotted extension, 9 10, in combination with the pin 11 upon the part Q, carrying the gripping devices, substantially as specified.

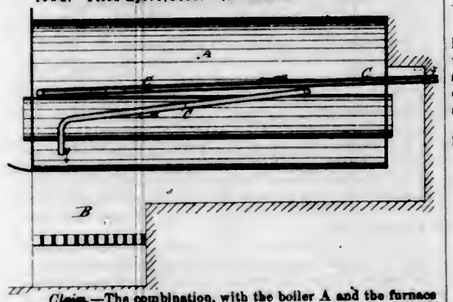
13. The combination, in a grain-binder, of a platform provided with fixed arms, between which and the horizontally-movable compressor the gavel is held while being bound, and the vertical vibratory and horizontal oscillatory needle-arm carrying the needle, and provided at its outer end with the arm *t*, constructed and arranged for delivering the bound gavels, substantially as described.

14. The post N, made in two parts, *d' f'*, in combination with the slotted bar O and slot *i'*, substantially as specified.

15. The compressor E, provided with an arm, *b''*, in combination with the sleeve D and fixed projection *c''*, for the purpose of elevating the outer end of the compressor to allow the bundle to pass under it, substantially as specified.

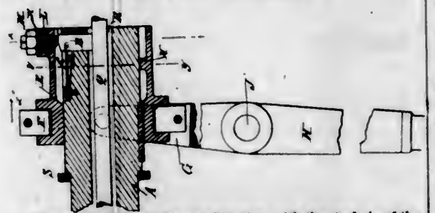
16. The combination, in a grain-binder, of the plate or casting P, having an outer channel, *b'*, provided with a guiding projection or point and an inner channel, *f'*, having an opening in its wall, with the shaft R, provided with the knot-tying devices, and arranged to rotate in said plate or casting, and the pivoted arm T, having a jaw or head, S, at its upper end, and at its lower end having a shoe arranged to travel in the casting P, in order to effect the requisite movement of the knot-tying devices, substantially as described.

262,868. FEEDING WATER TO BOILERS. HENRY WEBSTER, Cassville, Wis., assignor to himself and John H. Cole, Keokuk, Iowa. Filed Apr. 6, 1882. (No model.)



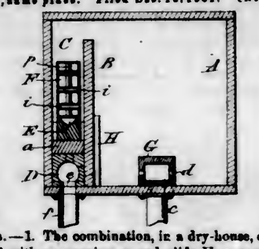
Claim.—The combination, with the boiler A and the furnace B, of the feed-water pipe C, entering at one side of the rear of said boiler, extending to the front head, thence across, then rearwardly and across to the center of the boiler, thence forward nearly to the front head, and vertically downward nearly to the bottom of the boiler over the furnace, substantially as herein shown and described, whereby the full volume of the water in the feed-pipe is discharged on the bottom of the boiler, and a circulation is imparted to the water therein, removing the sediment, as set forth.

262,869. CHUCK. JOSEPH WORTHEIM, Frankfort-on-the-Main Germany. Filed Oct. 25, 1881. (No model.)



Claim.—In a chuck, the combination, with the stock A, of the radially-sliding jaws B, the sleeve E, the studs K, the ring F, and the pivoted lever H, substantially as herein shown and described, and for the purpose set forth.

262,870. DRYING-HOUSE. CHARLES T. WEBBER, Whitefield, N. H., assignor of two-thirds to Alson L. Brown and Warren G. Brown, same place. Filed Dec. 10, 1881. (No model.)



Claim.—1. The combination, in a dry-house, of a partition, B, provided with an opening, *e*, and slide H, a compartment, C, provided with condensers F, having tubes *g i* and connecting-pipes *l*, drip-trough E, air-chamber D, having holes *g g*, doors *h h*, and opening *e*, a blower or fan, pipes *f c*, and air-chamber G, having opening *b* and holes *d*, substantially as and for the purposes shown and described.

2. The combination, in a dry-house, of the condensers F, trough E, and air-chamber D, having holes *g g*, doors *h h*, and opening *e*, with the partition B, having opening *e* and slide H, and air-chamber G, provided with holes *d* and openings *b*, all arranged and operating in the manner and for the purpose substantially as shown and described.

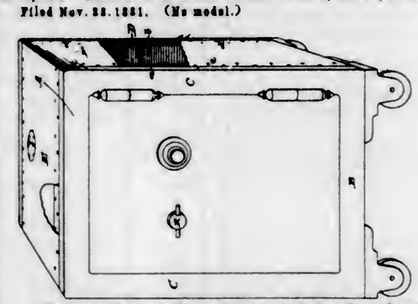
3. An air-chamber, D, having opening *c*, doors *h h*, and holes *g g*, substantially as and for the purposes set forth.

262,871. HARROW OR CLOD-CRUSHER. BENJ. F. WHITE, Chapel Hill, Texas., assignor to William B. Gloan, same place. Filed May 10, 1882. (Model.)



Claim.—In a harrow or clod-crusher composed of sections hinged one to the other, the combination of the bars *a'*, constructed with the diagonal slots or mortises *a²*, and the bars *c*, placed and secured in the slots or mortises *a²*, and provided at their opposite ends with means for connecting one with the other, substantially as set forth.

262,872. FIRE-PROOF SAFE. JAMES WHITE, Canton, Ohio. Filed Nov. 28, 1881. (No model.)



Claim.—1. In a safe, the rectangular angle-iron front frame, A B C, provided upon its face with hinges for the door, and with the inwardly-projecting flange, rabbeted as at *a*, substantially as set forth.

2. In a safe, the rectangular angle-iron rear frame, D, having the forwardly-projecting flange, rabbeted as at *b*, and provided also with the panel-rabbet, as at *b'*, substantially as set forth.

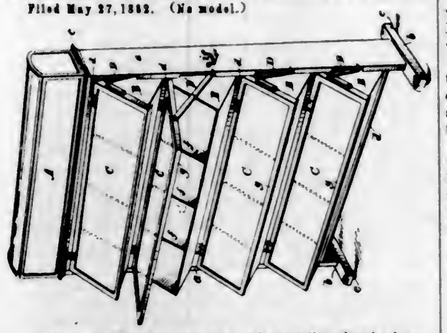
3. In a safe, the combination, with the front and rear rectangular angle-iron rabbeted frames, of the back sheet, G, extending from top to bottom and from side to side of said frame, and the jacket-sheet covering the top, bottom, and sides of the safe, and secured directly to the frames, substantially as set forth.

4. In a safe, the combination, with the frame and the metallic back sheet, of an interior clamping device attached permanently to the sheet and overlapping the frame, substantially as set forth.

5. In a safe, the combination, with the door, of a yielding packing-plate projecting into the safe beyond the inner face of the door, bolt-work interposed between the packing-plate and the inner face of the door, and a shoulder projecting from the inner wall of the safe, substantially as set forth.

6. In a safe, the combination, with the inner face of the door, of two vibrating locking-arms arranged at substantially a right-angle to each other, and having their operative faces formed upon angles to the plane of their rotation, shoulders in the inner wall of the safe upon opposite sides of an angle, and mechanism adapted to be operated from the outside of the safe for actuating the locking-arms after the door is closed, substantially as set forth.

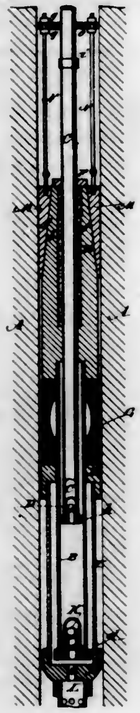
262,873. SHOW-CASE. ROBERT S. WILLIAMS, New York, N. Y. Filed May 27, 1882. (No model.)



Claim.—1. The show-case made substantially as herein shown and described, consisting of the frame composed of the uprights *a a*, inclined shelves *d d*, covers C C, and the jointed braces D D', the shelves being adapted to hold the boxes B B, as set forth.

2. In a show-case, the covers C C, provided with the strips of rubber *h*, in combination with the shelves *c d*, and the jointed braces or supports D D', for holding the covers open and letting them drop by a slight stroke upon the brace, as set forth.

262,874. APPARATUS FOR PUMPING AND FLOWING OIL-WELLS. ELI SAMUEL WILLIAMSON, Bradford, Pa. Filed May 29, 1882. (No model.)



Claim.—1. The combination, with the tapered box E, with the pumping-tube passing through it, of the wedges M, connected to a cross-head, O, capable of being acted on by a collar on the pumping-tube, substantially as and for the purpose set forth.

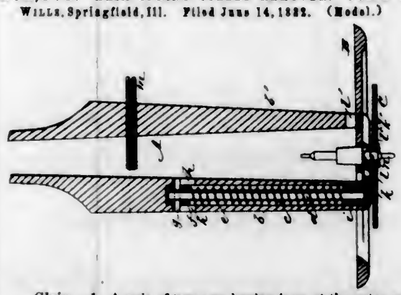
2. The combination of the head H of the pipe I, packer G, and tapered box E, connected to the cross-head O by tightening screw-bolts N and resting upon the packer, substantially as and for the purpose set forth.

3. The pumping-tube C, having a valve, D, in combination with the working-cylinder B, having a valve, K, and the outer tube, I, fitted to form a slip-joint on the working-barrel, and provided with a lower perforated pipe, L, substantially as specified.

4. The combination, with the pipes I L, connected together, the head H, connected to pipe I, and the box E, of the working-cylinder B, having a valve and collar and connected to said box, and the pumping-tube C, having a collar at its lower end, substantially as and for the purpose set forth.

5. The combination of the wedges M M, the cross-head O, to which said wedges are attached, the pumping-tube C, with its collars or projections *h i*, the tapering box E, the working-barrel B, with its lower collar or projection, *d*, and the outer tube, I, with its head or flange H, essentially as and for the purposes herein described.

262,875. HAIR-SPRING-COLLET REMOVER. FRANK M. WILLS, Springfield, Ill. Filed June 14, 1882. (Model.)



Claim.—1. A pair of tweezers having jaws at the outer ends of their prongs, the one of which is made extensible against the tension of a spring for its riding over the opposite jaw when closing the tweezers, substantially as and for the purpose herein set forth.

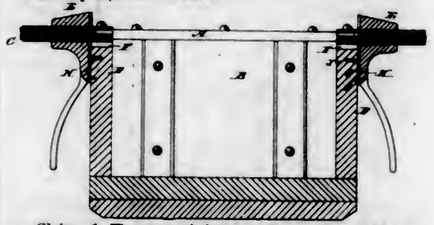
2. The combination of the extensible slotted jaw *h* with the fixed slotted jaw *h'*, for removing the collet of the hair-spring from the balance-staff without coming in contact with said staff to mar it, essentially as described.

3. In a pair of tweezers having two slotted jaws, the extension of the slot *i'* of one of said jaws through the back of the prong which carries said jaw, substantially as and for the purposes herein set forth.

4. The combination, with the fixed jaw *h'* of the tweezers, having a bevel, *z*, on its outer face, of the extensible jaw *h*, arranged to project beyond the fixed jaw, the stem *d*, restricted to a sliding action in direction of its length, and the spring *e*, substantially as specified.

5. The sliding collet *f* and fixed bushing *i*, in combination with the stem *d* of the extensible jaw *h*, the prong *b*, having a longitudinal hole, *c*, and slots *h* in it, the cross-pin *g*, and the spring *e*, essentially as shown and described.

262,876. END-BOARD FOR WAGONS. FRED WISNER, Olean, N. Y., assignor to himself and John H. Williams, same place. Filed May 25, 1882. (Model.)



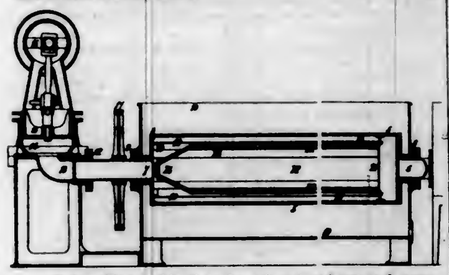
Claim.—1. The wear-strip bar A for the top of the end-board, having screw-threaded extensions C through notches F in the top of the side-boards, and provided with binding-nuts E, having connection with the side-boards to prevent the end-board from rising, substantially as described.

2. The combination of plates G, having curved rib H, and a notch in the top, with the bar-strip A C, attached to the end-board, and with the nuts E, having a groove coinciding with rib H, substantially as specified.

3. The plate G, having segmental rib H, in combination with nut E, having a segmental groove coincident with said rib, said plate being attached to the side of the wagon-box, and having a notch in the top, and said nut being screwed on the bar-strip attached to the end-board, substantially as described.

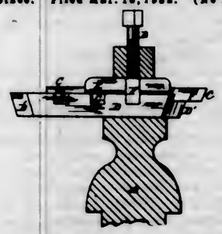
262,877. ROTATING PULP-STRAINER. JOHN WOOD and ROBERT WOOD, Leith, County of Mid-Lothian, Scotland. Filed June 3, 1882. (No model.) Patented in England Aug. 27, 1879, No. 3,446.

Brief.—An impermeable cover or bag surrounds a closed drum, sufficient space being allowed for the action of a pump on fluid contained between the bag and drum. The bag is pulsated by the action of a pump, which creates a suction, by which the pulp is strained through an inclosing perforated case and discharged into a convenient receptacle.



Claim.—The combination of a pulp-vat and external pump with a rotary strainer-casing provided with an internal flexible bag or cover of impermeable material, serving to prevent the pump fluid from coming into contact with the pulp, substantially as set forth.

262,878. METAL-TURNING TOOL. JAMES H. WOODBRIDGE, Hartford, Conn., assignor to himself and Frederick M. Gardner, same place. Filed Mar. 10, 1882. (No model.)



Claim.—1. The cap E, made convex transversely on its bearing-surface, and resting on the surface of the cutter along a horizontal middle line only of said cutter, in order to avoid injury to its corners, substantially as described.

2. The combination of the grooved cap-piece E, provided with the side plates, F, consisting of vertical straps attached to the cap-piece, and the grooved base D, provided with recesses G, adapted to inclose and hold a cutter, C, substantially as described.

3. The base D, provided with laterally-beveled ends D', whereby the back of the tool is supported, while the cutting-edge is left free, substantially as described.

4. A tool-holder provided with ends D' D', beveled laterally in opposite directions for holding and supporting tools adapted to cut in both right and left directions, substantially as described.

262,879. IRON PICKET-FENCE. JOHN WOODHILL, Cleveland, Ohio. Filed May 24, 1882. (No model.)



Claim.—The combination, in a picket-fence, of a rail having flanges C, formed upon its under side, with the pickets having notches cut in opposite sides, the flanges being bent inward by means of suitable tools, so as to catch in the notches, and thus lock the pickets and rails together, substantially as set forth.

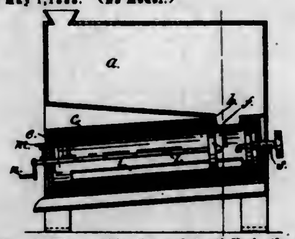
262,880. CAR-COUPLING. DANIEL W. WOODS, St. Louis, Mo. Filed May 24, 1882. (No model.)



Claim.—1. The trip F, made with a broad top, *f*, and spring-arms playing in recesses in the draw-head and fulcrumed to the draw-head, and the two tension-springs G, working within the draw-head and attached to the same and to the arms *f'*, for the purpose set forth.

2. The combination, with a self-coupling car-coupling, of the spring-guide H, constructed to operate as set forth.

262,881. SHOT-CASE. ADOLPHUS WYSONG, Lebanon, Ind. Filed May 1, 1882. (No model.)

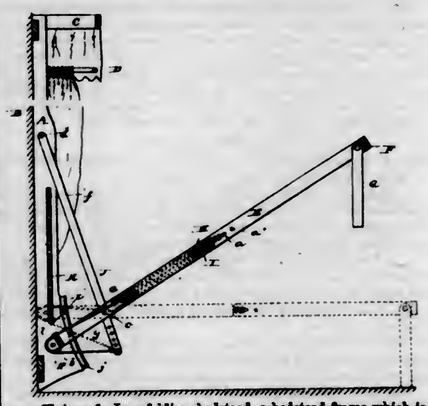


Claim.—1. The combination, substantially in the manner described, of a case or storage-chamber having converging sides terminating in a cylindrical tube open along its lower side, with a corresponding cylindrical tube adapted to revolve within said first-mentioned tube, and to receive and discharge successive separate quantities of the contents of said storage-chamber, and a means for adjusting from the outside the interior receiving capacity of the said revolving tube.

2. The combination, with chamber *a* and tubes *c* and *e*, of the movable partition *j* and bar *l*, for the purpose set forth.

3. The combination, with tube *c*, partition *j*, and bar *l*, of the movable end *e* and set-screw *e*, for the purpose set forth.

262,882. FOLDING BEDSTEAD. JOSEPH J. ADGATE and FRANCIS HICKMAN, New York, N. Y., assignors to Matthew S. Stephen, same place. Filed June 21, 1882. (No model.)

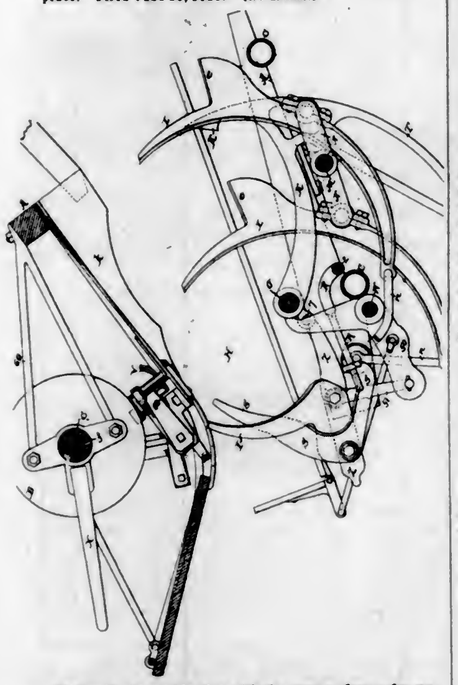


Claim.—1. In a folding bedstead, a bedstead-frame which is connected to or suspended by stirrups from a casing or wall, the

extensions of the stirrups below the bedstead-frame, cords and pulleys, and tension-springs, applied substantially in the manner and for the purposes described.

2. The combination of a swinging bedstead-frame, a fixed or movable support therefor, suspension rods or stirrups, cords and pulleys actuated by tension-springs, and a movable head-board, substantially as and for the purposes described.

262,883. GRAIN-BINDER. JOHN F. APPLEBY, Minneapolis, Minn., assignor to the Minneapolis Harvester Works, same place. Filed June 26, 1881. (No model.)



Claim.—1. In combination with the arms or fingers for supporting the grain against the compressive action of the needle-arm during the operation of binding the gavel, an auxiliary arm, S, located between the said fingers and adapted to be moved as described, and means for throwing into gear the mechanism for binding the gavel, all substantially as set forth.

2. In combination with the tyer and a cord-holder mounted on the swinging frame Z', pivoted, as described, to oppose its weight against the cord, the arm f^* on said frame and the cam f^* on the shaft f, adapted to control the action of the cord-holder, substantially as and for the purposes hereinbefore described.

3. In combination with the described tyer, a claw, m, and means for actuating the same, the whole arranged to operate substantially in the manner and for the purpose set forth.

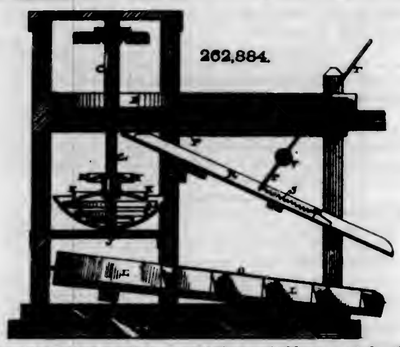
262,884. AMALGAMATOR. JOHN G. ARRINGTON, Hilliardston, N.C. Filed Mar. 31, 1882. (No model.)

Claim.—1. The receptacle B, having a perforated bottom, in combination with the shaft provided with arms, and mechanism for revolving the shaft, a slide which forms a part of the bottom, and a lever for moving the slide, substantially as shown.

2. The combination of the receptacle B, having a perforated bottom, the shaft provided with arms and a means for revolving the shaft, the trough, the slide which forms a part of the bottom, and a lever for moving the slide and trough, substantially as described.

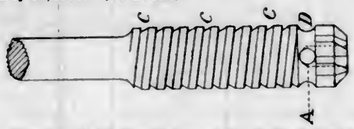
3. The combination of the receptacle B, the slide P, the shaft C, having arms G, and a means for operating the shaft, the trough B, lever T, and spring S, substantially as set forth.

4. The combination of the receptacle B, having a perforated bottom, with sliding trough, constructed and supported as described, whereby its upper end is moved upward under the opening in the bottom of the receptacle, a suitable support for the trough, the slide, a means for operating both slide and trough, the shaft provided with arms, and a means for revolving the shaft, substantially as specified.



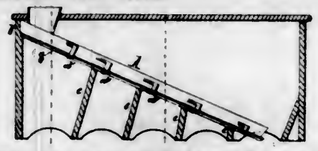
5. The combination of the receptacle B, having a perforated bottom, the shaft provided with an arm to sweep over this bottom, riffles attached to the shaft, so as to revolve with it, a stationary pan provided with riffles, and a cradle, L, and a means for operating it, substantially as described.

262,885. REAMER. JAMES K. BABCOCK, Phelps, N.Y. Filed May 17, 1882. (No model.)



Claim.—The improved reamer comprehending the spiral groove c c c, concave groove D, one or more radial holes, A, and central hole, B, substantially as herein set forth and described.

262,886. COIN-SEPARATOR. HENRY C. BARKER, Sedalia, Mo. Filed Feb. 21, 1882. (Model.)



Claim.—The combination of the hopper D, slotted opening, a guide, A, wings à à, depressions d^*, spout b', and coin-receiver B, substantially as shown, and for the purpose described.

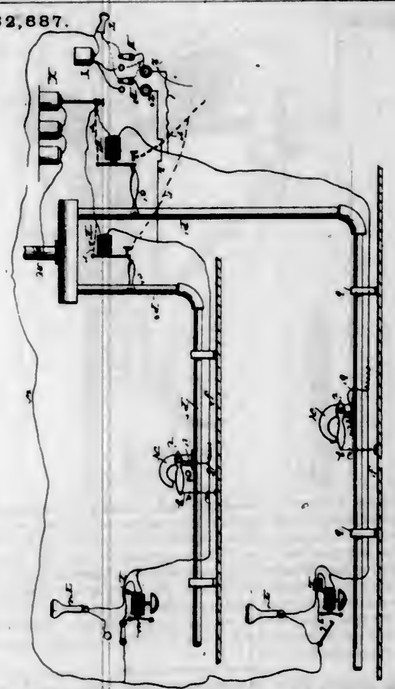
262,887. COMBINED FIRE-ALARM AND FIRE-EXTINGUISHER. CHARLES E. BUELL, New Haven, Conn. Filed May 4, 1881. (No model.)

Claim.—1. In a fire-alarm and fire-extinguisher system, substantially such as described, the combination of a conducting pipe or pipes leading from a water-supply under pressure and provided with branches, devices for restraining the flow of water into said pipe or pipes and from the branches thereof, means for automatically opening either branch independently of the others by a rise in temperature, an electric circuit which is normally open, and an electro-magnet included therein for controlling the water-supply, the said electric circuit being automatically closed by the opening of a branch, the closing of said circuit causing the water to flow through the conducting-pipe leading to the open branch, as and for the purpose set forth.

2. The combination of the following elements: a conducting-pipe having a series of valvular branches therefrom, each provided with a valve held normally closed by a support which will rupture by an increase of temperature, an electric circuit formed in part by the conducting-pipe for controlling a water-supply, and an independent circuit formed in part by the said conducting-pipe for actuating an alarm, the whole operating substantially in the manner and for the purpose set forth.

3. In a combined fire-alarm and fire-extinguisher system, the combination, with an electric circuit which is normally open, of a conducting-pipe with valvular branches operated by gravitating devices which will automatically close said circuit, substantially as and for the purpose set forth.

262,887.



4. In a combined fire-alarm and fire-extinguisher system, the combination, with an electric circuit, of a water-supply pipe included in and forming a part of the said circuit, said pipe being provided with an insulated section, and having the water normally excluded therefrom, substantially as and for the purpose set forth.

5. In a system of combined fire-alarm and fire-extinguishers, the combination, with one water-supply, of two or more conducting-pipes, each controlled independently of the other by electro-magnets, the said electro-magnets being included in and forming part of electric circuits which are normally open, and which are made operative automatically by an increase of temperature, as specified.

6. The combination, with a series of conducting-pipes, of a series of electro-magnets, each adapted to control a conducting-pipe, the said magnets being contained in derived circuits from the same charging-battery, substantially as described.

7. The combination, in a combined fire-alarm and fire-extinguishing apparatus, of a gravitating cock adapted to open a branch-pipe, and at the same time to automatically close an electric circuit, as and for the purpose set forth.

8. The combination, with a water-conducting pipe and an electric circuit, in a combined system of fire-alarm and fire-extinguisher, substantially as described, of a supplemental electric circuit which is adapted to maintain a signaling or communicating telegraph without making operative the fire-alarm and fire-extinguishing apparatus.

262,888. METHOD OF PREPARING DOUGH. THEODORE H. BUTLER, GEORGE W. EARHART, and WILLIAM M. CRAWFORD, Columbus, Ohio. Filed June 26, 1882. (No model.)



Claim.—The described process for treating dough, which consists in passing a blast or current of air into contact with the dough prior to feeding it between dies or pressing dies thereon, substantially as and for the purpose set forth.

262,889. LONG CENTER FOR STOVES. WILLIAM W. DEVORE, Lawrenceburg, Ind. Filed Dec. 16, 1881. (No model.)



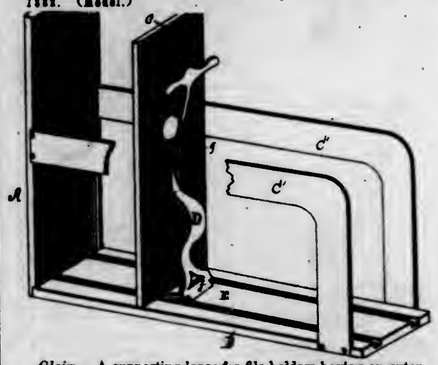
Claim.—1. A long center for stoves, consisting of two sections, the central ends of said sections being secured together by a lock-joint, the elements of said joint being formed on the ends of the sections, and so constructed as to permit of a slight degree of longitudinal movement, substantially as and for the purposes specified.

2. A long center consisting of two sections, A and B, the section A being provided with the tongue A', having a hooked extremity, a, and the section B having the recess B' and opening b, substantially as and for the purposes specified.

3. A long center for stoves, consisting of two halves locked together by their central ends, one of said halves being provided with the post D, in combination with the supporting-post E, the top of said supporting-post being provided with the grooves d d', substantially as and for the purposes specified.

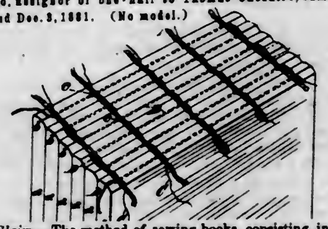
4. A long center for stoves, consisting of two sections, the section A being provided with tongue A', having hooked extremity a, the section B being provided with recess B' and post D, in combination with the supporting-post E, provided with grooves d d', substantially as and for the purposes set forth.

262,890. PAPER-FILE HOLDER. WILLARD D. DOMBURG, Washington, D. C., assignor, by mesne assignments, to the National Shelf and File Company, same place. Filed May 13, 1882. (Model.)



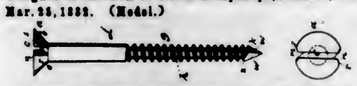
Claim.—A supporting-lever for file-holders having an extension beyond or above its pivotal point on the compression-follower to be used as a handle with which to set free said compressing-follower.

262,891. BOOK-SEWING. EDWARD R. EDWARDS, Cincinnati, Ohio, assignor of one-half to Thomas Cheshire, same place. Filed Dec. 3, 1881. (No model.)



Claim.—The method of sewing books, consisting in placing the transverse binding-cords in notches on the folded side of the signature, running a thread longitudinally in the fold of one signature, and then passing said thread up through the signature and carrying it over to and into the fold of the next signature, and looping a thread around the said transverse cord and longitudinal thread, as set forth.

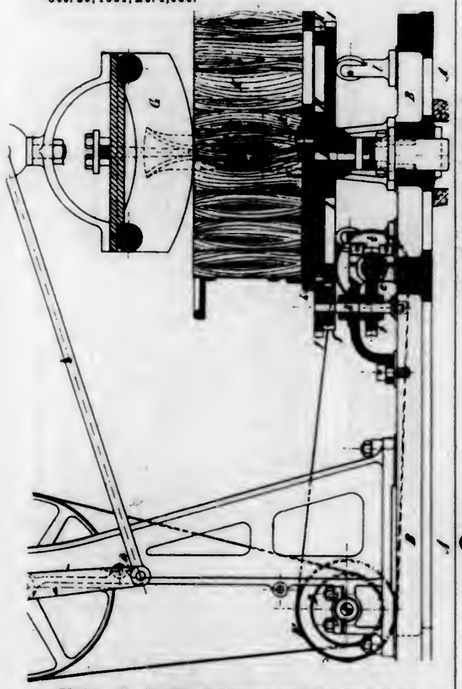
262,892. WOOD-SCREW. JOHN M. GOODRIDGE, Baltimore, Md., assignor of one-half to David Humphreys, Norfolk, Va. Filed Mar. 25, 1882. (Model.)



Claim.—1. A wood-screw having at each end of the drive-slot a shallow oblique notch, *n*, having its apex at the neck of the screw, an abrupt oblique reaming-shoulder, *s*, extending from the neck to and back of the drive-slot and intersecting the bottom of the drive-slot, and the depressed shallow under-beveled surface *r* in front of said shoulder, substantially as specified.

2. The wood-screw having the square pyramidal point *k*, the thread *g*, commencing at the base of said point, and the head having the oblique side notches, *n*, at the ends of the drive-slot, and the shoulders *s*, intersecting the ends of said slot and extending back of the same, as specified.

262,893. MEAT-MINCING APPARATUS. CARL A. HAMMER, Sr., Brunswick, Germany, assignor of one-half to Heinrich Perschmann, same place. Filed Apr. 24, 1882. (No model.) Patented in Germany Mar. 4, 1881, No. 17,180, and in England Oct. 25, 1881, No. 4,886.



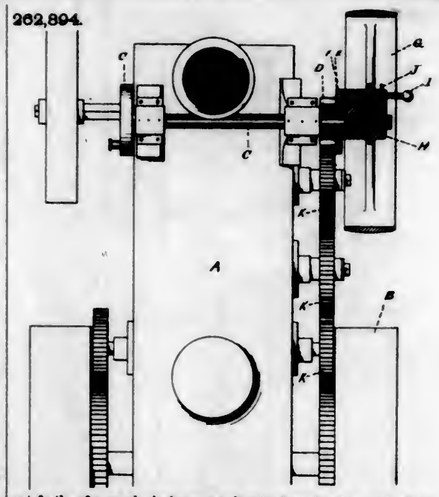
Claim.—1. A meat-mincing apparatus having a chopping-block and devices, substantially as described, for imparting a planetary motion to said chopping-block.

2. The combination of the chopping-block of a mincing-machine with wheels H and I, one carrying an eccentric pivot for and the other in frictional contact with said block, and devices for rotating said wheels at different speeds, substantially as set forth.

3. The combination of the cutting-block of a meat-mincing machine with a wheel, I, having an eccentric pivot-pin for the cutting-block, a plate, H, mounted and adapted to turn on the nave of the wheel I and in frictional contact with the cutting-block, and gearing for turning said wheels at different speeds, all substantially as described.

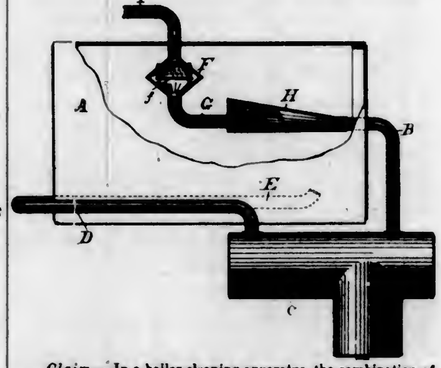
262,894. TRACTION-ENGINE. GEORGE H. HELVEY, Hamilton, Ohio, assignor to the Hooven, Owe n & Rentschler Company, same place. Filed May 18, 1882. (No model.)

Claim.—In a road-engine, the combination, substantially as



set forth, of a crank-shaft arranged and adapted to be revolved by a steam-motor, a pair of bearings to support said shaft, a band-wheel fixed to said shaft and adapted to transmit motion from said shaft by a belt, a gear-pinion disposed between said band-wheel and one of said bearings on said shaft, and adapted for transmitting motion from said shaft by gearing, a shroud or flange upon said pinion, and a clutch-pin fitted to slide through a hole in the hub of said band-wheel and engage in a hole in the shroud of said pinion, whereby said transmissions may be effected together or independently.

262,895. FEED-WATER PURIFIER. WILLIAM HESTON, Mount Union, and JOHN T. MEAD, Cleveland, assignors to Thomas Sharp, Salem, Ohio. Filed Mar. 20, 1882. (No model.)



Claim.—In a boiler-cleaning apparatus, the combination of a steam-boiler with pipe I and boiling-chamber F, perforated at the top and provided with plate *f*, and pipes G, H, and B, filter C, pipes D, and interior pipe, E, substantially as shown and described.

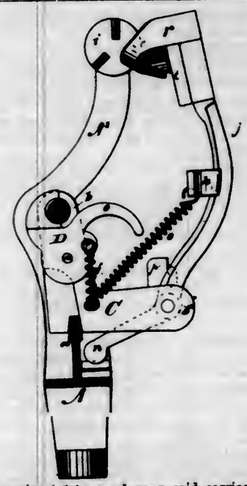
262,896. FRUIT-PARER. JOSEPH E. HOPP, Newark, N. J., assignor to John R. Weeks, Jr., same place. Filed Apr. 5, 1882. (No model.)

Claim.—1. In a parer, a knife-blade the cutting-edge of which is spiral in form, substantially as and for the purpose set forth and shown.

2. In a parer, a knife-blade having one end secured to an adjustable gage and the other end free, the cutting-edge of said blade being spiral in form, substantially as herein set forth, for the purpose specified.

3. In combination in a paring device, the frame A A′ A², the screw-shaft B, pivotal half-nut D, carriage C, having the lug *p*

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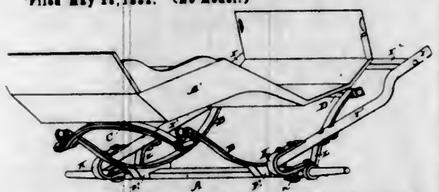
thereon, the carrier *j*, fulcrumed upon said carriage, and having the co-operating lug *m* and means *k* thereon, the springs *o* and *f*, and the knife-blade *r*, all arranged and operating substantially as and for the purposes set forth and shown.

4. In a parer, the carriage C, working on a screw-shaft, B, the half nut D pivoted on said carriage, having the finger-piece *e*, and the spring connecting said half-nut and carriage, and having a normal tendency to hold said nut and shaft into operative engagement, substantially as and for the purposes herein set forth and shown.

5. In a parer, a cutter-carrier working in a plane inclined in its relation to the pivotal center of the potato, substantially as herein shown and described.

6. The combination, in a parer, of the carriage C, actuated by the screw-shaft B, said carriage bearing on the track *a* and having ears *b*′ thereon, and the knife-carrier pivoted in said ears at an angle with said track and screw-shaft, all substantially as set forth.

262,897. TWO-WHEELED VEHICLE. JACOB HOWELL, Jackson, Mich., assignor of one-half to A. N. Hovey, same place. Filed May 26, 1882. (No model.)



Claim.—1. In a two-wheeled vehicle of the character described, the combination of the axle, the draft devices connected directly to the axle, the side springs, B B, supported upon the axles, and the body A, having the front ends of said side springs connected to it beneath its front end and the rear ends of said side springs connected to it beneath its rear end, whereby the body is supported upon the single axle entirely independently of the draft devices, substantially as set forth.

2. In a running-gear for gigs and chaises, the combination of the axle, the cross-spring C below the rear end of the body, the side springs, D D, supported upon the axle and attached at their front ends to the forward part of the body, and at their rear ends to said cross-springs C, and the draft devices connected to the axle directly independently of the body, substantially as set forth.

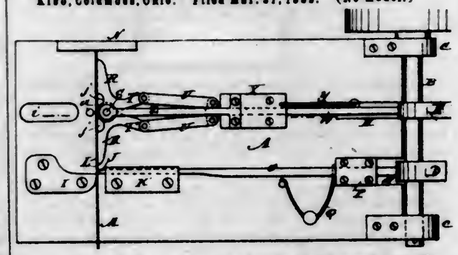
3. The combination of the axle, the thills secured to the axle and arranged independently of the body, the connecting-bar K, provided with a shoulder, *n*, to engage with the upper rear side of the axle, the brace or bar L, formed separately from the bar K, and provided with the shoulder *m*, to engage with the lower front side of the axle, and the clamping devices for securing said separate braces or bars K and L together, substantially as set forth.

4. In a running-gear for gigs and chaises, the combination with the axle and the thills, of the connecting-bar K, having its forward end bolted to the thill, and its end bent downwardly and forward to rest upon the axle, the clamping-plate below the axle, and a brace to receive the rear thrust of the thills, substantially as set forth.

5. In a running-gear for gigs and chaises, the combination, with the axle and the thill, of the connecting-bar K, having its forward end bolted to the thill and its rear end clamped to the axle, and the brace L, secured to the thill at the forward end, and clamped at its rear end to the bar K by bolts on both sides of the axle, substantially as set forth.

6. In a two-wheeled vehicle, the combination, with the body, and the springs supported entirely upon the axle, of the thills I I′, connected directly to the axle and bent as at *i*, substantially as set forth.

262,898. MACHINE FOR MAKING SPLIT KEYS. ROBERT T. KIRK, Columbus, Ohio. Filed Mar. 31, 1882. (No model.)



Claim.—1. In a machine for bending split metal keys, the combination, with the elbow-lever, bending-dies R T, links U, slide W, and guide X, of the driving-cam E and retracting-spring *y*, as shown and described.

2. The combination of the forming-pin *s* and levers *b f* with the driving-cam E and returning-spring *h*, as shown and described.

3. The combination of the cutters I J, connecting-rod O, and slide-box P with the driving-cam D and returning-spring Q, as shown and described.

262,899. ROTARY VALVE AND GEAR. WILLIAM HENRY KANE KING, Mount Sterling, Ill. Filed June 3, 1882. (Model.)



Claim.—1. The combination of a rotary valve having a slotted arm connected thereto, a slotted rod for operating the valve, and a pivoted lever which is connected to the rod for operating the valve, substantially as shown.

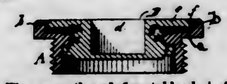
2. The combination of the cylinder having the ports C, which ports connect with both a receiving and an exhaust port, substantially as described.

3. The combination of a rotary valve with a bearing-plate placed at each end, substantially as set forth.

4. The combination of the cylinder, steam-box, suitable springs placed between the steam-box and the supports, and a rotary valve, substantially as specified.

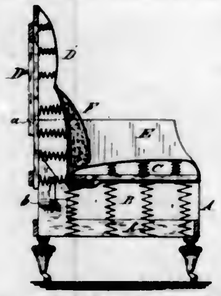
5. A steam-box divided by a partition into two separate and distinct chambers, one of which chambers connects with the two feed-ports and the boiler and the other with the two exhaust-ports and the air, substantially as shown and described.

262,900. BUSH AND BUNG FOR BARRELS AND KEGS. ALBERT KIRCHNER, Chicago, Ill., assignor of one-half to John Mack and Max Kirchner, same place. Filed June 20, 1882. (No model.)



Claim.—The screw-threaded metal bush A, for barrels or kegs, having flange *a* and screw-lugs *c*, in combination with metal bung B, having square socket *d*, screw-lugs *i*, flange *e*, with rim-shoulder *f*, and annular groove *g*, for holding packing-ring *h*, all substantially as and for the purpose set forth.

262,901. SOFA-BED. ANTON KULICH, Brooklyn, N. Y. Filed July 15, 1882. (No model.) Patented in Germany Mar. 14, 1882.



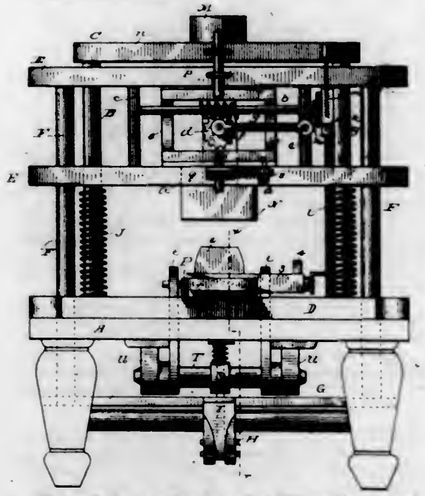
Claim.—1. In a sofa-bed, the combination of an upholstered main part, A, with a hinged upholstered seat-section having suitable supporting-legs, and with a back hinged to the main part somewhat below the surface and in front of the rear line of the same, said back being provided with hinged supporting-legs, substantially as set forth.

2. The combination of an upholstered main part, A, hinged seat-section C, having hinged foot-board C′ and pivoted legs C^2, locking into recesses of the foot-board, and a hinged back having hinged supporting-legs, substantially as and for the purpose set forth.

3. In a sofa-bed, the combination of the seat-section C with a hinged foot-board, C′, and pivoted supporting-legs C^2, said legs being extended beyond the pivots and adapted to lock into recesses of the foot-board, substantially as set forth.

4. In a sofa-bed, the combination, with the hinged back D, of a head-bolster that is hinged midway between its height, so as to swing toward the upper or lower part of the back as the same is placed in upper or lower position, substantially as specified.

262,902. HEEL-MACHINE. ELDRIDGE S. MARSHALL, Lynn, Mass., assignor to George O. Tarbox, same place. Filed Aug. 11, 1881. (No model.)



Claim.—1. In a machine for cutting lifts and forming heel-blanks, a cutting-die and block, whereby the lifts are cut and pressed into the die, and mechanically-operating pasting devices adapted to supply paste or adhesive material to each of the said lifts as cut, the parts specified being connected with operating mechanism in the machine, substantially as described.

2. In a machine for cutting lifts and forming heel-blanks, a vertically-reciprocating block, a paste-tube arranged on the frame by the side of the same, a cutting-die adapted to reciprocate across the line of movement of the block and into line with the paste-tube, the whole being combined with the actuating mechanism, substantially as described.

3. The combination of the block N, carried upon the vertically-reciprocated frame, a treadle and intermediate connections for depressing and raising the same, a plate, P, carrying the cutting-die, movable upon the guideway, and arms *t t* upon the rock-shaft, connected to the treadle, whereby the plate is made to reciprocate from front to rear as the block rises and falls, substantially as described.

4. The combination, in the described machine, of the vertically-reciprocating block, the horizontally-reciprocating plate carrying the cutting-die, a paste-holding vessel, and a tube separate from the block and provided with a stop-cock worked by a trip-arm as the frame carrying the block reciprocates vertically, all substantially as shown.

5. The combination of the block and movable frame *e*, with the worm-gear and pinion, and the pawl and ratchet adapted to turn said worm-gear as the frame rises and falls, substantially as described.

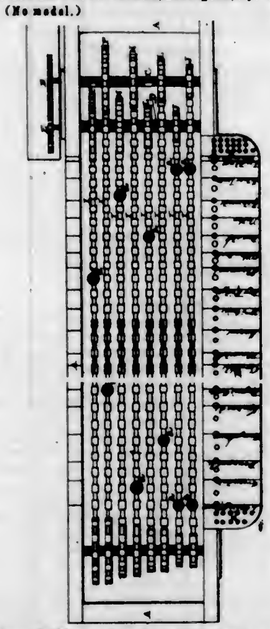
6. The combination, in the described machine, of a vertically-reciprocating frame carrying the block, the block adapted to move back and forth across the line of its vertical movement on the said frame, and a gearing, substantially as described, connecting said movable block to the driving mechanism, whereby the block is shifted in position in relation to the cutting-die, substantially as described.

7. The inner and outer cutting-dies, in combination with mechanism, substantially as described, for lowering or raising the movable die to bring its cutting-edge below or above the edge of the fixed die, and for holding it in raised or operative position, the parts operating in the machine substantially as described.

8. The horizontally-movable plate and the vertically-adjustable cutting-dies, combined with means, substantially as described, for such adjustment, whereby one die may have its cutting-edge elevated above the cutting-edge of the other die, substantially as and for the purpose set forth.

9. The inner cutting-die and the outer cutting-die, combined with a wedge to adjust one die with relation to the other, substantially as described.

262,903. MECHANICAL TRAIN-DISPATCHER. JOHN MCMURTRY and THOMAS J. PILCHER, Lexington, Ky. Filed May 10, 1882. (No model.)



Claim.—1. The combination of a suitable motor, driving-shafts provided with wheels, and bands or chains which carry the blocks or other devices which indicate the trains upon the road, substantially as shown.

2. The combination of a motor, two driving-shafts which run in opposite directions, and which are provided with a number of wheels of different sizes, and suitable blocks or chains which are operated by the wheels, and which belts or chains carry blocks or other devices to indicate the different movements of the trains, substantially as set forth.

262,904. BOTTLE-STOPPER. AUGUSTUS E. RICH, Fall River, Mass. Filed Jan. 9, 1882. (No model.)

Brief.—Improvement on Letters Patent No. 252,059, dated January 10, 1882.



Claim.—1. A flexible stopper consisting of a rim to fit the mouth of a bottle and an upwardly-projecting hollow valve-teat, all molded or formed in one piece, substantially as described.

2. The metal cap-piece B, provided with suitable means for connecting the same with a bottle-neck, in combination with a hollow teat flexible valve-stopper, arranged substantially as and for the purposes set forth.

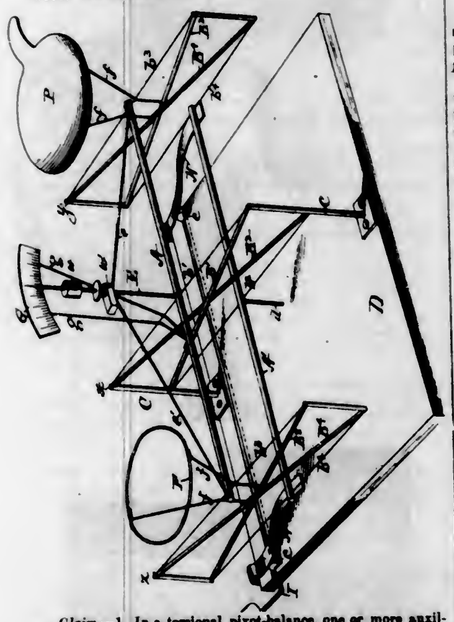
3. A flexible stopper consisting of a hollow valve-teat, the teat being supported by sections of cross-bars upon the bottom, substantially as and for the purposes set forth.

4. In a flexible stopper, a valve consisting of an upwardly-projecting elastic hollow teat, said teat made to fit the hole in a downwardly-projecting metal top, all arranged substantially as and for the purposes described.

5. In a flexible stopper, an plastic hollow teat, upwardly projecting and fitting a metal cap-piece having an aperture, substantially as and for the purposes set forth.

6. A flexible stopper having the parts A *y z′ x*, and having the hole *x*, provided with a metal top having a downward projection, *c*, and tapering induct *d d*, all substantially as shown and described, and for the purposes specified.

262,905. BEAM-SCALE. FREDERICK A. ROEDER, Cincinnati, Ohio, assignor of one-half to Alfred Springer. Filed Apr. 7, 1882. (No model.)

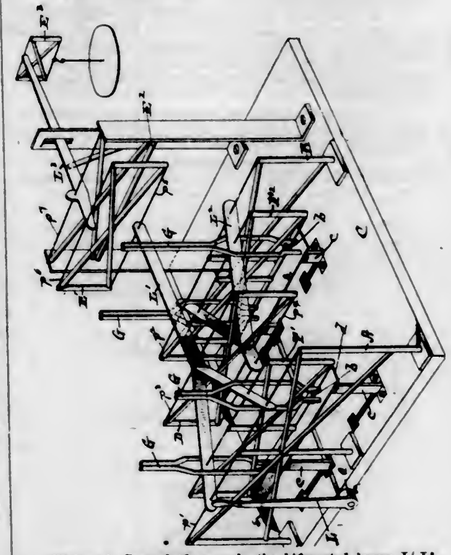


Claim.—1. In a torsional pivot-balance, one or more auxiliary scale-beams pivoted in the same vertical plane with the main beam, and connected therewith through the terminal pivot-frames, substantially as and for the purpose specified.

2. In a torsional pivot-balance, the combination of the main and auxiliary beams A A′ and central and terminal pivot-frames, *z y z*, substantially as set forth.

3. The shaft I, provided with eccentric cams *c*, in combination with the springs H, as a motion-arrester for balances, arranged and operating substantially as set forth.

262,906. PLATFORM-SCALE. FREDERICK A. ROEDER, Cincinnati, Ohio, assignor of one-half to Alfred Springer. Filed Apr. 10, 1882. (No model.)

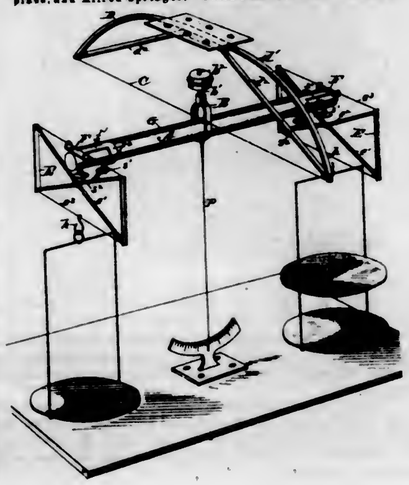


Claim.—1. In a platform-scale, the bifurcated levers L′ L^1, supported upon stretched-wire pivots $p' p^3$, and connected by a suspended link, D, secured to the levers upon stretched-wire pivots $p^2 p^4$, all acting torsionally, substantially as set forth.

2. In a platform-scale, in combination with the system of levers L′ L^1 and their connections, the torsion-frames F′ F^2, suspended from the levers, and constituting the pivoted supports of the platform P, substantially as set forth.

3. In a platform-scale, in combination with the supporting-lever system, the torsion-frame E′, connecting the supporting-levers with the balance-beam, substantially as set forth.

262,907. TORSIONAL PIVOT-SCALE BEARING. FREDERICK A. ROEDER, Cincinnati, Ohio, assignor to H. P. Ream, same place, and Alfred Springer. Filed Feb. 15, 1881. (Model.)



Claim.—1. A scale-beam having its fulcrum-support and terminal pendant connections formed of stretched metallic wires acting torsionally, as set forth.

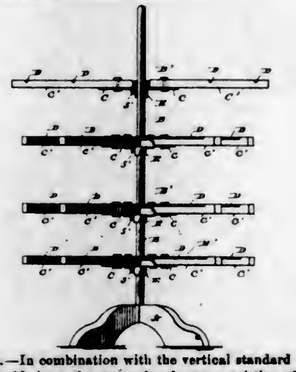
2. The frame D, constructed of a bow and radial struts, and a wire held in tension between the ends of the bow, in combination with a scale-beam supported by the wire as a torsional fulcrum, substantially as set forth.

3. In combination with the scale-beam A, the frame E, having diagonal braces holding wires in tension used as the terminal supports for the scale-pendants, substantially as set forth.

4. In combination with the scale-beam A and terminal pendants supported by a stretched wire, the adjustable supporting-pieces F, as specified.

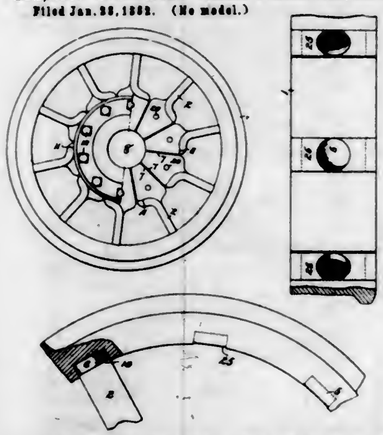
5. In combination with the scale-beam A and pendants, the supporting-pieces F, connecting-pieces *f'*, collars *f''*, and set-screws *f'* and *f''*, substantially as specified.

262,908. MILK-RACK. FRANK A. PHILBRICK, Watertown, Wis. Filed Mar. 28, 1882. (Model.)



Claim.—In combination with the vertical standard mounted upon a suitable base, the supporting-frames consisting of the metallic spiders, radial arms, and concentric wire frames, and the adjustable collar, whereby the frames are supported on the standard, substantially as specified.

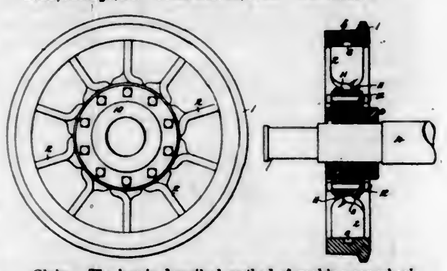
262,909. CAR-WHEEL. GEORGE W. MILTIMORE, Chicago, Ill. Filed Jan. 28, 1882. (No model.)



Claim.—1. In a car-wheel, a solid rim having its inner periphery mortised to receive the tenons of the spokes, and cut away to form flat seats for the shoulders of the spokes, substantially as described.

2. In a car-wheel, the combination of the solid rim having its inner periphery mortised to receive the tenons of the spokes, and cut away to form flat seats for the shoulders of the spokes, and the spokes having tenons and flat or square shoulders, as 19, substantially as described.

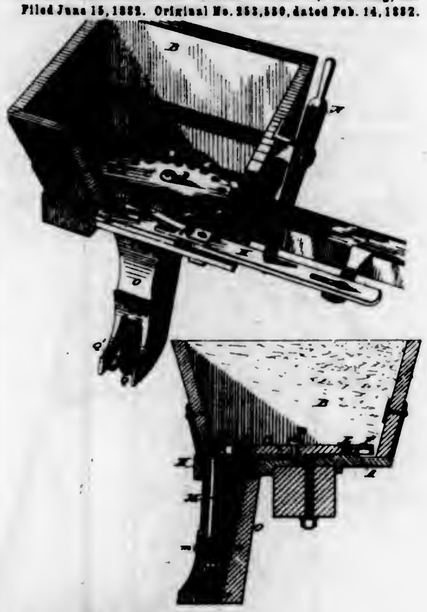
262,910. ART OF MAKING CAR-WHEELS. GEORGE W. MILTIMORE, Chicago, Ill. Filed Jan. 26, 1882. (No model.)

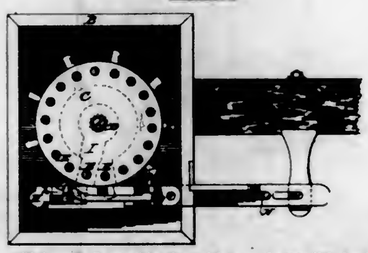


Claim.—The herein-described method of making car-wheels, the same consisting in placing the spokes in position within the rim, then pressing them outward by forcing a mandrel between their converging ends, then cutting the shoulders on the spokes, so that they will form a circular seat, and then inserting and securing on each side hub-plates of such size that they will bear upon the shoulders of all the spokes, substantially as described.

REISSUES.

10,180. CORN-PLANTER. GEORGE W. BROWN, Galesburg, Ill. Filed June 15, 1882. Original No. 253,880, dated Feb. 14, 1882.





Claim.—1. In combination with a seed-cup disk having an intermittingly-rotating motion in one direction imparted to it by a reciprocating bar, H, which acts upon it by its throw in one direction and allows it to remain at rest while its throw is effected in an opposite direction, a cut-off slide, I, adapted to move with the forward movement of the bar H and seed-cup disk and act as a bottom to a seed-cup, and to be removed from beneath said seed-cup by the backward movement of the bar H to allow the seed to be discharged from said cup.

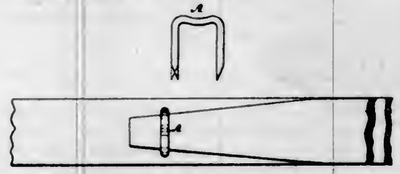
2. In combination with an intermittingly-rotating seed-cup disk in which two seed-cups are brought beneath the cut-off at each movement of the disk, a sliding bottom adapted to hold the seed in one seed-cup while another discharges its seed, and to be moved from beneath the seed-cup which it closes to allow it to discharge its contained seed while the seed-cup disk is at rest.

3. In combination with the intermittingly-rotating seed-cup disk C and sliding seed-cup bottom I, the bar H, adapted to give a partial rotation to the disk C by its alternate throws and to move before its action on the slide I at each throw, so as to properly place, retain, and remove said slide in relation to one of the seed-cups.

4. In combination with the intermittingly-rotating seed-cup disk C and bar H, which acts upon it at alternate throws of the slide, the sliding seed-cup bottom I and valve M, arranged to operate in relation to each other and to the seed-cup disk, substantially as and for the purpose specified.

5. In combination with the seed-cup disk C and bar H, alternate throws of which act on said slide, a sliding seed-cup bottom located close beneath the seed-cup disk, and a vibrating valve located in the seed-tube, both of which are vibrated in one direction at each throw of the bar H, substantially as and for the purpose specified.

10,181. WIRE STAPLE. PATRICK DUNN and THOMAS HARRIS, Côte Saint Paul, Quebec, Canada. Filed June 16, 1882. Original No. 257,505, dated May 9, 1882.



Claim.—1. A wire staple having the extremity of the legs straight on the inside and beveled downwardly from the outer to the inner side to form a point and prevent the legs from spreading, as set forth.

2. A wire staple having one point of the leg cut beveling on the outer side and the other cut parallel thereto and turned inwardly, so as to make both legs straight on the inner side, as set forth, for the purpose described.

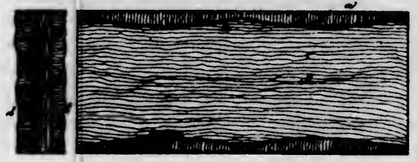
3. As an improved article of manufacture, a wire staple having the crown or head depressed or indented, as set forth, for the purpose described.

4. A wire staple having the crown or head depressed or notched, as described, and the points of the legs beveled on the outside, as shown, for the purpose set forth.

5. A wire staple having the crown or head depressed or notched and the extremity of the legs beveled downwardly from the outer to the inner side to form a point and prevent the legs spreading when driving.

6. A wire staple having the head or crown depressed or notched, one point cut beveling on the outside and the other cut parallel thereto and turned inwardly, as set forth, for the purpose described.

10,182. PACKING-CASE. RALPH G. JENNINGS, Baltimore, assignor to Joshua Levering, Baltimore, and George O. Manning, Baltimore County, Md., Trustees; said Trustees assignors to the Flexible Wood Package Company, Baltimore, Md. Filed Mar. 11, 1882. Original No. 237,874, dated Feb. 15, 1881.

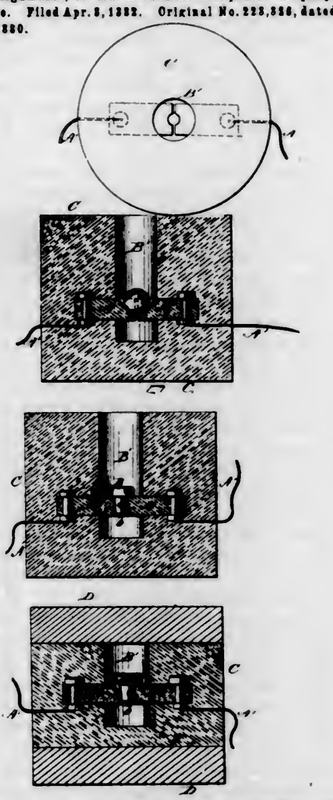




Claim.—1. A composite veneer body for a packing-case, having the grain of its exterior layer horizontal, and having a re-enforcing strip surrounding its edge, and a textile-fabric flap stitched to said body and strip, substantially as described, and for the purpose set forth.

2. A composite veneer body for a packing-case, having the grain of its exterior layer horizontal, and having a re-enforcing strip secured around the edge of the body, the said strip having its grain vertical and being secured to the body by a line of stitches, substantially as set forth.

10,183. TRANSMITTER FOR TELEPHONES. ROBERT M. LOCKWOOD and SAMUEL H. BARTLETT, New York, N. Y., assignors, by mesne assignments, to the Molecular Telephone Company, same place. Filed Apr. 3, 1882. Original No. 223,836, dated June 15, 1880.



Claim.—1. A microphone-transmitter for telephones, consisting of electrodes combined with a block or support of cork or equivalent non-resonant material, substantially as described, whereby said electrodes are covered or protected from the direct action of atmospheric sound-waves, said waves impinging upon the surface of and being transmitted through said non-resonant material to the electrodes, substantially as specified.

2. Plates or bars of carbon or other conducting material arranged with their adjacent sides or ends out of contact, and having their opposite ends firmly supported in a non-resonant material, in combination with the interposed button, arranged and operating substantially as described.

3. A veneer packing-case having seams with corrodible stitches protected from the access thereto of the contents of the package by means of non-corrodible material, substantially as described.

4. A veneer packing-case having stitched seams protected from the access thereto of the contents of the package by means of the strips of veneer C D, substantially as set forth.

5. The packing-case herein described, having an open joint between its head and body, which parts are united by a sheet or flap of textile fabric stitched to both and waterproofed, and a layer of veneer covering the said open joint, substantially as set forth.

6. A packing-case consisting of a pliable veneer body, to which the heads are united by textile fabric secured to the heads and to the body by stitches, and provided with independent flexible handles stitched to the body of the packing-case, substantially as shown and described.

THE HELIOTYPE PRINTING CO. BOSTON

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF UNITED STATES COURTS IN PATENT CASES.

DECISIONS OF THE U. S. COURTS.

U. S. Circuit Court—Southern District of New York.

THE AVERILL CHEMICAL PAINT COMPANY *v.* THE NATIONAL MIXED PAINT COMPANY *et al.*

Decided October 29, 1881.

1. REISSUE—LIQUID MIXED PAINTS—NEW MATTER.

A patent for a particular kind of liquid mixed paint expanded in reissue to cover all kinds of liquid mixed paints when packed in tight vessels, the invention of packing in vessels not being at all described or even alluded to in the original patent, *Held* to be invalid for new matter.

2. SAME—SAME—THE DRAWINGS OR MODELS—ADDITIONS UPON PROOF.

The Commissioner of Patents is not authorized to grant a reissue of a patent for an invention in addition to that shown in the original in cases where there are no drawings nor models, upon proof that the addition was really a part of the same invention sought to be patented in the original.

3. SAME—SAME—SECTION 4916 REVISED STATUTES.

A reissue patent must in all cases be for the same invention as that contained in the original patent, and the last clause of section 4916 Revised Statutes merely governs the manner of proof, but does not authorize the Commissioner to grant a reissue for a different invention, or to determine that one invention is the same as another or different one, or that two inventions essentially distinct constitute but one.

Mr. John R. Bennett and *Mr. George Harding* for the plaintiff.

Mr. Edmund Wetmore for the defendants.

WHEELER, *J.*:

This suit is founded upon Reissue Letters Patent No. 7,031, dated April 4, 1876, granted to Damon R. Averill, assignor, for an improvement in paints. The claim is for—

A mixed liquid paint composed of oxide of zinc or other pigments, oil, turpentine or benzine, water, and one or more emulsating agents put up in tight vessels or cans.

The original patent was No. 66,773, dated July 16, 1867, for an improved paint compound, particularly described by ingredients and quantities, like that in the reissue, but with lime-water and silicate of soda, which were emulsating agents, but not stated to be such, specified as parts of the combination and compound. The claim was for—

A paint composed of the ingredients herein named and prepared and compounded substantially in the manner specified.

There was no allusion in the patent to anything to contain the paint. Liquid mixed paints produced by the use of emulsating agents were known and used before Averill's discovery, and paints had been contained in cans and other tight vessels before that time, but no paint had been made by the use of his precise combinations and ingredients before.

On the application for a reissue the patentee made proof that prior to his application for the original patent he had put up his paint in cans and other tight packages and noticed its advantages for being put up in that way, which appears to have been satisfactory to the Commissioner that this mode of packing was a part of the original invention, and upon that proof the reissue appears to have been granted. The defendants do not use the combination or compound described in the original patent.

The principal defenses are that the reissue is not supported by the original, and is therefore void; that the patentee was not the original and first inventor of the invention described in the reissue, and that if the reissue can be upheld at all the defendants do not infringe any part for which it is valid. The original patent was valid enough apparently for the particular kind of paint described in it. The reissue, if it is for that kind of paint only packed in tight vessels, may be valid, for it would merely narrow the scope of the claim upon the same invention from that kind of paint everywhere to that kind of paint only when so packed; but the reissue is not limited to that particular kind of paint. It extends to all forms made from the same ingredients, other than the emulsating agents specified, by the use of any emulsating agents. This expands the original patent not only beyond the scope of the claim upon the invention described, but beyond the scope of that invention. The whole invention there described was of a particular kind of liquid mixed paint. The invention described in the reissue is of all kinds of liquid mixed paint packed in tight vessels. The invention of packing in vessels is not at all described or even alluded to in the original patent. So the question is presented whether the Commissioner of Patents is authorized to grant a reissue of a patent for an invention in addition to that shown in the original upon proof (in the absence of any drawing or model showing the invention in the original) that the addition was really a part of the same invention sought to be patented in the original. This question does not now seem to be open. In *Powder Company* v. *Powder Works* (98 U. S. Stats., 126) the patents were for compositions or articles of manufacture like that here. That part of section 53 of the act of 1870, now section 4916 of the Revised Statutes, authorizing amendment of patents upon proof in the absence of any drawing or model, was relied upon and came under consideration. It was there held that this clause did not authorize the Commissioner to grant a reissue for a different invention or to determine that one invention was the same as another or different one, or that two inventions essentially distinct constituted but one. The question was left open as to whether that clause related to all patents or only to patents for machines;

bnt no room was left for adding to the invention by proof. Under that decision this reissne cannot stand. If it could stand the only invention covered by it of which Averill was the first discoverer would be packing this paint in tight vessels. Such vessels impart no quality to the paint. They are no more useful to this kind of paint than to others in proportion to the amount used. The paint, on acconnt of its valuable qualities, has found its way into extensive use through the ordinary vehicles for paints, and Averill has doubtless contributed largely to its success; bnt it has been done by business enterprise rather than patentable invention. What he is really the first inventor of the defendants have not taken.

Let there be a decree dismissing the bill of complaint, with costs.

CROSS v. MACKINNON.

Decided March 8, 1882.

1. LETTERS PATENT NO. 199,621 EXAMINED AND SUSTAINED.
   Letters Patent No. 199,621, for an improvement in fountain-pens, the principal distinctive feature of which is a spring working between the vibrating writing-pin and the air-tube to project the pin and restrain the flow of ink, examined and found to be valid.
2. SAME—EQUIVALENTS—WEIGHT FOR A SPRING IN A WRITING-PEN.
   A weight to project the writing-pin not the equivalent of a spring for the purpose desired, the efficiency of the weight in this connection being impaired by its necessary confinement in a small working space and the necessary inclination of the pen from a perpendicular both when in use and out of use.
3. SAME—INFRINGEMENT—IMPROVEMENT.
   The patent infringed by one who has the spring inside the air-tube instead of outside, whether or not it might be decided that the change is an improvement in the manner of attaching the spring to the tube.

Mr. Edwin H. Brown for the plaintiff.
Mr. Eugene N. Eliot for the defendant.

WHEELER, *J.*:

The orator has a patent, numbered 199,621, for an improvement in fountain-pens, the principal distinctive feature of which is a spring working between the vibrating writing-pin and the air-tube to project the pin and restrain the flow of ink when the pen is not in use, and yield to the pressure on the point of the pin and make room for the flow of ink when the pen is in use. The first claim, which is the one in controversy, is of the vibrating pin and spring combined with the air-tube, case of the pen, and ink-tube. The defenses to this suit upon the patent are want of novelty in the invention patented and non-infringement.

Fountain-pens with air-tubes, vibrating points, and other necessary points were well known at the time of the plaintiff's invention, but none of them had his precise arrangement of a vibrating point worked by a spring connected with an air-tube, as he arranged them. The defendant Mackinnon had a patent for one substantially like the plaintiff's, except that the vibrating point was actuated by a weight instead of by a spring. In others there were springs, but which were not connected and did not operate like the plaintiff's.

One ground of want of novelty presented and urged is the equivalency of the weight in Mackinnon's patent to the spring in the plaintiff's. That they are equivalents in some operations is well established and known; but the question on this part of the case is whether they are equivalents in producing the desired result here. The efficiency of the weight is affected by its necessary confinement in a small working space and by the necessary inclination of the pen from a perpendicular both when in use and out of use. Something to act more quickly in the direction of the point of the pen without regard to its perpendicularity was necessary, and this was found in the spring, which in this operation was more than the equivalent of the weight.

Another ground of lack of patentable novelty is an alleged want of working together of the parts mentioned as combined in this claim. This position rests chiefly upon the fact that the air-tube as such has nothing to do with the spring; that it is a mere support to the spring, and for that purpose might as well be a solid rod. It is a fact that the air in the tube and the tubular form of that part have nothing whatever to do with the operation of the spring; but the patent does not rest upon the idea that they do. The presence of the air-tube was necessary in the pen, and the merit of the invention consists in making the further use of this necessary part to sustain the spring where it is wanted. It does combine with the spring for this purpose, and by this invention is made to do two things instead of one. The spring could be attached to something else, but that would make a different pen, and probably not so good a one.

The defense of non-infringement rests upon the fact that the defendant has the spring inside the air-tube instead of outside. This may be an improvement upon the plaintiff's mode of attaching the spring to the tube; but if it is it is none the less a use of his arrangement. They make use of the same parts for the same purpose in substantially the same way.

Let there be a decree for the plaintiff according to the prayer of the bill.

MUNSON v. THE CITY OF NEW YORK.

Decided February 22, 1882.

NEW TRIAL—NEWLY-DISCOVERED EVIDENCE—MATERIAL TO THE RESULT.
In applications for a new trial on newly-discovered evidence the evidence offered should of itself be such as to make it probable that its introduction would change the result. Application denied when there was a doubt as to the materiality of the evidence offered.

Mr. Royal S. Crane for the plaintiff.
Mr. Fredric H. Betts for the defendant.

WHEELER, *J.*:

This cause has now been heard upon the motion of the defendant to reopen the interlocutory decree for an injunction and account heretofore made therein and to admit a new defense of public use of the patented bond and coupon registers in controversy by the Chicago, Burlington, and Quincy Railroad Company for the period of more than two years prior to the application for a patent, which were purchased of the patentee himself. The application is founded upon an affidavit of Amos T. Hall, in which he testifies to such prior use while he was treasurer of that corporation, and affidavits of counsel showing due diligence in discovering this defense. This defense would be meritorious if it could have been seasonably interposed and clearly made out according to the requirements of the

law for defeating a patent. This affidavit, as made, having full effect given to all its statements, would make out such defense; but since making this affidavit the same witness has made another, at the request of the plaintiff, so modifying the former as to make it doubtful, upon his own statements, taken all together, whether it was in fact the patented register which he used for that corporation during that time. All the registers which he did use were consumed by the Chicago fire, so that proof of what they actually were would necessarily depend wholly upon oral testimony. In addition to this, the plaintiff makes affidavit that what was used was not the patented invention as perfected, but was a different register which he made before completing the invention patented. This would make this defense altogether too doubtful in fact to defeat the patent if it was all in upon this proof for consideration upon hearing in chief, and would fall far short of warranting reopening the case if all other requisites for that course were complied with. It is argued for the defendant, however, that the case should in justice be opened to give opportunity to investigate this defense and produce other witnesses, if to be found, and to subject these to examination and cross-examination to develop the facts pertaining to it more fully. This would be very proper in preparing for a hearing in chief while the case was open for that purpose. That time, however, has passed. It is for the interest of all that litigation should in due course cease and that experiments in making proofs should cease.

After parties have had a full opportunity to ascertain, take, and present all their proofs, and they have been taken, presented, considered, and their weight determined, there is no just ground for opening the case to afford opportunity to explore for further proofs. In applications for a new trial on newly-discovered evidence the evidence offered should of itself be such as to make it probable that its introduction would change the result. The authorities are full to this extent at least.

The motion must be denied.

SMITH v. STANDARD LAUNDRY MACHINERY COMPANY *et al.*

Decided February 22, 1882.

JURISDICTION—CITIZENS SAME STATE—SUIT INVOLVING JURISDICTION QUESTIONED—INFRINGEMENT.
Where the pleadings raise not merely the questions arising out of the construction of a contract entered into with reference to a patent, but also the question of infringement, the suit is one arising under the patent laws, and may be prosecuted in a circuit court of the United States by citizens of the same State.

Mr. H. G. Atwater for the plaintiff.
Mr. J. Palmer for the defendants.

WHEELER, *D. J.*:

There are two of these cases brought upon numerous patents described in the respective bills of complaint, and they have been heard together upon the bills, answers, replications, and plaintiff's proofs.

The plaintiff, by written agreement dated July 1, 1874, granted an exclusive license to the Standard Laundry Machinery Company alone and singly to manufacture and sell laundry machinery embodying the improvement patented to the end of the terms of the patents, the company to make returns to the plaintiff of all sales made during each month on the first of the following month, and to pay as a license-fee on or before the tenth of the following month a sum equal to eight per cent. of the gross sales of power machinery and four per cent. of the gross sales of hand machinery so sold. There was a clause in the agreement providing that the plaintiff might terminate the license by serving a written notice upon the company on failure to make the returns and payments for three consecutive months. May 13, 1879, the plaintiff served notice of termination of the license. The defendants continued to use the patented inventions, and the plaintiff brought these suits for infringements after the notice.

The parties are citizens of the same State, so that this court has no jurisdiction except under the patent laws. The defendants insist that those laws give no jurisdiction to decide upon the construction or continuance of the agreement for a license, and that the question of infringement depends wholly upon that agreement, and rest the case here wholly upon this question of jurisdiction. The contract of license itself provides a mode for its own termination, and the plaintiff's case shows that it was terminated in that mode.

The defendants do not rest their cases upon the question whether the contract was terminated or not; but while they insist that it was not lawfully terminated, answer "that they have not sold any machines embodying the invention for which the complainant has obtained letters patent as alleged in the complaint, and that defendants are not now manufacturing and selling the said machines." This raises a question of infringement, arising solely under the patent laws of the United States, of which the United States courts alone have jurisdiction without reference to citizenship. The decision of the question of the termination of the license might obviate this question of infringement, and it might not, or, rather, it might, furnish a mode of determining whether there was any infringement, and it might leave that question to be determined otherwise. If the license was not ended, the acts charged, if done, would not constitute an infringement; if ended, the question would remain whether the acts were done. The question of infringement would always be in the case until decision. This is different from *Wilson* v. *Sanford* (10 How., 99) and *Hartell* v. *Tilghman*, (99 U. S., 547,) relied upon by defendants. In each of those cases, as treated by the court, there was but one question made between parties to be decided at all, and that was a question of contract. Neither of those cases seems to control this, and this does seem to involve a controversy of which this court has jurisdiction.

Let there be a decree for an injunction and an account, according to the prayer of the bill, with costs.

NEW v. WARREN.

Decided July 22, 1882.

1. COMBINATION—INFRINGEMENT—LESS NUMBER OF ELEMENTS.
   A combination claim is not infringed by the use of any of the elements less than all.
2. REISSUE—DIVISIONS—BROADENED CLAIM.
   A patent may be reissued in divisions, but the patent cannot be broadened in that way any more than if reissued together.
3. SAME—MACHINE—PROCESS.
   A patent for a machine cannot be broadened on reissue to

cover a process described in the original patent. If the process was patentable, it should have been included in the original patent.

4. PROCESS—MERE OPERATION OF MACHINE.

The mere operation of a machine does not constitute a patentable process. It is not a chemical process nor any other for transforming the subject of it into another state.

Mr. J. F. Mather for the plaintiff.
Mr. W. W. Niles for the defendant.

WHEELER, *J.*:

This suit is brought upon Reissue Letters Patent No. 6,683, Division A, and No. 6,684, Division B, dated October 5, 1875, founded upon original Letters Patent No. 147,123, dated Febrnary 10, 1874, granted to the orator for an improvement in tanks for asphaltic cement. The defenses are want of novelty, that the reissues are too broad for the original, and non-infringement.

The specification of the original patent described an air-tight vessel lined with a non-conductor of heat for holding melted asphalt, containing an air-chamber with tubes *f*, passing from it through the asphalt-chamber B and a furnace, C, beneath, with a smoke-pipe passing from it through the chamber for heating the whole and maintaining heat during transportation, all arranged to be moved on wheels. The object was to preserve the cement in liquid form ready for use in storage or transportation without loss of adhesive properties by evaporation; and the invention appears to be very useful.

There were three claims in the orignal patent.

1. A package for liquid asphaltic cement, consisting of an air-tight shell, a lining of some substance that is a non-conductor of heat, and an inside furnace, to enable the cement to be retained as a liquid in the manner described.
2. The combination, with chamber B, of the subjacent furnace C, having smoke-pipe passing up through chamber, as and for the purposes set forth.
3. The combination, with chamber B, of the tubes *f*, rising from an air-chamber around the fire-pot, as and for the purpose specified.

The Division A of the reissue is substantially the same as the original, with the same claims. The Division B has a somewhat more full description of the invention and its objects and claims.

The process of applying asphaltic cement to pavements, roofs, and analogous uses in a liquid state before the heat of distillation has passed away, substantially as and for the purposes specified.

The proof of infringement shows the use of the shell of a steam-boiler not air-tight, without any non-conducting lining or furnace, air-chamber, or tubes for the transportation of hot liquid asphaltic cement and preserving its condition of being ready for use before the heat of distillation has passed away. This use cannot be, and is not claimed to be, any infringement of either the second or third claims of Division A. The shell of the steam-boiler not only has not all the elements of either combination specified in those claims, but has scarcely any, if any, of the elements of either. It is claimed to be in some sense an infringement of the first claim. If the shell of the steam-boiler was the equivalent for this purpose of any part of the invention described in that claim, which was of itself new and useful, the use of it might be *pro tanto* an infringement and this position be sustainable, but repeated examinations of the subject do not show it to be so. There is nothing but the shell which it can be equivalent to; and if that was a substantive part of the invention, new in itself, the boiler is not its equivalent for this purpose, for that is to be air-tight, and the boiler is not, and that feature is important, and made so in the patent, in preventing the loss of adhesive properties of the cement by evaporation. There might be some question, too, whether this claim as it is framed is for anything but the combination, in a package, of all the elements constituting it as described which would not be infringed by the use of any of the elements less than all. As it is the infringement is considered to be covered only by the claim of Division B, and the orator's right to recover must depend upon the validity of that.

There is no question but that a patent may be surrendered and reissued in divisions; but the patent cannot be broadened in that way any more than if reissued together. The claim of Division B is entirely new in the reissue. The description on which it was founded was in the original, and the process, if patentable at all, might have been claimed there; but it was not. According to numerous former cases it might be claimed in the reissue as well. As it is, however, it comes within the principle of *Miller* v. *The Bridgeport Brass Company*, (21 O. G., 201) and *Campbell* v. *James*, (Ibid., 337,) and cannot be upheld now. Further, this process is the mere operation of the machine for holding liquid asphalt, retaining it in a liquid condition, and transporting it, as described in the original patent. It is not a chemical process nor any other for transforming the subject of it into a different state. For this mere operation of the machine it does not seem that there can be a patent in addition to a patent on the machine. (*McKay* v. *Jackman*, 22 O. G., 85.) For these reasons, as now considered, the defendant does not infringe any part of the patent that is valid.

Let there be a decree that Division B is invalid, that the defendant does not infringe Division A, and that the bill be dismissed, with costs.

THE
OFFICIAL GAZETTE
OF THE
United States Patent Office.
[BY AUTHORITY OF CONGRESS.]

VOL. 22—No. 8. TUESDAY, AUGUST 22, 1882. PRICE—$5 per year

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Subscriptions for 1882.

The OFFICIAL GAZETTE is published every Tuesday, two volumes a year, commencing in January and July. Terms: To all subscribers within the United States and Canada, $5 per annum; to foreign subscribers, $7; single copies, 10 cents; bound volumes, $3.50 per volume. No club rates. *Payment in advance.* All orders should be addressed to "The Commissioner of Patents, Washington, D. C."

Errata.

OFFICIAL GAZETTE, August 22, 1882, Volume 22, page 624, Patent No. 263,058, in title, strike out assignment.

OFFICIAL GAZETTE, August 22, 1882, Volume 22, page 635, Patent No. 263,112, inventor's name, for "Thomas Capehart" read *Thomas F. Capehart.*

Amendment to the Trade-Mark Law.

The following is the text of the act amending the trade-mark law of 1881, which was passed by Congress at its recent session:

PUBLIC—No. 208.

AN ACT relating to the registration of trade-marks.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That nothing contained in the law entitled "An act to authorize the registration of trade-marks and protect the same," approved March third, eighteen hundred and eighty-one, shall prevent the registry of any lawful trade-mark rightfully used by the applicant in foreign commerce or commerce with Indian tribes at the time of the passage of said act.

Approved August 5, 1882.

Issue of August 22, 1882.

Patents	389	No. 262,911 to No. 263,299, inclusive.
Designs	68	No. 13,201 to No. 13,268, inclusive.
Trade-Marks	11	No. 9,614 to No. 9,624, inclusive.
Labels	10	No. 2,739 to No. 2,748, inclusive.
Reissues of patents	4	No. 10,184 to No. 10,187, inclusive.
Total issue	482	

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks and Labels.	States.	Patents and Designs.	Trade-Marks and Labels.
Alabama	1	.....	Nebraska	3	.....
Arizona Territory	.....	.....	Nevada	.....	.....
Arkansas	3	.....	New Hampshire	1	.....
California	6	.....	New Jersey	31	.....
Colorado	2	.....	New Mexico Territ'y	.....	.....
Connecticut	13	.....	New York	106	5
Dakota Territory	2	.....	North Carolina	3	.....
Delaware	1	.....	Ohio	34	1
District of Columbia	3	.....	Oregon	.....	.....
Florida	.....	.....	Pennsylvania	37	3
Georgia	7	.....	Rhode Island	6	.....
Idaho Territory	.....	.....	South Carolina	2	.....
Illinois	32	2	Tennessee	3	.....
Indiana	14	.....	Texas	6	.....
Indian Territory	.....	.....	Utah Territory	.....	.....
Iowa	7	.....	Vermont	1	.....
Kansas	5	.....	Virginia	1	.....
Kentucky	5	1	Washington Territ'y	1	.....
Louisiana	1	2	West Virginia	.....	.....
Maine	4	1	Wisconsin	6	1
Maryland	4	1	Wyoming Territory	.....	.....
Massachusetts	52	4	United States Army	.....	.....
Michigan	14	.....	United States Navy	.....	.....
Minnesota	9	.....			
Mississippi	1	.....	Total to citizens of the United States	437	21
Missouri	9	.....			
Montana Territory	1	.....			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks and Labels.	Countries.	Patents and Designs.	Trade-Marks and Labels.
Australia	.....	.....	England	7	.....
Austria	.....	.....	France	4	.....
Barbadoes	.....	.....	Germany	2	.....
Belgium	.....	.....	Italy	.....	.....
Bermuda	.....	.....	New Zealand	.....	.....
Brazil	.....	.....	Russia	.....	.....
Canada	7	.....	Spain	.....	.....
Chili	.....	.....	Sweden	.....	.....
Colombia, U. S. of	.....	.....	Switzerland	.....	.....
Cuba	.....	.....			
Denmark	.....	.....	Total to citizens of foreign countries	20	.....
Ecuador	.....	.....			

DESIGNS.

13,201 to 13,213, inclusive.—CARPET.—*James L. Folsom*, Brooklyn, N. Y., assignor to *The Hartford Carpet Company*, Hartford, Conn. Applications filed July 12, 1882. Term of patents 3½ years.

13,214.—CARPET.—*James L. Folsom*, Brooklyn, N. Y., assignor to *The Hartford Carpet Company*, Hartford, Conn. Application filed July 15, 1882. Term of patent 3½ years.

13,215 to 13,217, inclusive.—CARPET.—*James L. Folsom*, Brooklyn, N. Y., assignor to *The Hartford Carpet Company*, Hartford, Conn. Applications filed July 12, 1882. Term of patents 3½ years.

13,218.—CARPET.—*James L. Folsom*, Brooklyn, N. Y., assignor to *The Hartford Carpet Company*, Hartford, Conn. Application filed July 15, 1882. Term of patent 3½ years.

13,219 to 13,248, inclusive.—CARPET.—*James L. Folsom*, Brooklyn, N. Y., assignor to *The Hartford Carpet Company*, Hartford, Conn. Applications filed July 12, 1882. Term of patents 3½ years.

13,249.—CARPET.—*Walter J. Gadsby*, Boston, Mass., assignor to *The Roxbury Carpet Company*, same place. Application filed July 21, 1882. Term of patent 3½ years.

13,250.—BOOK-CLASP.—*Michael R. Lately*, Boston, Mass. Application filed May 4, 1882. Term of patent 14 years.

13,251 to 13,253, inclusive.—CARPET.—*Arthur L. Halliday*, Yonkers, N. Y., assignor to *The Bigelow Carpet Company*, Clinton, Mass. Applications filed July 28, 1882. Term of patents 3½ years.

13,254.—CARD.—*George M. Hayes*, Philadelphia, Pa. Application filed July 13, 1882. Term of patent 3½ years.

13,255.—FLOWER-VASE.—*Charles O. Held*, Columbus, Ohio. Application filed July 14, 1882. Term of patent 7 years.

13,256.—BUTTON.—*Arnold Flesh*, New York, N. Y. Application filed July 22, 1882. Term of patent 3½ years.

13,257.—CARPET.—*William McCallum*, Newark, N. J., assignor to *The Bigelow Carpet Company*, Clinton, Mass. Application filed July 28, 1882. Term of patent 3½ years.

13,258.—FRINGE.—*Laurence J. McDonald*, Philadelphia, Pa., assignor to *John C. Graham* same place. Application filed June 16, 1882. Term of patent 14 years.

13,259.—CARPET.—*David McNair*, Boston, Mass., assignor to *The Roxbury Carpet Company*, same place. Application filed July 21, 1882. Term of patent 3½ years.

13,260.—CARPET.—*David G. Melville*, Medford, assignor to *The Roxbury Carpet Company*, Boston, Mass. Application filed July 21, 1882. Term of patent 3½ years.

13,261.—TOY BANK.—*Henry S. Lockwood*, South Norwalk, Conn., assignor to *The Lockwood Manufacturing Company*, same place. Application filed June 3, 1882. Term of patent 7 years.

13,262.—CARPET.—*Thomas J. Stearns*, Boston, Mass., assignor to *The Roxbury Carpet Company*, same place. Application filed July 21, 1882. Term of patent 3½ years.

13,263.—CARPET.—*William P. Wait*, Auburn, N. Y., assignor to *Nye & Wait*, same place. Application filed June 26, 1882. Term of patent 3½ years.

13,264 and 13,265.—CARPET.—*Frank Allen*, Worcester, Mass., assignor to *Matthew J. Whittall*, same place. Applications filed July 27, 1882. Term of patents 3½ years.

13,266.—CARPET.—*John Campbell*, London, England, assignor to *Horner Brothers*, Philadelphia, Pa. Application filed July 28, 1882. Term of patent 3½ years.

13,267.—SCARF-SHIELD.—*Thomas J. Flagg*, New York, N. Y., assignor to *Fisk, Clark & Flagg*, same place. Application filed September 19, 1881. Term of patent 14 years.

13,268.—CARD-RECEIVER.—*Frank R. Buck*, Philadelphia, Pa. Application filed July 22, 1882. Term of patent 3½ years.

TRADE-MARKS.

[Certificates of registration of Trade-Marks numbered 8,191 and upward are registered under the act of March 3, 1881.]

9,614.—CIGARS.—*W. R. Irby & Bro.*, New Orleans, La. Application filed July 22, 1882.

"The word 'MONOGRAM' and the monogram composed of letters 'W R I.'"

9,615.—CIGARS.—*Suarez & Bro.*, New Orleans, La. Application filed July 11, 1882.

"The words 'SOUTHERN STAR' and the pictorial representation of a female, accompanied by cherubims, passing, as it were, through the air."

9,616.—PORTRAIT-CARDS.—*A. M. Collin's Son & Co.*, Philadelphia, Pa. Application filed July 15, 1882.

"The letter 'C.'"

9,617.—CLOVER AND OTHER SEEDS.—*Crabbs, Bellman & Co.*, Toledo, Ohio. Application filed August 2, 1882.

"The words 'STAR BULKED,' and the symbol of the star."

9,618.—STOVE AND RANGE LININGS, FIRE-BRICK, CYLINDERS, TILES, AND BAKED-CLAY GOODS GENERALLY.—*Gideon C. Francis*, South Dighton, Mass. Application filed July 17, 1882.

"The representation of Dighton Rock, either pictorially, or by words, or both."

9,619.—ALL KINDS OF MALTED BEVERAGES.—*Fringe & Zwietusch*, Milwaukee, Wis. Application filed July 17, 1882.

"The arbitrarily-selected words 'NEW ERA.'"

9,620.—SHOES.—*T. M. Harris & Co.*, Philadelphia, Pa. Application filed June 19, 1882.

"'STANDARD,' whether expressed pictorially or by word."

9,621.—CERTAIN MEDICINAL PREPARATIONS.—*Orkney Chemical Company*, Baltimore, Md. Application filed July 15, 1882.

"The design of a spherical body having straight prongs."

9,622.—REFINED PETROLEUM-OIL.—*Albert F. Sise*, Medford, Mass. Application filed July 20, 1882.

"The word 'LUSTRAL.'"

9,623.—REFINED PETROLEUM-OIL.—*Albert F. Sise*, Medford, Mass. Application filed July 20, 1882.

"The word 'NOONDAY.'"

9,624.—CASTILE SOAP.—*A. Stephani & Co.*, New York, N. Y. Application filed July 28, 1882.

"The wings connected at the center of a wheel, and which is designed to symbolize the words 'EL PROGRESSO.'"

LABELS.

2,739.—Title: "ENGLISH BLEND."—*Frederick Carlton*, Boston, Mass. Application filed July 28, 1882.

2,740.—Title: "LEMON FRUIT SALINE."—*George Hughes*, New York, N. Y. Application filed July 13, 1882.

2,741.—Title: "MANSFIELD'S CAPILLARIS APPLICATION FOR THE HAIR AND SCALP."—*T. Hill Mansfield*, Portland, Me. Application filed June 3, 1882.

2,742.—Title: "J. W. POPHAM'S LAUNDRY AND TOILET SOAPS."—*J. W. Popham*, Elizabethtown, Ky. Application filed July 25, 1882.

2,743.—Title: "SURE PILE CURE."—*Robinson Bros.*, Ogdensburg, N. Y. Application filed July 15, 1882.

2,744.—Title: "WAKEFIELD'S GOLDEN OINTMENT."—*C. Wakefield & Co.*, Bloomington, Ill. Application filed July 13, 1882.

2,745.—Title: "ASHLEY'S LIQUID PLASTER."—*J. J. Ashley*, Brooklyn, N. Y. Application filed June 17, 1882.

2,746.—Title: "BOTANICAL OIL."—*Samuel C. Bass*, Boonville, N. Y. Application filed July 13, 1882.

2,747.—Title: "PHÉNOL SODIQUE."—*Hance Brothers and White*, Philadelphia, Pa. Application filed July 18, 1882.

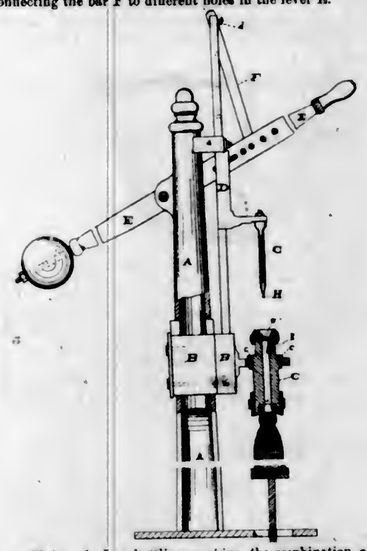
2,748.—Title: "MRS. MCGLASHAN'S SCALP CURERS AND HAIR RESTORERS."—*Mary J. McGlashan*, Chicago, Ill. Application filed July 19, 1882.

PATENTS

GRANTED AUG. 22, 1882.

262,911. BOTTLING-MACHINE. HENRY B. ANDERSON, St. Louis, Mo. Filed Oct. 5, 1881. (No model.)

Brief.—The relation of the stroke of plunger G to the bottle is regulated by clamp *d*, and the length of stroke can be varied by connecting the bar F to different holes in the lever E.



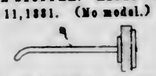
Claim.—1. In a bottling-machine, the combination, as specified, of plunger G, cylinder C, open from top to bottom for the passage of corks, and packing *e*, arranged to operate as specified.

2. The combination, in a bottling-machine, of the plunger G, packed cylinder C, and spring-wire I, substantially as specified.

3. The plunger of a bottling-machine, provided at its lower end with a counterbore or socket adapted to be fitted either with a cushion, (such as H,) for stoppering with corks, or with a spring-wire hook, (such as J,) for stoppering with inside stoppers, substantially as before set forth.

4. The combination, substantially as before set forth, of the cork-seating plunger G and elastic cushion H with the cylinder of a bottling-machine.

262,912. BOTTLE-STOPPER. HENRY B. ANDERSON, St. Louis, Mo. Filed Oct. 11, 1881. (No model.)

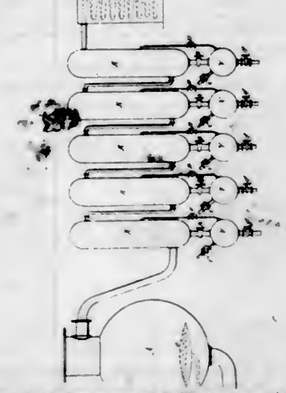


Claim.—1. In a bottle-stopper, the combination of the stopper C and wire holder B, said stopper being secured to one leg of the holder, the opposite leg of the holder extending down free, and capable of being forced to rest against the periphery of the upper collar of said stopper and above the rubber ring D, substantially as specified.

2. In an inside bottle-stopper, the combination, substantially as before set forth, of the wire holder B, having a loop upon top of greater diameter than the stopper-body, and standing parallel therewith, and straight, or nearly straight, legs, with stopper C, secured to one of said legs, and the opposite leg of said holder being free and capable of bearing against the upper part of said stopper.

3. The combination, as hereinbefore set forth, of stopper C and a stopper-holder, B, said holder having the upper end bent to lie close to the wall of the bottle-mouth to afford free access to the bottle, as set forth.

262,913. DISTILLATION OF GLYCERINE AND APPARATUS CONNECTED THEREWITH. FRANÇOIS ARMANDY, Saint Fons, France. Filed Jan. 10, 1882. (No model.) Patented in France Nov. 25, 1881, No. 146,027; in England Dec. 7, 1881, No. 5,343; in Italy Dec. 31, 1881, XXVII, 340, and in Belgium Jan. 16, 1882, No. 56,787.



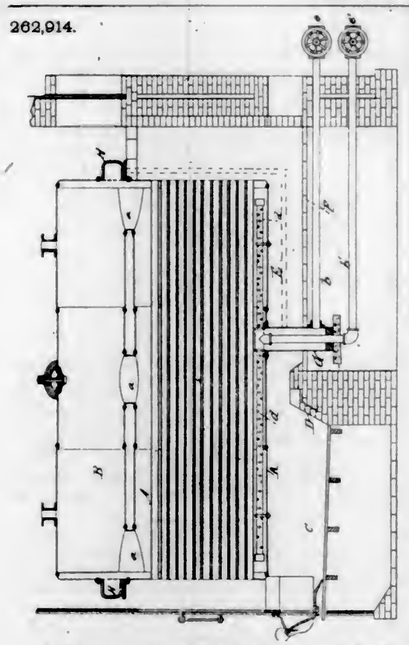
Claim.—1. In the process of distilling commercial glycerine for the purpose of purifying it, the effecting the said operation in vacuo, substantially as herein described.

2. The combination, with a still, of the condensers R, cylinders V, pipes and cocks B C D, and pump P, substantially as herein shown and described.

262,914. HOLLOW SUPPORT FOR STEAM-BOILERS. EDWARD H. ASHCROFT, Lynn, Mass. Filed June 10, 1882. (No model.)

Claim.—1. The combination, with a steam-boiler such as described, of the end hollow supports rigidly fastened to the end heads of said boilers, and adapted to communicate with the water of the boiler in such manner that a constant circulation of the water is maintained between the body of the boiler and the space formed by the hollow supports, substantially as described.

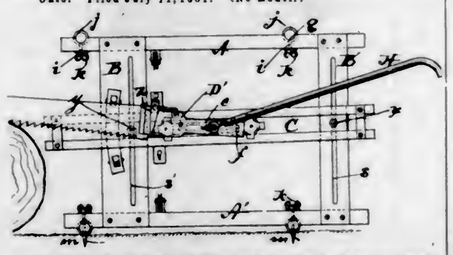
262,914.



2. The combination, with a steam-boiler provided with hollow end supports, of the stand-pipe central support, said central support being adapted to receive the fuel-water, and to discharge therefrom the sedimentary deposits accumulating in said boiler, as herein shown and described.

3. The combination, with a steam-boiler such as described, of the hollow end supports, the angle-iron, the end arches, and the central stand-pipe, all arranged to form a support for the boiler, and also being adapted for the circulation of the water therein in the manner set forth and described.

262,915. SAWING-MACHINE. JOHN AUGSPURGER, Trenton, Ohio. Filed July 11, 1881. (No model.)



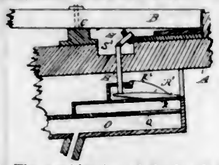
Claim.—1. In a sawing-machine for cutting both standing and fallen timber, a rectangular supporting-frame capable of being used both in a horizontal and a vertical position, in combination with a guideway provided with means for adjusting and retaining it at any desired position or angle upon said supporting-frame, a cross-head or traveler operated manually in said guideway by a handle, and a crescent-saw provided with means for securing it pivotally or rigidly to said cross-head or traveler, as desired, substantially as and for the purpose specified.

2. The traveler D, constructed as shown, in combination with a head, D′, for containing the saw, the said head being provided with both a pivotal and a rigid adjustment to the traveler, to be used alternately, substantially as set forth.

3. The combination of the frame composed of bars A A′ and cross-bars B B′, provided with slots *s* and *s′*, respectively, in combination with the guideway C, its slotted block *c*, and connecting-bolts *x* and *y*, substantially as specified.

4. In combination with a sawing-machine adapted to alternate use, as described, the legs *k*, provided with lateral spurs *w*, substantially as and for the purpose specified.

262,916. COMBINED PIANO AND REED-ORGAN. CHARLES AUSTIN, Lowell, Mass. Filed Nov. 5, 1881. (No model.)

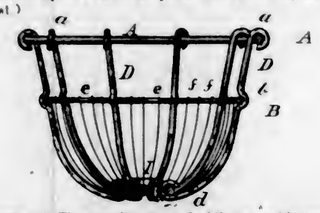


Claim.—1. The combination of the key B and the jointed tracker-pin S S′ and means for throwing the upper end of the same out of reach of said key, as and for the purpose specified.

2. The combination of the jointed tracker-pin S S′, the lever X, and connecting mechanism, as and for the purpose specified.

3. The combination of a plurality of jointed tracker-pins S S′, the connecting-piece T, provided with the arm V and turning upon a pivot, V′, in the part W of the frame, the connecting-rod U, and the lever X, as and for the purpose specified.

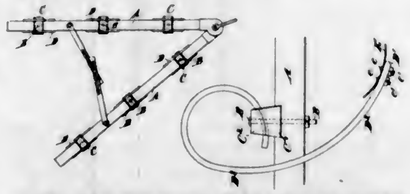
262,917. MUZZLE. SAMUEL AYRES, Worcester, Mass., assignor to SAMUEL AYRES & SON, same place. Filed Feb. 20, 1882. (No model.)



Claim.—1. The muzzle composed of the top and bottom rings, the intermediate corrugated brace-ring, B, and the corrugated radially-curved side wires, D D, substantially as set forth.

2. The muzzle composed of the top and bottom rings, the intermediate brace-ring, B, the corrugated radially-curved side wires, D D, and the filling-wires *f f*, substantially as set forth.

262,918. SPRING-TOOTH HARROW AND CULTIVATOR. HENRY D. BABCOCK, Leonardsville, N. Y. Filed Dec. 16, 1881. (No model.)



Claim.—The harrow-tooth D, formed of folded or double wire, and mounted so as to straddle the frame A, in combination with clamps C′ C², adapted to be reversed in position on said frame, and having curved surfaces which allow the teeth to be varied in angular position by shifting therein, all substantially as and for the purpose herein specified.

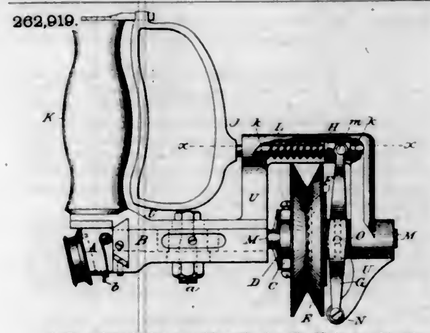
262,919. EDGE-SETTING MACHINE. WILLIAM H. BACHELLER, Lynn, Mass. Filed Apr. 14, 1882. (Model.)

Claim.—1. In a suspended edge-setting machine, the pivoted lever B B², pitman C C², and eccentric D, in combination with the slide S, for imparting a vibratory motion to the sliding head A, all arranged to operate substantially as set forth.

2. The combination of the pivoted lever B B², pitman C C², eccentric D, with eccentric-strap *d*, shaft M, pulley E, and friction-clutch F, for imparting a vibratory motion to the burnishing-tool or sliding head A, all arranged and adapted to operate substantially as described.

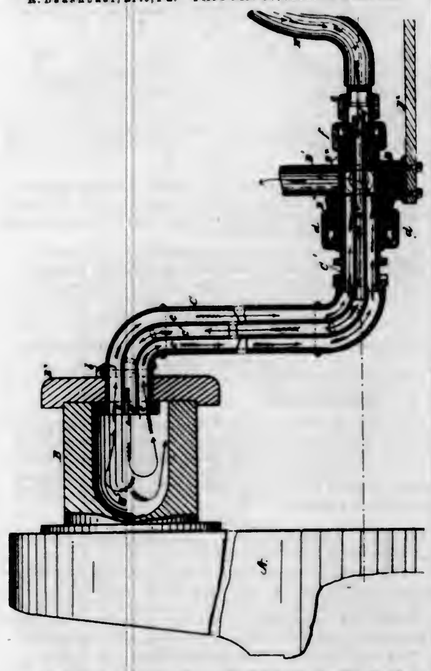
3. In combination, the handle K and guard J, rod *k k*, spring L, collar H, pivoted lever G, friction-clutch F, and pulley E, in the manner and for the purpose substantially as set forth.

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4. In a burnishing-machine, the handle K, in combination with the guard J, rod *k k*, spring L, and lever G, which act automatically to start and stop the burnishing-tool, all as set forth.

262,920. DEVICE FOR KEEPING CRANK-PINS COOL. HENRY R. BARNHURST, Erie, Pa. Filed July 10, 1882. (No model.)



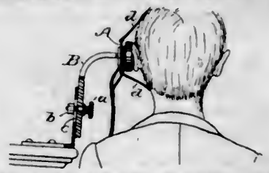
Claim.—1. The combination, with a crank-pin, of a pipe having an inflow and outflow passage, which pipe extends to and is concentrically journaled on the center line of the shaft and is there connected with a water-supply pipe, substantially as and for the purposes mentioned.

2. The combination, with a crank-pin having therein a cavity, of a pipe having an inflow and an outflow passage communicating with said cavity, and with a water-supply pipe located at the center line of the shaft, substantially as and for the purposes set forth.

3. The combination, with the crank-pin B, having the cavity B′, of the cap B², the two-way pipes C C′, the fixture D, having branches D′ D² D³, the stuffing-boxes *d* and *f*, and the supply-pipe E, substantially as and for the purposes set forth.

4. The combination, with the crank-pin B, pipe C, and fitting D, of a flexible support for said fitting, substantially as and for the purposes mentioned.

262,921. OPERATOR'S RECEIVING-TELEPHONE. EMILE BERLINER, Boston, Mass. Filed Apr. 15, 1882. (No model.)

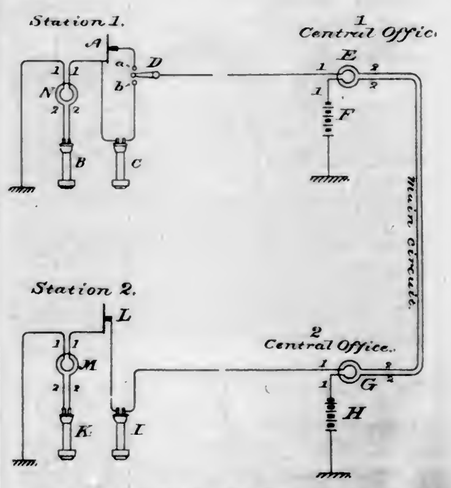


Claim.—1. A receiving-telephone consisting of a sounding-chamber, diaphragm, and inert electro-magnet, which is included in a telephone-circuit, and provided with straps adapted to secure the instrument to an operator's ear, in combination with a detached magnet located, as described, so that the telephone may be within the magnetic field of the magnet.

2. A receiving-telephone consisting of a sounding-chamber, diaphragm, and inert electro-magnet, which is included in a telephone-circuit and pressed against an operator's ear, in combination with a detached magnet located, as described, so that the telephone may be within the magnetic field of the magnet.

262,922. TELEPHONE SYSTEM. EMILE BERLINER, Boston, Mass. Filed Mar. 29, 1882. (No model.)

Brief.—Two receivers are employed, one in the primary and the other in the secondary, the one in the primary being preferably of lower resistance than the other. Switches are provided whereby the transmitter or the receiver in the primary circuit may be put to line. Two central offices are connected by the secondary circuits of two inductoriums, one at each office, the primaries of which are connected to the primaries of inductoriums at subscribers' stations.



Claim.—1. In a telephone system, the combination of two receivers, one placed in the secondary circuit of an inductorium, and another, which is preferably of lower resistance, placed in the primary circuit of the same inductorium.

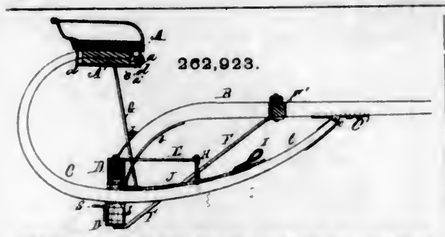
2. In a telephone system, the combination of the primary of an inductorium, a transmitter, a receiver, and a switch, by means of which either the transmitter or the receiver may be placed in circuit with said primary coil.

3. In a system of telephonic intercommunication, the combination of two inductoriums, one at each central office, the secondaries of which are combined to form the main line between the two offices, and the primaries of which are connected each with the primary of another inductorium, the latter situated at a subscriber's station.

262,923. SULKY. JAMES H. BLACKMORE, Defiance, Ohio. Filed Sept. 13, 1881. (Model.)

Claim.—In a sulky, the curved bars C C, supporting an ad-

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justable seat and foot-rest, said bars being provided with means for adjusting the same upon the shafts, and movable links connecting the bars C C to the springs E E, substantially as shown.

262,924. METHOD OF AND SOLUTION FOR TANNING. JOHN B. BOLLMAN, Dayton, Ohio, assignor of one-half to Theodor H. Huews, same place. Filed Feb. 13, 1882. (No specimens.)

Claim.—1. The herein-described method of treating skins, consisting in introducing them with blood into a vat containing lime and water, substantially as explained.

2. The herein-described method of treating skins, consisting in subjecting them to the action of water, lime, and blood simultaneously, as explained.

3. The method herein described of treating skins, consisting in first soaking or washing them in water, and then immersing them in a mixture of water, lime, and blood, in substantially the proportions stated.

4. A mixture or solution for the treatment of skins, consisting of water, lime, and blood, in about the proportions of fifteen barrels of water to one bushel of lime and one and a half gallon of blood.

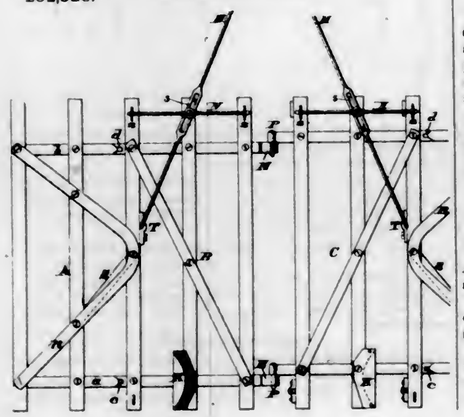
262,925. SAW-SWAGE. JOHN H. BROADFIELD, Philadelphia, Pa. Filed Apr. 28, 1882. (No model.)



Claim.—1. A saw-tooth swage composed of a block having a fixed jaw-piece formed on its swaging end, in combination with detachable jaw-pieces, a ferrule and setting-pins or separating-blocks adapted to hold the detachable jaw-pieces apart from the fixed jaw-piece at or near their respective lower extremities, substantially as and for the purposes set forth.

2. A saw-tooth swage composed of a block having a fixed jaw-piece formed on its swaging end and provided with two holes or openings at or near the lower corners of said fixed jaw-piece, in combination with detachable jaw-pieces, a ferrule and setting-pins or separating-blocks adapted to the holes or openings, so as to hold the detachable jaw-pieces apart from the fixed jaw-piece at or near their respective lower extremities, substantially as and for the purposes set forth.

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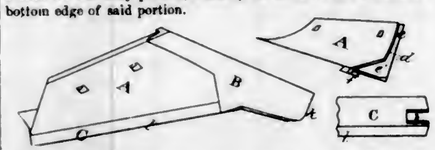
262,926. HARROW. CALVIN J. BURR, ARGARUM, and RICHARD H. BURR, West Manchester, Ohio. Filed May 21, 1881. (No model.)

Brief.—The handles are formed in the shape of runners, each having a rigid pin upon one end and a hinged pin with a flat-faced lug upon the other, and they are secured to the frame by engaging a hinged pin with an oblong slot in the frame-socket and the securing eyebolt attached to the rocking rest in the slot of the handle, whereby the handles are adjustable in height. By folding the frame-sections, removing the handles, and again securing them in additional frame-sockets runners are formed for transporting the harrow from place to place.

Claim.—The guiding-handles H, having the pins I, with flat lugs L on their inner ends, in combination with the sockets T, with which said inner ends are adapted to be locked, and with the rocking supports and the slot and set-screws for locking the handles to the supports at the desired height, substantially as described.

262,927. PLOW-POINT. WILMOT F. CAMERON, Deering, assignor of two-thirds to Thomas G. Loring, Portland, Me. Filed Oct. 3, 1881. (No model.)

Brief.—The point is formed in three separable parts, comprising a main or body portion, a removable point proper, and a reversible foot, the latter having at one end a recess which engages a stud on the body portion, whereby it is secured to the outside bottom edge of said portion.



Claim.—In combination with the body A, having shoulder *d*, projection *e'*, and flaring stud *f*, the removable point B, having socket *g* and groove *h*, and the reversible foot C, having beveled recess *i*, substantially as described.

262,928. SAND-BAND FOR VEHICLE-WHEELS. EDWARD T. CHANEY, Harmon, N. Y. Filed Mar. 18, 1882. (No model.)



Claim.—1. The sand-band D, having rim C, in combination with the hub-band A, having groove or rabbet B, the rim C being adapted to fit into the groove or rabbet, substantially as described.

2. The sand-band D, having both its inner and outer surfaces tapering toward its outer edge, and provided with a bead, E, substantially as specified.

262,929. WINDOW-BLIND. JAMES B. CHILDS, Rock Falls, Ill. Filed Feb. 17, 1882. (No model.)

Brief.—A sliding plate is located in a recess formed by L-shaped metallic plates secured to one side of the slat-frame. The sliding plate is recessed opposite the journals of the slats, and is provided with cordate holes, which serve as bearings for crank-pins on one end of the slats. The sliding plate is locked by a spring-catch engaging a knob on the plate.

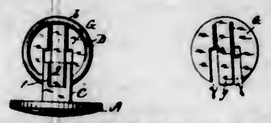


Claim.—1. In a window-blind, the combination of the frame A, plates B, C, and D, knob E, and spring F, arranged and operating substantially as described.

2. The frame A, plate B and C, the latter provided with recesses *d* and cordate holes *e*, combined with slats G, having journal *f* and crank-pin *g*, substantially as described.

262,930. BUTTON. JOHN COSTELLO, Attleborough, Mass., assignor to himself and Watson & Newell, same place. Filed Dec. 12, 1881. (No model.)

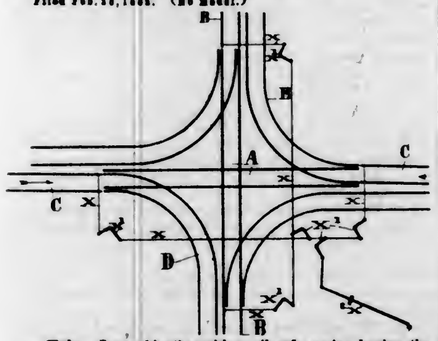
262,930.



Claim.—1. In a button, the slotted post C, provided at its turned end with the groove h, in combination with the fulcrum-plate D, provided with the cross-bar *e*, and the spring-plate G, provided with the tongue *g*, substantially as and for the purpose specified.

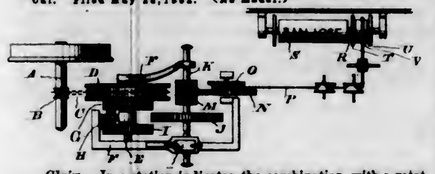
2. In a button, the circular spring-plate G, provided with the spring-tongue *g*, formed by the open slots *j j*, enlarged at their outer ends from a shoulder, *i*, in combination with the shoe-cap *b*, by the turned rim of which the spring-tongue *g* is made secure at its outer end, so as to hold the post C firmly in its operative connection with the shoe, substantially as described.

262,931. RAILWAY-CROSSING. HENRY F. COX, Altoona, Pa. Filed Feb. 28, 1882. (No model.)



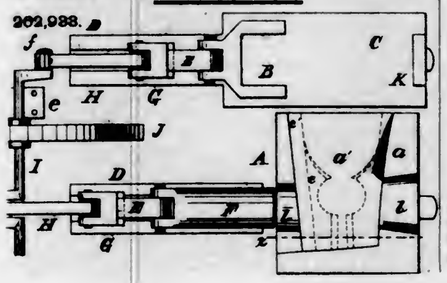
Claim.—In combination with a railroad-crossing having the main tracks B and C and the turn-out switches D, E, F, and G, actuating mechanism, substantially as described, by means of which the switches are moved in unison to protect the track which is open for the passage of trains.

262,932. STATION-INDICATOR. JOHN COXEN, San Francisco, Cal. Filed May 26, 1882. (No model.)



Claim.—In a station-indicator, the combination, with a rotating car-axle, of the chain or belt C, chain-wheel B, externally and internally toothed pinions G I, transverse pinion H, spur-wheel J, having on its shaft the mutilated pinion M, meshing with the spur-wheel N on the shaft of a band-wheel, O, the elastic belting P, and rollers Q R, carrying an indicating-ribbon, S, constructed, arranged, and operating substantially in the manner and for the purpose herein set forth and specified.

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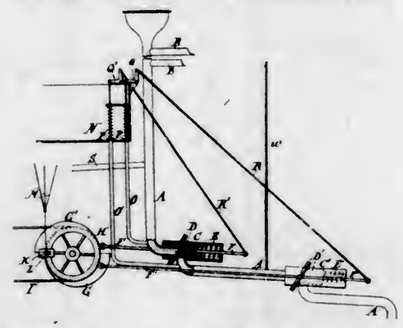
262,933. AX-MAKING MACHINE. SOLOMON S. DAVIS, Douglass, Mass. Filed Mar. 20, 1882. (Model.)

Claim.—1. The ax and hatchet dies described, fitting the two sides or edges precisely, but leaving one or more surfaces free, so that no fin is made, when constructed and operating as and for the purposes described.

2. The combination of the side and edge dies, as described, whereby several sizes may be made in the same, substantially in the manner and for the purposes above set forth.

3. The combination, with the side dies described, of the mechanism for putting the work on the mandrel and removing it therefrom, substantially as described.

262,934. APPARATUS FOR PREVENTING THE ESCAPE OF SEWER-GAS INTO HOUSES. MATHEW F. DUNCAN, Chicago, Ill., assignor of one-half to Henry Hooper, same place. Filed July 11, 1882. (No model.)



Claim.—1. In an apparatus for preventing the escape of sewer-gas, the soil-pipe A and valves therein, one arranged ahead of the other, in combination with means, substantially as described, for operating them successively, whereby one valve is closed before the next begins to open, as herein set forth.

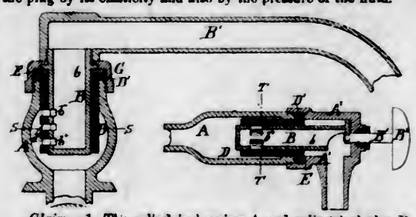
2. In an apparatus for preventing the escape of sewer-gas, the spring-valves D D', in combination with the pipe A and means for operating the said valves successively, and with a positive stop or lock for stopping and holding the parts after each operation, substantially as set forth.

3. The main soil-pipe A of a house, having valves D D', arranged to be operated one after the other, in combination with the flushing-pipes O O', and with suitable connections to admit water into the latter, conjointly with the operation of the valves D D', substantially as and for the purposes herein specified.

4. The main soil-pipe A of a house, having valves D D', in combination with a cam-wheel, H G G', and with means for imparting motion thereto, and with a latch, as K, capable of engaging with a stop on the cam-wheel, the whole arranged so as to operate the valves D D' by disengaging the latch K, substantially as herein specified.

262,935. STOP-COCK. JOHN L. DIBBLE, Brooklyn, N. Y. Filed Oct. 27, 1881. (No model.)

Brief.—In the chamber between the casing A and plug B is an elastic packing, D. The metal lining C is interposed between the plug and envelope D, the latter element being urged toward the plug by its elasticity and also by the pressure of the fluid.



Claim.—1. The cylindrical casing A and cylindrical plug B, having a chamber extended around between them, in combination with an envelope or incasement of elastic material, D, urged toward the plug by its elasticity and also by the pressure of the fluid, as herein specified.

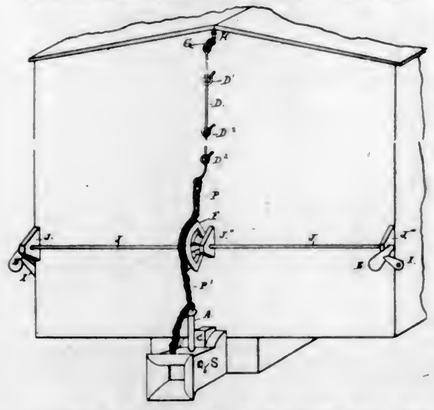
2. The combination of the body, plug, elastic envelope, and interposed metal C, arranged to serve as herein specified.

3. The soft envelope D, formed with a flange, D', in combination with the plug B, having the flange B' lying above the upper flange of the envelope D, and ring G, adapted for compressing and reliably holding the flanges D' and B', as herein specified.

4. The plug B, with opening b^*, an elastic metallic ring, C, with corresponding opening c^*, and soft envelope D, with opening d^*, in combination with each other and with means for holding and operating them in a suitable casing, A, as herein specified.

5. The elastic tubular flanged lining C C', with the body C, divided by a longitudinal split, t, and partly separated from the flange by a transverse cut, w, in combination with the plug B, soft envelope D, body A, and means G, for strongly holding the flange C', as herein specified.

262,936. CAR-COUPLING. JOHN A. DICKINSON and WILLIAM H. MARTIN, Mobile, Ala. Filed June 12, 1882. (No model.)



Claim.—1. In a car-coupling, the draw-head S, having shoulders O O', and an open space, L, in combination with the tumbler B, swung upon bolts b' b', having a screw-threaded cut upon their ends next the bolt-heads, and the remainder left round and smooth to form pivots upon which it swings, substantially as described, and for the purposes set forth.

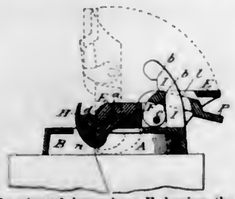
2. In a car-coupling, the draw-head S, having an opening in the bottom, through which a ratch-block, C, having its lower end reduced in size, so as to leave shoulders C' C', (to prevent its dropping through,) protrudes, substantially as described, and for the purposes set forth.

3. In a car-coupling, the rod D, in combination with loop G and hook H, chain P, segment F, and coupling-pin A, substantially as shown and described, and for the purposes set forth.

4. In a car-coupling, the combination of segment F and rod J, having handles E at each end, and the pawls I, substantially as described, and for the purposes set forth.

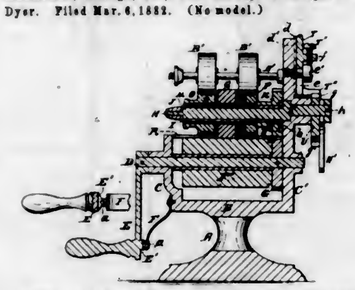
5. In a car-coupling, the grooved segment F, in combination with rod J, handles E, pawls I, chain P, and coupling-pin A, substantially as shown, and for the purposes set forth.

262,937. FASTENER FOR MEETING-RAILS OF SASHES. GILBERT J. DICKSON, Albany, N. Y. Filed May 24, 1882. (No model.)



Claim.—The pivoted lever-hasp E, having the hook H and the overbalanced pawl F, in combination with the toothed standard I and the plate B, having one or more bars, d, and openings n, substantially as and for the purpose specified.

262,938. PRINTING-PRESS. JOHN DYER and CHARLES O. MALMGREN, Chicago, Ill.; said Malmgren assignor to said Dyer. Filed Mar. 6, 1882. (No model.)



Claim.—1. The combination, substantially as specified, in a rotary ticket-printing press, of a yielding friction-catch for temporarily retarding the rotation of the driving-axle once during each rotation thereof, an adjustable type-wheel axle, the wheel K, moving with the type-wheel axle, and having therein the annular groove b' and socket b'', and the fixed pin b, for the purpose of causing the type-wheel to register with the said catch.

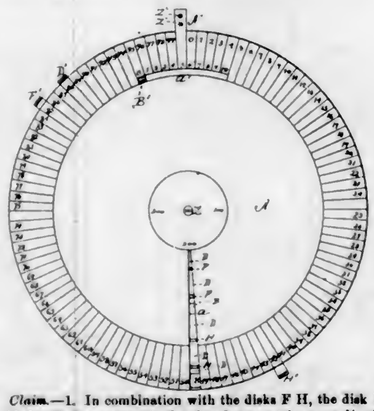
2. The combination, in a rotary ticket-printing press, of the type-wheel shaft, a removable rotary sleeve mounted on the said shaft, the nut J, run upon the end of the type-wheel shaft for retaining the said sleeve temporarily thereon, and removable type-wheels splined upon the said sleeve, substantially as and for the purposes specified.

3. The combination, in a rotary ticket-printing press, of the driving-shaft D, carrying the friction-roller F' and spur-wheel G, the eccentric axle H, the removable sleeve I, mounted on the axle H and carrying the wheel K, arranged for engaging the wheel G and the removable type-wheels O and P and friction-wheel Q, all splined to the sleeve I, substantially as and for the purposes specified.

4. The combination, with each other and the type-wheel shaft of a rotary ticket-printing press, of the rotary and removable sleeve I, having therein the groove M and spring N, the removable type-wheel O, mounted on the said sleeve and provided with the pin or key e, entering the said groove, and the nut J, run upon the type-wheel shaft, substantially as and for the purposes specified.

5. The combination, in a rotary ticket-printing press, of the eccentric type-wheel shaft H, having on its concentric part the lever or handle H', and the cam U, and the vertically-sliding inking-roller frame T, having thereon the arm T'', extending across the said cam, substantially as and for the purposes specified.

262,939. DEVICE FOR MAKING INTEREST AND OTHER COMPUTATIONS. JONATHAN C. ELA, Boston, Mass. Filed Mar. 22, 1882. (No model.)



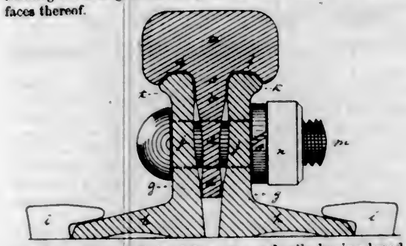
Claim.—1. In combination with the disks F H, the disk D, provided with the concentric slots b and concentric spaces b', with the series of slots k and g, arranged as described, in the inner section, D^2, of said disk D, and with the series of slots e d, arranged as described, in the outer section, D'', thereof, all constructed to operate as described, for the purpose set forth.

2. In combination with the disks F H, the disk B, provided with the two series of slots l and m, arranged as described, and the large slots n n, all constructed to operate as described, for the purpose specified.

3. The combination of the disks F H, slotted disks B D, and dial A, provided with the radial slot a and concentric slot a', and numbered as shown, substantially as and for the purpose set forth.

262,940. COMPOUND RAILROAD-RAIL. GEORGE H. EVERSON, Scottdale, Pa. Filed Apr. 29, 1882. (No model.)

Brief.—A T-head for compound rails is provided with recesses on its under surface on each side of the central stem, adapted to receive the web-pieces of the rail, which are secured by bolts and nuts. Elasticity in the connection of the parts is obtained by forming shallow grooves along the middle line of the meeting faces thereof.



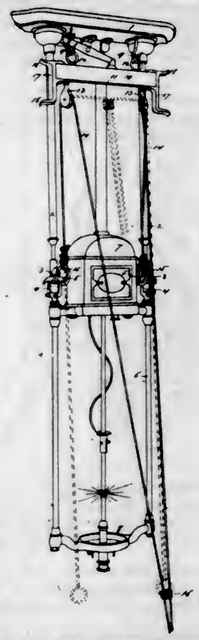
Claim.—1. A T-head for compound rails, having broad or rounded grooves or recesses in the under surface of the head at each side of the central stem for receiving the blunt upper or bearing head of the side or web pieces of the rail, substantially as and for the purposes described.

2. The combination of the blunt-headed side or web-pieces with a T-head having rounded or shallow seats, recesses, or grooves in the under surface of the head at each side of the central stem for receiving the said heads, substantially as and for the purposes described.

3. In a compound railroad-rail, the combination of a head-piece having a stem, and grooves on the under surface of the head at each side of the stem, with angle-pieces or webs having obtuse heads which enter the grooves or recesses in the under surface of the head, and shallow grooves along the line of the bolt-holes, substantially as and for the purpose specified.

4. In a compound railroad-rail, the head a, having the recesses or grooves f f upon its under surface, and the stem b, wedge-shaped at its extremity and grooved along the line of bolt-holes, in combination with the angle-pieces having the obtuse heads, which enter the recesses f f of head a, and having shallow grooves j j along the line of bolt-holes, substantially as and for the purpose specified.

262,941. APPARATUS FOR HANGING AND UNHANGING ELECTRIC LAMPS. HENRY G. FISKE, Springfield, Mass. Filed Apr. 22, 1882. (No model.)



Claim.—1. In an apparatus for hanging electric lamps, a portable bar provided with hook fastenings or eyes adapted to be suspended upon and in combination with stationary pendent hooks above the lamp, suspended pulleys attached to said bar, and cords to run over said pulleys, and provided with rings or similar fastenings, whereby an electric lamp provided with suspending-hook attachments may be removed from or hung upon its fixed frame, substantially as described.

2. In an apparatus for hanging electric lamps, open hooks made on the lower end of the frame, in combination with loops provided with hook-projections on the lamp, adapted to receive and engage with fastenings secured upon cords running over pulleys suspended at a point above the lamp, substantially as described.

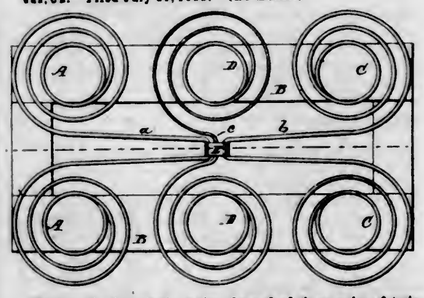
3. In an apparatus for hanging electric lamps, a portable bar provided at each end with horns for reeling a cord thereon, and having hook-fastenings to adapt it to be suspended upon and in combination with stationary pendent hooks above the lamp, suspended pulleys attached to said bar, and operating-cords to run over said pulleys, and provided with rings or fastening adapted to engage with hook-projections on the lamp, substantially as described.

4. In an apparatus for hanging electric lamps, the combination of a bar adapted to be suspended above the lamp, pendent pulleys secured to said bar, cords provided with rings or fastenings to hold the lamp, and a clamp to secure the cords together at any desired point distant from the pendent pulleys, substantially as described.

5. In an apparatus for hanging electric lamps, the combination of a bar provided with hook fastenings or eyes and adapted to be suspended above the lamp, and provided with pendent pulleys and a socket or hole, and a rod whose end is adapted to be inserted into the hole or socket in said bar, and a guide-hook on said pole, whereby said bar is raised to its position above the lamp and the cord-fastenings attached to and detached from the lamp, to remove the latter from or replace it in its suspended position, substantially as described.

6. In an apparatus for hanging electric lamps, two hooks pendent above the lamp, in combination with two eyes, each provided with a pulley-block and a pulley pivoted therein, a cord with a ring attached to each end, two pendent hooked rods, a lamp having loop or hook fastenings adapted to engage with said pendent hooked rods, and a hooked pole, whereby said lamp may be placed in its suspended position or removed therefrom, substantially as described.

262,942. SPRING BED-BOTTOM. SIMON FLEISCHMAN, Americus, Ga. Filed July 20, 1882. (No model.)



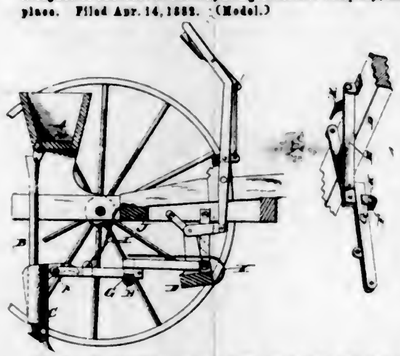
Claim.—1. A sextuple spring formed of three pairs of twin springs, connected together at a common center, substantially as and for the purpose set forth.

2. The twin springs A C D, having loops a b c, connected by

...ne of a clip, E, substantially as and for the purpose specified.

In a spring bed-bottom, a sextuple spring formed of three twin springs A C D, having loops *a b c*, uniting at a common center, and bound and held by a clip, ... as shown and described.

262,943. GRAIN-DRILL. JOSEPH P. FOLC..., Richmond, Ind., assignor of one-half to the Wayne Agricultural Company, same place. Filed Apr. 14, 1882. (Model.)



Claim.—1. The combination of the open-back drill-hoe, the hopper of a grain-drill, and the conducting-tube formed of inflexible telescopic sections, the upper one of which is connected to the hopper and the lower one to the open-back drill-hoe, substantially as described.

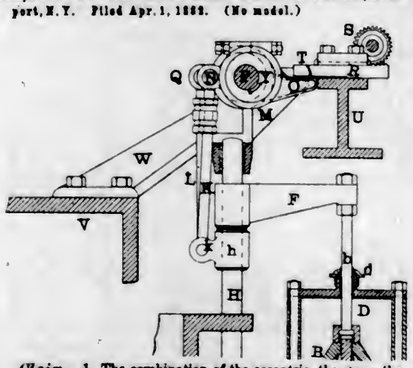
2. The combination, with the hopper of a grain-drill, of an open-back drill-hoe, the drag-bar to which said hoe is attached, and an inflexible telescopic conducting-tube, substantially as described.

3. The combination, in a grain-drill, of an oscillating drag-rail and an inflexible longitudinally-adjustable drag-bar, substantially as described, for the purpose specified.

4. The combination, with the drag-bar made in two parts, of the block fastened to the rear portion of the forward section of the bar and projecting down into a slot in the rear section, the friction-clamps, and the bolt whereby the clamps are adapted to clamp the rear section of the bar to the block by frictional contact, so as to secure the sections at any point of adjustment, substantially as described.

5. The combination, with the oscillating drag-rail, of the drag-bars connected thereto, the pressure-springs mounted on the drag-rail and projecting over the drag-bars, and means for oscillating the drag-rail, whereby the oscillating of the drag-rail will lower the drag-bars and apply through the springs the requisite pressure on the said drag-bars, substantially as described, for the purpose specified.

262,944. CUT-OFF-VALVE GEAR. HARVEY F. GASKILL, Lockport, N. Y. Filed Apr. 1, 1882. (No model.)

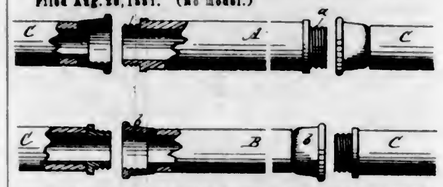


Claim.—1. The combination of the eccentric, the strap, the valve connected to the strap, the toe, and the stop to limit the effect of the eccentric on the valve, substantially as described.

2. The combination of the eccentric, the strap having the toe on one side and connected to the valve-rod on the other side, and the adjustable stop to regulate the effect of the eccentric on the valve, substantially as described.

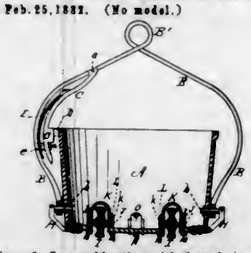
3. The combination of the eccentric, the strap having the toe on one side and connected to the valve-rod on the other, the adjustable stop, and the means for adjusting the stop to any desired position to regulate the effect of the eccentric on the valve, substantially as described.

262,945. HOSE-CONNECTION. EDWARD F. GILBERT, Lyons, N. Y., assignor of one-half to Albert G. Lucas, same place. Filed Aug. 26, 1881. (No model.)



Claim.—In a flexible hose, the main reel-length C, provided at its discharge end with two short coupling-sections, A B, screwed together and to the main length, one having male couplings at both ends and the other having female couplings at both ends, whereby connection may be made with either a male or a female coupling on another length of pipe or a hydrant or a fire-engine by screwing the outer section thereto or by removing the outer section and screwing the inner section thereto, as herein shown and described.

262,946. COAL-TUB. WINSLOW B. GLOVER, Boston, Mass. Filed Feb. 25, 1882. (No model.)



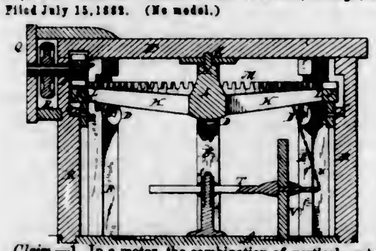
Claim.—1. In combination with the tub A, provided with the catch D, the latch C, spring E, guide *e*, and bail B, having its ends pivoted to the tub A below the center of gravity, arranged and constructed substantially as and for the purpose set forth.

2. In combination with the bail B and tub A, the guards H, having their lower ends secured to the tub and their upper ends projecting outside and beyond the lower ends of the bail, substantially as and for the purpose described.

3. In a coal-tub, the wheels I, two or more in number, secured, substantially as described, in the bottom of the tub and on a line with the bail-pins and bail, as and for the purpose specified.

4. In a coal-tub, the combination of two or more relatively large wheels, I, set in the bottom of the tub, substantially as set forth, and on a line with the bail-pins and bail, and one or more wheels, N, similarly set in the tub-bottom, but not on a line with the bail-pins and bail and not projecting so far below the bottom as the wheels I, all arranged and constructed substantially as and for the purpose set forth.

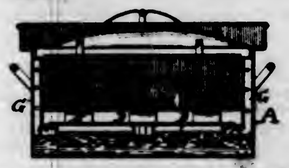
262,947. MOTOR. WILLIAM H. J. GOODWIN, Raleigh, N. C. Filed July 15, 1882. (No model.)



Claim.—1. In a motor, the combination of vertical posts B, each having a shoulder on its interior side, under which and slightly projecting above is journaled a roller, one post being provided with bracket Q and bearings N above its shoulder for shaft O, carrying pinion P, radial top beams, E, having end cross-stripe, F, and central bearing, G, wheel J, having hub I, provided with pin H, and circular rim L, having its top surface provided with cogs, connecting chain or rope U, extending from wheel J, and drive rod or arm T, substantially as set forth.

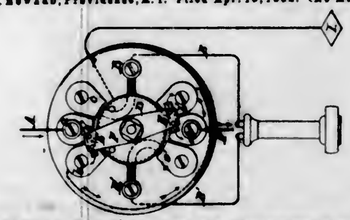
2. In a motor, the combination, with the series of vertical posts B, each having a shoulder on its interior side near the top, journaled under which, but projecting above, is a roller, and radial top beams, E, having central bearing, G, of the revolving wheel J, having hub I, provided with pin H, spokes K, and rim L, traveling on the rollers above the shoulders, so that should any of the former become disabled the wheel will be supported by the shoulders, substantially as set forth.

262,948. APPARATUS FOR REWHEATING TOBACCO. LIBERADT G. HANGSENBAMB, Philadelphia, Pa. Filed Apr. 27, 1882. (Model.)



Claim.—The combination of the kettle A with false bottom B, ledge C, box E, and tubes G, substantially for the purpose shown and described.

262,949. CUT-OUT FOR TELEGRAPH-INSTRUMENTS. CHAS. T. HOWARD, Providence, R. I. Filed Apr. 18, 1882. (No model.)



Claim.—1. In a shunting apparatus, the combination, with a central ground-plate, of two line terminal plates having their edges adjacent thereto, two plates arranged for connection with the opposite terminals of an electric instrument, two plates connected electrically together, a swiveling-bar of non-conducting material, carrying at its opposite ends metallic bridges arranged to connect the line-terminal plates with either the two plates which are electrically connected together or the two plates arranged for connection with the instrument, and means for connecting the swiveling bar with a handle located within a building, while the remainder of the apparatus is arranged outside the same, the whole constructed and operating as specified and for the purpose set forth.

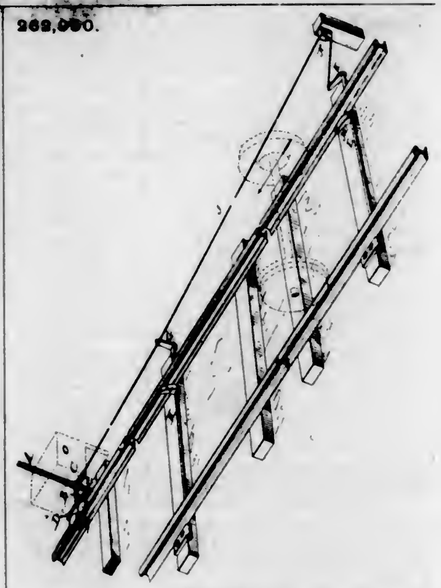
2. A shunt placed outside of a building, consisting of the plates *a*, *a'*, *b*, *b'*, *c*, and *c'*, connected as described, the knob H, the lever F, and bridges E E, and the grounded plate D, placed in close proximity to the plates *a a'*, the whole constructed to connect or disconnect the instrument and carry off abnormal powerful currents of electricity, as described.

262,950. APPARATUS FOR PLACING TORPEDOES UPON TRACKS. THOMSON H. HUBWS, Dayton, Ohio, assignor of one-half to John B. Bellman, same place. Filed Feb. 21, 1882. (No model.)

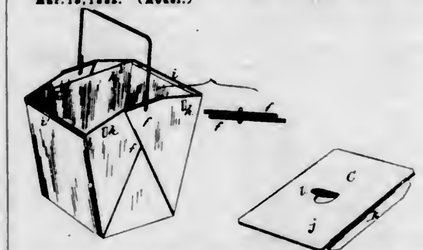
Brief.—To prevent collisions between trains traveling in opposite directions over the same line detonating signals are placed upon the line in advance of the train through tripping-levers and connections, and are similarly removed when not exploded.

Claim.—In combination with the movable torpedo-carrying arm B, trips I and M, connected with the torpedo-arm and with each other, as shown and described, whereby a moving train is caused to first depress the trip M and elevate the trip I, thus placing the torpedo upon the track, then to depress the trip I, elevate trip M, and swing the torpedoes from the track, substantially as set forth.

262,950.



262,951. PAPER VESSEL. THOMSON H. HUBWS, Dayton, Ohio, assignor of one-half to John B. Bellman, same place. Filed Mar. 10, 1882. (Model.)



Claim.—In combination with the vessel constructed substantially as shown and described, the detachable straw-board cover C, having the depending side wings, *k*, as and for the purpose set forth.

262,952. POWER PEGGING-MACHINE. GEORGE H. JACKSON, Natick, and CHARLES H. INMAN, Stoneham, Mass. Filed Jan. 9, 1882. (No model.)

Claim.—1. In a pegging-machine having a movable jack, the combination of an immovable bearer roughened to hold the shoe, a vertically-reciprocating bar carrying multiple awls and peg-drivers, and feeding mechanism for the pegs, substantially as set forth.

2. The combination of a reciprocating bar provided with awls, peg-drivers, and a knife, with feeding mechanism for the pegs, substantially as set forth, and a bearer which is roughened to hold the shoe in place.

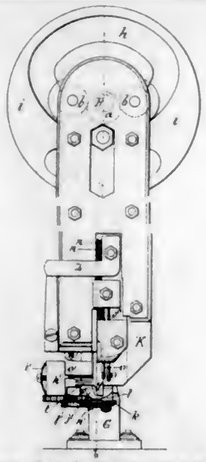
3. In combination with a bearer, roughened as described, a vertically-reciprocating bar provided with awls and drivers and arranged to force the shoe away from said bearer as said bar descends.

4. An oscillating plate or head, in combination with a bar which is guided thereby, a shaft which oscillates said plate and reciprocates said bar, awls and peg-drivers carried by said bar, and a holder below said bar, substantially as set forth.

5. The combination of an oscillating plate, a reciprocating bar, a driving-shaft, a knife carried by said bar, parallel guides for peg-wood, and feeding devices for the same, substantially as described, the guides or channels for the peg-wood being of variable depth.

6. Adjustable cap-plates for the delivery channels or guides for peg-wood, in combination with said channels, a reciprocating

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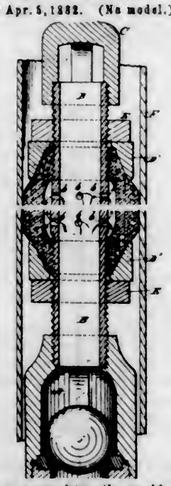


bar carrying a cutter, feed-wheels, and ratchet for advancing the peg-wood and the driving-shaft, substantially as set forth.

7. In combination with head-stock G and horizontal driving-shaft H, having cam *a*, the plate K, engaging with said cam and operated thereby, the grooved wheel *i* on said shaft, the spurred bar *f*, which engages with said grooved wheel and is reciprocated in guides on said plate, and the awl or awls and driver or drivers carried by said bar and operated thereby.

8. In combination with an oscillating supporting-plate and a bar reciprocating therein and carrying awls and peg-drivers, a driving-shaft which oscillates said plate and reciprocates said bar, and a knife carried by a bar, which is guided in said plate and reciprocated by said shaft, substantially as set forth.

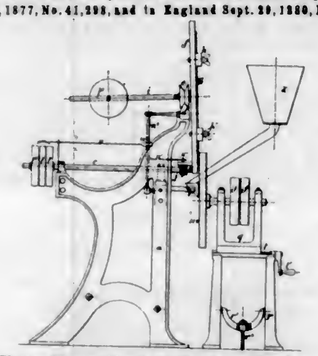
262,953. PUMP-PISTON PACKING. ALBERT H. JARECKI, Erie, Pa. Filed Apr. 5, 1882. (No model.)



Claim.—1. In a pump-piston, the combination, with the stem thereof roughened, as described, and having perforations *b b b*, of a long cylindrical packing material with tapered ends held tightly upon said stem at its ends by the same being clamped or compressed upon said stem by cup-shaped flanges D' D', driven upon said tapered ends by nuts E E, substantially as shown.

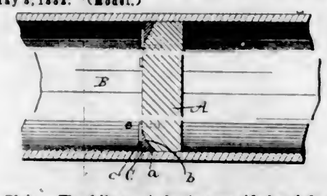
2. As a new article of manufacture, a packing for pump-pistons, consisting of a sleeve-like cylinder having its ends thinner than the central portion, and composed of layers of duck-cloth cemented together and made impervious by being interlaid or saturated with india-rubber gum, which is vulcanized after the said packing is formed, substantially as set forth.

262,954. MACHINERY FOR BEVELING GLASS. ALPHONSE KRIEGER, Paris, France. Filed May 5, 1882. (No model.) Patented in France Sept. 16, 1879, No. 114,585; in Belgium Jan. 17, 1877, No. 41,298, and in England Sept. 20, 1880, No. 3,947.



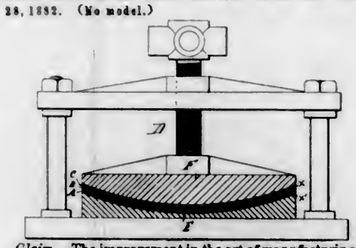
Claim.—The combination, with a supporting-frame and rail *d*, of the traveling frame *f*, rollers *e*, adjustable counter-weight *i p*, clamps *h*, rack *k*, pinion *j*, and self-acting reversing apparatus *k' n n' n² n³*, all arranged substantially as herein shown and described.

262,955. FOLLOWER FOR CHEESE-HOOPS. HERMAN H. KUENTZ and HENRY J. KUENTZ, Sheboygan Falls, Wis. Filed May 8, 1882. (Model.)



Claim.—The follower A, having one side beveled at its outer edge, as at *a*, combined with the beveled leather packing-ring C and the holding devices *c*, having right-angled head *c'*, substantially as and for the purpose set forth.

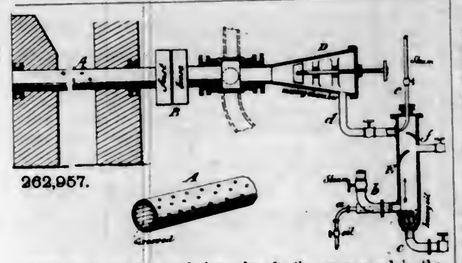
262,956. PROCESS OF MAKING TRUNK-COVERS. FREDERICK KUEHUCK and HENRY ARND, St. Louis, Mo. Filed Feb. 28, 1882. (No model.)



Claim.—The improvement in the art of manufacturing trunk-covers, consisting in providing veneers A B C each with the V-cuts *a b c*, placing said veneers on top of each other, so that the grain or fiber of the center veneer shall be transversely to the under and top veneer, joining said layers with adhesive material, and finally subjecting them while the glue is still warm to the action of a die and former each having as counterpart shape the greatest arc or swell in cross-section through the center and arcs of diminished height from said center to the extreme ends, by means whereof the said veneers are formed, shaped, and united to one another, as and for the purposes set forth.

262,957. HYDROCARBON-FURNACE. HARVEY T. LITCHFIELD, Hull, and DAVID RENSHAW, Cohasset, Mass. Filed Jan. 18, 1882. (No model.)

Claim.—1. The combination, in a hydrocarbon-furnace, of the grooved rotating pipe A, perforated, as described, the mixing-



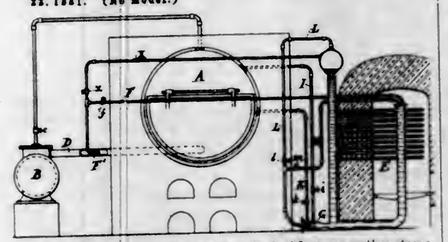
262,957.

chamber D, and its regulating-valve, for the purpose and in the manner set forth.

2. The combination, in a hydrocarbon-furnace, of the rotating pipe and the mixing-chamber E, said chamber being provided with a double set of induction and mixing pipes, whereby a complete mixture of the gases is produced before being introduced into the furnace, in the manner shown and described.

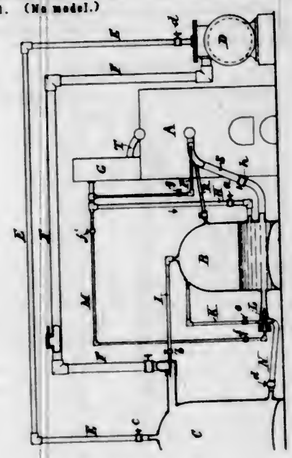
3. The combination, with a hydrocarbon-furnace, of the rotating pipe, grooved as described, the double stuffing-box, and the supply-nozzle, said nozzle having air, steam, and oil supply conduits and a regulating-valve, said nozzle also being adapted to perform the double function of trap and nozzle, in the manner shown and described.

262,958. UTILIZING EXHAUST-STEAM. HARVEY T. LITCHFIELD, Hull, and DAVID RENSHAW, Cohasset, Mass. Filed Sept. 23, 1881. (No model.)



Claim.—The process herein described of first generating steam in a high-pressure boiler, then forcing the exhaust into a low-pressure boiler by means of a mixed water and steam jet taken from a high-pressure boiler, then forcing the surplus water and steam from the low-pressure boiler into the high-pressure boiler by means of a mixed water and steam jet from the high-pressure boiler, in the manner described.

262,959. UTILIZING EXHAUST-STEAM. HARVEY T. LITCHFIELD, Hull, and DAVID RENSHAW, Cohasset, Mass. Filed Sept. 9, 1881. (No model.)



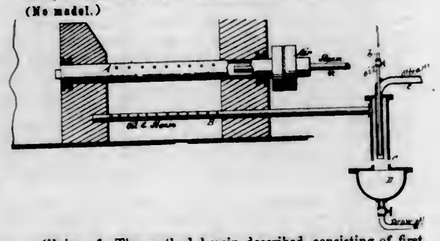
Claim.—1. The process herein described, consisting of first generating steam to an extraordinary high pressure, then conveying it to a lower-pressure vessel through a body of water in the latter, by means of which the water is raised to the temperature due to the steam, thence to still another receiver, under still lower pressure than either, from whence it is taken to the engine for work, the exhaust of which is forced back into the same vessel by a jet from the intermediate receiver, said jet also re-enforcing the pressure in the lowest-pressure receiver, as described.

2. The process of generating steam to a very high pressure, then transferring sufficient of it to vessels of varying pressures, and thence to the engine, the exhaust of which is forced into the vessel of the lowest pressure by means of a steam-jet from the intermediate vessel, the surplus steam of the said low-pressure vessel being first injected into a body of water in the intermediate vessel, and from it to the high-pressure boiler by means of jets from the high-pressure boiler.

3. In an apparatus for utilizing the exhaust of engines, the high-pressure boiler, the intermediate receiver or vessel, and the working-pressure receiver, with the pipe M and injector I, by which the high-pressure steam is forced through a body of water in receiver B, thus raising its temperature, and pipe I, for injecting the exhaust-steam into the low-pressure receiver and revivifying the steam therein, substantially as described.

4. The combination of the high-pressure boiler and its steam-pipe M and nozzle L and receiver B, whereby the latter is made to govern the quantity of steam to the low-pressure receiver C, and the high-pressure steam-pipe M, nozzle L, and pipe I' are made to force surplus water and steam from the low-pressure and intermediate vessel into the high-pressure boiler, in the manner set forth.

262,960. HYDROCARBON-FURNACE. HARVEY T. LITCHFIELD, Hull, and DAVID RENSHAW, Cohasset, Mass. Filed Dec. 23, 1881. (No model.)

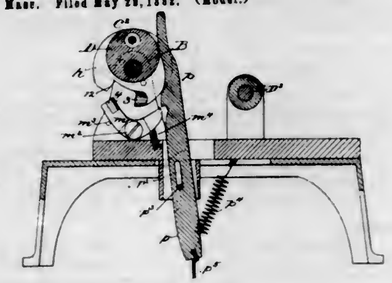


Claim.—1. The method herein described, consisting of first vaporizing oil in a suitable vessel by means of steam, separating the heavier oils from the volatile oils, then feeding the vapor thereof through perforated pipes, then mixing air and steam in a rotating perforated retort and injecting it into the furnace, causing the said vapor to thoroughly mix with the highly-heated steam and air for their more complete combustion, in the manner set forth and described.

2. The combination, in a hydrocarbon-furnace, of the vaporizing-chamber, the perforated pipe connected therewith, and the rotating air and steam pipes and their connections, operating together in the manner set forth and described.

3. The combination, in a furnace for burning gas or carbureted air, of the rotating pipes and the stationary pipes, said pipes being perforated and adapted for connection with supply-conduits, as shown and described.

262,961. BUTTON-HOLE CUTTER. JOHN W. LUPKIN, Chelsea, Mass. Filed May 29, 1882. (Model.)



Claim.—1. The lever, its cutter *c*, the cutting-bed, the shaft B, the notched disk fast thereon, the eccentric loose on the said shaft, the spring-held pin therein, and the pin-moving device to force the pin into the notch of the said disk, combined with a pin-holding plate to retain the pin in the notch of the said disk during a partial rotation of the said eccentric, substantially as described.

2. The rotating shaft B and notched disk connected with it, and the eccentric loose on the said shaft and provided with a pin, combined with a pin-holding plate to retain the pin in engagement with the notched plate, substantially as described.

3. The shaft B, its connected notched disk, the eccentric loose thereon, and pin carried by the eccentric, and the plate to hold the pin in engagement with the notched disk, combined with the lever or device having the incline *4* to start the pin upon the plate which keeps it engaged with the notched disk, substantially as described.

4. The shaft B, its attached notched plate, and pin-carrying eccentric loose on the shaft, combined with the lever or device having an incline, 4, to effect the engagement of the pin with the notched disk, substantially as described.

5. The lever *m*, combined with the pawl to engage and move it, and an eccentric to release the said pawl from the said lever, substantially as and for the purpose described.

6. The lever *m* and the eccentric, combined with the pawl *p*, having a long slot, and the fulcrum *p'* for the pawl, and with means, substantially as described, to move the said pawl longitudinally, as and for the purpose set forth.

262,962. COMPRESSIBLE PISTON. GEORGE W. LOTZ, Indianapolis, Ind. Filed June 5, 1882. (No model.)

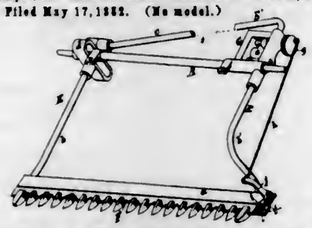


Claim.—1. A piston composed of a central elastic core surrounded by washers of compressible material connected with a piston-rod composed of an outer shell or case, through which an inner rod passes the entire length, passing also through the piston, and threaded to work in a nut attached to the inner end of the outer shell for compressing the piston, substantially as specified.

2. The combination, in a piston, of a central elastic core with outer compressible rings fitting around the core, and a piston-rod composed of an inner stem passing through the core and an outer shell, the two connected by a screw and nut for expanding the piston by compression at any point along the barrel, substantially as described.

3. The combination of an outer cylinder with a piston composed of the elastic core E, outer rings, *a a' a''*, and piston-rod C, with the outer case, B, and nut D, substantially as and for the purpose specified.

262,963. HARVESTER. SAMUEL D. MADDIN, St. Paul, Minn. Filed May 17, 1882. (No model.)



Claim.—1. The combination, in a harvesting-machine, of an axle supported by the wheels, and a cutter-bar frame, one side bar of which rocks in bearings on a frame swinging on the axle, while the other side bar is attached to a link or yoke through which the axle extends, substantially as set forth.

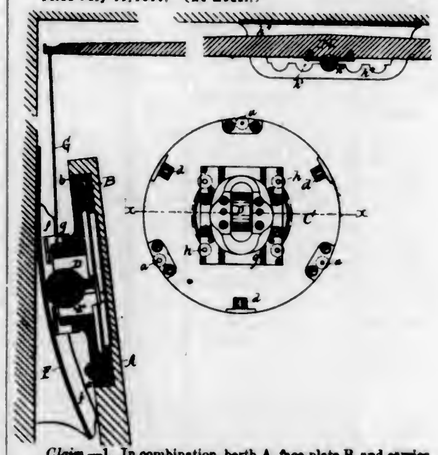
2. The combination, with the axle A, of a rigid frame, E, having side, front, and back bars and connections, whereby said frame may be swung on said axle or rocked in its bearings at one side while raised or lowered at the other upon the axle, substantially as set forth.

3. The combination of an axle, A, and frame E, rocking at one side in bearings supported by the axle, and provided at the other with a link through which the axle extends, a platform supported by the axle, and elevating appliances, as described, whereby the frame E may be raised, lowered, and tilted, substantially as specified.

4. The combination of the axle, frame E, the frame G, swinging on the axle and supporting the bearings of one side of the frame E, and the crank-shaft *e*, supported by said frame, pitman A, parallel to the wheel, crank-lever *j*, pivoted adjacent to the cutter-bar, and cutter-bar, substantially as set forth.

5. The combination of the axle, platform, frame G, frame E, provided with a link, *d*, and turning in bearings on the frame G, and shafts H and I, provided with levers *m m'*, substantially as set forth.

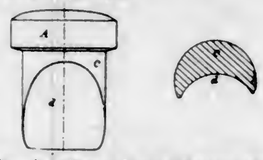
262,964. SELF-LEVELING BERTH. JOHN Y. MAINLAND, Boston, Mass., assignor to the Brunswick Berth Company. Filed July 19, 1880. (No model.)



Claim.—1. In combination, berth A, face-plate B, and carrier C, provided with radial and peripheral friction-rolls *a d*, the carrier being suspended, all substantially as described.

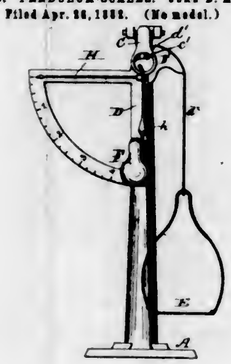
2. The carrier C, provided with wheel D and friction-rolls *h*, in combination with berth A and track F, having the side pieces, *f*, substantially as described.

262,965. VAULT-LIGHT. JACOB MARX, New York, N. Y. Filed June 10, 1882. (No model.)



Claim.—As an improved article of manufacture, a vault-light plug having its shank or stem provided with a concave diagonal surface, *d*, whereby provision is made for both refraction and reflection, substantially as herein described.

262,966. PENDULUM-SCALES. JOHN B. MARTIN, Cincinnati, Ohio. Filed Apr. 26, 1882. (No model.)



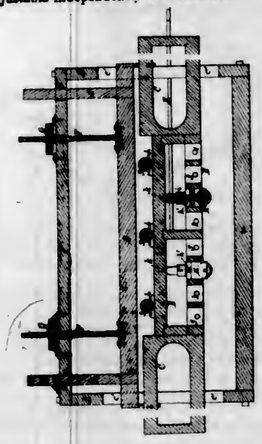
Claim.—1. In a weighing-scale, the weighted dial-plate D, having knife-edge pivots *d'* and segmental head D' formed integral with each other, substantially as shown and described.

2. In combination with a weighing-scale, the suspension-loop C, pivoted to the standard B, provided with pivot-pin *e* and weighted indicating-arm H, in combination with the weighted dial-plate D and its component parts and pan E, substantially as shown and described.

3. In a pendulum-scale, the standard B, slotted at its upper end and provided with the pivoted loop C, with lateral openings or bearings *c'*, and weighted indicating-arm H, pivoted to the same, in combination with the dial-plate D, having weight F, knife-edge pivots *d*, segmental cam-shaped head D', strap *d''*, and pan E, substantially as shown, for the purposes set forth.

262,967. MACHINE FOR DRESSING STONE. ALEXANDER MCDONALD, Cambridge, Mass., assignor to the McDonald Stone Cutting Machine Company, Nashua, N. H. Filed May 20, 1882. (No model.)

Brief.—A reciprocating cutter-carrier running in a vertically-adjustable frame is provided with cutters vertically and horizontally adjustable independently of each other.



Claim.—1. The cutter-carriage provided with the series of stalls, in combination with the cutter-carriers, the carriers in each stall being adjustable vertically and horizontally independently of those in the other stalls, as set forth.

2. The cutter-carriage provided with the cutter-carrier receiving-stalls and their cutter-carrier adjusting or clamping screws, as described, in combination with cutter-carriers arranged in such stalls and provided with screws and pivoted nuts, as specified, to operate in and with the carriage, as explained.

262,968. WASHING-MACHINE. WILLIAM H. MCGRAW, Peru, Ind. Filed Mar. 18, 1882. (No model.)

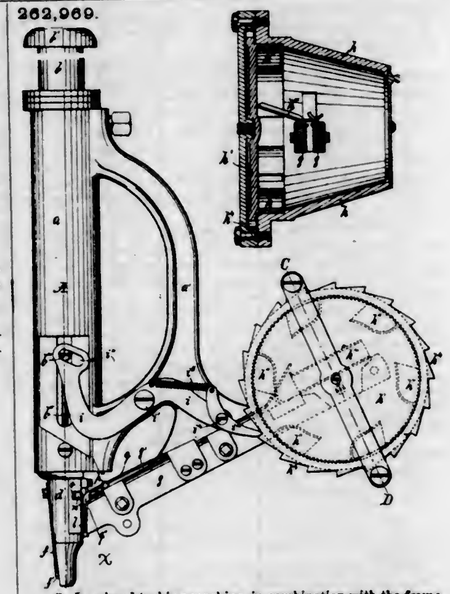


Claim.—The clothes-pounder consisting of the central tube, D, having vent-holes *e e* and ring, the outer rigid funnel, A, hood H, inner movable funnel, B, provided with vent-holes and guard *a*, and the spring *h*, located between said funnels, all constructed and operating substantially as set forth.

262,969. HAND TACKING-MACHINE. EDWARD MARRITT, Brockton, Mass. Filed Dec. 27, 1881. (No model.)

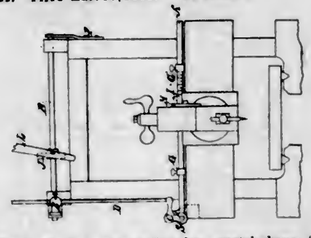
Claim.—1. In a hand tacking-machine, in combination with the frame *a*, its plunger *b*, spring *c*, and driver-bar *b''*, the throat *d d'*, spring-die *f f'*, spring-gage *e*, and the inclined wedge *s s'*, and inclined lever *h''*, for operating said spring gage, as set forth.

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2. In a head tacking-machine, in combination with the frame *a*, its plunger *b*, spring *c*, and driver-bar *b''*, throat *d d'*, and spring-die *f f'*, inclined bar *s s'*, and wedge-separator *l*, the raceways *g g*, spring-spreader *q q'*, and wedge *p' p'''*, for operating it, as set forth.

262,970. METAL-PLANER. WILLIAM T. HILNS, Worcester, Mass. Filed Mar. 20, 1882. (No model.)

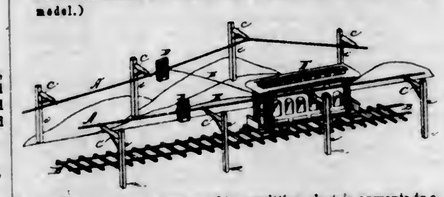


Claim.—1. In a stop-motion for a metal-planer, the sliding bar A, attached to the cross-head of a planer, having the adjustable dogs G, which are acted upon by the tool-carriage, for the purpose set forth.

2. The rock-shaft B, in combination with the sliding bar A, substantially as described.

3. The vertical log H, substantially as described, and for the purpose specified.

262,971. ELECTRICAL CONDUCTING TRAMWAY AND TRUCK. EDWIN R. MOORE, St. Peter, Minn. Filed Mar. 21, 1882. (No model.)



Claim.—1. As a means of transmitting electric currents to a moving railway-train or other vehicle, the suitably-supported insulated electrical conducting guides or tramways, the separate trucks arranged to travel upon said tramways independently of

each other, and the conducting-wires E E, in electrical connection with the tramways through contacts supported by the trucks, substantially as described.

2. The truck D, having wheels G G G G, mounted, substantially as shown, in a frame provided with the metallic contact-brushes *l*, one or more, arranged for contact with a guide or tramway upon which the wheels travel, and having means for connection with a conducting-wire, substantially as described.

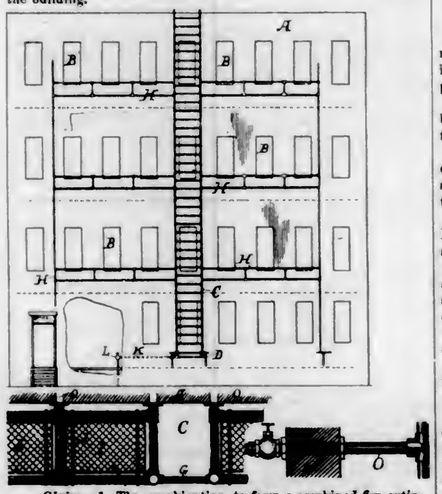
3. The truck composed of the top bar, H, bottom bar, H', slotted connecting-bar *h*, slotted arms *h'*, the back bar, *h*², the bent metal bar L, carrying the metallic brushes *l*, and the wheels G, mounted in spring-supported journal-boxes, substantially as described.

4. The combination, with the supporting-arm C and conducting guide or tramway A, of the strap V, bent around said tramway, the insulating shouldered thimbles *r'*, inserted in the passages through said arm, the bolts *s*, and suitable nuts for securing said bolts, substantially as described.

5. The combination, with two separate conducting guides or tramways, two separate and independent trucks traveling upon and in electrical connection with said conducting guides or tramways, and a railway-car traveling alongside said guides or tramways, of suitable spring-reels, mounted upon said car and adapted for electrical connection with a suitable electrical apparatus, and conducting-wires connecting said reels with said separate trucks upon the separate guides or tramways, respectively.

262,972. COMBINED FIRE-EXTINGUISHER AND FIRE-ESCAPE. ALBERT L. MURPHY, Philadelphia, Pa., assignor of one-half to Stephen P. M. Tasker, same place. Filed Nov. 5, 1881. (No model.)

Brief.—The ladder, balconies, and hand-rails are connected as to their hollow interiors, and have exit-pipes opening within the building.



Claim.—1. The combination, to form a combined fire-extinguisher and fire-escape, of a tubular or other hollow ladder connected as to its hollow interior with a source of water-supply, with one or a series of tubular or other hollow balconies connected as to their hollow interiors with the ladder, both ladder and balconies, or either, being connected with or formed into exit-pipes opening within the building to which the structure is applied, whereby water admitted within the hollow system of pipes forming such structure serves not only to keep the latter cool, but is adapted to be withdrawn from within the building at any desired point or points for the purpose of the extinguishment of fires, substantially as described.

2. In a fire-escape, the combination of side pipes, platform, steps, and hand-rails, all made hollow and connected as to their hollow interiors, substantially as and for the purposes set forth.

262,973. VEHICLE-SPRING. NILS NILSON, Maple Plain, Minn. Filed Mar. 20, 1882. (No model.)

Claim.—1. As a new article of manufacture, a spring for vehicles, consisting of the flat metal strip, coiled as explained, provided with a leaf or arm, and with a polygonal eye within the coil, as

262,973.



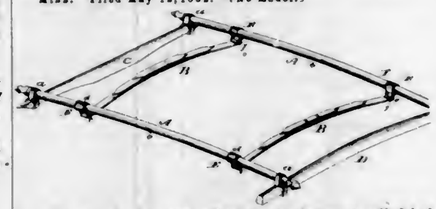
shown, whereby it is adapted to be used without other attachments in vehicles.

2. In combination with the spring, coiled as shown and described, the rubber strip *e*, applied as and for the purpose set forth.

3. The combination, with the rigid spring-bar C, having squared ends *f*, and the tubular washers *g*, of the spirally-coiled springs B, the innermost coil of each of which is squared to fit upon the squared end of the bar C, as set forth.

4. A spring for vehicles, having a central eye, about which the spring is coiled in spiral form, the outer coil being extended from the under side of the spring outward, whereby it is adapted to be attached directly to an axle or side bar, as explained.

262,974. SIDE-BAR VEHICLE. NILS NILSON, Maple Plain, Minn. Filed May 12, 1882. (No model.)



Claim.—1. As a new article of manufacture, a cylindrical metal side bar for vehicles, provided with a curve or bend, whereby it is adapted to clear the wheels of the vehicle to which it is applied.

2. As a new article of manufacture, a tubular metallic side bar for vehicles, formed with a curve or bend, *b*, at a point between the ends, as and for the purpose set forth.

3. In combination with cylindrical side bars, A, hangers E, each consisting of a sleeve, *d*, and arms *e*, applied to the bar, as shown, and a spring, B, jointed at its ends to the arms *e*, substantially as shown and described.

4. The combination of side bars, A A, springs B B, hangers E, bolster C, and axle D, all arranged and operating substantially as set forth.

5. In combination with a side bar provided with collars F, and made of cylindrical form between said collars, a hanger, E, substantially such as shown, applied to the side bar between the collars.

6. The side bar, A, provided with collars F, and with a cylindrical portion between said collars, as shown and described.

262,975. HARROW. FREDERICK NIENWITZ, Millington, N. J. Filed Feb. 3, 1882. (No model.)

Claim.—1. The combination, substantially as set forth, of the coupling-frame, the forward gang-bar or crusher and the rear gang-bar, both hinged thereto, connecting mechanism between the gang-bars and frame, and a lever for varying the relation of the gangs to the frame and to the soil.

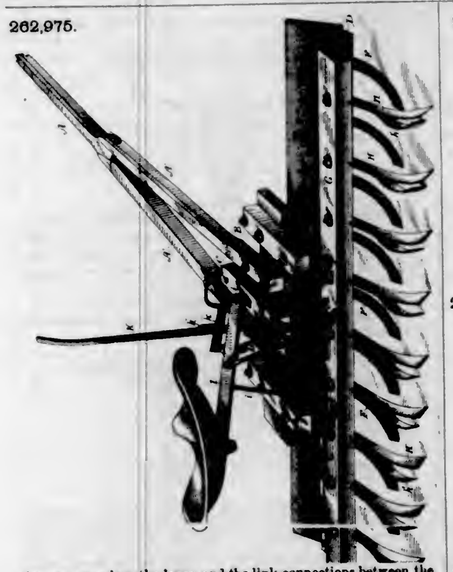
2. The combination of the frame, the forward gang-bar or crusher and the rear gang-bar, both hinged thereto, a lever, and a connection or connections between the gang-bars and lever, whereby the relation of the gangs to the frame and to the soil may be varied.

3. The combination of the coupling-frame, the forward gang-bar or crusher and the rear gang-bar, both hinged thereto, harrowing devices on the gang-bars, a pivoted brace or connection between the rear gang-bar and frame, and a lever on the frame connected by links with the pivoted brace and forward gang-bar or crusher for adjusting the gangs, substantially as set forth.

4. The combination, substantially as set forth, of the coupling-frame, the forward gang-bar or crusher and rear gang-bar, both hinged thereto, harrowing devices on the gang-bars, a brace or coupling pivoted on the rear gang-bar and on the frame, a lever on the frame, the link-connections between the lever and the coupling and forward gang-bar or crusher, and a detent for holding the lever and gangs in their adjusted positions.

5. The combination, substantially as set forth, of the frame, the forward gang-bar or crusher and the rear gang-bar, both hinged thereto, the seat-standard pivoted on the frame and supported upon

262,975.



the rear gang-bar, the lever, and the link-connections between the lever and the seat-standard and forward gang-bar or crusher.

6. The combination, substantially as set forth, of the frame, the forward gang-bar or crusher and the rear gang-bar, both hinged thereto, the coupling-brace between the rear gang-bar and frame, a lever on the frame, a connection between the lever and forward gang-bar or crusher, and a link-connection between the lever and coupling-brace, which can be adjusted on the brace to raise or lower the forward gang-bar or crusher relatively to the rear one.

7. The combination of a frame or tongue, the forward gang-bar or crusher, and the rear gang-bar, both hinged thereto, harrowing devices on the bars, and mechanism for adjusting the forward bar independently of the rear one to vary its relation to the soil, substantially as set forth.

8. The combination, substantially as set forth, of the tongue, the frame, the forward gang-bar or crusher and the rear gang-bar, both hinged to the frame, the connecting-brace between the rear gang-bar and frame, the lever for adjusting the gangs, the link-connections with the lever, and a detent.

9. The longitudinally open slotted curved trailing or dragging harrow-tooth herein described.

10. The longitudinally open slotted curved harrow-tooth, the upper side or wing of which is longer than the lower cutting portion, for the purpose set forth.

11. In a drag-harrow, the combination, substantially as set forth, of the front transverse gang-bar, harrow-teeth thereon, the rear transverse gang-bar, and harrow-teeth thereon, the rear bar being supported above the earth and on a higher plane than the front bar to afford a large area of discharge for the earth cut up by the first gang of teeth, as set forth.

12. The herein-described rolled-steel harrow-tooth, which is hollow-rolled to a cutting-edge, as set forth.

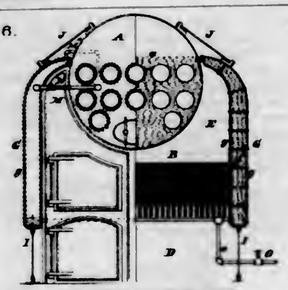
13. In a harrow in which the gang-bars are close to the surface of the ground and are supported by the harrow-teeth, the combination, substantially as set forth, of a frame or tongue, a gang-bar or crusher connected therewith, trailing or dragging harrow-teeth carried by this gang-bar, a rear gang-bar arranged above and to overlap the trailing teeth in the front gang, and teeth on the rear bar.

14. The combination of a frame, opposing series or gangs of harrow-teeth or earth-treating implements disposed on the opposite sides of the draft-line, an independent stationary draft-connection in the draft-line, and a laterally-shifting tongue, for the purpose set forth.

262,976. STEAM-BOILER. JOHN O'BRIEN, St. Louis, Mo. Filed Feb. 14, 1882. (No model.)

Claim.—The combination of the boiler A, hollow walls G G, pipes K, M, M', and Q, and blow-off O, substantially in the manner and for the purposes set forth.

262,976.



262,977. LOCK-CASE. MORRIS L. OZUN, Philadelphia, Pa. Filed Apr. 26, 1882. (No model.)



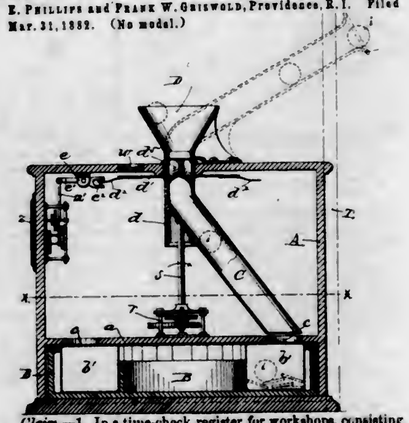
Claim.—The lock herein described, having a dovetail cap and top plate, and a front plate projecting laterally and below the cap and rounded at the bottom, whereby the lock is adapted for insertion in a mortise formed by a laterally-cutting bit, and when in place is sustained by the countersunk front plate, as set forth.

262,978. DOOR-CHECK. WILLIAM F. OSBORN, Burlington, Kans. Filed June 21, 1882. (No model.)



Claim.—In a combined door bolt and check, the combination of the plunger or bolt B, provided with the recess or groove C, ratchet D, pawl E, having V-shaped projection *a*, spring F, and eccentric or cam G, with the case A, provided with the stop *c*, and opening *b* in the front wall thereof, substantially as and for the purpose specified.

262,979. TIME-CHECK REGISTER FOR WORKSHOPS. FRANK E. PHILLIPS and FRANK W. GRISWOLD, Providence, R. I. Filed Mar. 31, 1882. (No model.)



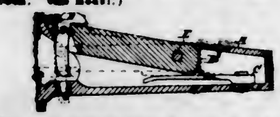
Claim.—1. In a time-check register for workshops, consisting of a rotating check-conductor and radially-arranged series of check boxes or receivers, the independent train *r*, in combination with an escapement and clock-train, Z, whereby intermittent motion is

imparted to the conductor, substantially as shown and described.

2. In a time-check register for workshops, the partition *e*, provided with apertures *e*, in combination with an intermittingly-rotating conductor, C, and a series of radially-arranged boxes, *b'*, substantially as shown and described.

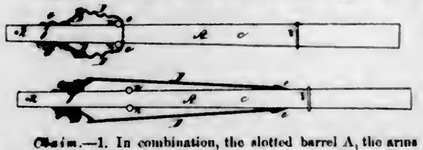
4. In a time-check register for workshops, the combination of the conductor C, actuated by the train *r*, the former provided with a notched disk, *d'*, said disk having pins *d''* with the escape-[illegible] of the lamp *d*, and check Z, [illegible] as shown and described.

262,980. CAR-COUPLER. JUDSON B. PUGH, [illegible], Ind., assignor of one-half to Charles O. Browning, same place. Filed Apr. 26, 1882. (No model.)



Claim.—The combination of the slotted draw-head A, having [illegible] C, the pin D, loosely pivoted in the recessed [illegible] B, and the pin-bar E, secured to the cross-bar F, by which [illegible], substantially as described.

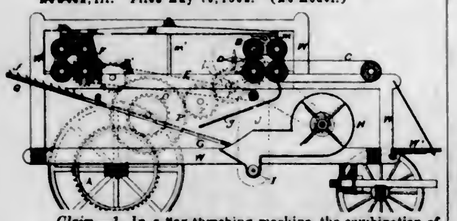
262,981. TOY SPRING-GUN. WILLIAM S. REED and HOMER N. PARKER, Leominster, Mass., assignors to the W. S. Reed Toy Company, same place. Filed May 5, 1882. (No model.)



Claim.—1. In combination, the slotted barrel A, the arms B B, pivoted to the outside thereof to enable them to be swung forward, and the elastic band or cord D, as and for the purpose described.

2. The flexible strip *c*, in combination with the elastic band or cord D, the slotted barrel A, and the arms B, pivoted thereto, as set forth.

262,982. FLAX-THRASHING MACHINE. LEONARD W. ROBARDS, Newton, Ill. Filed May 18, 1882. (No model.)



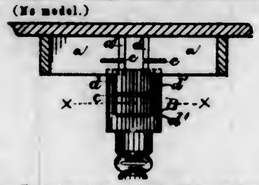
Claim.—1. In a flax-thrashing machine, the combination of primary and secondary crushing-rollers having elastic surfaces with the adjustable pressure-bars M, endless apron E, stripper and shaker D, and the driving mechanism, as shown and described.

2. The combination of two sets of rollers formed with yielding surfaces, pressure-bars M, stripper D, apron E, guide-board *g*, riddle G, provided with teeth *f*, conveyer I, fan H, elevator J, platform K, and the driving mechanism operating to separate the seed from the straw while moving, as shown and described.

3. In a flax-thrashing machine, the shaker and stripper D, formed of diamond-shaped plates of metal arranged and secured across each other, in combination with the elastic rollers and driving machinery, as shown and described.

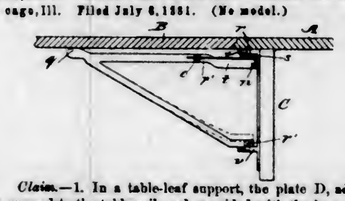
4. In a flax-thrashing machine, the combination and arrangement of the two sets of adjustable flexible rollers, perforated apron extending from one set of rollers to the other, the stripper and shaker D, guide-board fan H, and riddle G, provided with outwardly-inclined teeth *f* at its outer end, as shown and described.

262,983. TABLE. GEORGE ROBBINS, Decatur, Ill. Filed Apr. 1, 1882. (No model.)



Claim.—In a knockdown table, the combination, with the rails *a*, provided with slots *e* and dovetail tongue *a'*, and the leg B, formed with corresponding dovetail grooves, *d*, and the slot *d'*, of the strip C, adapted to be placed in slots *d' d'*, to secure the leg in position, as shown and described.

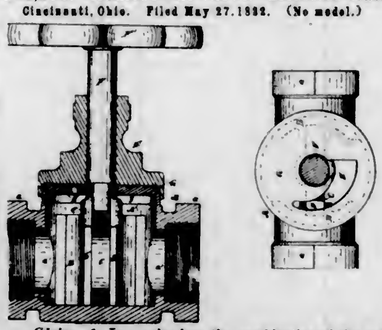
262,984. TABLE-LEAF SUPPORT. CONRAD H. BORCH, Chicago, Ill. Filed July 6, 1881. (No model.)



Claim.—1. In a table-leaf support, the plate D, adapted to be secured to the table-rail, and provided with the lugs *c*, having vertical holes through them, and with the stop *s*, in combination with the spring-arms *u* and *u'*, the upper arm, *u*, having on its side a notched projection, *o*, and being depressed toward its inner end, and there provided with a projection, *x*, terminating in a pintle, *r*, to enter the upper lug, *c*, and the lower arm, *u'*, having on its inner end a pintle, *r'*, to enter the lower lug, *c*, and the spring F, coiled around the projection *x*, and having one end lying against the plate D and the other in the notch of the projection *o*, substantially as described.

2. In a table-leaf support, the plate D, beveled, as described, on its upper end, and adapted to be secured to the table-rail, and provided with lugs *c*, having vertical holes through them, and with the stop *s*, in combination with the bracket E, formed with the spring-arms *u* and *u'*, having pintles *r* and *r'* to enter the lugs *c*, and also with the raised portion *q* at its outer end, and in combination, also, with the spring F, substantially as described, and for the purpose set forth.

262,985. STRAIGHT-WAY VALVE. ALEXANDER B. ROBERT, Cincinnati, Ohio. Filed May 27, 1882. (No model.)



Claim.—1. In a valve-box, the combination of the gates B and the cam-ring located between and holding apart said gates, and means for turning the said cam-ring axially and also in the plane of a circle whose axis is substantially at right angles to the axis of the ring, substantially as and for the purposes specified.

2. In a valve-box, the combination of the gates B and the cam-ring located between said gates, and means for turning the said cam-ring axially and also in the plane of a circle whose axis is substantially at right angles to the axis of the ring, substantially as and for the purposes specified.

3. The combination of the valve-box A, the gates B, and the cam-ring C, and means for turning said cam-ring and gates, substantially as and for the purposes specified.

4. The combination of the valve-box A, the gates B, and the

cam-ring C, and the means for turning said cam-ring in the plane of a circle whose axis is substantially at right angles to the axis of the ring, and the stem F, provided with yoke *e*, adapted to fit over and engage the cam-ring, substantially as and for the purposes specified.

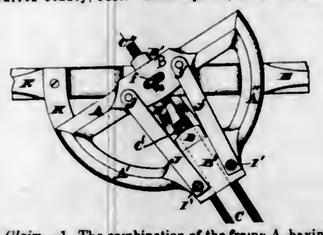
5. In a valve-box, A, the combination of the gates B, provided with the channels *b* and the cam-ring whose periphery fits into said channels, and means for turning the said cam-ring axially and also in the plane of a circle whose axis is substantially at right angles to the axis of the ring, substantially as and for the purposes specified.

6. In a valve-box, the combination of the gates and the cam-ring provided with orifice *d*, furnishing a water-way when the valve is open, the said cam-ring located between said gates, and means for operating said ring so as to open and close the valve and tighten the gates against the valve-chamber when the valve is closed, substantially as and for the purposes specified.

7. The valve-box A, having chamber A' and passages *a'*, and the cap E, in combination with the gates B, cam-ring C, provided with arm D, and the cam-plate G, provided with curved slot H, and means for turning said cam-ring and gates, substantially as and for the purposes specified.

8. The valve-box A, constructed substantially as described, and provided with a cap, E, through which passes the valve-stem F, in combination with the cam-ring C, provided with arm D, and the gates B, and the cam-plate G, having curved slot H, said plate being clamped between the cap E and the valve-box, the arm D of the cam-ring being located in said curved slot, substantially as and for the purposes specified.

262,986. CARRIAGE-COUPLING. FOSTER M. SANBORN, Warren County, Ohio. Filed Apr. 27, 1882. (Model.)

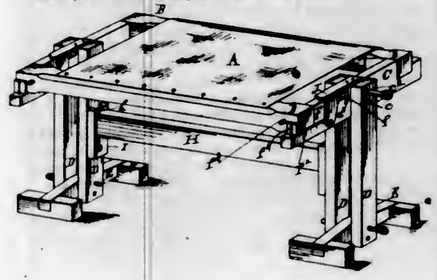


Claim.—1. The combination of the frame A, having the front enlargement, B, provided with the perch-bearing *b*, rear enlargement, B', having the larger perch-bearing, *b'*, the perch C, provided with the shoulder C², the portion C', and portion C'', having their ends threaded, and bearing nuts or washers D D', and means for holding said nuts in place, substantially as set forth.

2. The combination of the frame A, provided with a king-bolt opening and an opening to receive the end of the perch, a king-bolt having an eye on its upper end and dropped down into the king-bolt opening in and below the upper surface of the frame A, and the reach provided with a cylindrical end inserted in the perch-opening in the frame and through the eye of the king-bolt and secured by suitable means, substantially as set forth.

3. The combination of the axle E, semicircular plate K, frame A, having the downward extension B², provided with a semicircular seat or bearing, and the brace H, having one end secured in the king-bolt and its other end bent to bear on the under side of the plate K, and made fast to the extension B², substantially as set forth.

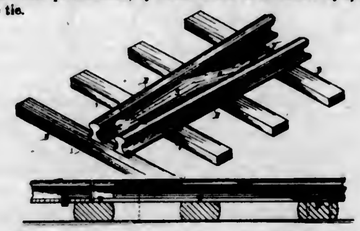
262,987. QUILTING-FRAME. JOHN W. SCARBOROUGH, Pilot Grove, Iowa. Filed May 18, 1882. (No model.)



Claim.—1. The within-described bub, consisting of the part C, formed with stud E, sockets *b*, and dividing-spars *c*, and provided with steel gudgeon H', in combination with the part D, formed with hollow stud G and provided with steel gudgeon H', substantially as and for the purpose specified.

262,988. RAILWAY-FROG PROTECTOR. PHILLIP P. SCHAU, Kalamazoo, and WILLIAM B. STROWER, Portage, Mich. Filed May 9, 1882. (No model.)

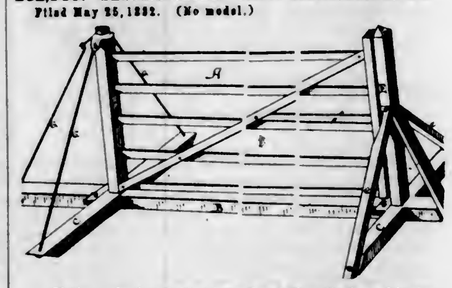
Brief.—The protector consists of a spring-plate formed with an upper straight portion having downward and outward extending flanges, whereby said portion is stiffened and allowed to rise flush with the upper face of the rails. The lower portion is provided with perforations, by which means it is secured by spikes to the tie.



Claim.—1. In a device for preventing the foot from being caught in a railway-frog or between two converging rails, a spring-plate having the upper straight portion, the side flanges, and the perforated end formed on an upward incline, substantially as specified and shown.

2. In a railway-frog foot-protector, a spring-plate provided with the upper straight portion having the downward and outward extending flanges, whereby said portion is stiffened and allowed to rise flush with the upper face of the rails, all substantially as set forth.

262,989. HANGING GATES. OLIVER SLAGLE, London, Ohio. Filed May 25, 1882. (No model.)



Claim.—1. A swinging gate the pintle-rail whereof is supported at its top pintle by adjustable guy-rod braces, whereby sag may be corrected and the set or hang of the gate may be adjusted at will without employment of a pintle-post.

2. A gate the end rail whereof is provided with pintles which project upward and downward, respectively, combined with a bottom stationary socket for the lower pintle and a movable socket supported by adjustable guy or brace rods for the upper pintle, as set forth.

3. A swing-gate the lower pintle whereof turns in a permanent socket, and the upper pintle whereof turns in a socket supported and made adjustable by guy-rods or braces, combined with a sill and a cross-bar for the attachment of said guy-rods or braces.

4. A swing-gate, A, having upper and lower pintles attached to its end rail, and projecting upward and downward, respectively, combined with a sill, B, cross-bars, keeper-post, and guy-rods or braces, substantially as set forth.

262,990. VEHICLE-WHEEL. CHARLES HAZEN SMITH, Knapp, Wis. Filed Mar. 1, 1882. (No model.)

262,990.

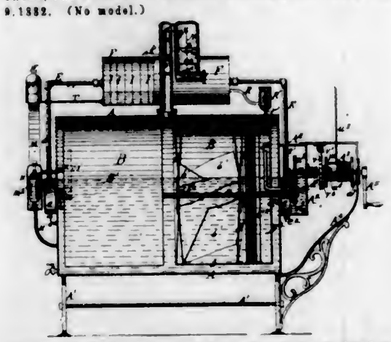


2. The hub consisting of the parts C and D, constructed substantially as described, and with means for drawing them toward each other, in combination with pairs of spokes K' K², stepped by their lower ends in opposite positions in said parts C and D and radiating outward from the hub and inclining inward as they approach the fellies, and each pair ending in a common mortise in each felly.

3. The combination of the hub, consisting of the parts C D, having the gudgeons H' H², studs E G, sockets *b*, and dividing-spurs *c*, and bolts *a a'*, with the spokes K' K², fellies B, and tire A, substantially as set forth.

4. In a wheel, the spokes arranged in opposite pairs, and with the outer ends of each pair in contact with each other, and adapted to fit into one common mortise in the felly or fellies, and with means for drawing their inner ends toward each other on a line parallel with the axle of the wheel, substantially as and for the purpose set forth.

262,991. CARBURETOR. ROLAND H. SMITH, JOSHUA GOLDTHORP, and WILLIAM J. FAWCETT, Pittsburg, Pa. Filed Jan. 9, 1882. (No model.)

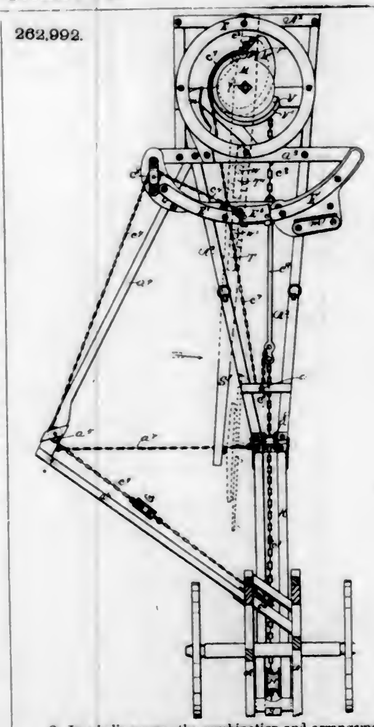


Claim.—1. The combination of chamber A, two inclosed rotary drums, B, having closed outer ends, D², spirally-divided chambers C in their adjacent ends, with inlets *c e* and outlets *c' e'* to such chambers, which are arranged in succession or alternate in the two drums, cloths C', stretched transversely across the passage through the drums between chambers C and ends D², pipes *c²* and E, and common reservoir F, substantially as set forth, whereby uniform pressure and supply of carbureted air is maintained in the reservoir.

2. The combination of chamber A, interior rotary drum, B, having spirally-divided chambers C in one end, with openings *c e'* for inlet and outlet to the chambers, as described, a disk, D², for seating the opposite end of the drum, one or more cloths, C', mounted transversely across the drum between chambers C and end D², outlet-pipe *c²*, adjacent to end D², and guard C², between the cloths and outlet-pipe, substantially as and for the purposes set forth.

3. A rotary drum, B, having one sealed end, D², and spirally-divided chambers C in the other end, with inlet-openings *e* in the outer end of such chambers at their forward angle and outlet-openings *e'* in the inner end of such chambers at their following angle, in combination with one or more cloths, C', stretched across the drum between chambers C and end D², outlet-pipe *c²*, surrounding chamber A, shaft *a*, and power mechanism outside of chamber A for rotating the drum, substantially as described, whereby air is taken from chamber A, forced under pressure through the cloths, and discharged outside chamber A.

262,992. BALING-PRESS. JULIUS A. SPENCER, Dwight, Ill. Filed Apr. 3, 1882. (No model.)



Claim.—1. In a procumbent toggle-joint baling-press, the lever *a*, in combination with the toggle-joint *c'* and *c²*, posts *a'* and S, and chain *c⁴*, for the purpose set forth.

2. In a baling-press, the combination and arrangement of the swinging roof I, arms *o*, and bale-chamber B², as and for the purpose set forth.

3. In a baling-press, the combination of the follower P, baling-chamber having the offsets F, swinging roof I, door D², lever I', pitman *c²*, lever *c'*, and frame A, as and for the purpose set forth.

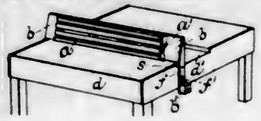
4. In a toggle-joint baling-press, the power mechanism constructed and arranged, as described, so that a continuous motion in one direction of the sweep S' will cause the chains *c² c' c⁴* and link *c²* to operate alternately the follower P, as set forth, by means of the spring-bolts T and T', having the lugs W and W', drive-wheel M, having the lug F, cam M, carriage E², and switches *m* and *m'*.

5. In a baling-press, the combination of the link *c²* in the chain *c²*, chain *c'*, and friction-pin *a²* with the cam M' and drive-wheel M, for the purpose set forth.

6. In a toggle baling-press, the combination and arrangement of the sweep S', drive-wheel M, having the lug F and wood tire *v*, cam M', having the adjustable link and nut S², spring-bolts T and T', having the lugs W and W', circular track E, casters *r*, segment-track E', carriage E², switches *m* and *m'*, chains *c² c' c'*, link *c²*, friction-bolt *a²*, braces *a⁴* and *a⁵*, chain *a'*, and frames A⁴ and trough K, as and for the purpose set forth.

7. In a toggle-joint baling-press, the power mechanism described, containing the sweep S', spring-bolts T and T', having the lugs W and W', drive-wheel M, having the lug F', cam M', carriage E², and switches *m* and *m'*, whereby the chains *c² c'* and link *c²* and chain *c⁴* are caused to move forward and backward alternately for the purpose set forth.

262,993. DEVICE FOR DISCHARGING BRICKS FROM THE MOLD. DAVID W. STEWART and LEANDER DOWNING, Muncie, Ind. Filed June 5, 1882. (No model.)



Claim.—1. A table on which bricks are discharged from the mold, having a swinging lid pivoted at each end of the said table, which is provided with an offset, the said table having adjustable weights attached to the arms *f*, all for the purpose set forth.

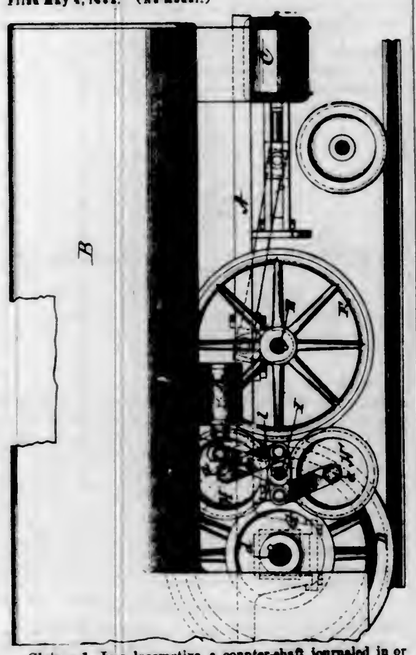
2. The combination of the table *d d'* and the lid *b f* with the rack *a*, for the purpose set forth.

3. The combination of the rack *a a'* with a table having a hinged lid, as and for the purpose set forth.

262,994. MATERIAL FOR FILLING PILLOWS, MATTRESSES, &c. RICKASON STILWELL, New York, N. Y., assignor, by mesne assignments, to Emeline C. Stilwell, same place. Filed Jan. 28, 1882. (No specimens.)

Claim.—As a new article of manufacture, the material for filling pillows, mattresses, beds, and the like, composed of cotton and cat-tail mingled together in such manner that the properties of the one for the purposes required are modified by the properties of the other, substantially as herein set forth.

262,995. LOCOMOTIVE. JOSEPH M. STORY, Spring City, Tenn. Filed May 4, 1882. (No model.)



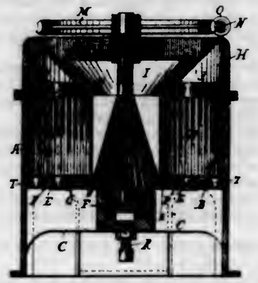
Claim.—1. In a locomotive, a counter-shaft journaled in or upon the frame beneath the boiler, and constituting the main shaft of the driving-engines, provided with friction-pulleys adapted to engage by means of interposed idlers with friction-pulleys upon the driving-axle, substantially as set forth.

2. In a friction-gear-driving mechanism for locomotives, a counter-shaft carrying friction-pulleys, corresponding friction-pulleys upon the driving-axle, and interposed double idler friction-pulleys adjustable toward and from each other to vary the pressure upon the main friction-pulleys, substantially as set forth.

3. In combination with the main pulleys F G, the interposed adjustable mechanism consisting of idler-pulleys H H', arranged to play in contact with the main pulleys above and below the plane of their centers, and hung in links or yokes *l* from toggle-cranks J, upon a shaft, and adapted by the rotation of the shaft to be drawn toward each other or forced apart to vary the pressure upon the pulleys F G, substantially as set forth.

4. In combination with the adjustable system of idler friction-pulleys, hung in links upon toggle-cranks mounted on a governing-shaft, the auxiliary cylinder K, piston *p*, and crank *m*, as a means of operating the shaft and regulating the movements of the idler-pulleys, substantially as set forth.

262,996. STONE AND ORE CRUSHER. STEPHEN P. N. TASKER, Philadelphia, Pa. Filed May 24, 1882. (No model.)



Claim.—1. A grinding-mill provided with a vertically-revolving grinding-cone, and with a series of revolvable grinding-cylinders circumferentially disposed with respect to said cone.

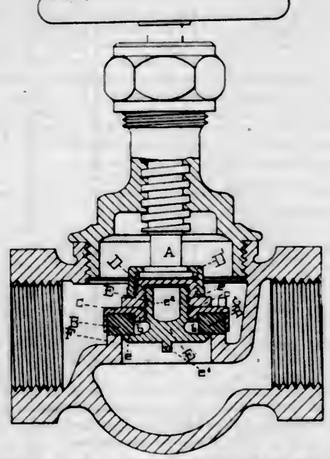
2. In a stone and ore crushing machine, the combination of a revolving crushing-cone, a casing or housing provided with a hopper or kindred feed device adapted to discharge around the cone, and a series of vertically-erected crushing-cylinders arranged around the crushing-cone and exterior to the line of feed and discharge of material to be ground.

3. In a stone or ore crushing machine, in combination, a housing, a vertically-operating crushing-cone, a circular series of crushing-cylinders surrounding said cone, and means for imparting rotation to said crushing-cone.

4. In a grinding-mill, the combination of a vertically-erected crushing-cone, a series of crushing-cylinders disposed in circumferential relation about the cone, a housing, and a series of anti-friction balls disposed in suitable relation in the housing about the shafts of the cone and cylinders, as and for the purpose set forth.

5. In a stone-crushing machine in which a series of crushing-cylinders surround a crushing-cone, a diaphragm provided with a circular opening within which the cone is placed and exterior to which opening the cylinders are located, and means for vertically adjusting the position of the cone, so as to regulate the breadth of the annular passage-way formed between the cone and the opening in the diaphragm.

262,997. VALVE. EDWIN R. TOMLINSON, West Stratford, Conn. Filed Apr. 17, 1882. (No model.)



Claim.—1. In a valve, the combination of the disk-holder, the packing, and the screw-stud arranged to screw into the disk-holder and fasten the packing to the holder, all substantially as and for the purposes described.

2. The combination of the disk-holder, the packing, the screw-stud arranged to screw through the disk-holder as described, the

valve-spindle, and the coupling-nut, all substantially as and for the purposes set forth.

3. A disk-holder having its back and outer packing or retaining-wall integral or of one piece, and a detachable central portion or stud adapted to screw into the back portion of the disk-holder, all substantially as and for the purposes described.

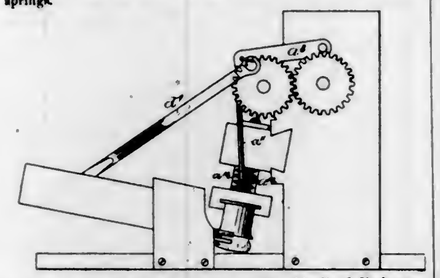
4. The combination of the disk-holder, the screw-stud, and the spindle, the disk-holder being arranged to swivel on the spindle and the screw-stud being protected from the action of the spindle after the valve has seated, all as described.

5. The combination of the disk-holder, the screw-stud, and the spindle, and means for fastening the holder to the spindle, whereby the screw-stud is protected from the action thereof, all substantially as and for the purposes described.

6. The combination of the disk-holder, screw-stud, cap-nut, coupling-nut, and valve-spindle, as and for the purposes described.

262,998. CAKE-MACHINE. JOHN T. TROTT, Waterbury, Conn. Filed Feb. 9, 1882. (Model.)

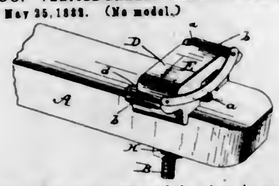
Brief.—Discharge-openings are placed at an inclination to the dough-box and to the horizontal bed or carrier on which the cakes fall. A knife reciprocates on a plane parallel with the mouth of the discharge-openings. By this means the part of the cake first cut off has farthest to fall, and all parts of the cake reach the horizontal bed or carrier at substantially the same instant. The mouths of the discharge-openings are alternately increased or diminished by sleeves made to rise over pistons by means of cams on revolving shaft and forced back by spiral springs.



Claim.—1. In a cake-machine, a series of inclined discharge-openings through which dough is adapted to be forced, in combination with a reciprocating knife or cutter adapted to be reciprocated below said discharge-openings on an inclined plane parallel with that of said openings and somewhat inclined to a horizontal plane, substantially as and for the purposes described.

2. The combination, in a cake-machine, of inclined discharge-openings and mechanism, substantially as specified, whereby the openings are alternately increased and diminished in size to permit of the discharge of dough and check its flow without severing it, with a knife or a cutter adapted to be reciprocated on a plane parallel with the plane of the bottom of the discharge-openings, whereby dough is fed and checked and severed while checked, substantially as and for the purposes described.

262,999. VEHICLE-BRAKE. SAML. J. VANCE, Waverly, Ill. Filed May 25, 1882. (No model.)

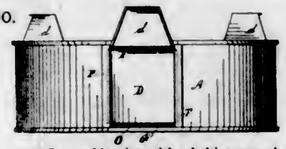


Claim.—The combination of the piece A, provided with a slot, *a*, the draw-bolt B, having arms *b*, and the shoe D, provided with depressions *d d*, as and for the purpose described.

263,000. BAKING-PAN. WILLIAM A. VAN DUSEN, Clifton Springs, N. Y. Filed June 13, 1882. (No model.)

Brief.—The door D is curved to form a stop, which, striking against the upper rim of the pan, prevents the door from being withdrawn entirely. The side of the pan has a slot, O, near the bottom to permit the introduction of a knife to loosen the cake from the bottom of the pan.

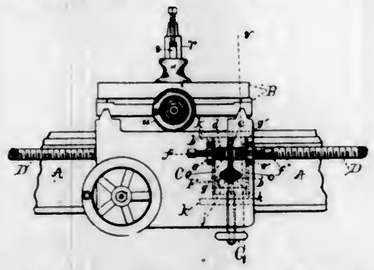
263,000.



Claim.—1. In combination with a baking-pan, A, one or more narrow laterally-elongated openings, O, through the sides of the pan and parallel to and near the pan-bottom, said opening or openings being provided with movable coverings D, conveniently adjusted to prevent the escape of the contents of the pan, all substantially as set forth.

2. In combination with a baking-pan, A, one or more narrow laterally-elongated openings, O, through the sides of the pan and parallel to and near the pan-bottom, the said opening or openings having vertically-sliding doors D D, held in place by flanges F F, formed from the sides of the pan A, the said doors D D making at their bottoms a close joint with the lower rim, G', of the pan, and extending above the sides of the pan to form suitable handles or rests, *d d*, for the pan A, all constructed in the manner and for the purposes substantially as set forth.

263,001. MACHINE FOR CUTTING SCREW-THREADS. JOHN H. VIRTUE, Bridgeport, Conn., assignor to FRANK ARMSTRONG, same place. Filed July 5, 1881. (No model.)

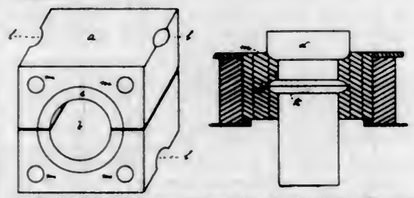


Claim.—1. In a machine or lathe for cutting threads, the combination, with the carriage holding the cutting-tool, of the box F, having lugs *e*, partible nuts *b b*, the screw G, for operating the nuts *b b*, and the adjusting-screws *f f'*, arranged to operate against the lug *e* of the apron C to move the carriage back and forth independently of the leading-screw, as set forth.

2. The combination, with the nuts *b b*, of the box F, as described.

3. The combination, with the box F, having projecting lug *e*, the nuts *b b*, tightening-screw G, and leading-screw D, of the apron C, having elongated slot *d*, to permit a free movement of the carriage, and the lugs *e e'*, having screws *f f'*, which engage with the box F, as described.

263,002. PIPE-SUPPORT FOR FLUES, CHIMNEYS, &c. NATHAN U. WALKER, Walker's, Ohio. Filed Mar. 17, 1882. (No model.)



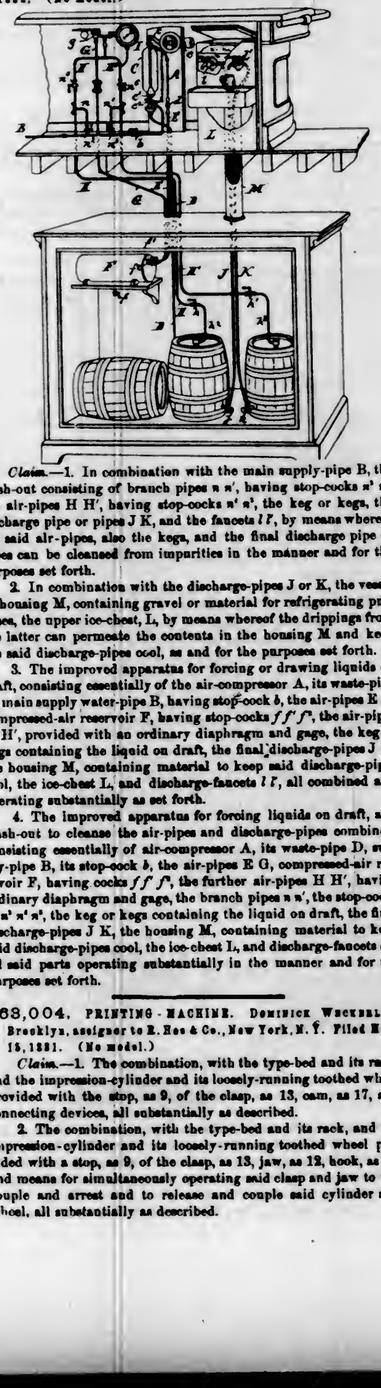
Claim.—1. A flue-support consisting of a block of refractory material having a central flue-opening and an annular beveled seat for the reception of a swell or collar on the flue-pipe, substantially as and for the purpose specified.

2. The terra-cotta or other flue-support composed of two sections, and provided with a central hole or opening, in the sides of which is an annular groove for the reception of the ring or collar of the pipe or flue, substantially as and for the purposes described.

3. A flue-support composed of longitudinal sections having a central opening for the passage of the flue-pipe and longitudinal air-passages, substantially as and for the purpose specified.

4. A flue-support composed of longitudinal sections having a central flue-opening for the passage of the flue-pipe and notches for the wire or band, whereby the sections are secured together, substantially as and for the purpose specified.

263,003. APPARATUS FOR FORCING BEER, &c. OTTO WEBER and FREDERICK ABEL, St. Louis, Mo. Filed June 8, 1882. (No model.)



Claim.—1. In combination with the main supply-pipe B, the wash-out consisting of branch pipes n n', having stop-cocks n² n², the air-pipes H H', having stop-cocks n' n', the keg or kegs, the discharge pipe or pipes J K, and the faucets *l l'*, by means whereof the said air-pipes, also the kegs, and the final discharge pipe or pipes can be cleansed from impurities in the manner and for the purposes set forth.

2. In combination with the discharge-pipes J or K, the vessel or housing M, containing gravel or material for refrigerating purposes, the upper ice-chest, L, by means whereof the drippings from the latter can permeate the contents in the housing M and keep the said discharge-pipes cool, as and for the purposes set forth.

3. The improved apparatus for forcing or drawing liquids on draft, consisting essentially of the air-compressor A, its waste-pipe D, main supply water-pipe B, having stop-cock *b*, the air-pipes E G, compressed-air reservoir F, having stop-cocks *f f' f²*, the air-pipes H H', provided with an ordinary diaphragm and gage, the keg or kegs containing the liquid on draft, the final discharge-pipes J K, the housing M, containing material to keep said discharge-pipes cool, the ice-chest L, and discharge-faucets *l l'*, all combined and operating substantially as set forth.

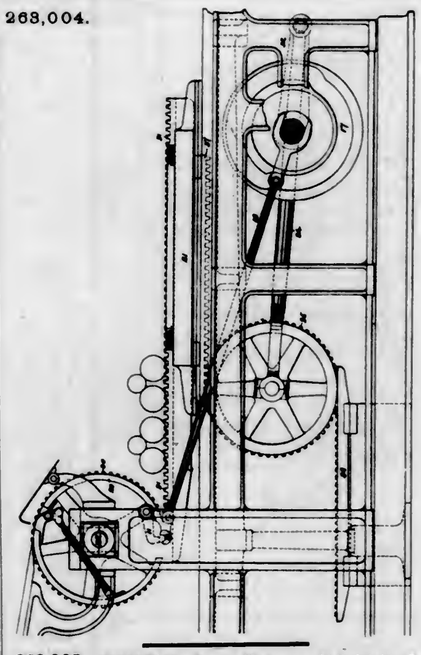
4. The improved apparatus for forcing liquids on draft, and wash-out to cleanse the air-pipes and discharge-pipes combined, consisting essentially of air-compressor A, its waste-pipe D, supply-pipe B, its stop-cock *b*, the air-pipes E G, compressed-air reservoir F, having cocks *f f' f²*, the further air-pipes H H', having ordinary diaphragm and gage, the branch pipes n n', the stop-cocks n² n² n' n², the keg or kegs containing the liquid on draft, the final discharge-pipes J K, the housing M, containing material to keep said discharge-pipes cool, the ice-chest L, and discharge-faucets *l l'*, all said parts operating substantially in the manner and for the purposes set forth.

263,004. PRINTING-MACHINE. DOMINICK WECKERLIN, Brooklyn, assignor to R. Hoe & Co., New York, N. Y. Filed Mar. 15, 1881. (No model.)

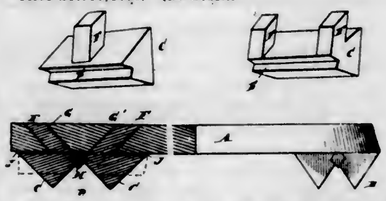
Claim.—1. The combination, with the type-bed and its rack, and the impression-cylinder and its loosely-running toothed wheel provided with the stop, as 9, of the clasp, as 13, cam, as 17, and connecting devices, all substantially as described.

2. The combination, with the type-bed and its rack, and the impression-cylinder and its loosely-running toothed wheel provided with a stop, as 9, of the clasp, as 13, jaw, as 12, hook, as 11, and means for simultaneously operating said clasp and jaw to uncouple and arrest and to release and couple said cylinder and wheel, all substantially as described.

263,004.



263,005. HORSESHOE. FRANK WECKERLY, Philadelphia, Pa. Filed Mar. 13, 1882. (No model.)



Claim.—1. A horseshoe having oblique holes, and provided with detachable double calks having oblique projections, said calks being retained in place by a key driven between them, substantially as and for the purpose specified.

2. A horseshoe-body, in combination with calks which are made in pairs, and a key which, when driven between said calks, secures them firmly to the shoe-body and prevents them falling out, substantially as and for the purpose specified.

3. A horseshoe-body provided with oblique holes, slots, or grooves arranged in pairs, in combination with detachable calk-pieces made in pairs and provided with corresponding projections which fit into the body, said projections on a pair of calks pointing in opposite directions, and a key to force them apart and secure them firmly to the body, as set forth.

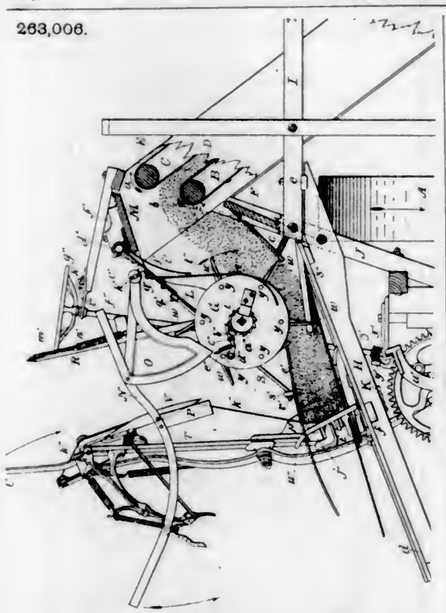
4. A horseshoe-body provided with oblique holes, slots, or grooves arranged in pairs, in combination with detachable calks made in pairs and provided with corresponding projections which fit into the body, said projections on a pair of calks pointing in opposite directions, a key to force them apart to secure them firmly to the body, and a packing arranged between said calks and shoe-body, substantially as and for the purpose specified.

5. The calk C, provided with oblique projections F, all pointing in the same direction, and keyway E, substantially as shown and described.

263,006. COMBINED HARVESTER AND SELF-BINDER. CYRENUS WHEELER, Jr., Auburn, N. Y. Filed Mar. 11, 1882. (No model.)

Claim.—1. In combination with the elevating devices of a harvester, arranged to deliver the cut grain above and over the

263,006.



driving-wheel, an inclined binder-table receiving the grain therefrom, and a swinging and vibrating binder-arm hinged to an inclined rock-shaft whose axis is at right angles to the inclined surface of said table, whereby the gravity of said arm and of the grain is made to assist in the operation of binding the bundle, substantially as described.

2. The combination, with mechanism for elevating the grain over the driving-wheel, of the inclined binder-table, the swinging and vibrating binder-arm pivoted to a rock-shaft perpendicular to said table, an intermittent packing mechanism working above said table between the elevating and binding mechanisms, and outwardly-projecting rods supported above said table, all arranged and operating substantially as described.

3. The combination of the inclined binder-table, a swinging and vibrating binder-arm hinged to a shaft perpendicular to said table, an adjustable packing mechanism working above said table, the outwardly-projecting rods arranged above said table, and adjustable with the table and said packing mechanism, and a compressing-finger hinged to and carried by the knotter-carrying arm and working below said table, substantially as described.

4. In combination with the grain-elevating devices of a harvester, and an adjustable binding-table receiving the grain therefrom, a packing mechanism working above said table and adjustable therewith, and a hinged and yielding breast-board for holding the grain up to the action of said packing mechanism, substantially as described.

5. The combination of the double elevating-aprons, the inclined binder-table, the packing mechanism arranged to work above said table and to move the grain outward thereon, and the binding mechanism, with its horizontally-swinging vertically-oscillating binder-arm working on the outer side of said packer, and adapted to carry the cord from the outer side of said table over the gavel, and to bring the strands of the cord together below the table, said parts being arranged and operating substantially as described.

6. The lever N, in combination with the packer-wheels G and the extension-piece U on the binder-arm, substantially as and for the purpose described.

7. The grooved packer-wheels G, provided with the pivoted teeth *e*, in combination with the semi-cylindrical shell-piece *q*, provided with the pendent curved arms *u*, arranged and operating substantially as described.

8. The packing device provided with the semi-cylindrical shell-piece *q*, connected by an arm, L, and sleeve or thimble with the longitudinal rod *d'*, permitting its adjustment, substantially as described.

9. The combination, with the shaft *i*, of the sleeve *l*, packer-wheels G, ratchet-wheel *a''*, and pawl *b''*, arranged and operating substantially as described.

10. The combination of the packer-wheels G, the ratchet-wheel *a''*, the spring-pawl *b''*, and the lever N, provided with the arm P, arranged and operating substantially as described.

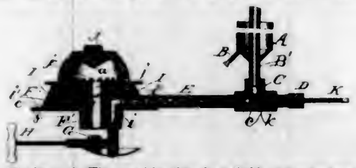
11. The combination, with the packer-wheels G, of the ratchet-wheel *a''*, the spring-pawl *b''*, the lever N, having the arm P, and the needle-arm T, provided with the extension-piece U, arranged and operating substantially as described.

12. The packer-wheel shaft connected through suitable mechanism with and receiving a continuous rotary motion from the endless chain actuating the elevating mechanism, in combination with the packer-wheel provided with pivoted packing-teeth and mounted loosely on said shaft, and mechanism adapting said wheel to receive an intermittent rotary motion therefrom, substantially as described.

13. The tension device consisting of a round rod having one of its ends bent to form an open hook, its opposite end being flattened and bent at a right angle to the body of the rod, and provided with a perforation for the passage of the cord and a socket for attaching it to its support, substantially as described.

14. The tension device W, provided with the socket-piece *u''*, in combination with a pivotal support attached to the pivotal socket-piece *p''*, connecting the binder-arm with its vibrating shaft or pivot, substantially as described.

263,007. FLUID OR VAPOR STOVE. T. TRASK WOODWARD, Decatur, Ill., assignor to Wm. L. Furgerson and Arthur E. Kinney, both of same place. Filed Oct. 13, 1881. (Model.)



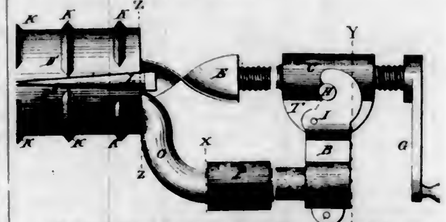
Claim.—1. The combination, in a fluid or vapor stove, of a stand-pipe, B', surrounded near its lower end by a water or cooling tank, A, the T-pipe C, plug D, and compression or gage screw K, provided with disk *k*, for the purpose of compressing the filtering material *c*, thereby regulating the flow of fluid from the reservoir, as specified.

2. In combination with the generator F and conical sleeve I of the cap J, the upper part of which is provided with an inverted cone, *a*, for spreading the flame, the flange *j*, adapted to rest upon the sleeve I and support the cap J above the generator, substantially as shown and for the purpose described.

3. The cap J, having a lower extension adapted to pass down into the top of the sleeve I, and provided with notches *j'*, and an exterior rim or flange, *j*, having channels on its under side corresponding with said notches to allow the flame to pass out of the chamber *i*, as specified.

4. In a fluid or vapor stove, the cap J, having a continuous circle of perforations, *j''*, above the flange *j*, in combination with the sleeve I, having notches *e* on its lower edge, and the solid cone-shaped generator F, all arranged in connection with the conducting-tube E and screw jet-valve G, as and for the purpose herein set forth.

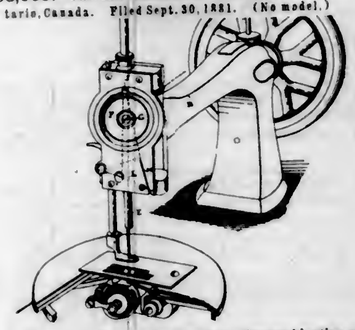
263,008. DRILL-SUPPORT. CHRISTOPHER WEBB, Plymouth, Pa. Filed May 27, 1882. (Model.)



Claim.—1. The combination, in a drilling-machine fastening, of the expansible tube D' D², of which the hinges M M M M M, the pin N, the sharp-edged ribs K K K K K, &c., the tapered opening W, and the grooves R R are component parts, with a tapered wedge, L, substantially as arranged and described.

2. The combination, in a drilling-machine, of the expansible tube D' D², the wedge L, and the hollow arm A with the adjustable box B and the flanged threaded box C, all substantially as described and set forth.

263,009. SEWING-MACHINE. JAMES AUTHORS, Toronto, Ontario, Canada. Filed Sept. 30, 1881. (No model.)



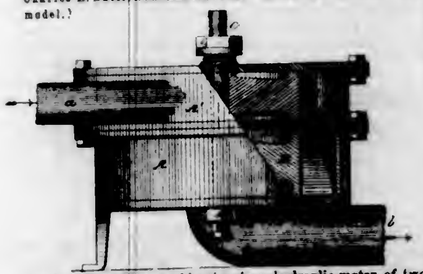
Claim.—1. In a sewing-machine, the combination of a disk, F, a shaft secured to said disk, revolving in a different line from the main shaft, the needle-bar E, having a slot to allow the passage of the disk-shaft, the crank H, secured to said disk-shaft on the opposite side of the needle-bar, the crank-pin C, and the links D H, substantially as and for the purpose specified.

2. On the face of a sewing-machine, a horizontal spring, riveted thereto and arranged in combination with a slotted guideway cut in the face-plate and passing across the spring, for the purpose of taking up the slack thread produced by the movement of the take-up, substantially as specified.

3. In a sewing-machine having a circular bobbin fitting in a recess in a revolving hook, the combination of a cap or cover having its shank loosely fitted and pivoted in its hanger, whereby it is free to oscillate on its pivot to permit the thread to pass freely between it and the bobbin, substantially as set forth.

4. In combination with the needle of a sewing-machine, a rotating hook provided with a projection situated opposite to its sewing-point, so that it approaches the needle simultaneously with the hook, pressing it toward the sewing-point of the hook, substantially as and for the purpose specified.

263,010. HYDRAULIC MOTOR. ABEL BARRETT, Woburn, Mass., assignor of one-half to James Buel, same place, and Charles E. Buell, New Haven, Conn. Filed Apr. 5, 1880. (No model.)

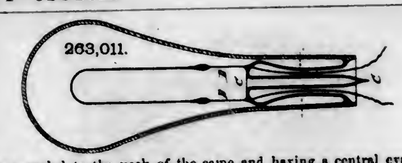


Claim.—1. The combination, in a hydraulic motor, of two wheels, arranged one above the other, rigidly attached to the same shaft and propelled by the same moving column of water, with a fixed non-rotating diaphragm between said wheels, having apertures for directing the discharge of the upper wheel into the buckets of the lower wheel, substantially as described.

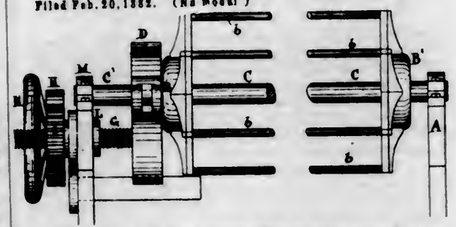
2. The combination of the wheel C, having the peripheral blades *c*, and the wheel B, arranged below said wheel C and having the buckets *b'*, with the casing A A', the common shaft *e*, to which both said wheels are secured, the rigid non-rotating partition D between the wheels, having the apertures *d* and the inlet and discharge ducts for the column of water, the whole arranged and operating substantially as described.

263,011. ELECTRIC LAMP. ALEX. BERNSTEIN, Boston, Mass. Filed Mar. 16, 1882. (No model.)

Claim.—In an electric vacuum-lamp based on the principle of incandescence, the combination of a glass globe or bulb, a stopper sealed to the neck of the same and having a central evacuating-tube, and of conducting-wires which pass through the stoppers at the upper part thereof, the stopper being made of thin glass throughout and enlarged at the upper part, whereby nearly the same temperature is obtained in the upper part of the stopper as at the interior of the bulb, and thereby cracks and leakage prevented, substantially as and for the purpose set forth.



263,012. DEVICE FOR HOLDING AND ADJUSTING REELS FOR ROLLING PAPER, &c. JAMES B. BIRD, Hyde Park, Mass. Filed Feb. 20, 1882. (No model.)

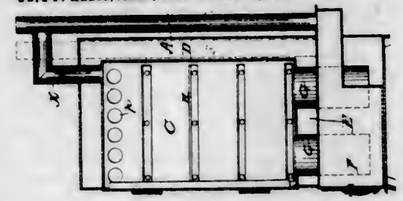


Claim.—1. A reel for winding paper or other fabric having one head journaled in a movable box or bearing, so as to admit of the longitudinal adjustment of the reel, substantially as set forth.

2. In a reel for winding paper or other fabric, the combination, with the head B and extended shaft C', of the enlargement E, fitted in a movable box or bearing, D, as and for the purpose specified.

3. The combination of the head of the reel B, its enlargement E, the shaft C C', the movable box or bearing D, and the nut K in frame A, substantially as and for the purpose specified.

263,013. OVEN FOR BAKING, COOKING, OR DRYING. GARDNER S. BLODGETT, Burlington, Vt., assignor of one-half to Edward P. Mahor, same place. Filed May 15, 1882. (No model.)



Claim.—1. The combination of the outer casing, A, and the inner case, C, forming the baking-chamber, and having the perforations near its top for the admission of hot air, with the air space or flue between the inner and outer cases, the lower hot-air chamber and the fire-box for heating it, and the descending or diving flues having their lower open ends near the bottom of the hot-air chamber, substantially as described.

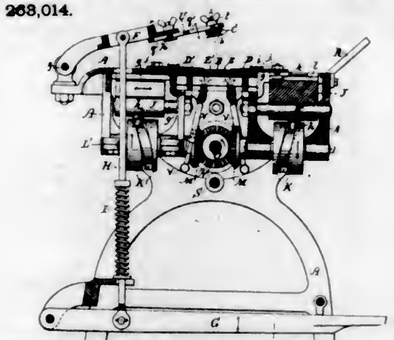
2. The combination of the inner and outer chambers, the hot-air chamber, the flues for conveying the hot air from the hot-air chamber to the upper part of the inner or baking chamber, the descending or diving flues for conducting the air back to the heating-chamber, the inlets for the fresh air, closed by valves, and the pipe for discharging the vapors and gases into the smoke-pipe, substantially as described.

263,014. PLAITING-MACHINE. GEO. BOXLEY, Troy, N. Y., assignor of one-half to George P. Ide, same place. Filed Mar. 29, 1882. (No model.)

Claim.—1. In a plaiting apparatus, the former C, having the pressing-plate *b*, with opposite blade-like edges, *c c'*, and the tapering opposite recesses, *d d'*, formed by and between said pressing-plate and the overhanging parts *e e'*, substantially as described.

2. The combination, with a bed, B, and a former having a

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pressing-plate with a blade-like edge, *c*, and a tapering recess, *d*, of a plaiting-blade, D, all adapted and arranged together for conjoint action in forming a plait, substantially as described.

3. The combination, with the bed B and the former C, having the tapering opposite recesses, *d d'*, and the pressing-plate *b*, with opposite blade-like edges, *c c'*, of the two opposite plaiting-blades, D D', all adapted and arranged for conjoint action in producing a box-plait, substantially as described.

4. The combination, with bed B and the ledge E along one side of the bed, of a former having a pressing-plate with a blade-like edge, *c*, and tapering recess *d*, and the plaiting-blade D, all adapted and arranged for conjoint action in forming a plait, substantially as described.

5. The combination, with the bed B and the ledges E E' along opposite sides of the bed, of the former C, having the press-plate *b*, with opposite blade-like edges, *c c'*, and tapering recesses *d d'*, and the opposite plaiting-blades, D D', all adapted and arranged for conjoint action in forming box-plaits, substantially as described.

6. The combination, with the bed B, former having a press-plate with a tapering blade-like edge, *c*, and tapering recess *d*, and the plaiting-blade D, of means for depressing said former upon and removing it from the bed, substantially as described, and means for inserting said plaiting-blade into and withdrawing it from said tapering recess, substantially as set forth.

7. The combination, with the bed B, former C, having the press-plate *b*, with opposite blade-like edges, *c c'*, and opposite tapering recesses, *d d'*, and the opposite plaiting-blades, D D', of means for depressing and retaining said former upon and removing it from the bed, substantially as described, and mechanism for simultaneously inserting said opposite plaiting-blades into and withdrawing them from said tapering recesses in the depressed former, substantially as set forth.

8. The combination, with the bed B, former having the tapering recess *d* and a press-plate with a blade-like edge, *c*, and means for depressing and retaining said former upon and removing it from the bed, substantially as described, of the plaiting-blade D and mechanism for moving the plaiting-blade a certain uniform limited distance to and fro into and out of said tapering recess in the depressed former, substantially as set forth.

9. The combination, with the bed B, former having the tapering recess *d* and press-plate with blade-like edge *c*, means for depressing and retaining the former accurately upon and removing it from the bed, plaiting-blade D, and mechanism for repeatedly moving the plaiting-blade a certain uniform limited distance to and fro into and out of said recess in the former, substantially as described, of adjusting devices for altering the depth of said uniform to-and-fro movement of the plaiting-blade into said recess in the former, as set forth.

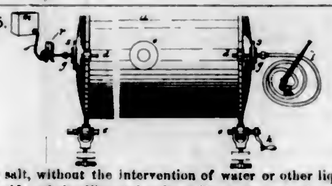
10. The combination, with the bed B, plaiting-blade D, and means for operating the latter, of the former C, hinged arm F, and extension-fingers U, adjustably secured to said arm and former, substantially as described.

263,015. PROCESS OF AND APPARATUS FOR GENERATING DIOXIDE OF CARBON FOR EXTINGUISHING FIRE. JOHN F. BOYNTON, New York, N. Y. Filed Sept. 20, 1881. (No model.)

Claim.—1. In an apparatus for generating dioxide of carbon for extinguishing fires, the cylinder *a*, mounted upon proper framework and arranged to be rotated circumferentially, in the manner substantially as set forth.

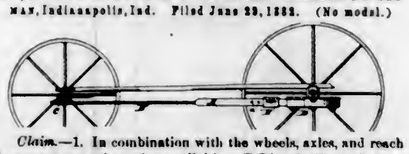
2. The described mode of extinguishing fires in buildings or other places by the use of ordinarily dry dioxide of carbon, which consists in liberating said gas by the action of a suitable acid and

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carbonate salt, without the intervention of water or other liquid medium, said gas being liberated under ordinary atmospheric pressure and placed under such conditions of elevation of apparatus to the height required as to deliver said gas upon a fire in buildings or other places.

263,016. TURNING-GEAR FOR WAGONS. FREDRICK BRUMMERMAN, Indianapolis, Ind. Filed June 28, 1882. (No model.)



Claim.—1. In combination with the wheels, axles, and reach of a wagon or carriage, the parallel bars B B' and adjustable stops E E' upon a band, A, attached to the rear end of such bars, passing around a circular disk in the center of the block D, attached to the rear axle, substantially as described.

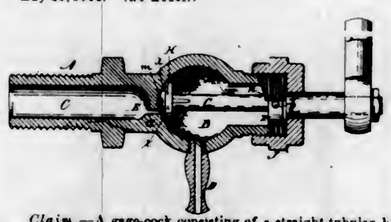
2. In coupling-gears for carriages and wagons, parallel rods on either side, attached to the front axle in such a manner as to allow a lateral movement, and connected with a band or belt which passes round a circular disk attached to the rear axle, with stops adjustable thereon for limiting the movement of the forward wheels toward the body of the vehicle, substantially as described.

263,017. FURNITURE-ESCUTCHEON. ORLANDO P. BRIGGS, Chicago, Ill., assignor to Calvin Stiglsman, same place. Filed Dec. 5, 1881. (No model.)



Claim.—Furniture-escutcheons of natural wood, having regularly-turned face-ornaments and irregular or polygonal outlines, substantially as set forth.

263,018. GAGE-COCK. JESSE M. BROWN, Boston, Mass. Filed May 23, 1882. (No model.)

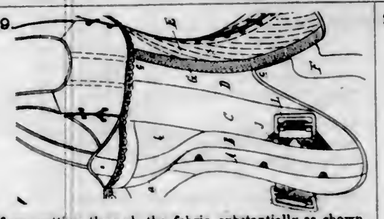


Claim.—A gage-cock consisting of a straight tubular body screw-threaded at both ends and comprising an inlet-chamber and a globular chamber, with a perforated diaphragm between said chambers, a discharge-nozzle connected to the globular chamber, a screw-threaded cap at the outer end of the body, a conical perforated valve adapted to fit the diaphragm, a horizontal valve-stem arranged centrally in the body of the cock and in line therewith, said valve-stem being provided with a collar adapted to fit the outer end of the body, said collar having a stop-pin which works in a slot in the outer end of the body, and a handle for operating said valve-stem and valve, all constructed, combined, and arranged to operate substantially as described.

263,019. CORSET. GEORGE W. CARTER, Jackson, Mich., assignor to Charles W. Higby, same place. Filed Sept. 23, 1881. (No model.)

Claim.—1. In a corset, the section E, having diagonal bones, and the section D, in combination with the corded piece G, stitched to both sections over the seam of the same, and forming a pad, and also acting as a stay to prevent the diagonal bones in the sec-

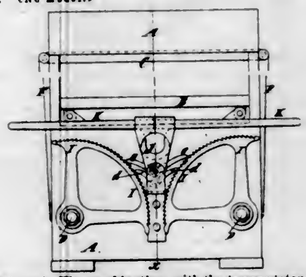
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tion E from cutting through the fabric, substantially as shown, and for the purpose set forth.

2. In a corset, the back section, H, having a bone, M, on each side of the spinal portion, in combination with the corded piece I, secured to said back section over the portion covering the spine, thereby forming a pad to protect the spinal column of the wearer, and at the same time giving the requisite elasticity and stiffness at that point, substantially as described, and for the purpose specified.

263,020. PRESS. JOHN CHASE, Paterson, N. J. Filed May 13, 1882. (No model.)



Claim.—1. The combination, with the lower platen of a press, of two rock-shafts provided with arms connected with said platen, ratchet-toothed sectors upon said shafts, a lever fulcrumed between said sectors and adapted to be operated by hand bars or brakes, and carrying pawls for engaging with and actuating said sectors, and stop-pawls for holding said sectors, substantially as described.

2. The combination, with the upper platen of a press, of two rock-shafts provided with arms connected with said platen, ratchet-toothed sectors upon said shafts, a lever fulcrumed between said sectors and adapted to be operated by hand bars or brakes, and carrying pawls for operating said sectors and stop-pawls for holding said sectors against backward movement, substantially as described.

3. The combination of the lower platen, B, rock-shafts D, arms G, and links or rods H, ratchet-toothed sectors I, lever J, actuating-pawls *d*, stop-pawls *e*, and hand bars or brakes K, substantially as described.

4. The combination of the upper and lower platens, B and C, rock-shafts D, provided with arms E and G, rods F, links H, ratchet-toothed sectors I, lever J, actuating-pawls *d*, stop-pawls *e*, and hand bars or brakes K, substantially as described.

263,021. TREATMENT OF INDIA-RUBBER AND GUTTA-PERCHA. HENRY A. CLARK, Boston, Mass. Filed Dec. 19, 1881. (No specimens.)

Claim.—1. The treatment of restored or devulcanized and desulphurized vulcanized india-rubber or gutta-percha with water subjected to heat to a degree sufficient to evaporate the oils or spirits contained in the india-rubber, &c., all substantially as described, for the purpose specified.

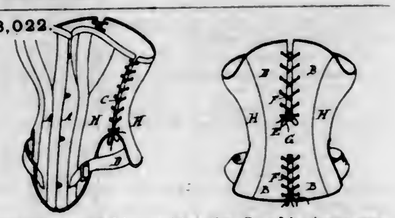
2. As a new article of manufacture, restored or devulcanized and desulphurized india-rubber having the characteristics herein specified.

263,022. CORSET. GEORGE H. COLLEY, Jackson, Mich., assignor to Charles W. Higby, same place. Filed Mar. 21, 1882. (Model.)

Claim.—1. In a corset, a back section having wings adjustably secured together by lacings above and below the waist portion G, in combination with side sections secured together by lacings, substantially as and for the purpose specified.

2. In a corset, the back section, E, consisting of wings B B,

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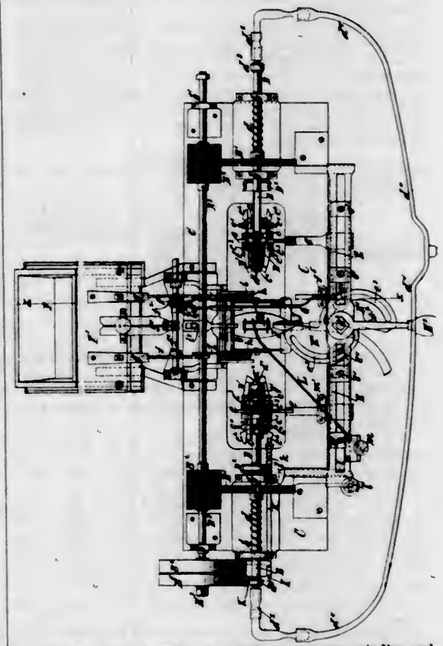


permanently connected by a waist portion, G, and having an opening below and above said waist portion, in combination with means, substantially as described, for uniting the upper and lower portions of the wings, whereby the size of either of the openings can be enlarged or diminished independently of the other, as set forth.

3. In a corset, the back section, E, made in a single piece, and having wings B B, united by lacings above and below the waist portion G, substantially as described.

4. In a corset, the back section, E, having wings B B, united by lacings above and below the waist portion G, between said lacings, in combination with the front sections, A, adjustably secured to said back section by lacings C and strap D in the side sections, H, substantially as and for the purpose specified.

263,023. MACHINE FOR BOTTOMING VIALS. EDWARD CONNOLLY, Hoboken, N. J. Filed Jan. 21, 1882. (No model.)



Claim.—1 The combination, with two rotary spindles and chucks arranged in line and adapted to grasp the two necks of a tube and rotate it, of a burner arranged between the spindles and chucks for cutting off the tube, substantially as specified.

2. The combination, with two rotary spindles having air-passages through them and arranged in line, and chucks for grasping the two necks of a tube and rotating it, of air-pipes connected to the spindles, and a burner arranged between the spindles and chucks for cutting off the tubes, substantially as specified.

3. The combination of the hollow spindles B, the chucks D, the air-tubes d^3, stoppers e^3, on the ends of the spindles, and the burner J, substantially as specified.

4. The combination, with the rotary spindles and their chucks for grasping and rotating a tube, and a burner for cutting off the tube, of slides connected with said spindles and chucks, and a cam-

lever for moving the spindles and chucks toward and from each other, substantially as specified.

5. The combination, with the rotary spindles, the chucks having jaws for grasping and rotating the two necks of a tube, and a burner for cutting off the tube, of the sockets upon the spindles for releasing said jaws from the necks of the vials as the said spindles are moved away from each other, substantially as specified.

6. The combination, with the rotary spindles and chucks for grasping and rotating the tubes and a burner for cutting off the tubes, of a hopper from which tubes are fed one by one to the chucks substantially as specified.

7. The combination, with two rotary spindles and chucks and a hopper, of fingers or holding-jaws for grasping a tube, a burner for cutting off the tubes, and a feeding device for taking tubes one by one from said hopper and delivering them to said holding-jaws, substantially as specified.

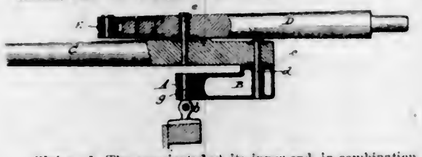
8. The combination, with the two rotary spindles and chucks, a burner for cutting off the tubes, and a hopper, of a feeder for taking the tubes one by one from said hopper, and a lever for simultaneously moving said spindles away from each other and operating said feeder, substantially as specified.

9. The combination of the spindles B, chucks D, hopper F burner J, inclined ways or guides l, fixed jaws *h*, movable jaws *i*, and rotary notched feeding-wheels *f*, substantially as specified.

10. The combination, with the two rotary spindles and chucks movable toward and from each other, and the burner, of the abutment adapted to be moved between the spindles, and chucks for finishing the bottoms of vials while grasped in said chucks, substantially as specified.

11. The combination, with the rotary spindles and chucks, a burner for cutting off tubes, a belt-shipper or device for controlling the rotation of said spindles, and a movable abutment for finishing the bottoms of vials while grasped in said chucks, of handles for moving said abutment between the spindles and for shifting the belt-shifter or device to stop the spindles, arranged in proximity to each other and adapted to be simultaneously operated, substantially as specified.

263,024. ROWING-GEAR FOR BOATS. CHARLES A. CORWIN, Racine, Wis. Filed May 5, 1882. (Model.)



Claim.—1. The oar pivoted at its inner end, in combination with the hand-lever centrally pivoted to the oar, and the rod or link extending from the outer end of the hand-lever backward to the bearing F, as described and shown, whereby a tensional strain is applied to the rod.

2. The combination of the rocking bar having the side arm attached rigidly thereto, the hand-lever, the oar pivoted at its inner end to said arm, and the rod extended from the hand-lever directly to the rear end of the arm, as described and shown.

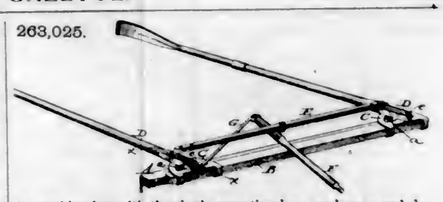
3. In combination with the supporting-bar or gunwale A, having the arm B thereon, the oar pivoted at its inner end to said arm, and the oar-operating lever pivoted centrally to the oar, and connected with the bar or gunwale by the folding arm B and the sliding bearing F, said arm and bearing being provided with means for securing them rigidly in place when in action.

4. The combination of an arm or support, B, an oar sustained thereon wholly by a vertical journal at its inner end, a hand-lever centrally pivoted on and carried by the oar, and a rod or bearing for the outer end of said lever, substantially as described and shown.

5. In combination with the bar or gunwale A, a horizontally-swinging oar-sustaining arm, B, and means, substantially as described, for locking said arm rigidly against horizontal movement when in action.

6. The rocking bar and its oar-sustaining arm, the oar, the hand-lever, the fulcrum-rod for said lever, and the sliding bearing F for said rod, in combination with the hinge-pins *a* and *b*, serving the twofold purpose of connecting the bar to the boat and of holding the arm B and bearing F in position.

263,025. ROWING-GEAR FOR BOATS. CHARLES A. CORWIN, Racine, Wis. Filed May 6, 1882. (No model.)



Claim.—1. The two parallel pivoted oars, separated horizontally, having their blades extended in one and the same direction, in combination with the single operating lever or handle and devices, substantially as shown, connecting said handle with the two oars and adapted to give them a simultaneous action.

2. The combination of the two pivoted oars, the connecting-bar, the hand-lever, and the link or rod to which the lever is pivoted.

3. The combination of the two pivoted oars D D, the connecting rod or bar E, pivoted thereto, and the lever F, centrally pivoted to said rod, and a bearing or fulcrum, substantially as shown, at the outer end of said lever.

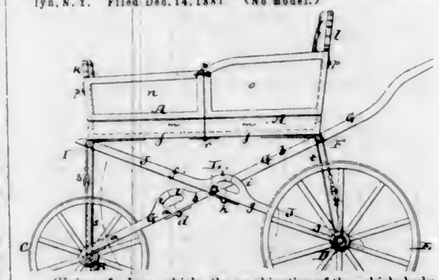
4. In combination with the plates sustained upon hinge-joints, the rocking bar secured rigidly to the plates, the two oars, the connecting bar or rod between the oars, the hand-lever, and the link or rod extending from said lever to a fulcrum on the rocking bar.

5. A rowing-gear consisting of one or more oars, an operating-lever, and connecting devices, substantially as shown, between said lever and oar or oars, said parts being attached to the side of the boat by a hinged connection and arranged to fold downward within the same, substantially as shown.

6. The combination of the boat, the rowing-gear, substantially as shown, and horizontal hinged connections, substantially as described, uniting the boat and rowing-gear to permit the entire rowing-gear to be folded downward within the boat at will.

7. In combination with a boat and a rowing-gear, sustaining-plate for the gear, provided with offset-hinges, as shown, whereby the device is permitted to fold within and hang against the side of the boat.

263,026. CHILD'S CARRIAGE. JESSE A. CRANDALL, Brooklyn, N. Y. Filed Dec. 14, 1881. (No model.)



Claim.—1. In a vehicle, the combination of the vehicle-body with joined and jointed braces that connect it to the front and rear supports, all arranged to permit the folding of said braces and the consequent contraction of the vehicle for transportation or storage, substantially as specified.

2. In a vehicle-body, the combination of the bottom board thereof with projecting ledges *m* and with hinged side and end boards, all arranged so that all said boards can be folded inward, substantially as specified.

3. In a vehicle-body, A, the hinged bottom *j* and its hinge *r*, combined with folding side and end boards, substantially as specified.

4. In a vehicle-body having hinged bottom *j*, the combination thereof with the ledges *m*, separated side-boards *n* and *o*, and end-boards *k l*, substantially as specified.

5. The combination of the carriage-body A with the braces G and J, which are joined by a bolt, L, and each of which is also jointed, so as to be capable of being doubled upon itself, substantially as specified.

6. In a vehicle having jointed braces G and J, the combination of said braces with upwardly projecting lugs or contact-pieces *e*, substantially as described.

7. In a vehicle, the combination of the body A with the shafts or bolts F and I, jointed braces G and J, shaft L, and front and rear supporting-axles, B and D, substantially as described.

8. The combination, in a vehicle, of a folding vehicle-body with folding and connected supporting-braces G and J, having joints *d* and *h*, and lower supports, substantially as described.

9. In a vehicle, the combination of the vehicle-body, which is hinged to jointed braces G and J, which connect it to front and rear supports, with the bolt L and connecting-straps *s* and *t*, substantially as described.

10. The combination, in a vehicle, of the body A, hinged to jointed and connected supports G and J, with the handle H, which is attached to projections of the hinged and jointed support G, substantially as described.

11. In a vehicle-body having hinged end-board *l*, the combination thereof with the hinged seat *w*, link *x*, and hinged supporting-brace *y*, substantially as specified.

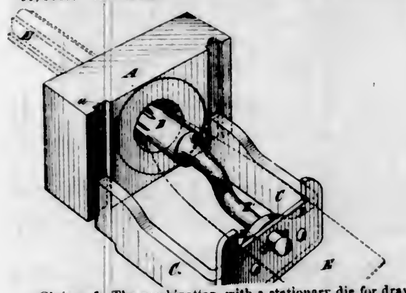
263,027. HORSE-COLLAR PAD. LAUREN E. CRANE, Rochester, Miss., assignor of one-half to James M. Williams, same place. Filed Nov. 22, 1881. (No model.)



Claim.—1. A molded paper horse-collar support or pad having tannin or similar astringent incorporated within the pulp of which it is made, as set forth.

2. In combination with the pad A and loops B, the divided or bifurcated straps C and D, for attachment to the hames on a horse-collar, as set forth.

263,028. APPARATUS FOR DRAWING TUBES. WALTER R. CROCKER, Attleborough, Mass., assignor to R. F. Simmons, Edgar L. Hixon, and Joseph L. Sweet, same place. Filed Mar. 13, 1882. (No model.)



Claim.—1. The combination, with a stationary die for drawing tubes having a flaring mouth, of a stationary arbor or mandrel supported outside the die and in rear of its flaring mouth and projecting through the flaring mouth into the die, substantially as herein described.

2. The combination, with a stationary die for drawing tubes, of a stationary arbor or mandrel entering said die and having an offset shank, and a gage for guiding strips as they enter between said die and said arbor or mandrel, substantially as herein described.

3. The combination of the stationary die A, the stationary arbor or mandrel B, having an offset shank, B', the gage D, and the yoke C, supporting said arbor or mandrel, substantially as herein described.

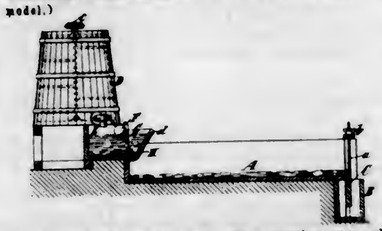
263,029. LANTERN-GUARD. ANTHONY M. DURURE, Chicago, Ill., assignor to himself and William Burns, same place. Filed June 5, 1882. (No model.)



Claim.—1. The combination, with the top horizontal guard-ring, *d*, and the vertical guard-wire *e* of a lantern, of a sheet-metal tip having one end bent around and encircling the guard-ring, and such end connected to the vertical wire beneath the ring, and the other end clasped around the end portion of the wire, substantially as described.

2. The combination, with the guard-ring *d* and vertical guard-wire *e* of a lantern, of the sheet-metal tip having one end bent around the ring and a broad end clasped around the wire, and also around the narrow end which is bent around the ring, substantially as described.

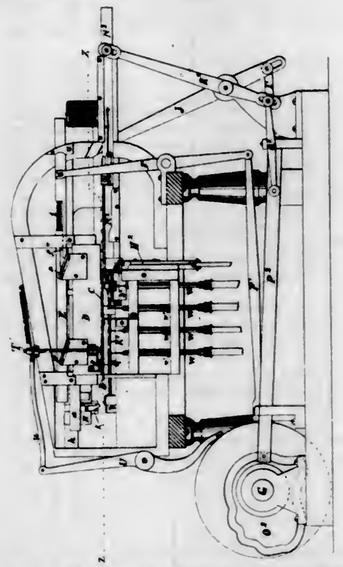
263,030. APPARATUS FOR MANUFACTURE OF STARCH. WRIGHT DURYEA, Brooklyn, N. Y. Filed July 8, 1882. (No model.)



Claim.—1. The combination, with a trough or run and a supply tank or vat provided with a delivery or outlet valve, of an intermediate receptacle into which the starch-water is to be delivered from the tank or vat, and from which the water is to flow into said trough or run, and a float connected with said valve and serving to control it by the level of water in said intermediate receptacle, substantially as herein described.

2. The combination, with a trough or run and a supply tank or vat provided with a delivery or outlet valve, of an intermediate receptacle for receiving starch-water from said tank or vat and delivering it to said trough or run, a float connected with said valve and serving to control it by the level of water in said intermediate receptacle, and a stirrer in said intermediate receptacle for preventing the starch settling therein, substantially as herein described.

263,031. PAMPHLET-STITCHING MACHINE. STERLING ELLIOTT, Boston, Mass., assignor, by direct and mesne assignments, to the Elliott Machine Company, same place. Filed Mar. 23, 1881. (Model.)



Claim.—1. In a pamphlet-stitching machine, a horizontally-reciprocating thread-carrier consisting of a guide-block, H, vertical bar K, and jaws L and *l*, in combination with mechanism, substantially as described, for imparting a vertical reciprocating motion to the bar K independently of the horizontal position of guide-block H, substantially as shown.

2. In combination with presser D, having oblique slots, as shown, and bar E, having pins *c c*, a compression-joint which consists of spring 1 and stop *f*, arranged to operate as shown.

3. A thread-controller consisting of two bars, R and R', terminating in jaws *s s*, the same held together by a suitable spring and movable together in a line at an angle with the direction of the thread horizontally by means of a connection with one of said bars, substantially as shown.

4. A loop-turning device consisting of two parallel points, *i i*, attached at an angle to radial arms 9 9, said arms being each connected to a separate shaft and caused to rotate by means of a third shaft, F², through the medium of gears, substantially as shown and described.

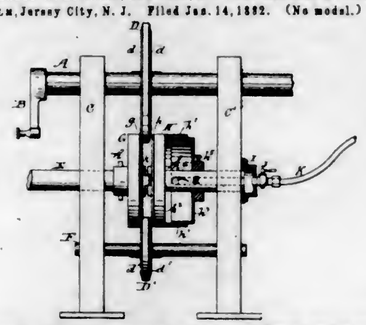
5. In combination with the points *i i*, radial arms 9 9, the circular inclines *g g*, bars c^3 c^3, and springs 5 5, arranged to operate as shown, and for the purpose specified.

6. The vertically-operating bar H², having at its upper end a horizontal slot, in connection with the crank and rock-shaft F², as shown.

7. The combination of points *i i*, shafts *b b*, inclines *g g*, and stationary plate L², as and for the purpose specified.

8. The process of tying a square knot, which consists in, first, forming in the cord to be tied a single loop; secondly, doubling the loop so formed upon and around itself, passing another end of thread through the doubled loop, then returning the said loop to its original position, as shown and described.

263,032. FRICTION DEVICE FOR TRANSMITTING POWER. CHARLES W. EMERSON, New York, N. Y., and CHARLES H. LINDHOLM, Jersey City, N. J. Filed Jan. 14, 1882. (No model.)



Claim.—1. The arrangement of mechanism herein shown and described, which consists of the beveled wheels adapted to move longitudinally upon their shafts for the transmission of power by means of frictional contact, the pressure to insure said contact being applied and directed in line with the shaft, and by means substantially as and for the purpose set forth.

2. The arrangement of mechanism herein shown and described, which comprises beveled wheels adapted to move longitudinally upon their shafts, and adapted to be forced into contact by pressure applied in line with their shaft, and supplied by a compressed vapor, gas, or liquid, substantially as and for the purpose set forth.

3. The combination of a power-driven shaft, upon which is mounted a beveled wheel adapted to move longitudinally upon its shaft, with a power-transmitting shaft provided with a second rigidly-mounted bevel-wheel, and a companion beveled wheel, adapted, substantially as shown and described, to be forced along said shaft by compressed vapor, liquid, or gas, as and for the purpose set forth.

4. The combination of the shaft A, disk D, shaft E, and disk G, constantly clutched to disk H, with means for forcing the disks together, all substantially as shown and described.

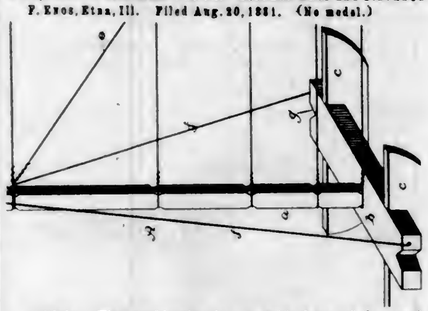
5. The combination of shaft A, disk D, movable longitudinally thereon, shaft E, rigidly-attached disk G, shaft F, disk D', movable longitudinally thereon, and disk H, adapted to be moved longitudinally on shaft E, substantially as shown and described.

6. The combination of shafts A and E, disk D, movable longitudinally on its shaft, and disk G, rigidly attached to its shaft, with chambered disk H, head *h*', and means for introducing air, gas, vapor, or liquid under pressure, all substantially as shown and described.

7. The hollow shaft E, provided with the port *e* and disk G, provided with one member of a clutch, as *k*, in combination with a chambered disk provided with the other member of a clutch, as *k*, said members being arranged to be always in contact, said chambered disk being movable longitudinally on the shaft, a fixed chambered disk, and means for introducing air, gas, vapor, or liquid under pressure into the shaft, all substantially as shown and described.

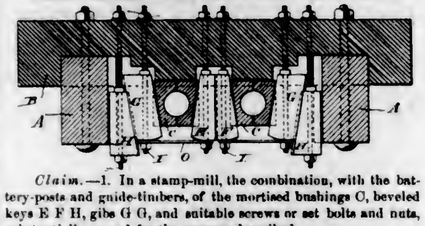
8. The combination, with the shaft E, chambered disks H *h*', cap I, valve J, and pipe K, substantially as shown and described.

263,033. PORTABLE FENCE. SOLOMON ENOS and SILVANUS F. ENOS, Etna, Ill. Filed Aug. 20, 1881. (No model.)



Claim.—The combination, in a portable fence, of the panel, notched cross-bars *b b*, secured to the post, and runners C C, secured to the cross-bars, as and for the purpose set forth.

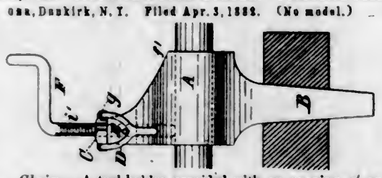
263,034. GUIDE FOR STAMP-MILLS. CORYDON A. FARGO, Walkerville, Mont. Filed June 10, 1882. (No model.)



Claim.—1. In a stamp-mill, the combination, with the battery-posts and guide-timbers, of the mortised bushings C, beveled keys E F H, gibs G G, and suitable screws or set bolts and nuts, substantially as and for the purpose described.

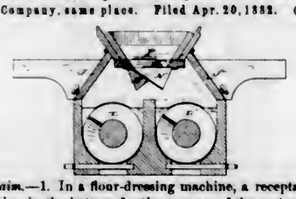
2. The combination, in a stamp-mill, of the battery-posts A A, guide-timber B, hook K, eyebolts L L, divided and mortised bushings O O, upper and lower plates, M N, and the strap-irons O O, connecting opposite keys and gibs, all substantially as and for the purpose described.

263,035. TINSMITH'S TOOL-HOLDER. FREDERICK PELLISON, Dunkirk, N. Y. Filed Apr. 3, 1882. (No model.)



Claim.—A tool-holder provided with an opening, *a'*, and a square shank, B, in combination with the screw-handle F, jam-nut C, pivoted forked handle D, and pin E, for the purposes described.

263,036. CONVEYER FOR FLOUR-BOLTS. JOHN M. FINCH, Jackson, Mich., assignor to George T. Smith Middlings Purifier Company, same place. Filed Apr. 20, 1882. (No model.)

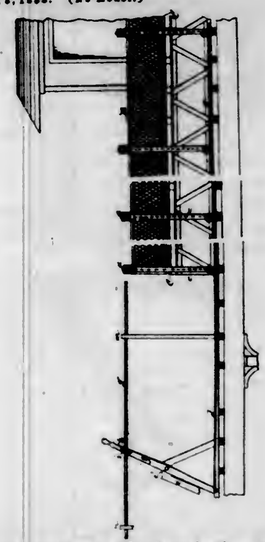


Claim.—1. In a floor-dressing machine, a receptacle having an opening in the bottom for the passage of the material, in combination with horizontally-sliding cut-offs supported upon the receptacle and independently of the conveyer-casing, and adapted to be removed from the machine and reversed, substantially as set forth.

2. In a floor-dressing machine, a conveyer, a hopper arranged above the conveyer, and horizontally-sliding removable and reversible cut-offs between the conveyer and the bottom of the hopper, in combination with movable stops adapted to engage with the ends of the cut-offs, substantially as set forth.

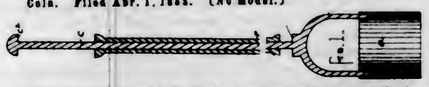
3. In a floor-dressing machine, the combination, with the conveyers, a hopper above the conveyers, and the horizontally-sliding cut-offs, of the movable doors adapted to permit an examination of the material and the removal of the cut-offs, substantially as set forth.

263,037. SAFETY-GATE. ARTHUR B. PLACE, New York, N. Y. Filed Apr. 8, 1882. (No model.)



Claim.—In a dropping gate for elevated-railway stations, the combination of the hand-bar *g* with the lever *f*, rod *d*, chains *c*, pulleys *a*, posts A, and gate B, when constructed and operated substantially as described.

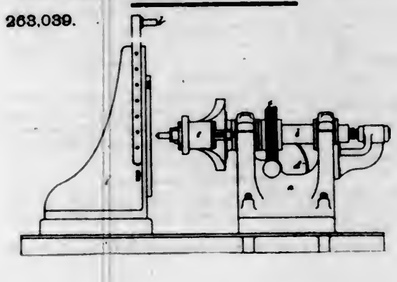
263,038. POST-HOLE DIGGER. JAMES A. FLEMING, Denver, Colo. Filed Apr. 1, 1882. (No model.)



Claim.—1. A post-hole digger provided with a jarring device or knocker on or forming part of the handle, by means of which it may be driven into the earth, substantially as and for the purposes described.

2. A post-hole digger provided with a jarring device or knocker and upper and lower knocking-heads, by means of which it may be driven into the earth and loosened therefrom, substantially as and for the purposes described.

263,039.



263,039. MACHINE FOR CUTTING FLUE-HOLES IN BOILER-HEADS. SAMSON FOX, Leeds, County of York, England. Filed Apr. 5, 1882. (No model.)

Claim.—The combination of the head-stock *a*, spindle *b*, worm-wheel c, and cutter-head *e*, arranged substantially as described, whereby the plate to be operated upon remains stationary, while the cutting mechanism revolves, whether said devices are arranged to work horizontally or vertically, as described.

263,040. MORDANT. THOMAS H. GIBSON, Albany, N. Y., assignor to the Albany Aniline and Chemical Works. Filed July 3, 1882. (No specimens.)

Claim.—The herein-described mordant, which consists in the combination of acetate of lead, alum, and stannate of soda in the proportions mentioned.

263,041. NOISELESS SLATE. HARRY C. GOODRICH and RUSSELL S. BENSON, Chicago, Ill., assignors to said Goodrich. Filed Sept. 27, 1881. (No model.)



Claim.—1. A slate-frame provided with a series of hooks around its outer edge for receiving and retaining a muffling or binding cord, substantially as and for the purpose specified.

2. The series of hooks *a*, arranged around the edge of a slate-frame, in combination with a binding or muffling cord, *d*, intertwined in the hooks and retained in place thereby, substantially as and for the purpose specified.

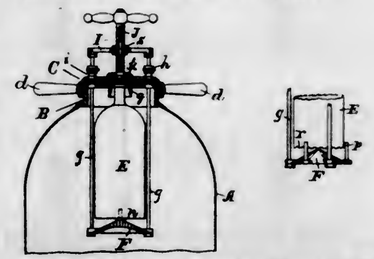
3. A slate-frame, A, provided with a series of hooks, *a*, arranged around its outer edge, in combination with the muffling material B and the binding-cord *d*, substantially as and for the purpose specified.

263,042. MANUFACTURE OF ARTIFICIAL BUTTER. JOHN HOUSE, Boston, Mass. Filed July 21, 1882. (No specimens.)

Claim.—1. The herein-described process for the manufacture of artificial butter, which consists in mixing what I call "vegetable stearine" or "margarine," obtained substantially as described, with what is called "animal oleomargarine," and emulsionizing the said mixture with milk, cream, or other watery fluid.

2. The herein-described product, which consists of the compound of vegetable stearine or margarine with what is known as "animal oleomargarine."

263,043. FIRE-EXTINGUISHER. CHARLES T. HOLLOWAY, Baltimore, Md. Filed June 9, 1882. (No model.)



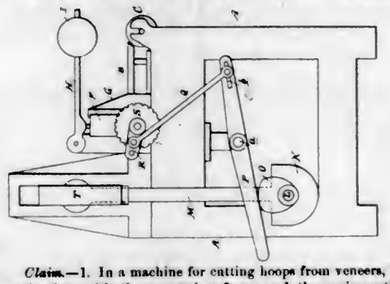
Claim.—1. In a fire-extinguisher, the herein-described bottle-breaking apparatus, consisting of a screw-cap, C, to close the mouth of the vessel, and provided on its under side with a rigidly-attached bell-shaped socket, *q*, a vertically-movable seat, F, below the cap, rods *g*, sliding through the cap, one end being attached to the said seat and the other end to a cross-head, I, above the cap, and a screw, J, passed through the said cross-head and having its lower end upon the top of the cap, all as shown and described.

2. In a fire-extinguisher of the bottle-breaking class, a hanging seat, F, circular in its horizontal plane, having a central cone-shaped point, *s*, and provided around its edge with upward-projecting pins *p*, as set forth.

3. In a fire-extinguisher, the combination of an acid bottle, having corrugations or V-shaped grooves across its bottom, and a cone-point adapted to be moved vertically to press against the said bottom, as set forth.

4. In a fire-extinguisher of the bottle-breaking class, the combination, with the bottle-breaking device and the screw which operates the same, of a device, substantially as described, to lock the screw and prevent the premature breaking of the bottle, as set forth.

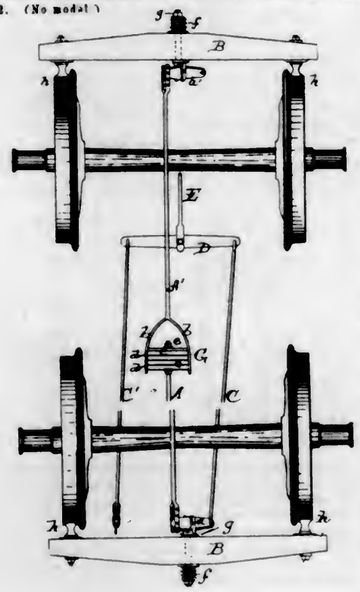
263,044. MACHINE FOR CUTTING WOODEN HOOPS. DAVID F. HOUSTON, Defiance, Ohio. Filed May 17, 1882. (No model.)



Claim.—1. In a machine for cutting hoops from veneers, the combination, with the supporting-frame and the reciprocating knife and pressure-foot, of the roll D, the vertically-adjustable roll E, the ratchet-wheel S, the crank R, the adjustable pitman Q, the lever P, and the cam O, as and for the purpose specified.

2. In a machine for cutting hoops from veneers, the combination, with the supporting-frame and the knife J and feeding-rolls D E, of the gate F, pitman M, and cam K, for imparting a reciprocating movement to the knife, the cam O, lever P, rod Q, crank R, and ratchet-wheel S, for imparting an intermittent rotary movement to the roll E, and the pressure-foot N, and the stop *e*, all constructed and operating substantially as and for the purpose specified.

263,045. CAR-BRAKE. JAMES HOW, Buffalo, N. Y., assignor of one-half to Benjamin F. Sherman, same place. Filed June 5, 1882. (No model.)



Claim.—A car-brake spring device consisting of the spring G, located at the mid-length of the rods A A', levers *a a'*, whose points are furnished with springs *f* on the outside of the brake-bars B, so as to give elasticity at this point, as well as at the mid-length of the rod, and the connecting-rods C C' and center lever, D, whereby the brake is eased off when the wheel begins to slip upon the rail, substantially as herein set forth.

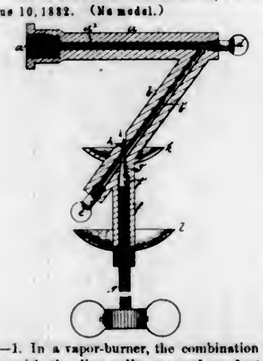
263,046. EAVES-TROUGH. GEORGE HUTH, Delta, Ohio. Filed Apr. 26, 1882. (No model.)

Brief.—The trough is made tapering, increasing in diameter toward the discharging end, and is provided with V-shaped brackets and inclined braces.



Claim.—The combination of the eaves-trough, made tapering in direction of its length, or of gradually-increasing diameter, the V-shaped brackets having inclined braces, and the fastening-strips, all arranged and operating substantially as and for the purpose set forth.

263,047. VAPOR-BURNER. JAMES LEWIS, West Bellevue, Pa. Filed June 10, 1882. (No model.)



Claim.—1. In a vapor-burner, the combination of the horizontal pipe *a* with the diagonally-arranged pendent pipe *b*, said pipes being integral, substantially as and for the purpose specified.

2. In a vapor-burner, the combination of the horizontal pipe *a* with the diagonally-arranged pendent pipe *b*, and with the initial heating-cup *k*, the heating-cup being integral with the pendent pipe, substantially as and for the purpose specified.

3. In a vapor-burner, the combination of the horizontal pipe *a* and diagonally-arranged pendent pipe *b*, having burner-orifice *h*, and a pocket below the burner-orifice closed by screw-plug *e*, and a regulator, *g*, substantially as and for the purpose specified.

4. In a vapor-burner, the combination of the horizontal pipe having the heating-disk integral therewith, and the diagonally-arranged pendent pipe provided with a burner-orifice and having an initial heating-cup surrounding the burner-orifice and integral with said pendent pipe, substantially as and for the purpose specified.

5. The combination, in a vapor-burner, of a horizontal pipe, *a*, pendent pipe *b*, arranged under the horizontal pipe and having a burner-orifice, an initial heating-cup surrounding the burner-orifice and beneath the horizontal pipe, and a secondary heating-cup arranged below the initial heating-cup and pendent pipe, substantially as and for the purpose specified.

6. In a vapor-burner, the combination of two pipes, *a* and *b*, each pipe having a continuous bore from end to end, said pipes joined at an acute angle to form the V-shaped vaporizing-chamber, and removable plugs or caps for closing the ends of said pipes, substantially as and for the purpose specified.

263,048. TOY PISTOL. JAMES M. KEMP, New York, N. Y., assignor to Robert Foulds, Passaic, N. J. Filed Apr. 22, 1882. (Model.)

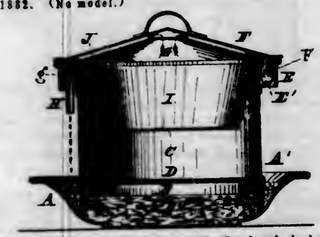
Claim.—In a toy pistol, the hammer B, trigger *b'*, thumb-

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piece or "set" *b'*, and stud *b'*, cast in one piece, and having a rounded notch or bearing between the parts *b'* and *b'*, in combination with the frame A, having raised lugs *a'*, connected by the fulcrum bar *a'*, and spring C, all constructed and combined to operate substantially in the manner and for the purpose herein shown and specified.

263,049. CULINARY STEAMER. JOHN KRENBIEL, Lockport, N. Y., assignor to Sarah M. Krenbiel, same place. Filed June 14, 1882. (No model.)

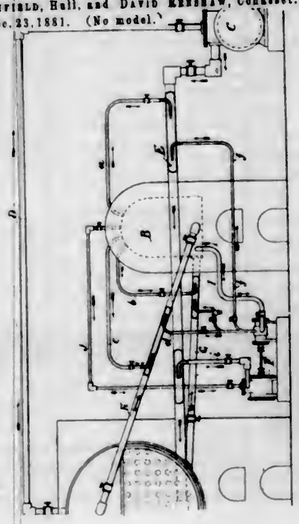


Claim.—1. The combination, with the bowl A, having the rim B, of the vessel C, with the diaphragm D and gallery E, with overflow H, cone G, and cover F, with the deep rim F', the whole being constructed and combined substantially as and for the use and purpose indicated.

2. As an improved article of manufacture, a culinary boiler consisting essentially of a bowl having an annular rim, B, the upper edge of which is lower than the upper edge of the said bowl, so as to allow the contents of the annular space A', produced by said rim or flange B, to overflow into the space B', as specified, and the vessels C and I and the cover J, the whole being constructed and combined substantially in the manner as and for the object specified.

3. In a culinary boiler, the combination, with the bowl A, having the rim B, constructed as specified, of the vessel C, having the gallery E, with overflow-pipe H, vessel I, and cover G, whereby the steam rising from said bowl A and vessel I is condensed and conducted back into the space B' in said bowl A, substantially in the manner and for the object stated.

263,050. UTILIZING THE EXHAUST OF ENGINES. HARVEY T. LITCHFIELD, Hull, and DAVID RENSHAW, Cohasset, Mass. Filed Dec. 23, 1881. (No model.)



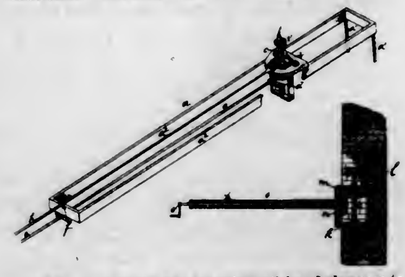
Claim.—1. The process herein described of pumping surcharged water and uniting it with a jet of high-pressure steam in a pipe or conduit common to both, for forcing exhaust-steam back into the vessel or boiler from which it was taken, substantially as shown.

2. The process herein described of pumping surcharged water and uniting it with a jet of high-pressure steam in a pipe common to both, whereby the surplus water and surplus steam are forced from a boiler of lower pressure into a boiler of higher pressure, the water from the pump being first taken from the high-pressure vessel and forced back by a greater pressure, the motive power being derived from the same vessel, in the manner set forth.

3. In an apparatus for utilizing exhaust, the low-pressure boiler, the high-pressure boiler, the engine, the exhaust-pipe, and the pump, in combination with the combined pumped water and steam jets, by which said exhaust is forced back into the vessel from which it was taken, in the manner set forth and shown.

4. The combination, in an apparatus for utilizing exhaust of an engine, of the pipes E, G, and H, the jet-pipes *a b c* and *d e f*, all arranged for joint operation, for forcing exhaust-steam into a boiler and the accumulating surplus of steam and water in said boiler into a boiler of higher pressure, in the manner shown and described.

263,051. MACHINE FOR FINISHING AND FIRE-POLISHING GLASSWARE. JAMES B. LYON and JOSEPH ANDERSON, Pittsburg, Pa., assignors to the O'Hara Glass Company, (Limited,) same place. Filed May 3, 1882. (No model.)

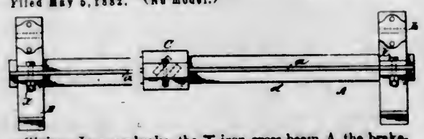


Claim.—1. A device for presenting articles of glassware to a reheating-furnace, consisting of a shaft capable of rotation, provided with a plug and devices for rotating the same, substantially as and for the purposes described.

2. A device for presenting articles of glassware to a reheating-furnace, consisting of a shaft capable of rotation, provided with a removable plug and devices for rotating the same, substantially as and for the purposes described.

3. The combination of the frame and a sliding plate or carrier provided with a vertical shaft, and device for rotating the shaft, substantially as and for the purposes described.

263,052. CAR-BRAKE. ALDIS H. MARDEN, Cambridge, Mass. Filed May 5, 1882. (No model.)



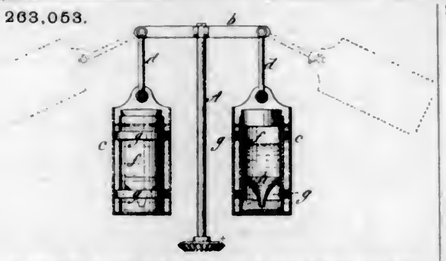
Claim.—In a car-brake, the T-iron cross-beam A, the brake-heads B B, and clamp C, said clamp being provided with a closed T-shaped slot adapted to receive the cross-beam, and with two diagonally-arranged arms, *b b*, for receiving the brake-lever and its bolt, all constructed and arranged as described.

263,053. APPARATUS FOR AND PROCESS OF MANUFACTURING PHOTOGRAPHIC EMULSIONS. THOMAS H. MCCOLLIN, Philadelphia, Pa. Filed June 3, 1882. (No model.)

Claim.—1. The process herein described of separating the solid particles from the liquid in photographic emulsions, consisting in placing the emulsions in suitable vessels provided with funnels arranged inside and at the lower ends of said vessels, and revolving the said vessels at high speed, whereby the solid particles will be deposited in the bottoms of the vessels, as set forth.

2. The combination of the outer vessel, *e*, and the inner vessel, *f*, of glass, retained in place by elastic holders, substantially

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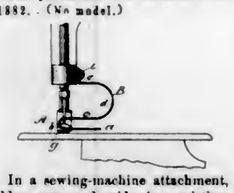


as described, for use in the separation of photographic emulsions.

3. The combination, with the outer vessel, *e*, of the inner glass vessel, *f*, provided with the funnel *h* and the rubber bands *g*, substantially as and for the purpose set forth.

4. The combination, with the outer vessel, *e*, and the inner glass vessel, *f*, provided with the funnel *h* and the rubber bands *g*, of the shaft A, the cross-bar *b*, and the pivoted links *d*, substantially as and for the purpose set forth.

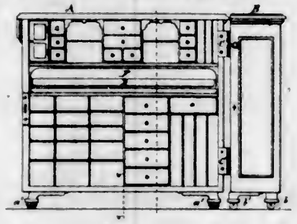
263,054. HEM FOLDER AND GUIDE FOR SEWING-MACHINES. JOHN MCCREARY, Cohoes, N. Y., assignor of one-half to C. F. North, same place, and E. B. Skinner, Stillwater, N. Y. Filed June 13, 1882. (No model.)



Claim.—1. In a sewing-machine attachment, the herein-described hem folder, gage, and guide A, consisting of the parts *a*, *b*, and *c*, made in U shape, and provided with a curved shank terminating in a slotted plate for attachment to the machine, substantially as described.

2. The sewing-machine attachment herein described, consisting of an adjustable U-shaped hem folder, gage, and guide having the parts *a*, *b*, and *c* and the curved part *d*, terminating in the slotted plate *e*, substantially as described.

263,055. CABINET-DESK. JOSEPH A. MOORE, Indianapolis, Ind. Filed May 17, 1880. Renewed July 28, 1882. (Model.)

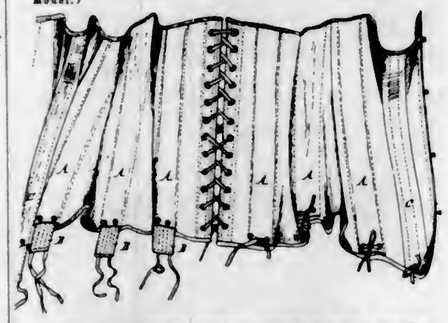


Claim.—1. In a cabinet-desk, the combination, with the wings thereof, of the supporting-feet, arranged to project slightly beyond the edges of said wings, and thus interlock therewith, substantially as and for the purposes herein set forth.

2. The combination, with the wings of a cabinet-desk, each wing having independent supports, of hinges the halves of which have oblique surfaces where they come together, as shown, whereby the said surfaces are only in contact when the wings are closed together, substantially as described, and for the purposes specified.

3. In a cabinet-desk, the combination, with the sliding table thereof, of slides composed of the parts E', secured within the table-recess, and having the grooves e' e', lips e^2 e^2, and stops e^3, and the parts E, secured to the ends of the table, and having spines e e, edges e^2 e^2, and stops e^3, said parts being recessed on the sides facing each other, and said stops inclosed in the recess formed thereby, in the manner shown, so that the slide as a whole may present a regular and even appearance upon the outside and the stops ordinarily be completely hidden, substantially as shown and specified.

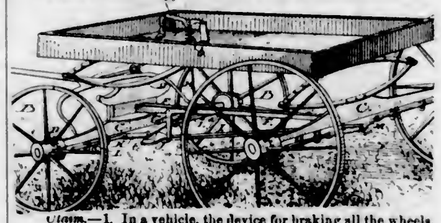
263,056. CORSET. HENRY W. MOULTON, Jackson, Mich., assignor to Chas. W. Higby, same place. Filed Feb. 4, 1882. (No model.)



Claim.—1. A series of bones or batteries of bones secured in pockets separate from and independent of the corset, in combination with a corset having a series of permanent pockets to receive said pockets and the bones therein, and means, substantially as described, for securing the latter in place, as and for the purpose specified.

2. A corset provided with a series of pockets, all opening on the inside of the corset above the binding or lower edge, and each pocket extending substantially from the top to the bottom of said corset and provided with eyelets on its inner side, in combination with a bone or a series of bones secured in independent pockets provided with permanent lacings, the independent pockets being adapted to be inserted in the corset-pockets and the lacings to be attached to the eyelets, substantially as described, and for the purpose specified.

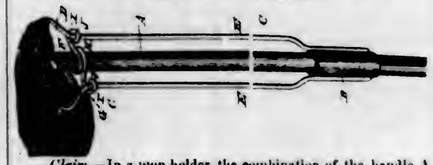
263,057. VEHICLE-BRAKE. MARTIN M. MATHARSON, San Francisco, Cal. Filed Jan. 23, 1882. (No model.)



Claim.—1. In a vehicle, the device for braking all the wheels, consisting of the hollow conical hubs D upon the wheels, conical sections E, and the means for forcing said sections into the hollow conical hubs, consisting of the rods L L and N N, toggle-levers K and M, rod J, bell-crank lever G, rod H, spring *b*, and foot-lever I, when arranged and operated substantially as herein set forth.

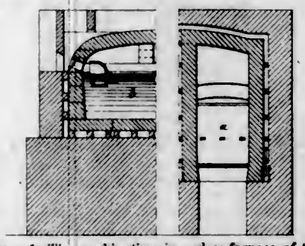
2. In a vehicle having a device for braking all the wheels of a vehicle at once, as herein shown, the arrangement and combination of the forward axle with the knee or toggle lever K, roller U, and rod J with its head *c*, substantially as and for the purpose herein described.

263,058. MOP-HOLDER. JOSEPH H. OHO, Blissfield, Mich., assignor of five-sixths to George A. Allen, James R. Burns, Frank W. Burns, Walter H. Smith, and Louis Rossanwaig, all of Erie, Pa. Filed Mar. 16, 1882. (No model.)



Claim.—In a mop-holder, the combination of the handle A, the collar H, having perforated wings I, and the sleeve B, to the sides of which are attached the sides E of a frame, C, which diverge outwardly and pass through the perforated wings I, as set forth.

263,059. FURNACE FOR MELTING GLASS, AND APPARATUS CONNECTED THEREWITH. HENRI QUENNEC, Paris, France. Filed Apr. 15, 1882. (No model.) Patented in France June 9, 1880, No. 137,166; in Belgium June 11, 1880, No. 51,740; in Italy Aug. 28, 1880, No. 207, and in Spain Sept. 2, 1880, No. 1,033.



Claim.—1. The combination, in a glass-furnace, of the basin provided with flues in the side walls and bottom thereof, and the fire-chamber, also provided with flues in its individual walls, both sets of flues delivering the heated air into the space above the bridge-wall, substantially as described.

2. The combination of the basin, the fire-chamber delivering the products of combustion directly therelnto, and one or more floating pots provided with hoods or covers, substantially as described.

3. A floating pot substantially as described, provided with an inlet for the molten glass, having its lower edge on a level with the upper surface of the bottom of the pot.

4. A floating pot provided with an inlet at the bottom and an extension on the side of said inlet, substantially as described.

5. A pot of the character specified, adapted to float in the molten glass, and provided with a detachable cover or hood of the form shown and described, substantially as described.

6. In a glass-furnace having the inlet for the flames at one end and an outlet for the products of combustion at the other, a basin or tank, the basin provided with two sets of flues in the walls thereof at opposite ends of the basin, substantially as described.

7. In a glass-furnace, the basin provided with flues in the crown or arch above it and also in the walls, both sets of flues delivering the hot air into the space above the bridge-wall, substantially as described.

8. The basin provided, in addition to the flues in the walls, arranged to deliver heated air into the products of combustion from the fire-chamber, with a transverse flue delivering into a chimney or uptake, and arranged directly behind the end wall of the basin adjacent to the fire-chamber, substantially as described.

9. The combination of the fire-chamber, basin, and special chimney or uptake at the point of exit of the gases from the basin, substantially as described.

10. In a glass-furnace, the basin having the inlet for the flame and hot gases at one end and the outlet therefor at the opposite, and provided with an opening for introducing the frit at the inlet end, and working-holes at or near the outlet end, substantially as described.

263,060. BRAKE-SHOE. THOMAS ROBBS and THOMAS E. ROBBS, Elizabeth, N. J. Filed Apr. 27, 1882. (No model.)

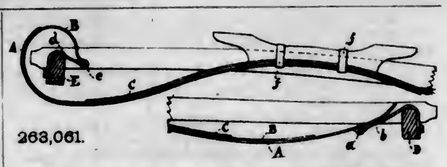


Claim.—1. In a brake-shoe, the rubber attached to the block by means of the locking-button *a*, socket *b*, depression *d*, and chock *c*, substantially in the manner and for the purpose set forth.

2. In a brake-shoe, the combination of a block provided with a socket, *b*, the guard *e*, and the depression *d*, with a rubber having on it a button, *a*, and the chock *c*, all as described, and for the purpose specified.

263,061. CARRIAGE-SPRING. EDWD. SAWYER, Bridgewater, Mass. Filed May 16, 1882. (No model.)

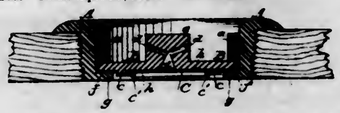
Claim.—1. The combination of a long side spring of elliptical form, having its rear end recurved into a C-spring, the point of attachment of which at its C end is nearer its center in a right line than that of its opposite end, with a thorough-brace or link attachment to running-gear, having a rigid side bar, substantially as set forth.



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2. In the construction of the C portion of the spring, the continuation of the second leaf or spring, B, into the long C-spring, having its attachment by means of the thorough-brace *d* to axle E, and continuing the under leaf or spring, A, into a shorter C-spring fitting upon and re-enforcing the C portion of spring or leaf B, substantially as set forth.

263,062. AUTOMATIC VENT-BUNG. ADAM E. SCHATZ, New York, N. Y., assignor to himself and William Hoffmann, same place. Filed Apr. 20, 1882. (No model.)



Claim.—1. The combination, with a bung having an inlet-opening, of the removable disk C, having one or more perforations through it and a protuberance, substantially as and for the purpose specified.

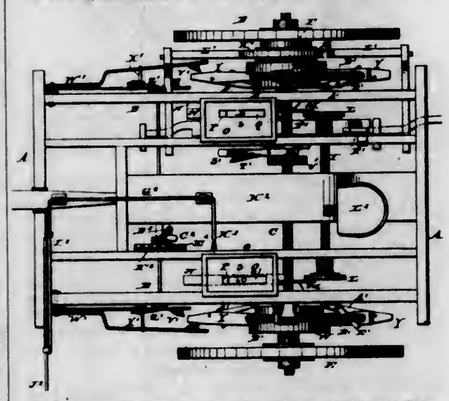
2. The combination, with the bung B, adapted to be attached to a bush, and having a raised central portion, *e*, provided with openings *d d*, of the disk C, having one or more perforations and a protuberance, substantially as specified.

263,063. AUTOMATIC VENT-BUNG. ADAM E. SCHATZ, New York, N. Y., assignor to himself and William Hoffmann, same place. Filed Apr. 25, 1882. (No model.)



Claim.—The combination of a bush, A, plate B, having recessed portion C, the head *c*, spring *e*, and valve-stem *d*, being within the recess, the washer D, and the rubber disk E, provided with one or more perforations, as shown and described.

263,064. CORN-PLANTER. EDGAR SHANNON and ALBERT SHANNON, Catawissa, Mo. Filed Mar. 13, 1882. (No model.)



Claim.—1. The combination of the hoppers O, the seed-slides N, having pins S, the cut-off plates P, having slots Q, and the springs R, arranged to force the said cut-off plates in a forward direction, as described, for the purpose set forth.

2. In a corn-planter, the combination, with the seed-boxes, of cut-offs forced in a forward direction by springs which will give or yield when subjected to pressure by the seed-slides, substantially as set forth.

3. The combination of the hoppers, the curved delivery-tubes V, and the seed-wheels W, having flanged rims or gutters X, substantially as set forth.

4. The seed-wheels W, having flanged rims or gutters X, radiating arms or seed-tubes Y, and curved connecting-tubes B', substantially as set forth.

5. The seed-wheels W, having flanged rims or gutters X, radiating flanged arms or seed-tubes Y, provided with hinged lids A' and springs C', and the curved connecting-tubes B', substantially as set forth.

6. The flanged arms or seeding-tubes Y, having hinged lids A', provided with pins G', springs C', slots D', and pivoted cut-off plates E', operated by the pins G', in combination with the supply-tubes B', and mechanism for operating the hinged lids, substantially as set forth.

7. The combination of the hoppers, the delivery-tubes V, the revolving seed-wheels W, having flanged rims X, radiating flanged arms Y, provided with hinged lids A', springs C', and cut-offs E', and connecting-tubes B', and the brackets I', having loosely-journaled disks H', substantially as set forth.

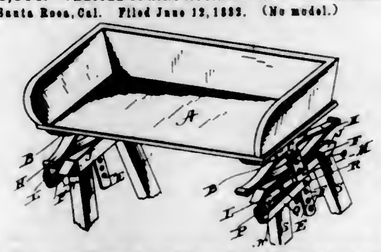
8. The combination of the driving-wheel D, having sliding clutch-collar G, the axle C, having seed-wheel W, provided with clutch J', the frame K', having arms L', and rods M', provided with slots O', the longitudinally-sliding bar P', having diagonally-bent ends working in slots O', and an operating-lever, all constructed and operating substantially as set forth.

263,065. THREAD-GUIDE FOR KNITTING-MACHINES. TITUS SHEARD, Little Falls, N. Y. Filed May 20, 1882. (No model.)



Claim.—The combination of the thread-guide A, provided at its eyes *a b* with the dovetail groove *c*, and the anti-friction plate *d*, adapted to be inserted and secured in said groove, substantially as described.

263,066. VEHICLE-SPRING ATTACHMENT. DYAS SEELTON, Santa Rosa, Cal. Filed June 12, 1882. (No model.)

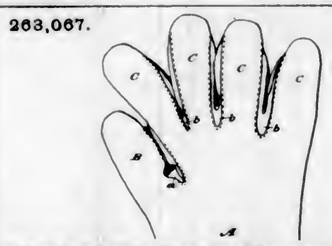


Claim.—1. The seat A and block B, said block resting on the springs and having the T-shaped bar C secured to its outer side in combination with the block J, plate L, and extension N, the plate L being secured to block J, and provided with slot M, for the reception of the vertical slotted end E of the bar C, substantially as described, and for the purposes set forth.

2. The seat A, block B, bar C, springs H, block J, standards S, and plate L, said plate having slot M therein, in combination with the adjustable tongue Q, pivoted at P to the extension N, said tongue being provided on its inner side with locking-stud R, arranged to engage the slots F in bar E, substantially as specified, and for the purposes set forth.

3. The horizontal plate L, having vertical slot M, said plate being provided with end slots, O, for the reception of screws to secure it to block J on standard S, in combination with the tongue Q, pivoted to extension N, and having stud R on its inner side, substantially as described, and for the purposes set forth.

263,067. GLOVE OR MITTEN. NELSON B. SLAYTON and WILLIAM D. WELLS, Alfred Centre, N. Y. Filed Apr. 13, 1882. (Model.)



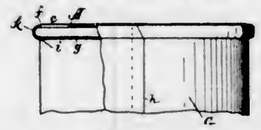
Claim.—1. A reversible glove or mitten formed from two like parts or halves cut from a sheet of fabric—as leather, for example—with half of the thumb attached to each part and a separate thumb-fourchette, and the parts joined by sewing together their margins, substantially as set forth.

2. A reversible glove or mitten comprising two like halves or parts, each part having the halves of the necessary fourchettes joined thereto, whereby a single continuous row of stitching around the margins or edges serves to close and finish the glove or mitten, substantially as set forth.

3. The combination, with a half glove or mitten, A, cut from a sheet of some suitable fabric, with a half-thumb, B, attached thereto, of the half-fourchette *a*, cut of triangular form and sewed at two of its three sides to the half glove or mitten A, substantially as set forth.

4. The combination, with a half glove or mitten, A, cut from a sheet of some suitable fabric, with a half-thumb, B, and half-finger C attached thereto, of the half-fourchette *a*, cut of triangular form and sewed to the half glove or mitten at two of its sides, and the V-shaped fourchette *b*, sewed to the half glove or mitten at its exterior edges, substantially as set forth.

263,068. SHEET-METAL VESSEL. EDWARD SMALL, Baltimore, Md. Filed June 16, 1882. (No model.)



Claim.—1. In a sheet-metal vessel having an inside-fitting head, the combination of the head having a prominent angular edge, *f*, and a rounded or curved flange, *d*, outside and around the angular edge, and the body having an inside shoulder, *i*, on which the flange of the head sets, and the ends K of the body, crimped inward, forming a rounded or partly-circular lap over the curved flange, and having its cut edge faced toward the angular edge on the head, as set forth.

2. In sheet-metal vessels, the combination, with a body having an inside shoulder, of a head having a round inward-crimped flanged rim, *d*, the cut edge *g* of which is turned away from the said inside shoulder, as set forth.

263,069. WINDMILL. ALLEN H. SMITH, Burlington, Kans. Filed July 28, 1882. (No model.)

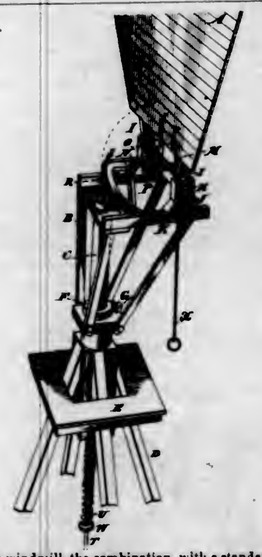
Claim.—1. In a windmill, the combination, with a vibrating blade, of devices to maintain it in a normal position of readiness to be deflected, a system of levers to transmit the motion of the blade to the device or machine to be driven, and devices to maintain said levers in a normal position of readiness to be operated by the motion of the blade, substantially as set forth.

2. In a windmill, the combination, with a hollow standard, a fan-blade pivotally secured to said carriage in a position eccentric to the standard, a system of levers to transmit the motion of the fan-blade to a rod located in the hollow standard and connected with the device or machine to be driven, and a spring to maintain said levers in a normal position of readiness to be operated by the motion of the blade, substantially as set forth.

3. In a windmill, the combination, with a blade pivotally mounted on a rotating carriage, of springs adapted to maintain said blade in a normal position of readiness to be deflected by the wind, connections between said lever and the engine to be driven, and a spring to maintain said connections in a normal position of readiness to receive and apply the impulses of the lever, substantially as set forth.

4. In a windmill, the combination, with a hollow standard, of a rotating carriage mounted on said standard, a fan-blade pivotally secured to said carriage, a lever secured to the lower portion of said blade, flexible connection between the lever and a rod located in a hollow standard, and a spring encircling said rod and arranged to exert a constant tendency to depress it in the standard, substantially as set forth.

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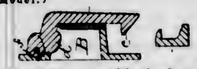


5. In a windmill, the combination, with a standard, of a rotating carriage, bearings mounted on said carriage and arranged to be laterally adjusted thereupon, a fan-blade journaled in said bearings, a lever projecting from the lower end of the blade and made laterally adjustable therein, and devices connecting said lever with the device or machine to be driven, substantially as set forth.

6. In a windmill, the combination, with a vibrating blade mounted on a rotating carriage, a lever attached to the lower end of said blade and terminating in a grooved segmental extension, flexible connection attached to the outer end of the lever, and a reciprocating rod attached to the free end of said connection and connecting with the machine or device to be driven, substantially as set forth.

7. In a windmill, the combination, with a vibrating fan-blade, of a tie-rope attached directly to it and adapted to secure it in a position horizontal to the wind, substantially as set forth.

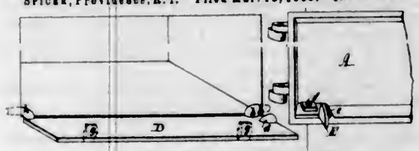
263,070. SASH-FASTENER. WILLIAM E. SPARKS, New Britain Conn., assignor to P. & F. Corbin, same place. Filed Feb. 17 1882. (No model.)



Claim.—1. The flush-plate with the box upon its back side, in combination with the hinged latch having the cross-piece for closing the upper side of said box, and the hook for engagement with the keeper, substantially as described, and for the purpose specified.

2. In a sash lift and lock, the plate having the box with an opening at the front for the insertion of the fingers, and an opening at the top, in combination with the latch pivoted to the plate at a point just above the finger-opening, and projecting downward through the opening in the top of the box, and also extending downward behind the box for engagement with the keeper, substantially as described, and for the purpose specified.

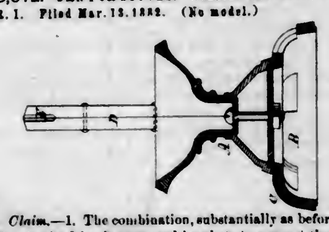
263,071. DOOR FOR STOVES AND RANGES. WILLIAM A. SPICER, Providence, R. I. Filed Mar. 13, 1882. (No model.)



Claim.—1. A stove or range provided, substantially as before set forth, with lugs *g*, for supporting an outside oven-shelf and with pin-holes for receiving the hinge-pins *h* of an inside oven-shelf.

2. In combination with a stove or range provided with lugs *g*, for supporting an outside shelf, and with pin-holes for receiving the hinge-pins *h* of an inside shelf, a door adapted to be fitted either with a cam for operating the inside shelf or with a finger for operating the outside shelf, as described.

263,072. URN FOR STOVES. WILLIAM A. SPICER, Providence, R. I. Filed Mar. 13, 1882. (No model.)

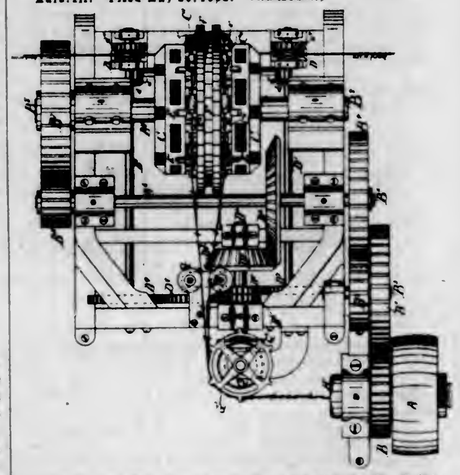


Claim.—1. The combination, substantially as before set forth, of the standard having grooved brackets to support the trunnions of a water-vessel, the perforated base secured to the standard, and the perforated ring C, having its inner edge seated in a recess between the standard and the base.

2. The combination, with the standard A and the brackets D D, of the slots E E and the swinging vessel F, provided with trunnions constructed to be detached, as described.

3. The combination, with the cast-metal standard A and brackets D D, provided with slots E, of the sheet-metal vessel F, supported by trunnions, as and for the purpose described.

263,073. BARB-WIRE MACHINE. SIDNEY M. STEVENS, De Kalb, Ill. Filed May 29, 1882. (No model.)



Claim.—1. The barbing-wheel provided with a series of slotted coiling-cylinders, in combination with the cam-ring, substantially as set forth.

2. A barbing-wheel carrying a series of slotted coiling-cylinders, having projecting teeth, in combination with an annular cam provided for a portion of its periphery with spiral grooves for rotating the cylinders, and for the remainder of its periphery with a concentric groove for holding them against rotation, substantially as set forth.

3. A barbing-wheel carrying a series of slotted coiling-cylinders, having projecting teeth, in combination with an annular cam provided with both spiral and concentric grooves, in which the said teeth are continuously confined, substantially as specified.

4. A coiling-cylinder mounted upon a moving support, and having projecting points or teeth, in combination with a stationary grooved cam engaging with said teeth, whereby the advancing cylinder is operated, substantially as shown and described.

5. In an automatic barb-fence machine, the combination of a series of slotted coiling-cylinders provided with slotted supporting devices, and mounted upon a rotating wheel, in combination with

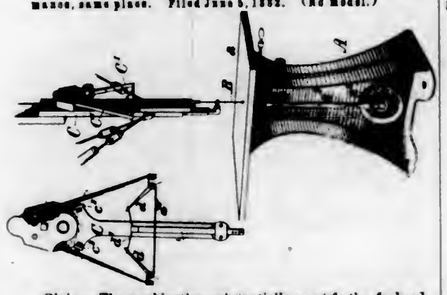
said wheel, whereby the fence-wire is allowed to enter and leave said cylinders in a lateral direction as the wheel rotates, substantially as specified.

6. The slotted cylinder, the slotted supporting device and its standard, the plate, and the depending rib, having the projection by which the cylinder is confined endwise, in combination with the wheel, substantially as set forth.

7. The combination, with the coiling-cylinders, of recessed spring-levers for supporting the inner end of the barb during the coiling operation, substantially as specified.

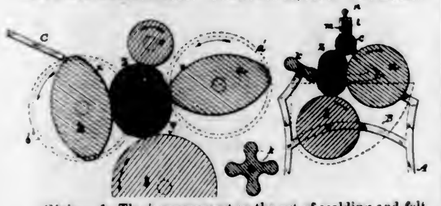
8. A barb-fence machine consisting of a wheel carrying a series of coiling mechanisms, a cam for operating said coiling mechanisms, barb-feeding mechanism, barb-severing mechanism, and a positively operated feed-wheel, substantially as specified.

263,074. DEVICE FOR STRAINING SCROLL-SAWS. FREDERICK H. SWEET, Williamsport, Pa., assignor to Rowley & Hermance, same place. Filed June 5, 1882. (No model.)



Claim.—The combination, substantially as set forth, of a headstock, pendulous springs pivoted thereto, and a pair of floating or unpivoted rockers connected to and supported by flexible straps connecting the free ends of the springs, and having arms flexibly connected to a saw.

263,075. HAT SCALDING AND FELTING MACHINE. JAMES S. TAYLOR, Danbury, Conn. Filed June 13, 1882. (No model.)



Claim.—1. The improvement in the art of scalding and felting hats, which consists in rolling and manipulating the goods while saturated with hot water, and subjecting them to a fulling or equivalent action derived from and limited in extent by the contact of the goods with a surface revolved by the same, substantially as set forth.

2. The improvement in the art of scalding and felting hats which consists in rolling the goods, while saturated with hot water, on open rollers and subjecting them to an intermittent retarding or punching action, which tends to revolve them in an opposite direction, substantially as set forth.

3. The improvement in the art of scalding and felting hats, which consists in rolling the goods, while saturated with hot water, on or between eccentrically-revolving surfaces, substantially as set forth.

4. In a hat scalding and felting machine, a pair or series of rollers geared to revolve in a common direction, combined with an ungeared or loose supplemental roller or worker, the rollers and worker forming an open or unobstructed chamber into and from which the goods may be conveniently inserted and removed, substantially as set forth.

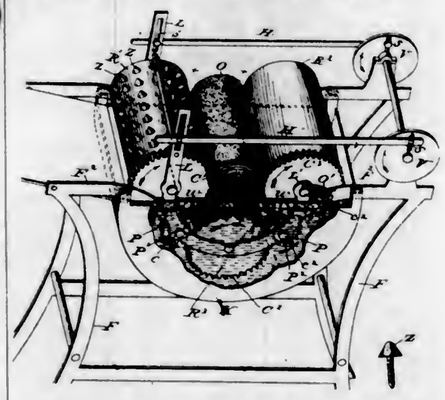
5. In a hat scalding and felting machine, a pair or series of rollers geared to revolve in a common direction, combined with an ungeared or loose supplemental roller or worker in elastic bearings, the rollers and worker forming an open or unobstructed chamber into and from which the goods may be conveniently inserted and removed, substantially as set forth.

6. In a hat scalding and felting machine, a pair or series of rollers geared to revolve in a common direction, and a cam-shaped roller geared to revolve in the opposite direction, combined with a worker for exerting superimposed pressure on the goods, the arrangement of the rollers, cam-shaped roller, and worker being such as to form an open or unobstructed chamber into and from which the goods may be inserted and removed without lifting any roller therefrom, substantially as set forth.

7. In a hat scalding and felting machine, a pair of rollers geared to revolve in the same direction, combined with a cam-shaped roller geared to revolve in the opposite direction, the relative arrangement of the three rollers forming an open chamber into and from which the goods may be placed and removed without any change being effected in the position of the axes of the rollers, substantially as and for the purposes set forth.

8. In a hat scalding and felting machine, a combination of elliptical rollers arranged to present alternately during revolution their long and short diameters to each other in proper order, and to form an open chamber for the entrance and removal of the goods, substantially as and for the purposes set forth.

263,076. MACHINERY FOR FELTING HATS. JAMES S. TAYLOR, Danbury, Conn. Filed Jan. 18, 1882. (No model.)



Claim.—1. The method herein described of scalding and felting hat-bodies, which consists in rolling the goods alternately in air and hot water on open rollers without superimposed pressure, and at the same time subjecting the goods to automatic compression and vibratory movement, substantially as set forth.

2. In a hat-felting machine, a kettle and a series of rollers suspended therein on a transverse curve, the lower roller being in fixed bearings and the upper rollers automatically yielding or constructed to have lateral vibration, combined with gearing for rotating said rollers simultaneously and in the same direction, substantially as set forth.

3. In a hat-felting machine, a kettle and a series of three rollers suspended therein on a transverse curve, the lower roller being in fixed bearings, one of the upper rollers having positive lateral vibration and the other upper roller resting in elastic or yielding bearings, substantially as set forth.

4. The combination, in a hat-felting machine, of a kettle and a series of rollers suspended therein on a transverse curve, one of which, R′, is provided with knuckles and adapted to be given positive lateral vibration, substantially as set forth.

5. The combination, in a hat-felting machine, of a kettle and a series of rollers suspended therein on a transverse curve, one of which, R^3, is convex and mounted in elastic or yielding bearings, substantially as set forth.

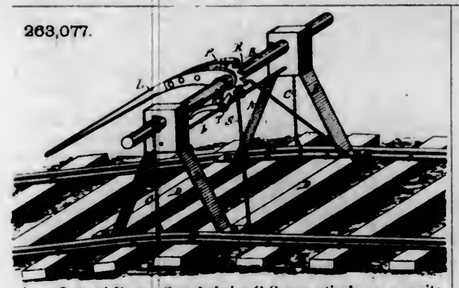
6. The combination, in a hat-felting machine, of a kettle and a series of rollers suspended therein on a transverse curve, the roller R^2 being in fixed bearings, the roller R′ provided with knuckles and adapted to receive positive lateral vibration, and the other roller, R^3, convex and mounted in elastic or yielding bearings, substantially as set forth.

7. The adjustable knuckles Z, combined with a roller or rollers of a hat-felting machine, substantially as set forth.

263,077. RAILWAY-JACK. DANIEL E. TEAL, Oneida Castle, N. Y. Filed June 1, 1882. (No model.)

Claim.—1. The improved railway-jack, consisting of the standards A A, having inclined legs resting with their feet on cross-sills D D, the cross-shaft B, ratchet R, fixed on said shaft,

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lever L, pawl P, stop S, and chains C C, respectively, on opposite ends of the shaft B, all combined and operating substantially as described and shown, for the purpose specified.

2. The combination, with the standards A A, shaft B, ratchet R, lever L, pawl P, and chains C C, of the combined stop and brace S, hinged to the foot of the standards and extended to the ratchet, substantially in the manner and for the purpose set forth and shown.

3. The combination, with the standards A A, shaft B, ratchet R, lever L, pawl P, chains C C, and combined stop and brace S, of the auxiliary or safety stop T, consisting of a pivoted lever held automatically in engagement with the ratchet, substantially as set forth and shown.

4. The combination of the standards A A, shaft B, ratchet R, lever L, pawl P, chains C C, combined stop and brace S, crossbar *b*, suspension-rods *n n*, and the auxiliary stop T, pivoted on the bar *b*, substantially as described and shown, for the purpose set forth.

263,078. SAFETY RAILROAD-TIE. FRANCIS TURICA, Omaha, Nebr. Filed Jan. 16, 1882. (No model.)

Brief.—Railway-ties are secured to rigid concrete foundations, and are arranged diagonally to each other on the ground. On said foundation is placed a plate provided with dowels, and upon said plate is secured a chair which supports the rail, the chairs being connected together by diagonal ties secured to each other and the foundation-plate by a pin which is locked and keyed.



Claim.—1. A system of railway-ties arranged on the ground diagonally to each other, in combination with a rail-chair foundation and foundation-plate secured to each other, substantially as and for the purpose set forth.

2. A railway-tie or system of ties arranged on the ground diagonally to each other, the ties being secured to a rail chair or plate, a concrete foundation, and a foundation-plate placed thereon by a projecting pin or the rail-chair keyed in the foundation, all combined substantially as set forth.

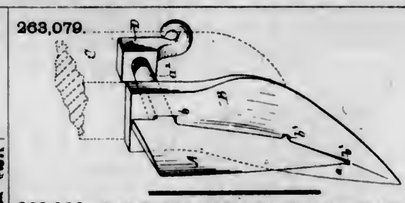
3. A system of railway-ties secured to rigid concrete foundation and arranged diagonally to each other on the ground, in combination with a foundation-plate and rail plate or chair, each rail-chair being connected to two others on the other side of the track by two diagonal ties, said ties being secured to each other and the foundation-plate by a pin locked and keyed in the foundation, as described, whereby the parts are secured to each other and spreading of the rails prevented, as set forth.

4. The combination of the rail *a*, seated in the chair *b*, the foundation-plate provided with dowels *e*, the rails *f*, and the concrete foundation, the several parts being secured together substantially as shown, for the purpose set forth.

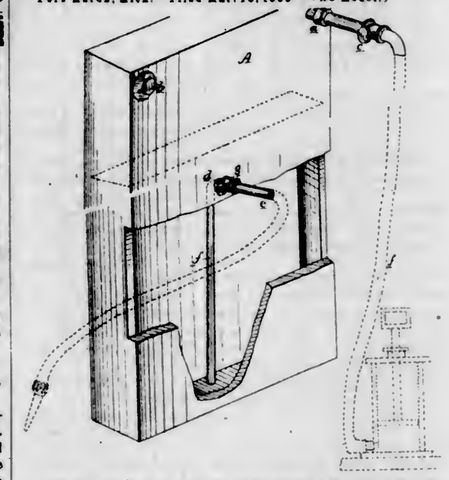
263,079. PLOW-COLTER. COMER C. VINCENT, Greensborough, assignor of one-half to John Bonner Moore, Augusta, Ga. Filed May 10, 1882. (No model.)

Claim.—The combination, with a plow-standard and a shovel provided with perforations *b* and b^2, of a colter-blade having integral therewith the screw-tapped arm a^1, and the steady-pin a^2, projecting from the back of the blade, substantially as and for the purpose described.

263,079.



263,080. FIRE-EXTINGUISHING DEVICE. MICIAH WALKER, Port Huron, Mich. Filed Mar. 15, 1882. (No model.)



Claim.—1. As a means for extinguishing fires in railroad-cars, a tank having air and water inlets, with pipe-connections, a water-outlet, and a pendent pipe extending from the water-outlet in the interior of the tank and of sufficient length to reach any portion of the tank whatever its position, as set forth.

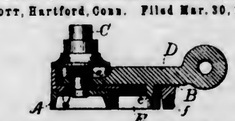
2. The tank A, having air-inlet *a*, water-inlet *b*, and water-outlet *d*, combined with the hose *e f* and the cut-off *c*, all arranged and adapted to serve as and for the purpose set forth.

263,081. TAG-FASTENER. CLOTILDE H. WERDELL and NANCY D. TAYLOR, Atchison, Kans. Filed June 10, 1882. (No model.)



Claim.—As an improved article of manufacture, the tag and fastener herein described, consisting of the tag A and wire *d*, bent at its center around the eyelet *i*, and having divergent pointed ends *e e*, one on each side of the tag, as shown, whereby the said tag may be secured to cloth or other substance by either or both its ends, substantially as specified.

263,082. FASTENER FOR THE MEETING-RAILS OF SASHES. C. WOLCOTT, Hartford, Conn. Filed Mar. 30, 1881. (Model.)

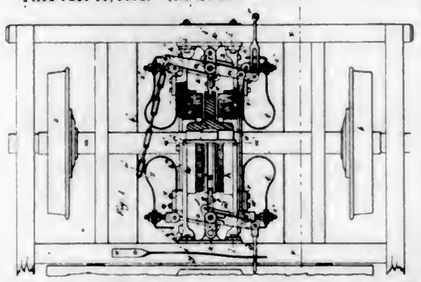


Claim.—1. The combination of the plates A E, the pivoted sweep slotted longitudinally upon its upper side, and the latch-lever hung within the slotted sweep and extending over the meeting edges of the plates A E, and also provided with a downward projection or lug which reaches below the solid part of the sweep and into one of the plates underneath the sweep, substantially as described, and for the purpose specified.

2. The combination of the plates A E, having curved slot *c* and mortise *b*, the post C, sweep B, slotted longitudinally upon its upper side and having the stop *f*, the spring *a*, and the latch-lever

D, hung within said sweep and having the downward projection *e*, which passes through the sweep and engages the mortise *b* of the plate, substantially as described, and for the purpose specified.

263,083. CAR-BRAKE. OROSCO C. WOOLSON, Newark, N. J. Filed June 10, 1882. (No model.)



Claim.—1. A brake for railway and other vehicles, consisting of a wheel or disk with flat parallel vertical faces rigidly secured to the axle between or upon the wheels, a clamp or shoe suspended at either side of said disk and rigidly fixed against any rotation with the axle or disk for engaging said wheel or disk in frictional contact, all the parts being so arranged in combination as to permit the axle and disk to move freely both laterally and vertically, and suitable mechanism for operating said clamp or shoes, as set forth.

2. A wheel or disk with flat parallel vertical faces secured to the axle between or upon the wheels, and duplicate check-pieces with flat vertical faces made of wood or other suitable material, for clamping said wheel or disk, to be placed in suitable sockets in side plates, H H, in combination with suitable mechanism for producing said clamping action, for the purpose specified.

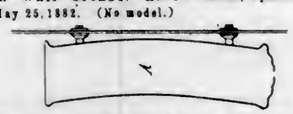
3. The wheel or disk C, having the circumferential groove D, in combination with the vibrating arm E, the swinging side plates, H H, carrying the clamps or shoes F F, the yielding arms or springs T T, the connecting eye-rods S S, the double crank N″, and intermediate vibrating wrist-pins M, and pivoted arms L L, substantially as described.

4. The side plates, H, provided with the yielding arm or springs T, connecting eye-rod S, double crank N″, and spring T, substantially as described.

5. The semi-annular plate H‴, in combination with side plates, H H, substantially as described.

6. The hinge-pin L′, in combination with the vibrating fulcrum-bracket E′, and ear-bracket K, substantially as described.

263,084. WHIP-SOCKET. ALVA WORDEN, Ypsilanti, Mich. Filed May 25, 1882. (No model.)



Claim.—A whip-socket made of a curved cylinder, substantially as and for the purposes described.

263,085. LOOM FOR WEAVING CHENILLE OR AXMINSTER CARPETS AND RUGS. WILLIAM ADAM, Kidderminster, County of Worcester, England. Filed June 25, 1881. (No model.) Patented in England Nov. 22, 1880, No. 4,842.

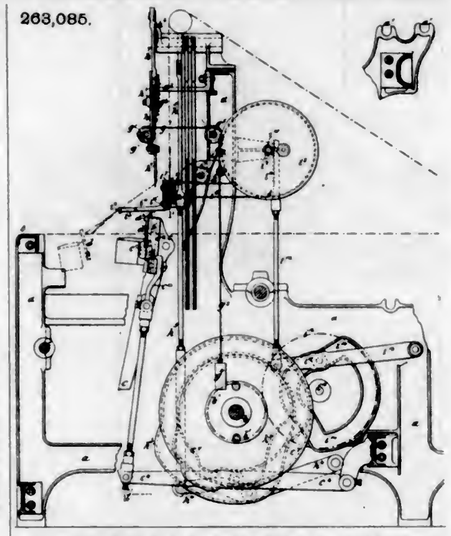
Claim.—1. The combination of finger i^2 and slide *i* with the fixed guide-rods i^3 and suitable operating mechanism, the said finger being adapted to deliver the weft with the pile uppermost, as set forth.

2. The combination of finger i^2, formed with groove i^6 and slide *i*, said finger and slide being formed with guides i^7 i^8, with the rods i^3, and suitable means for moving the finger sidewise to and fro across the warps, as set forth.

3. The combination of the finger i^2, slide *i*, fixed cross-bars i^3, flexible cord or connections i^4, guide-wheels i^5, operating-wheel i^9, shaft i^9, cam i^{10}, lever i^{11}, rod i^{12}, rack i^{13}, and toothed pinion i^{14}, as set forth.

4. The combination of needle-frame *h*, means for imparting vertical movement thereto, catcher-warp roller *g*, mounted on the needle-frame, pulleys *g′* on the ends of the roller, springs g^3, secured to the needle-frame, weights g^4, and cords g^5, passing around

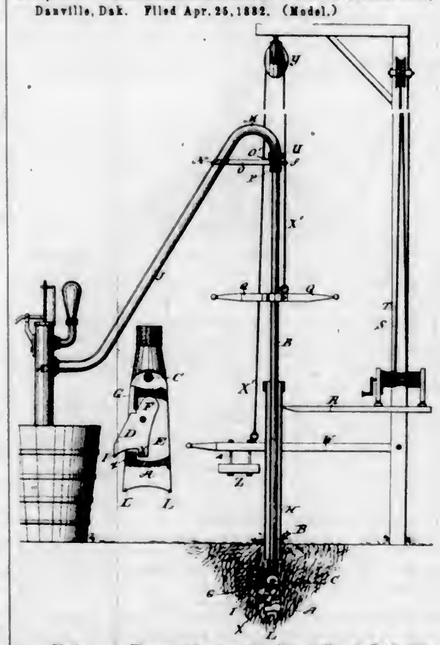
263,085.



the pulleys and attached at their ends to the springs and weights, respectively, as set forth.

5. The open-topped reed *d*, having dents d^2 d^2, formed with inclined faces d^3, and a lathe, combined with means for giving a rising motion to said reed, as set forth.

263,086. WELL-BORING MACHINE. PETER N. AGGERGAARD, Danville, Dak. Filed Apr. 25, 1882. (Model.)



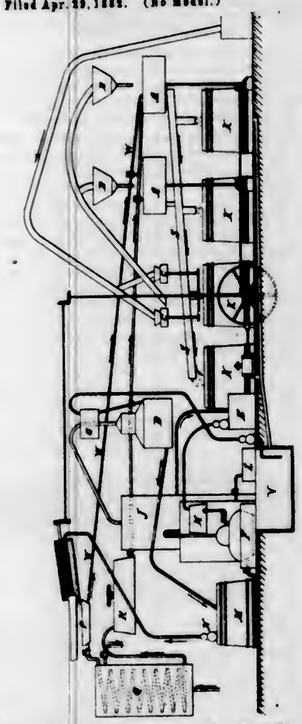
Claim.—1. The combination of hollow drill-rod B, flexible hose J, arm O, and collars N and O′, substantially as described.

2. The combination of vertically-adjustable platform R on derrick-post S with the drill-rod B and arms Q thereon, substantially as described.

3. The platform R, windlass V, cord T, and post S, in combination with the drill-rod B and arm Q, substantially as described.

4. The combination, with the drill A, provided with the slot E and the shoulder *x*, of the pivoted bit D, provided with the shoulder X, and point I, and spring G, substantially as shown and described.

263,087. PROCESS OF MAKING WHISKY. MARSHALL J. ALLEN, New York, N. Y., and WILLIAM E. BRADLEY, Frankfort, Ky. Filed Apr. 29, 1882. (No model.)



Claim.—1. In the manufacture of whisky, the process described, consisting in rapidly cooling spent beer and then mixing the slop with fresh material for subsequent fermentation, substantially as set forth.

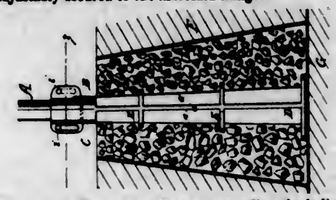
2. In the manufacture of whisky, the process of saving the sugar, starch, and yeast contained in spent beer, which consists in freeing such spent beer before permitting it to cool by mechanical means—such as sieving of the bran, chaff, and other coarse waste particles—rapidly cooling the thin slop, and then adding the same to and mixing it with fresh material for subsequent fermentation, substantially as set forth.

3. In the manufacture of whisky, the process of saving the sugar, starch, and yeast contained in spent beer and utilizing the same, which consists in freeing the spent beer of the bran, chaff, and other coarse particles, rapidly cooling the slop, and then mixing the thin slop thus obtained with fresh mash, substantially as described.

4. In the manufacture of whisky, the mode of saving the sugar, starch, and yeast contained in a spent beer and in using the same, which consists in freeing the spent beer of coarse particles by mechanical means—such as a sieve—of rapidly cooling this thin slop, of causing such an agitation of the slop as will hold the particles of sugar, starch, and yeast in suspension, and then mixing the thin slop so treated with fresh grain, substantially as set forth.

263,088. ELEVATED-RAILROAD CONSTRUCTION. HERMAN ALLEN, Roskoway Beach, N. Y. Filed Mar. 25, 1882. (No model.)

Brief.—A supporting-post for elevated railroads is constructed of a base portion having vertical and horizontal end and intermediate flanges set in a surrounding casing of felt filled with ballast, said base portion having at its upper end a cylindrical cavity with vertical slots and flanges at the edges of such slots to receive the upper section of the post, which has slotted flanges to be vertically and adjustably secured to the aforesaid flanges.



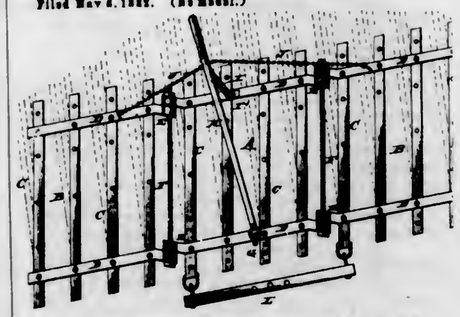
Claim.—1. The walling F, for surrounding the ballast, made conical and adapted to be used with the lower sheet, G, substantially as and for the purposes described.

2. The pedestal or base part of the post, formed with horizontal intermediate flanges, E, and the vertical flanges *a*, substantially as and for the purposes set forth.

3. The base or pedestal part B, formed with the flanges *c c*, in combination with the upper part, A, formed with the slotted flanges, whereby the part A may be vertically adjusted, substantially as and for the purposes set forth.

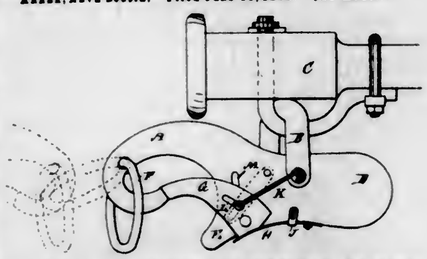
3. The base B, formed with the sleeve C, slotted as shown at *b b*, and formed with the perforated flanges *c c*, in combination with the upper part, A, formed with the slotted flanges *f f*, substantially as described.

263,089. HARROW. JAMES ANDERSON, Jr., Anderson, Ohio. Filed May 4, 1882. (No model.)



Claim.—The combination of the harrow-sections A B B, having hinge-straps D, with projecting ends E, the hinge-rods F, the lever H, pivoted to the front hinge-strap of the central section and having a downwardly-extending spring-brace, I, bolted securely to the rear hinge-strap of said central section, and the chains K, as and for the purpose set forth.

263,090. CAR-COUPLING. ROBERT ANDERSON, West New Annan, Nova Scotia. Filed June 10, 1882. (No model.)



Claim.—1. In a car-coupling, the combination, with the hook A, of the ring F and the pivoted latch G, substantially as herein shown and described, and for the purpose set forth.

2. In a car-coupling, the combination, with the hook A, of the ring F, the pivoted latch G, and the pivoted bail K, substantially as herein shown and described, and for the purpose set forth.

3. In a car-coupling, the combination, with the hook A, of

the ring F, the pivoted latch G, the pivoted bail K, and the lock-piece N, substantially as herein shown and described, and for the purpose set forth.

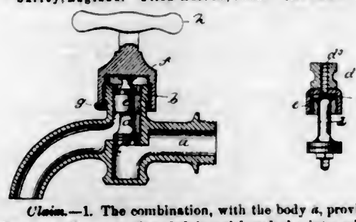
4. In a car-coupling, the combination, with the hook A, of the ring F, the pivoted latch G, provided with a beveled lower edge, and of the spring H, resting against this beveled edge of this latch, substantially as herein shown and described, and for the purpose set forth.

5. In a car-coupling, the combination, with the hook A, provided with a slot, M, the pivoted latch G, provided with a slot, L, the pivoted bail K, passing through these slots, and of the ring F, substantially as herein shown and described, and for the purpose set forth.

6. In a car-coupling, the combination, with the draw-head C, of the hanger B, the hook A, pivoted to the same, the ring F, the pivoted latch G, and devices for operating and locking the same, substantially as herein shown and described, and for the purpose set forth.

7. In a car-coupling, the combination, with the hook A, of the latch G, the bail K, and the lock-piece N, substantially as herein shown and described, and for the purpose set forth.

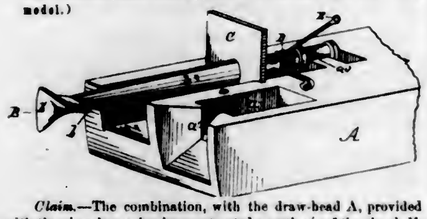
263,091. COCK OR VALVE. DAVID E. ASHTON, Clapton, County of Middlesex, and JAMES N. SPRENTH, Brixton Hill, County of Surrey, England. Filed Mar. 20, 1882. (No model.)



Claim.—1. The combination, with the body *a*, provided with the externally-screw-threaded barrel *b* and the internally-screw-threaded cap *f*, of the valve-spindle *d*, provided with the shoulder *d'* and the screw-threaded extension d^3, the cup-shaped plunger *e*, resting on said shoulder, and nut d^3, substantially as and for the purpose set forth.

2. The combination, with the valve-spindle *d*, provided with the shoulder *d'* and the screw-threaded extension d^3, and the nut d^3, of the cup-shaped plunger *e*, resting upon the shoulder of the valve-spindle, substantially as and for the purpose set forth.

263,092. CAR-COUPLING. JOSIAH AUSTIN and ROSCOE C. CHAMBERLAIN, East Liberty, Ohio. Filed Mar. 13, 1882. (No model.)



Claim.—The combination, with the draw-head A, provided with the chamber *a*, having contracted mouth *a'*, of the shank b^3, provided with the screw-head B, spring D, secured to the shank and draw-head, lever E, and rod *e*, substantially as described, and for the purpose set forth.

263,093. WHISK-BROOM. CHARLES A. AVERY, Schenectady, N. Y. Filed Jan. 14, 1882. (No model.)



Claim.—In a whisk-broom handle, the combination, with the stock A and cylindrical ferrule D, of the metallic ring E, surrounding the upper end of the ferrule, the cap F, composed of a flanged base, *f*, having a suitable covering, the washer *d*, inclosed in said cap, and the securing-tack *e*, all constructed and arranged as and for the purpose specified.

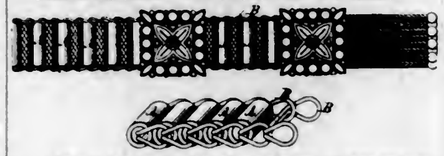
263,094. PLASHED FENCE. WILLIAM BALDWIN, Marion, Ind. Filed Apr. 24, 1882. (No model.)



Claim.—1. The method, substantially as described, of constructing plashed hedge-fences, which consists in first setting or planting the twigs at angle, with but little, if any, of the twigs projecting above the surface of the ground, and, when sufficiently grown for plashing, removing the earth from about and around the roots and bending the heel, or that portion of the root nearest the surface, down deeper in the ground, as shown, and afterward plashing the stalks or twigs, or that portion of the hedge-plant above the surface, with wire or cord, substantially as and for the purpose specified.

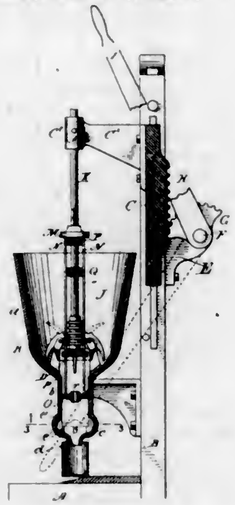
2. The method, substantially as described, of constructing hedge-fences, which consists in first setting or planting the twigs in the ground at angle, with but little, if any, of the twigs projecting above the surface, and, when sufficiently grown for plashing, removing the earth about and around the roots and bending the heel, or that portion thereof nearest the surface, down deeper in the ground, as shown, and afterward plashing the stalks or twigs, or that portion of the hedge-plant above the surface, with a fastening consisting of a continuous wire or cord extending from end to end of the fence, formed in twisted loops, each of which embraces two or more of said stalks or twigs, substantially as and for the purpose set forth.

263,095. ORNAMENTAL CHAIN. WALTER BALLOU, North Attleborough, Mass. Filed July 3, 1882. (No model.)



Claim.—As a new article of manufacture, a chain made up of a number of pieces of tubular wire united together by loops of wire passing through the tubular wire and through the ends of the adjoining loop, as described.

263,096. CAN-FILLING MACHINE. VOLNEY BARKER, Portland, Me. Filed Apr. 24, 1882. (No model.)



Claim.—1. The combination of a tunnel, a plunger within the tunnel, mechanism for supporting and operating the plunger, a follower which moves downward with the plunger in advance thereof, and means for arresting the follower before the stroke of the plunger is completed, substantially as described.

2. The combination of a tunnel, a plunger within the tunnel, mechanism for supporting and operating the plunger, a follower which moves downward with the plunger in advance thereof, mechanism for forcing the material between the plunger and follower, and means for arresting the follower before the stroke of the plunger is completed, substantially as described.

3. The combination of a tunnel the tube of which is provided with a bulge, a plunger within the tunnel, mechanism for supporting and operating the plunger, a follower which moves downward with the plunger in advance thereof, and means for arresting the plunger within the bulge, substantially as described.

4. The combination of a tunnel, a plunger within the tunnel, means for supporting and operating the plunger, and a follower in advance of the plunger and adjustable relatively thereto, substantially as described.

5. The combination of a tunnel, a plunger within the tunnel, means for supporting and operating the plunger, a follower in advance of the plunger, a sliding collar on the plunger-rod, and rods connecting the sliding collar and follower and supporting the latter, substantially as described.

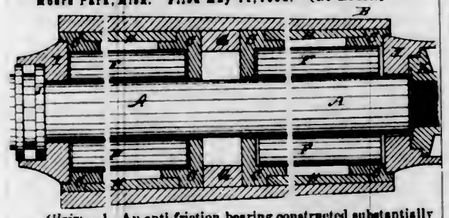
6. The combination of a tunnel, a plunger within the tunnel, means for supporting and operating the plunger, a toothed sleeve upon the plunger-rod, and a series of levers pivoted to suitable supports within the tunnel around the plunger-rod, provided with teeth at their inner ends which intermesh with the teeth of the sleeve, substantially as described.

7. The combination of a tunnel, a plunger within the tunnel, means for supporting and operating the plunger, a loose toothed sleeve upon the plunger-rod, stops for said sleeve upon said rod, and a series of levers pivoted within the tunnel around the plunger-rod, provided with teeth at their inner ends which intermesh with the teeth of the sleeve, substantially as described.

8. A tunnel the tube of which has a bulge provided with vertical partitions, substantially as described.

9. The combination of a tunnel, a plunger within the tunnel, mechanism for supporting and operating the plunger, and a force-feed mechanism auxiliary to the plunger, arranged within the hopper of the tunnel above the tube thereof, whereby the material to be canned is forced from the tunnel-hopper into the tunnel-tube and there acted upon by the plunger, substantially as described.

263,097. ANTI-FRICTION BEARING. ARTHUR O. BARNES, Moore Park, Mich. Filed May 11, 1882. (No model.)



Claim.—1. An anti-friction bearing constructed substantially as herein shown and described, and consisting of the thimble B, the heads C, having openings D and E, the ring G, the rollers F, the shells H, and the cap-collars I, as set forth.

2. In an anti-friction bearing, the combination, with the journal A and the thimble or box B, of the heads C, having openings D and E, the shell H, the rollers F, and means, as set forth, for securing the heads in the thimbles, substantially as herein shown and described, whereby the friction between the journal and bearing is greatly lessened, as set forth.

3. In an anti-friction bearing, the combination, with the journal A, the thimble or box B, the heads C, and the rollers F, of the shell H, substantially as herein shown and described, to adapt the bearing to serve as an oil-chamber, as set forth.

4. In an anti-friction bearing, the combination, with the axle A, provided with the collar J, the thimble or box B, the heads C, the rollers F, and the axle-nut K, of the screw-collars I, substantially as herein shown and described, whereby the rollers are kept in place in the heads and the bearing is kept in place upon the axle, as set forth.

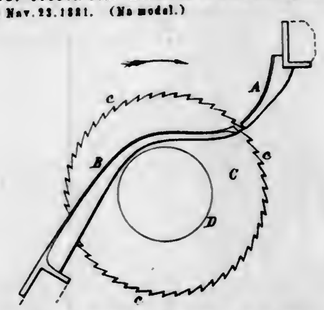
263,098. WHIP. VIAL B. BARSTOW and BENJAMIN BARSTOW, Westfield, Mass. Filed Jan. 16, 1882. (No model.)



Claim.—1. An improved whip-body, consisting of a central elastic core combined and covered with an elastic dried plastic compound, substantially as described.

2. An improved whip-body, consisting of a central elastic core combined and covered with an elastic dried plastic compound, and whose exterior ornamentation is integral with said whip-body, substantially as described.

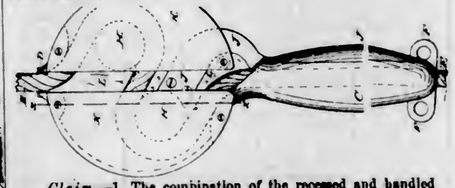
263,099. COTTON-GIN. RANSFORD W. BASON, Longview, Tex. Filed Nov. 23, 1881. (No model.)



Claim.—In a cotton-gin, the combination of the saws with the ribs constructed each in two parts, leaving openings in the ribs, such openings being on a horizontal line with the teeth of the gin-saws as they pass forward between the ribs, as herein set forth and described.

263,100. FIRE-ESCAPE. WINFIELD S. BENDS, Middletown, Conn. Filed May 11, 1882. (No model.)

Brief.—The block is recessed to receive the studded disk, over which studs the rope is bent by the handle secured to said disk. The cover is slotted to allow the rope to be readily taken therefrom.



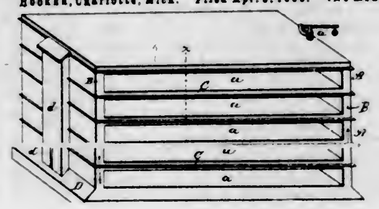
Claim.—1. The combination of the recessed and handled block A, studded and handled disk G, and cover K, substantially as described.

2. The gripping device consisting of recessed block A, stud-disk G, cover K, and handles C J, said handles having eye-studs F, substantially as described.

3. The recessed block A, having eyelet D, also grooved handle C, in combination with stud-disk G and handle J, substantially as described.

4. The recessed block A and handle C, having open eyelet D and the groove for the rope, in combination with stud-disk G and handle J, and also with cover K, having slot L, substantially as described.

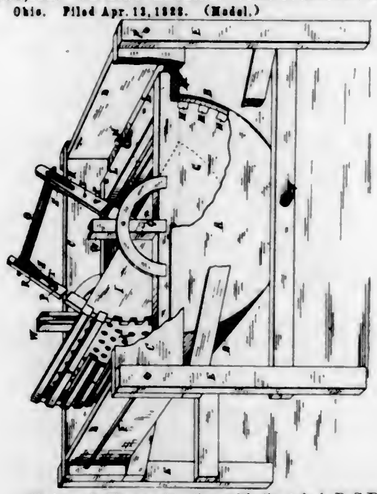
263,101. FRUIT-DRIER. FRANK S. BULCHER and FRANK A. HOOKER, Charlotte, Mich. Filed Apr. 3, 1882. (No model.)



Claim.—1. The fruit-drier consisting of the boiler D, having an evaporating-chamber, *a*, formed in its upper portion, the separate sections A, each formed with a portion of the continuous steam-column B, and upper and lower portions of the flues C, all combined and arranged to operate substantially as shown and described.

2. In a fruit-drier, the combination of the separate sections A, constructed with evaporating-chambers *a*, and vertical end steam-columns, B, provided with flanges around their upper and lower edges, whereby horizontal flues C, communicating with the end columns, B, are formed between the evaporating-chambers *a*, substantially as shown.

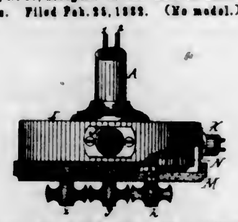
263,102. WASHING-MACHINE. JESSE P. BENTLEY, Sabina, Ohio. Filed Apr. 12, 1882. (Model.)



Claim.—1. The combination, with the tub A B C D, provided with the ledges M, and bottom rubber, G H, provided with the end projections, L, having handles N, and grooved standards W, of the oscillating rubber I J K, provided with journals Q, operating directly in the grooves of the said standards, and adjustable handles O P, substantially as and for the purpose set forth.

2. The combination, with the oscillating rubber I J K, provided with the bars P, having slots R and holes T, of the cross-bar O and the springs S, secured to the said cross-bar O, and their free ends adapted to engage with the holes of the bars P, substantially as and for the purpose set forth.

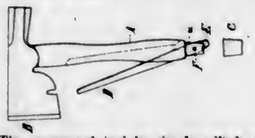
263,103. ELECTRICAL CHANDELIER. SIGMUND BERGMANN, New York, N. Y., assignor of one-half to Edward H. Johnson, same place. Filed Feb. 25, 1882. (No model.)



Claim.—1. The combination, with a ceiling-block having plain and screw rings connected with the ceiling-wires, of the stem A of an electrical chandelier having wires 1 2, the head B, of insulating material, attached to the upper end of such stem, and provided with plain and screw rings C D, the chamber in the top of said head containing the binding-plates *a b c* and safety-catch E, such parts being accessible from the top of the chandelier, and being hidden when the head is turned into the ceiling-block, substantially as described and shown.

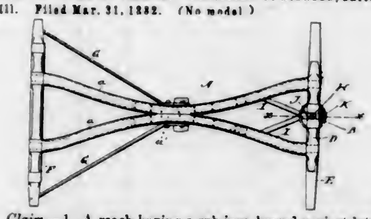
2. In an electrical chandelier, the combination, with the central box or case inclosing the connections, of a removable cover of insulating material, through which the stems of the circuit-controllers pass, substantially as set forth.

263,104. TOOL. EDWARD A. BICKEL, Cincinnati, Ohio. Filed May 10, 1882. (No model.)



Claim.—The compound tool herein described, consisting of the channeled helve A *a a'*, hatchet-head B, pivoted saw-blade D, and ferrule C

263,105. WAGON-REACH. CHRISTIAN F. BILHORN, Chicago, Ill. Filed Mar. 31, 1882. (No model.)

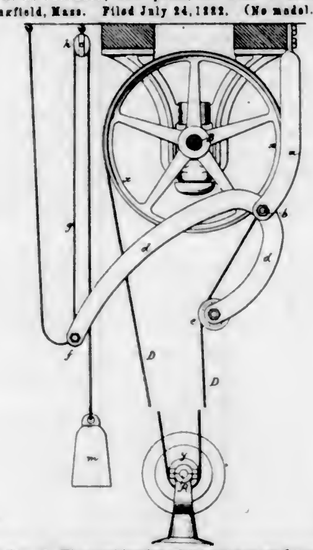


Claim.—1. A reach having a rub-iron braced against lateral deflection, substantially as set forth.

2. The reach A, branching at its forward end, in combination with the braces I I, substantially as set forth.

3. A wagon-reach consisting in its forward part of arms diverging forwardly, in combination with a head-block having its rear surface in contact with the forward ends of the arms, substantially as and for the purposes described.

263,106. BELT-TIGHTENER. JOHN H. BRADLEY, Philadelphia, Pa., assignor to Benjamin Thackara, Charles Thackara, and A. M. Thackara, same place, and John H. Southworth, Springfield, Mass. Filed July 24, 1882. (No model.)



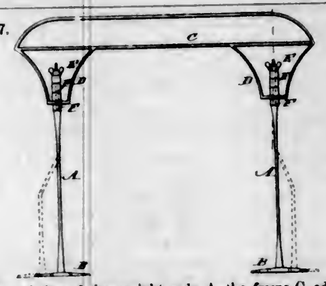
Claim.—1. The combination of the pulleys *x* and *y* and belt D with a bell-crank lever having its long arm weighted and its short arm provided with a belt-pressing roll, *e*, said lever being hung in respect to the pulleys, belt, and bench as described, whereby its long arm is located over the bench, as set forth.

2. The combination of the pulleys *x y*, belt D, hangers *c*, duplex bell-crank lever *d*, roll *e*, and weight, as described.

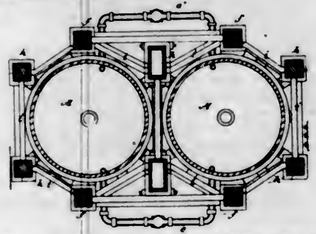
263,107. REIN-HOLDER. MADISON P. BRISCOE, Bairdstown, Ga. Filed June 16, 1882. (No model.)

Claim.—The herein-described rein-holder and kicking attachment, consisting of the upright rods A, the frame C, adjustably secured thereto, and the horizontal frame G, secured to the lower bar of the frame C C, substantially as set forth.

263,107.



263,108. BALING-PRESS. JOHN BROWN, Memphis, Tenn. Filed May 13, 1882. (No model.)



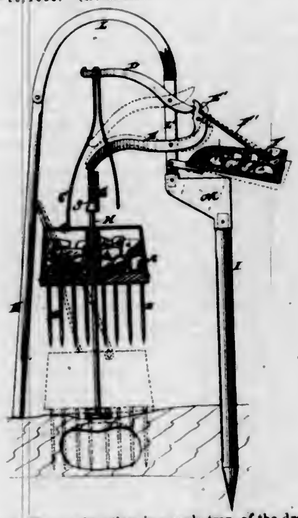
Claim.—1. The frame consisting of main posts *f*, foot-posts *h*, and slabs or plates *i*, inclosing and sustaining the steam-cylinders, substantially as shown and described.

2. The hollow posts *f* of the main frame, made in sections and held together by the interior rods, *l*, as shown and described.

3. The upper frame composed of slabs or plates *o*, supported on posts *f*, and held by rods *l*, substantially as shown and described.

4. The combination of the head-block *s*, cross-rail *t*, and upper frame of the press, substantially as described.

263,109. MOLE-TRAP. ALEXANDER L. BRYAN, Edgewood, Ga. Filed June 10, 1882. (No model.)



Claim.—1. The combination, in a mole-trap, of the drop carrying downwardly-projecting transfixing pins or spears with the push-rod passing through the drop, the tripping-lever upon which a bail connected to the drop is hung, the trigger adapted to be engaged by the tripping-lever and to be actuated by the upward movement of the push-rod, and the counter-balance for maintaining the tripping-lever and trigger in engagement with each other when the trap is set, substantially as described.

2. The combination, in a mole-trap, of the drop with the trigger, the push-rod passing through the drop, the slotted tube adjustably secured upon the upper end of the push-rod, and devices for setting the trigger, substantially as described.

263,110. LACING-STUD SET OR PUNCH. LOUIS C. BURTNER, Boston, Mass. Filed July 20, 1882. (No model.)

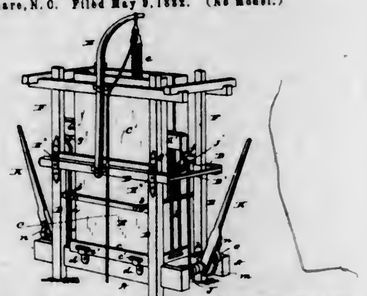
Brief.—Improvement on Letters Patent No. 171,770, dated January 4, 1876.



Claim.—1. In an instrument for affixing eyelet-hooks to boots and shoes, a block or punch, D, constructed with a central teat, *d*, and a rim, *e*, substantially as and for the purpose set forth.

2. The combination, with the punch D, constructed as described, of the slotted lug C, attached respectively to the jaws A B, substantially as shown and described.

263,111. COTTON OR HAY PRESS. WILLIAM H. BURGESS, Rich Square, N. C. Filed May 9, 1882. (No model.)



Claim.—1. In an upright press-frame, the combination of the sill-timbers A A A' A', arranged at right angles and supporting the floor of the press-box, with the compound tie or clamping blocks *a*, secured to said timbers, substantially in the manner described.

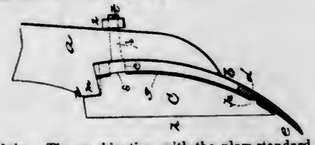
2. The combination, with the ends of the follower-beam, of metal hooks *f*, the eyebolt attachments therefor, and the hanging pulleys over which the windlass-ropes pass, one end of each rope being secured to one of said eyebolts, substantially as described.

3. In a vertical baling-press, the combination of a lint-box, C', with the press-box C, substantially in the manner and for the purposes described.

4. The combination of a lint-box hinged to the press-box C with a hoisting davit or crane, applied removably to said boxes, substantially in the manner and for the purposes described.

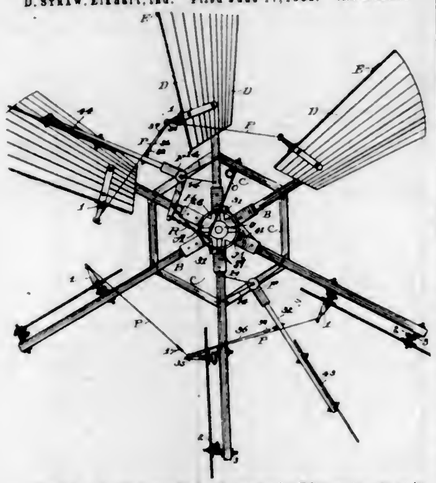
5. In a baling-press, the combination of a removable partition and a grooved follower, substantially in the manner and for the purposes described.

263,112. COLTER. THOMAS CAPEHART, Water Valley, Miss. Filed Mar. 25, 1882. (No model.)



Claim.—The combination, with the plow-standard *a* and the plow-plate *b*, having the indentation *d* near its point and the heel-aperture *c*, of the colter C, its curved bearing-edge *g*, tooth *k*, shoulder-recess *m*, and bolt-arm *p*, extending through the plate and standard and secured by the nut *z*, substantially as specified.

263,113. WINDMILL. ORVILLE T. CHAMBERLAIN and SAMUEL D. STRAW, Elkhart, Ind. Filed June 17, 1882. (No model.)



Claim.—1. In a wind-wheel mounted off its center, so as to adjust itself to wind-currents from the rear, and composed of a series of pivoted fans, one or more bell-crank levers pivoted to the frame-work of the wheel and connected to the fans, and a corresponding number of governing-fans mounted on said bell-crank levers in rear of the main fan-sections and at an angle thereto, whereby the currents of wind which strike the main fans from the rear are reflected and strike the governing-fans, substantially as described and shown.

2. In a wind-wheel mounted off its center, so as to be self-adjusting to wind-currents from the rear, the combination of, first, the pivoted fan-sections mounted on rigid arms of the wind-wheel frame; secondly, the bell-crank levers pivoted to the said frame and connected to the fan-sections; thirdly, a governing-fan mounted upon each of said bell-crank levers at an angle to one of the main fans; and, fourthly, a spring, O, connected to the inner end of said bell-crank, the parts being so constructed and arranged that the wind-currents reflected from the main fan strike the governing-fan and swing the main fans out of the wind, whence they are adapted to be retracted by the said spring O.

3. In combination with the fan-sections, the castings 1, of angular form, bolted to such sections, and having eyes at their extremities, and the connecting-rods, whereby two or more fans are secured together and adapted to be moved simultaneously, substantially as described.

4. In a windmill, a coupling device, 35, formed in one piece, and having threaded extremities and oppositely-placed hook and eye between such extremities, substantially as and for the purpose set forth.

5. The wheel M on the main shaft, having lugs 31, and connected to the fan-sections, in combination with the brake mechanism and with stops 39 41.

6. In a windmill, the combination of the derrick having the coned bearing-socket 6, the casting 3, having the integrally-formed cylindrical projection 8, terminating in a cone-bearing, the stationary rim or flange 11, and the rollers 12, journaled in bearings in the casting and adapted to bear on the periphery of said stationary ring, substantially as described.

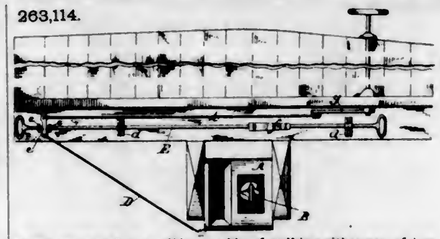
7. The combination of the shaft N, having the disk Z, of the swiveled pump-rod secured to the casting X by the nut W, and the wrist-pin Y, which connects said casting to the disk Z, all substantially as described and shown.

8. The combination, with the derrick having the ring 11 secured thereto, of the bearing-socket 8, having the integral stop 42 cast therewith and adapted to turn in, or nearly in, contact with the lower edge of the said ring, substantially as described.

263,114. CAR-COUPLING. ROSCO CHAMBERLAIN, East Liberty, Ohio. Filed May 2, 1882. (No model.)

Claim.—1. In a car-coupling, the combination, with the draw-bar having an auger-pointed or spirally-bladed head and its spring, of the lever arranged to project therefrom obliquely through the draw-head and move in a slot in the latter, the rod D or its equivalent, connected to a slide capable of striking either one of two projections or shoulders on a sliding rod adapted to be temporarily held by a spring, substantially as and for the purpose set forth.

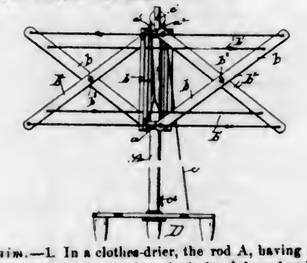
263,114.



2. In a car-coupling, the combination, with the spring-actuated rotating draw-bar B, having a spirally-bladed or auger-pointed head, of the lever C, arranged to project therefrom obliquely through and move in a slot in the draw-head, the rod D, or its equivalent, the cross-bar or slide *e*, and the sliding rod E, having shoulders *e* and spring *f*, which enters a fixture on the car, substantially as and for the purpose set forth.

3. In a car-coupling, the combination, with the rotating draw-bar B, acted on by a spring, *a*, and the draw-head A, having a slot, *b*, through one corner, of the lever C, arranged to extend from said draw-bar obliquely through the draw-head, rod D, or its equivalent, cross-bar or slide *e*, sliding bar or lever E, having shoulders *e* and spring *f*, adapted to be temporarily held by a fixture on the car, rod *h*, crank *g*, and hand-wheel shaft F, substantially as and for the purpose specified.

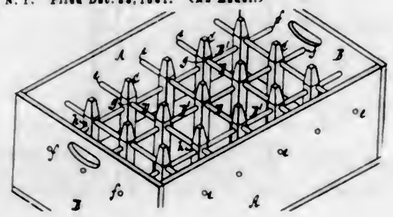
263,115. CLOTHES-DRIER. CYRUS C. CLAY, Dunning, Pa. Filed Apr. 1, 1882. (No model.)



Claim.—1. In a clothes-drier, the rod A, having its upper portion of smaller diameter than the body of the rod and a square shoulder formed where the diameter is decreased, whereby a rest is provided for the thimble *a'*, and having a pin, a^2, passed through the rod above the thimble *a'*, and a pulley, *c'*, journaled in the upper end of the rod, adapted to receive the halyard *c*, in combination with the thimble *a'* and sliding thimble *a*, the cross-arms *b* b^1, lines *b'*, and halyard *c*, all arranged to operate substantially as set forth.

2. In a clothes-drier, the combination of the thimbles *a a'*, the thimble secured upon the rod A and capable of rotary motion only, the thimble *a* being adapted to slide upon the rod A, with the arms *b* b^1 pivoted centrally to each other at b^2, corresponding ends being pivoted to the thimbles *a a'*, and having lines *b'* secured around their outer ends, and of the halyards *c*, secured to the thimble *a*, passed over the pulley *c'*, secured by the cleat c^3, and adapted to elevate the thimble *a*, whereby the arms *b* b^1 are extended and the lines *b'* stretched to receive the clothes, substantially as shown and described.

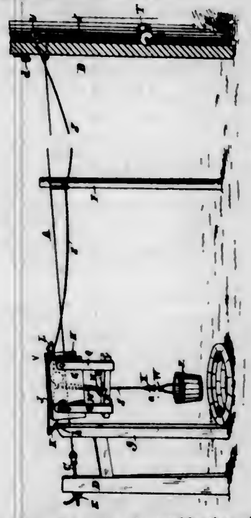
263,116. CASE FOR BOTTLES. JEREMIAH CLOSS, Brooklyn, N. Y. Filed Dec. 23, 1881. (No model.)



Claim.—1. The combination, substantially as hereinbefore set forth, of the box, together with a series of vertical square posts, presenting their corners to the bottles, the posts being secured to the bottom of the box and having holes coincident or in line with those in the sides and ends of the box, and a series of rods extending at right angles to each other through the holes in the sides and ends of the box and through those in the posts, for the purpose specified.

2. A case for bottles and other similar vessels, composed substantially of a box, upright square posts, and longitudinal and transverse rods passing centrally through the posts and secured to the ends and sides of the box, to constitute a series of cells or compartments having at each corner the angle of one of the posts, said parts being combined and arranged in the manner shown and described to support the bottles or vessels in the cells solely by the angles of the posts and to hold said bottles or vessels away from contact with the said rods, for the purpose set forth.

263,117. WATER-CARRIER. WESLEY F. COLLIN, Barren Fork, Ark. Filed May 19, 1882. (No model.)



Claim.—1. In a water-carrier, the combination, with the carrier G, running on a wire, and provided with a pivoted latch, J, having hooks at the ends, of hooks at the ends of the wire and of a rope for drawing the carrier, substantially as herein shown and described, and for the purpose set forth.

2. In a water-carrier, the combination, with a carrier running on a wire and provided with a pivoted latch having hooks at the ends, of hooks at the ends of the wire and a rope passing through the carrier and having a hook for suspending a bucket, which rope passes into the building from which the water-carrier is to be operated, substantially as herein shown and described, and for the purpose set forth.

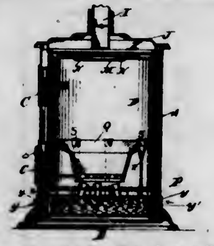
3. The combination, with the carrier G, of the pivoted latch J, provided with hooks K and L at the ends, and with a vertical shank, M, having a loop, N, at the end, the board P, provided with an aperture, O, the rope S, and the conical block X, provided with an annular shoulder, *c*, substantially as herein shown and described, and for the purpose set forth.

4. In a water-carrier, the combination, with the wire or cable A, the screw-rod C, the nut E, the plate *h* on the standard *y*, and the hook *d* on the house, of the carrier G, the pivoted latch J, provided with hooks K and L, and with a shank, M, having a loop, N, at the end, the board P, provided with an aperture, O, the rope S, and the conical block X at the end of the same, substantially as herein shown and described, and for the purpose set forth.

263,118. SELF-EXTINGUISHING STOVE AND VENTILATOR. WILLIAM F. GORDON, East Saginaw, Mich. Filed July 26, 1882. (No model.)

Claim.—1. The combination, with the valve constructed and operated, as described, to close the stove-exit, and a stove-door having a fastening-lip, of a spring-actuated bolt having a beveled end,

263,118.



adapted to be raised by the lip of the door striking against the same and then by the spring forced over the lip, substantially as set forth.

2. The combination, with a stove and its smoke-escape, of a valve having a horizontal, circular, and vertical play, and provided with lugs to limit its circular movement, substantially as set forth.

3. The combination of a stove and its smoke-escape, a valve having a horizontal and vertical play, and provided with a bead on its bottom face, and a bar for the valve to play on, provided with a groove corresponding to the bead for its reception, substantially as set forth.

4. The combination, with a stove and its smoke-escape, of a horizontally and vertically moving valve provided with lugs projecting below its face, transverse rods for the valve to move on and the lugs to strike against, and pendent lips for the edge of the valve to strike against, substantially as set forth.

5. The combination of a stove and its smoke-escape, a plate, K, provided with pendent lips, *e*, a valve, L, provided with lugs *q* and ribs *p*, and rods M, provided with grooves *b*, substantially as set forth.

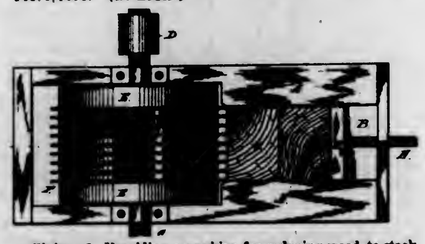
6. The combination of a stove, a fire-pot, Q, water-tank P, and pipes connecting water-tank and fire-pot, provided with plugs S, substantially as set forth.

7. The combination of a stove, fire-pot Q, water-tank P, pipes R, connecting the water-tank with top of fire-pot, pipes T, converging from the water-tank to the bottom of the fire-pot, and plugs S, for closing the pipes, substantially as set forth.

8. The combination, with a stove-door, of a valve, *a*, provided with a bead, *s*, and a strap for holding the valve to the door, provided with a recess for the bead on the valve, substantially as and for the purpose set forth.

9. The combination of a cylinder, D, water-tank P, and communicating air-spaces *y s* around and above the water-tank, substantially as set forth.

263,119. MACHINE FOR REDUCING WOOD TO STOCK FOR PAPER-PULP. WILLIAM M. CORNELL, Pulaski, N. Y. Filed Feb. 1, 1882. (No model.)

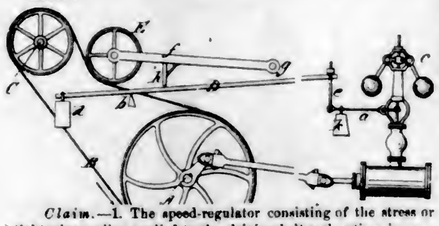


Claim.—1. Providing a machine for reducing wood to stock for paper-pulp with a revolving hollow drum adapted to receive the stock in its center and discharge it therefrom at each revolution, substantially as and for the purpose set forth.

2. In a machine for reducing wood to stock for paper-pulp, the combination, with a supporting-frame and suitable mechanism for operating it, of a revolving hollow drum provided with a gang or series of cutting-plates arranged in sections and located apart from one another, substantially as and for the purpose set forth.

3. In a machine for reducing wood to stock for paper-pulp, the combination, with the supporting-frame and feed-screw and head-plate, substantially as described, of the revolving hollow drum and sectional cutting-plates, whereby the fiber is cut or torn from the wood nearly parallel with the grain and discharged into the drum and out at each revolution, substantially as described.

263,120. SPEED-REGULATOR FOR MACHINERY. HERBERT A. CRUTTENDEN, Smeltzer, Pa. Filed June 22, 1882. (No model.)



Claim.—1. The speed-regulator consisting of the stress or tightening pulley applied to the driving-belt and acting, in conjunction with the governor of the engine, for assisting the movement of the balls, substantially as shown and described.

2. In speed-regulators, the combination of the pulley E, hung on arm *f*, driving-belt B, the weighted lever D, and the governor, substantially as described, for operation as set forth.

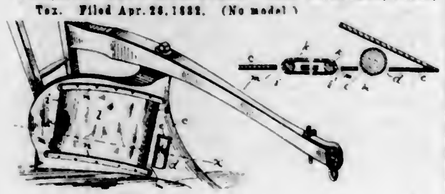
3. In speed-governors, the combination of the weighted counterbalanced lever D with the tightening-pulley E and balance-lever of the governor, substantially as described.

263,121. COTTON-CLEANER. PHILIP D. DAVVIS and HENRY B. DENSER, Savannah, Ga. Filed May 17, 1882. (No model.)



Claim.—In a machine for removing sand and other foreign matter from cotton and other fibrous substances, the combination of the exterior frustum, B, covered with wire-gauze or other foraminous substance, and provided with obliquely-arranged bars which have in them series of projecting pins, and an internally-revolving shaft or cylinder which rotates in an opposite direction to that of the frustum, it being provided with spirally-arranged projecting pins or arms, substantially as and for the purpose set forth.

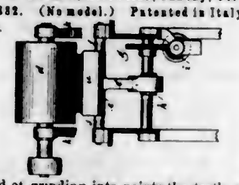
263,122. PLOW MOLD-BOARD. CARL O. DAHLMAN, Willis, Tex. Filed Apr. 26, 1882. (No model.)



Claim.—1. The combination, with the mold-board *c*, provided with the transverse parallel slots *i i*, with the belt-supporting piece *o* between them, and scrapers *m m*, of the rollers *k k*, journaled in the ends of the slots, endless apron *l*, and guards *n n*, substantially as described, and for the purpose set forth.

2. The combination of the mold-board *c*, provided with the circular roll *e*, having belt *h*, slots *i i*, belt-supporting piece *o* between them, scrapers *m m*, rollers *k k*, endless apron *l*, and guards *n*, substantially as described, and for the purpose set forth.

263,123. METHOD OF GRINDING AND SHARPENING FINE WIRE CARDS. WILHELM DECKER, Mittweida, Saxony, Germany. Filed Mar. 27, 1882. (No model.) Patented in Italy Dec. 24, 1881, XXVI, 109.



Claim.—1. The method of grinding into points the teeth of card-strips, which consists in subjecting the teeth to the grinding action of rollers, and then pressing by the rollers the rows of teeth which have been ground partly through the strip, in order to better expose the following row of teeth to the grinding action, substantially as and for the purposes set forth.

2. The method of grinding card-teeth, consisting in subjecting the card-teeth to the grinding action of a smooth-faced grinding-roller to bring all teeth or wires down to uniform length, then to the grinding action of a revolving roller with fine parallel circumferential grooves to grind the back of the teeth or wires, and then to two grinding-rollers with spiral grooves in opposite directions to grind the two sides of the wires or teeth, thereby completing a long and sharp-pointed end of the said wires or teeth, substantially as specified.

3. The combination, with the grinding-roller *d*, of the support *a*, over which the strip of card-clothing is passed and by which the wires are supported, and the roller *b*, to restore the wires to position after they have been pressed through the strip by the action of the grinder *d*, substantially as specified.

263,124. SECONDARY BATTERY. NICOLAS DE KABATH, Paris, France. Filed Jan. 6, 1882. (No model.) Patented in France Aug. 27, 1881, No. 144,597; in Belgium Sept. 2, 1881, No. 55,832; in England Sept. 10, 1881, No. 4,037; in Italy Sept. 30, 1881, XXVI, 409, and in Spain Dec. 20, 1881, No. 2,090.



Claim.—1. A compound electrode for secondary batteries, formed of very thin sheets of lead having a coating of sulphate of lead placed upon a thicker one and wrapped in artificial parchment, said sheets being either smooth or plaited, as and for the purposes set forth.

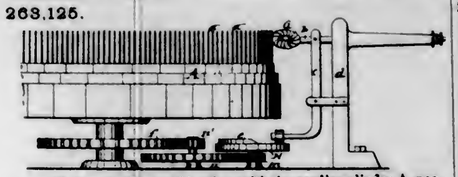
2. A compound electrode for secondary batteries, formed of a series of alternately straight and plaited strips, *a* and *b*, having a coating of sulphate of lead held in a bunch by means of a thicker strip, *c*, and india-rubber or other rings, *d*, and wrapped in artificial parchment, as and for the purposes set forth.

3. In a secondary battery, the combination, with a leaden box internally lined with thin sheets of prepared lead, of the electrodes formed substantially as herein shown and described, and arranged in the said box, wrapped together, either in a transverse or parallel direction, with artificial parchment, as set forth.

263,125. KNITTING-MACHINE FOR KNITTING DOUBLE-THREADED STRIPED FABRICS. JAMES DENTON, Amsterdam, N. Y., assignor of one-fourth to John K. Waraick, same place. Filed Jan. 27, 1882. (No model.)

Brief.—The invention is adapted for use in knitting-machines for knitting double-threaded striped fabrics. A wheel, termed a "striping-wheel," is arranged between the landing and knocking-over wheels. The wings of the striping-wheel, playing between the needles, engage the lower and rearwardly-disposed thread, and draw the same outward or toward the front or face of the fabric, and thereby produce nearly plain colors at opposite sides of the fabric. A pattern-wheel is provided which operates through intermediate devices to alternately and at regular intervals throw the striping-wheel in and out of engagement with the needles, whereby alternate mottled and plain stripes are produced.

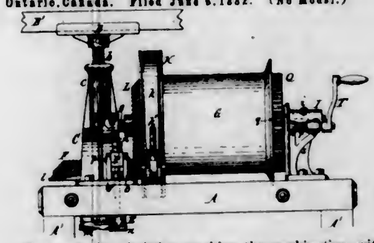
263,125.



Claim.—1. The combination, with the needle-cylinder A, needles *a*, loop-wheel B, landing-wheel E, and knocking-over wheel F, of two fixed or stationary thread-guides, *k k*, arranged at different heights, and the striping-wheel G, arranged between the landing-wheel and knocking-over wheel, and having wings playing between the needles, substantiallly as described and shown, for the purpose set forth.

2. In combination, with the needle-cylinder A and bearded needles *a*, the striping-wheel G, mounted on a movable support, and mechanism connecting said striping-wheel with the needle-cylinder, whereby the striping-wheel is automatically thrown in and ont of engagement with the needles, substantially as set forth and shown.

263,126. HOISTING-MACHINE. ARCHIBALD DONNIE, Thorold, Ontario, Canada. Filed June 6, 1882. (No model.)



Claim.—1. In a hoisting-machine, the combination, with the drum G, provided with a gear-wheel, L, of the vertical driving-shaft *b*, provided with the gear-wheel F, and mechanism whereby the driving-shaft and the gear-wheel attached thereto can be raised and lowered, thereby throwing the gear-wheels in and ont of gear, substantially as set forth.

2. The combination, with a drum, G, provided with a bevel-gear wheel, L, of a movable shaft, *b*, provided with a bevel-gear wheel, F, and inclined annular faces *l*, formed on said gear-wheels around the teeth thereof, whereby the faces of the teeth of one wheel are prevented from bearing against the opposite wheel, substantially as set forth.

3. The combination, with a drum, G, provided with a gear-wheel, L, of a vertical driving-shaft, *b*, provided with a gear-wheel, F, a movable bridge-tree, E, in which the lower end of the driving-shaft is supported, and mechanism whereby said bridge-tree can be raised and lowered, substantially as set forth.

4. The combination, with a drum, G, provided with a gear-wheel, L, of a vertical movable shaft, *b*, provided with a gear-wheel, F, a movable bridge-tree, E, supporting the lower end of said vertical shaft, and a bolt, *n*, and elbow-lever O, whereby said bridge-tree can be raised and lowered, substantially as set forth.

263,127. AUTOMATIC HEAT-REGULATOR AND ALARM. JOHN M. DOLBY, Wilcoxsco, Pa. Filed Apr. 19, 1882. (No model.)

Claim.—1. The combination, with the damper C, of a setting cord or wire, E, and a fusible band, G, substantially as described.

2. The combination of the weight H, cord M, and trip-lever J with the damper C, setting cord or wire E, and a fusible band, G, substantially as described.

3. The combination of the weight H, cord M, lever J, drum N, and alarm mechanism, substantially as herein described, with the damper C, cord or wire E, and a fusible band, G, substantially as described.

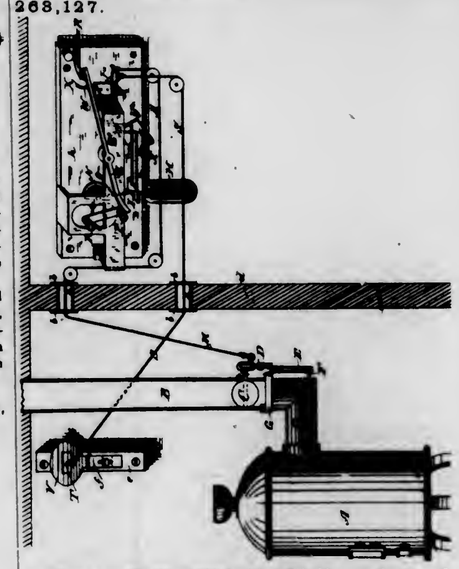
4. The combination, with the weight H and the alarm mechanism, substantially as herein described, of a lever, K, cord S, and a setting-plate, T, secured by wax or material fusible at low temperature to a disk, V, or other device, substantially as described.

5. The combination, in an alarm and damper-closing apparatus, of a cord, M or S, extended from the setting apparatus to the alarm apparatus through one or more partitions, *b*, and said partition or partitions provided with a thimble, *s*, and covers *d*, and said covers being perforated, as described.

6. The combination of cranked and pivoted rest W with the bell-hammer Q and the damper C, with its operating mechanism, substantially as described.

7. The combination of cranked and pivoted rod Y with the levers J K and weight H, substantially as described.

263,127.

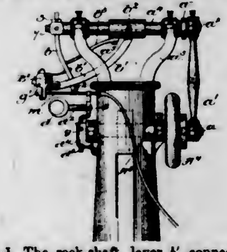


263,128. INHALER. JAMES A. DONALDSON, Greenville, Pa. Filed June 13, 1882. (No model.)



Claim.—In an inhaler of the described class, the combination of tube A, having the valve-seat G' and valve G, provided with the stem H and its actuating-spring I, tube-section A', having cross-bar *g*, valve-seat *e*, and valve F, and outside tube, B, having finger-piece *b* and branch pipe C, provided with the seat *c* and valve E, all constructed and arranged to operate substantially in the manner and for the purpose herein shown and set forth.

263,129. BURNISHING-MACHINE. MYRICK DUDLEY, Lynn, Mass., assignor to Ira B. Keith, Josiah C. Bennett, and George E. Barnard, all of same place. Filed July 5, 1882. (No model.)



Claim.—1. The rock-shaft, lever *b'*, connected with it, and the attached block B', provided with the burnishing devices, combined with the arm *b* and the adjustable spring *b²*, to operate as described.

2. The lever *b'*, its collar, stud, and pins, and the holder c^3, combined with the block B', having the slotted extension B, substantially as and for the purposes set forth.

3. The lever *b'*, its collar, stud, and pins, the eccentric, and holder c^3, combined with the block B', having the slotted extension B, substantially as set forth.

4. The block B' and the fulcrum c^3, combined with the lever *c'*, provided with the adjustable lip to extend over the top edge of the sole, combined with the adjusting-screw screwed into the block at the rear of the said fulcrum, and with the spring c^5, also located at the rear of the said fulcrum, as shown and described.

5. In a sole-edge-burnishing machine, the lever *c'*, provided with the lip to bear upon the top edge of the sole, and with a shank-burnisher rigidly connected with and forming part of the said lever, substantially as described.

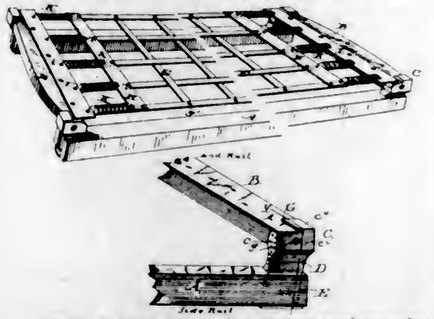
6. In a sole-edge-burnishing machine, a lip, c^3, to bear upon the top edge of the sole, combined with two burnishing levers or devices having surfaces 13, adapted to yield independently of each other while in contact with the outer face of the sole at its edge, substantially as described.

7. The block B', lip-carrying lever *c'*, two levers, *g g'*, having burnishing-surfaces 14 each side the end of lever *c'*, and having surfaces 13 to bear against the bottom of the sole, and springs to control the pressure of the said lip, and the surfaces 13, as and for the purposes set forth.

8. In a burnishing-machine, the block B', its levers *c'* and *g g'*, the rock-shaft, the connected lever *b'*, arm *b*, and spring b^3, connected with the rock-shaft and with the arm *b*, combined with the swiveling rest *d*, the guide d^3, and the bar d^2, made vertically adjustable in the said guide, the latter being located at the front of the standard, substantially as shown and described.

9. The block B', its extension B, the lever *b'*, and pin 5, combined with the holder c^3, to engage and hold the said extension and retain the block upon the said lever, as shown and described.

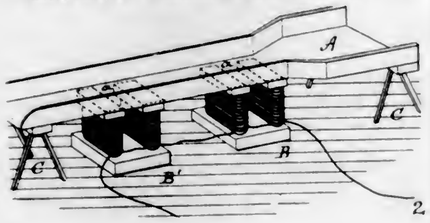
263,130. BED-BOTTOM. CHARLES H. DUNES and THOMAS P. GLODY, New York, N. Y. Filed Apr. 22, 1882. (No model.)



Claim.—1. The herein-described connecting and supporting corner-piece for a bed-bottom, consisting of the shank E, provided with flanges *e e*, the standard D, having the shoulders *d d*, and the socket portion C, constructed with the walls *c*, *c'*, c^3, c^3, and c^4, substantially as set forth.

2. The combination of the side rails, A, the end rails, B, the corner connecting and supporting pieces having inclosing walls adapted to engage with the four sides of the ends of the end rails, the elastic fabric, the swinging bars H, springs K, and plates I, extending across and between the half-walls *c'*, substantially as set forth.

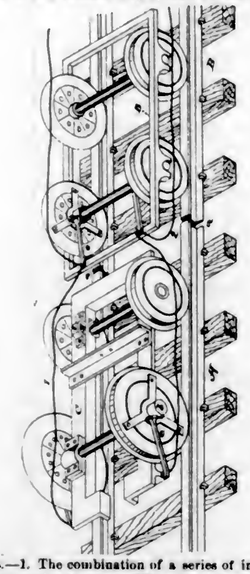
263,131. MAGNETIC ORE-SEPARATOR. THOMAS A. EDISON, Menlo Park, N. J. Filed June 22, 1881. (No model.)



Claim.—1. The combination of a stationary sluice box or trough having a solid bottom or feeding-surface and one or more stationary magnets secured beneath the same, substantially as and for the purposes set forth.

2. The method of forming riffles in a mining-sluice, ecasisting in arresting any magnetic substances which enter the sluice, and holding these substances at various points by magnetic attraction, substantially as set forth.

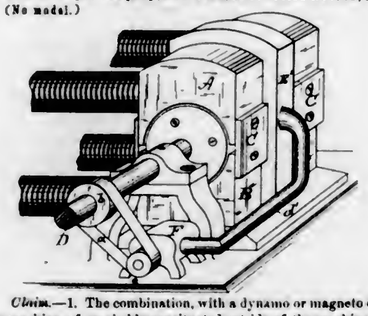
263,132. ELECTRO-MAGNETIC RAILWAY. THOMAS A. EDISON, Menlo Park, N. J. Filed Aug. 18, 1880. (No model.) Patented in England Sept. 25, 1880, No. 3,894; in Canada Mar. 31, 1881, No. 12,585; in India May 2, 1881, No. 341; in Victoria May 12, 1881, No. 3,012; in France May 27, 1881, No. 141,752; in New South Wales June 25, 1881; in Queensland June 30, 1881, and in New Zealand Aug. 2, 1881, No. 542.



Claim.—1. The combination of a series of insulated wheels and commutator-brushes upon different cars, and circuit-connections through all upon each side of the train, respectively, to the commutator or commutator-brushes of the engine or motor, substantially as set forth.

2. The combination of an extra common or ordinary rail insulated from the others, electrically connected in sections to form one terminal or pole of the source of electricity, and the ordinary or traffic rails, one or both connected in sections to form the other terminal or pole of the source of electricity, substantially as set forth.

263,133. DYNAMO OR MAGNETO ELECTRIC MACHINE. THOMAS A. EDISON, Menlo Park, N. J., assignor to the Edison Electric Light Company, New York, N. Y. Filed Nov. 11, 1881. (No model.)



Claim.—1. The combination, with a dynamo or magneto electric machine, of an air-blower situated outside of the machine and a duct or ducts connecting said air-blower with the space around the armature of said machine, substantially as set forth.

2. The combination, with a dynamo or magneto electric machine, of an air-blower driven by the armature-shaft of such machine, and a duct or ducts connecting said blower with the space between the armature of the machine and the polar extensions of its exciting magnet or magnets, substantially as set forth.

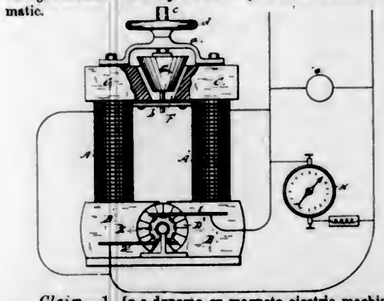
3. In a dynamo or magneto electric machine, the polar extensions of the exciting magnet or magnets connected at their side edges, so as to form a chamber surrounding the armature, and open only at the ends of such armature, in combination with a blower forcing air through said chamber, substantially as set forth.

4. The combination, with the core of the armature of a dynamo or magneto electric machine, of the inductive bars and means for supporting each of said bars, so placed that each bar is separated from the armature-core, a space being left entirely around each bar, substantially as set forth.

5. In a dynamo or magneto electric machine, the combination of the inductive bars supported off of the armature and separated from each other with a blower for forcing air into the space between the armature and the polar extensions of the exciting magnet or magnets, substantially as set forth.

263,134. REGULATOR FOR DYNAMO OR MAGNETO ELECTRIC MACHINES. THOMAS A. EDISON, Menlo Park, N. J., assignor to the Edison Electric Light Company, New York, N. Y. Filed May 28, 1881. (No model.)

Brief.—The strength of the field-magnet is regulated by varying the mass of metal in the yoke of the magnet. The yoke has a conical perforation, and a conical plug is fitted thereto and adapted to be adjusted in and out, according to the magnetic strength desired. The adjustment may be either manual or automatic.



Claim.—1. In a dynamo or magneto electric machine, the yoke of the field-magnet having an opening through the same, in combination with a block adjustable in and out of said opening, substantially as set forth.

2. In a dynamo or magneto electric machine, the combination, with the yoke of the field-magnet provided with a conical opening, of a conical block adjustable in and out of said opening, substantially as set forth.

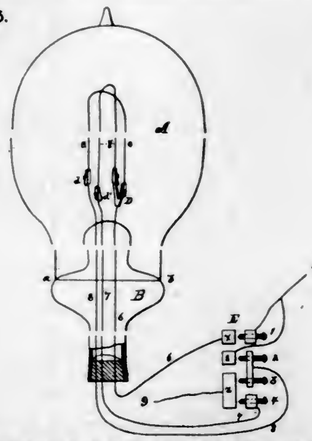
3. In a dynamo or magneto electric machine, the field-of-force magnet, the yoke of which has an adjustable portion acting as a magnetic-circuit regulator, in combination with means operated by the current generated for automatically adjusting said adjustable portion, substantially as set forth.

4. The combination, with the yoke of the field-magnet of a dynamo or magneto electric machine provided with an adjustable portion for regulating the generation of current, of an electro-magnet placed in the main circuit from said machine for adjusting said adjustable portion according to variations in the current required, substantially as set forth.

263,135. ELECTRIC LAMP. THOMAS A. EDISON, Menlo Park, N. J., assignor to the Edison Electric Light Company, New York, N. Y. Filed Aug. 17, 1880. (No model.) Patented in England Sept. 16, 1880, No. 3,786; in Italy Nov. 6, 1880; in Canada Nov. 11, 1880, No. 11,966; in Belgium Nov. 15, 1880, No. 53,890; in Victoria Dec. 13, 1880, No. 2,938; in Austria Jan. 7, 1881; in Queensland Feb. 7, 1881; in New Zealand Mar. 7, 1881, No. 510; in Portugal Mar. 31, 1881, No. 881; in New South Wales Apr. 2, 1881; in Spain Apr. 28, 1881, and in India July 23, 1881, No. 536.

Claim.—1. The combination, in one electric lamp, of two or more incandescing conductors, a single electric circuit leading thereto, and a circuit-controller therein, substantially such as described, adapted to connect the incandescing conductors in series or in multiple arc, as may be desired, substantially as set forth.

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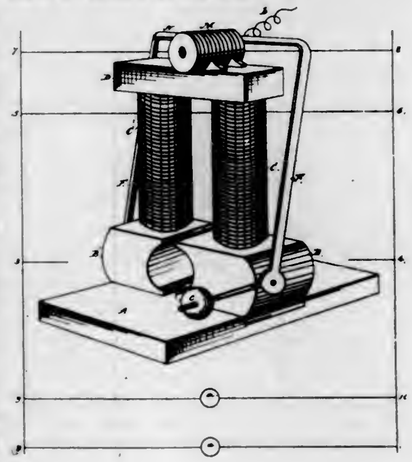
2. The combination of a single electric circuit, an electric lamp containing two or more incandescing conductors, and means for throwing the current through any desired incandescing conductor independently of the others, substantially as set forth.

3. The combination, in one electric lamp, of two or more incandescing conductors, a single electric circuit leading thereto, and a circuit-controller therein, substantially such as described, adapted to complete circuit through either of the incandescing conductors independently of the others, or through all simultaneously, substantially as set forth.

4. The combination of an incandescent electric lamp containing two conductors arranged as described, the circuit leading thereto and therefrom, the contact-points 1 2 3 4 and anvils *x o z*, substantially as and for the purposes set forth.

263,136. REGULATOR FOR DYNAMO OR MAGNETO ELECTRIC MACHINES. THOMAS A. EDISON, Menlo Park, N. J., assignor to the Edison Electric Light Company, New York, N. Y. Filed May 27, 1881. (No model.). Patented in England Oct. 18, 1881, No. 4,552; in Canada Nov. 30, 1881, No. 13,734, and in France Dec. 7, 1881, No. 145,522.

Brief.—The strength of the field-magnet is regulated by means of a bar of magnetic metal pivoted to one part of the magnet and adapted to be brought into proximity or contact with another part of the magnet, thereby forming a magnetic shunt. The adjustment of the bars may be effected by hand or by means of a solenoid in a branch of the main circuit.



Claim.—1. In a dynamo or magneto electric machine, the combination with the field-magnet, of a bar or lever adapted to magnetically connect the polar and yoke ends of the magnet, being pivoted to or upon one end and adjustable to or from the other end, substantially as set forth.

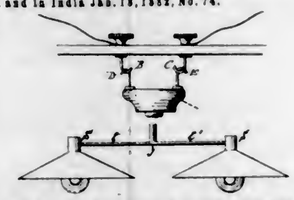
2. In a dynamo or magneto electric machine, a shunting lever or bar for shunting the lines of force away from or around the magnetic field in which the induction-bobbin rotates, said bar or lever being automatically adjustable to and from the magnet, substantially as set forth.

3. In a dynamo or magneto electric machine, a magnetic shunting lever or bar operating as described, pivoted at one end close to or upon a portion of the magnet and automatically adjustable from the other end to and from another portion of the magnet, substantially as set forth.

4. In a dynamo or magneto electric machine, the combination, with the field-magnet, of a magnetic shunting lever or bar operating as described, and an electro-magnet energized by the current generated for automatically adjusting said lever to and from the magnet, substantially as set forth.

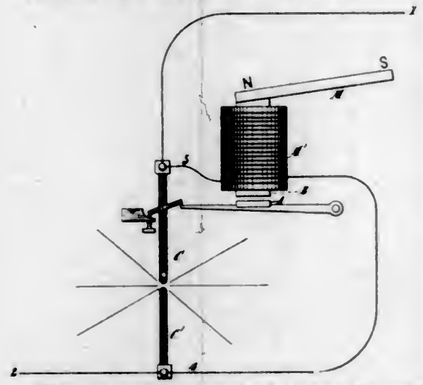
5. In a dynamo or magneto electric machine, a bar or lever adapted to magnetically connect the polar and yoke ends of the field-magnet, being pivoted to or upon one end and adjustable to or from the other end, in combination with an electro-magnet energized by the current generated for automatically accomplishing such adjustment, substantially as set forth.

263,137. ELECTRIC CHANDELIER. THOMAS A. EDISON, Menlo Park, N. J., assignor to the Edison Electric Light Company, New York, N. Y. Filed Aug. 30, 1881. (No model.) Patented in England Sept. 27, 1881, No. 4,174; in Italy Nov. 9, 1881; in France Dec. 6, 1881, No. 145,554; in Canada Dec. 14, 1881, No. 13,835, and in India Jan. 13, 1882, No. 74.



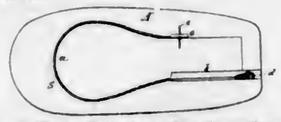
Claim.—A hanging incandescent electric-lamp chandelier or support consisting of a tube in which are secured and protected the conductors placed therein, one or more lamp-sockets attached directly to the tube, or to branch tubes therefrom, and adapted to receive and hold a lamp, and hooks or eyes at the upper end, forming terminals of the conductors placed in the tube and adapted to be suspended from and form contact with the main conductors, or with hooks or eyes connected thereto.

263,138. ELECTRIC-ARC LIGHT. THOMAS A. EDISON, Menlo Park, N. J., assignor to the Edison Electric Light Company, New York, N. Y. Filed Nov. 28, 1881. (No model.)



Claim.—In regulating mechanism for arc-lamps, the combination of a permanent magnet and an electro-magnet opposed in their action, the latter being located in a shunt around the arc, substantially as set forth.

263,139. MANUFACTURE OF CARBONS FOR ELECTRIC LAMPS. THOMAS A. EDISON, Menlo Park, N. J., assignor to the Edison Electric Light Company, New York, N. Y. Filed Aug. 8, 1880. (No model.) Patented in England Sept. 16, 1880, No. 3,785; in Italy Nov. 6, 1880; in Canada Nov. 11, 1880, No. 11,966; in Belgium Nov. 15, 1880, No. 52,890; in Victoria Dec. 13, 1880, No. 2,936; in Austria-Hungary Jan. 7, 1881; in Queensland Feb. 7, 1881; in New Zealand Mar. 7, 1881, No. 510; in Portugal Mar. 31, 1881, No. 661; in New South Wales Apr. 2, 1881; in Spain Apr. 26, 1881, and in India July 22, 1881, No. 535.



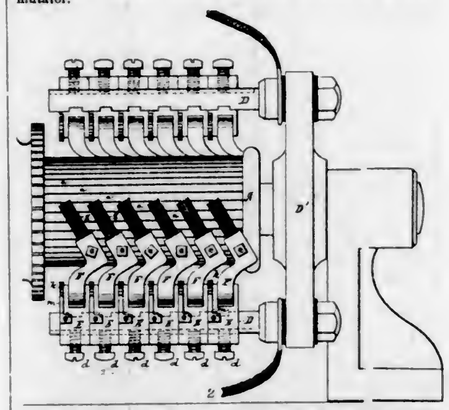
Claim.—1. The method of manufacturing carbons for incandescent electric lamps, uniform and regular in shape and carbonization, consisting in carbonizing filaments while one or both ends are secured in a certain definite position relatively to the amount of contraction, so that when carbonized and contracted the ends shall be in proper position to each other, substantially as set forth.

2. The improvement in the art of manufacturing carbons for incandescent electric lamps, consisting in first shaping the slip or filament therefor from carbonizable material, and then carbonizing the same while under constant strain, and with one or both ends fixed, substantially as set forth.

3. The carbonizing-plate provided with a groove for shaping the material, and a chamber or chambers, permitting contraction during carbonization, substantially as set forth.

263,140. DYNAMO-ELECTRIC MACHINE. THOMAS A. EDISON, Menlo Park, N. J., assignor to the Edison Electric Light Company, New York, N. Y. Filed Aug. 9, 1880. (No model.) Patented in England Sept. 30, 1880, No. 3,964; in Germany Feb. 3, 1881, No. 16,670; in Italy Mar. 29, 1881; in Belgium Mar. 31, 1881 No. 54,152; in Canada Mar. 31, 1881, No. 12,587; in India May 3, 1881, No. 336; in Victoria May 4, 1881, No. 3,005; in France May 27, 1881, No. 141,300; in Spain June 27, 1881; in Queensland June 30, 1881; in New South Wales July 4, 1881; in Austria July 21, 1881; in New Zealand Sept. 15, 1881, No. 551, and in Portugal Nov. 22, 1881.

Brief.—The commutator-brushes are mounted in independent holders, each holder being provided with an adjustable spring for regulating the pressure of its brush upon the commutator, and all the holders upon either side of the commutator are mounted on a common support. The heads of the holders are turned sidewise, to give the brushes an oblique bearing on the plates of the commutator.



Claim.—1. In a dynamo or magneto electric machine, the combination, with the commutator, of two series of brushes, (one upon each side,) each brush of a series being mounted independently upon a supporting shaft or bar common to all of its series, and provided with means within itself for adjustment of pressure independently of all the others of the series, substantially as set forth.

2. The combination, with a commutator, of a series of brushes and holders, each mounted independently upon a bar or shaft and arranged so that each brush takes obliquely upon the commutator, substantially as set forth.

3. A brush-holder formed of two parts, the one for fixed seating upon a proper support, the other connected thereto by an adjustable spring union, substantially as set forth.

4. In a dynamo or magneto electric machine, the combination of a bar for supporting the brushes, grooved upon one of its faces, and the brush-holder provided with a screw adapted to take in said groove, substantially as set forth.

5. A brush-holder having its end receiving the brush formed at an angle to its body, so that the brush may take obliquely upon the commutator, substantially as set forth.

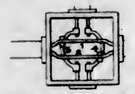
263,141. STRAIGHTENING CARBONS OF ELECTRIC INCANDESCENT LAMPS. THOMAS A. EDISON, Menlo Park, N. J., assignor to the Edison Electric Light Company, New York, N. Y. Filed June 24, 1881. (No model.)



Claim.—1. The method of straightening a bent or distorted carbon filament in an incandescing electric lamp, consisting in electrically heating the same to a high degree of incandescence, then subjecting the heated filament to the action of a magnet, and then allowing it to cool while still under the influence of the magnet, substantially as set forth.

2. The method of straightening a bent or distorted carbon, consisting in electrically heating the same to a high degree of incandescence and subjecting it to the action of a magnet while so heated, substantially as set forth.

263,142. ELECTRICAL DISTRIBUTION SYSTEM. THOMAS A. EDISON, Menlo Park, N. J., assignor to the Edison Electric Light Company, New York, N. Y. Filed Oct. 4, 1881. (No model.)



Claim.—1. In a system of electrical distribution employing complete metallic circuits, the combination of the positive conductors and the negative conductors crossing each other at the corners of the blocks, like conductors being connected together at the points of crossing, and service or junction boxes wherein such connection is made, substantially as set forth.

2. In a system of electrical distribution, the combination, with the intersecting positive and the intersecting negative conductors connected together in pairs, as described, of the safety-catches between the points of intersection, substantially as set forth.

3. In a system of electrical distribution, the combination, with the main conductors, arranged in pairs, intersecting each other and properly connected together at corners or branching points, of safety-catches placed at the points of intersection in boxes adapted to protect them and receive the ends of the conductors for union thereto, substantially as set forth.

4. The combination, with the conductors and the junction-boxes wherein the appropriate conductors are united to each other, of the bow-shaped connecting-pieces, substantially as set forth.

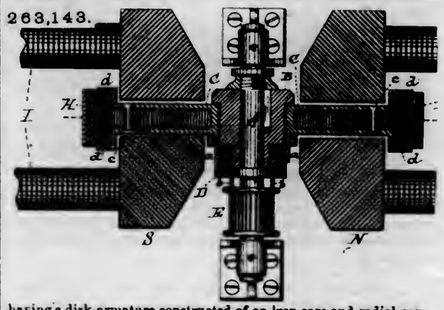
263,143. MAGNETO OR DYNAMO ELECTRIC MACHINE. THOMAS A. EDISON, Menlo Park, N. J., assignor to the Edison Electric Light Company, New York, N. Y. Filed Aug. 30, 1881. (No model.)

Brief.—The armature is in the form of a disk, and is composed of a core constructed by winding strips of iron and paper together in a spiral form and a series of double inductive bars inclosing said core. The inductive bars are connected into a complete closed circuit by insulated annular bands for the outer ends and disks for the inner ends.

Claim.—1. A dynamo or magneto electric machine or electric engine having an armature of disk form, constructed of a core, upon which are secured radiating copper inductive bars, with concentric rings, for making the external connections between said bars, substantially as set forth.

2. A dynamo or magneto electric machine or electric engine

263,143.

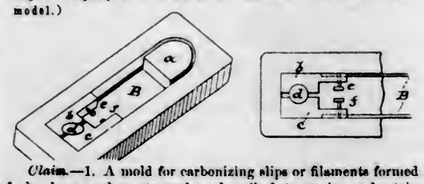


having a disk-armature constructed of an iron core and radial copper inductive bars, said inductive bars being connected in pairs together, and with the commutator-bars at their inner ends, and the terminal and initial inductive bars of the pairs being connected at their outer ends, so as to form a closed circuit, substantially as set forth.

3. In a dynamo or magneto electric machine or electric engine, the combination of the disk-armature core, the double radial copper bars connected in pairs together, and with the commutator-bars at their inner ends, and the concentric rings for connecting the terminal and initial bars of the pairs at their outer ends, substantially as set forth.

4. In a dynamo or magneto electric machine or electric engine, the disk-armature core composed of spirally-wound strips of metal and insulating material, substantially as set forth.

263,144. MOLD FOR CARBONIZING INCANDESCENTS. THOS. A. EDISON, Menlo Park, N. J., assignor to the Edison Electric Light Company, New York, N. Y. Filed Nov. 11, 1881. (No model.)



Claim.—1. A mold for carbonizing slips or filaments formed of plumbago, and constructed, as described, to receive and retain the slips or filaments under strain, while allowing movement for contraction, substantially as set forth.

2. The method of manufacturing carbon loops for incandescing electric lamps, consisting in carbonizing filaments under strain and allowing their limbs alone or their limbs and center to contract together, substantially as set forth.

3. A mold for carbonizing loops for incandescing electric lamps, provided with a fixed or movable block for the center of the loop, and movable blocks attached to the ends of such loop, substantially as set forth.

4. In a mold for carbonizing loops for incandescing lamps, the combination, with the block for the center of the loop, of the movable blocks to which the ends of the loop are attached, and the intermediate separating-plug or equivalent, substantially as set forth.

263,145. PROCESS OF MAKING INCANDESCENTS. THOMAS A. EDISON, Menlo Park, N. J., assignor to the Edison Electric Light Company, New York, N. Y. Filed Apr. 28, 1881. (No model.)

Claim.—The method of manufacturing incandescing conductors, consisting in pressing the powdered graphite or other material into sheets, then heating the sheets in the presence of a hydrocarbon vapor, as described, and then cutting or stamping the conductors therefrom, substantially as set forth.

263,146. DYNAMO OR MAGNETO ELECTRIC MACHINE. THOMAS A. EDISON, Menlo Park, N. J., assignor to the Edison Electric Light Company, New York, N. Y. Filed Nov. 29, 1881. (No model.)

Brief.—The inductive portion of the armature consists of two layers of bars connected in a closed circuit by means of disks at the ends of the armature. The bars are separately insulated and the two layers are additionally insulated from each other.

263,146.



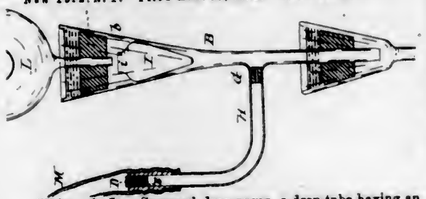
Claim.—1. In armatures for dynamo or magneto electric machines or electric engines, the two layers of copper bars or strips, in combination with cross-connecting disks or rings, substantially as set forth.

2. The combination, with the two layers of copper bars or strips and the cross connecting disks or rings, of the outside commutator-connections, substantially as set forth.

3. In armatures for dynamo or magneto electric machines or electric engines, the combination of the two layers of copper bars or strips breaking joints, substantially as set forth.

4. The combination of the two layers of copper bars or strips, arranged to break joints, the cross-connecting disks or rings, and the outside commutator-connections, substantially as set forth.

263,147. VACUUM APPARATUS. THOMAS A. EDISON, Menlo Park, N. J., assignor to the Edison Electric Light Company, New York, N. Y. Filed Aug. 30, 1881. (No model.)



Claim.—1. In a Sprengel drop-pump, a drop-tube having an inner tube forming the strangulation or contraction for the mercury and removably secured within it, substantially as set forth.

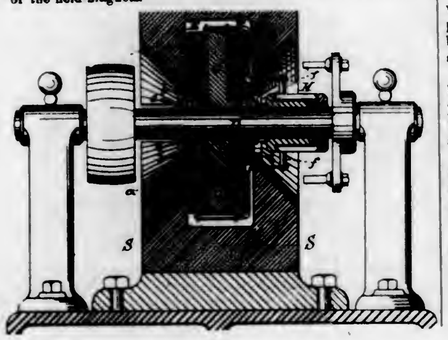
2. In a Sprengel drop-pump, the removable inner tube, for the purpose set forth, held by a stopple or surrounding packing, substantially as set forth.

3. In a Sprengel drop-pump, the combination, with the two drop-tubes, of a section of tube sealed within one of the drop-tubes at the junction of the two drop-tubes, and forming a contraction thereat, substantially as set forth.

4. The combination, with the exhaust-tube of a Sprengel air-pump, of a separate vessel placed in said exhaust-tube between the inlets of the vessel to be exhausted and the mercury for effecting the exhaustion, and adapted to contain a drying agent, substantially as set forth.

263,148. DYNAMO OR MAGNETO ELECTRIC MACHINE. THOMAS A. EDISON, Menlo Park, N. J., assignor to the Edison Electric Light Company, New York, N. Y. Filed Nov. 28, 1881. (No model.)

Brief.—The armature is composed of a number of inductive disks connected in a closed circuit and to the commutator-plates. The armature so formed is rotated within the recessed pole-pieces of the field-magnets.



Claim.—1. The combination, with the field magnet or magnets of a dynamo or magneto electric machine, of a number of inductive disks connected so as to generate a continuous current, substantially as set forth.

2. The inductive disks revolving in two opposite fields of force and connected so as to generate a continuous current, substantially as set forth.

3. The combination, with the exciting magnet or magnets, of the revolving armature having a magnetic plate or disks and copper inductive disks, substantially as set forth.

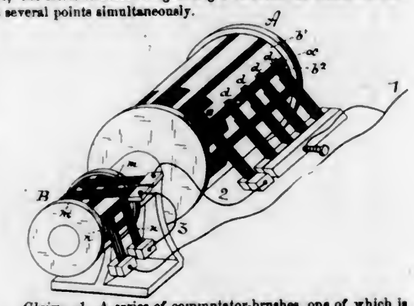
4. The combination, with the exciting-magnet, of the armature having a central plate or disk of magnetic metal forming the core of the armature, and inductive disks arranged on opposite sides of such core, and connected so that such disks shall generate a continuous current, substantially as set forth.

5. The combination, with the exciting-magnet, of the armature having central core and copper inductive disks on each side of the core, the cross-connections of such disks at their periphery, and the exterior commutator-connections, substantially as set forth.

6. The combination, with the revolving armature provided with a core of magnetic metal and inductive portions, of an exciting-magnet having polar extensions chambered to receive opposite portions of the armature, and reduced in width on their approaching faces, substantially as set forth.

263,149. COMMUTATOR FOR DYNAMO OR MAGNETO ELECTRIC MACHINES. THOMAS A. EDISON, Menlo Park, N. J., assignor to the Edison Electric Light Company, New York, N. Y. Filed Oct. 4, 1881. (No model.)

Brief.—To diminish the spark at the commutator makes the commutator-plates narrower at one end, and arranges a separate brush to bear on the narrow part, this brush being set so that its contact with the commutator is behind that of the main brushes. This brush is in a branch circuit, which includes two or more additional brushes bearing upon what is called a "breaking-cylinder," the latter brushes being arranged to break the branch circuit at several points simultaneously.



Claim.—1. A series of commutator-brushes, one of which is set noticeably behind and is connected with the main conductor, independent of the other brushes, through breaking points, substantially as and for the purpose described.

2. The combination, with the commutator brush or brushes of a dynamo or magneto electric machine, of two or more circuit-breaking points arranged in series and breaking circuit simultaneously with the breaking of the circuit at the commutator, substantially as set forth.

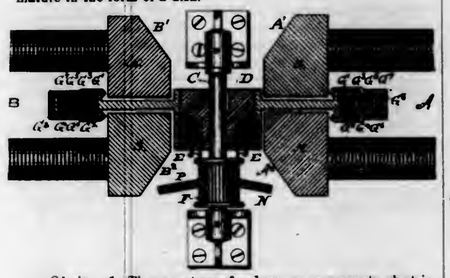
3. A commutator-cylinder having parallel conducting-spaces which are narrower at one end, the insulating-spaces being then proportionately wider, in combination with positive and negative brushes bearing on both the narrower and wider portions of said spaces, substantially as set forth.

4. The combination, with the commutator-cylinder and its brushes, of a breaking-cylinder mounted on the same shaft and provided with means for breaking the circuit at several points simultaneously with the breaking of the circuit at the commutator, substantially as set forth.

5. The combination, with the isolated brush of the commutator, of two or more brushes on the breaking-cylinder, which break circuit simultaneously with the isolated brush, substantially as set forth.

263,150. MAGNETO OR DYNAMO ELECTRIC MACHINE. THOMAS A. EDISON, Menlo Park, N. J., assignor to the Edison Electric Light Company, New York, N. Y. Filed June 22, 1881. (No model.)

Brief.—The armature is formed of a number of radial bars insulated from each other, but united into a closed circuit by means of external rings and internal disks, the whole forming a rigid armature in the form of a disk.



Claim.—1. The armature of a dynamo or magneto electric generator or engine, consisting of a series or number of separate radial disk-sections electrically insulated from each other, but mechanically connected together to form a rigid disk, substantially as set forth.

2. The combination, with an armature of a dynamo or magneto electric generator or engine, formed of a series or number of separate radial disk sections or bars electrically insulated from each other, but mechanically connected to form a rigid disk, of commutator bars and connections, substantially such as described, all the radial disk sections or bars being thereby kept continuously in circuit, substantially as set forth.

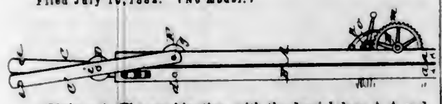
3. The combination, in an armature for a dynamo or magneto electric generator or engine, of separate radial disk sections or bars electrically insulated from each other, but mechanically connected together to form a disk, and concentric rings connecting the disk sections or bars in a multiple arc, substantially as set forth.

4. A magneto or dynamo electric machine or electric engine having, in combination, the armature constructed of radial bars connected in pairs at their inner ends with the commutator-bars and suitable connections of different pairs at the outer ends of the radial bars, whereby the radial bars will all be kept continuously in circuit, substantially as set forth.

5. In a dynamo or magneto electric machine or electric engine, the combination, with the armature, of the concentric rings for connecting the armature-bars in multiple arc, revolving outside of the polar extensions of the magnet or magnets, substantially as set forth.

6. In a dynamo or magneto electric machine or electric engine, the combination, with the radial bars, of the concentric rings outside of the radial bars and connections between such bars and rings, substantially as set forth.

263,151. DERRICK. JOHN P. EDMONDS, Jacksborough, Texas., assignor of one-half to W. C. Hall and A. Loyd, same place. Filed July 10, 1882. (No model.)



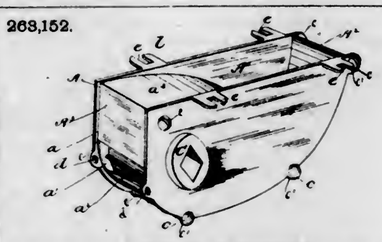
Claim.—1. The combination, with the derrick-legs A A and B B, of the hooking braces C C', pivoted respectively to said legs A and B, the bolts *f f'*, with and from which said braces engage and disengage, the pivot *i*, uniting said braces intermediately of their length, and the hoisting-pulley D, essentially as shown and described.

2. The combination of the windlass E, the derrick-legs A A and B B, the hooking and crossing braces C C', united by an intermediate pivot, *i*, the pivots *d g*, the bolts *f f'*, and the pulleys F D, all arranged for operation in relation with each other substantially as and for the purposes herein set forth.

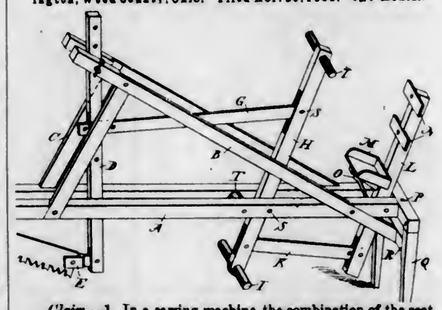
263,152. FEED-BOX FOR SEED-DRILLS. WILLOUGHBY P. ELAM, Petersburg, Ill., assignor of one-half to William Edward Elam, same place. Filed Dec. 10, 1881. (No model.)

Claim.—In a force-feed seeding-machine, the seed-cup A, composed of the side plates, A', provided on the inside with coincident grooves *b*, extended along their lower edges and ends, and with the grooves *b'*, joining the grooves *b* at the upper rear corner edges of the side pieces, A', the plates A^1 A^1, and the feed-wheel C, substantially as set forth.

263,152.



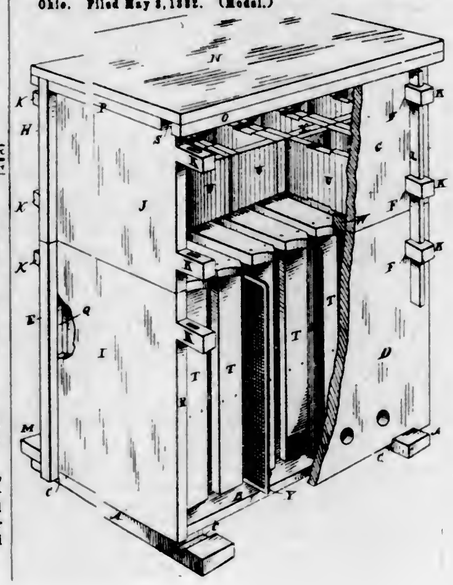
263,153. FIRE-WOOD DRAG-SAW. EDWIN J. ELLIS, Washington, Wood County, Ohio. Filed Apr. 28, 1882. (No model.)



Claim.—1. In a sawing-machine, the combination of the seat secured to the pivoted rocking lever L, the connecting-rods G K, the pivoted lever H, provided with the projections I for the hands and feet, and the lever D, pivoted at its upper end in the side timbers, B, and carrying the saw, substantially as shown.

2. The combination, in a sawing-machine, of the side timbers, B, the lever D, pivoted at its upper end and provided with a series of holes both at its upper end and center, with the connecting-rod G, having a series of holes in its front end, levers H L, pivoted in the frame, as described, and rod K, connecting said levers, substantially as set forth.

263,154. BEE-HIVE. GEORGE ELLSWORTH, Bowling Green, Ohio. Filed May 3, 1882. (Model.)

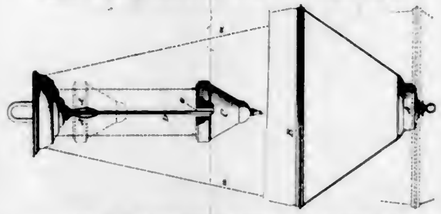


Claim.—1. The case of a bee-hive, consisting of the sills A, having gains C for the lower edges of the sides, said sides having grooves Q for the edges R of the ends I J, and also having mortises F for the tenons K, the ends I J having said tenons K, and said tenons being secured by keys L, substantially as described.

2. The improved bee-hive case, constructed in lower and upper sections of detachable parts, substantially as described, and the said detachable parts of the said lower and upper sections, and also said lower and upper sections, being connected together by the tenons K and keys L, substantially as described.

3. In a bee-hive, the combination, with the sides G H of the upper section, provided with the cleats W at their lower ends, of the honey-boxes U, the outer ones resting on the cleats W and against the sides G H, and the inner ones resting against the inner ends of the outer ones, substantially as and for the purpose set forth.

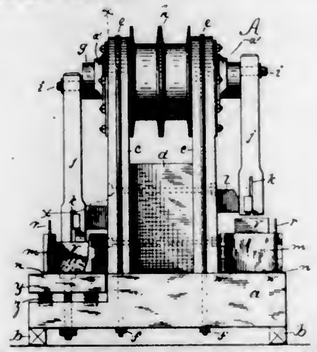
263,155. EXTENSION LAMP-FIXTURE. JOHN A. EVARTS, Meriden, Conn., assignor to the Bradley & Hubbard Manufacturing Company, same place. Filed July 20, 1882. (No model.)



Claim.—1. In an extension lamp-fixture in which the lamp-holder is counterbalanced by a weight, the combination therewith of a frictional device, substantially such as described, to temporarily engage the weight when near its highest position, substantially as described.

2. In an extension lamp-fixture, a spring or springs, *d*, attached to the fixture near the point where the weight reaches its highest elevation, and arranged to engage the weight as it approaches its highest elevation, substantially as and for the purpose described.

263,156. BRICK-PRESS. EDWARD FALES, Keokuk, Iowa. Filed Mar. 10, 1882. (No model.)



Claim.—1. A dry-earth brick-press having a vertical pitman bar or follower and means for operating the same, in combination with a mold having a solid bottom with hinged side and end for holding the material to be pressed, substantially as shown and described.

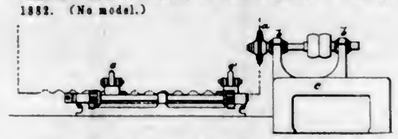
2. The combination of the platform, the standards, and the binding-rods with the shaft, the pitman-rods, and the guides, substantially as shown and described.

3. The combination of the shaft having wrists at each end, one of which is placed more nearly in line with the longitudinal axis thereof than the other, and the pitman-bars connected thereto and made of such a length, respectively, that the one having the shorter stroke shall begin its stroke from a plane at which the other ends its stroke, substantially as shown and described.

4. The combination, with the mold and the pitman-bars having unequal strokes, as described, of the block *c*, made of such a thickness that the mold filled with material to be pressed and the block placed thereon will be adapted to utilize the entire strokes of the bars in succession, substantially as specified.

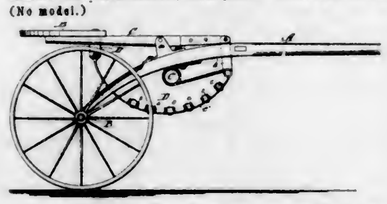
5. The mold consisting of a bed-plate and two similar angular plates, one of which is secured to the bed-plate, while the other is hinged to the first and provided with a conical pin for securing the parts in a closed position, substantially as shown and described.

263,157. MACHINE FOR CUTTING OFF THE ENDS OF TUBES. SAMSON FOX, Leeds, County of York, England. Filed Apr. 8, 1882. (No model.)



Claim.—The circular saw *a*, mounted in suitable bearings on a stand, *c*, and driven by a belt or its equivalent, in combination with the sliding carriage *d d'*, fitted with four narrow round-edged rollers, *e e' e² e²*, on which the corrugated tube rests and may be revolved, substantially as described.

263,158. SULKY. JOS. B. FRASER, Rushville, Ind., assignor to himself and John Carroll, same place. Filed June 22, 1882. (No model.)

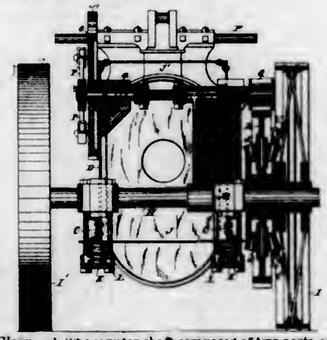


Claim.—1. The combination of the thills A, seat B', bars C, plate *a'*, provided with ears *a*, links *b*, and springs C', substantially as shown and described.

2. The combination, with the thills A, seat B, bars C, apertured plates *a'*, and links *b*, of the foot-rest D and spring D', substantially as and for the purpose set forth.

3. The combination of the thills A, seat B', bars C, plate *a'*, provided with ears *a*, links *b*, and springs C', with the foot-rest D, constructed substantially as described, and spring D', all arranged as shown and described.

263,159. TRACTION-ENGINE. ABRAHAM O. FRICK, Waynesborough, Pa. Filed Apr. 18, 1882. (No model.)



Claim.—1. The counter-shaft composed of two parts, combined with and connected by the links *g*, sliding block *h*, with rollers *i*, and hollow clutch-section *j*, having guideways to receive the rollers, as and for the purpose described.

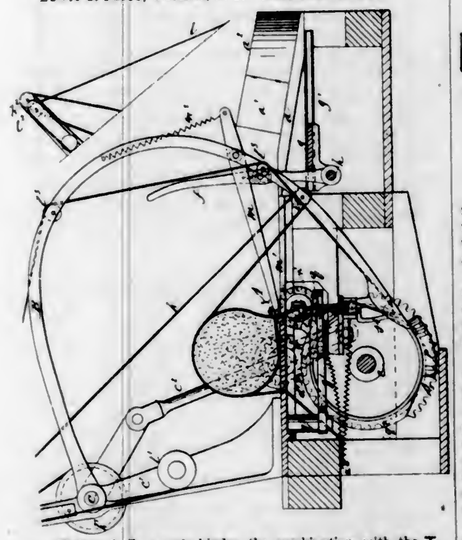
2. The axle and jointed counter-shaft, with the connecting-link S, having long bearings for preserving the equal movement and parallel position of said shaft and axle, in combination with the boiler, the supporting-springs, and the driving-gears of a road-engine, substantially as and for the purpose described.

3. The compensating-gear R *d e f*, combined with and located upon the axle, the loose traction-wheel I, and the tug-spring T, constructed for both forward and backward motion, and connecting the traction-wheel I to the gear *f*, substantially as and for the purpose described.

4. The combination, with the axle, the freely-moving counter-shaft, and a link connecting said axle and counter-shaft, of a gear-wheel arranged concentrically upon the axle, a pinion meshing in the same and arranged on the counter-shaft, and a spring for resisting the tendency of the pinion to crawl or move peripherally over the gear-wheel on the axle, as described.

5. The side plates, D D, connected at the top by plate J' and at the bottom by plate J, in combination with the jointed counter-shaft, the stationary bearing *a*, the link S, the axle, the connecting-gears, the boiler, and the supporting-springs, as and for the purpose described.

263,160. GRAIN-BINDING ATTACHMENT FOR REAPERS. EDWIN S. FROST, Watkins, N. Y. Filed Feb. 16, 1880.



Claim.—1. In a grain-binder, the combination, with the T-ended arm, of the hinged sector and spring, the sector serving to raise the grain for the needle-arm and as a guide to the said T-ended arm, as described.

2. The combination, with the shaft *c*, carrying the needle-arm B, and sheave k^2, loose on said shaft, of a coiled spring secured to the sheave k^2 and shaft *c*, and compressing-cord *k*, secured at one end to the frame, and passing around the sheaves *k* k^2 k^2, substantially as described, and for the purpose set forth.

3. The knotter herein described, consisting of a tubular head, c^1, provided with a pinion on its shank, slotted projection c' on the outer end of the head, arm c^3, pivoted in the head, and having its hook in the slot of the projection c', sliding rod c^3, having a hooked end, c^4, loose piece *p*, sliding on the arm c^3, and having a forked end and spring c^5, substantially as described.

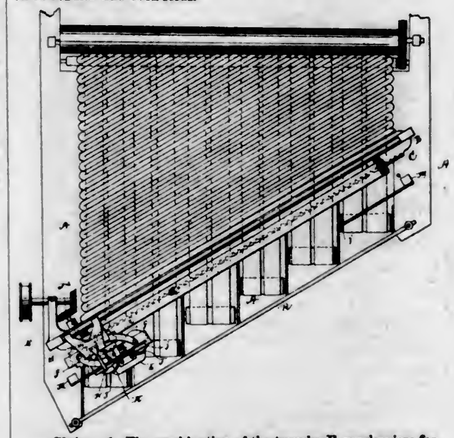
4. The arm *m*, hung on arm B, spring m^2, and sector *i*, having flange *n*, combined together and with the needle-arm, binding-cord, and slotted table A, for operation substantially as described.

5. In grain-binders, the grippers *q q'*, pivoted together and upon the stud q^3, the springs r^2 r', and the cam-wheel q^4, fitted with a projection, r', combined together and with the knotting devices, substantially as shown and described.

6. The organized grain-binder consisting of vibrating needle-arm B, gaveling-fingers *f*, and sector *i*, tucking-arm *m*, holding-cord *k*, tying device C, grippers *q q'*, gripping-shears *s s'*, and delivery-arms *t*, combined for operation substantially as shown and described.

263,161. FEEDING DEVICE FOR CARDING-ENGINES. JOHN F. GUERNSEY, New Albany, Ind. Filed Mar. 17, 1882. (No model.)

Brief.—The traveler provided with vertical toothed drums has, by proper mechanism, imparted to it a reciprocating rectilinear motion across the feed-table, thereby laying the roving thereon in regular and even folds.



Claim.—1. The combination of the traveler F, mechanism for reciprocating the same, its toothed drums, a rack-bar, a feed-table, the shifting plate connected by pivoted arms to said traveler, and the smooth rollers receiving rotation, substantially in the manner and for the purposes described.

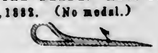
2. The combination, with the traveler arranged to reciprocate over the feed-table, and means for moving this traveler, of the toothed drums, the shifting plate bearing feed-rollers, and an eye piece or guide for the roving, and a spring acting on the curved edge of the said plate, substantially as described.

3. The combination of shifting hooks and releasing devices therefor with a traveler bearing toothed drums, and a shifting plate having feed-rollers applied to it, substantially as described.

4. The combination, with the traveler F, of the annularly-grooved toothed drums H H, the rack which engages with the upper teeth of said drums, the smooth-edge guide rail or bar applied beneath the rack and receiving the grooved parts of the drums, the smooth feed-rollers, a spring for holding said rollers against the drums, and shifting devices for the plate K, all substantially in the manner and for the purposes described.

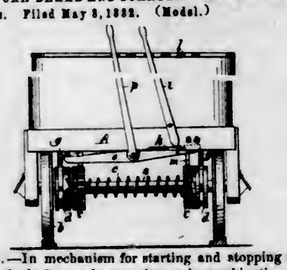
5. The combination, with the bar D and pins *l*, arranged at the ends of said bar, of the traveler and means for reciprocating the same, said traveler being adapted to feed and distribute the roving upon the endless feed-apron, substantially as and for the purposes described.

263,162. SCYTHE-BLADE. AMOS F. GERALD, Fairfield, Me. Filed Feb. 24, 1882. (No model.)



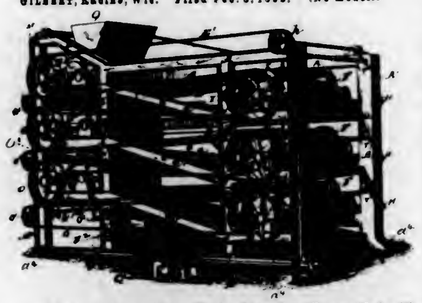
Claim.—As a new article of manufacture, a scythe-blade, A, or other blade having the integral tubular strengthening-rib B at the back, the edge of which is united to the main portion of the blade throughout its length by welding or brazing, substantially as described.

263,163. CAR BRAKE AND STARTER. ISIDORE GERARD, Newton, Kans. Filed May 8, 1882. (Model.)



Claim.—In mechanism for starting and stopping cars, the handle *p*, rock-shaft *n*, and cross-piece *o*, in combination with the pawls *m m* and reverse ratchet-wheels *c c*, substantially as shown and described.

263,164. ROLLER-MILL. HENRY J. GILBERT and GEORGE A. GILBERT, Racine, Wis. Filed Feb. 3, 1882. (No model.)



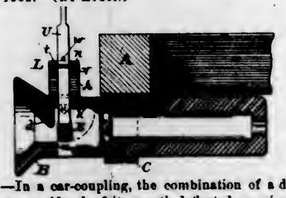
Claim.—1. In a roller-mill, the fast rollers C, provided with driving-pulleys 1 2 3 4, &c., at their ends, at one side of the machine, and the pulleys W at their opposite ends, the slow rollers F, having driving-pulleys *b c d e*, &c., the shafts H', provided with the eccentrics and pulleys O', and idlers A and A', in combination with belts E, E', and O, arranged upon the pulleys of the rollers C and F and shafts H', respectively, as set forth.

2. The combination, in a roller-mill, of the fast rollers C, provided with pulleys W, belts O, shafts H', provided with the eccentrics C^2 and pulleys O', connecting-rods H^3, sieves G, and adjustable springs I, substantially as described.

3. In combination, rolls C F, sliding boxes D, the yokes K, eccentric bolts M, levers N N^2 N^3, transverse shafts p^4, and connecting-rods P, as shown and described, and for the purposes set forth.

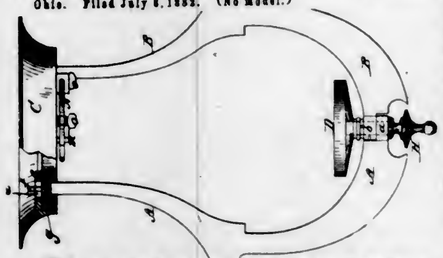
4. In combination with the upright and supporting rails of a roller-mill, the sliding adjustable boxes D, having openings on their sides, yokes K, the screw-shafts H, sleeves A^4, nuts A^5, springs H^2, hand-wheels H^1, hand-nuts A^3 A^5, levers N N^2 N^3, rods P, and transverse shafts p^4, as described, and for the purposes set forth.

263,165. CAR-COUPLING. WILLIAM P. GINTER, Hughesville, Pa., assignor of one-half to John Kahler, same place. Filed Mar. 13, 1882. (No model.)



Claim.—In a car-coupling, the combination of a draw-head having the upper side, *d*, of its mouth deflected, a swinging horizontal bar, E, suspended by hangers across the opening of the mouth below the lower edge of the upper deflected side, a coupling-pin provided with a stop device, V, and a laterally-projected lug, *w*, above the stop device, and a guide and support secured on the top of the draw-head, the said guide and support having a horizontal part, *n*, with a hole for the coupling-pin, and a notch, *t*, formed in the hole for the passage of the laterally-projecting lug on the pin, as set forth.

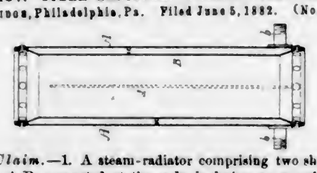
263,166. LAMP-FIXTURE. CHARLES GORDON, Cleveland, Ohio. Filed July 8, 1882. (No model.)



Claim.—1. A hanging or pull-down lamp having the harp or frame and the shade-ring provided with means by which the securement together of these parts of the fixture may be effected by simply putting the harp upwardly in place with the ring and turning the former or its parts to effect the requisite interlocking, as set forth.

2. In combination with the shade-ring, a spring-holder adapted to permit the passage upward and outside of it of the upper open end of the shade and to expand against the tapering interior of the shade and hold the latter up in its seat in the shade-ring, as set forth.

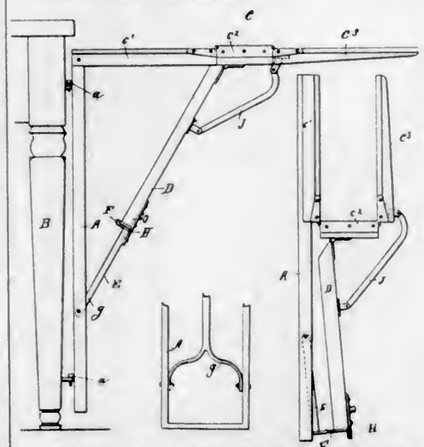
263,167. STEAM-RADIATOR. PATRICK GORMLY and LEWIS BRIDGE, Philadelphia, Pa. Filed June 5, 1882. (No model.)



Claim.—1. A steam-radiator comprising two sheet-metal tubes, A B, connected at the ends, inclosing an annular steam-space, *a*, and provided with one or more laterally-projecting branches, *b*, near one end, as set forth.

2. The combination of the outer tube, A, the inner tube, B, flared at the ends and riveted to the tube A, and the laterally-projecting branch or branches *b*, as set forth.

263,168. FOLDING AND SWINGING SUPPORT AND REPOSITORY FOR BOOKS, &c.. EMORY A. GRANT, Louisville, Ky. Filed Apr. 1, 1882. (No model.)



Claim.—1. In a folding and swinging support and repository for books and other articles, the combination, with a hinged support, of a folding platform composed of a series of three leaves hinged together and to the upper end of said support, and folding braces hinged together and to the platform, and the hinged support, whereby the platform may be extended or folded, substantially as specified.

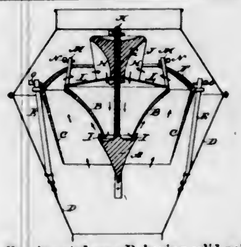
2. In a folding and swinging support and repository for books and other articles, the combination, with the frame A and the leaves C' C^2 C^3, hinged to each other, of the folding strut or brace D E, pivoted to the frame A, and to the middle leaf, C^2, and of the brace or strut J, pivoted to the leaf C^3 and to the strut D, substantially as herein shown and described, and for the purpose set forth.

3. In a folding and swinging support and repository for books and other articles, the combination, with the frame A, the hinged leaves C' C^2 C^3, the hinged folding strut or brace D E, of the latch or bolt H, and the brace or strut J, hinged to the leaf C^3 and to the strut D, substantially as herein shown and described, and for the purpose set forth.

263,169. SPARK-ARRESTER. GEORGE GREEN, Toyah, Tex. Filed May 31, 1882. (No model.)

Claim.—1. The combination, in a smoke-pipe, of the inverted hollow cone A B, receiver C, top F, and arrester G, substantially as described.

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2. The hollow inverted cone B, having solid point A and orifice I, in combination with flaring receiver C, substantially as described.

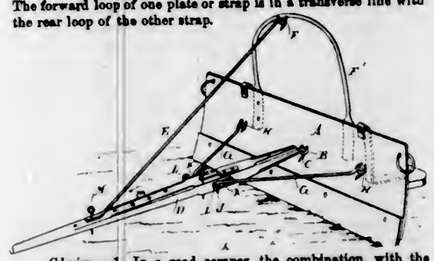
3. The arrester G, having cavities H, in combination with top F of receiver C, and hollow cone B, substantially as described.

4. The receiver C, attached to pipe D by rods E, and the cone B, suspended from the top F of said receiver, substantially as described.

5. The arrester G, mounted on rod K of point A and resting on braces L, having support on cone B, substantially as described.

263,170. ROAD-SCRAPER. GEORGE GREGORY and GEORGE AUSTIN, Skaneateles, N.Y. Filed May 13, 1882. (No model.)

Brief.—The scraper is adjusted horizontally by means of hooked rods, which engage looped straps on the sides of the pole. The forward loop of one plate or strap is in a transverse line with the rear loop of the other strap.



Claim.—1. In a road-scraper, the combination, with the scraper-plate and draft-pole, of brace-rods attached to the scraper-plate and having hooks at the ends, and of loops or sockets attached to the sides of the draft-pole, substantially as herein shown and described, and for the purpose set forth.

2. In a road-scraper, the combination, with the scraper-plate A and the draft-pole D, of the brace-rods G, attached to the scraper-plate A and provided with hooks J at the ends, and of the plates K, attached to the sides of the pole D and forming loops or sockets L at the ends, substantially as herein shown and described, and for the purpose set forth.

3. In a road-scraper, the combination, with the scraper-plate A and the draft-pole D, of the brace-rods G, attached to the scraper-plate A and provided with hooks J at the ends, and of the plates K, attached to the sides of the pole D and forming loops or sockets L at the ends, the front loop or socket L of one plate K being on the same transverse line with the rear loop or socket L of the opposite plate K, substantially as herein shown and described, and for the purpose set forth.

263,171. SAW-GUARD. JOSEPH G. GROFF, Connersville, Ind. Filed May 22, 1882. (No model.)

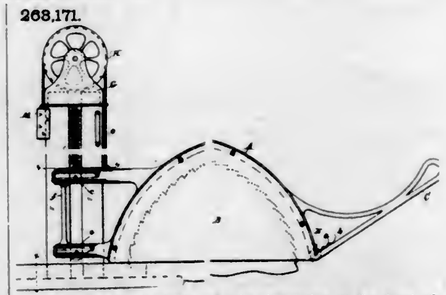
Claim.—1. The combination of the hood, the rearwardly-extending slotted arms embracing the guide-plates, with said guide-plates having the slot between them, and the friction-wheels mounted in said arms and working in the slot between the guide-plates, substantially as described.

2. The combination, with the hood, of the rearward slotted arms, the vertical guide-plates, the grooved pulley, the weight, and the cord connected at one to the rearward arm and at the other to the weight, substantially as described.

3. The combination, with the guide-plate, of the hood having the rearwardly-extending slotted arms embracing the guide-plates and vertically adjustable thereon, and a sharp-edged wheel for steadying the front unguided end of the hood, substantially as described.

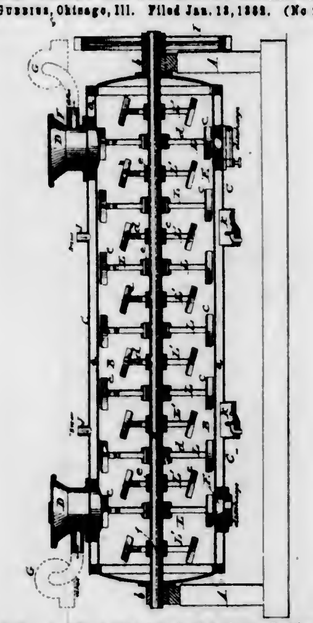
4. The combination, with the guide-plates, of the hood having the rearwardly-extending slotted arms embracing the guide-plates

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and the sharp-edged wheel, and a bearing-spring at the front of the hood, substantially as described, for the purpose specified.

263,172. DRYING AND PULVERIZING APPARATUS. JOHN F. GUBBINS, Chicago, Ill. Filed Jan. 13, 1882. (No model.)



Claim.—1. The herein-described drying and pulverizing apparatus, consisting of the cylinder B, provided with a central shaft carrying beaters and scrapers and communicating with an exhaust-fan, and the outer cylinder, C, communicating with a steam-supply and provided with a steam-trap, substantially as set forth and shown.

2. In an apparatus for drying and pulverizing offal, the combination of a steam-jacketed chamber, a shaft extending longitudinally through the chamber, and two series, L L', of scrapers and beaters, the blades of one series alternating with those of the other and inclined in a reverse direction thereto, as shown and described.

263,173. FLUE-CLEANER. WILLIAM HAMILTON, Erie, Pa. Filed June 9, 1882. (No model.)

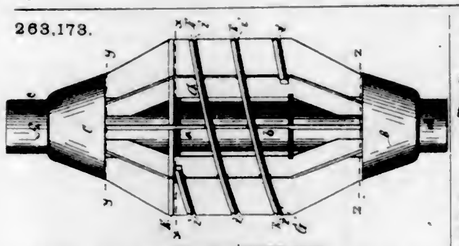
Claim.—1. In a flue-cleaner, a spring coil-cutter, G, in combination with a grooved holder, the spring-coil being arranged to play freely in the grooves of said holder, substantially as described.

2. The cutter-holder composed of the heads B C, wings D D, and guide-disk E, substantially as and for the purpose herein specified.

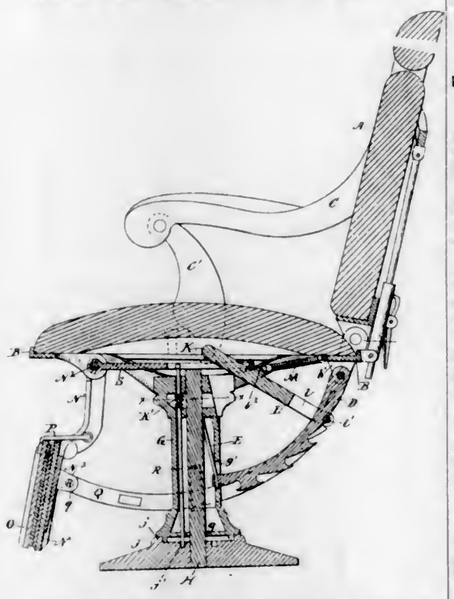
3. The combination of the notched wings D D and coiled cutter G, substantially as and for the purpose herein specified.

4. The combination of the springs H H with the wings D D substantially as and for the purpose herein specified.

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263,174. RECLINING-CHAIR. D. BERT HARTLEY, Chicago, Ill., assignor of one-half to the Union Brass Manufacturing Company, same place. Filed Mar. 25, 1882. (No model.)



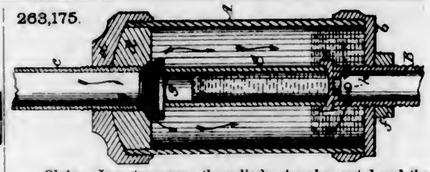
Claim.—1. The upright tubular standard G, provided with the slot g' and guides g^1, in combination with the circularly-flanged base-plate J, with the upright spindle H, with the seat-frame B, rigidly affixed to the top of the standard, with the ratchets D and Q, arranged as described, and with means for lifting the forward end of D, substantially as and for the purposes described.

2. In a reclining-chair, a tubular standard slotted at the back, as described, a chair-back hinged to the seat-frame, a transverse rock-shaft having its bearings in the seat-frame, arm-rests rigidly affixed to the ends of the rock-shaft and connected with the chair-back, a ratchet pivoted to the back part of the seat-frame and curving downward and forward into the slot of the standard, means arranged within the standard for lifting the forward end of the ratchet, and a rocking arm rigidly affixed at its forward end to the rock-shaft, and forming at its rear end a loop through which the ratchet passes, and of suitable length to engage with the notches of the ratchet when the latter is not lifted, all in combination, substantially as and for the purpose described.

3. The leg-rest N, foot-rest O, hinged to the leg-rest, hangers N', pivoted to the front of the seat-frame, hook P, arranged as described, ratchet-arms Q, pivotally connected with the leg-rest, rocking arm L, provided with the transversely-projecting pin l', and means for imparting to the rocking arm the motion of the chair-back, all in combination, substantially as and for the purpose described.

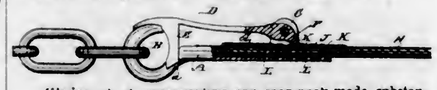
263,175. STEAM-TRAP. WILLIAM A. HATHAWAY, North Kingstown, assignor to John S. Lees, Pawtuxet, R. I. Filed Dec. 30, 1881. (No model.)

263,175.



Claim.—In a steam-trap, the cylinder A, valve-seat *d*, and the pipe B, having side holes or opening, *h*, said pipe being adjustably connected to the cap *b*, in combination with the liquid-tube C, having screw-cap *e* upon its lower end and at its upper end the metal valve D, constructed to operate as described, and having the stem *g*, located within the end of the tubes, substantially as and for the purpose set forth.

263,176. ROPE-COUPLING AND SNAP-HOOK. FREDERICK W. HAWES, Algona, Iowa. Filed Apr. 17, 1882. (Model.)



Claim.—1. A rope-coupling and snap-hook made, substantially as herein shown and described, with a grooved shank and a latch pivoted to the shank, and provided with a cam-projection at its lower end, as set forth.

2. The combination, with the hook B, provided with the grooved shank A, of the pivoted latch D, provided with a cam-projection, F, and the grooved strip G, substantially as herein shown and described, and for the purpose set forth.

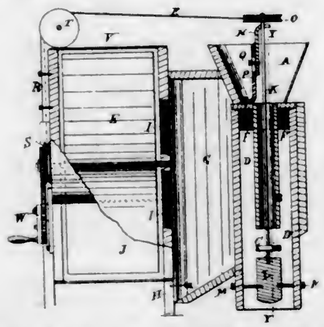
3. The combination, with the hook B, provided with the grooved shank A, having teeth I, of the pivoted latch D, provided with cam-projection F, and the clamping-strip G, having projections J and transverse grooves K, substantially as herein shown and described, and for the purpose set forth.

4. The combination, with the hook B and shank A, of the pivoted latch D, provided with jaws E, fitting against the sides of the hook, substantially as herein shown and described, and for the purpose set forth.

5. The combination, with the hook B, provided with shoulders *a*, and the shank A, of the pivoted latch D, provided with jaws E, fitting against the sides of the hook, substantially as herein shown and described, and for the purpose set forth.

6. The combination, with the hook B and the grooved and toothed shank A, of the pivoted latch D, provided with a cam-projection, F, and jaws E, and the strip G, provided with studs J and transverse grooves K, substantially as herein shown and described, and for the purpose set forth.

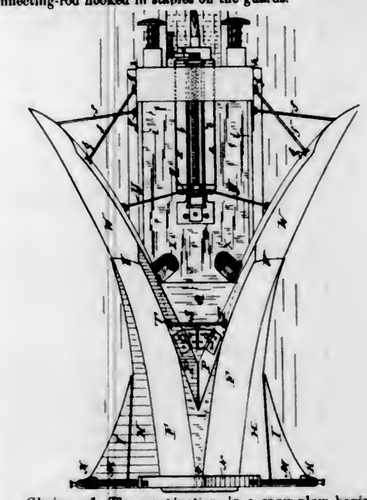
263,177. GRAIN-SEPARATOR. JOHN W. HAZELRIGG, El Dara, Ill., assignor to himself, Wesley T. Hazelrigg, Van P. Hustead, and Charles W. Hazelrigg, all of same place. Filed Apr. 24, 1882. (No model.)



Claim.—A grain-separator comprising the box G, provided with the discharge-opening H at its lower end, the fan E, having openings I, communicating with the box G, the fine D, having openings F, communicating with the box G, the hopper A, the tube B, communicating therewith, the adjustable block L, the shaft K, provided with the spreader C, and the adjustable supports N P, substantially as and for the purpose set forth.

263,178. SNOW-PLOW. ERIC M. HEGGELSON, Rushford, Minn. Filed Apr. 17, 1882. (No model.)

Brief.—The plow has a horizontal cutting-plate and two side cutters, each with two hinged sections, adjusted in outward inclination by screw-rods working in the ends of arms secured to the top of a central divider, the sides of which, with the said side cutters, form two chutes. Each chute has rear wing-extensions adjusted by rods connected to a head shifted longitudinally by a screw-rod or held by detachable brace-rods. Two overhanging guard-plates are hinged to the central divider, being held by a connecting-rod hooked in staples on the guards.



Claim.—1. The combination, in a snow-plow having two chutes, F G H, whose exterior sides, H, flare outwardly from the bottom upward, of hinged sections I to the sides H, substantially as described.

2. The combination, in a snow-plow having two chutes, F G H, whose exterior sides, H, flare outwardly from the bottom upward, of jointed sections I to the sides H, and adjusting screw-rods M, connecting said sections with support o, substantially as described.

3. The combination, with the chutes F G H, of the hinged section I, provided with the piece L, hinged to its upper end, the screw-rods M, and the arms N, substantially as and for the purpose set forth.

4. The combination, with chutes F G H, of guards P, hinged to the top plate, Q, substantially as described.

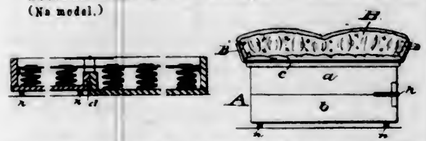
5. The combination, with the chutes F G H and the top plate, Q, of the hinged guards P, the rod S, and staples T, substantially as and for the purpose set forth.

6. The combination, in a snow-plow, of two divergent chutes, F G H, and wings W, jointed at the ends of the chutes, and having the operating-slider Z, and connecting-rods Y, substantially as described.

7. The combination, in a snow-plow, of two divergent chutes, F G H, wings W, jointed at the ends of the chutes, adjusting-slider Z, connecting-rods Y, and adjusting-screw *d*, substantially as described.

8. The combination of detachable braces *f* with the wings W, adjusting-slider Z, connecting-rods Y, and screw *d*, substantially as described.

263,179. COMBINED SOFA AND FOLDING BED. LAMUEL S. HOUSE and ALBERT BRANDT, Chicago, Ill. Filed May 3, 1882. (No model.)



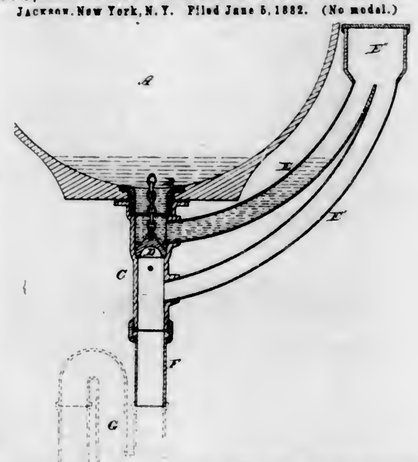
Claim.—1. A box-bed, A, composed of parts *a* and *b*, having the ends *d d* cut away, as shown and described, in combintion with piece *f*, substantially as described and shown.

2. A box, A, composed of parts *a* and *b*, having ends *d d* cut away, as shown and described, and provided with springs *s*, in combination with sofa B and piece *f*, substantially described and shown.

3. A box-bed, A, composed of parts *a* and *b*, hinged together by hinges *h h*, and provided with springs *s*, in combination with sofa B, having cleats *c* and dowel-pin *p*, substantially as shown and described.

4. The combination of the box-bed A, composed of parts *a* and *b*, hinged together by hinges *h h*, with the ends *d d* cut away, as shown and described, and provided with springs *s*, and stripe *e* and *e'*, the piece *f*, and sofa B, having cleats *c* and dowel-pin *p*, substantially as described and shown.

263,180. COMBINED TRAP AND OVERFLOW. EDWIN A. JACKSON, New York, N. Y. Filed June 5, 1882. (No model.)



Claim.—1. The combination, with a stationary wash-bowl or similar water-receptacle, of a pipe leading downward from the exit-opening of said bowl or receptacle, and having a valve or stopper seat formed therein, and a pipe-loop having its opposite branches connected with said pipe respectively above and below said valve or stopper seat, the outer portion of said pipe-loop extending upward above the bottom of the bowl, substantially as described.

2. The combination, with the bowl A, of the screw-threaded thimble B, the pipe-section C, having its upper end adapted to engage said thimble, and having an intermediate valve or stopper seat, the pipes E, connected with said pipe-section on opposite sides of the valve or stopper seat, and curving upward and connected together above the bottom of the bowl, and the removable and replaceable stopper or valve D, substantially as described.

263,181. FIRE-ESCAPE. DAVID JENKINS, Pittsburg, assignor of three-fourths to William E. Young, Allegheny City, and W. T. Chaffey, Pittsburg, Pa. Filed Apr. 3, 1882. (No model.)

Brief.—As the balls are thrown out by centrifugal force the arms to which they are attached will draw on the limbs of the lever to which one end of the brake-band is secured, tightening it upon the projecting flange of the frame and retarding the speed of descent of the lowering-rope.

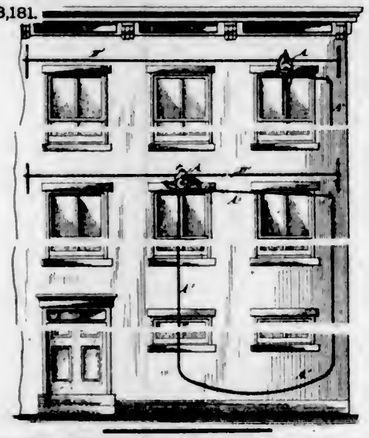
Claim.—1. In a fire-escape, the combination of the disk *k*, lever *p*, balls *x*, arms *u v j s*, band *i*, and circular flange *h* on the plate B, constructed, arranged, and operating substantially as herein described, and for the purpose set forth.

2. In a fire-escape, the combination of the drum or pulley *m*, disk *k*, lever *p*, balls *x*, arms *u v j s*, band *i*, and circular flange *h* on the plate B, constructed, arranged, and operating substantially as herein described, and for the purpose set forth.

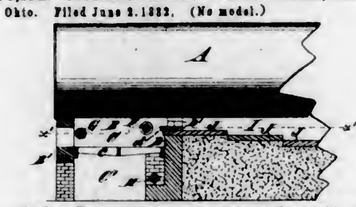
3. The endless rope A', grooved drum or pulley *m*, friction-pulleys *e'*, disk *k*, lever *p*, balls *x*, arms *u v j s*, band *i*, and circular flange *h* on the plate B, constructed, arranged, and operating substantially as herein described, and for the purpose set forth.

4. The endless rope A', grooved drum or pulley *m*, friction-pulleys *e'*, disk *k*, lever *p*, balls *x*, arms *u v j s*, band *i*, circular flange *h* on the plate B, and suspending-bar B', constructed, arranged, and operating substantially as herein described, and for the purpose set forth.

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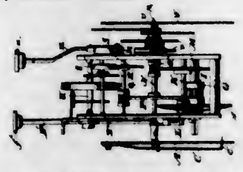


263,182. BOILER-FURNACE. THOMAS E. JONES, Cincinnati, Ohio. Filed June 2, 1882. (No model.)



Claim.—In a smoke-consuming furnace, the combined air and steam nozzles extending transversely through the opposite side walls of the furnace-chamber, and one arranged in rear of the other, as described, in combination with the bridge-wall in rear of the grate, having at its upper portion a forward-projecting ledge to direct the gas and smoke back to the fire-box, and the shallow walls projecting inward from the side walls of the furnace, between the bridge-wall and the boiler, to form the contracted throat, substantially as and for the purposes set forth.

263,183. CHRONOGRAPH. JACOB KANN, Washington, D. C. Filed May 25, 1882. (Model.)



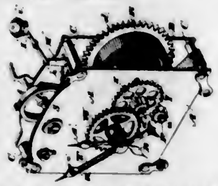
Claim.—1. As a means for connecting the seconds-hand V with the arbor N, the sleeve v, secured at one end within said hand and journaled upon said arbor, and the flat spring v^2, secured upon the inner end of said sleeve through the cam v', and having its free end contained within an annular groove or against a shoulder, s', which is provided within or upon the periphery of said arbor, and adapted to press said sleeve against a fixed bearing attached to the latter, substantially as and for the purpose specified.

2. In combination with the seconds-hand V, journaled by means of the sleeve v upon the arbor N, the heart-cam v', secured upon the inner end of said sleeve, the bar X, pivoted upon the plate A and provided with the V-shaped lug x and A-shaped lug x', the spring Y, adapted to hold said bar in a horizontal position, and the rod Z, pivoted upon said bar X, and adapted to move the same downward to cause said lug x to engage with said cam v', substantially as and for the purpose shown.

3. In combination with the marker C', the sleeve D', adapted to move longitudinally upon the arbor N, and provided at its inner end with the circumferential groove d^3 and at its outer end with the arm d', which loosely embraces said marker, the spring E', having the forked lug e' and twisted free end e^2, the vertically-movable bar F', provided with the inclined lug f', and the spring G', adapted to hold said bar at the upper limit of its motion, all arranged to operate substantially as and for the purpose set forth.

4. A clock provided with the usual front dial and hands and a sweep seconds-hand, and having within its rear side a second dial divided into seconds and fractions of seconds, and provided with a hand and marker, which are secured to and moved by the same arbor with said sweep seconds-hand and pass in reverse direction over said rear dial, and are adapted to indicate and record upon the same seconds and fractions of seconds, substantially as and for the purpose shown and described.

263,184. CHRONOGRAPH. JACOB KANN, Washington, D. C. Filed May 13, 1882. (Model.)

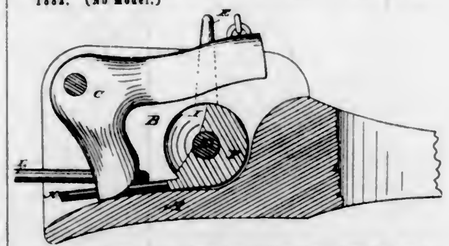


Claim.—1. A clock-movement having a single time-train in which the minutes-arbor is located at one side of the center of the train, and an arbor which carries a sweep seconds-hand capable of adjustment independent of the train and adapted to mark quarter-seconds, which arbor is located at such center in the place heretofore occupied by said minutes-arbor, substantially as and for the purpose set forth.

2. As a means for operating the minutes and hours hands, the hub or sleeve a, secured to and projecting from the plate A, the hollow pinion V, provided with a projecting hub, v, the wheel W, having the hub w, the intermediate wheel X, and pinion Y, and the pinion Z, secured upon and rotating with the second arbor F, which arbor is connected with the train by spring-friction, said parts being combined substantially as and for the purpose specified.

3. As a means for arresting motion of the balance-wheel s, the bell-crank H', journaled between the plates A and B, operated by the rod I' and button i', and provided with the spring-arm h', which by the movements of said crank may be caused to engage with or removed from the side of said balance-wheel, substantially as and for the purpose shown.

263,185. CAR-COUPLING. JACOB KISE, Geneva, Ind., assignor to himself and Daniel P. Bolds, same place. Filed May 26, 1882. (No model.)



Claim.—1. In a car-coupling, the combination, with the draw-head A, of the L-shaped or angular-pivoted coupling-bar, and of a locking-fork pivoted in the draw-head, substantially as herein shown and described, and for the purpose set forth.

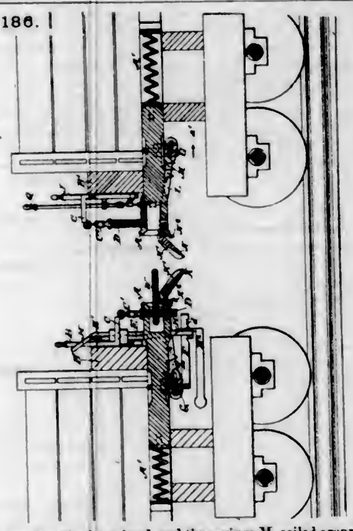
2. In a car-coupling, the combination, with the draw-head A, of the L-shaped or angular-pivoted coupling-bar C, the transverse shaft D, the block or disk F, rigidly mounted thereon, and the fork K, attached to this disk, substantially as herein shown and described, and for the purpose set forth.

3. In a car-coupling, the combination, with the draw-head A, of the L-shaped or angular-pivoted coupling-bar C, the transverse shaft D, the block or disk F, rigidly mounted thereon and provided with a recess, I, and of the fork K, attached to this disk, substantially as herein shown and described, and for the purpose set forth.

263,186. CAR-COUPLING. JOHN C. LOCK, Yuba City, Cal. Filed May 12, 1882. (No model.)

Claim.—1. In a car-coupling, the combination, with the draw-head A, of the swinging guide-plate K, the arms L, pivoted to the cross-bar G of the draw-head, and the springs M, coiled around the arms L and attached to the same and to the cross-bar G, substantially as herein shown and described, and for the purpose set forth.

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2. In a car-coupling, the combination, with the draw-head A, of the swinging guide-plate K, provided with a beveled ridge, K', the arms L, pivoted to the cross-bar G of the draw-head, and the springs M, substantially as herein shown and described, and for the purpose set forth.

3. In a car-coupling, the combination, with the draw-head A, of the swinging guide-plate K, provided with a central beveled ridge, K', projecting above the sides of the plate K, and with a tongue, K^2, the arms L, pivoted to the cross-bar G of the draw-head, and the springs M, substantially as herein shown and described.

4. In a car-coupling, the combination, with the draw-head A, of the swinging plate K, the arms L, the springs M, the lever B, for holding the coupling-pin, the trigger-lever E, and the arm F, connecting the trigger-lever with the cross-bar G, substantially as herein shown and described, and for the purpose set forth.

5. In a car-coupling, the combination, with the draw-head A, of the pivoted lever B, from which the pin is suspended, the trigger-lever E, and the lever F, pivoted to the cross-bar G, and provided in its lower edge with teeth resting on the lower edge of a slot in the lower part of the trigger-lever E, substantially as herein shown and described, and for the purpose set forth.

6. In a car-coupling, the combination, with the draw-head A, of the levers B and J, the trigger-lever E, and the lever F, connecting the cross-bar G of the draw-head with the trigger-lever E, substantially as herein shown and described, and for the purpose set forth.

7. In a car-coupling, the combination, with the draw-head A, of the swinging guide-plate K, the arms L, slotted at the inner ends, the springs M, and the chains N, for lifting the guide-plate K, substantially as herein shown and described, and for the purpose set forth.

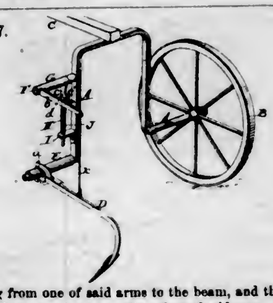
8. In a car-coupling, the combination, with the draw-head A, of the lever B, the trigger-lever E, the lever F, and the lever H, for raising the lever F to disengage the latch-lever, substantially as herein shown and described, and for the purpose set forth.

263,187. CULTIVATOR. EDWARD P. LYNCH, Davenport, Iowa. Filed June 13, 1882. (No model.)

Claim.—1. In combination with the vertically-swinging beam, the suspending rod or chain, the sleeve provided with the horizontal arm to which the suspending device is attached, and also with the depending arm, the movable rod jointed to said depending arm, and the spring arranged to urge the rod upward, as described and shown.

2. In combination with the beam and the arched axle, the arm or journal F, secured to the axle, the sleeve provided with the two arms and mounted upon the journal the suspending device

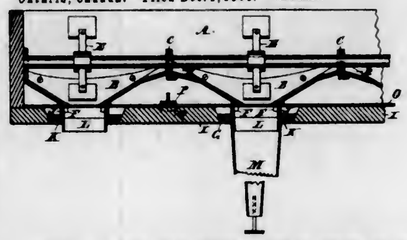
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extending from one of said arms to the beam, and the spring-actuated device operating upon the other of said arms, substantially as described and shown.

3. In combination with the beam, the elevated rotary sleeve or bearing provided with two arms, the connecting device extending from one of said arms to the beam, provided with the spiral spring J, and the rod H, mounted at one end in the guide I, and having its opposite end pivoted to the arm of the sleeve and provided with the finger e, co-operating with a corresponding finger on the sleeve, substantially as and for the purpose described.

263,188. SEEDING-MACHINE. JAMES W. MANN, Brockville, Ontario, Canada. Filed Dec. 1, 1881. (Model.)

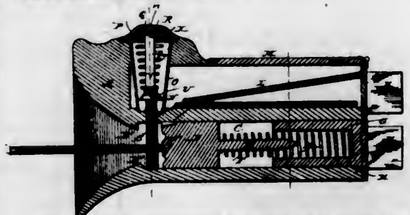


Claim.—1. A seed-sower hopper having an internal bottom composed of sectional castings B, fitting endwise together, each section cast integrally to fit against the inner side of the hopper, the upper face formed of inclined sides sloping longitudinally of the hopper toward the seed-aperture, and graduated to a semicircular curve transversely, and having a half-round recess at both ends, and a semicircular eye over said recesses at one or both ends for receiving the agitator-shaft, as set forth.

2. In a seed-hopper, an internal bottom composed of sectional castings B, fitting endwise together, each having downwardly-converging sides longitudinally of the hopper, an eye, C, in a recess at one end, and a concavity, R, at the other end for the reception of the agitator-shaft D, as set forth.

3. In a seed-hopper, the seed-tubes removably attached to the bottom of the hopper by a sliding and locking connection consisting substantially of casting G, fixed to the hopper, slide K, carrying the seed-tube, and button N, locking said slide in its seat in casting G, whereby tubes to either scatter or drill can be interchangeably applied, as set forth.

263,189. CAR-COUPLING. ORIS D. D. MARTIN, Augusta, Ga. Filed June 30, 1882. (No model.)



Claim.—1. The combination, with a draw-head having longitudinal openings or perforations formed at each side, of draw-bars extending entirely through the same from the front and projecting at the rear, substantially as set forth.

2. A car-coupling formed with a recess or chamber in its top,

having a hinged cover, and adapted to receive the links when not in use, substantially as specified.

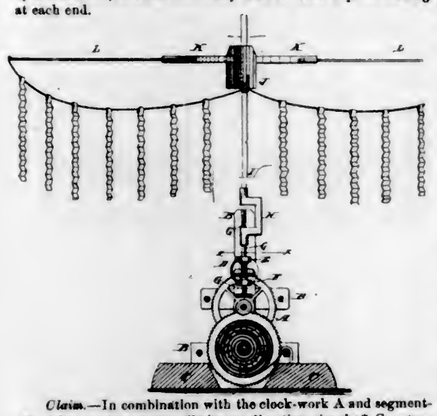
3. The combination, with the draw-head having a vertical chamber over the mouth and a perforation in the bottom of the chamber, of the plate having the transverse rollers, the coupling-pin provided with an enlarged head, the coiled spring, the straps, and the operating-rods, substantially as set forth.

4. The combination, with the draw-head having a vertical chamber over the mouth, having a perforation in its bottom, of the funnel-shaped box, the plate carrying the transverse rollers, the coupling-pin, the coiled spring, the straps, operating-rods, and brackets or guides, and the cap-piece having open ends, substantially as set forth.

5. The combination, with the draw-head having the transverse ridge, forwardly-moving slide having a transversely grooved or corrugated face, and the vertical chamber, of the coupling-pin, spring, straps, operating-rods, plate provided with transverse rollers, and cap-piece having open ends, substantially as specified.

263,190. ESCAPEMENT FOR FLY-FANS, &c. CHARLES T. MASON, Sumter, S. C. Filed May 20, 1882. (Model.)

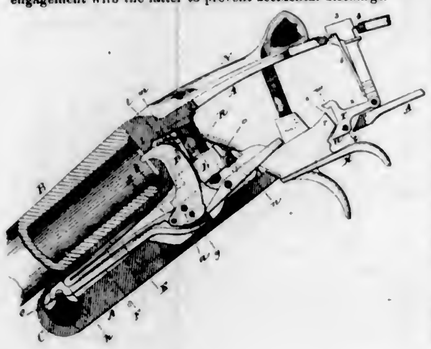
Brief.—The rotary shaft is connected with the working-shaft by a crank-bar, to allow the rotary shaft to have a pivot-bearing at each end.



Claim.—In combination with the clock-work A and segment-wheel D, running continually in one direction, the shaft G, extension I, and crank H, provided with the gear-wheels E F, caused to vibrate by the segment-wheel D and the frame B, in bearings of which the shaft G is pivoted, as shown and described.

263,191. BREECH-LOADING FIRE-ARM. WILLIAM MASON, Hartford, Conn., assignor to the Colts Patent Fire-Arms Manufacturing Company, same place. Filed Mar. 25, 1882. (No model.)

Brief.—By means of a link connected with the locking-bolt the hammer is drawn back to half-cock in the act of unlocking the barrels. The tilting of the barrels full-cocks the arm by means of a connection between the hammer and the binge-pin. The locking-bolt also actuates the trigger to throw a safety-latch into engagement with the latter to prevent accidental discharge.

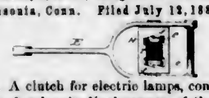


Claim.—1. In fire-arms in which the breech is opened by the barrel tilting up at the breech, the combination therewith of the transverse rock-shaft C, arranged at the axis upon which the barrel turns, and with which the barrels engage in opening and closing to impart a corresponding oscillation to the said shaft, the hammer D, the connection F between said shaft above its pivot and the hammer below its pivot, the mainspring, its doubled end bearing on said connection forward of the hammer, one end of said mainspring taking its bearing on the frame, the other end, *d*, constructed with an incline, *i*, upon its under side, and arranged to bear upon the hammer forward of its pivot, substantially as described.

2. In fire-arms in which the breech is opened by the barrels tilting up at the breech, the combination therewith of the longitudinally-movable locking-bolt L and a cam-lever arranged to impart to said bolt the longitudinal movement to permit the opening and closing of the barrels, a link, R, in connection with said bolt and constructed for engagement with the hammer, whereby the rear movement of the bolt imparts a corresponding rear movement to the hammer, substantially as described.

3. In fire-arms in which the breech is opened by the barrel tilting up at the breech, the combination therewith of the bolt to lock the barrels in their closed position, and mechanism, substantially such as described, to impart to said bolt longitudinal movement, the trigger constructed with an arm, *o*, extending above its pivot and in rear of the bolt, and with an arm, *r*, extending to the rear, with the three-armed lever T and finger-piece 2 hung thereto, extending up through the tang of the frame, substantially as and for the purpose described.

263,192. CLUTCH FOR ELECTRIC-ARC LAMPS. NORMAN MCCARTY, Brooklyn, N. Y., assignor to the Electrical Supply Company, Ansonia, Conn. Filed July 12, 1882. (No model.)



Claim.—1. A clutch for electric lamps, consisting of a block arranged for the free longitudinal passage of the carbon-carrying rod through it, with clamps arranged to grasp the said rod from opposite sides, one or both of said clamps arranged to rotate upon its axis, and also for axial movement toward and from the said rod, with mechanism, substantially such as described, in connection with the armature to impart rotation to said clamp or clamps, whereby a combined rotative and axial movement will be imparted to one or both of said clamps to grasp or release the rod, substantially as described.

2. A clutch for electric lamps, consisting of a block arranged for the free longitudinal passage of the carbon-carrying rod through it, with clamps arranged to grasp the said rod from opposite sides, one or both of said clamps arranged to rotate upon its axis, and also for axial movement toward and from the said rod, with mechanism, substantially such as described, in connection with the armature to impart rotation to said clamp or clamps, whereby a combined rotative and axial movement will be imparted to one or both of said clamps to grasp or release the rod, the under side of said block V-shaped, with a stop correspondingly V-shaped to arrest the stop in its descent, substantially as described.

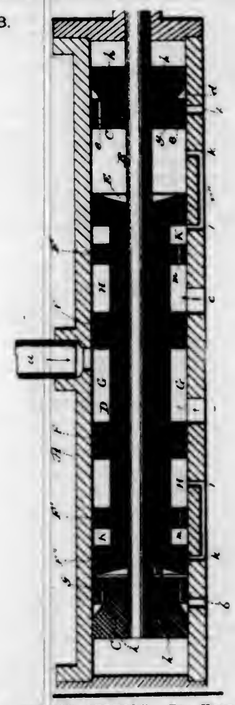
3. The herein-described clutch for electric lamps, consisting of the block H, arranged for the free longitudinal passage of the carbon-carrying rod through it, with a clamp or clamps, *f*, arranged to rotate upon an axis at right angles to the axis of the rod, the back of the clamps cam-shaped and the adjacent surfaces of the block correspondingly cam-shaped, so that the rotation of the clamp or clamps will force it or them against the surface of and so as to grasp the rod, substantially as described.

4. The herein-described clutch for electric lamps, consisting of the block H, arranged for the free longitudinal passage of the carbon-carrying rod through it, with a clamp or clamps, *f*, arranged to rotate upon an axis at right angles to the axis of the rod, the back of the clamps cam-shaped and the adjacent surfaces of the block correspondingly cam-shaped, so that the rotation of the clamp or clamps will force it or them against the surface of and so as to grasp the rod, the under side of the said block V-shaped, with a stop correspondingly V-shaped to arrest the block in its descent, substantially as described.

263,193. STEAM-ACTUATED VALVE. ROBERT H. MOON and JAMES H. BAKER, Springfield, Ill. Filed Apr. 20, 1882. (No model.)

Claim.—The steam-actuated valve consisting of the reciprocating stem B, the heads C, secured thereto, and having the steam-ways *d e g h*, and the loose flanged valve D on the stem, substantially as specified.

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263,194. TONGUE-SUPPORT. ELA MOORE, Walla Walla, Wash. Filed Jan. 27, 1882. (No model.)

Claim.—1. In a tongue-support, the combination, with the front axle and tongue, of a spring having its ends resting against the axle, and a bar secured to the center of the length of the said spring and adjustably connected to the tongue, substantially as and for the purpose set forth.

2. In a tongue-support, the combination, with the front axle and tongue, of the spring A, having its ends resting against the axle, the bar B, secured to the said spring and provided at its outer end with perforations *a*, and the split-headed bolt *d*, substantially as and for the purpose set forth.

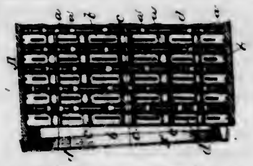
3. In a tongue-support, the combination, with the spring A, the bar B, and the bolt *d*, secured to the tongue, of the flanged plates F, secured to the axle, substantially as herein shown and described, whereby the ends of the spring are held in place and the axle protected from wear, as set forth.

263,195. CYLINDER FOR GRAIN-SCOURERS. LYMAN MORGAN, Port Washington, Wis. Filed Apr. 8, 1882. (No model.)

Claim.—1. A cylinder for grain-scourers composed of staves cast with wedge-shaped ridges extending spirally around its interior, and rounded ridges falling short in height of the wedge-shaped ridges and running lengthwise of the cylinder, as set forth.

2. A cylinder for grain-scourers, having ridges *a* and *c*, that

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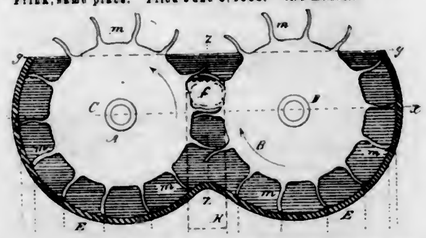


run in opposite directions to each other and encompass slots between them, as set forth.

3. A cylinder for grain-scourers, cast with a series of ridges, *a*, notched at *a'*, raised portions *c*, and slots *d*, as set forth.

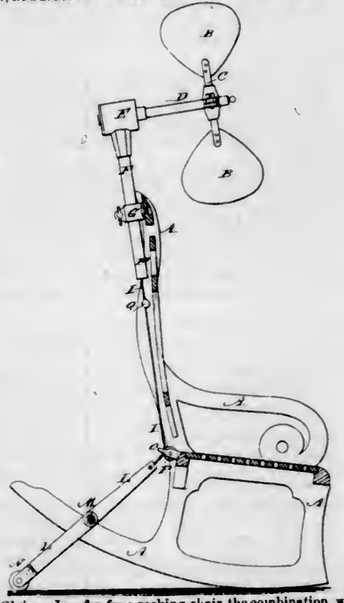
4. A cylinder for grain-scourers, having ridges that extend spirally around its interior and form a spiral trough between them and having slots extending through the troughs, as set forth.

263,196. WATER-WHEEL. HENRY T. MORSE, Boston, Mass., assignor to himself and Eben F. Pillsbury and William B. Frink, same place. Filed June 5, 1882. (No model.)



Claim.—The improved water-wheel described, the same consisting of the curb or casing E, pipes G H, shafts C D, and disks A B, provided with the buckets *m m*, constructed and arranged to operate substantially as specified.

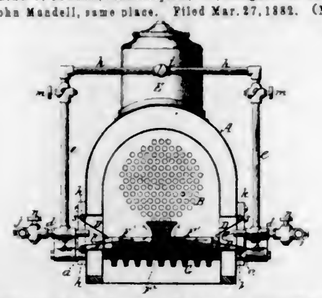
263,197. FAN FOR ROCKING-CHAIRS. ALEXANDER MROZOWSKI, Newark, N. J. Filed June 22, 1882. (No model.)



Claim.—In a fan for a rocking-chair, the combination, with the case E, having the depending tube F, clamped or connected to the back of the chair, and the shaft D, carrying the fans B and bearing in the case E, said shaft having connected to it a spring, H,

arranged within the said case and separated from the shaft-operating strap by the collar J, of the knotted strap I, coiled around the shaft D and passed down through the tube F, and the guide O, attached to the chair-seat frame, and thence passed in contact with the roll P, hung in said guide, and the lever L, fulcrumed between the rockers and bearing on the floor, as shown and described.

263,198. HYDROCARBON-FURNACE. JAMES MUNDELL and WILLIAM J. GORDON, Philadelphia, Pa., assignors of one-third to John Mundell, same place. Filed Mar. 27, 1882. (Model.)



Claim.—1. In a hydrocarbon-furnace, the combination, with a vaporizing apparatus and the fire-box, of wall-openings and inwardly-projecting adjustable shutters or plates, substantially as and for the purpose specified.

2. The combination, in a hydrocarbon-furnace, of a vaporizing apparatus, a fire-box having wall-openings, and inwardly-projecting shutters or plates, with means whereby said shutters or plates are adjusted in relation to each other and held in position when set, substantially as described, for the purpose specified.

3. The combination, in a hydrocarbon-furnace, of a vaporizing apparatus, a fire-box having wall-openings, and inwardly-projecting shutters or plates, with the pintle-rods and the clamps therefor, substantially as described, for the purpose specified.

4. In combination, the combustion-chamber provided with narrow horizontal openings in its opposite walls, hinged plates or shutters for said openings, and end doors, the boiler, the pipes *h e*, connected with the steam-chamber, the pipes *j* and *d*, the couplings *i i*, and the spraying-ejectors carried by said couplings, all constructed and arranged substantially as described, for the purpose specified.

5. In a hydrocarbon-furnace, the combination, with the wall-opening C, provided with shutters or plates adapted to be closed, as set forth, a vaporizing apparatus, and the grate of the furnace, of a removable bed-plate, F*, whereby the furnace may be converted for the burning of ordinary carbonaceous fuels, substantially as described.

6. In a hydrocarbon-furnace, the combination, with the wall-openings C, provided with shutters or plates D D, adapted to be adjusted nearer to or farther from each other, of a removable abutment and bed-plate arranged upon the grate-bottom of the furnace, substantially as described, for the purpose specified.

7. In a hydrocarbon-furnace, the combination, with the wall-openings and their inwardly-projecting shutters or plates D D, of a bed-plate, F, having the curving abutment, for the purpose set forth.

8. The nozzle of the oil-ejector, having surface-edges, in combination with a steam-spraying tube, substantially as described, for the purpose specified.

9. The steam-spraying tube and the oil-ejector, having their orifices at or near the same point, one within the other, in combination with the fire-box having wall-openings, and the adjustable spray-directing plates or shutters, substantially as herein set forth.

10. A hydrocarbon-furnace provided with a grate and a removable grate-closing plate or bottom, in combination with a vaporizing apparatus, substantially as described, for the purpose specified.

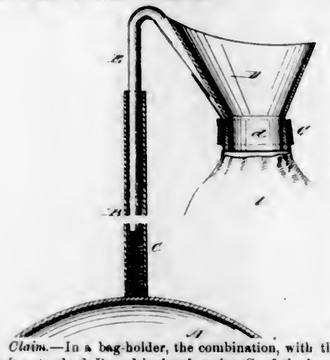
11. The combination, in a hydrocarbon-furnace, of a combustion-chamber provided with narrow horizontal openings in its opposite walls and end doors, with an abutment arranged upon the grate and having its opposite sides concave, the vaporizing-ejectors, and the hinged plates, substantially as described.

12. The fire-box of a hydrocarbon-furnace for steam-boilers, having opposite wall-openings, a centrally-arranged abutment, and plates or shutters for said wall-openings, in combination with one or more steam-spraying orifices connected with the dome of said boiler, and one or more oil-ejectors connected with a single source of supply and arranged in relation to the steam-spraying orifice or orifices, substantially as described, for the purpose specified.

263,199. PROCESS OF MAKING ARTIFICIAL BUTTER. NATHAN I. NATHAN, New York, N. Y. Filed July 14, 1882. (No specimens.)

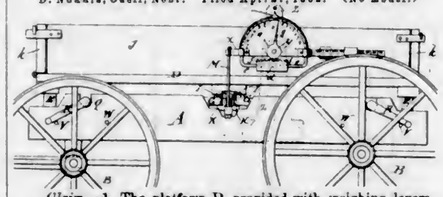
Claim.—The within-described process of manufacturing artificial butter by uniting oleomargarine with leaf-lard, the latter having been previously cleaned, fused, strained, and subjected to a washing action in a solution of water, borax, and nitric acid, then rewashed, and the united mass heated and subjected to the ordinary churning operation, all substantially in the manner described.

263,200. BAG-HOLDER. JAMES O. NEILL, Lolland, Minn. Filed Apr. 18, 1882. (No model.)



Claim.—In a bag-holder, the combination, with the base A, tubular standard B, and inclosed spring C, of the bent shank E and hopper D, as shown and described.

263,201. WEIGHING-WAGON. DANIEL J. NORRIS and LUCIUS D. NORRIS, Odell, Nebr. Filed Apr. 27, 1882. (No model.)



Claim.—1. The platform D, provided with weighing-levers and a weigh-beam, and said weighing-levers suspended by cranked rods Q, and a bed-frame, A, on the running-gear of a wagon, substantially as specified.

2. The cranked rods Q, having knife-edge cranks P and eccentric extension U, in combination with a wagon-bed, A, weighing-levers G, links O, leg-rests E, and platform D, substantially as specified.

3. The weighing-levers G, suspended in leg-rests E by pivots F and pins N, and connected to pivots I of lever J, to be suspended on said pins N and on the upper sides of pivots I when disarranged for weighing, substantially as specified.

4. The cranked rods Q, having cranks R and the pins V and W, in combination with cranks P, eccentric projection U, weighing-levers G, platform D, and bed-frame A, substantially as specified.

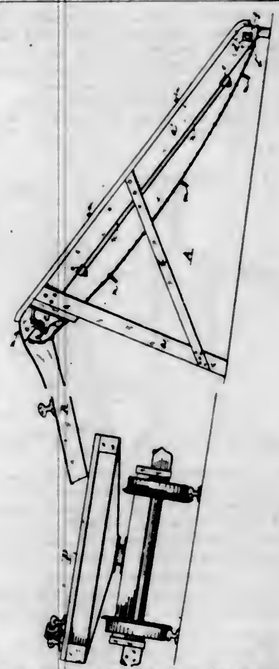
5. The combination, with weighing-platform D and weighing apparatus arranged for application to a wagon, as described, of sides and ends *j k*, hinged to said platform for use as a wagon-box and for extending the platform, substantially as and for the purpose specified.

263,202. MACHINE FOR LOADING CARS. JAMES H. NORTON, New Orleans, La. Filed July 5, 1882. (No model.)

Claim.—1. A machine for loading cars, the same consisting of trusses A, arranged in pairs and connected by braces *n o*, said trusses provided with journal-bearings to receive the operating-shafts *e f*, on which are secured chain-wheels *k l*, for operating chains *x*, that are furnished with spurs *m*, as described, and for the purpose specified.

2. The trusses A and braces *n o*, whereby a frame of any desired length can be made, said frame provided with shafts *e f*, having couplings *g h*, as described, and furnished with chain-wheels

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and spur-chain, together with slides R, as described, and for the purpose set forth.

3. In a machine for loading railroad-cars, constructed as described, the concave surfaces a^2, formed at the lower ends of the outer trusses, for the purpose set forth.

263,203. MOUNT FOR CHROMOS AND PRINTS. A. JOSEPH NUNAN, Cincinnati, Ohio. Filed July 8, 1881. (No model.)



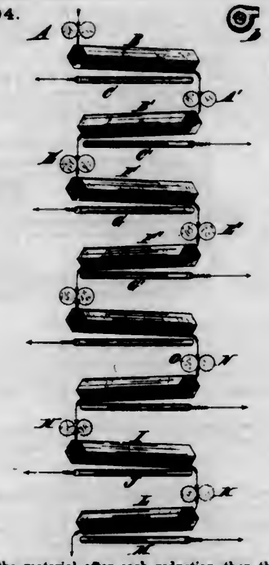
Claim.—As a new article of manufacture, a card, map, chart, print, or other illustration or design permanently secured at its margins to the face C, projecting beyond the general surface D of the stretcher, which latter has an integral outer molding, F, as herein described.

263,204. PROCESS OF GRADUAL REDUCTION OF GRAIN. UDOLPHO H. ODELL, Dayton, Ohio. Filed Apr. 28, 1881. (No model.)

Claim.—1. The process herein described of gradually reducing and separating grain, which consists in first passing the grain through corrugated rolls to split the grain, then removing the bran and dirt by a fan, then passing the split grain to a reel for separating the flour and middlings, then passing the same through smooth-faced rolls, then passing the tailings from the reel through cutting corrugated rolls to strip the adhering particles of flour from the tailings, and finally bolting the tailings, substantially as set forth.

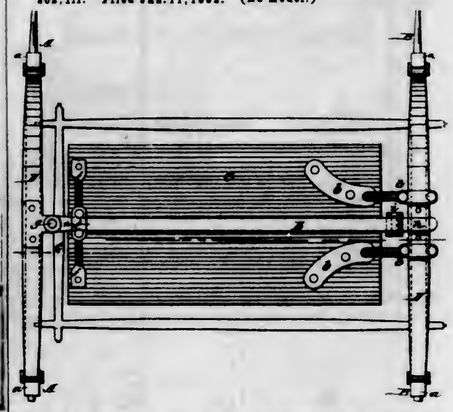
2. The process herein described of the gradual reduction of grain, which consists in first passing it through cutting corrugated rolls, then through smooth-faced rolls and separating devices to

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separate the material after each reduction, then through corrugated rolls and separating devices for completing the gradual reduction and removal of the bran, substantially as set forth.

263,205. SPRING-VEHICLE. JOSEPH O'FARRELL, Sr., Morrison, Ill. Filed Jan. 11, 1882. (No model.)



Claim.—1. The combination, with the springs D, arranged under the axles, of the reach E, hinged to the said springs and connected at its forward end to the body C, substantially as and for the purpose set forth.

2. The combination, with the springs D D, which support the body of the vehicle, of the reach E, connected with the front spring by a joint, *g*, having a vertical axis, and with the back spring by a joint, *i*, having a horizontal axis, substantially as described.

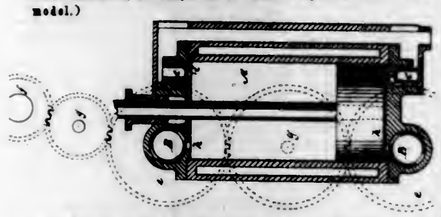
3. The combination, with the springs D D and the reach E, jointedly attached to said springs, of the body of the vehicle connected in its rear to the back spring and in front to the reach, whereby the body, springs, and reach all work in unison, essentially as specified.

4. The combination, with the front axle, A, arranged in front of the head-block and connected by the joint *h* to the same, of the front spring, D, arranged under the said axle and connected by joint *g* to the reach E, substantially as and for the purpose set forth.

5. The combination, with the axles A B, of the subjacent springs D D, connected with the axles near their ends on which the hubs of the wheels turn, the reach E, connected by joints *g* and

i with said springs, and the body C, connected by a loop, *f*, in front to the reach, and at its back end by loops *b b* to the back spring, essentially as herein set forth.

268,206. AIR-COMPRESSOR. DANIEL B. OVERTON, Dover, N. J., assignor of three-eighths to Edmund B. Barnum and John Ashcroft, Brooklyn, N. Y. Filed Sept. 16, 1881. (No model.)

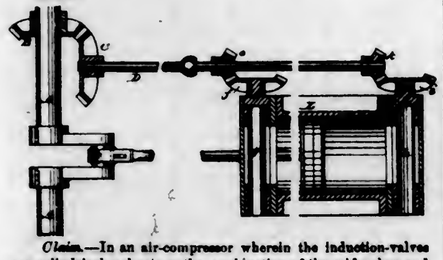


Claim.—1. In an air-compressing cylinder, a rotary valve at each end of the cylinder, constructed substantially as described, for the admission of air to the compressing-cylinder, in combination with a train of gearing from the main shaft, substantially as shown.

2. In an air-compressor, a rotary valve at each end of the air-compressing cylinder, in combination with discharge-ports *d d* and check-valves *e e*, constructed and arranged substantially as described.

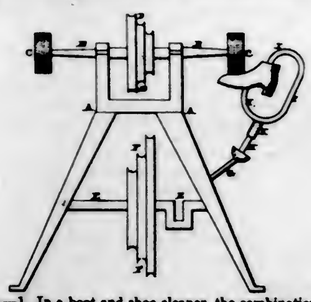
3. In an air-compressing cylinder, a cylinder-head provided with a chamber on the outside thereof, arranged to receive and support a hollow rotary valve, substantially as described.

268,207. AIR-COMPRESSOR. DANIEL B. OVERTON, Dover, N. J., assignor of three-eighths to Edmund B. Barnum and John Ashcroft, Brooklyn, N. Y. Filed Feb. 25, 1882. (No model.)



Claim.—In an air-compressor wherein the induction-valves are cylindrical and rotary, the combination of the said valves and the beveled gearing with the shafts A and D, substantially as described.

268,208. BOOT AND SHOE CLEANING APPARATUS. THOS. J. FAIRPOINT, New Bedford, Mass. Filed June 19, 1882. (No model.)

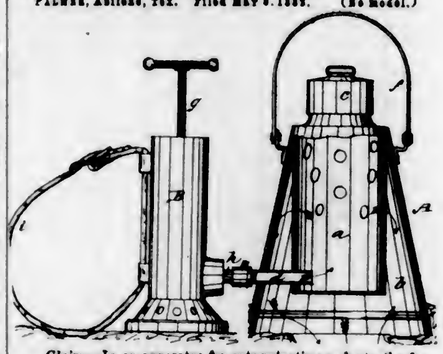


Claim.—1. In a boot and shoe cleaner, the combination of a revolving shaft, B, provided with suitable brushes, with a holding device, substantially as set forth, which has both a vertical and a lateral swinging movement, substantially as shown.

2. The combination of the revolving shaft provided with cleaning-brushes with the support G, the rod H, and holder I, substantially as shown.

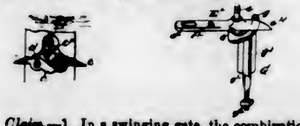
3. In a boot and shoe cleaner, the combination of the shaft B, journaled in suitable bearings and provided with the brushes C, suitable means for revolving the shaft, the support G, rod H, and holder I, provided with the socket K, substantially as set forth.

268,209. APPARATUS FOR KILLING RODENTS. AUSTIN D. PALMER, Abilene, Tex. Filed May 9, 1882. (No model.)



Claim.—In an apparatus for exterminating rodents, the furnace consisting of the outer bottomless vessel, A, the inner serially-perforated vessel, a, with its bottom arranged above the plane of the lower edge of the vessel A, and having a cover, *c*, and the pipe or pipes *d e*, connecting the same with a force-pump, substantially as shown and described, and for the purpose set forth.

268,210. SWINGING GATE. WILLIAM S. PERRY and PHILIP D. STAGG, Greensburg, Ind. Filed Apr. 15, 1881. (No model.)



Claim.—1. In a swinging gate, the combination of the lever E', provided with the slot *e'*, aperture *d'*, stud *e*, and projection *c'*, with the upper hinge-hook, *b'*, in the post B, end rail, *a*, of the gate A, and the support G, having the upwardly-turned arms *g*, substantially as described.

2. In a swinging gate, the support G, having the arms *g*, at right angles to and turned upwardly from a straight downwardly-projecting ribbed shank *g'*, provided at its lower end with the screw and nut *f'*, whereby to secure the support to the top rail, *a'*, of the gate, substantially as described.

3. In a swinging gate, the triangular-shaped block *d'*, having two concave faces, as shown, cast or otherwise secured to the catch *c*, the latter having convex flanges *c'* and recesses *c' c' c'*, the lower end of said block *d'* extending down to or below a horizontal line drawn across the top of the recesses in the catch, as and for the purpose set forth.

268,211. GRAIN-SHOCKER. ANDREW R. PETERSON and FRANK WILCOX, Hancock, Minn.; said Peterson assignor to Charles W. Comstock and Myron H. Platt, same place. Filed Apr. 18, 1882. (Model.)

Claim.—1. A grain-shocker constructed substantially as herein shown and described, and consisting of the cam-cylinder D and its slide G and connecting-rod H, the pivoted inclined bar K, having spring-pressed latch R, the frame L, having fingers M, the hinged back plate, O, having pin and guide-rod, and the curved arm V and its connecting-rod, crank-arm, and spring, as set forth.

2. In a grain-shocker, the receiver constructed substantially as herein shown and described, and consisting of the frame L, having fingers M attached to its bottom bar, the hinged back plate, O, and the hinged arm V, whereby the bundles are received and placed erect upon the ground, as set forth.

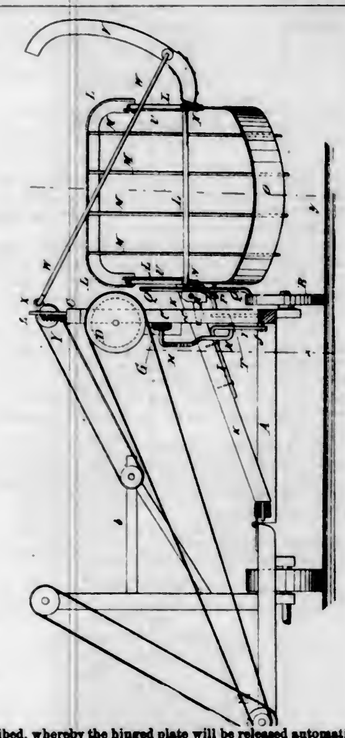
3. In a grain-shocker, the combination, with the frame L, of the cam-cylinder D, the slide-bar G, the connecting-rod H, the crank-arm I, and the pivoted inclined bar K, substantially as herein shown and described, whereby the said frame is operated by the revolution of the said cylinder, as set forth.

4. In a grain-shocker, the combination, with the pivoted inclined bar K and the hinged receiver-plate O, of the spring-held latch R and the curved trip-rod T, substantially as herein shown and described, whereby the hinged plate will be released automatically by the movement of the said pivoted bar, as set forth.

5. In a grain-shocker, the combination, with the frame L, the hinged receiver-plate O, and means for operating said frame, of the pin P, secured to the back plate, and the curved guide-rod Q, substantially as herein shown and described, whereby the said plate is opened and closed automatically as its supporting-frame is operated, as set forth.

6. In a grain-shocker, the combination, with the frame L, carrying the hinged back plate, O, of the hinged curved arm V, the connecting-rod W, the pivoted crank X, and the spring Y, substantially as herein shown and described, whereby the said curved arm is operated automatically to hold the bundles in place in the receiver by the movement of the receiver-frame, as set forth.

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268,212. HANDCUFF. JAMES PETTIBONE, Cincinnati, Ohio. Filed Mar. 6, 1882. (No model.)

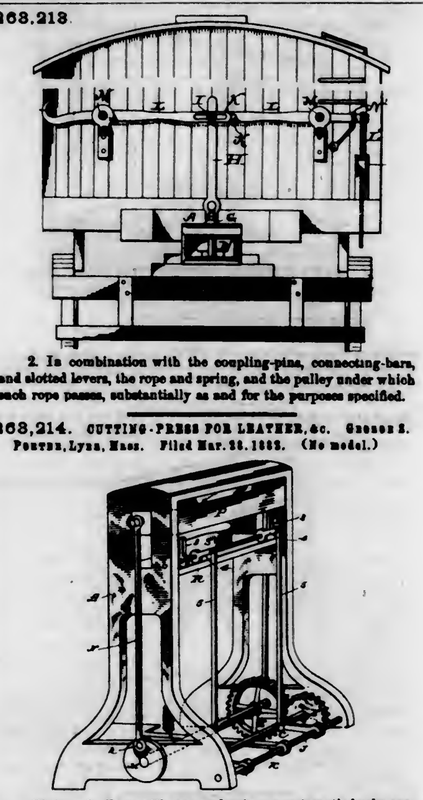


Claim.—A handcuff consisting essentially of the spring-yoke A, hinged to bar B, which is provided with one or more slots, *c*, to engage with a catch, *b*, on the opposite limb of the yoke A, substantially as herein set forth.

268,213. CAR-COUPLING. ARCHIBALD A. PORTER, Griffin, Ga. Filed July 5, 1882. (No model.)

Claim.—1. In combination with the draw-heads, the movable slides, constructed as described, and recessed at their rear portions, the spiral springs sitting in the recessed portions, the links extending longitudinally through said springs, and the pins extending through the slides and the draw-head, respectively, and also through the links, substantially as and for the purposes specified.

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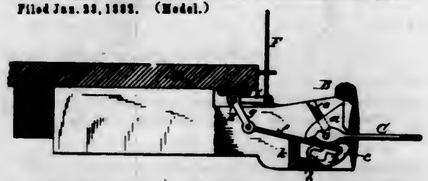
2. In combination with the coupling-pins, connecting-bars, and slotted levers, the rope and spring, and the pulley under which each rope passes, substantially as and for the purposes specified.

263,214. CUTTING-PRESS FOR LEATHER, &c. GEORGE S. PORTER, Lynn, Mass. Filed Mar. 28, 1882. (No model.)

Claim.—1. In a cutting-press having an automatic brake connected to the treadle, a safety device consisting of one or more stop-pins connected to the brake mechanism, and held normally thereby in the path of the cutting-die, and adapted by the depression of the treadle and release of the brake to be removed from the path of the cutting-die, substantially as described.

2. The combination of the spring-treadle K, carrying the brake-shoe, with a rock-shaft, J, the shaft 4, carrying the stop-pins, and the connecting links and rods, whereby the movement of the treadle in releasing the brake rocks the shaft 4 and removes the stop-pins from the path of the cutting-die.

268,215. CAR-COUPLING. BENJAMIN M. PULLIAM, Tolono, Ill., assignor to himself and John D. Pulliam, same place. Filed Jan. 23, 1882. (Model.)



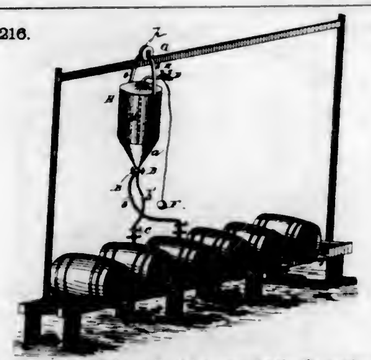
Claim.—1. The coupling-link C, having plate D, with slots *b c*, in combination with the rod *f*, constructed to operate substantially as and for the purpose set forth.

2. The draw-head B, having guide-slots *c*, guide-post *h*, and the rod *f*, in combination with the link C, having pins *d*, and plate D, with slots *b c*, substantially as and for the purpose specified.

263,216. APPARATUS FOR REGULATING OR EQUALIZING THE PRESSURE IN DISPENSING MALT LIQUORS. CHARLES C. REDMOND, San José, Cal. Filed Mar. 30, 1882. (No model.)

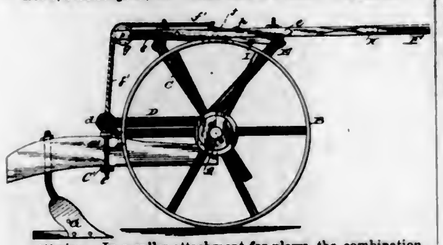
Claim.—In an apparatus of the kind described, the combina-

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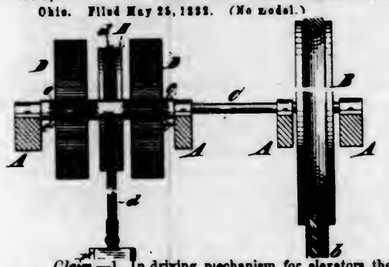
tion, with receiver A, beam G, and means whereby the receiver is longitudinally movable on the beam, of stop-cock B and pipes *b b'*, as and for the purpose set forth.

263,217. SULKY ATTACHMENT FOR PLOWS. CALVIN T. REED, Bloomington, Ill. Filed May 29, 1882. (No model.)



Claim.—In a sulky attachment for plows, the combination, with the wheel-supported frame C E, having tongue F and parallel bars *e e*, of lever H, having the grooved pulley *h* and hook *f*, lever I, having the grooved pulley *g*, cord or chain *f'*, and hinged bail D, supporting the plow-beam, substantially as shown and specified.

263,218. HOISTING-MACHINE. HENRY J. REDDY, Cincinnati, Ohio. Filed May 25, 1882. (No model.)



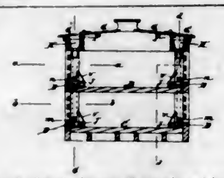
Claim.—1. In driving mechanism for elevators, the combination of the driving-shaft C, formed integral with the transmitting-pinion and provided with the sheave B for the hoisting-rope, with the secondary shaft F, provided with sheave E for receiving the elevator-rope, and a gear-wheel meshing with the pinion of the driving-shaft.

2. In driving mechanism for elevators, the combination of the driving-shaft formed integral with a transmitting-pinion, a secondary shaft from which the elevator-car is suspended and provided with a gear-wheel engaging the said pinion, and a sheave on the driving-shaft receiving the hoisting-rope, substantially as described.

3. In a hoisting-machine, the combination of sheave B, shaft C *c c'*, gear or gears D, sheave E, shaft F, and the ropes *b d*, all mounted, arranged, and operating within the hatchway A', substantially as herein set forth.

263,219. STOCK-CAR. SAMUEL W. REMER, Bridgeport, Conn., assignor to Child & Oliver, New York, N. Y. Filed May 20, 1882. (No model.)

263,219.



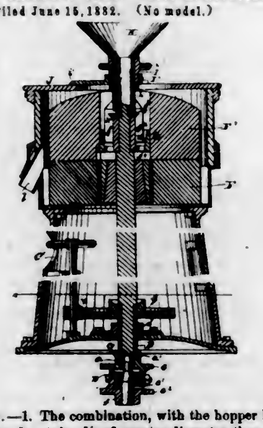
Claim.—1. In stock-cars, the series of horizontally-sliding bins above the walls of the car, each bin containing sufficient food for one feeding and discharging into the feeding-troughs during transit, substantially as described.

2. In combination with troughs F, extending under the eaves of the roof of the car, and the feed-passages *m n n*, the sliding frame H, divided into regular bins *w w' w''*, the whole being arranged to operate substantially in the manner and for the purpose set forth.

3. In combination with the trough F and the feeding-passages *m n n*, the sliding frame H, divided into regular bins, carrying together several days' supply of feed, and arranged to so operate in relation to the mouth of the feeding-passages that two or more bins shall discharge into said feeding-passages simultaneously, in the manner and for the purpose substantially as herein described.

4. In combination with the trough F, with sliding frame H, and the troughs D D on the floors of the car, the feeding-passage *m*, passing through the frame-post E, and the feeding-passages *n n* on the sides of the frame-post E, substantially as and for the purpose herein described.

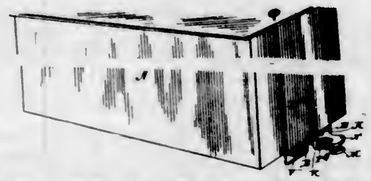
263,220. GRINDING-MILL. JACOB M. REPLOGLE, Farragut, Iowa. Filed June 15, 1882. (No model.)



Claim.—1. The combination, with the hopper having a depending tube, A, a tube, *k'*, of greater diameter than tube A, and the burrs or stones, of the spindle and bail or driver having the annular apertured flange provided with an upwardly-projecting rim, substantially as and for the purpose set forth.

2. In a grinding-mill, the combination, with the casing, the mill-spindle, the screw-threaded sleeve, and a screw-threaded collar, of the toothed wheel and hand or lever shaft having a pinion gearing with said wheel, substantially as and for the purpose set forth.

263,221. CAR-COUPLING. DE ELBERT A. REYNOLDS, Lyons, Mich. Filed Dec. 21, 1881. (No model.)



Claim.—1. In a car-coupling, the combination of the draw-bar C, having head or coupling-hook L, and longitudinal slot or recess O, with the longitudinally-sliding rod or bar P and suitable operating mechanism, substantially as and for the purpose set forth.

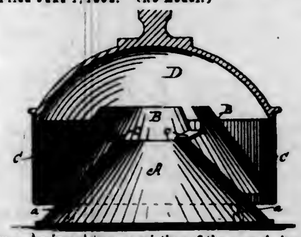
2. The combination of the guide-beams B, having recesses F, the draw-bar C, having shoulders K and hinged stem D, and the washers G H and spring I, substantially as and for the purpose set forth.

3. The combination of the draw-bar C, having shoulders K and coupling-hook L, the spring E, the sliding rod or bar P, and the levers R, crank-shaft U, and connecting-rod W, substantially as and for the purpose set forth.

4. The combination of the draw-bar C, having hinged stem D, coupling-hook L, and recess or slot O, the buffer-spring I, arranged as herein described, the rod P, having slot T, and the operating-levers R, substantially as and for the purpose set forth.

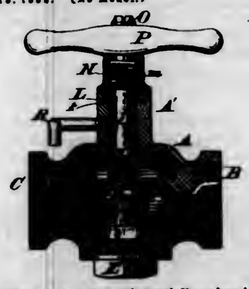
5. In a car-coupling constructed as herein described, the coupling-hook L, having one or more recesses, M, and vertical perforations N, substantially as and for the purpose set forth.

263,222. INSECT-TRAP. WILLIAM J. REYNOLDS, Columbia, S. C. Filed June 1, 1882. (No model.)



Claim.—An insect-trap consisting of the cone A, in combination with the cone B, having legs *a* and bridges *c*, and provided with the cylindrical band C, having the glass dome D, substantially as and for the purposes set forth.

263,223. VALVE-COCK. JOSEPH RICHTER, Cincinnati, Ohio. Filed Mar. 18, 1882. (No model.)



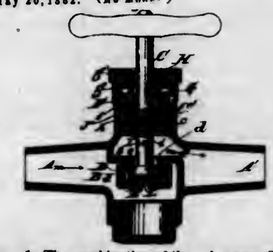
Claim.—1. The combination, substantially as herein described, of the valve-chamber A, the non-rotating valve D, seating against its valve-seat in the direction of the fluid-pressure, and provided with the externally-threaded stem S, and the internally-threaded stem I, provided with a waste-valve, *c*, seating against a sleeve on the valve-chamber, for the purpose described.

2. The combination, with the valve-chamber A, provided with the sleeve A', housing *m*, and inclosed spring N, of the internally-threaded stem I, having a waste-valve, *c*, seating against the sleeve, the valve D, seating against its valve-seat in the direction of the fluid-pressure, and the externally-threaded valve-stem S, substantially as and for the purpose described.

3. The combination, with the valve-chamber A, provided with the sleeve A' and detachable plug E, having the angular guideway *c'*, the housing *m*, inclosed spring N, valve-stem I, provided with the waste-valve *c*, seating against the sleeve of the valve-chamber, the valve D, seating against its valve-seat in the direction of the fluid-pressure, and provided with the angular depending projection G, arranged in the guideway of the detachable plug, and the externally-threaded valve-stem S, substantially as described.

4. A compression-cock combining in its structure a valve-chamber, A, provided with a sleeve, A', a housing, *m*, adapted to slide vertically on the latter, a spring, N, within the housing, a valve-stem, I, connected with the housing, and provided with a waste-valve, *c*, seating in the bore of the sleeve, a valve, D, seating against its valve-seat in the direction of the fluid-pressure, and provided with a valve-stem, S, independent of but engaging the valve-stem carrying the waste-valve, said members being organized to operate substantially as and for the purpose set forth.

263,224. GLOBE-VALVE. JOSEPH RICHTER, Cincinnati, Ohio. Filed May 20, 1882. (No model.)

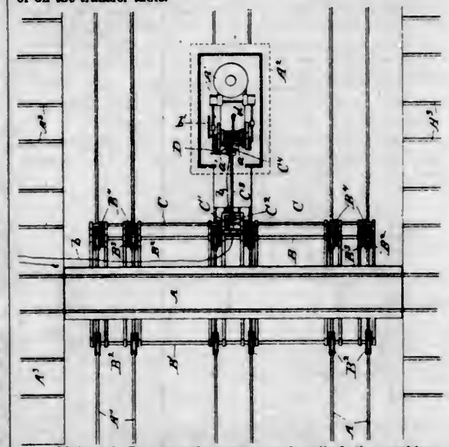


Claim.—1. The combination of the valve-stem C, provided at its lower end with the head *d* of the disk D, resting and swiveled on said head, and the cap E, secured to the periphery of the disk and confining the head of the valve-stem between said disk and cap, substantially as described.

2. The combination of the valve-casing having the internally-threaded bore C', the valve-stem C, having a screw-thread fitted to the bore, the valve F, arranged above the bore and elevated by the thread on the valve-stem, and a spring, G, arranged above the valve to press the latter upon its seat on the bore, substantially as described.

263,225. TRANSFER-TABLE FOR CARS. NORMAN W. ROBINSON, Pullman, Ill., assignor to Hurd W. Robinson, same place. Filed Mar. 18, 1882. (No model.)

Brief.—A transfer-table adapted to traverse two or more sets of tracks is provided with a series of bearing-wheels mounted in line along one side of the table, to which gear-wheels on shafts are severally connected. A counter-shaft having pinions engages with said gear-wheels, and the whole is operated by an engine mounted upon an independent carriage. A drag-rope passing through sheaves is connected to a winding-drum operated by said engine independent of the traction-wheels, whereby the cars are drawn on or off the transfer-table.



Claim.—1. In a transfer system, as described, the combination, with the transfer-table A and the shaft B, of the series of gear-wheels B^4, the pinions B^5, the shaft C, the bevel-gear C^7 C^8, the shaft C^9, the bevel-gear C^4 D, and the shaft *a*, substantially as and for the purpose set forth.

2. A transfer-table substantially as described, adapted to traverse two or more sets of tracks, and provided with a series of bearing-wheels, B^4, mounted in line along one side of said table, and gear-wheels B^6 B^3, severally connected with said bearing-wheels, combined with counter-shaft C, bearing pinions B^5 B^3, severally in engagement with said gear-wheels B^6, and dummy-engine mounted upon an independent carriage, but by means of shaft C^9 in con-

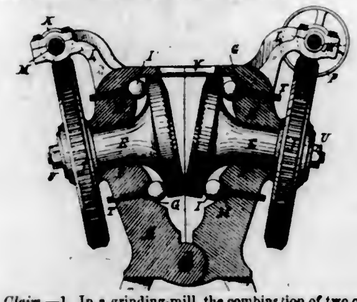
nection with said counter-shaft C, whereby power is uniformly transmitted to each of said bearing-wheels independently.

3. A traveling transfer-table permanently connected to and operated by a dummy-engine mounted upon a separate carriage, combined with a drag-rope and winding-drum operated by said engine independently of the traction-wheels, and suitable guide-pulleys, whereby the cars may be drawn onto or off the transfer-table, as set forth.

4. The combination, with a dummy-engine and traveling transfer-table actuated thereby, of the drum C^3, provided with the clutch-box D^2, the drag-rope b, the sheaves E' E^2, and the bracket E^4, substantially as herein shown and described.

5. The combination, with the engine car-axle b^4, of the sleeve b^3, the clutch-wheel d', the adjustable quadrant-blocks d^3, and the gear-wheel d^4, provided with the annular rim d^5, substantially as and for the purpose described.

263,226. STONE AND ORE CRUSHER. T. M. ROGERS, Philadelphia, Pa., assignor of one-half to Stephen P. M. Tasker same place. Filed May 4, 1882. (No model.)

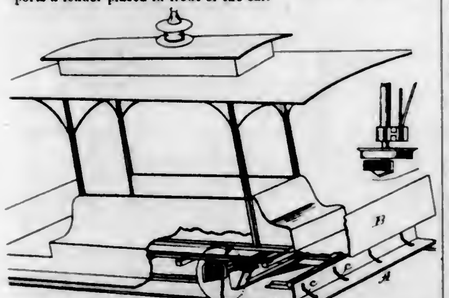


Claim.—1. In a grinding-mill, the combination of two crushing wheels or jaws revolving in the same direction and placed at angles with respect to each other, a housing and two series of anti-friction balls disposed in suitable relation in the housing and to the rear of the jaws, and adapted to sustain the jaws against torsion or endwise thrust and to ease them on revolution.

2. In a stone or ore crushing mill, in combination, a housing, two crushing wheels or jaws revolving in the same direction and placed at angles with respect to each other, two series of anti-friction balls disposed in suitable relation in the housing and to the rear of the jaws, two annular ball-tracks upon which said series of balls roll, and means for adjusting the set of the ball-tracks, as and for the purpose specified.

263,227. CAR FOR CABLE RAILROADS. HENRY ROOT, San Francisco, Cal. Filed Mar. 28, 1882. (No model.)

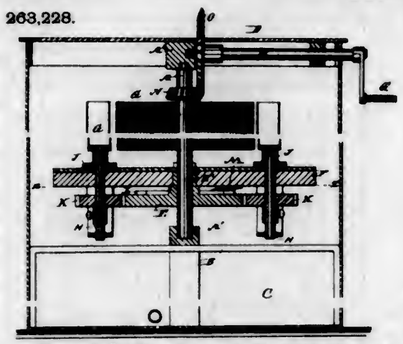
Brief.—A dummy or grip-car is provided with a supplemental rigid frame supported on the wheel-axles, and which in turn supports a fender placed in front of the car.



Claim.—In a dummy or grip-car for cable railways, the combination, with the supporting-wheels and axles and the frame mounted upon springs, of a supplemental frame supported directly by the axle and having the fender fixed to the front end, substantially as described.

263,228. CENTRIFUGAL HONEY-EXTRACTOR. JOSEPH K. RUDYARD, East Northport, N. Y. Filed May 8, 1882. (No model.)

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Claim.—1. In a honey-extractor, the combination, with the vessel C, of the rotary horizontal plate F, carrying perforated comb-holders G, vertically pivoted at their centers on said plate F, as shown and described.

2. The combination, with the plate F and central vertical shaft, A, of the comb-holders G, shafts H, pinions K, and spur-gear wheel E, as shown and described.

3. The combination, with the central vertical shaft, A, and the spur-gear wheel E, secured thereto, of the plate or disk F, free to turn thereon, the perforated comb-holders G, the vertical shafts H, the pinions K, and a connecting device like a pawl, and rack-teeth between the spur-wheel E and plate F, by means of which said plate is revolved by said gear in one direction only, as shown and described.

4. The combination, with the shaft A, wheel L, plate E, comb-holders G, shafts H, and pinions K, of the pawl M, secured to the wheel E, and the notches or teeth L in the plate F, as shown and described.

5. The combination, with the shaft A, wheel E, plate F, comb-holders G, shafts H, pinions K, and the pawl M, secured to the wheel E, of the notches or teeth L, arranged on the plate F at intervals corresponding to arcs of the wheel E equal to one-half a circle of the pinions K, for the purpose of reversing the comb-holders, as shown and described.

263,229. BUCKET FOR CHAIN-PUMPS. LEWIS M. RUMSEY St. Louis, Mo. Filed May 2, 1882. (No model.)



Claim.—1. In a chain-pump bucket, the central stem or link provided with eyes at its ends and with an annular valve-flange, and having cast loosely thereon a flaring tube or shell which is adapted to receive the rubber bucket, as set forth.

2. A chain-pump bucket having the central stem or link provided with eyes at its ends and with an annular valve-flange, and having cast loosely thereon a flaring tube or shell, in combination with the rubber bucket or button, as set forth.

263,230. DREDGING-BUCKET. WILLIAM A. T. SARGENT, Wilmington, Del. Filed Apr. 24, 1882. (No model.)

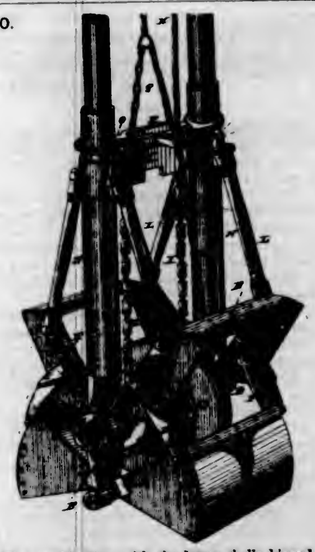
Brief.—An upper pair of shells is connected with a lower pair of smaller radius, having a separate axis, and with a cross-head, by adjustably-pivoted arms. Said cross-head is secured by keys to the ends of poles, so that the poles and cross-head may slide in slotted tubular guides, with slotted standards bearing a shaft having a large pulley and two pairs of smaller pulleys of different diameters interchangably connectible with the cross-head through chains, on which shaft rotate the upper shells by means of ribs turning in the slotted standards on anti-friction sleeves on said shaft.

Claim.—1. A dredging-bucket having four shells connected together and arranged in pairs one above another, substantially as shown and described.

2. A dredging-bucket having two lower shells hinged together and two upper shells hinged together at a point above the hinges of the former, and connected to the former by arms, substantially as shown and described.

3. A dredging-bucket having two lower shells and two upper shells of greater radius than the lower, and hinged at a point above the hinges of the lower, substantially as shown and described.

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4. The combination, with the lower shells hinged together and supported in standards, of the upper shells hinged together and supported in the standards at a point above the hinges of the lower, and connected to the lower by adjustable arms, substantially as shown and described.

5. The combination, with the lower shells, the standards supporting the latter, and the shaft carrying the pulleys, of the upper shells hinged to the said shaft, and connected to the lower shells and to a sliding cross-head by adjustable arms, substantially as shown and described.

6. The combination, with the slotted standards and the shaft carrying the pulleys, of the bearing-sleeves inclosing the journals of the shaft, and the upper shells connected to the outer surface of the sleeves and adapted to rotate thereon, substantially as shown and described.

7. The combination of the tubular guides with the bucket secured thereto, the poles sliding therein, and the cross-head connected to the poles, substantially as shown and described, whereby the weight of the poles shall be superadded to increase the closing-power of the bucket, as set forth.

8. The combination, with the shells and the pulleys and their supporting-standards, of the tubular guides secured to the standards, the cross-head connected to the pulleys and the upper shells, and the poles having their lower ends secured to the cross-head by keys passing through longitudinal slots in the tubular guides, substantially as shown and described.

9. The combination, with the shells, the cross-head, and the tubular guides, of the two sets of small pulleys, the chains for connecting either set at will to the cross-head, and the large pulley carrying the closing-chain, said parts being adapted to operate substantially in the manner specified.

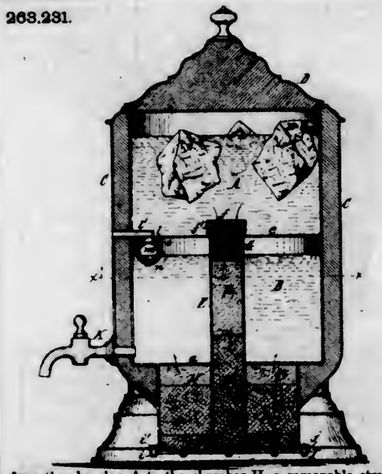
263,231. COMBINED WATER FILTER AND COOLER. ALPHONS F. SCHWALB, Buffalo, N. Y. Filed Apr. 27, 1882. (No model.)

Claim.—1. In a filter, the combination of a chamber, A, receiving the water to be filtered, a chamber, B, provided with a faucet for drawing off the filtered water accumulating therein and arranged below the chamber A, a chamber, H, filled with filtering material and arranged below the chamber B and communicating therewith, and a tube, E, extending from the chamber A into the chamber H, substantially as set forth.

2. In a filter, the combination, with the water-chambers A and B, of the chamber H, filled with filtering material and arranged below the chamber B and communicating therewith, a tube, E, extending from the chamber A into the chamber H, and a removable bottom, I, applied to the lower end of the chamber H, substantially as set forth.

3. The combination, with the water-chambers A and B, of a chamber, H, filled with filtering material, arranged below the chamber B and communicating therewith, a tube, E, extending

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from the chamber A to the chamber H, a removable strainer, *f*, and cup G, applied to the upper end of the tube E, and a removable bottom, I, applied to the chamber H, substantially as set forth.

4. The combination, with the water-chamber B, of the opening *l* and passage *l'*, the valve-seat *o*, spherical valve *m*, and cage *n*, substantially as set forth.

263,232. COAT. JACOB SIMMONS, Baltimore, Md., assignor of one-half to Joseph Goldstine, same place. Filed May 10, 1882. (No model.)



Claim.—A coat in which are combined a back and fore parts of different styles, the same forming a garment having the distinguishing features of the frock and sack patterns, substantially as specified.

263,233. CORN-PLANTER. EDWARD L. SKELTON, Parsons, Kans. Filed May 3, 1882. (No model.)



Claim.—1. The combination, with the frame *a*, friction-rolls *i*, slotted horizontal shaft *l*, and levers *k*, of the revolving cylindrical hoppers *m*, revolving circular cutters *p*, having seed-spouts *u*, and seed-slides *r*, each provided with a pocket, *s*, and inclined arm *t*, and secured to the opposite ends of the levers *k*, substantially as described.

2. The combination, with the horizontal shaft *l*, revolving cylindrical hoppers *m*, and revolving circular cutters *p*, having seed-spouts *u*, of the ratchet-wheel *v*, pawl *w*, lever *a'*, and driver's seat *b'*, all arranged and operated substantially as described.

3. The combination, with the revolving horizontal shaft *l*, having holes *e'* in its ends, and stationary axle *b*, provided with holes *e e* in its ends, of the marker *l'*, provided with the check-pins *m'*, and axle *h'*, having hook *q'* on its inner end, and brace *n'*, having hook *o'*, substantially as described.

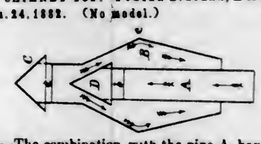
4. The combination, with the horizontal shaft *l*, having holes *e'* in its ends, and marker *l'*, provided with the axle *h'*, having hook *q'*, of the pivoted rest *p'*, provided with a notch, *s*, substantially as described, and for the purpose set forth.

263,234. PACKAGE FOR BUTTER. LEWIS J. SMITH, Grapeville, N. Y. Filed June 17, 1882. (No model.)



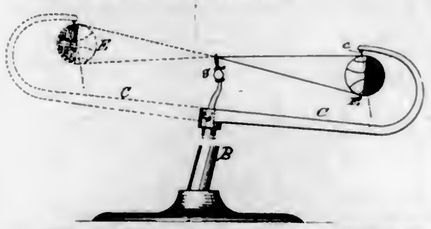
Claim.—The vessel A, having cover B, provided with a transverse spring-bar, F, having recess G, in combination with a detachable inner vessel, H, fitting in a shallow recess in the bottom of vessel A, and having detachable flanged cover K, provided with a central knob or button, O, registering with the recess G in spring-bar F, as set forth.

263,235. CHIMNEY-TOP. PORTER B. SPERR, Muscatine, Iowa. Filed Jan. 24, 1882. (No model.)



Claim.—The combination, with the pipe A, having the conic cap or deflector D, closed at the top, and the draft-opening *b* immediately below the cap, of the drum B, extended above the cap D, and having the enlarged portion *c*, extended below the opening *b*, and having above the drum the conic deflector C, closed at the top, and the draft-opening *d* immediately below the deflector C, substantially as and for the purposes described.

263,236. TELLURIAN. JEREMIAH SPICER, Taylor's Island, Md. Filed May 13, 1882. (No model.)



Claim.—1. An apparatus for illustrating the changes of the seasons and diurnal motion of the earth, in which the body that represents the earth is made to move in an orbit around an illuminating device, that represents the sun, at an inclination to the vertical axis of said device, and is freely suspended to preserve by gravitation the vertical position of its axis and to admit of its being turned about its own axis, substantially as specified.

2. The combination of the inclined pivot *b* on the stand or standard B, the lamp or illuminating device S, the rotating arm C, bent or constructed at its outer end to form an upper suspension means, and the globe E, suspended to hang freely from said outer end portion of the arm, essentially as shown and described, and for the purposes herein set forth.

263,237. BRIDLE-BIT. HORACE S. SQUIRE, Newark, N. J. Filed Mar. 17, 1882. (No model.)



Claim.—1. In a bit, the combination of the helically-formed wire mouth-piece, the head carrying the cheek-rings, and a bar or piece separate from but adapted to connect said head and helically-formed wire mouth-piece, for the purpose set forth.

2. In a bridle-bit having a mouth-piece composed of a single piece of spring-wire arranged in the form of a helix, the combination, with the said mouth-piece, of spirally-grooved shanks corresponding in size circumferentially therewith and rigidly secured thereto, heads C, rigidly secured to said shanks, and cheek-pieces movably but permanently secured to said heads, substantially as and for the purposes set forth.

3. In a bridle-bit having a mouth-piece composed of a single piece of spring-wire arranged in the form of a helix, the combination, with said mouth-piece, of spirally-grooved shanks corresponding in size circumferentially therewith, and provided with a stem, *c*, and heads C, and cheek-pieces D, all the parts being permanently secured together, substantially as shown and described, for the purposes set forth.

4. In a bit having the mouth-piece composed of a single piece of spring-wire arranged in the form of a helix, the combination, with said mouth-piece, of spirally-grooved shanks B, corresponding in size circumferentially with said helix, and cheek pieces or rings, the several parts being arranged and operating substantially as and for the purposes set forth and shown.

5. The combination, in a bridle-bit, of the open rings D, having apertures through their ends, and the cheek-bar and shank formed from one piece of metal and adapted to be permanently connected with said mouth-piece and ring, substantially as and for the purposes shown.

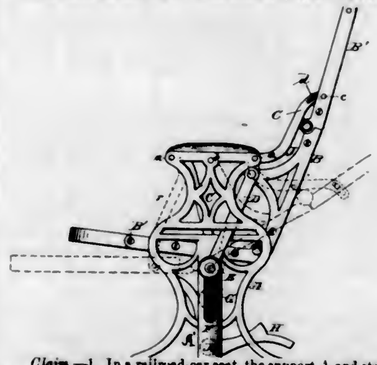
6. In a bridle-bit, the combination, with the cheek pieces or rings and helix, of the heads provided with the shanks having the recesses, and the spirally-grooved shanks having the jaws *d*, the parts being arranged to operate as herein described, for the purposes set forth.

7. In a bridle-bit, the cheek-ring provided with the recess or groove in the outer surface to receive the riveted or clinched end of the beam, whereby the latter is prevented from turning in said cheek-ring, as and for the purpose set forth.

8. In a bridle-bit, the combination, with the helix, of the head provided with the flange or cap *a*, as and for the purpose set forth.

9. In a bridle-bit, the combination of the cheek-ring provided with the tapered or countersunk recess, and the bar and beam provided with the correspondingly-tapered shoulder, substantially as and for the purposes set forth.

263,238. CAR-SEAT. GARLAND B. ST. JOHN and JUSTUS M. ST. JOHN, Cedar Rapids, Iowa. Filed Mar. 31, 1882. (No model.)



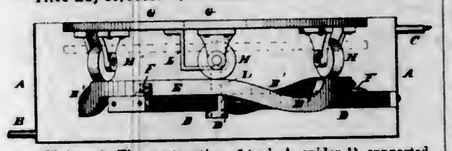
Claim.—1. In a railroad-car seat, the support A and standard A', having chamber F, the reversible foot-rest H, having shoulders, as described, and pivoted to said standard, and the adjustable and connecting rod D, moving in the standard, in combination with the sectional pivoted and hinged back B B' B', substantially as and for the purposes set forth.

2. In an adjustable railroad-car seat, the back B, having parts B' hinged thereto, pivoted to the support A, and arm C, slotted at *d*, combined with the hollow standard A', supporting arm D, and spring G, substantially as shown and described.

3. The back B and arm C, slotted at *d*, combined with support A, connecting-rod D, and hollow standard A', substantially as and for the purposes set forth.

4. The combination, with the frame or support of a car-seat, of the back B, having parts B' hinged thereto, the connecting-rods D, and slotted arm C, as set forth.

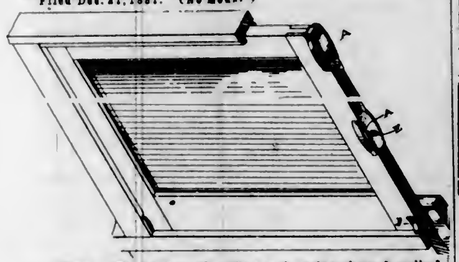
263,239. FIRE-SETTER. JOSEPH F. STOLTE, St. Louis, Mo. Filed May 21, 1882. (No model.)



Claim.—1. The combination of tank A, spider D, supported on the sides thereof, having central hub, D', circular track E, having inclines or depressions E', table G, having wheel-hub opening G', rollers H, supporting said table on said track, guiding-shaft L, secured to arms L', and chain or connection I, windlass J, and winch or handle K, for rotating the table, as set forth.

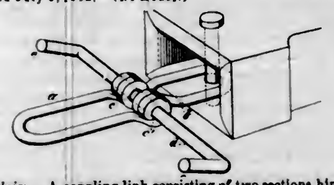
2. The blocks M and ring N, in combination with table G, having wheel-hub opening G', and shaft-arms L', as and for the purpose set forth.

263,240. SASH-TIGHTENER. FRANK P. STONE, Chicago, Ill. Filed Dec. 21, 1881. (No model.)



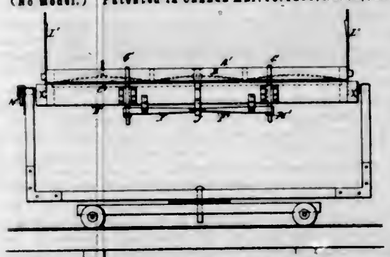
Claim.—The triple anti-rattling sash-spring above described, composed of three curved springs combined, one to rest upon the edge and one upon either face of the sash, as set forth.

263,241. CAR-COUPLING. JOHN J. STOPPLE, Bellville, Tex. Filed July 3, 1882. (No model.)



Claim.—A coupling-link consisting of two sections hinged on a transversely-extended rod, one section being fast and the other loose on the rod, and said rod being extended on each side of the link to form handles, substantially as specified.

263,242. FRAME FOR PRINTING PHOTOGRAPHS. GEORGE S. STREET, Moncton, New Brunswick, Canada, assignor of one-third to P. W. Richardson, Troy, N. Y. Filed May 11, 1882. (No model.) Patented in Canada Mar. 13, 1882, No. 14,355.



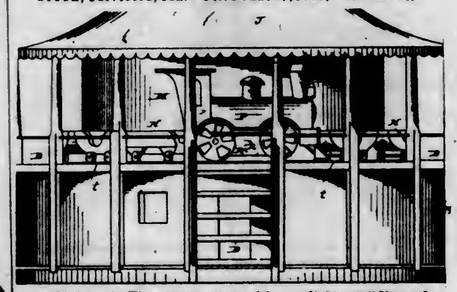
Claim.—1. The combination of the upper and lower sections, hinged together as explained, one section carrying the glass plate or panel and the other carrying an elastic air-cushion, and levers for forcing and locking the two parts together, substantially as shown and described.

2. In a printing-frame mounted upon trunnions and adapted to revolve, substantially as explained, the combination, with the section carrying the glass plate or panel, of the second section, hinged thereto and having the attached air-cushion, substantially as shown and described.

3. The combination of the two sections A and B, the levers F F', the hooks G G', and the spring J, substantially as shown and described.

4. In a printing-frame having the two sections or parts hinged together and mounted upon trunnions and adapted to revolve, substantially as explained, the combination, with the section carrying the glass plate or panel, of the boxes at each end of said section for holding the projecting portions of the material being printed from or on, substantially as and for the purposes explained.

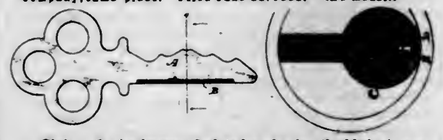
263,243. CIRCULAR RAILROAD OR ROUNDABOUT. WILLIAM STURM, Galveston, Tex. Filed June 19, 1882. (No model.)



Claim.—1. The combination, with a suitable building, of a horizontal turn-table sustained by means of a central column, radial arms, and brace-rods, the loose collar K, connected by radial braces L to the capping C, the cylinder M, the circular walk or platform B, the rubber rail *t* on this platform, the locomotive P, and the driving-wheels R, the latter rolling on said rail and moving the turn-table around with the locomotive and carriages, all substantially in the manner and for the purposes described.

2. The building, of circular form, composed of a lower story inclosed, an upper open story, a canopy, J, a central post, H, a turn-table, E, sustained by a central post, H, a platform, B, and a centrally-arranged cylinder, M, all arranged and constructed substantially in the manner and for the purposes described.

263,244. PLATE-KEY FOR LOCKS. WARREN H. TAYLOR, Stamford, Conn., assignor to the Yale Lock Manufacturing Company, same place. Filed June 22, 1882. (No model.)



Claim.—1. An improved plate-key, having the blade A, provided with a flange, B, laterally projecting from its straight edge and flush therewith, substantially as and for the purpose set forth.

2. A lock-hub, C, provided with a main key-slot, D, and a side key-flange recess, E, substantially as and for the purpose set forth.

3. The combination of a plate-key having the flange B and a lock-hub, C, provided with a main key-slot, D, and a side key-flange recess, substantially as and for the purpose set forth.

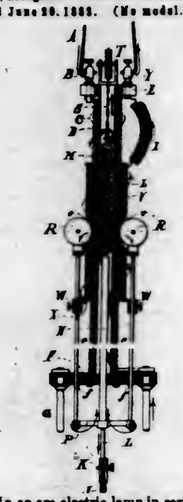
263,245. WHIFFLETREE-HOOK. JOHN D. THOMAS, Forrest City, Ark. Filed June 16, 1882. (No model.)



Claim.—1. The S-shaped whiffletree-hook C, having its ends *c* bent at a right angle to the main portion or body thereof, substantially as shown and described.

2. The combination of the plow-beam A, having staple *a*, single-tree B, having connecting-band *b*, and the S-shaped whiffletree-hook C, having its ends *c* bent at a right angle to the main portion or body thereof, substantially as shown and described.

263,246. ELECTRIC-ARC LAMP. WILLIAM H. THOMAS, Cincinnati, Ohio, assignor of one-half to Samuel W. Skinner, same place. Filed June 20, 1882. (No model.)

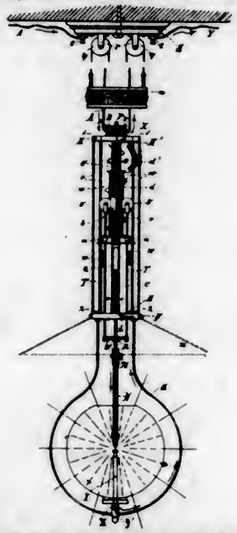


Claim.—1. In an arc electric lamp in series, the combination of the following elements, to wit: three concentric helical current-carriers, of which the intermediate one, called the "prime helix," is fixed, and has at its upper end electrical communication with the positive rheophore and at its lower end with the positive electrode, and of which the other helices are mechanically connected to and travel with the positive electrode, one of said traveling helices, called the "solenoid," being of like resistance with the prime helix and in circuit with the electrodes, and so wound as to be attracted by said prime helix with force proportional to their common current, the other traveling helix, called the "differential," being of high relative resistance, and so connected with line beyond the arc as to divert current or overflow therefrom, and so wound as (during overflow) to be repelled by said prime helix, and thus to counteract or overcome to a greater or less extent, proportionate to the overflow, the lifting action of said solenoid, and thereby facilitate transmission of current to the other lamps of the series, substantially as and for the purpose set forth.

2. In an arc electric lamp in series, the combination of the following elements, to wit: three concentric helical current-carriers, of which one, called the "prime helix," is fixed, and is connected at or near its upper part with the positive rheophore, and below such connection communicates, by one or more bared tracks on its exterior periphery and by shifting conductor in contact with said tracks, with the positive electrode, and of which the other helices are attached to and travel with said conductor, one of said traveling helices, called the "solenoid," being of like resistance to the prime helix and in circuit with it and the electrodes, and so wound as to be attracted by said prime helix with force proportionate to their common current, the other traveling helix, called the "differential," having a relatively-high resistance, and so connecting said conductor with line beyond the arc as to divert current therefrom, and so wound as (during overflow) to be repelled by said prime helix, substantially as and for the purpose set forth.

3. In an arc electric lamp in series, the combination of the following elements, to wit: three concentric helical current-carriers, of which one, called the "prime helix," is fixed, and is connected at or near its upper part with the positive reophore, and below such connection is connected, by one or more bared tracks on its exterior peripbery and by shifting conductor in contact with said tracks, with the positive electrode, and of which the other helices are attached to and travel with said conductor and said electrode, one of said traveling helices, called the "solenoid," being of like resistance with and interior to said prime helix and in circuit with it and with electrodes, and so wound as to be attracted by said prime helix with force proportionate to their common current, the other traveling helix, called the "differential," surrounding the prime helix and having a higher resistance than the normal arc, and connecting the said conductor with line beyond the arc, so as to divert current therefrom, and so wound as (during overflow) to be repelled by said prime helix, and thus to counteract or overcome to a greater or less extent, proportionate to the overflow, the lifting action of the central helix and to facilitate transmission of current throughout the series, substantially as set forth.

263,247. ELECTRIC-ARC LAMP. WILLIAM H. THOMAS, Cincinnati, Ohio, assignor of one-half to Samuel W. Skinner, same place. Filed Apr. 28, 1882. (No model.)



Claim.—1. In an arc electric lamp in series having a fixed helix in a main circuit that includes the electrodes, a helix of high resistance surrounding said fixed helix in a circuit derived from said main circuit and attached to the positive electrode, and a simultaneously movable core common to both helices, whereby the feed and position of the electrode are controlled and equal action maintained throughout the series by the joint action of two opposing electric forces, substantially as and for the purposes set forth

2. In an arc electric lamp in series, a stationary helix in the circuit which includes the electrodes, in combination with a surrounding movable helix in a circuit derived from said main circuit, and a simultaneously movable core common to both of said helices, and adapted and arranged to be lifted by electric influence from the stationary helix, and to be subject to depression by repulsion upon the attached differential helix which surrounds said main helix, so as to maintain uniform arc-lengths throughout the series, in the manner set forth.

3. In an arc electric lamp in series, the combination of a stationary helix in communication with the positive rheophore, and the following members attached to and moving with the positive electrode, to wit: a sliding conductor upon a bared track on said helix's periphery, an interior suction-core, and an exterior concentric differential shunt, substantially as and for the purposes set forth.

4. In an arc electric lamp in series, a stationary helix in a circuit which includes the arc, in combination with a shifting positive electrode, to which are attached a suction-core which occupies an axial position within said helix, and is attracted upward thereby, and an overflow-helix of high resistance that encircles said stationary helix and is in a circuit derived therefrom, and when energized acts in mechanical opposition thereto in proportion to the overflow, substantially as and for the purposes set forth.

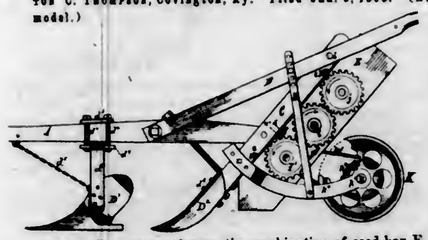
5. In an arc electric lamp in series, a shifting conductor which is rigidly attached to and which travels with the consuming electrode upon a longitudinal bared track on the exterior periphery of a stationary helix, said conductor, together with the portions of said helix thus brought into circuit, constituting the electrical communication from the generator to said electrode, so as to shift the said helix's magnetic field and to maintain a practically constant magnetic equipoise to the said electrode, there being also attached to said shunt a counterpoise and a suction-core and differential overflow-coil which are concentric with and respectively interior and exterior to said helix, substantially as and for the purposes set forth.

6. In an arc electric lamp in series, a shifting conductor which is rigidly attached to and travels with the consuming electrode upon a longitudinal bared track on the periphery of the prime helix, and which constitutes the electrical communication from the generator to the said electrode, so as to shift the helix's magnetic field and to maintain a practically constant magnetic equipoise to the said electrode, in combination with a similarly attached and traveling suction-core and a differential coil that surrounds said helix, and is so wound with a wire of higher resistance than the normal arc and so connected with line beyond it as to divert the overflow and to counteract the core-suction in proportion to such overflow, substantially as and for the purposes set forth.

7. In an arc electric lamp in series, the combination, with a stationary helix, C, conveying current through bared track e on said helix's exterior periphery, and thence through a shifting conductor, U T S, to the electrodes, of the following members attached to said conductor, to wit: a central armature or suction core, the positive electrode N, and a coil, *d*, of higher resistance than that of the normal arc, concentric with and exterior to the stationary helix and electrically connecting said conductor with line beyond the arc, so as to divert the overflow, and so wound as to be repelled by said stationary helix in proportion to the overflow energy, as and for the purposes set forth.

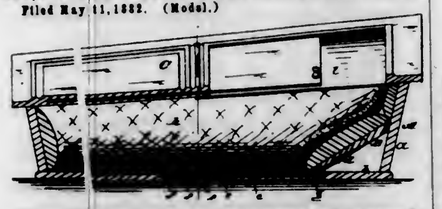
8. In the described combination with stationary helix C, having electrical connection above with the positive rheophore and below through bared track *e* on its exterior periphery and shifting conductor U T S with the positive electrode, the following members attached to and traveling with said electrode, to wit: a suction-core interior to and attracted by said helix and a longitudinally-guided differential coil, *d*, that surrounds said helix, and has at or near its mid-length slots *b'*, which receive the wheels U of said conductor, substantially as and for the purposes set forth.

263,248. COTTON PLANTER AND CULTIVATOR. WASHINGTON C. THOMPSON, Covington, Ky. Filed Jan. 6, 1882. (No model.)



Claim.—In a cotton-planter, the combination of seed-box E, having slots *c*, with adjustable plates H H', screws *h*, brushes G G, and rotating arms *f'*, said adjustable plates and brushes closing the bottom of said box, and said rotating arms operating up through said brushes along the meeting line thereof, substantially as set forth.

263,249. BURIAL-CASKET. JOHN J. TICKNER, Bancroft, Mich. Filed May 11, 1882. (Model.)



Claim.—The combination, with the head-board *a*, bottom *b*, and loose head-rest B, of the metal strap C, hinged at *d*, and having a stud or projection, *e*, engaging any one of a series of holes, *f*, in the fixed bottom plate, *g*, as shown and described.

263,250. MACHINE FOR REDUCING WOOD TO PAPER-PULP. HERMAN P. TITUS, Lisbon, N. H. Filed June 10, 1882. (No model.)



Claim.—1. In a machine for reducing wood to paper-pulp, a pulley-shaped grinding-wheel inclosed in a cylindrical casing, substantially as described.

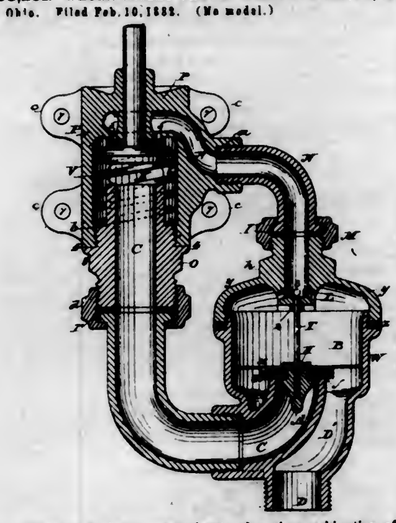
2. In a machine for reducing wood to paper-pulp, a pulley-shaped grinding-wheel having the inner face of its rim covered with a grinding material and inclosed in a cylindrical casing, substantially as described.

3. In a machine for reducing wood to paper-pulp, the wheel C, inclosed in the casing A, and in combination with the followers E, substantially as described and shown.

4. The followers E, consisting of the plate *d* and rack *e*, in combination with cog-wheel *f* and ratchet *i*, the parts arranged and operated as described.

5. The heads D D, provided with feed-boxes *c c*, in combination with followers E and wheel C, substantially as described and shown.

263,251. WATER-CLOSET VALVE. HENRY A. TOBEY, Dayton, Ohio. Filed Feb. 10, 1882. (No model.)



Claim.—1. In a water-closet valve, the combination of a chamber, a movable disk located in said chamber, a supply-pipe, a flush-pipe, a small-stream pipe, and a spring stem-valve, whereby a small stream of water for the basin is obtained when the closet-seat is depressed and a large or flush stream is automatically obtained after the pressure on the closet-seat is relieved, substantially as described.

2. In a water-closet valve, the combination of the spring valve-stem and valve, the two communicating chambers, one of which is provided with an opening into the water-basin, the small-stream pipe, the chamber B, and the valve *x*, whereby when pressure is applied to the closet-seat the water flows into the basin in a small stream, substantially as described.

3. The chamber B, in combination with the disk-valve *x*, lower flush-pipe, spring valve-stem, valve F, and chambers P and Q, whereby when the pressure on closet-seat is relieved the basin is flushed with a large stream of water, which is gradually shut off by the same means, substantially as described.

4. In a water-closet valve, the combination of the chamber B, the disk located within said chamber, the guide-stem to which said disk is attached, the valve-leather, the lower flush-pipe, and upper small-stream pipe provided with holes 3 3, whereby the flow of water into the flush-pipe and its entrance into the small-stream pipe is controlled, substantially as described.

5. The said automatic movable disk *x*, located within a suitable chamber and having a diameter less than said chamber, and provided with a guide-stem, valve-leather, and elongated nut, substantially as described.

6. The combination of the spring valve and stem, chamber P, provided with opening K, and chamber Q, provided with openings into chamber P, the entire area of which openings is less than that of said opening K, whereby the pressure of water within chamber P is so reduced that the use of stuffing-boxes around said valve-stem is dispensed with, substantially as described.

7. The valve-chamber B, provided with screw-cap L, in combination with flange-ring M and gasket I, whereby said chamber can be easily uncapped and disconnected from the upper pipe and its inner parts removed or repaired without disturbing the remaining parts of the valve, substantially as described.

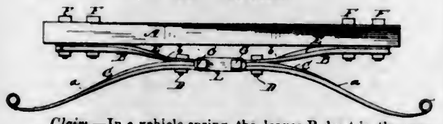
8. The flush-pipe having section 8, with projection for reception of wrench, in combination with chamber, surrounding spring valve-stem, whereby the said pipe and chamber can be easily disconnected and the parts contained therein removed or repaired without disturbing any other parts of the apparatus, substantially as described.

263,252. ENDLESS HORSE-POWER PLATFORM. FRANCIS M. TRAVIS, Quinby's, Va., assignor to Eugene B. Travis, Trustee, Peekskill, N. Y. Filed June 17, 1882. (No model.)



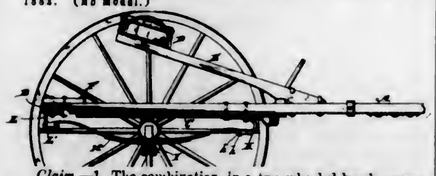
Claim.—The track or platform described, having blocks or plates D secured to each alternate lag or cross-step, so as to form two rows of braces, as shown, with their ends bearing on the adjoining steps, for the purposes set forth.

263,253. VEHICLE-SPRING. FRANCIS H. TUTTLE, Clifford, Pa. Filed July 17, 1882. (No model.)



Claim.—In a vehicle-spring, the leaves B, bent in the manner shown, and having the interposing leaves C E, the upper portions of the springs being connected to the spring-bar A by bolts F, in combination with the shackles, consisting of the plates L and bolts G and the bolts D, the latter passing through the springs after they have been bent aronnd the bolts G, substantially as and for the purpose set forth.

263,254. SULKY. JOHN V. UPINGTON, Lexington, Ky., assignor of one-half to James T. Upington, same place. Filed July 15, 1882. (No model.)



Claim.—1. The combination, in a two-wheeled break wagon or sulky, of the shafts extending back of the axle and constituting the sides of the body-frame, with the springs attached at their middle portions to the axle and supporting the shafts at points in front of and in rear of the axle, substantially as described.

2. The combination, in a two-wheeled break wagon or sulky, of the springs attached at their middle to the axle, with devices connected with the ends of said springs and secured both to the shafts and to the two cross-bars at points in front of and in rear of the axle, substantially as described.

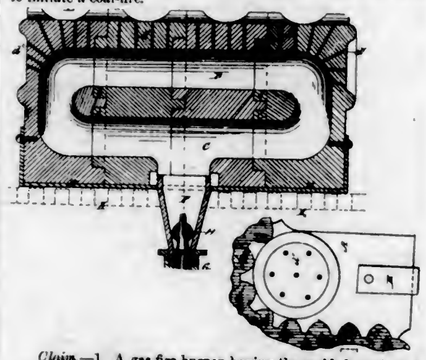
3. The combination, in a two-wheeled break wagon or sulky in which the driver's seat is supported upon the shafts by inclined spring-bars, of the shafts extending back of the axle and the springs connected to the axle and supporting the shafts, whereby the weight is partially transferred from the spring-seat bars to the springs supporting the shafts, substantially as described.

4. The combination, with the shafts extending back of the axle, of the brackets K, connected with the springs which are clipped upon the axle, and the perforated angle-plates k^2, formed with said brackets and secured both to the shafts and to a cross-bar connecting the shafts together, substantially as described.

5. The combination, with the shafts extending back of the axle, of the brackets L, connecting by shackles with the rear ends of springs which are clipped upon the axle, and the perforated angle-plates secured to the shafts, and a cross-bar connecting the same, said brackets each having a screw-threaded shank which passes up through the angle-plate and shaft, and which has a tightening-nut fitted upon its upper end, substantially as described.

263,255. BURNER FOR GAS-FIRES. BENJAMIN VERITY, St. Pancras, County of Middlesex, England. Filed Mar. 20, 1882. (No model.)

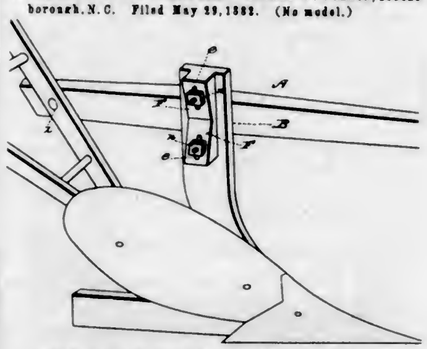
Brief.—The grooves or depressions illustrated in the drawings serve to hold in place the covering of fire-clay, fire-clay and silicate, or other plastic material with which the burner is covered, to imitate a coal-fire.



Claim.—1. A gas-fire burner having the molded sections A, with perforations *d d'* and clamp E, as shown and described.

2. A gas-fire burner formed of sections A, and having an upper chamber, B, and a lower chamber, C, the former provided with perforations *d d'*, and the latter a bulb, F, with inlets G H, as shown, and for the purpose specified.

263,256. PLOW-STANDARD. GEORGE W. VERNON, Greensborough, N. C. Filed May 29, 1882. (No model.)



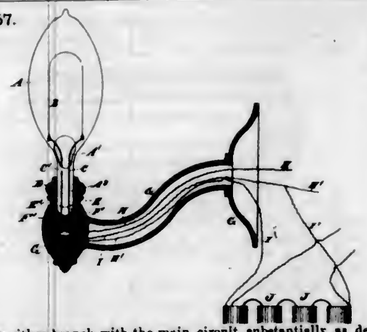
Claim.—1. The standard provided with the slots *e e*, one above the other, for the passage of the threaded ends of the cuff-brace, and with the oppositely-inclined face-bearings F F, terminating said slots exteriorly, and turned toward each other to throw the nuts inward and effect a clamping bend of said threaded ends, substantially as specified.

2. The combination, with the cuff-brace C and the slotted standard having the oppositely-inclined bearings F F, of the beam, its protecting-plate *k*, and the nuts *n n*, substantially as specified.

263,257. ELECTRIC LAMP. WILLIAM L. VORLKER, Merton, Pa., assignor to John H. Irwin, Trustee, same place. Filed Jan. 23, 1882. (No model.)

Claim.—1. In combination, a main circuit, an incandescent electric lamp in one branch thereof, a secondary battery in other branch thereof, and a switch in the socket of the lamp for connecting either branch with the main circuit, substantially as described.

263,257.



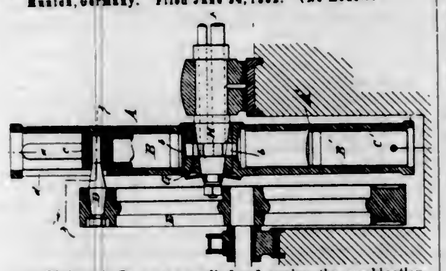
2. In combination with a secondary battery, a supporting-socket for incandescent electric lamps, having contact-pieces F F' and springs E E', electrically connected with the line, and strips I°, electrically connected with the secondary battery, substantially as described.

3. In combination, a secondary battery, an incandescent electric lamp capable of revolution in its socket, and a socket provided with contact-pieces F F', springs E E', and strips I°, for the purpose of making electrical connection with the secondary battery by a partial revolution of the lamp, thereby diminishing or extinguishing the light of the lamp or regulating the current to a series of lamps, substantially as set forth.

4. In combination, a secondary battery and an incandescent electric lamp removable from its socket and capable of revolution within the same, and provided with contact-pieces F F' and springs E E', for the purpose of breaking or making electrical connection with the line, and having strips I°, for the purpose of making electrical connection with a secondary battery, substantially as described.

5. In combination with an incandescent electric lamp, the conductors C C', the thimble D, the socket with contact-pieces F F', the springs E E', the strips I°, the line-wires H and H', and the secondary battery, substantially as described.

263,258. STEAM-ENGINE. CLEMENS VON BECHTOLSHEIM, Munich, Germany. Filed June 24, 1882. (No model.)



Claim.—1. In a rotary cylindered engine, the combination, with the radial cylinders A A' and pistons B B', of the connecting-yoke consisting of the short shafts or studs C C' and the parallel bars F, lying in the plane of revolution of the cylinders, as shown and described.

2. The combination, with the cylinders A A', the pistons B B', the connecting-bars F, and the shafts or studs C C' in the pistons B B', of the slots *a a'* through the two cylinders to admit and serve as slideways to said studs or shafts C C', as shown and described.

3. The combination, with the two cylinders A A', pistons B B', shafts or studs C C', and connecting-bars F, of the eccentric fly-wheel E, crank or pintle D, and the slot *d* through the side of one cylinder, A', to permit said crank to connect with the piston and to serve as a sliding guide to the crank, as shown and described.

4. The combination, with the two cylinders A A', pistons B B', shafts C C', connecting-bars F, slot *d* in the cylinder A', and the eccentric fly-wheel E, of the pintle D, secured at one end in the fly-wheel E, and journaled at the other end in the shaft C within the piston B', as shown and described.

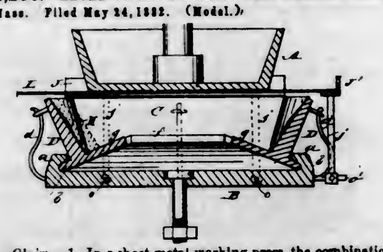
5. The combination, with the trunnion H, the sleeve G, the cylinders A A', abutting thereon, the pistons B B', the shafts C C', and the connecting-bars F, of the steam-port L' and exhaust-pipe K, so arranged as to conduct the exhaust-steam of one cylinder, A, to the other cylinder, A', and thence out through the exhaust-pipe K to produce a compound engine, as shown and described.

263,259. SELF-VENTILATING BUNG. WM. A. VERRELAND, Brooklyn, N. Y. Filed June 3, 1882. (No model.)



Claim.—In a self-ventilating bung, the hollow tapering metallic core *a*, having the spurs *a'*, recess *c*, and flanged pipe or neck having air-passage *d*, in combination with the rubber packing *b*, the valve *r*, slitted in its point, and the cross-shaped guard *g h*, substantially as specified.

263,260. METAL-WORKING PRESS. JOHN WAGNER, Boston, Mass. Filed May 24, 1882. (Model.)



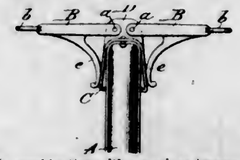
Claim.—1. In a sheet-metal-working press, the combination, with the plunger A, of the side and bottom sections, D *g* C *f*, provided with the semi-cylindrical lips *b*, and the base-plate B, provided with the inwardly-projecting flanges *a*, forming recesses beneath them fitting the edges of the lips *b*, as shown and described.

2. The combination, with the plunger A, side sections, D C *f g*, and bed-plate B, of the L-shaped guide-supports J J', adjustably secured to the base-plate B, for supporting the plate in exact position free from the side sections, as shown and described.

3. The combination, with the hinged sections C D, of the removable plates or blocks N, substantially as and for the purposes set forth.

4. The base-plate B, provided with the rods *o o'*, in combination with the guides J J', provided with the rods *j j'*, adapted to fit at their lower ends upon the rods *o o'*, as and for the purposes set forth.

263,261. HORSE-DETACHER. HENRY R. WALLACH, Chicago, Ill. Filed Oct. 27, 1881. (No model.)



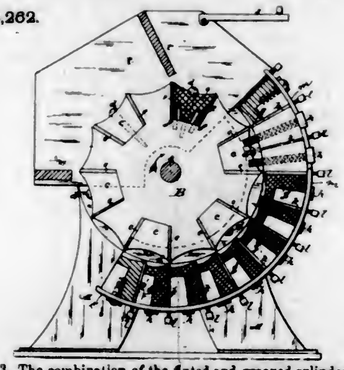
Claim.—In combination with a carriage-tongue, the detachable sleeve or thimble A, provided with pivoted arms B B, having eyes *b b* and braces *c c*, and the spring C, substantially as shown and described.

263,262. MACHINE FOR HULLING COTTON-SEED. HUGH S. WALSH, Argenta, Ark. Filed May 8, 1882. (No model.)

Claim.—1. The combination, with the fluted and grooved cylinder B, of the slotted knives *e*, the headed screws *f*, segments *c*, having side recesses at their lower ends, and the screws *d*, substantially as and for the purpose set forth.

2. The combination, with the standards A, provided with the ring-segments *i*, of the bars *g*, the bands *m*, the screws *h*, the knives *k*, and the set-screws *l*, substantially as and for the purpose set forth.

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3. The combination of the fluted and grooved cylinder B, the slotted knives *c*, the headed screws *f*, detachable recessed segment *c*, the segment *i*, the bars *g*, the bands *m*, knives *k*, and screws *h l*, substantially as and for the purpose set forth.

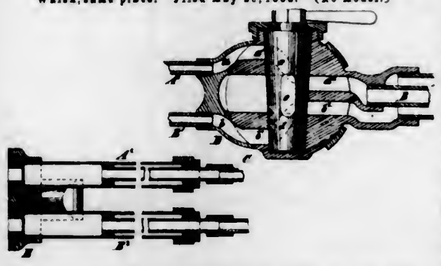
263,263. APPARATUS FOR HEATING CARS. MAURICE J. WALSH, New York, N. Y., assignor, by mesne assignments, to Mary C. Walsh, same place. Filed May 19, 1882. (No model.)



Claim.—1. The combination, with pipes, arranged one within the other, for conveying a heating agent back and forth through a car, of a cock and two separate flexible pipes, arranged so as to be independently accessible and extending beyond the car, substantially as specified.

2. The combination, with pipes, arranged one within the other, for conveying a heating agent back and forth through a car, of a cock and two separate flexible pipes, arranged so as to be independently accessible, extending beyond the car, and provided with coupling-pieces, substantially as specified.

263,264. MEANS FOR CONVEYING HEATING OR MOTIVE AGENTS THROUGH A TRAIN OF CARS. MAURICE J. WALSH, New York, N. Y., assignor, by mesne assignments, to Mary C. Walsh, same place. Filed May 20, 1882. (No model.)



Claim.—1. The combination, with a pipe for conveying a heating or motive agent along a car, of a section of rigid pipe for extending beyond the car, and connected to the pipe which extends along the car, so as to be adapted to move vertically and laterally relatively thereto, and another section of pipe telescopically fitted to the section first named, and having secured to its outer end a coupling-piece, substantially as specified.

2. The combination of the pipes A B, the telescopic sections A' A^2 B' B^2, the cock C, having an externally spherical barrel, and the shell D, substantially as specified.

263,265. COVERING FOR STEAM-CONDUITS. MAURICE J. WALSH, New York, N. Y., assignor, by mesne assignments, to Mary C. Walsh, same place. Filed May 4, 1882. (No model.)

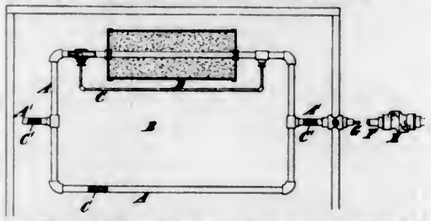


Claim.—1. The combination of a pipe for containing steam, a jacket surrounding it and containing a mixture of caustic soda, acetic acid, and water, and an external wrapping of a material which is a non-conductor of heat, substantially as and for the purpose specified.

2. The combination of a pipe for conveying steam in one direction, a pipe within the former for conveying steam in the reverse direction, a jacket surrounding the said pipes and containing a mixture of caustic soda, acetic acid, and water, and an external wrapper of a material which is a non-conductor of heat, substantially as and for the purpose specified.

3. The mixture composed of caustic soda, acetic acid, and water, substantially as and for the purpose herein described.

263,266. MEANS FOR HEATING CARS. MAURICE J. WALSH, New York, N. Y., assignor, by mesne assignments, to Mary C. Walsh, same place. Filed Mar. 1, 1882. (No model.)



Claim.—1. The combination, with two pipes extending around or through a car, one arranged within the other, the outer containing the heating agent and the inner conveying the waste or expended heating agent away, of a flexible pipe or pipes extending beyond the car, and a cock for controlling communication between the pipes within and the pipe or pipes extending beyond the car, substantially as specified.

2. The combination, with two pipes extending around or through a car, one arranged within the other, the outer containing the heating agent and the inner conveying the waste or expended heating agent away, of a jacket for the outer pipe, containing acetate of potash or a mixture of about two parts, by weight, of caustic soda and about eleven parts, by weight, of acetic acid, a flexible pipe or pipes extending beyond the car, and a cock for controlling communication between the pipes within and the pipe or pipes extending beyond the car, substantially as specified.

3. The combination of pipes for conveying a heating agent around or through cars, other pipes for conveying the waste or expended heating agent back again, and flexible pipes, one within the other, extending beyond the car, substantially as specified.

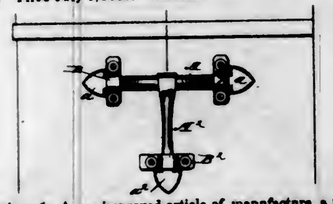
4. The combination of pipes for conveying a heating agent around or through cars, other pipes for conveying the waste or expended heating agent back again, flexible pipes extending beyond the car, and inner sections of rigid pipe connected by universal joints, substantially as specified.

5. The combination, with pipes for conveying a heating agent around a car, pipes arranged within the first-mentioned pipes, for conducting the waste or expended heating agent from the car, two pipes outside the car, arranged one within the other, for respectively conveying the heating agent to and the waste heating agent from the car, and a cock adapted to establish communication between the outer of the pipes within the car and the inner of the pipes outside the car, as also between the inner of the pipes within the car and the outer of the pipes outside the car, or to connect the two pipes with the car, substantially as specified.

6. The combination of pipes for conveying a heating agent around cars and back again, flexible pipes arranged one within the other and extending outside the car, couplings for the flexible pipes, and cocks controlling communication between the pipes within the cars and the flexible pipes outside the cars, substantially as specified.

7. The combination, with two sections of pipes arranged one within the other and couplings therefor, of duplicate packings for the inner pipes and duplicate packings for the outer pipes, said packings being arranged in the couplings aforesaid, substantially as specified.

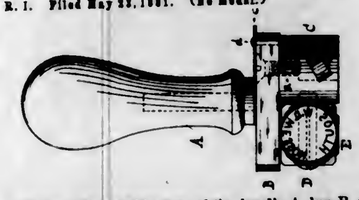
263,267. TRUNK-HANDLE. JOSEPH WELTER, South Pueblo, Colo. Filed July 6, 1882. (Model.)



Claim.—1. As an improved article of manufacture, a trunk-handle composed of a T-shaped or three-armed strap, A A^2, having its ends provided with cross-heads *a* a^2, substantially as and for the purpose herein described.

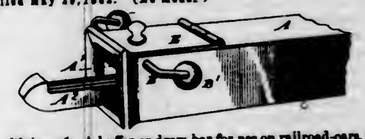
2. The combination, with a horizontal strap, A, having cross-heads *a* at its ends and working in vertical keepers B, of a vertical strap, A^2, attached to or made in one piece therewith, and provided with a cross-head, a^2, and working in a horizontal keeper, B^2, substantially as and for the purpose herein described.

263,268. HAND-STAMP. WALTER D. WESSON, Providence, R. I. Filed May 23, 1881. (No model.)



Claim.—The combination of the handle A, bar B, rotating postmarker C, stud D, perforated and adjustable obliterating-block E, screw *a*, and spring-pin *d*, all fitted and operating substantially as and for the purpose specified.

263,269. CAR-COUPLING. JAMES W. WHARF, Olney, Ill. Filed May 29, 1882. (No model.)



Claim.—1. A buffer or draw-bar for use on railroad-cars, having a portion of its upper wall hinged and weighted for the purpose of allowing the inner edge of the coupling-plate to rise above the upper surface of the buffer or bar when the cars are being coupled and aid in returning the plate to its locking or coupling position, substantially as set forth.

2. A car-buffer or draw-bar provided with a central contracted chamber in its lower plate or wall for the coupling-link to act in, and with beveled ledges or projections upon its side walls, against which the coupling plate or dog rests when the car is being drawn forward, whereby the force applied is applied to the side walls of the buffer, substantially as and for the purpose set forth.

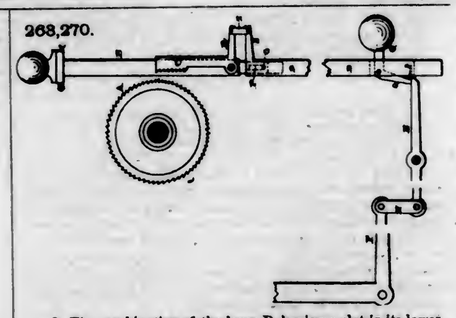
3. The combination of a car-buffer or draw-bar having upon its interior surface inclined ledges, a coupling plate or dog resting thereon, and a shaft carrying weights, substantially as and for the purpose set forth.

4. The combination of the swinging portion E of the buffer or draw-bar and the swinging coupling plate or dog B^2, substantially as and for the purpose set forth.

263,270. MECHANISM FOR OVERCOMING DEAD-CENTERS. MARSHAL WEDDLER, Philadelphia, Pa., assignor to Benjn. F. Enoch, same place. Filed May 16, 1882. (No model.)

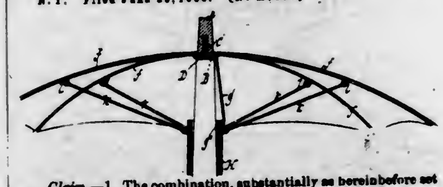
Claim.—1. A combination of the ratchet-wheel A with the two rods B D, connected together, as shown, the pawl C, the pawl Q, and suitable operating-levers, E F, substantially as shown and described.

263,270.



2. The combination of the lever B, having a slot in its lower end, and the rod D, having a socket in its upper end, the pin O, and the pawl C, connected to the lever D, substantially as set forth.

263,271. UMBRELLA AND CANE COMBINED. HENRY A. WHITING, Brooklyn, and WILLIAM J. WINGHART, New York, N. Y. Filed June 30, 1882. (No model.)



Claim.—1. The combination, substantially as hereinbefore set forth, of the flexible runner with the crown-ring D, ribs *f*, stretchers *k*, and the hollow cane, for the purpose described.

2. The combination, substantially as hereinbefore set forth, of the elongated stretchers and the flexible runner with the crown-ring D, ribs *f*, and the hollow cane, for the purpose specified.

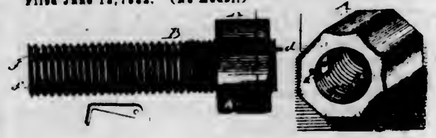
3. The combination, substantially as set forth, of the umbrella-ribs, having their eyes *l* arranged to alternate with each other, with the crown-ring D, stretchers *k*, runner H, and the hollow cane, for the purpose specified.

263,272. PRICE-TICKET HOLDER. EBENEZER WHYTE, Kansas City, Mo. Filed June 2, 1882. (No model.)



Claim.—The combination of the shaft A, having slit *a*, thimble A', and tang *b*, substantially as shown, and for the purpose described.

263,273. NUT-LOCK. S. STUART WILLIAMSON, Washington, D. C., assignor of one-half to William H. Hanford, same place. Filed June 15, 1882. (No model.)

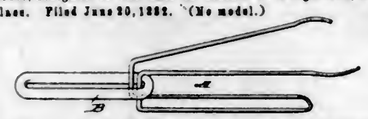


Claim.—1. In a nut-lock, the nut A, having cavity *e* and recess *i*, in combination with spring *c*, fitting in cavity *e*, and having projection *d*, which operates in recess *i*, and with the key A, substantially as and for the purpose specified.

2. In a nut-lock, the nut A, having cavity *e* and recess *i*, in combination with V-shaped spring *c* and projection *d*, substantially as and for the purpose specified.

3. In a nut-lock, the nut A, having V-shaped cavity *e*, recess *i*, spring *c*, and projection *d*, in combination with grooves *f* of bolt B, and key A, substantially as and for the purpose specified.

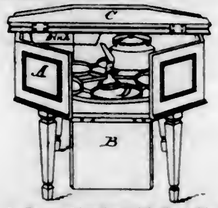
263,274. CAR-COUPLING. FRANCIS M. WILSON, Tekamah, Nebr., assignor of one-half to Isaiah W. Hungerford, same place. Filed June 20, 1882. (No model.)



Claim.—1. A link-holder for draw-heads, made substantially as herein shown and described, and consisting of a double U-shaped spring-frame, A, which is to be passed through the link and into the draw-head, which frame has the ends of two shanks connected and the ends of the other two shanks separated, as set forth.

2. The combination, with the draw-head C and the link B, of the double U-shaped wire spring-frame A, which is passed through the link and into the draw-head, substantially as herein shown and described, and for the purpose set forth.

263,275. KITCHEN-TABLE. JOHN W. WOLCOTT, Clyde, Ohio. Filed Feb. 8, 1881. (No model.)



Claim.—1. In combination with the table having a suitable chamber and door leading thereto, the bottom of the chamber being provided with an upright pintle, the rack D, consisting of metal rings connected by cross-stays and adapted to rotate upon the said pintle, substantially as shown and described, and for the purpose set forth.

2. In combination with the table having a suitable chamber and door leading thereto, the bottom of the chamber having an upright pintle, the rack D, consisting of hub *d* and one large metal ring inclosing a number of smaller rings which are adapted for supporting pots and kettles, the said rack being made removable, substantially as shown and described, and for the purpose set forth.

263,276. ANTI-RATTLER FOR CARRIAGE-WINDOWS. FREDERICK W. WOOD, New York, N. Y. Filed Mar. 9, 1882. (No model.)



Claim.—1. Anti-rattling roller-balls of elastic material, as herein specified, in combination with a sliding window-sash provided with smooth unyielding ball-seats at its edges, within which said roller-balls are free to rotate in any direction while they are caused to protrude at all times as cushions, substantially as herein described, for the purpose set forth.

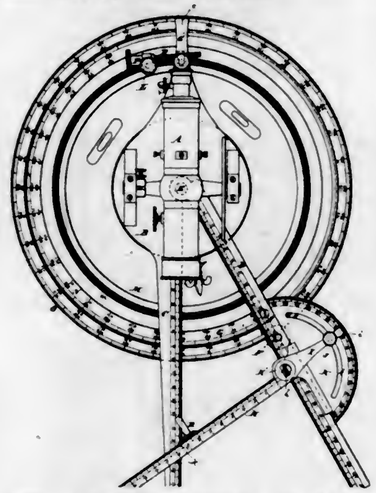
2. In a coach-window as herein specified, the combination, with the sash or sliding frame, of anti-rattling roller-balls of elastic material held in smooth unyielding seats in the lateral edges of said sash by means of housing-plates, having openings through which said roller-balls are caused to protrude at all times as cushions while they rotate freely in any direction, as herein described, for the purpose set forth.

3. Anti-rattling roller-balls of elastic material and angular housing-plates having openings at their angles, through which said roller-balls project, in combination with a sliding window-sash provided with ball-seats at its edge-corners, and guides for said sash having surfaces substantially at right angles to each other to coact with each of said balls, as herein described, for the purpose set forth.

263,277. METHOD OF PRODUCING FLEXIBLE SUPPORTS FOR PHOTOGRAPHIC RELIEFS. WALTER B. WOODBURY, London, County of Middlesex, England. Filed May 31, 1881. Renewed Apr. 5, 1882. (No specimens.) Patented in England July 22, 1878, No. 2,812; in France Jan. 20, 1879, No. 128,544, and in Belgium Jan. 27, 1879, No. 47,245.

Claim.—The method of preparing flexible supports of paper for photographic reliefs or intaglios, which consists in coating the paper sheet with a solution of gelatine dried and rendered insoluble by chrome alum, and then floated on its reverse side upon a solution of shellac dissolved in water by the aid of borax, substantially as described.

263,278. SURVEYING-INSTRUMENT. THEODORE T. WOODRUFF, Philadelphia, Pa., assignor to Eliza M. Woodruff, same place. Filed Aug. 29, 1881. (No model.)



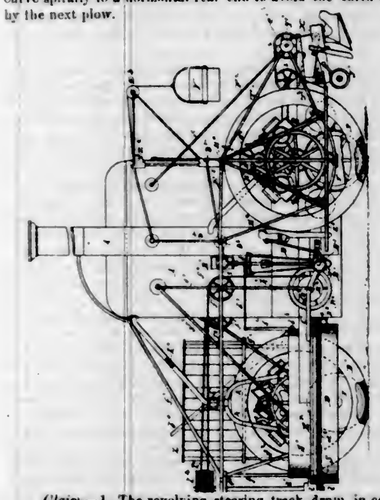
Claim.—1. In a surveying-instrument, a plate, M, having its periphery divided into degrees, forming a scale, O, in combination with a transit, A, having its base-plate B pivoted to said plate M at E, scale-arm C, secured to plate B, means to adjust the transit and the arm C upon the plate M and secure it in such position, a scale-arm, D, pivoted to the arm C at E and secured to a degree-scale, G, which is arranged in the face of plate M and concentric with degree-scale O and pivot E, said scale G being adapted to slide or rotate in its groove, a segment, K, provided with a degree-scale, said segment being adapted to slide upon scale-arm D, and scale-arm H, pivoted to said segment on a line with the scale-marks on scale-arm D, the whole being arranged to form a complete instrument upon which distances, courses, angles, elevations, and depressions can be read at sight upon the scale-arms, &c., substantially as and for the purpose specified.

2. In a surveying-instrument, two scale-arms hinged together at the pivotal point of a transit, one of which is rigidly secured to one degree-scale and the other adjustably secured to another degree-scale and rigidly secured to the transit, said degree-scales being made concentric, in combination with said degree-scales, means to secure said scale-arms in any position relative to one another, a third scale-arm adapted to slide upon one of said arms and provided with a degree-scale, and means to secure said arm in position upon its degree-scale, substantially as and for the purpose specified.

3. In a surveying-instrument, the combination of transit A with scale-arm C, with its clamping and adjusting device P L, scale-arm D, pivoted at E to arm C and provided with a clamp, F, scale-arm H, pivoted to segment K, adapted to slide upon arm D, and provided with clamp J, plate M, with groove *m* and degree-scale O, and ring degree-scale G, substantially as and for the purpose specified.

263,279. STEAM-PLOW. THEODORE T. WOODRUFF, Philadelphia, Pa., assignor to Eliza M. Woodruff, same place. Filed Jan. 23, 1882. (Model.)

Brief.—The front guiding-wheel operates in a rotating circular truck having vertical and side friction-rollers, the steering being done by chain-and-drum connection with two stationary engines near the boiler. The steering and main wheels are composed of track-drums having annular rails within and also a cogged rail, upon which the bearing truck-wheels of the frame travel. Within the steering and each of the other track-drums is located independent driving-engines, the steam-pipe from the boiler to the steering-truck engines having a universal joint, to permit turning. Gang of plows abreast and upon a jointed draft-bar. The landsides curve spirally to a horizontal rear end to avoid the earth turned by the next plow.



Claim.—1. The revolving steering track-drum, in combination with mechanism to rotate it, located within the same and secured to a horizontal circular frame, and a bearing for said circular frame, secured to or forming part of the main frame of the machine, substantially as set forth.

2. The revolving track-drum P, with rails P', in combination with the rack N', frame K, provided with supporting and guide wheels J H I, engines O O, working the same shaft and set at right angles to each other, gear N, meshing with rack N', and intermediate gears by which the rotation of the engine-shaft rotates said gear N, substantially as described.

3. The revolving track-drum P, with rails P', and rack N', in combination with the truck carrying flanged guide-wheels H J I, which run upon the rails, and gear-wheel N, which meshes with the rack, the said guide-wheels I I being upon the same axle with gear-wheel N, and the flanges on wheels H and J being on opposite sides to the flanges on wheels I I, substantially as described.

4. The revolving track-drum P, with rails P', rack N', and truck located within said drum P, in combination with engine, gears, and roof, substantially as described.

5. In a self-propelling carriage, a front or guiding truck arranged to turn upon a vertical axis, and provided with separate or independent propelling-power, said propelling-power being adapted to actuate said guiding-truck, causing it to rotate upon its horizontal axis and independent of its movement upon its vertical axis, substantially as and for the purpose specified.

6. In combination with guiding-truck D', the reversible steam-engines, with pinion B^2, spur-wheels B^3, coil-drums B^5, wire rope h^3, angle-sheaves f^5, drum h^4, and vertical shaft, with pinion and chain, as set forth.

7. The lifting steam-cylinder, in combination with the lifting-shaft, independent plows, and lifting-cords connecting each plow to the periphery of the shaft or a pulley secured thereon, substantially as set forth.

8. The draft-bar Y, made in sections, pivoted together and arranged in a line at right angles to the movement of the machine to which it is secured, in combination with the plows pivoted to said draft-bar, said plows being all arranged abreast and independent of each other, as set forth.

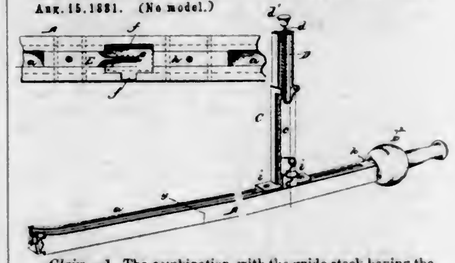
9. The jointed draft-bar to which the plows are independently hinged, in combination with the plows all arranged abreast, and a lifting-shaft provided with pulleys, to the periphery of which are secured the lifting-cords, there being a separate cord to each plow, and which cord passes over pulleys, as shown, to allow the plow to automatically adjust itself to the ground, as shown and set forth.

10. The steering or guiding track-drum, in combination with a steam-motor located within said drum, in combination with steam and exhaust pipes, and a universal or tubular joint in said steam-pipe, and arranged over the pivotal point of said track-drum to allow it to be turned horizontally without injury to the steam-pipes, as and for the purpose specified.

11. A plow provided with a curved or receding landside, vertical, or nearly vertical, in front and horizontal, or nearly horizontal, in the rear, to enable a gang of plows to be worked abreast, substantially as shown.

12. A plow provided with a curved or receding landside, *m*, which is vertical, or nearly vertical, in front, but is horizontal, or nearly horizontal, in the rear, in combination with a vertical longitudinal flange, *m'*, extending along the bottom edge of the said curved landside-plate, as shown.

263,280. MACHINE FOR ATTACHING WIRES TO HEDGE AND OTHER FENCES. WESLEY YOUNG, Columbus, Ohio. Filed Aug. 15, 1881. (No model.)



Claim.—1. The combination, with the guide-stock having the groove *a* and lateral guides *a' a'*, of the guide-tongue E, the tube C and its spring and rod, and the elongated stem or plunger having the flanges *b' b'*, the whole arranged and operating substantially as described.

2. The herein-described device for driving staples, having on the end of its stock A guides to hold the fence-wire in the proper position for the application of the staples, substantially as set forth.

263,281. ELECTRIC SIGNALING APPARATUS. AARON D. BLODGETT, GEORGE W. BLODGETT, and JACOB P. TIERELL, Boston, Mass., assignors to said A. D. Blodgett, G. W. Blodgett, and George O. Carpenter, same place, and James F. Emerson, Wakefield, Mass. Filed May 15, 1882. (No model.)



Claim.—1. In a signaling apparatus, the combination of a rotating vertical cylinder having two parts or divisions, each adapted to receive and permit any desired arrangement of pins, as described, two single devices, *h h'*, moved upwardly along the cylinder by suitable mechanism, so as to make contact with said pins successively, and allowed to fall once each day, a signal-bell, and intermediate devices whereby the signal is automatically operated for six successive days by the pins of one division of the cylinder and on the seventh day by the pins of the other division of the cylinder, as set forth.

2. In a signaling apparatus, the combination of a rotating cylinder having two parts or divisions, each adapted to receive and permit any desired arrangement of pins, as described, two single devices, *h h'*, supported by a bar or slide, which is raised and released at intervals, as described, a signal-bell located in an electric circuit, intermediate devices whereby the circuit is closed through said bell by the action of the pins in one division or the other of the cylinder, and an arbor having a ratchet which is rotated one step by each descent of said bar or slide, and circuit-changing devices, substantially as described, operated by the rotation of said arbor, whereby the pins in the different divisions of the cylinder are caused to alternate in their action on the circuit-closing devices, the pins of one division being made operative for six successive days and the pins of the other division on the seventh day, as set forth.

3. The combination of the base B, having the ratchet *f*, the cylinder D, having its lower bearing supported on said ratchet and engaged with said ratchet, so as to be removable therefrom, and the vertically-movable stud p^5, supporting the upper journal of the cylinder, as set forth.

4. The combination, with a telegraph-sounder and chronometrical device, of a ratchet, F, operated by a pawl on the arma-

ture of the sounder, and having as many teeth as there are operations of the sounder in a period of five minutes, an insulating-disk having metallic sections arranged as described, and springs bearing on said disk and connected, as described, with a circuit which includes the electro-magnet directly operating the chronometrical device.

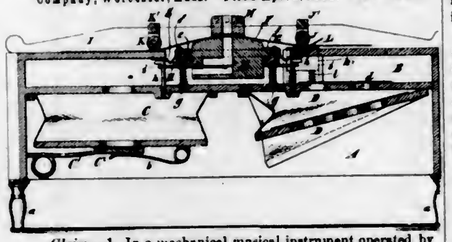
5. As a means for raising and releasing the single devices *h h'*, the combination of the rotated spirally-grooved arbor *r'*, the sleeve *t*, supporting said devices, and having the movable pin *e*, entering the spiral groove of the arbor, and automatic devices whereby said pin is withdrawn from the spiral groove, as set forth.

6. The combination of the mechanically-rotated disk *n*, having the pins *m m'* and projections U, and connected, as described, in an electric circuit, the stop *s*, adapted to arrest the pins *m m'* successively, the rock-shaft *e*, operating said stop, the pivoted lever *h*, engaged, as described, with the rock-shaft, and the rotating cylinder D, having pins adapted to operate the lever *h*, as set forth.

7. The combination, with the cylinder D, having two sections or divisions, each provided with pins, of the mechanically-impelled disks *n n'*, connected, as described, in the same electric circuit, and alternately arrested and released by the action of the pins, and automatic means for putting one of said disks into and the other out of the circuit at predetermined intervals, as set forth.

8. In a signaling apparatus, a rotary cylinder having two parts or divisions, each adapted to receive and permit any desired adjustment of pins, as described.

263,282. MECHANICAL MUSICAL INSTRUMENT. EDWIN H. BROWN, Brooklyn, N. Y., assignor to the Tonnaphone Music Company, Worcester, Mass. Filed Apr. 3, 1882. (No model.)



Claim.—1. In a mechanical musical instrument operated by bellows, the combination of a wind-chest into which air is caused to pass by the bellows, a reed-board extending into the wind-chest, a rest at the top of the reed-board for a traveling music-sheet, means for impelling the rest upward or outward, and means for holding the music-sheet downward or inward against the rest, substantially as specified.

2. In a mechanical musical instrument operated by bellows, the combination of a wind-chest into which air is caused to pass by the bellows, a reed-board extending into the wind-chest, a rest for a traveling music-sheet at the top of the reed-board, rigidly connected thereto, means for impelling the reed-board and rest upward or outward, and means for holding the music-sheet downward or inward against the rest, substantially as specified.

3. In a mechanical musical instrument operated by bellows, the combination of a wind-chest into which air is caused to pass by the bellows, a reed-board extending into the wind-chest, a rest for a traveling music sheet at the top of the reed-board, a spring or springs for impelling the reed-board and rest upward or outward, and means for holding the music-sheet downward or inward against the rest, substantially as specified.

4. In a mechanical musical instrument, the combination of a reed-board, a rest for a traveling music-sheet at the top of the reed-board, guides for the reed-board, a spring or springs for impelling the reed-board and rest upward or outward, and means for holding the music-sheet downward or inward against the rest, substantially as specified.

5. In a mechanical musical instrument, the combination of a reed-board, a rest for a traveling music-sheet at the top of the reed-board, guides and stops for the reed-board, a spring or springs for impelling the reed-board and rest upward or outward, and means for holding the music-sheet downward or inward against the rest, substantially as specified.

6. In a mechanical musical instrument, the combination of a wind-chest, a reed-board arranged in and communicating with the wind-chest, a flexible connection between the reed-board and wind-chest, a rest at the top of the reed-board for a traveling music-sheet, means for impelling the reed-board and rest upward or outward, and means for holding the music-sheet downward or inward against the rest, substantially as specified.

7. In a mechanical musical instrument, the combination of a wind-chest, a reed-board, a frame in which it is detachably arranged, a rest for a traveling music-sheet at the top of the reed-board, a flexible connection between the frame and the wind-chest, means acting on the frame for impelling the reed-board and rest upward or outward, and means for holding the traveling music-sheet downward or inward against the rest, substantially as specified.

8. In a mechanical musical instrument, the combination of a wind-chest, a reed-board, a frame in which the reed-board is detachably arranged, a rest for a traveling music-sheet at the top of the reed-board, a flexible connection between the wind-chest and the said frame, means acting on the frame for impelling the reed-board and rest upward or outward, stops for limiting the movement of the said frame, and means for holding the music-sheet downward or inward against the rest, substantially as specified.

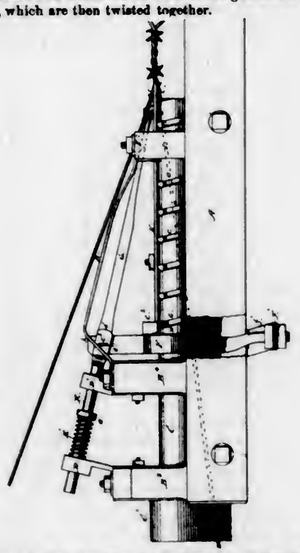
9. In a mechanical musical instrument operated by bellows, the combination of a wind-chest into which air is caused to pass by the bellows, a movable reed-board extending into the wind-chest, and having at the top a rest for a traveling music-sheet, means for impelling it upward or outward, and a bar or a roller or rollers for holding the music-sheet downward or inward against the rest, substantially as specified.

10. In a mechanical musical instrument operated by bellows, the combination of a wind-chest into which air is caused to pass by the bellows, a reed-board extending into the wind-chest, a rest for a traveling music-sheet at the top of the reed-board, means for impelling the rest upward or outward, means for holding the music-sheet downward or inward against the rest, and bellows for causing air to pass through the said reed-board in such direction that it will leave it at the top or outer side, substantially as specified.

11. In a mechanical musical instrument, the combination of a reed-board, a rest at the top of the reed-board for a traveling music-sheet, means for impelling the reed-board and rest upward or outward, a hollow bar hinged to a support at one end and adapted to bear on the music-sheet over the rest, suction-bellows arranged below the reed-board, and means establishing communication between the bellows and the said bar, substantially as specified.

263,283. MACHINE FOR APPLYING BARBS TO FENCE-WIRES. WILLIAM T. BURROWS, East Dubuque, Ill. Filed June 22, 1881. (No model.)

Brief.—The barb is placed in the groove at X, and as the feeding-tube rotates the barb is carried until it strikes the guide a little past the top of the tube. Then the barb is moved along the guide by the groove in the revolving tube until the barb lies between the guides at the end of the tube, when the spring-actuated arm is released and forces the barb out of the guides and between the wires, which are then twisted together.



Claim.—1. In a machine for barbing fence-wire, the combination, with any suitable driving mechanism, of a hollow barb-feeding tube provided with spiral grooves upon its exterior surface, and constructed, arranged, and operating substantially as described, and for the purpose set forth.

2. In a machine for barbing fence-wire, the combination, with a hollow barb-feeding tube and suitable mechanism for operating it, of an arm constructed and arranged to automatically insert and firmly hold the barb between the twisting strands at each revolution of the feeding-tube and retreat after delivering each barb, and means for operating such arm, substantially as described, and for the purpose set forth.

3. In a machine for barbing fence-wire, a main and an auxiliary barb-guide arranged respectively upon each side of the feeding-tube, as described, and adapted to guide the barbs along the top of said tube, substantially as set forth.

4. In a machine for barbing fence-wire, an auxiliary barb-guide adapted to be automatically and laterally adjusted at each revolution of the feeding-tube, substantially as and for the purposes set forth.

5. In the wire-barbing machine described, the combination, with arm G, of mechanism operating to automatically advance said arm along the top of the feeding-tube and withdraw it after the barb has been delivered between the twisting wires at each revolution of said tube, substantially as and for the purpose set forth.

6. In the wire-barbing machine described, the combination, with the auxiliary barb-guide, of mechanism operating to automatically and laterally adjust said guide at each revolution of the barb-feeding tube, substantially as described, and for the purposes set forth.

7. In the wire-barbing machine described, the combination, with the feeding-tube C, provided with spiral grooves *c*, of the main and auxiliary barb-guides K M, constructed and arranged substantially as set forth.

8. In the wire-barbing machine described, and in combination, the barb-feeding tube C, provided with spiral grooves *c*, and the main barb-guide K, constructed and arranged substantially as set forth.

9. In the wire-barbing machine described, and in combination, the barb-feeding tube C, provided with spiral grooves *c*, the stationary barb-guide K, movable barb-guide M, and mechanism, substantially as described, for operating said guide at each revolution of the feeding-tube, as and for the purposes specified.

10. In the wire-barbing machine described, and in combination, the barb-feeding tube C, provided with lug c^3, the barb-inserting arm G, constructed and arranged as described, and mechanism, substantially as described, adapted to operate said arm in the manner substantially as and for the purpose set forth.

11. In the wire-barbing machine described, the combination, with the barb-feeding tube C, provided with lug c^3, of the barb-inserting arm G, automatically operated at each revolution of said feeding-tube by means of the spring-bolt E, spring E', and crank-arm F, substantially as set forth.

12. In the wire-barbing machine described, the combination, with the feeding-tube C, provided with spiral grooves *c* and lug c^3, and the main and auxiliary barb-guides K M, constructed and arranged as described, of the barb-inserting arm G, spring-bolt E, spring E', and crank-arm F, constructed and arranged substantially as set forth.

13. In the wire-barbing machine described, the combination of the feeding-tube C and the barb-guides K M with the barb-inserting arm G, pressure-arm H, spring-bolt E, spring E', crank-arm F, and rocking shaft F', substantially as set forth.

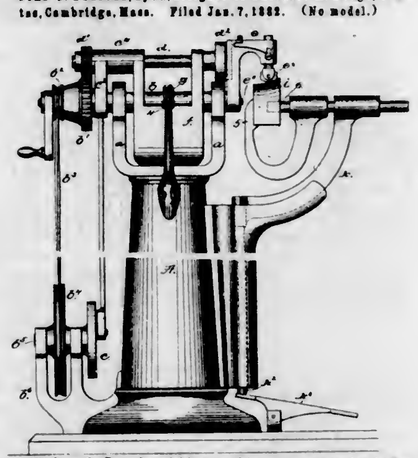
14. In the wire-barbing machine described, and in combination with the frame-work thereof, consisting of the side pieces, A A', and cross-pieces B B' B^3, the barb-feeding tube C, provided with recess c^3, and having bearings in recesses b b' b^3, with which said cross-pieces are provided, and the cross-pieces B^3 B^4, provided with recesses b^3 b^4, and adapted to be secured to said frame-work, substantially as and for the purposes set forth.

15. In the wire-barbing machine described, and in combination with the frame-work thereof, the cross-pieces B^3 B^4, provided with arms D D', constructed and arranged substantially as and for the purpose set forth.

16. In the wire-barbing machine described, and in combination with the frame-work thereof, provided with cross-pieces B^3 B^4, having arms D D', and the guide-supporting pieces I I, constructed and arranged as described, the barb-feeding tube C, barb-guides K M, barb-inserting arm G, pressure-arm H, spring-bolt E, spring E', crank-arm F, and rocking shaft F', substantially as set forth.

17. In the wire-barbing machine described, and in combination with the frame-work provided with hangers *f f'*, and the feeding-tube provided with lug c^3, the rocking shaft F', crank-arm F, cross-pieces B^3 B^4, provided with arms D D', spring-bolt E spring E', pressure-arm H, barb-inserting arm G, pieces I I, and barb-guides K M, the several parts constructed, arranged, and adapted to operate substantially as set forth.

263,284. BURNISHING-MACHINE FOR BOOTS AND SHOES. JOHN G. BURRELL, Lynn, assignor to Theodore A. Dodge, Trustee, Cambridge, Mass. Filed Jan. 7, 1882. (No model.)



Claim.—1. In a burnishing-machine, a rotary main shaft, a vibratory yoke, and a tool-carrying arm, combined with a rotary shaft, *d*, arranged in said vibratory yoke and moving with it to reciprocate said tool-carrying arm through a long arc, and provided with a crank-pin connecting with said tool-carrying arm to impart a series of independent or separate rapid vibrations or reciprocations to said tool-carrying arm during its travel over the longer path, substantially as described.

2. A pivotal tool-carrying arm, a main driving-shaft, *b*, a yoke, *f*, hung on said shaft and having an arm, 3, mechanism connected to said arm 3 to impart to said yoke a reciprocating or vibratory movement, and a shaft, *d*, having a crank-connection with said tool-carrying arm and borne by the yoke, from which it derives for the tool-carrying arm a reciprocating motion in a long arc, and also derives a secondary rotary movement from the said main driving-shaft to impart a series of short, quick vibrations or reciprocations to said arm during the travel of the latter over its longer path, substantially as described.

3. In a burnishing-machine, the lever A, loosely pivoted to the shaft *b*, to cause said shaft, with the tool-carrying arm, to move horizontally while said tool-carrying arm is being reciprocated, substantially as described.

4. The tool-carrying arm, the shaft on which it is supported, and the shaft *d* and its crank-pin and the bearings for the said shafts, combined with a lever connected with and so as to move the said shafts longitudinally, as described, during their rotation, to enable the burnishing-tool to operate upon the heel from end to end, substantially as set forth.

5. The combination, substantially as shown and described, of a main shaft, *b*, adapted to be rotated, a pivoted yoke, *f*, to which a reciprocating or vibratory movement is imparted, a shaft, *d*, borne by said yoke and deriving a rotary motion from the main shaft, and a pivoted tool-carrying arm connected to said shaft *d* and obtaining a twofold motion from it, substantially as specified, and for the purpose set forth.

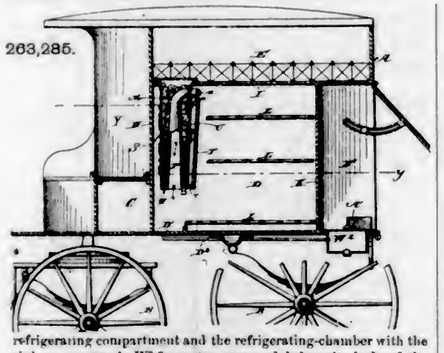
263,285. REFRIGERATOR-WAGON. ANDREW J. CHASE, Boston, Mass., assignor to Albert W. Brown, Trustee, same place. Filed July 14, 1881. (No model.)

Claim.—1. A refrigerating-vehicle provided with a main or refrigerating compartment for containing perishable articles, and one or more supplementary compartments for other articles, substantially as described.

2. In a refrigerating-vehicle, the compartment on the rear of the same, adapted to be used for cutting and trimming meat and for carrying the scales and other necessary implements, substantially as described.

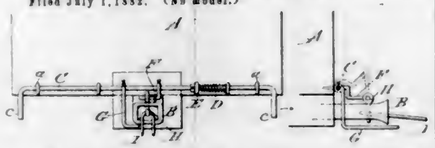
3. The combination, in a refrigerator-vehicle, of the main or

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refrigerating compartment and the refrigerating-chamber with the sink or receptacle W^3 for water, arranged below the body of the vehicle, substantially as described.

263,286. CAR-COUPLING. STEPHEN C. CORDER, Olmstead, assignor of one-half to J. Guthrie Coke, Logan County, Ky. Filed July 1, 1882. (No model.)



Claim.—1. In a car-coupling, the combination of the cranked rod C, the adjustable bent arm or lever F, and coupling-pin H, having square upper portion, with the recessed draw-head provided with a square hole for the reception of the coupling-pin, substantially as shown and described.

2. In a car-coupling, the combination of the cranked rod C, having spring D and collar E, adjustable cranked rod G, and draw-head B, having pin H and link I, substantially as shown and described.

3. In a car-coupling, the combination of the cranked rod C, having spring D and collar E, adjustable cranked lever F, having joint *f* and spring K, coupling-pin H, and recessed draw-head B, substantially as shown and described.

4. In a car-coupling, the combination of the cranked rod C, having spring D and collar E, adjustable cranked levers F G, and recessed draw-head B, having coupling-pin H and link I, substantially as shown and described.

263,287. MACHINE FOR WINDING BOBBINS FOR LOOM-SHUTTLES. JOHN H. CROWLEY, Philadelphia, Pa. Filed July 26, 1881. (No model.)

Claim.—1. The combination of the endless cord, band, or rope h^3, arranged to drive all the bobbin-spindles by contact from below, with the spindles, hooked overhanging bearings, and mechanism for supporting and controlling the band and for driving the band and spindles, substantially as and for the purpose described.

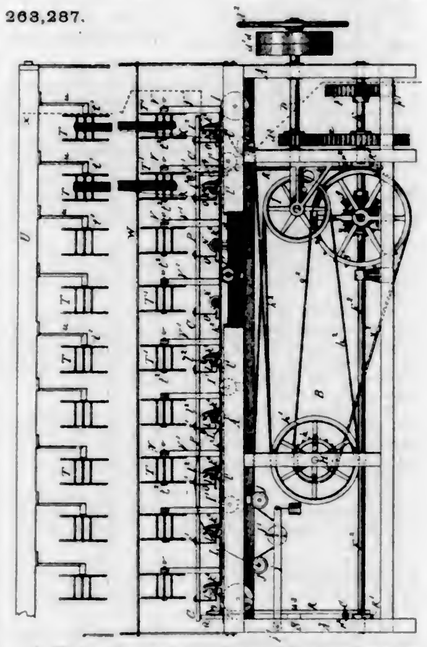
2. The plate L, provided with the hooked overhanging bearing *l*, in combination with the spindle and means for keeping it up in its bearing and for driving it, substantially as and for the purpose described.

3. The plate L, formed with the top rest, *l'*, for supporting the bobbin-spindle while idle, in combination with the said spindle and the stop-bar L', substantially as and for the purpose described.

4. The combination, with the spindles, of the endless band, cord, or rope h^3, arranged below the spindles, means for driving said band, means for keeping the band at a proper tension and in contact with the barrels of the spindles, and the plate L, provided with overhanging hooked bearings *l*, substantially as and for the purpose described.

5. The combination of the slides Q with the levers R, provided respectively with the slot *r*, pivot *q*, and bearing *r'*, the plates S, provided respectively with slot *s'*, adjustable fulera-pins *s*, feed-bar P, arranged above and in rear of the bobbin-holding cups and provided with arm O and eye *o*, cams R', springs r^2, shaft F^2, means for operating this shaft, cups N, bobbin-spindles, and means for operating these spindles, substantially as and for the purpose described.

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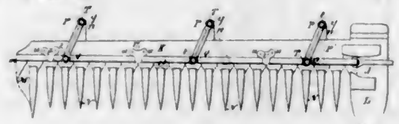
6. The combination of the endless cord h^3, adjustable guide-pulleys I', means for operating the endless cord, spindles, and cups N, or other similar support with the plate L, provided with overhanging hooked bearings *l*, substantially as and for the purpose described.

7. The combination of the endless cord or band h^3 with the stationary guide-pulleys J, weighted tension-pulleys J', spindles, plate L, provided with overhanging bearings *l*, and means for driving the endless cord or band, substantially as and for the purpose described.

8. The bar L', in combination with the endless cord or band h^3, spindles provided with barrels, bobbin-holding cups, plates L, provided with the bearings *l*, and means for driving the band or cord, substantially as described.

9. The plate L, provided with the stop *l'* and the bearing *l*, in combination with the stop-bar L' and the spindle, whereby the spindle is prevented from getting out of its bearing *l* and rolling down into the machine, substantially as set forth.

263,288. REAPING AND MOWING MACHINE. FREDERICK J. HAZARD, Belleville, Ontario, assignor of three-fourths to Stephen Edway Fuller, Colborne, Canada. Filed Feb. 23, 1882. (No model.)

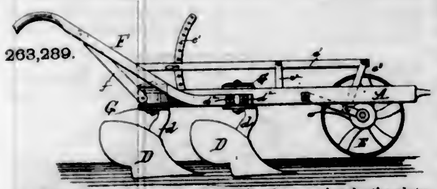


Claim.—The combination of the strap P, pins Q and *q*, rubber R, tube-bearings S, and elongated guards *n* with the finger-bar K and knife-bar O, producing the draw and push cut, as shown and specified.

263,289. PLOW. RICHARD K. HEALD, Holland; LUCINDA M. HEALD, Administratrix of said Richd. K. Heald, deceased, assignor of one-half to Salmon T. Green, Charlotte, Mich. Filed July 1, 1881. (No model.)

Claim.—In a plow, the brace for the beams and standard, consisting of an upper plate, *g*, adapted to be placed upon the top side of the beams, and a plate, *g'*, adapted to be placed beneath the beams, and provided with a vertical tongue, g^2, adapted to enter

263,289.



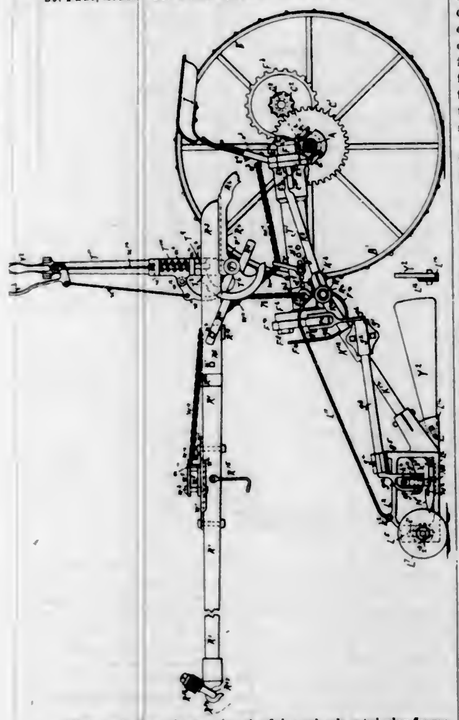
a suitable recess in the under side of the plate *g*, whereby the plates are more thoroughly secured in place, the whole being bound firmly together, the plates by the bolt g^2 and the beams by the bolts d^3, substantially as shown and described.

263,290. BOOK-HOLDER. GEORGE W. HESELER, Scranton, assignor of one-half to Thomas D. Sax, Wilkes-Barré, Pa. Filed July 6, 1882. (No model.)



Claim.—As a new article of manufacture, a leaf-holder for books, consisting of the wooden base A, the rigid head B, secured in a slot, *a*, in such base, and the continuous wire secured between the said parts A B, extending outside of the same and having the coils, and terminating in the spring-clips *f*, substantially as described.

263,291. MOWING-MACHINE. CHRISTOPHER W. LEVALLEY, St. Paul, Minn. Filed Jan. 7, 1882. (No model.)



Claim.—1. An axle carrying the drive-wheels, a tubular frame encircling said axle loosely midway between said drive-wheels, a hollow stem branching from the center of said tubular frame, and a skein or sleeve encircling said stem and carrying a cutter-bar frame, whereby said cutter-bar frame is free to oscillate upon said hollow stem to permit the sickle to follow the shape of the ground independently of the drive-wheels, in combination with a draft-chain centrally located between the drive-wheels, and means for connecting the motive power which propels the machine with the above-described oscillating skein, whereby a lifting force is exerted upon the cutter-bar frame at the same time that the machine is drawn forward, without interfering with its oscillatory motion, substantially as and for the purpose set forth.

2. An axle carrying the drive-wheels, a tubular frame encircling said axle loosely midway between said drive-wheels, a hollow stem branching from the center of said tubular frame, a skein or sleeve encircling said stem and carrying the cutter-bar frame, whereby said cutter-bar frame is free to oscillate upon said hollow stem to permit the sickle to follow the shape of the ground independently of the drive-wheels, and a tongue-frame attached loosely to said axle-frame, whereby the said axle-frame is free to oscillate independently of said tongue-frame while being drawn forward, in combination with a draft-chain attached to the axle-frame and adjustably coupled to the foregoing-described skein and oscillating frame, said draft-chain passing upward and forward and being attached to the evener or other means for connecting the horses or other power to propel the machine, whereby a lifting force is exerted upon the cutter-bar frame at the same time that the machine is drawn forward, without interfering with the oscillatory motion of the cutter-bar frame around the said stem or the motion of the axle-frame around said axle, substantially as and for the purpose set forth.

3. An axle carrying the drive-wheels, a tubular frame encircling said axle loosely midway between said drive-wheels, a hollow stem branching from the center of said tubular frame, a skein or sleeve encircling said stem and carrying the cutter-bar frame, whereby said cutter-bar frame is free to oscillate upon said hollow stem to permit the sickle to follow the shape of the ground independently of the drive-wheels, and means, substantially as described, for connecting said drive-wheels in their motion with and disconnecting the same from the sickle-operating mechanism, in combination with a centrally-applied draft-chain and means for connecting the motive power which propels the machine with the foregoing-described skein and oscillating frame, whereby a lifting force is exerted upon the cutter-bar frame at the same time that the machine is drawn forward without interfering with its oscillatory motion or the sickle-vibrating mechanism, substantially as and for the purposes set forth.

4. The rock-shaft g^3, crank-arm g^4, auxiliary brace g^{10}, friction-roller g^5, and stud g^{10}, in combination with the sickle N^2, plate N^3, prongs A^4 A^5, and bolt A^6, substantially as set forth.

5. A cutter-bar, a frame for supporting said cutter-bar and adapted to be oscillated upon a central pivot back of said cutter-bar, and means for elevating either or both ends of said cutter-bar, in combination with a centrally-seated spring, T^{12}, by which said elevating mechanism is adjustably controlled, whereby the forward movement and jarring of the machine is prevented from displacing the adjusting devices, as set forth.

6. The combination of the tubular frame E', stem E^4, sleeve J', having the cutter-bar frame attached thereto, and means for elevating said cutter-bar frame, and a draft-chain, W^{11}, centrally located midway between the driving-wheels, said draft-chain being immediately connected to the axle-frame E', substantially as and for the purpose specified.

7. The combination of the shaft T', cams T^9 T^8, with means for operating them independently, and a spring, T^{13}, substantially as set forth.

8. The tongue-frame having the base R^4, to which the bounds R^5 R^6 are secured, and legs R^2 R^3, branching downwardly and loosely connected to the axle-frame E', in combination with braces R^{10} R^{11}, connecting said bounds and tongue-frame with the lower rear portion of the legs R^2 R^3, whereby the bounds and tongue-frame are supported from both sides and are enabled to resist the stress of the draft-chain W^{11}, substantially as and for the purposes set forth.

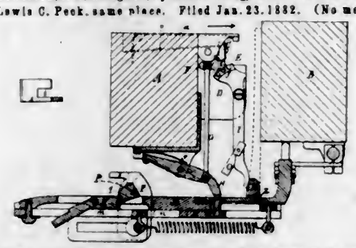
9. The tongue-frame consisting of the base R^4, to which the bounds R^5 R^6 and tongue R' are secured, and legs R^2 R^3, said legs branching downwardly and adapted to clasp half of the axle-frame E', and secured on the opposite side by removable caps R^7 R^8, whereby the tongue-frame is adapted to freely oscillate about the axle-frame and to be easily attached and detached therefrom, substantially as set forth.

10. The axle-frame having a central stem branching therefrom, a skein encircling said stem and carrying the cutter-bar frame, and a draft-chain connected to said skein, in combination with the bounds R^5 R^6, and a tongue-frame consisting of a base, R^4, and downwardly-branching legs R^2 R^3, with their lower ends attached loosely to said axle-frame to permit oscillation, said draft-

chain passing upward and forward centrally, whereby the draft of the machine is opposite the center of the cutter-bar and axle, substantially as set forth.

11. A centrally-located draft-chain, in combination with the skein J', which carries a cutter-bar frame, said skein having the adjustable bail X, for the purposes set forth.

263,292. STOP-MOTION FOR LOOMS. JOHN M. LINSCOTT, Lewiston, Me., assignor, by mesne assignments, to himself and Lewis C. Peck, same place. Filed Jan. 23, 1882. (No model.)



Claim.—1. The gravitating arm O and the lever I, in combination with the fork and intermediate connecting devices, and the stationary notched and flat projections *s* and the bracket L, substantially as described.

2. The fork C, provided with journals, and having an arm, F, the lay, and its bracket, in combination with the tripping-pawl H and its connecting-rod G, lever N, having the cam P, and the slider M and its bracket L, all constructed and arranged as and for the purpose set forth.

3. The fork C, pawl H, lever I, gravitating arm O, and their intermediate connecting devices, in combination with the stationary and notched projections *s*, catch-lever N, having cam P, and slider M and its bracket L, all combined and arranged as set forth.

263,293. HEEL-MACHINE. ELDRIDGE S. MANSELL, Lynn, Mass., assignor to George O. Tarbox, same place. Filed Apr. 18, 1882. (No model.)



Claim.—1. In a machine for cutting lifts and forming heel-blanks, and in combination, a die block and frame having inclined ways and supporting a vertically-moving plate, which carries the outer cutting-die, and a second frame carrying the inner cutting-die, and supported upon a third reversely-inclined frame attached to that first specified, whereby the cutting-dies are moved in reverse directions by the forward or backward movements of said frames.

2. In combination with the described inclined frames and ways and their cutting-dies, the hand-lever 10, adapted to move in a horizontal slot, and connected to the frame, substantially as described.

3. The combination, with the frames and cutting-dies, of the plunger-lever *l*, pivoted as shown, and provided with a rod and plunger at its rear end, and the lever 10, connected to the frame *d*, and adapted to work in the horizontal and vertical guide-slots, substantially as shown.

4. The supplemental lever *m*, having a vertical plunger and plate, and pins set in said plate and passing through the plunger, in combination with the lever *l*, and with the dies and operating mechanisms, whereby the blank is raised from the plunger, substantially as described.

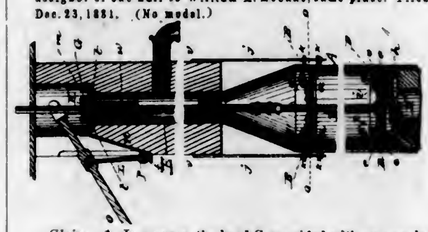
5. The plate *p*, supported upon legs set in the hollow guide-standards upon springs, whereby the said plate yields when the cutting-block is pressed down.

6. In a machine for cutting lifts, two independent cutting-dies, in combination with adjusting mechanism, substantially as described, for vertically adjusting each of such dies with relation to the other, so that one of them is raised and the other is lowered, and for holding one of them in raised or operative position.

7. The two independent cutting-dies, in combination with adjusting mechanism, substantially as described, for imparting a vertical adjustment to each of said dies, so that one of them is raised and the other lowered, and for holding them in raised or operative position, and with an ejector to act upon the lifts within the inner die.

8. The cutting-die and its ejector, combined with the auxiliary ejector, to detach the lower lift from the plunger-plate of the main ejector, substantially as described.

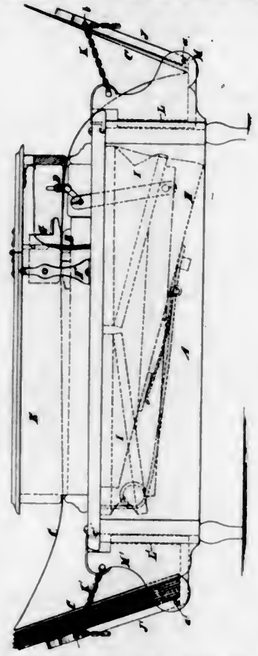
263,294. FORCE-PUMP. M. FRANK MCNELLY, Sterling, Ill., assignor of one-half to William A. McCune, same place. Filed Dec. 23, 1881. (No model.)



Claim.—1. In a pump, the head G, provided with an annular tube, *w*, rim *t*, leg *n*, ears *p p*, seat *f*, and handle L, substantially as and for the purposes set forth.

2. In a pump, the head G, provided with an annular tube, *w*, rim *t*, and leg *n*, as described, combined with the piston-rod E and handle O, substantially as and for the purposes set forth.

263,295. MECHANICAL MUSICAL INSTRUMENT. JAMES MORGAN, Brooklyn, N. Y., assignor to the Tournaphone Music Company, Worcester, Mass. Filed Mar. 22, 1882. (No model.)



Claim.—1. The combination, with a mechanical musical instrument having feed-rollers for moving along a music-sheet, of a pocket detachably connected with the instrument at one side of the rollers for the reception of the music-sheet after it has done its duty, substantially as specified.

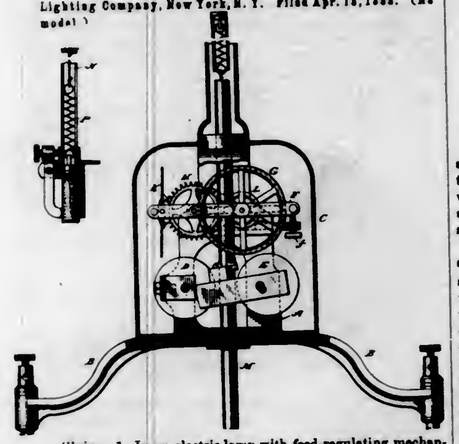
2. The combination, with a mechanical musical instrument having feed-rollers for moving along a music-sheet, of a pocket or pockets arranged at either or both sides of the feed-rollers for holding the music-sheet, and having an adjustable out-board or out-boards, substantially as specified.

3. The combination, with a mechanical musical instrument of a pocket comprising the adjustable out-board J, the chains K, for supporting said out-board, the board L, and end pieces, M, all substantially as specified.

4. The combination, with a mechanical musical instrument, of a pocket consisting of the boards J L, end pieces, M, and chains K, having an adjustable connection with the board J, substantially as specified.

5. The combination, with a mechanical musical instrument having feed-rollers for moving along a music-sheet, of a board arranged at one side of the feed-rollers, for folding or collapsing the music-sheet, and means whereby it may be adjusted at different angles, substantially as specified.

263,296. ELECTRIC-ARC LAMP. JOSEPH OLMSTED, Montreal, Quebec, Canada, assignor to the United States Electric Lighting Company, New York, N. Y. Filed Apr. 15, 1882. (No model.)



Claim.—1. In an electric lamp with feed-regulating mechanism containing a wheel or wheels, the combination, with a pulley-wheel constituting one of the train, of a carbon-holder and cord secured to opposite ends of the same and passing around the said pulley, substantially as and for the purpose set forth.

2. In an electric lamp of the kind described, the combination, with a grooved pulley-wheel forming one of the feed-regulating train, of a slotted carbon-holder and cord secured to opposite interior ends of the same and passing around the grooved pulley-wheel, substantially as set forth.

3. The combination, with a pulley-wheel constituting one of a train of regulating-gears, of a slotted carbon-holder, a cord secured to opposite interior ends of the same and passing around the pulley, and a spring or springs connected with the cord, substantially in the manner specified.

263,297. HARROW-TOOTH. HORACE G. STONE, Grand Forks, Dak. Filed Mar. 30, 1882. (No model.)

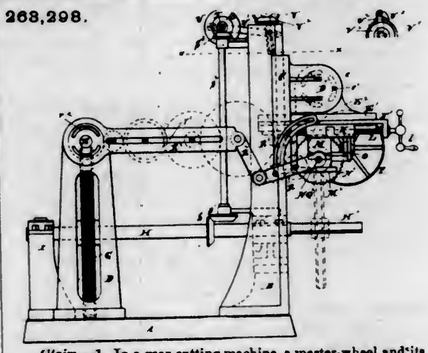


Claim.—1. A tooth for harrows and other similar implements composed, substantially as before set forth, of a straight shank, A^1, and a blade, A', the front and rear edges of which are bent to form oppositely-arranged series of curves or angles.

2. The combination, substantially as before set forth, of the beam, the spring, and the tooth, the latter provided at its front and rear edges with opposing sinuous curves, and having the straight shank pivoted to the beam and spring.

3. The combination, substantially as before set forth, of the beam having a slot, the circular spring secured at its ends to said beam, and slotted longitudinally at its center, and the tooth pivoted at its end in the slot of the beam, and having a bearing about midway of its length in the slot of the spring.

263,298. GEAR-CUTTING MACHINE. CHARLES E. ALBRO, Philadelphia, Pa. Filed Mar. 27, 1882. (No model.)



Claim.—1. In a gear-cutting machine, a master-wheel and its shaft supported in immovable bearings, in combination with a cutter-shaft supported in bearings carried by a frame arranged to slide vertically, and mechanism to rotate said master-wheel through the agency of the cutter-shaft, substantially as and for the purpose specified.

2. In a gear-cutting machine, a master-wheel and its shaft, supported in stationary bearings, in combination with a cutter-shaft supported in bearings carried by a frame arranged to slide vertically, mechanism to automatically feed said frame, a worm-wheel to rotate the master-wheel, and mechanism connecting the cutter-shaft with said worm-wheel or its shaft, said mechanism controlling the relative revolutions of the cutter-shaft and master-wheel shaft, and allowing vertical movement to said cutter-shaft, substantially as and for the purpose specified.

3. In a gear-cutting machine, a master-wheel and its shaft, supported in stationary bearings, in combination with a cutter-shaft supported in bearings carried by a frame arranged to slide vertically, mechanism to feed said frame vertically, means to adjust said cutter-shaft horizontally and angularly, substantially as and for the purpose specified.

4. In a gear-cutting machine, a master-wheel and its shaft, supported in stationary bearings, in combination with a cutter-shaft supported in bearings carried by a frame arranged to slide vertically, mechanism to feed said frame vertically, means to adjust said cutter-shaft horizontally and angularly, a worm-wheel to rotate said master-wheel, and mechanism connecting the cutter-shaft with said worm-wheel or its shaft, said mechanism controlling the relative revolutions of the cutter-shaft and master-wheel shaft, substantially as and for the purpose specified.

5. In a gear-cutting machine, the combination of the master-wheel G, shaft H, worm F, shaft E, toggle-joint R^2 R^3 R, gears R^1, cutter-shaft N, carried by a frame, E', slide C, and standards B, substantially as and for the purpose specified.

6. In a gear-cutting machine, the combination of master-wheel G, shaft H, worm F, shaft E, toggle-joint R^2 R^3 R, gears R^1, cutter-shaft N, slide K, screw-feed L, plate F', adjusting device *f*, plate F', having lugs E^3, bearings D', secured to slide C, universal joint Q, shaft Q', standards B, and means to feed said slide C, substantially as described.

263,299. CUTTER FOR CUTTING TEETH ON WORM-WHEELS. CHARLES E. ALBRO, Philadelphia, Pa. Filed Jan. 25, 1882. (No model.)



Claim.—1. A cutter for cutting the teeth on worm-wheels, which consists of a body having cutters spirally arranged thereon and converging to a point corresponding to the center of the worm-wheel the teeth of which it is made to cut, substantially as and for the purpose specified.

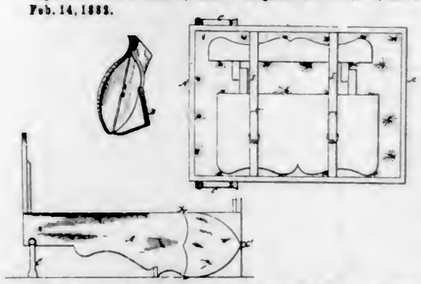
2. A cutter for cutting the teeth on worm-wheels, which consists of a body having cutters spirally arranged thereon, converging to a point corresponding to the center of the worm-wheels the teeth of which it is to cut, and having its outer cutting-surface curved to correspond with the periphery of the worm-wheel it is to cut, substantially as and for the purpose specified.

3. A cutter for cutting the teeth on worm-wheels, having segments spirally arranged thereon, in combination with adjustable and removable cutters fitted thereto, said cutters converging to a point corresponding with the center of the worm-wheel the teeth of which they are made to cut, substantially as and for the purpose specified.

4. A cutter for cutting worm-wheels, which consists of a body having cutters spirally arranged thereon, converging to a point corresponding to the center of the worm-wheel the teeth of which it is to cut, and having its outer cutting-surface curved to correspond with the curve of the root-circle of the teeth of the worm-wheel it is to cut, the distance between centers at the outer edge of said teeth being smaller than the distance between the roots of said teeth, the difference being in proportion to the difference in the diameters of the face and root circles of the teeth of the worm-wheel it is to cut, substantially as and for the purpose specified.

REISSUES.

10,184. WARDROBE-BEDSTEAD. HENRY C. BICKNELL, Chicago, Ill. Filed June 8, 1882. Original No. 253,575, dated Feb. 14, 1882.



Claim.—1. A wardrobe-bedstead having the lower front corners made rounding, substantially as and for the purpose described.

2. A wardrobe-bedstead having at its lower end a part which projects for the purpose of supporting the bed above the floor when in a horizontal position, and the lower front corners of which projecting part are rounded to enable the bedstead to be tilted easily, substantially as described.

3. A wardrobe-bedstead having its lower front corners made rounding and provided with hinged feet, substantially as described.

4. A wardrobe-bedstead having its lower front corners rounded away and provided with the hinged feet, in combination with the folding legs, which are pivoted to the sides of the upper end of the frame, the frame being made to support one end of the bed, while the pivoted legs support the other, substantially as set forth.

5. In a wardrobe-bedstead which rests solidly upon the floor at its lower end, removable head and foot boards and suitable straps for holding the parts in place while the bed is raised against the wall, substantially as specified.

6. A wardrobe-bedstead which rests solidly upon the floor at its lower end, and which has its lower front corners rounded away and provided with hinged feet, the back portion of the frame being left entirely open for the reception of the bed and made to close against the wall, substantially as described.

10,185. COPPER-LINED BOILER. WILLIS L. BROWNELL, Brooklyn, N. Y., assignor, by mesne assignments, to ANNA J. Brownell and Apollos Smith, both of same place. Filed Apr. 14, 1882. Original No. 230,742, dated Oct. 21 1879.

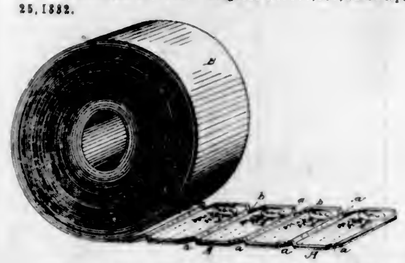


Claim.—1. In a boiler, the combination of a body consisting of a sheet of iron or steel, and a lining therefor consisting of an independent sheet of brass, copper, or analogous metal, both said sheets having their meeting edges united by the same rivets, forming a longitudinal seam, heads fitted to the body, and linings for the heads independent of the lining of the body, substantially as specified.

2. In a boiler, the combination of a body consisting of a sheet of iron or steel, and a lining therefor consisting of an independent sheet of copper, brass, or analogous metal of corresponding shape, heads fitted to the body, and linings for the heads independent of the lining of the body, said linings being fastened and secured in place by the rivets which fasten the edges of the sheet which forms the body and the rivets which secure the heads to the body, substantially as specified.

3. The copper-lined boiler having the cylindrical portion composed of an outer sheet of iron or steel lined with a sheet of copper, brass, or analogous metal, said copper, brass, or analogous metal being folded around the edge of the iron or steel and the lapped edges riveted, substantially as specified.

10,186. GARMENT TAG OR TICKET. JOHN KELLER, New York, N. Y. Filed June 21, 1882. Original No. 257,017, dated Apr. 25, 1882.

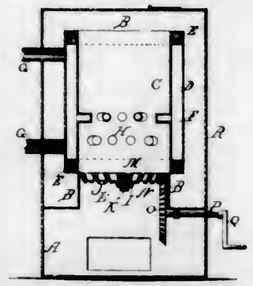


Claim.—1. As an improved article of manufacture, the ticket A, having the indentations or openings *a* along its edge, as and for the purpose specified.

2. A ticket-strip, B, provided with notches *b* in its edges at regular intervals and opposite each other, and printed with tickets in regular succession corresponding with the intervals between said notches, substantially as and for the purpose set forth.

3. As an improved article of manufacture, a series of tickets printed on a strip the width whereof corresponds with one of the plain dimensions of said ticket, provided with notches *b* in its edges at regular intervals, corresponding with the other plain dimension of said ticket, and marginal indentations *a*, as and for the purpose set forth.

10,187. WATER-HEATER. KENNETH MCDONALD, Portland, Me. Filed Apr. 25, 1882. Original No. 228,208, dated June 1, 1880.



Claim.—1. In combination, a cylinder with an inner and outer shell held in place at each end by metal rings secured thereto between said shells, forming a water-space between the same, and a fire-grate removably attached to the bottom of said cylinder, forming, with said cylinder, a fire-pot.

2. The pipes H H, cylinders C D, wrought-iron rings E E, and water-reservoir F, substantially as shown and for the purpose described.

3. The combination of the base A, rocking cross-bar I, having central eye, L, grate J, having vertically-perforated pivot K and cogs N, the pinion O, and the water-chamber F, constructed with the interiorly-projecting pipe H, substantially as and for the purpose set forth.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF UNITED STATES COURTS IN PATENT CASES.

DECISIONS OF THE U. S. COURTS.

U. S. Circuit Court—District of Connecticut.

MEYER *et al. v.* GOODYEAR'S INDIA RUBBER GLOVE MANUFACTURING COMPANY.

Decided December 5, 1881.

1. REISSUE No. 6,138—FORMER DECISION.

The decision in *Meyer* v. *Pritchard* upon the reissue then before the court to the effect that the alleged invention covered thereby of forming thickened ribs in rubber shoes or sandals by rolling was but a double use of the invention disclosed in the prior patent to Hyatt and Meyer—viz., forming the soles of rubber shoes of different thicknesses by rolling—*Held* to govern this case, the present reissue only differing from the former in being specifically limited to ribs around the mouth of the shoe.

2. REISSUE—NEW MATTER—LOST MODEL.

A reissue may include matter shown in the model which was not described or indicated in the original specification or drawing; and it seems that the character of a lost or destroyed model may be established by oral testimony.

Mr. S. D. Law and *Mr. Benjamin F. Thurston* for the plaintiffs.

Mr. Frederic H. Betts and *Mr. George Harding* for the defendant.

SHIPMAN, *J.*:

This is a bill in equity to restrain the alleged infringement of reissued letters patent granted to the plaintiffs on November 17, 1874, for an improvement in india-rubber shoes. The original patent was granted to Christopher Meyer and John Evans, as inventors, on February 21, 1871, and was reissued to the same persons on July 16, 1872. Infringement is not denied.

The invention was brought into existence by the fact that in 1869 and 1870 four-holed india-rubber ladies' shoes, or shoes having four slits upon the top of the upper and made to imitate a lady's sandal, with interstices in the upper, were in great demand, and could not be made rapidly enough at the factory of Mr. Meyer. The edges of these slits or holes were turned over by hand and were then cemented. The idea of the inventors was, instead of cutting the uppers from a plain sheet of rubber and then cementing the ribs upon a plain surface, to cut the uppers from a sheet which, having been formed when in a plastic state between an engraved roller and a plain roller, should be thickened up into cords or ribs at the desired places on its surface.

The claim in the patent was for—

One or more transverse ribs in rubber shoes or sandals, formed by thickening the substance itself in the lines or directions thereof while in the sheets by means of rolling-dies, as and for the purpose described.

Before the invention the edges of the mouth of the shoe were strengthened and made to present a finished appearance by being turned over by hand and cemented. Sometimes cords or strips of rubber were placed by hand upon the edge and were cemented. As a part of the invention, but not included in the original specification, claim, or drawings, the inventors ribbed the edge of the mouth of the shoe with a rib formed in the manner which has been described. The first reissue was obtained for the purpose of including this rib within the patent.

The claim was as follows:

As a new article of manufacture, india-rubber shoes with strengthening or other ribs homogeneous with the substance of the body, formed by thickening up the said substance in the forming of the sheet, substantially as specified.

The validity of the first reissue was then tested in this circuit in the case of *Meyer* v. *Pritchard*, which was tried before Judge Blatchford, (12 Blatchf. C. C. R., 101.) The court held that there was no patentable novelty in the invention in view of the patent granted to Silas C. Hyatt and Christopher Meyer, January 17, 1854.

The first and third claims of this patent were as follows:

1. Producing a shoe-sole or other analogous manufacture in india-rubber or gutta-percha in one piece, having variety of thickness in its different parts, by the use of rollers whose surfaces present the reverse of the forms to be produced at a single operation, substantially as herein described.

3. We also claim such soling or analogous manufacture in continuous sheets, at one operation, by rolling, as described.

The present reissue was thereupon granted, in which the claim is limited to the rib around the mouth of the shoe, and is in these words:

As a new article of manufacture, india-rubber shoes having a strengthening-rib around the top or mouth of the shoe, (whether with or without similar ribs on other parts of the shoe,) formed not by turning over the edge or lapping one piece upon another, but thickened up from and homogeneous with and forming a part or portion of the body of the upper, substantially as specified.

Divers defenses are set up in the answer. The two which are relied upon are the invalidity of the reissue, because it is for a different invention from that described in the original patent, and lack of patentable novelty in view of the Hyatt and Meyer patent of 1854.

It is substantially admitted by the plaintiffs that the invention of the second reissue was not suggested or indicated in the original patent or drawings, but it is claimed that the invention was shown in the model which was originally deposited in the Patent Office, and that this fact was conclusively found by the Com-

missioner of Patents when the first reissue was granted. These positions, both of fact and law, are strenuously denied by the defendant.

There are two models in the Patent Office purporting to be the models belonging to this patent. One merely shows the ornamented buckle or rosette represented in drawing No. 3, and does not contain the invention of the reissue. The other does not contain the invention in any particular, but is a shoe in which the cords upon the vamp and around the mouth were placed by hand between the lining and the rubber, in accordance with the system described in a rejected application of John Evans, one of the patentees. The Evans and the Meyer and Evans applications were filed on the same day. The theory of the plaintiffs is that the two shoes have been misplaced, and the Meyer and Evans shoe was by mistake placed with the models of the rejected applications, and was destroyed in the fire of 1877. The defendant claims to have proved that the models are the same that were originally deposited by the applicants.

Without recapitulating the testimony upon this question my conclusions are—

First. The rib around the mouth of the shoe was not indicated in the original drawings or in the original specification as a part of the invention, because neither the patentees nor their solicitor had at that time any idea of including this rib in the patent. In view of the file-wrapper and contents of the original patent it is not credible that Mr. Meyer, who was in 1871 a manufacturer well acquainted with the questions arising in patent litigation, should have directed his solicitor to include the cord around the mouth, or that his solicitor, who had been an assistant examiner in the Patent Office, should have supposed that he was including that part of the invention. The conversations of which they speak undoubtedly took place, but at a later period, and the witnesses are mistaken in the matter of dates.

Second. I find from the testimony of Olmstead and Craing that before the application for a patent a new engraved roll was made, upon which a light cord was engraved around the shoe-mouth. I further find that by means of this roll a few shoes were made as an experiment and not for sale. One of these shoes must have been taken to the solicitor.

Third. Either this shoe or one made upon this roll was sent to the Patent Office or no model was sent. The presumption is that a model was sent, and this presumption is strengthened by the fact of the first reissue. Notwithstanding the opinion of Mr. Parkinson, I think that this presumption, coupled with the positive evidence in its support, has not been overcome. If a model was sent, it must have been a shoe with a machine-made rib around its mouth, because a shoe showing the machine-made rib upon the upper must necessarily have had the machine-made rib upon the mouth.

Inasmuch as the part of the invention of the patentees which was not embraced in the original specification and is now included in the reissue was shown in the model the reissue is not invalid upon the ground that it contains "new matter."

The next position of the defendant is that the patent has no patentable novelty in view of the Hyatt and Meyer patent, and that this precise question was decided by Judge Blatchford in the Pritchard case and is therefore now the law of this circuit. The plaintiffs contend that the decision was upon a patent claiming india-rubber shoes with strengthening or other ribs homogeneous with the surface of the body, &c., while the claim of this reissue is limited to india-rubber shoes having a strengthening-rib around the mouth of the shoe, and is for a shoe having a rib formed in the old way, but in a location where, by reason of its location a new and improved article of manufacture is obtained. It therefore becomes important to ascertain the scope of Judge Blatchford's decision. He says, after quoting the specification of the first reissue:

> The invention set forth in this specification, as shown by the description and the claim, is to thicken up the plastic india-rubber in desired places in the sheet as the sheet is being formed between two rolls by means of grooves and ribs on one of the rolls, the other roll being plain, so as to leave the sheet thicker where the india-rubber has entered the grooves than it is in the other parts of it, and thus make a sheet which is a flat plane on one side and has raised ribs or projections on the other side. The application of this idea, developed in the specification, is to make the ribs or projections on that part of the sheet which is to be used to form the upper part of the shoe, that part which covers the top of the foot, and that part which surrounds the opening through which the foot enters the shoe. The advantage set forth is that the ribs or projections thus made are of one substance with the rest of the material and in homogeneous connection with it, and therefore better and more cheaply, uniformly, and perfectly made than when made by pasting on strips by hand to form the ribs or projections. The patented invention is really complete when the sheet is made by the means described, ready to be made up into a shoe and to be vulcanized. The process of making the sheet into the shoe and vulcanizing the shoe is no different from the process used to make a sheet into a shoe and vulcanizing the shoe when the ribs or projections are formed by pasting strips on the sheet by hand.

The head-note, which correctly states the result to which the court came, is in the following language:

> A sheet made according to the patent to Meyer and Evans is made strictly in accordance with the directions of the earlier patent without any addition. The sheet of the earlier patent was used to cut therefrom the sole of an india-rubber shoe, the sheet and the sole having a variety of thickness in different parts, and being formed in one piece, at a single operation, by the use of rollers, one of which had a surface of the form to be produced. The sheet of the latter patent is used to cut therefrom the upper part of an india-rubber shoe, such sheet and such upper part having a variety of thickness in different parts, and being formed in the manner above described. The two manufactures are analogous, the sole in the one case and the upper part in the other being cut and made from the sheet in the same manner, and the shoe with the upper part so thickened up is not a new article of manufacture, in view of the prior shoe with the sole so thickened up.

It is evident from the tenor of the opinion that the court did not dwell upon the fact that the claim was a general one for ribs wherever situated, whether for ornament or for utility, but examined the alleged invention as it was presented in the specification and in the product of the factory—*i. e.*, ribs upon the part of the upper which covers the top of the foot and the part which surrounds the mouth of the shoe, and possessing peculiar advantages, which made the shoe a better and stronger and cheaper article than when the ribs were cemented by hand. The court was of opinion that the new shoe was a double use of the old invention, and virtually decided the point in this case. The differences between the second and first reissues are modifications of statement, which emphasize the advantages of a rib around the mouth, but do not draw the invention out of the reach of the adverse criticism of Judge Blatchford. The claim limits the invention to one locality, but in that locality and with the benefits of the rib to the shoe at that point patentability was denied in the decision of the present circuit judge. Argument against the propriety of holding that the claim of the present reissue was not patentable by reason of the earlier patent is argument against the propriety of the decision which was made in the Pritchard case.

The bill is dismissed.

U. S. Circuit Court—District of New Jersey.

GREEN *v.* GARDNER *et al.*

Decided May 1, 1882.

INFRINGEMENT—DRIVEN WELLS.

A decree for injunction and account against several defendants who owned, rented, or occupied premises in which were placed driven wells which were used by them, and against a defendant who purchased and rented out, but never personally occupied, premises containing a driven well.

Mr. Joseph C. Clayton for the complainant.

Mr. Wm. B. Marson and *Mr. James Buchanan* for the defendants.

NIXON, *D. J.*:

The above-named complainant had twenty suits pending in this court against alleged independent infringers of the driven-well patent. While the testimony was being taken for the final hearing the solicitors of the respective parties entered into and filed in the court the following stipulation in all the cases:

> I. This cause shall be heard and determined upon the proofs—oral, documentary, and written—taken and to be taken in the similar cause of *Benjamin F. Green* v. *Phineas M. French*, now pending in this court. Said proofs shall be read and considered with the same effect as if proven in this cause.
>
> II. This cause shall be argued and submitted at the same time as the said case of *Green* v. *French*.
>
> III. The respondent may introduce proofs in the question of infringement, subject to rebuttal by complainant and reply of respondent.

After argument and a decree in favor of the complainant, a final decree, to the form of which the counsel of the defendants made no objection, was entered in twelve of the cases. The remaining eight were not in the same position, inasmuch as testimony had been taken, under the above stipulation, on the question of infringement, and the counsel of the defendants insisted that the complainant's *prima facie* case of infringement had been fully met and rebutted.

The parties have agreed that I should take up these cases and examine them in the light of the additional evidence, and pass a decree only in those cases where the court is satisfied that the testimony warrants it.

I find the proof to be in the several cases as follows:

1. That Charles E. Austin is not the owner of any real estate; that his wife has the title for two dwelling-houses in North Plainfield, one of which is now occupied by the defendant and his family. It has a driven well in the cellar, which has been used by him and his family since the occupancy of the house. The other dwelling-house is unoccupied. It has also a driven well in the cellar. The defendant, before he moved into his present residence, lived there, and used the well for the general purposes of his family.

2. That Charles E. Dunham lives in rented premises in North Plainfield in which there is a driven well, which is used by himself and family; that within a few years he has been the owner of two properties in Plainfield on which there were driven wells; that about five years ago he sold one to Captain Ryburg, and about three and a half years ago the other to Mrs. Phineas M. French.

3. That Alfred Berry, from 1872 to 1877, owned a place at the corner of Cregg and Somerset streets, on which there was a driven well, supposed to have been put down by A. Sebring in 1868 or 1869; that on the premises now occupied by him in North Plainfield there is a driven well which he moved from under the house to the outside, and is used by his family, principally for washing.

4. That John W. Schenck owned property, to about two years ago, in North Plainfield on which there was a driven well; that he has owned none since, but lives on premises belonging to his wife, on which there is a driven well, used by his family for all domestic purposes. It was put down by A. Sebring in 1872.

5. That James T. Pierson lives at Westfield, New Jersey, and rents a store-house, at the corner of Broad and Elm streets, on which there is a driven well; that he uses it to procure water for general purposes in connection with his store business.

6. That William E. Gardiner, in 1876, purchased a property in Plainfield on which there was a driven well; that he never personally occupied the premises, and sold them, some months before the date of this examination, to one John D. Bartine, executor, for the mortgage upon the land; that he rented out the property while he held it, and when the injunction in the suit was served upon him he removed the pump.

7. That Jordan O. Brown lives on premises in North Plainfield on which there is a driven well in the kitchen of the house; that the property is owned by his wife; that before he moved there he rented a house on the opposite side of the street and paid one half of the expenses of putting down a driven well, his landlord paying the other half. The work was done by John Rafferty, and the well was used by the defendant while he remained on the property.

8. That Russel Johnson owned no property in New Jersey; that his mother for many years had been the owner of a house in North Plainfield, in which she lived and in which was a driven well; that during one or two summer seasons he boarded with his mother, furnishing, in connection with his brother Andrew W. Johnson, the expenses of the table in consideration for their board.

In view of the foregoing facts I am of the opinion that there should be a decree for an injunction and account against all of the defendants, except the said Russel Johnson, and that in his case the bill should be dismissed, with costs.

U. S. Circuit Court—Southern District of New York.

GARDNER *et al. v.* HERZ *et al.*

Decided June 27, 1882.

1. REISSUE NO. 9,094—CHAIR-SEAT—PATENT EXAMINED AND HELD INVALID.

Reissue Letters Patent No. 9,094, for a chair-seat made of lamine of wood glued together, with the grains in one layer crossing those of the next, concave on the upper surface, convex on the lower surface, and perforated, examined and found to present no patentable novelty over the patent to Mayo, granted December 26, 1865.

2. SAME—SAME—INVENTION.

Merely giving the well-known concave or dishing shape by old process to a chair-seat formed of the materials covered by the Mayo patent is not invention. It is merely applying a process that is old to a material that is old to obtain an old form.

WALLACE, *J.*:

This action is brought to restrain the infringement of Reissue Letters Patent No. 9,094, dated February 24,

1880, granted to the assignee of George Gardner for an improvement in chair-seats. The reissue contains two claims, of which the second only need be stated, which is—

2. A chair-seat made of lamina of wood glued together, with the grains in one layer crossing those of the next, concave on the upper surface, convex on the lower surface, and perforated, as a new article of manufacture, substantially as set forth.

The original patent was granted to Gardner, May 21, 1872, and contained but a single claim, as follows:

As a new article of manufacture, a chair-seat constructed of veneers of wood, with the grain running crosswise of each other, and glued together, all substantially as set forth, and for the purpose specified.

This patent has been twice reissued, the first reissue bearing date July 4, 1876. The first reissue has been before this court upon a motion for a preliminary injunction founded upon it, and it was decided by Judge Blatchford upon that occasion that none of the claims of that reissue were valid except the sixth, which was not in controversy, and therefore was not considered. The second claim of that reissue was as follows:

2. As a new article of manufacture, a bottom for a seat-frame constructed of two or more veneers or thin layers of wood, with the grain of one layer crossing that of the other, said layers being secured together by an adhesive substance, and having perforations formed therein for the purpose of ventilation or ornamentation, substantially as set forth.

On that occasion Judge Blatchford held that the claim of the original patent was anticipated by a patent granted to John K. Mayo, one of the present defendants, December 26, 1865, and reissued to him and two others, August 18, 1868, in eight divisions. This patent was for an improvement in the manufacture of material, which consisted in cementing together a number of scales or veneers of wood, with the grain of the successive pieces running crosswise or diversely, so as to form a firm material, adapted for the construction of various articles, including chairs and settees.

In Division E of the reissue the specification states—

In the chair, Fig. 2, the bottom B may be formed of flexible material made up by the union of two or more thin layers of wood having the grain crossed or diversified in direction and united by suitable cement.

The specification also states that—

By adopting the well-known process of wet and dry heating in the course of manufacture the several scales of wood may be brought to such a state of pliability as to assume any desired form by compression in a matrix or upon formers.

Upon the occasion referred to Judge Blatchford likewise held that there was no patentable novelty in the second claim of the first reissue of Gardner's patent in view of the patents prior to Gardner's—one to Tice and one to Cochrane—for perforated chair-seats of metal or gutta-percha. It follows therefore that the only question not heretofore decided by this court and now open relating to the present reissue is whether the concavity of form, which is an element of the new claim in this reissue, will support the patent.

Chair-bottoms made of board and softened by steam and pressed to a concave shape in a mold, so that the form of the seat will conform to the shape of the person who may occupy it, are shown in the letters patent issued to Z. B. Bellows, bearing date March 15, 1859. So, also, the concave or dishing form of chair-seats had been adopted long before Gardner's patent in ordinary chair-seats.

In the specification of the present reissue the inventor states that he does not lay any claim to the veneers crossing each other and glued together, as these have been used for various purposes and have become public property, and that he does not claim the pressing of a chair-seat in the concave form by dies.

If there was no patentable novelty in using the perforations of the metal or gutta-percha chair-seats in the veneer seats by Gardner, neither can there seem to be any in employing a well-known form of chair-seat in his veneer seat. As it had been pointed out by Mayo that the material used is pliable and can be pressed into any desired form, and as the reissue disclaims the pressing of a chair-seat in a concave form, and as chair-seats had been so formed, it is difficult to see how there was any invention in Gardner's chair-seat. Gardner merely applied a process that was old to a material that was old to obtain an old form. Considered as a combination, it is hardly possible to believe that the perforations or the concavity performed any new functions in the Gardner seat. An ingenious theory has been presented to the effect that the perforations and concavity co-operate in Gardner's seat to prevent warping and curling of the material used. If this is true the same elements were combined in the Bailey chair-back and performed there the same functions they performed in the Gardner seat. It may be that the Gardner seat is mechanically a better seat than any which preceded it, but his improvement is not a patentable one.

It is strenuously insisted that the popularity and success achieved by the Gardner seat beyond those of his predecessors afford cogent evidence both of the utility and patentable novelty of his invention. The answer to this argument is that the success of his seat is probably due to a feature which is not suggested in the original patent—that is, its adaptability for use by unskilled workmen. His seats as now made can be fitted without mechanical skill to a bottomless chair, and are largely used to repair chairs in which the original seats have been worn out, and can be so used without any special skill. They are also largely sold to chair-manufacturers because they can be easily adapted to chairs of different sizes and seats of different forms; but the chair-seat described in Gardner's original patent and shown in the drawings did not practically possess this characteristic of adaptability, but was a frame seat which could only be fitted to a chair by a skilled laborer. Such a chair-seat would fail to meet the peculiar want which the present chair-seat supplies. Considered as a new article of manufacture, if the complainant's chair-seat has no frame and its novelty and utility consist in its adaptability to be sold separate from the frame and to be readily applied by any person to any chair, then the reissue is for a different invention than that disclosed in the original patent.

In conclusion, in view of the former decision of this court, the complainant can only succeed upon the theory that by imparting a concave form to his chair-seat he has imparted sufficient patentable novelty to his article to sustain a patent, and this when such a form of chair-seat was old, the material old, and the method of imparting the form to the material was old. This theory cannot stand.

The bill must be dismissed.

THE OFFICIAL GAZETTE OF THE United States Patent Office.

[BY AUTHORITY OF CONGRESS.]

VOL. 22—No. 9. TUESDAY, AUGUST 29, 1882. PRICE—$5 per year

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Subscriptions for 1882.

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Issue of August 29, 1882.

Patents	370	No. 263,300 to No. 263,669, inclusive.
Designs	12	No. 13,269 to No. 13,280, inclusive.
Trade-Marks	14	No. 9,625 to No. 9,638, inclusive.
Labels	2	No. 2,749 to No. 2,750, inclusive.
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States.	Patents and Designs.	Trade-Marks and Labels.	States.	Patents and Designs.	Trade-Marks and Labels.
Alabama	.....	.....	Nebraska	3	.....
Arizona Territory	.....	.....	Nevada	1	.....
Arkansas	3	1	New Hampshire	3	.....
California	14	.....	New Jersey	12	.....
Colorado	1	.....	New Mexico Territ'y	.....	.....
Connecticut	14	.....	New York	74	2
Dakota Territory	.....	.....	North Carolina	3	1
Delaware	1	2	Ohio	21	3
District of Columbia	1	.....	Oregon	1	.....
Florida	.....	.....	Pennsylvania	32	3
Georgia	6	.....	Rhode Island	7	.....
Idaho Territory	1	.....	South Carolina	.....	.....
Illinois	31	3	Tennessee	2	.....
Indiana	19	.....	Texas	5	.....
Indian Territory	.....	.....	Utah Territory	.....	.....
Iowa	8	.....	Vermont	2	.....
Kansas	8	.....	Virginia	5	.....
Kentucky	.....	1	Washington Territ'y	1	.....
Louisiana	.....	.....	West Virginia	11	.....
Maine	2	.....	Wisconsin	.....	.....
Maryland	7	.....	Wyoming Territory	.....	.....
Massachusetts	42	.....	United States Army	.....	.....
Michigan	6	.....	United States Navy	.....	.....
Minnesota	5	.....	Total to citizens of the United States	361	16
Mississippi	.....	.....			
Missouri	9	.....			
Montana Territory	.....	.....			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries	Patents and Designs.	Trade-Marks and Labels.	Countries.	Patents and Designs.	Trade-Marks and Labels.
Argentine Republic	.....	.....	England	12	.....
Australia	.....	.....	France	1	.....
Austria	.....	.....	Germany	2	.....
Barbadoes	.....	.....	Italy	.....	.....
Belgium	.....	.....	New Zealand	.....	.....
Bermuda	.....	.....	Russia	.....	.....
Brazil	.....	.....	Spain	.....	.....
Canada	4	.....	Sweden	.....	.....
Chili	.....	.....	Switzerland	1	.....
Colombia, U. S. of	.....	.....			
Cuba	.....	.....	Total to citizens of foreign countries	21	.....
Denmark	1	.....			
Ecuador	.....	.....			

DESIGNS.

13,269 to 13,271, inclusive.—TURCOMAN.—*Frazer Christie*, Philadelphia, Pa., assignor to *William Stewart's Sons*, same place. Applications filed July 21, 1882. Term of patents 3½ years.

13,272.—STOVE.—*Werter C. Higgins*, Norwich, Conn. Application filed July 12, 1882. Term of patent 14 years.

13,273.—EMBROIDERY.—*Siegmund Landsberg*, New York, N. Y. Application filed July 20, 1882. Term of patent 7 years.

13,274.—WALL-PAPER.—*Eduard Leissner*, New York, N. Y. Application filed June 30, 1882. Term of patent 3½ years.

13,275.—FRINGE.—*Laurence J. McDonald*, Philadelphia, Pa., assignor to *John C. Graham*, same place. Application filed June 10, 1882. Term of patent 14 years.

13,276 to 13,278, inclusive.—PRINTING-TYPE.—*John K. Rogers*, Brookline, Mass. Applications filed July 13, 1882. Term of patents 7 years.

13,279.—FONT OF PRINTING-TYPE.—*Henry H. Thorp*, Cleveland, Ohio. Application filed July 27, 1882. Term of patent 14 years.

13,280.—STOVE.—*Jafew S. Van Buren*, Albany, N. Y. Application filed July 20, 1882. Term of patent 7 years.

TRADE-MARKS.

[Certificates of registration of Trade-Marks numbered 8,191 and upward are registered under the act of March 3, 1881.]

9,625.—ARTICLES OF STATIONERY.—*Charles J. Cohen*, Philadelphia, Pa. Application filed July 27, 1882.

"The symbol-word 'ZENITH.'"

9,626.—ARTICLES OF STATIONERY.—*Charles J. Cohen*, Philadelphia, Pa. Application filed July 27, 1882.

"The representation of an open envelope inclosing a terrestrial globe."

9,627.—SMOKING-TOBACCO.—*P. A. Long*, Graham, N. C. Application filed June 29, 1882.
"The full figure or representation of a ram or sheep."

9,628.—CIGARS, CIGARETTES, AND SMOKING AND CHEWING TOBACCO. *John W. Love*, New York, N. Y. Application filed July 27, 1882.
"The arbitrarily-selected word 'BLOTTER.'"

9,629.—VEHICLE-SPRINGS.—*John M. Miller*, Cincinnati, Ohio. Application filed July 31, 1882.
"The word 'VICTORIA.'"

9,630.—CANNED GOODS.—*Biggs, Clayton & Co.*, Middletown, Del. Application filed July 31, 1882.
"The word-symbol 'DELAWARE'S CHIEF BRAND' and the representation of the Indian chief."

9,631.—WHISKY.—*Jos. S. Finch & Co.*, Pittsburg, Pa. Application filed August 3, 1882.
"The arbitrarily-selected word-symbol 'GOLDEN WEDDING.'"

9,632.—SIRUPS.—*Joseph Firmenich*, Buffalo, N. Y. Application filed July 17, 1882.
"The arbitrarily-selected word and figure 'No. 3.'"

9,633.—CERTAIN MEDICINES.—*Wm. K. Gann*, Monticello, Ky. Application filed August 4, 1882.
"The interlaced triangles and circle."

9,634.—CHEWING-TOBACCO.—*Charles R. Messinger*, Toledo, Ohio. Application filed August 2, 1882.
"The word-symbol 'SUN-FLOWER.'"

9,635.—CANNED GOODS.—*Columbus Watkins*, Odessa, Del. Application filed August 1, 1882.
"The word 'OWL' and the representation of an owl, whether used alone or in conjunction with each other."

9,636.—CERTAIN MEDICINAL PREPARATIONS.—*C. Wakefield & Co.*, Bloomington, Ill. Application filed August 5, 1882.
"The word 'WAKEFIELD'S' and a portrait of Doctor C. Wakefield, whether such word is placed above or below or on either side of the portrait."

9,637.—COFFEE.—*A. W. Frank*, Cincinnati, Ohio. Application filed August 29, 1881.
"The emblem of the crescent and star."

9,638.—SUPPOSITORIES FOR FEMALES.—*Charles F. Keeler*, Chicago, Ill. Application filed July 24, 1882.
"The monogram 'J M S,' the fanciful name 'JEAN MARLOUX,' and the fac-simile signature 'JEAN MARLOUX.'"

LABELS.

2,749.—Title: "HALL'S HEALING AND COOLING OINTMENT."—*John R. Hall*, Monticello, Ark. Application filed July 6, 1882.

2,750.—Title: "WAKEFIELD'S BLACKBERRY BALSAM."—*C. Wakefield & Co.*, Bloomington, Ill. Application filed July 13, 1882.

PATENTS

GRANTED AUG 29, 1882.

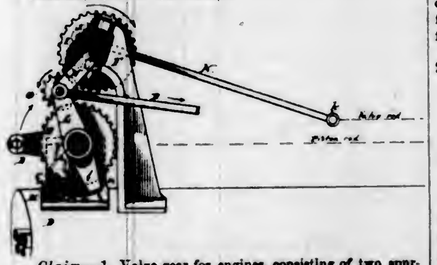
263,300. SPINDLE. GEORGE H. ALLEN, Ayer, Mass. Filed May 1, 1882. (No model.)

Brief.—The shell-spindle is mounted upon an independent step loosely secured at the top of the standard or dead-spindle, whereby said spindle and step are free to move to a limited extent in every direction.



Claim.—The standard *a* and the base, into which it is fitted rigidly, and the loose step supported, substantially as described, at the top of the said standard, combined with a shell-spindle, substantially as set forth.

263,301. VALVE-GEAR. CORNELIUS AULTMAN, Canton, Ohio. Filed May 1, 1882. (No model.)



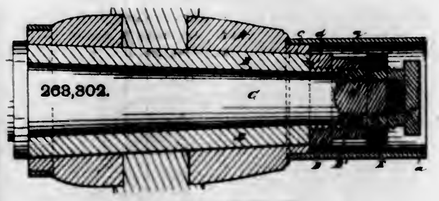
Claim.—1. Valve-gear for engines, consisting of two spur-wheels of equal diameter, one of which is secured rigidly to the driving-shaft of the engine and the other adapted to move to and from the former, and provided with a crank-pin for the valve-rod, in combination with an intermediate gear arranged to be moved about said spur-wheels, and at all times meshing with them, to change the position of the valve-rod crank-pin with respect to the engine-crank.

2. In valve-gear for engines, the combination of shaft A, carrying spur-wheel E, frame or support F, provided with guiding mechanism, spur-wheel I, having valve-rod crank-pin J, and being of the same diameter as spur-wheel E, intermediate gear, O, toggle-joint N L, and bar F, substantially as described.

3. In valve-gear for engines, the combination of shaft A, carrying spur-wheel E, frame or support F, provided with guiding mechanism, spur-wheel I, having valve-rod crank-pin J, and of same diameter as spur-wheel E, intermediate gear, O, toggle-joint N L, bar F, and means to control the extent of movement of said toggle-joint, substantially as set forth.

263,302. EXTENSIBLE NUT FOR VEHICLES. I. LLOYD BENSON, Waterford, Pa. Filed Jan. 20, 1882. (No model.)

Claim.—An extensible nut consisting of the body F, with wrench-head and external and internal screw-threads, in combination with the movable part D D′ and jam-nut E, substantially as and for the purposes set forth.



263,303. WARP-SHED DIVIDER. JOSEPH BERRY, Fall River, Mass. Filed Mar. 13, 1882. (No model.)



Claim.—As an improved article of manufacture, a warp-shed divider consisting of the metallic tubular body A and the wooden toe B and heel C, arranged and constructed substantially as set forth.

263,304. MANUFACTURING INCANDESCENT ELECTRIC LAMPS. LEWIS F. BEATS, Morton, Pa. Filed Jan. 28, 1882. (No model.)



Claim.—1. The herein-described method of manufacturing incandescent electric lamps—that is to say, uniting a number of incandescing filaments of carbon and metallic connections together, alternately, passing them into a series of bulbs or globes corresponding to the number of incandescing filaments of carbon, and then exhausting and sealing the lamps, substantially as shown and described.

2. In the manufacture of incandescent electric lamps, the herein-described process of forming a series of vacuum chambers or bulbs from a single tube of glass, placing incandescing filaments of carbon with their metallic connections therein, exhausting the entire series of lamps, substantially as set forth, and then sealing the glass around the connections at the extremities of each bulb and disconnecting the completed lamps, substantially as shown and described.

263,305. WEATHER-STRIP. WILLIAM H. BLAIR, Janesville, Wis. Filed Mar. 14, 1882. (No model.)

Brief.—The strip consists of a rubber strip clamped between two metallic plates, its edges projecting beyond the plates in front and in rear. The strip is hinged by staples in a groove in the lower edge of the door, its swinging edge being connected to a spring-actuated bolt mounted on a bracket in a vertical recess in the lower part of the door.

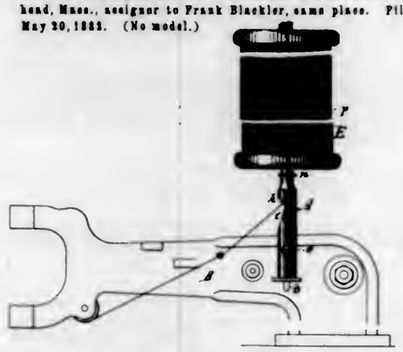
Claim.—1. The combination, with a door provided with a vertical recess and a horizontal groove in its lower edge, of a weather-strip consisting of a rubber strip and metallic strips partially inclosing the rubber strip and riveted together, staples for securing the strip to the door, and a spring-bolt arranged in the



vertical recess of the door and connected to the strip, substantially as set forth.

2. The combination, with the sill and door, the latter being formed with a vertical recess and a horizontal groove in its lower edge, of a weather-strip secured to the door by staples, and having flexible edges adapted to bear respectively on the lower end of the door and upper face of the sill, and a rigid center extending throughout the length of the strip, a spring-bolt supported in a bracket within the vertical recess of the door and connected to the strip, and a lug or stop for automatically lowering the strip when the door is closed, substantially as set forth.

263,306. SEWING-MACHINE ATTACHMENT FOR UNWINDING THREAD FROM SPOOLS. JONATHAN T. BROWN, Marblehead, Mass., assignor to Frank Blackler, same place. Filed May 20, 1881. (No model.)



Claim.—1. For unwinding thread from a fixed spool or bobbin, the combination of a fixed threaded spindle, A, holding the spool, and an unwinder, E, pivoted about the axis of and turning around the spool, substantially as and for the purpose herein specified.

2. The combination of the spindle A, spool or bobbin C, and unwinder E, arranged with the thread passing through each, substantially as and for the purpose herein specified.

3. A thread-unwinding device composed of the tubular spindle A and unwinder E, constructed and operating substantially as and for the purpose herein specified.

263,307. PROCESS OF AND APPARATUS FOR GENERATING HIGH-PRESSURE GAS. WILLIAM FRANK BROWER, New York, N.Y. Filed Oct. 31, 1881. (No model.)

Claim.—1. The process of generating gas which consists in forcing powdered carbonaceous material and water together into and through heated conduits.

2. The process of generating gas which consists in forcing together powdered fuel, carbonaceous material, liquid hydrocarbon, and water into and through heated conduits.

3. The process of generating gas which consists in forcing steam or gaseous vapor under pressure through a hydrocarbon liquid, then mixing the carbureted steam or vapor with the products of combustion from a furnace, and then forcing the resulting mixture into and through generating and fixing conduits.

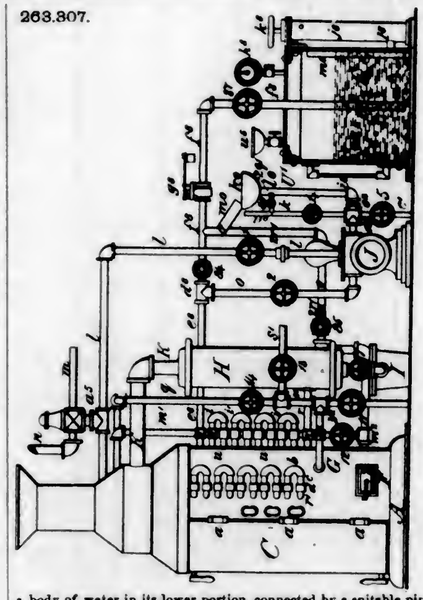
4. In combination with the generating apparatus, a connected pump, a water-pipe, a pipe for carbonaceous material, and an oil-supply pipe.

5. The oil-supply pipe and the pipe for supplying powdered carbonaceous material, connected with each other, in combination with the pump, the generating-coils, and suitable connections, for the purpose described.

6. The carburetor and a steam-pipe opening therein, a pipe connected with the stack for conveying products of combustion, and connected with the carburetor by an injecting device, in combination with the fixing-coils of the generator.

7. A fixed submerged high-pressure-gas holder provided with

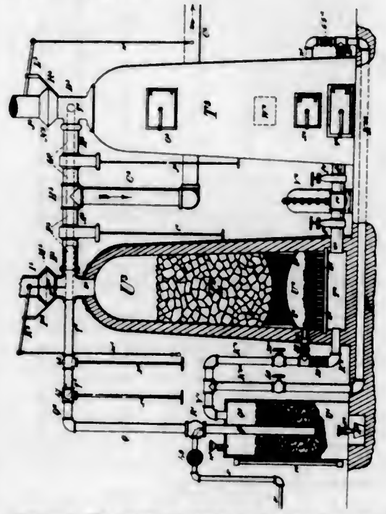
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a body of water in its lower portion, connected by a suitable pipe with an equalizing-body of water above it, for keeping the gas under pressure and forcing it into the mains, and said holder having induction and eduction gas-pipes, for the purpose described.

8. A fixed submerged high-pressure holder connected with a suitable water-supply above it, in combination with a high-pressure-gas generator and an equalizing and regulating valve.

263,308. PROCESS OF AND APPARATUS FOR MANUFACTURING HEATING, ILLUMINATING, AND MOTIVE-POWER GAS. WILLIAM FRANK BROWER, New York, N.Y. Filed Dec. 19, 1881. (No model.)



Claim.—1. The process of generating gas, which consists in first producing a gaseous vapor by forcing oil and water under pressure into and through a generator, then forcing the resulting mixed vapors, together with products of combustion, through a liquid hydrocarbon for taking up the vapors thereof, and then decomposing and fixing the mixed vapors by forcing them into contact with heated material in closed chambers.

2. The process of producing gas, consisting of first carbureting the products of combustion by injecting them, by means of a jet of gaseous vapor, into a carburetor, then forcing the resulting mixed vapors into contact with carbonaceous material in hot retorts, and then combining and decomposing the mixture with the gases of the carbonaceous material, whereby a fixed gas is produced.

3. In an apparatus or plant for manufacturing gas, the combination of a high-pressure gas or gaseous-vapor generator, a carbureting-tank, gasogenes, scrubbers, purifiers, gas-holders, with the pump, and suitable connections, all adapted to operate in a continuous manner, as described.

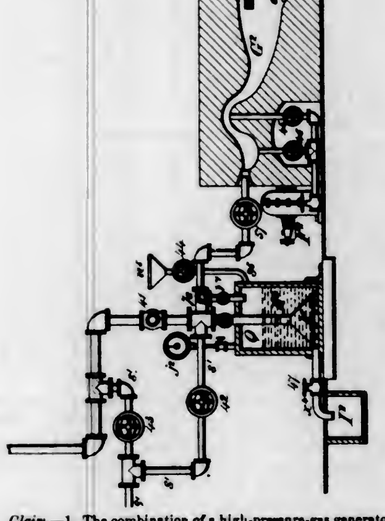
4. In a gas apparatus, the two connecting reciprocating gasogenes or generators, in combination with a blower and a carburetor, and valved pipes connecting the tops of the generators to the carburetor, and valved pipes connecting the carburetor with each generator at the bottom, whereby the products from one generator may be carbureted and the carbureted products at the same time converted into a fixed gas in the other alternately.

5. In a gas apparatus, a gasogene provided with eduction-pipes at its top and two independent grates at its bottom, in combination with a carburetor and connecting-pipes and valves, as described.

6. In a gas apparatus, a gasogene or generator having an eduction-pipe and two independent grates, in combination with a carburetor provided with a supply-pipe for steam or gas, and eduction-pipe connecting with the said gasogene, as described.

7. In a gas apparatus, the two reciprocating gasogenes, in combination with the connecting-pipe at the top, provided with two valves or gates, an eduction-pipe, C^3, connecting between said valves, and a blower connecting with each of the generators by pipes provided with controlling-valves and suitable supply-pipes for carbureted vapor, whereby the heat may be raised in one while gas is generated in the other alternately, as described.

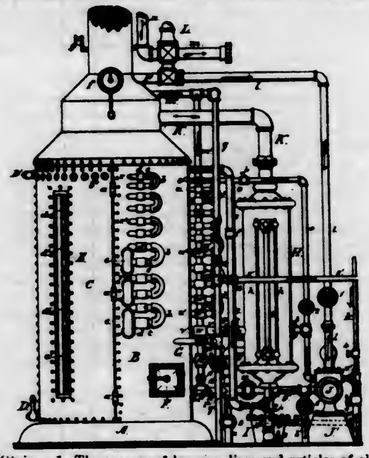
263,309. APPARATUS FOR SUPPLYING GASEOUS FUEL TO METALLURGICAL FURNACES. WILLIAM FRANK BROWER, New York, N.Y. Filed Dec. 19, 1881. (No model.)



Claim.—1. The combination of a high-pressure-gas generator, a separate carbureting-tank, a connecting-pipe opening in the carburetor below the surface of the carbureting-liquid, an eduction-pipe, and a metallurgical furnace, connected as described, and for the purpose set forth.

2. A gas-generator, a pipe, Q, connecting with the stack for conveying the products of combustion, and a pipe, r^1, for conveying gas under pressure, and a carburetor, connected as described, in combination with a metallurgic furnace, as set forth.

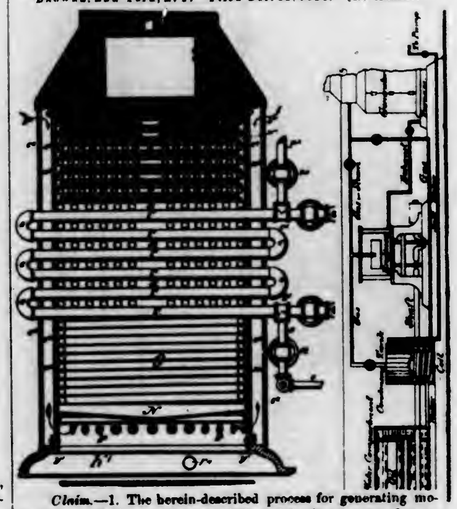
263,310. PROCESS OF AND MEANS FOR MANUFACTURING A HEATING-FUEL FOR BURNING LIME, &c. WILLIAM FRANK BROWER, New York, N.Y. Filed Dec. 22, 1881. (No model.)



Claim.—1. The process of burning lime and articles of clay, &c., and utilizing the waste gases thereof, which consists in exhausting the products of combustion from the kiln and forcing them by a jet of gaseous vapor under pressure into a carbureting-chamber, and then enriching the mixture with oil-vapor, and then forcing the carbureted mixture under pressure into a kiln, and there igniting it for burning the lime, whereby the hot products of combustion and gases are circulated through the latter and it is more uniformly burned.

2. A high-pressure-gas generator and a kiln, in combination with an exhauster-pipe, Q, and a carburetor and suitable connecting-pipes, as shown and described.

263,311. MOTIVE-POWER GENERATOR. WILLIAM FRANK BROWER, New York, N.Y. Filed Dec. 22, 1881. (No model.)



Claim.—1. The herein-described process for generating motive power for locomotives, consisting of forcing water and combustible liquid under pressure into a high-pressure gas or gaseous-vapor generator, thence discharging said gas or gaseous vapor into

the cylinders of a locomotive, while the exhaust-gas thereform is discharged into the furnace of the generator and burned to supply the heat to generate the said gas or gaseous vapor for the motive power.

2. In a locomotive-tender, the herein-described apparatus for transporting liquids from which motive power and fuel are generated for driving a locomotive-tender and train of cars, consisting of a water-tank provided with suitable sectional reservoirs fixed at suitable distances apart and connected by suitable connections, whereby the said reservoirs can be filled with combustible liquids, and from which said liquids are drawn and forced into an apparatus for generating gas for locomotives.

3. A locomotive-tender provided with a suitable chamber or holder for storing gas, in combination with an apparatus for generating the gas to be stored in said chamber, and means for connecting the said chamber with the furnace of the locomotive, as described.

4. In a locomotive-tender, the combination of reservoirs for holding water and liquid combustibles with a gas-holder and means for connecting said locomotive, for the purposes described.

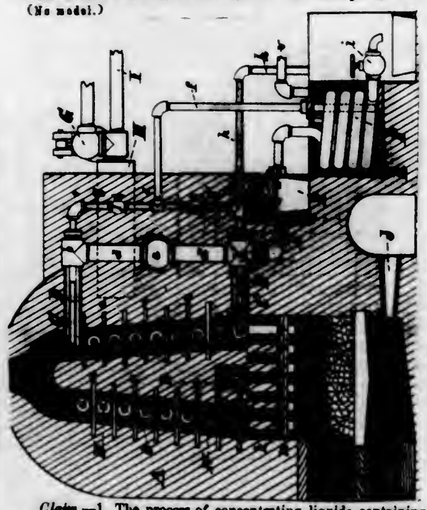
5. The process or mode of driving engines with extreme high-pressure fixed gas, consisting of forcing water and combustible liquid into a high-pressure generator, wherein a fixed gas is formed, thence conducting the said gas into a cooling device, wherein a suitable degree of temperature is absorbed, and thence discharged into an engine or motor, from whence it is discharged through the exhaust-pipe into the furnace of said generator and burned.

6. The combination of a high-pressure-gas generator, engine or motor, and cooling device for cooling the gas prior to its discharge into the said engine or motor, and then utilized as fuel, for the purpose described.

7. The process or mode of generating a high-pressure fixed gas for motive power and heating purposes, and cooling, or partially cooling, the same and utilizing the absorbed heat for heating the feed-water, which is forced into a high-pressure-gas generator, for the purpose described.

8. The mode of storing combustible liquid in a floating vessel, consisting of a reservoir or reservoirs suitably connected and located in a suitable manner in a compartment or compartments filled with water, whereby the combustible liquid is kept at an even temperature by the circulation of the water through which the vessel moves, the water passing through said compartment or compartments, substantially as described.

263,312. EVAPORATING SACCHARINE JUICES, &c. WILLIAM FRANK BROWER, New York, N. Y. Filed Aug. 15, 1881. (No model.)



Claim.—1. The process of concentrating liquids containing solid matter in solution, which consists in forcing and spraying them under pressure into and through a heated coil, and finally separating the steam from the concentrated liquid or solid portion (outside the furnace) and collecting the former in a dome and the latter in a suitable receptacle.

2. The heating-coil and its feed-pipe, in combination with the furnace, the trap E, and the cooler F, for the purpose specified.

3. The outer heating-coil, the connecting stand-pipe $d\,d'$, the dome H, the trap E, and cooling-coil F, in combination with the inner perforated spray-pipe, the feed-pipes $g\,g'\,f$, cooling-tank R, and feed-pipe c, for the purpose specified.

4. In the furnace, the arch a, having flues k, in combination with the core B, mounted thereon, and the stack A, forming the flue-space O, for the purpose specified.

263,313. GENERATING GASEOUS VAPORS. WILLIAM FRANK BROWER, New York, N. Y. Filed Oct. 18, 1881. (No model.)



Claim.—1. The process of generating high-pressure gas or gaseous vapor for motive power, heating, and other purposes, consisting of forcing water and liquid combustibles under pressure into a steam-boiler, and there discharging them in mingled jets or spray, and then conducting the resulting vapor into a receiver or to an engine for use as a motive power.

2. The combination, in an apparatus for generating high-pressure gaseous vapor, of the force-pump, the induction oil and water pipes, and the eduction-pipe, whereby a combined volume of mixed liquid is simultaneously forced in the generator, substantially as described.

3. A hollow bridge-wall provided with water-circulating spaces and intermediate spaces for the passage of air and products of combustion, in combination with gas-supply pipes arranged within said air-flues, for the purposes specified.

4. The hollow bridge-wall having water and air spaces, substantially as described, in combination with the circulating-tubes and their return connecting head-chambers and a generator, as set forth.

5. In a high-pressure gaseous vapor generator, a series of external pipes and a series of internal pipes, each connected to suitable return head-chambers for the circulation of liquids, in combination with the furnace and boiler, for the purpose specified.

6. The circulating-tubes and their connected return-chambers provided with supporting-lugs h', in combination with the furnace-walls having recesses for receiving the lugs and permitting a free movement thereof under expansion and contraction, substantially as described.

263,314. PROCESS OF AND APPARATUS FOR THE MANUFACTURE OF SIRUP AND SUGAR. WILLIAM FRANK BROWER, New York, N. Y. Filed June 23, 1881. (No model.)

Claim.—1. In the manufacture of sirup and sugar, the process of concentrating the saccharine liquid, which consists in forcing it under pressure in an occluded condition, to prevent carbonization, through a conduit subjected to the heat of a furnace and into a separator or expansion-chamber outside of the furnace, for separating the steam and vapor from the saccharine matter.

2. In the manufacture of sirup and sugar, the process of concentrating the saccharine liquid, which consists in forcing it under pressure from the upper or cooler portion of a conduit through and out of the hottest portion thereof into a separator or expansion-chamber, where the aqueous vapor is separated from the saccharine liquid or sirup, for the purpose specified.

3. In the manufacture of sirup and sugar, the process of concentrating the saccharine liquid, which consists in forcing it under pressure in a continuous stream or streams through a heated conduit or conduits from a cooler to the hottest portion thereof and discharging it into an expansion-chamber for the separation of the steam from the liquid or sirup.

4. In the manufacture of sirup and sugar, the process of concentrating the saccharine liquid and utilizing the steam eliminated therefrom, which consists in forcing such liquid under pressure through a heated conduit in an occluded condition and discharging it into a closed separator or expansion-chamber and conducting the steam therefrom to an engine or other places of use.

5. In the manufacture of sirup and sugar, the process of concentrating the saccharine liquid, which consists in forcing it under high pressure through a dry-heated conduit in an occluded condition and discharging it into a separator and forcing the resulting partially-concentrated sirup therefrom into an evaporating device or devices, where the concentration is completed.

6. The process of evaporating a saccharine liquid, which consists in passing it through a channel in a pan over a steam-coil in which superheated steam moves in an opposite direction to the flowing liquid, whereby the liquid is subjected to a rising or increasing temperature and the heat of the steam more fully utilized.

7. In the evaporation of a saccharine liquid, the process of automatically removing the scum therefrom, which consists in causing the liquid to flow through a heated channel against and through inclined perforated skimming devices in a continuous current, whereby the scum is automatically forced from the pan.

8. In the defecation of saccharine juice, the process of automatically removing the coagulated and other impurities therefrom, which consists in causing the juice to circulate by heat from a central cylinder through a perforated section at the top thereof into the outer cylinder and back again repeatedly, and thus force the impurities in the form of scum over the top of the inner cylinder into an annular gutter, and thus conducting them away from the defecator.

9. The process of manufacturing sugar, which consists in subjecting the freshly-expressed juice to the defecating process, filtration, evaporation, and concentration in closed vessels without exposure to the air, whereby oxidation and carbonization are prevented and a better product produced.

10. In combination with the dry-heating coils or conduits, a high-pressure forcing device and an evaporating-pan for receiving the heated liquid, for the purpose described.

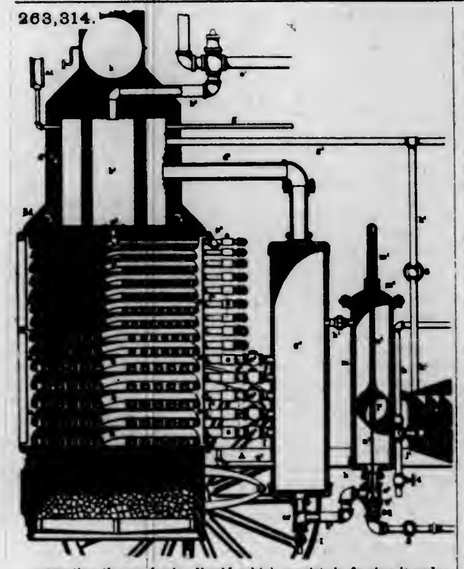
11. The combination, with the heating coils or conduits having an induction-pipe entering their upper or cooler portion and an eduction-pipe leading from their lower or hottest portion, of a forcing device, and an evaporating-pan.

12. The heating coils or conduits, an evaporating-pan, and an interposed trap, in combination with a suitable forcing device for forcing the liquid to be evaporated into the coils or conduits located in a furnace and on into the pan.

13. A vacuum-pan having an inclined bottom, a spiral division-plate secured thereto, forming a spiral channel, and a steam heating-coil in the channel, in combination with an induction-pipe for liquid entering the upper portion of the channel, and a stopping device located in front of such pipe for breaking the current of the incoming forced juice.

14. An evaporating-pan having a suitable channel and heating devices in connection therewith, in combination with an inclined skimmer or skimmers and separators located in one or more of the channels for automatically skimming the liquid, substantially as described.

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15. A closed evaporating-pan having a steam-escape pipe, in combination with a steam heating-coil therein, having a jet-nozzle terminating in said steam-escape pipe, operating as and for the purpose described.

16. Two or more closed evaporating-pans, in combination with one or more trapping devices interposed between the pans for conducting the liquid from pan to pan.

17. In combination with evaporating apparatus, a defecating device consisting of an outer tank, an inner chamber communicating therewith at the bottom, and having at the top a perforated section connecting with a recess or gutter for conducting away the scum.

18. A defecating device consisting of an outer tank and an inner open-bottomed steam-heated cylinder having at its top an inclined perforated rim.

19. A defecating device consisting of an outer tank and an inner open-bottomed cylinder, in combination with the steam heating-coils for causing circulation of the juice.

20. The described defecating device, in combination with a central tube, a screw-threaded nut, a screw-threaded shaft, and a cross-bar for raising and lowering the tank.

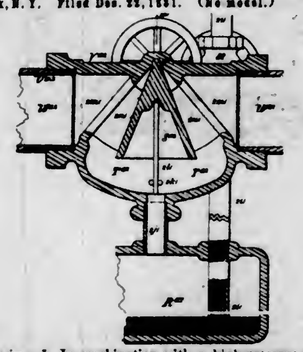
21. In combination with the evaporating apparatus and the defecating devices, the interchangeable filters interposed between them.

22. In combination with the evaporators and heating-coils, the defecating-tanks, the interposed filters, and a pump for drawing the juice through the filters and forcing it into the heating-coils.

23. The portable sugar-works consisting of the combination of the pressure-rolls, the defecating-tanks, and the evaporating apparatus, mounted in a suitable frame on wheels, for the purpose described.

24. In a portable sugar-works, the evaporating apparatus, in combination with the pressure-rolls and the necessary adjuncts thereto, made of steel, whereby the maximum capacity is retained with a minimum amount of metal and lightness and durability secured, and the whole mounted on wheels, for the purpose specified.

268,315. APPARATUS FOR GENERATING AND DISTRIBUTING HIGH-PRESSURE GAS. WILLIAM FRANK BROWER, New York, N. Y. Filed Dec. 22, 1881. (No model.)



Claim.—1. In combination with a high-pressure-gas generator, a main for conducting high-pressure gas, a valve-casing, an automatic balanced valve, a trap connected with the valve-casing or main, and a discharge-pipe having a valve.

2. In combination with a high-pressure-gas generator, a main or conduit for the transmission of high-pressure gas, a double-seated valve-chamber, and a balanced automatic double-faced valve suspended therein, whereby the flow of gas is automatically shut off in case of a break in the main.

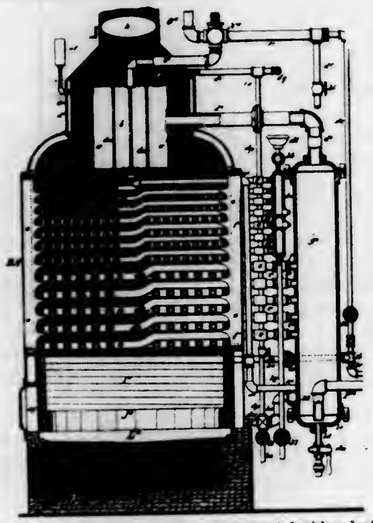
3. In combination with a high-pressure-gas generator, a main or conduit for the transmission of high-pressure gas, a valve-casing having two valve-seats—one at each side or end—and an automatic balanced valve having a double face for closing, fitting against each seat, whereby the flow of gas is automatically shut off in case of a break on either side of the valve.

4. In combination with a high-pressure-gas generator, a main or conduit for the transmission of high-pressure gas, a valve-chamber having two seats, as described, a double-faced balanced valve adapted to said seats, and an operating-wheel outside of the chamber, connected with the valve and provided with an index for showing on which side of the chamber the break in the main has occurred when the valve is closed and forced to one or the other side.

5. In combination with a high-pressure-gas generator and main, and a valve-box connected therein and having two seats, as described, and a balanced double-faced valve suspended in the box between the seats, and an actuating-spring bearing thereon for throwing the valve in either direction corresponding with a change in the pressure of gas on either side thereof.

6. In apparatus for generating and distributing high-pressure gas, the combination of the high-pressure generator, a main or conduit, a governing-holder, a valve in the inlet-pipe thereof, a pulley secured to the top of the holder on the inside, and a cord or chain connecting to the stem of the valve, and having a counterbalancing-weight connected to the end passing over the pulley, as described.

263,316. PROCESS OF AND APPARATUS FOR EVAPORATING LIQUIDS. WILLIAM FRANK BROWNE, New York, N.Y. Filed Dec. 16, 1881. (No model.)



Claim.—1. An evaporating-pan constructed with a doubl convoluted spiral channel.

2. An evaporating-pan constructed with convoluted spiral channel cast in one piece.

3. A double spiro-convoluted evaporating-pan having double spiral convolutions, one of which is for the circulation of the substance to be evaporated and recovered, while the other convoluted channel forms a passage or conduit for the circulation of a heated substance therein.

4. A spiro-convoluted vacuum-pan having external and internal spiral channels and a bottom fitted to the bottom of the external spiral channel, thereby forming a closed channel through which heating substances circulate.

5. The combination of a spiro-convoluted evaporating-pan with a steam-generator attached to the bottom thereof, arranged over a furnace which supplies the heat for evaporating the substance which circulates through the spiro channel or channels.

6. In an evaporating apparatus, the combination of the heating devices consisting of conduits or coils through which the liquid to be evaporated is forced, a closed evaporating-chamber connected directly to the lower ends of the coils and to the steam-dome above, and a closed chamber below said evaporating-chamber, provided with a steam-coil for desiccating the matter to be recovered.

7. In an evaporating apparatus, the combination of the heating device consisting of conduits through which the liquids to be evaporated are forced, a separator connected thereto into which the heated liquid is discharged, and two or more alternating evaporating-pans connected directly by pipes having controlling-valves to the separator, whereby either pan can be used for evaporating while the other is being emptied and cleaned.

8. The combination of a heating device consisting of conduits through liquids to be evaporated are forced, and a separator into which the heated liquids are discharged and the volatile parts eliminated therefrom, with an open evaporating-chamber provided with heating adjuncts, into which the residual matter in the separator is discharged, and wherein the matter to be recovered becomes desiccated.

9. The process of heating and evaporating liquids, which consists in forcing the liquids through an internal heated conduit, and thus highly heating the same, then discharging it into a separator, and then conducting the resulting steam through the external conduit.

10. In an apparatus for evaporating liquids, a heating device consisting of a conduit or series of conduits, one or more of which are provided with an internal imperforate conduit through which liquid is forced, while steam simultaneously therewith is forced through the external conduit for the purpose of heating said liquid, in combination with the connecting stand-pipes, which are connected respectively to the ends of the internal and external conduits for receiving the liquids and steam separately, and from whence the conduits are supplied, and into which the contents of the conduits are discharged separately, as described.

11. The process of heating and evaporating liquids, which consists in forcing the liquids through an internal heating-conduit, and thus highly heating the same, then discharging it into a separator, then conducting the resulting steam through the external conduit exposed to the heat of the furnace, and finally utilizing the steam thus superheated by conducting it through the heating-conduits of an evaporating-pan for continuing the evaporation of the liquid discharged from the internal coils into the separator, as described.

12. In a device for heating liquids prior to the discharge and subsequent elimination of vapor therefrom, two connecting stand-pipes, one of which connects with all of the corresponding ends of one series of conduits which are placed one above another, while the other stand-pipe connects with a required number of the other ends of said conduits, whereby liquids are forced simultaneously and separately through two or more conduits and discharged therefrom from two or more of the lower ends of said series of conduits.

13. In an apparatus for heating and evaporating liquids, a conduit or supply-pipe, a stand-pipe, a series of internal coils connected therewith at their induction ends, and a separator connected with their eduction ends, in combination with connected external coils.

14. In an apparatus for heating and evaporating liquids, a conduit or supply-pipe, a stand-pipe, a series of internal coils connected therewith at their induction ends, and a separator connected with their eduction ends, in combination with connected external coils and an evaporating-pan, and connecting devices for conducting steam from the external coils to the pan.

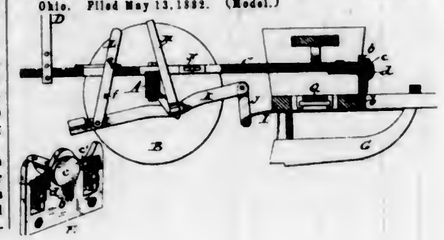
15. The process of heating and evaporating liquids, which consists in forcing the liquid between an external and internal coil of pipe in a furnace to near the middle portion of the coil, thence discharging the resulting steam or vapor through suitable openings into the internal pipe and conducting it therefrom to places of use, and at the same time conducting the concentrated liquid to a suitable receptacle.

16. In combination with a conduit or conduits provided with an internal spray-conduit extending the entire length thereof, and through which liquids are forced, the device for forcing liquids into said internal conduit, from whence it is forced out in spray into the external conduit, and the separator by which the vapor and liquid are divided, in the manner set forth.

263,317. ROOF-PAINT. ROBERT E. BRUCE, Lancaster, Pa. Filed June 20, 1882. (No specimens.)

Claim.—The herein-described composition of matter to be used for painting the roofs of houses and iron fences, consisting of benzine, sulphate of iron, oxide of iron, asphaltum varnish, oxide of lead, japan, burnt umber, hard rubber, bisulphate of carbon, and coal-tar, in the proportions specified.

263,318. CORN-PLANTING MACHINE. JARVIS CASH, Troy, Ohio. Filed May 13, 1882. (Model.)



Claim.—1. In a corn-planter, the combination of the wheeled frame and the runner-frame, the jointed connection consisting of the vertical plate, and the neck or journal extending horizontally through the same, the said parts constructed, substantially as described, to permit the runner-frame to move vertically in both directions, but prevent its horizontal motion.

2. The coupling for a flexible-frame planter, consisting of the horizontal neck or journal, provided with a head and with the laterally-extending arms, and the vertical plate *b*, perforated to admit said neck, and provided with the vertical arms or guides *d*.

3. In a coupling for a jointed planter-frame, a horizontal neck or journal extended through a vertical plate, and provided with horizontal arms or journals seated in vertical guides in said plate, substantially as shown.

4. In a corn-planter, the combination of the wheeled main frame, the forward runner-frame jointed thereto, the foot-lever mounted upon the main frame and connected at its forward end by the link with the runner-frame, and the notched link or locking device attached to the rear end of the foot-lever and engaging with the main frame, as shown.

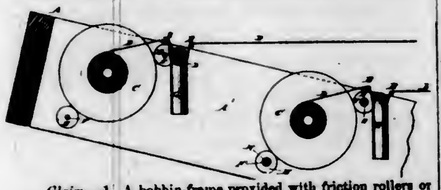
5. The wheeled frame and runner-frame jointed together, substantially as shown, in combination with the foot-lever K and the upright foot-lever M, constructed and arranged to operate substantially as described and shown.

6. The main frame and runner-frame jointed together, in combination with the foot-levers K and M, as described, and the adjustable stop N, whereby the movement of said levers and the position of the runners may be determined.

7. In a corn-planter, the combination, with the rotary dropper-plate, of the covering-plate S, provided on its under side with the journal for the dropper-plate, substantially as described, whereby an unobstructed space is left beneath the dropper-plate for the passage of the operating-slide.

8. In combination with the runner-frame and dropping mechanism thereon, the wheeled frame jointed thereto, and the dropper's seat and foot-rest sustained by the wheeled frame.

263,319. BOBBIN-FRAME FOR LOOMS. RICHARD S. COCKSON, Philadelphia, Pa. Filed Dec. 21, 1881. (No model.)

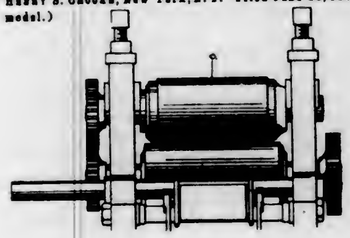


Claim.—1. A bobbin-frame provided with friction rollers or wheels adapted to support the bobbins and allow of their rotation, in combination with rollers or wheels, against which the bobbins are drawn to create a friction and prevent their displacement, substantially as and for the purpose specified.

2. A bobbin-frame provided with rollers or friction-wheels adapted to support the bobbins, one set of said friction wheels or rollers being arranged above the center line of the bobbin when resting upon said friction-wheels, substantially as and for the purpose specified.

3. The bobbin-frame A and friction-wheels E, in combination with wires B B and tension-weight G, one or more of said friction-wheels projecting below wires B to limit the lateral movement of the weight G, substantially as and for the purpose specified.

263,320. ART OF AND MACHINERY FOR THE MANUFACTURING OF ORNAMENTAL METALLIC-FOIL WRAPPERS. HENRY S. CROCKER, New York, N.Y. Filed June 25, 1880. (No model.)



Claim.—1. The method of ornamenting or lettering metallic foil consisting in whitening portions of the surface of the foil, the remainder of the surface, in the form of letters, figures, or other characters, being left smooth and bright, or the reverse, and thus rendered visible and distinct by reason of the contrast with the surrounding groundwork, substantially as described.

2. The combination of a roller having a striated or roughened surface, with a roller in the surface of which are sunken devices in forms of letters, figures, or other characters, substantially as described.

3. The combination, with a metallic roller having a striated or roughened surface, as described, of a slightly yielding or elastic roller, as of paper, in the surface of which are sunken devices in the form of letters, figures, or other characters, substantially as set forth.

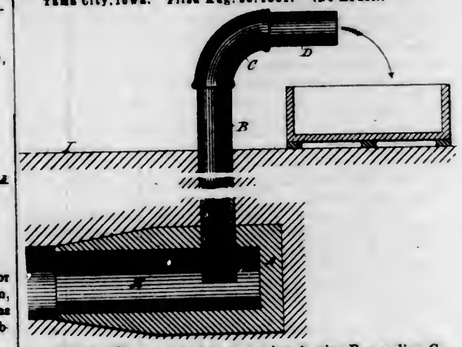
263,321. ORNAMENTAL METALLIC-FOIL WRAPPER. HENRY S. CROCKER, New York, N.Y. Filed Apr. 5, 1880. (No specimens.)

Claim.—As a new article of manufacture, metallic-foil wrappers having burnished or bright letters, symbols, or designs upon a silvery-white surface or ground, substantially as described.

263,322. MANUFACTURE OF FERTILIZERS. AGARIAH F. CROWELL, Wood's Holl, Mass. Filed May 24, 1882. (No specimens.)

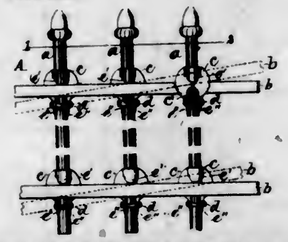
Claim.—In the manufacture of liquid fertilizer, the process of obtaining from fish its gelatinous and nitrogenous properties, combined with the soluble parts of a superphosphate, such consisting in mixing together the fish and superphosphate and cooking the mixture by heat and subsequently subjecting it to pressure, so as to expel from it the oily, nitrogenous, and phosphatic liquid.

263,323. WATER-FOUNTAIN FOR STOCK. ELIS E. DAVIS Tama City, Iowa. Filed Aug. 23, 1881. (No model.)



Claim.—The combination of the log A, pipe B, coupling C, and spout D, substantially as described.

263,324. IRON FENCE. BENJAMIN G. DAVOS, Kenton, assignor to the Lima Iron Fence Company, Lima, Ohio. Filed June 12, 1882. (No model.)



Claim.—1. In iron fences, an attachment for a picket, ornamental or otherwise, having a collar cast thereon, with an ear or log depending therefrom upon the front and rear sides of the same, to form a pivotal bearing or fulcrum on both sides of the picket and allow of easy adjustment of the latter when suspended upon said bearings, as shown and specified.

2. In iron fences, a punched rail having oblong vertical holes

therein, within which a picket attachment having pivotal bearings upon either side of said holes is located horizontally central thereto, to allow of the adjustment of the rails to grade, as hereinbefore set forth.

3. In a picket for iron fences, an attachment inclosing the same, suspended in an oblong slot in the rail, and having pivotal bearings above and below the rail, upon either side of said slot, central with the middle longitudinal line of said picket, to allow of easy adjustment in inclining the rails in either direction when setting the fence to grade upon uneven or inclined ground, as herein before set forth.

4. In iron fences with wrought rods and cast or malleable ornaments, an attachment for pivoting the picket upon the rail, provided with lugs or ears cast upon its upper part on the front and rear sides, whereby it is suspended within a slot in the rail, tapering prongs extending from its lower edge on either side of the picket-rod, and a loose collar provided with upwardly-extending ears or lugs on the front and rear sides of the same, said collar being driven over the prongs until the points of the ears come in contact with the under side of the rail, thus securing the pickets thereto, and preventing its displacement endwise, and at the same time allowing the adjustment of both rail and picket in setting the fence to inclined grade.

5. In an attachment for securing a picket to the rail in an iron fence, the flat circular hollow piece *c*, having upper opposite ears, *c'*, above the rail, a vertical opening through the middle, and tapering prongs *c''*, adapted to fasten the loose collar *d* when driven upward thereon, as shown, for the purpose set forth.

6. In iron fences, the clamp-plates *f*, of L shape in their cross-section, having lugs *q* turned inward from the under edge of the flange, in combination with the rail *b*, having the long notches *i'*, and the bolt *g*, for connecting and supporting the ends of the rails and allowing longitudinal expansion and contraction in the same, as hereinbefore specified.

7. In iron fences, a line-post constructed of two or more pickets grouped together in line, their lower ends clamped by eyebolts to a cross-bar parallel with the rails, which latter is bolted to a short upright having a longitudinal slot therein, to allow of vertical adjustment of the post, substantially as hereinbefore set forth.

8. In line-posts for iron fences, a separable bottom plate with a longitudinal slot therein, crossing a transverse slot in the top of the base at right angles, and having a short upright extending therefrom at the front end, with a longitudinal slot therein for the adjustment of said post vertically upon the same, and an upwardly-curved arm at the rear end provided with an eyebolt for adjusting and fastening the post-brace at its lower end, substantially as shown and specified.

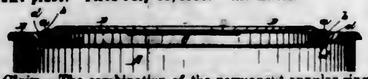
9. In iron fences, the combination, with post-base B, bottom plate, D, bolted thereto, and having curved arm *f'*, and eyebolt *i''* of brace *b'*, extending from said arm to the upper rail, plates *f*, having lugs *g*, rails *b*, having slots *i'*, into which said lugs are extended and adapted to operate in the expansion and contraction of the rail, and bolt *h*, by which the whole are connected together, as set forth.

263,325. SEWING-MACHINE. HENRY E. DIETERLE, Chicago, Ill., assignor to the Eldredge Sewing Machine Company, same place. Filed June 13, 1881. (No model.)



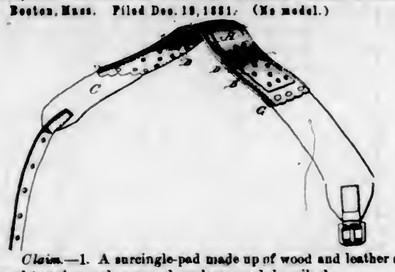
Claim.—In a sewing-machine, the eccentric G, in combination with a vertical feed-lever, A, provided with a recess, F, extending across its face at an inclination, substantially as and for the purpose set forth.

263,326. SHEET-METAL CAN TOP. CHARLES W. ELLSWORTH, Chicago, Ill., assignor to the Chicago Stamping Company, same place. Filed July 15, 1882. (No model.)



Claim.—The combination of the permanent annular ring B, provided with the inner upturned flange or rim, *a*, the severable cover C, provided with the flange *a''*, extending underneath the part B, and the flange *a'*, turned down upon the flange *a*, substantially as and for the purposes specified.

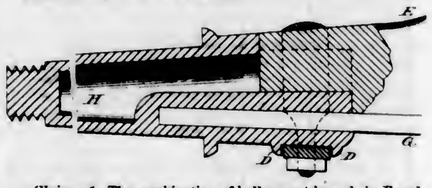
263,327. SURCINGLE-PAD FOR HORSES. HIRAM G. FARR, Boston, Mass. Filed Dec. 19, 1881. (No model.)



Claim.—1. A surcingle-pad made up of wood and leather secured together and arranged as shown and described.

2. A perforated pad composed of wood and leather arranged as shown, and shaped to fit the back of a horse, all substantially as set forth.

263,328. WAGON-AXLE. ISAAC D. FINCH, Memphis, Tenn. Filed Jan. 28, 1882. (No model.)

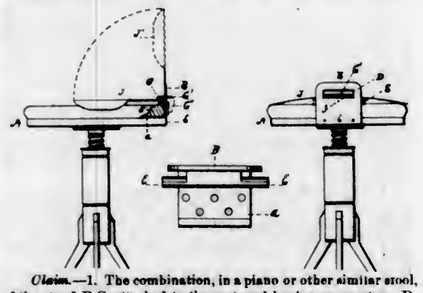


Claim.—1. The combination of hollow cast-iron skein F and the wrought-iron axle-bar G, united together in the manner shown and described.

2. The combination of a wrought-iron axle-bar G with hollow cast-iron skein F and the wooden axle-tree E, having end bearing fitting in the opening S of the skein, substantially as shown and described.

3. The hollow thimble-skein having the opening S and flanges D D on the bottom of the same, in combination with the flat bar G, having depressions J J, the wooden axle E, and clip O, all united and combined as set forth.

263,329. HINGED BACK FOR PIANO-STOOLS. JOSEPH W. FLAGG, Worcester, Mass. Filed May 3, 1882. (No model.)



Claim.—1. The combination, in a piano or other similar stool, of the stand B C, attached to the seat, and having an aperture, D, and attached pintle E, the plate J, attached to the back of the stool, having hooks F, passing between the pintle E and plate B C, so as to hinge the back to the plate B C, and also to render it removable, and the tongue G', bent at right angles at G, so as to inclose and rest upon the edge I of the plate B C, all arranged and operating as described, and for the purpose set forth.

2. The hinge consisting of leaf B C, extended at B to form a stop, connected pintle E, and aperture D, leaf J, with hooks F F, held against the pintle E by the plate B C, and tongue G', bent at right angles at G, so as to inclose and rest upon the edge I, as and for the purpose set forth.

263,330. DEVICE FOR CONTROLLING AND REGULATING THE FLOW OF OIL-WELLS. BENJAMIN FRANKLIN, Bradford, Pa. Filed May 18, 1882. (No model.)

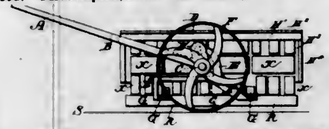
Claim.—1. The combination, with the eduction-tube of an oil-well, of a valve consisting of two parts adapted to abut together and turn upon each other, and provided each with an opening on one side of its center, whereby as the said parts are turned upon each other the said openings may be brought in juxtaposition or not, as desired, and thus open or close the passage in said tubing, substantially as set forth.



2. The combination, with the eduction-tube of an oil-well, of a valve consisting of the parts B, B', C, and D, constructed and arranged together substantially as and for the purposes set forth.

3. In a shut-off valve for use on oil-well tubing, the combination, substantially as shown, of the following elements: the part B, with shoulder b^3, the disk D, with opening on one side thereof, seated on said shoulder b^3 and retained from turning by lugs or pins p', the part C, with bottom having an opening on one side seated upon said disk D, the part B', having opening to receive the part C, with stops $b\ b$ therein to abut upon the lug c^3 on said part C, and also having a flange, b', and adapted to screw upon the part B and hold the part C and disk D upon the shoulder b^3.

263,331. BRICK-TRUCK. WALTER E. GARD, Baltimore, Md.; Emery R. Gard, Administrator of said Walter E. Gard, deceased. Filed Sept. 5, 1881. (No model.)



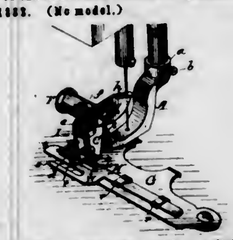
Claim.—1. In a truck for handling bricks, the combination of the lever-handles A, connecting-pins B, and wheels F with the swinging lifter E, all arranged and operating as set forth.

2. In combination with the wheels and lever-handles of a truck, the swinging lifter E, provided with lifting-feet E' E², substantially as and for the purpose specified.

3. In a truck for handling bricks, the combination of the lever-handles provided with the projection D', the lifting-pins D, and the lifters E, all arranged and operating as set forth.

4. The truck for handling bricks, constructed substantially as shown and described, and provided with lifting-feet which connect with suitable projection upon the sides of the hack-boards for the purpose of raising and moving the same, as set forth.

263,332. RUFFLING AND SHIRRING ATTACHMENT FOR SEWING-MACHINES. THOS. B. GARRETSON, Oskaloosa, Iowa, assignor to the Garretson Ruffler Company, same place. Filed May 31, 1882. (No model.)



Claim.—1. The combination, with a suitable ruffling-blade and carrier of a ruffling device, of a presser-foot having extension-arm *c*, tube *k*, and the screw-threaded pin *i*, cap F, and coiled spring *l*, substantially as and for the purpose set forth.

2. In a ruffling and shirring device for sewing-machines, the presser-foot thereof having extension-arm *c*, to which is pivoted the plate E, in combination with the screw *f*, carrying adjusting-block I, substantially as and for the purpose specified.

3. In a ruffling device for sewing-machines, the combination, with the extension-arm *c* of the presser-foot, having tube *k*, screw-threaded pin *i*, spring *l*, and cap F, of the carrier C, with blade D, arranged and carried at such an angle with reference to the goods as to obviate the necessity of having turned or bent points to engage the same, substantially as and for the purpose set forth.

4. The presser-foot A, formed with or having tube *k* and sleeve *g*, in combination with the blade-carrier C and plate E, and the screw-threaded pin *i*, cap F, and coiled spring *l*, substantially as and for the purpose specified.

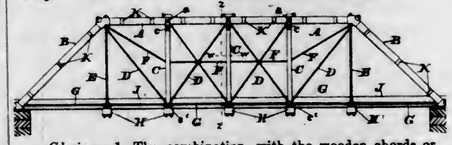
5. The presser-foot A, having the extension-arm *c* and tube *k*, and the cap F and spring *l*, with arm *n*, in combination with the carrier C, having bearing-pin *o* and adjusting-screw *f*, carrying block I, and plate E, constructed to operate substantially as and for the purpose set forth.

6. In a ruffling device, the combination, with the separator-plate G, of the adjustable gage H, having extension arms or guides *u o t*, substantially as and for the purpose set forth.

7. The presser-foot A, having extension-arm *c* and tube *k*, the pin *i*, spring *l*, cap F, and the carrier C, and plate E, constructed to operate as set forth, in combination with the separator-plate G and adjustable gage H, of the form substantially as shown, and for the purpose specified.

263,333. BRIDGE. SOLOMON H. GODMAN, Indianapolis, Ind. Filed Apr. 14, 1881. (No model.)

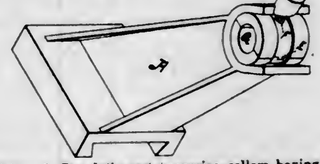
Brief.—Wooden chords are metal covered, the covering being distanced from the wood by cleats for circulation of air. A supplementary sub-tension chord is applied to the upper chord and posts and combined with other elements of the truss.



Claim.—1. The combination, with the wooden chords or other similar parts of a bridge, of cleats K and sheet-metal coverings L L' L', constructed and arranged as shown and described, and for the purposes specified.

2. In a bridge, the combination of the top chords, A, end posts, B, struts C, diagonal truss-rods D, vertical truss-rods E, tie-rods F, and lower chords, G, all substantially as shown and described, and for the purposes specified.

263,334. LATHE-REST. ALEXANDER GORDON, Cincinnati, and JAMES W. SEE, Hamilton, assignors to the Miles Tool Works, Hamilton, Ohio. Filed Apr. 8, 1882. (No model.)



Claim.—1. In a lathe-rest to receive collars having a cylindrical exterior, the combination of a collar-bearing having an admission gap or throat arranged at an angle of about forty-five degrees, and a vertical set-screw arranged over the axis of said bearing, substantially as and for the purpose set forth.

2. In a lathe-rest, the combination of a bottom bearing for the collar, a vertical set-screw arranged over the axis of the collar, and a divided collar having a tongue-and-groove joint, substantially as and for the purpose set forth.

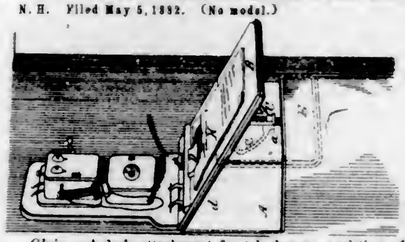
263,335. HORSE-COLLAR. THOMAS S. GRUBBS, North Lewisburg, Ohio. Filed June 17, 1882. (Model.)



Claim.—1. In combination with a horse-collar, one or more adjustable blocks, a sheath, and fastening means, substantially as described.
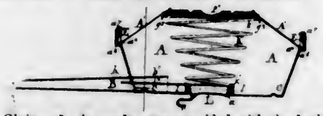
2. In combination with a horse-collar, an adjustable block, a sheath, the staples or loops, and fastening-strap arranged at the bottom of the collar, substantially as described.

263,336. TELEPHONE-CASE. OSCAR D. HARTWELL, Nashua, N. H. Filed May 5, 1882. (No model.)



Claim.—A desk attachment for telephones, consisting of a battery-box provided with an inclined top having a hinged extension and at its front with a bracket-support consisting of projecting ears and an interposed vertical rod, a bracket hinged to said rod and provided with an inclined arm for supporting the hinged extension, and a spring on said rod connected at its ends to the support and bracket, whereby the latter is thrown out when the hinged extension is raised, substantially as described.

263,337. INSECT-POWDER GUN. THOMAS W. HOUCHIN, Morrisania, N. Y. Filed Apr. 22, 1882. (No model.)



Claim.—1. A powder-gun provided with the double channel or groove at its bottom and a tube having its inner portion open at the bottom, as set forth.

2. In a powder-gun, a reservoir having a seat around its top, as described, in combination with the diaphragm or cover, the edge of which is held in the seat, and a securing-annulus which rests upon the edge of the diaphragm, the edge of the reservoir being turned over the annulus, as set forth.

3. The stopper L, having the groove *l*, in combination with the spring K and the reservoir A, as set forth.

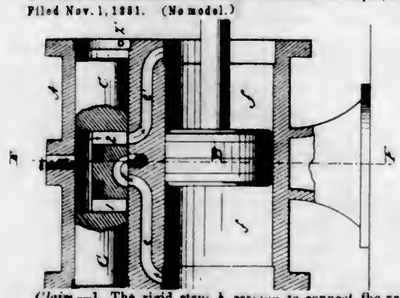
4. In a powder-gun, a diaphragm, in combination with a center piece consisting of an inner and an outer plate, the two plates being soldered and stamped together, whereby riveting is dispensed with, as set forth.

5. In a powder-gun, a center piece consisting of an inner and an outer plate, the two soldered and stamped together, with the diaphragm between, and the inner plate provided with a seat for the spring, as set forth.

6. In a powder-gun, the discharge-tube, in combination with the spring having an extension which is located in the inner portion of said tube, as set forth.

7. In a powder-gun, the reservoir and the diaphragm or cover, in combination with the thumb-piece in which the diaphragm is secured and which is provided with a seat, and the spring having its upper end secured in the seat, as set forth.

263,338. VALVE FOR STEAM PUMPING-ENGINES. CHARLES H. HUDSON, Hinsdale, Ill., and EDWIN SMEDLEY, Dubuque, Iowa. Filed Nov. 1, 1881. (No model.)



Claim.—1. The rigid stem *h*, serving to connect the valve-pieces D D', and provided with a flat side, in combination with a set-screw, *x*, serving to prevent its turning, while allowing its proper lengthwise movements.

2. The steam-actuated piston-valve C, constructed as described—namely, of a solid cylinder throughout its main body, with a recess at the center of its top, with a cavity at the center of its bottom to receive the main valve having an exterior conforming to the circumference of the cylinder, and with the vertical passages 1 2 through the cylinder—as and for the purposes set forth.

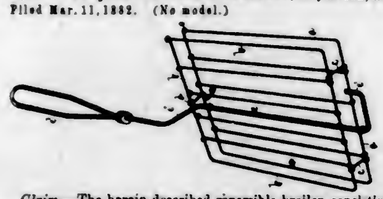
3. The main valve made as shown and described—that is, plano-convex in its cross-section and with parallel ends, and with a single cavity on its convex side, and adapted to fill a space made in the piston-valve for its reception, and provided with means to prevent its turning relatively to the piston-valve.

4. In combination, the piston-valve C, being a solid cylinder throughout the main part of its body, its plano-convex main valve conforming at all its sides thereto, exhaust-pipe E, and passage communicating therewith, and conical-pointed screw or pin *w*, the combination being and operating as set forth.

5. In combination, the auxiliary-valve stem *h*, removable auxiliary valves D D', and set-screw *x*, with the piston-valve C, and its main valve constructed and applied thereto, as described, and with the steam ports or passages, all as and for the purposes set forth.

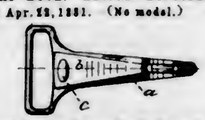
6. In combination, the piston and its tappets, the auxiliary valves removably held on their rigid connecting-stem and its tappets, the main valve constructed and applied to the piston-valve, as set forth, and appropriate ports and passages, as and for the purpose described.

263,339. BROILER. NELSON F. HUMPHREY, Weymouth, Mass. Filed Mar. 11, 1882. (No model.)



Claim.—The herein-described reversible broiler, consisting of the bent handle e'' e^2, the spindle *e*, hinged to the broiler part *a* on one side of the center line, A A, and provided with the return-bend and stop *e'*, in combination with the hinged cover *b*, as and for the purpose set forth.

263,340. SNAP-HOOK. ELBRIER KEMPSHALL, New Britain, Conn. Filed Apr. 12, 1881. (No model.)



Claim.—In an improved snap-hook, the spring-tongue having at the attaching end an oblong rivet-hole, in combination with the body portion, provided with an integral oblong rivet set transversely of the body, whereby the tongue is held more securely from lateral movement, as set forth.

263,341. MANUFACTURE OF BLUE COLORING-MATTERS CALLED "INDOPHENOLS." HORACE KOECHLIN, Loerrach, and OTTO N. WITT, Malhausen, Germany. Filed Mar. 22, 1882. (No specimens.) Patented in France Mar. 13, 1881, No. 141,843; in England Mar. 23, 1881, No. 1,373; in Belgium Apr. 4, 1881, No. 54,238; in Sweden July 30, 1881, and in Austria Mar. 12, 1882, No. 1,695.

Claim.—1. The method of making soluble indophenols by treating with phenols or their alkaline derivatives the insoluble indophenols in the formation of the latter or when already formed, substantially as described.

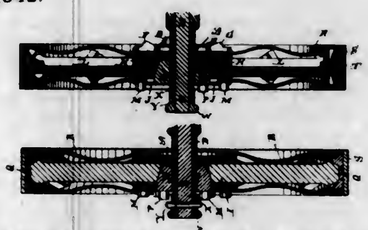
2. The products of the described process—that is to say, soluble indophenols having the properties set forth.

3. The improvement in the formation of indophenols, consisting in effecting the reaction between the nitroso bodies or chloroquinominides and phenols, substantially as described.

4. The improvement in the formation of indophenols, consisting in effecting the reaction between paramido derivatives of the phenols and the amines by the mere application of heat, substantially as described.

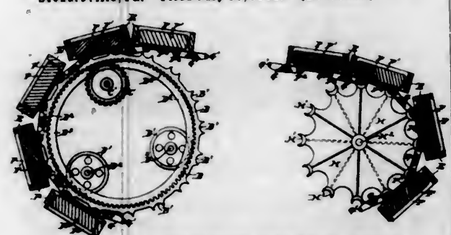
263,342. TRACTION-WHEEL. FRANK P. LANDIS, Waynesborough, Pa. Filed Dec. 10, 1881. (No model.)

263,342.



Claim.—In a wheel for traction-engines, a hub having inner and outer plates around it, said plates being fastened together by screws, said screws running through flanges on the inner and outer plates, which flanges form sockets for the reception of the spokes of the wheel, the outer flange having a hollow center, in which and around the hub fits a circular wedge, held in place by screws which run through said wedge and screw into the inner plate, the position of said wedge being regulated by tightening or loosening the screws connecting it with the inner plate, the sides of said wedge resting against the ends of the spokes, said spokes being forced out against the fellies or tire by the pressure of the wedge on the ends of the spokes when the screws are tightened, substantially as and for the purpose described.

263,343. TREAD FOR HORSE-POWERS. JAMES LEE, Jr., Stonersville, Pa. Filed July 13, 1882. (No model.)



Claim.—1. The concentric ring drum-heads B, provided with peripheral seats B', an internal gear, B³, central web, B³, connected transversely by sheet-iron or wooden shell B⁴, adapted to be revolved by the endless floor E, supported, guided, and retained in place by anti-friction rollers D D', web B³, and pinions C, in combination with shafts C' D², floor E, chain F G, carrying-rollers J, shafts J', sprocket-spiders H, and frame A A', substantially as shown, and for the purpose set forth.

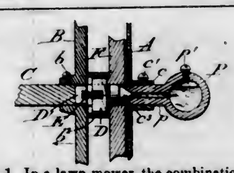
2. A series of shafts, each provided with rollers the space between each alternate pair of which varies, whereby the bearing-points beneath the endless floor E is increased, said rollers being permanently secured to their shafts, in combination with bearings J³, caps K, and floor E, substantially as shown and described.

3. The combination of two fixed spur-pinions, C C, and two loose or free anti-friction rollers, D D, and band-wheels C² upon one shaft, C', supported in bearings on posts A², with concentric drum-web B³, sprocket drum-head B, seats B', endless floor E, chain F G, rollers J, shafts J', and sprocket-spiders H, substantially as and for the purpose hereinbefore set forth.

4. An endless chain for tread-powers or for an analogous purpose, composed of the following elements, combined and adapted to be used as shown and described, to wit: an eye bracket or link, F, having a mortise, F', offset bosses or pads F², ribs F³, and stops F⁴, the bosses F² bored to receive the pins G' of the links G, in combination therewith, and with the floor E, sprocket-drum B, sprocket-spiders H, carrying-rollers J, anti-friction rollers D D', pinion C, and band-wheels C², whereby the power of the animal is transferred from the floor E to the machinery to be operated thereby, as and for the purpose set forth.

5. The combination of the bearings J³, for the carrying-wheel shaft J', arranged in the upper inner face of the rail A' of the tread-power frame, with the caps K, of wood or metal, adapted by links K', in connection therewith and with the top rail, A', to cover or uncover the bearing-seats J³, whereby the introduction of the shaft J' and the oiling of the shaft-journals are facilitated, substantially as and for the purpose specified.

263,344. LAWN-MOWER. GEORGE E. LEWIS, Seneca Falls, N. Y. Filed Oct. 15, 1881. (No model.)



Claim.—1. In a lawn-mower, the combination, with the side pieces, A A', having collars *e e*, axle C, having conical ends, and cutter-frame I, of the detachable oil-cups P, provided with horizontal stems *p*, having flaring-mouths *a*, substantially as shown and described.

2. In a lawn-mower, the combination, with the side pieces, A A', slotted axle C, and gear F, having ratchet-toothed hub *f*, of the pawl D and recessed block D', arranged in the slot c^3 of the axle, and the spiral spring E, placed between the recessed block and pawl, said pawl being oppositely beveled, as at *d d*, and adapted to engage with the adjoining ratchet-hub, substantially as and for the purpose described.

263,345. INVALID-LOUNGE. ARCHIBALD J. MCDONALD Springfield, Ohio. Filed June 21, 1882. (No model.)



Claim.—1. In an invalid-lounge, a top consisting of three sections hinged together, and having its head-section supported upon pivoted journals, whereby its connected sections are made to assume the positions required by tilting of said head-section, substantially as set forth.

2. A lounge for the use of invalids and for other purposes, having its top sections flexibly connected, one of said sections being pivoted in such manner as to adapt it to be operated, in connection with the other sections attached thereto, by the weight of the body, and provided with an automatic locking device for securing said sections in adjustment, substantially as set forth.

3. A lounge for the use of invalids and for other purposes, the top of which is constructed in three sections flexibly connected together, the head-section thereof being pivoted to the top of the frame-standards in such manner as to allow it to be tilted to any required degree of inclination toward either side of its bearings, and having the foot-section supported upon horizontal guide-rails, the intermediate section, between the head and foot sections, being unsupported except at its connected ends, the whole of said sections adapted to be operated by the weight of the body thereon in conforming them to the positions shown and specified through the movements of the pivoted section, as set forth.

4. In a lounge constructed with separate sections flexibly connected together, and having the head or operative section pivoted in the manner described, the combination, with said section, of an adjustable head-rest applied thereto and made detachable therefrom, as set forth.

5. In an invalid-lounge adapted to be operated as described, a detachable head-rest having a pivoted self-adjustable roller, as set forth.

6. In a lounge having its sections flexibly connected together, and adapted to be operated in the manner and for the purpose set forth, a detachable head-rest for attaching to the head-section of the lounge, substantially as specified.

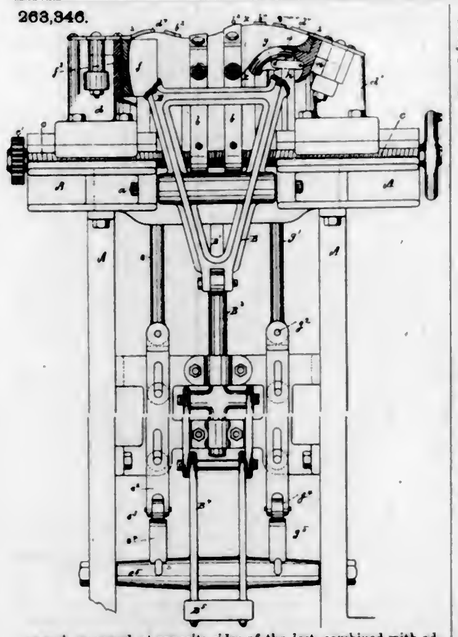
263,346. LASTING-MACHINE. GORDON MCKAY, Newport, R. I. Filed Feb. 20, 1882. (No model.)

Claim.—1. The last, a toe-rest, and hold-down to keep the last in position, and the presser to force the upper in contact with and hold it against the top of the foot of the last, combined with the holders *m*, to bear against the upper near the edges of and about the fore part of the last, and with springs to force the said holders against the upper and prevent its slipping back over the last, after being stretched about the last between the presser and the edges of the last, substantially as described.

2. The last, hold-downs to keep the last in position, and the presser having vertical movement, and adapted to impinge the upper between it and the top of the foot of the last, and to hold the upper in place on the last after the hold-downs have engaged the shoe to be lasted, combined with means, substantially as described, to enable the presser to be moved horizontally to adapt it to lasts of different lengths, substantially as described.

3. In a lasting-machine, one or more pairs of holders, *m*, and

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arms *b*, arranged at opposite sides of the last, combined with adjustable springs to regulate the force or pressure of the holders against the stretched upper on opposite sides of the last, substantially as described.

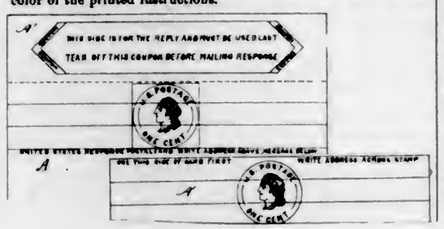
4. The arm *b* and adjustable nut 10, combined with the holder, its rod 7, spring, and check-nut, to operate substantially as described.

5. The last, last-holding pin, toe-rest, hold-downs to keep the last in place, a presser to impinge the upper against the top of the foot of the last, and a series of holders, *m*, acted upon by springs to hold the upper against the sides of the last along its edges while the upper, the edges of which are exposed, is being stretched by hand-pinchers, and side-lasting devices, combined with means, substantially as described, to lift the presser, and then the last-holding pin and heel of the last, the heel of the last being lifted after the closing together of the usual heel-lasting jaws or devices, substantially as and for the purpose described.

6. The holders *m* and the mechanism for pressing them against the upper, and the lasting devices b^3, so placed as to leave the upper exposed, to be seized by the pinchers in the hands of the operator and drawn up around the last prior to the closing in of the lasting devices b^3, substantially as described.

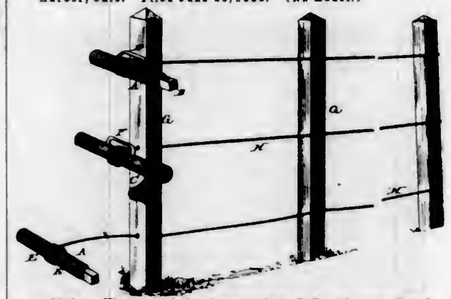
268,347. POSTAL-CARD. FREDERICK G. MEAD, New York, N. Y. Filed Mar. 24, 1882. (No model.)

Brief.—The line which separates the coupon and the card may be weakened by perforating or the like, but not so much as to impair its stiffness. On writing the return message the coupon containing the outward address is removed, thereby enabling the postal authorities to readily distinguish the outgoing from the return message. This may be further facilitated by delicately tinting one side of the card, and also by a difference in the style and color of the printed instructions.



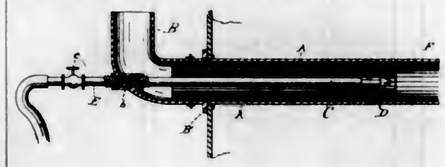
Claim.—A return postal-card in a plain form, with a removable coupon, A', having the address and stamp for the outgoing journey on such coupon, and with the stamp and place for the address for the return journey on the reverse side of the main part A, all adapted to serve substantially as and for the purposes herein specified.

268,348. FENCE-WIRE TIGHTENER. GEORGE MEAD, Oak Harbor, Ohio. Filed June 23, 1882. (No model.)



Claim.—The stem A, having openings D E and squared end B, in combination with the bail E, as and for the purpose set forth.

268,349. FLUE-CLEANER. PHILIP OFFER and HERMANN CHALL, Cleveland, Ohio. Filed June 26, 1882. (No model.)



Claim.—1. The process herein described of cleaning boiler-flues by steam, consisting in inserting in a flue a steam-pipe having its outlet so obstructed that the steam passing through the pipe will be forced back and escape through the same end of the flue in which the steam-pipe is inserted, thereby exhausting the air from the flue, and during the process of exhaustion driving out any foreign matter there may be in the flue, substantially as and for the purpose described.

2. A flue-cleaner consisting of a steam-pipe having its end surrounded by a cap of larger diameter than the pipe, and arranged to deflect the steam back outside of the pipe after it leaves the end of the same, substantially as described.

3. In a flue-cleaner, the combination, with a steam-pipe provided with an obstructed outlet, whereby the direction of the flow of steam is reversed, of a casing surrounding the steam-pipe, through which the steam and any foreign matter in the flue may pass, substantially as and for the purpose shown and described.

4. In a flue-cleaner, the combination of the steam-pipe C and deflector D, substantially as and for the purpose shown and described.

5. In a flue-cleaner, the combination of the steam-pipe C, deflector D, and casing A, substantially as and for the purpose shown and described.

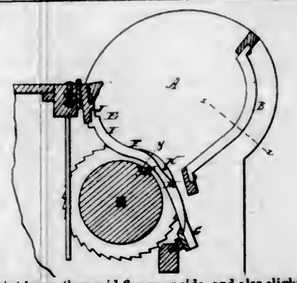
6. The combination, in a flue-cleaner, of a steam-pipe, having at one end means for deflecting the steam in a direction the reverse of its passage through the pipe, with an elbow-pipe at the other end, arranged to surround the mouth of a flue and deflect the escaping steam and soot laterally therefrom, substantially as described.

7. The combination, with the steam-pipe C, provided with a deflector at one end, of the elbow B, having the coupling-socket *b*, in which the other end of said steam-pipe is inserted, substantially as described.

263,350. COTTON-GIN. NEWDAYGATE B. OUSLEY, Fort Valley, Ga. Filed July 12, 1882. (No model.)

Claim.—1. A cotton-gin rib, curved from its lower end upward to form an arc corresponding with the periphery of the saw, when in use, and formed at said segmental portion with a beveled shoulder extending diagonally down across the rib and terminat-

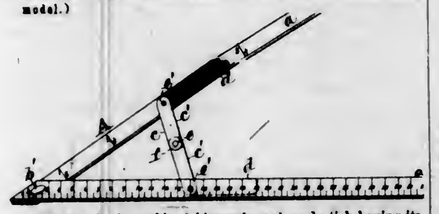
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ing at a point lower than said flange or side, and also slightly lower than the teeth of the adjoining saw, when in use, as set forth.

2. In combination with the saws of a cotton-gin, the herein-described cotton-gin ribs, curved from their lower ends upwardly to form arcs corresponding to the peripheries of the saws, said curved portions having raised sides or flanges slightly higher than the teeth of the adjoining saws, and beveled shoulders extending diagonally down across the ribs and terminating at points lower than said flanges or raised sides, and also slightly lower than the teeth of the adjoining saws, substantially as set forth.

268,351. COMBINED YARD-STICK AND BIAS-RULE. ANNA S. PHILLIPS, Springfield, Ohio. Filed Apr. 27, 1882. (No model.)



Claim.—1. A combined bias-rule and yard-stick having its two limbs hinged or pivoted together at the angle and adapted to be folded upon each other, as shown, and connected between their angle and free ends by a brace attached by its ends to stationary pivots on said limbs, which are held rigidly in place when the brace is set, substantially as described.

2. In a combined cloth-marker or bias-rule and yard-stick, the two limbs or sticks *a a*, overlapping each other at their connecting ends, and pivoted or hinged at the angle of connection by a rivet, *b'*, and each provided with a recess, *d*, on their overlapping surfaces opposite to the other, said recesses forming a slot when the instrument is folded, into which the hinged brace *c*, connecting the two limbs, folds down, so as to be concealed from view, substantially as and for the purpose hereinbefore set forth.

3. In an instrument convertible from a bias-rule or cloth-marker to a yard-stick, and adapted to be folded together for the purpose of changing its use in the manner shown, the combination, with the two yard-sticks pivoted or hinged together at one end, of the hinged brace pivoted thereto and the approximating recesses in the lapping surfaces for receiving the same to conceal it from view when the instrument is folded together, as hereinbefore set forth.

4. A combined bias-rule and yard-stick consisting of two pivoted or hinged limbs adapted to be folded upon each other, and having corners beveled substantially as shown, and a brace placed between the angle and free ends, for holding the limbs upon the same angle as the beveled corners, for the purpose set forth.

5. In a combined bias-rule and yard-stick, a brace formed of two sections pivoted together, and having ears or stops *e*, substantially as described, and for the purpose set forth.

263,352. CARRIAGE-CURTAIN FASTENING. GEO. R. PIERPONT, New Haven, Conn. Filed Apr. 14, 1882. (No model.)

Brief.—A movable button is fitted over and pivoted to the rigid jaw, which is provided with projections to prevent the curtain slipping off and a screw-shank for securing it to the carriage-frame.

Claim.—1. In a carriage-curtain fastening, a rigid jaw having ribs or projections *d f*, and a button pivotally attached to said dog and having rib or rim *h*, substantially as and for the purpose set forth.

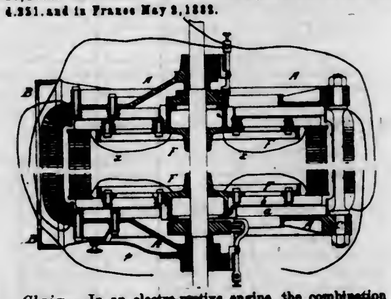
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2. The combination, with a pivoted button, B, of the dog A, having screw-shank *a*, rim *c*, and ribs or projections *d f*, substantially as and for the purpose set forth.

3. A carriage-curtain fastening consisting of rigid jaw A, having screw-shank *a*, rim *c*, ribs or projections *d f*, recesses *i*, button B, pivotally secured to said jaw, and having recesses *i*, and rib or rim *h*, and the spring C, substantially as and for the purpose set forth.

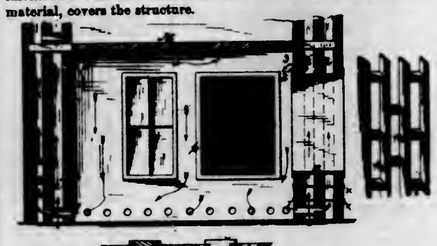
268,353. ELECTRIC MOTOR. DENIS THOMAS PIDY, Great Titchfield Street, County of Middlesex, England. Filed May 17, 1882. (No model.) Patented in England Nov. 5, 1881, No. 4,251, and in France May 8, 1882.



Claim.—In an electro-motive engine, the combination of crank-shaped soft-iron cores, wound circularly with insulated conducting-wire, forming the coils or bobbins of the armature, with similarly-shaped electro-magnets, all substantially as and for the purposes set forth.

263,354. CONSTRUCTION AND DECORATION OF BUILDINGS. HENRY C. REW, Chicago, Ill. Filed Apr. 27, 1882. (No model.)

Brief.—The walls of the building are constructed of a cellular frame-work, with transparent or translucent building-blocks fastened therein. A double roof, also of transparent or translucent material, covers the structure.



Claim.—1. A building-wall composed of a cellular support or frame-work and a series of blocks or panels set therein, substantially as and for the purpose specified.

2. The combination, in a building, of an outer wall and an inner wall, each of said walls composed of a frame-work and translucent or transparent blocks or panels set therein, substantially as and for the purpose specified.

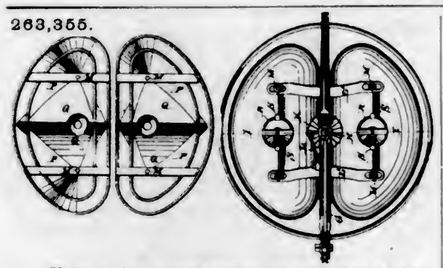
3. The combination, in a building, of an outer wall of translucent or transparent material and an inner decorated wall of translucent or transparent material, substantially as and for the purpose specified.

4. The combination, in a building, of an outer wall of translucent material, an inner wall, and an intermediate wall, forming air or ventilating chambers between the walls, substantially as and for the purpose specified.

5. A double roof of transparent or translucent material, substantially as and for the purpose specified.

263,355. WASHING-MACHINE. JAMES W. RHOADES, Metz, Ind. Filed Nov. 9, 1881. (Model.)

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Claim.—1. In a washing-machine, the combination of a plunger and its shaft, a horizontally-adjustable operating-lever therefor, guide-rods for the plunger-shaft to move in, having slotted ends, and bolts for connecting said rods at those ends to a standard, and a support for the several parts, substantially as set forth.

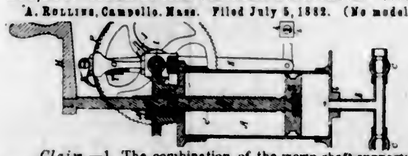
2. In a washing-machine, the combination of a plunger and its shaft, a lever for operating the plunger, a stirrup pendent from the operating-lever and hinged thereto, a ratchet connected to the plunger-shaft within said stirrup, and a pawl hinged to the operating-lever and adapted to engage with the ratchet, whereby the plunger-shaft is raised and lowered and rotated, substantially as set forth.

3. In a washing-machine, a frame, a laterally-adjustable plunger connected thereto by fastenings, and a plate secured between the frame and plunger and provided with flanges bearing against the plunger to prevent it from moving sidewise, substantially as set forth.

4. The plunger I, divided into several tapering chambers by partitions P and Q, the partition Q also forming a central air-cell, tapering from top to bottom, as shown, and communicating with the interior chambers, and an air-inlet at the top of the plunger, substantially as and for the purposes set forth.

5. In a washing-machine, a plunger divided into a central air-cell and a series of air-chambers by partitions P and Q, in combination with an air-inlet at the top formed of a removable funnel-shaped cap having inclined edges, and a valve, substantially as and for the purposes specified.

263,356. STEAM-ENGINE-CYLINDER LUBRICATOR. OSCAR A. ROLLINS, Campello, Mass. Filed July 5, 1882. (No model.)



Claim.—1. The combination of the worm-shaft-supporting puppet fastened to the cylinder and provided with the stationary tubular journal extending from it, (the said puppet,) as set forth, with the adjustable arm and its arc, and with the ratchet-wheel and its operating lever and pawl, applied to such worm-shaft and stationary journal, essentially as explained, all being adapted and to operate substantially as specified.

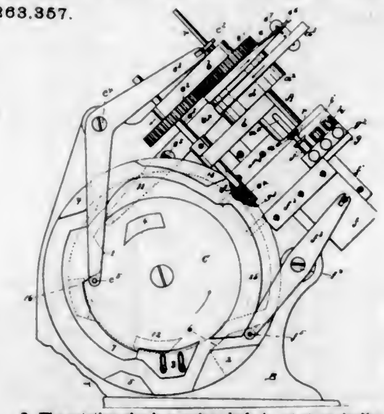
2. The combination of the connection-rod attachment U, constructed as described, with the lever, the pawl, ratchet-wheel, curved arc, and its carrying-arm, arranged and applied to the arm-shaft and the stationary journal, as set forth.

263,357. METAL-SCREW MACHINE. CHARLES F. ROPER, Boston, Mass. Filed Feb. 23, 1882. (No model.)

Claim.—1. The improved rod-rotating chuck herein described, it comprehending the hollow shaft A, open from end to end, the jaws a^3, pivoted thereon, the independent longitudinally-adjustable split spring-chuck, and the longitudinally-movable hollow wedge open from end to end and fitted within the shaft A and supporting the rod to be cut, the said wedge operating the said levers and permitting the rod inserted at one end of it to be delivered therefrom at its other end, all substantially as shown and described.

2. The rotating chuck-carrying shaft A, set at an incline to receive the rod r and render it self-feeding by reason of its own gravity, and the chuck to grasp and rotate the rod and slide and tool-carrying carriage thereon, combined with the length-gage secured to the said carriage, and upon which the end of the rod is dropped by its own gravity when released from the chuck, and with mechanism for operating the said carriage and slide, substantially as described.

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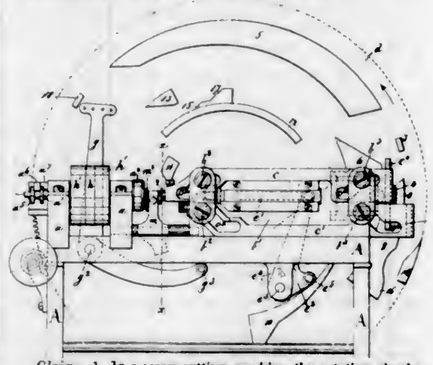
3. The rotating chuck-carrying shaft A, set at an incline to receive the rod r and render it self-feeding, and the chuck to grasp and rotate the rod, and the slide and the tool-carrying carriage thereon, combined with the length-gage secured to the said carriage, and upon which the end of the rod is dropped by its own gravity when released from the chuck, and with the disk, cams thereon, and the lever to actuate the slide and force the rod back into and to be grasped by the chuck, substantially as described.

4. The rotating chuck-carrying hollow spindle A, its fast pulley, and two loose pulleys, *d e*, the worm-shaft e^3, connected with and driven from one of the said loose pulleys, and the disk C, its cams 16 and 12, and the belt-shipper, all combined and arranged substantially as and for the purpose described.

5. The rotating hollow shaft A, the tubular wedge c^3, fitted therein, the jaw-levers a^3, pivoted on the shaft A, the split chuck a^4, the rotating shaft e^3, and disk C, engaged and driven by it, provided with the cams 1 and 4, combined with the lever c^2 to operate the said wedge, the said hollow shaft and chuck being placed at an inclination from a horizontal plane to enable the rod to be fed forward by gravity alone, all substantially as shown and described.

6. In a metal-screw-cutting machine, the rotating hollow shaft and chuck to grasp and rotate a rod, the tool-carrying carriage *i*, having a milling or reducing tool and a threading-tool, and made movable in a plane at right angles to the said hollow shaft, and the reciprocating slide *f*, to move the tool-carrying carriage parallel with the said hollow shaft and toward and from the end of the rod held by the chuck, combined with the single rotating disk C, having its axis at right angles to the axis of the rotating hollow shaft, and a series of cams, substantially as described, carried by the said disk, the said cams being adapted at the proper time to effect the grasping and releasing of the rod and the movement of the slide and its carriage, substantially as set forth.

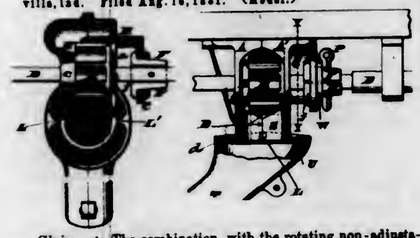
263,358. METAL-SCREW MACHINE. CHARLES F. ROPER, Boston, Mass. Filed June 5, 1882. (No model.)



Claim.—1. In a screw-cutting machine, the rotating chuck, combined with one or more reciprocating tool-carrying bars having guiding-surfaces, both inclined with relation to and parallel with the axis of rotation of the said chuck and the rod carried by it, and mechanism for operating said bars, whereby each tool-carrying bar, as it is reciprocated, has given to it a parallel and diagonal movement, as described, with relation to the axis of the chuck and rod carried by it, substantially as set forth.

2. Two or more tool-carrying bars having the described guiding-surfaces inclined and parallel with the axis of the chuck, and supported, as described, to be moved forward and diagonally inward toward the axis of the chuck and backward and diagonally outward from such axis, and a chuck to rotate a rod, and means to move the said bars and chuck, combined with the reducing and threading tools and the rod-feeding mechanism, to operate substantially as set forth.

263,359. GRAIN-DRILL. GEORGE W. RUDE, JOHN R. RUDE, and HORACE G. SWOPE, Liberty, and JOHN L. RITER, Brownsville, Ind. Filed Aug. 16, 1881. (Model.)

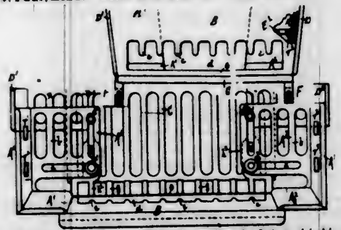


Claim.—1. The combination, with the rotating non-adjustable scalloped wheel-cylinder, of the feed cup or case having the swell H upon its inner side adjacent to the end of the wheel, and of the laterally-moving cut-off slide, substantially as described, for the purpose specified.

2. The combination, with the rotating non-adjustable scalloped wheel-cylinder, of the feed cup or case having the swell upon its inner side, the cut-off slide having the curved portion C, with the back or reversed-curved edges, the narrow guiding-extension E, projecting forward from the part C, so that when the latter is drawn back, so as to uncover the wheels, said extension will guide the cut-off without obstructing the feed, and the ring E′, and the shaft to which the slide is secured.

3. The combination, with the ring E′ of the cut-off slide, of the removable two-part sleeve F F, having the flanges *f*, the washer W, the perforated shaft D, for operating the cut-offs, and the pin P, passing through the two-part sleeve and the shaft, and operating to hold the ring E′ of the cut-off tightly clamped between the flange *f* of the sleeve and the washer W, substantially as described.

263,360. EXTENSION STOVE-GRATE. WILHELM SCHERCK, St. Paul, Minn. Filed Dec. 2, 1881. (No model.)



Claim.—1. The combination of end plates, A′ A^4, grate C, and front plate, B, having the opening *d*, and provided with toes *g*, the said several parts being adjustable, as and for the purpose specified.

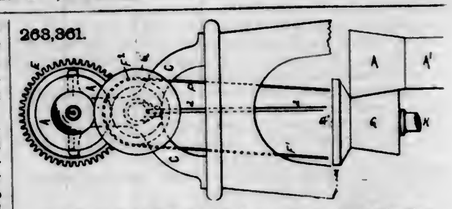
2. The combination of the end plates, A′ A^4, grate C, and extension-plates D′ D^2, substantially as set forth.

3. The combination of end plates, A′ A^4, provided with supporting-lugs, front plate, B, and auxiliary grate E′ E^2, substantially as set forth.

4. The combination, with front plate, B, end plates, A′ A^4, and grate C, of the extension-plates D′ D^2, provided with vertically-adjustable legs F, whereby the grate may be raised or lowered, as set forth.

263,361. COMBINED NECKBAND-FORMER AND CUFF AND COLLAR IRONER. GEORGE H. SIMPSON, Minneapolis, Minn. Filed Mar. 17, 1882. (No model.)

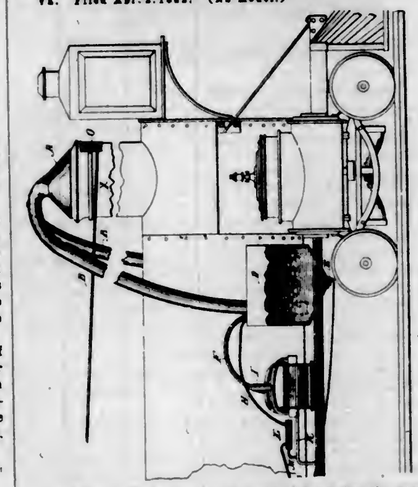
263,361.



Claim.—1. In a neckband-former, the revolving beating roller A, tapering from its outer to its inner end, in combination with the revolving padded roller B, tapering from its inner to its outer end, the two rolls being arranged as shown, to operate as set forth.

2. A shirt-neckband former consisting of a beating-roller, A, tapering from its outer to its inner end, in combination with padded roller G, tapering from its inner to its outer end, and provided with a flange, G′, the two rollers being arranged to operate as set forth.

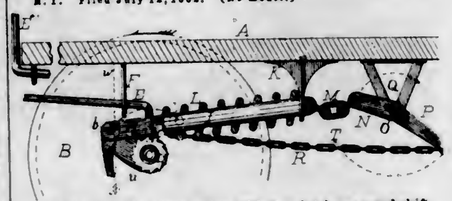
263,362. SPARK-ARRESTER. MATHEW A. SIMS, Warrenton, Va. Filed Apr. 2, 1882. (No model.)



Claim.—1. The combination, with the uptake of a steam-boiler, of the reservoir for the reception of the sparks, the pump for exhausting the gases from said reservoir, the parts being suitably connected, and the auxiliary water-supply pump arranged to supply the spark and smoke reservoir, all adapted for joint operation in the manner set forth.

2. A smoke and spark arresting device consisting of the uptake, a reservoir having an inclined or conical bottom, an exhausting-pump, and an auxiliary water-supply pump, being connected to each other and to the common cross-head or other moving part of the engine, all being arranged and combined in the manner set forth and described.

263,363. CAR-STARTER. CHARLES A. SULSMAN, Waterford, N. Y. Filed July 12, 1882. (No model.)

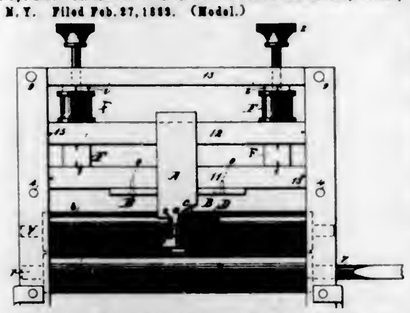


Claim.—1. The combination, with the clutches *a e* and shifting-lever E, of a pawl, J, arranged to engage a ratchet-wheel, D, secured to the axle, the pushing-bar I, carrying the pawl J at one

end, connected to the lever N at the other end, the levers N P of the rock-shaft O, the chain R, arranged to wind upon the drum S of the clutch *a* at one end, and connected with the lever P at the other end, and a spring, L, as shown and described.

2. The combination, with the ratchet-wheel D and clutch *c*, secured to the axle, and the clutch *a*, free on the axle, of an arm, G, hung upon the clutch *a*, carrying a stud-pin, *b*, on which the pawl J and the pushing-bar H I hang, as shown and described.

263,364. CLOTHES-WRINGER. CHARLES THOMPSON, Fulton, N. Y. Filed Feb. 27, 1882. (Model.)



Claim.—The jointed or double roller 8 and 8, having bearings D D, in combination with the standard A, having journals *c c*, the lower roller, and the mechanism for regulating the pressure of the jointed roller upon the lower roller, substantially as described.

263,365. BLEACHING FABRICS. CHARLES TOPPAN, Salem, Mass. Filed Jan. 26, 1882. (No specimens.)

Brief.—"Sinapetroline" is a compound of mustard-seed oil with petroleum or petroleum oils.

Claim.—The herein-described art or process of bleaching, consisting in boiling the fabric or goods in a solution of water and sinapetroline No. 2, then treating the fabric or goods with a solution of chloride of lime and water, and airing the same, and then washing the fabric or goods in a solution of hot water and sinapetroline No. 2, as and for the purposes set forth.

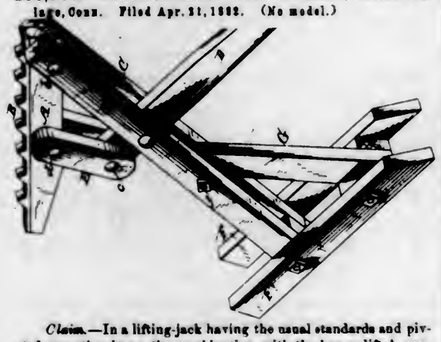
263,366. PROCESS OF FINISHING COLORED OR PRINTED TEXTILE FABRICS. CHARLES TOPPAN, Salem, Mass. Filed Jan. 26, 1882. (No specimens.)

Brief.—Uses the compound described in Letters Patent No. 186,640, dated January 23, 1877.

Claim.—1. The herein-described art or process of setting and intensifying colored prints, fabrics, or goods, consisting in passing the goods or fabrics into and through a solution of warm water and sinapetroline No. 2, then calendering the same upon hot rolls or cylinders, as and for the purposes set forth.

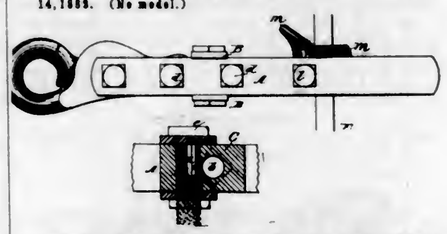
2. The herein-described art or process of finishing colored prints, goods, or fabrics, consisting in subjecting the same to a solution of warm water and sinapetroline No. 2 and starch, then calendering the same upon hot rolls or cylinders, as and for the purposes set forth.

263,367. CARRIAGE-JACK. HENRY C. TORRANT, Central Village, Conn. Filed Apr. 21, 1882. (No model.)



Claim.—In a lifting-jack having the usual standards and pivoted operating-lever, the combination, with the bar or lift A, connected to said lever by pivotal link E, of the metal rack-plate B, recessed or grooved upon its under side to form flanges *a*, for embracing the sides of the bar or lift, and secured thereto by screws or other like fastenings, substantially as and for the purpose set forth.

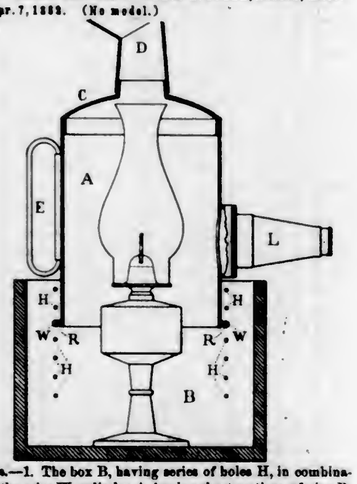
263,368. HARROW. JOHN D. TRACY, Sterling, Ill. Filed June 14, 1882. (No model.)



Claim.—1. In combination with bars A and braces B, the bolts *d*, the bolts *e*, and the head-block C, provided with the holes *a* and *b*, perpendicular to each other, substantially as shown, and for the purpose specified.

2. In a harrow, the clamps D, having the flanges *m*, such flanges being formed in divisions *n* and *o* in angular relation to each other, so as to furnish separate bearings for such clamps and hold the tooth E in different positions, substantially as shown, and for the purpose described.

263,369. MAGIC LANTERN. JAMES B. UPHAM, Boston, Mass. Filed Apr. 7, 1882. (No model.)



Claim.—1. The box B, having series of holes H, in combination with the wire W, cylinder A, having short sections of pipe R, lenses L, cover C, and pipe or chimney D, substantially as and for the purpose specified.

2. As a magic lantern, the lens L, cover C, and chimney D, in combination with the cylinder A, arranged to be supported over an ordinary household-lamp, N.

3. The cylinder A, having lens L and cover C, in combination with the box B, arranged to support said cylinder A at any needed height, for the purpose set forth.

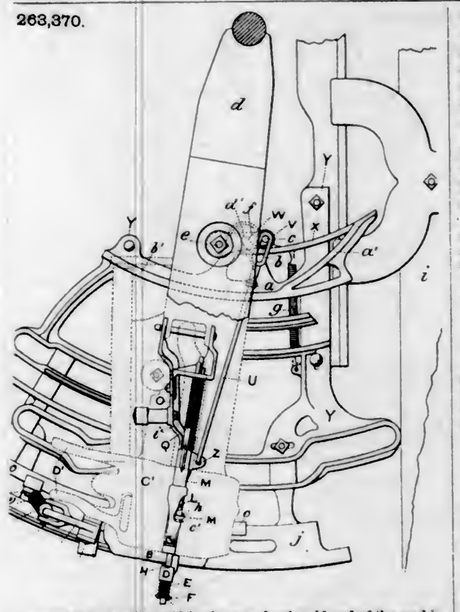
263,370. SELF-BINDING HARVESTER. CYRENUS WHEELER, Jr., Auburn, N. Y. Filed Oct. 26, 1881. (Model.)

Claim.—1. In combination with the knotter-carrying arm, the vertically-vibrating cord-holder, its movable jaw provided with a yielding collar, and a cam fixed on said knotter-arm, whereby the cord is firmly clamped by the holder, substantially as set forth.

2. In combination with the vertically-vibrating cord-holder, having the movable jaw provided with the actuating-collar, the fixed cam and means for adjusting said cam, substantially as and for the purpose set forth.

3. In combination with the binder-arm and cord-holder, a sliding hook carried on the upper side of said cord-holder, and

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means for operating said hook, whereby the old end of the cord in the holder is separated from the new portion presented by the binder-arm, substantially as set forth.

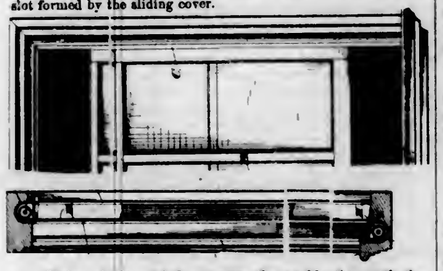
4. The swinging knotter-carrying arm, in combination with the hook for separating the cord, as described, a cam-track on the binder-frame, a link-rod, and intermediate operating mechanism for actuating the hook at the proper times, substantially as and for the purpose described.

5. The combination of the swinging knotter-carrying arm, the compressing-finger pivoted thereto, the fixed cam and pivoted switch on the binder-frame, and intermediate operating mechanism for actuating said finger, substantially as and for the purpose set forth.

6. The combination of the swinging knotter-carrying arm, the compressing-finger pivoted thereto, the fixed camway below said knotter-arm, intermediate operating mechanism, and the bracket attached to the knotter-arm and provided with a roller adapted to traverse the under side of said cam, substantially as and for the purpose set forth.

263,371. WINDOW-SCREEN. HORATIO O. WEYMAN, Norfolk, Nebr., assignor of one-half to August P. Pilger, same place. Filed Mar. 23, 1882. (No model.)

Brief.—The spring-actuated screen-rollers are located in boxes secured to the sill and cap of the window. The boxes are each provided with a sliding cover, the cover of the lower box having a rib, which fits a groove in the sash. The edge of the screen is detachably secured to the sash by a cleat or bar, which fits into the slot formed by the sliding cover.



Claim.—1. In a window-screen, the combination, with the frame having a box secured thereto below the lower sash and a box secured thereto above the upper sash, and removable covers adapted to slide in grooves formed in the ends of the said boxes, of spring-rollers, each having one end of a flexible screen wound thereon, while the opposite ends of the said screens are respectively secured to a strip, which is adapted to fill the space between the lid and side of the box for the passage of the screen when the said screens are disconnected from their respective sashes, substantially as and for the purpose set forth.

2. In a window-screen, the combination, with the window-frame having the box secured therein, a spring-roller pivotally secured within the said box, and a flexible screen, one end of which is connected to the spring-actuated roller, while the opposite end thereof is removably secured to the window-sash, of a removable lid or cover to said box, provided with a rib, and the window-sash, the lower edge of which is provided with a groove adapted to fit over the said rib, substantially as and for the purpose herein set forth.

263,372. HAY AND COTTON PRESS. ANDREW WICKEY and ALBERT A. GERRY, Quincy, Ill. Filed Oct. 12, 1881. (No model.)



Claim.—1. In a baling-press, the combination, with chambers C and D and the sliding head E, of a pair of wedge-shaped plates, F, adapted to form together a partition-wall between a complete and an incomplete bale, and to assist in discharging the completed bale by sliding laterally from each other through the sides of the open bale-chamber, substantially as shown and described.

2. In a baling-press, the combination of a compressing-chamber in which the bale is begun and a bale-chamber in which the bale is completed, the latter being formed with open sides, a removable partition between said chambers, and a sliding and revolving head forming one end of the bale-chamber, substantially as shown and described, whereby two bales shall be in process of formation at the same time, and the completed bale shall be automatically discharged from the press, as set forth.

3. In a baling-press, the combination, with bale-chamber D, having slots in the bottom, sliding head E, and the journaled post *f*, having cam-groove *g* in its lower end, of the stops G, pivoted underneath the bottom of said chamber and oscillated by the rotation of the sliding head E, whereby their forward ends shall be moved into or out of the slots, substantially as and for the purpose specified.

4. In a baling-press, the combination, with the follower and follower-chamber, of a bottom formed of oscillating slats having egg-shaped circumferences and arranged at intervals apart to allow the seeds to drop through, and adapted to be oscillated by the follower to form a close bottom, while the follower and hay are passing over them, substantially as shown, and for the purpose specified.

5. In a baling-press, the combination, with the follower and follower-chamber, of a stop or brake mechanism, substantially as shown and described.

6. In a baling-press, the combination, with the follower and follower-chamber, of the stop or brake J, secured to the upper part of said chamber, and the wedge K, adapted to be inserted between the bottom lining of said chamber and a cross-piece on the outer side thereof by means of the crank-screw *k'*, by which the wedge is supported, substantially as shown and described.

7. In a baling-press, the combination, with the pitman L, having a friction-roller, *m*, secured to its upper surface, of the fenders M, secured to opposite sides of the forward end of the press and adapted to form tracks for the said roller, substantially as shown and described, and for the purpose set forth.

8. In a baling-press, the combination, with the segmental gear having a lug, *n*, on its upper surface, of the head N, secured to the end of the pitman, and having a semicircular groove in its under surface for receiving the lug, substantially as specified.

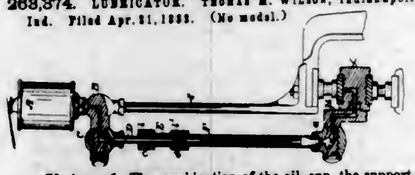
263,373. WIRE-STRETCHER. HUGH WILLIAMS, Apple River, Ill. Filed Dec. 16, 1881. (Model.)



Claim.—A wire-stretcher composed essentially of two parts, which are hinged to each other and provided with clamping-jaws

B D, one of the parts having a handle, the other part being provided with a jaw, D, with lips *e e* near one end and a claw, *f*, at the other end, substantially as shown, and for the purposes set forth.

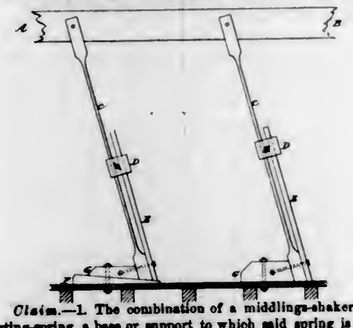
263,374. LUBRICATOR. THOMAS M. WILSON, Indianapolis, Ind. Filed Apr. 21, 1883. (No model.)



Claim.—1. The combination of the oil-cup, the support or standard having the projection or wrist formed on its upper end, and having a channel for the oil made through it, connecting-pipes, casting G, block H, and cross-head *x*, the block, casting, and cross-head having an oil-channel made through them, substantially as shown.

2. The combination of the oil-cup A, union B, casting C, tubes D and F, hollow casting G, block H, sleeve E, and gland *e*, substantially as and for the purposes described.

263,375. SPRING FOR MIDDLINGS-SHAKERS. THOMAS M. WILSON, Indianapolis, Ind. Filed Mar. 13, 1882. (No model.)



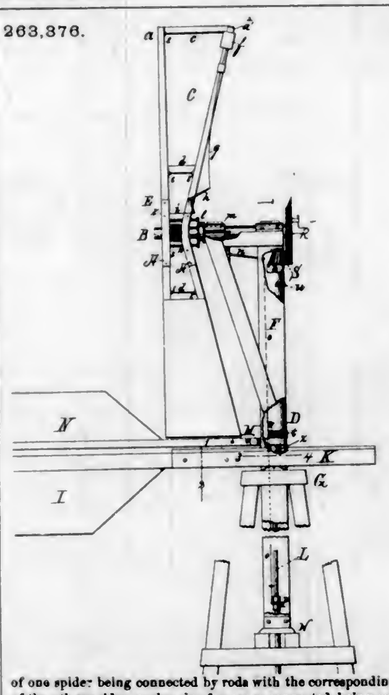
Claim.—1. The combination of a middlings-shaker, a supporting-spring, a base or support to which said spring is rigidly secured, a rigidly-supported guide for the spring, and means for connecting the guide and spring at any desired point, substantially as described.

2. The guide E, in combination with the spring C, a rigid base or support, and clamp D, for the purposes herein described.

3. The guide E and spring C, in combination with the adjustable blocks G F of the base.

4. The combination of a shaker, a spring connected thereto, and a base connected to the spring, the base composed of sections, one adjustable upon the other, for varying the length of the support for the shaker, substantially as described.

263,376. WINDMILL. ELAM B. WISNER and OSWALD E. WISNER, Freeport, Ill. Filed Mar. 6, 1882. (No model.)



Claim.—1. In a windmill, a wind-wheel consisting of two spiders having an equal number of arms and mounted upon a common shaft, one of said spiders being rigidly attached thereto and the other having rotary and longitudinal play thereon, to each arm of one of said spiders an arm of wood or other suitable material being rigidly fastened, and to each arm of the other spider an arm of wood or other suitable material being pivoted, each of said wooden arms of one spider being connected with a corresponding arm attached to the other spider, each pair of arms so connected being covered with canvas or other material, forming a sail, and said spiders being arranged, as described, so that the rotation of the loose spider about the shaft throws said sails out of the line of direction of the wind and increases the distance between the spiders upon the shaft, or that the separation of the spiders upon the shaft rotates the loose spider about the shaft and throws the sails out of the line of the wind.

2. In a windmill, a wind-wheel consisting of two spiders having the same number of arms, and mounted, one rigidly and the other loosely, upon a common shaft, the rigidly-mounted spider having bolted to each of its arms a wooden arm extending in the same line as the line of the spider-arm, the loose spider having pivoted to each of its arms a wooden arm whose normal position is in the line of the arm of the spider to which it is attached, each arm of one spider being connected by rods with the corresponding arm of the other spider, each pair of arms so connected being covered with canvas or other material, forming a sail, and the spiders and arms thereto attached being arranged, as described, so that the rotation of the loose spider throws the sails out of the line of the wind and increases the distance between the spiders upon the shaft, while the increasing of the distance between the spiders rotates the loose spider and throws the sails out of the line of direction of the wind.

3. In a windmill, a wind-wheel consisting of two spiders, one rigidly and one loosely attached to the same shaft, the rigid spider having rigidly attached wooden arms and the loose spider an equal number of pivoted wooden arms, the corresponding arms attached to the two spiders being connected by rods attached as shown, each pair of arms so connected being covered with suitable material, forming a sail, said spiders being pressed apart by a spring placed between them upon the shaft, or by other suitable means, and the whole being arranged, as described, so that the separation of said spiders by said spring or other equivalent device throws the sails out of the line of the wind, substantially as shown and described.

4. In a windmill, the combination, with a wind-wheel, constructed as shown, of the regulating device, consisting of the rods *k k*, attached to the spider A, the swivel *l*, the forked bell-crank *n*, rods *m*, wire *o*, and swivel P, all constructed and operating substantially as shown.

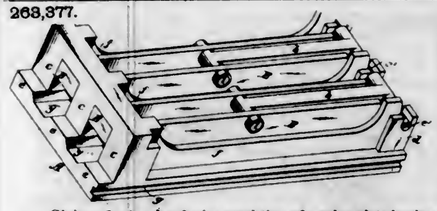
5. In a windmill of which the power is applied to the rotation of a vertical shaft, the combination of an auxiliary vane with suitable means, substantially as set forth, whereby the resistance to the rotation of the vertical shaft throws said vane out of the line of the wind with a force increasing with such resistance.

6. In a windmill whose power is applied to the rotation of a vertical shaft, the combination of a vertical shaft, divided as shown, and having its parts connected by suitable gearing, with an auxiliary vane connected with said parts of said vertical shaft, so that the tendency of the upper portion of said shaft to move around the other acts with equal force to throw said auxiliary vane out of the line of the wind.

7. In a windmill, the combination of the wind-wheel, constructed as shown, the regulating devices connected therewith, the rotating supporting pillar and platform and main vane attached thereto, the vertical shafting, and the auxiliary vane, all constructed and operating substantially as described.

263,377. VALVE FOR PUMPS. WILLIAM E. WORTHEN, New York, N. Y. Filed Apr. 3, 1882. (No model.)

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Claim.—1. A valve device consisting of a valve-plate having a series of parallel longitudinal ports, and a series of independent bar-valves adapted thereto and connected by flexible connections to the plate, to permit each to move independently of the others, substantially as set forth.

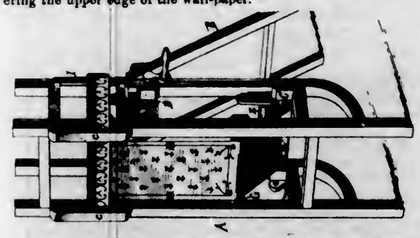
2. The combination of the valve-plate having longitudinal ports and fixed guides, and bar-valves extending between the guides, and links connecting the separate valves to the plate, substantially as set forth.

3. The plate A, having ports *e*, guides *c*, and recessed blocks *d*, in combination with the valves B and links *b*, pivoted to the valves and provided with trunnions fitting bearings in the blocks *d*, substantially as specified.

4. The valve-plate with ports and intermediate webs, *f*, in combination with bar-valves B, substantially as set forth.

263,378. WALL-PAPER EXHIBITOR. OCTAVIUS A. WRIGHT, Chicago, Ill. Filed May 15, 1882. (No model.)

Brief.—The border is exhibited in close contact with and covering the upper edge of the wall-paper.

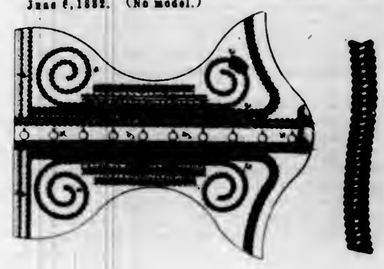


Claim.—1. An apparatus for exhibiting wall-paper, having horizontal rollers for winding and guiding such wall-paper in a vertical direction and vertical rollers for winding and guiding the border transversely of the wall-paper and in close contact therewith, in order that such wall-paper and border may be exhibited in the position they would assume when in use, substantially as set forth.

2. An apparatus for exhibiting wall-paper, having rollers C, D, G, and H, for winding and guiding such wall-paper, and rollers I, J, and *d*, for winding and guiding the border in a direction transverse to the line of travel of the wall-paper and in close contact therewith, the whole being constructed and arranged to operate substantially in the manner set forth.

3. In an apparatus for exhibiting wall-paper, the rollers C and D, provided with cranks, the tension-rollers E and F, and the guide-rollers G and H, in combination with the rollers I and J, having cranks, and the guide-rollers *d*, the whole being arranged within a frame, A, substantially in the manner and for the purpose set forth.

263,379. CORSET. JOHN O. AVERY, Spencer, Mass. Filed June 6, 1882. (No model.)



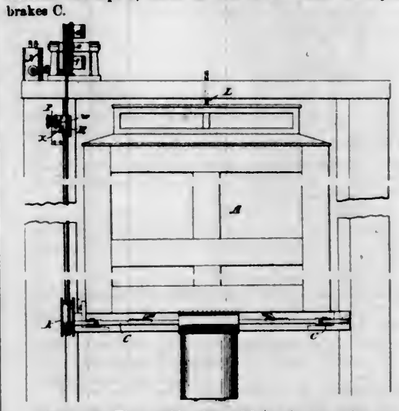
Claim.—1. A multiple-wire stiffener for corsets and like articles, composed of two or more wires in one and the same close spiral coil, with the successive convolutions of each wire separated and overlapped by those of the other wire or wires, as herein specified, for the purposes set forth.

2. The combination, with the body fabric of a corset or like article, of multiple-wire stiffeners, each composed of two or more wires overlapping each other in a close spiral coil and re-enforcing each other as to stiffness, substantially as herein set forth.

3. As a new article of manufacture, a corset provided with stiffeners of multiple wire, each composed of two or more wires in a close spiral coil, substantially as herein described.

263,380. ELECTRIC SAFETY APPARATUS FOR ELEVATORS. CYRUS W. BALDWIN, Chicago, Ill. Filed Apr. 25, 1882. (No model.)

Brief.—When the elevator-cable breaks the rapid descent of the car causes the arms *f*, by centrifugal force, to break the circuit of battery N. The armature *e* then rolls down the incline *x* and clutches the rope *b*, which in turn acts on drum *k* to put on brakes C.

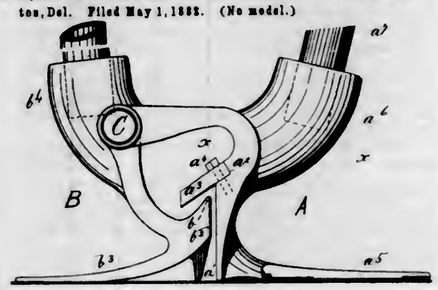


Claim.—1. The combination, with an elevator, of a governor driven with a positive movement from some moving part of the mechanism, devices, as described, whereby the movement of the cage may be arrested, a detent constructed to be held out of operation during the completion of an electrical current, and a circuit-breaker independent of the governor, and constructed to be operated thereby to release the detent upon an increase in the speed at which the governor is driven, as set forth.

2. The combination, with a rope supplemental to the hoisting-cable and the brake of an elevator, of a detent constructed to be held out of action by an electric current, a circuit-breaker, and a governor constructed to operate the circuit-breaker on an undue increase of speed, as specified.

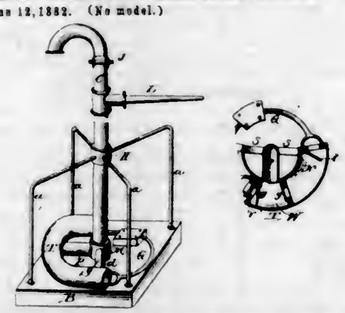
3. The combination of the cage, its brakes and operating-rope *b*, a governor, a bracket having a contracting opening, *x*, for the passage of said rope, a circuit-breaker arranged to be operated by the governor, and an electro-magnet having an armature constituting a detent and arranged to be held above said opening *x* by the magnet, substantially as set forth.

263,381. ROOFING-TONGS. THOMAS BARR BERSON, Wilmington, Del. Filed May 1, 1882. (No model.)



Claim.—The hereinbefore-set-forth roofing-tongs, consisting of the jaws B, having the foot-plate b^3 and the jaw A, hinged thereto, and provided with the foot-plate a^2, boss a^4, face a, recess a^5, and plate a^3, secured in the recess at incline, as shown, as and for the purpose set forth.

263,382. PORCE-PUMP. HIRAM BLAKE, Keene, N. H. Filed June 12, 1882. (No model.)



Claim.—1. A double-acting forcing-pump having a double stationary semicircular plunger or piston placed horizontally with a bed or platform, with two curved vibrating cylinders, and perpendicular conducting-pipe operated by the forward and backward movement of a horizontal lever, all constructed substantially as and for the purposes specified.

2. The oscillating semicircular tube T, provided with valves *g g*, water-chamber W, connecting-pipe P, conducting-pipe C, and horizontal lever L, when constructed and operating substantially as and for the purpose set forth.

3. The double-headed stationary semicircular piston G, provided with boxes and valves r r, constructed and combined with a curved vibrating cylinder, substantially as and for the purposes described.

4. The curved horizontal cylinders N N, provided with valves *g g*, in combination with the water-chamber W, connecting-pipe P, and conducting-pipe C, constructed substantially as and for the purposes specified.

5. The combination, in a forcing-pump, of the double-headed stationary plunger G with the semicircular oscillating tube T, provided with the curved cylinders N N, valves *g g*, water-chamber W, connecting-pipe P, and conducting-pipe C, all constructed and operating substantially as and for the purposes specified.

6. The combination, in a forcing-pump, of the platform B, double-headed plunger G, the oscillating tube T, the curved cylinders N N, with valves *g g*, water-chamber W, connecting-pipe P, conducting-pipe C, and horizontal lever L, all constructed substantially as described, for the purposes specified.

263,383. HARVESTER. FRANK BRAMER and GEORGE G. CROWLEY, Little Falls, N. Y. Filed Mar. 27, 1882. (No model.)

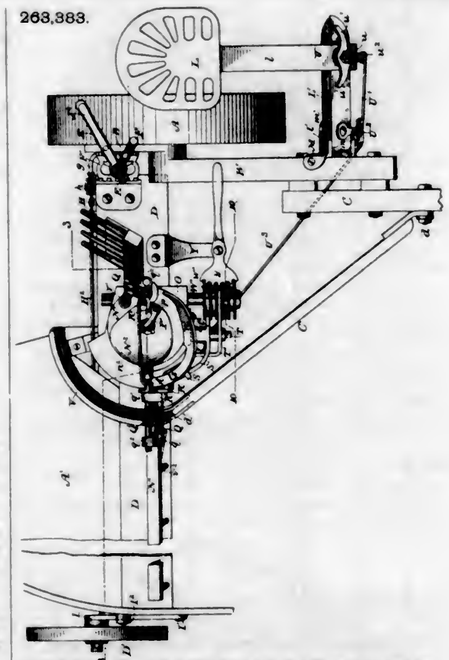
Claim.—1. The combination, substantially as hereinbefore set forth, of the main frame, the finger-beam, the adjusting-rod with which the finger-beam is connected at its heel, the main-frame lug in which the lower end of the adjusting-rod is supported, and the main-frame lug provided with the slot through which the adjusting-rod passes, for the purpose described.

2. The combination, substantially as hereinbefore set forth, of the finger-beam, the lugs at the heel thereof, the adjusting-rod passing through the upper one of said lugs and threaded to match a screw formed in the lower lug, through which it also passes, the main-frame lug in which the adjusting-rod is supported beneath the threaded lug of the finger-beam, the main-frame lug through which the adjusting-rod passes above the upper lug of the finger-beam, the pulleys at the inner and outer ends of the finger-beam, the vertically-adjustable grain-wheel, the downwardly-projecting arm of the main frame, and the flexible connection between said arm and the grain-wheel, for the purpose described.

3. The combination of the sleeve J, the lever, segment-gear, and detent-rod thereof, and the adjusting-rod on which the sleeve turns, substantially as and for the purpose hereinbefore set forth.

4. The combination, substantially as hereinbefore set forth, of the main frame, the finger-beam, the adjusting-rod with which the finger-beam is connected at its heel, the main-frame lug in which the lower end of the adjusting-rod is supported, the main-frame lug provided with an elongated slot through which the adjusting-rod passes, the sleeve turning on the adjusting-rod, the toothed arc

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secured to the sleeve, the rack with which said arc engages, the lever, and its detent devices, for the purpose described.

5. The combination of the main frame, the threaded turning and rocking adjusting-rod, the finger-beam supported thereby, and provided with the threaded lug in which the rod works, the main-frame lug by which the rod is supported at bottom, the main-frame lug by which the adjusting-rod is supported above its connection with the finger-beam and guided in its rocking movements, the crank by which to turn the rod to raise and lower the finger-beam, the sleeve on the rod, and means for turning the sleeve to rock the rod, substantially as hereinbefore set forth.

6. The combination of the rake-head and the inclined grain-deflecting plate-tooth at the inner end thereof, substantially as and for the purpose described.

7. The inclined tooth V', provided with the loop and shank by which to attach it to the rake-head, substantially as described.

8. The combination of the stud or roller *p*, its overhanging support, and the trip-lug R' of the oscillating rake-head, acted upon by said roller to rock the rake-teeth downward, substantially as and for the purpose hereinbefore set forth.

9. The combination of the rake-standard, the roller mounted on the overhanging arm, the series of rake-arms, and their oscillating brackets rocked by said roller to turn down the rake-teeth preparatory to entering the standing grain, substantially as and for the purpose hereinbefore set forth.

10. The combination of the rake-head, the hinged rotating rake-carrying arm, the oscillating bracket by which the rake-head is mounted upon its carrying-arm, the spring acting to rock up the rake-teeth or hold them up, the cam-track, the cam-track traveling roller, and means by which to rock the rake-head against the force of the spring by which the rake-teeth are sustained in their elevated position and direct the roller outside of or beneath the cam-track, substantially as and for the purpose hereinbefore set forth.

11. The combination, substantially as hereinbefore set forth, of the rake-head, the oscillating bracket by which it is mounted on its hinged carrying-arm, the rotating carrier, the cam-track, the cam-track traveling roller on the bracket, the overhanging arm provided with the roller, and the trip-lug roller actuated on the bracket, for the purpose described.

12. The bracket Q, provided with the bearings to fit upon the rake-carrying arm, and having the roller-actuated curved arm or trip-lug, and the cam-track traveling roller, as and for the purpose described.

13. The combination of the rake-head, the hinged rake-carrying arm, the bracket fitted by its bearings to rock on said arm, the spring acting to rock up the rake-teeth, and the roller-actuated trip-lug of the bracket by which the rake-teeth are rocked down against the force of the spring, substantially as and for the purpose hereinbefore set forth.

14. The combination of the rotating carrier, the rake-carrying arm hinged thereto, the rake-head, the oscillating bracket to which it is secured, the bracket-bearings fitted to the rake-carrying arm, the spring acting upon the bracket to hold up the rake-teeth, the cam-track traveling roller, the trip-lug on the bracket, and the stop-lug at the heel of the bracket, abutting against the shoulder of the rake-carrying arm to limit the rocking movement of the rake-head, substantially as and for the purpose hereinbefore set forth.

15. The combination of the rake-standard, the rotating carrier, the cam-track, the overhanging arm, its roller, the series of rake-carrying arms, the rake-heads, and the oscillating brackets actuated by the roller to rock down the rake-teeth, substantially as and for the purpose hereinbefore set forth.

16. The combination of the fixed sections of the cam-track, the cam-switch, its locking-arm, the tripping-lever, the rake-head, the oscillating bracket, its roller, the carrying-arm, the spring acting on the bracket, and the stop-lug for limiting the oscillation of the bracket, substantially as hereinbefore set forth.

17. The combination of the cam-switch, its locking-arm, the tripping-lever, the foot-treadle, and the connections between the treadle and tripping-lever, by which said lever may be moved in either direction to engage or release the switch-locking arm, substantially as hereinbefore set forth.

18. The combination, substantially as hereinbefore set forth, of the cam-switch, the locking-arm thereof, the tripping-lever, the rocking-lever provided with the heel-projection crossing beneath the tripping-lever, and the springs acting upon said levers with a tendency to hold the tripping-lever engaged with the switch-locking arm, for the purpose described.

19. The combination of the revolving rake-heads, the constantly-revolving cam or series of cams, and mechanism actuated thereby for controlling the action of the rakes, substantially as hereinbefore set forth.

20. The combination of the rake-heads, the revolving cam or series of cams, and cam-operating mechanism actuated by the rake-rotating mechanism, by which the rotary motion is imparted to the cam or series of cams independently of the rakes, substantially as and for the purpose hereinbefore set forth.

21. The combination, substantially as hereinbefore set forth, of the rake-standard, the series of revolving rising and falling rake-heads, the cam-track, its switch, the setting-lever by the actuations of which the switch-tripping lever is operated to lock and release the switch, the rotating adjustable cam or series of cams for actuating the setting-lever, and cam-rotating mechanism actuated independently of the rakes, for the purpose described.

22. The combination, substantially as hereinbefore set forth, of the rake-standard, the series of revolving rising and falling rake-heads, the cam-track, the cam-switch, the cam-track traveling rollers of the rake-heads, the tripping-lever, the vertically-rocking setting-lever acting upon the tripping-lever, a cam acting upon the setting-lever and in contact with which the lever is held by spring-pressure, and the rotating shaft upon which the cam is fixed, for the purpose described.

23. The combination of the rake-standard, the rotating rake-carrier, the pinion geared with the rake-carrier, the shaft on which the pinion is mounted, the cam or series of cams, and mechanism actuated by the cam or cams for controlling the action of the rakes, substantially as hereinbefore set forth.

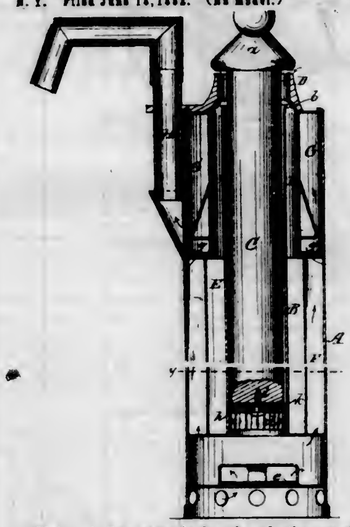
24. The combination, substantially as hereinbefore set forth, of the rake-standard, the rotating rake-carrier, the scroll-gear, the pinion actuated thereby, the cam or series of cams rotating with said pinion, and the shipping-lever, for the purpose described.

25. The combination, substantially as hereinbefore set forth, of the rake-standard, the rotating rake-carrier, the scroll-gear, the pinion actuated thereby, the shaft rotating with said pinion, the cam or series of cams on said shaft, and the shipping-lever, for the purpose described.

26. The combination, substantially as hereinbefore set forth, of the rotating rake-carrier, the rake-carrying arms, the oscillating brackets, the cam-track, the cam-switch, the cam-track traveling rollers, the tripping-lever, the switch-locking arm, the setting-lever, springs acting upon said tripping-lever and setting-lever, the cams acting upon the setting-lever, and the rotating shaft upon which said cams are mounted.

27. The combination of the rake-standard, the rotating shaft supported thereby, the cam or series of cams on said shaft, the plain or uncammed disk, also on said shaft, the washers between which said cams and disk are secured, the setting-lever provided with the curved nose and shoulder, and the shipping-lever, substantially as and for the purpose hereinbefore set forth.

268,384. BARREL-PUMP. MOTT B. BROOKS, North Hammond, N. Y. Filed June 16, 1882. (No model.)



Claim.—1. In a pump for barrels and other vessels, the casing A, having central cylinder, B, and the plunger or piston C, in combination with the chamber G and valves *g* and metal top D, said top and the cylinder B being open at their upper ends to form a space around the plunger or piston, substantially as and for the purpose set forth.

2. The combination, with the casing A, passages or tubes F, and chamber G, of the air-vent and drip-chamber E, central cylinder, B, plunger C, and the several valves, substantially as and for the purpose set forth.

268,385. BOOT. THOMAS H. BUCKINGHAM, San Francisco, Cal., assignor to Buckingham & Hecht, same place. Filed June 23, 1882. (No model.)



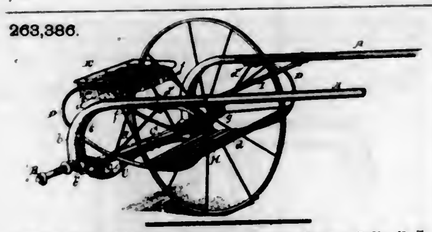
Claim.—1. A boot the upper of which consists of a main portion, A, fashioned or cut as shown, and suitably crimped and stitched down the back at seam c, a back-seam stay, E, covering and securing seam c, and a gore, B, stitched in the front opening, *a*, of the leg of the main portion A, substantially as herein described.

2. A boot the upper of which consists of the main portion A, fashioned or cut as shown, and stitched down the back at c, when suitably crimped, the back-seam stay E, the counter-protector C, and the gore B, stitched in the front opening, *a*, of the leg of the main portion A, all arranged and combined substantially as herein described.

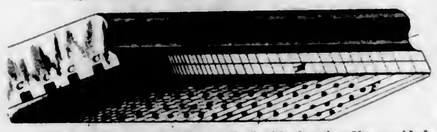
263,386. ROAD-CART. JOHN A. CHAPMAN, Milwaukee, Wis. Filed Apr. 4, 1882. (No model.)

Claim.—The combination, with the spring C and axle, of raves D, for supporting the seat, said raves terminating in front in U-shaped springs, that are suspended from the under side of the thills, as set forth.

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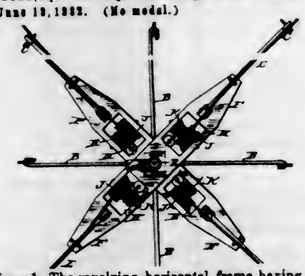


263,387. ERASER. FLAVIUS CHERRY, Seneca Falls, N. Y. Filed Apr. 17, 1882. (No model.)



Claim.—The combination, with the block or handle provided with the series of parallel longitudinal grooves, all open at but one and the same end, of the erasing material provided with corresponding series of parallel longitudinal rows of perforations, each entire row opening into the same groove, and the perforations extending entirely through the erasing substance and open on the surface thereof, substantially as set forth.

263,388. TETHER. CALVIN P. CHRISTOPHER and ROBERT B. ALEXANDER, Spartanburg, S. C., assignors to said Alexander. Filed June 19, 1882. (No model.)

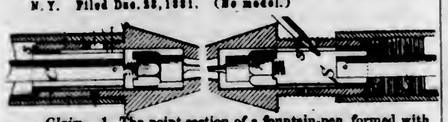


Claim.—1. The revolving horizontal frame having arms F, provided with slots H, in which are journaled different-sized pulleys J K, in combination with the tether and weight ropes wound in opposite directions upon the respective pulleys, as set forth.

2. The revolving horizontal frame having arms F, provided with slots H, in which are journaled different-sized pulleys J K, said arms being provided with hinged extension-arms L, having rings M at their outer ends, in combination with the tether and weight ropes N O, wound in opposite directions upon the pulleys J K, respectively, as set forth.

3. The combination, with the post A, supporting the herein-described tethering device, and having hinged braces B, provided at their outer ends with hooks C, of the truck Q, having staples S, the stakes T, having eyes U, and the cross-bars V, all arranged substantially as set forth.

263,389. FOUNTAIN-PEN. EDWARD COFFIN, Jr., New York, N. Y. Filed Dec. 28, 1881. (No model.)

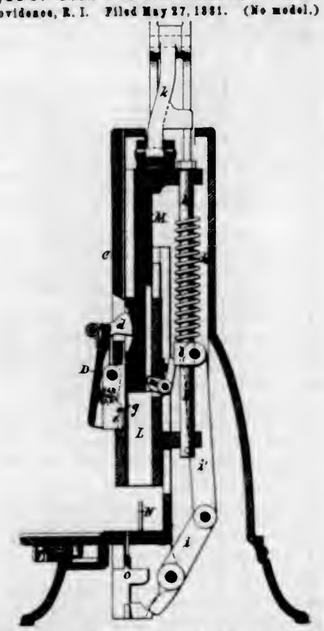


Claim.—1. The point-section of a fountain-pen, formed with an opening through the screw-threaded or joint portion of sufficient size to admit the mouth of the charging-instrument for filling the pen without separating the parts, as hereinbefore set forth.

2. The point-section of a fountain-pen, formed in the screw-threaded or joint portion with an opening for filling and an opening for the escape of air, as herein set forth and shown.

3. In a fountain-pen, in combination with the point-section formed with openings in the screw-threaded or joint portion, the cylindrical slotted stop for holding the valve mechanism in place, as herein set forth.

263,390. BOOK-STAPLING MACHINE. WILLIAM L. COOP, Providence, R. I. Filed May 27, 1881. (No model.)



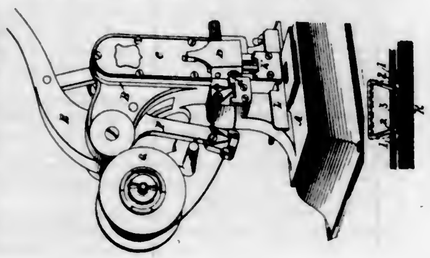
Claim.—1. In a staple-forming and staple-driving machine, the combination, with a lever which has pivotal movement in a vertical plane, of a staple-driver to which it is connected, a staple-former provided with a presser-foot, a spring which connects said staple former and driver, and a clinching device, substantially as described, operated by the same spring.

2. The combination, with the actuating-lever E, directly connected with the driver, of the feed-arm F, connected with the actuating-lever by an adjustable connection, constructed substantially as described, to regulate the length of wire fed to the machine.

3. The combination, with the interchangeable cutter D, of the adjustable dies *c* and *c'*, constructed to regulate the length of the wire cut, as described.

4. In a staple-forming and staple-driving machine, the combination of the following instrumentalities: a spool containing the wire for the staples, a feeding device constructed to feed the wire, a cutter to cut the wire, a compressor to compress the material through which the staple is driven and also form the staple, a driver for forcing the staple through the material, and a clinching device for clinching the staple-legs upon the material, all constructed and arranged substantially as described, and a single actuating-lever arranged to transmit motion to said parts for causing them to perform their various functions during one downward and one upward motion of said lever, as set forth.

263,391. BOOK-STAPLING MACHINE. WILLIAM L. COOP, Providence, R. I., and SAMUEL E. MOWRY, Milford, Conn., assignors to Henry G. Thompson & Son, New Haven, Conn. Filed June 17, 1881. (No model.)



Claim.—1. The combination, with the presser and the driver, of the clinching-plate K, consisting of the raised edge 1, the concaves 2 2, and the convex surface 3, constructed to bend the ends of the staple inward, as and for the purpose described.

2. The combination, with the presser provided with the shoulders h h and the driver, of the anvil b, provided with the downward projection b', depending in front of the presser, substantially as described.

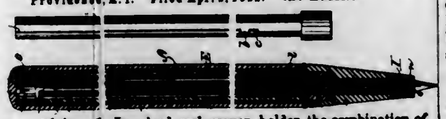
3. The combination, with the presser H and anvil b, of the plate h', attached to the front of the lower end of the presser, and provided with the horns h², arranged to press the ends of the staple closely upon the sides of the anvil as the presser ascends, substantially as described, and for the purpose set forth.

4. In a machine for binding books with wire staples, the combination, with the wire-cutter and staple-former, of the anvil and the spring *c'*, constructed to hold the staple until it is released by by the driver, as described.

5. In a machine for binding books with wire staples, the combination, with the presser, of a driver, the end of which is formed with a convex surface to bear against the staple near the center, as described.

6. The combination, with the actuating-lever E, the driver I, operated directly, and the presser H, connected by means of the rod *o* and spring *p*, of the spring *q*, constructed to counteract the force of the spring *p* and cushion the presser, as described.

263,392. LEAD AND CRAYON HOLDER. ALONZO T. CROSS, Providence, R. I. Filed Apr. 8, 1882. (No model.)



Claim.—1. In a lead and crayon holder, the combination of the slotted carrier provided with a guiding-stud, and the plunger provided with a spring-pin, with a slotted screw-holding tube provided at one side of the slot with a notch serving to hold the carrier, when in its lowest position, against the forcible insertion of the lead or crayon, substantially as described.

2. In a lead and crayon holder, the combination of the slotted carrier provided with a guiding-stud, and the plunger provided with a spring-pin, with a slotted screw-holding tube provided with a notch serving to hold the carrier, when in its lowest position, against the forcible insertion of the lead or crayon, and the screw provided at its lower end with a limiting-shoulder and a beveled under-cut, whereby the spring-pin may be forced from the screw-groove to within the bore of the screw to provide for the insertion of a fresh lead or crayon and for the subsequent engagement of the spring-pin with the screw-groove, substantially as described.

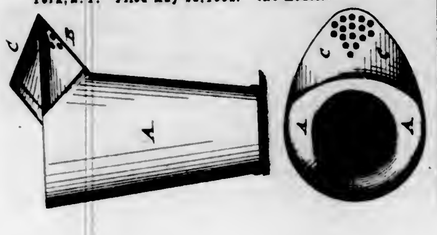
263,393. BUTTON. JAMES E. DOWNEY, LOUIS A. WILLEMIN, and C. FRANKLIN GLAUNER, Providence, R. I. Filed June 24, 1882. (No model.)



Claim.—1. A button having a wooden core or body, A, one or more strips or bands of metal, B, attached thereto, and an attaching-shank, eyelets, or other suitable fastening device, substantially as set forth.

2. A button having a core or body, A, of wood, one or more strips or bands of metal, B, a metallic pin or pins, C, secured to said wooden core or body, and a shank or other suitable attaching device, substantially as and for the purpose set forth.

263,394. MIXING AND SHAKING CUP. ABNER MOORE, New York, N. Y. Filed May 22, 1882. (No model.)

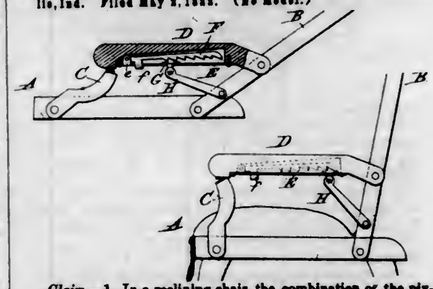


Claim.—1. A mixing and shaking cup provided with a spout and a perforated spout-cover, substantially as set forth.

2. A mixing and shaking cup having a perforated spout and a convex perforated spout-cover, substantially as specified.

3. A mixing and shaking cup having a spout and a convex perforated spout-cover, the inner edge of which is made of concave arc shape, substantially as specified.

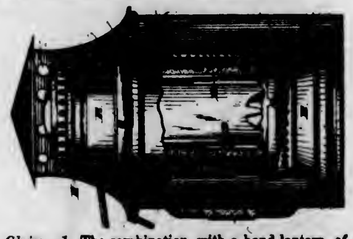
263,395. RECLINING-CHAIR. HENRY H. ELDRED, Indianapolis, Ind. Filed May 2, 1882. (No model.)



Claim.—1. In a reclining-chair, the combination of the pivoted back B, pivoted standards C, recessed arms D, slotted plates E, pivoted rack-bar F, sliding pawls G, and bars H, pivoted to the back below the arms, all constructed and arranged substantially as shown and described.

2. In a reclining-chair, the combination of the pivoted back B, pivoted standards C, and recessed arms D, pivoted at their rear ends to the chair-back, and having their front ends hinged to the pivoted standards, with the slotted plates E, having lugs *e*, rack-bar F, having knobs or buttons *f*, sliding pawls G, and bars H, pivoted to the back below the arms, substantially as shown and described.

263,396. SIGNAL-LANTERN. JOHN H. EWING, Wheeling, W. Va., assignor to the Ewing & Hill Lantern Company, same place. Filed Apr. 17, 1882. (No model.)



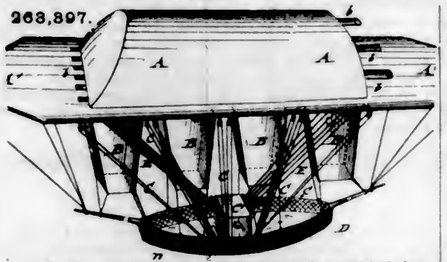
Claim.—1. The combination, with a hand-lantern, of a case adapted to receive it, the side walls of the case being provided with panes or lenses, and having rows of air-inlets located above and below said panes, a device located within and near the bottom of the case to engage with the lower portion of the lantern, and a top secured to the case and arranged to engage with the upper portion of the lantern and secure and support it in the case, substantially as described.

2. The combination, with a hand-lantern, of a case adapted to receive it, the side walls of the case being provided with panes or lenses, and having air-inlets located above and below said panes, wind-guards located within the case and arranged to break the force of the air-currents entering the inlets, the lower guard serving also to engage with the lower portion of the lantern to hold it in place, and a top hinged to the case, adapted to be locked thereto, provided with air-outlets, and adapted to engage with the top of the lantern to secure and support it in the case, substantially as described.

263,397. AIR-SHIP. CHARLES P. PEET, Philadelphia, Pa. Filed June 20, 1882. (No model.)

Claim.—1. The combination, in an air-ship, of an elongated body, A, having a bottom opening or openings, *a a*, with one or more truncated extensions, B, that are fitted to the bottom openings, and with hoisting appliances C, whereby the extensions B are raised or lowered, so as to close or open said bottom openings, substantially as and for the purpose set forth.

263,397.

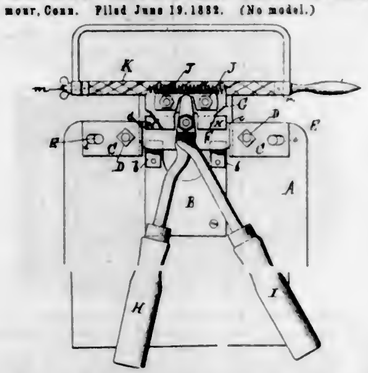


2. The combination, in an air-ship, of an elongated body having a flat extended bottom, A', arranged in the plane of the bottom, with truncated bottom extensions, B, arranged below the body and fitted to the bottom openings of the same and with hoisting appliances C, for raising or lowering the extensions B, substantially as set forth.

3. In an air-ship, the combination, with an elongated body, A, having bottom openings, *a a*, of truncated bottom extensions, B, hoisting appliances C, and means whereby the air at the interior of the body A and in the extensions B is heated up, substantially as set forth.

4. In an air-ship, the combination, with the body A and vertically-adjustable bottom extensions, B, of a receptacle, C', for a suitable burning-fluid, of fixed inclined wick-tubes E, extending from the receptacle C' to the inside of the body A, of endless wick-cords *d*, and of a grooved cylinder, C², by which the wick-cords are continuously moved through the wick-tubes and the receptacle, so as to furnish a continuous supply of burning-fluid to the unexposed parts of the wick-cords at the interior of the body A, substantially as set forth.

263,398. METHOD OF SHARPENING CLIPPERS AND DEVICES FOR HOLDING THE SAME. THADDEUS FOWLER, Seymour, Conn. Filed June 19, 1882. (No model.)



Claim.—1. The method of sharpening the blades of horse-clippers or animal-shears, consisting in separating the blades, without detachment from each other, sufficiently to admit a sharpener between them, inserting the sharpener, fastening the said blades in parallel planes, and moving the sharpener back and forth between said plates, thereby sharpening both of them equally and at the same time.

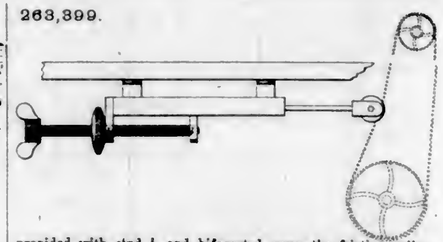
2. One or more blocks or plates for separating the rear parts of a pair of clipper-blades, in combination with holding devices for said blades, and a sharpener of equal thickness with said blocks, adapted to operate between the cutting-edges of said blades, so as to sharpen both blades at once, substantially as set forth.

263,399. ADJUSTABLE BELT-TIGHTENER. WILLIAM L. GARDNER, New York, N. Y. Filed June 9, 1882. (No model.)

Claim.—1. In a belt-tightener, the base-plate constructed as described, and adapted to operate in combination with the slide, friction-roller, and thumb-screw, substantially as and for the purposes specified.

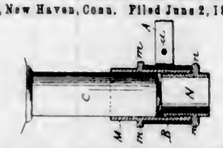
2. The belt-tightener herein described, consisting of the plate A, provided with securing-arms, grooves *f f*, and stud b^3, slide B,

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provided with stud *b*, and bifurcated arms, the friction-roller, thumb-screw, and jam-nut, all constructed and adapted to operate substantially as specified.

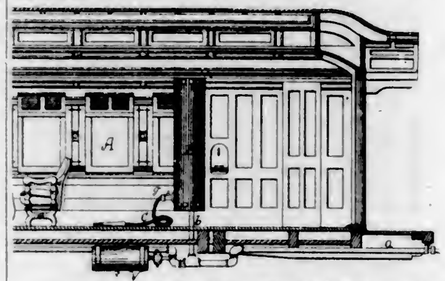
263,400. PROP FOR CARRIAGE-LANTERNS. R. ELMER GOODRICH, New Haven, Conn. Filed June 2, 1882. (No model.)



Claim.—The upper part, M, soldered onto the cylindrical part C of the lantern, in combination with the lower part N of the device, as set forth.

263,401. MEANS FOR EXTINGUISHING FIRE IN RAILWAY-TRAINS. ALMON M. GRANGER, Boston, Mass. Filed Feb. 4, 1882. (No model.)

Brief.—The air-brake system of the train is utilized to provide the requisite pressure within the fire-extinguishing-fluid reservoir B.



Claim.—1. An apparatus for extinguishing fires on railroad-trains, consisting of the air-brake reservoir V and a vessel or reservoir adapted to contain fire-extinguishing fluid and suitably connected to the air-brake reservoir, and means for distributing the said fluid over the fire, whereby the pressure of the air is utilized for expelling said fluid, substantially as set forth.

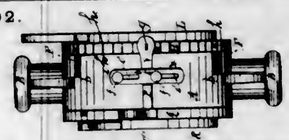
2. A fire-extinguishing apparatus for railway-trains, consisting of the air-brake system of a railway-train and a suitable reservoir connected with said brake system and adapted to contain fire-extinguishing fluids, and a connection whereby the air-pressure in or from the brake system will expel the fire-extinguishing fluid over the fire, as set forth.

3. In a fire-extinguishing apparatus for railway-trains, the combination of the devices for supplying air to operate the air-brakes with a series of reservoirs for fire-extinguishing fluid, located respectively in the several cars of the train, branch pipes which conduct the air from the brake-operating devices to the said receivers or reservoirs, and check-valves arranged one in each branch pipe, for the purpose set forth.

4. In a railway-train fire-extinguisher, the combination of reservoir B with air-brake cylinder or vessel V, pipe *b*, and check-valve *c*, arranged in said pipe *b*, whereby the air forced into vessel B is prevented from producing back-pressure on the air receiver or pump, as shown and described.

263,402. DIE-STOCK FOR CUTTING SCREW-THREADS. CHARLES HART, Cleveland, Ohio. Filed Apr. 24, 1882. (No model.)

263,402.

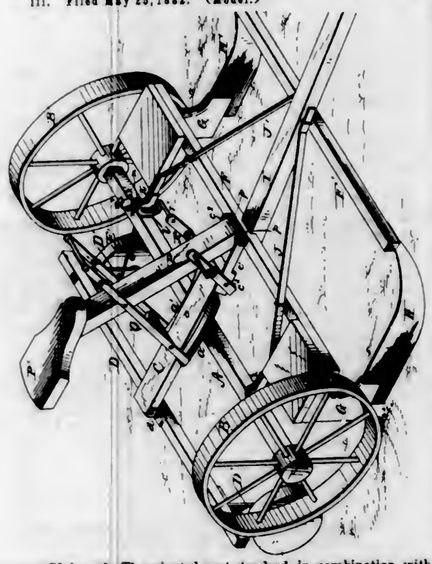


Claim.—1. In screw-stocks, the adjustable spring-gage V, provided with pin *g* and arms *e e*, connected to said stock by means of screws inserted through slotted openings *e' e'* in said arms, in combination with the cam-ring H, having a figured index or scale of sizes marked thereon, and a series of peripheral notches or stops, *h*, substantially as and for the purpose set forth.

2. In a screw-stock, the combination of the cam-ring H, having a series of peripheral notches or stops, *h h*, clamping-ring I, and gage V, provided with slotted arms *e e* and spring-pin *g*, substantially as and for the purpose set forth.

3. The cam-ring H, provided with an index or scale of sizes and a series of stops, *h*, in combination with the adjustable spring-gage V, arranged in relation to the die-stock and screw-cutters, substantially as and for the purpose described.

263,403. CORN-PLANTER. GEORGE D. HAWORTH, Decatur, Ill. Filed May 25, 1882. (Model.)



Claim.—1. The pivoted seat-standard, in combination with the fulcrum-standard, pivoted thereto, and the segments on the rocking frame or frame-bar with which the coverers are connected arranged and operating substantially as described.

2. The coverer-frame or frame-bar extended in front of the axle-bar, in combination with the pivoted links connecting said bar with the seeder-frame and the reversible foot-stirrup, arranged and operating substantially as described.

3. The combination of the pivoted seat-standard, the fulcrum-standard pivoted thereto, the grooved segments on the coverer-frame or frame-bar, and the pivoted link connecting said bar with the seeder-frame, substantially as described.

4. The combination of the pivoted seat and fulcrum standards with the main or coverer frame and the seeder-frame jointed to said main frame, the grooved segments on the latter, the pivoted link connecting the latter and the seeder-frame, and the reversible stirrup, arranged and operating substantially as described.

5. In a seed-planting machine having rear auxiliary covering-rollers, the combination, with said rollers, of the movable fulcrum-standard, whereby said covering-rollers with the fulcrum in one position are forced down firmly to the ground and in another position are entirely relieved of pressure, substantially as described.

6. The combination, in a seed-planting machine, of the front and rear covering-rollers, as shown, and the double-slotted hinge-connection between the covering-roller frame and the seeding part of the machine, whereby the seeding part and covering-rollers are permitted to move independently of each other, substantially as set forth.

7. The slotted double ears *k*, in combination with the slotted ears *m'* and rollers working in the slots in said ears, for coupling the main axle bar or frame to the seeder-frame, substantially as described.

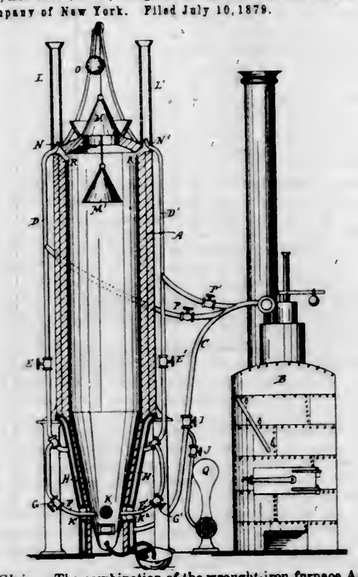
8. The combination, with the pivoted seat and fulcrum standards and the grooved segments, pivoted links, and reversible foot-stirrup connected therewith, of the hooked standards on the main frame and the pins or stops on the seeder-frame, arranged and operating substantially as described.

263,404. ELECTRIC-ARC LAMP. CHARLES HEISLER, St. Louis, Mo. Filed Mar. 28, 1881. (No model.)



Claim.—In an electric lamp, two or more electrode-holders, said holders moved in common by an electro magnet or magnets, and having their ends projecting variously toward a corresponding set of opposing holders, as and for the purpose set forth.

263,405. BLAST CUPOLA-FURNACE. DAVID W. HENDRICKSON, Red Bank, N. J., assignor to the Acme Bullion Furnace Company of New York. Filed July 10, 1879.



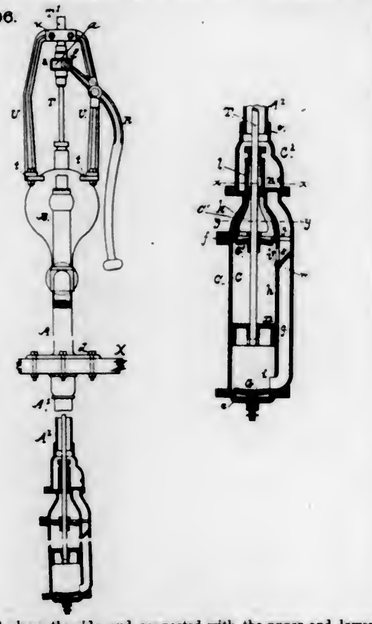
Claim.—The combination of the wrought-iron furnace A, the jacket H, the pipes C, D D', P P', and F F', the cocks E E', G G', and I, the openings R, the ejectors N N', the flues L L', and the feeding-bells M M', substantially as described, and for the purposes specified.

263,406. SUBMERGED PUMP. LOUIS HERBERT, Hicksville, Cal. Filed Sept. 1, 1881. (No model.)

Brief.—*x* is a sliding tubular valve in the cylinder *s'*, by which the water is turned into the pipe *b* when the valve is pushed down into the seat *x*. The head B supports the frame, in which is pivoted the handle R, and through which extends the sucker-rod T. On this rod is the yoke *a*, in which play the friction-rollers *f' f'* on the handle R.

Claim.—1. In a submerged pump, the pump-cylinder described, composed of the several sections C C' C², the lower one, C, being provided with the upper and lower valves, G' G, covering the top and bottom of the chamber, the second section, C', having a closed top supporting a stuffing-box, and having openings for the entrance of water, and the upper section, C², having solid walls, the lower and second sections having a side passage, *g*, separately

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formed along the side, and connected with the upper and lower portions of the lower cylinder, substantially as set forth.

2. In a pump, the combination of the section *c*, having upper and lower ingress-valves, G' G, and upper and lower exits, *i i'*, with a separate connection, *g*, between the two, and an automatic valve, *s*, controlling both exits, with the section C', having the inlets *k*, formed above the valve G', and the section C² provided with the valve *a* at its junction with section C', and connected with the pump-stock or a length of pipe leading therefrom above, substantially as set forth.

3. The combination, with the discharge-spout W, leading from the body A, of the cylindrical extension *s'*, connecting with the conducting-pipe *b*, and the sliding cut-off and deflecting tube-valve *w*, applied and operating substantially as and for the purpose described.

4. The combination, with the tube-section A, having the large chamber on the upper end and the supporting-flange *d*, of the frame U *v*, secured thereto by lugs *t t* and bolts, and having bearings and supports for the hand-lever R and a guide for the plunger-rod T, substantially as set forth.

5. In combination with the lever R, pivoted in the frame U *v*, and having the friction-rollers *f f'* at the outer end, the yoke *a*, fixed on the plunger-rod T, in which are the lateral slots *a'*, for the rollers to work in, substantially as described.

263,407. SUBMARINE TORPEDO. HORATIO F. HICKS, Minneapolis, Minn. Filed Mar. 8, 1882. (No model.)



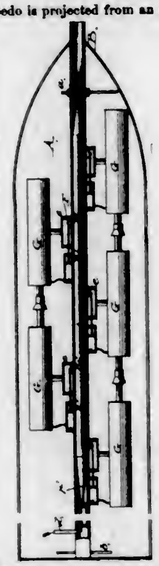
Claim.—1. A submarine torpedo adapted to be fired from a hurl-barrel, provided with a compressed-air chamber, in combination with a series of rearwardly-projecting jet-tubes, *k k*, communicating with said chamber and an intervening valve, for the purpose set forth.

2. The torpedo provided with a compressed-air chamber and rearwardly-projecting jet-tubes *k k*, in combination with the cylindrical housings H, covering the ends of said jet-tubes, and having a rotary pitch to the axis of the torpedo, substantially as described.

3. The combination of tube *b*, having enlargement A, and tubes *k k*, with the split-ring valve I and telescoping tube *f*, provided with a check-valve, all constructed as described, for the purpose set forth.

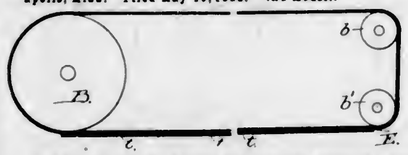
263,408. SUBMARINE GUN FOR PROJECTING TORPEDOS. HORATIO F. HICKS, Minneapolis, Minn. Filed Mar. 8, 1882. (No model.)

Brief.—The torpedo is projected from an accelerating steam-gun.



Claim.—In a torpedo-boat adapted to project a submarine torpedo, the hurl-barrel B, in combination with a series of pressure generators or reservoirs, G G, arranged along said barrel and provided with connecting-ports, and a series of valve mechanisms through the medium of which each generator is opened by the power from each preceding generator, whereby the power stored in each generator is consecutively impinged against the torpedo-piston, for the purpose specified.

263,409. HARVESTER-CUTTER. HORATIO F. HICKS, Minneapolis, Minn. Filed May 16, 1882. (No model.)



Claim.—1. The bar E, provided with the fingers or guards *t t*, projecting therefrom at an acute angle, and having their front ends, *b''*, sheared off to form an edge at right angles to the bar, and being freely separated from each other at their bases or junction with the bar, whereby the cutting is accomplished within the open spaces between the fingers, as set forth.

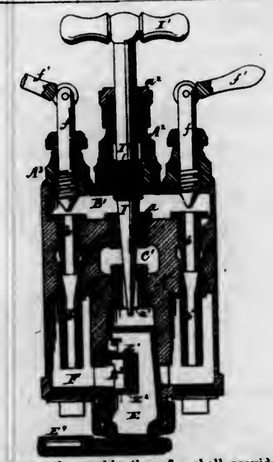
2. The bar E, provided with the fingers or guards *t t*, projecting therefrom at an acute angle, and having their front ends, *b''*, sheared off to form an edge at right angles to the bar, and being freely separated at their bases or junction with the bar, in combination with an endless band-sickle having a prepared cutting-edge and mounted on pulleys B *b b'*, substantially as described.

263,410. INJECTOR. LOVARD E. HOUGH, Sandy Lake, Pa. Filed Feb. 1, 1882. (Model.)

Claim.—1. In an injector, the combination of a cylindrical shell provided with steam and water passages, a lifting-tube and forcing-tubes, and a conical spindle in the axis of said shell at one end and a three-way cock at the other end, substantially as and for the purposes described.

2. In an injector, the combination of a shell provided with steam and water passages and a steam-chamber at one end with a partition, A', provided with forcing-tubes, a water-chamber, G, on one side of said partition, and an air-chamber, H, provided with openings *h*, substantially as and for the purposes set forth.

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3. In an injector, the combination of a shell provided with steam and water passages, two forcing-tubes controlled by independent spindles, a lifting-tube spindle entering the nozzles *a* and *a'* between the forcing-tubes, and a three-way cock, substantially as and for the purposes described.

4. In an injector, the combination of a lifting-tube and forcing-tubes controlled by independent spindles with a cock provided with transverse partitions E' and E², and longitudinal angular guide E³, substantially as and for the purpose described.

5. In an injector, the combination of a lifting-tube and forcing-tubes controlled by independent spindles with a cock provided with three openings, *e e' e²*, in the same transverse plane, substantially as and for the purpose set forth.

263,411. CHRONOGRAPH. WILLIAMS E. HUGUENIN, Locle, Switzerland. Filed Jan. 18, 1882. (No model.) Patented in France Sept. 1, 1880, No. 136,534.



Claim.—1. In a stop-watch, the combination of the centrally-pivoted quarter-second wheel D, the finger X, secured to the top of said wheel D, the spring Y, and the fixed bridge B and movable bridge C, substantially as described.

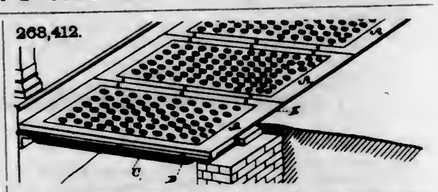
2. The wheel D, finger X, spring Y, and bridges B and C, in combination with the spur-wheel E, cams c and k, check-pawl U, and the arbors of wheels D E, moving the quarter-second and minute hands in opposite directions, substantially as described.

3. The combination of ratchet-wheel G, pawl I, lever H, spring K, recessed plate, spring stop-lever L, pin *a*, wheel D, heel P, projection R, double shifting-lever F, lever M, arm O, finger X, spring Y, and bridge C, substantially as described.

263,412. METHOD OF ILLUMINATING BASEMENTS. PAYNE H. JACKSON, San Francisco, Cal. Filed Apr. 4, 1882. (No model.)

Claim.—1. The improvements in illuminating-tiles, consisting in the alternate sections A, having deep strengthening-ribs C, and the shoulders D, projecting upon the opposite sides of the section to support the adjacent plain tiles, which are made without ribs or shoulders, said shoulders extending the full length of the section, so as to rest upon the supporting wall and bar at each end, substantially as herein described.

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2. The improvement in illuminating-tiles, consisting of the tiles A, laid upon supports, as shown, and having a filling and a border, E, of hard cement, ran between them and around their edges, so as to take the place of a stone coping, and also make a tight joint, substantially as herein described.

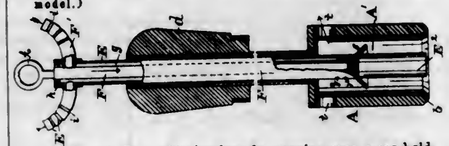
3. The improvement in laying illuminating-tiles, consisting in first laying the tiles with their ends upon the inner beam or bar and the outer supporting-wall, then casting around the periphery a prism or other shaped inclosing border of hard cement, which forms a joint between the sidewalk and the tiles, substantially as herein described.

4. The improvement in illuminating-tiles, consisting of the cast metallic sections, with horizontal shoulders D, upon which the edges of the adjacent tiles are supported, where said shoulders extend the full length of the tiles, so as to rest upon the bearing-surfaces, substantially as and for the purpose herein described.

5. The improvement in basement-extensions, consisting of the supporting beams and wall, having depressions *a* at intervals, as shown, in combination with the horizontal tile-supporting shoulders D, resting in the depressions and forming the bottoms of the joints between the meeting edges of adjacent tiles, substantially as herein described.

6. The improvement in laying illuminating-tiles, consisting in first laying tiles having ribs C at the edges where the joint is formed, and horizontal shoulders D, extending the full length of the tiles, with intervening tiles supported upon said shoulders, and then filling the joints between and beneath the tiles with a cement composed of brimstone or other hard quick-setting material, substantially as herein described.

263,413. SOLDERING-IRON. GEORGE W. KNAPP and NATHANIEL G. NUMSEN, Baltimore, Md. Filed July 13, 1882. (No model.)



Claim.—1. In a soldering-iron for capping cans, a cap-holding rod having gas and air passages extending therethrough, as set forth.

2. In a soldering-iron for capping cans, the combination of an iron having a central chamber and a tubular shank and handle and a tube which passes loosely through the tubular shank and handle and contains separate air and gas passages, whereby while the iron rotates the gas and air supply tubes may remain stationary, as set forth.

3. A soldering-iron having a chamber, A', and air and gas tubes E F, whose ends enter the chamber, the one being within the other, leaving a space between, and at the end the said space and the inner tube being closed, and provided on the side with an outlet, *r*, which enters to the inner tube, and an outlet, *q*, which enters to the space, said outlets having such position with respect to each other and the one entering in a direction which so varies from that at which the other enters that a current issuing from one will intersect a current issuing from the other, as and for the purpose set forth.

4. In a soldering-iron for capping cans, the combination of an iron having a central chamber, a tube containing separate air and gas passages and provided with outlets opening into the chamber, and a disk-plate, *s*, attached to the tube below the outlets, as and for the purpose set forth.

5. A soldering-iron having a chamber, A', and air and gas tubes E F, whose lower ends enter the chamber and whose upper ends are connected by a head-piece, *h*, provided on each of two sides with an upward-curved tube, as and for the purpose set forth.

263,414. IRONING-BOARD. WALTER W. LEMON, Collegeville, Cal. Filed Apr. 14, 1882. (Model.)

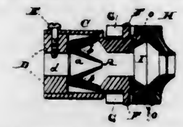
Claim.—The combination of the board A, board B, hinged

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upon its top, and board C, hinged upon the top of the board B, with the spring c, secured to the board B, and adapted to be used in connection with the board C, substantially as shown and described.

263,415. COUPLING. STAFFORD LIGHTBURN, Jr., San Francisco, Cal. Filed May 2, 1882. (No model.)



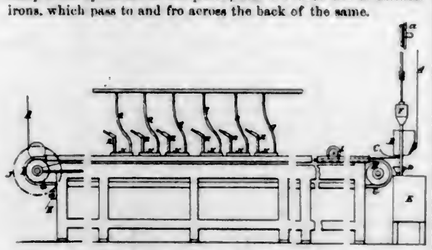
Claim.—1. A means for forming a tight joint with smooth pipes or faucets, consisting of the section C, having one end perforated to receive the faucet end, in combination with the elastic ring A, with its conical and V-shaped depressions upon opposite sides, respectively, substantially as herein described.

2. The male end C of a coupling or faucet, having its end provided with the lugs F and grooved on its end, as shown at *o*, in combination with the corresponding coupling end, H, having the elastic packing-ring I, the convex edges of which fit the groove *o* when the two parts are locked together, substantially as herein described.

3. A coupling device for smooth pipes or faucets, consisting of the section C and the contained elastic ring A, as shown, in combination with a removable perforated bushing, D, to fit the end of the pipe or faucet, substantially as herein described.

263,416. MACHINE FOR FINISHING PILE FABRICS. SAMUEL C. LISTER and JOSÉ REIXACH, Manningham, County of York, England. Filed Dec. 3, 1881. (No model.) Patented in England Feb. 10, 1880, No. 590.

Brief.—A stiffening material is applied to the back of the fabric from an outlet at the bottom of a trough. A knife spreads the stiffening evenly over the fabric, and any excess of stiffening passes to a cistern, from which it is raised again to the trough by means of a pump. After the fabric has been stiffened it is partially dried by means of hot plates, and it is then led to suitable irons, which pass to and fro across the back of the same.



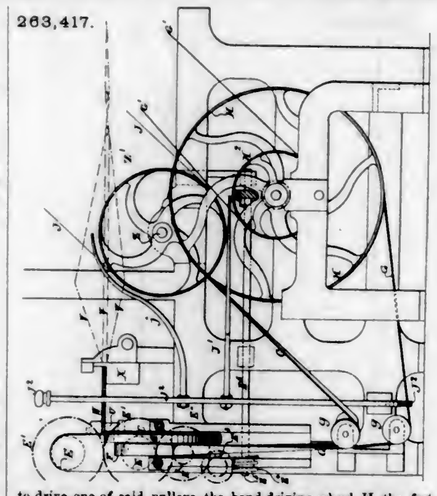
Claim.—1. The combination of the trough, with outlet at the bottom for applying stiffening in volume to the back of pile fabrics, the spreading-knife, and the irons heated by gas, and means for drawing them to and fro across the back of the fabric to iron the back, and means for holding and feeding the cloth, substantially as described.

2. The combination of the trough, adjustable valve, and spreading-knife for applying stiffening in volume to the back of pile fabrics, and the cistern for receiving the excess of stiffening, and pump for raising such stiffening back again from the cistern into the trough, substantially as described.

263,417. LOOM FOR WEAVING DOUBLE-PILE FABRICS. SAMUEL C. LISTER and JOSÉ REIXACH, Manningham, County of York, England. Filed Jan. 13, 1881. (No model.) Patented in England Feb. 10, 1880, No. 590.

Claim.—1. The combination of the endless cutting-band, the pulleys around which it passes, the band and band-wheel by which

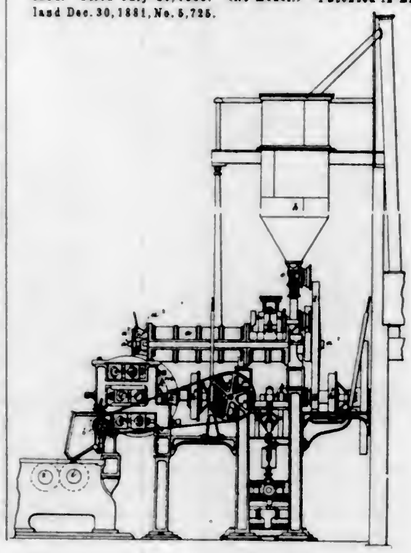
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to drive one of said pulleys, the band-driving wheel H, the fast and loose pulleys on the axis of said driving-wheel, and the continuously-actuated endless band G' with the crank or driving-shaft of the loom, provided with fast and loose pulleys, the continuously-actuated endless band J, by which said driving-shaft is driven, the take-up rollers, the actuating mechanism by which they are driven from the driving-shaft of the loom, and the setting on lever, by which to simultaneously throw the cutting-band and take-up mechanism into or out of action, substantially as hereinbefore set forth.

2. The combination of the cutting-band, the pulleys C D, around which it passes, the driving-band, the pulley F on the axis of one of the cutting-band pulleys, and the pulley D' on the axis of the other of said pulleys with the sharpening-rollers, the pulleys M M on the axes of said rollers, the endless cord, and the guide-pulleys by which said cord is conducted from the pulley D' to and around the pulleys on the axis of the sharpening-rollers, substantially as and for the purpose hereinbefore set forth.

263,418. MACHINERY FOR THE MANUFACTURE OF LINOLEUM. MICHAEL B. NAIRN, Kirkcaldy, County of Fife, Scotland. Filed July 29, 1882. (No model.) Patented in England Dec. 30, 1881, No. 5,725.



Claim.—1. The combination of the parts *a*, *a'*, *f*, *k*, *k'*, *k²*, *l*, and *m*, substantially as described.

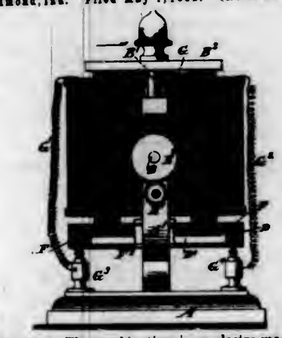
2. The combination of the parts *a*, *b*, and *c*, substantially as described.

3. The loaded door *a²*, obstructing the delivery of the material from the mixer *a*, substantially as described.

4. The knives *d*, cutting the material into slices as it issues from the mouth *a²*, substantially as described.

5. The combination of crushing-rollers *e e*, *f f*, and *g g*, substantially as described.

263,419. MAIN-LINE SOUNDER. LEWIS H. MCCULLOUGH, Richmond, Ind. Filed May 1, 1882. (No model.)



Claim.—1. The combination, in an electro-magnetic sounder, of a pivoted electro-magnet, a sounding-box attached thereto, substantially as described, whereby it is made to move with said magnet, and a gravitating armature pivoted within the sounding-box, substantially as and for the purpose set forth.

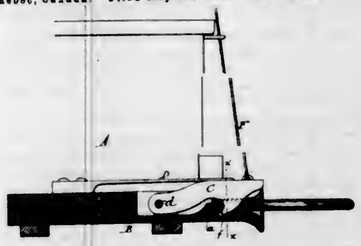
2. The combination, in a tilting adjustable telegraph-sounder, of tilting magnets and their connecting-wires adapted to move with the magnets, and a sounding-box attached to and moving with said magnets, and a pivoted armature operated partially by gravity and partially by electro-magnetism, substantially as set forth.

3. In combination with a main line of telegraph-wire, a stationary frame, A', tilting magnets C C', supporting-column B', sounding-box D, attached to and moving with said magnets, a pivoted armature, wheels E' F², or equivalent mechanism, for adjusting the angularity of the armature and the magnets, substantially as set forth.

263,420. MANUFACTURE OF BLUE COLORING-MATTERS. RAPHAEL MELDOLA, Hackney Wick, County of Middlesex, England. Filed June 14, 1882. (No specimens.) English Provisional Protection, dated May 24, 1882, No. 2,471.

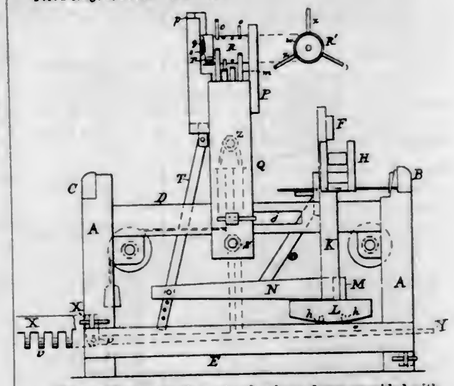
Claim.—The new manufacture of blue coloring-matters by the reduction of the diazo colors formed from the various amidonaphthalinesulphonic acids in conjunction with dimethylaniline and other tertiary monamines by means of a sulphide, with or without the addition of zinc-dust, and the oxidation of the products thus formed by means of ferric chloride or other suitable oxidizing material, substantially as herein described.

263,421. CAR-COUPLING. PIERRE E. MIONAULT, Acton Vale, Quebec, Canada. Filed May 23, 1882. (No model.)



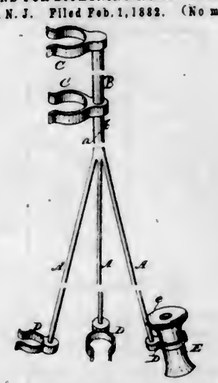
Claim.—The draw-head provided with the internal shoulder to limit the entrance of the link, and with the flaring mouth, terminating in a throat adapted to closely embrace the end of the link and keep the same in a horizontal position, in combination with the hook having its nose arranged to enter the recess in the bottom of the head, and the external spring acting to depress the hook.

263,422. LOOM. FREDERICK J. MOORE, Shoal Creek, Ark. Filed Aug. 6, 1880. (No model.)



Claim.—The idler roller or bar S, a loom-frame provided with two sets of bearings therefor, and the batten, in combination with a pattern-cylinder, B, and mechanism for connecting the same with the batten, the treadles Y, the harness, and means by which the harness may be actuated from either the pattern-cylinder or the treadles Y Y, substantially as and for the purpose herein specified.

263,423. STAND FOR LIGHTNING-RODS. WILLIAM B. MUSS, Collingswood, N. J. Filed Feb. 1, 1882. (No model.)



Claim.—1. A lightning-rod stand consisting of the stem B, provided with means for holding or grasping the rod, and supporting-legs A, provided at their lower extremities with insulators E, substantially as shown and described.

2. The stand B, provided with legs A, having at their lower extremities brackets, in combination with the insulators E, formed with circumferential channel *d* to receive the arms of the brackets, and having an axial aperture whereby it may be attached to the object or structure to be protected, substantially as hereinbefore set forth.

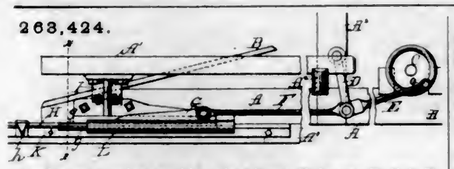
3. In combination with a stand provided with the legs A, the insulators E, provided with a circumferential groove or channel, *d*, and a vertical notch, *e*, substantially as for the purpose set forth.

263,424. PITMAN FOR SICKLES OF HARVESTING AND MOWING MACHINES. JOHN D. NIX, Milwaukee, Wis. Filed July 24, 1882. (No model.)

Claim.—1. In a harvesting or mowing machine, the combination of the pitman or connecting-rod which operates the sickle and the wrist-pin of a crank which actuates the pitman with an intermediate hanger and link, whereby the reciprocation of the said pitman will be in a nearly horizontal line, as set forth.

2. In combination with the frame-work and sickle of a har-

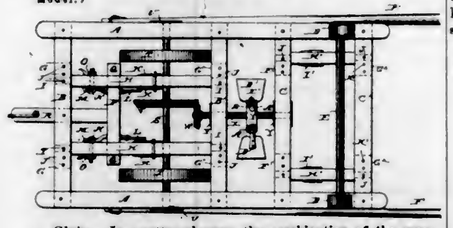
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vesting or mowing machine, the pitman F, hanger D, link E, crank C, and wrist-pin e, as and for the purpose set forth.

3. In a harvesting or mowing machine, the bracket I, recessed at its base, as shown at i, in combination with the sickle-bar K, guide L, and sliding block G, carrying the sickle H, arranged and adapted to operate as set forth.

263,425. COMBINED COTTON CHOPPER AND CULTIVATOR. ELIJAH W. NORTHCOTT, Acworth, Ga. Filed June 2, 1882. (No model.)



Claim.—In a cotton-chopper, the combination of the cross-beams B B' of the frame, having slots G G and G' G', respectively, the longitudinal parallel beams H H, having their ends adjustable laterally in said slots, and carrying the cultivators and rearwardly-extending fenders, and draft-bar R, having cross-bar P at its rear end, the ends of which pass through openings in beams H H, to brace and guide the same in lateral adjustment, as set forth.

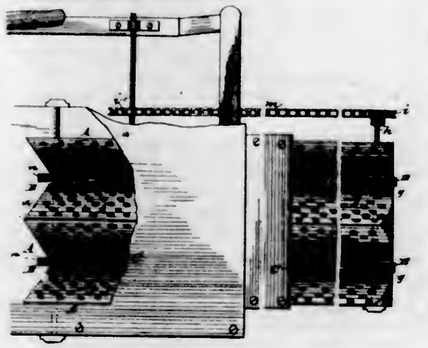
263,426. SCAFFOLD-TIE. JOHN T. O'BRIEN, Philadelphia, Pa. Filed June 6, 1882. (No model.)

Brief.—Consists of a head with projections, which enter slots in a washer, and a central tightening-bolt, which connects the head and washer and is secured by a nut.



Claim.—A timber-tie composed of a head, A, binding-projections B, a washer, C, and a tightening-bolt, D, or key, for the purpose shown and described.

263,427. CORN-SHELLER. HARVEY PACKER, Rock Falls, Ill. Filed May 9, 1882. (No model.)



Claim.—1. In a corn-sheller, the planes A, having the perforations *a*, in combination with the carrying-chain B, having open flat links, substantially as shown, and for the purpose described.

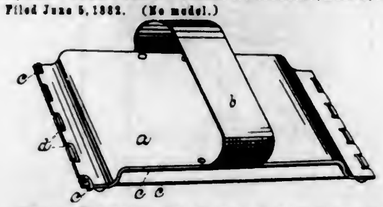
2. In a corn-sheller, the chain B, constituted of open links C, having the longitudinal bars *e* and attached on the same plane, in combination with the planes A, substantially as shown, and for the purpose specified.

3. As a separating and elevating mechanism in a corn-sheller, the chain B, its sprocket-wheels *g* and *n*, the planes A A, drive-chain *m*, its sprocket-pulleys *i* and *i'*, and the axle *h*, in combination, substantially as shown.

4. In a corn-sheller, a separating device consisting of a chain, B, provided with links C, having the central bars, *e*, and slots *d*, in combination with the sprocket-carrying wheels *g* and *n* and perforated planes A, whereby part of such separating-surface is constantly cleansed by being inverted, substantially as shown, and for the purpose described.

5. As a means of separating the shelled corn from the cobs, silks, and other refuse, the endless chain B, constructed of open links, in combination with two planes sloping laterally toward such chain.

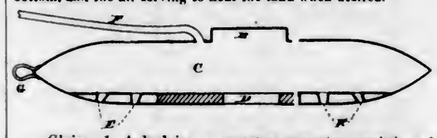
263,428. CURRY-COMB. ROBERT I. PATTERSON, Muncie, Ind. Filed June 5, 1882. (No model.)



Claim.—The combination of the back *a* and bridge *c* with wire *c*, for the purpose set forth.

263,429. HYDRAULIC DREDGER. HERVEY L. PIKE and ALBERT W. FERGUSON, Astoria, Oreg. Filed May 22, 1882. (No model.)

Brief.—A floating tank is formed in two compartments, the lower for ballast and the upper for water and air, said upper portion having a pipe for the introduction of the air or water, passages leading through the ballast-chamber serving for nozzles to discharge the water under pressure in currents against the river-bottom, and the air serving to float the tank when desired.



Claim.—1. A dredging or scouring apparatus consisting of the tank A, having the discharge-nozzles E, opening downward through its bottom, and a supply-pipe, F, through which water may be discharged into the tank under pressure, substantially as and for the purpose herein described.

2. In a dredging or scouring apparatus, the tank A, having water and ballast compartments C and D, an air-chamber, and the nozzles E, discharging through the bottom, in combination with the flexible pipe F for air or water, and the air and water supply pumps H and I, with their cocks or valves, substantially as herein described.

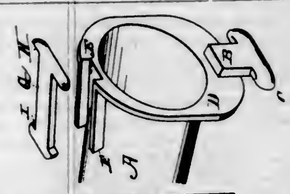
3. The means herein described for dredging or scouring harbor-bars or other obstructions, consisting of a compartment-tank having numerous discharge-nozzles in the bottom and a supply-pipe at the top, through which water may be introduced under pressure, substantially as shown.

4. In a dredging or scouring apparatus consisting of a tank having discharge-nozzles through its bottom, the means for floating and adjusting the draft of said apparatus, consisting of the air-chamber and the connecting-pipe and air-pump, substantially as herein described.

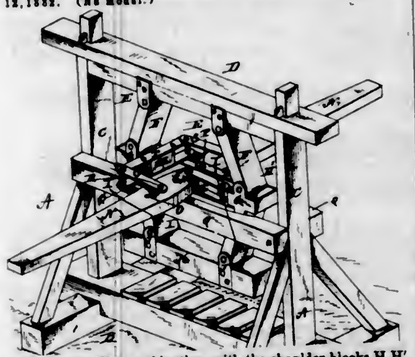
263,430. HOE. CHARLES O. RICHTER, Hamilton, Ohio. Filed July 25, 1882. (No model.)

Claim.—In a hoe, the combination, substantially as set forth, of blade J, having perforations K and L, eye A, having top lugs, F, and bottom attaching device, B C, and the tie or link G, constructed and arranged to operate substantially as specified.

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263,431. BALING-PRESS. GEORGE W. ROBERTS, Elmo, Tex., assignor of one-half to John E. Polk, same place. Filed July 12, 1882. (No model.)
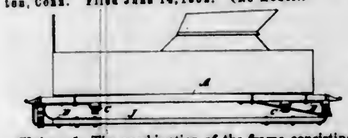


Claim.—1. The combination, with the shoulder-blocks H H', carrying the pivoted arms, the former block having pivoted straps or links S S, pivoted in pairs to lateral extensions T, and the latter having like pairs of straps or links, L L, pivoted direct to block H', of the pivoted levers N N, having straps L L pivoted to their extreme weight ends and straps S S on the opposite side of their fulcrum, substantially as set forth.

2. The combination, with the frame having the base-block B and top piece, D, of the pivoted arms F F and I I, the latter carrying and pivoted to the follower, the elbow-blocks H H', carrying respectively links or straps S S and L L, and the laterally-extending pivoted levers N N, having the said links pivoted thereto, substantially as set forth.

3. The combination, with the frame comprising base-block B, uprights C C, and top piece, D, and cross-pieces Q Q, of arms F F, pivoted to brackets or hangers on the top piece, arms I I, pivoted to hangers on the follower, elbow-blocks H H', the former having extension T, to which two pairs of straps or links, S S, are pivoted, and the latter having pivoted straps or links L L, and the laterally-projecting levers N N, pivoted to pieces Q Q, and having links S S and L L pivoted thereto, substantially as set forth.

263,432. VEHICLE-SPRING. CYRUS W. SALADEE, Torrington, Conn. Filed June 14, 1882. (No model.)



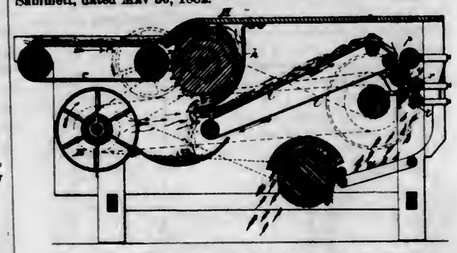
Claim.—1. The combination of the frame consisting of side bars and bolsters, and cross-springs and braces extending outward from the side bars inside of the bolsters, and connecting the projecting ends of the springs to the frame, substantially as set forth.

2. The combination of the frame, cross-springs projecting beyond the sides of the frame, and spring-connecting braces attached to the side bars within the bolsters and extending beyond the side bars, as set forth.

3. In a side-bar road-wagon, the combination of the side bars, A, and springs D, and the connecting-braces B, attached to the springs, the bolsters, and the side bars, substantially as and for the purpose set forth.

263,433. MANUFACTURE OF FILLING FOR MATTRESSES, PILLOWS, &c., FROM FEATHERS. GEORGE A. SAMMET and GEORGE W. SAMMET, Boston, Mass. Filed May 2, 1882. (No model.)

Brief.—An improvement on machine described in Letters Patent No. 258,607, granted to George A. Sammet and George W. Sammett, dated May 30, 1882.

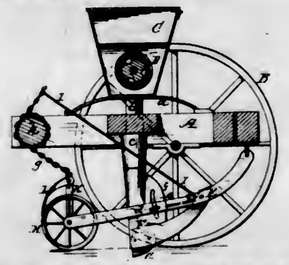


Claim.—1. A filling composed of feathers rendered soft, pliant, and elastic by curling, crimping, crushing, or breaking their quills or stems and combing out their foliage, said filling consisting of one grade only, or of a mixture of grades of feathers so treated, or of one or more grades so treated combined with a fine grade of feathers not curled, crimped, crushed, or broken, as set forth.

2. A carder, G, in combination with a picker, H, an air-blast or fan-blower, E, and a series of corrugated or fluted rolls, *p q r s t*, constructed to operate substantially in the manner and for the purpose described.

3. The within-described mode of treating feathers by first passing them through a picker, next in subjecting them to the action of a fan-blower or other air-blast, then to a series of corrugated or fluted rolls, afterward to a carder, and finally cleansing them by well-known means, as specified.

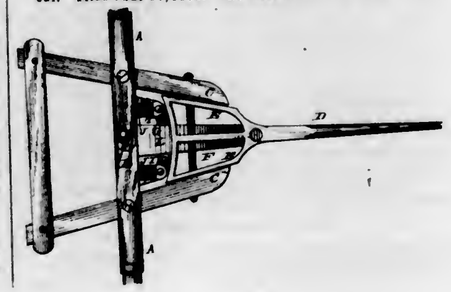
263,434. GRAIN-DRILL. HENRY SANTROCK, Cedarville, Kans. Filed Dec. 22, 1881. (No model.)



Claim.—1. In a grain-drill, the combination, with the brace-arms E, of the shoe F, carrying removable cutter G, and slotted plate *f*, and the bolt *d*, constructed and arranged substantially as and for the purpose set forth.

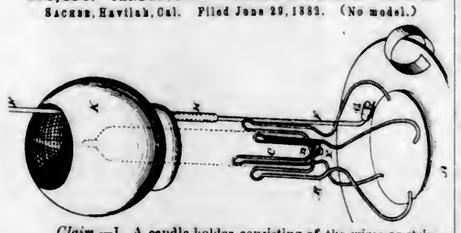
2. In a grain-drill, the shoe F, carrying cutter G, adjustable brace-arms E, spring I, and wheel H, in combination with the removable scraper L, chain *g*, and roller A, one end of said chain being connected to the standard K and passing around the roller, while the opposite end is secured to the spring I, substantially as and for the purpose specified.

263,435. TONGUE-SUPPORT. DYAS SHELTON, Santa Rosa, Cal. Filed June 27, 1882. (No model.)



Claim.—The combination, with a wagon running-gear, of the U-shaped clip G, the adjusting-brackets I, the tongue D, having wear-plate N, provided with flanged stud O, and the composite spring L, consisting of two or more leaves, *l l'*, the lower ones of which are provided with sleeves *s* at their front ends, all arranged as set forth.

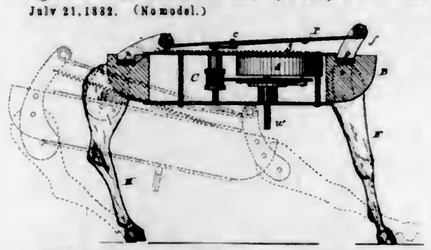
263,436. CANDLESTICK. CHARLES E. SHERMAN and LOUIS SACHSE, Havilah, Cal. Filed June 29, 1882. (No model.)



Claim.—1. A candle-holder consisting of the wires or strips B, fixed to the base A, extending up to a point where they are bent inward and downward to form an elastic pendulous inner portion, C, with cross-supports D, substantially as herein described.

2. The candlestick A B C, in combination with the standard F and sleeve H and the ring I, resting upon the edge of the candle, and supporting the globe or reflector K from the arms J, said ring being attached to and guided by the sleeve H, substantially as herein described.

263,437. AUTOMATIC TOY. JOHN J. SLOCUM, New York, assignor of one-half to John C. Mount, Jr., Brooklyn, N. Y. Filed July 21, 1882. (No model.)



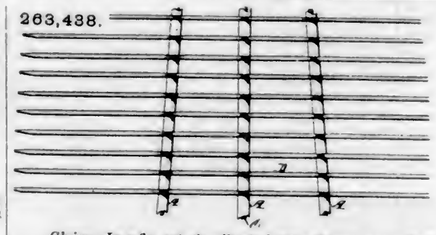
Claim.—1. In an automatic toy, the combination, with a suitable body, of four moving legs attached to the body by horizontal pivots, and united in front and hind pairs by rigid lever-frames above said pivots, a connection between said lever-frames, so as to compel the legs to move simultaneously, a spring or springs tending to retain the legs in normal position, an actuating clock-work movement, and connecting mechanism, substantially as herein specified, for imitating a galloping motion, in the manner set forth.

2. In an automatic toy, the combination, with a suitable body, of four moving legs attached to the body by horizontal pivots, and united in front and hind pairs by rigid lever-frames above said pivots, curved as herein specified, a connection between said lever-frames, a spring or springs tending to retain the legs in normal position, an actuating clock-work movement, and connecting mechanism, substantially as described, for the purpose set forth.

3. In an automatic toy, the combination, with a suitable body, of four moving legs attached to the body by horizontal pivots, and united in front and hind pairs by rigid lever-frames above said pivots, a connection between said lever-frames, a spring or springs tending to retain the legs in normal position, an actuating clock-work movement having its driving-spring located in the front part of the body, and mechanism connecting said driving-spring with the front lever-frame, substantially as herein specified.

4. In an automatic toy made in imitation of a galloping horse, the combination, with a suitable body, of front and hind legs connected with each other and with an actuating clock-work movement within the body, so as to move simultaneously, a rigid tail operating as a stop to limit the descent of the rear end of the body, and a spring or springs operating in connection with the legs to counterbalance the weight of the body and assist the actuating movement, substantially as herein specified.

263,438. FLY-NET. DAVID F. STAUFFER, Chambersburg, Pa. Filed July 10, 1882. (No model.)



Claim.—In a fly-net, the ribs A, having formed upon their under sides grooves or channels B, in combination with the cords C, resting therein, and lashes D, each of which is passed through a single hole or slit in the ribs and looped around the cord, substantially as shown, and for the purpose set forth.

263,439. DRAW-IRON FOR SLEIGHS. ALBERT STRUMAN, Homer, N. Y. Filed May 8, 1882. (No model.)



Claim.—1. An improved draw-iron for sleighs and cutters consisting of the head A and shank C, made in separate parts having suitable means of connection, substantially as and for the purposes described.

2. An improved adjustable draw-iron for sleighs and cutters, consisting of two separate parts connected by means of the screw-threads *c* and the corresponding screw-threaded aperture in the head A, substantially as and for the purposes described.

3. An improved draw-iron consisting of the two detachable parts, as shown, the head being of cast or malleable iron and the shank of wrought-iron, substantially as and for the purposes shown.

263,440. PAPER-BAG MACHINE. CHARLES B. STILWELL, Watertown, N. Y., assignor to the Union Paper Bag Machine Company, Philadelphia, Pa. Filed May 18, 1882. (No model.)

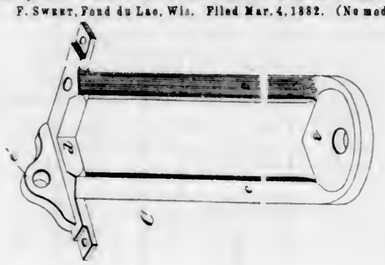


Claim.—1. The combination, with tube-feeding mechanism and mechanism for holding the sides of the tube together, of mechanism for causing a jet of air to enter the mouth of the tube, all substantially as described.

2. The combination, with tube-feeding mechanism and mechanism for defining the line of the central transverse fold of the diamond, of mechanism for holding the sides of the tube together and mechanism for causing a jet of air to enter the mouth of the tube, all substantially as described.

3. The combination, with tube-feeding mechanism, of a moving apron, as 12, for supporting the tube, a roll or bar, as 15, for holding the sides of the tube together, and a nozzle, as 6, arranged to direct a blast of air into the mouth of the tube, substantially as described.

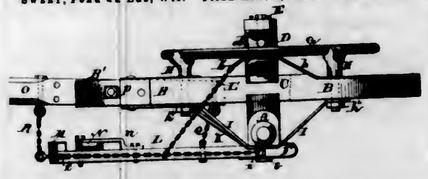
263,441. CORNER-IRON FOR VEHICLE-BODIES. BENJAMIN F. SWEET, Fond du Lac, Wis. Filed Mar. 4, 1882. (No model.)



Claim.—1. In a wagon or sleigh body, a metal frame consisting of two uprights, connected by top and bottom flanges, adapted to slide over a dovetailed or beveled cleat on the said body, and to be secured in position when pushed to place, as set forth.

2. A skeleton metal frame for wagon and sleigh bodies, consisting of the uprights *c c*, triangular in cross-section, and united by top and bottom flanges, and having top perforated extension, *c'*, as set forth.

263,442. RUNNING-GEAR FOR VEHICLES. BENJAMIN F. SWEET, Fond du Lac, Wis. Filed Mar. 4, 1882. (No model.)



Claim.—1. In a front gear for trucks or wagons, the combination, with the axle and king-bolt, of a draft-bar slotted at its rear end to permit of longitudinal movement on said king-bolt, and draft-chains connecting the forward end of the draft-bar with the axle, as set forth.

2. The combination, in the front gear of a truck or wagon, of a draft-bar slotted at its rear end and supported by the king-bolt at that point with the axle and sand-bar, and draft-chains connecting the front end of the draft-bar with the said axle, and upper draft-chains connecting the draft-chains just named with the sand-bar, as set forth.

3. In a front gear for trucks or wagons, the combination of a draft-bar slotted at its rear end and supported by the king-bolt at that point with the tongue having a pivotal support above said bar, and a chain connecting the rear end of the tongue with the draft-bar, whereby the said end of the tongue is depressed and its forward end tilted up by a forward movement of the draft-bar, as set forth.

4. In a front gear for trucks or wagons, the combination of a draft-bar slotted at its rear end, and supported by the king-bolt at that point, and supporting the whiffletree on its forward end, with the tongue having a pivotal support above the said bar and connected to the latter by a chain from the rear end of the tongue to the bar and another chain from the front end of the bar to the tongue, whereby the tongue is counterbalanced by the draft-bar, as set forth.

5. In a front gear for trucks or wagons, the braces *b*, secured to the hounds at the rear of the sand-bar and extending over the same and terminating in the loops *b'*, in combination with a securing-bolt passed through or around said sand-bar, and the draft-chains L' L and the draft-bar, as set forth.

6. In a wagon-gear, the combination of the hollow standards or supports H, open at the top to receive a continuous circle-iron from above, clamping-bolts H', extending entirely through the hollow standards to the top thereof, and circle G, with the hounds and tightening-nuts, as set forth.

7. In a wagon-gear, the combination of a continuous circle-iron supported on open-topped standards rising from the hounds, and secured to said standards by clamping-bolts extending entirely through them in such manner that the top of the rounded surface of the circle-iron shall be wholly above the tops of the said standards and bolts, with a bolster having rigid rounded bearing-bars on its under side, as set forth.

8. In combination with the gear and tongue of a wagon, the draft-bar F, whiffletree N, and its bearing *n*, and the block M on the outer end of the draft-bar in front of the whiffletree, whereby by means of the construction and relative position of the said block M and bearing *n*, in case of breakage or loss of the linchpin, the whiffletree is prevented from being pulled off over the end of the draft-bar, as and for the purpose set forth.

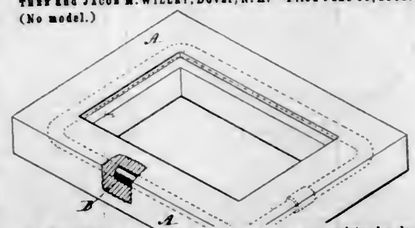
9. In a front gear for trucks or wagons, the combination, with the axle A and hounds B, of the jaws B' B', bolted to said axle and to the hounds, and projecting in front of the said hounds and provided with supporting-braces I K, connecting the under sides of these parts together, as set forth.

10. In a front gear for trucks or wagons, the combination, with the axle A and hounds B, of the jaws B' B', bolted to said axle and braced in front of it by the side timbers of the hounds B, the said jaws bolted to and projecting in front of the said hounds, and being further connected together by side strips, through the forward portions of which, beyond the forward end of the hounds B, the bolt P, that forms the pivot of the wagon-tongue, passes, thereby connecting the two jaws B' B' together, as set forth.

11. In a wagon-gear, a circle-iron, made without bolt-holes and supported and held in position upon standards to which it is clamped, the said circle-iron being continuous and having a rounded surface which rises above the tops of the supporting-standards and clamping-bolts, and thereby presents an uninterrupted, continuous, and perfectly-level bearing-surface, as shown and described.

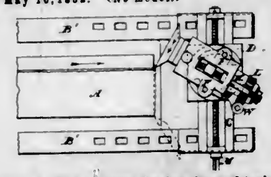
12. In a front gear for trucks or wagons, the combination, with the axle, of a draft-bar supported at its slotted rear end by the king-bolt, and having a side and up-and-down motion, thereby forming a flexible counter-balance to the tongue, as set forth.

263,443. HOT-AIR-REGISTER BORDER. ROMANZO TREFFTHEY and JACOB M. WILLEY, Dover, N. H. Filed June 10, 1882. (No model.)



Claim.—As a new article of manufacture, a register-border composed of artificial-stone compound or other suitable plastic substance, and having embedded within it a metallic strengthening-frame, B, extending around it, substantially in the manner and for the purpose set forth.

263,444. MACHINE FOR TRUING GRINDSTONES. FRANK TRIBE, Boston, Mass., assignor to A. C. Baldwin, same place. Filed May 10, 1882. (No model.)



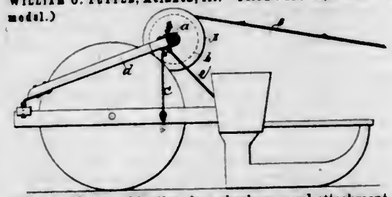
Claim.—1. In a machine for dressing and truing grindstones, the cross-slide D and box E, in combination with the sleeve *g*, having the cutter-carrying spindle secured therein, and operating-screw H, as and for the purpose set forth.

2. The combination of the cutter-carrying spindle K, provided with the worm-wheel L, with the detachable worm W, whereby the cutter is adapted to be turned against the face of the stone to grind or sharpen said cutter, as set forth.

3. In a machine for manufacturing grindstones, the combination of cutters arranged to operate on both sides of the stone, and adapted to be moved simultaneously and automatically, by means of devices substantially such as described, from the skirt toward the eye or axis of the stone, whereby both sides of the stone are accurately dressed and the stone held against lateral displacement, as set forth.

4. The combination of the slide-bars 9 9, cross-bar 10, with the screw-shafts *d d*, carrying the cutting devices, worm-wheels 11 11, worm-gears 12 12, and driving-shaft *e*, whereby the cutters are automatically fed to the work, as set forth.

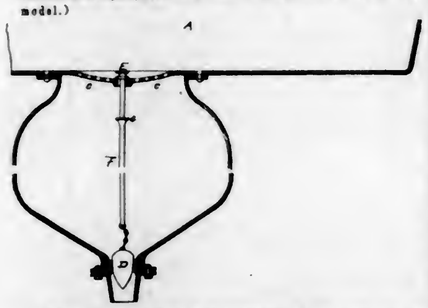
263,445. CHECK-ROW-REEL ATTACHMENT TO PLANTERS. WILLIAM O. TUTTLE, Atlanta, Ill. Filed June 12, 1882. (No model.)



Claim.—The combination, in a check-row-reel attachment to planters, of the drum A, mounted on the axle *a*, conveying the

friction-rollers *b b*, journaled in the hinged or pivoted arms *d d* on the main frame of the vertical rods C, and brace-rods *e*, for holding the friction-rolls in contact with the periphery of the bearing-wheels, substantially as shown, and for the purpose described.

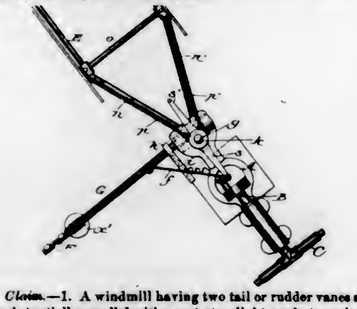
263,446. FLUSH-POT FOR KITCHEN-SINKS, &c. GEORGE E. WARING, Jr., Newport, R. I., assignor to the Drainage Construction Company, Boston, Mass. Filed Mar. 24, 1882. (No model.)



Claim.—1. A chamber or enlargement of the water-way in the course of the discharging pipe or outlet of a sink or hopper, combined with means whereby it may be closed or opened at will for the holding back or discharging of liquid wastes, substantially as set forth.

2. In combination with a chamber or enlargement of the water-way in the course of the discharging pipe or outlet of a sink or hopper, the rod or chain F, with its handle E and its stop G, and the plug D, substantially as set forth.

263,447. WINDMILL. EDWARD P. WHEELER, Beloit, Wis. Filed Mar. 13, 1882. (No model.)



Claim.—1. A windmill having two tail or rudder vanes standing substantially parallel with or set at a slight angle to each other and separated by an intervening space, so as to present their inner surfaces to the action of the air-currents passing through the central opening of the wind-wheel and their outer surfaces to the action of the currents of air passing the outer edges of the wind-wheel, said vanes being rigidly connected together and hinged to and adapted to turn laterally upon the turn-table of the mill.

2. A windmill having two tail or rudder vanes standing substantially parallel with or set at a slight angle to each other and separated by an intervening space, so as to present their inner surfaces to the action of the air-currents passing through the central opening of the wind-wheel and their outer surfaces to the action of the currents of air passing the outer edges of the wind-wheel, said vanes being rigidly connected together and hinged to and adapted to turn laterally upon the turn-table, and a pendent regulating-vane connected with a rocking shaft for turning the tail or rudder vanes laterally, the pendent vane acting normally, by the gravitation of its own weight, to keep the tail or rudder vanes substantially parallel to the line of the working shaft of the mill and the wind-wheel steered to the wind.

3. A windmill having two tail or rudder vanes standing substantially parallel with each other and separated by an intervening space, so as to present their inner surfaces to the action of the air-currents passing through the central opening of the wind-wheel and their outer surfaces to the action of the currents of air passing the outer edges of the wind-wheel, said vanes being rigidly connected together and hinged to and adapted to turn laterally upon the turn-table, in combination with a pendent regulating-vane attached to a rocking shaft for turning the tail or rudder vanes laterally, and a wind-wheel mounted upon and adapted to turn laterally with the turn-table out of the wind.

4. In a windmill, the pendent regulating-vane provided with an adjustable weight, said vane being attached to a rocking shaft turning in bearings upon the turn-table and having a segment-gear for turning the tail or rudder vanes of the mill laterally, and acting normally and automatically, by the gravitation of its own and the adjusted weight, to keep said tail or rudder vanes substantially parallel with the line of the working-shaft of the mill and the wind-wheel steered to the wind.

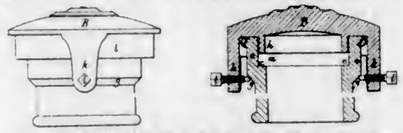
5. In a windmill, the combination of the sliding weight *x'*, the pendent vane F, rocking shaft G, swivel-bar *k*, and cord *f*, for the purpose specified.

6. In a windmill having a pendent regulating-vane, the arrangement of an adjustable weight on said vane, substantially as described, and for the purpose specified.

7. The foregoing-described wind-wheel C, composed of individual slat-fans placed in and secured to the castings *v v'*, and connected together and held at suitable angles in the wind-wheel by means of the parallel rods *u u'*, secured to the collars *t t'*, fastened to the radial arms *x x'*, extending out from the hub of the wheel, substantially as described.

263,448. SEWER-INDUCT AND ITS COVER. JOHN F. WITHEY, Lynn, Mass. Filed June 14, 1882. (No model.)

Brief.—The screws in the ears of the flanged cover operate against an annular bevel on the pipe, holding it in place.

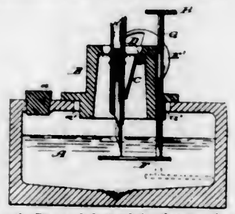


Claim.—1. The sewer induct or pipe provided with the annular bevel, in combination with the cap arranged on the said pipe and provided with the screws to operate against such bevel, as set forth.

2. The cap having the two concentric flanges and the ears and screws, arranged with it as described, in combination with the pipe, having the chambered enlargement, and the annular bevel, to operate with such flanges and screws, as explained.

3. The cap having the two concentric flanges and the ears and screws, arranged with it as explained, in combination with the induct or pipe having the chambered enlargement and its flange and annular bevel, arranged as shown and described.

263,449. INKSTAND. GEORGE V. WOOD and WALTER L. GALLOWAY, Smithville, Va. Filed May 4, 1882. (No model.)

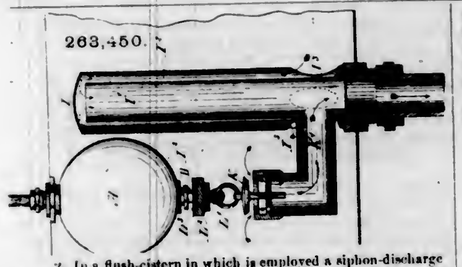


Claim.—1. In an inkstand having a valve for closing the orifice, the valve-plate C, in combination with the shaft D and weighted balance-wheels E E', as described, and for the purpose set forth.

2. In an inkstand, the adjustable platform F, having a screw-rod, G, to which it is rigidly attached, and a milled head, H, provided with an index or pointer, h, as and for the purpose set forth.

263,450. FLUSH-CISTERN. WILLIAM WRIGHT, Plymouth, County of Devon, England. Filed Mar. 23, 1882. (No model.) Patented in England Jan. 25, 1882, No. 379.

Claim.—1. In a flush-cistern in which is employed a siphon-discharge, the combination, with the starting-valve for said siphon, of appliances whereby the starting-valve may be raised from its seat and the supply of water to the cistern simultaneously stopped, substantially as and for the purposes specified.



2. In a flush-cistern in which is employed a siphon-discharge and a ball-valve, the combination, with the starting-valve for said siphon and the ball-valve, of appliances whereby the starting-valve may be raised from its seat and the ball-valve simultaneously actuated to shut off the supply of water to the cistern.

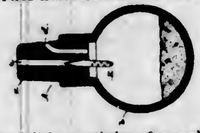
3. In a flush-cistern, the combination, with a siphon-discharge, a starting-valve for the same, and a supply-valve, of a lever interposed between the supply-valve and said starting-valve, and operating to raise the latter valve from its seat to start the siphon and simultaneously therewith shut off the supply of water to the cistern, substantially as and for the purpose specified.

4. In a flush-cistern, a ball-valve having the supply-valve located within it and arranged to operate said valve by its movements, a siphon-discharge, and starting-valve for the same, combined with appliances interposed between the two valves, and operating to raise the starting-valve off its seat, and simultaneously therewith close the supply-valve within the ball, substantially as and for the purpose specified.

5. The combination, with the ball-valve A, constructed to operate substantially as described, and the siphon I, of the starting-valve K and the operating-lever L, carrying a valve-packing, L', all arranged for co-operation substantially as shown and described.

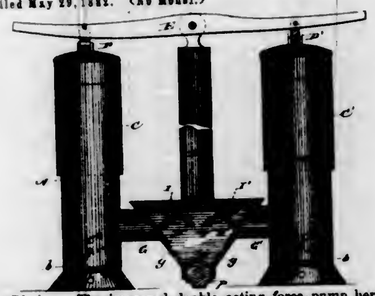
6. In a flush-cistern, the combination of the ball-valve A, constructed as described, the siphon-discharge I I' K', the starting-valve K, and lever L, carrying the valve-packing L' and connected with said starting-valve, all constructed and arranged for co-operation substantially as described.

263,451. INHALER FOR POWDERS. JOHN R. ADAMS, Oakland, Cal. Filed Mar. 31, 1882. (No model.)



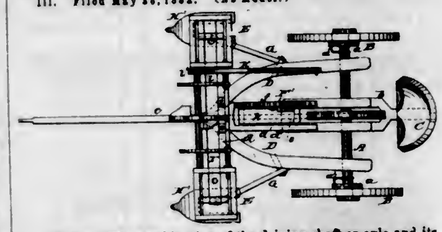
Claim.—An inhaler consisting of an ordinary bottle-stopper formed to extend a short distance above the top of the bottle, provided with the opening *c*, extending from end to end centrally, and the opening *d*, opening on the side of the stopper above the mouth of the bottle, and provided with the hollow perforated extension E, forming an interior mouth-piece for the opening *c*, substantially as set forth.

263,452. PUMP. FREDERICK AHRENS, Big Rapids, Mich. Filed May 29, 1882. (No model.)



Claim.—The improved double-acting force-pump herein shown and described, composed of the cylindrical barrels A A', having valves B B, plungers C C', sliding upon the outside of the barrels, and provided with pump-rods D D', pipes G G', triangular air-chamber F, provided with the valves H H', seated upon its inclined walls *g g*, and discharge-pipe K, all constructed and combined substantially as and for the purpose herein shown and specified.

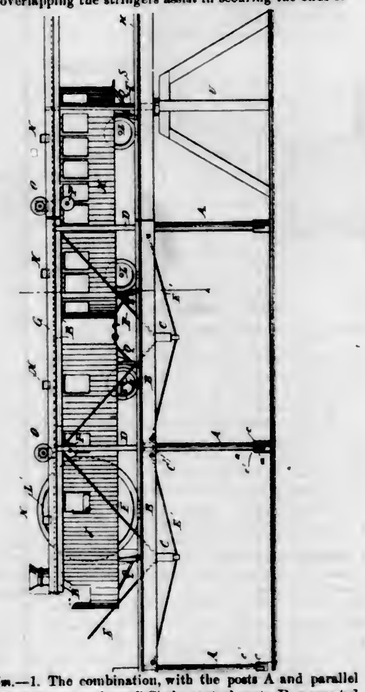
263,453. CORN-PLANTER. WILLIAM L. ALEXANDER, Cisco, Ill. Filed May 18, 1882. (No model.)



Claim.—The combination of the driving shaft or axle and its wheels, the pinion arranged thereon, the bifurcated frame, the bifurcated tongue, the lever having a cross-bar, upon which the rear end of the tongue rests, and pivoted to the said frame, the bar *d*, having the seed-boxes and their slide provided with upright projections, the shaft J', having the cam-pinion J *j*, and the belt encompassing the driving-shaft pinion and the pinion J, substantially as and for the purpose set forth.

263,454. ELEVATED RAILROAD. NORMAN ALLEN, Rockaway Beach, N. Y. Filed Mar. 30, 1882. (No model.)

Brief.—A single-rail railway has tubular rails secured by bolts (with T-heads resting in adjacent ends of the rails) and nuts in two parallel lines of stringers, supported on vertical posts, connected by cross-pieces resting on said posts and by intermediate cross-pieces connected by truss-rods to the posts. An elevated beam with double guide-rails adapted for upper and lower guttered rollers and supporting hooks is borne by a central line of posts held by braces and supported on said first-mentioned, and also having truss-rods running to last-mentioned, cross-pieces. Side plates overlapping the stringers assist in securing the ends of the rails.



Claim.—1. The combination, with the posts A and parallel stringers B, of the cross-pieces C C', the central posts, D, supported

by braces F, the beam B, resting on said posts D, and the truss-rods E E', substantially as shown and described.

2. In an elevated railroad, the guard-rails G G, secured to a median beam, B', resting on posts D, in combination with cars and locomotives, having the hooks N N and guttered friction-rolls O P, as shown and described.

3. The combination, with the stringers B and tubular rails H, secured together by bolts *h*, of the T-bolts *h'*, having a rounded head fitting in the ends of the tubular rails, and shanks passing down through the stringers, as described.

4. The combination, with the rails and stringers, of the plates *j j*, made fast to the stringers and breaking joint with the rails to prevent said rails from lateral end displacement, as described.

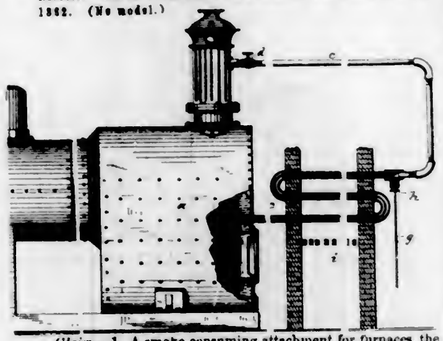
263,455. BIT-STOCK. CHARLES H. AMIDON, Buffalo, N. Y. Filed Aug. 26, 1881. (No model.)



Claim.—1. The combination, with the brace-rod A, made of uniform thickness throughout its length, except at its end, where it is provided with an enlargement or collar, *a*, of the head B, constructed with an inner narrow bore, *b*, fitting on the rod, and an outer enlarged bore, *b'*, fitting over the collar *a*, the head being slipped on the rod before it is bent and held on the same by a plug, *c*, secured to the bore *b'*, and bearing against the collar *a*, substantially as set forth.

2. The combination, with the brace-rod A, provided with one or more notches, *e*, of a socket, D, of malleable metal, constructed with one or more enlargements, *g*, opposite the notches *e* of the rod, whereby the metal which is pressed into the notches *e* is replaced by the enlargements *g* and a smooth exterior form of the socket preserved, substantially as set forth.

263,456. SMOKE-CONSUMING ATTACHMENT FOR FURNACES. JACOB J. ANDERSON, Rochester, Pa. Filed July 22 1882. (No model.)



Claim.—1. A smoke-consuming attachment for furnaces, the same consisting of a steam-pipe and a hydrocarbon-pipe surrounded by said steam-pipe from at or near the steam source, and both entering the furnace flush with each other and with the inner wall of the furnace or fire-box, substantially as shown and described.

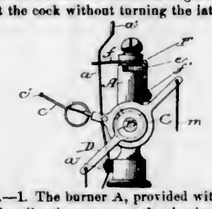
2. The combination of a hydrocarbon supply and a steam supply with pipes leading from each, the hydrocarbon-pipe entering the steam-pipe at or near the source of supply of steam through a stuffing-box, and extending thence its length, and ending flush with the steam-pipe in the furnace or fire-box, whereby the hydrocarbon is subjected to steam heat prior to its introduction into the furnace, substantially as shown and described.

3. The improvement in apparatus for utilizing steam and hydrocarbons as a medium for effecting the consumption of smoke and soot in furnaces, the same consisting in a hydrocarbon-pipe, a surrounding steam-pipe, into which the hydrocarbon-pipe enters at or near the source of supply of steam, a stuffing-box to render the connection of the two pipes steam-tight, and a furnace provided with a water-jacket, through which the pipes enter into the furnace, the said pipes ending in the furnace flush with each other and with the inner surface of the inner wall of the water-jacket, substantially as shown and described.

4. The improvement in the art of utilizing steam and hydrocarbon oil or gas as a medium for effecting the consumption of the waste products of combustion, the same consisting in conveying the hydrocarbon in a pipe through a surrounding steam-pipe and subjecting the hydrocarbon in its pipe, while surrounded by the steam in the steam-pipe, to superheating to heat the same, while the hydrocarbon is kept out of direct contact with the steam until the two arrive simultaneously at the immediate point of delivery, substantially as described.

263,457. ELECTRIC GAS-LIGHTING APPARATUS. OSMON S ARMSTRONG, Cambridge, Mass. Filed July 2, 1881. (Model.)

Brief.—When the gas is turned on a spring-electrode connected with the cock makes contact with the insulated spring-arm. The first electrode is moved back to its original position by a spring coiled about the cock without turning the latter.



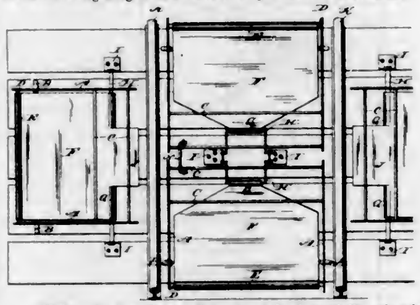
Claim.—1. The burner A, provided with cam *c*, in combination with the vibrating arms *a* and *c*, having points *a'* and *c'*, the combination being and operating substantially as described.

2. The burner A, having the flexible spring-actuated arm *a*, attached thereto, in combination with the arm C, having the flexible arm *c*, adapted to carry forward the arm *a* into the field of the flame, and a retracting-spring attached to the arm C, which returns the said arm, together with its attachments, to first position, substantially as described.

3. The burner A, having attached thereto the slotted guide F, in combination with the flexible vibrating arms *a* and *c*, the combination being and operating substantially as described.

263,458. CATTLE-GUARD. ROBERT ARMSTRONG, Neodesha, Kans. Filed June 12, 1882. (No model.)

Brief.—A cattle-guard which consists of a vertically-swinging gate formed of side bars and cross-rods is hinged at one end to standards of a horizontally-swinging platform, the opposite end of the latter being hinged on a crank-shaft journaled in standards.
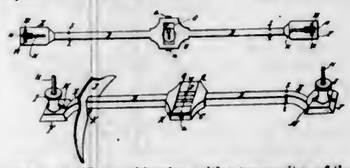


Claim.—1. A cattle-guard constructed substantially as herein shown and described, and consisting of a vertically-swinging gate hinged at one end to the end of a horizontally swinging or moving platform, substantially as herein shown and described.

2. In a cattle-guard, the combination, with the gate A C D, pivoted at one end to short standards B, of the platform F, hinged to the end of this gate, and having its opposite end hinged on a crank-shaft, H, journaled in standards I, substantially as herein shown and described, and for the purpose set forth.

3. In a cattle-guard, the combination, with a gate formed of side bars, A, and cross-rods C D, of the short standards B, to which this gate is pivoted, the platform F, hinged to this gate, the crank shaft H, to which the opposite end of the platform F is hinged and of the standards I, substantially as herein shown and described, and for the purpose set forth.

4. In a cattle-guard, the combination, with the pivoted swinging gate A C D, of the platform F, hinged thereto, and provided at its inner end with a projection, J, and the journaled crank-shaft H, substantially as herein shown and described, and for the purpose set forth.

263,459. ALIGNER FOR TYPE-WRITERS. CHAS. J. BAKER, Topeka, Kans. Filed Apr. 17, 1882. (Model.)



Claim.—1. The combination, with a type-writer, of the aligner-bar, substantially as herein described, and a gage-plate, P, as set forth.

2. The aligner-bar D E F G and clamp-screws H I, in combination with a type-writer, substantially as specified.

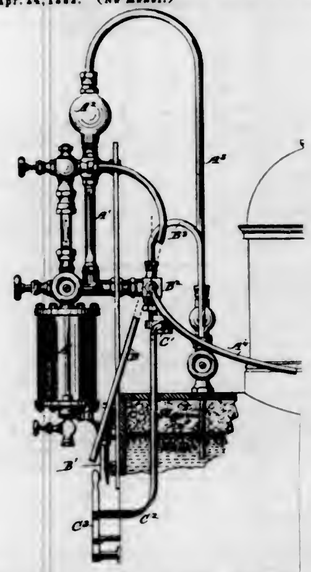
3. The aligner-bar D E F G, clamp-screws H I, and stad-points M, in combination with a type-writer, substantially as specified.

4. The combination of a transparent cover, *b*, with the adjusting-slide P of the aligner for type-writers, substantially as herein shown and described.

5. The combination, in an aligner for type-writers, of an aligner-bar, D E F G, adjusting-gage slide P, and binding-screws *a*, substantially as described.

6. The combination of gage J, aligner-bar D E F G, and clamp-screws H I with a type-writer, substantially as specified.

263,460. LUBRICATOR. GEORGE W. BAKER, Chicago, Ill. Filed Apr. 24, 1882. (No model.)

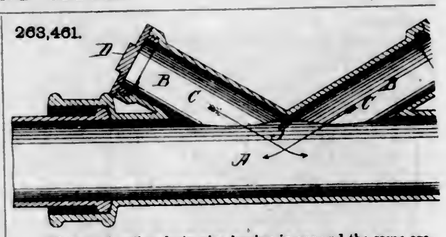


Claim.—1. In a lubricating apparatus of the character hereinbefore described, the combination therewith of the T-coupling B^3 and the oil and steam connections thereof, and the plug-valve C, inserted therein, and having oil and steam passages corresponding thereto, substantially as and for the purpose herein set forth.

2. The combination, with the T-coupling B^3, of the horizontal stem *a*, the auxiliary steam-pipe B^2, the oil-conducting pipes A^4 A^5, and the plug-valve C, substantially as described.

3. The combination, with a T-coupling having oil-pipes branching therefrom, which communicate with and lubricate both engines of a locomotive, of the plug-valve C, the steam-pipe B^2, the arm C', the lever C^2, and the throttle-valve lever C^3, whereby the plug-valve is automatically rotated to open wide or partially close the oil and steam passages, but never wholly shutting off either the steam or oil passages, substantially as set forth.

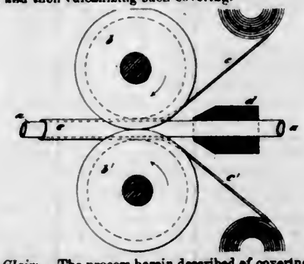
263,461. SOIL AND WASTE PIPE. JAMES BARRETT, Boston, Mass. Filed Dec. 23, 1881. (No model.)



Claim.—A soil or drain pipe having in one and the same section hand-holes B, each having a passage, C, arranged at an inclination to the length of the pipe, but in opposite directions to each other, all substantially as and for the purpose described.

263,462. PROCESS OF COVERING STICKS FOR UMBRELLAS. WILHELM BAUMGARTEN, Hamburg, Germany. Filed Apr. 10, 1882. (No model.) Patented in Germany Oct. 7, 1880, No. 15,140; in Great Britain Oct. 18, 1880, No. 4,241; in France Oct. 22, 1880, and in Austria Feb. 4, 1881.

Brief.—Rubber in the form of two strips is pressed upon the stick and then vulcanizing such covering.



Claim.—The process herein described of covering an umbrella or sunshade stick with vulcanite, which consists in pressing upon the stick rubber in the form of two bands or strips and then vulcanizing the same, substantially in the manner and for the purpose set forth.

263,463. YARN-GUIDE FOR SPOOLING-MACHINES. CHAS. E. BEAN, Fall River, Mass., assignor of two-thirds to Seth H Wetherbee and Matthew C. Yarwood, same place. Filed Mar. 9, 1882. (No model.)

Brief.—The guide has two fixed converging plates or blades resting upon a base-piece, and having knife-edges and converging shanks supported in bearings wherein the shanks may be longitudinally adjusted to vary the width of the opening between the knife-edges of the plates. Said bearings are in standards erected upon said base-piece, supported by a rod which is vertically adjustable in the guide-rail. The shanks are secured in their bearings by set-screws, the heads of which are provided with holes instead of a groove, to prevent tampering.



Claim.—1. The combination, in a yarn-guide, of two fixed converging plates or blades having knife-edges, and forming between them a slot or opening through which the yarn may be drawn in a direction opposite to the direction in which the said plates or blades converge, substantially as specified.

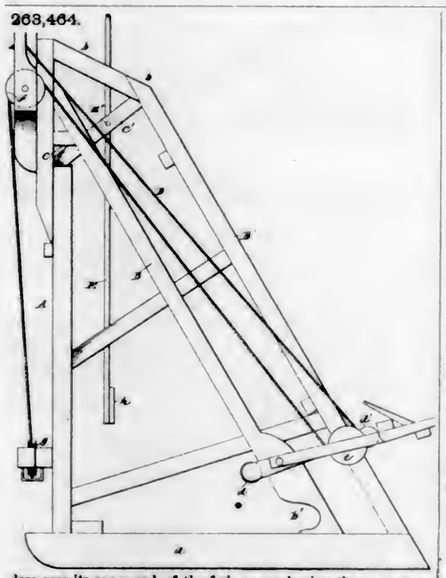
2. The combination, in a yarn-guide, of two fixed converging plates or blades having knife-edges, converging shanks to which said plates or blades are attached, and supports wherein said shanks may be adjusted longitudinally to vary the opening between said plates or blades, substantially as specified.

3. The combination of the base-piece B, the standards or uprights B', the plates or blades C, and their converging shanks D, substantially as specified.

263,464. HAY-STACKER. JASON E. BEAN, Macon, Ill. Filed July 13, 1882. (No model.)

Claim.—1. In a hay or straw stacker, the combination, with the double tramway B B', having a track, *b*, forming an obtuse angle with the part B', and the frame A, having notches or shoul-

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ders near its upper end, of the fork or car having the rear arms, C', provided with rolls and pulleys and the operating cords or chains, substantially as and for the purpose set forth.

2. In a hay or straw stacker, the combination, with the car or fork adapted to travel on the tramway of the frame, of the perpendicular weighted lever constructed and arranged to intercept the moving car, substantially as and for the purpose set forth.

263,465. BOOT-STRAP. JOHN B. BELOMBE, Charlotte, Mich. Filed June 14, 1882. (No model.)



Claim.—An improved boot-strap consisting of a suitable cord formed into a loop, having the upper portion doubled or interlaced, as shown, and covered with a prepared fabric, the free ends of the loop forming additional attaching-straps, all substantially as and for the purpose set forth.

263,466. MANUFACTURE OF BALLS. GEORGE W. BEYER, Brooklyn, N. Y., assignor of one-half to Frank Andrews, same place. Filed July 12, 1882. (No model.)

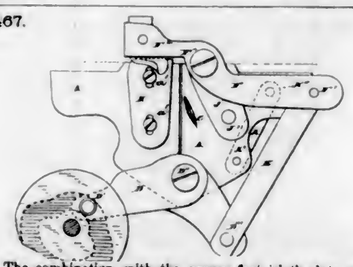


Claim.—The method of making balls, consisting in inserting plastic material into a mold made internally of the form of a truncated cone, in placing marking material in a reverse prototype of the number to be marked on the balls, sunk into the bottom of the mold or into a bottom plate therefor, in placing over the plastic material a mold of a shape adapting it to form half the ball, in then subjecting the molds to pressure, in removing from the plastic material before it is set the mold which is of the form of a truncated cone and applying to it a mold of the form of half the ball to be produced, and in subjecting these molds to pressure, substantially as specified.

263,467. TRIMMING DEVICE FOR OVER-EDGE SEWING-MACHINES. JOHN BIGELOW, Philadelphia, Pa. Filed June 5, 1879.

Claim.—1. In combination with the stitch-forming mechanism of an over-edge sewing-machine, an automatic trimmer arranged to act in advance of said mechanism and in the line of the seam, so that said mechanism can operate to lay its stitches across or over the edge or edges cut by said trimmer, substantially as described.

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2. The combination, with the presser-foot, cloth-plate, and stitching mechanism of an over-edge or irregular-stitch sewing-machine, of a trimmer arranged to act in advance of the sewing mechanism, all substantially as described.

3. The combination, with overseaming stitching mechanism, of a trimmer arranged to act in advance of said mechanism, and a shield or guide for diverting the trimmed-off strip away from said overseaming mechanism, substantially as described.

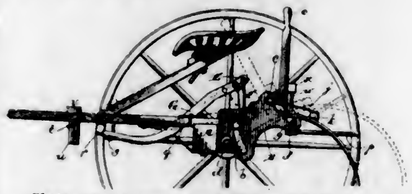
263,468. FIRE-ESCAPE. JACOB BLOOMER, Boise City, Idaho. Filed Apr. 5, 1882. (No model.)

Brief.—The rope-reel is inclosed in a case, one end passing out through a slot therein, and having secured upon it a bell or gong with a securing-hook hung on the under side thereof.



Claim.—The combination, with the box or casing A, provided with longitudinal slot I in its front, and having horizontal flange B at its bottom and longitudinal shaft or drum C journaled in bearings D D in its ends, and provided with operating crank or handle F, having ratchet G, engaged by a pawl, H, of the cord J, or its equivalent, secured to and wrapped around shaft C, its free end passing through slot I, and having a bell or gong L, under which is arranged a hook, M, all arranged and operating substantially as and for the purpose specified.

263,469. HORSE-RAKE. CORNELIUS BOLLINGER, Harrisburg, Pa. Filed May 18, 1882. (No model.)



Claim.—1. In combination with a rake-head arranged in guideways to rise and fall and provided with a rigid upwardly-projecting arm, a rear tooth-support journaled in guideways, in which it is adapted to first rock and then ascend, a foot-lever secured by a pivot to a part of the frame and secured at its rear ends to the upper end of the arm on the rake-head, and a locking device for engaging the forward end of the foot-lever, substantially as described.

2. The combination of the rear tooth-support journaled in guideways, in which it is adapted to first rock and then rise and fall, guides projecting upward from said tooth-support for receiving the rake-teeth, a cross-bar rigidly connected with the upper ends of the said tooth-guides, a hand-lever secured to the cross-bar, a rising and falling rake-head, and a bar connecting the lower end of the hand-lever to the rake-head, substantially as described.

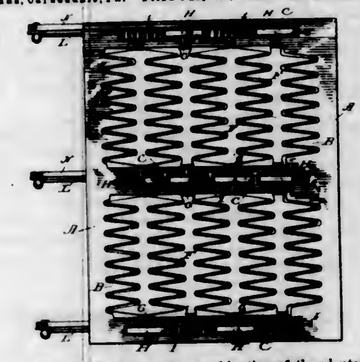
3. The combination, with the plates or castings having slots in which the rake-head and the journaled tooth-support are adapted to rise and fall, of the transverse rod connecting and bracing said plates or castings and serving as a rest for the rear journaled tooth-support.

4. The combination, with the plates or castings having slots in which the rake-head and the rear journaled tooth-support are adapted to rise and fall, of the transverse rod connecting and bracing said plates or castings and carrying the rearward-projecting clearers, said rod also serving as a rest for the rear journaled tooth-support.

5. The combination of the ascending and descending rake-head, carrying rake-teeth and provided with an upward-projecting rigid arm, of the transverse truss-rod supported on the arm and having its ends connected with the rake-head, and a foot-lever connected with the said rigid arm above the rake-head.

6. In a horse-rake, the combination of the wheel-axle, the thills hinged directly to the axle and having a cross-bar provided with a depending bracket, a bar rigidly secured at its rear end to the axle between the thills, and having its front end guided by the bracket on the cross-bar of the thills, and a locking device for securing the front end of the bar in its adjusted position within the depending guide-bracket, substantially as and for the purpose described.

263,470. GRATE FOR BOILER-FURNACES. WILLIAM BOWMAN, Carbondale, Pa. Filed July 21, 1882. (No model.)



Claim.—1. In a grate, the combination of the pivoted interlocking bars, segmental gears, and a sliding rack.

2. The combination of the slotted side or bearing bars, the interlocking grate-bars journaled therein, segments attached to said grate-bars, and a rack engaging with said segments.

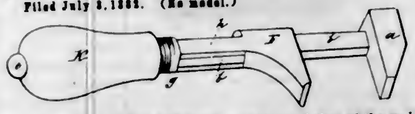
3. In a grate composed of two or more sections, the combination, with the interlocking teeth, of the slotted bearing-bars adapted to separate the sections, the sliding racks, and the segments placed on opposite ends of alternate bars.

4. In a grate, the combination of two or more sections composed of pivoted interlocking bars, with segments connected to such bars and adapted to be moved in concert therewith, whereby such segments operate as grate-bars, as described.

5. A side or bearing bar for a grate having a central slot, in combination with the segments inclosed thereby and the rack.

6. In a grate, the combination of the pivoted bars, the segments, the rack and its operating-lever, and the rollers journaled in the slotted side bar.

263,471. WRENCH. WILLIAM A. BRADFORD, Goshen, Ind. Filed July 3, 1882. (No model.)

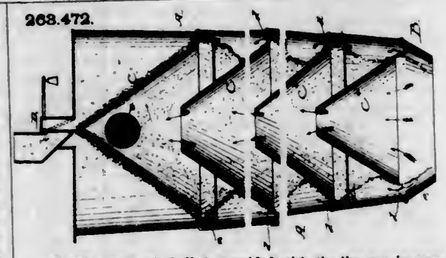


Claim.—A parallel-moving wrench consisting of the main jaw *a*, having a squared shank, *b*, and spindle end *c*, the movable jaw having an interior squared bearing extending through its stem and an exterior threaded bearing, *g*, on said stem, the rotary handle pivoted on the spindle of the main jaw and having the threaded recess *z*, engaging the threaded stem of the movable jaw, and the fastening-nut *e* on the end of the spindle, substantially as specified.

263,472. MACHINE FOR PURIFYING MIDDLINGS. FRANCIS M. BROWN, Union City, Tenn. Filed Apr. 26, 1881. (No model.)

Claim.—1. In a middlings-purifier, a series of truncated conical distributors provided with openings of an area increasing from the bottom toward the top of the machine, in combination with the inclosing air-trunk and suitable mechanism for creating an air-current, substantially as and for the purpose herein set forth.

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2. The sectional shell A, provided with the lips *a a*, in combination with the section B, having its sides suddenly contracted, the series of truncated conical distributers, and a suitable mechanism for creating an air-current, substantially as and for the purpose set forth.

263,473. BRICK AND TILE KILN. ROBERT A. BROWN and JOHN F. BROWN, Washington, Ind. Filed June 30, 1882. (No model.)



Claim.—1. A kiln provided with a central partition-wall having vertical concave recesses or flues on both sides, and dampers connecting the same at its upper end, as set forth.

2. As an improvement in brick and tile kilns, the herein-described structure, consisting of two separate compartments having furnaces located at the end walls, said end walls having vertical flues opening at their lower ends into the interior of the kiln, and the partition-wall being provided on both sides with vertical concave recesses or flues, and at its upper end with dampers connecting the same, as set forth.

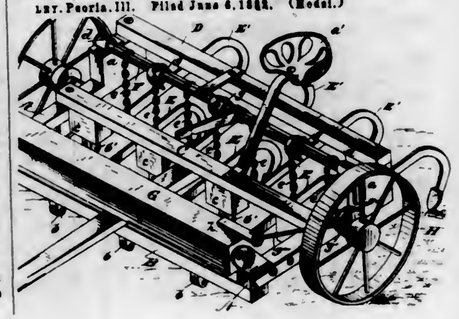
263,474. LAMP-FOUNT. EDSON L. BRYANT, Auburn, Conn., assignor of one-half to Wallace & Sons, same place. Filed June 19, 1882. (No model.)



Claim.—1. The covering-plate A, shaped corresponding to the top of the lamp-fount, its edge turned up to form the flange *a*, and with an opening corresponding to the flange around the burner-opening, combined with the burner-collar made independent of the plate, and secured to its flange and so as to bear upon said plate, substantially as described.

2. The combination of the plate A, shaped corresponding to the top of the lamp-fount, its edge turned up to form a flange, *a*, and with openings corresponding to the flanges around the burner and filler openings, with a collar upon one of said flanges constructed to bear upon the surface of said plate around said flange when secured in position, substantially as described.

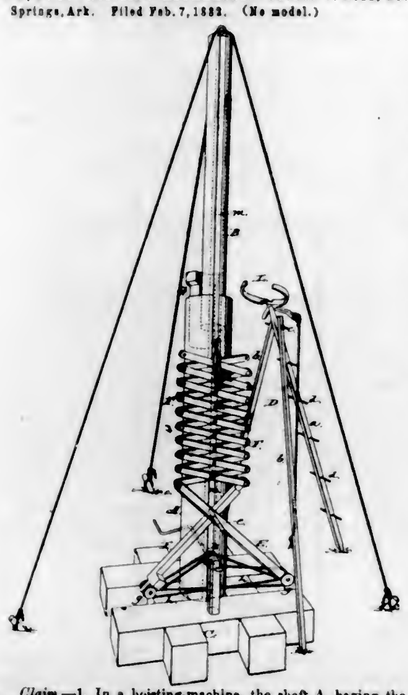
263,475. COMBINED PLOW AND SEEDER. ROBERT C. BUCKLEY, Peoria, Ill. Filed June 6, 1882. (Model.)



Claim.—1. The frame-work consisting of the beams A A, B, C, and D, blocks *a*, and blocks or supports *c*, combined with the jaws *b b'*, all constructed and arranged substantially as set forth.

2. The frame-work of the machine and a front and a hind series of drag-bars and plows, the bars being pivoted to the frame-work, as described, combined with a roller, curved plates thereon, and chains connecting the roller and curved plates with the two series of drag-bars, whereby the drag-bars as they are raised and lowered shall maintain the same parallel relations with respect to each other, substantially as set forth.

263,476. HOISTING APPARATUS. THOMAS J. BULL, Hot Springs, Ark. Filed Feb. 7, 1882. (No model.)



Claim.—1. In a hoisting-machine, the shaft A, having the guide-groove *m*, the windlass *k*, and cross-levers E, pivoted near its base, the series of extension or lazy-tong arms F, pivoted to the cross-levers, the pivot-bolts *l*, connecting said arms centrally, and having dovetail heads *p*, engaging the guide-groove, and the hook or catch H at the upper end of the series, substantially as specified.

2. In a hoisting-machine, the combination, with the main grooved shaft A, its windlass, cross-levers E, and pivoted extension-arms F, having center bolts engaging the groove of the shaft, of the additional shaft B, also grooved to engage said center bolts, and having the shoulder-bearing *s*, and the wedge-fastening G, substantially as specified.

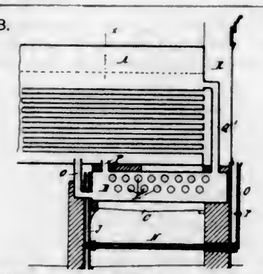
263,477. WITHDRAWN.

263,478. STEAM-GENERATOR AND FURNACE. CLAUDE H. CANDLER and JAMES WHITEHEAD, Detroit, Mich., assignors of one-third to Thomas Calvert and Charles B. Calvert, same place. Filed June 14, 1882. (No model.)

Claim.—1. In a steam-generator furnace, and in combination with such generator-furnace and with the boiler, the heater D, provided with flues through the same and connected with said boiler by the pipes Q, P, and Q', the former communicating with the boiler in rear of the bridge-wall, while the latter communicates with the boiler above the flues and passes through the smoke-jacket, substantially as and for the purposes specified.

2. In a steam-generator furnace, the dampers H I, constructed as described, hollow, open on one side only, and with a front perforated wall, and adapted to close the openings between the boiler

263,478.



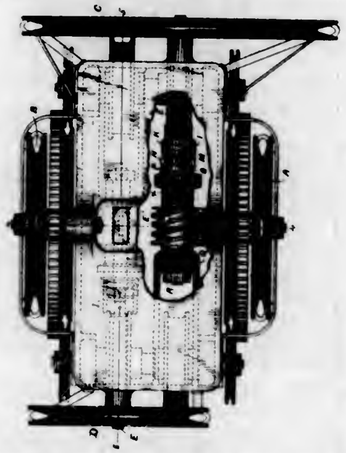
and the bridge-wall, substantially as and for the purposes specified.

3. In a steam-generator furnace, and in combination with a locking device, P, two crank-levers, O, adapted to operate the dampers H I reversibly or independently of each other, substantially in the manner described.

4. In a steam-generator furnace, the combination, with the heater D thereof, of the vertically-sliding dampers H I, the shaft N, lever M, and rod L, connected with the damper I, the hollow shaft N', lever M', and the rod L, connected to the damper H, and the operating-handles O O, substantially as described.

5. In a steam-generator furnace, the combination, with the alternately opening and closing dampers H I, of the crank-lever O, for operating said dampers, said lever being arranged in front of the furnace-doors, whereby it will block one of the doors and prevent the same from being opened when either of the dampers is entirely opened or closed, substantially as described.

263,479. TRAVELING CRANE. THOMAS W. CAPEN, Stamford, Conn., assignor to the Yale Lock Manufacturing Company, same place. Filed July 20, 1882. (No model.)



Claim.—1. The combination of the two band-wheels C and D and their pull-chains with the worms, worm-wheels, chain-wheels, and hoisting-chain, whereby four different speeds of hoisting and of lowering may be obtained, substantially as set forth.

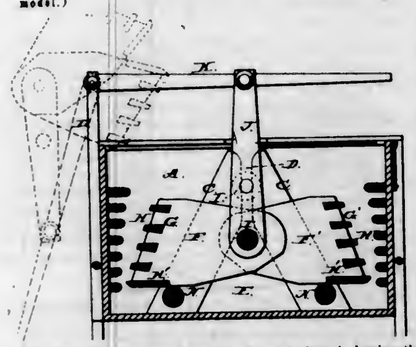
2. In a crab for a traveling crane, the combination of worm-wheel hoisting mechanisms and traversing mechanism, substantially as set forth.

3. The combination of the two parts of the shaft E with the driver and the fixed collar M and loose collar O, adapted to be engaged by the driver to turn the shaft in either direction, substantially as set forth.

4. The combination of the two parts of the shaft E with the driver and the fixed and loose collars M and O, adapted to be engaged by the driver to turn the shaft, the adjacent faces of the collars being inclined, as set forth, and the part of the shaft carrying the collars being held against longitudinal motion, substantially as set forth.

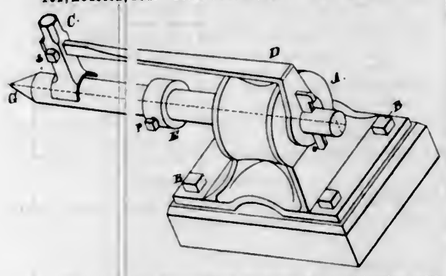
5. The combination of the shaft and the fixed and loose collars M and O, having inclined adjacent faces, and so constructed and arranged that the loose collar is wedged against a firm stop in operation and the shaft is held against longitudinal movement, whereby a brake is applied to stop its rotation, substantially as set forth.

263,480. WASHING-MACHINE. ELI H. CHAPMAN, Wetmore, Kans. Filed Oct. 10, 1881. Renewed June 29, 1882. (No model.)



Claim.—In a washing-machine, the suds-box A, having the strips C C at its sides forming the ways D D, and the triangular spaces E E, in combination with the rubbers H H, constructed as described, and the lever K, bars J, and rollers N N, substantially as and for the purposes specified.

263,481. MACHINE FOR WELDING TUBES. JAMES CHARLTON, Houston, Tex. Filed Jan. 17, 1881. (No model.)



Claim.—1. In a flue-welding machine, the combination, with the base, of the upright provided with an opening through it, the removable mandrel provided with an adjustable gage-collar and having a slot through its rearwardly-projecting end, the spring carrying the swage, and means for securing the spring and mandrel in position, substantially as set forth.

2. The herein-described flue-welding machine, consisting of the base B, upright A, having an opening through it, removable mandrel G, slotted at its projecting rear end, spring D, carrying the detachable swage C at its free end, and key O, for securing the spring and mandrel in position, substantially as and for the purpose set forth.

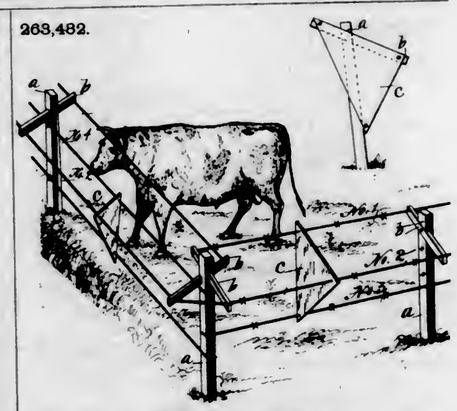
263,482. WIRE FENCE. EMILE CHAVANNES, Altoona, Iowa. Filed Feb. 23, 1882. (No model.)

Claim.—1. In a wire fence, the combination of three wires with two or more fixed posts, having inclined cross-pieces to support two of the wires at different points of elevation at opposite sides of and distant from the posts, substantially as set forth, for the purposes specified.

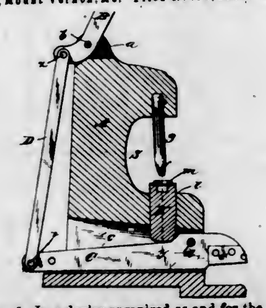
2. The combination of three or more fence-wires with two or more fixed posts, having inclined cross-pieces and one or more triangular-shaped stay-pieces, substantially as shown and described, to operate in the manner set forth, for the purposes specified.

3. An improved fence, consisting of fixed posts *a*, inclined cross-pieces *b*, three or more fence-wires, and stay-pieces *c*, when arranged and combined relatively to each other and the surface of the ground, substantially as shown and described, for the purposes specified.

263,482.



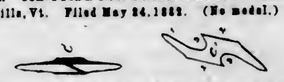
263,483. SHEARING AND PUNCHING MACHINE. LORENZO CHESLEY, Mount Vernon, Mo. Filed Nov. 1, 1881. (No model.)



Claim.—1. In a device organized as and for the purposes described, the combination of the following elements, namely: the main stand A, having slots *a* and *c*, located as described, the lever B in the slot *a* and pivoting on the pin *b*, the bars D D, connecting the end of said lever B with the end of the shearing-lever C, said lever C located in the slot *c* and pivoting on the pin *d*, the cutting-blade *e*, attached to the lever C, and the cutting-blade *f*, rigidly attached to the base part of said supporting-stand A, the whole combination arranged for the operation of cutting off a metal bar, substantially as described.

2. In combination with the main supporting-stand A, slotted at *a* and *c* and *l*, the pivoted lever B, connecting-rods D D, shearing-lever C, die-post *k*, provided with the perforated plate *m*, and punch *g*, substantially as and for the purposes herein set forth.

263,484. TIE-GUIDE FOR FISHING-RODS. THOS. H. CRUBB, Post Mills, Vt. Filed May 24, 1882. (No model.)



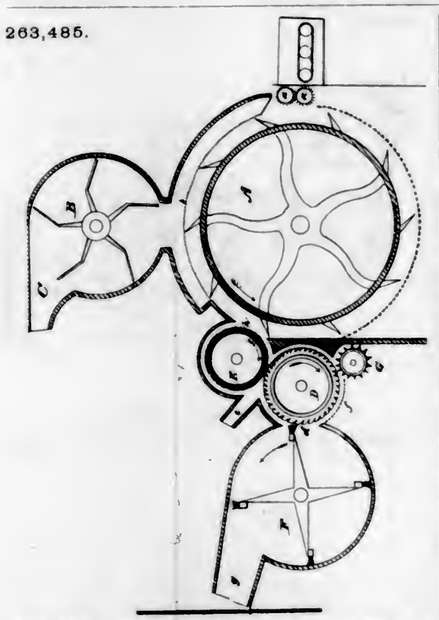
Claim.—The tie-guide for fishing-rods, cylindrical in cross-section at its middle, and constructed of the piece of metal C', having pointed ends 1, inclined side edges, 2, leading inward from the bases of said points, and curved recesses 3 between the inner ends of the inclined side edges and the bases of the points, substantially as described.

263,485. MACHINE FOR PICKING AND BURRING WOOL. JOHN R. CLARK and HENRY TINDELL, Harrison, N. J. Filed Apr. 1, 1882. (No model.)

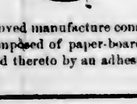
Brief.—A cylinder provided with bristles and located between the picker-cylinder and burring-cylinder transfers the wool from the former to the latter, whereby the injurious cutting of the fibers heretofore experienced is avoided.

Claim.—The combination, with the picker A and burring-cylinder D, of an intermediate device provided with bristles, substantially as herein set forth.

263,485.

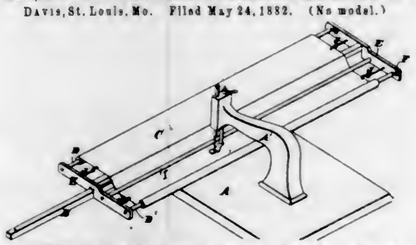


263,486. TIP FOR INSOLES. ABRAHAM DAVIS, New York, N. Y. Filed Feb. 10, 1882. (No model.)



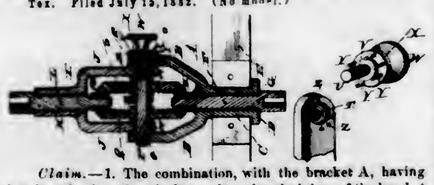
Claim.—An improved manufacture consisting of an insole-tip pressed into shape, composed of paper-board, with an outer layer of textile fabric secured thereto by an adhesive substance, all substantially as set forth.

263,487. QUILTING-FRAME FOR SEWING-MACHINES. H. T. DAVIS, St. Louis, Mo. Filed May 24, 1882. (No model.)



Claim.—A quilting attachment for sewing-machines, consisting of rail B, rollers B', rail H, rib H', rollers D I D', end pieces E E, and quilt-securing devices J, as set forth.

263,488. SHAFT-COUPLING. MICAJAH R. DAVIS, Pink Hill, Tex. Filed July 15, 1882. (No model.)



Claim.—1. The combination, with the bracket A, having bearings for the rod or shaft carrying a bevel-pinion, of the bracket I, having bearings for a like shaft, carrying also a bevel-pinion, and the transverse connecting-shaft carrying a bevel-gear wheel, Q, and a like movable gear-wheel, S, with means for adjusting wheel S and retaining the brackets together, substantially as set forth.

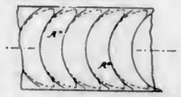
2. The combination, with the substantially U-shaped bracket having bearings for the rod or shaft carrying the bevel-pinion, and the corresponding ∩-shaped bracket carrying a like pinioned shaft, openings being formed in the ends of each bracket, of the movable transverse connecting-shaft carrying bevel-gear wheels Q S, and having a screw-threaded hole in one end, in which works a set-screw, substantially as set forth

3. The combination, with the two brackets and the transverse connecting-shaft having a screw-threaded hole in one end, of the set-screw having an annular shoulder or flange, and the annular disk provided with the securing-pins, substantially as set forth.

4. The combination, with the brackets carrying the pinioned shafts, and the transverse connecting-shaft having fixed collars R R, and bevel-gear wheels Q S, and a screw-threaded hole in one of its ends, of the flanged set-screw and the disk arranged thereon and provided with the securing-pins, substantially as set forth.

5. The combination, with the bolster having suitable bearings, of the substantially U-shaped bracket having a shank arranged therein, and provided with a shoulder and bearings for the pinioned shaft, the correspondingly U-shaped bracket carrying a like pinioned shaft, and the transverse connecting-shaft carrying two bevel-gear wheels, substantially as set forth.

263,489. TIP FOR INSOLES. SAMUEL DAVIS, New York, N. Y. Filed Apr. 21, 1882. (No model.)



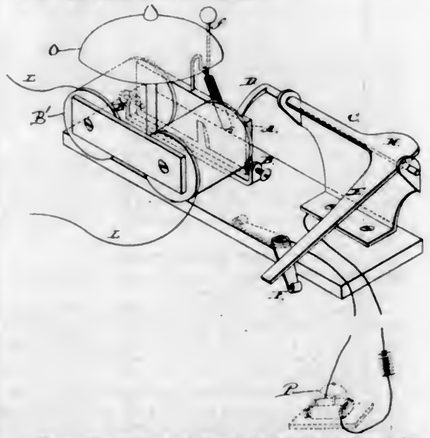
Claim.—As an improved article of manufacture, a tip for the insole of boots and shoes, formed of textile material stiffened with a composition of starch, glue, chloride of zinc, and water, or equivalents thereof, substantially as and for the purposes described.

263,490. OIL-CONDUCTOR FOR CAR-AXLE BOXES. JULIUS DE LONG, Allegheny, Pa. Filed June 14, 1882. (No specimens.)

Claim.—1. An oil-conductor for car-axle journal-boxes, consisting of animal hair washed, picked, and carded, substantially as herein shown and described.

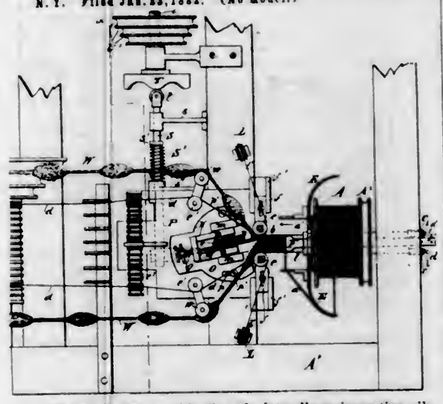
2. As a new article of manufacture, animal hair washed, picked, carded, and oiled to adapt it for use as an oil-conductor for car-axle boxes, substantially as herein shown and described.

263,491. ALARM FOR TELEPHONES. WILLIAM DENT, Utica, N. Y. Filed Aug. 27, 1881. (Model.)



Claim.—In an alarm attachment for telephones, the combination, with the magnet B' in the main line, the pivoted armature A, provided with the hammer *f*, and the bell O at the magnet, of the pivoted plate C, having the arms D and E, the pivoted switch F, and a vibratory bell, P, placed in the local circuit, substantially as and for the purposes specified.

263,492. CHENILLE-MACHINE. GEORGE DIETZEL, New York, N. Y. Filed Jan. 23, 1882. (No model.)



Claim.—1. The combination of a laterally-reciprocating pile-cutting knife with a cam for reciprocating said knife as the pattern of the chenille may require, and means for operating said cam, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the laterally-reciprocating plate O and the rotary knife M, journaled in standards of the frame, with devices for rotating the knife and devices for reciprocating the frame, substantially as herein shown and described, and for the purpose set forth.

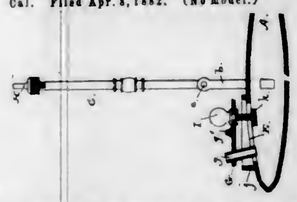
3. The combination, with devices for winding the pile-threads and twisting the binding-threads of chenille, of the oscillating plate O, carrying a rotary knife, M, the cam T, pulley U', shaft U, and the rod or bar S, connected with the pivoted plate O, and resting against the edge of the cam T, substantially as herein shown and described, and for the purpose set forth.

4. The combination, with devices for winding the pile-thread and twisting the binding-threads of chenille, of the pivoted plate O, the bar S, the cam T, pulley U', shaft U, the adjustable frame N, screw Q, and the rotary knife M, journaled in the frame N, substantially as herein shown and described, and for the purpose set forth.

5. The combination, with the blade F, the wires *d*, the spool A, provided with a flier, E, the guide-rollers *e*, and means for feeding the wires forward and operating the spool and flier, of the reciprocating rotary knife M, substantially as herein shown and described, and for the purpose set forth.

6. The combination, with the blade F, the wires *d*, the spool A, provided with a flier, E, the guide-rollers *e*, provided with top and bottom flanges, and with an annular groove, *i*, and means for feeding the wires forward and operating the spool and flier, of the reciprocating rotary knife M, substantially as herein shown and described, and for the purpose set forth.

263,493. MINER'S LAMP. BERNARD DOBBAS, Greenwood, Cal. Filed Apr. 8, 1882. (No model.)

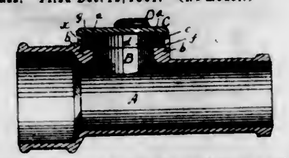


Claim.—1. The lamp-body A, having the ears *b b*, for attachment of a bail or handle, and the aperture E in its top, in combination with a cap or cover, G, having wick and vent tubes *g g'*, and a screw, I, and bar *k*, having a screw-threaded hole, substantially as described.

2. The combination of the lamp-body A, having the aperture E in its top, with a surrounding rim, *j*, and the plate G, with vent-tube and wick-tube *g g'*, and the fastening device consisting of the thumb-screw, and the bridge-piece fixed across the aperture E, substantially as described.

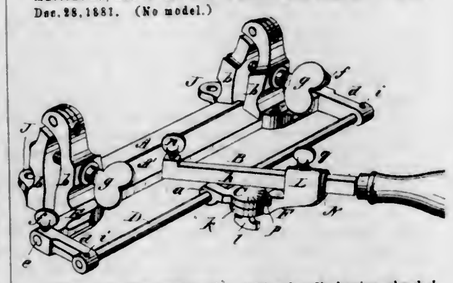
3. The improved miner's lamp herein described, consisting of the body A, of double convex shape, having ears *b b*, the bail or handle C, attached by hinge-joint to the ears, the aperture E in the top of the body, the bridge-piece, and the plate G, with tubes *g g'*, and fastening-screw, substantially as set forth.

263,494. SOIL OR DRAIN PIPE. PATRICK W. DOHERTY, Boston, Mass. Filed Dec. 12, 1881. (No model.)



Claim.—As an improved article of manufacture, a soil or drain pipe provided with a hand-hole having a surrounding groove or channel the inner wall of which is formed by a ring rigidly and permanently secured in the mouth of the hand-hole, substantially as shown and described.

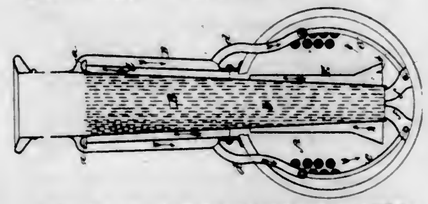
263,495. SAW-SHARPENING MACHINE. CHARLES M. ELKINS, Matteawan, and WILBUR H. WESTON, Newburg, N. Y. Filed Dec. 28, 1881. (No model.)



Claim.—1. The combination, with a handle having shank *h* and a plate, C, having sleeves *a* for the rod D, of the bracket F, having circular plate *k*, sleeve L, and threaded socket *s*, the thumb-screw *l*, the loose bushing N, and the set-screw *q*, as and for the purpose specified.

2. The combination, with the saw-holding jaws, of the arms *d d*, the jaw-projections E, having gudgeons *e*, and the set-screws *f*, whereby the rods D D' may be readily interchanged and the relation of the file-handle to the saw-blade regulated, as described.

263,496. SPARK-ARRESTER. JOHN H. FILCER and JAMES GILDUFF, Mattoon, Ill. Filed May 23, 1882. (No model.)



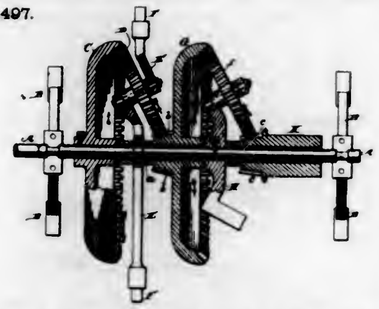
Claim.—The combination, with the slotted smoke-stack B, inclosing-pipe C, jacket D, concave collar *a*, funnel-shaped pipe E, and spark-discharging pipes *d*, of the steam-pipes *e*, for forcing the sparks into the fire-box against the natural draft, as shown and described.

263,497. MECHANICAL MOVEMENT. LEMUEL S. FITNIAN, Montclair, N. J. Filed Feb. 6, 1882. (No model.)

Claim.—1. In a mechanical movement, the combination, with a shaft having cogged wheels connected by intermediate gears journaled in independent bearings, of a lever fixed to said shaft and forming a bearing for one of said intermediate gears, whereby the gear journaled in the said lever is adapted to have a revolution about the main shaft in one direction and a revolution upon its own axis in a contrary direction, substantially as described.

2. In a mechanical movement, the combination, with a shaft having a large double gear mounted loosely thereon and a lever

263,497.

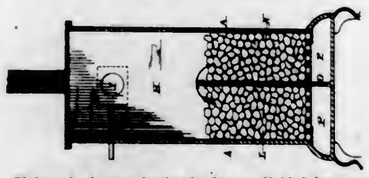


fixed to said shaft, of a movable gear journaled in bearings in said lever at an inclination to the face of the large gear with which it meshes, and means, such substantially as described, for imparting motion to the large gear in a direction opposite to the revolution of the shaft, whereby the movable gear journaled in the said lever is caused to revolve upon its axis in a direction contrary to its revolution about the main shaft, as set forth.

3. In a mechanical movement, the combination of a shaft mounted in suitable bearings, a chambered cog-wheel fixed to said shaft, a chambered cog-wheel having an elongated hub and pinion integral therewith, and a sleeve mounted loosely on said shaft and provided with a pinion, an intermediate gear journaled in an independent bearing and connecting one chambered cog-wheel with the pinion on the other chambered cog-wheel, a lever fixed to the shaft and adapted to revolve therewith, and a movable gear journaled in bearings formed in said lever and adapted to connect the large loosely-mounted cog-wheel with a pinion on the loose sleeve, whereby said sleeve is adapted to revolve with increased speed in the same direction as the main shaft, substantially as described.

4. In a mechanical movement, the combination of the main shaft A, journaled in suitable bearings, the cog-wheel C and lever H, fixed to said shaft, the cog-wheel G and sleeve K, mounted loosely thereon and provided respectively with suitable pinions, the bevel-gear D, journaled in independent bearings formed in a stationary bar, E, arranged at an angle to the main shaft, and the movable gear I, journaled in bearings formed in the lever fixed to the shaft, said gears D and I being inclined to the faces of the large gears and connecting respectively with the same and with a pinion on the loose sleeve, whereby the latter is caused to revolve in the same direction as the main shaft and with an increased speed, substantially as described.

263,498. STOVE. JOSEPH FLANNERY, Philadelphia, Pa. Filed Mar. 13, 1882. (No model.)



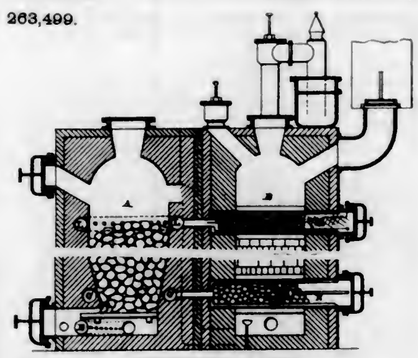
Claim.—1. A stove having its fire-pot divided into two separate and distinct chambers, in combination with the division D and a flue through which the products of combustion pass, whereby the products of combustion from one chamber are made to pass down through the other before they reach the flue, substantially as set forth.

2. In a stove, the combination of partitions B D H and damper I, the fire-pot of the stove being divided into two separate chambers, so that the products of combustion from the first fire will pass down through the second one, substantially as set forth.

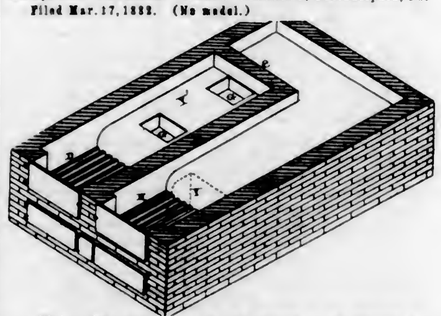
263,499. HYDROCARBON-GAS GENERATOR. JOSEPH FLANNERY, Philadelphia, Pa. Filed Mar. 13, 1882. (No model.)

Claim.—In a hydrocarbon-gas generator, the combination of the chambers A C, having the perforated ducts or cavities made in their inner walls, with the chambers B D, having the steam and oil retorts passing through them, and connecting with the perforated ducts, substantially as shown and described.

263,499.

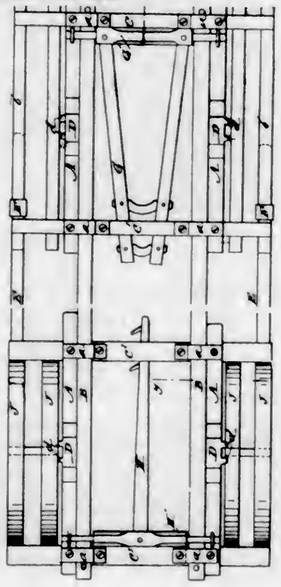


263,500. FURNACE. JOSEPH FLANNERY, Philadelphia, Pa. Filed Mar. 17, 1882. (No model.)



Claim.—The combination of the furnace D, the passage Y', leading therefrom, the walls or partitions B e, downtake G, passage P, furnace H, and passage leading to the stack, all arranged substantially as shown.

263,501. HAY-RACK. EMANUEL FLECK, La Grange, Ind. Filed Apr. 19, 1882. (No model.)



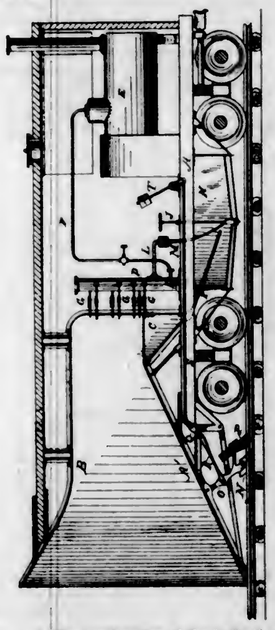
Claim.—1. The arrangement of the journals of the swinging end uprights upon the under surfaces of the bed-pieces, substantially as herein shown and described.

2. The swinging side bars E E, pivoted at one end to the cross-bar C' of the rear section, in combination with said cross-bar and with the side rails *b b* of the front section, substantially as set forth, whereby the said cross-bars, when not in use, may fold in upon the cross-bar C', and when in use may rest upon and slide longitudinally on the side rails when the rack-sections are moved to or from each other, as described.

3. The movable loops F, in combination with the side bars E E and the side rails *b b*, as set forth, whereby the said side bars may be readily secured in line with the side rails, so as to slide thereupon, or may be disconnected from the side rails and folded in upon the cross-bar, as set forth.

263,502. SNOW-PLOW. JOHN FLINDALL, Chicago, Ill. Filed Sept. 8, 1881. (No model.)

Brief.—A hood formed of an inclined apron and channel is secured to a truck, and leads rearward to a chamber having sloping walls leading to a drain-pipe. A cylinder connected with a boiler is provided with rectangularly-arranged pipes having stop-cocks, and is adapted to discharge steam into said chamber. A pipe leads from said cylinder to a tank having orifices in its bottom and discharge-pipes operated by valves and rods. A scraper and brush held in contact with the rails by a weighted lever are secured to the truck.



Claim.—1. The combination of the inclined apron A', the chamber B, for receiving the snow, the cylinder D and pipes G discharging into the said chamber, substantially as shown and described.

2. The combination of the cylinder D, the feed-pipe F, and the series of rectangularly-arranged pipes G, having cocks, and the chamber B, substantially as shown and described.

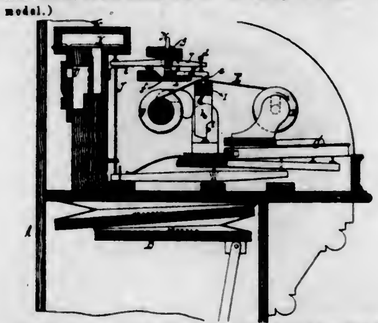
3. The combination of the hood B, chamber C, having sloping walls, the drain-pipe I, leading from the bottom of said chamber, and the pipes G, arranged one above another and made to enter the hood on each side thereof, substantially as shown and described.

4. The combination of the cylinder D, the pipe L and its branches M, the tank H, having orifices in its bottom, and discharge-pipes K, and the valves and rods J, substantially as shown and described.

5. The combination of the rods J, having hand-wheels and threaded bearings, the valves or plugs secured to the said rods, the tank H, and the vertically-slotted sockets secured in orifices in the bottom of said tank, substantially as shown and described.

6. The combination of the angular scraper N, brush P, levers O and Q, rods R and S, and the weighted lever T, whereby the scraper and brush are held in contact with the rails, substantially as shown and described.

263,503. MECHANICAL MUSICAL INSTRUMENT. GEORGE A. FOWLER, Mount Vernon, N. Y. Filed Apr. 21, 1882. (No model.)

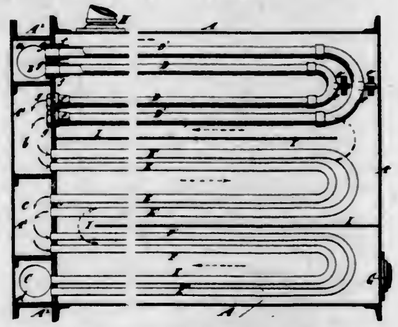


Claim.—1. The combination, substantially as hereinbefore described, of the manual keys, the sound-producing devices, the push-pins for operating the latter, the radiating levers connected with the push-pins, the intermediate levers connected with the radiating levers, and a music-sheet operating and controlling the intermediate levers to actuate the radiating levers and the push-pins.

2. The combination, substantially as hereinbefore described, of the hinged bar L, the intermediate levers, the radiating or push-pin levers, and mechanism for raising the hinged bar.

3. The combination, substantially as hereinbefore described, of the swinging support G, the mechanism for moving the music-sheet, and the stop for retaining said support in position while the music-sheet advances.

263,504. CONDENSER OR COOLER. THOMAS GAMBON, Jersey City, N. J. Filed June 8, 1881. (No model.)



Claim.—1. The combination, in a condenser or cooler, of a shell or body provided with inlet and outlet pipes for the cooling-water, a head constructed with separate chambers for the vapor to be condensed or liquid to be cooled, and series of U-shaped tubes arranged in said shell or body and each having its two ends inserted into different chambers, the tubes of the several series being of decreasing diameter and increasing in number from the inlet to the outlet, substantially as described.

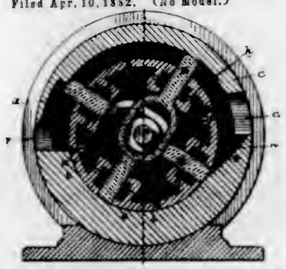
2. The combination of the shell or body A, the removable head A', the head A², constructed with separate chambers and provided with the removable cover A³, and the several series of U-shaped tubes through which the several chambers communicate with each other, and which decrease in diameter and increase in number from the inlet for vapor or liquid to be cooled toward the outlet thereof, substantially as herein described.

3. The combination of the shell or body A, containing diaphragms I, the removable head A', the hollow head A², with separate chambers, the several series of tubes through which the several chambers communicate with each other, and the sockets or

thimbles *f*, and nuts *g*, whereby said tubes are secured in the head A^2, substantially as specified.

4. In combination with the partition-plates or diaphragms I I and the pipes D D', the inlets for cooling-water, arranged between the said plates, substantially as and for the purpose herein described.

263,505. ROTARY ENGINE. ALEXANDER C. GIBSON, Toronto, Ontario, Canada, assignor of one-half to Edmund Armand, same place. Filed Apr. 10, 1882. (No model.)

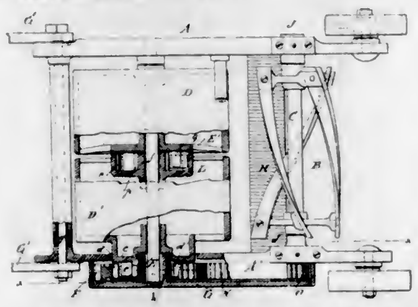


Claim.—1. The cylinder C, having segment e, inlet F, and outlet G, and channels *d a*, adjacent to the inlet and outlet, in combination with a piston-head, A, provided with adjustable wings E, recesses *f*, gibs *g*, holes L, leading into the recesses *f*, and the ports *k*, substantially as and for the purpose specified.

2. In a rotary engine having a hollow cylindrical piston-head provided with adjustable wings and revolving within the cylinder or case c D, as described, the gib *g* and spring, and the apertures *h*, connecting the interior of the piston-head with the recesses *f*, and adapted to admit steam-pressure therein to force said gib against the side of the wing E, all combined and operating as set forth.

3. In a rotary engine having a hollow cylindrical piston-head provided with adjustable wings and revolving within a cylinder, as described, the hole *h*, connecting the interior of the piston-head with the recess *f*, behind each gib *g*, in combination with the holes *k*, each hole being provided with a stop or check valve, *l*, substantially as and for the purpose specified.

263,506. LAWN-MOWER. CHARLES J. GIBSON, Bergen Point N. J., assignor to Carr & Hobson, (Limited,) New York, N. Y. Filed Mar. 23, 1882. (No model.)

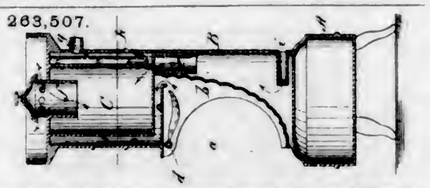


Claim.—1. The combination, in a lawn-mower, of the axle *f*, the drum D', having head *c*, carrying ways *e e'* and dog E, the wheel F, having the double set of ratchet-teeth *d* and *d'*, the side frame, A', having an opening to receive head *c*, and located between the wheel F and the drum D', the outer case G, having sleeve *h*, the cutter, and the connecting-gears, substantially as shown and described.

2. The combination, in a lawn-mower, of the shaft or axis *f*, the loose drum D, having ways *q* and dog E', and the loose drum D', having recess L, with teeth *p p'*, substantially as shown and described.

263,507. GAS HEATING-STOVE. WILLIAM W. GOODWIN, Philadelphia, Pa. Filed June 30, 1882. (No model.)

Claim.—1. In a gas heating-stove, the combination, with the shell B, provided with the reflector *b* and the air-inlet *i*, of the chamber C, provided with the perforated pipe *f* at its upper end,



and with the pipe *e* at its lower end, extending into and filling the space between the reflector and back of the shell, substantially as and for the purpose set forth.

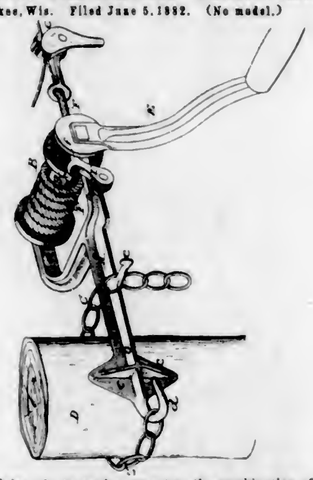
2. In a gas heating-stove, the combination, with shell B, provided with the reflector *b*, the inlet *i*, and the exit *g*, of the chamber C, suspended in the upper part of the shell, and provided with the perforated pipe *f* and the pipe e, and the detaining-plate *h*, fitted in the space around the chamber C and in front of the outlet *g*, substantially as and for the purpose set forth.

263,508. WRITING-INK. OLIVER A. GOULD, Boston, Mass., assignor to the United States Indelible Ink Company, same place. Filed Apr. 18, 1881. (No specimens.)

Brief.—Mixes the ingredients in the following proportions, viz: one pint of extract of hemlock-bark, one gill of alcohol, one ounce of nitrate of iron, and one-quarter ounce of prussiate of potassium.

Claim.—A composition consisting of the following ingredients: extract of hemlock-bark, alcohol, prussiate of potassium, and nitrate of iron, for the purpose set forth.

263,509. WIRE-STRETCHER. MARCIUS C. GOUCHER, Milwaukee, Wis. Filed June 5, 1882. (No model.)



Claim.—1. In a wire-stretcher, the combination of a frame having a rearwardly-extending arm, said arm provided with a web or plate on its face, and with a projecting stud, and a chain or band attached at one end to said arm, adapted to pass around a post and to be engaged with the stud, as explained.

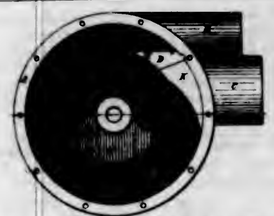
2. In combination with the wire-stretcher frame consisting of arms *a a* and *b*, the latter provided with a plate or web, *c*, hook *d*, and stud or projection *e*, a chain or band, C, attached to the hook *d*, and adapted to be engaged with or disengaged from the projection *c*, as desired.

3. The wire-stretcher frame A, having a rearwardly-extending arm, *b*, formed with plate or web *c*, hook *d*, and pin *e* on the outer side of arm *b*, whereby it is adapted to receive chain C, and to be drawn thereby against the face of the post or support to which it is applied when the device is in use.

263,510. ROTARY MOTOR. WILLIAM J. GUND, Sarnia, Ontario, Canada. Filed Mar. 28, 1882. (No model.)

Claim.—1. In a rotary motor, the cylindrical case A, provided with induction and eduction apertures B and C, cam K, and abutment D, said abutment being provided with plates M and N, packing O, and spring L, in combination with a concentric wheel

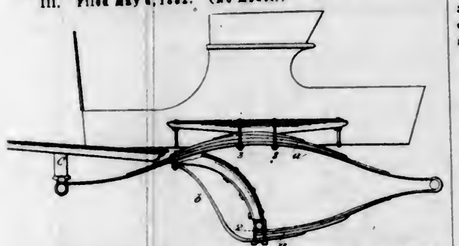
263,510.



mounted centrally upon a shaft within the casing, and provided with buckets F and yokes G, substantially as and for the purposes described.

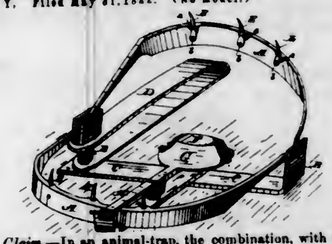
2. In a rotary motor, the cylindrical case A, provided with the induction and eduction apertures B and C, cam K, abutment D, said abutment being provided with plates M and N, packing O, and spring L, and the cam J, in combination with a concentric wheel mounted centrally upon a shaft within the casing, and provided with buckets F and yokes G, substantially as and for the purposes set forth.

263,511. TWO-WHEELED VEHICLE. SAMUEL HALEY, Moline, Ill. Filed May 4, 1882. (No model.)



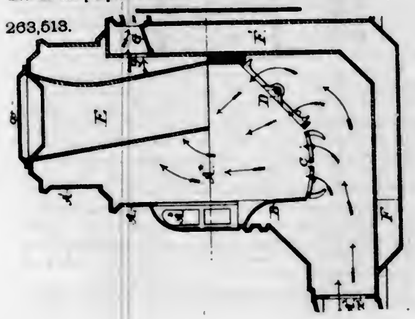
Claim.—The combination of three-quarter elliptic springs *a a*, spring *c*, and braces *b b* with a two-wheel vehicle, substantially as specified and set forth.

263,512. ANIMAL-TRAP. EBARTUS H. HAMILTON, Community, N. Y. Filed May 31, 1882. (No model.)



Claim.—In an animal-trap, the combination, with the jaws A, provided with lugs *a*, projecting from the inner edges, of the teeth E, fastened to the jaws A by rivets *b*, and passing in between two adjoining lugs, *a*, substantially as herein shown and described, and for the purpose set forth.

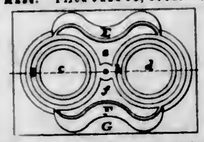
263,513.



263,513. COAL-STOVE. CHARLES A. HAMLIN, Greenbush, assignor to Clarence Rathbone, Albany, N. Y. Filed Jan. 30, 1882. (No model.)

Claim.—The combination, with a fuel magazine or feeder, of an agitable rear grate fixed in an inclined position directly beneath the said magazine, for the purposes set forth, and a horizontal bottom grate or fire-bed placed contiguously to the lower edge of the inclined rear grate, the said bottom grate being composed of two movable sections having their axes arranged in parallel lines, and both sections being adapted to move synchronously to cut by a positive movement the débris from the lower part of the fire, and to support the superimposed fuel, as herein specified.

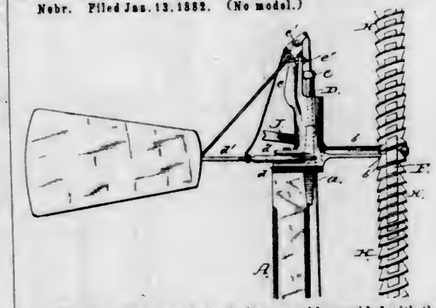
263,514. VACUUM EXHAUST-PIPE. DENNIS HARRIGAN, Somerville, Mass. Filed June 13, 1882. (No model.)



Claim.—1. A vacuum-exhaust consisting of two pipes provided with steam-spaces, and annular chambers and suitable ports, and connecting-passages between said spaces and chambers for creating a vacuum in the pipe not then exhausting, constructed and arranged substantially as shown and described.

2. In combination with the plate G, the pipes *c d*, surrounded by the annular chambers *g h*, and the steam-spaces *e f*, provided with suitable ports and connecting-passages, with the tips *a b*, arranged and constructed substantially as shown, and for the purpose set forth.

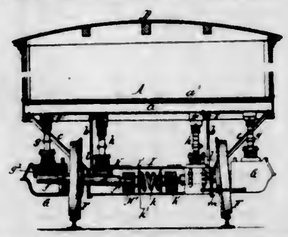
263,515. WINDMILL. FRIEDRIK W. HEINER, Nebraska City, Nebr. Filed Jan. 13, 1882. (No model.)



Claim.—1. In a wind-wheel, the turn-table provided with the arm *b* and the safety-spring J, in combination with the vane-supporting bar *d'*, substantially as specified.

2. The blade H, constructed of sheet metal, having its lower or narrow end turned up at *h*, and tongues *h'* punched out at right angles near the opposite ends, substantially as set forth.

263,516. RUNNING-GEAR FOR CARS. THOMPSON HERBER, Buffalo, N. Y. Filed Jan. 19, 1882. (No model.)



Claim.—1. The combination, with the inwardly-inclined axles *f f* and wheels F F, secured thereto, of the axle-boxes G and H, secured to the car-body and resting respectively on the outer and inner portions of the axles, and thrust-bearings H', applied to the inner ends of the inclined axles to resist the inward movement of the same, substantially as set forth.

2. The combination, with the axles *f f* and wheels F F, mounted thereon, of a spring, *k*, applied to the inner ends of the axles, whereby the latter are pressed outward and the flanges of the wheels are held against the rails, substantially as set forth.

3. The combination, with the axles *f f* and wheels F F, of necks *f'*, formed on the inner portions of the axles, a box, I, provided with bearings H', and a spring, *k*, applied to the inner ends of the axles, substantially as set forth.

4. The combination, with the axles *f f* and wheels F F, of necks *f'*, formed on the inner portions of the axles, a box, I, provided with bearings H, a spring, *k*, applied to the inner ends of the axles, and bearings G, provided with a lug or shoulder, *g'*, applied to the outer ends of the axles, substantially as set forth.

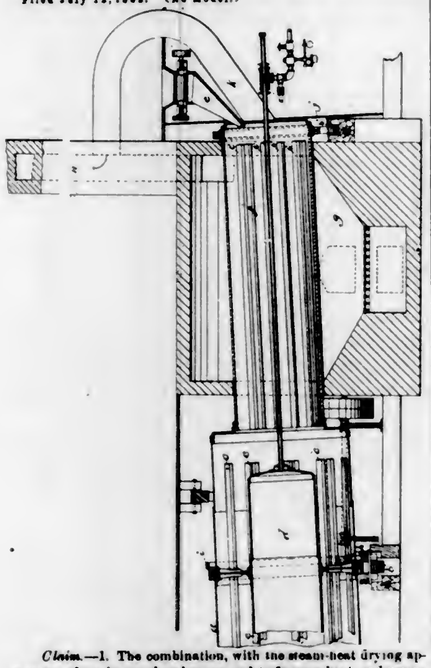
5. The combination, with the axles *f f* and wheels F F, of axle-boxes G, a box, I, provided with bearings H H' and springs *g k*, whereby the bearings G H are connected with the car-body, substantially as set forth.

6. The combination, with the axles *f f* and wheels F F, of axle-boxes G, applied to the outer portion of the axles, bearings H, applied to the inner portions of the axles, and a pipe, whereby the oil-reservoirs of the outer and inner bearings are connected, substantially as set forth.

7. The combination, with the axles *f f* and wheels F F, of the axle-boxes G, bearings H, box I, connecting the bearings H, and pipes *m*, whereby the oil-reservoir of the boxes G and I are connected, substantially as set forth.

8. The combination, with the car-body, of the axles *f f*, wheels F F, stringer-plates *b*, secured to the under side of the car-body and provided with openings *l*, through which the axles pass, and stay-plates *c'*, connecting the stringer-plates on both sides of the openings *l*, substantially as set forth.

263,517. DRYING APPARATUS. CHARLES H. HERSEY, Boston, Mass., assignor of one-half to Francis C. Hersey, same place. Filed July 13, 1882. (No model.)



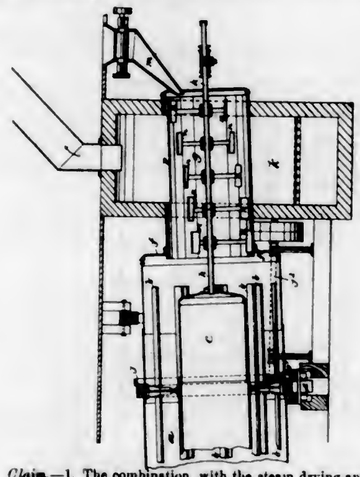
Claim.—1. The combination, with the steam-heat drying apparatus, of a primary chamber exposed to furnace-heat, and means to agitate the material passing through the said chamber into the steam-heat drying apparatus, substantially as described.

2. The combination, with the drum and heating-cylinder therein, of the primary chamber which receives the material to be dried and conveys it to the said drum, and the furnace for heating the said chamber, substantially as described.

3. The drum and heating-cylinder therein, combined with the primary chamber connected with and forming a portion of the said drum, and means to rotate the said drum and chamber, and a furnace inclosing the latter, substantially as described.

4. The drum and heating-cylinder therein, and the primary chamber forming a portion of the said drum and provided with internal blades or buckets, combined with a furnace inclosing the said chamber, and means to rotate it and the connected drum, substantially as and for the purpose described.

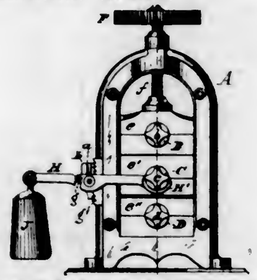
263,518. DRIER. CHARLES H. HERSEY, Boston, Mass., assignor of one-half to Francis C. Hersey, same place. Filed July 13, 1882. (No model.)



Claim.—1. The combination, with the steam drying apparatus, of the primary chamber stationary in a furnace, and agitating arms or stirrers movable in the said chamber, substantially as described.

2. The steam drying apparatus consisting of a drum and heating-cylinder therein, having inlet and outlet steam-pipes, combined with the furnace-heated primary chamber and agitating arms or stirrers therein, and means to rotate the said drum-cylinder and stirrers, substantially as described.

263,519. SHAPING AND WELDING ROLLS. SAML. A. HEWITT, Buffalo, N. Y., assignor to Leonard White, same place. Filed Mar. 16, 1882. (No model.)
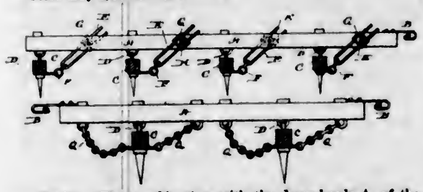


Claim.—1. In shaping and welding rolls, the combination, with the three rolls B, C, and D, journaled within the housing A A', of the levers H, provided on their forward end with curved bearers or shoes H', embracing the journals c of said roll C, and on their rear end with a rod, K, from which counter-weights J J are suspended, said levers being fulcrumed within adjustable bearing-blocks L, and the whole constructed and combined for operation substantially in the manner as and for the object specified.

2. In shaping and welding rolls, the levers H, having their fulcra k within slots *s* of bearing-blocks L, said bearing-blocks being provided with serrations engaging similar serrations, *g'*, on the housings A A', and attached to said housings by means of bolts *g*, substantially as and for the purpose indicated.

3. The combination, with the standards A A', of the rolls B, C, and D, levers H, with shoes H' and counter-weights J J, and means, substantially as described, for adjusting the said roll B, said roll B being provided with projections M and the roll D with shaping-grooves, as and for the purpose indicated.

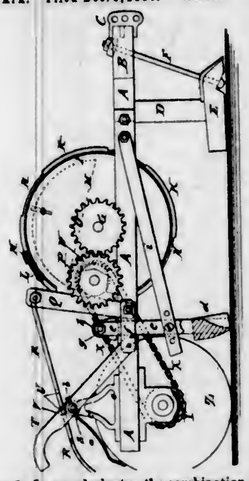
4. The combination, substantially as described, consisting of the three rolls B C D, journaled within the housing A', of the elevating-levers H, with counter-weight J, screws *f*, spur-wheels E, and pinion G, said levers being provided with adjustable pivots or fulcra, and the roll B provided with removable depressing mechanism, substantially as specified.

263,520. HARROW. HARLAN S. HOWARD, Charles City, Iowa. Filed May 4, 1882. (No model.)



Claim.—The combination, with the draw-heads A, of the tooth-bars C, loosely attached thereto, and the open links E and clamping devices G, whereby the tooth-bars may be adjusted substantially as specified.

263,521. COTTON-SEED PLANTER. WILLIAM C. HUDSON, Yellville, Ark. Filed Dec. 8, 1881. (Model.)



Claim.—1. In a seed-planter, the combination, with the frame A, the shaft G, the gear-wheel O, the chain-wheel or roller Z, and the chain X, of the gear-wheel P, the hinged lever Q, the chain-wheel W, and the rod R, substantially as and for the purpose set forth.

2. In a seed-planter, the combination, with the frame A, the shaft G, carrying the seed-hopper H I K and the gear-wheel O, and the roller Z, carrying the chain-wheel Y, of the gear-wheel P, the hinged lever Q, the chain-wheel W, the chain X, and the perforated rod R, for securing the same to the handles, substantially as and for the purpose set forth.

3. In a seed-planter, the combination, with the side bars of the frame A, provided with the keepers *f*, of the concave covering-block *d*, the vertically-sliding uprights *e*, the connecting-rod *g*, the weight h, and the draw-bars *i*, substantially as and for the purpose set forth.

263,522. END-GATE FOR WAGONS. BENJAMIN I. HULIN, Cambridge, Ill. Filed July 8, 1882. (No model.)

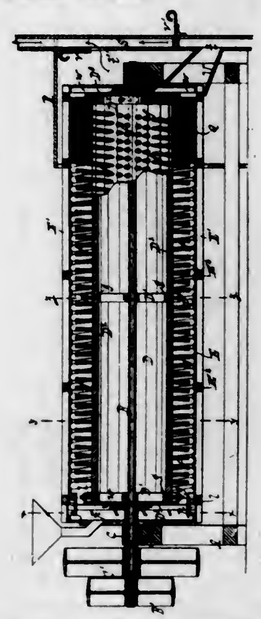


Claim.—1. In an end-gate fastening, the combination, with the catch-slots in the side wall of the wagon, of the bevel-end lever-latches *s* and the connecting-handle P, substantially as specified.

2. In an end-gate fastening, the combination, with the bevel-end lever-latches *s*, pivoted in slots *s*, between the end-gate and a vertical cleat thereon, of the stop pivoted to the end-gate, substantially as specified.

3. The combination, with the vertical slot-bearing *d* and the catch-slots *g* of the wagon-box, of the end-gate E, the bevel-end latches *s*, pivoted in slots *s*, the connecting-handle P, and a holding-stop, *w*, substantially as specified.

263,523. MACHINE FOR RENOVATING COFFEE, &c. GEORGE W. HUNGERFORD and GEORGE S. HUNGERFORD, New York, N. Y. Filed July 1, 1882. (No model.)



Claim.—1. The combination, substantially as hereinbefore set forth, of the inner cylinder having external brushes which extend spirally around it, and the outer cylinder having its body composed of sheet metal, which is corrugated at an oblique angle to the axis of said cylinder and in an opposite direction to the spiral plane of said brushes of the inner cylinder.

2. The combination, substantially as hereinbefore set forth, of the outer cylinder, the longitudinal inner cylinder, staves carrying brushes arranged in a spiral direction, the inner cylinder-heads provided with inner and outer connected rims, between which the ends of the staves are arranged and guided, and devices for radially adjusting the staves between the rims.

3. The combination, with the outer cylinder, of the inner cylinder consisting of longitudinal staves carrying brushes, the inner cylinder-heads having inner and outer connected rims, between which the ends of the staves are arranged and guided, and adjusting-screws passing through one of the rims of each head for radially adjusting the staves, substantially as described.

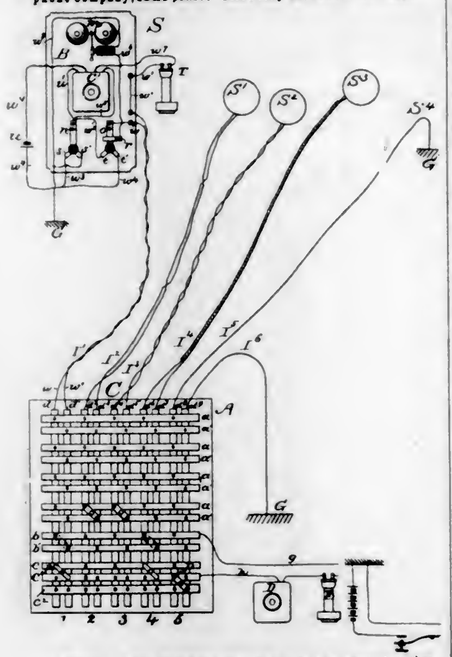
4. The combination, substantially as hereinbefore set forth, with the radially-adjustable staves of the inner cylinder carrying brushes, of the closing-disks at the opposite ends of said cylinder, having radial slots, and the fastening-screws passing through said slots into the ends of the staves.

5. The combination, substantially as herein set forth, of the inner cylinder, the outer cylinder, and the propelling-blades at the receiving end of the outer cylinder, adapted to throw the material between the cylinders.

6. The combination, substantially as hereinbefore set forth, of the outer cylinder having the screen at its delivery end, and the dust-box inclosing such end of the cylinder, together with the

screen, with the suction-flue extending through the dust-box and having the two mouths, the delivery-spout connected to the lower of such mouths, the gate to the upper mouth, and the gate intermediate of the mouths.

263,524. TELEPHONE-EXCHANGE SYSTEM. WILLIAM W. JACQUES, Boston, Mass., assignor to the American Bell Telephone Company, same place. Filed May 22, 1882. (No model.)



Claim.—1. In a telephone-exchange system, a central station, a series of sub-stations, a series of lines extending between the central stations and each of a portion of the sub-stations, each line of the series consisting of two parallel wires, a series of single line-wires extending between the central station and other sub-stations, means at the central station whereby any of the pairs of line-wires may be connected as a loop with any other pair or with any single line, means at the several sub-stations connected with the paired lines whereby signals may be received upon one wire or transmitted upon the other, and connecting devices at the sub-stations whereby the two terminals of the said parallel wires may be connected together to form a metallic loop including the sub-station telephones, all in combination, and substantially as described.

2. The combination, in a telephone-exchange system substantially as hereinbefore described, of a central station, sub-stations, two line-wires extending between the central station and each sub-station, parallel with but normally separated and insulated from one another, one of the said wires being normally adapted by means of devices controlled by the central station for the transmission of alarm-signals to the sub-stations, and the other being normally adapted for the transmission of articulate speech between the central and sub stations by means of devices at the sub-stations controlling such transmission, separate devices at the sub-stations adapted to connect the parallel wires together in a continuous loop, a single-line and ground wire, and switching devices at the central station for connecting the parallel wires from any sub-station with those of any other pair or with said single-line and ground wire, for the purposes set forth.

3. In a telephone-exchange system, the combination of a central station and a sub-station or series thereof, line-wires in pairs extending between the central station and the sub-stations, signal-receiving devices at the sub-station and signal-transmitting devices at the central station connected with one wire of each pair, and telephonic instruments at both termini, but under the control of the sub-station connected with the other wire of each pair, whereby the sub-station is signaled over one wire exclusively and articulate speech between the central station and the sub-station is maintained over the other wire, a circuit-changer at the sub-station adapted to sever the signal-wire from the signal-receiving devices and connect it with the telephone-wire to form a loop, and switching devices at the central station adapted to connect the ends of the said loop with the ends of any other loop, or with a single-line wire and a ground-wire, as described, and for the purposes set forth.

4. In a telephone-exchange system, the combination of a series of subscribers' lines, consisting in part of metallic or looped circuits and in part of single or earth return-circuits, with a central-station switch-board constructed, substantially as described, with intersecting vertical and horizontal conducting-bars and double connectors adapted to connect by one motion any pair of vertical bars to any pair of horizontal bars at the intersecting point, and circuit-changing apparatus at the sub-stations located on the line of the metallic circuits, whereby the two lines composing the metallic circuit are operated separately or as one circuit, for the purpose specified.

5. In a system of telephonic communication, the combination, substantially as hereinbefore described, of a switch-board having its line and connecting bars or strips arranged in pairs and provided with double plug-connectors, one for each circuit, circuit-wires extending in pairs from the said switch-board to a series of sub-stations, one wire of each pair being normally open at the central station and closed at the sub-station and the other closed at the central station and open at the sub-station, and circuit-changing apparatus at the said sub-stations adapted to connect the ends of the two circuit-wires and form thereof a looped circuit including the sub-station telephones, substantially as described.

6. A line-wire extending between a central station and a sub-station, normally open at the central station and closed through a signaling-instrument at the sub-station, signaling devices at the central station, and means for connecting the open end of said line-wire with said signaling devices, combined with a second line-wire extended in parallelism to the first, but normally separate and insulated therefrom, and connected with telephones and the earth at the central station, but open at the sub-station, and means for connecting the open terminal of the second line-wire, through the sub-station telephones, with the earth or in metallic circuit with the first wire, substantially as and for the purpose specified.

7. The combination, at a sub-station of a telephone-exchange system, of a main line having in its circuit the sub-station telephone or telephones, and terminating in two normally-open branches, with a second main line normally connected with a branch circuit to earth through a signal-instrument, and means, as indicated, whereby it is severed from the said branch circuit and transferred to one of the open branches of the first main line, substantially as described.

8. The combination, at a sub-station of a telephone-exchange system, of a main line extending from the central station, having in its circuit the sub-station telephones, and terminating in two normally-open branches, one of which is a key, a second main line, also extending from the central station and normally connected with a branch circuit to earth through a signal-instrument, a local-battery circuit normally open, and circuit-changing keys, one for each wire, whereby when one of the said keys is pressed the main line through the telephones is closed to earth and the local-battery circuit completed, and when the other key is pressed the two lines are connected together as a loop, substantially as described.

263,525. PROCESS OF AND APPARATUS FOR TREATING THE REFUSE OF STARCH, &c. WILLIAM T. JEBB, Buffalo, N.Y. Filed July 12, 1882. (No model.)

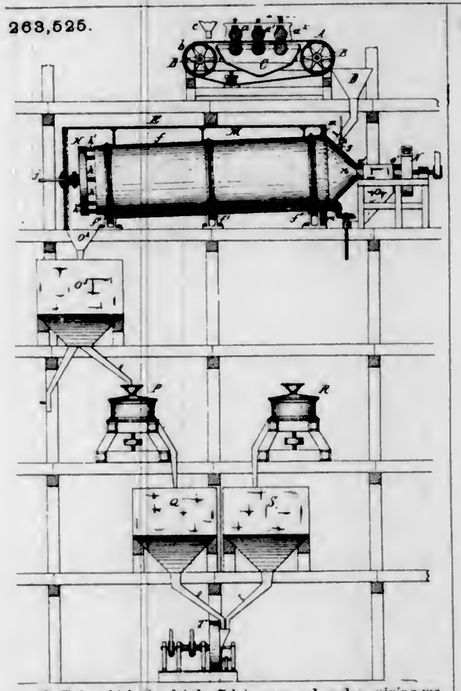
Claim.—1. The herein-described process of preparing wet grain-offal for use as food for animals, which consists in first separating the bulk of the moisture from the offal by pressure, then removing the remaining moisture by heat, and then regrinding, crushing, or disintegrating the dried offal to a substantially-uniform degree of fineness.

2. The herein-described process of preparing wet grain-offal for use as food for animals, which consists in first separating the bulk of the moisture by pressure, then removing the remaining moisture by heat, and then grinding the dried offal and mixing it with ground grain, substantially as set forth.

3. In an apparatus for preparing wet grain-refuse for use as food for animals, the combination of an apparatus, A, whereby the bulk of the moisture is separated from the offal by pressure, a drier, E, in which the remaining moisture is removed by heat, and a mill, P, in which the dried offal is reground, substantially as set forth.

4. In an apparatus for preparing wet grain-refuse for use as food for animals, the combination of an apparatus, A, whereby the bulk of the moisture is separated from the offal by pressure, a drier, E, in which the remaining moisture is removed by heat, a

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mill, P, in which the dried offal is reground, and a mixing-machine, T, in which the reground offal is mixed with ground grain, substantially as set forth.

5. In a drier, a rotating hollow cylinder, *f*, constructed with double walls, forming a steam-space, *f*³, between them, and provided with means whereby the material to be dried is repeatedly elevated and dropped in said cylinder, substantially as set forth.

6. In a drier, a rotating hollow cylinder, *f*, constructed with double walls, forming a steam-space, *f*³, and transverse steam-pipes I, communicating at their ends with said steam-space, substantially as set forth.

7. The combination of a rotating cylinder, *f*, provided with a steam-space, *f*³, head H, and openings *h*, formed between the cylinder and the head H, substantially as set forth.

8. The combination of a rotating cylinder, *f*, provided with a steam-space, *f*³, head H, openings *h*, and discharge-pipe *j*, having its depending end arranged in the head H, substantially as set forth.

9. The combination of a rotating cylinder, *f*, provided with a steam-space, *f*³, head H, and pipes I, substantially as set forth.

10. The combination, with the cylinder *f*, provided with a steam-space, *f*³, and openings through which the dried material is discharged, of a casing, M, inclosing the cylinder *f*, and means whereby an air-current is drawn along the outer side of the cylinder and through the interior thereof, substantially as set forth.

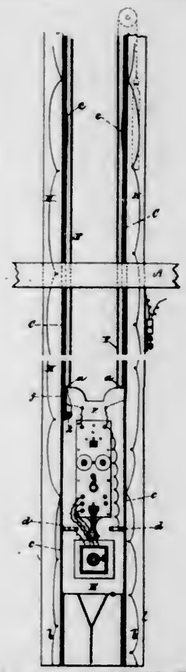
263,526. TELEPHONE-DUMMY. CHARLES R. JENNISON, Boston, Mass., assignor of two-thirds to William A. Macleod and Milan F. Stevens, both of same place. Filed May 19, 1882. (No model.)

Claim.—1. The combination of a telephone receiver and transmitter with the movable slide E, ways or tracks C C, and means for raising or lowering the slide, substantially as shown, and for the purposes set forth.

2. The metallic projections *d d*, set on the movable telephone-slide E and in metallic connection with the instruments on the slide, in combination with springs *c c*, connected with the battery for the purpose of making the battery-circuit when the slide is at a station, substantially as described.

3. The projections *d d*, connected with the instruments on the slide, and springs *c c*, connected with the battery, in combination with the springs *f f* and ways C C, as shown, for making line and ground connections or line-connection alone, substantially as described.

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4. The springs *f*, set in a movable slide, E, and metallically connected with the instruments on the slide, in combination with rods C C, connected with the line and ground wires for the purpose of keeping the instrument in the line and at the same time allowing its free passage on the ways from one station to another, substantially as described.

263,527. ICE-PITCHER. JOHN JEPSON and GEORGE H. WILCOX, Meriden, Conn., assignors to the Meriden Britannia Company, same place. Filed July 31, 1882. (No model.)

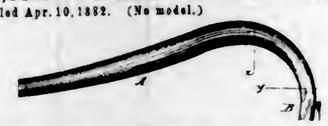


Claim.—1. In a double-wall pitcher, the base and neck each independent of the other, the outer wall made independent of both neck and base, the neck and base constructed with arms extending up within the outer wall, with trunnions r, introduced through the outer wall and into the said arms, the said neck, base, and outer wall secured together, all substantially as described.

2. In a double-wall pitcher, the base and neck each independent of the other, the outer wall made independent of both neck and base and constructed to rest at its ends, respectively, in the base and neck, the base constructed with arms extending up within the outer wall, the neck with projections extending downward, and a connection made through said projections from the neck into the arms inside the outer wall, substantially as described.

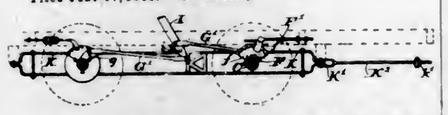
3. In a double-wall pitcher, the base and neck made each independent of the other, the outer wall made independent of both neck and base and constructed to rest at its ends, respectively, in the base and neck, the base constructed with arms extending up within the outer wall, the spout and handle attached to the neck and extending down onto the outer wall, with a connection made through said spout and handle into the arms inside the outer wall, substantially as described.

263,528. PLOW-BEAM. JOHN A. JOHNSON, Madison, Wis. Filed Apr. 10, 1882. (No model.)



Claim.—A tubular plow beam and standard composed of a single metallic tube suitably bent and shaped to form the beam and standard in one piece, the part forming the beam being circular and the part forming the standard oval in cross-section by flattening it sidewise, as set forth.

263,529. CAR-BRAKE. TOM L. JOHNSON, Indianapolis, Ind. Filed June 17, 1882. (No model.)



Claim.—1. The combination, with the clutch and winding-spool of a brake, of a mechanism for operating the clutch, consisting of two screw parts, one of which enters the other, one of which is attached to the clutch part by means of a collar or fork, f^3, which is fastened to said screw part and enters a groove in said clutch part, and the other of which is attached to a fixed collar on said shaft by a collar or fork, g', which is attached to said screw part and enters a groove in said fixed collar, substantially as described, and for the purposes specified.

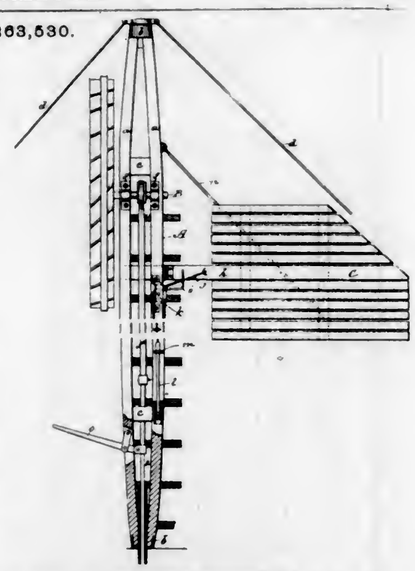
2. The combination, with the cams for operating the clutch parts E E, one of which is upon each of the two axles of a car, of the operating-bar I, pivoted at *i* and connected to said cams by the rods G' G', attached to said bar, one above and the other below said pivot-point, substantially as shown and described.

3. The combination, with the cam parts for operating the clutch of a brake, of the adjusting apparatus consisting of the rod F', the flange *f*, provided with cogs, the housing *f'*, also provided with cogs, and the eccentric f^4, for operating said housing, so that the cogs on said parts *f* and *f'* may be engaged with or disengaged from each other, substantially as set forth.

4. The combination of the spool and clutch parts, the lever for operating the same, the bars K K, the cross-bars K' K', pivoted to the frame-work of the car, the chains connecting the bars K to the spools, the rod K^3, the equalizer k^2, the rods K^3 K^4, and the brake mechanism of the other cars of the train, substantially as set forth.

5. In a car-brake mechanism, the combination of the axles, spools thereon, winding-chains on said spools and attached to a frame-work, and said frame-work consisting of two side bars and two cross-bars, the latter of which are pivoted to the frame-work of the car, as at *k*, substantially as set forth.

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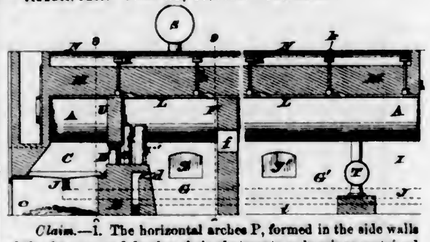


263,531. CARPET-LINING. MARTIN V. KAUBE, St. Louis, Mo. Filed Jan. 23, 1882. (No model.)



Claim.—As an improved article of manufacture, carpet-lining formed of paper-board, with numerous perforations, *b*, and annular cushions *c*, substantially as set forth.

263,532. STEAM-BOILER FURNACE. PETER KIEFER, Cincinnati, Ohio. Filed May 23, 1882. (No model.)



Claim.—1. The horizontal arches P, formed in the side walls of the furnace, and having their abutments or bearings sustained by the buck-bars R and tie-rods *r*, substantially as herein described and set forth.

2. The refractory pillars or columns E E' *e*, arranged on the bridge-wall D in the manner described, the front row, E, of said pillars serving to support the wall U, which latter is carried up to the boiler, as and for the purpose stated.

263,533. MACHINE FOR MAKING ORNAMENTAL CHAINS. JULIUS KINDER, Brooklyn, N. Y., assignor of one-half to Frederick W. Ossenbeir, same place. Filed Dec. 1, 1881. (No model.)

Claim.—1. The combination, with a reciprocating feeding-plate supporting and carrying a pivoted clamping-arm provided with a jaw that coacts with a V-shaped groove in the feeding-plate, of a rotating cam, as 19, provided with an irregular surface, as 24, substantially as described.

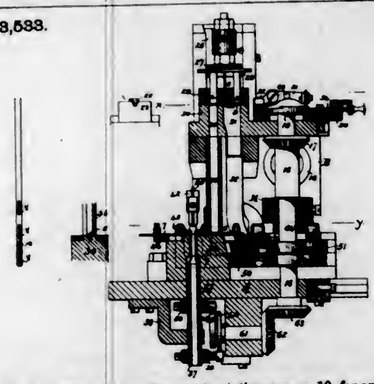
2. In a device for feeding a continuous metal strip to the action of cutters, the combination, with a reciprocating feeding-plate, as 20, of a pivoted clamping-arm, as 21, supported and carried by

263,580. WIND-ENGINE. JAMES E. JONES, Abilene, Kans. Filed May 23, 1882. (No model.)

Claim.—1. The combination of the tower formed of two upright timbers secured to intervening blocks, and having pivots at the ends, and a socket and guys for supporting the tower, the pump-rod arranged in the hollow pivot at the lower end of the tower, the pitman flexibly jointed to said rod, the wheel-shaft supported at the side of the tower, and the vane secured to the tower apart from the said shaft, substantially as shown and described, and for the purposes set forth.

2. The combination of the tower adapted to rotate horizontally, the wind-wheel supported on a short shaft at the side of the tower, the vane having an arm hinged to the tower near the end of said arm, the spring secured to the tower and adapted to hold the vane normally with the end of its arm against the side of the tower, and the chain and lever for operating the vane, and devices for holding the lever, substantially as shown and described.

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said plate in its reciprocations, and rotating cam, as 19, for operating said plate and arm, substantially as described.

3. The combination, with the reciprocating feeding-plate, as 20, carrying the pivoted clamping-arm, as 21, provided with the clamping-jaw, of the rotating cam, as 19, for operating both jaw and plate, substantially as described.

4. The combination, with a reciprocating feeding-plate, as 20, carrying and supporting a pivoted clamping-arm, as 21, and a rotating cam, as 19, for operating said plate and arm, of a plunger, as 4, whereby the links are fed to a feeding-guide and channel-way, as 35, substantially as described.

5. In a machine for making chain, the combination, with the needle 7, of reciprocating link bending or doubling jaws, as 48 49, substantially as described.

6. In a machine for making chain, the combination, with the needle-pointed tools 1, of reciprocating link bending or doubling jaws, as 48 49, substantially as described.

7. In a machine for making chain, the combination, with the feeding-pin 8, primary bending-tool 43, needle 7, and needle-pointed tools 1, of reciprocating bending or doubling jaws, as 48 49, substantially as described.

8. The combination, with reciprocating bending or doubling jaws, as 48 49, of means for operating them to partially bend a link, and then dwell and hold it while a new link is entered into its bent ends, and then to complete the bending, substantially as described.

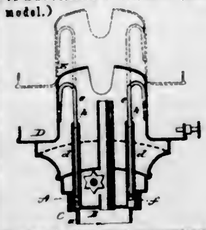
9. The combination, with a supporting-table having a central aperture and a hollow reciprocating spindle, as 37, forming a continuation of said aperture, of two needle-pointed tools, as 1, carried by said spindle, substantially as described.

10. The combination, with the hollow reciprocating spindle 37, carrying needle-pointed tools 1, of the bending-tool 43, substantially as described.

11. The combination, with the guide 35, having a projection, 71, provided with a groove for the guidance of the links, of a link bending or doubling jaw, as 49, also having a groove that coacts with the former groove to form a continuous channel-way for the link passing from said guide to the central aperture in the table, substantially as described.

12. The combination, with the slide 44, provided with studs 6, of the carriage 46 and needle 7, substantially as described.

263,534. LAMP-BURNER. CHARLES A. KINNEY, Meriden, Conn., assignor to Edw. Miller & Co., same place. Filed July 31, 1882. (No model.)



Claim.—1. The herein-described improvement in that class of lamp-burners in which the chimney-rest and cone are removable from the base, consisting in the tubes *d*, attached to the one part and corresponding rods attached to the other part working in said tubes, substantially as described.

2. The herein-described improvement in that class of lamp-burners in which the chimney-rest *d*, attached to the one part and corresponding rods attached to the other part working in said tubes, the ends of the said rods headed within the tubes and the end of the tubes turned inward to form a stop, substantially as described.

263,535. FOLDING LOUNGE. PHILIP M. KRICKL, Chicago, Ill. Filed Mar. 10, 1882. (No model.)



Claim.—1. In a folding lounge, a pair of parallel bars pivoted at one end to the frame of the lounge and at the other to a longitudinal bar loosely attached to the rear or lower portion of the mattress, in combination with a connection from the longitudinal bar to the front portion of the mattress, substantially as and for the purpose set forth.

2. The parallel bars D D, pivoted at one end to inside of end of main frame A A and at the other to longitudinal bars C, loosely attached to rear portion, B', of mattress, in combination with link F, connected at one end to bar C and at the other to portion B of mattress, substantially as shown and described.

3. The combination of bars D D, longitudinal bars C, link F, and loops *e e* with folding mattress B B' and main frame A A, substantially as set forth.

4. The combination of the parallel bars D D, longitudinal bar C, having slot A, screws S S, connecting-link F, folding mattress B B', and main frame A A, substantially as and for the purpose set forth.

263,536. SASH-FASTENER. EDWARD KUHNS, Indianapolis, Ind. Filed Apr. 28, 1881. (Model.)



Claim.—1. The combination, in a sash-fastener, of the pinion for engaging a rack or seat on the sash with a sliding and vertically-guided reciprocating bolt adapted to engage and lock the pinion, and formed with an opening in which is located a cam adapted to be turned, so as to act against the walls of the opening, and thereby operate the bolt and bring it into engagement with the pinion, so as to lock the sash at any desired position, and thereby prevent the sash from being raised or lowered, substantially as described.

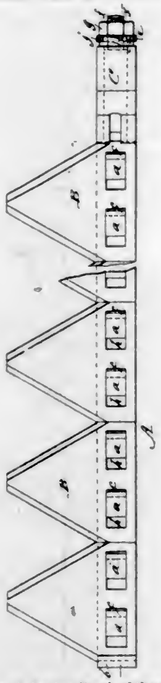
2. The combination, in a sash-fastener, of the rack applied to the sash, and the pinion located within a lock-case secured to the window-frame, with the sliding bolt for engaging and locking the pinion, guided in its vertical movement by the walls of the lock-case, and the rotary hub adapted to receive a key, and provided with a laterally-extending cam-projection, said hub, with its cam-projection, being located within an opening in the bolt, substantially as and for the purpose described.

263,537. SICKLE-BAR FOR MOWING-MACHINES. JOHN LAIR, King's Station, Ind. Filed Jan. 20, 1882. (No model.)

Claim.—1. The combination, with the cutter-bar A, provided with the undercut lugs *a* and the flange *b*, having lip *b'*, and the cutting-blades B, provided with rectangular openings *h*, having lips *i*, of the eye-block C, fitting upon the end of the cutter-bar, and provided with the groove *i'* and means for adjusting and securing the same upon the cutter-bar, substantially as and for the purpose set forth.

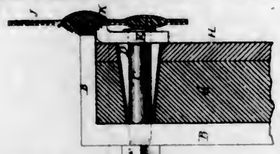
2. The combination, with the cutter-bar A, provided with the undercut lugs *a*, the lip *b'*, the reduced and rounded and screw-threaded end *d f f'*, and the cutting-blades B, provided with the

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rectangular openings *h*, having lips *i*, of the eye-block C, provided with the groove *i'* and the pawl *j*, and the ratchet-nut *o g*, substantially as and for the purpose set forth.

263,538. VEHICLE-DASH FASTENING. SHIELDS D. LANGE and WILLIAM F. ELLIOTT, Columbus, Ohio. Filed May 31, 1882. (Model.)



Claim.—1. The combination of a vehicle-dash having integral feet E with one or more horizontal tubes, D, fitted into and passing through the body-front in positions corresponding with the positions of the dash-feet, one or more screw-bolts, C, an angle-brace, B, for each bolt, and means, substantially as described, whereby said dash and the angle-braces are secured to the front of the body and to each other on opposite sides of said front.

2. The dash-frame having integral feet E, adapted for attachment to the outer side of the body-front G, so that the dash-leathers extend down in front of and cover said feet, in combination with angle-braces B, the horizontal tubes D, the screw-bolts C, and the nuts F, whereby the dash-frame is clamped and bound upon the front ends of said angle-braces and the dash-feet clamped and bound upon the front ends of said tubes behind the dash-leathers, substantially as described.

3 The fastening attachment for vehicle-dashes herein described, consisting of the tubes D, passing through the body-front, having their ends forming bearings at the outer end and inner sides thereof, the angle-braces B, the screw-bolts C, passing through the dash-feet, the tubes, and through the angle-braces, and the nuts F, all constructed and adapted for adjustment in connection with the dash-frame, as described.

4. In combination, the conical tubes D, the straight screw-bolts C, the angle-braces B, the nuts F, and the dash-frame having integral feet E, all constructed and adapted for attaching and adjusting the dash-frame upon the front of the vehicle-body, as described.

263,539. STOCKING. MARTIN LANDENBERGER, Jr., Philadelphia, Pa. Filed Mar. 15, 1882. (No model.)



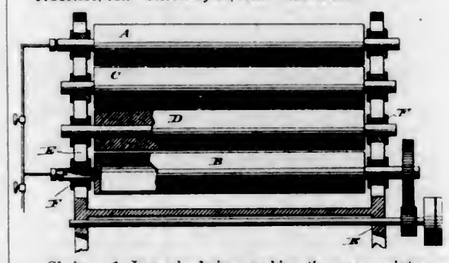
Claim.—1. A sock or stocking having side seams *w* on the foot and side seams *w'* at the heel, the bottom of the heel being without seams, as set forth.

2. The mode herein described of making on a cut stocking a heel having a seamless bottom, said mode consisting in providing the rear portion of the leg with a semi-tubular projection, *d*, and then folding said projection and uniting the edges *i i* of triangular openings formed therein, as set forth.

3. The mode described of forming a foot and heel on a cut stocking, said mode consisting in providing the tubular leg with semi-tubular projections *b* and *d*, folding the projections, as described, and sewing together the edges *m m* of the projections and the edges *i i* of triangular openings *f*, formed in the projection *d*, as set forth.

4. The mode described of shaping the ankle of a sock or stocking, said mode consisting in forming a tapering recess in each side of the tubular leg, and then uniting the edges of these recessed portions to contract the diameter of the tube, as specified.

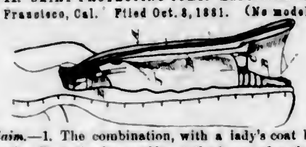
263,540. CALENDERING-MACHINE. ETIENNE LANDRY, San Francisco, Cal. Filed May 31, 1882. (No model.)



Claim.—1. In a calendering-machine, the means, substantially as herein described, of finishing fabrics, which consists essentially of passing the goods through or between two or more finishing rollers or cylinders, to which the necessary heat is imparted by an upper and lower roller coming in contact with the said finishing-cylinders, said upper and lower rollers being heated by steam or gas, in the manner as herein set forth and specified.

2. In a calendering-machine, the combination and arrangement together of two or more finishing cylinders or rollers interposed between two or more heating-cylinders, the latter being heated by gas or steam and operated by suitable gearing, substantially in the manner as herein set forth and specified.

263,541. SKIRT-PROTECTING COAT. KATHARINE S. LATHROP, San Francisco, Cal. Filed Oct. 8, 1881. (No model.)



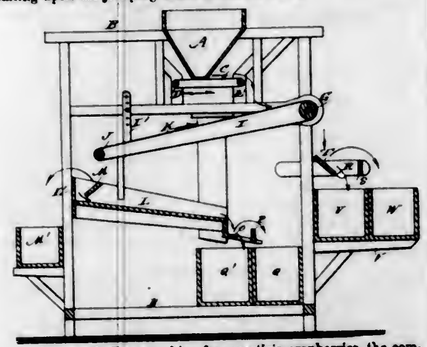
Claim.—1. The combination, with a lady's coat having the folding edge B on the inner side at the lower edge thereof, of a series of ribbons or tapes, D and E, substantially as and for the purpose specified.

2. The combination, with a lady's coat, A, of the folding edge B, the eyes C, attached to this edge B, the tapes D and E, and the hooks F, attached to the ends of the tapes D, substantially as herein shown and described, and for the purpose set forth.

263,542. MACHINE FOR ASSORTING CRANBERRIES. LAURIS LELAND, Hollliston, Mass. Filed May 20, 1882. (No model.)

Brief.—A cranberry-assorter having a horizontal carrier-belt under the hopper, an inclined carrier-belt below the former, and an oppositely-inclined platform below the inclined belt, and provided with a jumping-board at each end of the inclined belt and

at the lower end of the platform. The sound berries roll down the inclined belt, while the soft ones are carried upward thereby, and, falling upon the jumping-boards at the ends of the belt, are assorted into different grades, the inferior berries at the lower end of the belt being again assorted by rolling down the platform and falling upon the jumping-board at its lower end.



Claim.—1. In a machine for assorting cranberries, the combination, with a hopper and a series of jumping-boards for the berries, of an endless carrier-belt passing below the hopper, substantially as herein shown and described, and for the purpose set forth.

2. In a machine for assorting cranberries, the combination, with a hopper and a series of jumping-boards, of a horizontal carrier-belt and an inclined carrier-belt, substantially as herein shown and described, and for the purpose set forth.

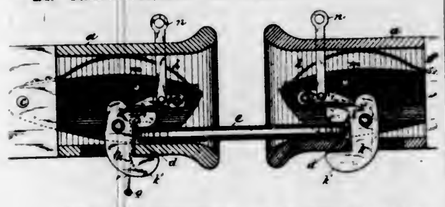
3. In a machine for assorting cranberries, the combination, with the hopper A and steps or jumping-boards M O T, of the horizontal carrier-belt C, the inclined carrier-belt K, and the inclined platform L, substantially as herein shown and described, and for the purpose set forth.

4. In a machine for assorting cranberries, the combination, with the hopper A, of the horizontal carrier-belt C, the vertical adjustable inclined belt K, and the inclined platform L, substantially as herein shown and described, and for the purpose set forth.

5. In a machine for assorting cranberries, the combination, with the hopper A, of the carrier-belts C and K, the inclined platform L, the inclined transverse strip M, and the step O at the lower end of the platform L, substantially as herein shown and described, and for the purpose set forth.

6. In a machine for assorting cranberries, the combination, with the hopper A, of the carrier-belts C and K, the bracket-arms R, the inclined strip T, and the vertical end strip, S, substantially as herein shown and described, and for the purpose set forth.

263,543. CAR-COUPLING. EDMUND T. LEONARD, Baltimore, Md. Filed Jan. 20, 1882. (No model.)

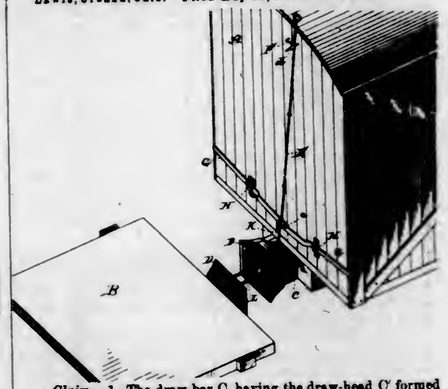


Claim.—1. The combination, with the recessed lever *b*, pivoted in a draw-head, spring *h*, and link *e*, of the locking-lever *k* and pawl *l*, substantially as described, and for the purpose set forth.

2. The combination, with the recessed lever *b*, pivoted in a draw-head, spring *h*, and link *e*, of the locking-lever *k*, pivoted to the lever *b*, and provided with the passages *p*, pin *o*, and pawl *l*, substantially as described, and for the purpose set forth.

3. The combination, with the recessed lever *b*, pivoted in a draw-head, spring *h*, and link *e*, of the locking-lever *k*, pivoted to one face of the lever *b*, pawl *l*, pivoted to the lever *b*, stop *m*, and attachment *n*, secured to the pawl, whereby in uncoupling the pawl is disengaged, the recessed lever lifted, and the link forced out of its recess by the locking-lever, substantially as described, and for the purpose set forth.

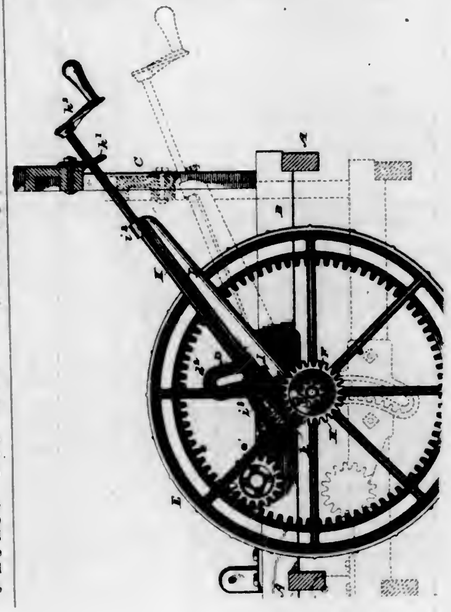
263,544. CAR-COUPLING. ALBERT P. LEWIS and JOHN B LEWIS, Urbana, Ohio. Filed May 26, 1882. (Model.)



Claim.—1. The draw-bar C, having the draw-head C' formed integral therewith, and provided with the lug *e* and recess *h*, in combination with the movable top D, pivoted thereto, the said top D being provided with the recess *g* and the lug *f* on its under side for the reception and retention of the link L, the top D being combined with and adapted to be held in a raised position by means of the rod E, provided with the hook *d*, for engaging with the staple or pin F, and secured to the front of the car in a slightly-bent position, so that the spring of the rod will keep the hook *d* normally out of contact with the staple F, all combined and arranged to operate substantially as shown and described.

2. The elevating-rod E, secured to the front of the car in a slightly-bent position, whereby the spring of the rod may be utilized for keeping the hook *d* normally out of contact with the staple F, with which it is adapted to engage when the rod is elevated, in combination with the pivoted top D of the draw-bar C, whereby the link L may be released, substantially as and for the purpose set forth.

263,545. HARVESTER. SYLVANUS D. LOCKE, Hoosick Falls, N. Y. Filed May 18, 1882. (No model.)



Claim.—1. The combination of the main wheel, its axle, pinions fast to the ends of said axle, the segment-standards upon the wheel-frame, having racks in which said pinions travel, the worm-wheel, also fast to the axle, the worm or endless screw meshing therewith, the crank-rod which carries said worm, bearings sleeved to the axle to support said rod, and the guide-eye fitting loosely the outer end of the rod and supporting it in position to be reached by the driver in his seat.

2. In combination with the worm-wheel fast to the axle, the worm meshing therewith, the crank-rod which carries and turns said worm, and the long bracket-arm, sleeved to the axle and having bearing-boxes for the crank-rod, one near to the axle and the other at a distance therefrom, to insure the rod against binding.

3. In combination with the worm-wheel fast to the axle, and the worm and crank-rod by which it is operated, the guard or shield covering said worm and wheel to protect them from mud or débris.

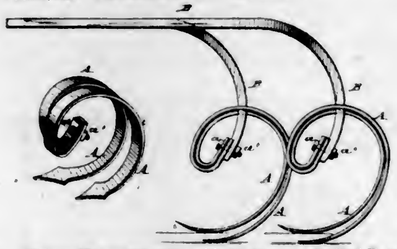
4. In combination with the worm-wheel fast to the axle, and the worm and crank-rod by which it is operated, the bracket-arm sleeved to the axle, provided with bearing-boxes for the crank-rod, and with a guard or shield covering and protecting the worm above the worm-wheel.

5. In combination with the main wheel and with the axle and its fast pinions traveling in racks upon the frame, the dished worm-wheel flaring inwardly toward the hub of the main wheel, and a bracket-arm provided with an elongated sleeve or hub fitting over the axle in the recess between the hub of the worm-wheel and the hub of the main wheel, and carrying a bearing box or boxes for the crank-rod.

6. The worm-wheel formed integral with and as a dished or flaring offset from one of the axle-pinions, as and for the purpose described.

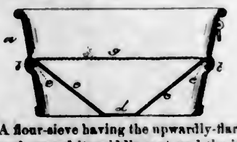
7. The bracket-arm having cast integral therewith a sleeve to take over the axle, a bearing box or boxes for the crank-rod, and a shield to cover and protect the worm and worm-wheel.

268,546. CULTIVATOR-TOOTH. THOMAS W. LOGAN, La Fontaine, Ind. Filed June 6, 1882. (No model.)



Claim.—The combination, with the beam or standard B and the adjusting bolt and nut *a a'*, of the compound tooth, consisting of the recurved sprug-teeth, having a common uniting-point and diverging therefrom, leaving a space between themselves, substantially as set forth, and for the purpose specified.

268,547. FLOUR-SIEVE. JOSEPH A. LOWE, Gainesville, Tex. Filed July 15, 1882. (No model.)



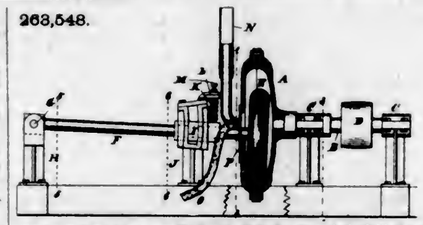
Claim.—A flour-sieve having the upwardly-flaring outer wall, circularly creased around its middle part, and the inner more flattened conical guide-wall, provided with the wire-cloth stretched across its top and about its upper edge, said guide-wall being sprung into or secured to the crease of the outer wall, the latter extending downward to the level of the discharge of the guide-wall, substantially as specified.

268,548. GRINDING APPARATUS. THOMAS LOWRY, St. Louis, Mo. Filed June 28, 1882. (No model.)

Claim.—1. The combination of cylinder A, shaft B, driving-pulley D, and suction and feed pipes O N with disk E and vertically-adjustable shaft F, substantially as shown and described, for the purpose set forth.

2. The combination of cylinder A, shaft B, pulley D, and

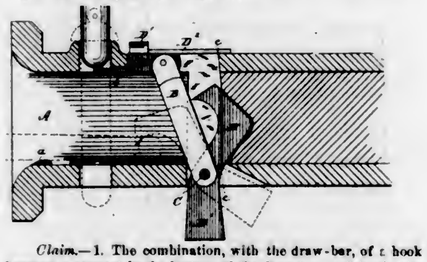
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supply and suction pipes N O with disk E, pivoted shaft F, standard H, journal-box I, a suitable frame therefor, standard J, lug L, set-screw M, and spring K, all substantially as and for the purpose set forth.

3. The combination of cylinder A with shaft B, pulley D, supply and suction pipes N O, plate P, disk E, having a corrugated face, shaft F, standard H, box I, standard J, lug L, spring K, and set-screw M, all made substantially as shown and described, for the purpose set forth.

268,549. CAR-COUPLING. CHARLES E. MACARTHY, Forsyth, Ga. Filed May 4, 1882. (No model.)

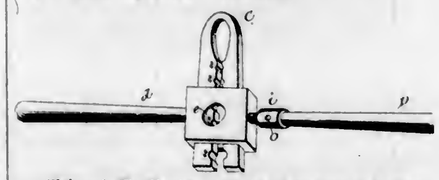


Claim.—1. The combination, with the draw-bar, of a hook hung on a support in the bottom of the draw-bar, and having its upper end extended forward till the bearing-face for the link at the point of the hook is substantially at right angle to the radial line from the center of suspension, and having also below its center of suspension a weight disposed with respect to the upper end, as shown and described, whereby the link and hook are made to reciprocally maintain their set position till the time of impact, at which time the hook automatically passes back and out of the way of the link from the influence of the weight, as described.

2. The combination, with the draw-bar and the bifurcated trigger-bar B, fulcrumed upon a pin in the bottom of the draw-bar, of the weighted hook E, having its upper end curved forward to a point at right angle to the radial line, the said hook being hung upon the same pin with and between the branches of the trigger-bar, and arranged to hold the link horizontal, as described.

3. The combination, with the pin, the slotted draw-bar, and the trigger-bar B, of the slide D, jointed to trigger-bar B and arranged in the plane of the top wall of the draw-bar, and formed with a tongue, *b*, inside the draw-bar, and a supporting cleat and shield above the draw-bar, substantially as described.

268,550. SCREW-PLATE. GEORGE B. MALETTE, Watkins, N. Y. Filed Aug. 2, 1882. (No model.)



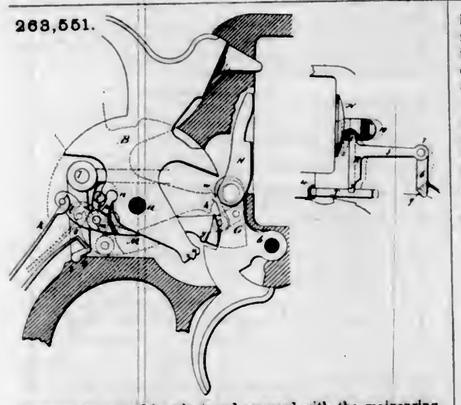
Claim.—1. The die-plate consisting of the parts A, B, and C, integral or in one piece, substantially as shown and described.

2. The holder consisting of the body E and the handles D and *d*, substantially as shown and described.

268,551. REVOLVING FIRE-ARM. WILLIAM MASON, Hartford, Conn., assignor to the Colts Patent Fire-Arms Manufacturing Company, same place. Filed Mar. 25, 1882. (No model.)

Claim.—1. The combination of the hammer and the trigger with a lever in connection with the trigger, and bearing on the

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hammer in rear of its pivot, and engaged with the mainspring, whereby the power of the mainspring is applied to the hammer in rear of its pivot, and a fulcrum, *t*, arranged in rear of the lever and below its bearing-point on the hammer, over which fulcrum the said lever will operate after the hammer has been thrown forward to impart to the hammer a retreating movement, substantially as described.

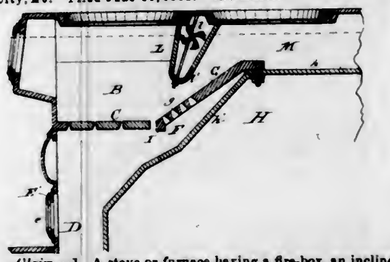
2. The combination of the hammer B, the trigger E, the sear F, hung therein, and the lever M, hung by one end to said sear, its other end connected by a link to the mainspring, and having its fulcrum in the hammer in rear of its pivot and at a point above the link-connection between the mainspring and lever, with the stud *t* arranged in the path of the lever between its bearing-point on the hammer and its link-connection, substantially as and for the purpose described.

3. The combination of the hammer B, the trigger E, the pawl H, having its trunnion in the trigger, constructed with an eccentric bearing, *f*, the sear F, hung upon said eccentric bearing *f* in the trigger, and the lever M, hung by one end to said sear, its other end connected by a link to the mainspring, and having its fulcrum in the hammer in rear of its pivot and at a point above the link-connection between the mainspring and lever, with the stud *t* arranged in the path of the lever between its bearing-point on the hammer and its link-connection, substantially as and for the purpose described.

4. In a revolver, the combination of the movable part N of the shield, the locking-bolt T, and the slide R, engaged with both the shield and bolt, and hung to a lever, 6, taking its bearing in the receiver, with the mainspring, one arm of which bears upon said lever 6 forward of its fulcrum, substantially as described.

5. The combination of the slide R, in connection with the movable part N of the shield, and constructed with a shoulder, 12, with the pawl H, constructed with a projection, 11, which stands in the path of said slide, substantially as and for the purpose described.

268,552. STOVE OR FURNACE. WILLIAM MASTERS, Kansas City, Mo. Filed June 10, 1882. (No model.)

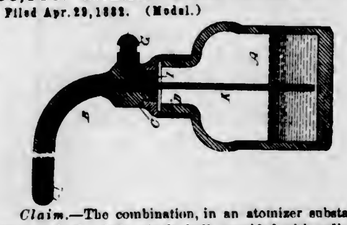


Claim.—1. A stove or furnace having a fire-box, an inclined fire-wall, and a pendent perforated air-duct, forming the rear wall of the fire-box and extending in proximity to the lower portion of the inclined fire-wall, the air-duct being related to the fire-wall in such manner as to form with it an enlarged combustion-chamber for the gases escaping from the fire-box, substantially as described.

2. A stove or furnace having a fire-box, an inclined fire-wall having perforations or slots near its bottom, and a pendent perforated air-duct located above said fire-wall and extending in proximity to its lower portion, so as to form therewith a combustion-chamber gradually enlarged from bottom to top, substantially as described.

3. A stove or furnace having a fire-box, a pendent perforated air-duct forming the back of said fire-box and extending to a point in proximity to the lower portion of an inclined perforated fire-wall, an ash-pit, and a chamber extending therefrom and communicating directly with the perforations in said inclined fire-walls, substantially as described.

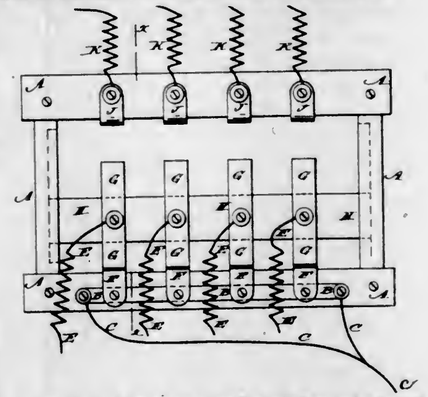
268,553. ATOMIZER. MORRIS MATTSON, New York, N. Y. Filed Apr. 29, 1882. (Model.)



Claim.—The combination, in an atomizer substantially as above set forth, of the single bulb provided with ordinary bulb-valve mechanism, the air-inlet tubes or passages extending into the vessel over the liquid and delivering all the air there, the liquid-vessel and its stopper, the spray-tube separate from the air-inlet passage, and with its opening end smaller than the air-inlet passage, and the liquid-outlet tube K, also having an orifice smaller than the air-inlet passage and extending nearly to the bottom of the vessel, all arranged as described, so that the air being all forced intermittently into the vessel above the liquid is accumulated and compressed, whereby it exerts a continuous force upon the outflowing air and liquid and produces a continuous flow of spray, as described.

268,554. SWITCH FOR GROUNDING TELEPHONE OR TELEGRAPH LINES. BENJAMIN MCCABE, CHARLES R. SWAIN, and JAMES T. SUTTON, Peekskill, N. Y. Filed May 27, 1882. (No model.)

Brief.—Incoming lines are connected to plates, which are normally connected with the lines leading to the instruments. Upon the approach of a storm the plates are moved to break connection with the instruments and connect the lines to a ground-wire.

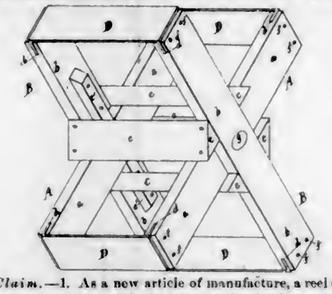


Claim.—1. A switch for grounding telephone and telegraph wires, constructed substantially as herein shown and described, and consisting of the frame A, a series of conductors and springs, D F, connected with a ground-wire, and a series of conductors and springs, I J, connected with the instrument-wires, and the sliding bar H, provided with a series of conductors, G, connected with the line-wires, as set forth.

2. In a switch for grounding telephone and telegraph wires, the combination, with a series of conductors and springs, D F, connected with the ground-wire C, and a series of conductors and springs, I J, connected with the instrument-wires K, of a series of conductors, G, attached to a sliding bar, H, and connected with

the line-wires E, substantially as herein shown and described, whereby the line-wires can be connected with the ground-wire or the instrument-wires, as set forth.

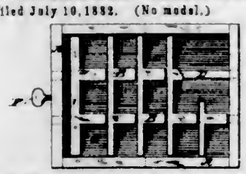
263,555. REEL FOR BARBED FENCE-WIRE. THOMPSON McCOSH, Burlington, Iowa. Filed July 8, 1882. (No model.)



Claim.—1. As a new article of manufacture, a reel or spool for the transportation of barbed fence-wire, having outer metal cross-stays, D, kerfed into the ends of the frames A and B, substantially as and for the purpose described.

2. The frames A and B, provided with metal cross-stays D, in combination with braces *c* and *c'*, substantially as and for the purpose described.

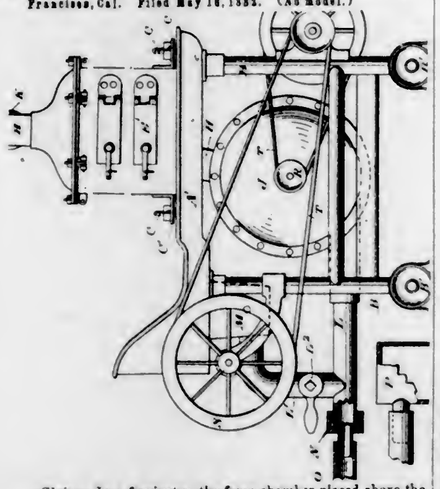
263,556. PACKAGE-TRAY. JAMES McCREDDEN, New York, N. Y. Filed July 10, 1882. (No model.)



Claim.—1. A tray arranged to contain and support packages while being filled, and provided with a removable bottom, substantially as and for the purpose described.

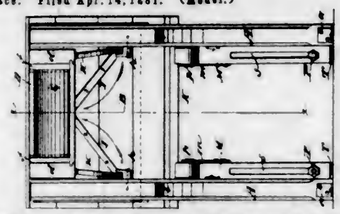
2. In combination with a tray for containing and supporting packages while being filled and sealed, and provided with a removable bottom, cross-bars arranged to keep the packages separated, substantially as and for the purpose described.

263,557. FUMIGATING-MACHINE. JOHN McDERMOTT, San Francisco, Cal. Filed May 16, 1882. (No model.)



Claim.—In a fumigator, the fume-chamber placed above the combustion-chamber, detached from the walls of the furnace, and provided with a pitched or inclined roof having perforations to admit the fumes and products of combustion to pass up into the dome at the top of the furnace, and from thence into a pipe leading from the dome to the fan wheel or blower, constructed, arranged, and operating substantially in the manner and for the purpose as herein set forth and specified.

263,558. SCHOOL-DESK AND SEAT. FREDERICK E. McKINLEY, Wellington, Kans., assignor to Carrie C. Howarth, same place. Filed Apr. 14, 1881. (Model.)

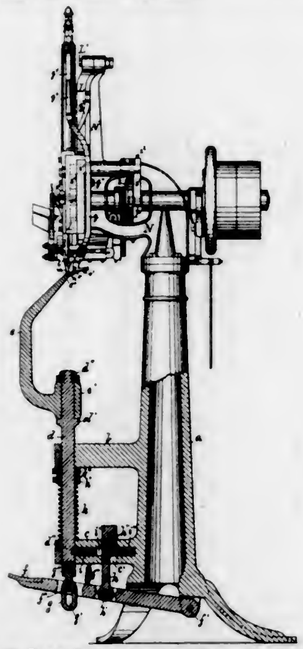


Claim.—1. The combination, with the pivoted desk D, the back B, provided with the inclined planes J, and the legs A, provided with buttons *h*, of the wings H, pivoted to the bottom of the desk, substantially as and for the purpose set forth.

2. The door consisting of the loose board G, in combination with the desk D, provided with the cleats *f* and *g*, substantially as and for the purposes herein described.

3. The combination, with the seat K, of the leg A, having lug *l*, the cleats L, hinged to leg, the slotted support M, having its upper end below the lug, the metal strap *m*, and the diagonal brace B, hinged to the cleat by pin *r* and lugs r^2, and by a bolt, P, to the slotted support M, as shown and described.

263,559. PEGGING-MACHINE. EDWARD MERRITT, Brockton, Mass. Filed May 1, 1882. (No model.)



Claim.—1. In a nail-driving machine, the combination of the vertically-adjustable horn-carrying spindle *d* and rotary horn *e*, coiled spring *k*, treadle *f*, slotted link *g*, locking-bolt *i*, inclined releasing-link *h*, and springs f'''' i', as set forth.

2. In a nail-driving machine, the locked rigid horn *e*, in combination with the oscillating head L, having throat-piece *l* attached, and the vertically-yielding presser-foot *n*, and vertically-yielding perforated nose-piece *m*, as set forth.

3. In a nail-driving machine, the combination of the oscillating head L, the yielding presser-foot bar n', its wedge n^2, and rocking lever *q*, as described, having wedge Q in its upper end, and adapted to be operated by the vertical motion of the said presser-foot bar to regulate the downward stroke of the awl-bar *t* and driver-bar *u*, as set forth.

4. In a nail-driving machine, the rigid throat-piece *l*, secured to the swinging head L, and having perforation *l'*, in combination with the yielding nose-piece *m*, its hollow tube m', shank m', and coiled spring m'', as set forth.

5. In a nail-driving machine, in combination with the awl-bar *t* and its spring *t'*, means for raising it to its highest position, an independent and separate locking device to hold it in such position, and a releasing device to automatically release it at the proper time, as set forth.

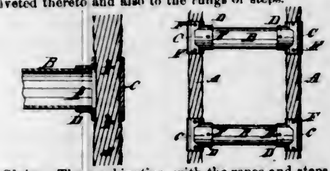
6. In a nail-driving machine, the combination of swinging head L, vertically-movable awl-bar *t*, driving-shaft P, roll and pin *t''*, foot t^3, locking-lever t^4, spring t^5, and set-screw t^6, adapted to strike against the recess t^8 in the frame N, as set forth.

7. In a nail-driving machine, the combination of swinging head L, thumb-nut s^2, stud s^3, block s^4, slotted rocking lever s''', rock-shaft s'', adjustable lever s', regulating-screws s^5, and cam *s*, as set forth.

8. In a nail-driving machine, in combination with the raceways *v'*, nail-receiver w''', sliding picker-bar v^4, and picker v^5, the spring-gage *w*, with its wedge w^1, projection w'', regulator-screw w^3, and adjustable screw v^7, in the sliding picker-bar v^4, as set forth.

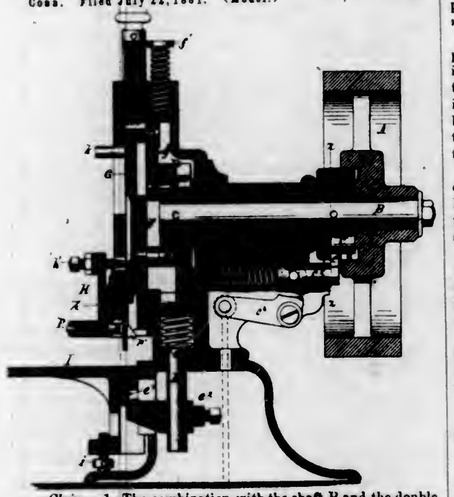
263,560. FIRE-ESCAPE LADDER. THOMAS MILLER, Jersey City, N. J. Filed Apr. 24, 1882. (No model.)

Brief.—Metal gas-T's are split, pressed down upon the rope, and riveted thereto and also to the rungs or steps.



Claim.—The combination, with the ropes and steps, of a ladder of metal gas-T's for connecting them together, said T's being split and squeezed on the ropes and riveted thereto, and also riveted or screwed to the steps, substantially as described.

263,561. BOOK-STAPLING MACHINE. SAMUEL E. MOWRY, Milford, assignor to Henry G. Thompson & Son, New Haven, Conn. Filed July 22, 1881. (Model.)



Claim.—1. The combination, with the shaft B and the double cam D, secured to said shaft, of the presser operated by one of the parts of said cam, the driver connected with said cam by link and crank-pin, and the clincher operated by the other part of said cam, substantially as described.

2. The combination, with the clinching-rod E, provided with the bracket e^2, and clinch-plate e^3, of the coiled spring *c'* and the cam *e*, constructed to compress the spring and suddenly release the clincher, so as to clinch the staple with a blow, as described.

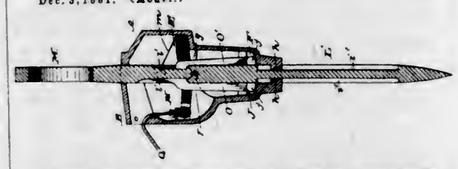
3. The combination, with the clinching-rod provided with a spring, and an adjustable bracket provided with a clinching-plate having a curved surface, of a cam constructed to compress the spring and suddenly release the clincher, so as to clinch the staple by a blow and bend the ends, as described.

4. The combination, with the wire-feeding device and the cutters, of the disk *o*, provided with a channel set at an angle with the feed-channel of the wire, and constructed to straighten the wire, as described.

5. In a machine for binding books with wire staples, the cutter R, provided with the groove or channel *r*, constructed to receive the waste ends of the wire, as described.

6. In a machine for sewing books with wire staples, a driving-shaft, a double cam secured upon said shaft, a presser operated by one of the parts of said double cam, a staple-driver sliding in a way formed in said presser and connected by link and crank-pin with the cam, a clincher operated in one direction by the other part of said cam, a spring for operating said clincher in opposition to the cam, and a table adjustable in accordance with the thickness of the book to be sewed, the whole constructed, combined, and operating as and for the purpose set forth.

263,562. HAY-FORK. LEWIS Y. MYERS, Canton, Ohio. Filed Dec. 3, 1881. (Model.)



Claim.—1. The combination of the following elements: the part A of the supporting-head, cast with the inclined pivoting-recess E, the pivoting-recesses F and J, the stud *k*, and the passage running longitudinally through said part A, the part B of the head, having the chamber H and the pivoting-recess J, the longitudinally-moving spear, the locking devices pivoted in the recesses F and J, and a yoke or clamping device pivoted and swinging in the chambers E H, substantially as set forth.

2. The combination of the following elements: the supporting-head provided with a way longitudinally through it, and with lugs or stops *h*, the spear L', mounted in said supporting-head and provided with the slots *i*, the dogs O O', the yoke P, and the pins *n n*, substantially as set forth.

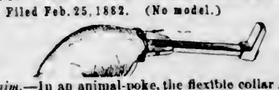
3. The combination, with the sliding spear, the devices which prevent an upward movement of the spear relatively to the casing, and the yoke P for locking said devices, of the casing having the chamber E on one side of the spear, formed with the converging shoulders *m g*, to provide a pivoting-recess for the yoke, and having the chamber H on the opposite side of the spear to permit the oscillation of that end of the yoke situated therein, substantially as set forth.

4. The combination of the head A B, formed with an inclosed chamber, the spear L', which passes entirely through said head, the locking-dogs O O', retained within said head, but mounted loosely therein, and the yoke P, mounted loosely within the head, substantially as set forth.

5. The combination, with the head A B and the spear passing entirely through the head, of the locking-dogs O O', arranged on opposite sides of the spear, and the yoke P, which surrounds the spear, and also the locking-dogs, said yoke and locking-dogs being retained loosely in the head, substantially as set forth.

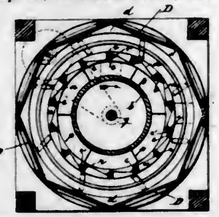
6. The combination of the head A B, the spear passing through the head, the dogs O O', and the yoke P, all mounted within the head, the hook C C, pivoted to the head independently of the spear, and the cords N, substantially as set forth.

263,563. ANIMAL-POKE. JAMES A. NEVINS, Sailor Springs, Ill. Filed Feb. 25, 1882. (No model.)



Claim.—In an animal-poke, the flexible collar A and spring-clip B, in combination with the bar D *d*, shoe E, the brackets B C, and the single bolt *c*, substantially as and for the purpose set forth.

263,564. MIDDLINGS-PURIFIER. NIELS NIELSEN, Copenhagen, Denmark. Filed June 21, 1882. (No model.) Patented in Germany Feb. 10, 1881, No. 15,815; in Sweden Mar. 23, 1881; in Denmark Apr. 16, 1881, and in Norway Aug. 23, 1881.



Claim.—1. In a middlings-purifier, the combination, with the rotary beater *b p*, of the stationary bolt, consisting of the uprights *r*, having beveled sides *r'*, cleats *c*, and bolting-cloth *a*, whereby a series of vertical planes of bolting-cloth are formed tangential to the rotary beater *b p*, substantially as set forth.

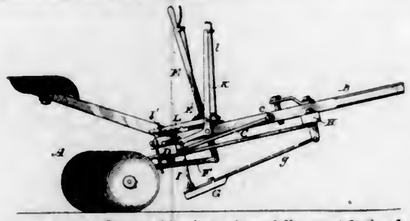
2. In a middlings-purifier, the stationary bolt *a*, constructed as described, and the inclined triangular shelves or plates *u*, in combination with the rotary beater, consisting of the vertical cylinder *b* and spiral plates *p*, substantially as set forth.

3. In a middlings-purifier, the combination, with the stationary bolt, of the vertical rotary beater, consisting of a cylindrical case or body, *b*, and spiral plates *p*, the edges of which are notched and set up to form saw-teeth-like projections *p'*, substantially as set forth.

4. In a middlings-purifier, the combination of the casing or floor-receptacle D, constructed with discharge-chute T, stationary bolt *a*, constructed with gauze or bolting-cloth, equidistant uprights *r*, clamping-cleats *c*, and inclined triangular shelves *u*, the vertical rotary beater, constructed with the cylindrical case or body *b*, top wings, *n n*, bottom-scrapers *m m*, and spiral plates or flange *p*, and mechanism for rotating the beater-cylinder in the direction against the thread of its spiral flange, all constructed and combined substantially as and for the purpose herein shown and described.

263,565. HARROW. FREDERICK NISEWITZ, Millington, N. J. Filed Jan. 23, 1882. (No model.)

Brief.—Gangs of disk-cutters hinged on opposite sides of the frame and provided with the usual lever and connections for changing the angle of the disk-gangs to the line of draft, combined with a clod-crusher hinged in front of the disks and vertically adjustable by means of a lever and rod.



Claim.—1. The combination, substantially as set forth, of a gang or gangs of disk-cutters, a clod-crusher bar arranged in front of the disks, and mechanism for adjusting the crusher independently of and relatively to the disks.

2. The combination, substantially as set forth, of the disk-cutters, mechanism for adjusting them relatively to the soil, and the clod-crusher bar arranged in front of the disks.

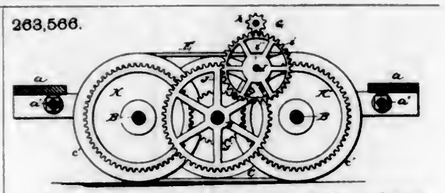
3. The combination, substantially as set forth, of a tongue or frame, a gang or gangs of disk-cutters, a crusher arranged in front of the cutters, and mechanism for adjusting the crusher and cutters relatively to the soil.

263,566. TRACTION-ENGINE. JACOB NIXON, Winfield, Kans. Filed Mar. 15, 1882. (No model.)

Claim.—1. In a traction-engine, the combination, with the frame and wheels, of an endless belt or track consisting of an inner layer of belting, transverse bars secured thereto, and an elastic covering, substantially as set forth.

2. A track for traction-engines, consisting of two or more strips of flexible material having transverse metallic bars interposed between them, substantially as set forth.

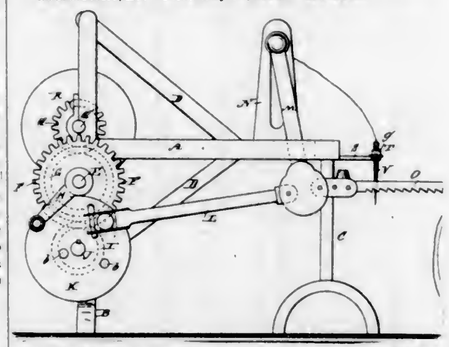
263,566.



3. A track for traction-engines, consisting of the combination, with an inner layer of flexible material, of transverse metallic bars riveted thereto, and an outer layer or covering of elastic material, substantially as set forth.

4. In a traction-engine, the combination, with the frame or truck, of gangs of wheels mounted rigidly on axles within the frame, the outer wheels of the gangs being provided with annular flanges, and an endless track adapted to be guided by said flanges, substantially as set forth.

263,567. DRAG-SAWING MACHINE. OTHO J. C. NORRIS, Rohrersville, Md. Filed May 17, 1882. (No model.)



Claim.—In a sawing-machine, the combination, with the platform A, of the standard N, the adjustable swinging rod M, the saw O, the connecting-rod L, and the wheel K, provided with a series of pivot-apertures, *b*, different distances from the center, substantially as herein shown and described, and for the purpose set forth.

263,568. HORSE HAY-RAKE. ASHBEL A. NOYES, Steamboat Rock, Iowa. Filed July 3, 1882. (No model.)



Claim.—In a horse hay-rake, and in combination with the beam F, the casting H, having hole *h* for the caster-shank and lugs or sockets *h'* *h²*, and foot-rest H', substantially as and for the purposes set forth.

263,569. SPARK-ARRESTER. JOHN H. OPPENBERG, Oshkosh, Wis. Filed Apr. 21, 1882. (No model.)

Claim.—1. The combination of curb H with deflector G, wire-gauze guard E', deflector E, jacket B, and smoke-pipe A, substantially as specified.

2. The nest of hollow inverted perforated cones L M N, having openings P P' P² arranged in staggered order, and said cones being combined with a smoke-pipe, substantially as specified.

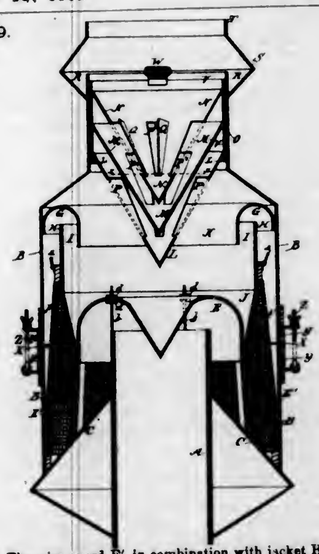
3. The combination of the nest of hollow inverted and perforated cones L M N with the deflector G, wire-gauze guard E', deflector E, jacket B, and smoke-pipe A, substantially as specified.

4. The nest of cones L M N, having perforations, as described, and being detachably arranged in the neck O of the smoke-pipe, substantially as described.

5. The jacket B, constructed in sections and jointed at X, as described, and having the deflector G and the cones L M N attached to the upper section for removal therewith, substantially as specified.

6. The pipe A, the wire-gauze guard E', fitted detachably on the curb H, and the cone C, substantially as shown and described.

263,569.

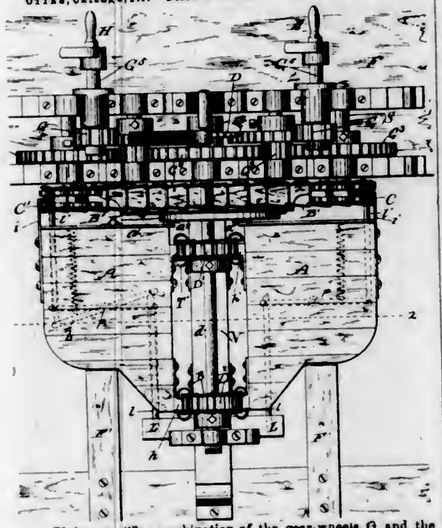


7. The wire guard E', in combination with jacket B, cone C, and the pipe A, said wire guard being made equal in size at the lower end with the interior of the jacket to fill the same at and a short distance above the cone, and tapering therefrom to the curb H to turn the sparks upward inside of said wire guard, substantially as described, and whereby, also, the space P is formed for the passage upward of the smoke, dust, and broken cinders passing through the said wire-gauze, substantially as described.

8. The combination, with cone C, deflector E, smoke-pipe A, and jacket B, of wire guard E', tapering from bottom upward, substantially as specified.

9. The combination of the dead-air space J with deflector G, curb H, deflector E, and passage K, as shown and described.

263,570. ELEVATOR FOR BUILDING MATERIAL. JOHN OTTER, Chicago, Ill. Filed June 28, 1882. (No model.)



Claim.—1. The combination of the gear-wheels G and the gears G' and G² on the same shaft, the idle-gear D on its own shaft, the outer gear, G², and the central gear, G', mounted and fastened upon the upper chain-shaft, *d*, arranged as described, and adapted to impart even and simultaneous motion to the endless chains B and B', substantially as described.

2. The combination of the revolving platforms A, having double hooks *i* and the endless chains B, two corners being permanently attached to said chains at A', and the endless chain B', adapted, when put in motion, to hoist and lower building materials placed upon them, substantially as described.

3. The two upper sprocket-wheels, D', mounted and fastened upon the upper chain-shaft, *d*, and the two lower sprocket-wheels, marked D', and mounted upon lower chain-shaft, *d'*, adapted to carry the two inner corners of the platforms A, substantially as described.

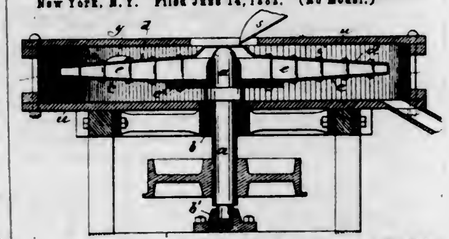
4. The combination of the upper cam-guides, K, and the arms *a'* upon the platforms A, having wrists *a²*, adapted to secure even and true motion of the inner corners of the platforms during their revolution over the upper chain-shaft and under the lower chain-shaft, substantially as described.

5. The combination of the two upper sprocket-wheels, C, and the two lower ones, C', provided with annular central grooves in their peripheries for the hooks *i*, and the revolving platforms A, provided with said hooks *i*, adapted to give support to the platforms when bearing their loads in their upward movements, substantially as described.

6. The combination of the cams L, rods *l*, pivoted lever *b*, working in the interior of platforms A, the rods *l'*, the hook *i*, and endless chain B', adapted to engage and disengage automatically said hook with said chain, substantially as described.

7. The described detachable link for an endless chain, consisting of the two side bars, M, the single cross-bar *x*, having the flanges *m* at one end of the same and the two hooks *n* at the other end, one on each side, having depressions *r*, corresponding with flanges *m*, heels *y*, and points *t*, substantially as described.

263,571. PULVERIZING-MACHINE. ISAAC W. PARMENTER, New York, N. Y. Filed June 14, 1882. (No model.)

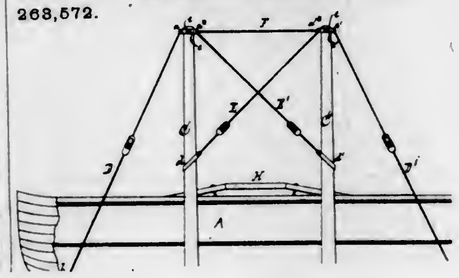


Claim.—1. In a centrifugal pulverizing apparatus, the disks *c* and *d*, of sheet metal, having a dishing shape, so as to be nearest together at their edges, and the tapering hurling-arms *e*, rigidly connected between the disks, in combination with the circular abutment, substantially as set forth.

2. In a centrifugal pulverizing apparatus, the combination, with the shaft and its supports, of radial hurling-arms and sheet-metal disks connected at the edges of the arms, the outer edges of the disks being united for a portion of the distance between the ends of the radial arms, leaving openings adjacent to the ends of such arms, substantially as set forth.

3. In a rotary centrifugal pulverizer, the combination of the hurling-arms, the sheet-metal disks, and the revolving shaft to which the same are connected, with means for supplying the material to be pulverized near the said shaft, and wind-catching segments to augment the speed of the issuing material, and an abutment against which the same strikes, substantially as specified.

263,572.

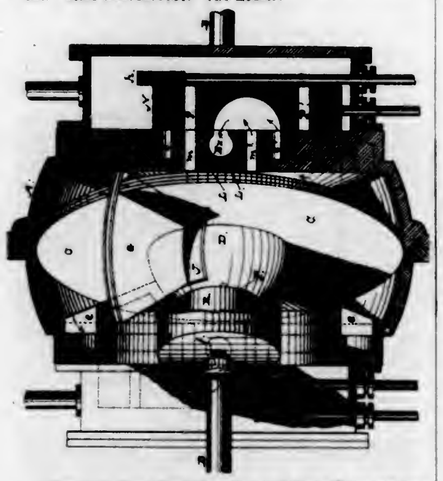


263,572. TRUSS-ROD AND SUPPORT FOR SHIPS. JOHN PATERSON, Weehawken, N.J. Filed May 3, 1882. (No model.

Brief.—The rods are to strengthen the hull and prevent hogging.

Claim.—The combination, substantially as hereinbefore described, of the spars C C', rising from the keelson, the collars *c c* on the top end of these spars, the intermediate fastenings, *d d'*, the cross-braces E E', and the braces D D'.

263,573. ROTARY ENGINE. JOHN PATTEN, San Francisco, Cal. Filed Aug. 20, 1881. (No model.)



Claim.—1. The adjustable cylindrical blocks E, in combination with the sphere D, truncated at both ends.

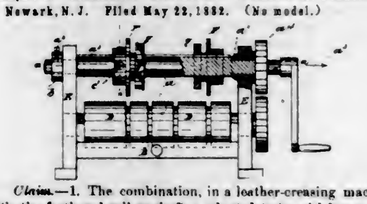
2. The pistons G G, connected with the engine-shaft B by the rods, plates, or bars H, passing through slots in the sphere D, and the covering-plate J, connected to and operated by said bars H, as set forth.

3. The combination with the slotted disk having the spherical hub D, in which are the recesses F and slots K, of the journal-block E and the pistons G, fixed to the engine-shaft, as set forth.

4. The combination of the pistons G, fixed to the shaft B, with the slotted disk, having the spherical hub with its central recesses or openings, F, and elongated slots K, and the adjustable journal-blocks E, as set forth.

5. The combination of the case or cylinder A, having ingress and egress ports *m l m' l'* and the diagonal stays for the journal-blocks E, the abutments L L, grooved into the cylinder-case, the shaft B, having pistons G secured to it, the slotted disk C, with spherical hub in which are the apertures F K and the journal-blocks E, as set forth.

263,574. CREASING-MACHINE. WILLIAM M. PILKINGTON Newark, N. J. Filed May 22, 1882. (No model.)



Claim.—1. The combination, in a leather-creasing machine, with the feathered roll or shaft *a*, adapted to be withdrawn from its bearings, and the roll D, having a series of grooves therein, of the pattern-collars *g*, adapted to slide longitudinally on the shaft *a* and be secured thereon at a greater or less distance apart, and the flanged collars F, adapted to be arranged to engage with any of said grooves at a greater or less distance apart and adjustable in their relations to the pattern-collar, all substantially as herein set forth and shown.

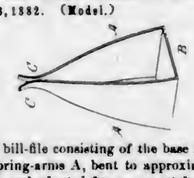
2. The combination, in a creasing-machine, of housings E, rolls *a* and D, arranged to be thrown into and from engagement with one another, said roll *a* being capable of being withdrawn from its housings, and said roll D being provided with a series of grooves, pattern-collars *g*, adapted and arranged to slide longitudinally on said roll *a*, and flanged collars F, arranged and adapted to engage with any two of the grooves in the said series, and between which collars the leather passes, said flanged collars and pattern-collars being adjustable in relation to one another to allow the pattern to be impressed at any distance from the edges of the impressed material.

263,575. GUN-STOCK. EZRA J. POST, Trinidad, Colo. Filed Aug. 24, 1882. (No model.)



Claim.—In a recoil-check for fire-arms, the combination of the butt A, having cylindrical bores B B and slot C, provided with the packing D, shoulder-cap composed of the plates E E', overlapping the butt, and provided with the arms *d d*, having taps *e e* and screws *b b*, springs F F, and bolt G, connecting the sides of the cap-plates E E' and inserted transversely through the slot C in the butt, substantially as and for the purpose herein shown and described.

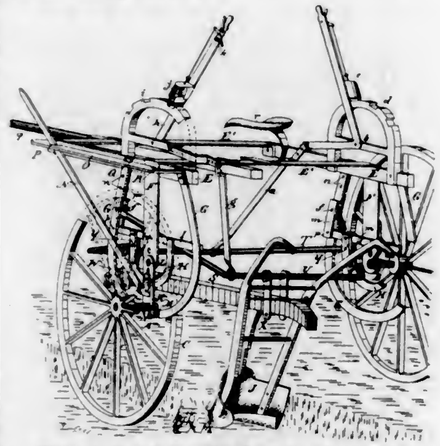
263,576. BILL-FILE. MERRITT F. POTTER, Hinckley, Ill. Filed Jan. 13, 1882. (Model.)



Claim.—A bill-file consisting of the base B and the substantially-vertical spring-arms A, bent to approximate each other at their upper ends, and adapted for use, as set forth.

263,577. SULKY-PLOW. EUGENE POWELL, Delaware, Ohio. Filed Apr. 5, 1882. (Model.)

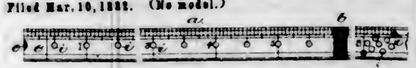
Brief.—The wheel-spindle is attached to a vertical bracket pivoted to the frame, having a lever rigidly attached. In adjusting the wheel the spindle rides upon the curved bar, which is overlaps by a lip. Clamps connect the plow-beam with front and rear bails raised by elbow-levers.



Claim.—1. An axle-supporting frame for sulky-plows, consisting of the curved bar G, the cross-bar I, the curved bar H, having its ends secured to the said cross-bar, and the depending bar F, substantially as herein shown and described.

2. In a sulky-plow, the combination, with the side bar, E, and the axle A, having hooked head M, of the curved bars G H, the cross-bar I, the depending bar F, the pivoted bar K, and lever N, substantially as and for the purpose set forth.

263,578. CARPENTER'S RULE. FRANCIS J. POWER, Boston, Mass., assignor of one-half to Peter Collamore, same place. Filed Mar. 10, 1882. (No model.)



Claim.—The graduated rule *a*, provided with center holes, *i*, at uniform distances along its length, combined with the marking-roller *c*, pivoted in the end of the said rule, and having a sharp periphery lying in the plane of the end of the said rule, substantially as and for the purpose described.

263,579. LAYING ARTIFICIAL-STONE OR CONCRETE PAVEMENTS. ERNEST L. RANSOME, San Francisco, Cal. Filed May 18, 1882. (No model.)



Claim.—1. The herein-described pavement, consisting of the arched concrete pieces D, formed to fill in between and cover over the braces or supports C, each piece filling the space between two supports and covering about half of the supports, substantially as set forth.

2. A pavement with finished wearing-surface constructed between, above, and over beams or bearers, the sections or blocks of which are jointed over and along the top of the bearers, so that the pavement shall present a continuous concrete surface and still have the separating-lines, substantially as described.

3. A pavement with finished wearing-surface constructed between and above beams or bearers having recesses lying over the supports *f*, as described, which are filled in flush with the surface, either with the same or other pavement material, substantially as described.

268,580. SPELLING-PUZZLE. WM. H. KNIPP, Philadelphia, Pa., assignor to Thomas R. Boone, Rochester, N. Y. Filed Mar. 30, 1882. (No model.)



Claim.—The tablets A, having each certain letters of the alphabet and a numeral, the numerals to act as a key for the arrangement of the tablets to spell the words, substantially as described.

263,581. GAS AND LAMP BURNER. ELIAS B. ERQUA, Jersey City, N. J. Filed July 15, 1882. (No model.)



Claim.—1. The combination, with a burner for gas or oil, of a perforated platinum ribbon located over the burner, substantially as described.

2. The combination, with a burner for gas or oil, of a perforated platinum strip or ribbon extended over the burner, and a deflector for deflecting the upwardly-induced currents of air into the flame for heating the platinum strip or ribbon, substantially as described.

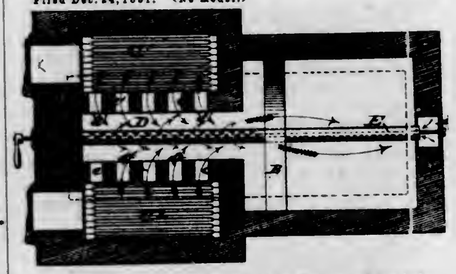
3. The combination, with a burner for gas or oil, of a platinum strip or ribbon extended transversely over the burner in the plane of the flame issuing therefrom, and of a bowed or similar shape which approximates the contour or form of the flame, substantially as and for the purposes described.

4. The combination, with the burner, of the platinum strip located over the same, the deflector for deflecting upwardly-induced air-currents into the flame, the perforated base, and a glass flame-protector, I, substantially as described.

5. The combination, with a burner for gas or oil, of a platinum strip or ribbon extended transversely over the burner in the plane of the flame issuing therefrom, and non-conducting supports for sustaining the ends of the platinum strip or ribbon, substantially as and for the purposes described.

6. The combination, with a burner, of the slotted deflector G, the perforated base H, and the platinum strip located over the burner, and having its ends secured in the glass tubes D, which are held in sockets supported from the burner, substantially as described.

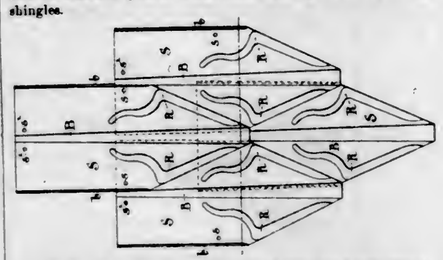
263,582. FURNACE. EDWIN REYNOLDS, Milwaukee, Wis. Filed Dec. 24, 1881. (No model.)



Claim.—The combination, in a boiler-furnace, of two independent fire-places, an intermediate chamber in which the gases and products of combustion are mingled and consumed without the aid of a special fire in said chamber, an independent bridge-wall, and a perforated pipe extending from the outside of the furnace through the smoke-arch and bridge-wall and into the mixing-chamber, as and for the purpose set forth.

263,583. METALLIC ROOFING-SHINGLE. HENRY S. REYNOLDS, Brooklyn, N. Y. Filed Nov. 21, 1881. (No model.)

Brief.—The edges of the shingles turn inwardly to dovetail into the external grooves in a central tapering rib of adjoining shingles.



Claim.—1. A metallic roofing-shingle provided with a central longitudinal rib tapering from end to end, and having an external groove in each side extending the full length thereof, substantially as shown and described, for the purposes specified.

2. A metallic shingle, S, such as shown and described, provided with parallel edges *b b*, adapted to enter the external grooves *a a* of the ribs B of underlying shingles, as and for the purpose specified.

3. A metallic shingle substantially such as shown and described, provided with parallel edges inclined inwardly, and adapted to dovetail into a rib, B, of a superposed shingle, as set forth, for the purposes specified.

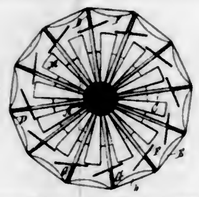
4. The metallic roofing-shingle S, having the dovetail tapering rib B, constructed as shown and described, and ribs R R, inwardly-inclined edges *b b*, and nail-holes *s s* and *s' s'*, substantially as and for the purposes set forth.

263,584. SALT-DRIER. GEORGE RICE, Goderich, Ontario, Canada. Filed May 8, 1882. (No model.)

Claim.—1. A drying apparatus composed of a single rotating cylinder set in an inclined position, and having formed on the inside of its periphery compartments, each communicating with the interior and having a separate outlet through the head, all substantially as herein described, and for the purposes set forth.

2. The combination, with the shaft A, of arms C and boards

263,584.

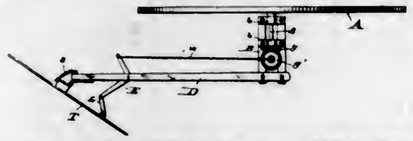


D and F, all contained within the cylinder, as and for the purposes set forth.

3. In a drying apparatus, the combination, with a revolving single cylinder provided with inside compartments communicating with interior, of a blast-pipe discharging into cylinder at one end, all as herein set forth, and for the purposes described.

4. In combination with a revolving cylinder furnished with internal compartments, slats M, mounted on the shaft A, as and for the purposes described.

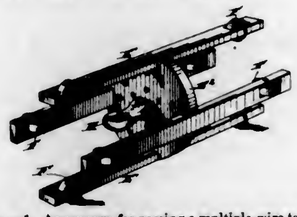
263,585. WINDMILL. WILLIAM RICHMOND, Brodhead, Wis. Filed May 4, 1882. (No model.)



Claim.—1. In a windmill, the combination of the tail-stock D, tail T, hinged thereto, spring *s*, bell-crank E, link L, and wire *w*, substantially as shown and described.

2. The combination of the frame B, shaft S, wheel A, gears *g g'*, hollow vertical shaft P, tail-stock D, tail T, hinged thereto, bell-crank E, link L, and wire cord *w*, substantially as shown and described.

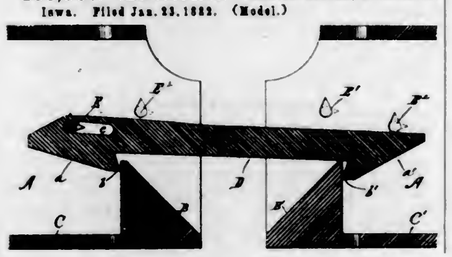
263,586. CARRIAGE FOR LAYING MULTIPLE-WIRE TELEGRAPH-CABLES IN PIPES. NICHOLAS M. RITTENHOUSE, Baltimore, Md. Filed May 24, 1882. (No model.)



Claim.—1. As a means for passing a multiple-wire telegraph-cable through a pipe, a carriage or carrier composed of a cylindrical frame provided with rollers, and having a perforated disk through which the wires at the end of the cable are passed, substantially as described.

2. The carrier for laying multiple-wire telegraph-cables in pipes, constructed with a series of longitudinal bars arranged in cylindrical form upon a perforated disk, and carrying rollers at their ends, substantially as described.

263,587. CAR-COUPLING. FRANCIS RITTER, Blairstown, Iowa. Filed Jan. 23, 1882. (Model.)



Claim.—1. The combination, with a draw-head having a projection, B, of a draw-bar or link, D, and iron E, having a rib, *e*, and adapted to operate the coupling-link, substantially as herein shown and described.

2. The combination, with the draw-heads A A', having the projections B B', of the double-headed link D, having the slot *e*, and the key-iron E, having a fin or rib, *e*, substantially as set forth.

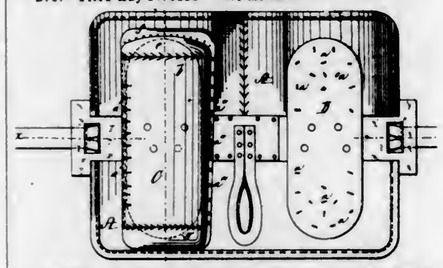
263,588. DENTAL PLATE. JEREMIAH A. ROBINSON, Jackson, Mich. Filed Sept. 12, 1881. (Model.)



Claim.—1. As a new article of manufacture, a dental plate composed of a plastic material, as specified, in combination with a facing or surface formed of fine metal filaments and known as "felt-foil," substantially as set forth.

2. The herein-described improvement in the art of making dental plates, which consists of combining a sheet composed of metal filaments known as "felt-foil" with a layer of plastic material, and subsequently embedding, or partially embedding, the filaments in the plastic material, and condensing the metal filaments by the combined action of heat and pressure, thereby consolidating them with the plastic material, substantially as set forth.

263,589. CART-SADDLE. MICHAEL ROBINSON, Washington, D.C. Filed May 27, 1882. (No model.)

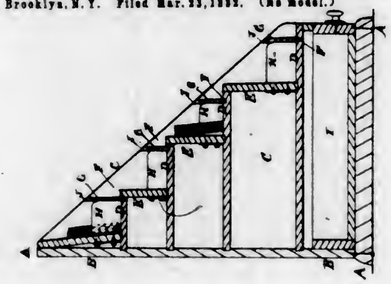


Claim.—An improved cart-saddle, consisting of the tree A and the flat wood pad-frame B, secured thereto by nails passing through the tree and frame and clinched on either side of the saddle, in combination with a pad, C, provided with a cover, *b*, attached by nails or tacks to the edges of the pad-frame B and tree A, all arranged substantially as shown and described.

263,590. PROCESS OF TREATING GRAIN FOR SHIPMENT. JAMES J. ROGERS, Boston, assignor of one-half to William P. Greenough, Cambridge, Mass. Filed July 17, 1883. (No specimens.)

Claim.—The process consisting of the following steps: first, reducing the grain to the desired fineness; second, subjecting it to the action of sulphurous anhydride; third, subjecting it to a steam-bath; and, finally, compressing it, while still hot and moist, into solid cakes, all substantially as described, and for the purpose set forth.

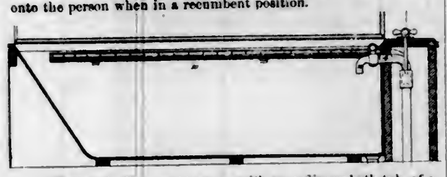
263,591. SHOW-CASE FOR NEEDLES. JOSEPH ROSNER, Sr., Brooklyn, N.Y. Filed Mar. 23, 1882. (No model.)



Claim.—The show-case for needles herein shown and described, consisting of the frame B C, having grooves J, and provided with the drawer I in its base, shelves D, each wider than the one above it, and provided with grooves F and partitions H, the upright boards E, and the sliding glass plates G, as specified.

263,592. BATH-TUB. WILLIAM W. ROSENFIELD, New York, N.Y., assignor, by mesne assignments, to Joseph Aron, same place. Filed Jan. 12, 1882. (No model.)

Brief.—Water being admitted to the horizontal shower-pipe, which is attached to the side of the bath-tub, it will pass directly onto the person when in a recumbent position.

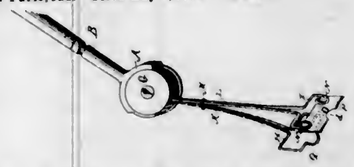


Claim.—1. The combination, with an ordinary bath-tub, of a horizontal shower or spray pipe extending nearly or quite the whole length of the tub, substantially as described.

2. The combination, with an ordinary bath-tub, of a detachable shower or spray pipe of nearly or quite the length of the tub, and means for supporting said pipe longitudinally of the tub in such a position that the shower or spray will fall upon a person recumbent in the tub, substantially as described.

3. The combination, with a bath-tub and its hot and cold water cocks 2 3, of the detachable longitudinal shower-pipe 10, flexible connecting-pipe 12, Siamese attachment, and means for supporting said pipe 10 in an elevated position longitudinally of the tub, substantially as described.

263,593. ADJUSTABLE MOP-HOLDER. ISAAC A. ROWELL, New Paris, Ind. Filed May 9, 1882. (Model.)

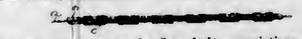


Claim.—1. The improved adjustable key ratchet-holder, consisting of handle-cup A, having ratchet-bottom C, and being rimless in a portion of its circumference, and the shank-cup E, having ratchet-bottom F, and carrying the spring-jaws H I and fastening device M, said cups being detachably fastened together by a key, G, substantially as described.

2. The combination of a pair of spring-clamps, H I, and an adjustable ratchet-holder, A E, one of said clamps having gripping-coils N, arranged with respect to cross-bar O, substantially as described.

3. The combination of a pair of spring-clamps, H I, and an adjustable ratchet-holder, A E, one of said clamps having a half-coil, Q, substantially as described.

263,594. BINDING WIRE-CLOTH FOR FLOUR-BOLTS. CARLTON E. SAGE, Elkhart, Ind. Filed Apr. 13, 1882. (No model.)



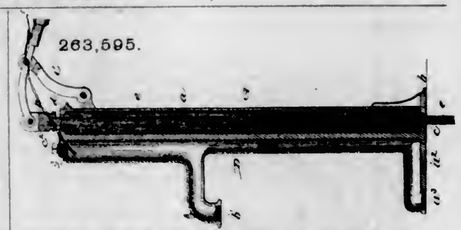
Claim.—1. A screen for flour-bolts, consisting of a body of wire-gauze and binding-strips of cloth secured thereto by metallic fastenings, as a new article of manufacture.

2. The combination, in a flour-bolt, of the wire fabric, the cloth binding, the loops, and the ribs, said binding being connected to the loops and the ribs, all substantially as described.

3. The combination, in a flour-bolt, of the wire fabric with cloth binding, the ribs, and the metallic fastening for uniting the cloth binding and the wire fabric, substantially as described.

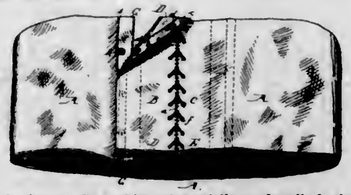
263,595. PUMP-STOCK. CHRISTIAN SCHMIDT, Miamisburg, Ohio, assignor of one-half to Ferdinand Swartztrauber, same place. Filed Apr. 15, 1882. (No model.)

Claim.—As an article of manufacture, the pump-stock A, having the longitudinal diaphragm D, whereby the main barrel *a* is formed, and adjacent thereto the auxiliary barrel or discharge-pipe *a'*, having the elbow *a²*, nozzle or discharge *b'*, enlarged air-



chamber *c'*, provided at its contracted upper end with the plug or stopper *c²*, and slotted base-piece, all cast in one piece, as and for the purpose shown and set forth.

263,596. SHIRT. FREDERICK SCHRADER, Elmhurst, Ill. Filed Apr. 24, 1882. (No model.)



Claim.—1. In a shirt substantially as described, the centrally-slitted and laced front being a continuation of the body fabric, in combination with the side slit arranged with a lapping-strip which will lap under the shirt-front, and to which buttons are attached, and a button-hole fly formed by doubling the edge of the lining F, which is then stitched to the edge of the flap B, as and for the purpose set forth.

2. In a shirt substantially as described, the body fabric A, forming the front, and having slits *a* and *b*, in combination with the lining-strips D E and flaps B and C, that have eyelet-holes for lacing-cord *f*, strip F, and a button-hole fly, *c*, and with lapping-strip G, secured to the edge of body A, having buttons *h*, the whole being constructed and arranged as and for the purpose set forth.

263,597. FIRE-KINDLER AND TORCH. JEREMIAH SCHROT, Indianapolis, Ind. Filed May 25, 1882. (Model.)



Claim.—A fire-kindler and torch consisting of a shell constructed in two parts, one provided with a socket at the lower end and the other with an engaging-projection, the two being perforated and grooved at their upper ends, between which is interposed a button, the whole being secured by means of a wire forming the handle of the device, the shell being packed with asbestus or other similar material, and slotted or perforated, as described, substantially as and for the purposes specified.

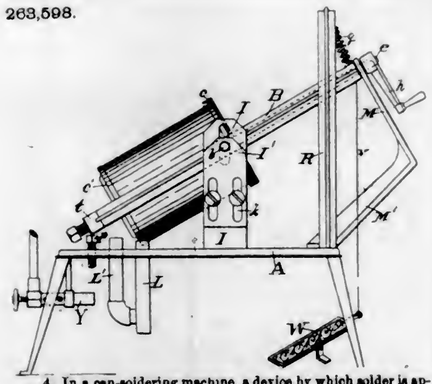
263,598. CAN-SOLDERING MACHINE. FREDK. W. SCHULTE, Baltimore, Md. Filed Jan. 21, 1881. (No model.)

Claim.—1. In a can-soldering machine, the combination of a device by which solder is applied, a rotary can-holder having a disk smaller than the cylinder of the can to bear against the end of the can, a tilting frame carrying the can-holder, and an adjustable stop device against which the tilting-frame may strike to regulate the position of the small disk with respect to the solder-applying device, as set forth.

2. The combination of two rotary disks, one to bear against each end of a can, a tilting frame carrying the two disks, and supports to which the frame is pivoted, whereby the clamped can may be inclined to effect the soldering of the end seam, as set forth.

3. In a can-soldering machine, the combination of a device by which solder is applied, a rotary can-holding disk, *c*, having means to insure that one end of can shall be concentric therewith, a flangeless can-holding disk, *c'*, to bear against the other end of a can, a pivoted frame, B, carrying the can-holding disks, and a stop device, *p*, to adjust the relative position of the axis of the flangeless disk with respect to the solder-applying device, as set forth.

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4. In a can-soldering machine, a device by which solder is applied, a rotary can-holder placed above the solder device, having two disks, each adapted to clamp one end of the can, and pivoted to enable it to tilt, a movable shaft, to which one of the disks is secured, and a spring to keep the shaft and disk normally pressed to the can, as set forth.

5. In a can-soldering machine, a device by which solder is applied, a rotary can-holder placed above the solder device, having two disks, each adapted to clamp one end of the can, and pivoted to enable it to tilt, a movable shaft, to which one of the disks is secured, a spring to keep the shaft and disk normally pressed to the can, and an inclined plate or standard by which, when the can-holder is tilted up, the pressure of the disks is withdrawn from the can, as set forth.

6. In a can-soldering machine, the combination of a stationary curved and flanged iron, and a tilting frame carrying two disks, one of which reciprocates within its bearings, the other being so located that as the frame tilts the can-edge is brought down upon the iron, as set forth.

7. The combination, with the curved and flanged iron having a central aperture communicating with a source of molten solder, of a tilting can-holder consisting of a pair of disks, one of which is retractable in its bearings, and means for revolving one of the disks, as set forth.

8. In a can-soldering machine, the combination of a pair of disks mounted in a frame pivoted about an axis at right angles to that of the disks, mechanism for revolving one of the disks, and a solder-receptacle located below one of the disks and arranged to receive the can-edge, as set forth.

9. In a can-soldering machine, the combination of a pair of disks mounted in a pivoted frame and provided with means for revolving one of the disks, and a flanged iron communicating with the source of molten solder, as set forth.

10. In a can-soldering machine, the combination of a pair of revolving disks mounted in a pivoted frame, a flanged soldering-iron and solder-receptacle, and means for adjusting the tilt of the frame, as set forth.

11. In a can-soldering machine, the combination of a frame pivoted in suitable bearings and carrying two disks, one of which reciprocates within the frame, mechanism for revolving one of the disks, a soldering-iron located below the edge of one of the disks, and mechanism whereby the can is clamped between the disks as the frame is tilted, as set forth.

12. In a can-soldering machine, the combination of a pivoted frame carrying a reciprocating flanged disk, and a second disk located opposite the first, mechanism for revolving one of the disks, a soldering-iron and solder-receptacle, and mechanism for tilting the frame and clamping the can, as set forth.

13. In combination with the soldering-iron and revolving disks, the frame vertically adjustable in its bearings, as set forth.

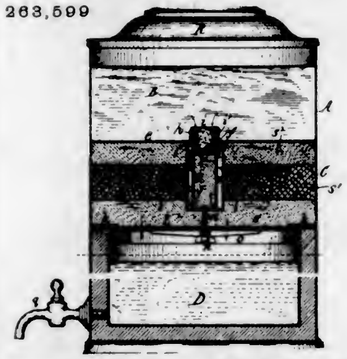
14. In combination with the soldering-iron, vertically-adjustable frame, and the disks, the stop device, as set forth.

268,599. WATER FILTER AND COOLER. ALPHONS F. SONWALD, Buffalo, N. Y. Filed May 2, 1882. (No model.)

Claim.—1. The combination, with the water-chamber B, of the filter-chamber C, having a perforated bottom, *l*, a tube, *g*, communicating with the water-chamber D, and provided with a cup, *h*, containing filtering material, and tubes J, surrounding the tube *g*, substantially as set forth.

2. The combination, with the water-chamber B and the filter-

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chamber C, provided with a removable bottom, *l*, of the tube *g*, tubes J, and fastening-bolt *m*, connecting the perforated bottom *l* with the tube *g*, substantially as set forth.

3. The combination, with the water-chamber B and the filter-chamber C, provided with a removable bottom, *l*, of the tube *g*, tubes J, fastening-bolt *m*, and spider *o*, substantially as set forth.

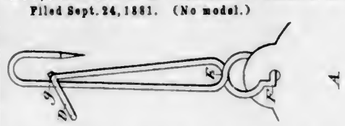
268,600. ATTACHING STRINGS TO TAGS. THEODORE W. SEARING, New York, N. Y. Filed Sept. 24, 1881. (No model.)



Claim.—1. The improved method of securing strings to tags, consisting in first depressing the central portion of the tag at one end, then placing the end or ends of the string into such depression, and securing the ends in place by a covering-piece coated with a suitable adhesive substance, all substantially as set forth.

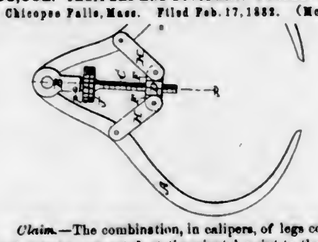
2. A tag having one end centrally depressed, a string having its end or ends confined therein, and a covering-piece of material attached to such depression, all substantially as set forth.

263,601. TAG-HOOK. THEODORE W. SEARING, New York, N. Y. Filed Sept. 24, 1881. (No model.)



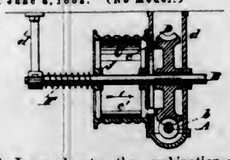
Claim.—A snap-hook constructed of a single length of wire, formed at the middle into a ring or circular loop, and whose free ends, intersecting to close the ring and projecting thence radially, are made to terminate, the one in a hook and the other in a loop adapted to embrace the hook and guard its point, the hooked end being automatically carried into the guard-loop by the elasticity of the central ring, substantially in the manner and for the purpose herein set forth.

263,602. CALIPERS AND DIVIDERS. BERNARD K. SHUMWAY, Chicopee Falls, Mass. Filed Feb. 17, 1882. (Model.)



Claim.—The combination, in calipers, of legs connected by a pivot, a screw connected at the pivotal point to the legs and extending between the legs, a thumb-wheel thereon between the legs, links H H, pivoted to the legs, and a nut receiving the screw and pivoted to the links, as specified.

268,603. ELEVATOR. WILLIAM H. SERRITT, Jersey City, N. J. Filed June 8, 1882. (No model.)

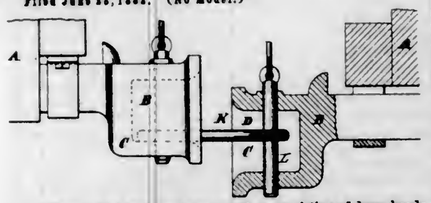


Claim.—1. In an elevator, the combination of the wheel D, revolving upon the axis of the drum-shaft B, and having teeth or gripping-projections *c*, the drum C, fitted to turn and slide upon the shaft B, and having gripping-projections *c'*, facing the said projections *c*, and means tending to produce contact between the said projections *c* and *c'*, substantially as and for the purpose set forth.

2. In an elevator, the combination of the wheel D, mounted upon the drum-shaft B, and having gripping-projections *c*, the drum C, fitted to turn and slide upon the shaft B, and having gripping-projections *c'*, facing the said projections *c*, and the cam G, secured upon the said shaft B and provided with parallel semi-helical and return working-surfaces *g*, acting against two contact-surfaces, *h*, which are situate opposite to each other and project from the drum, substantially as and for the purpose set forth.

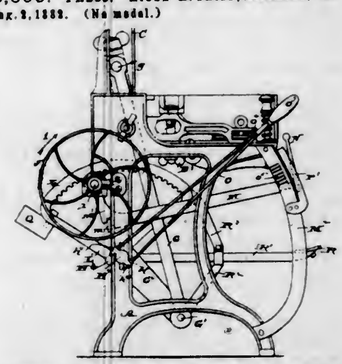
3. The combination of the wheel D, revolving upon the axis of the shaft B, and having catches *c*, the drum C, loose upon the said shaft, and having catches *c'*, and means tending to produce contact between the catches *c* and *c'*, with the ropes E E', winding upon the drum C in opposite directions, and the suspended car and counter-weight, said weight being lighter than the car, substantially as and for the purpose herein set forth.

268,604. CAR-COUPLING. CHARLES A. SMITH, St. Louis, Mo. Filed June 28, 1882. (No model.)



Claim.—The improved car-coupling, consisting of draw-heads B B, having downwardly-extending portions, forming lower enlargements, C C, to the mouths D D, link K, weighted at one end, coupling-pins L L, rock-shafts F F, having arms E E, and stops J J, for limiting the upward movement of the arms and pin, as set forth.

268,605. PRESS. HIRAM M. SMITH, Richmond, Va. Filed Aug. 2, 1882. (No model.)



Claim.—1. In a pressing-machine of the character described, the combination, with the reciprocating plunger, of the straight pitmen G G, pivoted to the plunger, the arms G' G', pivoted to the straight pitmen, the shaft H, carrying said arms G' G', and the supporting-hangers H' H', inside of the arms G' G', substantially as set forth, whereby the pitmen can be swung down to or beyond the vertical line of their pivots *g* without requiring the pitmen to be bent.

2. The combination, with the reciprocating plunger of the press and the mechanism for reciprocating said plunger, of the shaft H, the spur segment or quadrant keyed to said shaft H, the devices for imparting power to said segment, and the devices which automatically disengage from said segment the power mechanism, substantially as set forth.

3. In a press, the combination, with a reciprocating plunger, the shaft H, and the reciprocating devices connecting the plunger with said shaft, of the cogged segment secured to said shaft, the power-shaft I, the power-wheel J, the loose pinion J', the clutch K K', the rocking lever M M', the arm O', carried by said lever, and the tripping-arm O, carried by the shaft H, and adapted to engage with the arm O' to automatically throw the clutch out of engagement with the plunger, substantially as set forth.

4. The combination, with the reciprocating plunger, of the shaft H, the reciprocating devices which connect the plunger with said shaft, the means for imparting power to said shaft H during the operation of pressing, the shifting-lever for releasing the power devices, the arm O', carried by said shifting-lever, the slotted spring P, adapted to engage with said arm, and the tripping-arm O, carried by shaft H, and arranged to release the arm O' from said spring P substantially as set forth.

5. The combination, with the reciprocating plunger, of the rocking shaft H, the reciprocating devices which connect said shaft with the plunger, the quadrant, the detachable power devices adapted to be engaged with said quadrant during the operation of pressing, the devices which automatically disengage the power devices from said quadrant, and returning mechanism which carries the quadrant outwardly after its disengagement, substantially as set forth.

6. The combination of the pressing-table, the plunger above the table, the means for moving the plunger down, the shaft H, and the devices which support said shaft from the table.

7. The combination, with the table and the plunger above the table, of the means for drawing the plunger toward the table, and the devices for thrusting upward against the table in the line of the plunger when it is drawn downward, substantially as set forth.

8. The combination, with the plunger, of the pitman adapted to be brought into vertical position when the plunger is down, the means for bringing down the pitman, the arm O, for throwing the pitman-moving devices out of operation, and the crank-arm or curved arm H', attached to said arm O, and arranged to have its curved part lie immediately below the pitman when it is down, substantially as set forth.

9. The combination, with the plunger, the pitman for drawing the plunger down, and the devices which move the pitman, of the means which positively lock the pitman in its lowermost position, substantially as set forth.

10. The combination, with the plunger, of the pitman, the shaft H, the segment L, the means for rotating the segment, the arms G², and the intermediate devices which connect the segment with the arms G², substantially as set forth.

11. The combination, with the plunger, of the pitman, the shaft H, the devices which rock the shaft H to swing the pitman down, the means for throwing the power devices out of engagement, the arms O, and the means for adjusting the position of said arm relatively to the shaft H, whereby the time at which the power devices are thrown out can be regulated, substantially as set forth.

12. The combination, with the plunger and the pitman G, provided with two upwardly-projecting threaded arms. g^3 g^3 of the box g', arranged to have both ends simultaneously adjusted upon the arms g^3 g^3, substantially as set forth.

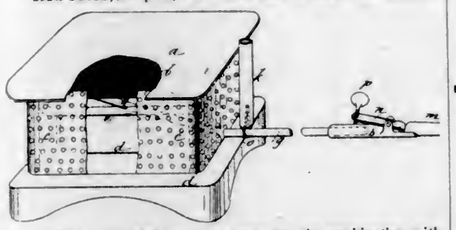
268,606. UMBRELLA-SUPPORT. JAMES T. SMITH, New York, N. Y. Filed July 20, 1882. (No model.)



Claim.—1. The hollow-clamp A, provided with the screw A', in combination with clamp B, provided with the projection B', having the groove *b* and ratchet-teeth *b'* in the bottom of the groove, whereby the clamp B may be secured in desired positions and prevented from withdrawal from the clamp A when being rotated therein, substantially as shown and described.

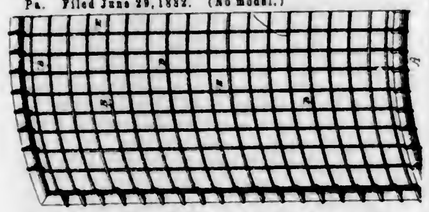
2. The combination of the hollow clamp A, having the screw A', corrugated pivotal plate A², and screw A³ with the clamp B, having the grooved projection B', the standard C, and handle D, substantially as shown and described.

263,607. GOLD-FOIL-ANNEALING APPARATUS. JOHN WILLIAM SMITH, Newport, R. I. Filed July 1, 1882. (No model.)



Claim.—In a foil-annealing apparatus, the combination, with the gas-supply pipe *g*, branch pipe *c'*, and perforated parallel pipes *c*, of the annealing-table *a*, perforated sides *c*, and the wire-gauze partition *b*, extending from side to side *c* beneath the table *a*, over the perforated burner-pipes *c*, as shown and described.

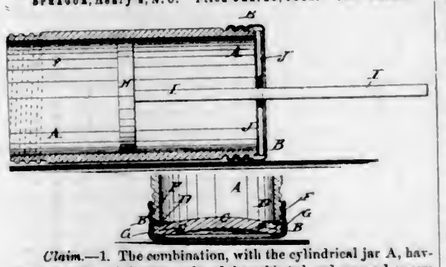
263,608. WIRE SCREEN. CHARLES W. SPAYD, Wilkes-Barré, Pa. Filed June 29, 1882. (No model.)



Claim.—As a new article of manufacture, a metallic screen composed of a suitable frame and intersecting wires, the whole being case-hardened, substantially as specified.

263,609. WITHDRAWN.

263,610. VESSEL FOR PRESERVING BUTTER. WILLIAM D. SPRAGUE, Henry's, N. C. Filed Jan. 20, 1882. (No model.)



Claim.—1. The combination, with the cylindrical jar A, having screw-threaded open ends, of the rabbeted and grooved covers C, the rubber F, secured in the groove, the paper packing-rings D, and the screw-rings B, substantially as herein shown and described, whereby the jar can be closed air-tight, as set forth.

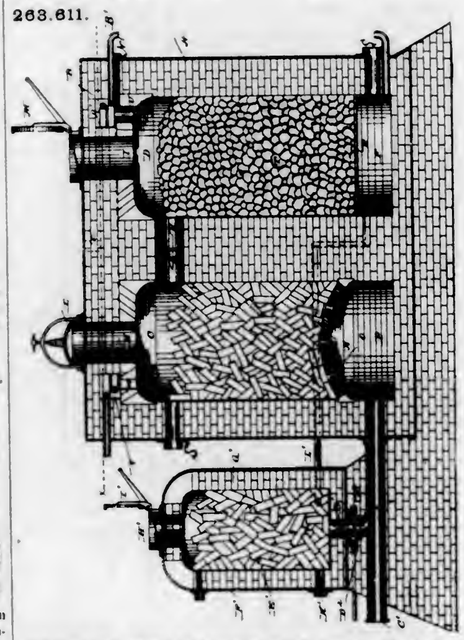
2. The combination, with the cylindrical jar A, having screw-threaded open ends and the screw-ring B, of the disk H, having handle I, and the guide-bar J, substantially as herein shown and described, whereby the butter can be readily removed from the said jar, as set forth.

263,611. PROCESS OF AND APPARATUS FOR THE MANUFACTURE OF GAS. THEODORE G. SPRIGGS, New York, N. Y. Filed Apr. 25, 1882. (No model.)

Brief.—Steam is superheated by passage through a coil of pipe located in a flue connecting the top of the generator with the top of the superheater or fixing-chamber. The temperature of this flue is controlled by the steam passed through the coil in order to prevent burning of the hydrocarbon vapors passed with the water-gas through the flue. Steam is superheated in a separate chamber filled with refractory material and previously heated by direct internal combustion of waste gas from the generator.

Claim.—1. In the manufacture of water-gas, the process of utilizing the heat and waste gases resulting from raising the carbonaceous material to incandescence by an air-blast, which consists

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in burning the gases by the admission of air in contact with a body of refractory material and storing the heat, then causing complete combustion of any remaining unburned carbon or gas by the admission of a second blast of air and storing the heat in a second body of refractory material, then superheating steam in one body of hot refractory material, then decomposing said steam by bringing it in contact with incandescent carbon and fixing the resultant gases in the other body of hot refractory material.

2. In combination with the generating and fixing chambers, the annular flue connecting the same, through which the hot gases and vapors pass, substantially as specified.

3. In combination with the combustion and fixing chambers, provided with a connecting-flue, the coiled steam-pipe extending through the flue, whereby the temperature of the flue may be controlled and the heat of the hot gases utilized to superheat the steam to be subsequently decomposed, substantially as specified.

4. In combination with the combustion and fixing chambers, the heating-chamber containing refractory material, connected as described, and the steam-pipe leading to and from the same and to the combustion-chamber, whereby the waste heat of the gaseous products of combustion passing through the fixing-chamber may be stored up and utilized to superheat the steam to be decomposed, substantially as specified.

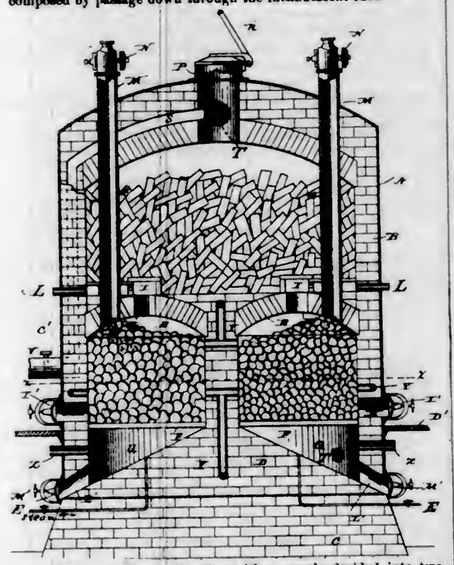
5. In combination with the decomposing and fixing chambers and the annular flue, the connecting-pipe R and the damper R', whereby direct communication is cut off between the chambers C D and the vapors and gases caused to pass through the annular flue, substantially as specified.

6. In combination with the chambers C and E' and connecting-pipes, the damper D^3, whereby the gases may be shut from the chamber E' and passed directly to the main, substantially as set forth.

263,612. PROCESS OF AND APPARATUS FOR THE MANUFACTURE OF GAS. THEODORE G. SPRIGGS, New York, N. Y. Filed Apr. 25, 1882. (No model.)

Brief.—The gases resulting from the introduction of air below the fuel for raising it to incandescence are burned above the fuel for heating the brick-work fixing-chamber above the fuel, and the gases from this chamber are conducted down through a flue in the wall of the cupola and by a pipe into the brick-work superheater, where their heat is imparted to the brick. Steam is superheated in the superheating-chamber and admitted below the grate and decomposed by passage up through the incandescent fuel. Gas resulting from the decomposed steam and from oil are combined and fixed in the fixing-chamber to form illuminating-gas.

When a heating-gas only is desired the steam is first superheated in the superheater and then more highly superheated by passage down through the fixing-chamber of the cupola, and finally decomposed by passage down through the incandescent fuel.



Claim.—1. In combination with a cupola divided into two compartments, one located above the other, the charging-tubes provided with valves, by means of which solid carbonaceous material may be supplied to the lower heating and decomposing chamber, substantially as specified.

2. In combination with the cupola, the superheater arranged as described and connected thereto by means of a flue extending through the wall of the same, and suitable pipes provided with valves, whereby the superheater may be employed to utilize the waste heat used in preparing the fixing-chamber to superheat the steam to be decomposed, substantially as specified.

3. The process herein described of drawing and charging the generating-chamber of a cupola by removing the clinkers and other deposits in sections, substantially as specified.

4. The combination, with the cupola having charging and discharging passages, of the radial walls, whereby the charge is divided in such manner that the residuum may be removed and the cupola recharged in sections from time to time, substantially as specified.

5. The heating and generating furnace, a fixing-chamber, and a superheating-chamber, all suitably and successively connected by flues, in combination with air-pipes entering the base of the generator and the base of both the fixing and superheating chambers.

6. The generating-furnace and the fixing and superheating chambers, supplied with refractory material, and successively connected with each other by flues, in combination with air-supply pipes connected with each, and steam-supply pipes entering the superheater and connecting the latter with the generator.

7. A cupola gas-generator divided into a lower heating and generating compartment and an upper fixing-compartment containing refractory material, and having a steam-supply pipe or flue and a gas-eduction pipe at the top, and also a steam and air supply pipe and a gas-eduction pipe at the bottom, for the purpose described.

8. In combination with a cupola divided into upper and lower compartments, constituting the generating and fixing chamber, the charging-tubes passing through the upper compartment and provided with openings for the escape of gas into the fixing-chamber, for the purpose described.

263,613. WRITING-TABLET. SCOVAL C. STACY, Tecumseh, Mich. Filed Dec. 15, 1881. (Model.)

Claim.—1. The writing-tablet herein described, as a new article of manufacture, comprising a blotter, *c'*, writing-sheets B,

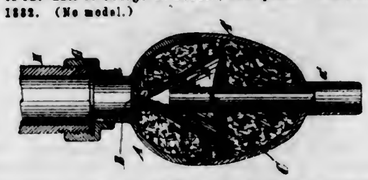
263,613.



gluing-strip *g*, fastenings *h*, pieces of twine *m*, and cover A, with eyelet-holes in its back *b*, the whole constructed and operating as described.

2. A tablet of writing-sheets glued together by a strip, *g*, and provided with a cover having eyelet-holes in its back edge, and tined fastenings in the back edge of said tablet, securely fastened thereto by means of the strip *g*, substantially as described.

263,614. MEANS FOR DISPENSING EFFERVESCENT LIQUIDS. RINALDO R. STAFFORD, Port Richmond, N. Y., assignor of one-half to George H. Dobbin, same place. Filed May 27, 1882. (No model.)



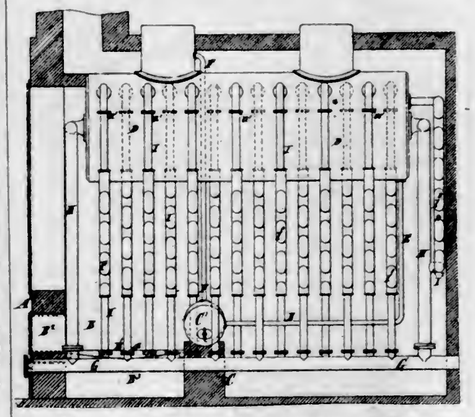
Claim.—1. The combination, in a device for dispensing liquids, of an egg-shaped vessel filled with sponge or other suitable material and an inlet and outlet for the liquid, substantially as specified.

2. The combination, in a device for dispensing liquids, of a vessel, a conical or conoidal spreader arranged opposite the inlet thereof and supported on the outlet, and a perforated diaphragm at the lower end of the spreader, substantially as specified.

3. The combination, in a device for dispensing liquids, of an egg-shaped vessel provided with an inlet and an outlet pipe extending upwardly from the bottom, a conical or conoidal spreader arranged opposite the inlet and supported upon the outlet-pipe, and a perforated diaphragm at the lower part of the spreader, substantially as specified.

4. The combination of the vessel A A', having the inlet and outlet *a a'*, the disks B E, the outlet-tube F, slipped into the outlet *a'*, and the spreader D, slipped over the tube F, all substantially as specified.

263,615. STEAM-GENERATOR. JAMES C. STEAD, Brooklyn, N. Y. Filed Apr. 24, 1882. (No model.)



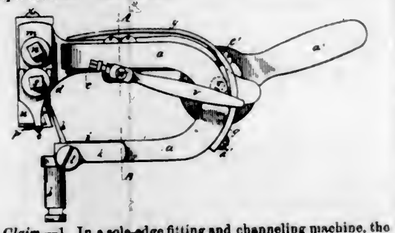
Claim.—1. The combination, in a steam-generator, of a separator, side walls between which the separator is arranged, a header or headers arranged parallel or approximately parallel with said separator adjacent to one or both side walls, and circulating-pipes extending separately from the header or headers to and fro across

between the side walls transversely to and under the separator, and each communicating with the separator above the water-line, substantially as herein described.

2. The combination, with the separator D, the mud-drum C', and the header or headers G, of the pipes E F, connecting said separator with said mud-drum, the pipes H, leading from the separator at the water-line to the header or headers G, and the circulating-pipes I, extending transversely to the separator and communicating directly therewith, substantially as herein described.

3. The combination, with the separator D, header G, and pipe H, of the branch pipe I' and hinged valve I', all arranged and operating substantially as specified.

268,616. MACHINE FOR CHANNELING AND TRIMMING BOOT OR SHOE SOLES. CHAS. T. STETSON, Rockland, Mass. Filed Sept. 30, 1881. (No model.)



Claim.—1. In a sole-edge fitting and channeling machine, the combination, with an edge-trimming cutter, of a channel-cutter arranged to be adjusted in its distance from the edge-trimmer when both are operative, whereby the distance of the channel from the sole-edge may be varied while both are being formed, substantially as specified.

2. In a sole-edge fitting and channeling machine, the combination, with an edge-trimming cutter, of a channel-cutter arranged to be adjusted both in its distance from the edge-trimmer and vertically in relation to the plane of the sole when both said cutters are operative, whereby both the distance of the channel from the sole-edge and the depth of the channel in the sole may be varied while both the sole-edge and the channel are being formed, substantially as specified.

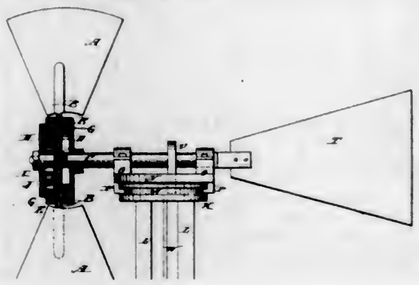
3. The combination of the knife-carrying arm *e*, with its slot *c'* and pin *z*, lever *a'*, with its oblique slot *b'*, and bolt *y*, secured in body *a* and arranged to serve as the pivot of arm *e* and lever *a'*, whereby the vibration of said lever serves to linearly adjust said arm, substantially as specified.

263,617. SHANK-STIFFENER FOR BOOTS OR SHOES. GEO. H. STEVENS, Boston, Mass. Filed May 22, 1882. (No model.)



Claim.—A boot or shoe shank stiffener formed with the main body A of leather-board and the re-enforce *a* formed of the fibrous material chemically prepared as described, the two being united by nails or rivets, or by glue or cement, or by both gluing or cementing and nailing or riveting, substantially as specified.

263,618. WINDMILL. EDWARD STICKLER, Neosho Falls, Kans. Filed May 8, 1882. (No model.)

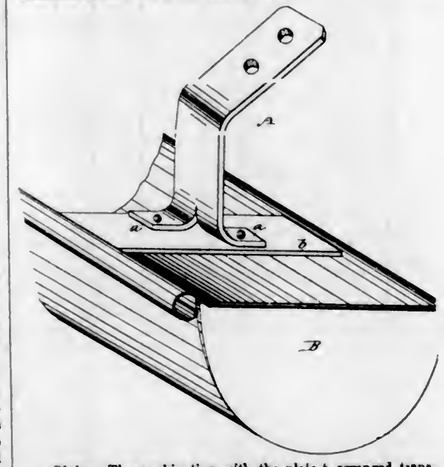


Claim.—1. In a windmill, the wheel-governor described, consisting of the vanes A, secured to the oscillating arms B, provided with beveled gears G, communicating with the beveled-gear wheel H, to which one end of the volute spring I is attached, the other end of the spring being secured to the main shaft C.

2. The combination of the vanes A, arms B, gear-wheels G H, spring I, shaft C, and wheel E, provided with bearings in its rim for the arms B, as shown.

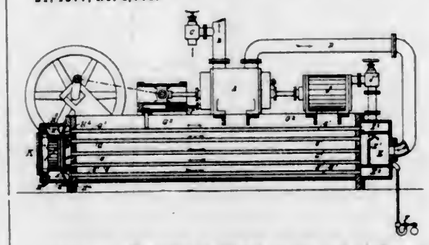
268,619. EAVES-TROUGH HANGER. WILLIAM F. STOETZEL, Omaha, Nebr. Filed May 12, 1882. (No model.)

Brief.—The split ends of the hanger are turned in opposite directions and riveted to the cross brace bar.



Claim.—The combination, with the plate *b*, arranged transversely across and secured to the eaves-trough, of the hanger A, with its split or divided end provided with tongues *a*, extended in opposite directions and resting upon and secured to the plate or bridge *b*, substantially as shown and described.

263,620. APPARATUS FOR COOLING, DRYING, AND PURIFYING AIR. JOHN STURGEON, Westminster, County of Middlesex, England, assignor to John Wilfred de Villamont Galway and George William Rainbridge, Warrington, England. Filed Apr. 19, 1882. (No model.) Patented in England Dec. 21, 1877, No. 4,663.



Claim.—1. The process of cooling, drying, and purifying atmospheric air for refrigerating purposes, which consists in compressing the air and passing it while still under compression through chambers provided with baffle-plates and absorbents, in combination with a nest of pipes and a water-tank and expanding the air through an expansion-cylinder, where it performs work, all substantially as described.

2. In the cooling, drying, and purifying of atmospheric air for refrigerating purposes by means of compression, surface-cooling, and, after expansion, the process of extracting the heat and moisture by surface-cooled tubes, baffle-plates, and absorbents while the air is still under compression, substantially as described.

3. The combination, in a cold-air-producing machine, of a compression-cylinder with a cooling-tank having air-chambers provided with baffle-plates and moisture-absorbing devices, such chambers being connected by a nest of pipes and one chamber communicating with the expansion-cylinder, all substantially as described.

4. The construction and arrangement of the compressing-cylinder A, the cooling-tank, and accessory parts G³, the expansion-cylinder J, and the steam-cylinders L L', substantially as shown, for the purpose specified.

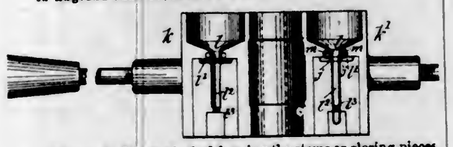
5. In an air-compressing cylinder, the combination of the hollow piston O with the water-circulating pipes P P³ and the opening p_3, all substantially as set forth.

6. In an air-compressing cylinder, the construction of the piston O' and the cylinder A', substantially as shown, and for the purposes specified.

7. In an air-compressing cylinder, the construction of the piston O³ and the cylinder A³, substantially as shown, and for the purposes specified.

8. The arrangement and construction of cylinder and piston, consisting of corrugating the ends of the cylinder and corrugating the top and bottom of the water-piston, as herein described, and substantially as shown in the drawings.

263,621. MOLD FOR FORMING THE STEMS OR CLOSING-PIECES FOR THE BULBS OR GLOBES OF INCANDESCENT ELECTRIC LAMPS. ALFRED SWAN, Gateshead, County of Durham, England. Filed July 20, 1882. (No model.) Patented in England June 19, 1882, No. 2,898.

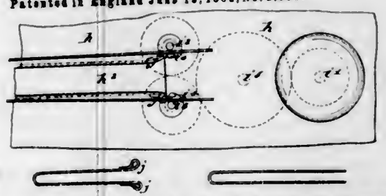


Claim.—1. The method of forming the stems or closing-pieces for the bulbs or globes of incandescent electric lamps by inserting the terminal wires of the lamp into a mold of the character described, and then pouring in the molten glass, enamel, or other material of which the stem is to be composed and allowing it to harden around the wires, so that the latter will be embedded therein, substantially as set forth.

2. The molds described, having a deep straight portion for the stem proper and a shallow circular portion for the flange, and provided with means for holding the terminal wires while the stem is cast around them, substantially as described.

3. The stems or closing-pieces for the bulbs or globes of incandescent electric lamps, composed of glass, enamel, or similar material, with the terminal wires firmly embedded therein, substantially as described.

263,622. DEVICE FOR FORMING LOOPS IN TERMINAL WIRES FOR ELECTRIC LAMPS. ALFRED SWAN, Gateshead, County of Durham, England. Filed July 20, 1882. (No model.) Patented in England June 19, 1882, No. 2,898.



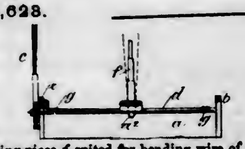
Claim.—The hereinbefore-described apparatus for forming loops or eyes in the terminal wires for incandescent electric lamps, the essential feature of which apparatus is the combination of the rotating spindles i^2 i^3, recessed or slotted or otherwise formed for the reception of the ends of the wire to be bent into loops or eyes with the stop k^3 or stops k^2 k^3, as hereinbefore described and illustrated.

263,623. DEVICE FOR FORMING TERMINAL WIRES FOR ELECTRIC LAMPS. ALFRED SWAN, Gateshead, County of Durham, England. Filed July 20, 1882. (No model.) Patented in England June 19, 1882, No. 2,898.

Claim.—1. In apparatus for bending wires for incandescent electric lamps or other purposes, the combination of the recessed bed-plate *a* and bending-piece *f*, adapted for bending wire of one thickness or wires of different thicknesses, as described and illustrated.

2. In apparatus for bending wires for incandescent electric lamps or other purposes, the combination of a cutter-lever, *c*, and bending-piece *f*, suited for bending wire of one thickness or wires of different thicknesses, the said parts operating together upon a recessed bed-plate, *a*, as described and illustrated.

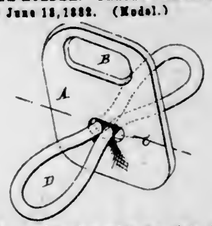
263,623.



3. In apparatus for bending wires for incandescent electric lamps or other purposes, the combination of the cutter-lever *c* and bending-piece *f* with a recessed bed-plate and a stop, *b*, to effect the cutting and bending of wire of one thickness or wires of different thicknesses, as described and illustrated.

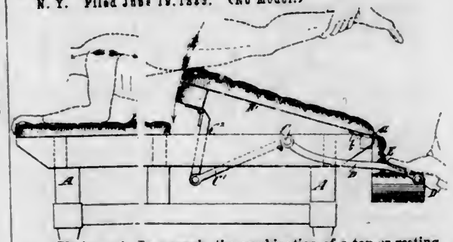
4. In apparatus for bending wires for incandescent electric lamps or other purposes, the combination of the cutter-lever *c*, bending-piece *f*, spindle *d*, recessed bed-plate *a*, rests *g*, and stop *b*, for cutting and bending wire of one thickness or wires of different thicknesses, as described and illustrated.

263,624. LINK-HOLDER. FRANK SWEETLAND, Edwardsburg, Mich. Filed June 15, 1882. (Model.)



Claim.—The combination, with the plate A, adapted to be manipulated by the hand, and having the aperture C, of the ordinary coupling-link, D, having its side bars brought together about at the center and held thereat in the said aperture of the plate A, substantially as shown and described.

263,625. MOVEMENT CURE. GEORGE H. TAYLOR, New York, N. Y. Filed June 19, 1882. (No model.)

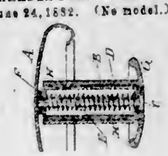


Claim.—1. In a couch, the combination of a top or resting surface, comprising a fixed portion, upon which the patient may lie face downward, with the weight of the upper part of the body resting upon the elbows, and a movable portion, which serves as a support for the thighs, and devices for imparting a reciprocating rising and falling motion to said thigh-support, substantially as and for the purpose described.

2. The combination of the frame A, the fixed portion B, the hinged top portion, B', the rock-shaft C, and arm C' and link C³, and the arm D, substantially as described.

3. In a couch, the combination of the fixed portion B, the hinged portion B', the head-rest E, hinged to the portion B', and devices for giving the portion B' a rising and falling motion, substantially as described.

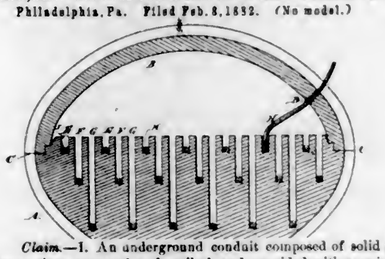
263,626. SEPARABLE BUTTON. NATIE TAYLOR, New York, N. Y. Filed June 24, 1882. (No model.)



Claim.—1. A separable button constructed substantially as herein shown and described, and consisting of the head A, having stem and disk B C, the oblong sleeve D, and the spiral spring E, and the foot G, having recessed opening, and provided with the oblong hollow stem H, as set forth.

2. In a separable button, the combination, with the head A, the stem B, the oblong sleeve D, and the spiral spring E, of the loose oblong block F, substantially as herein shown and described, whereby the said sleeve will be centered upon the said stem, as set forth.

263,627. CONDUIT FOR ELECTRIC WIRES. RUSSELL THAYER, Philadelphia, Pa. Filed Feb. 8, 1882. (No model.)

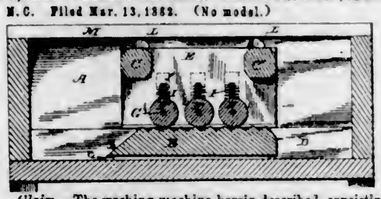


Claim.—1. An underground conduit composed of solid porous sections saturated as described, and provided with a series of longitudinal grooves having parallel vertical walls, said grooves being of different depths, and having their bottoms on different planes, as described, and a cover for the grooved face of said solid sections, substantially as set forth.

2. An underground conduit composed of solid sections provided with longitudinal grooves arranged in parallel planes, the bottoms of which are arranged at different levels and are equidistant or thereabout from each other, and covers to inclose the longitudinal grooves, substantially as and for the purpose specified.

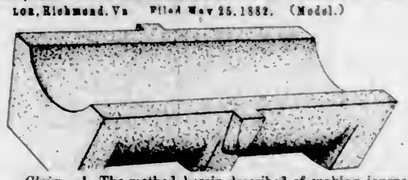
3. In an underground conduit, the solid sections A, provided with grooves E, F, and G, arranged in parallel planes and of different depths, substantially as shown, in combination with cover B, as and for the purpose specified.

263,628. WASHING-MACHINE. GASTON THOMPSON, Cameron, N. C. Filed Mar. 13, 1882. (No model.)



Claim.—The washing-machine herein described, consisting of the laterally-corrugated stationary rubber B, the reciprocating rubber-frame E, having boxes *e* and recesses *l*, the rollers F, journaled in said recesses, the spiral springs I, operating in the boxes *e*, the bearings H, having shoulders *i* and conical shank, the cross-bars C C′, strips K, adapted to cover the boxes *e*, the rollers L, and flanges M, the whole constructed, combined, and adapted to serve as and for the purposes set forth.

263,629. JOURNAL BEARING AND BOX. ROBERT W. TRAYLOR, Richmond, Va. Filed May 25, 1882. (Model.)



Claim.—1. The method herein described of making journal boxes or bearings, which consists in molding, casting, or pressing a composition of powdered mica or mica scales and a suitable cement into the proper form, and then baking or drying the same, substantially as described.

2. A journal box or bearing composed of a composition of mica and a suitable cement, substantially as described.

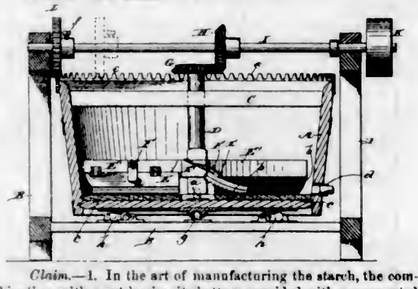
3. A journal box or bearing composed of a composition of mica, starch or flour, and a suitable cement, substantially as described.

4. A molded, cast, or pressed journal box or bearing composed of mica and a suitable cement, substantially as described.

5. A molded, cast, or pressed journal box or bearing composed of mica, starch or flour, and a suitable cement, substantially as described.

6. A journal-bearing consisting of a composition of mica and suitable cement molded or cast upon or around a metallic supporting-frame, substantially as described.

263,630. MACHINE FOR REDUCING MICA FOR THE MANUFACTURE OF STARCH, &c. ROBERT W. TRAYLOR, Richmond Va., assignor to Nathan D. Hargrove, same place. Filed Mar. 15, 1882. (No model.)



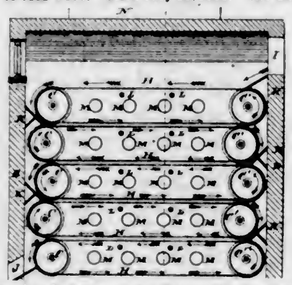
Claim.—1. In the art of manufacturing the starch, the combination, with a vat having its bottom provided with a corrugated surface composed of rubber or like material, of a number of rubbing-blocks provided with corrugated rubber-surfaces and attached to a spindle journaled in said vat, whereby the said rubbing-blocks are adapted to be rotated in a horizontal plane within said vat and in contact with the material acted on, substantially as described.

2. In an apparatus for reducing mica to a finely-powdered condition in the manufacture of starch-gloss, the combination, with a vat having a rubbing-surface composed of radial corrugations, of a number of rubbing-blocks arranged adjustably within said vat and having longitudinal corrugations and mechanism for rotating said rubbing-blocks in a horizontal plane, substantially as described.

3. In an apparatus for treating mica in the manufacture of starch-gloss, the combination, with a circular vat supported in a suitable frame and having a rubbing-surface composed of corrugations disposed in radial lines, of a vertical spindle journaled centrally within said vat, a number of automatically-adjustable rubbing-blocks attached to said spindle and provided with longitudinal corrugations, and mechanism for simultaneously rotating said vat and rubbing-blocks in opposite directions, substantially as described.

4. In an apparatus for treating mica for the manufacture of starch-gloss and oil-proof compositions, the combination, with a circular vat supported upon a pivot and rollers in a suitable frame and provided with a rack-gear, an outlet-tube, and a corrugated rubbing-surface, of a spindle journaled centrally within said vat and provided with a bevel-gear, a number of adjustable corrugated rubbing-blocks attached to said spindle, and a horizontal shaft journaled in the supporting-frame and provided with a pulley, a bevel-gear, and an adjustable spur-gear, substantially as described.

263,631. GRAIN AND MALT DRIER. ATWOOD VANE and DANIEL GUNDELFINGER, St. Louis, Mo.; said Gundelfinger assignor to said Vane. Filed July 22, 1882. (No model.)



Claim.—In a drying apparatus, the combination of drums CC′, aprons H, receiving-opening I, chutes K and J, heating-pipes M,

and fines N P, the whole being arranged and operating substantially as shown and described.

263,632. COTTON-CHOPPER. JOHN M. WALDEN, Fort Valley, Ga. Filed May 13, 1882. (Model.)

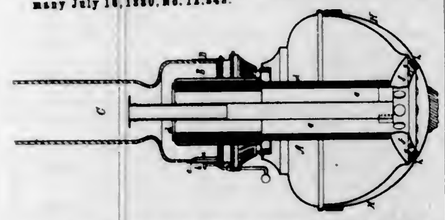


Claim.—1. The combination of connecting-bar M and adjusting-rods N P with chopper-hoes C and the frame on which said hoes are mounted, as described.

2. The hoe-beams A and B, hoes C, and the connecting-beams D E, and bar M, in combination, said beams and hoes being alike adjustable along the cross-bars D E and connecting-bar M, respectively, substantially as described.

3. The hoe-stocks being vertically adjustable in the beams, and also adjustable by the bar M and rods N P, substantially as described.

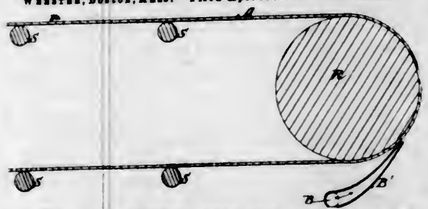
263,633. LAMP. NEWMAN S. WAX, Boston, Mass., assignor, by mesne assignments, to himself and Samuel Grymaich, same place. Filed July 17, 1882. (No model.) Patented in Germany July 16, 1880, No. 12,543.



Claim.—1. The glass chimney provided with the lighting-port, in combination with the chimney-holder having a corresponding lighting-port, all being arranged substantially as set forth.

2. The glass chimney provided with the lighting-port, in combination with the chimney-holder having a corresponding lighting-port and a closing door or slide therefor, all being substantially as set forth.

263,634. METHOD OF AND APPARATUS FOR CLEANING BELTS FOR CARRYING GRANULAR MATERIAL. JOHN H. WORSTER, Boston, Mass. Filed Apr. 3, 1882. (No model.)

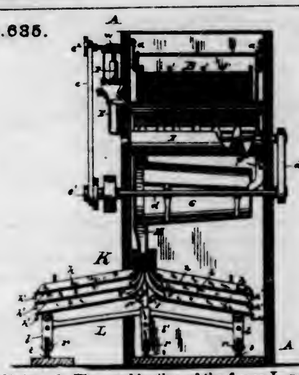


Claim.—1. The method herein described of cleaning belts used for carrying damp granular material, consisting in directing against a part of the belt from which the non-adhering material has been discharged a concentrated blast or stream of air or other fluid having sufficient force or pressure to remove the adhering material, as set forth.

2. The combination, with a belt or carrier running upon suitable supporting-pulleys, of a conductor connected to suitable forcing apparatus and terminating in a tip or nozzle arranged to deliver a concentrated stream of air or other fluid under pressure against a part of the belt from which the non-adhering material has been discharged, as set forth.

263,635. APPARATUS FOR SEPARATING AND AMALGAMATING ORES. FREDERICK W. WHEELS and WILLIAM UPHAM, Chicago, Ill. Filed Mar. 25, 1882. (No model.)

263,636.

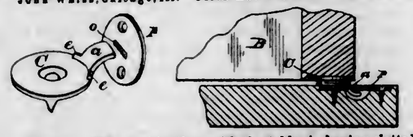


Claim.—1. The combination of the frame L, pans O O′, hopper J, provided with spouts *e e′*, crank-wheel N, and connection P, substantially as shown and described.

2. The combination, with the pans O O′, arranged in a double series, and each pan provided with an amalgamated plate, h, of the box or hopper J, having a number of openings corresponding with the number of pans, and the spouts *e e′*, connecting the hopper with the pans, substantially as shown and described.

3. The combination of the box J, pans O O′, connected as described, frame L, adjustable rods *f*, provided with means for holding the same, and the connections *f′ f′*, substantially as shown and described.

263,636. ATTACHING COVERS TO SEWING-MACHINES. JOHN WEISS, Chicago, Ill. Filed Apr. 27, 1882. (No model.)



Claim.—The combination, with the table A, having slotted plates *p p′*, of the lid or cover B, hinges C, having tongues *a*, provided with shoulders *c c*, and the lock D, having projections *d′ d′*, substantially as described.

263,637. ATTACHMENT FOR PLOWS. WISE J. N. WELBORN, Cottondale, Tex. Filed June 26, 1882. (No model.)



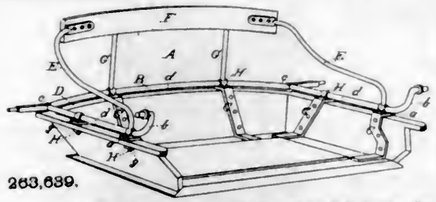
Claim.—The herein-described guiding attachment for plows, consisting of the blade or runner A, having convex edge *a′*, concave edge *a²*, point *b*, offset B, and slotted seat or projection C at right angles to the blade, substantially as and for the purpose set forth.

263,638. FISH-TRAP. RICHMOND A. WENTWORTH, Appleton, Me. Filed June 17, 1882. (Model.)



Claim.—The herein-described fish-trap or hook-spring, consisting of the rod A, spring C, sliding cross-head D, trigger E, having the adjustable spring F, and hook-line B′, passing through the lower ends of rod A and trigger E, all constructed and combined to operate substantially as and for the purpose shown and set forth.

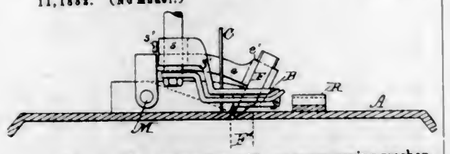
263,639. SHIFTING-RAIL FOR BUGGIES. WELCOME WHITMAN, Goshen, Ind. Filed May 27, 1882. (No model.)



263,639.

Claim.—The combination, with the solid rail B, the bearing-irons of the seat, and the nuts *g*, of the eyebolts H, having the downwardly-projecting portion *s*, including the bottom of the eye, and adapted to extend into the openings *e* of the bearing-irons, substantially as specified.

263,640. MACHINE FOR FORMING WELTS OR HEMS ON FABRICS. CHARLES H. WILLCOX, New York, N. Y. Filed July 11, 1882. (No model.)



Claim.—1. The combination, with overseam sewing mechanism and a trimmer arranged to act in advance of said mechanism, of an edge-guide supported from above, between the line of needle-punctures and the line of trimming, and adapted to allow the fabric to extend under the same into the path of said trimmer, substantially as described.

2. The combination, with overseam sewing mechanism and a trimmer arranged to act in advance of said mechanism, of an edge-guide carried by the presser-bar of the sewing-machine and extending alongside of the cutting portion of said trimmer, between the line of trimming and the line of needle-punctures, substantially as described.

3. The combination, with the edge-guide carried by the presser-bar and adapted to guide the outer edge of a fold, of the overhanging guide supported on the cloth-plate and adapted to enter the fold guided by the aforesaid edge-guide, substantially as described.

4. An edge-guide attached to the presser-bar above the presser-foot by means of a set-screw, so as to be vertically adjustable thereon, substantially as described.

5. The combination, with the trimming mechanism, of an overhanging guide supported on the cloth-plate and adapted to enter a fold, and an edge-guide supported from above and adapted to allow fabric to extend under the same into the path of the trimmer, substantially as described.

6. The combination, with the stationary cutter or blade, of a presser-foot and an edge-guide extending below said foot, and adapted to clamp the fabric between itself and said cutter or blade, substantially as described.

7. The combination, with a sewing-machine and a trimmer arranged to act in advance of the stitching mechanism, of the edge-guide supported from above and arranged alongside the cutting portion of the trimmer, between the line of trimming and the line of needle-punctures, and the overhanging guide adapted to enter the fold guided by said edge-guide, substantially as described.

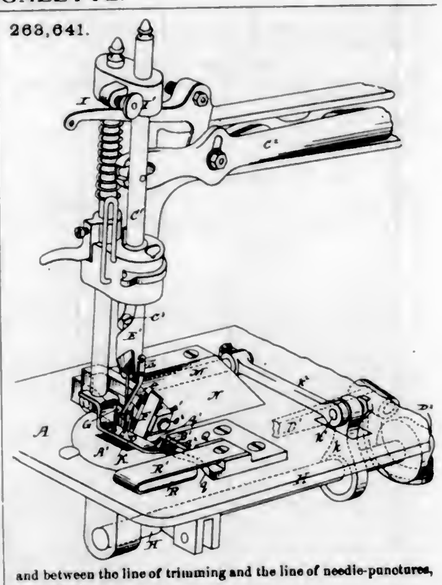
8. The combination, with a presser-foot and an edge-guide projecting below the bottom thereof, of a vertically-adjustable plate beneath said edge-guide, substantially as described.

9. The combination, with the sewing mechanism and the trimmer arranged to act in advance of said mechanism, of an edge-guide separate from the trimming mechanism and arranged alongside the cutting portion thereof, between the line of trimming and the line of needle-punctures, substantially as described.

263,641. MACHINE FOR FORMING WELTS OR HEMS ON FABRICS. CHARLES H. WILLCOX, New York, N. Y. Filed July 11, 1882. (No model.)

Claim.—1. A machine for forming welts or hems on knit goods and other fabrics, comprising, in combination with overseam sewing mechanism, trimming and guiding devices, substantially as described, said devices comprising a blade or cutter operating in advance of the overseaming mechanism and in the line of seam, and a guiding surface or edge arranged also in the line of seam

263,641.



and between the line of trimming and the line of needle-punctures, as set forth.

2. In a combined sewing and trimming machine, a vertically-adjustable plate arranged in front of the stitching mechanism and adapted to form an edge-guide, with guiding-surface between the line of trimming and the line of needle-punctures, substantially as described.

3. In a combined sewing and trimming machine, a projecting device adapted to form an edge-guide, and arranged with its guiding-surface between the line of trimming and the line of needle-punctures, in combination with a presser-foot extending over said device, so as to clamp thereon the overlying fabric, substantially as described.

4. The combination, with sewing mechanism, of trimming devices and guiding means, the latter comprising a guiding-surface extending alongside the cutting portion of the trimmer, between the line of trimming and the line of needle-punctures, and also an overhanging guide adapted to furnish a guiding-edge for the inner surface of a fold, substantially as described.

5. In combination with a sewing-machine, a vertically-adjustable edge-guide arranged to have a guiding surface or edge in front of the stitching mechanism, and supported from below, so as to project more or less above the cloth or throat plate, according to the adjustment, substantially as described.

6. The combination of the overseam sewing mechanism, the stationary blade or cutter, formed of a thin plate adapted to serve as an edge-guide and arranged in the line of seam, and the co-operating cutter or blade arranged on the opposite side of the stationary cutter from the guiding-surface, substantially as described.

7. The combination of the overseam sewing mechanism, the uncurling device, and the trimmer interposed between said device and the overseaming mechanism, substantially as described.

8. The combination, with a guide, of a blade or cutter arranged to form a continuation of said guide, substantially as described.

9. The combination of the overhanging guide, the edge-guide, the stationary blade or cutter, forming a continuation of said edge-guide, and the co-operating vibratory cutter, substantially as described.

10. In an overseam sewing and trimming machine, the combination of the rock-shaft, supported back of the stitching mechanism, the vibratory cutter or blade in front of said mechanism, and the connecting-arm, bent so as to clear the overseaming device, substantially as described.

11. The overseam sewing-machine and a trimmer arranged to act in advance of the stitching mechanism, and comprising a shaft disposed so that the trimmed-off portion or strip may pass over said shaft, in combination with a diverting-guide for warding the said trimmed-off portion or strip away from the stitching mechanism, and for assisting its passage over the said shaft, substantially as described.

12. The vertically-adjustable edge-guide for a sewing-machine, having its guiding edge or face oblique to the line of feed, substantially as described.

13. A welting or hemming machine comprising, in combination with sewing mechanism and a trimmer arranged to act in advance of said mechanism, an overhanging guide adapted to enter a fold and to determine or control the width of a welt or hem, and a folded-edge guide having its guiding-edge continued alongside of the cutting portion of the trimmer, substantially as described.

14. In a combined sewing and trimming machine, the combination of a movable cutter or blade, a vertically-adjustable stationary cutter or blade arranged on the same side of the movable cutter as the needle of the sewing-machine, and a presser-foot projecting over the top of said stationary blade or cutter and adapted to clamp thereon the overlying fabric, substantially as described.

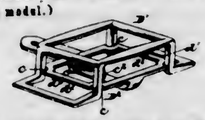
15. The method of forming overseamed welts or hems on knit goods and other fabrics by folding the fabric, as explained, trimming the surplus margin, automatically guiding the folded fabric past the trimming devices to the overseaming mechanism, and uniting the trimmed layer to the body of the fabric by stitches extending through and around the cut edge of said layer, and also through and around the fold in the body of the fabric, substantially as described.

263,642. SMOKE-CONSUMING FURNACE. HIRAM G. WILSON, St. Louis, Mo. Filed Jan. 21, 1882. (No model.)



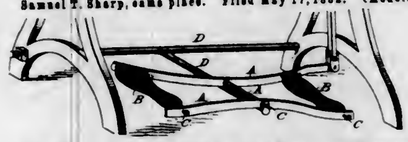
Claim.—The combination of bridge-wall G, fire-chamber E, in front of the bridge-wall, combustion-chamber I, in rear of the bridge-wall, perforated plate M, conducting-plate J, beneath the combustion-chamber, air-duct K, beneath conducting-plate, and hot-air chamber L, between the bridge-wall and perforated plate, and forming a continuation of the air-duct K, as set forth.

263,643. BUCKLE. LEVI WILSON, Nevada, Ohio. Filed July 7, 1882. (No model.)



Claim.—The herein-described buckle, consisting of the part D', having the raised middle portion and the end loops, *d' d'*, and the part D^2, having the curved corners *c*, the depressed cross-bar *c'*, carrying the stud c^2, and the shank c^3, the said parts co-operating with each other and with the several straps, as set forth.

263,644. AUTOMATIC TREADLE FOR SEWING-MACHINES. JAMES B. YEOMAN, Seneca Falls, N. Y., assignor of one-third to Samuel T. Sharp, same place. Filed May 17, 1882. (Model.)

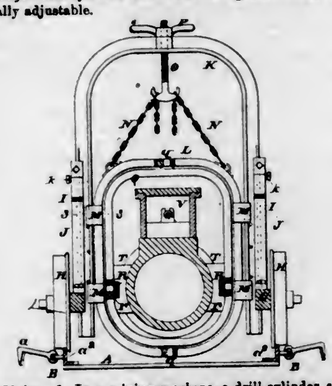


Claim.—1. In combination with a stationary central support, *d*, the vibratory frame A, composed of two parallel bars united at the center by a rigid cross-bar, and pivoted thereat on the support *d*, and the treadles B B, pivoted at their ends directly to the ends of the frame A, substantially in the manner described and shown.

2. The vibratory frame A, provided with a central tie and with the pivoted treadles B B, as shown, in combination with the stationary central support, D, provided at the outer side of the frame A with vertically-projecting lugs, and set-screws C, inserted through said lugs and having conical points engaging the side of the frame A, substantially as described, for the purpose set forth.

263,645. MINING-MACHINE. BERNARD YOCH, Belleville, Ill. Filed Dec. 12, 1881. (No model.)

Brief.—The cylinder is mounted in a gimbal-frame which is vertically adjustable.



Claim.—1. In a mining-machine, a drill-cylinder supported by and vertically adjustable in a vertical gimbal-frame, substantially as shown, and for the purposes set forth.

2. The combination of hoop L, inner hoop, Q, trunnions *q r*, and drill-cylinder, adjustable in said hoops, as set forth.

3. The combination of chains N N, jack-rod O, hand-nut P, arch K, the gimbal-frame L Q, and drill-cylinder adjustably connected to the gimbal-frame, as set forth.

4. The combination of sliding cylinder S, having brackets T, and side rails, R R, as set forth.

5. The combination of vertically-adjustable arch K, side bars, G, uprights I I, and a suitable securing device, as set forth.

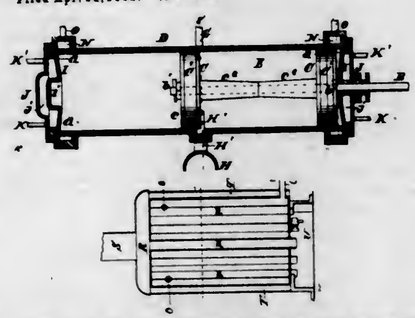
6. The combination of supporting-rails R, extensible handle U, and cylinder S, adapted to slide on said rails, as set forth.

7. The scraper-operating piston b^2, having projection or plug b^3, and enlargement or collar b^4, closing the central exhaust-ports, substantially as and for the purpose set forth.

8. The two picks forming a compound pick-tool, as shown, in combination with the cross-head, as set forth.

9. The combination of duplicate piston-rods *f*, working in guide-frame *g*, and bracket or bridge *g'*, standing out from the cylinder-head, as set forth.

263,646. AIR-COMPRESSOR. BERNARD YOCH, St. Louis, Mo. Filed Apr. 20, 1882. (No model.)



Claim.—1. In an air-compressor, the pistons C C, having ribs *c'*, and provided with the hollow inwardly-extending hubs c^2 c^2, in combination with the piston-rod B, provided with fixed collar *b* and key *b'*, substantially as and for the purpose described.

2. In an air compressor or blower, the combination of a double piston inclosing a water-chamber with the cylinder provided with a mud-drum or sediment-receiver, located beneath said cylinder and communicating therewith through a channel opening into the under side of the cylinder midway of the length thereof, substantially as and for the purposes set forth.

3. The two piston-heads C C, inclosing between them a water-space, and being recessed or ribbed upon their inner sides, *c'*, substantially as and for the purpose set forth.

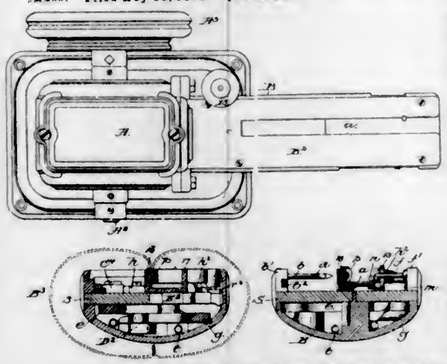
4. The combination, with the pistons C, with flat ends *c*, of the convex cylinder-heads I, substantially as and for the purpose set forth.

5. In an air-compressor, the combination of cooling-chamber I J and the transverse series of induction and eduction valves L M in close proximity to the heads I, substantially as and for the purposes set forth.

6. The combination of vertical pipes *p* with the air-receiver provided with jacket T, chamber R, flue S, induction-pipes O, eduction-pipes Q, and drip-cock V, substantially as and for the purposes set forth.

263,647. WITHDRAWN.

263,648. SEWING-MACHINE. JAMES A. AMALEE, Natick, Mass. Filed May 12, 1882. (No model.)



Claim.—1. The arm B, provided with the opening made therein to receive within it, as shown, the edges of the front and back of the boot-leg right side out, substantially as described.

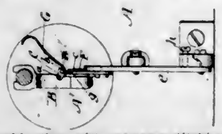
2. The arm B, provided with the opening made therein to receive within it, as shown, the boot-leg or tubular article to be closed right side out, combined with the hooked needle and thread-guide located in the said arm, and with means, substantially as described, to operate them, whereby the final seam in the boot-leg or tubular article may be closed or sewed inside the boot-leg or tubular article, substantially as described.

263,649. THERMOMETER. ADOLPH BAYER, New York, N. Y. Filed June 7, 1882. (No model.)



Claim.—A thermometer consisting of a glass tube having three white stripes formed in its body, separated from each other by an intermediate transparent space, and having the column of mercury in said tube, together with the scale and the figures engraved upon the tube, so arranged as to be projected upon said stripes, substantially as and for the purpose described.

263,650. TRIMMING AND SEWING MACHINE. STOCKTON BOSTON, Philadelphia, Pa., assignor to the Willcox & Gibbs Sewing Machine Company, New York, N. Y. Filed July 14, 1881. (No model.)



Claim.—1. The combination, with overseam-stitching mechanism and a trimmer arranged to act in advance of said mechanism, of the improved diverting shield or guide extending in front and alongside of the overseaming device, substantially as described.

2. The combination, with a sewing-machine trimmer, of a throat or cloth plate provided with an opening to allow the trimmed-off portion or strip to pass below the plate, substantially as described.

263,651. GALVANIC BATTERY. CHARLES E. BUELL, New Haven, Conn., assignor of one-half to Julius H. Appleton, Springfield, Mass. Filed Mar. 10, 1880. (No model.)

Claim.—In a galvanic battery, the combination of a porous cup or containing-vessel, and a carbon plate contained therein and

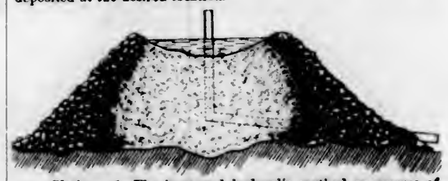
263,651.



surrounded by a mixture of broken carbon and chloride of lime in a moist state, substantially as and for the purpose set forth.

263,652. HYDRAULIC ENGINEERING. BRAUMAN BUTLER, St. Johnsbury, Vt., assignor of one-third to Orrin W. Orcutt, same place. Filed Mar. 9, 1882. (No model.)

Brief.—Earth structures are formed from graded material secured by conveying in sluices the unseparated earth and stone to a separator, where it is deposited in various grades, which are then deposited at the desired location.

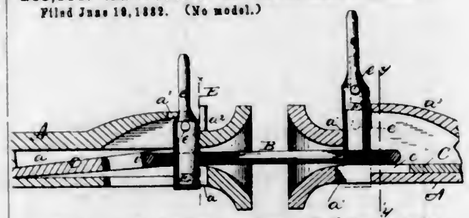


Claim.—1. The improved hydraulic method or process of forming earth structures, consisting in arranging and depositing separate grades of soil and stone by first directing a jet or stream of water against a bank of earth to disintegrate and wash the earth into a flume, next conveying the mixed earth and water to a separator, and, lastly, separating the earth into various grades and depositing said grades, substantially as hereinbefore described.

2. The improved hydraulic method or process of forming earth structures, consisting in arranging and depositing separate grades of soil and stone by first loosening or disintegrating earth and depositing it into a flume, next washing the earth through the flume to a separator, and, lastly, separating the earth into various grades of coarseness and depositing said grades, substantially as hereinbefore described.

3. The improved process in hydraulic engineering, which consists, first, in directing a jet or stream of water against a bank of earth to disintegrate and wash the earth into a flume; secondly, conveying the mixed water and earth to a separator; thirdly, separating the earth into various grades of coarseness, and, lastly, depositing the coarse material, so as to form an embankment or wall to retain the finer grades, substantially in the manner and for the purpose set forth.

263,653. CAR-COUPLING. EDWARD CASPER, Collamsville, Pa. Filed June 10, 1882. (No model.)



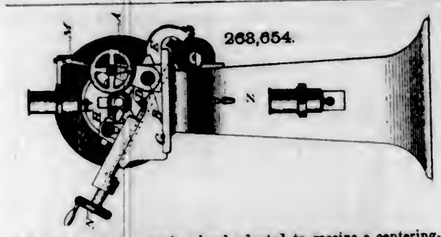
Claim.—1. The swinging coupling-pin E, having journals *e* and handle *e'*, combined with draw-head A, having socket *a'* and arched chamber a^2, substantially in the manner shown and described.

2. The draw-head A, having arched top a^2, socket *a'*, and chamber *a*, combined with the stop C on the floor of said chamber, hinged or jointed at its rear end and having the groove or chamber *c* at its front end, and movable by a lift and pin, E, substantially as shown and described.

263,654. MACHINE FOR CUTTING AND CENTERING SHAFTING. CYRUS CHAMBERS, Jr., Philadelphia, Pa. Filed Sept. 16, 1881. (No model.)

Claim.—1. In a lathe, the combination, with a bar-severing mechanism constructed and operating substantially as described,

263,654.



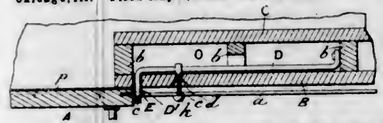
of the vibrating centering-head adapted to receive a centering-bit, whereby the end face of the bar or shaft may be centered without removing it from the lathe, as shown and described.

2. The combination, with a lathe and chuck, of the swinging centering-head provided with a centering-bit, substantially as and for the purpose described.

3. In combination with a lathe, the swinging centering-head provided with the concentering stop D and the stop E, substantially as and for the purpose set forth.

4. The combination, with the lathe-frame Z, of the centering-head frame A, shaft B, handle M, cylinder Q, spindle I, bit J, feed-screw K, and hand-wheel L, all constructed, arranged, and operating substantially in the manner specified.

263,655. CAR-DOOR FASTENING. THEODORE W. COOKE, Chicago, Ill. Filed May 9, 1882. (No model.)



Claim.—1. A spring-rod, D, arranged on the inside of the outer wall of a car, and provided with a right-angled portion or bolt, D', and a push-rod, *s*, both adapted to project through openings in said wall, in combination with a car-door provided with an eye, E, substantially as described.

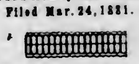
2. The rod D, having a right-angled portion or bolt, D', provided with an opening, *c*, for the reception of a locking device, in combination with a car-door having an eye, E, substantially as described.

263,656. MANUFACTURING FUR-FACED HATS. WILLIAM E. DOUBLEDAY, Bay Ridge, N. Y., assignor to Ellen M. Doubleday, same place. Filed June 28, 1882. (No model.)



Claim.—The herein-described improvement in the art of making hats which have a flowing nap of fur, the same consisting in applying a bat of fur to a hat-body which has been previously felted and shrunk, next applying a separate fur bat to the lower portion of the inner surface of the hat which constitutes the under side of the brim, and subsequently sticking the fur to the outer surface of the bat and to the under surface of the brim, substantially as set forth.

263,657. SOLE-FASTENING WIRE. LOUIS GONDU, Winchester, assignor to Gordon McKay and James W. Brooks, Trustees, Cambridge, Mass. Filed Mar. 24, 1881. (Model.)



Claim.—As an improved article of manufacture, the described sole-fastening wire, having three or more longitudinal radial fins with straight edges, and having their sides finely scored, cut, or indented to form teeth, substantially as shown and described.

263,658. COMBINED SEAL AND ALARM FOR CAR-DOORS. JAMES D. HOLLISTER, Savannah, Ga., assignor of one-half to the Hooks Smelting Company, Philadelphia, Pa. Filed Feb. 6, 1882. (No model.)

Claim.—1. The combination, substantially as described, of a shell containing explosive material with a seal confined to said shell, for the purpose specified.

2. The combination of a shell containing explosive material,

263,658.

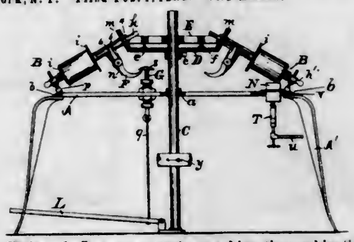


and creased so as to be readily pulled apart, with a sealing-ring secured to said shell and grooved, as described, to permit it to be pulled apart with the same, as specified.

3. The creased shell containing explosive material, and a bar with enlarged ends, in combination with the grooved sealing-ring, as specified.

4. The combination of a latch and keeper having countersunk openings with a separable shell containing explosive material, and a separable sealing-ring adapted to the said shell and to the countersunk openings in the latch and keeper, as set forth.

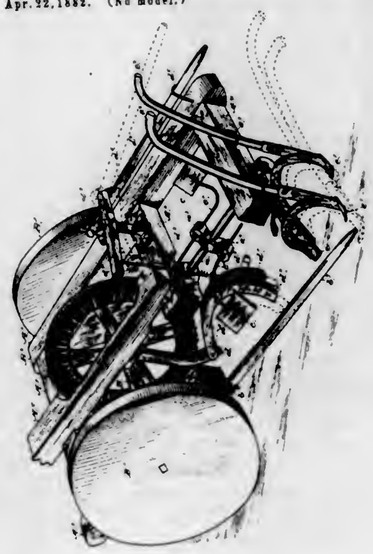
263,659. CAN-SOLDERING MACHINE. JACOB G. JONES, Baltimore, Md., assignor of one-half to Horace K. Thurber, New York, N. Y. Filed Feb. 1, 1882. (No model.)



Claim.—1. In a can-soldering machine, the combination of a vertical shaft, a hub to turn freely on the shaft, a molten-solder-applying device, a smooth-surfaced circular track, a frame having one end pivoted to the hub and the other end to rest and slide on the circular track, and a rotary can-holder mounted in the frame, said can-holder consisting of disks which clamp the opposite end of a can, as set forth.

2. In a can-soldering machine, the combination of a vertical shaft, a hub to turn freely on the shaft, a gear-wheel made fast to the same shaft, a smooth-surfaced circular track, a frame having one end pivoted to the hub and the other end to rest and slide on the circular track, a rotary can-holder mounted in the frame, and mechanism connecting the gear-wheel on the vertical shaft with the can-holder to cause the latter to rotate, as set forth.

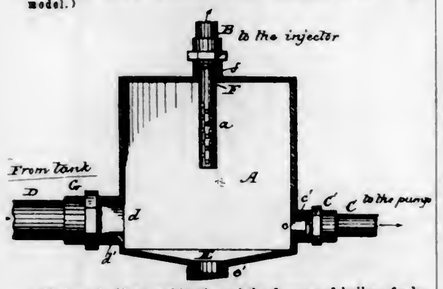
263,660. COTTON-CHOPPER. LEWIS S. MCMULLEN, Atlanta, Ga., assignor of one-half to Jacob McKinley, same place. Filed Apr. 22, 1882. (No model.)



Claim.—1. The plow-beam D, formed of a single bar of metal bent upward and outward at its middle to provide an arch, d^3, and plow-standards d' d', and having its ends curved forward and brought together, and provided with means whereby it may be attached to the pendent arm d, substantially as set forth.

2. The combination of the frame A, the pendent arm c, secured at the middle of the rear bar of the frame, the plows c' c', pivoted to the lower end of the arm c, the pendent arm d, the plows or beam D, pivoted to the arm d, the lifting mechanism d^2 d^3, and the choppers c c, supported on the shaft a and between and in line with the plows c' c' and d' d', substantially as set forth.

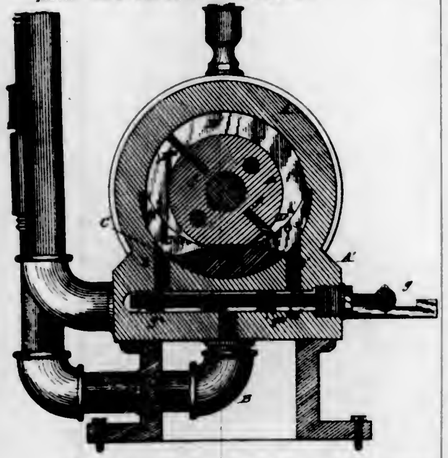
268,661. FEEDER FOR LOCOMOTIVE INJECTORS AND PUMPS. DANIEL R. MURPHY, Newark, assignor of one-half to Gurdon D. Johnson, Granville, Ohio. Filed July 8, 1882. (No model.)



Claim.—1. The combination of the frame and boiler of a locomotive and its tender with a water-tank, A, connected with said frame and having an opening, d, on one side connected with the tender, an opening, c, connected with a pump, and a top pipe, B, connected with an injector, substantially as and for the purpose described.

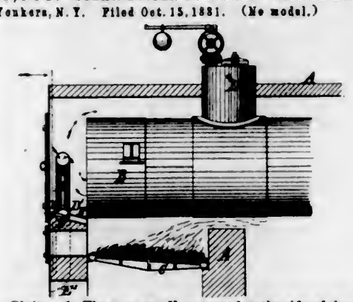
2. The combination of a locomotive and its tender with a water-tank, A, having openings c and d, connecting with the tank and pump in the sides, opening E in the bottom, and pipe B in the top, connected to the injector, with a pendent strainer, a, connected with the top pipe, B, substantially as and for the purpose described.

268,662. ROTARY ENGINE. HENRY T. NICCUM, Findlay, Ohio, assignor, by direct and mesne assignments, of one-half to Samuel D. Houpt and Chancey D. Humphrey, both of same place. Filed June 28, 1882. (No model.)



Claim.—In a rotary engine, the combination of the cylinder A, base A', horizontal passages a a', vertical passages b b', passages c c', cylinder D, having abutments D^3, passages c^2 c^3, throttle-valve E, handle g, rod g', valves g^2 g^3, cam C, and supply and exhaust pipes B and B', all constructed and arranged as herein described, and for the purpose set forth.

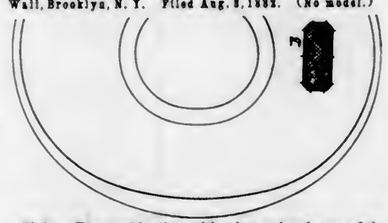
268,663. STEAM-BOILER FURNACE. WILLIAM H. ODELL, Yonkers, N. Y. Filed Oct. 15, 1881. (No model.)



Claim.—1. The passages E, arranged at the side of the smoke-box, and the transverse passage E', extending across the bottom, in combination with the branch passages E^1 and steam-nozzles D', and arranged relatively to the boiler B, having return-tubes, as shown, so as to return to the furnace gases from a level above the tubes in the smoke-box, as herein specified.

2. The passages E E' E^1 and the fresh-air passage E^2, having a controlling-register, E^4, in combination with each other and with a return tubular boiler, B, steam-blowing means D D', and provisions D^2, for adjusting the position of the latter, substantially as specified

263,664. HAT AND HAT-FRAME. SALMON S. PENNOCK, New York, assignor to Julius Heimann, same place, and Michael T. Wall, Brooklyn, N. Y. Filed Aug. 3, 1882. (No model.)



Claim.—The combination, with a hat or hat-frame, of the attached ticket containing the name or trade-mark of the manufacturer, a picture illustrating the style of the hat or hat-frame, and a number serving to designate the article, substantially as shown and described, for the purpose set forth.

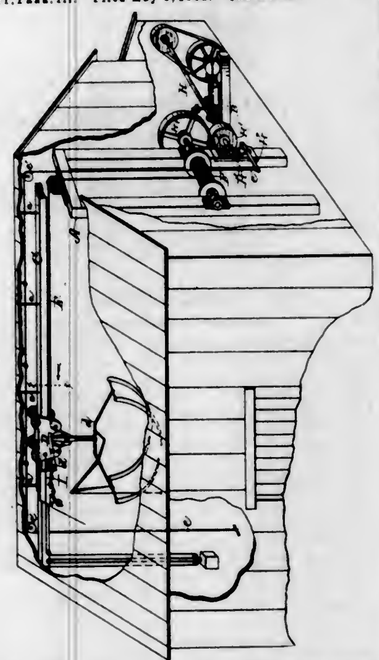
263,665. WIG, FALSE FRONT, SWITCH, &c. GILLES PETIT, Paris, France. Filed Apr. 17, 1882. (No model.) Patented in France Oct. 25, 1881, No. 145,507; in England Oct. 29, 1881, No. 4,747, and in Belgium Oct. 28, 1881, No. 56,091.



Claim.—1. The new article of manufacture herein described, to wit: a wig, false front, chignon, or other artificial head-dress, or part thereof, comprising a mass of hair or imitation hair suitably arranged between large-mesh invisible netting, united or connected, so as to hold the interposed hair in place, as set forth.

2. The method of making wigs, false fronts, and other like articles by arranging the hair or imitation hair on an invisible netting stretched on a block, covering the said hair with another layer of netting, connecting the latter with the first netting, and heating the whole, so that the wig or other article may retain its form when removed from the block, substantially in the manner and by the means described.

268,666. HAY ELEVATOR AND CONVEYER. JAMES H. PRATT, Paxa, Ill. Filed May 9, 1882. (No model.)

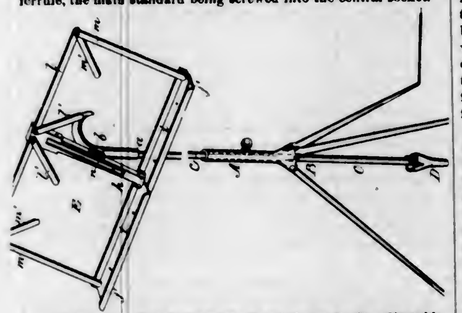


Claim.—1. The combination, in a hay elevator and carrier, of a drum-shaft suspended in suitable bearings attached to the frame-work of a barn, and provided with a friction-wheel, H^3, to operate in conjunction with a friction-wheel, H', secured to the main shaft, by means of which motion is transmitted from the main shaft to the drum-shaft for the purpose of winding up the cable, as shown, and for the purposes described.

2. The combination, with the main shaft and drum-shaft of the sliding journal operated by the lever H^4, of the cord e, attached to the outer end of said lever, and rising therefrom to the ridge-pole, and conducted along its under side through sheave-pulleys and down nearly to the floor of the barn, substantially as and for the purpose specified.

263,667. COMBINED MUSIC-STAND AND WALKING-CANE. JOHN G. ROBERTS, Morey, Nev. Filed May 9, 1882. (No model.)

Brief.—The legs, when folded, fit into the side sockets of the ferrule, the main standard being screwed into the central socket.

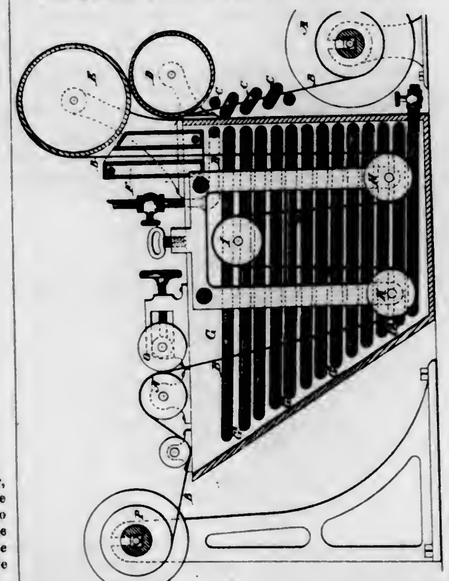


Claim.—1. The folding legs B and the vertically-adjustable central standard, C, its lower end provided with screw-threads, in combination with the ferrule D, having a central screw-socket, d, for receiving the main standard, and side sockets, e, for the legs, substantially as herein described.

2. The music-rack, substantially as described, provided with the extensible trough consisting of the pieces i i, pivoted to the upright, and the transversely-sliding slotted pieces j j, substantially as set forth.

3. In a music-rack, the central slotted support, h, in combination with the swinging leg or brace n, provided with an extension-piece, n', said leg n and extension-piece n' adapted to be folded into the slot in support h, all constructed as set forth.

268,668. PROCESS OF AND APPARATUS FOR PREPARING ROOFING-FELT AND SHEATHING-PAPER. WILLIAM H. STELWAGON, Philadelphia, Pa., assignor of one-half to Robert P. Stelwagon, same place. Filed Mar. 27, 1882. (No model.)



Claim.—1. The improved process of saturating and impregnating webs of roofing and sheathing felts or paper with waterproofing compounds, consisting in heating and flexing the felts or paper immediately before immersing them in the heated compound, and repeatedly flexing the web by passing the same over rollers submerged in the bath of heated compound, and under removable rollers placed over the web, substantially as and for the purposes set forth.

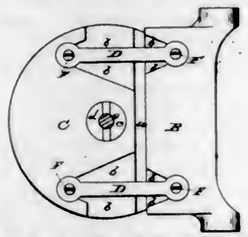
2. The improved process of impregnating webs of felt or paper with waterproofing compounds by introducing the end of the web into a tank containing heated waterproofing compound, over a stationary roller or rollers located in the upper part of said tank, and by means of a movable roller or series of rollers submerging the web in the heated compound, and thus repeatedly flexing the web during its transit throughout the heated compound, and divesting the web of any surplus compound by pressure-rollers as it emerges from the compound, substantially as and for the purposes set forth.

3. In an apparatus for saturating felt and paper webs with heated waterproofing compounds, the combination of a bath with heating appliances, a heating and flexing device adapted to open the pores to the evaporation of moisture before entering the bath, one or more stationary rollers to support the web near the top of the bath, two or more rollers attached to a movable frame arranged to submerge and flex the web during its transit through the heated compound, and a pair of pressing or wringing rollers arranged above the bath for divesting the web of superfluous compound during its exit from the bath, all arranged to operate substantially as described and shown.

263,669. SULKY-PLOW. NOAH SWICKARD, Clarinda, assignor of one-half to Henry F. Simmons, Osceola, Iowa. Filed May 3, 1882. (No model.)

Brief.—The plow-beam rests upon a vertically-pivoted plate

allowing horizontal circular motion. The lower or yoke plate is in two sections, connected by parallel bars, the loose section carrying the beam-plate being free to slide laterally upon the fixed portion.

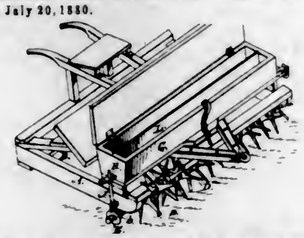


Claim.—1. In a coupling attachment for wheel plows and cultivators, the sectional yoke having a laterally-moving rear section bearing the center plate which carries the beam, substantially as specified.

2. In a coupling attachment for wheel plows and cultivators, the yoke-plates B and C, connected by parallel-moving link-bars or connections D, and the broad center plate, E, carrying the beam and connected to the rear plate, C, of the yoke by a pivot-bolt, substantially as specified.

REISSUES.

10,188. HARROW AND SEED-SOWER. ROBERT HAMILTON, Franklin, Ind. Filed May 24, 1882. Original No. 230,271, dated July 20, 1880.



Claim.—1. A harrow consisting of a series of star-shaped wheels having three radial arms, each wheel of said series being adapted by itself alone to slip loosely on a shaft common to all, and each provided with interlocking hubs, constructed as described, whereby the series of wheels, when placed together on said shaft, as described, and caused to revolve, grip said shaft and cause it to revolve.

2. In a combined harrow and seed-sower, the combination, with the seed-box G, provided with two rows of openings, *x x*, in its bottom, of the two longitudinal slides F F, agitator H, and removable partition L, for the purpose set forth.

10,189. THERMOMETER. LUIGI PERONI, 45 Hatton Garden, Holborn, assignor to James Joseph Hicks, 8 Hatton Garden, County of Middlesex, England. Filed Jan. 23, 1882. Original No. 222,420, dated Dec. 3, 1879. Patented in England Jan. 24, 1878.



Claim.—1. A thermometer having its bore in rear of or beyond the mechanical axis or center of the convex surface through which it is viewed, as and for the purpose described.

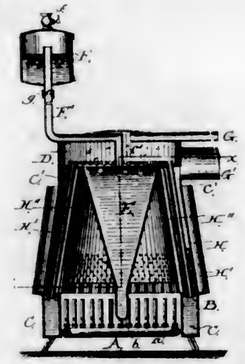
2. A thermometer having a convex or lens front for magnifying the bore formed of a smaller curve than that of the body of the thermometer, substantially as set forth.

3. A thermometer-tube having its bore in rear of or beyond the center thereof, and a convex portion or portions, *d*, for magnifying said bore, substantially as set forth.

10,190. APPARATUS FOR HEATING CARS. IRA A. SALMON, Boston, Mass. Filed July 17, 1882. Original No. 227,997, dated May 25, 1880.

Claim.—1. A water-heater for railway-cars, having combined therein the following elements, to wit: a combustion or fire chamber, water-chamber C, surrounding the said fire-chamber, an over-

10,190.



flow-chamber, tubes connecting these two chambers and adapted to conduct the water from the annular chamber to the overflow-chamber E, and radiating-pipes passing from the overflow-chamber through the space to be heated, thence returning to the said water-chamber, substantially as and for the purposes set forth.

2. The combination, with the annular water-chamber and overflow-chamber, of a series of tubes connecting them and an outer and inner jacket inclosing the tubes between them, substantially as and for the purpose set forth.

3. The combination, with an overflow-chamber, E, and a separate water-chamber, of a series of tubes connecting the two chambers, and heating apparatus adapted to act upon or apply heat to the said tubes for the purpose of causing circulation from the water-chamber through the tubes to the overflow-chamber E, substantially as and for the purpose set forth.

4. In a heater, the water-chamber C, into which the water to be heated is fed, an overflow-chamber, the series of water-conducting and heating tubes connecting the said chambers, a condensing-drum, and pipes F F″, the former entering the overflow-chamber and opening into the same at a point below the upper end of the said conducting and heating tubes, substantially as and for the purposes described.

5. The combination, with the fire-chamber, of an annular water-chamber surrounding the same, tubes rising from said chamber to an overflow-chamber into which said tubes discharge, radiating-pipes leading from said overflow-chamber through the space to be heated and back to the annular chamber, a condensing-drum having a pipe-opening into the overflow-chamber below the upper ends of the tubes C′, its other end extending into the condenser, and a second pipe leading from the bottom of the condenser to the annular water-chamber, substantially as and for the purpose set forth.

6. The combination, with a gas-burner, of the annular chamber C, the overflow-chamber E, the tubes C′, and the pipes *e e′*, substantially as and for the purpose set forth.

7. The combination, with the jacket H, of the inner and shorter jacket, H″, both being perforated throughout their lower part, a series of water-tubes arranged between said jackets, and apparatus for heating the water, substantially as and for the purpose set forth.

8. The combination, with the jackets H and H″, of a series of water-conducting tubes, C′, arranged between said jackets and the outer jacket, H′, substantially as and for the purpose set forth.

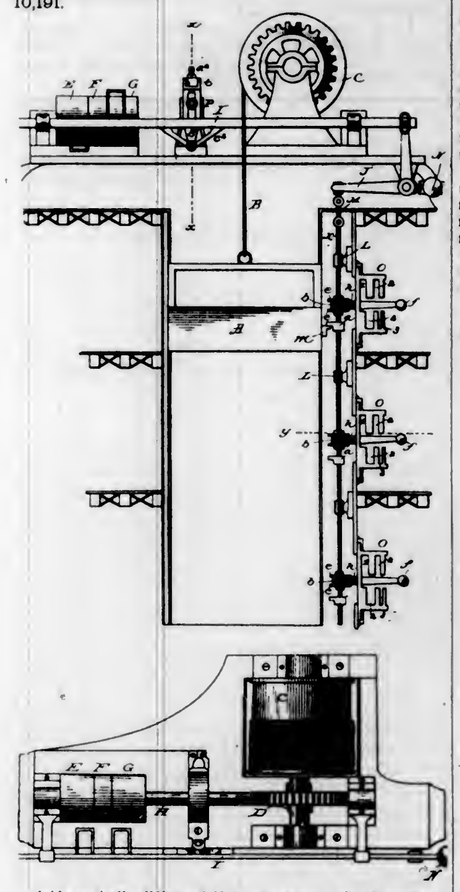
9. The combination, with the heater having two water-chambers arranged as described, of a condensing-drum, the steam-pipe passing from the heater directly through the space to be heated and thence back to the condenser, the pipe F″, and valves to permit the circulation of water in but one direction in the said pipes, substantially as and for the purpose set forth.

10. The combination, with the flooring of a street-railway car, of the heater consisting of the water-chambers C E, tubes C′, a suitable heating apparatus, condenser F, and pipes F F″, and the pipes *e e′*, substantially as and for the purpose set forth.

10,191. ELEVATOR. GEORGE C. TEWKESBURY, Newark, assignor to Tewksbury Automatic Elevator Company, of New Jersey. Filed Aug. 3, 1882. Original No. 255,049, dated Mar. 14, 1882.

Claim.—1. The combination of the lever J, pivoted as shown, the pulleys E F G and intermediate belt-shifting devices, the re-

10,191.



volvable vertically-sliding rod K, having suitable pins, *a*, arranged at different points on the rod to project in different directions therefrom, the handles *f*, fulcrumed as shown, and the intermediate gearing mechanisms, whereby the rod K may be turned and vertically reciprocated, substantially as described.

2. The combination of the lever J, pivoted as shown, the pulleys E F G, and intermediate belt-shifting devices, the revolvable vertically-sliding rod K, having pins *a*, arranged at different points on the rod to project therefrom in different directions, substantially as described, the lever-handles *f*, fulcrumed as shown, the indicators O, for determining the relative position of the pins *a*, and the intermediate gearing mechanism, whereby the rod K may be turned, substantially as described.

3. In an elevator of substantially the construction described, the combination of the revolvable vertically-reciprocating rod K, provided with pins *a*, gear-wheels *b*, and suitable disks, *c*, said pins, gears, and disks being arranged upon the rod at different points, with the pins *a* projecting therefrom in different directions, substantially as described, the centrally-pivoted lever-handles *f*, having segmental gears on one end to mesh with the gears on the rod, and suitable indicating mechanism for locating the relative position of the pins *a*, substantially as described.

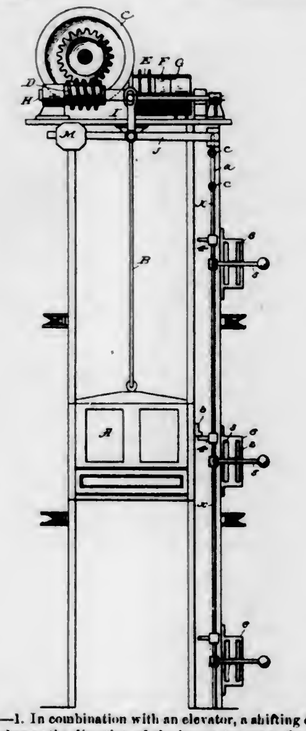
4. The combination, substantially as described, of the elevator-box A, the detachable block 12, the lever pivoted to the detachable block and provided with projecting tongues, as shown, and mechanism for pushing forward the lever, so as to keep the tongues in position, substantially as described.

5. The combination, with the movable lever on the elevator-box, of the stud-pins 15, attached to the wall of the building, adapted to automatically engage with the tongue 14 on the lever when the box is reciprocated, so as to throw the tongue 10 on the lever out of engagement with the clutch on the rod K, substantially as described.

6. The within-described indicator O, which consists of a semi-cylindrical case having two systems of vertical slots, one on each side of a central horizontal opening, with the vertical slots on one side communicating with the horizontal opening alternately with the vertical slots on the other side thereof, all of said openings being adapted to receive the handle *f*, and the vertical slots being numbered, as shown.

7. In an elevator, a shifting mechanism, whereby the driving mechanism is applied to the elevator-box or disconnected therefrom, a shifting-rod having handles and spline at each point or floor for starting the box in either direction and for setting the pins for any given point or floor, and to be acted on by the box, and a brake mechanism connected to the shifting-rod, whereby the motion of the car automatically disconnects the power and applies the brake at the same time, substantially as described.

10,192. ELEVATOR-STOP. GEORGE C. TEWKESBURY, Newark, N. J., assignor to Tewksbury Automatic Elevator Company, of New Jersey. Filed Aug. 3, 1881. Original No. 255,050, dated Mar. 14, 1882.



Claim.—1. In combination with an elevator, a shifting device adapted to change the direction of the box or to arrest the same, and an automatic stop mechanism adapted to be set at any given station or floor for any other station or floor, and to be acted on by the box to arrest the same when it reaches that point, all substantially as described.

2. In an elevator, a driving mechanism, devices for shifting such mechanism, whereby the box may be raised, lowered, or stopped, and a starting and automatic stop mechanism adapted to be set at any station or floor for any other, to start the box and to arrest the same when it reaches the designated point, substantially as described.

3. In an elevator, a driving mechanism, devices for shifting such mechanism, whereby the box may be raised, lowered, or stopped, and a rod connecting to said shifting devices, extending up and down in the elevator-well, in combination with handles and pins on said rod, and a dog on the elevator-box, whereby the ap-

paratus may be set on any floor for any other and the box automatically operate the shifting devices and stop, substantially as described.

4. The combination of the lever I J, pivoted as shown, the pulleys F F G, and the intermediate belt-shifting devices, the vertically-sliding rod *k*, and the handles 5 5 5, arranged at different points on the shaft, and provided with suitable locking mechanisms, substantially as described.

5. In combination with a connecting-rod, K, provided with handles 5 and suitable projecting pins, 4, an indicator, substantially as set forth, whereby the position of said pins may be regulated, as and for the purposes described.

THE ELIOTYPE PRINTING CO. BOSTON

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF UNITED STATES COURTS IN PATENT CASES.

DECISIONS OF THE U. S. COURTS.

U. S. Circuit Court—Southern District of New York.

BRAINARD *v.* CRAMME.

Decided June 26, 1882.

1. REISSUE—PROCESS.

When a process claimed in a reissue granted nine years after the original is merely the employment of the devices described in such original, and is therefore fully disclosed, and other inventors have in the meantime occupied the ground, such process must be held to be abandoned to the public.

2. SAME—CONSTRUCTION OF CLAIMS.

Claims in a reissue are to be construed, if the language will reasonably bear such an interpretation, so as not to embrace any invention broader in its scope than that in the original.

3. REISSUE NO. 8,099 SUSTAINED.

Reissue No. 8,099, to Edwin D. Brainard, for washing shavings in breweries, dated February 26, 1878, sustained.

WALLACE, *J.*:

The doubtful question in this case is whether the reissued patent, on which this action is founded, is for the same invention as that described and claimed in the original. The original patent bears date January 5, 1869, and is for an improved machine for washing shavings in breweries. As described in the specifications the invention consists of a hollow perforated shaft, in combination with a hollow cylinder, hung together in a frame for the purpose of discharging a fresh current of water in jets upon the contents of the cylinder while it revolves. The frame is described merely as a strong rectangular frame supported on legs. The cylinder is made with open staves or perforated sides, and is suspended horizontally in the frame on a hollow shaft. The shaft extends through the cylinder and is perforated with a series of holes on all sides. One end of the hollow shaft is fitted to run in a thimble, on which is screwed a pipe for conveying water into the shaft. The other end of the shaft is closed and carries a crank. The cylinder has a removable cover.

In operation, the shavings to be washed are put into the cylinder, the cover is fastened, and the shaft is revolved by turning the crank. The cylinder rotates upon the shaft, and the current of water introduced into the perforated shaft is discharged in jets upon the shavings as their surfaces are presented by the revolution of the cylinder. The dirty water escapes through the openings of the cylinder at its lower side.

The patentee states in his description that cylindrical washing-machines are in use, and he disclaims the same as his invention.

The first claim is—

1. A hollow perforated shaft, in combination with the cylinder and the frame, arranged and operating substantially in the manner and for the purpose described.

The reissued letters bear date February 26, 1878, and herein the patentee attempts to secure to himself both a process and the apparatus for carrying out the process for washing shavings in breweries. The apparatus is described substantially as in the original patent, except that in the original the cylinder is described as suspended horizontally upon the hollow shaft, and is rotating by the revolution of the shaft, while in the reissue the cylinder is not stated to be suspended horizontally, but so constructed as to admit of a rotating or reciprocating action. Considerable new matter, however, descriptive of the process, is introduced. Two of the claims relate to the process. The third and fourth relate to the apparatus, and are as follows:

3. The combination of a vessel capable of rotation on its axis with means for producing jets of water within it, substantially as described.

4. A vessel capable of rotation on its axis, in combination with a perforated pipe for producing jets of water within such vessel, substantially as described.

So far as the reissue is an attempt to secure to the patentee the process for the treatment of brewers' shavings it is entirely inoperative. The process, as described and claimed therein, is merely for the treatment of the shavings by the employment of the described apparatus. It is difficult to appreciate any practical benefit which is obtained by the patentee by calling his patent a process patent, instead of one for the machine; and it is conceded that as everything essential to the process was pointed out in the original patent nine years before the reissue, and in the meantime other inventors have occupied the ground covered by the general subject-matter of the invention, what was therein pointed out and not claimed is to be deemed abandoned to the public within the recent decisions relative to reissues. As to the claims for the process, the complainant proposes to file a disclaimer.

The claims in the reissue relating to the apparatus, considered literally, are broader than the claim in the original. Indeed, they describe the functions rather than the mechanism of the apparatus; but they are to be construed with reference to the specifications and so (if consistent with the language used) as to secure to the patentee the invention which is described. They are not to be construed, if the language will reasonably bear such an interpretation, so as to embrace any invention broader in its scope than that in the original patent.

In view of the state of the art and of the apparatus described in the original patent and shown in the drawings, the patent was for a new combination of old parts, which consisted in locating the hollow perforated shaft within a hollow cylinder, having openings in its sides and suspended horizontally in a frame, so that cylinder and shaft rotate together by turning the crank of the shaft.

The gist of the invention was in the adaptation of the several parts for the specific purpose desired. The peculiar materials to be washed required special instrumentalities.

A machine for cleansing rags containing a revolving horizontal cylinder mounted on hollow axles, through which water can be conveyed to the contents of the cylinder and can escape through perforated plates at the end, is shown in the English patent to Foudrinier of 1854; but in this patent there is not shown a hollow shaft running into the cylinder to discharge jets of water upon the contents of the cylinder.

A machine for forcing liquids into the contents of a vessel capable of rotation on its axis through a perforated vertical shaft is shown in the English patent to Givine in 1851; but the contents are placed in cages of wire-gauze and the vessel itself is tight.

These two English patents present the nearest approximation in the prior state of the art to the present. They are not anticipations. Neither of them would do the work satisfactorily required of a machine for washing brewers' shavings. There can be no doubt that it required thought and inventive faculty to organize the distinctive features of these prior inventions into the present mechanism so as to adapt them to the special work to be done.

Reverting now to the claims of the reissue relating to the apparatus, the doubt which they suggest is whether they are not to be construed as so broad as to embrace a cylinder which is not horizontally suspended and which is not rotated by means of the hollow shaft. The vessel capable of rotation on its axis and the perforated pipe for producing jets of water within such vessel are clearly referable to the cylinder and the shaft described in the specification; but the doubt is whether the specification in the reissue does not describe a cylinder which need not be horizontally suspended and which will admit of a reciprocating as well as a rotating action upon the shaft. Considered in its entirety, it would seem from the specification that the horizontal cylinder is indispensable to the efficiency of the mechanism, and there is nothing in the description which refers to any means for conveying reciprocating action to the cylinder.

In the absence of anything in the proofs to indicate any reason for an expansion of the claim, and in view of the apparent necessity of employing a cylinder which is suspended horizontally, and is rotated by the shaft, the conclusion is reached that the fourth claim of the reissue can be sustained as substantially identical with the first claim of the original patent.

The defendant has appropriated the invention thus secured to the complainant, and it may be that the desire to protect the complainant against the piracy of his invention has led to undue liberality in the construction of the reissue. Precedents are not wanting, however, to justify such a broad construction. *Swain Turbine and Manufacturing Company* v. *Ladd* (2 Banning and Arden Patent Cases, 488) is in point, where a more nebulous claim than the present was sustained by limiting it to the particular mechanism described. This case was affirmed by the Supreme Court, (12 Otto, 408.)

It is not intended to intimate that the defendant's patent is not a valid one. Very possibly his mechanism is an improvement upon the complainant's; but this will not protect him from the charge of infringement.

The complainant will have a decree for an injunction and accounting, but without costs, upon making due proof on notice to the adverse party of the filing of a disclaimer as to the claim for the process according to law.

GINTER v. KINNEY TOBACCO COMPANY *et al.*

Decided July 15, 1882.

1. TRADE-MARK—"STRAIGHT-CUT" FOR CIGARETTES—DESCRIPTIVE TERM.
   It appearing that the term "straight-cut" has a well-defined meaning in the trade as indicating a product prepared in a certain manner, and that as applied to cigarettes it fairly carries the implication that they are made of straight-cut tobacco, *Held*, that the term is descriptive of the ingredients and characteristics of the article and cannot be appropriated as a trade-mark.
2. SAME—SAME—TENDENCY TO MISLEAD.
   Nor can it be appropriated as an arbitrary designation by a dealer whose cigarettes are not made of straight-cut tobacco, since he merely misuses the term in a manner calculated to deceive the public.
3. SAME—SAME.
   No principles are better settled in the law of trade-marks than that a generic term, or a name merely descriptive of the ingredients, quality, or characteristics of an article of trade, cannot be the subject of a trade-mark, and that the use of a name or term which is likely to deceive the public in reference to the components or nature of the article to which it is applied will not be tolerated.

Mr. Munson and *Mr. Phillip* for the defendant.

WALLACE, *J.*:

So far as appears upon this motion the term "straight-cut," as applied to cigarettes, is a term descriptive of the ingredients and characteristics of the article, and therefore the complainant cannot appropriate it as a trade-mark and enjoin the defendants from advertising their article as "straight-cut cigarettes."

In the preparation of smoking-tobacco several different processes of cutting the leaf are employed, and the product is designated by the term which describes the particular process which it has undergone, such as "straight-cut," "curly-cut," "long-cut," and "fine-cut." "Straight-cut" designates that particular product in which the plant has been so cut and treated at the time of cutting as to preserve the fibers long, even, straight, and parallel when prepared for sale or use. It is stated also that the choicer varieties of the plant are usually selected for this mode of treatment, and the product is especially desirable for cigarettes. In view of these facts it is evident that when the term is applied to cigarettes it implies that they are made of straight-cut tobacco. The complainant advertises his tobacco as straight-cut, curly-cut, &c., but always adds some further appellation, such as "twin pet straight-cut," "perfection curly-cut," &c. In a circular of May 1, 1881, he states that his "straight-cut tobaccos are cut from the choicest varieties of Virginia gold and sun-cured leaf, and are cut to be straight in the boxes, and are very desirable for making cigarettes." He now insists that the term was selected and has been employed by his business predecessors and himself as an arbitrary designation of his particular article, and that neither his cigarette nor the defendants' are made of straight-cut tobacco. All this, if true, does not help the complainant's case, but, to the contrary, furnishes an additional reason why he should be denied the assistance of a court of equity. Not only has he employed

a name to which he could not acquire an exclusive right, but he has used it in a manner calculated to mislead the public, although, perhaps, not intentionally on his part. A purchaser cognizant of the differences in the preparation of smoking-tobacco would legitimately infer that the complainant's cigarettes were, in fact, made of straight-cut tobacco. No principles are better settled in the law of trade-marks than that a generic term or a name merely descriptive of the ingredients, quality, or characteristics of an article of trade cannot be the subject of a trade-mark, and that the use of a name or term which is likely to deceive the public in reference to the components or nature of the article to which it is applied will not be tolerated.

The motion for a preliminary injunction is denied.

U. S. Circuit Court—District of Maine.

No. 166—JONES *v.* BARKER *et al.* No. 170—BARKER *et al. v.* JONES. No. 246—BARKER *et al. v.* JONES.

Decided March 24, 1882.

1. LETTERS PATENT NOS. 51,379 AND 54,170 DECLARED INVALID.
   Winslow's Patent No. 51,379 and Jones's Patent No. 54,170, for green-corn knives, declared invalid.
2. REISSUE—PENDING SUIT.
   A suit begun upon one patent cannot be sustained upon a reissue of that patent; hence a suspension of proceedings cannot be had for the purpose of obtaining such reissue.
3. SAME—ENLARGEMENT—DELAY.
   Reissue of Letters Patent No. 55,614, dated June 19, 1866, upon enlarged claims, thirteen years after the grant of the original, declared invalid.
4. CLAIMS TO BE CONSTRUED BY STATE OF ART.
   Claims are to be construed by the state of the art, even though the patent contains no acknowledgment of it.
5. LETTERS PATENT NO. 159,741 SUSTAINED.

Mr. C. P. Mattocks and *Mr. Wm. K. Neal* counsel for Jones.

Mr. C. C. Morgan, Mr. A. J. Robinson, and *Mr. H. M. Sylvester* counsel for Barker *et al.*

LOWELL, *J.*:

These three cases, argued together, relate to patents for cutting green corn from the cob for the purpose of packing it in cans. Isaac Winslow, the uncle and predecessor of J. W. Jones, appears to have invented or introduced this industry, which has become of much importance. It was found that his process was substantially that by which other vegetable substances had been preserved, and so he lost his patent for the process. In describing his process he described a curved knife with a gage as a convenient instrument for cutting the corn from the cob, and about twelve years afterward he obtained the Patent No. 51,379, now owned by Jones, who himself patented an improvement in the gage, No. 54,170, also sued upon. One Lewis obtained a patent for a machine to cut corn, No. 94,013, which has been assigned to Jones. These are the three patents relied on in suit No. 166.

The circuit court, sitting in Maryland, decided that the knife patents were void for want of novelty. (*Jones* v. *McMurray* 2 Hughes, 527.) In this case the Winslow knife is known to have been invented a very long time, more than twenty years before it was patented, which might relieve it from the charge of want of novelty; but it is shown to have been used publicly, with Winslow's consent, more than two years before his application in 1865. Public use, in the sense of the patent law, is proved by a single use by any person, not the inventor, or by the inventor in an open way, provided the use is not experimental. I have considered this question with great care in former cases, and will merely refer to them and to the latest decision of the Supreme Court.

Under these decisions there can be no doubt that the Winslow knife was in public use for years before 1865.

The Jones patent was held, in the case first above cited, to be anticipated by the Oot paring-knife, patented in 1858, No. 21,695, and I see no reason to doubt the soundness of the decision. At all events, it reduces the patent to so narrow a claim that it cannot be infringed by the knives of the Barker machine.

The Lewis machine is admitted to be very crudely and imperfectly described in his specification, so much so that application was made to me to suspend this case until a reissue could be obtained. This I refused, for the reason, among others, that a suit begun upon one patent could not be sustained upon a reissue of that patent. Upon a preponderance of the evidence I am strongly inclined to think that a mechanic skilled in the art of making similar machinery could not make one of Lewis' machines.

It was said incidentally at the argument by the counsel for Mr. Jones that a reissue has already been obtained. The record contains no similar statement; but if this is so I do not see how an injunction or account could be ordered without error. It is true that if a bill is filed on an existing patent and it expires during the progress of the suit, an account may be ordered without an injunction; but the surrender of a patent is an admission of the most solemn character that it is defective or inoperative, and when the patent is canceled and a new one is obtained there is but one patent remaining, and that is the new one, for the same invention, indeed; but my decree must rest upon the patent and not on the mere invention. I ought to add that in view of the state of the art Lewis' claims cannot be construed to include the Barker machine.

—

No. 246, though last in order of time, I will consider next. It rests upon the patent of Burt and Dunn, dated June 19, 1866, No. 55,614, which appears to have been bought in the course of this litigation, and then to have been reissued. In the original specification the invention is said to consist of a series of cutters, scrapers, and guides attached to a tube and used in connection with a sliding frame provided with an adjustable center rod, all being arranged as thereinafter set forth. The arrangement made the frame slide upon rods, which caused the cutters to expand when the frame was pushed forward. The two claims were, first, for whole combination, and, second, for the rods.

It is plain that the rods and sliding frame were considered by the inventors to constitute the chief novelty in the machine. I find it to be proved that a machine of this sort was successfully used by the patentees; but that the operation of the rods and sliding frame, though ingenious and useful, limited the mechanism so that a single machine could not be adapted to all the various sizes of ears of corn. The later inventions, which the plaintiffs seek to stop by their reissue, dispense with the rods and frame and cause the cutters to expand by the cob itself. The defendants do not infringe either of the original claims.

In the reissue the two claims are expanded into eight, intended and calculated to cover all combinations of cutters and scrapers in a machine of this sort. They are qualified by the words "operating substantially as described;" but as all cutters and scrapers must be so arranged as to act upon the whole surface of an ear of corn, no great variation is possible. The excuse for this enlargement of the claims is that Burt and Dunn were the first persons who made a machine which effected the purpose of cutting and scraping an ear of green corn at one operation. Under former decisions of all the courts this argument might, perhaps, be accepted, though the expansion is very considerable; but the Supreme Court have lately restored the law to what they find to have been the true meaning of the act of Congress authorizing reissues. (*Miller* v. *Bridgeport Brass Company*, 21 O. G., 201.) In summing up the conclusions of the court in that case Mr. Justice Bradley says, page 203:

Now, while, as before stated, we do not deny that a claim may be enlarged in a reissued patent, we are of opinion that this can only be done when an actual mistake has occurred, not from a mere error of judgment, for that may be rectified by appeal, but a real *bona fide* mistake, inadvertently committed, such as a court of chancery in cases within its ordinary jurisdiction would correct.

He goes on to show the danger and injustice to others of such enlargements, and says that they must be applied for at once, before new inventions have been made. He intimates that two years, in analogy to the law of forfeiture, would be the utmost possible limit of time, but, as I understand the opinion, that anything like two years would be inadmissible in ordinary cases.

This reissue was obtained thirteen years after the patent was granted, and is open to all the objections pointed out in the general reasoning of the opinion, though the case itself is not exactly like the principal one.

This bill must be dismissed.

—

No. 170. This case is brought upon the patent issued in 1875, No. 159,741. The machine of Barker has been found much more useful than any which preceded it, but the defendant contends that the patent is void because it differs from its predecessors only structurally, and that the specification does not sufficiently acknowledge the state of the art, and therefore appears to claim altogether too much.

It is true that several machines besides those of Burt and Dunn and of Lewis had been patented before Barker, and that they all contain the similar elements of cutters and scrapers and a rod to force the corn forward, and that Barker takes no notice of any of these machines; but though patentees must at their peril know all that has gone before in the art, yet this is a conclusive presumption rather than a fact, and if they do not have this knowledge, or do not especially exclude, either by name or otherwise, all previous inventions, which in many arts would be impracticable, yet it is allowable to construe the claims of a patent with reference to what has gone before and to give the patentee the benefit of the restricted claim which results from such construction. So construed, I consider it quite clear that Barker's claims are valid. I adopt, without recapitulating them, the views, in the main, of his expert, Mr. Shepard, on this point. Indeed, it is only by assuming that the claims are to have a very broad construction that the defendant and his expert make them void. Even with the narrowest construction the defendant infringes all but the second claim. He intended to make a machine like Barker's, I think, if he could not invent substantial differences. He has made some changes, but they are additions rather than substitutions. If it were true, as the defendant believed it to be, that Barker infringed Lewis, it would not follow that the owner of the Lewis patent had a right to infringe Barker.

I am aware that in one particular the machines made and used and sold by Barker differ from his specification, and that the defendant adopts this variation; but upon the evidence I must hold that this was only a difference of construction.

No. 170, decree for complainant.
No. 166, bill dismissed.
No. 246, bill dismissed.

U. S. Circuit Court---Southern District of New York.

PELHAM v. DEMAREST.

Decided January 28, 1882.

LETTERS PATENT No. 95,262 CONSTRUED—DEVICES PERFORMING DIFFERENT FUNCTION.

Letters Patent No. 95,262, for an improved hod-elevator, construed, in view of French patent to Johnson of 1860, to embrace only the particular devices described, and the devices of the defendant, not being equivalent in function and operation, *Held* not to be an infringement.

WALLACE, *J.*:

The first claim of the Letters Patent No. 95,262, granted September 28, 1869, to Thomas M. Pelham, for an improved hod-elevator, is in controversy in this action. That claim reads as follows:

1. A hod-elevating platform arranged to support the hods by the shanks at the edges on the bottom or floor, and by leaving the under side of the top and the upper part of the shanks against notch-bars, substantially as specified.

The invention relates to improvements in hod-elevating platforms, such as are used by builders for elevating and returning the hods containing bricks, mortar, &c., and has for its object to provide an arrangement whereby the persons who take the hod from the platform after it is elevated may do so without being required to step on the platform in shouldering the hod.

The French patent of March, 1860, granted George Johnson, of London, describes a hod-elevator having the same purpose as Pelham's device, and so constructed that the hods, when the platform is elevated, can be removed from the platform by the workmen without requiring him to step upon the platform.

In view of this French patent the complainant's patent is to be limited so as to embrace only the particular devices described in his patent and their equivalents for performing the same functions. A particular description of these devices is unnecessary. It suffices to say their operation is such that when the end of the hod-shank rests in the floor-socket the bowl and shank of the hod at and near their junction will be supported by the cross-bar, and be so far inwardly out of perpendicular with the floor-socket that they will be kept in place by the weight of the hod-bowl and its contents, the center of gravity being on the inward side of the cross-bar.

A practical disadvantage results from the principle of the complainant's invention, whereby the open end of the hod-bowl is presented to remove the hod, and he is required to reverse the end of the bowl, and the contents of the bowl are thus liable to fall out.

Upon the proofs the conclusion is reached that the apparatus actually used by the defendant, and which is alleged to infringe the complainant's patent, is that described in the letters patent issued to the defendant, No. 231,021, bearing date August 10, 1880. The devices in the hod-elevator patented by the defendant are not the equivalents of the complainant's, but perform a different function. Their office is to hold the hod in a vertical position, and resting on its shank instead of on the cross-bar. By the defendant's devices the closed end of the hod-bowl may be on the outer side of the cross-bar, and when it is thus presented to the workman he does not require to reverse the end of the bowl, and there is no liability that the contents of the bowl will escape.

The defendant does not infringe, and the bill is dismissed, with costs.

THE
OFFICIAL GAZETTE
OF THE
United States Patent Office.
[BY AUTHORITY OF CONGRESS.]

VOL. 22—No. 10. TUESDAY, SEPTEMBER 5, 1882. PRICE—$5 per year

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Erratum.

OFFICIAL GAZETTE, September 5, 1882, volume 22, page 622, Patent No. 263,890, for "Robert D. Gates, Philadelphia, Pa., assignor to Walter P. Seiberling, trustee, same place," read *Robert D. Gates, Philadelphia, Pa., assignor, by mesne assignments, to himself, Samuel Sternberger, Julius Hirshfeld, and Richard F. Donovan, all of same place.*

Issue of September 5, 1882.

Patents	384	No. 263,670 to No. 264,053, inclusive.
Designs	9	No. 13,281 to No. 13,289, inclusive.
Trade-Marks	10	No. 9,639 to No. 9,648, inclusive.
Labels	4	No. 2,751 to No. 2,754, inclusive.
Reissues of patents	1	No. 10,193
Total issue	408	

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks and Labels.	States.	Patents and Designs.	Trade-Marks and Labels.
Alabama			Nebraska	2	
Arizona Territory			Nevada	1	1
Arkansas	1		New Hampshire	2	
California	16		New Jersey	15	1
Colorado	3		New Mexico Territ'y	1	
Connecticut	12		New York	70	2
Dakota Territory			North Carolina	1	
Delaware			Ohio	29	
District of Columbia	2		Oregon	1	
Florida			Pennsylvania	46	4
Georgia	2		Rhode Island	3	
Idaho Territory			South Carolina	1	
Illinois	24		Tennessee	1	
Indiana	19		Texas	1	
Indian Territory			Utah Territory		
Iowa	6	1	Vermont	2	
Kansas	3		Virginia	2	1
Kentucky	5	1	Washington Territ'y	1	
Louisiana	2		West Virginia		1
Maine	5		Wisconsin	13	
Maryland	7		Wyoming Territory		
Massachusetts	41		United States Army		
Michigan	13	1	United States Navy		
Minnesota	2		Total to citizens of the United States	365	13
Mississippi					
Missouri	10				
Montana Territory					

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks and Labels.	Countries.	Patents and Designs.	Trade-Marks and Labels.
Australia			France	4	
Austria			Germany	6	1
Barbadoes			Holland	1	
Belgium	3		Italy		
Bermuda			New Zealand		
Brazil			Russia	1	
Canada	4		Spain		
Chili			Sweden		
Colombia, U. S. of			Switzerland	2	
Cuba			Total to citizens of foreign countries	28	1
Denmark					
Ecuador					
England	7				

DESIGNS.

13,281.—HAME.—*John G. Eberhard*, Akron, Ohio. Application filed July 21, 1882. Term of patent 14 years.

13,282.—RING.—*John B. Harrison*, Cincinnati, Ohio. Application filed June 9, 1882. Term of patent 14 years.

13,283.—WINDOW-SHADE.—*Camille Reinhardt*, New York, N. Y., assignor to *Warren, Fuller & Co.*, same place. Application filed August 7, 1882. Term of patent 3½ years.

13,284.—CORSET.—*Seymour H. Rosenberg*, New Haven, Conn., assignor to *I. Rosenberg & Co.*, same place. Application filed August 10, 1882. Term of patent 3½ years.

13,285.—WHIP-SOCKET.—*Erastus W. Scott*, Wauregan, Conn. Application filed August 7, 1882. Term of patent 7 years.

13,286.—BURIAL-CASKET.—*William A. Sparks*, Rochester, N. Y., assignor to *The Stein Manufacturing Company*, same place. Application filed July 19, 1882. Term of patent 14 years.

13,287.—BURIAL-CASKET.—*William A. Sparks* and *Nicholas Rappleyea*, Rochester, N. Y., assignors to *The Stein Manufacturing Company*, same place. Application filed July 19, 1882. Term of patent 14 years.

13,288.—CORSET.—*Isaac Strouse*, New Haven, Conn., assignor to *Lewis Schiele & Co.*, New York, N. Y. Application filed August 10, 1882. Term of patent 7 years.

13,289.—CURTAIN-BAND.—*Gardiner H. Wright*, Philadelphia, Pa., assignor to *F. Oden Horstmann, Samuel Clarkson, Wm. P. Ellison*, and *Walter Horstmann*, same place. Application filed August 7, 1882. Term of patent 7 years.

TRADE-MARKS.

[Certificates of registration of Trade-Marks numbered 8,191 and upward are registered under the act of March 3, 1881.]

9,639.—LUBRICATING AND ILLUMINATING OILS AND OILS FOR PROTECTING POLISHED METALLIC SURFACES.—*Charles A. L. De Forest* and *Hiram C. Driggs*, Brooklyn, N. Y. Application filed May 5, 1882.

"The word-symbol 'ROSEOLINE.'"

9,640.—HANDSAWS.—*Henry Disston & Sons*, Philadelphia, Pa. Application filed August 14, 1882.
"The title '76.'"

9,641.—HANDSAWS.—*Henry Disston & Sons*, Philadelphia, Pa. Application filed August 14, 1882.
"The title 'D8.'"

9,642.—MEDICATED COUGH-DROP.—*Juliet Dyer*, Trenton, N. J. Application filed July 18, 1882.
"Two Indian busts."

9,643.—FINE-CUT CHEWING-TOBACCO.—*Globe Tobacco Company*, Detroit, Mich. Application filed August 9, 1882.
"The arbitrarily-selected words 'GLOBE CHEWING TOBACCO.'"

9,644.—PENS.—*Leon Isaacs & Co.*, Philadelphia, Pa. Application filed June 22, 1882.
"The figure of a pen and the letter 'G,' forming a fanciful symbol."

9,645.—HAIR-RESTORATIVE.—*Alexander K. McKee*, West Brownsville, Pa. Application filed July 18, 1882.
"The pictorial representation of the registrant."

9,646.—COMPOUND EXTRACT OF ROOTS FOR THE CURE OF SCROFULA, ULCERS, SORES, TUMORS, BOILS, AND THE LIKE.—*Thomas Mullin*, Ellenborough, W. Va. Application filed July 28, 1882.
"A heart inclosed in a circle around which is another larger circle."

9,647.—PERFUMERY, TOILET-SOAPS, TOOTH-POWDERS, AND COSMETICS.—*Wilhelm Rieger*, Frankfort-on-the-Main, Germany. Application filed August 8, 1882.
"The pictures of Britannia and Germania."

9,648.—BALING-PRESSES.—*Wrenn, Whitehurst & Co.*, Norfolk, Va. Application filed August 9, 1882.
"The word-symbol 'MONARCH.'"

LABELS.

2,751.—Title: "NEW YORK CITY ROLLER FLOUR MILLS, HUNGARIAN PROCESS."—*Bradley, Kurtz & Co.*, New York, N. Y. Application filed July 14, 1882.

2,752.—Title: "CHAMBERLAIN'S PAIN-BALM."—*Chamberlain & Co.*, Des Moines, Iowa. Application filed August 12, 1882.

2,753.—Title: "GUARANTEE AGUE CURE."—*D. J. Madison Daniels*, Virginia City, Nev. Application filed July 21, 1882.

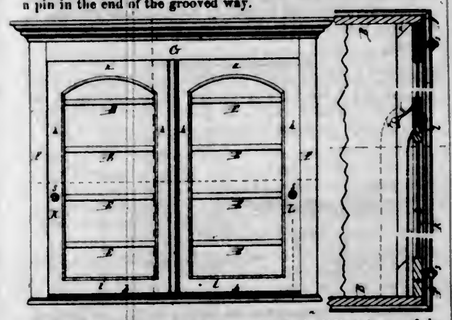
2,754.—Title: "J. W. POPHAM'S CHEMICAL INKS AND DYES."—*James W. Popham*, Elizabethtown, Ky. Application filed August 10, 1882.

PATENTS

GRANTED SEPT. 5, 1882.

263,670. SLIDING DOOR. ROBERT BAUER, Rockford, Ill., assignor to the Central Furniture Company, same place. Filed May 10, 1881. (No model.)

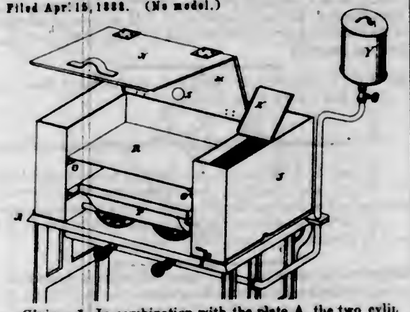
Brief.—Provides flush sliding doors on their inner sides with anti-chafing strips. One of the doors is held closed by a spring, which slides in a grooved way in the framing and abuts against a pin in the end of the grooved way.



Claim.—1. The combination, with flush sliding doors, of the anti-friction and anti-chafing strips fixed to the inner side of the door, substantially as and for the purpose hereinbefore set forth.

2. The combination of the flush sliding door having a spring fixed thereto to hold it in its flush position when closed, the grooved way to admit the spring, and a stud fixed near its front edge to engage the spring to hold the door in its closed position.

263,671. GAS-STOVE. JOSEPH H. BEAN, Cincinnati, Ohio. Filed Apr. 15, 1882. (No model.)



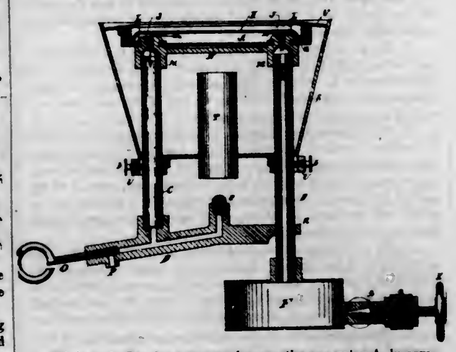
Claim.—1. In combination with the plate A, the two cylindrical castings B and C, generator F, lugs G, pipes *a* and *b*, tube D, valve and tip seat *c*, tip H', and draft-doors E, as and for the purpose described.

2. In combination with the plate A, hot-water tank J, hot-water pipe L, oven-lid M, door N, gas-generator F, with the serrations H, valve and tip seat *c*, and tip H', as and for the purpose described.

3. In combination with the hot-water tank J, oven-lid M, door N, and gas-generator F, plate A, pipes *a* and *b*, gas-tip and seat H', double-air-chamber oven-bottom P, and heat-deflecting plate R, as and for the purpose set forth.

4. In combination with the plate A, gas-generator F, pipes *a* and *b*, valve and tip seat *c*, tip H', valve and seat W, with the oil-fount Y, and its connecting-pipe, as set forth and described.

263,672. KEROSENE-GAS BURNER. JOSEPH H. BEAN, Cincinnati, Ohio. Filed Mar. 17, 1882. (No model.)

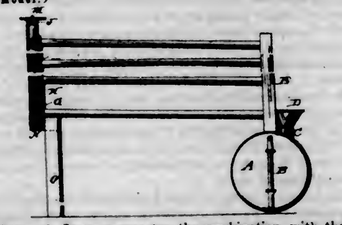


Claim.—1. In a kerosene-gas burner, the generator A, in combination with the washers L, studs J, sockets M, and binding-plate N, as and for the purpose described.

2. In a kerosene-gas burner, the combination of the generator A, inverted cone S, gas-spreader V, pipes B and C, collars U, set-screws *b*, and gas-tube T, as and for the purpose set forth.

3. In a kerosene-gas burner, the combination of the generator A, pipes B and C, valve and tip seat D, well F, valve-seat X, stuffing-box *a*, and valve Z, as and for the purpose set forth.

263,673. EVAPORATOR FOR FRUITS, VEGETABLES, &c. ROBERT M. BELLINGER, Blissfield, Mich. Filed July 18, 1882. (No model.)



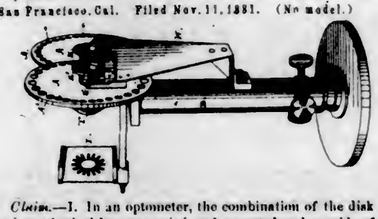
Claim.—1. In an evaporator, the combination, with the flat tubes forming shelves, inclined from one end to the other of the casing and opening at their lower end into the upright steam-chest, of the upright exhaust-pipe opening into said flat tubes, and pro-

vided at its bottom with an elbow extending up into the bottom inclined tube, substantially as and for the purpose set forth.

2. In an evaporator, the combination, with the upright steam-chest and the flat inclined tubes forming shelves, and provided with flanged heads, of the cross plates or pieces extending vertically between the heads and abutting against the flanges thereof, substantially as set forth.

3. The combination of the boiler, the upright steam-chest forming the end wall, the flat inclined tubes, the cross-pieces supporting the end of the tubes, and the upright exhaust-pipe having the regulating-valve, substantially as set forth.

263,674. COMPOUND OPTOMETER. LOUIS A. BEATSLING, San Francisco, Cal. Filed Nov. 11, 1881. (No model.)



Claim.—1. In an optometer, the combination of the disk A, carrying spherical lenses *a a' a'*, and mounted and capable of rotation on a horizontal axis, and the eye-piece or sight-tube E, and movable slide *f* upon which it is sustained, substantially as hereinbefore described.

2. In an optometer, the combination of the disk A, having the series of spherical lenses, and mounted and capable of rotation on a horizontal axis, the eye-piece or sight-tube E, and the movable auxiliary lens R, of fixed or definite power, substantially as hereinbefore described.

3. In an optometer, the combination, with the eye-piece or sight-tube, of the disk A, with its series of lenses mounted on the adjustable arm K, whereby its center or pivot is capable of lateral adjustment to and from the center or axis of the eye-piece, substantially as hereinbefore described.

4. The combination together, in an instrument or apparatus of the kind described, of a disk carrying a series of spherical lenses and a disk carrying a series of cylindrical lenses, having a swinging movement on its support, so as to change the position of the axes of the lenses, both capable of rotation on a central axle or pivot, and arranged in relative position for operation, substantially as hereinbefore described.

5. In an instrument or apparatus of the kind described, the combination of the disks A A', having the series of spherical and cylindrical lenses, as described, the eye-piece or sight-tube E, the graduated bar or rod H, with adjustable target or object-piece I, and the auxiliary lens R, substantially as hereinbefore described.

6. The combination, in one instrument or apparatus, of a set or sets of spherical lenses of different powers and a set or sets of cylindrical lenses of different powers so applied together for joint operation in front of an eye-piece or sight-tube that any one of the cylindrical lenses can be brought into line and position with any one of the spherical lenses at the eye-piece or tube, with its axis at any desired angle, substantially as hereinbefore described, for the purposes specified.

7. The combination, with the eye-piece or sight-tube, of the set of spherical lenses of both orders, the set of cylindrical lenses of both orders mounted in a rotating frame, arranged and applied for conjoint action and operation, and the auxiliary lens R, adapted to be brought into and out of action with said lenses, substantially as hereinbefore described, for the purposes specified.

8. The combination, with the disk A, carrying spherical lenses, of the disk A', having cylindrical lenses, the center or pivot C' of which is capable of a movement in a curved path around the axis or line of sight, said movement being caused to take place in a circle having its center at the said axis and passing through the center or pivot C', substantially as hereinbefore set forth.

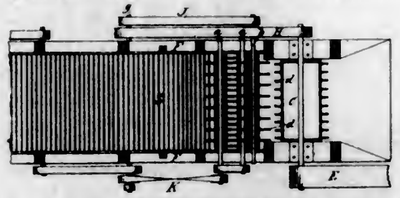
9. In combination with the disk A', carrying cylindrical lenses, and having a movement in a circular path around an eye-piece or tube, E, in addition to its movement of rotation upon its pivot C', a means for indicating the amount or degree of this revolution about the eye-piece, substantially as hereinbefore described, for the purpose set forth.

10. In combination with the fixed support J, having the scale Z, the rotary arm T, with its pivot or axle to carry the disk A', and the index or pointer V on said arm, substantially as hereinbefore described, for the purposes set forth.

11. The slide *f*, having the fixed eye-pieces or sight-tubes E E', and adapted to be moved laterally in front of the disks A A', as described, in combination with the closing-plate or shutter *g*, applied to act substantially as hereinbefore described, for the purposes set forth.

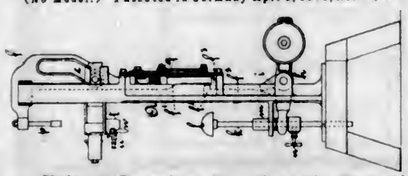
12. The disk A, having the circle of apertures *b* around its rim, the centers of which are located in a circle having its center at the pivot C', and provided with the channel or groove in its front face, and the letters and figures to indicate the character and powers of the lenses which are fixed in said channel in front of the said apertures, substantially as described.

263,675. THRASHING-MACHINE SEPARATOR. JOHN B. BLOOM, near Dixon, Cal. Filed Dec. 15, 1881. (No model.)



Claim.—In a machine for thrashing grain and breaking up the straw previous to its entering upon the separating mechanism, the combination of the thrashing-cylinder C and breaking-shafts or cylinders *b a a*, the shaft *b* revolving in an opposite direction to that given to the breakers *a a*, substantially as and for the purpose set forth.

263,676. MACHINE FOR CORKING BOTTLES. FRIEDRICH W. BOLDT and HERMANN E. SCHRADER, Hamburg, Germany, assignors to Boldt & Vogel, same place. Filed Mar. 22, 1882. (No model.) Patented in Germany Apr. 2, 1880, No. 13,188.



Claim.—1. In machines for corking bottles, the combination of the sliding jaws *a* with the sliding frame *c* and the wedge-shaped projections *b*, substantially as set forth

2. In machines for corking bottles, the combination of the sliding jaws *a* and anti-friction rollers *g* with the sliding frame *c* and the wedge-shaped projections *b*, substantially as set forth.

3. In machines for corking bottles, the combination of the main lever *g* with the click *o*, the connecting-rod *r*, the spring *s*, and the toothed segment *q*, substantially as specified.

4. In machines for corking bottles, the combination of the sliding frame *f*, provided with the wedge *f'* and projection *f''*, the loose wedge *f³*, having a projection, *f⁴*, with the lever *h*, the finger *i*, the bottle-support *l*, the guiding-rod *k*, and the collar *m*, substantially as described.

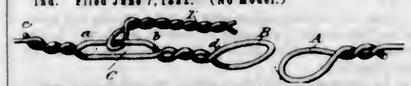
263,677. BALE-TIE. MARVIN CAMPBELL, South Bend, Ind. Filed May 6, 1882. (No model.)



Claim.—1. A bale-tie, one end having a hook situated back of a loop, the open side of the hook turned away from or toward the band, substantially as described, and for the purpose set forth.

2. The combination, in a bale-tie, of the hook *b*, loop B, and loop A, substantially as herein described.

263,678. WIRE BALE-TIE. MARVIN CAMPBELL, South Bend, Ind. Filed June 7, 1882. (No model.)



Claim.—In a bale-tie, the toggle or tongue T, suspended from an elongated loop, C, for the purpose of fastening together the two ends of the bale-tie, substantially as described.

263,679. WIRE BALE-TIE. MARVIN CAMPBELL, South Bend, Ind. Filed June 15, 1882. (No model.)



Claim.—1. A bale-tie, one end having the simple loop A, the other end having the loop B, crossed at the point *l*, and from this point the hook *a* suspended, substantially as herein described and shown, and for the purpose set forth.

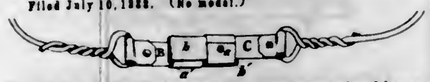
2. The hook *a*, having the two notches *d* and *e* and the loop or eye *l*, for the purpose of engaging or locking the two ends of a bale-tie,

3. The combination, in a bale-tie, of the loops A and B and the hook *a*, substantially as and for the purpose herein described, and shown in Figs. 2 and 3.

4. The combination, in a bale-tie, of the loops A and B and the hook *a*, substantially as and for the purpose herein described, and shown in Figs. 4 and 5.

5. In a bale-tie fastening, the sliding hook, in combination with a loop or loops upon one end for the purpose of engaging the other end of the bale-tie.

263,680. BALE-TIE. MARVIN CAMPBELL, South Bend, Ind. Filed July 10, 1882. (No model.)



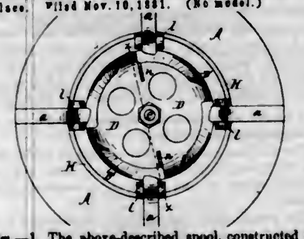
Claim.—1. A bale-tie, one end having the hook *b* and loop *a* upon its lower side, the other end having the hook *b'* and the loop *a'* upon its opposite or upper side, substantially as shown in Figs. 1 and 3, and for the purpose described in the foregoing specification.

2. In a bale-tie, the combination of the hooks *b* and *b'* and the loops *a* and *a'*, substantially as shown in Figs. 2 and 4—to wit, the hook *b* resting in the loop *a'* and the hook *b'* resting in the loop *a*, the open side of each hook held and prevented from straightening by resting against the back of the hook or loop or hook and loop of the other end of the bale-tie.

263,681. INITIAL LETTER, &c. ASAHEL B. CASE, Providence, R. I., assignor of two-thirds to George C. Case and William E. Dutemple, both of same place. Filed July 22, 1882. (No model.)

Claim.—The improved letters herein described, comprising an alphabet made from plain or ornamental wire bent to form and secured with solder, substantially as shown and set forth.

263,682. SPOOL FOR HOLDING WIRE. ORRIL R. CHAPLIN, Boston, Mass., assignor to the Flexible Shoe Nail Company, same place. Filed Nov. 10, 1881. (No model.)



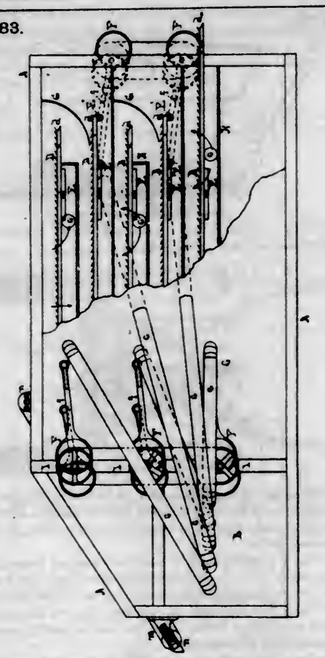
Claim.—1. The above-described spool, constructed with an adjustable head composed of center piece, D, and projecting arms *a*, arranged and operating together as set forth.

2. The combination of the hub B, the drum H, the movable center piece, D, and arms *a*, as shown and described.

263,683. MACHINE FOR DRYING WOOL AND OTHER FIBER. HENRY W. CSUSCH, Graniteville, Mass. Filed July 24, 1882. (No model.)

Claim.—1. In a fiber-drying machine, a reciprocating toothed

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frame provided with inclined teeth or spines carrying the fiber, in combination with the means to produce air-current to pass through the latter, substantially as described.

2. In a fiber-drying machine, the combination of two alternately-reciprocating frames provided with inclined spines or teeth and forming the platform D, for receiving and transporting the fiber through the machine, substantially as described.

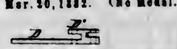
3. In a fiber-drying machine, the combination of a series of successively-operating platforms, D D, each formed of reciprocating frames with inclined teeth or spines, substantially as described.

4. The combination of two platforms, D D, each formed of reciprocating frames provided with inclined spines or teeth, with the connecting-incline G, substantially as described.

5. In combination with the reciprocating frame with inclined teeth or spines, carrying the fiber, the air-pipe c, connecting the chamber of the same with an air-blast mechanism, substantially as described.

6. The combination of a series of platforms, D D, each formed of reciprocating frames with inclined spines or teeth, with a series of corresponding air-pipes, c c, substantially as described.

263,684. LOCK FOR FIRE-ARMS. GEORGE W. CILLEY, Norwich, Conn. Filed Mar. 30, 1882. (No model.)



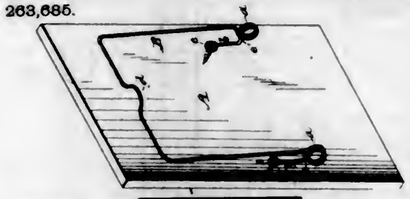
Claim.—1. The hammer C, having a lateral recess, C^1, and the sickle-lever D, having a projection, D^1, and pivot D', whereby a double joint is made between the hammer and sickle-lever, with the link D^2 and spring E, all operating together substantially as described, and for the purpose set forth.

2. The hammer C, having a cam, $c\,c^2$, the sear-lever L L' L^2, and spring L^3, with the trigger K, having a curved portion terminating in a cusp-point, K', whereby the sear-lever is held down by friction caused by end pressure, substantially as described, and for the purpose set forth.

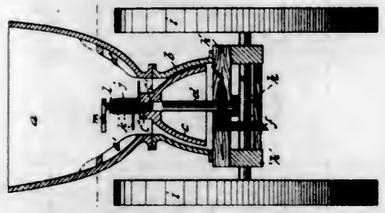
263,685. PAPER-FILE. CHESTER C. CLARK, Brownwood, Tex. Filed Jan. 20, 1882. (No model.)

Claim.—As an improved article of manufacture, the wire clamp B, bent, as shown, to form coiled springs *a*, shoulders *c*, lever-arms *b*, with eyes *e*, and the thumb-piece *d*, said lever-arms being on a different vertical plane than the sides of the clamp, to enable it to be conveniently attached to a suitable base, substantially as and for the purpose set forth.

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263,686. CIDER-MILL. GEORGE M. CLARK, Higganum, Conn. Filed Dec. 2, 1881. (No model.)



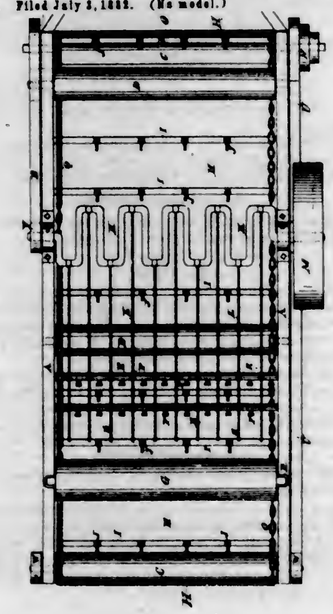
Claim.—1. In a grinding-mill, an interiorly-flanged hopper, in combination with an automatic stirrer, upright grinders, and actuating mechanism, all substantially as described, and for the purpose set forth.

2. In a grinding-mill, an interiorly-flanged hopper, in combination with rotary knives, upright grinders, and actuating mechanism, all substantially as described, and for the purpose set forth.

3. In a grinding-mill, an interiorly-flanged hopper, in combination with rotary knives or cutters and actuating mechanism, all substantially as described.

4. In a grinding-mill, in combination, a hopper, *a*, with internal flanges, *a' a'*, grinder *b*, longitudinally-adjustable grinder *c*, shaft *d*, adjusting-rod *j*, knives *k k*, with perforated and mortised shank *k'*, bridge *h*, frame *h'*, shaft *g*, and driving-wheels *i i*, all substantially as described.

263,687. BAND CUTTER AND FEEDER. STEPHEN C. CONDER, Olmstead, Ky., assignor of three-fourths to J. Guthrie Coke, David P. Browder, and Thomas J. Brooks, all of Logan County, Ky. Filed July 3, 1882. (No model.)



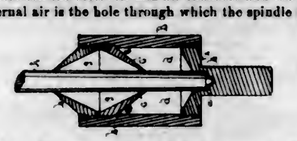
Claim.—1. The combination of the frame A, having hinged board O, the rollers C C, apron H, having strips I and hooks J, rollers D D, apron C', and fingers Y, substantially as and for the purposes shown and described.

2. The combination of the hooked apron H, yielding roller G, apron C', shears S, and suitable operating mechanism, substantially as and for the purpose described.

3. A band cutter and feeder comprising the frame A, rollers C C, apron H, having strips I, provided with hooks J, rollers D D, apron C', yielding roller G, shears S, separated by washers R, pitman L, cranks K, hinged board O, shaft *a*, having fingers Y, eccentric B', and connecting-rod *z*, substantially as shown and described.

263,688. SPINDLE-STEP FOR SPINNING-MACHINES. WILLIAM A. DELMAGE, Lowell, Mass. Filed July 21, 1881. (No model.)

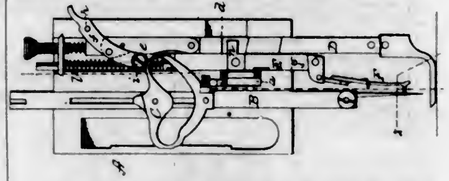
Brief.—The step is located at the base of an oil-receiving reservoir, which is provided with a dead-air chamber located above said step and separated from the reservoir by a downwardly-inclined diaphragm, the whole so arranged that the only communication between the reservoir and air-chamber and the latter with the external air is the hole through which the spindle passes.



Claim.—The combination of the oil-chamber *d*, diaphragm *e*, and dead-air chamber *g*, as and for the purpose substantially as set forth.

263,689. FEED MECHANISM FOR SEWING-MACHINES. MARTIN A. DILLEY, Wasepi, Mich. Filed Jan. 12, 1882. (Model.)

Brief.—The auxiliary presser-foot holds the fabric down upon the feed-dog while the presser-foot is raised, and both are raised and lowered alternately with every descent of the needle.



Claim.—1. A cam-lift, C, provided at its lower end with a journal-bearing and an anti-friction roller, substantially as described.

2. A cam-lift provided at its lower end with a journal-bearing and an anti-friction roller connected to a needle-bar, in combination with a helper or holder bar and holder-foot with a trip device, operating substantially as described.

3. A helper or holder bar having its upper portion reduced in diameter to receive a surrounding coil-spring, and at its lower end with arms for a hinge-connection, substantially as described.

4. A helper or holder bar having its upper portion reduced in diameter to receive a surrounding coil-spring, and its lower end with arms for a hinge-connection, and with a lateral arm or extension, *s*, substantially as and for the purpose set forth.

5. A hinged helper or holder foot composed of the two parts *r* and *s*, substantially as described.

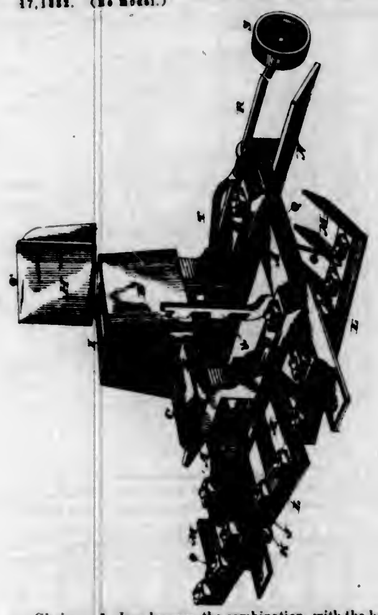
6. The combination of a needle-bar and its needle, the helper or holder bar E, having hinged thereto at its lower end the hinged holder-foot F, spring H, and operating mechanism, substantially as described.

7. The presser-bar D, formed with the shoulder *d*, and provided with the connecting arm or link *e* and lever *f*, substantially as and for the purpose set forth.

8. The combination, with the needle-bar and its cam-lift C, of the presser-bar D, provided with the connecting link or arm *e*, pivoted lever *f*, and anti-friction roller *i*, substantially as described.

9. In a sewing-machine, the combination of a needle-bar having attached thereto a cam provided with an anti-friction roller, a helper-bar with a hinged helper-foot, a trip device, and a presser-bar and its foot, substantially as and for the purposes set forth.

263,690. HARROW. JOSEPH DIVERS, Peru, Ill., Filed May 17, 1882. (No model.)



Claim.—1. In a harrow, the combination, with the harrow-frame consisting of the side bars and cross-bars, of two independent harrows having inwardly-inclined teeth and pivotally secured to rocking plates journaled in bearings depending from the forward ends of the side bars of the frame, substantially as set forth.

2. In a harrow, the combination, with the harrow-frame, of two independent harrows arranged to be laterally adjusted and to have oscillating movement, a leveler located in the rear of the harrows, a frame provided with wheels, and a lever pivotally attached to the rear of the harrow-frame, and a rack with which said lever engages, substantially as set forth.

3. The combination, with the frame having the harrows under its front portion and the leveler secured to its rear end, of the platform extending from the front to the rear of the frame, and the driver's seat mounted upon said platform and adjustable thereon in the line of the draft, substantially as and for the purpose set forth.

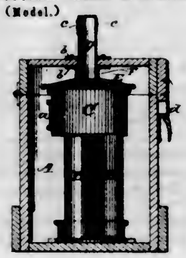
263,691. WATCH-CHAIN. WILLIAM C. EDON, Newark, N. J. Filed Mar. 13, 1882. (No model.)

Brief.—A flattened chain with a rib on each side is made out of the ordinary fox-chain by passing it through grooved rollers.



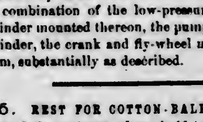
Claim.—A chain composed solely of links that have bulging-ont portions *b b*, said chain being flat throughout, with the exception of projecting ribs *a a* on its face, substantially as herein shown and described.

263,692. MILK-COOLER. HENRY H. FINE, Elkdale, Pa. Filed July 10, 1882. (Model.)



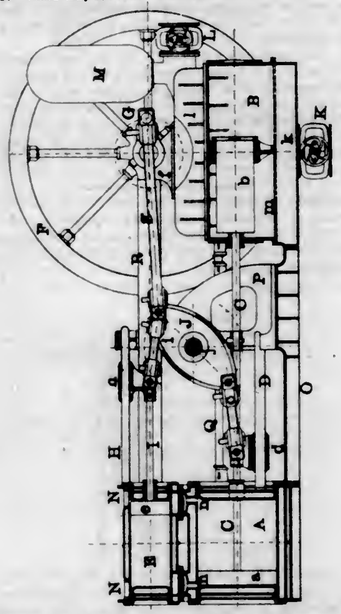
Claim.—In a milk-cooler, the milk-vessel provided with a dome or cover having upon its under rim an air-tight packing, and connected with a flue having openings at or near its top, in combination with the spiral spring and cooling-chamber, substantially as described, and for the purpose specified.

263,693. SNAP-HOOK. CHARLES H. FREER and MAYNARD M. FREER, Blue Earth City, Minn. Filed June 6, 1882. (No model.)



Claim.—As an improvement in snap-hooks, the frame A, having hook B, in combination with the snap or tongue C, having recess or chamber R, and the flat spring S, bent around the pivot-pin P and fitted in said recess, as set forth.

263,694. PUMPING-ENGINE. HARVEY F. GASKILL, Lockport, N. Y. Filed May 8, 1882. (No model.)



Claim.—1. The combination of the two steam-cylinders mounted one upon the other, the pump in line with one of said cylinders, the crank and fly-wheel mounted on the pump, and the beam connecting the whole into one machine, substantially as described.

2. The combination of the two steam-cylinders mounted one upon the other, the beam-connection between the two, the pump in line with one of said cylinders, and the crank and fly-wheel mounted on the pump, said two cylinders bearing the relation of high and low pressure to each other as in a compound or Woolf engine, substantially as described.

3. The combination of the low-pressure cylinder, the high-pressure cylinder mounted thereon, the pump in line with the low-pressure cylinder, the crank and fly-wheel mounted on the pump, and the beam, substantially as described.

263,695. REST FOR COTTON-BALES. WILSON GLOVER, Charleston, S. C., assignor of one-half to J. L. Roxburgh, same place. Filed Aug. 2, 1882. (No model.)

Claim.—1. As a new article of manufacture, a rest or support for bales, provided with devices for securing it to the bale, substantially as set forth.

2. As a new article of manufacture, a block or rest for bales, provided with a grasping and clamping device, substantially as set forth.

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3. The combination, with a bale, of rests or supports provided with devices for removably securing the same to the bale, substantially as set forth.

4. The combination, with a bale, of rests or supports provided with devices for engaging the bagging of the bale, substantially as set forth.

5. The combination, with a bale, of a block or support provided with a band secured at one end to one side of the block and adapted to pass through a portion of the bagging of the bale and be detachably secured at its opposite end to the adjacent side of the block, substantially as set forth.

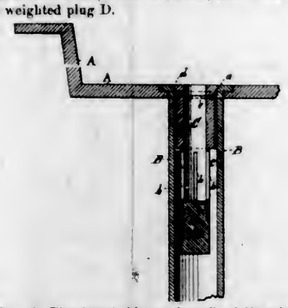
6. The combination, with the block and the band, the latter being adapted to engage a portion of the bagging of the bale, of devices for detachably securing the free end of the band, substantially as set forth.

7. The combination, with the block, of a band of spring metal secured at one end to one side of the block and adapted to pass through a portion of the bagging of the bale, while its free end is slotted and adapted to engage a stud or other retaining device on the adjacent side of the block, substantially as set forth.

8. The combination, with a block or support, of a spiral screw adapted to be screwed into the bagging of a bale, substantially as set forth.

263,696. WATER-SINK, WILLIAM J. CHARLTON, Philadelphia, Pa. Filed Dec. 29, 1881. (No model.)

Brief.—The strainer C is detachable, and is of diminished diameter at its lower end, which is slotted, and which is provided with the weighted plug D.



Claim.—1. The detachable receiver C, of diminished diameter at its lower end, and having vertical slots *b*, and a screw-plug, D, substantially in the manner described, and for the purpose specified.

2. The receiver C, having a flange, *d*, at its upper end and openings at its lower end for the passage of water into the discharge-pipe, and the plug D, which performs the double function of closing the lower end of the receiver and of acting as a weight to keep the flange *d* in close contact with the bottom plate of the sink, substantially as described.

3. The combination of the receiver C, having a flange, *d*, plug D, and slots *b*, with the sink A and discharge-pipe B, the lower end of the receiver being reduced in its diameter to form an annular space, *e*, and a wire, *c*, or other suitable device to be used in lifting it, substantially as described.

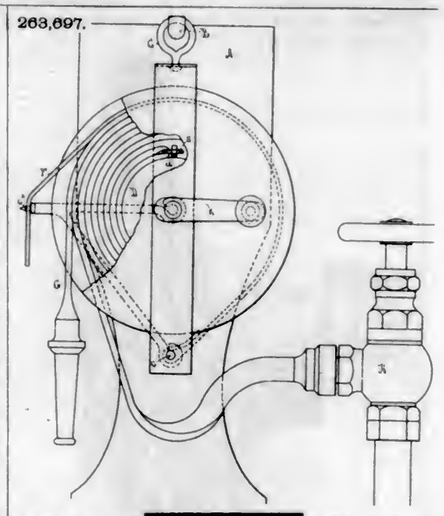
263,697. HOSE-REEL. ALONZO J. GUILD, Lowell, Mass. Filed Mar. 27, 1882. (No model.)

Claim.—1. The combination of the hose G with the reel D, suspended by the swiveled frame C, and adapted to turn in any direction upon such swivel and discharge the hose as it is unwound from the reel in such direction, substantially as described.

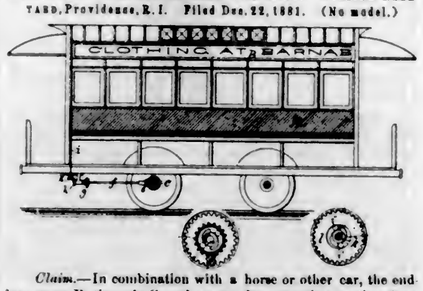
2. The combination of the reel D, provided with the pin *d*, frame C, and arm B, with the hose G, provided with the link *e*, substantially as described.

3. The combination of the swiveled frame C, provided with the friction-strap F and reel D, with the hose G, substantially as described.

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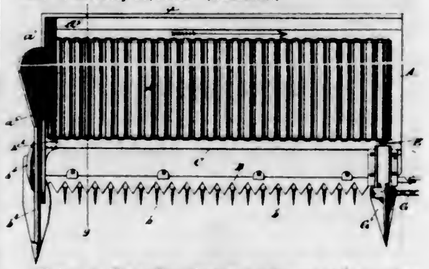


263,698. PANORAMIC SIGN FOR CARS. WILLIAM HALE YARD, Providence, R. I. Filed Dec. 22, 1881. (No model.)



Claim.—In combination with a horse or other car, the endless apron B, the axle C, and means for conveying motion from the axle to the apron, an automatic reversible clutch constructed to drive the apron in one direction only, as described.

263,699. RAKING ATTACHMENT FOR HARVESTER-BINDERS. JOSIAH D. HUBBNER, Lansdale, Pa., assignor of one-half to David S. Hechaer, Isaac D. Hechaer, and William D. Hechaer. Filed July 13, 1882. (No model.)



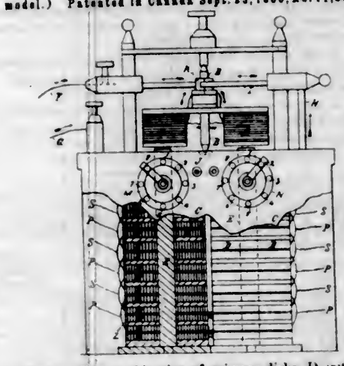
Claim.—1. The endless platform constructed of bars or slats of pyramidal shape in cross-section and forming close joints with each other at their bases, and means for articulating said bars together, substantially as described.

2. In the herein-described endless platform, the combination, with the transverse bars or slats pyramidal shaped in cross-section, of the connecting-links and the staples driven in the ends of the bars, and each operating to secure the opposite ends of two links, substantially as described.

3. The combination, with the endless platform and the sprocket-wheels, constructed as described, of the elevated track-

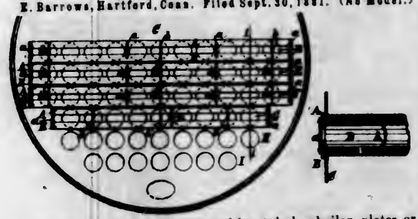
way, the longitudinal guiding-grooves C' in the supports C C' of the trackway, and the pins *d*', secured to the bars of the endless platform and working in said longitudinal grooves, substantially as described.

263,700. ELECTRO-MEDICAL INDUCTION-COIL. THOMAS H. HICKS, London, Ontario, Canada. Filed Apr. 20, 1882. (No model.) Patented in Canada Sept. 23, 1880, No. 11,302.



Claim.—The combination of primary disks, D, with the secondary disks, D', non-conducting disks Z, metallic strip X, and branch wires P and S, constructed substantially as specified.

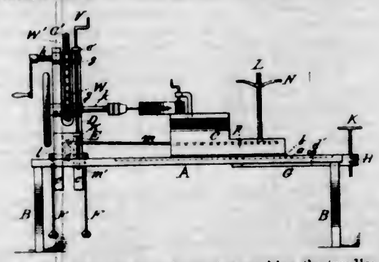
263,701. BOILER. DE WITT C. HILL, Willimantic, Conn., assignor of two-thirds to John Scott, same place, and William E. Barrows, Hartford, Conn. Filed Sept. 30, 1881. (No model.)



Claim.—1. In combination with a tubular boiler, plates or bars placed in relation to the boiler and the tubes and arranged in pairs, as specified, the two of each pair being so hinged together that one may be moved parallel to the other by sliding it endwise, substantially as and for the purpose specified.

2. In combination with a tubular boiler, two plates or bars, one having springs *b* to enter the tubes and keep the plates or bars in position and the other being hinged to the former in such a manner that it may be slid parallel to it, substantially as and for the purpose specified.

263,702. BORING AND TENONING MACHINE. CHESTER A. HOPKINS, Beloit, Wis. Filed Apr. 1, 1882. (No model.)



Claim.—1. In a boring and tenoning machine, the treadles F and T-lever *l*, and the perforated adjustable rod *m*, connecting said T-lever to the work-table C, substantially as specified.

2. A boring and tenoning machine consisting of a main bench, a horizontally-sliding adjustable work-table thereon, a graduated adjustable rod connecting the table to a treadle-lever, a vertically-adjustable post carrying the driving-shaft, tool-shaft, and connecting gear, and the vertical adjusting-screw in engagement with said post, substantially as specified.

263,703. LID FOR STOVES. JAMES A. HORTON, New Castle, Pa. Filed May 25, 1882. (No model.)



Claim.—A stove-lid constructed in three parts, A, B, and C, the parts A B having flanges D, with projection *e*, the parts A, B, and C being secured together through the medium of screws or rivets, substantially as herein described, and for the purpose set forth.

263,704. TOE-WEIGHT. MOSES H. HOUGHTON, New Haven, Conn. Filed July 10, 1882. (No model.)



Claim.—1. A toe-weight comprising a hollow shell or casting adapted to contain quicksilver or other suitable material that will adapt itself to the position of the foot, and provided with means for attachment to the hoof, substantially as set forth.

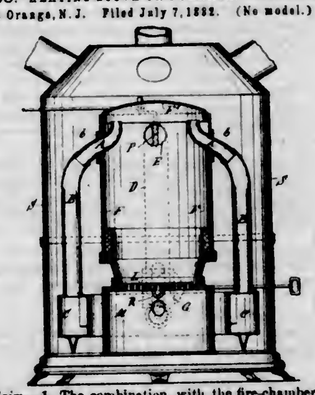
2. The combination, with a holding-plate adapted to be attached to the hoof of the horse, of a hollow shell or casting adapted to be removably secured on said plate, and having an opening at its top closed by a disk or plate, substantially as set forth.

3. The combination, with a dovetailed plate adapted to be secured permanently on the hoof, of the toe-weight formed with a dovetailed groove in its rear face at the lower end, substantially as set forth.

4. The combination, with the dovetailed plate having a notch in one edge and adapted to be secured permanently on the hoof, of the toe-weight having the dovetailed groove, the screw-threaded perforation at right angles thereto, and the set-screw, substantially as set forth.

5. The combination, with the holding-plate adapted to be secured permanently on the hoof, of the hollow shell or casting having a screw-threaded opening at its top, and a screw-threaded closing plate or disk having an operating-stud, substantially as set forth.

263,705. HEATING STOVE OR FURNACE. MAURICE C. HULL, West Orange, N. J. Filed July 7, 1882. (No model.)



Claim.—1. The combination, with the fire-chamber and the casing F above the grate-bars, of the flues E D C B, and the flue A, having a flange, *b*, by which it is attached to the casing F, the end being tapering, and having the opening at the upward end, substantially as set forth.

2. The combination, with the casing F, forming a fire-chamber, of one or more flues, A, having their open upper ends within the fire-chamber, or passing downwardly, first inside and then outside the combustion-chamber, substantially as set forth.

3. The combination, with the casing F, forming a combustion-chamber above the fire, of one or more descending flues, A, having contracted upper ends, within the fire-chamber and near the top thereof, and an inclined bottom to each flue, so as to be self-cleaning, substantially as set forth.

263,706. DEVICE FOR LIGHTING THE STEPS OF CARS OR CARRIAGES. GEORGE W. HUNT, Philadelphia, Pa. Filed July 21, 1882. (No model.)

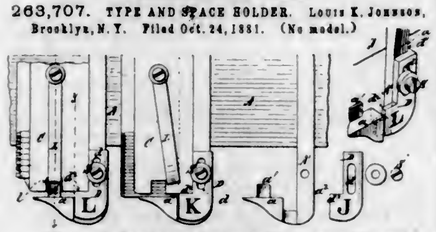


Claim.—1. The herein-described lantern, to be used for illuminating the steps of cars or carriages, consisting of the frame A, of metal or other suitable material, and lenses *a*, *b*, and *c*, substantially as and for the purposes set forth.

2. As a device for securing and preserving from injury the lantern A, situated beneath the steps of a car or carriage, the case B, constructed of metal or other suitable material, having its front and top open and sides beveled off, and having a door, C, at its back, substantially as described.

3. The herein-described case for securing a lantern for illuminating the steps of cars or carriages, consisting of the case B, made of metal or other suitable material, having its front and top open, and having a door, C, and aperture E, and having the screen F, substantially as and for the purposes set forth.

263,707. TYPE AND SPACE HOLDER. LOUIS K. JOHNSON, Brooklyn, N.Y. Filed Oct. 24, 1881. (No model.)



Claim.—1. In a type and space holder, substantially such as described, the adjustable channel-support D, provided with the retaining-shoulder d^2 and the supporting-shoulder d^3, in combination with the stationary type-seat *a* and the type-containing channel C, provided with the bearing or foot *c'*, arranged and operating substantially in the manner and for the purpose described.

2. In a type and space holder, substantially such as described an interchangeable channel-supporter, D, provided with a denomination-mark, in combination with the stationary type-seat *a* and the type-containing channel C, substantially in the manner and for the purpose designated.

3. In a type and space holder substantially such as described, the stationary type-seat *a*, provided with the type-retaining shoulder *a'*, in combination with the type-containing channel C, having the slot *e* formed in its rear wall, and with an adjustable channel-support, D, substantially in the manner and for the purpose described.

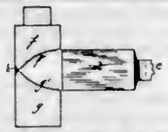
263,708. SMOKE-CONSUMER. SALMON JONES and GEORGE B. MARSHALL, Cincinnati, Ohio. Filed May 15, 1882. (No model.)



Claim.—In smoke-consumers, the horizontal transverse pipe G, formed of the separable sections H I, each alternate section having the rearwardly-projecting horizontally-disposed nozzle J, and the other alternate section having the downwardly-projecting elbow-nozzle K, substantially as and for the purpose shown.

263,709. DIE FOR TAPERING SHOVEL-MOLDS. WILLIAM P. T. JOYS, Pittsburg, Pa., assignor to Hubbard, Bakewell & Co., same place. Filed Apr. 24, 1882. (No model.)

263,709.

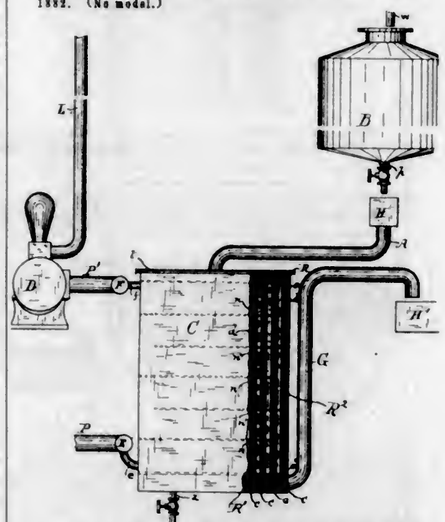


Claim.—1. A pair of dies for tapering shovel-molds, recessed so that when closed they form a tapered working-cavity, substantially as and for the purposes described.

2. A pair of dies for tapering shovel-molds preparatory to rolling or plating, having a tapering cavity which is laterally serrated, substantially as and for the purposes described.

3. A pair of dies for tapering shovel-molds preparatory to rolling or plating, having a tapering cavity which is laterally serrated, and provided with cutting-edges at the inner end of the die-cavity, substantially as and for the purposes described.

263,710. PROCESS OF WASHING BONE-BLACK IN SUGAR-REFINERIES AND APPARATUS FOR CARRYING ON THE SAME. S. MORRIS LILLIE, Philadelphia, Pa. Filed July 28, 1882. (No model.)



Claim.—1. The within-described process of saving and utilizing the heat in the washings from the bone-black of sugar-refineries, consisting in employing the said washings to heat either fresh water to be used for the purposes of the refinery or the sugar-liquors of the refinery preparatory to further treatment, substantially as and for the purpose specified.

2. The within-described process of saving and utilizing the heat contained in the washings from the bone-black in sugar-refineries, consisting in employing the washings to heat fresh water, and in using the resulting heated fresh water for washing the sweetness and impurities from black through which a filtration of sugar-liquor has taken place, substantially as specified.

3. The within-described process of heating water for the purposes of a sugar-refinery, consisting in passing the water first through an apparatus in which it will be subjected to the heating action of the hot washings from the bone-black and then through a heating-tank or other heating apparatus in which the required additional temperature will be imparted to it, substantially as specified.

4. The combination, with the vats in which, in sugar-refineries, the bone-black is washed with hot water, of an apparatus for receiving the hot washings as they flow from the vats, and operating to utilize the heat in the said washings for heating fresh water or liquor flowing through the said apparatus, substantially as specified.

5. The combination of the bone-black-washing vats B, heater C, heating-tank M, and apparatus for forcing water through the heater C into the heating-tank M, the combination acting substantially as specified.

6. The combination of the bone-black-washing vats B, heater C, water-tank W, supplied with water from a main regulated by a float-valve, heating-tank M, and pump D, for drawing water through the heater C from the tank W, and for elevating the water to the heating-tank M, the combination operating substantially as and for the purpose specified.

263,711. REVERSING-VALVE FOR ENGINES. CHARLES M. LEONARD, Indianapolis, Ind. Filed May 23, 1882. (No model.)

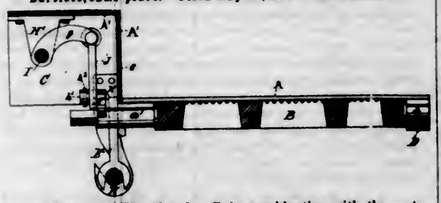


Claim.—1. The combination, with the steam-chest and cylinder of a steam-engine, of the cylindrical device E, interposed between them, and provided with one set of ports, d' d^2, which pass down through its sides substantially parallel with each other, and a second set, e^2 e', which pass centrally through it and cross each other, substantially as shown and described, and for the purposes specified.

2. The combination, with the steam-chest and cylinder of a steam-engine, of the cylindrical device E, interposed between them, and provided with the several ports d' d^2 e^2 e', arranged and operating substantially as shown and described, and for the purposes specified.

3. The combination, with an engine, of a valve adapted to cut off the ports from the steam-chest, and provided with an orifice, e^3, by which, in connection with portions of the ports, a passage is formed from one end of the cylinder to the other, for the purposes set forth.

263,712. GRATE FOR FURNACES. JOHN H. MCILVAIN, Philadelphia, Pa., assignor to Joseph B. Bartlett and Charles F. Bartlett, same place. Filed May 19, 1882. (No model.)

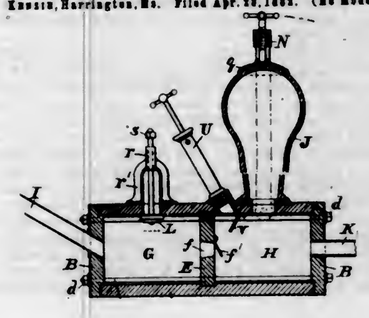


Claim.—1. The chamber C, in combination with the grates B, crank-shaft I, and intermediate mechanism for operating the grates, substantially as set forth.

2. The detachable pedestals E, in combination with the horizontal shaft G and front journals, *a'*, of the grate-sections B, the pedestals being detachable, substantially as described, and for the purpose set forth.

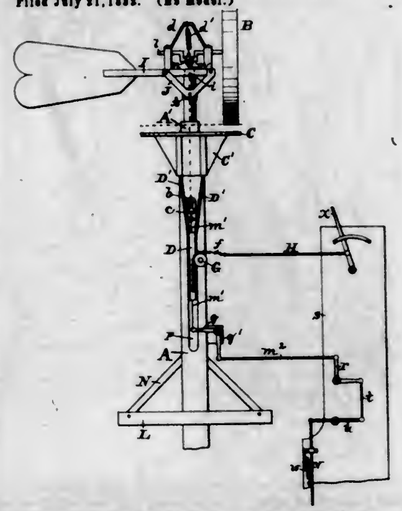
3. The crank-shaft I, having arms *g*, provided with pins A, in combination with the grate-sections B, having arms *g'*, provided with crank-pin *h'*, by means of the connecting-rods J, whereby to operate all the sections of the grate simultaneously, substantially as described.

263,713. AUTOMATIC WATER-ELEVATOR. GEORGE W. MCKENZIE, Harrington, Me. Filed Apr. 28, 1882. (No model.)



Claim.—In an automatic water-elevator, the combination of the body, divided by the vertical partition E into two compartments, with the port *f* and valve *f'* in the partition, the air-chamber J over that compartment into which the said valve opens, and an air-pump connected with the same compartment, as set forth.

263,714. WINDMILL. GEORGE W. MCKENZIE, Harrington, Me. Filed July 21, 1882. (No model.)



Claim.—1. In a windmill, the combination, with the wind-wheel, of a supporting-pole having its upper end squared, a vertically-movable platform having at its center a square opening, and means to raise the platform, as set forth.

2. In a windmill, the combination, with the wind-wheel, of a support for the wheel, a vertically-movable platform around the support, adapted, when up, to press against the rim of the wind-wheel, a rod having two prongs whose upper ends are attached to the platform, a chain attached to the lower end of the said rod, and a pulley mounted above the lower end of the rod, and over which pulley the chain passes, as set forth.

3. In a pumping-windmill, the combination, with the crank-shaft and wire attached thereto, of the bell-crank levers *q* and *r*, the wire w^3, connecting them, a horizontal lever, *u*, one end of which is connected by a wire, *t*, with the bell-crank lever *r* and the other end with the piston-rod *v* of a force-pump, and a spring, *w*, attached to the said piston-rod and adapted to raise it, as set forth.

263,715. GRAIN-BINDER. ANDREW C. MILLER, Sparta, Ill., assignor to D. M. Osborne & Co., Auburn, N. Y. Filed Nov. 3, 1882. (Model.)

Claim.—1. In a grain-binder, the knotting devices carried by a horizontally-oscillating arm, in combination with a cord-holder connected by a horizontal pivot to said arm, and means whereby a vertical movement is imparted to said holder, substantially as described.

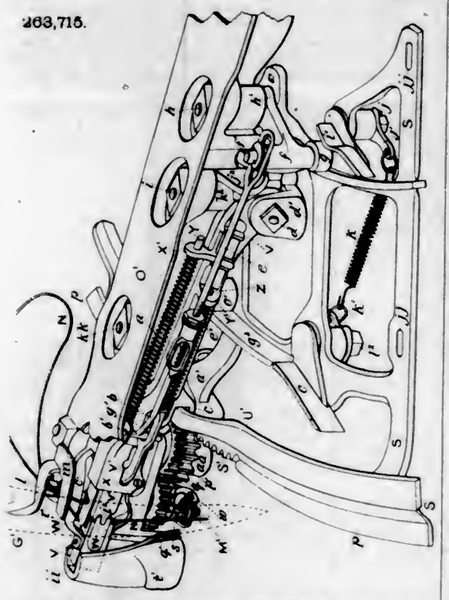
2. The combination, with the horizontally-vibrating carrying-arm, of the vertical knotter-spindle and the cord-holder connected to said arm by a horizontal pivot, permitting its vertical vibration, substantially as described.

3. The knotting devices and cord-holder applied to and moving with the horizontally-oscillating arm, in combination with the fixed switch-frame having a camway for imparting a vertical movement to the cord-holder, substantially as described.

4. The combination of the knotting devices carried on the horizontally-oscillating arm, the cord-holder pivoted to and receiving its horizontal movements from said arm and its vertical movements from the switch-frame, a pivoted switch on said frame for opening the jaws of the cord-holder, and a spring for closing the same, substantially as described.

5. The cord-holder connected by a horizontal pivot to the horizontally-oscillating arm at one end to admit of a vertical movement of its other end, in combination with a fixed vertically-grooved guide-piece for its moving end.

263,715.



6. The rotating hollow vertical knotter-shaft provided with a fixed longitudinal finger, in combination with the radially-swinging hook or finger pivoted to said shaft, a horizontally-vibrating arm carrying said shaft, and means for operating said hook during the vibratory movement of the carrying-arm.

7. The combination of the hollow vertical knotter-spindle provided with the pivoted radially-swinging finger, the horizontally-vibrating arm carrying said spindle, the vertically-vibrating cord-holder pivoted in said arm, and the vertically-oscillating and horizontally-swinging cord-carrying arm, arranged and operating substantially as described.

8. In a cord-tying device, a revolving spindle provided with a longitudinal lip at one end and a radially-swinging finger pivoted to the spindle and co-operating with the lip, said finger being constructed and arranged to stand outward in a position substantially at right angles to the axis of the spindle during the formation of the loop, whereby the device is adapted to operate upon a cord lying in line with the axis of the tyer.

9. The hollow vertical knotter-shaft having a rotary and a horizontally-oscillating movement, as described, provided with the fixed longitudinal lip or finger and with a pivoted radially-swinging hook operating in connection with said finger, in combination with a rod sliding in and rotating with said shaft for operating said hook, said rod being pivoted at one end to the hook, and provided at its opposite end with an adjustable loose thimble or collar having trunnions, through which connection is made with the mechanism for actuating said hook.

10. The combination of the hollow knotter-spindle and its hook, the sliding rod and its trunnion-connections, with the double-armed pivoted lever x' w' and roller y, supported on the horizontally-oscillating arm, a camway or track on the switch-frame, and a spring for operating the hook r', substantially as described.

11. The combination, with the horizontally-vibrating arm carrying the knotting devices, of the hollow vertical knotter-shaft having the longitudinal lip, the pivoted radially-swinging hook operating in connection with said lip, and the horizontally-vibrating cord-finger l and means for operating it, substantially as described.

12. The cord-holder, its movable jaw, the knife, the rod b, having a cross-head, b', the rod c, pivoted lever f, and pivoted switch i', arranged and combined substantially as and for the purpose described.

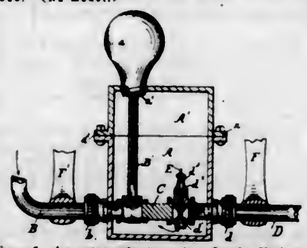
13. The horizontally-vibrating pressure-plate m, in combination with the vertically-vibrating cord-holder provided with the bail o', for holding the ends of the band after they are released by the cord-holder, substantially as described.

14. The combination, with the horizontally-oscillating arm carrying the knotter-spindle, of the pivoted cord-finger, the pressure-plate connected therewith, and the bail on the vertically-vibrating cord-holder, arranged and operating substantially as described.

15. The combination, with the grain elevating and discharging aprons, of a slotted grain-receiving table located outside of and below the discharging ends of said aprons, a horizontally-oscillating arm arranged below said table, a rotating hollow vertical knotter-spindle and hook carried by said arm, a vertically-oscillating cord-holder controlled in its vertical movements by a fixed camway, and a vertically-oscillating and horizontally-swinging cord-carrying arm hinged to the axis of the horizontally-oscillating arm, the whole arranged and operating substantially as described.

16. The combination of the horizontally-oscillating knotter-carrying arm O', its knotter shield-plate O, the vertically-oscillating cord-holder V, and the pivoted cord-finger l with the vertically-oscillating and horizontally-swinging cord-carrying arm, substantially as and for the purpose described.

263,716. STEAM-TRAP. JOHN HOUSEHAM, Detroit, Mich., assignor of one-half to Louis P. Harbat, same place. Filed July 11, 1882. (No model.)



Claim.—1. An automatic steam-trap for the discharge of condensed water from steam-pipes, consisting of a suitable receiving-chamber, an inlet steam-pipe which traverses the chamber at one side of the center of gravity and constitutes an axial support upon which the receiving-chamber may be tilted, an interior pipe connected therewith and carrying the steam above the water in the chamber, a discharge-pipe having its valve within said chamber, a lever arranged within said chamber and adapted to hold the valve closed when the receiving-chamber is in a horizontal position and leaving it free to operate when said chamber is tilted out of such position, and in combination therewith means whereby it shall be caused to occupy a horizontal position when relieved of its surplus water, substantially as described.
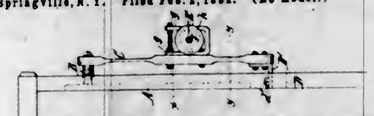
2. An automatic steam-trap for the discharge of condensed water from steam-pipes, consisting of a suitable receiving-chamber, an inlet steam-pipe traversing said chamber at one side of the center of gravity and forming a limited axis therefor, an interior pipe connected therewith adapted to carry the steam above the water in the receiving-chamber, a discharge-pipe provided with a suitable interior valve and valve-stem, a lever constructed and adjusted to rest upon the valve-stem when the receiving-chamber is in a horizontal position and to release its pressure upon the valve-stem when the receiving-chamber is tilted out of said position, and in combination therewith means whereby said chamber shall be caused to occupy a horizontal position when relieved of its surplus water, the whole construction being such that when the water unduly accumulates in the chamber it will tilt said chamber, relieve the valve from the pressure of the lever, and permit the pressure of the steam upon the water to open the valve and discharge the water until the equilibrium of the chamber is restored, substantially as described.

3. An automatic steam-trap for the discharge of condensed water from steam-pipes, consisting of a suitable receiving-chamber provided with a cock and weighted lever, an inlet steam-pipe, an interior pipe connected therewith adapted to carry the steam above the water in the receiving-chamber, a strainer below the orifice of said pipe, a discharge-pipe provided with a suitable valve connected by a blank joint to the inlet-pipe, said valve provided with a valve-stem, a lever constructed and adjusted to rest upon the valve-stem when the receiving-chamber is in a horizontal position and to release its pressure upon the valve when said chamber is tilted out of such position, and in combination therewith suitable stuffing-boxes whereby the receiving-chamber is pivoted upon the inlet and discharge pipes, substantially as described.

4. An automatic steam-trap for the discharge of condensed water from steam-pipes, consisting of a suitable receiving-chamber provided with an air-chamber, cock, and weighted lever, an inlet steam-pipe, an interior pipe connected therewith adapted to carry the steam into the air-chamber, a discharge-pipe provided with a suitable valve connected by a blank joint to the inlet-pipe, said valve provided with a valve-stem, a lever constructed and adapted to rest upon the valve-stem when the receiving-chamber is in a horizontal position and to release its pressure upon the valve when said chamber is tilted out of such position, and in combination therewith suitable stuffing-boxes whereby the receiving-chamber is pivoted upon the inlet and discharge pipes, substantially as described.

5. In a steam-trap for the discharge of condensed water from steam-pipes, a suitable receiving-chamber provided with an air-chamber, said air-chamber provided with a strainer, substantially as described.

263,717. MECHANICAL MOVEMENT. ORVILLE M. MORSE, Springville, N. Y. Filed Feb. 2, 1882. (No model.)

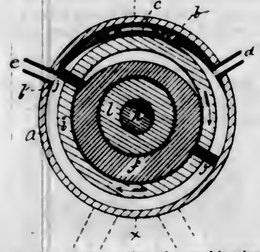


Claim.—1. The combination of a cam, E, rotating about its center and having an uneven number of equal faces, e, each curved in the arc of a circle described from the diametrically-opposite corner of the cam as a center, and two jaws, g, between which the cam is confined, and which are attached to the part to be actuated, whereby each revolution of the cam imparts as many double strokes to the actuated part as there are faces on the cam.

2. The combination, with a cam, E, provided with faces e, constructed as described, and having marginal circular flanges h, of the jaws g, bearing against opposite sides of the cam, between the circular flanges of the same, and attached to the part to be actuated, substantially as set forth.

3. The combination, with a cam, E, provided with faces e, constructed as described, of a rock-arm, C, provided with jaws g, bearing against opposite sides of the cam, and an adjustable plate, D', whereby the rock-arm C is attached to the machine, substantially as set forth.

263,718. ROTARY ENGINE. HIRAM PRAVEY, Bangor, Me., assignor of one-half to Frederick F. French, same place. Filed June 23, 1882. (No model.)



Claim.—1. In a rotary engine, the combination, with valves $j j'$ and abutment b, of an eccentric, f, acting on said valves throughout their whole length, and having a cavity, g, receiving a hub, l, upon the shaft h, and serving as a supplemental journal for said shaft within the body of the casing a, substantially as described.

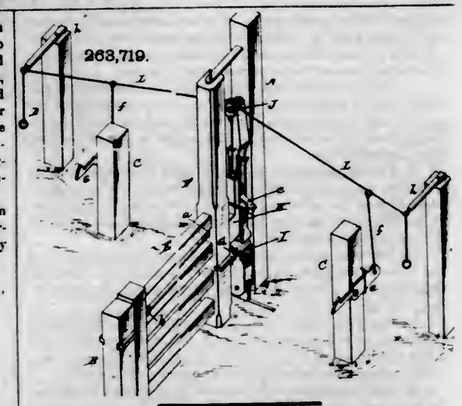
2. In a rotary engine, the combination of the casing a, having the abutment b, provided with the ports d e, and the eccentric f, with its cavity g, forming a part thereof, with the shaft h, casing i, with its valves $j j'$, and hub l, fitting said cavity g, rigidly attached to said shaft, substantially as described and shown.

263,719. GATE. JOSEPH S. PECK, Indian Valley, Cal. Filed June 16, 1882. (No model.)

Claim.—1. The combination of the wires L, swivel J, and the weight K with the lever a and the latch b, constructed and operating substantially as described.

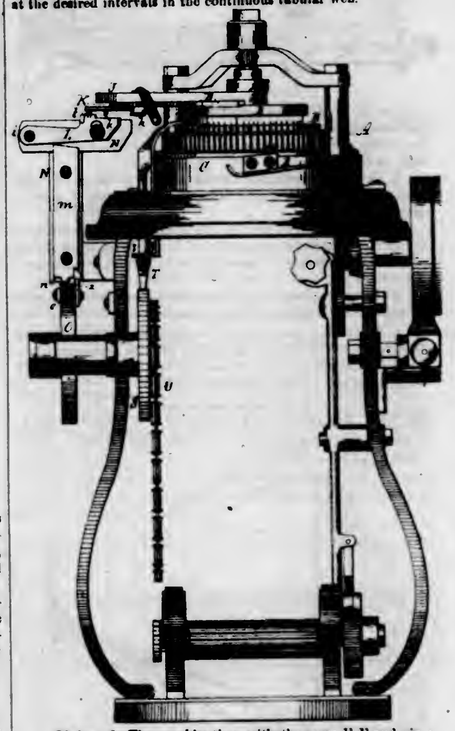
2. The combination of the wires L with the catches e through the short cords f, the lever H, provided with the swivel J and ratchet I, and the gate E, having the pinion G, for the purpose of closing the gate when open.

263,719.



263,720. CIRCULAR-KNITTING MACHINE. WILLIAM H. PEPPER, Lake Village, N. H. Filed Feb. 17, 1882. (No model.)

Brief.—The invention embraces novel means for operating the cams borne by the dial-plate, whereby the said cams, in addition to their usual function, are made to produce a close welt in the fabric, as also slack courses. Jacquard mechanism is employed for timing the various movements, so as to form the welts, &c., at the desired intervals in the continuous tubular web.



Claim.—1. The combination, with the cams E F and pin a, of the slide-bar G, having the cam-slot c, as described, and the two pinions I K, substantially as and for the purpose herein specified.

2. The combination of the cams E F, pin a, cam-slotted slide G, pinions I K, provided respectively with arms g h, stops L M, and mechanism for raising the said stops, substantially as and for the purpose herein specified.

3. The combination, with the cam-slotted slide G, the pinions

I K, and their respective arms *g h*. of the double stop L, the stop M, the cam-wheel O, provided with cam-projections *n o*, connecting-rods *m p*, and mechanism for operating the said cam-wheel, substantially as and for the purpose herein specified.

4. The combination of the cam-wheel O, ratchet-wheel P, provided with the projection *t*, the pawl Q, the ratchet-wheel S, the pawl T, the Jacquard chain U, having the projection *s*, and mechanism for actuating said pawls, substantially as and for the purpose herein specified.

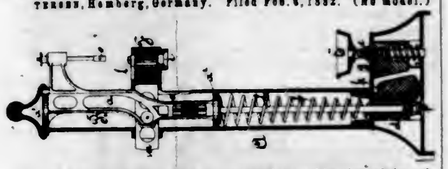
5. The combination of the ratchet-wheel P, provided with the projection *t* and tooth-cover *u*, and the pawl Q, with the Jacquard chain U, provided with the projection *s*, the ratchet-wheel S, pawl T, and means for actuating the said pawl, substantially as and for the purpose herein specified.

6. The combination, with the needle-cam V and its pin *v*, of the lever W, double-faced cam X, and mechanism for operating the said cam X, substantially as and for the purpose herein specified.

7. The combination of the cam V and its pin *v*, the lever W, the cam X, lever Y, bearing the cam Z, and the cam-wheel O, provided with a cam, *z*, and mechanism for actuating the said cam-wheel, substantially as and for the purpose herein specified.

8. The combination of the lever W, spring 1, stud 2, cam-projection 3, and stop 4, substantially as and for the purpose herein specified.

263,721. MACHINE FOR CORKING BOTTLES. KARL F. C. PETERSEN, Homberg, Germany. Filed Feb. 6, 1882. (No model.)



Claim.—1. In a corking-machine, the combination of the column A, containing the main movable parts of the machine, with the sliding piece B, provided with the pistons *a'* and *a*^{1}, substantially as described.

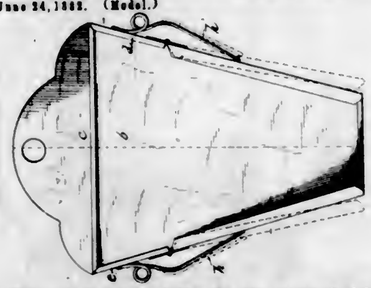
2. In corking-machines, the combination of the lever C, the sliding piece B, and the rod *b* with the spiral spring *f*, substantially as set forth.

3. In corking-machines, the combination of the bottle-stand E with the wedges *d*, *k*, and *g*, the rod *b*, with nuts *p*, the sliding piece B, and the lever C, substantially as and for the purpose specified.

4. In corking-machines, the combination of the rollers *l* with the dies *m'* and *m*^{1}, substantially as described.

5. In corking-machines, the combination of the horizontal sliding piece *m* with the vertical sliding piece B, reciprocating inside the hollow column A, and provided with a curved slit, *a*, substantially as and for the purpose specified.

263,722. HOLDER FOR WHISK-BROOMS. ALBERT PFRANGLE, Aurora, Ill., assignor of one-half to William Pfrangle. Filed June 24, 1882. (Model.)

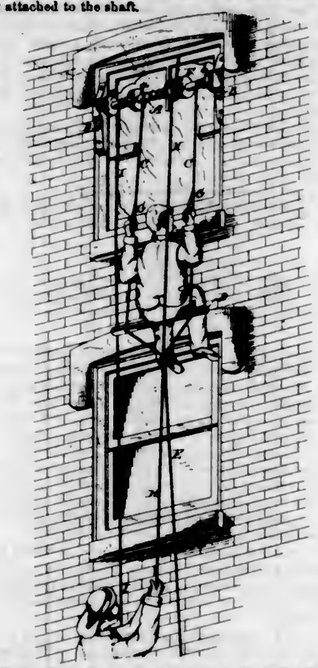


Claim.—1. In a broom-holder, the sides composed of fixed short pieces *d e* and of the hinged flanged pieces *f g*, arranged to swing outward, and provided with exterior reacting springs, as and for the purposes set forth.

2. In combination with the exterior hinged sides of flaps *f g* and their springs *h h'*, the back and front pieces, *b c*, secured to the short pieces *d e*, but left free or unattached below them, and serving to exert a yielding grasp on the brush or broom, as set forth.

263,723. FIRE-ESCAPE. BENJAMIN F. FIRE, Leadville, Colo. Filed May 3, 1882. (No model.)

Brief.—A shaft is journaled in brackets and provided with hoisting and lowering ropes. A brake-rope passes over a pulley rigidly attached to the shaft.



Claim.—In a fire-escape, the shaft A, journaled in brackets B, attached to the frame of a window or door, and provided with guides *a b c*, and brake-pulley F, in combination with the ropes C, seat D, guy-rope E, brake-cord H, and hoisting-rope I, all constructed and arranged to operate substantially as and for the purpose set forth.

263,724. MILLSTONE-DRIVER. LUTHER HEAD, Henderson, assignor of one-half to Louis S. Crandall, New York, N. Y. Filed May 5, 1881. (No model.)



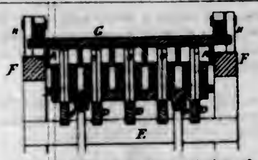
Claim.—1. The combination, with a rotating spindle, a spindle-cap provided with a journal-bearing, and a millstone-driver comprising the bearing portion Q, an upward-projecting crank at each end of the bearing portion Q, and journals and journal-bearing boxes, of the bail provided with arms having vertical slots or recesses in the opposite sides thereof, substantially as set forth.

2. The combination of a millstone-driver having end horizontal bearings with the bearing-boxes having contracted centers for journal-bearings, whereby the driver is rendered adjustable to the bail and stone, substantially as described.

3. The combination of the bail B', having the downward bow B'', side recesses, C C, and cockeye A', with the double-crank driver D, the journal-bearing boxes E E, the spindle, and spindle-cap *d*, having cock-head A'', substantially as described.

263,725. FIRE-KINDLER MOLD. CYRUS J. RIDENOUR, Springfield, Ohio, assignor to himself and Eugene J. Williams, same place. Filed Feb. 13, 1882. (No model.)

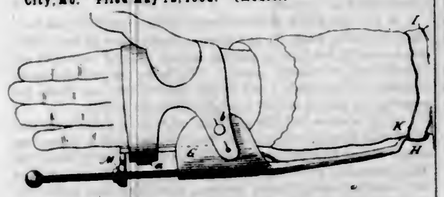
263,726.



Claim.—1. The combination of a mold, A, as described, with cores C, separate and distinct therefrom, but attached to cross-pieces D as parts of the press-frame, so as to make the mold removable independently of the stationary cores, substantially as set forth.

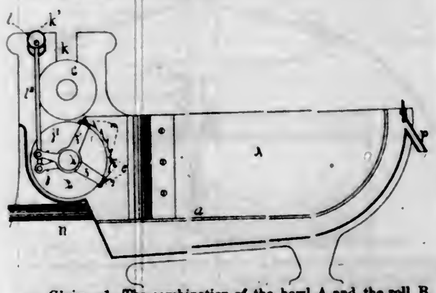
2. The combination of the mold A, separate cores C, follower-block B, and cover G, arranged and operated as specified.

263,726. CAR-COUPLING TOOL. WILLIAM J. RILEY, Kansas City, Mo. Filed May 12, 1882. (Model.)



Claim.—The rod of metal with the ball upon one end and filed to a shoulder a short distance from the other end, in combination with the metal hand-plate and steel spring described herein, the whole forming a new, complete, and useful instrument or machine for the use of men engaged in coupling cars.

263,727. WOOL-WASHING MACHINE. FREDERICK G. SARGENT and ALLEN C. SARGENT, Graniteville, Mass. Filed May 23, 1882. (No model.)



Claim.—1. The combination of the bowl A and the roll B, adapted to operate as a squeeze-roll, with the oscillating frames *e* and *m*, adapted to oscillate about the axis of the roll, substantially as described.

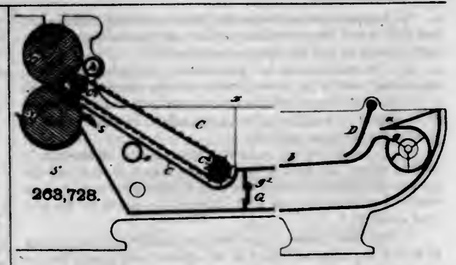
2. The combination of the roll D, rotating on the shaft *b*, with the frames *e* and *m*, provided with toothed arms carried by arms supported on such shaft, and the eccentrics *h* and *h'*, arms *j j'*, and straps *k* and *k'*, substantially as described.

3. The combination of the bowl A, squeeze-rolls B and C, and reciprocating toothed feeding-frames *e* and *m*, oscillating alternately in opposite directions around and substantially parallel to the surface of the lower feed-roll, substantially as described.

4. The combination of the bowl A, provided with the induct-pipe *n*, entering below the water-line at the discharge end of the bowl, and having a line of direction parallel with the bottom of the bowl, with the false bottom *a*, extending up with a curved unperforated part to a point above the level of the fluid, in the bowl at the feed end thereof, and the overflow *p*, substantially as described.

5. The combination of the bowl A, the feed-rolls B C, the pipe *n*, directed to throw its stream under the feed-rolls and toward the opposite end of the bowl, the false bottom *a*, and the overflow-pipe *p*, substantially as described.

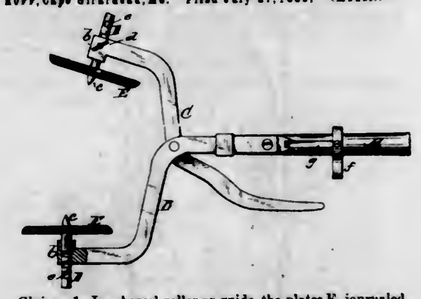
263,728. WOOL-WASHING MACHINE. FREDERICK G. SARGENT and ALLEN C. SARGENT, Graniteville, Mass. Filed Mar. 27, 1882. (No model.)



Claim.—1. The combination of the bowl A, provided with the perforated apron *c*, and the deflecting-plate D, with the pipe E, adapted to convey the fluid from the rear of the apron to the front of the machine, and the pump *f*, adapted to force the scouring-liquid against the wool as it passes into the machine and carry it under the deflecting-plate D, substantially as described.

2. The combination of the bowl A, provided with the perforated bottom *b*, perforated apron *c*, and gate G, with the exhaust-tube E, perforated in the part *e*, and the pump *f*, substantially as and for the purpose described.

263,729. BARREL ROLLER AND GUIDE. BERNARD H. SCHONHOFF, Cape Girardeau, Mo. Filed July 27, 1882. (Model.)

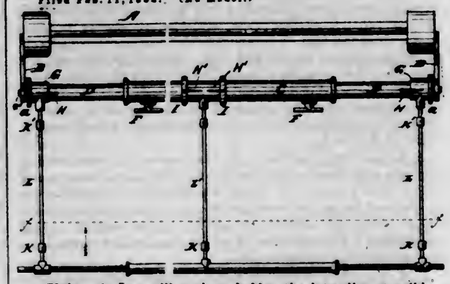


Claim.—1. In a barrel roller or guide, the plates E, journaled upon the pointed adjustable rods D, said plates being made of a size equal to the headings of a barrel or hogshead, substantially as and for the purpose described.

2. In a barrel roller or guide, the adjustable pointed rods D, working in bearings or sleeves *b*, formed upon the arms B C, and provided with niches *e*, in combination with the plates E and thumb-screws *d*, substantially as and for the purpose set forth.

3. In a barrel roller or guide, the handle A, having secured thereto the tong-shaped arm B and the similarly-shaped free arm C, pivotally connected to the arm B, and secured and held in place by the sliding ring *f*, working upon the handle A, in combination with the adjustable pointed rods D, thumb-screws *d*, and journaled plates E, all constructed and arranged to operate substantially as and for the purpose specified.

263,730. PILLOW-SHAM HOLDER. FRED. SUTTS, Racine, Wis. Filed Feb. 11, 1882. (No model.)



Claim.—1. In a pillow-sham holder, the laterally-extensible and rotary rod C D D, adapting the holder to bedsteads of different widths, substantially as specified.

2. In a pillow-sham holder, the laterally-extensible and rotary rod C D D and the extensible rods J L, applied to the said rod, substantially as and for the purposes specified.

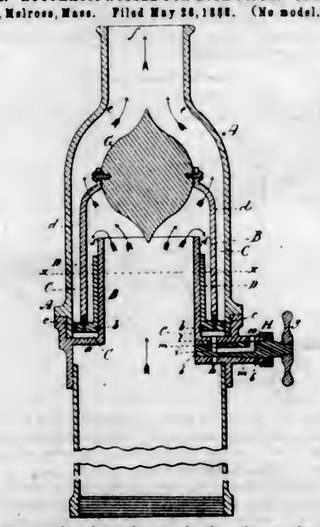
3. The combination, in a pillow-sham holder, of the tube C, the sliding rods D D, entering the said tube, the extensible rods J L, applied to the said tube and to the rods D D, and the brackets B B, entered by spindles applied to the rods D D, substantially as and for the purposes specified.

4. The combination, in a pillow-sham holder, of the tube C, having therein the slots E E, the sliding rods D D, entering the ends of the said tube, and the clamps F F, passing through the said slots and entering the rods D D, substantially as and for the purpose specified.

5. The combination, in a pillow-sham holder, of the fixed pins H H and the adjustable pins H' H', substantially as and for the purposes specified.

6. The combination, in a pillow-sham support, of the slotted brackets B B, having thereon the rests *c c*, and a rotary rod having spindles entering the said slots and carrying the notched flanges *a a*, substantially as and for the purposes specified.

263,731. AUTOMATIC NOZZLE FOR HOSE-PIPES. LOUISA D. SHAW, Melrose, Mass. Filed May 26, 1882. (No model.)



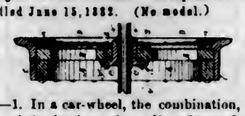
Claim.—1. In a hose-pipe nozzle, the valve or plug G, connected with and operated by a piston working in an open chamber, and having a surface area greater than the cross-sectional area of the valve or plug, whereby the backward pressure of the water on the piston is caused to hold the valve open against its tendency to be closed by the pressure of the water thereon, in combination with means for admitting water into the chamber beneath the piston to equalize the pressure upon opposite sides thereof, substantially as and for the purpose set forth.

2. In a hose-pipe nozzle, the combination with the annular open chamber C, the piston D *b*, sliding therein, and the valve or plug G, connected by the rods *d* with the piston, of an auxiliary cock or valve, H, adapted when turned in one position to admit water from the pipe or nozzle into the chamber C beneath the piston to equalize the pressure upon opposite sides thereof, and thus cause the valve G to be automatically closed, and when turned into another position to shut off the water from the bottom of the chamber and allow that contained therein beneath the piston to escape to cause the valve G to be automatically opened, substantially as described.

3. In a hose-pipe nozzle, the combination of the cylinder B and the open annular chamber C, both adapted to contain water at the same pressure, the piston D *b*, and valve G, connected together and having different surface areas exposed to the pressure of the water, and the valve or cock H, with its passages *i m* and apertures *k l*, all constructed to operate substantially in the manner and for the purpose set forth.

4. The combination, with a hose-pipe nozzle having a valve-seat, *e*, of the spherical plug G, adapted to move longitudinally within the nozzle in the line of its axis, and a piston working in an open chamber, and having a surface area greater than that of the cross-sectional area of the plug, and means whereby the pressure of the water is caused automatically to shut off or let on the stream, as required, substantially as set forth.

263,732. CAR-WHEEL. GEORGE B. SHEFFIELD, Three Rivers, Mich., assignor to the Sheffield Velocipede Car Company, same place. Filed June 15, 1882. (No model.)

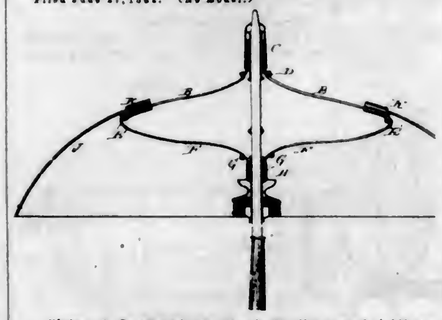


Claim.—1. In a car-wheel, the combination, with a metal hub and a metal tire having a depending flange formed integral therewith, of wooden spokes having their inner ends fitting against the hub and their outer ends fitting against the metal tire, a wooden felly fitting against the tire and against the outer ends of the spokes, and bolts for securing the felly and spokes to the depending flange, substantially as set forth.

2. In a car-wheel, the combination, with a metallic tread having a depending flange formed integral therewith on its inner side, and a metallic hub having a flange formed integral therewith on its onter end, of wooden spokes, a felly fitting against the inner periphery of the tread, a ring fitting upon the hub, and bolts for securing the parts together, substantially as set forth.

3. In a car-wheel, the combination, with a metal hub provided with a flange and a metal tire provided with a depending flange formed integral therewith, of wooden spokes provided at their inner ends with wedge-shaped tenons and at their outer ends with enlarged wedge-shaped portions, a retaining-ring encircling the hub, a felly fitting against the inner periphery of the tread, and bolts for securing the parts together, substantially as set forth.

263,733. UMBRELLA. CYRUS B. SILL, Youngstown, Ohio. Filed June 27, 1882. (No model.)



Claim.—1. In an umbrella, the elastic ribs secured rigidly to the staff, and bent inward at about the middle, so as to form the braces or stretchers, as set forth.

2. In an umbrella, the elastic ribs, bent at about the middle, and having their ends secured rigidly to the staff and to the sleeve or ronner, respectively.

3. In an umbrella, the elastic ribs secured rigidly to the staff, coiled at about the middle, and bent from thence inwardly and secured rigidly to the sleeve or runner.

4. In an umbrella, the elastic ribs secured rigidly to the staff, coiled at about the middle, bent inwardly, so as to form the braces, the ends being secured to the sleeve or runner, and having extensions forming the ends of the ribs, attached rigidly thereto above the bent and coiled portion.

5. In an umbrella, the sleeve or runner having slots provided with hinged eccentric cams, inclosed by a revolving shell having a block or cushion provided with recesses to accommodate said cams.

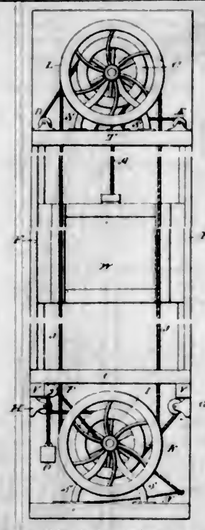
6. The combination of the slotted sleeve, the hinged cams having friction-rollers, and mechanism for forcing said cams against the staff or handle.

7. The combination, with the runner, of the clamping-shell having one end formed or provided with a cup to receive the ends or tips of the ribs.

263,734. DUMB-WAITER. ORONOR F. SKINNER, Poughkeepsie, N. Y. Filed Mar. 30, 1882. (Model.)

Claim.—1. In a dumb-waiter, the combination of the waiter

263,734.



W, the double wire cable A A, passing over a series of pulleys and through the covered slides or grooves F, the double-grooved pulley-wheel B, wheels C and I, and the pulleys D E G H, arranged and operating in the manner and for the purposes shown and described.

2. The combination of the hand-ropes J, wheels L K, (the wheel K being provided with a crank, M, to allow dispensing with the hand-ropes, if desired,) and the spring N and weight O, for controlling the motion of the wheel K on the shaft Q.

3. The combination of the waiter W, double wire cable A A, system of pulleys B C D E G H, covered grooves F, hand-ropes J, and the wheels K and L, all as hereinbefore shown and described.

263,735. PORTABLE PUMP AND SPRINKLER. FRANK E. SNYDER, Massillon, Ohio. Filed June 21, 1882. (No model.)



Claim.—1. In a portable pump or sprinkler, the combination, with the vessel for containing the liquid and a discharge-pipe connected therewith, of an air-chamber extending into said vessel and provided with air-openings at its upper end, and an air-pump the barrel of which extends downwardly into said air-chamber, substantially as set forth.

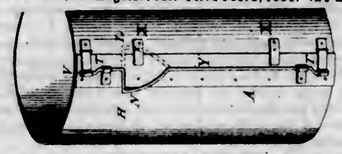
2. In a portable pump or sprinkler, the combination, with a suitable vessel having a filling-opening, a stopper for closing the same, a discharge-pipe provided near its upper end with a stop-cock, and an air chamber or compartment in which the lower end of the barrel of the air-pump rests, the said air-chamber communicating with the interior of the said vessel by suitable opening, of an air-pump removably secured to the vessel and adapted to force air first into the air-chamber and then into the interior of the vessel, substantially as and for the purpose described.

3. In a portable force-pump, the combination, with a suitable receiving vessel or tank having a filling-opening therein, a cap for closing the same, a discharge-pipe provided with a cock, and an air chamber or compartment communicating with the interior of the vessel by suitable openings near the top of the can, of an air-pump provided with a hollow piston-rod through which air is forced into the interior of the vessel, and means for retaining it therein, substantially as described.

4. The combination, with the vessel or tank constructed and provided with the parts, as described, of an air-pump composed of a barrel or chamber provided at its lower end with the spring-actuated valves, the hollow piston-rod, and the valved piston, all of the above parts constructed and adapted to operate as described.

5. The combination, with the vessel or tank constructed and provided with the parts, as described, of the air-pump composed of the barrel or chamber provided with the cap for securing and holding the same in position, and the spring-actuated valve, the hollow piston-rod, and the valved piston, all of the above parts constructed and adapted to operate as described.

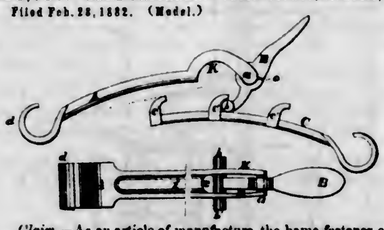
263,736. MOLD FOR MANUFACTURING CEMENT PIPE. N. W. STOWELL, Los Angeles, Cal. Filed Feb. 2, 1882. (No model.)



Claim.—1. In a mold for manufacturing cement pipe, the combination of the cylindrical case H, having a longitudinal joint, V, extending its entire length, covered by the plate or apron A, securely attached to the case at one side of the joint, and extending across and covering the said joint, provided with the double-lever rod Y and its attachments, for the purpose of opening and closing said joint, all substantially as described.

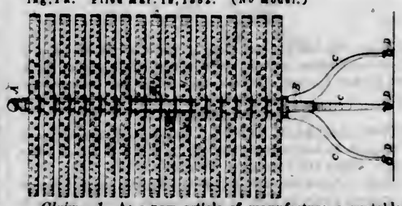
2. The combination, in a mold for manufacturing cement and similar pipes, of the elastic case H, having a longitudinal opening extending its entire length, the double-lever rod Y, having cranks T and handle I, the plate or apron A, covering the opening in the case, and the guides X, for the purpose of holding the free edge of the plate or apron against the case, all as hereinbefore shown and described.

263,737. HAME-FASTENER. JACOB STRAUB, St. Louis, Mo. Filed Feb. 28, 1882. (Model.)



Claim.—As an article of manufacture, the hame-fastener consisting of the arm A, formed with the longitudinal groove *i*, and the arms K, having pin *n* integral therewith, and the lever B, formed with slot O and secured on pin *n* by compressing the surrounding metal, in combination with the arm C, formed with longitudinal groove *j*, and the laterally-projecting brackets *c c*, forming fulcra for the lever B, and arranged to extend above and protect the said lever when locked, substantially as shown and described.

263,738. PORTABLE DRIER. ALBERT THALHEIMER, Reading, Pa. Filed Mar. 18, 1882. (No model.)



Claim.—1. As a new article of manufacture, a portable tobacco or fruit drier arranged as shown, and consisting of the following elements: a tripod-stand B C C C, standard A, trays E E, provided with center collars, F, the whole mounted upon casters D and adapted to be used as an air-current drier, substantially as shown, and for the purpose set forth.

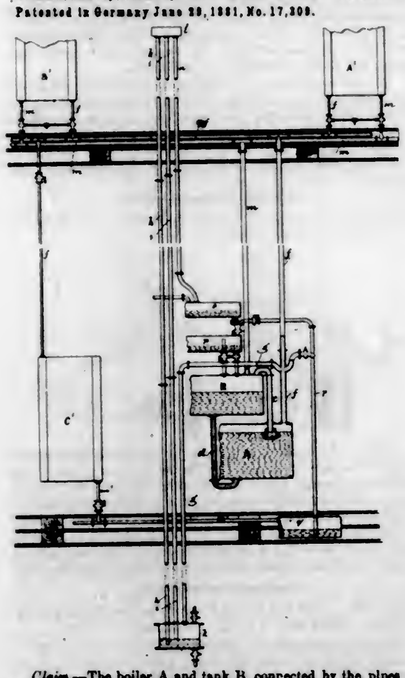
2. In a portable tobacco or fruit drier, as described, the extension-shaft or standard A^4, provided with coupling A' and clamp-box A^4, in combination with the standard A, said standard being by collar A^4, bevel or miter gear wheels G G', shaft I, collar I', pulley J, and bearing H adapted to be rotated in the tripod-stand B C C C and clamp-box A^3, substantially as shown, and for the purpose specified.

3. In a portable drier, as described, the hollow standard A, in combination with the hollow head B of the tripod, it being provided with a nozzle, K, union-coupling L, and flexible pipe M, whereby steam may be introduced into the standard A, and the trays E, with their contents, in combination therewith, be thus more efficiently operated upon, substantially as and for the purpose set forth.

4. In a portable drier for tobacco or fruits, the combination of tripod B C C C, standard A, trays E, with collars F, gear-wheels G G', shaft I, pulley J, steam-nozzle K, union L, and pipe M, bearing H, extension A², coupling A', and bearing A³, whereby centrifugal motion and heat radiation are combined in the manner described, and substantially as and for the purpose specified.

5. The trays E of a portable drier, constructed, as described, of wood, metal, or wire, and provided with a central collar, F, whereby they are adapted to be slid upon a standard, A, and come in combination therewith, substantially as shown, and for the purpose hereinbefore set forth.

263,739. STEAM HEATING APPARATUS. EDUARD WERNER, Grimma, Saxony, Germany. Filed June 20, 1882. (No model.) Patented in Germany June 28, 1881, No. 17,309.



Claim.—The boiler A and tank B, connected by the pipes c and d, in combination with the steam-pipe f, return-pipe m, boxes k l, and pipes g, h, i and n, substantially as and for the purposes specified.

263,740. RAILROAD-SWITCH. FRANK A. WHITE, Cortland Village, N. Y., assignor of one-half to Wm. B. Steppard, same place. Filed Feb. 13, 1882. (No model.)

Brief.—At a switch the main line is unbroken, one rail thereof being grooved across its tread to allow passage of wheel-flanges to and from the siding, the rear end of said rail acting as a "wing-rail" to the frog-point, the inner siding-rail being the movable switch-rail.

Claim.—1. In combination with the main track and siding, the rail A' a, having slot d, the single switch-rail F, and means for automatically operating said switch-rail, as specified.

2. The combination of the single switch-rail F, adjusting-bolt h, link H, and lever J, having arm I and cheek j, with the frame K, chain m, and weight M, as specified.

3. The combination of the main track and siding, the tongue, and the guide-rail A' a, having slot d, with the switch-rail, the switch-lever, the weight, and connections, as and for the purposes set forth.

263,741.

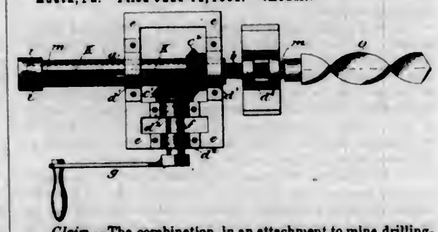


263,741. CAN-COVER. AMBROSE WILLIS, Troy, N. Y. Filed Apr. 22, 1882. (No model.)

Claim.—1. A can-cover secured to a can by means of a hinge having rigid members, one of which is a loop, C, secured to the can or its shouldered cap D, and the other a ring fitting loosely in a groove around the cover and provided with a loop, b, substantially as and for the purpose described.

2. The combination of a can or its shouldered cap D and loop C, rigidly secured thereto, with the can-cover E, having a surrounding groove, and the ring B, having the loop b integral therewith and interlinking with the rigidly-secured link C, substantially as and for the purpose described.

263,742. DRILLING-MACHINE. CHRISTOPHER WARD, Plymouth, Pa. Filed June 12, 1882. (Model.)



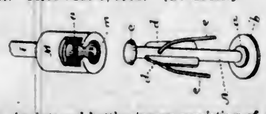
Claim.—The combination, in an attachment to mine drilling-machines for use in coal or rock, of the sleeve a, having slots k cut lengthwise in it, and having a straight-toothed bevel-pinion, c³, fixed to it, the screw b, passing inside of sleeve a and having fixed pins m in its ends, which protrude into the slots k, the frame c c c c, having the journal-box d' d' and d³ d³ arranged in it, that the sleeve a and shaft f may rest and revolve in them, and the shaft f, having a straight-toothed bevel-pinion, c', fixed to one end, and fitted on the other end to receive the crank g, with a screw-threaded box, d³, all substantially as shown and described, and to be applied as an attachment to drilling-machines to give motion to the drill, and operating in a manner wherein the power is applied at right angles to the direction of the drill.

263,743. LAMP-CHIMNEY PROTECTOR. MARION E. ZOLLICOFFER, Weldon, N. C. Filed July 10, 1882. (No model.)



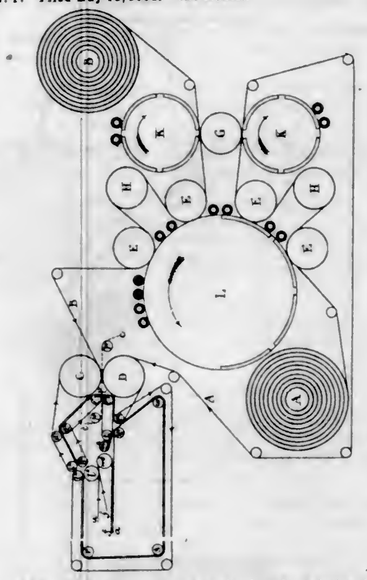
Claim.—The combination, with the collar A, having upright flexible wire C, of the adjustable wire ring E, having loop F fitting upon said wire C, and loop G, in which its free end H is adjustable, as set forth.

263,744. STOPPER FOR BOTTLES. JOHN Q. ADAMS, Sacramento, Cal. Filed June 3, 1882. (No model.)



Claim.—An internal bottle-stopper consisting of a shank, A, bearing on its lower end an elastic washer, b, and having a head, c, in combination with a pair of solid radial wings or flanges, d d, and a pair of spring-arms, e e, said arms and flanges being attached to the shank A between head c and washer b, as set forth.

263,745. PRINTING-MACHINE. EDWYN ANTHONY, New York, N. Y. Filed May 12, 1882. (No model.)

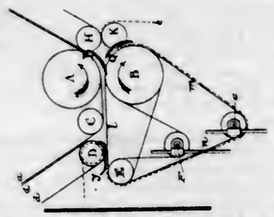


Claim.—The combination of mechanism for printing two webs (so that both sides of each web are printed on alike) with mechanism for cutting the webs and associating alternate portions of one of the webs with the upper and alternate portions with the under side of the other web, all substantially as described.

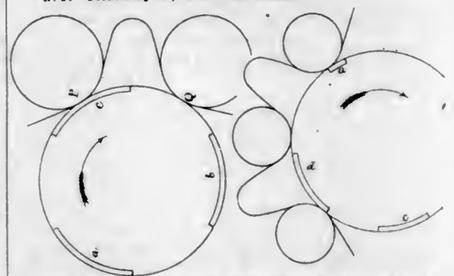
263,746. DELIVERY APPARATUS FOR PRINTING-MACHINES. EDWYN ANTHONY, New York, N. Y. Filed May 12, 1882. (No model.)

Claim.—The collecting apparatus consisting of three sets of tapes and their supporting-rollers, several of the rollers of two of the sets of tapes being adjustable, as described, to vary the length of the circuits for sheets of different sizes, in combination with feeding devices arranged so that the sheets fed to the collecting apparatus meet those therein at the point of entrance thereto, all substantially as described.

263,746.



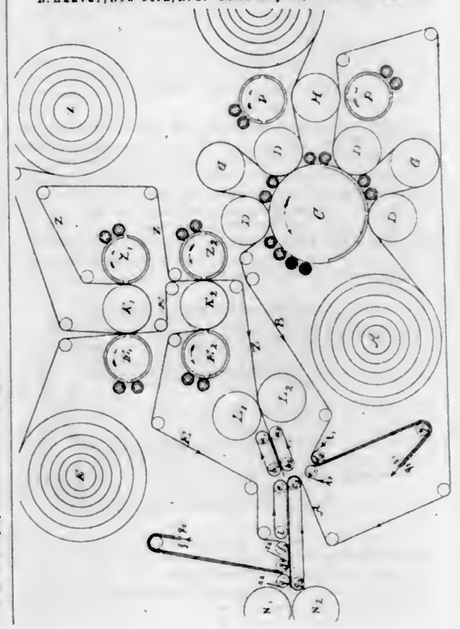
263,747. PRINTING-MACHINE. EDWYN ANTHONY, New York, N. Y. Filed May 12, 1882. (No model.)



Claim.—1. In a printing-press, a cylinder provided with forms placed on it and divided into three or more distinct portions, in combination with impression-cylinders and carrier-rollers arranged as set forth, whereby greater facilities are obtained for printing the forms on the web in various orders than when the forms are placed on it in one or two portions only, all substantially as described.

2. In a printing-press, a cylinder provided with forms placed on it and divided into distinct portions, not all equal to one another, in combination with impression-cylinders and carrier-rollers, arranged in the manner and for the purpose set forth.

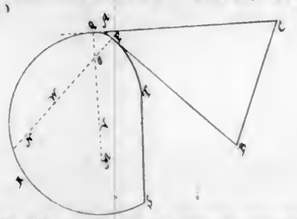
263,748. PRINTING-MACHINE. EDWYN ANTHONY and JACOB E. HARVEY, New York, N. Y. Filed May 16, 1882. (No model.)



Claim.—1. The combination of a mechanism for printing a plurality of webs (so that matter shall be imprinted on each web in the way hereinbefore described) with mechanism for reversing without transferring one of the said webs, and mechanism for bringing together the said reversed web and the other web or webs, whereby the webs become one product and may be operated on together in the subsequent folding processes, all substantially as described.

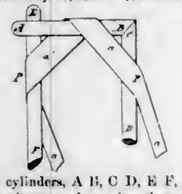
2. The combination of mechanism for printing a plurality of webs (so that matter shall be imprinted on each web in the way hereinbefore described) with mechanism which cuts the webs, mechanism which associates transversely-severed portions of one web alternately with one and the other of two of the other webs, mechanism for reversing one of the last-mentioned webs and its associated part, and mechanism for bringing together the reversed web (with the respective associated parts of the said severed web) and the other web or webs, all substantially as described.

263,749. FOLDING APPARATUS. EDWYN ANTHONY and JACOB E. HARVEY, New York, N. Y. Filed May 16, 1882. (No model.)



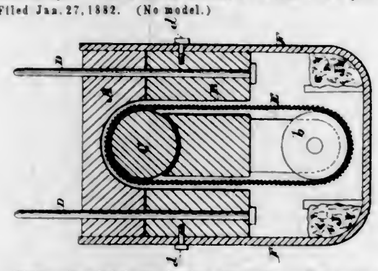
Claim.—The combination of a triangular piece and of a peculiarly-shaped segmental cylinder at right angles to the plane thereof, whereby a traveling web or sheets in tapes are folded longitudinally, and facilities are afforded for wrapping the web or sheets in tapes partially round the said cylinder without stopping the motion of the same, all substantially as described.

263,750. WEB-REVERSING APPARATUS FOR PRINTING-MACHINES. EDWYN ANTHONY and JACOB E. HARVEY, New York, N. Y. Filed May 16, 1882. (No model.)



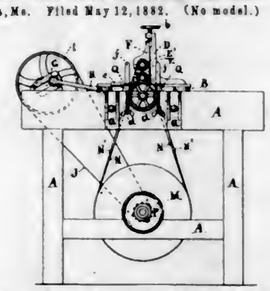
Claim.—Three cylinders, A B, C D, E F, arranged so that E F and C D each make an angle not less than a right angle with A B, that A B and C D have a common tangent plane, and that E F touches A B on the side of it remote from the said tangent plane, whereby the sides of a traveling web or of sheets in tapes are reversed, all substantially as described.

263,751. LUBRICATOR. HERMAN BALDRIDGE, San Bernardino, Cal., assignor of one-half to William H. Souther, same place. Filed Jan. 27, 1882. (No model.)



Claim.—In a lubricator having a traveling endless spring or chain operated by the revolving shaft or axle over which it passes, as shown, the combination and arrangement of the independent oil reservoir or casing F, with its sponges J J, the boxes A and B, fitting within the casing and secured by screws *d d*, said lower box, B, having a roller, *b*, for the traveling spring or chain, and scraping device consisting of the scraper H, with its spring *h* in the said lower box, said scraper being adapted to operate against a collar, G, upon the axle, substantially as herein described.

263,752. MORTISING-MACHINE. ALGERNON S. BANGS, Augusta, Me. Filed May 12, 1882. (No model.)

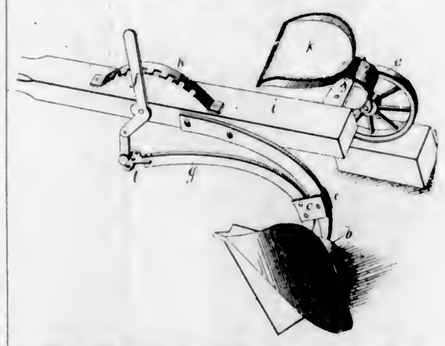


Claim.—1. In a mortising-machine, the spindles E E', arranged one above the other and provided with cutters on each opposite end, and rotated by bands passing over each spindle separately and both over a single pulley, M, substantially as specified.

2. The movable plates Q Q, supporting the article operated upon, in combination with the bed-plates B B and the right-and-left-screw-threaded rod, *n*, and for the purpose set forth.

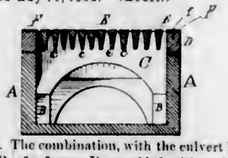
3. The combination of the bed-plates B B, the reciprocating plate C, the frames D and F, and the cutter-carrying spindles E E, substantially as and for the purpose set forth.

263,753. SULKY-PLOW. SAMUEL W. BARR, Mansfield, Ohio. Filed May 4, 1882. (No model.)



Claim.—In combination with the tongue *i*, the curved bar *d*, the wheel *b*, bracket *j*, wheel *e*, pivoted plow-beam *g*, and lever *f*, substantially as shown and described.

263,754. STREET-CROSSING. CHARLES J. BAYER, Grinnell, Iowa. Filed May 11, 1882. (Model.)



Claim.—1. The combination, with the culvert having foundation-blocks B B, of a frame, D, provided with arched cross-pieces resting upon the foundation-blocks, and slotted, as shown, for the reception of the removable bars E, and provided with binding and securing strips F, substantially as shown and described.

2. The combination, with the frame D, having slotted cross-bars C, of zigzag longitudinal removable bars *c*, adapted to lie in the slots of the cross-bars and mortised for the reception of the transverse binding-strips, and having their upper surface flush with the upper surface of the zigzag binding-strips F, substantially as shown and described.

263,755. EAR-RING. SIGMUND L. BRAVERMAN, San Francisco, Cal. Filed June 29, 1882. (No model.)

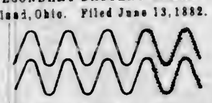
Brief.—Curved connecting bar or bars pass up from the lower portion, behind the lobe of the ear, and are secured by the end of the puncture-bar.



Claim.—1. In an ear ring or ornament, the puncture-pin A, having a stud or stone, *a*, in its front end, in combination with a lower stud or stone, *c*, appearing from under the lower edge of the lobe of the ear, and a connecting bar or rod, *b*, passing from said lower stone backward and upward behind the lobe of the ear, and connected with the rear end of the puncture-pin, substantially as herein described.

2. In an ear ring or ornament, the puncture-pin A, having a stud or stone, *a*, in its front end and screw-threads, as shown, upon its rear end, in combination with lower stones or studs, *c*, appearing from under the lower edge of the lobe of the ear, and connecting bars or rods *b*, passing from said lower stones backward and upward behind the lobe of the ear, and united above and having screw sockets or holes *d*, into which the puncture-pin is screwed, substantially as herein described.

263,756. SECONDARY-BATTERY ELEMENT. CHARLES F. BRUSH, Cleveland, Ohio. Filed June 13, 1882. (No model.)



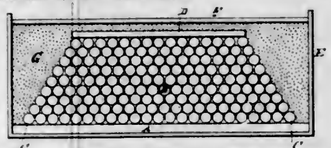
Claim.—1. In a secondary-battery element, the combination (in the form of an alloy) of lead and a non-oxidizable substance, substantially as set forth.

2. A secondary-battery element having its active or absorbing coating, substance, or surface applied to and connected with a core or body consisting of an alloy of lead and a non-oxidizable substance.

3. A secondary-battery element consisting primarily of an alloy of lead and a non-oxidizable substance.

4. A secondary-battery element consisting of a perforated plate, sheet, or strip composed primarily of an alloy of lead and a non-oxidizable substance with an active or absorptive coating applied thereto, substantially as set forth.

263,757. PROCESS OF AND APPARATUS FOR STRAIGHTENING CARBON RODS. CHARLES F. BRUSH, Cleveland, Ohio. Filed June 4, 1881. (No model.)



Claim.—1. In the method or process of straightening deformed or bent carbon rods or sticks, arranging bent carbon rods or sticks in a pyramidal pile in a receptacle, inserting packing material at the sides and ends of the pile, and leaving the spaces between the carbon rods vacant, substantially as set forth.

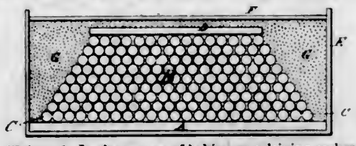
2. The method of straightening deformed or bent carbon rods or sticks, consisting in arranging the bent carbon rods or sticks in a pyramidal pile in a receptacle and on a supporting-slab formed of suitable material to withstand warping and inserting packing material at the sides and ends of the pile and leaving the spaces between the carbon rods vacant, substantially as set forth.

3. The method of straightening deformed or bent carbon rods or sticks, consisting in arranging them in pyramidal form within a suitable receptacle, inserting packing material at the sides and ends of the pile and leaving the interspaces vacant, and subjecting the pile to the pressure of a superior cumbent weight while it is being heated, substantially as and for the purpose set forth.

4. A pyramidal pile of bent or deformed carbon sticks or rods, having its lower course provided at its opposite ends with twin or compound carbons, substantially as and for the purpose set forth.

5. The combination, with the inclosing box E and slab A, of the pyramidal pile of bent or deformed carbons B, the slab D, and packing G, substantially as and for the purpose set forth.

263,758. PROCESS OF BAKING CARBON RODS. CHARLES F. BRUSH, Cleveland, Ohio. Filed May 27, 1881. (No model.)



Claim.—1. In the process of baking or calcining carbon rods or sticks, arranging the carbon rods or sticks in pyramidal form in a receptacle and filling the interspaces and the spaces at the sides and ends of the pyramidal pile with suitable packing material, substantially as set forth.

2. In the process of baking or calcining carbon rods or sticks in a receptacle, arranging the carbon rods or sticks in pyramidal form on a slab or plate of suitable material to withstand warping and filling the interspaces and the spaces at the sides and ends of the pyramidal pile with suitable packing, substantially as set forth.

3. In the process of baking or calcining carbon rods or sticks, arranging the carbon rods or sticks in pyramidal form on a slab or plate of suitable material to withstand warping, filling the interspaces and the spaces at the sides and ends of the pyramidal pile with suitable packing, and subjecting the pile to a superior cumbent weight during the process of baking, substantially as and for the purpose set forth.

4. A pyramidal pile of carbons having the ends of its lower course formed of twin or connected carbons to prevent displacement, substantially as and for the purpose set forth.

5. The combination, with the pyramidal pile of carbon rods or sticks, of the supporting-slab, the packing, and the inclosing box, substantially as and for the purpose set forth.

6. The combination, with the pyramidal pile of carbon rods or sticks packed in suitable material, of the supporting-slab A, upper slab, D, and inclosing box E, substantially as and for the purpose set forth.

263,759. DISTRICT-TELEGRAPH SYSTEM. CHAS. E. BURLL, New Haven, Conn., assignor of two-thirds to James G. Smith, Hackensack, N. J., and George W. Coy, Milford, Conn. Filed June 6, 1881. (No model.)

Brief.—Combined telephone and fire-alarm systems on one normally-closed circuit. The fire-telegraph includes signal-boxes in a normally-closed metallic circuit, and the telephones are cut in and out by switches, intermediate ground-wires being provided, as shown.

Claim.—1. In a combined system of fire-alarm and telephone telegraph, substantially such as described, the combination, with a normally closed and charged metallic circuit which includes fire-alarm-signaling devices, of means for signaling between a central office and one or more outlying stations independent of the devices for producing fire-alarm signals, and switches for introducing telephones into and withdrawing them from said charged circuit without rupturing the continuity of the said circuit or disturbing the fire-alarm mechanism, as set forth.

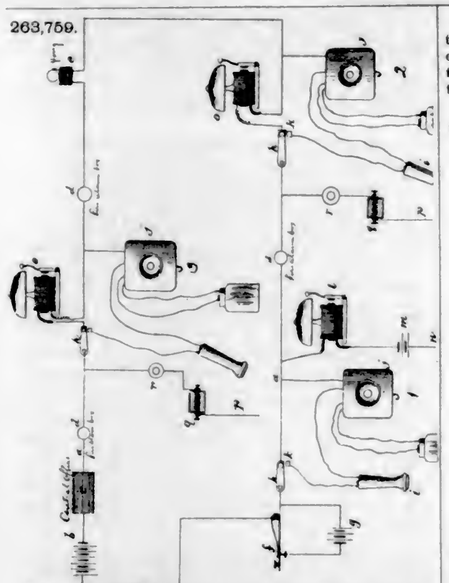
2. In a combined system of alarm and telephone telegraph, substantially such as described, the combination, with the same normally-closed electric circuit, of mechanism for producing signals by make and break of the circuit, and added means for producing signals by increasing the force charging said circuit, of the switch devices for interposing telephonic apparatus in and withdrawing it from said circuit without interrupting the continuity of the circuit.

3. The combination, with a fire-alarm or analogous system of signaling, of a series of telephone-station apparatus, each provided with a call-bell and telephone apparatus and switch devices adapted to exclude the call-bell when the telephonic apparatus is included in the circuit, the whole arranged and operating substantially in the manner and for the purpose set forth.

4. The combination, with a main electric circuit which is normally charged, of one or more branch circuits which include telephone apparatus and devices for connecting said branch circuits into and withdrawing them from said charged circuit, and the signaling-battery *g* and means for including said battery in and withdrawing it from the charged circuit.

5. In a combined system of fire-alarm and telephone telegraph, a charged main circuit including apparatus for producing

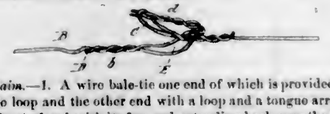
263,759.



fire-alarm signals, independent branch circuits which include telephone apparatus, and switch devices for introducing and withdrawing the telephonic apparatus from the main circuit, an independent branch containing a signaling-battery and means for introducing said battery into circuit, combined with a normally-disconnected ground-wire at outlying stations of a predetermined resistance and a calling-key for connecting said ground-wire to main circuit for signaling to a central office, all arranged and operating so that the signals for telephone-calls shall not be sounded upon the gongs and bells provided for fire-alarm signals.

6. The combination, with one normally-closed electric circuit, of devices for signaling by make and break of the circuit and by augmenting the force charging the circuit without rupturing it, with the added means for signaling by a grounded auxiliary battery over a portion of said circuit by grounding the circuit at a second point, as shown and described.

263,760. BALE-TIE. MARVIN CAMPBELL, South Bend, Ind. Filed Mar. 31, 1882. (No model.)



Claim.—1. A wire bale-tie one end of which is provided with a simple loop and the other end with a loop and a tongue arranged at the front of and with its free end extending back over the latter, whereby the two ends are fastened together by passing the first loop through the second and then over the end of the tongue, substantially as and for the purposes set forth.

2. A wire bale-tie having the loop C at one end and at the other end a loop, E, and a tongue, *d*, extending back over the latter loop, substantially as and for the purposes set forth.

3. The two wires B and D, twisted at the inner end of the latter and at the onter end thereof forming the two twists *b d*, and the loop E between them, substantially as and for the purposes set forth.

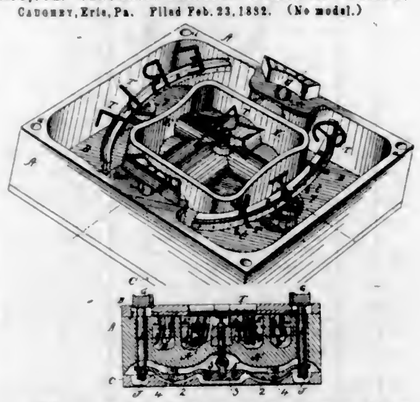
263,761. BALE-TIE. MARVIN CAMPBELL, South Bend, Ind. Filed Mar. 31, 1882. (No model.)



Claim.—1. In a wire bale-tie, a fastening loop and tongue formed from two strands of wire twisted together at two points, and the loop made by a bend in one of them, substantially as described.

2. The stranda B and D, twisted together at the inner end of the latter, and of unequal lengths outward therefrom, the longer one being bent to form a loop, E, and the two extremities twisted together to form a tongue, *d*, at the rear end of the latter, substantially as described.

263,762. CHROMATIC-PRINTING APPARATUS. EDGAR H. CAHOONEY, Erie, Pa. Filed Feb. 23, 1882. (No model.)



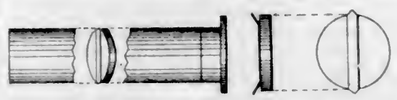
Claim.—1. A chromatic-printing apparatus consisting essentially of the combination of the following elements: a body having therein one or more ink-wells, a face cap or plate covering the same, in which are openings into the ink well or wells of the form of the design to be printed, type formed of absorbent material mounted in said openings and extending into the ink well or wells, and, finally, pressure-plates working in slots in the face of the body-plate, and which are connected with mechanism, substantially as shown, whereby when the said printing apparatus, as a whole, is under pressure the said type formed of absorbent material will be raised from the ink well or wells and pressed against material being printed.

2. In a chromatic-printing apparatus, the combination, substantially as described, of the following elements: a body, A, having one or more ink-wells on its upper side, and a cavity, F, underneath the wells for the reception of actuating mechanism, a face-plate, B, with chromatic-type openings, a plate, C, covering the back of the body, absorbent type arranged substantially as shown, and connected by plungers with the mechanism in cavity F, and pressure-plates G G at the sides of the face-plate, which are also connected with the mechanism in cavity F.

3. In a chromatic-printing apparatus, the combination, substantially as shown, of the following elements: the presser-plates G G, plungers 1 1, levers 2 2, equalizing-beam 3, bar 5, and plungers 6, 7, and 7, and the movable type T T.

4. In an apparatus for printing in various colors, the combination, with a stationary face-plate of type, the designs of which lie below the surface of said face-plate, said type resting upon levers operated by pressure-plates having their faces above the stationary face and working in slots therein.

263,763. WAD FOR CARTRIDGE-SHELLS. SHERWOOD E. CHEESEMAN, Kansas City, Mo. Filed Jan. 30, 1882. (Model.)



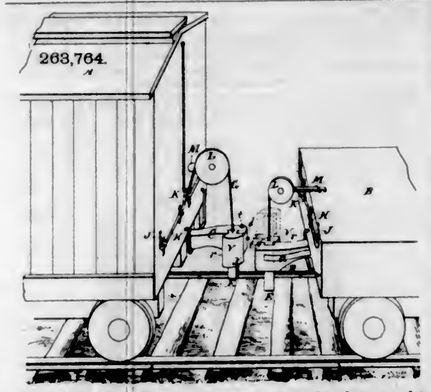
Claim.—A concentrator for shells for breech-loading shotguns, consisting of a metal-pointed bar relatively longer than the diameter of the wad, and secured in any suitable way upon or through the layers of the wad, in the same plane therewith, for the purpose described.

263,764. CAR-COUPLING. CHARLES F. CLAPP and EUGENE E. CLAPP, Hyde Park, Mass. Filed July 5, 1882. (No model.)

Claim.—1. The draw-bar heads C D, respectively provided with vertically-sliding clutches E and springs *a*, constructed and arranged to operate substantially as specified.

2. The cord G, pulley L, and clutch E, in combination with

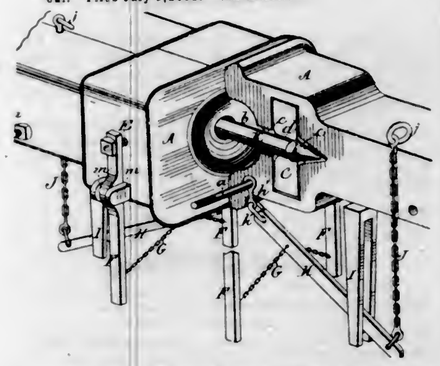
263,764.



the draw-bar head C and spring *a*, constructed and arranged to operate substantially as set forth.

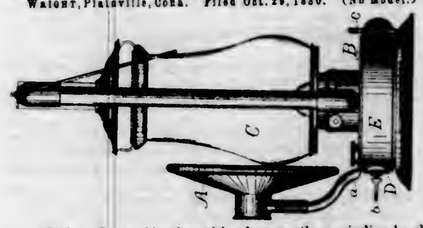
3. The rocking shaft H, pulley L, cord G, clutch E, draw-bar head C, and spring *a*, constructed and arranged to operate substantially as specified.

263,765. CAR-COUPLING. ARTHUR W. COATS, Yuba City, Cal. Filed July 3, 1882. (No model.)



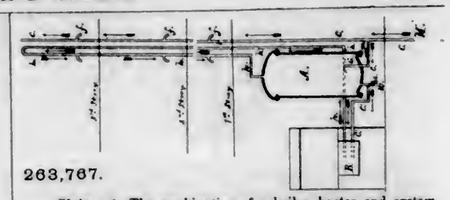
Claim.—In a car-coupling, the draw-head A, having a concaved face, *b*, and pin-receiving socket *c*, and the jaws C, recessed in said draw-head, having grooves *d* in their faces, and held together by springs D, in combination with the arrow-headed coupling-pin K, fitting said socket *c* and secured by the jaws C, and the means for opening said jaws to release the pin, consisting of the rods E, levers F F, chain G, lever H, and chain J, all arranged and connected as shown, substantially as herein described.

263,766. LANTERN. JEREMIAH S. CORSAN and THEODORE G. WRIGHT, Platteville, Conn. Filed Oct. 29, 1880. (No model.)



Claim.—In combination with a lantern, the encircling band provided with a socket and with a clasp or staple adapted to connect and retain its ends, as shown and described.

263,767. STAND-BOILER AND CONNECTIONS. ALLEN P. CHEQUE, New York, N. Y. Filed June 5, 1882. (No model.)



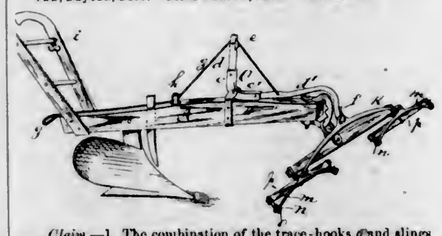
Claim.—1. The combination of a boiler, heater, and system of pipes, arranged substantially as described, whereby the cold water is delivered into the heater, thence into a hot-water-supply pipe extending to one or more faucets, for consumption, and thence into the boiler and heater, substantially as described.

2. The combination of a tank, boiler, heater, and system of pipes connected and arranged substantially as described, whereby the cold water from a tank is delivered to the heater, thence into a hot-water-supply pipe extending to one or more delivery-faucets, and thence into the boiler and heater, substantially as described.

3. The combination, in a building, of a boiler, heater, and system of pipes for supplying hot water, connected and arranged substantially as described, whereby the water is delivered directly into the heater, thence through a pipe or pipes to one or more delivery-faucets, thence to a boiler located in the cellar or other convenient place below the heater, and thence to the heater, substantially as described.

4. The combination, in a building, of a boiler, heater, and system of pipes for supplying hot water, connected and arranged substantially as described, whereby the water is delivered into a boiler located in the cellar or other convenient place below the heater, thence into the heater, thence through a pipe or pipes to one or more delivery-faucets, and thence into the boiler, substantially as described.

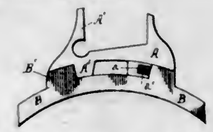
263,768. PLOW AND DRAG ATTACHMENT. MOSES A. CULVER, Dayton, Ohio. Filed Jan. 17, 1882. (No model.)



Claim.—1. The combination of the trace-hooks *d* and slings *m*, provided with rings *n*, double sling *k*, and means for raising the same, all substantially as shown and described.

2. The combination of the slings *m m k*, arm *d'*, bell-crank C, arm *d*, and rope *g* with the beam A, substantially as shown and described.

263,769. BRAKE-SHOE. JOHN F. CURTICE, Fort Wayne, Ind., assignor to the Standard Brake Shoe Company, same place. Filed Jan. 27, 1882. (No model.)



Claim.—1. A shoe having lugs arranged in pairs, with a dovetail socket between each pair, in combination with a support having dovetails extending lengthwise of the support, and a transverse projection formed integral with the forward dovetail, for the purpose set forth.

2. A shoe, B, having projections B' arranged in pairs, with dovetail socket B' between each pair, in combination with a support, A, having dovetail A', provided with projection A', placed transversely to and formed integral with dovetail A', and a dovetail, A', having a key-seat and key for holding the shoe in place.

263,770. LAMP AND OIL-STOVE BURNER. MARSHALL DE GRAFFENRIED, Atlanta, Ga. Filed Apr. 13, 1881. Renewed Jan. 30, 1882. (Model.)

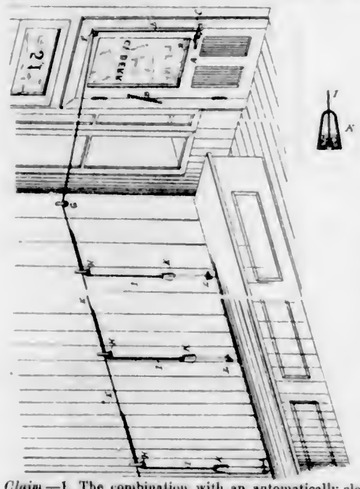
263,770



Claim.—The combination, in a lamp-burner, of a wick-tube which has a flaring bell-shaped lower end, with two circumferentially-corrugated rollers, which are journaled upon parallel axes immediately below said wick-tube, and geared together, so as to be positively moved to grasp a wick upon opposite sides across its entire width, substantially as and for the purpose specified.

263,771. DOOR-OPERATOR. CLARENCE V. DEER, Cumberland, Md. Filed May 3, 1882. (No model.)

Brief.—A cord extending to the rear of a room is connected with the latch of a door closed by a spring. The cord is provided with a series of weighted handles adapted to engage catches on the wall.



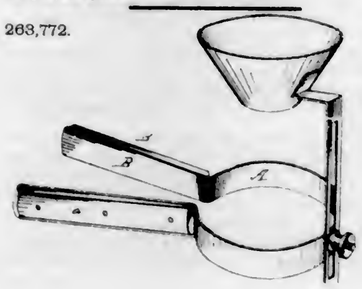
Claim.—1. The combination, with an automatically-closing door, of a cord or its equivalent connected with the latch and extending from it toward the rear of the room, and a series of handles connected to said rope at different distances from the door, substantially as described.

2. The combination, with an automatically-closing door, A, the latch C, and pulley F, of the cord E, passing over pulleys G H and provided with pendent cords I, substantially as described, and for the purpose specified.

3. The combination, with a door, A, having a spring, B, and spring-latch C, of the cord E, passing over suitable pulleys, and the pendent cords I, also passing over suitable pulleys, and the weighted handles K, all substantially as described.

4. In combination with the cord E of a door-opener, the cord I, handle K, and catch L, all substantially as described, and for the purpose specified.

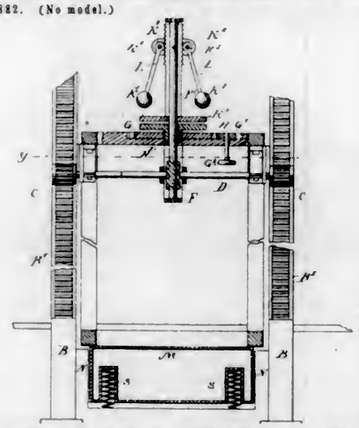
263,772.



263,772. FRUIT-JAR FILLING ATTACHMENT. WILLIAM M. DOTY, Biggs' Station, Cal. Filed July 22, 1882. (No model.)

Claim.—In combination with the fruit-jar holder, a funnel attachment capable of vertical adjustment, substantially as shown.

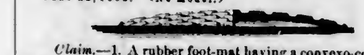
263,773. SAFETY ATTACHMENT FOR ELEVATORS. WILLIAM EDSON and NATHANIEL M. LOWE, Boston, Mass. Filed Mar. 3, 1882. (No model.)



Claim.—1. In an elevator, the combination of the racks B B, pinions C C, shaft D, and gear E F with the shaft F', provided with ears or projections K' K', arms K² K², the racks L L, disks K³ and H, all operating together substantially as described, and for the purpose set forth.

2. In an elevator-carriage, the combination of the shaft F', provided with ears or projections K' K' and arms K² K², the racks L L, and the upper friction-plate, K³, with the lower friction-plate, H, and mechanism for operating these parts, all substantially as described, and for the purpose set forth.

263,774. FOOT-MAT. EDWARD S. ELLIS, Trenton, N. J. Filed June 22, 1882. (No model.)

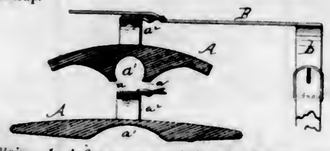


Claim.—1. A rubber foot-mat having a convexo-concave body with parallel projections, substantially as specified.

2. A rubber foot-mat composed of a convexo-concave body having parallel tapering projections that are arranged in longitudinal rows, substantially as and for the purpose set forth.

263,775. FIRE-ESCAPE. EZRA EMMERT, Dixon, Ill. Filed Feb. 8, 1882. (No model.)

Brief.—A flexible rubber disk formed with a central groove for the rope and fastened to the band by a strap connecting it to a wrist-strap.



Claim.—1. A fire-escape consisting of a flexible rubber disk formed with lugs *a a*, grooves *a'*, and provided with a strap, *a²*, in combination with a rope, arranged to operate substantially as shown and described.

2. In a fire-escape, the combination of the disk A, formed with lugs *a a*, groove *a'*, and provided with a strap, *a²*, with the strap B and wrist-strap *b*, all arranged to operate substantially as shown and described.

263,776. PENCIL-SHARPENER. PETER R. ERLISO, Chicago Ill. Filed Jan. 23, 1882. (Model.)

Claim.—1. In a pencil-sharpener, in combination with a combined knife and file, *c d*, the body *a*, having throat *c'*, heads *c' c²*, inclined plane *a²*, and cover *b*, substantially as specified.

2. In a pencil-sharpener, the body *a*, having inclined plane *a²*, throat *c'*, and offset plane *a a²*, in combination with a knife, *c*, substantially as specified.

263,776.



3. A pencil-sharpener consisting of the body *a*, provided with inclined plane *a²* and adjustable combined file and knife *c d*, eraser *c²*, and cover *b*, provided with stud *b'*, substantially as specified.

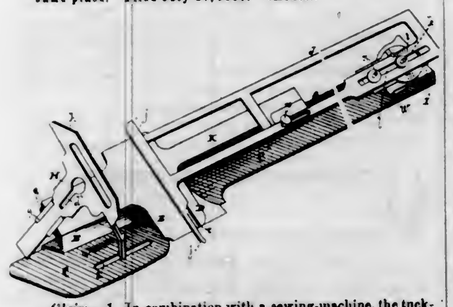
4. In combination with the adjustable knife and file *c d*, the body *a*, having throat *c'* and heads *c'* and *c²*, substantially as specified.

263,777. COMBINED MATCH-BOX AND KNIFE. LE ROY W. FAIRCHILD, New York, N. Y. Filed May 18, 1882. (No model.)



Claim.—The combined match-box and knife consisting of the flask-shaped case A, with the cover B, in combination with the spring *c* and blade *b*, curved as shown, whereby they are adapted to fit in recesses in the opposite edges of the case and be brought into contact at the upper end of the same, as set forth.

263,778. TUCKING ATTACHMENT FOR SEWING-MACHINES. ALFRED A. FISHER and ALBERT HART, San Francisco, Cal., assignors to the Pacific Tucking and Manufacturing Company, same place. Filed July 27, 1881. (Model.)



Claim.—1. In combination with a sewing-machine, the tucking attachment consisting of the base-plate C and the guard J, with its cross-head *j*, said guard being adapted to be adjusted by means of the slot *l*, thumb-nut, and pin *n*, and adapted to swing by means of the bearings I and *m* and thumb-nut and pin K, arranged substantially as herein described.

2. The base-plate C, having a transverse inclined piece, D, and a transverse inclined piece, E, between the ends of which a slot, *c*, is formed, in combination with the adjustable and swinging tucking-guard J, arranged substantially as and for the purpose herein described.

3. The base-plate C, having a slot, *a*, and thumb-screws, whereby it is adjustable upon the table of a sewing-machine, and having transverse inclined pieces D and E, the latter of which is adjustable by means of the slots and screws *b*, whereby a slot, *c*, adapted to be adjusted in width, is formed between their edges, in combination with the adjustable and swinging tucking-guard J, with its cross-head, arranged substantially as and for the purpose herein described.

4. The base-plate C, having a slot, *a*, and thumb-screw, whereby it is adjustable, and having transverse inclined pieces D and E, forming a slot, *c*, between them, in combination with the adjustable and swinging guard J, with its cross-head *j*, and the under plate or guide K, having a cross-head *q*, provided with a lip or flange adapted to fit into the said slot *c*, said plate being rendered adjustable by means of the slot and pin *p*, arranged substantially as and for the purpose herein described.

5. The base-plate C, having a transverse inclined piece, D, and a transverse inclined piece, E, between which is formed a slot, *c*, said piece E having a curved guiding plate or piece, *d*, near its lower end within the slot *c*, substantially as and for the purpose herein described.

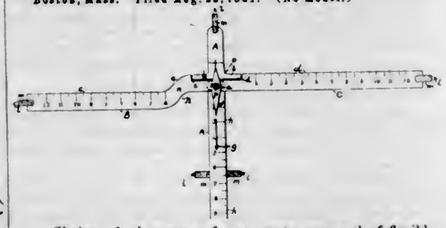
6. In combination with the inclined pieces D and E, the adjustable sliding guard or support F at the rear, substantially as and for the purpose herein described.

7. The base-plate C, having inclined transverse pieces D and E, forming a slot, *c*, and the adjustable and swinging guard J, with its cross-head *j*, in combination with the upper guard H, having a slot *d'*, adapted to fit over a screw, *e*, said guard being hinged to the piece E by the hinge G, and adapted to slide in said hinge, whereby it may be folded over upon and adjusted against the guard J, arranged substantially as and for the purpose herein described.

8. A tucking attachment for sewing-machines, in combination with the hinged frame or rack P, hinged thereto, the hinged leg or support Q, and the roller reel or drum S, arranged and used substantially as herein set forth.

9. In a sewing-machine tucker substantially as herein described, adapted to receive and direct the cloth to the needle, the inclined pieces D and E, in combination with the inclined frame or rack P, preserving the angle of inclination of the pieces D and E, and hinged to the sewing-machine table, the hinged leg or support Q, and the roller reel or drum S, arranged and used substantially as herein set forth.

263,779. DRESS-MAKER'S MEASURE. WILLIAM GARRHORN, Boston, Mass. Filed Aug. 25, 1881. (No model.)



Claim.—1. A measure for garments, composed of flexible bands A, B, and C, attached together by a common center pin, *a*, one, B, of such bands having its working or measuring edge at and along a horizontal line below the horizontal line of the working or measuring edge of the band C, substantially as and for the purpose described.

2. A measure for garments, composed of flexible bands A, B, and C, attached together by a common center pin, *a*, one, B, of such bands having a downward bend or curve, *s*, all substantially as and for the purpose described.

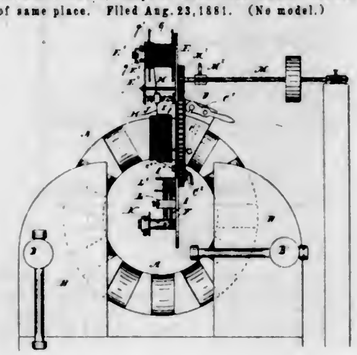
3. A measure for garments, composed of flexible bands A, B, and C, each graduated in its length, and attached together by a common center pin, *a*, one of such bands having a downward bend or curve, *s*, all substantially as and for the purpose described.

4. The flexible graduated bands A B, center pin, *a*, plumbing-point *f*, and raised edge *b* on band A, all substantially as and for the purpose described.

5. The flexible graduated bands A C, center pin, *a*, plumbing-point *f*, and raised edge *b* on band A, all substantially as and for the purpose described.

6. The flexible graduated bands A B C, center pin, *a*, plumbing-point *f*, and raised edge *b* on band A, all substantially as and for the purpose described.

263,780. MACHINE FOR WINDING ARMATURES FOR MAGNETO-ELECTRIC MACHINES. ROBERT HAASE and JOHN P. RECKER, Indianapolis, Ind., assignors to themselves and Thomas C. Moore, Joseph A. Moore, and Robert Connolly, all of same place. Filed Aug. 23, 1881. (No model.)



Claim.—1. The combination, in a machine for winding wire upon annular armatures, of the divisable clamp C, constructed substantially as specified, and adapted to surround and be secured upon the rim thereof, and mechanism, substantially as described, secured to and adapted to revolve upon said clamp, substantially as and for the purposes set forth.

2. The combination, in a machine for winding wire upon annular armatures, of the surrounding clamp, the toothed rim, the arms thereon, the bobbin, a traveling guide, and an endless-screw mechanism, substantially as and for the purposes set forth.

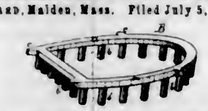
3. The combination, in a machine for winding armatures with wire in which one portion revolves upon another or stationary portion, of an endless screw or screws for driving a traveling guide, a star-shaped wheel upon the end of each screw, and projections upon the stationary part of the machine, with which said star wheel or wheels will come in contact as the revolving portion of the machine moves past them, whereby said screws are revolved, the guide propelled, and the wire guided properly continually into place, substantially as set forth.

4. The combination, in a machine for winding annular armatures with wire, with the bobbin located upon one side of the center of the revolving portion of said machine, of a weight, L, upon the opposite side mounted upon a screw-shaft, L', having a star-wheel, *l'*, upon its end, which comes in contact with points upon the stationary part of the machine as it revolves, whereby the position of the weight is continually varied to correspond to the decreasing weight of the wire, substantially as set forth.

5. The combination, in a winder adapted to revolve around the rim of an annular armature, of one arm carrying the bobbin for the wire and another arm upon the opposite side carrying adjustable counterbalancing-weights, substantially as and for the purposes set forth.

6. The combination of the rim D, arm E, bobbin G, guide I, endless screws J J, having star-wheels *j j*, and stationary parts provided with projections *c' c'*, substantially as and for the purposes set forth.

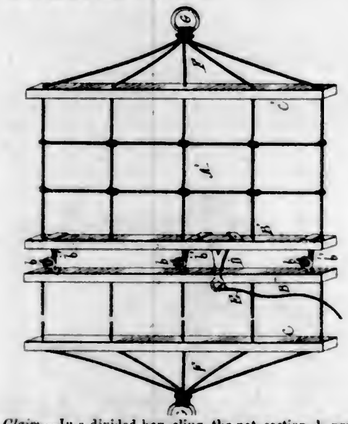
263,781. RUBBER HEEL FOR BOOTS OR SHOES. FRANCIS D. HAYWARD, Malden, Mass. Filed July 5, 1882. (No model.)



Claim.—1. The metallic re-enforce consisting of the annulus B, having downwardly-projecting studs *b*, and the outwardly-centralizing projections *c*, all substantially as shown and described.

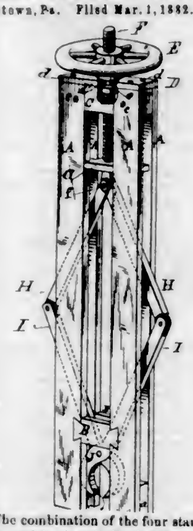
2. A rubber heel provided with the annular re-enforce B, provided with the projections *b c*, all substantially as shown and described.

263,782. HAY-SLING. ALBERT F. HILLMAN, Stockton, Cal. Filed July 10, 1882. (No model.)



Claim.—In a divided hay-sling, the net-section A, provided with a bar, B, carrying eyes *b b*, in combination with the net-section A', provided with a bar, B', hooks *b'*, and the projecting lever D, adapted to put a torsional strain on said bar B', as set forth.

263,783. LIFTING-JACK AND SPIKE-PULLER. JOSEPH S. HOOD, Stahlstown, Pa. Filed Mar. 1, 1882. (Model.)



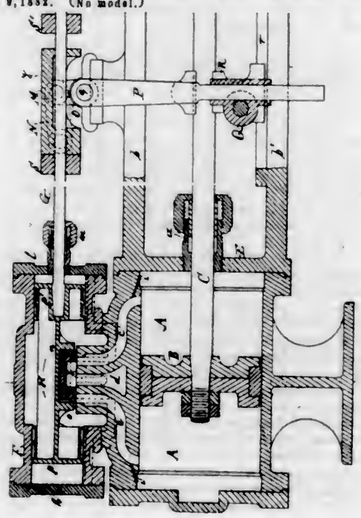
Claim.—The combination of the four standards A, dovetailed cross-bars B, tenoned top bar, C, divided flanged top plate, D, with hand-wheel E, having a grooved hub, and screw F, provided with rigid tenoned cross-bar G, pivotally-connected arms H, and tongs J, substantially as shown and described.

263,784. PILE FOR USE WITH PROTECTING AND PRESERVING MATERIAL. WILLIAM N. HORTON, San Francisco, Cal. Filed Mar. 13, 1882. (No model.)



Claim.—A pile having a central solid core, a surrounding open channel to receive a preservative compound, and an exterior thin shell extending a portion of the length of the pile, while the remainder remains solid.

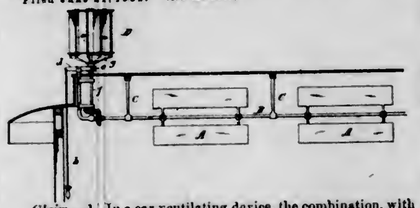
263,785. STEAM PUMPING-ENGINE. EDWARD R. HUBBARD, Chicago, Ill., assignor to Frederick C. Wells, same place. Filed May 9, 1882. (No model.)



Claim.—1. In an engine for pumping and similar purposes, the main valve and auxiliary valve, arranged side by side and carried in a yoke having auxiliary pistons that move in cylinders within the steam-chest, such main valve, that opens and closes the main steam-ports, being allowed longitudinal end-play within the yoke, for the purpose that the auxiliary valve admitting steam behind the auxiliary pistons will travel in advance of such main valve in either direction, such valve-yoke being moved about one-half its entire stroke by the piston-rod through crank O, lever P, sleeve M, and collars S and S', and the balance of its stroke by the pressure of steam admitted behind one of its auxiliary pistons, the whole being constructed and arranged to operate substantially in the manner set forth.

2. In an engine for pumping and similar purposes, the yoke H, having pistons *p p'*, and carrying valves I K, the valve-rod G, and adjustable collars S S', in combination with the sleeve M, connected with piston-rod O by crank O and lever P, substantially in the manner and for the purpose set forth.

263,786. CAR-VENTILATOR. SAMUEL HURST, St. Louis, Mo. Filed June 21, 1882. (No model.)

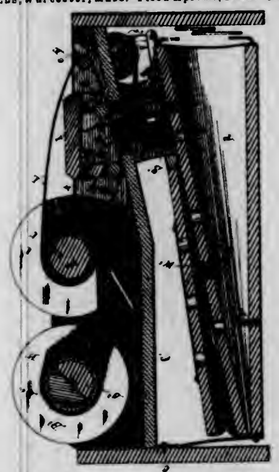


Claim.—1. In a car-ventilating device, the combination, with the ventilating-fans, of a windmill outside of the car, provided with adjustable blades and geared to drive the fans, as specified.

2. The combination of the fans, mill having adjustable blades, and blade-adjusting devices *b d e g h*, or their equivalents, as specified.

3. The combination of the mill, fans, connecting appliances, and a speed-adjusting device, as described.

263,787. MECHANICAL MUSICAL INSTRUMENT. GUSTAVUS W. INGALLS, Worcester, Mass. Filed Apr. 22, 1882. (No model.)



Claim.—1. A music-sheet for an automatic musical instrument, having an opening equal in length and breadth to the feed-roll of said instrument, adapted to allow the said feed-roll to turn therein without taking hold of said music-sheet, substantially as and for the purposes set forth.]

2. In an automatic musical instrument, a rewinding-roll consisting of an outer sleeve, an inner recessed shaft, a pair of detachable end caps, and a block provided with guides and a spring and operating in the recess of said shaft as a friction-clutch for the sleeve, substantially as set forth.

3. An automatic musical instrument having both the winding-rolls on one side of the reed-board and a supplemental guide-roll on the other side thereof, substantially as set forth.

4. In combination with the winding-roll, the rewinding-roll, and the music-sheet, a tension-roll, a U-shaped bar in the upper ends of which the tension-roll is journaled, bearings in which said bar is mounted and turns, and a spring or springs which act on said bar to force said tension-roll against the music-sheet and the winding-roll, substantially as and for the purpose set forth.

5. In combination with the music-sheet and the body of a musical instrument, a rack or frame, an upper feed-roll, a presser roll or bar, and a pair of springs which operate to hold both of said rolls simultaneously against the music-sheet, substantially as set forth.

6. In combination with a pair of brackets constructed substantially as described, a rack, frame, or cap provided on each side with two pivots, both near one end of the frame, a presser-roll attached to the other end of the frame, an upper feed-roll located above the pivots and in the same transverse vertical plane, with a line between the two forward and the two rearward pivots, and springs bearing on said feed-roll, so as to hold both rolls down when the rack is turned into operative position.

7. A frame or rack having a presser roll or bar at one end of it, a spring-pressed feed-roll at the other end, and an intervening pivot, in combination with a stop which prevents said presser-bar from being forced down against said music-sheet beyond a certain point, substantially as set forth.

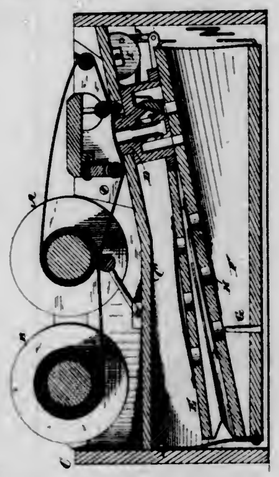
8. In an automatic musical instrument, a presser roll or bar held by yielding pressure, in combination with a stop which prevents it from being forced against the body of the instrument.

9. In an automatic musical instrument, a presser-bar provided with means for preventing it from being pressed toward the instrument beyond a certain point.

10. A presser-roll, in combination with a trough-shaped bar, to which it is journaled, and a hinged cap or frame to which said bar has a pivotal attachment, allowing its ends to yield for the purpose of automatically adjusting said bar to any inequalities in said music-sheet.

11. In combination with the sound-producing devices, the winding and rewinding rolls, and music-sheet of an automatic musical instrument, a spring-pressed roll held against said music-sheet from below and guiding it and exerting tension upon it in the act of rewinding, substantially as set forth.

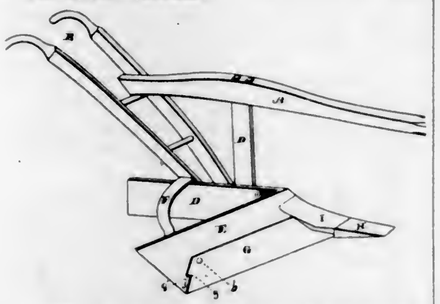
263,788. BELLOWS. GUSTAVUS W. INGALLS and AMIAL E. PHELPS, Worcester, Mass., assignors to said Ingalls. Filed June 17, 1882. (No model.)



Claim.—1. A reservoir-bellows and a pump or feeder bellows, in combination with a valve between them and a device for opening said valve in order that it may act also as a safety-valve for said reservoir-bellows.

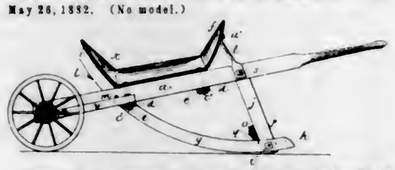
2. In combination with a main bellows, a pump-bellows, and the intervening valve, a rod interposed between said valve and the bottom of the main bellows, and arranged to open said valve as the latter approaches said bottom, substantially as set forth.

263,789. PLOW. JAMES W. JONY, Marysville, Cal. Filed June 12, 1882. (No model.)



Claim.—In a plow, the landside D, share E, with its point *j*, having a beveled edge and shoulder *g'*, and its front piece, I, with its side groove, *i*, having beveled bottoms *k k'*, its socket or mortise *m*, and hole *m'*, the reversible cutting blade or edge G, with its sloping ends, having shoulders *g*, and beveled grooves *k* to fit the beveled edges and shoulders of the share E and front pieces, I, and having bolt-holes *a*, as shown, and the reversible point H, with its tenon *p* and shank *q*, all arranged, fitted, and constructed substantially as and for the purpose herein set forth.

263,790. WHEELBARROW. JOS. KELLY, Goshen, Ind. Filed May 26, 1882. (No model.)



Claim.—1. In combination, in a wheelbarrow, the handle-bars *a a*, the tray, the curved wooden braces *g*, the metal angular braces *t t'*, the cross-girts *d*, and the legs, the said tray and cross-girts being secured to the handle-bars by the same screw-bolts and clamp-nuts and the said metal braces and legs secured to the handle-bars by the same screw-bolts and clamp-nuts, substantially as described.

2. The angular braces *t*, formed with the vertical flat ends *t'*, in combination with the tray, the handle-bars *a*, the legs *j*, the screw-bolts passing through these several parts, and the clamp-nuts binding them together, as set forth.

3. The combination, in a wheelbarrow, of the handle-bars *a* and the cross-girt *d* with a horizontal brace or braces, *v*, secured to the middle of said cross-girt, extending frontward, and secured at or near the wheel-bearings of said handle-bars, substantially as described, for the purpose specified.

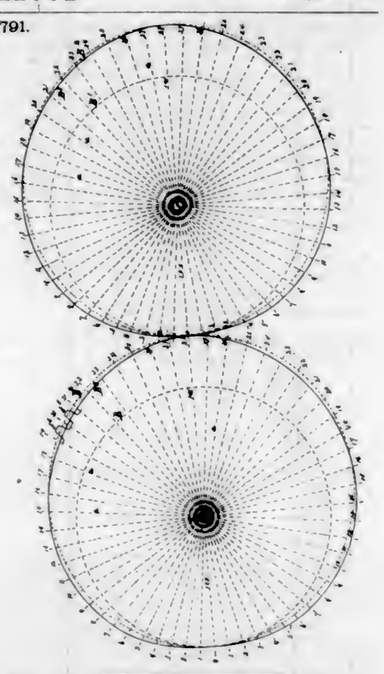
4. The wheelbarrow herein described, consisting of the handle-bars *a*, the tray, the curved wooden braces *g*, the angular metal braces *t t'*, the legs *j*, the cross-girts *d d*, and the brace or braces *v* for the wheel-bearing ends of the handle-bars, all constructed and secured together substantially as described.

263,791. TOOTHED GEAR-WHEEL. FRANCIS LECLERC, Philadelphia, Pa. Filed Aug. 2, 1882. (No model.)

Claim.—1. Toothed gear-wheels A A', having the pitch-line for their teeth formed on extended radii of circles, which extended portions of radii are formed from ordinates of gradually-increasing length, and which are terminated on a straight inclined line, *c*, which starts from 0 and ends at the vertical line *d*, which gives the longest radius to the circle upon which the pitch-line of the teeth of the wheels is formed, substantially as described.

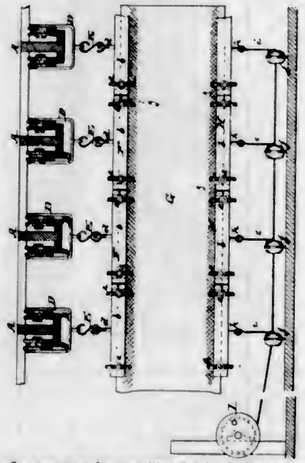
2. The mode of producing the wheels A A', consisting in striking two circles, B B', of equal diameter, and circles B², and dividing each semi-circle into twenty-eight (more or less) equal parts by radii, beginning at 0 and terminating at 28, then marking ordinates for giving the desired gradually-increasing length of radii upon a diagram, consisting of a horizontal line, *b*, inclined line *c*, and a vertical line, *d*, and adding these ordinates in regular succession, according to their numbers, to the radii of the circles, and then forming the pitch-line for the teeth at the termini of these ordinates, substantially as and for the purpose described.

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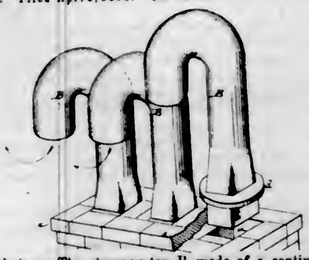
263,792. APPARATUS FOR STRETCHING FABRICS. JOHN G. LINDEMANN, New York, N. Y. Filed Feb. 9, 1882. (No model.)

Brief.—The selvages of the fabric are held by clamps, one clamp being suspended from several U-shaped frames, each provided with two grooved rollers supported by the two rails of a beam, and the other clamp receiving the stretching power through a rope-connection. Each clamp consists of two plates roughened next the fabric, one of which has a projecting edge to prevent paint or size, when applied to the fabric, from entering between the plates. Each clamp is made in sections which overlap where they meet.



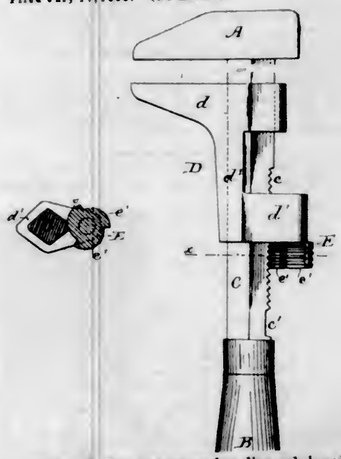
Claim.—In apparatus for stretching fabrics G, the suspending carriages, each formed of a U-shaped frame, D, having two grooved rollers, C, combined with double sets of rails B, and with continuous and overlapping clamping-sections F F, and similar sections, H H, substantially as and for the purpose described.

263,793. CHIMNEY-TOP. JOHN G. LINDEMANN, New York, N. Y. Filed Apr. 5, 1882. (No model.)



Claim.—The chimney-top B, made of a continuous pipe with open ends, its upper end being bent downward and its lower end made with the angular portion *b*, and with the outwardly-projecting flange *d* above said angular portion *b*, substantially as and for the purpose specified.

263,794. WRENCH. DOLPHUS S. MAYNARD, Auburn, N. Y. Filed July 17, 1882. (No model.)



Claim.—1. In a screw-wrench, a diamond-shaped bar transversely grooved and notched, as described, in combination with a sliding jaw having diamond-shaped apertures, and provided with a rotatable disk having a series of ridged peripheries, whereby different sections of the disk may be put in operative positions, substantially as described.

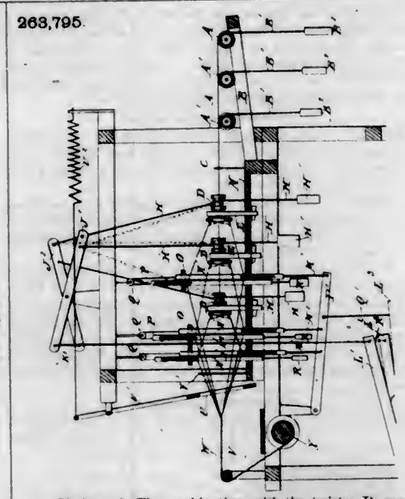
2. In a wrench, a bar transversely grooved, as described, in combination with a sliding jaw provided with a disk having a series of cam or eccentric peripheral sections, *e'*, substantially as shown and described, whereby each cam may be used in succession after the wearing out of the adjoining cam.

3. The combination of the bar C, grooved at *c* and notched at *c'*, with the sliding jaw D, provided with a ridged disk, E, having a series of cam-shaped surfaces adapted to mesh with the grooves *c* and to rotate freely in the notch *c'*, substantially as and for the purpose described.

263,795. LOOM FOR WEAVING NETTED FABRICS. ALEXANDER MOLLER, New York, N. Y. Filed Sept. 7, 1881. (No model.)

Brief.—The warps are wound in pairs upon spools, and each pair is led from its spool through a tube or twister having oppositely-situated eyes upon its front end, through which the threads are separately passed. Rotary motion is given to the twisters to cross the warps by a weighted cord wound round the same and connected through cords and an intermediate lever with a treadle. The threads of each pair are spread apart for the passage of the weft after having been crossed by a pair of vertically-sliding bars provided with spring-acted hooks having swelled shanks, said hooks as they separate being pressed out to engage the threads by the contact of their swelled shanks with the sides of the apertures in the frame-work in which they are guided.

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Claim.—1. The combination, with the twister D, provided with the flanges D' D' and the treadle L', of the cord H, coiled around the said twister, the weight H', the centrally-pivoted lever J', and the cord K', substantially as and for the purpose set forth.

2. The combination, with the twister D, provided with the notch E', the standard E, and the treadle L', of the spring E², the cord H, the weight H', the centrally-pivoted lever J', and the cord K', substantially as and for the purpose set forth.

3. The combination, with the apertured platform and frame, of the vertically-reciprocating heddle-bars, hooks pivoted in said bars, and mechanism for operating said heddle-bars, substantially as and for the purpose set forth.

4. The combination, with the treadle L², the cord Q', the lever P', the cord M', and the pulley Q, of the reciprocating bars N' N², the cord P, and the weight R, substantially as and for the purpose set forth.

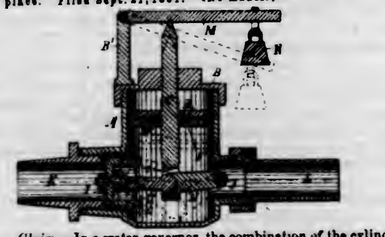
5. The combination, with the apertured platform M, the apertured frame O, the treadle L², the cord Q', the lever P', the cord M', the cord P, and the pulley Q, of the reciprocating bars N' N², the pivoted hooks T, the springs S', and the weight R, substantially as and for the purpose set forth.

6. The combination, with the apertured platform M, the apertured frame O, and the operating mechanism, of the slotted reciprocating bars N' N², the pivoted hooks T, provided with the swelling S², and the springs S', substantially as and for the purpose set forth.

7. The combination, with the heddle-bars N' N², of the cord P, the pulley Q, the guide-frames M O, the lever P', the cord M', the weight R, the connecting rod or cord Q', and the treadle L², substantially as herein shown and described, and for the purpose set forth.

8. The combination, with the reed U, of the heddle-bars N' N², the cord P, the pulley Q, the cord M', the lever P', the cord Q', the treadle L², and the weights R, substantially as herein shown and described, and for the purpose set forth.

263,796. WATER-GOVERNOR. HARRISON S. MILLER, Indianapolis, Ind., assignor of one-half to Charles W. Meikel, same place. Filed Sept. 21, 1881. (No model.)



Claim.—In a water-governor, the combination of the cylinder A, having the inlet and outlet pipes K and L, slotted piston-rod

C, the piston-head consisting of the parts D E F, the toggle G J, the jointed portions thereof working in a slot formed in the piston-rod, whereby they are kept in their proper positions and in line with the axis of the valve, and the cap B, serving as a guide for the upper end of the slotted rod C, the parts being constructed and arranged substantially as shown and described.

263,797. MANUFACTURE OF TANNIC ACID. ALEXANDER MITSCHERLICH, Marden, Germany. Filed Sept. 22, 1881. (No specimens.) Patented in Germany Jan. 23, 1876, No. 4,179, and in Italy July 15, 1882.

Claim.—1. The process of producing tannic acid, consisting in first subjecting wood to the action of steam under pressure and then to the action of an aqueous solution of bisulphite of lime at a temperature above the boiling-point.

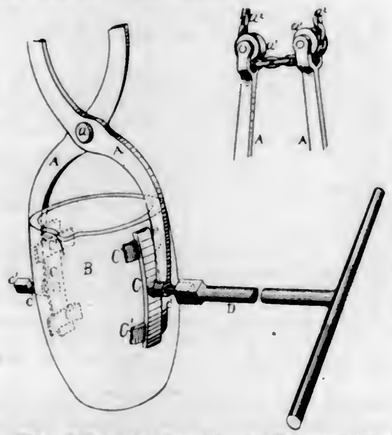
2. The process herein described of producing simultaneously a tannic-acid solution and a solution of bisulphite of lime, which consists in first subjecting wood to the action of steam under pressure and then to the action of an aqueous solution of bisulphite of lime at a temperature above the boiling-point, and simultaneously exposing small pieces of carbonate of lime to the joint action of a spray of water from above and the fumes of the aforesaid solution from below.

263,798. BINDING FOR COATS AND OTHER GARMENTS. JAMES F. MOLLEN, Boston, Mass., assignor to himself and John T. Ellis, same place. Filed May 6, 1882. (No model.)



Claim.—As a new article of manufacture, a coat-binding made or woven tubular along each of its opposite edges, and from such nearly to its middle and from end to end of it, (the said binding,) and having in the tubular portions of it stuffings or fillings of mohair or other proper fibrous material, all being substantially as set forth.

263,799. CRUCIBLE-TONGS. SAMUEL C. MURDOCH, Pittsburg, Pa. Filed July 13, 1882. (No model.)



Claim.—1. In a pair of crucible-tongs, the combination of pivoted members A A, bars C, pivoted one to each of the members A at their lower ends, and clamping-shoes C', secured to the ends of such bars, substantially as set forth.

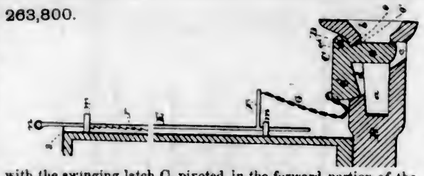
2. The combination of pivoted members A A, bars C C, pivot-pins c c, connecting the bars and members by a rotary joint, with wrench-shanks c' on the extended ends of such pins, and clamping-shoes C' C', substantially as and for the purposes set forth.

3. The combination of pivoted members A A, bar C, connected by a rotary joint to the lower end of each member, clamping-shoes C', and lifting-chain a^3, substantially as set forth.

263,800. CAR-COUPLING. NATHAN D. MUSSEY, Reno, Nev. Filed June 23, 1882. (No model.)

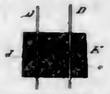
Claim.—In a car-coupling, the draw-head B, having a chamber, *a*, a bottom aperture, *c*, and a top aperture, *d*, in combination

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with the swinging latch C, pivoted in the forward portion of the aperture *d*, and having the arms *e* and *e'*, arranged as shown, and the means for raising said latch, consisting of the vertically-moving rod E, with its teeth *r*, engaging with a pawl, *s*, arm F upon said rod, and chain G, connecting said arm with the arm *e'* of latch C, substantially as and for the purpose herein described.

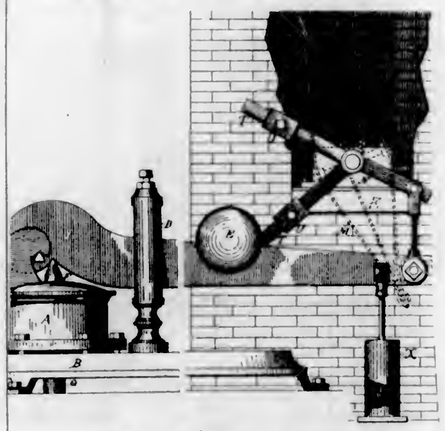
263,801. ELECTRIC LAMP. JOSEPH V. NICHOLS, Brooklyn, assignor to the United States Electric Lighting Company, New York, N. Y. Filed Feb. 6, 1882. (No model.)



Claim.—1. The combination of an exhausted globe or receiver, a stopper of rubber or similar material, and metallic supporting-conductors having enlargements, as described, and passing through the stopper, substantially as set forth.

2. The combination of an exhausted globe or receiver, a stopper of rubber or similar material, and metallic supporting-conductors having adherent beads of vitreous material, as described, and passing through the stopper, substantially as set forth.

263,802. AUTOMATIC STEAM-DAMPER REGULATOR. WILLIAM NOYES, New York, N. Y. Filed July 11, 1882. (No model.)



Claim.—1. A diaphragm for steam-damper regulators, said diaphragm consisting of stockinet fabric having its meshes or interstices filled and its opposite surfaces coated or covered with vulcanized rubber, substantially as set forth.

2. The combination, with the cylinder and yielding diaphragm, of the diaphragm-plate constructed of slightly less diameter than the cylinders and provided with an annular groove on its under face and located in close proximity to its outer edge, substantially as set forth.

3. The combination, with the cylinder, yielding diaphragm, and diaphragm-plate, the latter constructed of slightly less diameter than the cylinder, and fulcrum-pin connected with the diaphragm plate or disk and adapted to work loosely through an opening in the upper end of the cylinder, of a screw for attaching the diaphragm to the center of the diaphragm-plate and retaining the latter against lateral displacement, substantially as set forth.

4. The combination, with a counterbalanced damper and an automatic steam-regulator connected therewith, of a dash-pot for preventing the vibrations of the damper, substantially as set forth.

5. The combination, with the damper and the lever of the

steam-regulator, of a dash-pot having its piston-rod connected to the long arm of the steam-regulator lever, substantially as set forth.

6. A damper made in sections located on opposite sides of the damper-shaft, and brace or truss rods or bars secured to the outer ends of the damper-sections, and devices for securing them to the inner ends of the damper-sections, substantially as set forth.

7. The combination, with the damper and damper-shaft, of damper-braces attached to the outer ends of the damper, and screw-threaded studs secured to the damper-shaft and central portions of said damper-braces, substantially as set forth.

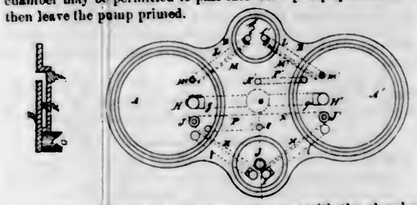
8. The combination, with the damper-shaft, of a horizontal bearing-box provided with anti-friction rollers, substantially as set forth.

9. The combination, with the bell-crank having hubs formed integral therewith, of arms or levers adapted to fit on said hubs, set-screws for securing them in any desired rotary adjustment, and adjustable weights connected with said arms or levers, substantially as set forth.

10. The combination, with the damper-shaft, of a journal-bearing consisting of anti-friction rollers for supporting the shaft and a box or housing for inclosing the anti-friction rollers, said box or housing adapted to be secured within an opening or recess in the chimney, substantially as set forth.

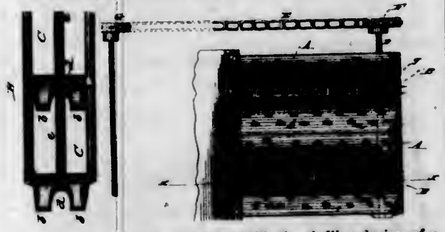
263,803. STEAM VACUUM-PUMP. GEORGE H. NYE, Chicago, Ill. Filed Jan. 28, 1882. (No model.)

Brief.—To avoid the necessity of priming the pump after the discharge-pipe has been drained of water a chamber communicating with the pump-cylinders and the discharge-chamber is provided and controlled by a cock, whereby water from the discharge-chamber may be permitted to pass into both pump-cylinders and then leave the pump primed.



Claim.—The chamber X, communicating with the chamber J by means of the valve J and with the cylinders A A' by means of ports J' J', as and for the purpose set forth.

263,804. CORN-SHELLER. HARVEY PACKER, Rock Falls, Ill. Filed Aug. 1, 1882. (No model.)



Claim.—1. In combination with the shelling devices of a corn-sheller, a chain, B, composed of flat links C, constructed with longitudinal median bars, *c*, and means for causing such chain to revolve longitudinally, substantially as shown, and for the purpose described.

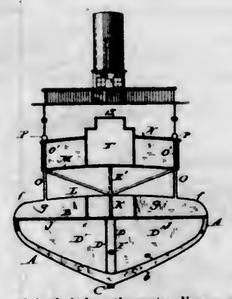
2. In combination with the carrying-pulleys, the chain B, composed of open flat links, constructed with the bars *c* and slots *d*, whereby such chain is rendered flexible, substantially as shown, and for the purpose mentioned.

263,805. STEAMSHIP. DENISON C. PIERCE, Chicago, Ill., assignor of one-half to Harvey B. Merrell, Morristown, N. J. Filed Apr. 22, 1882. (No model.)

Claim.—1. In combination with propellers G H, below the water-line at opposite ends of the vessel, a shaft extending from one to the other and composed of sections united by joints or couplings, and independent engines connected with opposite ends of the shaft, whereby the shaft may be disconnected from either propeller without interfering with the action of the other.

2. In combination with the propellers G H, at opposite ends

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of the vessel, and both below the water-line, a shaft extending from one to the other and composed of sections united by joints or couplings, the middle section being of larger diameter than the end sections, as and for the purpose explained.

3. In combination with the hull A and elevated cabin M, intermediate tubular stanchions or columns, O, passing from the emigrant-cabin to a point above the elevated cabin, whereby they are adapted to support the upper cabin, and to serve as ventilating-shafts.

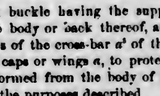
4. In combination with two propellers located at opposite ends of the vessel, a shaft extending from one to the other and formed of larger diameter at the middle than at the ends, whereby it is adapted to withstand the torsional strain.

5. In combination with the tubular columns or stanchions O, the pipe or trunk P and means, substantially such as shown and described, for producing a draft of air through said pipe or trunk.

6. In combination with the tubular stanchions communicating with the emigrant-cabin, the pipe or trunk P, the stacks R, and fan Q, whereby the foul air is withdrawn from said cabin and discharged above the promenade-deck.

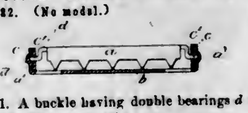
7. In a vessel, the combination of a hull constructed with inwardly-curved walls at the top supporting the main deck, and an elevated cabin supported above and of less width than the hull, as shown and described, whereby the waves are caused to act with less force upon the vessel and the tendency to tip or roll is diminished.

263,806. BUCKLE. THOMAS O. POTTER, Boston, Mass. Filed June 29, 1882. (No model.)



Claim.—A buckle having the supports or projections a^3, formed from the body or back thereof, and furnishing bearings for the pivot ends of the cross-bar a^2 of the jaw, and having also the independent caps or wings *a*, to protect or cover the ends of the pivots, also formed from the body of the buckle, all substantially as and for the purposes described.

263,807. BUCKLE. THOMAS O. POTTER, Boston, Mass. Filed June 29, 1882. (No model.)



Claim.—1. A buckle having double bearings *d* for the pivot ends a' of the buckle tongue or jaw.

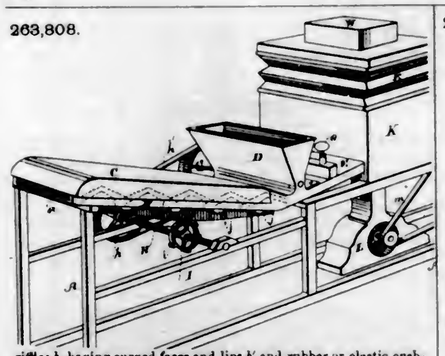
2. The combination, in a buckle, of the projections *c'* and wings *c*, formed from the buckle-blank, as described, and provided with the bearing-holes *d*, with the tongue or jaw *a*, having pivots a', all substantially as and for the purposes described.

263,808. DRY-ORE SEPARATOR. PATRICK W. EGARDON, San José, Cal. Filed June 28, 1882. (No model.)

Claim.—1. In a dry-ore separator, the riffle-box consisting of the under box, B, provided with transverse triangular riffles *b*, having cut-away or curved faces and overhanging lips *b'*, and the upper overlapping box, C, provided with transverse triangular strips *c*, between which and riffles *b* an undulating passage, *a*, is formed, in combination with a hopper or ore-feeding device communicating with the passage *a*, and means for directing a current of air within said passage, substantially as and for the purpose herein described.

2. In a dry-ore separator, the upwardly-inclined riffle-box consisting of the under box, B, provided with transverse triangular

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riffles *b*, having curved faces and lips *b'* and rubber or elastic cushions *b²*, and the upper box, C, provided with strips *c*, between which and riffles *b* an undulating passage, *a*, is formed, in combination with an ore-feeding device and means for directing a current of air within said passage, substantially as and for the purpose herein described.

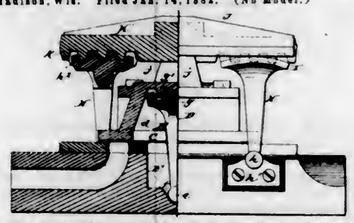
3. In a dry-ore separator, the riffle-box consisting of the under box, B, provided with a flexible bottom having cleats *j* and the transverse triangular riffles *b*, and the upper box, C, provided with transverse triangular strips *a*, between which and the riffles *b* an undulating passage, *a*, is formed, an ore-feeding device, and means for directing within it a current of air, in combination with the means for striking the flexible bottom of said riffle-box, consisting of the tapered bar J, tappet-wheel I, and driving mechanism for said wheel, substantially as and for the purpose herein described.

4. In a dry-ore separator, the upwardly-inclined riffle-box consisting of the boxes B and C, provided with the transverse triangular riffles *b* and *c*, between which an undulating passage, *a*, is formed, and means for directing a current of air within said passage *a*, in combination with the hopper D, and the revolving feeder-shaft F, having flanges *f*, substantially as and for the purpose herein described.

5. In a dry-ore separator, an upwardly-inclined riffle-box provided with an undulating passage, *a*, and an ore-feeding device communicating with said passage, in combination with the compressed-air reservoir K, wide flat pipe E, and the blower L, substantially as and for the purpose herein described.

6. A dry-ore separator comprising the riffle-box consisting of the boxes B and C, having transverse triangular riffles *b* and *c*, between which an undulating passage, *a*, is formed, a feed-hopper, D, and feeder-shaft F, having flanges *f*, in combination with the air-reservoir K, having weighted flexible expanding top *k*, the wide flat pipe E, the valve O, the blower L, driving-belt *m*, and pulley M, substantially as and for the purpose herein described.

263,809. BALANCED SLIDE-VALVE. WARREN T. REASER, Madison, Wis. Filed Jan. 14, 1882. (No model.)



Claim.—1. The combination, with a valve-seat and a sliding valve, of interior and exterior rocking bearings for supporting said valve, substantially in the manner as and for the purpose specified.

2. The combination, with the valve and valve-seat, of a bail or yoke supported in bearings formed in the port F, and having sectoral plates or rockers upon which the upper wall of the exhaust-port *d* of the valve rests, and thereby supporting the valve, substantially in the manner as and for the purpose herein shown and described.

3. The combination, with the valve-seat and valve having cog-teeth formed in the upper wall of the exhaust-port *d*, of a bail or yoke journaled in the port F, and having cog-teeth and sectoral plates or rockers, substantially in the manner as and for the purpose herein shown and described.

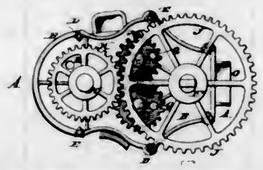
263,810. SULKY. MILO J. REED and SAMUEL SHILLIAM, Waterloo, Iowa. Filed July 20, 1882. (No model.)



Claim.—1. The thills F, provided with ears *n n*, in combination with the adjustable bars G and bars E E, provided with ears at each end and rigidly secured to the axle, substantially as and for the purpose described.

2. The foot-rest C', provided with the stirrups S S, in combination with the axle B, carrying spindles *r*, and friction-rollers P P, as and for the purpose specified.

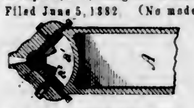
263,811. CANE-MILL. WILLIAM A. ROBERTS, Milledgeville, Ky. Filed July 11, 1882. (No model.)



Claim.—1. The combination of the top plate, B, having openings R, the bottom plate C, having flanges P, the shafts G G H, having rollers I, provided with perforations or channels S, and gear-wheels provided with openings Q, as and for the purpose set forth.

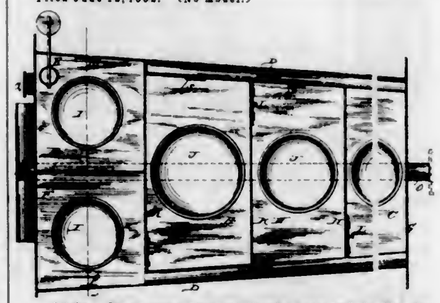
2. The combination of the frame A, the vertical shafts, the flanges T, the bearing-blocks U, having grooves V, the bails W, and the tightening-nuts X, as and for the purpose set forth.

263,812. CRANK-SHAFT OR JOURNAL BEARING. EDWIN A. ROWLEY, Williamsport, Pa., assignor to Rowley & Hermance, same place. Filed June 5, 1882. (No model.)



Claim.—A shaft or journal bearing having a part formed in one piece homogeneous with the frame of the machine, and extending above and around the shaft or journal, combined with adjustable lower sections, substantially as set forth.

263,813. SUGAR-BOILER. ARISTILDE SAVOIE, Lockport, La. Filed June 12, 1882. (No model.)



Claim.—In an evaporator or boiler for sugar and the like, the herein-described boiler, tapering toward one end, and provided in its top with concave pans, which diminish in size toward the smaller end of the boiler, and are inclosed by partitions having suitable gates, substantially as set forth.

263,814. DENTAL HAND-PIECE. THEODORE H. SCHMITZ, Philadelphia, Pa., assignor to Henry D. Justi, same place. Filed Apr. 20, 1882. (Model.)

263,814.



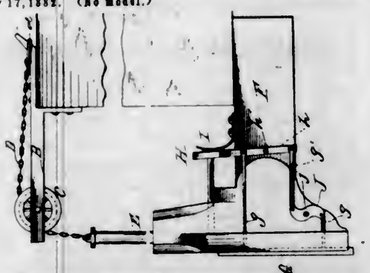
Claim.—In combination with the dental hand-piece or tool-holder, the flexible sheath connected thereto by means of a cylindrical telescopic joint adapted, substantially as described, to permit both a rotary and a longitudinal motion between the parts.

263,815. PUMP FOR DRIVEN WELLS. DAVID A. SCHOMP, Mount Vernon, Ohio. Filed Feb. 13, 1882. (No model.)



Claim.—In a pump-valve, the screw-threaded washer W and elastic ring R, in combination with the valve A and short section B, all constructed to operate substantially as and for the purpose set forth.

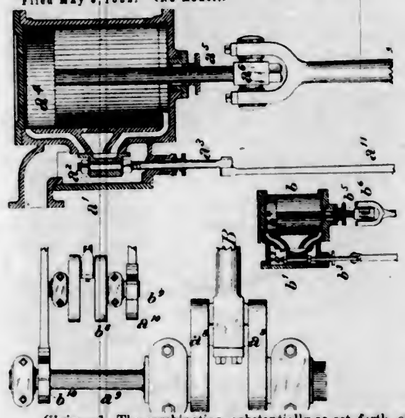
263,816. CAR-COUPLING. SOLOMON SCOTT, Paoli, Ind. Filed July 17, 1882. (No model.)



Claim.—1. In a car-coupler, a draw-bar provided with a recessed face, and a frame adapted to fit said recess and supported by rods, the combination of the rods *g g*, the bifurcated lever H, the links J, the rod *g'*, the locking-bar K, and the pin E, substantially as shown and described.

2. The combination of the chain D, bracket B, wheel C, and notched pin E with the draw-bar F, provided with the bifurcated lever H, locking-bar K, spring I, rods *g g g'*, levers J, and frame G, substantially as shown and described.

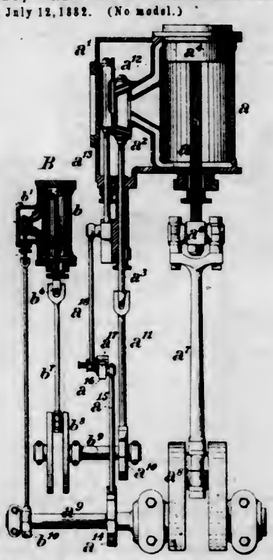
263,817. VALVE-GEAR. HORACE SEE, Philadelphia, Pa. Filed May 9, 1882. (No model.)



Claim.—1. The combination, substantially as set forth, of a main steam-engine and an auxiliary or valve engine driving a shaft which operates the distribution-valve of the main engine, and having its own distribution-valve operated by the shaft of the main engine.

2. The combination, substantially as set forth, of a main steam-engine, an auxiliary or valve engine which operates the distribution-valve of the main engine, and two pairs of reversing-links and eccentrics, each operating a distribution-valve upon the auxiliary engine and receiving movement, respectively, from the main and from the auxiliary engine shafts.

263,818. VALVE-GEAR. HORACE SEE, Philadelphia, Pa. Filed July 12, 1882. (No model.)



Claim.—1. The combination, substantially as set forth, of a main steam-engine, an auxiliary or valve engine driving a shaft which operates the main or distribution valve of the main engine, and an independent cut-off valve governing the admission of steam to said distribution-valve and operated by the shaft of the main engine.

2. The combination, substantially as set forth, of a main steam-engine and an auxiliary or valve engine, said auxiliary engine driving a shaft which operates the distribution-valve of the main engine, and having its own distribution-valve operated by a differential connection with its own shaft and with the shaft of the main engine, respectively.

3. The combination, substantially as set forth, of a main steam-engine and an auxiliary or valve engine, said auxiliary engine driving a shaft which operates the distribution-valve of the main engine, and having its own distribution-valve operated by connection with a pair of reversing-links which are moved respectively by eccentrics on the main and on the valve engine shafts.

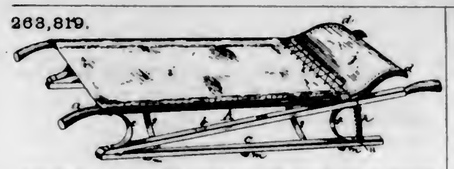
4. The combination, substantially as set forth, of a main steam-engine and an auxiliary or valve engine having its distribution-valve operated by connection with a link or bar which is connected at different points in its length to a crank or eccentric on the main-engine shaft, and to an eccentric which is mounted loosely upon the valve-engine shaft, and is movable independently thereon by a hand-wheel within the limit imposed by a stop and driver.

5. In a steam-engine having its main or distribution valve operated by an auxiliary or valve engine, the combination, substantially as set forth, of a reversing-link connected to a pair of eccentrics fixed upon the main-engine shaft, a reversing-link connected to a pair of eccentrics secured upon the valve-engine shaft, and a stem adapted to be connected to the valve of the valve-engine, said stem having oppositely-projecting arms, each of which is coupled to a block or die fitting in one of said reversing-links.

263,819. COMBINED ELASTIC AND SPRING STRETCHER. RICHARD H. SHARPE, Bridgeport, Conn. Filed May 4, 1882. (No model.)

Claim.—1. The Z-formed frames A, composed of the cords *a* and *c* and the diagonal tie *b*, with the springs *e*, *f*, and *h* and the

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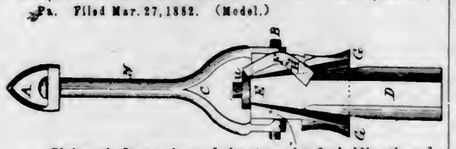


stop-rod *n*, the casters *m m*, when combined as and for the purpose specified.

2. The stub-hinged, jointed, separating-springs *c c*, in combination with the frames A A, when arranged and operated as described and set forth.

3. The combination of the Z-formed frames A A with the springs *e*, *f*, and *h*, the stub-hinged jointed springs *c c*, the curved projections *d d*, and the canvas *i* and *j*, when arranged as described and shown.

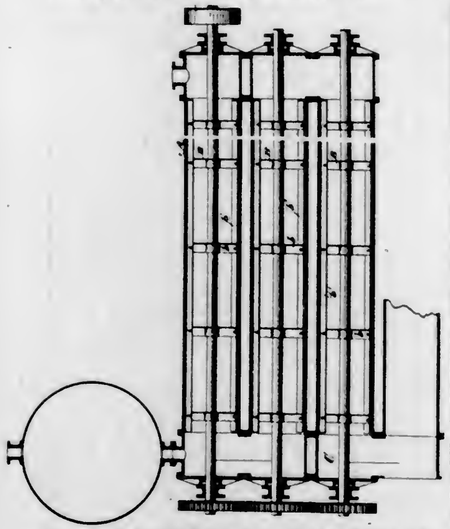
263,820. SUCKER-ROD ELEVATOR. PARKER SMITH, Goodell, Pa. Filed Mar. 27, 1882. (Model.)



Claim.—1. In a sucker-rod elevator, a dog for holding the rod in place and pivoted to move in a vertically-curved line over the longitudinal opening of the socket or be swung clear thereof, for the purpose set forth.

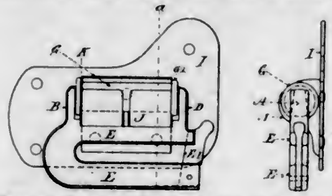
2. In a sucker-rod elevator, a dog for holding the rod in place, pivoted to move in a vertically-curved line across the longitudinal opening of the socket or be swung clear thereof, and having a handle for operating the same.

263,821. MANUFACTURE OF SODA. ERNEST SOLVAY, Brussels, Belgium. Filed May 27, 1882. (No model.) Patented in France May 14, 1881, No. 142,845; in Belgium May 14, 1881, No. 54,848; in England May 14, 1881, No. 2,113, and in Austria-Hungary Jan. 4, 1882, No. 43,803 and No. 37,943.



Claim.—In the manufacture of ammonia-soda, the herein-described process of calcining bicarbonate of soda, consisting in violently agitating the bicarbonate of soda in the form of dust or powder in a heated decomposing or calcining apparatus, so as to cause the particles of soda to be projected in all directions within said apparatus, and thereby form a cloud of dust, the particles of which are brought into contact with every part of the inner heated wall of the apparatus.

263,822. SAFETY SADDLE-BAR. ROBERT SPENCE, Jr., Richmond, County of York, England. Filed May 11, 1882. (No model.) Patented in England Oct. 17, 1881, No. 4,522.

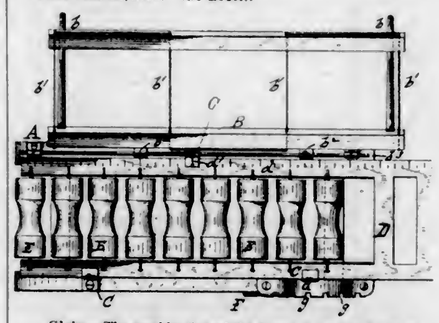


Claim.—1. In a safety-saddle attachment, the plate I, provided with brackets J, having open bearings, in combination with the bar A and slotted journal G, substantially as shown and described.

2. The combination of the plate I, having brackets J, provided with open bearings, with the bar A, loop E, and latch E', substantially as shown and described.

3. The combination of the plate I, brackets J, journal G, spring-washer K, and caps G with the bar A, loop E, and latch E', substantially as shown and described.

263,823. TILE-MACHINE. JOHN F. STEPHENSON, Edgar, Ill. Filed June 24, 1882. (No model.)

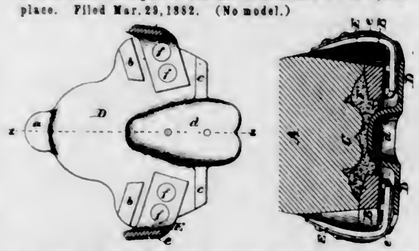


Claim.—The combination of the frame A, provided with the cleats C, one of which bears the indicating mark *d'*, with the frame D, provided with the scale *d*, the stud *f'*, rod *f'*, lever F, and the notched plate G, substantially as shown and described.

263,824. EXPLOSIVE COMPOUND. EUGÈNE TURPIN, Paris, France. Filed Dec. 13, 1881. (No specimens.) Patented in England Oct. 18, 1881, No. 4,544.

Claim.—The hereinbefore-described composition of matter to be used as an explosive compound or for the purpose of producing light and heat, consisting of peroxide of nitrogen or hyponitric anhydride combined with sulphuret of carbon or its equivalent, as set forth.

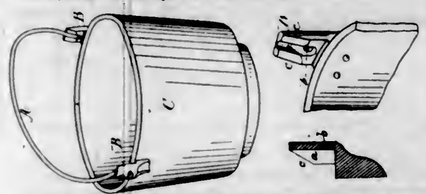
263,825. HORSE-HOOF EXPANDER. GEORGE W. WEMPLE, Boston, Mass., assignor of one-half to Brainard W. Child, same place. Filed Mar. 29, 1882. (No model.)



Claim.—1. In a horse-hoof expander, the plate D, provided with the lip or ear *a*, the ribs or lugs *b b* and *c c*, and the raised or elevated pressure-pad *d*, all arranged and adapted to operate substantially as and for the purposes described.

2. The plate D, provided with the ear *a*, the ribs *b b* and *c c*, the raised or elevated frog-presser *d*, and means for securing its heel end to the horse's foot, and having that portion forward of the ribs *b b* made of a width to fit between the inner edges of that part of the shoe, substantially as described.

263,826. BAIL EAR AND LUG. JOSEPH B. WHITCOTT, Somerville, Mass. Filed Apr. 20, 1882. (No model.)



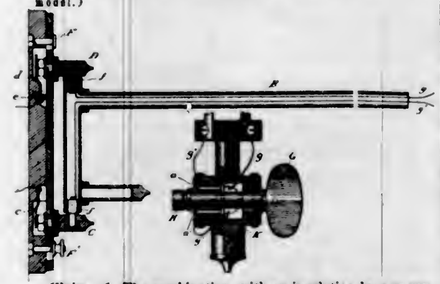
Claim.—1. A bail-ear beveled upon one side toward the top and having on that side a perpendicular slot decreasing in depth toward the top, and provided with a bail-hole near the bottom, substantially as and for the purposes set forth.

2. A bail ear or lug with bevels formed upon one side of the same toward the top, and provided with a perpendicular slot, and having a hole or aperture through the ear near the bottom and above the part by which it is attached or united to the vessel, the whole combined and adapted to engage the bail, substantially as and for the purposes set forth.

3. In a bail ear or lug, suitably-formed bevels upon one side, with a perpendicular slot separating the bevels, and the depth of the slot decreasing near the top, and provided with an aperture at the bottom or lower end of the perpendicular slot, and adapted, when engaged with a bail, to guide said bail from a horizontal to a vertical position to support the bail vertically and to reguide the bail to a horizontal position, all substantially as and for the purposes set forth.

4. The ear or lug B, with bevels *c c* and slot *a*, in combination with the spring-bail A, substantially as and for the purposes set forth.

263,827. BRACKET FOR INCANDESCENT LAMPS. EDWARD WESTON, Newark, N. J., assignor to the United States Electric Lighting Company, New York, N. Y. Filed Feb. 18, 1882. (No model.)



Claim.—1. The combination, with an insulating base or support having recesses containing terminal contact-springs, of a detachable plate, a bracket or frame for an incandescent lamp, secured to the same, insulated contact-points passing through said plate in positions to encounter the springs contained in the base, and conductors connecting said points with the lamp-terminals, as described.

2. The combination, with a stationary base or support containing springs forming the terminals of an electric circuit, of a detachable plate, contact-points secured thereto in positions to encounter the contact-springs in the base, a bracket or frame for incandescent lamps pivoted to said contact-posts, and conductors contained within the bracket and connected to the pivoted points and the terminals of the lamp, respectively, substantially in the manner described.

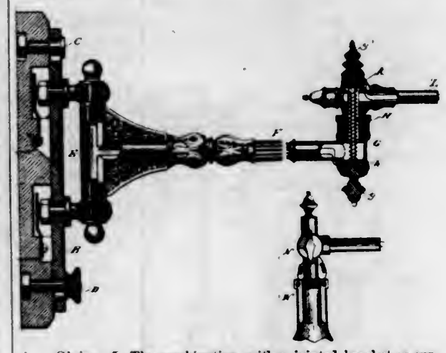
3. The combination of a recessed support or base of insulating material, contact-terminals, and a safety device contained within said recesses, and a metal plate or cover carrying a bracket for incandescent lamps, and containing contact-points for engaging with the terminals of the base, as described.

4. In a bracket or supporting-frame for incandescent lamps, the combination, with the stationary terminal posts D C, of a supporting-arm pivoted thereto by heads *f f'*, insulated from each other and connected respectively with the lamp-terminals, as set forth.

5. The combination, with the recessed plate or support A and contact-springs secured therein, of plate E, insulated contact-posts D C, and the bracket-arm B, pivoted thereto, substantially in the manner described.

6. The combination, with a recessed plate or support, A, contact-springs *c c*, and safety device *e*, of plate E, insulated contact-posts D C, and bracket-arm B.

263,828. BRACKET FOR INCANDESCENT LAMPS. EDWARD WESTON, Newark, N. J., assignor to the United States Electric Lighting Company, New York, N. Y. Filed Feb. 18, 1882. (No model.)



Claim.—1. The combination, with a jointed bracket or support for incandescent lamps, of conductors contained within the bracket and formed in spirals at the joints, substantially as and for the purpose set forth.

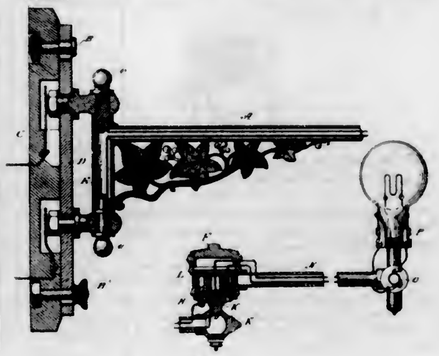
2. The combination, in a bracket for incandescent lamps, of a section, as F, a section, as L, and a joining-section, G, with conducting-wires passing through the several sections and formed in spirals in the joining-section, substantially in the manner described.

3. The combination, in a bracket for incandescent lamps, of a section, as F, a section, as L, a joining-section, as G, and insulating-plates *k k*, with conducting-wires passing through said sections and the plates *k k*, and formed in spirals in the section G, substantially as shown.

4. The combination of section F, section L, and insulated joining section or socket G, with conductors passing through the said sections and formed in spirals in the insulated joining-section, as shown.

5. The combination, in a bracket for incandescent lamps, of a section, as F, a section, as L, a joining-section, G, insulating-plates *k k*, and pin H with conductors passing through said sections and plates, and formed in spirals around the pin H, substantially as and for the purpose set forth.

263,829. BRACKET FOR INCANDESCENT LAMPS. EDWARD WESTON, Newark, N. J., assignor to the United States Electric Lighting Company, New York, N. Y. Filed Feb. 18, 1882. (No model.)

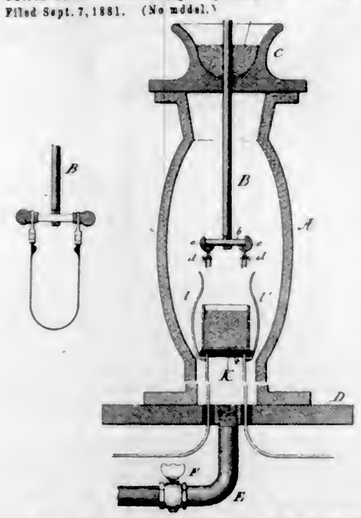


Claim.—1. The combination, with a jointed bracket for electric lamps and the conductors contained therein, of a mercury cup or cups placed at or forming the joints and arranged to maintain the continuity of the circuit through the wires, substantially as shown.

2. The combination, in a jointed bracket, with section A and section N, and conductors contained therein, of mercury-cup K and annular cup H, placed at or forming the joint between the said sections, substantially as and for the purpose set forth.

3. In a bracket for electric lamps, the combination, with the sections of the bracket and wires contained therein, of a conducting-joint consisting of mercury-cup K, annular cup H, cap M, and insulating-plate L, these parts being combined substantially in the manner described.

263,830. PROCESS OF MANUFACTURING CARBON CONDUCTORS. EDWARD WESTON, Newark, N. J., assignor to the United States Electric Lighting Company, New York, N. Y. Filed Sept. 7, 1881. (No model.)



Claim.—1. The improvement in the method of manufacturing carbon conductors for incandescent lamps herein described, consisting in electrically heating in a hydrocarbon gas or liquid those portions only of the said conductors which it is desired to treat, and excluding the gas or liquid from the remaining portions, substantially as described.

2. The combination, with a jar or receiver, of means for introducing hydrocarbon gas or vapor therein, means for passing a current through a carbon conductor within the receiver, and means for protecting from the effects of the current and the gas such portions of the said conductor as may be desired, substantially as set forth.

263,831. COW-TAIL HOLDER. WALTER S. ALLEN, Attleborough, Mass. Filed May 3, 1882. (No model.)

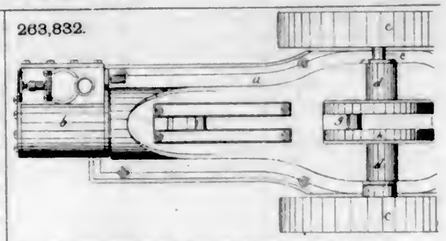


Claim.—1. The combination of hinged or pivoted jaws A A B B with elastic connecting-pieces C C, as described.

2. A cow-tail holder consisting of jaws A A, pivoted together, and adapted to the hock of the hind leg, jaws B B, similarly pivoted together, and adapted to inclose and hold the tail, and bow-shaped springs C C, adapted to close such jaws, but capable of yielding to pressure to permit such jaws to be opened.

263,832. CRANKED AXLE FOR STEAM-ENGINES. PARDON ARMINGTON, Providence, R. I. Filed Apr. 28, 1882. (No model.)

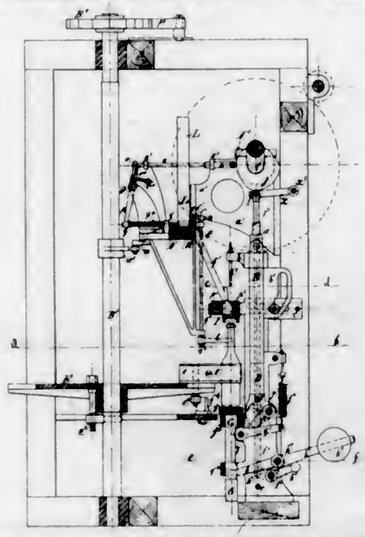
Claim.—1. In an engine, the herein-described crank-shaft, consisting of a shaft, crank-disks, and crank-pin, all formed in a single piece, combined with independent balancing-disks mounted upon the said crank-disks, substantially as and for the purpose described.



2. The shaft, eccentric cylindrical disks, and connecting crank-pin, all made of a single piece of metal, combined with balancing-disks mounted upon the said eccentric disks and having their peripheries concentric with the main shaft, substantially as described.

3. The shaft, eccentric disks, and crank-pin, combined with the balancing-disks, consisting of hubs fitted upon the said eccentric disks, and peripheral webs connecting the said hubs with a peripheral rim concentric with the main shaft, constituting a chamber to receive heavy material for balancing the reciprocating parts, substantially as described.

263,833. SELF-ACTING CORK-STOPPING MACHINE. OSWALD ASSMANN, Zwolle, Holland. Filed Sept. 17, 1881. (No model.)



Claim.—1. The combination of the corking-piston of a corking-machine with a rotary disk, E, having a number of gripping-tongs for the bottles, and devices, substantially as described, for automatically opening and closing the tongs as the disk is intermittently rotated.

2. The combination of corking mechanism and a rotary disk, E, with a series of gripping-tongs, *e*, carried thereby, and each having a fixed and a movable arm and a rail, e^3, and tappet f^3, for acting on said arm, substantially as set forth.

3. The combination of the corking-piston and movable plunger G in line therewith and mechanism for raising and lowering said plunger with a rotary disk carrying a series of gripping-tongs and devices, substantially as set forth, for opening and closing the jaws of said tongs.

4. The combination of the piston and plunger G with weighted lever *h*, cam, and intermediate devices for raising the said lever, a cam-lever, g', spring, and mechanism for operating the cam-lever against the action of the spring, substantially as specified.

5. The combination of the piston, standard, and plunger G with devices, substantially as described, for automatically raising and lowering the said plunger, lever g', for bearing on the smooth face of the plunger, oscillating shaft, and arm f^3.

6. The combination of the standard and a bar, B, carrying a piston, and slotted wing b', with a cork-receiver having jaws, one of which is movable and controlled by said slotted wing, substantially as set forth.

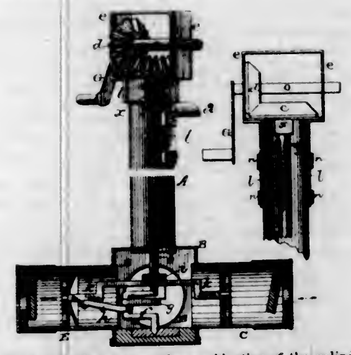
7. The combination of a casing, L, for containing corks, with an expeller, *q*, arm *p*, shaft O, lever *o*, rod *n*, and cam N', substantially as set forth.

8. The combination of a disk, a casing, L, for containing corks, gate *r*, for closing its discharge-opening, and an expeller, *q*, with an inclined sector for acting on said gate, shaft s', and arm *t* in the line of movement of the bottles to be corked, as and for the purpose set forth.

9. The casing L, divided into a series of compartments, having one of its sides hinged, and leaving a space between the lower end of each side and the bottom of the casing for the discharge of the corks from each compartment.

10. The combination of the cork expeller and receiver with the frame-carrier M and casing L, divided into a series of compartments, and mechanism, substantially as set forth, for intermittently moving the carrier forward the extent of one compartment, as set forth.

263,834. PUMP. WILLIAM C. AUBRY, Fayette City, Pa. Filed May 8, 1882. (No model.)



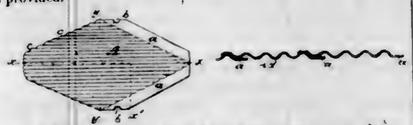
Claim.—1. In a pump, the combination of the cylinder A, crank-shaft *b*, having its upper end squared, frame *c*, having means for attachment to the cylinder, gearing *c d*, collar *x*, and crank, substantially as shown.

2. In a pump, the combination of the cylinder A, box B, and cylinders radiating therefrom with the crank-shaft *b f*, valved pistons which are united together in pairs by suitable rigid connections, and the pitman-rods *g h*, substantially as described.

3. In a pump, the combination of a series of cylinders, pistons which are connected together in pairs by slotted rods, an operating crank-shaft, and a pitman for each slotted rod, substantially as set forth.

263,835. ROOFING TILE OR PLATE. THOMAS B. ATTERBURY, Pittsburg, Pa. Filed June 21, 1882. (No model.)

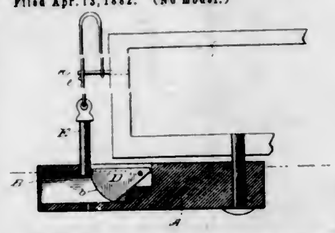
Brief.—Tiles with plain lap-borders, the remainder of their surface having parallel corrugations or ribs rising in relief above the plane of the plain borders, whereby a uniform bearing-surface is provided.



Claim.—1. A tile or plate for roofing purposes of substantially the form herein shown and described, provided with a plain lap-border, *a*, slots *b*, and corrugated or ribbed portion, which rises in relief above the plane of the plain surface *a*, whereby the tile or plate is provided with a uniform bearing-surface and the expansion and contraction of each individual tile or plate is provided for.

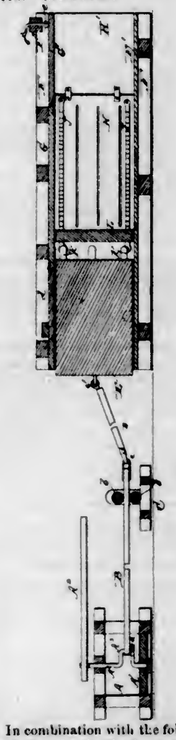
2. As a new article of manufacture, a sheet-metal tile or plate of the character herein described, the upper edges of which have a plain space which forms the lap and bearing-surface of the next adjacent tile, the remaining portion of the tile being corrugated or ribbed in parallel lines from the plain upper portion to the lower edge thereof, which rises in relief above the plane of the plain surface *a*, whereby the tile is adapted to be laid flat on the plain surface of the sheathing-boards and interlocking flanges or lugs dispensed with, as set forth.

263,836. CAR-COUPLING. ANDREW J. AVERY, Lynn, Mass. Filed Apr. 13, 1882. (No model.)



Claim.—In a coupling, the combination of the chambered draw-head A, having vertical orifices for the coupling-pin, the coupling-link C, and the latch D, having curved face and pivoted in a slot opening from the rear end of the chamber in the draw-head, such slot being situated above the level of the coupling-link, all substantially as described.

263,837. HAY-PRESS. THOMAS D. AYLESWORTH, Oswego, Kans. Filed May 3, 1882. (No model.)

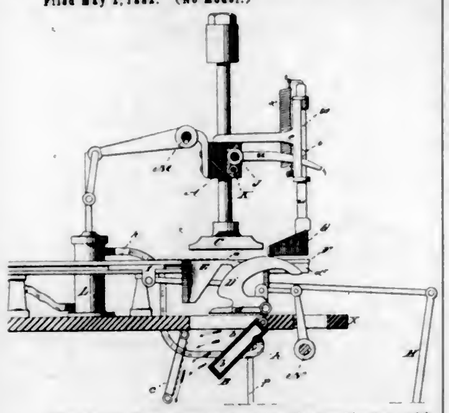


Claim.—1. In combination with the follower of the press, the pitman-rod, the jack or guide, the forcing-rod, the crank of the horse-power, and a spring-actuated brake, substantially as described.

2. A press-box consisting of the horizontal frame, the adjustable sides H H, the hinged sections at the ends of these sides, the roof or cover, its hinged section, and the screws for adjusting the said hinged sections, substantially as described.

3. The combination of the spring-retainers K, the adjustable press-box sides, the dividing-blocks L, the spring-actuated bolts thereof, and the racks on the inner surfaces of said press-box sides, substantially in the manner and for the purposes described.

263,838. ENVELOPE-MACHINE. JAMES BALL, Holyoke, Mass. Filed May 2, 1882. (No model.)



Claim.—1. In an envelope-machine, the combination, with die E, of the hinged guide D, having a curved edge arranged to move toward and extend above one edge of the die as the guide swings, substantially as and for the purpose set forth.

2. In an envelope-machine, the automatic mechanism substantially as described, and brought into operation by the absence of the blank *a*, for arresting the descent of the gummer G, consisting of a lever, *j*, suspended above the bed of the machine in the track of the blank, and movable by gravity to have one end intersect the surface, to thereby be brought into operative connection with the feed-slide I and be moved by it to, through intermediate mechanism, hold the gummer from its bed.

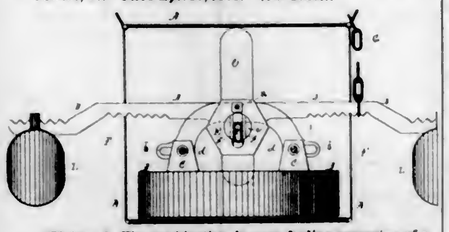
3. The combination of slide *k*, lever *j*, arm *i*, rod *o*, rock-shaft K, with arms *p*, *q*, and *m*, block *s*, and spring *l*, rock-shaft J, with finger *u* and stop *t* on rod J', and gummer G, having stop *v* upon its stem, all arranged substantially as shown, and to operate for the purpose as set forth.

4. In an envelope-machine, the combination, with the gummer G and with mechanism, substantially as shown, for arresting its descent upon its bed, of the bed-plate F, formed to present a solid plane surface beneath the gummer, for the purpose as set forth.

5. In an envelope-machine, the combination of double-acting air-pump L, flexible connection A, and swinging hollow bed-plate B, provided with perforations *b*, all arranged substantially as shown and described, and operating to alternately positively hold the envelope to the face of the bed and actively deliver it therefrom.

6. The combination, with folding-bed B, constructed and operating as set forth, of the endless moving cords *c c*, arranged to catch and deliver the envelope blown from the folding-bed, substantially as shown and described.

263,839. APPARATUS FOR AUTOMATICALLY SUPPLYING SAP TO EVAPORATING-PANS. MERRITT C. BARBER, West Pawlet, Vt. Filed Apr. 28, 1882. (No model.)

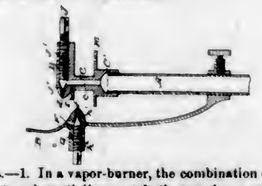


Claim.—1. The combination, in a sap-feeding apparatus, of a float resting upon the surface of the liquid in the evaporating-pan and rising and falling therewith, two lever-arms pivoted to each other and having each a shoulder bearing against the flexible supply-tube, a supporting frame or casing to which said lever-arms are suspended by means of supports which have vertical adjustment, and a support for the flexible supply-pipe, said lever-arms being provided with adjustable weights, whereby the motion of the float is controlled when acted upon by the rise or fall of the fluid in the pan, all substantially as and for the purpose set forth.

2. The combination, with the casing A, of the float B, the pivoted arms D, the adjustable supports G, and the pipe-support E, all substantially as and for the purposes shown and described.

3. In an automatic sap-feeding apparatus, the combination, with lever-arms which are directly connected to a rising and falling float, of supports which are adjustable vertically upon a suitable frame, whereby said float, together with the lever-arms, may be raised or lowered to adjust the feed to different depths of fluid in the evaporating-pan, all substantially as set forth.

263,840. VAPOR-BURNER. HENRY S. BELOSS, Canton, Ohio. Filed Apr. 10, 1882. (No model.)



Claim.—1. In a vapor-burner, the combination of the following elements, substantially as set forth, namely: a retort in which is generated the vapor unmixed with air, a needle-orifice from which said unmixed vapor issues under pressure, a plate, B, across the path of the jet to spread the illuminating-flame and conduct heat back therefrom to the retort or oil-conduit, against which plate the jet impinges after reaching the open air, a passage-way through said plate at a point where the plate is struck by the jet of vapor, to conduct a portion of said jet through the plate to provide a heating-flame other than the illuminating-flame.

2. In a vapor-burner, the combination of the following elements, substantially as set forth, namely: a retort in which is generated vapor unmixed with air, a needle-orifice from which said unmixed vapor issues under pressure, a plate across the path of the jet to spread the illuminating-flame and conduct heat back therefrom to the retort or oil-conduit, against which plate the jet impinges, a passage-way through the plate at a point where it is impinged upon by the jet, arranged to conduct a portion of the jet through the plate for providing a supplemental heating-flame, in combination with a regulating device supported by said plate to adjust a portion of the jet which passes through the passage-way in the spreading-plate.

3. A vapor-burner having a deflecting-plate arranged to be impinged upon by and spread the illuminating-jet, a feed-pipe, two plates or wings extending laterally from the pipe, and a heating-orifice arranged to direct a jet toward the vaporizing-chamber between the plates or wings, substantially as set forth.

4. A vapor-burner having a supply-tube, C, the deflecting-plate B, arranged to change the path of the illuminating-jet and spread it, the projecting part D at the end of the supply-tube on the concave side of the plate, and a supplemental heating device arranged to throw a flame in proximity to said projecting part D, substantially as set forth.

5. A vapor-burner having a supply-pipe, a deflecting-plate, the projection D, with the jet-orifice therein, and the shield E, all formed in one piece of metal, substantially as set forth.

6. In a vapor-burner, a retort in which is generated vapor unmixed with air, a needle-orifice from which said unmixed vapor issues under pressure, a concavo-convex plate across the path of the jet to spread the illuminating-flame, a passage-way through said plate through which passes a portion of the jet from the concave side of the plate to the convex side, and means for conducting the withdrawn portion of the jet back along said convex side toward the vaporizing-chamber, substantially as set forth.

263,841. RECEIVER FOR DISINFECTANTS. JAMES W. BIRKETT, Brooklyn, N. Y. Filed May 11, 1882. (No model.)

Claim.—1. A disinfecting device consisting of an annular trough for holding a disinfectant liquid, a perforated cover therefor, and a tight cover having inlet-pipe passing therethrough, substantially as described.

2. A casing consisting of a hemispherical portion, A, provided with a pipe, B, and a circular plate, C, provided with a pipe, D, substantially as and for the purpose herein described.

3. A disinfectant-holder consisting of a bowl, K, having an annular trough, G, formed by the body of said bowl, and a central pipe, L, extending upward from the bottom thereof, substantially as herein described.

4. The combination, with the top plate, C, perforated plate H,

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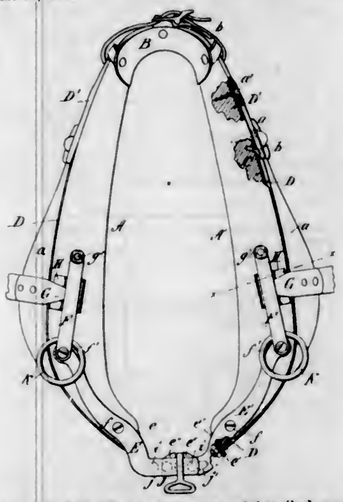
and bowl K, of the feed-tube J, provided with a cap, *i*, substantially as and for the purpose herein described.

5. The combination, with the receiver A, provided with the downwardly-extending pipe B, of the bowl K, provided with the studs or teats *m* and flange or rim *l*, substantially as and for the purpose herein described.

6. The combination, with the trough or receiver K, of the downwardly-extending pipe D, provided with the tongues or lugs *f*, substantially as and for the purpose herein described.

263,842. HORSE-COLLAR. JOHN Q. BLACK, Lone Rock, Wis. Filed June 26, 1882. (No model.)

Brief.—Improvement on Letters Patent No. 220,013, dated September 30, 1879.



Claim.—1. The collar herein shown and described, provided with the coupling-irons E E', having perforated lugs *e e'*, in combination with the straining-rods D and screws *f f'*, for holding the coupling-irons to the collar, as shown and described.

2. The combination, with the tug-plates F, grooved on their under sides and secured to the combined hame and collar by means of the screws *f* and bolts *g'*, of the sliding plate H and T-headed tug-irons, as shown and described.

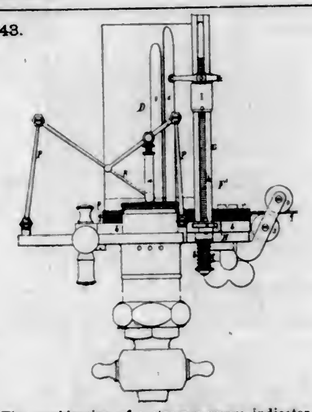
3. The straining-rods D, formed with the hooks *b*, in combination with the overlapping irons D' and the coupling-irons formed with the perforated steps, substantially as and for the purposes set forth.

4. The plates F, made V-shaped in cross-section, and the tug-irons G, having the V-shaped heads *l*, in combination with the plates H, formed with the shoulders *l' l'*, substantially as and for the purposes described.

263,843. STEAM-ENGINE RECORDER. GILMAN W. BROWN, West Newbury, assignor to the Crosby Steam Gage and Valve Company, Boston, Mass. Filed Sept. 15, 1881. (Model.)

Claim.—1. The combination of the rotary paper-carrier essentially as and provided with mechanism for operating it as described with a marker and means or mechanism, substantially as set forth, for imparting to such marker in a given period upward movements corresponding in number to that of the strokes of a steam-engine piston during such period, in order that marks indicative of the number of such strokes may be made by the marker on a sheet of paper, when arranged on and moved by the carrier in manner essentially as explained.

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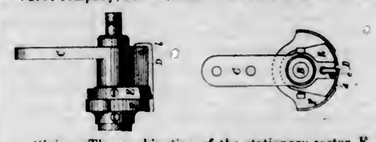


2. The combination of a steam-pressure indicator substantially as described with a marker or means or mechanism, essentially as set forth, for imparting to such marker in a given period upward movements corresponding in number to that of the strokes of a steam-engine piston during such period, in order that marks indicative of such number may be made by the marker on a sheet of paper, when arranged on and moved by the steam-pressure indicator-carrier in manner as explained, the said carrier in such combination being capable of being used, as specified, for registering the varying pressure of the steam during a stroke of a steam-engine piston and for registering the speed of the engine or number of strokes of its piston in a given time.

3. The combination for operating the marker of the steam-indicator, such combination consisting of the cam E, lever F, rack F', tubular and slotted standard G, spring *e*, sleeve I, pawl *i*, and friction-brake *k*, arranged and applied substantially as described.

4. The combination of the retaining-lever H and its cam *f* with the plate *b*, and with the cam E, lever F, rack F', standard G, spring *e*, sleeve I, pawl *i*, and friction-brake *k*, arranged and applied substantially as set forth.

263,844. ENGINE-REGISTER CONNECTION. GILMAN W. BROWN, West Newbury, assignor to the Crosby Steam Gage and Valve Company, Boston, Mass. Filed May 1, 1882. (No model.)



Claim.—The combination of the stationary sector F, having the cammed notch *d*, with the notched sector E, fixed on the shaft B, and with the vibratory crank or lever C, applied to turn on the shaft, and provided with the pawl D, to operate with the said two sectors as described, all being substantially and for the purpose as set forth.

263,845. PISTON FOR PRESSURE-INDICATORS. GILMAN W. BROWN, West Newbury, assignor to the Crosby Steam Gage and Valve Company, Boston, Mass. Filed Apr. 21, 1882. (No model.)

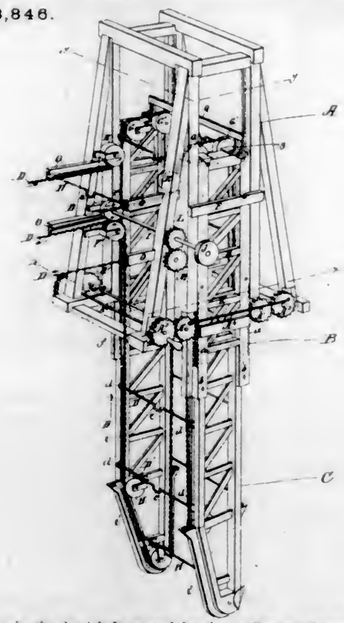


Claim.—A steam-engine pressure-indicator piston, provided with the depressing spiral spring, and having a series of separate open peripheral recesses or chambers arranged, as set forth, in the head of such piston, and having inducts leading from them to the bottom of the head or into a central chamber arranged, as described, in it, the said head, and opening in its bottom, all being substantially as set forth.

263,846. APPARATUS FOR LOADING AND UNLOADING VESSELS. JOHN WILSON BROWN and JOHN WILSON BROWN, Jr., Baltimore, Md. Filed June 26, 1882. (No model.)

Claim.—1. The combination, with the derrick-frame A, having two sets of guide-pulleys for the carrier arranged on stationary axes, of one or more vertically-adjustable sections of frame-work

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sliding in the derrick-frame and bearing pulleys at the top and bottom, and an endless carrier passing from one set of stationary pulleys up and over the upper movable pulleys, and extending from the lower set of stationary pulleys down and under the other set of movable pulleys, substantially as and for the purpose described.

2. The apparatus herein described, consisting of a set of extensible frames having guides for an endless carrier located at a distance from the middle of said frames and separate pulleys for the two chains of said carrier, in combination with the carrier composed of two chains with rods D', spaced as described, and having their ends arranged in said guides, as and for the purpose set forth.

3. The combination, with the derrick-frame A, having guide-pulleys E and drivers F', of the vertically-adjustable frame B, having pulleys G G', the carrier passing under pulleys E and over G G', and stop devices, substantially as described, for limiting the downward movement of the pulleys G' to the level of the carrier-chains, as and for the purpose set forth.

4. The combination, with the stationary derrick-frame A, of the extensible frame B, moving in guides in the derrick-frame, the extensible frame C, moving in guides in the frame B, and the endless carrier passing around the same, substantially as shown and described.

263,847. APPARATUS FOR LOADING AND UNLOADING VESSELS. JOHN WILSON BROWN and JOHN WILSON BROWN, Jr., Baltimore, Md. Filed June 26, 1882. (No model.)

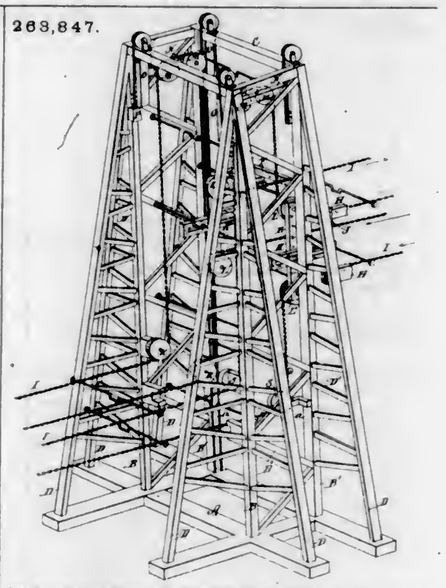
Claim.—1. The combination of the main frame having posts B' B', with grooves *a*, the vertically-adjustable frame E F G, bearing pairs of pulleys L L', the endless carrier I, and the slotted bars K, connected to the guide-rails for the carrier, substantially as described, for the purpose of permitting a vertical and a horizontal adjustment of the carrier-rails, as described.

2. The combination, with the endless carrier I and the main frame A B B', having guide-pulleys for the carrier, of the automatically-adjustable pulleys L L' at the top, for the purpose of avoiding breaking strain from the movement of the vessel and securing a uniform tension for the carrier, as described.

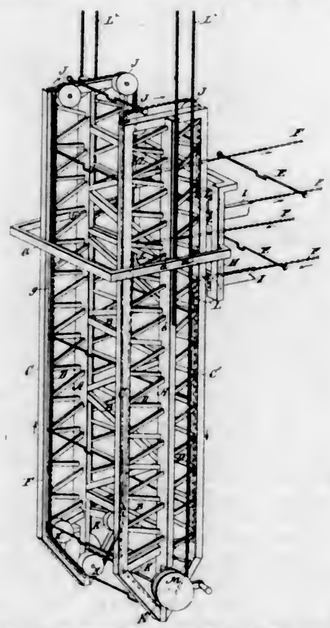
3. The combination of the main frame A B B' with pulleys R and S, the automatically-adjustable pulleys L L' at the top of the frame, the vertically-adjustable frame E F G, bearing guide-pulleys, and the slotted bar K, the said frame, with its pulleys and slotted bars, being arranged between the pulleys L and R, substantially as and for the purpose described.

4. A frame located on shore and provided with pulleys and carrier-guides, combined with an independent and vertically-moving frame having horizontal carrier-guides, and a carrier passing from the latter to the former in any of its adjustments, as described.

263,847.



263,848. APPARATUS FOR LOADING AND UNLOADING VESSELS. JOHN WILSON BROWN and JOHN WILSON BROWN, Jr., Baltimore, Md. Filed June 26, 1882. (No model.)
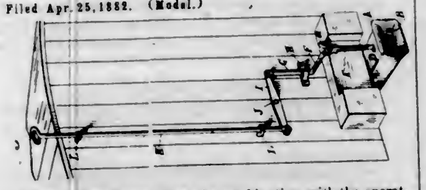


Claim.—1. The combination, with a frame, G H, connected to a hoisting apparatus on the ship by guide-rails, a suspended and vertically-adjustable frame moving in said frame G H, and an endless carrier moving around said vertically-adjustable frame and extending to and around the hoisting apparatus on the ship, as shown and described.

2. The suspended and vertically-adjustable frame, combined with the ropes L', supporting-pulleys in the rigging of the vessel, and a windlass, M, at the bottom of said frame, for the purpose of forming an adjustable terminus or delivery end of the carrier capable of being worked from the bottom, as shown and described.

3. The combination of the braced frame A C C', having four pulleys at the top and six at the bottom, and provided with grooves *g* for the endless carrier, the encompassing-frame G H, provided with pulleys L and connecting with horizontal guides for the carrier, the carrier traversing said frame, and the rope L' and windlass M, as and for the purpose described.

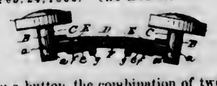
4. A suspended and vertically-adjustable frame provided with vertical carrier-guides, in combination with a relatively stationary frame with horizontal carrier-guides, and a carrier passing from the latter to the former in any of its adjustments, as described.

263,849. CAR-COUPLING. SAMUEL BROWN, Manton, Mich. Filed Apr. 25, 1882. (Model.)



Claim.—In a car-coupling, the combination, with the operating-rod K, sliding in keepers L, secured to the end of a car, and the lever I, pivoted to the end of the car, of the angular rod G F, passing through the guide H, secured to the end of the car and provided with the hook *a* at its outer end, and coupling-pin E, substantially as and for the purpose set forth.

263,850. SLEEVE-BUTTON. RICHARD E. BRUNACCI, Attleborough, Mass., assignor of one-half to Almon W. Tucker, same place. Filed Feb. 24, 1882. (No model.)



Claim.—1. In a button, the combination of two hollow posts connected to each other by a rigid shoe or bar inclosing a spring-operated locking mechanism with two button-heads provided with attached guiding-posts adapted to engage with the spring-operated locking mechanism of the shoe to hold the button-heads detachably, substantially as described.

2. In a button, the combination of two rigidly-connected hollow posts and a spring-operating locking mechanism with two button-heads made in elongated form, and provided with guiding-posts adapted to preserve the parallelism of the axes of the elongated button-heads when under the action of the locking mechanism, substantially as described.

3. In a button, the combination of two hollow posts connected to each other by a slotted hollow bar with two spring-operated locking-bolts provided with arms extending through the slots of the hollow bar for operating the bolts to release the button-heads, and two button-heads provided with guiding-posts adapted to receive the ends of the spring-operated locking-bolts, substantially as described.

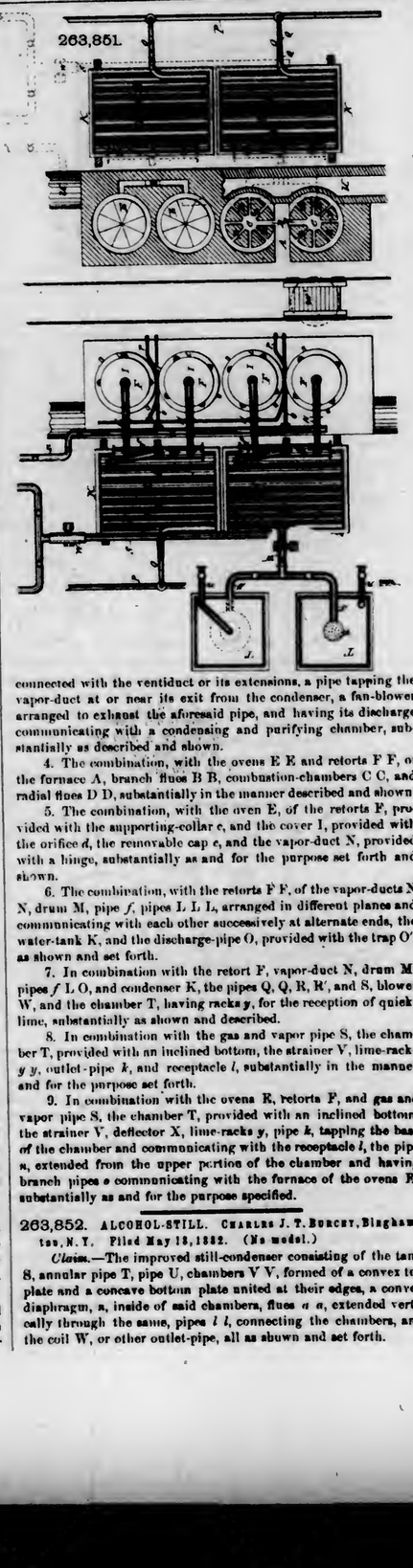
263,851. WOOD-DISTILLING APPARATUS. CHARLES J. T. BURCHY, Binghamton, N. Y. Filed June 2, 1882. (No model.)

Claim.—1. A wood charring and distilling apparatus consisting of an oven or chamber communicating with a furnace or heat-generator, a metal tank arranged in said oven and provided with a removable air-tight cover, an orifice in said cover, and a ventiduct or vapor-pipe, and a cap adapted to be interchangeably applied to the said orifice, substantially as and for the purpose set forth.

2. A wood-distilling apparatus consisting of a furnace or heat-generator, an oven or chamber communicating therewith, an air-tight tank arranged in said oven and provided with an outlet for the vapor, a ventiduct, and a cap adapted to be interchangeably applied to said outlet, and a condenser connected with the ventiduct, substantially as and for the purpose set forth.

3. A wood-distilling apparatus consisting of an oven provided with a suitable heating apparatus, an air-tight tank situated in said oven, a vapor-duct communicating with the tank, a condenser

263,851.



connected with the ventiduct or its extensions, a pipe tapping the vapor-duct at or near its exit from the condenser, a fan-blower arranged to exhaust the aforesaid pipe, and having its discharge communicating with a condensing and purifying chamber, substantially as described and shown.

4. The combination, with the ovens E E and retorts F F, of the furnace A, branch flues B B, combustion-chambers C C, and radial flues D D, substantially in the manner described and shown.

5. The combination, with the oven E, of the retorts F, provided with the supporting-collar *c*, and the cover I, provided with the orifice *d*, the removable cap *e*, and the vapor-duct N, provided with a hinge, substantially as and for the purpose set forth and shown.

6. The combination, with the retorts F F, of the vapor-ducts N N, drum M, pipe *f*, pipes L L L, arranged in different planes and communicating with each other successively at alternate ends, the water-tank K, and the discharge-pipe O, provided with the trap O', as shown and set forth.

7. In combination with the retort F, vapor-duct N, drum M, pipes *f* L O, and condenser K, the pipes Q, Q, R, R', and S, blower W, and the chamber T, having racks *y*, for the reception of quicklime, substantially as shown and described.

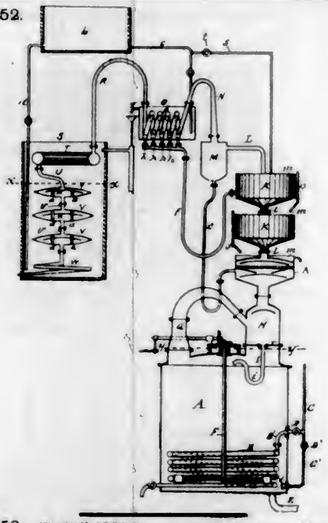
8. In combination with the gas and vapor pipe S, the chamber T, provided with an inclined bottom, the strainer V, lime-racks *y y*, outlet-pipe *k*, and receptacle *l*, substantially in the manner and for the purpose set forth.

9. In combination with the ovens E, retorts F, and gas and vapor pipe S, the chamber T, provided with an inclined bottom, the strainer V, deflector X, lime-racks *y*, pipe *k*, tapping the base of the chamber and communicating with the receptacle *l*, the pipe *n*, extended from the upper portion of the chamber and having branch pipes *o* communicating with the furnace of the ovens E, substantially as and for the purpose specified.

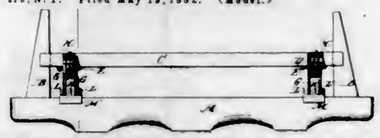
263,852. ALCOHOL-STILL. CHARLES J. T. BURCHY, Binghamton, N. Y. Filed May 18, 1882. (No model.)

Claim.—The improved still-condenser consisting of the tank S, annular pipe T, pipe U, chambers V V, formed of a convex top plate and a concave bottom plate united at their edges, a convex diaphragm, *s*, inside of said chambers, flues *a a*, extended vertically through the same, pipes *l l*, connecting the chambers, and the coil W, or other outlet-pipe, all as shown and set forth.

263,852.



263,853. WAGON-SPRING. ALBERT H. CARNOAN, Wales Centre, N. Y. Filed May 19, 1882. (Model.)



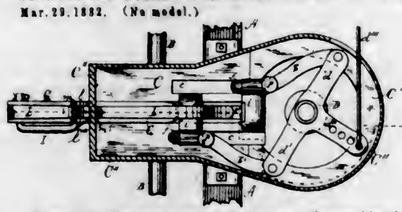
Claim.—1. The combination, with rider C and bolster A, of coiled springs D, having arm E, connected to the rider, and arm G, resting on the bolster, substantially as described.

2. The combination of bar H with rider C and springs D, substantially as described.

3. The combination of bearing-plates J, having flanges K L, with springs D and bolster A, substantially as described.

4. The combination of bearing-plates J, having flanges K, L, and M, with springs D and bolster A, substantially as described.

263,854. CORN-PLANTER CHECK-ROWER. WILLIAM R. CAMPBELL and WILLIAM J. CHAMBERS, Kirkwood, Ill. Filed Mar. 29, 1882. (No model.)



Claim.—1. In a corn-planter check-rower, the combination, with an oscillating head, D, having arms E E′ hinged thereto, adapted to be actuated by a sliding bar, G, of a bar, L, hinged to said bar G and adapted to be rocked or swung on its fulcrum, whereby a catch on its end may engage and lock the parts, substantially as and for the purpose specified.

2. In a corn-planter check-rower, the combination, with an oscillating head, D, having arms E E′ hinged thereto, adapted to be actuated by a sliding bar, G, of a bar, L, hinged to said bar G and having cam-faces *l′ l″*, which slide in contact with the side *s* of a slot, N, to oscillate said bar L for the purpose of engaging and disengaging a catch, *l*, on its end with the arms E E′ alternately, substantially as and for the purpose specified.

3. In a corn-planter check-rower, the combination, with the head D, having arms E E′ hinged thereto, which arms E E′ have lugs *i i′*, respectively, hinged thereto, and a sliding bar, G, of an oscillating bar, L, hinged to the bar G and provided with cam-faces *l′ l″* and a catch, *l*, and adapted to be oscillated by a fixed part, *s*, substantially as and for the purpose specified.

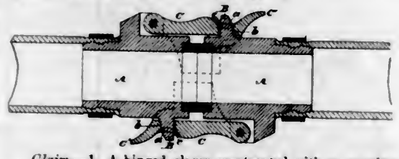
4. In combination with the head D, arms E E′, swinging lugs *i i′*, and sliding tappet-bar G, adapted to impart movement alternately to the lugs *i i′*, the oscillating bar L, hinged to the bar G and adapted to be operated and to lock the parts, substantially as and for the purpose specified.

5. In combination with the head D, arms E E′, swinging lugs *i i′*, and sliding tappet-bar G, rock-shaft B and connecting-rod I, adapted to impart movement alternately to the lugs *i i′*, the oscillating bar L, hinged to the bar G and adapted to be operated and lock the parts, substantially as and for the purpose specified.

6. In combination with the head D, bars E E′, lugs *i i′*, and sliding bar G, the oscillating bar L, having catch *l* and cam-faces *l′ l″*, and shoulder *m′*, adapted to engage with the wall C″ and limit the throw of the slide G in one direction, substantially as and for the purpose specified.

7. In combination with the sliding tappet-bar G, swinging lugs *i i′*, and sliding arms E E′, the guard-buttons P, adapted to limit the extent of swinging movement of the lugs *i i′*, substantially as and for the purpose specified.

263,855. PIPE OR HOSE COUPLING. WILLIAM F. CASSIDY, Cape May, N. J., assignor of one-half to Enos R. Williams, same place. Filed Apr. 26, 1882. (No model.)

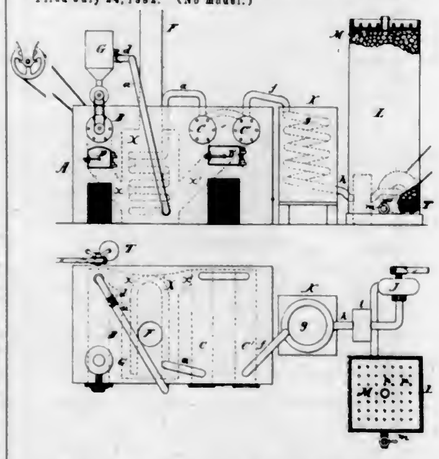


Claim.—1. A hinged clamp constructed with an opening, *c*, and provided with side pieces, *d*, whereby it is enabled to inclose the sides as well as the top of the coupling, in combination with a collar having a stud over which said clamp catches, substantially as and for the purpose set forth.

2. The two collars A A, each having a stud, B, in combination with hinged clamps C, having openings *c* and horns C′, which latter project beyond the studs B, with which the clamps interlock, substantially as and for the purpose set forth.

3. The two collars A A, each having a stud, B, provided with an incline, *a*, in combination with hinged clamps C, which are shaped so as to inclose nearly the entire circumference of said collars, the clamps being provided with openings *c* and horns C′, which latter project beyond the studs B, with which the clamps interlock, substantially as and for the purpose set forth.

263,856. MANUFACTURE OF AMMONIA AND BONE-BLACK. HAMILTON Y. CASTNER and EDWIN B. CASTNER, New York, N. Y. Filed July 24, 1882. (No model.)



Claim.—1. The improvement in the manufacture of bone-black and ammonia, consisting in charring the bone in closed vessels without access of air, and subsequently combining air with the volatile portions from the bone, heating the mixed gases, and then passing such gases over hot slaked lime through a cooler, and then into intimate contact with acid, substantially as set forth.

2. The process herein described for manufacturing ammonia, which consists in passing the bone or like nitrogenous material continuously through a highly-heated closed chamber, the gases developed being simultaneously conducted from the heated chamber and mingled with air, substantially as and for the purpose specified.

3. In the manufacture of ammonia, charring the material, oxidizing the gases by passing the same, with air, through heated pipes, and decomposing the nitrogenous gases, and forming ammonia by passing the said gases over hot slaked lime, substantially as set forth.

4. In apparatus for the manufacture of ammonia from bone and like material, the combination of a closed retort, a pipe for conducting the gases and vapors therefrom, said pipe provided with an air-induction orifice, and a detachable closed receptacle for the reception and cooling of the material which has been heated in the retort, substantially as and for the purpose specified.

5. The combination, with the closed retort having the screw-conveyer arranged therein, of the branched discharge-pipe having a valve arranged to control the branch pipes alternately, and the detachable cooling-receptacle, substantially as and for the purpose specified.

6. In an apparatus for the treatment of bone and similar material and the manufacture of ammonia, the combination of a closed retort having a vapor or gas pipe provided with an air-inlet, a closed receptacle for receiving the contents of the retort, a heating-worm connected with the vapor-pipe of the retort, and one or more lime-retorts connected with the heating-worm, substantially as and for the purpose specified.

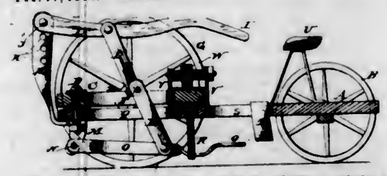
7. The combination, with the carbonizing and lime cylinders, of a pipe, *a*, having an air-inlet, and formed into coils arranged within a heating-chamber, for the purposes set forth.

8. The combination, with the carbonizing and lime cylinders and connecting-pipe and heating-coil, of an air-inlet and an exhauster, for the purposes set forth.

9. The combination of the carbonizing and lime cylinders, condensing-coil, exhaust and converter, and appliances whereby the gas from the coil is brought into intimate contact with acidulated fluid, as set forth.

10. The combination of the carbonizing-retort and appliances for feeding the material continuously, the pipe *a*, having an air-inlet, and the lime-retorts, condensing-coil, and absorption and exhaust apparatus, as set forth.

263,857. VELOCIPEDE. JAMES CHURCH, St. Louis, Mo. Filed Feb. 17, 1882. (Model.)



Claim.—1. The combination, with the platform, of the turn-table mounted thereon, and carrying the main axle, to which are attached the driving-wheels, substantially as herein specified.

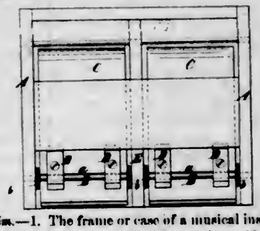
2. The combination, with the platform and turn-table carrying the cranked axle, of the standard H, operating hand-lever I, and connecting piece or rod L, substantially as and for the purpose set forth.

3. The combination, with the platform and turn-table carrying the right-angular cranked axle, of the bracket secured to the under side of the platform, the treadle-levers, and connecting pieces or rods, substantially as and for the purpose herein specified.

4. The combination of the platform, the turn-table provided with bearings for the tri-cranked axle carrying the driving-wheels, and the operating-levers connected with the cranks on said axle, substantially as herein shown and specified.

5. The combination of the platform provided with bracket M, having a transverse rod, N, forming bearings for the front part of the treadle-levers, guides R R, standard H, to which is pivoted the hand-lever I, and standards or guides V V, embracing the rear part of the turn-table, and having rollers W W, with the turn-table having one or more handles, X, and provided with bearings for the main axle carrying the drive-wheels, the operating-levers being connected to cranks on said main axle, all arranged and operating substantially as and for the purpose herein shown and specified.

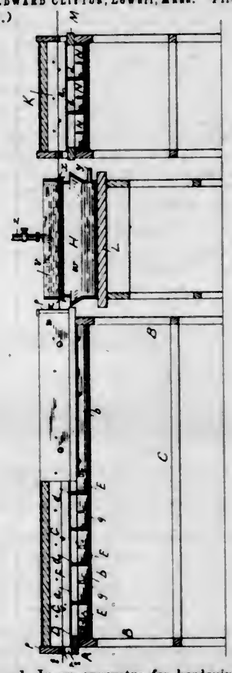
263,858. PEDAL. LEWIS C. CLARK, Worcester, Mass., assignor to Andrew H. Hammond, same place. Filed Sept. 15, 1881. (No model.)



Claim.—1. The frame or case of a musical instrument, having a straight shaft supported therein, a pedal provided on the under side with a transverse groove or recess fitting the shaft, and a button for fastening the pedal on the shaft, pivoted to the under side of the pedal, so that it is capable of swinging in a plane parallel therewith, all being so combined and organized that the pedal may rock on the shaft and the button may be turned to release the pedal from the shaft, substantially as specified.

2. The combination, with the case or frame of a musical instrument, of a shaft supported thereby, pedals provided in the under side with grooves or recesses fitting said shaft, a partition separating the pedals and aiding in retaining them laterally in place, and buttons for fastening the pedals to the shaft, pivoted to the under side of the pedals, so that they are capable of swinging in planes parallel therewith, substantially as specified.

263,859. APPARATUS FOR TEMPERING AND HARDENING WIRE. EDWARD CLIFTON, Lowell, Mass. Filed June 8, 1882. (No model.)



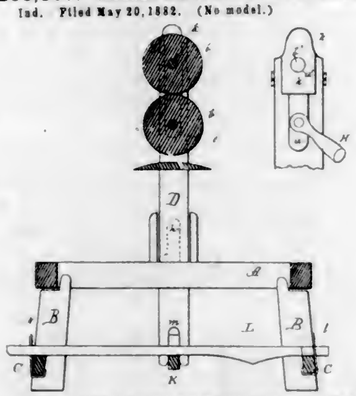
Claim.—1. In an apparatus for hardening and tempering wires, a heating-chamber, F, for the wires, having a wire-gauze or perforated bottom, *a*, and a series of chambers, E, below said bottom, for the mixing of the air and gas to be burned at the perforated bottom, substantially as described.

2. In an apparatus for hardening and tempering wires, a heating-chamber, F, for the wires, having a wire-gauze or perforated bottom and hinged to the table, to be opened and closed therefrom, and a series of chambers, E, below said bottom, for mixing the air and gas to be burned at the perforated bottom, substantially as described.

3. In an apparatus for hardening and tempering wire, the chamber F, for heating the wires, arranged to be raised and lowered, and constructed with end walls having horizontal slots r and vertical slots s opening into said horizontal slots and to the lower or outside edge of said end walls, substantially as described, for the purpose specified.

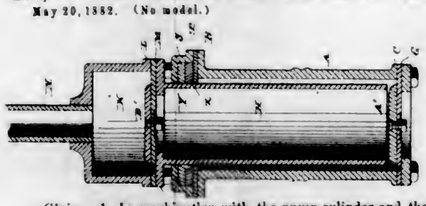
4. In an apparatus for hardening and tempering wires, a chamber, F, for heating the wires, and a chamber, K, for tempering the wires, and each constructed with a wire-gauze or perforated bottom, and having a series of chambers, E N, below said perforated bottom, for mixing the air and gas to be burned at the perforated bottom, in combination with a tank, H, for hardening the wires, all arranged together for operation, substantially as described

263,860. CLOTHES-WRINGER. GEORGE J. CLISH, Goshen, Ind. Filed May 20, 1882. (No model.)



Claim.—In a wringing-machine, the combination, with the stationary upright supports D, of the lower roller, E, the longitudinal spring-pole L, its end bearing, *l*, and adjustable end catch, N, of the reciprocating side bars, G, carrying at their upper ends the pivoted bearings *k* of the upper roller, E', and the transverse bearing-bar K, pivoted to the lower ends of said side bars and connecting the same, substantially as specified.

263,861. PUMP. ROBERT G. CONLEY, Richmond, Ind. Filed May 20, 1882. (No model.)

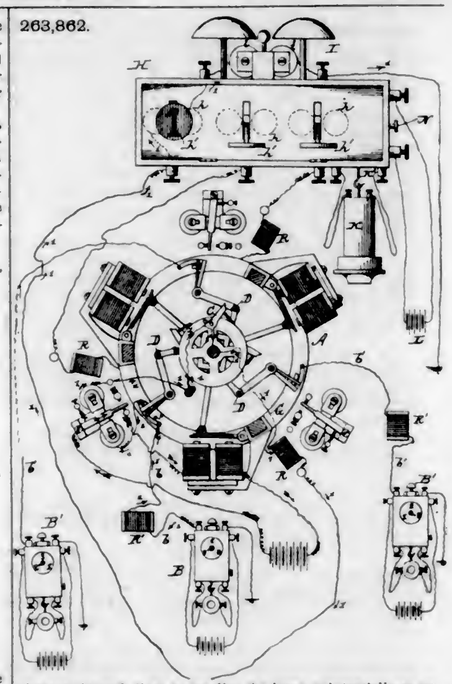


Claims.—1. In combination with the pump-cylinder and the hollow piston provided with valves, as described, the packing-chamber and split packing-rings, and the packing located between the flanges B T, substantially as specified.

2. In combination with the pump-cylinder, the hollow piston, the packing and valves, arranged as described, the chamber inclosing the upper end of the hollow piston and valve, and the eduction-pipe, all arranged to operate substantially as specified.

263,862. AUTOMATIC TELEPHONE-EXCHANGE. M. DANIEL CONNOLLY, Philadelphia, Pa., assignor to Spencer D. Schuyler, New York, N. Y. Filed Oct. 29, 1881. (No model.)

263,862.



Brief.—An annunciator is located in the ground-circuit, and the ground and line circuits are balanced by interposed artificial resistances.

Claim.—1. In a circuit-changer or exchange-switch having means for changing circuit from ground or return to different lines, the combination, with the ground-connection, of artificial resistance therein to equalize it with line, substantially as set forth.

2. In an exchange system comprising a series of convergent or divergent lines leading to or from a central office or station switch, the combination, with the lines and switch, of artificial resistances in such lines to equalize the latter, substantially as set forth.

3. In an exchange system comprising a series of convergent or divergent lines leading to or from a central office or station switch and normally grounded thereat, the combination, with such switch and the ground and line circuits, of artificial resistances in such circuits to equalize the same, substantially as set forth.

4. In combination with an automatic exchange or switch operating by a progressive movement to establish connection between normally-independent lines, and which, in effecting such movement, changes circuit from ground or return to line, resistances in such ground or return and line circuits to equalize the resistance of such circuits, substantially as set forth.

5. In a circuit-changer or exchange comprising means for effecting connection of normally-independent lines by a progressive or step-by-step movement controlled by impulses sent through a relay, and operating a traveling circuit-maker which alternately shifts from ground to line, the combination, with such relay and traveling circuit-maker, of circuits having their resistances equalized by means substantially as described.

6. The combination, with an automatic switch whose lines are normally grounded at or return from a central office, of an annunciator or alarm (either or both) located in such ground or return circuit at the central office, substantially as and for the purpose set forth.

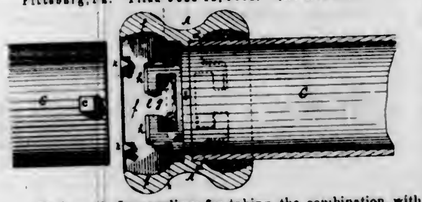
7. The combination, with an automatic exchange, switch, or circuit-changer which operates to effect connection of normally-independent lines by a progressive or step-by-step movement, and which, in operating, changes circuit from ground or return to line, of an annunciator or alarm located in the ground or return circuit to notify the central office of failures to establish connection of lines, or to call up said central office without operating the switching mechanism, substantially as shown and described.

8. The combination, with an automatic telephone exchange or switch which operates by a progressive or step-by-step movement to effect connection of normally-independent lines, and which, to effect said connection, causes a circuit-maker to travel from line to line and alternately to shift circuit from ground to said lines, and vice versa, said movement being controlled by electric impulses sent over line through a polarized relay, of a polarized annunciator or alarm located in or connected with the ground or return circuits of said exchange or switch, and arranged to operate responsively only to a current the reverse of that which will operate said relay, as set forth.

9. The combination of an automatic switch or progressive or step-by-step movement circuit-changer, an annunciator in the ground or return circuit thereof, a telephone in a shunt or normally cut-out branch, a battery or generator, and means for throwing the same onto line in such circuit, whereby the central office can be called without operating the automatic switch, or will be notified automatically of failure of any attempt to connect lines through the automatic switch, and can send an alarm and communicate over the line with the seeking subscriber to learn and supply his wants, substantially as set forth.

10. In an exchange comprising a series of lines converging to a central office or station, and connected with switching mechanism at such office, where they are normally grounded, or whence they normally return, said lines being connected at their outward termini with boxes having appliances whereby may be sent currents of one direction to operate the switching mechanism and currents of opposite direction to ring an alarm without operating the switching mechanism, the combination, with such switching mechanism, boxes, and connections, of an annunciator or alarm located in the ground circuit or circuits of the lines at the central office, and operative by currents which will not actuate the switching mechanism, substantially as set forth.

263,863. COUPLING FOR TUBING. EDMUND C. CONVERSE, Pittsburg, Pa. Filed June 13, 1882. (No model.)



Claim.—1. In couplings for tubing, the combination, with tubing having one or more lugs or other connecting devices at or near each end thereof, of a coupling collar or sleeve provided on the interior with a central ring, corresponding locking seat or seats on each side of said ring for the reception of the lugs on the tubing, and annular calking-recesses between such locking-seats and the ends of the collar, substantially as and for the purposes set forth.

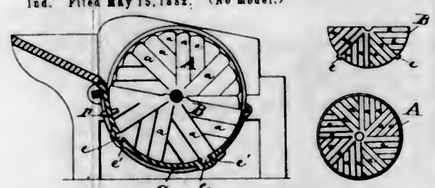
2. In couplings for tubing, a coupling collar or sleeve provided on the interior with a central ring, an annular calking-recess at each end for the reception of calking material, and a series of wings extending across the mouth of each annular recess, where the wings are substantially triangular in shape, to permit the calking of the material underneath said wings, as and for the purposes set forth.

263,864. BALE-TIE. DAVID T. COOPER, Clinton, La. Filed May 27, 1882. (No model.)



Claim.—In a bale-tie, the button C, having the slots *d d'* cut in opposite ends to form a back, *f*, having its upper surface inclined from both its points upward toward the shank, substantially as shown and described, whereby the said upper surface of the back shall facilitate the insertion of the button into the slots in the ends of the tie, as set forth.

263,865. THRASHING-MACHINE. ROBERT H. COX, Plymouth, Ind. Filed May 15, 1882. (No model.)



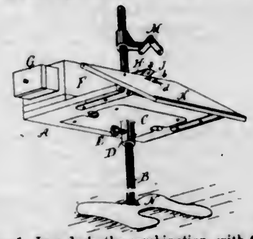
Claim.—1. In a thrashing-machine, a series of revolving grooved disks, A, in combination with the stationary grooved half-disks B, substantially as shown and described.

2. The combination of the revolving grooved disks A, provided with beads *b*, grooved stationary half-disks B, having projections *c*, and the concave shell C, having circular grooves *c* and longitudinal grooves *c'*, substantially as described and shown.

3. In a thrashing-machine, a series of revolving disks, grooved as shown, in combination with a series of similarly-grooved stationary half-disks, substantially as shown and described.

4. The combination of the revolving grooved disks A, having bead *b*, grooved stationary half-disks B, having projections *c*, shaft S, and the concave shell C, provided with circular grooves *c*, longitudinal grooves *c'*, and pins *p*, substantially as described and shown.

263,866. ADJUSTABLE DESK. SAMUEL A. CUMMINGS, Madison, Wis. Filed Apr. 10, 1882. (Model.)



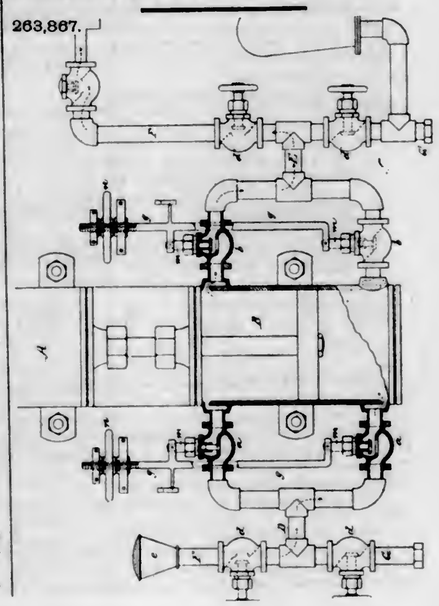
Claim.—1. In a desk, the combination, with the plate A, of the pivoted writing-board K, the bolt L, and the curved bar J, provided with apertures *a*, substantially as herein shown and described, and for the purpose set forth.

2. In a desk, the combination, with the plate A, of the writing-board K, pivoted at or near its middle to the plate A, the bolt L at the upper edge of the plate K, and the curved bar J, provided with apertures *a*, substantially as herein shown and described, and for the purpose set forth.

3. In a desk, the combination, with the plate A, of the writing-board K, pivoted to one edge of the plate A, the curved bar J, provided with apertures *a*, and the bolt L, provided with a finger, *b*, projecting from the upper surface of the writing-board through a slot, *d*, substantially as herein shown and described, and for the purpose set forth.

4. In a desk, the combination, with the plate A, mounted vertically adjustable on a standard, B, of the box F, the pivoted writing-board K, the curved bar J, provided with apertures *a*, and the bolt L in the writing-board K, substantially as herein shown and described, and for the purpose set forth.

263,867.



263,867. AIR-BRAKE PUMP FOR LOCOMOTIVES. DAVID J. DAMPMAN, Philadelphia, Pa., assignor to William H. Bilyeu and John Ambler, both of same place. Filed Feb. 13, 1882. (No model.)

Claim.—1. The combination of the pump-cylinder B, its inlet-pipe, and valves with two valved discharge pipes or branches, F' and G', one communicating with the air-reservoir and the other adapted for receiving hose, as set forth.

2. The combination of the pump-cylinder B and its valves with inlet and discharge pipes D and E, each having two valved branches, as specified.

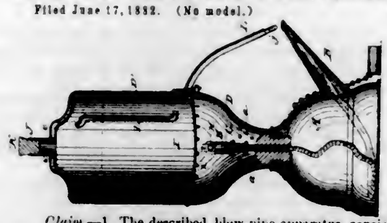
3. The combination of the pump-cylinder B and its supply and discharge pipes, the valves *a* and *b*, with stems *m*, the threaded rods *g*, and the wheels *n*, confined vertically and adapted to the threaded portions of the rods *g*, as set forth.

263,868. THREAD-CUTTER. MARY E. DAVIS, White Cloud, Kans. Filed Apr. 24, 1882. (No model.)



Claim.—The ring A, having a thread-cutter blade placed in a line parallel to the edges of the ring and protected by a shield, substantially as and for the purpose described.

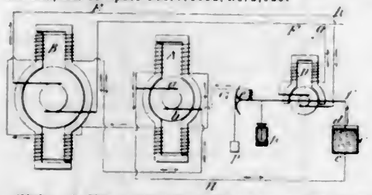
263,869. BLOW-PIPE. CHARLES W. DEAN, Auburndale, Wis. Filed June 17, 1882. (No model.)



Claim.—1. The described blow-pipe apparatus, consisting of the lamp A, having the outside wick-tube, B, and inside wick-tube, C, provided with a suitable regulating device, swiveled steam-jacket consisting of the hinged and perforated parts D and D', boiler, I having tube J, provided with the detachable stopper K, and bent pipe L, having the nozzle *l*, all constructed and combined substantially in the manner and for the purpose herein shown and set forth.

2. In a blow-pipe apparatus, the combination, with the lamp A, having the wick-tube B, of the regulating device consisting of the sleeve E, bifurcated bell-crank F, having screw-threaded eye *h*, provided with the stud *h'*, slotted bracket G, and screw H, all constructed and combined substantially as and for the purpose herein shown and specified.

263,870. REGULATOR FOR DYNAMO-ELECTRIC MACHINES. ACHILLE DE KHOTINSKY, St. Petersburg, Russia. Filed May 1, 1882. (No model.) Patented in France Jan. 10, 1882, No. 146,790; in Belgium Jan. 11, 1882; in England Jan. 17, 1882, No. 245, and in Spain Feb. 7, 1882, No. 2,623.



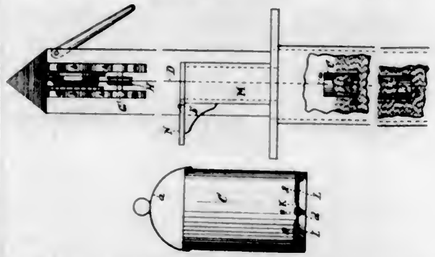
Claim.—1. The combination, with a dynamo-electric generator, of a regulating apparatus consisting of an electric motor, D, connected with the principal circuit, a lever, *e f*, fixed on the armature-shaft of said motor, and a counterbalancing weight or spring, P, said lever carrying a conducting-rod, *d*, and a rheostat or vessel containing a liquid and closing a resisting shunt-circuit, substantially as and for the purpose set forth.

2. In combination with an exciting-machine, A, a dynamo-electric generator, B, a regulator consisting of an auxiliary electric motor, D, connected with the principal circuit and actuating a lever, *e f*, fixed on the armature-axle of said motor, said lever being drawn by a spring or weight, P, which counterbalances the motive action of the motor, and carrying at its opposite end a small conducting-rod, *d*, which closes a shunt-circuit, G H, the resistance of which varies in proportion with the height of the liquid in a vessel, C, substantially as and for the purposes set forth.

3. In combination with an exciting-machine, A, and a dynamo-electric generator, B, a regulating apparatus consisting of an electric motor, D, connected with the principal circuit, and carrying on its armature-shaft a lever, *e f*, drawn by a spring or weight, P, counterbalancing the motive action of said motor, said lever adapted to operate in connection with two vessels or rheostats containing liquid, and placed on both sides of the fulcrum of the lever in such a manner that the vessel C, which closes the circuit of the exciting-machine, causes simultaneously the resistance of the general field-circuit of the generator to be increased by means of the liquid of the vessel I, substantially as above described in reference to Fig. 2 of the annexed drawings, and for the purpose specified.

4. The combination, with a dynamo-electric generator, of a regulating apparatus consisting of an electric motor, D, a lever, *e f*, fixed on the armature-shaft of said motor, and a counterbalancing spring or weight, P, a glycerine-pump, *p*, and a rheostat or vessel, C, containing a liquid and closing a resisting shunt-circuit, all acting substantially as above described in reference to Fig. 3, and for the purposes set forth.

263,871. WINDLASS WATER-ELEVATOR BUCKET. JAMES G. DUNGLEN, Sellersville, Pa. Filed May 1, 1882. (No model.)



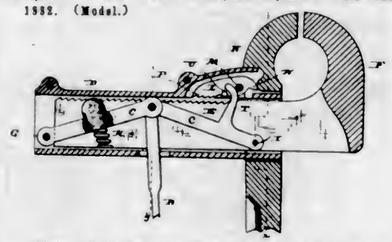
Claim.—1. A bucket provided with a valve or valves composing its entire bottom, and so hinged as to open upward when they strike the water in the descent of the bucket, to admit of the free downward movement of the latter and to instantly close when it begins to ascend, and thus to prevent the escape of the water obtained at the end of the downward stroke, substantially as described.

2. The combination of the valves L L with the valve-ring I, having a cross-bar, *d*, for forming the bottom of the bucket when the valves are closed and for forming an open bottom when open, substantially as described.

3. The combination of the ring I and cross-bar *d* with the lower edge of the bucket C, the ring and bar being beveled on their lower edge, whereby to cut the water in the downward movement of the bucket, substantially as described.

4. The combination of the shelf N with the box M, the shelf being hinged so as to be turned down over the mouth of the box for closing the well, or reversed to rest upon the bracket *b'*, to receive the bucket, substantially as described.

263,872. VISE. JOHN DENNIS, Lowell, Mass. Filed July 8, 1882. (Model.)



Claim.—1. In combination with the jaws of the vise and the inclosing casing, the toggle-lever adapted to be operated as described, and the pawl adapted to engage a ratchet on the shank of the outer jaw when operated by the toggle-lever, substantially as set forth.

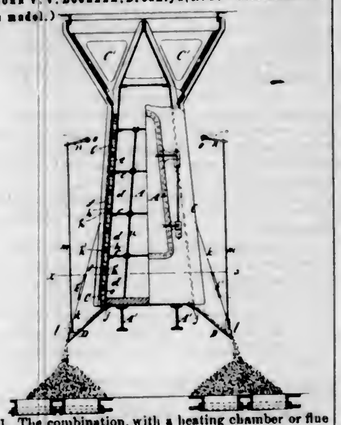
2. In combination with the jaws, the casing, the toggle-lever and its actuating devices, and the pawl, the spring for returning the parts to a normal position, substantially as and for the purposes set forth.

3. In combination with the treadle and connecting-rod, the rubber cushion V, the toggle-lever and spring, the bent arms, and the pawl provided with pins which the bent arms engage, and the jaw having a shank provided with a rack, the whole arranged to operate substantially as and for the purposes specified.

263,873. MANUFACTURE OF HYDRAULIC CEMENT. EDWD. J. DE SMEDT, Washington, D. C. Filed Aug. 11, 1882. (No specimens.)

Claim.—The method of producing slow-setting hydraulic cement from cement-stones containing an excess of free anhydrous lime, which consists in adding to the calcined stone, either before or after the grinding or milling operation, water in sufficient quantity to combine with the free anhydrous lime to form a hydrate of lime, substantially as hereinbefore set forth.

263,874. BONE-BLACK DRIER. JOHN OTTO DORNER, New York, and JOHN V. V. BOSSARD, Brooklyn, N. Y. Filed Mar. 13, 1882. (No model.)



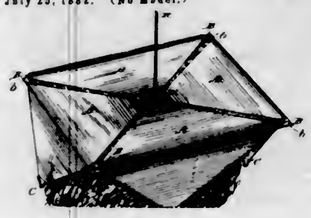
Claim.—1. The combination, with a heating chamber or flue and a drying-chamber external thereto, provided with openings at the top and bottom, and through which the char may pass downward in contact with the heated wall between the heating-chamber and the drying-chamber, of deflectors *h*, extending between the inner and outer walls of the drying-chamber, and serving to deflect or direct the descending char alternately in opposite directions, substantially as and for the purpose herein described.

2. The combination, with a heating-chamber, of the external drying-chamber having the double deflectors *h*, formed integral with the inner wall, and having the front plates, *f*, provided with ventilating-openings *i* below said deflectors, substantially as herein described.

3. The combination, with a heating-chamber and a drying-chamber, of the double deflectors *h* and the corresponding projections, *h'*, on the outer wall of the drying-chamber, and fitting below the said deflectors, substantially as herein described.

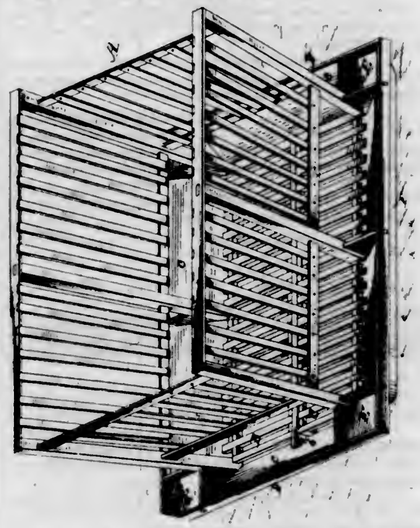
4. The combination, with a heating-chamber, of the external drying-chamber having the double deflectors *h*, formed integral with its inner wall, and provided with the front plates, *f*, having the integral projections *h'* and the ventilating-openings *i*, substantially as herein described.

263,875. HAY-STACKER. BURTON J. DOWNING, Sealy, Kans. Filed July 25, 1882. (No model.)



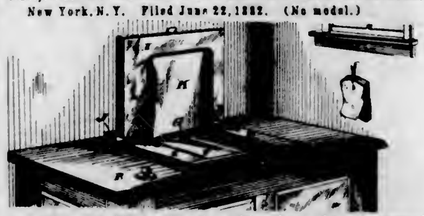
Claim.—The herein-described device for stacking and loading hay or straw, the same consisting of a frame composed of the bars B, connected to one another and provided with the canvases A, said canvases having hooks or rings *d* at the outer corners, and provided at the inner corners with rings or links *c*, in combination with a spring-catch, C, trigger-rope *h*, and hoisting-rope R, the whole constructed and combined to operate substantially in the manner and for the purpose herein shown and set forth.

263,876. FEED-RACK. ROBT. B. DUFF, Union, Marion County, Mo. Filed June 15, 1882. (No model.)



Claim.—The portable feed-rack A, having its four sides formed of open slat-work extending to the top thereof, and at its bottom around its four sides mangers D, having inwardly-slanting bottoms *c*, and at the corners grain or salt boxes E, said feed-rack having hinged slatted false bottoms B C, which are removably connected to a central longitudinal strip, *b*, substantially as and for the purpose set forth.

263,877. WATER-CLOSET ATTACHMENT. SIGMUND EDINGER, New York, N. Y. Filed June 22, 1882. (No model.)



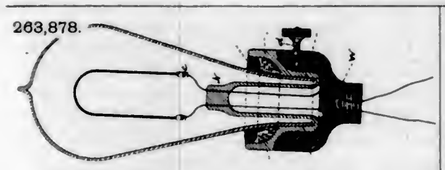
Claim.—1. The combination, with a closet, of a cover secured thereto, a pan located in said cover, a pipe leading from the pan to a conduit of escape, and a cover for the pan, substantially as set forth.

2. The combination, with a closet, of a cover secured thereto, a pan located in said cover, a pipe leading from the pan to a conduit of escape, a cover for the pan, the same being secured to the seat-cover, and a shield attached to the inner face of the pan-cover, substantially as set forth.

3. The combination, with a closet, of a cover secured thereto, a pan located in said cover, a pipe leading from the pan to a conduit of escape, a cover for the pan, and a shield secured to the inner face of the pan-cover and extending below its rear edge, the top and sides of said shield being curved inwardly, substantially as set forth.

263,878. ELECTRIC LAMP. THOMAS A. EDISON, Menlo Park, N. J., assignor to the Edison Electric Light Company, New York, N. Y. Filed Dec. 15, 1880. (No model.)

263,878.

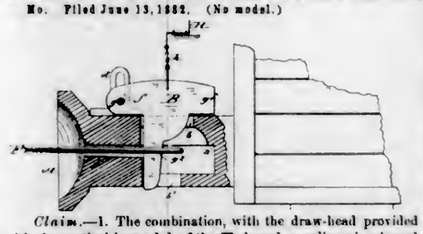


Claim.—1. The central tube conductor or support for the incandescing conductor, formed with a chamber at its base and fitted to receive tightly therein the neck of the inclosing globe, substantially as set forth.

2. In an incandescing lamp, the combination of the chambered central tube or support and the inclosing globe, ground or adapted to fit tightly, substantially as described.

3. The combination, in an incandescing lamp, of the chambered central tube or support adapted to hold a liquid seal, the inclosing globe having a neck fitted to the chamber, and a packing for securing the liquid seal, substantially as set forth.

263,879. CAR-COUPLING. CHARLES J. EDWARDS, Fairville, Mo. Filed June 13, 1882. (No model.)

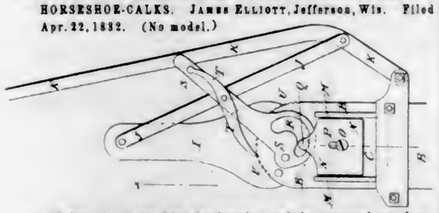


Claim.—1. The combination, with the draw-head provided with the vertical loops *d d*, of the T-shaped coupling-pin pivoted therein, so that the pin is adapted to have both vertical and pivotal movement, as set forth.

2. The draw-head formed with the slots *b* and *b'*, in combination with the T-shaped pin B, pivoted in the vertical loops *d d*, substantially as and for the purposes set forth.

3. The draw-head, chambered so as to form the ledge *f'*, in combination with the T-shaped pin B, pivoted upon the draw-head in the vertical loops *d d*, substantially as described.

263,880. MACHINE FOR FORMING AND SHARPENING HORSESHOE-CALKS. JAMES ELLIOTT, Jefferson, Wis. Filed Apr. 22, 1882. (No model.)



Claim.—1. A machine for forming and sharpening horseshoe-calks, constructed substantially as herein shown and described, and consisting of the plates A B, the die D, the plate E, having knife F and its operating levers and bars, and the clamping-plate N and its operating-lever and holding-pawl, as set forth.

2. In a machine for forming and sharpening horseshoe-calks, the combination, with the front plate, B, having slot C and the die D, of the clamping-plate N, having pin Q, and the lever S, having cam-slot R, substantially as herein shown and described, whereby the horseshoe can be firmly held while being operated upon, as set forth.

3. In a machine for forming and sharpening horseshoe-calks, the combination, with the clamping-plate N and its operating-lever S, and the front plate, B, having ratchet-teeth U', of the lever-pawl T, substantially as herein shown and described, whereby the said clamping-plate will be locked in place, as set forth.

4. In a machine for forming and sharpening horseshoe-calks, the combination, with the plates A B and the die D, of the sliding plate E, carrying knife F and pin G of the lever I, having cam-groove H, the connecting-bars J, and operating-lever K, substantially as herein shown and described, whereby the said plate and knife can be readily forced down to operate upon the shoe, as set forth.

263,881. METALLIC COP-TUBE. JEREMIAH ESSEX, North Bennington, Vt., and ALBERT BALL, Claremont, N. H. Filed Dec. 19, 1879.



Claim.—A long tapering metallic cop-tube having a ring or cap, *b*, at the smaller end and slitted longitudinally from the larger end as far as said ring or cap and provided with protuberances to hold the yarn, substantially as described and shown.

263,882. STOVE-TOP. OWEN F. EVANS, Columbus, Ohio. Filed July 17, 1882. (Model.)



Claim.—1. The combination, in a long cross-piece for stove-tops, of a top plate, *a*, and a lower plate consisting of three sections, *h i i*, the said plates being connected together, with a separating air-space between them, substantially as described.

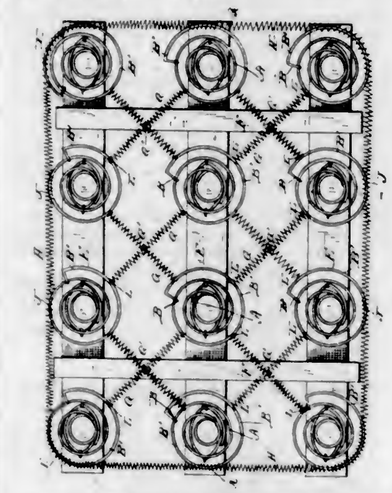
2. The combination, with the top plate, *a*, of a long cross-piece for stove-tops, of an under plate consisting of three sections, *h* and *i i*, said under plate having the ledges *b* for the short cross-piece, also ledges *m* for the covers, and also the separating-studs *k* and flanges *l*, and said upper and lower plates being bolted together, substantially as described.

3. The long cross-piece for a stove-top, consisting of top plate, *a*, having end flanges, *d*, cover-ledges *c*, and side and middle ribs, *e f*, in combination with a lower plate consisting of three sections, *h* and *i i*, said lower plate having separating-studs and flanges *k l*, and the cover and cross-piece ledges *m* and *b*, substantially as described.

4. The end sections, *i*, having depressed corners *n*, in combination with top plate, *a*, and cover-ledges *c* thereof, substantially as described.

5. The long cross-piece for a stove-top, consisting of top plate, *a*, having end flanges, *d*, cover-ledges *c*, and side and middle ribs, *e f*, in combination with a lower plate consisting of three sections, *h* and *i i*, said lower plate having separating-studs and flanges *k l*, and being overlapped at the joints *o*, and arranged with respect to the end flanges *d* of the top plate to avoid longitudinal stress of the top plate by expansion of the lower plate, substantially as described.

263,883. BED-SPRING. JOSEPH H. FAITH, Mason City, Ill. Filed June 12, 1882. (No model.)



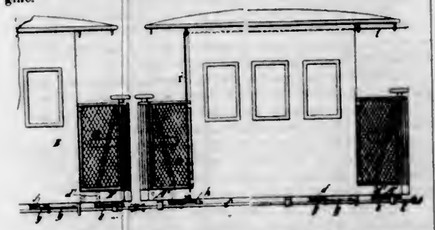
Claim.—1. The spiral-wire band H, looped into the rings B' of the outer series of conical springs A, for the purposes of aiding and maintaining an upright position of the springs A and serving to support the outer edges of the bed or mattress, substantially as specified and set forth.

2. The conical springs A, having an elliptical base, the ends of the base C C being united to the bar E by staples D D, the rings

B' of the springs A having the band H and diagonal wires G G secured thereto in the manner and for the purposes specified.

263,884. CONTROLLING THE OPENING OF GATES OF CAR-PLATFORMS. FRANK P. FISH, New York, N. Y. Filed May 23, 1882. (No model.)

Brief.—The adjacent hinged gates on one side of the cars are operated simultaneously by abutting rods connected to sliding rods by levers. The sliding rods are coupled by a loose head on the end of one rod moving laterally in a slotted head in the end of the other rod. One gate of the pair is connected by a link or lever to the sliding rod and the other by a link or lever to the signal or abutting rod. A bell-cord connects the abutting rod with the engine.



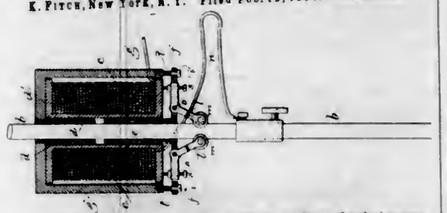
Claim.—1. The combination, with the cars of a train provided with hinged or swinging gates, of sliding signal-rods extending through or under each car and arranged end to end with those of adjacent cars, and connections between the several pairs of gates and said rods, whereby said rods are moved longitudinally when the gates are opened and closed, substantially as and for the purpose herein described.

2. The combination, with two adjacent cars provided with a pair of hinged or swinging gates, of the signal-rod D, to which one gate of the pair is connected, the auxiliary rod C, to which the other gate of the pair is connected, and connections between said rods, whereby they are caused to move in reverse directions, substantially as and for the purpose described.

3. The combination, with the rods C of adjacent cars, of the couplings C', constructed and operating substantially as and for the purpose described.

4. The combination, with a car provided with swinging or hinged gates, of a signal-rod extending through or under the car and connected with said gates, so as to be moved longitudinally when the gates are opened or closed, and a bell-rope or signal-connection extending from and operated by said signal-rod for signaling the engineer, substantially as and for the purpose described.

263,885. REGULATOR FOR ELECTRIC LIGHTS. FREDERICK K. FITCH, New York, N. Y. Filed Feb. 15, 1882. (No model.)



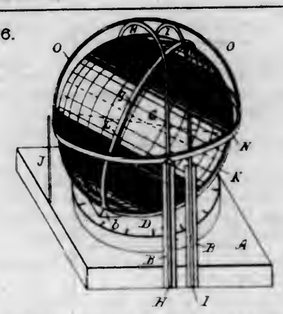
Claim.—1. The combination, with the helix and tubular core, of the armature *f*, bent levers *l*, clamping devices, adjusting-screws *s*, and guide-screws *i*, substantially as set forth.

2. In combination with the tubular core and the carbon passing through the same, the armature *f*, the bent levers *l*, pivoted to said armature, the adjusting-screws at the horizontal ends of the levers, the grooved rollers at the other ends of such levers, the guide-screws *i* for the armature, and the springs *t* between the armature and the poles, substantially as set forth.

263,886. GLOBE. ELLEN E. FITZ, Somerville, Mass. Filed Nov. 5, 1881. (No model.)

Claim.—1. A globe provided with an outer and an inner horizon-ring and their semicircular bands, one ring and its band being adapted to give terrestrial indications, while the other ring and band give celestial indications, both being capable of use at the same time.

2. The combination, with a globe, of arched standard H and



outer horizon-ring, N, which oscillates on studs attached to the supports of said standard.

3. A globe or ball divided on its surface into contrasting belts, in combination with an inner horizon-ring and an outer horizon-ring, substantially as set forth.

263,887. KNOB FOR EXERCISING OR INDIAN CLUBS. EDGAR M. FOLK, Brooklyn, N. Y. Filed Feb. 17, 1882. (No model.)

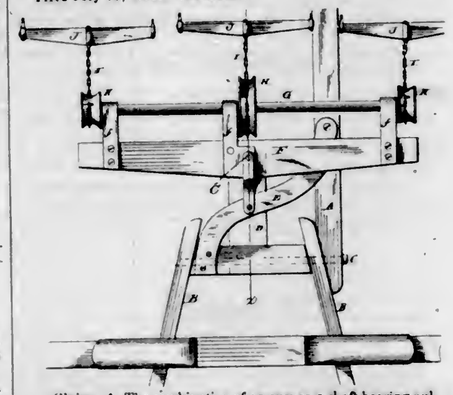


Claim.—1. An exercising or Indian club knob made of rubber or other elastic material, substantially as and for the purposes herein set forth.

2. An exercising or Indian club provided with an elastic knob, substantially as and for the purposes set forth.

3. The combination of an elastic knob for an exercising or Indian club and a slotted ferrule, as herein shown and described.

263,888. DRAFT-EQUALIZER. MARK FRISBIE, Orland, Ind. Filed July 18, 1882. (No model.)



Claim.—1. The combination of an evener, a shaft bearing pulleys, flexible connections, and whiffletrees, substantially as shown and described.

2. The combination of a short pole, a parallel long pole, a curved brace, an evener, a shaft bearing pulleys, flexible connections, and whiffletrees, substantially as shown and described.

3. The combination of the evener F, provided with the brackets *f*, the shaft G, having pulleys H H H, the central pulley being of greater diameter than the others, the chains I I I, passing about the pulleys, as described, and the whiffletrees J J J, substantially as shown and described.

4. The combination of the short pole D, the long pole A, the hounds B B, the bolt C, and the curved brace E, substantially as shown and described.

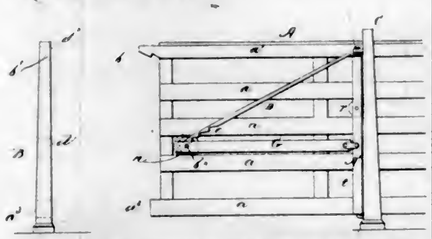
263,889. WITHDRAWN.

263,890. NEEDLE FOR ATTACHING BUTTONS. ROBERT D. GATES, Philadelphia, Pa., assignor to Walter P. Selberling, Trustee, same place. Filed Apr. 7, 1881. Renewed May 25, 1882. (No model.)



Claim.—The within-described button-attaching needle, having the point *a*, concavo-convex or dished shank or body A, and bent end forming a loop, *b*, adapted to enter the eye of the button, as set forth.

263,891. FARM-GATE. ADELBERT L. GEER, Superior, Mich. Filed June 17, 1882. (No model.)



Claim.—1. The combination, with a gate, of a horizontal arm, pivoted at one end to a swinging post and provided at its opposite end with a roller and pin, an oblique supporting-rod, pivoted at its upper end to the same post and provided with serrations or their equivalents at its lower end, and batten A', with its roller *r*, all substantially as set forth.

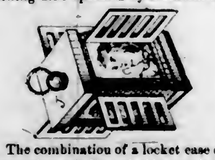
2. The combination, with gate A, of swinging post A', batten A', with its roller *r*, stationary post C, oblique supporting-rod D, provided with teeth at its lower end, and having its upper end pivoted to the swing-post A', and arm G, also pivoted to post A', and provided with roller *n* and pin *b''*, all constructed and arranged to operate substantially as herein set forth.

3. The combination, in a gate which is adapted to swing horizontally and vertically and to be moved endwise, of the latch-extension *b*, the locking-extension *a'*, the post B, provided with mortises *a' d d'*, the pivoted arm G', the rack-rod D, and the catch-pin *b''*, all substantially in the manner and for the purposes specified.

263,892. WITHDRAWN.

263,893. LOCKET. DANIEL GOLDSMITH, New York, N. Y. Filed Jan. 19, 1882. (No model.)

Brief.—The side panels are provided with hinged lids, which are connected with slotted arms attached thereto with pins carried by an axially-turning disk operated by a central spindle.

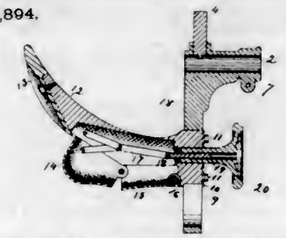


Claim.—1. The combination of a locket case or frame having a central axially-turning spindle and side panels for the insertion of pictures with hinged lids, and with mechanism whereby the pintles of the hinged lids are connected with the central spindle, so as to simultaneously open or close the lids, substantially as set forth.

2. The combination, with a supporting frame or casing having side panels for the insertion of pictures, of hinged lids having pintles with slotted crank-arms, of a disk having crank-pins engaging said slotted arms, and of a central axially-turning and spring-locked spindle, substantially as set forth.

263,894. JACK FOR BOOTS AND SHOES. GEORGE E. GOODING and EUGENE H. TAYLOR, Lynn, Mass., assignors to the Hutchinson Edge Setter Company, Portland, Me. Filed Mar. 13, 1882. (No model.)

263,894.



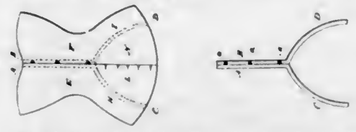
Claim.—1. The combination of the supporting-column, one or more arms, 2, and the sleeve 3, secured loosely upon such arm, such sleeve having the slotted offset 8 to receive the jack, and the counter-weight 5, all substantially as described.

2. The slotted supporting standard or offset 8, in combination with the shank 12 of the last, and with a screw passing through such shank and connected by a link, 17, with toggles secured respectively to hinged toe and heel portions of such last.

3. A last composed of the toe-pieces 12 and the heel-piece hinged thereto, in combination with the spring 16, against the pressure of which such hinged portions are forced apart by the screw-and-toggle mechanism, substantially as described.

4. A last composed of a toe-piece, 12, having an adjustable extension, 13, and a hinged heel-piece composed of hinged top and bottom pieces, 15 and 14, and connecting-levers, all substantially as described.

263,895. CORSET-BUSK. ABNER S. HAIGHT, Brooklyn, N. Y. Filed May 31, 1882. (No model.)

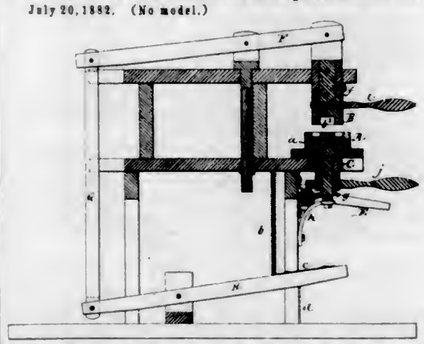


Claim.—1. As a new article of manufacture, the herein-described busk for corsets, consisting of the two parts, each in a single continuous piece, straight from their upper end to about the waist-line, from that point diverging to the right and left, substantially as described.

2. A corset having the busk composed of two parts, each in a single continuous piece, the said parts respectively extending down the meeting edges from the top to about the waist-line, thence diverging respectively to the right and left, substantially as described.

3. A corset having the busk composed of two parts, each in a single continuous piece, the said parts respectively extending down the meeting edges from the top to about the waist-line, thence diverging respectively to the right and left, the front portion of the corset between the diverging parts of the busk closed by flaps L N, secured together, substantially as described.

263,896. METHOD OF AND APPARATUS FOR MAKING LEATHER WASHERS. D. S. HALL, Stoughton, Mass. Filed July 20, 1882. (No model.)



Claim.—1. That improvement in the art of manufacturing leather washers consisting, first, in placing or wrapping the prepared blank around a suitable former and then applying pressure to its cut edge while the blank is held from lateral displacement, thus solidifying the fibers of the blank, all substantially as set forth.

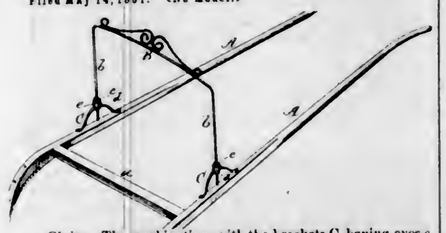
2. That improvement in the art of manufacturing leather washers which consists in first solidifying the blank by pressure upon its cut edges, as set forth, and burnishing the fibrous cut edges while under pressure, all substantially as set forth.

3. In a machine for forming washers, a receiving-collar chamber or socket-collar, A, in combination with a follower, B, and a receiving-surface adapted to eject the formed washer, substantially as herein set forth.

4. In a machine for forming washers, a receiving collar or socket, A, with a bottom surface, in combination with a reciprocating revoluble follower, a former-post, D, and operating means, substantially as set forth.

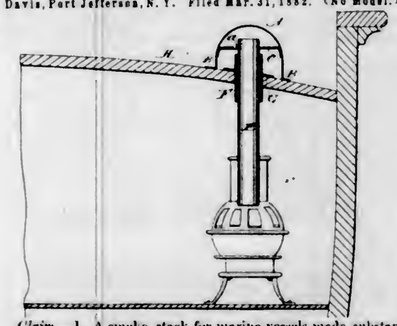
5. In a machine for forming washers, a receiving-collar chamber or socket, A, in combination with a reciprocating or revoluble follower, B, a reciprocating or revoluble sleeve, C, rim-headed, as set forth, a stationary post, D, or former, and a lever for giving an upward movement to said sleeve and means for lifting said follower, all substantially as and for the purpose described.

263,897. REIN-HOLDER. JACOB L. HALL, Falmouth, Ky. Filed May 14, 1881. (No model.)



Claim.—The combination, with the brackets C, having eyes *c*, and secured to the shafts A in front of the cross-bar *a*, of the rein-holder B, having screw-threaded vertical arms *b*, and the nuts *c d*, by means of which the height of said rein-holder may be regulated or removed entirely from the brackets, substantially as shown and described.

263,898. SMOKE-STACK FOR MARINE VESSELS. EDGAR M. HALLOCK, Huntington, assignor to himself and Joseph W. Davis, Port Jefferson, N. Y. Filed Mar. 31, 1882. (No model.)



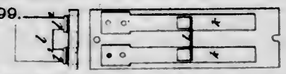
Claim.—1. A smoke-stack for marine vessels made substantially as herein shown and described, and consisting of a longitudinal box adapted to receive the upper end of the stove-pipe, and provided with a transverse horizontal partition, as set forth.

2. In a smoke-stack for marine vessels, the combination, with the box A, of the horizontal transverse partition C, provided with an aperture, D, for the stove-pipe, substantially as herein shown and described, and for the purpose set forth.

3. In a smoke-stack for marine vessels, the combination, with the box A, of the horizontal transverse partition C, provided with an aperture, D, having the edges provided with serrations or tongues *a*, substantially as herein shown and described, and for the purpose set forth.

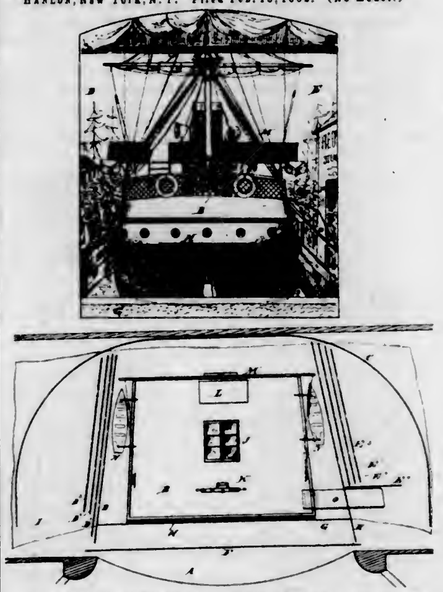
263,899. REED FOR MUSICAL INSTRUMENTS. JAMES BAILLIE HAMILTON, Down Street, Piccadilly, County of Middlesex, England. Filed May 15, 1882. (No model.) Patented in England Dec. 30, 1881, No. 5,630.

263,899.



Claim.—A reed provided with two or more tongues, arranged side by side, and having their vibrating portions connected together by a unison-bar, substantially as described.

263,900. THEATRICAL SCENERY AND APPLIANCES. WM. HANLON, New York, N. Y. Filed Feb. 13, 1882. (No model.)



Claim.—1. Apparatus to give a stage effect of a ship moving out of a dock, which consists of a stationary frame representing a vessel, in combination with sliding wings arranged close to said vessel and on each side thereof, and adapted to slide from the rear of the stage to the front thereof, substantially as and for the purpose specified.

2. In stage apparatus, a frame representing a ship having an upper deck, a saloon and state-rooms under said deck, and supported on rockers, in combination with a sea-cloth secured about said frame, and a curtain painted to represent the outside of a portion of said ship, and adapted to be removed to expose the saloon and state-rooms, substantially as and for the purpose specified.

3. In stage apparatus, the combination of a frame representing a ship or steamer with an upper and lower deck, and state-rooms located on the lower deck and within the frame, substantially as and for the purpose specified.

4. In stage apparatus, a frame representing a ship having an upper and a lower deck, and open on one end to expose the interior of said frame to the audience, in combination with a curtain or equivalent means painted to represent the exterior of the ship, and adapted to cover the open part of said frame, and also to be removed, when desired, to expose the interior, substantially as and for the purpose specified.

5. In stage apparatus, the combination of the frame B, representing a ship having an upper and lower deck, supported on rockers, curtain H, scene G, and sea-cloth I, substantially as and for the purpose specified.

6. In stage apparatus, the combination of the frame B, representing a ship having two decks and state-rooms, rockers Q, sea-cloth I, scene G, curtain H, scene C, wings D D', &c., and E E', &c., and means to rock said frame, substantially as described.

7. In stage apparatus, a frame, B, representing a ship having two decks and state-rooms, in combination with rockers Q, curtain H, scene G, wings D D', &c., and E E', &c., scenes C and F, and means to rock said frame, substantially as and for the purpose specified.

8. In stage apparatus, a frame representing a ship having an upper and lower deck, and state-rooms provided with pads *b* in

4.

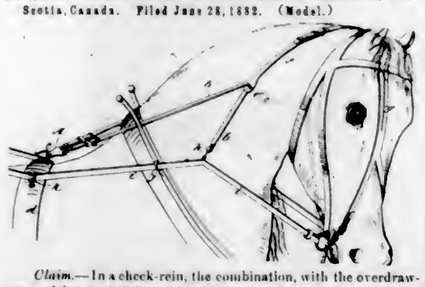
combination with rockers arranged under the same, substantially as and for the purpose specified.

9. In stage apparatus, a frame representing a ship having an upper and lower deck, said lower deck being divided into a saloon with state-rooms on either side thereof, said state-rooms opening into said saloon by means of doors, the whole being supported on rockers, substantially as and for the purpose specified.

10. In stage apparatus, the combination of a frame, B, representing a ship, with an upper deck provided with a wheel, K, a sky-light, J, and house L, and a lower deck provided with a saloon, B', state-rooms B', and stairs L', said stairs communicating with said house L, substantially as and for the purpose specified.

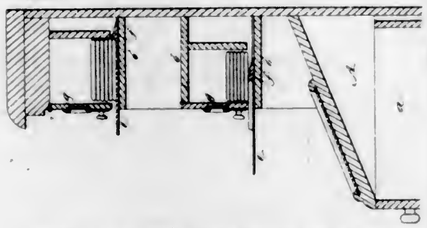
11. The combination of the frame B with an upper and lower deck provided with a saloon, B', state-rooms B', partitions separating the saloon from the state-rooms, said partitions being provided with doors *b* and transoms *b'*, and suitable padding, substantially as and for the purpose specified.

263,901. CHECK-REIN. HARRY T. HARDING, Maitland, Nova Scotia, Canada. Filed June 28, 1882. (Model.)



Claim.—In a check-rein, the combination, with the overdraw-straps *f f*, extended down along the sides of the horse's neck, and having at their depending ends eyes, loops, or rings *e*, and the driving-reins *i*, passed through the hame rings or eyes *j*, of the short strap *A*, connected to the back-saddle water-hook *c*, and having the branch-straps *b* extended up to the eyes, loops, or rings *e* of the overdraw-straps *f*, and down through the same, and connected to the driving-reins *i* at a point between the hame rings or eyes *j* and the bridle-bit, substantially as shown and described, and for the purpose set forth.

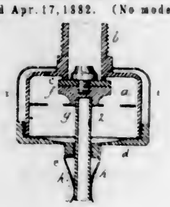
263,902. NEEDLE-CABINET. THOMAS HARPER, Redditch, County of Worcester, England. Filed June 7, 1882. (No model.)



Claim.—1. The needle-cabinet provided with the compartments *d*, in which are fitted the slides *e*, substantially as shown and described.

2. In needle-cabinets, the combination of the slides *e*, formed with lugs or flanges *f*, with the compartments *d*, substantially as and for the purposes set forth.

263,903. FIRE-EXTINGUISHER. ALPHONSO S. HARRIS, Chelsea, Mass. Filed Apr. 17, 1882. (No model.)

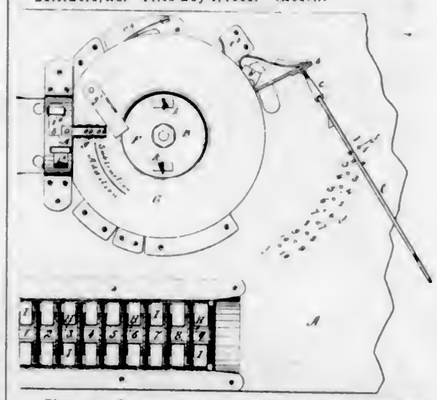


Claim.—1. In an automatic fire-extinguisher, the distributer provided with a valve-seat combined with a valve and tubular valve-stem having a passage through its side for the circulation of heated air, substantially as described.

2. The distributer having a valve-seat combined with the valve, its stem, and elastic soldering-pieces fastened to the said valve-stem by fusible solder, the said soldering-pieces tending to spring away from the said valve-stem when released by the solder, substantially as described.

3. The perforated distributer and its end piece provided with cap-holding lugs, combined with the divided cap supported loosely upon the said distributer and held in position by the said lugs, substantially as described.

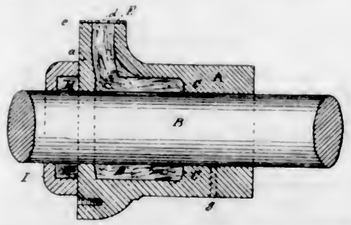
263,904. ADDING-MACHINE. CHRISTIAN W. HERGENRODER, Baltimore, Md. Filed May 4, 1882. (Model.)



Claim.—1. In a counting-machine, the combination, with the ratchet-disk, of the spring-retained lever carrying a pawl, the guide-plate for the pawl, the oscillatory arm having a lug thereon and connected to the lever, and the series of pins numbered and arranged substantially as shown and described.

2. In a counting-machine, the combination, with the ratchet-disk having a lug, *i*, on its under surface, of the pegged wheel E and spring-actuated pawl in engagement therewith, and the spring-actuated plate in contact with the spring of the said pawl, substantially as shown and described, and for the purpose set forth.

263,905. LUBRICATOR FOR PISTON-RODS. SOLOMON HOFFMASTER, Harrisburg, and GEORGE W. ARTHUR, Altoona, Pa. Filed Nov. 28, 1881. (No model.)

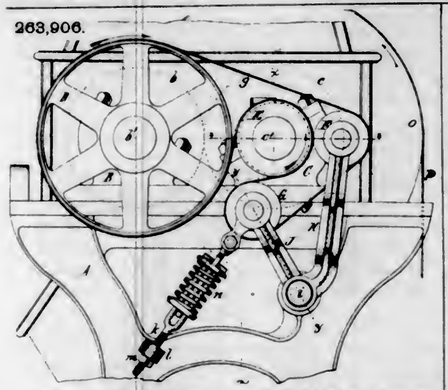


Claim.—The combination, with a piston-rod or valve-stem, of the gland A, having an annular chamber, C, terminating with a wide mouth at the upper edge of the flange for increasing the capacity of the chamber and providing for filling the same, the mouth being provided with the cover E, substantially in the manner and for the purpose described.

263,906. ROLLER-MILL. NOAH W. HOLT, Buffalo, N. Y. Filed June 2, 1882. (No model.)

Claim.—1. The combination, with a pair of rollers, *b c*, provided respectively with pulleys D and E, of a guide-pulley, F, a tightener-pulley, G, and an endless belt, *g*, running from the pulley D to the guide-pulley F, thence to the tightener-pulley G, thence to the pulley E, and thence to the pulley D, substantially as set forth.

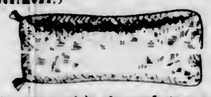
263,906.



2. The combination, with a pair of rollers, *b c*, of the pulleys D and E, mounted on the shafts of said rollers, a guide-pulley, F, mounted on a pivoted arm, H, a tightener-pulley, G, mounted in a pivoted arm, J, and an endless belt, *g*, running around said pulleys, substantially as set forth.

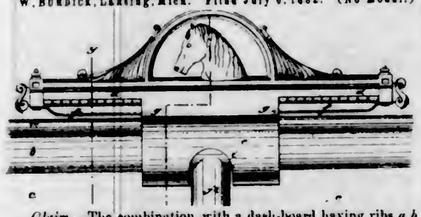
3. The combination, with a pair of rollers, *b c*, of the pulleys D and E, mounted on the shafts of said rollers, a guide-pulley, F, a tightener-pulley, G, an endless belt, *g*, and a screw-bolt, *k*, and spring *n*, whereby the tightener-pulley can be adjusted, substantially as set forth.

263,907. BAG FOR HOLDING PHOSPHATES, &c. WILLIAM H. HORNER and FRANCIS HYDE, Baltimore, Md. Filed July 27, 1882. (Specimens.)



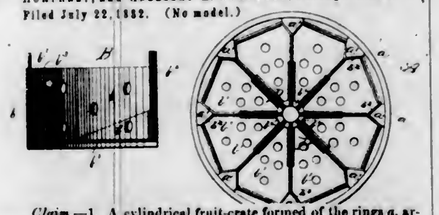
Claim.—As a new article of manufacture, a bag or integument for inclosing phosphates, guanos, fertilizers, or substances containing acids, treated with a composition consisting of rosin, paraffine, or mineral oil, and soap or saponified grease, substantially as described.

263,908. REIN-HOLDER. CARSON M. HOWELL and CHESTER W. BURDICK, Lansing, Mich. Filed July 6, 1882. (No model.)



Claim.—The combination, with a dash-board having ribs *a b* and web *c*, of the slotted bar *d*, notched clip-spring *e*, and rein-holding springs *f*, secured to said bar *d* at the outer ends, as shown and described.

263,909. FRUIT-CRATE. ROLLA L. HUMPHREY, STEPHEN HUMPHREY, and ADELBERT E. HUMPHREY, Portageville, N. Y. Filed July 22, 1882. (No model.)



Claim.—1. A cylindrical fruit-crate formed of the rings *a*, arranged upon the V-shaped strips *a'*, having a fixed end, a^2, and removable end a^3, substantially as shown and described.

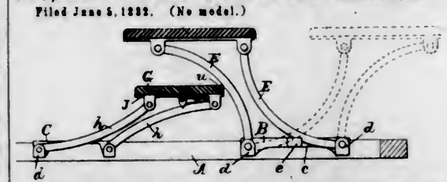
2. The combination, with the crate A, consisting of the rings *a* and V-shaped strips *a'*, of the fruit-baskets B, arranged in tiers within said crate, substantially as shown and described.

3. The crate A, having the V-shaped strips *a'*, arranged upon the inner side of the rings *a*, in combination with the V-shaped baskets B, having beveled portions *b'*, fitting between the rods *a'*, substantially as shown and described.

4. The baskets B, formed of the slabs *b b'*, the slab *b* being attached to the sides of the posts *b'* and bent to form the large end of the basket, and the beveled portion b^3, and the slab *b'* being secured to the bottom of the post b^3, extended across the bottom of the basket and attached to the end, and projecting above it, substantially as shown and described.

5. A fruit-basket consisting of the slab *b*, which forms the sides and end, and of the slab *b'*, which forms the bottom, said slabs being secured to the post b^3, projecting above the sides of the basket for the purpose of entering corresponding depressions in the bottom of the basket in the tier above, whereby the baskets are interlocked when placed in the crate, as set forth.

263,910. JUMP-SEAT. GEORGE H. HUTTON, Baltimore, Md. Filed June 5, 1882. (No model.)



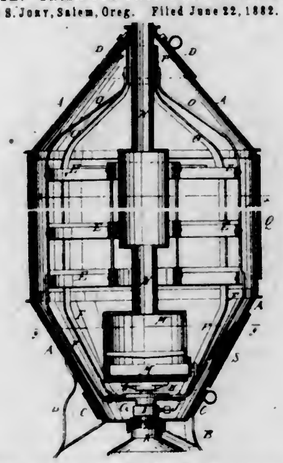
Claim.—1. In a jump-seat, the combination, with the seat and its curved standards, of a sill-plate, B, consisting of a horizontal side, *a*, provided with screw-holes, a right-angled downward-projecting side, *c*, provided thereon with side-projecting joint-ears *d* and a side-projecting supporting-rest, *e*, between the joint-ears, neither of which latter projects above the surface of the said horizontal side, as set forth.

2. In a jump-seat, the combination of the seat G, supported on the top plates, each provided on its innermost edge with a loop, *p*, the pivoted standards, a pivoted stop-brace, *i*, at each end of the seat, a lever, L, pivoted to the seat, and straps *r*, each of which passes through a loop on the top plate and connects one of the stop-braces with the lever, as set forth.

263,911. LUBRICANT. CHARLES J. INMAN, Eureka, Cal. Filed July 5, 1882. (No specimens.)

Claim.—The lubricant herein described, consisting of mutton-tallow, beeswax, castor-oil, borax, and camphor, mixed in the manner and proportions herein described.

263,912. DRIER FOR FRUITS AND OTHER SUBSTANCES. HUGH S. JORY, Salem, Oreg. Filed June 22, 1882. (Model.)



Claim.—1. A drier for fruits and other substances, constructed substantially as herein shown and described, and consisting of the casing A, having conical ends and provided with dampers C D and

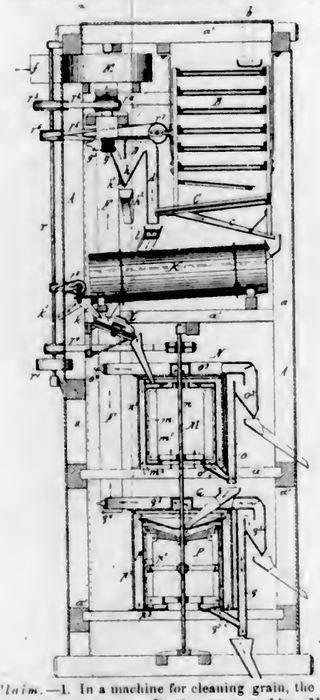
doors Q S, the annular rotating frame E, and the furnace M, and smoke-pipe N, as set forth.

2. In a drier for fruit and other substances, the combination, with the furnace M, having upright smoke-pipe N, of the pin H, having a cross-head, I, at its upper end, and the socket-base K, substantially as herein shown and described, whereby the said furnace can be supported within a rotary drier, as set forth.

3. In a drier for fruit and other substances, the combination, with the furnace M, smoke-pipe N, and supporting-pin H, of the annular tray-supporting frame E, the inclined bars, and plate F G, and the collar and set-screw I J, substantially as herein shown and described, whereby the said frame is supported and can be readily rotated, as and for the purpose set forth.

4. In a drier for fruit and other substances, the combination, with the furnace and smoke-pipe M N and the rotary tray-supporting annular frame E, of the casing A, having conical ends and provided with dampers C D and doors Q S, substantially as herein shown and described, whereby the heated air is confined and made to pass up through and around the substance being dried, as set forth.

263,913. MACHINE FOR CLEANING GRAIN. AUGUSTUS B. KELLOGG, Buffalo, N. Y. Filed May 16, 1882. (No model.)



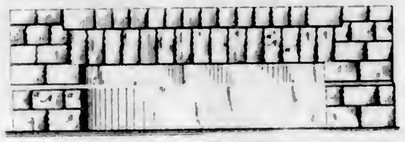
Claim.—1. In a machine for cleaning grain, the combination, with a sieve-separator, B, of a smut-machine, M, a brush cleaning-machine, P, a fan, E, and an air-trunk, whereby the sieve-separator and the smut and brush machines are connected with said fan, substantially as set forth.

2. In a machine for cleaning grain, the combination, with a sieve-separator, B, provided with an atmospheric separator, D, of a smut-machine, M, provided with an atmospheric separator, N, a brush cleaning-machine, P, provided with an atmospheric separator, Q, a fan, E, and an air-spout, whereby said atmospheric separators are connected with the fan, substantially as set forth.

3. In a machine for cleaning grain, the combination, with a suitable supporting-frame, of a sieve-separator, B, and a grading-sieve, C, a cockle-separator, K, a smut-machine, M, and a brush cleaning-machine, P, and suitable spouts, whereby the large grain is conducted from the grading-sieve to the smut-machine, while the small grain is conducted from said sieve to and through the cockle-separator and then to the smut-machine, substantially as set forth.

4. In a machine for cleaning grain, the combination, with a sieve-separator, B, of a grading-sieve, C, a cockle-separator, K, a magnetic separator, L, and suitable conduits, whereby the heavy grain is conducted from the grading-sieve to the magnetic separator, and the small grain is conducted from the grading-sieve to the cockle-separator, and the separated grain thence to the magnetic separator, substantially as set forth.

263,914. BRICK. EDWIN A. KERN, Girard, Ohio. Filed May 2, 1882. (No model.)



Claim.—A fire-brick for rolling-mill furnaces having two or more of its faces provided with numerous small corrugations, whereby any small particle of the brick, when the latter becomes cracked, will be prevented from falling upon the bars of iron, as specified.

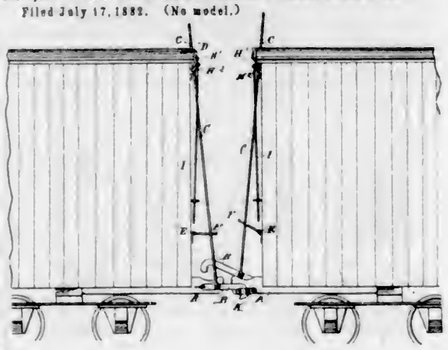
263,915. PROCESS OF OBTAINING AND PURIFYING GLYCERINE FROM SOAP-BOILERS' MOTHER-LYE. JOHANN KARL KESSLER, Milwaukee, Wis., assignor of one-half to Morris Roth, same place. Filed June 20, 1882. (No specimens.)

Claim.—1. In the process of purifying glycerine obtained from soap-boilers' mother-lye, the method described, consisting of the addition of a solution of acetate of the oxide of lead to the diluted raw glycerine, followed by the addition of a solution of oxalic acid, and subjecting the mass to decanting or filtration, heat, and high-pressure steam, in the order and manner described.

2. The process of purifying diluted raw glycerine obtained from soap-boilers' mother-lye, consisting in adding a solution of the acetate of the oxide of lead, forming insoluble chloride of lead and soluble acetate of soda, separating the former substance by decanting or filtration, adding to the remaining solution a solution of oxalic acid, forming a solution containing insoluble oxalate of the oxide of lead and insoluble oxalate of soda, separating the glycerine mass now corrupted by acetic and oxalic acids, &c., from these substances by filtration, and then heating it to transform its acetic acid into formic acid, and next removing all remaining acids in the form of vapor by conducting high-pressure steam through the mass, as set forth.

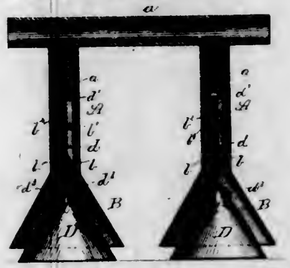
3. In the process of obtaining glycerine from soap-boilers' mother-lye, the method described of neutralizing the lye with sulphuric or muriatic acid, (and adding alum and Spanish white, if desired,) decanting the liquid and crystallizing its salts by boiling, again decanting the liquid and diluting it with water, adding a solution of the acetate of the oxide of lead, forming insoluble chloride of lead and soluble acetate of soda, decanting the solution remaining and adding thereto a solution of oxalic acid, decanting this resulting solution from the insoluble substances formed by the mixture and heating it from 80° to 100° Celsius, and then conducting high-pressure steam through the mass to remove all acids in the form of vapor, leaving purified glycerine as the result, substantially as set forth.

263,916. CAR-COUPLING. MARTIN V. KING, Bedford, Iowa. Filed July 17, 1882. (No model.)



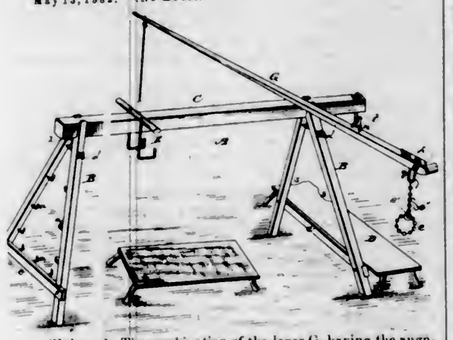
Claim.—The combination, with the pivoted hook B, of a ratchet-rod, C, pivoted near the inner end of hook, the latch D in the car-roof, the transverse crank-shaft E, having middle crank-arm, G, pivoted to rod C, the crank-rods H, and the rods I, all arranged substantially as shown and described.

263,917. CLOTHES-POUNDER. WILLIAM E. KINNEAR, Fremont, assignor of one-half to Collin Ford, Cincinnati, Ohio. Filed June 26, 1882. (No model.)



Claim.—The cones B, secured in the bottoms of the cylinders A, their apexes projecting into them, and having perforations *b*, in combination with the tube *a* and cylinders A, provided with the disks *b'*, the cones D, having perforations *d*^{2} in their apexes, covered by valves *d'*, the rods *d*, pistons *d'*, and springs *a'*, all arranged to operate substantially as shown and described.

263,918. HOG SCALDING AND ELEVATING APPARATUS. SAML. KREITER, Lake Township, Kosciusko County, Ind. Filed May 13, 1882. (No model.)



Claim.—1. The combination of the lever G, having the angular end plate, *p*, and the clevis *q*, with the truss B and beam C and connecting devices, as shown and described.

2. The combination of the bearing-hooks E, beam C, truss B, chain and ring *e e'*, and hook *n*, as shown and described.

3. In hog-raising apparatus, the lever G, having the angular engagement-plate *p*, clevis *q*, staple-hook *n*, and cord, as shown, and for the purpose described.

4. The operating-lever having a fulcrum-staple and clevis, and having an end plate formed with an angular toe having raised biting-edges, substantially as specified.

263,919. RAILROAD-TIE. CONRAD F. KREUZ, Milwaukee, assignor of one-half to Jerome D. Clarke, Madison, Wis. Filed May 11, 1882. (No model.)

Brief.—A tie is made from a bar of ⊢-iron, the upper flanges being punched through for the reception of the rails, which rest on cushions, and which are secured by locks having central dovetailed grooves, in which fit keys.



Claim.—1. A railroad-tie made from a bar of ⊢-iron the upper flanges of which are punched through or cut away, as shown at *b c*, in combination with the rails B and locks C, as set forth.

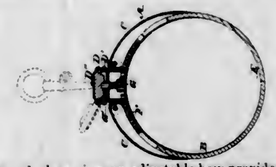
2. A railroad-tie made from a bar of ⊢-iron the upper flanges of which are punched through or cut away, as shown at *b c*, in combination with the rails B, locks C, and keys D, as set forth.

3. A railroad-tie made from a bar of ⊢-iron the upper flanges of which are punched through or cut away, as shown at *b c*, in combination with the rails B, locks C, keys D, and cushions E, as set forth.

4. In railroad-ties, the combination of the locks C, having central dovetail groove, *d*, extending from top to bottom, with the keys D, having central dovetail projections, *d'*, as shown and described, and for the purpose set forth.

263,920. JEWELRY-RING. ROBERT J. LA GRANGE, Philadelphia, Pa. Filed June 6, 1882. (No model.)

Brief.—The ring is provided with a head to lock the pinion, which pinion with the rack is concealed in a hollow section.



Claim.—1. In a ring, an adjustable bow provided with a rack or racks, in combination with an operating-pinion and a locking-head, substantially as and for the purpose set forth.

2. In an adjustable ring, the expansible and contractile band of the bow, provided with a rack or racks, in combination with a pinion which is mounted on the head of the ring and engages with said rack or racks, and hollow or grooved sections through which the ends of said band are passed, substantially as and for the purpose set forth.

3. In an adjustable ring, an expansible bow provided with a rack or racks, and an operating-pinion, in combination with the head of the ring, covering said pinion and provided with a lock therefor, substantially as and for the purpose set forth.

263,921. APPARATUS FOR GENERATING GAS. NELSON M. LANGDON, Chester, N. J. Filed Nov. 22, 1881. (No model.)

Brief.—Steam is highly superheated in a regenerator heated by the escaping products of combustion, and is supplied to the producer, where it is decomposed for the production of water-gas. Part of such gas is burned in a combustion-chamber under the producer. Air may also be heated with the steam and supplied with it to the producer to aid in the production of gas.

Claim.—1. In an apparatus for generating water-gas, the combination, with a closed generating-chamber having means for feeding solid carbonaceous fuel and steam into it, and provided with a gas-eduction pipe, of a closed combustion-chamber located below and rising within the generating-chamber, and provided with means for the introduction of fuel and for the egress of the waste products of combustion, substantially as set forth.

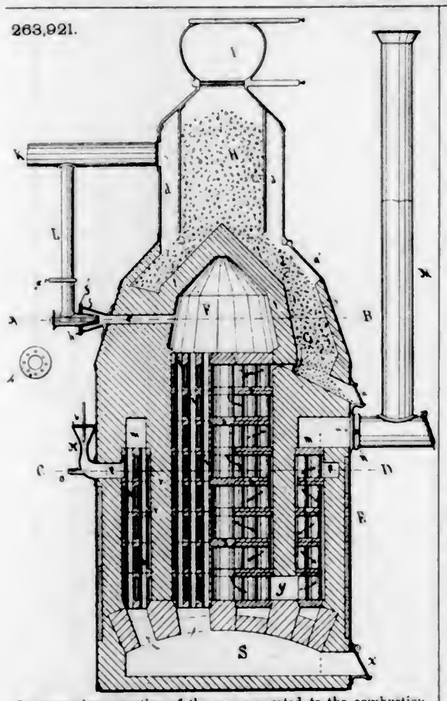
2. In an apparatus for continuously generating water-gas, the combination, with a generating-chamber, of an independent combustion-chamber located below the generating-chamber, from which it is separated by a thin wall, of a superheater connected with and heated by heat derived from combustion within the independent chamber.

3. In an apparatus for continuously generating water-gas, the combination, with a generating-chamber, of an independent combustion-chamber located below and rising within the generating-chamber, from which it is separated by a thin wall, and provided with air-inlets, gas-conduits leading from the generating to the independent combustion-chamber, and devices to regulate the amount of air and gas passing through said conduits and inlets.

4. In an apparatus for continuously generating water-gas, the combination, with a generating-chamber, of a combustion-chamber located below and rising centrally within the generating-chamber, from which it is separated by a conical wall, and a superheater located below the combustion-chamber and provided with a series of flues or tubes in communication with the combustion-chamber and with an exit-stack, and with passages formed between said flues or tubes, and communicating with steam and air inlet pipe, and with the generating-chamber, substantially as set forth.

5. In an apparatus for continuously generating water-gas, the combination, with a generating-chamber, of a combustion-chamber located below and separated from it by a thin wall, and devices

263,921.

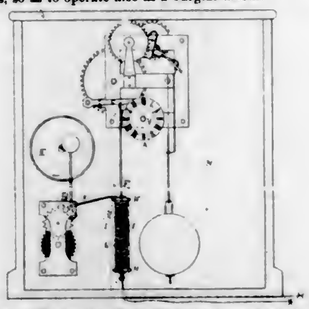


for conveying a portion of the gas generated to the combustion-chamber, substantially as set forth.

6. In an apparatus for continuously generating water-gas, the combination, with a generating-chamber, of a combustion-chamber located below and rising within it, and a superheater consisting of sectional flanged tubes located in chambers situated below the combustion-chamber, and arranged to form flues to convey away the hot products of the combustion of gas in the combustion-chamber, and passages to convey steam or air tortuously between said flues, and to finally introduce it into the generating-chamber, substantially as set forth.

263,922. BURGLAR-ALARM. FERDINAND A. LANGEWALE, Chicopee, Mass. Filed Apr. 5, 1882. (No model.)

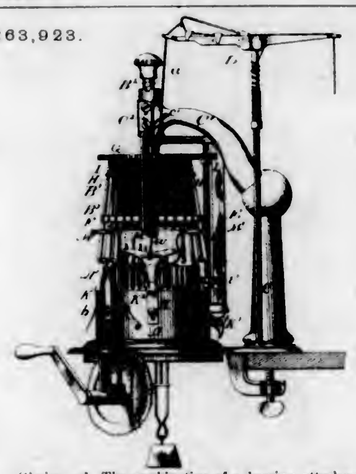
Brief.—An alarm-clock provided with burglar-alarm connections, so as to operate also as a burglar-alarm.



Claim.—In combination with a chronometer-clock, the burglar-alarm consisting of the connecting-wire F, alarm escape-lever K, spring L, sliding button H, tension-wires I and I', stationary button H', communicating-wire X, and pedal-communicator consisting of the short spring-board R and overlapping spring-board P, constructed and combined as and for the purpose set forth.

263,923. LOOPING ATTACHMENT FOR KNITTING-MACHINES. SALLY M. LEVY, Milwaukee, Wis. Filed Jan. 30, 1882. (No model.)

263,923.



Claim.—1. The combination of a looping attachment provided with depending hooks for supporting and operating an extra thread with the needle-cylinder and needles of a circular-knitting machine and a vertical guide-plate for forcing the said extra thread below the latches of the said needles, whereby it will not be knitted into the fabric, as set forth.

2. In combination with a circular-knitting machine, a looping attachment consisting of a grooved cylinder provided with depending hooks, with an exterior flange at the base of the cylinder grooved coincidently therewith, and a bottom plate having a cam-edge, together with a vertically and horizontally adjustable guide-plate having arms conforming in shape to the cam-edge of the bottom plate, substantially as described, and for the purpose set forth.

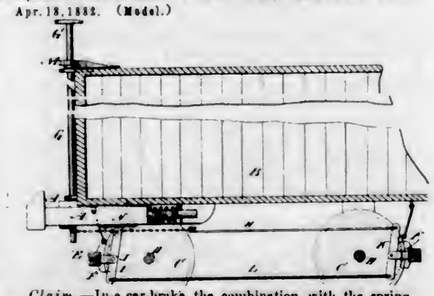
3. In combination with a circular-knitting machine, the looping attachment B, having grooved cylinder B', grooved flange B², depending hooks H, and bottom plate, F, with cam-edge *f*, and the vertically and horizontally adjustable guide-plate M, with cam-shaped arms M', substantially as described, and for the purpose set forth.

263,924. ELEVATOR-BUCKET ATTACHMENT. GEORGE L. LOAD, Waupaca, Wis. Filed Apr. 4, 1882. (No model.)



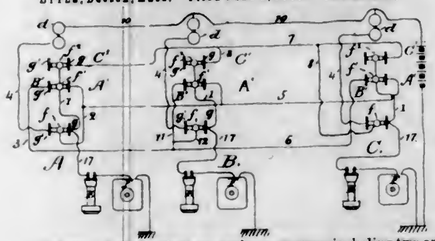
Claim.—The herein-described elevator-bucket attachment, consisting of two nuts which are firmly secured to the inner surface of the bucket, and two flat-headed bolts which pass through the belt and engage with the nuts, substantially as set forth.

263,925. CAR-BRAKE. SVERD LYKKE, Omaha, Nebr. Filed Apr. 18, 1882. (Model.)



Claim.—In a car-brake, the combination, with the spring-actuated sliding draw-bar A, the brake-bars E, and the brake-shaft G, of the lever I, fulcrumed on the draw-bar and pivoted to the front brake-bar, the lever K, pivoted to the rear brake-bar, the rod L, connecting the lower ends of the levers I K, and the chain H, secured to the upper end of the lever K at one end and to the brake-shaft G at its other end, substantially as and for the purpose set forth.

263,926. TELEPHONE-SIGNALING APPARATUS. HENRY B LYTLE, Boston, Mass. Filed June 2, 1882. (No model.)



Claim.—1. In a telephone-exchange system, including two or more switch-boards from each of which run a gromp of subscribers' lines, the combination of an annunciator at each switch-board in a normally-open battery-circuit, a telephone or telephones, also in a normally-open circuit, means, as indicated, whereby the telephone-circuit at any switch-board may be caused to complete the annunciator-circuit at any other switch-board and thus give a signal, and other means whereby the annunciator-circuit may be severed from the completed circuit and a second telephone-circuit substituted therefor, for the purposes specified.

2. The combination, in a telephone-exchange system including two or more telephone switch-boards, of an annunciator in a normally-open battery-circuit, a series of circuit-closers at each switch-board, the said circuit-closers being normally connected through a telephone with a ground or return circuit, a single circuit-closer normally connected with the annunciator, and a series of connecting-wires each permanently connected with the single circuit-closer at its own switch-board and extending in normally-open branches to one of the circuit-closers of the series at each of the other switch-boards, for the purpose specified.

3. At each of two or more switch-boards, the combination, substantially as hereinbefore described, of an annunciator in a normally-open battery-circuit, a telephone or telephones in a second normally-open circuit, a connecting-wire extending in normally-open branch wires to each switch-board of the series, a circuit closer or changer permanently attached to the said connecting-wire and normally uniting it with the annunciator-circuit but adapted to transfer it to the telephone-circuit, and a series of circuit-closers permanently in contact with the normally-open telephone-circuit and adapted to bring the same into contact with any desired one of the normally-open branch wires, and thus connect the apparatus at one switch-board with the apparatus at another.

4. The combination of a circuit having three or more branches leading into as many stations, a generator of electricity connected with said circuit, a signal device—such as an annunciator—in each branch, a circuit-closer at each station, and extensions of each branch to a circuit-closer at each of the other stations, substantially as described, whereby at any station the connections of said generator may be so alterated by the circuit-closer thereat as to operate the signal device at any of the other stations, as set forth.

5. A circuit having branches entering the different stations, a generator of electricity connected with said circuit-signal devices—such as annunciators—in the branches, extensions of said branches to other stations, a local branch at each station, and a telephone or telephones in each local branch, in combination with a circuit-closer at each station for altering the connections of the generator, so as to operate the signal device at another station, and for simultaneously connecting its own local branch with a conductor running to that station, substantially as described.

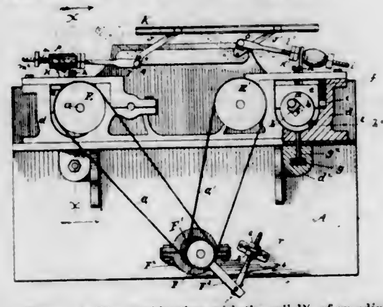
6. In a telephone system, a signal device or annunciator, and a telephone or telephones at each station, combined and electrically connected with circuit-closers, substantially as described, said circuit-closers comprising at each station a circuit-closer for simultaneously operating the signal device at a distant station and connecting in the telephone or telephones with a conductor running to that station, and a circuit-closer for breaking the signal-circuit established from a distant station and connecting in the telephone or telephones with a conductor coming from that station, as set forth.

7. A telephone apparatus, comprising a signal device—such as an annunciator—a telephone or telephones, a circuit-closer, a conductor connecting one contact of said circuit-closer with the coils of the signal device, one or more additional circuit-closers, a conductor electrically connecting the levers of the additional circuit-closers with a second contact-plate of the first-named circuit-closer and with the telephone or telephones, and bending-posts for connecting conductors with the lever of the first-named circuit-closer and the contact-plates of the additional circuit-closers, substantially as described.

8. The combination of a circuit, a signal device therein, a circuit-closer, a conductor normally connected with said circuit through said circuit-closer, and running to a circuit-closer at a distance, and a branch circuit containing a telephone or telephones, said first-named circuit-closer being constructed and arranged to break the circuit through the signal device established by the circuit-closer at the distant station and to make a connection between the telephone branch and the conductor running to said distant station, substantially as described.

9. In a telephone-exchange system, including a series of connected switch-boards from each of which radiate subscribers' lines, the combination of the small operators' switch-boards adjacent to the main switch-boards, the annunciators and circuit-closers on said operators' switch-boards, the generator of electricity, and the circuit-connections between the said generator, the annunciators, and the circuit-closers, substantially as described.

263,927. ROLLER FLOUR-MILL. WILLIAM A. MABAFFY, Rushford, Minn. Filed Jan. 16, 1882. (No model.)



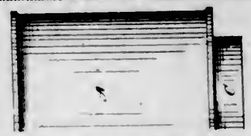
Claim.—1. The combination, with the roll B', of an adjustable roll, B, shaft *a*, the hub *b*, said shaft being eccentrically-journaled in said hub, an adjusting-arm, H', the vertically-adjustable box *c*, inclosing said hub, and the seat *d*, for holding said box, substantially as and for the purpose described.

2. The combination, with the laterally-adjustable rolls B C', the hubs *b*, having the roll-shafts located eccentrically therein, and the arms H H', attached to said hubs, of the rods I and I', having an elastic connection with said arms, the levers J J', jointed to the rods I I' at *o o* upon opposite sides of their fulcra to form locking-points to hold the rolls to their adjustment, and the connecting-bar K, substantially as shown and described.

3. The combination of the adjustable roll having shaft *a*, the rotary hub *b*, the box *c*, with lug *e*, the vertically-grooved seat *d*, the adjusting-rod g^2, and the subjacent horizontally-adjustable wedge *g*, substantially as and for the purpose described.

263,928. VESSEL FOR FOOD AND OTHER ARTICLES. VICTOR MARUBI, London, England. Filed July 25, 1882. (No model.) Patented in Germany Jan. 24, 1882, No. 18,915; in France Feb. 23, 1882, No. 147,525; in Belgium Mar. 9, 1882, No. 57,301, and in England May 4, 1882, No. 2,094.

Brief.—When the contents of the vessel A are to be heated incisions are made in the part C, the cotton pulled through them, and the inflammable matter with which it is saturated ignited.



Claim.—1. The combination, with a closed vessel or recipient containing the liquid or semi-liquid diet or medicaments, of an attached auxiliary sealed casing containing inflammable matter for heating the contents of the vessel or recipient, substantially as described.

2. The combination, with a closed vessel or recipient containing the liquid or semi-liquid diet or medicaments, of an attached sealed casing provided with partitions and containing inflammable cotton or other combustible matter, substantially as described.

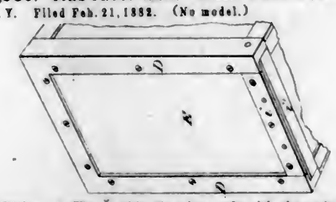
263,929. TRACE-CARRIER. HOWARD MARSHALL and CALEB S. REINHART, Goldendale, Wash. Ter. Filed Apr. 6, 1882. (Model.)



Claim.—1. A trace-carrier composed of the side bars, b' b', end bars, b^2 b^2, and intermediate cross-bar, b^4, the end bars being bent as described at their point of connection with the intermediate cross-bar, the hook c, secured to middle of cross-bar b^4 and extended upward and forward toward end bar b^2 and curved back and down below the level of the side bars, b' b', the tongue e, secured to end bar b^2 in line with the hook c, and extended to and rested against bar b^4, and the supports f f, extended from the lower corners of the carrier and adapted to rest on either side of the billet and against the pad, substantially as and for the purposes set forth.

2. In combination with the billet A and pad A', made wider than the said billet, the trace-carrier B, constructed with the tongue e and hook c, arranged substantially as described, and the supports f f, projected from the lower end of the carrier B and extended down on either side of the billet A and bearing on the pad A', substantially as and for the purposes set forth.

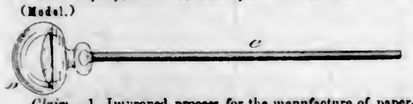
263,930. FIRE-PROOF SAFE. WILLIS B. MARVIN, New York, N. Y. Filed Feb. 21, 1882. (No model.)



Claim.—1. The combination, in a safe with the walls A and back plate, E, of the frame D, fitting over the edges of walls A, and having the slot D, through which the back plate, E, may be entered and attached to said frame and walls by means of screws y and rivets e, which enter knees f, as shown and described.

2. In a safe, the combination, with a safe-door having the recess k on the inside of its front end, of facing-piece G and the incombustible layer l, as shown and described.

263,931. MANUFACTURE OF GLASS PAPER-WEIGHTS. WILLIAM H. MAXWELL, Rochester, Pa., assignor to Brown, Maxwell & Company, (Limited,) same place. Filed June 15, 1882. (Model.)



Claim.—1. Improved process for the manufacture of paper-weights and other articles, which consists in covering vitrified paintings or designs upon glass with molten glass by casting or molding, substantially as described.

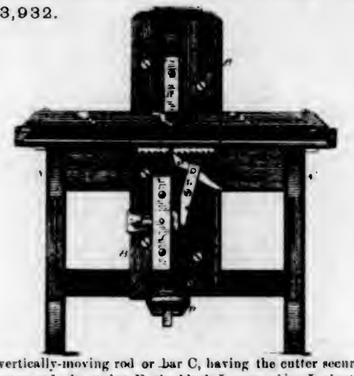
2. The hereinbefore-described process for the manufacture of paper-weights and other articles, which consists in first painting or printing a design upon colored glass with vitrifiable colors, and then covering the same with clear glass by molding or casting, substantially as described.

3. In the manufacture of paper-weights and other articles from glass, the combination of the mold A, for receiving the painted or printed plate of glass, and the ring B, adapted to be placed over the plate a of glass, and the mold for casting clear glass thereon, substantially as shown and described.

263,932. INDEX-CUTTER. WILLIAM R. MCCUTCHEON and WILLIAM E. CHILCOTE, Washington, Iowa. Filed Sept. 24, 1881. (No model.)

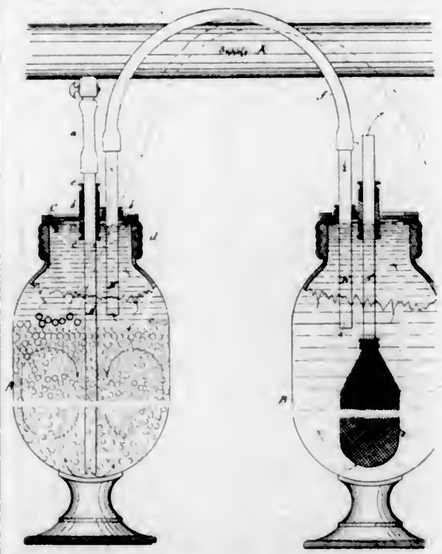
Claim.—In an index-cutter, the combination of the treadle D,

263,932.



the vertically-moving rod or bar C, having the cutter secured to its upper end, the spring E, the block I, cross-piece J, pivoted lever L, dog O, springs N Q, and table or carriage provided with the ratchet-bar, substantially as shown.

263,933. METHOD OF AND APPARATUS FOR HATCHING FISH. MARSHALL MCDONALD, Washington, D. C., assignor to himself and Stephen C. Brown, same place. Filed June 12, 1882. (No model.)



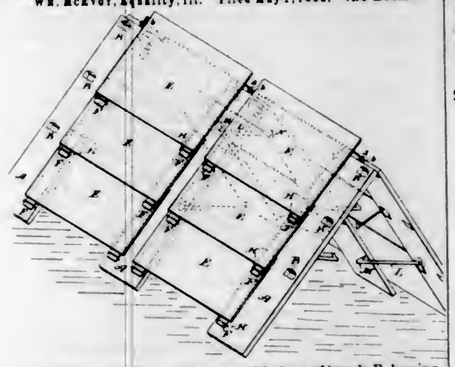
Claim.—1. The improved process of automatically separating the bad eggs and small fry from fish-eggs during incubation, which consists in agitating them in a closed chamber filled full of water by means of a forced circulation of the same, and drawing off the discharge-water along with the bad eggs or small fry at a point below the surface of the water, or more or less central with respect to the jar, as described.

2. A fish-hatching jar composed of closed glass vessel A, a detachable cover, and the inlet and outlet tubes A' B', one being adjustable in vertical direction and the other being deflectible, as shown and described.

3. A collector for the small fry, consisting of a jar or vessel having an inlet-tube and an outlet-tube, with an enlarged or cage filter on its inner end immersed in said jar or vessel, as and for the purpose described.

4. The combination of the closed hatching-jar A, having tubes A' B' for a forced circulation, and the collector B, having connecting-tubes B' and f, and a discharge-tube, A', with a cage-filter, as shown and described.

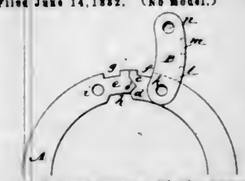
263,934. PORTABLE ROOF FOR HAY AND GRAIN RICKS. WM. MCEVOY, Equality, Ill. Filed May 1, 1882. (No model.)



Claim.—1. The combination, with the roof-boards E, lapping one upon another, of the straps D, secured to the under side of said boards, provided with the hooks C at one end, and projecting at the other end beyond the edge of the boards, and the staples H, as shown and described.

2. The combination, with the lapping roof-boards E, of the staples H, and the straps D, held at one end beneath said staples, and at the other end by the hooks C, engaging holes B in the rafters A, which are hinged together at b, as shown and described.

263,935. KEY-RING. BRYANT H. MELENDY, Battle Creek, Mich. Filed June 14, 1882. (No model.)



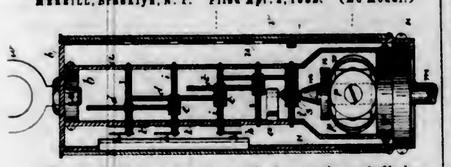
Claim.—1. In combination with the transversely-cut ring having a hole, i, in or near one of its meeting end portions, d, and a notch, f, in the outer edge thereof, the clasp B, having a bridge l, connecting its opposite sides to fit within said notch, and formed with teats k, arranged to enter the hole i on opposite sides of the ring and forming pivots for the clasp, substantially as described.

2. The clasp B, formed of pivoted side pieces connected by a bridge, l, and provided with a wing, m, attached to one of said side pieces, and with forward side teats, n n, in combination with the transversely-cut ring A, having outer edge-notches, f g, and a hole, i, in the end portion e of the ring, essentially as described.

3. The transversely-cut ring provided with a notch, h, in the inner edge of one of its meeting end portions, in combination with a pivoted clasp for locking said end portions, essentially as described.

4. The combination of the ring A, having an irregular angular cut, b c, outer edge-notches, f g, and an inner edge-notch, h, at or near its meeting ends, and the clasp B, having a connecting-bridge, l, a wing, m, and side teats, k n, arranged to enter holes i in the meeting end portions of the ring, substantially as specified.

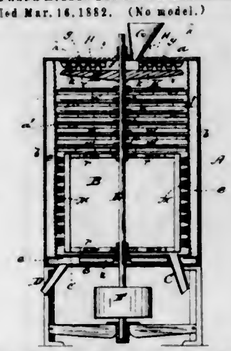
263,936. SHIP'S LOG. WILLIAM G. MERRILL and GEORGE W. MERRILL, Brooklyn, N. Y. Filed Apr. 2, 1882. (No model.)



Claim.—1. The combination, with the rotating spindle in a ship's log, of the wheels p, having narrow deep grooves in their edges for holding oil by capillary action, substantially as and for the purposes set forth.

2. In a ship's log, the combination, with the dials and train of gearing, of a stationary case, n, with oil-holes in line, or nearly so, with the arbors, and a moving case, r, with opening for the dials and with oil-holes corresponding with the oil-holes in the stationary case when the dials are partially covered, so that the oiling-holes will not be open in either of the ordinary positions of use, substantially as set forth.

263,937. MACHINE FOR DISINTEGRATING BRAN AND MIDDLINGS. FRANK MILLER and LEVI S. HOGEBOOM, Three Rivers, Mich. Filed Mar. 16, 1882. (No model.)

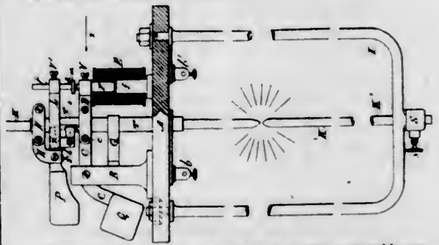


Claim.—1. In a bran-cleaning machine, the combination of the upper stationary and lower revolving disintegrating-disks, H and K, having the circular and concentric series of arc-shaped teeth corrugated on their edges, as at m, and separated by the passages between the ends of the teeth, and by the circular spaces r, between the series of teeth, which spaces are connected by said passages, substantially as specified.

2. In a disintegrating and cleaning machine, the combination, with the wire-cloth inner wall, d, the upper adjustable disintegrating-disk, H, the corrugated ledges L, around the inner wall, and the fine c, outside the wire-cloth, of the revolving disintegrating-disk K, the revolving whippers w, the revolving brushes M, and the revolving dischargers z, substantially as specified.

3. In a disintegrating and cleaning machine, the combination, with the disintegrating-disks H and K, of the inner wire-cloth wall, d, the corrugated wall-ledges L, the revolving whippers w, revolving brushes M, and revolving dischargers z, and the vertical shaft E, to which the revolving parts are attached, substantially as specified.

263,938. ELECTRIC-ARC LAMP. JEAN AUGUSTE MONDOS, Neuilly, Seine, France. Filed Jan. 6, 1882. (No model.) Patented in France Nov. 11, 1881.



Claim.—1. The combination of a fixed carbon, a movable carbon tending to feed toward the fixed carbon, a tube holding said movable carbon, means in connection with said tube tending constantly to elevate it, a tooth or pawl borne by said tube and adapted to engage the movable carbon and hold it within the tube, an armature in connection with said pawl, an electro-magnet, the movable core of which is fixed rigidly to said tube, so as to move with it, and is arranged to face said armature at one end and a fixed magnetic body arranged adjacent to and to be attracted by the other end or pole of said core, substantially as set forth.

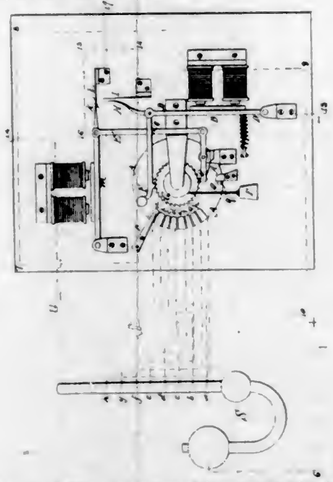
2. The combination of a fixed carbon, a movable carbon tending to feed toward the fixed carbon, a tube holding said movable carbon, a counterpoised lever jointed to said tube and tending constantly to elevate it, a tooth or pawl pivoted to a counterpoised lever, the said lever borne by said tube, an armature connected to said lever, a fixed electro-magnetic or solenoid coil, the movable

core of said coil fixed rigidly to said tube, so as to move with it, and arranged with one of its poles facing said armature, substantially as set forth.

3. The combination of electro-magnetic or solenoid coil of high resistance, installed in a divided circuit, avoiding the carbons, the movable core thereof, the carbon-holding tube connected rigidly to said core, means for normally lifting said tube and its dependent parts, a tooth or pawl adapted to engage the carbon and lock it within said tube, a weighted lever pivoted to said pawl and tending to thrust the latter against the carbon, the fulcrum of said lever borne by said tube, and an armature connected to said lever and arranged in proximity to said core, substantially as set forth.

4. The combination of carbons K K', tube T, lever C, having counterpoise Q, lever L, fulcrumed to a projection from the tube T, and having counterpoise P, armature *a* on said lever L, pawl *l*, borne by said lever, solenoid E of fixed coils, and cores F F thereof, connected to said tube T, substantially as set forth.

263,939. AUTOMATIC METHANOMETER. DENIS MONNIER, Geneva, Switzerland. Filed Mar. 19, 1881. (No model.) Patented in France Jan. 14, 1881, No. 140,617; in Belgium Jan. 20, 1881, No. 53,634; in England Jan. 24, 1881, No. 312, and in Germany Feb. 5, 1881, No. 15,679.



Claim.—1. The combination of a combustion-chamber, W, with a manometer communicating with the interior of the said chamber, and an electrical signal-instrument operated by the fluctuations of the mercury or other body in the manometer, substantially as set forth.

2. The combination of the combustion-chamber, mechanism for drawing the air to be tested into said combustion-chamber, and devices, substantially as described, for trapping the air therein, with a manometer and an electrical signal-instrument operated by the fluctuations of the mercury or other body in the manometer, substantially as described.

3. The combination of a chamber, W, and a platinum wire therein, forming part of an electric circuit, with a manometer communicating with the interior of said chamber, and an electrical signal operated by the fluctuations of the mercury or other body in the manometer, all substantially as specified.

4. The combination of a combustion-chamber, W, with an electrical signal-instrument, and a mercury manometer having one or more wires introduced through its wall, and forming part of a circuit operating the said signal-instrument, substantially as described.

5. The combination of a combustion-chamber, W, flexible tubes x' x^2, and exhaust apparatus U with a clamping-plate, lever E, electro-magnet, and armature carrying said lever, all substantially as set forth.

6. The combination of a combustion-chamber, W, flexible inlet and outlet tubes, with electro-magnet and armature carrying a locking-lever for the tubes, and a spring-catch for retaining said lever.

7. The combination of a combustion-chamber, flexible inlet and outlet tubes, with electro-magnet Y, and armature carrying a locking-lever, E, and electro-magnet X, and armature carrying a catch for said locking-lever.

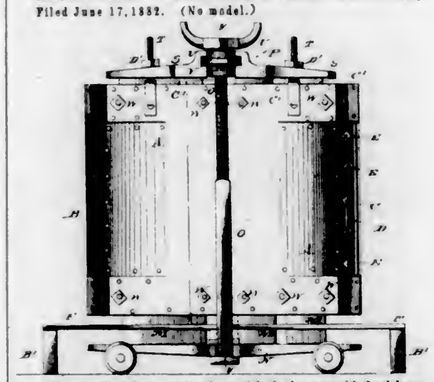
8. The combination of a combustion-chamber, and manometer in communication therewith, with an electrical transmitter operated by the fluctuations of the mercury or other body in the manometer, and a receiver operated by the transmitter, all substantially as specified.

9. The combination of a combustion-chamber, platinum wire therein, and inlet and outlet tubes with electro-magnet Y, locking mechanism operated thereby, circuits, contacts, and mechanism, substantially as described, for automatically and successively closing the circuits.

10. The combination of a combustion-chamber, inlet and outlet tubes, with electro-magnet Y, locking mechanism operated thereby, electro-magnet X, and armature carrying a retaining-catch for said lever, and automatic mechanism, substantially as described, for successively closing the circuits of said magnets.

11. The combination of a revolving wheel having a pin, r, with spring-lever r', stop, contact-plates, and circuits, all substantially as described.

263,940. APPARATUS FOR MOLDING, MARKING, AND FINISHING TOBACCO. WILLIAM R. MONTGOMERY, Louisville, Ky. Filed June 17, 1882. (No model.)



Claim.—1. The combination, with the box provided with vertical partitions dividing it into cells for the reception of the tobacco and interposed plates, of the upper and lower plungers and the connected upper and lower plates, the whole adapted to be placed in a hydraulic press or ram and subjected to pressure, and when fully compressed to be secured as described in order to finish the plugs, substantially as specified.

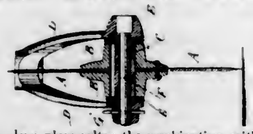
2. In combination with the box, the hinged ends, and the sides provided with perforated flanges, and screw bolts and nuts whereby they may be securely fastened together, substantially as specified.

3. In combination with the box and the vertical partitions, the transverse stays adapted to support and hold the partitions, substantially as set forth.

4. In combination with the box and the upper and lower plates and detachable connections, the vertical partitions and transverse rods and the upper and lower plungers, all arranged to operate substantially in the manner specified.

5. The method herein described of molding, marking, and finishing tobacco by subjecting it to pressure in layers with interposed marking-plates, substantially as set forth, and retaining the pressure until finished, as specified.

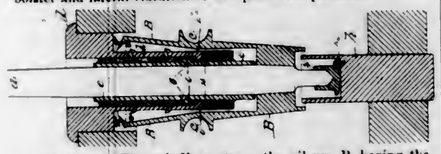
263,941. PLOW-COLTER. DAVID MORRIS and HUGH SPRINS, Bunker Hill, Ill. Filed Apr. 25, 1882. (No model.)



Claim.—In a plow-colter, the combination, with the colter A, having feathered to its hub B a sleeve, C, of the yoke D, having one end apertured and the other end countersunk, the washers E, and the journal F, with its head let into the countersink of the yoke and pinned to the apertured end of the yoke, substantially as and for the purpose set forth.

263,942. SPINDLE AND BEARING THEREFOR. WALTER G. MORRISON, Willimantic, Conn. Filed Dec. 8, 1881. (No model.)

Brief.—The bolster, projecting downward from the rail and within an oil-cup secured to the lower end of the spindle, is so formed that its interior diameter is slightly greater than the exterior diameter of a collar upon the bushing, which collar rests upon an elastic washer supported by a collar formed upon the lower part of said bolster, whereby a lateral play of the bushing within the bolster and lateral vibration of the spindle are permitted.



Claim.—1. The spindle *a*, step *r*, the oil-cup B, having the whirl *c* thereon, secured to said spindle near the lower end of the latter and extending upward around the same, and having formed upon its upper end an upwardly and inwardly inclined cover-rim, *w*, terminating in a thin edge, the bolster *d*, adapted to project downward from the bolster-rail within said oil-cup to a point nearly opposite to said whirl, and provided with the collar i^2, one or more collars, *c*, and the oil-holes *x* through the sides thereof, the bolster-bushing *e*, having the collar *i* thereon, and the oil-holes *o* through the sides thereof, the elastic washer *s*, and one or more nuts, s', all combined and operating substantially as set forth.

2. The combination, in a spinning-frame, and with the bolster-rail thereof, of a hollow bolster, *d*, supported by and extending below the bolster-rail, the spindle *a*, extending through the bolster, a step supporting the same, and a bushing, *e*, supported by and within the bolster, and provided with bearings constructed to permit a limited lateral play of the entire bushing, for the purpose set forth.

3. The bolster *d*, adapted to be extended downward below the bolster-rail, and having oil-holes through its sides, the bolster-bushing *e*, also having oil-holes through its sides and suspended at the lower end of said bolster, and means whereby lateral vibrations of said bolster-bushing are permitted within said bolster, the spindle *a*, having the oil-cup B secured thereto, extending up outside of said bolster, and having the whirl *c* thereon, and the step *r*, substantially as described, capable of lateral and rocking movements, all combined and operating substantially as set forth.

4. The within-described compound bolster, consisting of the bolster *d*, having a bushing-chamber of greater diameter than that of the bolster-bushing *e*, and provided with a collar, i^2, at the lower end of said chamber, the bolster-bushing *e*, having a collar, *i*, thereon, and oil-holes through its sides, in combination with the elastic washer *s* and nut s', substantially as set forth.

263,943. WROUGHT-IRON COUPLING FOR PIPE-SECTIONS. JAMES O. MORSE, Englewood, N. J. Filed Feb. 21, 1882. (No model.)



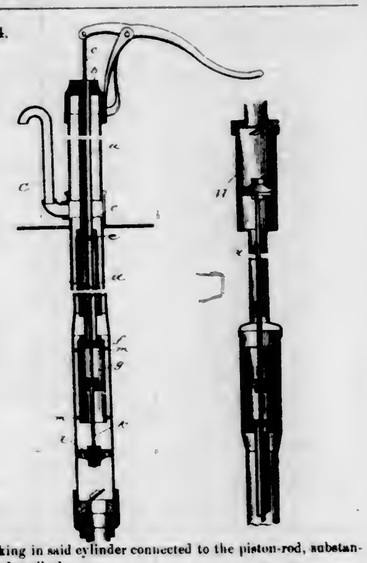
Claim.—A wrought-iron coupling-ring composed of a central interior groove or recess and tapered screw-threads extending from the ends of the ring to the edges of the groove, substantially as and for the purpose described.

263,944. PUMP. PHILIP A. MYERS, Ashland, Ohio, assignor of one-half to Francis E. Myers, same place. Filed June 22, 1882. (No model.)

Claim.—1. In a force-pump and in combination, a central tube in the main pipe or cylinder, a piston-rod working in said tube, an air-chamber suspended in said main pipe or cylinder, and suitable forcing piston or pistons and valves, substantially as described.

2. In a force-pump and in combination, a central tube connected to the upper part of the pump, a piston-rod working in said tube, an air-chamber placed upon said tube, with a space between its surface and the inner surface of the pump, a submerged cylinder fixed to the lower end of said tube, with a water-space between its surface and the inner surface of the pump-cylinder, and a piston working in said cylinder connected to the piston-rod, substantially as described.

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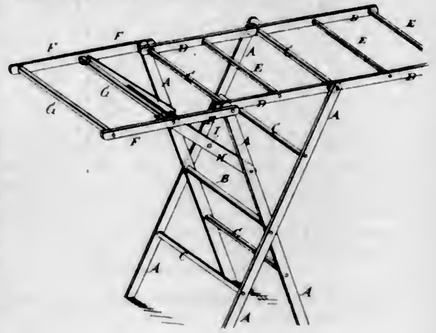
3. In a force-pump and in combination, a central tube connected by an air-tight central joint to the pump-cap, leaving an annular closed space in the tube of the pump, a piston-rod working in said tube, and a submerged cylinder connected to the lower end of said tube and having a water-space between said cylinder and the inner surface of the pump-cylinder, a piston working in said submerged cylinder, and a lift-bucket, all substantially as described.

4. In a force-pump and in combination, a central tube connected by an air-tight central joint to the pump-cap, a piston-rod working in said tube, and an air-chamber placed upon said tube, with an annular space between its surface and the inner surface of the pump-cylinder, and suitable piston or pistons and valves, substantially as described.

5. In a force-pump having a central tube, *a*, a submerged cylinder suspended therefrom, a central piston-rod, *c*, and piston working in said submerged cylinder, and a stem and lift-bucket connected to said piston-rod, a separate lift-bucket cylinder, H, and intermediate pipe, *h*, substantially as described.

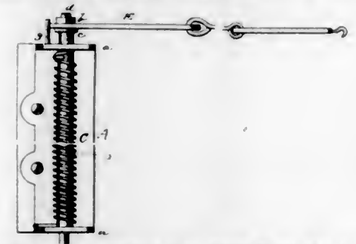
6. In a force-pump having a straight barrel or cylinder without offsets, adapted to a bored well, a submerged piston-cylinder connected to a pipe within the main cylinder and having a water-space between its periphery and the inner surface of the main cylinder, a piston working in the submerged cylinder, and a lift-bucket working in the main cylinder, whereby the water is forced up past the submerged cylinder and within the main cylinder to the discharge-spout, substantially as described.

263,945. CLOTHES-FRAME. WILLIAM C. NELLY, Brooklyn, N. Y. Filed June 2, 1882. (No model.)



Claim.—The combination, with the two cross-frames A C, pivoted together upon the cross-bar B, and the top frame D E, pivoted on the top cross-bar C of one frame A and hooked to the other top cross-bar of the extension top frame F G, pivoted on said other top bar C, and the brace-frame H I, pivoted to a middle cross-bar C of the frame A and supporting said extension-frame by one of the cross-bars G, resting in notches in the ends of the side bars H, as shown and described.

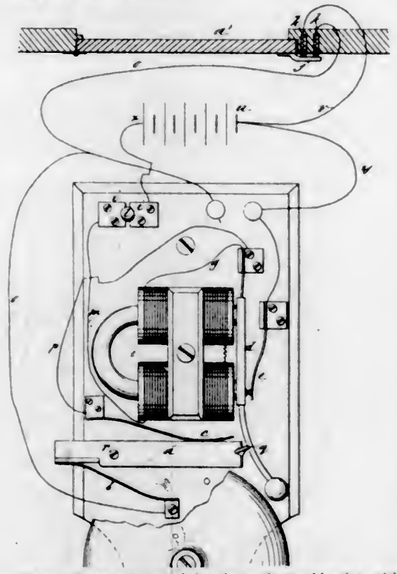
263,946. LOOM-TEMPLE. ROBERT E. NEUBER, Pittsfield, Mass. Filed Dec. 14, 1881. (Model.)



Claim.—The combination of the spindle B and plate A with the coiled spring C, connected to the spindle and plate, the arm E, the stop-pin *g*, and the claw attached to the arm by a link, substantially as and for the purposes described.

263,947. ELECTRIC BURGLAR-ALARM. HORACE F. NEUMEYER, Macungie, Pa. Filed June 23, 1882. (No model.)

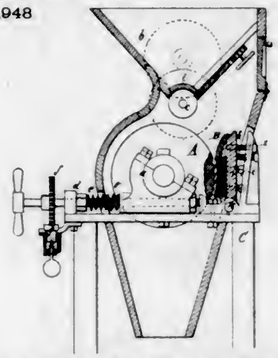
Brief.—The opening of a door or window breaks the primary circuit and closes a secondary one. The alarm is kept sounding by the current through the secondary circuit, and cannot be stopped by closing the door or window.



Claim.—In an electric burglar-alarm, the combination, with the closed-circuit devices, of the gravity-lever *a*, disposed between the springs *b* and *c*, one arranged in contact with the longer arm of said lever and the other stronger one in contact with the shorter arm thereof, the armature *d*, having the striking-arm disposed in contact with the lever *a*, the spring *c*, adapted to operate on the armature *d*, and the secondary-circuit devices, substantially as shown and described, and for the purpose set forth.

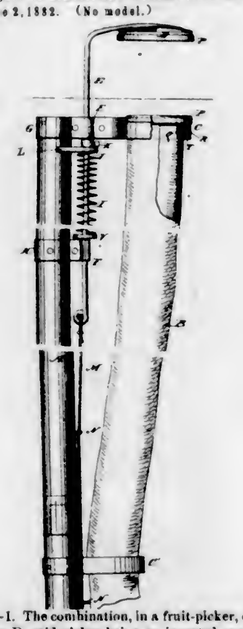
263,948. REDUCTION-MILL. BENJAMIN NICHOLS and GEORGE E. WATSON, Kennedy, N. Y. Filed Apr. 5, 1882. (No model.)

263,948



Claim.—The grinding-mill, substantially as shown and described, consisting of the grinding-roller A, the grinding-plate B, mechanism for adjusting said parts, hopper *b*, feed-roll *c*, and slide *l*, for the purposes specified.

263,949. FRUIT-GATHERER. HUGH L. T. OVERBEY, Sublignn, Ga., assignor to himself and William P. Jackson, same place. Filed June 2, 1882. (No model.)

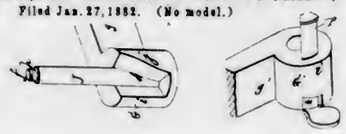


Claim.—1. The combination, in a fruit-picker, of staff A, hose B, and picker D, said picker being an inverted cup-shaped device located over the hose and arranged on a sliding rod, E, substantially as described.

2. The combination, in a fruit-picker, of staff A, hose B, picker D, sliding rod E, spring I, and cord M, substantially as described.

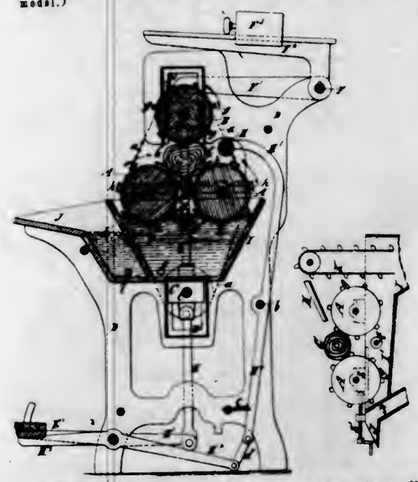
3. The sliding rod E, having picker D mounted on it, and being arranged in bearings F, attached to staff A, and provided with guard L, substantially as described.

263,950. LOCK-HINGE. WILLIAM C. PECKHAM, Troy, Ohio. Filed Jan. 27, 1882. (No model.)



Claim.—In a window-shutter hinge, the combination of the gravitating key P, the hub G', the hub G, having a recess to receive said key, an inclined plane, and a shoulder, *i*, substantially as described.

263,951. MACHINE FOR FELTING HAT-BODIES AND OTHER ARTICLES. AUGUSTE PELISSE, Newark, N. J., assignor to John T. Waring, New York, N. Y. Filed Apr. 26, 1882. (No model.)



Claim.—1. The combination, in a felting-machine, of two rollers placed side by side and adapted to receive a roll of hat-bodies or other articles to be felted or scalded between and above them, a tank for containing water below said rollers, and devices for raising water from said tank and delivering it upon the roll of articles to be felted or scalded, substantially as herein described.

2. The combination, with the two felting-rollers A, of the tank I, the steam-inlet pipe *e*, and the two water-outlet pipes *f f'*, one above the other, substantially as herein described.

3. The combination, with a roller felting-machine, of a water-tank so arranged below the rollers that the lower rollers may run in the water, and buckets contained in or attached to said rollers for raising water from said tank and delivering it upon the roll of articles being felted, substantially as herein described.

4. The combination, with a roller felting-machine, of a water-tank arranged below or adjacent to the rollers, devices for raising water automatically from said tank and delivering it upon the roll being felted and without interrupting the felting operation, and a second water-tank into which the roll may be dipped preparatory to inserting it into the machine, and in which the water may be maintained at a lower temperature, substantially as and for the purpose herein described.

263,952. FIRE-ESCAPE. THOS. PEET, New York, N. Y. Filed Apr. 1, 1882. (No model.)

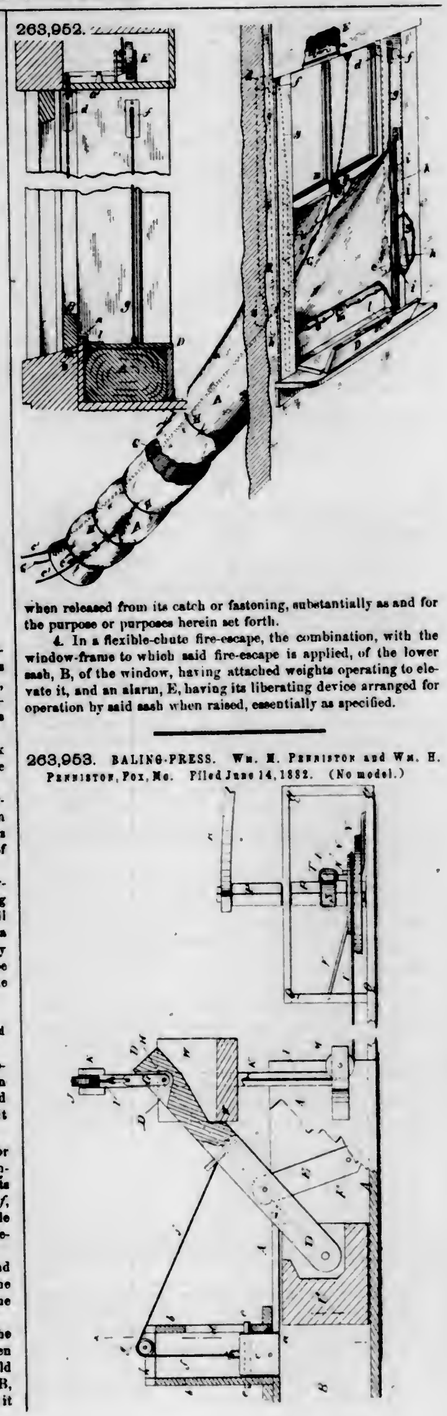
Brief.—Weights on the cords, which are attached to the upper end of the chute, pull it open when released. When not in use the chute is inclosed in a case in the window-sill, which is held closed by a latch in the window-sash. When the sash is raised it strikes an alarm.

Claim.—1. The flexible chute or conveyer A, attached at or along the lower edge of its upper end to the window-frame or interior of the building, and provided at or near opposite ends of its upper edge with cords or chains *g*, arranged to pass over pulleys *f*, and having weights h attached to them, whereby the chute is made self-opening at its mouth or upper end, essentially as herein described.

2. In combination with the weights h, cords *g*, pulleys *f*, and flexible chute or conveyer A, the fixed side guide-rods, K, and the rings *i*, attached to opposite side edges of the mouth end of the chute, substantially as specified.

3. In a flexible-chute fire-escape of tubular construction, the combination, with said chute A, having weights applied to open or extend its upper end, of the shelf and lid D, arranged to hold down said chute when coiled or folded up, and the lower sash, B, of the window, having attached weights operating to elevate it when released from its catch or fastening, substantially as and for the purpose or purposes herein set forth.

263,952.



4. In a flexible-chute fire-escape, the combination, with the window-frame to which said fire-escape is applied, of the lower sash, B, of the window, having attached weights operating to elevate it, and an alarm, E, having its liberating device arranged for operation by said sash when raised, essentially as specified.

263,953. BALING-PRESS. WM. M. PENNISTON and WM. H. PENNISTON, Fox, Mo. Filed June 14, 1882. (No model.)

Claim.—1. In a baling-press, the combination, with the hoisting-rope I and the lever D, having slot or groove D', of the hinged bar G and the hinging-bolt H, substantially as herein shown and described, whereby the said lever will be free to move without affecting the vertical position of the said bar and hoisting-rope, as set forth.

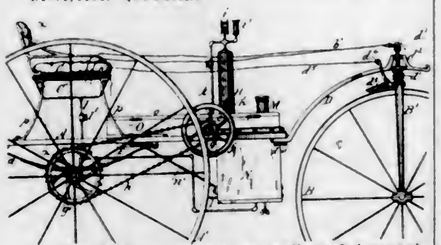
2. In a baling-press, the combination, with the feed-box *b*, having vertical slots *d* and the beater *c*, of the pins *e*, substantially as herein shown and described, whereby the downward movement of the said beater is limited, as set forth.

3. In a baling-press, the combination, with the beater *c* and the lever D, that operates the follower C, of the rope *f*, substantially as herein shown and described, whereby the said beater will be operated at the proper times by the movements of the said lever, as set forth.

4. In a baling-press, the combination, with the arms O and U, of the chain Y, substantially as herein shown and described, whereby the arm U is kept from passing too far back upon the trip-wheel, as set forth.

5. In a baling-press, the combination, with the rope-arm O, and the flange N', of the trip-wheel N, of the stop-plate Z, substantially as herein shown and described, whereby the said rope-arm is kept from rising from the said wheel, as set forth.

263,954. STEAM-GENERATOR FOR ROAD-VEHICLES OR OTHER PURPOSES. FRANKLIN D. PIERCE, Buffalo, N. Y. Filed Nov. 9, 1881. (No model.)



Claim.—1. A water-reservoir surrounding a fuel-reservoir and having a series of perforated plates, substantially as shown, for the purpose of preventing the swashing or pitching of the water, in combination with a feed-pipe, I, and a steam-generator, as described.

2. A steam-generator provided with a suitable hydrocarbon-burner and water and fuel reservoirs, substantially as specified, in combination with a steam-engine inclosed within a casing and the running-gear of a road-vehicle, substantially as and for the purposes described.

3. A steam-generator consisting of the coils h' h^3, inclosed within a non-conducting casing, and provided with a stand-pipe, H, and a hydrocarbon-burner, L, in combination with a water-reservoir, C', provided with perforated partitions, and a fuel-reservoir, C^3, arranged within it, as and for the purposes specified.

4. The water and fuel reservoirs C' C^3, arranged below the seat C, in combination with the pipe *l*, burner L, and a steam-generator, as and for the purposes described.

5. A steam-generator consisting of the coils h' h^3, inclosed within a non-conducting casing, and provided with a stand-pipe, H, and a hydrocarbon-burner, L, in combination with feed-pipe I and a water-reservoir, C', arranged below the seat C, as and for the purposes specified.

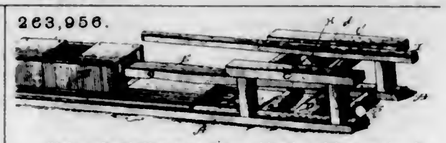
263,955. METHOD OF FASTENING TIPS TO BILLIARD-CUES. HENRY PLATTS, Ithaca, N. Y. Filed Mar. 29, 1882. (No model.)



Claim.—1. The cue A, provided with holes *a*, and having grooves *b b'* cut in its face, whereby projecting blocks b^3 and an annular outer ring, b^4, are formed, substantially as shown and described.

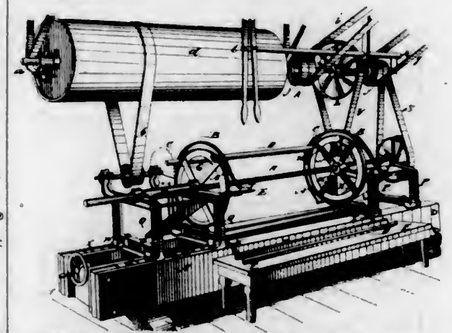
2. The combination of a cue formed with holes *a*, grooves *b* and *b'*, projecting blocks b^3, and an annular ring, b^4, with the tips B, adapted to rest upon the said blocks and ring, and to be secured to the tips by the pins D, substantially as and for the purposes set forth.

263,956. HAY-PRESS. HENRY PUMMER, Gunnison, Colo. Filed July 18, 1882. (Model.)



Claim.—In a baling-press, the combination of the press-box B, rebounding plunger F, having pitman E, shaft D, having crank D' and ratchet-wheel G, and flanged cap H, having the spring-pawl K and provided with the sweeps I, the whole constructed and arranged to operate substantially in the manner and for the purpose herein shown and set forth.

263,957. CIRCULAR SAWING MACHINE. FLORIAN REINHART and THEODORE R. MCDONALD, Toledo, Ohio. Filed May 11, 1882. (No model.)

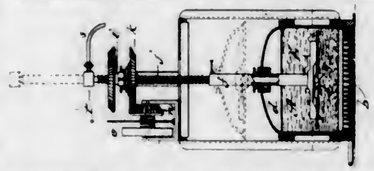


Claim.—1. The combination, with the drum *d* on the countershaft *a*, and sliding belt *b*, of the adjustable tail-stock Q, carrying the saw C, the feed-wheel A', and the guide B, substantially as and for the purpose set forth.

2. The guides B, having tangential point J and reversely-bent point K, in combination with feed-wheel A', substantially as described.

3. The guide B, consisting of curved spring I, with points J K and back plate, L, in combination with feed-wheel A', substantially as described.

263,958. ART OF MANUFACTURING STARCH. EDWARD S. RENWICK, Millburn, N. J. Filed July 11, 1882. (No model.)



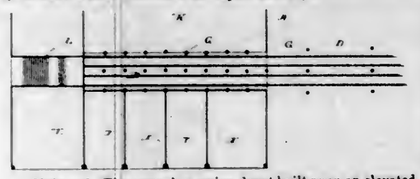
Claim.—1. The improvement in the art of manufacturing starch, consisting of the process, substantially as before set forth, of recovering the fine or slimy matter from spent starch-liquor by filtering said liquor through the husky matter of grain.

2. The improvement in the art of manufacturing starch, consisting, substantially as before set forth, of the separation of the starch-milk from the husky matter of the grain by sieving the mixture, the separation of the starch from the starch-milk by deposition, and the filtration of the spent starch-liquor through the husky matter of grain, so as to recover fine or slimy material therefrom.

3. The new article of manufacture, substantially as before set forth, consisting of the compound of the husky matter of grain with the fine matter of grain recovered from spent starch-liquor by the filtration of said liquor through said husky matter.

263,959. RAILWAY AND DEPOT. HENRY C. RUW, Chicago Ill. Filed Feb. 10, 1882. (No model.)

Brief.—A central depot is built upon an elevated plan, with elevated tracks, and with or without surface-tracks constructed on the ground floor. The depot covers one or more blocks connected by suitable bridges spanning the streets above the roadways and covered by one roof or a system of roofs. The depot is connected by elevated tracks with the local depots of a city.



Claim.—1. The central or union depot built upon an elevated plan, with elevated tracks, with or without surface-tracks, constructed on the ground floor, below the elevated tracks, said depot covering one or more blocks or squares, said blocks or squares being connected by suitable bridges or connections spanning the streets above the roadways, and covered by one roof or a system of roofs, the said depot being connected by elevated tracks with the local railway-depots of a city, substantially as specified.

2. The central or union depot, covering one or more blocks or squares, the street separating any two being spanned by bridges above the roadways, all being covered by one roof or system of roofs, and having suitable tracks and switches, and connected by means of elevated tracks with the various local depots of a city and roads entering the city, substantially as and for the purposes specified.

263,960. DENTAL PLUGGER. CYRUS F. RICH, Saratoga Springs, N. Y. Filed May 29, 1882. (No model.)

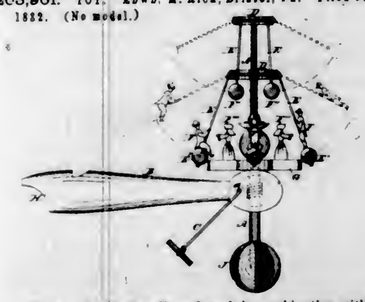


Claim.—1. The combination of the grooved head *p* on the plunger-rod, the diaphragm drawn over one end of this head, and the tie J, for binding the diaphragm to the head, substantially as described.

2. The combination of the rigid bulb L, the flexible diaphragm therein, secured to the grooved head *p* by a binder, *j*, the rod H, the grooved plunger G, case A, and a plugging device, substantially in the manner and for the purposes described.

3. The dental tooth-plugger consisting of the following elements in combination: a flexible hand-bulb, a flexible diaphragm, a sectional case, L, in which said diaphragm is confined, a head, J, confined to said diaphragm, a rod, H, a rugated piston inclosed in a tube, A, and a dental plugging-instrument, all arranged and constructed in the manner and for the purposes set forth.

263,961. TOY. EDWD. M. RICH, Bristol, Pa. Filed June 27, 1882. (No model.)



Claim.—1. The handle and cord, in combination with a shaft provided with loosely-depending figures, substantially as and for the purpose set forth.

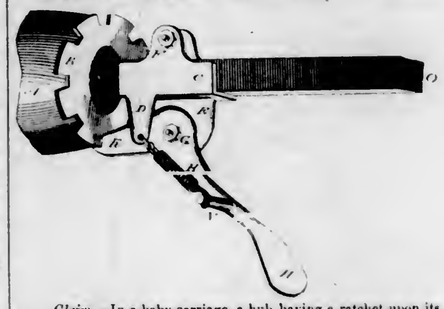
2. The handle and cord, in combination with a rotary shaft provided with loosely-depending figures and platform, substantially as and for the purpose set forth.

3. The handle and cord, in combination with a rotary shaft provided with loosely-depending figures and a platform secured to said shaft and provided with stationary figures, substantially as and for the purpose set forth.

4. The handle and cord, in combination with a rotary shaft provided with loosely-depending figures, to which are secured weights E', substantially as and for the purpose set forth.

5. The handle and cord, in combination with a rotary shaft provided with loosely-depending figures and loosely-depending ornaments, substantially as and for the purpose set forth.

263,962. LOCK FOR BABY-CARRIAGES. LOUIS L. RICHMOND, Meadville, Pa. Filed Mar. 7, 1882. (Model.)



Claim.—In a baby-carriage, a hub having a ratchet upon its inner periphery, in combination with a bent pawl-lever pivoted below the axle and a spring adapted to hold the pedal part of the lever in an elevated or depressed position, for the purpose set forth.

263,963. DRAWER-PULL. GILBERT ROGERS and GEORGE L. DONOVAN, Meriden, Conn., assignors to C. Rogers & Bros., same place. Filed May 31, 1882. (No model.)



Claim.—The herein-described improvement in drawer-pulls, consisting of the cast-metal head B, provided with screw attachment, and with a struck-up sheet-metal cap, D, closed thereon, and the knob hinged to the capped head, substantially as described.

263,964. MANUFACTURE OF DYE-STUFF FROM ALIZARINE-BLUE. HEINRICH ROSE, Höchst-on-the-Main, Germany, assignor to Farbwerke, vormals Meister, Lucius & Brüning, same place. Filed Nov. 14, 1881. (Specimens.) Patented in England Oct. 18, 1881, No. 4,531.

Claim.—The herein-described dyeing or printing compound, having the properties herein set forth, and made from an alkaline salt of alizarine-blue, an alkaline bisulphite, and a mordant.

263,965. MANUFACTURE OF ALIZARINE-BLUE COLOR. HEINRICH ROSE, Höchst-on-the-Main, Germany, assignor to Farbwerks, vormals Meister, Lucius & Brüning, same place. Filed Nov. 14, 1881. (Specimens.) Patented in England Oct. 18, 1881, No. 4,531.

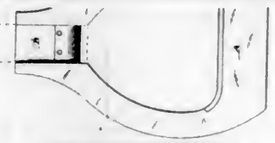
Claim.—1. The mode herein described of facilitating the production of coloring-matters from alizarine-blue, said mode consisting in first combining the alizarine-blue with alkalies, and then treating the alkaline salt thus obtained with the bisulphites of the alkalies, substantially as described.

2. The herein-described brownish-red coloring compound, consisting of an alkaline salt of alizarine-blue with an alkaline bisulphite.

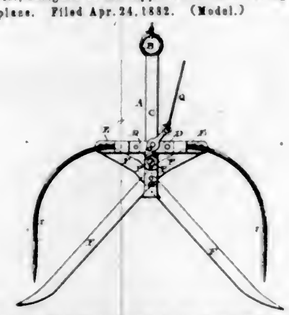
263,966. STIRRUP. ANSELL P. ROUTT, Danville, Va., assignor of one-half to William Thomas, same place. Filed July 15, 1882. (Model.)

Claim.—An improved article of manufacture consisting of a stirrup formed whole from a block of wood recessed to receive the supporting-strap, such recess being provided with a yielding facing, all substantially as set forth.

263,966.



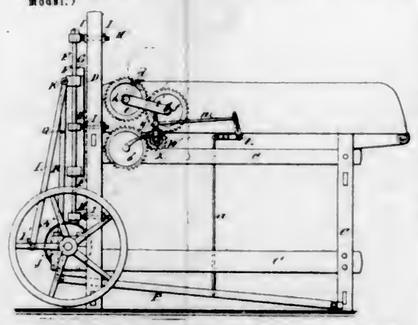
263,967. HORSE HAY-FORK. GUILFORD D. ROWELL, Appleton, Wis., assignor to the Appleton Manufacturing Company, same place. Filed Apr. 24, 1882. (Model.)



Claim.—1. In a horse hay-fork, the combination of the body A, having a slot made through its lower portion, the slide, the connecting-links, the pivoted tines, the horizontal arm secured to the slide, the latch, and device I', for unlocking the tines, substantially as shown.

2. In a horse hay-fork, the combination of the body, the vertically-moving slide which is moved by the tines, an arm secured to the slide, a pivoted latch or lever, and a device against or upon which the latch bears, the latch and the device forming a means for unlocking the tines, as described.

263,968. STRAW-CUTTER. ORSEMUS M. SACKET, Shippensville, assignor of two-thirds to M. E. Hess and F. G. Sacket, Beaver Township, Clarion County, Pa. Filed Apr. 5, 1882. (No model.)



Claim.—1. The combination of the feed-cutting knife B, reciprocating frame F G, guide-rods E, and adjusting stud-bolts H and nuts I, substantially as specified.

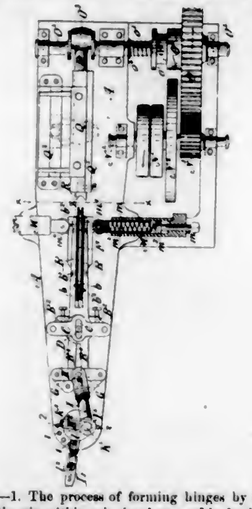
2. The combination of connecting-rod R and foot-treadle P with balance-wheels M, connecting-rods L, reciprocating frame F G, the rod J, having the projecting end K', and knife B, substantially as specified.

3. The combination, in a feed-cutter, of balance-wheels M, connecting-rods L and R, reciprocating cutter-frame F G, knife B, treadle P, and the feed-rolls S U and endless apron T, said feed-rolls being operated by the treadle P, substantially as specified.

4. The feed-rolls S U, provided with cog-wheels *b e*, the radius-bar *i*, intermediate wheel *f*, pinion W, ratchet X, pawl Y, bell-crank Z, and connecting-rods *m n* and foot-treadle P, combined and arranged substantially as specified.

5. The combination, in a feed-cutting machine, of the knife B, reciprocating frame F G, balance-wheels M, connecting-rods L, connecting-rod R, foot-treadle P, and hand attachment Q, substantially as specified.

263,969. MACHINE FOR MAKING HINGES. ETIENNE SALOMON, Montreal, Quebec, Canada, assignor of one-half to Edmund Armant, same place. Filed Apr. 7, 1882. (No model.)



Claim.—1. The process of forming hinges by inclosing the blanks and the pin within gripping-jaws, and in forcing the blanks around the pin by means of a former, substantially as described.

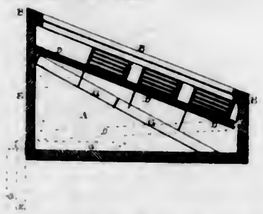
2. The process of making hinges, consisting in first inclosing the blanks and pivot-pin between gripping-jaws, bending the said blanks partly around the pin by means of a former, moving the gripping-jaws and partly-formed hinge forward, and finishing the hinge by the succeeding blow of the former against a concave anvil.

3. In a machine for making hinges, the gripping-jaws B B, having between them the division or guide plate F, in combination with means for opening, closing, and sliding said jaws forward and backward, substantially as and for the purpose described.

4. A machine for making hinges, consisting of a pair of gripping-jaws adapted to receive and hold the blanks, a horizontally-movable former, a concave anvil, and a lever for moving the gripping-jaws and blanks toward and retracting them from the former, the parts being constructed and arranged to operate substantially as described and shown.

5. The combination of the gear-wheel O, having the clutch-sleeve O^3, the movable clutch-sleeve *o'*, the cam-groove on said sleeve *o'*, the pin *s*, sliding in the sleeve S, and adapted to enter said groove, and the treadle, substantially as described.

263,970. SHOW-CASE. FREDERICK SANDERSON, Friend, Nebr. Filed June 12, 1882. (No model.)



Claim.—1. A show-case having a pivoted top, in combination with the door, which forms a support or lock for the top, so as to prevent it from being opened while the door is closed, substantially as shown.

2. The combination of the show-case with a hinged shelf or bottom, D, and the door E, which forms a support for the rear edge of the shelf, substantially as described.

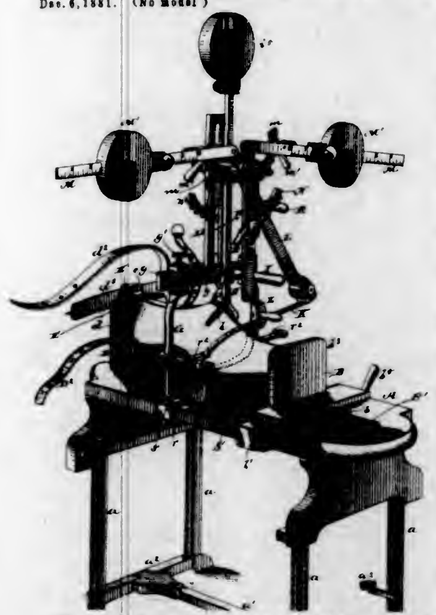
3. A show-case having a false bottom hinged to its under side, the bottom being provided with slots for the lids of the boxes to catch in, substantially as set forth.

4. In a show-case, the combination of the false bottom, the door, and the rod or rods connected to the door for raising the bottom upward, substantially as specified.

5. The combination, in a show-case, of the hinged false bottom, the door, the rods connected to the door for raising the case upward, the rods being jointed or hinged together, so that the door can drop downward out of the way, substantially as shown.

6. In a show-case, the combination of a pivoted top and hinged false bottom, the door, and rods for catching under the false bottom, substantially as described.

263,971. APPARATUS FOR MEASURING THE FOOT AND FITTING LASTS. JOSEPH H. SCHARPE, Toledo, Ohio. Filed Dec. 6, 1881. (No model.)



Claim.—1. An apparatus for measuring feet combining in its structure a supporting-table, a heel-supporting block provided with an instep-measuring tape, an adjustable toe-supporting block, and an adjustable center block provided with laterally-movable upright stops or fingers for measuring the width of the foot, and a tape and devices connected therewith for crossing and drawing the same around the foot adjacent to the center block, substantially as described.

2. The combination, with a bed or table, A, heel, toe, and center blocks supported thereon, and devices, substantially as described, for measuring the feet and holding and fitting up a last, and adjustable legs supporting the bed or table, whereby the latter can be lowered to measure the foot and raised to fit up a last, as set forth.

3. The combination, in a foot-measure, of the bed or table, the heel-block provided with an attached instep-measuring tape, a center block, a tape for measuring around the foot, and movable arms connected with the latter tape, and adapted to mechanically straighten the same and draw it around the foot, substantially as described.

4. The heel-block provided with a spring, *d'*, a brace-strap, *d'*, and an instep-measuring tape, D', substantially as described.

5. The heel-block provided with a rest for the heel and with an instep-measuring tape connected with a spring arranged within a recess in the heel-block, substantially as described.

6. The combination, with the table and the slidable center block, F, of the vibratory arms L, carrying a tape-measure for measuring round the foot, substantially as described.

7. The combination, with the table and the slidable center block, F, of the vertically-movable bar H, having the serrated holder at its lower end, and devices for holding said bar and holder in an elevated position when desired, substantially as described.

8. The combination, with the swinging arm L, carrying the measuring-tape, of the arm M, carrying adjustable weights and pivoted to the tape-carrying arms, the pawls upon the weighted arms, and the segment-racks upon the tape-carrying arms, by means of which the pivoted arms can be held rigidly together in pairs, in the manner described.

9. The combination, with the measuring-tape-carrying arms, of the pawls pivoted thereto, and the stationary segment-racks arranged in position to be engaged by said pawls when the arms are vibrated in the direction to spread out the tape-measure, substantially as described.

10. The combination, with the movable center block, F, of the vertical slotted standard I^2, supported upon said block, and the vibratory tape-carrying arms, the pivoted weighted arms, and the four segment-racks, all supported by a spindle connected with the slotted bar, and held in adjustment thereon by a cam-lever, substantially as described.

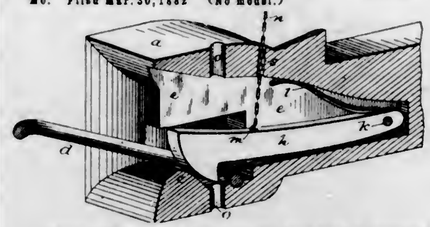
11. The combination of the weighted bar H, having the serrated holder *h*, with the herein-described cam-lever, cam-faced nut, eyebolt *h'*, and horizontal bar *g*, all constructed and all arranged to hold said bar H in the manner and for the purpose specified.

12. The combination, with the movable center block, F, having the channel *r*, of the vibrating tape-carrying arms L and the tape-guide arms r^2, arranged to slide through the oscillatory hubs, substantially as described.

13. The combination, with the tape-carrying arms L, provided with segmental racks *m*, of the pivoted arms M, provided with a graduated scale and carrying the adjustable weights, and the pawls adapted to engage the racks of the tape-carrying arms, substantially as described.

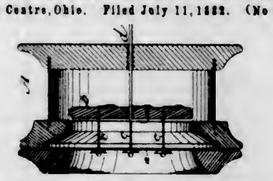
14. The combination, with the instep-measuring tape, of the swinging arm carrying the hub U, having a mortise through which the bar for guiding and directing the tape is arranged to slide, substantially as described.

263,972. CAR-COUPLING. THEODORE M. SHARPE, Salisbury, Mo. Filed Mar. 30, 1882. (No model.)



Claim.—The combination, with the draw-head *a*, provided with the central opening, *b*, having shoulder *c* at its front end, groove *c*, and hole *s*, of the hook *h*, pivoted in the rear end of the groove *c*, and provided with the spring *l*, staple *m*, and chain *n*, substantially as described, and for the purpose set forth.

263,973. MECHANICAL TELEPHONE. FRANCIS R. SHAW, Chatham Centre, Ohio. Filed July 11, 1882. (No model.)



Claim.—In combination with the diaphragm of a mechanical telephone, the vibrator *b*, connected with said diaphragm by pins *c*, and at the center with the line-wire *d*, whereby the vibrations may be transmitted by the pin *c* from the diaphragm to the vibrator, or the reverse, as described.

263,974. PICTURE-EXHIBITOR. GEORGE W. SHIRK, Van Orin, Ill. Filed May 2, 1882. (Model.)

Claim.—1. In a picture-exhibitor, the combination, with the box B, provided with an opening, C, in one side, of the endless chain of pictures A, the rollers E E, and the rubber bands E' on these rollers, substantially as herein shown and described, and for the purpose set forth.

2. In a picture-exhibitor, the combination, with the box B, provided with an opening, C, in one side, of the endless chain of pictures A, the rollers E, and the journaled blocks J, substantially as herein shown and described, and for the purpose set forth.

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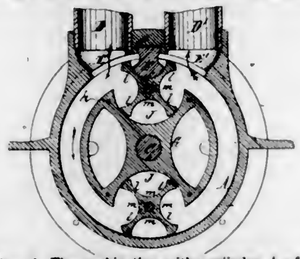


3. In a picture-exhibitor, the combination, with the box B, provided with an opening, C, in one side, of the endless chain of pictures A, the rollers E, the journaled blocks J, and the guide-block D, on the inner surface of the bottom of the box B and near the opening C, substantially as herein shown and described, and for the purpose set forth.

4. In a picture-exhibitor, the combination, with the endless chain of pictures A, of the rollers E, the journaled blocks J, the guide-block D, and the guide-partition K, substantially as shown and described, and for the purpose set forth.

263,975. ROTARY PUMP. AUGUST SIMONIST, Buffalo, N. Y. Filed Nov. 12, 1881. (No model.)

Brief.—In rotating with the hub G each piston K retains its position until it comes in contact with the abutment F, which arrests the movement of the outer foremost wing of the piston and causes the piston to turn on its axis in passing the abutment. The inlet-port E is sufficiently deep to afford room for the wing *l* of the piston after the latter has passed the abutment F, in order that the piston may clear the abutment and complete its revolution.

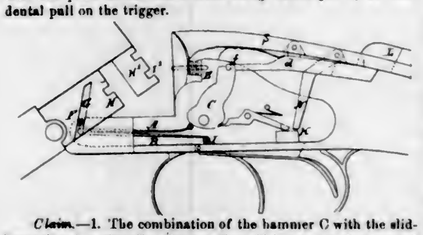


Claim.—1. The combination, with a cylinder, A, of a stationary abutment, F, secured thereto, inlet and outlet pipes D D', arranged on opposite sides of the abutment, a rotary hub, G, provided with recesses J, and rotary pistons K, attached to the hub and provided with wings *l*, two of which bear against the inner surfaces of the cylinder and one or more against the recesses of the hub, the winged pistons being arranged to turn by contact with the abutment, substantially as set forth.

2. The combination, with a cylinder, A, provided with a stationary abutment, F, and a hub, G, of a piston provided with wings *l*, having their faces composed of a central portion, *s*, made concentric with the axis of the piston, and end portions, *o o*, curved to the radius of the cylinder in which the piston moves, substantially as set forth.

263,976. BREECH-LOADING FIRE-ARM. HUGH A. SILVER and WALTER FLETCHER, London, England. Filed June 19, 1882. (No model.) Patented in England Nov. 7, 1881, No. 4,873; in France Mar. 24, 1882, and in Belgium Mar. 25, 1882, No. 57,444.

Brief.—The sliding bolt referred to engages with the hammer and prevents the latter from being discharged by an accidental pull on the trigger.

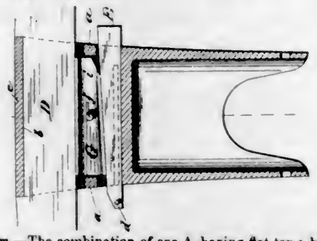


Claim.—1. The combination of the hammer C with the sliding spring A, acting directly upon the said hammer and connected with the lock-piece under the tilting gun barrel or barrels by means of a pin on the spring which is received in an inclined slot in the lock-piece, substantially as described.

2. The combination, with the hammer C and trigger K, of the longitudinally-sliding bolt J, having intermediate its ends the depending lip-piece N to rest on the trigger, and at its rear end an incline, the movable plate L, having a projection to operate on the inclined rear portion of the sliding bolt to move the latter rearward, and a spring, M, to move the bolt forward, substantially as described.

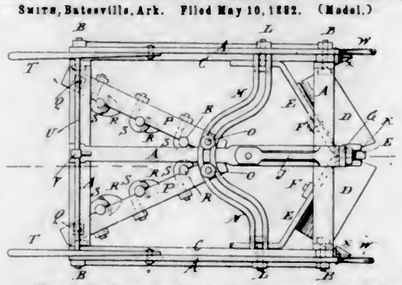
3. The combination, with the hammer provided with a notch, P, of the sliding bolt J, forked at its forward end, which is adapted to engage the hammer when the latter is cocked, the plate L, provided with a leg, Q, engaging the bolt, and the spring M, for throwing the bolt forward, substantially as described.

263,977. MINER'S PICK. SAMPSON SMITH, New Bethlehem, assignor of one-half to John W. Smith, Allegheny, Pa. Filed Apr. 1, 1882. (No model.)



Claim.—The combination of eye A, having flat top c, bridges *a*, and slots *g*, pick D, having recess *b*, wedge E, and wedge-block G, having pin *f* and side grooves, *i*, substantially as set forth.

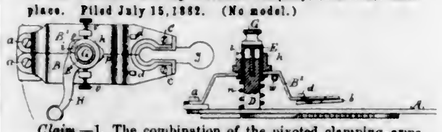
263,978. COMBINED SCRAPER AND HARROW. THOMAS M. SMITH, Batesville, Ark. Filed May 10, 1882. (Model.)



Claim.—1. A combined scraper and harrow constructed substantially as herein shown and described, and consisting of the frame A, the adjustable bearing-bars C, the adjustable bars and scrapers E D, and the adjustable beams and teeth P R, as set forth.

2. In a combined scraper and harrow, the combination, with the frame A, of the adjustable scrapers D, the slotted adjustable scraper-carrying bars E, the slotted adjustable standard G, and the slotted cross-bar M, substantially as herein shown and described, whereby the scrapers can be readily adjusted as the work to be done may require, as set forth.

263,979. CLAMPING DEVICE FOR BUTTON-HOLE SEWING-MACHINES. JAMES F. SMOCKER, Philadelphia, Pa., assignor to the National Sewing Machine Company, (Limited,) same place. Filed July 15, 1882. (No model.)



Claim.—1. The combination of the pivoted clamping-arms with the lever H, having cams *m* and *p*, whereby a single movement of the lever is caused to effect the depression of the arms and the spreading or separation of the same, as set forth.

2. The combination of the pivoted clamping-arms, the cam-lever H, the sleeve E, having an abutment for the lever, the adjusting-screw G, and the lifting-spring *s*, as set forth.

3. The combination of the lever H, having cams *p*, with the pivoted clamping-arms having adjustable projections *v* for being acted upon by said cams *p*, as set forth.

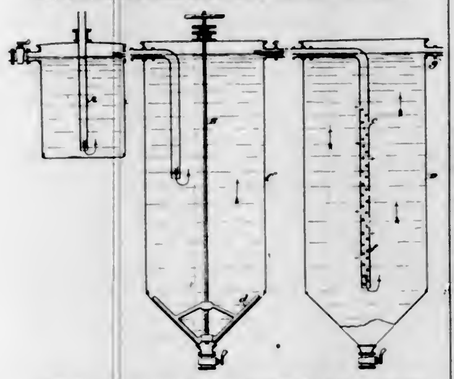
263,980. HEAD-PROTECTOR. HENRY H. SNOW, Brooklyn, N. Y. Filed July 12, 1882. (No model.)



Claim.—1. The herein-described head-protector, consisting of the hoop A, made from elastic material, its two ends disconnected, so as to permit the expansion or contraction of the hoop, combined with an absorbent pad within and attached to said hoop, the protector secured in the hat by contact of the hoop with the sides of the crown, substantially as described.

2. The combination of the hoop A, made from elastic material, its two ends disconnected, so as to permit the expansion or contraction of the hoop, with a pocket or cover, *b*, inclosing an absorbent material, *a*, connected to said expansible hoop, substantially as described.

263,981. MANUFACTURE OF SODA BY THE AMMONIA PROCESS. ERNEST SOLVAY, Brussels, Belgium. Filed June 22, 1882. (No model.) Patented in France May 7, 1879, No. 130,527; in Belgium May 7, 1879, No. 48,153; in England June 16, 1879, No. 2,337, and in Germany July 5, 1879, No. 8,180.



Claim.—In the manufacture of soda by the ammonia process, dosing the brine by causing a continuous supply of both brine and ammonia to the saturating-vessel, from which the overflow is conducted to a vessel or series of vessels, in which precipitation of the sludge takes place before carbonating and during the continuous flow of the ammoniacal brine, substantially as described.

263,982. VEHICLE-WHEEL. E. A. SPERRY and J. VANDERBURGH, Cortland, N. Y. Filed Sept. 7, 1881. (No model.)



Claim.—1. The combination, with a metallic wheel whose alternate spokes or pairs of spokes are secured to separate disks or flanges on the hub and adapted to be tensioned by lateral separation and rotation, of devices for holding said disks apart and in their rotated position, substantially as set forth.

2. The combination, with a wheel whose alternate spokes or pairs of spokes are adapted to be secured to separate disks or flanges on the hub, of toothed flanges and a similarly-toothed brace or braces adapted to hold mid-disks apart and to clutch the same upon their being rotated, substantially as set forth.

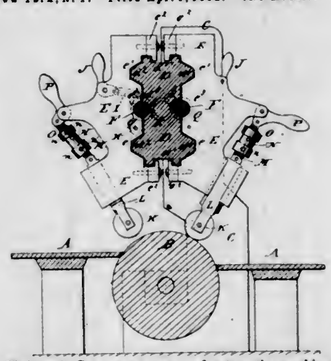
3. The combination, with a wheel whose alternate spokes or pairs of spokes are secured to separate disks or flanges of the hub, of a disk provided with a sleeve forming the hub of the wheel, and a second disk perforated to slide upon said hub, and suitable devices for holding said disks apart and also in their rotated position, substantially as set forth.

4. In combination with the hub of a wheel, spoke-bearing disks or flanges provided with clutch-teeth and a toothed brace for engaging the teeth of the disks, substantially as set forth.

5. A metallic wheel the spokes of which are composed of a single length of wire so disposed and arranged as to form loops in the said wire, which project from the rim to the hub, each alternate loop being secured opposite to the hub-flanges and adapted to be tensioned simultaneously, substantially as set forth.

6. The combination of the hub-shank C and toothed disks with the brace-clutch E, having teeth *e*, the tension-spokes, and the recessed rim, as set forth.

263,983. PAPER SCORER AND CUTTER. JOSEPH SPOONER, New York, N. Y. Filed Apr. 1, 1882. (No model.)



Claim.—1. In a paper scorer and cutter, the combination, with the cutter-stock E and the cutter-holder L, of the hinged right and left screws M O, the right and left nut N, and the lever P, substantially as herein shown and described, whereby the cutters can be readily and quickly thrown into and out of working position, as set forth.

2. In a paper scorer and cutter, the combination, with the right and left screws M O, of the right and left nut N, having one or both ends slitted, the bands *s*, and set-screws *s'*, substantially as and for the purpose set forth.

3. In a paper scorer and cutter, the combination, with the grooved cutter-bar D and the correspondingly-grooved cutter-stocks E, adapted to slide thereon, of the swiveled screws F, provided with pinions Q on their ends, the intermediate gear-wheel, R, the half-nuts H, the links I, and the levers J, substantially as and for the purpose set forth.

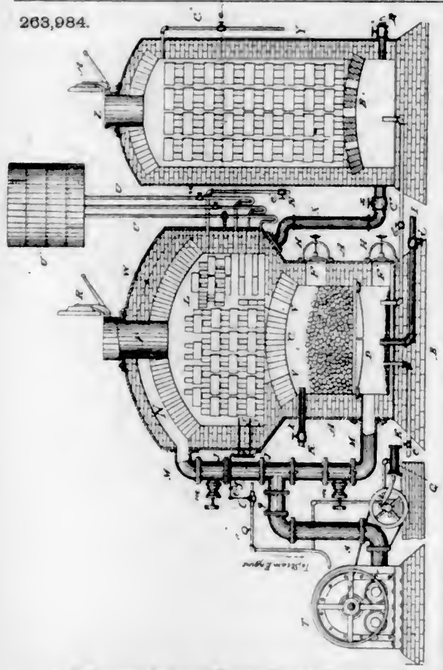
263,984. PROCESS OF AND APPARATUS FOR THE MANUFACTURE OF GAS. THEODORE G. SPRINGER, New York, N. Y. Filed Aug. 14, 1882. (No model.)

Claim.—1. The process of manufacturing gas consisting of the following steps, to wit: raising a body of carbonaceous material to an elevated temperature or an incandescent state by means of a blast of air, burning the products of combustion above the same, stirring the resulting heat at a comparatively-low temperature in a large body, then decomposing steam by passing it through the highly-heated carbonaceous material, and finally fixing the resulting gases and the vapor of liquid hydrocarbon at a more moderate temperature, whereby the burning or decarbonization of the fixed gas is prevented, substantially as specified.

2. In an apparatus for generating gas, the combustion and generating chamber, and the fixing-chamber communicating therewith, the generating-chamber being of suitable dimensions for decomposing steam, and the fixing-chamber of larger lateral dimensions, whereby the depth of carbonaceous material to form the carbonic oxide necessary for heating is provided for and the proper distribution of the fixing material to prevent destructive decomposition of the oil, vapor, or gas is obtained, substantially as specified.

3. In combination with the fixing-chamber of the cupola, the gas-eduction pipe leading therefrom, the exhauster and a steam-engine for running the same, a thermostatic regulating device connected to the fixing-chamber and to a valve in the steam-supply pipe connected to the engine, whereby the speed of the exhauster is controlled by the heat of the fixing-chamber and the gas is properly fixed without destructive decomposition or decarbonization.

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4. In the manufacture of illuminating-gas, the process of uniformly combining and fixing the water-gas and hydrocarbon vapors and preventing destructive decomposition or decarbonization of the hydrocarbons, which consists in automatically withdrawing the gas faster or slower from the fixing-chamber, and thus retaining it for a shorter or longer period in contact with the heated fixing material in proportion to the heat of the fixing-chamber.

5. The combination, with the fixing-chamber and the combustion-chamber and generator of the apparatus, and the air, steam, and oil supply pipes, of the exhaust-pipe and the exhauster, arranged to operate substantially as specified.

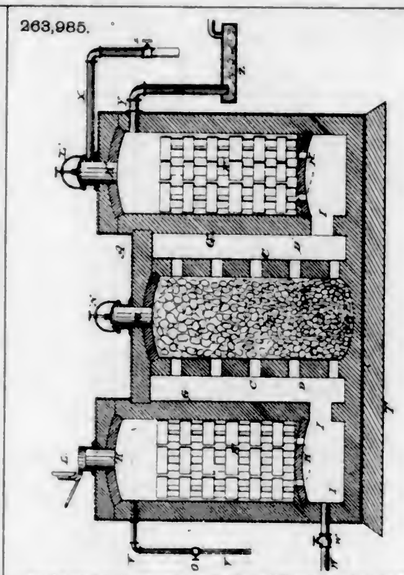
6. In a gas-generating apparatus, the combination of a generating-chamber containing carbonaceous material, and a connected fixing-chamber containing refractory material, the fixing-chamber being greater in transverse area than the generating-chamber, whereby the steam is compelled to pass through a sufficient body of carbonaceous material to be thoroughly decomposed into carbonic oxide and hydrogen, and the resultant gases are diffused laterally to a greater extent than the lateral passage of the steam, so as to decompose the liquid hydrocarbon, and at the same time prevent destructive decomposition of the gas, substantially as specified.

263,985. PROCESS OF AND APPARATUS FOR THE MANUFACTURE OF GAS. THEODORE G. SPRINGER, New York, N. Y. Filed Aug. 14, 1882. (No model.)

Claim.—1. The process of generating water-gas and utilizing the heat of the gas for heating air and superheating steam, which consists in first raising to incandescence a body of carbonaceous material by a blast of air and burning the resulting hot products of combustion by an air-blast and storing the heat in a body of refractory material, superheating steam by passage through such refractory material, then decomposing such steam by passing it through the incandescent fuel and passing the resulting hot gas through a body of refractory material and storing the heat, at the same time cooling the gas, continuing the operation until the fuel is reduced below the decomposing-temperature, then heating a blast of air by passage through the last-mentioned refractory material and forcing such air through the carbonaceous material for again raising it to incandescence, and burning the resulting gaseous products and storing the heat in the steam-superheating body of refractory material, as at first, and thus continuing the operation.

2. The process of generating gas, the same consisting in passing steam, superheated or otherwise, through a column or body of

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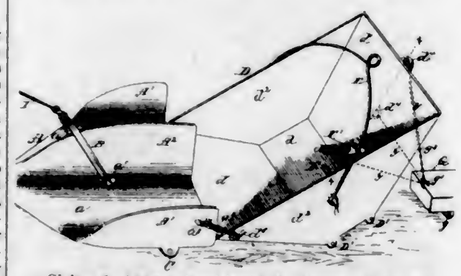
incandescent carbonaceous material at different heights, drawing off the resulting gases at different elevations, and renewing the carbonaceous material as it is consumed, whereby gases of different qualities—that is, poorer and richer gases—are simultaneously carried off and mixed together, forming a homogeneous gas.

3. The combination, in a gas-generating apparatus, of a generator having horizontal tuyeres and eduction-passages at different elevations, and one or more heat-storing chambers connected with the generator by means of flues, and suitable means for admitting or forcing air and carrying off gas, substantially as specified.

4. The combination, in a gas-generating apparatus, of a generator having horizontal tuyeres and eduction-passages at different elevations, and one or more heat-storing chambers connected with the generator by means of flues, and suitable air and steam supply pipes and gas eduction pipes, and a feed-magazine located above the generator, the generator being provided with an aperture at the bottom, through which the ash may be run off as a slag to make room for fresh material, which is fed automatically by the magazine, substantially as specified.

5. The combination, in a gas-generating apparatus, of a generator having one or more tuyeres and one or more eduction-passages, the heat-storing and superheating chamber F, having connecting steam and air pipes and an escape-flue for waste products of combustion, the heat-storing and air-heating chamber F', having the connecting gas-eduction pipe and air-supply pipe, and suitable connecting-flues, for the purpose described.

263,986. STEAM-SHOVEL. FREDERICK C. STARKE and PETER J. CROWLEY, Milwaukee, Wis. Filed June 24, 1882. (No model.)



Claim.—1. A steam-shovel having flat bottom and side and central flanges, as described, forming gutters between them, and provided with a bail for attachment of the cable which transmits power to the shovel, as set forth.

2. The combination of the shovel A, having flat bottom and side and central flanges, A' A' A', forming gutters *a a* between them, with the bail B, passing over and around the central flange, A', and through the gutters *a a*, the bottom of said rail resting in a groove, B', countersunk in the bottom of the shovel, all substantially as shown and described.

3. The combination of the shovel A, having flat bottom, with transverse grooves B' and C' and perforations *a' a'*, and side and central flanges, A' A' A', with the bail B, arranged as described, and the roller C, all substantially as shown and described, and for the purposes set forth.

4. The bucket D, having transverse oblong bottom *d*, flaring ends *d' d'*, and vertical sides *d² d²*, and provided with bail E, rollers D' D', and loops or rings for attachment of the bucket to operating mechanism, substantially as shown and described.

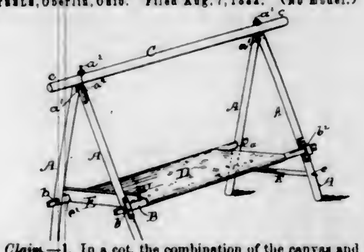
5. The combination of the bucket D and bail E with the locking-pin F and locking-plate F', as shown and described, and for the purpose set forth.

6. In a device for shoveling and removing coal, ore, &c., the governor G, consisting of a heavy block of metal mounted upon a roller, *g*, and provided with rings or loops *g' g²*, for attachment of operating mechanism, all substantially as described.

7. In a device for shoveling and removing coal, ore, &c., the combination of the shovel A, bucket D, governor G, and connecting-chains, substantially as set forth.

8. In a device for shoveling and removing coal, ore, &c., the combination of the cable I, bail B, shovel A, bucket D, governor G, cable H, and connecting-chains, substantially as shown and described.

263,987. COMBINED COT-BED AND CANOPY. JOHN W. STEELE, Oberlin, Ohio. Filed Aug. 7, 1882. (No model.)



Claim.—1. In a cot, the combination of the canvas and side rails with posts adapted, by being drawn together at their tops, to firmly bind the parts together, substantially as shown and described.

2. In a cot, the combination of side rails, posts provided with brackets or mortised and united in pairs at their tops, and a connecting rail or its described equivalent, adapted to hold the posts in a strained inwardly-inclined position, substantially as shown and described.

3. The combination of the canvas, the side rails, the posts hinged at their tops, and the wedged-shaped head-board, or its described equivalent, substantially as shown and described.

4. The combination of the posts provided with the bolt, the connecting-rail, and the end piece or hood of the canopy, substantially as shown and described.

5. The combination of the side rails, the posts provided with the bolts, the connecting-rod, the end pieces or hoods, and the fly, substantially as shown and described.

6. The end piece or hood, consisting of the triangular pieces *f, f'*, and *f²*, provided with the eyelets *f³ f³*, substantially as shown and described.

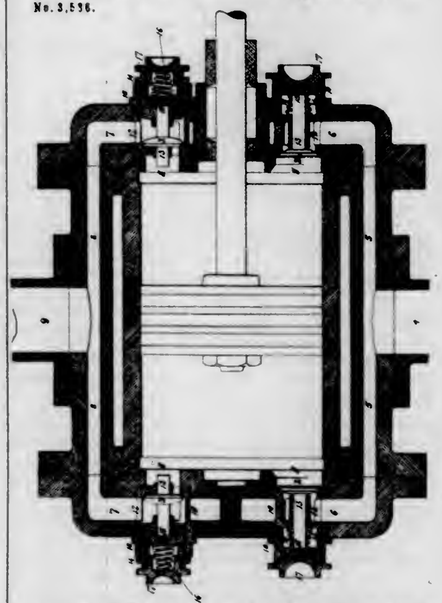
7. A hinge for a knockdown cot, provided with an extended screw-threaded pintle bent at a right angle to the body thereof, substantially as shown and described.

263,988. CAR-AXLE LUBRICATOR. JOSEPH E. STRONG, New York, N. Y. Filed July 20, 1882. (No model.)



Claim.—In a lubricator, the saddle or brass D, constructed with the open-topped rectilinear recess E above it, which terminates at the sides in vertical parallel slots F, extending the length of the rectilinear recess, in combination with the absorbent pad G, arranged within the rectilinear recess above the saddle, and having its ends depending through the vertical parallel slots to bear on the journal, substantially as described.

263,989. LIFT OR CHECK VALVE. LOUIS STEARNS, London, England, and DUGALD CLARK, Glasgow, Scotland. Filed May 19, 1882. (No model.) Patented in England Aug. 15, 1881, No. 3,536.

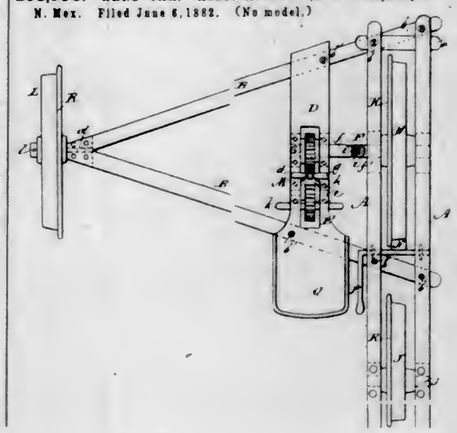


Claim.—1. The combination of a lift or check valve and a closing-spring with a dash-pot or air-cushioning piston and cylinder and an inclosing box, substantially as set forth.

2. The combination of a cylinder and piston with a box, 10, adapted to be screwed in the cylinder, and carrying a valve and valve-seat, and a dash-pot or air-cushioning piston and cylinder, substantially as described.

3. The combination of a check or lift valve with an air-cushioning piston and a cylinder having a groove formed in its inner face for the passage of the air from one side of the piston to the other, substantially as and for the purpose set forth.

263,990. HAND-CAR. ALLEN M. STONER, New Albuquerque, N. Mex. Filed June 6, 1882. (No model.)

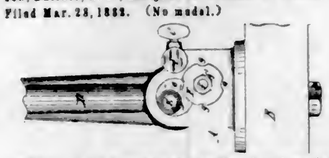


Claim.—1. In a hand-car, the combination, with the driving-wheel H, pinion G, and spur-gear wheel E, of the lever M, and pawls *h h'*, engaging said spur-wheel E, the foot-rest *k*, and handle *g* on the lever M, as shown and described.

2. The body or platform D, secured upon the bars B B, and carrying the gear-wheels E and G, in combination with the drive-wheel H and divided shaft F, substantially as described.

3. In a hand-car, the divided shaft F, having the drive-wheel secured to one section, and the pinion G, secured to the other, substantially as and for the purposes set forth.

263,991. MACHINE FOR BENDING RINGS. CLARK A. SVENSON, Buffalo, N. Y., assignor to William W. Oliver, same place. Filed Mar. 28, 1882. (No model.)



Claim.—1. In a machine for bending bars into rings, the combination of a stationary former, F, having one or more concave working-faces, and a movable cylindrical bender, E, secured eccentrically to the actuating-shaft c, substantially as set forth.

2. In a machine for bending rings from bars, the combination of a bender, E, and former F, each provided with several faces decreasing in diameter on the bender and increasing in diameter on the former in the same direction, substantially as set forth.

3. The combination, with the frame A, provided with the bearing C, of the shaft c, actuating-lever D, eccentric bender E, and stationary former F, substantially as set forth.

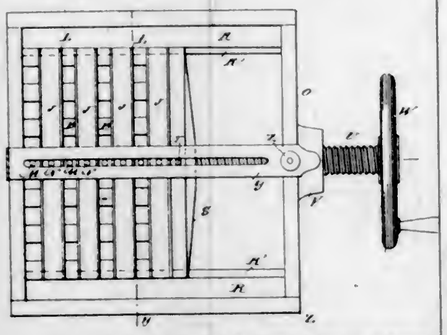
4. The combination, with a movable bender, E, secured eccentrically to the actuating-shaft c, of a stationary former, F, and means whereby the same can be turned on its axis to present different portions of its surface to the movable bender, substantially as set forth.

5. The combination, with the bender E and former F, of the gage-plate I, arranged at right angles to the axes of the bender and former, substantially as set forth.

6. The combination, with the bender E and former F, of the gage-plate I, arranged at right angles to the axes of the bender and former, and means whereby said gage-plate can be secured opposite different portions of the bender, substantially as set forth.

7. The combination, with the frame A, provided with recessed jaws H, of a stationary former, F, clamped between the jaws H, and a movable bender, E, secured eccentrically to the actuating-shaft c, substantially as set forth.

263,992. METHOD OF AND APPARATUS FOR PRESS-DYEING. ALPHONSE TAVERNIER, Paris, France. Filed Oct. 12 1881. (No model.) Patented in France Aug. 14, 1879, No 132,262.



Claim.—1. In an apparatus for clouding fibrous substances, the combination, with the box O, of male and female frames A E, constructed substantially as shown and described, and arranged alternately in the said box, and the follower S, as and for the purpose set forth.

2. In an apparatus for clouding fibrous substances, the combination, with the box O, of the frames A and E, the follower S, the screw U, and the bracket-rails R, substantially as herein shown and described, and for the purpose set forth.

3. In an apparatus for clouding fibrous substances, the combination, with the box O, of the frames A and E, provided with pintles M M' N N', the follower S, provided with pintles T T', the grooved rail P, the bracket-rails R, and the screw U, substantially as herein shown and described, and for the purpose set forth.

4. In an apparatus for clouding fibrous substances, the combination, with the box O, of the frames A and E, provided with pintles M M' N N', the follower S, provided with pintles T T', the grooved rail P, the bracket-rails R, the screw U, and the slotted bar Y, substantially as herein shown and described, and for the purpose set forth.

5. In an apparatus for clouding fibrous substances, the combination, with the box O, of the grooved track P, the beveled bracket-rails R, provided with a horizontal projection, R', the frames A and E, the follower S, and the screw U, substantially as herein shown and described, and for the purpose set forth.

6. In an apparatus for clouding fibrous substances, the frames A, constructed substantially as herein shown and described, of a series of bars, B, separated by thimbles D, and united by rods C.

7. In an apparatus for clouding fibrous substances, the frames E, constructed of a series of bars, F, separated by thimbles H, and united by rods G and cross-bars J J', the bars J being provided with packing-strips K and wooden strips L, substantially as herein shown described, and for the purpose set forth.

8. The method, substantially as herein shown and described, of clouding fibrous substances in the form of ribbons or slivers by dyeing them before spinning, consisting in winding the ribbons or slivers on frames, pressing these frames between other frames, and sprinkling the dyeing or coloring liquid over the frames and fibrous material, as set forth.

9. The method, herein shown and described, of washing the fibrous substances that have been treated with a coloring-liquid for the purpose of clouding these substances, consisting in sprinkling the water over the frames on which the fibrous substances are wound, as set forth.

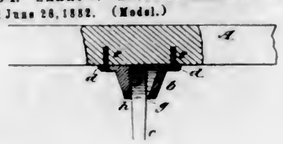
10. The method, herein shown and described, of treating fibrous substances with liquids, consisting in winding these substances on frames, pressing these frames between other frames, and sprinkling the liquid over all these frames and fibrous material, as set forth.

263,993. FRUIT-GATHERER. JOHN THAR, Geneva, Ill. Filed July 5, 1882. (No model.)



Claim.—The combination, with the handles A A', of the ring B', having a cushion, C, secured thereto, the ring B, and conveyer D, the open end of the latter being secured to the ring B, and its lower end secured by a loop to one of the handles, substantially as set forth.

263,994. HARROW. KNUDE THERALDSON, Ida Grove, Iowa. Filed June 28, 1882. (Model.)



Claim.—1. The metal socket *b*, having beveled side *g* and vertical side *h*, in combination with a harrow-tooth, *c*, having head *f*, with two sides corresponding in size and shape to the space between said sides *g* and *h*, substantially as described.

2. The metal socket *b*, having beveled side *g* and vertical side *h*, in combination with a harrow-tooth, *c*, having head *f*, with two sides corresponding in size and shape to the space between said sides *g h*, and other sides in conformity with the sides of the body of the tooth, substantially as described.

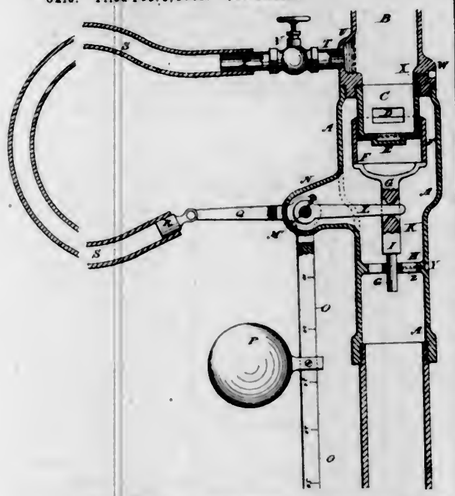
3. The combination, with the bar A and the tooth *c* of a harrow, of a metal socket, *b*, for attaching said tooth to the beam, the said socket and the head of the tooth being constructed and relatively arranged with respect to their size and shape for shifting the positions or inclinations of the tooth by shifting it around in said socket from side to side, substantially as described.

263,995. CAR-COUPLING. JOHN Q. THOMAS, Longview, Ky. Filed July 13, 1882. (No model.)



Claim.—The draw-head A, consisting of plates B C and flanges D E, and provided with laterally-projecting brackets S, in combination with the pivoted tongues I, bolts K, having heads L and eyes M, springs N, vertical levers T, vertical shaft V, connecting-chains U, and the pivoted coupling-hook Q, having a crow-head R, all arranged and operating as herein shown and specified.

263,996. PRESSURE-REGULATOR. HENRY A. TOREY, Dayton Ohio. Filed Feb. 6, 1882. (No model.)

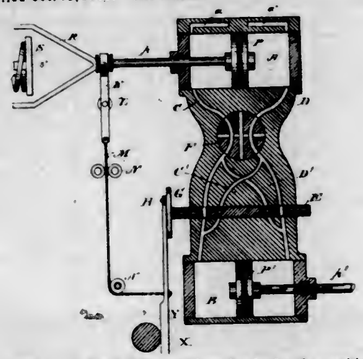


Claim.—1. The receiving-chamber B, the valve-seat C, of the form described, and provided with apertures D on its sides, the valve F, sliding on the said valve-seat, the guide-stem G, having a slot, K, and a shoulder, I, the bar H, having a guide-aperture extending front walls of chamber A, in combination with said chamber A, the three-armed lever, and flexible tube, substantially as described.

2. The combination of the valve-stem G, provided with slot K, the arm L, working in said slot and rigidly attached to shaft M, the valve-chamber A, provided with depression N, the short shaft M, working in stuffing-boxes in depression N, the graduated arm O and weight P, and the outwardly-projecting arm L, rigidly attached to end of shaft M, substantially as described.

3. The receiving-chamber B, having depression U, emptying into short pipe T, the upper end of which terminates at the bottom of said part U, the valve V, located in pipe T, and the flexible tube S, substantially as and for the purpose described.

263,997. CAR-BRAKE. DOLPHUS TORREY, New York, N. Y., assignor to the Torrey Automatic Brake Company, same place. Filed Oct. 11, 1881. (No model.)



Claim.—1. In an automatic draw-bar brake, the combination of a cylinder containing a piston attached to the draw-bar, a second cylinder containing a piston connected with the brake system, and double-acting water-rods for transmitting motion from one piston to the other, substantially as set forth.

2. In an automatic draw-bar brake mechanism transmitting motion by hydraulic pressure, the combination of a motor-cylinder and an operative cylinder with connecting-pipes branched so that by shifting cocks or valves the water-rods connect corresponding or opposite ends of said cylinders.

3. In an automatic draw-bar brake mechanism transmitting motion by hydraulic pressure, the cylinders A B and connections C C' D D', and a direction cock or valve for changing the lines of water-rods to effect the adjustment of the apparatus for the intended attachment of the engine to the train of cars.

4. In an automatic draw-bar brake mechanism transmitting motion by hydraulic pressure, the cylinders A B and connections C C' D D', and a cock or valve operated automatically for altering the lines of water-rods, so that they shall act upon the operating-piston in one direction, while the pressure on the motor-piston may be in either direction.

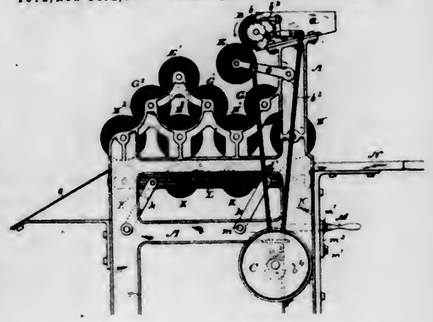
5. In a draw-bar brake, the combination of hydraulic cylinders A B, connections C C' D D', and an adjustment-cock, E, reversed automatically by a friction-bar applied to the axle, so as to cause a motion of the draw-bar in either direction to apply the brakes.

6. In an automatic draw-bar brake, hydraulic connections between the draw-bar and the brake-chain or lever, and a reversing cock or valve operated by connection with the wheel or axle, so as to determine by the direction of wheel rotation the direction of draw-bar movement which shall apply the brakes.

7. In an automatic hydraulic draw-bar brake, the combination of the friction-bar Y, cock E, water-rods C C' D D', and cylinders A and B.

8. In an automatic hydraulic draw-bar brake, the combination of the friction-bar Y, cocks E and F, water-rods C C' and D D', and cylinders A and B.

263,998. SIZING OR PAINTING MACHINE. WILLIAM H. R. TOTH, New York, N. Y. Filed Apr. 25, 1883. (No model.)



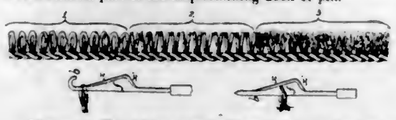
Claim.—1. In a sizing or painting machine, the combination, substantially as hereinbefore set forth, of a series of distributing-rollers, a series of pressure-rollers, and means for adjusting the distance between the two series of rollers.

2. In a sizing or painting machine, the combination, substantially as hereinbefore set forth, of the compressible distributing-rollers, the rigid pressure-rollers, the parallel movable links for supporting said impression-rollers, and the movable lever for adjusting the vertical position of the pressure-rollers.

3. In a sizing or painting machine, the combination, substantially as hereinbefore set forth, of two or more compressible distributing-rollers, two or more rigid pressure-rollers movable toward or from said composition rollers, a fountain or reservoir having two or more separate compartments, and a series of interior rollers.

263,999. MACHINE FOR KNITTING FABRICS HAVING A PLUSH SURFACE. HENRY A. TRUITT, Philadelphia, Pa. Filed May 25, 1882. (No model.)

Brief.—The cutting-blade for cutting the pile-loops is secured to and forms a part of the loop-retaining hook or pin.

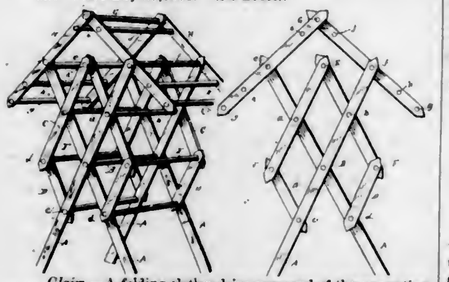


Claim.—1. The within-described loop-retaining hook or pin, having a cutting-blade, *f*, secured to or forming part thereof, as set forth.

2. The loop-retaining hook or pin having a blade, *f*, forming part thereof, and having opposite cutting-faces *x x'*, as set forth.

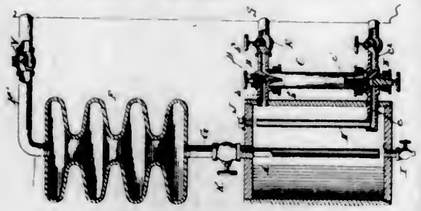
3. The combination of the needles *a* and guides *d* of the knitting-machine with the loop-retainers *b*, having knives *f* secured to or forming part thereof, as set forth.

264,000. CLOTHES-DRIER. WILSON VANDERLIP, Liberty, Ill. Filed May 26, 1882. (No model.)



Claim.—A folding clothes-drier composed of the supporting-standards A A, the secondary frames C C, D D, constructed as shown and described, and the top frames, H H, the latter having the extra rounds *g*, *h*, *i*, *j*, *k*, and *l*, substantially as set forth.

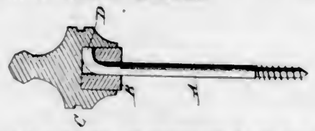
264,001. LUBRICATOR. CLAUDIUS VERSLAND, Quincy, Ill. Filed Feb. 14, 1882. (No model.)



Claim.—1. The combination of the oil-chamber, the condenser, and the pipe leading from the condenser into the oil-chamber with the charging-tube C, having the upper and lower fittings, each adapted to receive oil through an overflow-passage within the oil-chamber and discharge it into the charging-tube, and each also having an independent passage leading to the steam-pipe, and with valves for controlling the flow of oil into the opposite ends of the charging-tube, and valves for controlling the flow of oil through the independent passages to the steam-pipe, substantially as described.

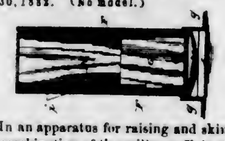
2. The combination of the oil-chamber, the condenser, and the pipe leading therefrom to near the bottom of the oil-chamber with the upper and lower fittings, B B', their passages and valves, the vertical pipe connected to the lower fitting within the oil-chamber, the glass charging-tube, and the globe-valves connected to the fittings and to the steam-pipe, substantially as described.

264,002. TOILET-SCREW. JOHN WADDELL, Grand Rapids, Mich. Filed Nov. 14, 1881. (No model.)



Claim.—In a toilet-screw, the combination of the dowel B, screw-shank A, having its end D bent at a right angle and adapted to fit in a recess formed in said dowel, and the ornamental knob C, adapted to fit over and inclose said dowel B in such manner as to prevent the screw-shank from turning independent of the dowel and knob, substantially as shown and described.

264,003. MILK-COOLER. ARTHUR B. WARD, Millington, Mich. Filed Jan. 30, 1882. (No model.)



Claim.—In an apparatus for raising and skimming cream, as described, the combination of the milk-can F, having open top and dishing bottom, with the strainer composed of a box, G, fitting snugly within the can, and having a bottom, G', of fine wire-cloth, adapted to allow the milk to gravitate through, but to retain the collected cream, and having handles H, the space between the dishing bottom of the can and the flat wire-cloth strainer preventing contact of cream with the grit, &c., in the bottom of the can, as specified.

264,004. CARVING-FORK GUARD. GEORGE H. WARREN, Shelburne Falls, Mass. Filed May 24, 1882. (Model.)



Claim.—1. In combination with a fork having an elongated vertical slot in its shank, a guard notched to engage over and turn upon a lip or bearing at one end of the slot, and provided with a spring member adapted and arranged to bear against the other end of the slot, and thereby to retain the notched portion in contact with the lip, substantially as shown and described.

2. In combination with a fork having a slotted shank, a guard supported and free to rock or turn upon a bearing at one end of the slot, and provided with a spring member having a curved or beveled end adapted and arranged to move over a fixed bearing-point, as set forth, whereby said spring member is adapted to retain the guard on the shank and to hold it in either an elevated or a depressed position.

3. In combination with the fork A, having slot *g*, provided with lip or edge *f* and bearing-point *j*, the guard B, having notch *e*, spring-arm *d*, curved or inclined face *i*, and shoulder *k*, all substantially as shown and described.

4. A guard for forks, consisting of a body, B, provided with a notch or recess, *e*, and with a spring member, *d*, rigidly joined to the body B at one end, and curved or inclined at its free end opposite the notch *e*, substantially as shown and described, whereby it is adapted to act alternately in reverse directions when moved to opposite sides of a given point and to press the notch against its bearing-point.

5. In combination with a slotted fork having a bearing point or lip, a combined guard and rest notched to bear and turn upon said lip, and constructed substantially as shown and described, whereby it is adapted to be inserted into or removed from the slot by merely overcoming the force of the spring.

264,005. GRAIN-BINDER. JOHN W. WEBSTER, Chicago, Ill., assignor to William Deering, same place. Filed May 1, 1882. (No model.)

264,005.

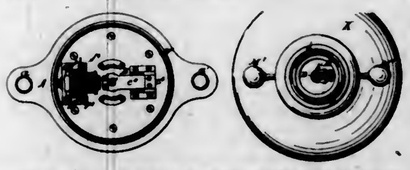


Claim.—1. The combination of the needle G, provided with the track G', with the oscillating lever B, provided with the anti-friction roller, substantially as described.

2. The combination of the plate A, provided with the anti-friction roller C, and having slot A', with the tucker E, and the lever B, provided with the anti-friction roller C', obstructing the said slot, and the needle G, provided with suitable tracks, substantially as described.

3. The combination of the lever B, connecting-link D, tucker E, and spring F with the needle G, substantially as described.

264,006. ELECTRIC-ARC LAMP. EDWARD WESTON, Newark, N. J., assignor to the Weston Electric Light Company, same place. Filed Oct. 6, 1880. (Model.)



Claim.—1. In an electric lamp, the combination of a movable armature or its equivalent, a carbon-holder, a clamp or clutch surrounding the same and adapted to be raised by the armature, and a stop or rest in the line of downward movement of the clamp, the said clamp or clutch being constructed and arranged to operate in conjunction with the parts specified as a lever, in which the mechanical advantage in favor of the power required to release it from the carbon-holder is several times greater than that of the power which causes it to bind the same, substantially as and for the purpose set forth.

2. In an electric lamp, the combination of a movable armature or its equivalent, a carbon-holder, a clamp or clutch surrounding the same and connected with the armature at one end, and a stop or rest in the line of downward movement of the clamp, the perforation in the clamp being closer to the point of connection with the armature than to the point of contact with the stop or rest, substantially as and for the purpose set forth.

3. A clamp or clutch for electric lamps, consisting of a perforated plate, C, having an ear or extension, c^3, for connection with the movable armature, and a tail-piece or elongation, c^3, substantially as set forth.

4. An electro-magnet the two opposite poles of which occupy parts of the same plane, in combination with an armature-bar flexibly supported in a parallel plane in front of one pole and partially in front of the other pole, and having an endwise movement induced by an increase in the attractive force of the magnet, during which there is an increase in the distance of the plane occupied by the armature-bar from the plane occupied by the poles of the magnet.

5. In an electric lamp, an armature having an endwise path of movement across the magnetic field in front of one pole and into and across a portion of the field in front of the other pole, in combination with an electro magnet or magnets provided with both vertical and horizontal adjusting devices, substantially as and for the purpose set forth.

6. In an electric lamp, a plate sustaining the feed mechanism and a casing or hood inclosing the same, in combination with a tube attached to the plate and inclosing the upper-carbon holder and carbon, a frame depending from said tube and supporting the lower carbon, and a globe or shade connected with the frame and surrounding the source of light, as set forth.

7. The combination, with the casing containing the feed mechanism of an electric lamp, of a tube surrounding the carbon-holder, a frame depending from the tube and supporting the lower carbon, and a globe or shade carried by the frame and adjustable vertically thereon, as set forth.

8. In an electric lamp, the combination, with the casing containing the feed mechanism, of a slotted tube, H, and shield *h*, surrounding the carbon-carrier B, substantially as and for the purpose set forth.

9. The combination, with the box D', inclosing the feed mechanism, and casing H, depending therefrom, of a frame, I I', and a globe supported by said frame and vertically-adjustable thereon, as set forth.

10. The sleeve L, provided with devices for the suspension therefrom of the glass shade K, and with the weighted eccentrics M, in combination with the side-bars, I and I', of the frame, substantially as and for the purpose set forth.

11. An electric-lamp frame consisting of a box or cover inclosing the feed mechanism, a casing surrounding the gravitating carbon-carrier and provided with a door for permitting access to the same, a support for the lower carbon, and a globe-holder connected to the said casing, these parts being constructed and combined in substantially the manner hereinbefore set forth.

264,007. PILLOW. HENRY WESTON, Philadelphia, Pa. Filed June 21, 1882. (No model.)



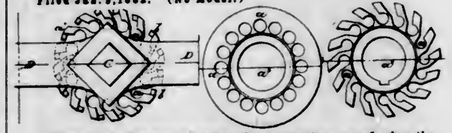
Claim.—1. As a new article of manufacture, a pillow or cushion composed of wire-gauze or woven wire constructed substantially as described, and comprising a flattened cylinder or tube of ovaliform shape, substantially as shown and described.

2. A portable pillow or cushion having two sides, an upper and lower side and ends, all composed of wire-gauze or woven wire, substantially as shown and described.

3. A pillow or cushion consisting of a cylinder, roll, or tube of wire-gauze or woven wire having introverted ends, substantially as shown and described.

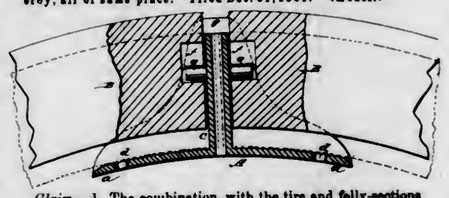
4. A wire-gauze or woven-wire pillow or cushion, in combination with an inserted or internal cylinder or roll of the same material, constituting a stiffener or resilient re-enforce, substantially as shown and described.

264,008. MANUFACTURE OF MILLING-CUTTERS. BENJ. F. WHEELER, Malden, assignor to Oscar L. Noble, Boston, Mass. Filed Jan. 9, 1882. (No model.)



Claim.—In the manufacture of rotary cutters, producing the clearance of the teeth by forming them as described, and all on the same circle, then bending them all backward simultaneously and equally by means of the retaining-pins and wrench, substantially as set forth.

264,009. FELLY-CLIP. JOHN WHEELER, Denver, Colo., assignor to himself and Charles Stabern and Richard W. Pomeroy, all of same place. Filed Dec. 31, 1881. (Model.)



Claim.—1. The combination, with the tire and felly-sections of a wheel, of the felly and tire supporter A, having the transverse web *b*, with median tubular boss *c*, the flanges *g g*, extending above said boss, and a bolt extending through said tire and boss and secured by a nut beneath the support A, as shown and described.

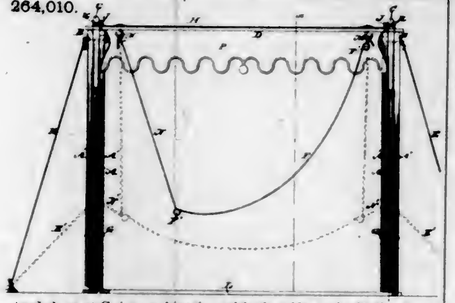
2. The combination, with felly-sections having the end holes, *f*, of a felly-socket having the median web *b*, provided with the opposite lateral pins, *e e*, as and for the purpose specified.

264,010. CANOPY OR TENT. WILLIAM F. WHEELER, Philadelphia, Pa., assignor to Clement E. Lloyd, same place. Filed May 25, 1882. (No model.)

Claim.—1. The awning, in combination with supporting-poles A A', arranged in sets at each end, the poles of each set being pivoted together at the top and arranged substantially in the same transverse vertical plane.

2. The poles A A', pivotally connected, one of them being ex-

264,010.



tended, as at C, in combination with the ridge-pole D, fitted on the extended pole and bearing on the tops of the other poles, substantially as and for the purpose set forth.

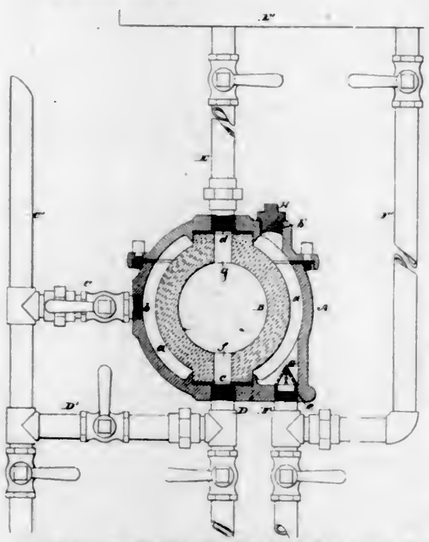
3. The poles A A', pivotally connected at their upper ends, one of them being extended above the others at C, in combination with awning H, end spreaders, J, ropes K, connecting said spreaders to said extensions C, and ropes K', connecting said spreaders to poles A below the top connections of the latter, substantially as set forth.

4. The poles A A', pivotally connected at the top, in combination with the bottom stretcher, L, provided with an opening at each end for the reception of the poles A, substantially as and for the purposes set forth.

5. The combination of the awning, skirt, and curtain, united by means of the welt secured to the several parts, substantially as set forth.

6. The ridge-pole and awning, in combination with the cord T and bridges U, substantially as and for the purpose set forth.

264,011. FILTER. WILLIAM F. WHEELER, Philadelphia, Pa., assignor to Thomas M. Galbreath, Atlantic City, N. J. Filed Apr. 22, 1882. (No model.)



Claim.—1. The filter consisting of a shell, an inner hollow body of porous material, and suitable inlet and discharge pipes, said shell and hollow body being locked together by projecting parts of the one which fit into recesses of the other at opposite points of its circumference, substantially as set forth.

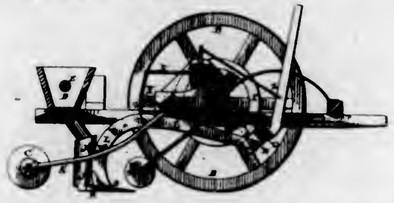
2. The exterior shell and the inner porous body, with a space between them, in combination with the plug H, which is fitted to the opening *b'* of said shell, substantially as and for the purpose set forth.

3. The inner body, B, formed with the openings *f g*, in combination with the exterior shell, A, having openings *b c d*, the pipes C D E, the supply-pipe C', and reservoir E', substantially as and for the purpose set forth.

4. The inner body, B, and exterior shell, with the space *a* between them, in combination with the pipes C D E F, the pipe D', and pipe F', substantially as and for the purpose set forth.

5. A hollow body of charcoal molded or otherwise shaped into form and adapted for filtering liquids, as set forth.

264,012. SEED-PLANTER. LAFAYETTE WILKERSON, Selpio, Ind. Filed May 29, 1882. (No model.)

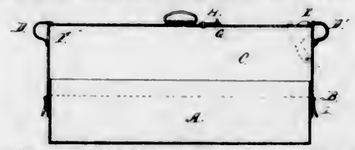


Claim.—1. The combination of the beams, pivoted at their front ends to short shafts, which will raise or depress the front ends of the beams, with the short shafts W and the shafts V, the connecting-chains, and the arms or levers connected to the shafts, and the operating-lever Z, whereby the depth at which the furrow-openers or drills shall run is regulated, substantially as shown.

2. The combination of the beams, pivoted at their front ends, the shaft V, short shafts W, arms or levers, and connecting-chains, with the rollers, which are connected to the short shafts W by suitable arms, substantially as described.

3. The combination of the beams, the seed-tubes provided with ears near their upper ends, and having their lower ends supported upon a shoe, R, which extends from the rear of the furrow-opener, substantially as set forth.

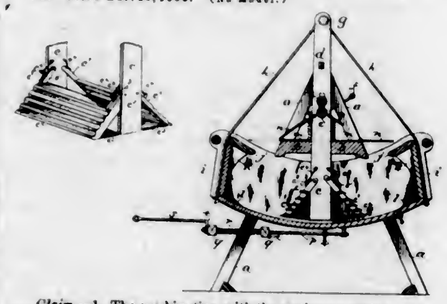
264,013. BAKE-PAN. SETH J. WILLIAMS and HIRAM RICHEY, Sing Sing, N. Y.; said Williams assignor to said Richey; said Richey assignor of two-thirds to Sophia Williams and E. Meredith Collyer, same place. Filed Mar. 3, 1882. (Model.)



Claim.—1. In a baking-pan, the cover C, provided with the lateral air-chambers D D' at its ends, communicating therewith through the openings F F', and provided with the valves E, for regulating the draft or current to the pan, substantially as specified.

2. In a baking-pan, the combination, with the body A, having the stop-bead B below its edge, of the cover C, resting by its edge upon the stop-bead B, and having the lateral air-chambers D D', with openings F F' and valves E, and the test-hole G and valve H, substantially as and for the purposes specified.

264,014. WASHING-MACHINE. JOHN C. WILSON, Washington, Pa. Filed Mar. 29, 1882. (No model.)



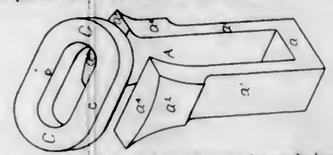
Claim.—1. The combination, with the stationary rubber c, arranged in the box, of the suspended swinging box i, provided with a series of concave racks, *k*, at its ends, and slats *l* between them, substantially as described, and for the purpose set forth.

2. The combination, with the double A frame *a*, board *b*, frame *d*, and suspending-rods *h*, of the right-angular sheet-metal pieces *m*, having leaves *n*, and swinging box *i*, having concave rack at its ends, with slats *l* between them, substantially as described, and for the purpose set forth.

3. The combination, with the frame *d*, carrying the wringing-rolls *e e* and hinged leaf-supports and guides *o o*, of the right-angular pieces *m*, having leaves *n*, and swinging suspended box *i*, whereby the leaves *n* perform the double function of guiding the clothes to be wrung and preventing the splashing of the suds, substantially as described.

4. The stationary rubber *c*, consisting of the vertical end pieces having hooks *c'*, pivoted thereto, and side pieces, *c'*, pivoted to the end pieces, and provided with the eyes *c'*, and parallel slats *c'*, and bottom slats, *c'*, pivoted in the side pieces, *c'*, substantially as described, and for the purposes set forth.

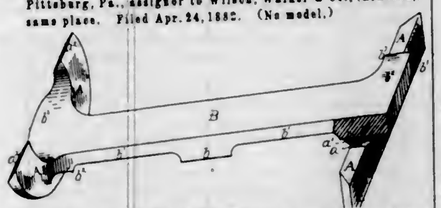
264,015. MANUFACTURE OF DRAW-BARS. JOHN T. WILSON, Pittsburg, Pa., assignor to Wilson, Walker & Co., (Limited,) same place. Filed Apr. 24, 1882. (No model.)



Claim.—1. The method of manufacture of wrought-iron draw-bars herein described, consisting in forging wrought-metal blanks A and C for body and head parts of the draw-bar, respectively, such blanks being in separate single pieces, as described, reheating blank C and the open ends of blank A, and uniting the side face of the head to the end faces of the body-blank by welding, substantially as set forth.

2. The method of manufacture of wrought-iron draw-bars herein described, consisting in forging from a bar or billet a blank, A, for the body of the draw-bar, such blank having thickened center *a*, straps *a' a'*, and enlarged ends *a²*, bending such blank to an open-end rectangular form, as in Fig. 2, forming a ring-blank, C, for the head of the draw-bar, reheating and welding the side face of blank C to the end faces of blank A by a butt-weld, substantially as set forth.

264,016. MANUFACTURE OF DRAW-BARS. JOHN T. WILSON, Pittsburg, Pa., assignor to Wilson, Walker & Co., (Limited,) same place. Filed Apr. 24, 1882. (No model.)



Claim.—The method of manufacture of wrought-iron draw-bars herein described, consisting in forming duplicate notched blanks A for the head and a single blank, B, for the body of the draw-bar, welding the notched edges of blanks A to the face of blank B at both its ends, bending blanks A to half-oval form and blank B to rectangular form, as shown, and welding the meeting ends of blanks A, substantially as set forth.

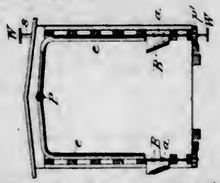
264,017. TOOL-CLAMP. WILLIAM S. WINTERBOTTOM, Newark, N. J. Filed Dec. 19, 1881. (No model.)



Claim.—1. The tool-clamp having a plate formed of two parts, one part engaging with the tool-handle and having peripheral notches, and the other part having on its inner face lugs which adjustably enter said notches and on its outer face notches with which the tool engages, substantially as and for the purpose set forth.

2. The two-part plate with channel, notches, and lugs, as described, the tang or stem, nut, tool, and handle, combined and operating substantially as and for the purpose set forth.

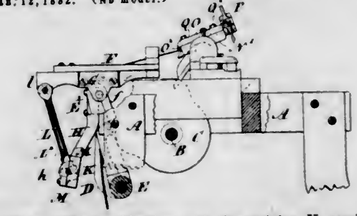
264,018. STOCK-CAR. SAMUEL C. WEBER, Chicago, Ill. Filed Apr. 10, 1882. (No model.)



Claim.—1. The buckets B, in combination with rods *a*, pinion *p*, and rack *c*, substantially as shown and described.

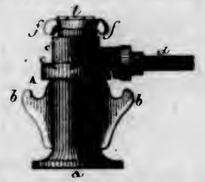
2. The combination of buckets B, rods *a*, pinion *p*, rack *c*, and rod or shaft S, having hand-wheel W and pinion *p'*, substantially as described and shown.

264,019. MACHINE FOR FORGING HORSESHOE-NAILS. CHARLES WELLINGTON WOODFORD, Essex, N. Y., assignor to the Essex Horse Nail Company, (Limited,) of New York. Filed Jan. 12, 1882. (No model.)



Claim.—The combination, with the rock-bar K, carried in projections H, of arms L L, supporting the pivot on which the forward end of gripping-slide is mounted, and jam-nuts M M, for adjusting and securing the same in position, all as herein set forth.

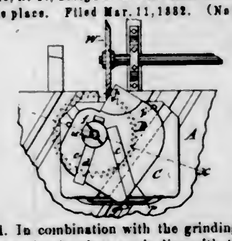
264,020. LIFTING-JACK. LEVI YAKEL, Allegheny, Pa., assignor to Saml. K. Duff, same place. Filed May 27, 1882. (No model.)



Claim.—1. A lifting-jack or equivalent device (shown in Fig. 4) operated by a lever and ratchet, in combination with differential screws, constructed and arranged substantially as described.

2. A lifting-jack or equivalent device (shown in Fig. 4) provided with lugs, hooks, or rings, as shown and described, and operated by a ratchet and lever, in combination with differential screws.

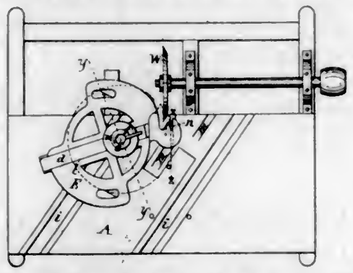
264,021. SAW-SHARPENING MACHINE. HIRAM C. AGAR, Fayetteville, N. Y., assignor of one-half to Collin, Arnold & Sisson, same place. Filed Mar. 11, 1882. (No model.)



Claim.—1. In combination with the grinding-wheel W, the base B, having rocker-bearings *a a* in line with the plane of the wheel W and inclined toward said wheel, the plate C, mounted on said bearings and provided with ways *b b*, the plate D, sliding on the plate C and guided by the ways *b*, and provided with convergent ways *c c*, and the slide *d*, provided with the post *e* and key *f*, as described and shown, for the purpose set forth.

2. In combination with the grinding-wheel W, the base B, having rocker-bearings *a a* in line with the plane of the wheel W and inclined toward said wheel, the plate C, mounted on said bearings, and provided with ways *b b* and with stops *b'*, the semicircular plate *p*, secured to the plate C and provided with the slot *s*, the set-screw *g*, the plate D, sliding on plate C and guided by the ways *b*, and provided with convergent ways *c c* and with a stop or shoulder, *h*, and the slide *d*, provided with the post *e*, conical sleeve *u*, and key *f*, all as described and shown, for the purpose specified.

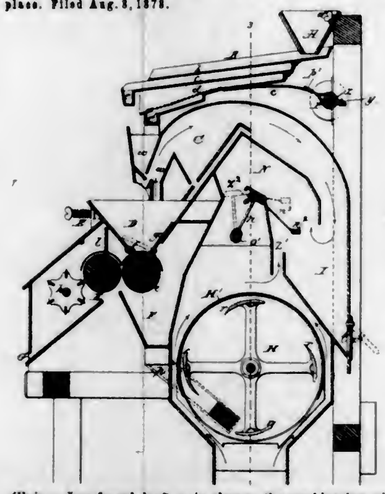
264,022. SAW-SHARPENING MACHINE. HIRAM C. AGAN, Fayetteville, N.Y., assignor of one-half to Collin, Arnold & Sisson, same place. Filed June 22, 1882. (No model.)



Claim.—1. The combination, with the grinding-wheel W and the table A, provided with the diagonal ways *i i*, as shown, of the interchangeable plates E E', adapted to lie flat upon said table, and having on their under side a tongue, K, fitted to the ways *i*, and provided on their upper side with the slide *d*, post *e*, and key *f*, substantially as shown and set forth.

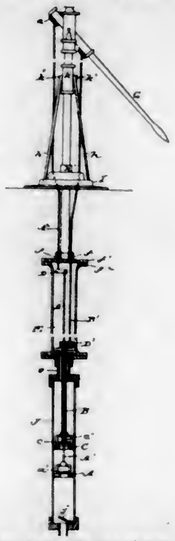
2. In combination with the grinding-wheel W and the table A, provided with the ways *i i* and inclined depressions *m m*, as shown, the plates E E', provided with the tongue K and stop-pin *n*, substantially as described and shown.

264,023. BLAST-GOVERNOR FOR GRAIN-CLEANERS. SAMUEL W. ANDREWS and LEWIS GODFREY, Knoxville, Tenn., assignors, by mesne assignments, of one-half to Sarah A. Vanderhoof; said Godfrey, in his own right and as Administrator of said Andrews, deceased, assignor to O. G. Vanderhoof, same place. Filed Aug. 3, 1878.



Claim.—In a forced-draft grain-cleaner, the combination, with the screening and wind chambers and their accessories, of the automatic blast-regulator at the exit of the screening-chamber, consisting of valve *o*, piston n^3, attached to the valve by wires n^2, and extending into the screening-chamber, and an adjustable balance, *n'*, pivoted to the upper end of arm o^3 and held by the circular piece o^2, substantially as set forth.

264,024. PUMP. ALONZO D. AUSTIN, Jackson, Mich., assignor of one-half to Benjamin Porter, same place. Filed June 10, 1882. (No model.)



Claim.—1. In a pump having the two pistons A C, the combination, with the hollow rod B, attached to one of the pistons, the inner rod, A', attached to the other, and the cross-heads or angle-pieces D D', of the working-barrel B, containing the pistons, the barrel E, containing the angle-pieces or cross-heads D D', and the tubular connection *e*, as and for the purposes set forth.

2. The combination, with the pistons A and C, the hollow piston-rod B, attached to one, the inner rod, A', attached to the other, and angle-pieces D D', the handle-rods A^3 and B', and the barrel E, containing the cross-heads or angle-pieces D D', of the stuffing-boxes *f*, for the rods A^3 and B', substantially as set forth.

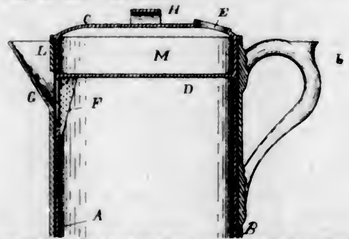
3. The combination, with the two pistons, the rods A^3 B', connected respectively with said pistons, and the barrel E, of the two parallel tubes H H, connected at their lower ends with the barrel E and at the upper ends with the delivery-spout, substantially as set forth.

4. The combination, with the delivery-spout and the parallel pipes or tubes H H, of the connecting-joint having the parallel parts *k k'* and the connecting-tube k^2, substantially as set forth.

5. The combination, with the supporting-plate I, the parallel pipes or tubes H H, and the connecting part k^2, of the braces *h h*, arranged and operating substantially as set forth.

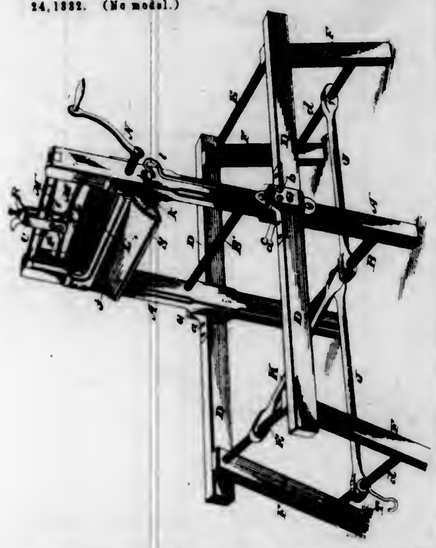
6. The combination of the barrel E, which receives the water above the pistons, the operating-rods A^3 and B', passing through the top of the said barrel E, the stuffing-boxes *f f*, and the delivery-tube secured to the said barrel E below the ground-line, whereby the said barrel and stuffing-boxes can be suspended below the region of frosting, substantially as set forth.

264,025. COFFEE-POT. JOSEPH H. BRAN, Cincinnati, Ohio. Filed July 14, 1882. (No model.)



Claim.—The coffee-pot described, consisting of the cylinders A and B, cross-head D, lid C, opening E, cup M, perforated parts G and F, spout L, and handles H and *b*, substantially as and for the purpose set forth.

264,026. COMBINED WASH-BENCH AND WRINGER. CHARLES B. CAMP and HENRY BAUMGARTEL, Sturgis, Mich.; said Baumgartel assignor to Thomas J. Collins, same place. Filed Apr. 24, 1882. (No model.)



Claim.—1. The combination, with the wringer-standard, the lower ends of which are adapted to rest on the floor, of pivoted side benches provided with pivoted legs, the said side benches and legs adapted to be folded up on opposite sides of the said standards, and longitudinal braces connected to cross-bars between the said standards and legs for supporting and guiding the said legs into position.

2. The combination, with the wringer-standards, the lower ends of which are adapted to rest on the floor, of pivoted side benches provided with pivoted legs, longitudinal braces connecting the said legs to the said standards by means of cross-bars, and a diagonal bar connecting one of said legs to the said standards by means of cross-bars, substantially as described.

3. The combination, with the wringer-standards provided on opposite sides with clasps, of side benches the side rails of which are provided with tongued or tenoned ends and a hinge-leaf, and means for securing the said tongued or tenoned ends within the said clasps, substantially as described.

4. The combination, with the wringer-standards having wringer-rolls therein, of the springs M M', cross-bar C, regulating-screw Q, yoke O, and a thumb-nut for regulating the tension of the said spring, substantially as described.

5. The combination, with the wringer-standards and wringer-rolls, of the bearings *e*, cross-bar C, springs M M', bearing-block N, yoke O, plate P, screw Q, and thumb-nut R, all of the above parts adapted to operate as described.

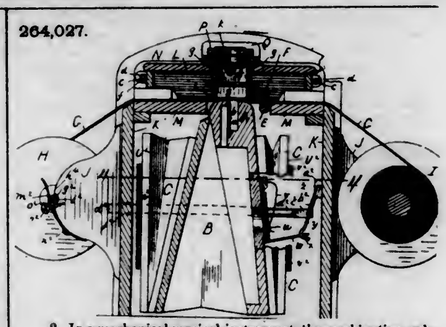
6. The combination, with the wringer standards and rolls, of the drip-pan provided with side pieces having perforations, constructed substantially as described, and a spring-stop secured to one of said standards and adapted to pass through the same and enter one of said perforations in one of the side pieces and hold the said drip-pan in the desired position, substantially as described.

7. The combination, with the wringer-standards, of the drip-pan provided with metallic side pieces constructed as shown, the boxes *m*, pintle *m'*, and a spring for holding the pan in an inclined position, substantially as described.

264,027. MECHANICAL MUSICAL INSTRUMENT. J. HERBERT CRANE, Montreal, Quebec, Canada, assignor to Walter F. Abbot, New York, N.Y. Filed Jan. 30, 1882. (No model.)

Claim.—1. In a mechanical musical instrument, the combination, with the reed-board and the perforated music-sheet, of a detachable swell chamber or box having its lower edge resting directly upon the music-sheet on the reed-board and above the open ends of the reed-chambers, to produce a close joint between the swell chamber or box and music-sheet, and means for opening and closing said swell chamber or box, substantially as described.

264,027.



2. In a mechanical musical instrument, the combination, substantially as hereinbefore described, of a reed-board, a perforated music-sheet arranged to travel over the same, and a removable and replaceable swell-chamber provided with means for operating its swell and having the lower edges of its transverse side walls resting directly on the music-sheet, to produce practically a close joint between such lower edges of the swell-chamber and the music-sheet, for the purposes set forth.

3. The combination, with a mechanical musical instrument, of a closed removable and replaceable box or chamber and means for detachably securing the same to the instrument with a tremulant valve, *l*, arranged within said box or chamber, to flutter with the passage of the air through the valve-opening of the instrument, substantially as described.

4. In a mechanical musical instrument, a tremulant valve arranged within a removable box or chamber, to flutter with the passage of the air through the valve-opening of the instrument, and means by which it may be placed into and out of such operation, all substantially as described, for the purpose specified.

5. In a mechanical musical instrument, a box or chamber resting on the perforated music-sheet, having arranged within it a tremulant valve to flutter with the passage of the air, and constructed with an aperture leading to said valve, arranged to be closed and opened, substantially as described, for the purpose specified.

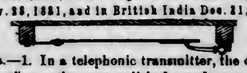
6. In a mechanical musical instrument, a removable and replaceable box or chamber having within it a tremulant valve suspended by a spring, to flutter with the passage of the air, and means, substantially as described, for opening and closing apertures in the box or chamber to produce tremulant or swell effects at different times, essentially as set forth.

7. In a mechanical musical instrument, the frame L, constructed to be attached to and detached from the instrument, and provided with a box or chamber having its lower edge resting directly on the perforated music-sheet above the reed-board, in combination with means for producing tremulant effects in said box or chamber, substantially as described.

8. In a mechanical musical instrument, the combination of a reed-board, a perforated music-sheet arranged to travel over the same, a detachable and attachable box or chamber resting on the music-sheet, and means within said box or chamber to produce tremulant effects, substantially as described.

9. In a mechanical musical instrument, the combination, with a bellows, &c., of a valve arranged to act as a relief thereto, of mechanism composed of a pusher-pin, d^3, crank-arm *y*, having a flexible connection, *w*, with valve, all substantially as described, for the purpose specified.

264,028. TELEPHONE-TRANSMITTER. LÉON D. LOCQUENAYE, Liege, Belgium. Filed Apr. 20, 1882. (No model.) Patented in France Aug. 30, 1879, No. 132,464; in Belgium Apr. 21, 1881, No. 54,443; in Portugal Nov. 25, 1881, No. 723; in Sweden Nov. 26, 1881, and in British India Dec. 21, 1881, No. 1,146.



Claim.—1. In a telephonic transmitter, the combination of a plate of cork or other not polished wood suspended by spring-arms, and a carbon contact-disk carried by said plate, with a contact-piece or electrode having an edge in contact with said disk, substantially as described.

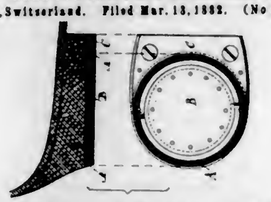
2. In combination with the electrodes or contact-pieces of a telephonic transmitter, a cork-plate having the surface dimensions and thickness described.

3. A contact-electrode connected with its support by a universal or ball-and-socket joint, and provided with a bearing-edge of platinum, silver, copper, or carbon, substantially as described.

4. The combination, with plate and carbon electrode carried thereby, and the stationary electrode, of means for supporting the plate adjustably, substantially as described, so as to change the point of contact between the electrodes, substantially as set forth.

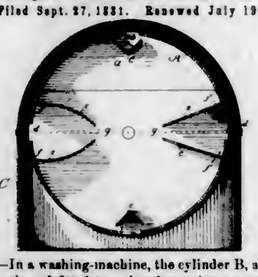
5. A telephone-box inclosing a transmitting-telephone and having one or more sides made of cloth or other material permeable to sound-waves, substantially as described.

264,029. HEEL FOR BOOTS AND SHOES. JEAN GAY DE TEBS, Geneva, Switzerland. Filed Mar. 13, 1882. (No model.)



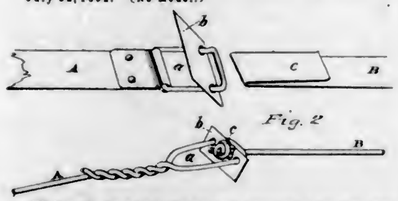
Claim.—In combination with the plate C and disk B, permanently attached to the heel, the ring A, beveled on its outer and inner edges, so as to be held by the disk B and plate C, and having a roughened exterior surface and grooved upon its upper surface, so that the ring embeds itself into the leather, substantially as set forth.

264,030. WASHING-MACHINE. HENRY C. DUBSOROW, Chrisman, Ill., assignor of one-half to William B. Moorhead, same place. Filed Sept. 27, 1881. Renewed July 19, 1882. (No model.)



Claim.—In a washing-machine, the cylinder B, adapted to revolve on its axis and fitted to a chamber or box to contain the water, the said cylinder being provided with two pairs of approximately-radial plates, each pair being set against the periphery, one on each side of an opening, *d*, in the periphery and at a distance from said opening, and also extending about two-thirds ($\frac{2}{3}$) of the distance toward the center, in combination with openings *b b*, placed in the periphery opposite each other and approximately midway between the pairs of plates, the whole being constructed as shown, and adapted to operate in the manner described.

264,031. BALE-TIE. DAVID B. EASTBURN, South Bend, Ind., assignor of one-half to Marvin Campbell, same place. Filed July 22, 1881. (No model.)



Claim.—1. In a bale-tie, an end provided with the plate *b* sliding loosely within the loop *a*, for the purpose of engaging and holding the other end of the tie, substantially as shown and described in the above specification.

2. In a bale-tie, the combination of the knot *c*, plate *b*, and loop *a*, substantially as shown in Fig. 2.

3. In a bale-tie, the combination of the hook *c*, plate *b*, and loop *a*, substantially as shown in Figs. 4 and 6.

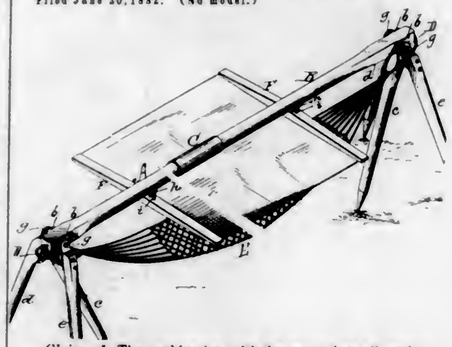
4. In a bale-tie, the combination of the loop *c*, plate *b*, and loop *a*, substantially as shown in Fig. 5

264,032. BUCKLE. JOSEPH L. FOLLETT, New York, N. Y. Filed May 31, 1882. (No model.)



Claim.—The improved buckle hereinbefore described, consisting of the frame having the tongue pivoted to its rear cross-bar, and provided at its front end with side guard lips or flanges which form a strap-receiving recess on the under side of the front bar, as and for the purposes set forth.

264,033. HAMMOCK-FRAME. LYMAN E. FRENCH, Grafton, Vt. Filed June 30, 1882. (No model.)

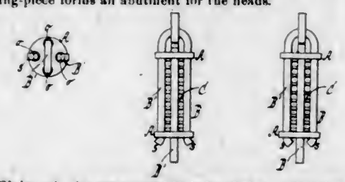


Claim.—1. The combination, with the supporting rail-sections A B, having beveled ends *a*, and metal sleeve C, of the pivoted legs *c d e* and curved rings D, connected to the extreme ends of the rail-sections, substantially as and for the purpose specified.

2. The supporting rail-sections A B, sleeve C, and pivoted legs *c d e*, and the rings D, connected to the ends of the rail-sections, in combination with the detachable cross-bars F, having connected thereto the awning G, substantially as and for the purpose set forth.

264,034. ORNAMENTAL CHAIN-LINK. JAMES L. HEDLEY, Attleborough Falls, Mass., assignor to Davidson Brothers, New York, N. Y.. Filed July 20, 1882. (No model.)

Brief.—The frames engage the holes of the perforated heads. A filling-piece forms an abutment for the heads.



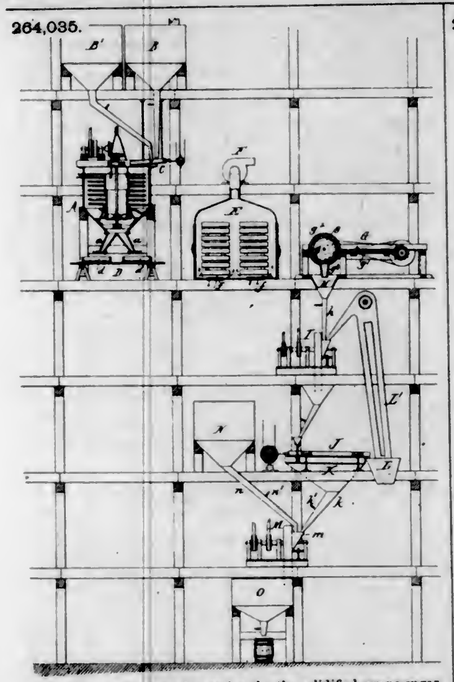
Claim.—1. An ornamental link for chains, embodying in its structure the heads A, having the perforations *o*, and the longitudinal frame B, passing through the perforations in the heads and clinched in position on the exterior of the heads, substantially as described and shown.

2. The combination, in an ornamental link for chains, of the heads A, having the perforations *o*, the longitudinal frame B, passing through the perforations in the heads and clinched in position on the exterior of the heads, and the filling-piece C, forming part of the frame and serving as abutments to prevent inward movements of the perforated heads on the frame, substantially as described and shown.

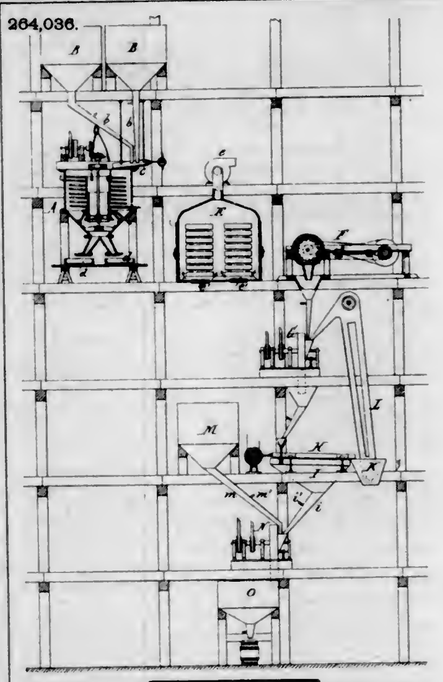
264,035. PROCESS OF AND APPARATUS FOR THE MANUFACTURE OF SACCHARINE COMPOUNDS. THOMAS A. JUDD, Buffalo, N. Y. Filed July 12, 1882. (No model.)

Claim.—1. The herein-described method of manufacturing a hard and dry saccharine compound, which consists in adding cane or beet sugar in a more or less finely-divided condition to liquid grape-sugar having the proper density to become solid, then thoroughly mixing these ingredients, and then delivering the semi-liquid compound into suitable molds or receptacles, in which the entire mass so delivered becomes hard and solid, thereby forming a hard, dry, and solid compound in which the grains or crystals of

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cane-sugar are cemented together by the solidified grape-sugar, substantially as set forth.

2. The herein-described process of manufacturing saccharine compounds, which consists in mixing grape-sugar with cane-sugar or beet-sugar, then permitting the mixture to become solid, then grinding, scraping, or otherwise pulverizing said compound, and then mixing a further quantity of cane-sugar or beet-sugar with the ground, scraped, or pulverized sugar, substantially as set forth.

3. The herein-described process of manufacturing saccharine compounds, which consists in mixing dry grape-sugar scraped, ground, powdered, or otherwise reduced and cane-sugar or beet-sugar with liquid grape-sugar, substantially as set forth.

4. The herein-described process of manufacturing a hard and dry saccharine compound, consisting in adding dry cane or beet sugar in a more or less finely-divided condition to liquid grape-sugar of the proper density to become solid, then thoroughly mixing the ingredients, then delivering the semi-liquid mixture into suitable molds or pans, and then subjecting the sugar to an artificial air-current, whereby the sugar is dried and cooled, substantially as set forth.

5. In an apparatus for manufacturing saccharine compounds, the combination of a mixing-vessel, A, in which the liquid grape-sugar is prepared for its solidification, a receptacle containing dry pulverized sugar and provided with means whereby said sugar can be introduced into the mixing-vessel A, molds *d*, in which the sugar is permitted to become hard, a reducing-machine, whereby the solid grape-sugar is reduced to the proper degree of fineness, a receptacle, N, containing cane or beet sugar, and a mixing-machine, M, whereby the cane or beet sugar and the comminuted grape-sugar are intimately mixed, substantially as set forth.

264,036. GRAPE-SUGAR COMPOUND. THOMAS A. JUDD, Buffalo, N. Y. Filed July 12, 1882. (No model.)

Claim.—The herein-described solid and dry saccharine compound, composed of grains or crystals of cane-sugar or beet-sugar and solidified grape-sugar, the latter being of such character and employed in such proportion as to completely fill the interstices between the grains or crystals of cane or beet sugar and cement said grains or crystals together, the whole forming a solid concrete compound of grape-sugar and cane or beet sugar, substantially as set forth.

264,037. METHOD OF MANUFACTURING GRAPE-SUGAR. THOS. A. JUDD, Buffalo, N. Y.. Filed July 12, 1882. (No model.)

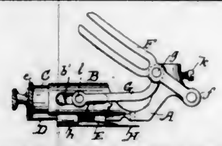
Claim.—1. The method of manufacturing hard and dry grape-sugar which consists in mixing with liquid grape-sugar of the proper gravity to become solid dry grape-sugar, scraped, ground, or otherwise reduced, in sufficient quantity to cause the entire mass to become hard and dry, substantially as set forth.

2. The method of manufacturing hard and dry grape-sugar which consists in first agitating and cooling the liquid sugar, then delivering the cooled semi-liquid sugar into suitable pans or molds, and finally exposing the sugar to an artificial air-current, substantially as set forth.

264,038. RUFFLING ATTACHMENT FOR SEWING-MACHINES. ALLEN JOHNSTON, Ottumwa, Iowa. Filed June 27, 1882. (No model.)

Claim.—1. In a ruffling attachment, a cylindrical slide forming part of the blade-carrier and working in a barrel forming part of the ruffler-frame, substantially as described.

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2. The combination of the barrel forming part of the ruffler-frame, the blade-carrier comprising a cylindrical slide working in said barrel, and a frame or strip connected with said slide, and having a portion thereof extending through a slot in the barrel, and the ruffler-blade attached to said carrier, substantially as described.

3. The combination of a blade-carrier, an adjustable cylinder provided with stops forming a part thereof, and operating means—such as a lever and link—connected with said carrier by pin or projection working between the said stops, substantially as described.

4. The combination of the cylindrical slide provided with stops, and adjustable, as explained, with operating means comprising a pin or projection working in the groove or between said stops, substantially as described.

5. In a ruffling attachment, an adjustable slide provided with a groove of varying width, the walls of said groove forming stops through which motion is imparted from a reciprocating device to said slide, substantially as described.

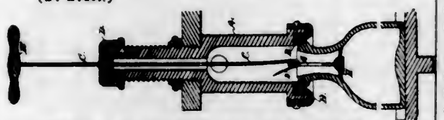
6. In a ruffling attachment, the cylindrical slide supported in a tubular guide or barrel, and having stops extending around the slide and separated from each other by a variable distance, combined with operating means comprising a pin or projection working between the said stops, said slide being capable of turning in its support to regulate the stroke thereof, substantially as described.

7. In a ruffling attachment, an adjusting device having stops formed by the walls of a groove inclined in opposite directions and at different angles, substantially as described.

8. The combination of the operating-lever, the link, the tubular guide or support, the cylindrical slide supported therein, and having stops extending around its surface and inclined in opposite directions, the strip or frame having the ruffler-blade attached thereto, and means for clamping said strip or frame and slide together and for releasing them at will, substantially as described.

9. In a ruffling attachment, the combination, with the stationary index-finger, of the graduated adjusting device for regulating the stroke of the ruffler-blade, substantially as described.

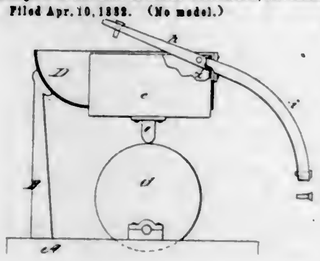
264,039. BOTTLING-MACHINE. JOHN KLEE, Dayton, assignor to Edward H. Everett, Newark, Ohio. Filed Nov. 12, 1880. (No model.)



Claim.—1. In a bottling-machine, the combination, with the filling-head, of a plunger inserted through said filling-head, packed by a stuffing-box, and provided on its lower end with a hook adapted to engage with the loop or bail of an internal suspended stopper, as and for the purpose specified.

2. In a bottling-machine, the combination, with the filling-head, of a plunger inserted through said filling-head, packed by a stuffing-box, and provided on its lower end with a spring or yielding hook adapted to engage with the loop or bail of an internal suspended stopper, as and for the purpose specified.

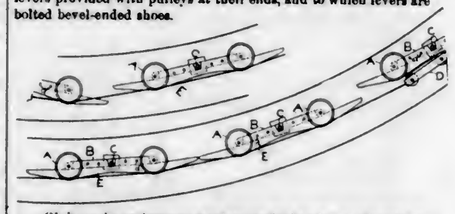
264,040. SCREW-BLANK FEEDER. HENRY W. LOOMIS, Holyoke, assignor of one-half to Rufus Crittenden, Northampton Mass. Filed Apr. 10, 1882. (No model.)



Claim.—In a screw-blank feeder, the combination, with the track *i*, having its receiving end projecting into the hopper D, and the slotted finger *h*, pivoted to the lifter *c*, of the short arms *z z*, adapted to engage under said end of track *i*, substantially as set forth.

264,041. ROPE RAILWAY. JOEL B. LOW, San Francisco, Cal. Filed Mar. 23, 1882. (No model.)

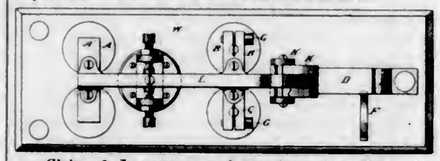
Brief.—In the curve of the road-bed are pivoted swinging levers provided with pulleys at their ends, and to which levers are bolted bevel-ended shoes.



Claim.—As an improvement upon the herein-mentioned patented device for turning curves in rope railways, the bevel-ended shoes E E, when applied to the swinging levers B B, with which shoes the grip makes contact in setting aside the guide-pulleys A, substantially as set forth.

264,042. APPARATUS FOR TREATING CARBON CONDUCTORS. HIRAM S. MAXIM, Paris, France. Filed Feb. 18, 1882. (No model.)

Brief.—In place of a retractile spring an electro-magnet in a branch circuit is employed to maintain the carbon circuit until the carbon has acquired the requisite degree of resistance. In this way the effect of variations in the current is eliminated.

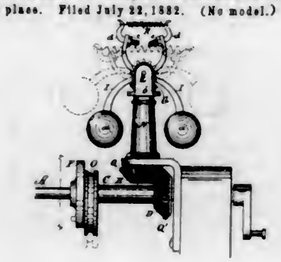


Claim.—1. In an apparatus for treating carbons, the combination, with an armature-lever and armatures carried thereby, of two opposing electro-magnets included in branches of the same circuit, and mechanism adapted to be tripped or released by said lever, and thereby break the circuit through both magnets at the time and in the manner set forth.

2. In an apparatus for treating carbons, the combination, with an armature-lever and armatures carried thereby, of an electro-magnet in circuit with the carbon to be treated, an electro-magnet in a derived circuit of fixed resistance around the first magnet and carbon, and mechanism adapted to be actuated by the said armature, and thereby break the circuit through both magnets, as and for the purpose specified.

3. The combination of an electric circuit, a carbon conductor surrounded by a hydrocarbon gas or vapor, and an electro-magnet and armature with a shunt or derived circuit of fixed resistance around the said magnet and carbon, an electro-magnet contained therein, and mechanism adapted to be actuated by the movement of the armature effected by the action of the magnets, and thereby break the circuit through both magnets at the time and in the manner specified.

264,043. GOVERNOR FOR STEAM-ENGINES. JOSHUA P. McCOOK, Richmond, Va., assignor of one-third to James H. Bruce, same place. Filed July 22, 1882. (No model.)

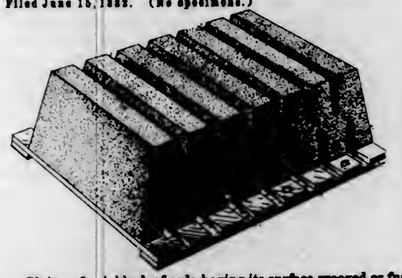


Claim.—1. The combination, with the engine-shaft and a compound eccentric for operating the cut-off, of the sleeve K, having the pinion attached, the vertical shaft F, carrying pinions E, the weighted levers I I, pinions H, sleeves K, hollow vertical shaft M, and a gear, Q, fixed on the engine-shaft, all as shown and described, to operate as specified.

2. The combination, with vibrating weighted levers connected with a variable eccentric, and having extensions, as specified, of a spring-regulating attachment, applied as shown and described.

3. The combination of the spring B and adjustable arms *d* with the weighted levers I I and means for connecting the latter with the variable eccentric for regulating the cut-off, as specified.

264,044. SODA BLOCK. JAMES MCCRODDEN, New York, N. Y. Filed June 15, 1882. (No specimens.)



Claim.—1. A block of soda having its surface grooved or furrowed, substantially as and for the purpose set forth, whereby the mass composing the block may be more thoroughly exposed to the influence of heat and the action of impregnating gases.

2. A block of soda the under and upper surfaces of which are channeled or furrowed, the channels or furrows in one surface being located substantially intermediate with reference to those in the opposite surface.

264,045. DEVICE FOR ATTACHING TORPEDOES TO RAILWAY-RAILS. DANIEL R. MURPHY, Pittsburg, Pa., assignor of two-thirds to Abraham O. Tinsman, same place. Filed Mar. 25, 1882. (No model.)

Brief.—The spring-arms of the torpedo are held distended by a holder having clamping-arms and a tripping-trigger whereby to release said spring-arms in placing the torpedo.



Claim.—1. A railway-torpedo provided with an elastic clamping device or spring-anchors adapted to be spread so as to pass the rail-head freely, and when released to spring against and grip the rail, in combination with a holder constructed and adapted to hold said torpedo with its anchors distended, and provided with a trigger to release the torpedo when pressed upon the rail, substantially as described.

2. The torpedo-holder consisting of the handle F, side holders, *g*, bail *h*, and swinging trigger *i*, combined and arranged substantially as described.

3. The railway-torpedo A, provided with the inclosing wire *b*, having detents *c*, lateral arms *d*, and downwardly-bent anchors *e*, constructed of spring metal and capable of being spread apart, substantially as described.

4. The holder consisting of the handle F, bail *h*, side guides or holders, *g*, and trigger *i*, in combination with the torpedo A, having the spring-wire *b*, bent to form the detents *c*, arms *d*, and anchors *e*, substantially as described.

264,046. WIRE-COILING MACHINE. HUGO SCHMIDT, Chicago, Ill., assignor to Thomas H. Ball, Herman Preuhaser, and Simon Flershelm, same place. Filed Apr. 7, 1882. (No model.)

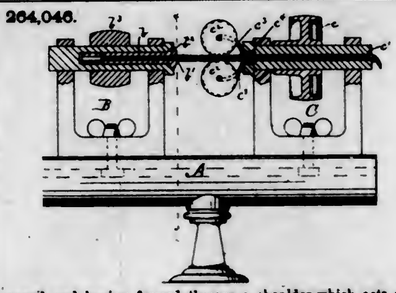
Claim.—1. The machine for coiling wire, consisting of two rotating heads, one carrying the mandrel around which the wire is wound, and having formed thereon a shoulder, b^3, at the point where the wire is fed, and the other head carrying a friction device for rotating the coiled wire, substantially as specified.

2. The combination of the following instrumentalities, viz: first, a rotating head carrying a mandrel, upon which the wire is wound, and having formed thereon a shoulder, b^3, at the point where the wire is fed to the machine; second, another rotating head carrying a friction device for rotating the coiled portions, and, third, a stationary slotted bushing, E, substantially as and for the purpose set forth.

3. The combination of the two rotating heads, one carrying the mandrel and the other a friction device for rotating the coiled wire, consisting of the two spring-rollers having their axes at right angles to that of the heads, substantially as specified.

4. The combination of a rotating mandrel and shoulder, a rotating friction device for rotating the formed coils, mechanism for imparting rotation to said parts, and a tension device delivering the wire to the mandrel at said shoulder, substantially as specified.

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264,047. PORCH-IRON. DAVID U. STONER, Mount Joy, Pa. Filed Mar. 20, 1882. (No model.)

Brief.—The porch-posts are supported by nut-washers secured to their lower ends, said nut-washers being adjustable upon a threaded upright turning in a metal base.



Claim.—1. In combination with a post of a porch, a nut with a nut-washer about its lower end, secured in the base of said post, the upright *u*, and the base B, constructed and operated as and for the purpose set forth.

2. In combination with the post of a porch having vertical grooves in the lower part of its bore, the nut N, having flanges *g* and nut-washer *f*, the upright *u*, and base B, constructed and operated as specified.

264,048. BARREL-VENTILATOR. WILLIAM R. SWARTOUT, Baltimore, assignor to William Twaddle, Jefferson County, Ohio. Filed June 23, 1882. (No model.)



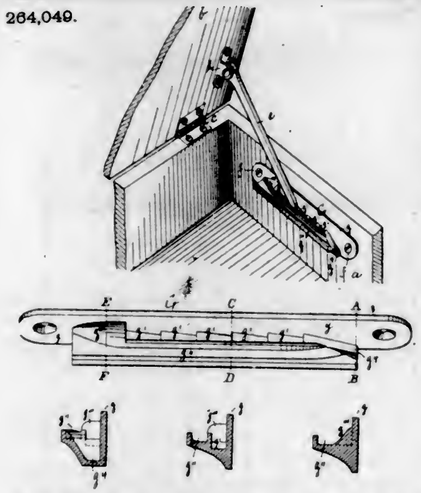
Claim.—1. In a barrel, the combination of two parallel bars provided at their ends with semicircular tenons b^2, fitting snugly the openings in the heads of the barrel, and with shoulders b^3, projecting outward under the heads of the barrel, and the brace-block *c*, placed between and midway the ends of the bars *b b'*, substantially as and for the purposes set forth.

2. A barrel-ventilator composed of the bars *b b'*, constructed to be held between the heads of a barrel, the intermediate brace-block, *c*, and the pins *d*, the said pins being secured to one of the bars near its end, and extended across the space between the bars, and working in openings through the opposite bar, as set forth.

264,049. PIANO-LID SUPPORT. HENRY S. TUCKER, Faulkner, assignor of one-half to Alexander Glover, Boston, Mass. Filed Mar. 13, 1882. (No model.)

Claim.—The herein-described lid or cover support, consisting

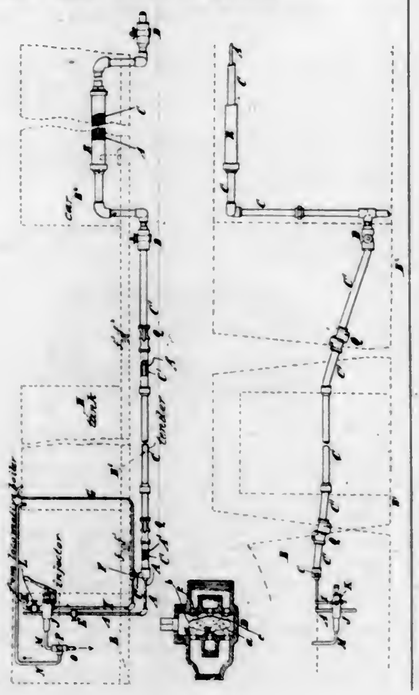
264,049.



of the teeth g' g', the return-groove g'', incline g''', and recess g^4, combined and arranged with the hinged pawl e in a manner and for the purpose set forth.

264,050. APPARATUS FOR HEATING CARS. MAURICE J. WALSH, New York, N. Y., assignor, by mesne assignments, to Louis Fitzgerald, same place. Filed May 23, 1882. (No model.)

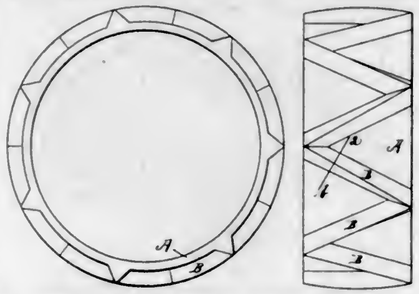
Brief.—Pipes extending from boiler of locomotive through the train. A pump or injector to deliver the water of condensation from the return-pipe to the boiler or to the tender-tank and necessary means of connection and regulation



Claim.—1. The combination, with the pipes A A' C C', extending along a train and provided with the cocks D, of the pipes G I, the tank H, cock F, injector or pump J, the pipe K, and a pipe or pipes leading from the injector or pump to the said tank H, all arranged and adapted to operate substantially as specified.

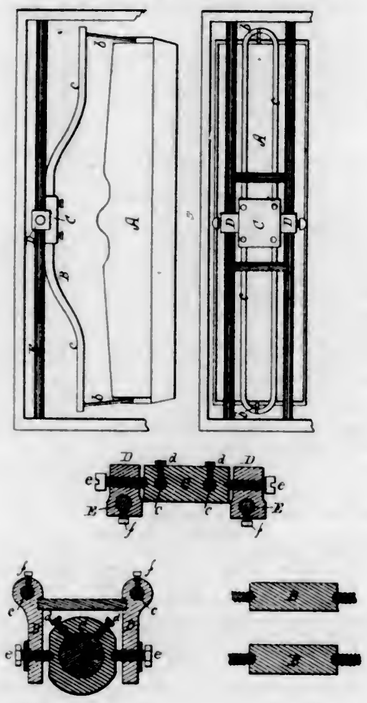
2. The combination, with the pipes A A' C C', extending along a train and provided with cocks D, of the pipes G I, the tank H, cock F, injector or pump J, the pipe K, the pipes M, N, and O, and the valve or cock P, all arranged and adapted to operate substantially as specified.

264,051. TIRE FOR TRACTION-WHEELS. NOAH B. YINGLING, Seven Mile, Ohio. Filed June 2, 1882. (No model.)

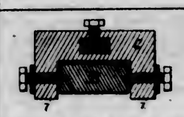


Claim.—In traction-wheels, the combination of tire A and pyramidal ribs B, arranged diagonally across the face of the tire B, and joined at the edges of the tire to form a continuous zigzag, substantially as and for the purpose set forth.

264,052. SELF-LEVELING BERTH. ALBERT A. YOUNG, Boston, Mass., assignor to the Miller Berth and Life Saving Mattress Company, Nashua, N. H. Filed Mar. 11, 1882. (No model.)



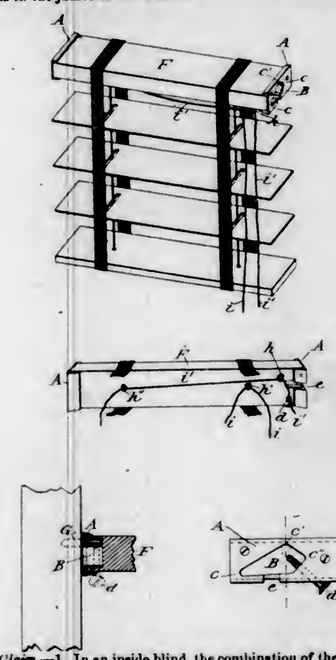
264,052.



Claim.—In combination, the beam B, secured adjustably to the cross-head C, and constituting at its ends the suspensory of the berth A, and the blocks D D, mounted adjustably upon the bars E and supporting the pivots e, which in turn support the cross-head C, substantially as described.

264,053. DEVICE FOR HANGING VENETIAN BLINDS. CHAS. M. YOUNG, Lockport, N. Y. Filed Dec. 7, 1881. (No model.)

Brief.—To the ends of the heavy top slat are affixed castings with an irregular angular opening in each, which governs the position and operation of the blind. The shade, by means of these, may be, with all its attachments, lifted off or placed upon supporting-pins in the jambs of the window.



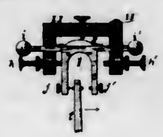
Claim.—1. In an inside blind, the combination of the top slat, F, with the hangers A, having the angular openings B in them, and the supports G, substantially as shown.

2. In an inside blind, the combination of the top slat, F, the hangers A, having the angular openings through them, the supports G, and set-screws d, substantially as described.

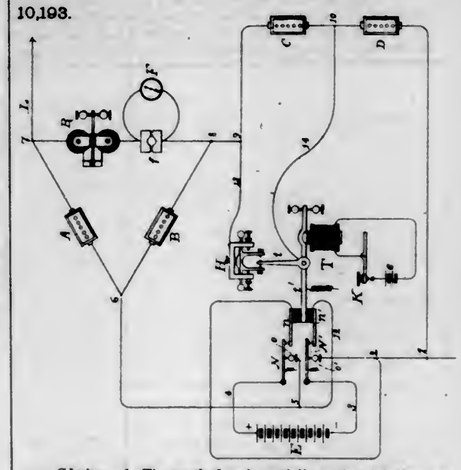
3. The combination, in an inside blind, of the top rail, F, the hangers A, having the openings B e, the set-screw d, and the supports G, substantially as set forth.

REISSUES.

10,193. DUPLEX TELEGRAPH. GEORGE D'ISERNILLE, New York, N. Y., assignor to the Western Union Telegraph Company, same place. Filed Apr. 17, 1882. Original No. 228,094, dated Feb. 22, 1881.



10,193.



Claim.—1. The method, substantially as hereinbefore set forth, of counterbalancing the effects of the current of charge in a duplex telegraph system, which consists in momentarily diminishing the normal resistance in the artificial line simultaneously with the act of charging the main line.

2. The combination, substantially as hereinbefore set forth, of a main line, an artificial line, and a key or transmitter provided with two sets of circuit-closers arranged to act simultaneously and including means, respectively, one to connect the battery with the main and artificial lines and the other to temporarily close a normally-open shunt around a portion of the resistance in the artificial line.

3. The combination, substantially as hereinbefore set forth, of a rheostat normally constituting a portion of the artificial line, a normally-open shunt-circuit passing around said rheostat, and a circuit-closer for completing said shunt-circuit, which is attached to or operated simultaneously with the lever of the transmitter.

4. The combination, substantially as hereinbefore set forth, of the transmitter-arm, the reciprocating weighted shuttle moving with slight friction between adjustable stops, and by its inertia having a greater range of vibration than the transmitter-arm, and the contact-points upon the said shuttle facing the transmitter-arm.

5. The combination of a main line, the artificial line, a bridge connecting the main and artificial lines, a receiving-instrument placed in said bridge, a reversible main-line battery, a normally-open auxiliary circuit or branch, and a key or transmitting device provided with two independent sets of circuit-closers, one to reverse the main-line battery both on an up and down movement of the key and the other to temporarily close said auxiliary circuit at the instant of each reversal of the battery, for the purpose of establishing an equality of potential at both ends of said bridge at and for an instant following each reversal of battery.

6. A key or transmitter provided with a main-line battery pole-changer and an independent circuit-closer for temporarily closing an auxiliary circuit at the instant of reversing the main-line battery both upon the to-and-fro movement of the transmitter, and means for retaining said auxiliary circuit closed, in the first instance upon connecting a battery-pole to line and in the second instance upon disconnecting the same battery-pole from line.

7. In a telegraph-system for simultaneous transmission in opposite directions, the combination, at each station, of a main line, an artificial line, a bridge joining the main and artificial lines, a transmitting-key, and a normally-open auxiliary circuit which is temporarily closed by the key both upon the to-and-fro movement of said key during an instant after connecting a battery-pole to line, and again for an instant after disconnecting the same battery-pole from line, to establish an equality of potential at the opposite ends of said bridge at each reversal of the battery.

8. A transmitter or key provided with a main-battery-circuit closer and an independent-circuit closer arranged to temporarily close an auxiliary circuit at the instant of connecting a main-battery pole to line, and means to continue such connection only for an instant, and to again temporarily close the auxiliary circuit during the period of static discharge, and to disconnect the same pole from line.

9. A transmitter or key provided with a main-battery-circuit closer, an auxiliary circuit, and an independent-circuit closer therefor, operated by the key, and means whereby the auxiliary circuit is momentarily closed and then broken during the period of static charge upon the downward movement of the transmitter, and means whereby the auxiliary circuit is again momentarily closed and then broken during the period of static discharge upon the return or upward movement of the transmitter.

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DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF UNITED STATES COURTS IN PATENT CASES.

DECISIONS OF THE U. S. COURTS.

U. S. Circuit Court—Western District of Pennsylvania.

DOUBLEDAY v. BEATTY.

Decided May 9, 1882.

CLAIM 1 OF PATENT NO. 47,133 DECLARED INVALID AND CLAIM 2 CONSTRUED.

Claim 1 of Patent No. 47,133, April 4, 1865, to John B. Root, for an improvement in oil-well pumps, *Held* to be anticipated, and claim 2 not to bear the construction sought to be placed upon it by the plaintiff.

Mr. George H. Christy for the plaintiff.

Mr. George Shiras, Jr., and *Mr. James C. Boyce* for the defendant.

ACHESON, *D. J.*:

This suit, instituted August 30, 1877, is brought for the infringement of Letters Patent No. 47,133, granted to John B. Root, April 4, 1865, for an improvement in oil-well pumps. The patent was assigned by Root to James L. Jackson, who, on March 6, 1877, granted to the plaintiff, H. H. Doubleday, the exclusive right thereunder for the township of Deerfield, Warren county, Pennsylvania, within which territory the infringement complained of was committed.

The gases which accumulate in petroleum-wells were found at an early day to interfere with the pumping of the oil. Originally the wells were tubed with a single tube, and the then mode was to place a seed-bag—*i. e.*, a leather bag filled with flaxseed—around the outside of the tube above the oil-bearing rock, to serve as a packing between the tubing and the walls of the well, to exclude the water above from the lower part of the bore, where the oil is obtained. But this arrangement left no other outlet for the gases except through the valves of the oil-pump, and the upward pressure prevented the valves from closing properly. It clearly appears, however, and, indeed, is not denied, that prior to Root's alleged invention two concentric tubes had been employed in oil-wells, the inner one being the pumping-tube, and the seed-bag being placed around the outside of the outer tube, called the "casing." Thus provision was made for removing the oil-tube and oil-pump without disturbing the seed-bag, while the annular space between the two tubes formed a passage from the bottom to the top of the well, through which the gases might escape. Indisputably this improvement was anterior to Root's alleged invention, although his specification throughout implies the contrary. It was embodied in Shoup's patent of December 27, 1864. But casing in oil-wells was older even than Shoup's invention, which was as early as April 26, 1862.

The following is an extract from Root's specification:

The object of this invention is to obviate this interference of the gases with the working of the oil-pumps; and to this end it consists in providing in an oil-well, besides the ordinary oil-tube connected with the oil-pump, an additional tube connected with an exhausting-pump at the top of the well for drawing off or permitting the escape of gases.

It also consists in a certain mode, hereinafter described, of applying such additional tube and the seed-bag in combination with each other and with the oil-tube, whereby great facility is afforded for applying the said additional tube and for the removal of the oil-tube and oil-pump from the well without disturbing the seed-bag or permitting water to enter the lower part of the well.

C is the additional tube; and the specification says:

This tube C surrounds the oil-tube, and is attached to the upper end thereof by an air-tight flanged joint, *b*.

The specification contains no further allusion to this flanged joint, except in the following clause, viz:

It is not absolutely necessary to arrange the gas-tube C around the oil-tube, as it might be arranged on one side thereof, if the seed-bag be properly applied in connection with the two tubes to exclude water from the lower part of the well; but I consider it best to arrange it around the oil-tube, as represented, as so applied it enables the oil tube and pump to be taken up whenever necessary by disconnecting the flange *b* without disturbing the seed-bag.

The patent has two claims, the first of which is as follows:

1. The employment, in an oil-well, of an additional tube so arranged and applied, in combination with the oil-tube and an exhausting-pump, that, while it permits the exclusion of water from the lower part of the well by means of the seed-bag, it provides for the escape of the gases from the well, substantially as herein described.

As respects this claim the defense insisted on is that Root was not the original inventor, and a great deal of testimony has been taken to show prior use at various oil-wells in the oil regions of Pennsylvania. His patent, as we have seen, was granted April 4, 1865, upon an application filed November 8, 1864. Root testifies he conceived the invention some time in the summer of 1864, but the exact date he does not know. His specification was sworn to October 24, 1864, which is the earliest fixed date we have for the completed invention.

Ten witnesses were examined on the part of the defendant to prove prior use of said combination at the Jennings & Grandin well on Tidioute Flats, Deerfield township, Warren county, Pennsylvania. The evidence certainly shows that at that well an additional tube was put down outside of the oil-tube and through the seed-bag, which latter was so arranged around the two tubes as to exclude the water from the lower part of the well, and that this additional tube was connected at the top of the well with a gas-pump, which was worked by the walking-beam, which pumped the oil. The combination was the same as that covered by Root's first claim, and was successfully used at that well for several months, at least, for the same purpose contemplated by Root; and if such use was prior to his invention it completely anticipated his first claim. These witnesses all testify to the use of the combination at the Jennings & Grandin well in the year 1863. We have no reason to doubt the honesty of these witnesses, and the only remaining question therefor is whether they are correct in their recollection as to time.

Chambers Green testifies positively that he leased that well in the winter of 1862-'3. He commenced to operate it, he thinks, in January. Originally, he says,

he had no partner with him. In the spring and summer of 1863 he sold out to Allen and another man, who ran it about one month, at the end of which time he (Green) bought back an interest, and then he and Allen ran the well until May, 1864. He testifies he first applied the gas-pump to the well in the spring of 1863, when he was running it himself; that he took the gas-pump away when he sold out; but when he bought back an interest he brought the gas-pump back and again put it on the well, and that thereafter it was used while he and Allen had the well. He further states that in the summer of 1864 he went to the McClintock farm, on Oil Creek, and there drilled a well; that he was taken sick in November, 1864, and was sick pretty much all that winter, and that he came back to Tidionte in the spring of 1865. These latter circumstances, about which the witness can scarcely be mistaken, tend to corroborate him as to the time when he operated the Jennings & Grandin well.

Charles A. Allen (Green's partner) had been a soldier in the Union army, and he testifies that he came home on furlough in the spring of 1863; that he remained at home about one year, returning to the army in February, 1864, but not to active service; that he went into the hospital at Columbus, Ohio, stayed there about one month, was discharged March 4, 1864, and came directly home. He testifies that during the year he was home on furlough he operated the Jennings & Grandin well in connection with Green. He describes minutely the arrangement for freeing the well of gases by means of the additional tube and gas-pump. He thinks the pump was put in operation in September, 1863, and says when he came back after his discharge on March 4, 1864, "the gas-pump arrangement was still there." This he states was the only well in which he was ever interested pecuniarily. He and Green stopped working it, he thinks, in May, 1864. Afterward during that summer, for about two or three months, he was employed, he says, on the salt-well, and about October 1, 1864, went to Michigan, where he remained three months. It is inconceivable that Allen can be mistaken in respect to his dates connected with his army life. He is an unimpeached witness, and as to the time when the gas-pump was used at the Jennings & Grandin well he is corroborated by no less than eight witnesses, (exclusive of Green,) viz: L. H. Sprague, James C. Bowen, J. T. Thorpe, Alexander Gibb, Charles S. Garrett, Henry Bowman, James B. Jennings, and N. Carbaugh.

Several of these witnesses fix the time in a reasonably satisfactory way by reference to events about which they are not likely to be mistaken. Thus, Sprague was married in September, 1862. His father-in-law came to live with him the next spring. The two ran the Culbertson, Jackson & Waters well from the spring of 1863 until the spring of 1864. That spring (1864) Sprague hired as foreman to the Tipton Oil Company. A receipt produced, dated September 25, 1863, fixes that as the year he was engaged at the Culbertson, Jackson & Waters well. He testifies that while he was operating that well with his father-in-law he bought some wood from the Economy Oil Company, and immediately sold it to Green & Allen, who were then running the Jennings & Grandin well; that he went to that well to collect the money for the wood and saw a gas-pump there in operation and carefully examined it. He fixes September, 1863, as the date of the transaction about the wood and his visit to the Jennings & Grandin well, and says the wood he sold Green & Allen "is all I ever sold them or anybody else that year or any other year."

Bowen testifies he went to Fredonia, New York, about May, 1862, and resided there about two years; that on the occasion of a visit from New York State to Tidionte he saw a gas-pump used at the Jennings & Grandin well. He fixes the fall of 1863 as the time, and says "Charles Allen and Chambers Green were at work on it." Thorpe went to work at the Wright well, near the Jennings & Grandin well, on September 26, 1863, a date he obtains from an old memorandum-book he produces. He says they then had "a pump for pumping gas from that well," (Jennings & Grandin.) "The pump was stationed in the derrick. I was a green hand and new to the business, and I noticed it as being different from the well I was working on." He adds that he "sometimes relieved Mr. Allen for an hour or so when he wanted to leave the well, and ran the Jennings & Grandin well for him."

To convict the witnesses of mistake in point of time the plaintiff's counsel made a vigorous argument based upon the assumption that Carbaugh swears he held the lease of the Jennings & Grandin well prior to the time when Green & Allen took it, and that he sold the lease to them in October, 1863; but the evidence by no means warrants such assumption. The testimony of Carbaugh as to his interest is as follows, (Plaintiff's Record, pages 349 and 350:)

Cross-Question 114. What did you go to work at when you left that Shaw well?—Answer. I think I went to work on the Jennings & Grandin wells.

Cross-Q. 115. What doing?—A. Rigging it up for pumping.

Cross-Q. 116. At what salary per day?—A. One-fourth of the production of the wells.

Cross-Q. 117. How long did you work on those wells?—A. But a short time. I sold my interest to Chambers Green and Charles Allen.

This is all the witness said in respect to any interest he had in the Jennings & Grandin well, although in some subsequent cross-interrogatories the examining counsel assumed he had gone much farther. But by no fair construction of his testimony can the assumption be sustained. The uncontradicted evidence is that James B. Jennings leased the Jennings & Grandin well to Green.

We adhere to the rule "that it is not sufficient to raise a doubt as to the novelty of the plaintiff's patent; it must be affirmatively proved to be old by preponderating and satisfactory proof." (*Tomkins* v. *Gage*, 2 Fish., 577.) But in this instance we think the evidence of prior use is fully up to this standard, especially in view of the long and unexplained acquiescence of Root, the patentee, and his assignee, Jackson, in the general and notorious use of the patented devices. Immediately after the issue of the patent Jackson, to whom a half interest was then assigned, built two exhausting engines and pumps, took them to the oil regions and put them in operation, and sold them on July 26, 1865, to the Atlantic and Great Western Petroleum Company. From that date down to March 6, 1877, when the assignment to the plaintiff was made, neither Root nor Jackson, so far as appears, took any step in assertion of their rights under the patent. Yet as early as 1867 gas-pumps such as are now employed had come into extensive use at oil-wells, and various patents thereon were soon taken out. It is in evidence that since 1867 the wells in the oil regions, with hardly an exception, have employed substantially the arrange-

ment of casing, pumping-tube, and casing-head in use at the defendant's wells. One witness states that in the ten years prior to the date of his examination (July 17, 1879) not less than thirty thousand oil-wells were sunk in the oil regions. Here, then, was a patent of great value, if valid, openly and habitually infringed without objection on the part of the patentee or his assignee. Why was this? In the absence of any other rational explanation, does not the conduct of Root and Jackson justly excite the suspicion that they were conscious that the patent was invalid by reason of prior use? At any rate, a plaintiff who, after an acquiescence for the period of twelve years in the almost universal use of a patented invention, buys into the patent and essays to enforce it against the public, ought not to be surprised to find the courts inclined to believe a multitude of respectable witnesses, who testify to prior use, even should the witnesses speak largely from memory. The present defense, however, does not rest upon the unsupported recollection of the witnesses. Their accuracy in respect to time is sufficiently verified by contemporary circumstances; and upon the whole we are entirely satisfied that the defense of anticipation of the first claim of the patent is established by the proofs.

We come now to the consideration of the second claim, which is as follows:

2. The arrangement of the tube C, surrounding and connected with the upper part of the oil-tube A, and applied within the well, substantially as herein described, whereby the oil-tube and oil-pump may be removed without disturbing the seed-bag.

The first question here arising is one of construction. It is contended upon the part of the plaintiff that the claim embraces as one of its elements a removable air-tight casing-head which covers and closes at the top of the annular space between the inner or pumping tube and the exterior tube or casing. If this was intended, the claim is very unfortunate in its phraseology. The air-tight flanged joint *b*, which is now claimed to be the principal element in the combination, is not mentioned at all in the claim of the patent, and in the body of the specification is only referred to incidentally. The specification states two objects as contemplated by the invention. The first is to obviate the interference of the gases with the working of the oil-pumps, and to this the first claim is referable. The other specified object is to facilitate the removal of the oil-tube and oil-pump from the well without disturbing the seed-bag, and to this the second claim is referable. But how does a connection of the two tubes at the top by means of a tight joint contribute to the result contemplated by the second claim? So far from facilitating the removal of the oil-tube and oil-pump, it is a positive hinderance thereto.

The only words in the claim which give the slightest color to the construction upon which the plaintiff insists are "and connected with." But in what sense connected? The specification explains that "the length of the said tube C is such that it extends from the upper end of the oil-tube to such depth down the bore *a a* of the well as it is desirable to place the seed-bag." Now, although the words "and connected with" are ill chosen, we think they must be held to refer merely to the relation which the two tubes bear to each other in securing the desired end. "The arrangement of the tube C, surrounding and connected with the upper part of the oil-tube A, and applied within the well, substantially as herein described, whereby," &c. Who upon the first reading of the claim would understand it to include an air-tight separable connection between the tube C and the oil-tube? If this is what Root meant he should have expressed himself in reasonably intelligible terms. We are of opinion that the claim will not bear the construction for which the plaintiff contends. If the air-tight separable connection between the top of the casing-tube C and the oil-tube A forms no part of the combination claimed, then confessedly there was no novelty in the second claim. Much testimony has been taken to show that, even upon the plaintiff's construction of the claim, it had been anticipated by the prior use at a number of oil-wells of a separable casing-head. But it is not necessary to consider this branch of the defense in our view of the scope of the second claim.

Let a decree be drawn dismissing the bill, with costs.

MCKENNAN, *C. J.:*

This case was argued before both the judges of the circuit court, and was considered with a disposition to sustain the patent if the proofs would at all allow it. The evidence touching the anticipation of the first claim is unusually full and satisfactory, and is in my judgment clearly decisive against its validity. Notwithstanding the very ingenious and impressive argument of the complainant's counsel the impression which was made upon my mind at the hearing as to the true meaning and construction of the second claim is not only unshaken, but has been confirmed by subsequent reflection. That claim is correctly expounded in the opinion of Judge Acheson.

I therefore concur unreservedly in his opinion.

DOUBLEDAY *v.* ROESS.

Decided May 9, 1882.

1. OIL-WELLS—WANT OF INVENTION.
   No invention was required to run a steam-pipe into an oil-well between the eduction-tube and the casing instead of through the packing between the casing and the sides of the well.
2. SAME—AGGREGATION.
   A claim for the combination, in an oil-well, of a steam-pipe, a stop-cock in a gas-pipe, and a packing-tube, *Held* to be for a mere aggregation.

Mr. George H. Christy for the plaintiff.
Mr. James C. Boyce for the defendant.

ACHESON, *D. J.:*

On the 14th of November, 1865, Letters Patent of the United States No. 50,919, for an improvement in tubular apparatus for deep wells, were granted to M. J. Dickerson and Jacob Stuber. H. H. Doubleday, having acquired by assignments the exclusive ownership of the patent in and for the county of Venango, Pennsylvania, on the 3d day of January, 1880, brought this action against Christian Roess, charging infringement within the assigned territory.

The patentees supposed, and the assumption pervades every part of their specification, that they were the original inventors of a mode of well-packing by the use of a packing tube or casing exterior to and surrounding the eduction-tube, the packing consisting of a seed-bag placed around the casing at the desired point, closing up the annular space between the casing and the walls of the well, whereby a surface-water

chamber, separate from the eduction-tube, was formed. This assumed invention was embodied in their first claim, but beyond all question the patentees were not the inventors of that mode of well-packing. It has been in previous use, and therefore, on December 29, 1879, the plaintiff filed in the Patent Office a disclaimer of the first claim of the patent. That left the second claim only, which is as follows:

2. The combination and arrangement of the steam-pipe J, stop-cock K, and packing-tube C, substantially as described.

Originally oil-wells and other deep wells were tubed with a single tube, through which the fluid was pumped, the packing or seed-bag surrounding it; and the specification of this patent states that where the wells are so packed, "if steam or air is used therein, the steam or air pipe must be carried through the seed-bag, and the hot steam will heat the pipe sufficiently to burn or shrink the seed-bag, causing it to leak, so that the surface water will trickle through and injure and retard the working of the well." To avoid this supposed difficulty the steam-pipe J is carried down between the eduction-tube and the casing in the Dickerson and Stuber patent.

The evidence shows that the purpose of steaming oil-wells is to melt and remove such paraffine as may have collected on the walls of the oil-bearing rock and promote the free flow of oil into the well. The beneficial effect of steaming was known at an early day.

That oil-wells were steamed prior to the Dickerson and Stuber invention by means of a steam-pipe running down through the seed-bag is plainly admitted by their specification, and that they were successfully steamed in that mode is, I think, satisfactorily shown by the evidence. Undoubtedly it was more convenient and preferable to carry the steam-pipe down between the eduction-pipe and the casing instead of through the packing. Dickerson and Stuber, however, were not the first to apply a packing-tube or casing to wells, and when they came to be cased it required no invention to carry down the steam-pipe through the open space between the tubes. No man of ordinary intelligence would have applied the steam-pipe to a cased well otherwise.

Of the function of the stop-cock K the specification says:

K represents a stop-cock, which is fitted into the head-cover of the well and opens into the well, so as to let off any gas which may collect therein. A pipe is connected to this stop-cock, which may be led off to the boiler or furnace and the gas used for fuel or for other useful purposes.

In the defendant's oil-wells, at the top of the casing, is a casing-head, in the sides of which are apertures, to which are attached gas-pipes provided with ordinary stop-cocks. When the tubing and steam-pipe are in position the top of the well is gas-tight, and the gas is led off by the pipes from the side of the casing-head. The steam-pipe extends down the well between the tubing and casing to the oil-rock, and is connected with the boiler. Between the boiler and the well a stop-cock is placed in the steam-pipe, so that steam can be either let into the well or shut off therefrom. The gas-pipe from one side of the casing-head is carried to the furnace of the boiler, so that the gas may be burned as fuel in order to raise steam in the boiler. The stop-cock on the gas-pipe is opened when it is desired to use gas from the well and closed when it is desired to keep the gas in the well, and no use of it is necessarily made during the process of steaming, although, inasmuch as the gas is burned under the boiler, it may frequently happen and it is generally the case that gas from the well is used under the boiler while the well is being steamed. It appears, therefore, that the defendant has used and is using substantially the elements of the combination embraced in the second claim of the patent sued on; but whether he is answerable as an infringer depends upon the determination of the question whether the steam-pipe J, the stop-cock K, and the packing-tube C form a patentable combination.

We have already seen that the packing-tube C was old, and that the steaming of oil-wells by means of a pipe running down through the seed-bag, connecting the boiler with the lower part of the well, was successfully practiced prior to the alleged invention of Dickerson and Stuber, and that it involved no invention to carry down the steam-pipe between the tubes of a cased well.

I need scarcely say that a stop-cock is one of the oldest and most common of devices, and is usually, if not necessarily, used wherever gas is conveyed by a pipe for use either as fuel or for illuminating purposes. In fact, no claim is here made for any one of the three devices singly. What, then, have we in this case but a mere bringing together of old devices without any new and useful result being produced by their co-operation? That such a combination is not patentable is well settled. (*Hailes* v. *Van Wormer*, 20 Wall., 353; *Reckendorfer* v. *Faber*, 92 U. S., 357.) "The result produced," it is said in *Pickering* v. *McCullough*, (21 O. G., 75,) "must be due to the joint co-operating action of all the elements, otherwise it is only mechanical juxtaposition, and not a vital union." (Ibid.) I think the present is clearly a case of the mere aggregation of devices within the principle of the authorities cited. It is, indeed, insisted that the stop-cock K acts as a regulator of the gas-pressure in the well with reference to the use of steam or air therein, and if steam is to be used the well should be free of pressure, which is effected by opening the cock; and the plaintiff's expert witness, Ruel W. Hall, ventures to express the opinion that a well cannot be steamed, or, at least, not with the best result, without opening the gas-escape cocks; but the specification of the patent does not assign to the stop-cock K the important function now claimed for it, and the evidence, I think, shows plainly enough that no such service is performed by it or is needed.

When oil-wells were steamed by a pipe running down through the seed-bag there was no outlet whatever for the gas except through the valves of the oil-pump.

Mr. Porteous testifies—

I have never found it necessary to use any appliances to facilitate the escape of gas while steaming my wells, and do not think it necessary to provide any means of escape for the gas in wells that would be benefited by steaming.

Mr. Chandler testifies—

I never knew of a well where it was necessary, and cannot conceive of a well existing in which it is necessary, to have an exit for the gas when being steamed.

These witnesses are experienced oil operators.

I am well satisfied from the evidence of the entire truth of the allegation made by the defendant in his answer, "that in steaming his wells he makes no use of the stop-cock on the gas-escape pipe, as he can properly steam his wells whether such stop-cock is opened or closed."

Let a decree be drawn dismissing the plaintiff's bill, with costs.

THE

OFFICIAL GAZETTE

OF THE

United States Patent Office.

[BY AUTHORITY OF CONGRESS.]

VOL. 22—No. 11. TUESDAY, SEPTEMBER 12, 1882. PRICE—$5 per year

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Subscriptions for 1882.

The OFFICIAL GAZETTE is published every Tuesday, two volumes a year, commencing in January and July. Terms: To all subscribers within the United States and Canada, $5 per annum; to foreign subscribers, $7; single copies, 10 cents; bound volumes, $3.50 per volume. No club rates. *Payment in advance.* All orders should be addressed to "The Commissioner of Patents, Washington, D. C."

Issue of Sept. 12, 1882.

Patents	372	No. 264,054 to No. 264,425, inclusive.
Designs	7	No. 13,290 to No. 13,296, inclusive.
Trade-marks	20	No. 9,649 to No. 9,668, inclusive.
Labels	5	No. 2,755 to No. 2,759, inclusive.
Reissues of patents	4	No. 10,194 to No. 10,197, inclusive.
Total issue	408	

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Maryland	3	.....	Wyoming Territory	.....	.....
Massachusetts	31	1	United States Army	.....	.....
Michigan	12	8	United States Navy	.....	.....
Minnesota	3	.....			
Mississippi	.....	.....	Total to citizens of the United States	361	24
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Austria	1	.....	Germany	1	1
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Chili	.....	.....	Switzerland	.....	.....
Colombia, U. S. of	.....	.....	West Indies	1	.....
Cuba	.....	.....			
Denmark	.....	.....	Total to citizens of foreign countries	18	1
Ecuador	.....	.....			
England	10	.....			

DESIGNS.

13,290.—FONT OF PRINTING-TYPE.—*Charles E. Heyer*, Chicago, Ill., assignor to *Arthur M. Barnhart*, *Alvon E. Barnhart*, and *Charles E. Spindler*, same place. Application filed July 24, 1882. Term of patent 14 years.

13,291.—SLEEVE-BUTTON.—*Stephen O. Howard* New York, N. Y. Application filed August 8, 1882. Term of patent 3½ years.

13,292.—EYELETING-MACHINE.—*Hymen L. Lipman*, Philadelphia, Pa. Application filed August 10, 1882. Term of patent 7 years.

13,293.—COFFIN-PEDESTAL.—*John Maxwell*, Oneida, N. Y. Application filed August 2, 1882. Term of patent 7 years.

13,294.—ADVERTISING-LABEL.—*Henry Pennington*, Philadelphia, Pa. Application filed August 21, 1882. Term of patent 7 years.

13,295.—VEGETABLE-DISH.—*John Slater*, Burslem, county of Stafford, assignor to *Gildea & Walker*, Dale Hall, Burslem, England. Application filed August 8, 1882. Term of patent 3½ years.

13,296.—FINGER-RING.—*Christian Wilkening*, *Henry Wilkening*, and *Louis Wilkening*, Newport, Ky. Application filed September 12, 1881. Term of patent 7 years.

TRADE-MARKS.

[Certificate of registration of Trade-Marks numbered 8,191 and upward are registered under the act of March 3, 1881.]

9,649.—COSMETIC.—*Horace C. Abbott*, Trinidad, Colo. Application filed July 12, 1882.

"The crossed white hands, backs downward.

9,650.—GOLD PENS, PENCILS, PEN AND PENCIL CASES, DESK-HOLDERS FOR PENS, GOLD TOOTH-PICKS, AND SIMILAR ARTICLES OF MY MANUFACTURE.—*Le Roy W. Fairchild*, New York, N. Y. Application filed June 1, 1881.

"The word 'FAIRCHILD.'"

9,651.—FINE-CUT CHEWING-TOBACCO.—*Globe Tobacco Company*, Detroit, Mich. Application filed August 9, 1882.

"The word 'HOPE.'"

9,652.—FINE-CUT CHEWING AND PLUG TOBACCO.—*Globe Tobacco Company*.—Detroit, Mich. Application filed August 9, 1882.
"The symbol of a banner and the word 'NERVE.'"

9,653.—FINE-CUT CHEWING, SMOKING, AND PLUG TOBACCO AND CIGARS.—*Charles B. Hull*, Detroit, Mich. Application filed July 27, 1882.
"The arbitrarily-selected word 'EAGLE.'"

9,654.—CHEWING-TOBACCO.—*Charles B. Hull*, Detroit, Mich. Application filed July 27, 1882.
"The arbitrarily-selected word 'ORIENTAL.'"

9,655.—SMOKING-TOBACCO AND CIGARS.—*Charles B. Hull*, Detroit, Mich. Application filed July 27, 1882.
"The arbitrarily-selected word 'CLUB,' and the figure of a ball-player."

9,656.—CHEWING-TOBACCO.—*Charles B. Hull*, Detroit, Mich. Application filed July 27, 1882.
"The arbitrarily-selected words 'DEW DROP,' in connection with a bird slipping a dew-drop from a flower.

9,657.—CHEWING-TOBACCO.—*Charles B. Hull*, Detroit, Mich. Application filed July 27, 1882.
"The arbitrarily selected word 'SUNRISE,' and a representation of the rising sun."

9,658.—FINE-CUT CHEWING, SMOKING, AND PLUG TOBACCO AND CIGARS.—*Charles B. Hull*, Detroit, Mich. Application filed July 27, 1882.
"The arbitrarily-selected words 'BIJAH'S JOY.'"

9,659.—LAMPS.—*Joseph J. Kittel*, Brooklyn, N. Y. Application filed July 22, 1882.
"The arbitrary symbol of a globe with the continents thereon represented."

9,660.—MEDICINAL COMPOUND.—*Joseph J. Pater*, Hamilton, Ohio. Application filed July 25, 1882.
"The arbitrarily-chosen word 'ANGELINE.'"

9,661.—VULNERARY BALSAM.—*Newton J. Rice* and *Benton F. Rice*, Newton Falls, Ohio. Application filed July 11, 1882.
"The horse-head surrounded by a horseshoe."

9,662.—SALVE.—*Nickolaus Stenger*, New York, N. Y. Application filed July 11, 1882.
"A picture or photograph of the registrant and the words 'ST. NICHOLAS.'"

9,663.—CERTAIN MEDICINES.—*Charles R. Thomasson*, Palestine, Tex. Application filed August 2, 1882.
"The letters 'C C C.'"

9,664.—SAWS.—*Henry Disston & Sons*, Philadelphia, Pa. Application filed August 21, 1882.
"The title 'GREAT AMERICAN.'"

9,665.—TEAS, COFFEES, AND SPICES.—*Olcovich Brothers*, San Francisco, Cal. Application filed August 18, 1882.
"The word 'REGENT.'"

9,666.—UNDER-GARMENTS.—*W. Benger Soehne*, Stuttgart, Germany. Application filed August 14, 1882.
"A shield at the lower part of which is represented a sheet of water, an anchor placed diagonally across the blank part of the shield and touching the surface of the water, an escutcheon placed above the shield, the leaves extending from the sides of the escutcheon, and the figure of a man mounted on the escutcheon and holding an anchor in his right hand."

9,667.—SEWING-MACHINES.—*St. John Sewing Machine Company*, Springfield, Ohio. Application filed August 12, 1882.
"The word 'ROYAL.'"

9,668.—SEWING-MACHINES.—*St. John Sewing Machine Company*, Springfield, Ohio. Application filed August 12, 1882.
"The abbreviation and word 'ST. JOHN.'"

LABELS.

2,755.—Title: "ALBRIGHT'S TONIC BITTERS."—*Orsoren W. Albright*, Puckett's Station, Ga. Application filed August 18, 1882.

2,756.—Title: "CARBOLIZED ABSORBENT TOWELS."—*George S. Brown*, Providence, R. I. Application filed August 5, 1882.

2,757.—Title: "SILLIMAN & LENNEY'S NEW DISCOVERY RHEUMATIC SPECIFIC."—*Silliman & Lenney*, Chenoa, Ill. Application filed June 12, 1882.

2,758.—Title: "SIR J. W. HALL, M. D., LONDON, ENGLAND, CELEBRATED BRITISH WHITE OIL."—*John Whitehouse*, Rochester, N. Y. Application filed July 31, 1882.

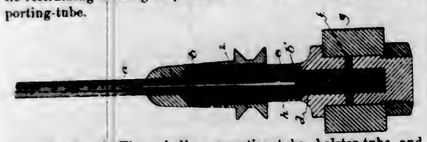
2,759.—Title: "WESTON'S FIRST CLASS LADIES' NOTE PAPER."—*William W. Whiting*, Pittsfield, Mass. Application filed August 4, 1882.

PATENTS

GRANTED SEPT 12, 1882.

264,054. SPINDLE-BEARING. GEORGE H. ALLEN, Ayer, Mass. Filed Apr. 20, 1882. (No model.)

Brief.—The bolster-tube and step are prevented from rotating in the supporting-tube by means of a pin inserted through a hole bored at right angles to their length and smaller than said hole, whereby the spindle is enabled to move and center itself to its load. To obviate undue deflection of the bolster-tube a metallic restraining-bushing is placed between said tube and the supporting-tube.

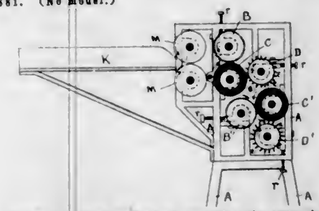


Claim.—1. The spindle, supporting-tube, bolster-tube, and the step fitted loosely into the bolster-tube, and adapted to receive within it the end of the spindle, combined with the pin *f*, to also hold the step loosely, as and for the purposes set forth.

2. The spindle, the supporting-tube, the bolster-tube placed loosely therein, and the step placed loosely in the bolster-tube, combined with the pin *f*, adapted to hold the said bolster-tube and step loosely and permit the said tube and step to move both independently and together, as and for the purpose set forth.

3. The supporting-tube, the bolster-tube, and step, means to prevent them from rotating with the spindle, and the spindle, combined with the restraining metallic bushing inserted between the bolster-tube and supporting-tube, all substantially as and for the purposes described.

264,055. MACHINE FOR DRESSING AND STRIPPING THE LEAVES OF FIBROUS PLANTS. ALBERT ARGELL, East Orange, assignor to David A. Burr, Montclair, N. J. Filed Dec. 28, 1881. (No model.)



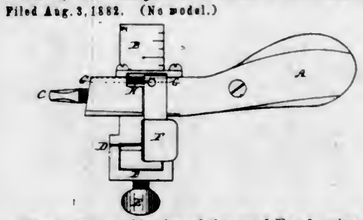
Claim.—1. The method of removing the outer hard coating of *Bromelia sylvestris* and kindred leaves, which consists in forming a series of gashes or scores transversely across the leaf by cutters and then removing the gashed or scored coating sections by scrapers as said leaf is fed through a machine, substantially as described.

2. In a machine for dressing fibrous leaves, the combination of a roller formed or provided with cutting-blades for gashing the leaves transversely preparatory for scrapers and an elastic bed-roller adapted to rotate in unison with said cutting-roller in close proximity, substantially as described.

3. In a machine for dressing the leaves of *Bromelia sylvestris* and kindred plants, the combination, with each other and with an elastic supporting-roller, C, rotating in close proximity thereto, of a cutting-roller, B, rotating in unison with said roller C, and of a second scraping-roller, D, rotating at a greater speed, whereby the leaves fed between said rollers shall be supported upon the yielding surface of the elastic roller C while being first gashed upon one side by the roller B and then scraped on the same side by the more rapidly-rotating roller C, substantially in the manner and for the purpose herein set forth.

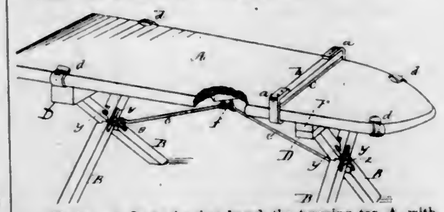
4. The combination, in a machine for dressing fibrous plants, with a set of rollers, B C D, adapted and operating, substantially as described, to cut and scrape the outer coat upon one side of a leaf or stalk fed thereto, of a second set of rollers, B', C', and D', adapted to receive from the first set the leaf or stalk dressed thereby on one side, and to cut and scrape in like manner the outer coat on its opposite side, substantially in the manner and for the purpose herein set forth.

264,056. LEATHER-CUTTING GAGE. HOLLAND C. BABCOCK, Hartford, Conn., assignor to P. Jewell & Sons, same place. Filed Aug. 3, 1882. (No model.)



Claim.—The combination of the guard F and spring H with the stock A, the slide B, and the knife D, substantially as described.

264,057. IRONING-TABLE. MARY G. BARBOUR, Haverhill, Mass. Filed Feb. 17 1882. (No model.)



Claim.—1. In an ironing-board, the tapering top A, with clamping device on each side, *d d d d*, and the sliding securing device *a b c*, extending across the top widthwise, united and adapted to operate substantially as and for the purposes specified.

2. In an ironing-table, the sliding holding device *a b c*, extending widthwise across the table-top, in combination with the tapering table A, substantially as and for the purposes set forth.

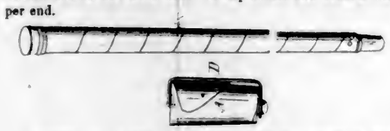
3. In an ironing-table, the tapering top A, in combination with the clamps *d d d d* and the holding device *a b c*, all substantially as and for the purposes set forth.

4. In an ironing-table, the adjustable legs B B B B, bolts *z z*, and rods *e e* and hook *f*, in combination with the parts D D F and the tapering board A, all substantially as and for the purposes set forth.

5. An ironing-table consisting of the parts A d d d d, the holding device a b c, and the frame-work F D D, the folding and adjustable legs B B B B, and rods e e, all united and operating substantially as and for the purposes described.

264,058. WALKING-CANE. SAMUEL K. BAYLEY, Boston, Mass. Filed Jan. 30, 1882. (No model.)

Brief.—The cane is made of a ribbon of steel wound spirally and gradually enlarging from the lowest to the upper portion. A ferrule secures the lower end. A cap covers and secures the upper end.

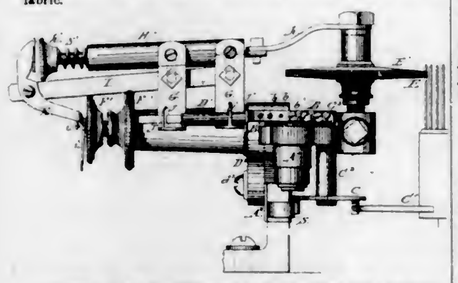


Claim.—1. A cane or stick consisting of a ribbon of metal or other suitable substances wound spirally and fastened and adapted to be shut telescopically into small compass when not in use, all as described.

2. As a means of holding a spirally-wound ribbon for forming a cane closed telescopically, the device D, all substantially as described.

264,059. PRESSER ATTACHMENT FOR KNITTING-MACHINES. CHAS. E. BEAN, Fall River, Mass., assignor of two-thirds to Seth Holden Wetherbee and Mathew C. Yarwood, both of same place. Filed May 28, 1881. (Model.)

Brief.—Two differently-figured presser-wheels mounted upon independent studs are secured to shafts, which are operated in one direction by a pattern-wheel and in the opposite direction by springs which surround the said shafts. The pattern-wheel is operated by means of a cam on the needle-cylinder coming into contact with and moving a star-wheel secured to the lower end of a vertical shaft, which carries at its upper end said pattern-wheel. By these means the figured pressers are alternately brought into engagement with the needles, producing various patterns in the fabric.



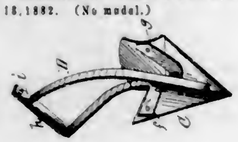
Claim.—1. The combination of the pressers E E', mounted upon independent studs, with means, substantially as described, for alternately and automatically forcing the said pressers—first one and then the other—against the needles, as set forth.

2. The combination of the shafts D H and pressers E E' with the sleeves D' H', spring S', and lever K, substantially as set forth.

3. The combination of the circular cam or pattern plate B and pattern-screws b' with the bar J, the upper and lower shafts, H D, springs S' S², pivoted lever K, and pressers E E', moved to and from the needles thereby, substantially as set forth.

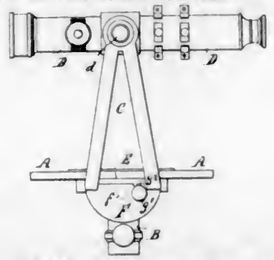
4. The combination, with the shafts D H, springs S' S², pressers E E', independent studs, fixed bar I, and pivoted lever K, and mechanism for operating said working parts, of the set-nuts F F', working on the screw-threaded end of the shaft D, and adapted to be turned together or independently, as set forth.

264,060. CULTIVATOR. IGNAM B. BRAND, Villa Vista, La. Filed May 18, 1882. (No model.)



Claim.—The combination, with the frame A and plows C, of the standards consisting of the metal bar D, having upon one side right-angle arm f and diagonally opposite the arm g at an acute angle to the length of the bar, the latter being bent as shown, and at its upper ends having horizontal flanges h i, substantially as and for the purpose described.

264,061. SURVEYOR'S TRANSIT. HENRY BLATTNER, St. Louis, Mo. Filed June 3, 1882. (No model.)



Claim.—1. In an engineer's or surveyor's transit-instrument, the combination of the compass or main plate A with the standard or standards carrying a telescope journaled to the said plate, by means whereof the said standard or standards and the telescope can be turned either downward or upward, as and for the purposes set forth.

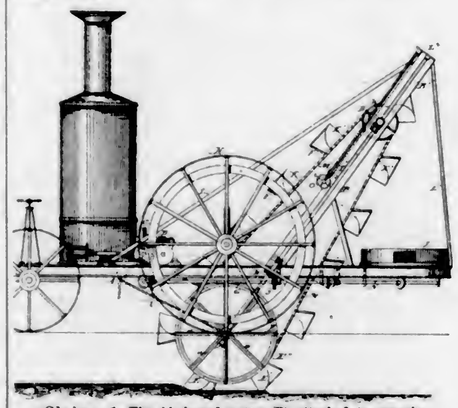
2. In combination with the main plate A, having journal-bearings, the standards C C', having journals to engage and turn in said bearings, the slots, and binding-screws by means whereof the said parts can be secured from turning, as and for the purposes set forth.

3. In combination with the main plate A, the journal-bearings E E', each consisting of the vertical and horizontal right-angle related plates e e', having journal-bearing e², and the standards C C', having bearing-plate F, carrying the journal or pintle f, all said parts operating as and for the purposes set forth.

4. In combination with the main plate A, the journal-bearings E E', each consisting of the right-angle plates e e', having journal-bearings e², the standards C C', having bearing-plate F, the journal f, the slot g², and binding-screw g', all said parts operating as and for the purposes set forth.

264,062. DITCHING MACHINE. JOHN P. BONNELL, Cross Village, N. J. Filed July 30, 1881. (No model.)

Brief.—The lower skeleton drum is provided on each side by cutting and shaping arms connected to the axles and the rims and on each end of the axle with small bent knives. The knives are fastened to the buckets at the outer central point. A horizontal cylindrical receptacle having a rotary bottom and revolving S-shaped arms receives the earth from the buckets, which is then thrown out of openings in the sides of the receptacle by centrifugal force.



Claim.—1. The U-shaped cutter F, attached to opposite chains and united to the buckets at an outer central point, as and for the purpose set forth.

2. The pulleys which form parts of the lower skeleton drum, provided with cutting or shaping arms connected to the axis of said drum and to the rims of said pulleys, as and for the purpose set forth.

3. The combination of the buckets fixed on the endless chains with the lower skeleton drum, constructed, as described, to co-operate with said buckets in forming and digging the ditch, as and for the purpose specified.

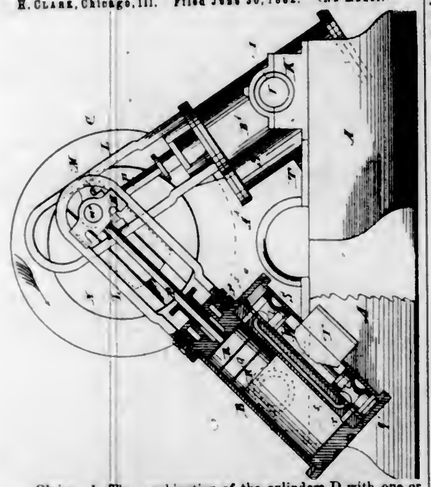
4. The horizontal rotary table f, provided with arms attached thereto, in combination with the dirt-receiver J, as and for the purpose set forth.

5. In combination with a chain of elevator-buckets, the receiver J and rotary table f, as and for the purpose specified.

6. The centrifugal dirt-throwing device composed of the rotating arms described, the cylindrical receptacle, and the rotary table, in combination with the dumping scoops or buckets, substantially as and for the purpose set forth.

7. In combination with the lower skeleton drum, the knives a³, substantially as and for the purpose set forth.

264,063. VARIABLE SELF-ADJUSTING ENGINE. WILLIAM H. CLARK, Chicago, Ill. Filed June 30, 1882. (No model.)



Claim.—1. The combination of the cylinders D with one or more cylinders, B, and connecting pipe or pipes for giving all cylinders the same interior pressure, substantially as described.

2. The combination of the shaft a, having the passages b, b', and j, with the tubes g h, cylinders D, and plungers E, substantially as specified.

3. The combination of the box i with the perforated shaft a, eccentric H, and disk or plate C, for forming an annular passage between them, substantially as set forth.

4. The combination of the perforated shaft a and eccentric H with the hollow shaft a', disk C, pipes g h, cylinders D, plungers E, cross-head F, sliding block G, and pin c, substantially as specified.

5. The unattached secondary or auxiliary piston-heads or followers R R', in combination with the piston-head Q, rod P, and cylinder B, substantially as and for the purpose set forth.

6. The secondary or auxiliary head R', having valves opening toward the head Q, for holding or imprisoning the fluid between the head Q and the secondary head, substantially as described.

7. The combination of the head R', having one or more valves with projecting stems, in combination with cylinder B, whereby a portion of the imprisoned fluid is permitted to escape when the same comes in contact with the cylinder-head, and an increased length of piston-stroke obtained, substantially as specified.

8. An unattached auxiliary piston-head or follower having valves with projecting stems, in combination with an inclosing cylinder and a piston-head, whereby the pressure on opposite sides of the auxiliary head is equalized and the length of piston-stroke automatically changed or adjusted to the throw of a variable crank, substantially as specified.

9. The combination of a steam or air cylinder having a piston and auxiliary or secondary piston-head or follower with a variable crank, substantially as and for the purposes described.

10. The combination of the cylinder B, having the guide-yoke or bent bar L, with the piston P Q, cross-head M, variable crank-pin a'', and auxiliary piston-heads or followers R R', substantially as and for the purposes specified.

11. The stop-motion m, m', and n, in combination with the slotted or notched bar k and cut-off valves l, substantially as described.

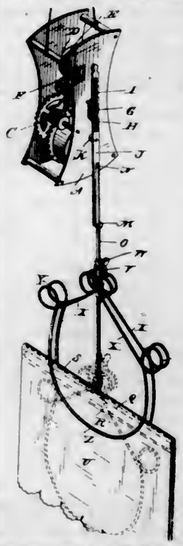
12. In an oscillating engine, the combination of the non-rotating arm or lever n, rock-shaft m', and arm m with the notched or slotted valve-rod k, valves l, and ports r, with a variable-stroke piston, whereby the quantity of steam admitted into the cylinder varies with the length of stroke, substantially as set forth.

13. The combination of the stop-motion m m' n, valve-rod k, valves l, with the ports q r s t, oscillating cylinder B, variable piston P Q, having auxiliary heads R R', and a variable crank-pin, a'', substantially as specified.

14. The combination of an engine-cylinder having a variable-stroke piston, constructed substantially as described, with a variable main-shaft crank, constructed and operating substantially as set forth.

15. The combination of an engine-cylinder having a self-adjusting variable-stroke piston with a self-adjusting main-shaft crank and a variable self-adjusting cut-off, substantially as specified.

264,064. FLY AND HOUSEHOLD FAN. HENRY E. CLISTON, Augusta, Ga. Filed Aug. 1, 1882. (No model.)



Claim.—1. The combination, with the casing carrying the operating mechanism, and having a balance-shaft provided with a fly-wheel and a transmitting-shaft provided with a crank-arm, of the pivoted vibrating lever having slots I and N and an out-turned slotted lower end, and the fan-rod, having at its top a lateral retaining-pin, as set forth.

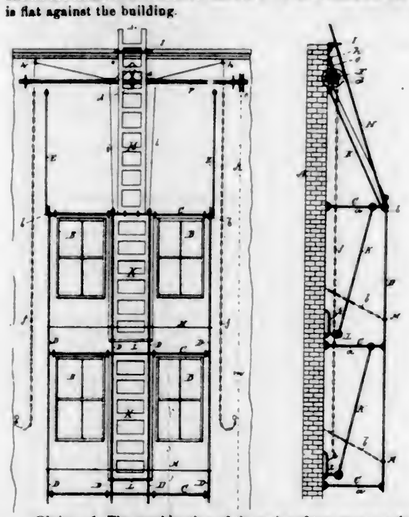
2. The combination, with the fan-rod having a cross-piece on which is secured flexible fan material, of a sliding collar carrying at each side a spring clamping-piece, adapted to be lowered to regulate the play of the fan material and to enable it to resist the air, as set forth.

3. The combination, with the fan-rod having a cross-piece on which is secured the flexible fan material, of a sliding collar having a set-screw, and carrying on each side a spring clamping-piece consisting of a piece of spring-wire bent outwardly and downwardly in U shape, as set forth.

264,065. FIRE-ESCAPE. EDWARD A. COUTIOAS, Boston, Mass. Filed Apr. 3, 1882. (No model.)

Brief.—One end of each ladder is fastened to the folding frame and the other end to a small platform over the opening in the main platform. A pawl secured to a knee-lever engages with a ratchet-wheel on the roll, on which the ropes for folding and

unfolding the frame are wound. Pulling on side ropes, which are attached to the knee-lever, releases the pawl from the ratchet and allows the frame to be folded or unfolded. When folded the frame is flat against the building.



Claim.—1. The combination of the series of two or more platforms, C, hinged to the front of the building, with their supporting-rods D and E, and with one or more auxiliary platforms, L, and their ladders K, all being adapted and to operate substantially as set forth.

2. The combination of the ladder H, leading from the uppermost platform to the cornice and through a guide or staple, as described, with the series of two or more platforms, C, hinged to the front of the building, and with the supporting-rods D E, and one or more auxiliary platforms, L, and their ladders K, all being adapted and to operate substantially as set forth.

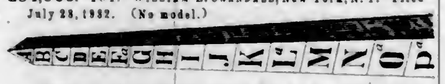
3. The combination of a platform hinged to the front of a building with a ladder leading upward or downward from such platform, and hinged thereto, so as with it to be capable of folding upward and flatwise against the front of such building.

4. The combination of one or more platforms C, hinged to the front of a building, with one or more ladders, applied as described, and with mechanism for supporting said platform or platforms when horizontal, and mechanism for elevating such platform or platforms and ladder or ladders in manner and flatwise against the said building as set forth.

5. The combination of the knee-lever and its pawl and the operative chains of the latter with the windlass and its ratchet or gear wheel applied to the front of a building, and the folding fire-escape composed of one or more ladders and one or more platforms, arranged and applied substantially as set forth.

6. The combination of the sliding guard and its sustaining-chains with the building and a platform hinged thereto and provided with supporting-rods, as set forth, such guard being to slide on such rods, as explained.

264,066. TOY. WILLIAM E. CRANDALL, New York, N. Y. Filed July 28, 1882. (No model.)



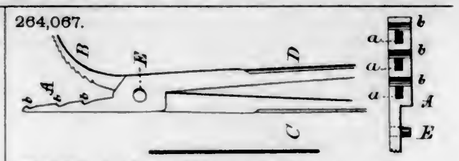
Claim.—1. A toy obelisk composed of sections fitted together edge to edge, each section provided with letters of the alphabet, numerals, and hieroglyphics, substantially as is shown and described.

2. In a toy obelisk composed of sections, the several sections having dowel-pins, as and for the purpose described.

264,067. NAIL-CLINCHER FOR HORSESHOES. WILLIAM H. DEITZ, Bloges, Pa. Filed Oct. 19, 1881. (Model.)

Claim.—The combination of a pair of jaws pivoted together and provided with handles, jaw B being curved and notched and jaw A having the depressions *a a a* and the grooves *b b b*, substantially as and for the purpose set forth.

264,067.



264,068. BAG-FASTENER. JOHN W. ESTES, Keytesville, Mo. Filed Feb. 3, 1882. (No model.)



Claim.—1. A bag-fastener consisting of a metallic plate having pointed fingers or prongs D, wings or flaps C C, and provided with the cord I, as set forth.

2. As an improvement in bag-fasteners, the herein-described metallic plate A, having diagonal incisions B B, forming fingers D, wings or flaps C, and butt E, the latter having a perforation, F, in combination with the cord I, as and for the purpose set forth.

264,069. KNOT OR STOP FOR CHECK-ROW WIRES. ROBT. FARINS, Decatur, Ill. Filed Sept. 24, 1881. (No model.)



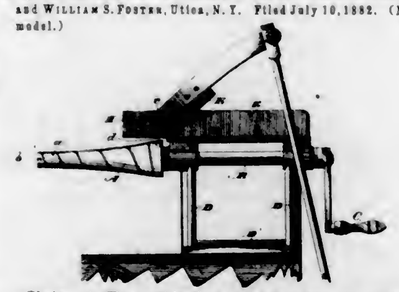
Claim.—The combination, in a check-row wire formed of sections linked together in the manner shown, of the ring A, closed down on the two parts B C to form indentures in each part, thereby securing the returned end of the loop to the main wire and the two sections together, as herein set forth.

264,070. SPRING-SCALE. CHARLES FORSCHNER, New York, N. Y. Filed Nov. 29, 1881. (No model.)



Claim.—In a spring-scale, two runners, E E, and guide-stops *c c*, respectively, upon the upper ends of the said runners, and headed or notched at their sides, and having pointer-notches in their faces, in combination with two guide-slots, *a b*, in opposite sides of the case, in which the said guide-stops run, and with a graduated index-scale at the side of each slot, substantially as and for the purpose herein specified.

264,071. MACHINE FOR COILING SPRINGS. OSCAR S. FOSTER and WILLIAM S. FOSTER, Utica, N. Y. Filed July 10, 1882. (No model.)



Claim.—1. The combination, with a machine for coiling metal springs, of combined cutting and bending mechanism, placed in close proximity to the coiling mechanism, and adapted to sever the coiled spring from the spring-metal strip and bend the end of the strip to form the point for the next spring at one and the same operation.

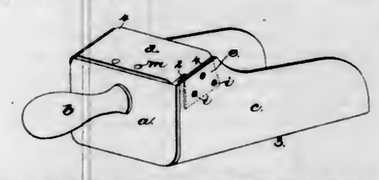
2. In a machine for coiling bed-springs from a continuous strip of spring-wire, the combination, with a grooved cone having a slotted end, of a combined cutter and bender situated in close proximity to the cone, and adapted to sever the spring from the strip and bend the end of the strip to form the point of the next spring, substantially as set forth.

3. The combination, with a grooved cone having its smaller end traversed by a slot, of a bar secured to the frame of the machine and located directly over said cone, said bar being provided with a cutting-edge which is located close to the larger end of the cone, a pivotal cutter arranged to coact with the cutting-edge of the said bar, and means for operating said pivotal cutter, substantially as described.

4. In a machine for making bed-springs, the combination, with suitable coiling mechanism, of the bar E, slotted as described, and provided with a rigid cutting edge or jaw and a rigid V-shaped bending-jaw removably secured thereto, and a combined cutting and bending jaw pivoted to the said bar, and constructed as described, and adapted to operate in conjunction with the rigid cutting-edge and bending-jaw, substantially as set forth.

5. In a machine for making bed-springs, the combination, with the coiling-cone, of the bar E, slotted as described, and provided with a removable cutting-jaw and a rigid bending-jaw secured thereto, and a combined cutting and bending jaw pivoted to the said bar, and adapted to operate in conjunction with the removable cutting-jaw and rigid bending-jaw, all of the above parts constructed and adapted to operate as described.

264,072. SCOOP. JOHN A. FRENCH, Cambridge, Mass. Filed Aug. 8, 1882. (No model.)



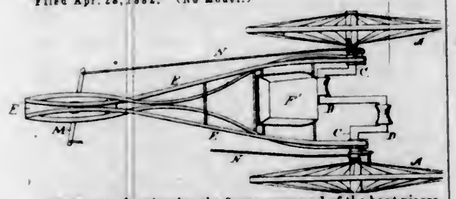
Claim.—1. As an improved article of manufacture, the herein-described scoop, consisting of the head provided with a handle, the blade of multiply veneer, and the hood connected with the said blade and head, substantially as and for the purpose set forth.

2. The combination of the head, provided with a handle, with the blade and the hood of multiply veneer, provided with wings which are fastened to the sides of the blade, substantially as and for the purpose described.

3. The head *a*, substantially rectangular in shape, combined with the blade *c*, of multiply veneer bent twice at right angles, and having a flat bottom and sides, and the hood *d*, attached to the said blade and head, substantially as described.

4. The head *a*, rabbeted as described, and the blade *c*, of multiply veneer, fastened to the said head, combined with the hood *d*, having recessed wings *e*, the said hood being fastened to the upper edge of the head *a* and its wings being riveted to the sides of the blade *c*, substantially as described.

264,073. TRICYCLE. HENRY C. GALLUP, Wilmington, Ohio. Filed Apr. 28, 1882. (No model.)



Claim.—1. In tricycles, the frame composed of the bent pieces E I, united at their ends to the block E', and having notches or teeth F on the forward ends, in combination with the revolving shaft or axle C, having the boxing G, provided with the stirrups H and tooth G', substantially as and for the purpose herein shown.

2. In tricycles, the shaft C and drive-wheels A, in combination with laterally-movable levers O, hinged to the shaft C, having thereon the projecting arms or brake-blocks T, substantially as herein shown.

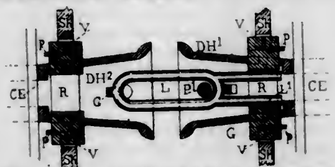
3. In tricycles, the shaft C, having the laterally-vibrating braking-levers O, in combination with the spindle K, carrying the trailing-wheel B, cross-arm M, and the connecting-rod N, substantially as herein shown.

264,074. WASH-BOARD. PHILEMON T. GATES, New York, N. Y. Filed Jan. 19, 1882. (No model.)



Claim.—As an improved article of manufacture, the herein-described wash-board, consisting of the wooden frame, a series of wooden slats, E, and the corrugated metallic sheet D, each corrugation of which has offsets *a* at the upper and lower edges thereof adapted to receive and hold the said bars or slats E transversely therein, the edges of said slats or bars corresponding in shape to said offsets, substantially as and for the purpose specified.

264,075. CAR-COUPLING. JOSEPH B. GOODWIN, Lowell, Mass. Filed Mar. 31, 1882. (No model.)



Claim.—1. In a car-coupling with an open-mouthed draw-head entered from the end, the device for raising and lowering and moving laterally the projecting end of the coupling-link L, consisting of the slotted roller R, having a rotary movement on its axis and a lateral movement on its journal-bearings, and connected by a hinge-joint at its outer end to an operating-shaft extending out and attached to the side of the car, as specified, and for the purposes set forth.

2. In a car-coupling, the pin-dropping mechanism, consisting of the trigger G and gravity-catch J, swinging on pins B and F, respectively, combined and operating with the lever W, substantially as described, and for the purpose set forth.

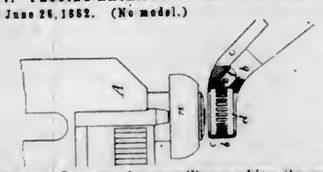
3. A car-coupling consisting of the draw-head D H, the roller R, the sliding shaft S *h*, and the hand-wheel H W, or its equivalent, in combination with the pin-dropping mechanism, consisting of the trigger G and the gravity-catch J, swinging on pins B and F, respectively, and operating the lever W, substantially as described, and for the purpose set forth.

264,076. SMOKE-STACK. GORHAM GRAY, Boston, Mass. Filed Mar. 15, 1882. (No model.)



Claim.—In a smoke-stack, the channels *b*, provided with spiral partitions *c*, substantially as and for the purpose described.

264,077. PEGGING-MACHINE. GORHAM GRAY, Boston, Mass. Filed June 26, 1882. (No model.)



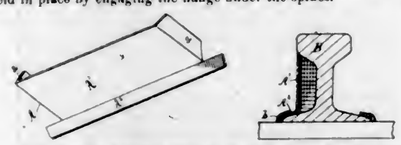
Claim.—1. In a pegging or nailing machine, the combination, with the driving mechanism and horn, of a rotary cutting device in the said horn, substantially as described.

2. The combination, with the driving mechanism, of the horn and an annular rotating toothed cutter mounted in the tip of the said horn, substantially as described.

3. The horn and its tip and removable cap-piece, recessed as described, combined with the annular toothed cutter and its actuating-pinion, substantially as described.

264,078. RAILWAY-GUARD. SAMUEL J. GRAY, Port Gratiot, Mich., assignor of one-half to Joseph Tucker, same place. Filed July 21, 1882. (No model.)

Brief.—A metallic guard consists of an upright shield having a flanging base, the ends being bent inward and adapted to fit between the upper edge of the rail and its projecting base, and is held in place by engaging the flange under the spikes.



Claim.—1. A metallic guard for railways, consisting of an upright shield and flanging base, substantially as and for the purpose described.

2. A metallic guard for railways, consisting of an upright shield and flanging base, the construction being such that the shield is adapted to fit in between the projecting upper edge of the rail and its projecting base, and to be held in place by engaging the flange under the spikes driven into the ties, substantially as and for the purposes described.

3. A metallic guard for railways, consisting of an upright shield and flanging base, the ends of said shield bent inward, the construction being such that the shield is adapted to fit in between the projecting upper edge of the rail and its projecting base, and to be held in place by engaging the flange under the spikes driven into the ties, substantially as and for the purposes described.

4. The combination, with a railway-frog, rail, or guide-rail, of a metallic guard consisting of an upright shield and flanging base, the construction being such that the shield is adapted to fit in between the projecting upper edge of the rail and its projecting base, and to be held in place by engaging the flange under the spikes driven into the ties, substantially as described.

264,079. CLOTHES-HOOK. SILAS I. GRIFFIN and JOHN H. DUNN, Excelsior Springs, Mo. Filed June 28, 1882. (No model.)



Claim.—1. A clothes-hook having a shank or stem provided with a recess or receptacle at its top, in the sides of which are formed grooves to receive a back plate, substantially as set forth.

2. A clothes-hook having a stem or shank provided with a card recess or receptacle at its top, having a back plate and beveled front upper edge, substantially as set forth.

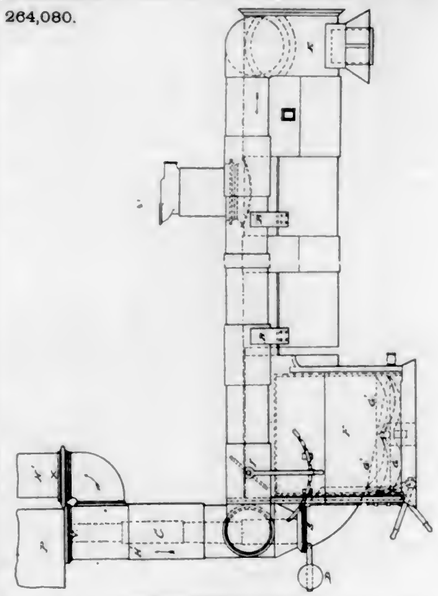
3. A clothes-hook having a stem or shank provided with forwardly-projecting hooks, a rear shoulder, an opening below the latter, and a card recess or receptacle at the top, substantially as set forth.

264,080. FURNACE FOR BURNING CANE-TRASH, PEAT, OR SIMILAR FUEL. MARIUS GROS-DESORMEAUX, Vauclin, Martinique, West Indies. Filed Apr. 14, 1882. (No model.) Patented in France Mar. 28, 1881, No. 142,603, and Provisional Protection in England Mar. 28, 1882, No. 1,532.

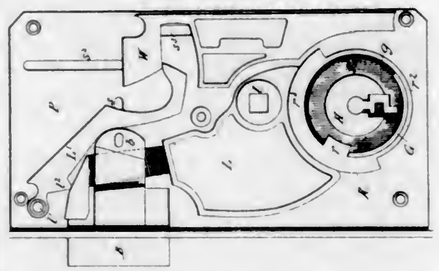
Claim.—1. In combination with a boiler and its furnace, the flue external to said parts for conveying away the products of combustion, and a feeding-chute within said flue and communicating with said furnace for the purpose of supplying heated bagasse or other fuel thereto.

2. In combination with a furnace and its fuel-chute, a pivoted trap which closes said chute, and a weight, D, applied to said trap and yielding whenever the bagasse preponderates over it, the said trap being made open, like a sieve, to allow the heat of the furnace to dry the lower layers of the bagasse before the latter is dumped into the furnace.

264,080.



264,081. LOCKING-LATCH. FRIEDRICH HARDENTRUPEL, Iserlohn, Prussia, Germany. Filed Dec. 16, 1880. (Model.) Patented in France Mar. 20, 1879, No. 129,869; in Germany Apr. 10, 1879, No. 8,159, and Sept. 16, 1880, No. 13,474; in Belgium Nov. 13, 1880, No. 53,038; in Italy Nov. 19, 1880, XXIV, 438; in Spain Dec. 31, 1880, No. 1,217,347, and in England Aug. 8, 1881, No. 3,426.

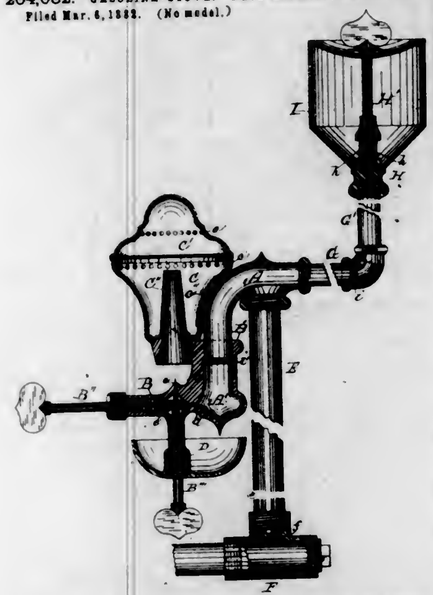


Claim.—1. The combination of a movable locking-ring, R, fitted loosely between the lock-plates and provided on its inside with a projection, *r*, serving as a point of application for the key-bit, with a fixed annular guide, G, situated inside the locking-ring and recessed on a portion of its circumference to give room for the rotary motion of the projection *r* and limit the motion of the latter, substantially as described.

2. The combination of a movable locking-ring, R, having a narrow portion, r^3, and a wide portion, r^2, fitted loosely between the lock-plates, and provided on its inside with a projection, *r*, serving as a point of application for the key-bit, with a fixed annular guide, G, situated inside the locking-ring, and recessed on a portion of its circumference to give room for the rotary motion of the projection *r* and limit the motion of the latter, and a lever fitting with a part of its circumference over the wide portion r^2 of the locking-ring, whereby the latter can be made to lock the lever in a fixed position, substantially as described.

3. The combination of an operating-lever, L, turned by the door-handle, with a latch, B, a balance-lever, uniformly loaded by a vertically-movable counter-weight, W, a locking-ring, R, and circular guide G, substantially as described.

264,082. GASOLINE-STOVE. PAUL HIRSCH, Decatur, Ill. Filed Mar. 6, 1882. (No model.)

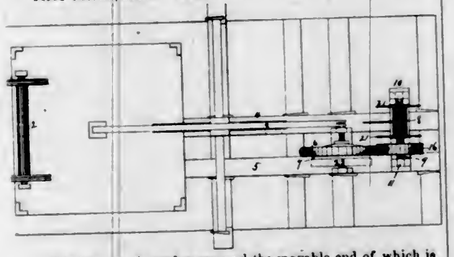


Claim.—1. In combination with the cup and curved generating-tube, the part B, constructed, substantially as shown, with a vertical tubular projection adapted to screw onto the lower end of the curved generator A, the gas-chamber A', formed in its lower part with an orifice, *a*, controlled by the screw-valve B'', fitted into a laterally-projecting stem, and the disk *f*, forming one end of said gas-chamber, substantially as herein shown and described.

2. In a gasoline-stove, in combination with the part B and cup C, the curved generating-tube A, provided with two inlet-orifices, one at the end of the horizontally-extended portion and one on the under side of said horizontally-extended portion, as shown, the part B having two valves, constructed and arranged substantially in the manner shown, and for the purpose specified.

3. In combination with the tank I, supply-pipe G', and valve, the main body of which unites the two—viz., the tank and supply-pipe—the wire-gauze filter *h h*, secured to the side of said valve and covering the orifice thereof, substantially as shown, and for the purpose specified.

264,083. SAND-PUMP REEL. HOSEA T. HUNT, Titusville, Pa. Filed Oct. 24, 1881. (No model.)



Claim.—1. A sand-pump reel the movable end of which is journaled at the sub-sill, and which extends toward or over the main sill, substantially as and for the purposes described.

2. A sand-pump reel the movable end of which is journaled at the sub-sill, and which is arranged on the outer side of and to operate in connection with the band-wheel, substantially as and for the purposes described.

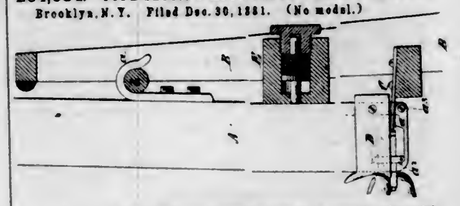
3. A sand-pump reel the movable end of which is journaled in a knuckle bearing on the sub-sill, and which extends inward to the main sill, substantially as and for the purposes described.

4. A sand-pump reel having a hollow shaft to which the pulley or other part is secured by bolts extending laterally through it, substantially as and for the purposes described.

5. A sand-pump reel having side flanges secured to the shaft by bolting to wooden blocks clamped around the shaft, substantially as and for the purpose described.

6. A sand-pump-reel pulley having wooden arms and a metallic rim, and with the arms fastened to metallic lugs on the inside of the rim, substantially as and for the purpose described.

264,084. TYPE-SETTING APPARATUS. LOUIS K. JOHNSON, Brooklyn, N. Y. Filed Dec. 30, 1881. (No model.)



Claim.—1. The stationary type-holder C, in combination with the oscillating type-containing channel adapted to receive or move over it, substantially in the manner and for the purpose described.

2. In combination with the oscillating containing channel A and stationary type-holding shoulder *c*, the combined gage-plate, interchangeable denomination-mark, and finger-rest D, arranged and operating substantially in the manner and for the purposes herein set forth.

3. In combination with an oscillating type-containing channel substantially such as described, the stationary type-holding abutment C, formed with the type-supporting shoulder *c*, substantially in the manner and for the purpose described.

4. In combination with the oscillating channel A and stationary type-holder C, a retractor, E, for restoring the type-containing channel to its normal position when relieved from pressure, substantially in the manner and for the purpose described.

5. In combination with the oscillating channel A, stationary type-holder C, and retractor E, the elastic buffer or stop F, arranged and operating substantially in the manner and for the purpose described.

6. In combination with the oscillating containing-channel A and stationary type-holder C, an adjustable device for suspending the said channel, arranged and operating substantially in the manner and for the purpose described.

264,085. TYPE-DISTRIBUTING APPARATUS. LOUIS K. JOHNSON, New York, and A. AUGUSTUS LOW, Brooklyn, N. Y. Filed Sept. 1, 1881. (No model.)

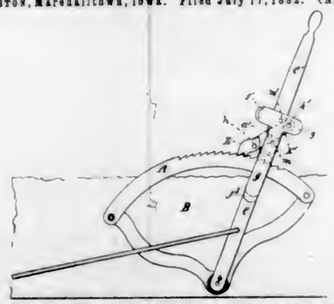


Claim.—1. In a hand type-distributing apparatus such as designated, the combination, with the conduit *c* and the type-receiving channels T, of the transferring or depressing device D, consisting of the cam D, continuous and uniform throughout its whole length, and occupying a position opposite the lower ends of the conduits *c* and extending over and above the type-receiving channels T, which have their upper walls formed in a concave arc of a circle to allow the descent of the eccentric portions of the cam into them, for the purpose and substantially in the manner herein set forth.

2. In a hand type-distributing apparatus substantially such as herein designated, the conduit-bed B', adjustable upon the supporting frame or standards A A of the apparatus, for the purpose of accurately attaining the most desirable inclination of the conduits *c*, substantially in the manner and for the purpose described.

3. In a hand type-distributing apparatus substantially such as designated, the rectangular frame or bed-piece B, consisting essentially of the conduit-bed B' and the setter-channel bed B², pivoted to the stationary frame or standards A A upon the same axis with the depressor or transferring device D, and adjustable concentrically thereon, for the purpose of preserving the relative arrangement of the parts under all circumstances, substantially in the manner and for the purposes herein set forth.

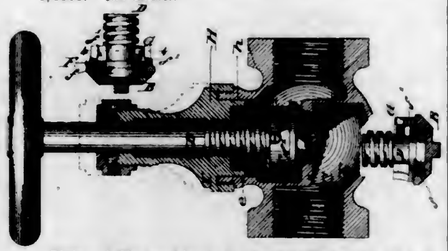
264,086. LOCK FOR WAGON-BRAKES. WILLIAM K. JOHNSTON, Marshalltown, Iowa. Filed July 17, 1882. (No model.)



Claim.—1. The combination, with the jointed lever C C', constructed and operating as described, of the jointed dog E E', one part of which is caused to gravitate and tumble as it is released from the segmental rack, and a pin, *m*, whereby the dog is lifted out of the locking-notches, substantially as herein shown and described.

2. The combination, with the jointed lever C C', of the pins *m m'* and jointed tumbling-dog E E', substantially as and for the purpose described.

264,087. VALVE. JAMES JONES, St. Louis, Mo. Filed June 6, 1882. (No model.)



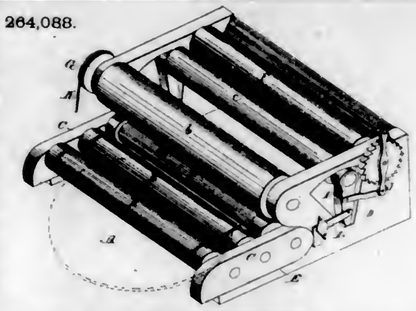
Claim.—1. The combination of the valve B, the collar F, having the flange *f'*, the stem D, the screw G, the collar H, the cap I, and the valve-chamber E, substantially as described.

2. The combination of the chamber E, the cap I, the collar H, having the flange A, and the stem D, substantially as described.

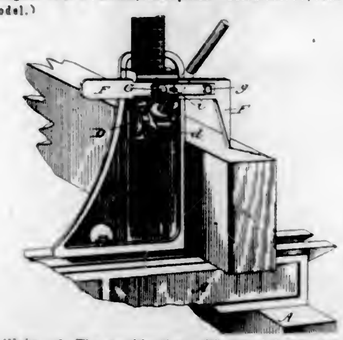
264,088. INKING APPARATUS. WILLIAM LIGHTFOOT, Jr., Toronto, Ontario, Canada. Filed Oct. 24, 1881. (Model.)

Claim.—The combination of the carriage C, bearing the inking-rollers and the supply-roller, the raised way E, the elevated distributing-cylinder *b*, and the transfer-roller *c*, mounted on vibrating frame I, provided with projections L, all substantially as described.

264,088.



264,089. SAW-MILL DOG. JAMES LITTLE, Evansville, Ind., assignor to S. W. Little, same place. Filed Oct. 17, 1881. (No model.)



Claim.—1. The combination, with a rack-bar and a sliding head provided with several bearings, of an operating-lever having a shifting fulcrum to co-operate with the said bearings, substantially as described.

2. In a saw-mill dog, the combination, with a sliding head provided with several distinct bearings, of an operating-lever the fulcrum of which can be set in either of said bearings, substantially as described.

3. In a saw-mill dog, the combination, with a sliding head, of an operating-lever provided with the rigid locking lug or projections engaging with said head to lock the lever, substantially as described

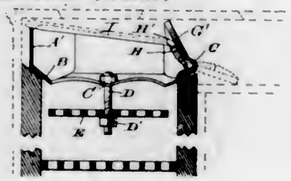
4. In a saw-mill dog, the combination, with a sliding head provided with several bearings, of an operating-lever adapted to be set in either of said bearings, and provided with the rigid locking lug or projection engaging with said head to lock the lever, substantially as described.

5. In a saw-mill dog, the combination, with a rack-bar and a sliding head, of an operating-lever having a segment-gear to engage with said rack, and provided with the rigid locking lug or projection engaging with said head, substantially as described.

6. In a saw-mill dog, the combination, with a dog-bar provided with a single hole and a stop or set pin, of a sliding head having a series of perforations to receive said pin, substantially as described.

7. In a saw-mill dog, the combination, with a sliding head having a series of perforations and a groove or channel connecting the same, of an adjustable dog-bar provided with a single hole, a stop-pin, and a retaining-spring to hold said pin in place.

264,090. STOVE-GRATE. WILLIAM H. LOOMIS, Alameda, Cal. Filed June 13, 1882. (No model.)

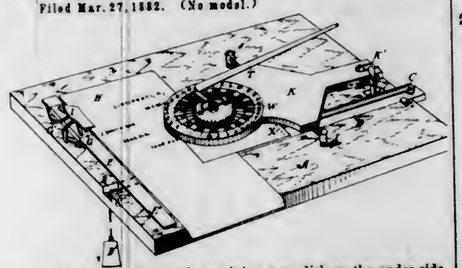


Claim.—1. In cooking stoves and ranges, the frame A, adapted to fit around and upon the top of the fire-bricks or lining of the fire-pot, and provided with a suspended or hanging grate, constructed and arranged to operate substantially in the manner and for the purpose as herein set forth and specified.

2. The combination and arrangement of the frame A, adapted to fit around or upon the fire-lining of a stove or range, and provided with a suspended removable grate, and the damper G', connected to the rear side of said frame, so as to direct the heat and flame from the center to the right and left, substantially in the manner and for the purpose as herein set forth and specified.

3. In a cooking stove or range, the combination of the frame A, suspended grate E, damper G', having ribs H H', and the deflecting-plate I, provided with notch J, all substantially as and for the purpose described.

264,091. TYPE-WRITER. JOHN S. MARTIN, Cherry Fork, Ohio. Filed Mar. 27, 1882. (No model.)



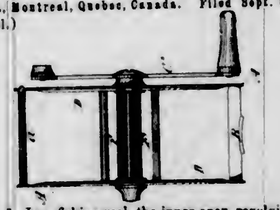
Claim.—1. An elastic revolving type-disk on the under side of a vibrating arm, secured to a spindle and operated by means of a hinged arm secured to a stylus, as herein shown.

2. An elastic revolving type-disk on the under side of a vibrating arm, having a swivel to which it is secured, and a cross-head having a hinged arm forked and provided with a manipulating holder or stylus, in combination with radiating bars for receiving the forked arm, and letters or characters corresponding with the radiating bars, substantially as herein set forth.

3. In type-writers, the vibrating arm K, having at the rear end a retractile spring, K', carrying a latch, L', provided with a recess, N', and overhanging spring O, with the sliding bar B', carrying a rack-bar, and the weight D', substantially as and for the purpose set forth.

4. In type-writers, a table having the longitudinal groove B and the sliding bar B', provided with a rack, C, and weight D', in combination with the transverse bar E, notched on one side, E', and carrying a sheath, G, provided with spring-arms G', and clip I, substantially as herein set forth.

264,092. FISHING-REEL. GEORGE H. MATTHEWS and JOHN T. OSTELL, Montreal, Quebec, Canada. Filed Sept. 10, 1881. (No model.)



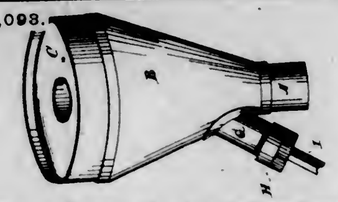
Claim.—1. In a fishing-reel, the inner open revolving rings, both mounted on and connected by a central spindle, and also connected by a series of parallel bars, each placed equidistant from the central spindle, substantially as and for the purposes set forth.

2. The combination, with the stationary open rings, of the connecting and parallel guide-bars placed in pairs near the periphery of said wheels, substantially as shown, and for the purpose described.

3. The combination, in a fishing-reel, of stationary open rings with parallel guide-bars, a spindle, and inclosed revolving open rings with connecting parallel bars equidistant from spindle on which said rings are mounted, all substantially as shown, and for the purposes specified.

264,093. DRAIN FOR CONDENSERS FOR ESCAPE-PIPES. WILLIAM T. MAYPOLE and JOHN J. MAYPOLE, Chicago, Ill. Filed July 28, 1882. (No model.)

264,093.



Claim.—1. The combination, in a condenser for escape-pipes, of the enlarged drain-pipes G and the small drain-pipe I, substantially as described, and for the purpose set forth.

2. The combination, in a condenser for escape-pipes, of the enlarged drain-pipe G, the plug H, and the small drain-pipe I, substantially as described, and for the purpose set forth.

264,094. CASTER. ESEKIEL R. MORRIAM, Meriden, Conn. Filed May 21, 1881. (Model.)



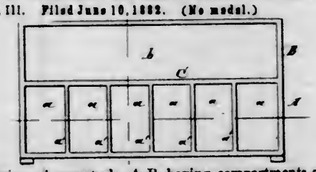
Claim.—A caster having a round solid metal pintle, *a*, with a head, *a'*, formed on the bottom, and with an enlarged bearing, *a'*, near and above the head, the top of said bearing forming a shoulder and the upper end of said pintle provided with the fins *f*, in combination with the bracket or horn *b*, adapted to hold a caster-wheel and to fit the enlarged bearing *a'* of the pintle, and held in position by the collar *d*, resting upon the shoulder of the bearing *a'* above the horn *b*, said collar being secured to the pintle by the fins *e*, all substantially as and for the purposes described.

264,095. MANUFACTURE OF CASTERS. JULIUS E. MERRIMAN, Meriden, Conn., assignor to Foster, Merriam & Co., same place. Filed May 18, 1882. (No model.)



Claim.—The process of attaching flanges or disks to spindles in the manufacture of casters, consisting, first, in upsetting or displacing the metal of the spindle to form projections thereon; second, in driving the sleeved disk or flange B upon and over said projections; and, third, in compressing the sleeve of said disk or flange about said projections, whereby they are embedded in the sleeve, all substantially as and for the purposes described.

264,096. GALVANIC BATTERY. LYMAN D. MCINTOSH, Chicago, Ill. Filed June 10, 1882. (No model.)



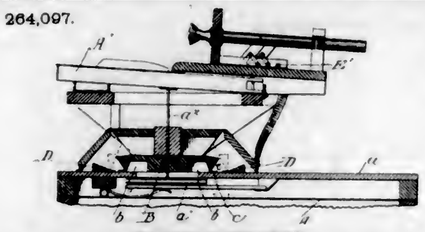
Claim.—A receptacle, A B, having compartments or cells *a* in the section or division A to receive the battery-fluid and the battery-plates, and a compartment, *b*, in the section or division B to receive the battery-plates when removed from the fluid, and the partition C, all formed from a single piece of vulcanized rubber or other material, substantially as and for the purpose specified.

264,097. REED-ORGAN. GUSTAV E. NEWMAN, Chicago, Ill., assignor of one-half to John A. Newman and Charles W. Newman, same place. Filed July 10, 1882. (No model.)

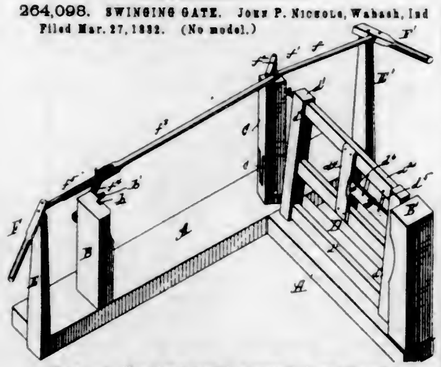
Claim.—1. The combination, with the reed-cells, of a mute-valve and a detached strip, said valve and strip being arranged and adapted to operate in proximity to each other, substantially as described.

2. The combination, with the tube-board B, having the reed-cells therein, of the mute-valve C and the pipe-valve D, detached therefrom and hinged, substantially as described.

264,097.



264,098. SWINGING GATE. JOHN P. NICHOLS, Wabash, Ind. Filed Mar. 27, 1882. (No model.)



Claim.—1. The hinged post C, pitmen *f*, *f'*, and *f''*, rocker-arm *f'*, and the actuating-levers F F', in combination with the gate D, all arranged to operate substantially as shown and described.

2. The combination of the posts B B', hinged post C, supports E E', levers F F', pitmen *f*, *f'*, and *f''*, support *f'''*, guide-rod *f''*, rocker-arm *f'*, and the gate D, all arranged and combined to operate substantially as set forth.

264,099. SHEET-METAL CAN. EDWIN NORTON, Chicago, Ill. Filed Aug. 7, 1882. (No model.)

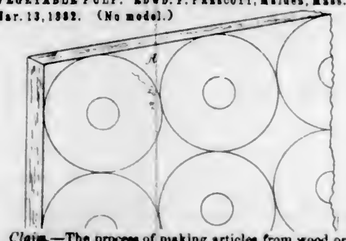
Brief.—Improvement on Letters Patent No. 255,012, dated March 14, 1882.



Claim.—1. The combination, with the can-body provided with an interior shoulder, *a*, of a seamless flange, B, having its inner edge, *b*, folded over and soldered to said interior shoulder, *a*, and its outer edge, *b'*, folded, with cover C, into a double seam, substantially as specified.

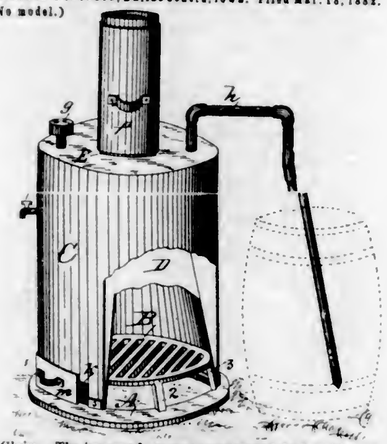
2. The combination, with a can-body, A, having its top turned in, a seamless flange, B, united to the can-body, a thin inner cover, C, united to said seamless flange by a double seam inside the exterior circumference of the can-body, and a slip-cover, D, adapted to fit on the can-body over said seam, substantially as specified.

264,100. MANUFACTURE OF ARTICLES FROM WOOD OR VEGETABLE PULP. EDWD. F. PRESCOTT, Malden, Mass. Filed Mar. 13, 1882. (No model.)



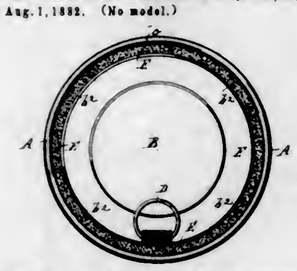
Claim.—The process of making articles from wood or vegetable pulp, consisting in forming a sheet or slab of pulp of uniform texture throughout, as described, and in punching or cutting therefrom while in proper temper blanks of the desired shape, and in pressing and forming said blanks to the desired configuration or shape, all substantially as and for the purposes set forth.

264,101. AGRICULTURAL BOILER AND FEED-STEAMER. JUDSON K. PURINTON, Dallas Centre, Iowa. Filed Mar. 18, 1882. (No model.)



Claim.—The improved steam-generator and feed-cooking apparatus, consisting of the portable boiler-base and furnace-grate A B, having a series of inwardly-inclined posts, 1 2 3, the upright cylindrical boiler C, having an inclined inner wall, D, a smoke-flue, E, at its top, and an opening, *k*, at its bottom, and a flexible steam-eduction tube, *k*, adapted to enter a barrel, substantially as shown and described, to operate in the manner set forth.

264,102. FRUIT-CAN. WILLIAM F. C. QUSEL, St. Louis, Mo. Filed Aug. 1, 1882. (No model.)



Claim.—The can-body A, having the respective annular grooves *a b*, the former forming the internal shoulder to support the cover, the latter groove the bearing to retain the sealing-wax, the cover B, having the vertical edge *b'* and a tapering face, *b''*, forming, with the upper side of the can-body, a gutter or channel, and the sealing-wax E, all said parts combined forming the hermetically-sealed can, as and for the purposes set forth.

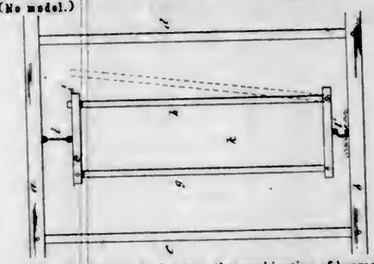
264,103. PROCESS OF TREATING SHORT ANIMAL-HAIR. WALTER J. REYNOLDS, Providence, R. I. Filed July 3, 1882. (No specimens.)

Brief.—The hair is taken as it comes from the tanner and boiled in a solution of water and soda-ash. It is then dried and opened by a picker, cleaned in a carding-engine, and twisted into roping and knotted. It is then steeped in a solution of water, glue, starch, alum, and oil of red cedar (to keep out moths) and boiled. It is finally dried and picked open.

Claim.—1. As a new article of manufacture, cows' and similar hair prepared with a sizing and oil of red cedar, in the manner and for the purpose herein set forth.

2. The process herein described for preparing cows' and similar hair, the same consisting in cleaning the hair and boiling the same in water containing glue, starch, alum, and oil of red cedar, or their equivalents, as and for the purpose described.

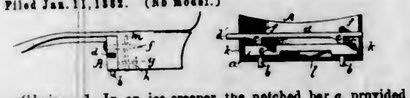
264,104. STANCHION. OLIVER H. ROBERTSON, Plainville, and WILLARD S. WARRINER, Forestville, Conn. Filed Dec. 8, 1881. (No model.)



Claim.—1. In a cattle-fastener, the combination of beams *a b*, stanchion *k*, and suspending-chains *l l'*, all substantially as described, and for the purpose set forth.

2. In a cattle-fastener, the combination of beams *a b*, stanchion *k*, suspending-chains *l l'*, and wide staple or traveler *m*, all substantially as described, and for the purpose set forth.

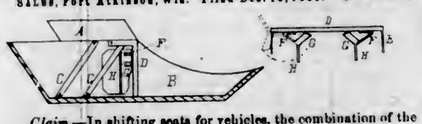
264,105. ICE-CREEPER. CHARLES G. RUST, Chicago, Ill. Filed Jan. 11, 1882. (No model.)



Claim.—1. In an ice-creeper, the notched bar *c*, provided with spurs *b*, in combination with the bar *d*, provided with latches *e*, adapted to fit into the notches of the bar *c*, spring *i*, and pins *f*, constructed substantially as specified.

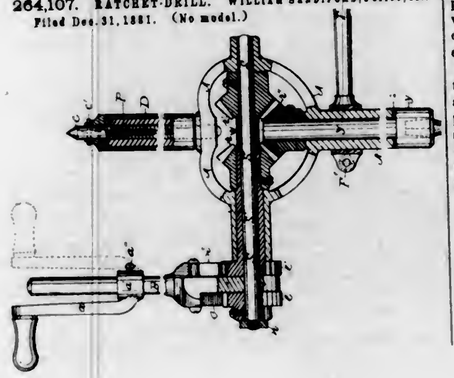
2. In an ice-creeper, the box A, provided with a vertically-operating bar extending through its entire length, and provided with spurs *b*, pins *f*, and a longitudinally-reciprocating bar, *d*, provided with mechanism, substantially as described, whereby said spurs are held in or withdrawn from the operating position, substantially as specified.

264,106. SHIFTING SEAT FOR VEHICLES. WILLIAM B. SALES, Fort Atkinson, Wis. Filed Dec. 13, 1881. (No model.)



Claim.—In shifting seats for vehicles, the combination of the vehicle-body, movable seat A, seat D, the right-angled hinges pivotally connecting the seat D with the body, the hinges F F, connected to the under side of the seat D a short distance from its ends, and the beveled blocks G G, connected to the hinges F, and having beveled end pieces, H H, arranged as shown, said beveled blocks adapted to engage the top edges of the sides of the body and support the seat and end pieces when raised into position, as herein shown and described.

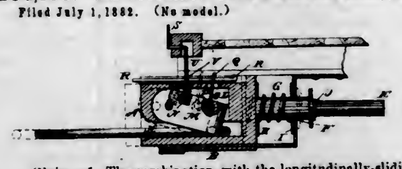
264,107. RATCHET-DRILL. WILLIAM SANDIFORD, Joliet, Ill. Filed Dec. 31, 1881. (No model.)



Claim.—1. In the ratchet-drill described, in combination with the frame A, the hollow shaft S', having the miter-wheel *r* and ratchet *e'*, rigidly fixed thereto and sleeved upon the shaft S, having the miter-wheel *r'* and ratchet *e'*, rigidly fixed thereto, miter-wheel *r''*, drill-spindle *y*, lever B, boxed upon the shaft S and provided with the reversed spring-pawls *o* and *o'*, and feed consisting of the barrel P, screw *c*, and cap D, all arranged to operate in the manner and for the purpose set forth.

2. In the ratchet-drill described, the combination of the frame A, bevel-gears *r r' r''*, shafts S and S', ratchets *e* and *e'*, reversed spring-pawls *o* and *o'*, lever B, provided with the adjustable crank-handle *a*, steadying-handle F, drill-spindle *y*, and feed consisting of the barrel P, feed-screw *c*, and cap D, all arranged to operate in the manner and for the purpose set forth.

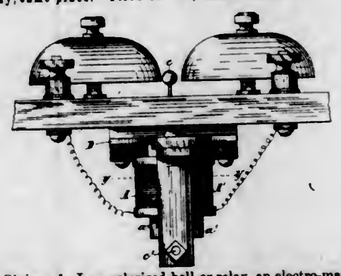
264,108. CAR-COUPLING. DAVID J. SCHULTE, Beatty, Pa. Filed July 1, 1882. (No model.)



Claim.—1. The combination, with the longitudinally-sliding draw-head A, of the bracket or hanger B and back plate or wall, C, the lower end of which is bent forwardly through hanger B and attached to the latter, as set forth.

2. The combination of the longitudinally-sliding draw-head having tongue M, upward-projecting rod O, having eye Q, and lever R, extending forwardly through said eye, with the crank-lever S, having operating-arm T and arm U, provided with eye V, to receive the front end of lever R, as set forth.

264,109. POLARIZED BELL. CHARLES E. SCRIBNER, Chicago, Ill., assignor to the Western Electric Manufacturing Company, same place. Filed Oct. 18, 1880. (Model.)

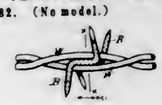


Claim.—1. In a polarized bell or relay, an electro-magnet, in combination with a polarized armature placed between its poles, said poles being arranged diagonally and adapted to act alternately in different directions upon said armature.

2. The combination of the soft-iron armature with the poles of the electro-magnet and the poles of the permanent magnet, said poles being arranged diagonally to said armature, whereby the reversed currents tend to neutralize the magnetic force at one end of the armature, while attraction and repulsion unite at the other end of the armature to move the armature in the same direction.

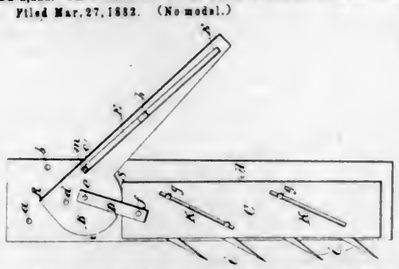
3. In a polarized bell or relay, the combination of an electro-magnet with its poles placed diagonally at different ends of the armature, and permanent-magnet poles of the same magnetism placed diagonally at the different ends of the armature and opposite the poles, respectively, of the electro-magnet, whereby reversed currents sent through the coils of the electro-magnet neutralize the magnetic force at one end of the armature, while attraction and repulsion unite at the other end to move the armature.

264,110. WIRE-FENCE BARB. JOHN F. SCUTT, Joliet, Ill. Filed June 14, 1882. (No model.)



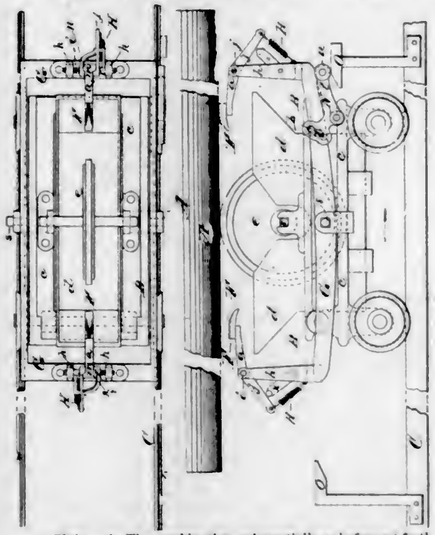
Claim.—The barb for fences described, formed of two parallel wires intermediately connected by the thin integral web *a*, and having its two points at either end bent to point in the same direction, or nearly so, and in the opposite direction from those at the opposite end of the barb, and spread apart to permit the strand-wires *s* to lie lengthwise in the channels on either side of the thin web *a*, as a new article of manufacture.

264,111. SAW-MILL DOG. MICHAEL SHAWVER, Tremont, Ohio. Filed Mar. 27, 1882. (No model.)



Claim.—The combination, in saw-mill dogs, of the dog-plate C, having the inclined slots *k k*, and the dog-points *i i i i*, with the knee-plate A, having the bolts *g g* and the hole *a b m*, and with the cam B, having the eccentric R *t s*, the fulcrum-bolt *d*, and the spring-latch E, provided with the pin *c*, and also with the connecting-strap D, all constructed and arranged substantially as described and shown.

264,112. YARN-PRINTING MACHINE. HALCYON SKINNER, Yonkers, N. Y., assignor to the Alexander Smith & Sons Carpet Company, same place. Filed Apr. 25, 1882. (No model.)



Claim.—1. The combination, substantially as before set forth, of the color-carriage, the rocker, and the rubbers mounted upon said rocker.

2. The combination, substantially as before set forth, of the color-carriage, the rocker, and the shifting blocks.

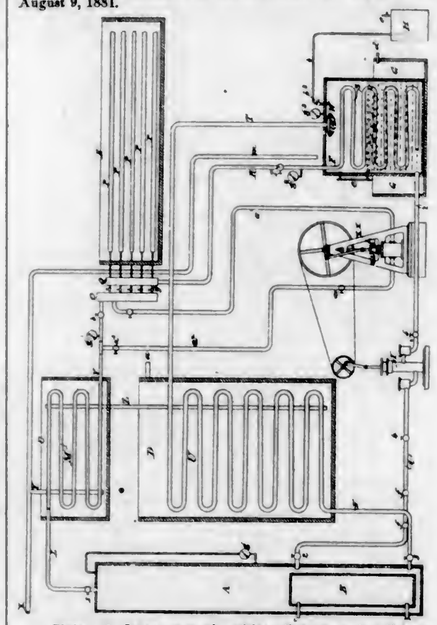
3. The combination, substantially as before set forth, of the color-carriage, the rocker, the rubbers, and the springs for bearing said rubbers against the yarn.

4. The combination, substantially as before set forth, of the rocker, the rubber connected by a pivot therewith, the spring for said rubber, and the stop which limits the action of the spring.

5. The combination, substantially as before set forth, of the rocker, the rubber, the spring for said rubber, and the joint between the rubber and spring, which permits the rubber to be turned upward by hand.

264,113. AMMONIA REFRIGERATING APPARATUS. GEO. W. STOCKMAN, Indianapolis, Ind. Filed Mar. 9, 1882. (No model.)

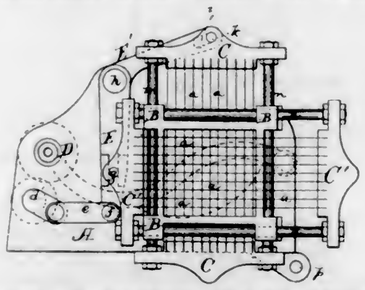
Brief.—Improvement on Letters Patent No. 245,325, dated August 9, 1881.



Claim.—1. In an ammonia refrigerating apparatus, the conduction, by means of suitable pipes, of sufficient vapor from the supply-pipe to the engine to drive the pumps, in combination with means for exhausting the vapor from the cylinder into a refrigerating coil or chamber.

2. In combination with the cylinder of an engine driven by ammonia-vapor, a stuffing box or sleeve filled with incongealable liquid, substantially as and for the purpose herein described.

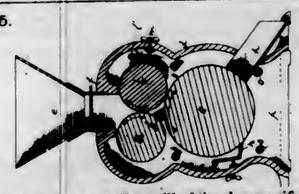
264,114. MEAT-CUTTER. JACOB STREICHER, VALENTINE HOEHL, and BERNARD HOLZ, Buffalo, N. Y.; said Holz assignor to said Streicher and Hoehl. Filed June 12, 1882. (No model.)



Claim.—In a device for cutting fat or other substances into cubes or rectangular pieces, the combination of the frames A and B with the knife-frames C and C′, with their parallel knives *a a a*, and the operating devices consisting of shafts D and *d*, cog-wheels *b c*, crank *d*′, link *e*, upright lever and arm E E′, the former pivoted to knife-frame C′ at *g* and to frame A at *h* and to knife-frame C at *k* by slot *i*, and with the revolving cutting-knife G, rigidly fastened to shaft D by sleeve G′, all arranged and operating substantially as specified.

264,115. GRINDING-MILL. T. STORRIDGE, New Brighton, Pa. Filed Mar. 27, 1882. (No model.)

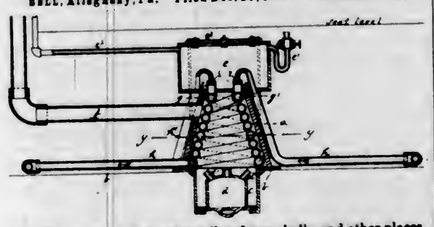
264,115.



Claim.—1. In a grinding-mill of the class specified, the combination of three grinding-rolls arranged to give two passes of different gages, two of said rolls having fixed journals, one of said rolls being adjustable to and from the other two, the axes of the rolls being relatively arranged, as specified, whereby the adjustment of the single roll alters the gage of the two passes simultaneously, substantially as and for the purpose specified.

2. In a grinding-mill of the class specified, the combination of three rolls relatively arranged each to the other, substantially as specified, to give two passes, one of said rolls adjustable to and from the other two, and a combined deflector and scraper arranged between the first and third rolls, substantially as and for the purpose specified.

264,116. HOT-WATER HEATING APPARATUS. HENRY SWINBELL, Allegheny, Pa. Filed Dec. 10, 1881. (No model.)

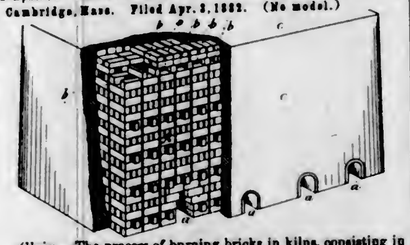


Claim.—1. A heater for railroad-cars, halls, and other places, consisting of a coil or coils of pipe within a heating-cylinder, and connected with a water supply or head, and having a circulating pipe or pipes which return and discharge into the heating coil or coils, substantially as and for the purposes described.

2. A heater consisting of a conical heating-chamber, and two interlacing diagonally-coiled heating-pipes having circulating-pipes which extend from the lower ends of the coils and return and discharge into the upper ends, in combination with a water-supply tank, an annular opening between the tank and pipes, and a suitable lamp or other heating device, substantially as and for the purpose described.

3. The combination of the heating coil or coils of a hot-water heating apparatus with the circulating pipe or pipes discharging thereinto, and a water-supply pipe or channel also discharging thereinto, substantially as and for the purpose described.

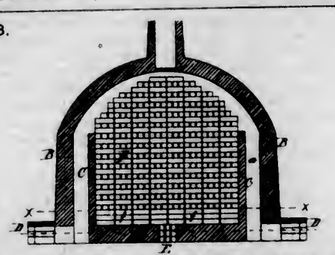
264,117. METHOD OF BURNING BRICK. ALFRED YATES, Cambridge, Mass. Filed Apr. 3, 1882. (No model.)



Claim.—The process of burning bricks in kilns, consisting in providing the kiln with one or more lines of transverse flues at or near its top, heating the kiln to the stage or point known as "cleared," and then applying a coating or covering of clay or clay and earth or other similar non-heat-conducting material to the top of the kiln, and to the sides, if not previously applied, and continuing the burning, all substantially as and for the purposes described.

264,118. BRICK-KILN. ALFRED YATES, Cambridge, Mass. Filed Apr. 3, 1882. (No model.)

264,118.



Claim.—1. In a brick-kiln, the fire-arches D D, the draft-passage *a b* E, and the damper *z*, arranged, combined, and adapted to operate substantially as and for the purposes set forth.

2. The herein-described arrangement of the flues *a* E B, in combination with the checking, heading, and draft-rows *f f f f f*, and the conducting and checking passages *g g*, formed by the piling or arranging of the brick, substantially as and for the purposes described.

3. A brick-kiln consisting of the outer walls, B B, inclosing the flues *b b*, the fire-walls C C, and the draft-flues *a* and E, substantially as and for the purposes set forth.

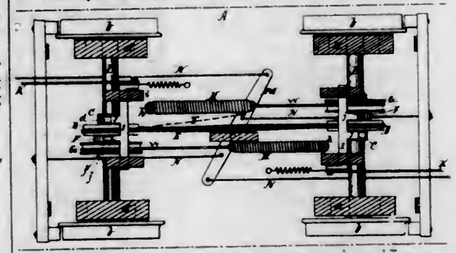
4. A kiln for the burning of brick by the use of coal, consisting of the outer wall, B B, the inner fire-walls, C C, the arches or fire-pots D D, and the flues *a*, *b*, and E, combined and arranged to operate substantially as and for the purposes described.

5. In a brick-kiln, the herein-described system of piling, arranging, or combining two or more draft-rows, *f f*, and two or more check-rows, *f f*, with an intermediate heating-row, *f*, arranged to form the base of a mass of brick within a kiln, and adapted to induce a proper circulation and economic distribution of heat, substantially as and for the purposes set forth.

6. In the art of brick-burning, the system of piling the lower course, *f f f f f*, for conducting, checking, and conveying the heat toward the center of the kiln, in combination with the conducting and checking rows *g g*, substantially as and for the purposes set forth.

7. A brick-kiln consisting of the walls B B, with flues *b b* and the chimney G, provided with a damper, *z*, and the draft-passages *a* and E, the fire-arches D D, and fire-walls C C, all arranged, combined, and adapted to operate substantially as and for the purposes set forth.

264,119. CAR-STARTER. FREDERICK E. ALLEN, Grafton, Mass. Filed Apr. 27, 1882. (No model.)



Claim.—The combination of the car-axles B, having ratchets C, the sprocket-wheels or pulleys D, provided with pawls *d* and ratchets F, the chain or band E, connecting said wheels, the winding-drums G, having pawls *f*, the springs H, and the rocker-shaft I, with mechanism for throwing said devices into and out of action, substantially as and for the purpose set forth.

264,120. WITHDRAWN.

264,121. COATING METALLIC ARTICLES WITH VULCANIZED RUBBER. NICHOLAS AVERY, Boston, Mass. Filed Aug. 12, 1882. (No specimens.)

Claim.—1. The herein-described process of coating metallic articles with vulcanized rubber, the same consisting in first cleansing the surface of the metal, as described, then applying thereto one or more coats of a composition formed of a rubber cement composed of Para rubber, oxide of zinc, sulphur, and naphtha, having mixed therewith white lead and naphtha substantially in the proportions specified, and finally applying the vulcanizable rubber compound and vulcanizing the same, as set forth.

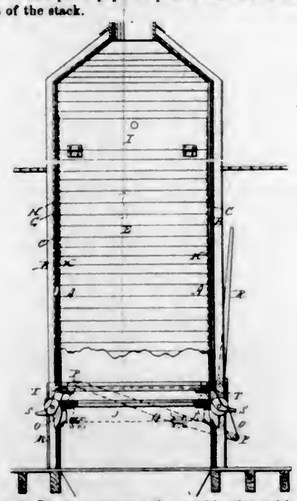
2. As a new article of manufacture, a wringer-roll or other metallic article coated with rubber formed by first cleansing the surface of the metal, as described, then applying thereto one or more coats of a composition formed of a rubber cement composed of Para rubber, oxide of zinc, sulphur, and naphtha, having mixed therewith white lead and naphtha substantially in the proportions specified, and finally applying thereto the desired quantity of vulcanizable rubber compound and vulcanizing the same, substantially as and for the purpose described.

3. In a wringer-roll or other metallic article coated with vulcanized rubber, the combination, with a metallic surface, cleansed as described, of a composition formed of a rubber cement composed of Para rubber, oxide of zinc, sulphur, and naphtha, having mixed therewith white lead and naphtha substantially in the proportions specified, united therewith by the action of the heat to which the article is subjected in the vulcanizing process, and a covering or coating of rubber compound vulcanized thereon, substantially as and for the purpose set forth.

4. In the process of coating metallic articles with vulcanized rubber, the employment of a composition formed of a rubber cement composed of Para rubber, oxide of zinc, sulphur, and naphtha, having mixed therewith white lead and naphtha substantially in the proportions specified, for firmly uniting the vulcanizable rubber compound to a metallic surface previously cleansed, when the article is subjected to heat in the vulcanizing process, substantially as described.

264,122. EVAPORATOR. JUDSON A. BALDWIN, Shelburne, Vt. Filed July 12, 1882. (No model.)

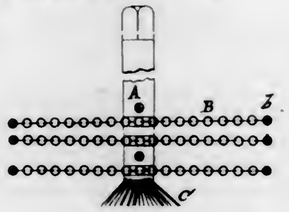
Brief.—Water-proof paper is placed between the outer and inner walls of the stack.



Claim.—1. In an evaporator, the combination, with the casing, of the vertically-sliding trays and the vertical rods of half-round iron arranged near the corners of said casing to guide said trays, as set forth.

2. The combination of the casing A, uprights M, rock-shafts N, having fixed cams O, loose dogs S, and cranks P, connecting-rod Q, and lever R, all arranged and operating substantially as set forth.

264,123. BOTTLE-CLEANER. WILLIAM C. BALDWIN, Salisbury, Conn. Filed July 11, 1882. (No model.)



Claim.—A cleaner for hollow ware, consisting of a central shaft perforated through and through, and chains drawn through the perforations, and having their outer links filled, as described, and a brush or wires secured to the end of the shaft, substantially as shown and described.

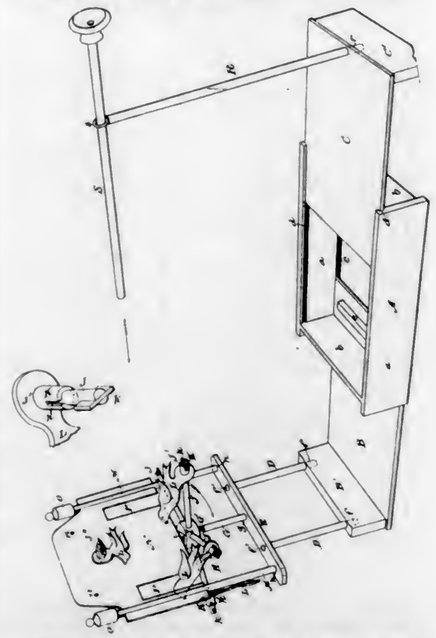
264,124. CAR-STARTER. MERRICK M. BARNES, Boston, Mass. Filed Jan. 21, 1882. (No model.)



Claim.—1. In a car-starter, the combination, with the car-body, of the elbow-lever I, pivoted to or upon the bottom of the car, as shown, one arm of which lever is connected by a rod or link, J, with the draw-bar, and the other arm of which is connected by the link H with a pawl adapted to engage a ratchet-wheel fixed to one of the car-axles, for imparting rotary motion to the axle and running-wheels fixed thereupon in such a manner that the power exerted by the lever is greatest at the start and gradually decreases until the draw-bar draws directly upon the car-body, all constructed and arranged substantially as and for the purpose described.

2. In combination with the stationary plates or frame C and ratchet-wheel B, the pawl G, provided with the spring-pin *g g*, (one or more in number,) bearing against said frame C and projecting from openings in the side of the pawl, and adapted to guide the movements of the free end of the pawl when motion is imparted to its pivotal portion, substantially as and for the purpose set forth above.

264,125. TOY SHOOTING-GALLERY. WESLEY W. BARNES, New York, N. Y., assignor to McLoughlin Brothers, same place. Filed Apr. 24, 1882. (No model.)



Claim.—1. In a toy shooting-gallery, the combination, with a flier, H, mounted rotatively, and consisting of a hub and radial arms or spokes bearing on their extremities birds or other objects, L L, of a screen, N, arranged substantially in a plane with the axis of rotation of the flier, and provided with recesses P P to permit the objects L L to pass through the screen, whereby the objects L L travel around a portion of the screen upon the rotation of the flier, substantially as set forth.

2. The flier H, consisting of a hub, I, mounted rotatively on a vertical axis, radial spokes J J, projecting horizontally therefrom, and birds or other objects, L L, each provided with a tubular socket, J', through which one of said spokes is passed, and with means, substantially as described, for retaining the objects in upright position on the spokes, with their centers of gravity above the spokes, combined together substantially as set forth.

3. The combination, in a toy shooting-gallery, of a target and its supporting-frame, a box, A, consisting of side pieces, *a a*, end pieces, *b b*, sliding bottom B, having cleat B' fixed to it, means for the attachment of the supporting-frame of the target to said cleat, sliding lid C, having cleat C' fixed to it, and stops *c c*, fixed to said bottom and lid within the box, substantially as set forth.

4. The combination of flier H, pivot-pin G', screen N, having recesses P P, and an upright supporting-frame for said pivot and screen, substantially as set forth.

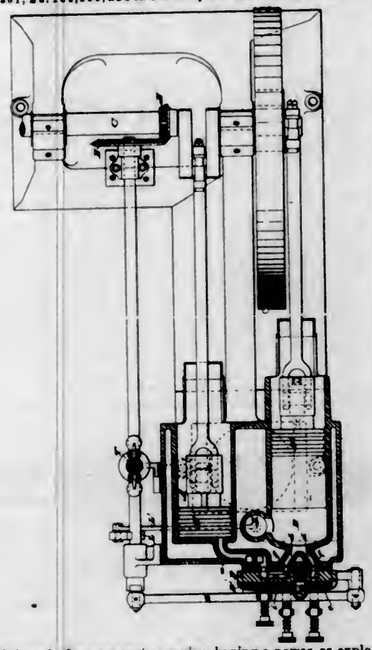
5. The combination of pin or spoke J, bird or other object, L, tubular socket K thereon, notch *k'* in said socket, and cross-pin *k* on said spoke, substantially as set forth.

6. The combination of screen N, hole *n* therein, pin J'', adapted to enter said hole, bird or other object, L, having socket J' below its center of gravity to receive said pin, and means for interlocking said socket with said pin to hold the bird erect thereon, substantially as set forth.

7. The combination of cross-bar E, having sockets *g* and A A, pin G, fitting socket *g*, split pins M M, fitting sockets A A, screen N, adapted to enter the splits in said pins, caps O O, adapted to fit over the split ends of said pins and confine the halves thereof together, and flier H, adapted to be mounted rotatively on pin G, substantially as set forth.

8. The combination of inclosing box A, sockets *f f* therein, pins D D, fitting said sockets, cross-bar E, having sockets *f' f'* fitting said pins, and sockets *g* and A A fitting pins G and M M, with said pins, screen N, having recesses P P, and with flier H, adapted to be mounted rotatively on pin G, substantially as set forth.

264,126. GAS-ENGINE. CHARLES GRANTLEY BUNCHAY, Liverpool, England, assignor to William Thompson Mann, James Gregson Chapman, Alfred Chapman, Henry Shield, and Alexander Spence, all of same place. Filed Dec. 20, 1881. (No model.) Patented in England July 6, 1881, No. 2,961; in France Dec. 22, 1881, No. 134,503, and in Germany Dec. 24, 1881, No. 55,051.



Claim.—1. In a gas-motor engine having a power or explosion cylinder and a cylinder for preparing and compressing the charge for the explosion-cylinder, the exhaust-valve and the cranks of the pistons of the two cylinders, arranged relatively to each other and the valve which regulates the transfer of the charge from the compression-cylinder direct into the power-cylinder, substantially as described, so that the exhaust-valve remains open during about the first nine-tenths of the return-stroke of the power-piston, and then closes, and that the charging of the power-cylinder with the compressed gaseous mixtnre is then effected during about the last one-tenth part of the said return-stroke of the power-piston and about the first one-tenth part of the outward stroke of this piston, at which point of the stroke the explosion takes place, substantially as and for the purposes herein set forth.

2. In a gas-motor engine having a power or explosion cylinder and a cylinder for preparing and compressing the charge for the explosion-cylinder, the cranks of the pistons of the two cylinders, arranged relatively to each other and the valve which regulates the transfer of the charge into the power-cylinder and the supply of a portion of the compressed gaseous mixture to the exploding burner or burners, substantially as described, so that the communication between the two cylinders is closed before the compression-piston has quite completed its compression-stroke, and that by the further pressure effected during the completion of the stroke the exploding burner or burners are supplied with gaseous mixture at greater pressure than that in the power-cylinder, substantially as and for the purpose set forth.

3. In a gas-motor engine having a power or explosion cylinder and a cylinder for preparing and compressing the charge for the explosion-cylinder, and in which the slide-valve makes one stroke to two strokes of the power-piston, the two ports *d d*, substantially as described, leading to the power-cylinder, in combination with an exploding burner or burners carried in the slide-valve, which burner or burners move between the said two ports, so that the explosion takes place in said ports alternately, substantially as set forth.

4. In a gas-motor engine having a power or explosion cylinder and a cylinder for preparing and compressing the charge, the gas-inlet valve, closed independently of the air-valve, which remains open during the entire stroke, by means of an ordinary governor at an earlier or later point of the outward stroke of the compression-piston, according to the speed of the engine, substantially as described, so that a greater or less amount of unmixed air is drawn into the compression-cylinder behind a correspondingly less or greater amount of mixture of gas and air, substantially as and for the purpose set forth.

5. In a gas-motor engine having a power or explosion cylinder and a cylinder for preparing and compressing the charge, the gas-inlet valve opened independently of the air-valve, which remains open during the entire stroke, more or less fully, by means of an ordinary governor during the outward stroke or the first part of the outward stroke of the compression-piston, according to the speed of the engine, substantially as described, so that a greater or less amount of gas is mixed with air entering through the air-inlet before the mixture of gas and air is drawn into the compression-cylinder, and the strength of the mixture thereby regulated, substantially as and for the purpose set forth.

6. In a gas-motor engine having a power or explosion cylinder and a cylinder for preparing and compressing the charge, the gas-inlet valve, opened more or less fully by means of an ordinary governor during the first part of the outward stroke of the compression-piston, and closed independently of the air-valve, which remains open during the entire stroke, by means of said governor at an earlier or later portion of said outward stroke of the compression-piston, substantially as and for the purpose set forth.

7. In combination with the cylinders A B, pistons A' B', and slide-valve D, arranged and operating as described, the port *i*, groove *j*, passage *k*, groove *l*, port *l'*, and ports *n*, leading to the exploding-burners *f*, said port *i* being in communication with the gas-passage *a* after the communication between said passage and the ports *d d* has been shut off, substantially as and for the purpose set forth.

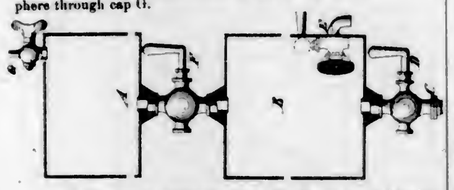
8. In combination with the cylinders A B, pistons A' B', and slide-valve D, arranged and operating as described, and with the port *i*, groove *j*, passage *k*, groove *l*, throttled port *l'*, and ports *n*, leading to the exploding-burners *f* and the unthrottled ports *o o*, substantially as and for the purpose set forth.

9. The combination, substantially as described and shown, of the cylinders A B, pistons A' B', slide-valve D, passages *a b*, ports *c e d d*, chamber *e*, exploding-lights *f*, master-lights *g*, port *i*, groove *j*, passage *k*, port *l'*, regulating-screw *m*, groove *l*, ports *n*, and ports *o o*, all arranged and acting relatively to each other in the manner and for the purposes set forth.

10. In combination with the cylinders A B and pistons A' B', arranged and working as described, the valve-box H, provided with gas and air inlets I and J, gas-valve I', mixing-chamber H', back-pressure valve H^4, and passage H^3, all arranged and acting substantially as set forth and shown.

264,127. APPARATUS FOR DRAWING AND DISPENSING LIQUIDS. LOUIS BERGER, New York, N. Y. Filed Jan. 4, 1882. (No model.)

Brief.—The object of the invention is to provide for relieving the liquid, when desired, of more or less gas before drawing it. The liquid is drawn without being relieved of any of its gas by letting it flow into compartment B, from which it is drawn off through the dispensing-faucet E; but when it is desired to relieve the liquid of gas it is allowed to flow into compartment B, and the faucet D is closed, and faucet F is opened for the escape of the gas into compartment A, from which it may escape into the atmosphere through cap G.

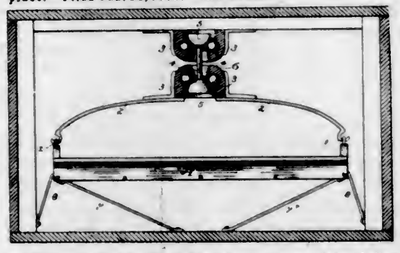


Claim.—1. In a draft apparatus for effervescent or foaming liquids, the combination of two compartments, a pipe leading to one compartment from the receptacle containing the liquid, a pipe or passage connecting this compartment and the other compartment directly together, and provided with a valve, whereby the gas may be allowed to escape from the former compartment to the latter compartment, and an escape from the compartment last named to the atmosphere, substantially as and for the purpose specified.

2. In a draft apparatus for effervescent or foaming liquids, the combination of the compartments A B, the pipe C, leading from the receptacle containing liquid to the compartment B, the pipe or passage connecting the two compartments directly together, and provided with a valve, F, whereby gas may be allowed to escape from the compartment B to the compartment A, and the escape G from the compartment A, substantially as specified.

3. In a draft apparatus for effervescent or foaming liquids, the combination of two compartments, a partition between the same capable of movement by inflowing liquid, a pipe leading to one compartment from the receptacle containing the liquid, a valve controlling communication between this compartment and the other compartment, and an escape from the compartment last named, substantially as specified.

264,128. SHIP'S BERTH. ALBION P. BICKMORE, Hyde Park, Mass., assignor of one-half to Edward B. Pendleton, same place. Filed Jan. 24, 1882. (No model.)



Claim.—1. The swinging berth having suspension-rods 2 and the spherical segment 5, in combination with the rigid case having annular groove and provided with anti-friction balls.

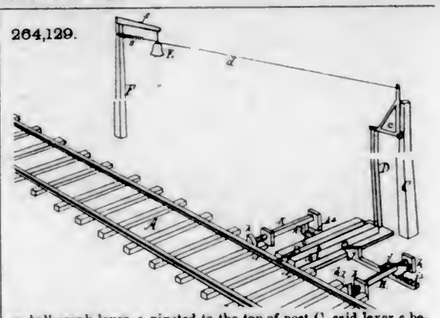
2. The combination of the upper and lower boxes or cases, the connecting-rod 6, having segments at each end bearing upon the anti-friction rollers, the bail 2, and the berth hinged thereto, substantially as described.

264,129. RAILWAY-CROSSING ALARM AND SIGNAL. JACOB BIXBY, Ashtabula, Ohio. Filed Apr. 20, 1882. (No model.)

Brief.—The end of tread-lever works in a notch in the track-rails, its outer end supporting a rod which operates a bell-crank, to which is secured the signal-connection. The treadle is carried into or out of operative position through a sliding wedge-piece actuated by the passing wheels through rock-shafts connected thereto.

Claim.—1. The combination, with the railway-rails *a a*, having the recess, as described, of the lever B, pivoted between the bars *b b*, with its short arm resting in said recess, and the outer end or long arm connected by connecting-rod D to a right-angle

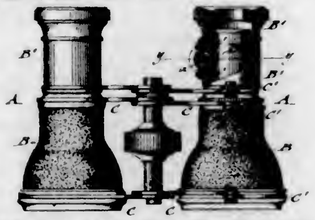
264,129.



or bell-crank lever, *c*, pivoted to the top of post C, said lever *c* being connected by wire *d* to a bell, E, with spring, hung to an arm, *f*, on the top of F, located at the crossing, whereby the wheels of a passing train shall operate upon the said lever B to operate the said bell to give the alarm and signal, as and for the purpose specified.

2. The combination, with the rails *a* of a railway, of the shafts H and K, set in suitable bearings, *h h*, having respectively arms *h'* and *k*, the shaft H having a segmental gear, *i*, working in a rack, *i'*, on the arm of a wedge, *j*, and the shaft K having depending arm *k'*, with a sliding push-rod, *k²*, the said shafts operating through the medium of the wheels of the locomotive to throw the said lever B into and out of gear, as and for the purpose specified.

264,130. OPERA-GLASS. BERNARD H. BLASK, New York, N. Y. Filed Mar. 7, 1882. (No model.)



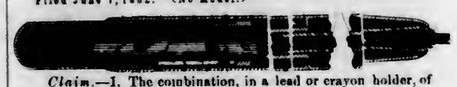
Claim.—1. Opera-glasses provided with a centrally-hinged frame for adjusting the distance between the bodies, means for adjusting the distance between the eye-glasses and object-glasses, an interior tube carrying an occular, and means for adjusting said tube independently of the adjustment of the glasses in the body, substantially as described.

2. Opera-glasses provided with an adjustable tube, B^2, carrying an occular, in combination with the rack and pinion, and eye-pieces B' B', substantially as described.

3. The combination, in an opera-glass, of the supporting-frame, which is adapted to be opened and closed, with a detachable eye-piece and body, substantially as set forth.

4. In an opera-glass, the combination, with the supporting-frame, one-half of which is provided with hinged sections and fastening devices, whereby the frame may be opened and closed, of a body and eye-piece, which may be detached by opening the frame-sections and replaced by locking the same, substantially as set forth.

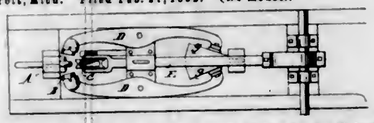
264,131. LEAD OR CRAYON HOLDER. CLARK W. BOMAN, New York, N. Y., assignor to Joseph Reckendorfer, same place. Filed June 7, 1882. (No model.)



Claim.—1. The combination, in a lead or crayon holder, of the sheath or case, the lead-tube or jaw-carrier, the pressure-tube, and the intermediate stationary tube, said tubes being connected together by pin-and-slot connection, substantially in the manner hereinbefore described, so that the lengthwise movement of the pressure-tube shall cause corresponding lengthwise movement in the opposite direction of the lead-tube or jaw-carrier.

2. The combination, with the sheath or case, and with the lead-tube or jaw-carrier, the intermediate stationary tube and the pressure-tube, connected together by pin-and-slot connection, substantially in the manner hereinbefore described, of the pressure-cap and the retracting-spring, substantially as hereinbefore set forth.

264,132. MACHINE FOR MAKING LINKS. JOHN BRIDGE, Detroit, Mich. Filed Feb. 21, 1882. (No model.)



Claim.—1. In a machine for forming the ends of a link, the dies A, B, and C, constructed and operating substantially as described, in combination with suitable mechanism for operating them, as set forth.

2. As a means of forming the inner bend of a link, the pair of dies A, constructed and operating substantially as set forth, in combination with suitable mechanism for operating them.

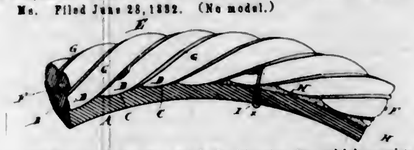
3. As a means for forming the sides of the bend, the dies B, constructed and operating substantially as specified, in combination with suitable mechanism for operating them.

4. As a means of forming the outer bend of the end of the link, the die C, constructed and operating substantially as described, in combination with suitable mechanism for operating it.

5. As a means of forming the lap, the die C, provided with the lapping recess *f*, substantially as set forth, in combination with suitable mechanism for operating it.

6. The combination, with the dies A B C, constructed substantially as described, of the levers D, traveling rod I, and the inclines *g g*, as set forth.

264,133. TIRE FOR BICYCLES. JAMES O. BROWN, Bangor, Me. Filed June 28, 1882. (No model.)



Claim.—1. A tire for wheels for bicycles, &c., which consists of two or more strands of flexible material and one or more wires twisted together, substantially as and for the purpose specified.

2. A tire for wheels for bicycles, &c., which consists of a strand of flexible material six or more times the diameter of the tire in length, twisted into itself to form an endless tire of two or more strands, substantially as and for the purpose specified.

3. In a tire for wheels, the combination of wheel-rim A, having groove B and furrows C, and flexible tire E, substantially as and for the purpose specified.

4. In a tire for wheels, the combination of strands D with wires F and G, substantially as shown.

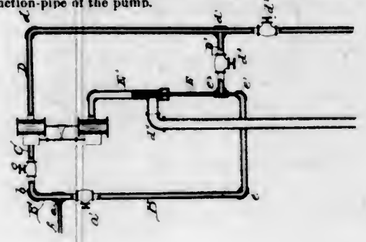
5. In a tire for wheels, the combination of twisted strands of flexible material D with central wire, F, substantially as shown.

6. In a tire for wheels, the combination of the rim of wheel A, having groove B, tire E, made of twisted strands D, and staples or wire bands I, substantially as and for the purpose specified.

7. In a tire for wheels, the combination of the rim of wheel A, having groove B, tire E, made of twisted strands D, of flexible material, cushion H, and staples or wire bands I, substantially as and for the purpose specified.

264,134. STEAM-PUMP. PATRICK BROWN, TIMOTHY PARFREY, and ANTHONY HEALY, Scranton, Pa. Filed July 10, 1882. (No model.)

Brief.—The water of condensation from the steam-induction pipe and the exhaust-steam from the engine are conducted to the induction-pipe of the pump.

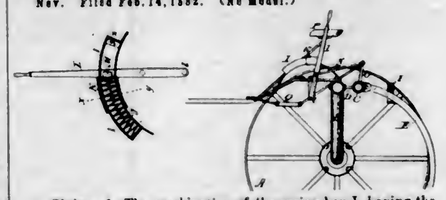


Claim.—1. The combination of the conducting-pipe A, opening into the drip-pipe B at a point below the level of the induction-port, with the upward extension pipe B', opening into the induction-pipe, substantially as described.

2. The combination of the exhaust-pipe D and extensions D' and E, provided with valves and opening into the suction-pipe of a pump, substantially as described.

3. The combination of the conducting-pipe A, the drip-pipe B, and extensions opening into the suction-pipe of the pump, and the exhaust-pipe D and extensions opening into the said suction-pipe, substantially as described.

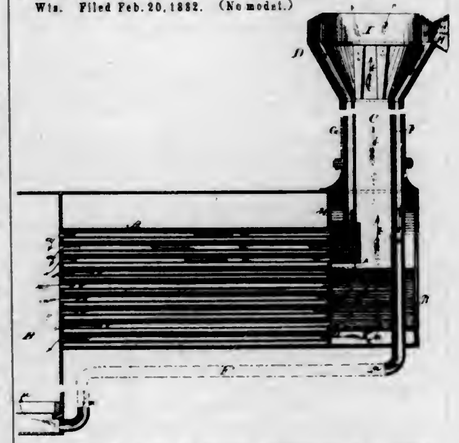
264,135. HORSE-RAKE. GEORGE W. BURRIER, Lyon County, Nev. Filed Feb. 14, 1882. (No model.)



Claim.—1. The combination of the spring-box I, having the spring and the movable cap K, with the lever L, provided with the lug M, the link N, standard O, head C, having the teeth hinged thereto, and the frame F, substantially as and for the purposes set forth.

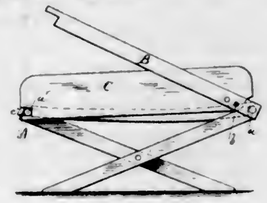
2. The combination of the bent axle, the head C, having the teeth hinged thereto, the frame F, having the rectangular slots provided with springs H, the standard O, link N, lever L, shoe Q, and its link connecting it with the top of standard O, all arranged and operating substantially as and for the purpose set forth.

264,136. LOCOMOTIVE-BOILER. JOHN CAMPBELL, Bay View, Wis. Filed Feb. 20, 1882. (No model.)



Claim.—In boilers for engines, the combination of circular passage I, inlet-passage H, slide P, tubes E, F, and G, passages J J, and chambers K K and L, all substantially as and for the purpose specified.

264,137. COT-BEDSTEAD. FRANCIS M. CASE, Denver, Colo. Filed Aug. 2, 1882. (No model.)



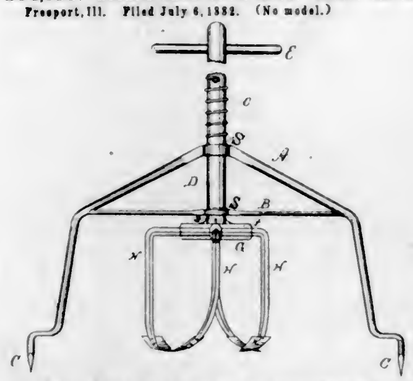
Claim.—1. The combination, with the side bars of a bedstead, of two bars pivoted together and connected with the opposite side bars of the bedstead, substantially as and for the purpose specified.

2. The combination, with the side bars of a bedstead, of a head-board having one end pressing against one side bar and pivoted to a lever connected with the opposite side bar, substantially as described.

3. In a bedstead, the stretching-lever B, having a hole in one end fitting on a round end of one of the side bars and pivoted to the head-board C, in combination with side bars having round ends, and the head-board C, provided with a recess to receive one of the round ends of the side bars, all arranged and constructed substantially as described.

4. In combination with a folding bedstead, a curved strut or stay arranged about midway between the head and foot, with its opposite ends bearing on the opposite side bars and drooping in the middle, substantially as described.

264,138. ROTARY HAND-CULTIVATOR. SENOSI COLVIN, Freeport, Ill. Filed July 6, 1882. (No model.)



Claim.—1. In a hand-cultivator, the combination of a series of cultivating-shovels, means for rotating the same in circles, and means for varying the distance of the shovels from the center of rotation.

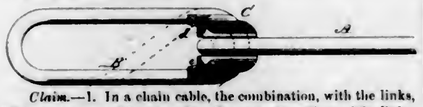
2. In a hand-cultivator, the combination of a vertical handle and a series of vertical arms provided with shovels at their lower ends, the handle and arms being connected rigidly by a clamp adapted to allow the variation of the distance of each of the shovel-carrying arms from the handle.

3. In a rotary hand-cultivator, the combination of the handle D, arch A, and spring O, substantially as and for the purpose described.

4. In a hand-cultivator, the combination of a supporting-arch provided with two or more retaining-points, a handle pivoted in said arch, and a series of shovels attached to said handle at its lower end by means adapted to permit the lateral adjustment of said shovels, substantially as and for the purpose described.

5. The combination of the arch A with its brace B, handle D, spring O, clamp F G, arms H H, and shovels K K, all substantially as and for the purpose described.

264,139. CHAIN CABLE. JAMES M. DODGE, Chicago, Ill. Filed May 24, 1882. (Model.)

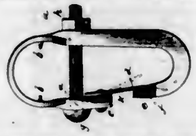


Claim.—1. In a chain cable, the combination, with the links, of blocks interposed between the adjacent end portions of the links, the said blocks being adapted to afford bearing or working surfaces for the actions of the engaging devices of a chain-wheel, substantially as set forth.

2. In combination with the links of a chain cable, blocks interposed between the adjacent ends of the links and provided with grooves which afford pintle-like bearings for the said link ends substantially as set forth.

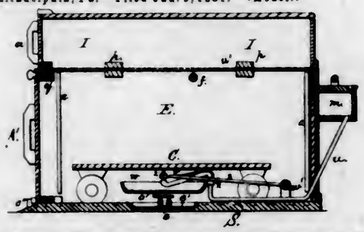
3. In combination with two enchained links, a block having grooves arranged transversely to each other and operating to prevent any twisting movement of said links relatively, substantially as set forth.

264,140. WHIFFLETREE-HOOK. DANIEL J. DOSSEY, Will's Point, Tex. Filed July 28, 1882. (No model.)



Claim.—A frieze-iron having teeth *b*, holes *a*, recess *f*, and spring-tongue *d*, filling mouth *k* and fitting into recess *f*, and being adapted to be secured around the whiffletree by bolt and nut, substantially as shown and described.

264,141. TOBACCO-CURING APPARATUS. CHARLES E. DOYLE, Philadelphia, Pa. Filed Jan. 3, 1881. (Model.)



Claim.—1. The suspended pan *w*, operating the spring *e* of the water-pipe *u*, in combination with a resweating-compartment, as and for the purposes specified.

2. The pan *c'* for water, provided with the central burner, *o'*, supplied with gas to heat a compartment for resweating tobacco, substantially as set forth, and operating, in combination with the suspended pan *w*, for the purpose described.

3. The combination of the suspended pan *w* with the spring *e*, attached to the pipe *u*, connected to the reservoir *m*, substantially as and for the purposes set forth.

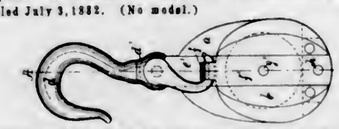
264,142. NUT-LOCK. WALTER H. FARRA, Mount Jackson, Va., assignor of one-half to Lucidas Triplett, Jr., same place. Filed Aug. 8, 1882. (No model.)



Claim.—1. The locking-plate C, having opening D, re-enforce E, and lugs or studs F, as described, for the purpose set forth.

2. The herein-described nut-lock, consisting of the plate A, having grooves G, bolt B, plate or washer C, having re-enforce E, lugs or studs F, and opening D, and the nut H, the projecting corners of said plate C being turned up against the sides of said nut, as set forth.

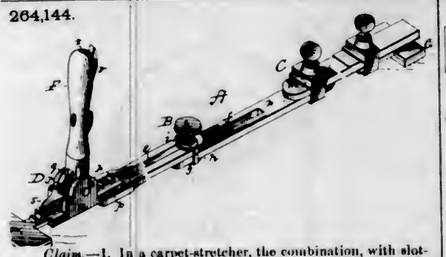
264,143. SNATCH-BLOCK. THOMAS R. FERRALL, Boston, Mass. Filed July 3, 1882. (No model.)



Claim.—A snatch-block having outside and inside straps, *c' c'' f' f''*, secured to the block *a b c* at its bottom by means of a bolt or rivet, *h*, in combination with the hinged head *d'*, journaled to the eye *c*, the swivel-hook *d*, and the self-locking hook or catch *d''*, secured to the head *d'* and adapted to lock into the eye *f*, as and for the purpose set forth and described.

264,144. CARPET-STRETCHER. JEROME B. FULLER, Naugatuck, Conn. Filed July 19, 1882. (No model.)

264,144.

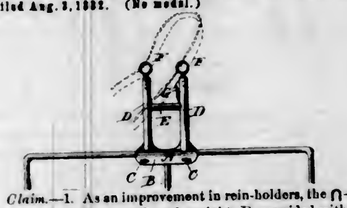


Claim.—1. In a carpet-stretcher, the combination, with slotted bars capable of adjustment in opposite directions and secured by clamping means, of a flexible or elastic end piece adjusted and secured to one end of the stretcher, substantially as described.

2. In a carpet-stretcher, the combination, with slotted bars capable of adjustment in opposite directions, of clamping means, a projecting flexible or elastic end piece, and a card secured to the end of a section of the stretcher, substantially as and for the purpose set forth.

3. In a carpet-stretcher, the hand-lever having a groove extending its length, with spring-pawl operating therein, in combination with the gear-wheel *r*, gravity-pawl *s*, and rack-bar and cord, substantially as described.

264,145. REIN-HOLDER. GEORGE W. GIBBS, Salem, Ohio. Filed Aug. 3, 1882. (No model.)



Claim.—1. As an improvement in rein-holders, the ∩-shaped base A, having set-screws C, and uprights D, provided with screw-eyes F, and connected by a cross-piece, E, as set forth.

2. The base A, having set-screws C, and uprights D, connected by a cross-bar, E, in combination with the loose screw-eyes F at the upper ends of the uprights D and the spring-holder G, secured to one of said uprights, as set forth.

264,146. AUTOMATIC RETOUCHER FOR PHOTOGRAPHIC NEGATIVES. EMERSON A. GILBERT, Mondville, Pa. Filed Feb. 16, 1882. (No model.)



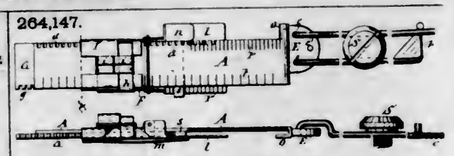
Claim.—1. The pencil-holder K L M, shaker-bar I, ratchet-wheels H P, worm-wheel O, worm, balance-wheel, and fan N R S, brake T', wire T, and tension-slide T', in combination with opposition-springs U V, adjusting-screw W, spring X, and operating clock-work, as shown and described.

2. The supporting devices consisting of link Y' and the link Y', adjustable rubber clamps Z Z, sliding clamp *t*, cord Y, and pulley *p*, as shown and described.

3. In combination with the clock mechanism and ratchet-wheels H P, the adjusting-springs U V and rubber jam-nut X, the shaker-bar S, brake T', wire T, tension-slide T', worm N, and wheel O, as shown and described.

264,147. PLAITING ATTACHMENT FOR SEWING-MACHINES. CIMON S. GOLDMAN, Syracuse, N. Y. Filed July 19, 1882. (No model.)

Claim.—1. In a hemmer or tucker attachment for sewing-machines, the combination, with the main plate A of said attachment, of two bars connected therewith, and interlocking ratchets applied to the free end of said bars and clamped by the attaching-screw, substantially as set forth and shown.



2. The combination, with the main plate A, of the bars *a a*, connected therewith at different points, and provided at their free ends with adjustable interlocking devices, and adapted to receive between them the attaching-screw, substantially as set forth.

3. The plate A, provided with the ratchet *d*, in combination with the clasp F and the locking-plate *f*, connected to said clasp and adapted to engage the ratchet of the plate A, as shown and described.

4. The combination of the main plate A and gage-plate G, provided respectively with ratchets *d* and *g*, the clasp F, encompassing said plates, and the locking-plates *f* and *h*, connected to said clasp and adapted to engage the respective ratchets, substantially as described and shown.

5. In combination with the plates A and G, provided respectively with ratchets *d* and *g*, the clasp F, provided with the ways *i i*, and the locking-plates *f* and *h*, sliding in said ways and adapted to engage the respective ratchets, substantially in the manner specified and shown.

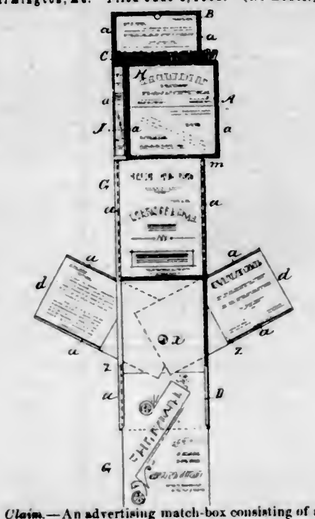
6. In combination with the plates A and G and clasp F, the lip *l*, hinged on the latter, substantially as shown and described.

7. In combination with the plates A and G and clasp F, the hinged lip *l* and spring *m*, substantially as shown and set forth.

8. In combination with the main plate A, the gage-plate G, provided with the upper lip, *n*, and the clasp F, provided with the lower lip, *l*, substantially as shown and described.

9. The combination, with the main plate A, provided with the hook *o* and scale *p*, of the clasp F, the lip *l*, connected with said clasp and provided with the scale *r*, and the gage-plate G, provided with the indicator *s*, all as shown and described, for the purpose set forth.

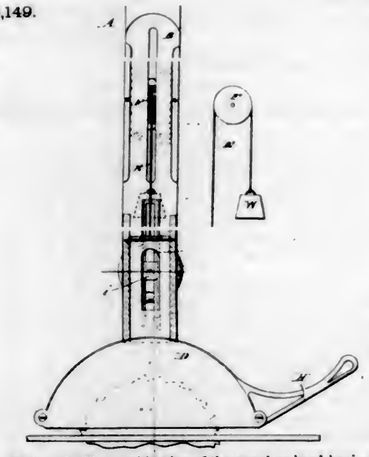
264,148. ADVERTISING MATCH-BOX. CHESTER GREENWOOD, Farmington, Me. Filed June 2, 1882. (No model.)



Claim.—An advertising match-box consisting of an elongated back, B, having inwardly-curved lips *a* on its face side, for receiving and holding advertising-cards, a body, A, which serves as a receptacle for the matches, and a series of tablets pivoted to the rear side of said back, provided with flanges *a* to receive and hold advertising-cards, and adapted to swing outward into a horizontal position for exhibiting the cards, and upward behind the back for concealing the same, substantially as described.

264,149. GUARD FOR CIRCULAR SAWS. JOSEPH G. GROFF, Connersville, Ind. Filed Nov. 23, 1881. (No model.)

264,149.



Claim.—1. The combination of the guard or hood having the shank and the upwardly-inclined arm with the post having the guides for the guard-shank to work in, and with the cord and counter-weight, substantially as described.

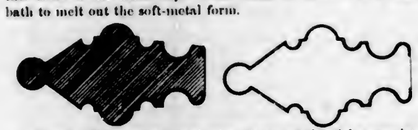
2. The combination of the guard or hood and its shank, of the post and the guides thereon for the shank, with the cord and counter-weight and a locking device for securely holding the guard-shank when raised, substantially as described.

3. The combination of the guard and its shank, the guides on the post in which the shank works, the offset on the guard-shank, and the stop-bar against which the offset strikes to limit the movement of the guard, substantially as described.

4. The combination of the shank carrying the saw-hood, the square-headed bolt having the screw-threaded shank, with the hand-wheel having the beveled collar, and the plates co-operating with said collar to hold the hand-wheel at all times in the same relation to the post, substantially as described.

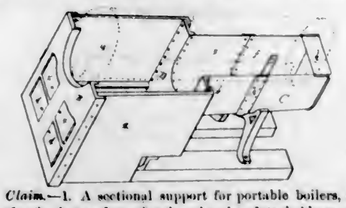
264,150. PROCESS OF SPINNING SHEET METAL. HENRY ORUM, Newark, N. J. Filed Aug. 3, 1882. (No model.)

Brief.—Gets a pattern by turning it out of wood or metal, or by taking any article that has been spun in two or more pieces. From this pattern a soft-metal form is cast. Spins the metal over this form in the usual way. Then heats in an oven or a metal bath to melt out the soft-metal form.



Claim.—The process of spinning sheet-metal articles, consisting in working them over soft-metal forms, and then melting out the said forms, substantially as and for the purpose specified.

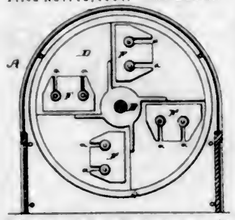
264,151. PORTABLE ARCH FOR STEAM-BOILERS. JOHN C. HAAG, Lansing, Mich. Filed July 5, 1882. (No model.)



Claim.—1. A sectional support for portable boilers, consisting of a fire-box and combustion-chamber detachably secured together, substantially as specified.

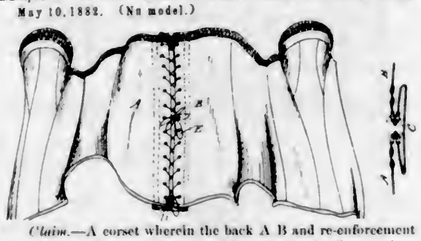
2. A support or arch for portable boilers, consisting of the cast-iron walls *a*, B, and D, and sheet-iron combustion-chamber C, constructed in sections and detachably secured together, substantially as set forth.

264,152. BARK-CUTTING MACHINE. JOHN C. HAGERTY, Santa Cruz, Cal. Filed Nov. 18, 1881. (No model.)



Claim.—A bark cutting and reducing machine consisting of case A, shaft B, feed-chute G, and disk D, having radial slots E, screw-bolts, and cutting knives or blades F, fitted into said slots, said knives being provided with slots *a a* and enlarged openings *b b*, all substantially as herein described, and for the purpose set forth.

264,153. CORSET. EPHRAIM HAMBURGER, Detroit, Mich. Filed May 10, 1882. (No model.)



Claim.—A corset wherein the back A B and re-enforcement are made in one piece, and such re-enforcement and adjacent edges of the back proper are provided with eyelets adapted to allow the parts to be adjusted by lacing, said lacing passing through both series of eyelets and in front or outside the main fold of such re-enforcement, substantially as described.

264,154. OIL-STOVE. LOUIS C. HECKMAN, Cleveland, Ohio. Filed Apr. 10, 1882. (No model.)



Claim.—1. An oil-stove consisting of two or more separate stoves hinged to a supporting-frame, a reservoir located below each stove, and all connected together so as to be supplied from a single reservoir, the tops of the stoves being rectangular in form and arranged to constitute a continuous top when the stoves are in position for use, substantially as set forth.

2. An oil-stove consisting of two or more separate stoves, each provided with a chambered top, and constructed and arranged to form a continuous hot-air passage through the several tops when the stoves are in position for use, substantially as set forth.

3. An oil-stove consisting of two or more separate stoves provided with separate oil-reservoirs, and with hinged drums having chambered tops constructed and arranged to form a continuous hot-air passage through the several tops when the stoves are in position for use, substantially as set forth.

4. An oil-stove consisting of two or more separately-hinged stoves, reservoir located in the stoves, the top of the stoves being constructed with straight adjacent sides and arranged to fit against each other to form a continuous top, and a bar or frame for supporting any one or all the stoves when turned back, substantially as set forth.

264,155. OIL-STOVE. LOUIS C. HECKMAN, Cleveland, Ohio. Filed Feb. 24, 1882. (No model.)

Brief.—The cylinder H, Fig. 3, may be filled with any porous material.

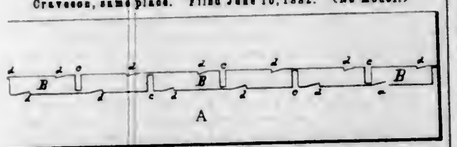


Claim.—1. In an oil or vapor stove, the combination of the plate A, the gauze G, and the receiver F, substantially as and for the purpose described.

2. In an oil or vapor stove, the plate A and concaved recesses B B, in combination with the tube H and the receiver F, substantially as and for the purpose specified.

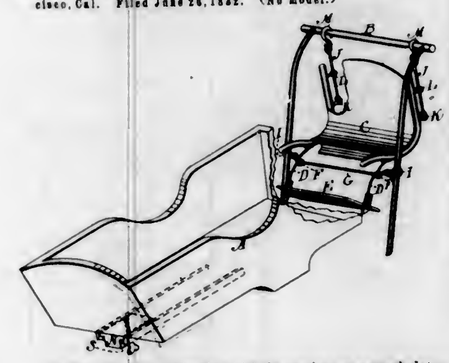
3. The plate A, recesses B B, and disks D, in combination with the gauze G and receiver F, substantially as described.

264,156. COMBINED TOBACCO-MARKING STRIP AND TAG. FREDERICK E. HEIDIG, Louisville, Ky., assignor to Dick & Crawford, same place. Filed June 10, 1882. (No model.)



Claim.—The combined tobacco-marking strip and tag consisting of a thin metallic strip, A, provided with a series of division-slots, *c*, and of prong-slits *d*, substantially as and for the purposes herein specified.

264,157. CHILD'S CARRIAGE. WARD A. HEPBURN, San Francisco, Cal. Filed June 26, 1882. (No model.)



Claim.—1. In combination with the carriage or perambulator A, the seat C, suspended between and supported by the handles B, substantially as herein described.

2. In a carriage or perambulator, and in combination with the handles B, the seat C, with its front rest and the elastic suspending-springs G and J, extending from the seat to the handles, substantially as and for the purpose herein described.

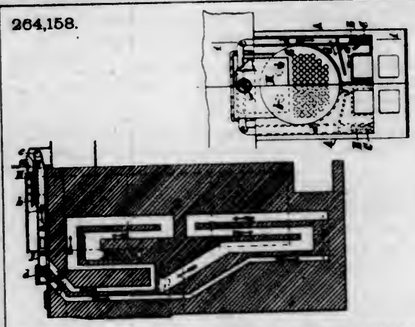
3. In a carriage or perambulator, the body A, handles B, and supplemental suspended seat C, said seat having the adjustable head-rest O and rods P, substantially as herein described.

4. In a carriage or perambulator, the body A, handles B, and supplemental suspended seat C, in combination with the weight N, moving upon the guides S, and a holding-screw, substantially as herein described.

264,158. SMOKE AND GAS CONSUMING FURNACE. DE WITT C. HILL, Willimantic, Conn., assignor of two-thirds to John Scott, same place, and William E. Barrows, Hartford, Conn. Filed Aug. 25, 1881. (No model.)

Claim.—1. In a furnace having air ducts or flues winding back and forth in the side walls and leading to openings or perforated plates located with reference to the combustion-chamber, as specified, the combination of one or more air receivers or heaters

264,158.



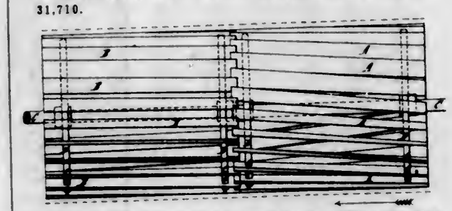
located in the uptake, said air ducts or flues and air-passages connecting said air receivers or heaters and said ducts or flues, substantially as and for the purpose set forth.

2. In combination with air ducts or flues winding back and forth in the side walls of a furnace and leading to openings in perforated plates located with reference to the combustion-chamber, as specified, one or more heaters placed in the uptake, and air-passages in the front of the furnace, substantially as and for the purpose set forth.

3. The combination of the heaters H and I, passage *a*, pipes *b*, pipes *c*, passages *d* in the double front J, and ducts or flues B C in the side walls, substantially as described.

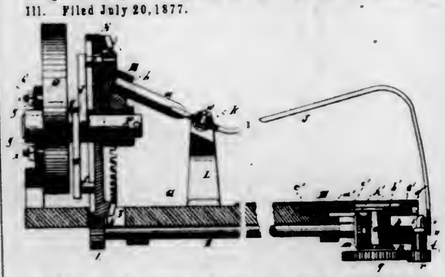
4. The combination of one or more heaters in the uptake, having one or more openings outward, passages *d* in the double front J, and ducts or flues B C in the side walls, substantially as described.

264,159. APPARATUS FOR DRESSING FLOUR, MIDDLINGS, &c. THOMAS F. HIND and ROBERT LUND, Preston, County of Lancaster, England. Filed May 16, 1882. (No model.) Patented in England Feb. 17, 1881, No. 667; in Germany Sept. 18, 1881, No. 18,355, and in Austria-Hungary Dec. 10, 1881, No. 31,710.



Claim.—In a machine for dressing flour, middlings, or other crushed or ground grain or seeds, the combination of a dressing-reel and a beater adapted to revolve therein, and comprising a series of blades arranged in sections, the blades of each of which are parallel and inclined at gradually-decreasing angles to the beater-shaft from the receiving to the delivery end of the cylinder, whereby unnecessary wear of the textile covering of the cylinder at the receiving end thereof is avoided, substantially as shown and described.

264,160. GRAIN-BINDER. PLINY F. HODGES, Massillon, Ohio, assignor to Elijah H. Gammon and William Deering, Chicago, Ill. Filed July 20, 1877.



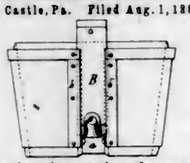
Claim.—1. The double-wall cam O, wheel *g*, and links *d e*, in combination with the wheel N, crank M, and binding-arm J,

for stopping the movement of the binding-arm while the twisting devices are in operation, substantially as described.

2. The reciprocating plate *c'* and cutters *d'*, pivoted thereto, in combination with the cam *h'*, shaft *o*, miter-wheels *m n*, shaft R, wheel *l*, segment *k*, and wheel N, substantially as and for the purpose specified.

3. The reciprocating plate *c'*, in combination with the cutters *d'* and stationary pins *g'*, whereby the reciprocating movement of the plate will operate the cutters, substantially as specified.

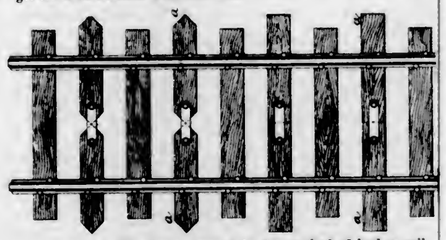
264,161. SAFETY EXPANDING STOVE-BARREL. JAMES A HORTON, New Castle, Pa. Filed Aug. 1, 1882. (No model.)



Claim.—In a barrel-stove, the safety expanding and contracting furnace-cylinder A, provided with the vertical opening *a* and the guiding-flanges *b*, in combination with the vertical plate B and the hooded passage *c*, substantially as and for the purposes herein specified.

264,162. RAILROAD-TRACK. SAMUEL W. HUDSON, Hudsondale, Pa. Filed June 22, 1882. (No model.)

Brief.—Old worn-out ties are utilized for laying railroad-tracks by cutting off their rotted portions and using two of the sound sections, which are secured at their inner ends to form a single tie in connection with solid ties.

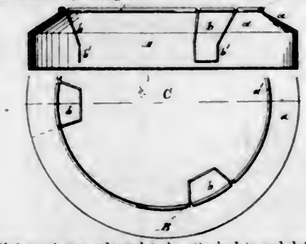


Claim.—1. The improvement in the method of laying railroad-tracks, which consists in utilizing old worn-out ties by cutting off their rotted portions and using two of the sections thus left to form single ties in connection with solid railroad-ties, in the manner described.

2. The combination, substantially as set forth, of the rails, the solid ties, and the sectional ties secured together at their inner ends.

3. The combination, substantially as set forth, of the rails, the solid ties, the sectional ties, each section of which is pointed at one or both ends, and the securing-bolts.

264,163. TRAY FOR DRINKING GOBLETS AND GLASSES. S. E. HURLBUT, Chicago, Ill. Filed Feb. 8, 1882. (No model.)

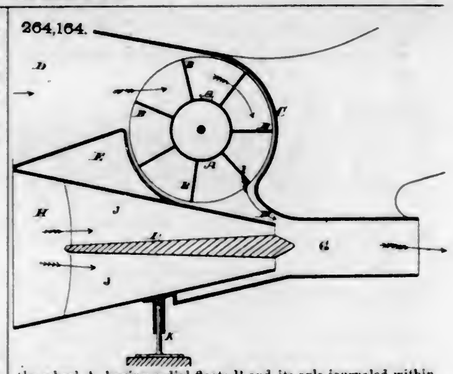


Claim.—A tray adapted to be attached to and detached from drinking goblets or glasses by means or equivalents substantially as described.

264,164. WIND-WHEEL. PETER H. JACKSON, San Francisco, Cal. Filed July 25, 1882. (No model.)

Claim.—1. The funnel or tube D, with its directing-vane I, mounted upon the vertical shaft or spindle K, in combination with

264,164.

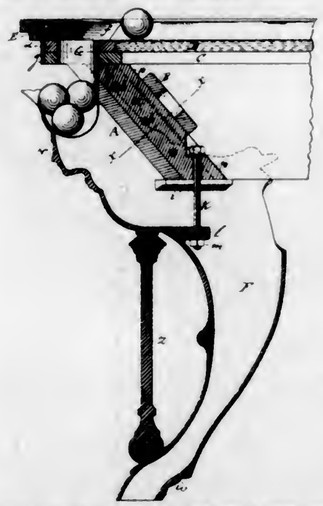


the wheel A, having radial floats B and its axle journaled within the case C E, the air-escape passage F, and tube G, substantially as herein described.

2. The funnel D and wheel A B, rotating within the case C, as shown, in combination with the escape-tube G and the supplemental funnel H, with its smaller end entering the tube G, so as to have a space around its exterior, substantially as herein described.

3. The funnel D and wheel A B, rotating within the case C, and having the escape-tube G, in combination with the funnel H, the small end of which stands within the tube G, said funnel having the spirally-placed wings J and center I, substantially as herein described.

264,165. BILLIARD-TABLE. CLEMENS JOERGENS, Chicago, Ill., assignor of one-half to Nathan Underwood, Jr., same place. Filed July 31, 1882. (No model.)



Claim.—1. In a billiard-table, the main frame, composed of the side and end rails A A, mitered together and having end miter-blocks, *a*, that in pairs form dovetailed jutties *p*, and connected by dowel-pins *b* and dovetail-grooved plates B, all substantially in the manner described and shown.

2. In a billiard-table, the frame C for supporting the marble or slate slabs D, that have beveled end edges, and are secured upon such frame C by bevel-edged strips *d*, substantially in the manner and for the purpose set forth.

3. In a billiard-table, the combination, with frame C and strips *d*, of the cushion-rail E, secured upon such frame and strip by joint-bolts *s*, and having a groove for inserting the top edge of board *g*, the bottom edge of which being supported upon and secured by washer *h*, substantially in the manner and for the purpose shown and specified.

4. In a billiard-table, the frame A, supported upon the hollow cast curved legs F, being braced by columns *z*, the same being constructed and arranged substantially as set forth.

5. In a billiard-table, the curved legs F, having heads *v*, that form the pockets for the balls, substantially as set forth.

6. In a billiard-table, the hollow cast curved legs F, braced by columns *z*, and having heads *v*, that form the pockets for the balls, substantially as described and shown.

7. In a billiard-table, and in combination with its beveled frame A, the hollow cast legs F, having supporting-flanges *i*, eye-lugs *l* for securing such frame A by bolts K, and side flanges, *j*, for wood-screws *n*, all substantially as and for the purpose described and shown.

8. In a billiard-table, and in combination with its beveled frame, A, the hollow cast legs F, each having a head, *v*, that forms the pocket for the balls, supporting-flanges *i*, eye-lug *l*, for securing such frame by a bolt, K, and side flanges, *j*, for wood-screws *n*, all substantially as and for the purpose described and shown.

9. In a billiard-table, and in combination with its beveled frame A, the hollow cast curved legs F, each braced by a column, *z*, and having a projecting head, *v*, that forms the pocket for the balls, such legs being provided with flanges *i*, for supporting frame A, with eye-lugs *l*, for securing such frame by a bolt, K, and with side flanges, *j*, all constructed and arranged substantially as and for the purpose described and shown.

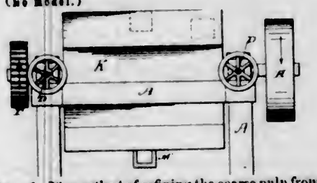
10. As an attachment to billiard-tables, the herein-described corner-blocks H, holding rubbers *q*, and being provided with plate *r* and latch *t*, that engages with plate *u*, attached to cushion-rail E, all constructed and arranged to operate substantially in the manner and for the purpose set forth.

264,166. DRAWER-PULL. JAMES F. JOHNSON, Dayton, Ohio. Filed June 5, 1882. (No model.)



Claim.—The herein-described drawer-pull and label-holder, consisting of the plates A A, having flanges B, bottom ledges, E, and boxes or bearings G, in combination with the handle J, journaled in said boxes or bearings, substantially as set forth.

264,167. REFINING PAPER-PULP AND APPARATUS THEREFOR. WALTER JONES, Niagara Falls, N. Y. Filed Aug. 12, 1882. (No model.)



Claim.—1. The method of refining the coarse pulp from wood-grinders and similar pulping-engines by passing said pulp between rollers turning toward each other at different surface speeds, substantially as described.

2. The method of reducing or refining paper-stock of wood or other material by passing it, mixed with water, between grooved rollers turning toward each other, substantially as described.

3. The combination, with a wood-grinder or similar pulping-engine, of a refining apparatus supplied with coarse pulp therefrom, said apparatus having rollers for acting on the pulp, substantially as described.

4. The combination, with smooth-faced, grooved, or other suitable rollers and means for revolving the same, as described, of the water-tight supply-hopper and inlet-spout, substantially as set forth.

5. The combination of the rollers, smooth-faced or dressed, the supply-hopper, the flaps at the bottom of the hopper, the inlet-spout, the means for revolving the rollers, and the discharge-spout, substantially as described.

6. The apparatus described, comprising the machine-frame, the grooved or smooth-faced rollers, means for revolving the same, the casing, with its supply-hopper and collecting-chamber, the flaps at the mouth of the hopper, the inlet-spout, the overflow, and the discharge-spout, substantially as described.

264,168. MANUFACTURE OF PAPER-PULP AND PAPER. JOSEPH JORDAN, Bridgeport, Pa. Filed July 12, 1882. (No specimens.)

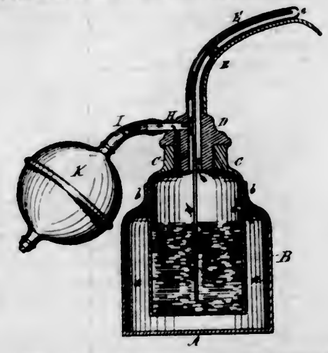
Claim.—1. In the process of reducing vegetable fibrous material to paper-pulp, the extraction of the liquor or sap from the original stock by mechanical pressure, the reduction of the remnant mass to pulp by any of the well-known processes, and the reunion of the liquor or sap first extracted with the resultant perfected pulp before the latter is converted into paper, substantially as described.

2. In the process of manufacturing paper-pulp or paper from the various species of palm, preliminarily extracting the liquor or sap from the original stock by mechanical pressure, reducing the remaining mass to a perfected pulp by any of the well-known processes, then adding thereto the liquor or sap so first removed preparatory to the conversion of the pulp into paper, substantially as described.

3. As a new article of manufacture, the paper made of palm, sized with its own natural sap or liquor, possessing the peculiar ivory-like surface and distinguishing properties, substantially as described.

264,169. ATOMIZER. JOEL G. JUSTIN, Syracuse, N. Y. Filed Oct. 6, 1881. (Model.)

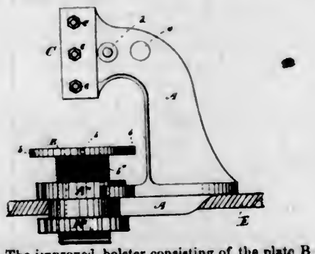
Brief.—The bottle or receptacle for the liquid is double walled and chambered to make an extra air-reservoir.



Claim.—1. In an atomizer, a double-chambered body, one chamber of which is the liquid-receiver C and the other an auxiliary air-reservoir, *a*, surrounding the liquid-receiver C, both being fitted together and communicating with each other, and constructed and operating substantially as and for the purposes set forth.

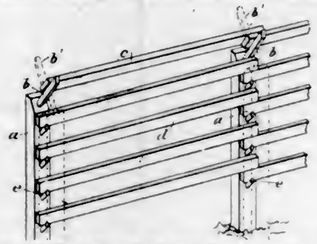
2. The combination of the double-chambered body A, composed of the bottles B C, fitted together, as shown, and communicating with each other through the aperture *e*, with the stopper D, atomizing-tube E, liquid-pipe M, orifice *e*, tubes I H, and bulb K, when constructed and operating together, substantially as and for the purposes shown.

264,170. DIE AND STAMPING PRESS. FREDERICK KAMPFE and OTTO KAMPFE, Brooklyn, N. Y. Filed Dec. 28, 1881. (No model.)



Claim.—The improved bolster consisting of the plate B and shank *b''*, combined with a suitable nut or nuts, and designed to operate in connection with the mandrel of a die and stamping press, substantially as set forth.

264,171. COMBINATION POST-AND-RAIL FENCE. SPENCER W. LANGE, Jonesburg, Mo. Filed Feb. 7, 1882. (Model.)



Claim.—1. In a post-and-rail fence, the combination, with the rails composing the fence, of the adjacent vertical posts *a a'*, set in the ground and arranged parallel with each other, the arms *b b'*, made fast to the upper ends of the posts and inclined toward each other and crossed above the rails held between the posts, and the rider supported by the crossed arms, substantially as set forth.

2. The combination, substantially as hereinbefore set forth, of the vertical post *a*, provided with the upwardly-inclined rail-supporting pins *e*, the post *a'*, set adjacent to the post *a*, and abutted against the ends of the pins *e*, the arms *b b'*, having one of their ends made fast to the posts *a a'*, and their upper ends inclined inward and crossed over the space between the posts, the rider *c*, and rails *d*, substantially as set forth.

264,172. WALL-SAFE FOR CARS. JOHN H. LASKEY, Boston, Mass., assignor of one-half to ISAAC P. DODGE, same place. Filed Dec. 7, 1881. (No model.)



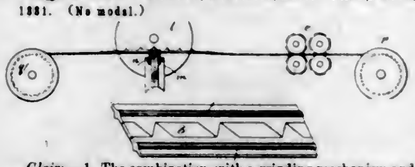
Claim.—A fire-proof and burglar-proof wall-safe for railway-cars, provided with projecting flanges adapted to engage with the vertical timbers of the car-frame, substantially as and for the purpose set forth.

264,173. BREECH-LOADING FIRE-ARM. DANIEL M. LEFEVRE and FRANKLIN R. SMITH, Syracuse, N. Y. Filed Dec. 5, 1881. (No model.)

Claim.—1. The combination, with the breech-extension A, provided with the mortise *a*, and the barrels B, provided with the lug C, the screw-threaded plug *c*, inserted adjustably in the end of one of the parts *a* C, and having a hemispherical protruding end engaging a corresponding cavity in the adjacent end of the other of said parts, substantially as shown and described.

2. In combination with the breech-extension A and barrels B, hinged thereon and provided with the extractor E, the fore-end piece, F, provided with the open slot *e*, and the ejector D, having its pivotal pin *f* secured in said slot by the screw *r*, substantially in the manner described and shown.

264,174. APPARATUS FOR THE MANUFACTURE OF BARBED FENCING. EDWIN S. LUNOX, Worcester, Mass. Filed Dec. 19, 1881. (No model.)

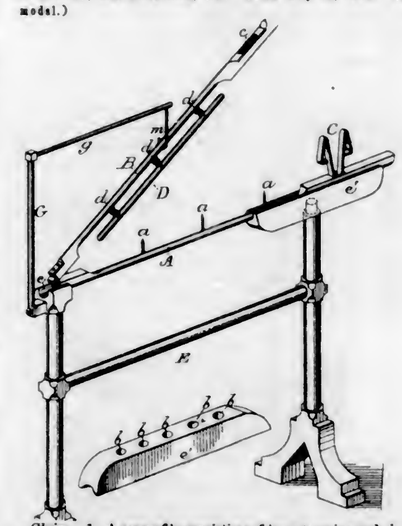


Claim.—1. The combination, with a grinding mechanism and means for paying out and winding up barbed fence-wire, of a holder through which the wire is drawn and a yielding presser acting to keep the wire and grinder in contact, substantially as specified.

2. In combination with a revolving grinder, two adjustable jaws, a yielding tongue or presser on each jaw, adapted to support and hold into contact with the grinder the barbs of fence-wire, and mechanism for drawing the said wire along through the jaws, substantially as set forth.

3. The improvement herein specified in apparatus for the manufacture of barbed fence-wire, consisting in the combination, with mechanism for moving along and for slitting up a ribbon of metal and forming two fence-wires with barbs or points thereon, of a grinding mechanism for sharpening the points of the barbs of both fence-wires, substantially as set forth.

264,175. COMBINED PAPER-FILE AND FILE-HOLDER. JOHN H. LIBBEY, San Francisco, Cal. Filed May 16, 1882. (No model.)



Claim.—1. A paper-file consisting of two clamping-rods having a space between them, said rods being hinged together at one end and clasped at the other, and an intervening spring-rod lying parallel with the main rods in the space between them, substantially as herein described.

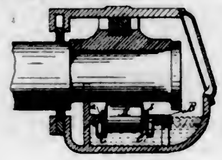
2. A paper-file consisting of the lower rod, A, with its pins *a*, the upper rod, B, hinged to the lower at one end and clasped at the other, and the intervening spring-rod, D, arranged and constructed substantially as herein described.

3. A paper-file consisting of the lower rod, A, with its pins *a* and expanding spring-clasp C, the upper rod, B, hinged at one end to the lower rod and fitting over clasp C at the other end, and the rod D with its springs *d* securing it to rod B in the space between rods A and B, substantially as herein described.

4. The paper-file consisting of the lower stationary rod, A, and the upper swinging rod, B, with the intervening spring-rod, D, in combination with the stand E, having a grooved top, *e e'*, in which the lower rod rests, and the arm G, with its rod *g*, having a hook, *m*, to sustain the swinging upper rod when opened, substantially as herein described.

5. The paper-file consisting of the lower stationary rod, A, and upper swinging rod, B, with the intervening spring-rod, D, in combination with the stand E, having a grooved top, *e*, and an adjustable grooved top strip, *e'*, arranged and constructed substantially as and for the purpose herein described.

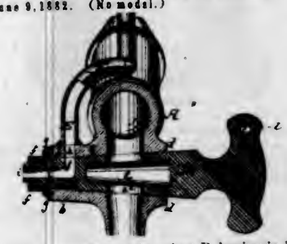
264,176. LUBRICATOR. JOHN B. LOW, Falls Village, Conn. Filed July 17, 1882. (No model.)



Claim.—1. The roller A, made of buoyant material, journaled loosely at its ends in slotted guides, the whole being attached to an open frame, B, substantially as shown, and for the purpose set forth.

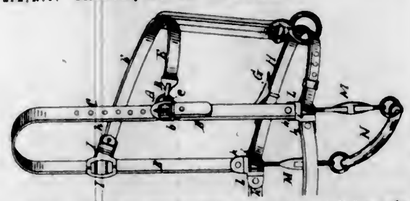
2. The roller A, composed of a buoyant material, and provided with end journals, *b b*, in combination with the guides C C, having vertical slots *a a*, and frame B, substantially as shown, for the purposes set forth.

264,177. VENT-FAUCET. ADOLPH LUHRS, New York, N. Y. Filed June 9, 1882. (No model.)



Claim.—In a vent-faucet, the spigot B, having in its smaller end the axial aperture *i*, and single angular branch aperture *j* on the latter, and having the indicating-mark *l*, in combination with the faucet-body A, tube E, and nut *f*, for operation substantially as described.

264,178. BRIDLE AND HALTER. STEPHEN A. MARKER, Newark, N. J. Filed July 29, 1882. (No model.)



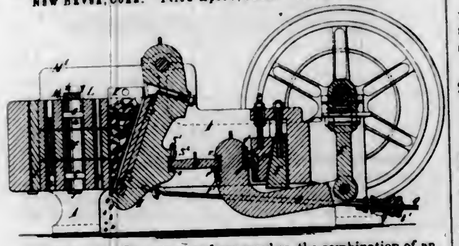
Claim.—1. As an improvement in bridles and halters, the crown-buckle A, constructed with the sunk plate *a*, raised cross-bar *b*, and side loop, *c*, in combination with the cheek-strap B, crown-piece C, and throat-latch E, substantially as and for the purpose herein specified.

2. The chin-strap buckle G, constructed with the cross-bars *d f*, in combination with the chin-strap H, provided with the rivet *g* or its equivalent, substantially as and for the purpose herein specified.

3. The clips or couplings I L, constructed with the attaching-plates *h h* and angle shield-bars *i i*, in combination with the cheek-strap B, crown-piece C, and throat-latch E, substantially as and for the purpose herein specified.

4. The double snap-hooks M M, constructed with the double aperture *p* and cross-bar *r*, for attaching the single spring *n*, in combination with the coupling L and bit N, substantially as and for the purpose herein specified.

264,179. STONE AND ORE CRUSHER. SAMUEL L. MARSDEN, New Haven, Conn. Filed Apr. 7, 1882. (No model.)



Claim.—1. In a stone and ore crusher, the combination of an upright cylindrical fixed jaw and an opposite concave swinging jaw-plate, substantially as herein shown and described.

2. In a stone and ore crusher, a fixed cylindrical jaw constructed in sections, and provided with suitable devices whereby they may be placed in or lifted from position, and devices whereby they may be united to each other, substantially as herein shown and described.

3. In a stone and ore crusher, as a means for holding the fixed jaw down in place, the combination of the transverse key M, slotted plates M', and lugs *h*, substantially as set forth.

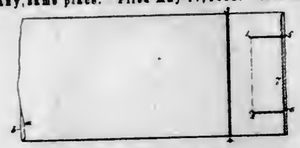
4. A stone and ore crusher constructed substantially as herein shown and described, containing the following elements in combination: a cylindrical jaw, an opposite concave jaw-plate, a toggle-lever with socketed head, an adjustable socketed toggle-block, an adjustable lever, and toggle fulcrums or bearings, all arranged substantially as herein shown and described.

5. In a stone and ore crusher, the combination, with the toggle-lever O, having rear head-socket, *o'*, of the adjustable bearing *o*, substantially as and for the purpose described.

6. In a stone and ore crusher, the combination, with the toggle-lever O, having face-socket *r*, toggle G, and swinging jaw H, having rear socket, *s*, of the adjustable toggle-bearings *r*, *s*, substantially as and for the purpose described.

7. In a stone and ore crusher, the combination, with the toggle-lever O, having a rear head-socket, *o'*, and provided with adjustable bearing *o*, of the toggle-block P, having face-socket *q* and adjustable lever-fulcrum *q*, substantially as herein shown and described.

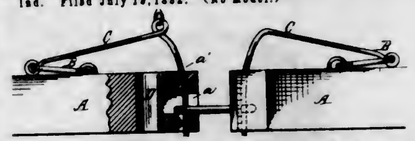
264,180. METHOD OF AND MACHINERY FOR MAKING SATCHEL-BOTTOM PAPER BAGS. JOSEPH MCCULLOUGH, Philadelphia, Pa., assignor to the Union Paper Bag Machine Company, same place. Filed May 17, 1882. (No model.)



Claim.—1. The method of creasing the cross-fold line of that point of the diamond which lies next to the body-forming portion of the blank, which consists in making a transverse crease, as 1 2, in the blank from its opposite side before the diamond fold is formed, substantially as described.

2. The method of creasing the cross-fold line of that point of the diamond which lies next to the body-forming portion of the blank, which consists in making a crease, as 1 2, from one side of the blank and intersecting creases, as 1 5 and 2 6, from the opposite side before the diamond fold is formed, substantially as described.

264,181. CAR-COUPLING. JAMES E. MENDENHALL, Fort Wayne, Ind. Filed July 18, 1882. (No model.)



Claim.—1. A car-coupler provided with eyes B B, hooks C C, and longitudinal slots D D, located on one side of the draw-head, substantially as shown and specifically set forth.

2. In a car-coupling device, the draw-heads A A, provided with openings *a' a'* and D D, and connecting-hooks C C, attached to the draw-heads by eyes B B, having arms of unequal length, substantially as shown, and for the purposes set forth.

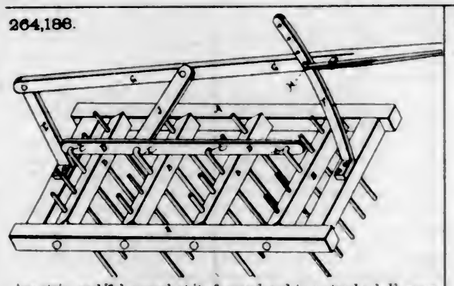
264,182. REMOVING AND PREVENTING SCALE IN STEAM-BOILERS. ISAAC L. MERRELL, San Francisco, Cal. Filed June 15, 1882. (No specimens.)

Claim.—The herein-described composition of matter for removing and preventing scale in boilers, consisting of water, tan-bark, sawdust, clippings from skins, rawhides, or leather, and refuse tobacco, in about the proportions specified.

264,183. HARROW. JOHN MERWIDEBY, Pomo, Cal. Filed Mar. 7, 1882. (No model.)

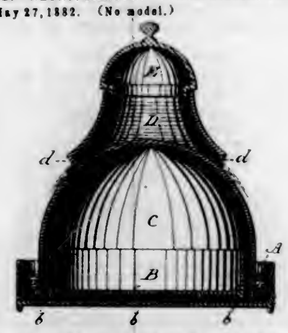
Claim.—In a harrow, the tooth-carrying rocking-bars B, connected by a strip, D, in combination with the means for rocking said bars, consisting of the horizontal lever G above the connect-

264,186.



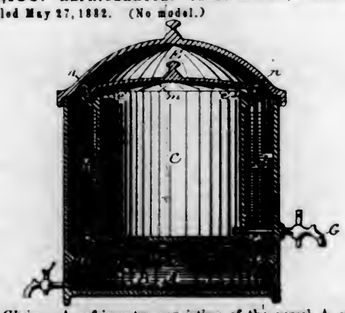
ing-strip, and fulcrumed at its forward end to a standard, E, upon the front end of the harrow-frame, and engaging with a rack-bar, F, upon the rear of the said frame, and the pivoted connecting-arm J, joining lever G and strip D, substantially as herein described.

264,184. REFRIGERATOR. JAMES MILLER, Oakland, Cal. Filed May 27, 1882. (No model.)



Claim.—A refrigerator consisting of the exterior vessel, A, and interior holding-vessel, B, of greater height and smaller diameter, and set upon legs *b* within vessel A, whereby a water-space, *a*, is formed around and under said holding-vessel B, the dome or bell shaped vessel C, the base of which fits down into the circumscribing water-space, and the water-supply vessel D, with its flaring flange *d*, upon top of the vessel C, substantially as herein described.

264,185. REFRIGERATOR. JAMES MILLER, Oakland, Cal. Filed May 27, 1882. (No model.)

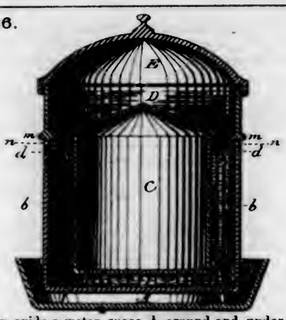


Claim.—A refrigerator consisting of the vessel A, with its ledge *a*, the concaved centrally-perforated false bottom or disk B, fitting upon said ledge, whereby a water-space is formed between it and the bottom of vessel A, the holding-vessel C, of smaller diameter than A, having legs *c* resting upon said false bottom, and trough *e* around its top, lid *m*, with its lip *n*, and outer cover, E, all constructed, arranged, and operated as set forth.

264,186. REFRIGERATOR. JAMES MILLER, Oakland, Cal. Filed May 27, 1882. (No model.)

Claim.—A refrigerator consisting of the water-vessel B, with its apertures *n* at its top, the waste-plate A, the holding-vessel C, smaller in diameter than the vessel within which it is set upon

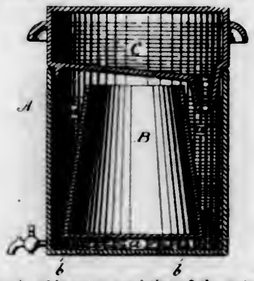
264,186.



legs *c*, to provide a water-space, *b*, around and under it, and the water-supply cap or vessel D, having a bottom convex or upwardly inclined upon its inner side, a circumscribing lip, *d*, with an opening, *e*, and shoulders *m* for supporting it upon the top of the water-vessel B, substantially as herein described.

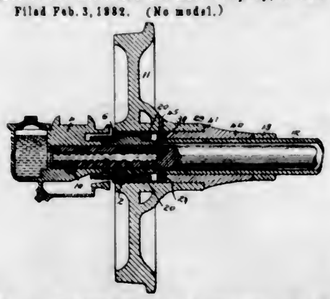
264,187. REFRIGERATOR. JAMES MILLER, Oakland, Cal. Filed May 27, 1882. (No model.)

Brief.—Air-tight water-filled cover retains water till that below it settles by evaporation below the outlet-nozzle of cover, when air enters and replaces equivalent amount of water, thus maintaining constant level of water in vessel below.



Claim.—A refrigerator consisting of the water-vessel A, the tapering holding-vessel B, provided with legs *b*, and of a diameter less than that of vessel A, whereby an underlying and circumscribing water-space, *a*, is formed, and the air-tight water-supply vessel C, with its sloping bottom and open-ended nozzle or neck *c* fitting down into the top of water-space *a*, substantially as and for the purpose herein described.

264,188. CAR-AXLE. GEORGE W. MILTIMORE, Chicago, Ill., assignor to the Miltimore Car Axle Company, of New York, N.Y. Filed Feb. 3, 1882. (No model.)



Claim.—1. The combination, with a stationary axle, of wheels provided with boxes bearing directly on said axle, and with sleeves and supplemental sleeves secured rigidly thereto, of a tube to keep said wheels apart and allow each to turn independently of the other, substantially as described.

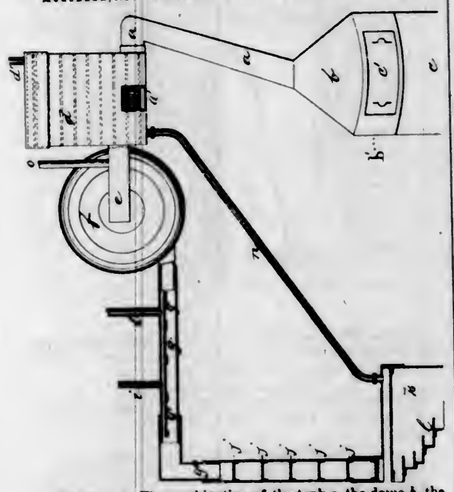
2. A tube provided with collars, as 13 28, in combination with wheels provided with sleeves, as 29, and supplemental sleeves, as 40, substantially as described.

3. The combination, with the supplemental sleeve, as 40, of

the collar, as 20, having the extension, as 45, substantially as described.

4. The combination of the nut or collar 28 and its locking-pin 43 with collar 20, having the extension 45, substantially as described.

264,189. APPARATUS FOR RENDERING FATS, &c. WILLIAM MOACKLER, New York, N.Y. Filed May 31, 1882. (No model.)

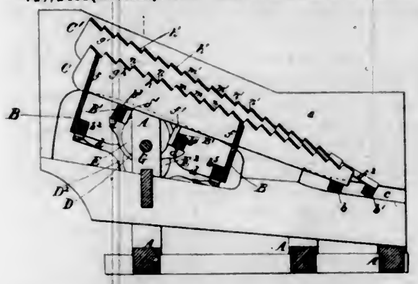


Claim.—1. The combination of the tank *c*, the dome *b*, the pipe *a*, the scrubber-box *d*, the water-pipe *d'*, the pipe *e*, the water-pipe *o*, the fan *f*, the pipe *g*, the perforated trough *g'*, the pipes *i*, the perforated partitions *j j*, the scrubber-box *k*, and the pipes *m* and *n*, substantially as and for the purpose set forth.

2. The combination of the fan *f*, the induction-pipe *e*, and the water-pipe *o*, substantially as and for the purposes set forth.

3. The combination of the tank *c*, the dome *b*, the pipe *a*, the scrubber *d*, the water-pipe *d'*, the pipe *e*, the fan *f*, the pipe *g*, the perforated trough *g'*, the water-pipes *i*, the scrubber *k*, and the pipes *m* and *n*, substantially as and for the purposes set forth.

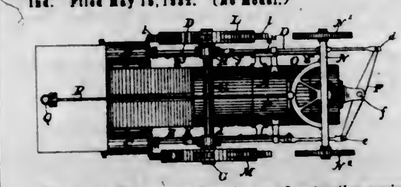
264,190. GRAIN AND STRAW SEPARATOR. DANIEL MURPHY, Dubuque County, Iowa. Filed June 8, 1882. (No model.)



Claim.—1. In combination with the driving-shaft, outside eccentrics, and shaker-bars of a grain and straw separator, the outside eccentric-straps provided with laterally-extending arms and the frame-pieces, by which said bars are connected to said arms and supported while they are being vibrated up and down and moved back and forth by the eccentrics and the driving-shaft, substantially as described.

2. The combination of the machine-frame, two pairs of eccentric-straps on the outside of the machine-frame and provided with laterally-extending arms, two pairs of eccentrics also placed outside the machine-frame and one pair having their throw opposed to the other, a revolving driving-shaft, transverse connecting-bars, standards, and longitudinal shaking-bars, substantially as and for the purpose described.

264,191. TRACTION-ENGINE. JAMES E. MUSTARD, Glen Hall, Ind. Filed May 15, 1882. (No model.)

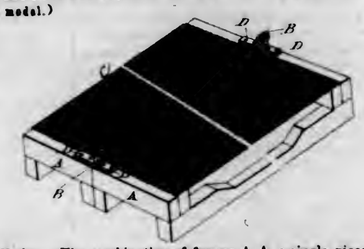


Claim.—1. The combination, in a road or traction engine, of the two cylinders B C, the cogged and jointed rods or bars D E, the cross-bar F, axle G, collars H I, having spring-catches therein, segments J K, having teeth to engage with the bars D E and notches to engage with the collars H I, and wheels L M, substantially as shown and described, and for the purposes specified.

2. In a traction or road engine, the combination of the permanently-located cylinders B C, the cogged and jointed rods D E, the cross-bar F, and the segments J K, whereby the force of both cylinders may be applied to one segment without rocking said cylinders or deflecting those portions of said rods which serve as piston-rods from a straight course, substantially as shown and specified.

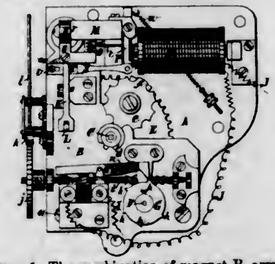
3. In a road or traction engine, traction-wheels L M, provided with spring-arms *l*, substantially as shown and described, and for the purposes specified.

264,192. FOLDING WOVEN-WIRE MATTRESS. JAMES NELSON and NELS NELSON, Milwaukee, Wis. Filed May 12, 1882. (No model.)



Claim.—The combination of frames A A, a single piece of woven-wire fabric, C, adapted to cover both frames, and angular hinges B B, the joints of which hinges are formed above the bars of the frame, whereby a circular curve is given to the fabric at its center when folded, and the injury arising from folding the same at an angle is obviated, substantially as set forth.

264,193. NON-INTERFERING SIGNAL-BOX. AUGUSTUS H. PALMER and CHARLES A. ROLPH, Utica, N.Y. Filed Dec. 3, 1881. (Model.)



Claim.—1. The combination of magnet R, armature Q, lever P, spring *w*, and sliding bar S, bearing a stop or plate, T, substantially as and for the purpose set forth.

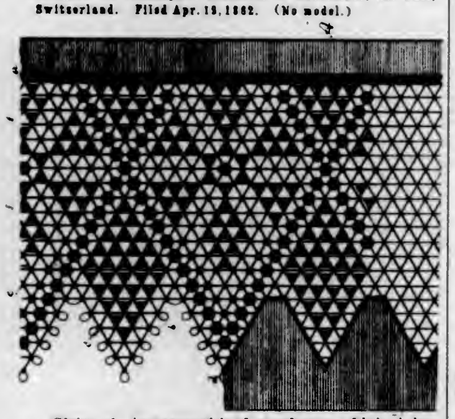
2. The combination of lever K and sliding bar S, bearing a plate or stop, T, and operated by an electro-magnet and its armature, substantially as and for the purpose set forth.

3. The combination of levers N, P, and K and bar S, having a plate or stop, T, substantially as set forth.

4. The combination of a signal-wheel having projections one of which has a broader face than one or more of the others, mechanism for operating said signal-wheel, lever for making and break-

ing the circuit and operated by said signal-wheel, an electro-magnet, and a plate or stop, T, connected with and operated by means of the armature of said magnet, all substantially as and for the purpose set forth.

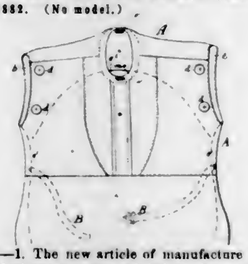
264,194. EMBROIDERY-PATTERN. CARL PREISIG, Herisau, assignor to Schlaepfer, Schlatter & Kuretsiner, St. Gall, Switzerland. Filed Apr. 15, 1882. (No model.)



Claim.—1. As a new article of manufacture, a fabric, A, having projection *a*, composed of transverse stitches, and having an embroidery composed of traversing threads *b b c c* and longitudinal threads *f f*, the traversing threads passing at one end through the projection *a* and attaching the embroidery to the fabric, substantially as specified.

2. The process of providing a fabric with an embroidered margin, which consists in forming a raised line or projection on its body, stretching traversing threads *b b c c* across portion of the solid fabric beneath said line, removing said portion, completing the embroidery, and then removing the lowermost edge of the fabric, substantially as specified.

264,195. SHIRT. JAMES M. QUINN, Jr., Sedalia, Mo. Filed Feb. 6, 1882. (No model.)

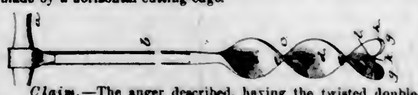


Claim.—1. The new article of manufacture consisting of a shirt formed of two separate and independent major sections, A and C, the section A of itself comprising the front body and tail portion, and a yoke or shoulder and neck portion, and having armholes, and also suitable fastenings, and the section C of itself comprising the rear neck, shoulder, body, and tail portion, and the sleeves, and also suitable fastenings, substantially as and for the purpose described.

2. A shirt formed of two sections provided with buttons or other suitable fastenings at their armholes and armpits or sleeve-recesses, in combination with detachable sleeves provided with button-holes, substantially as and for the purpose described.

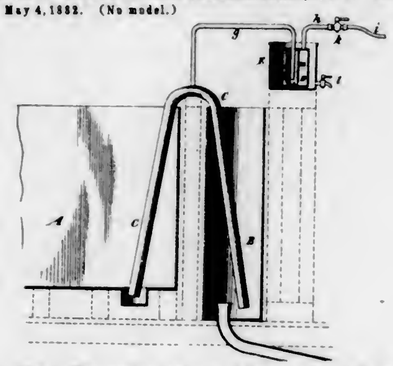
264,196. SLATE OR EARTH AUGER. JEREMIAH N. RAINEY, Ironton, Ohio. Filed Nov. 18, 1881. (No model.)

Brief.—The cutting-bits are separated at the center of the blade by a horizontal cutting-edge.



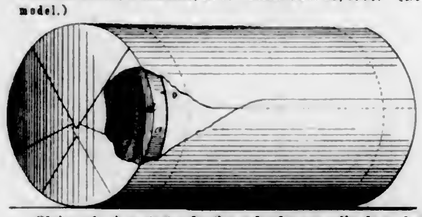
Claim.—The auger described, having the twisted double-flanged blade *c*, terminating in the forked bit, having lateral circularly-curved convex branches *g*, continuous with and having the oblique direction of said flanges, and the central separating-notch, *k*, between said branches, having a downward-cutting edge, *l*, substantially as specified.

264,197. SIPHON. JOSEPH SAUNDERS, Brooklyn, N. Y. Filed May 4, 1882. (No model.)



Claim.—The combination, in a siphon apparatus, of a vacuum-chamber and condenser, together with the necessary connections to operate the same, substantially as specified.

264,198. PROTECTING THE ENDS OF ROLLS OF PAPER. WALTER SCOTT, Plainfield, N. J. Filed Nov. 30, 1881. (No model.)



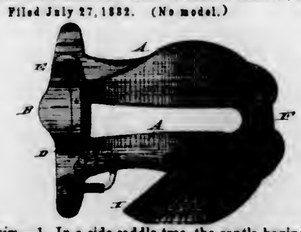
Claim.—1. A protector for the ends of paper-rolls, formed of an open elastic flanged metallic band, substantially as specified, whereby the band can be distended and contracts around the roll at the end, substantially as specified.

2. An open circular metal band having an inward flange, and mortises and hooks by which to secure the ends together, for protecting the ends of paper-rolls, substantially as specified.

3. An open circular metal band having an inward notched flange and means for securing the ends of the flange together around the end of the paper-roll, substantially as specified.

4. A protector for the ends of paper-rolls, formed of an open elastic flanged metallic band, in combination with the wrapping of paper surrounding said metallic band and the roll of paper, substantially as specified.

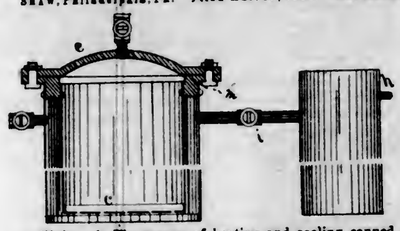
264,199. SIDE-SADDLE TREE. JOSEPH C. SEXTON, Wytheville, Va. Filed July 27, 1882. (No model.)



Claim.—1. In a side-saddle tree, the cantle having an extension forming a leg-support, curved outwardly and downwardly in front to a point in rear of the stirrup-strap, as set forth.

2. A side-saddle tree having the cantle extended outwardly and downwardly toward the front to form a leg-support on the stirrup side, having a curved and rounded outer edge, a smooth upper surface, and gradually diminishing in thickness toward its lower end, as set forth.

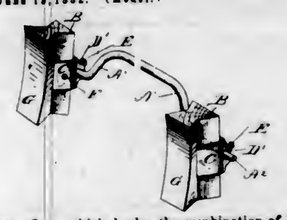
264,200. METHOD OF COOLING CANS OF FRUIT. THOMAS SHAW, Philadelphia, Pa. Filed Mar. 10, 1882. (No model.)



Claim.—1. The process of heating and cooling canned articles, the same consisting in first placing the filled cans in a closed vessel, admitting steam thereto under pressure until the contents are cooked, then cutting off the steam and passing air under pressure into the vessel, and then passing the air through the vessel, gradually reducing the pressure until the cans and contents are cooled, substantially as set forth.

2. The herein-described method of cooling cans of animal or vegetable matter under pressure by surrounding the cans with compressed air and permitting the same to expand in contact therewith, and then escape, as described.

264,201. VEHICLE-BRAKE. DYAS SHELTON, Santa Rosa, Cal. Filed June 19, 1882. (Model.)



Claim.—In a vehicle-brake, the combination of the arm A^1, provided with depressions F', the back piece, D, clamps C C, block D', provided with smooth slot D^2, and intersecting threaded opening D^3 for the reception of set-screw E, the block B, and screw F, the several parts being united and operated in the manner and for the purposes specified.

264,202. WITHDRAWN.

264,203. CARRIAGE-BOW. JAMES C. SMITH, Elyria, Ohio. Filed July 28, 1881. (No model.)



Claim.—1. A slat-iron, B, provided with a narrow portion extending partially through the wooden bow, and also a widened portion which extends entirely through the bow, and also with elongated recesses for the passage of the shanks of curtain-buttons, substantially as and for the purposes shown.

2. A slat-iron provided with an eye-joint attached thereto by means of rivets, and a re-enforced piece, substantially as and for the purposes shown.

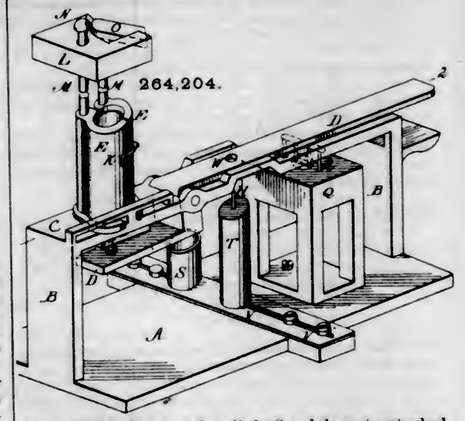
3. A carriage-bow consisting of a wooden portion, A, recessed to receive the slat-iron B, in combination with the eye-joint C, attached to the slat-iron by means of rivets, and a re-enforced portion, D, substantially as and for the purposes shown.

264,204. APPARATUS FOR CAPPING, UNCAPPING, AND LOADING CARTRIDGE-SHELLS. LINCOLN BOSTAGE, San Francisco, Cal. Filed Jan. 16, 1882. (No model.)

Claim.—1. The cylinder composed of the two halves E E, opening upon the hinges or pin M, and grooved at the bottom to receive the flange of a shell, in combination with the plunger G, stem I, and head J, and the lever D D', all mounted and operating together substantially as herein described.

2. The shell-holding cylinder composed of the halves E E, hinged as shown, in combination with the block L, fitted upon the vertical guides M, and having the swinging or sliding stop-plate O, substantially as and for the purpose herein described.

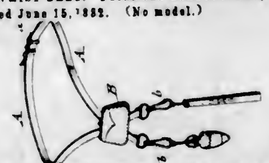
3. The base A and the table C, having the bent lever D pivoted to it, and the spring P, as shown, in combination with the



transverse slide V, having the cylinder S, and the post or standard T, with its pin U, mounted upon the slide, so that either the cylinder or the post may be brought beneath the lever, substantially as herein described.

4. In a cartridge apparatus, the cylinder E, the cylinder S, and the post T, with its pin U, in combination with the single bent lever having the arms D D', the table C, and base A, all combined and operating substantially as herein described.

264,205. WAIST-BELT. FRIEDMAN STRUSHEIMER, New York, N. Y. Filed June 15, 1882. (No model.)

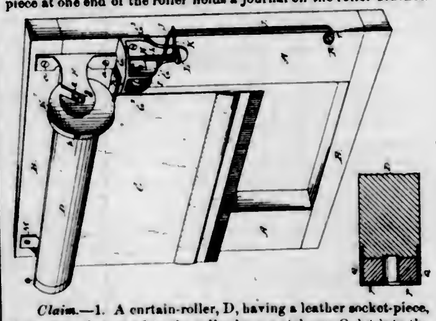


Claim.—1. As an improvement in waist-belts, the combination, with a belt, of a pocket-book and means whereby the same can be adjusted on the belt, substantially as set forth.

2. As an improvement in waist-belts, the combination of the belt A, pocket-book B, slide D, or other analogous means, whereby the pocket-book is adjusted on the belt and suspension devices *b b* applied to the belt below the pocket-book, substantially as and for the purpose set forth.

264,206. CURTAIN-FIXTURE. CHARLES J. TRUMPER, Indianapolis, Ind. Filed Mar. 6, 1882. (No model.)

Brief.—The cord passes through an eye in a spring-arm, which arm, when released from the hand, pulls the cord into the spiral groove of a check-wheel supported between ears on the bracket below the roller, that also holds the spring-arm. A leather socket-piece at one end of the roller holds a journal on the roller-bracket.



Claim.—1. A curtain-roller, D, having a leather socket-piece, P, at one end, secured to the roller by a metal cap, Q, let into the roller and surrounding the sides and outside end of the socket-piece, said roller being actuated by a cord held in position by an automatic check-wheel, substantially as and for the purpose set forth.

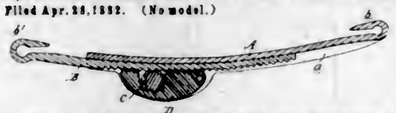
2. A curtain-roller provided with a leather socket-piece, P, at one end, said socket-piece being held in place by a metal cap, Q, substantially as shown and described.

3. In a curtain-fixture, the automatic check-wheel I, in combination with a spring-arm, K, substantially as set forth.

4. In a curtain-fixture, the combination of the slotted bracket G, having the supporting-ears G' G², with the check-wheel I, cord J, post H, spring k, and spring-arm K, as set forth.

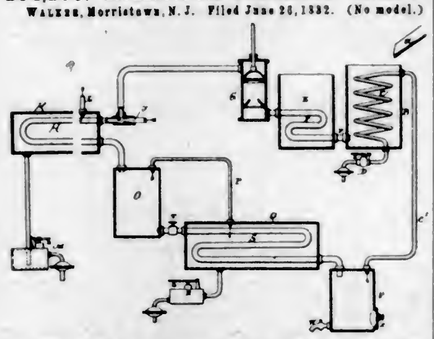
5. In a curtain-fixture, the combination, with brackets M F, roller D, having the leather socket-piece P, and cap Q, of the bracket G, having the check-wheel I mounted therein, post H, spring k, cord J, and spring-arm K, as set forth.

264,207. HAME-FASTENER. JOHN VINCENT, St. James, Mich. Filed Apr. 26, 1882. (No model.)



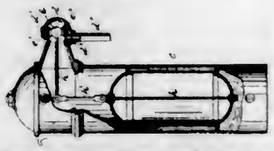
Claim.—The hame-fastener herein described, consisting of the metal strap A, having longitudinal edge flanges *a* and hook or loop *b*, formed of a single piece of metal, and furnishing journal-bearings for the ratchet-wheel C and locking rack-lever D, and the ratchet-faced strap B, having hook *b'*, the whole combined and arranged to serve as and for the purpose set forth.

264,208. APPARATUS FOR EVAPORATING. THOMAS G. WALKER, Morristown, N. J. Filed June 26, 1882. (No model.)



Claim.—The combination, with the vat B and coil *c*, of the pump G, pipe H, steam-vessel K, receptacle O, pipe S, steam-vessel Q, receptacle *e*, and pipe *c'*, and cocks and valves, substantially as set forth.

264,209. BOILER-FEEDER. DAVID C. WALTER, Toledo, Ohio. Filed May 31, 1882. (No model.)



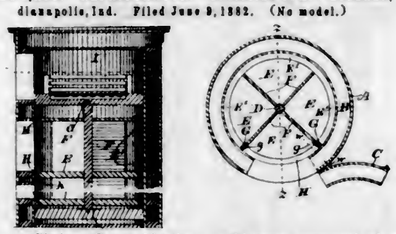
Claim.—1. The combination, with the float-cylinder c and the float *h*, of the valve-box *d*, placed near the upper end of and opening into the float-cylinder, and having the exit-ports d' d^3, arranged opposite to each other, the valve *e*, having the opposite wings, e' e^3, opening or closing the ports d' d^3, the valve-arm h', extended from the valve into the float-chamber, and connecting-rod h^3, substantially as and for the purposes set forth.

2. The combination, substantially as hereinbefore set forth, of the float-cylinder, the valve-casing placed near and laterally to the upper end of and opening into the float-cylinder, and having port d' opening upward and the port d^3 opening downward, whistle d^6, valve *e*, having wings e' e^3, placed in the casing *d* and opening or closing the ports d' d^3, the valve-arm h', extended into the float-cylinder, float *h*, coupling h^3, pipe d^5, and steam-cylinders *b b*, substantially as set forth.

3. The combination, with the float-cylinder *c*, lateral valve-case *d*, float *h*, valve *e*, and suitable rods and arms connecting the valve with the float, of the steam-pipe d^5, cylinders *b b*, the piston-rods operating the pistons in cylinders *b b*, crank *b'*, and the pump mechanism, substantially as set forth.

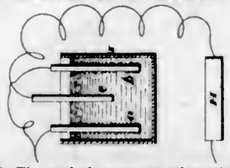
4. The combination, substantially as described, of the casing *d*, the valve *e*, placed within and having its shaft e' extended through the end of said casing, knob e^5, and rod *f*, having weights on its opposite ends, and clamping-screws f^5, as described.

264,210. REFRIGERATOR. CHRISTIAN F. H. WATERMAN, Indianapolis, Ind. Filed June 9, 1882. (No model.)



Claim.—In combination, a refrigerator composed of revoluble shelves and partitions surrounded by an inner and outer shell, forming an air-space between said shells, the inner shell provided with two vertical ribs placed near the door and faced with elastic strips *h g*, whereby an air-tight joint is produced between said shelves and partitions and said ribs when said shelves and partitions are revolved so as to come in contact with said ribs, as and for the purpose set forth.

264,211. SECONDARY BATTERY. CHARLES F. BRUSH, Cleveland, Ohio. Filed June 28, 1882. (No model.)



Claim.—1. The method or process, substantially as herein set forth, consisting in simultaneously charging in a single bath or apparatus a number of secondary battery plates or elements with an active or absorbing coating, and afterward associating or coupling said prepared plates or elements in pairs or sets as electrodes of individual batteries or cells of a battery.

2. The method or process, substantially as herein set forth, consisting in simultaneously peroxidizing in a single bath or apparatus two or more secondary battery plates or elements, then coupling or associating said peroxidized elements as electrodes of individual batteries or cells of a battery, and then reducing one of the electrodes in each of said batteries or cells to form a hydrogen element.

3. The method or process, substantially as herein set forth, consisting in placing in a single bath or apparatus two or more plates or elements, all connected with the oxygen-pole of a suitable electric-current generator, and an electrode of lead, copper, or equivalent conductor, connected with the hydrogen-pole of said generator, and then by the action of the current of said generator simultaneously forming all the plates or elements connected with said oxygen-pole, and after said forming is completed coupling or associating said plates or elements, so that they shall constitute the electrodes of individual secondary batteries or cells of a battery.

4. The method or process, substantially as herein set forth, consisting in placing in a single bath or apparatus two or more plates or elements, all connected with the oxygen-pole of a suitable electric-current generator, and an electrode of lead, copper, or equivalent conductor, connected with the hydrogen-pole of said generator, and then by the action of the current of said generator simultaneously forming all the plates or elements connected with said oxygen-pole, and after said forming is completed coupling or associating said plates or elements, so that they shall constitute the electrodes of individual secondary batteries or cells of a battery, and then reducing one of each said pair or set of associated electrodes from its oxidized state to a metallic state to constitute the hydrogen element of the battery or cell wherein it is located.

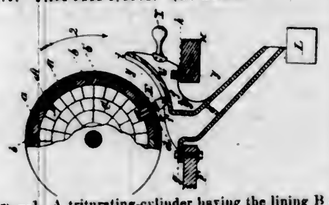
264,212. SPRING-BED. JAMES AINSLIE and ROBERT AINSLIE, Brooklyn, N. Y. Filed July 29, 1882. (No model.)

264,212.



Claim.—As an improved article of manufacture, a spring-bed consisting of longitudinal and transverse metal strips or stays supporting connected volute or spiral springs, each of said transverse strips or stays being composed of sections having their adjacent ends rigidly fixed to the leaves of butt-hinges, and thus brought into close juxtaposition, in the manner and for the objects herein set forth.

264,213. TRITURATING-CYLINDER. JOHN R. ALSING, Hoboken, N. J. Filed June 8, 1882. (No model.)



Claim.—1. A triturating-cylinder having the lining B and concave ends C, said lining being composed of blocks fitted together by tongues and grooves *b b'*, substantially as and for the purpose set forth.

2. The lining-blocks C, composed of smaller separately molded and pressed blocks *c*, cemented together before baking, substantially as and for the purpose set forth.

3. The combination of the triturating-cylinder A, provided with aperture E, the inwardly-opening valve D, having lugs upon the outer end of its valve-stem, and a roller, *f*, pivoted between said lugs, the spring *e*, and a movably-fixed piece, G, whose working-surface converges with the cylinder-surface in the direction of rotation, and which is capable of being brought in contact with the valve-stem, substantially as set forth.

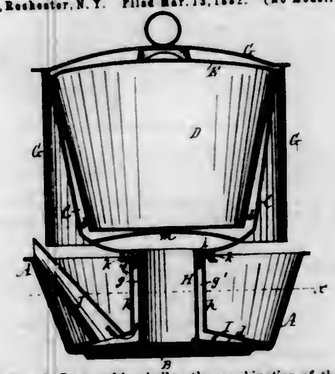
4. The combination of a triturating-cylinder provided with an aperture, E, with an inwardly-opening valve provided with an outwardly-projecting stem fitted in the said aperture, a spring, and a movably-fixed piece, G, whose working-surface converges with the cylinder-surface in the direction of rotation, and which is capable of being brought in contact with the valve-stem as the cylinder revolves, substantially as and for the purpose herein set forth.

5. A triturating-cylinder having the lining B, said lining being composed of blocks fitted together by tongues and grooves *b b'*, substantially as and for the purpose set forth.

264,214. PIGMENT FOR DISTEMPER-PAINTING. JOHN R. ALSING, Hoboken, N. J. Filed June 8, 1882. (No specimens.)

Claim.—The hereinbefore-described pigment for fresco-painting, consisting of carbonate of lime and oxide of magnesium, mixed and triturated in the proportions stated.

264,215. BOILER FOR COOKING GRAIN. WILLIAM R. ARNOLD, Rochester, N. Y. Filed Mar. 13, 1882. (No model.)



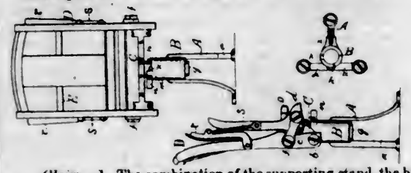
Claim.—1. In a cooking-boiler, the combination of the supply-reservoir, the steam-chamber, an air-chamber attached to the lower end of the steam-chamber, and sitting loosely into the reservoir, forming between itself and the bottom of the reservoir a hot-water generator, an air tube or tubes attached to the air-chamber, and extending to the top of the reservoir for admitting cold air, holes or passages for allowing the flow of water from the supply-reservoir to the hot-water generator, and a discharge-passage for the escape of heated air from the air-chamber, as set forth.

2. In a cooking-boiler, the combination, with the boiler C, of the tube or cylidder H, the air-chamber I, the casing *k*, and the air tube or tubes J, all forming a permanent attachment with the boiler, as herein shown and described.

3. The combination, with the tube or cylinder H, and the open-topped casing *k*, surrounding the same, of the flange *k*, attached to the bottom of the boiler outside the casing, as shown and described, and for the purpose specified.

4. The reservoir A, constructed with the depressed botton B, and with nicks *l l* in the raised portion of the bottom, forming passages for water beneath the air-chamber when placed in the reservoir, as herein shown and described.

264,216. OPERA-CHAIR. FRANK M. BAILEY and EDWARD A. SCHADE, New Britain, Conn.; said Bailey assignor to Samuel D. Sargent, same place. Filed Sept. 30, 1881. (No model.)



Claim.—1. The combination of the supporting-stand, the horizontally-swinging frame mounted on said stand by means of a vertical axle, said frame being of a width materially less than the dimensions of the seat from front to rear, the back mounted on said frame, the seat hung upon a horizontal axis, and with the back mounted on said frame, and the stops which limit the horizontal swinging movement of the frame to substantially a quarter-turn, as and for the purpose specified.

2. The back D, pivoted at its lower end, in combination with the seat pivoted on a fixed axis, and having the arm *d* and the link *f*, with one end of said link pivoted to the back at a point above the axis on which said back is hung, and its other end pivoted to the arm *d* at a point outside of the fixed axis on which the seat turns upward, substantially as described, and for the purpose specified.

3. The combination of the supporting-stand, the horizontally-swinging frame mounted on said stand by means of a vertical axle, the seat and back both mounted upon said frame and hung upon horizontal axes, and the stops which limit the horizontal swinging movement of the frame to substantially a quarter-turn, as and for the purpose specified.

4. The seat and back mounted on one and the same frame, the seat being pivoted to turn upward, and having the arm *o*, in combination with the stand bearing the arm *s*, for engaging the arm *o* when the seat is turned down, and a vertical axle upon which the back and seat frame may turn when the seat is raised up, substantially as described, and for the purpose specified.

5. The combination of a back and seat hung to turn upward on a horizontal axis, a frame with said back and seat mounted thereon, a vertical axle and supporting-stand upon which said frame may turn horizontally, stops to limit the horizontal swinging movement to substantially a quarter-turn, and the fastening mechanism to secure the seat, when turned down, at the point where the swinging movement on the vertical axis is limited by one of the said stops, substantially as described, and for the purpose specified.

264,217. CHERRY-STONER. JOHN G. BARNS, Philadelphia, Pa., assignor to the Enterprise Manufacturing Company, same place. Filed July 15, 1882. (No model.)

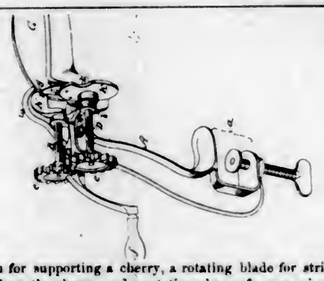
Claim.—1. The combination, in a cherry-stoner, of a rotating blade with an elastic diaphragm having incisions, one of which extends through the edge of the diaphragm for the passage of the blade, substantially as described.

2. The combination of the inclined hopper G, having throat *x*, the pocket H, and partly-severed diaphragm with a rotating blade, substantially as set forth.

3. The combination of the hopper G, its throat, the slotted pocket, and partly-severed diaphragm with the rotating disk and its blade, substantially as specified.

4. The combination, in a cherry-stoner, of a partly-severed

264,217.



diaphragm for supporting a cherry, a rotating blade for striking the stone from the cherry, and a rotating clearer for removing the pulp from the diaphragm, all substantially as described.

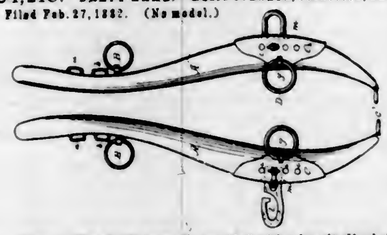
5. The combination of the rotating disk K, carrying the blade, and having a recess, *i*, with the rotating clearer N.

6. The combination of the diaphragm for supporting a cherry, the rotating stoning-blade L, and the shield *w*, substantially as specified.

7. The combination of the hopper G, its throat *x*, and pocket H, and the plate A′, with its bearings *b*, the whole being cast in one piece, and constructed to form the upper part of the frame of a cherry-stoner, as set forth.

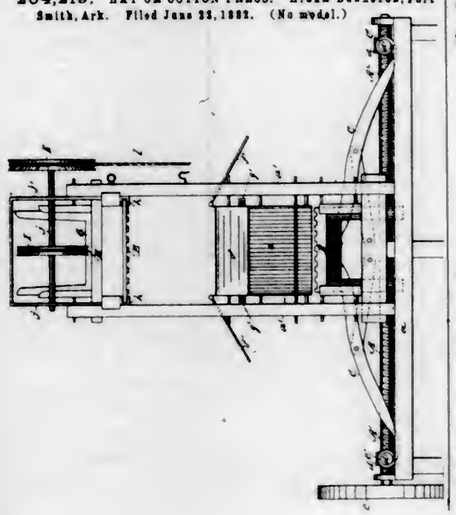
8. The combination of the hopper G and plate A′ with a casting, E, adapted to confine the elastic diaphragm to the plate, and having a chute, *i*, for directing the stone, substantially as described.

264,218. DRAFT-HAME. RUBIN F. BAKER, Coshocton, Ohio. Filed Feb. 27, 1882. (No model.)



Claim.—The draft-hame A, provided with a longitudinal slot, and having secured to it a plate, C, in combination with a tug hook or eye, said tug hook or eye being held adjustably in place on the hame by means of an eyebolt, *m*, and consisting of a T-shaped piece, *k*, to which is cast or secured the hook or eye proper, all the parts arranged and operating substantially as described.

264,219. HAY OR COTTON PRESS. HIRAM BARTON, Fort Smith, Ark. Filed June 23, 1882. (No model.)



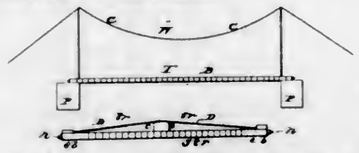
Claim.—1. In a baling-press, the combination, with the follower B and the right-and-left-hand screw-shaft A, of the threaded cross-bars or nuts *d*, provided with trunnions *d′* at their ends, the levers C, having loops C′ at their lower ends, surrounding the trunnions, and pivoted at their upper ends to the follower, and arms D, pivoted at their lower ends to the base of the frame and at their upper ends to the levers C, substantially as and for the purpose set forth.

2. In a baling-press, the combination, with the upright frame having guides, one at each corner, of the beater having upwardly-extended arms at its corners, and a cord or chain passed around a pulley fixed to a shaft having a second pulley, to which is attached also a chain or cord, substantially as and for the purpose specified.

3. In a baling-press, the combination, with the press-chamber having the hinged sides and ends capable of being held together, of the follower and its operating-levers and screw-shaft, and the sliding head-block, substantially as and for the purpose described.

264,220. BRIDGE. THOMAS BARLAND, Eau Claire, Wis. Filed Oct. 16, 1880. (No model.)

Brief.—Blocks of rigid material are threaded upon cables, the latter being put in such tension within the blocks and against the ends of the series as to make a substantially rigid beam. Truss members are also combined therewith.



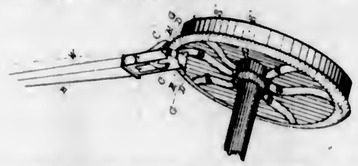
Claim.—1. A beam consisting of a wire or cable, or their equivalent, inclosed in a series of rigid blocks and put in tension within such enveloping-blocks by being screwed up or otherwise strained against the outer faces of the outermost blocks, thereby putting said blocks in compression upon each other, as described.

2. The combination, with the beam constructed as described, of attachments to the end block, adapted to receive the struts above or tension-braces below, substantially as set forth.

3. In a bridge of otherwise ordinary construction and provided with truss or like supports above or below, a stringer formed of tensile material inclosed in enveloping blocks or tubes of considerable transverse area, formed into and acting as a continuous beam by being rigidly secured in compression against longitudinal resistance of said tensile member, substantially as described.

4. In a bridge, a truss consisting of a series of blocks threaded upon one or more tension wires, rods, or cables in a vertical plane, said blocks being tightly set each against the other, and then held firmly in place by the tension of the wires, substantially as shown and described.

264,221. CAR-STARTER. WILLIAM H. BARNES, Chicago, Ill., assignor of one-half to John F. Gainty, same place. Filed June 17, 1882. (No model.)



Claim.—1. The clutches D F, with notches G G between them, in combination with the clutches C C, bar E, shell A, and handle B, as specified.

2. The shell A, provided with ribs *e*, bar E, and the forked handle B, narrowed between the ribs, arranged as specified and shown.

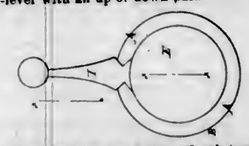
264,222. MANUFACTURE OF GLUCOSE OR GRAPE-SUGAR. HENRY W. BASTOL, Philadelphia, Pa. Filed Apr. 12, 1882. (No specimens.)

Claim.—1. The hereinbefore-described process of treating grain or other starch-bearing vegetables, which consists in soaking in weak acid or alkali solutions, as specified, washing out the acid or alkali until the mass is neutral to litmus-paper, drawing off so much of the water that not more than twenty-four nor less than twelve gallons remain for each one hundred pounds of the grain or other starch-bearing vegetable used, and then adding sufficient acid for conversion into glucose or grape-sugar and converting at once by any of the known processes.

2. The use of acid or alkali solutions of from 90° to 120° Fahrenheit to remove the gluten and oils from grain or other starch-bearing vegetables in the manufacture of glucose or grape-sugar, as hereinbefore described, whereby the quantity of acid or alkali and likewise the time are materially reduced.

264,223. BELL-PULL. CHARLES L. BATES, New York, N. Y. Filed June 3, 1882. (Model.)
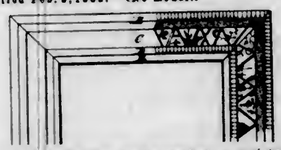
Brief.—This device can be adjusted as a right-handed or left-handed bell-lever with an up or down pull.



Claim.—1. A bell-lever constructed substantially as herein shown and described, and consisting of the plate A, having opening A′, flanges F F′, and bridge C, carrying pivot D, the cap-plate E, the hub K, having rigid arm J and holes 1 2 3 4 5, and the arm I, having pivot-hole M and pin L, as set forth.

2. In a bell-lever, the lever constructed substantially as herein shown and described, and consisting of the hub K, having rigid arm J and holes 1 2 3 4 5, and the adjustable arm I, having pin L and hole M, whereby the said arms can be adjusted in different relative positions, as set forth.

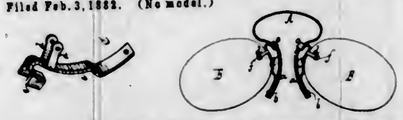
264,224. PICTURE-FRAME. JAMES G. BATTERSON, Hartford, Conn. Filed Feb. 8, 1882. (No model.)



Claim.—1. As a new article of manufacture, a picture or other frame each side of which is composed of a series of rolled metallic plates united at their ends and edges, substantially as described.

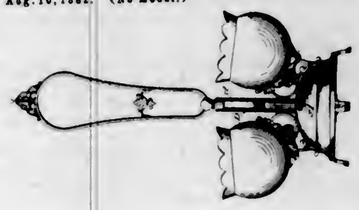
2. In combination with a frame having its respective sides and ends composed of a series of rolled metallic plates united at their ends and edges, as above described and claimed, a backing of agglutinated fibrous material, substantially as set forth.

264,225. EYEGLASS. HERMANN BAUER, New York, N. Y. Filed Feb. 3, 1882. (No model.)



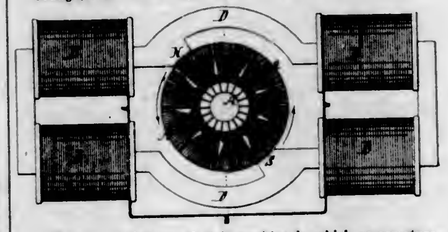
Claim.—The combination, with the nose-spring, the nose-pieces, and the lenses, of fastening devices, each constructed of a curved shank, *c*, two ears, *d d*, intended to be secured to the lens, and a clamp, *e*, substantially as and for the purpose shown and described.

264,226. SPOON-HOLDER. JOSEPH B. BEACH, Meriden, assignor to Simpson, Hall, Miller & Co., Wallingford, Conn. Filed Aug. 10, 1882. (No model.)



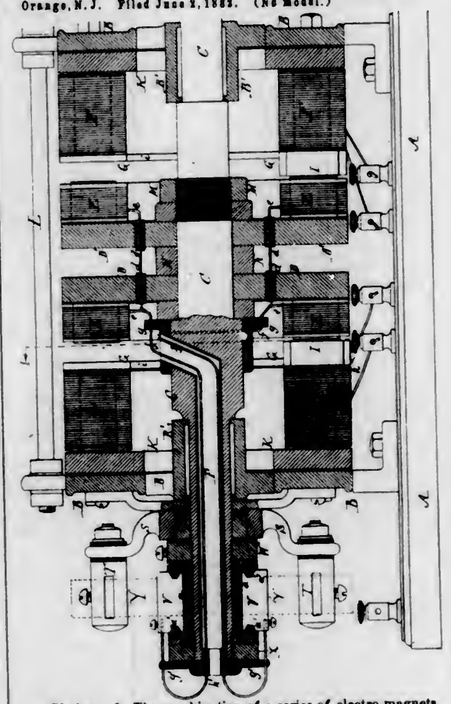
Claim.—In spoon-holders and like articles of table-furniture, the bell arranged within the base, combined with the hammer hung therein, with its arm extending to the center, a tubular stem extending upward from said base, with a spindle within said stem, a spring to support said spindle, and an extension from said spindle through the said stem to the outside to form a finger-piece by which the said spindle may be depressed to strike the bell, substantially as described.

264,227. DYNAMO-ELECTRIC MACHINE. GEORGE W. BEARDSLEE, Brooklyn, N. Y., assignor to William F. Jobbins, East Orange, N. J. Filed May 19, 1882. (No model.)



Claim.—A dynamo-electric machine in which an armature or generating-wheel is combined with electro-magnets whose poles have their acting faces cut away to leave an abrupt approach and contracted or narrowed to the sides where the armature or wheel leaves the fields of magnetism when the machine is in operation, substantially as described.

264,228. DYNAMO-ELECTRIC MACHINE. GEORGE W. BEARDSLEE, Brooklyn, N. Y., assignor to William F. Jobbins, East Orange, N. J. Filed June 2, 1882. (No model.)



Claim.—1. The combination of a series of electro-magnets with a pole-piece, G, secured to the cores of the several electro-magnets, and having a narrow concentrating polar face at one end, substantially as described.

2. A dynamo-electric machine having one commutator, two sets of field-magnets, and two sets of generating-wheels, the coils

of the two wheels being connected to one set of conductors, *f*, leading to the commutator-plates, substantially as set forth.

3. A dynamo-electric machine having an armature with a hollow shaft lined with non-conducting material, and having all the insulated terminals of the armature passing freely through it.

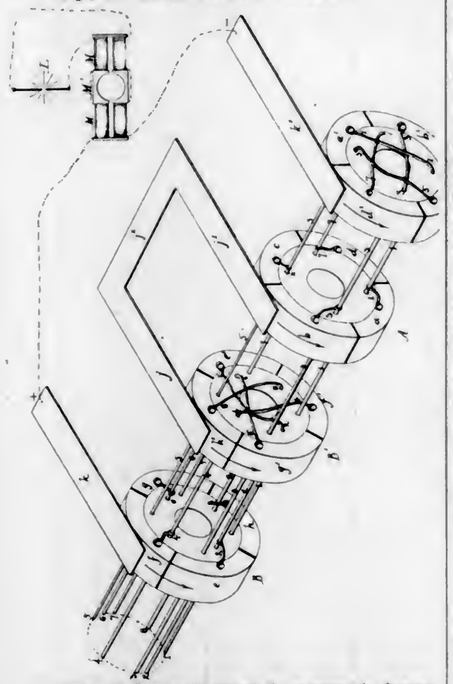
4. The combination of the field-magnets and two rotary armature-disks arranged near to each other, and having ventilating-openings through them, substantially as and for the purpose described.

5. The combination of the shaft and armature-wheel, carrying spools E, with a non-conducting disk, *g*, having openings for the wires of the said spools.

6. The combination of the hollow shaft having a non-conducting lining, disks *g* and *g'*, with a plug, *h'*, all having corresponding openings for the wires, substantially as set forth.

7. The combination of the two sets of field-magnets with two armature-wheels, D D', mounted on the shaft back to back, and a washer, N, separating the two wheels, substantially as described.

264,229. DYNAMO-ELECTRIC MACHINE. GEORGE W. BEARDSLEE, Brooklyn, N. Y., assignor to William F. Jobbins, East Orange, N. J. Filed May 19, 1882. (No model.)



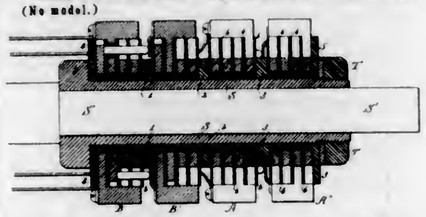
Claim.—1. The combination of the armature of a dynamo-electric machine with two pairs of separate commutator-wheels and brushes, the terminals of the armature-coils being connected to alternate pairs of wheels, and each terminal being connected to two opposite segments on the two wheels of its pair, all substantially as described.

2. In a dynamo-electric machine, the combination of four commutator-wheels with four brushes, two of which have their outer ends directly connected to form a direct electrical communication within the machine between two commutator-wheels, substantially as described.

3. The combination of an armature with commutator-wheels and brushes, one set of terminals of the coils being connected to the segments of the commutator-wheels and the other terminals connected up alternately to conductors C C', substantially as specified.

4. The combination of an armature having its coils wound in pairs, the terminals at one end being connected together in two alternating sets, and the terminals at the other end being connected alternately to two pairs of commutator-wheels, substantially as set forth.

264,230. COMMUTATOR FOR DYNAMO-ELECTRIC MACHINES. GEORGE W. BEARDSLEE, Brooklyn, N. Y., assignor to William F. Jobbins, East Orange, N. J. Filed May 29, 1882. (No model.)



Claim.—1. The combination of a commutator-wheel, A', having insulated metallic segments, with a commutator-wheel, A, having segments secured to or forming parts of disks, provided with pins E, adapted to form electrical contacts with the segments of the wheel A'.

2. The combination of a commutator-wheel, A', having insulated segments and spring-fingers E', with a commutator-wheel, A, having segments secured to or forming parts of disks, provided with pins E, to come into contact with the fingers E'.

264,231. UPHOLSTERING MATERIAL AND METHOD OF MAKING THE SAME. WASHINGTON G. BENEDICT, Orange Park, Fla. Filed June 29, 1882. (Specimens.)

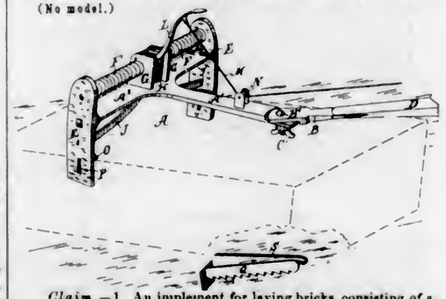
Brief.—The leaves are stripped from the trees and immediately arranged on racks in the wilting-house, from which all sunlight is carefully excluded, so as to prevent the leaves turning brown. They are left here for one to two weeks, after which they are spun into rope, and the ropes hung in a dark room to complete the drying and set its curl. It is then picked apart and is ready for use. Urges that the aroma of the leaves preserved in his process possesses valuable medicinal qualities.

Claim.—1. The method hereinbefore described of curing pine-fiber for upholstery purposes, which consists in stripping the pine-needles from the boughs, wilting the same for some days until the fiber is tough and pliable, then twisting into rope, and finally drying the rope until the fiber is completely kinked and dried, as set forth.

2. The method hereinbefore described of curing pine-fiber for upholstery purposes, which consists in stripping the pine-needles from the boughs, partially wilting the same in a dark room, twisting the same into rope, and then drying the rope in dark room, as described.

3. A pine-fiber for upholstery purposes, which is light green in color, strongly aromatic in odor, and which has a permanent kink or curl, substantially as described.

264,232. IMPLEMENT FOR LAYING BRICKS IN BAKING-OVENS. MARTIN BORGELIN, St. Louis, Mo. Filed Apr. 17, 1882. (No model.)



Claim.—1. An implement for laying bricks, consisting of a plate or frame to which two spring-jaws are pivoted, provided with devices for releasing the brick when desired, as set forth.

2. In an implement for laying bricks, the combination, with the plate or frame A, of the jaws E, pivoted to the ends of the same, the springs F, and the lever L, and arms J for separating the lower ends of the jaws, substantially as herein shown and described, and for the purpose set forth.

3. In an implement for laying bricks, the combination, with the plate or frame A, of the pivoted jaws E, the springs F, the plate H, the lever L, and the arms J, substantially as herein shown and described, and for the purpose set forth.

4. In an implement for laying bricks, the combination, with the plate or frame A, of the pivoted jaws E, the lugs G, the springs F, the plate H, the lever L, and the arms J, substantially as herein shown and described, and for the purpose set forth.

5. In an implement for laying bricks, the combination, with the plate or frame A, of the pivoted jaws E, the springs F, the lever L, the arms J, the cord M, and the pulley N, substantially as herein shown and described, and for the purpose set forth.

6. In an implement for laying bricks, the combination, with the plate or frame A, of the pivoted jaws E, the springs F, the lever L, the arms J, the cord M, the socket-piece B, hinged to the frame A, the pintle B', the winged nut C, and the pole or rod D, substantially as herein shown and described, and for the purpose set forth.

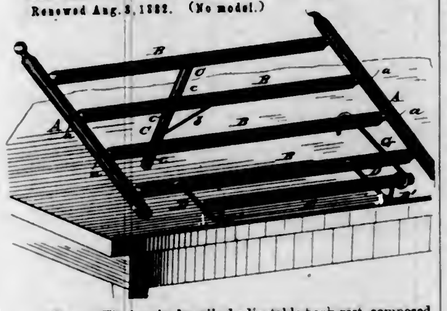
7. In an implement for laying bricks, the combination, with the plate A, of the pivoted spring-jaws E, provided with slots P, devices for separating the jaws, and the serrated strips Q, provided with end plates, R, and springs S, substantially as herein shown and described, and for the purpose set forth.

264,233. DIE FOR UPSETTING GIMLET BIT-SHANKS. ENOS BOLD, Chester, Conn. Filed Jan. 7, 1882. (No model.)



Claim.—The upsetting-die for bit-shanks, having the deep squared recess *b*, tapering on all sides from its mouth *c* to its bottom *c*, substantially as specified.

264,234. BOOK-REST. EDWIN J. BOBETT, THOMAS GILFILLAN, and ALBERT W. FLANDERS, Barnet, Vt. Filed July 1, 1881. Renewed Aug. 3, 1882. (No model.)



Claim.—The herein-described adjustable book-rest, composed of the sides A A, connected by one or more immovable cross-bars, B, a movable top bar provided with the back brace or support C, a movable bottom bar provided with the elbows D D', and book-roll E, having hook G, and suitable means for securing the back-brace C in any given position, constructed and combined substantially as and for the purpose herein shown and set forth.

264,235. MONEY-TILL. THOMAS E. BOYCE, Westbourne Park, London, assignor of one-half to James Sinclair, London, England. Filed Nov. 18, 1881. (No model.) Patented in England Apr. 2, 1881, No. 1,452; in Germany Sept. 24, 1881, No. 17,861, and in France Nov. 8, 1881, No. 145,049.

Brief.—The money is led through a chute to a pivoted trunk, from which it may drop into any one of six compartments of a money-drawer with which the pivoted trunk may be made to register.

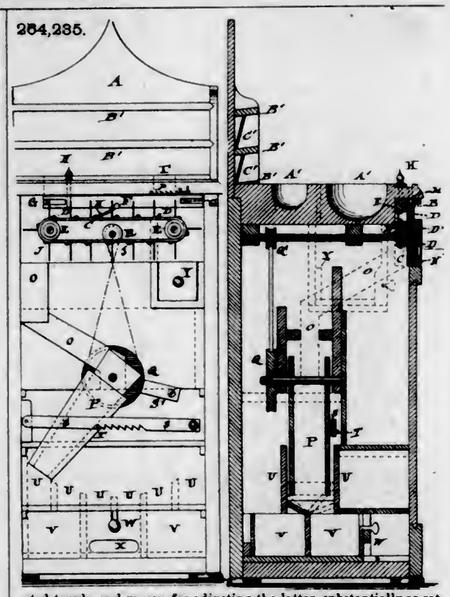
Claim.—1. In a money-till, the combination of an endless traveling band, C, having fingers D, a glass-faced guide-block, D', and glass front and rear plates, B and M, for guiding the fingers, substantially as described.

2. In a money-till, the combination of an endless traveling band or belt, having fingers and projections or knobs back of the fingers, with a laterally-guided slide having a pawl engaging the knobs, substantially as set forth.

3. In a money-till, the combination of an endless band having fingers for carrying along the coin, projections and knobs back of the fingers, and a fulcrumed lever and alarm-bell operated by the knobs when the belt is moved forward, as specified.

4. In a money-till, the combination, with an endless money-carrying belt or band, of a downwardly-extending chute, O, pivoted trunk, and means for adjusting the latter, substantially as set forth.

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5. In a money-till, the combination of an endless money-carrying belt, C, intermediate chute, O, pivoted trunk P, compartments U, having inclined bottoms, and drawer W, having compartments V, as specified.

6. In a money-till, the combination of a pivoted and laterally-oscillating trunk, P, having a pin, T, with a ratchet, S, transmitting-belt and pulleys Q Q', and index-dial R at the front of the case, substantially as set forth.

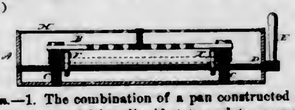
7. In a money-till, the combination of an oscillating trunk, P, conducting-compartments U, having alternately-facing inclined bottoms, and receiving-drawer W, having compartments V, communicating with the different conducting-compartments U, substantially as set forth.

264,236. PENCIL-SHARPENER. HUBERT BURGESS, Berkeley, Cal. Filed Dec. 27, 1879. Renewed Dec. 27, 1881. (Model.)



Claim.—The blade C, in combination with the stop A, the tray B and E E, and the emery or sand paper D for sharpening lead-pencils, substantially as shown and described.

264,237. APPARATUS FOR GREASING BULLETS. HENRY S. BURNS, New Haven, Conn., assignor to the Winchester Repeating Arms Company, same place. Filed June 5, 1882. (No model.)

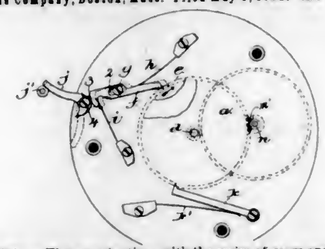


Claim.—1. The combination of a pan constructed to contain the lubricating material in a liquid state, a plate arranged in said pan in a horizontal plane upon guides and so as to be immersed in or raised from the lubricating material, the said plate perforated, the perforations corresponding to the portion of the cartridge to be lubricated, and a plate arranged over said movable plate, correspondingly perforated, through the perforations of which the cartridges to be lubricated may be suspended above the lubricating material, substantially as described.

2. The combination of a pan constructed to contain the lubricating material in a liquid state, a plate arranged in said pan in a

horizontal plane upon guides and so as to be immersed in or raised from the lubricating material, the said plate perforated corresponding to the portion of the cartridge to be lubricated, and a plate arranged over said movable plate, correspondingly perforated, through the perforations of which the cartridges to be lubricated may be suspended, a rock-shaft provided with arms in connection with said plate, by means of which the up-and-down movement may be imparted to the lubricating-plate, substantially as described.

264,238. REGISTERING APPARATUS. GEORGE D. BURTON, New Ipswich, N. H., assignor to the Francis Registering Machine Company, Boston, Mass. Filed May 8, 1882. (No model.)



Claim.—The combination, with the series of gears and pinions mounted on concentric arbors and provided with pointers, of intermediate gears and pinions mounted loosely on the same axis, and the actuating-cam *j* and pawl *f*, engaging the teeth of one of the said gears to positively operate the said gearing and pointers, substantially as described.

264,239. WAIST-BELT FASTENING. IRVING CAIARS, Jersey City, N. J. Filed Apr. 3, 1882. (No model.)



Claim.—The combination of the belt A, the slide B, tapering internally toward both ends, the pin or rod C, the levers *c*, and the roller D, substantially as herein described.

264,240. DASH-BOARD. WILLIAM CALLAWAY, Walnut, assignor of one-half to Henry B. Pershing, Plymouth, Ind. Filed July 13, 1882. (No model.)

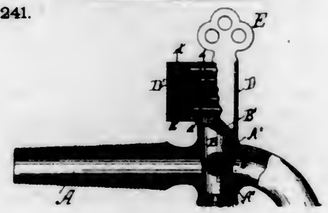


Claim.—1. In a dash-board, the frame A, having grooves *d* and pins *e*, in combination with the frame B, provided with the ribs *b* and countersinks *f*, substantially as and for the purpose set forth.

2. The combination, with the frame A, having grooves *d* and overlapping bead *g*, of the frame B, having ribs *b*, and the leather C, substantially as and for the purpose specified.

3. In a dash-board, the frame A, provided with an overlapping bead, *g*, upon its upper end, grooves *d*, and pins *e*, in combination with the frame B, having ribs *b* and countersinks *f*, said frames being bolted or riveted together at their lower ends, substantially as shown and described.

264,241.

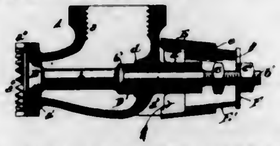


264,241. LOCK-FAUCET. WILLIAM S. CAMPBELL, New Orleans, La. Filed Mar. 18, 1882. (No model.)

Claim.—The combination of a faucet with rotary plug B, having a slot or recess, B^1, in its end, a key, E, adapted to enter said recess and turn said plug, and pins *d* and springs *d'*, which serve as a lock, substantially as set forth.

264,242. FIRE-EXTINGUISHER. CHARLES B. CHACE, Cincinnati, Ohio, assignor to William J. Broad, same place. Filed Dec. 28, 1881. (No model.)

Brief.—The valve B is held against the pressure of the water by means of the cone-shaped thimbles E and E', surrounding the valve-stem at the rear, and held so in place by fusible solder *e* that when released by heat the pressure of the water opens the valve. The cone E' rests against the spider F, which is held upon the outer end of the valve-stem by the nut C'.



Claim.—1. An abutment consisting essentially of the hollow cones E and E', united together by the film of fusible alloy *e*, in combination with the self-acting valve B of an automatic fire plug or extinguisher, substantially as and for the purpose described.

2. The combination, in an automatic fire plug or extinguisher, of the hollow cones E and E' and fusible joint *e* with the valve B and its component stem *b b'*, nut C', and spider F, substantially as and for the purpose described.

3. The combination, in an automatic fire plug or extinguisher, of the abutment E, E', and *e* with the radial ribs a^2 a^2 a^2 and spider F, substantially as and for the purpose described.

4. The combination, in an automatic fire plug or extinguisher, of the valve-stem *b*, shoulder thereof, b^3, packing-ring D, and thin metal washer *d*, substantially as and for the purpose described.

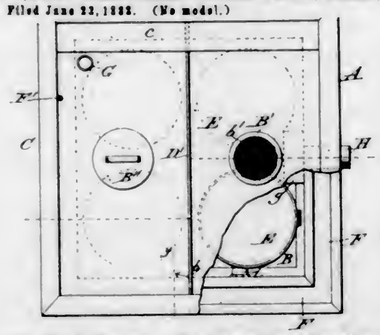
5. The combination, in an automatic fire plug or extinguisher, of the valve B and its component stem *b b'*, seat *a'*, serrated annulus *a'*, and nut C, substantially as and for the purpose described.

264,243. FERRULE FOR FISHING-RODS. THOMAS H. CHUBB, Post Mills, Vt. Filed May 24, 1882. (Model.)



Claim.—The combination, with a stick, of a ferrule, E, having an annular groove formed in it by pressing the metal into the wood, and having indentations formed in it at the bottom of its groove, substantially as herein shown and described, whereby the said ferrule will be held securely in place, as set forth.

264,244. MILK-COOLER. WILLIAM COLDITZ, Rochelle, Ill. Filed June 22, 1882. (No model.)



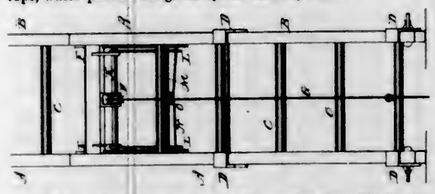
Claim.—1. A milk cooler or creamer consisting of a water tank or receptacle, B, having a groove or channel, F, in its edge, extending all around the same, said groove having a waste-pipe, *e*, an overflow-pipe, H, provided with trap *g*, a cover or tank, C, having flanges *d*, which project into the groove F, said cover having partitions D', provided with openings *b*, a trap, *c*, overflow-pipe G, flexible pipe *f*, feed-pipe F', and ventilators B', having screens *b'* and caps B'', and a rack, I, secured in place in bottom of tank B by fixed legs *h* and hinged catches *i*, and provided with catches *j* to engage with lugs K on the bottom of milk-cans E for securely holding the same in the creamer, all arranged, constructed, and operated in the manner and for the purposes substantially as shown and described.

2. The combination, in a milk-cooler, with a tank or water-receptacle, B, having a groove, F, around its top or upper edge, provided with a waste-pipe, *e*, and an overflow-pipe, H, and cap *g*, of a water cover or tank, C, having a projecting flange, *d*, feed-pipe F', partitions with apertures *b*, overflow-pipe G, with flexible pipe *f* secured thereto, and ventilators B', provided with screens *b'* and caps B'', of a rack, I, having catches *j*, and of milk-cans E, having lugs K on their bottoms, substantially as and for the purposes shown and described.

3. A cover for a milk-cooler, consisting of a frame, C', tank C, having perforated partitions D', flanges *d*, ventilators or pipes B', having screens *b'* and caps B'', feed-pipe F', overflow-pipe G, and trap *c*, substantially as and for the purposes shown and described.

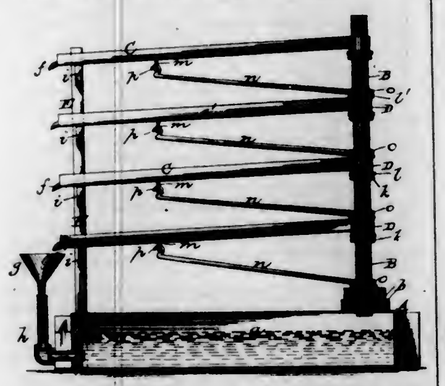
264,245. LADDER. ANDREW S. COLES, Hamaroneck, N. Y. Filed Dec. 16, 1881. (No model.)

Brief.—A looped rod is connected to the hooks, and they are released from holding the rungs of the ladder by the elevating-rope, which passes through an eye on the looped rod.



Claim.—In an extension-ladder, the combination of the hooks, looped rod, and rope, whereby the hooks may be drawn back, as hereinbefore set forth.

264,246. APPARATUS FOR DRYING FRUIT, VEGETABLES, GRAIN, AND ANALOGOUS ARTICLES. FRANK COOK, Clemmonsville, N. C. Filed July 21, 1882. (No model.)

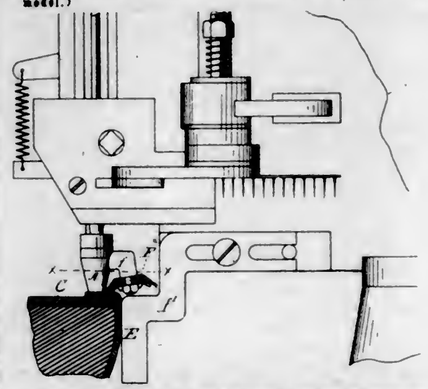


Claim.—1. The combination, with a steam-generating tank, A, of steam-conveying pipe B, having openings *c*, and hollow trays C, having openings *d* and pivotally mounted upon said pipe B, substantially as and for the purpose set forth.

2. The combination, with a steam-generating tank, A, and pipe B, having openings *c* and rings *k*, of the hollow trays C, having openings *d* and *d'*, and the condensed-steam receiver *g h*, substantially as and for the purpose set forth.

3. In combination with a steam-generating tank, A, and steam-conveying pipe B, the hollow tray or trays C, communicating with said pipe B, and provided with a suitable support, *i*, at the outer end, and having a sleeve, D, pivotally mounted upon said pipe B at the opposite end, the eye *m*, and the rod *n o p*, substantially as and for the purpose set forth.

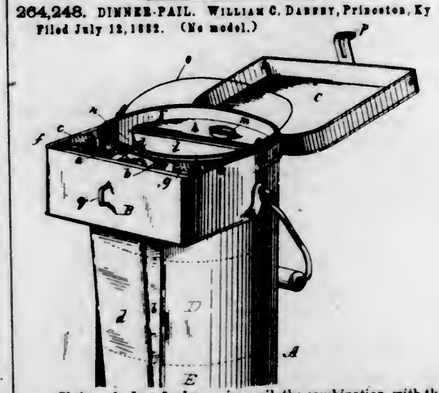
264,247. LASTING AND FASTENING MACHINE. JOSEPH E. CRISP, Boston, Mass., assignor to the Copeland Tacking and Lasting Company, Paterson, N. J. Filed Jan. 6, 1882. (No model.)



Claim.—1. In a lasting and fastening machine, in combination with a last or support for presenting and holding the work, and mechanism for driving fastenings, a device, substantially as specified, for drawing the upper to the last, and for holding it upon the insole while the fastening is driven, adapted to be operated by the horizontal movement of the last or support in relation thereto, all substantially as and for the purposes set forth.

2. In a lasting and fastening machine, the combination of a last or support for presenting and holding the work, and a device, substantially as specified, for drawing the upper to the last and for holding it upon the insole, operated by the horizontal movement of the last or support in relation thereto, all substantially as and for the purposes set forth.

264,248. DINNER-PAIL. WILLIAM C. DABNEY, Princeton, Ky. Filed July 12, 1882. (No model.)



Claim.—1. In a food-carrying pail, the combination, with the pail A, of the pails D and E, having partitions *j*, cover *i*, and springs *k*, of the pail F, having a partition, *l*, canteen A, and apartment *s*, as described, and for the purpose set forth.

2. In a food-carrying pail, the combination, with the pail A, of the box B, having the partitions *a b* and compartments *c c* and the utensil-compartment *d*, as shown and described.

3. In a food-carrying pail, the combination, with the pail A and box B, of the cover C, as shown, and for the purpose described.

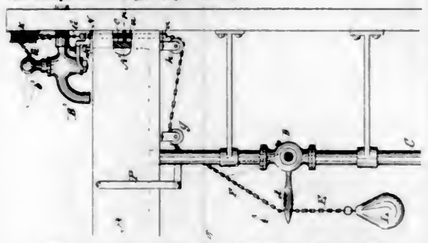
264,249. OVERALLS. ALBERT A. DAVID, New York, N. Y. Filed Mar. 18, 1882. (No model.)



Claim.—The combination, with an outer waistband, B, and a fly, D, of the waist-strap C, contiguous to and in rear of the fly, and secured to the said waistband so as to be concealed, as set forth.

264,250. AUTOMATIC VALVE FOR WASTE-PIPES. FRANCIS A. DAVIS, New York, N. Y. Filed Jan. 5, 1882. (No model.)

Brief.—The object of the invention is to provide automatic means for opening and closing waste-pipes in such a manner that all escape of sewer-gas is prevented.

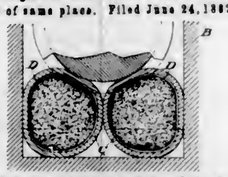


Claim.—1. The combination, with the handle *b'* of the cock B' and pulleys *k* and *k'*, of the rod *a*, chain F, and weighted cock D in the waste-pipe C, substantially as described.

2. The rod *a*, formed with the collar *p*, and the hinged plate N for holding the valve D open, substantially as and for the purpose set forth.

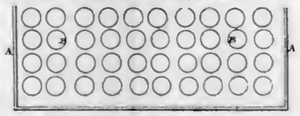
3. The cock D, provided with the weight L, in combination with the chain F, rod *a*, finger-lift K, and the pulleys *g* and *h*, substantially as and for the purposes set forth.

264,251. AXLE-LUBRICATOR. NATHAN H. DAVIS, Philadelphia, Pa., assignor of two-thirds to Louis C. Grats and A. B. Davis, both of same place. Filed June 24, 1882. (No model.)



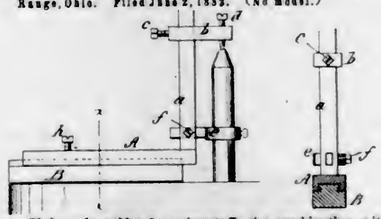
Claim.—A horizontal absorbent bag, C, in combination with a spiral spring, D, contained within said bag, and serving to hold the same against the journal which it lubricates, and against the bottom of the box, substantially as set forth.

264,252. EVAPORATING-PAN. SAMUEL DAVIS, Mount Vernon, Ohio. Filed July 8, 1882. (No model.)



Claim.—The combination of an evaporating-pan with suitable divisions, which are used singly or in pairs, and which are made removable, substantially as set forth.

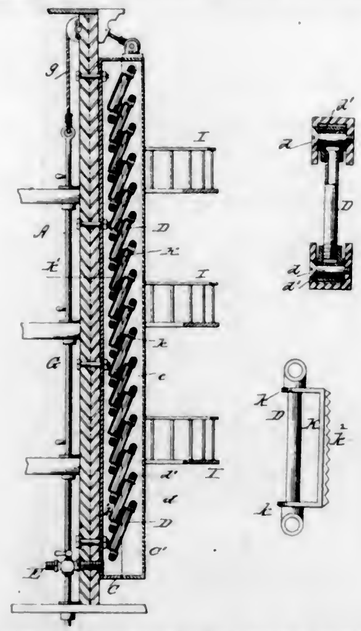
264,253. MILLSTONE PAINT-STAFF. THOMAS E. DAVIS, Range, Ohio. Filed June 2, 1882. (No model.)



Claim.—In guides for paint-staffs, the combination, with the foot A, having the post *a* and the adjustable paint-staff B, of the slide *b*, fitted at one end with a set screw, *d*, bearing upon the upper end of the mill-spindle, and having in its other end an eye which receives the post *a*, and also a set-screw, *c*, thereat, and the eye-piece *e*, having a collar to adapt it to spindles of different sizes, and an arm adjustable in an aperture in the post *a* by a set-screw, *f*, substantially as shown and described, and for the purpose set forth.

264,254. FIRE-ESCAPE. WILLIAM T. DAVIS, Philadelphia, Pa. Filed Nov. 25, 1881. (No model.)

Brief.—On the ends of the rounds are T-couplings, through which and the sides of the ladder-boxes pass the rods or screws for forming a swivel-joint. A cock for admitting steam into the ladder-box when closed, to melt the snow and ice, is located near the base. Treads provided with rubber plates are fixed above each of the rounds.

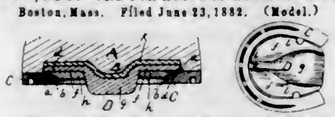


Claim.—1. A folding ladder having hollow sides, which form, when the ladder is closed, a steam-chamber, in combination with a cock, E, for admitting steam thereto to melt adhering ice or snow, substantially as set forth.

2. The combination of the sides C C', rounds D D, having T-couplings at either end, rods or screw-shafts *d d*, and collars or bushings *d' d'*, substantially as shown and described.

3. The combination, with the rounds D D, of treads consisting of plates K, with end lugs, *k*, substantially as shown and described.

264,255. PAD FOR HOOFS OF HORSES. GEORGE A. DEAN, Boston, Mass. Filed June 23, 1882. (Model.)



Claim.—1. The removable horseshoe-pad herein shown and described, consisting of a rubber body, D, adapted to fit the under side of the hoof, and its central portion, *g*, adapted to receive and fit the frog of the foot, having metal plates secured to its outer side at each side of said central portion and on its inner side felt or cloth, substantially as set forth.

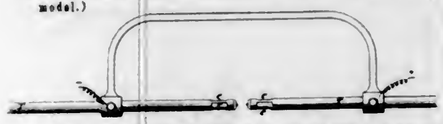
2. In a horseshoe-pad, the combination, with the rubber body D, having the central portion, *g*, to conform with the frog of the foot, of the metal plates *h h* and felt *k*, the whole adapted to be held in place by lips *l l*, substantially as described, and for the purpose specified.

264,256. FISH-HOOK. FRANK DE FORREST, De Soto, Mo. Filed June 22, 1882. (No model.)



Claim.—The double-jointed fish-hook consisting of the two hooks A, pointed in opposite directions, with their points arranged to stand in close contiguity to each other, whereby they are held against being spread apart by the action of the water by the bait placed thereon, and having their shanks looped or bent into eyes around a pivot, *b*, while their upper ends have passed through them the line *c*, all constructed as shown and described, and for the purpose set forth.

264,257. VOLTAIC-ARC ELECTRIC LAMP. CHARLES FERDINAND DE LA ROCHE, Paris, France. Filed July 7, 1882. (No model.)

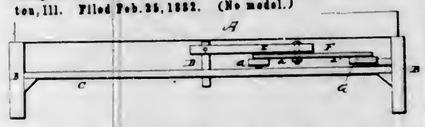


Claim.—1. The combination, in an electric lamp, of a guide-tube for the electrode and an abutment-ring attached to the said tube, and between which and the end of the said ring there is a determined open space provided, substantially as and for the purpose herein described.

2. The combination of the guide-tube O and the adjustably-attached abutment-ring K, having a variable space, *c*, between them, substantially as and for the purpose herein described.

3. The combination of the guide-tube O, the adjustable collar A, screwing upon said tube, and provided with prongs *d d*, and the abutment-ring K, held between said prongs, substantially as herein described.

264,258. MAGNETIC TOY. OTHELLO J. DIMMICK, Fairbury, assignor of one-half to Chancellor L. Jenks, Jr., North Evanston, Ill. Filed Feb. 25, 1882. (No model.)



Claim.—1. The combination, with plane or slightly-curved surfaces, of toys located upon or supported above them and adapted to be subject to magnetic attraction, magnets located below said plane surfaces, and devices to automatically actuate the magnets.

2. The combination, with plane surfaces, of toys located upon or supported above them and adapted to be subject to magnetic attraction, magnets located below said plane surfaces, systems of levers to which the magnets are connected, and a motor to actuate said levers.

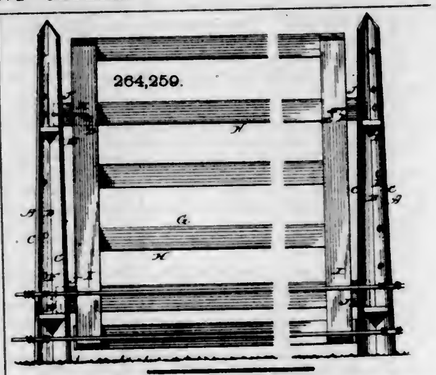
3. The combination, with plane surfaces, of toys located above them and adapted to be subject to magnetic attraction, magnets located below said plane surfaces, systems of levers arranged to be actuated in planes parallel with the plane surfaces, blocks to shape the paths of the levers, and a motor to actuate the levers.

4. The combination, with plane surfaces, of toys located above them and adapted to be subject to magnetic attraction, magnets located below said plane surfaces, systems of levers, magnet-carriages attached to said levers and arranged to cause the poles of the magnets to face the direction in which the magnets are moving, and a motor to actuate the levers and their attachments.

5. A magnet-carriage consisting of a sleeve secured to a lever, a spindle arranged to turn in said sleeve, a drag attached to the lower end of the spindle, and a plate for the attachment of the magnet attached to the upper end of the spindle.

264,259. FENCE. JOHN DENNING, Terre Haute, Ind., assignor of one-half to Frank Wey, same place. Filed May 23, 1882. (No model.)

Claim.—The tapering fence-post A, having flanges C and shoulders E, in combination with a fence-panel having projecting brackets adapted to rest upon said shoulders between the flanges, as set forth.

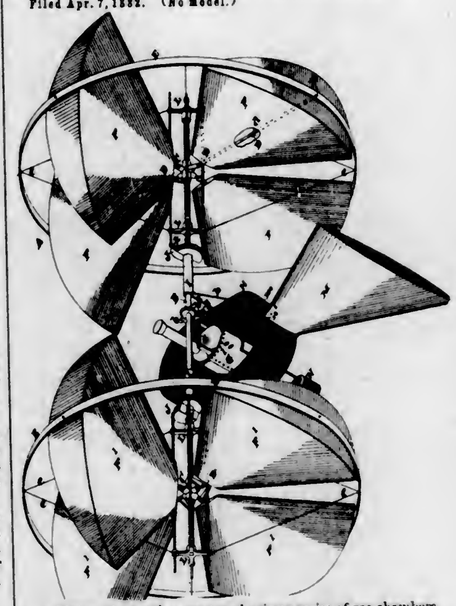


264,260. DENTAL JAW-BRACE. JAMES A. DONALDSON, Greenville, Pa. Filed June 13, 1882. (No model.)



Claim.—In a dental jaw-brace, a flexible plug or cylinder, B, of rubber or similar material, inserted into a rigid tube, A, shorter than the plug, and held in place therein removably by a screw, *a*, as shown and described, for the purpose set forth.

264,261. AERIAL SHIP. ROBERT L. DOWNTON, St. Louis, Mo. Filed Apr. 7, 1882. (No model.)



Claim.—1. A flying-machine having a series of gas-chambers, the series moving around a center or bearing of the machine.

2. A flying-machine having a rotating series of feathering gas-chambers, substantially as described.

3. A flying-machine having one or more flattened gas-chambers, said chamber or chambers being movable, and adapted, during the movement, to turn sidewise and then edgewise to the direction of the movement, substantially as described.

4. A flying-machine having two rotating series of gas-chambers, F F', said chambers in the rotation feathering, as described.

5. A flying-machine having two rotating series of gas-chambers, said chambers adapted in their rotation to feather, and having a rudder between the two series, as described.

6. The combination of the shaft B, the hub C, the spokes D D, the frame E, and the chambers F F.

7. The combination of the shaft B, the hub C, the spokes D D, the cams J, the rod K, and the spiders L, substantially as described.

8. The combination, in an aerial ship, of the hollow shaft B, the hollow hub C, the chambers F F, and the hollow spokes D D, having the opening *d d*, as and for the purpose described.

9. The combination of the shaft B, the sleeves I I, the basket H, and rods *h h*, as and for the purpose described.

10. The machine A, having the central shaft, B, the outer frame, E, and a series of shafts which at their inner ends are connected with the shaft B and at their outer ends with the frame E, for the purpose of sustaining and effecting the feathering of the chambers F F.

11. An aerial ship having a rotating series of feathering chambers, F F, said chambers being journaled at their ends in suitable bearings in said ship, and one or both of the journals of each of said chambers being hollow for the purpose of admitting and discharging the gas to and from the chambers.

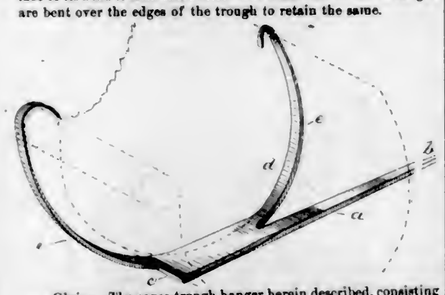
12. An aerial ship having a rotating series of feathering chambers, F F, said chambers being sustained upon hollow journals.

13. The combination of the basket H, the rudder M, the helm m, the hinge *m'*, and the swivel *m²*, substantially as described.

14. An aerial ship the rudder of which is a gas-chamber.

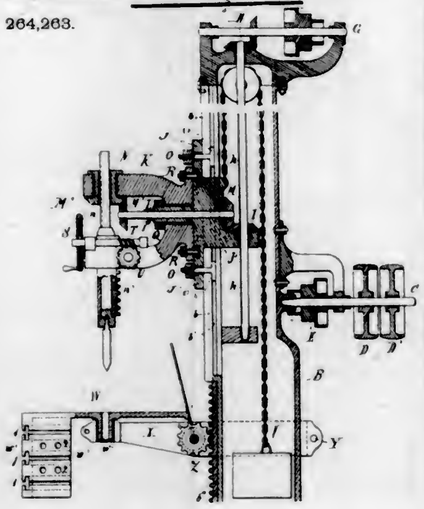
264,262. EAVES-TROUGH HANGER. JOSHUA DRAPER, JR., Oxford, Ala. Filed May 31, 1882. (No model.)

Brief.—The spike is integral with the hanger and the upper face of its head is flush therewith. The flexible arms of the hanger are bent over the edges of the trough to retain the same.



Claim.—The eaves-trough hanger herein described, consisting of the flat spike *a*, tapering toward its point *b*, and provided with the head *c* and clasp *d*, formed all in one piece with the spike, and having its upper face flush therewith, and provided with circular side hooks, *e*, adapted to be bent over the upper edges of the eaves-trough, substantially as described.

264,263.



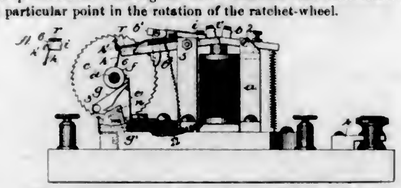
264,263. METAL-DRILLING MACHINE. FERDINAND DURRUL, Cincinnati, Ohio. Filed Mar. 10, 1882. (No model.)

Claim.—1. In a drilling-machine, the combination of the arm X with the table or rest W, pivoted upon vertical spindle, and having downward projection W', as and for the purpose set forth.

2. In a drilling-machine, a spindle-carrier, K, supported and centered upon stud P, and having bolts R, which occupy annular segmental grooves *j* in the head J, as and for the purposes set forth.

264,264. ELECTRICAL SIGNALING APPARATUS. WALTER J. DUDLEY, Boston, Mass. Filed Nov. 11, 1880. (No model.)

Brief.—A circuit-closer adapted to close or open a short circuit around a telephone is carried by a ratchet-wheel and secured thereto in such a manner that it will remain in a given position with relation to the disk while it is being carried thereby. At the zero-point the short circuit is opened, but after the first step the short circuit is closed by the circuit-closer being moved so as to connect the disk with an insulated cylinder on the shaft, which connects a branch from the telephone-loop with the frame of the machine and through it with the continuation of the line. Means are provided for breaking the short circuit for each instrument at a particular point in the rotation of the ratchet-wheel.



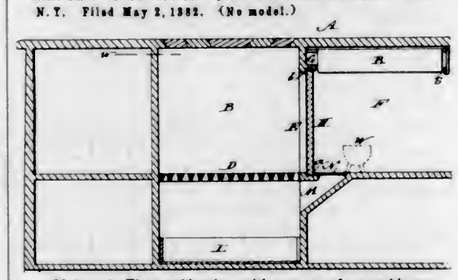
Claim.—1. The combination, substantially as hereinbefore set forth, of the controlling-switch having a movement by which the circuit of an instrument is governed, and being retained in a given condition until positively shifted therefrom, mechanism by which the said switch is moved bodily without shifting or changing its condition, and a shifting device by which the said switch is shifted or moved to change the condition of the circuit governed by it only at a definite point in its said bodily movement.

2. The controlling-switch retained in a given condition until positively moved therefrom, combined with actuating mechanism by which the said switch is moved bodily without change in its electrical condition or relation, a stopping device, and a fixed shifting device whereby the said switch is engaged and acted upon just before the actuating mechanism is arrested by the said stopping device, substantially as and for the purpose described.

3. The frictionally-held pivoted switch-lever and actuating mechanism to move it bodily with but not on its pivot, combined with the fixed shifting devices arranged to engage and shift or turn the said lever on its pivot at definite points in the movement of the said actuating mechanism, substantially as described.

4. In a signaling apparatus, an armature-lever and circuit-controlling device mounted thereon, combined with a disk and means to rotate it, and a projection connected therewith, arranged, as described, to co-operate with the said circuit-controlling device at a definite point only in the movement of the said disk, substantially as described.

264,265. BROILING AND ROASTING ATTACHMENT FOR RANGES. LOUIS F. DUPARQUET and PETER HUOT, New York, N. Y. Filed May 2, 1882. (No model.)



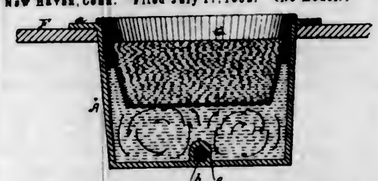
Claim.—1. The combination, with a range, of a movable partition between the fire-place and the oven, and of a chute in the bottom of the oven, at the side of this sliding partition, substantially as herein shown and described, and for the purpose set forth.

2. In a range, the combination, with the fire-place B and the oven F, of the side grate, E, the movable slab or partition H, the chute M in the bottom of the oven, and the gate N, substantially as herein shown and described, and for the purpose set forth.

3. In a range, the combination, with the fire-place B, the oven F, the bottom of the oven having a groove, *a*, and the bottom grate, D, of the side grate, E, provided with a grooved flange, G, and the sliding slab or partition H, substantially as herein shown and described, and for the purpose set forth.

4. In a range, the combination, with the oven F, of the swinging blower O and the damper-valve R, for closing the odor-flue Q, substantially as herein shown and described, and for the purpose set forth.

264,266. STEAM-HEATED BOILER. GEORGE EDMONDSON New Haven, Conn. Filed July 17, 1882. (No model.)

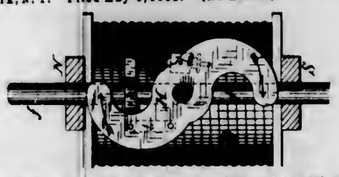


Claim.—1. A boiler or glue-pot heater, consisting of a cast-iron pot, A, provided with a centrally-transverse chamber, *b*, extending across and vertically upward from the bottom of said pot, and a steam-connection with said chamber at each end.

2. A boiler or glue-pot heater, A, provided with the central transverse chamber, *b*, made integral with the bottom of said pot and projecting upward from the same, as set forth.

3. A boiler or glue-pot heater, A, of cast-iron, provided with the flange *a*, hubs *d d*, and transverse central chamber, *b*, cast integral with and projecting upward from the bottom of said pot, as set forth.

264,267. ELECTRIC-ARC LAMP. FREDERICK K. FITCH, New York, N. Y. Filed May 8, 1882. (No model.)



Claim.—1. In an arc-lamp, the combination, with the carbon-holding rod *f*, of an electro-magnet, D, whose axis is at one side of and parallel to rod *f*, and provided with polar extensions N and S, perforated for the passage of the rod *f*, and an S-shaped armature, H, suitably swiveled, and provided with a clamp, *k*, substantially as described.

2. The combination of magnet D, extensions N and S, bar *g*, S-shaped armature H, pivoted thereto, link *i*, clamp *k*, spring *s*, and swivel *m*, substantially as described.

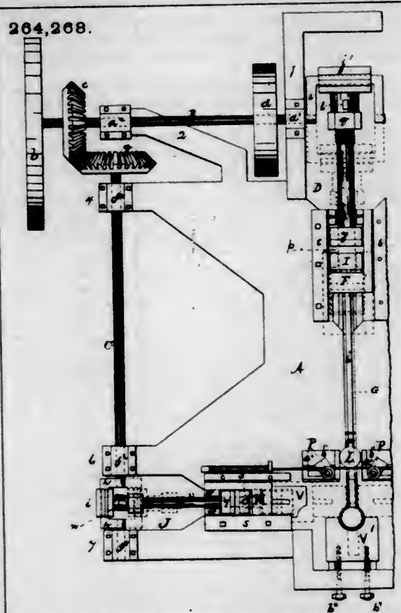
3. In an electric-arc lamp, in combination with the carbon-holding rod *f*, a clamp extending on both sides thereof, and attached on one side to an oscillating armature directly and on the other side attached to said armature by an interposed spring, substantially as described, whereby the one side of the clamp is tilted upwardly by the armature directly and the other side depressed by the spring and the lift of the rod effected by the preponderance of power in the direct upward tilting.

264,268. MACHINE FOR MAKING STRAPS FOR TACKLE-BLOCKS. EDWARD FLUTCHER, Cape Elizabeth, Me. Filed June 3, 1881. (No model.)

Claim.—1. In a machine substantially as described, in combination with the double-cranked main driving-shaft B, the journal-box *j*, which surrounds the double crank *e*, a side-projecting pitman-socket, *h*, longitudinally slotted at *l* and *l'*, a pitman-rod, H, with wedge-key slot *e*, constructed and arranged to correspond with said slots *l* and *l'*, and a wedge-key, *c*, substantially as and for the purposes herein set forth.

2. The combination of the filling-block I with the filling-block rod *w''*, treadle-rods *t'' t''*, treadle-bar S'', spiral springs *w'' w''*, check-nuts *x'' x''*, and frame-work *r''*, substantially as and for the purposes herein specified.

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3. In a machine substantially as set forth, the combination of a double-cranked main driving-shaft, B, a pitman-rod, H, adjustably connected, as herein set forth, a round-faced cross-bar, *y*, attached to the free end of the rod H, a chambered head, F, said chamberod head having, as shown, a recess, *x²*, a spindle-slot, *x*, a shaft, *f*, a chamber, *p*, in which said cross-bar *y* reciprocates, shoulders *x x*, and extension inbearing ears *w w*, and a filling-block, I, constructed, as described, with a sloping face to receive the blows of the round-faced cross-bar *y*, the whole arranged and constructed to operate together, substantially as specified, for the purpose of reciprocally actuating the die-plunger G and its supplementary plunger *b²* along the longitudinal slot E, all substantially as described.

4. The combination of the plunger G, center die, L, roller-guides P P, and mechanisms for actuating the same in a line parallel to the axis of the supporting-table, and formers V V', for the purpose of producing a U-shaped piece, having its segmental part concave on its outside and convex on its inside, substantially as set forth.

5. The combination of the filling-blocks O O with the frame having slots *j' j'*, rod *w'*, treadle-rods *t' t'*, treadle-bar S, spiral springs *w' w'*, check-nuts *x' x'*, and frame-work *r'*, substantially as and for the purposes herein specified.

6. In combination, the sectional center die, L, the roller-guides P P, the plunger G, having chambered head F, and a top rib or supplemental plunger against which the branches of the blank are bent, said plunger being adapted to drive the center die, the fixed die V', the side dies, V V, and the chambered plunger-heads M M, substantially as described.

7. In a machine substantially as described, the combination of the roller-guides P P, consisting of the following elements, viz., a perpendicular standard attached to the sliding block *c'* in the manner specified, a sleeve, *d'*, a projecting base-flange *e'*, a washer, *g'*, and nuts *c''* and *i'*, with the sliding base-block *c'* and the sliding piece *c²*, provided, as herein described, with the longitudinal slots *c²* and *h'*, said parts being constructed and arranged substantially in the manner and for the purpose specified.

8. The combination of the roller-guides P P, the sliding blocks *c' c'*, knuckle-joints *k² k²*, rods *m³ m³*, treadle-connecting rods *l² l²*, rods *o² o²*, and treadle-rod S'', substantially as and for the purposes herein set out.

9. The combination of mechanical parts herein set forth, consisting of a center spindle, *r*, set in a sliding block, *a'*, two cavetto-molded disks, one, *k'*, fixed upon said center spindle, *r*, the other, *l'*, slotted and capable of being lifted and depressed, T-piece *w'*, spiral lifting-springs *n' n'*, lugs *o' o'*, and bent depressing-bar *p'*, the whole to co-operate and act as and for the uses specified.

10. The combination of the center die, L, sliding block *a'*, bifurcated standard *g'*, bent bifurcated arm R, and the angular staple W, which acts on the arm R to disengage it, substantially as specified.

11. The combination, substantially as described, of the bent bifurcated arm R with the locking-rod *h''*, hanging slotted bar *k''*, and spiral spring *l''*, substantially as and for the purposes specified.

12. In a machine substantially as described, the combination of the roller-guides P P, the mechanism for operating the same, substantially as set forth, and the center die, L, substantially as and for the purposes herein explained.

13. In a machine substantially as described, the combination, with the center die, L, of the gripping-arm R and mechanism for operating the same, substantially as and for the purposes set forth.

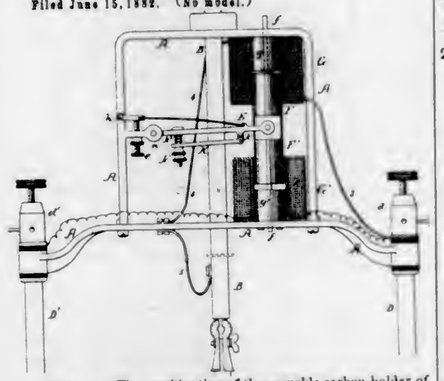
14. In a machine for forming pulley-block straps, the combination of the bed-plate A, crank-shafts B and C C, gears *e e* and *g g*, plunger G, block *a'*, die L, roller-guides P P, formers V V', cranks *e* and *h h*, and pitmen H and N N, and operating connections, substantially as described.

15. The combination, substantially as set forth, of the fixed die V' and the sliding side dies, V V, with the plunger G, having a top rib or supplemental plunger, *b'*, and the center die, the said plunger G and the said center die being independent of each other, whereby the said plunger is adapted to act upon the center die proper by contact only, substantially as described.

16. The sectional center die having its upper section movable upon a vertical spindle which carries it, in combination with a sliding block upon which the base-section is mounted, a cam-depressing lever pivoted to said spindle, fixed and sliding dies, and a plunger arranged to operate in conjunction with the center die in the manner set forth.

17. The center die, L, composed of the following elements, to wit: a vertical spindle having at its base a fixed cavetto-molded section, and provided with a top movable cavetto-molded section, in combination with means for depressing and locking said movable section and for automatically elevating the same, the sliding block *a*, and the plunger G, the said sliding block and the said plunger being adapted to slide in the same guideway independently of each other, substantially as described.

264,269. ELECTRIC-ARC LAMP. WALTER K. FREEMAN, Brooklyn, N.Y., assignor to W. F. Jobbins, East Orange, N. J. Filed June 15, 1882. (No model.)



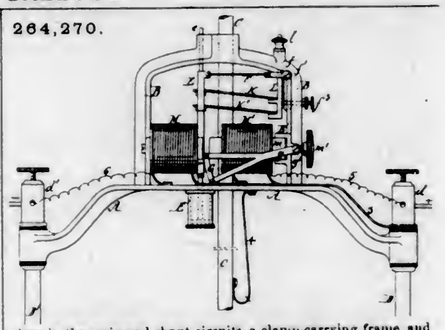
Claim.—1. The combination of the movable carbon-holder of an electric-arc lamp, lever E, pivoted to the frame, and clamp K, adjustable on said lever, with cores pivoted to the lever, and electro-magnets in the shunt and main circuits acting on said cores, substantially as described.

2. The combination of the movable carbon-holder of an electric-arc lamp with a lever, E, clamp K, connected to the lever at one end by a pivot-joint and at the other by devices for adjusting its position in relation to said lever, and with electro-magnets in the shunt and main circuits acting on said lever.

264,270. ELECTRIC-ARC LAMP. WALTER K. FREEMAN, Brooklyn, N.Y., assignor to W. F. Jobbins, East Orange, N. J. Filed June 12, 1882. (No model.)

Claim.—1. The combination of the movable carbon-holder of an electric-arc lamp with two sets of electro-magnets with their poles face to face, and having their coils wound in opposite directions in the main and shunt circuits, a clamp-carrying frame, and an armature connected to the frame and having a movement between the poles of the electro-magnets, all substantially as set forth.

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2. The combination of a vertical frame, E, guided at its upper end in the arch, and having a dash-pot at its lower end, clamping-plate carried by and armature connected to said frame, with a movable carbon-holder, and electro-magnets having their coils wound in opposite directions in the main and shunt circuits.

3. The combination of two sets of electro-magnets in the main and shunt circuits, and having their poles face to face, with an intermediate armature carried by arms *g*, pivoted to the arch, a movable carbon-holder, and a clamp-carrying frame.

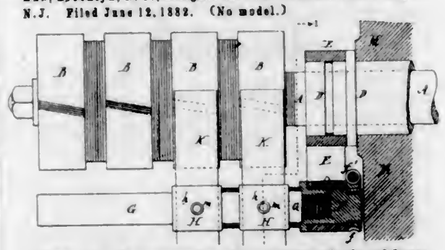
4. The combination of the movable carbon-holder and clamp-carrying frame with an armature connected to said frame, two sets of electro-magnets, and devices for adjusting one set toward or from the armature, substantially as set forth.

5. The combination of the two sets of electro-magnets and intermediate armature with a guided frame, E, carrying clamping-plates, and connecting-link E'.

6. The combination of the movable carbon-holder of an electric lamp with two clamping-plates set at different angles, and operating devices, all substantially as set forth.

7. The combination of the movable carbon-holder, frame E, and clamping-plate with a clamp-support, L, carried by a fixed part of the lamp, and adjusting device therefor.

264,271. COMMUTATOR-BRUSH HOLDER. WALTER K. FREEMAN, Brooklyn, N. Y., assignor to W. F. Jobbins, East Orange, N.J. Filed June 12, 1882. (No model.)



Claim.—1. The combination of commutator-wheels and frame and a bracket, E, and devices for adjusting it to different angles on the frame with an arm carrying brush-holder, and adapted to a bearing in the bracket, and worm and worm-wheel, substantially as described, for turning the arm in its bearing in the bracket.

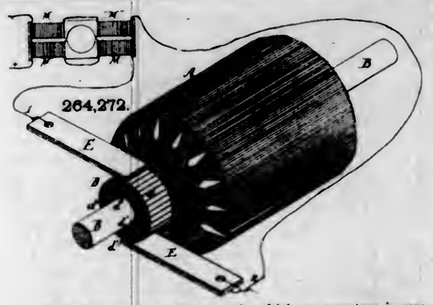
2. The combination of commutator-brushes with a brush-holder having a wedge-shaped socket, an intermediate wedge, key, and screw.

3. A commutator-brush holder having a wedge-shaped socket and devices, substantially as set forth, for retaining the wedge in the socket, while allowing it a limited play therein.

264,272. ELECTRIC MOTOR. WALTER K. FREEMAN, Brooklyn, N.Y., assignor to W. F. Jobbins, East Orange, N.J. Filed June 12, 1882. (No model.)

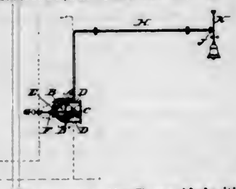
Claim.—1. An electric motor in which an armature, brushes, and commutator are combined with field-magnets having their coils always in the circuit while the machine is in operation, and an automatic cut-out, substantially as described, whereby the current may be short-circuited to cut all the coils of the armature out of circuit, while the field-magnet coils remain in the circuit.

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2. An electro-magnetic motor in which an armature is combined with a pair of commutator-brushes and a commutator having two of its plates on which the two brushes bear at certain points of the revolution of the shaft in direct electric connection, all substantially as described.

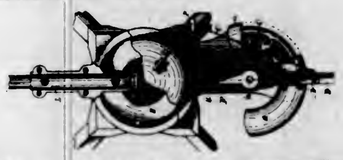
264,273. PNEUMATIC BELL-RINGING APPARATUS. ROBERT P. GARRED, Norristown, Pa. Filed Oct. 11, 1881. (No model.)



Claim.—1. The concave holder B, provided with guide-flange B' and a port, in combination with pipe H, communicating with said port, compressible sphere A, communicating with said port and pipe, plunger C, bearing against the other side of said sphere, arms D, connected to said plunger and passing through said guide-flange, and a bell-pull which operates said guide, substantially as set forth.

2. The hollow sphere inclosed in the holder, in combination with the plunger connected to rods which are guided by the holder and provided with means of attachment to the bell-pull, substantially as and for the purpose set forth.

264,274. WIND-ENGINE. GEORGE GARRISON, Kalamazoo, Mich. Filed Jan. 14, 1882. (No model.)



Claim.—1. The mill-head and rudder, the spiral incline way having the serrated surface, and the roller having corresponding serrations, said roller having the stirrup-support pivoted to the rudder in a manner that any inaccuracy in the spiral formation or location of the way will not cause a disconnection of the meshing parts, all in combination, substantially as set forth.

2. The mill-head, rudder, and incline way, in combination with a roller supported by a stirrup pivoted to the rudder, for the objects stated, substantially as described.

3. In a wind-engine consisting of the head provided with the incline way and a hinged rudder provided with the roller, the combination, with said parts, of the circular extended cover secured to the rudder in a manner to cover the roller and the way beneath at all its changeable locations.

4. The combination of the head and rudder with the serrated incline way and the serrated roller, to effect the improvements set forth, substantially as described.

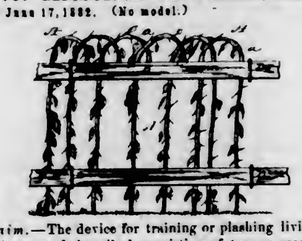
264,275. WINDOW-BLIND. GEORGE P. GEE, Rochester, N. Y. Filed May 22, 1882. (No model.)

Brief.—The frame is provided with fixed slats and with grooves in its sides, which contain sliding strips carrying slats registering with the openings between the fixed slats. The bottom sliding slat has a pivoted latch with a notched head, which engages with a notched plate on the bottom bar of the blind-frame.



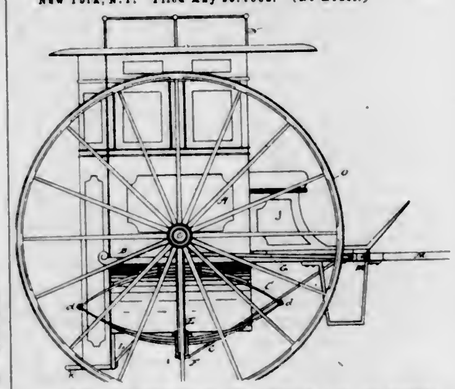
Claim.—The combination, in a window-blind, of the frame consisting of the longitudinally-grooved stiles A A, end bars, A' A', and slats C, sliding frame consisting of the parallel side pieces, E E, and slats D, and fastening device consisting of the pivoted latch G, having notched head G', and plate H, having notched steps *h h*, all constructed and combined substantially in the manner and for the purpose herein shown and described.

264,276. HEDGE-FENCE. HENRY GILBERT, Fremont, Ohio. Filed June 17, 1882. (No model.)



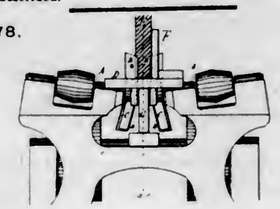
Claim.—The device for training or plashing living hedges herein shown and described, consisting of two or more pairs of parallel bars arranged on opposite sides of the hedge, and clamped thereto and against each other by spring-clamps D, having lips *d* overlapping the bars on their under sides, as shown and set forth.

264,277. RUNNING-GEAR FOR VEHICLES. FEARING GILL, New York, N.Y. Filed May 29, 1882. (No model.)



Claim.—The combination of the cranked axle, the diagonal braces F, the horizontal braces G, and the frame-work, substantially as described.

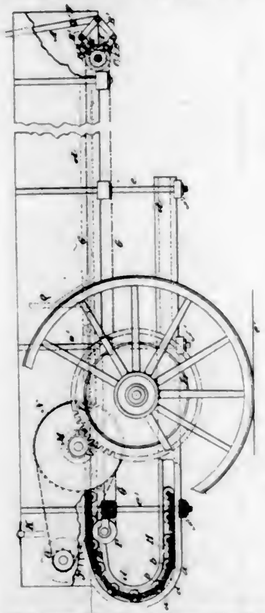
264,278.



264,278. PANEL-RAISER. EDGAR N. OGEE, Elkhart, Ind. Filed Apr. 12, 1882. (Model.)

Claim.—In a panel-raising machine, the combination, with the inclined arbors or shafts A A, disposed end to end and sloping toward each other, of the cutters B, whose cutting surfaces or faces are adapted to impart to the interposed board a shear cut—that is, upon their upward movement to cut obliquely from the bottom of the groove or channel outward to the surface of the board, substantially as shown and described

264,279. MANURE-DISTRIBUTER. ANDREW J. GRADY, Pecatonica, Ill. Filed Apr. 17, 1882. (No model.)



Claim.—1. In a manure-distributer, the combination, with an open-bottom wagon-body provided with ways *d* in its sides, extending downward at the rear and forward under the body nearly to its forward end, of the movable sectional bottom H, provided with end-board Q and means, substantially as described, for operating said bottom, as specified.

2. In a manure-distributer, the combination, with an open-bottom wagon-body provided with the ways *d* in its sides, extending downward at the rear and forward under the body, the movable sectional bottom H, provided with end-board Q, and means for operating the same, of the distributer J, the chain O, drum N, pinion M, and the driver L, substantially as and for the purpose set forth.

3. In a manure-distributer, the combination, with the movable bottom H and endless-belt G, of the pulley F, the ratchet-wheels C, the clutches D, the lever A, levers B, the links B', and pawls I, substantially as and for the purpose set forth.

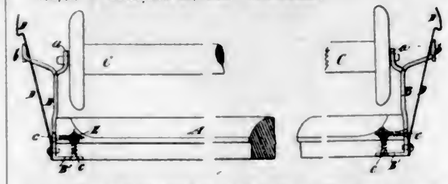
4. The sectional bottom H, jointed together at *a*, and provided with rollers *b*, in combination with the ways *d* of a manure-wagon, extended down the back under and forward along the wagon, substantially as described.

264,280. DRIVE-CHAIN. HENRY MILLAR GRAY, London, County of Surrey, England, assignor to the Ewart Manufacturing Company, Chicago, Ill. Filed July 25, 1882. (No model.)



Claim.—A detachable drive-chain composed of alternately-arranged plain links A B, provided with recesses or notches, and S-shaped links C D, having open coupler-hooks on opposite sides, and having these parts each constructed and combined, substantially as described, so that they can be uncoupled only when the bodies of the links are brought into parallel planes and close together, substantially as hereinbefore set forth.

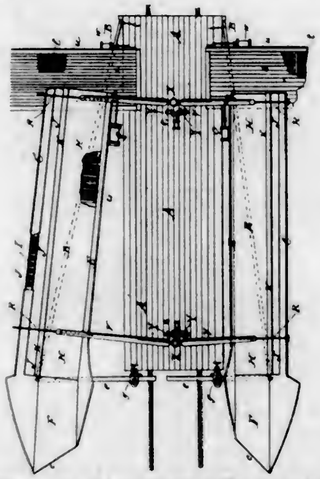
264,281. TUFT FRAME OR CARRIAGE FOR LOOMS FOR WEAVING TUFTED FABRICS. WILLIAM GREENHALGH, Yonkers, N. Y. Filed Feb. 24, 1882. (No model.)



Claim.—The combination of the plugs E, of lead or other soft metal, and the screws e with the wood bar A and angle or clutch pieces B, substantially as and for the purpose herein described.

264,282. RAILWAY-DITCHING MACHINE. DAVID E. GROVE, Dallas, Tex. Filed Apr. 14, 1882. (No model.)

Brief.—The truck bears derricks with tackle adjustably supporting angular carriers with like plows and belts running on two series of rollers, communicating by an oblique rod and bevel-gears, and inclined to each other, and having a central joint-belt and low spring-fastened inside boards. Said carriers have supporting-rods adjustable by rack-bar and pinion, screw-rods, and hinged joints. Transverse carriers conduct the material to an endless conveyer formed of beveled overlapping slats joined by central and end links, and having hangers with rollers which run on trackways in suitable cars. The conveyer is driven by rag-wheels in the end car engaging with the hangers. Independent engines operate the several belts.



Claim.—1. In a railway-ditching machine, the combination, with the angular plow F, having inclined cutting-edges, of the angular frame C, provided with the endless belts H J K and spring side boards, E, substantially as herein shown and described.

2. In a railway-ditching machine, the combination, with the car A, of the angular frame C, the angular plow F, the carrier-belts H J and their rollers G I, and the angle-belt K and its guide-rollers L, substantially as herein shown and described, whereby the dirt will be raised and carried back, as set forth.

3. In a railway-ditching machine, the combination, with the angular carrying-frame C and the inclined endless belts H J, of the narrow belt K, made thick and with beveled edges, and the guide-pulleys L, substantially as herein shown and described, whereby dirt is kept from entering the space between the adjacent edges of the said inclined belts, as set forth.

4. In a railway-ditching machine, the angular frame C, carrying the plow F and provided with the bails R R, in combination with the bar *e*, hinged at its outer end to the frame C and connected at its inner end to the car A, and the derrick X Y, mounted on the car and provided with tackle S U T and *a b c*, substantially as and for the purpose set forth.

5. In a railway-ditching machine, the combination, with the car A and the carrier-frame C, of the hinged bar *e* and the swiveled hand-screw *f*, substantially as herein shown and described, whereby the lateral inclination of the plow and carrier can be regulated, as set forth.

6. In a railway-ditching machine, the combination, with the car A, the bar *e*, and the carrier-frame C, of the vertically-sliding block *g* and the swiveled screws *j*, substantially as herein shown and described, whereby the lateral inclination of the carrier and plow can be adjusted from the car, as set forth.

7. In a railway-ditching machine, the combination, with the car A, the bar *e*, hinged at its forward end to the frame C, and the carrier-frame C, of the rack-bar *e* and the gear-wheel *p*, having shaft and hand-wheel, substantially as herein shown and described, whereby the carrier-frame can be adjusted to bring the plow nearer to or farther from the car, as set forth.

8. In a railway-ditching machine, the combination, with the angular carrier-frame C, the endless belts H J K, and their rollers G I L, of the beveled-gear wheels M N, the connecting-rod O, and the steam-engine Q, substantially as herein shown and described, whereby the carrier-belts are made to move together, as set forth.

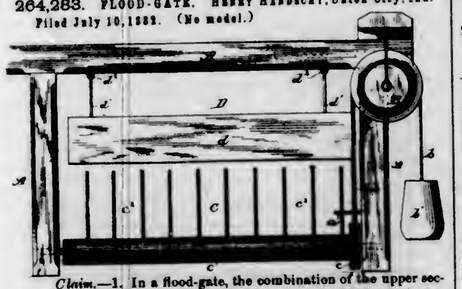
9. In a railway-ditching machine, the combination, with the car A, carrying the side carriers and their plows and the transverse carriers, of a train of cars, X, provided with an endless conveyer, substantially as herein shown and described, whereby the conveyer lying over each car can be loaded from the said side and transverse carriers, as set forth.

10. In a railway-ditching machine, the conveyer, constructed substantially as herein shown and described, and consisting of the slats *y*, having their side edges correspondingly beveled and overlapped, the coupling-links *x* and 1 2, and the wheels 5 7, as set forth.

11. In a railway-ditching machine, the combination, with the cars *z*, having posts 11, cross-bars 10, and track-timbers 9 8 9, of the endless conveyer *y x* 1 2, having hangers 4 6 4 and wheels 5 7 5, substantially as herein shown and described, whereby the dirt received at the forward end of the conveyer will be carried to the rear of the trains, as set forth.

12. In a railway-ditching machine, the combination, with the hangers 6, that carry the guide-wheels 7 of the conveyer, of the rag-wheels 16, the crank-shaft 15, and the steam-engine 18, substantially as herein shown and described, whereby the conveyer can be operated independently of the other parts of the mechanism, as set forth.

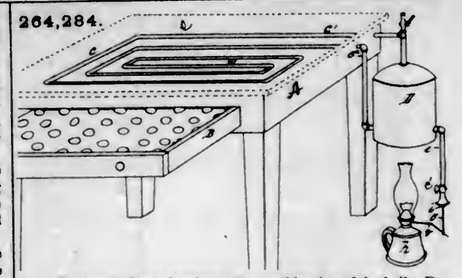
264,283. FLOOD-GATE. HENRY HARDSCHY, Union City, Ind. Filed July 10, 1882. (No model.)



Claim.—1. In a flood-gate, the combination of the upper section, D, suspended from and pivoted to the top of the gate-frame, and the lower section, C, journaled in the gate-posts and provided with mechanism for keeping it vertical during an ordinary flow of water, and for allowing it to be opened by a flood, substantially as shown.

2. In a flood-gate, the combination, with frame A, of the upper section, D, suspended from and pivoted to the top of the frame, and the section C, journaled in the gate-posts near the bottom, the said section C being composed of the horizontal beam *c'*, pivoted with the drum *c* and radiating arms or rods *c²*, and adapted to be held in a vertical position by means of the pin *a*, weight *b'*, cord *b*, and pulley B, all being constructed and designed to operate substantially as shown and described.

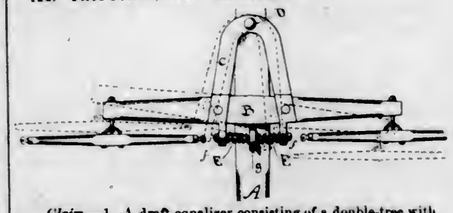
264,284. INCUBATOR. JAMES W. HANBUM, Ludlow, Mass. Filed Feb. 26, 1881. (No model.)



Claim.—1. In an incubator, the combination of the boiler D, the coil of water-pipes *c*, and the pipe *e*, entirely filled with water, the diaphragm *i*, rod *o*, connected to said diaphragm, lamp A, and the wick-raising shaft *v*, substantially as set forth.

2. In combination, the diaphragm *i*, disk *n*, and the rod *o*, having the plate *o'* on its upper end, substantially as and for the purpose set forth.

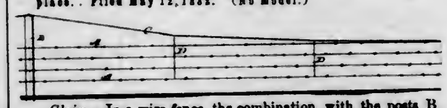
264,285. DRAFT-EQUALIZER. THOMAS HARDING, Lafayette, Ind. Filed Feb. 27, 1882. (No model.)



Claim.—1. A draft-equalizer consisting of a double-tree with a pivotal connection to the tongue A or other proper part of the running-gear of a wagon at a distance in rear of the right line, which may be drawn between the connections of the single-trees to the double-tree, combined with the equalizer-springs E E, as set forth.

2. The tongue A of a wagon and the double-tree B, combined with an arm, C, projecting backward from the double-tree, having at its outer extremity a pivotal connection, D, with said tongue, and at its inner or forward extremity means for attachment to said double-tree, and projecting lugs *f f*, to serve as abutments for the springs E E, and the stationary abutment *g*, fastened to the tongue.

264,286. BARBED-WIRE FENCE. FRANK M. HARRIS, St. Charles, Mo., assignor to himself and Henry A. Bailey, same place. Filed May 12, 1882. (No model.)



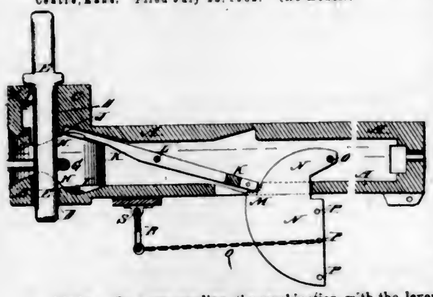
Claim.—In a wire fence, the combination, with the posts B and a series of horizontal wires, A, secured to said posts, of the catenary wire C, and a series of vertical wires, D, arranged in pairs, secured at their upper ends to the catenary and twisted around the horizontal wires, substantially as herein shown and described.

264,287. VEHICLE-WHEEL. ALBERT J. HART, Ligonier, Ind. Filed June 17, 1882. (Model.)



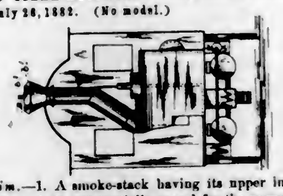
Claim.—In a vehicle-wheel, the combination of the axle D, cylinder A, and thimble C with the packing-ring *e*, nut *e*, and sand-nut *d*, all constructed and arranged to serve as and for the purposes specified.

264,288. CAR-COUPLING. SAMUEL A. V. HARTWELL, Valley Centre, Kans. Filed July 22, 1882. (No model.)



Claim.—In a car-coupling, the combination, with the lever K, having its rear arm the heavier, of the pivoted trip-plate N, having shoulder M, the chain Q, and the cross-rod S, having central crank, R, and end cranks, T, substantially as herein shown and described, whereby the link can be readily and accurately adjusted to enter the bumper-head of an approaching car, as set forth.

264,289. STEAM-MUFFLER. JOSEPH HILL, Williamsport, Pa. Filed July 26, 1882. (No model.)



Claim.—1. A smoke-stack having its upper inner surface coated with asphalt, substantially as and for the purpose set forth.

2. The cup-valve B, coated with asphalt, as described, and provided with the fins *b'*, substantially as described.

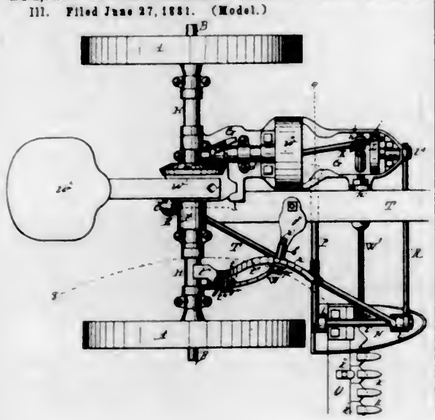
3. A smoke-stack having its upper inner surface coated with asphalt, in combination with a cup-valve coated with a like material, substantially as and for the purposes described.

264,290. BELT-FASTENER. BENJAMIN HOGAN, Saginaw, Mich. Filed June 3, 1882. (No model.)



Claim.—The belt-fastener having longitudinal bar 1, transverse bars 2 2, and the downturned ends 3 3, each of which is provided with two shoulders, 4 4, all substantially as shown, and for the purpose set forth.

264,291. MOWING-MACHINE. SOLOMON T. HOLLY, Rockford, Ill. Filed June 27, 1881. (Model.)



Claim.—1. The form and the holders adapted to engage the edges of the corset, combined with a straining device applied directly to the holders independently of and separately from the form, to cause the holders to approach each other and draw and fit the corset to the form, substantially as described.

2. The form and the holders and the fulcrum *c*, combined with a straining device carried by the holders in rocking bearings, substantially as described.

3. The form, the lever-like holders C D, pivoted at *b*, the fulcrum *c*, and spring to act against the said holders, combined with a straining device to move the holders toward and from each other to draw the corset about the form, substantially as described.

Claim.—1. The combination, with a fixed or non-revolving toothed gear-wheel and a revolving balance-wheel or crank-head, having their centers in the same line, of a revolving gyrating toothed gear-wheel having a gear-toothed connection with the non-revolving toothed gear-wheel and axial-shaft connection with the balance-wheel, and pitman operated by the gyrating shaft as a crank to impart a reciprocating motion to the cutters, substantially as set forth.

2. The combination, with a counter-shaft and a non-revolving toothed gear-wheel mounted thereon, of a rotary gyrating toothed gear-wheel having a universal-joint connection with the counter-shaft, and a gyrating shaft connected by a ball-and-socket joint with a revolving balance-wheel, substantially as set forth.

3. The combination, with the gyrating shaft, of a two-part revolving balance-wheel provided with a spherical socket, and adapted to receive a ball having an axial bearing for said shaft, substantially as set forth.

4. The combination, with the counter-shaft provided with a forked end and stud-journals, of a two-part ring adapted to receive the stud-journals, and the gyrating shaft having projecting perforated arms and a fastening-bolt, substantially as set forth.

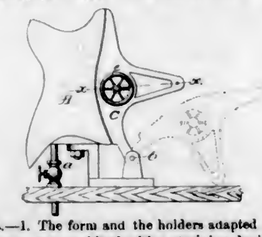
5. The combination, with a shoe hinged to the frame, having the finger-bar secured thereto, and the rod P and push-bar T, of a lifting-lever having independent chain or equivalent connection with the forward and rear end portions of the shoe, operating to raise and lower the fingers to vary the height of the cut, and to elevate the cutting apparatus, substantially as set forth.

6. The combination, with the lifting-lever having the axis of its pivotal support inclined to the axis of the lever, of a segment provided with an upper and lower chain-lock, as described, and cutting apparatus whose shoe-supports are connected to said segment by means of chains connected to said supports and to said chain-locks, substantially as set forth.

7. The combination, with the ratchet-toothed segment, of the curved bracket provided with an upwardly-projecting arm, and a spring-pawl pivoted to said arm and provided with a rear extension to form a pedal, substantially as set forth.

8. The combination, with the gyrating shaft provided with a spherical enlargement, of a pitman connected at one end to the cutting apparatus, and provided at its opposite end with a spherical bearing-socket to receive said enlargement, and a semi-spherical clamping-head, substantially as set forth.

264,292. APPARATUS FOR SHAPING CORSETS. JAMES A. HOUSE, Bridgeport, Conn. Filed May 25, 1882. (No model.)

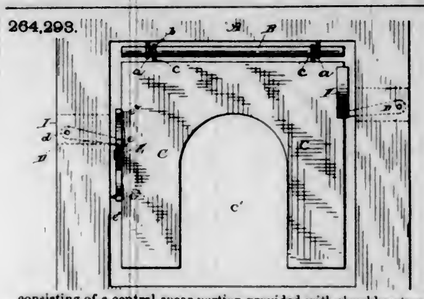


264,293. COOP FOR FOWLS. JERU M. HOUSEHOLDER, Winfield, Kans. Filed June 21, 1882. (No model.)

Claim.—1. The combination, with a door-frame having a pawl or catch-lever pivoted thereto and a swinging door pivotally secured at its upper end to the frame, of a latch secured to one side of said door, and constructed substantially as described, to automatically engage said pawl or catch to prevent the swinging of the door inwardly, substantially as set forth.

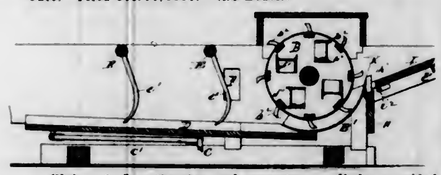
2. The combination, with a door-frame having a pawl or catch-lever pivoted thereto and a door pivotally secured at its upper end to the frame, of a pivoted latch secured to one side of the door, and

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consisting of a central spear portion provided with shoulders to engage said pawl, and an upper and a lower curved arm, substantially as set forth.

264,294. THRASHING-MACHINE. JOHN HOOBER, Mansfield, Ohio. Filed Oct. 11, 1881. (No model.)



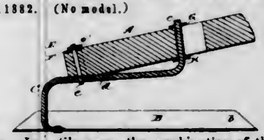
Claim.—1. In a thrasher and separator, a cylinder provided with arms arranged in the order described, and rigidly connected to the cylinder, combined with a stationary retarding device and a concave perforated as shown, and having no stationary arms, as specified.

2. In a thrasher and separator, the combination of a shoe adapted to be vibrated, a series of forks secured to rock-shafts, a bar connecting the arms of the rock-shafts, and a link pivoted to the frame-work and connected to said bar and to the shoe, substantially as shown and described.

3. The combination of the forks *e'*, secured to the rock-shaft E, the arms *e*, the bar d^6, lever d^7, pivoted to the frame-work, and the shoe D, substantially as shown and described.

4. The combination of the feed-table I, pivoted at i', the crank-shaft i^2, the fixed retarding device K, the toothless perforated concave B', and the cylinder B, substantially as shown and described.

264,295. TILE-SCOOP. SAMUEL IVORLS, Hemlock, Ind. Filed July 18, 1882. (No model.)



Claim.—In a tile-scoop, the combination of the handle A, having thimble or ferrule F, scoop B, provided with a bent shank, C, having the threaded part *c*, eyebolt *e* E, and nuts *c'*, G, and H, all constructed and combined, substantially as and for the purpose herein shown and described.

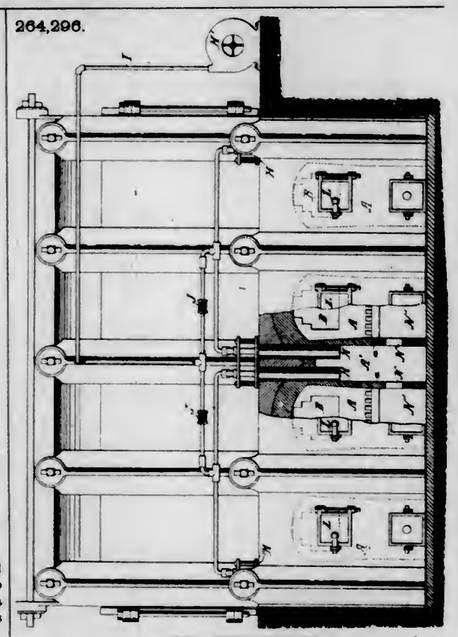
264,296. ANNEALING-FURNACE. EDWARD JAMES, Tipton, (near Birmingham,) County of Stafford, and EDWIN HANDLEY, Birmingham, County of Warwick, England. Filed Jan. 10, 1882. (No model.) Patented in England May 24, 1881, No. 2,252.

Claim.—1. In an annealing-furnace, the combination of a series of combustion-chambers having horizontal flues leading therefrom, under the bottom of the said furnace, and gas heating-chambers, alternating therewith, with the gas heating-pipes H, conducting-pipes I, and the blower H', substantially as shown and described.

2. The series of heating-chambers having inlet-pipes terminating therein located between and extending below the combustion-chambers, and communicating with the air-chambers, as shown and described.

3. In a furnace, the combination and arrangement of combustion-chambers A, heating-chambers A', having apertures N, the air-chambers N', and horizontal flues B, as shown and described.

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264,297. SPINDLE FOR SPINNING-MACHINES. GILMAN JAQUITH, Maysville, Ky., assignor to himself and JANNARY & WOOD, same place. Filed Mar. 22, 1882. (No model.)

Brief.—The bushing is formed with an enlarged screw-threaded head, which screws into the upper end of the tube, and is made in two longitudinal sections having perforations to supply oil to the spindle, and a lower collar for steadying the same within said tube. The whirl is so constructed as to form two reverse cups, the upper one constituting a taper socket to receive the lower end of the bobbin and to serve as an oil-cup, which communicates with the lower cup by means of a hole or passage bored through the whirl, which passage is continued into the top or head of the bushing to admit of the insertion of a key or wire, by means of which said bushing can be unscrewed from the tube.

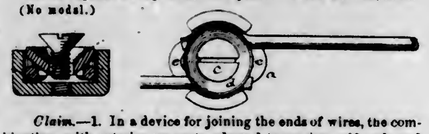


Claim.—1. The whirl E, constructed with upper and lower reverse cups, *g h*, provided with an oil-passage connecting the two cups, substantially as described.

2. The combination, with a whirl, E, having an oil-passage therethrough, of the screw-headed bushing D, having a hole, *k*, and the tube A, having a passage, *f*, between it and the head of the bushing, as and for the purpose described.

3. The bushing D, constructed with a screw-threaded head on its upper end, enlarged lower portion, *d*, and a reduced perforated waist or body, substantially as and for the purposes specified.

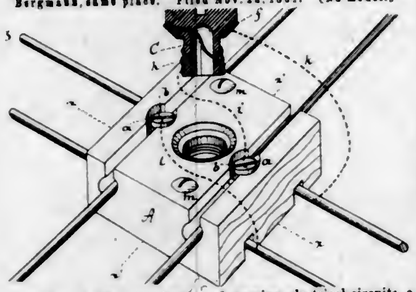
264,298. COUPLING DEVICE FOR ELECTRICAL CONDUCTORS. EDWARD H. JOHNSON, New York, N. Y., assignor of one-half to SIGMUND BERGMANN, same place. Filed Nov. 28, 1881. (No model.)



Claim.—1. In a device for joining the ends of wires, the combination, with exterior supports adapted to receive said ends and provided with a screw-threaded aperture, of a bevel-headed screw, substantially as and for the purposes set forth.

2. In a device for joining the ends of wires, the combination, with exterior supports for said wires, of a bevel-headed screw and beveled washer and means for retaining the bevel-headed screw in position, substantially as and for the purpose set forth.

264,299. CONNECTION FOR ELECTRIC CIRCUITS. EDWARD H. JOHNSON, New York, N. Y., assignor of one-half to Sigmund Bergmann, same place. Filed Nov. 28, 1881. (No model.)



Claim.—1. The combination of crossing electrical circuits, a block of insulating material having grooves in opposite surfaces, in which the wires of the circuits are laid, and multiple-arc connections between such circuits within the block, substantially as set forth.

2. The combination, with the wires of a main circuit laid in grooves in a block of insulating material and the wires of derived circuits therefrom laid in other grooves in said block, of means within said block for connecting said main circuit with said derived circuits, and a removable circuit-breaker controlling both the main and derived circuits, substantially as set forth.

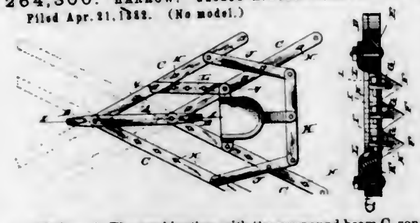
3. The combination, with a main circuit and one or more derived circuits therefrom, of a single safety-catch included in all such derived circuits and adapted to connect the derived and main circuits, substantially as set forth.

4. The combination, with the wires of a main circuit and those of derived circuits therefrom laid in grooves in a block of insulating material, of means within said block for connecting the main circuit and derived circuits, a removable circuit-breaker controlling all the circuits, and a safety-catch carried by the circuit-breaker, substantially as set forth.

5. The combination, with a block having a socket provided with circuit-terminals, of the hollow plug B, of insulating material, having two exterior terminals connected by a safety-catch or fusible conductor within the interior of the plug, substantially as set forth.

6. The combination, with the block of insulating material provided with interior terminals, of the plug having corresponding terminals and fitting the interior of the block, the terminals of the plug being connected by a safety-catch, substantially as set forth.

264,300. HARROW. GEORGE H. JOHNSON, Pincastle, Va. Filed Apr. 21, 1882. (No model.)



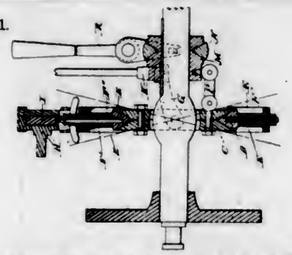
Claim.—1. The combination, with the compound beam C, consisting of the parts D E, of the triangular tooth F, forked tang or holder G, and wedge or suitable fastening device, I, as set forth.

2. The combination, with the harrow-frame A C J K, constructed as described, of the longitudinal beams L, bent as shown, connecting the beams C and carrying the teeth, as set forth.

264,301. VARIABLE VALVE-GEAR. WILBERFORCE JOHNSON, Liverpool, County of Lancaster, England. Filed Mar. 20, 1882. (No model.) Patented in England Mar. 23, 1881, No. 1,280.

Claim.—1. In combination with the longitudinally-reciprocating valve-rod, the operating-gear therefor, consisting of the disk revolving with the driving-shaft obliquely to its axis, combined

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with the non-rotating ring or strap encircling said disk, and an arm for reciprocating the valve-rod attached to and vibrated by means of the non-rotating ring, substantially as described and shown.

2. The rotary main shaft and the disk carried thereby, and adjustable as to its obliquity thereon, in combination with the external ring D, and the external link or strap, E, the latter having at right angles to each other a pivotal support and a pivotal connection with the ring D, substantially as described and shown.

3. The pivoted ring C, made in two halves and bolted together, thus inclosing the ends of the pivots, in combination with the sliding ring D, fitting into the groove formed by the two halves of C, substantially as and for the purposes described.

4. The combination of the ring C, adjusted or adjustable so as to stand obliquely to the axis of the shaft, and the sliding ring D, carrying pins F, actuating the valve-gear, with the adjustable guide H, regulating the angle that the pins F shall make with the pivots B, for the purposes described.

5. The combination of the ring D, sliding on a path adjusted at or adjustable to an angle oblique to the shaft, with the pins F and slotted frame E, actuating the valve-gear, substantially as described.

6. The combination of the lever R, sliding ring N, sleeve M, and connecting device P with the pivoted disk C.

7. The combination of the lever R, the slide M', the quadrant or link N', the quadrant-lever O, and the link E with the disk C.

264,302. FASTENING FOR SHOE-LACINGS. JOSEPH L. JOYCE, New Haven, Conn. Filed Mar. 17, 1882. (No model.)



Claim.—1. The herein-described fastener for shoe-lacings, consisting of the body *a*, provided with the elastic disk *b*, constructed for attachment to the shoe, and with the slit *d* in said disk, into which the lacing is drawn after having been wound upon the body beneath the disk, the sides of the slit yielding to admit the lacing, substantially as described.

2. The herein-described fastener for shoe-lacings, consisting of the body *a*, provided with the elastic disk *b*, constructed for attachment to the shoe, and with the slit *d* in said disk, into which the lacing is drawn after having been wound upon the body beneath the disk, the sides of the slit yielding to admit the lacing, combined with the second disk, *b*, substantially as described.

3. The herein-described fastener for shoe-lacings, consisting of the body *a*, provided with the elastic disk *b*, constructed for attachment to the shoe, and with the slit *d* in said disk, into which the lacing is drawn after having been wound upon the body beneath the disk, the sides of the slit yielding to admit the lacing, the said slit constructed with a notch, *e*, upon one or both sides, substantially as and for the purpose described.

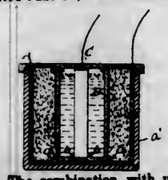
4. The herein-described fastener for shoe-lacings, consisting of the disk *b*, constructed for attachment to the shoe, and with the slit *d*, into which the lacing is drawn after having been wound beneath the disk, with the transverse cut *f* into the disk from the edge or edges of the slit, substantially as described.

264,303. CURTAIN-FIXTURE. WALLACE C. KELLY, Hastings, Mich. Filed Mar. 15, 1882. (No model.)



Claim.—The combination, with the roller A, of the sleeve C, pulley E, and the pulley D, having an annular flange, *d'*, and a shank, *d*, substantially as and for the purpose specified.

264,304. GALVANIC BATTERY. FRANK R. KIRKMAN, New York, N. Y. Filed June 17, 1882. (No model.)



Claim.—1. The combination, with metal filings or scraps forming an element for a galvanic battery, of an absorbent mixed loosely therewith, in the manner described, so as by capillary action to keep the metal filings moist.

2. A battery element consisting of a cup of metal containing metal plugs or scraps, with which is loosely mixed an absorbent material and means whereby liquid may be admitted gradually to the bottom of the cell, so that said filings may be kept moist by capillary action of the absorbent without being covered by the liquid.

3. The combination, with metal scraps or filings forming an element for a galvanic battery, of an absorbent mixed with said scraps or filings and formed of asbestus or mineral wool.

4. An element for a galvanic battery, formed of a cup of iron containing iron scraps or filings, with which is mixed absorbent mineral wool or asbestus.

5. In a galvanic battery, an element composed of scraps or turnings of soft iron immersed in a solution of a caustic alkali.

6. The combination, with a metal containing cup or cell forming an element of a galvanic battery, of an envelope of asbestus or mineral wool, as and for the purpose described.

7. A galvanic battery composed of a containing-cell porous at a portion only of its surface, and containing a plate of zinc immersed in a solution of a caustic alkali, and a second containing-cell of iron cast or stamped so as to be free from soldered joints, as and for the purpose described.

8. A galvanic battery composed of a cup, A, of iron, containing iron scraps or filings mixed with an absorbent, and a cup, B, porous near its bottom only, and containing a zinc element immersed in a solution of caustic potash or alkali.

9. A galvanic battery formed of an outer cell or cup, A, of iron, containing iron filings mixed with an absorbent, and having a non-conducting envelope, a cup, B, porous near its bottom only, and an element, C, of zinc, contained in said cup and immersed in a solution of a caustic alkali, such as potash.

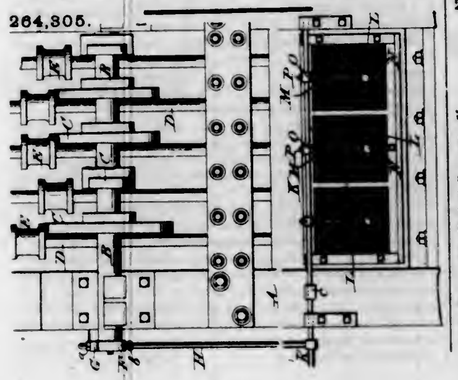
10. The combination, with the element formed of the cup A and its contained metal filings, of the element C, contained in a cup porous at its bottom only, and a cover perforated over the element A and closed over the element C.

11. The combination, with the cover F, perforated near its edge, of the compressible and expansible plug G, as and for the purpose described.

12. The combination of the cup B, the plate F, the plug G, and the screw H, as and for the purpose described.

13. A galvanic battery consisting of a liquid-containing cell porous near its bottom and holding one of the elements of the battery and the battery solution, and a second containing cell or receptacle contiguous to the first and holding a mass of metal filings or scraps mixed with an absorbent to constitute the other element.

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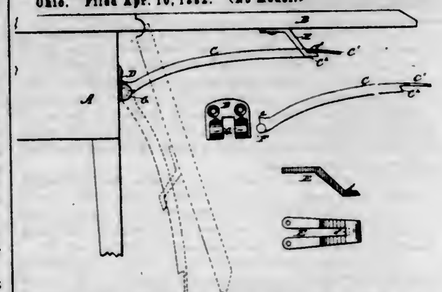


264,305. ORE-BATTERY. PETER KIRKWOOD and JOSEPH WEAR, Butte City, Mont., and JAMES MURDOCK, Park City, Utah. Filed May 24, 1882. (No model.)

Claim.—1. In an ore-stamp battery, the combination, with the screens L, of the rock-shafts K, having hammers N adjustably attached thereto, arms I, secured to shafts K, connecting-rod H, and pivoted lever G, and mechanism for operating said lever and attached devices, substantially as shown and described.

2. The combination of the battery-posts A, shaft B, having cam F, the pivoted lever G, jointed connecting-rod H, rock-shafts K, arms I, secured thereto and pivoted to the connecting-rod, and the hammers N, having rods or handles M, adjustably secured to the rock-shafts and adapted to strike the screens at intervals, substantially as described.

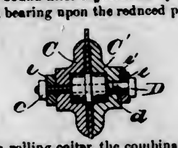
264,306. TABLE-LEAF SUPPORT. WILLIAM KLIBA, Piqua, Ohio. Filed Apr. 10, 1882. (No model.)



Claim.—The leaf-supporting arm or brace C, having the outer handle, C', and oblique shoulder C", and the inner journal, F, and shoulder *c*, in combination with the bearing-plate D on the table-frame and the slotted bracket E on the falling leaf, having an oblique-faced transverse bar, as and for the purpose set forth.

264,307. ROLLING COLTER. ROBERT KLOSS, Shabonier, Ill. Filed May 27, 1882. (No model.)

Brief.—Stationary disks with recesses in which colter-hub has its bearings, one disk having a lug which engages the standard and the other screwed upon threaded end of axial bolt, the parts being firmly bound after adjustment by nut upon said bolt. The hub has also a bearing upon the reduced portion of axial bolt.



Claim.—In a rolling colter, the combination of the cutter B, having hub *b*, socketed disks C C', the latter having projection or stop *c'*, and bolt D, having enlarged portion *d*, and threaded portion provided with nut *e*, with the yoke or standard, substantially as shown and described.

264,308. ARTIFICIAL FLOWER. JULES LAMBERT, New York, N. Y. Filed Feb. 16, 1882. (No model.)



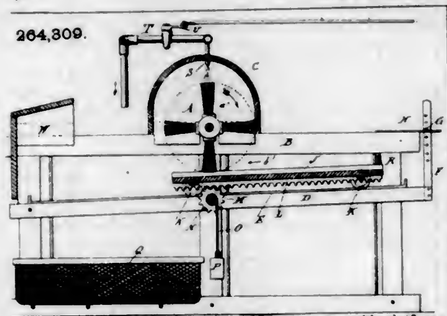
Claim.—As a new article of manufacture, the foundation for a wreath of artificial flowers, consisting of a tube or cord provided with branched tubing applied to the sides of such foundation, into which the stems of the flowers are inserted, as hereinbefore set forth.

264,309. MACHINE FOR CLEANING WOOL ON SKINS. JOS. LAROCHE, New York, N. Y. Filed Apr. 4, 1882. (No model.)

Claim.—1. In a machine for cleaning wool on skins, the combination, with the rotary brush A, of the movable platform J and a suitable receptacle for catching the refuse matter, substantially as herein shown and described, and for the purpose set forth.

2. In a machine for cleaning wool on skins, the combination,

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with the rotary brush A and the track D, of the movable platform J, having its upper surface concaved transversely to its line of travel and provided with the rack L on its under surface, the pinion M and shaft N, substantially as and for the purpose set forth.

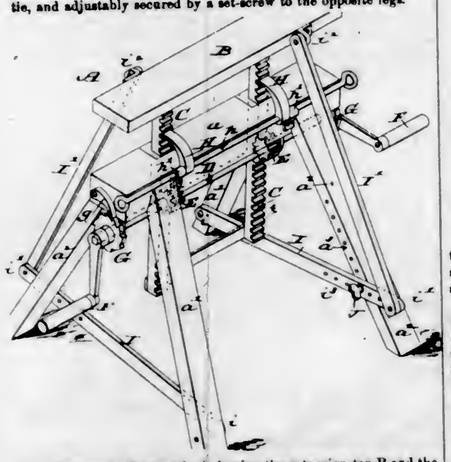
3. In a machine for cleaning wool on skins, the combination, with the rotary brush A, of the movable platform J, the box C, the water-spouts S, the box W, and a suitable receptacle for catching the refuse matter, substantially as herein shown and described, and for the purpose set forth.

4. In a machine for cleaning wool on skins, the combination, with the rotary brush A, of the movable platform J, the pivoted track-frame D, for supporting the platform J, and the apertured rod F, for adjusting the track-frame D, substantially as herein shown and described, and for the purpose set forth.

5. In a machine for cleaning wool on skins, the combination, with the rotary brush A, of the movable platform J, the pivoted track-frame D, the rack L on the under side of the platform J, the pinion M, the shaft N, the cords O, and the weight P, substantially as herein shown and described, and for the purpose set forth.

264,310. TRESTLE. THOMAS P. MADDOX, St. Louis, Mo. Filed June 6, 1882. (No model.)

Brief.—The extension-top is braced by arms pivoted thereto, and to horizontal arms pivoted to the legs on one side of the trestle, and adjustably secured by a set-screw to the opposite legs.



Claim.—1. The trestle A, having the extension-top B and the braces I I', substantially as described.

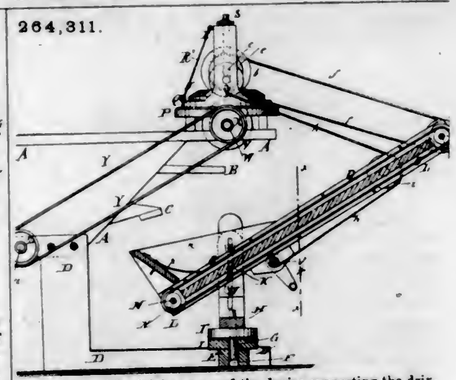
2. The combination of the top *a*, the legs *a'* *a''* *a³* *a⁴*, the rack-bars C C, the shaft D, the pinions E E, the arms I I', and the pin J, substantially as described.

264,311. ADJUSTABLE STRAW-STACKER. WILLIAM R. MALOY, Wayland, Mo. Filed Apr. 20, 1882. (No model.)

Claim.—1. In a straw-stacker, the combination, with the knees D, cross-bar E, socket F, pivot G, washers I, cross-bar H, and uprights J, of the carrier L and vertically-adjustable plates on the uprights J, as shown and described.

2. The combination, with separator A, pivoted frame G H, carrier L, and its driving-gear, of the device supporting the driving-gear, consisting of the rabbeted annular plate P, secured to the separator A centrally over the pivot G, and the frame Q R, revolving in the rabbet in plate P, as shown and described.

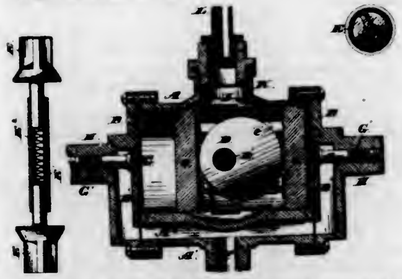
264,311.



3. The combination, with the separator A, pivoted frame G H, carrier L, frame J, annular rabbeted plate P, and frame Q R, arranged centrally above the pivot G, of the double beveled-gear wheel U, journaled in the frame R above and in the frame T below, the driver-gear V, the driven gear *b* and pulley *c*, and the balance-gear *d*, as shown and described.

4. The combination, with the frame R, the swiveled ring Q, and the carrier-frame L, of the cords or chains A, the pulleys *i*, and the crank-shaft *j k*, mounted on the carrier-frame, as shown and described.

264,312. LIQUID-MEASURING PUMP. HENRY E. MERCHANT, Pittsburg, assignor of two-thirds to William J. Beckfeld and Jacob C. Lange, Sr., both of Allegheny, Pa. Filed May 24, 1882. (No model.)



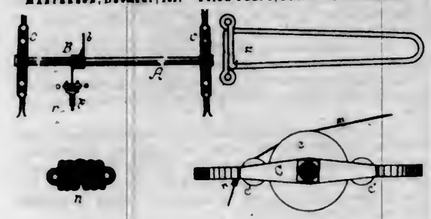
Claim.—1. The double-headed pump-piston comprising the two heads *c*, secured together by rods, and the valves E, having their stems received in a tube, with a space between the ends of the stems, substantially as described.

2. The combination, with the cylinder A, having the horizontal passage A^1, and vertical end chambers, B', of the double-headed piston comprising the two heads *c*, connected by rods, and the valves E, having their stems received in a tube, with a space between the ends of said stems, and the revolving shaft D', provided with the eccentric D and crank-handle N for reciprocating he double-headed piston, substantially as described.

3. The combination of the double-headed pump-piston, comprising the two heads *c*, secured together by rods, the valves E, having their stems loosely fitted in the tube E^2, and the spring located in said tube and between the opposing ends of the valve-stems, substantially as described.

4. The pump-cylinder A, having its heads B provided with conical valves G, arranged within the cylinder and provided with stems fitted in exterior extensions, H, on the cylinder-heads, said valves being held to their seats on the inner surfaces of the cylinder-heads by springs, in combination with the double-headed piston comprising two heads, *c*, connected by rods *c'*, the valves E in said piston-heads having their stems fitted into a tube, E^2, with a space between the ends of the stems, and a shaft, D', provided with an eccentric, D, and crank-handle N for reciprocating the piston, substantially as described.

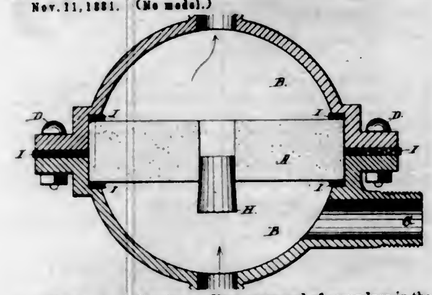
264,313. CHECK-ROWER FOR CORN-PLANTERS. CARSON A. MASTERSON, Decatur, Ill. Filed Jan. 3, 1882. (No model.)



Claim.—1. In a check-rower, the combination of the deflected disk B *b* and rollers *c*, connected with the seed-slide, with the tappet C, composed of the side stays having flexible ends, and a large central roller, *e*, and two smaller rollers, *c'*, one at each end, substantially as set forth.

2. The spring-stop *n*, composed of a single piece of wire having a long loop wound round the crossed ends, substantially as set forth.

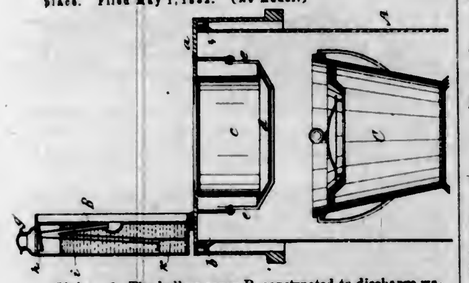
264,314. FILTER. WILLIAM MAYNARD, New York, N. Y. Filed Nov. 11, 1881. (No model.)



Claim.—1. A filtering medium composed of corundum in the form of a porous conglomerate, as described.

2. The combination, with a filter case or chamber, of a rigid porous filtering medium having a hole through the same provided with an elastic stopper, substantially as and for the purpose described.

264,315. PORTABLE WATER-CLOSET. JOHN MCAULIFFE, Portland, Conn., assignor to himself and John J. Barry, same place. Filed May 1, 1882. (No model.)



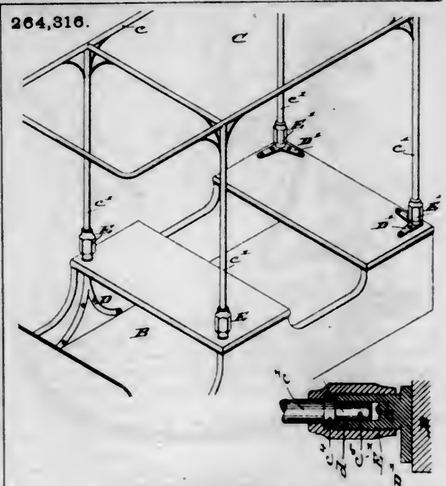
Claim.—1. The hollow cover B, constructed to discharge water when closed, in combination with the box A, seat *a*, bowl *c*, and pan *d*, substantially as described.

2. In portable closets or commodes, the cover B, provided with discharge-pipe *i*, partition *h*, and tray *k*, in combination with the seat *a* and box A, substantially as shown and described.

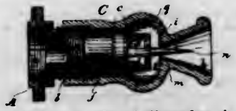
264,316. VEHICLE-TOP. JAMES W. MCMILLEN, Alton, and GEORGE A. MCMILLEN, Edwardsville, Ill. Filed May 31, 1882. (No model.)

Claim.—A wagon-body, B, provided with supports D', having upwardly-projecting and threaded ends *d*, combined with top C, having standard *c'*, with the shoulder *c''*, and the thimble E', substantially as described.

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264,317. HOSE-NOZZLE. THOMAS J. MCTIGUE and FREDERICK W. ROBERTSHAW, Pittsburg, Pa. Filed Mar. 3, 1882. (No model.)

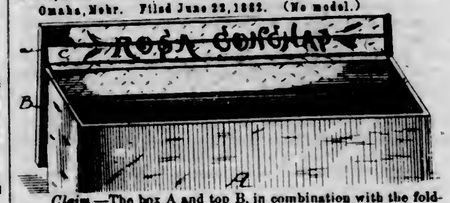


Claim.—1. In a hose-nozzle, a hollow plug, A, having openings *d* and a compression-valve, *e*, in combination with a surrounding adjustable nozzle-piece, C, having chamber *g*, mouth *h*, and flat valve-seat *i* behind the mouth, substantially as described.

2. In a hose-nozzle, the combination of the plug A, having compression-valve *e*, with nozzle-piece C, having seat *i*, an orifice, *m*, and an annular recess or relief-chamber, *k*, between said seat *i* and orifice *m*, substantially as described.

3. In a hose-nozzle, the combination of the plug A, having valve *e* and tapered spur *n*, with nozzle-piece C, having seat *i* and a central orifice, said spur projecting through the central orifice in all positions of the piece C, substantially as described.

264,318. BOX FOR HOLDING CIGARS. FRANK MCWINNIS, Omaha, Nebr. Filed June 22, 1882. (No model.)



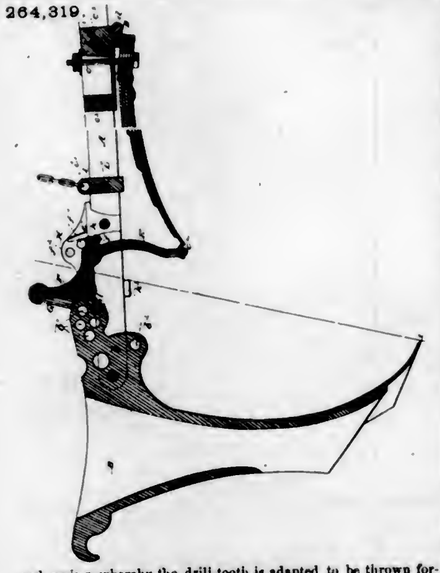
Claim.—The box A and top B, in combination with the folding hinge C, attached to the inside of the back of the box and to the top on a line removed from the edge of the top, whereby the top is adapted to extend above the box and expose the inner loose surface of the hinge, substantially as and for the purpose described.

264,319. DRILL-TOOTH ATTACHMENT FOR SEEDING-MACHINES. STEPHEN C. HENDERHALL, Richmond, Ind. Filed July 28, 1881. (No model.)

Claim.—1. In a drill-tooth attachment for seeding-machines, the combination, with the drag-bar, drill-tooth, and spring, of mechanism, substantially as described, for connecting the spring and tooth, whereby the said tooth is adapted to occupy positions substantially on the same plane with the drag-bar, either forward or rearward of the point of the tooth when at right angles therewith, substantially as and for the purpose specified.

2. In a drill-tooth attachment for seeding-machines, the combination, with the drag-bar, the drill-tooth, and spring, of a series of connected levers and bar or bars for connecting the drill-tooth

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and spring, whereby the drill-tooth is adapted to be thrown forward under the drag-bar and rearwardly of the drag-bar to occupy positions substantially on the same plane therewith, substantially as and for the purpose specified.

3. In a drill-tooth attachment for seeding-machines, the combination, with the drag-bar, tooth, and spring, of the levers E F and bar or bars G, connecting the tooth and spring, arranged to work intermediate of the parallel bars forming the drag-bar, substantially as and for the purpose specified.

4. In a drill-tooth attachment for seeding-machines, the combination, with the drag-bar, spring, and drill-tooth, of the lever E, bell-crank lever F, and bar or bars G, pivotally connected together and to the spring and tooth, substantially as and for the purpose specified.

5. In a drill-tooth attachment for seeding-machines, the combination, with the drag-bar, tooth, and spring, of mechanism for connecting the tooth and spring, whereby the tooth can be thrown forward up under the drag-bar for transportation or shipping purposes, substantially as specified.

6. In a drill-tooth attachment for seeding-machines, the combination, with the drag-bar, tooth, and spring, of the connected levers E F and bar or bars G, connecting the spring and tooth, and an adjustable stop mechanism arranged in front of the drill-tooth and independent thereof, substantially as and for the purpose herein shown and described.

7. In a drill-tooth attachment for seeding-machines, the combination, with the drag-bar, tooth, and spring, of the connected levers, bar or bars for connecting the tooth and spring, and a stop mechanism consisting of one of the connected levers and a stop-pin, substantially as and for the purpose herein shown and described.

8. In a drill-tooth attachment for seeding-machines, the combination, with the drag-bar, tooth, and spring, of the connected levers, bar or bars for connecting the tooth and spring, and an adjustable stop mechanism consisting of one of the connected levers and a stop-pin, substantially as and for the purpose herein shown and described.

9. In a drill-tooth attachment for seeding-machines, the combination, with the tooth, spring, and connecting mechanism, of the drag-bar and frame H, provided with the adjusting-holes *f f' f²*, the lever E of the connected levers, provided with the lugs *e'*, and the stop-pin *g*, substantially as and for the purpose specified.

10. The combination, with the double drag-bar, of the frame H, formed in two half-sections and provided with the bars *h'* and *h²*, having right-angled portions, substantially as and for the purpose specified.

11. The combination, with the double drag-bar, of the frame H, formed in two half-sections and provided with the bars *h'*, bars *h²*, having right-angled portions *h³*, and flanges *h⁴*, substantially as and for the purpose specified.

12. The combination, with the double drag-bar and spring, of the intermediate clamping-plate, *e*, provided with the upwardly-projecting bars *e' e'*, and means for securing them together, substantially as and for the purpose specified.

13. The combination, with the drag-bar and spring, of the intermediate clamping-plate and wedge having transverse serrations or corrugations on their adjacent faces, and a bolt for adjustably securing them together, substantially as and for the purpose specified.

14. In a drill-tooth attachment for seeding-machines, the combination, with the drag-bar, tooth, and spring-bar, of mechanism for connecting the tooth and spring, whereby the tooth can be thrown forward up under the drag-bar for transportation or shipping purposes, and a stop-pin for locking the tooth in said position, substantially as specified.

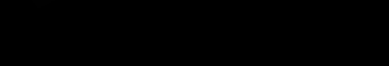
264,320. AUTOMATIC CUT-OFF FOR GAS-BURNERS. GILL W. METCALFE, Baltimore, Md., assignor of one-half to S. Silberschmidt, same place. Filed June 17, 1882. (No model.)

Brief.—Spring C is placed against *a*, and the gas lighted. C is expanded and slips by *a* and is caught by *a'*, where it is held. If the flame be extinguished, C contracts and is thrown outward from the burner, and the weight E falls to turn off the gas.



Claim.—The combination, with the gas-burner and the perforated gas-cock, of the bent bar C, having both legs on the same side of the burner, with its bent end uppermost, and one leg attached to the burner and the other free, and the elbow-lever, having one arm provided with lugs *a* and *a'*, in different planes with respect to the end of the bar C, and the other arm provided with a weight, substantially as shown, and for the purpose described.

264,321. SAFETY WATCH-POCKET. JACOB F. MILNE, Philadelphia, Pa. Filed June 5, 1882. (No model.)



Claim.—The combination, with a pocket, of a guard attached to the inside thereof, and consisting of a hook having its shank bent to form a throat, *d*, which is closed by contact with the fabric of the pocket, substantially as and for the purpose set forth.

264,322. BOB-SLED. DELBERT G. MILLER, Waterville, Minn. Filed Jan. 25, 1882. (No model.)



Claim.—1. The combination, with the runners *b b*, standards *c*, having arched tops *c'*, and inclined rods *d*, secured to the runners and standards, of the recessed transverse beam *h*, knees *k k*, and sockets *m*, provided with projections *n n*, substantially as described.

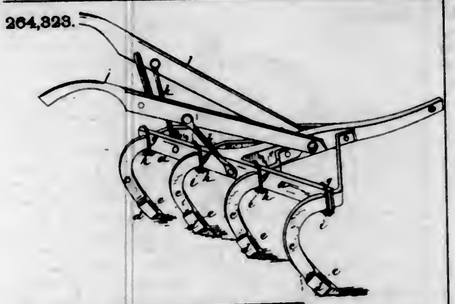
2. The combination, with the runners *b b*, standards *c*, having arched tops *c'*, inclined rods *d*, recessed beam *h*, and knees *k*, provided with sockets *m*, having projections *n*, of the plates *o*, secured to the front ends of the runners and provided with the elongated slots *o*, tongue *o'*, and cross-bar *o³*, having end T-headed bolts, *o⁴*, substantially as described, and for the purpose set forth.

264,323. CULTIVATOR. JOHN J. MISS, Pelham, Ga. Filed June 27, 1882. (No model.)

Claim.—1. The beam cast with a diagonal cross-bar, *a*, at its handle end, with notches *b*, open at its under edge, as described, in combination with the standard-bars and the clips for clamping them within the said open notches, as specified.

2. The combination, in a cultivator, of the beam cast with a diagonal cross-bar, *a*, at its handle end, having notches *b*, open at its under edge, with the curved standard-bars bolted to the beam, and means, substantially as described, whereby they are secured within said open notches of said diagonal bar, as shown and described.

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264,324. DOUBLE ROTARY HARROW. HALSEY H. HOPSON, Thomaston, Me. Filed Aug. 8, 1882. (No model.)



Claim.—1. In a double harrow, the combination of beams B B, extending from front to rear, and provided with wheels *c*, bearing upon the ring *a*, and flexible cross-pieces G G', substantially as described.

2. In combination with the rotary harrows A A, the independent seats D D, supported upon brackets and wheels, as described, and the supplemental seat F, supported on the ends of the seats D D, substantially as described.

3. The combination of the independent rotary harrows A A, the beams B B, the foot-pieces C, supported upon the brackets, as described, and the supplemental foot-piece G, bolted to the beams B, as set forth.

4. The combination of the independent rotary harrows A A, the beams B B, independent seats D, and supplemental cross-pieces G G', substantially as described.

5. In combination with the double harrow having independent rotary harrows A A, an elongated seat supported upon brackets and wheels running upon the rings *a a*, said seat extending across the two independent harrows, substantially as described.

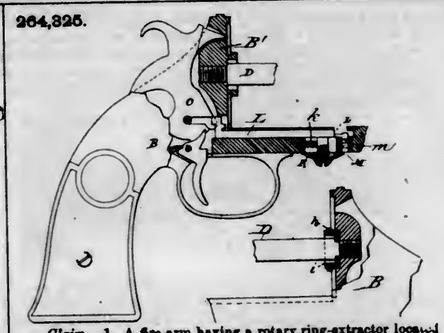
6. A double rotary harrow consisting of two independent harrows, A A, draft-beams, and cross-pieces connecting the draft-beams, whereby the independent harrows are held in proper relation to each other, and a seat supported on the harrows, whereby the weight of the driver is made to depress one side of both harrows and cause them to rotate, substantially as described.

7. In a double rotary harrow, the combination of the seats D D, the brackets *m m*, and the seat F with vertically-adjustable rods, forming seat-supports, substantially as described.

8. The combination, in a double rotary harrow, of the seat F and seats D with laterally-adjustable brackets, whereby the central pressure may be regulated, substantially as described.

264,325. REVOLVING FIRE-ARM. DANIEL MOORE, Brooklyn, N. Y. Filed Mar. 3, 1882. (No model.)

264,325.



Claim.—1. A fire-arm having a rotary ring-extractor located in a recess in the rear end of the cylinder and free to turn in a recess in a grooved boss extending from the recoil-plate, whereby a forward movement of the cylinder away from the recoil-plate will cause the shells to be extracted from the cylinder-chambers, substantially as described.

2. A ring-extractor adapted to rotate upon and in a recess formed in a hub attached to the base-pin or recoil-plate, substantially as described.

3. The combination of the base-pin D, recessed hub *i*, ring-extractor A, sprung into said recess, and the cylinder P, having recess *g* and ratchet *f*, adapted to rotate and slide forward upon said base-pin, whereby a forward movement of the cylinder away from the face of the recoil-plate will cause the shells to be extracted, substantially as described.

4. In a revolving fire-arm, the combination, with the barrel-bracket A and base-pin D, having the part H beveled at its forward end, and provided with projection 3, of the piece I, secured within the bracket and having its rear end beveled and provided with a semicircular recess, 4, forming the stop or shoulder 2 5, whereby a partial rotation of the barrel upon the base-pin brings the beveled ends of the parts H and I into engagement and causes the barrel and cylinder to be carried forward away from the face of the recoil-plate, thereby starting the shells from the cylinder-chambers, substantially as described.

5. In a revolving fire-arm, the combination, with the bracket A and base-pin D, having a reduced portion, F, provided with feather G, of the sleeve or collar E, secured to said bracket and slotted at one side, whereby after the partial rotation of the barrel has brought the feather G opposite the beveled end of the slot 6, formed in said sleeve, the barrel and cylinder are permitted to move forward upon the base-pin, thereby completely extracting the shells from the cylinder-chambers, substantially as described.

6. In a revolving fire-arm, the combination, with the lock-works and bracket-foot of the barrel, of a locking-bolt adapted to engage alternately with each, whereby the rotary movement of the barrel upon the base-pin causes said locking mechanism to automatically secure the lock-works and on the return of the barrel to its normal position automatically releases the hammer and secures the barrel, substantially as described.

7. In a revolving fire-arm, the combination, with the lock-works, hammer O, and bracket-foot C, of the bolt L, adapted to engage alternately with each, and the spring-stud M, adapted to hold the bolt to its engagement with the lock-works, substantially as described.

264,326. CIGARETTE-BOX. MYRON T. MOORE, Auburn, N. Y. Filed Feb. 28, 1882. (No model.)



Claim.—The combination of the case or body A, open at both ends, and having inside loops or keepers *a a*, sliding bottom B, hinged cover C, connecting-link F, rods D D', and springs E E, substantially as and for the purpose herein shown and set forth.

264,327. SPINDLE FOR SPINNING-FRAMES. W. G. MORRISON, Willimantic, Conn. Filed Sept. 26, 1881. (No model.)

Brief.—The cover of the oil-cup located at the top of the whirl is formed with an outward flare downward from its mouth, and oil-ducts constructed opening in an inclined plane from the bottom of the widest part of said cup into the step, whereby the

oil which descends from the receptacle formed in the top of the bolster may, as it is thrown to the outside of the cup by the centrifugal force imparted thereto by the rapid revolution of the spindle, find its way through said passages to the step-bearing, and, owing to the flaring cover of the cup, be prevented from forcing its way onto the outside of the whirl.



Claim.—The combination, with the spindle A and its step, of the whirl F, having upon or in its top an oil-cup, c, which flares outward from the mouth downward, and having inclined passages *c'* leading from the widest part of the oil-cup, at points radially beyond the mouth or upper edge of said cup, downward and inward, for conducting oil into the step, and the bolster B, having an oil cup or channel in its upper end, and having its lower end extending downward into said whirl, substantially as and for the purpose herein described.

264,328. ELECTRIC LAMP. ALBANUS W. MORTON, Rahway, N. J. Filed Dec. 22, 1881. (No model.)



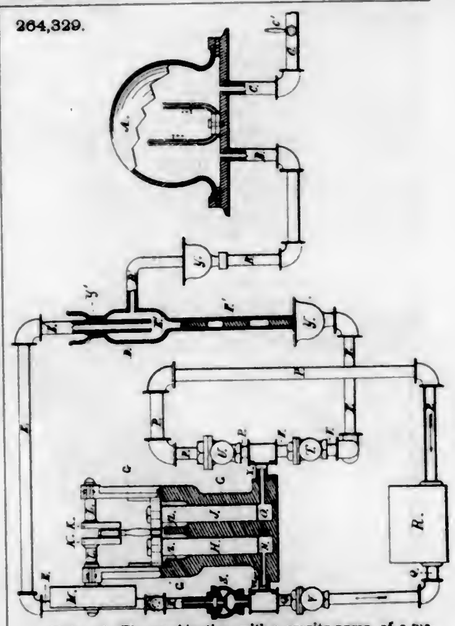
Claim.—1. In an electric-lighting apparatus, a lamp attached to the lower end of a spring, the upper end of which is attached to the lamp-support in such manner that the spring serves the double purpose of breaking concussions from above and of permitting an elastic lateral movement when the lamp receives a lateral impact or impulse, the whole combined, constructed, and arranged substantially as and for the purpose herein set forth.

2. In an electric-lighting apparatus, the combination of the lamp with the glass shell A thereof, and fixed supports from which the said parts are suspended, and a spiral spring, D, the lower end of which is connected with the lamp and the upper end of which is attached to the supporting devices, whereby the glass shell and the lamp are protected against jar or concussion, whether from above or laterally exerted, all substantially as and for the purpose herein set forth.

3. The combination, with the glass shell of an electric lamp, of a mica cylinder or basket placed around the said shell to protect the same when in use and to receive and retain the fragments in case of its fracture, all substantially as and for the purpose herein set forth.

4. The combination, with the glass shell A, of an electric lamp, of the mica cylinder F, surrounding the said shell, and an annular guard, G, attached to and surrounding the said cylinder, all substantially as and for the purpose herein set forth.

264,329. VACUUM-PUMP. HANS J. HELLER, New York, N. Y., assignor of one-half to Alexander Lovett, same place. Filed Apr. 28, 1882. (No model.)



Claim.—1. The combination, with a gravity-pump, of a mechanical pump having two pistons operated simultaneously, and with tubes connecting said mechanical pump with the gravity-pump, substantially as described, whereby liquid is forced into said gravity-pump and discharged therefrom, substantially as set forth.

2. The combination, with a gravity-pump, of a mechanical pump and a well or reservoir, and tubes connecting the reservoir with the mechanical pump, and the mechanical pump with the gravity-pump, substantially as described, so that the liquid for said gravity-pump may be forced into the same in regular pulsations.

3. The combination of a gravity-pump with a mechanical pump, well or reservoir, and tubes connecting the reservoir with the mechanical pump, and the mechanical pump with the gravity-pump, and the gravity-pump with the reservoir, whereby liquid for the gravity-pump may be automatically drawn from the well, supplied to the gravity-pump, and returned therefrom to the well, substantially as described.

264,330. BEER-COOLER. GEORGE M. NEWMAN, Corsicana, Tex. Filed June 3, 1882. (No model.)

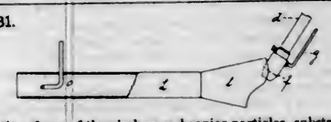


Claim.—The described cooling attachment for beer or other kegs containing beverages, consisting of the chamber F, of thin sheet metal, having a flat bottom, *f*, and semi-spherical or semi-elliptical top part, *f'*, and provided with an inlet, E, and outlet-faucet G, flush with the flat bottom *f*, in combination with the ice-box H, keg-faucet B C, and coupling D, substantially as and for the purpose set forth.

264,331. SPARK-ARRESTER. GEORGE B. NICHOLS, Galveston, Tex. Filed June 17, 1882. (No model.)

Claim.—1. In a locomotive-engine, a conduit leading from the stack to or to a point in front of the ash-box for conveying the dust and cinders from the stack, and having an opening for the escape therefrom of the cinders or heavier particles, substantially as and for the purposes described.

264,331.



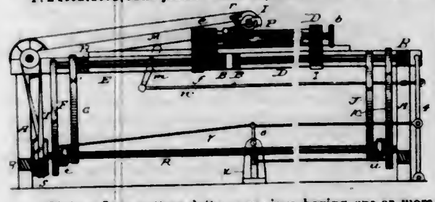
2. In a locomotive-engine, the combination of a conduit for leading the cinders and dust from the stack, with a separator for separating the cinders from the dust, substantially as and for the purposes described.

3. In a locomotive-engine, a pipe or pipes leading from the stack for the purpose of conveying the dust and cinders therefrom, in combination with an extinguishing device for extinguishing the sparks, a separator for separating the heavy cinders from the light cinders and dust, and a pipe for leading the latter to or to a point in front of the ash-box, substantially as and for the purposes described.

4. In a locomotive-engine, a pipe or pipes for conveying sparks and cinders from the stack, in combination with a pipe leading from the discharge of said pipe or pipes to a point in front of the ash-box, and a steam-jet in said pipe, substantially as and for the purpose described.

5. In a locomotive-engine, a pipe or pipes for conveying sparks and cinders from the stack, in combination with a dust-pipe leading from the discharge of said pipe or pipes to a point in front of the ash-box, said pipe having a flaring or hooded mouth, the lower portion of which is open or cut away, substantially as and for the purpose specified.

264,332. LATHE FOR TURNING IRREGULAR FORMS. HOLLIS C. PAINE, Lynn, Mass., assignor of one-fourth to William P. Hutchings, same place. Filed Sept. 18, 1881. (No model.)



Claim.—In a pattern-lathe, a carriage having one or more spindles mounted thereon and operated by a screw-shaft, a shaft, E, by which rotary motion is given the said spindles, in combination with a shaft carrying a series of loose pulleys and a clutch mechanism, whereby the actual speed of the traveling carriage and of the rotating stocks may be changed without altering their relative velocity.

264,333. SEWING-MACHINE SHUTTLE. WINSLOW E. PARSONS, Waterloo, Iowa. Filed Jan. 21, 1882. (No model.)



Claim.—1. The tension-spring T, constructed with the threading-slot *e*, terminating in a guide enlargement, in combination with a shuttle having a curved threading-slot, *a*, terminating in a like guide enlargement, and a guide-pin, *b*, at or near the center of a portion of the curve of said slot *a*, substantially as described.

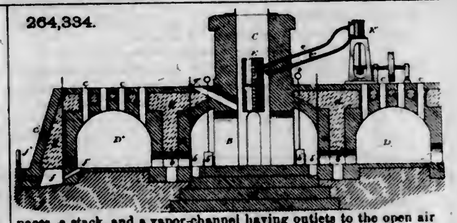
2. In combination with a shuttle having a curved threading-slot in its top and an internal guide-pin at or near the center of a portion of the curve of said slot, an internal tension-spring having a fulcrum at one end and a hole near its other extremity to embrace said guide-pin, and an intermediate tension-screw extending through said tension-spring into a screw-hole in the top of the shuttle, and having an exposed nicked point, substantially as herein specified, for the purposes set forth.

3. In combination with a shuttle constructed with a threading-slot in its top, a thread-check having a curved guard-finger which projects across said threading-slot close to the surface of the shuttle, substantially as shown, for the purpose set forth.

264,334. BRICK-KILN. HENRY E. PALTZER, Baltimore, Md., assignor of one-half to George W. Frank, same place. Filed Mar. 4, 1882. (No model.)

Claim.—1. The combination, in a brick-kiln, of a series of furnaces, a stack, and a vapor-channel having outlets to the open air with flues effecting communication between the furnaces and stack and furnaces and vapor-channel, respectively, substantially as set forth.

264,334.



2. The combination, with a series of furnaces, a stack, and a vapor-channel having outlets to the open air, of flues and dampers, constructed and operating substantially as set forth.

3. The combination, in a brick-kiln, of a series of furnaces, an inner chamber, a stack, flues effecting communication between the furnaces and chamber, and a steam-generator suspended within the stack, substantially as set forth.

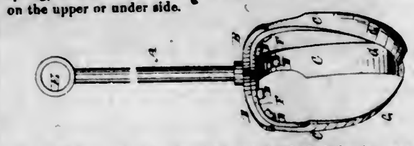
4. The combination, in a brick-kiln, of a series of furnaces, a stack, a vapor-channel, and flues and dampers, constructed and arranged substantially as described, with a steam-generator suspended within the stack, a steam-engine, and connections, as set forth.

5. A series of furnaces adapted to be separated by partitions and having their roofs pierced with fuel-openings, combined with a stack, a vapor-channel having outlets to the open air, and flues and dampers, constructed and operated substantially as set forth.

6. The combination, in a brick-kiln, of the stack C and steam-generator E with the fire-chamber B, provided with the fuel-opening *g*, piercing the roof of the kiln and leading under the generator, substantially as set forth.

264,335. EARTH-AUGER. THOMAS POTTER and GEORGE W. GILLILAND, Abilene, Tex. Filed Apr. 6, 1882. (No model.)

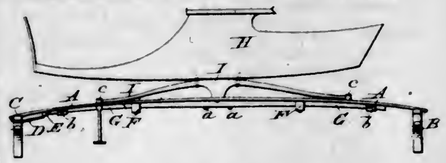
Brief.—Auger-shaft has a head with curved arms. Thin springy blades have attaching-shanks curved to fit said arms either on the upper or under side.



Claim.—1. The combination, with the shaft A, having an eye, E, to receive a sweep, of the curved arms B and the blades C, provided with curved shanks to fit and be secured to said arms, either above or below, as shown and described.

2. The combination, with the shaft A and curved arms B, of the cutters C, having thin springy blades and shanks curved to fit said arms B, either above or below, as shown and described.

264,336. BUCKBOARD-WAGON. JOHN B. PASE and CHARLES L. PASE, Greenwich, N. Y. Filed Feb. 1, 1882. (No model.)

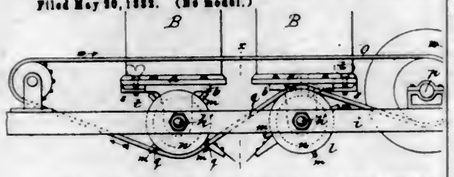


Claim.—1. The combination, in a buckboard-wagon, of the spring-boards A A, spring wood risers I I, resting thereon and having their ends inserted in lugs *c c*, attached to said boards, and the re-enforcing wood springs G G, centrally bolted to the under sides of the boards and having their ends adapted to play in loops *b b*, secured to said boards, substantially as described.

2. The combination, in a buckboard-wagon, of the spring-boards A A, mortised cross-pieces F F, re-enforcing wood springs G G, centrally bolted to the under sides of said boards, and adapted, to pass through the mortises formed in the cross-pieces and through loops *b b*, attached to the boards, the spring-risers I I, composed of wood and resting upon the spring-boards, with their ends inserted

in lugs c c, attached thereto, and the wagon-body H, centrally supported on the risers, substantially as described.

264,337. AUTOMATIC CUT-OFF FOR BONE-BLACK KILNS. CYRUS T. RAYNER and RICHARD STERROUSE, New Orleans, La. Filed May 20, 1882. (No model.)



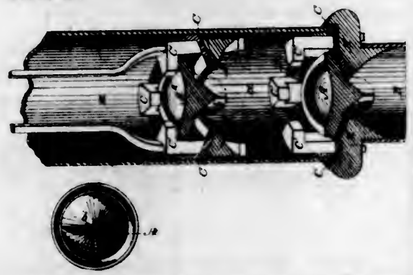
Claim.—1. In bone-black kilns, the rollers K, fitted beneath the coolers B, and the endless chain *o*, operating to give the rollers K a partial rotation at regular intervals, substantially as described, combined for operation, as set forth.

2. The combination of the rollers K, the wheels *l*, provided with pins *m*, and the endless chain *o*, provided with pins *q*, together and with the coolers B, having outlet-openings *r*, substantially as shown and described.

3. The adjustable regulating-plate *s*, in combination with the coolers B, having outlets *r*, and the rollers K, substantially as shown and described.

4. In bone-black kilns, two or more cut-off rollers, K K, combined with an endless traveling chain, *o*, substantially as described, whereby both rollers are operated by a single chain.

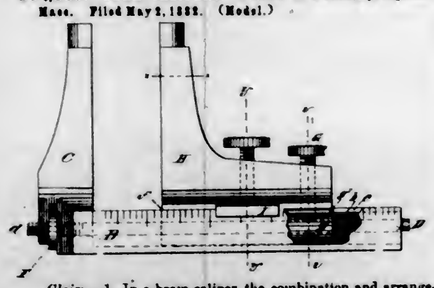
264,338. PUMP-VALVE. CHARLES C. REDMOND, San José, Cal., assignor to Milton Campbell, same place. Filed May 8, 1882. (No model.)



Claim.—1. In combination, a check-valve, A, having a cone-shaped bottom cast integral with a single spiral-shaped wing or propeller, said wing or propeller formed wider at the apex of the cone than at the base, guide-studs C', having overhanging flanges C², and the seat A', as and for the purpose set forth.

2. In combination, a check-valve, A', formed with cone-shaped bottom, having cast thereon a single spiral-shaped wing or propeller wider at the apex of the cone than at its base, with the guide-stude C', having flanges C², guard D, packing C, and seat A', as and for the purpose set forth.

264,339. BEAM-CALIPERS. JOSEPH A. RENCH, Springfield Mass. Filed May 2, 1882. (Model.)

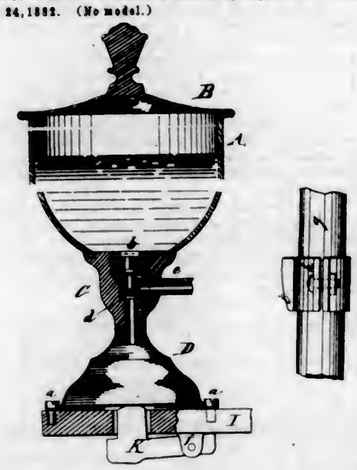


Claim.—1. In a beam-caliper, the combination and arrangement of the rod D, having the threaded end *d* and nut F, recessed in the fixed jaw C, with the movable jaw H, having the clamp-screw G, substantially as shown and described.

2. In a beam-caliper, the combination, with a hollow beam, B, having a bearing-surface beneath its top face, of the movable jaw H, having the base *g* inclosed within the beam, the set-screw J, and the intermediate bearing-surface, I, all arranged to operate as and for the purpose shown and described.

3. In a beam-caliper, the combination and arrangement of the rod D, having threaded end *d* and recessed nut F, with the hollow beam B, and with the movable jaw H, having on it mechanism, substantially as shown and described, for successively clamping the rod D and beam B, as and for the purpose set forth.

264,340. OILER. WILLIAM H. REECE, Springfield, Mo. Filed July 24, 1882. (No model.)



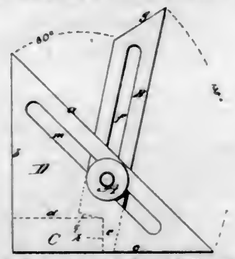
Claim.—1. In an engine-cylinder oiler, the oil-cup D, having an elastic bottom raised immediately by power from the engine and adapted to force out the lubricant at an outlet, as described.

2. The combination of the spring-bottom oil-cup D with the oil-cup A, plug C, and valve *b*, substantially as shown and described.

3. The combination of the lifter K, the oil-cup D, and oil-receptacle A, substantially as shown and described.

4. In oilers, the plug C, centrally apertured, having lateral outlet *c*, and provided with the spring-valve *b* to adapt it to be used between oil-cups A D, as described.

264,341. COMBINATION-TOOL. FRANCIS H. RICHARDS, Springfield, Mass. Filed May 2, 1882. (No model.)



Claim.—1. In combination, the stock D, made in the form of an isosceles triangle, provided with the slot *m* therethrough parallel with its longest side, and having the stop C secured thereto, whose inner edges stand at right angles to the shorter sides of said triangle, the slotted blade B, having the edges *g h i* on its ends, said edges *g h* standing at an incline to the parallel edges of said blade, and the clamp-screw A, substantially as set forth.

2. In combination, the stock D, provided with the slot *m*, and having the stop C secured thereto, the clamp-screw A, movable in said slot to different positions on said stock, and the slotted blade B, having the edges *g h i* on its ends, said edges *g h* standing at an incline to the parallel edges of said blade and the edge *i* at right angles thereto, substantially as set forth.

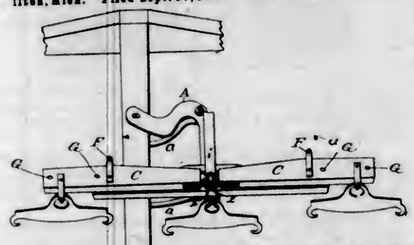
3. In combination, the triangular stock D, having an opening between its sides to receive the blade B, and having the slot *m* through said sides, the clamp-screw A, movable in said slot to different positions in said stock, and the blade B, having the slot *f* therein and graduation-marks thereon radiating from a point on one edge of said blade, substantially as set forth.

264,342. VALVE FOR WELL-BUCKETS. WILLIAM H. RUE, St. Joseph, Mo. Filed Mar. 10, 1882. (No model.)



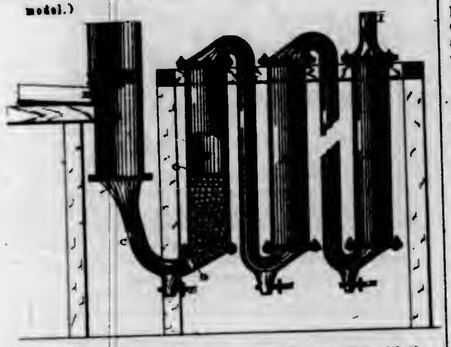
Claim.—In combination with a reversible well-bucket bottom and its valve, the valve-connection A, consisting of the central horizontal part, 2, the arms 1 1, the said central part being placed outside and said arms being connected at their ends to the valve, substantially as described.

264,343. DRAFT-EQUALIZER. PHILEMON C. ROWLEE, Hamilton, Mich. Filed Sept. 10, 1881. (No model.)



Claim.—The combination, with a tongue and draft-bar, B, of the circle A, provided with the curved braces *a a*, secured at their outer ends to the under face of the circle and extending under the tongue, the bolts H H', passing through the circle, tongue, and braces, and hammer-strap *i*, substantially as described, and for the purpose set forth.

264,344. AMALGAMATOR. ERICH F. SCHMIDT and WILLIAM H. STERNBERGH, Houston, Tex. Filed Apr. 17, 1882. (No model.)

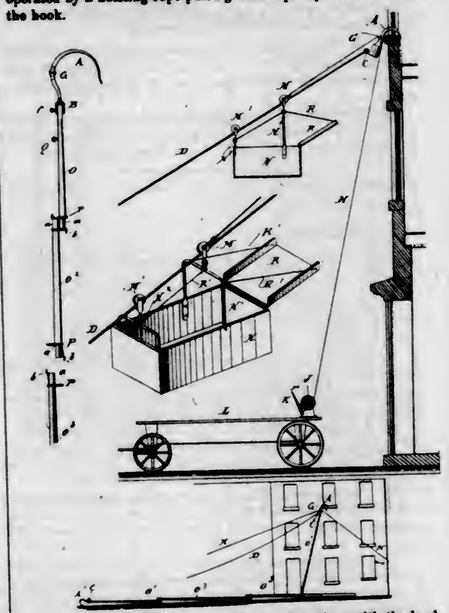


Claim.—1. The combination of a cylinder provided with the screens G, a suitable number of balls or pieces of iron, which are confined between the screens, and a supply-pipe, C, which is connected with the bottom of the cylinder, whereby the ground quartz is forced upward through the balls or pieces of iron, so as to be ground and broken by the movement of the balls, substantially as set forth.

2. The combination of a series of cylinders, B, which have their upper and lower ends connected together by the pipes C, the stop-cock E, the screens G, the pieces of iron which are placed between the screens, and a suitable means for forcing the pulp up through each cylinder, the lower portions of the cylinders and pipes being filled with quicksilver, substantially as specified.

264,345. FIRE-ESCAPE. CHARLES A. SCHNELL, Troy, Ohio. Filed Mar. 28, 1882. (No model.)

Brief.—The hook to which the lowering-rope is attached has an aperture in the butt-end, in which the pole, which is made in sections latched together, fits to hoist the hook up on the building. The carriage has a swinging platform supported by ropes, and is operated by a hoisting-rope passing over a pulley in the shank of the hook.

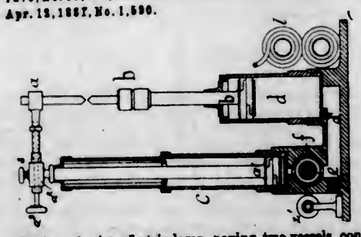


Claim.—1. In a fire-escape, the combination, with the hook A, provided with an aperture or recess, B, in its lower or butt end, of the pole O, provided near its upper end with a hook, Q, substantially as herein shown and described, and for the purpose set forth.

2. In a fire-escape, the combination, with the hook A, of the pole O, formed of a series of sections, O' O² O³, provided at the upper ends with socket-rings P and at the lower ends with shoulders *a* and catches *b*, substantially as herein shown and described, and for the purpose set forth.

3. In a fire-escape, the combination, with the box N, of the pulleys M M', the bails N' N², and the swinging end platform, R, and supporting-cords R', substantially as herein shown and described, and for the purpose set forth.

264,346. ELECTRIC LAMP. HERMANN ERDLACHER and FRANZ WIENLILL, Leben, Austria, and SIGMUND SCHUCKERT, Nuremberg, Bavaria, Germany. Filed Jan. 19, 1882. (No model.) Patented in Germany June 4, 1879, No. 8,580; in France June 11, 1879, No. 131,152; in Belgium June 13, 1879, No. 46,449, and Apr. 20, 1881, No. 54,436; in Austria-Hungary Aug. 8, 1879, No. 19,078, and Oct. 28, 1879, No. 29,953, and in England Apr. 13, 1882, No. 1,590.



Claim.—1. An electric lamp having two vessels containing liquid and communicating with each other, electrodes or carbon-holders movable in said vessels, and a valve regulating the communication between said two vessels, whereby the descent of one

electrode causes the ascent of the other, all substantially as set forth.

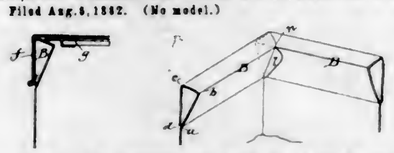
2. The combination of carbon-holders and their pistons with vessels *c d*, communicating passage *e*, and regulating-valve between the said vessels.

3. The combination of electrodes or carbon-holders and communicating vessels in which said electrodes or holders move with intermediate regulating-valve, electro-magnet, and armature controlling said valve, substantially as described.

4. The combination of two vessels and electrodes or carbon-holders moving therein with communicating passage, cock *f*, piston *g* therein, and electro-magnet and armature controlling said piston.

5. The combination of communicating vessels having passages *e d*, and electrodes or carbon-holders, with cock *f*, having holes 2 3, and piston *g*, having groove 4, all substantially as set forth.

264,347. CRACKER-CAN. ISAAC SEXTON, Somerville, Mass. Filed Aug. 5, 1882. (No model.)



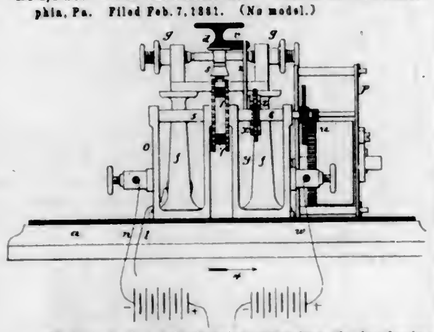
Claim.—1. A rectangular can having each of its side pieces composed of a single sheet of metal bent inwardly to form the inclined portion *a b*, outwardly to form the top portion, *b c*, and downwardly to form the flange *c d*, abutting against the outer surface of the can, said parts forming a triangular strengthening-rim, presenting an uncut or continuous sheet-metal surface on the interior and top of the can, whereby access of crumbs, &c., from the can into the space inclosed by the rim is prevented, as set forth.

2. A rectangular can having the triangular strengthening-rim formed with the inclined top portion, *b c*, whereby space is afforded under the cover of the can for a glazed frame or inner cover, as set forth.

3. A rectangular can having the triangular strengthening-rim on each of its side pieces, one end of each piece having a notch, *n*, in the inclined portion *a b* of its rim, to receive the rim of the adjoining piece, and the lip 2, adapted to bear against and be soldered to the surface of the rim, secured in said notch, as set forth.

4. A rectangular can having the triangular strengthening-rim formed, as described, with continuous or undivided surfaces on the interior of the can, and external flanges, *c d*, adapted to exert a yielding pressure against the cover of the can, as set forth.

264,348. POLE-CHANGING KEY. THOMAS SHAW, Philadelphia, Pa. Filed Feb. 7, 1881. (No model.)



Claim.—1. In a pole-changing transmitter, the key having extended contact-point and the spaced wheels separately mounted and secured together by rods of insulating material, and arranged with the teeth of one opposite the spaces of the other, in combination with a scape-wheel secured to the axis of the spaced wheels, and pallets operated by the vibrations of the key, substantially as described.

2. The key having contact-point *s* and forming a part of the line-circuit, the wheels *4*, rods 7, axles 5 6, and the metallic supports *s y*, provided with binding-posts adapted to receive battery-wires of opposite polarity, in combination with clock-gear and an escapement operated by the vibrations of the transmitting-key, substantially as shown and described.

264,349. SOCK OR STOCKING AND ART OF MAKING THE SAME. JAMES SHELTON, Philadelphia, Pa. Filed Jan. 27, 1882. (No model.)



Claim.—1. The mode herein described of making an imitation ribbed top on a sock or stocking, said mode consisting in throwing alternate needles out of action on the completion of the leg and then knitting the top on the remaining needles with heavier yarn than that employed in knitting the leg, as set forth.

2. A sock or stocking having an imitation ribbed top made of heavier yarn and having a less number of vertical rows of stitches than the leg, as set forth.

264,350. GUIDE-POST FOR SLIDING GATES. ISAAC S. SHERWIN, Battle Creek, Mich. Filed May 13, 1882. (No model.)

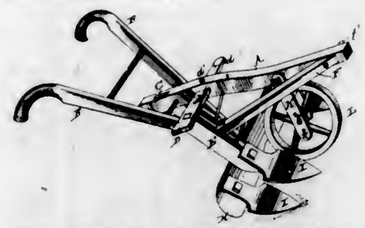


Claim.—1. In combination with a sliding or rolling gate, a guide-post provided with a vertically-adjustable head, whereby vertical displacements of the posts may be compensated for, substantially as set forth.

2. In combination with a sliding or rolling gate, a guide-post provided with a vertically-adjustable head, and a suitable locking device for retaining it in position when set, substantially as described.

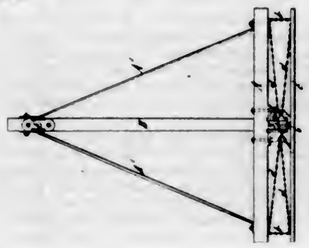
3. In combination with a sliding or rolling gate, a guide-post provided with a broad flange at its base, a vertically-adjustable slotted head for the reception of the lower gate-rail, and a sliding collar for locking the head to the guide-post, substantially as specified.

264,351. PLOW. CAMERON MCC. SIMMONS, Claiborne, Ala. Filed July 18, 1882. (No model.)



Claim.—The combination, with the main beam A, having recess *a*, and the main standard C, having recess *c*, of the cross-bar H, having slots *b*, the laterally-adjustable arm D, having perforations *d*, the auxiliary standard E, and standards K, having perforations *k*, the whole constructed and adapted to serve with interchangeable devices, substantially as and for the purposes set forth.

264,352. SAFETY-DEVICE FOR ELEVATORS. WILLIAM HENRY SKERRITT, Jersey City, N. J. Filed May 15, 1882. (No model.)



Claim.—1. In an elevator safety device operating at a falling of the platform, the combination, with the disk *c* and with a stop, *n*, and intermediate connections to bring said stop in contact with the stationary post D of the elevator-shaft, of the suspension-chains *b* and the chains *d*, arranged diagonally, or their flexible equivalents, substantially as and for the purpose set forth.

2. In an elevator safety device operating at a falling of the platform, the disk *c*, suspended by chains *b* and steadying-chains *d*, or their flexible equivalents, and provided with the link *f*, in combination with the shaft G, having arms *g*, and provided with tightening devices *s* contiguous to the surface of the post D, substantially as hereinbefore set forth.

3. In an elevator safety device operating at a falling of the platform, the disk *c*, suspended by chains *b* and having lateral steadying-chains *d*, or their flexible equivalents, and provided with the link *f*, in combination with the trip device *g' g*, or the described equivalent, *f'* and *g''*, and with the shaft G, provided with the end cams or stopping devices *s* contiguous to the surfaces of the posts D, substantially as set forth.

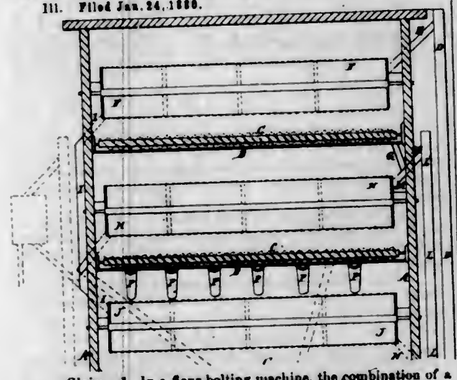
4. In an elevator, the combination, with an actuating device operating at a falling of the platform A, and with a stationary post, D, provided at suitable intervals with slots or perforations M, of a stop or dog, *a*, pivoted about the movable car or platform contiguously to said perforated post, said dog being impelled by said actuating device to enter one of the said perforations, and thus interlock the car and post, substantially as and for the purpose set forth.

5. The combination, with an actuating device operating at a falling of the platform A, and with a stationary post, D, having perforations M, as described, of the dog or stop *a* and bracket F, the said dog being pivoted in the said bracket contiguously to one side of the perforated post, and the said bracket having a shoulder, *m*, in its guide-flange at the side of the post opposite to the dog, substantially as and for the purpose set forth.

6. The combination of the dog *a* and perforated post D with the actuating devices *e f g* G, the same having suitable slip-motion devices, *n o*, between the arm *g* and dog *a*, to enable the latter to turn independently when started by the former, substantially as and for the purpose set forth.

7. In an elevator, the combination, with the safety devices *e f*, operating as described, and with the shaft G and stop *a*, of the arm *g*, pivoted upon the said shaft and provided with the counter-extension K and adjustable weight *k*, upon said extension, substantially as and for the purpose set forth.

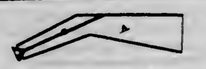
264,353. FLOUR-BOLTING MACHINE. AMMI R. SMITH, Marengo, Ill. Filed Jan. 24, 1880.



Claim.—1. In a flour-bolting machine, the combination of a separating-reel, a return-reel, and finishing-reel, and suitable conveying devices connecting them, all arranged as described, to first separate the bran, shorts, and coarse middlings from the flour and fine middlings, and then to spout the shorts and coarse middlings to the return-reel, the same being carried thence to the finishing-reel, as set forth.

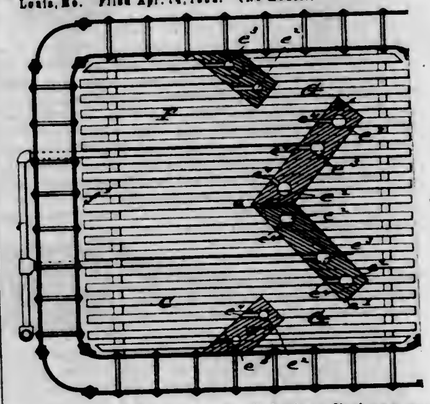
2. In a flour-bolting machine, the elevator L, in combination with return and flour reels, and suitable cut-offs and conveying devices, as described, whereby the flour is taken back from the cut-offs and from the return-reel to the flour-reel, substantially as set forth.

264,354. NOZZLE FOR SPRINKLERS. FERNANDO B. SMITH, Wilmot, Ohio. Filed July 1, 1882. (No model.)



Claim.—The combination of a discharge-tube, *n*, spraying device, and a spring-wire, the spraying device being fastened to the wire in such a manner that it will always spring back to the center of the tube when left free to move.

264,355. LOCOMOTIVE-FURNACE. HOWARD M. SMITH, St. Louis, Mo. Filed Apr. 14, 1882. (No model.)



Claim.—1. A furnace-chamber, F, having a diaphragm provided with air and steam passages, and extending vertically upward and downward from the grate to the top of the furnace-chamber, leaving passages G G at the sides of the diaphragms, substantially as and for the purpose set forth.

2. In combination with the diaphragms E and J J, provided with air-passages e^2, steam-passages e^3, and channel e^4, the steam-pipe H, substantially as and for the purpose set forth.

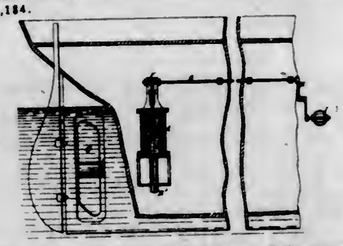
3. A furnace-chamber, F, having a diaphragm extending upward and downward therein from the bottom to the top of its chamber, leaving passages G G at the sides of the diaphragm, said diaphragm having the air-passages e^2, steam-passages e^3, and channel e^4, substantially as set forth.

4. A furnace-chamber, F, having the center diaphragm, E, and the side diaphragms, J J, having air-passages e^2 and steam-passages e^3, all of said diaphragms extending downward and upward in the furnace-chambers, and passages G G being provided between the central and side diaphragms, substantially as described.

5. The combination of the diaphragm E, the roof *f*, and the plugs K K, said plugs engaging loosely in the recesses e^5, substantially as described.

6. The combination of the diaphragms J J, the roof *f*, and the plugs K K, said plugs engaging loosely in the recesses e^5, substantially as described.

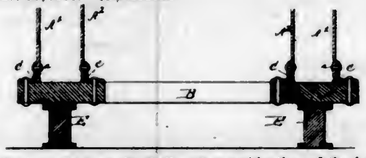
264,356. GOVERNOR FOR MARINE ENGINES. JAMES HENRY SMITH, Euston Road, County of Middlesex, England. Filed June 1, 1882. (No model.) Patented in England June 5, 1877, No. 2,184.



Claim.—The combination of the tube or cylinder communicating at its bottom with the outer water near the propeller, and provided interiorly between its ends with stops or their equivalents, a float arranged within the cylinder or tube, and held in a fixed position against the stops by the pressure of the water so

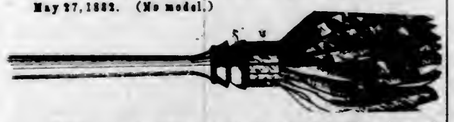
long as the propeller and the float are immersed beneath the outer water, and devices connecting the float with the regulating-valve in the steam-pipe, substantially as described.

264,357. BOILER. JAMES T. SMITH, Baltimore, Md. Filed Mar. 29, 1882. (No model.)



Claim.—In a marine boiler, the combination of the base-frame, the longitudinal supporting-bearers, the vertical water-legs, and the applied flanges thereof, the rivets of the latter being arranged outside of the sides and ends of said supporting-bearers, so as to be accessible for removal and repairs without the necessity of cutting away the deck or moving the boiler, all arranged to operate substantially in the manner and for the purposes described.

264,358. DUSTER. JAMES T. SMITH, New York, N. Y. Filed May 27, 1882. (No model.)



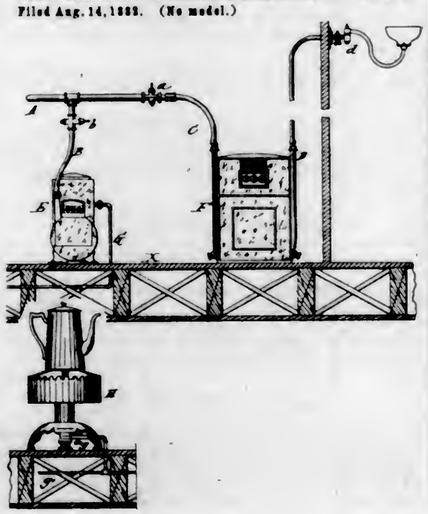
Claim.—1. In a duster, the handle provided with an integral cup-shaped flange and an integral screw-threaded extension, in combination with a separate screw-threaded holder, substantially as shown and described.

2. In a duster, the combination of a cup-shaped flange, a central extension, a tube encircling said extension and having attached thereto strips of textile fabric, and a holder adapted to force and retain the tube and fabric within the flange, substantially as shown and described.

3. A duster comprising strips of textile fabric secured to a band wound flatly about a tube, and means for compressing the band endwise against a cup-shaped flange formed on the handle thereof, substantially as shown and described.

4. A duster comprising strips of textile fabric stitched to a band, the outer end of which is box-plaited to give it a finished appearance, and which is wound upon and secured to itself by stitches, and means for compressing the band endwise within a flange formed upon the handle, substantially as described.

264,359. PROCESS OF AND APPARATUS FOR SUPPLYING AND MEASURING A HEATING AND AN ILLUMINATING GAS FROM ONE MAIN. THEODORE G. STRINGER, New York, N. Y. Filed Aug. 14, 1882. (No model.)



Claim.—1. The process of supplying and measuring a suitable illuminating-gas and a comparatively low-priced heating-gas from one main, which consists in passing the illuminating-gas from the service-pipe to the burners through the usual meter, and passing gas from the same service-pipe to the heating-burners through a gas-and-air-mixing meter, and thereby mixing with it a suitable proportion of air, whereby the calorific value of the gas is increased, and it is caused to burn with a dark flame, and whereby an improved heating-gas may be furnished to the consumer at a comparatively low rate per thousand feet, and a separate record kept of the gas used for each purpose.

2. The combination, with an illuminating-gas main, of a meter for measuring and supplying illuminating-gas, and a gas-and-air-mixing meter for measuring and supplying heating-gas, suitable means for burning each kind of gas, and suitable valves in the connecting-pipes, for the purpose described.

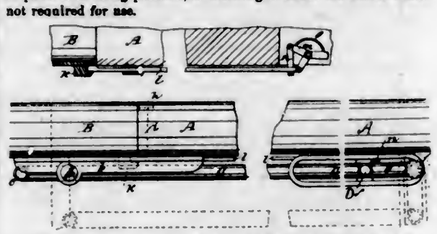
264,360. HARROW-TOOTH. LAFAYETTE J. STANTON, Millbrook, Mich. Filed July 7, 1882. (No model.)



Claim.—The spring harrow-tooth B, provided with the spring-support C, having flanges *c' c'*, adapted to clasp the tooth, said tooth and support being made in one piece, as and for the purpose herein shown and specified.

264,361. GUN-BARREL. ROBERT L. STEVENS, Albany, Oreg. Filed Mar. 28, 1882. (No model.)

Brief.—A choke-muzzle is hinged to the barrel, and is locked in firing position by a sliding bolt which engages a lug on the muzzle in the usual manner of locking drop-down barrels. A hinged lever near the breech operates the locking-bolt, and a connection between the lever and the muzzle turns the latter upon its hinge to place it in firing position, or to swing it under the barrel when not required for use.

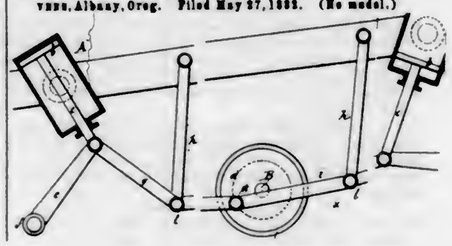


Claim.—1. The combination, with the two barrels A B, the strap *b*, the hinge *a*, and the latch-rod *l*, of the rod C, hinged at *f* to the arm *e*, and hinged at *c* to the choke-barrel, the arm *e* being hinged to the main barrel at *d*, near its rear end, as shown and described.

2. The combination, with the barrels A B, strap *b*, hinge *a*, rod C, and arm *e*, of the loop-lever D, hinged to the main barrel at *d*, and to the arm *e* by the stud at hinge *f*, as shown and described.

3. The combination, with the barrels A B, hinge *a*, strap *b*, rod C, arm *e*, lever D, hook *k*, and latch-rod *l*, of the elbow-lever *m*, provided with spring O and pawl *n*, as shown and described.

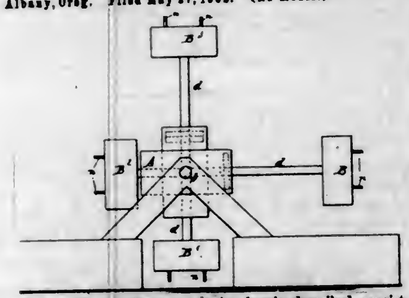
264,362. DOUBLE OSCILLATING ENGINE. ROBERT L. STEVENS, Albany, Oreg. Filed May 27, 1882. (No model.)



Claim.—1. In a double oscillating engine, the combination of swings *h* with the pivoted bars or links *e g i*, the piston *c*, and crank, substantially as described, for operation as set forth.

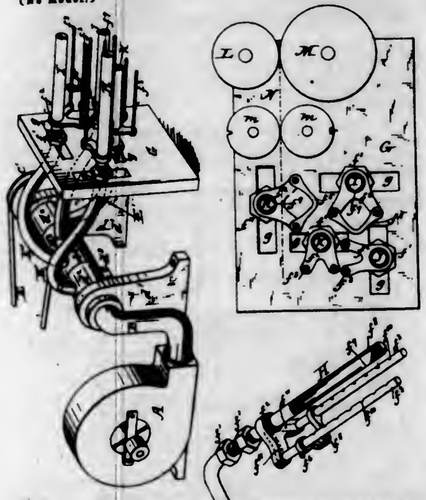
2. The combination of oscillating cylinder A', piston and rod *c*, pivoted arm *e*, link *g*, and swing *h* with the cross-head *l*, substantially as shown and described.

264,363. GRAVITY STEAM-ENGINE. ROBERT L. STEVENS, Albany, Oreg. Filed May 27, 1882. (No model.)



Claim.—The gravity steam-engine herein described, consisting of the cylinders A A, arranged at right angles to each other on the shaft *b*, sliding piston-rods *d*, provided with weights B B' B² B³ at their outer ends, valve-chambers *e*, rotating valve-plates *f*, and pipes *h i*, substantially as set forth.

264,364. METHOD OF AND MEANS FOR FOLDING PAPER. EDGAR B. STOCKING, Washington, D. C. Filed May 6, 1882. (No model.)



Claim.—1. The method herein shown and described of folding paper, which consists solely in supporting the paper at points on each side of and a distance from the desired fold-line and directing a blast of air against the paper along said fold-line, substantially as and for the purpose set forth.

2. The method herein shown and described of folding paper, which consists solely in supporting the paper at points on each side of and a distance from the desired fold-line and directing a blast of air against the paper along a portion only of the fold-line, substantially as and for the purpose set forth.

3. The method herein shown and described of turning a sheet of paper, which consists in presenting it in U shape to a blast of air directed against the paper along a portion only of the desired fold-line, substantially as and for the purpose set forth.

4. The combination solely of means for directing a blast of air and means for supporting paper on each side of and a distance from a desired fold-line, all substantially as shown and described.

5. The combination of means for producing a blast of air, means for confining the blast, means for emitting the confined air in successive blasts, means for directing said successive blasts on a portion only of a desired fold-line, and means for solely supporting a sheet of paper on each side of and a distance from a desired fold-line, all substantially as shown and described.

6. The combination of means for emitting successive blasts of air, means for timing their succession, flexible means for conducting said blasts, adjustably-arranged means for directing the same, and means for supporting a sheet of paper on each side of and a distance from a desired fold-line, all substantially as shown and described.

7. The combination of means for supporting a sheet of paper on each side of and a distance from a desired fold-line, and a blast-pipe slotted near one of its ends, all substantially as shown and described.

8. The combination of means for supporting a sheet of paper, as described, and a blast-pipe adapted to direct a blast of air in a direction less than a right angle to its length, all substantially as shown and described.

9. The combination of a slotted inner cylinder, a slotted outer cylinder, and adjustably-attached nozzles provided with lugs which fit into the slots of the outer cylinder, all substantially as shown and described.

10. The combination of a blast-pipe, a bracket, and supporting-rods, substantially as shown and described.

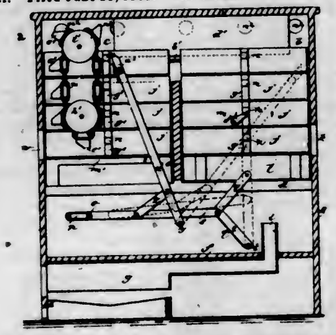
11. The combination of a slotted frame-work and blast-pipes adjustably secured in the slots and provided with supporting-rods.

12. The combination, with the blast-producing mechanism A, conductor B, slotted cylinder C, the cylinder D, slotted at *d d*, the collars *d'*, provided with the nozzles *d'*, having the lugs *d²*, the blocks *d'*, and pulley *d'*, substantially as shown and described.

13. The combination of the cylinders C and D, slotted as described, the flexible pipes E', the frame G, slotted at *g g g g*, and the blast-pipes H I J K, adjustably secured in the slots, substantially as shown and described.

14. The combination of the frame G, slotted as described, with the blast-pipes H I J K, screw-threaded at their inner ends and provided with the nuts *f' f'*, substantially as shown and described.

264,365. FRUIT-DRIER. JAMES H. STREET, San Francisco, Cal. Filed June 29, 1882. (No model.)



Claim.—1. The combination, with the lifting-follower *l*, of rods *x*, provided with pivoted tips, said rods being connected with and operated by rods *e* and crank-shaft *e*, substantially as described.

2. The combination, with a drier-case having sections *b* and *c*, separated by partition *c*, of the lifting-follower *l* and rods *x*, provided with pivoted tips, substantially as described.

3. The combination, with a drier-case having sections *b* and *c*, separated by the partition *c*, of the lifting-follower *l*, transferring-rods *x*, provided with pivoted tips, and the lowering-chains *u*, substantially as described.

4. The combination, with a drier-case having two sections, *b* and *c*, of transferring-rods *x*, provided with pivoted tips for shifting the trays from one section to another, substantially as described.

5. The combination, in a fruit-drier having two sections, *b* and *c*, of transferring-rods *x*, provided with pivoted tips, and lowering-chains *u*, substantially as described.

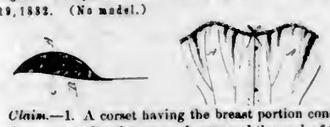
6. The combination, in a fruit-drier having two sections, *b c*, with inlet *k* and outlet *w*, located at or near the lower portion of said sections, of tray-lifter *l*, transferring-rods *x*, provided with pivoted tips, and lowering-chains *u*, substantially as described.

7. The combination, with trays *j*, havings lugs *n*, of rods *x*, having pivoted tips *a'*, substantially as described.

8. The combination, with trays *j*, having slotted lugs *g'*, of endless chains *u*, having points *e'*, substantially as described.

9. The combination, with the trays *j*, slotted at *d'*, and devices for shifting the trays, of the guide-rail *d'*, substantially as shown and described.

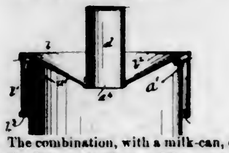
264,366. CORSET. ABRAHAM STRAUSS, New York, N. Y., assignor to Mayer, Strauss & Co., New Haven, Conn. Filed June 19, 1882. (No model.)



Claim.—1. A corset having the breast portion constructed so as to be contracted at the upper edge toward the neck of the wearer, and with a pocket at the upper edge of said breast portions, with a cord inserted in said pockets, whereby the upper edge of the said breast portions may be contracted and turned in toward the neck of the wearer, substantially as described.

2. A corset having the breast portions provided with the inner lining, B, forming a pocket to receive the filling, combined with cords across or through the upper edge of the breast portion, whereby that edge may be contracted, substantially as described.

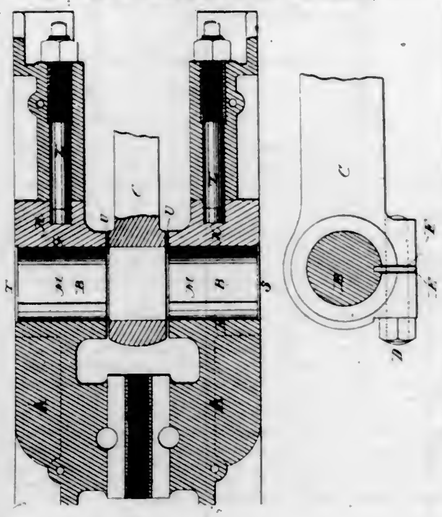
264,367. MILK-COOLER. JOSEPH F. SWAB, Cedar Rapids, Iowa. Filed Mar. 3, 1882. (No model.)



Claim.—1. The combination, with a milk-can, of a cover having a depending rim fitting over the top of the can and held slightly up off the rim thereof, and having its top depressed into and provided with an opening below the level of the rim of said can, and having a vertical tube extending upward from the opening above the level of the rim, and a cap fitting over the vertical tube, and having its upper end closed and its lower end extended down to or near to the top plate of the cover, substantially as set forth.

2. In a milk-can, a cover provided with a depending rim extended downward on the outside of the can, and having its top depressed to form a water trough or receptacle below the level of the top of said can, and having the open tube *d* extended upward above the top of cover, and a cap fitting snugly over the open tube, with its lower end extended to or nearly to the top plate of the cover, substantially as set forth.

264,368. CROSS-HEAD FOR ENGINES, &c. JOHN E. SWEET, Syracuse, N. Y. Filed Dec. 16, 1881. (No model.)



Claim.—1. In a reciprocating rod for connecting a cross-head to a crank, the combination of the cylindrical pin, corresponding strap, binding-screw, and key for holding the pin firmly in the connecting-rod, as hereinbefore set forth.

2. The combination of the connecting-rod, a recessed pin, and recessed bearings in the cross-head, as and for the purposes hereinbefore set forth.

3. The combination of the recessed pin, recessed bearings in the cross-head, and one or more oil-holes through the upper portion of the cross-head, as hereinbefore set forth.

4. A cross-head pin firmly fastened in the connecting-rod, with a groove on each side of the rod, and with spaces between the rod and the cross-head for the pin to work endwise, as hereinbefore set forth.

264,369. LANTERN. CHARLES H. TALLMAN and JAMES A. BLANKLEY, Bellaire, Ohio. Filed July 8, 1882. (No model.)

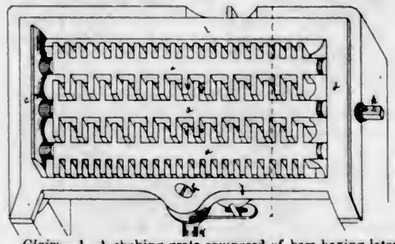
Brief.—The corrugated spring-metal latch is attached to the globe-band, and, passing through the orifice *a* in the base, holds it by catching under the shoulder formed by the orifice.



Claim.—1. A lantern having its latch composed of a long flat corrugated strip of spring metal, secured at its upper end to the globe-band, and its lower end bent to engage with a shoulder on the under side of the bottom or base of the lantern, substantially as set forth.

2. The combination, with a lantern having its latch secured to the globe-band thereof, of its bottom or base provided with an orifice adapted to receive and secure the bent portion of the latch, substantially as set forth.

264,370. SHAKING-GRATE. FRANK E. TAYLOR and HUGH R. PALMER, Allegheny, Pa. Filed May 3, 1882. (No model.)



Claim.—1. A shaking-grate composed of bars having lateral arms and recesses extending from and into the web, so arranged that the arms shall extend and oscillate in the recesses of adjacent bars, substantially as and for the purposes described.

2. The combination, in a grate, of rocking bars *a*, having pendent levers *e*, and the sliding bar *g*, having the elongated slots *f*, which receive the free ends of the pendent levers *e*, substantially as shown and described.

3. In a shaking-grate, the combination, with a series of journaled rocker-bars having laterally-projecting interlapping arms and pendent levers, of a horizontally reciprocating or sliding bar having elongated slots for the reception of the pendent levers of the rocker-bars, and a pivoted agitating bar or bell-crank having an elongated slot for the reception of a pin on the sliding bar, substantially as specified.

264,371. CAR-SPRING. JOSEPH D. THOMAS, New York, N. Y., assignor of one-half to Leonard P. Roqua, same place. Filed Dec. 31, 1881. (No model.)

Claim.—1. A hollow rubber vessel adapted to contain compressed air, in combination with the apertured seat or socket *d*, embedded in the rubber, and a valve for closing the aperture in said socket, substantially as described.

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2. A hollow rubber vessel adapted to contain compressed air, in combination with the apertured seat or socket *d*, secured to said vessel, and the valve *e*, secured to a head screwing into the socket, substantially as described.

3. A hollow rubber vessel adapted to contain compressed air, in combination with the screw-threaded socket *d*, having a nipple, *f*, and a broad flange to be embedded in the rubber vessel, and the valve *e*, secured to an apertured plug screwing into the socket, substantially as described.

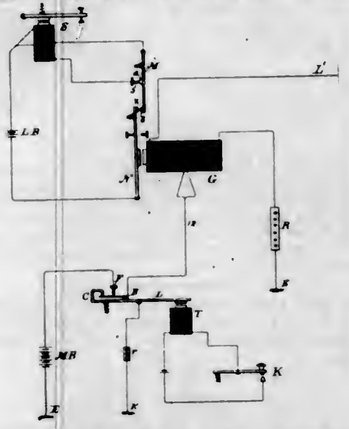
4. An improved air-spring consisting of a complete hollow vessel of rubber formed with a sustaining web or fabric embedded in its walls, and having its cavity charged with compressed air, and adapted to be held at its opposite ends only and to be exposed on its sides for free lateral expansion or contraction, substantially as herein shown and described.

5. A spring, buffer, or cushion consisting of a hollow vessel having flexible or elastic walls, constructed with a sustaining web or fabric embedded in its walls and arranged in sinuous folds or flutes, substantially as and for the purpose set forth.

6. A hollow elastic spring, of rubber or equivalent material, constructed with a sustaining web or fabric of canvas or equivalent woven material embedded in its walls in sinuous folds or flutes, and with its mesh arranged diagonally or bias to the walls of the spring, whereby a greater mobility is obtained without appreciably straining the fabric, substantially as herein shown and described.

7. A hollow elastic spring having its cavity charged with a confined mass of air and its walls formed of suitable elastic material with a sustaining web or fabric embedded in its wall, pervading both the sides and ends of the vessel and joined or interlaced at the corners or angles of the vessel, forming a continuous sustaining shell or frame within the elastic walls, substantially as and for the purpose set forth.

264,372. DUPLEX AND MULTIPLEX TELEGRAPH. BENJAMIN THOMPSON, Buffalo, N. Y. Filed May 18, 1882. (No model.)



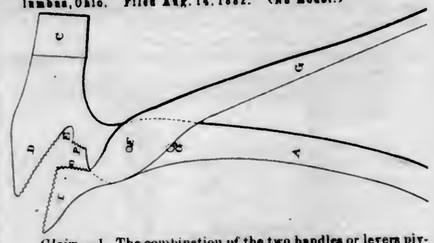
Claim.—1. The combination, substantially as described, with a duplex or multiplex telegraph receiving-instrument, of a differentially-wound reading-sounder, both coils of which are normally broken, a supplemental lever connected to one of said coils, a contact-stop for said lever, connected to the other coil, and an armature-lever for completing the circuit between both differential coils and the local battery when it is drawn forward against the supplemental lever and breaking the circuit of one coil when it overcomes the tension of the spring acting upon the supplemental lever.

2. The combination, substantially as described, of a differential sounder-circuit closing and breaking points in circuit with one of its coils, a supplemental lever connected to the other coil, an armature-lever for completing the circuit between both coils and the local battery when it makes contact with the supplemental lever, and springs applied to both levers in the manner described, so as to oppose the movement of the armature-lever, so that the circuit-closing points controlled by the supplemental lever can be broken only when the attractive force is sufficient to overcome the tension of both springs.

3. The combination, substantially as described, of a differentially-wound receiver, armature-lever therefor, supplemental lever, with which said armature-lever makes electrical contact when it is attracted, a stop for the supplemental lever, connected to one coil of a differentially-wound sounder, a connection from the other coil of said sounder to the supplementary lever, a spring tending to keep the supplemental lever in contact with the stop connected to the sounder when the lever is acted upon by the armature-lever, and connections from the local battery to the armature-lever, so that when it is drawn forward against the supplemental lever it completes the local circuit of both coils at the moment of making contact with said lever.

4. The combination, substantially as described, of a differentially-wound sounder and local battery, a relay-armature and supplemental lever therefor, a contact-stop for the lever, connections from the local battery to the sounder, and the supplemental lever, as set forth, so that when the lever is disconnected from its stop the circuit of one differential coil is broken and a retractor applied to the supplemental lever and adjusted, in the manner described, to prevent the removal of said lever from its stop when the armature-lever is drawn forward against the same by the action of a static charge or discharge current.

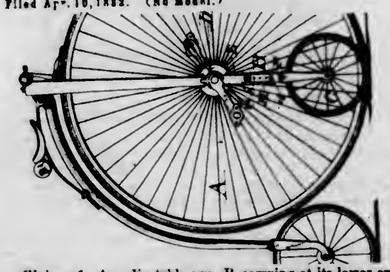
264,373. COMBINATION-TOOL. GEORGE A. TOWNSEND, Columbus, Ohio. Filed Aug. 14, 1882. (No model.)



Claim.—1. The combination of the two handles or levers pivoted together and provided with jaws, one of the jaws having a recess or notch formed in its inner end, so as to adapt the implement to be used as a plate or dish lifter, substantially as shown.

2. In a combination-tool, the combination of the two handles A G, provided with the two jaws D I, the jaws being provided with the serrated edges O P, extending at an angle to the main portions of the jaws, substantially as described.

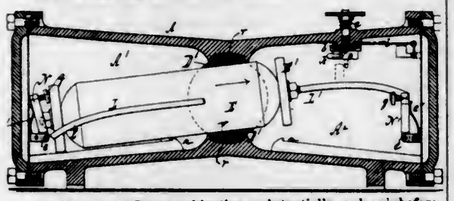
264,374. VELOCIPEDE. RUDOLPH TRIGARDH, Chicago, Ill. Filed Apr. 10, 1882. (No model.)



Claim.—1. An adjustable arm, B, carrying at its lower end a wheel, C, and provided at its upper end with a socket, *b*, and a bolt, *c*, in combination with a bearing, D, of a bicycle provided with a projection, *a*, substantially as and for the purpose set forth.

2. The combination of the arm B, consisting of the pieces E and F, the one, E, of which is provided with a socket, *b*, at one end and secured at the other to a plate, H, the other provided with a slot, *c*, and secured to plate H by bolt *d*, a wheel, C, bolt *c*, bearing D, and projection *a*, substantially as and for the purpose described and shown.

264,375. WATER-METER. WILLIAM T. TRAVIS, Brooklyn, N.Y. Filed May 5, 1882. (No model.)

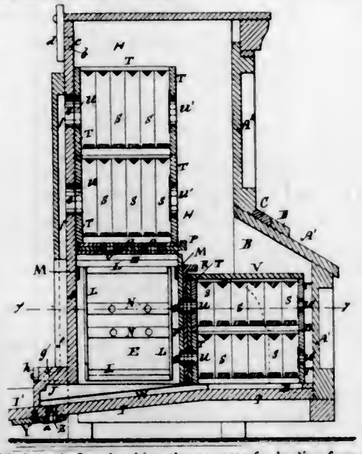


Claim.—1. The combination, substantially as hereinbefore set forth, of the meter-casing, the oscillating diaphragm having a central hub, the induction and eduction valves arranged on opposite sides of the casing in engagement with the diaphragm, the detached reciprocating plunger fitted into the diaphragm-hub, the reversing mechanism operating to automatically release and permit the leading end of the plunger to fall by gravity in both strokes thereof, and the registering mechanism arranged to be actuated by the plunger.

2. The combination, substantially as hereinbefore set forth, of the meter-casing, the induction and eduction valves, each composed of a disk having two series of ports, the oscillating diaphragm having the disks fixed to it between their said two series of ports, the valve-seats having two series of ports adapted to register alternately with those of the disks, the detached reciprocating plunger, the reversing mechanism, and the registering mechanism.

3. The combination, substantially as hereinbefore set forth, of the meter-casing, plunger, the oscillating diaphragm, the rods projecting from the diaphragm, the steps for supporting such rods, arranged to be displaced by the plunger, the induction and eduction valves, and the registering mechanism.

264,376. BEE-HIVE. MARTIN VAN EVELEY, McMinnville, Oreg. Filed Jan. 27, 1882. (Model.)



Claim.—1. In a bee-hive, the passages *f g*, leading from the upper surplus-honey chamber, H, to the lower part of the rear side of the hive, and provided with gates k at their lower ends, substantially as herein shown and described, whereby the bees can escape from the said chamber when the inlet-passages are closed, as set forth.

2. In a bee-hive, the passages W X, leading from the front surplus-honey chamber, B, along the floor I, covered with wire-gauze, and provided at their outer ends with closing-buttons, Y, substantially as herein shown and described, whereby the bees can escape from the said chamber when the inlet-passages are closed and air can be admitted to ventilate the hive, as set forth.

3. In a bee-hive, the comb-frame crates T, made with an unobstructed aperture in their inner ends for the passage of bees and a gauze-covered aperture in their outer ends for the passage of air, substantially as herein shown and described.

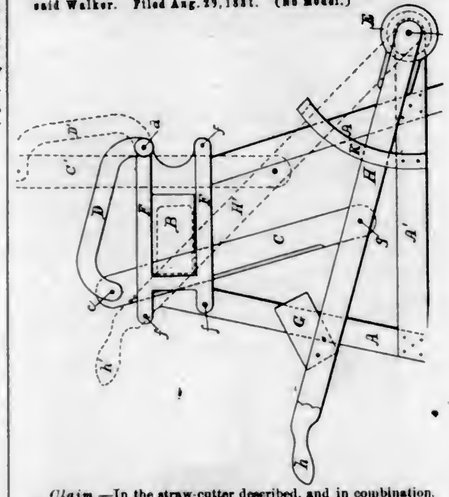
4. In a bee-hive, the combination, with the separable parts A' A² of the front of the hive, of the stationary cleat D and the wedge-key C, substantially as herein shown and described, whereby the said parts are locked together and in place, as set forth.

264,377. FOLDING CRATE. WILLIAM B. VAN HUTTON, Brenham, Tex., assignor of one-fourth to August C. H. Schweise, same place. Filed July 22, 1882. (No model.)



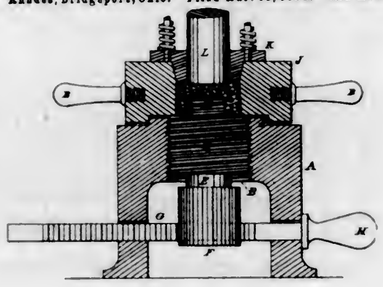
Claim.—The combination of the box A, having transverse bottom cleats, *b*, and cleats *c* upon the inside of its ends, with the hinged sides D, having cleats *g*, the knockdown partition B, having cleats *c'*, and the false-bottom pieces C, as set forth.

264,378. STRAW-CUTTER. JOSEPH WALKER, Manchester, and OSCAR E. PERRIGO, Richmond, Va.; said Perrigo assignor to said Walker. Filed Aug. 29, 1881. (No model.)



Claim.—In the straw-cutter described, and in combination, knife-guides F F', the former having an inclined top, approaching to within a short distance below the level top of the latter, and both guides having their inner faces beveled downwardly to a thin edge at their bottoms, forming between them a space much wider at the bottom than at the top, substantially as described, shown, and for the purpose set forth.

264,379. MODE OF MAKING GLASS SCREW-CAPS. WILLIAM M. WALLACE, Pittsburg, Pa., assignor of one-half to Charles M. Rhodes, Bridgeport, Ohio. Filed Mar. 18, 1882. (No model.)

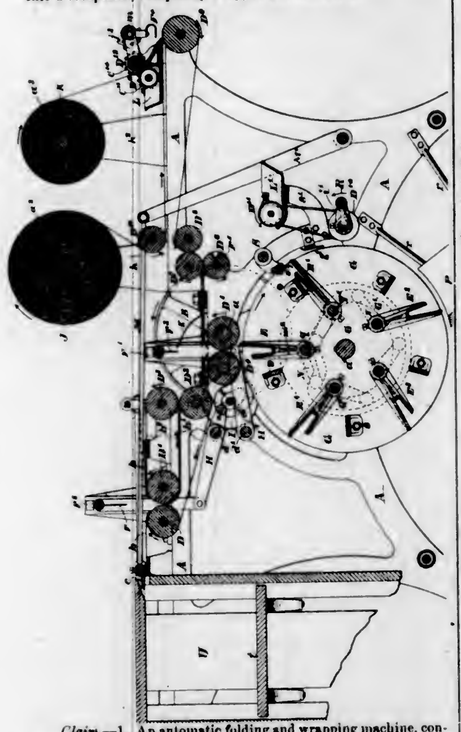


Claim.—1. For making glass screw-caps, a mold provided with a central movable screw for forming the inside of the glass cap, in combination with a withdrawing-screw greater in diameter than the largest interior portion of and forming the base of the mold, thereby avoiding seams or joints in the immediate vicinity of the forming-screw, as shown and described.

2. A mold provided with a central forming-screw, in combination with the vertically ribbed or fluted interior walls of said mold, whereby the glass cap is prevented from turning during the withdrawal of said forming-screw, as shown and described.

264,380. NEWSPAPER FOLDING, WRAPPING, AND ADDRESSING MACHINE. ERUEL W. WAYBRE, Newton Centre, Mass. Filed Jan. 11, 1882. (No model.)

Brief.—The papers are brought into position to be taken by the nippers by the automatic rising of the table on which they are placed. The nippers draw one sheet at a time under the first folding-blade, which forces it into the bite of a pair of rollers and onto a belt moving over said rollers, the belt then carrying the sheet over it and between two other rollers, which discharge it upon the already-addressed wrapper, which lies on a supporting-guide awaiting the paper to be wrapped. The wrapper is fed from a web at the opposite end of the machine from that at which the paper enters, and as the wrapper moves along an address-slip is cut from a web and pasted onto it. When the paper falls on the wrapper the second folding-blade descends and folds the two together into the bite of another pair of rollers, which force the package thus made into one pair of a series of pairs of rotating-jaws, which in their rotation carry the projecting flap of the wrapper into contact with a paste-brush and against a guard which folds over said projecting flap onto the other part of the wrapper, the jaws in their rotation also pressing the package compactly together. When the jaws have performed about half a revolution the package is dropped into a receptacle, completely wrapped and addressed.



Claim.—1. An automatic folding and wrapping machine, consisting of a series of folding devices consisting of folding-blades F F⁵ and pressure-rollers D, D', D², D³, D⁴, and D⁵, the mechanism for feeding the wrapper-web to the last of said folding devices, a carrier-wheel, G, provided with automatic jaws E E' E² E³ E⁴ to hold in a position fixed relatively to each other the paper and wrapper and carry them to the mechanism, substantially as described, for sealing said papers, all arranged to receive a paper in an unfolded or partly-folded state, and pass it successively through the process of folding, wrapping, and sealing, as herein shown and described.

2. In an automatic folding and wrapping machine, as described, a labeling and pasting device for addressing the wrapper, combined with mechanism, substantially as described, for applying the wrapper to the paper or periodical, sealing the same, and delivering it in a suitable condition for the mail, substantially as set forth.

3. In a machine for folding and wrapping papers for the mail, the combination of the following elements, viz: the mechanism to feed automatically and singly each paper to the folding mechanism, the folding mechanism, the mechanism for preparing the wrapper and placing the paper on the wrapper, the mechanism for associating the paper and wrapper, the mechanism for holding the wrapper and paper in a position fixed relatively to each other, and the mechanism for pasting and sealing the package, all substantially as set forth.

4. In combination with the carrier-wheel G, provided with stops O, the independent holding-jaws, operated by an arm moving in a cam-path, and a spring, whereby the paper or periodical is seized and held in a fixed position while the wrapper is being pasted and released at the proper moment, substantially as set forth.

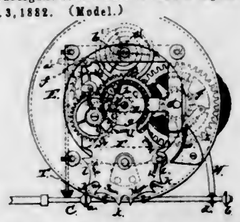
5. In combination with presser-rollers and a folding-blade giving the final fold to the paper when placed upon the wrapper, perforating mechanism, substantially as described, and a roller, whereby the wrapper is not only separated from the web, but tightened into proper position about the paper, substantially as set forth.

264,381. SIPHON. MILTON N. WEBBER, Fort Wayne, Ind. Filed July 8, 1882. (No model.)



Claim.—The combination, with the flexible tube, of the metallic block, having a screw-threaded extension to which the tube is secured, the extension and block having a passage extending to a chamber in the block, from which extend radial passages laterally, as and for the purposes specified.

264,382. WATCHMAN'S CLOCK. CHARLES WEINEDEL, Louisville, Ky., assignor of one-half to John H. Egelhoff, same place. Filed Feb. 3, 1882. (Model.)



Claim.—1. In a watchman's clock, the combination, with the clock-movement, of the slide, its retracting-spring, and devices independent of each other, but operating in connection with said slide to wind, start, and stop the movement, substantially as specified.

2. The drum or wheel having the half-hour dial on its face and the needle-points on its cylindrical surface corresponding in number and radial position to the half-hour marks, substantially as specified.

3. The half-hour drum or wheel G, its disk-wheel *d*, having a single tooth, *e*, between notches *h*, and the week-day wheel F, having the indentations *m*, and the concave edge projections *k*, marked with the names of the days of the week, substantially as specified.

4. The combination, with the drum G, having the half-hour needle-points *t*, of the grooved friction-wheel K and spring S, as specified.

5. The combination, with the drum having the half-hour needle-points *t*, and the grooved friction-wheel K, of the clearer *w*, substantially as specified.

6. The starting-slide T, in combination with the notched lever *a'*, engaging the balance-wheel, and the pulling-slide C, substantially as specified.

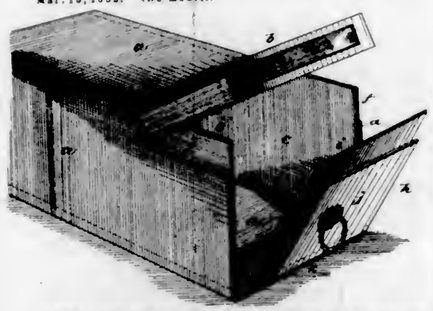
7. The winding-lever W, in combination with the main-spring-shaft, ratchet-wheel *g'*, and the operating-slide having the stop *b* and retracting-spring D, substantially as specified.

8. The combination, with the clock-movement, the notched lever *a'*, engaging the balance-wheel, the reel H, pricking-drum G, grooved wheel K, spring S, and clearer *w*, of the starting-slide T, the vibrating winding-lever W, and the pulling-slide C, having the collars or projections *a b*, and the retracting-spring D, substantially as specified.

9. A watchman's clock having an operating-slide, and a winding-lever and starting-slide both actuated by a single movement of said operating-slide, substantially as specified.

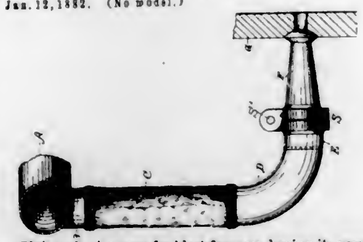
10. The combination, with the clock-movement of a watchman's clock and starting devices connected therewith, of mechanism arranged in the path of the slide or pull to be operated thereby for winding the movement to run a limited time, and at the same time moved out of effective connection with said slide or pull until the time has expired, when it is automatically reset for operative connection with said slide or pull, substantially as specified.

264,383. FILE-BOX. MAX L. WEISER, Cincinnati, Ohio, assignor to the Peerless Paper Box Company, same place. Filed Mar. 15, 1882. (No model.)



Claim.—The file-box having the top lid and the end lid combined with the facing, which is secured to one of the lids to form a label-pocket on the outside thereof and a shield between the overlapping parts of said lids, substantially as shown and described.

264,384. TUYERE. AUGUST WERNER, Leadville, Colo. Filed Jan. 12, 1882. (No model.)



Claim.—1. A tuyere for blast-furnaces, having its nozzle connected to a blast-tube of flexible material, and provided with a hinge-joint between said parts, substantially as shown and described, and for the purpose set forth.

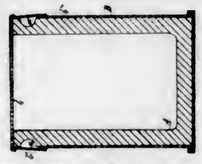
2. The combination, in a tuyere, of the nozzle F, the section E, hinged to the nozzle, and the section D, riveted to section E, substantially as shown and described.

3. The combination, with the blast-pipe A B and the socket-piece G, of the canvas pipe C, and the tuyere D E F, having hinge S', connecting section E and nozzle F, whereby a joint shall be formed which shall operate automatically to allow the escape of explosive mixtures, substantially as shown and described.

264,385. HERMETICALLY-SEALED POT. CHARLES S. WESTCOTT, Philadelphia, Pa. Filed Mar. 22, 1882. (No model.)

Claim.—1. A vessel for holding meats, extracts, and food preparations, consisting of an internal vessel composed of china,

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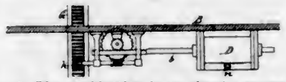


crockery, porcelain, glass, or vitrified material, and an external metallic can hermetically sealed, substantially as shown and specified.

2. The combination, with an internal vessel, A, composed of china, crockery, porcelain, glass, or vitrified material, of an external metallic can, B, having a lid, *b*, soldered to said can, substantially as shown and described.

3. The combination, with ceramic vessel A, having a groove, *a*, of an external metallic can, B, a portion of the lid of which is composed of soft metal, covering said groove, substantially as shown, and for the purpose set forth.

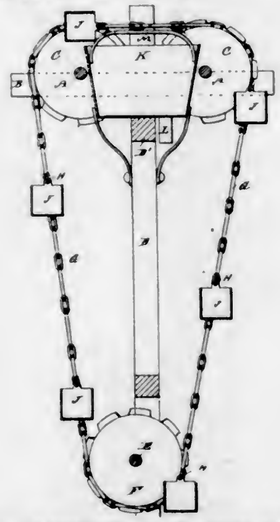
264,386. GOVERNOR FOR ELEVATORS. CHARLES S. WESTCOTT, Philadelphia, Pa.; Hamilton S. Westcott executrix of said Charles S. Westcott, deceased. Filed Mar. 3, 1882. (No model.)



Claim.—1. The combination, in an elevator-governor, of the following elements, namely: the fixed rack in the well, the car or cage, the cylinder or other receptacle of liquid carried thereby, and having a piston or diaphragm and a contracted outlet or passage for the liquid, a pinion adapted to bearings on the car or cage and gearing into the rack, and mechanism, substantially as described, whereby the piston or diaphragm is caused to control the rotation of the pinion, said control being uniform at all points in the stroke, as set forth.

2. The combination of the rack G, the car or cage having the cylinder or receptacle with contracted passage or outlet, and piston or diaphragm *a*, the rod *b*, with thread *d*, the nut *f*, with pinion *h*, and the bearing F, as set forth.

264,387. CHAIN-PUMP. CHARLES WHIPPLE, Leonardsburg, Ohio. Filed Apr. 17, 1882. (No model.)

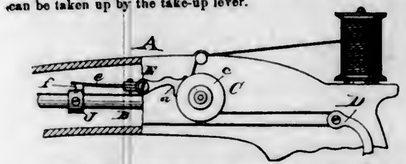


Claim.—In chain-pumps, the combination, with the two chains G, running over two pairs of sprocket-wheels, C, on two parallel shafts, A, of one or more buckets, J, hung to swing freely upon one or more rods, H, carried by the two chains G and the

cross-bars M over the trough K in the line of travel of the buckets J, to intercept them in their hanging position and invert them as they pass over the trough, as shown and described.

264,388. TENSION-BRAKE FOR SEWING-MACHINES. WILLIAM W. WHITE, Palatine, Ill., assignor to the Wheeler & Wilson Manufacturing Company, Bridgeport, Conn. Filed June 8, 1882. (No model.)

Brief.—The needle-thread is held firmly as the loop passes between the shuttle and shuttle-carrier by means of a brake applied to the tension-pulley, as specified in the claims, for the purpose of preventing more thread being drawn from the spool than can be taken up by the take-up lever.

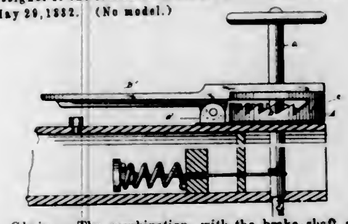


Claim.—1. In a tension-brake for sewing-machines, the combination of the stud *b*, having brake-shoe *a*, and the spring-lever *e*, having adjusting-collar *d*, with suitable mechanism for operating the same, substantially as shown and described.

2. In a sewing-machine, the brake mechanism E, consisting of the stud *b*, having brake-shoe *a* and spring *s*, and the spring-lever *e*, adjustably attached to the stud *b* by means of the collar *d*, substantially as set forth.

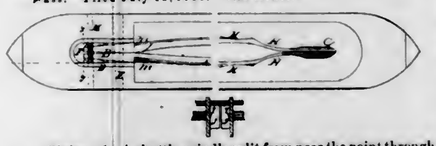
3. In a sewing-machine, the combination of the tension-pulley *c*, brake-shoe *a*, stud *b*, spring *s*, and adjustable spring-lever *e*, with the shaft B, having cam J, substantially as shown and described.

264,389. CAR-BRAKE. JOHN R. WILHELM, Addison, N. Y., assignor of one-fourth to Edward C. Paxton, same place. Filed May 29, 1882. (No model.)



Claim.—The combination, with the brake-shaft and the ratchet rigidly affixed thereto, and having a circular or segmental arrangement of teeth, of the disk-shaped pawl, having an oblong slot through which the brake-shaft passes, and one or more teeth, and a lever fulcrumed at a relatively fixed point to the shaft, substantially as and for the purpose set forth.

264,390. LOOM-SHUTTLE. HENRY A. WILLIAMS, Taunton, Mass. Filed July 13, 1881. (No model.)



Claim.—1. A shuttle-spindle split from near the point through the heel and adapted to expand, as described, for securing the cop, and having the scallops or notches H made in the exterior sides of its members, between the heel and point of the spindle, substantially as described.

2. A spindle split through the heel and nearly to the point, and having the inclines I formed on the exterior of the heel, in combination with the shuttle-body having plain bearing-walls, as described.

3. A spindle split through the heel and nearly to the point, and having the inclines I and flat facets J formed on the exterior of the heel, in combination with the shuttle-body having plain bearing-walls, as described.

4. A yoke, D, made of a plain flat plate of uniform thickness, in combination with the spindle having the inclines I formed on the exterior sides of its heel, substantially as described.

5. A spindle split through the heel nearly to the point, in combination with the shuttle-body, and the yoke made of a thin flat piece of metal inserted in a recess in said body, substantially as described.

6. The stop-pin M, combined with the split shuttle-spindle and with the shuttle-body, having the recess for inserting the spindle cut through the top and formed with the contracting walls, substantially as described.

264,391. COMBINED SPOON AND CORKSCREW. CORNELIUS T. WILLIAMSON, Newark, N. J. Filed June 12, 1882. (No model.)

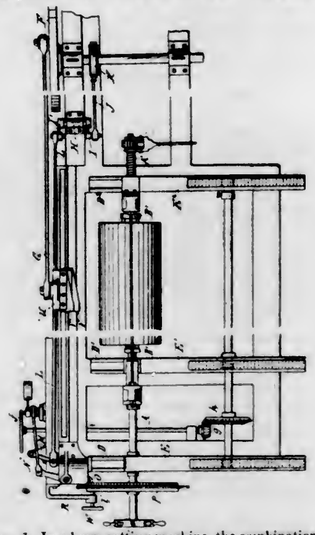


Claim.—1. A new article of manufacture consisting of a spoon the handle of which is in the form of a corkscrew, substantially as set forth.

2. A new article of manufacture consisting of a spoon the handle of which is in the form of a corkscrew, and is adapted to be folded into the bowl of the spoon, substantially as set forth.

3. A new article of manufacture consisting of a spoon provided with a protecting-lip, the handle of the spoon being in the form of a corkscrew, substantially as set forth.

264,392. BARREL-HOOP-CUTTING MACHINE. FITZLAND L. WILSON, Saginaw, Mich. Filed Feb. 11, 1882. (No model.)



Claim.—1. In a hoop-cutting machine, the combination, with the chucks and arbors for carrying the log, and the wheel P' and screw O for turning said log, of the toggle-levers M M' and ratchet-connections between the levers and the screw, and connections, substantially as described, between the center of the toggles and the driving-shaft, as set forth.

2. In a hoop-cutting machine, the combination, with the chucks and arbors for holding the log, and wheels P and screw O for turning said log, of the lever and pawl N', toggle-arms M M', connected one to the lever N' and one to a fixed point, the rod L, and suitable devices for reciprocating said rod, substantially as described.

3. In a machine for cutting hoops, the combination, with grooved and geared wheel P and the screw thereof for feeding the log, of the swinging frame S, carrying said screw, suitable devices for operating said frame, and the retractible pin *l*, whereby the feeding mechanism can be thrown entirely out of gear, substantially as described.

4. In a hoop-cutting machine, the cross-head U, carrying the two knives V V', having upturned angular cutting-edges at different distances from the cross-head and one above the other, in combination with suitable devices for giving said cross-head a reciprocating movement along a log, and mechanism for giving the log an intermittent rotary movement, substantially as described, and for the purpose specified.

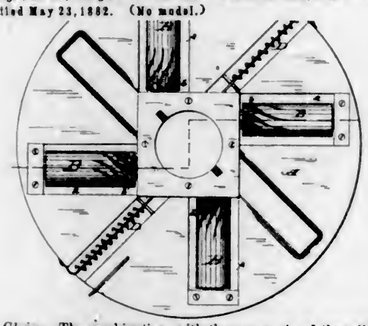
5. In a hoop-cutting machine, the combination, with the chucks and arbors for carrying the log, and the wheel P and screw O for turning said log, of the cross-head U, carrying a knife or knives having upturned edge or edges, means for reciprocating said cross-head, the toggle-levers M M', and ratchet-connections between the levers and the screw O, and connections, substantially as described, between the center of the toggles and the driving-shaft, as set forth.

264,393. CUT-OFF FOR CISTERNS. GEORGE WILSON, Vinton, Iowa. Filed June 17, 1882. (No model.)



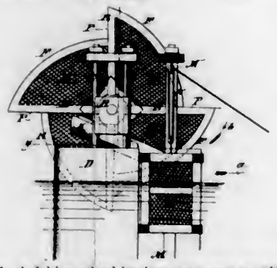
Claim.—In a cistern cut-off, the combination of the supply-pipe A, constructed with the elbow B, having door a^2, inlet A', and double incline c c', hinged valve C, having semicircular walls C^2 C^2, and rocking on the apex of the double incline c c' within elbow B, rod d, and float D, all constructed and combined substantially as and for the purpose herein shown and specified.

264,394. GRINDING-MILL. GEORGE W. WILSON, Lansborough, Minn., assignor of one-half to Buel A. Man, same place. Filed May 23, 1882. (No model.)



Claim.—The combination, with the runner A, of the rolls B and drags D, inserted in radial recesses in the runner, between the rolls B, and provided on their lower edges with inclined teeth, substantially as shown and described.

264,395. FISHING-WHEEL. SAMUEL WILSON, Dallas, Iowa. Filed Mar. 28, 1882. (No model.)

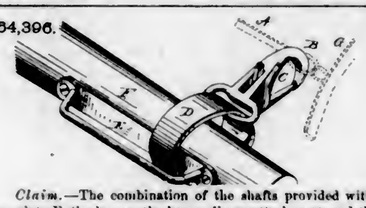


Claim.—1. A fishing-wheel having sector-nets provided with mouths P and discharge-opening I, in combination with a discharge-chute and a cage-net, substantially as and for the purpose set forth.

2. The combination, with a fishing-wheel having catching-nets, of cage-net arranged to move up and down in guideways, and provided with hoisting and lowering tackle, substantially as and for the purpose set forth.

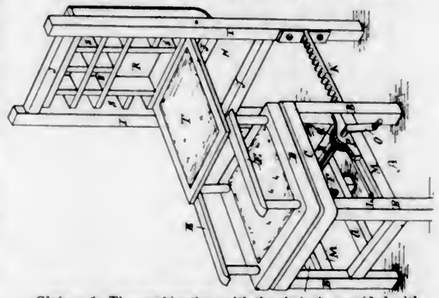
264,396. HARNESS. PAUL P. WIRE, Statesville, N. C. Filed June 13, 1882. (Model.)

264,396.



Claim.—The combination of the shafts provided with the loop-plate E, the hames, the hame clip or attachment, and the intermediate tug, all constructed and operating as and for the purpose set forth.

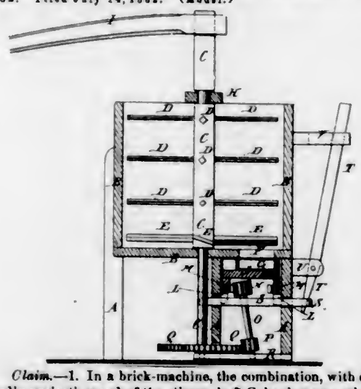
264,397. COMBINED DESK AND CHAIR. VESTAL W. WOODWARD, Indianapolis, Ind. Filed Nov. 18, 1881. (No model.)



Claim.—1. The combination, with the chair A, provided with the grooved braces M, of the movable back H, the racks K, the shaft N, the cog-wheels Q, and the crank O, substantially as herein shown and described, and for the purpose set forth.

2. The combination, with the chair A, of the revolving seat D, provided with arm-rests E, and resting on a pivot, F, of the movable back H, provided with a pivoted leaf, T, substantially as herein shown and described, and for the purposes set forth.

264,398. BRICK-MACHINE. MILTON WRIGHT, Port Valley, Ga. Filed July 14, 1882. (Model.)

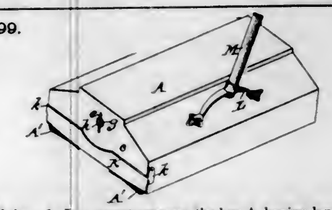


Claim.—1. In a brick-machine, the combination, with downwardly-projecting end of the stirrer-shaft C, having gear-wheel Q, and the mold-carrying platform J, having two rack-bars, M, of the two gear-wheels N P, the vibrating shaft O, carrying the said gear-wheels, the sliding cross-bar S, and the lever T, substantially as herein shown and described, whereby the continuously-revolving stirrer-shaft can be made to move the mold-carrying platform in either direction, as set forth.

2. In a brick-machine, the combination, with the vibrating shaft O, carrying the gear-wheels N P, of the sliding bar S, the lever T, and the catch V, substantially as herein shown and described, whereby the driving-gearing can be readily shifted and held in gear with either rack, as set forth.

264,399. CARPET-SWEEPER. PALMER C. WRIGHT, New Haven, Conn. Filed Apr. 18, 1882. (No model.)

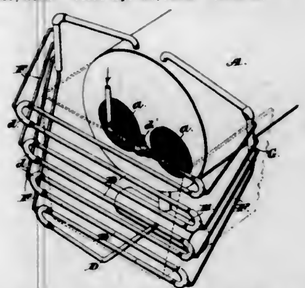
264,399.



Claim.—1. In a carpet-sweeper, the box A, having longitudinal grooves a, and the dust-pans I, having rim or flange b, substantially as and for the purpose set forth.

2. In a carpet-sweeper, the box A, having longitudinal grooves a, the dust-pans I, having rims or flanges b on the top edges thereof and outwardly-projecting ends, and the flap K, having ears k and pivoted eccentrically to the outer sides of the box, substantially as set forth.

264,400. FEED-WATER HEATER. AUGUSTUS R. YOUNG, Stillwater, Minn. Filed Apr. 22, 1882. (Model.)



Claim.—1. In combination with a steam-boiler, water-pipes arranged across the rear end thereof, within the smoke-arch, and connected with the mud-drum, and pipes connecting said water-pipes directly with the steam-space of said boiler, whereby feed-water may be heated by being conveyed in a zigzag course from a point above said boiler downward to said drum, and steam generated within said pipes may pass directly into said boiler, substantially as and for the purpose specified.

2. In combination with the boiler A, and with the feed-water pipes D, arranged horizontally across the rear end of the same, the steam-pipes F, intersecting said pipes D at the bends d and connecting the same with the steam-space of said boiler, substantially as and for the purpose shown.

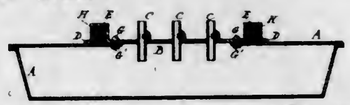
264,401. SHAFT-COUPLING. CHARLES BARBER, Meaford, Ontario, Canada, assignor of one-half to Thomas Harris, same place. Filed Mar. 7, 1882. (No model.)



Claim.—1. The part of shell A having at intervals therein the arc-shaped concentric sections G, forming concentric recesses a, the elastic cushions or packing C, and part D, or hub, fitting into the unoccupied part of the shell, and having concentric arc-shaped arms D' fitting between the sections G, the extremity of said arms cushioning directly against the elastic packing C, said shell A being keyed on the end of one of the sections of the shaft and said part D being keyed to the other sections of the shaft, to admit of said parts A D having concentric movement, as set forth.

2. The combination of the shell A, having the arc-shaped concentric sections G formed at intervals therein, and recesses a, elastic packing C, hub D, having arc-shaped arms D', and cushions E, interposed between the arms D' and sections G, arranged to operate substantially as and for the purposes described.

264,402. ABSORBENT CUSHION FOR HYDROCARBON-BURNERS. CHARLES F. BURLEIGH, Pawtucket, R. I. Filed July 15, 1882. (No model.)



Claim.—1. In a hydrocarbon-oil burner of the character herein specified, a cushion of cork secured to the burner-plate bearing the wick-tubes, substantially as and for the uses and purposes shown and described.

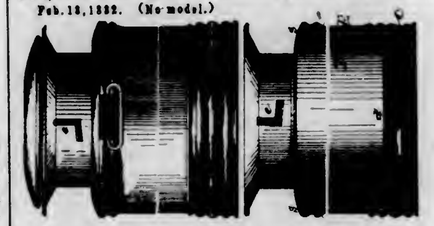
2. In a hydrocarbon-oil burner for stoves, a removable burner-plate wherein are located the wick-tubes, the edges of said plate being bent over and holding in place a cushion of cork, which presses against a collar upon the oil-pot, substantially as shown and described.

3. In a hydrocarbon-oil-burning stove, a burner-plate wherein are located wick-tubes, the edges of said plate being bent over, as set forth, and holding in place an absorbent cushion, in combination with a collar affixed to or forming a part of the oil-pot, substantially as shown and described.

4. In a hydrocarbon-oil burner for stoves, a cushion of absorbent material located and held in place upon the oil-pot, as set forth, in combination with a burner-plate adapted and arranged to be secured in place thereon, substantially as shown and described.

5. Oil-pot A, bearing-collar D, burner-plate B, having bent edges E, and cushion H, the whole combined and arranged to operate substantially as shown and described.

264,403. MILK-CAN. ISAAC CHAPMAN, Horseheads, N. Y. Filed Feb. 18, 1882. (No model.)



Claim.—In a milk-can, the combination of the vertical cylinders E and F, and bottom d', having cross-bars k k soldered to the same, and to the inner side of the cylinder F, near its base, as and for the purpose set forth.

264,404. FIRE-ESCAPE. JOSEPH P. CURRY, Vincennes, Ind., assignor of one-half to William Tomlinson, same place. Filed May 20, 1882. (No model.)

Brief.—The block is perforated for the passage of the lowering-rope, and clamping-pieces are pivoted to it at the top and bottom and on both sides.



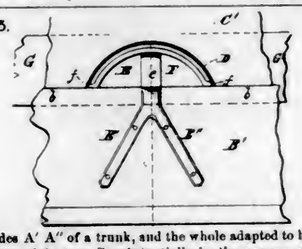
Claim.—1. The fire-escape friction-slide and clamping device, consisting of the intermediate perforated and laterally-grooved friction-block, a, the side clamping-pieces, b, pivoted thereto, and the end attachments, k, substantially as specified.

2. In a fire-escape, the combination, with the perforated and laterally-grooved friction-block a and its pivoted lateral clamping-pieces b, of the escape-rope rove through the perforations of the block in coils and bends, which project a little from the grooves of the block for engagement with the clamping-pieces, substantially as specified.

264,405. TRAY SUPPORT AND LIFTER FOR TRUNKS. JAS. H. FAREL and ADAM STUMM, Buffalo, N. Y.; said Stumm assignor to Charles Lankler, same place. Filed June 14, 1882. (No model.)

Claim.—1. As an improved article of manufacture, a combined tray support and lifter consisting essentially of the forked parts E' E'', joining the part e, and the curved part F, having the lips f, said curved part being adapted to rest upon the upper edge

264,405.

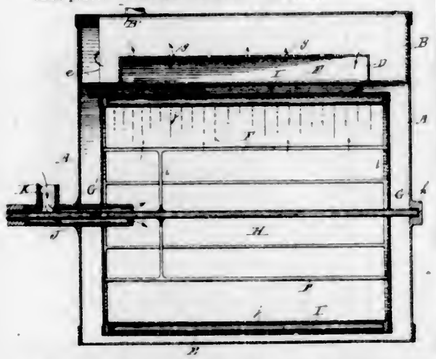


of the sides A′ A″ of a trunk, and the whole adapted to be applied to the sides of the tray C, substantially in the manner as and for the object specified.

2. The combination, with the body A, having the top C and tray B, of the combined support and lifter hereinbefore described, having the tines E′ E″, part *e*, and curved part F, and the valance G, the sides of the top C being provided with excisions D, substantially in the manner as and for the object specified.

3. In trunks having a tray below the upper edge of the body of said trunk, a combined support and lifter for said trays, substantially as described, said support and lifter being attached to the sides or ends of said tray and constructed to rest upon the upper edge of the body of said trunk, substantially as and for the use and purpose specified.

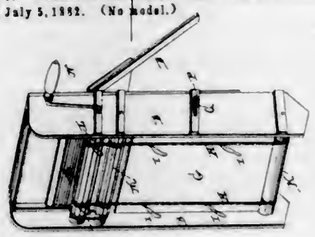
264,406. CARBURETING APPARATUS. AARON W. PRAIL, Ashland, Mass., assignor to himself and Albert Whiting Eames, same place. Filed Mar. 18, 1882. (No model.)

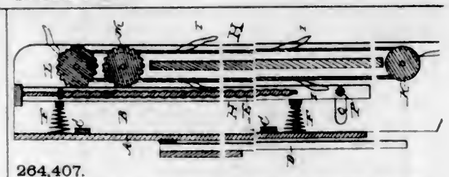


Claim.—1. The combination of the bottom chamber, A, and perforated cylinder E therein, having a gas or air induction pipe in the axis thereof, and internal buckets, I, provided with a series of openings, *j*, with the removable pan B, having a central chamber, C, an eduction-pipe therefrom, and elevated hoods D, projecting from its bottom, substantially as and for the purpose described.

2. The combination of the bottom chamber, A, wire-gauze cylinder E, having an axial induction-pipe, J, perforated buckets I, and perforated cylinder F, within the cylinder E, with upper pan, B, having an eduction-pipe, and perforated hoods D, projecting upward from the bottom of said pan, all arranged substantially as shown and described.

264,407. WASHING-MACHINE. JAS. P. GAGE, Villisca, Iowa. Filed July 5, 1882. (No model.)

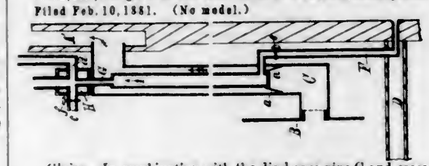




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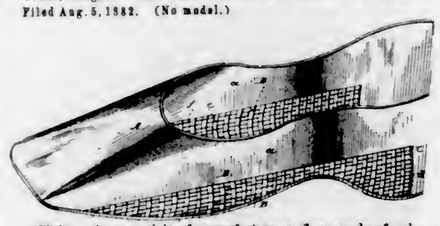
Claim.—The combination, in a washing-machine, of scrubbing-board E, provided with pins P P, side boards, B B, having slots Q Q, springs F F, fluted rollers L M, crank N, endless cords H H, and roller K, all constructed and arranged to operate substantially as set forth.

264,408. HEATING APPARATUS. EPHRAIM H. GRAVES, Morrison, Ill., assignor of one-half to O. F. Woodruff, same place. Filed Feb. 10, 1881. (No model.)



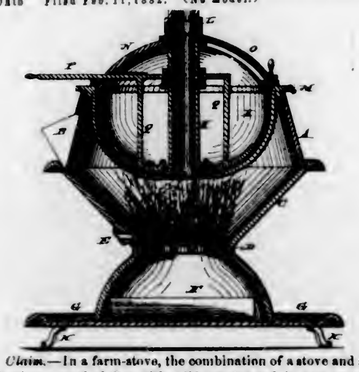
Claim.—In combination with the discharge-pipe G and cross-pipes *c* and *d*, the cylinder H, substantially as shown, and for the purpose described.

264,409. VENTILATED SHOE. THEODORE HAWLEY, Fairfield, Conn., assignor of one-half to Edward W. Harral, same place. Filed Aug. 5, 1882. (No model.)
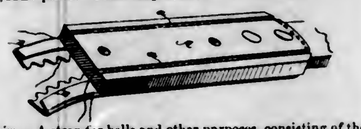


Claim.—As an article of manufacture, a shoe, made of rubber cloth or any other material, having the part between the sides or body A and the sole B cut away on one or both sides from the toe to the heel and a piece of stiff netting or other suitable porous material, D, inserted into the openings thus formed and adapted by its stiffness to maintain the proper shape of the shoe, substantially as shown and set forth.

264,410. FARM-STOVE. JAMES J. JOHNSTON, Columbiana, Ohio. Filed Feb. 11, 1882. (No model.)



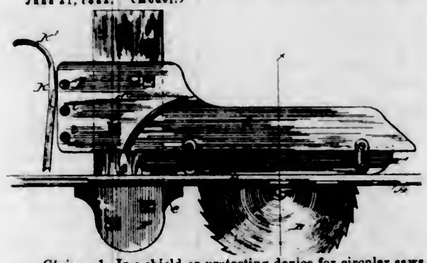
Claim.—In a farm-stove, the combination of a stove and a kettle having a vertical flue with a lid constructed in two parts and pivoted on said flue, and a stirring apparatus also pivoted to said flue, all constructed, arranged, and operating substantially as herein described, and for the purpose set forth.

264,411. STRAP FOR BELLS, &c. SAMUEL KIRBY, East Hampton, Conn., assignor to Bevin Brothers Manufactoring Company, same place. Filed Aug. 4, 1882. (No model.)



Claim.—A strap for bells and other purposes, consisting of the body portion A, channeled on its under side, and having secured to its top edges the doubled and ornamented strips B B by lines of stitches which are embedded in the channels upon the lower surface of the body portion, substantially as described.

264,412. SAW-GUARD. HENRY P. KUHLMANN, Indianapolis, Ind., assignor of one-half to John H. Grube, same place. Filed June 21, 1882. (Model.)



Claim.—1. In a shield or protecting device for circular saws, the combination of the fixed hood G, extending over the top of the saw, and the movable guard H, hinged to the sides of the hood by parallel arms A A, and having a curved or beveled front, H′, to adapt it to be shoved up into the overlapping hood by contact with and the passage of the plank to be sawed, substantially as set forth.

2. In a shield or protecting device for circular saws, the combination of the slotted saw-table A, having plate C fastened to its under side, right-and-left-handed screw D, sliding plate E, having the upright plate F projecting through the slotted saw-table, and vertically-adjustable hood G, having the movable guard H, and adjustable pivoted back stop, K, all constructed and combined substantially as and for the purpose herein shown and set forth.

264,413. ROPE RAILWAY. JOEL B. LOW and ABRAHAM K. GUIN, San Francisco, Cal. Filed May 3, 1882. (No model.)

Brief.—A gripping device secured to a car is opened by an automatic trip consisting of a lever attached underneath the car and connected by a rod to ratchet-and-pawl mechanism placed on the platform of the car, said lever striking a stationary block placed upon the road-bed, and thus releasing the grip. The same mechanism also operates a gong attached to the lever by a cord. A latch is secured to the side of the slot, which vibrates horizontally by the passing grip-shank, which prevents a retrograde movement of the car.

Claim.—1. In a rope railway having the rope carried under ground and the gripping device passing through a narrow slot in the road-bed, the combination, with the gripping device, of an automatic trip to open the jaws of the grip at certain definite points in the line, substantially as herein described.

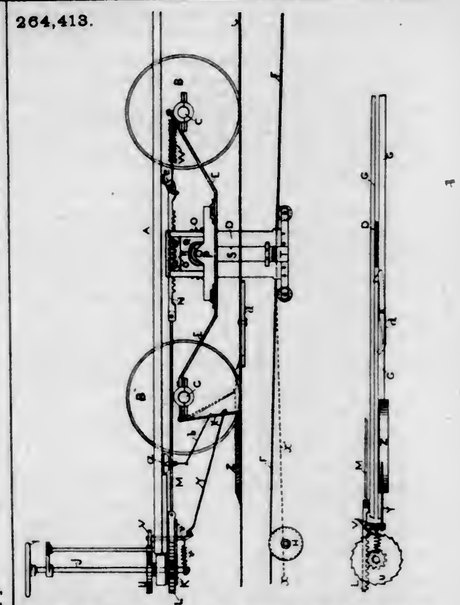
2. In a rope railway having the rope carried under ground, the combination of the lever X, attached to the under portion of the car, and the stationary block Z, placed permanently upon the road-bed, so as to form no material obstruction, as a means of obtaining a motion when they pass each other to automatically operate suitable machinery to open a gripping device to release the rope, substantially as herein described.

3. In a rope railway, the combination of the lever X, block Z, rod Y, and pawl V, operating together as a means of releasing the lock upon the ratchet-wheel U to allow the spring W to act upon suitable machinery to open a gripping device, substantially as herein described.

4. In a rope railway, the combination of the lever X, block Z, and gong *a*, operating together as a means of notifying the engineer of his arrival at a definite point in the road, substantially as herein described.

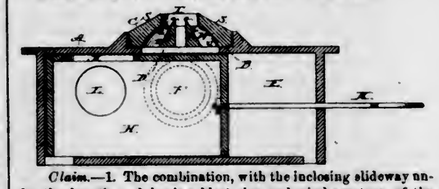
5. In a rope railway having slot in road-bed, and grip-shank

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passing therethrough, the latch *d*, secured at side of said slot and vibrated horizontally by the passing grip-shank as a means of preventing retrograde movement of the car, substantially as herein described.

264,414. TUYERE-IRON FOR BLACKSMITHS' FORGES. IRA W. MEAD, New York, N. Y., assignor of one-half to Isaac V. Mead, same place. Filed Jan. 28, 1882. (No model.)

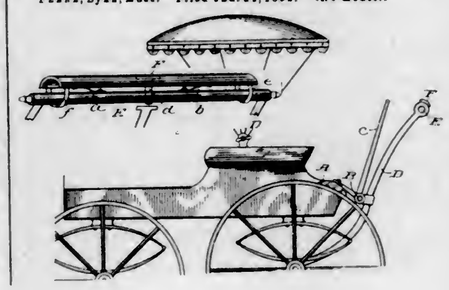


Claim.—1. The combination, with the inclosing slideway under the hearth, and having blast-pipe and wind-aperture, of the sliding wind-box having in its side a wind-aperture and in its top a blast-opening, substantially as specified.

2. The combination, with a tuyere-iron having grate-bars, and a slideway having wind-openings and ash-discharge, of the sliding wind and ash box, substantially as specified.

3. A tuyere-iron having a raised central opening, T, under recess W, and transverse grate-bars V, having inclined sides *z*, substantially as specified.

264,415. BRAKE FOR CHILDREN'S CARRIAGES. GEORGE R. PEARE, Lynn, Mass. Filed Jan. 24, 1882. (No model.)

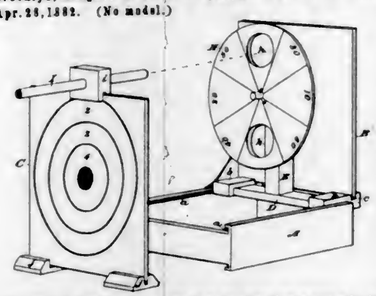


Claim.—1. The handle D, in combination with the pivoted lever C, carrying the brake-shoe, and the spring-plate F, having the pin *d*.

2. In combination, the shaft B, carrying the brake-shoes, the lever C, and a locking device attached to the handle.

3. The combination, with the brake-shoes and lever C, of the arm F, having the pin, the springs *a b*, and the cross-round E.

264,416. TOY SHOOTING APPARATUS. ALFRED REYNOLDS, Brooklyn, assignor to Stirn & Lyon, New York, N. Y. Filed Apr. 28, 1882. (No model.)



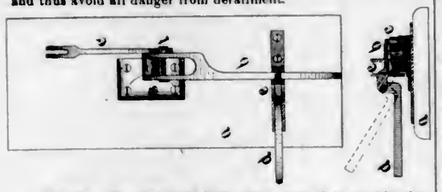
Claim.—1. The combination, in a toy shooting-game, of a target mounted to rotate in a vertical plane, said target being provided with one or more apertures, and a stationary target arranged behind the rotating target to receive the missiles that pass through the apertures in the rotating target, substantially as and for the purposes set forth.

2. The combination, to form a toy shooting-game, of a rotary disk-target, H, a rectangular box-frame, A, a frame secured removably to said box, and bearing the said target, a fixed target mounted removably on said box in a vertical plane behind the rotary target, and capable, when removed, of entering horizontal grooves in said box and forming the top or bottom thereof, substantially as set forth.

3. The combination, in a toy, of the grooved box-frame A, the removable cover and bottom, the cross-piece D, provided with tongues to fit the grooves in the box, and a mortise at its middle, the clamps *b*, arranged to take over the piece D and the end of the box-frame, and provided with a groove, *c*, to receive the target B, the post E, the frame F, made to fit thereon, the horizontally-mounted shaft G, and the target H, mounted on said shaft G, all arranged to operate as set forth.

264,417. LOCK-CATCH FOR RAILROAD-SWITCH LEVERS. JACKSON RICHARDS, Philadelphia, Pa., assignor to himself and THOMAS SHAW, same place. Filed May 24, 1882. (No model.)

Brief.—An automatic switch-lock for tumbling-switches. The lever of the switch, when thrown down, is secured by a catch-lever and latch. These hold the switch-rails firmly to their places, and thus avoid all danger from derailment.



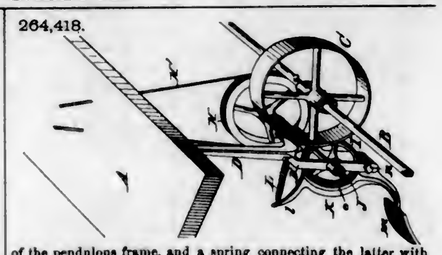
Claim.—The described lock-catch lever *d*, in combination with switch-lever *b* and the guide-links *c*, operating in the manner described, for the purpose set forth.

264,418. TREADLE MECHANISM FOR OPERATING SEWING AND OTHER MACHINES. SIMON ROSS, Jr., Newport, Ky., assignor to Ross, Davis & Co., Cincinnati, Ohio. Filed Mar. 20, 1882. (No model.)

Claim.—1. The pendulous frame pivotally connected at its upper end with the table, combined with the friction-wheel, driving-pulley, and foot-pedal and brake, all carried by and swinging with the pendulous frame, substantially as described.

2. The combination, substantially as described, of the pendulous frame pivotally connected at its end with the table, the friction-wheel, and driving-pulley arranged on a shaft carried by said frame, the combined foot-pedal and brake pivoted to the lower end

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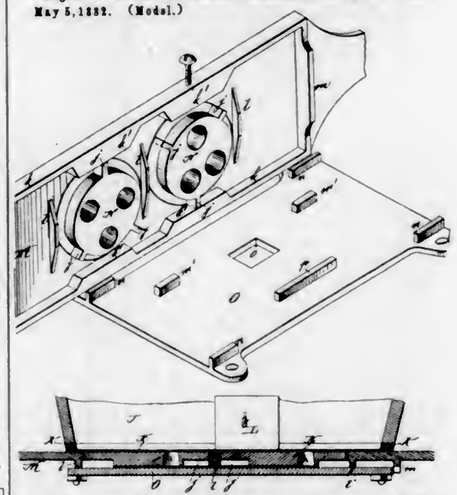


of the pendulous frame, and a spring connecting the latter with the brake, as set forth.

3. The combination, with the pendulous frame pivoted at its upper end, and the friction-wheel carried thereby, of the combined foot-pedal and brake pivoted to the lower end of said frame and swinging therewith, substantially as described.

4. The pendulous frame connected at its upper end with the table, and upon the lower end of which is mounted the friction driving-pulley, the belt-wheel, and the foot-pedal, all carried by and swinging with the pendulous frame, substantially as herein set forth.

264,419. CORN-PLANTER. JOSEPH D. SMITH, Rockford, Ill., assignor of one-half to Lorenzo D. Minnick, same place. Filed May 5, 1882. (Model.)



Claim.—1. In a corn-planter, the rectilinear reciprocating slide M, provided with two rotary perforated disks, N N, both constructed and arranged to discharge the grain through the same orifice, substantially as set forth.

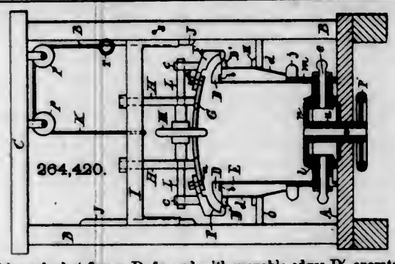
2. The rectilinear reciprocating slide M and base-plate O, both constructed substantially as described, in combination with two rotary perforated disks, N N, adapted to discharge the grain through a common orifice, all substantially as set forth.

3. The combination, in a corn-planter, of the reciprocating slide M, having ribs *k k* and transverse flanges *l l l* and *m*, with base-plate O and two rotating disks, N N, adapted to discharge the grain through a common orifice, all substantially and for the purpose set forth.

4. The combination, in a corn-planter, of block I', constructed substantially as described, with a reciprocating slide, M, having two rotary disks, N N, adapted to discharge the grain through a common orifice, and a base-plate, O, having lips *m' m'* and ears *n n*, all substantially as herein set forth.

264,420. HAT SETTING AND CURLING MACHINE. WILLIAM T. SMITH and CHARLES R. HALL, Bloomfield, N. J.; said Smith assignor to J. Hunt Adams, East Orange, N. J., and said Hall assignor of one-half to said J. Hunt Adams. Filed June 16, 1882. (No model.)

Claim.—1. The combination, in a hat curling and setting ma-



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chine, of a hat-flange, D, formed with movable edges D', operated substantially as set forth, and a presser provided with dies for shaping and curling the brim of a hat, the dies being movable to close the brim of the hat after shaping, substantially as shown and described.

2. The combination, with a sectional hat-flange having open joints between the sections, of an india-rubber cover provided with ribs or lugs to fill the joints, substantially as herein set forth.

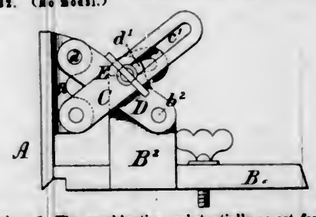
3. The combination of the flange D, divided into sections, as described, the tube E, joined to the flange and cut at the same points, the levers *f*, pivoted upon the tube, and the screws *e* and gears *i* and *n*, operated as described for changing the size of the flange, substantially as shown and described.

4. The combination, with the flange D and movable edges D', of the springs *d* and levers N, for moving the edges D', substantially as shown and described.

5. The combination, in a presser formed with movable dies at its sides and ends, of the plate G, dies F, provided with nut *e* and operated by the screw-shaft L and wheel M, and the dies Q, operated by screws *i*, the whole arranged and operated substantially as set forth.

6. In a hat curling and setting machine, the combination of the tube E, flange D, and frame composed of the parts A B C, as described, with the presser having the dies F mounted upon the plate G, and the plate suspended from a cross-head, I, working in guides J, substantially as shown and described.

264,421. BEVEL-GAGE. FREDERICK H. SWEET, Williamsport, Pa., assignor to Rowley & Hermance, same place. Filed June 5, 1882. (No model.)



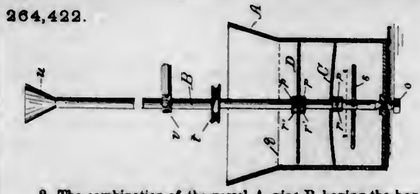
Claim.—1. The combination, substantially as set forth, of a guide-bar, a fixed support, and a double-link connection, one member of which is pivoted to the guide-bar and to the support and the other member pivoted to the guide-bar and adjustably clamped to the first member.

2. The combination, substantially as set forth, of a guide-bar, a pair of fixed supports, a pair of links each pivoted at one end to the guide-bar and at the other to one of the supports, and having a segmental slot struck from the guide-bar pivot as a center, a pair of longitudinally-slotted links each pivoted to the guide-bar, and a pair of clamping-screws each passing through one of the longitudinal and one of the segmental slots and engaging a female thread upon one of the fixed supports.

264,422. APPARATUS FOR AMALGAMATING AND SEPARATING GOLD, &c., FROM THEIR ORES. SYLVANUS L. TRIPPE, Chicago, Ill., assignor of one-half to Abel H. Bliss, same place. Filed July 21, 1882. (No model.)

Claim.—1. The combination of the vessel A, vertical pipe B, having means for rotating it, and having a hopper at its upper end, arched perforated diaphragm C, supported within the vessel A above its bottom, horizontal perforated diaphragm D, above the diaphragm C, and fixed to the pipe B, whereby it revolves with the pipe, and one or more lateral discharge-tubes projecting from the pipe B between the bottom of the vessel and the diaphragm C, substantially as described.

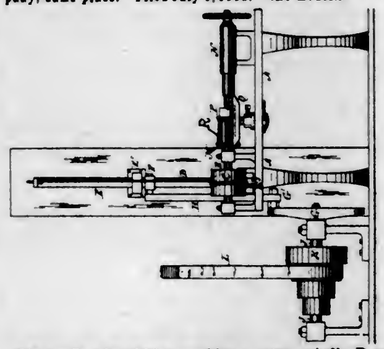
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2. The combination of the vessel A, pipe B, having the hopper *u* and branches *s*, mechanism for revolving the pipe B, perforated diaphragms C and D, adjustable collars *r* and *r'*, for permitting the diaphragms to be raised and lowered on the pipe B, and screw-seat *o*, for permitting the raising and lowering of the pipe B, substantially as described.

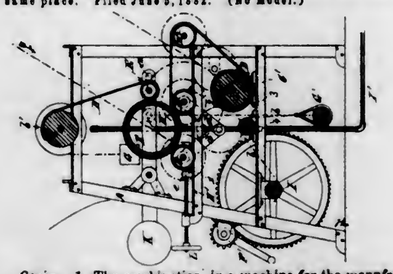
3. The combination, with the vessel A, of the pipe B, having distributing-tubes of varying lengths, as set forth, mechanism for rotating the same, and one or more perforated diaphragms supported within the vessel A above the distributing-tubes, substantially as described.

264,423. BURNISHING-MACHINE. NEWELL S. VALENTINE, Hartford, Conn., assignor to the Hartford Silver Plate Company, same place. Filed July 1, 1882. (No model.)



Claim.—In a burnishing-machine, a rotary spindle, B, provided with blocks M P, or equivalent means for holding the article to be burnished, and a drum, C, in combination with the cord D, the reciprocating bar E, the connecting-rod H, and the revolving adjustable crank G, whereby said spindle is partially revolved back and forth with a reciprocating rotary motion of less than a full circumference, substantially as described.

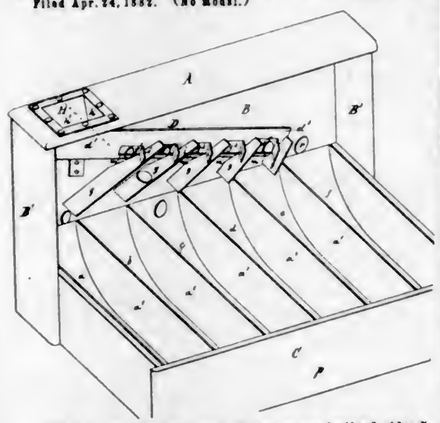
264,424. MACHINE FOR MAKING PIPE. THADDEUS H. WALSH, New York, N. Y., assignor of one-third to William H. Clarkson, same place. Filed June 5, 1882. (No model.)



Claim.—1. The combination, in a machine for the manufacture of rolled pipe, of the weighted carrying-roller C and its weight G, the tension-roller E, and counterbalanced arm F and weight G', the belt D, and rollers B', B², and C', all arranged to operate, in connection with a tapering former-roller, to roll the pipe, substantially as specified.

2. In combination with the tension-roll, the forming-roller, and the belt and carrying and supporting rollers, the bearing-roller B and its adjusting mechanism, substantially as and for the purposes specified

264,425. COIN-SEPARATOR. JAMES M. QUINN, Sedalia, Mo. Filed Apr. 24, 1882. (No model.)

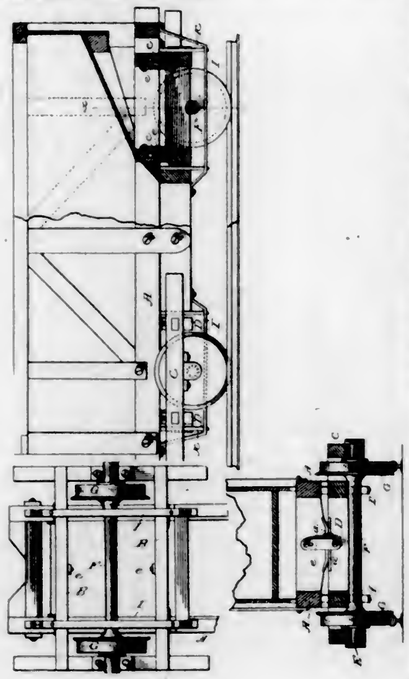


Claim.—1. The coin-track D, having an inclined side, d', provided with a series of oblong apertures which are of a length greater and of a width less than the diameter of the coin intended to be passed through them, a ledge, m, beneath said apertures, a gutter, d^3, and inclined side d^4, substantially as and for the purpose described.

2. The combination of the drawer O with a coin-track having a gutter, d^3, ledge m, partition-plates i, and chutes g, substantially as and for the purpose described.

REISSUES.

10,194. CAR-TRUCK. SIDNEY D. KING, Pittston, assignor, by mesne assignments, to John B. Smith, Dunmore, and Antoinette L. King, West Pittston, Pa. Filed July 24, 1882. Original No. 227,702, dated May 18, 1880.

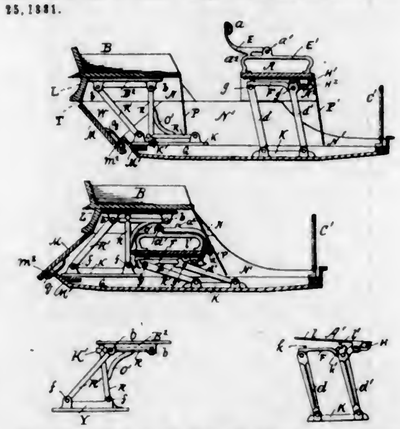


Claim.—1. The combination of a two-wheeled non-swiveling car-truck, provided with two central points of support in front and rear of the axle, with a car-body and springs for preventing undue oscillation of the body upon the truck, as set forth.

2. The combination of a two-wheeled non-swiveling car-truck, provided with two central elongated supports, a, in front and rear of its axle, and side springs, H, substantially as described.

3. A car-truck having one pair of wheels, a body resting thereon by central rocking connections, and guards fixed to the body and extending down by the side of the transverse beams of the truck, the parts being combined and operating to prevent swiveling, as set forth.

10,195. CARRIAGE-SEAT. THEOPHILUS WEAVER, Harrisburg, assignor to the Anderson Manufacturing Company, Lancaster, Pa. Filed Apr. 11, 1882. Original No. 248,813, dated Oct. 25, 1881.



Claim.—1. Carriage-seat-supporting frames, each composed of two upright braces or legs, $d\,d'$, and two transverse bars, F K, pivoted and fulcrumed together to form a freely-shifting lay-down parallelogram, with an added transverse bar or seat-attaching arm, A′, hinged to bar F and applied to hold in erected position the said legs and release the same, substantially as set forth.

2. In the seat-supporting frames $d\,d'$ A′ F K, with parts constructed and combined as set forth, the extensions H′ H^4, or their equivalents, on the hinged parts A′ and F, for limiting the lift of the seat in adjusting it, as set forth.

3. In each of the self-sustained shifting frames for supporting the rear seat, B, of a carriage, the combination of two attaching-plates, B^3 K, and two braces R R′, pivoted together equidistantly, of which brace R is squarely retreated rearward at its middle, riser form, presenting a perpendicular brace between said plates at both positions of said seat and permitting the front seat, A, of any length desired, to be retired under the rear seat when it is adjusted, substantially as shown and described.

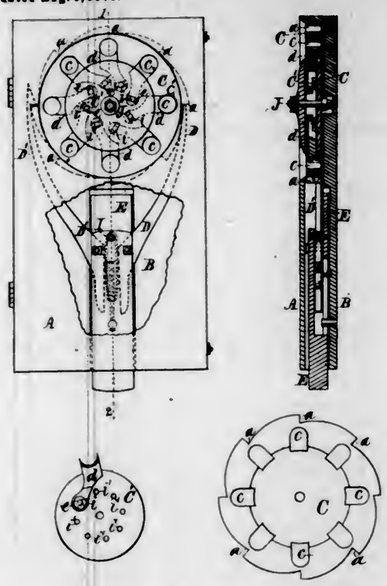
4. In the self-sustained jump-seat frame B^3 K R R′, whose riser-form brace R limits the movement thereof both ways, in combination with said brace the extensions K′, all constructed and arranged substantially as and for the purpose set forth.

5. In a carriage, the front seat, A, of length about equal to the interior cross-section of the carriage-body, and mounted adjustably on self-sustained lay-down frames, in combination with the rear jump-seat, B, supported on two self-sustained shifting frames, B^3 K, R R′, having their front supports or braces, R, squarely retreated rearward at their middle to admit said front seat, A, of full length in front of and under them, when the seats are adjusted for a single-seated vehicle, substantially as set forth.

6. The rear seat, B, of the carriage, supported solely on self-sustained frames B^3 K R R′, independent of the sides of the carriage-body, in combination with skirtings N and shifting panel M, attached to said seat, for closing the carriage-body when the seats are adjusted to form a single-seated conveyance, substantially as shown and described.

7. The panel attachment M, hinged to the back of jump-seat B, and connected extensibly by clips q thereon to the fixed part M′ by studs m^4 thereon, to compensate for the eccentric movement of said jump-seat in relation to the lower edge of said panel, substantially as and for the purpose set forth.

10,196. SEED-DROPPER. FRANK W. YOUNG, Santa Rosa, Cal. assignor to K. S. Evans, Springfield, Ohio. Filed Jan. 28, 1882. Original No. 135,742, dated Feb. 11, 1873; Reissue No. 5,530, dated Aug. 5, 1873.



Claim.—1. In a seed-dropper, the combination, with a rotary disk having seed cells or holes, of a sliding bar adapted to operate said disk, and of means for adjusting all of said seed cells or holes to a larger or smaller size simultaneously, for the purpose set forth.

2. In a seed-dropper having a rotary seed-disk, a slide adapted to operate said seed-disk, in combination with a cap or disk pivoted upon said seed-disk, to the under side of which the tangential arms for adjusting the size of the seed cells are pivoted, and means for fastening the two disks together after the cells are adjusted to retain said adjustment.

3. In a rotary seed-dropping device, the combination, with a seed-disk having adjustable seed-holes, a series of adjustable arms for reducing or enlarging said seed-holes, and a cap or disk pivoted upon the same bolt with the seed-disk, whereby the adjustment is effected, of means, substantially as described, for securing the cap, interposed arms, and disk together and fastening the adjustable parts in position.

4. In a rotary seed-dropper, a seed-disk having cells or holes made adjustable, and means for such adjustment, adapted to operate upon all the holes at the same time, whereby all the seed-cells are enlarged or reduced simultaneously by a single movement, as set forth.

5. The combination, with a seed-disk having a circle of adjustable seed-holes which can be adjusted simultaneously, of a pivot-bolt or its equivalent, forming the common bearing for both the seed-disk and the cap or upper disk, and provided with a nut for retaining the device in adjustment.

6. The arms $d\,d$, slotted and pivoted to the auxiliary cap or disk C′, in connection with a rotating dropping-disk pivoted upon the same center with the cap, and having adjustable seed-holes therein, whereby all of said seed-holes are simultaneously reduced or enlarged by a single movement of the upper disk, as specified.

7. The combination, with the pivoted seed-disk C, having the dropping-holes a, of the pivoted cap C′ and the interposed slotted arms $d\,d$, pivoted to the latter and adapted to adjust the capacity of all of said dropping-holes at the same time by a partial rotation of said cap in either direction.

8. In a rotary seed-dropper, a seed-disk having a circle of seed-holes therein operated by a slide-lever, in combination with a push and pull pawl pivoted thereto.

9. The combination, with the slide-bar and a seed-disk having teeth upon the edge of the same, of a pair of pawls pivoted to said slide-bar and engaging with the teeth of the disk, so as to rotate it from either side alternately by a push and a pull movement as the slide is reciprocated.

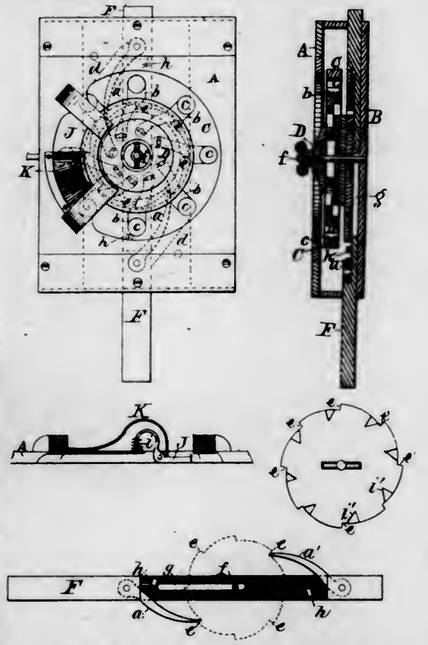
10. The combination, with a horizontal rotating seed-disk having teeth upon the edge of the same, of a pair of pawls pivoted at their rear ends to the slide-bar and extending to opposite sides of said disk and engaging with said teeth, for the purpose specified.

11. In a seed-dropper, the combination, with a seed-disk rotating in a horizontal plane and having teeth upon the verge of the same outside of the circle of seed-holes, of a slide-bar provided with a pair of pawls pivoted thereto, and adapted to operate in the same plane as the disk in engaging with the teeth of the same, for the purpose hereinbefore set forth.

12. The combination, with the seed-disk C, cap C′, and arms $d\,d$, of the reciprocating slide-bar E and pawls D D′, constructed to operate in the manner and for the purpose set forth.

13. The combination, with a rotary seed-disk having teeth upon the edge, of a spring, I, pawls D D′, and a slide for operating the whole.

10,197. SEED-DROPPER. FRANK W. YOUNG, Santa Rosa, Cal., assignor to K. S. Evans, Springfield, Ohio. Filed Jan. 28, 1882. Original No. 142,320, dated Aug. 26, 1873.



Claim.—1. In a seed-dropper, the combination, with a rotary seed-disk pivoted upon a shaft, of a slide having a longitudinal slot, through which the shaft of the disk extends, whereby the slide may have a line movement diametrically across the center bearing of the seed-disk, for the purpose set forth.

2. In a seed-dropper, the combination, with a seed-disk having a central pivot, of a reciprocating slide adapted to be operated across the center and under the seed-disk, and provided with a longitudinal slot, through which the pivot of the disk extends, and a pair of reversed pawls, pivoted to the slide and adapted to alternately engage with teeth on a disk and push it from opposite sides at each thrust of said slide.

3. In a seed-dropper, a rotary seed-disk, centrally pivoted, and a disk provided with teeth connected therewith, in combination with a reciprocating slide having push-pawls attached thereto, one on each side of the center, whereby the driving end of each pawl shall push against said teeth in operating the device.

4. In a seed-dropper, a rotary seed-disk, centrally pivoted, and a disk provided with teeth connected therewith, in combination with reversed push-pawls, pivoted to a slide having a reciprocating movement across the center of the dropping-disk, and which engage with the teeth of the disk.

5. In a seed-dropper having a rotary seed-disk operated by a pair of reversed push-pawls pivoted to the slide, the combination of a block or stop on said slide, on either side of the disk, to arrest the movement of the same at the point of discharge through the dropping-port.

6. The combination, with a slide provided with pawls for operating a rotary seed-disk, and check-blocks for stopping the rotation at the end of the stroke, of a disk provided with recesses, with which said blocks engage to prevent the disk from turning past the dropping-port.

7. In a rotary seed-dropper, the combination, with a seed-disk, of a reciprocating slide having a central opening therein and driving-pawls on either side of the same, which pawls engage with teeth upon a disk for the purpose of rotating the same.

8. In a seed-dropper, the combination, with a rotary seed-disk, of a reciprocating slide working in a groove, and of pawls attached to the slide and operating the seed-disk, as described.

9. In a seed-dropper, the combination, with a rotary seed-disk having a circle of holes therein, of a yielding or flexible cut-off, pivoted at its center, and of a shield or casing, located as shown, for protecting the spring inclosed therein.

MORRIS PETERS PHOTO-LITH. WASHINGTON, D. C.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF UNITED STATES COURTS IN PATENT CASES.

DECISIONS OF THE U. S. COURTS.

U. S. Circuit Court—Southern District of New York.

HOSTETTER *et al.* *v.* ADAMS *et al.*

Decided February 18, 1882.

1. LABEL—IMITATION.

A bottle and label with the words "Clayton & Russell's Celebrated Stomach Bitters" *Held* to be a mere imitation of those used for Hostetter's Bitters.

2. EVIDENCE AFTER FILING OF BILL.

Evidence as to transactions after the filing of the bill is admissible to characterize the practical use of the subject-matter of the suit.

Mr. A. H. Clarke, *Mr. W. W. Goodrich*, and *Mr. J. Watson* for the plaintiffs.

Mr. W. H. Arnoux and *Mr. A. Dutcher* for the defendants.

BLATCHFORD, *J.*:

The bill alleges that the plaintiffs are, and for twenty-seven years or more have been, partners, doing business as Hostetter & Smith, and during that time engaged in making and selling a medicine known as "Hostetter's Celebrated Stomach Bitters;" that they have the sole ownership of the good will, labels, or trade-marks of said bitters; that said bitters have acquired a reputation as a safe and valuable medicine; that, in order to designate said bitters as of their own compounding and as genuine, and to prevent fraud by having spurious bitters sold as and for the genuine, they from the beginning devised certain labels, tokens, or trade-marks and a certain manner of putting up said bitters, placing them upon the market in a style different from that in use by manufacturers or dealers in like articles, and that they have adhered to said style up to the present time; that said bitters are placed by them in square bottles, of uniform size, known as No. 6, containing about one and a half pint, and having blown therein the name "Dr. J. Hostetter's Stomach Bitters," and upon these bottles they cause to be pasted labels or trade-marks, and the bottles then have revenue-stamps put on them, and are packed in square boxes, each box containing a dozen bottles, and so boxed are sold to dealers; that the defendants are making and selling a spurious and inferior article of bitters, prepared in imitation of and intended to be sold as and for the genuine Hostetter's Celebrated Stomach Bitters of the plaintiffs' own manufacture, and calculated to deceive the public and consumers, and to enable the defendants to reap the profits of the reputation and sale of them; that with like intent the defendants have printed a false label or trade-mark in imitation of and closely resembling one of the plaintiffs' labels, said false label being well calculated to mislead and deceive customers and consumers of the genuine bitters; and that the defendants use the bottles of the plaintiffs, from which the genuine bitters have been used, and pack them in the same manner, in cases of the same shape, one dozen bottles in each case, in which manner they are sold. The bill prays for an injunction restraining the defendants from using said spurious label and for other proper relief. The case has been heard on pleadings and proofs.

The plaintiffs' bottle is of dark glass, and has a four-sided body, the sides being of equal size and the faces rectangular. On one side is an engraved label with a white body. This label is substantially as long and as wide as the face of the bottle. Near the top, in four lines in black, are the words "Hostetter's Celebrated Stomach Bitters," one word in each line. The third and fourth lines have letters of the same size and character, larger than the letters in the first and second lines. The letters in the first line are larger than those in the second line, and of a different character from them and from those in the third and fourth lines. The letters in the first line and those in the fourth line, each of them, form a curve the convexity of which is upward. The second and third lines are horizontal. The letters in the first, third, and fourth lines are shaded. Underneath the fourth line is a horse without harness, vaulting in the air, toward the left, with his hind feet on the ground and his fore feet in the air, mounted on his bare back by a naked man, with a helmet on, and a flying robe over his right arm, and in his two hands a spear, with which he is striking at a dragon below him on his left. The open mouth of the dragon is near the left knee of the rider, and the point of the spear is just above that knee. The body of the dragon passes under the horse, and his tail comes around the right hind leg of the horse and nearly reaches the body again. In a fore paw of the dragon, near the end of his tail, appears to be a piece broken off from the head of the spear. The horse has a flying mane and a sweeping tail. The horse, man, and dragon are dark on a white ground. Below them is a shield, commencing at a little below the middle of the length of the label. The shield has a dark ground. On it are letters printed in white. There are sixteen lines of letters. Lines 1, 2, 4, 7, 8, 9, 10, 12, 13, 14, and 15 are the same size of type. The reading of the sixteen lines, divided into lines, is this: (1) "The best evidence of the merit of an article is" (2) "the disposition to produce counterfeits" (3) "and we regard it as" (4) "the strongest testimony to the value of" (5) "Hostetters" (6) "Celebrated Stomach Bitters" (7) "that attempts of that description have" (8) "been frequent. A due consid-

eration of" (9) "the public welfare has induced us to" (10) "obtain a fine engraving of which" (11) "this is a fac simile" (12) "and to append our note of" (13) "hand which can not be" (14) "counterfeited without" (15) "the perpetration" (16) "of a felony." The word "and" and the word "as" in line 3 are smaller than the other letters. The words "we regard it," in line 3, and also lines 5, 6, 11, and 16 are on a black ground, darker than the rest of the ground, and the letters are somewhat larger than the rest. All the letters in the shield are capitals. The line of the top of the shield consists of two curves of equal length starting from an apex in the middle of the width and concave upward, and having a uniform sweep, and alike, and rising each to a point as high as the starting-point, and then each falling off by a short concave upward curve to a point. Then the two sides of the shield sweep aronnd downward by equal curves to the center of the width of the label and the lower joint of the shield, completing the outline of the shield. The space on each side, between the outer edge of the shield and a border around the label and a horizontal line running across at the lower point of the shield, is filled in with engraved work of waiving irregular figures. Underneath the shield, in a parallelogram, is a promissory note for one cent, payable to the bearer on demand, signed "Hostetter & Smith." In the middle of the width of the upper part of the note is a small circle having in it the head and bust of an aged man with a long white beard. There is a border around the whole label.

The defendants' bottle is of the same size, color, shape, and material as the plaintiffs', and many of the defendants' bottles are old bottles of the plaintiffs', with the name "Hostetter" blown in the glass. The side which has that name on it is covered by the defendants' label. The defendants buy such old bottles when empty, which the plaintiffs have sold in the market with bitters in. On one side is an engraved label with a white body. This label is substantially as long and as wide as the face of the bottle, and is of the same size as the plaintiffs' label. Near the top, in four lines in black, are the words "Clayton & Russell's Celebrated Stomach Bitters," one word in each line. The third and fourth lines have letters of the same size and character, larger than the letters in the first and second lines. The letters in the first line are larger than those in the second line, and of a different character from them and from those in the third and fourth lines. The letters in the first line and those in the fourth line each of them, form a curve the convexity of which is upward. The second and third lines are horizontal. The letters in the first, third, and fourth lines are shaded. The appearance presented by those four lines as to the size and character and shading of the letters in the corresponding lines, and as to ornamentation in flourishes and dashes, is identical with the appearance presented by the corresponding four lines in the plaintiffs' label as to the same particulars, except the difference resulting from substituting the words "Clayton & Russell's" for the word "Hostetter's." Underneath the fourth line is a horse, with harness and caparison and saddle upon him, vaulting in the air toward the right, with his hind feet on the ground and his fore feet in the air, mounted by a man with clothing on his trunk and feet, and a helmet with wings on his head, and in his right hand a spear, with which he is striking at a scorpion on the ground in front of him. The horse has a sweeping tail. The horse, man, and scorpion are dark on a white ground. They and the four lines above them occupy respectively the same space up and down as the corresponding parts in the plaintiffs' label. Below them, commencing at the same point as in the plaintiffs', is a shield, which has a dark ground with letters printed on it in white. There are fifteen lines. The lines are all the same size of type, and the size of the type in line 1 in the plaintiffs. The reading of the fifteen lines, divided into lines, is this: (1) "The bitters of Clayton & Russell will be" (2) "found a highly aromatic liquid, and en-' (3) "tirely free from injurious substances." (4) "One wineglassful taken three times" (5) "a day before meals will be a swift" (6) "and certain cure for dyspepsia a" (7) "mild and safe invigorant for delica-" (8) "te females a good tonic preparation" (9) "for ordinary family purposes a" (10) "powerful recuperant after the" (11) "frame has been reduced by" (12) "sickness, an excellent app-" (13) "etizer and an agreeable" (14) "and wholesome" (15) "stimulant." All the letters in the shield are capitals. The line of the top of the shield is made up of four curves, and corresponds in all respects with the line of the top of the shield in the plaintiffs'. The shield is the same size and shape as the plaintiffs', and has a corresponding space on each side, filled in with engraved work, waving in character, though larger in detail than in the plaintiffs'. The lower point of the shield comes down to the same point as in the plaintiffs'. Underneath the shield, in a parallelogram, are the words "Venders do not require a Liquor Dealers' License, being a Medicinal Compound." There is a border around the whole label of about the same width as in the plaintiffs', though of a different character. There is a narrow space of white in the defendants' all around the lower parallelogram, and the side lines of white are carried up on each side of the top of the shield, and then continue down around the outer edges of the shield, differing in these respects from the plaintiffs'. The words beginning with "One wineglassful" to the end, at "stimulant," are found in a label of gold letters printed on a bronze ground, which is on another face of the plaintiffs' bottle.

It is shown that there are no such persons as Clayton & Russell, and that the defendants' label was prepared from the plaintiffs' by intentionally making the parts in it which are like corresponding parts in the plaintiffs' to be so like. It is plain that it is a copy from the plaintiffs' by design. Variations are made of such a character as to be capable of discernment and description; but the general effect to the eye of an ordinary person acquainted with the plaintiffs' bottle and label, and never having seen the defendants' label, and not expecting to see it, must be, on seeing the defendants', to be misled into thinking it is what he has known as the plaintiffs'. The size, color, and shape of the bottle, the four lines of letters at the top of the label being as to the three lower ones identical and as to the upper one differing only in the name, the general effect of the horse and his rider, the size and shape and color of the shield, the white letters in it, and their size and arrangement in lines contracting in length toward the lower point of the shield, the whole in black on a white ground, and the border give an affirmative resemblance

calculated to deceive an ordinary observer and purchaser having no cause to use more than ordinary caution, and make him believe he has before him the same thing which he has before seen on the plaintiffs' bottle, and expects to find on the bottle he is looking at. The differences which he would see on having his attention called to them are not of such a character as to overcome the resemblances to the eye of a person expecting to see only the plaintiffs' bottle and label and having no knowledge of another. The testimony to the above effect is of great strength.

The plaintiffs have no exclusive right to make the bitters, their trade-mark is not in the words "Celebrated Stomach Bitters," nor have they any exclusive right to a bottle of the size, shape, and color of the one which they use. But the entire style of their bottle and label, of which those words form a part, is, in connection with the other particulars above mentioned, in which the defendants' bottle and label are like theirs, the mark of their trade. (*Williams* v. *Johnson*, 2 Bosworth, 1; *McLean* v. *Fleming*, 6 Otto, 245; *Fese* v. *Buchof*, 14 Blatchf. C. C. R., 432; *Colman* v. *Crump*, 70 N. Y., 573; *Morgan's Sons Company* v. *Troxell*, 23 Hun., 632, and Cox's Manual, case 674; *Sawyer* v. *Horn*, Id., case 667; *Mitchell* v. *Henry*, 43 Law Times Rep., N. S., 186.)

The evidence as to transactions after the filing of the bill is admissible. It comes in not to show infringement but to characterize the practical use of the subject-matter of the suit. The objection as to the recalling of witnesses is overruled.

The plaintiffs are entitled to an injunction and to a reference to a master to take an account of profits, and to the costs of the suit.

U. S. Circuit Court—Southern District of New York.

MALLORY v. MACKAYE. MACKAYE v. MALLORY.

Decided May 9, 1882.

INJUNCTION—BREACH OF CONTRACT.

A person who parts with his interest in a drama and a patented invention by contract with another cannot, upon breach of such contract by the grantee, interfere with his use of them by injunction or use them against his wishes. The proper remedy is by action for damages. Preliminary injunction, however, granted to restrain the first party from exhibiting the play and using the invention.

WALLACE, *C. J.*:

The parties seek each to restrain the other by a preliminary injunction from exhibiting the play copyrighted by the title of "Hazel Kirke" and from employing the mechanical device known as the "double stage," secured by letters patent of the United States. Each founds his claim to relief upon an agreement made between them in July, 1879, which agreement each party insists has been violated by the other. By that agreement Mackaye engaged his services to Mallory for the period of ten years as author and inventor, and stipulated that the property in his productions and the income and receipts arising therefrom should belong exclusively to Mallory. He further agreed that his time and services as such author and inventor should belong exclusively to Mallory, and should be devoted in such manner as Mallory might direct, and that he would not use, or permit any person to use, any play, dramatic work, or invention produced by him without the consent of Mallory. Mallory on his part agreed to pay Mackaye an annual salary of $5,000, and after profits from the dramatic enterprises in which Mackaye's services should be employed by Mallory should reimburse Mallory's expenditures and $30,000 in addition, this salary was to be increased by a sum equal to one-fourth of the annual profits. The agreement also provided that Mallory should have the right to terminate the contract at the termination of any one year of the contract period; but if so terminated then Mallory should pay Mackaye one-fourth of the cash earnings which might have then accrued after reimbursing Mallory for his expenditnres and interest thereon. It was also a condition of the contract that the sums thus to be paid should be received by Mackaye as full compensation for all copyrights, inventions, royalties, income, and receipts.

Proceeding under this contract Mackaye produced the play of Hazel Kirke, and obtained a copyright for it, and invented and obtained letters patent for the device of the double stage, and assigned the copyright and letters patent to Mallory, while Mallory upon his part expended large sums of money in theater property and in the current expenses of the presentation and performance of Hazel Kirke, and received large returns from the exhibition of the drama. After the expiration of the first year of the contract Mackaye insisted that Mallory should furnish him with a statement of accounts, and September 1, 1880, Mallory furnished to Mackaye a memorandum, showing receipts amounting to $102,858. Thereupon differences arose between the parties. It is only necessary for present purposes to refer to those which relate to the correctness and fairness of the accounts kept by Mallory, and as to these it is sufficient to say that the merits of the controversy cannot be satisfactorily determined upon the affidavits read, and should not be adjudicated upon this motion.

The controversy upon the statement thus made is sufficiently presented to exhibit the legal and equitable rights of the parties so far as they are to be determined now. It may be that upon an accounting a larger sum will be found to be Mackaye's just proportion of the profits than Mallory assumes to be due to him; but the court cannot make a new contract in substitution of the one which the parties made for themselves. That contract, as well as the transfers made in pursuance of it, invested Mallory with the exclusive property in the play and in the patented invention. He was at liberty from the outset to use the drama and the patented device as he saw fit. He had the legal right to give them away or to consign them to obscurity. His contract with Mackaye was to pay the latter a fixed sum by way of salary and a further contingent sum, the amount of which was to depend solely upon Mallory's option. Undoubtedly Mackaye expected that Mallory would so employ the property that both parties would profit by it; but the contract carefully excludes the former from any right to insist upon the fulfillment of such an expectation. There is no condition precedent or subsequent in the contract which can be invoked to defeat Mallory's title or reinvest Mackaye with any interest in the property. If Mallory has refused to perform on his part those conditions of the contract that were to be performed subsequently, Mackaye's remedy is by his action for damages. The nature of the property transferred by the contract does not modify the legal rights of the parties. It is not material that the value is difficult to estimate, or that it was the production of intellectual effort. It suffices that Mackaye's right of compensation under the agreement rests in covenant for the breach of which he has

a remedy upon the contract. He cannot reinvest himself with the title to the property he transferred. (*Hartshorn* v. *Day*, 19 How., 211.)

As Mackaye has no interest in the drama or the patent, but only in the profits which may arise from Mallory's use of them, Mackaye cannot interfere with Mallory's use of them by an injunction, and cannot be permitted against Mallory's wishes to use them himself.

An injunction is granted to Mallory and denied to Mackaye.

U. S. Circuit Court—Southern District of New York.

SEARLS *v.* BOUTON *et al.*

Decided June 22, 1882.

1. REISSUE—ANSWER IN SUIT UPON.

In a suit upon a reissued patent it seems to be sufficient, in order to put in issue the lawfulness of the enlargement of claims and the scope of the original, to allege in the answer to the bill of complaint that the original patent was not surrendered because inoperative or invalid by reason of claiming too much, and that in the reissue the claims have been broadened, so as to cover more than the patentee had a right to claim as new.

2. REISSUE PATENT NO. 9,297 DECLARED INVALID.

Reissue Patent No. 9,297, dated July 13, 1880, for an improvement in whip-sockets, declared invalid because an unauthorized enlargement of the original.

Mr. J. P. Fitch for the orator.

Mr. N. Davenport for the defendants.

WHEELER, *J.:*

This cause has now been further heard as to the validity of the reissued patent involved therein, No. 9,297, dated July 13, 1880, the original of which was dated April 28, 1874, for an improvement in whip-sockets, as affected by the original patent, now in evidence. The only question is whether the original will sustain the reissue. It is argued for the orator that the only form of this question raised by the answer is whether the reissue is for the same invention as that described in the original, and that no question of laches can properly be considered, because no delay is alleged. Without considering whether it is necessary to set that defense up separately in the answer in order to raise that question, it is sufficient now to notice that in this answer it is alleged that the original patent was not surrendered because it was invalid or inoperative by reason of claiming too much, and that in the reissue the claims have been broadened, so as to cover more than the orator had the right to claim as new. This seems to sufficiently put in issue the propriety and lawfulness of the enlargement of the claims and the scope of the patent at the time and in the manner in which it was done.

The original patent was for a whip-socket having a bell-shaped top, and a rubber disk for steadying the whip fitting into an inner groove near the top in the bell-shaped part, and appears to cover no whip-sockets not having such a shaped top.

The reissue is for such whip-sockets generally, without any limitation to that form of top. The patent is to that extent, and, perhaps, in some other particulars, enlarged in the reissue. That brings this case within the principles of *Miller* v. *The Bridgeport Brass Company* (21 O. G., 201) and *James* v. *Campbell*, (Ibid., 337,) as now understood.

Let the decree heretofore ordered be so modified as to dismiss the bill as to this patent.

U. S. Circuit Court—Eastern District of Michigan.

DAY *v.* THE DETROIT CITY RAILWAY COMPANY.

Decided June 30, 1881.

INFRINGEMENT—PATENT NO. 190,563 AND REISSUE NO. 8,388.

Defendant held to infringe Day's Patent No. 190,563, May 8, 1877, and Reissue Patent No. 8,388, August 27, 1878, for railway-track clearers.

Messrs. Sprague & Hunt for the complainant.

Mr. Geo. H. Lothrop for the defendant.

BROWN, *D. J.:*

This cause having been heretofore heard on argument by counsel for the respective parties on the pleadings and proofs, and the court having considered the same, and being of the opinion that the complainant was the first and original inventor of the railway-track clearers such as are described in his Reissue Patent No. 8,388, dated August 27, 1878, and also that he was the first and original inventor of the railway-track clearers such as are described in his patent dated May 8, 1877, and numbered 190,563, and claimed in the first clause of the claims of said patent, adjudges and decrees that the defendant has infringed the said Reissue Patent No. 8,388 in making and using railway-track clearers containing—

1. In a railway-car, a pair of independently-acting scrapers, pivotally secured to the floor of the same, and resting upon the track, when in operation, wholly by their own weight, in combination with means for raising and lowering such scrapers simultaneously, substantially as and for the purpose set forth.

2. In a track-cleaning device, the combination, with an independently-acting scraper, resting, when in operation, wholly by its own weight upon the track, of a draw-bar in the direct line of draft and a supplementary and diagonal draw-bar, which at the same time acts as a brace, the forward ends of both of said draw-bars being secured on the same axial line, substantially as and for the purpose set forth.

3. The construction and arrangement of the shank B, as described, with relation to scraper A, draw-bar C, and diagonal brace E, as and for the purposes set forth.

4. The combination, with the draw-bar C and scraper A, of the diagonal brace E, as and for the purpose set forth.

* * * * * * *

7. The combination, with the pivoted track-cleaning scrapers, of chain J, pulley K, and cranked shaft P, for raising and lowering the scrapers, substantially as described.

And also that the defendant has infringed the said Patent No. 190,563, in making and using railway-track cleaners containing—

1. The adjustable bracket E, in combination with the leader C and brace D, and scraper, substantially as and for the purpose described,

As charged in the said bill of complaint, and that the said complainant is entitled to have a perpetual injunction to restrain said defendant, its agents, servants, and workmen, and all claiming or holding under or through it from making, using, or vending, or in any manner disposing of railway-track clearers embracing the invention or improvements described in said letters patent, viz:

1. In a railway-car, a pair of independently-acting scrapers, pivotally secured to the floor of the same, and resting upon the track, when in operation, wholly by their own weight, in combination with means for raising and lowering such scrapers simultaneously, substantially as and for the purpose set forth.

2. In a track-cleaning device, the combination, with an independently-acting scraper, resting, when in operation, wholly by its own weight upon the track, of a draw-bar in the direct line of draft and a supplementary and diagonal draw-bar, which at the same time acts as a brace, the forward ends of both of said draw-bars being secured on the same axial line, substantially as and for the purpose set forth.

3. The construction and arrangement of the shank B, as described, with relation to scraper A, draw-bar C, and diagonal brace E, as and for the purposes set forth.

4. The combination, with the draw-bar C and scraper A, of the diagonal brace E, as and for the purpose set forth.

* * * * * * *

7. The combination, with the pivoted track-cleaning scrapers, of chain J, pulley K, and cranked shaft P, for raising and lowering the scrapers, substantially as described.

And also—

1. The adjustable bracket E, in combination with the leader C and brace D, and scraper, substantially as and for the purpose described.

And it is further adjudged and decreed that the cause be referred to Addison Mandell, Esq., a master of this court, to ascertain and report the number of railway-track clearers as described in said patents made and used, and also the number sold, by the said defendant since the twenty-seventh day of August, in the year 1878, and the damages he has sustained, and the use and profits the defendant has derived by reason of such infringement since the time last aforesaid; and upon the coming in and confirmation of said report that said complainant have a decree and execution for the amount found due to him, and also for the costs of this suit to be taxed.

THE

OFFICIAL GAZETTE

OF THE

United States Patent Office.

[BY AUTHORITY OF CONGRESS.]

VOL. 22—No. 12. TUESDAY, SEPTEMBER 19, 1882. PRICE—$5 per year

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Action of the Swiss Government Relative to a General Patent Law.

DEPARTMENT OF STATE,
WASHINGTON, *August* 23, 1882.

SIR: I have the honor to send you inclosed, for your information, a copy of a portion of dispatch No. 103 from our Consul at Basle, Switzerland, relating to the defeat, on a vote by the people, of a proposed amendment to the Constitution of the Swiss Republic authorizing the general government to enact and enforce a law for the protection of inventions by patents.

I have the honor to be, sir, your obedient servant,

JOHN DAVIS,
Acting Secretary.

The Hon. HENRY M. TELLER,
Secretary of the Interior.

[Extract No. 103.]

UNITED STATES CONSULATE,
BASLE, *August* 3, 1882.

SIR: In dispatch No. 98, of January 13, last, from this consulate, a report was presented stating that the Federal Congress of Switzerland had recently enacted an amendment to the Constitution of this Confederacy, the purpose of which amendment was to enable the Federal Assembly to enact a general patent law, this prerogative having been previously reserved by the several Cantonal governments.

The very general and direct interest which is felt in this subject by American inventors and manufacturers would seem to justify this supplemental report to the Department relating to the fate of the measure in question. As was stated in the report of January last, the amendment, having been adopted by the Assembly, was required to be submitted for ratification to a vote of the people. This took place on Sunday July 30, and from the nearly complete returns thus far received it appears to have been defeated by a majority of 5,064 ballots in a total vote of 295,420. Under the laws of Switzerland ten years must elapse before a defeated amendment to the Constitution can be again presented for popular approval, so that for the present the patent law of Switzerland is definitely set aside.

* * * * * * * *

I am, sir, very respectfully, your obedient servant,

FRANK H. MASON, *Consul.*

Hon. JOHN DAVIS,
Assistant Secretary of State,
Washington, D. C.

Issue of September 19, 1882.

Patents	419—No. 264,426 to No. 264,844,	inclusive.
Designs	16—No. 13,297 to No. 13,312,	inclusive.
Trade-Marks	22—No. 9,669 to No. 9,690,	inclusive.
Labels	7—No. 2,760 to No. 2,766,	inclusive.
Reissues of patents	7—No. 10,198 to No. 10,204,	inclusive.
Total issue	471	

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks and Labels.	States.	Patents and Designs.	Trade-Marks and Labels.
Alabama	.....	.....	Nebraska	1	.....
Arizona Territory	.....	.....	Nevada	1	.....
Arkansas	.....	.....	New Hampshire	.....	.....
California	11	1	New Jersey	49	.....
Colorado	2	.....	New Mexico Territory	.....	.....
Connecticut	16	2	New York	83	5
Dakota Territory	2	.....	North Carolina	3	1
Delaware	3	.....	Ohio	27	.....
District of Columbia	4	.....	Oregon	3	.....
Florida	.....	.....	Pennsylvania	37	1
Georgia	2	.....	Rhode Island	6	.....
Idaho Territory	.....	.....	South Carolina	1	.....
Illinois	32	1	Tennessee	3	.....
Indiana	23	.....	Texas	5	.....
Indian Territory	.....	.....	Utah Territory	1	.....
Iowa	11	1	Vermont	3	.....
Kansas	7	.....	Virginia	1	13
Kentucky	7	.....	Washington Territory	.....	.....
Louisiana	2	.....	West Virginia	.....	.....
Maine	1	.....	Wisconsin	9	1
Maryland	12	.....	Wyoming Territory	.....	.....
Massachusetts	27	1	United States Army	.....	.....
Michigan	9	1	United States Navy	.....	.....
Minnesota	4	.....			
Mississippi	2	.....	Total to citizens of the United States	420	28
Missouri	10	.....			
Montana Territory	.....	.....			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks and Labels.	Countries.	Patents and Designs.	Trade-Marks and Labels.
Australia			France		
Austria			Germany	2	1
Barbadoes			Holland	1	
Belgium			Italy	1	
Bermuda			New Zealand		
Brazil			Russia		
Canada	2		Spain		
Chili			Sweden		
Colombia, U. S. of			Switzerland		
Cuba					
Denmark			Total to citizens of foreign countries	15	1
Ecuador					
England	9				

DESIGNS.

13,297.—HANGING VASE.—*Rose Lucas Allen*, Howard, Pa. Application filed July 24, 1882. Term of patent 3½ years.

13,298.—TOY MONEY-BANK.—*George S. Crosby*, Bridgeport, Conn. Application filed August 11, 1882. Term of patent 3½ years.

13,299.—WINDOW-SHADE.—*Ernest J. Hamm*, Greenville, N. J. Application filed August 16, 1882. Term of patent 3½ years.

13,300.—FRUIT-BOWL.—*George E. Hateh*, Meriden, Conn., assignor to *The Meriden Flint Glass Company*, same place. Application filed August 16, 1882. Term of patent 7 years.

13,301.—FLOWER-VASE.—*George E. Hateh*, Meriden, Conn., assignor to *The Meriden Flint Glass Company*, same place. Application filed August 16, 1882. Term of patent 7 years.

13,302.—CARPET.—*Otto Heinigke*, New Utrecht, N. Y., assignor to *The Hartford Carpet Company*, Hartford, Conn. Application filed August 11, 1882. Term of patent 3½ years.

13,303.—CARPET.—*Henry Hunt*, Greenville, N. J., assignor to *The Hartford Carpet Company*, Hartford, Conn. Application filed August 11, 1882. Term of patent 3½ years.

13,304.—TRIMMING.—*Leopold Koenig*, New York, N. Y. Application filed August 16, 1882. Term of patent 3½ years.

13,305.—CARPET.—*George Lees*, Kidderminster, county of Worcester, England, assignor to *Horner Brothers*, Philadelphia, Pa. Application filed August 15, 1882. Term of patent 3½ years.

13,306 to 13,310, inclusive.—FIRE-PLACE.—*William Tweeddale*, Brooklyn, assignor to *The J. L. Mott Iron Works*, New York, N. Y. Applications filed August 11, 1882. Term of patents 7 years.

13,311.—CARPET.—*George Curtis Wright*, New York, N. Y., assignor to *The Hartford Carpet Company*, Hartford, Conn. Application filed August 11, 1882. Term of patent 3½ years.

13,312.—STATIONERY.—*David L. Davis*, Brooklyn, N. Y. Application filed August 22, 1882. Term of patent 3½ years.

TRADE-MARKS.

[Certificates of registration of Trade-Marks numbered 8,191 and upward are registered under the act of March 3, 1881.]

9,669.—PLUG OR CHEWING TOBACCO, SMOKING-TOBACCO, AND CIGARETTES.—*J. B. Pace Tobacco Company*, Richmond, Va. Application filed July 20, 1882.
"A tag cut or stamped out of tin in the shape of a scroll."

9,670.—PLUG OR CHEWING TOBACCO, SMOKING-TOBACCO, AND CIGARETTES.—*J. B. Pace Tobacco Company*, Richmond, Va. Application filed July 20, 1882.
"The words 'THE FLAG OF THE WORLD.'"

9,671.—PLUG OR CHEWING TOBACCO, SMOKING-TOBACCO, AND CIGARETTES.—*J. B. Pace Tobacco Company*, Richmond, Va. Application filed July 20, 1882.
"The word 'DIANORA.'"

9,672.—PLUG OR CHEWING TOBACCO, SMOKING-TOBACCO, AND CIGARETTES.—*J. B. Pace Tobacco Company*, Richmond, Va. Application filed July 20, 1882.
"A design or picture representing a man in sailor costume embracing a woman."

9,673.—PLUG OR CHEWING TOBACCO, SMOKING-TOBACCO, AND CIGARETTES.—*J. B. Pace Tobacco Company*, Richmond, Va. Application filed July 20, 1882.
"The words 'DOUBLE SQUARES.'"

9,674.—PLUG OR CHEWING TOBACCO, SMOKING-TOBACCO, AND CIGARETTES.—*J. B. Pace Tobacco Company*, Richmond, Va. Application filed July 20, 1882.
"The arbitrary word-symbol 'TIDBITS.'"

9,675.—PLUG OR CHEWING TOBACCO, SMOKING-TOBACCO, AND CIGARETTES.—*J. B. Pace Tobacco Company*, Richmond, Va. Application filed July 20, 1882.
"The arbitrary word-symbol 'POCKET COMPASS.'"

9,676.—PLUG OR CHEWING TOBACCO, SMOKING-TOBACCO, AND CIGARETTES.—*J. B. Pace Tobacco Company*, Richmond, Va. Application filed July 20, 1882.
"Thearbitrary word-symbol 'OSCAR WILDE.'"

9,677.—PLUG OR CHEWING TOBACCO, SMOKING-TOBACCO, AND CIGARETTES.—*J. B. Pace Tobacco Company*, Richmond, Va. Application filed July 20, 1882.
"The arbitrary word-symbol 'FORECASTLE.'"

9,678.—PLUG OR CHEWING TOBACCO, SMOKING-TOBACCO, AND CIGARETTES.—*J. B. Pace Tobacco Company*, Richmond, Va. Application filed July 20, 1882.
"The arbitrarily-selected word-symbol 'PRIVATE STOCK.'"

9,679.—PLUG OR CHEWING TOBACCO, SMOKING-TOBACCO, AND CIGARETTES.—*J. B. Pace Tobacco Company*, Richmond, Va. Application filed July 20, 1882.
"A circular tin tag bearing in its center the word 'SUN,' with radiating dashes therefrom to the circumference."

9,680.—PROPRIETARY MEDICINE.—*Roch Raphael Gareau*, Detroit, Mich. Application filed August 24, 1882.
"The pictorial representation of a priest in the supposed act of haranguing twelve persons, while holding aloft, in his right hand, a bottle."

9,681.—CERTAIN EDGE-TOOLS.—*The Collins Company*, Collinsville, Canton, Conn. Application filed November 21, 1881.
"The written signature of SAMUEL W. COLLINS."

9,682.—MEDICATED PLASTER.—*Henry O. Daniels*, Rochester, N. Y. Application filed August 18, 1882.
"The representation of a horse-chestnut burr."

9,683.—CIGARS.—*Hirschhorn & Bendheim*, New York, N. Y. Application filed August 24, 1882.
"The word 'TOMAHAWK.'"

9,684.—CHEWING AND SMOKING TOBACCO, CIGARS, AND CIGARETTES.—*Henry M. Mendel*, Milwaukee, Wis. Application filed August 28, 1882.
"The representation of a canal-boat, in connection with the word 'TOW-PATH.'"

9,685.—SPOOL COTTON OR THREAD.—*Samuel B. Nichols*, New York, N. Y. Application filed August 19, 1882.
"The word-symbol 'THE HOME.'"

9,686.—SPOOL-THREAD.—*S. B. Nichols & Co.*, New York, N. Y. Application filed August 19, 1882.
"The words 'THE KILLINGTON.'"

9,687.—PORTLAND CEMENT.—*Portland Cement Fabrik "Stern," Toepffer, Gravcitz & Co.*, Stettin, Germany. Application filed August 30, 1882.
"The representation of a star."

9,688.—PREPARED FLOUR.—*Philip Thorpe*, New York, N. Y. Application filed August 11, 1882.
"A female head intended to represent Martha Washington and the words 'MARTHA WASHINGTON.'"

9,689.—BARBED WIRE.—*Washburn & Moen Manufacturing Company*, Worcester, Mass. Application filed August 25, 1882.
"The word-symbol 'THICKSET.'"

9,690.—TYPE-WRITING MACHINES.—*H. H. Unz*, Chicago, Ill. Application filed August 26, 1882.
"A circular disk-shaped mark having circumferential notches, so as to represent an official seal."

LABELS.

2,760.—Title: "CHAMBERLAIN'S COUGH REMEDY."—*Chamberlain & Co.*, Des Moines, Iowa. Application filed August 26, 1882.

2,761.—Title: "DR. WALLACE S. SPRINGSTEEN'S CELEBRATED ANTISEPTIC UTERINE CAPSULES."—*William Coker*, Oakland, Cal. Application filed August 28, 1882.

2,762.—Title: "LAVINE SOAP."—*Albert B. Gillett*, Hartford, Conn. Application filed November 2, 1881.

2,763.—Title: "J. B. PACE'S FINE BRIGHT VIRGINIA TOBACCO. FIRST GRADE."—*J. B. Pace Tobacco Company*, Richmond, Va. Application filed July 20, 1882.

2,764.—Title: "J. B. PACE'S BRIGHT VIRGINIA TOBACCO. SECOND GRADE."—*J. B. Pace Tobacco Company*, Richmond, Va. Application filed July 20, 1882.

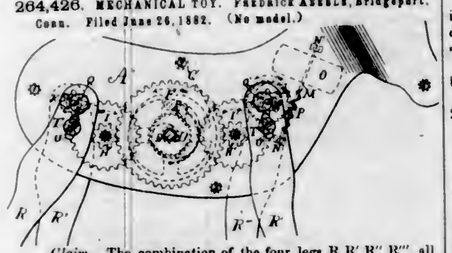
2,765.—Title: "SCARR'S FRUIT PRESERVATIVE."—*F. Scarr*, Charlotte, N. C. Application filed August 14, 1882.

2,766.—Title: "TINNERS UNION SEAL." (FOR TIN WARE.)—*Tinners Union Knights of Labor*, Pittsburg, Pa. Application filed August 26, 1882.

PATENTS

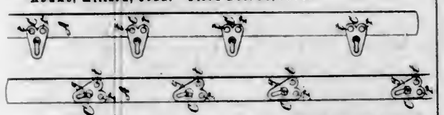
GRANTED SEPT 19, 1882.

264,426. MECHANICAL TOY. FREDRICK ARBLE, Bridgeport, Conn. Filed June 26, 1882. (No model.)



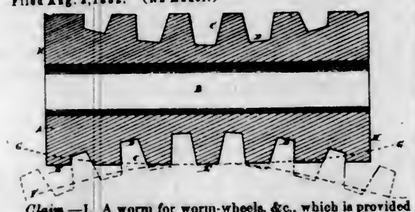
Claim.—The combination of the four legs R R′ R″ R‴, all constructed with the round holes S near the extreme upper ends of the same to receive the eccentrics Q Q′ Q″ Q‴, and with the slots U U′ under said holes, through which pass the studs T T′ T″ T‴, so that all said legs may have both a rising-and-falling and vibratory motion when actuated by the driving mechanism, as shown and described, for the object set forth.

264,427. CORSET BUSK AND CLASP. CATHARINE ANNE ADAMS, Milford, Conn. Filed Dec. 14, 1878.



Claim.—The combination, with a corset-steel having holes *g*, as shown, of an eye-lug pivoted at one corner to the steel and provided at the other corner with a beveled pin, *t*, projecting on its under side, and adapted to be received into said hole *g* when the lug is in position for fastening the corset, substantially as and for the purpose set forth.

264,428. GEARING. CHARLES E. ALBRO, Philadelphia, Pa. Filed Aug. 3, 1882. (No model.)



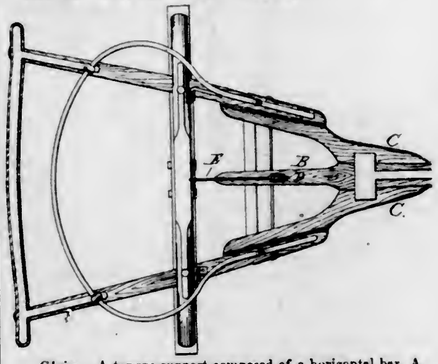
Claim.—1. A worm for worm-wheels, &c., which is provided with teeth converging to a point coinciding with the center of the worm-wheel it is adapted to drive, the enveloping-surface of said teeth being substantially cylindrical, as and for the purpose specified.

2. A worm for worm-wheels, &c., having its teeth converge to a point coinciding with the center of the worm-wheel it is adapted to drive, its root-curve corresponding to the periphery of the worm-wheel, and its enveloping surface or plane being substantially cylindrical, as and for the purpose specified.

3. A worm for worm-wheels, &c., in which its pitch-line coincides with the pitch-circle of the worm-wheel it is adapted to drive and its outer or enveloping surface cylindrical or convex, substantially as and for the purpose specified.

4. A worm provided with a thread which vanishes at one or both ends, substantially as and for the purpose specified.

264,429. TONGUE-SUPPORT. JOHN W. ANDERSON, South Bend, Ind. Filed July 1, 1882. (No model.)



Claim.—A tongue-support composed of a horizontal bar, A, having its outer end or ends secured to or against the wagon in any suitable manner and its center or inner end bent upward and held by a staple or eye near the base, in combination with the post D on the tongue and the bar or chain E, substantially as set forth.

264,430. BRIDLE-BIT MACHINE. JOSEPH V. ASH, Newark, N. J. Filed Dec. 5, 1881. (No model.)

Claim.—1. In a bridle-bit machine, the dies *t t′ t″*, formed, arranged, and adapted to operate in combination substantially as and for the purposes set forth and shown.

2. In a bridle-bit machine, the dies *w w′ w¹*, formed, arranged, and operating in combination substantially as herein set forth and shown, for the purposes specified.

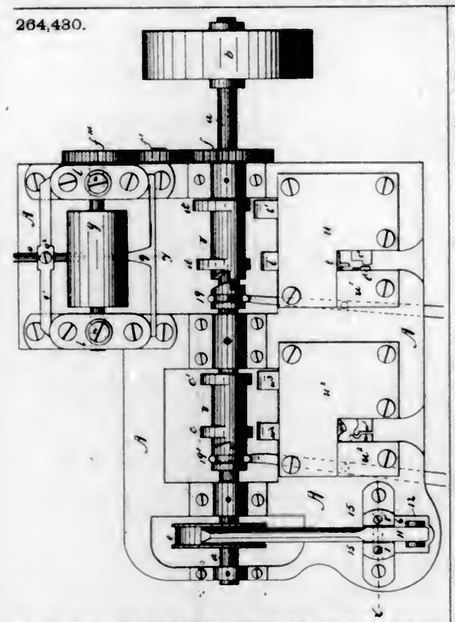
3. In combination, dies adapted to impress the bar, as at *p*, dies adapted to upset the shoulder *r* and chamfer the extremity *s*, dies adapted to turn the impressed portion *p*, and dies adapted to close said portion around the cheek-piece 4, all substantially as and for the purposes herein set forth and shown.

4. In combination, the dies 6 6′, adapted to engage with a mouth and cheek piece to unite the same, the lever 11, and cam *e*, all arranged and operating substantially as and for the purposes set forth and shown.

5. In combination with the bed-plate A, the driving-shaft carrying cams *e c c′ d d′*, and means, *f*, adapted to actuate the rollers *g g′*, said rollers *g g′*, dies adapted to upset the shoulder *r* and chamfer the extremity *s*, dies adapted to turn the portion *p*, and dies actuated by said cam *e* and lever 11, all arranged and operating substantially as herein set forth and shown.

6. In a bridle-bit machine, the combination, with the dies 6 6′, of the lever 11, fulcrumed in adjustable bearings and actuated

264,430.



by the cam *e*, the whole being arranged and operating substantially as and for the purposes herein set forth and shown.

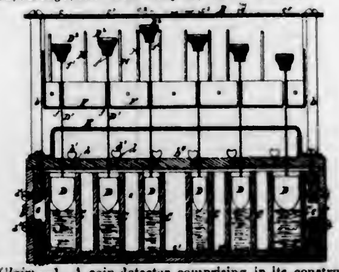
7. In combination, in a bridle-bit machine, the dies 6 6', adapted to unite the cheek-piece with the mouth-piece, as herein set forth, the box 12, posts 8, adjustable fulcrumal bearings 10, lever 11, and cam *e*, all arranged and operating substantially as and for the purposes herein set forth and shown.

8. In combination, in a bridle-bit machine, the dies 6 6', adapted to unite the cheek-piece with the mouth-piece, as herein set forth, the posts 8, bearings 10, lever 11, carrier 14, and set-screws 13 and 15, all arranged and operating substantially as herein set forth and shown.

9. The combination, with the dies e^2 e' e^3 and wedge e^4, of the cams *e e'* and clutch 19', all arranged and operating as and for the purposes set forth and shown.

10. The die *t*, having the tongue 21 and projection 22 thereon, adapted respectively to upset the shoulder *r* and form the chamfer in the extremity *s* when the bit-iron is held in rigid position for the purpose, substantially as and for the purpose herein set forth and shown.

264,431. COUNTERFEIT-COIN DETECTOR. JOHN B. ATWATER, Chicago, Ill. Filed May 19, 1882. (No model.)

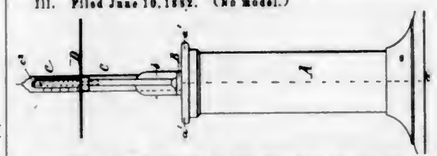


Claim.—1. A coin-detector comprising in its construction a series of tight cylinders of relatively different diameter and capacity for containing a weighing-fluid—as quicksilver, for instance—a series of weighing-trays mounted at different altitudes upon the stems of a series of floats having respectively different amounts of fluid-displacing surface and being properly guided, and a measuring-table having slots corresponding to standard coins, substantially as and for the purpose described.

2. A coin-detector comprising a slotted measuring-table, overhanging directing-rods, an inclined conducting-apron, vertically-moving trays applied on guided float-stems, cylindrical vessels supplied with a fluid which acts against the floats in their descent, and a coin-box, substantially as described.

3. In a counterfeit-coin detector, floating trays which are adjustable by screw-threads on their stems, and vessels containing quicksilver, substantially as and for the purpose described.

264,432. WEIGHING-MACHINE. JOHN B. ATWATER, Chicago, Ill. Filed June 10, 1882. (No model.)

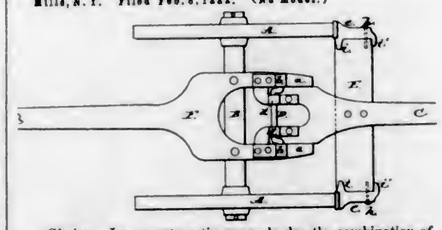


Claim.—1. The chamber A, for containing quicksilver, provided with guide-rod d^3, of prismatic form, and with a sealed plate, C, in connection with the hollow float E, having a tray-stem and tray, and a pointer applied to it, substantially as and for the purpose described.

2. A weighing-scale comprising the tray-stem, of prismatic form, the hollow float, the guide-stem d^3, having longitudinal corners, and the chamber A, for containing quicksilver, substantially as described.

3. The adjustable sealed plate C, in connection with the pointer *f*, tray D, tray-rod *d*, float E, guide d^3, and chamber A, for containing mercury, substantially as described.

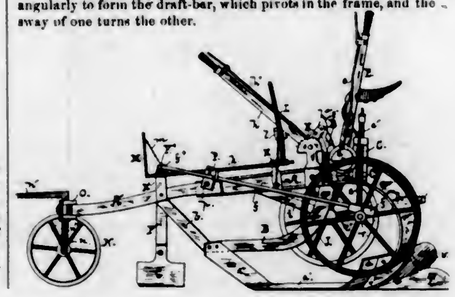
264,433. WAGON-BRAKE. JOSEPH BARSALOUX, Griswold's Mills, N. Y. Filed Feb. 8, 1882. (No model.)



Claim.—In an automatic wagon-brake, the combination of the bifurcated hounds, secured to the front axle and having boxes *b* on the arms *a* thereof, the tongue C, secured to the rock-shaft D between the arms *a*, the cross-bar E, rigidly secured to the tongue, and the pivoted brake-shoes *c*, having the stops *i* and *i'*, substantially as specified.

264,434. PLOW. BENJAMIN S. BENSON, Baltimore, Md. Filed May 6, 1882. (No model.)

Brief.—The main wheel is designed to automatically steer the plow. Its axle is bent upward to a vertical plane and rests in a bearing which is elevated or depressed by a lever, pulley, and chain. From the spindle outside the wheel a curved bar extends, and is pivoted at the front of the frame, and then turns down and carries a sliding landside, which runs against the furrow-wall, and will, unless the connecting-bar is locked, guide the wheel. Any crooks in the furrow will cause the wheel and axle to incline from a right angle to the line of draft. The forward-wheel axle is bent angularly to form the draft-bar, which pivots in the frame, and the sway of one turns the other.



Claim.—1. In a plow, a supporting-wheel mounted upon an axle susceptible of angular movement with reference to the line of draft, and adapted, in connection with a gage-plate or landside, to automatically steer the plow, substantially as and for the purpose set forth.

2. In a plow, a supporting-wheel susceptible of angular movement with reference to the line of draft, in combination with a gage-plate or landside adapted to follow the contour of the previous furrow and actuate the wheel to steer the plow, as set forth.

3. In a plow, a gage-plate or landside connected with the axle of the supporting-wheel, and adapted, in connection therewith, to steer the plow, as set forth, in combination with means for lifting said plate to clear obstructions, substantially as described.

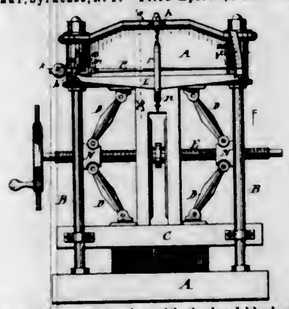
4. In a plow, and in combination with its curved mold-board, a reversely-inclined share, *a'*, and a vertical plate, F, adapted to resist lateral thrust, as set forth.

5. In combination with the plow, the supporting-wheel D, susceptible of vertical adjustment and of angular movement with reference to the line of draft, in combination with the bar *f*, curved across the frame and carrying a gage-plate or landside, and means for lifting the same and adjusting it laterally, as set forth.

6. In combination with the plow and frame, a series of vertically-adjustable supporting-wheels, one or more of which are susceptible of angular movement with reference to the line of draft, and means, substantially as described, for determining such movement automatically with reference to the contour of the previous furrow.

7. In combination with the plow and frame, having supporting-wheels D J, one of which is susceptible of an angular movement with reference to the line of draft, the gage-plate G and swiveling-wheel N, vertically and laterally adjustable with reference to the frame, as set forth.

264,435. POWER-INDICATOR FOR PRESSES. HORUS E. ROSCHMAN, Syracuse, N. Y. Filed Apr. 22, 1882. (No model.)



Claim.—1. In combination with the head-block or foot-block of a press and the lever L and pointer P, arranged over said lever, as shown, the suspension-rod *r*, provided with the slot *s* and with the fulcrum *n*, substantially as and for the purpose set forth.

2. In combination with the head-block or foot-block A, fulcrum *n*, lever L, and link or hook *d*, the pointer P, provided with a bearing, *a*, arranged adjustably in its proximity to the pivot *b*, substantially as described and shown, for the purpose set forth.

3. In combination with the head or foot block A, fulcrum *n*, lever L, and hook *d*, the pointer P, provided with the slot *e*, movable block *a*, and set-screw *g*, as shown and described.

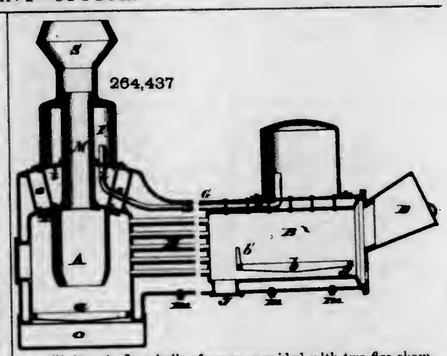
264,436. WIRE-FENCE BARB. FRANK W. BRAINERD, Freeport, Ill. Filed July 19, 1882. (No model.)



Claim.—The combination, with a two-strand fence-cable, of a barb consisting of a short piece of wire, pointed at both ends, wrapped once around both strands of the cable, and having one of its ends passed between the cable-strands, bent over the wrap, passed again between the strands, and bent at right angles and in a plane at right angles to the cable, the points of the barb lying in the same plane, parallel to each other and in opposite directions, substantially as shown and described.

264,437. BOILER-FURNACE. ELIJAH H. BROWNELL, Dayton, Ohio. Filed Apr. 1, 1882. (No model.)

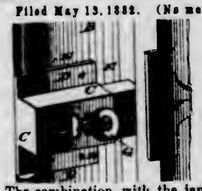
264,437



Claim.—1. In a boiler-furnace provided with two fire-chambers, means whereby the smoke-stack may be shifted and connected to either chamber directly, as desired, substantially as described.

2. The herein-described boiler-furnace and boiler, containing a horizontal boiler, with flues connecting fire-chambers at each end thereof, one of which chambers is provided with a self-feeding magazine, and having two steam-domes connected by a pipe which passes through the boilers and enters said domes, and also provided with reversible smoke-stacks, the whole constructed and arranged substantially as and for the purpose specified.

264,438. ELASTIC DOOR-CHECK. HORACE H. BURRILL, Washington, Ind. Filed May 13, 1882. (No model.)



Claim.—The combination, with the jamb B, of the box or casing C, having slot H, provided with notches I, and the adjustable plate or cushion F, having handle or knob G, as set forth.

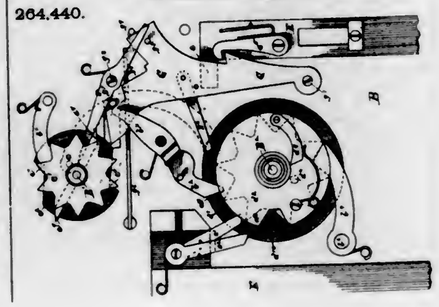
264,439. TRACE-FASTENER. GEORGE J. CAVE, Elizabeth, N. J. Filed June 28, 1882. (No model.)



Claim.—1. The combination, with the shank, of a button provided with a lug, as *m*, adapted to engage with the corner of said shank, and operating substantially as and for the purpose set forth.

2. As an improved article of manufacture, a trace-fastener adapted to be arranged over and secured upon the end of a wagon or carriage whiffletree to receive the trace, the same consisting of a ferrule, a shank having an angular extremity, a button pivotally secured near said angular extremity and adapted to be held in line with or at right angles to the shank by its own energy, all said parts being arranged, combined, and operating substantially as herein set forth and shown.

264,440.

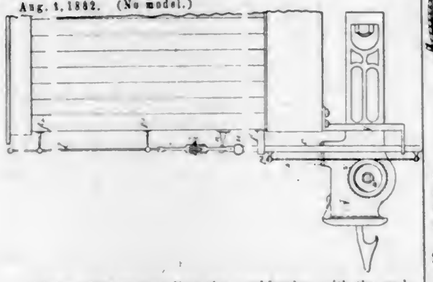


264,440. FARE-REGISTER. EDWIN CHESTERMAN, Philadelphia, Pa. Filed June 16, 1882. (No model.)

Claim.—1. The combination of a trip-signal, a trip or set-back register, a lever actuated by the register to lock its actuating-handle by turning said register backward, and mechanism actuated by the trip-signal to release said actuating-handle when the trip-signal is turned to a fresh indication, substantially as set forth.

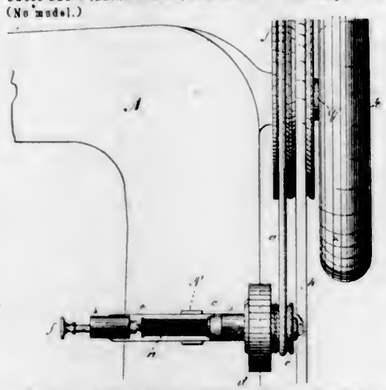
2. The combination of a trip-signal, a trip or set-back register, a lever actuated by the register to lock its actuating-handle by turning said register backward, and mechanism actuated by the trip-signal when the register is at zero to release said actuating-handle by turning said trip-signal to a fresh indication, but which mechanism will not release said actuating-handle unless the register is at zero, substantially as set forth.

264,441. CAR-COUPLING. JOHN COUP, Cleveland, Ohio. Filed Aug. 4, 1882. (No model.)



Claim.—In a car-coupling, the combination, with the rock-shaft B, of the mechanism for rotating the same, consisting of the grooved wheel *m*, connected by cord or chain *k* with the vertical sliding rod *r*, playing in brackets *f g*, and operated by either of the levers *l m w*, connected to said rod *r* by the link-coupling *h*, for operating the coupling, substantially as described.

264,442. BOBBIN-WINDER FOR SEWING-MACHINES. JOSEPH CROSS and WILLIAM HARTY, Newark, N. J. Filed Apr. 7, 1882. (No model.)



Claim.—1. In a sewing-machine, the combination of the double-grooved pulley *j*, actuated by the main shaft *q*, the belt *g*, the bobbin-carrier provided with the pulley *e* and grinding-wheel *d*, the belt *h*, and means for operating the same, substantially as herein set forth and shown.

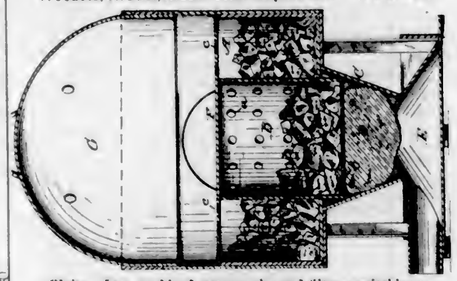
2. In a sewing-machine, the combination, with the stand A, having the projecting lug A′ thereon, of the bed *a*, adjusted upon said lug, the arms *b b′*, forming bearings for the bobbin-spindles *c c′*, said bobbin-spindles, the sharpening-wheel *d*, the pulley *e*, and means for operating the same, all arranged and operating substantially as and for the purposes herein set forth and shown.

3. In a sewing-machine, the sharpening-wheel *d* and bobbin-spindles, adjusted in suitable bearings, all arranged and combined with the stand-lug A′, substantially as herein set forth.

4. In combination with the stand A, having the lug A′ thereon, the bed *a*, having arms *b b′*, the bobbin-spindles working in said arms, the pulley *e*, actuating said spindles, the supplemental belt *g*, actuating said pulley and spindles, the double-grooved pulley *j*, and driving-belt *h*, all arranged and operating in combination substantially as set forth.

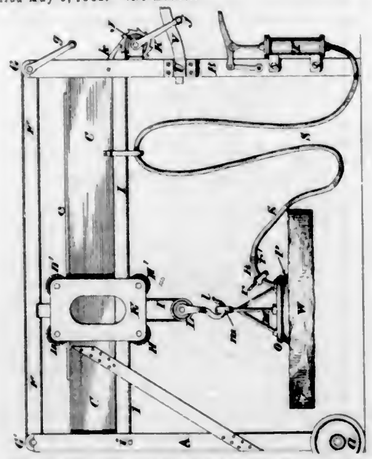
5. In combination in a sewing-machine, the bed *a*, carrying the bobbin-spindles *c c′*, recessed to receive the bobbin *n*, sharpening-wheel *d*, and pulley *e*, arranged and operating substantially as set forth.

264,443. COMBINED WATER FILTER AND COOLER. THOMAS V. CURTIS, St. Paul, Minn. Filed July 10, 1882. (No model.)



Claim.—In a combined water cooler and filter, a suitable vessel provided with the removable chamber A and central receptacle, B, for containing a filtering substance, in combination with a perforated cover, F, sponge-cup C, and reservoir E, all constructed and arranged substantially as shown and described.

264,444. TRAVELING CRANE. HENRY DAVIES, Newport, Ky. Filed May 9, 1882. (No model.)



Claim.—1. The combination, in a traveling crane, of frame A B C, carriage D D′ E H H′, shifting devices F G G′, hoisting appliances I J L *l*, pneumatic gripper N P R *r*, flexible connection S, and exhauster T, for the purpose herein described.

2. A pneumatic grapple for lifting apparatus, consisting of the head N, having a conical marginal flange, *s*, to which the flexible ring P is clamped by the hoop O, said head being provided with a valved pipe R *r*, as and for the purpose described.

264,445. PADLOCK. CHARLES C. DICKERMAN, Boston, Mass. Filed Nov. 17, 1881. (Model.)

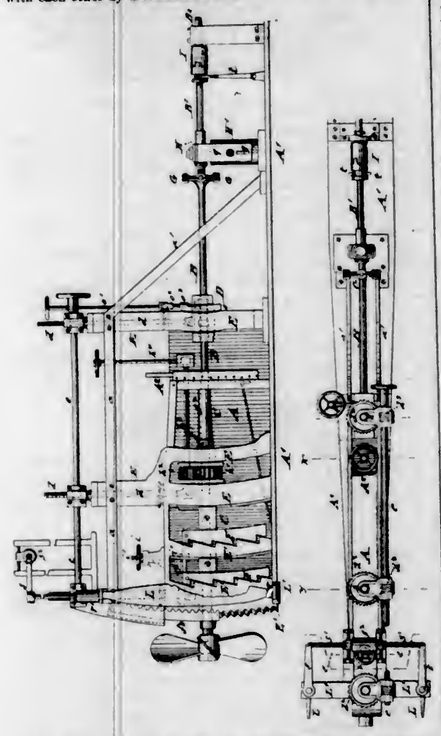


Claim.—1. In a padlock, the locking-bolt a^2, provided with the notches a^4 and a^5, in combination with locking-dog a^3, as shown and described.

2. In a padlock, the locking-bolt a^2 and the locking-dog a^3, in combination with the double-bitted key, one bit of which engages the lower end of the locking-bolt and the other the lower end of the locking-dog in unlocking, substantially as shown and described.

264,446. ADJUSTABLE SCREW-PROPELLER. JOSEPH W. DILKE, Brooklyn, N. Y. Filed Jan. 21, 1882. (No model.)

Brief.—The adjustable section of the propeller-shaft is housed in near the stern-post, and has its bearings within the housing. The end of the shaft bearing the propeller is held in position by a cogged sector engaging with a rack at the stern of the ship. The rudders are at each side of the screw, and are maintained parallel with each other by mechanism shown.



Claim.—1. In a propelling-gear for steamships, the combination, with the driving or main section of the shaft, of a short intermediate shaft-section connected thereto by a clutch-coupling, and of a vertically-adjustable propeller-shaft connected to the intermediate shaft-section by a universal joint, the intermediate shaft and its connections with the driving and screw-shafts being located in the hold of the vessel at some distance from the stern, substantially as set forth.

2. In a propelling-gear for steamships, the combination, with the vertically-adjustable end section of the shaft, of a stern-casing having arc-shaped guide-posts, of shaft-bearings guided along the posts, and of mechanism whereby the bearings are raised or lowered in the stern-casing, substantially as set forth.

3. In a propelling-gear for steamships, the combination of a stern-casing having arc-shaped guide-posts, a vertically-adjustable shaft-section, bearings for supporting and guiding the shaft-section, mechanism for raising or lowering the shaft-bearings in the casing, and mechanism for rigidly locking the shaft-bearings to the casing, substantially as specified.

4. In a propelling-gear for steamships, the combination of stern-casing A, having a vertically-guided end plate, A′, and guide-posts E E^3, with a vertically-adjustable shaft-section, B, a thrust-bearing, D, in front of the end plate, a main bearing, C, back of the end plate, and mechanism for raising or lowering the thrust and main bearings, substantially as described.

5. In a propelling-gear for steamships, the combination of a stern-casing, A, having arc-shaped and toothed rear guide-posts, E′, shaft-section B, main bearing C, locking rack-pieces F, and mechanism for raising or lowering the rack-pieces, substantially as set forth.

6. In a propelling-gear for steamships, the combination of a stern-casing, A, having toothed rear posts, E′, shaft-section B, longitudinally-adjustable box *f*, having toothed rear segments, *f′*, screw-nut *h h′*, and mechanism whereby the screw-nut is turned and the box moved outwardly or inwardly, substantially as set forth.

7. In a propelling device for steamships, the combination of a stern-casing, A, having vertically-guided end plates, A′, shaft-section B, and a main bearing, C, composed of a main box, *f*, interior tapering brasses *g*, screw-coupling *f*, and conically-tapering box *f′*, the latter being connected to the end plate of the casing, substantially as set forth.

8. In a propelling-gear for steamships, the combination of a stern-casing, A, having vertical guide-posts E E′, shaft-section B, having thrust-rings *p*, thrust-bearing D, having projecting side shoulders, wedge-pieces *o*, and mechanism for vertically adjusting the wedge-pieces, substantially as described.

9. In a propelling-gear for steamships, the combination of an adjustable end section, B, of the shaft and intermediate shaft-section, B′, both having forked adjoining ends at right angles to each other, with a universal joint, G, substantially as described.

10. In a propelling-gear for steamships, the combination of the adjustable end section, B, of the shaft, universal joint G, intermediate shaft-section, B′, supported by a ball-and-socket bearing, H, and a main section, B^3, connected by a clutch-coupling, I, with the intermediate shaft, B′, substantially as specified.

11. In a propelling-gear for steamships, the combination of a vertically-adjustable shaft-section, bearings for supporting the shaft-section, vertical suspension-rods applied to the bearings and provided with screw-threads of differentiated pitch, screw-sleeves supported in ball-and-socket bearings, and mechanism for actuating the sleeves, substantially as described.

12. In a propelling-gear for steamships, the combination of an adjustable shaft-section, B, and of an intermediate shaft-section, B′, both having forked adjoining ends at right angles to each other, with a universal joint, G, formed of coupling-rings having bearings for the shaft ends, and of intermediate packing-rings, substantially as specified.

13. In a propelling and steering gear for steam-vessels, the combination of a vertically-adjustable propeller and shaft, a stern-casing having fixed laterally-extending bracket-arms, vertical and parallel rudder-blades arranged equidistantly from the propeller-shaft and supported in step and neck bearings of the bracket-arms, and mechanism for simultaneously turning the rudder-blades in their bearings, substantially as set forth.

14. In a propelling and steering gear for steam-vessels, the combination of a vertically-adjustable propeller and shaft, a stern-casing for guiding the shaft, fixed upper and lower bracket-arms extending laterally and at right angles from the stern-casing, parallel upright rudder-blades arranged equidistantly from the propelling-shaft and supported in step and neck bearings of the bracket-arms, sustaining rings on the upper shaft ends of the blades inside of the correspondingly-grooved neck-bearings, fixed crank-arms at the upper ends of the rudder-shafts, transversely connecting screw-rods, and an actuating screw-nut, all substantially as specified.

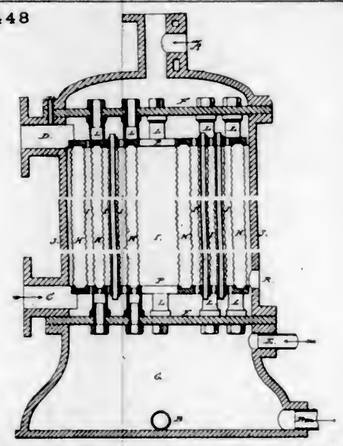
264,447. LOCKET. OSCAR M. DRAPER, North Attleborough, Mass. Filed July 13, 1882. (No model.)



Claim.—The improved locket herein described, consisting of two halves pivoted together so as to swing by each other in parallel planes, and provided with a ball-and-socket locking device located on that portion of the locket which is farthest from the pivotal point, substantially as and for the purposes specified.

264,448. HEATER OR CONDENSER. THOMAS WILLIAM DUPPY, Liverpool, County of Lancaster, England, assignor to Alexander McDonald Black Fraser, same place. Filed May 16, 1882. (No model.) Patented in England Jan. 2, 1882, No. 15, and in Belgium Feb. 21, 1882, No. 57,132.

264,448



Claim.—1. In an apparatus for transmitting heat to fluids, applicable also for condensing or cooling, the combination of an outer casing or shell, an inlet, an outlet, upper and lower tube-plates, a series of concentric corrugated cylinders or annular casings inclosed within said casing or shell between said tube-plates, and rings that unite said concentric annular cylinders in pairs at their ends, so as to form closed annular corrugated chambers, to which communication is afforded by pipes communicating with the outside of said tube-plates, with a base provided with an air-inlet for the purpose of aerating the water of condensation, substantially as described.

2. In an apparatus for transmitting heat to fluids, applicable also for condensing or cooling, the combination of an outer casing or shell, tube-plates, concentric corrugated cylinders or annular casings, united in pairs by end rings, and pipes affording communication between the closed annular chambers inclosed by said concentric corrugated cylinders or annular casings and the outsides of said tube-plates, with a base provided with an air-inlet for the purpose of aerating the water of condensation, substantially as described.

3. In an apparatus for transmitting heat to fluids, applicable also for condensing or cooling, the combination of concentric corrugated cylinders or annular casings, grooved end rings uniting said corrugated cylinders or annular casings in pairs, and tie-bolts passing between said corrugated cylinders or annular casings from ring to ring, substantially as described.

4. In an apparatus for transmitting heat to fluids, applicable also for condensing or cooling, an end ring, I', with connecting-pipes I, constructed in one and the same piece of metal, grooved at its end and interiorly screw-threaded, in combination, the tube-plate F, and hollow set-screw K, as above described, for the purposes specified.

5. The apparatus for transmitting heat to fluids, applicable also for condensing or cooling, consisting of an outer cylindrical casing or shell provided with inlet and outlet branches, a tube-plate at each end, a hollow base with outlets and inlets, a dished cover with an inlet, a series of concentric corrugated cylinders or annular casings, united in pairs at their ends by rings to form closed annular corrugated chambers, to which communication is afforded by pipes communicating with the outsides of the tube-plates, all substantially as described and shown.

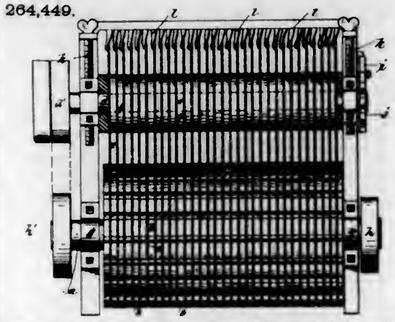
264,449. OATMEAL-CUTTER. JOSEPH F. FARR, Akron, Ohio. Filed Apr. 6, 1882. (No model.)

Claim.—1. An oatmeal cutter or machine provided with a rotary grain-carrier and a gang or series of circular knives normally stationary, but rotatable at pleasure to present fresh cutting-edges to the carrier.

2. The combination, in a machine for cutting oats, substantially as shown and described, of a rotary discous grain-carrier and adjustable circular knives normally stationary, up to which the grain is brought by the discous carrier and by which the grain is cut with a sharp shear cut.

3. The circular knives, their shaft, and a detent to hold stationary or release the same, combined with means to rotate said

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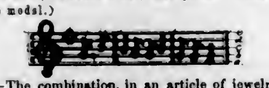
knives to admit of their being sharpened, substantially as shown and described.

4. The circular knives and their shaft held normally stationary, but adapted to be rotated, combined with means to rotate the same, and the sharpening devices *l*, arranged upon the frame-work of the machine in the rear of the knives, one for each knife, substantially as shown and described.

5. The combination, substantially as shown and described, of the rotary grain-carrier, the stationary circular knives, and their shaft with a pawl and ratchet to admit of the adjustment of the knives to present new cutting-surfaces to the carrier.

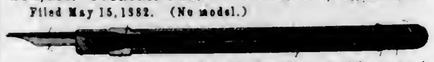
6. The discous feeder and the circular knives, in combination with movable or separable bearings, whereby either may be reversed to present new contact-surfaces, as specified.

264,450. JEWELRY. HENRY FLETCHER, Providence, R.I., assignor to Sweet, Fletcher & Co., same place. Filed July 20, 1882. (No model.)



Claim.—The combination, in an article of jewelry, of the skeleton staff formed of parallel wires or strips with intervening spaces arranged to represent the lines and spaces of a staff in music, with the separately-constructed musical symbols secured to the skeleton staff, substantially as described.

264,451. FOUNTAIN-PEN. WILLIAM H. GARD, Baltimore, Md. Filed May 15, 1882. (No model.)

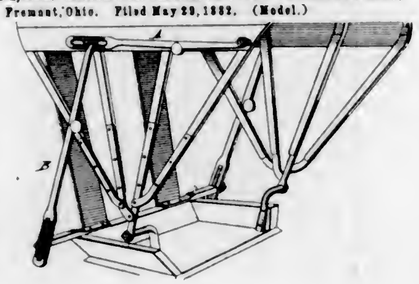


Claim.—1. The combination, in a fountain-pen, of the reservoir provided with an air-vent, the plug, constructed as described, inserted in the bottom of said reservoir, leaving sufficient space for the insertion of two pens, and two ordinary pens inserted together through said opening or space and having a thin meniscus-shaped space between them through which the ink may flow, as set forth.

2. In a fountain-pen, a reservoir having a plug at its bottom, and two ordinary pens secured together by the plug, as described, and an air-tube extending down in the interior of the reservoir, as set forth.

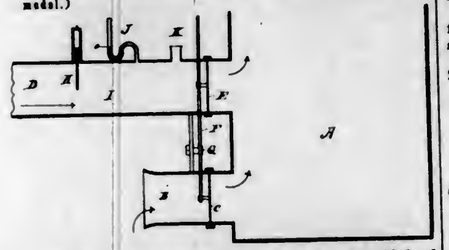
3. In combination with the reservoir having an air-vent in its upper end, an elastic plug securing two ordinary pens in its lower end, as set forth.

264,452. BRACE FOR CARRIAGE-TOPS. CHARLES E. GIEBEL, Fremont, Ohio. Filed May 20, 1882. (Model.)



Claim.—The jointed top-brace, having in one end thereof a slot and ratcheted face, in combination with the stud, ratcheted washer, and screw-nut, substantially as described.

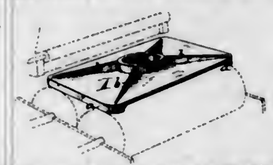
264,453. GAS-BURNING DEVICE. FREDERICK W. GORDON, Pittsburg, Pa., assignor, by mesne assignments, to himself and James P. Witherow, same place. Filed Mar. 31, 1882. (No model.)



Claim.—1. The combination, substantially as specified, of a combustion-chamber, a gas-inlet thereat, an air-inlet thereto, valves at each of these inlets connected to be adjusted simultaneously, a valve in the gas-pipe for regulating the flow of the gas to said gas-inlet valve, and a pressure-indicator at the gas-pipe between the two gas-valves, all arranged to be operated substantially as set forth.

2. The combination, substantially as set forth, of the combustion-chamber, the connected air and gas inlet valves, the second gas-valve, and the opening in the gas-pipe between the two gas-valves, all arranged to be operated substantially as set forth.

264,454. TEST-PLATE FOR ROLLER GRINDING-MILLS. WILLIAM D. GRAY, Milwaukee, Wis. Filed May 26, 1882. (No model.)

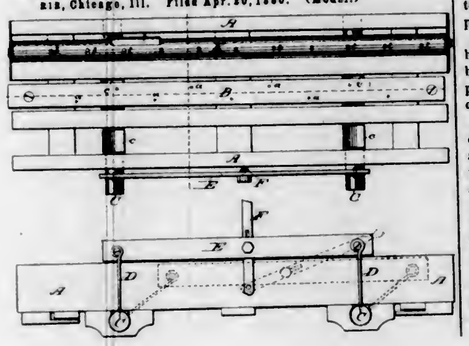


Claim.—1. The herein-described method of adjusting the rolls of grinding-mills to bring their axes to a common plane, consisting in placing the rolls in an operative position side by side, placing upon the two rolls a plane surface of sufficient extent to bear upon both ends of both rolls at one time, and finally adjusting the rolls until each is in contact with said surface at both ends.

2. The test-plate for roller-mills, constructed with the depending planed edges in one and the same plane, said plate adapted for application to two rolls, as described.

3. The test-plate for roller-mills, having the plane surface, the opening, and the ribs upon the back.

264,455. ICE-SLIDE. OSSIAN GUTHRIE and WARDELL GUTHRIE, Chicago, Ill. Filed Apr. 20, 1880. (Model.)

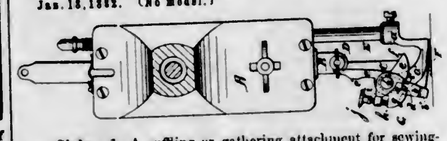


Claim.—1. In ice-slides, a variable brake, so as to change the relative position of the brake and the slide either by depressing the slide or elevating the brake, in either case bringing friction-teeth in contact with a descending body of ice, as herein described, and for the purpose set forth.

2. The combination and arrangement of the friction-brake B and the rock-shafts C C with the coupling-bar E, as herein described, and for the purposes set forth.

3. The rolling friction-brake K, studded with friction-points, for rolling into contact with sliding masses of ice, as herein described, and for the purposes set forth.

264,456. RUFFLING AND GATHERING ATTACHMENT FOR SEWING-MACHINES. CASSIUS M. HAMILTON, Chicago, Ill., assignor of one-half to John W. Thompson, same place. Filed Jan. 18, 1882. (No model.)

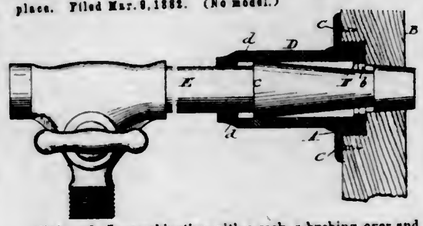


Claim.—1. A ruffling or gathering attachment for sewing-machines, consisting of the presser-foot *a*, provided with the arm *a'*, the vibrating arm *b*, carrying the blade *c*, the vibrating cam-lever *e*, adapted for vibration by the needle-bar, and the vibrating plate *i*, in combination with each other and means admitting of more or less of lost motion between the said lever, arm, and plate, substantially as shown and described.

2. The combination, in a gathering or ruffling attachment for sewing-machines, of the presser-foot *a*, provided with an arm, *a'*, the vibrating arm *b*, carrying the blade *c*, the vibrating cam-lever *e*, adapted for vibration by the needle-bar, and means for producing more or less lost motion between the arm *b* and lever *e*, the said arm and lever adapted to vibrate on one and the same axis supported by the arm *a'*, substantially as and for the purposes specified.

3. The combination of the presser-foot *a*, provided with the arm *a'*, the arm *b*, carrying the blade *c* and the pin *d*, the lever *e*, in which are the arm *e'* and the shoulders *f*, *g*, and *h*, the plate or lever *i*, having thereon the shoulder *i'* and carrying the set-screw *j*, and the rivet or axis *k*, passing through the arms *a'* and *b* and the levers *e* and *i*, substantially as and for the purposes specified.

264,457. BEER FAUCET AND TAP. GEORGE HIRSCHMAN, Morristown, N. J., assignor of one-half to John Hegeman, same place. Filed Mar. 9, 1882. (No model.)



Claim.—1. In combination with a cask, a bushing over and around the tap-hole or bung and having a central opening larger than the bung and provided with a detachable cap, as and for the purpose explained.

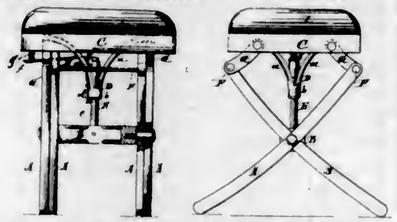
2. In combination with a cask having a common plug or bung and an internally-threaded metal bushing encircling the bung, as shown and described, a cap applied to the bushing, as explained, whereby it is adapted to exclude dirt and to prevent the escape of the bung or plug, as set forth.

3. In combination with a beer-faucet provided with a shoulder, *c*, an encircling sleeve, D, provided with a shoulder, *d*, and adapted to be secured to the cask, substantially in the manner explained, the faucet being free to slide without turning within the sleeve.

4. In combination with a cask having bushing A, the faucet E, and threaded sleeve D, provided respectively with shoulders *c* and *d*, as and for the purpose set forth, the faucet being arranged to slide freely a limited distance within the sleeve.

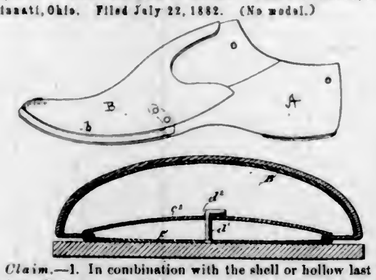
5. In a beer-tapping device, the combination of a sleeve adapted to be attached to the cask, substantially in the manner explained, and a shouldered faucet arranged, as set forth, to slide a limited distance within the sleeve.

264,458. PIANO-STOOL. SAMUEL C. JOHNSON, Kenosha, Wis. Filed June 5, 1882. (No model.)



Claim.—An adjustable stool consisting of legs A, pivoted together in pairs, bar B, post E, frame C, center piece, D, provided with a socket, *b*, to receive the post E, arms G, pivoted to the legs B and frame C, and a holding or locking device, substantially as described.

264,459. MANUFACTURE OF SHOES. FRANK KEARNEY, Cincinnati, Ohio. Filed July 22, 1882. (No model.)



Claim.—1. In combination with the shell or hollow last B, the clamp C, for securing the upper in place and adapted to be attached to the sole, whereby the sole and upper may be sewed without the intervention of an inner sole and without turning, substantially as described.

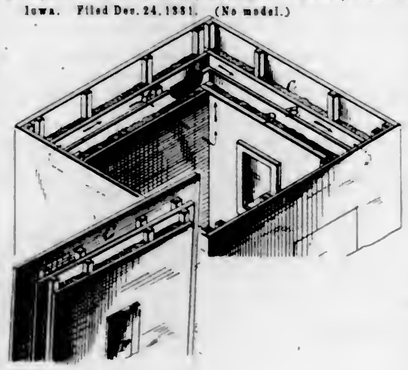
2. In combination with a hollow last or shell, B, the clamp C, consisting of the members c' c^2 and a fastening device, substantially as set forth.

3. In combination with the hollow last or shell B, provided with the edge-piece *b*, the clamp C, consisting of the members c' c^2 and fastening device d', substantially as described, and for the purpose specified.

4. In combination with the shell-last B, the sole-piece C, consisting of the members c' c^2, provided with apertures e e', those of the member c^2 being filled with lead or other soft metal, substantially as set forth.

5. The combination, with a shell-last, of a sole-piece or clamp for holding the upper down over the edges of the shell-last, said last and sole-piece or clamp being arranged to provide a continuous space between their adjacent edges free for the stitching operation, substantially as described.

264,460. MILK-HOUSE. GEORGE W. KENNEDY, Garnaville, Iowa. Filed Dec. 24, 1881. (No model.)

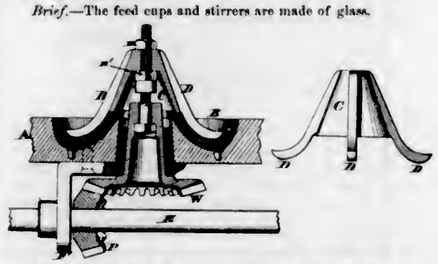


Claim.—1. A milk-house or similar structure the walls of which have dead-air chambers and an air-induction passage, with the partition, H, extending above the inner walls, for the purpose stated.

2. A milk-house frame with a dead-air chamber and having the outer wall and partition, H, extending above the inner walls, in combination with the top formed with a dead-air chamber and offset to fit within and over the vertical walls, to establish and preserve the air circulation, substantially as described.

264,461. FERTILIZER ATTACHMENT FOR SEEDING-MACHINES. EMANUEL M. KISSELL, Springfield, Ohio. Filed Jan. 3, 1882. (Model.)

Brief.—The feed cups and stirrers are made of glass.

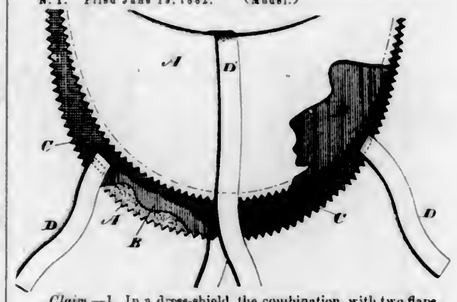


Claim.—1. In the feed mechanism of a fertilizer-drill, horizontally-set cups, made of glass, in combination with superimposed rotating stirrers, substantially as described.

2. In the feed mechanism of a fertilizer-drill having glass cups or bottoms, the combination, with said glass cups or bottoms, of glass stirrers arranged to rotate in a hopper above the cups, substantially as and for the purpose described.

3. In the feed mechanism of a fertilizer-drill, the combination, with horizontally-set glass cups, of a central revolving cone provided with stirrers projecting therefrom, substantially as and for the purpose specified.

264,462. DRESS-SHIELD. ISAAC B. KLEINERT, New York, N. Y. Filed June 19, 1882. (Model.)



Claim.—1. In a dress-shield, the combination, with two flaps of gutta-percha or other water-proof material, of sections of netting or open-work fabric attached to the inner faces of said flaps, substantially as set forth.

2. A dress-shield consisting of an outer layer of linen or equivalent material and an inner layer of water-proof material, the latter having a covering of thin netting, said layers and netting being sewed together near their edges and afterward scalloped or pinked, substantially as set forth.

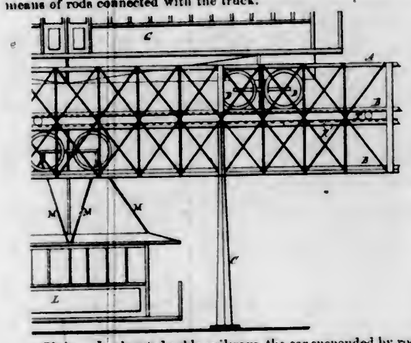
3. The combination, with a dress-shield, of tapes attached to the front and rear edges of the shield and adapted to be arranged parallel with the front and back seams of a dress and sewed thereto, substantially as set forth.

264,463. FILTERING AND PURIFYING WATER IN WELLS. GEORGE KOEPPEL, Alma, Wis. Filed May 13, 1882. (No model.)

Claim.—The described apparatus for purifying water in wells, consisting of a box or case having a raised and perforated bottom and containing alternate deep layers of charcoal and sand, the charcoal being at the bottom and having side perforations located on a level with the charcoal only to permit the passage of water through the box directly to and from the charcoal only and thence to and through the sand.

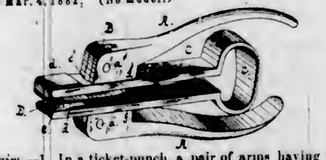
264,464. ELEVATED CABLE RAILWAY. CHARLES LEAVITT, Cleveland, Ohio. Filed Jan. 23, 1882. (No model.)

Brief.—In an elevated cable railway the cars have flangeless wheels which are kept upon the rail by guard-wheels running horizontally in close proximity to the supporting-wheels and against the inner face of the rail. The cars are suspended by means of rods connected with the truck.



Claim.—In elevated cable railways, the car suspended by rods connected with the truck, having flangeless wheels which are kept upon a smooth-surface rail by guard-wheels running horizontally in immediate proximity to the wheels and against the inner face of the rail, substantially as and for the purpose described.

264,465. TICKET-PUNCH. JOHN LIPPINCOTT, Baltimore, Md. Filed Mar. 4, 1882. (No model.)



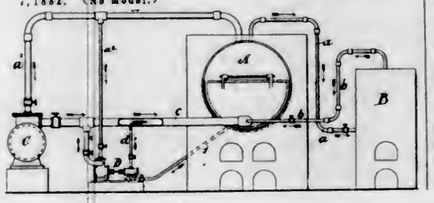
Claim.—1. In a ticket-punch, a pair of arms having in one end the dies and connected at the other by means of a bowed spring, which subserves the double function of a pivotal connection and of a supporting-ring for the arms, and a handle adapted to press the arms together, as set forth.

2. In a ticket-punch, a pair of arms carrying the dies and connected by means of a spring, and a cam-lever handle adapted, as described, to press the dies together.

3. In combination with the die-arms connected by means of a spring, the cam-lever handles pivoted to a bar which passes through the arms, as set forth.

4. In combination with the cam-lever handles and bar B, the arms A, carrying the dies, and connected by means of a finger or suspending ring, *c*, as set forth.

264,466. UTILIZING EXHAUST-STEAM. HARVEY T. LITCHFIELD, Hull, and DAVID RENSHAW, Cohasset, Mass. Filed Jan. 7, 1882. (No model.)



Claim.—1. The process herein described for utilizing the exhaust of engines, consisting essentially of a forced hot-water jet united with dry or superheated steam, said steam and water being taken from one common source, and with the said exhaust forced into the water-body of the same boiler from which they were taken, substantially in the manner set forth and described.

2. The method herein described of utilizing the exhaust of engines, consisting of the live-steam pipe, the forced hot-water jet-pipe, the exhaust-pipe, the pipes *m* and *d'*, uniting and terminating in a nozzle common to both, for forcing the united currents into the boiler from which they were taken, in the manner set forth.

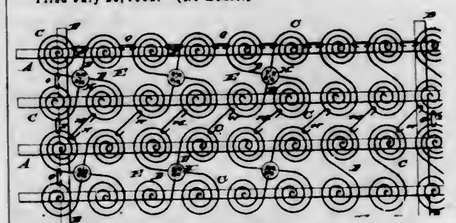
264,467. CRANK ATTACHMENT. CHARLES H. MILLER, Erie, Pa., assignor to F. F. Adams & Co., (Limited,) same place. Filed Apr. 28, 1882. (No model.)



Claim.—1. The combination, with a crank having a longitudinally-slotted head, of a shaft provided with a pin for supporting the crank-head, a plate, D, and a clamping-nut, E, on the end of the shaft, for the purpose set forth.

2. The combination, with the shaft A, pin F, and slotted crank-head B', of the flanged plates C and D and clamp-nut E, said plate C having a groove, *f*, all substantially as and for the purposes set forth.

264,468. BED-SPRING. DANIEL F. MITCHELL, Peradena, Cal. Filed July 20, 1882. (No model.)



Claim.—1. A spring bed-bottom having the arrangement of strong springs at the top and main portion and lighter or more flexible springs at the foot, as set forth.

2. A bed-bottom having the main portion formed of twin springs connected together in quadruple sections and the foot or lower portion formed of separate and independent twin springs, whereby it is more flexible and will give more readily than the main portion, as and for the purpose set forth.

3. In a bed-bottom, the combination, with the slats having the perforations, of the springs having a shank at their lower ends to fit therein, and a supporting-shoulder formed above said shank, as set forth.

4. In a bed-bottom, the combination, with the quadruple series formed of two twin springs having their connecting portions extending diagonally and crossing each other, of the securing plate or disk having rivet-shanks on its under side, between which the connecting portions pass, and the perforated bottom clamping-plate under which the rivets are clinched, as set forth.

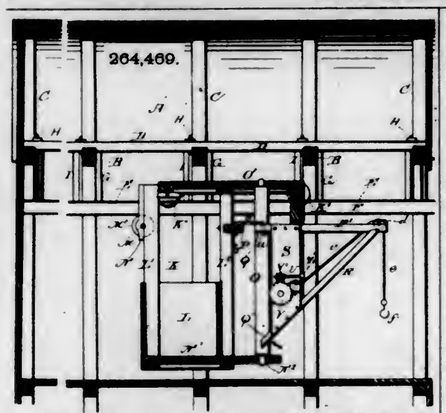
5. In a bed-bottom composed of longitudinal series of springs, the combination, with the side series, of diagonally-disposed connecting-rods having hooked ends, the series being unconnected at the center, so that the bed is divided into two sections separate and independent, as set forth.

6. A bed-bottom composed of longitudinal series of springs connected together at the sides, but unconnected at the center, so that the bed is divided into two separate and independent sections, as set forth.

264,469. HOISTING APPARATUS. WILLIAM B. MOORE, Millsborough, Pa. Filed July 28, 1882. (No model.)

Claim.—1. In a hoisting apparatus, the combination, with a car-truck and a depending weight-box having friction-wheels adapted to bear against the under faces of the sleepers of a suspended car-track, of the pivoted crane, substantially as and for the purposes set forth.

264,469.

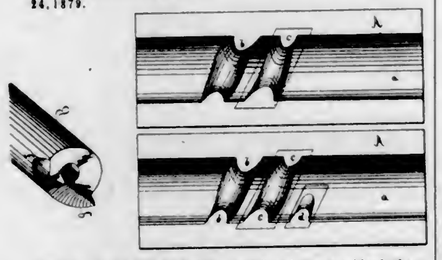


2. In a hoisting apparatus, the combination, with the depending weight-box provided with the perforated stop P *b*, of the pivoted crane having the perforated block Q, and the rod *e*, having hook ends, substantially as and for the purposes specified.

3. In a hoisting apparatus, the combination, with the spool T, carrying the gear-wheel V, the shaft U, having spur-gear V', and collar X, having their bearings in the side S, and the pawl W and pivoted arm Z, substantially as specified.

4. In a hoisting apparatus, the combination of the suspended track, the car, the weight-box, friction-wheels, and the pivoted crane, substantially as specified.

264,470. DIE FOR HEADING AUGER-BLANKS. PATRICK W. MYERS and CHARLES E. ANDREWS, Forestville, Conn. Filed Feb. 24, 1879.

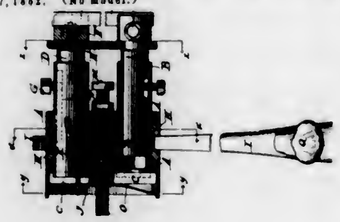


Claim.—1. In dies for holding and forming auger-blanks having the semicircular grooves and oblique teeth, the short tooth *d*, having its end in the bottom of the groove, substantially as described, and for the purpose specified.

2. The cylindrical male header B, having recess *f*, the central hole, the single spirally-inclined face, and the single projection *g*, which terminates said incline, substantially as described, and for the purpose specified.

3. The cylindrical male header B, having recess *f*, spirally-inclined face terminating in the single projection *g*, in combination with the dies having semicircular grooves and holding and forming teeth back of the cylindrical chamber at the mouth of said grooves, substantially as described, and for the purposes specified.

264,471. SCREW-CUTTING DEVICE. ARNOLD NACKE, Philadelphia, Pa., assignor to Ledig & Harrlein, same place. Filed Apr. 17, 1882. (No model.)



Claim.—1. The combination of the body, the rotary arbors or cutter-supports mounted in the body, the cutters attached to and rotating with said arbors, the loose ring operating to rotate the arbors within the body, and a friction device, substantially as shown, to control the rotation of the ring.

2. In combination with the body, rotary sleeves supporting the cutter-spindles, the ring mounted loosely on the body and provided with the studs *a* and shoulders *b*, to co-operate with said supporting-sleeves.

3. The combination of the body, the cutters, the rotary cutter spindles or arbors, the spindle-supporting sleeves, the external grooved ring operating to turn the sleeves, and the clamping device seated in the grooved ring, as described.

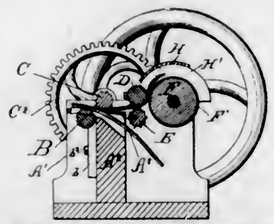
4. In a screw-cutter, the combination of the body, the loose ring, the rotary sleeves mounted in the body and controlled by the ring, and the arbors or spindles provided at their forward ends with cutters and having their rear ends mounted within and adjustable longitudinally in relation to the sleeves, substantially as described, whereby the device is adapted for threading screws of different lengths.

5. In combination with the body, the sleeves, the adjustable arbors or spindles mounted in the sleeves, and the sustaining ring or plate mounted upon and around the forward ends of the arbors.

6. The body and the rotary cutter-supports therein, in combination with the sliding hub provided with arms adapted, as described, to lock the cutter-supports against rotation.

7. In combination with the body, the rotary cutter-supports therein, the sliding hub, its arms *c*, the spring O, arranged to urge the hub forward, and springs applied to rotate the cutter-support when released, substantially as shown.

264,472. METHOD OF AND MACHINE FOR PREPARING FEATHERS FOR DUSTERS, &c. CLARENCE W. NICHOLS and EDMUND T. NICHOLS, Chicago, Ill. Filed June 20, 1882. (No model.)



Claim.—1. The method of preparing feathers which consists in flattening the plume-bearing portion of the feather-shaft and then longitudinally splitting said shaft, substantially as described.

2. The method of preparing feathers which consists in flattening the plume-bearing portion of the feather-shaft, simultaneously longitudinally splitting the shaft close under the flattened portion, and, finally, subjecting said flattened portion to the action of an abrading-surface, substantially as described.

3. In a machine for splitting the shafts of feathers, the combination, with the fixed splitting-knife, of a roller located above and parallel with the edge of said knife for adjusting the depth of cut, substantially as described.

4. In a machine for splitting the shafts of feathers, the combination, with the splitting-knife, of the fluted roller located above said knife, substantially as described.

5. In a machine for splitting the shafts of feathers, the combination, with the fixed splitting-knife, of the adjustable guide-roller located in front of and parallel with the edge of said knife, substantially as described.

6. In a machine for splitting the shafts of feathers, the combination of the knife A^3, the guide-roller B, and adjusting-roller C, substantially as described.

7. In a machine for splitting the shafts of feathers, the combination, with the fixed splitting-knife, of a roll located in front of and parallel with the edge of said knife to adjust the degree of cut, and of the pulling-rolls behind said knife, by which the feather is drawn, substantially as described.

8. In a machine for splitting the shafts of feathers, the combination, with the splitting-knife, of the pulling-rollers, one of which is fluted, substantially as described.

9. In a machine for preparing feathers for dusters, the combination of the pulling-rollers D and E and the abrading-roller F, said abrading-roller being arranged to bear against the roller D, substantially as described.

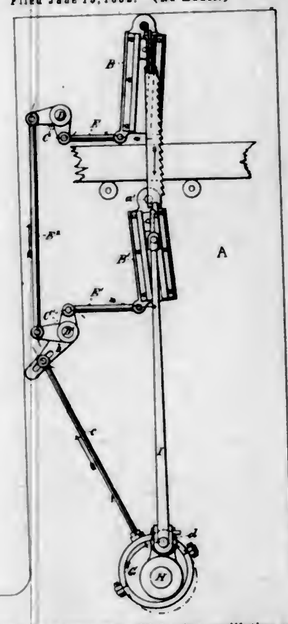
10. In a machine for preparing feathers for dusters, the combination, with the pulling-rollers D and E, one of which is fluted, of the abrading-roller F, the slotted journal-bearings *f*, and the set-screws *f'*, substantially as described.

11. In a machine for preparing feathers for dusters, the combination, with the roller D, of the roller F, having a soft-rubber covering and a superposed covering of sand-paper, substantially as described.

12. In machines for preparing feathers, the combination, with the pulling-rolls D and E, of the abrading-roll F and the deflecting-plate H, substantially as described.

13. In a machine for preparing feathers for dusters, the combination of the guide-roller B, the fluted roller C, the knife A^2, the pulling-rollers D and E, and abrading-roller F, all substantially as described.

264,473. OSCILLATING GANG-SAW. ROBERT N. NIXON, Dubuque, Iowa, assignor of one-half to Clarence J. Lesure, same place. Filed June 15, 1882. (No model.)



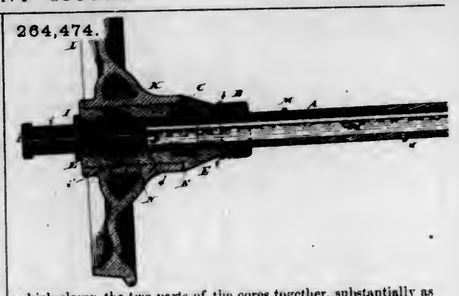
Claim.—In a gang-saw mill having oscillating upper slides, B, and lower slides, B', pivoted alike to the gang-saw frame at their upper ends, the combination of the lower ends of the slides B with the downwardly-projecting arms C of the rock-shaft D, by means of the connecting-rod E, and the upwardly-projecting arms C' of the rock-shaft D' and slide B' by means of the connecting-rod E', the horizontal arms of the rock-shafts being connected together by means of the connecting-rod E^2, and the downwardly-projecting arm of the rock-shaft D' with the driving-shaft H by means of the connecting-rod *e* and the eccentric G, whereby in the downward stroke of the saws the teeth at the lower end commence cutting, and all the teeth are gradually brought into action to the termination of the stroke, and in the upward stroke the reverse movements are given, substantially in the manner and for the purpose set forth.

264,474. CAR-AXLE. EDWARD B. ORNE, Philadelphia, Pa. Filed May 22, 1882. (No model.)

Claim.—1. In a car-wheel axle, two car-wheels having bearings upon their outer sides for the axle-boxes of the car, in combination with a center part or axle made hollow and loosely journaled in each of said car-wheels, said hollow axle being provided with means to admit a lubricant, and holes to allow said lubricant to flow from said axle to its journals in the wheels, substantially as and for the purpose specified.

2. An axle made of a center and two end sections, in combination with split cores arranged to firmly clamp the end sections and form bearings for the center sections and wheels, the hubs of

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which clamp the two parts of the cores together, substantially as and for the purpose specified.

3. The center part, A, provided with collars C upon its ends, in combination with split cores E, having grooves G F, end sections, I, having bearings *i*, and wheels L, having hubs K, substantially as and for the purpose specified.

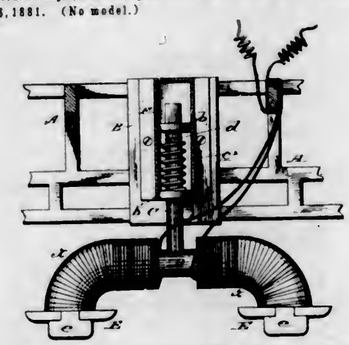
4. The center part, A, made hollow, and provided on its ends with collars and plugs, split cores E, having grooves G F, end sections, I, having bearings *i*, and wheels L, having hubs K, substantially as and for the purpose specified.

5. The hollow center part, A, closed on its ends and provided with holes *d*, collars B C, and plugs M, in combination with cores E, made in two parts, and having grooves G F, end sections, I, having flange J, bearings *i*, and channel I', and wheels L, having hubs K, substantially as and for the purpose specified.

6. The combination of hollow axle A, having collars B C, closed end plugs D, and holes *d*, cores E, having grooves G F, and made in halves, end sections, I, having flanges J, and bearings *i*, disks N, and wheels L, having hubs K, substantially as shown.

7. A car-wheel axle made hollow and provided with a series of closed apertures arranged about its circumference to fill it with a lubricant, substantially as and for the purpose specified, in combination with loose wheels upon one or both of its ends.

264,475. ELECTRICAL CAR-BRAKE. GEORGE D. PAUL, Orange, N. J., and FREDERICK A. KAMPFE, Brooklyn, N. Y., assignors to said Paul, Kampfe Bros., New York, William Lisle, Jr., Brooklyn, and George S. Ferry, New York, N. Y. Filed Nov. 26, 1881. (No model.)

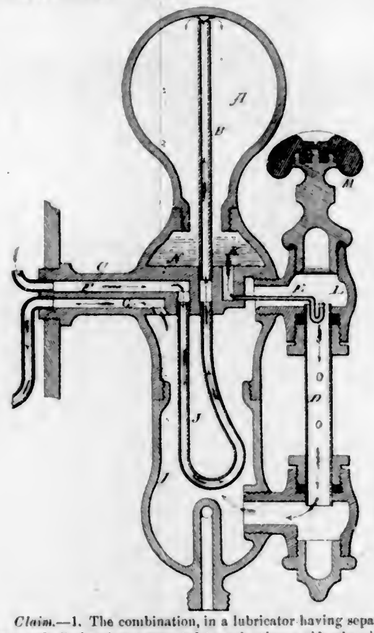


Claim.—1. In an electrical car-brake, the combination, with the frame of a truck, of a supporting-plate secured to said frame and provided with lugs, a supporting-rod inserted in said lugs, a spiral spring surrounding the rod and interposed between the lugs, brake-arms secured to the rod and wound with wire arranged to convert the brake-arms into an electro-magnet when a current of electricity is passed through it, and guard-flanges attached to the lower extremities of the brake-arms, substantially as set forth.

2. In a car-brake, the combination, with the truck-frame, of brake-arms supported upon the sides of the latter, and provided with brake-shoes having guard-flanges, substantially as set forth.

3. In an electrical car-brake, the combination, with the frame of a truck, of the plates B, secured midway between the wheels, and provided with the perforated lugs *b*, the supporting-rod C, spiral spring c^2, brake-arms D D, wound with wire, arranged to convert the brake-arms into an electro-magnet when a current of electricity is passed through it, and brake-shoes E, provided with the depending guard-flanges *e*, substantially as set forth.

264,476. LUBRICATOR. JOHN J. RENCHARD, Detroit, Mich. Filed Mar. 13, 1882. (No model.)



Claim.—1. The combination, in a lubricator having separate steam and oil chambers connected to each other, a side glass indicator-tube, and a single supporting-trunk, having separate steam and oil passages, of the horizontally-arranged tube E, the projecting end of which tube is so curved as to form a water-seal within said side glass, whereby the water from the condenser is led direct to said side glass, substantially as and for the purpose set forth.

2. The combination, with the steam-passage F and vertical steam-tube B, located in the condensing-chamber, of the curved steam-tube J, located in the oil-receptacle, said curved tube being interposed between said steam-passage and said vertical tube, and adapted to conduct the steam in its passage to the condenser down through the oil-receptacle, whereby the oil therein is retained at the desired temperature, as set forth.

3. The combination of truck C, having separate steam and oil passages, tube J, communicating from the steam-passage in said trunk through the steam-tube B to the condensing-chamber, tube E, provided with a water-seal curve within said side glass, and communicating direct from said condensing-chamber to said side glass, substantially as set forth.

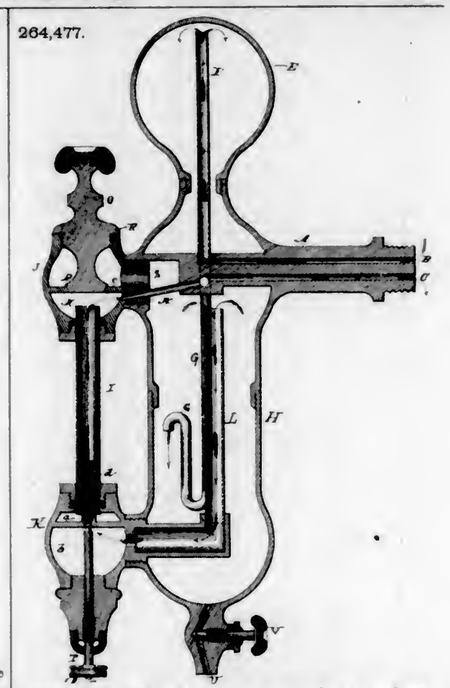
264,477. LUBRICATOR. JOHN J. RENCHARD, Detroit, Mich. Filed Mar. 24, 1882. (No model.)

Claim.—1. In lubricators, the combination of condensing-chamber E, oil-reservoir H, having a supporting-trunk, A, provided with separate steam and oil passages, with glass cage J, subdivided into two compartments by diaphragm *c*, and provided with double stopper O, glass tube I, glass cage K, having diaphragm *a*, tube *d*, and oil-tube L, said glass cage J being provided with passage S, communicating with the oil-reservoir, and tube or passage N, communicating with the oil-passage C, all substantially as and for the purpose specified.

2. In lubricators, the glass cage J, having diaphragm *c*, stopper O, and passages S and N, formed in the connecting trunk or coupling of said cage, said stopper closing communication between the said passages and between the glass tube and said passage S, substantially as set forth.

3. The combination, with the condensing-chamber and oil-receptacle, of a lubricator provided with a single supporting-trunk having separate steam and oil passages and vertically-arranged water-seal and oil-tubes located therein, of the glass cages J and K, said cage K being provided with oil-duct *d*, communicating from said oil-tube to the side glass tube, said glass cage J being provided with diaphragm *c*, double stopper O, and duct N, said

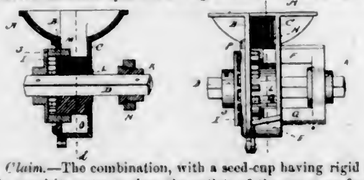
264,477.



stopper being adapted to simultaneously close the cage, and communicating between said oil-receptacle and said glass tube, all substantially as set forth.

264,478. SEEDING DEVICE. JOHN L. RITER, Brownsville, Ind. Filed June 2, 1882. (Model.)

Brief.—The rosette is cast upon the cylindrical smooth gate and rotates in an annular recess in one side of the cup. Parallel feeding-prongs upon the disk are projected through the rosette over the cylindrical gate for graduating the feed. Upper and lower cut-offs are mounted upon the through-shaft and move with it.



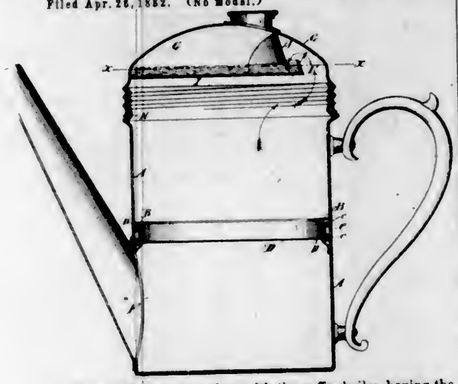
Claim.—The combination, with a seed-cup having rigid side walls, requisite gates to close the outlets of the cup, a perforated disk arranged to revolve in a bearing in one of said rigid side walls, and a driving-shaft passing through the seed-cup, of a disk outside the seed-cup, adapted to be revolved by said shaft and be adjusted to and from the seed-cup, and annularly-arranged parallel prongs projecting from the face of said outside disk through said perforated disk and into the seed-cup, substantially as and for the purpose set forth.

264,479. SCREW-NAIL. CHARLES D. ROGERS, Providence, R. I., assignor to the American Screw Company, same place. Filed Dec. 15, 1881. (No model.)



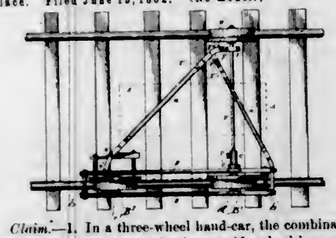
Claim.—As an improved article of manufacture, a screw-nail having a pointed or driving end, a shank portion provided with threaded or serrated longitudinal sections *a*, and intermediate plain longitudinal groove-sections, *b*, and a head adapted, as described, to be engaged by a screw-driver or equivalent instrument for turning the nail axially, substantially as set forth.

264,480. COFFEE-BOILER. WILLIAM C. SALMON, Cincinnati, Ohio, assignor of one-half to Henry Knesen, Covington, Ky. Filed Apr. 26, 1882. (No model.)



Claim.—The combination, with the coffee-boiler having the pervious diaphragm to hold the ground coffee at a suitable point above the pouring-spout, of the top G, tightly secured to the boiler, and having the water-pan I, formed with a turned-up ledge at the rear of the division-wall J, located at the rear in proximity to the rear ledge of the water-pan and extending down from the top proper nearly to the bottom of the pan, and the capped opening K, through which liquid may be ponred to fill the pan, the whole being constructed and arranged so that when the contents of the boiler are boiled the steam and vapor arising will pass up through the space I′ at the rear of the top, and thence into the liquid in the pan, where, becoming condensed, it will drip back into the body of the boiler again, and when the boiler is tipped to pour off the liquid through the spout the liquid contents of the pan will flow to the front without being allowed to escape into the boiler below, substantially as described.

264,481. HAND-CAR. GEORGE S. SHEFFIELD, Three Rivers, Mich., assignor to the Sheffield Velocipede Car Company, same place. Filed June 15, 1882. (No model.)



Claim.—1. In a three-wheel hand-car, the combination with the main frame and an axle having a guide-wheel journaled on its outer end, said axle being detachably secured at its inner end to the axle of one of the main wheels, of braces connected at one end to the main frame, and provided with a bearing for the axle at a point near the guide-wheel, substantially as set forth.

2. In a three-wheel hand-car, the combination, with an axle supporting a guide-wheel at one end and one of the main wheels at its opposite end, of a brace or braces attached to the main frame and an axle-box or bearing located near the guide-wheel and adapted to support the outer end of said axle, substantially as set forth.

3. In a three-wheel hand-car, the combination, with the main frame, of a guide-wheel mounted on an axle removably secured to the axle of the forward driving-wheel, a rear diagonal brace removably secured at one end to the rear end of the frame, its opposite end being pivotally attached to a pendent bearing for the guide-wheel axle, and a forward diagonal brace removably secured at one end to the forward end of the frame and pivotally attached to the rear brace, substantially as and for the purpose set forth.

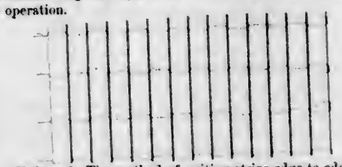
4. In a three-wheel hand-car, the combination, with the forward axle projecting inwardly beyond the main frame, of a guide-wheel axle and devices for removably securing the latter to the projecting end of the axle of the forward driving-wheel, substantially as and for the purpose set forth.

5. In a three-wheel hand-car, the combination, with the main frame and diagonal braces for supporting a tool-box, of a guide-wheel axle removably secured to the axle of the forward driving-wheel to turn therewith, and supported adjacent to the guide-wheel in a pendent bearing pivotally connected to the forward end of the rear brace, substantially as and for the purpose set forth.

6. In a three-wheel hand-car, the combination, with the main frame having an inwardly projecting supplemental frame, of a forward and a rear diagonal brace, said braces being removably secured respectively to the forward and rear ends of the main frame, and pivotally secured together to admit of their being folded, a pendent bearing pivotally secured to the forward end of the rear brace, and a guide-wheel axle removably secured at its inner end to the axle of the forward driving-wheel and supported at its outer end in said pendent bearing, substantially as and for the purpose set forth.

264,482. FLEXIBLE MATCHING AND VENEERING. LEVI S. SHEFFLER, Elmira, N. Y. Filed Mar. 6, 1882. (No model.)

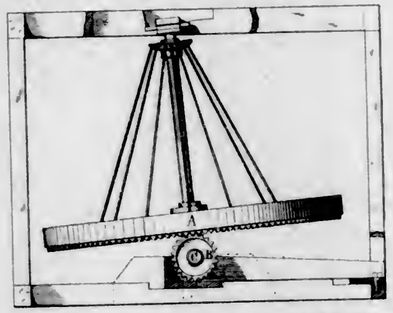
Brief.—Holes alternately out of line are formed in the strips edgewise, and they are threaded upon wires and cramped together into contact edge to edge, and so retained by the wire crimped in the operation.



Claim.—1. The method of uniting strips edge to edge, which consists in forming holes edgewise through the same alternately in line, but in each two adjacent strips out of line, threading the same nearly into contact upon wires, and cramping down the wires by forcibly bringing the strips into contact edge to edge, substantially as described.

2. The herein-described matched structure, consisting of the strips perforated edgewise in and out of line, as shown and described, wires threaded through said strips and clinched between each two strips, substantially as set forth.

264,483. HORSE-POWER MACHINE. HEMPHILL SMITH, Shelby County, Tenn. Filed June 29, 1882. (No model.)

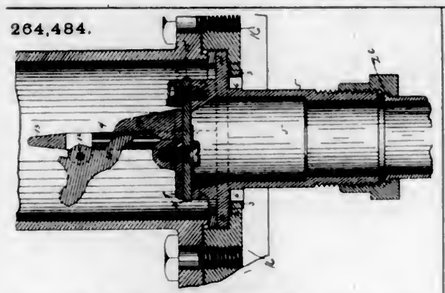


Claim.—In horse-power machines, a power-wheel having segment-racks bolted to its under side near the rim, any one of which segment-racks can be removed when required without removing all of said segment-racks, in combination with a correspondingly-cogged pinion upon which the said segment-racks work and impart motion when the power-wheel is revolved, substantially as described.

264,484. PUMP. WILLIAM A. SPOONER, Harwinton, Conn. Filed Apr. 22, 1882. (No model.)

Claim.—The combination, in a pump, of a base having an internal flange, a disk adapted to be secured firmly into said base and provided on its lower side with a downwardly-projecting coupling-barrel for connection with a water-pipe, and provided on its upper side with a raised valve-seat, and also with a hanger projecting upward from said disk, and all made integral with said disk, a valve fitted to operate upon said valve-seat and provided with an upwardly-projecting finger, and a trip pivoted to said hanger with said finger, all substantially as described.

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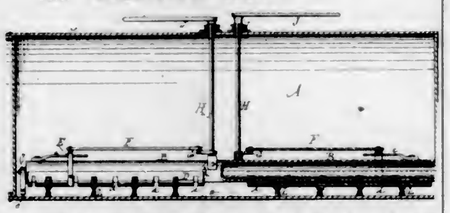


264,485. WATER-WHEEL. GEORGE W. STANSELL, Jesup, Ga. Filed June 27, 1882. (No model.)



Claim.—The herein-described improved water-wheel, consisting of the band A, horizontal buckets B, secured to the outer side, near the lower edge of said band, band C, connecting the outer edges of said buckets, outward-projecting plates D, secured to the upper edge of said band, vertical buckets E, secured to the outer edges of said plates, and the horizontal rim or band F, as set forth.

264,486. BOILER-CLEANER. HENRY STANTON, Flushing, Ohio. Filed Mar. 1, 1882. (No model.)



Claim.—1. The combination, with a boiler, of a perforated pipe and a valve covering the openings therein, of stirring devices attached to and moving with said valve, and devices, substantially as described, for moving said valve, whereby the act of moving the valve will also give motion to the stirring devices, as set forth, substantially as described.

2. In a boiler-cleaner, the combination, with the single perforated pipe B, extending approximately the entire length of the boiler, of the two separate independent valves D, one at each end of the pipe B, and operating devices, substantially as described, for separately moving said valves, whereby either end of the boiler may be cleaned separately or both ends simultaneously, as set forth.

3. The combination, with a boiler, of a perforated pipe, a valve provided with holes adapted to uncover the holes in said pipe at different times, suitable devices to operate said valve, and an index to show which aperture or apertures in said pipe are open, substantially as described, whereby the sediment may be removed from any part of the boiler separately, as set forth.

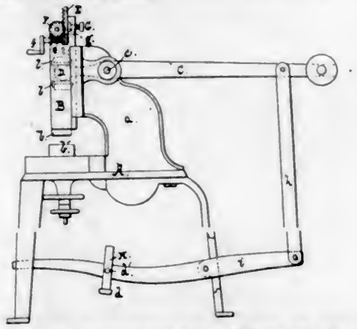
4. The combination, in a boiler-cleaner, of the perforated pipe B and the valve D with the rock-shaft H, working at its upper end in a bearing, I, and supported at its lower end in a step secured to the top of the pipe B, the crank G, connected to the valve and rock-shaft, and the lever J, substantially as and for the purpose specified.

5. The combination, in a boiler-cleaner, of the perforated pipe B with the valve D, the sliding yoke U, attached to said valve, and the spring *e*, secured to the pipe at one end, and having its other end fitting under the yoke and adapted to hold the valve and pipe closely together, and yet allow the valve to slide freely, substantially as described.

6. In a boiler-cleaner, the combination, with the perforated pipe B, valve D, rock-shaft H, crank G, spring *e*, and pitman F, of the yoke E, serving as a support for the valve and a connection between the valve and pitman, substantially as and for the purpose specified.

7. The combination, in a boiler-cleaner, of the reciprocating stirrers, suitable means for supporting and connecting said stirrers, and pipe B, and the bracket C, provided with set-screws *c*, substantially as described.

264,487. CUTTING AND PUNCHING PRESS. WILLIAM H. H. STEVENSON and MICHAEL H. PLUNKETT, Baltimore, Md. Filed Apr. 1, 1882. (No model.)

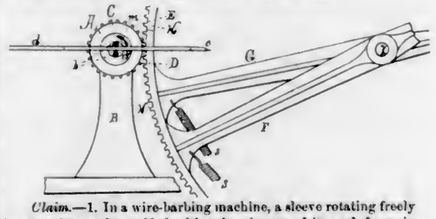


Claim.—1. In combination with the sliding head and block K, mounted therein, the rack, pinion, and worm-gear, substantially as set forth.

2. In combination with the sliding head and block K, the rack, pinion, and worm-gear, and a locking device for securing the rack, as set forth.

3. In combination with the treadle-lever of a cutting or punching press, a resilient buffer mounted thereon and adjustable to or from the fulcrum, whereby the dies are freed after the stroke and the length of the stroke is determined, as set forth.

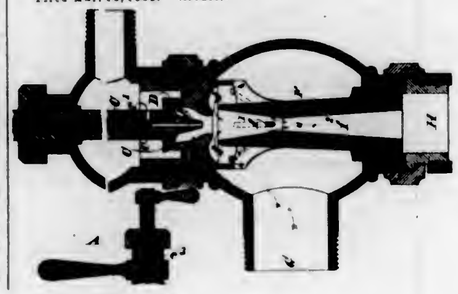
264,488. WIRE-BARBING MACHINE. DANIEL C. STOVER, Freeport, Ill. Filed May 10, 1882. (No model.)



Claim.—1. In a wire-barbing machine, a sleeve rotating freely in a bearing, and provided with a lug in one of its end faces, in combination with a spindle rotating freely in said sleeve, and longitudinally perforated, grooved, or slotted for the passage of the main wires of the cable to be barbed.
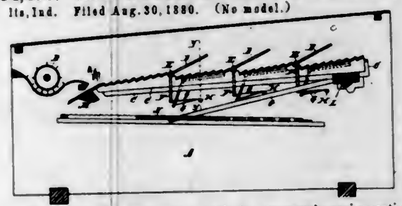
2. In a wire-barbing machine, the combination of a longitudinally perforated, grooved, or slotted spindle, a sleeve in which said spindle rotates freely, and provided with a lug in one of its end faces, a bearing in which said sleeve rotates freely, and suitable gearing for rotating said sleeve and spindle, substantially as described, and for the purpose set forth.

264,489. INJECTOR. MORGAN D. STRICKLAND, St. Louis, Mo. Filed Mar. 18, 1882. (Model.)



Claim.—In an injector, the combination of the steam-tube E, made, as described, without a nozzle, and the combining-tube F, having the auxiliary passages *f' f'*, substantially as described, and for the purpose set forth.

264,490. GRAIN-SEPARATOR. JAMES B. SUITT, Indianapolis, Ind. Filed Aug. 30, 1880. (No model.)

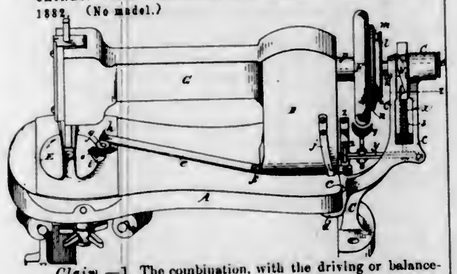


Claim.—1. In combination with the alternately-reciprocating sections C C C C of the straw-carrier floor of a thrashing-machine, the rock-shafts and lifting-fingers independently mounted on the separate sections, arms upon said rock-shafts, rods H, extending across the machine under the floor, and flexible connections between said arms and the rods H, substantially as specified and shown.

2. In combination, the alternately-reciprocating sections C C C C, lifting-fingers and their rock-shafts, mounted separately upon the said sections, arms upon said rock-shafts, a rod or rods, H, extending across the floor under the sections, flexible connections between said arms and the rods H, and means, substantially as described, for adjusting said rods H, whereby the corresponding fingers of the sections are simultaneously adjusted as to their rise and fall, as and for the purpose shown.

3. In combination with the alternately-reciprocating sections of the straw-carrier floor of a thrashing-machine, rock-shafts, lifting-fingers mounted thereon, and arms on said rock-shafts, which extend to beneath the floor, a rod, H, which extends across the machine under the floor, and a flexible connection extending from said rod to each of said arms, whereby each of said lifting-fingers may be operated to rise and fall as the corresponding floor-section moves back and forth, without reference to the number of said floor-sections and lifting-fingers, substantially as set forth.

264,491. ATTACHMENT FOR BUTTON-HOLE SEWING-MACHINES. JOHN J. SULLIVAN, Ipswich, Mass. Filed Apr. 20, 1882. (No model.)



Claim.—1. The combination, with the driving or balance-wheel of a pivotally-mounted button-hole sewing-machine, of a rotative friction-disk arranged to be brought into contact with and to actuate said wheel, with mechanism for producing such contact and devices actuated through the cloth-clamp to automatically disconnect said disk from the driving-wheel, substantially as specified.

2. The combination, with a pivotally-mounted button-hole sewing-machine, of a friction driving mechanism, an automatic stop-motion to be actuated through the cloth-clamp, and a friction-brake to arrest the motion of the machine, all so combined and arranged that the engagement of the friction driving mechanism shall remove the brake from the driving-wheel, and the action of the stop-motion shall cause the engagement of the brake with said wheel, and the action of the cloth-clamp shall both disconnect the friction driving mechanism and liberate the brake-applying spring, substantially as specified.

3. In a button-hole sewing-machine, the combination of clamp E, provided with a suitable tripper, pivoted lever *e*, arranged to be actuated by said tripper, lever *z*, with a catch to engage lever *e*, lever *y*, and brake 7, arranged to engage wheel F, and spring 3, arranged on rod *x*, connected with lever *y*, to engage said brake with the wheel, substantially as specified.

4. The combination of driving-wheel F, friction-disk *l*, loosely mounted on arbor *k*, slide *c* to actuate said arbor, rod *x*, releasing-spring 3, and lever *y*, with means for depressing, holding, and releasing the same, substantially as specified.

5. The combination of pivoted lever *e*, a clamp-carried detacher arranged to actuate said lever, the returning-spring *j*, and brake 7, with devices for holding the same out of contact with wheel F by engagement with lever *e*, and a spring arranged to engage the brake with said wheel when said lever *e* is tripped, substantially as specified.

6. The combination of driving-wheel F, belt-driven friction-disk *l*, arbor *k*, with its oblique shoulders *t*, incline *c*, retracting-spring 4, rod *x*, with its elevating-spring 3, lever *y*, its brake 7, lever *z*, with its catch 2, lever *e*, its return-spring *j*, and tripper *i*, secured to and carried by clamp E, all substantially as specified.

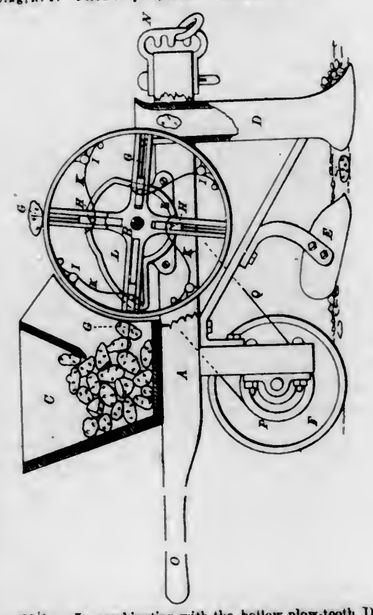
264,492. CLAW-HAMMER AND SCREW-DRIVER. JOHN A. THAYER, Somerville, Mass. Filed Sept. 1, 1881. (No model.)



Claim.—1. The combination of the handle C and the perforated claw F, fixed thereto, with the screw-driver and the hammer-head, and with the jawed clamp D and its screw-cap E.

2. The combination of the cap G, provided with the opening *h*, as described, with the handle and claw adapted and for use with the screw-driver and hammer-head, as specified.

264,493. POTATO-PLANTER. JONATHAN T. TURNER, Sing Sing, N. Y. Filed May 18, 1882. (No model.)

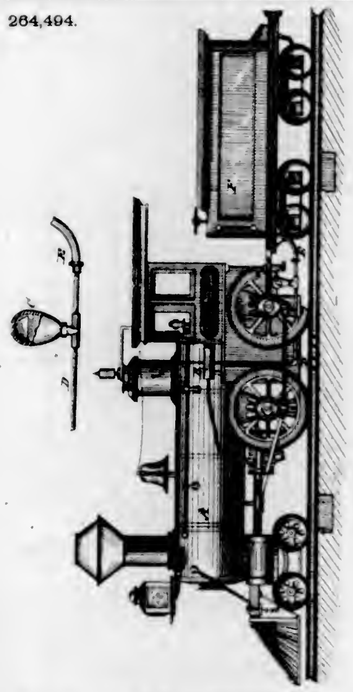


Claim.—In combination with the hollow plow-tooth D, the covering-shares E, and roller F, the wheel B, the lances G, the springs K, and cam L, or their equivalents, substantially in the manner and for the purposes set forth.

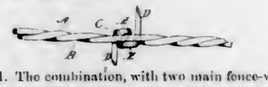
264,494. FEEDING WATER TO BOILERS OF LOCOMOTIVES. WILLIAM H. TURRENTINE, Company Shops, N. C. Filed July 24, 1882. (No model.)

Claim.—The improvement in the art of feeding water to locomotive-boilers herein described, which consists in combining with an injector an air-chamber connected with the supply-pipe, and located between the injector and the tender, substantially as set forth.

264,494.



264,495. BARBED WIRE. ANDREW J. UPHAM, Sterling, Ill., assignor to the Washburn & Moen Manufacturing Company, Worcester, Mass., and Isaac L. Ellwood, De Kalb, Ill. Filed Mar. 31, 1882. (No model.)

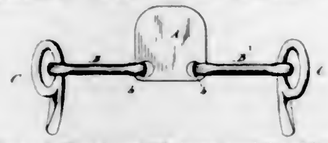


Claim.—1. The combination, with two main fence-wires, of a two-pointed barb provided with two oppositely-curved loops between its ends, which are bent nearly at right angles to the plane of the barbs and upon the same side of them, for the purpose of holding the same to one of the fence-wires, while the other main fence-wire is twisted to rest upon the base of the barb-points, substantially as and for the purpose set forth.

2. The combination, in a wire-barb for use upon fence-wires, of two U-bends between the points of the barb for holding the barb to the fence-wire.

3. The combination, with fence-wire A, of the barb C, provided with holding-bends E E connecting-base F, and bevel-points D D, substantially as and for the purposes stated.

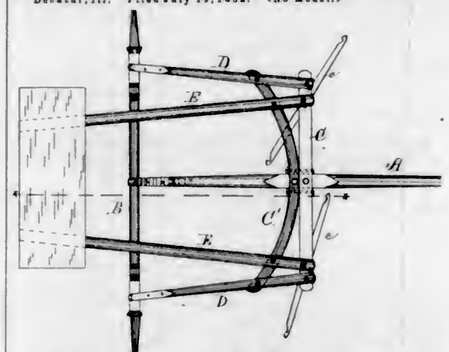
264,496. BRIDLE-BIT FOR HORSES. GEORGE W. WARD, St. Johnsbury, Vt. Filed Jan. 28, 1882. (No model.)



Claim.—1. The driving-bit for horses, consisting of the tongue-plate, and the bars or links connected at one end to the forward end of said plate by flexible joints, and also connected at the opposite end to the check-pieces, substantially as described.

2. The herein-described bit for horses, consisting of the tongue-plate, and the bars or links connected to the forward end of said plate by flexible joints, and also flexibly jointed at the opposite end to the check-pieces.

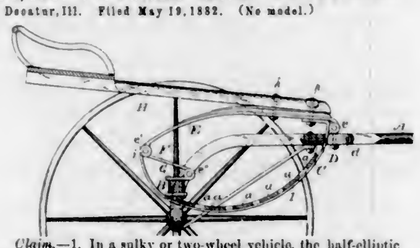
264,497. TWO-WHEELED VEHICLE. WILLIAM J. WAYNE, Decatur, Ill. Filed July 19, 1882. (No model.)



Claim.—1. In a two-wheel vehicle to be used with a pair of horses, the tongue or pole A, in combination with the cross-bar C, circle-bar C', side bars or braces, D D, and axle, substantially as shown, and for the purpose set forth.

2. In a two-wheel vehicle for use with a pair of horses, the springs F, connection G, and seat-supporting bars E, in combination with the cross-bar C, circle-bar C', tongue or pole A, and axle B, substantially as shown and described.

264,498. TWO-WHEELED VEHICLE. WILLIAM J. WAYNE, Decatur, Ill. Filed May 19, 1882. (No model.)



Claim.—1. In a sulky or two-wheel vehicle, the half-elliptic springs E, in combination with the circle-bar D, jointed connections F, clamping-plate G, and axle, substantially as shown, and for the purpose described.

2. In a sulky or two-wheel vehicle, the combination, with the half-elliptic springs E, attached to the circle-bar and axle, as set forth, of the seat-supporting bars H, secured to the upper side of said springs, near their forward ends, as shown, whereby the vibrative action of the springs is imparted to the seat, substantially as specified.

3. In combination with the half-elliptic spring E, attached to the circle-bar D and axle, as set forth, of the foot-rest I, attached to the under side of said spring, near its forward end, extending downward and rearward under the crank-axle, and connecting with the rear end of the spring by bolt i, substantially as shown, and for the purpose described.

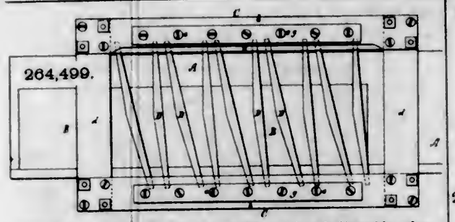
4. In a sulky or two-wheel vehicle, the connections F and clamping-plates G, in combination with the half-elliptic spring and axle, substantially as shown, and for the purpose specified.

5. In a two-wheel vehicle, the jointed connection F, in combination with the rear extremity of the spring and the high portion of the crank-shaped axle, said connection F forming a knuckle-joint e', with the spring and knuckle-joint e'', with the clamping-plate G, substantially as shown, and for the purpose specified.

6. The connection F, in combination with the springs and axle, as set forth, said connection F forming a knuckle-joint, e', with the rear end of the spring, extending on an incline downward and forward, terminating at and forming a knuckle-joint, e'', with the clamping-plate G, secured to the axle, whereby the rear end of the springs is supported and allowed to elongate, substantially as specified.

264,499. GUIDE FOR RULING OR FOR AIDING IN CUTTING GLASS. WILLIAM WHEELER, Concord, Mass. Filed Feb. 13, 1882. (No model.)

Claim.—1. The frame C, having its two opposite bars, *b*, slotted or grooved, in combination with a series of adjustable rulers, D, applied to the said bars, and also with means of clamping each of said rulers thereto when in its adjusted position therewith, all being essentially and for the purpose as specified.

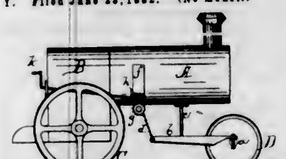


264,499.

2. The combination of the glass supporter or tablet A with the frame C, having its two opposite bars, *b*, grooved or slotted, as set forth, and with the series of adjustable rulers D and devices or means of clamping such ruler in the said grooves, all being substantially as explained.

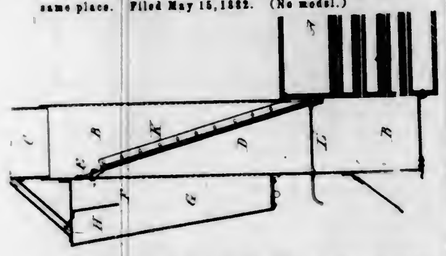
3. The frame C, having its two opposite bars, *b*, grooved or channeled at their inner edges, in combination with a series of rulers, D, each wider at its middle than at its ends, and arranged in the said bars, and also with devices or means of clamping such rulers in place in the said bars, all being substantially and for use as set forth.

264,500. DEVICE FOR LEVELING BOILERS OF ROAD-ENGINES. T. FRANK WILSON and ALBERT L. WILSON, Gorham, N. Y. Filed June 28, 1882. (No model.)



Claim.—In combination with the boiler A of a movable engine, the post *c*, horizontal bar *b*, attached to front axle, *a*, its rear end raised and lowered by chain *d*, drum or rod *e*, toothed wheel *g*, and worm h on crank-rod *k*, all substantially as and for the purpose specified.

264,501. SPARK-ARRESTER. DAVID WISER, Plymouth, Ind., assignor of two-thirds to Thomas J. Hupp and Lorie G. Capron, same place. Filed May 15, 1882. (No model.)



Claim.—1. In spark-arresters, the wire screen D, or its equivalent, hung on hinges and extending diagonally across the inner space of the breech, substantially as shown and described.

2. In spark-arresters, the cinder-box G, with partition H and the connecting vent-pipe I, arranged and operating substantially as shown and described.

3. In spark-arresters, the combination of the screen D, the deflector E, the mouth or orifice F, the cinder-box G, partition H, and vent-pipe I, with the breech and smoke-stack of a steam-engine boiler, all constructed, arranged, and operating substantially as shown, and for the purposes set forth.

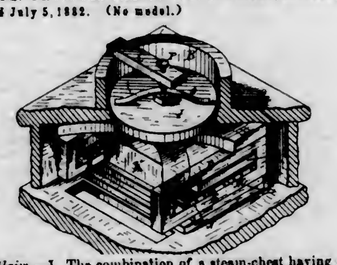
264,502. RIVET-JOINT. ROBERT WOOLSON, Brooklyn, N. Y. Filed Mar. 31, 1882. (No model.)

Claim.—The combination, with the parts A B, having openings C, countersunk at their outer ends, as at D, of the rivet E, consisting of a plain cylindrical stem, having its ends flush with the ends of opening C, and provided with grooves G and heads H, completely filling the countersinks D, as set forth.

264,502.



264,503. BALANCED VALVE. JOHN E. WRIGHT, Baraboo, Wis. Filed July 5, 1882. (No model.)



Claim.—1. The combination of a steam-chest having an upward-projecting cylindrical collar, a frame or saddle sliding vertically in said steam-chest, and having a piston sliding in said collar, a valve sliding longitudinally in said frame or saddle, a spring arranged above the piston of said frame and forcing the same downward, and a set-screw for regulating the tension of said spring, as set forth.

2. The combination of a steam-chest having an upward-projecting cylindrical collar, a frame or saddle sliding vertically in said steam-chest, and having a piston sliding in said collar, a valve having laterally-projecting flanges sliding longitudinally in slots in the sides of said frame or saddle, friction-rollers interposed under said flanges, a spring arranged above the piston of the frame or saddle and forcing the same downward, and a set-screw for regulating the tension of said spring, as set forth.

264,504. FENCE-POST. WILLIAM H. AMBROSE and THOMAS COLE, Polk, Ohio. Filed May 23, 1882. (No model.)



Claim.—In a fence-post, the combination of the base-block with the metallic rod bent into a long loop, the ends of which are firmly embedded in said base-block, and between the arms of which are held the rails of a fence, and which has channels or grooves formed around the rod, on both arms of the loop, opposite each other, having from one channel or groove to the opposite groove wires twisted, which wires prevent the spreading of the arms of the post and hold the rails in position, substantially as described.

264,505. ORNAMENTATION OF BRICKS AND TILES. JAMES C. ANDERSON, Highland Park, Ill. Filed May 13, 1882. (No specimens.)

Claim.—1. The method herein described of ornamenting bricks, tiles, &c., by embedding into the same an ornamental body of vitrifiable colors during the operation of forming such article.

2. The method herein described of ornamenting bricks, tiles, &c., the same consisting in applying metallic oxides or vitrifiable colors to paper, plants, leaves or other inflammable material in the required design, placing said design in the mold, then filling in the clay and applying the requisite pressure to form the brick and embed the design therein, then burning the articles thus formed, in the usual manner, as set forth.

3. As a new article of manufacture, a brick or tile having the characteristics described, the same consisting in having a body of vitrifiable or other coloring-matter forming the ornament or design embedded therein and forming a part thereof, as set forth.

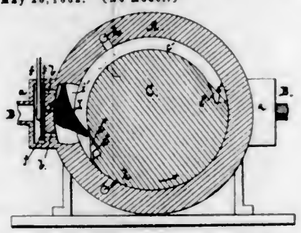
264,506. SHIRT. CHARLES AXELL, Chicago, Ill. Filed Mar. 11, 1882. (No model.)



Claim.—1. A shirt-body open at the back or front, without a neckband, and having the upper half of its front portion formed of two layers of fabric, the outer layer thereof, and also the rear part of the yoke, being provided with buttons or button-holes for the attachment of a shirt-bosom, substantially as described.

2. The attachable bosom B, provided with a neckband, *z*, opening at the back, and with a yoke, *r*, having button-holes *o* to permit it to be secured by means of buttons to the rear part of the yoke of the shirt, and provided also, on the inner face of the lateral margin, with a fly, *p*, having button-holes *o* to permit it to be secured to buttons on the shirt, substantially as described.

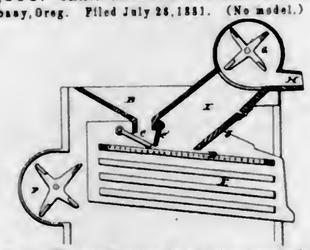
264,507. ROTARY ENGINE. ISAAC W. BAILEY, Fairport, Va. Filed May 26, 1882. (No model.)



Claim.—1. In combination with the piston-disk and pivoted reversing-valves, the lever *e* and connecting-rods *f* G, for simultaneously actuating the steam-inlet valves and exhaust-valves, as set forth.

2. In combination with the piston-disk and steam-trunk, the pivoted reversing-valves *i*, located on opposite sides of the disk and on opposite sides of its vertical central plane, the slide-valves J, lever *e*, and rods connecting said lever with the inlet and exhaust valves, as set forth.

264,508. GRAIN-CLEANING APPARATUS. DANIEL BEST, Albany, Oreg. Filed July 26, 1881. (No model.)

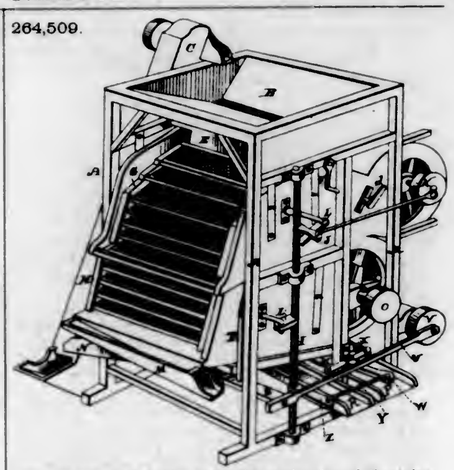


Claim.—The combination, in a grain-separator having a riddle, D, and a main blast-fan, of a casing or chamber situated above the riddle D, and containing an auxiliary suction-fan, G, passages I I, connecting the said chamber with the space above the riddle, and a swinging door, J, and a discharge-spout.

264,509. GRAIN SEPARATOR AND CLEANER. DANIEL BEST, Albany, Oreg. Filed May 16, 1881. (No model.)

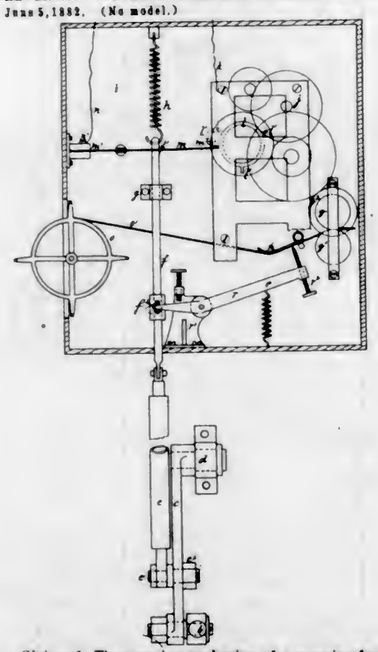
Claim.—The improved grain-separator described, consisting of a hopper, B, the independent suspended shoes G H, each carrying a series of separating-riddles, rock-shaft k, connected by cranks L to the said shoes, whereby they are given a transverse oscillatory movement in opposite directions, the grain-spouts M N, connected to the lower shoe, the cleaning-screen O, adapted to

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receive a compound shaking and tossing motion through the spring T, pitman U, and wheel V, and the spouts R P, connected to the rock-shaft by the rod Y and lever W, whereby they receive a transverse movement in opposite directions, all substantially as described.

264,510. SIGNALING AND REGISTERING ATTACHMENT FOR REVERSING FURNACES. OSCAR SOLTON, Canton, Ohio. Filed June 5, 1882. (No model.)
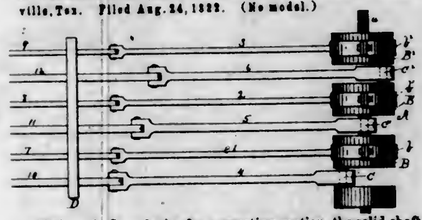


Claim.—1. The reversing mechanism of a reversing furnace or furnaces, in combination with a pivoted link or lever connected with and operated by said reversing mechanism, a sliding rod, the circuit-breaker of an electric signal-circuit, and registering device, said circuit-breaker and registering device being operated by said sliding rod, for the purpose of indicating and registering the reversals of the furnace, substantially as described.

2. In combination with the reversing mechanism of a reversing furnace or furnaces, a pivoted link or lever, a sliding rod op-

erating a contact spring or connection, a clock-work composing the terminal of an electric battery intermittently in contact with said spring, and an electrical bell, also in electric contact with said spring, substantially as and for the purposes described.

3. In combination with the reversing mechanism of a reversing furnace or furnaces, a pivoted lever or link, a sliding rod, a lever operated by said rod and provided with a puncturing or registering point, a clock-work, and a strip or tape operated by said clock-work and moving in the range of said puncturing or registering point, substantially as and for the purposes described.

264,511. DEVICE FOR CONVERTING MOTION. JAMES F. BROWN, Custer City, Tex., assignor of two-thirds to Franklin P. Whiteside, same place, and Alexander S. Belcher, Gainesville, Tex. Filed Aug. 24, 1882. (No model.)



Claim.—1. In a device for converting motion, the solid shaft A, having sections B B' B², forming eccentrics, and the crank-pins C, C', and C², all made of a single piece, substantially as set forth.

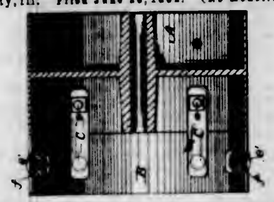
2. In a device for converting motion, the shaft A, sections B B' B², and crank-pins C, C', and C², in combination with the connecting-rods 10 11 12 and eccentric-straps *b b' b²*, substantially as set forth.

264,512. BALE-TIE. MARVIN CAMPBELL, South Bend, Ind. Filed Aug. 16, 1882. (No model.)



Claim.—A bale-tie, one end having a hook whose open side turns toward or rests upon a tongue projecting forward from or near the base of said hook, the other end having a simple loop, substantially as and for the purpose described and set forth in the foregoing specification.

264,513. WHEEL FOR HARVESTERS. VASCO M. CHAPIN, Clay City, Ill. Filed June 28, 1882. (No model.)



Claim.—1. The method of temporarily broadening the tread of carrying or driving wheels of harvesters, road-engines, and vehicles to prevent undue sinking in the soil or road-bed by attaching to the edge or edges of such wheels circular bands or rims of metal of the same exterior circumference as said wheels, all substantially as and for the purposes described.

2. In wheels for harvesters, road-engines, and heavy vehicles of all sorts, a mud-rim consisting of a metal strip or band bent to a circle and attached to the outer or inner edge, or both edges, of a driving or carrying wheel by means of clamps, rivets, screw-bolts, nuts, and fish-plates, or other strictly equivalent devices, all substantially as and for the purposes described.

3. In carrying or driving wheels, flat metal clamps, arms, or lugs, with rivets, screw-bolts, and nuts, as a means of temporarily attaching two wheels of equal circumference together, substantially as described, for the purpose of operating the two wheels as one and getting an increased bearing or traction surface.

264,514. LAND-ROLLER. ALFRED H. COMP and GEORGE E. MAHER, Mount Joy, Pa. Filed July 25, 1882. (No model.)

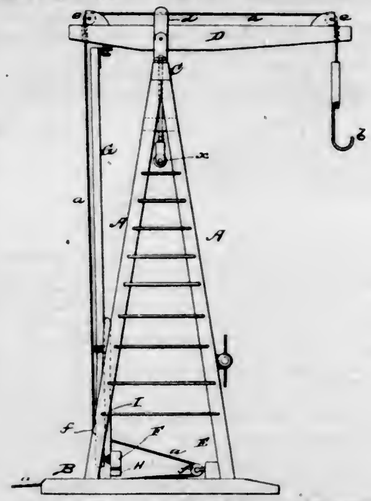
Claim.—1. The combination of the rollers R R, the scraper divided into sections A B, which cross the surface of the roller di-



agonally, the frame F of the roller, and the angle-irons I D, having vertical slots, whereby the scrapers are connected with the frame F, and the height of which scrapers above the rollers R R can be regulated, substantially as and for the purpose set forth.

2. The combination of the rollers R R, the scrapers A B, the frame F, the angle-irons I D, the perpendicular arms of which have racks on their inner face, and the bolts *b*, having on the inner face of the head a projection corresponding with the indentations in the said rack, all substantially as and for the purpose specified.

264,515. HAY-STACKER. ISAAC N. CONDRA, Seymour, Iowa. Filed July 11, 1882. (No model.)



Claim.—1. The combination of the pyramidal frame-work A A, surmounted by the metallic cap C, and the pivoted swing bar or arm D with the lever G, in manner and for the purpose specified.

2. The combination of the arm D, having the pulleys *e* and loop *d*, with the lever G, carrying the pulley *f*, the lever-brace I, the lifting-rope *a*, and the lever swing-bar J, all as described and shown.

3. The pyramidal-shaped frame consisting of the uprights A, mounted on bases B, in combination with the tilting-bar F, provided with the loops H, the triangular lever-brace I, having the friction-rollers moving in the loops H, and by them attached to bar F, and the tilting-lever G, all as hereinbefore shown and specified.

264,516. ARTIFICIAL CREAM. WILLIAM COOLEY, Waterbury, Vt., and DAVID H. BURRELL, Little Falls, N. Y., assignors to Whitman & Burrell, Little Falls, N. Y. Filed Nov. 22, 1881. (No specimens.)

Claim.—1. As a new article of manufacture, an artificial cream composed of an oleaginous substance mechanically blended or otherwise incorporated with milk, butter-milk, or cream, the oleaginous material being in a state of minute and even division, and each particle incased in a coating of caseine, substantially as specified.

2. The herein-described method of preparing an artificial cream or emulsion formed from oleaginous material and milk, butter-milk, or cream, which consists in mechanically mingling the same in about the proportions specified, whereby the ingredients are reduced to a state of minute division, and each particle of oleaginous substance is inclosed in a coating of caseine, substantially as set forth.

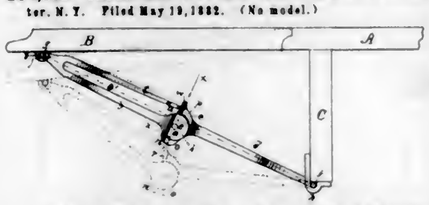
264,517. INCANDESCENT ELECTRIC LAMP. WM. CROOKES, London, England. Filed Aug. 1, 1882. (No model.) Patented in England Aug. 31, 1881, No. 3,789; in France Sept. 30, 1881, No. 145,080, and in Italy May 26, 1882, No. 14,225.



Claim.—1. My improvement in the manufacture of the glass inclosures for incandescent lamps, consisting in preparing the vessel to receive the wire by, while the glass is hot, deflecting inward a portion, then detaching the said portion, and, after fixing the wires, again completing the vessel by sealing in the detached portion, substantially as described

2. My improvement in the manufacture of the glass inclosures for incandescent lamps, consisting in forming upon the glass a cup-like cavity with a nipple or nipples by means of a pointed tool, and in perforating such nipples and passing and sealing in the wires, substantially as described.

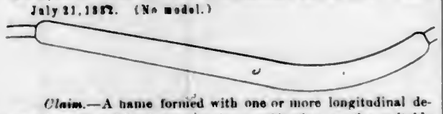
264,518. TABLE-LEAF SUPPORT. HENRY J. DORSIN, Rochester, N. Y. Filed May 19, 1882. (No model.)



Claim.—1. In a table-leaf support, the arm *d* and bifurcated arm *b*, united in a flexible joint at *c*, the arm *d* being provided with the piece *e* and notch *r*, to operate in combination with the tine *t* of the arm *b* in locking said arms together, the said tine being provided with a thumb-rest, *u*, for lifting it out of the notch for the purpose of unlocking the said arms, substantially as set forth.

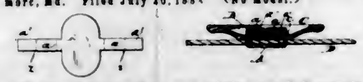
2. A table-leaf support consisting of the arms *d* and *b*, joined at *c*, the former being provided with the piece *e* and notch *r*, and the latter arm, *b*, provided with the branch or tine *t*, operating with said piece and notch, and provided with a thumb-rest, *u*, and a guard or stop, *w*, for the tine *t*, substantially as shown and described.

264,519. HAME. JOHN G. EBERHARD, Akron, Ohio. Filed July 21, 1882. (No model.)



Claim.—A hame formed with one or more longitudinal depressions, *a*, and having a covering, *c*, of leather or other suitable material, and a longitudinal piece, *e*, attached to the hame in depression *a*, over covering *c*, and firmly fastening it in said depression, substantially as described.

264,520. BUTTON-FASTENER. CHARLES ERLANGER, Baltimore, Md. Filed July 20, 1882. (No model.)



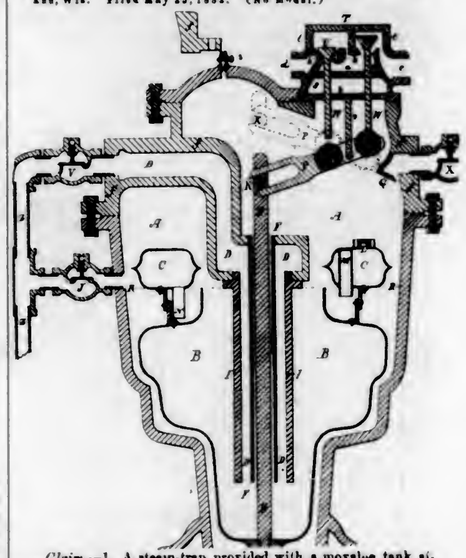
Claim.—A button-fastener consisting of a disk provided with extending side arms strengthened by having their ends folded or doubled, as described, before being passed through the button, and adapted, after being passed through the cable-holes of a button, to be turned over on the surface thereof, substantially as described.

264,521. METHOD OF FORMING BUTTON-HOLES. LEE CHEW FAN, San Francisco, Cal. Filed Jan. 30, 1883. (No model.)



Claim.—The combination, with a row of button-holes, of a cord extending along and adjoining the inner ends of all the holes, and having the gimp or binding-thread of each button-hole twisted with said cord and secured thereto, whereby such cord forms the finish of the inner ends of all the button-holes.

264,522. STEAM-TRAP. BARNET W. FELTHOUSEN, Milwaukee, Wis. Filed May 23, 1882. (No model.)



Claim.—1. A steam-trap provided with a movable tank attached to the float, arranged and constructed so as to alternately receive and discharge water, and by its consequent change of weight render the movements of the float more positive, for the purpose already described.

2. A steam-trap provided with a movable tank connected to the float, furnished with an inlet and outlet pipe and a valve at the top, substantially as and for the purposes set forth.

3. A steam-trap provided with a tank attached to an open-top vertical float.

4. A steam-trap provided with a steam and relief valve, with a partition in the cover that separates the two valves, substantially as described.

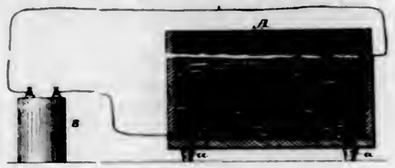
5. The combination, in a steam-trap, of the lever P, beveled rollers O O, float B, and valve-spindles adapted to be rotated whenever they are opened, substantially as and for the purposes set forth.

6. In combination with a steam-trap, an inwardly-opening check-valve, J, situated in the discharge-pipe below the discharge check-valve V, and leading into the body of the trap above the line R R, substantially as and for the purposes set forth.

7. In a steam-trap, the combination of the rod E, attached to float B, and provided with roller K and lever P, forked for the reception of the roller, so as to prevent all lost motion, substantially as and for the purposes set forth.

8. In a steam-trap, the combination of the steam-valve H, relief-valve U, the check-valves X and V, float B, tank C, rod E, guide-pipe, and passage D, all constructed and arranged substantially as and for the purposes set forth.

264,523. CURING TOBACCO. SIMON J. PLATOW, New Orleans, La., assignor of one-eighth to RICHARD LLOENDS of New York, N. Y. Filed Feb. 24, 1880. Renewed May 29 1882. (Model.)



Claim.—The within-described process of curing tobacco, the same consisting in moistening the tobacco-leaves, packing the same in a suitable pile, and then exposing the same to the action of a current of electricity, substantially as set forth.

264,524. CLAMPING MECHANISM FOR STEAM ROCK-DRILLS. JOSEPH C. GITTINGS, New York, N. Y., assignor to the Rand Drill Company, of New Jersey. Filed July 29, 1882. (No model.)



Claim.—1. The herein-described adjustable clamping mechanism for the support of a drill-cylinder carriage, provided with a flaring trunnion, which consists, first, of the upper clamping-jaw, A, upon the top of which is formed the disk A', provided with the upwardly-projecting flange A², and which is transversely perforated to admit the clamping-bolt E, provided with the upwardly-projecting head E', and with the clamping-nut E²; and, secondly, of the lower jaw, B, and the bolts for tightening the jaws A and B upon a bar or shaft embraced by them.

2. In combination with a circular flaring trunnion upon the carriage of a drill-cylinder, a bearing or seat provided with the undercut flange A² and the clamping-bolt E, having at one end the undercut upwardly-projecting head E' and at the other end the nut E², as and for the purpose set forth.

264,525. BALANCED ROTARY VALVE. JOHN B. GLENN, Chicago, Ill. Filed July 24, 1882. (No model.)



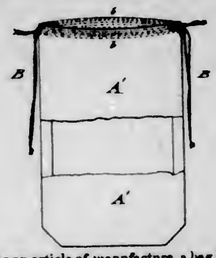
Claim.—1. The conical valve B, having ports *i i* and *j j* and U-shaped partition K, in combination with the casing A, having screw-neck *a*, that communicates through channel *e* with ports *j j* of the valve, having screw-neck *b*, that is connected with the diametrically-opposite ports *g g'* by channels *f f'*, and screw-neck *c*, that communicates with the ports *i i* of the valve, all substantially as and for the purpose set forth.

2. The conical valve B, having ports *i i* and *j j* and U-shaped partition K, in combination with the casing A, having screw-neck *a*, with channel *e*, screw-neck *b*, with channels *f f'*, and diametrically-opposite ports *g g'* and intermediate cavities, *h h'*, and screw-neck *c*, all constructed and arranged to operate substantially as and for the purpose set forth.

3. The combination, with the conical valve B, having a partially-conical stem, *o*, with collar *n* and screw-sleeve D, of the casing A, having conical stuffing-box F, the whole being constructed and arranged substantially as and for the purpose described and shown.

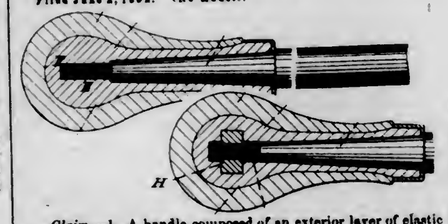
4. The casing A, that forms the conical valve-seat and has screw-neck *a*, with channel *e*, screw-neck *b*, with channels *f f'*, and diametrically-opposite ports *g g'*, intermediate cavities, *h h'*, shoulder *r*, screw-neck *c*, and conical stuffing-box F, in combination with the conical valve B, having ports *i i* and *j j*, partition K, arms *m*, and stem *o*, with collar *n*, adjustable packing-sleeve D, and jam-nut E, the whole being constructed and arranged to operate substantially as and for the purpose shown and specified.

264,526. WOVEN BAG. JOHN E. GRAUWILER, New York, N. Y. Filed Jan. 21, 1882. (No model.)



Claim.—As an article of manufacture, a bag having a circumferential seamless tube woven integral therewith at its mouth and provided with shirring-strings, the woof and warp of said tube being uniformly distributed along its length and throughout its circumference, substantially as described.

264,527. RUBBER HANDLE. JOHN J. RALEY, Newton, Mass. Filed June 2, 1882. (No model.)

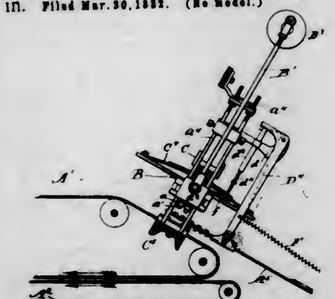


Claim.—1. A handle composed of an exterior layer of elastic vulcanized rubber and an interior layer of semi-hard vulcanized rubber, and provided with a hole in its interior layer similar in form and dimensions to the tang or shank to which it is to be applied, substantially as described and shown.

2. A handle composed of an exterior layer of elastic vulcanized rubber and an interior layer of semi-hard vulcanized rubber, provided with a hole in its interior layer similar in form and dimensions to the tang or shank to which it is to be applied, and having a screw-thread, F, formed on its interior surface, substantially as and for the purpose described.

3. In a handle composed of an exterior layer of elastic vulcanized rubber and interior layer of hard vulcanized rubber, and provided with a hole in its interior layer similar in form and dimensions to the tang or shank to which it is to be applied, a nut, H, of metal or suitably-hard material molded and vulcanized therein, as and for the purpose described.

264,528. LOZENGE-MACHINE. CHARLES H. HALL, Chicago, Ill. Filed Mar. 30, 1882. (No model.)



Claim.—1. In a lozenge-machine, the combination of the jaws a^4 a^4, cross-head B, rods B' B', cranks B^2 B^2, and shaft B^3, the jaws a^4 a^4 sliding on guides a^5 a^5, all of said parts being inclined out of the perpendicular, so that the cross-head carrying the cutters rests in the jaws and is secured therein by its own weight, substantially as and for the purposes set forth.

2. In a lozenge-machine, the jaws a^4 a^4, cross-head B, rods B' B', cranks B^2 B^2, shaft B^3, the cross-head B having cutters *a*, and pistons *a'*, provided with stems *b*, in combination with the adjustable plates C and *b'*, all of said parts being set on the incline and arranged in the manner and for the purposes set forth.

3. In a lozenge-machine, the combination, with the cross-head B, of the plate a^2, the bolts a^4, and the piston-rods b, provided with the shoulders b^4, substantially as described.

4. The combination of the shaft B^3, cams D D', rods D^4 D^5, having shoulders D^{10}, spring D^7, bar A^3, cross-head C', arms C^8 C^9, and guides a^4 a^5, substantially as set forth, and for the purposes specified.

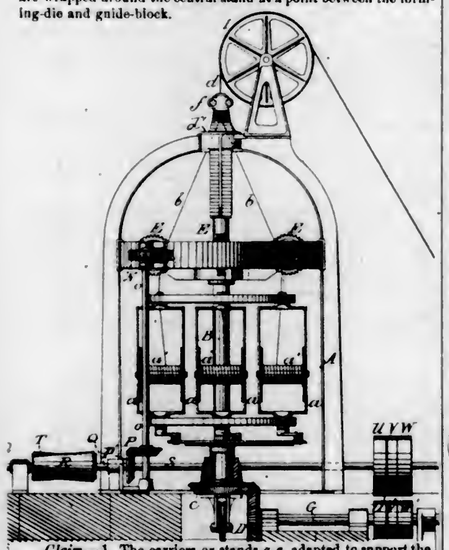
5. In a lozenge-machine, the cross-head cutter and piston and stem, the stem having an upper thread and being provided with collar b^1, nuts b^2 b^3, sleeve b^4, and spiral spring b^5, in combination with the plate b', secured to spring C^4, and the adjustable plate a^3, substantially as described, and for the purposes set forth.

6. In a lozenge-machine, the combination, with the reciprocating receiving-tray A^3, of the swinging arms D^4 D^5, the brackets d d', the tumbler-rods d^3 d^3, the threaded extension d^4 d^5, and the projections f f', substantially as described.

7. The shaft B^3, cranks B^2 B^4, and rods B' B^5, carrying jaws a^2 a^3, the jaws supporting the cross-head B, which is provided with the cutters a, carrying the pistons and stems, in combination with the bridge C' and its operating mechanism, whereby the pistons are forced out the bottom ends of the cutters twice in each revolution of the driving-shaft, substantially as set forth, and for the purposes specified.

264,529. MACHINE FOR MAKING WIRE ROPE. ANDREW S. HALLIDIE, San Francisco, Cal. Filed Feb. 23, 1881. (No model.)

Brief.—The series of roller-dies and the bobbin-stands which support the bobbins are supported upon a vertical shaft which is rotated by suitable means. The wires pass from the bobbins to the roller-dies, where they are changed into the desired form, and from thence to the forming-die and guide-block, from which the said wires are drawn over a wheel located on the top of the supporting-frame by a suitable drawing-off mechanism. The wires are wrapped around the central stand at a point between the forming-die and guide-block.

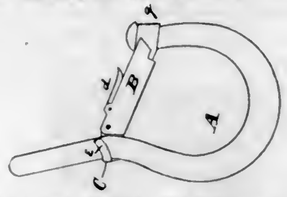


Claim.—1. The carriers or stands a a, adapted to support the bobbins which carry the wire, and the forming-die d^5, in combination with a series of dies, c c, interposed between the bobbin-stands and the forming-die, for the purpose of changing the form of the wire after it leaves the bobbins, substantially as described.

2. The frames a a, adapted to support the bobbins which carry the wires, the dies c c for shaping the strands, a shaft for supporting such devices, and mechanism for rotating the same, in combination with the wheels E and the worm or screw F for imparting motion to the dies, substantially as set forth.

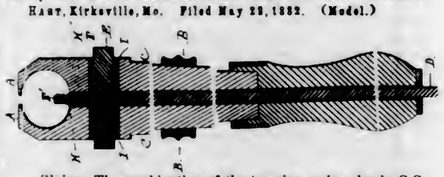
3. The stands a a, adapted to support the bobbins which carry the wire, and the dies c c for shaping the strands of the rope, a vertical shaft upon which said bobbin-stands and dies are mounted, and mechanism for rotating said shaft, in combination with wheels E, worm or screw-gear F, and means for moving said gear F for the purpose of regulating the speed of the dies, substantially as described.

264,530. MOUSING HOOK. WILLIAM H. HAMMOND, New Bedford, assignor of one-half to C. Sumner Chase, East Freetown, Mass. Filed July 17, 1882. (No model.)



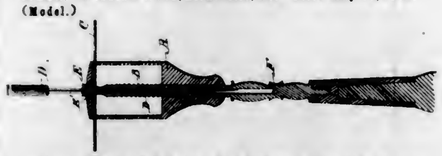
Claim.—The within-described mousing, consisting of the block C, having arms c c for clasping the same to the eye of the hook, and the body of the mousing B, having the clasp g, the spring s, and the lever d, when arranged substantially as and for the purpose specified.

264,531. WATCH HAND AND ROLLER REMOVER. WILLIAM HART, Kirksville, Mo. Filed May 29, 1882. (Model.)



Claim.—The combination of the tapering spring-shanks C C, provided with jaws A A and grooves H H, the clamping-slide B, the wire D, having screw-thread F, and the threaded bar E, located loosely in larger bearings I I in the jaws A A, substantially as and for the purposes set forth.

264,532. SECOND-HAND HOLDER AND SCREW-END FINISHER. WILLIAM HART, Kirksville, Mo. Filed May 29, 1882. (Model.)



Claim.—The combination of the frame A, provided with a threaded stem and a central hole, E', in its top, with the threaded tubular handle B, having cross-hole F, substantially as and for the purposes set forth.

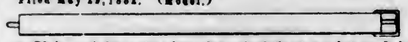
264,533. RUBY-PIN AND PALLET SETTER. WILLIAM HART, Kirksville, Mo. Filed May 29, 1882. (Model.)



Claim.—1. The combination of the stem A, having grooves G and K, with the clamps B and F and the coiled spring L, substantially as described, and for the purposes set forth.

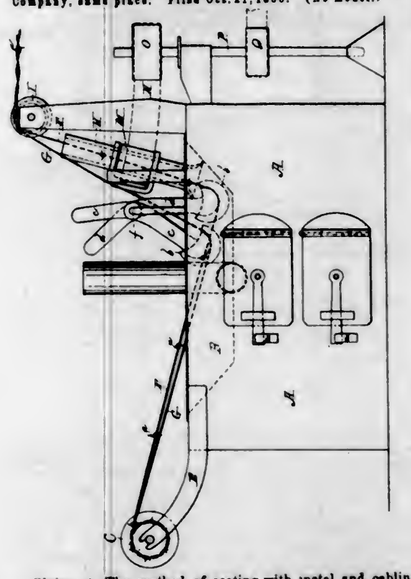
2. The combination of stem A, having grooves G and K, and flat surface H and holes J and I, with the clamps B and F and the coiled spring L, substantially as and for the purposes set forth.

264,534. HAME-TUG LOOP. ANDREW L. HILL, Decatur, Ill. Filed May 29, 1882. (Model.)



Claim.—A hame-tug loop formed of the two plates a b, inclined side plates, c c, and straight projections d d, whereby the upper plate is held out of line with the lower, and the projections d d clamp the sides, but do not project beyond the trace, substantially as set forth.

264,535. PROCESS OF AND APPARATUS FOR COATING BARBED FENCE-WIRE WITH METAL. EDWIN H. HILL, Worcester, Mass., assignor to Washburn & Moen Manufacturing Company, same place. Filed Oct. 21, 1880. (No model.)

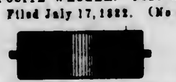


Claim.—1. The method of coating with metal and cabling barbed wire, as hereinbefore described, consisting of running the strands separately or apart through a bath of molten metal, and then passing the barbed wire through a mass of charcoal or sand having a stirring or barb-cleaning motion for removing the surplus metal from the barbs and barb-points, substantially as described, and then, after the metal coating has sufficiently cooled to prevent a union between the separate main strands of wire, cabling or twisting the metal-coated wires together, for the purposes stated.

2. In an apparatus for coating barbed wire with metal, the combination, with the receptacle B for containing the molten metal, of a charcoal or sand receiver or receptacle, H, substantially as and for the purposes set forth.

3. In an apparatus for coating barbed wire with metal, the combination of receptacle to contain the molten metal with grooved guides for directing the separate wires into the molten metal, a charcoal or sand receptacle, through which the barbed wire passes after leaving the bath of molten metal, for cleaning the barbs and barb-points from surplus metal, substantially as described, and a twisting, cabling, and spooling mechanism, for the purposes set forth.

264,536. COMPOSITE WASHER. JOHN S. HOFFECKER, Wilmington, Del. Filed July 17, 1882. (No model.)



Claim.—A composite washer consisting of a yielding body, a sectional flexible metallic casing surrounding the sides and edges of said body, and means for uniting the flexible-casing sections together at the edge of the washer, substantially as described.

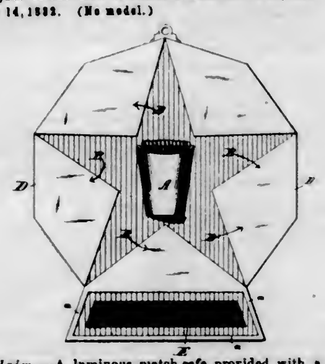
264,537. COMPOSITE WASHER. JOHN S. HOFFECKER, Wilmington, Del. Filed July 7, 1882. (No model.)

Claim.—The improved composite washer consisting of a yielding washer or body, having its sides and edges enveloped by a flexible metallic plate or casing, so as to be protected and strengthened, substantially as described.

264,537.



264,538. MATCH-SAFE. ROLLIN D. HUNTLEY, Havana, N. Y., assignor of one-half to James T. Bennett, same place. Filed June 14, 1882. (No model.)



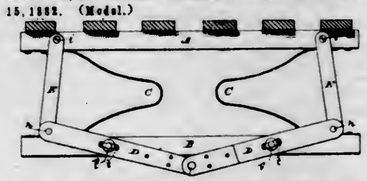
Claim.—A luminous match-safe provided with a central match-holder, A, and scratcher, E, and coated with luminous paint at parts surrounding the scratcher and match-holder, as set forth.

264,539. SASH-FASTENER. ELEAZER KEMPSHALL, New Britain, Conn. Filed Aug. 7, 1882. (No model.)



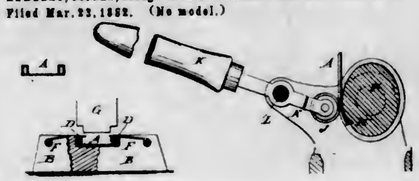
Claim.—The sash-fastener having the bolt with the reduced portion, the spring, and the thin metal case near one end, and between the handle and inner end of said case the larger straight portion, f, of the bolt, which forms a bearing-surface, and the bushing to receive and support said portion f, substantially as described, and for the purpose specified.

264,540. PRESSURE OR WEIGHT EQUALIZER FOR BED-BOTTOMS, &c. LEONARD K. KLINE, Brockport, Pa. Filed July 15, 1882. (Model.)



Claim.—The bars B and A, combined with the levers D D, pivotally connected at their inner ends and jointed to B, with a sliding joint or fulcrum F f, and the strips or arms E E, pivoted at each end to the levers D and the frame A, respectively, and springs C C, substantially as shown, and for the purpose set forth.

264,541. MODE OF MANUFACTURING BRACELETS. ALONZO LAMBERT, Corona, assignor to S. W. Hale & Co., New York, N. Y. Filed Mar. 23, 1882. (No model.)



Claim.—1. The mode of manufacturing bracelets having raised rims, substantially as herein shown and described, which consists in bending the edges of the stock upward at right angles by pressing the stock into a grooved die, then bending the turned-up edges inward at right angles over rectangular wires placed in the angles of the stock while still in the die, then bending the inwardly-projecting edges downward along the inner sides of the wires, and then bringing the bracelet into shape upon an oval mandrel with a bending-tool, as set forth.

2. The combination, with a lathe, of the mandrel I, having graduated annular grooves provided with slots in their bottoms, the bending-tool J, hand-lever K, and the fulcrum-rod L, substantially as herein shown and described, whereby the bracelet can be readily brought into the required shape, as set forth.

3. The combination, with the oval mandrel I, having annular grooves, of the pivoted shiftable hand-lever K and the rabbeted roller J, as shown and described.

264,542. SNOW-PLOW. LEWIS LARCHAR, Marble Rock, Iowa. Filed Apr. 13, 1882. (No model.)

Brief.—The plow consists of vertical guard-walls and bottom piece, with forward scrapers, top wings, middle side wings, top chutes, a rear vertical wall directing snow from top chutes to rear side wings passing through openings (permitting an outward draft) in the vertical guard-walls to a central point under the bottom.



Claim.—1. The combination, in a snow-plow, of scrapers A, top wings, C, and top chutes, E, substantially as specified.

2. The combination, in a snow-plow, of the scrapers A, the top wings, C, the side wings, D, and the chutes E, substantially as and for the purpose set forth.

3. The combination, in a snow-plow, of the scrapers A, top chutes, E, and rear wings, F, substantially as described.

4. The combination, in a snow-plow, of the front scrapers, A, top wings, C, top chutes, E, and rear wings, F, substantially as described.

5. The combination, in a snow-plow, of the front scrapers, A, top wings, C, side wings, D, top chutes, E, and rear wings, F, substantially as described.

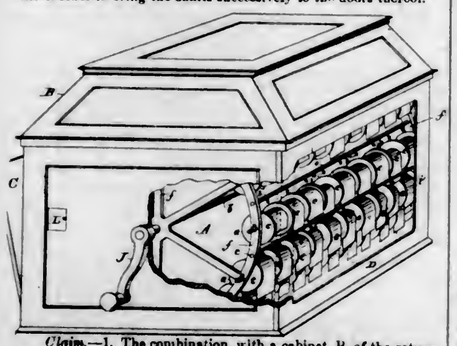
6. In a snow-plow, the combination of the guards I, the bottom J, the openings H', and the rear wings, F, extending to point G under the bottom, whereby a draft through the openings H' is produced, substantially as herein shown and described.

7. The combination of rear wings, F, vertical wall H, and top chutes, E, in a snow-plow, substantially as specified.

8. The combination of vertical wall H with top chutes, E, the former being located at the rear end of said top chutes, substantially as described.

264,543. RIBBON AND LACE SHOW-CABINET. LUCIUS F. LOWRY, Aurora, Tex. Filed June 10, 1882. (No model.)

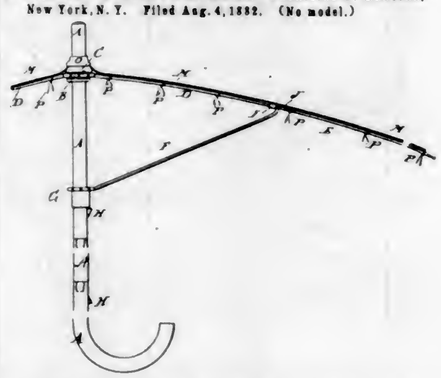
Brief.—A series of shafts carry loose rollers and fixed flanges between the rollers, the shafts being held in a frame that is to be held in a cabinet or case, the frame being adapted to be turned in the cabinet to bring the shafts successively to the doors thereof.



Claim.—1. The combination, with a cabinet, B, of the rotary shaft *b*, journaled in the sides of the cabinet, the end pieces, *f f*, made fast on said shaft and connected by rods *e*, the rotary shafts *a*, arranged between said rods *e* and carrying fixed flanges *e*, the loose rollers *g* between said flanges, and a hook for each roller, arranged over it on rods *e*, as shown and described.

2. The combination of a cabinet, B, having the door L, the loose longitudinally-grooved rollers and shafts *g a* on a rotary frame, and the rod *h*, whereby the rollers may be locked for filling without being removed from the frame, as described.

264,544. FOLDING UMBRELLA. PATRITIUS F. MAGUIRE, New York, N. Y. Filed Aug. 4, 1882. (No model.)



Claim.—1. In a folding umbrella, the combination, with the braces F and the jointed ribs D E, of the rings K, substantially as herein shown and described, whereby the connection between the said braces and jointed ribs is strengthened, as set forth

2. In a folding umbrella, the combination of the stick or staff A, the runners B G, the braces F, the jointed ribs D E, their fastening-sleeves I J and bands K, the nut C, the cover M, having means for detachably connecting it to the ribs D E, and the cap-nut O, substantially as and for the purpose set forth.

3. In a folding umbrella, the combination, with the staff or stick A, having the runner B and the ribs D F, of the nut C, having hooks N at its upper edge, and the cover M, provided around its central opening with a series of additional openings, which receive the hooks N, said cover being detachably connected to the said ribs, substantially as and for the purpose set forth.

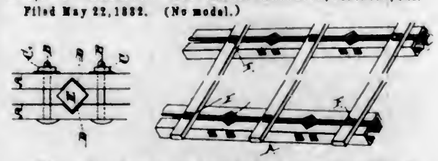
264,545. COMPOUND FOR CULINARY USE. GEORGE S. MARSHALL, Everett, Mass. Filed Aug. 2, 1882. (No specimens.)

Claim.—1. The described method or process of deodorizing, purifying, and flavoring stearine obtained from animal fats or vegetable oils by boiling the same with water and mixing therewith powdered orris-root, substantially in the proportions and in the manner and for the purpose set forth.

2. The described method or process of deodorizing, purifying, and flavoring cotton-seed oil or an equivalent vegetable oil by mixing therewith powdered orris-root, substantially in the proportions and in the manner and for the purpose set forth.

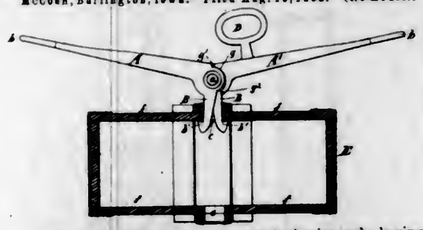
3. The described compound, formed by uniting refined cotton-seed oil or an equivalent vegetable oil, mixed with powdered orris-root, with refined stearine obtained from animal fats or vegetable oils and mixed with powdered orris-root, substantially in the proportions set forth, and for the purpose specified.

264,546. HARROW. DON CARLOS HAYNES, Stockton, Cal. Filed May 22, 1882. (No model.)



Claim.—In a harrow, the tooth-holding channel-iron bars A, having the triangular notches D, the teeth E, and holding-bolts B, the bars A being separated so as to have vertical slots or channels between them, in combination with the bolts F, passing through and adjustable in said slots, and the transverse frame-timbers, substantially as and for the purpose herein described.

264,547. BARB-WIRE LIFTER AND CARRIER. THOMPSON MCCOSH, Burlington, Iowa. Filed Aug. 10, 1882. (No model.)

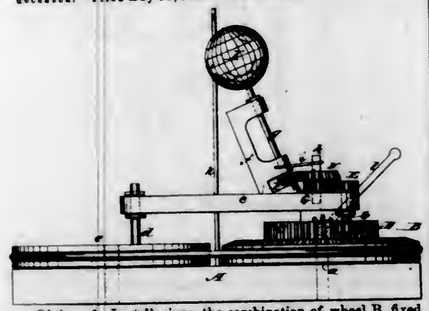


Claim.—1. A lifter and carrier for barb-wire reels, having main portions, as A A', provided with dogs B, having hooked ends *b'*, and which fit against and move upon each other, substantially as and for the purpose described.

2. The parts A A' of the lifter, provided with hooking-dogs B B, and united by a joint, *g*, which forms limitation-stops *g' g²*, substantially as and for the purpose described.

3. The combination of the loop D with the hooking-lifter, substantially as and for the purpose described.

264,548. TELLURIAN. JOHN R. MCCRARY, Jr., Sulphur Lick, Ky., for himself and as administrator of Thomas G. McCrory, deceased. Filed May 11, 1882. (No model.)

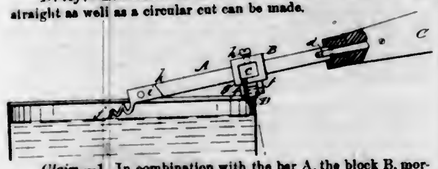


Claim.—1. In tellurians, the combination of wheel B, fixed gear C, arbor *b*, pinions D E, bar *c*, shaft *g*, pinion F, and intermediate gearing, G H, substantially as shown and described, for operating as specified.

2. In tellurians, the combination of wheels B *e*, provided with arbor *b* and post *d*, the belt *o*, and the bar *c*, carrying the globe-shaft and gearing, substantially as shown and described.

264,549. CAN-OPENER. WILLIAM A. MCFARLANE, Ivanpah, Cal. Filed Apr. 28, 1882. (No model.)

Brief.—The cutter-block is reversible on the bar, so that a straight as well as a circular cut can be made.

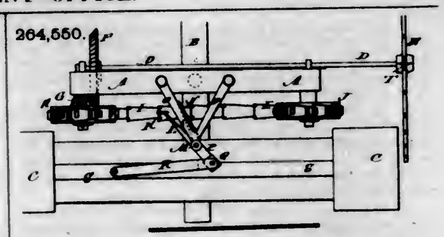


Claim.—1. In combination with the bar A, the block B, mortised through in opposite directions and adapted to be reversed upon the bar A, for holding the blade D at right angles to or parallel with the bar, as and for the purposes set forth,

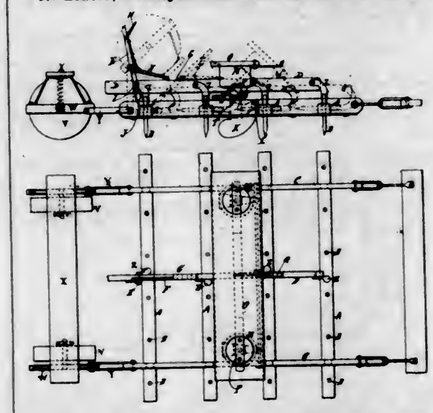
2. In a can-opener, the bar A, having the folding point *j*, in combination with a movable and reversible block, B, provided with the revolving blade or cutter D, as and for the purpose specified.

264,550. SEED-DROPPING ATTACHMENT FOR CHECK-ROW CORN-PLANTERS. LEWIS P. MCGONIGLE and JAMES H. BIGHAM, Cato, Kans. Filed May 1, 1882. (No model.)

Claim.—The combination, with the wheel E, shaft D, beveled gears F G, chain-wheels H J, chain I, and hook K, of the vertical rock-shaft M, the arms L N thereon, the arm P, and the pitman R, operating the planter slide or gate, as shown and described.

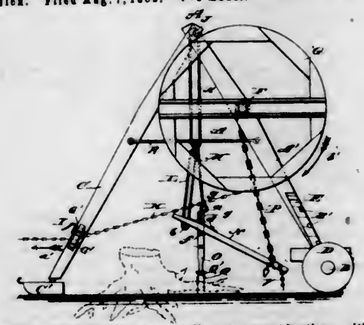


264,551. COMBINED HARROW AND CORN-PLANTER. MARTIN MCNITT, Washington, Kans. Filed Apr. 22, 1882. (Model.)



Claim.—The combination, with the side bars, C, the toothed bars A, pivoted therein, the adjusting-bar D, and shifting-lever E, of the hoppers M, provided with the seed-slides P, the connecting-plate O, the tubular perforated standards N, the drills K, made integral therewith and pivoted to the side bars, C, stops S, and pins T, all arranged and constructed substantially as described, and for the purpose set forth.

264,552. STUMP-PULLER. NEWTON P. HEACHAMY, Blairs, Mich. Filed Aug. 7, 1882. (No model.)



Claim.—1. In a stump-puller, the combination, with the frame A, of the shaft F, the grooved wheel G, the chain H, attached to parts within this groove, the anti-friction pulleys G', and the chain P, substantially as herein shown and described, and for the purpose set forth.

2. In a stump-puller, the combination, with the frame A, of the axle B, the wheels D, the runner C', the shaft F, the grooved wheel G, and the chain P, substantially as herein shown and described, and for the purpose set forth.

3. In a stump-puller, the combination, with the frame A, of the shaft F, the grooved wheel G, the chain H, the anti-friction rollers G', the hook I, and the chain P, substantially as herein shown and described, and for the purpose set forth.

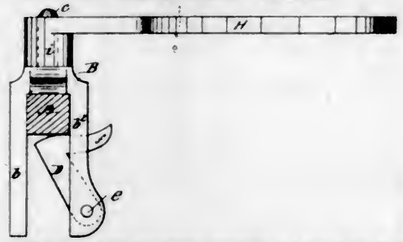
4. In a stump-puller, the combination, with the frame A, of the shaft J, the link-pieces K, suspended from the shaft J, the link-piece L, the clevis M, suspended from the link-piece K, the lever N, the bar O, the shaft F, and the chain P, substantially as herein shown and described, and for the purpose set forth.

5. In a stump-puller, the combination, with the frame A, of the shaft J, the link-piece K, suspended from the shaft J, the link-piece L, the clevis M, provided with eyes *a* at the lower end, the lever N, the bar O, provided with apertures *f*, the chain Q, the chain P, and the shaft F, substantially as herein shown and described, and for the purpose set forth.

6. In a stump-puller, the combination, with the frame A and the stump-pulling devices, of the shaft B, provided with an intermediate journal, W, the end wheels, D, a detachable wheel, T, which can be mounted on the shaft at the journal W, and of the runner C', substantially as herein shown and described, and for the purpose set forth.

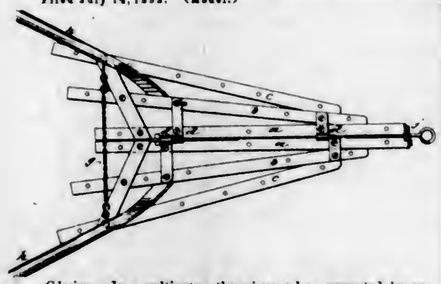
7. In a stump-puller, the combination, with the frame A and the stump-pulling devices, of the shaft B, provided with an intermediate journal, W, the end wheels, D, a detachable wheel, T, formed of two sections, T', of which one section is provided with tenons, which fit into mortises in the opposite section T', substantially as herein shown and described, and for the purpose set forth.

264,553. GRATE ATTACHMENT. JOHN J. MITCHELL, Hopkinsville, Ky. Filed Apr. 22, 1882. (No model.)



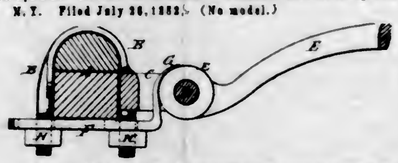
Claim.—A grate attachment consisting of a forked bar, B, divided into two branches, *b b'*, and provided with a pivoted latch, D, substantially as and for the purpose herein described.

264,554. CULTIVATOR. JOHN J. MORRIS, Humboldt, Nebr. Filed July 14, 1882. (Model.)



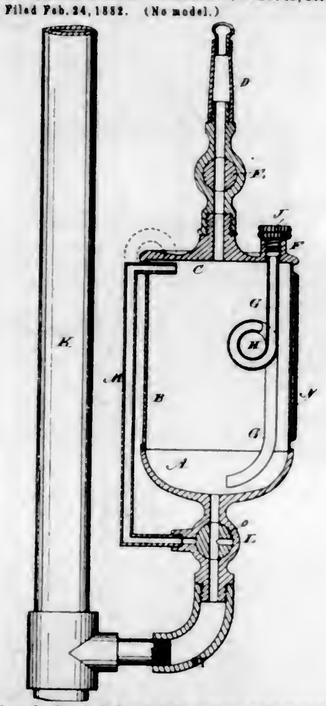
Claim.—In a cultivator, the wings *a b c*, connected by upwardly-extended long-leaved hinges *d e*, in combination with a draft-rod, *i*, elevated on bars *j* and extended back to form the pintle of the hinges, as shown and described.

264,555. THILL-COUPLING. WILLIAM MOULD, Saugerties, N. Y. Filed July 26, 1882. (No model.)



Claim.—The clip-bar F, provided with two oblong slots to receive both clip-arms, having one end bent at right angles to bear against the thill-iron and the other end extended beyond the clip to receive the blow of a hammer, as shown and described.

264,556. ALCOHOL-COCK. CLARENCE C. MULFORD, Streator, Ill. Filed Feb. 24, 1882. (No model.)



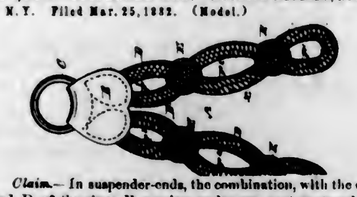
Claim.—1. An alcohol-cock for gas-pipes, made substantially as herein shown and described, and consisting of an alcohol and gas receiver provided with a self-sealing supply-pipe, a three-way cock, gas-pipe, and gas-burner, whereby the alcohol may be introduced into the receiver and gas-pipe without the escape of gas, and gas may be admitted into the receiver and tested at the burner when desired, as set forth.

2. In an alcohol-cock, the combination, with the cup A and the vessel B, of the filling-tube C, provided with a loop or trap, H, substantially as herein shown and described, and for the purposes set forth.

3. In an alcohol-cock, the combination, with the cup A and the vessel B, of the three-way cock L and the pass-tube M, extending from the cock L to the top of the vessel B, substantially as herein shown and described, and for the purpose set forth.

4. In an alcohol-cock, the combination, with the cup A and the vessel B, of the three-way cock L, the pass-tube M, extending from the cock L to the top of the vessel B, and of the gas-burner D, substantially as herein shown and described, and for the purpose set forth.

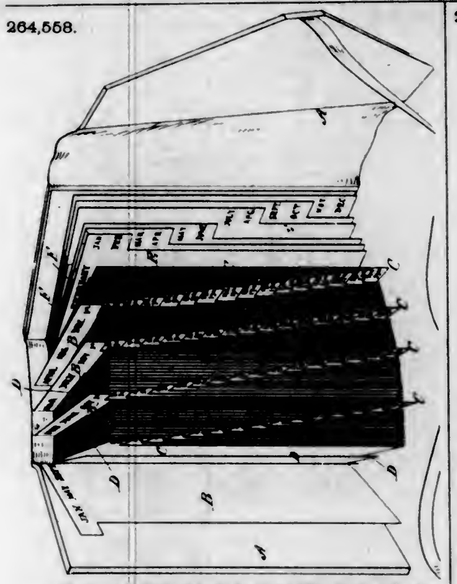
264,557. SUSPENDER-END. AUGUSTA METZNER, New York, N. Y. Filed Mar. 25, 1882. (Model.)



Claim.—In suspender-ends, the combination, with the crossed band D, of the rings E, passing under one part or strand of the band and over the other part or strand at the crossings, substantially as herein shown and described, and for the purpose set forth.

264,558. HOLDER FOR BILLS OR NOTES AND COLLECTION ITEMS. CALEB C. NORTH, Huntingdon, Pa. Filed May 6, 1882. (Model.)

264,558.



Claim.—A holder, of book form, for bills, notes, and other papers, having a daily index composed of a series of leaves or flaps, B and C, with intervening leaves, D, the leaves B and C being indexed with the dates of the months along their outer longitudinal margins, and the leaves B, between which the leaves C are arranged, having on their upper exposed margin the months of the year spread over them, said holder having also bound at its back, within its cover, the monthly index composed of the leaves E, with intervening leaves, F, indexed as set forth, the whole constructed, arranged, and operated in the manner and for the purpose set forth.

264,559. ROLLER REDUCING AND SEPARATING MILL. UDOLPHO H. OBELL, Dayton, Ohio. Filed Mar. 7, 1882. (No model.)

Claim.—1. In a roller reducing-mill, the combination of a single set of rolls, adjustable journal-arms for one of the rolls, a hopper above the rolls, a through-shaft journaled to the frame of the machine and connected with the journal-arms of the movable roll, hopper-gate mechanism connected with the through-shaft, and a swinging lever attached directly to the latter to simultaneously adjust the roller-arms and the hopper-gate, substantially as described.

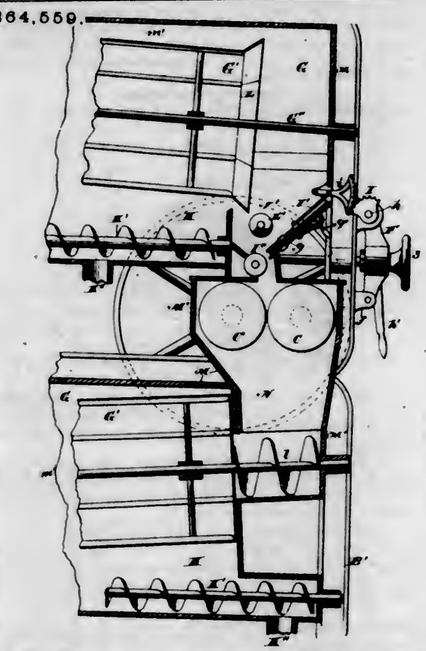
2. In a roller reducing-mill, the combination of a supporting-frame, a set of reducing-rolls, adjustable journal-arms for one of said rolls, a hopper, hopper-gate mechanism, a through-shaft connected with the hopper-gate mechanism and the adjustable roller-arms, a lever for rocking the said shaft, and a separating and conveying device receiving the reduced material from the rolls, substantially as described.

3. In a roller reducing-mill, the combination of a supporting-frame, a set of reducing-rolls, adjustable journal-arms for one of said rolls, a hopper, hopper-gate mechanism, a through-shaft connected with the hopper-gate mechanism and the adjustable roller-arms, a lever for rocking said shaft, a rotating reel receiving the reduced material from the rolls, and a secondary hopper arranged at the discharge end of the reel, substantially as and for the purposes described.

4. A reducing and separating mill combining in its structure a set of reducing-rolls, a rotating separating-reel, into one end of which the reduced material from the rolls is directly delivered, a longitudinal conveyer and hopper arranged beneath the reel, a secondary hopper for receiving the tailings from the reel, and a dust-tight compartment or housing inclosing all of said members, the secondary hopper being arranged to deliver the tailings from the revolving reel directly into another set of reducing-rolls for further reduction, substantially as herein set forth.

5. In a gradual-reduction mill, the combination of a series of mills, each composed of a set of reducing-rolls, receiving and discharging hoppers, a rotating separating-reel, and a conveyer, with a distributer arranged transversely in the hopper which receives the tailings from the reel for evenly distributing the material to the reducing-rolls of the adjacent mill, and a dust-tight compartment or housing inclosing the members comprising each mill, substantially as described.

264,559.



6. In a roller reducing-mill, the combination of a series of reducing-rolls and hoppers arranged vertically above each other, hopper-gate mechanism for each hopper, vertical rods H, connecting the series of hopper-gate mechanisms, eccentrically-journaled shafts h, and an operating-lever, h', substantially as and for the purpose described.

7. The combination of a series of sets of reducing-rolls arranged vertically one above the other, roll-adjusting mechanism, a hopper for each set of rolls, hopper-gate mechanism for each hopper, vertical rods H, connecting the series of hopper-gate mechanisms, and an operating-lever, substantially as described.

8. The combination, with a series of reducing-mills, of a series of hoppers at opposite ends of the machine, hopper-gate mechanism, eccentrically-journaled shafts h and stud-arms H'', for the respective hoppers, the vertical and transverse rods H and H', connecting all the hopper-gate mechanisms, and an operating-lever, h', substantially as and for the purpose described.

9. In a gradual-reduction mill, the combination of the reducing-rolls, the rotating reel, the secondary hopper above the reducing-rolls of the mill next in series for receiving the tailings from the reel, and a transverse distributer, L', arranged in the secondary hopper for evenly distributing the tailings for the delivery of the same to another set of reducing-rolls, substantially as described.

10. In a gradual-reduction mill, the combination of a set of reducing-rolls and a rotating separating-reel arranged within one and the same compartment, with a hopper-bottom beneath the reel, and a conveyer, K', arranged longitudinally along said hopper for discharging the flour or middlings separated by the reel, substantially as described.

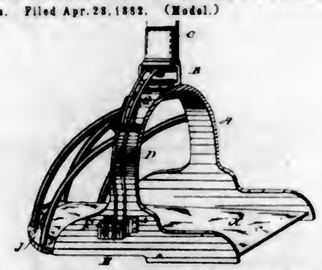
11. The roll-adjusting mechanism combining in its structure the swinging arms c, shafts c', through-shaft h, swinging arms F, journaled eccentrically to the latter, the adjustable springs, and the single hand-lever h', directly attached to shaft h, substantially as described.

12. The combination, in a roller-mill, of a single set of reducing-rolls with a hopper above the rolls, the hopper-gate, the through-shaft h, the link I', rack i, and rack I, mounted on the through-shaft, substantially as described.

13. The combination, in a roller-mill, of the series of reduc-

ing-rolls, the belt-and-pulley mechanism for driving the same, the tightener-pulleys at opposite sides of the machine, the racks carrying the tightener-pulleys, the through-shaft *l*, and the laterally-adjustable pinions R, whereby the tightener-pulleys can be separately adjusted, substantially as described.

264,560. SADDLE-STIRRUP. CHARLES E. D. PARKER, Milan, Kans. Filed Apr. 28, 1882. (Model.)

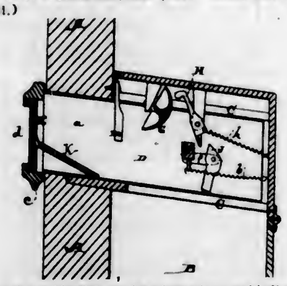


Claim.—1. The combination, with the stirrup A, of the pivoted wire D, or strip, the prongs E, attached to the same, and the spring G, substantially as herein shown and described, and for the purpose set forth.

2. The combination, with the stirrup A, of the wire D, or strip, pivoted to the inner shank of the stirrup, the prongs E, the guard F, and the spring G, substantially as herein shown and described, and for the purpose set forth.

3. The combination, with the stirrup A, of the loop B, the strap C, the wire D, or strip, pivoted to the inner shank of the stirrup and having its upper end inclined and passed into the loop B, the prongs E, the guard F, and the spring G, substantially as herein shown and described, and for the purpose set forth.

264,561. COMBINED DOOR-PLATE, LETTER-BOX, AND BELL-PULL. CHARLES H. PARMENTER, Oakland, Cal., assignor of one-half to G. V. Blackman, same place. Filed Jan. 31, 1882. (No model.)



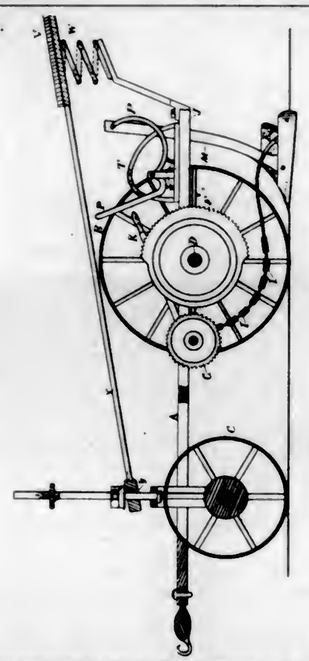
Claim.—A combined door-plate, letter-box, and bell-pull, consisting of the box B, adapted to be secured to the inside of a door, and a sliding drawer or chute, D, adapted to be pulled out and having a front, *d*, and back plate, E, adapted to receive and exhibit a card, and the inclined bottom K, attached to the back plate, and the gong G, adapted to be rung by means of the hammer H and trigger J when the drawer is pulled out, substantially as herein described and shown.

264,562. WHEEL-PLOW. JAMES D. PATTERSON, Competition, Mo. Filed Apr. 1, 1882. (No model.)

Brief.—The plow-standards pass up through long slotted guides in the frame. Two gear-wheels on the axle have opposite halves cogged. These mesh with cog-wheels and winding-drums, and the latter have chains connected back to the plows. Each plow is drawn forward alternately, and then rests till overtaken by the rear end of the slotted guide, the length of the latter being equal to the cogged portion of the drive-wheels. The lovers and racks are on a standard-plate, and all slide with the plow-standards. Sliding clutches disconnect the drums from the cogged drive-wheels.

Claim.—1. The combination, with plows fitted to slide in ways of the truck-frame, of the mutilated gear-wheels F, having their toothed faces set opposite to each other, the pinion G, the drums H, and the chains I, substantially as and for the purpose set forth.

264,562.

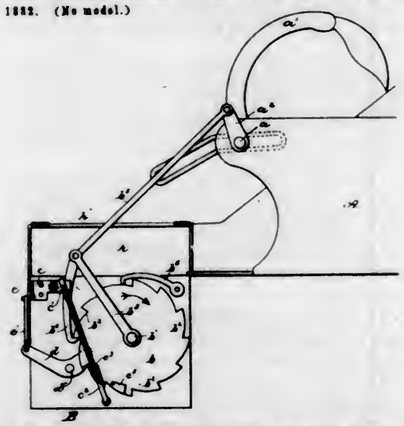


2. The combination, with the slotted longitudinal bars J, the plows E, and plow-standards M, of the mutilated gear-wheels F, the pinions G, the drums H, and chains I, substantially as and for the purpose set forth.

3. The combination, with the slotted bars J, the plow-standards M, and means for moving the said standards forward, of the sliding guide-plates N, the bent lever P, and the rack T, located on said guide-plates, substantially as and for the purpose set forth.

4. The combination, with the plows E, the axle D, and the mutilated gear-wheels T, of the pinions G, the drums H, the chains I, the clutches J, and levers K, substantially as and for the purpose set forth.

264,563. SHEAF-DUMPER FOR SELF-BINDING HARVESTERS. JONATHAN PEARCE, Kansas City, Mo. Filed July 28, 1882. (No model.)



Claim.—1. In combination with a harvester, a rigidly-attached box having a tilting bottom and a hinged tail-gate, said bottom adapted to be tilted and the tail-gate released by mechanism actuated by communication with the binding mechanism of a harvester, as shown and described.

2. The combination, with a harvester, of the box B, secured to the table A, binder-shaft *a*, provided with the rock-arm a^2, rod b^2, supporting-lever b^3, pawl b^4, ratchet-wheel *b*, having the lug d^3, the tilt-lever *d*, rod *e'*, lever *e*, rod e^3, crank *f*, shaft *g*, and bottom g^2, all arranged to operate substantially as shown and described.

3. The combination, with the binding mechanism of a harvester, of the bottom g^2 and its tilting and releasing mechanism, arranged to connect with said binding mechanism and to operate substantially as shown and described.

4. The tail-gate *h*, hinged to the frame *h'*, situated upon the rear end of the box, said gate being held against the box by the pivoted latch h^3, the forward end of which rests against the crank *f*, whereby when the crank is tilted the latch is raised and the gate released, as set forth.

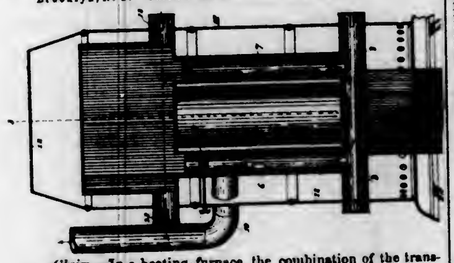
5. The combination, with the harvester, its binder-shaft *a*, crank a^3, and connecting-rod b^2, of the box B, provided with the lock-pawl b^5, the ratchet-wheel *b*, having a lug, d^3, and projection c^4, the tilt-lever *d*, rod *e'*, lever *e*, rod e^3, crank *f*, shaft *g*, and inclined bottom g^2 of the latch h^3 tail-gate *h*, plate *c*, having projection c^5, latch c^3, having lug c^4, all arranged to operate substantially as shown and described.

6. The combination, with a carrier and dump-box for harvesters, having a ratchet-wheel, *b*, journaled upon a pin, b', and lock-pawl b^4, of the supporting-lever b^3, journaled upon the pin b', the pawl b^4, pivoted in its upper end, and a rod, b^4, connecting it with the binder-shaft of a harvester, whereby a reciprocating motion is transmitted to the pawl b^4 and lever b^3 and the wheel *b* made to revolve, substantially as shown and described.

264,564. LEAD-PENCIL. JOSEPH RICKENBOSHER, New York, N. Y. Filed June 21, 1882. (No model.)

Claim.—The herein-described party-colored lead-pencil, consisting of differently-colored wooden sections, inclosing each its own colored lead, and united permanently together, in the manner and by the means substantially as hereinbefore set forth.

264,565. HEATING-FURNACE. JEREMIAH J. RICHARDSON, Brooklyn, N. Y. Filed June 13, 1882. (No model.)



Claim.—In a heating-furnace, the combination of the transverse radiating-drum 4, having drop-flues 6 7 opening into the same, and the vertical division-plate extending through said drum the entire length thereof and located directly above the center of the drop-flue openings, with the fire-chambers 1 2, flues 3, communicating with the latter and with the radiating-drum 4, bottom connecting-flue, 8, discharge-flue 10, damper 11, and exterior casing, 12, substantially as and for the purpose herein set forth.

264,566. BLACKING-BOX HOLDER. WILLIAM D. RICHARDSON and CHARLES A. RICHARDSON, Taunton, Mass. Filed June 27, 1882. (No model.)

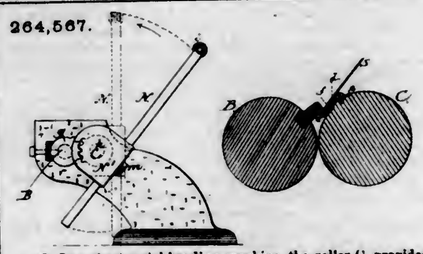


Claim.—As an improvement in blacking-box holders, the disk or plate B, having screw-stud C and handle A, and provided with the pivoted sharp-pointed hook D, as and for the purpose set forth.

264,567. SHEET-METAL-BENDING MACHINE. CHESTER ROACH, Minneapolis, Minn. Filed July 22, 1882. (No model.)

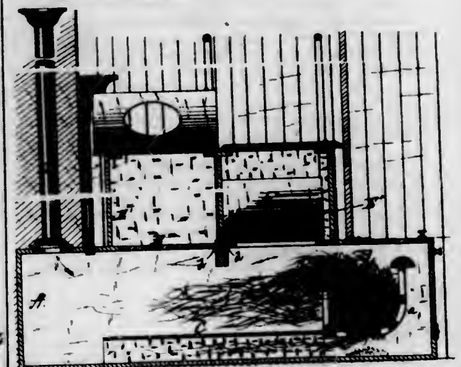
Claim.—1. In a sheet-metal-folding machine, the longitudinally-ribbed roller B, in combination with the roller C, provided with the longitudinal holding-lip *d*, substantially as and for the purpose described.

264,567.



2. In a sheet-metal-bending machine, the roller C, provided with a segmental cog, *h*, in combination with roller B, carrying rib or tang *b*, and the adjustable segmental cog *g*, provided with collar and set-screw, all constructed, arranged, and operated as specified.

264,568. FURNACE FOR PRIVIES. WILLIAM S. ROSE, Madisonville, Ky. Filed May 11, 1882. (No model.)



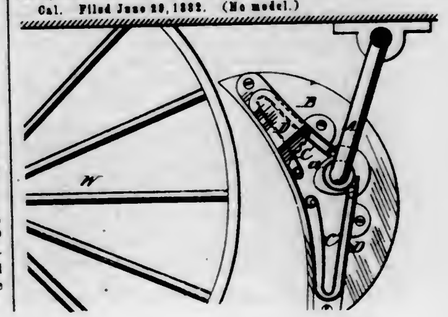
Claim.—1. As an attachment for a privy, a horizontal metallic casing constituting the depository for the fecal matter, and provided with the hinged lids and fire-chamber, substantially as set forth.

2. The attachment for a privy, consisting of the horizontal metallic casing with the perforated false bottom C, bridge-wall *b*, and grate-bars *a*, arranged in about the same horizontal plane with the hinged lids E, and doors communicating with the grate-surface, substantially as set forth.

3. The combination, substantially as hereinbefore set forth, of the horizontal casing A with the perforated false bottom C, grate-bars *a*, bridge-wall *b*, hinged lids E, the metallic frame E', privy-box with hinged seats, and the connecting means.

4. A privy-box having its front lined with metal and formed with a support, *e*, for the lid of the deposit-chamber, in combination with the deposit-chamber of a furnace, substantially as set forth.

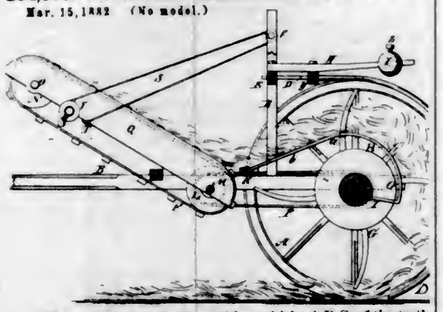
264,569. BRAKE-SHOE. ALDEN W. SANBORN, San Francisco, Cal. Filed June 29, 1882. (No model.)



Claim.—1. The brake rod or shaft A, having a collar or flange, *a*, with shoulders *c c*, and the brake-block B, loosely fitted upon the end of the brake rod or shaft, in combination with the springs C C, having one end secured to the inner face of the brake-block and the other fitted in and resting against the shoulders *c c* of the collar *a*, substantially as and for the purpose herein described.

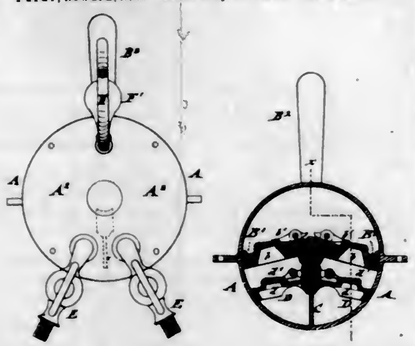
2. The brake rod or shaft A, having a collar or flange, *a*, with shoulders *c c*, and the brake-block B, loosely fitted upon the brake rod or shaft, in combination with the springs C C, secured to the brake-block and impinging against the shoulders *c c* of collar *a*, and the inclosing and securing boxes D D, all arranged substantially as and for the purpose herein described.

264,570. HAY-LOADER. CHARLES SCAPE, Bangor, Wis. Filed Mar. 15, 1882. (No model.)



Claim.—The combination, with a vehicle, A B C, of the teeth D, attached to a bar, E, the revolving rakes G, attached to a rotary axle, the guides H I, attached to a bar, K, and by collars to the axle, and the endless carrier F, as and for the purpose described.

264,571. OSCILLATING PUMP. CARL SCHLUSD and PETER PETAT, Newark, N. J. Filed July 11, 1882. (No model.)



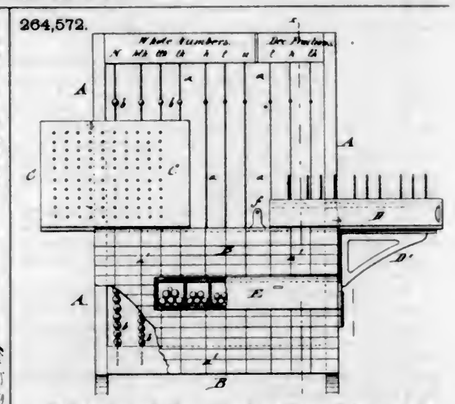
Claim.—The combination of a pump-cylinder, A, having an interior valved oscillating piston, B', auxiliary inclined valve-seats D, and valves *d'*, a fixed transverse partition, C, vertically below the journal-bearing of the piston-shaft, and a removable front head, A^3, having suction-pipes E E, one at each side of the fixed partition, and a discharge-pipe, F, communicating with the space above the piston, all substantially as set forth.

264,572. APPARATUS FOR TEACHING ARITHMETIC. ANTHONY B. SCHWENDIGER, New York, N. Y. Filed Mar. 31, 1882. (No model.)

Claim.—1. An apparatus for teaching arithmetic, consisting of a frame, vertical parallel wires arranged in groups of three upon the frame, each wire being designed to represent a different order of units, beads strung upon the wires, means for retaining the beads in position upon the wires, and a blackboard which covers a portion of the wires, behind which the beads not in use are concealed, and upon which the numbers indicated by the beads may be written, so that the different orders of units will be opposite the respective wires representing the same, substantially as described.

2. An apparatus for teaching arithmetic, consisting of a frame,

264,572.



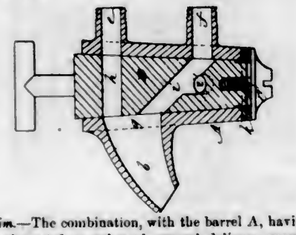
parallel wires stretched upon the frame, beads strung upon the wires, and a blackboard adjacent to the frame, provided with permanent lines arranged in continuation of the wires, substantially as set forth.

3. An apparatus for teaching arithmetic, consisting of a frame carrying a number of parallel wires adapted to receive beads, a blackboard adjacent to the frame having lines forming continuations of the wires, and a quotient-board provided with pins adapted to receive beads, substantially as described.

4. An apparatus for teaching arithmetic, consisting of a frame, parallel wires stretched upon the frame, adapted to receive beads, a blackboard adjacent to the frame in line with the wires, and a counter-board provided with bead-receiving pins, substantially as described.

5. An apparatus for teaching arithmetic, consisting of a frame, parallel wires upon the frame, adapted to receive beads, a blackboard in front of the lower part of the frame, and a decimal-point board between groups of the bead-wires, substantially as set forth.

264,573. FAUCET. JOHN H. SHADBURY, Hempstead, N. Y. Filed July 22, 1882. (No model.)



Claim.—The combination, with the barrel A, having a taper seat and elongated or enlarged general delivery opening, *g*, the nozzle *b*, and cold and hot water inlets *e f*, of the taper rotating plug B, provided with an upper through transverse passage, *h*, and with duplicate oblique intersecting through-passages *i i'*, substantially as and for the purposes herein described.

264,574. DEVICE FOR HOLDING SPECTACLES. JOSEPH A. SHONE, Salem, Miss. Filed Apr. 18, 1882. (Model.)



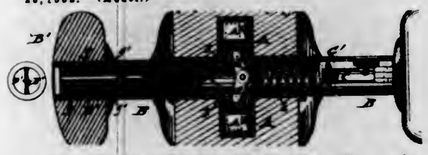
Claim.—1. In a spectacle-holder, the combination, with the shade C, of the hooks D E on the under side thereof, and of a pair of spectacles, substantially as herein shown and described, and for the purpose set forth.

2. In a spectacle-holder, the combination, with the shade C, of the hooks D E on the under side thereof, the bows B B', the lens-frames A, and the nose-piece A', substantially as herein shown and described, and for the purpose set forth.

3. In a spectacle-holder, the combination, with the shade C, of the hooks D E on the under side thereof, the bows B B', the lens-frames A, pivoted thereto, and the check-lugs *b*, projecting from the inner sides of the bows, substantially as herein shown and described, and for the purpose set forth.

4. The combination, with the spectacle-bows B B' and the lens-frames A, pivoted thereto, of the check-lugs *b*, projecting from the inner sides of the bows adjoining to the lens-frames, substantially as herein shown and described and for the purpose set forth.

264,575. LOCKING-LATCH. JOHN STRUB, New York, N. Y., assignor to Hermann E. Bannwolzer, same place. Filed June 26, 1882. (Model.)

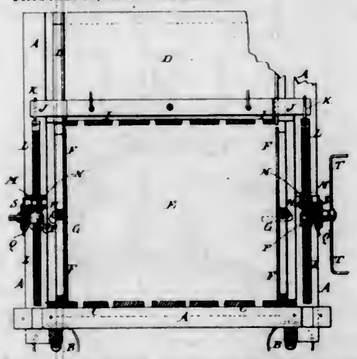


Claim.—1. The combination, in a door-lock with a spring-actuated main bolt and an axially-turning spindle, of an interior longitudinally-sliding and axially-turning locking-bolt having laterally-extended spring-jaws and means for operating the bolt from the outside by a key inserted through the outer door-knob, or from the inside by a button or other device at the inner end of said bolt, substantially as set forth.

2. The combination of a tubular spindle, B, an interior longitudinally-sliding and axially-turning bolt, C, having laterally-movable spring-jaws *d d*, an outer door-knob, B', having key-socket D' and slide-bolts *g g*, a square spring-actuated center bolt, *f'*, of the bolt C, and side spring-bolts, *g g'*, of the spindle B, which bolts are operated by the key, substantially as specified.

3. The combination of the tubular spindle B, having a guide-recess, *e*, at the inner end, an interior spring-actuated bolt, C, having pivoted spring-jaws *d d*, and a button, C', at the inner end, and means for moving and turning the bolt by a key inserted into a socket of the outer door-knob, whereby the jaws are drawn back into or thrown out of the spindle from either side of the door, substantially as set forth.

264,576. BALING-PRESS. PATRICK SLATTERY, Charleston, S. C. Filed June 29, 1882. (No model.)



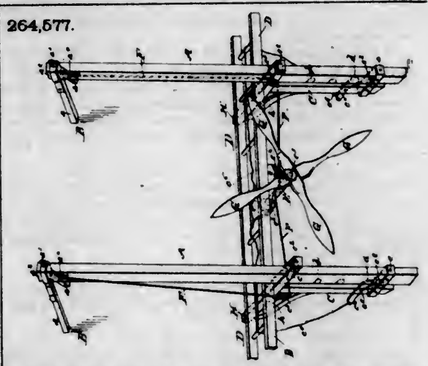
Claim.—In a baling-press, the combination, with the frame A, the screws I, and the gear-wheels N Q, of the blocks M P and the sleeves O, having pivots R, upon which the wheels Q revolve, substantially as herein shown and described, whereby the gear-wheels will be held from moving up and down, as set forth.

264,577. SCAFFOLD. GEORGE W. SMITH, Harlansburg, Pa., assignor to himself and John C. Dean, same place. Filed Apr. 13, 1882. (No model.)

Brief.—The uprights have adjustable forked braces at their upper ends, and from hooks on the braces depend the platform-hoisting ropes, which pass under pulleys on sliding uprights to a central winding-drum on the platform. The latter rests on horizontal bars of the sliding uprights, fitted to move on the stationary uprights. The sliding uprights carry levers controlled by cords, the levers engaging sockets in the uprights.

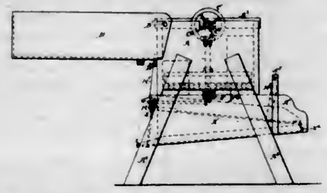
Claim.—In a scaffold, the combination, with the upright or slightly-inclined posts A, having adjustable forked braces *a*, provided with hooks *a'*, or means of attachment for the platform-hoisting ropes thereto, of the platform D, the sliding uprights C, having the horizontal bars H fitted to move upon the posts A, the

264,577.



handled shaft or drum E, having passed through it the platform-hoisting rope F, passing in contact with pulleys *c'*, hung upon the uprights C, said rope having its ends secured to the hooks *a'* of the braces *a*, the levers *c'*, pivoted to the sliding uprights C and bearing in sockets in the posts A, and cords *c'*, connected to the outer ends of said lever and passed over the platform D, substantially as set forth.

264,578. TOBACCO-GRANULATING MACHINE. JACOB S. SPANGLER, Ephrata, Pa. Filed May 22, 1882. (No model.)



Claim.—1. A granulating or scrapping machine for tobacco, composed of the following elements: a receptacle, A, provided with a reversing hopper, B, actuating-crank C', shafts C and D, gears C' and D', adjustable arm E, with teeth E' and fly-wheel rim E^2, wire bed F^2, breaker F, with teeth F', sieve-shaker D^4, sieve-connecting rod G, sieves H and I, suspended by hangers H' H^3 and I' I^3, a cross-piece, A^3, at the top, supporting the shafts C D, and the whole mounted upon legs A^4, substantially as shown, and for the purpose set forth.

2. The actuating machinery of a scrapping or granulating tobacco apparatus, comprising the shafts C and D, provided with bevel-gears C' D', crank C^2, and the usual bearings, in combination with the diametrical beater-arm E and its seat D^2, the sieve-shaker D^4, with its pin or set-screw D^3, the breaker-arm E, provided with projecting teeth E', square in section and set square with the arm, the fly-rim E^2, cross-piece A^3, bed breaker or concave F, teeth F', wire bottom F^2, box A, rod G, sieves H and I, and hopper B, substantially as shown, and for the purpose described.

3. The bed breaker or concave F, set transversely to the frame and provided with projecting teeth F', square in section and set square with the same, in combination with the revolving and adjustable breaker-arm E, teeth E', fly E^2, shafts C D, crank C^2, gears C' D', cross-piece A^3, box A, hopper B, and sieves H I, substantially as shown, and for the purpose hereinbefore set forth.

4. In combination with a fixed and coarse wire screen-bottom, F^2, to the receptacle A, the suspended screens H and I, adapted by mesh of screens and reverse suspension of same to deliver at opposite ends of the machine, the upper screen, H, being suspended at the front by suspenders H^3 from the standards A^3, at the rear from H', while sieve or screen I is suspended from sieve H at I' and I^3, and are both oscillated or vibrated upon their suspenders by rod G from shaker D^4, in combination with the actuating mechanism, as described, with box A and hopper B, substantially as and for the purpose specified.

5. The hopper B of a scrapping or granulating machine, as described, closed upon three sides and bottom, suspended to frame of box A by pivots B', and in combination therewith, whereby, when not in use, the same may be thrown back over the machine,

forming a cover and protection thereto, substantially as and for the purpose set forth.

6. The adjustable arm E, with its seat D^4, fly-rim E^4, and protected teeth E', said seat provided with a set-screw, D^5, whereby the same may be raised or lowered upon the shaft D and secured thereto, in combination with the actuating mechanism, receptacle A, screens H I, and bed breaker or concave F of a tobacco granulating or scrap machine, substantially as shown, and for the purpose specified.

7. In a tobacco granulating or scrapping machine, as described, the fly-rim E^4, secured to the extremities of the revolving arm E, and, in combination therewith, seat D^4, shaft D, wheel D', cross A^3, wheel C', shaft C, and crank C^3, whereby the motion of the arm E is steadied and the operator relieved from jar, substantially as and for the purpose set forth.

264,579. WATCH-CASE. GUSTAV SPECKMART and BERNHARD VOGEL, Nuremberg, Germany. Filed May 22, 1882. (No model.)



Claim.—1. A watch-case made substantially as herein shown and described, and consisting of a crystal or front and a back held together by a clamping-ring surrounding their edges, as set forth.

2. In a watch-case, the combination, with the crystal or front and the back, of an open ring provided with half-pendants at the ends, and of devices for holding the half heads or pendants together, substantially as herein shown and described, and for the purpose set forth.

3. In a watch-case, the combination, with the crystal or front and the back, of an open ring provided with half heads or pendants at the ends, and of a screw passed transversely through these half-heads for holding them together and closing the ring, substantially as herein shown and described, and for the purpose set forth.

4. In a watch-case, the combination, with the crystal or front F and the back G, of the internally longitudinally grooved ring A, provided with half-pendants B at the ends, the screw C, and the bow D, substantially as herein shown and described, and for the purpose set forth.

5. In a watch-case, the combination, with crystal or front F and the back G, of the internally longitudinally grooved ring A, provided with half-pendants B at the ends, the screw C, the bow D, and the circular plates E, substantially as herein shown and described, and for the purpose set forth.

264,580. METALLIC ROD-PACKING. CHARLES D. STEVENS, Brooklyn, N.Y. Filed Aug. 11, 1882. (No model.)



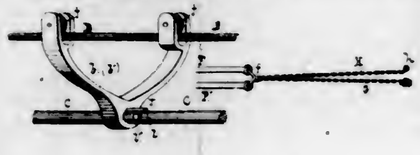
Claim.—The combination, in metal packing, of an outside ring having a beveled inside edge, an inside ring having a beveled outside edge, and a wedge-shaped ring fitted between them, substantially as specified and set forth.

264,581. HARNESS-BUCKLE. JOSEPH T. STOLL, Sacramento City, Cal. Filed July 24, 1882. (No model.)



Claim.—A harness-buckle whose tongue B is pivoted to the bar *a* and provided with angular upward bend, *b*, at the free end, to adapt it to be used as described.

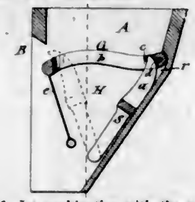
264,582. CAR-BRAKE. FREDERICK W. STEHLAR, Baltimore, Md. Filed July 5, 1882. (No model.)



Claim.—1. In combination with the push-bar, the U-shaped supports *b b'*, sliding upon rods secured beneath the car-body, and rods and chains connecting the brake mechanism of the trucks with the push-bar, substantially as described.

2. In combination with the sliding supports *b b'*, the two-part rod C C', lapped and bolted at *l l'*, the rods F F', and chain G, led over a pulley to the push-bar, whereby movement of the latter in either direction applies the brakes, as set forth.

264,583. STOVE-GRATE. JOSEPH T. THOMPSON, Verona, N.Y. Filed July 28, 1882. (No model.)



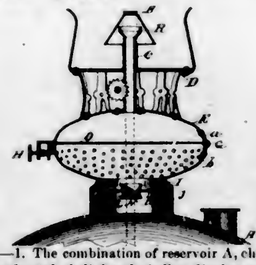
Claim.—1. In combination with the grate G, the scraper-frame S, pivoted beneath the grate and provided with prongs *a a*, entering the interstices of the grate, substantially as and for the purpose set forth.

2. The combination and arrangement, with the fire-pot A, provided with the front opening, B, of the grate G, having arched bars *b*, and the scraper-frame S, pivoted eccentrically in relation to the grate-bars, and having prongs *a a* entering the interstices of the grate, substantially as described and shown.

3. In combination with the grate G, the pivoted scraper S, having prongs *a* terminating with the abrupt front *c*, and beveled or corved backs *d*, as shown and described, for the purpose set forth.

4. The combination, with the fire-pot A, of the grate G, hinged at its rear, the movable stop *e*, and the scraper S, pivoted beneath the grate, all as described and shown.

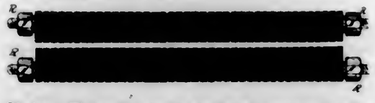
264,584. LAMP. ADOLPH VELOUTH, Milwaukee, Wis. Filed Mar. 24, 1882. (No model.)



Claim.—1. The combination of reservoir A, chamber E, consisting in perforated shell *b* and shell *a*, diaphragm K, provided with wick-passage L, tube C, having conical flange R, burner B, and chimney-support D, as set forth.

2. The combination of the wick-tube C, chimney-support D, shell *a*, perforated shell *b*, packing O, diaphragm K, and reservoir A, substantially as and for the purpose specified.

264,585. ORE-SCREEN. GEORGE W. WAITT, Camden, N. J. Filed Oct. 17, 1881. (No model.)



Claim.—The screen herein described, consisting of broad-headed bars, the heads whereof are of the same width from end to end, in combination with the supporting-bars, separating-washers, and tightening nuts and screws, substantially as set forth, whereby the said bars are mounted to maintain a uniform distance apart across the screen.

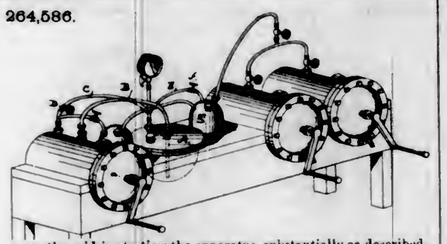
264,586. SODA-WATER APPARATUS. FRANCIS S. WALDO, Alameda, Cal. Filed July 1, 1882. (No model.)

Claim.—1. The acid head or chamber A, having the acid-pipe B, the equalizing-pipe C, and a means for giving required pressure upon the acid in starting the apparatus, substantially as described.

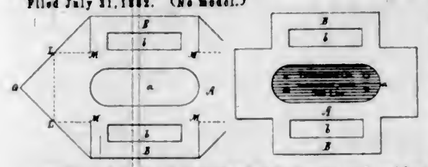
2. In a soda-water apparatus, the combination, with the generator, of the detached acid-chamber A, the siphon-pipe B, the equalizing-pipe C, with its valve D, and a means for producing pressure in the acid-chamber in starting the apparatus, substantially as described.

3. The combination, with the acid-chamber A, of the pipe E, having valve *f*, connecting the acid-chamber with the cooler or other source of gaseous pressure in the apparatus.

264,586.

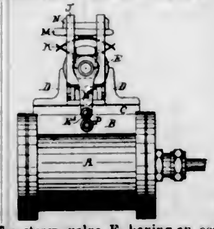


264,587. TAG-HOLDER. MOSES W. WEBBER, Biddeford, Me. Filed July 11, 1882. (No model.)



Claim.—The plate A, slotted and slit as represented, and having portions C C and D D D D of it turned down into parallelism, or about so, with the rest of the plate, so as to form pockets P, as and for the purpose substantially as set forth.

264,588. BALANCED VALVE. SAMUEL L. WESTLEY and BENJAMIN F. KNAFT, Reading, Pa. Filed Mar. 18, 1882. (No model.)



Claim.—1. The steam-valve E, having an eccentric cavity, F, with steam-passages G G leading therefrom, an external depression, H, for exhaust, a solid shaft or spindle, E', provided with an arm, E^3, and connecting-rod pin E^2 on one end, and at the opposite end a tubular shaft or spindle, E^4, having a ground-joint terminus, the passage I through the shaft being provided for the motive force, and in combination with the seats D and C, cylinder A, standards J J, bearings L, springs K, and gibs and keys N M, substantially as shown, and for the purpose described.

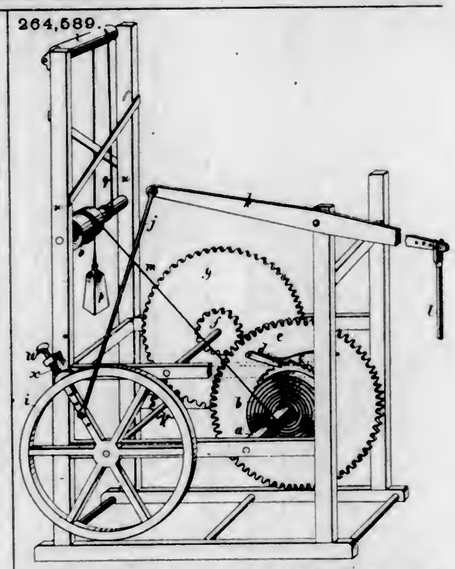
2. In combination with a valve, as described and claimed, the supplemental seat D, adapted by boring to the valve E, and provided with steam-passages G' G' and exhaust-passage H', whereby it is adapted to be applied to cylinders of engines already built and in use, in combination with the standards J J, bearings L, springs K, and gibs and keys N M, substantially as and for the purpose set forth.

3. The standards J J, with their keys M and gibs N, in combination with the springs K, bearings L, valve-shafts E' E^4, and seat C of cylinder A, substantially as and for the purpose specified.

4. The single-leafed elliptic springs K, constructed, as shown, with female groove K' and male tongue K^3, in combination with bearings L, valve-shafts E' E^4, valve E, seat D, cylinder A, and the standards J J, substantially as shown and described.

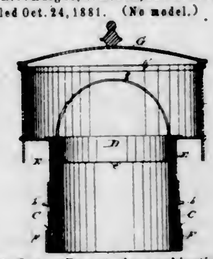
264,589. CHURN-POWER. JOHN WILBER, Fall Brook, Pa. Filed July 3, 1882. (No model.)

264,589.



Claim.—The combination, with the shaft *a*, spring *b*, ratchet-wheel *c*, pawl *d*, gear-wheels *e f g h*, balance-wheel *i*, walking-beam *k*, adjustable connecting-rod *j*, and churn-dasher *l*, of the uprights *u*, drum *o*, roller *t*, cord *m*, passing around the shaft *a*, and drum *o*, cord *q*, and weights *p*, all constructed, arranged, and operated substantially as described.

264,590. INFUSING ATTACHMENT FOR TEA AND COFFEE POTS. JAMES L. WILLIAMS, Portland, Oreg., assignor of three-fourths to E. J. Haight, L. H. Cox, and H. B. Courses, all of same place. Filed Oct. 24, 1881. (No model.)



Claim.—1. In a coffee-pot, the combination, substantially as before set forth, with an infuser or coffee-containing vessel consisting of a cylinder pendent from the top, of a filtering-strainer formed of two rings and a cloth clamped between the rings and held in the top of the cylinder by a flange upon one of the rings, and of a strainer-bottom formed of two rings and a cloth clamped between said rings and attached to the cylinder by a bayonet-joint, substantially as shown, and for the purpose set forth.

2. In a coffee-pot, the combination, substantially as before set forth, with an infuser and condenser consisting of a chamber of the same diameter as and forming the top of the pot, of a cylinder of less diameter than and pendent from the bottom of the chamber, and provided with removable strainer at top and bottom.

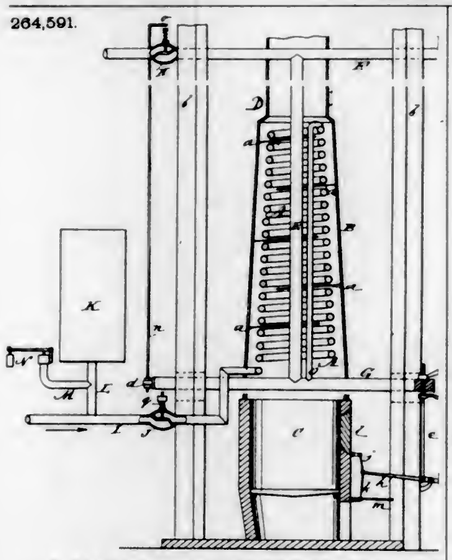
264,591. STEAM-GENERATOR. HARRISON WILLIS, Brooklyn, N.Y. Filed July 6, 1882. (No model.)

Claim.—1. In a steam-generator, the combination of the expansion superheating-pipe E with the water-supply valve J, as herein specified.

2. In a steam-generator, the combination of the expansion superheating-pipe E with the steam-valve H, as herein specified.

3. In a steam-generator, the combination of the expansion superheating-pipe E with the draft-regulating mechanism, as herein specified.

264,591.

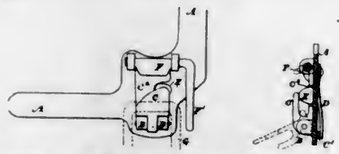


4. In a steam-generator, the coil-boiler A, in combination with the expansion superheating-pipe E, as herein specified.

5. In a steam-generator, the combination of an expansion superheating-pipe, E, with the smoke-flue D, as herein specified.

6. In a steam-generator, the coil A and pipes E, F, G, and O, in combination, as specified.

264,592. SAFETY-FITTING FOR SADDLES. HENRY S. WILTON, 281 Oxford Street, and BENJAMIN S. WESTON, 5 Parkholme Road, Dalston, County of Middlesex, England. Filed Mar. 23, 1882. (No model.) Patented in England Mar. 15, 1881, No. 1,117.



Claim.—1. The combination of the saddle-tree plate, the spring at the back thereof, and the hinged trip provided with the inclined edge, and having the tail-piece passing through a slot in the plate and acted upon by the spring, substantially as and for the purpose set forth.

2. The combination of the saddle-tree plate, the spring-actuated hinged trip, and the cone-point, substantially as and for the purpose set forth.

3. The combination of the plate A, the projection B, the hinged trip C, provided with the inclined edge and having the tail-piece passing through the slot of the plate, and the spring at the back of the plate, substantially as and for the purpose hereinbefore set forth.

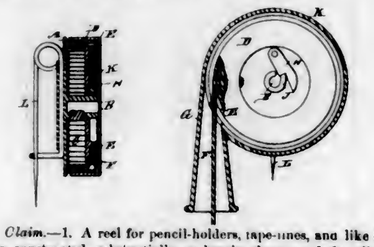
4. The combination of the plate A, the hinged trip C, the cone-point E, and the spring D at the back of the plate, substantially as and for the purpose hereinbefore set forth.

5. The combination of the saddle-tree plate, the hinged trip having the inclined upper edge, the spring, and the hinged catch acting on said trip, substantially as and for the purpose hereinbefore set forth.

6. The combination of the plate A, the hinged trip C, with inclined upper edge, the spring D at the back of the plate, the cone-point E, and the catch F, acting to hold the hinged trip against turning, substantially as and for the purpose hereinbefore set forth.

7. The combination of the plate A, the hinged trip C, having the arm C' and the inclined upper edge, the spring D, the catch F, and its arm, substantially as and for the purpose hereinbefore set forth.

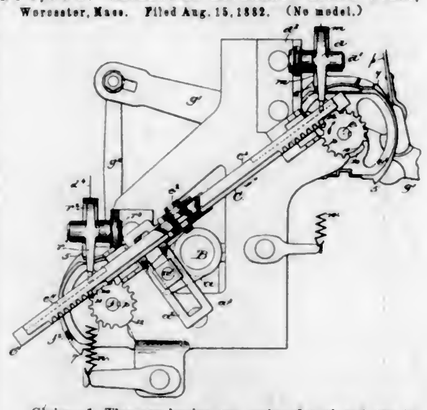
264,593. AUTOMATIC PENCIL-HOLDER. JOSEPH H. WRIGHT, New York, N. Y. Filed Apr. 11, 1882. (Model.)



Claim.—1. A reel for pencil-holders, tape-lines, and like devices, constructed, substantially as herein shown and described, with an annular groove for receiving the cord or tape, which groove is at the side of the spring coiled in the reel, as set forth.

2. A reel constructed with an annular groove for receiving a cord or tape in one side of the reel, the outer edges of this groove being flush with the circular side of the reel, substantially as herein shown and described, and for the purpose set forth.

264,594. MECHANICAL MOVEMENT. HORACE WYMAN, Worcester, Mass. Filed Aug. 15, 1882. (No model.)



Claim.—1. The gear having two series of teeth and two intermediate engaging-teeth, combined with the reciprocating rack-bar adapted to engage the engaging-teeth and then the gear-teeth in line with them to turn the said gear a semi-rotation, substantially as described.

2. The shaft, its gear provided with two series of teeth, toothless spaces, and engaging-teeth, combined with a reciprocating rack-bar, and with means to move the rack-bar both longitudinally and laterally to operate substantially as described.

3. The slide-bar, its connected depending ear, the shaft B, and crank and crank-pin, and the rack-bars, combined with two shafts, *e f*, a lever, *g'*, moved by them, and two gears on the said shafts, the gears having teeth and toothless spaces and moved by rack-bars to operate the said shafts, substantially as and for the purposes described.

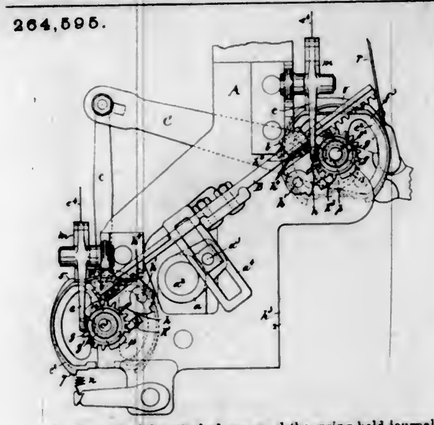
4. The shaft *e*, its attached holding-plate provided with shoulders near its opposite side edges and at opposite sides of the said shaft, combined with the holding devices having feet adapted to rest upon the said plates and enter between the shoulders, as and for the purposes set forth.

5. The gears and the rack-bars, and means to reciprocate the latter, combined with a yielding guideway to permit the rack-bars to yield when not properly engaged with the teeth of the gear, substantially as described.

264,595. MECHANICAL MOVEMENT. HORACE WYMAN, Worcester, Mass. Filed Aug. 15, 1882. (No model.)

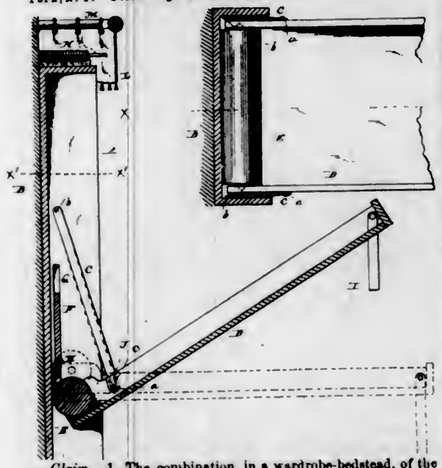
Claim.—1. The reciprocating rack-bar provided near its ends with a series of teeth, combined with two gears having two series of teeth, and with intermediate teeth which may, when desired, be placed alternately in line with the teeth of the rack-bar when the latter is to move the said gear and its shaft a semi-rotation, substantially as described.

264,595.



2. The shaft *c'*, its attached gear, and the spring-held journal-box for the said shaft, combined with the movable toothed rack or surface to engage and actuate the said gear intermittingly, whereby the said gear and its shaft are free to move away from the said toothed surface should the latter and the gear fail to strike properly into mesh, substantially as described.

264,596. WARDROBE-BEDSTEAD. JOSEPH J. ADGATE, New York, N. Y. Filed Aug. 4, 1882. (No model.)



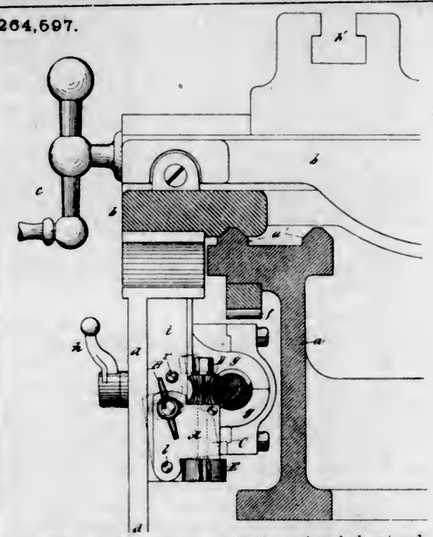
Claim.—1. The combination, in a wardrobe-bedstead, of the bedstead-frame D, the counterbalancing-cylinder E, the suspension-arms C, and a vertically-movable head-board provided with a hinged section, H, with a suitable casing, A, all constructed and adapted to operate substantially in the manner and for the purposes described.

2. The combination, in a wardrobe-bedstead, of a casing, A, the counterbalanced frame D, the cylinder E at the head thereof, adapted to bear against the face of said casing, the suspension-arms slotted and connected to the said frame D by button-headed pins, and the pivoted gravitating legs I, all constructed and adapted to operate substantially in the manner and for the purposes described.

3. In a wardrobe-bedstead, the following elements, to wit: the pivoted frame D, the receiving-casing A therefor, the lambrequin L, and a suitable support, M, the curtain P, and a suitable support, N, therefor, said lambrequin and curtain being adapted to form an inclosure for the casing and bed and to exclude the same from view, substantially as shown and described.

264,597. SCREW-CUTTING LATHE. BENJAMIN ALDRIDGE, Brooklyn, assignor to Eliphalet W. Bliss, New York, N. Y. Filed Nov. 13, 1881. (No model.)

264,597.



Claim.—1. The combination, with the carriage, lock-nut, and lead-screw of a lathe, of a worm or gear wheel mounted on the carriage in a movable support, movable to and from the lead-screw, with a fastening device to hold the said movable wheel in mesh or out of mesh with the lead-screw, and with a hub or disk rotating with the said wheel having certain engaging points or recesses, together with a coinciding bolt or connection affixed to one section of the lock-nut and arranged to engage with said points or recesses to permit the closing of the nut in definite positions, substantially as herein shown and described.

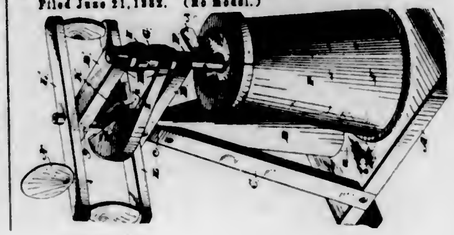
2. The combination of the pivoted or movable block A and the worm-wheel D and disk E with the carriage, lock-nut, and lead-screw of a lathe and a fastening device to hold the block and worm-wheel either into or out of gear with the lead-screw, substantially as and for the purpose set forth.

3. The combination, with the carriage, lock-nut, and lead-screw of a lathe, of a worm or gear wheel mounted on the carriage and meshing with the lead-screw, with a hub or disk rotating therewith, and provided with a certain engaging points or recesses, in combination with a movable bolt, F, affixed to one section of the lock-nut, and arranged, when moved into one position, to engage the said disk and permit the closing of the lock-nut in definite position, and when thrown in the other position to become free of said disk and render the combination inactive, substantially as herein set forth.

4. The combination, with the carriage, lock-nut, and lead-screw of a lathe, of the worm-wheel D and its engaging-disk E with the movable spring-bolt F, formed with the curved holding-slot *o'*, arranged and operating substantially as and for the purpose set forth.

5. The combination, in a screw-cutting lathe, of the worm-wheel D and its engaging-dish E with the pivoted and movable supporting-block A, formed with a slot, *m*, to receive a clamp screw or nut, B, with a recess at one end of such slot to admit the hub of said nut, and thus lock the block in one position, substantially as herein shown and described.

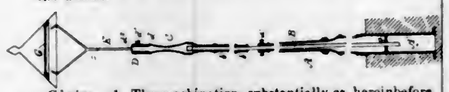
264,598. CHURN. BENJAMIN F. ALDRIDGE, Hill Springs, Ky. Filed June 21, 1882. (No model.)



Claim.—1. In a vibrating churn, the combination, with a standard having two operating-levers pivoted thereto, handles connecting the said levers at opposite ends, and two semicircular disks rigidly secured to one of said levers on opposite sides of the standard in different horizontal planes, of a dasher-rod provided with a drum, and operating-straps placed in different horizontal planes and adapted to connect the said semicircular disks with the said drum, substantially as described.

2. The combination, with the dasher-rod provided with two openings, of a two-part dasher, the horizontal bars of which are adapted to pass through said openings and rest one above the other therein, and screws adapted to pass between said horizontal bars and hold them together, substantially as described.

264,599. SUPPORT FOR ELECTRIC LIGHTS AND CONDUCTORS. GEORGE H. ALLEN, Boston, Mass. Filed May 16, 1882. (No model.)



Claim.—1. The combination, substantially as hereinbefore set forth, of the spindle of a stationary lamp-post, the tubular extension fitted to and extending above the same, and means for adjusting the upward direction of said extension.

2. The combination, substantially as hereinbefore set forth, with the spindle of a stationary lamp-post, of the vertically-adjustable tubular extension fitted to and extending above the same, and the sleeve fitted to and supported upon said extension.

3. The combination, substantially as hereinbefore set forth, with the spindle of a stationary lamp-post, of the vertically-adjustable tubular extension fitted to and extending above the same, the sleeve fitted to and turning horizontally upon said extension, and means for securing said sleeve in its required horizontal position.

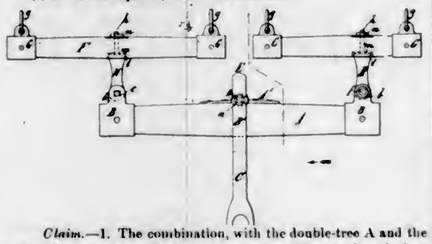
4. The combination, substantially as hereinbefore set forth, of the spindle of a stationary lamp-post, the tubular extension fitted to and supported by said spindle, the sleeve supported upon said extension, and the bracket and hood for supporting an electric light mounted upon said sleeve.

5. The combination, substantially as hereinbefore set forth, of the sleeve, the bracket mounted upon said extension and adapted to be turned thereon, and the hood supported upon said bracket.

6. The combination, substantially as hereinbefore set forth, of the sleeve, the bracket supported upon said sleeve, the hood supported upon said bracket, and the horizontally-movable plate or disk supported within said hood.

7. The combination, substantially as hereinbefore set forth, of the spindle of a stationary lamp-post, the tubular extension supported by said spindle, and means, substantially such as described, for adjusting the vertical position of said extension with reference to the stationary spindle.

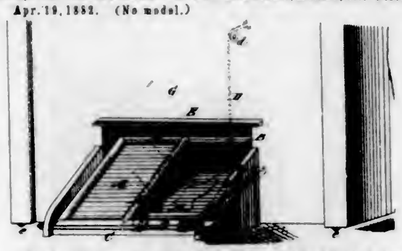
264,600. WHIPPLETREE. CHRISTIAN AMMARELL, Brooklyn, N. Y. Filed Apr. 21, 1882. (No model.)



Claim.—1. The combination, with the double-tree A and the plate A', having a vertical tube or eye, *a*, of greater length than the diameter of the double-tree, of the tongue C, provided with a loop, B', fitting closely against the ends of the tube *a*, and having holes *f f'* to allow the passage of a bolt through the loop and tube, the end of said loop being extended at E beyond the tube *a* to leave an opening at that point, substantially as and for the purpose specified.

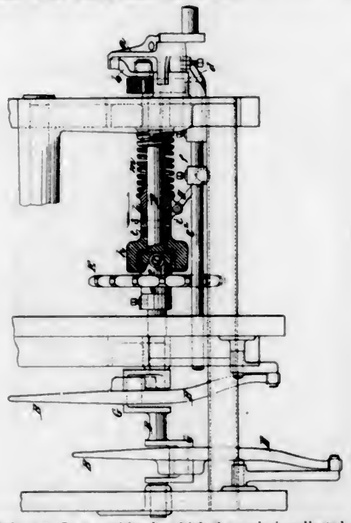
2. The double-tree A, provided with an end iron, B, having horizontal ears *b b*, in combination with the flat bar H, pivoted at one end between said ears, and provided at the other end with a shoulder, *l*, and bolt *p*, and the whiffletree F, having a rectangular socket to receive the shoulder *l*, whereby said whiffletree is kept from falling or from turning, except in a horizontal line, substantially as described.

264,601. ORGAN-CASE. ANDREW ANDERSON, Moline, Ill. Filed Apr. 19, 1882. (No model.)



Claim.—The combination of the self-closing pedals A A, having clothing *b* applied to their closing surfaces, the frame or jamb B B, against which said pedals close, the pedal-frame having a close bottom, C, the organ-case G, the sealing-piece E, arranged between said case and jamb, the bellows-operating rope or web, attached to either pedal, and the pulley or pulleys *d*, substantially as shown and described.

264,602. GRAIN-BINDER. JOHN F. APPLEBY, Minneapolis, Minn., assignor to the Minneapolis Harvester Works, of Minnesota. Filed Dec. 8, 1881. (No model.)



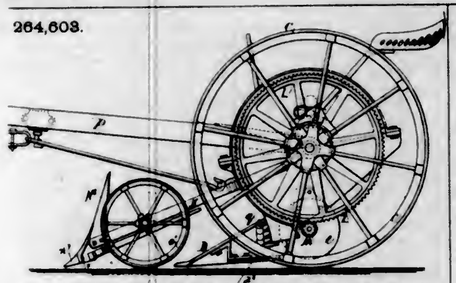
Claim.—1. In a machine in which the grain is collected and compressed within a gavel-receptacle by the action of a packing arm or arms, the combination, with said gavel-receptacle and said packing arm or arms, of tripping mechanism for throwing the binder devices periodically into operation, actuated by said arm or arms whenever the latter meet with such degree of resistance as will prevent them from traveling farther in the path of their packing movement in packing the grain into said receptacle, substantially as set forth.

2. In a machine of the described type, the combination, with the packing arm or arms and the trip-lever, of an intermediate mechanism for causing the said arm or arms to actuate the said lever, composed essentially of a drive-wheel mounted loosely on the drive-shaft of said arm or arms, a sliding clutch device mounted to slide on said shaft, and held in close working relation with the said wheel by a spring, and the means for communicating the sliding movement of said clutch device to the trip-lever, all substantially as hereinbefore set forth.

264,603. POTATO-DIGGER. LEWIS A. ASPINWALL, Londonville, N. Y. Filed Dec. 29, 1880. (Model.)

Claim.—1. In a potato-digger, the combination, with the plow D, wheel *o'*, and dividing-bar N', of a removable conical chilled-iron point, *n'*, having an attaching-bolt extending back through the bar N', substantially as set forth.

264,603.



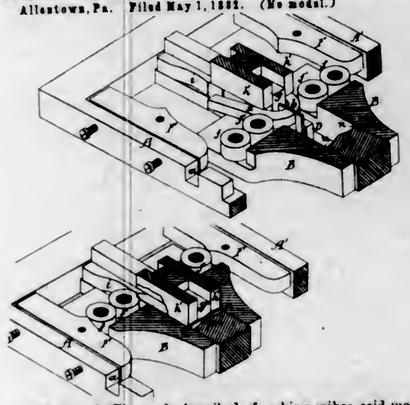
2. The combination, in a potato-digger, of a plow, a revolving separator to throw out the potatoes, the deflecting-fingers *c'*, extending diagonally above and across the separator, and the revolving top and weed turner above the separator and inclined fingers, substantially as set forth.

3. The combination, in a potato-digger, of a plow, a separator upon a horizontal axis across behind the plow, means for revolving the separator, a top and weed turner upon an inclined axis, and gearing to revolve the same above the separator, substantially as set forth.

4. The combination, with the plow and separator in a potato-digger, of an independent top and weed turner beneath the axle and set at an inclination downwardly toward one side, and revolved substantially as set forth, so that the weeds and tops are moved forwardly and downwardly toward the surface of the earth, and the curved fingers drawn out from the same at the back part of such turner, substantially as set forth.

5. In a potato-digger, a revolving separator having offsets *c'*, in an approximately helical form, and open helical fingers that are extended from the offsets and make two or more convolutions, substantially as and for the purposes set forth.

264,604. MACHINE FOR MAKING SPIKES. JOHN M. BARRS, Allentown, Pa. Filed May 1, 1882. (No model.)



Claim.—1. The mode described of making spikes, said mode consisting in first bending a bar in the center, severing said bar at the bend to form two spike-blanks, pressing the bent end of each blank to form a head, and reducing the opposite ends of the blanks to form points, as set forth.

2. The combination, in a spike-machine, of a gage-plate, *d*, a cutter-bar, *e*, and a knife, *b*, midway between the two, as specified.

3. The combination of the knife *b* with the slotted supporting-block D, as set forth.

4. The combination of the knife *b*, the block *g*, and the forked and sliding frame B, adapted to bend a bar around said block *g*, as specified.

5. The combination of the knife *b*, the block *g*, the forked and sliding frame B, and the gripping-dies *h h'*, as set forth.

6. The combination of the block *g*, the pointing-dies *i*, and the cams F, with the sliding frame B, and the rollers *f f'*, carried thereby and capable of sliding laterally therein under the influence of the cams F, as set forth.

7. The combination of the guided knife *b*, the sliding frame B, and the cam-plate R, carried by said frame, as set forth.

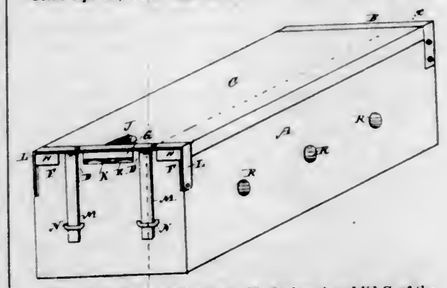
8. The combination of the guided supporting-bar D with the sliding frame B and its cam-plate P, as set forth.

9. The combination of the knife *b*, the block *g*, and the sliding frame B, having a heading-die, *m*, as set forth.

10. The combination of the knife *b*, the block *g*, and the sliding frame B, having a heading-die, *m*, and recesses *n*, as specified.

11. The combination, in a spike-machine, of the following elements, namely: a block or former around which a bar is bent, a sliding frame, B, for bending the bar, a knife for severing the bar at the bend, gripping-dies *h h'*, pointing-dies *i*, a heading-die carried by the frame B, cams F, and mechanism whereby said cams are caused to act in conjunction with the dies *i* to effect the pointing of the spikes, as set forth.

264,605. BOX-FASTENER. WILLIAM J. BARRS, Denver, Colo. Filed Apr. 19, 1882. (Model.)



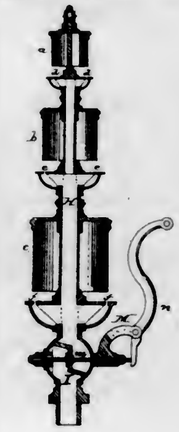
Claim.—1. The combination, with the box A and lid C, of the pivoted bail L and the springs M for pressing the same over the end of the top of the lid, substantially as herein shown and described, and for the purpose set forth.

2. The combination, with the box A, provided with tongues D on the upper edge of one end of the box, and the lid C, provided with tongues G and H at one end, of the pivoted bail L, adapted to be swung over these tongues when the lid is on the box, substantially as herein shown and described, and for the purpose set forth.

3. The combination, with the box A, provided with tongues D on the upper edge of one end of the box, and the lid C, provided with tongues G and H at one end, of the spring K in the recess E between the tongues D, and of the pivoted bail L, substantially as herein shown and described, and for the purpose set forth.

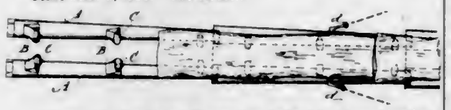
4. The combination, with the box A, provided with tongues D on the upper edge of one end of the box, and the lid C, provided with tongues G H, of the band or strap B, the pivoted bail L, the spring K in the recess E between the tongues D, and the springs M, attached to the bail L, and the staples N on the end of the box, substantially as herein shown and described, and for the purpose set forth.

264,606. STEAM-WHISTLE. WILLIAM BARRETT, Mansfield, Ohio. Filed July 1, 1882. (No model.)



Claim.—A steam-whistle consisting of two or more bells placed one above the other, and each supplied with a port, the bells and ports gradually diminishing in size, and all operated by a single current of steam controlled by the valve *m*, substantially as set forth.

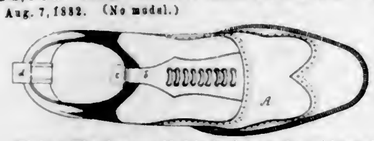
264,607. LOG-CHUTE. WILLIAM HENRY BARNUM, Reno, Nev. Filed June 2, 1882. (No model.)



Claim.—1. The boxes B, carrying rollers C, in combination with the legs A A of the chute, substantially as shown and described.

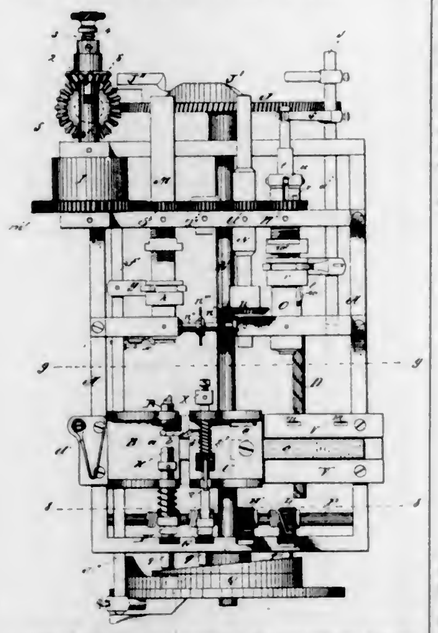
2. The roller-boxes B, provided with pins *a a*, in combination with the ways A, cut out or recessed to receive the boxes, substantially as shown and described.

264,608. SHOE. ISAIAH A. SEALS, Brockton, Mass. Filed Aug. 7, 1882. (No model.)



Claim.—The shoe provided in its leg portion with an elastic gore on both sides of and around the front of such leg portion and projecting above the inelastic instep portion, in combination with a stay, *b*, fastened to the instep portion and to the fore pulling-loop, but unattached to the gore, all substantially as set forth.

264,609. METAL-SCREW MACHINE. GEORGE D. BELCHER, Chicopee, Mass. Filed Apr. 14, 1882. (No model.)



Claim.—1. In a screw-machine, the combination, with hollow spindle M, with gearing *m'* S for rotating it, and with an automatically-actuated chuck, of tool-holder B, slotted at *b*, ways V V, spring *d*, stop *a*, spring-retracted tool R, carried by said holder, and the automatic devices operatively connected with pulley I to advance said tool R against the blank in the chuck, substantially as shown and described.

2. The combination of spindle M, holder B, ways V V, spring *d*, stop *a*, holder C, and the mechanism adapted to move said holder upon the ways to cause it to displace holder B and be held with its die X in prolongation of the blank in spindle M, as shown and described.

3. The combination, in a screw-machine, with holder C and screw-bearing die X, and mechanism, substantially as shown, for reciprocating the die in the holder and preventing it from revolving meanwhile, of the chuck-spindle O, reciprocating rod *j*, having shipping-arms *s l*, connected respectively to rod *t*, sleeved within the spindle, and to chuck-operating sleeve *r* upon it, and the gear W, arranged upon spindle O, and adapted to be by the movement of rod *j* clutched to the spindle O simultaneously with the closing of the jaws of the chuck, and released from the spindle upon the opening of said chuck-jaws, all arranged to operate for the purpose set forth.

4. In a screw-machine, the combination, with the cutting-off tool *x*, saw *n'''*, and spindles M N O, all arranged as shown, of holders B and C, recessed respectively at *b c'*, stop *a*, spring *d*, tools R *x*, and mechanism, as shown and described, for moving holder C upon the ways V V and reciprocating the tools R *x* in the holders.

5. In a screw-machine, the combination, with the horizontally-arranged spindles M N O, and gearing *m'*, S, T, U, and W, and with cam-shaft E in operative connection therewith through intermediate gearing, and arranged centrally in frame A below said spindles, of cams J', J'', and Q, arranged upon the shaft E, and shipper-rods *j f*, arranged within the frame upon each side of the spindles.

6. The combination, with shaft E, arranged and operated as shown and described, and with cam Q thereon, and with holders B C and their tools R *x*, of levers F G H L, bearing P, and blocks *q*, for the purpose as shown and described.

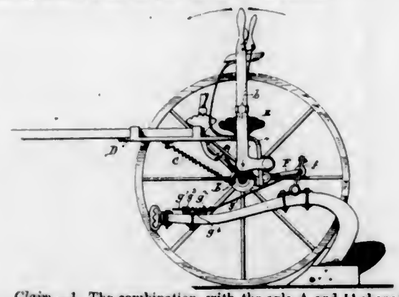
7. The combination, in a screw-machine, with quick screw D, supported in the frame A, and splined to move therein without turning and reciprocated by suitable mechanism, of the nut-gear C', held by means from the frame from sliding on screw D, and tool-holder C, provided with rack *c*, as and for the purpose set forth.

8. In a screw-machine, the combination, with die X and holder C, of the elongated corrugated wheel *y'*, coil-spring *z'*, arranged upon the stem of die X, and pawl *z*, arranged upon the holder in prolongation of the corrugations upon wheel *y'*, as and for the purpose set forth.

9. The combination, with the jaws of a chuck and with sleeve *r* and sleeve *w'*, having a groove upon its inner surface, of the detached wedges *w w*, adapted to bear, as shown, upon the jaws through sleeve *r*, and be adjusted, through the movement of sleeve, *w'*, against their projecting corners, as set forth.

264,610. SULKY-PLOW. AXEL F. BERGQVIST, Fairfield, Iowa. Filed Feb. 27, 1882. (No model.)

Brief.—Spring to aid wheel adjustment and also to allow a yielding motion when the plow strikes an obstruction.



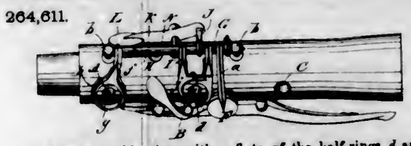
Claim.—1. The combination, with the axle A and U-shaped block a^3, of the crank-spindle B, lever *b*, arm *b'*, spring C, and frame D, substantially as described, and for the purpose set forth.

2. In combination with the plow-beam and ball, the swinging plate *f*, the connecting-rod *g*, and spring-bolt *g'*, as described.

264,611. FLUTE. THEODORE BERTELING, New York, N. Y. Filed Feb. 27, 1882. (Model.)

Claim.—1. The combination, with a flute, of the half-ring *d* within the line of finger-apertures A B C, and of the key-valve L for closing aperture *m*, and key-valve F for closing aperture E, as and for the purpose specified.

264,611.



2. The combination, with a flute, of the half-rings *d* and *j* within the line of finger-apertures A B C, and of the key-valves L and F, substantially as herein shown and described, and for the purpose set forth.

3. The combination, with a flute, of the half-rings *d* and *j* and the ring *g* within the line of finger-apertures A B C, and of the key-valves F and L, substantially as herein shown and described, and for the purpose set forth.

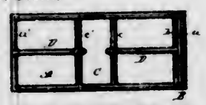
4. The combination, with a flute, of the key-valve F and the arms *e f*, attached to a journaled shaft, G, and the arms I and J, attached to a sleeve, H, loosely mounted on the shaft G, and of a pivoted key-valve and lever L K, acted on by the arm J, substantially as herein shown and described, and for the purpose set forth.

264,612. BALANCED SLIDE-VALVE. CLARENCE E. BIDDISON, Rock Island, Ill. Filed Feb. 14, 1882. (No model.)



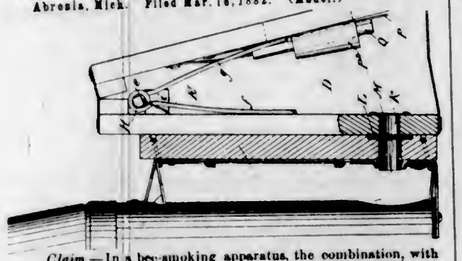
Claim.—In combination with a chest having the end chambers, C C, provided with live-steam inlets *c c* and ports *s s*, a slide-valve, D, consisting of two end closed bonnets, *d d*, open at bottom and inner ends, and forming a central exhaust-chamber, B, having movable packing-plates F straddling and resting upon the bonnets, as shown and described.

264,613. BUCKLE. JAMES BILLS, Sherman, Tex. Filed Apr. 15, 1882. (No model.)



Claim.—A double buckle consisting of a rectangular frame having inner cross-bars, *c c'*, forming a central tuck-loop, C, and provided with tongues D D, extending in opposite directions, and cross-bars *a'*, *a*, and *b*, the bars *a b* forming a tuck-loop, B, substantially as set forth.

264,614. BEE-SMOKING APPARATUS. TRACY F. BINGHAM, Abronia, Mich. Filed Mar. 16, 1882. (Model.)

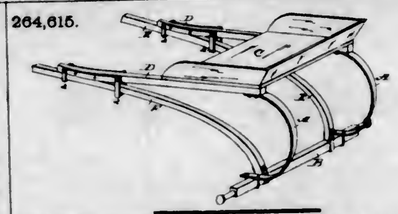


Claim.—In a bee-smoking apparatus, the combination, with the bellows D, of the spring E, provided with the coils *e* and branches *f g*, and carried by the bar H, as herein shown and described.

264,615. SULKY. JESSE C. BOYD, Rushville, Ind. Filed May 13, 1882. (No model.)

Claim.—The combination, with the axle B and the curved shafts E, of the seat C, provided with the arms D, connected to the shafts by the clips *a* and adapted to slide thereon, and the springs A, having one end secured to the axle and the opposite end to the rear ends of arms D, substantially as and for the purpose set forth.

264,615.

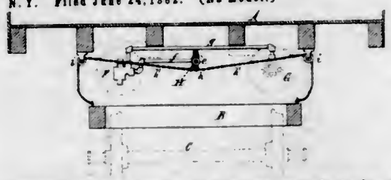


264,616. PROCESS FOR THE EXTRACTION OF GLYCERINE FROM THE RESIDUARY WATERS RESULTING FROM THE MANUFACTURE OF SOAPS. EDMOND L. M. BROCHON, Milan, Italy. Filed June 24, 1882. (No specimens.)

Claim.—1. A process for extracting glycerine and salts from waters obtained in the manufacture of soap, which consists, first, in treating the cold waters with chloride of sodium, filtering, applying hydrochloric or sulphuric acid, and precipitating the insoluble matter with any of the well-known coagulating agents, next heating to ebullition the clear liquid and adding milk of lime, then treating with bicarbonate of soda or potash, and applying hydrochloric acid, as described.

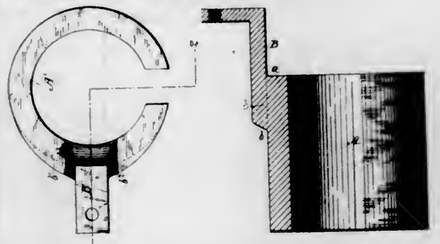
2. A process of separating the glycerine and salts, which consists in feeding the liquid containing the glycerine and salts to successive boilers, then draining and transferring the precipitated salts back through the series of boilers and removing the precipitated salts, then heating the liquid to 150° centigrade and removing the precipitated salts, and finally distilling the liquid in the usual way, as described.

264,617. AIR-BRAKE FOR RAILWAY-CARS. MARCUS SHOCKWAY, CHARLES M. WATTS, and PORTER SHELDON, Jamestown, N. Y. Filed June 24, 1882. (No model.)



Claim.—The combination, in a railway-car, of a brake-pipe supplying compressed air to the brake mechanism, an escape-opening whereby the compressed air can escape from said brake-pipe, and mechanism connected with the truck or running-gear whereby the escape-opening is closed and the escape of the air prevented when the trucks or running-gear are in their normal position and opened when the trucks or running-gear assume an improper position, thereby permitting the air to escape from said pipe and applying the brakes.

264,618. VOLTAIC-BATTERY PLATE. ALEXANDER BROWN, Brooklyn, N. Y. Filed June 14, 1882. (No model.)



Claim.—1. The combination, substantially as hereinbefore set forth, with a battery-plate of a thickness gradually increasing upon one side in both directions toward a vertical line, of a terminal arm or electrode joined to said plate above its thickest portion and enlarged at its point of junction therewith.

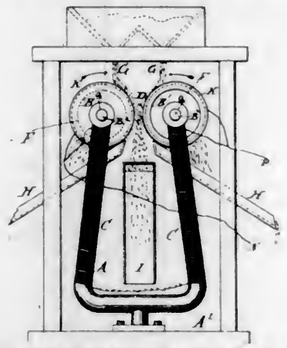
2. The combination, substantially as hereinbefore set forth, of a cylindrical battery-plate increasing in thickness upon one side in both directions toward a vertical line, and a terminal arm or electrode joined to said plate above its thickest portion.

264,619. ROLLER-BUSH. PATRICK BROWNLEY, St. John, New Brunswick, Canada, assignor to himself and Robert W. Lowe, same place. Filed July 25, 1882. (No model.)



Claim.—The end-open bush A, having an inner flange around each opening, provided on the inside of one opening with a screw-ring, C, and fitted with rolls E, as shown and described.

264,620. ELECTRO-MAGNETIC ORE-SEPARATOR. C. SOMMAN BUCHANAN, Brooklyn, N. Y. Filed Nov. 14, 1881. (No model.)



Claim.—1. In an ore-separator, the combination of two magnets with two rolls rotating in opposite directions in the field of force of said magnets, substantially as described.

2. In an ore-separator, the combination of two electro-magnets with two rolls rotating in opposite directions and forming the terminal ends of said electro-magnets, substantially as described.

3. In an ore-separator, the combination of two magnetized parallel rolls of opposite polarity revolving near each other in opposite directions, substantially as described.

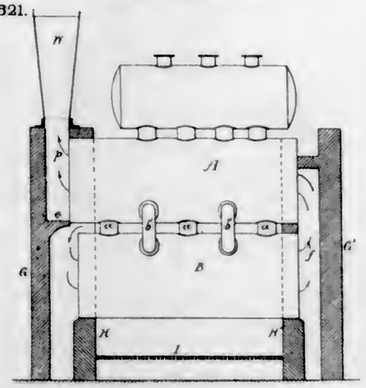
4. In an electro-magnetic ore-separator, a magnet or magnetized roll having an elliptic or oval core or hollow center, substantially as herein shown and described.

5. In an ore-separator, the combination of two parallel and contiguous rolls with two magnetized standards of opposite polarities, adapted to magnetize said rolls by induction, as set forth.

6. The combination, in a magnetic ore-separator, of a pair of parallel rolls with suitable standards and devices adapted to convey by induction magnetism of opposite polarities to said rolls, as set forth.

7. A magnetic ore-separator constructed substantially as herein shown and described, consisting of electro-magnetic standards A A', insulated wires C C' P N, hollow rolls B B', collars, frame A', hopper, and chutes, arranged as set forth.

264,621.

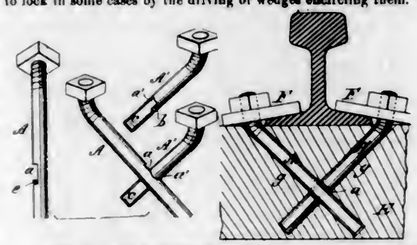


264,621. STEAM-BOILER. HUGH BURGESS, Royer's Ford, Pa. Filed June 3, 1882. (No model.)

Claim.—The combination, in a steam-boiler, of two barrels, A B, situated one directly above the other, and connected together by tubes *a*, *b*, and *b'*, with flue-tubes arranged in each barrel in two sets, so as to leave a central space, *q*, and side spaces, *t t*, in each barrel, as set forth.

264,622. INTERLOCKING BOLT. THOMAS J. BUSH, Lexington, Ky. Filed Jan. 16, 1882. (No model.)

Brief.—Rails are secured by means of fish-plates and bent bolts screw-threaded at their upper ends to receive nuts and having locking-notches at suitable distances from their lower ends. The bolts are adapted to enter ties provided with crossing holes, by which means they are interlocked. The bolts may be forced to lock in some cases by the driving of wedges encircling them.



Claim.—1. The combination of bent bolts A and A', formed with the locking-notches *a* and *a'* a suitable distance from their lower ends, the bolts being polygonal or round in cross-section, substantially as described.

2. The combination, with a railroad-tie provided with crossing holes and apertured fish-plates F, of the cross-locked bolts A A', bent, threaded, and nutted on their ends, whereby the rail-flanges are rigidly secured to the ties, as described.

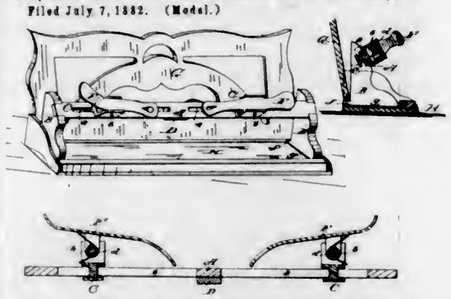
3. The bent bolt A, formed with the notch *a*, and faced off at the back, as shown at *c'*, in combination with the bolt A', faced off at the back, as shown at *b'*, and formed with the notch *a'* and the curved face *c*, substantially as described.

4. The combination, with the notched and bent bolts A A', of the wedge B, substantially as described.

5. The combination, with the bent and notched bolts A A', of the plates F F, substantially as shown and described.

6. The combination, with the bent and notched bolts A A', of the plates G, formed with the extensions A A', as and for the purposes set forth.

264,623. MUSIC-HOLDER. CHARLES P. BYRON, Yonkers, N. Y. Filed July 7, 1882. (Model.)

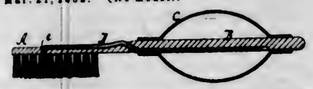


Claim.—1. In combination with the music-rack for pianos and similar instruments, the music-holder consisting of the cross-bar A, provided with slots *a*, the blocks C, fitted to be set along in said slots, the pivoted arms F, the springs *d* on pivots *b*, operating against arms F, and the brackets B, supporting the cross-bar A, as shown and described.

2. The combination, with the slotted bar A, carrying the sliding blocks C C and arms F F, of the brackets or supports B B, formed with the lips or projections *f f*, substantially as and for the purposes set forth.

3. The combination, with a music-rack, G, and the music-holder described, of the block D on the lower back face of bar A, and the lips *f* on the brackets B, operating jointly against the rack G to keep said holder in place, as shown and described.

264,624. TOOTH-BRUSH. LOUIS CHEVALLIER, Brooklyn, N. Y. Filed Mar. 21, 1882. (No model.)

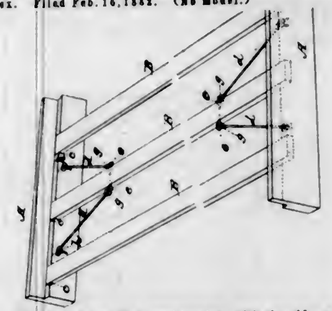


Claim.—1. The combination, substantially as hereinbefore set forth, with the brush having a handle projecting from the back thereof, of the elastic bulb arranged on the handle, and the water-feed tube on the exterior of the back and handle, opening into the mass of bristles at one end and communicating with the bulb at its opposite end.

2. The combination, substantially as hereinbefore set forth, with the brush having a handle projecting from the back thereof, of the water-feed tube on the exterior of the back and handle, opening into the mass of bristles at one end and extending obliquely through the handle at the other end, and the elastic bulb arranged on the handle in communication with the water-feed tube and with its inner end upon a plain portion of the handle.

3. The combination, substantially as hereinbefore set forth, with the brush having a handle projecting from the back thereof, and with the water-feed tube situated on the exterior of the back and handle, of the elastic bulb open at opposite ends and having the handle passed entirely through it to form a double bearing for the bulb upon the handle.

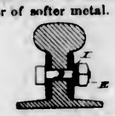
264,625. BED-FRAME BRACE. CHESTER C. CLARK, Brownwood, Tex. Filed Feb. 16, 1882. (No model.)



Claim.—In a bed-frame, the combination, with the side rails, A, having screw-eyes *h* on each side of the seat-slat *c*, of the intermediate slat, B, and its hooks *d*, connected to its edges by screw-eyes or staples *e* and extending obliquely to the screw-eyes *h*, whereby the bed-frame is braced transversely and obliquely, substantially as specified.

264,626. NUT-LOCK. JAMES T. CLARK, Milwaukee, Wis., assignor to Tuttle & Whittemore, Naugatuck, Conn. Filed July 29, 1882. (No model.)

Brief.—The base of a machine-made nut is ordinarily slightly concave and slightly irregular in its surface along chords or arcs thereon. Portions of such a base of such a nut are embedded in projections from a washer of softer metal.



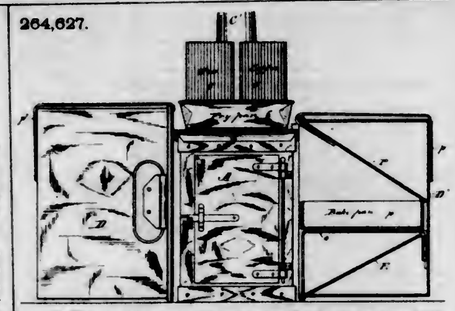
Claim.—A contrivance for bolting together railroad-splicings and other devices to be clamped and securely held together, consisting of an ordinary bolt, D, the usual nut, E, and a washer made of metal softer than that composing the nut and formed with narrow bearing-surfaces, the whole adapted to operate as set forth.

264,627. FIELD-STOVE AND KIT. WALTER CLIFFORD, Fort Buford, Dak. Filed Jan. 17, 1882. (No model.)

Claim.—1. The stove-body A, provided with flange *a* and removable bottom *b*, substantially as and for the purposes described.

2. The combination, with the body A, provided with the rear opening, *c*, flanged projection *d*, and posterior edge *d''*, of the extension B, provided with end openings, *e f*, hooks *g*, lips *h*, and projections *l*, and the pipe-section C, provided with the flanges *m*, substantially as described, and for the purpose set forth.

264,627.



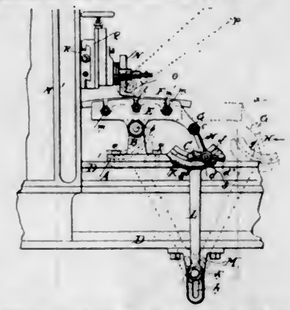
3. The combination, with extension B, of pipe-sections C C' C'', whose diameters decrease from bottom to top, and the cap *n*, substantially as and for the purpose described.

4. The combination, with stove-body A, of ovens D D', provided with pan-supports *o*, and the reflectors E F, substantially as described.

5. The combination, with the oven and the upper reflector, F, of the holding-wire *p*, substantially as and for the purposes described.

6. The within-described field-stove, consisting of stove-body A, extension B, pipe C, and detached ovens D D', provided with reflectors E F, substantially as and for the purposes described.

264,628. RADIUS-LINK PLANER. ERNEST COCKFIELD and JOHN HOWE, St. Joseph, Mo. Filed Aug. 23, 1881. (No model.)



Claim.—1. In a radius-link planer, the combination, with a reciprocating table, of a pivoted link carrier or holder and an oscillating lever provided with a segmental head pivoted to the reciprocating table and connected to the link-carrier, substantially as and for the purpose set forth.

2. In a radius-link planer, the combination, with a reciprocating table, of a link-carrier pivoted upon the said table, and a lever having its lower end loosely pivoted to the planer-bed, and its upper end provided with a segmental head pivoted to the reciprocating table and adjustably connected to the link-carrier, substantially as and for the purpose set forth.

3. In a radius-link planer, the combination, with the planer-bed D, the reciprocating table D', the pivoted link-carrier E, and the connecting-rod H, of the lever L, having its lower end slotted and its upper end provided with the segmental head K, substantially as and for the purpose set forth.

4. In radius-link-planing machines, the combination, with the rocking link-carrier E, provided with slotted bolt-holes *m'*, of the bolt or stud *l* and adjustable bolts *m*, substantially as herein shown and described, whereby the work may be centrally supported, conveniently positioned, and firmly secured to the carrier, as set forth.

5. In a radius-link planer, a centrally-pivoted link-carrier provided with a boss at one end and with slotted bolt-holes for adjustably securing the link therein, in combination with the means, substantially herein shown and described, for rocking the same, as set forth.

6. In a radius-link planer, the combination, with the link-carrier E, of the horizontally-reciprocating jaw-plate A, quadrant-lever L, and adjustable connecting-rod H, substantially as herein shown and described.

7. In a radius-link planer, as a means for transmitting the rocking motion of the quadrant-lever head K to the link-carrier E, the connecting-rod H, having one end adjustably held in the slot of the lever-head and the other pivoted to the end of the link-carrier, substantially as herein shown and described.

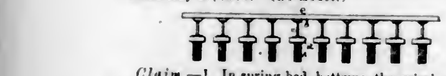
264,629. METAL-PUNCH. GEORGE W. CONSTANTINE, Washington, D. C. Filed Oct. 13, 1881. (No model.)



Claim.—1. A metal-punch provided with a flat base with parallel edges which extend across the whole diameter of the punch, and concave shearing-edges, substantially as shown.

2. As a new article of manufacture, a metal-punch consisting of the following organized parts: a flat base with parallel edges which extend across the whole diameter of the punch, said base being provided with a centering-point and upward concave shearing-edges, substantially as shown.

264,630. BED-BOTTOM SPRING. SMITH COOK, Titusville, Pa. Filed May 27, 1882. (No model.)

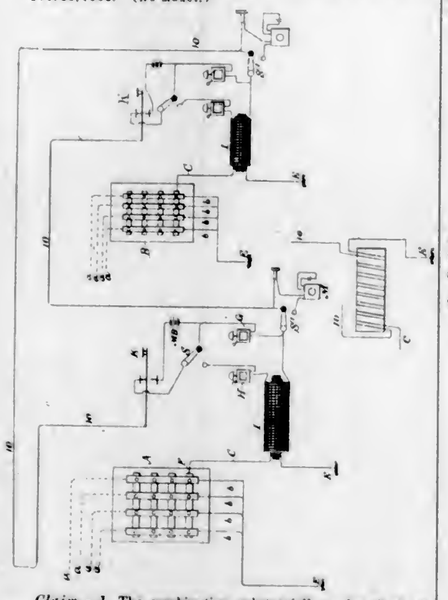


Claim.—1. In spring bed-bottoms, the spiral springs A, in combination with cylinders *a*, heads B, and slats with holes *d*, arranged as described.

2. In spring bed-bottoms, the combination of slats *c*, sockets *b*, rods *c*, and springs A, arranged as shown and described.

3. In a spring bed-bottom, two layers of slats crossing each other, underneath the lower of which are suspended the springs, substantially as described.

264,631. TELEPHONE-EXCHANGE SYSTEM. GEORGE W. COY, Milford, Conn., assignor of two-thirds to James O. Smith, Hackensack, N. J., and Charles E. Buell, Washington, D. C. Filed Feb. 23, 1882. (No model.)



Claim.—1. The combination, substantially as described, of two or more distant telephone-exchanges, a complete metallic circuit connecting said exchanges, an induction-coil at each exchange provided with means for introducing it into the metallic circuit, and a signaling-key and annunciator in said circuit at each station.

2. The combination, substantially as described, of the telephone-exchange switch-board provided with a strip common to the subscribers' lines, induction apparatus I, one coil of which is permanently connected to said strip, and a metallic-circuit wire leading to another station and arranged to be connected to the other coil of the induction apparatus.

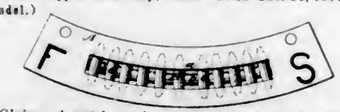
3. The combination, substantially as described, of two or more exchange-switches, an induction-coil at each switch arranged to form a portion of a metallic circuit connecting said switches, and circuit-shifting apparatus or key K, for alternately introducing a generator into and removing it from said metallic circuit.

4. The combination, substantially as described, of two or more exchange-switches, an induction apparatus at each switch, one coil of which is connected to the exchange switch-board, a complete metallic circuit connecting the exchange-switches, and a switch in the metallic circuit at each exchange for introducing one coil of the induction apparatus into and withdrawing it from the metallic circuit.

5. The combination, substantially as described, of the induction apparatus located at the telephone-exchange, the trunk-telephone line, a switch for throwing the induction apparatus into the main-line circuit, a main battery, and a switch for connecting the battery to a loop around both the induction apparatus and the induction apparatus switch.

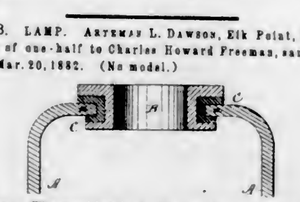
6. The combination, substantially as described, of the trunk-telephone line, the induction apparatus, the two-point switch S, with connections, as described, the main battery M B, and the key K, all connected in the manner shown and described.

264,632. INDEX FOR WATCH-REGULATORS. FERDINAND A. CULPER, Upper Sandusky, Ohio. Filed Dec. 28, 1881. (No model.)



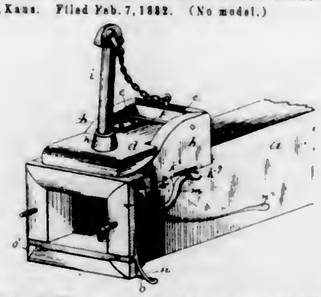
Claim.—A watch-regulator index consisting of a plate having slot *a*, a bottom cut away along each side of said slot, a suitable fastening, and center piece formed of a wire with fixed semicircular collars strung thereon at intervals, whereby the center piece is fixedly held with the collars projecting above the index-plate, as described.

264,633. LAMP. ARTEMAS L. DAWSON, Elk Point, Dak., assignor of one-half to Charles Howard Freeman, same place. Filed Mar. 20, 1882. (No model.)



Claim.—The combination, with the neckless lamp-body A, of the metal collar B and elastic packing C, the latter two being turned over the edge of part A, so as to inclose it between them, as shown.

264,634. CAR-COUPLING. WILLIAM JENKINS DAWSON, Lawrence, Kans. Filed Feb. 7, 1882. (No model.)



Claim.—1. The combination, with the box *b'* on the upper face of the draw-head, provided with the hinged cover *d*, having orifice *g'* and guide-flanges *k k'*, and coupling-pin *i*, of the elbow-levers *k K'*, jointed together, pivoted to the upper face of the draw-head, and provided near their outer ends with the rods *m m*, passing through holes in the flanged face of the draw-head, substantially as described.

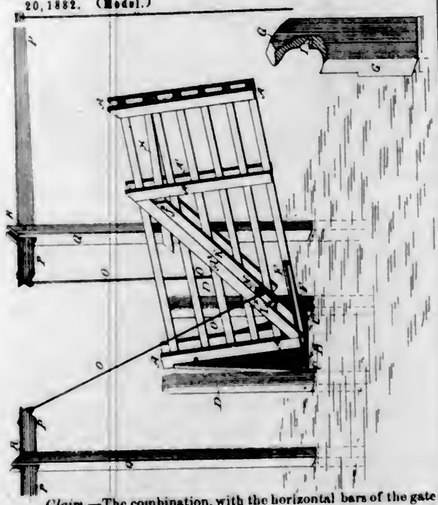
2. The combination, with draw-head *a*, provided with holes in its upper and lower face for the passage of the coupling-pin, of the elbow-levers *k k'*, pivoted to the upper face of the draw-head and jointed to each other by the pin *k²* and slot *k³*, handles *k²*, arms *k⁴*, semicircular at their outer ends, and provided with the pins *k⁵*, and rods *m m*, passing through holes in the flanged face of the draw-head, substantially as described.

3. The combination, with a draw-head, of the bail *n*, pivoted thereto, and provided with the horizontal bars *o o'*, and levers *n²*, substantially as described, and for the purpose set forth.

4. The combination, with a draw-head and bail, *n*, pivoted thereto, and provided with the horizontal bars *o o'*, and levers *n²*, of the springs *p p'*, substantially as described, and for the purpose set forth.

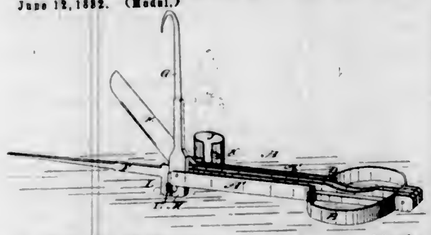
5. The combination, with a draw-head, *a*, and a tuk, *l*, of the spring-dog *r*, pivoted on a transverse rod secured to the opposite sides of the opening in the draw-head, and composed of the two arms *r' r²*, the latter, *r²*, bearing on the inner face of the top of the draw-head, and the former, *r'*, pressing against the upper face of the rear end of the link and holding it horizontal, substantially as described.

264,635. GATE. JNO. M. DECKER, Kingston, Ohio. Filed Apr. 20, 1882. (Model.)



Claim.—The combination, with the horizontal bars of the gate A, the inclined brace-bars A³, the latch H, and the rods O, attached to the operating-levers P, of the inclined hinged bars K, substantially as herein shown and described, whereby the gate will be unfastened and opened by the same movement, as set forth.

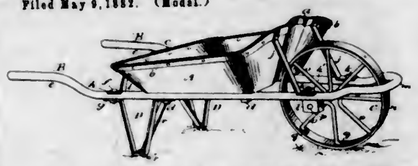
264,636. COMBINED MINER'S CANDLESTICK AND LOADING-TOOL. CHARLES P. DES MOINEAUX, Leadville, Colo. Filed June 12, 1882. (Model.)



Claim.—1. The combination, with the frame A, of implements pivoted to the same, a jaw on one of the locking-springs or on the frame, and of a jaw on one of the implements, substantially as herein shown and described, and for the purpose set forth.

2. The combination, with the frame A, of the blade E, the prong F, and the hook G, pivoted thereon, the jaw M on the frame or on one of its locking-springs, and the jaw L on the prong F, substantially as herein shown and described, and for the purpose set forth.

264,637. WHEELBARROW. JOHN DAVEY, Alpine City, Utah. Filed May 9, 1882. (Model.)



Claim.—1. A metallic body or box for wheelbarrows, provided with a bend or depression in its front end, as shown and described, whereby the front is stiffened and space is afforded for the wheel.

2. A metal box or body for wheelbarrows, having a bend or depression, *a*, in its forward end, a binding-strip, *b*, around its upper edge, and a strip, *c*, applied across the joint of the binding-strip *b*, as shown and described.

3. In combination with the tubular side bars or handle-bar B, having holes formed with inwardly-turned edges, as shown and described, a box or body, A, and bolts *d*, applied, as shown, to secure the box to the handle bar or tube.

4. In a wheelbarrow, a tubular handle bar or rail extending beneath the body or box at both sides, and formed with an upwardly-curved bow at its forward end extending in front of the wheel, as shown.

5. The herein-described wheelbarrow, consisting of body or box A, provided with depression *a*, side rails or tubing, B, having raised bow *m*, wheel C, braces *j*, and eyebolts *k l*, all combined and arranged as shown and described.

6. In combination with body A and tubular side rails, B, braces *i* and *j*, applied as shown, whereby the body is sustained against end movement.

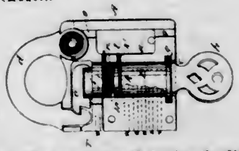
264,638. JOINTING. SANFORD B. DILL, Sterling, Ill. Filed Sept. 13, 1881. (No model.)

Brief.—Two pieces, at right angles to each other, are united by tongue-and-groove joint, a lug or projection in the groove fitting into a recess in the tongue. The angular portion of a latch, pivoted to one of the pieces, engages a recess in the other portion.



Claim.—The separable joint herein described, consisting of a groove, *o*, in the board A, the stop *s* and recess *t*, tongue *p*, and recess *r* in the board D, and lock E, all constructed and combined as and for the purpose set forth.

264,639. PADLOCK. THOMAS DONAHUE, Terryville, Conn., assignor to the Eagle Lock Company, same place. Filed Mar. 23, 1882. (Model.)

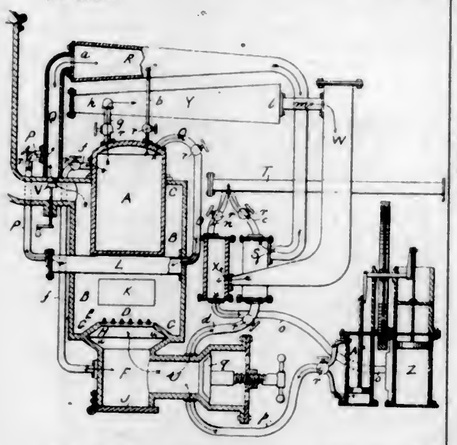


Claim.—1. The rotary plug B, having the disk *g*, in combination with the body *a*, and cap-plate *b*, provided with grooves to receive said disk and retain the plug, as described.

2. The combination, with the rotary plug B, having disk *g*, of the stop-ring *k*, cam *f*, slide *e*, and shackle *d*, as and for the purpose specified.

3. In a padlock, the cam *f*, provided with recess *m'*, plug B, having stud *m*, and the spring *n*, substantially as described, combined for operation as specified.

264,640. GAS-REFINING AND STEAM-POWER APPARATUS. BENJAMIN W. DUNKLEE, Boston, Mass. Filed Apr. 28, 1882. (No model.)



Claim.—1. The depression or chamber G, about and below the fire-grate, having its walls solid, in combination with the enlargement or chamber H of the ash-pit F, at and below the fire-grate, having its walls of angular shape, substantially as and for the purpose specified.

2. The enlargement or chamber H of the ash-pit F, at and below the fire-grate, having its walls outside of and beyond the fire-grate solid and of angular shape, substantially as and for the purpose specified.

3. A steam-boiler, A, a gas-generating chamber, B, a superheater, L, and a power-chamber, T, in combination with a passage, Q, communicating with the superheater, and tapering pipe R, in communication with the power-chamber T, substantially as described, for the purpose specified.

4. A steam-boiler, A, and a power-chamber, T, in combination with a tapering passage, Y, and cylinder X, in communication with the boiler A and power-chamber, substantially as described, for the purpose specified.

5. A steam-boiler, A, and a power-chamber, T, in combination with a tapering passage, Y, cylinder X, and enlarged passage *l*, connected by a passage, *m*, of reduced diameter, and all making a communication between the boiler and power-chamber, substantially as described, for the purpose specified.

6. A steam-boiler, A, a combustion or gas-generating chamber, B, a superheater, L, and a cylinder, S, in combination with a passage leading from the boiler, the superheater, and gas-generating chamber to the cylinder S, and to the gas-generating chamber through the ash-pit, substantially as and for the purpose specified.

7. A steam-boiler, A, and cylinder X, in combination with a passage leading direct from the boiler to the cylinder X, and a passage from cylinder X to the steam-engine Z, arranged to operate an air-pump, A^3, substantially as and for the purpose specified.

8. A steam-boiler, A, a combustion or gas-generating chamber, B, a superheater, L, cylinders S and X, and a power-chamber, T, in combination with passages leading, the one direct from the boiler and the other from the superheater and gas-generating chamber, to the power-chamber, all substantially as and for the purpose described.

9. A steam-boiler, A, a combustion or gas-generating chamber, B, a superheater, L, and a power-chamber, T, in combination with passages leading, the one direct from the boiler and the other from the superheater and gas-generating chamber, to the power-chamber, and both to the gas-generating chamber through the ash-pit, all substantially as described, for the purpose specified.

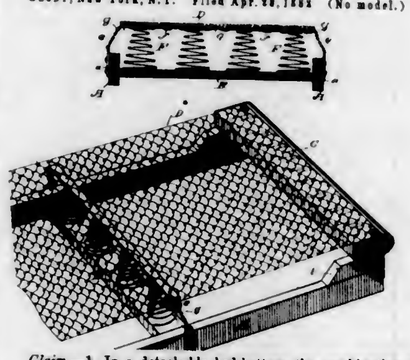
10. A steam-boiler, A, a combustion or gas-generating chamber, B, a superheater, L, a power-chamber, T, and an air-pump, A^3, in combination with passages leading one direct from the superheater and gas-generating chamber to the power-chamber, and both to the gas-generating chamber through the ash-pit, and with a passage, P^3, leading from the air-pump to the gas-generating chamber through the ash-pit, all substantially as described, for the purpose specified.

11. The ash-pit F, having passages *f*, *d*, and *p* entering the same, and making communication between it and a steam-boiler, A, chamber S, and air-pump A^3, all substantially as described, for the purpose specified.

12. The superheater L, arranged to communicate by a pipe, P, with a pipe, Q, extending from the gas-generating chamber, substantially as and for the purpose specified.

13. The combination, with the power-chamber T, of cylinders X and S, arranged to have connection therewith, and the one, X, with a steam-boiler, A, and the other, S, with a steam-boiler, A, a superheater, L, and gas-generating chamber B, through the ash-pit, with said cylinder S, said cylinder X connecting with a steam-engine, Z, and air-pump A^3, substantially as and for the purpose specified.

264,641. BED-BOTTOM. CHARLES H. DUNKS and THOMAS P GLODY, New York, N.Y. Filed Apr. 20, 1882. (No model.)



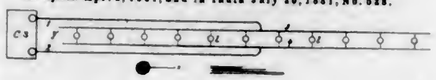
Claim.—1. In a detachable bed-bottom, the combination of side bars, end bars supported above the plane of the side bars, an intermediate cross-bar supported below the plane of the end bars, a row of springs mounted upon said cross-bar, a transverse strip mounted upon the upper ends of the springs, a fabric above the strip, means for securing the ends of the fabric to the end bars and attached to the end bars, and means for attaching the fabric to the transverse strips, substantially as set forth.

2. In a detachable bed-bottom, the combination of side bars, end bars supported above the plane of the side bars, a series of cross-bars supported below the plane of the end bars, springs mounted upon the cross-bars, springs arranged in transverse rows and mounted upon the cross-bars, a series of transverse strips mounted upon the transverse rows of springs, a fabric above the strips, and means for attaching said fabric to the transverse strips, substantially as set forth.

3. In a detachable bed-bottom, the combination of side bars, end bars supported above the plane of the side bars, an intermediate cross-bar supported below the plane of the end bars, a transverse row of springs mounted upon the cross-bar, a transverse slat upon the upper ends of the springs, and yielding stays connecting the ends of the transverse strip with a fastening device attached to the outer faces of the side rails, substantially as set forth.

4. In a detachable bed-bottom, the combination of side bars, end bars supported above the plane of the side bars, an intermediate cross-bar supported below the plane of the end bars, a transverse row of springs mounted upon the cross-bar, a transverse slat upon the upper ends of the springs, and yielding stays formed integrally with the transverse strip and attached to the side rails, substantially as set forth.

264,642. ELECTRIC DISTRIBUTION AND TRANSLATION SYSTEM. THOMAS A. EDISON, Menlo Park, N. J., assignor to the Edison Electric Light Company, New York, N. Y. Filed Aug. 9, 1880. (No model.) Patented in England Sept. 24, 1880, No. 3,880; in Canada Nov. 15, 1880, No. 11,997; in Italy Nov. 19, 1880; in Belgium Nov. 30, 1880, No. 53,018; in France Jan. 3, 1881, No. 139,588; in Victoria Jan. 4, 1881, No. 2,944; in Austria Feb. 3, 1881; in New South Wales Mar. 7, 1881; in New Zealand Mar. 7, 1881, No. 512; in Queensland Mar. 9, 1881; in Spain Apr. 2, 1881, and in India July 20, 1881, No. 528.



Claim.—1. A consumption-circuit in the main conductors of which the drop in tension is not sufficient to vary practically the candle-power of the lamps connected therewith, in combination with feeding-conductors connecting the consumption-circuit with the source of electrical energy, and having no translating devices connected therewith, the drop in tension upon such feeding-conductors not affecting the relative candle-power of the lamps of the consumption-circuit, substantially as set forth.

2. A consumption-circuit in the main conductors of which there is a definite small drop in tension not sufficient to vary practically the candle-power of the lamps connected therewith, in combination with feeding-conductors connecting the consumption-circuit with the source of electrical energy, and having no translating devices connected therewith, the loss upon such feeding-conductors being greater than upon the main conductors of the consumption-circuit, substantially as set forth.

3. The combination of a consumption-circuit, in the main conductors of which the drop in tension is not sufficient to vary practically the candle-power of the lamps connected therewith, with a feeding-circuit having no translating devices, and extending from the source of electrical energy to the center of the consumption-circuit, substantially as set forth.

4. The combination of two or more central stations having feeding-conductors, and consumption-circuits supplied by such feeding-conductors, as described, of connections between the conductors of the central stations, substantially as and for the purposes set forth.

5. The combination, in one system, of a main circuit connected directly to a source of energy, and containing translating devices, and provided with resistances for lessening the tension or pressure of the current to that of the average of the system, a circuit not directly connected to the source of energy containing translating devices, and a feeding-circuit connecting the latter circuit with the source of energy, substantially as set forth.

6. The combination of a number of uninsulated wires of different lengths grouped together and fastened at intervals, forming a gradually-tapering conductor, substantially as set forth.

264,643. MAGNETO-ELECTRIC MACHINE. THOMAS A. EDISON, Menlo Park, N. J., assignor to the Edison Electric Light Company, New York, N. Y. Filed May 12, 1879. Patented in Belgium June 16, 1879, No. 48,341; in England June 17, 1879, No. 2,402; in Italy June 23, 1879; in Victoria Aug. 16, 1879, No. 2,885; in France Aug. 25, 1879, No. 130,910; in Sweden Sept. 24, 1879; in Spain Oct. 4, 1879; in Norway Jan. 20, 1880; in Austria-Hungary Jan. 22, 1880; in Denmark June 11, 1880 and in Germany Feb. 7, 1881, No. 13,083.

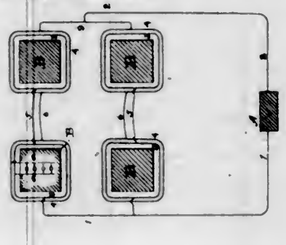


Claim.—1. The cylinder *b*, serving as a field-magnet and wound with a continuous wire for producing magnetic poles on opposite sides of the cylinder, substantially as set forth.

2. The combination of a cylinder wound with a continuous wire and serving as a field-magnet, an inductive coil concentric thereto, consisting of a single layer of wire and an inclosing magnetic case, substantially as set forth.

264,644. WITHDRAWN.

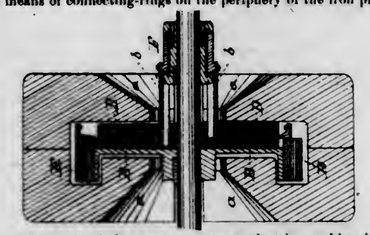
264,645. SYSTEM OF CONDUCTORS FOR THE DISTRIBUTION OF ELECTRICITY. THOMAS A. EDISON, Menlo Park, N. J., assignor to the Edison Electric Light Company, New York, N. Y. Filed Oct. 7, 1880. (No model.)



Claim.—In a system of electrical distribution, the combination, with positive and negative service-conductors laid entirely around each block of a district, of feeding-conductors, each connected with one of said positive and negative conductors at points on opposite sides of each block electrically equidistant from the central station, substantially as set forth.

264,646. DYNAMO OR MAGNETO ELECTRIC MACHINE. THOMAS A. EDISON, Menlo Park, N. J., assignor to the Edison Electric Light Company, New York, N. Y. Filed Nov. 28, 1881. Renewed Aug. 14, 1882. (No model.)

Brief.—An armature composed of a number of copper disks mounted on one side of an iron plate revolves within the chambered poles of the field-magnets. The disks are connected in series by means of connecting-rings on the periphery of the iron plate.

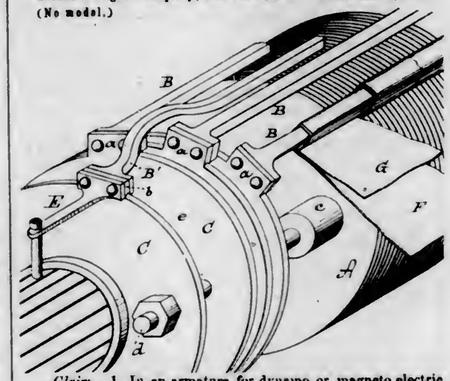


Claim.—1. A dynamo or magneto electric machine having inductive disks located on one side only of a plate of magnetic metal, substantially as set forth.

2. The armature having inductive disks, in combination with exterior rings for connecting such disks in series, substantially as set forth.

3. The combination, with the exciting-magnet having chambered polar extensions, of the revolving armature having a plate of magnetic metal, inductive disks on one side thereof, rings for connecting the disks in series, and commutator-connections, substantially as set forth.

264,647. DYNAMO OR MAGNETO ELECTRIC MACHINE. THOMAS A. EDISON, Menlo Park, N. J., assignor to the Edison Electric Light Company, New York, N. Y. Filed Oct. 4, 1881. (No model.)



Claim.—1. In an armature for dynamo or magneto electric machines, consisting of bars forming the inductive coils and connecting-plates, the combination, with such plates, of the inductive bars having enlarged ends for forming connection therewith, substantially as set forth.

2. In a dynamo or magneto electric machine, the combination of the disks having a double spiral line of projecting ears with the inductive bars connected with such ears, the alternate bars being curved outwardly to avoid the first line of ears, substantially as set forth.

3. In a dynamo or magneto electric machine having cross connecting disks, the combination, with said disks, of the outside rods connecting them with the commutator, substantially as set forth.

4. In a dynamo or magneto electric machine, the combination of the inductive bars and the disks having projecting ears with the outside rods extending from alternate ears to the commutator-bars, substantially as set forth.

5. In a dynamo or magneto electric machine, the combination, with the armature-core, of the cross connecting disks located outside of the magnetic field, substantially as set forth.

6. In a dynamo or magneto electric machine, the combination, with the armature-core, of the cross connecting disks separated from the ends of such core, leaving air-spaces and removing disks from magnetic field, substantially as set forth.

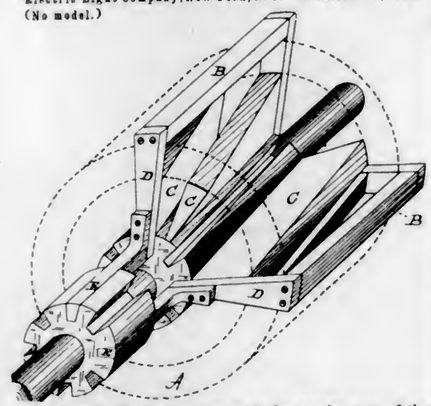
7. In a dynamo or magneto electric machine, the cross connecting disks having beveled edges, in combination with intermediate insulation, substantially as set forth.

8. In a dynamo or magneto electric machine, the copper inductive bars wrapped with parchment-paper, substantially as set forth.

9. In a dynamo or magneto electric machine, the copper inductive bars having an insulation of mica and parchment-paper, substantially as set forth.

264,648. DYNAMO OR MAGNETO ELECTRIC MACHINE.

THOMAS A. EDISON, Menlo Park, N. J., assignor to the Edison Electric Light Company, New York, N. Y. Filed Nov. 11, 1881. (No model.)



Claim.—1. The combination, with the annular core, of the exterior bars, the radial end bars, and the interior plates, substantially as set forth.

2. The combination, with the annular core, of the exterior inductive bars, the radial end bars, commutator-connections extending from such end bars, and the interior beveled plates, of lower resistance than the exterior inductive bars, substantially as set forth.

264,649. DYNAMO OR MAGNETO ELECTRIC MACHINE.

THOMAS A. EDISON, Menlo Park, N. J., assignor to the Edison Electric Light Company, New York, N. Y. Filed Mar. 20, 1880. (No model.) Patented in England Apr. 5, 1880, No. 1,385; in Canada Oct. 9, 1880, No. 11,857; in Italy Oct. 12, 1880; in Belgium Oct. 15, 1880, No. 52,698; in Victoria Nov. 17, 1880, No. 2,824; in France Nov. 27, 1880, No. 138,941; in Austria Dec. 24, 1880; in New South Wales Jan. 13, 1881; in Queensland Feb. 7, 1881; in Spain Feb. 21, 1881; in New Zealand Mar. 7, 1881, No. 511; in Portugal Mar. 31, 1881, No. 680, and in India Apr. 12, 1881, No. 278.

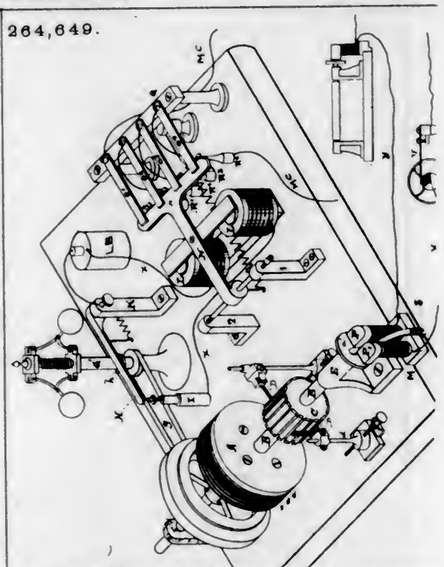
Claim.—1. The combination, with a commutator, of a contact brush or brushes and a brush holder or holders supporting the brush or brushes upon the face of the commutator at an angle to the axis of rotation thereof, substantially as set forth.

2. The combination of a commutator, contact brushes or springs arranged at an angle to the axis of the commutator, and brush-holders having both a vertical and horizontal adjustment, substantially as set forth.

3. In a dynamo or magneto electric machine, the combination, with the revolving commutator-cylinder and means for automatically giving such cylinder a continuous longitudinal reciprocating movement equal to the length of the commutator-cylinder, of stationary commutator-brushes bearing on such cylinder, whereby the commutator-cylinder will be worn evenly and smoothly, substantially as set forth.

4. In a dynamo or magneto electric machine, the combination of the revolving commutator-cylinder with a magnet and a circuit-controlling device giving said cylinder a longitudinal reciprocating movement, and stationary commutator-brushes, whereby the commutator-cylinder will be worn evenly and smoothly, substantially as set forth.

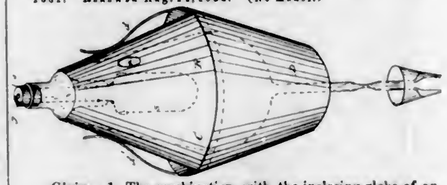
264,649.



5. The combination, with the main circuit, of a circuit-breaker, constructed as described, adapted to break or close the main circuit at several points simultaneously, substantially as set forth.

264,650. MANUFACTURE OF INCANDESCING ELECTRIC LAMPS.

THOMAS A. EDISON, Menlo Park, N. J. Filed Dec. 9, 1881. Renewed Aug. 14, 1882. (No model.)



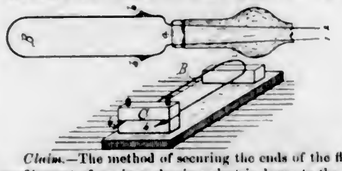
Claim.—1. The combination, with the inclosing-globe of an incandescent electric lamp, of means situated without the globe for retaining the heat caused by the incandescence of the carbon filament, substantially as and for the purpose set forth.

2. The combination, with the inclosing-globe of an incandescent electric lamp, of an inclosing case or envelope adapted to be heated by the incandescence of the carbon filament and to retain the heat so generated, substantially as and for the purpose set forth.

3. The metal case or envelope composed of radial strips bent up around the globe, substantially as set forth.

264,651. INCANDESCENT ELECTRIC LAMP.

THOMAS A. EDISON, Menlo Park, N. J. Filed Aug. 7, 1882. (No model.)



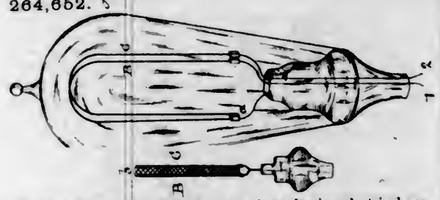
Claim.—The method of securing the ends of the flexible carbon filament of an incandescing electric lamp to the leading-in wires of the lamp, consisting in first electroplating the ends of the flexible carbon filament, placing such filament in a clamp protecting the filament above the plated ends, and then soldering or fusing the wires to such plated ends, substantially as set forth.

264,652. INCANDESCENT ELECTRIC LAMP.

THOMAS A. EDISON, Menlo Park, N. J. Filed Aug. 7, 1882. (No model.)

Claim.—The method of preparing two or more contiguous

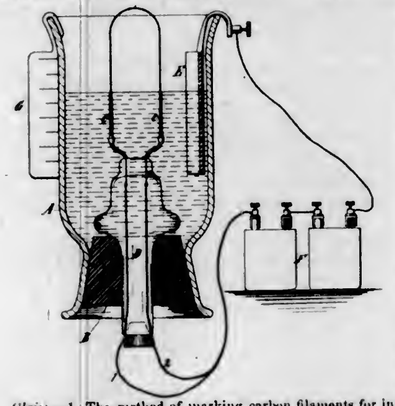
264,652.



carbon filaments for use in the same incandescing electric lamp, consisting in separating such carbon filaments by a filling capable of being decomposed or disintegrated by heat, and then fixing the relative position of such carbon filaments, and removing at the same time the separating-filling, by bringing such carbon filaments up to a point of high incandescence, substantially as set forth.

264,653. INCANDESCENT ELECTRIC LAMP.

THOMAS A. EDISON, Menlo Park, N. J. Filed Aug. 7, 1882. (No model.)

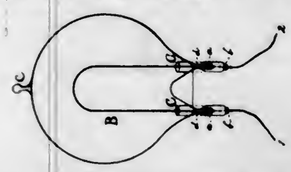


Claim.—1. The method of marking carbon filaments for incandescing electric lamps of different candle-power and resistance, consisting in electroplating such a portion of their length that the non-plated or incandescing portion will have the desired candle-power and resistance, substantially as set forth.

2. A carbon filament for incandescing electric lamps, secured at its ends to conducting-wires, and having electroplated portions commencing at such ends and extending toward its center for reducing the length of its incandescing portion, substantially as set forth.

264,654. INCANDESCENT ELECTRIC LAMP.

THOMAS A. EDISON, Menlo Park, N. J. Filed Aug. 7, 1882. (No model.)



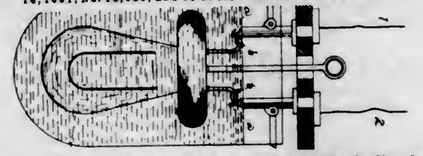
Claim.—1. The exhausted inclosing-globe of an electric lamp, sealed directly upon the carbon incandescing conductor thereof, whereby all metal portions of the lamp are excluded from said globe, substantially as set forth.

2. The combination, with the exhausted glass globe of an electric lamp, of glass tubes projecting within and hermetically sealed to such globe, and having hermetically sealed within them the point of union of the incandescing conductor and the wires leading thereto, substantially as set forth.

3. The method of securing a stable vacuum in incandescing electric lamps, consisting in first exhausting the lamp and driving the occluded gases from the incandescing conductor by heating the same to high incandescence and then sealing the glass directly upon such incandescing conductor, substantially as described.

264,655. INCANDESCING ELECTRIC LAMP.

THOMAS A. EDISON, Menlo Park, N. J. Filed Aug. 7, 1882. (No model.) Patented in England Sept. 27, 1881, No. 4,174; in Italy Nov. 9, 1881; in France Dec. 5, 1881, No. 145,854; in Canada Dec. 14, 1881, No. 13,835, and in India Jan. 18, 1882, No. 74.

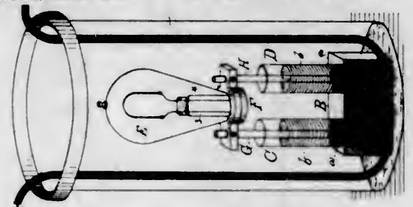


Claim.—1. An incandescing electric lamp the leading-in wires of which are connected removably with the conducting-wires, the connections being submerged in liquid, substantially as set forth.

2. An incandescing electric lamp the leading-in wires of which are connected by hooks or hooks and eyes with the conducting-wires, such hooks or hooks and eyes being submerged in liquid, and the wires being insulated, except at the points of contact, with a coating impervious to the liquid, substantially as set forth.

264,656. INCANDESCENT ELECTRIC LAMP.

THOMAS A. EDISON, Menlo Park, N. J. Filed Aug. 14, 1882. (No model.)

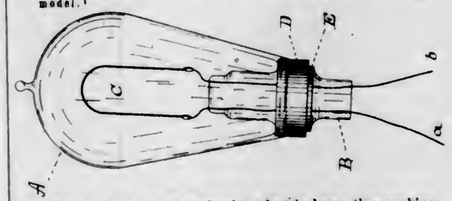


Claim.—1. The combination, with the electrodes of an incandescing electric lamp, of two water-tubes having connections whereby the two connections with the lamps are separately made and broken under water, substantially as set forth.

2. The combination, with an electric lamp provided with a base from which extend metal rods connected with the leading-in wires of the lamp, of tubes containing mercury and water, and circuit-wires running from the mercury of the tubes, substantially as set forth.

264,657. INCANDESCENT ELECTRIC LAMP.

THOMAS A. EDISON, Menlo Park, N. J., assignor to the Edison Electric Light Company, New York, N. Y. Filed Aug. 30, 1881. (No model.)



Claim.—1. In an incandescing electric lamp, the combination, with the two portions of the lamp made entirely of glass, of a joint between said parts, composed of two platinum portions attached to the glass parts by the fusion of the glass upon them, said platinum portions being hermetically secured together, substantially as specified.

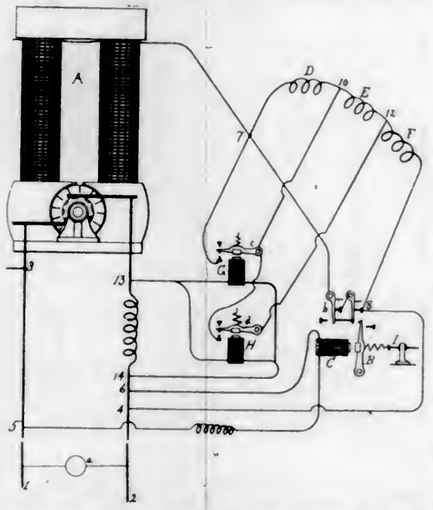
2. In an incandescing electric lamp, the combination of the two portions of the lamp made entirely of glass, the carbon filament supported from one of said glass portions by leading-in wires passing through and sealed into the glass by the fusion of the glass thereon, and a separable metallic joint between the two glass portions of the lamp, substantially as specified.

3. In an incandescing electric lamp, the combination of the two glass portions with the lamp, of the carbon filament supported from one of said glass portions by leading-in wires passing through and sealed into the glass by the fusion of the glass thereon, a sealed glass exhausting-tube on one of said glass portions, and a separable metallic joint between the two portions of the lamp, substantially as specified.

4. In an incandescing electric lamp, the combination, with the glass globe A, of a tubular glass wire-support, B, extending up into the globe and hermetically sealed at its upper end upon the leading-in wires, and the platinum rings D E, secured to the lower end of the globe and to the sides of said tubular support by the fusion of the glass upon said rings, such rings being secured together to form a separable air-tight joint, substantially as specified

264,658. REGULATOR FOR DYNAMO-ELECTRIC MACHINES.

THOMAS A. EDISON, Menlo Park, N.J. Filed Aug. 7, 1882. (No model.)



Claim.—1. The combination, with a dynamo or magneto electric machine, of a vibrating circuit-controller for regulating the generation of current, and a shunt around said circuit-controller containing a series of constant resistances for reducing the spark, and means adapted to cut each of such resistances into or out of circuit by the removal or addition of a definite predetermined number of translating devices, substantially as set forth.

2. The combination, with the vibrating circuit-controller and spark-reducing resistances in a shunt around the circuit-controller, of the electro-magnets in a shunt from the main line, each adapted, upon the addition or removal of a certain number of translating devices, to cause the throwing in or out of circuit of a portion of the spark-reducing resistances placed in a shunt around the vibrating circuit-controller, substantially as set forth.

3. The combination of the vibrating circuit-controller placed in the field-circuit, the electro-magnet for operating the same, placed in a derived circuit from the main line, the series of constant spark-reducing resistances placed in a shunt around the circuit-controller, and the series of electro-magnets in a shunt from the main line, for throwing said resistances out of circuit one after another, as desired, substantially as set forth.

264,659. REGULATOR FOR DYNAMO-ELECTRIC MACHINES.

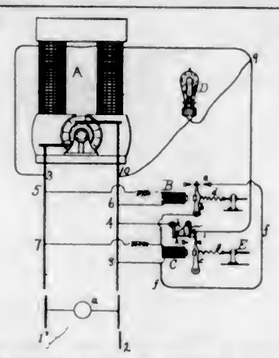
THOMAS A. EDISON, Menlo Park, N. J. Filed Aug. 7, 1882. (No model.)

Claim.—1. The combination, with a dynamo or magneto electric machine, of a circuit-controller operated by the current generated for regulating the generation of current by the machine, and a second circuit-controller, also operated by the current generated for controlling or assisting in controlling the current operating the first circuit-controller, as desired, substantially as set forth.

2. The combination, with a dynamo or magneto electric machine, of a vibrating circuit-controller adapted to make and break circuit at several points simultaneously, and another vibrating circuit-controller for controlling or assisting in controlling the current operating the first circuit-controller, substantially as set forth.

3. The combination, with a dynamo or magneto electric machine, of two electro-magnets placed in a multiple-arc circuit or circuits from the machine, and each provided with a vibrating circuit-controller, one for regulating the generation of current by the

264,659.



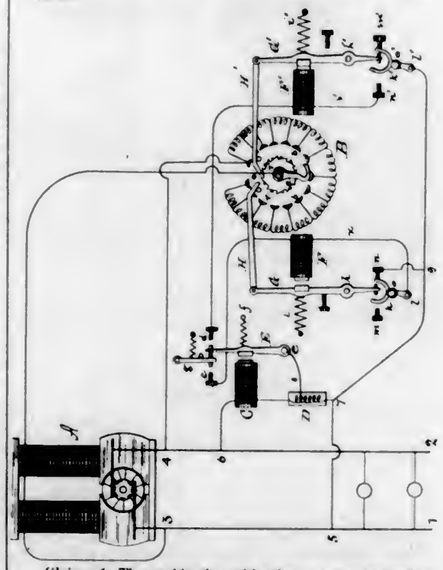
machine, the other for controlling or assisting to control the supply of current energizing the first, substantially as set forth.

4. The combination, with the two vibrating circuit-controllers, one for regulating the generation of current, the other for controlling the supply of current to the first, of the spark-arresting shunt around the first circuit-controller, substantially as set forth.

5. The combination, with an electro-magnet placed in a multiple-arc circuit from a dynamo or magneto electric machine, and a vibrating circuit-controller operated thereby and placed in the field-circuit of the machine, of an electro-magnet placed in the same or another multiple-arc circuit, and a vibrating circuit-controller for controlling the current energizing the first-mentioned electro-magnet, placed in the circuit of said first-mentioned magnet or in a shunt around the same, substantially as set forth.

264,660. REGULATOR FOR DYNAMO-ELECTRIC MACHINES.

THOMAS A. EDISON, Menlo Park, N.J. Filed Aug. 7, 1882. (No model.)



Claim.—1. The combination, with a dynamo or magneto electric machine and translating devices arranged in multiple arc, of an adjustable resistance in the field-circuit of such machine, an electrically-operated mechanism for adjusting said resistance, and an electro-magnet located in a multiple-arc circuit and controlling such electrically-operated mechanism, substantially as set forth.

2. The combination, with a dynamo or magneto electric machine and translating devices arranged in multiple arc, of a mechanism for regulating such machine, an electro-magnet located in a multiple-arc circuit, and closing-circuits at the contacts of its armature-lever for controlling such regulating mechanism, and

means for determining the central position of the armature-lever of said controlling electro-magnet, substantially as set forth.

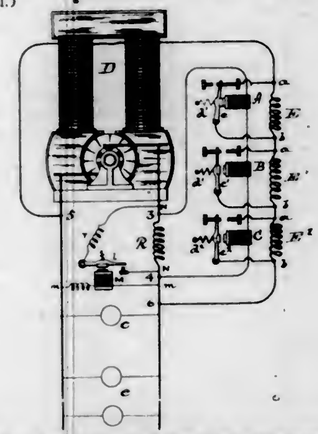
3. The combination, with a dynamo or magneto electric machine and translating devices arranged in multiple arc, of an adjustable resistance in the field-circuit of such machine, a mechanism for adjusting such resistance, an electro-magnet located in a multiple-arc circuit and controlling such adjusting mechanism by closing-circuits at the contact of its armature-lever, and means for determining the central position of the armature-lever of said controlling electro-magnet, substantially as set forth.

4. The combination, with an electro-magnet energized by the current generated by a dynamo or magneto electric machine or battery thereof, of an armature-lever adapted to close by its forward and backward movement the branches of a divided shunt, which contain mechanism for varying the resistance of the field-circuit of the generator, substantially as set forth.

5. The combination, with a multiple-arc circuit, of a divided shunt therefrom, each division containing an electro-magnet provided with a vibrating armature, said vibrating armature being adapted to operate a pawl and a ratchet-wheel, substantially as set forth.

264,661. REGULATOR FOR DYNAMO-ELECTRIC MACHINES.

THOMAS A. EDISON, Menlo Park, N.J. Filed Aug. 7, 1882. (No model.)



Claim.—1. The combination, with a dynamo or magneto electric machine and translating devices arranged in multiple-arc circuits therefrom, of a series of independent devices operated by the current generated and arranged to act successively as more translating devices are placed in circuit to increase the current energizing the field-magnet of the generator, substantially as set forth.

2. The combination, with a dynamo or magneto electric machine and translating devices arranged in multiple-arc circuits therefrom, of a series of electro-magnets energized by the current generated and arranged to operate successively as more translating devices are placed in circuit to close circuits, whereby the current energizing the field-magnet of the generator is increased, substantially as set forth.

3. The combination, with a dynamo or magneto electric machine and translating devices arranged in multiple-arc circuits therefrom, of a series of electro-magnets energized by the current generated, and each provided with a pivoted armature-lever, the relation between each magnet and its armature differing from that of each other magnet and armature, as explained, and circuits, as described, the movement of each armature opening or closing a circuit whose closure increases the current energizing the field-magnet of the generator, substantially as set forth.

4. The combination, with a dynamo or magneto electric machine and translating devices arranged in multiple-arc circuits therefrom, of a series of electro-magnets energized by the current generated, and armature therefor, different amounts of current being required to cause each magnet to attract its armature, and circuits and resistances, as described, the movement of each armature causing the throwing of a resistance in or out of the field-circuit, substantially as set forth.

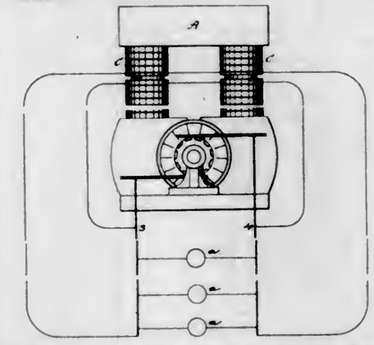
5. The combination, with a dynamo or magneto electric machine and translating devices arranged in multiple-arc circuits therefrom, of a series of devices operated by the current generated, and arranged to act successively as more translating devices are placed in circuit to increase the current energizing the field-magnet of the generator, and a device or series of devices, also operated by the current generated, and arranged to act upon an increase of said current to decrease the current affecting the first-mentioned series of devices, thereby decreasing the current in the field-circuit of the generator, substantially as set forth.

6. The combination, with a dynamo or magneto electric machine and translating devices arranged in multiple-arc circuits therefrom, of a number of electro-magnets placed in divisions of the main line or in a shunt therefrom, and arranged to act successively as more translating devices are placed in circuit to increase the current energizing the field-magnet of the generator, and an electro-magnet placed in a multiple-arc circuit from the main line, and arranged to act upon an increase of the current generated to close circuits which shall draw off a portion of the current energizing the magnets in the shunt-circuit or divisions of the main line, substantially as set forth.

7. The combination of the following: the field-magnet of a dynamo-electric machine placed in a multiple-arc circuit, the armature of said machine placed in another multiple-arc circuit, lamps or other translating devices placed in other multiple-arc circuits, (all such multiple-arc circuits being derived from the same main conductors,) and a series of independent devices operated by the current generated, and arranged to act successively as more translating devices are placed in circuit to increase the current energizing the said field-magnet, substantially as set forth.

264,662. REGULATOR FOR DYNAMO-ELECTRIC MACHINES.

THOMAS A. EDISON, Menlo Park, N.J. Filed Aug. 7, 1882. (No model.)



Claim.—1. A dynamo or magneto electric machine having a small portion of its field-magnet so wound as to oppose the action of the main portion, in combination with means for varying the current passing in said smaller portion according to the number of translating devices in circuit, whereby the generative capacity of the machine is regulated, substantially as set forth.

2. The combination, with a dynamo or magneto electric machine and translating devices arranged in multiple arc, of a multiple-arc circuit from said machine, including a portion of the coils of its field-magnet, such portion being arranged to have a circuit in a direction opposite to that of the coils included in the primary field-circuit, substantially as and for the purpose set forth.

3. The combination, with a dynamo or magneto electric machine and translating devices arranged in multiple arc, of a multiple-arc circuit including the main portion of its field-magnet coils and another multiple-arc circuit including the remaining portion, these two portions being arranged to have their currents in opposite directions, substantially as and for the purpose set forth.

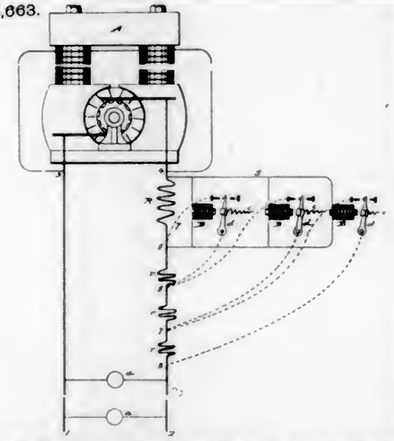
264,663. REGULATOR FOR DYNAMO-ELECTRIC MACHINES.

THOMAS A. EDISON, Menlo Park, N.J. Filed Aug. 7, 1882. (No model.)

Claim.—1. The combination, with a dynamo or magneto electric machine and translating devices arranged in multiple arc, of a series of resistances in the main circuit from said generator and a number of independent devices actuated by the current generated, for successively throwing such resistances into or out of circuit, according to variations in the number of said translating devices, substantially as set forth.

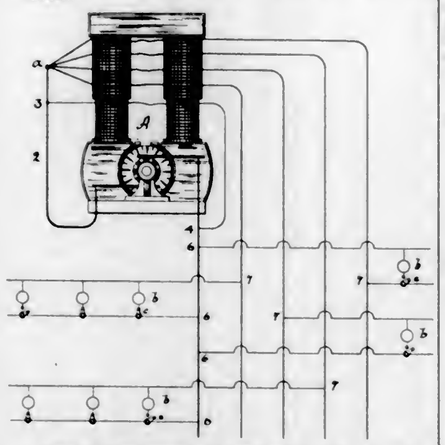
2. The combination, with a dynamo or magneto electric ma-

264,663.



chine and translating devices arranged in multiple arc, of a series of resistances in the main circuit and a series of electro-magnets in a shunt from said main circuit, each magnet being provided with an armature-lever, the motion of which opens and closes a shunt around one of the said resistances in the main line, and the armatures being so arranged as to operate successively, substantially as set forth.

264,664. REGULATOR FOR DYNAMO-ELECTRIC MACHINES. THOMAS A. EDISON, Menlo Park, N.J. Filed Aug. 7, 1882. (No model.)

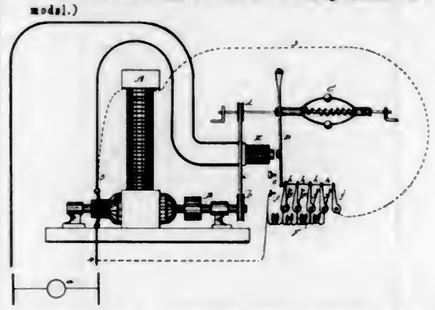


Claim.—1. The combination, with a dynamo or magneto electric machine, of a divided main conductor therefrom, each division of which includes a portion of the coils of the field-magnet of the machine, and forms, with the other main conductor, a circuit on which translating devices are placed in multiple arc, substantially as set forth.

2. The combination, with a multiple-arc circuit of constant resistance from the main conductors of a dynamo or magneto electric machine for primarily energizing the field-magnet of such machine, of the divisions of one of such main conductors, each including a portion of the coils of said field-magnet for increasing the strength of the same, substantially as set forth.

3. The combination of a multiple-arc circuit containing a portion of the coils of the field-magnet of a dynamo-electric machine, a multiple-arc circuit containing the armature of said machine, multiple-arc circuits containing groups of translating devices, (all such multiple-arc circuits being derived from the same main conductors,) and a portion of the coils of the field-magnet formed by divisions of one of such main conductors, substantially as set forth.

264,665. REGULATOR FOR DYNAMO-ELECTRIC MACHINES. THOMAS A. EDISON, Menlo Park, N.J. Filed Aug. 7, 1882. (No model.)

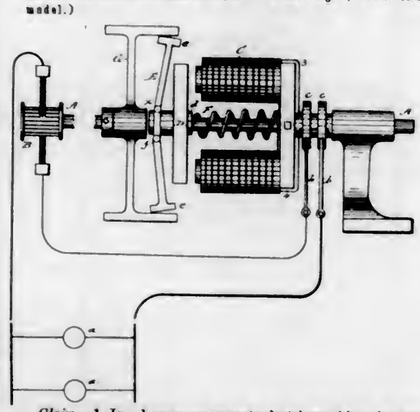


Claim.—1. The combination of a dynamo or magneto electric machine, an adjustable resistance in its field-circuit, a movable arm for varying such resistance, mechanical means connected with and actuated by a moving portion of the machine or of the motor which drives it, for moving said arm to vary said resistance, and means actuated by the current generated, also for moving said arm to vary the resistance, substantially as set forth.

2. The combination of a dynamo or magneto electric machine, an adjustable resistance in its field-circuit, a movable arm for varying such resistance, mechanical means connected with and actuated by some moving portion of the apparatus for moving said arm to vary the resistance, and an electro-magnet in the main circuit or in a shunt therefrom, also for moving said arm to vary the resistance, substantially as set forth.

3. The combination of a dynamo or magneto electric machine, an adjustable resistance in its field-circuit, a movable arm for varying such resistance, a centrifugal governor connected with and actuated by some moving portion of the apparatus, and also connected with said arm, so as to move it back and forth, and an electro-magnet energized by the current generated, and also adapted to move said arm back and forth, substantially as set forth.

264,666. REGULATOR FOR DYNAMO-ELECTRIC MACHINES. THOMAS A. EDISON, Menlo Park, N.J. Filed Aug. 7, 1882. (No model.)

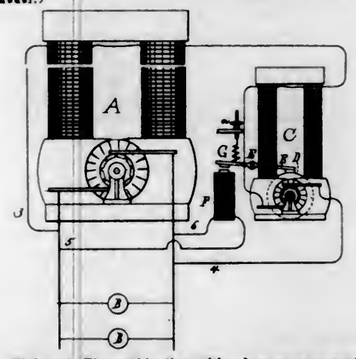


Claim.—1. In a dynamo or magneto electric machine, the combination, with the armature-shaft and a loose pulley mounted thereon, of a friction-clutch for conveying motion from said pulley to said shaft, and means actuated by the current generated for moving such friction-clutch, so as to vary its contact with the pulley, substantially as set forth.

2. In a dynamo or magneto electric machine, the combination, with the armature-shaft and a loose pulley mounted thereon, of a friction-clutch for conveying motion from said pulley to said shaft, and an electro-magnet in the main line from the machine for moving such friction-clutch, so as to vary its contact with the pulley, substantially as set forth.

3. The combination of the loose pulley on the armature-shaft, the electro-magnet mounted on said shaft and revolving with it, and the sleeve keyed to said shaft and carrying the armature of said electro-magnet, and the friction-clutch making frictional contact with the inside of said pulley, substantially as set forth.

264,667. REGULATOR FOR DYNAMO-ELECTRIC MACHINES. THOMAS A. EDISON, Menlo Park, N.J. Filed Aug. 7, 1882. (No model.)



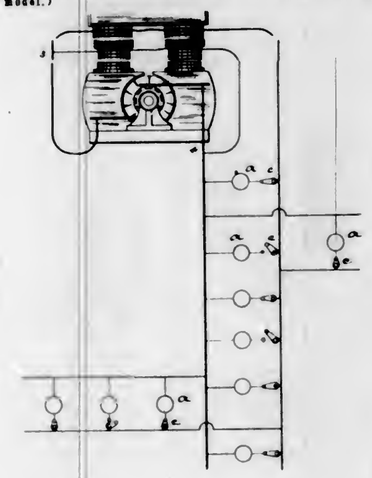
Claim.—1. The combination, with a dynamo or magneto electric machine, of an electromotor located in the field-circuit and varying the strength of the field-magnet by variations in its counter electro-motive force, and an electro-magnet arranged in a multiple-arc circuit from the conductors of the generator, for controlling the speed of the motor, whereby the generator will be regulated to meet changes in speed, as well as the varying conditions of the external circuit, substantially as set forth.

2. The combination, with a dynamo or magneto electric machine, of an electromotor located in its field-circuit and adjustable means for regulating or controlling the speed of such motor, substantially as set forth.

3. The combination, with a dynamo or magneto electric machine, of an electromotor located in its field-circuit and a friction-brake controlled by an electro-magnet for regulating the speed of such motor, substantially as set forth.

4. The combination, with a dynamo or magneto electric machine, of an electromotor located in its field-circuit, a friction-brake forced by a spring or weight upon a wheel mounted upon or connected with the motor-shaft, and an electro-magnet opposing the action of such spring or weight and located in a multiple-arc circuit from the main conductors of the generator, substantially as set forth.

264,668. REGULATOR FOR DYNAMO-ELECTRIC MACHINES. THOMAS A. EDISON, Menlo Park, N.J. Filed Aug. 7, 1882. (No model.)

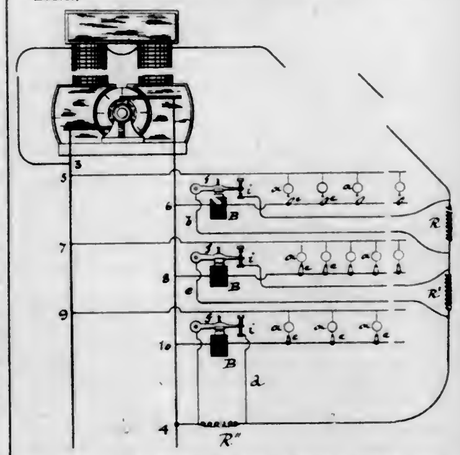


Claim.—1. The combination, with a dynamo or magneto electric machine and translating devices arranged in multiple arc, of a field-circuit of constant resistance for primarily energizing the field-magnet, and another field-circuit whose resistance is varied by the addition and removal of translating devices, substantially as set forth.

2. The combination, with a dynamo-electric machine, of one of its main conductors forming a portion of the coils of its field-magnet, a circuit for primarily energizing such field-magnet, and translating devices arranged in multiple-arc or derived circuits, whereby the addition of each individual translating device causes a corresponding increase in the energy of the field-magnet, substantially as set forth.

3. The combination of a multiple-arc circuit containing a portion of the coils of the field-magnet of a dynamo-electric machine, a multiple-arc circuit containing the armature of said machine, and multiple-arc circuits containing lamps or other translating devices, all such multiple-arc circuits being derived from the same main conductors, and another field-circuit whose resistance is varied by the addition and removal of translating devices, whereby the addition or removal of any translating device causes an instant and corresponding regulation of the current energizing the field-magnet of the machine, substantially as set forth.

264,669. REGULATOR FOR DYNAMO-ELECTRIC MACHINES. THOMAS A. EDISON, Menlo Park, N.J. Filed Aug. 7, 1882. (No model.)



Claim.—1. The combination, with a dynamo or magneto electric machine and groups of translating devices arranged in multiple arc upon multiple-arc circuits from the main conductors of such machine, of means other than the circuit-connections in connection with each group for regulating the current energizing the field-magnet of the machine, acting automatically upon the addition or removal of translating devices in the group, substantially as set forth.

2. The combination, with a dynamo or magneto electric machine and groups of translating devices, arranged as described, of means in connection with each group, operated automatically by the current, whereby the addition or removal of translating devices in the group causes the closing or opening of a circuit, whose closure or opening varies the current energizing the field-magnet of the generator, substantially as set forth.

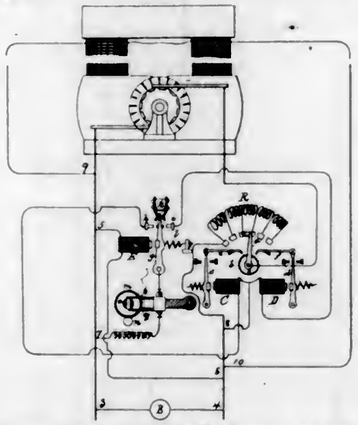
3. The combination, with a series of resistances in the field-circuit of a dynamo or magneto electric machine and a number of groups of translating devices, arranged as described, of means in connection with each group, operated automatically by the addition or removal of translating devices in such group, for throwing one of said series of resistance in or out of circuit, substantially as set forth.

4. The combination, with a dynamo or magneto electric machine and groups of translating devices, arranged as described, of a magnet energized by the current supplying each group and provided with an armature-lever whose motion opens or closes a circuit to vary the current energizing the field-magnets of said machine, substantially as set forth.

5. The combination of the field-magnet of a dynamo-electric machine placed in a multiple-arc circuit, the armature of said ma-

chine placed in another multiple-arc circuit, groups of translating devices placed in other multiple-arc circuits, said multiple-arc circuits being all derived from the same main conductors, and means in connection with each group for regulating the current energizing the field-magnet of the machine, acting automatically upon the addition or removal of translating devices in the group, substantially as set forth.

264,670. REGULATOR FOR DYNAMO-ELECTRIC MACHINES. THOMAS A. EDISON, Menlo Park, N. J. Filed Aug. 7, 1882. (No model.)



Claim.—1. The combination, with a dynamo or magneto electric machine, of translating devices located in multiple-arc circuits from its main conductors, an adjustable resistance in one of such main conductors, an electro-magnet located in a multiple-arc circuit, and mechanism operated or controlled by said electro-magnet for throwing such resistance into and out of the main line, substantially as set forth.

2. The combination, with a dynamo or magneto electric machine and translating devices in multiple-arc circuits, of an adjustable resistance in the main line, an electro-magnet in a multiple-arc circuit, circuits closed at the front and back contacts of the armature-lever of said electro-magnet, and mechanism included in said circuits for throwing such resistance into and out of the main line, substantially as set forth.

3. The combination, with a dynamo or magneto electric machine and translating devices in multiple-arc circuits, of an adjustable resistance in the main line, two electro-magnets, pawl-and-ratchet mechanism worked by such electro-magnets, a contact-arm moved thereby in opposite directions, an electro-magnet in multiple arc, the armature of which closes at its front and back contact a circuit through one or the other of such two electro-magnets, and a circuit breaker or breakers in circuit with said two electro-magnets, substantially as set forth.

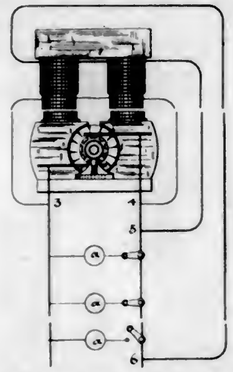
4. The combination, with a dynamo or magneto electric machine and translating devices in multiple arc, of an adjustable resistance in the main line, an electro-magnet, and mechanism operated or controlled by said electro-magnet for throwing such resistance into and out of the main line, said electro-magnet being located in a multiple-arc circuit connected with the main conductors beyond such resistance, substantially as set forth.

5. The combination, with a dynamo or magneto electric machine and translating devices in multiple arc, of an adjustable resistance in the main line and the field-of-force circuit of the machine connected with the main conductors beyond such adjustable resistance, substantially as set forth.

6. The combination, with a dynamo or magneto electric machine and translating devices in multiple arc, of an adjustable resistance in the main line, an electro-magnet located in a multiple-arc circuit beyond the resistance, mechanism operated or controlled by said electro-magnet for throwing such resistance into and out of the main line, and the field-of-force circuit of the machine connected with the main conductors beyond such resistance, substantially as set forth.

264,671. REGULATOR FOR DYNAMO-ELECTRIC MACHINES. THOMAS A. EDISON, Menlo Park, N. J. Filed Aug. 7, 1882. (No model.)

264,671.



Claim.—1. The combination, with the field-magnet of a dynamo or magneto electric machine and translating devices in multiple-arc or derived circuits from the main conductors thereof, of a shunt-circuit from one of the main conductors for energizing said field-magnet, the current in such shunt being dependent upon the number of translating devices in circuit, substantially as set forth.

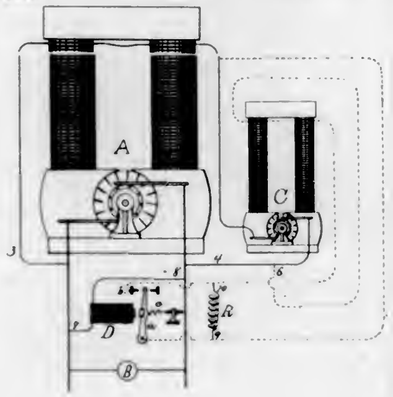
2. The combination, with a dynamo or magneto electric machine, of a circuit for primarily energizing the field-magnet and another field-circuit formed by a shunt from one main conductor, the current in which is controlled by the number of translating devices in circuit for automatically regulating the strength of the field-circuit in direct proportion to the number of translating devices, substantially as set forth.

3. A dynamo or magneto electric machine supplying translating devices arranged in multiple-arc circuits, in combination with a shunt-circuit from one of the main conductors of the machine around the multiple-arc connections therewith, for increasing the strength of the field-magnet, and another circuit for primarily energizing the field-magnet, substantially as set forth.

4. The combination of a multiple-arc circuit from the main conductors for primarily energizing the field-magnet and the shunt-circuit from one of such main conductors around the multiple-arc connections therewith, for increasing the strength of such field-magnet, substantially as set forth.

5. The combination of a multiple-arc circuit containing a portion of the coils of the field-magnet of a dynamo-electric machine, a multiple-arc circuit containing the armature of said machine, multiple-arc circuits containing lamps or other translating devices, (all these multiple-arc circuits being derived from the same main conductors,) and a shunt-circuit from one of said main conductors, including a portion of the coils of said field-magnet, the current in said shunt being dependent upon the number of translating devices in circuit, substantially as set forth.

264,672. REGULATOR FOR DYNAMO-ELECTRIC MACHINES. THOMAS A. EDISON, Menlo Park, N. J. Filed Aug. 7, 1882. (No model.)



264,671. REGULATOR FOR DYNAMO-ELECTRIC MACHINES. THOMAS A. EDISON, Menlo Park, N. J. Filed Aug. 7, 1882. (No model.)

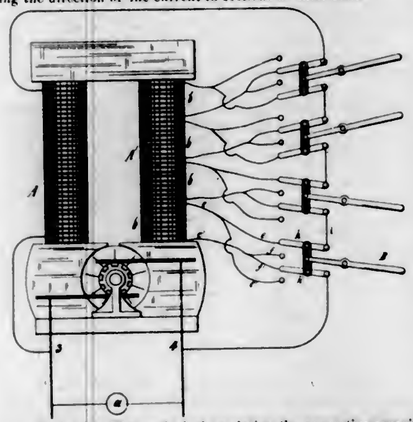
Claim.—1. The combination, with a dynamo or magneto electric machine, of an electro-dynamic motor arranged in the field-circuit of such generator, and means in a separate multiple-arc circuit operated by the current for controlling the field-circuit of the motor, substantially as set forth.

2. The combination, with a dynamo or magneto electric machine, of an electro-dynamic motor arranged in the field-circuit of the generator, and an electro-magnet located in a multiple-arc circuit from the main conductors of the generator, and arranged to control directly or indirectly the field-circuit of the motor, substantially as set forth.

3. The combination, with a dynamo or magneto electric machine, of an electro-dynamic motor arranged in the field-circuit of the generator, a vibrating electro-magnetic circuit-controller controlling the field-circuit of the motor, and a shunt of high resistance around such vibrating circuit-controller, substantially as set forth.

264,673. REGULATOR FOR DYNAMO-ELECTRIC MACHINES. THOMAS A. EDISON, Menlo Park, N. J., assignor to the Edison Electric Light Company, New York, N. Y. Filed Nov. 28, 1881. Renewed Aug. 14, 1882. (No model.)

Brief.—Regulates the strength of the field-magnets by reversing the direction of the current in sections of their coils.

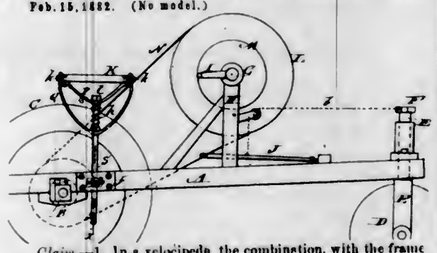


Claim.—1. The method of regulating the generative capacity of magneto or dynamo electric machines, consisting in reversing the polarity of the current in a greater or less portion of the coils of their field-magnets, substantially as set forth.

2. The combination, with a field-magnet of a dynamo or magneto electric machine, of means for reversing the polarity of the current in a greater or less portion of the coils of the magnet, substantially as set forth.

3. A dynamo or magneto electric machine having one or both of the limbs of its field-magnet wound in separate sections of wire, each section including a circuit-reverser, substantially as set forth.

264,674. TRICYCLE. JOHN A. EDMONDS, Camden, Del. Filed Feb. 15, 1882. (No model.)



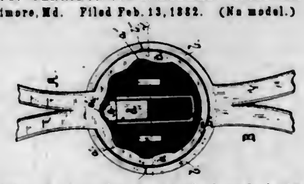
Claim.—1. In a velocipede, the combination, with the frame A, the main axle B, provided with the pulley L' M, the drive-wheels C, and the steering-wheel D, of the standards H, secured to the side bars of the frame, the shaft G, journaled in the upper ends of the said standards, and provided with the cranks I and the pulleys L' M, the belt N, and means for operating the steering-wheel, substantially as herein shown and described.

2. In a velocipede, the combination, with the steering-wheel D, the post E, and the lever F on the upper end of the said post, of the treadles J J and the rods or chains *b*, substantially as herein shown and described, whereby the said steering-wheel is controlled by the feet of the rider, as set forth.

3. In a velocipede, the combination, with the frame A, of the seat supporting spring-standards G, the boxes *f*, and the screw-clamp *g*, substantially as herein shown and described, whereby the seat can be raised or lowered, as set forth.

4. The combination, with the spring-standards S S of the seat K, of the inner braces, P P, bolted to the seat, the outer braces, Q Q, secured by bolts or pivots *k k* to the front and back sides or edges of the seat, and constructed to receive the standards S S freely through them, and the springs *h h*, arranged between said braces P Q, and made to rest or bear upon a collar or projection on the standards, whereby provision is made for the elastic adjustment of the seat in various directions, substantially as herein described.

264,675. CARRIAGE-TOP STANDARD. C. CALVERT KORNTON, Baltimore, Md. Filed Feb. 13, 1882. (No model.)

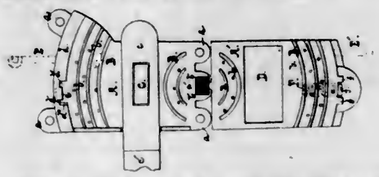


Claim.—1. A carriage-top standard made in two parts, one of which is provided with an annular rib and a spring-bolt, the other part terminating in a ring adapted to fit and turn within the said rib, as set forth.

2. A carriage-top standard made in two parts, one of which terminates in a disk having a lateral flange or rib and a spring-bolt, the other part terminating in an internally-fluted ring arranged to fit and turn within the said rib, and having a cover to hold it in place, as set forth.

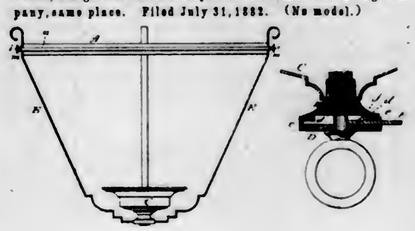
3. In combination with the disk having annular rib, guides D, and rivet *c*, the internally-corrugated ring, spring-bolt *d*, and cover-plate, the parts being connected, as described, to the two members of the standard.

264,676. SEAL-LOCK FOR MAIL-BAGS. C. CALVERT KORNTON, Baltimore, Md. Filed June 14, 1882. (Model.)



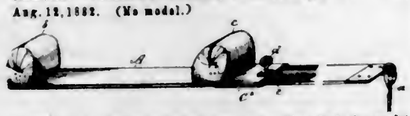
Claim.—In a mail-bag lock, the combination, with two plates hinged and pivoted together and adapted to clasp between them the fastening-strap or address seal-tag, of an under-cut flange, *d*, having slots *d'*, a beveled shoulder, *d''*, and a socket below the flange on one plate and lugs *f* and a spring-lip, *f'*, on the other plate, whereby when one plate closes against the other the two are strongly secured from opening by the action of the hinge by the engagement of the lugs under the under-cut flange, and are prevented from lateral movement on the pivot by the engagement of the spring-lip with the socket below the flange, as set forth.

264,677. HANGING LAMP. CHARLES A. EVARTS, Meriden, Conn., assignor to the Bradley & Hubbard Manufacturing Company, same place. Filed July 31, 1882. (No model.)



Claim.—In a hanging lamp, the combination of the base B, the clamping-collar D, and the supports extending from the base to the shade-ring, the said base and collar or plate constructed to form a radial seat for each of the supports, and a shoulder and projection to engage the supports with the base to prevent radial movement, substantially as described.

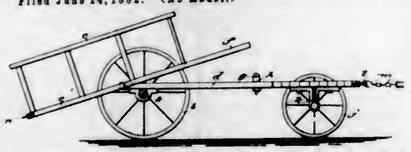
264,678. BRACE TO PREVENT ROLLING IN BEDS OR BERTHS. WILLIAM B. FARRAR, Greensborough, N. C. Filed Aug. 12, 1882. (No model.)



Claim.—1. A body-brace to prevent rolling in bed, consisting of a bar having a loose connection with a support on the side of the bed, and provided with two pads or projections adapted to be used as described.

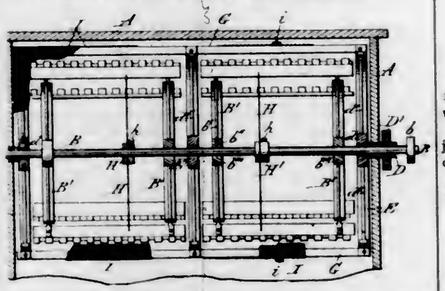
2. The combination of the bar A, having a loose connection, *a*, with the stationary pad *b* and adjustable pad *c*, the latter having an inclosing plate, *c'*, tongue *c*, and set-screw *d*, as and for the purpose described.

264,679. DUMPING-CART. JOHN H. FERGUSON, Dayton, Tenn. Filed June 24, 1882. (No model.)



Claim.—A three-wheeled vehicle having the dumping-body *e* provided with the short shafts *d*, with the wheel *j* journaled between them, and provided at their forward ends with hooks *i*, as shown and set forth, and for the purpose described.

264,680. FLOUR BOLT OR DRESSER. LOUIS B. FISCHTER, Minneapolis, Minn. Filed Apr. 11, 1882. (No model.)



Claim.—1. In a flour-bolt or flour-dresser, the combination of sleeves D, shaft B, arms *d'*, rings E, brackets F, and bolt-cloth ribs G, constructed and operating substantially as described.

2. In a flour-bolt or flour-dresser, the combination of the shaft B, hubs *b'''*, radial arms *b'*, rings B', beater-ribs *b⁴*, and beaters C, constructed and operating substantially as and for the purposes described.

3. The combination of the shaft B, beaters C, supporting rings B', and the radial arms *b'*, secured to said shaft and passing through the rings, substantially as and for the purposes described.

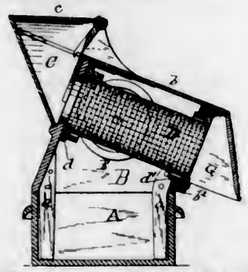
4. The shaft B and annular and adjustable partitions H, in combination with the arms *b'*, carrying beaters C, substantially as and for the purposes described.

5. The combination, with shaft and beaters, of radial arms *b'* of a beater-reel, in a flour-dresser, having the top ends angular or bent, and are reversible, so as to present the angular face to which the beater-ribs are secured to work in either direction of revolution, as set forth.

6. The adjustable sockets F, having the flanges *f'* and slots *f'''*, and the ribs G, in combination with the rings E of a flour-bolt, substantially as described.

7. In a flour-bolt or flour-dresser such as above described, the combination of the shaft B, the hubs *b'''*, secured thereto, the radial and reversible arms *b'*, bent at their top ends to receive ribs *b⁵*, and the beaters C, with the outer bolt-cloth reel composed of the sleeves D, arms *d'*, rings E, ribs G, and bolt-cloth I, substantially as and for the purposes described.

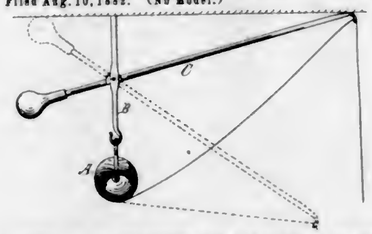
264,681. ASH-SIFTER. WALTER S. FOWLER, Sherwood, N. Y. Filed Apr. 6, 1882. (Model.)



Claim.—1. The combination of the screen D, having flanged rim *d* and flangeless rim *d'*, with the case B, having the rolls *b'* *b²* *b³*, crank-shaft F, and wheel E, substantially as shown and described.

2. A sifter consisting of receptacle A, case B, screen D, rolls *b'* *b²* *b³*, top *b*, and chutes C and G, crank-shaft F, and wheel E, substantially as shown and described.

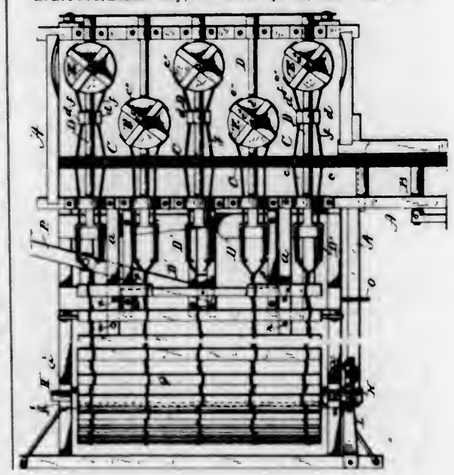
264,682. TWINE-HOLDER. FRANKLIN P. FRENCH, Humboldt, Iowa, assignor of one-half to Edward Emerson, same place. Filed Aug. 10, 1882. (No model.)



Claim.—1. In combination with a twine-holder, an overbalanced twine-carrying lever suspended from the ceiling at a convenient point over the counter, for the purpose set forth.

2. In combination with a twine-holder, the downwardly-projecting rod B, supporting the twine-holder and provided with an overbalanced carrying-lever, C, substantially as shown.

264,683. MACHINE FOR MANUFACTURING FENCES. WM H. H. FRYE, Kansas City, Mo. Filed Apr. 29, 1882. (Model.)



Claim.—1. In a wire-fence-paling machine, the combination of shafts D, having wire-spools E, as described, one on each side, guide-bosses G, and arm D', combined with gears C, having wire-holes *c*, substantially in the manner and for the purposes set forth.

2. In a wire-fence-paling machine, the combination of the wire-twisting mechanism, as described, with the lever P, having arms *p*, the timbers *a*, having holes which guide the studs *n*, and lever O, substantially as described.

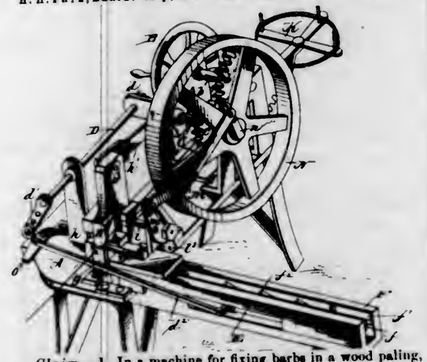
3. In combination with shaft D, a wire-spool, E, consisting of spindle *e*, bottom plate, *e'*, arms *e''*, cover *e²*, spider *e³*, and clamping-nut *e⁴*, substantially as set forth.

4. In a wire-fence-paling machine, the combination of the wire-twisting mechanism, as described, with shaft H, having a removable key, *h'*, pawl I, ratchet *k*, treadle *i*, and detent L, substantially as and for the purposes set forth.

5. In a wire-and-paling-fence machine, substantially as described, the spooling or baling shaft H, detachable and provided with ears *h*, and a removable rod or key-piece, *h'*, substantially as described.

6. In a wire-fence-paling machine, the combination of shafts D, having wire-spools E, guide-bosses G, and arms D', the gear-wheels C, having wire-holes *c*, the lever P and arms *p*, the lever O and studs, with the shaft H, the pawl I, ratchet *k*, and the treadle *i*, substantially as described.

264,684. MACHINE FOR BARBING FENCE-PALINGS. WM. H. H. FRYE, Kansas City, Mo. Filed July 7, 1882. (Model.)

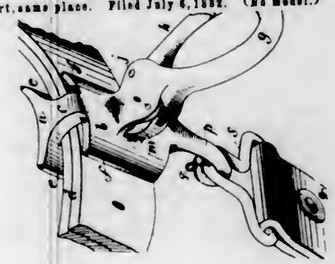


Claim.—1. In a machine for fixing barbs in a wood paling, the trough F, having paling-feeding devices, operated by the rod *d'*, as described, in combination with mechanism constructed and arranged to feed the barbs against and through the paling and mechanism for cutting off the barbs, and means for regularly and automatically operating said elements, substantially as described.

2. In a fence-paling-barbing machine, the combination of the following elements, viz: a feed for the paling, a feed for the barb-wire arranged to feed the wire against and force it through the paling, and a knife arranged to cut off the barb from the wire, and means for automatically operating the elements in combination at regular intervals, substantially as described.

3. In a fence-paling-barbing machine, the combination of the following elements, viz: a feed for the paling, a feed for the barb-wire arranged to feed the wire against and force it through the paling, and means for automatically operating the elements in combination at regular intervals, substantially as described.

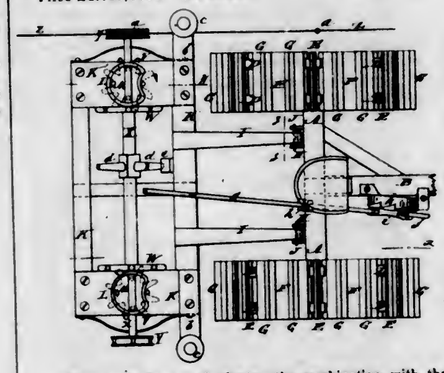
264,685. BREAST-STRAP SLIDE AND HOOK. CYRUS R. FURRY, Logansport, Ind., assignor to himself and John H. Barnhart, same place. Filed July 6, 1882. (No model.)



Claim.—1. The herein-described breast-strap slide, consisting of the inner plate, *a*, having the inwardly-curved side extensions, *e*, the connecting-bars *c*, and the outer plate, *b*, having curved side extensions, *f*, and provided with the pole-strap hook *g* and a martingale-hook, *p*, as set forth.

2. The combination, with the outer plate, *b*, of a breast-strap slide, provided with the recessed hook *g*, of the latch *h*, provided with the projection *l* and pivoted in the recess of the said hook, the spring *i*, coiled around the pivot *j* of the said latch, the curved latch *m*, pivoted in the opposite side of the recess of the hook, and having an inwardly-projecting end, *m'*, abutting against the projection *l* of the latch *h*, and the spring *m*, coiled around the pivot *o* of the said latch, substantially as and for the purpose set forth.

264,686. SEED-PLANTER. WILLIAM P. GEBB, Parsons, Kans. Filed Mar. 23, 1882. (No model.)

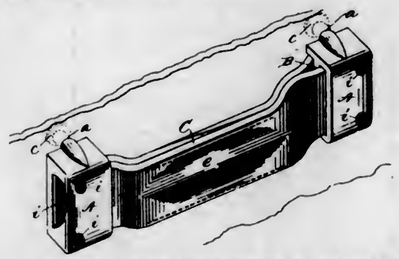


Claim.—1. In a seed-planter, the combination, with the grooved outer ends of the drive-wheel spokes D, of the knives E and the blocks F, carrying knives G, substantially as herein shown and described, whereby the soil in the line of the rows of hills will be pulverized, as set forth.

2. In a seed-planter, the combination, with seed-boxes I, the seed-dropping wheels M, the cog-wheel V, the chain-wheels Y, and the knotted rope Z, of the shaft X, provided with the cog-wheel W, and the radial arms *d*, and the spring *e*, substantially as and for the purpose set forth.

3. In a seed-planter, the combination, with the planter-frame K and the foot N, of the gage-plate O, having its lower end forked to receive the foot, and extended beyond the same to form coverers P and colter Q, secured to said gage-plate and foot, substantially as and for the purpose set forth.

264,687. TRUNK-HANDLE. WILLIAM GOODISON, Honvelton, N. Y. Filed June 29, 1882. (No model.)

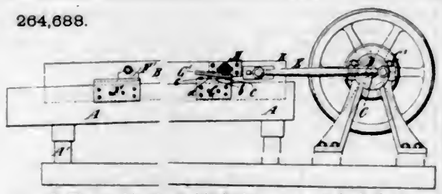


Claim.—The bracket A, having studs *a a'* and cross-bar B, in combination with the strap-handle C, as and for the purpose set forth.

264,688. STARCH-SEPARATOR. PAUL H. GRIMM, Glen Cove, N. Y., assignor to the Glen Cove Manufacturing Company, same place. Filed July 24, 1882. (No model.)

Claim.—1. The combination, with the box or receptacle A, the screen B, and devices for reciprocating said screen, of one or more tilting or rocking bearings, C', and one or more rollers or runners, H, substantially as and for the purpose specified.

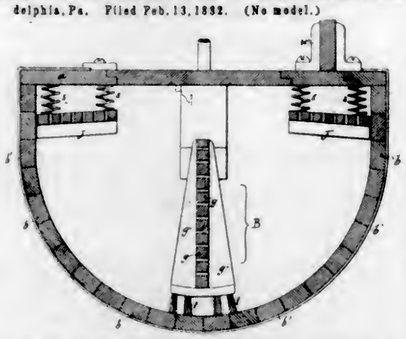
264,688.



2. The combination, with the box or receptacle A, the screen B, and devices for reciprocating the screen, of the tilting or rocking bearings G', attached to the box or receptacle, and the rollers or runners H upon the screen, substantially as and for the purpose specified.

3. The combination, with the box or receptacle A, screen B, and devices for reciprocating said screen, of the pieces or plates G, the tilting or rocking bearings G', the cushions *c*, and the rollers or runners H, substantially as and for the purpose specified.

264,689. WASHING-MACHINE. JOSEPH O. HACKNEY, Philadelphia, Pa. Filed Feb. 13, 1882. (No model.)



Claim.—1. The combination of the dasher and its shafts, each of the latter having a flange, *i*, with the tub having shaft-boxes and external receptacles, *h*, as specified.

2. The combination of the trestle, the operating-lever G, the segments *n*, secured thereto and pivoted to bearings on the trestle, the tub detachable from the trestle, and the dasher having shafts *e*, with segments *m*, adapted to engage with the segments *n*, as set forth.

3. The combination of the tub having a draining-opening, whereby the water is prevented from rising above a certain level, a vibrating dasher, and an abutment located above the level of the water in the tub, whereby the clothes are subjected to pressure after being raised from the water, as set forth.

4. The combination of the segmental tub with the vibrating dasher having a brush, *l*, as set forth.

264,690. OVERALLS. NICHOLAS J. HAMILTON, Chatham, Ky. Filed June 18, 1882. (No model.)

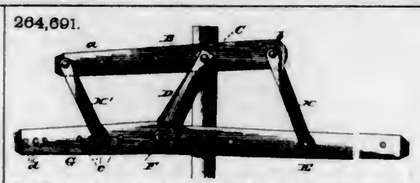


Claim.—The overalls formed of the pants A, having the waist-band *a*, provided with projecting ends *a'*, and having the seat cut away, and of the body B, provided with arms *b*, neckband *b'*, and body-band *b*², substantially as shown and described.

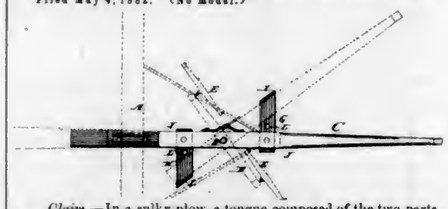
264,691. DRAFT-EQUALIZER. DAVID M. HABERADER, Pittsfield, Ill. Filed July 1, 1882. (No model.)

Claim.—The draft-equalizer consisting of the evener-bar B, the Z-shaped tongue-plate D, pivoted to the tongue and to the evener-bar, the long and short lever-arms E and G, pivoted by their inner ends to each other and to the front part of the tongue-plate, and the draft-straps connecting the lever-arms to the evener-bar, whereby the arms E and G will have some lateral play, but will be prevented by the stop *z* of the tongue-plate from moving toward the single horse when the stop engages the side of the tongue, substantially as specified.

264,691.

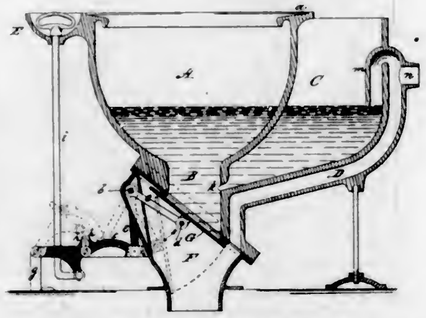


264,692. SULKY-PLOW. THOMAS T. HARRISON, Aubrey, Kans. Filed May 4, 1882. (No model.)



Claim.—In a sulky-plow, a tongue composed of the two parts B C, pivoted together, and provided with the stops G H I J, adjustably secured to the stationary part B, substantially as and for the purpose set forth.

264,693. WATER-CLOSET. JAMES HAY and ROBERT H. LECKY, Allegheny, Pa. Filed Jan. 10, 1882. (No model.)



Claim.—1. In a water-closet of the described class, a bowl, A, having a neck, B, depending vertically from the center of the bottom thereof with its lower edge inclined, in combination with a swinging valve, C, adapted to close against said inclined lower edge, substantially as described.

2. In a water-closet provided with a flooding-cistern, and having a valve closing against the lower edge of the neck and opening downwardly and away to one side of the neck or trunk, an opening, *k*, into the neck from the cistern at a point above and opposite the valve, substantially as described, whereby a jet in flooding impinges directly upon said valve and cleanses the same.

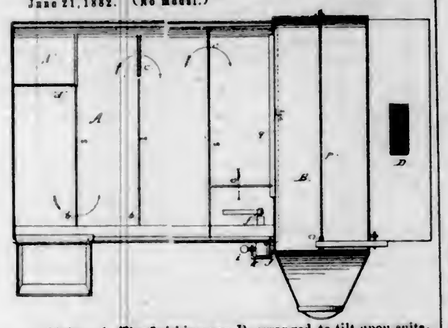
3. The combination, with the valve and the pull-rod, of two interposed toggles, *f f'*, having the locking-abutments *h*, substantially as described.

4. The combination, with neck B, valve G, and rod *i*, of the interposed toggles *f f'*, having abutments *h*, the arms *c*, shaft *b*, and cranks *e*, substantially as described.

5. In a water-closet, the bowl A, having central vertical neck, B, cistern C, overflow-pipe D, trap *m*, and air-vent *n*, all in one integral piece, substantially as described.

6. In a water-closet, the bowl A, having formed integral therewith the pull-socket E, substantially as described.

264,694. APPARATUS USED IN EVAPORATING SACCHARINE JUICES. CLINTON C. HAYNES, Wilmington, Vt. Filed June 21, 1882. (No model.)



Claim.—1. The finishing-pan B, arranged to tilt upon suitable bearings fixed in connection with furnace-wall and the adjoining evaporating-pan, in combination with the lifting device composed of the post *n*, provided with an overhanging arm, the pulley O, and a suitable cord passing over the latter and connected with the heavy end of the said evaporating-pan, as and for the purpose set forth.

2. The combination, with an evaporating-pan provided with partitions, as described, of the L-shaped partitions adapted for use in forming separate apartments at suitable points in said pan, as and for the purpose specified.

3. The finishing-pan B, in combination with the evaporating-pan A and the jointed connecting-pipes *f f'*, all constructed and arranged as and for the purpose set forth.

4. The combination, with a furnace for sugar-evaporation, of the adjustable plate D², as and for the purpose set forth.

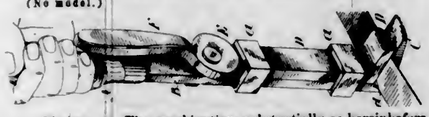
5. The combination, with the tilting finishing-pan B, of the crane *n*, and a suitable cord and pulley arranged in connection with said crane, substantially as and for the purpose set forth.

264,695. INKSTAND. GEORGE H. HERBEL, Middletown, Ohio, assignor of two-thirds to ANNA C. Henkel and Chris. J. Albert, both of Germantown, Ohio. Filed Apr. 6, 1882. (No model.)



Claim.—An ink-well having the cap D, provided with gasket E and fastening-screws C, which occupy notches *d d'*, and having a dip-hole, F, with raised margin *f*, in combination with cover or button G, secured to the said cap by pivot-screw H, and with spring or cushion I, and the notched swell or rib M as upon the cap D, substantially as set forth.

264,696. COTTON-BALE OPENER. JAMES P. HILLARD, Fall River, Mass. Filed Dec. 31, 1881. Renewed Aug. 25, 1882. (No model.)

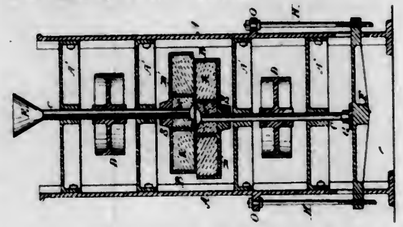


Claim.—1. The combination, substantially as hereinbefore set forth, of the two jaws, movable to and from one another and formed with interior opposite faces beveled toward one side and terminating at the opposite side in biting-edges.

2. The combination, substantially as set forth, with the upper jaw, of the lower jaw, formed with a wedge-shape or tapering outer end, which is prolonged so as to project beyond the upper jaw.

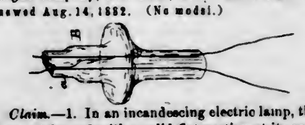
3. The lower jaw and its shank, in combination with the upper jaw, mounted and adapted to slide on the said shank, and the eccentric and lever handle for operating said upper jaw, under the arrangement and for joint operation substantially as hereinbefore set forth.

264,697. GRINDING-MILL. JOSEPH E. HOLMES, Washington, D. C. Filed Apr. 4, 1881. (No model.)



Claim.—The combination, with frame A A, provided with the bearing-beam F, of the grinding-disks B B, constructed and arranged substantially as described, the vertical rotating shafts C C, secured firmly to the centers of said disks and arranged eccentric to each other, and the pulleys D D, provided upon said shafts, whereby a positive motion is imparted to the disks in opposite directions, as and for the purposes specified.

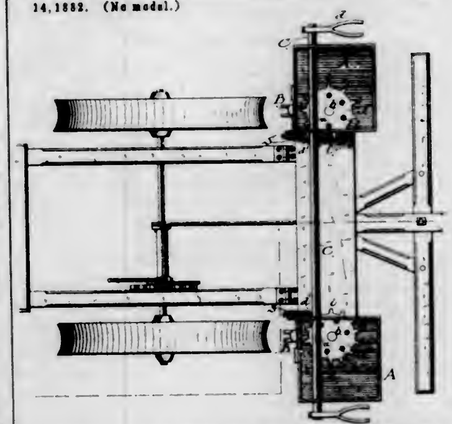
264,698. ELECTRIC LAMP. WILLIAM HOLDEN, Menlo Park, N. J., assignor, by mesne assignments, to the Edison Electric Light Company, New York, N. Y. Filed Nov. 28, 1881. Renewed Aug. 14, 1882. (No model.)



Claim.—1. In an incandescing electric lamp, the central tube or support formed with a solid flat portion at its upper extremity, through which the leading-in conductors pass and in which they are sealed, substantially as set forth.

2. The method of sealing the leading-in conductors into the central tubular carbon-support of an incandescing electric lamp, consisting in squeezing the open upper end of the tube upon such conductors, and at the same time closing air tight such end of the tube, substantially as set forth.

264,699. CHECK-ROW PLANTER. AUSTIN S. HOUCK, EDWIN HOUCK, and ANDREW M. GREBERLE, Bedford, Iowa. Filed July 14, 1882. (No model.)

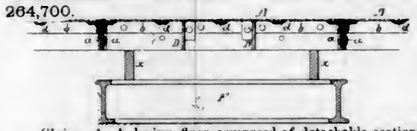


Claim.—1. In a seeder and planter, a rock-shaft passing through the boxes A A, and retracting-springs S S, in combination with a device adapted to engage the projections on a check-rower and operating the feeding-plate, for the purpose set forth.

2. The boxes A and rock-shaft C, provided with bifurcated arms *d d* and downwardly-projecting arms *d' d'*, in combination with the revolving perforated sprocket-wheel J and pawl *e*, all constructed, arranged, and operated as described.

264,700. DRYING-FLOOR FOR MALT-KILNS. WILLIAM H. HUGHES, Philadelphia, Pa. Filed May 25, 1882. (No model.)

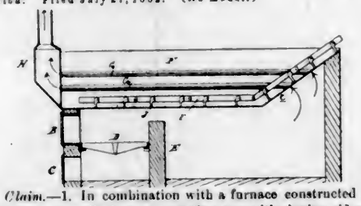
264,700.



Claim.—1. A drying-floor composed of detachable sections, in each of which a quadrangular frame having an internal ledge is combined with a perforated plate, A, bearing on and secured to the ledge, so that the upper surface of one section shall be flush with the upper surface of the other sections, all as set forth.

2. The combination of the supporting-frame B, having openings *f*, with the plate A, having projecting wires *e*, adapted to said openings, as set forth.

264,701. SALT-EVAPORATOR. ANDREW JOHNSON, Saginaw, Mich. Filed July 27, 1882. (No model.)



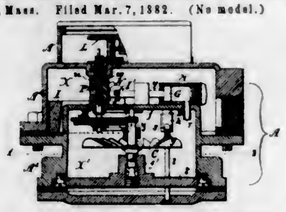
Claim.—1. In combination with a furnace constructed substantially as described, an evaporating-pan with sloping sides and rear end and provided with return-flues, substantially as and for the purposes described.

2. In combination with a furnace substantially as described, an evaporating-pan with sloping sides and rear end and provided with return-flues, the rear ends of which are inclined outwardly from the center of the pan to allow the removal of the salt from the bottom thereof, substantially as specified.

3. In combination with a furnace substantially as described, an evaporating-pan with sloping sides and rear end and provided with return-flues, and the scrapers adapted by mechanical means to remove the salt from the bottom of the pan, substantially as set forth.

4. In combination with a furnace substantially as described, and with an evaporating-pan with sloping sides and rear end, having return-flues therein, the scrapers and rakes, substantially as and for the purposes described.

264,702. ROTARY WATER-METER. JONATHAN JOHNSON, Lowell, Mass. Filed Mar. 7, 1882. (No model.)



Claim.—1. A fluid-meter provided with a bladed wheel gearing with the registering mechanism, with two or more independent passages of different sizes for injecting streams of water upon said wheel, and valves controlling the flow of water to the larger passage only, and an automatic device whereby the said larger passage is opened in proportion to the amount of water required, substantially as set forth.

2. The combination, with a fluid-meter, provided with registering mechanism and a driving-wheel actuated by the passage of fluid through the meter, of a supplemental tube, affording a passage for a small stream, whereby the wheel is revolved when the main passage is closed, for the purpose set forth.

3. The combination, in a meter, with one or more valves controlling the main fluid-passage, of a regulating device communicating with the chambers connected by such passage, and provided with a piston and with openings whereby the pressure of fluid in the two chambers is brought upon opposite sides of the piston, for the purpose set forth.

4. The combination, in a meter, of registering devices operated by a stream flowing through the meter, a valve controlling the said stream, and an independent regulating device connected to said valve and constructed to be operated by the varying pressure in the meter, as set forth.

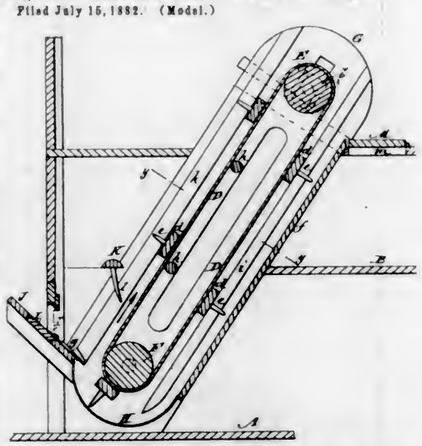
5. The combination of the valves E, controlling the main fluid-passages, and the cylinder, piston, and ports by which communications are established between the opposite ends of the cylinder and the chambers connected by said passages, and a weighted lever connected to the valves and piston, substantially as set forth.

6. The combination, in a fluid-meter, of the valves regulating the flow of fluid between the chambers connected by the main passages, an operating-wheel, C, and an independent tube, J, connecting the chambers, substantially as set forth.

7. The combination, with the tubes through which the operating-streams are injected upon the register-operating wheel, of adjustable nozzles and devices extending to the outside of the case and constructed to move said nozzles, substantially as described.

8. The case A^3, provided with a hollow stud, P, in combination with the perforated case A^4, packing *w*, arranged between a shoulder on the stud and the top of the case A^4, and screw-cap and packing upon the upper end of the stud, all in combination with the spindle N, driving-wheel and train, and registering devices, as specified.

264,703. COTTON-ELEVATOR. JORDAN F. JONES, Laurel, N. C. Filed July 15, 1882. (Model.)



Claim.—1. In combination with the inclined elevating-belt D, the door I, in the side of the building, constructed and arranged so that when thrown open it forms a feed-board or feed-board section to said belt, substantially as specified.

2. An elevator-box having the metallic screen extended around the entire arc within which the belt makes its turn around the bottom roll, F, as shown and described.

3. In an elevator, the combination, with the tooth-bars *d*, arranged across the belt, of the parallel strips *i*, receiving the teeth between them and the bars on them, substantially as and for the purpose set forth.

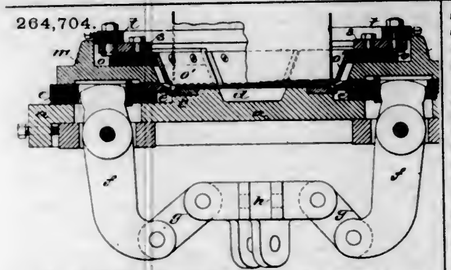
4. In combination with the box G and endless elevating-belt D, the beveled upper side strips, K, arranged to cover the edges of the belt, essentially as and for the purposes herein set forth.

5. The combination, with the box G and endless elevating-belt D, having toothed cross-bars *d*, of the stationary cross-bar K, provided with teeth *l*, and arranged in proximity to the lower or feeding end of the belt and over the same, substantially as and for the purposes specified.

264,704. CAN-SEAMING MACHINERY. EDMOND JORDAN, Brooklyn, assignor to Herman Miller, New York, N. Y. Filed Aug. 14, 1882. (No model.)

Claim.—1. In a seaming or squeezing machine for square or angular cans, the combination, with a series of squeezer-jaws, of a radial series of horizontally-sliding guide-jaws, *o*, arranged to slide in a common plane above the squeezer-jaws on lines radial with the corners of the can and having their inner or converging ends formed with recessed angular faces to span the corners or angles of the can, and with inclined pendent guiding-edges terminating above the edge of the squeezer-jaws, substantially as and for the purpose set forth.

264,704.



2. In a seaming-machine, the radially and horizontally-sliding guide-jaws *o o'*, in combination with a rotary operating ring, *t*, and connections between said ring and the several jaws, whereby the jaws are converged or diverged by a partial rotation of the ring, substantially as herein set forth.

3. The combination, with the horizontally-sliding guide-jaws *o o'*, of the rotary operating ring *t* and connecting toggle-links *s*, arranged and operating substantially as and for the purpose set forth.

4. The combination, with the radially-sliding jaws *o*, of the toggle-links *s* and the operating ring *t*, connecting with said links by the engagement of studs on said links in elongated holes in said ring, with the adjusting-screw *x*, bearing on said studs, substantially as and for the purpose set forth.

264,705. ORGAN-ACTION. WASHINGTON C. KANTNER, Reading, Pa. Filed Mar. 20, 1882. (No model.)



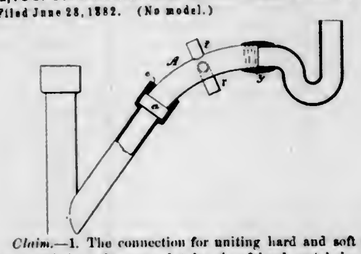
Claim.—1. In an organ-action for parlor reed or church pipe organs, a movable arrester-bar, G^3, secured to a rocker-bar, G, or its equivalent, by brackets thereon, and through which it has a longitudinal movement, provided with an arm, U, bent at right angles at the top and bifurcated, and adapted to be operated by the rods T T' T^2 and knee-pedal T^3, an arm, G^7, suitably placed and adapted to operate a shaft, g^3, an arm, g^4, in combination with a dial, g^5, and provided with a series of pins or perforations, which, in operating the bar, are thrown behind or between the tails of the bell-cranks or mute-levers F F' F^2, in combination with the grand-organ action, muter L, and swell M, substantially as and for the purpose specified.

2. In an organ-action, as described, the central combination knee-pedal, T^3, arranged and adapted to operate an adjustable arrester-bar, G^3, in combination with the rods T T' T^2, arm U, and the usual grand-organ or swell pedals, or a combination of the same, whereby the performer is enabled without manipulating the stop-draws to produce all the effect that the drawing of the same would produce, substantially as shown, described, and for the purpose specified.

3. In an organ-action, as described, the central knee-pedal, T^3, arranged and adapted to operate an adjustable combination or arrester-bar, G^3, in combination with the rocker-bar G, bell-cranks F F' F^2, pull-stops E, and modulator-blocks E^2, whereby, although a portion of the stops E may be drawn out, the performer, without removing his hands from the keys or ceasing to play, will, by the movement of the combination-pedal T^3, produce the same effect as he would have secured by the drawing out of the remaining pull-stops, or vice versa, substantially as and for the purpose set forth.

4. The combination, with the stop-levers F F' F^2 of an organ-action, as described, of the pedal T^3, grand-organ pedal R^3, bar G^3, having pins G^4, the rocking bar G, with its arm G^5, and the connecting-rods, all constructed and arranged to operate as set forth.

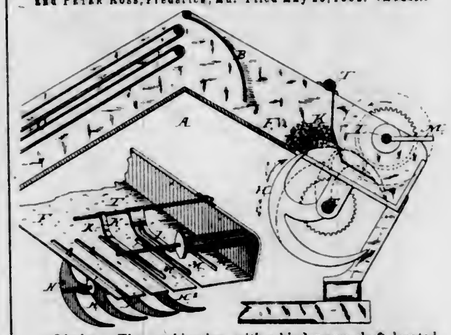
264,706. PIPE-CONNECTION. PATRICK KEILT, Brooklyn, N. Y. Filed June 28, 1882. (No model.)



Claim.—1. The connection for uniting hard and soft metal pipes, consisting of a curved tube, A, of hard metal, having a flange, *a*, at one end and adapted at the other to be united by soldering to the soft-metal pipe, substantially as set forth.

2. The flanged and curved hard-metal connecting-tube A, constructed as specified, and provided with branches *t*, for the purpose set forth.

264,707. GRAIN-BINDER ATTACHMENT. LEWIS G. KEMP and PETER ROSS, Frederick, Md. Filed May 25, 1882. (Model.)



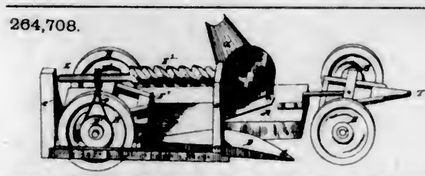
Claim.—The combination, with a binder-arm shaft located below the table and carrying cut-off arms, and the binder-arm and the outward and downward inclined overhanging yielding guards located above said table, the cut-off arms adapted to pass up through the guards, said guards and cut-off arms operating together, as described, of a rotary shaft located above the table and outside of the overhanging guards, and carrying the ejecting-arms operating to discharge the bound bundle as the arm and cut-off arms are being retracted below the table to admit the loose grain into the binding-receptacle, substantially as set forth.

264,708. CORN-HARVESTER. SAMUEL C. KENAGA, Kankakee, Ill., assignor of one-half to J. Smith Briggs and Charles H. Briggs, same place. Filed Oct. 15, 1881. (No model.)

Claim.—1. In a corn-harvester, a stationary flat knife, C, set nearly vertical, having a practically-straight upper cutting-edge arranged to strike the stalks as the harvester advances, and outwardly, rearwardly, and upwardly inclined, substantially as described.

2. In combination with the outwardly and rearwardly inclined stationary knife C, the guide D, arranged to direct the corn

264,708.



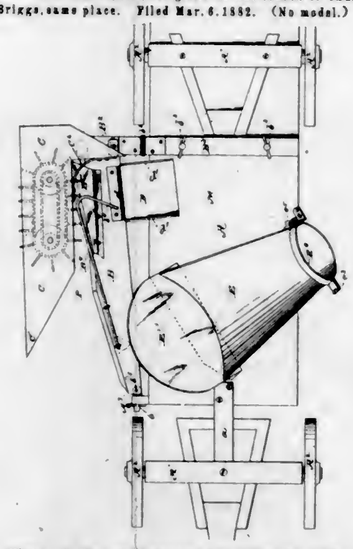
against the knife, but terminated in position to allow the corn to follow the edge of the knife after it is engaged thereby, substantially as described.

3. In combination with the outwardly and rearwardly inclined stationary cutter C, the spirally-flanged shaft E, arranged above and to cross the course of the knife, as shown.

4. In combination with the stationary knife C, set and arranged as shown, the inclined plate F, substantially as described, and for the purposes set forth.

5. The platform or bed A, provided with the cutter C, the guide D, and rotating and tilting shock-holder G, together with standing place for the operator, and adapted to be mounted on the axles of an ordinary farm-wagon to constitute a portable corn-harvester, substantially as set forth.

264,709. CORN-HARVESTER. SAMUEL C. KENAGA and J. SMITH BRIGGS, Kankakee, Ill., assignors of one-fourth to Charles H. Briggs, same place. Filed Mar. 6, 1882. (No model.)



Claim.—1. In a corn-harvester, the combination, with a wheel-supported bed, of a cutting mechanism embracing a knife and an opposing-guide bearing a fixed relation to the knife, said cutting mechanism being laterally self-adjusting to the position of the corn to be cut, substantially as described.

2. In combination with the wheel-supported bed A, the knife-carrier B, provided with an outer guide, said carrier being flexibly connected at its front end with the bed and supported so as to be laterally movable at its rear end by engagement with the standing corn, substantially as described.

3. In combination with the wheel-supported bed, the knife and its guides, connected with each other and together adjustable vertically with reference to the bed, substantially as described.

4. In combination with the laterally-projecting knife-carrier and its necessary guiding and cutting attachments, pivotally secured at its front end to the bed, an arm, B^3, arranged to support the rear end of the projecting structure and jointed at b^3, substantially as described.

5. In a corn-harvester, the combination, with a knife, B', of sweeps c^3, arranged to carry backward the corn-tops, and mechanism engaging with the lower portion of the standing corn, substantially as described, and for the purposes set forth.

6. In combination with the knife of a corn-harvester, the upright shafts C^2 C^3, provided with lower and upper pulleys, c and c', of which the upper ones are the larger, and the belts C^2 C^4, carried by said pulleys, and provided with projecting arms c^2 c^3, arranged and operated substantially as and for the purposes set forth.

7. The hinged receptacle D, in combination with the laterally-movable knife-carrier B and bed A, substantially as described.

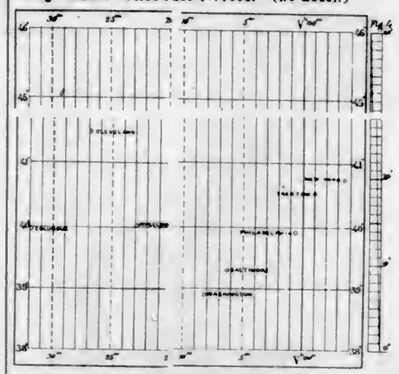
8. In combination with the laterally-projecting and independently-movable cutting-structure of a corn-harvester, a supporting-arm, B^2 B^3, having vertically-adjustable connection with the bed A, substantially as described.

9. In combination with the cutter and upper and lower sweeps, having unequal speeds, the guide B^4, for holding the corn in engagement with the upper sweep, substantially as described.

10. The combination, with the bed A of a corn-harvester, of the shock-holder arranged to deliver at the side of the bed, and adapted to follow the shock to the ground in a vertical position, and to recede with and rotate about the standing shock in the advance of the bed until clear of the shock, substantially as described.

11. In combination with the bed A and shock-holder E, the shaft E^2, rotating plate e, socket E^3, hinged to the plate e, and provided with the detachable fastening E^5, the trunnion E^4, hinged to the holder E, and the part E^6, arranged to engage the top of the shaft E^2, together arranged and operating substantially as described.

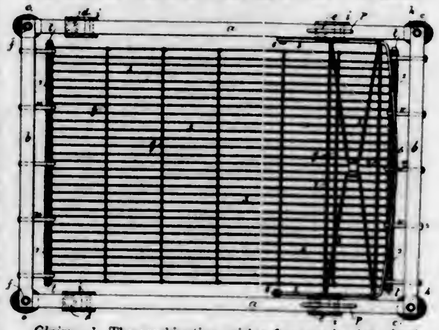
264,710. PROJECTION OF CHARTS. ERNST R. KNORR, Washington, D. C. Filed June 17, 1882. (No model.)



Claim.—1. A terrestrial map or chart on a plane or spherical projection, having its meridional lines named by units of hours and fractions thereof, substantially as described, and for the purpose set forth.

2. A terrestrial map or chart on a plane or spherical projection, and having its meridional lines drawn and named to indicate at a glance time in reference to an established meridian in minutes and seconds, substantially as set forth.

264,711. METALLIC BEDSTEAD OR LOUNGE. BERNARD J. LA MOTHE, New York, N. Y. Filed May 12, 1882. (No model.)



Claim.—1. The combination, with a frame, a b, of an elastic bottom made of longitudinal wires coiled at their ends, transverse rods passing through such coils, the hooks a and e, and the nuts 3,

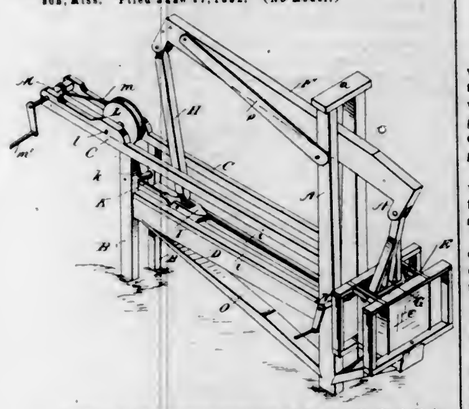
to place the longitudinal wires under tension, substantially as set forth.

2. The combination, in a bed-bottom, of the longitudinal and transverse wires, the longitudinal wires being crimped for receiving the transverse wires and the transverse rods and supporting-hooks, substantially as set forth.

3. The combination, with the bed-bottom, of wires and the tubular frame a b, the legs d and e, and the metallic joint-pieces i, connecting the legs to the tubes a, as and for the purposes set forth.

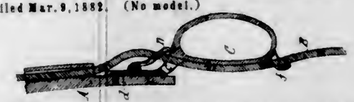
4. In combination with the bed-bottom of wires and the frame of tubes a b, the secondary frame, 5 7 8, pivoted at 6, and the cord or chain 10, for elevating the secondary frame, substantially as set forth.

264,712. HAY OR COTTON PRESS. JOHN A. LANHAM, Robertson, Miss. Filed June 17, 1882. (No model.)



Claim.—A baling-press consisting of the standards A B, lever F, pitman H, follower G, and bale-chamber E, in combination with the timber D, shoe I, guides i i, ropes m, n, and K, shafts N, M, and l, and pulley L, substantially as and for the purpose set forth.

264,713. NECK-STRAP BUCKLE AND REIN-RING. EMMIT G. LATTA, Friendship, N. Y., assignor of two-thirds to Adrian C. Latta, same place, and Harvey D. Blakesles, Buffalo, N. Y. Filed Mar. 9, 1882. (No model.)



Claim.—1. The guide-ring C, provided with a buckle, D, which is adapted to receive and hold one end of the neck-strap, and which is provided with a plate, d, or equivalent means, whereby it is attached to the other end of the neck-strap, substantially as set forth.

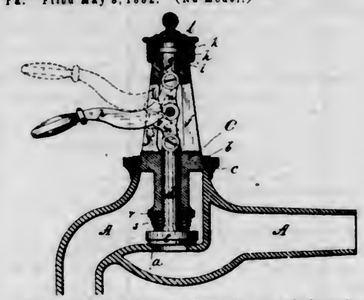
2. The combination, with the guide-ring C, of the buckle D, formed on the ring C, and provided with a plate, d, or equivalent means, whereby the buckle can be secured to the part A of the neck-strap, and a loop, f, through which the part B of the neck-strap can be drawn, substantially as set forth.

264,714. PROCESS OF MANUFACTURING OLEOMARGARINE BUTTER. HENRY LAURENTI, New York, N. Y. Filed June 9, 1882. (No specimens.)

Claim.—1. The hereinbefore-described improvement in the art of manufacturing oleomargarine butter, which consists in partly churning the soured milk or cream until it reaches the consistency specified, separating the whey or thin liquid from the creamy thicker portion, mixing the latter with the oleomargarine, and churning the mixture, substantially as set forth.

2. The described process of making oleomargarine butter, which consists in mixing oleomargarine preliminarily prepared by agitating or beating it, substantially as described, and the product obtained by separating the thicker portion from the whey of partly-churned milk or cream, churning the mixture, adding coloring-matter, and also flavoring-matter, if desired, and finally salting and working the same, as hereinbefore set forth.

264,715. COMPRESSION-COCK. ROBERT H. LECKY, Allegheny, Pa. Filed May 8, 1882. (No model.)



Claim.—1. In a compression-cock, an axially-reciprocating valve and an adjustably-fixed fulcrum, in combination with two toggle-levers interposed between and pivoted to said fulcrum and valve or valve-stem, the pivotal points of connection of said toggles to the said valve and fulcrum being on the axis of movement of said valve, and suitable means of operating either of said toggle-levers, substantially as described.

2. In a compression-cock, the combination of a reciprocating valve, e, having stem d, stem-guide C, independent pin g, and the toggles m n, interposed and forming the sole connection between said stem d and pin g, substantially as described.

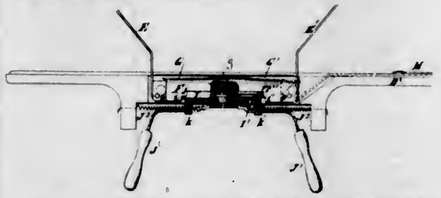
3. In a compression-cock, the combination, with the reciprocating valve e, having stem d, of the toggles m n, pin g, having collar K, stem-guide C, spring i, and adjustable cap-nut l, substantially as described.

4. In a compression-cock, the combination, with the pin g and valve-stem d, of the abutting toggles m n, toggle m, having the shoulder or abutment o, and toggle n, having the handle p.

5. In a compression-cock, the combination of the post C, having radial slots f, with valve-stem d, toggles m n, a fixed fulcrum for said toggles, and a projecting handle, p, substantially as described.

6. In a compression-cock, the combination of bib A, post C, having flange c, cap b, valve-stem d, valve e, washer r, and spring s, substantially as described, with suitable means for reciprocating said valve-stem.

264,716. MUSIC-LEAF TURNER. WILLIAM LIDDELL, New York, N. Y., assignor of one-half to Robert Gair, same place. Filed Mar. 29, 1882. (No model.)



Claim.—1. The rack consisting of the bottom rail, D^2, notched top rail, D^1, staff D D', block d, and cords D^3, substantially as specified.

2. The rack consisting of the bottom rail, D^2, notched top rail, D^1, staff D D', block d, cords D^3, and rod D^4, substantially as specified.

3. In a music-leaf turner, the combination of pairs of fingers extending from arms pivoted at one end for grasping sheets of music, and means connected with a support independent of the support of the arms, whereby the several pairs of fingers and arms may be turned, one pair at a time, in either direction to carry a sheet from either position to a reverse position, substantially as specified.

4. In a music-leaf turner, the combination of the arms F F', &c., fulcrumed upon a common vertical pivot and adapted to swing horizontally, the means for moving them past a central position, and the springs G G', &c., applied one to each arm, for impelling them the remainder of the distance they travel, substantially as specified.

5. In a music-leaf turner, the combination of the arms F F', &c., means for moving them past a central position, and the springs

G G', &c., for impelling them the remainder of the distance they travel, and so combined with them as to hold them in their rearmost positions, substantially as specified.

6. In a music-leaf turner, the combination of the arms F F', &c., the levers J J', for moving them past a central position, and springs G G', &c., substantially as specified.

7. In a music-leaf turner, the combination of the arms F F', &c., the levers J J', the dogs H H', and means through which said levers operate said dogs, substantially as specified.

8. In a music-leaf turner, the combination of the arms F F', &c., the plates I I', the dogs H H', the swiveling studs *k k'*, and the levers J J', substantially as specified.

9. In a music-leaf turner, the combination of the arms F F', &c., provided with wards *i i'*, &c., the plates I I', and the dogs H H', substantially as specified.

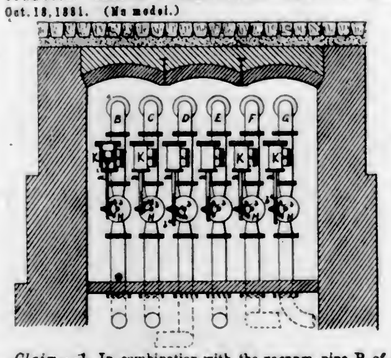
10. In a music-leaf turner, the combination of the arms F F', &c., provided with the wards *i i'*, &c., and with the wards *j j'*, &c., the plates I I', the dogs H H', and the levers J J', substantially as specified.

11. In a music-leaf turner, the combination of the arms F F', &c., the bottom rail, D^2, the pairs of fingers E E', &c., pivoted to said arms, and adapted to be swung down upon the rail D^2 to render the rack compact for carrying, and the springs G G', &c., substantially as specified.

12. In a music-leaf turner, the combination of the arms F F', &c., the pairs of fingers E E', &c., pivoted thereto, the springs G G', &c., and the button M, substantially as specified.

13. In a music-stand, the combination of the arms F F', &c., arranged upon a common center and adapted to swing horizontally, the levers J J', and devices carried thereby for engaging successively with said arms for swinging them in either direction, the treadles C, and cords K K', forming connections between said treadles and levers, substantially as specified.

264,717. AUTOMATIC GEAR FOR PNEUMATIC SEWERAGE-CONDUITS. CHARLES T. LIBERUR, Haarlem, Holland. Filed Oct. 18, 1881. (No model.)

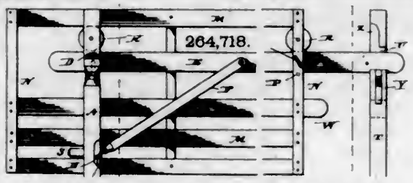


Claim.—1. In combination with the vacuum-pipe B of a pneumatic sewerage system, and with the cocks or valves H, or their equivalent, inserted in the different pipes, the vacuum cylinder or cylinders K, and the vacuum-engine S, regulated by clockwork, for the purpose of opening and closing the said cocks or valves H, substantially as hereinbefore described.

2. In combination with the vacuum cylinder or cylinders K, the valves or cocks *d* and *e*, operated upon by the cylinder M, provided with pins or cams, and which is rotated by the vacuum-engine S, and a suitable intermediate mechanism, substantially as and for the purpose set forth.

3. In combination with the cam-cylinder M and the mechanism for imparting motion to the same, the disk *t*, slowly rotated by the said mechanism, and provided with one or more tappets or recesses, which, by means of lever *k*, or its equivalent, cause the coupling or driver *j* to be shifted periodically, so as to effect a rotation of the cylinder M by the shaft M', as hereinbefore specified.

264,718. GATE. JOHN E. LITTLE, Princeton, Ind. Filed May 4, 1882. (Model.)



Claim.—1. In a gate, the combination, with the supporting-post and upright pivoted thereon, provided with an anti-friction roller, of the horizontal bar or rail, its oblique pivoted brace, and the gate provided with a traveling roller and adapted to slide on said rail, substantially as shown and set forth.

2. In combination with the supporting-post having thereon the pivoted upright, the transverse bar fastened to said upright, and the oblique bar connected thereto and pivoted to the supporting-post, the latch-post and the gate adapted to slide back and forth, as described, and for the purposes specified.

264,719. RAILROAD ALARM-SIGNAL. CLINTON LLOYD, Williamsport, Pa. Filed Apr. 14, 1882. (No model.)

Brief.—The signal is operated through a trip-lever on a rock-shaft carrying a shouldered wheel, which operates a slide connected to a spring-held wire or chain.

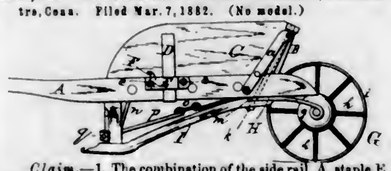


Claim.—1. The combination of the trip B, shaft C, and wheel E with the slide F, chain or connection H, and alarm I, substantially as and for the purposes set forth.

2. In a railroad-signal, the combination of the sliding piece F, operated, as described, by means of the wheel E, with the chain or connection H, substantially as and for the purposes set forth.

3. In a railroad-signal, in combination with an automatically-adjusting means for actuating the signal, a buffer to deaden the jar of recoil of the parts, and a spring to keep the connection with the alarm at proper tension, substantially as set forth.

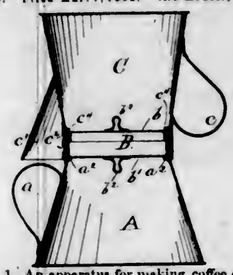
264,720. WHEELBARROW. HENRY M. LOOMIS, Hartland Centre, Conn. Filed Mar. 7, 1882. (No model.)



Claim.—1. The combination of the side rail, A, staple E, and screws *e e*, and catch F, one of the said screws serving as the pivot of the catch, substantially as shown and described.

2. The combination of the ring O and brace-rods P with the side rails, A, and legs K, substantially as shown and described.

264,721. COFFEE OR TEA POT. JAMES B. MADURY, Chillicothe, Ohio. Filed Mar. 7, 1882. (No model.)

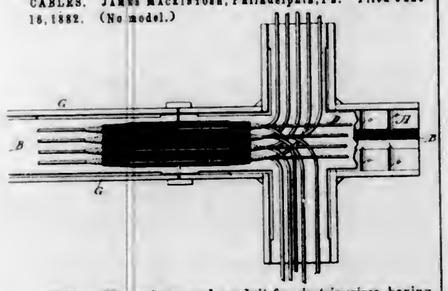


Claim.—1. An apparatus for making coffee or tea infusions, which comprises a boiler adapted to receive and support a coffee or tea receptacle, a coffee or tea receptacle having imperforate sides and perforated top and bottom, and a coffee-pot adapted to receive, support, and be supported by said boiler and receptacle, whereby the tea or coffee is directly acted upon by steam and directly infiltrated, without exposure to the air, by the water from which the steam is produced, substantially as shown and described.

2. The combination of the boiler A, provided with the flange a^3, the receptacle B, having a perforated top and bottom, with a tea or coffee pot, C, provided with the flange c^3, substantially as shown and described.

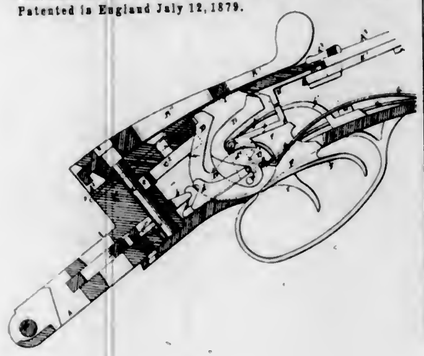
3. The combination of the boiler A, the receptacle B, having perforated top and bottom, and the pot C, substantially as shown and described.

264,722. CONDUIT FOR UNDERGROUND ELECTRIC WIRE CABLES. JAMES MACKINTOSH, Philadelphia, Pa. Filed June 16, 1882. (No model.)



Claim.—The underground conduit for electric wires, having the interior of its bottom provided with the drain B, extending longitudinally in the direction of the conduit, and having side or lateral grooves extending therefrom and to the sides of the conduit, in combination with the false bottom D, as described, whereby a free passage is formed between it and the conduit for the passage of the drain-water, as set forth.

264,723. BREECH-LOADING FIRE-ARM. JAMES MACNAUGHTON, Edinburg, Scotland. Filed May 12, 1881. (No model.) Patented in England July 12, 1879.



Claim.—1. The combination of the pivoted barrels, break-off, bed part, slotted locking-bolt *b*, and hammers with spindle C, passing through a slot in the locking-bolt, and link *c''*, connecting the spindle with the bolt, the latter cocking the hammers when it is drawn back to unlock the barrels, all substantially as described.

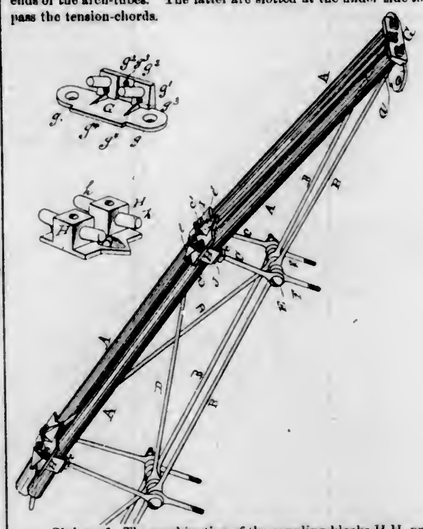
2. In a breech-loading fire-arm, the combination of the sears *f f*, having forked ends, with pivot-pin f^3 and triggers F F, having reduced ends adapted to said forked sears and mounted on the same pivot-pin.

3. The combination, in a breech-loading fire-arm, of the hammers, triggers, and sears *f f* with sliding safety-bolt H, notched lever *h*, pin *h'*, and thumb-lever h^3, all substantially as described.

4. In a breech-loading fire-arm, the combination of the hammers D D, pivoted close together near the center of the gun, on the strap of the trigger-plate, with the pistons *e e* passing through the strap of the action and converging from the centers of the barrels to the center of the action, all substantially as and for the purpose set forth.

264,724. BRIDGE. JOS. MAISH, Iowa City, Iowa. Filed Apr. 7, 1882. (No model.)

Brief.—The panel-joints of the arched chord are formed by blocks having bosses, that enter the tube-sections, with upper and under plates united thereto by nuts upon the upper part of the suspension-rods. The upper plates have ribs, perforated for the diagonal braces. The end shoes have each a foot-plate and vertical flange joined by stay-ribs, said flange having bosses to receive the ends of the arch-tubes. The latter are slotted at the under side to pass the tension-chords.



Claim.—1. The combination of the coupling-blocks H H, provided with bosses *h h*, the suspension-rods C C, provided with the nuts *c c'*, the plates J and I, the latter provided with the perforated ribs *i i*, the pipes A A, braces D D, rods B B, and bolt E, substantially as shown and described.

2. The foot-plate G, provided with the flange *g'*, bosses g^2, and rib g^4, substantially as shown and described.

3. The combination of the foot-plate G, provided with the bosses *g'* and ribs g^4, with the slotted tubes A and tie-rods B, substantially as shown and described.

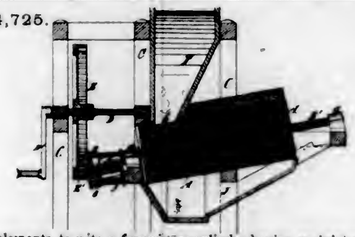
264,725. SCREEN. FRANCIS T. MALLON, Pawcatuck, Conn. Filed Apr. 21, 1882. (No model.)

Claim.—1. A screen for cleaning grain, combining in its structure a foraminous cylinder having an inlet-opening at one end and an outlet-opening at the other end, and a foraminous worm inclosed within the foraminous cylinder, said members operating substantially as and for the purpose described.

2. In a grain-cleaning screen, the combination, with the inclined foraminous cylinder having an inlet-opening at its lower end and a discharge-opening at its elevated end, of the inclined foraminous worm inclosed within the foraminous cylinder, substantially as and for the purpose described.

3. In a grain-cleaning screen, the combination of the follow-

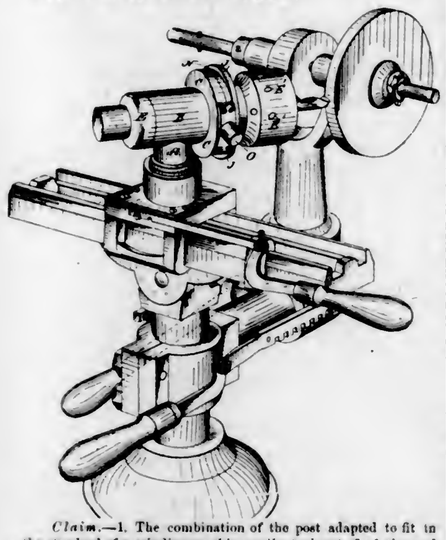
264,725.



ing elements, to wit: a foraminous cylinder having an inlet-opening at one end and a discharge-opening at the other end, a foraminous worm inclosed within said foraminous cylinder, a stationary hopper for delivering the grain directly to the inlet-opening in the cylinder, and a stationary casing inclosing the cylinder, substantially as and for the purpose described.

4. In a grain-cleaning screen, the combination of the inclined foraminous cylinder having an inlet-opening near or at its lower end and a discharge-opening near or at its elevated end, the foraminous worm inclosed within the foraminous cylinder, the hopper for delivering the material directly to the inlet-opening in the cylinder, the stationary casing inclosing the cylinder, and the double-inclined receptacle, substantially as and for the purpose described.

264,726. TOOL-HOLDING DEVICE. PHILO MALTBY, Cleveland, Ohio. Filed June 23, 1882. (No model.)



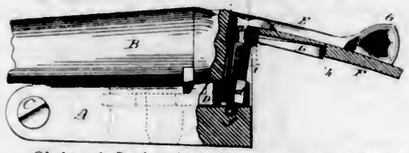
Claim.—1. The combination of the post adapted to fit in the standard of a grinding-machine or the tool-rest of a lathe, and provided with a horizontal cylinder, the flanged cylinder fitting therein and provided with a screw and screw-cap, as described, the T-slide adapted to fit in a recess in the face of said flanged cylinder, the slotted plate, and the boss and arm, carrying respectively the spring bearing against the T-slide and the friction-roller, and the cam and chuck secured to the stem of the T-slide, the whole arranged to operate substantially as specified.

2. In combination with the post and its cylinder, the flanged cylinder and the T-slide, arranged as described, the boss and its spring, and the slotted plate and friction-roller, and the cam and chuck secured to the stem of the T-slide, the cam being provided with a set-screw, whereby the parts may be tightened to cause them to work together or loosened to permit the chuck to turn freely, substantially as and for the purposes set forth.

3. In combination with the T-slide provided with a groove on its stem, the boss and slotted plate carrying the spring and roller, respectively, and the chuck provided with a pin adapted to set in the groove in the stem of the T-slide and hold the parts together, substantially as specified.

264,727. BREECH-LOADING FIRE-ARM. WILLIAM MASON, Hartford, Conn., assignor to the Colts Patent Fire-Arms Manufacturing Company, same place. Filed Mar. 25, 1882. (No model.)

Brief.—The constructions claimed are for the purpose of permitting the parts to be readily assembled and taken apart.



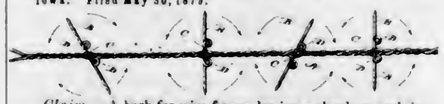
Claim.—1. In that class of arms in which the barrels are locked in position by a longitudinal bolt, the combination, with said bolt, of the lever E and shaft H, the said shaft provided with a cam, *d*, the shaft and lever made in one and the same piece, recess *h* beneath the lever, the V-shaped spring L in said recess, and the shoulder *l* on the frame, substantially as and for the purpose described.

2. In that class of arms in which the barrels are locked in position by a longitudinal bolt, the combination, with said bolt, of the lever E and shaft H, the said shaft provided with a cam, *d*, the shaft and lever made in one and the same piece, the frame constructed with a recess, *i*, at the rear, through which the cam may be turned for the introduction or removal of the shaft and its lever, substantially as described.

3. In that class of arms in which the barrels are locked in position by a longitudinal bolt, the combination, with said bolt, of the lever E, shaft H, and its cam *d*, all made in one and the same piece, the body of the shaft cut away upon the side opposite the cam to reduce the diameter through the cam to less than the diameter of the head *n* of the shaft, whereby the said cam part of the shaft will pass in through the seat in the receiver for the head, substantially as and for the purpose described.

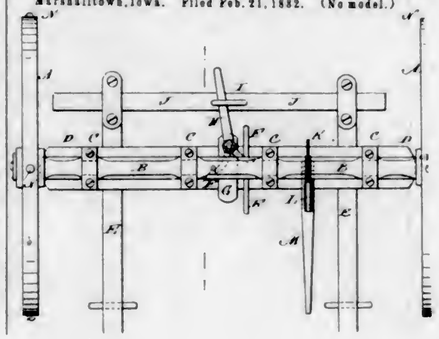
4. In that class of arms in which the barrels are locked in position by a longitudinal bolt, the combination, with said bolt, of the lever E, shaft H, and its cam *d*, all made in one and the same piece, the spring L, arranged in a recess beneath the lever, shoulder *l* on the frame, and a shoulder or stop in the frame, extending from the recess in which the cam works, and beneath which the cam works, but from engagement with which it is turned before removal, substantially as described.

264,728. BARBED-WIRE FENCE. JOHN M. MAY, Cedar Rapids, Iowa. Filed May 30, 1879.



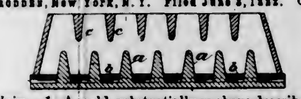
Claim.—A barb for wire fences, having a shank or neck intermediate between its ends, formed by bending or otherwise enlarging the body of the barb, the said shank being adapted to fit between the strands of the fence, and of such length as to permit of a swinging or oscillating movement of the barb, as specified, substantially as and for the purposes herein set forth.

264,729. SELF-DROPPING CHECK-ROWER AND MARKING ATTACHMENT FOR CORN-PLANTERS. DAVID MCCAULAND, Marshalltown, Iowa. Filed Feb. 21, 1882. (No model.)



Claim.—In a planter, the combination, with wheels A, the rotary axle B, provided with the pins F, and the seed-slide J, provided with the keeper I, of the longitudinal side bar, E, the cross-bar D, parallel with the axle and carrying the short bar G, and the standards C, in which the axle revolves, and the forked lever H, having its branches curved or inclined outward and extending beneath the axle, between the pins of the same, substantially as and for the purpose set forth.

264,730. MOLD FOR FORMING BLOCKS OF SODA. JAMES MCCRONDEN, New York, N. Y. Filed June 8, 1882. (No model.)



Claim.—1. A mold, substantially as above described, for forming blocks of soda, the cope and drag of which are provided with inwardly-projecting groove-formers so arranged that the groove-formers on the cope occupy an intermediate position relatively to the groove-formers on the drag.

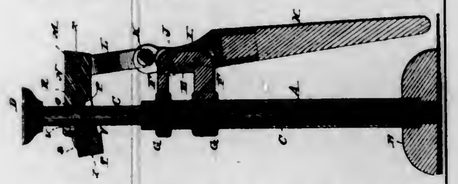
2. In combination with a mold for forming blocks of soda, a removable rack or perforated board adapted to be placed between the drag and cope and constitute the stock-board upon which the block is formed, and by which it is removed from the mold, substantially as described.

264,731. BELTING. WILLIAM J. MCDERMOTT, Memphis, Tenn. Filed Jan. 24, 1882. (No model.)



Claim.—A belt for driving machinery, combining in its structure a series of alternating layers of cotton webbing, paper, gum or other adhesive substance, and longitudinal strips of metal, the outer pulley-face of the belt being finished with textile fabric, and the strips of metal being interposed between the layers of cotton webbing and paper, substantially as shown and described.

264,732. LIFTING-JACK. LORENZO MERKER, Chicago, Ill., assignor of one-half to Eugene Merker, same place. Filed July 13, 1882. (No model.)

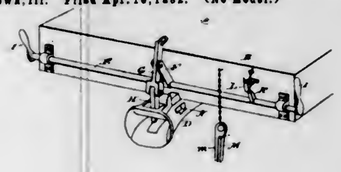


Claim.—1. The combination of the tubular standard, the C-shaped bracket, the ends of which are formed with eyes to embrace the standard and secure the bracket thereon, the lifting-lever H, connecting-arms L L, clutch N T, and elevating-rod C, substantially as set forth.

2. The combination, with the lever-bar N, having the concaved end and beveled edge, and connected by pivoted pieces with the lifting-lever, of the side arms or plates, Q Q, pivoted by a transverse fulcrum-pin to lever N, and a stub-lever, T, having a like concaved end and beveled edge, and connected to the opposite ends of plates Q Q by a transverse fulcrum-pin, S, substantially as set forth.

3. The combination, with the tubular standard, of the C-shaped bracket secured thereon and having pivoted to its upper corner the lifting-lever, connecting-pieces L L, bar-lever N, side arms or plates, Q Q, stub-lever T, having transverse fulcrum-pin S, and the lifting-rod C, substantially as set forth.

264,733. CAR-COUPLING. HARRISON MERRIMAN, Shawneetown, Ill. Filed Apr. 10, 1882. (No model.)



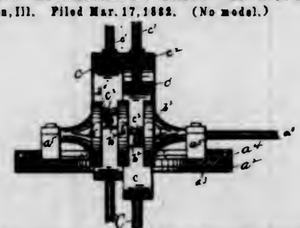
Claim.—1. The coupling-pin H, hinged within the draw-head and adapted to be swung back by, permit the entry of, and then fall into, the link, as set forth.

2. The horizontal rock-shaft E, arm F, pendant G, hinged to arm, and coupling-pin H, hinged to pendant and operating within the draw-head D, as and for the purposes described.

3. The combination of coupling-pin H, pendant G, hinged thereto, arm F, hinged to pendant, rock-shaft E, retaining-arm L, and wedge M, for holding the coupling-pin in its retracted position, as described.

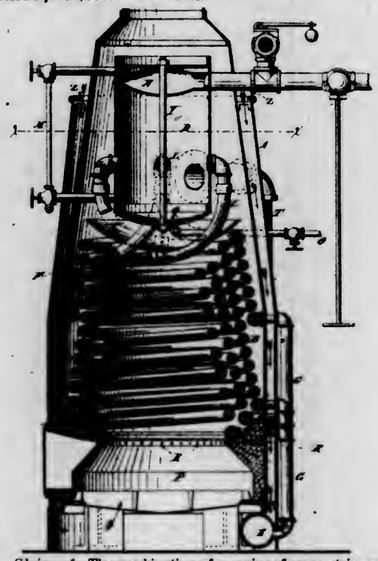
4. The combination of the coupling-pin H, link C, draw-head D, and wedge M, as and for the purposes set forth.

264,734. MECHANICAL MOVEMENT. LEWIS N. MERRIMAN, Dixon, Ill. Filed Mar. 17, 1882. (No model.)



Claim.—In a mechanical movement, the combination with the revolving disk a^3, the vertical journal-arch c^3, secured to said disk, the connecting-rods C, and elongated links *c*, provided with pistons c', operating through boxes in the top of the journal-arch c^3, of the shaft a^4, journaled upon the disk a^3, provided with circular shoulders *b b b'*, and boxes b^3, through which are secured horizontal bars c^3, adapted to slide through suitable apertures in the sides of the links *c*, all arranged to operate substantially as shown, and for the purposes set forth.

264,735. STEAM-GENERATOR. MAURICIO M. MOSSANTO, New York, N. Y., assignor to Henry P. Booth, Trustee, same place. Filed Apr. 15, 1882. (No model.)



Claim.—1. The combination of a series of concentric spiral coils vertically arranged with a steam-drum located above them and within the inclosing shell of the boiler, each coil being connected independently of the others with said drum, substantially as described.

2. The series of steam-forming coils located within the shell of the boiler, the interior one having the greatest distance between its contiguous turns and a steeper pitch, in combination with a drum located above the water-coils and connected with all of said coils below the water-line, substantially as described.

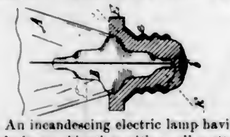
264,736. SUSPENSION-JOINT FOR RAILWAY-RAILS. HENRY T. MORSE, Boston Mass., assignor of three-fourths to Wm. Wallace Page, Geo. Marshall Lee, and Everett D. Lee, all of same place. Filed July 12, 1882. (No model.)

Brief.—Rails are connected to a base-plate by means of fish-plates having hooked edges, which embrace the flanges of the rails and the base-plate, and are shaped to contact with the flanges of the rails. Spaces are left between the web and fish-plate, by which means they act as levers when drawn together by bolts and nuts.



Claim.—The two rails A A, base-plate, and bolts and nuts combined with two fish-plates having hooked edges to embrace the flanges of the rails and the base-plate, and shaped to contact with the flanges of the rail at c^3, as described, and leave spaces c^3 and spaces 4, whereby the fish-plates, when drawn together, act as levers to bind the base-plate and rails closely together and support the rails firmly, as shown and described.

264,737. INCANDESCING ELECTRIC LAMP. SAML. D. MOTT, Menlo Park, N. J., assignor to the Edison Electric Light Company, New York, N. Y. Filed Nov. 29, 1881. (No model.)

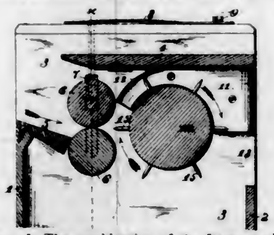


Claim.—1. An incandescing electric lamp having an irregularly-shaped neck, in combination with a collar attached to said neck and metallic terminals secured to said collar and connected with the leading-in wires of the lamp, substantially as set forth.

2. In an exhausted and hermetically-sealed incandescing electric lamp, the combination of a glass globe, a supporting-tube of glass, sealed upon the leading-in wires at its upper and lower ends and sealed at its sides to said globe, said tube being irregularly shaped at its lower end, and a collar molded upon the lower end of said tube and provided with metallic terminals, with which the leading-in wires are connected, substantially as specified.

264,738. WITHDRAWN.

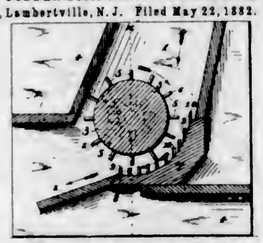
264,739. MACHINE FOR DISINTEGRATING GRASS. WM. A. NAYLOR, Lambertville, N. J. Filed May 22, 1882. (No model.)



Claim.—1. The combination of the frame-work, the feed-rollers, the rotating toothed cylinder arranged to strike, tear, and carry the grass upward as it emerges from the feed-rollers, the battens provided with semicircular recesses which partially encircle the ends of the toothed cylinder, and the immovable concave arranged over the cylinder and having its ends rigidly secured to and supported by the forward ends of the battens, substantially as described.

2. The combination of the frame-work, the feed-rollers, the rotating toothed cylinder arranged to strike, tear, and carry the grass upward as it emerges from the feed-rollers, the battens provided with curved forward ends and semicircular recesses which partially encircle the ends of the toothed cylinder, the immovable concave arranged above the cylinder and having its ends rigidly secured to the curved forward ends of the battens, and the top wall extending over and supporting the rear portion of the concave against upward pressure and secured to the battens, substantially as described.

264,740. FODDER-DISINTEGRATING MACHINE. WILLIAM A. NAYLOR, Lambertville, N. J. Filed May 22, 1882. (No model.)



Claim.—1. The concave provided with the studs 9, all projecting therefrom in substantially straight vertical lines with respect to a vertical line through the center of the rotary cylinder, as and for the purpose set forth.

2. The combination, with the rotary cylinder provided with the radial studs 5, having square or blunt ends 6, of the concave 7, provided with the studs 9, having square or blunt ends and all projecting from the concave in straight vertical lines substantially parallel to a vertical line through the center of the cylinder, substantially as described.

264,741. LAMP-RESERVOIR. JACOB J. NICHOLS, Brooklyn, N. Y. Filed May 27, 1882. (No model.)



Claim.—1. The combination, with a lamp reservoir or fount made of glass or other like material, of a collar applied to a mouth and a cap of sheet metal, forming part of the same structure as the collar, applied to the top of the reservoir or fount and made of such form as to serve as a drip-cup, substantially as specified.

2. The combination, with a lamp reservoir or fount made of glass or other like material, of a collar for the attachment of a burner, a collar applied to a filling-mouth, and a cap of sheet metal, forming part of the same structure as the collars, applied to the top of the reservoir or fount and made of such form as to serve as a drip-cup, substantially as specified.

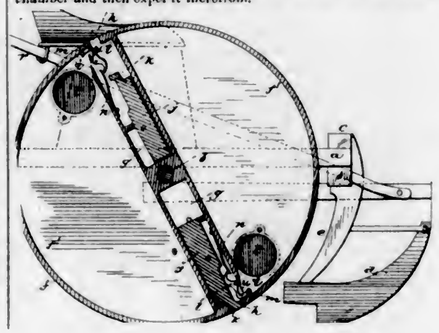
264,742. RAZOR. ALBERT H. NORTH, Bridgeport, Conn., assignor to James D. Frary, same place. Filed Mar. 10, 1882. (Model.)



Claim.—A razor-blade consisting of the steel blank A, with the soft-metal back and shank cast thereon, the sides of the casting and blank ground together to present a concave surface, substantially as described.

264,743. CHECK-ROW PLANTER. GEORGE W. NORTH, Burlington, assignor of one-half to Stephen L. North, Leavenworth, Kans. Filed Jan. 12, 1882. (No model.)

Brief.—The plunger in its to-and-fro movement acts upon the pivoted dog and seed-cup to both drop the seed into the feed-chamber and then expel it therefrom.



Claim.—1. In a seed-planter having chambered wheels for carrying the grain, the combination, with oscillatory cups pivoted in openings leading from the chambers through the periphery of the wheels, of gravity trip-slides arranged in radial chambers and having retaining-catches which are tripped by a stationary arm on the axle, substantially as shown and described.

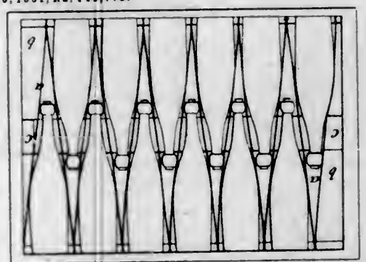
2. The combination, with the spring-actuated dogs *l*, pivoted in radial chambers *g*, and carrying the seed-cups *m*, of the gravity-slides *j*, having projections *k* for tripping the dogs, and recesses for receiving the latter, substantially as shown and described.

3. The combination, with the trip-slides *j*, arranged to operate by gravity in radial chambers in the wheels, and having recesses therein, of the spring-actuated catches *o*, pivoted on the inner side of the wheels, without the said chambers, and adapted to engage with the slides, and the bar *q*, having arms adapted to release the catches, substantially as shown and described.

4. The combination, with the wheels *f*, of the open drills *e*, bent to conform to the periphery of the wheels, and the drill-adjusting lever *r*, pivoted to the tongue in front of the drills and extending back to the seat, substantially as shown and described.

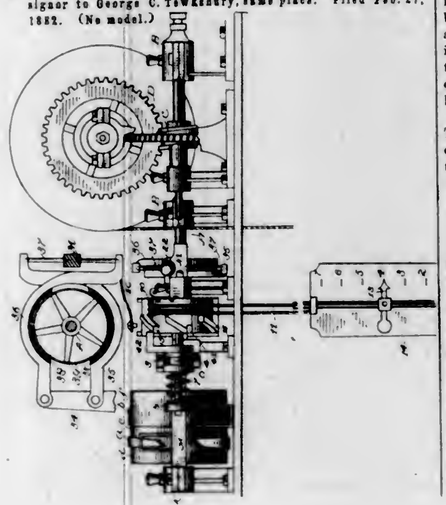
5. The combination, with the dogs *l*, pivoted in radial chambers *g*, and having cups *m*, which oscillate through openings leading to the chambers *f'*, of the strips of leather *u*, secured in the said openings above the cups to act as a brush, substantially as shown and described.

264,744. APPARATUS FOR PACKING OR HOLDING BOTTLES. JAMES PACKHAM and JOHN PELTON, Croydon, County of Surrey, England. Filed Sept. 28, 1881. (No model.) Patented in England Mar. 16, 1881, No. 1,154, and in France Sept. 10, 1881, No. 144,778.



Claim.—The flexible folding zigzag bottle-packing apparatus constructed of a series of laths or strips connected at their ends only, and forming the vertical sides of a number of angular compartments open both at top and bottom, as and for the purpose set forth.

264,745. ELEVATOR. GEORGE R. PEASE, Lynn, Mass., assignor to George C. Tewksbury, same place. Filed Feb. 27, 1882. (No model.)



Claim.—1. In an elevator and in combination, the following elements, namely: driving mechanism for raising or lowering the elevator-car, a belt-shifting bar, a drum operated by cords in connection with a pointer, and intermediate mechanism, substantially as described, whereby the belt-shifting bar is operated and the car started, and also mechanism, substantially as described, whereby the car is stopped at its destination, all as set forth.

2. In an elevator, the combination, with the described belt-shifting device, of the rotatively-movable drum T, provided with cam-leaves 25 25, adapted to engage with a pin upon the bar M and automatically shift the belts, substantially as set forth.

3. In an elevator, the cylindrical drum T, having cam-leaves 25 25, combined with the described belt-shifting device and mechanism whereby the drum is rotated automatically in one direction, substantially as described.

4. In an elevator, the movable drum T, provided with cam-check 29, combined with the pivoted lever N and revolving clutch-wheels S and O, substantially as described.

5. In an elevator, in combination, the clutch-wheel S and mechanism for revolving the same, the movable drum T, provided with clutch 26 and cam-check 29, the pivoted lever N, the clutch-wheel O, and spiral spring 7, all combined and arranged to co-operate substantially as set forth.

6. In an elevator, the drum 10, with one or more cam-leaves arranged upon the periphery thereof, substantially as shown, combined with the described belt-shifting device, and mechanism whereby the drum may be acted upon from any story in the building and revolved, so as to bring the cam-leaves on the drum into engagement with the belt-shifting device and operate the same to start or change the direction of the elevator-car, substantially as described.

7. In an elevator, the combination, with a shifting device for starting or changing the direction of the elevator-car, of a mechanism wherewith the said shifting device may be interlocked to prevent the said car from being stopped or changed till it shall have reached its destination, substantially as described.

8. In an elevator, the above-described shipping device, consisting of the horizontally-movable bar M, the revolable drum 10, the intermediate pin, 16, and cam-leaves 15, and the mechanism whereby the drum may be revolved, as set forth, combined with the ratchet 19, having tooth 18, and weighted angular arm 21, said drum and ratchet being arranged so that the tooth in the ratchet may automatically enter a notch in the drum, and thereby lock the same, to prevent its being again revolved till released by the removal of the ratchet, substantially as described.

9. In an elevator, the clutch-wheel S and mechanism for revolving the same, the movable drum T, provided with clutch 26, cam-check 29, and cam-leaves 25 25, the pivoted lever N, the revolving wheel O, having tooth 42, and arranged to permit of horizontal movement on its driving-shaft P, and the spiral spring 7, combined with the described belt-shifting lever M and the drum 10, substantially as described.

10. The combination of the driving-shaft A, the pulley 39, fixed thereon, the pivoted arms 35 and 36, and their intermediate brake-shoes, 38, with the belt-shifting lever M and the intermediate toggle-arms, 37 37, said toggle and pivoted arms being arranged in reference to the pulley 39 and in reference to each other, so as to permit the toggle-arms being carried with the shipper-bar in either direction and apply the brakes while passing the center line, substantially as described.

11. In an elevator, the combination of the cylindrical drum T, the leaf-spring 31, and the intermediate cam, 32, secured to the end of the drum and co-operating with said spring to effect a partial revolution of the drum, substantially as set forth.

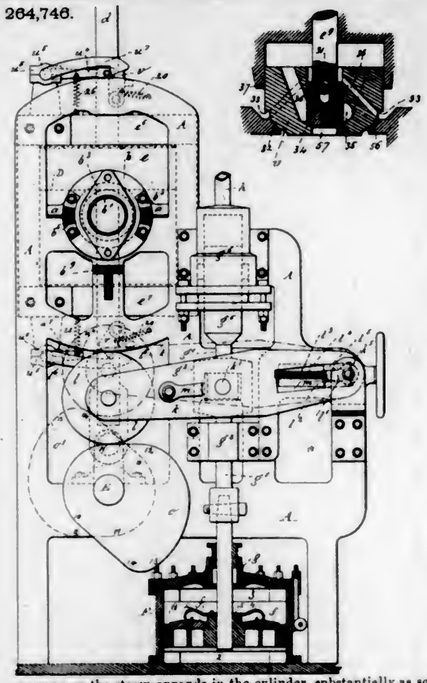
264,746. PUMPING-ENGINE. JOHN H. PENDLETON, Brooklyn, N. Y., assignor to himself and Alexander H. Tiers and Cornelius Tiers, Madison, N. J. Filed June 5, 1882. (No model.)

Claim.—1. The combination, with an oscillating steam-engine cylinder, piston, piston-rod, and crank-shaft, of two cams upon the crank-shaft, two rollers, and levers carrying the same, means for applying a yielding pressure to the levers, the parts being arranged, substantially as set forth, so that the cams, levers, and rollers act in succession to move the crank over the center, as specified.

2. The combination, in an oscillating engine, of the cylinder, piston, piston-rod, crank-shaft, cams *a a'*, roller *l 5*, levers *k*, pumps, plungers, and cylinders, and a connection from the same to the boiler, substantially as set forth.

3. The combination, with the oscillating engine, cut-off valves, and their actuating mechanism, of the pumps, levers for actuating the same, and cams upon the crank-shaft of the engine, shaped substantially as specified, to move the pumps in proportion to the

264,746.



pressure as the steam expands in the cylinder, substantially as set forth.

4. The combination, with the engine crank-shaft and cams, of the levers, pumps, plungers, plunger-cylinders, connecting-pipes to the boiler, and the adjustable fulcra for the pump-levers, substantially as set forth.

5. The combination, with the oscillating engine-cylinder and its tubular trunnions, of the steam and exhaust pipes passing into those trunnions, the packing for such pipes, and the cross-bar with central bearing upon the bends of the pipes, substantially as set forth.

6. The oscillating steam-engine cylinder having a surrounding jacket with a partition to form steam and exhaust ways, in combination with the removable double heads and steam and exhaust valves, substantially as set forth.

7. The combination, with the oscillating engine, of the rock-shafts and bearings upon the cylinder-heads, the arms of the rock-shafts, the valves, valve-stems, and stationary cams or trippers, substantially as set forth.

8. The steam-valve provided with the steam-ports 36 and 38 in it, and the shoulder for the steam to act upon, in combination with the cylinder in which such valve slides, and the primary valve within the steam-valve, substantially as set forth.

264,747. DESK. ALFRED F. POTTS, Indianapolis, Ind. Filed Apr. 4, 1882. (No model.)



Claim.—1. A desk consisting of a base, top, support C, and intermediate vertical receptacles arranged side by side, and each capable of being slid in and out independent of the others, fitting the compartment between the top and base and support, and partly supporting the top, and supported by the top and bottom and by each other, as specified.

2. The combination, with the top, bottom, and support of a desk, of a series of independent receptacles fitting the space inclosed between said parts, partly supporting the top, and supported thereby and by each other, each capable of being slid in and out at both sides independently of the others, and provided with casters at the ends, as specified.

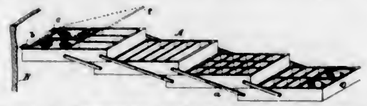
3. The combination, with a vertical receptacle arranged to slide between the top and base of a desk, of an end support constructed and connected to the receptacle to swing above the base when the receptacle is moved in, thereby carrying such support over the base, as set forth.

4. The combination, with the top and bottom pieces, of a sliding receptacle provided with guide-pins *c*, adapted to longitudinal guides, and constituting pivots for the receptacle when the same is drawn out, substantially as set forth.

5. The combination of a case having upper and lower platforms, and a receptacle sliding and guided between said platforms, and pivoted to said platforms to swing laterally upon the pivots when drawn out, as set forth.

6. The combination, with the sliding and swinging receptacle, and with the case within which the same moves, of a guiding and pivoting caster, as specified.

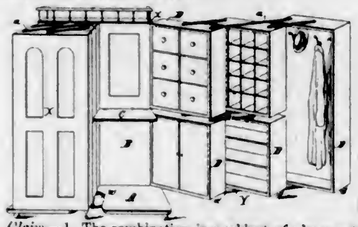
264,748. EXTENSIBLE RECEPTACLE FOR PAPERS, &c. ALFRED F. POTTS, Indianapolis, Ind. Filed Apr. 11, 1882. (No model.)



Claim.—1. A receptacle consisting of a series of smaller receptacles, A, connected by the series of jointed arms *a a*, so that all may be brought together or extended, one of said trays being connected to a support by which the receptacle is sustained, whether closed or extended, as specified.

2. The combination, with a shelf, of a series of trays connected by pivoted arms attached to the shelf, so as to be folded against the same, and also extended, substantially as specified.

264,749. CABINET. ALFRED F. POTTS, Indianapolis, Ind. Filed Mar. 10, 1882. (No model.)



Claim.—1. The combination, in a cabinet, of a base, a stationary upright partition or back, B, secured thereto, and one or more series of boxes pivoted adjacent to the upright and connected by the links *a a'*, to be folded together against or extended from the upright, while all supported by the base, substantially as set forth.

2. The combination of the base having a recess, *e*, the upright B, supported by the base, series of boxes pivoted and connected by links, and provided with legs or props *b*, substantially as set forth.

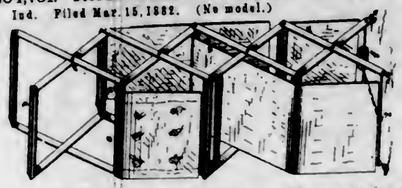
3. The combination, in a cabinet, of a base, an upright, B, series of boxes connected by links and connected to said upright, so as to be folded against or extended from the same, and a shelf, C, hung to the upright, so as to be folded against the same or extended at right angles thereto, substantially as set forth.

264,750. CABINET. ALFRED F. POTTS, Indianapolis, Ind. Filed Mar. 10, 1882. (No model.)



Claim.—A case or cabinet consisting of a series of vertical frames, A, horizontal links *a a'*, connected to the frames above and below the same, as set forth, the end frames being provided with closing doors or backs, substantially as specified.

264,751. DISPLAY-STAND. ALFRED F. POTTS, Indianapolis, Ind. Filed Mar. 15, 1882. (No model.)

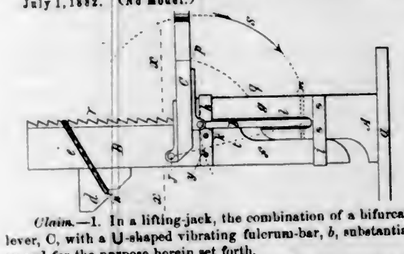


Claim.—1. A display-stand consisting of the two side frames, each composed of crossed and pivoted bars *a*, and cross-pieces *b*, connecting the side pieces and constituting a series of receptacles adapted to retain the articles to be displayed, substantially as set forth.

2. In a display-stand, the combination of the cross-bars *a*, cross-pieces *b*, and receptacle D, consisting of sections *h h'*, adapted to slide one with the other, substantially as specified.

3. The combination of the folding side frames, *a*, adapted to be folded to a compact form, of a series of cross-pieces, *b*, constructed to support goods to be displayed, and a bracket, *c*, as specified.

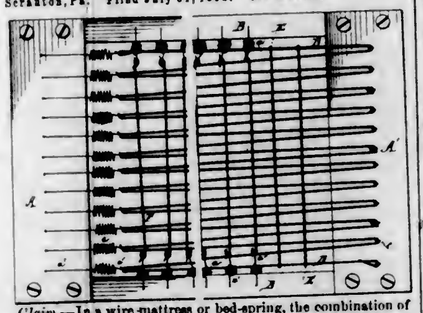
264,752. LIFTING-JACK. ERNEST QUAST, Odessa, Mo., assignor of one-half to William Ford, Jerseyville, Ill. Filed July 1, 1882. (No model.)



Claim.—1. In a lifting-jack, the combination of a bifurcated lever, C, with a U-shaped vibrating fulcrum-bar, *b*, substantially as and for the purpose herein set forth.

2. In a lifting-jack, the combination, with the movable section B, of an adjustable block, *d*, supporting-link *e*, and rack-bar *r*, said parts being constructed and combined substantially in the manner and for the purpose herein set forth.

264,753. SPRING BED-BOTTOM. JESSE B. RAUDENBUSH, Scranton, Pa. Filed July 31, 1882. (No model.)

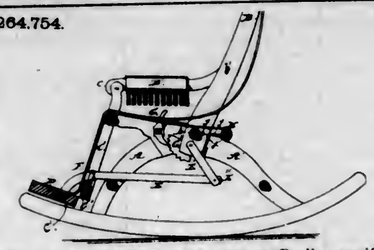


Claim.—In a wire mattress or bed-spring, the combination of the end bars, A and A', side bars, B B, provided at the head and side with spiral springs attached directly to the frame, longitudinal wires C, and transverse wires F and E, woven one upon the other, substantially as shown, and for the purpose set forth.

264,754. INVALID RECLINING-CHAIR. FREDERICK W. REDNER, Espy, Pa. Filed Feb. 13, 1882. (No model.)

Claim.—1. The combination, with the frame of the chair, of the back posts having downward projections, the links E', pivoted thereto, the levers E, pivoted to said links E' at their rear ends, and at their curved front ends to the foot-rest, the arms B', leg-rest C, having keepers F, and the foot-rest D, all as specified and set forth.

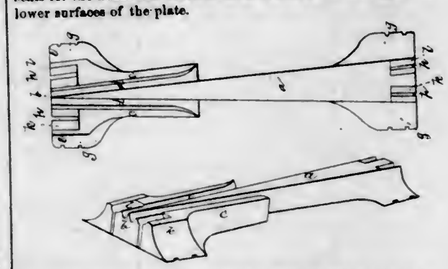
264.754.



2. The chair-frame A A', with the canvas seat H, as constructed, in combination with the chair-back having post B, arms B', leg-pieces C, foot-rest D, levers E, links E', notched disk G, and pawl G', as and for the purpose specified.

264,755. RAILROAD-FROG. JAS. REED, Cochran, Ind. Filed July 1, 1882. (No model.)

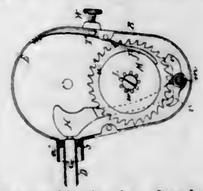
Brief.—The frog has a tapering center bearing from end to end and lateral extensions provided with channels on each side of the narrower end. The slots for the rail ends extend parallel to the sides of the center bearing and communicate with recessed seats for the heads and bases of the rails formed in the upper and lower surfaces of the plate.



Claim.—A railway-frog having a tapering center bearing extending from end to end thereof, lateral extensions provided with channels on each side of the narrower end of said center bearing, broadening the plate in this part, the downwardly-expanded ends forming spike-flanges, and the end slots for the rail ends extending parallel to the sides of the center bearing and communicating with recessed seats for the heads and bases of the rails formed in the upper and lower surfaces of the plate, substantially as specified.

264,756. DENTAL PLUGGER. GEORGE RENFUER, J. GEORGE RENFUER, and MARTIN O. RENFUER, Philadelphia, Pa. Filed Apr. 24, 1882. (No model.)

Brief.—A pivoted hammer acting upon a plugging-tool rod, a coil-spring and its shaft, a toothed wheel driven by said spring, and mechanism to operate the hammer are all inclosed in a case at the end of the plug-rod. A movable tube locks and unlocks the motor.



Claim.—1. The combination, in a dental plugging-instrument, of the stem A, the plug-rod G, a pivoted hammer adapted to operate on the plug-rod, a coiled spring and its shaft, a toothed wheel driven by the spring, and connecting mechanism for acting on the hammer, all substantially as set forth.

2. The combination, with the stem and casing or box and the plug-rod G, of the spring I, the pallet-wheel M, mechanism through the medium of which the said wheel is rotated by the spring, the pivoted hammer H, and its pallets *v v*, substantially as specified.

3. The combination of the stem, casing, and plug-rod with the

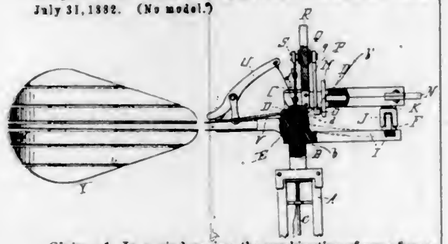
spring I, spindle J, ratchet *q*, cog-wheel K and its pawl, pinion L, pallet-wheel M, and hammer H, having pallets adapted to the pallet-wheel, all substantially as described.

4. The combination of the stem A, plug-rod, and a spring-motor for actuating the same with the movable tube D and a device whereby the said tube is caused to lock and release the motor, substantially as described.

5. The combination of the stem A and the cog-wheel K with the tube D, having a projection adapted to the teeth of the wheel, and mechanism whereby the said tube is operated to stop and release the wheel, substantially as described.

6. The combination of the stem A, the tube D, and a spring, *g*, with the spring P, having an inclined projection, *y*, for operating on the tube, all substantially as specified.

264,757. WIND-ENGINE. HENRY J. RELYEA, Richmond, Ind., assignor of one-half to William H. Stanley, same place. Filed July 31, 1882. (No model.)



Claim.—1. In a wind-engine, the combination of vane-frame extension having inclined track I, stops F X L, and wheel-frame having wrist-wheel M and supporting device J, as set forth.

2. In a wind-engine, the wind-wheel frame D D′, consisting of a main member, D, which oscillates horizontally about the central tube, B, and a hinged section, D′, which vibrates vertically upon said member D while oscillating horizontally therewith, as and for the purpose set forth.

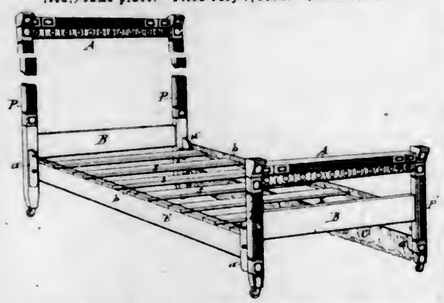
3. In a wind-engine, the combination of member D, having boxing *d*, and revolving horizontally, housing B, member D′, hinged by ears *d′* to member D, supporting device J, and inclined track I, as set forth.

4. The combination of housing B, formed with shoulders *b b′*, vane-frame E, member D, having boxing *d* and ears *d′ d′*, and the member D′ hinged thereto, as set forth.

5. The combination of members D D′, wrist-wheel M O, pitman P, standard R, sliding head Q, having wrists *q* S, supporting device J, and spiral track I, as set forth.

6. The combination of vane-frame extension having track I, stops F X, wheel-frame D D′, supporting-shoe Z, and an oiling device, *x*, as set forth.

264,758. FURNITURE. GEORGE F. RICHARDSON, Utica, N. Y., assignor of one-half to the Utica Furniture Company, (Limited,) same place. Filed July 7, 1882. (No model.)



Claim.—1. As a new article of manufacture, a bedstead formed of a skeleton frame and a panel or panels composed of textile fabric or other pliable material connected with said frame, substantially as set forth.

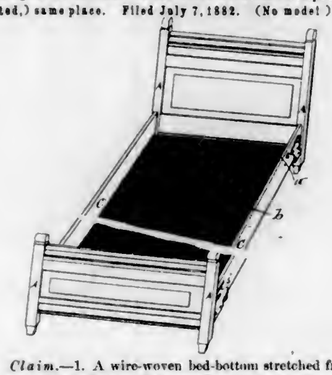
2. A bedstead-head composed of posts P P, tie-rails A B, and drapery D, arranged between and connected to said parts, substantially as described.

3. The combination, with the side rail, E, of the end brace, *a*, secured transversely to the side thereof and bearing on the face of the post both above and below the side rail, substantially as described and shown, for the purpose set forth.

4. The combination, with the side rails, E, of the plate *a*, pivoted on said side rail, substantially as and for the purpose set forth and shown.

5. The combination, with the side rail, E, of the plate *a*, pivoted thereon, and the wire *b*, elastically connected to the upper part of said plate, as and for the purpose set forth.

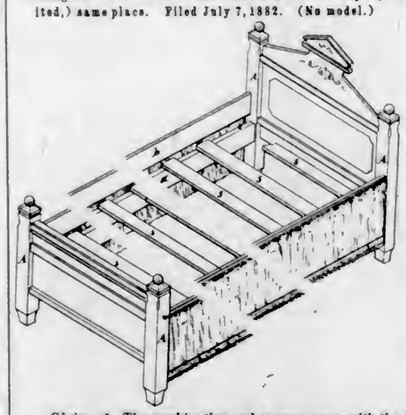
264,759. BEDSTEAD. GEORGE F. RICHARDSON, Utica, N. Y., assignor of one-half to the Utica Furniture Company, (Limited,) same place. Filed July 7, 1882. (No model.)



Claim.—1. A wire-woven bed-bottom stretched from cross-bars attached to the under side of the side rails of the bedstead, substantially as set forth.

2. The combination of a side rail, C, provided with suitable fastenings, *d*, for attachment to the bed-posts, a shoe or shoes, *s s*, adjustably secured to the ends of the side rails and projecting below the same, the cross-bars *a*, supported in the lower portion of said shoes, and the wire-netting *b*, stretched from said cross-bars, substantially as described and shown.

264,760. BEDSTEAD. GEORGE F. RICHARDSON, Utica, N. Y., assignor of one-half to the Utica Furniture Company, (Limited,) same place. Filed July 7, 1882. (No model.)



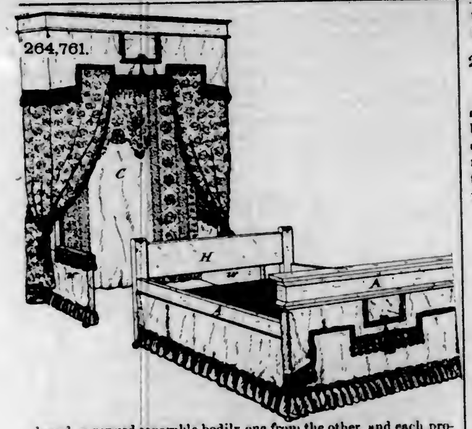
Claim.—1. The combination and arrangement, with the posts A and the side rail, *b*, of the bottom supporting rail *a*, connected to the posts relatively lower than the side rail and independently thereof, substantially as and for the purpose set forth.

2. The combination and arrangement, with the post A, of the side rail, *b*, attached to the post near the outer edge thereof, and the bottom-supporting rail *a*, connected to the post beneath the side rail, independently of the latter, and at or near the inner edge of the post, substantially as described and shown, for the purpose set forth.

264,761. BEDSTEAD. GEORGE F. RICHARDSON, Utica, N. Y., assignor of one-half to the Utica Furniture Company, (Limited,) same place. Filed July 7, 1882. (No model.)

Claim.—1. A bedstead having a canopy or supplemental head-board, arranged separable bodily one from the other, and each provided with an independent support, substantially as set forth.

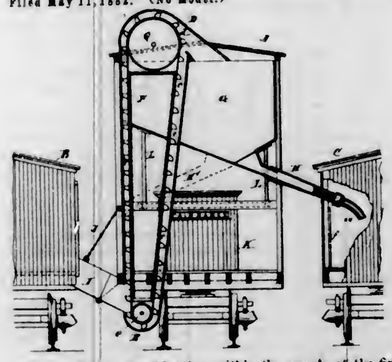
264,761.



2. A movable bedstead provided with a low head-board, H, in combination with a canopy or vertically-extended supplemental head-head, C, provided with an independent support and detachable from the bedstead, as and for the purpose set forth.

3. The combination, with a movable bedstead, of the canopy C, having wings *w w*, adapted to receive between them the end of the bedstead, substantially as described and shown, for the purpose set forth.

264,762. WEIGHING AND TRANSFER CAR. LLOYD D. RICHARDSON, JOHN R. TRIMMER, and EUGENE E. LOOMIS, Chicago, Ill. Filed May 11, 1882. (No model.)



Claim.—1. The combination, within the car A, of the fixed elevator D F, receiver E, grain-bin G, and a weighing-scale, substantially as and for the purpose specified.

2. The combination of the receiving-spout I with the receiver E, elevator D F, and an elevated receiving-bin, G.

3. The combination of the receiving-spout I, fixed receiver E, and elevator D F with the bin G and delivery-spout H, substantially as described.

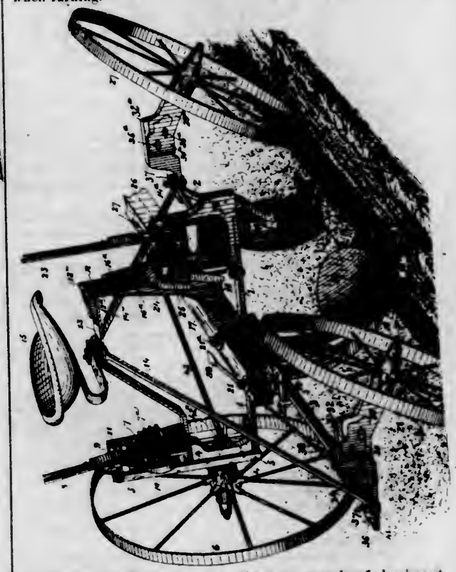
4. The combination, in the box or body of the car A, of the bin G, supported on the weighing or scale platform M, with the levers N and the scale beam or box located outside of the car box or body, substantially as and for the purpose set forth.

5. As an improved weighing and transferring car, the car A, having within it the fixed receiver E, stationary elevator D F, and bin G, supported on the platform M, combined with the receiving-spout I and discharge or delivery spout H, constructed and operating substantially as specified.

6. The described method or system of transferring grain on railway-tracks by interposing between cars standing thereon an elevating and weighing car mounted on traveling wheels and arranged for receiving the grain by gravity from a delivery-car in a receiver lower than its platform, elevating the grain into a weighing-bin arranged sufficiently above a receiving-car to have the cargo discharged therefrom by gravity, whereby weighing elevation only is required, and the use of track-scales and elevator-buildings avoided, substantially as specified.

264,763. SULKY-PLOW. THOMAS L. RICHARDSON, Indianapolis, Ind. Filed May 29, 1882. (No model.)

Brief.—The plow and its beam are vertically adjustable by a crow-bill lever engaging a roller-stud upon the fixed slide of the beam. The two furrow-wheels are adjustable to run more or less oblique, and the rear spindle is held by a spring-lever pin, which may be withdrawn, allowing the wheel to trail when turning, while the forward oblique wheel may be lifted to prevent its impeding when turning.



Claim.—1. In a sulky-plow, the transverse bar 1, having at one end the casting 4, with guide-piece 5, carrying the vertical wheel 6, and suitable mechanism for the vertical adjustment of the frame, and at its other end the casting 12, with its two webs 12^a 12^a, the frame 16, attached to the plow-beam 17, and provided with the two flanges 16^a 16^a, and suitable mechanism for raising and lowering the plow, the forward longitudinal bar, 2, supported by inclined wheel 27, and the rear longitudinal bar, 3, supported by the inclined wheel 28, in combination with the transverse piece 13, uniting the castings 4 and 12, the rear oblique brace-bar, 14, connected at its front end to the transverse piece 13 and at its rear end to the bar 3, and the front oblique brace-bar, 14^a, connected at its rear end to the transverse piece 13 and at its front end to the bar 2, substantially as and for the purpose set forth.

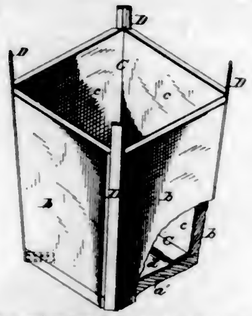
2. In a sulky-plow, the transverse bar 1, having at one end the casting 4, with accessories for carrying the wheel 6 and for the vertical adjustment of the frame, and at the other end the casting 12, provided with two flanges, 12^a 12^a, the frame 16, provided with two webs, 16^a 16^a, and attached to the plow-beam 17, in combination with longitudinal bars 2 3, transverse bar 13, oblique brace-bars 14 14^a, and bar 42, swiveled at its rear end to the casting 4 and attached at its forward end to the plow-beam 17, substantially as and for the purposes specified.

3. In a sulky-plow, the bar 3 and foot-bar 39, with down-turned end 39^a, in combination with casting 32, formed with semi-circular portion 36, having the shoulder 41, and perforations 38 40 and slots 33 34, the spindle 29, provided with slots 31 31, and bolts 35 35, substantially as and for the purpose herein set forth.

264,764. PACKING-VESSEL. CLARK ROBINSON, Hornellsville, N. Y., assignor, by direct and mesne assignments, of three-fourths to Samuel Mitchell, same place. Filed Aug. 8, 1882. (Model.)

Claim.—1. The herein-described vessel, consisting of the outside sections, *a b*, and lining-sections *c d*, the latter applied substantially as shown and described, and united by strips D, as and for the purpose set forth.

264,764.



2. In a vessel substantially such as described, the combination of outside supporting-sections, *b*, inside lining-sections, *c*, extending outward between the edges of the sections *b*, and binding-strips D, applied to and uniting the edges of the lining-sections, substantially as shown.

3. The vessel consisting of the outside sections, *b*, and bottom *a*, lining *c d*, and strips D, extending beneath the bottom *a* and secured thereto, substantially as and for the purpose explained.

4. In combination with the vessel A and cover B, the strips D, applied to the joints substantially as shown and described, and extended above and below the vessel, whereby they are adapted to be bent upon and to retain the bottom and cover in place.

264,765. IRON RAILING. THOMAS ROBINSON, Philadelphia, Pa. Filed May 1, 1882. (No model.)



Claim.—1. A railing composed of two or more series of line-rods in pairs, and uprights wherein the latter are placed between the former and connected thereto by means of couplings consisting of two clamps, each clamp of a coupling engaging at one end with the upright and at the other end with one of the line-rods, substantially as shown and described.

2. The combination of line-rods C' C', uprights B B, the couplings D, consisting of two clamps, D' D', each of which has a bend, *d*, for engagement with the uprights, and bent extremities d^2 d^2, each of which connects with opposite line-rods, substantially as shown and described.

3. The clamp D', having bend *d*, sides *d' d'*, with rabbets or slots d^2 d^2, and bent ends d^2 d^2, substantially as shown and described.

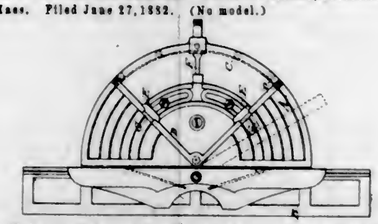
4. In combination with line-rods C' C', having bent ends *c' c'*, the sleeve or lug F, with recesses or slots *f*, corresponding in form to the outline of bent ends *c' c'*, and the plate or cap *f'*, suitably secured to said sleeve, substantially as shown and described.

5. The combination of line-rods C' C', uprights B B, and the overlapping and interlocking clamps D' D', substantially as shown and described.

6. The panel A, composed of crimped line-rods C' C', with bent ends *c' c'*, uprights B B, clamps D' D', and wedges or keys E, substantially as shown and described.

7. The panel A, composed of line-rods C' C', with bent ends *c' c'*, uprights B B, and overlapping and interlocking clamps D' D', substantially as shown and described.

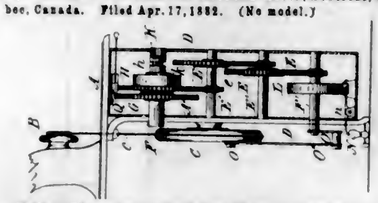
264,766. MITER-PLANER. DAVID C. ROGERS, Greenfield, Mass. Filed June 27, 1882. (No model.)



Claim.—1. In a machine for planing miters, the quadrantal pivoted bed-plate provided with segmental guardways fixed thereon, in combination with rests G, provided with segmental clamping-arms adapted to hold the material to be mitered in position for the planer, as and for the purpose set forth.

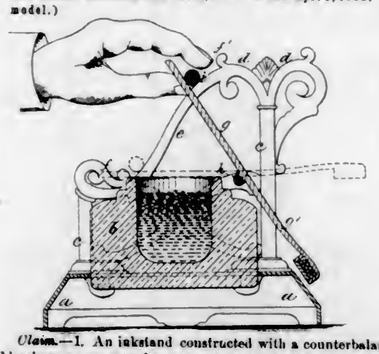
2. The combination, with the fixed bed-plate A and frame B, of the pivoted bed-plate C, provided with adjustable rests G, substantially as and for the purpose set forth.

264,767. MOTOR. ASATOLE EUGÈNE ROUIF, Montreal, Quebec, Canada. Filed Apr. 17, 1882. (No model.)



Claim.—The means herein described for reversing the action of a coiled motor-spring by causing either end of such spring to work while the other is held fast, consisting in a fixed gear-wheel mounted on a shaft and a loose gear-wheel revolving on said shaft, the coiled spring being attached at its onter end to a projection or casing formed in one with such loose gear, and the inner end of said spring being secured to said shaft, which is moved in the direction of its axis to cause either gear at will to intermesh with the first of a train of gears, substantially as set forth.

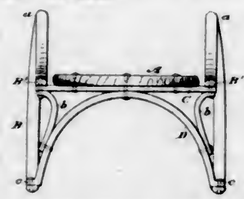
264,768. INKSTAND. GEORGE W. ROYCE, Englewood, N. J., and HENRY HAFNER, New York, N. Y. Filed Apr. 6, 1882. (No model.)



Claim.—1. An inkstand constructed with a counterbalanced lid having a constant tendency to open, and a fixed pen-rack formed with sliding ways or edges arranged at a radius within or behind the path or radius of the tip of the lid, whereby the pen, when placed upon the ways behind or above the lid, will roll or slide down the ways, and thereby depress and close the lid, whereas if the pen is taken up the lid will automatically open.

2. In an inkstand, the combination, with a counterbalanced lid having a constant tendency to open, of the fixed pen-racks *e e*, formed with inclines or ways *e e*, arranged within the radius of the tip of the lid, and the stop *f*, arranged at the foot of said ways and above the lid when depressed, substantially as and for the purpose set forth.

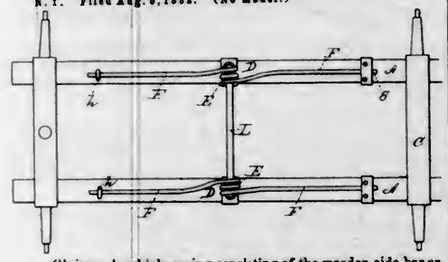
264,769. SLED. JAMES W. RUSSELL, Ellenville, N. Y. Filed Apr. 17, 1882. (No model.)



Claim.—1. A sled constructed with runners and raves B B', cross-bars C C, and arch-braces D D, formed of metal, the said arch-braces being stepped by flanges upon the runners and secured thereto by rivets or their equivalent, and the front and back arch-braces being inclined in opposite directions, thereby dispensing with both standards and braces between the runners and raves, substantially as and for the purpose herein specified.

2. The combination, to form a sled, of the board A, the runners and raves B B', of continuous metallic strips, metallic crossbars C C, metallic arch-braces D D, provided with corner-braces *b b*, and stepped upon the runners by flanges secured by rivets or their equivalent, dispensing with both standards and braces between the runners and raves, all substantially as and for the purpose herein specified.

264,770. VEHICLE-SPRING. WILLIAM L. ROSSELL, Cambridge, N. Y. Filed Aug. 5, 1882. (No model.)



Claim.—A vehicle-spring consisting of the wooden side-bar or buckboard springs A A, the longitudinal under springs, D, having each a middle spiral loop, E, and being connected to the wooden springs by their ends, and the transverse bearing-bar L, having upturned ends engaging the middle portions of the wooden spring-bars, substantially as specified.

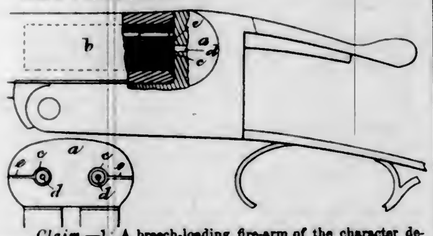
264,771. METHOD OF AND MEANS FOR THE PRODUCTION OF FIGURES IN RELIEF ON VARIOUS SUBSTANCES. MARK W. SAMUEL, New York, N. Y. Filed June 23, 1882. (No specimens.)

Claim.—1. The hereinbefore-described composition or adhesive plastic, which consists of wax, resin, and Venice turpentine in the proportions specified, produced substantially as described.

2. The process hereinbefore described of producing figures in relief on china, porcelain, and other substances in imitation of limoges, faience, wood-carving, moldings, and castings, which consists in forming the plastic composition above described into the desired shape by manipulation, or in cutting out the desired form from the materials heretofore described, and placing the plastic on one or both sides of the form, then in placing said figure on the article to be ornamented, and, lastly, in coating the same with calcimine to harden its surface and to resist the influence of the atmosphere, substantially in the manner described.

3. The imitation of limoges, faience, and pallisier and wood-carving, moldings, and castings produced by the above-described plastic composition used in connection with the process hereinbefore described.

264,772. BREECH-LOADING FIRE-ARM. WILLIAM M. SCOTT, Birmingham, and THOMAS BAKER, Aston, near Birmingham, County of Warwick, England; said Baker assignor to said Scott. Filed May 18, 1882. (No model.) Patented in England Feb. 8, 1882, No. 617.



Claim.—1. A breech-loading fire-arm of the character described, having a grooved break-off for diffusing the gases generated by the explosion of the percussion-cap, substantially as described.

2. In a breech-loading fire-arm, the combination, with the grooves for the diffusion of gases generated by explosion of the cap, of passages communicating with the outside air, substantially as described.

264,778. REMOVING IRON FROM FERRUGINOUS SOLUTIONS. CONRAD SEMPER, Philadelphia, Pa., assignor to John Harrison, George L. Harrison, Jr., and Thomas S. Harrison, all of same place. Filed Feb. 2, 1882. (No specimens.)

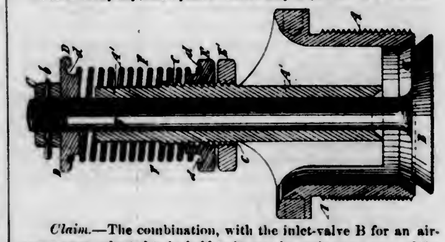
Claim.—The process of removing iron from ferruginous solutions of any salt of the alkalies, alkaline earths, or such metallic bases as are not precipitated in the operation of the process by treating such solutions with manganic dioxide or manganic sesquioxide, substantially as described.

264,774. PROCESS OF REMOVING IRON AND MANGANESE FROM CERTAIN SOLUTIONS. CONRAD SEMPER, Philadelphia, Pa., assignor to John Harrison, George L. Harrison, Jr., and Thomas S. Harrison, all of same place. Filed Feb. 2, 1882. (No specimens.)

Claim.—1. The process of removing both the iron and manganese by a single operation from ferruginous solutions (of such salts as are not decomposed in the operation of the process) containing manganous salts by treating them with a permanganate and subjecting them to heat, substantially as described.

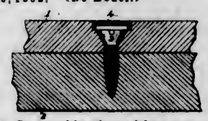
2. The addition to a ferruginous solution of any salt of the alkalies, alkaline earths, or metallic bases not decomposed by treatment with a permanganate, of a sufficient amount of manganous salt, if such be not previously present, to jointly precipitate the iron with the manganese by treating such solution with a permanganate and subjecting it to heat, substantially as described.

264,775. VALVE FOR AIR-COMPRESSORS. HENRY C. SERGEANT, New York, N. Y., assignor to the Sergeant & Cullingworth Company, same place. Filed May 19, 1882. (No model.)



Claim.—The combination, with the inlet-valve B for an air-compressor, adapted to be held to its seat by spring-pressure, of the valve-stem B', provided with a shoulder, D, the socket or guide A', provided with the external screw-thread, c, the spring F, and nut E, all arranged and adapted to operate substantially as described.

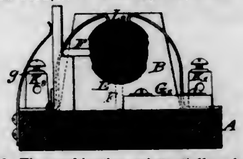
264,776. PLUG FOR COUNTERSINKS. ISAAC SHARP, Waveland, Ind., assignor of one-half to George Seybold, same place. Filed Apr. 20, 1882. (No model.)



Claim.—1. In combination with a screw-head seated in a countersink, a hollow plug for covering the screw-head and filling the countersink, said plug having a rim portion surrounding the screw-head and seated in the countersink, substantially as set forth.

2. A hollow plug for filling countersinks and covering screw-heads, having a rim portion surrounding and projecting below the top of the screw-head within a groove at the bottom of the counter sink, as and for the purpose set forth.

264,777. CUT-OUT FOR ELECTRIC CIRCUITS. ROBERT J SHERRY, New York, N. Y. Filed Apr. 20, 1882. (No model.)



Claim.—1. The combination, substantially as hereinbefore set forth, with a main line and a loop-conductor including an electric light or lights or other electrical apparatus, of a switch or cut-out, comprising, first, contact-springs connected respectively with the

terminals of the main line and the loop-conductor; second, contact-plates for normally uniting the respective terminals of the main line with the corresponding terminals of the loop-conductor; third, a detent for retaining said contact-plates in their normal position; fourth, a spring for automatically moving said contact-plates to sever said connections when released from said detent, and, fifth, a contact-plate for completing a circuit between the respective terminals of the main line when its connection with the loop-circuit is severed.

2. A switch or cut-out consisting in the combination, substantially as hereinbefore set forth, of the non-conducting cylinder, the contact-springs, the contact-plates mounted upon said cylinder for normally electrically connecting said contact-springs in pairs or couples, the pin projecting from said cylinder, and the stop for normally retaining said cylinder in the position for completing said connections, a spring for automatically moving said cylinder to sever said connections when released from said stop, and a contact-plate for establishing an electrical connection between a contact-spring of one of said couples and the corresponding contact-spring of the other couple immediately before the normal connections are severed.

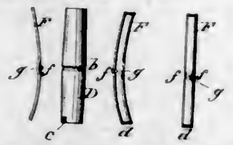
264,778. BARB-WIRE-REEL HANDLE. MICHAEL M. SHELLABERGER, Dayton, Ohio. Filed Aug. 18, 1882. (No model.)



Claim.—In a barb-wire-reel handle, a permanent hook and a rotary annular catch in combination, substantially as set forth.

264,779. ELASTIC PACKING FOR SPINNING-SPINDLE BOLSTERS. ALBERT R. SHERMAN, Pawtucket, R. I. Filed Apr. 13, 1881. (No model.)

Brief.—A series of curved springs having concave inner faces are fitted against the inner supporting-tube or cylindrical bolster, and are arranged side by side between said bolster and its supporting-case, so that the centers of the springs shall bear centrally upon the bolster while their outward-turned ends shall bear against the inside of the bolster-case, near the ends thereof.



Claim.—1. The combination, with the spinning-spindle E, of the springs F, provided with burrs *f*, bolster-case B, having groove *h*, and bolster D, provided with annular burr-receiving groove *b*, substantially as herein shown and described, said burrs and groove preventing the bolster from moving upward, as set forth.

2. The springs F, constructed, substantially as herein shown and described, of curved and grooved strips of spring metal provided with burrs *f* and central bulges or bearing-points, *g*, as set forth.

3. The combination, with the bolster D and metal packing-springs F, of the bolster-case B, provided with annular groove *h*, substantially as herein shown and described, whereby said springs and bolster are retained in place, as set forth.

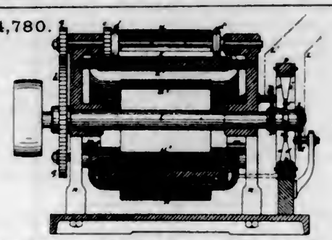
4. The combination, with the bolster-case B, spindle E, and springs F, of the bolster D, provided with central annular groove, *b*, and tapering from groove to ends, substantially as and for the purpose specified.

5. The combination, with a spinning-spindle, E, provided with sleeve and whirl H G and bolster-case and bolster B D, of the curved metal packing-springs F, provided with bearing-points *g*, substantially as and for the purpose described.

264,780. DYNAMO-ELECTRIC MACHINE. ERNST WERNER SIEMENS, Berlin, Germany, assignor to Siemens Brothers & Company, (Limited,) Westminster, England. Filed Mar. 14, 1882. (No model.) Patented in England Feb. 18, 1882, No. 780.

Claim.—1. A dynamo-electric or electro-dynamic machine wherein a magnet formed as a segment of a hollow iron cylinder revolves within a number of stationary coils which have their wires connected to one another through pairs of contact-springs, and successively to an external circuit by revolving knives which

264,780.

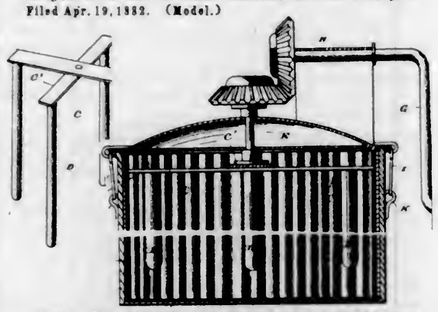


separate these pairs of springs, substantially as and for the purposes set forth.

2. In a dynamo-electric or electro-dynamic machine, the combination of the shaft *l* and its toothed wheel *k* with the shafts *f*, the rollers *d d'* and pinions *e* thereon, and the cylinder *a*, with its groove for the rollers *d'*, and its teeth for the pinions *e*, substantially as and for the purposes set forth.

3. In a dynamo-electric or electro-dynamic machine, the combination of the coil-wires with the insulated springs *o o'*, the knives *r r'*, the insulated rings *s s'*, and their brushes *t t'*, connected to the external circuit, substantially as and for the purpose set forth.

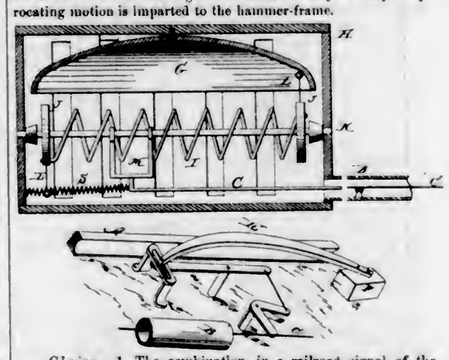
264,781. WASHING-MACHINE. M. SILVEUS, Taylorsville, assignor of one-half to James Chandler, Christian County, Ill. Filed Apr. 19, 1882. (Model.)



Claim.—In combination with the tub or vessel and its corrugated lining, the flexible crossed arms having dependent agitators, the said arms being mounted on a central shaft journaled in the top of the tub or vessel, and the gearing by which the arms and agitators are actuated, substantially as set forth.

264,782. RAILROAD-SIGNAL. JAMES B. SMITH, Hacketstown, N. J. Filed Apr. 19, 1882. (No model.)

Brief.—The gong is sounded through a wheel-actuated spring-push lever connected to a pull cord or wire, which reciprocates a slide which bears against a helix, whereby a rotary reciprocating motion is imparted to the hammer-frame.



Claim.—1. The combination, in a railroad-signal, of the bowed spring E, arranged in close longitudinal relation to one of the track-rails, with bell-crank D, pull-wire C, slide M, helix I, tension-spring S, and the necessary accessories for striking or sounding an alarm, all substantially as set forth.

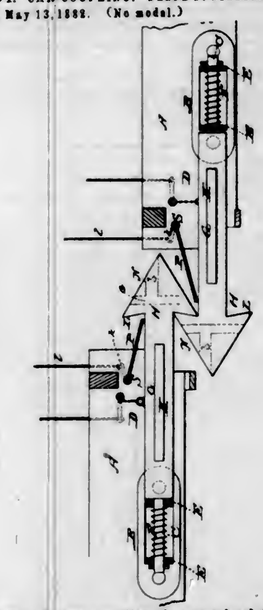
2. In combination with the spring E, arranged to be struck by a passing train, the pull-wire C, its connections with said spring, the recoil or tension spring S, the slide M, shaft K, helix I, hammers L, and a gong, G, or other suitable sounder, substantially as described.

264,783. EYE-WASH. WILLIAM C. SQUIRE, Kinmundy, Ill. Filed Jan. 20, 1882. (Specimens.)

Brief.—Unites one ounce of sulphate of zinc, half an ounce of oil of winter-green, half an ounce of landanum, and thirty drops of oil of sassafras with three table-spoonfuls of loaf-sugar and four quarts of soft water.

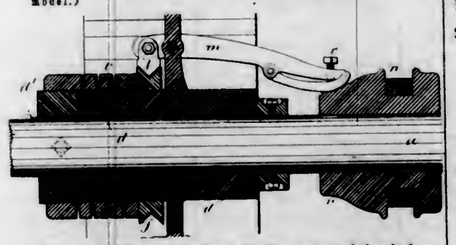
Claim.—The eye-wash herein described, consisting of the sulphate of zinc, oil of winter-green, landanum, oil of sassafras, sugar, and soft water, prepared in or about the proportion described.

264,784. CAR-COUPLING. FRANK P. STEBBINS, Collins, Mich. Filed May 13, 1882. (No model.)



Claim.—In a car-coupling, the arrow-head draw-bar D, having the laterally-convex catch-shoulder L and the lateral horizontal guide-flanges K, substantially as specified.

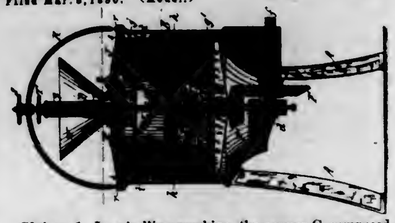
264,785. FRICTION-CLUTCH. EZRA J. STERLING, Brooklyn, N. Y. Filed Sept. 19, 1881. Renewed July 17, 1882. (No model.)



Claim.—1. The combination, with the motor and the shaft or device to be revolved, of a ring, *f*, mechanism, substantially as described, for applying friction to such ring, and a helix connected at one end to the ring and at the other end to the motor or device to be revolved, substantially as set forth.

2. The combination, in a friction-clutch, of a ring, a friction-pad to act on the ring, a revolving device, a device to be revolved thereby, and a helix of wire rope extending from the ring to the device that is to be revolved, substantially as set forth.

264,786. MACHINE FOR HULLING RICE, &c. HENRY B. STEVENS, Buffalo, N. Y., assignor to George L. Squier, same place. Filed Mar. 6, 1880. (Model.)



Claim.—1. In a hulling-machine, the runner C, composed of wooden blocks provided with radial slits *g*, disk G, central plate, I, and projecting ring *h*, substantially as set forth.

2. The combination, with the stationary disk D and rotating disk C, mounted on a spindle, *c*, of a feed-cup, L, secured to the spindle *c*, and a stationary finger, *s*, projecting into the feed-cup, substantially as set forth.

3. The combination, with the stationary disk D and rotating disk C, mounted on a spindle, *c*, of a feed-cup, L, secured to the spindle *c*, and a finger, *s*, adjustably secured to a bridge-tree, E, substantially as set forth.

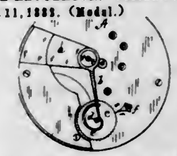
4. In a hulling-machine, the combination, with the stationary upper disk, D, and lower running disk, C, of the hopper N, sleeve M, rotating cup L, and finger *s*, substantially as set forth.

5. The combination, with the frame of the upper disk, D, provided with trunnions *o*, of the connecting-sleeve P, and supporting-yoke R, arranged at right angles to the axis of the trunnions *o*, substantially as set forth.

6. The combination, with the annular frame J, of the upper disk, having a central bearing, *e*, provided with trunnions *o*, of the screw-sleeve P, screw-spindle *q*, provided with hand-wheel S, yoke R, and jam-nut T, substantially as set forth.

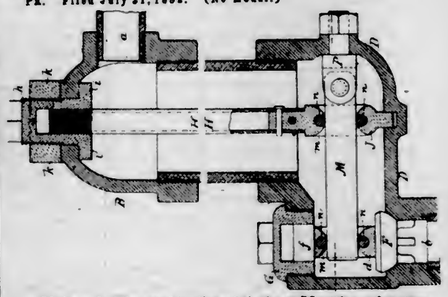
7. The combination, with the curb B, provided with sockets *t*, of the frame J, having lugs *s*, and trunnions *o*, sleeve P, and yoke R, substantially as set forth.

264,787. WATCH-REGULATOR. JOSIAH P. STEVENS, Atlanta, Ga. Filed Mar. 11, 1882. (Model.)



Claim.—The combination, with the watch-plate A, the regulator-arm *b*, having a bent outer end, and the pointer *f*, of the notched disk or wheel *c*, supported on plate A by a pivot screw or pin, *d*, and provided with a volute groove, *e*, extending from the pivot to near the outer edge of the wheel, and adapted to operate the regulator-lever positively in both directions, as and for the purpose specified.

264,788. STEAM-TRAP. GEORGE S. STRONG, Philadelphia, Pa. Filed July 31, 1882. (No model.)

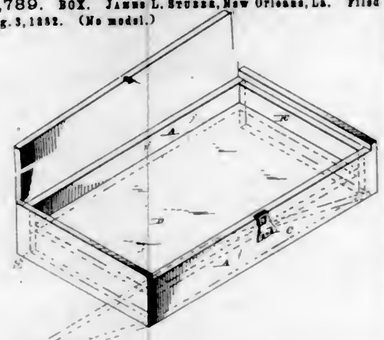


Claim.—1. The combination of the lever M with a valve stem or block, J, having a slot, *m*, with transverse bearing-pins *n*, as set forth.

2. The combination of the casing of the trap, the expansion-tube H and its slotted block J, the balanced valve F, having a slotted stem, *d*, and the lever M, adapted to the slots of the valve-stem and block J, as set forth.

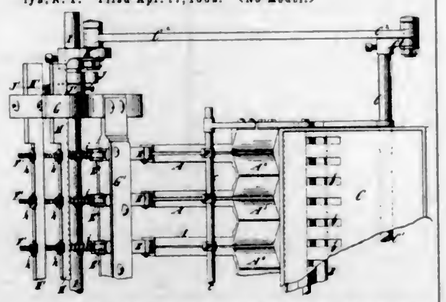
3. The combination of the casing of the trap, the expansion-tube H, threaded at the upper end, the nut *k*, and the flanged sleeve *k*, having an internal thread adapted to that on the tube H, and an external thread for the reception of the nut *k*, as set forth.

264,789. BOX. JAMES L. STUBBS, New Orleans, La. Filed Aug. 3, 1882. (No model.)



Claim.—As a new article of manufacture, a box for transporting and exhibiting various articles consisting of a rectangular frame provided with a hinged cover at its opposite sides and a movable partition having vertical ends or sides which are flush with the sides of the frame, whereby the box is divided into two compartments, substantially as shown and described.

264,790. NAIL-FEEDING MACHINE. JOHN SULLIVAN, Brooklyn, N. Y. Filed Apr. 17, 1882. (No model.)



Claim.—1. The combination, with an inclined track or way, of two stops arranged at the lower end of and above the same, and mechanism, substantially such as described, for moving said stops alternately toward and from the upper surface of said track or way in planes parallel therewith to control the delivery of nails therefrom, substantially as specified.

2. The combination, with an inclined track or way provided at the lower end with the depression or drop *d* in its upper surface, of two stops arranged adjacent to said depression or drop and above the track or way, and mechanism, substantially such as described, for moving said stops alternately toward and from the upper surface of said track or way in planes parallel therewith, whereby I enable the first stop to work over the head of the nail supported in said depression or drop by the second stop, substantially as specified.

3. The combination of the inclined track or way A, provided with the depression or drop *d* at its lower end, the reciprocating stops E F, arranged at an opposite inclination to said track or way, and mechanism, substantially such as described, for operating said stops, as and for the purpose specified.

4. The combination, with the inclined tracks or ways A, of the upper and lower stops, E F, the bars H H', the rock-shaft I, and cams J J', all arranged and operating substantially as specified.

5. In a nail-feeding machine, the combination, with an inclined track or way, of a drag or retarder, substantially as described, pivoted above the track or way and resting by gravity upon the upper surface thereof, so that it may be swung aside or deflected by the passage of the nail-heads under it, substantially as specified.

6. The combination, with the track or way A and the trough-like receptacles A^1, of the rocking or tilting box or hopper C and the grooved or recessed roller B, outside of said hopper, substantially as and for the purpose specified.

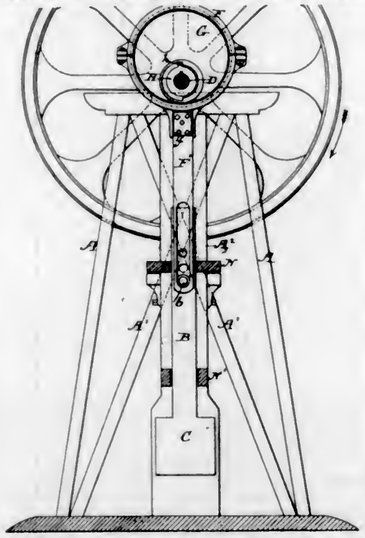
264,791. CONICAL COUNTERSINK AND BIT-GAGE. EBENEZER H. SUTTON, Macy, Ind. Filed Mar. 4, 1882. (No model.)



Claim.—1. The combination of the screw-threaded gage, a central bit, a reamer, and the screw-threaded collar or nut which confines the gage and reamer to the bit, substantially as and for the purpose set forth.

2. The combination of the screw-threaded gage, the reamer having a lip or lips, a central bit, and a screw-threaded collar or nut which confines the gage and reamer to the bit, substantially as and for the purpose set forth.

264,792. ORE-STAMP. JAMES STMONS, Newark, Ohio, assignor of two-thirds to Daniel R. Murphy, same place, and Gordon D. Johnson, Granville, Ohio. Filed July 3, 1882. (No model.)



Claim.—1. The combination of the main shaft and its boss H, provided with a shoulder, *h*, upon its periphery, with eccentric G, constructed with an internal opening, G', made of two half-circles having a shoulder, g^3, between them, slotted eccentric-rods, and a stamp, substantially as and for the purpose described.

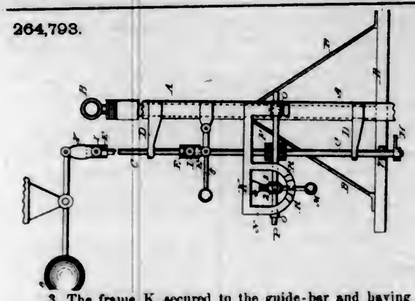
2. The combination of the main shaft and its boss H, provided with a shoulder, *h*, with an eccentric constructed with an internal opening made of two half-circles of different diameters, side plates, g^3, eccentric-straps, slotted eccentric-rods, and a stamp, substantially as and for the purpose described.

264,793. AUTOMATIC ELEVATOR. GORDON C. TEWKSBURY, Newark, N. J. Filed July 31, 1882. (No model.)

Claim.—1. In an automatic elevator, the combination, with the guide-bars A and the shipper-rod C, having the pinion F and tappets H, the frame K, secured to the guide-bar, and having the rack engaging with the said pinion, the pivoted handle M, attached to said rack, and the indicating-scale, all substantially as described.

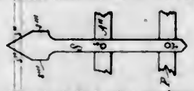
2. The combination of the guide-bars A and the shipper-rod C, adapted to slide vertically therein, the tight and loose collars E I, and the lever 5, pivoted to the said guide-bar and connected to the loose collar I, substantially as described.

264,793.



3. The frame K, secured to the guide-bar and having the standard 4, and graduated arc N, in combination with the shipper-rod having the pinion, the rack P, having the pin 2, and the slotted handle M, pivoted to the said standard, substantially as and for the purposes set forth.

264,794. CHECK-ROW CORN-PLANTER. PERSON W. THOMSON, Yates City, Ill., assignor of one-half to Leroy A. Thomson, same place. Filed Mar. 29, 1882. (No model.)



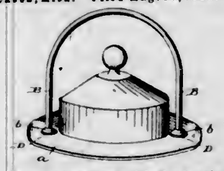
Claim.—1. The shaft G, having markers *g'*, disk P, and tappets N fixed thereon, and chain-wheel I and ratchet-teeth clutches i and J and swinging lever R loosely seated thereon, in combination with the drive-wheel C', having chain-wheel fixed thereto and geared with the chain-wheel I by a chain-belt, whereby the machine may be backed without rotating the shaft G, substantially as and for the purpose specified.

2. In combination with the drive-wheel C', having chain-wheel fixed thereon and geared with a loose chain and clutch-wheel, I, on the shaft G, the sliding clutch J and its operating-lever K and fixed clutch L and spring *m*, both of said clutches being on the shaft G and adapted to operate substantially as and for the purpose specified.

3. In combination with the drive-wheel C', having chain-wheel fixed thereon and geared with a loose chain and clutch-wheel, I, on the shaft G, sliding clutch J and its operating-lever K and fixed clutch L and spring *m*, and tappets N, the fixed disk P, and swinging lever R, adapted to engage therewith to rotate the shaft G while the clutches i and J are held out of gear by the lever K, substantially as and for the purpose specified.

4. In combination with the rotating shaft G, having tappets N thereon, and with the seed-slide F, the oscillating pivoted lever S, having, in connection with ordinary cam-faces, *s''*, the faces *s'''*, adapted to coact with the tappets N to lock or hold the seed-slides, substantially as and for the purpose specified.

264,795. HANDLE FOR PLATES OR DISHES. JOHN B. TIMBERLAKE, Jackson, Mich. Filed Aug. 10, 1882. (No model.)



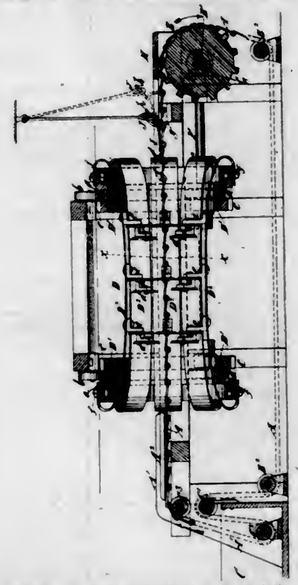
Claim.—1. The combination, with the herein-described handle extending rigidly from side to side of the dish or vessel, of the screws C C, which pass upwardly through a portion of the dish to engage with the handle, and which have expanded parts C' C', situated lower down than the threaded parts C, and adapted to be made flush with the lower surface of that portion of the dish to which the handle is attached, whereby the handle can be fastened to a low part of a plate, substantially as set forth.

2. The combination, with the handle extending rigidly from one side to the other of the plate or vessel, of the parts C C, adapted to pass through a lug or flange on the plate or dish, and the expanded parts C' C', which entirely conceal the parts C C, and which bear against the under side of the flange or lug which holds the handle, substantially as set forth.

3. The combination, with the handle having the expanded parts *b b* at the lower ends of the legs, of the screws or threaded rods C C, adapted to be passed upwardly through a portion of the vessel and engage with said expanded parts *b b*, substantially as set forth.

4. The combination, with the U-shaped handle having the legs B B, and the screw-threaded clamping devices adapted to secure the handle tightly to a perforated plate or dish, of the rubber or other washers, D, arranged and operated substantially as set forth.

264,796. HOG-SCRAPING MACHINE. RHINELANDER C. TOMPKINS, New York, assignor of one-half to AMASA SPRING, White Plains, N. Y. Filed Oct. 21, 1880. (No model.)



Claim.—1. The combination, with a chain or carrier, of a trunk through which the carcasses are drawn, and which is provided internally with scrapers or scraping devices, bearings for said trunk, which permit of its turning or rotating, and mechanism for turning or rotating said trunk, substantially as and for the purpose specified.

2. The combination of the chain or carrier A, the trunk D, provided internally with scrapers or scraping devices, and having the gears or toothed rims *c*, the supporting-rollers *b*, and the pinions E, and pinion-shaft F, all substantially as specified.

3. The combination, with the chain or carrier A, of the trunk D, composed of the rings D' and the spring-metal ribs D^2, bent over at the ends and secured to the outside of said rings, and scrapers or scraping devices attached to said ribs, substantially as specified.

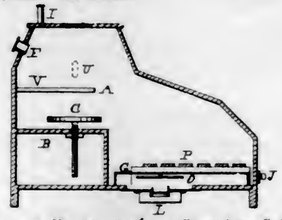
4. The combination, with a chain or carrier, of a trunk, through which the carcasses are drawn, comprising elastic or yielding ribs or bars, scrapers or scraping devices attached to the inner sides of said ribs or bars, bearings for said trunk, which permit of its turning or rotating, and mechanism for turning or rotating said trunk, substantially as and for the purpose specified.

5. The combination, in a hog scraping or depilating machine, of a scalding-tub, a pulley arranged in said tub, and two pulleys arranged above and in close proximity to the same, and a chain or carrier passing around said pulleys, and having a descending and an ascending portion arranged in said tub, substantially as specified.

6. The combination, with a scalding-tub and the ascending portion of a chain or carrier arranged therein, of guards or guides A', arranged substantially as and for the purpose specified.

7. The combination, with a chain or carrier and a hook comprising a downwardly-projecting arm or prong for engaging with said chain or carrier, and also comprising an upwardly-projecting arm or prong, of a depending ring or loop with which the upwardly-projecting arm or prong may engage, substantially as and for the purpose specified.

264,797. BATHING-BOX. JACOB TSCHIEMMER, Dayton, Ohio, assignor of one-half to Julius L. Mellhenny, same place. Filed May 24, 1883. (No model.)

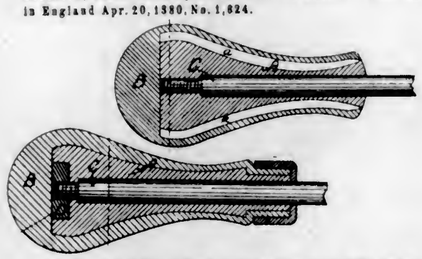


Claim.—1. The detachable pan L and lamp S, in combination with a bath-box, substantially as set forth.

2. In a bathing-box, a radiator, G, combined with the lamp S and pan L, and the distributing-plate O, centrally suspended from the radiator G over the lamp, substantially as set forth.

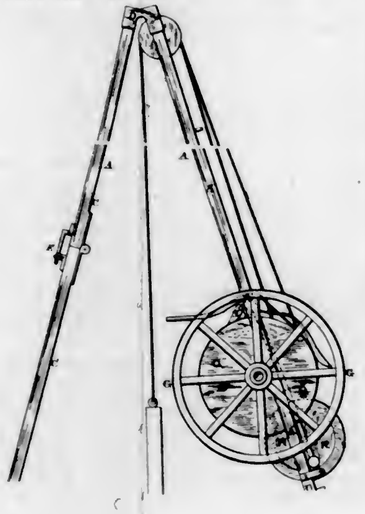
3. The bench B of the bathing-box, with the side facing the door at an oblique angle to the side of said box, substantially as and for the purpose set forth.

264,798. RUBBER-COVERED HANDLE. ABEL D. TYLER, Brockton, Mass. Filed Apr. 28, 1881. (No model.) Patented in England Apr. 20, 1880, No. 1,824.



Claim.—A handle or holder superficially composed of india-rubber or any of its elastic or non-elastic compounds molded and vulcanized upon and about a central core, which is formed with an axial bore, and provided at one end with a nut having its opening in line with the bore of the central core, said bore and nut being adapted to receive the tang of a tool or the handle-rod of a velocipede, or the like, substantially as described.

264,799. WELL-BORING AND STONE-DRILLING MACHINE. JOHN VANDERSLICE and FRANK H. BANKS, Phœnixville, Pa. Filed July 6, 1883. (No model.)



Claim.—1. A well boring or drilling machine having its frame formed of the two bars or beams which are adapted to form part of the derrick when the machine is in use and shafts for a horse when the machine is being moved, substantially as shown.

2. The combination of the two beams, the cap-piece, and the jointed bar C, substantially as described.

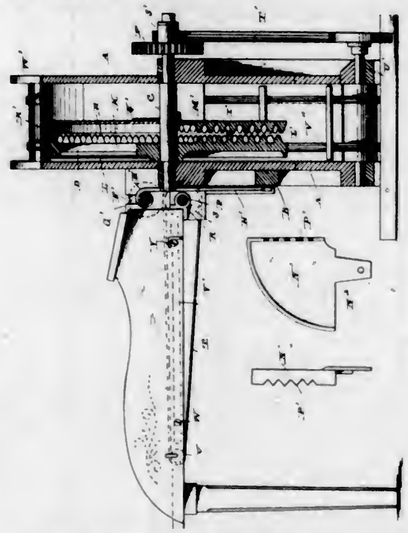
3. The combination of the disk provided with ratchet-teeth, the tumbling-bar S, having a recess in one end, and the ratchet T, to engage with the teeth, substantially as set forth.

4. In a well boring or drilling machine, the combination of the frame, the axle, the road-wheels, and the drum for the drill-rope and sand-pump, the drums being placed upon the same axle as the wheels, substantially as specified.

5. The combination of the drill-rope drum, having ratchet-teeth formed on one flange, and a pawl that is hung upon the frame, substantially as described.

6. A driving-wheel having cogs formed on one side, and which is adapted to be taken off its axle and converted into a horse-power, substantially as set forth.

264,800. FODDER-CUTTER. ELIJAH WAGONER, Westminster, Md. Filed May 31, 1882. (Model.)

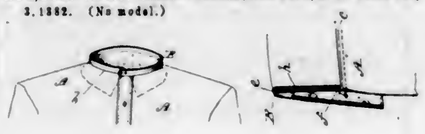


Claim.—In a straw-cutting machine, the combination of the rotary cutting-wheel D and the semicircular masticator I' with the removable sector N', having lug N³, rim R', and vertical row of saw-shaped teeth P', adapted to permit the teeth of the wheel D to pass in close proximity without touching, as shown and described, and for the purposes set forth.

264,801. UTILIZATION OF BY-PRODUCTS IN THE MANUFACTURE OF COAL-GAS. ROGER W. WALLACE and CARL F. CLAUS, London, England, assignors of two-tenths to William Freeman Jack and Ebenezer Stewart, same place; said Wallace assignor of his remaining right to said Claus. Filed July 25, 1882. (No specimens.) Patented in England Jan. 20, 1877, No. 273.

Claim.—The process of purifying gas by separating ammonia from the ammoniacal liquor, consisting in treating the said liquor with chloride of sodium and carbonic acid, as specified, and then separating the chloride of ammonium from the solution, and finally decomposing the chloride of ammonium by lime, thereby reproducing pure ammoniacal gas.

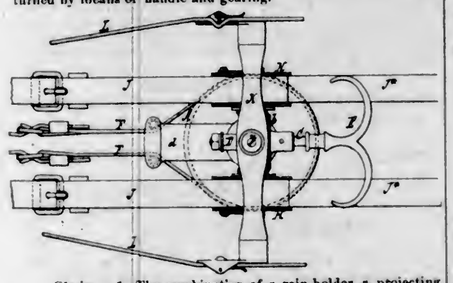
264,802. SHIRT. ISAAC WALLACH, New York, N. Y. Filed July 3, 1882. (No model.)



Claim.—A shirt or other garment provided with a reversible collar, and having the said collar and the neckband of the garment composed of the same piece of fabric, substantially as set forth.

264,803. REIN-CONTROLLER. ALBIN WARTH, Stapleton, N. Y. Filed May 20, 1882. (No model.)

Brief.—The device is applied to a vehicle for controlling and guiding the horses. The reins are secured to drums, which are turned by means of handle and gearing.



Claim.—1. The combination of a rein-holder, a projecting handle arranged to turn in its supporting-bearings, and a gear-connection between the handle and the rein-holder for transmitting a turning movement from the handle to the said rein-holder, substantially as described.

2. The combination of a rein-holding reel, a rotary handle, and a gear-connection between the handle and the reel for transmitting rotary motion from the handle to the reel, substantially as described.

3. The combination of two rein-holding reels, a handle, and a gear-connection between the handle and the two reels for transmitting rotary movement by the handle to both of the reels, substantially as described.

4. The combination, with a rein-holder, of the support for the rein-holder and jointed or swiveled arms for carrying said support, substantially as described.

5. The combination of a rein-holder, a handle, and intermediate gearing for transmitting movement from the handle to the rein-holder, with a support for the rein-holder and jointed or swiveled arms for carrying the said support, substantially as described.

6. The combination of a turning rein-holding reel, a turning-handle, and intermediate gearing between the handle and the reel, with a support for the reel and jointed arms for carrying said support, substantially as described.

7. The combination of two rein-holding reels with an intermediate handle geared together with the two reels to turn them in the same or in reverse directions, substantially as described.

8. The combination of two rein-holding reels, a handle for rotating said reels, and a clutch mechanism, whereby one reel can be rotated independently of the other, substantially as described.

9. The combination of two independent rein-holding reels, a handle, and intermediate gearing connecting the handle with both reels, and a clutch mechanism for each reel, whereby both reels can be simultaneously or independently rotated, substantially as described.

10. The combination of a rein-holder, a rotating handle-shaft, a gear on the handle-shaft, and a gear on the reel, substantially as described.

11. The combination of two rein-holding reels, each provided with a gear, and a rotating handle-shaft provided with a gear engaging the gears on the two reels, substantially as described.

12. The combination of two reels arranged to rotate on fixed bearings, the gear-wheels loosely mounted on the said bearings, the clutch-plates attached to said gear-wheels, the clutch-pins carried by the reels, and the handle-shaft interposed between the reels and provided with a gear-wheel engaging both of the gear-wheels on said reels, substantially as described.

13. In combination with the rein-holder mounted on a vertical axis, two rein-holders mounted on a horizontal axis, a handle geared to all of said holders for rotating the same, and a head supporting the said vertical and horizontal axes, substantially as described.

14. The combination of the two reels rotating in a vertical plane, a head supporting said reels, a handle-shaft arranged in bearings in gear with all of the reels, and a handle pivoted to the upper end of the said head, substantially as described.

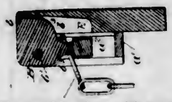
15. The combination of the reel mounted on a vertical axis, two reels mounted on horizontal axes, a rotating handle in gear with all of the reels, a head supporting the vertical and horizontal axes of the reels, and a handle pivoted to the upper portion of the said head and provided with rests for the driver's arms, substantially as described.

16. The combination, with a vehicle, of a swivel-arm with arm-supports, substantially as described.

17. The combination, with a vehicle, of a swivel-arm with swiveling arm-supports, substantially as described.

18. The combination, with a vehicle, of a swivel-arm, arm-supports, and jointed arms, substantially as described.

264,804. CATTLE FASTENING AND RELEASING DEVICE. JAMES D. WATTERS, Belair, Md. Filed Feb. 20, 1883. (No model.)



Claim.—1. The combination, with a casing adapted to be attached to a manger, and a gravity-block pivoted in said casing, of a pivoted releasing-bar lying in its highest position in contact with the end of the gravity-block, substantially as described.

2. The combination, with the base-plate A, provided with the slotted side plates, *a*, of the gravity-block B, pivoted between the side plates, and having its lower end reduced and provided with the overlapping plate *b*, and the releasing-bar F lying in its highest position in contact with the reduced end of the gravity-block, substantially as described, and for the purpose set forth.

3. The combination, with the chain F, provided with the link *f*, of the chain *f'*, having one end secured to the chain F and its other provided with the ring *f²*, substantially as and for the purpose set forth.

264,805. FASTENING AND RELEASING DEVICE FOR CATTLE-STALLS. JAMES D. WATTERS, Belair, Md. Filed Feb. 20, 1882. (No model.)

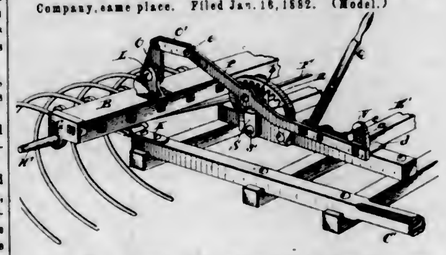


Claim.—1. The combination of a sliding locking-bar with a releasing-bar and the cross-bar *c* of a chain, E, substantially as described.

2. In combination with the plate A, having the cross-plates *a a*, the locking-bar B and the releasing-bar D, as described.

3. In combination with the plate A, having the side plates, *a a*, the sliding locking-bar B, the releasing-bar D, and the locking-block C, as described.

264,806. HORSE HAY-RAKE. JOHN M. WESTCOTT and ALBERT C. CORNER, Richmond, Ind., assignors to the Hoosier Drill Company, same place. Filed Jan. 16, 1882. (Model.)



Claim.—1. A lifting device for dumping a horse-rake, composed essentially of the bell-crank lever hinged to the tilting rake-head and pivoted to a traveling lever-fulcrum meshing with the teeth of the segmental rack, said members being combined to operate substantially as described.

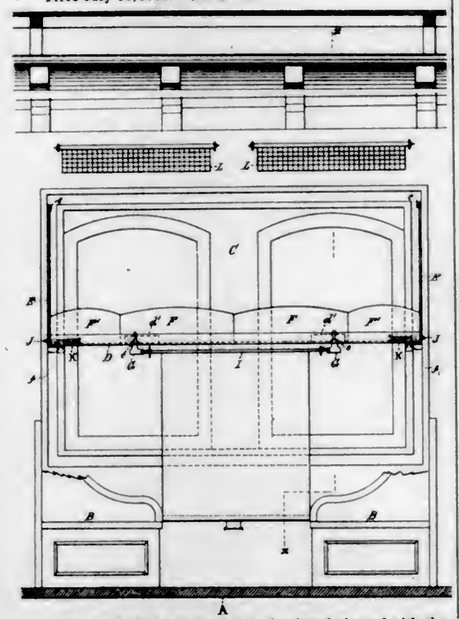
2. A lifting device for a horse-rake, composed essentially of the bell-crank lever hinged to the tilting rake-head and pivoted to a traveling lever-fulcrum working in the arc of a circle, substantially as described.

3. A dumping device for a horse-rake, composed of a combined hand and foot lever connected by means of a link to the rake-head

and pivoted to a traveling lever-fulcrum meshing with the teeth of the segmental rack, said members being combined for operating substantially as described.

4. In a horse-rake, the combination, with the frame E and the bell-crank lever connected with the rake-head, and having at its forward end the serrations *a'*, of the serrated plate V, attached to the serrated part of the lever, and provided with the foot-piece *d* and slot *e*, and the connecting-bolt, substantially as described.

264,807. SLEEPING-CAR. WILLIAM H. WIGMORE, Philadelphia, Pa., assignor of one-half to John H. Doerr, same place. Filed July 15, 1882. (No model.)



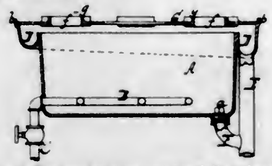
Claim.—1. The combination of the slotted plates *d* with the rear ends of the cushions F and the skeleton frame D, having tenons holding the cushions securely in place, substantially as described.

2. The bolts G G, in combination with the skeleton frame D and the front ends of the cushions F F, for preventing the latter raising by the jolting of the car, substantially as described.

3. In a sleeping-car, the combination of the curtain-roller I with the skeleton frame D, having screws G G, provided with bearings for the pivots of the roller, substantially in the manner and for the purpose set forth.

4. In a sleeping-car, the combination of the skeleton frame D, having bolts J J, with the wall A, having moldings *f f*, whereby to hold the frame in its elevated position against the wall, substantially as described.

264,808. HEATER FOR GLUE AND OTHER SUBSTANCES. SIEGFRIED WILLENBACHER, New York, N. Y. Filed July 13, 1882. (No model.)



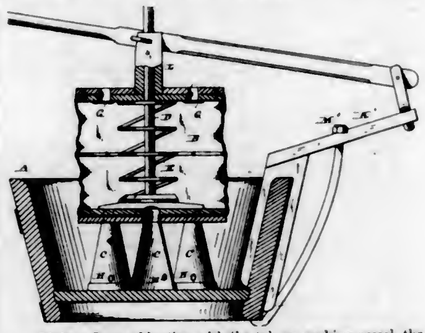
Claim.—1. The combination, substantially as hereinbefore described, of the box A, the trough D, formed in said box, the cover G, supported at an elevation above the top edge of the inside wall of the trough, and the overflow-pipe emanating from the bottom of the trough.

2. The combination, substantially as hereinbefore described, of the box A, the trough D, formed in said box, and having an inclined bottom, as described, the cover G, supported at an elevation above the top edge of the inside wall of the trough, and the overflow-pipe emanating from the lowest point of the bottom of the trough.

3. The combination, substantially as hereinbefore described, of the box A, the trough D, formed in said box, the cover G, supported at an elevation above the top edge of the inside wall of the trough, the overflow-pipe emanating from the bottom of the trough, and the pipe F emanating from the bottom of the box A.

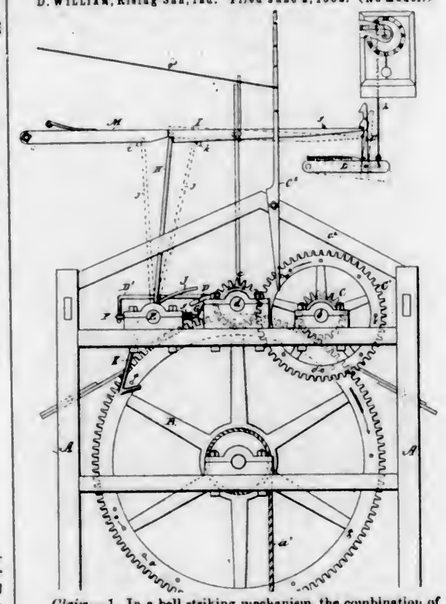
4. The combination, with the water-chamber A, having a steam-coil, B, of the cover G, having openings *f* and vertical flanges *g*, substantially as described.

264,809. WASHING-MACHINE. HENRY A. WILLIAMS, Princeton, Ind. Filed June 14, 1882. (No model.)



Claim.—In combination with the tub or washing-vessel, the bellows provided with conical extensions provided with openings near their lower edges, the upper head provided with apertures and inwardly-opening valves, the boss, and the guide-rod and spring and mechanism for operating the bellows, substantially as specified.

264,810. BELL-STRIKING APPARATUS FOR CLOCKS. JOHN D. WILLIAM, Rising Sun, Ind. Filed June 2, 1882. (No model.)



Claim.—1. In a bell-striking mechanism, the combination of the lever L, having the spring-pawl L', and capable of operation by the action of the clock striking mechanism, the notched lever I, stop *k*, shaft E, having rod H, cam J, and sliding spring rod or bolt F, shaft *d*, having crank-rod D' and cams D and G, and gearing mechanism under the action of a weighted rope or spring, and adapted to operate the bell-clapper-operating lever, substantially as and for the purpose set forth.

2. In a bell-striking mechanism, the combination of the lever L, having the spring-pawl L', and capable of operation by the clock striking mechanism, the notched lever I, spring-pawl M, stops *i* and *k*, shaft E, having the sliding spring F, rod H, and cams J K, shaft *d*, having the crank-rod D' and cam D, V-shaped cam G, the bell-clapper-operating lever C', and operating mechanism having wheels B and C, provided with lateral projections or pins *a a'*, substantially as and for the purpose set forth.

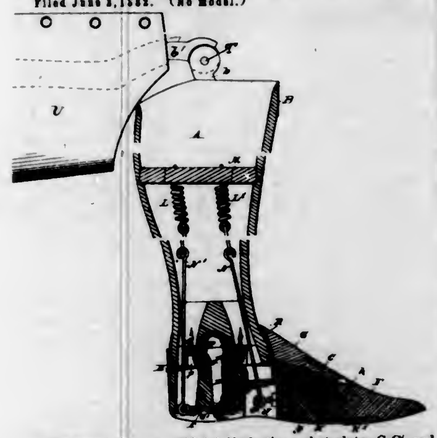
264,811. SLATE OR BLACKBOARD CLEANER. W. ELLIS WISE, Williamsport, Pa. Filed Apr. 6, 1882. (No model.)



Claim.—1. In a blackboard-cleaner, the combination of sponge B with the can A, having neck *a*, and mouth-piece *a'*, having retaining-edge *a''* projecting inside the body of A, substantially as described.

2. The slate or blackboard cleaner herein described, consisting of the can A, having mouth-piece *a'*, nozzle C, drier E, and sponge B, all substantially as set forth and explained.

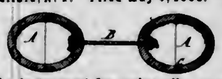
264,812. ARTIFICIAL LEG. PETER M. WOLF, Coryell, Tex. Filed June 1, 1882. (No model.)



Claim.—1. In an artificial limb, the socket-plates C C', rod D, having head P and shoulders *d'*, the foot E F G, provided with hinge A and spring K, the cross-bar M, springs L L', and rods N N', as shown and described.

2. In an artificial leg, the heel-piece E, provided with spring K, in combination with the adjustably-hinged toe-piece F, provided with plate K', and the adjustable instep-piece G, adapted to extend over and form a guard for the toe-joint, substantially as shown and described.

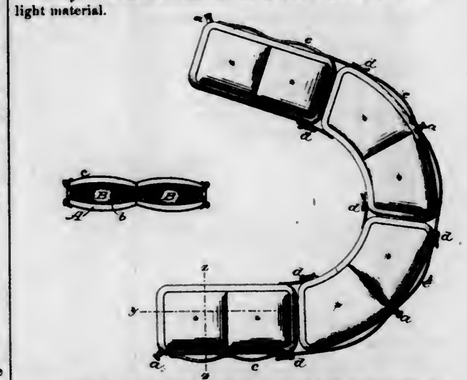
264,813. INSTRUMENT FOR TREATING PILES. WILLIAM WOLTON, Buffalo, N. Y. Filed May 6, 1882. (No model.)



Claim.—An instrument for curing piles, composed of two or more globular or egg-shaped bodies, A, and a connecting-piece, B, composed of suitable flexible material arranged between said bodies, whereby the bodies may be adjusted in place and held securely by the contraction of the muscles around the connecting-piece, substantially as set forth.

264,814. LIFE-PRESERVING CUSHION. WILLIAM C. WOOD, Washington, D. C., assignor to the National Rubber Company, Bristol, R. I. Filed Apr. 3, 1882. (No model.)

Brief.—An outer air-cushion and an inner cushion filled with light material.



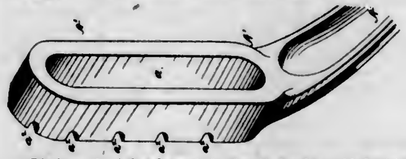
Claim.—1. A life-saving mattress or cushion embodying in combination, substantially as hereinbefore described, an exterior flexible air-tight casing and an interior casing filled with a suitable cushioning medium.

2. A life-saving mattress or cushion embodying in combination, substantially as hereinbefore described, an exterior flexible air-tight casing, an interior casing, and a filling for said interior casing, composed of granulated cork or other buoyant woody matter treated with a water-repelling medium.

3. A life-saving mattress or cushion containing granulated woody matter treated with a water-repellent, substantially as described.

4. A life-saving mattress or cushion containing granulated woody matter and lamp-black, substantially as described.

264,815. CRANK AND CRANK-FASTENING. FRANKLIN F. ADAMS, Erie, Pa., assignor to F. F. Adams & Co., (Limited,) same place. Filed Mar. 24, 1882. (No model.)



Claim.—1. A hand-crank having its head provided with a slot, *a*, and notches a^1 a^2 a^3, &c., in combination with a shaft having a transverse pin, *b*, so placed as to enter said notches, and a jam-nut, C, in the same plane as the pin, substantially as and for the purposes set forth.

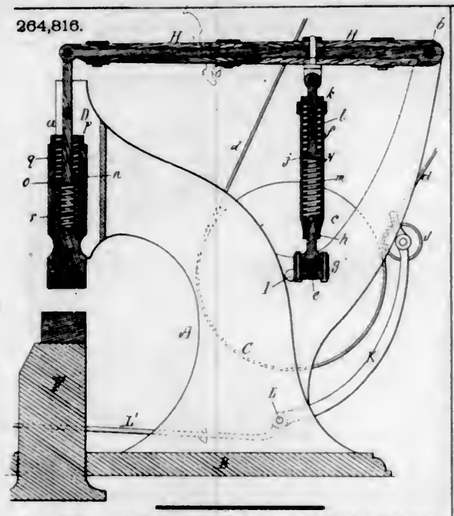
2. A hand-crank having its head provided with two or more notches at which the said crank may be attached to the shaft provided with transverse pins *b*, in combination with a jam-nut in the same plane as the pin, and which is provided with parallel ears or horns *c c*, of sufficient length to extend beyond the end of the shaft and afford a bearing for a lever inserted between said horns, substantially as and for the purposes set forth.

264,816. POWER-HAMMER. ALEXANDER BEAUDRY, Boston, assignor to Augustine Beaudry, East Boston, Mass. Filed Oct. 15, 1881. (No model.)

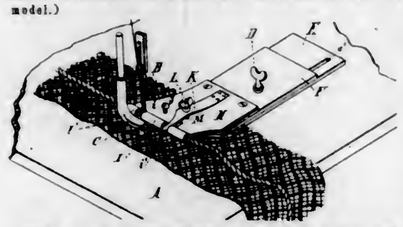
Claim.—1. In combination with pivoted beam H, hammer E, rod G, and a pitman constructed in two parts, the springs *q* and *r* and the springs *l* and *m*, said springs operating respectively on the hammer and on the pitman, substantially as set forth.

2. In combination with beam H, hammer E, recessed as shown, rod G, working in said recess, and pitman N, consisting of an upper solid part and a lower hollow part, the springs *q* and *r*, arranged respectively above and below the piston of rod G, the cap *p*, which confines them in place, the springs *l* and *m*, similarly arranged with respect to the piston of pitman N, cap *k*, which confines the latter springs in place, and the driving-wheel, wrist-pin, and guides, all substantially as set forth.

264,816.



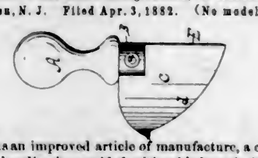
264,817. CORDING ATTACHMENT FOR SEWING-MACHINES. HENRY BEHRINGER, Cincinnati, Ohio. Filed Mar. 2, 1882. (No model.)



Claim.—1. A cording attachment for sewing-machines, that comprises in the described combination a slotted adjustable base-plate, E, lower guide-plate, F G, and the attached upper guide-plate, H I I′ *i*, provided with set-screw J, substantially as set forth.

2. In combination with base E and channeled guide F G H I I′ *i*, the tension-tongue K, occupying notch *i*′ in the upper guide-member, and having the regulating-screw L M, as and for the purpose set forth.

264,818. CAN-OPENER. WILLIAM E. BROCK, Elizabeth, assignor, by direct and mesne assignments, to Martin L. Trimmer, Dunellen, N. J. Filed Apr. 3, 1882. (No model.)



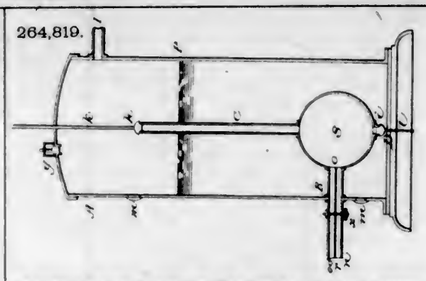
Claim.—A an improved article of manufacture, a can-opener consisting of a handle, A, provided with a blade or knife, C, having a vertical guiding-edge, E, at right angles thereto, and an oblique cutting-edge, *d*, whereby provision is made in one instrument for opening different kinds of cans, substantially as described.

264,819. STEAM-GENERATOR. FREDERICK MONTAGUE BROWN, Warren, R. I., assignor of one-half to Joseph A. Harris, Boston, Mass. Filed Nov. 16, 1881. (No model.)

Brief.—An explosive compound is exploded within the boiler and mixed with the steam.

Claim.—1. The within-described apparatus or organisms in combination, consisting of a boiler or vessel, A, for containing water, a reservoir, S, within said boiler for receiving air and explosive compounds in proper proportions for explosion therein, eduction-valves *h* and *i*, and the induction pipe or nozzle B, passing through the side of the boiler and into said reservoir, provided with inlets for supplying air and explosive compounds, and arranged to admit

264,819.

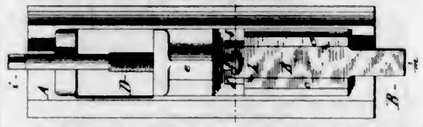


an electric current for igniting the charges within said reservoir, all operating substantially as and for the purposes specified.

2. In a tubular steam-boiler, the arrangement for exploding igneous compounds within the same, and using products of combustion, consisting of reservoir S, nozzle B, chamber G, and valves *h*, *i*, *c*, and *d*, constructed and operating substantially as and for the purposes described.

3. The improvement in the art of generating steam by the use of inflammable compounds introduced and exploded within a reservoir contained in a steam-boiler for producing heat, and also consisting of mixing the gases or products of combustion from said reservoir with the water in said boiler and the steam generated therefrom, as herein described.

264,820. BOLT-HEADING MACHINE. ORRIN CLARK BURDICT, Buffalo, N. Y., assignor to Plumb, Burdict & Barnard, same place. Filed Jan. 6, 1882. (No model.)

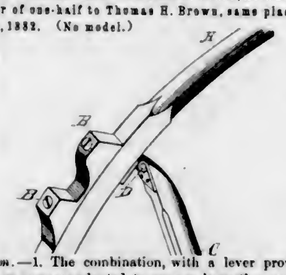


Claim.—The combination, substantially as before set forth, of the forging-die, the slide which carries it, and the screw which is arranged lengthwise of said die, and by which said die may be adjusted endwise relatively to said slide.

264,821. COMPOSITION OF MATTER FOR INSULATING TELEGRAPH-WIRES AND FOR OTHER PURPOSES. WILLIAM O. CALLENDER, London, England. Filed Apr. 6, 1882. (Specimens.) Patented in England Oct. 11, 1881, in Italy Feb. 27, 1882, in Belgium Feb. 28, 1882, in France Apr. 24, 1882, and in Spain July 1, 1882.

Claim.—The composition herein described for insulating telegraph wires and cables, the same consisting of natural asphaltum or natural bitumen, elastikon, or a residual product of vegetable oils, substantially such as described, and sulphur or other vulcanizing agents, when combined in the manner and about in the proportions set forth.

264,822. WAGON-JACK. ALBERT O. CHASE, Milwaukee, Wis., assignor of one-half to Thomas H. Brown, same place. Filed July 29, 1882. (No model.)



Claim.—1. The combination, with a lever provided with shoulders or recesses adapted to engage beneath a carriage-axle, of a brace pivoted to said lever beneath the axle, the lower ends of said lever and brace being respectively adapted, when supporting the carriage, to rest on the ground, substantially as and for the purpose set forth.

2. The combination of lever A, shoulder B B, hinge D, and brace C, all substantially as and for the purpose specified.

264,823. MAKING FUR HATS. WILLIAM E. DOUBLEDAY, Bay Ridge, N. Y., assignor to Ellen M. Doubleday, same place. Filed July 17, 1882. (No model.)



Claim.—1. As a new article of manufacture, a fur hat having its outer surface formed of a sheet of cotton wadding, substantially as set forth.

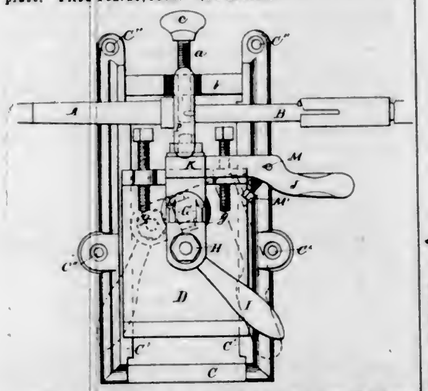
2. The herein-described process of making a fur hat—that is to say, first forming a thin layer of fur, and subsequently applying thereto a layer of cotton filaments, said filaments being united at their outer ends to form a substantially smooth surface, as set forth.

264,824. BOLTING-REEL. JOHN M. FINCH, Jackson, Mich., assignor to the George T. Smith Middlings Purifier Company, same place. Filed Aug. 16, 1882. (No model.)



Claim.—In a bolting-reel, the combination, with an adjustable head and a band for confining the cloth, of tenter-hooks, or points for holding the cloth under tension while the band which permanently confines it is being moved or adjusted, substantially as set forth.

264,825. MACHINE FOR TURNING RINGS. CHAS. E. FRICK, Cincinnati, Ohio, assignor of one-half to Charles D. Ficks, same place. Filed Feb. 25, 1882. (No model.)

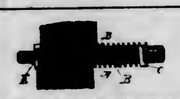


Claim.—1. In lathe attachments for turning rings, the base C, having the guideways C′ and horizontal adjusting-screw *a*, and the carriage D thereon, provided with the vertical pin or axis E and the horizontal adjusting-screws *g g*, in combination with the swivel F, having hinged thereto near the base the horizontal vertically-swinging lever J, carrying the cutting-bit M, substantially as and for the purpose herein shown.

2. In lathe attachments for turning rings, the base C, having the guideways C′ and adjusting-screw *a*, and the carriage D thereon, provided with the vertical pin or axis E and the horizontal adjusting-screws *g g*, in combination with the swivel F, having on the front side the projecting lug *f* and the operating-handle I, and the clamp and screw G H, for holding the bits, substantially as and for the purpose herein shown.

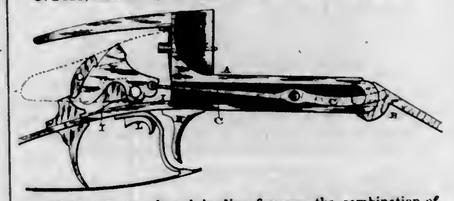
264,826. GUN-BRUSH. GEO. S. GLADDING, Chester, assignor to Calvin B. Rogers, Deep River, Conn. Filed Mar. 24, 1882. (No model.)

264,826.



Claim.—A gun-brush formed by fastening the bristles between the threads of a screw by means of a wire, the screw being provided at its ends with the channels C E, wherein the ends of the wire are secured by clinching the walls of the channels, substantially as set forth.

264,827. LOCK FOR BREECH-LOADING FIRE-ARMS. WM. B. HALL, Lancaster, Pa. Filed June 27, 1882. (No model.)

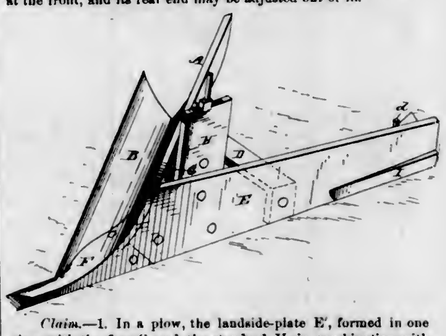


Claim.—1. In a breech-loading fire-arm, the combination of the pivoted fore end, the hammer, and a combined operating-lever and mainspring, made in a single piece and pivoted on the frame between the hammer and the fore end, substantially as shown.

2. In a breech-loading fire-arm, the combination of the working body, the pivoted fore end, the combined lever and mainspring, and the hammer, the lever and spring being pivoted at E upon the body and placed in a recess in the side of the body, substantially as described

264,828. PLOW. CHARLES HANSON, Rock Island, Ill., assignor of one-half to Frederick Appelquist, same place. Filed Mar. 27, 1882. (Model.)

Brief.—The horizontal heel-plate of the landside is hinged at the front, and its rear end may be adjusted out or in.



Claim.—1. In a plow, the landside-plate E′, formed in one piece with the frog C, and the standard H, in combination with the mold-board A, share B, and recessed point F, formed to interlock the share and landside E, substantially as and for the purpose set forth.

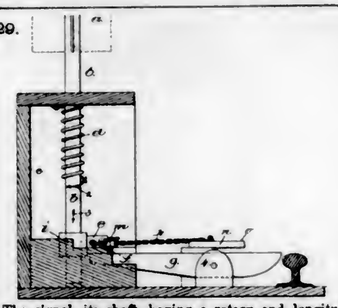
2. In a plow, the combination, with the landside thereof, having the slotted plate *c*, of the vibrating base-plate I and screw-bolt *d*, substantially as and for the purpose specified.

264,829. RAILWAY-SIGNAL. HENRY HANSON, Boston, Mass. Filed Apr. 17, 1882. (No model.)

Brief.—A spring-actuated signal-shaft having a rotary and longitudinal motion imparted by its spring. The wheel-treadle elevates the shaft clear of the stop and the spring rotates it against the other stop. The signal is reset through pull-wire acting against the spring, the longitudinal pressure of which seats the shaft, so as to be held by the stop in normal position.

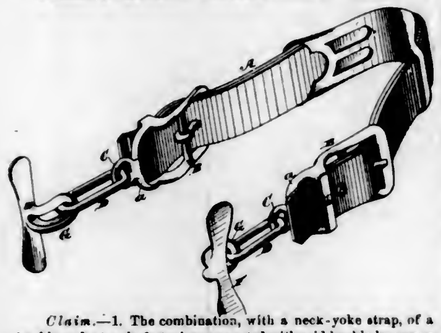
Claim.—1. The signal, its shaft, having a rotary and longitudinal movement, and the actuating-spring for the said shaft, combined with a stop-arm and shoulder engaged by it in the longitudinal movement of the shaft to prevent the said spring from rotating, and the lever actuated by the passing train and acting upon the said stop-arm to disengage it from its holding-shoulder and permit the spring to rotate the shaft, substantially as described.

264,829.



2. The signal, its shaft, having a rotary and longitudinal movement, the holding-arm connected with the said shaft, and shoulders to engage it, combined with an actuating spiral spring surrounding the said shaft and tending to produce a longitudinal and rotary movement thereof, substantially as described.

264,830. ATTACHMENT FOR NECK-YOKE STRAPS AND CHAINS. WILLIAM B. HAYDEN, Columbus, Ohio, and COTTON H. ALLEN, St. Louis, Mo. Filed June 27, 1882. (Model.)



Claim.—1. The combination, with a neck-yoke strap, of a buckle and a toggle-fastening connected with said buckle by means of a curved eye formed upon said toggle, substantially as described.

2. The combination, with a neck-yoke strap, of a buckle provided with an eye upon its lower bar and a toggle connected with said eye by a link or links, substantially as described.

3. A toggle for neck-yoke straps, having a centrally-attached curved link or eye, whereby it is adapted to be connected by means of a link with the said strap, substantially as described.

4. The combination, with the neck-yoke strap, of the buckles at each end, provided with an eye to receive a link and the toggles connected with said links by a bent eye or link formed on or attached rigidly to said toggles, substantially as described.

5. The buckle described, having the side bars extended to form the yoke and eye in substantially the same plane as the side bars, and provided with the two top cross-bars and the central cross-bar carrying the pivoted tongue, all constructed and arranged so that when a strap of sufficient length is inserted the yoke and eye will lie behind the strap, as set forth.

264,831. HAT OR OTHER HEAD-COVERING. L. HECHT, New York, N. Y. Filed Aug. 12, 1882. (No model.)

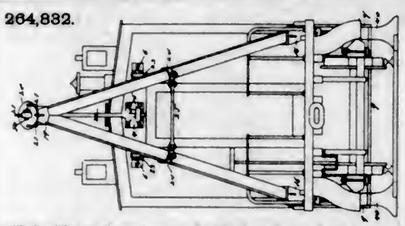


Claim.—A hat or other head-covering composed of two layers of canton-flannel and an intervening layer of paper united by an adhesive substance and pressed into shape, substantially as and for the purpose described.

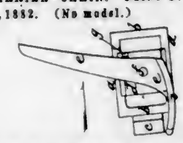
264,832. RAILWAY WRECKING-CAR. ROBERT HITCHCOCK, Springfield, Mass. Filed Aug. 2, 1882. (No model.)

Claim.—The combination, with a railway-car, of two timbers or supports adapted to be secured together at one end by a cap provided with guy-fastenings, and with the other ends separated and provided with shoes adapted to be secured in steps fastened to the lower part of the end of said car, one near each side, and fastenings secured to the upper portion of the end of the car, and braces adapted to be secured to said fastenings and to said supports, whereby the latter are held in an inclined position extending upward from the lower portion of the end of the car from which to suspend suitable hoisting-tackle, substantially as and for the purpose set forth.

264,832.



264,833. CARRIER-CHAIN. PLINY F. HODGES, Chicago, Ill. Filed Aug. 5, 1882. (No model.)

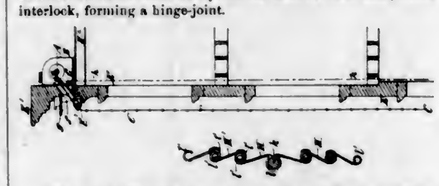


Claim.—1. A chain-link formed with an elevator bridge-like portion, *d*, adapted to support and afford a lateral bearing for a carrier-finger, which is pivoted substantially in the center thereof and provided with a stop for limiting the motion of said finger, substantially as set forth.

2. In combination with a chain-link having a finger-supporting device, a carrier-finger pivoted substantially in the center thereof, arranged to rotate in a plane parallel to the plane of the link-body, as set forth.

264,834. FIRE-ESCAPE. JACOB C. HORTON, New York, N. Y., assignor, by direct and mesne assignments, of one-half to Sylvester P. Gilbert, Francis W. Upham, and Susan R. Kendall, all of same place. Filed Apr. 28, 1882. (No model.)

Brief.—When released the ladder pays out of an opening, closed by a door hinged at the top, so as to open by the pressure of the ladder and close by gravity. An incline supports the outer end of the sliding carriage, on which the ladder rests. The links of the ladder are formed with cylindrical hooks at their ends, which interlock, forming a hinge-joint.



Claim.—1. The combination, with the wall E of a building, provided with the opening *f* and the door *g*, hinged at its upper edge, so as to close by gravity, of the windlass A', placed behind the opening *f*, and the ladder C, wound upon said windlass and adapted to be paid out through said opening and to automatically open said door by pressure against it, substantially as described.

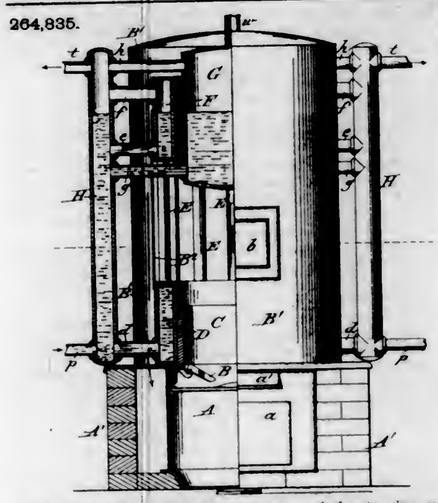
2. The combination of the windlass A', the ladder C, the carriage F F', having a pivotal and sliding connection at one end, with the frame of the fire-escape and the incline G, for supporting the outer end of said carriage, substantially as described.

3. The fire-escape ladder composed of the links H, provided with eyes *l*, the rounds or rungs *k*, inserted into said eyes, and the links H', both the links H and H' being formed with cylindric interlocked ends *l'*, substantially as herein described.

264,835. HEATING APPARATUS. JONATHAN JOHNSON, Lowell, Mass. Filed Mar. 3, 1882. (No model.)

Claim.—1. The combination, in a hot-water or a steam heater, of annular water-chambers provided with vertical connecting-pipes, a central interior case or water-chamber exposed to the direct action of the products of combustion, vertical water-pipes exterior to the furnace-case, and lateral tubes connecting the exterior pipes with the lower annulus and with the upper water-chambers, said lateral tubes being arranged to connect with said upper chambers, respectively, at a point near the top and a point near the bottom thereof, whereby the chambers are constantly supplied with water, substantially as set forth.

264,835.



2. The combination of the lower casing, A', upper concentric shells or casings, H B', lower annular water-chamber, D, arranged within the inner casing and adapted to serve as a fire-pot, upper annular water-chamber, F, vertical pipes E, connecting said annular chambers, inner water-chamber, G, vertical pipes H, exterior to the furnace and connected with the inner water-chambers by means of lateral pipes, and the flue I, communicating with the lower part of the furnace below the level of the fire-pot, whereby all the chambers are constantly supplied with water and the products of combustion are carried up over the inner faces of said chambers and downward over their outer faces, substantially as set forth.

3. In a heating apparatus, the combination of the lower annular water-chamber, D, upper annular chamber, F, vertical pipes E E, connecting said chambers, central water-chamber, G, supported at the upper part of the apparatus, vertical water-columns H H, exterior to the furnace-shell, and provided with inlets *p p* and exits *t t*, the horizontal pipes *d*, connecting the water-columns with the lower annulus, and other horizontal pipes, respectively, connecting said columns with the upper annulus and with the central chamber both at a point near the top and a point near the bottom thereof, substantially as set forth.

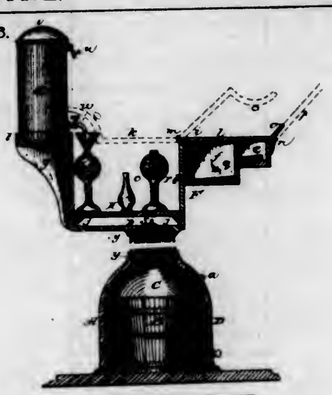
4. In a heating apparatus, the combination of the lower shell or casing, A', plate A², supported thereon, and having draft-openings *b' b'*, upper concentric furnace-shells, B' and B², annular water-chambers D and F, connected by vertical pipes E E, central water-chamber, G, vertical water-columns H H, connected by lateral pipes with the inner water-chambers, and the smoke-pipe I, communicating with the lower part of the furnace below the level of the fire-pot, substantially as set forth.

5. In a heating apparatus, the combination, with the inner water-chambers, D, F, and G, and exterior water-columns, H H, having inlets *p p* and exits *t t*, of the steam-separating radiator K M, having perforated plates M', eduction-pipe O, and return-pipe N, substantially as set forth.

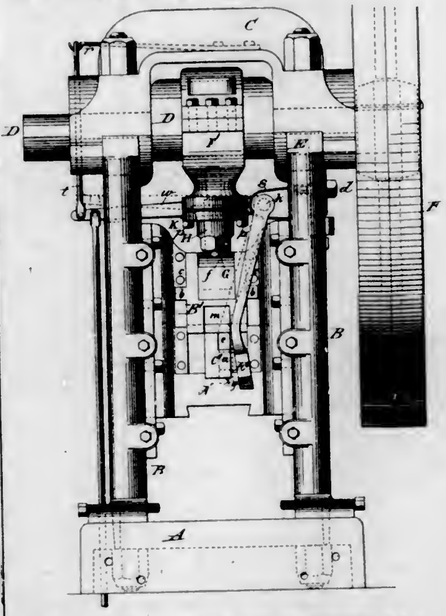
264,836. LAMP-FILLING STAND. JAMES J. JOHNSTON, Columbiana, Ohio, assignor to the United States Improvement Company, (Limited,) same place. Filed Feb. 23, 1882. (No model.)

Claim.—A lamp-filling stand constructed of metal and having compartments *c d e*, wash-bowl *f*, and stand or support *g*, cast in a single piece and mounted upon a pedestal having a chamber, C, furnished with a door, D, hinged at *a*, said compartments having a folding lid, I, and communicating with each other and with the chamber C, substantially as herein described, and for the purpose set forth.

264,836.



264,837. POWER-PRESS. HORACE B. KINNEY, West Winfield, N. Y. Filed Nov. 19, 1881. (No model.)



Claim.—1. The combination, with the chambered sash A', having shoulders *c c*, of the piston B', arranged within said sash, and provided with projections *b b*, adapted to engage with said shoulders and thereby lift the sash, substantially as described.

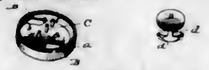
2. The combination, with a chambered sash, A', and recessed clutch-bar C', carried by the sash, as shown, of a vertically-reciprocating piston, B', arranged within the said sash, and adapted to actuate the same, substantially as described.

3. The combination, with the sash A', piston B', and clutch-bar C', adapted to connect said sash and piston, of the spring D' and pivoted arm or lever E', said spring and lever being adapted to operate the clutch-bar so as to clutch and unclutch the sash and piston, substantially as described.

4. The combination, with the chambered sash A', recessed piston B', arranged therein, and the recessed clutch-bar C', connected with the sash by a spring, D', and provided with a lug, *a*, having an inclined face, *a'*, of the pivoted arm or lever E', having an inclined end, *g*, and mechanism for actuating said lever for the purpose of unclutching the sash and piston, substantially as described.

5. The combination, with the sash A′ and piston B′, connected therewith, of the pitman F′, threaded shank G, nut H, and coupling K, whereby the pitman may be adjusted to regulate the stroke of the sash, substantially as described.

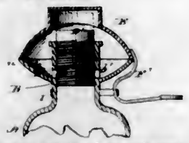
264,838. CUFF-BUTTON. DAVID LUBIN, Sacramento City, Cal., assignor of one-half to Harris Weinstock, same place. Filed June 19, 1882. (Model.)



Claim.—1. In a separable sleeve-button, the combination of the face piece A, provided with pins *c C c′*, and having an annular rim, *a*, to which are secured the springs B, with the back plate D, having its shank *d* provided with a central opening adapted to receive the pin C, substantially as shown and described, and for the purposes set forth.

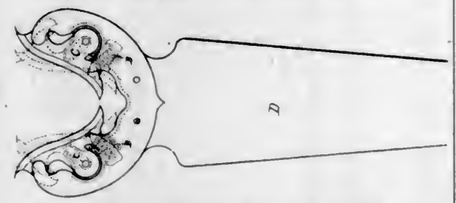
2. In a separable sleeve-button, the combination of cap A, having three projecting pins *c C c′*, the central pin, C, being adapted to enter an opening in the center of head *d′*, and the pins *c c′* to bear against its opposite sides, with the springs B B, constructed as shown and described, and for the purposes set forth.

264,839. BOTTLE. DAVID LUBIN, Sacramento City, Cal., assignor of one-half to Harris Weinstock, same place. Filed Feb. 23, 1882. (No model.)



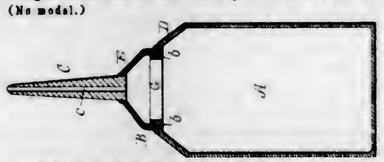
Claim.—The new article of manufacture, consisting of a jug having a pouring or drip cup, a neck extended above the base of this cup and formed entire with the body of the jug, the perforations *b b′* through the neck, the stopple-valve, and the hinged cover, all combined in the manner shown and described.

264,840. BOOT-JACK. REUBEN MYERS, Harshmansville, Ohio, assignor of one-half to George G. Clark, same place. Filed Feb. 6, 1882. (Model.)



Claim.—In a boot-jack provided with the frame or base D, the combination of the rigid jaws with a pair of spring yielding jaws, and arranged to operate substantially as set forth.

264,841. OIL-CAN. CHARLES H. POLAND, Providence, R. I., assignor to Smith & Poland, same place. Filed July 20, 1882. (No model.)



Claim.—1. The tube C, of uniform bore, irremovably secured to the separable upper portion, E, of the breast B, and means for attaching and detaching the portion E from the mouth G of the breast proper of the can, substantially as set forth.

2. The tube C, of ductile metal, having a uniform bore and irremovably secured to the portion E of the breast B, said portion E being removably secured to the lower portion, D, of said breast, and said portion D being soldered to the body of an oil-can, substantially as shown and described.

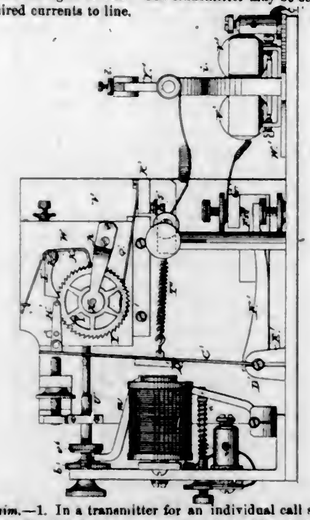
264,842. BUTTON-FASTENER. GEORGE W. PERRTICH, Providence, R. I., assignor to the Heaton Button Fastener Company, same place. Filed Mar. 15, 1882. (No model.)



Claim.—As an improved article of manufacture, the herein-described button-fastener, consisting of the plate or base A, one end whereof is provided with the fastening-prongs *a* and the opposite end with a spring-loop, *b*, having a downwardly-projecting spur, *c*, whereby the shank of a button may be attached to or removed therefrom, substantially as and for the purpose specified.

264,843. INDIVIDUAL CALL FOR TELEPHONE OR OTHER CIRCUITS. WILLIAM H. PERRTICH and SAMUEL H. BECKWITH, Utica, N. Y., assignors to Frank J. Callanan, same place. Filed Oct. 11, 1881. (Model.)

Brief.—Individual call-bell and transmitter-batteries of greater and less strength are used. The latter is employed to rotate a circuit-closer into position through a step-by-step movement. When brought into position the strong battery is thrown to line and circuit closed. A local battery is employed, or main line may be shunted through the bell. The transmitter may be set to send the required currents to line.



Claim.—1. In a transmitter for an individual call system, a rotary metallic disk having an annular plate of insulating material, with points protruding through the same at regular intervals, and provided with insulating-eyelets fixed at points representing individual call-boxes, in combination with an arbor and an impelling-spring or its equivalent to rotate said disk, a locking-ratchet, a triple pawl-ratchet device, and a train of wheels connecting with a regulating fly or fan, as and for the purpose set forth.

2. In combination with the metallic disk having an annular ring and contact-points in said ring and means for rotating the same, the arm Q, insulated from its axis and adjustable, the arm P, the spring-arm J, and friction-spring R, with light and heavy batteries and circuit-connections, as and for the purpose specified.

3. The disk H, having an insulated rim or plate, I, and points or pins *e* in said plate, combined with the fixed arm P, spring-arm J, friction-spring R, and battery and circuits, as described, by means of which, in the movement of said disk, additional battery is switched on to close the circuit to the primary magnets of the call-box, as and for the purpose set forth.

4. In combination with the insulated spring-arm J and disk provided with the insulated rim, the metallic points, and a slot, M, the insulated plate N, by which the current from the main battery is grounded, as and for the purpose specified.

5. In an individual call-box, the combination, with the primary electro-magnets, the armature B′, the bar or plate C′, and retractile spring controlling the latter, of the pawl H′, the ratchet-wheel Y, escapement-wheel Z, pawl I′, and pallet K′, adapted to engage with wheels Y and Z, as and for the purpose set forth.

6. In combination with the primary electro-magnets of an individual call-box, the vibrating armature and elastic bar associated therewith, and the pawl-and-ratchet mechanism, of the arm L′ on shaft X and the holding spring-arm M′, as and for the purpose set forth.

7. The combination of the armature and primary electro-magnets, the armature plate or bar C′, the ratchet-wheel Y, having the pin P′ and the spring-arm Q′, the arm F′, connected to C′ at right angles thereto, and bracket G′, having contact-points thereon, with circuits, as described, as and for the purpose set forth.

8. The combination, with the primary electro-magnets and armature, of the curved adjusting-bar *m*, the spring *n*, and the set-screw to limit the forward throw of said bar, as and for the purpose specified.

9. In combination with the frame V and guides thereon, the adjusting-screw U′, the sliding frame W, resting on said guides, and signal mechanism carried by said frame, as and for the purpose set forth.

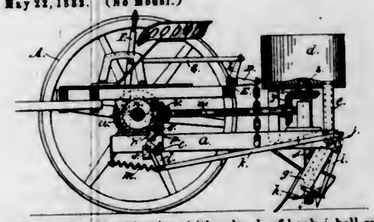
10. The secondary electro-magnets V′, the armature-bar Y′, and armature fixed thereto, in combination with the notched horizontal lever Z′, as and for the purpose set forth.

11. The mechanism which closes the secondary circuit to the bell from the impulses of the primary magnets by a current from the light battery and the additional battery, which consists of the pin P″, attached to the ratchet-wheel Y, the connecting spring-arm Q′, connected to upright X′, and the arm F′, connecting with one pole of said magnets through the bracket G′ and set-screw fixed thereon, substantially as and for the purpose set forth.

12. The combination of the transmitter described with the call-box having primary and secondary magnets, pawl-and-ratchet mechanism, he spring-cushioning device *m*, the circuits connecting the transmitter with the call-box, and the circuits connecting the primary and secondary magnets, the locking mechanism for the bell-circuit, the vibrating bell, and the independent circuit connecting the bell, substantially as and for the purpose set forth.

13. The combination, with the unlocking switch-arm and battery and circuit-connections of the transmitter and main line, of the spring-arm M′ and arm L′ of the call-boxes, substantially as and for the purpose set forth.

264,844. CORN-PLANTER. JOHN S. RAY, Indianapolis, Ind., assignor of one-half to Charles A. Lauman, same place. Filed May 22, 1882. (No model.)



Claim.—The combination, with valve *h*, of hook *i*, bell-crank *j*, rod *k*, arm *l*, spring *m*, shaft-arm *s*, and revolving arm *r*, whereby said valve *h* is successively engaged, opened, and released in the manner shown and described, and for the purpose set forth.

REISSUES.

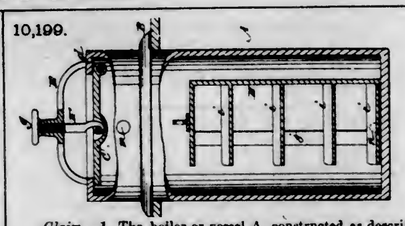
10,198. WRITING-TABLET. JOHN F. MALETTE, Watkins, N. Y. Filed Aug. 5, 1882. Original No. 246,023, dated Aug. 23, 1881.



Claim.—1. The combination, with the upper cover or lid of a blank book or writing-tablet, of a blotter-sheet and a flexible connection therefor, the latter being formed by diagonal intersecting rows of stitches connected by transverse rows of stitches, in the manner and for the purpose set forth.

2. The writing-tablet, substantially as hereinbefore described, provided with an upper cover or lid made in two parts, C c, with a flexible joint, T, the part c being adapted to fold upon the back of the tablet and the part C upon its base.

10,199. CULINARY BOILER. LEWIS MCLELLAN, Gorham, Me. Filed May 1, 1882. Original No. 53,419, dated Apr. 27, 1869.

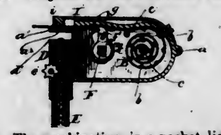


Claim.—1. The boiler or vessel A, constructed as described, and provided with the steam-supply opening *m*, the hinged cover C, bail E, hook F, and nut *g*, substantially as described, and for the purpose set forth.

2. The combination, with the boiler or vessel A, provided with the steam-supply opening *m*, hinged cover C, bail E, hook F, and nut *g*, of the rack H, substantially as described, and for the purpose set forth.

3. The trap I, in combination with the vessel A, constructed as described, and provided with the flange B, steam-supply opening *m*, the hinged cover C, bail E, hook F, nut *g*, and rack H, as herein set forth, for the purpose specified.

10,200. CIGAR-LIGHTER. GEORGE SELDEN, Erie, Pa. Filed Aug. 14, 1882. Original No. 206,835, dated Aug. 6, 1878.



Claim.—1. The combination, in a pocket lighting device, of a wick-holder, a percussion-tape holder, and means for feeding and igniting the tape.

2. The combination, in a pocket lighting device, of a wick-holder, a wick movable in said holder, a percussion-tape for igniting said wick, and mechanism for feeding and igniting said tape.

3. The combination, in a pocket lighting device, of a wick-holder, a wick movable longitudinally in said holder, a compartment or holder inclosing a percussion-tape, and mechanism for feeding and igniting said tape.

4. The combination, in a pocket lighting device, of a percussion-tape holder, mechanism for feeding and igniting the tape, a wick-holder, and means whereby the moving or feeding of the wick outwardly may be effected by the user without grasping or touching the wick.

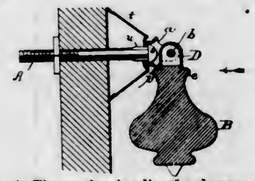
5. In a pocket lighting device, a box or case for inclosing percussion-pellets, in combination with a wick duct or holder, and mechanism capable of operation from the exterior of the case for feeding and igniting the percussion-pellets.

6. In a pocket lighting device, the case A, for inclosing a repeating match or tape, provided with pellets of fulminate, in combination with a wick tube or holder, D, hinged to said case.

7. The case A, provided with a perforated anvil, *a′*, and the spring and hammer I, operating substantially as and for the purpose set forth.

8. The shaft F, provided with arms *f f′* and *g*, in combination with the tape having pellets of fulminate, and the hammer for exploding the same, substantially as described.

10,201. DRAWER-PULL. GEORGE W. TUCKER, Waterbury, Conn. Filed May 3, 1882. Original No. 234,696, dated Nov. 23, 1880.



Claim.—1. The wooden handle of a drawer-pull, provided with a thimble covering the inner end, having a lip engaging with a shoulder of the handle, said thimble constructed for jointing to the spindle by a transverse pin extending through the thimble, and serving both as a ferrule and as a means of connection, as set forth.

2. The combination, in a drawer-pull, of a headed bolt, A, passing through the drawer and through the shell *t*, forked head *a*, consisting of a yoke of malleable metal concealing the head *s* of the bolt and clamped thereby to the shell, and the drop-handle, substantially as set forth.

10,202. ROLLED-FOIL WRAPPER. HENRY S. CROOKS, New York, N. Y. Filed Aug. 8, 1882. Original No. 229,676, dated July 6, 1880.

Claim.—1. The improvement in the art of making metallic-foil wrappers, consisting of the following operations, viz: the rolling of the tin-foil out of the ingot and the dead surfacing or whitening of the rolled tin-foil, all substantially as described.

2. As a new article of manufacture, the wrappers of rolled tin-foil having a dead or whitened surface imparted to it, substantially as herein described.

3. As a new article of manufacture, the wrappers of rolled tin-foil having a dead or whitened surface and printed, substantially as herein described.

4. The improvement in the art of making metallic-foil wrappers, consisting of the following operations, viz: the rolling of the tin-foil out of the ingot, the dead surfacing or whitening of the rolled foil, and the subsequent printing of the dead surface, substantially as before set forth.

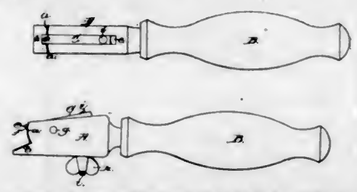
10,203. PICTURE-NAIL. THOMAS C. RICHARDS, Winsted, Conn. Filed Apr. 2, 1880. Original No. 189,730, dated Nov. 9, 1875.



Claim.—1. The combination of, first, the shaft for entering a wall; second, the jacket covering that portion of the shaft intended to project from the wall to receive and sustain a picture-cord, and with one end to abut against a wall and the other end to receive a head or button; and, third, the ornamental head or button, all substantially as described, and for the purpose set forth.

2. The combination of the threaded shaft, the jacket fast to the shaft, and the button fast to the jacket, all constructed substantially as described, and for the purpose set forth.

10,204. SOLE-EDGE FINISHER. MYRICK DUDLEY, Lynn, Mass., assignor, by mesne assignments, to himself and Ira B. Keith, same place; and said Dudley assignor of all his right to said Keith. Filed July 22, 1882. Original No. 246,944, dated Sept. 13, 1881.



Claim.—1. The combination of the head A, provided with the guide-lip *b* and burnishing-surface *a*, as described, with the separate adjustable block C, arranged in and pivoted to the said head in manner as represented, and having the burnishing-surface *d*, guide-lip *e*, and edge-molder *f*, and means of adjusting such block in the head, as explained.

2. In a sole-edge finisher, two burnishing-surfaces, *a a*, combined with an intermediate pivoted and yielding block provided with the guide-lip *e*, substantially as described.

3. The head provided with the independent burnishing-surfaces *a a* and lip *b*, and the pivoted intermediate block having the surfaces *d* and guide-lip *e*, combined with a spring to keep the guide-lip pressed toward the lip *b* in a yielding manner, substantially as described.

PHOTO LITH. NORRIS PETERS WASHINGTON D.C.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

EX PARTE ROWAN.

Decided May 16, 1882.

1. APPLICATION FOR PATENT—OATH.

An applicant for a patent should make oath that his invention has not been in public use or on sale in this country for more than two years prior to the filing of his application.

2. SAME—SAME.

An applicant for a patent should make oath that he does not believe the subject-matter of his application was ever known or used prior to his invention; but not that it was not so known prior to his application.

INTERLOCUTORY APPEAL.

TREATING COAL FOR TRANSPORT AND STORAGE.

Application filed February 23, 1882.

Messrs. J. J. Halsted & Son for the applicant.

MARBLE, *Commissioner:*

Appeal is taken in this case from the action of the Examiner requiring the oath to the petition to be amended in two particulars: first, so that it shall show that the invention had not been in public use in this country for more than two years prior to the filing of the application; second, that the applicant shall swear that he does not believe that the same was ever known or used prior to his application, instead of prior to his invention thereof.

Applicant relies in his appeal upon the form of oath given, under date of November 15, 1881, in OFFICIAL GAZETTE of that date, volume 20, No. 20, page 1381, for a justification of the oath filed. The oath appears to be in substantial compliance with the form referred to. I think, however, that the Examiner's first objection is well taken. The statute provides that any person who has invented or discovered any new or useful art, manufacture, or machine, &c., not known or used by others in this country, and not published or described in any printed publication in this or any foreign country, and "not in public use or on sale for more than two years prior to his application," &c., may, upon payment of the proper fees, have a patent therefor. The conditions of the statute are that the applicant must not only be the first and original inventor, but the invention must not have been patented in any foreign country, nor described in any printed publication, nor have been on sale or in use for more than two years in this country before the filing of his application, not, as stated in the oath, before the time of his invention. Notwithstanding, therefore, the form of oath given, as above mentioned, I think that the Examiner was right in holding that the oath should be amended in this particular.

On the second point I think that the Examiner errs. An applicant may believe himself to be the first and original inventor. He may be willing to swear that the invention claimed by him has not been patented in any foreign country; that it has not been described in any printed publication in this or any foreign country before his invention or discovery thereof, and that it has not been in public use or on sale in this country for more than two years, and yet not be able to swear that it has not been known or used by any other person prior to the time of the filing of his application. The applicant may at the time he files his application know that another person is using and selling the invention claimed by him, but, believing himself to be the first inventor, may swear, in accordance with the form of the oath mentioned, that he does not believe his invention was ever known or used prior to the time when he invented it. Cases of this kind not unfrequently occur. Parties file their applications for the express purpose of having them put in interference with a pending application or an unexpired patent in order to have the question determined as to who was the first inventor of the device. If every applicant were required to swear that the invention was never known or used prior to the time he filed his application, many persons would be deterred from filing applications or contesting the right of invention because they could not swear that the invention claimed by themselves was not known or used by some other person prior to the time when they filed their applications.

The Examiner is therefore directed to advise the applicant that the oath must be amended in the first particular mentioned, but need not be in the second.

DECISIONS OF THE U. S. COURTS.

U. S. Circuit Court—District of Connecticut.

IVES *et al.* v. HARTFORD SPRING AND AXLE COMPANY.

Decided February 18, 1882.

LETTERS PATENT NOS. 216,276 AND 233,932 HELD NOT TO INFRINGE LETTERS PATENT NO. 200,214 AND REISSUE NO. 8,719.

Carriage-axles manufactured under letters patent to Ellsworth D. Ives, Nos. 216,276 and 233,932, dated June 10, 1879, and November 2, 1880, respectively, *Held* not to infringe letters patent to Willis E. Miller, No. 200,214, dated February 12, 1878, and Reissue No. 8,719, May 20, 1879, of original Letters Patent No. 68,808, dated September 10, 1867.

Mr. John Kimberley Beach for the plaintiffs.

Mr. Wm. E. Simonds for the defendant.

SHIPMAN, *J.:*

This is a bill in equity to restrain the defendant from the alleged infringement of Reissue Letters Patent No. 8,719, issued May 20, 1879, to the plaintiffs, as assignees

of Welcome C. Tucker, for an improvement in wagon-hubs, and also from the infringement of letters patent granted to Willis E. Miller, February 12, 1878, for an improvement in carriage-axles. The original Tucker patent was issued on September 10, 1867. The defendant is manufacturing carriage-axles under letters patent granted to Ellsworth D. Ives on June 10, 1879, and on November 2, 1880.

The invention of Tucker, as secured by his original patent, related to an improvement in wagon-hubs made of iron or other suitable metal. It consisted, in the language of the specification—

In connecting the hub with the axle by cup-flanges and securing the hub on the axle with a cup-flanged nut in such manner that the bearing of the axle shall be entirely closed at both ends to retain the oil and exclude dust and dirt.

The improvement also included—

An arrangement of adjustable collars for securing the wheel to the hub by a firm attachment.

The construction of the flanges upon the hub and axle is described with sufficient accuracy in the second claim of the reissue, which is hereafter quoted.

The claims were as follows:

1. The cup-flanges *c c* on the back and front ends of the wagon-hub B, upon which are fitted the corresponding flanges *a* on the axle A and *n* on the nut *d*, as herein shown and described.
2. In combination with the above, I claim the stationary collar *m* and the adjustable collar *m'* on the hub B, combined and arranged as and for the purpose specified.

The flanges and the collars were distinct improvements. It was feared that the language of the first claim limited the cup-flanges to those on the hub B, and thus improperly limited the invention to a combination of flanges and collars. A reissue was obtained, in which the claims were as follows:

1. The axle-arm, on which the wheel takes its bearing, with the shoulder at its inner end, and the flange projecting forward from the shoulder parallel with and concentric to the arm, all made as a part of the axle, combined with the box fitting said arm and constructed to enter beneath said flange, and with a concentric recess corresponding to and so as to inclose said flange at the shoulder of the axle-arm, substantially as described.
2. The combination of the box constructed with a cup-shaped flange at the outer and inner ends, the axle with a cup-shaped flange at the shoulder, and so as to be inclosed by the cup-shaped flange on the box, the nut constructed with a cup-shaped flange, the corresponding cup-shaped flange on the box inclosing the flange of the nut, a stationary collar, *m*, and adjustable collar *m'*, and so as to inclose the wood center of the wheel, substantially as described.

Infringement of the first claim only is alleged.

It will be perceived that in the claims of the reissue the word "box" is substituted for the word "hub" in the claims of the original patent. Axle-boxes are "bushings for hubs. Their duty is to take the wear incident to revolving on the spindle of the axle." (Knight's Mechanical Dictionary.) The original specification described an iron hub. The plaintiffs now desire to avail themselves of the distinction between hub and box and to claim that the Tucker invention consisted in part in a peculiar construction of box as distinguished from the same construction in a wooden hub inclosing a straight iron tube or box. In my opinion, the reissue does not make a box as distinguished from a hub a characteristic feature of the invention. In the next place, the flanges at the onter end of the hub disappear from the first claim of the reissue. It is said by the plaintiffs that the application of the flanges to both ends of the hub is a mere duplication of the invention, and that this mode of construction, while practicable when applied to a hub which had adjustable collars, could not be used in connection with the ordinary methods of fastening the wheel to the hub. I assume that this change does not introduce the vice of new matter into the reissue.

It will be perceived from this statement that the invention as secured by the original patent was a narrow one. An examination into the state of the art shows that the actual invention was also a very narrow one, and that, unless the general language of the reissue is construed in accordance with the state of the art and with the limitations of the original patent in regard to the form of the flanges, the reissue will be broader than the invention, and will include devices quite different from those which were intended to be the subject of the original patent.

Interfitting or intermeshing flanges and recesses upon an axle and hub were not only old, but the flanges and recesses of Tucker were old at the date of his invention. They are found in the patent to R. W. McClelland, of October 12, 1858; but in his axle the wheel bears wholly upon the flanges at each end of the hub, whereas in the Tucker axle "the box fits the axle-arm throughout its entire length."

In the patent to John W. Crannell, of July 15, 1862, the flanges and recesses are the same as in the Tucker patent. The differences in construction are that the recess which in the Tucker device is at the end of the so-called "box" is in the Crannell axle, the end of the wooden hub, outside of the iron lining, and the flanged collar is not an integral part of the axle, but is secured to it. In the Tucker reissue the latter difference is pointed out in the clause (referring to the arm shoulder and flange) "all made as a part of the axle."

The invention of Tucker, so far as it relates to the flanges, consisted in putting the cup-shaped recess of Crannell upon an iron hub or box instead of upon a wooden hub, and in making the axle-arm and its flange in one piece instead of in separate pieces. The character and extent of the invention is clearly shown in the following extract from the decision of the Acting Commissioner of Patents upon the plaintiffs' appeal from the Board of Examiners' rejection of the application for a reissue:

Applicant's claims are as follows:

"1. The combination of the axle-arm on which the wheel takes its bearing, shoulder at the inner end of said arm, a flange projecting forward from the shoulder, parallel with and concentric to the axle, a box fitting said arm and extending beneath said flange at the shoulder, and a concentric recess in the box to receive said flange, formed by a concentric flange extending from the rear end of the box over and so as to inclose said flange at the shoulder of the axle-arm, substantially as described."

* * * * * * *

One of the references, the patent of John W. Crannel, of July 15, 1862, for an improved axle, shows and describes a structure so nearly like applicant's in form and operation as covered by his first and second claims that the differences can be described by the mention alone of the superiority of applicant's device in the matter of mechanical construction.

As the Board of Examiners-in-Chief in their decision remark, Crannel's patent is much the closer anticipation, having the same configuration of flanges for the same precautionary purpose. Applicant's device is, however, mechanically superior as a whole, in that his hub, axle, shoulder, and nut, with their entering flanges, are all made of similar material, admitting of machine fitting, and thus enabling the present application to dispense with the packing which Crannel with his fitting of wood upon iron is obliged to resort to.

If these superior mechanical qualities constitute a patentable invention, it cannot receive protection by the present first and second claims, which do not rest upon those qualities, but cover a structure not only like Crannel's, but which in terms also include the patent of McClelland, No. 21,766, of October 12, 1858.

* * * * * * *

The first claim of the reissue was thereupon substituted for the rejected first claim and the application was granted.

The plaintiffs' reissue rests upon the superior mechanical method in which the patentee constructed Crannel's hub, axle, and shoulder, with their flanges and recesses. It is limited to the cup-shaped flanges

and recesses of the original patent, and cannot be enlarged to take in any shape of concentric flange on the shoulder and a correspondingly-shaped concentric recess in the hub to inclose the flange, although the device has all the other requisites described in the first claim.

The defendant's device has a conical or concave recess in the shoulder or collar on the axle and a corresponding convex or conical projection on the box or hub. Its flanges and recesses are not cup-shaped. The Crannel intermeshing flanges contain four angles. The defendant's device contains but two, and is a simpler piece of mechanism.

The Miller patent is for an improvement on the Tucker axle. The claim is for—

The combination of an axle-arm the collar of which is constructed with a flange projecting forward parallel with the axis, and a box constructed with a groove corresponding to said flange and so as to extend over the said collar, with an annular recess between the said collar and the box, substantially as described.

The defendant has a groove between the collar and the box. If the Miller claim is to be construed as the addition of the annular recess to the Tucker device, there is no infringement. If the claim is for the device as broadly as it is described, the invention was anticipated by the McClelland axle.

Let the bill be dismissed.

U. S. Circuit Court—Southern District of New York.

BRUCE *v.* MARDER *et al.*

Decided October Term, 1881.

1. LETTERS PATENT NO. 139,365 CONSTRUED AND SUSTAINED.

The claim in Letters Patent No. 139,365, for "figures and fractions in printing-type cast upon a block equal to two-thirds the width of the body of the 'em' or standard type," construed in light of the specification to cover the broader figures as well as the broader body of type, and is for a patentable invention.

2. SAME—PRINTING-TYPES—MECHANICAL SKILL.

The invention described in the patent is not merely increasing the size of the figures alone or increasing the size of the body of the type alone, but in increasing the size of the figures without increasing the size of the type of the letters and the body of the line, and at the same time making the body of the type of the figures exactly two-thirds of the width of the body of the line, so that they can be justified by two of the ordinary three-in-em spaces, whatever the size of the type of the body of the line might be. This required more than mechanical skill, and called for the creative genius of the inventor.

3. GREAT UTILITY OF INVENTION—NOVELTY.

The fact that an invention is of great utility and has gone largely into use goes far to show that the inventor discovered and put to use what others skilled in the art had overlooked, and it would probably have been found out before if ordinary skill in that art could have discovered it.

Mr. Benj. F. Lee for the orator.

Mr. H. F. Pultzs for the defendants.

WHEELER, *J.*:

This suit is brought upon Letters Patent No. 139,365, dated May 27, 1873, granted to the orator for an improvement in printing-types. The improvement consists in having types for figures cast two-thirds the width of the body, which is the height of the type, and with correspondingly-larger faces, whereby the types can be more readily set, because they can be "justified," as printers say, by two of the ordinary three-in-em spaces, and because the print is much more legible. The defenses are, want of patentability of invention and want of novelty.

The claim in controversy of the patent is for—

Figures and fractions in printing-type cast upon a block equal to two-thirds the width of the body of the "em" or standard type.

If this claim was to stand upon its own terms merely, it would cover only the size of the body of type on which figures are cast, and not the size of the figures themselves as cast upon the body, and the patent as involved here would have to be considered in that view. But the specification sets forth the old method of casting type for figures, and the indistinctness on account of smallness of the figures as one of the disadvantages of that method, and then proceeds: "To obviate this indistinctness I construct the figures broader by casting them two-thirds of the width of the body," &c., and refers to the accompanying drawings, which show large-faced figures contrasted with small ones, as a part of the improvement. The claim is to be read in connection with the specification, as if there was added to it the phrase, "as specified" or "as set forth." Read in that light the claim is for the broader figures as well as for the broader body of the type.

The claim of lack of patentabililty rests upon the argument that there can be no invention in merely increasing the size of the types for figures, or the width of the body of the type, and none in doing both. At first it would seem that this argument was well founded as to the scope of the patent and sound; but a closer examination of the subject shows that the patent involves more than either of these things or the combination of both. The invention is not merely of an increase of the size of type for figures. Figures in printing are to be used in the same body of type with letters, and the whole are to be "justified," in the language of printers. In other words, spaced, so as to fill out the lines.

By the old method figures were cast on types one-half the width of the body of the line, whatever the size of the type might be; and an increase of the size of the figures made necessary an increase of the size of the whole. The orator invented a method of increasing the size of the figures without increasing the size of the type of the letters and the body of the line, and a method of conveniently justifying the types for figures by making the width of the body of the type exactly two-thirds of the width of the body of the line, so that they could be justified by two of the ordinary three-in-em spaces, whatever the size of the type of the body of the line might be. This involved finding a new rule of proportion between the sizes of letters and the sizes of figures, and one that would not only give more legible figures, but such as would be more legible without increasing the size of the letters with which they should be printed, and such size of body of type on which to cast the figures that the types could be used conveniently and economically of space. This required more than mere mechanical skill. It made necessary the creative genius of the inventor.

The testimony of practical and largely-experienced printers taken in the case shows that his method was not known before his invention; that it has been of great utility and gone largely into use since. This shows that he discovered and put to use what others skilled in the art had overlooked, that it was very desirable when known, and would very probably have been found out before if ordinary skill in that art could have discovered it. On the whole, the presumption of

patentability arising from the grant of the patent is not only not overthrown but is well sustained.

The evidence as to prior knowledge and use establishes fairly enough that types for figures were cast with the body of the type two-thirds the width of the body of the line before this invention; and if that was all of the invention, or if the claim was to be construed according to its own terms without resort to the specification, so that no more would be patented, the want of novelty might be made out. But, as before attempted to be shown, the invention involves the increase of the size of figures in proportion to the size of letters in connection with this size of the body of the type, and the whole of that does not appear with the requisite clearness to have been known or used before.

Let there be a decree that the patent is valid, that the defendants infringe, and for an injunction and an account according to the prayer of the bill, with costs.

U. S. Circuit Court---Southern District of New York.

SEARLS *v.* MERRIAM *et al.*

Decided January 30, 1882.

LETTERS PATENT NO. 221,482 DECLARED INVALID.

Letters Patent No. 221,482, dated November 11, 1879, for an improvement in whip-sockets, *Held* to be invalid for want of invention.

Mr. J. P. Fitch for the plaintiff.
Mr. N. Darenport for the defendants.

BLATCHFORD, *J.*:

This suit is brought on Letters Patent No. 221,482, granted to the plaintiff as assignee of John M. Underwood, the inventor, November 11, 1879, for an improvement in whip-sockets.

The whip-socket is formed of a hollow cylinder the upper open end of which is provided with a flexible elastic ring of india-rubber or analogous material, for the purpose of holding the whip-stock upright by the pressure between it and the interior of the ring. The ring fits in a recess or annular groove in the upper open end of the socket, so as to be retained therein by its own elastic expansive force. The inner edge of the ring is corrugated or provided with projections formed on and extending from the inner edge of the body of the ring inward toward its center. These projections are entirely separated from each other, with spaces between them, so that they will not be pressed into contact with one another by the insertion of the butt of the whip-stock in the socket. The extreme inner faces of the projections form a circle and support the stock by pressing against it, while they yield to permit it to be pushed in or drawn out, and the ring, though disturbed in place by those movements, will readjust itself in the recess when the stock is removed, because it is held therein by its elastic force alone.

The patent has two claims:

1. The combination, with a whip-socket having an annular recess in it, of a flexible elastic ring, which may be held in such recess by its own elastic force, and which is provided on its inner edge with non-contiguous projections, separated so that they cannot be pressed into contact with one another by the insertion of the whip-stock into the ring.
2. The ring composed of a body with such projections.

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The specification sets forth that—

A simple rubber ring without projections has been used, held in an annular recess in the mouth of the socket, the interior of the ring being made small enough to grasp the whip-stock, and such a ring has been held in place in the recess in the socket by its own expansive force.

Also, that radial slits have been cut in the inner edge of the ring without removing any of the rubber. The point of the new arrangement is stated to be that—

The separated projections, while they are rigid enough to hold the whip upright and prevent it from wabbling, will yet so easily give way to the pressure of the stock as to allow the stock to be readily inserted and removed.

It is obvious that a plain ring, or a ring with radial slits, has the same action, in combination with an annular recess in which it is held by its elastic force alone, so far as regards its readjustment in the recess when disturbed, that a ring with inward non-contiguous projections has. The coaction between the recess and the part of the ring in it when the part of the ring out of it and next to the stock is disturbed is the same in all three cases. Therefore if the ring with inward non-contiguous projections existed before, even though without the annular recess, there was no patentable invention in using such ring with the old annular recess with which the plain ring had been used.

The date of the Underwood invention was May, 1878. The rubber disk (defendants' Exhibit C) with non-contiguous projections existed in 1873. The number of projections and the number and size of the openings between the projections depended then and depend now on the thickness of the rubber. That fact was then known. It was also then known that the capacity of the rubber to exert the expansive force necessary to maintain its place in the annular recess depended on its substance and thickness.

In view of the use in an annular recess of a plain ring of sufficient substance and thickness to maintain its place in the annular recess, the fact that defendants' Exhibit C was not used in an annular recess, but was clamped between the end of the socket and a cap, is not sufficient to make it a patentable invention to use in an annular recess a rubber thicker than defendants' Exhibit C with the same character of non-contiguous projections. The action of the inner part of the ring against the stock so far as the non-contiguous projections are concerned is the same whether the outer part of the ring is held in an annular recess or is clamped between the end of the socket and a cap. It is quite apparent, as is stated by the expert for the plaintiff, that the number or size or shape of the openings between the projections does not constitute a substantial difference so long as they are of sufficient size and of a proper shape to permit the stock to pass through the ring without forcing the edges of the projections in contact with each other, and the smaller portions of the projections are extended toward the center. These conditions are found in defendants' Exhibit C. When the idea is once suggested, as in that exhibit, to have openings of that character it is but ordinary knowledge to vary their number and size according to the thickness of the material.

Neither claim of the patent can be sustained, and the bill is dismissed, with costs.

THE
OFFICIAL GAZETTE
OF THE
United States Patent Office.
[BY AUTHORITY OF CONGRESS.]

VOL. 22—NO. 13. TUESDAY, SEPTEMBER 26, 1882. PRICE—$5 per year

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ATTORNEYS.

DEPARTMENT OF THE INTERIOR,
Washington, September 20, 1882.

SIR: You are hereby informed that the order of the Department, dated April 14, 1880, disbarring Charles D. Gilmore, of this city, from practice as an attorney before this Department and its bureaus, has this day been rescinded.

Very respectfully,

H. M. TELLER, *Secretary.*

The Commissioner of Patents.

Issue of September 26, 1882.

Patents	386—	No. 264,845 to No. 265,230, inclusive.
Designs	11—	No. 13,313 to No. 13,323, inclusive.
Trade-marks	11—	No. 9,691 to No. 9,701, inclusive.
Labels	4—	No. 2,767 to No. 2,770, inclusive.
Reissues of patents	7—	No. 10,205 to No. 10,211, inclusive.
Total issue	419	

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks and Labels.	States.	Patents and Designs.	Trade-Marks and Labels.
Alabama	3	.....	Nebraska	2	.....
Arizona Territory	.....	.....	Nevada	.....	.....
Arkansas	2	.....	New Hampshire	.....	.....
California	15	.....	New Jersey	24	.....
Colorado	4	.....	New Mexico Territ'y	.....	.....
Connecticut	10	1	New York	77	5
Dakota Territory	.....	.....	North Carolina	1	.....
Delaware	1	.....	Ohio	33	3
District of Columbia	2	.....	Oregon	.....	.....
Florida	.....	.....	Pennsylvania	54	1
Georgia	3	.....	Rhode Island	1	.....
Idaho Territory	.....	.....	South Carolina	3	.....
Illinois	37	1	Tennessee	1	.....
Indiana	14	.....	Texas	4	.....
Indian Territory	.....	.....	Utah Territory	.....	.....
Iowa	7	.....	Vermont	3	.....
Kansas	.....	1	Virginia	1	.....
Kentucky	4	.....	Washington Territ'y	1	.....
Louisiana	5	1	West Virginia	.....	.....
Maine	6	.....	Wisconsin	5	.....
Maryland	.....	1	Wyoming Territory	.....	.....
Massachusetts	28	.....	United States Army	.....	.....
Michigan	11	.....	United States Navy	.....	.....
Minnesota	3	.....			
Mississippi	.....	.....	Total to citizens of the United States	378	15
Missouri	13	1			
Montana Territory	.....	.....			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks and Labels.	Countries.	Patents and Designs.	Trade-Marks and Labels.
Australia	1	.....	England	8	.....
Austria	.....	.....	France	.....	.....
Barbadoes	.....	.....	Germany	1	.....
Belgium	.....	.....	Italy	.....	.....
Bermuda	.....	.....	New Zealand	.....	.....
Brazil	.....	.....	Russia	.....	.....
Canada	7	.....	Spain	.....	.....
Chili	.....	.....	Sweden	.....	.....
Colombia, U. S. of	.....	.....	Switzerland	2	.....
Cuba	.....	.....			
Denmark	.....	.....	Total to citizens of foreign countries	19	.....
Ecuador	.....	.....			

DESIGNS.

13,313.—FONT OF PRINTING-TYPE.—*James M. Conner*, New York, N. Y. Application filed August 11, 1882. Term of patent 14 years.

13,314.—TOY BANK.—*Charles M. Henn*, Chicago, Ill. Application filed July 28, 1882. Term of patent 7 years.

13,315.—PRINTING-TYPE.—*Charles E. Heyer*, Chicago, Ill., assignor to *Arthur M. Barnhart, Alson E. Barnhart*, and *Charles E. Spindler*, same place. Application filed April 18, 1882. Term of patent 14 years.

13,316.—BELL-STAND.—*Edward Ingraham*, Bristol, Conn. Application filed August 18, 1882. Term of patent 14 years.

13,317.—NUBIA.—*Abraham G. Jennings*, Brooklyn, N. Y. Application filed August 23, 1882. Term of patent 14 years.

13,318.—ORNAMENTAL CHAIN.—*Gottfried M. Lieb*, Newark, N. J., assignor to *John A. Lieb*, same place. Application filed August 30, 1882. Term of patent 7 years.

13,319 and 13,320.—LAMP-BRACKET.—*Riverius Marsh*, New Brunswick, N. J. Applications filed August 28, 1882. Term of patents 3½ years.

13,321.—EMBLEMATIC COFFIN-HANDLE.—*William R. McComas*, Oakley, Ohio, assignor to *The Crane & Breed Manufacturing Company, of Ohio.* Application filed August 25, 1882. Term of patent 3½ years.

13,322.—ALPHABET.—*Frederick W. Miller*, Newark, N. J. Application filed August 25, 1882. Term of patent 3½ years.

13,323.—BOTTLE.—*Silas B. Winn*, Salem, Mass. Application filed August 7, 1882. Term of patent 7 years.

TRADE-MARKS.

[Certificate of registration of Trade-Marks numbered 8,191 and upward are registered under the act of March 3, 1881.]

9,691.—CERTAIN FOOD PREPARATION.—*Augustus Arend*, Chicago, Ill. Application filed August 23, 1882.

"The word 'CHAMPAGNE.'"

9,692.—SUGAR.—*Kirchhoff Bros.*, New Orleans, La. Application filed July 20, 1882.
"The symbol of a star and crescent."

9,693.—CIGARS.—*Herman Lutmer*, Cincinnati, Ohio. Application filed August 28, 1882.
"The words 'THE FORRESTRY CLUB.'"

9,694.—CERTAIN KINDS OF CURED MEATS.—*James F. Ryan*, Zanesville, Ohio. Application filed August 26, 1882.
"The words 'GOLD DOLLAR.'"

9,695.—CHEWING-TOBACCO, SMOKING-TOBACCO, CIGARS, AND CIGARETTES.—*Hugh M. Cochran*, McConnelsville, Ohio. Application filed August 18, 1882.
"The arbitrarily-selected words 'WAKE UP.'"

9,696.—WHISKY.—*Francis J. Crilly*, Philadelphia, Pa. Application filed September 5, 1882.
"The fanciful words 'QUAKER CITY.'"

9,697.—MEDICAL COMPOUND.—*John Hoerr*, St. Louis, Mo. Application filed August 11, 1882.
"The pictorial representation of growing lemons and heads of rye grain."

9,698.—CIGARS.—*Horace R. Kelly & Co.*, New York, N. Y. Application filed September 1, 1882.
"The arbitrary words 'BOUQUET DE CAYO HUESO.'"

9,699.—FOUNTAIN-PENS.—*Warren N. Lancaster*, New York, N. Y. Application filed August 24, 1882.
"The pictorial representation of two crossed fountain-pens, in connection with the arbitrarily-selected words 'THE LANCASTER GOVERNMENT.'"

9,700.—SOAP.—*Lautz Bros. & Co.*, Buffalo, N. Y. Application filed September 4, 1882.
"The arbitrarily-selected word-symbol 'NAPKIN.'"

9,701.—BITTERS.—*Westermann & Co.*, Rochester, N. Y. Application filed September 4, 1882.
"The word 'NONPAREIL.'"

LABELS.

2,767.—Title: "POINTING FURS."—*Benjamin Abraham*, New York, N. Y. Application filed August 9, 1882.

2,768.—Title: "ABBOTT'S PREPARED MEDICATED OYSTER SHELL REMEDY."—*C. W. Abbott & Co.*, Baltimore, Md. Application filed August 24, 1882.

2,769.—Title: "THE EMU AXE."—*The Collins Company*, Collinsville, Conn. Application filed July 11, 1882.

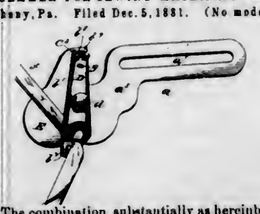
2,770.—Title: "ARIZONA GALL OINTMENT."—*Ferdinand Damour*, Waterville, Kans. Application filed August 22, 1882.

U. S. PATENT OFFICE.

PATENTS

GRANTED SEPT. 26, 1882.

264,845. HEMMER FOR SEWING-MACHINES. MILTON I. BAIRD, Allegheny, Pa. Filed Dec. 5, 1881. (No model.)



Claim.—1. The combination, substantially as hereinbefore set forth, of a hemmer-scroll, a piping-scroll arranged below the hemmer-scroll, a bed-plate supporting the two scrolls, and a holder to which the said bed-plate is made fast, substantially as set forth.

2. A scroll hemmer attachment for sewing-machines, provided with an eye or opening on its upper side and near its exit end for feeding braid to the upper side of the hem, substantially as set forth.

3. A scroll hemmer attachment provided at its exit end with a transverse tongue, b^4, extended upward and over the line or path of the hem to guide the fabric passed over the top of the scroll, substantially as set forth.

4. The combination, with the scroll A, having its under plate extended outward at the entrance end thereof, of a corder device, c, secured on the top of the extended end of said bottom plate, substantially as set forth.

5. The blank b, formed with the semi-oval projections b^1 b^2, the extension b^3, the extension b^4, transverse tongue b^5, and side projection, b^m, and adapted to be folded into a combined hemmer, corder, and piping device, substantially as set forth.

6. In a combined hemmer and piping attachment, the piping-scroll A, having its under plate raised above the bed-plate and provided with an exit-opening, b^3, through said under plate, as and for the purpose set forth.

7. In a combined hemmer and piping attachment, the side guide c^2 and the side guide c^3, placed opposite to each other and at the exit ends of the scrolls, and sloped downward toward the bed-plate, substantially as set forth.

8. In a hemmer-scroll for sewing-machines, the lip or flange c^4, composed of two semi-oval plates or projections laid together and arranged in a vertical position in front of the entrance or mouth of said scroll, substantially as set forth.

9. The combination, with the scroll D, of the folder d, placed on the upper side and near the entrance of said scroll, and the corder b^3, placed above the exit end thereof and in line with the folder d, substantially as set forth.

10. The improved holder a, having a slotted bent shank, a vertical shoulder or guide, a^3, a flat table or platform, a^4, inclined downward in the direction in which the goods are moved, and a leg or support, a^5, bent downward from the outer end thereof, substantially as set forth.

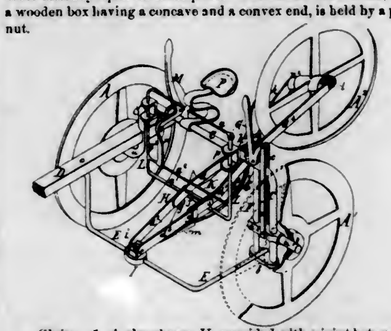
11. The improved attachment for sewing-machines, consisting of the scroll A, open at its inner end, the scroll D, placed above and fixed to the scroll A, and open at its inner lower side and communicating with the open end of the scroll A, and the table or support E, placed below and disconnected from the scroll A, and having its inner end curved upward past and disconnected from the open end of the scroll A and inner end of partition B and joined to the scroll D, as set forth.

12. The combination, in a sewing-machine attachment, substantially as hereinbefore set forth, of the scroll D, the scroll A, a partition, B, between the scrolls, and the under plate or table, E, placed below and detached from the scroll A, whereby a passage-way for the fabric is provided, and having its end b^m extended outward beyond the exit ends of the scrolls, as and for the purpose set forth.

13. The holder a, provided with a vertical shoulder or guide, a^3, and a horizontal raised platform, a^4, and having a folder, a^6, extended horizontally from the shoulder or guide a^3 backward above the shank a^2, substantially as set forth.

264,846. SULKY-PLOW. NATHANIEL S. BARGER, Hampton, Iowa, assignor of one-half to N. V. Taylor and W. D. Evans, both of same place. Filed Jan. 30, 1882. (Model.)

Brief.—A rule or stop joint in the plow-beam. A lifting-frame which breaks the joint and raises the plow-point first. Beam and brace are extended backward to form bearings for a large obliquely-set wheel or substitute landside. The plow-beam may vibrate laterally upon its front pivot. The hollow wheel-hub, with a wooden box having a concave and a convex end, is held by a plug-nut.



Claim.—1. A plow-beam, H, provided with a joint between its ends, which is flexible in an upward direction and rigid in a downward direction, substantially as and for the purpose described.

2. The combination of the jointed beam and the lifting and lowering frame, substantially as and for the purpose described.

3. The combination, with the plow K, of the oblique wheel-landside A^3, the plow-beam H, having a vertical joint and a rear extension, d^1, and the arm k, bolted to the mold-board, and forming, with the plow-beam, extension-bearings for the wheel-landside, substantially as described.

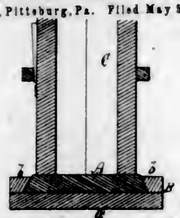
4. The grooved block I, provided with the vertical pivot i, and plow-beam H, pivoted thereon, in combination with the bail E, upon which it rocks, and is also adjustable laterally, substantially as described.

5. The wheel-landside A^3, provided with a hollow metal hub, within which is fitted a wooden box having a concave and convex end, in combination with the axle l, provided with screw-threads, and the concave cap and convex washer, substantially as and for the purpose described.

6. The combination, with the truck-frame of a sulky-plow provided with wheels A A', of a plow-beam having a joint between its ends, a wheel-landside, A^3, and a lifting-frame, substantially as and for the purpose described.

7. The combination of the bail E, connected with the pole D, foot-plate *b*, upright guide F, arched axle C, having a vertical leg attached to the plate *b*, sliding wheel-spindle a^3, connecting-bars *c c*, and lever G, substantially as described.

264,847. MOLD-BOTTOM FOR CASTING STEEL INGOTS. ELMORE A. BARNES, Pittsburg, Pa. Filed May 5, 1882. (Model.)

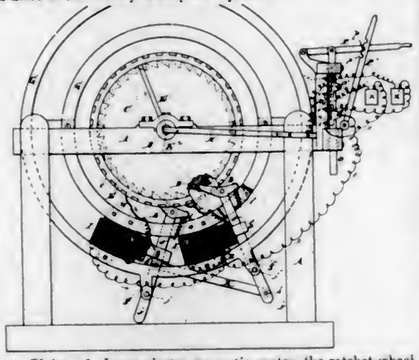


Claim.—1. In a mold for casting ingots, a block, A, forming the bottom of the mold, made of plumbago or equivalent refractory material or composition, held in a holder, B, above which it projects, and its edges being inclined, in combination with the mold-body C, which rests on the said block, substantially as and for the purpose herein specified.

2. The bottom B, composed of the parts *a b*, constructed as described, in combination with the refractory block A, substantially as and for the purpose herein specified.

264,848. ELECTRIC MOTOR. JOHN BATLEY, Philadelphia, Pa. Filed Feb. 3, 1882. (No model.)

Brief.—A ratchet-motor having magnets of the Camacho form the armatures of which are surrounded by coils connected in series with their magnets. A battery-switch is provided to throw in more or less battery as may be required.



Claim.—1. In an electro-magnetic motor, the ratchet-wheel D, or its equivalent, and commutator E, in connection with one pole of the battery or current-generator, in combination with brushes M, two or more electro-magnets, I I′, arranged around the ratchet-wheel, levers J, carrying armatures S, and pawls L, and rod K, by which said levers are caused to move in opposite directions at the same time, said magnets I I′ being in circuit with the brushes and the other pole of the battery, substantially as and for the purpose specified.

2. The combination of ratchet-wheel D with commutator E, brushes M, levers J, carrying pawls L, armatures S, rod K, and electro-magnets I and I′, substantially as and for the purpose specified.

3. The combination of two electro-magnets with cores *i*, and concentric tubular rings or cores *i*, each wrapped with insulated wire, with levers J, carrying the armatures S, and rod K, by which said levers are caused to move in opposite directions at the same time, as and for the purpose specified.

4. The combination of two electro-magnets, I I′, levers J, carrying armatures S, and rods K, whereby said armatures are caused to move in opposite directions at the same time, substantially as described.

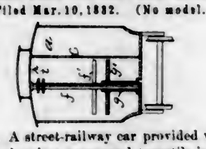
5. The combination, with an electric motor, of a current-regulating device which consists of rigid plates *s s′*, &c., in circuit with one pole of the batteries, and plates *r r′*, &c., with the other pole, a sliding piece, O, carrying plates N′ O′, which are respectively provided with a number of contact-pieces of different lengths, (shown in Fig. 5,) equal to the number of elements to be used, plate N′, connected with the negative poles of the batteries through pieces *s s′*, &c., and plate O′, with the positive poles through pieces *r r′*, &c., substantially as and for the purpose specified.

6. The commutator E, provided with contacts *e*, in combination with electro-magnets I I′, levers J, bar or rod K, means to rotate said commutator by the vibration of levers J, and brushes M M, which are so arranged that one brush comes in contact with one of the contact-pieces *e* before the other brush leaves the contact-piece *e*, upon which it is pressing, substantially as described.

7. The combination of ratchet-wheel D with commutator E, conductor F′, stud E^3, spring H, brushes M, magnets I I′, levers J, armatures S, pawls L, rod K, and mechanism to put on one or more batteries to the machine, substantially as and for the purpose specified.

8. The combination of the two electro-magnets I I′, made of concentric cores and helices, as described, with pivoted levers J, provided with armatures S, rod K, shaft E, and connecting mechanism by which the vibrations of the armatures rotate said shaft, substantially as and for the purpose specified.

264,849. STREET-RAILWAY CAR. SYLVESTER BISSELL, Hartford, Conn. Filed Mar. 10, 1882. (No model.)



Claim.—1. A street-railway car provided with an entrance at its front end, wherein a compound turnstile is rotarily secured under control of the car-driver, all substantially as described, and for the purpose set forth.

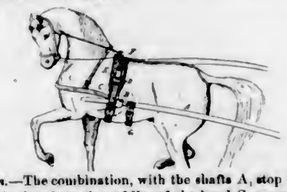
2. In a street-railway car, in combination, main turnstile *f*, lower turnstile, *y*, ratchets *i h*, and pawls *m o*, whereby rotation of the turnstiles in one direction only is possible, all substantially as described.

3. In a street-railway car, in combination, turnstile *g*, ratchet *z*, pawl *z′*, rod or wire *w′*, crank w^3, and foot-pad *w*, all substantially as described, and for the purpose set forth.

4. In a street-railway car, in combination, a turnstile with appurtenant ratchets and pawls connected with shifting mechanism, whereby rotation of the stile in either direction under control of the car-driver is secured, all substantially as described, and for the purpose set forth.

5. In a street-railway car, in combination, a main and a shorter turnstile concentrically arranged and provided with reversing and locking mechanism under control of the car-driver, all substantially as described, and for the purpose set forth.

264,850. HARNESS. JOHN D. BLAKER, Newtown, Pa. Filed July 22, 1881. (No model.)

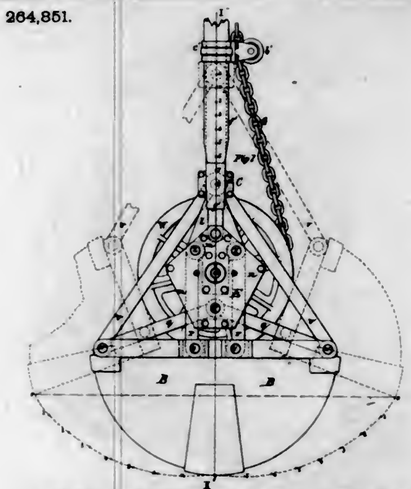


Claim.—The combination, with the shafts A, stop B, and the tugs C, swinging from the saddle, of the band G, secured by staples or loops to the shafts in the rear of the tugs, so that it cannot slide on the shafts under the tugs, whereby said band is kept in the rear of the tugs, substantially as and for the purpose described.

264,851. DREDGING MACHINERY. ADOLF C. BOTH, Portland, Me. Filed Apr. 28, 1882. (No model.)

Brief.—A frame consisting of a cross-head, guide-rods, and double plates bolted thereto, with interposed filling and pole-socket extension-pieces, supports in bearings in said plates a shaft carrying a sleeve with end stuffing-boxes, a central oil-recess with filling-duct, lugs through which pass bolts to secure chains, and bearing a central driving-pulley with operating-chain. Buckets are hinged to the frame by three pairs of arms, one pair turning on a common pivot near the bottom of the above plates, another pair on separate pivots at the top of said plates, and the third pair on a shaft screwing into plates sliding on the above guide-rods, and secured by bolts passing through filling-pieces to plates on the other side of said guide-rods. To said shaft is secured a lifting-chain and also the chains first above mentioned.

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Claim.—1. The combination of the revolvable windlass or sleeve S, provided with the end stuffing-boxes, the oil-chamber and its induct, and the connection-chains *g* with the frame E, shaft *a*, cross-head C, buckets B, and their connection-bars *r q v*, and with the wheel W, the said wheel W and cross-head C being provided with the chains D and G, and all being adapted and to operate substantially as set forth.

2. The revolvable sleeve S, provided with the lugs *k*, and also with the bolt *i*, arranged in it, and the said lugs, substantially as represented, in combination with the chains *g*, coupled to such sleeve by means of such bolt and lugs.

3. The shaft *p*, having at each end of it a screw, *d′*, screwed into the plate *s*, in combination with the plates *s* and *u*, and the filling-pieces *l*, arranged with and applied to the guides *l*, all being substantially as set forth.

4. The combination of the socket-pieces *g′*, plates *u*, and filling-pieces *m* with the bars *f′* and the guides *l* of the frame E, all being arranged and adapted substantially as set forth.

264,852. HINGE FOR AWNING-BLINDS. F. BARTON BROWN, Boston, Mass., assignor, by mesne assignments, to Charles A. Burditt and Frederick O. North, both of same place. Filed May 16, 1882. (Model.)



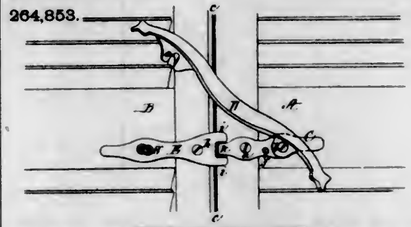
Claim.—The bent plate A, provided with a pintle, *d*, having a locking-arm, *e*, and an enlarged base, *f*, in combination with the bent plate B, having an elongated eye, *g*, the lower or bearing surface of which is curved to insure the smooth and uninterrupted swinging of the blind, as and for the purpose set forth.

264,853. SHUTTER-FASTENER. F. BARTON BROWN, Boston, Mass., assignor, by mesne assignments, to Charles A. Burditt and Frederick O. North, both of same place. Filed May 16, 1882. (No model.)

Claim.—1. The plate E, attached to one blind and having bifurcations *i i* projecting out beyond the closing-line, in combination with the plate C, secured to the other blind, and having its end *k* adapted to interlock with said bifurcations *i i*, as and for the purpose described.

2. In combination, the plate E, with its bifurcations *i i* and projecting screw *g*, the plate C, with its end *k* adapted to interlock with said bifurcations, and the pivoted latch D, with its notch *e*, operating substantially as set forth.

264,853.



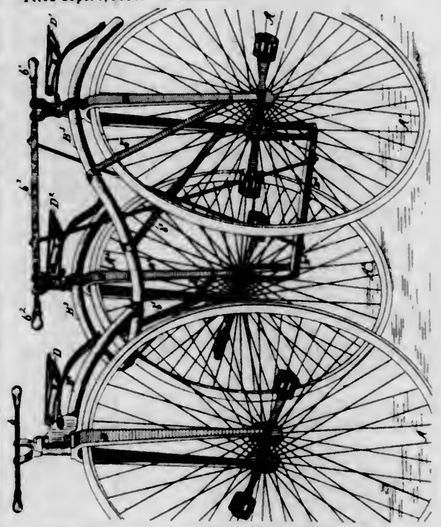
264,854. STYLOGRAPHIC FOUNTAIN-PEN. FRANCIS C. BROWN, New York, N. Y. Filed Apr. 17, 1882. (No model.)



Claim.—1. In a stylographic fountain-pen, the spring frame or yoke carrying the spring-actuated needle or point-clearer, adapted to be retained in position within the point-section by the elasticity of the jaws of said yoke impinging against the bore of the point-section, and of such length as to project beyond the top edge of the point-section, as and for the purposes hereinbefore set forth and shown.

2. The combination, in a stylographic fountain-pen, with the point-section, of the spring frame or yoke retained in position within said point-section by the jaws of the yoke impinging against the sides of the bore of the point-section, needle, or point-clearer passing through the lower portion of said yoke, and having a stop above and below the said yoke to limit its movement, and spring around the needle for reacting the same, as hereinbefore set forth and shown.

264,855. VELOCIPEDE. FRANKLIN G. BURLEY, Boston, Mass. Filed Sept. 9, 1881. (No model.)

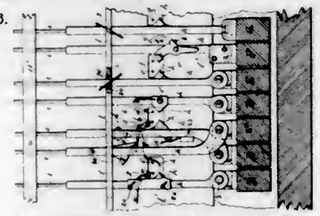


Claim.—The vehicle above described, consisting of three driving-wheels placed in different planes, so that it will sustain itself in an upright position, three seats, and three sets of pedals connected by a frame and adapted for three riders, one astride of each driving-wheel, substantially as described.

264,856. HARPSICHORD. LEE S. BURRIDGE, New York, N. Y. Filed Jan. 3, 1882. (No model.)

Claim.—1. The combination, with the string in a harpsichord or similar instrument, of a pick with an inclined end to act upon the string, a jack to which such pick is pivoted, a key to move the jack, and a switch to withdraw the pick out of the path of the vibrating string, substantially as set forth.

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2. In a harpsichord, the combination, with the keys, jacks, and picks, of strings placed near each other in pairs, with wide spaces between the pairs of strings for the jacks and picks, acting alternately to the right and left, substantially as set forth.

3. The combination, with the keys and the strings placed together in pairs, of the two jacks acting in the space between the two pairs of strings, one jack being in front of the other, substantially as set forth.

4. In a harpsichord, the combination, with the keys and strings, of the jacks and picks arranged in two planes transversely to the keys, so that the picks on one range of jacks act toward the left on the strings, and the picks on the other range of jacks act toward the right on the strings, substantially as specified.

5. In a harpsichord, the combination, with the keys and strings in pairs, of the jacks having curved lower ends, hinges for connecting the jacks to the keys, picks upon the jacks, and the guide-bar *l*, substantially as set forth.

6. The combination, in a harpsichord, of the keys, jacks, and picks with the graduating-rod and pedal-connection, whereby the picks are moved in their relative positions to the strings, for the purposes and substantially as set forth.

7. In a harpsichord, the graduating-bars *n n'*, connecting pivoted links, and pedal-connections, in combination with the jacks, picks, and keys, substantially as and for the purposes set forth.

8. The combination, with the keys and strings, of picks and jacks, the latter pivoted to the keys and the former to the jacks, so as to swing laterally toward the strings by their own weight, substantially as set forth.

9. The combination, with the keys, and jacks hinged to the keys, of picks formed of rubber, and having an inclined surface to act upon the string, substantially as set forth.

10. The combination, in a stringed instrument such as the harpsichord, of picks to act upon the strings, means for preventing the picks coming into contact with the string on the return motion, and graduating-bars or their equivalents to modulate the action of the picks upon the strings, substantially as set forth.

264,857. MEDICAL COMPOUND FOR BURNS, SCALDS, &c. LAURA E. BUSH, Jag Tavern, Ga. Filed July 6, 1882. (No specimens.)

Claim.—The herein described composition for treatment of burns, &c., consisting of infusion of sassafras-root, pure olive-oil, water of ammonia, crude petroleum, and castor-oil, in the proportions set forth.

264,858. STOVE-GRATE. ESEK BUSSEY, Troy, N. Y. Filed July 5, 1882. (No model.)



Claim.—Teeth constructed upon the front half of a duplex grate, and so arranged that when the grate is operated to cut off the ashes at the bottom of the fire and to drop them into the ash-pit beneath they (the teeth) shall be carried upwardly by the same movement and through the slots in the grated front of the fire-box, substantially as and for the purposes hereinbefore described and set forth.

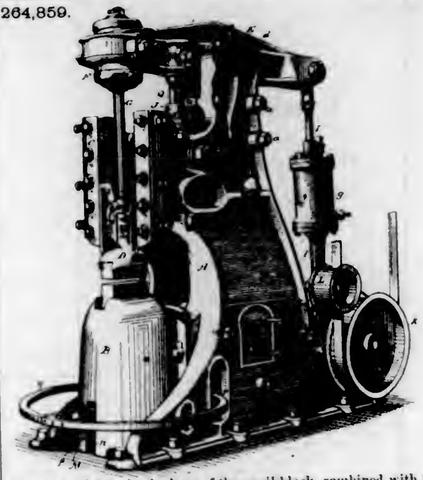
264,859. ATMOSPHERIC HAMMER. JOHN C. BUTTERFIELD, Chicago, Ill. Filed Oct. 21, 1879.

Claim.—1. The hammer-head D, with its cap *k* and socket for the spherical head *i*, provided with an oil-pit, *t*, and outlet stopped by the screw *s*.

2. In combination with the reciprocating hammer D, the brake-lever N, pivoted to the inner face of the hammer-frame A, and coupled to the tightener-treadle M by the rod *r*, as set forth.

3. In an upright power-hammer driven by a loose belt and controlled by a tightener-pulley, a tightener-treadle, M, placed between the side plates of the machine and projecting at the front

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through a slot, *n*, in the base of the anvil-block, combined with a foot-bar, *q*, surrounding said anvil-block and connected with said treadle in front and rear of the same, as set forth.

4. The cylinder *g* and piston *h*, combined with an adjustable head, *w*, mounted upon the screw-stem *x*, whereby said head may be advanced or withdrawn in said cylinder to shorten or lengthen the hammer-stroke, as set forth.

5. The cylinder *g* and piston *h*, combined with a series of cocks, l', set at different points as to the length of the cylinder, for the purpose of adjusting the force of the hammer-stroke, as set forth.

6. In an atmospheric power-hammer wherein the power is communicated from the driver of the walking-beam by means of a cylinder carried by a crank and a piston which actuates the walking-beam, the cylinder *g*, with the box V for the crank, attached directly to the cylinder-head, for the purpose of setting the cylinder close upon the crank, as and for the purpose set forth.

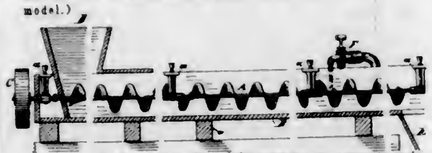
264,860. PNEUMATIC CYLINDER FOR MACHINERY. JOHN C. BUTTERFIELD, Chicago, Ill. Filed Oct. 16, 1879.



Claim.—1. The pneumatic cylinder A and the piston B, whereby air is compressed in the end of said cylinder, combined with a valve, D, and closing-spring to automatically close said valve against the escape of air from said cylinder, but capable of opening inward to prevent the formation of a partial vacuum in said cylinder, as set forth.

2. A pneumatic cylinder, A, mounted upon and capable of transmitting motion to a walking-beam or other mechanism, combined with a piston, B, fitted to said cylinder, and means for actuating said piston, and valves D, set in said cylinder and independently of the action of said piston automatically closed against the escape of air from said cylinder, as set forth.

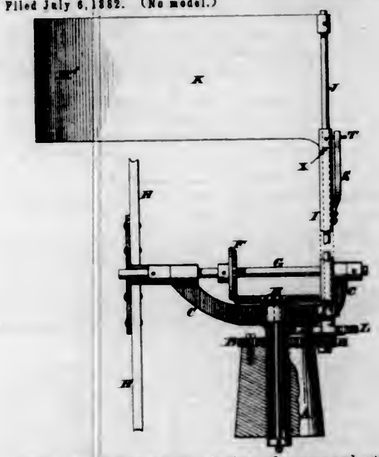
264,861. MACHINE FOR MIXING MORTAR OR CONCRETE. HENRY W. CALDWELL, Chicago, Ill. Filed July 15, 1882. (No model.)



Claim.—1. A machine for mixing mortar or concrete, principally composed of conveyer-screw A, suspended by hangers *a* in a trough, B, having hopper D, and being provided with faucet F, all substantially as and for the purpose set forth.

2. In a machine for mixing mortar or concrete, the conveyer-screw A, suspended by hangers *a* in a trough, B, and having driving-pulleys C, such trough being provided with hopper D at one end, spout E at its opposite end, and faucet F at an intermediate point, the whole being constructed and arranged to operate substantially in the manner described.

264,862. WIND-ENGINE. PETER T. COFFIELD, Springfield, Ohio, assignor of one-half to Charles H. Paxson, same place. Filed July 6, 1882. (No model.)



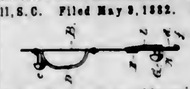
Claim.—1. In a wind-engine having a flag-vane and rotating pump-rod, the combination, with the wind-wheel shaft and the rotating pump-rod, with connecting mechanism, of a curved flag-vane provided with a brake at its lower end, whereby the wheel is held in the wind and prevented from walking around on its mast or derrick, substantially as described.

2. In a wind-engine, the toothed bed-plate B, in combination with the pinion R and brake-wheel M, arranged as and for the purpose specified.

3. The brake-wheel M and pinion R, so connected by pawl and ratchets that they move independently in one direction, but can only move in the other together, in combination with the brake L and toothed bed-plate B.

4. In a wind-engine, the flag-vane K, having its outer end curved, and provided at its lower end with the brake L, in combination with the ratchet-disk M, pinion R, and gear-head B, substantially as described, and for the purpose specified.

264,863. BLOWER FOR FIRE-PLACES. BENJAMIN G. COVINGTON, Fort Mill, S. C. Filed May 9, 1882. (No model.)



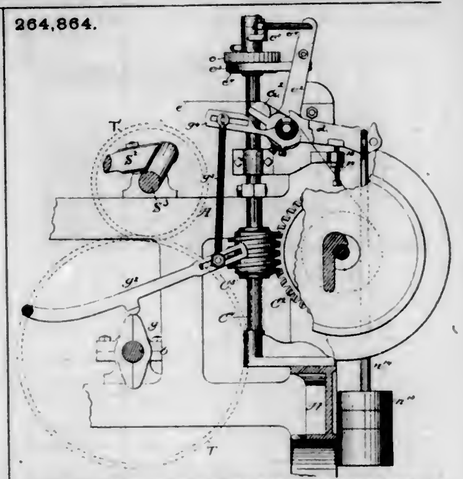
Claim.—1. A fire-place screen or blower made of a flat piece of sheet metal, having its lower edge turned up so as to form a channel, and a transverse plate, *l*, bent outwardly and downwardly, its upper surface made flat so as to fit against the screen B, and riveted thereto, in the manner described, so that between the lower edge of the plate *l* and the screen or blower B an opening or channel will be left for the introduction of the dampers *d d'*, as described, and for the purposes set forth.

2. A fire-place screen or blower formed of a sheet-metal plate, B, provided with knobs or handles C C', and having a plate, *l*, riveted across the back, and having its bottom turned upwardly and backwardly, in combination with an air-port near the bottom, having two dampers, *d d'*, each provided with a separate handle, G G', and each working independently of the other, substantially as described, and for the purposes set forth.

264,864. LOOM. GEORGE CROMPTON and HORACE WYMAN, Worcester, Mass., assignors to said Crompton. Filed Jan. 26, 1882. (No model.)

Claim.—1. The long gears, suitable means to rotate them, the toothed cranks, the shifting-levers having forked heads provided with notches, the selector-carrying levers having toes to engage the notches of the said forked heads, and the selectors pivoted on said

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carrying-levers, combined with a pattern-surface, means to operate it, fingers actuated thereby to move the selectors, and suitable means to set against the selectors and move the carrying-levers and shifting-levers, substantially as described.

2. The shaft 3, pattern-surface carried thereby, the upright intermittingly-rotating shaft D^{14}, and gearing to connect it with the shaft 3, bevel-gears D^2 D^3, having clutch or end teeth and loose on shaft D^{14}, toothed clutch-hub D^{15} on shaft D^{14}, bevel-gear D^1, star-wheel D^4, shaft D^5, pin-wheel D^7, and means to move it, combined with the vertically-sliding rod D^{16}, connected with the said hub, and with means to move the said rod and place the hub in engagement with one or the other of the loose gears D^2 or D^3, substantially as and for the purpose described.

3. The shaft *b*, pinion *j*, pinion D^1, shaft D^4, and pin-wheel, combined with the star-wheel, shaft D^5, bevel-gear D^7 thereon, the loose bevel-gears D^2 D^3, shaft D^{14}, toothed hub D^{15}, adapted to engage one or the other of the said gears D^2 or D^3, and means to move the said hub, substantially as and for the purpose described.

4. The pivoted yoke s^4, the weighted levers *w*, pivoted thereon at s^3, the lever G, means to move it, its wedge-bar, and the selectors D, and means to support their pivots, combined with the pattern-surface and means to move it, substantially as described.

5. The yarn-beam, shaft C^4, connecting-gearing between them, and the ratchet and brake wheels on said shaft, combined with the whip-roll, means to keep it pressed upward against the warp, a pawl and brake, and actuating mechanism therefor intermediate the whip-roll and the said pawl and brake, substantially as described.

6. The whip-roll, the weight to lift it, rod e^4, the pawl-carrier e^3, the pawl e^2, the shaft C^4, its ratchet-wheel, worm, and hand-wheel, the warp-beam, and the worm-gear engaged by the said worm, combined with a cord or string, e^5, to permit the said pawl to be removed from the said ratchet when it is desired to turn the shaft C^4 by hand, substantially as described.

7. The yarn-beam, shaft C^4, gearing to connect them, the whip-roll, and means to rotate the said shaft from said whip-roll, combined with shaft *b*, means to move it, the cam *g* thereon, the lever g^3, arm g^4, and the rod g^5, adjustable as to its connection with the said lever and arm, whereby the whip-roll may be pressed upward positively more or less and move the yarn-beam, substantially as described.

264,865. REFRIGERATOR. LOUIS F. DE VON, Kentland, Ind. Filed Mar. 16, 1882. (No model.)

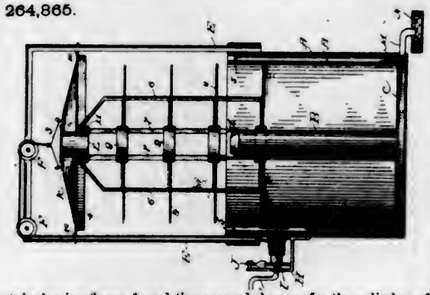
Claim.—1. A refrigerator consisting of a stationary cylinder and central stationary ice-tube, a movable frame and shelves surrounding the said ice-tube, and a hoisting apparatus.

2. The double-walled cylinder A, in combination with a suspended removable cover having provision-shelves rigidly attached thereto, and with a central fixed ice tube or chamber, forming a guide for the cover and shelves, and with hoisting mechanism.

3. In combination with the double-walled cylinder having the annular chamber 5, the cover having flange 4, adapted, when the cover is closed, to dip into the water contained in said chamber 5, and to form a water-seal, as described.

4. The combination, with the double-walled cylinder, the ice-

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tube having flange 1, and the suspended cover for the cylinder, of the cover L for the ice-tube, carried by the main cover and independently removable, for the purpose set forth.

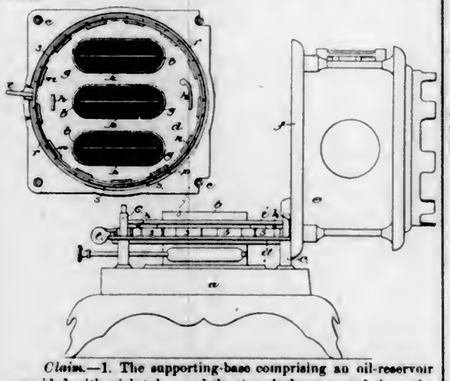
5. The combination, with the cylinder A and the central tubular ice-chamber, of the frame having guide-rings 9, braces 6, and shelves 8, and the hoisting mechanism, substantially as described.

6. The cylinder A, having double wall and double bottom, in combination with an open-bottomed ice-chamber, a waste-pipe, M, and a water-seal, N.

7. The combination of the cylinder A, the guide-standards E, the pulleys, the drum and ratchet, and a pivoted weighted pawl.

264,866. OIL-STOVE. ALFRED S. DIBMORE, Boston, Mass. Filed July 31, 1882. (No model.)

Brief.—A damper may take the place of the gauze *k*, if desired.



Claim.—1. The supporting-base comprising an oil-reservoir provided with wick-tubes, and the stove-body supported above the said base, affording a space for the passage of air between the top of the said oil-reservoir and the under side of the said stove-body to the ends of the wick-tubes, combined with a damper located in the said space between the base and the stove-body, whereby the passage of air through the said space to the flame may be regulated, substantially as described.

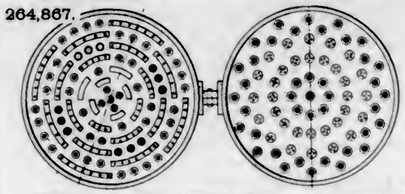
2. In an oil-stove, the combination of the oil-reservoir provided with wick-tubes, and the insulating-plate and stove-body, of perforated diaphragms between the wick-tubes and insulating-plate, and a damper controlling the passage of air between the said insulating-plate and stove-body, substantially as described.

3. In an oil-stove, the combination of the oil-reservoir and stove-body with the insulating-plate between them, provided with a series of projections forming a broken annular partition, and the damper controlling the openings in the said partition, substantially as described.

4. The oil-receptacle provided with wick-tubes and the stove-body supported above it, combined with a foraminous partition surrounding the said wick-tubes at the under side of the stove-body, and a damper, whereby the passage of air through the space between the oil-receptacle and the stove-body to the under side of the said foraminous partition is regulated, substantially as described.

264,867. BROILER. ALEXANDER H. EBY, Mechanicsburg, Pa. Filed July 13, 1882. (No model.)

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Claim.—1. A broiler consisting of two opposite plates or pans provided with embossments formed with vertical walls which turn laterally inward to inclose openings, as and for the purpose specified.

2. A broiler composed of two dished plates hinged together, each of which is provided with embossments of varying contiguration, formed with their side walls turning laterally inward to inclose one or more openings or perforations, substantially as set forth.

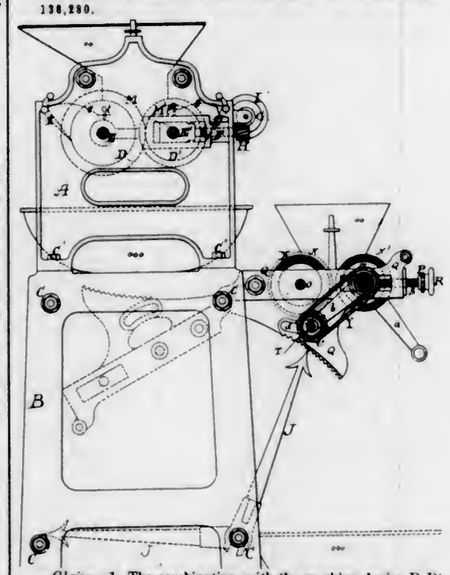
264,868. CARPENTER'S VISE. AMOS FALES, Denver, Colo. Filed Apr. 22, 1882. (No model.)



Claim.—1. In a vise, the combination of the fixed section A, provided with an arm, *c*, for attaching it to the under side of a bench or table, having an aperture, *k*, in its head and a supporting loop or band, E, attached to its arm, and a movable section, B, provided with an arm, *d*, sliding in the head-aperture of the section A, and supported by the loop or band E under the arm *c* thereof, the said movable section also carrying the screw D, which turns in nut G, located in a socket, *l*, in the fixed section, substantially as and for the purpose herein specified.

2. The combination, with the sections A B, of a vise having socket-holes *p p* in their jaws *a b*, of the extension-jaws *G G'*, fitting in the said socket-holes, substantially as and for the purpose herein specified.

264,869. CRUSHING AND SHELLING MACHINE. CHARLES FINAZ and WILLIAM FINAZ, Geneva, Switzerland. Filed May 19, 1882. (No model.) Patented in France June 30, 1880, No. 136,280.

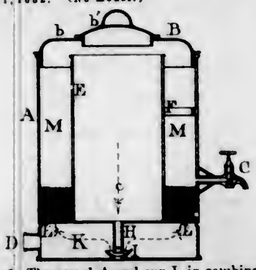


Claim.—1. The combination, with the crushing device D D' and the frame A A', of the supporting-frame B B', the shelling apparatus composed of the frame Q Q', hinged to the frame B B', the rollers N N', and mechanism for revolving the same, and the movable support J, substantially as set forth.

2. The combination of the crushing-rollers D D', the mechanism for adjusting and revolving the said rollers, the hopper *o o*, frame A, and movable bowl *o o o* with the frame B B', supporting the frame A A', and crushing mechanism, the frame Q Q', hinged to the frame B B', the rollers N N', and mechanism for adjusting and revolving the same, substantially as set forth.

3. The combination, with the frame Q Q' and rollers N N', of the arbor T, chain-wheels Z U, and gear-wheels V X, substantially as set forth.

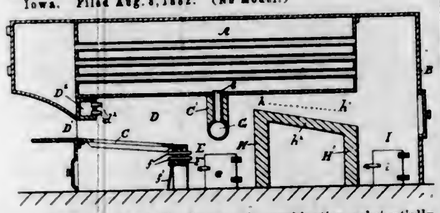
264,870. FILTERING APPARATUS. ALLEN FISKE, Portland, Me., assignor of one-fourth to Septimus L. Fisk, Boston, Mass. Filed May 1, 1882. (No model.)



Claim.—1. The vessel A and cup I, in combination with the interior vessel, E, having the tube H, the cup I being arranged below the tube H, whereby the water is agitated in passing out of said tube, as set forth.

2. A water-filter consisting of the following parts, to wit: a cover, B, composed of two parts, *b b'*, an exterior vessel, A, having the bottom chamber, K, the interior chamber, E, the filtering material G, the netting L, the cup I, and the tube D, all combined and arranged as set forth, so that the filter can be filled and also readily cleaned, as shown.

264,871. BOILER-FURNACE. MARK S. FOOTE, Burlington, Iowa. Filed Aug. 8, 1882. (No model.)



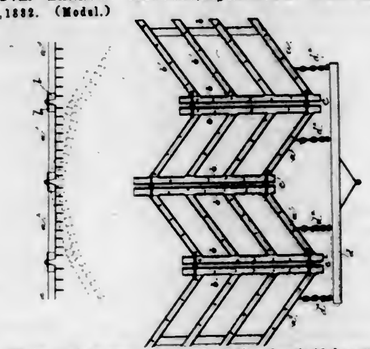
Claim.—1. In a boiler-furnace, the combination, substantially as hereinbefore described, of a fuel-supporting grate, inclined in a downward direction from the front to the rear, with a combustion-chamber formed horizontally above the grate, with its side walls diverging from the front to the rear of the grate, whereby such combustion is caused to expand both horizontally and perpendicularly toward its rear, as specified.

2. In a boiler-furnace, the combination, with an inclined grate supported at its rear by a wall provided with air-jets, of the horizontally-arranged combustion-chamber, having side walls diverging from the front to the rear of the grate, and a hot-air chamber located in the forward part of the combustion-chamber above the grate for introducing heated air into the said combustion-chamber, substantially as described.

3. In a boiler-furnace, the combination, with a fuel-supporting grate, a combustion-chamber over the same, and a wall at the rear of the grate, of a clinker-pit arranged in rear of said wall, a water-collar, G, connected with the boiler and extending transversly over the clinker-pit in rear of the fuel-supporting grate, and end connections between the water-collar and the boiler, provided with the valve g^2 and blow-off cock g^3, substantially as described.

4. A boiler-furnace consisting of the combination, with the expanding combustion-chamber D, constructed in the manner herein set forth, of the clinker-pit E, the wall F, water-collar G, front and rear bridge-walls, H and H', with the paving h^3 and flue h h', and the ash-pit I, all constructed and arranged substantially as described.

264,872. HARROW. JOHN FREY, Big River, Wis. Filed June 30, 1882. (Model.)



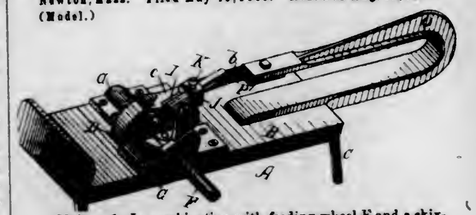
Claim.—A harrow composed of the rhomboidal sections $a\,a'\,a^2\,a^3$, having their adjacent side bars beveled downward and away from each other, and having each section made inversely to its adjacent section and the alternate sections made similar to each other, and all hinged together, substantially as set forth.

264,873. SHUTTER-BOWER. STILES FROST, Boston, Mass., assignor to Charles A. Burditt and Frederick O. North, both of same place. Filed May 16, 1882. (No model.)



Claim.—The flat plate C, provided with one or more hooks, *c*, located in the same plane therewith and secured to one blind, in combination with the flat latch-plate E, provided with one or more notches, *e*, in its under side, and pivoted to the other blind, said plate E being adapted to swing in a vertical plane, as and for the purpose set forth.

264,874. LEATHER-SKIVING MACHINE. ERASTUS GOTT, Newton, Mass. Filed May 10, 1880. Renewed Aug. 15, 1882. (Model.)



Claim.—1. In combination with feeding-wheel F and a skiving-knife, the curved bar Q and the spring P, supported thereby, said spring being recessed on one side to allow the action of said knife, substantially as shown.

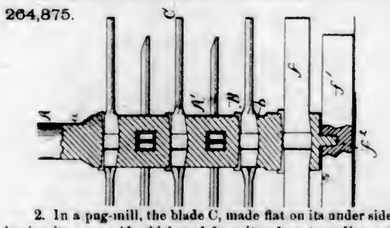
2. In combination with a feed-wheel and a pressure-spring, the curved bars L and N, which support the skiving-knife, one of said bars being arranged to slide over the other, so as to give said knife a curvilinear adjustment, substantially as set forth.

3. The combination of knife-stock J, screw K, fixed plate L, slotted movable plate N, and screw *a* with the feed-wheel, pressure-spring, and skiving-knife, whereby a double adjustment of the latter may be effected without interfering with the action of said spring or wheel.

264,875. PUG-MILL. ALFRED HALL, Perth Amboy, N. J. Filed Apr. 16, 1881. Renewed Mar. 24, 1882. (Model.)

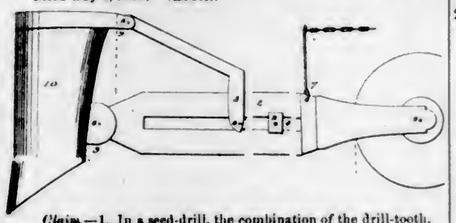
Claim.—1. The combination, with the shaft A, having a series of mortises, B, having their under faces or sides inclined downward and inward nearly to the center of the shaft, giving a half-dovetail form thereto, of the tenons D on the blades C, made half-dovetail in form, corresponding to the form of the mortise B, and key E, substantially and for the purposes set forth.

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2. In a pug-mill, the blade C, made flat on its under side, and having its upper side thickened from its edges to a diagonal line running from the middle of the outer end to a point midway between the middle of the inner end, next the vertical shaft and the rear edge, so as to provide a front beveled face gradually increasing in width from the outer to the inner end, substantially as set forth.

264,876. SEED-DRILL. JOHN HAMILTON, State College, Pa. Filed May 9, 1882. (Model.)



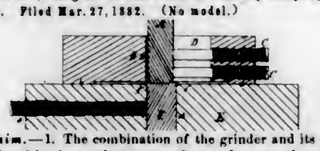
Claim.—1. In a seed-drill, the combination of the drill-tooth, the wheel 1, the bar 2, pivoted to the tooth and having the long slot, and the pivoted bar 3, substantially as described.

2. The combination, with the drill-tooth, the slotted bar, the wheel, and pivoted brace, of the band 11 and lugs, substantially as described.

3. The combination, with the slotted pivoted bar 2, clamping-plates 4 and 5, and brace 3, of the lifting-chain attached to said bar, substantially as described.

4. The combination, with the drill-tooth wheel, slotted bar, brace, and band 11, of the brace or support 13, substantially as described.

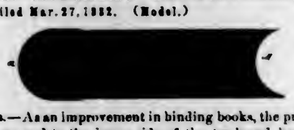
264,877. MECHANISM FOR SQUARING OR PLANE-DRESSING THE END OF BARS OR RODS. JNO. WORTH HEYER, Hartford, Conn., assignor to the Pratt & Whitney Company, same place. Filed Mar. 27, 1882. (No model.)



Claim.—1. The combination of the grinder and its carrier, socketed and having a plane top surface, and means of supporting the grinder in place in the said carrier, with the article-carrier provided with feet, as described, to rest on the upper surface of the said grinder-carrier, and also with a socket and means, substantially as explained, for holding and confining in it an article to be ground, redneed, or polished on its lower end, all being to operate essentially as set forth.

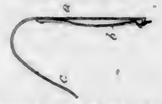
2. The grinder-carrier having its grinder-receiving socket countersunk, beveled, or channeled at and around its top, in combination with the grinder arranged in said socket, as set forth.

264,878. BOOK-BINDING. HERMAN H. HOFFMANN, Chicago, Ill. Filed Mar. 27, 1882. (Model.)



Claim.—As an improvement in binding books, the press-board B, firmly secured to the inner side of the tar-board back C, and having ends *e e*, secured to the inner sides of the book-covers D D, the central portion, *d*, of the press-board being unattached to the back edge of the book and having its ends cut away, to provide for turning in the leather or finishing cover of the binding, substantially as described.

264,879. NAPKIN-HOLDER. JAMES HUGILL, Woodbridge, Cal. Filed July 24, 1882. (No model.)



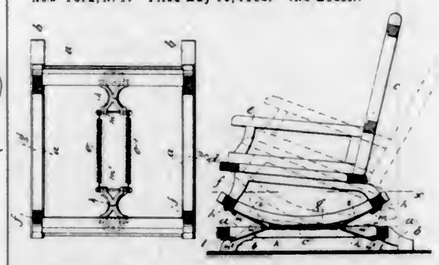
Claim.—1. As a new article of manufacture, a napkin holder and supporter combined, all substantially as described, and for the purpose set forth.

2. In combination, a napkin ring or holder formed of suitable material, bent in form of a hook, and a clasp or equivalent device for securing it to the napkin, the whole adapted to serve as a napkin holder and supporter, all substantially as described.

3. In a napkin holder and supporter, in combination, plate *a*, having hook *c*, and clasp *b*, all substantially as described.

4. In a napkin holder and supporter, a plate, *a*, having hook *c* and one or more slots, *d* and *e*, all substantially as described, and for the purpose set forth.

264,880. SPRING ROCKING-CHAIR. GEORGE HOUSTMORE, New York, N. Y. Filed May 15, 1882. (No model.)

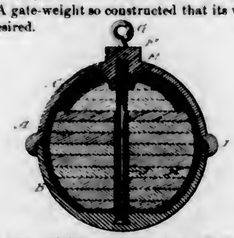


Claim.—1. The chair and rockers, in combination with a stationary base upon which the rockers rest, compound hinges connected at their ends to cross-pieces upon the front and back portions of the base and rocking-chair, respectively, and contractile springs extending from the middle portion of one compound hinge to the middle portion of the other, substantially as set forth.

2. The combination, with the rocking-chair and its base, of compound hinges composed of the end pieces, *h* and *i*, screwed to the front and rear cross-pieces of the chair and base, respectively, and the folding portions *i* and *k*, united by the joint-rods *m m' m²*, and the springs *o o'*, connected at their ends to the rods *m'*, substantially as set forth.

264,881. GATE-WEIGHT. JAMES J. JOHNSTON, Columbiana, Ohio, assignor to the United States Improvement Company, (Limited,) same place. Filed Feb. 11, 1882. (No model.)

Brief.—A gate-weight so constructed that its weight may be regulated as desired.

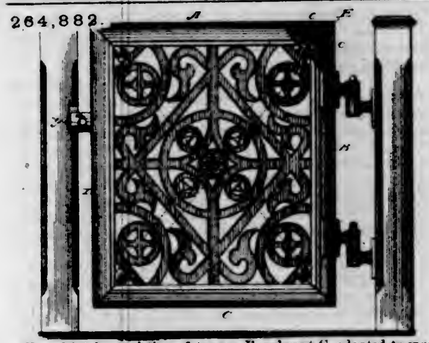


Claim.—A gate-weight consisting of parts B C, adapted to receive the plates H, and secured together through the medium of the rod D, substantially as herein described, and for the purpose set forth.

264,882. COMBINED IRON AND WOOD GATE. JAMES J. JOHNSTON, Columbiana, Ohio, assignor to the United States Improvement Company, (Limited,) same place. Filed Feb. 11, 1882. (No model.)

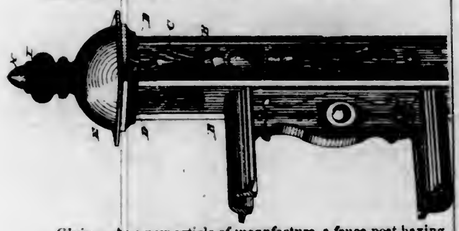
Claim.—In an iron and wood gate combined, a miter-frame constructed in sections A B C D, of iron of U form, having side flanges, *a*, in combination with diagonal braces I, having corner-blocks J cast on the ends thereof, the wooden panel H, the knuckles

264,882.



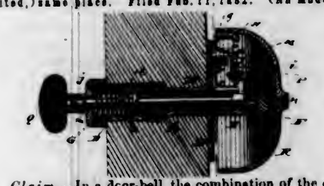
K, and latch consisting of tongue F and part G, adapted to move in section D, substantially as hereinbefore described, and for the purpose set forth.

264,883. IRON FENCE-POST. JAS. J. JOHNSTON, Columbiana, Ohio, assignor to the United States Improvement Company, (Limited,) same place. Filed Feb. 11, 1882. (No model.)



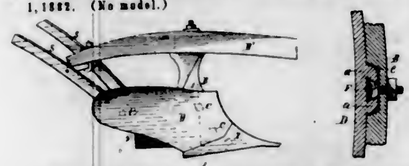
Claim.—As a new article of manufacture, a fence-post having a wooden core, A, with wrought-iron corner-pieces B and cast-iron ornaments C between them, and a hollow metallic cap, E, secured in position on said post through the medium of screw G, having ornamental head H and shoulder I, substantially as herein described, and for the purpose set forth.

264,884. DOOR-BELL. JAMES J. JOHNSTON, Columbiana, Ohio, assignor to the United States Improvement Company, (Limited,) same place. Filed Feb. 11, 1882. (No model.)



Claim.—In a door-bell, the combination of the chamber for the operating-rod, constructed in two sections of tubing of different diameters, and having caps G and F, the lever A, having collar *k* and detachable piece B, the disk L, having projection M, spring *r*, piece *i*, helve O, hammer N, and the bell R, all constructed, arranged, and operating substantially as herein described, and for the purpose set forth.

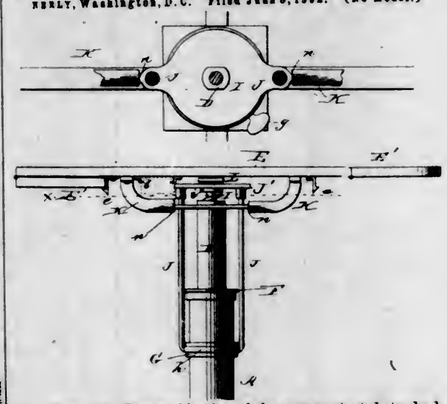
264,885. PLOW. KIRK KELLOGG, Kalamazoo, Mich. Filed July 1, 1882. (No model.)



Claim.—1. The shoe of a plow having the perforated countersink, in combination with a detachable part of the share having the bolt-head recess, and the bolt having a head adapted to fit adjustably in said recess, all substantially as set forth.

2. A detachable part of a plowshare provided with the bolt-head recess, the shoe having the perforated countersink, and the bolt having a securing-nut and a head adapted as set forth, substantially as shown.

264,886. SEWING-AND CUTTING TABLE. FLORIDA KENNERLY, Washington, D.C. Filed June 5, 1882. (No model.)



Claim.—1. The combination of the spring-actuated standard D, standard A, the table-top, the leaves E', the brackets K, pivoted at *n*, the bars J, and means for fixing the table-top in a horizontal position, substantially in the manner and for the purposes described.

2. The combination of the standard A, the table-top, the brackets which connect said top to the part D by pivotal connections, the turn-bracket L, and the short screw I, all arranged and operating in the manner and for the purposes specified.

3. The combination of the tubular standard or pedestal A, the secondary standard D, the table-top pivoted to and swiveling about the standard D, the locking swivel-batten, and screw and nut for adjusting it, substantially in the manner and for the purposes described.

4. The combination of the tubular standard, the collar G, the annulus A, the set-screw *g*, the connecting-rods J, the cap J', the brackets pivoted at *n n*, the table-top, the standard D, and a spring, C, substantially as described.

264,887. SEWING-MACHINE. THOMAS J. LE COUNT, New York, assignor of six-eighths to Joseph A. Kingsbury and John G. P. Holden, Yonkers, N. Y. Filed Dec. 12, 1881. (No model.)

Claim.—1. A sewing-machine constructed substantially as herein shown and described, with the arm hinged to the top plate, whereby the arm can be tilted to facilitate inserting the needle and fastening sewing attachments to the head, as set forth.

2. In a sewing-machine, the combination, with the top plate, F, of the hinged arm C, the spring-latch V, and the stud or catch V', substantially as herein shown and described, and for the purpose set forth.

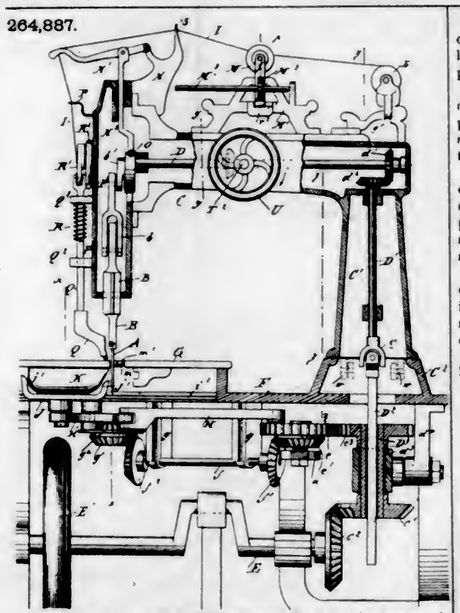
3. In a sewing-machine, the combination, with the hinged arm C, of the driving-rod D' D², provided with a universal joint, c, substantially as herein shown and described, and for the purpose set forth.

4. In a sewing-machine, the combination, with the hinged arm C, of the driving-rod D' D², provided with a universal joint, c, and having the lower part, D², squared, and of the rotating sleeve D³, provided with a squared longitudinal aperture to receive the squared part D², which is adapted to slide in this aperture, substantially as herein shown and described, and for the purpose set forth.

5. In a sewing-machine, the combination, with the hinged arm C, of the driving-rod D' D², provided with a universal joint, c, and a squared part, D², of the sleeve D³, provided with a bevel-gear wheel, *c'*, and of the bevel-gear wheel *c²* on the crank-shaft E, substantially as herein shown and described, and for the purpose set forth.

6. In a sewing-machine, the combination, with the hinged arm C, of the needle-bar B, the pivoted fork *b*, the crank *b'*, the shaft D, the bevel-gear wheels *d' d²*, the driving-rod D' D², provided with a universal joint, c, and a squared part, D², of the sleeve D³, provided with a bevel-gear wheel, *c'*, and of the bevel-gear

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wheel, e^3, on the crank-shaft E, substantially as herein shown and described, and for the purpose set forth.

7. In a sewing-machine, the combination, with the crank-shaft E, provided with a bevel-gear wheel, e^3, of the rotating sleeve D^2, provided with a bevel-gear wheel, e', and with a gear-wheel, e^4, the gear-wheel e, connected with a beveled-gear wheel, e', the bevel-gear wheel f', the shaft f, the bevel-gear wheel f^2, the bevel-gear wheels g', g^2, and g^3, and the feeding mechanism of the machine, substantially as herein shown and described, and for the purpose set forth.

8. In a sewing-machine, the combination, with the crank-shaft E, provided with a bevel-gear wheel, e^3, of the sleeve D^2, provided with a bevel-gear, e', and a gear-wheel, e^4, of the gear-wheel e, the pivoted connecting-rod H, and the pivoted U-shaped lever H', and the shuttle-carrier of the machine, substantially as herein shown and described, and for the purpose set forth.

9. The combination, with the wheel e and the connecting-rod H, pivoted to the top of said wheel, and the shuttle-carrier J, of the U-shaped lever H', connected at the slotted end of its long arm with said carrier and at the end of its short arm with said rod, whereby the shuttle-carrier is made to move on a line at right angles to that of the feed devices, as described.

10. In a sewing-machine, the combination, with the reciprocating feeding-device frame h^3, of an adjustable fork, n^3, substantially as herein shown and described, and for the purpose set forth.

11. In a sewing-machine, the combination, with the reciprocating feeding-device frame h^3, provided with shoulders or offsets n', of the adjustable fork n^3, having bends or flanges n^3 at the ends of the shanks, substantially as herein shown and described, and for the purpose set forth.

12. In a sewing-machine, the combination, with the reciprocating feeding-device frame h^3, of the fork n^3 and the pivoted lever L, for adjusting this fork, substantially as herein shown and described.

13. In a sewing-machine shuttle, the combination, with the sections K' and K^3, of the hooks l^2 and l^3 and the spring-catch l^5, substantially as herein shown and described, and for the purpose of holding the sections K' K^3 together, as set forth.

14. In a sewing-machine shuttle, the combination, with the section K^3, of the plate k^2, provided with a stud, the stud k^3, the spring k^4, and the hinged socket-piece l, substantially as herein shown and described, and for the purpose set forth.

15. In a sewing-machine shuttle, the combination, with the section K', of the plate k^2, provided with a stud for holding one end of the spool, the screw l', the nut l^5, for adjusting the position of the plate k^2, according to the size of the spool, and of a hinged spring-stud for holding the other end of the spool, substantially as herein shown and described, and for the purpose set forth.

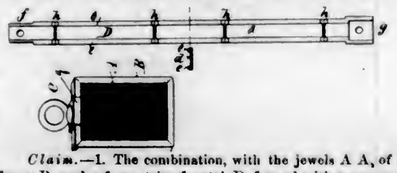
16. In a sewing-machine, the combination, with the frame o', of the pivoted arm o, provided with a pintle, L^3, and of the pivoted latch o^3, substantially as herein shown and described, and for the purpose of holding the thread-spool L', as set forth.

17. In a sewing-machine, the combination, with the shaft p, of the fixed disk p' and the movable disk p^2, pivoted to a fork, r, pivoted to devices for adjusting it, substantially as herein shown and described, and for the purpose of adjusting the tension of the thread, as set forth.

18. In a sewing-machine, the combination, with the shaft p, of the fixed disk p', the movable disk p^2, pivoted to the fork r, pivoted to the frame M', and to a sliding rack, r', engaging with a pinion, M^3, for operating it, substantially as herein shown and described, and for the purpose of adjusting the tension of the thread, as set forth.

19. In a sewing-machine, the combination, with the shaft p, of the fixed disk p', the sliding disk p^3, the pivoted fork r, the sliding rack r', the pinion M^3, the shaft M^2, and the hand-wheel M^4, substantially as herein shown and described, and for the purpose of adjusting the tension of the thread, as set forth.

264,888. CHARM FOR WATCH-CHAINS. BENEDICT B. LEDERER, Providence, R. I. Filed May 22, 1882. (No model.)



Claim.—1. The combination, with the jewels A A, of the frame B, made of one strip of metal, D, formed with a groove, the ends of which overlap and are secured together by means of a screw, as described.

2. A blank for a charm, consisting of a strip of metal provided with the groove d, the dowel end f, recess g, and transverse grooves h h, constructed to form the frame for a jewel, bent and secured together by overlapping the ends, as described.

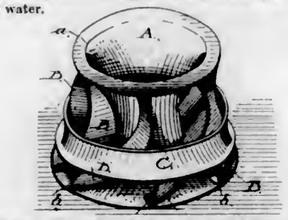
264,889. CARPET-LINING. PUTNAM W. LOOKS, Paris, Mo. Filed Feb. 11, 1882. (Specimens.)

Claim.—1. As a new article of manufacture, a cedar-felt carpet-lining consisting of cedar-bark prepared as described, and for the purpose set forth.

2. As a new article of manufacture, a felt composed of cedar-bark and cotton waste, substantially as described.

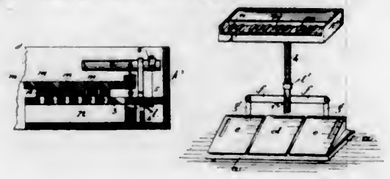
264,890. WATER-WHEEL. LEONARD LOSS, Richford, Wis. Filed Feb. 2, 1882. (No model.)

Brief.—The hub is flaring and flanged at both ends, and is provided with buckets conforming to its peculiar shape, and also with a concavo-convex ring, C, forming discharges b for the escape of the water.



Claim.—The hub A, flaring at top and bottom, in combination with the winding-buckets B and the outer concavo-convex cylinder, C, all constructed to operate substantially as herein described.

264,891. FLUTE-ORGAN. NEWMAN R. MARSHMAN, New York, N. Y. Filed Dec. 28, 1881. (No model.)



Claim.—1. The combination, with the base-board a and bellows c c, placed thereon, and against which the feet act directly, of the intermediate supply-bellows, d, and the lever f and links g at its respective ends, connecting with the bellows c c, for the purposes and as set forth.

2. The combination, with the base-board a, of the two bellows c c, intermediate wind-chest, d, tubular standard h for the air, the wind-chest l, flute or flageolet n, key-board base and case, keys, and valves, substantially as set forth.

3. The combination, with the pipe or flute, of the keys m, having valves for the holes of the pipes, the rock-shaft having fingers to be acted upon by the keys, the arm 6, and valve for admitting air to the pipe, substantially as set forth.

4. In combination with the pipe having a lip for producing a primary tone and holes for the other notes or tones, a valve to admit air, keys, and valves for closing the holes in the pipes, the lifters on the keys that act to the left to raise the lower valves from the holes of the pipe, substantially as set forth.

264,892. DEVICE FOR LOADING AND LANDING FLOATING LUMBER-CRIBS. SUMNER T. MCKNIGHT, Hannibal, Mo. Filed Aug. 18, 1882. (No model.)



Claim.—1. The combination of the submerged track A with the floating dock or guide G, for locating and loading floating cribs on cars, substantially as specified.

2. The combination of the submerged track A with the tracks B, C, and D, whereby a loaded train can be made up by means of a partly-unloaded one, substantially as specified.

3. The combination and arrangement of the chains I, having an elevated or forward hitch, with the crib F, to prevent the ducking of the crib, substantially as set forth.

4. The combination of the floating dock or guide G with the piles or stops G' and means for adjusting the edge of the dock with the line of the submerged rails, substantially as described.

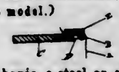
5. The combination of the track B with the platforms L, substantially as and for the purpose specified.

6. The stringers O and rails N, in combination with the platforms L L and K and conduit Q, substantially as specified.

7. The combination of the platforms L with the rail N and stringer O, for forming the gutter P, substantially as described.

8. The combination and arrangement of the platform K, rails N, and stringers O with the inwardly-inclined platforms L and pipe or hose R, substantially as and for the purposes specified.

264,893. BANJO. JAMES MORRISON, New York, N. Y. Filed Mar. 29, 1882. (No model.)

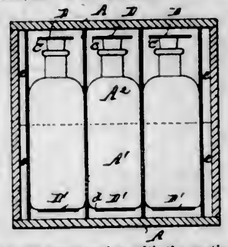


Claim.—1. In a banjo, a steel or other metallic ring over which the head or covering-membrane is stretched, in combination with the pins or projections secured to the inner rim or body and means to stretch said membrane over the steel ring, substantially as described.

2. In a banjo, the combination of the inner rim or body, pins or projections, metal ring, membrane or head, means to secure the ring down upon the pins, and means to stretch the membrane over the ring, substantially as described.

3. In a banjo, a metallic or resonant ring supported from the body of the instrument at several points in its periphery, in combination with the head or membrane and means to stretch the membrane over said ring, substantially as and for the purposes specified.

264,894. PACKING-BOX FOR BOTTLES. EDWARD L. MURLLER, St. Louis, Mo. Filed Aug. 21, 1882. (No model.)

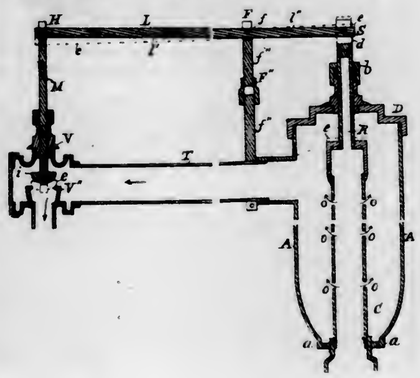


Claim.—1. In combination with the sectional halves A' A', each consisting of sides B B C C, intersecting each other and having slits c d, as shown and described, the slits at c and d and the respective veneers D D' to form the top and bottom sides of the compartments, as and for the purposes set forth.

2. The combination of the respective half-layers of counterpart compartments, each consisting of the sides or strips B B C C, intersecting each other midway the like distance, the latter strips further having the horizontal slits c d, the veneer strips D D' passing through the said slits c d and forming the top and bottom strips of the compartment proper, by means whereof bottles and the like can be packed in the manner and for the purposes set forth.

3. In combination with the box A, the layer of compartments A' A^3, each consisting of the like strips B B C C, intersecting each other midway the like distance, the latter strips further having the horizontal slits c d, the veneer-strips D D', the edges of all the strips B C D D' projecting beyond the sides and forming spaces e between all the sides of the compartments facing the box and the box proper, by means whereof bottles and the like can be packed in the manner and for the purposes set forth.

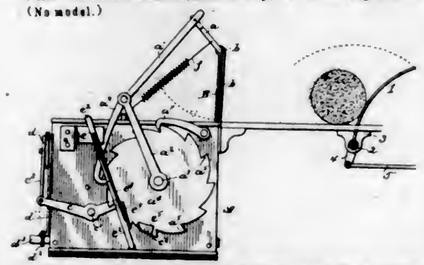
264,895. STEAM-TRAP. JAMES PARK, Troy, N. Y., assignor to John L. Russell and Charles Corliss, both of same place. Filed Mar. 13, 1882. (No model.)



Claim.—1. The combination, in a steam-trap, of an inner perforated tube firmly secured to the trap-base in direct communication with the trap-inlet at its lower end, and its upper closed end projected through a stuffing-box in the trap-cap, and a lever having a pivoted fulcrum with its short arm pivoted to the projected closed end of the perforated tube, and its long arm pivoted to the stem of a discharge-valve arranged upon the trap egress-opening, whereby the valve-opening is closed by the expansion of the inner tube.

2. In combination, a steam-trap consisting of the exterior cylinder, A, offset-pipe T, inner perforated tube, C, secured to the base of the trap at one end and in direct communication with the trap-inlet, the stuffing-box *b*, cap D, lever L, fulcrum F, valve-rod M, and valve V, constructed and arranged to close the valve by the expansion of the tube, as herein shown and described.

264,896. SHEAF-DUMPER FOR SELF-BINDING HARVESTERS. JONATHAN PEARCE, Kansas City, Mo. Filed Aug. 2, 1882. (No model.)



Claim.—1. In a self-binder, the combination of the bundle-expelling mechanism, the box secured to the side of the binder-table, the gate, the tilting bottom, and the mechanism for connecting it with said gate, whereby the bottom is positively tilted at regular intervals, as set forth.

2. The combination, with the pivoted bottom d^2, having the extensions d^3 d^4, and the tilt-crank d^5, of the actuating mechanism whereby the bottom is tilted, consisting of the lever *d*, rods d' and d^6, lever *e*, ratchet-wheel a^4, having the lug e^3, supporting-lever a^3, pawl a^5, rod a', gate B, its rock-arm *a*, spring *f*, and the bundle-expelling mechanism of a harvester, all arranged to operate substantially as shown and described.

3. In a self-binder, the combination of its bundle-expelling mechanism, the box secured to the side of the binder-table, the gate, the tilting bottom, the latch for releasing it, and the mechanism for connecting the bottom with the gate, whereby said bottom is released and positively tilted at regular intervals, as shown and described.

264,897. MACHINE-GUN. SIVERT PEDERSON, Menomonee, Wis. Filed Jan. 3, 1882. (No model.)

Claim.—1. The cylinder F, adapted to be revolved, and having a series of cavities provided with nipples *g*, in combination with sections G, provided with grooved ribs *e'*, fitting into the cavities in cylinder F, and having chambers *d* communicating with the grooves in the ribs, the several parts being arranged and adapted to operate as set forth.

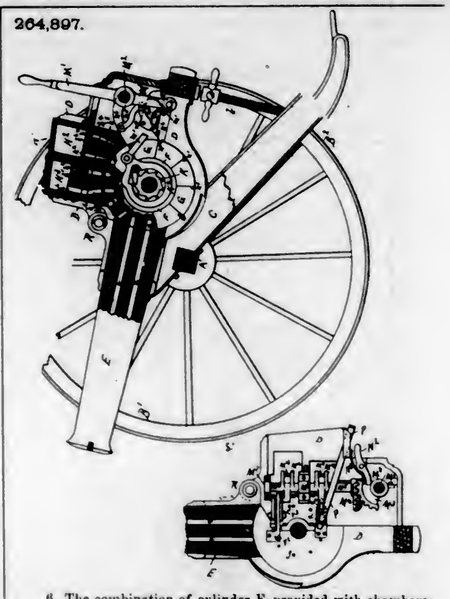
2. The revolving cylinder F, provided with chambered and grooved sections G, in combination with magazine H', having perforated bottoms h' h^3 h^4 and intermediate perforated slides, h^1 and h^2, the slide h^1 being adapted to receive a ball, and slide h^2 a charge of powder, the several parts being arranged and adapted to operate as set forth.

3. The revolving cylinder F, provided with chambered and grooved sections G, in combination with magazine H', having perforated bottoms and slides for the passage of balls and powder to the cylinder, the face of the magazine next to the cylinder being cut away so as to form a wedge-shaped cavity, as and for the purpose set forth.

4. The combination of cylinder F, provided with ratchet K' and chambered and grooved sections G, having cavities *s'*, the collar K^3, having a dog to engage with the ratchet, a spring-pawl, s^2, and a lever, M', connected to and operating pawl s^3, the several parts being arranged to operate as set forth.

5. The combination of cylinder F, provided with chambered and grooved sections G, the magazine H', provided with perforated bottoms and slides h' h^3, shaft M^2, provided with segmental gear M^3, shaft M^4, provided with segmental gear M^5, clutch N', and arms M^{10} M^{10}, and shipper N^3, the several parts being arranged to operate as set forth.

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6. The combination of cylinder F, provided with chambered and grooved sections G and nipples *g*, hammer V', formed with arm V^2, lever V', provided with a toe adapted to engage with lever V^2, and arm M^{10}, connected to shaft M' and adapted to act upon lever V', the several parts being arranged to operate as set forth.

264,898. BEE-HIVE. JOHN PHILLIPS, Riley's Station, Ky. Filed June 20, 1882. (No model.)



Claim.—1. In a bee-hive, the box A, having dividing-wall B, door F, hinged bottom K, slot M, and roller N, journaled in the ends of said slot in contact with the free end of the hinged bottom, as set forth.

2. In a bee-hive, the partition-wall B, having openings H, in combination with the honey-boxes E, having openings G, surrounded by flanges I, having slots or notches J, as set forth.

264,899. SIGHT FOR FIRE-ARMS. GEORGE W. PRIOR, Boeger's Store, Mo. Filed Apr. 27, 1882. (No model.)

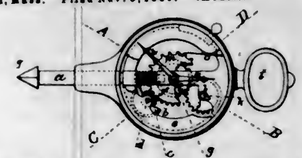


Claim.—1. A gun-sight comprising the plates or disks having sight notches or openings inclined toward the muzzle and disposed one some distance in front of the other, the disk nearest the stock being somewhat lower than the adjoining one, as set forth.

2. A gun-sight comprising the plates or disks inclined toward the muzzle and disposed one some distance in front of the other, the disk nearest the stock being somewhat lower than the adjoining one, and the disks having concaved surfaces, in which are formed the sight-openings, the opening in the lower disk being on a lower horizontal plane than the opening in the higher disk, as set forth.

3. The herein described gun-sight, consisting of a flat bed or base plate having upwardly-projecting disks disposed with a space between adjacent disks of different heights, inclined toward the muzzle, and having concaved surfaces, in which are formed the sight-openings, as shown and specified.

264,900. SPEED-INDICATOR. WILLIAM G. RICHARDS, Chicopee, Mass. Filed Nov. 8, 1880. (Model.)

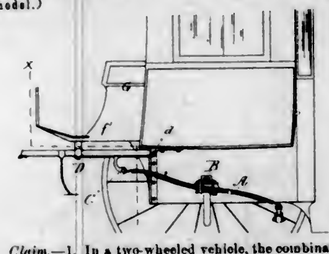


Claim.—1. In a speed-indicator for revolving shafts, the yoke e and stud *p*, in combination with worm-wheel *b*, said wheel being used as an intermediate wheel to transmit motion from the worm-spindle to wheel *f* and pointer *h*, substantially as shown and described.

2. In a speed-indicator for revolving shafts, the universal joint in spindle *a*, for the purpose of guarding against loss of motion between a revolving shaft and the worm-spindle, substantially as shown and described.

3. In a speed-indicator for shafting, the worm-spindle *a*, having the socket in its outer end, in combination with the intermediate worm-wheel, *b*, spur-pinion *c*, yoke *e*, spur-wheels *f*, *i*, *j*, and *l*, the pointers *h* and *n*, the stud *p*, and the opening in the side of the case, all substantially as and for the purpose set forth.

264,901. VEHICLE. HENRY C. SEARS, Boston, Mass., assignor to D. P. Nichols & Co., same place. Filed June 3, 1882. (No model.)



Claim.—1. In a two-wheeled vehicle, the combination of the crank-axle B, the hinged or jointed shaft D, the side springs, A, secured at or near their centers to the crank pin or wrist, at their forward ends to the shafts, and at their rear ends to the cross-spring E, and the body F, all substantially as and for the purposes described.

2. The combination of the crank-axle B, the side springs, A, secured at or near the center of their lengths to the crank pins or wrists, at their rear ends to the cross-spring E, and at their front ends to the shafts, the cross-spring E, shafts D, the front spring, f^3, the body F, and the projecting portion f', all substantially as and for the purposes described.

3. In a vehicle having a close front and a rear entrance, a space for the driver and driver's seat formed in the front wall of the vehicle back of the front line of the side portions, and extending from a point in line with or just above the inclosed seats on the vehicle to the top, all substantially as and for the purposes described.

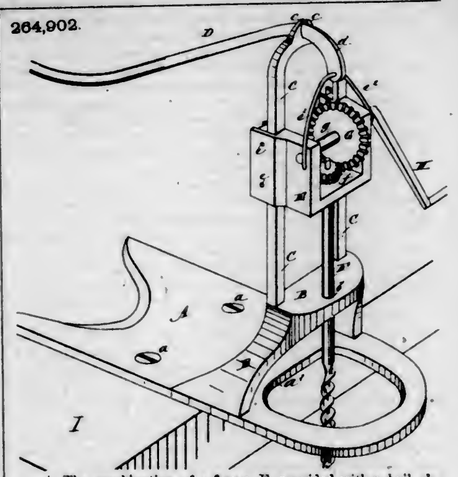
264,902. CORK-EXTRACTOR. ALBERT SLAGLE, London, Ohio. Filed Mar. 1, 1882. (No model.)

Claim.—1. In a cork-extractor, the combination, with a base, A, provided with a bridge, B, and horseshoe-shaped standard C, of a corkscrew, F, provided with a bevel-gear wheel, *f*, a frame, E, provided with a bevel-gear wheel, G, shaft *g*, crank H, and bail e^3, and a curved lever, D, all constructed, arranged, and operating substantially as and for the purpose herein described.

2. In a cork-extractor, the base A, provided with a bridge, B, and standard C, said standard having lugs *c c* at its curve, substantially as and for the purpose herein described.

3. The combination, with a frame, E, provided with a bevel-gear wheel, G, and shaft *g*, of a corkscrew, F, provided with a bevel-gear wheel, *f*, substantially as and for the purpose herein described.

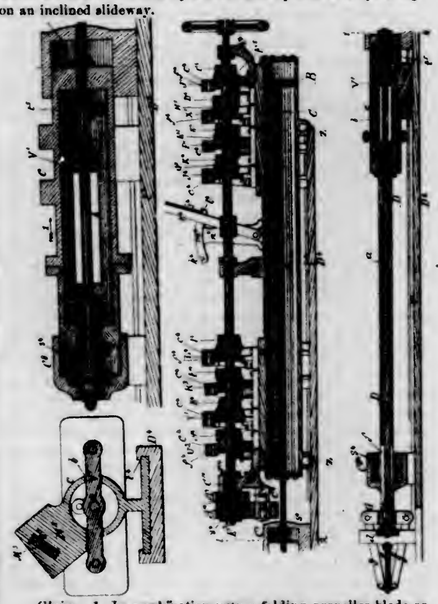
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4. The combination of a frame, E, provided with a bail, e^3, bevel-gear wheel G, and a shaft, *g*, a corkscrew, F, provided with a bevel-gear wheel, *f*, and a lever, D, substantially as and for the purpose herein described.

264,903. RECIPROCATING PROPELLER. RICHARD SMITH, Sherbrooke, Quebec, Canada. Filed Jan. 9, 1882. (No model.)

Brief.—The main piston bearing the hub propels the vanes backward to the extent of its stroke, when the auxiliary pistons continue to close the vanes. The valves are operated by cam-rods, which are caused to rotate by a slide on the piston-rods operating on an inclined slideway.



Claim.—1. In combination with a folding propeller blade or blades, a cylinder-piston and piston-rod operating on the hinge of the blade or blades, an auxiliary cylinder-piston and piston-rod, or more than one, acting on the outer part of the blade or blades, and valves and mechanism whereby the motion of the piston-rod attached to the hinge of the blade or blades is caused to stop before that of the rod or rods attached to the outer part of each blade, in order that the blade or blades may be fully closed before the return-stroke begins.

2. In combination with a folding propeller blade or blades, a cylinder-piston and piston-rod operating on the hinge of the blade or blades, an auxiliary cylinder-piston and piston-rod, or more than one, acting on the outer part of each blade, and valves and mechanism whereby the rod attached to the hinge is first caused to advance to partly open the propeller blade or blades, and then both the rods or all the rods are caused to advance together, in order that the opening of said blade or blades may be effected gently by the pressure of the water and the shock of sudden forcible opening avoided, substantially as set forth.

3. The combination, with a propeller composed of one or more folding vanes, operated by a main and one or more auxiliary steam-cylinders, pistons, and valves to expand on the active stroke and close on the return, and the various ports and valves of said cylinders, of two sets of cams and passive hubs for controlling the positions of the valves, these cams and hubs being carried by a common rotary shaft susceptible of end shug, and one set of cams and hubs being brought into use when the vessel is driven ahead and the other when the vessel is backed.

4. In propellers for navigable vessels, composed of one or more folding vanes adapted to expand on the active stroke and close on the return, and operated in these movements by two steam-cylinders and pistons, the rod of one of which is connected with the outer edge of the vane and the other with the hinge of such vane, substantially as explained, and the arrangement of the various ports and valves of the conjoint cylinders, substantially as specified and shown, whereby live steam is admitted to the inner ends of the auxiliary cylinders in front of their pistons to cushion the latter as they reverse their motion.

5. In propellers for navigable vessels, composed of one or more folding blades expanding on the active stroke and folding on the return, and operated in these movements by main and auxiliary steam-cylinders, pistons, and rods, the combination, with the various valves and ports of the cylinders, and operating such valves, of two series of cams secured to a single shaft which has provisions for end shug, one set of such cams actuating the valves to drive the vessel ahead and the other to back the vessel, and both actuated by a suitable hand-lever which controls the endwise adjustment or shug of the shaft.

6. In reciprocating propellers for navigable vessels, main and auxiliary cylinders, (one main and one or two auxiliary,) and pistons and rods, in combination with the propeller-blades hinged at their inner edges, the piston-rod of the main cylinder being connected with the hinge of the blades and the rods of the auxiliary pistons being secured to opposite ends of a yoke which intersects the main piston-rod and is connected with the rod which actuates the outer edges of the blades.

7. The combination, with a propeller composed of one or more folding blades or vanes adapted to expand on the active stroke and fold on the return, of two steam-cylinders with their pistons and rods, and arranged upon opposite sides of the first, the piston-rod of one cylinder being connected in direct line with the propeller-shaft and the other with the shaft which actuates the vanes by an intermediate or bar, which intercepts the piston-rod of the first in such manner that the combined power of the two auxiliary pistons is exerted equally upon opposite sides of the latter-named shaft.

8. In combination with a folding propeller blade or blades, a main steam-cylinder, two auxiliary steam-cylinders, and the pistons and piston-rods of these three cylinders, the two auxiliary cylinders operating together, and all the rods being connected to the vanes.

9. The combination, with a reciprocating propeller for navigable vessels, composed of a pair of folding blades adapted to expand on the active stroke and fold on the return, of a main central cylinder and a pair of auxiliary intercommunicating cylinders disposed upon opposite sides of it, the combined capacity of the two auxiliary cylinders exceeding that of the main cylinder, for purposes stated.

10. In propellers for navigable vessels, composed of one or more folding blades adapted to expand on the active stroke and close on the return, and operated by two or more steam-cylinders, with their respective pistons and rods, as stated, the combination, with the various valves and ports of said cylinders, of circular hubs for operating upon a portion of said valves and active cams operating upon others of said valves.

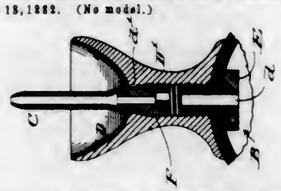
11. In combination with the vane or vanes of a propeller, and as a means of converting the rectilinear reciprocating movements of the piston-rods into continuous rotary motion of the cam-shaft, the spiral rock-shaft playing within and rocked by the cross-head of one piston-rod, and connected with the cam-shaft by two alternately-operating gears carrying spring-impelled pallets or dogs to take hold of and advance such shaft.

12. In combination with propeller-blades and cylinders, pistons, and piston-rods operating said blades, as stated, a shaft and set of cams for operating the valves and ports of said cylinders, each cam being adjustably attached to a hub secured to the said shaft, substantially as set forth.

13. In combination with the propeller-blades and the cylinders, pistons, and piston-rods whereby they are operated, a set of cylinder-valves, valve-rods, operating-levers, and a shaft carrying cams which actuate said levers, substantially as set forth.

14. In combination with a pair of folding propeller blades or vanes, three cylinders, with their pistons, piston-rods, and valves, and mechanism whereby the motion of the piston-rod attached to the hinge of the blades is caused to stop before the rods attached to the outer edges of the blades, in order that the blades may be fully closed before the return-stroke begins.

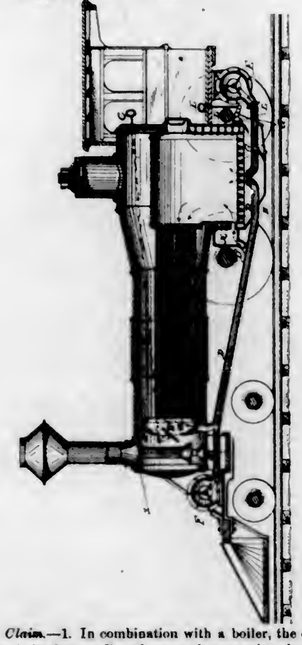
264,904. SYRINGE. STEPHEN G. SMITH, Hannibal, Mo. Filed May 18, 1882. (No model.)



Claim.—1. In a syringe, the perforated and tapered plug F, the screw E, flexible nozzle C, the cup or flange D, and the neck D′, all constructed and combined substantially as set forth.

2. In a syringe the flexible nozzle C, secured within the central opening of the neck D′ by the tapering and perforated plug F, substantially as described.

264,905. SMOKE-CONSUMER FOR LOCOMOTIVES. HENRY A. SPEAR, Charlestown, and ALBION P. WIGHT, Jr., North Adams, assignors of one-half to Frank Brownell, Boston, Mass. Filed Aug. 14, 1882. (No model.)

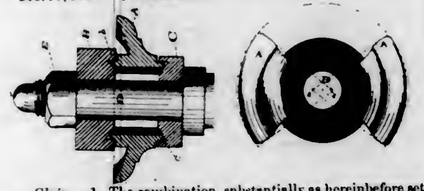


Claim.—1. In combination with a boiler, the convex or bell front A, its damper B, and means for operating the same, and the pipe D, connecting the chamber *a*′, formed by the front, with the fire-box or ash-pan, as and for the purpose described.

2. In combination with the bell-front A, and with its damper B and rod C for operating it, the fan-blowers E and F, and their pipes G′ and G D, leading to the ash-pan, all as and for the purposes set forth.

3. In combination with the blowers E F, pipes G′ and G D, and the ash-pan, the slide-bottom of such pan arranged to be operated by a system of levers, 1 1 1, as set forth.

264,906. CUTTER-HEAD. JULIUS STAMM, Aurora, Ind. Filed Dec. 19, 1881. (No model.)

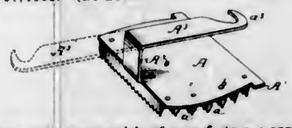


Claim.—1. The combination, substantially as hereinbefore set forth, of the spindle, collars, and tightening-nut of a frizzing-machine with segmental bit-pieces, as A, secured between the collars, with the opposite cutting-edges of each piece in the same circular path, and the central radius of each piece passing through and extending beyond the spindle-center, so that the bit will cut either right or left and have a clearance back of the cutting-edges without changing the bit-pieces in their collars.

2. The combination, in a frizzing cutter-head, of the pieces A, having annular tenons, as shown, with grooved collars to receive said tenons, the tenons being arcs of a greater circle than the groove.

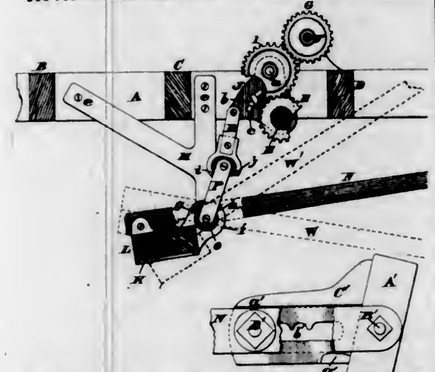
3. The combination, substantially as hereinbefore set forth, of spindle D and nut E with the bit-pieces A, having annular tenons with parallel sides, and collars B C, having beveled annular grooves *b c*, said grooves formed on the arc of a circle of less diameter than that of which the tenons are formed.

264,907. CURRY-COMB. MILES SWEET, Troy, N. Y., assignor to Sweet & Clark Manufacturing Company, same place. Filed July 27, 1882. (No model.)



Claim.—As a new article of manufacture, a curry-comb provided with a handle having formed integral therewith a hook extending in a plane parallel with the back of the comb, substantially as and for the purpose described.

264,908. SEEDING-MACHINE. HORACE G. SWORN, Liberty, Ind., assignor of one-half to Squire B. Rude, George W. Rude, and John R. Rude, same place. Filed Sept. 27, 1881. (Model.)



Claim.—1. In a broadcast-seeding machine, the combination, with the gear on the axle and the gear on the feed-shaft, of the intermediate gear-wheel, the oscillating bell-crank or segment, on which said intermediate gear is mounted, the oscillating drag-rail and its socket, having extension O, the toggle-levers R P, connected as described, the drag-bars and the shovels thereto connected, and the means for oscillating the drag-bar and locking it in position, whereby the feed mechanism and the shovels are rendered operative separately or together, according to the position of the drag-rail, substantially as described.

2. The combination, with the oscillating drag-rail and its socket, having extension O, of the oscillating bell-crank or segment and the toggle-levers R P, connected substantially as described.

3. The combination, with the drag-rail, of the metal socket-pieces I, embracing and protecting the ends of the rail, and having the extensions O, substantially as described.

4. The combination, with the slotted drag-bars and the shovel-standards pivoted thereto, of the sliding bearing-plate C′, having flanges *a*′ *a*′ and longitudinal slot and corrugations *b*, and the clamping-bolt D′, the whole arranged and adapted for operation substantially as described.

264,909. GRAIN-BINDER. DANIEL R. SYMONDS, Chicago, Ill., assignor to William Deering, same place. Filed May 2, 1882. (No model.)

Brief.—The tucker is retracted by the bundle-discharger.



Claim.—1. The pivoted oscillating lever with the pivoted tucker connected directly to the free end thereof, in combination with the needle, the whole operating substantially as described.

2. The combination of the discharge-arm B′ and the pivoted lever E′ with the tucker E, pivoted to the breast-plate and connected to the lever, as shown, for giving the latter a positive backward movement, substantially as described.

3. The combination, with the needle B and discharge-arm B′, of the pivoted vibrating lever E′ and the pivoted tucker E, connected to the lever E′, substantially as described.

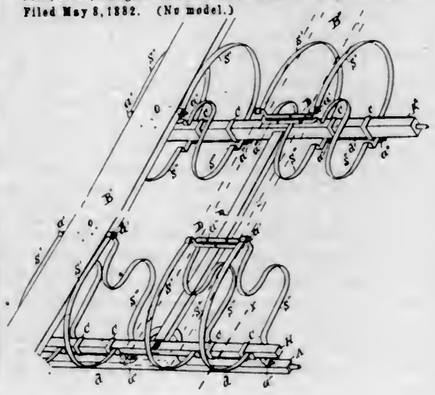
264,910. COUPLING AND LINCH PIN. ISAAC H. THARUP, Louisville, Ky. Filed June 2, 1882. (No model.)



Claim.—1. A coupling-pin consisting of two longitudinal sections adapted to slide upon each other, as shown, and connected together at or near their lower ends by a catch which is opened or closed by sliding the sections upon each other, substantially in the manner described.

2. A coupling-pin consisting of two longitudinal sections adapted to slide upon each other, as shown, and connected together at or near their lower ends by means of a catch pivoted to one section, and having an arm provided with a cross-pin which works in a slot on the other section, substantially as described, and for the purpose set forth.

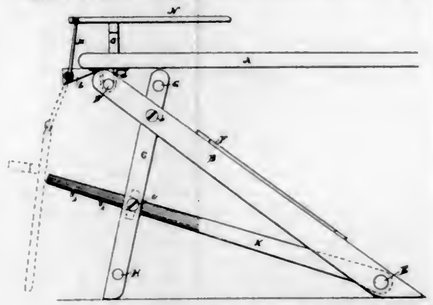
264,911. SPRING-BOARD WAGON. WILLIAM H. VINES, Melrose, N. Y., assignor of one-half to John O. Wing, same place. Filed May 8, 1882. (No model.)



Claim.—1. In a spring-board wagon, the combination of the spring-boards B' B'' and the springs S' S' and S² S² at each end of the boards, and the said springs at the front connecting the boards with the head-block and at the rear connecting the boards with the back axle, substantially as herein shown and described.

2. In a spring-board wagon, the combination of the spring-boards B' B'' at each of their ends connected with the upper springs, S' S', and the lower springs, S² S², by means of the stirrup D on the former and the flat connecting-bar a''' on the latter, and the upper springs, S' S', at the front having their lower united ends clipped to the head-block and at the rear to the back axle, with the springs S² S² connected with the head-block at the front and the back axle at the rear by means of the attached inverted stirrup D'', as herein shown and described.

264,912. TABLE. HENRY W. WARD, Cincinnati, Ohio. Filed Apr. 30, 1881. (No model.)



Claim.—A folding table consisting of top A, legs B, hinged at their upper ends to the table-top by cross-bar D and hangers *d*, and rigidly connected at their lower ends by cross-bar E, and having X-braces F F, legs C, having cross-bar G for rigidly connecting the same together, pivot-screws *b*, connecting the legs B and C together, cross-piece J, pivoted at *e* to said legs C, and having vertical slot *j*, lever K, extending from and working loosely upon the cross-bar E, said lever K passing through slot *j*, and being provided with pins *k*, substantially as and for the purpose described.

264,913. MEANS FOR WARMING RAILWAY-CARS BY STEAM. WILLIAM H. WARD, Pittsburg, Pa. Filed Jan. 19, 1881. (No model.)

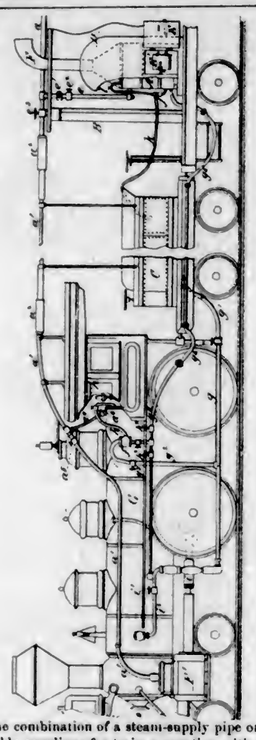
Claim.—1. For warming railway-cars by steam, the combination of an insulated supply pipe or pipes, *a a*, in each car, adapted to be made continuous in the cars of the train, substantially as described, with non-insulated warming-pipes H and I in each car, receiving from said steam-supply pipes and having their discharge terminations outside of said car, substantially as described, for the purpose specified.

2. For warming railway-cars by steam, the combination of an insulated supply pipe or pipes, *a a*, in each car, with non-insulated warming-pipes H and I, connected with said supply pipe or pipes at opposite ends of the car, and extending in opposite directions from their connected ends, terminating in open discharge ends, and having no connection with the warming-pipes of the next car or cars, the said supply pipe or pipes being continuously connected throughout the train when the cars are coupled, substantially as described, for the purpose specified.

3. For warming cars by steam, the combination of an insulated supply pipe or pipes, *a a*, with non-insulated warming-pipes H and I, connected with said supply pipe or pipes at opposite ends of the car, and extending in opposite directions from their connected ends, terminating in open discharge ends, and having no connection with the warming-pipes of the next car or cars, the said warming-pipes provided with cocks or valves d b^1 at their receiving and discharging ends, respectively, the said supply-pipes being continuously connected throughout the train when the cars are coupled, substantially as described, for the purpose specified.

4. In warming railway-cars by steam, the combination, with a supply pipe or pipes, substantially as described, of the pump *i* on the locomotive, the independent steam-generator A, arranged in a car which is in rear of the tender of said locomotive, suitable pipe-connections, *e e'*, and cock e^3, for connecting said supply-pipes with the steam-chamber of said generator, and suitable pipe-connections and cocks, g^1 g^2 i^1 h^3, whereby said pump and its connected tender-tank are put in communication with said independent steam-generator, substantially as described, for the purpose specified.

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5. The combination of a steam-supply pipe or pipes provided with suitable couplings for train-connection with an independent steam-generator, A, arranged in a car which is in rear of the tender of the locomotive, suitable pipe-connections, *e e'*, and cock e^3, for connecting the said independent steam-generator with said supply-pipes, the injector *f* of the locomotive-boiler, suitable pipe-connections and cocks, g g' g^3 g^2, for connecting said injector and the tender-tank, and suitable pipe-connections and cocks, g^4 g^2 h^3 h^2, for connecting said injector and said independent steam-generator A, substantially as described, for the purpose specified.

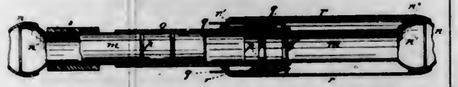
6. The combination of a steam-supply pipe or pipes provided with suitable couplings, whereby they are made continuous throughout the cars of the train, with an independent steam-generator, A, arranged in a car which is in rear of the tender of the locomotive, suitable pipe-connections, *e e'*, and cock e^3, for putting the steam-chamber of said independent generator in communication with said supply-pipes, the injector *j* of said generator, and suitable pipe and cock connections, *k l*, connecting said injector direct with the said tender-tank and with said independent steam-generator, substantially as described, for the purpose specified.

7. For warming cars by steam, an insulated supply pipe or pipes, *a a*, provided with suitable couplings for train-connection, and non-insulated car-warming pipes H and I, connected therewith, substantially as described, the independent steam-generator A, arranged upon a car which is in rear of the tender of the locomotive, the injectors *f* and *j* and the pump *i*, and suitable pipe-connections and cocks therefor, connecting with the said independent steam-generator and with the tender-tank, substantially as described, for the purpose specified.

8. The combination of an insulated steam-supply pipe or pipes, provided with suitable couplings for train-connection, and non-insulated car-warming pipes H and I in each car, receiving from said supply-pipes and discharging from each car, as described, with suitable pipe and cock connections, a' a^4 a^4, connecting said car receiving and discharging warming-pipes with the steam-chamber of the locomotive, substantially as described, for the purpose specified.

9. For warming cars by steam, the combination of an insulated supply pipe or pipes, *a a*, provided with suitable couplings for train-connection, and non-insulated car-warming pipes H and I, connected therewith, substantially as described, with the independent steam-generator A, arranged upon a car which is in rear of the tender of the locomotive, the pipes *e e'* and cock e^3 e^3, the pipes a' a', and the pipe a^4 and cocks a^3 and a^3, the said pipes connecting the steam-generators A and G and the exhaust-ports of the engines with the said supply-pipes when the cars are coupled, substantially as described, for the purpose specified.

264,914. PIPE-COUPLING. WILLIAM H. WARD, Pittsburg, Pa. Filed Mar. 13, 1882. (No model.)



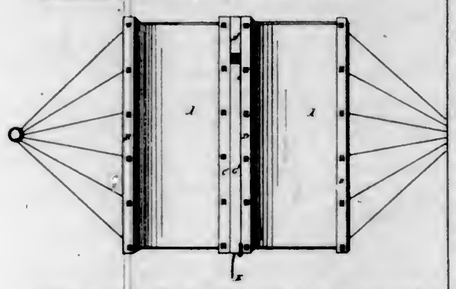
Claim.—1. The combination, with the separate fixed supply-pipes *a a* and the ball-and-socket-joint pipe-sections *m m*, of the sleeve *o*, carried by one of said pipe-sections and made extensible thereon to envelop and support the other pipe-section after the cars have been coupled, substantially as described.

2. The combination, with the supply-pipes *a*, of the joint pipe-sections *m m*, the sliding sleeve *o*, and the fixed jacket *r*, substantially as described, for the purpose specified.

3. The combination of the separate fixed supply-pipes *a a*, the ball-and-socket-joint pipe-sections *m m*, and the sleeve *o*, extensible upon one of said pipe-sections, with the catches *q q*, carried by said extensible sleeve, substantially as described, for the purpose specified.

4. In combination, the supply-pipes *a*, the joint pipe-sections *m m*, the sliding sleeve *o*, the catches *q q*, and the fixed jacket *r*, the said sleeve being carried by one of said pipe-sections, and the said jacket being fixed to the supply-pipe and enveloping the said sleeve-carrying pipe-section, substantially as described, for the purpose specified.

264,915. DERRICK-NET FOR STACKING. GEORGE WILKINSON, Acampo, Cal. Filed July 1, 1882. (No model.)



Claim.—1. A derrick-net for stacking purposes, composed of the section A, having an outside bar, B, and an inside bar, C, having attached to it a bar, C', carrying spring-latch *e* at its head, and cord E, and of the section A, having an outside bar, B, and an inside bar, D, having attached to it a bar, D', carrying spring-latch eye *d* at its foot, the said sections A A being permanently secured together at lower inside corners by hinge at end of bars C' and D and at upper ends by latch *e* and its eye *d*, located as shown, said latch *e* having a trip-cord, E, attached to it and extending therefrom down through circular hole in bar C' to within easy reach of the operator, all arranged and operating substantially as herein set forth and described.

2. The combination, with the bar C, of the bar C', having a spring-latch, *e*, at its head, and a cord, E, extending from said latch down through a circular hole in bar C', and extending beyond it, so as to be within reach of the operator, all for the purposes substantially as herein described.

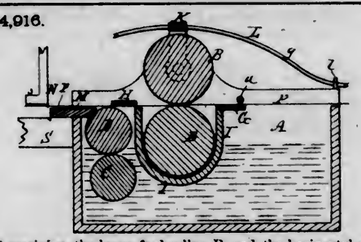
3. The combination of the bar D with the bar D', having at its foot spring-latch eye *d* to receive spring-latch *e*, all substantially for the purposes herein described and set forth.

4. The combination, with bars B B, C, and D, of iron straps bolted thereto and securing canvas or rope netting of sections A A, as and for the purposes herein described and set forth.

264,916. ADDRESSING-MACHINE. PETER YORK, Geneva, and GEORGE V. UHL, Bellona, N. Y. Filed Feb. 1, 1882. (No model.)

Claim.—1. In an addressing-machine, the paste-tank A, constructed with the depressed curb I, resting in the body of the tank

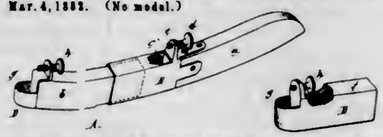
264,916.



and receiving the lower feed-roller, B, and the horizontal guide-bar G in the rear of and on a level with the top of the curb, as shown and described, and for the purpose specified.

2. In an addressing-machine, the combination, with the upper feed-roller, B, of the stirrup K, resting on the journals of the roller, and the lever L, provided with sides *g g*, which form springs to the roller, as herein shown and described.

264,917. ADJUSTABLE ROCKER FOR CHAIRS. EDWARD W. ANDREWS, Detroit, Mich., assignor, by direct and mesne assignments, to the Detroit Rocker Company, same place. Filed Mar. 4, 1882. (No model.)



Claim.—1. A chair-rocker made in two sections joined together with an extensible coupling, in combination with devices, substantially as described, for securing each section to a separate chair-leg, as set forth.

2. The combination, with the sections *a b* of the socket B, secured to one section and loosely receiving the end of the other section, and means, substantially as described, for separately securing each section to a separate chair-leg, as set forth.

3. A chair-rocker consisting of two sections joined together with an extensible coupling, each section being provided with a socket for receiving a chair-leg, and a screw for fastening the leg in the socket, substantially as described.

4. The combination, with the two sections *a b*, of the casting B, secured to one section, and having a socket to receive the other section, a socket to receive a chair-leg, a screw to secure the leg in the socket, and means for securing the companion leg of the chair to that section of the rocker which fits into the socket of the casting B, substantially as described.

5. The combination, with the two sections *a b* of an extensible rocker, of the sockets *g e*, secured to the forward ends of the sections, the socket of the rear sections being also provided with a socket to receive the front section, and both sockets *g e* being provided with screws to secure them to the chair-legs, substantially as described.

6. The rocker A and the casting D, having a socket, *g*, and a screw, *h*, to receive and secure a chair-leg, and provided with a socket-projection, *f*, to receive the front end of the rocker, in combination with means, substantially as described, for securing the rear leg of the chair, as set forth.

264,918. SELF-LUMINOUS PAINT. WILLIAM H. BALMAIN, Eversley, Ventnor, County of Hants, Isle of Wight, England; Harriet Pox, Executrix of said William H. Balmain, deceased. Filed Nov. 20, 1878. Patented in England Nov. 7, 1877, No. 4,152; in Victoria Dec. 31, 1878, No. 3,786; in Italy Dec. 31, 1880, XXV, 131; in Belgium Jan. 3, 1881, No. 53,483; in Tasmania Mar. 21, 1881, No. 102; in New Zealand Apr. 26, 1881, No. 523; in Spain May 21, 1881, No. 1,455; in Sweden June 18, 1881; in New South Wales June 25, 1881, No. 947; in Queensland July 12, 1881, No. 354; in Portugal July 21, 1881, No. 838, and in Austria Dec. 7, 1881, No. 33,137.

Claim.—A luminous paint the body of which is a phosphorescent substance or composed in part of such substance, the vehicle of which is such as is ordinarily used in paints—viz., one which will become dry by oxidation or evaporation—substantially as herein described.

264,919. SOCKET FOR INCANDESCENT ELECTRIC LAMPS. RAYMOND P. BARNES, New York, N. Y., assignor to the United States Electric Lighting Company, same place. Filed Apr. 11, 1882. (No model.)

Brief.—The object is to hold the lamp securely in the socket, and also to inclose and protect the circuiting-springs.

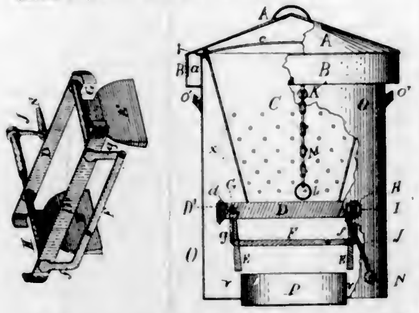


Claim.—1. The combination, with a stationary base having circuit-terminals, of a rotary incandescent lamp-holder having springs capable of being brought into and out of contact with the terminals of the base by the rotation of the holder in one direction, the base and holder being both composed of insulating material and inclosing the conductors, substantially as and for the purpose set forth.

2. A holder for incandescent lamps, consisting of the combination of a cylinder, C, and plug B″, containing circuit-terminals and constituting a base, with a lamp-socket, B, and rotary plug B′, containing conductors and contact-strips capable of being brought into and out of contact with the terminals of the base by the rotation of the socket and plug, substantially as and for the purpose set forth.

3. The combination of socket B and plug B′, containing electrical contacts and conductors, as set forth, of a base in which the plug B′ is arranged to turn, a circuit-breaker in said base, and a nut, F, for preventing the separation of the socket and base, substantially as described.

264,920. DOMESTIC GARBAGE-BURNER. AGRIPPA N. BELL, Garden City, N. Y. Filed Feb. 12, 1881. (No model.)



Claim.—1. In a garbage-burner, the combination, with the kettle O, having an aperture in the base for the admission of the flame and heat, of the straining-pail C and dumping-bottom, substantially as set forth.

2. The combination of the kettle O, cover A, base-aperture, and inserted ring P, extending both inside and outside of the bottom, forming a stove-ring on the outside and partitioning off the liquid-chamber r on the inside, with the perforated conical pail C and removable or dumping bottom, substantially as set forth.

3. The kettle O, provided with the chamber r and drip-chamber B, in combination with the cover A, having the lip *a* inserted in the drip-chamber B, and with the strainer C, provided with a dumping-bottom, substantially as set forth.

4. In a garbage-burner of the kind described, the combination, with the kettle O, having suitable supporting means for the dumping-frame, and with the strainer C, of the dumping-frame D D′, dumping-wings E E, shafts H G, and connecting-levers F *f g*, as set forth.

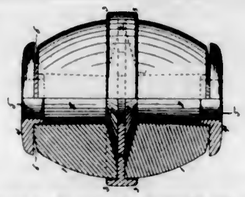
5. The kettle O, provided with the ring P, in combination with the pail C and dumping-bottom, as set forth.

6. The garbage-burner described, consisting of the kettle O, provided with pan B and ring P, in combination with pail C *x* and dumping-bottom E D D′ F *f g* G H, as set forth.

264,921. CAR-SPRING. SUMNER A. BENTS, Springfield, Mass. Filed Aug. 2, 1882. (No model.)

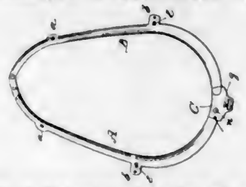
Claim.—In an improved railway-car spring, the combination of a plate provided with a flange at its outer edge, projecting from each side at right angles thereto, two metal disks, each provided with a central hole, and a flange extending around said hole at right angles to the face of the disk, and two rubber pieces or springs, each having an outer bevel, a space between the disk and

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the outer portion of the rubber at the smaller end, and a bevel or space between the inner portion of said plate and the rubber at its larger end, substantially as described.

264,922. COMBINED COLLAR AND HAMES. THOMAS BUDDERICK, Pittsburg, Pa. Filed Apr. 17, 1882. (No model.)



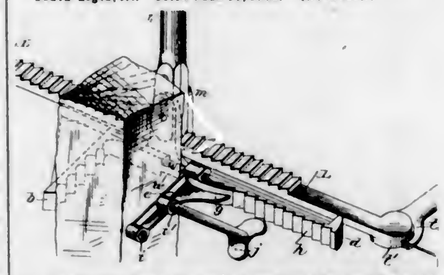
Claim.—1. The combination of frame A, having lug *b* and opening *c*, with hame-lug c, having toe-piece *d* and bolt *f*, substantially as described.

2. The combination of frame B, having hooked or recessed end D, with frame A, having the two-part socket C C′, bar *h*, keeper *i*, having shoulder *k*, pin *o*, thumb-piece *m*, and spring *p*, substantially as described.

3. The combination, with frame A, having perforated socket C, of the pole-strap hook *n*, having shank *t* and spring-catch *r*, substantially as described.

4. The combination of hame-section A, hame-lug c, clip *g′ h′*, back *a′*, part *e′*, box-loop *d′*, leather or other finish *n′*, projections *k′ i′ m′*, and screws *f′ g′ o′*, substantially as described.

264,923. FENCE-WIRE STRETCHER. ISAIAH C. BURGETT, South Elgin, Ill. Filed June 30, 1882. (No model.)



Claim.—1. A post-clamping frame having integral therewith a series of fixed teeth for clamping a post, a bed to support a sliding rack, standards *m m* on opposite sides of such bed, provided with journal-bearings for a rack-operating lever, and a straight edge or ledge, the standards and the ledge jointly serving for guides to the rack.

2. The bed A, made integral with its toothed jaw *b* and with the flanged arm *d*, rack-teeth *h*, platform *k*, and uprights *m m*, as shown and described.

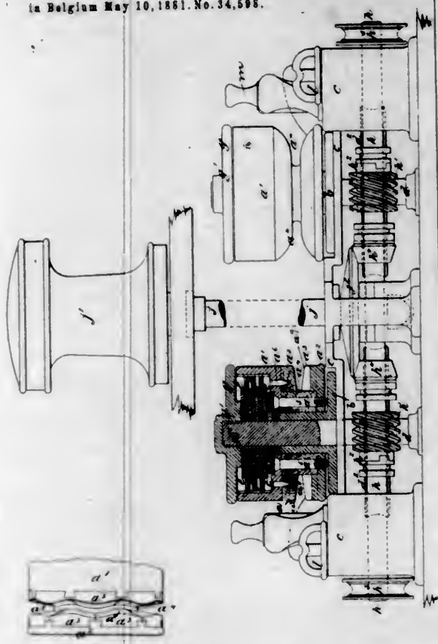
3. The combination, with the bed A, made as shown and described, of the sliding jaw *e* and its pawl *g*, made integral therewith, and thumb-screw *j*, as and for the purposes set forth.

4. In combination with a base or bed on the post-clamp, the sliding rack L, provided with ratchet-teeth, and the lever N, provided with the pawls *u* and *v*, as and for the purposes set forth.

5. The sliding rack L, grooved on its under side to afford a covering for the wire between it and the bed, and provided with a double-acting eccentric, *t*, as and for the purposes described.

6. In combination with the post-clamping plate provided with the double eccentric or double cam *q*, and a ledge, *r*, the slide-rack L, provided with a double eccentric or double cam, *t*, and with a ledge, *r*, as and for the purposes set forth.

264,924. WINDLASS. SAMUEL BAXTER, London, England. Filed June 22, 1881. (No model.) Patented in England Nov. 11, 1880, No. 4,849; in France May 10, 1881, No. 142,769, and in Belgium May 10, 1881, No. 54,596.



Claim.—1. A wire-rope holder having a waved continuous unbroken parallel-sided truncated V-groove, forming parallel lines on the periphery of the wheel and converging inward to a cylindrical surface, as set forth.

2. A wheel, *a*, having a continuous waved truncated V-groove having parallel sides, constructed substantially as herein described, and for the purpose stated.

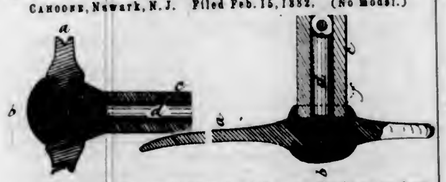
3. A wire-rope holder, *a*, consisting of two cheeks, a^2 a^3, having undercut recesses, blocks a^2, fitting in said recesses, and formed with waved projections a^3, and the boss a^4, separating the blocks, the whole forming a holder having a continuous waved truncated V-groove, a^5, as set forth.

4. A wire-rope holder, *a*, having a continuous waved parallel-sided truncated V-groove, a^5, in combination with a fixed vertical hollow shaft, *b*, and solid driving-spindle *d*, passed through said shaft, as set forth.

5. The combination of a wire-rope holder, *a*, having a continuous waved parallel-sided truncated V-groove, a^5, and the guide-wheels *k k*, contiguous to each other and to the holder, for the purpose set forth.

6. A waved truncated V-groove wheel, *a*, fixed vertical cylindrical shaft *b*, and solid driving-shaft *d*, in combination with friction-plates *e* and *f*, screw *d′*, and nut *g′*, as set forth.

264,925. BRIDLE-BIT. EDWIN R. CAHOONE and CHARLES E. CAHOONE, Newark, N. J. Filed Feb. 15, 1882. (No model.)



Claim.—1. In combination, in a bit, a mouth-piece core having threaded extremities, socketed heads adapted to receive said mouth-piece core, and keys adapted to hold said heads and said mouth-piece in fixed relation to one another, as set forth.

2. In a bit, the bulbed or dovetailed extremities *g* of the cheek-piece working in sockets in the head of the mouth-piece, substantially as set forth and shown.

3. In combination, in a bit, a cheek-piece having bulbed extremities, a head having corresponding recesses therein, and having a socket between said recesses adapted to receive the mouth-piece, and a mouth-piece, said parts being arranged and operating substantially as and for the purposes herein set forth.

4. In a bit, the cheek-piece having the pivotal parts *g* dovetailed within a head, said head having a threaded socket adapted to receive a threaded mouth-piece, substantially as and for the purposes herein set forth.

5. In a bit, the combination, with the core *d* and covering *c*, of a head having a projecting flange, *h*, adapted to cause the extremities of the covering *c* to expand, substantially as and for the purposes herein set forth and shown.

6. A bit having therein a mouth-piece composed of sections connected by a link, *o*, covered with a metallic jacket, *p*, substantially as and for the purposes set forth and shown.

7. In combination with the link *o* of a bridle-bit mouth-piece, a jacket having longitudinal projecting ribs *r* adapted to pass between the sides of the link, said jacket being adapted to prevent the said link from uncoupling.

8. In a bit, a cheek-piece having bulbs *g* thereon, a head having corresponding recesses, and having the flange *f* projecting therefrom, a core, *d*, secured in said head, and a covering, *c*, all arranged in combination, substantially as and for the purposes set forth.

9. In a bit, the head provided with the flange *h*, causing the mouth-piece covering to flare, substantially as and for the purposes set forth and shown.

10. In a bit, the head provided with the flange, in combination with the core provided with the shoulders *q*, substantially as and for the purposes set forth and shown.

11. As an improved article of manufacture, a bit having a head carrying bulbed cheek-pieces, said head having a threaded recess therein to receive the mouth-piece core, having recess *f* to receive the end of the covering *c*, and having a flange, *h*, to cause said covering to flare, a mouth-piece having therein a link, *o*, coupling-sections, as *d*, a jacket, *p*, covering and binding said link, and a covering, *c*, the whole being arranged and combined substantially as and for the purposes set forth and shown.
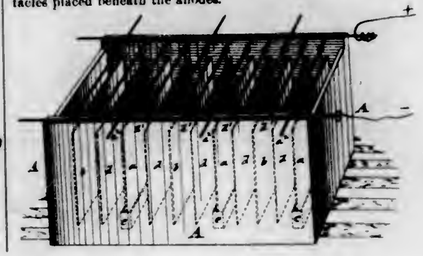
264,926. CAR-COUPLING. DANIEL CARLOUGH, Paterson, N. J. Filed July 28, 1882. (No model.)



Claim.—The combination of the coupling-box *a a′* a^3, coupling-links *c*, coupling-pin *b*, pivots *g*, slots *f*, slot *k*, dish *i*, latch-hook *d*, and sharpened end *e*, substantially as and for the purpose set forth.

264,927. APPARATUS FOR SEPARATING METALS BY ELECTROLYSIS. HENRY R. CASSEL, New York, N. Y., assignor to the United States Bullion Refining Company, same place. Filed Apr. 15, 1882. (No model.)

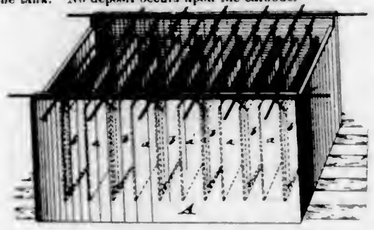
Brief.—Between a series of alternating anodes and cathodes are placed intermediate diaphragms of copper netting. The electrolyte employed is sulphate of copper and the anode is a plate of base bullion. The silver is precipitated upon the copper netting, the copper upon the copper cathodes, and the gold falls into receptacles placed beneath the anodes.



Claim.—The combination of a vat, a series of anodes of base metal, consisting principally of silver and copper, a series of cathodes of copper, the anodes and cathodes alternating with each other, copper diaphragms interposed between the anodes and cathodes, means for suspending the anodes, cathodes, and diaphragms, and suitable electric conductors, substantially as described.

264,928. PROCESS OF AND APPARATUS FOR SEPARATING METALS. HENRY R. CASSEL, New York, N. Y., assignor to the United States Bullion Refining Company, same place. Filed Apr. 15, 1882. (No model.)

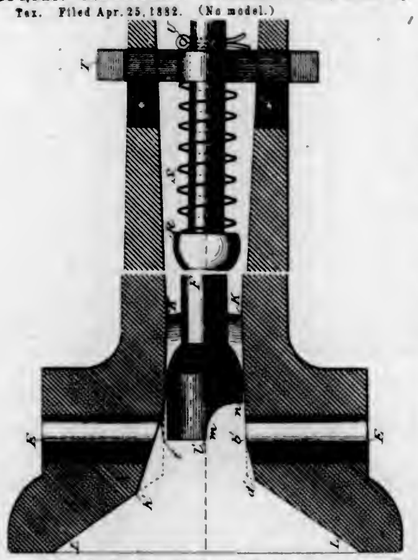
Brief.—A plate of base bullion is employed as an anode in a solution of sulphate of copper. The cathode employed is a metallic plate surrounded by a protective coating of a material sufficiently porous to permit the passage of the electric current to the cathode, but dense enough to prevent deposition upon the latter. Silver and copper are obtained in solution from the anode upon passing a current through the bath. The gold falls to the bottom of the tank. No deposit occurs upon the cathode.



Claim.—1. A cathode provided with a protective covering of a dense, porous, non-conductive material, substantially as described, which covering admits the passage of the current and prevents deposition upon the cathode, substantially as described.

2. The process herein described of separating and refining base alloys or base metals by electrolysis, which consists in subjecting alloys, as anodes, to the electrolytic action of a solution within which the cathodes are also suspended, and covering the latter with a material that prevents the deposition of the dissolved metals upon the cathodes, but admits the passage of the current thereto, substantially as set forth.

264,929. CAR-COUPLING. JOHN E. H. CHAPMAN, Harrisburg, Tex. Filed Apr. 25, 1882. (No model.)

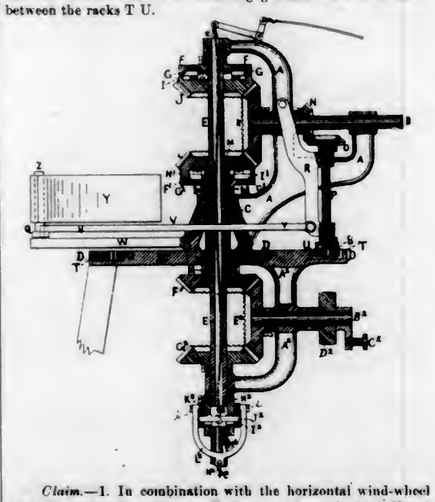


Claim.—1. A self-coupler having three bevels or planes, L *d b* K, on the lower half, and three bevels or planes on the upper half, L *h i* K, connected with a perpendicularly concave surface, *f f*, also a horizontal concave surface connecting the sides, all substantially as set forth.

2. The combination, in a self-coupler, of the pin-catcher F, which has attached to a coil-spring, S, a double T-head stop, T, a safety-pin, U, and a slot, *e*, in the body of the coupler, having a convex surface perpendicularly and horizontally corresponding with *f f*, all substantially as described and set forth.

264,930. WIND-WHEEL. CONRAD M. CONRADSON, Madison, Wis. Filed Sept. 27, 1881. (No model.)

Brief.—Two hollow shafts, E M, are revolved by gear-wheels L J in opposite directions. The plates F F', secured respectively to these hollow shafts, carry pawls, which engage with teeth on the flanges I I' on gear-wheels L J, and prevent their revolution in one direction. When the direction of the wind changes the vane Y operates rod V, causing pinion S to engage with either rack T or U of the rack-plate D until the wind-wheel shaft B is brought into line with vane Y, and consequently at right angles with the direction of the wind, when S is disengaged and is free to revolve between the racks T U.



Claim.—1. In combination with the horizontal wind-wheel shaft B, having the bevel-gear K, the two concentric shafts E and M, provided with the loose bevel-gear J, having flange I, provided with teeth H, and bevel-gear L, having flange I', provided with teeth H', whereby the wind-wheel is adapted to change its position to correspond with the direction of the wind, substantially as described, as and for the purposes set forth.

2. In a wind-mill, the combination of the vane Y, connecting-rod V, pivoted arm R, bevel-gears N and O, vibrating rotary shaft P, having pinion S, and the concentric rack-bars T and U, substantially as described, as and for the purposes set forth.

3. In a wind-mill, the combination, with the vertical hollow shaft E, having the disengaging-wire *e*, of the slotted sleeve H', bar or key J', loose rings I' and K', and the loop or bail L', provided with a disengaging wire or cord, *e'*, and the solid shaft N', substantially as described, as and for the purposes set forth.

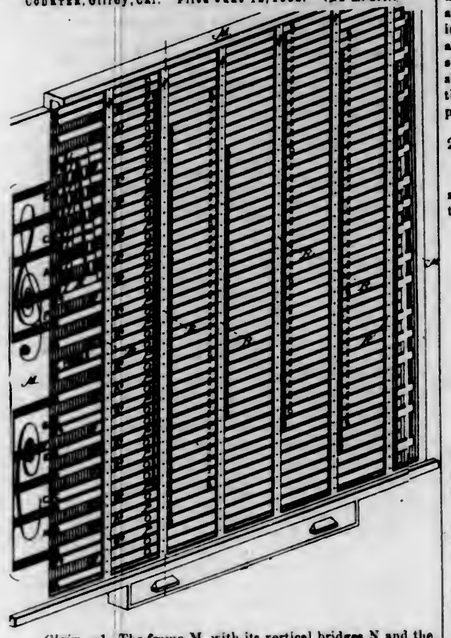
264,931. EXERCISING-BALL FOR ATHLETES OR GYMNASTS. HIRAM B. COOK, San Francisco, Cal. Filed July 31, 1882. (No model.)



Claim.—1. An exercising-ball suspended and anchored at opposite poles or axial points, and provided with flexible sustaining-straps constructed, arranged, and operating substantially in the manner as herein set forth and specified.

2. The exercising-ball herein described, having a suspensory strap passing through it axially, to the ends of which are attached elastic or flexible sustaining-bands, whereby the said ball is held in position between two fixed points, substantially in the manner and for the purpose herein set forth and specified.

264,932. APPARATUS FOR TEACHING MUSIC. HENRY P. COURTER, Gilroy, Cal. Filed June 12, 1882. (No model.)



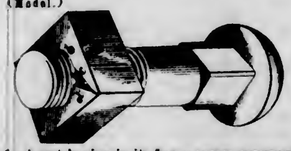
Claim.—1. The frame M, with its vertical bridges N and the horizontally-sliding bars O and P, guided between the bridges and the bars representing the same musical notes, united in sets in the manner described.

2. The frame M, having the horizontally-sliding parallel bars O, united in sets representing the notes of the natural scale, in combination with the intermediate bars, P, united in sets, so as to slide between the bars O at the proper intervals to represent sharps and flats, substantially as herein described.

3. The frame M, having the sliding horizontal bars O P, arranged on the lines and spaces of a musical staff, and having thereon characters representing the notes of a chromatic scale, in combination with a ladder, H, having the transverse bars I arranged in the order of the degrees of the diatonic scale, so as to indicate the notes of the scale and the intervals or steps between the notes, the said ladder being attachable at different points upon the horizontal bars, so that transpositions of scales may be indicated, substantially as herein described.

4. The frame M, having the horizontally-moving bars P, having characters representing the sharps or flats, and the bars O, having spaces between them proportioned to correspond with the whole and half steps of the diatonic scale, and to admit the intermediate bars only where the whole steps occur, substantially as herein described.

264,933. NUT-LOCK. JOHN B. DENOS, Terre Haute, Ind., assignor of one-half to William Mack, same place. Filed July 28, 1882. (Model.)

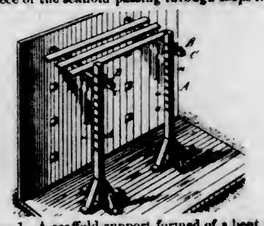


Claim.—1. A nut having in its face a recess communicating with the bore of the nut, and a spring-brace rigidly secured to the nut in the recess, and having a free end projecting into the bore of the nut, the brace being set at such an angle to the axis of the nut that it will be sprung aside and slip over the threads of a bolt when the nut is screwed on a bolt, and will bite the threads of a bolt and prevent the nut from unscrewing, as and for the purpose set forth.

2. The combination of a nut having in its face a recess communicating with the bore of the nut, a spring-brace in the recess and rigidly secured to the nut, and having a free end projecting into the bore of the nut, and a threaded bolt, the construction and arrangement of the recess and brace with respect to the bolt being such that when the nut is screwed on the brace springs aside and slips over the thread of the bolt, and that the brace will bite the threads of the bolt and prevent it from unscrewing, as and for the purpose set forth.

264,934. SCAFFOLD-SUPPORT. RICHARD DREVES, New York, N. Y. Filed July 15, 1882. (No model.)

Brief.—The cross-bar of the inclined middle portion of the supports rests in one of a series of inclined notches in the upright, the cross-piece of the scaffold passing through loops in the support.



Claim.—1. A scaffold-support formed of a bent inclined middle portion, having closed U-shaped portions at both ends of the middle portion, so as to entirely embrace the putlogs, substantially as set forth.

2. A scaffold-support consisting of a downwardly-inclined U-shaped hook and closed loops opposite each other at each end of said hook, all composed of wire in one piece, bent and knotted at the joints of the hook and loops, substantially as described.

3. The combination, with the uprights or posts A, having inclined notches *a*, of the horizontal putlogs C and the scaffold-support B, which is formed of an inclined U-shaped middle portion hung to one of the notches, and of loop-shaped end portions embracing the putlogs, substantially as specified.

264,935. PUFF FOR HEAD-DRESSES. ELLEN L. DEMOREST New York, N. Y. Filed Mar. 9, 1882. (No model.)

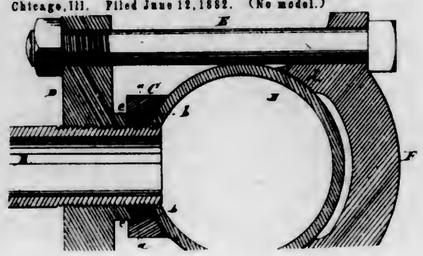


Claim.—1. The method of securing human hair and analogous fiber for head wear by weaving along two separate lines, B C, separated by a sufficient space to allow about one circuit of a roll, as herein specified.

2. The new article of manufacture described, composed of hair or analogous fiber, having one portion of its length, A', confined at each end by the respective lines of weaving B C, and another portion, A², free, as herein specified.

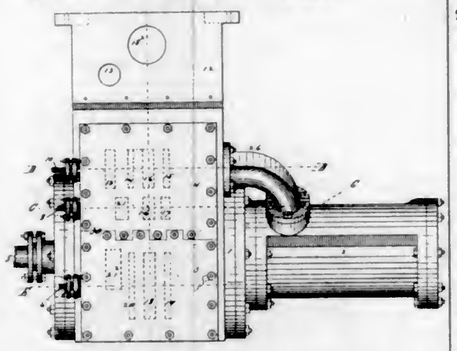
3. The roll described, composed of hair A' A², joined by two distinct and widely-separate lines of weaving B C, and rolled so that the two lines of weaving are on the same side of the roll, adapted to be secured and to serve as herein specified.

264,936. MANIFOLD PIPE-JOINT. WILLIAM W. DOOLITTLE, Chicago, Ill. Filed June 12, 1882. (No model.)



Claim.—In combination with a main pipe, A, and a branch pipe, B, a ring, C, packing-ring *a*, gland D, and a clamping device, all substantially as and for the purpose specified.

264,937. COMPOUND ENGINE. HENRY D. DUNBAR, North Hartland, Vt. Filed Dec. 29, 1881. (No model.)

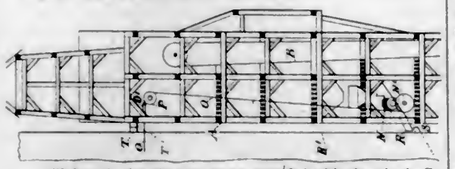


Claim.—1. In an improved compound engine, a chest having two steam-chambers arranged side by side and communicating one with the other by a single port or passage-way controlled by a governing-valve adapted to be operated by the engineer, with the valve-seat in each chamber provided with the ordinary induction and exhaust ports, controlled in each chamber by a slide-valve, and both moved simultaneously, two cylinders, one of which communicates directly with one of said steam-chambers, and the other cylinder with the other chamber through said induction-ports, and each cylinder containing a piston secured to a single piston-rod common to both, whereby both said pistons may be actuated by live steam at the same time, or one be actuated by live steam and the other by exhaust-steam, substantially as described.

2. In an improved compound engine, a chest having two steam-chambers arranged side by side and communicating one with the other by a single port or passage-way, in combination with a distributing or governing valve to control said port, and whose actuating-rod extends out through said chest and is adapted to be operated by the engineer, whereby said valve may be moved by the engineer to control the passage of live steam or of exhaust-steam through said port, substantially as described.

3. In an improved compound engine, a chest having two steam-chambers arranged side by side and communicating one with the other by a single port or passage-way controlled by a governing-valve adapted to be operated by the engineer to control the passage of live steam or of exhaust-steam through said port, a saddle-piece having the seats for the valves in said chambers made on its upper surface and the seat in each chamber provided with induction and exhaust ports, controlled in each chamber by a slide-valve, both moving simultaneously, two cylinders, one made integral with said saddle-piece and communicating with one chamber, and the other cylinder with the other chamber through said induction-ports, and each cylinder containing a piston, both secured to the same piston-rod, substantially as described.

264,938. PORTABLE ELEVATOR. ROBERT DUNBAR, Buffalo, N. Y. Filed July 17, 1882. (No model.)

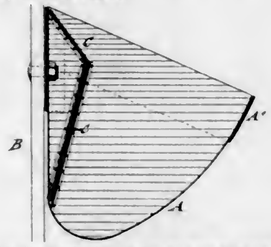


Claim.—1. An elevator-tower provided with the wheels C, adapted to run on a suitable roadway or rails, E, and a drum, F, with its operating mechanism, substantially as specified, in combination with the cables (ropes or chains) secured to the parts H H', substantially as and for the purpose described.

2. In an elevator-tower, the combination of the mechanism, substantially as described, for moving it horizontally back and forth, with the gearing N, drums N', and cables O, for securing it at any point to which it may be moved.

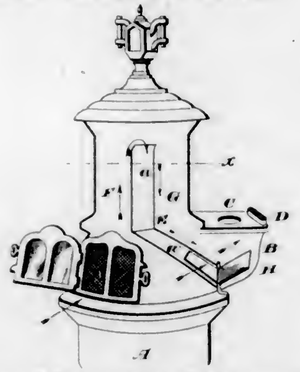
3. A movable and adjustable elevator-tower arranged upon wheels, and provided with the cables O, gearing and drums N N', and a grain-spout, R, in combination with a main stationary elevator-building, R', having a long horizontally-arranged trough, S, to receive the grain from any point to which the elevator-tower may be adjusted.

264,939. ELEVATOR-BUCKET. PETER EHLERS, Albany, N. Y. Filed Aug. 25, 1882. (No model.)



Claim.—An elevator-bucket having an angular inwardly-projecting auxiliary rear wall, for the purpose substantially as set forth.

264,940. PARLOR COOKING-STOVE. HENDRICK V. FISHER, Geneseo, Ill. Filed July 13, 1882. (No model.)



Claim.—1. The combination, with a stove provided with a culinary heating attachment formed integral therewith, the latter being provided with one or more pot-holes and an opening for the egress of smoke, of a flue-plate composed of the vertical and inclined portions which divide the drum of the stove into two flues, all of the above parts combined and adapted to operate as described.

2. The combination, with a stove provided with a culinary heating attachment formed integral therewith, the latter being provided with one or more pot-holes and an opening for the egress of smoke, of the flue-plate constructed as described, and a damper hinged to the stove in the position shown, all of the above parts constructed, combined, and adapted to operate as described.

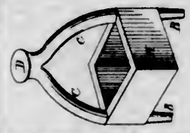
3. The combination, with a stove provided with a culinary heating attachment, the latter having one or more pot-holes and an opening for the egress of smoke, of a flue-plate composed of one or more parts which divide the drum or upper section of the stove into two flues, substantially as described.

264,941. AERATED TONIC BEVERAGE. CHARLES H. FRINGS, Denver, Colo., assignor of one-half to Otto Zwietusch, Milwaukee, Wis. Filed Mar. 13, 1882. (No specimens.)

Claim.—A nutrient and tonic compound beverage to be used as a non-alcoholic substitute for malt liquors—such as beer, ale, porter, and the like—consisting of an extract of cereals malted or acted upon by malt, retaining all albuminoids compatible with the presence of carbonic acid, an extract of hops or other aromatic or bitter tonics, and of carbonic acid, the beverage having the usual appearance of lager-beer, ale, porter, or the like, all substantially as set forth.

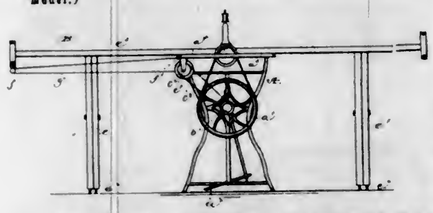
264,942. WRENCH FOR AXLE-TAPS. LABORIOUS A. GAYER, Centreville, Ind. Filed May 15, 1882. (No model.)

264,942.



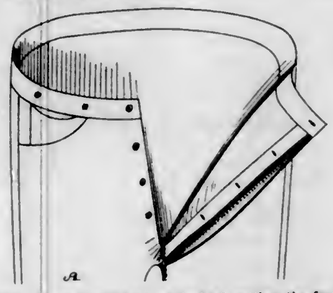
Claim.—A wrench composed of the rectangular box or jaws A, open at both ends, as described, the curved arms C C, extended ends or prongs B B, and the head or handle D, substantially as and for the purpose set forth.

264,943. QUILTING ATTACHMENT FOR SEWING-MACHINES. FRANCIS M. GERMAN, Bonham, Tex. Filed July 21, 1882. (No model.)



Claim.—The combination, with the sewing-machine A, of the pulley *b*, the shaft c, provided with the pulley c^1 and suitable clutch mechanism, the spool *d*, sleeve d^1 on shaft c, the cord *g*, secured to spool *d* and carried around pulley *f*, secured on the end of the quilting-frame, and thence forward and secured to the sewing-machine, and the traveling quilting-frame B, substantially as and for the purpose set forth.

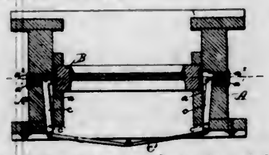
264,944. OVERALLS. MOSES GERSTENBAUM, San Francisco, Cal. Filed Apr. 14, 1882. (No model.)



Claim.—1. The improved method of cutting the fronts of overalls, consisting of cutting them with the fronts lying in the same direction, the piece *b* formed between the leg portions, and the front slit to form the fly, substantially as described.

2. In overalls or pantaloons having their fronts cut in one piece, the fronts A, having the intermediate strip, *b*, cut with and forming a part thereof, and the elongated extension c, cut with the backs, said pants being sewed together substantially as herein described.

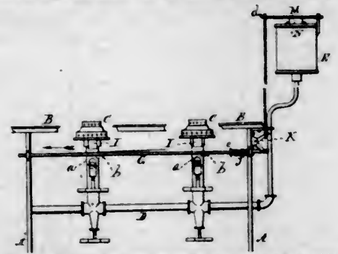
264,945. SASH-FASTENER. SAMUEL R. HAWLEY, Odin, Ill. Filed Feb. 18, 1882. (No model.)



Claim.—In a sash-fastener, the operating-rod c^2, hinged centrally, adapted to be placed over the ends of the fasteners c, and to release the same from connection with the ratchets *b* when an outward pull is exerted on said hinged rod, substantially as shown and described.

264,946. VAPOR-STOVE. WILLIAM HESTON, Mount Union, Ohio. Filed Aug. 18, 1882. (No model.)

Brief.—To remove the cover the cord or connecting-rod L must be detached from the lever M. This permits the spring J to move the rod G in the direction of the arrow, and with it the arms *b*, which extinguish the flames by covering the jet-orifices.



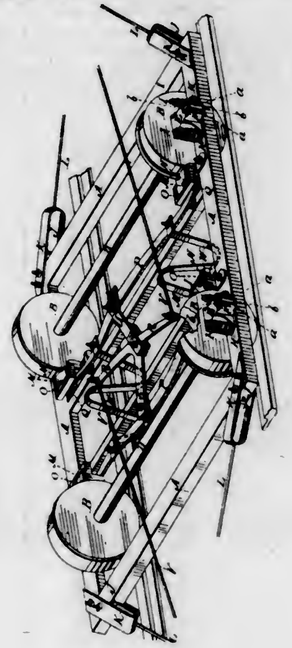
Claim.—In combination with the burners of a gasoline-stove, the rod G and extinguishing-arms, spring J and bell-crank, connecting-rod, and lever M, constructed and arranged to operate substantially as described, and for the purpose specified.

264,947. SUSPENSION DEVICE. HENRY R. HEYL, Philadelphia, Pa. Filed June 1, 1881. (No model.)



Claim.—The improved suspension-hook consisting of a support having a connected suspension-piece in front and a coating of adhesive substance on the back, said suspension-piece having a bifurcated end, by which it is secured to the support, substantially as and for the purpose set forth.

264,948. STREET-CAR. SAMUEL HOWE, Oakland, Cal. Filed July 25, 1882. (No model.)



Claim.—1. The truck-frame A, wheels B, and axles D, in combination with the boxes E, having the slides F, and the springs G, acting against the ends of the axles, substantially as herein described.

2. The axle-box E, with the end caps, F, and elastic end springs, G, in combination with the vertical springs I, car-truck A, and body C, substantially as herein described.

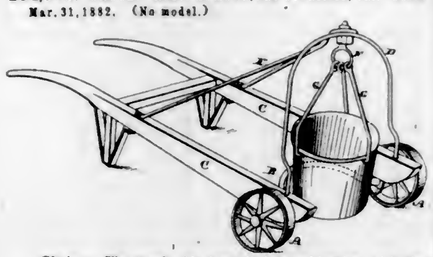
3. The axle-box E, with its end caps, F, and elastic springs G, in combination with the links *a* and the retaining-lugs *b*, substantially as and for the purpose herein described.

4. In combination with the car-truck A, having the wheels B and the axles D, turning in boxes E, the brake-shoes M, swinging in the standards O, which are supported from the frame A, as shown, the bars P, the T-shaped lever R S, and the link or rod U, substantially as herein described.

5. The car-truck A, mounted upon the wheels B, with their axles turning in the boxes E, as shown, in combination with the brakes M, standards O, brake-bars P, lever R, arms S and U, and the springs W, substantially as herein described.

6. The car-truck A, with the wheels B and the axles D, turning in boxes E, and the springs I, in combination with the springs J, attached to the truck-frame, and the rods L, which unite these springs with the car-body diagonally, substantially as herein described.

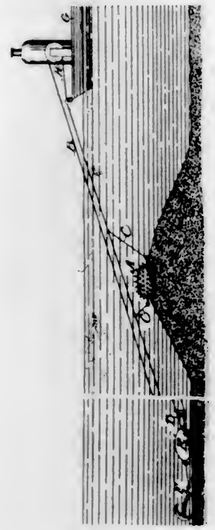
264,949. TRUCK. ROBT. D. HUME, San Francisco, Cal. Filed Mar. 31, 1882. (No model.)



Claim.—The truck side bars, C, in combination with the arched bar D, braced by bars E, swivel F, and grasping-arms G, all constructed, arranged, and operated as set forth.

264,950. DREDGING APPARATUS FOR BARS. ROBERT D. HUME, San Francisco, Cal. Filed May 16, 1882. (No model.)

Brief.—A drag or harrow is attached to an endless chain passing around a driving-pulley and a pulley attached to an anchoring device, and is towed back and forth across a bar to disintegrate the same.

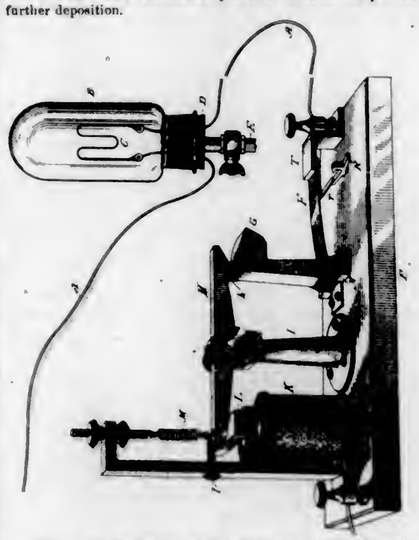


Claim.—1. In a dredging device, the combination of an anchored pulley-carrying device, said pulley adapted to sustain an endless cable, B, said cable driving machinery provided with pulley H, and an intervening drag, A, adapted to be moved back and forth over the obstruction to be removed, substantially as set forth.

2. The drag A, the operating rope or cable C, and the fixed or anchored pulley D, in combination with a track or tramway, I, the car J, upon which is mounted the engine K, and the driving-pulley H, substantially as and for the purpose herein described.

264,951. APPARATUS FOR MAKING INCANDESCENT LAMPS OF EQUAL RESISTANCE. HIRAM S. MAXIM, Brooklyn, N. Y. Filed Nov. 15, 1881. Renewed Aug. 19, 1882. (No model.)

Brief.—The lamp is charged with hydrocarbon vapor, and the carbon is then heated by a current of electricity until the deposition of carbon from the vapor upon the filament reduces its resistance to a standard, when a properly-adjusted electro-magnet included in the circuit automatically breaks the same and prevents further deposition.



Claim.—1. The combination, in an electric circuit, of a carbon conductor inclosed in a receiver containing a carbon-bearing gas or liquid, an electro-magnet, and mechanism adapted to be actuated by the same, and thereby break the circuit when the carbon has acquired a predetermined resistance, as set forth.

2. The combination, in an electric circuit, of a carbon conductor surrounded by a carbon-bearing gas or liquid, an electro-magnet and adjustable armature, and mechanism adapted to be actuated by the same, and thereby break the circuit when the carbon has acquired a predetermined resistance, as set forth.

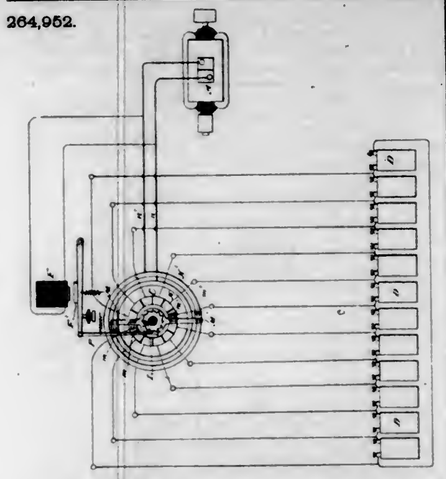
264,952. METHOD OF AND APPARATUS FOR "FORMING" STORAGE-BATTERIES. HIRAM S. MAXIM, London, England. Filed Apr. 15, 1882. (No model.)

Claim.—1. The improvement in the art of forming the plates of secondary or storage batteries which consists in causing successively parts of a series of cells that are charged in the same direction to act in conjunction with the current from an external source for the purpose of forming the others without waste of energy, as set forth.

2. The method of forming the plates of secondary or storage batteries by first passing a current from an electrical generator through branches of a circuit, each containing an equal number of cells, until the same are charged, then causing the current of one or more cells in each branch to flow in the same direction as that of the generator by reversal of connections or transfer of the cells, as described, and repeating such reversal or transfer of all the cells successively until all are formed, as set forth.

3. The method of forming secondary or storage batteries, which consists in connecting up independent cells in a multiple series, and passing through the series a current from an external circuit containing a generator of electricity by connecting the terminals of said circuit with all the cells successively, substantially as and for the purpose set forth.

264,952.



4. The combination, with a group of secondary or storage cells, of conductors joining the same in an endless series, a commutator composed of insulated segments or plates, and connections from the same to the joining-conductors, substantially as described.

5. The combination, with a group of secondary or storage cells, of conductors joining the same in an endless series, and a commutator to the insulated segments of which the joining-conductors are connected, and bearing brushes connected with a circuit from an electrical generator, the said commutator or brushes being arranged to revolve, substantially as and for the purpose set forth.

6. The combination of a group of secondary or storage cells connected together in endless series, and to the segments or plates of a commutator, as described, bearing brushes forming the terminals of a circuit from an electrical generator, an electro-magnet included in a derived circuit, and mechanism connected with and operated by said magnet for the purpose of revolving the commutator or the brushes, substantially as and for the purpose set forth.

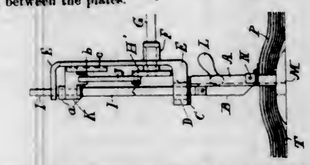
264,953. SHOE-NAIL. JAS. E. MAYNADIER, Taunton, assignor to Ephraim L. Wires and Joseph M. Estabrook, Milford, Mass. Filed Nov. 26, 1879.



Claim.—The improved nail having a conical body, smooth or corrugated, and a cylindrical wedge-point with two parallel sides, substantially as described.

264,954. MACHINE FOR CUTTING CLOTH. WM. J. MIKELS, Newark, N. J. Filed Sept. 13, 1881. (No model.)

Brief.—The gage is formed with two plates secured to the standard above the pile of cloth, the metal or pasteboard pattern passing between the plates.

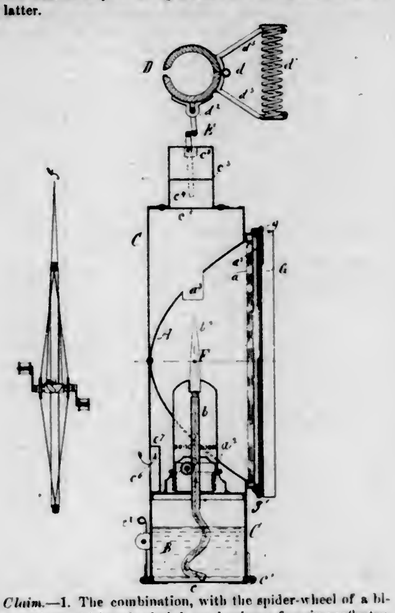


Claim.—1. In combination with the standard and knife-guide A, the plates *m*, *n*, and *o*, secured together, and provided with a socket, as *e*, for adjusting the gage upon a standard, substantially as shown and described.

2. The standard A, knife B, rod I, swiveling bracket E, crank H', rod J, and block K, combined with the universally-jointed shaft G, pillar U, shaft H, weight *w*, swiveled column R, and driving mechanism and connections, all substantially as specified.

264,955. HUB-LAMP FOR BICYCLES OR OTHER VEHICLES HAVING SPIDER WHEELS. THOMAS S. MILLER, Chicago, Ill. Filed Jan. 27, 1882. (No model.)

Brief.—Two reflectors are used, one of which throws a small portion of the light laterally, serving as a substitute for ordinary side lights. The other focuses the light a short distance ahead of the front wheel, thereby obviating a shadow from the felly and tire of the latter.



Claim.—1. The combination, with the spider-wheel of a bicycle or other vehicle, of a hub-lamp having a focusing-reflector, substantially as described.

2. The combination of a hub-lamp with the spring E, serving to attach and detach the lamp from the sleeve D, substantially as described.

3. The combination, with a hub-lamp and with a detachable sleeve, of a spring and the arms d^2 d^3, substantially as described.

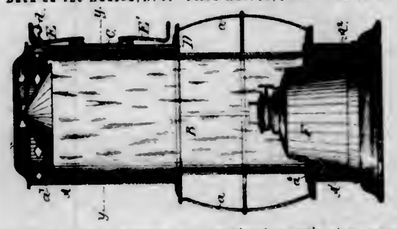
4. The combination of the sleeve D with the spring E, substantially as described.

5. The combination of a bicycle with the sleeve D and the coil-spring, substantially as described.

6. A hub-lamp consisting of a case, C, the focusing-reflector A, secured to the front plate of the case, and provided with a glass disk, *a*, held in position by the annular spring *a'*, the hood c^3, and an oil-box, B, which is inserted from below into the case C, and secured in position by the hinged cover *c*, forming the bottom of the case, all substantially as described.

7. In a hub-lamp, the combination, with the focusing-reflector and with the glass disk *a*, of the hinged reflector G, vertically arranged in front of the glass disk, and adapted to reflect a portion of the rays laterally of the lamp and the general direction of the rays from the focusing-reflector, all substantially as described and shown.

264,956. LANTERN. WILLIAM G. MINK and EUGENE N. ALLING, Bath-on-the-Hudson, N. Y. Filed Mar. 13, 1882. (No model.)

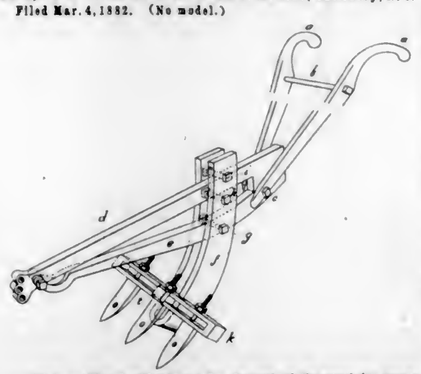


Claim.—1. In a lantern, the combination, with a transparent inner cylinder, B, secured by means of the annular flanges a^4 and a^5 in a fixed position in the casing of said lantern, so as to form an annular chamber between the upper end of said cylinder B and

the upper section, A, of the casing, and a colored transparent outer cylinder, C, adapted to slide telescopically upward into the aforesaid annular chamber, as herein set forth, of the spring-catches E and E', adapted to engage with the knob *d* for the purpose of securing the cylinder C at each extremity of the movement of said cylinder, the whole being so constructed and arranged to operate that a light of only one color can be emitted from the lantern at any one time, as herein specified.

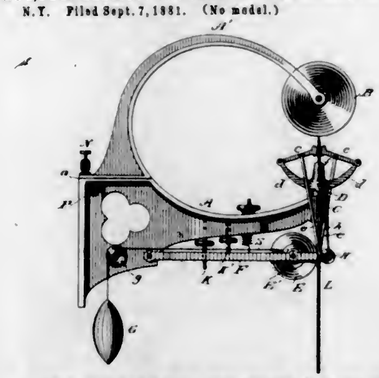
2. In a lantern whose casing is composed of an upper section, A, provided with an annular flange, a', as herein described, a lower section, A', connected to said upper section by means of guard-wires *a*, and a detachable inner cylinder, A^3, provided with the annular flange a^4, and secured to the lower section, A', as herein set forth, the combination, with the transparent cylinder B, held in fixed position by the flanges a^4 and a^2, of the sliding transparent colored cylinder C, carried in the stirrup D, provided with a knob, *d*, and the spring-catches E and E', all of said parts being constructed and adapted to operate as herein specified.

264,957. CULTIVATOR. JOHN J. MOTLEY, Salisbury, N. C. Filed Mar. 4, 1882. (No model.)



Claim.—The double beam *d e*, formed of the straight upper rod, *d*, and the lower arched rod, *e*, in combination with the bent and curved standard *f*, pivoted on the lower rod, *e*, of the beam by the bolt *g*, and provided with the bolts *h* and *i*, the one passing under and the other above the upper rod, *d*, substantially as shown and described, and for the purposes set forth.

264,958. ELECTRIC-ARC LAMP. JOSEPH OLMSTED, New York, N. Y. Filed Sept. 7, 1881. (No model.)

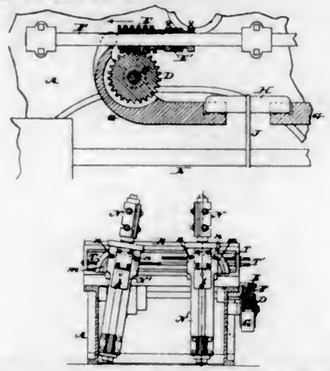


Claim.—1. In an electric lamp having a fixed and movable electrode, substantially as described, the combination, with the said movable electrode and mechanism for feeding the same, of a mechanical locking device connected with the feeding mechanism and adapted to check the movement of the electrode substantially in the manner herein set forth.

2. In an electric lamp having a fixed and movable electrode, substantially as described, the combination, with the said movable electrode, of a swinging lever or frame sustained by a spring or its equivalent, a grooved wheel or disk mounted in said frame, a cord and weight for imparting a rotary movement thereto, whereby the said electrode is raised, and mechanism connected with and operated by the movement of the swinging lever to lock or release the movable electrode in substantially the manner herein set forth.

264,959. PLANING-MACHINE. LYMAN O. ORTON and LUCIEN H. BERRY, Philadelphia, Pa. Filed Sept. 9, 1881. (No model.)

Brief.—The feed-rolls are adjustable by hand or power. The vertical cutter-shafts can be set to an angle and moved in or out, retaining the angular adjustment.



Claim.—1. The upper, lower, and side cutting cylinders, in combination with the frame R, vertically-adjustable frame L', the dovetailed piece P, bolts Q', and bolts Q'', substantially as and for the purpose set forth.

2. In a wood-planing machine, a vertical side cutting-cylinder and its bearing-frame, in combination with the slide T, having a segmental slot, *m*, the bolts or screws *n*, and the pivot *k*, and the frame R on which said slide moves, said bearing-frame being connected with the said slide at different points by said screws *n* and pivot *k*, substantially as and for the purpose set forth.

3. The lower cutting-cylinder, L_1, and vertically-adjustable frame L', having its lower side inclined, in combination with the single wedge-shaped bar S, having an angular end, S', the screw-bolt S'', and frame P, said bolt being journaled to said angular end of the bar and engaging with said frame P, and the bar and frame being tongued and grooved, substantially as and for the purpose set forth.

4. In a wood-planing machine, shaft *f*, provided with crank-wheel *g*, shaft F, a sliding worm, E, arm G, a weight depending from said arm, a shaft, *c*, movable bearings for the upper feed-rolls, and devices intervening between shaft *c* and said bearings for lifting the latter, substantially as set forth.

5. Vertically-movable bearings B, link *a*, crank *b*, shaft *c*, a gear-wheel, D, shaft F, a sliding worm, E, a rocking arm, G, mounted on shaft *c*, and a weight supported partly or wholly by said rocking arm, substantially as set forth.

6. Weighted lever K, in combination with link J, bridge H, arms G, on which said bridge rests, shafts *c*, on which said arms are mounted, sliding worm E, shaft F, and connecting devices between the latter shaft and the upper feed-rolls, substantially as set forth.

7. The adjustable stop E', consisting of two telescoped sections, in combination with shaft F, on which it is mounted, sliding worm E, splined on said shaft, an arm held by a weight in engagement with said sleeve, and connecting devices between the shaft F and the upper feed-roll, substantially as set forth.

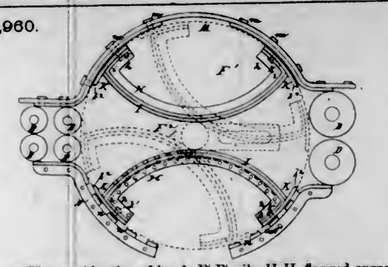
264,960. MACHINE FOR BREAKING AND SCUTCHING VEGETABLE FIBER, &c. ORESTES PAGAN, Philadelphia, Pa., assignor of one-half to Dionysius M. Martinez, same place. Filed May 3, 1882. (No model.)

Claim.—1. In a machine for scutching vegetable fibers, a cylindrical scutcher having a double-flaring opening through its middle for the passage of fiber, substantially as shown and described.

2. The cylinder F, having an opening through its middle, in combination with the oscillating blades K K at both sides of said cylinder and both ends of said opening, substantially as shown and described.

3. The combination of heads F' F', curved plates I I, and blades K K, substantially as shown and described.

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4. The combination of heads F' F', ribs H H, flanged curved plates I I, and blades K K, secured to the flanges of said plates, substantially as shown and described.

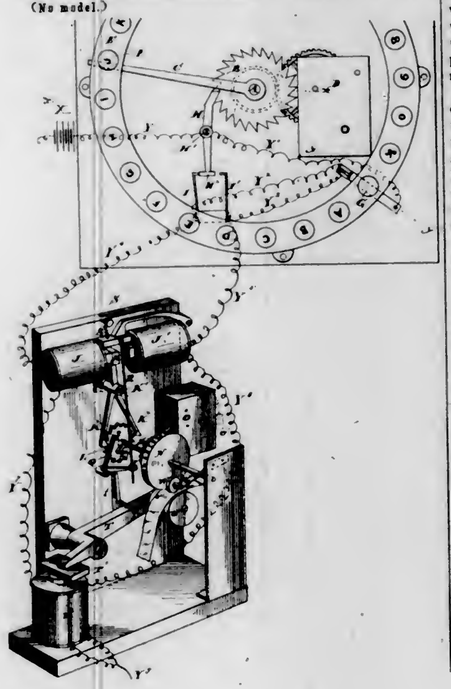
5. In combination with cylinder F, having a median opening, F', blades K K, having slots *k k*, and means whereby they may be fastened and adjusted in position on said cylinder, substantially as shown and described.

6. In a machine for breaking and scutching vegetable fibers, a cylinder comprising two heads or ends, F' F', and connecting-plates I I, having two sets of blades arranged in pairs on opposite sides of said cylinder, the edges of the blades of each pair facing or opposing each other, said cylinder having an opening through its middle for the passage of the fiber from one pair of blades to the other pair, substantially as shown and described.

7. In a machine for breaking and scutching vegetable fiber, a cylinder comprising two heads or ends, F' F', and connecting-plates I I, arranged to form an opening for the passage of such fiber, and having blades adapted and designed to strike the same in its travel through said opening, in combination with means, substantially as described, for oscillating said cylinder and causing said blades to be reciprocated, substantially as specified.

8. The combination, with an oscillating cylinder, F, comprising two heads or ends, F' F', connecting-plates I I, and blades K, of feeding-rolls B B, and discharging-rolls D D, substantially as shown and described.

264,961. PRINTING-TELEGRAPH. SAMUEL M. PLUSH and WILLIAM P. PHELPS, Philadelphia, Pa. Filed Dec. 13, 1881. (No model.)



Claim.—1. In a printing-telegraph, an armature arranged to vibrate, in combination with two electro-magnets, two electro-circuits respectively in circuit with said electro-magnets, means to pass an electric current through both of said electro-magnets simultaneously from the sending-station, a type-wheel provided with a stop, a unison-stop arranged to be thrown into position to arrest the rotation of type-wheel by the vibration of the armature, means to rotate said type-wheel, and means independent of the armature to throw said unison-stop out of position upon printing or attempting to print.

2. A printing-armature, in combination with a printing-magnet wound with two wires in opposite directions, and means to pass an electric current through either one of said wires alone or through both of said wires simultaneously, so that when a current of electricity passes through either of said wires alone the magnet is operative, but when currents pass through both of said wires simultaneously it is inoperative.

3. In a printing-telegraph, a type-wheel, means to rotate it, and a reciprocating armature and escapement to control its rotation, in combination with a unison-stop provided with an actuating-armature and connecting mechanism, two electro-magnets, two line-wires, respectively, in circuit with said electro-magnets, and means to close both of said line-circuits at the same time to attract the armature which actuates said unison-stop to throw it into position to arrest the type-wheel at the proper place.

4. In a printing-telegraph, a unison-stop and an armature, and connecting mechanism adapted to throw said unison-stop into position to arrest the type-wheel, but not out of said position, in combination with a type-wheel, means to rotate said type-wheel, two electro-magnets to attract said armature, and means to charge both of said electro-magnets simultaneously.

5. The combination of two line-wires, two electro-magnets, respectively, in circuit with said line-wires, means to pass a current through both of said electro-magnets at the same time, an escapement actuated by said electro-magnets, a type-wheel driven by power developed at the printing-station and controlled by the escapement, a press-magnet wound differentially with wires, respectively, in circuit with the electro-magnets which actuate the escapement, and a unison-stop provided with an actuating-armature arranged to be attracted by said electro-magnets when currents are simultaneously sent through both of them.

6. In a printing-telegraph, the combination of a type-wheel driven by power developed at the printing-station with two line-wires, means actuated by the electrical currents conducted by said wires to control the rotation of the type-wheel, a press-magnet wound differentially with part of said line-wires, and means to pass an electric current through both of said line-wires simultaneously.

7. In a printing-telegraph, the combination of a type-wheel driven by power developed at the printing-station with two line-wires, two electro-magnets, respectively, in circuit with said line-wires, an escapement to control the rotation of said type-wheel, an armature attached to said escapement and adapted to vibrate between said electro-magnets, a press-magnet wound differentially with wires, respectively, in circuit with said line-wires, and means to pass an electric current through either one of said line-wires alone or through both simultaneously.

264,962. ROTARY PUMP. FRANCIS M. ROOTS, Connersville, Ind. Filed Mar. 6, 1882. (No model.)

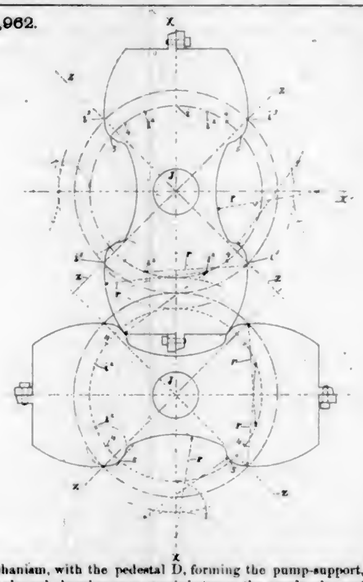
Claim.—1. The method of proportioning the outer convex curves of rotary pistons with relation to the size of said pistons, which consists in constructing said curves in arcs of circles described from points c^3 in an inscribed circle by a radius extending from said points c^3 across line X to a point, c^2, where the diagonal line Z cuts the pitch-circle, said points c^3 being located the distance from the line X equal to the difference between the diameters of the pitch and inscribed circles.

2. The method of proportioning the inner convex curves of rotary pistons with relation to the size of said pistons, which consists in forming said curves upon arcs of circles the radii of which are equal to two-thirds the difference between the diameters of the pitch and inscribed circles, the centers of said circles being the points 4 in the inscribed circle, which centers are the length of the radius distant from the point 5, where the concave abutting arc cuts the inscribed circle.

3. Pistons for rotary pumps, constructed substantially as hereinbefore set forth—that is, having each convex abutting surface composed of arcs of circles of different radii, the respective concave abutting surfaces being composed of single arcs, the centers from which said several arcs are described being the points c^3 and 4.

4. The combination, substantially as hereinbefore set forth, of the pump-case, the inclosed rotary abutments and their actuating

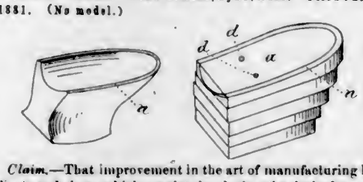
264,962.



mechanism, with the pedestal D, forming the pump-support, and an enlarged chamber or reservoir between the supply-pipe and the pistons.

5. The combination, substantially as specified, of the pump-case, the rotary pistons and their actuating mechanism, with pedestal D, bed-plate F, and shaft-supporting standards N N'.

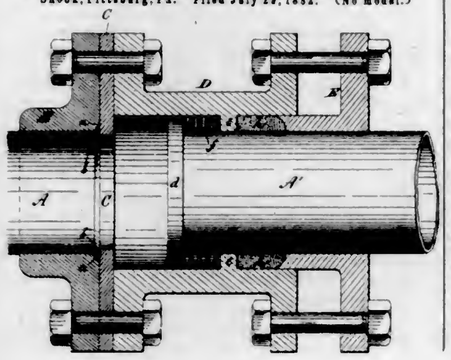
264,963. HEEL. JOHN G. ROSS, Lynn, Mass. Filed Jan. 31, 1881. (No model.)



Claim.—That improvement in the art of manufacturing heels for boots and shoes which consists in placing the desired number of lifts to form the heel together and cementing them to each other with a plano-convex former on the bottom lift, then submitting the whole to pressure until the former is embedded in the upper surface of the heel, and afterward trimming and polishing the heel while the former is still attached to it, substantially as set forth.

264,964. WITHDRAWN.

264,965. EXPANSION-COUPLING FOR STEAM-PIPES. LEVI SHOOK, Pittsburg, Pa. Filed July 29, 1882. (No model.)

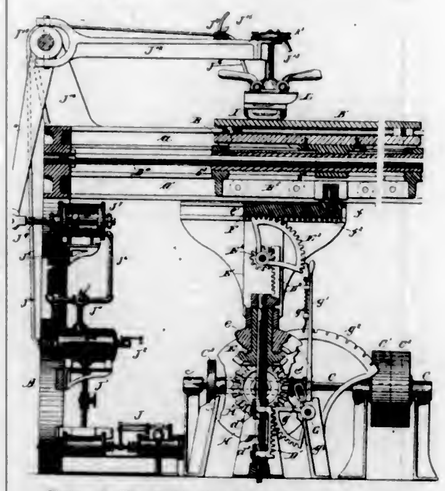


Claim.—1. In a steam-pipe coupling, the combination of the flanged sleeve B, beveled, as at *a*, pipe A, expanded to form the lip *b*, and the metallic plate or washer C, covering said lip *b*, and suitable means for clamping the said washer against the face of sleeve B, substantially as described.

2. In a steam-pipe coupling, the combination of flanged sleeve D, having annular rib *e*, gland E, and packing *h* with the pipe A', having collar *d* and the spring *f*, substantially as described.

3. The steam-pipe coupling consisting of flanged sleeve B, beveled, as at *a*, pipe A, having lip *b*, plate-washer C, flanged sleeve D, having rib *e*, pipe A', having collar *d*, spring *f*, packing *h*, gland E, and connecting-bolts, combined and arranged substantially as described.

264,966. IRONING-MACHINE. LEOPOLD STERNBERGER and FREDERICK G. TREE, Philadelphia, Pa.; said Tree assignor to said Sternberger. Filed Jan. 17, 1881. Renewed Mar. 11, 1882. (No model.)



Claim.—1. The combination of a table and rotary crank with mechanism, substantially as described, for adjusting it transversely of its axis and connecting with and imparting reciprocating motion to said table, gearing whereby rotary motion is given to said crank, and mechanism, substantially as described, for simultaneously varying the rotative speed of the crank and altering its throw.

2. The combination, substantially as set forth, of a rotary crank with means for adjustment transversely of its axis, a reciprocating frame having a transverse groove or recess to receive the crank-pin, an adjusting-screw mounted in bearings in said frame, a table secured to and supported by a nut fitted upon said adjusting-screw, and an iron or polisher supported above said table upon a center within the range of the traverse of the table along the adjusting-screw.

3. A rotary crank with means for adjustment transversely of its axis, a reciprocating frame having a transverse groove to receive the crank-pin, an adjusting-screw mounted in bearings in said frame, and a table secured to and supported by a nut fitted upon said adjusting-screw, combined with an iron or polisher suspended from a rock-shaft above the table, a working-cylinder having valved supply-pipes connected with an air-compressor, and an arm connecting the piston-rod of the working-cylinder with the rock-shaft that supports the iron.

4. In an ironing-machine, a rotary and vertically-adjustable shaft provided with upper and lower racks, gearing for revolving said shaft, rotary standards supporting a pinion, and an upper oscillating toothed segment, said pinion engaging the upper rack, and a rotary and transversely-adjustable crank provided with a rack engaging said upper toothed segment, combined with a lower oscillating toothed segment engaging the lower rack, a shifting friction-gear, and means for operating said segments and friction-gear conjointly, substantially as and for the purposes set forth.

5. In an ironing-machine, an air-pump and valved pipe, a reservoir and safety-valve, and a three-way cock whose passages communicate respectively with the atmosphere and with a pipe at

each end of the working-cylinder, combined with an iron or polisher and suitable connecting devices, whereby the iron may be applied to the garment or fabric with a greater or less degree of pressure and instantaneously removed therefrom.

6. The combination, substantially as set forth, of an iron shaft having a crank upon one of its ends, a block having a central bearing for the iron shaft and side friction-rollers, a box closed at its ends and bottom and having side slides or bars fitting between said rollers, and a transverse slot or recess engaging the crank-pin of the iron shaft, and an iron or polisher secured to said box on the side opposite that on which the crank-pin recess is formed.

7. The combination, substantially as set forth, of a frame fitted to slide upon horizontal guides, a shaft capable of rotation, and a crank by which reciprocating movement is imparted to said frame, an adjusting-screw mounted in bearings in said frame in the direction of its traverse, a table secured to and supported by a nut fitted upon said adjusting-screw, and a shaft mounted in a bearing fixed relatively to the frame and table, said shaft passing into and being adapted to rotate the adjusting-screw irrespective of the condition of rest or motion of the frame.

264,967. WHEELBARROW. WILLIAM H. STEVENS, Coldwater, Mich. Filed May 26, 1882. (No model.)



Claim.—1. A wheelbarrow having a tray with wooden sides and a sheet-iron bottom and supporting cross-cleats, constructed substantially as described.

2. The combination of the wooden sides S S with the sheet-iron bottom B and the supporting cross-cleats C C.

3. A wheelbarrow having an iron wheel with a hub cast with a circular opening, O, and key-seat *k*, and a cast-iron shaft or gudgeon cast separately and with a wrought-iron rod extending through the center from end to end, and with key-seat *q* to match, to be connected and secured in position by a key.

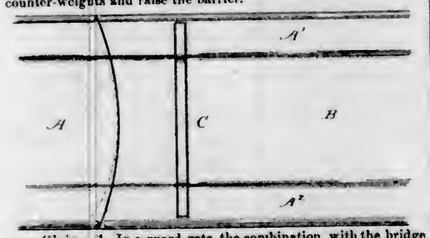
264,968. COMBINED HEEL-PLATE AND ICE-CREEPER. CHARLES STORY, Rutland, Vt. Filed July 31, 1882. (No model.)



Claim.—In combination with the heel of a boot or shoe provided with a recess in the front thereof, the recessed plate A, swinging bar C, carrying upon one of its ends a calk, C², and the spring D, arranged under or upon the pivoted end of said bar, for holding it in either of its positions, substantially in the manner and for the purpose set forth.

264,969. GUARD-GATE FOR SWING-BRIDGES. LUDVIG SVANSON, Chicago, Ill. Filed Apr. 18, 1882. (No model.)

Brief.—The cam-form upon the swinging end in closing actuates a rock-shaft, upon which is mounted by arms the vertically-moving gate. In opening the rock-shaft is made free to turn by counter-weights and raise the barrier.

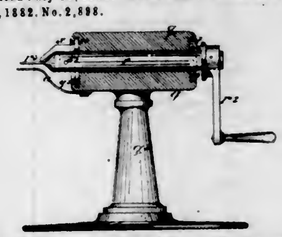


Claim.—1. In a guard-gate, the combination, with the bridge A and the gate C, of the operating-lever B', the friction-roller a^3, the guide-rollers a^3 a^4, and the oscillating post *a*, substantially as described.

2. In a guard-gate, the combination, with the bridge A and the gate C, of the operating-lever B', the rocker-arm C', and the rock-shaft C², substantially as described.

3. In a guard-gate, the combination, with the gate C, of the balance-levers D D', the balance-weights *d* d^3, and the rock-shaft C², substantially as described.

264,970. DEVICE FOR FORMING SOCKETS FOR CARBON POINTS. ALFRED SWAN, Gateshead, County of Durham, England. Filed July 20, 1882. (No model.) Patented in England June 19, 1882. No. 2,898.



Claim.—1. The combination of the needle, the rotating support therefor, and the catch-piece, substantially as described.

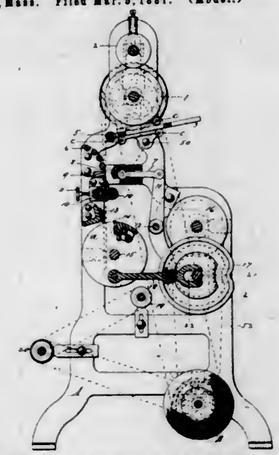
2. The apparatus for coiling or twisting the ends of wires of incandescent electric lamps into flat, cylindrical, or other sockets for the reception of the carbon filament, the said apparatus consisting in the combination of the spindle *r*, carried in the standard q^3, and provided with means for rotating it, and also with a catch-piece, *s*, for retaining and releasing the wire, as described and illustrated.

3. The combination of the spindle having a slight longitudinal motion, the needle carried in the end thereof, the spring, and the catch-piece so supported and arranged that its pressure is released when the spindle is moved back and restored when the spindle is returned by said spring, substantially as described.

264,971. COMPOSITION FOR TREATING IRON WIRE. PHILANDER TOLMAN, FRANKLIN WALKER, and JOHN W. CASWELL, Harrison, Mo. Filed Jan. 13, 1882. (No specimens.)

Claim.—The composition of substances herein specified, when mixed and prepared as set forth—to wit, wood pulp, rye-meal, glue, yeast, and water in the proportions set forth.

264,972. PAPER-CUTTING MACHINE. CHARLES E. TORRANCE, Holyoke, Mass. Filed Mar. 5, 1881. (Model.)

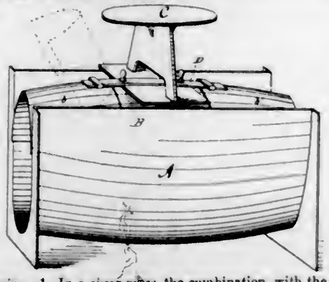


Claim.—1. The combination, in a paper-cutting machine, of two receiving-rolls, adapted to revolve at a uniform rate of speed, for receiving a continuous web of paper and delivering it therefrom at a uniform rate of speed to the cutting mechanism, a fixed bar, and a movable stop-bar adapted to be moved against said fixed bar independently of the movable knife to stop the web of paper

at regular intervals in its movement from said receiving-rolls, an adjustable take-up roll to take up the slack paper between the receiving-rolls and the stop-bar, feeding-rolls for feeding the web of paper to the knife, and a movable knife operating in connection with a fixed knife, whereby the web of paper is moved uniformly from the receiving-rolls and is moved intermittently to the knife, and sheets of any desired uniform length are severed therefrom, substantially as described.

2. The combination, in a paper-cutting machine, of two receiving-rolls revolving at a uniform rate of speed for receiving a continuous web of paper from a paper-machine and moving it uniformly to the cutting mechanism, stop-bars for stopping the movement of said web of paper while sheets are being cut therefrom, supporting-rolls for supporting and holding the slack paper between the stopping-bars and the said receiving-rolls while the web of paper is stopped to be cut, and two feeding-rolls on the other side of the stop-bar, all combined, for moving the web of paper intermittently at a uniform rate of speed to the knife, for having sheets of uniform size cut therefrom, substantially as described.

264,973. CIGAR-PRESS. GEORGE TROSTEL, Springfield, Ohio. Filed Apr. 28, 1882. (No model.)

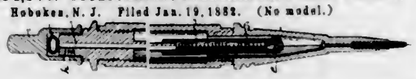


Claim.—1. In a cigar-press, the combination, with the receptacle open at its ends, of a platen or cover whose ends may be raised independently of each other, substantially as set forth.

2. In a cigar-press, the combination, with a receptacle adapted to receive cigars, of a cover having hinged ends, and a latch for locking said ends in position, substantially as set forth.

3. In a cigar-press, the combination, with the receptacle, of the cover provided with hinged ends, a latch for locking said ends in closed position, and a knob or handle adapted to receive pressure, substantially as set forth.

264,974. STYLOGRAPHIC FOUNTAIN-PEN. JACOB ULLRICH, Hoboken, N. J. Filed Jan. 19, 1882. (No model.)



Claim.—1. In a stylographic fountain-pen, the combination, with the barrel and fixed air-tube extending through the same, of a detachable end tube having an interior spring-pressed valve actuated by the shank of the needle-valve, substantially as and for the purpose set forth.

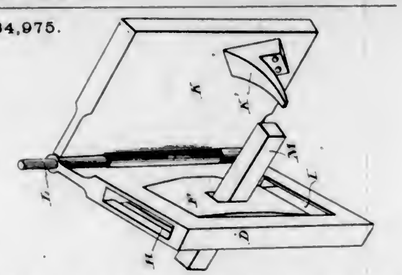
2. In a stylographic fountain-pen, the combination of the barrel, fixed end plug having an air-opening and a fixed guide-pin, an interior air-tube, and a vent-cap having a guide-slot and interior friction-spring, the vent-cap being adapted to turn on the end plug, so as to establish or interrupt the air-supply to the air-tube, substantially as set forth.

264,975. WATER-METER. ROBERT T. VAN NORDEN, San Francisco, Cal. Filed May 5, 1882. (No model.)

Claim.—1. A water-meter having a fixed radial diaphragm in which are formed induction and eduction passages controlled by a vibrating valve in which is pivoted an oscillating or balance beam having a shifting weight and operated by inclined lugs or projections upon a wing-piston operating within the meter case or drum, substantially in the manner and for the purpose set forth and described.

2. In a water-meter having suitable fluid-passages, the combination of the fixed radial diaphragm D, having induction and eduction ports or passages at either end controlled by a vibrating valve, F, operated by a balance-beam, M, having a shifting weight, substantially in the manner and for the purpose herein set forth and specified.

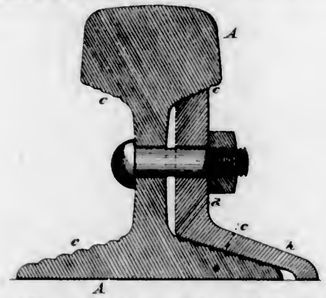
264,975.



3. In a water-meter provided with a diaphragm and having suitable water-passages, the combination of the vibrating valve, F, vibrating wing-piston K, and inclined lugs K' K', constructed, arranged, and operating substantially in the manner and for the purpose set forth and specified.

264,976. RAILROAD-RAIL. AARON C. VAUGHAN, Shane's Crossing, Ohio. Filed Feb. 7, 1882. (No model.)

Brief.—T-rails have their figure modified to economize metal, and are provided with curved indentations on the under faces of their heads and upper faces of the bars, and are secured by means of fish-plates and bolts.

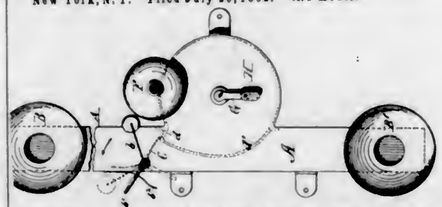


Claim.—1. A T-rail having the under faces of its head cut away and the upper faces of its base added to and cut away, as set forth, and provided with curved indentations *c*, substantially as described, and for the purpose set forth.

2. The combination, with the fish-plate *d*, of the T-rail A, provided with curved indentations c c, formed on the under faces of its head, substantially as described, and for the purposes set forth.

3. The combination, with the fish-plate *d*, of the T-rail A, provided with curved indentations c c, formed on the under faces of its head and the upper faces of its base, substantially as described, and for the purposes set forth.

264,977. SPEAKING-TUBE ANNUNCIATOR. JOSEPH WALTER, New York, N. Y. Filed July 20, 1882. (No model.)

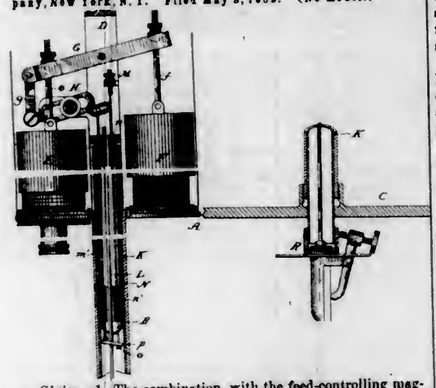


Claim.—1. The combination of a speaking-tube, a propeller-wheel, a casing for said wheel, provided with an air-inlet and an air-outlet communicating with the speaking-tube, a bell, a striker connected to the shaft of said wheel, and a weighted valve adapted to close the air-inlet opening of the tube and direct the air into the wheel-casing, substantially as described.

2. In an annunciator for speaking-tubes, the combination of the tube A, valve C, having an exterior weighted arm or striker,

b, a bandle, *b'*, and a bell or sounding device, E, arranged sidewise of the tube and within reach of the arm *b*, so as to give a preliminary signal when the valve is closed by blowing into the tube, substantially as specified.

264,978. ELECTRIC-ARC LAMP. EDWARD WESTON, Newark, N. J., assignor to the United States Electric Lighting Company, New York, N. Y. Filed May 3, 1882. (No model.)



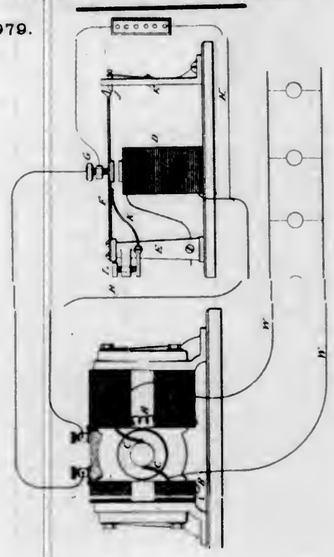
Claim.—1. The combination, with the feed-controlling magnets of an electric lamp and clutch mechanism connected with and operated by the same, of a carbon-holder consisting of a tube inclosing a wire or rod upon which the said clutch mechanism acts, as set forth.

2. A carbon-carrier consisting of a tube inclosing a rod or wire, in combination with a clutch surrounding the said rod, and wires for supporting and operating the clutch, the said wires passing up through the tube and being connected, one with the lamp-frame, the other with the electro-magnets, as and for the purpose set forth.

3. The combination, with the guide-tubes B and N, of a carbon-carrier consisting of a tube, K, inclosing a rod or wire of steel, and clutch mechanism contained within tube K and arranged to act upon the rod contained therein, as set forth.

4. A carbon-carrier consisting of a tube inclosing a rod or wire, connected to the bottom of said tube by a universal joint, in combination with a perforated clutch contained within the tube and electro-magnets with which the tube is connected and by which it is operated in the manner hereinbefore set forth.

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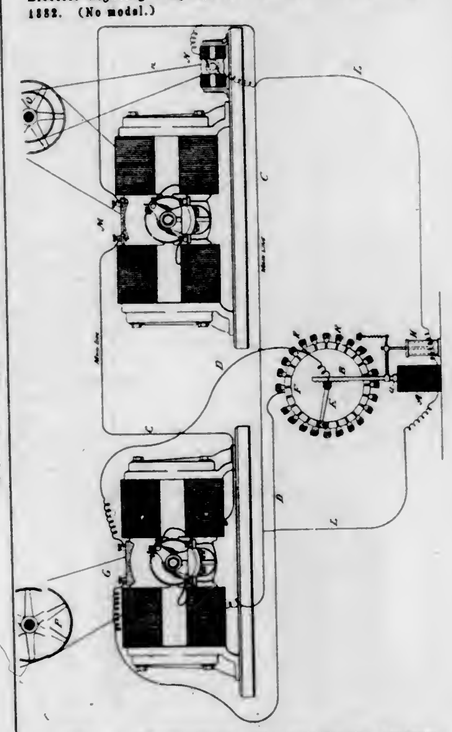


264,979. AUTOMATIC CUT-OFF FOR DYNAMO-ELECTRIC MACHINES. EDWARD WESTON, Newark, N. J., assignor to the United States Electric Lighting Company, New York, N. Y. Filed May 8, 1882. (No model.)

Claim.—1. The combination, with a dynamo-electric machine in which the field-magnets are wound by conductors forming a derived circuit from the main or external circuit of the machine, of an automatic circuit-breaker included in said derived circuit and operating, on an increase of the current beyond a predetermined limit, to interrupt the continuity of the same, substantially as and for the purpose set forth.

2. The combination, with a dynamo-electric machine of the kind described, of an electro-magnet included in the derived field-circuit, an adjustable armature constituting a circuit-breaker, and a catch for engaging with the same when drawn down by the magnet, as described.

264,980. REGULATOR FOR ELECTRIC GENERATORS. EDWARD WESTON, Newark, N. J., assignor to the United States Electric Lighting Company, New York, N. Y. Filed May 8, 1882. (No model.)

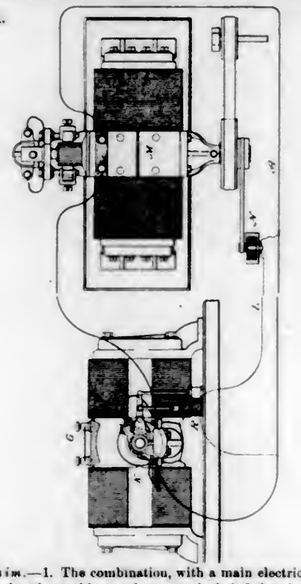


Claim.—1. The combination, with a main circuit, a generator, and a motor, of a dynamo-electric machine driven by the motor, a circuit from the same, and mechanism included therein and operated thereby, and constructed or arranged to vary the magnetic intensity of the field of the generator in the main circuit inversely as the speed of the motor, substantially as and for the purpose set forth.

2. In a system for the transmission of power by electricity, the combination of a main circuit, C, a generator, G, and a motor, M, a dynamo-electric machine, N, driven by the motor, a circuit, L, including the same, a derived circuit, D, including the field-magnet coils of the generator G, a magnet, A, in circuit L, and devices for varying the resistance of circuit D, as and for the purpose set forth.

264,981. SYSTEM FOR THE ELECTRICAL TRANSMISSION OF POWER. EDWARD WESTON, Newark, N. J., assignor to the United States Electric Lighting Company, New York, N. Y. Filed May 8, 1882. (No model.)

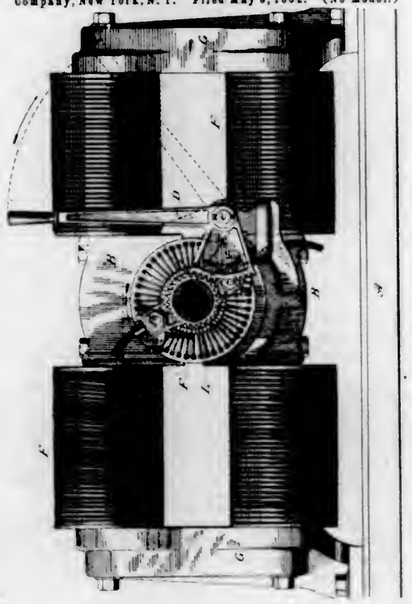
264,981.



Claim.—1. The combination, with a main electric circuit, a dynamo-electric machine, and a motor included therein, of a dynamo-machine driven by the motor, a circuit from the same, and mechanism for shifting the brushes of the main generator connected with or operated by said circuit, as described.

2. The combination of a dynamo-electric machine, a rotary brush-holder, and mechanism for shifting the same, with an electro-magnetic motor, a dynamo-machine driven thereby, and an electro-magnet, included in the circuit of said machine, connected with the brush-shifting mechanism, as and for the purpose set forth.

264,982. ELECTRO-MAGNETIC MOTOR. EDWARD WESTON, Newark, N. J., assignor to the United States Electric Lighting Company, New York, N. Y. Filed May 8, 1882. (No model.)



Claim.—1. The combination, with an electric circuit and a motor included therein, of a branch or derived circuit around said motor, and devices included in said derived circuit, and constructed or arranged to interrupt the main circuit upon a predetermined fall of the counter electro-motive force produced by the motor, as set forth.

2. The combination, with an electric circuit and a motor included therein, of a branch or derived circuit around the motor, an electro-magnet or its equivalent in the branch circuit, and circuit making and breaking mechanism in the main circuit adapted to be operated by the said magnet, and thereby maintain the main circuit complete until the counter electro-motive force developed by the motor has fallen below a predetermined limit, substantially as set forth.

3. The combination, with an electric circuit and motor included therein, of a branch or derived circuit around the motor, an electro-magnet in said branch, a circuit-breaker or resistance-switch connected with the main circuit and operated by said magnet, and a magnet in the main circuit, in conjunction with a pivoted catch for the purpose of preventing the movement of said circuit-breaker, as and for the purpose hereinbefore set forth.

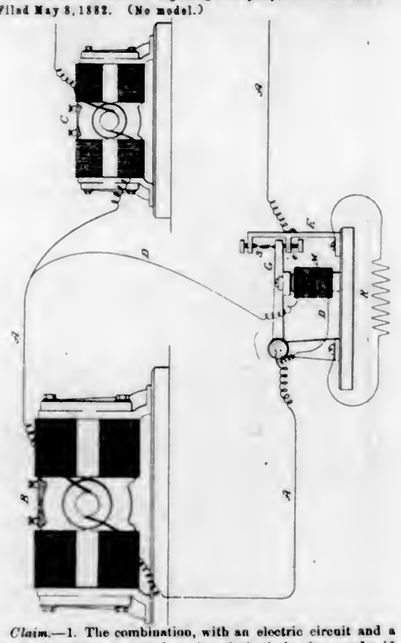
4. The combination, with the conductors A A of an electric circuit and a motor connected therewith, of branch circuit D, electro-magnet M, pivoted armature-lever G, connected with the main circuit and constituting an adjustable circuit-breaker, substantially in the manner described.

Claim.—1. The combination, in an electro-magnetic motor, with a brush-holder and brushes carried thereby, of a shifting mechanism for turning said brushes, and a resistance coil or coils arranged to be thrown in and out of circuit with the brushes by the movement of the shifting mechanism, as and for the purpose set forth.

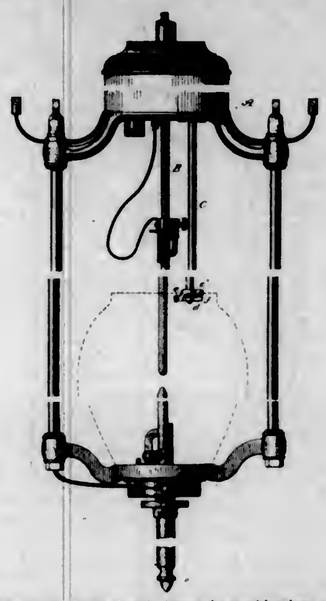
2. The combination, with brush-holder H, brushes carried thereby, and cog-wheel F', of the toothed segment E and lever D, these parts being constructed and combined in substantially the manner set forth.

3. The combination, of brush-holder H, brushes carried thereby, cog-wheel F', toothed segment E, lever D, and resistance-coils R, said coils being placed as described, and arranged to be thrown in and out of circuit with the brushes by the movement across them of the lever D, as described.

264,983. SYSTEM FOR THE ELECTRICAL TRANSMISSION OF POWER. EDWARD WESTON, Newark, N. J., assignor to the United States Electric Lighting Company, New York, N. Y. Filed May 8, 1882. (No model.)



264,984. SHUNTING ATTACHMENT FOR ELECTRIC-ARC LAMPS. EDWARD WESTON, Newark, N. J., assignor to the United States Electric Lighting Company, New York, N. Y. Filed Apr. 27, 1882. (No model.)



Claim.—1. In an electric lamp, the combination, with the carbon pencils or electrodes, of a normally-open derived circuit around the lamp, and a thermo-dynamic safety-switch or shunting device connected therewith, said device being constructed and arranged to be operated upon the displacement of the arc, due to the abnormal elongation of the same by the heat developed by the arc, and thereby close the derived circuit, as and for the purpose set forth.

2. In an electric lamp, the combination, with the electrodes, of a normally-open derived circuit, a circuit-closer contained therein, and a safety device such as a fusible strip or its equivalent for holding apart the contact-points of the circuit-closer, the said safety device being constructed and so arranged with reference to the position of the arc that upon an undue elongation of the same it may cause the contact-points to come together, thereby permanently closing the derived circuit, as set forth.

3. In an electric lamp, the combination, with the electrodes, of a normally-open derived circuit, a spring circuit-closer connected therewith, and a strip or piece of fusible or combustible substance for holding the contact-points of said circuit-closer apart, these parts being so constructed and arranged with reference to the position of the arc that upon an undue elongation and displacement of the same the heat will melt or destroy the fusible strip, and thereby close the derived circuit, as described.

264,985. CARBON FOR INCANDESCENT LAMPS. EDWARD WESTON, Newark, N. J., assignor to the United States Electric Lighting Company, New York, N. Y. Filed Mar. 1, 1882. (No model.)

Claim.—1. A carbon conductor for incandescent lamps, having ends or clamping portions of lower resistance than the remainder of the strip, but of the same cross-section, substantially as set forth.

2. A carbon conductor for incandescent lamps, having ends or clamping portions of greater density than the remainder of the strip, but of the same cross-section, as set forth.

264,986. CARBON CONDUCTOR FOR ELECTRIC LAMPS. EDWARD WESTON, Newark, N. J., assignor to the United States Electric Lighting Company, New York, N. Y. Filed Mar. 7, 1882. (No specimens.)

Claim.—1. A carbon conductor for incandescent lamps, possessing the characteristics herein described.

2. A carbon conductor for electric lamps, made of carbonized, non-fibrous, or amorphous cellulose, and possessing the characteristics hereinbefore set forth.

3. The process of manufacturing carbon conductors for incandescent lamps, which consists in first converting cellulose into celluloid or collodion, then treating the latter with reducing or deoxidizing agents, so as to convert the same into non-fibrous or amorphous and homogeneous cellulose, and finally forming therefrom the conducting-strips and carbonizing the same, substantially as hereinbefore set forth.

264,987. PLASTIC COMPOUND FROM SOLUBLE CELLULOSE. EDWARD WESTON, Newark, N. J. Filed Mar. 7, 1882. (Specimens.)

Claim.—1. As a new article of manufacture, non-fibrous or amorphous cellulose having the qualities of toughness and flexibility, as above set forth.

2. As a new article of manufacture, non-fibrous or amorphous transparent or translucent cellulose, substantially as described.

3. The method or process herein set forth of producing non-fibrous cellulose by treating collodion or celluloid with ammonium sulphide, protochloride of iron, or other chemically-equivalent reducing agents, substantially as described.

4. The method or process of producing non-fibrous cellulose, which consists in treating cellulose with a mixture of sulphuric and nitric acids for the production of pyroxyline, dissolving this by means of ether and alcohol, naphtha, or other solvents for the production of collodion or celluloid, and treating these with ammonium sulphide, protochloride of iron, or other chemically-equivalent agents, substantially as hereinbefore described.

264,988. MANUFACTURE OF CARBONS FOR ELECTRIC LIGHTS. EDWARD WESTON, Newark, N. J., assignor to the United States Electric Lighting Company, New York, N. Y. Filed Mar. 7, 1882. (No specimens.)

Claim.—1. The method or process herein described of producing homogeneous carbonizable cellulose by dissolving fibrous cellulose, forming the solution or jelly into sheets, and treating the same for the removal of the acids and impurities, substantially as set forth.

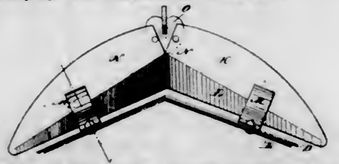
2. The method or process herein described of manufacturing carbon conductors for incandescent lamps by dissolving fibrous cellulose, forming the solution or jelly into sheets, removing the impurities and non-volatile compounds therefrom, cutting, stamping, or otherwise forming from the sheets the blanks for the conductors, and carbonizing them, all as set forth.

264,989. ANTI-FRICTION BEARING FOR PULLEY-BLOCKS. HENRY O. WINSOR, Duxbury, Mass. Filed July 31, 1882. (No model.)



Claim.—The combination, with the sheave, pulley, or wheel *a*, of the similar bushings, *b*, provided with flanges *c k*, and adapted to be attached to either side thereof, and the series of anti-friction rollers provided with axial sockets at their ends, and the independent collars at each end of the said rollers, provided with pins entering the said sockets, the said rollers and collars being held in place by the flanges *k* of the bushing, substantially as described.

264,990. FIRE-PLACE ATTACHMENT. JAMES P. WISTER, Greenup, Ky. Filed June 5, 1882. (No model.)



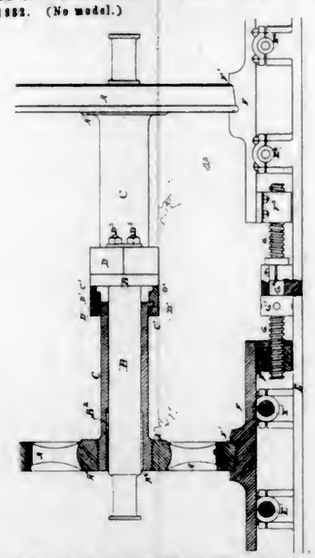
Claim.—1. The improved fire-place attachment consisting of front K, hood L, and regulator D E, substantially as described.

2. The improved fire-place attachment consisting of the front K, hood L, regulator D E, and bent arms or brackets M, substantially as and for the purpose set forth.

3. The improved fire-place attachment consisting of the front K, hood L, and regulator D E, said front and hood being capable of endwise adjustment, and the regulator being adjustable back and forth in the direction of the depth of the fire-place, substantially as described.

4. The improved fire-place attachment consisting of the front K, hood L, and regulator D E, said front being notched at N to enable the attachment to be adjusted by bending it in the angle, substantially as described.

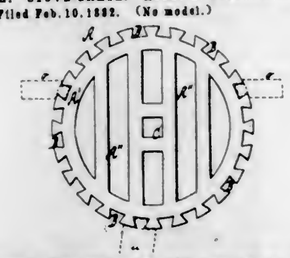
264,991. DEVICE FOR CHANGING GAGE OF RAILWAY-CARS. DAVID ANDERSON, Fairview, Stawell, Victoria. Filed Aug. 10, 1882. (No model.)



Claim.—1. A solid axle, B, for railway rolling stock, provided with a solid collar at the center, combined with wheels A A, each having a tubular extended hub or sleeve, C, fitted to said axle and longitudinally adjustable thereon, and a hinged clamp fitted on said collar and provided at either side with recesses for receiving and holding the flanges on the inner ends of said hub-sleeves, substantially as herein set forth.

2. The combination of the sole-plate E, the rollers E^1, and platforms F F', having recesses F^a and F^a, or their equivalents, (in the shape of rails,) with a right-and-left-handed screw, G, and turning collar G^1, in the manner and for the purpose herein described and explained.

264,992. STOVE-GRATE. HENRY L. ANDERSON, New York, N.Y. Filed Feb. 10, 1882. (No model.)



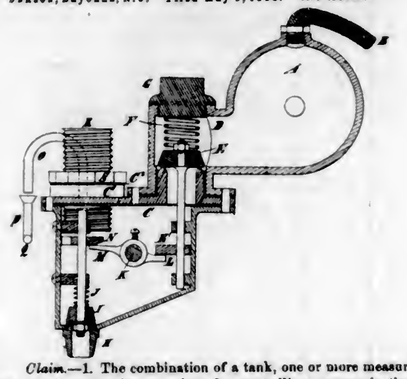
Claim.—1. The combination, with a stove-grate, of a pivot provided with a tenon adapted to be attached to and removed from a groove or socket in the grate itself, substantially as described.

2. The combination, with a grate having grooves or sockets in its perimeter, of pivots or journals provided with tenons adapted to fit said grooves or sockets, substantially as described.

3. The combination, with a grate having dovetailed grooves or sockets in its perimeter, of pivots or journals provided with dovetailed tenons adapted to said grooves or sockets, substantially as described.

4. A stove-grate formed with a central tapering socket, substantially as and for the purpose described.

264,993. APPARATUS FOR FILLING CANS. ROBERT O. ANDERSON, Bayonne, N.J. Filed May 1, 1882. (No model.)



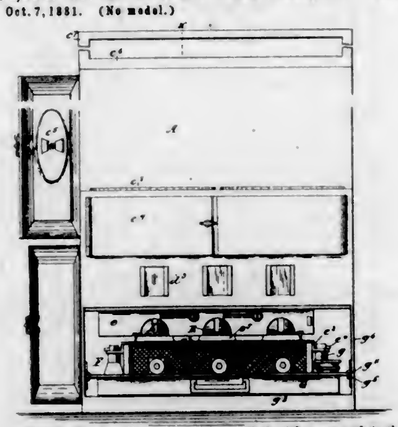
Claim.—1. The combination of a tank, one or more measuring-chambers, a valve or valves for controlling communication between the same and the tank, a valve or valves for controlling the flow of liquid from the chamber or chambers, all of said valves being adapted to open upward, collars or projections on the stems of said valves, a rock-shaft entering said chamber or chambers, and provided within the same with toes which are adapted to engage with said collars or projections, as the shaft is turned, for opening said valves, and springs for closing said valves, substantially as specified.

2. The combination of a chamber, C, a socket, C', a plug, R, and a nut, S, substantially as specified.

3. The combination of the tank A, one or more measuring-chambers, C, one or more valves, E, the throat piece or pieces D, and one or more plugs, G, substantially as specified.

4. The combination of the tank A, one or more measuring-chambers, C, one or more valves, E, one or more throat-pieces, D, one or more plugs, G, and one or more springs, F, substantially as specified.

264,994. STOVE. MICHAEL C. ARMOUR, Chicago, Ill. Filed Oct. 7, 1881. (No model.)



Claim.—1. An oil or gas stove provided with a cone-plate the ends of which are depressed and terminate in steps, in combination with posts rising from the body of the lamp and penetrating perforations in said steps, substantially as and for the purpose set forth.

2. An oil or gas stove the lamp of which is provided with perforated posts, a cone-plate having ends which are perforated, and hooks for securing said cone-plate down in its place, all arranged, combined, and operating substantially as set forth.

3. An oil or gas stove provided with lamp-chimneys terminating below in a plane inclining downward and backward, in combination with a lamp-top which has similarly-inclined surfaces corresponding with said chimneys, substantially as and for the purpose set forth.

4. In an oil-stove, the chamber B', open at the back, and having apertures in its floor to admit the tops of the lamp-chimneys, in combination with the oven C, arranged behind and above it, having in its lower part a front opening conterminus with the rear opening of the chamber, and in its lower back part an opposite opening into an upward passage to the outer air, substantially as and for the purposes described.

5. An oil or gas stove provided with a warming-chamber entirely through which the lamp-chimneys pass, in combination with an oven through which the combustion-current passes, substantially as and for the purpose set forth.

6. An oil or gas stove provided with a warming-chamber entirely through which the lamp-chimneys pass, in combination with a top over the combustion-current and near enough to the burners for cooking, and an oven through which said current passes, substantially as and for the purpose set forth.

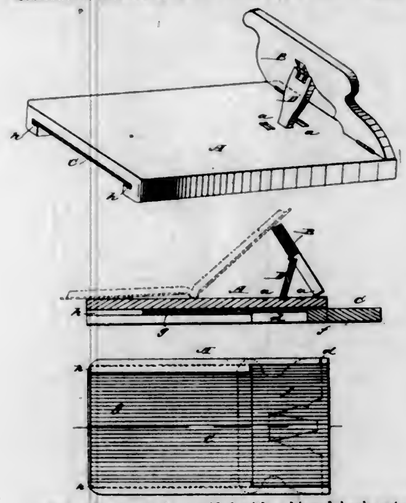
7. In an oil or gas stove, one or more burners, the top *c*, of heat-radiating material and near enough to said burners for cooking, an oven through which the combustion-current from said burners passes, and which is provided with a discharge-orifice in a different location from that of the distributing-point in said oven for said current, and an ordinary oven heated by said burners, all combined and operating substantially as set forth.

8. In an oil or gas stove, one or more burners, the top *c*, having vessel-openings, and near enough to said burners for cooking, an oven through which the combustion-current from said burners passes, and which is provided with a discharge-orifice in a different location from that of the distributing-point in said oven for said current, and an ordinary oven heated by said burners, all combined and operating substantially as set forth.

9. In an oil or gas stove, one or more burners, the top *c*, near enough to the burners for cooking, an oven through which the combustion-current from said burners passes, and which is provided with a discharge-orifice in a different location from that of the distributing-point in said oven for said current, an ordinary oven heated by said burners, and chimneys for said burners radiating directly into said ordinary oven, combined and operating substantially as set forth.

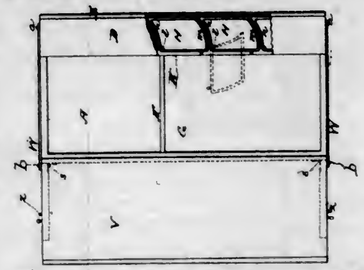
10. In an oil or gas stove, in combination with burners, a combustion-current oven provided with a damper in its door, substantially as and for the purpose set forth.

264,995. BOOK-HOLDER AND ARM-REST COMBINED. JOHN J. ARMSTRONG, Jr., Brooklyn, N.Y. Filed Jan. 26, 1882. (Model.)



Claim.—The board A, provided with a hinged book-rest on one side and a sliding arm-rest on the other, the one folding down flat and the other sliding in ways close to the board, as shown and described.

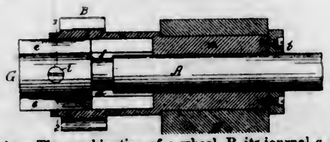
264,996. KITCHEN-CABINET. GEORGE W. BACON, Robinson, Ill. Filed Mar. 16, 1882. (No model.)



Claim.—1. In a kitchen-cabinet, the combination, with the top ledge, D, and the bearing-board K, of the drawers H, having opposite concave and convex ends *m* and *n* pivoted respectively to vertical pivot-rods *l*, connected to the top ledge and the bearing-board, substantially as specified.

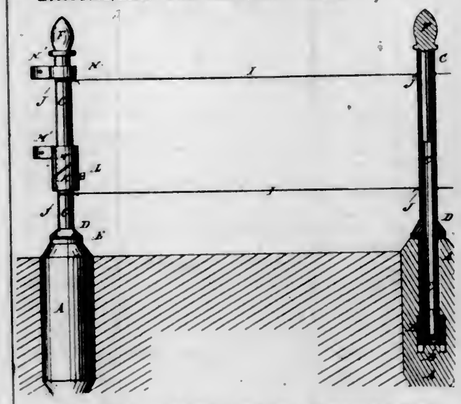
2. In a kitchen-cabinet, the revolving lid and kneading-board V, its studs *r* and connecting-arms W, extending from the rear sides of the case to the forward sides of the lid, and the rear upward extension, E, serving as a stop for the said board or lid when thrown up, all combined and adapted to operate substantially as specified

264,997. RECIPROCATING SHAFT AND DRIVER THEREFOR. JAMES BARKER, Philadelphia, Pa. Filed Aug. 28, 1882. (No model.)



Claim.—The combination of a wheel, B, its journal *a*, chamber *f*, and groove or grooves *h* with a reciprocated shaft, A, and a winged sleeve, G, detachably secured to the said shaft and adapted to the said chamber *f*, all substantially as set forth.

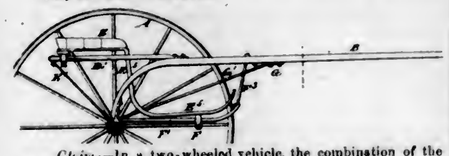
264,998. FENCE AND GATE POST. ARTHUR O. BARNES, Moore Park, Mich. Filed June 3, 1882. (Model.)



Claim.—1. A post for fences and gates, constructed substantially as herein shown and described, and consisting of the foot A, having interior screw collar or sleeve, B, and the post C, having collar D and head F, as set forth.

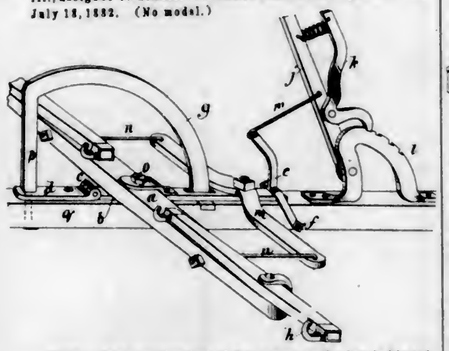
2. In a post for fences and gates, the foot A, molded from cement and sand, with a conical lower end, and provided with an interior screw sleeve or collar, B, having projections B', substantially as herein shown and described, to adapt the foot to receive and support a post, as set forth.

264,999. ROAD-CART. JOHN T. BARNES, Rushville, Ind. Filed July 24, 1882. (No model.)



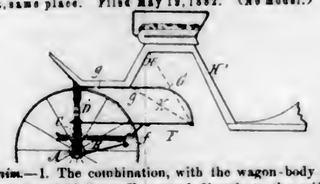
Claim.—In a two-wheeled vehicle, the combination of the shafts B B', axle C, bent bar D, spring E', curved body and seat E E', spring F, and bars F', F², and F³, the parts being arranged substantially as set forth, and for the purpose specified.

265,000. HORSE-DETACHER. JAMES H. BARRETT, El Dorado, Ill., assignor to himself and James Shaver, same place. Filed July 18, 1882. (No model.)



Claim.—The combination of the evener *a*, the bar *b*, hinged in front thereof to a short bar, *d*, on the tongue, the yoke *e*, pivoted to the tongue at *f*, and the whiffletrees having hooks *h*, all arranged substantially as shown and described.

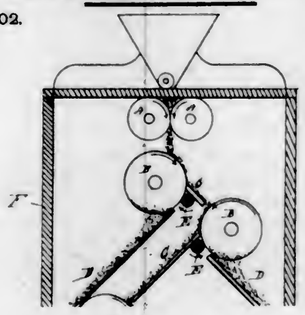
265,001. CARRIAGE-GEAR. GEORGE E. BARTHOLOMEW, Montreal, Quebec, Canada, assignor of one-half to Edmond Armant, same place. Filed May 19, 1882. (No model.)



Claim.—1. The combination, with the wagon-body and the spring, of the rigid brace F, secured directly to the said spring and extending back to or beyond the center of the wagon-body, and the curved connecting-bar G, bolted rigidly to the bottom of the wagon-body and extending backward and hinged to the inner end of the said brace F, substantially as described.

2. In combination with the couplings F and fifth-wheel B, arranged as described, the short brace *f*, substantially as and for the purpose set forth.

265,002.

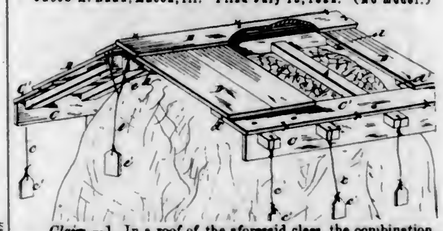


265,002. ROLLER GRINDING-MILL. SAMUEL L. BEAN, Washington, D. C. Filed Mar. 28, 1882. (No model.)

Claim.—1. The combination, substantially as before set forth, of a pair of grinding-rollers, a rotating cylindrical screen, onto the exterior surface of which the chop from the rollers falls, and a cant-board under said cylindrical screen for catching and delivering the fine flour and middlings sifted from the chop by the screen.

2. The combination, substantially as before set forth, of a pair of grinding-rollers, a series of rotating cylindrical screens arranged stepwise, a cant-board for directing the chop from one screen onto the next screen, a brush under each such cant-board, and a second cant-board under each screen for catching and delivering the fine flour and middlings sifted from the chop by the screen.

265,003. PORTABLE ROOF FOR HAY OR STRAW STACKS. JACOB H. BEAN, Macon, Ill. Filed July 13, 1882. (No model.)

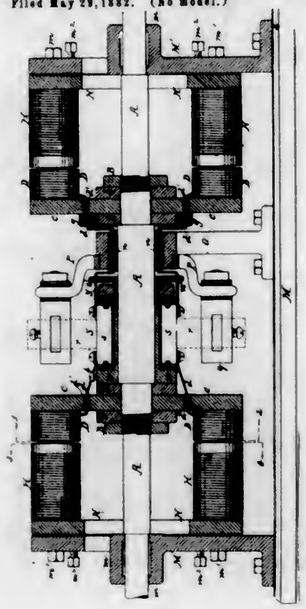


Claim.—1. In a roof of the aforesaid class, the combination, with the anchored rafters A, having notches or mortises in their upper surfaces, of the roof-boards D, having their lower cleats, *d'*, provided with the downwardly-bent tongues *d²*, substantially as and for the purpose set forth.

2. In a roof of the aforesaid class, the combination, with the parallel ridge-beams B, having the vertical apertures provided with pins *b*, of the rafters A, having the relatively horizontal apertured tongues *a*, substantially as and for the purpose set forth.

3. In a roof of the aforesaid class, the combination, with the anchored mortised side boards, C, and eave-boards C', connected together, the boards D and their tongued cleats *d'* and *d*, and the ridge-boards E, of the rafters A, having the apertured plates or tongues *a*, and the parallel ridge-beams B, having vertical apertures which receive pins *b*, substantially as and for the purpose set forth.

265,004. DYNAMO-ELECTRIC MACHINE. GEO. W. BRADSLEE, Brooklyn, N. Y., assignor to William P. Jobbins, East Orange N. J. Filed May 29, 1882. (No model.)



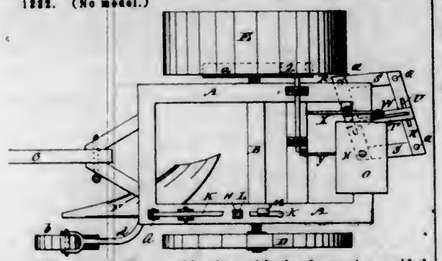
Claim.—1. In a dynamo-electric machine, the combination of an armature or generating-wheel having its spools connected up in continuous series, and a commutator having separate insulated plates or segments, with two or more pairs of commutator-brushes, and field-magnets having a corresponding number of pairs of poles, all substantially as described.

2. A dynamo-electric machine having two sets of field-magnets and two armatures with one commutator, the terminals from both armatures being connected to the same commutator-plates.

3. The combination of field-magnets, armature, and commutator with standard O and insulating-disk *g*, and sleeve *n* for the wires, substantially as specified.

4. The combination of the armature or generating-wheel and end plate, M', with ring N, carrying the field-magnets, and screws *m'*, for adjusting said magnets toward or from the armature, all substantially as set forth.

265,005. COMBINED SULKY-PLOW, HARROW, SEEDER, AND ROLLER. DANIEL C. BRATT, Olympia, Wash. Filed Apr. 1, 1882. (No model.)



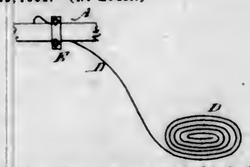
Claim.—1. The combination, with the frame A, provided with the plow F, arranged at the left-hand front corner, of the axle B, the land-side wheel D, and the roller E, adapted to run on the plowed ground and serve the double purpose of a wheel for the frame and a roller for the plowed land, substantially as described.

2. The combination, with the frame A, the plow F, arranged at the left-hand front corner of the said frame, and the axle B, carrying the land-side wheel D and the roller E, serving the double purposes of a roller and wheel, of the harrow Q R S T, arranged in rear of and between the plow and roller, substantially as and for the purpose set forth.

3. The combination, with the frame A and plow F, of the catch-standard M, the lever K, the rod G, pivoted to the lever and plow, and the rod H, adjustably secured to the frame at its upper end and pivoted to the plow at its lower end, substantially as and for the purpose set forth.

4. The combination, with the slotted harrow-frame bars R R and bars S S, pivoted together at their corners, of the cross-bar T, adjustably secured to the said slotted bars, substantially as and for the purpose set forth.

265,006. FENDER. LUCIEN B. BEAUMONT, Alexandria, Ohio. Filed Jan. 25, 1882. (No model.)



Claim.—A plow attachment composed of a single rod or bar coiled to form a fender, and having a portion thereof extended forward for an attaching-arm and the end turned back upon itself to adapt it to be clamped to the beam, substantially as shown and described.

265,007. CORK FOR BOTTLES. CHARLES H. BENNETT, Cheltenham, Pa. Filed Aug. 7, 1882. (No model.)



Claim.—1. A cork consisting of a recessed or slotted body, A, and a bar, B, having an eye at one end and a T-head at the other, secured in the body of the cork, substantially as described.

2. A cork consisting of a body, A, a T-headed eye-bar secured therein, and a rubber ring, *h*, embracing a portion of said cork-body, substantially as and for the purpose set forth.

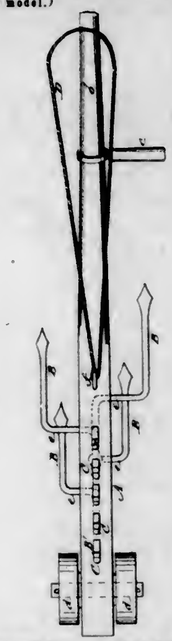
3. The combination of the cork body A, having an annular groove around its upper edge, with a rubber ring adapted to said groove, and a T-headed eye-bar, B, having a disk, *d*, adapted to retain and compress the rubber in said groove, substantially as set forth.

265,008. DRAWER-PULL. ELI J. BLACKMAN, Bridgeport, assignor to the Benedict & Burnham Manufacturing Company, Waterbury, Conn. Filed May 19, 1882. (No model.)



Claim.—In that class of drawer-pulls called "drop-pulls," the drawer-front spindle and its socket, the knob-spindle and its head, each constructed complete from a single piece of sheet metal, the one with trunnions projecting to the right and left to form the pintle of the hinge, the other slotted at its end to form the two legs *a a*, the said legs bent around the trunnions to swing thereon, the said trunnions forming a pintle, substantially as described.

265,009. CULTIVATOR. WILLIAM BLAKE, Chester, S. C. Filed May 2, 1882. (No model.)



Claim.—A hand-cultivator consisting of the beam A, having its forward end reduced to form a handle, *b*, and its rear end provided with a series of mortises, the straight rear tooth, B', and the bent teeth B, secured in said mortises, the wheels *d*, journaled to the rear end of the beam, the laterally-projecting handle *c*, and the stop D, substantially as herein shown and described.

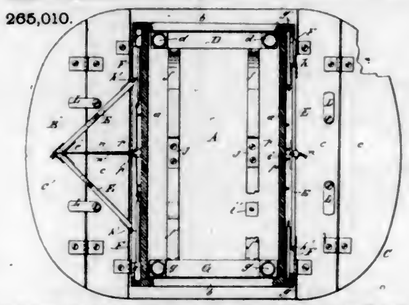
265,010. FOLDING TABLE. CHARLES D. BLAKESLEE, Grand Rapids, Mich., assignor to himself and ERASTUS J. HORTON, same place. Filed Oct. 23, 1881. (Model.)

Claim.—1. The combination, with hinged braces *f f'* and the folding legs *d* and *g* and stops *i i'*, of the flat spring *j*, which is secured to the table-top, and has its end portions bent downward, as shown, to accommodate said braces and hold them in place when the legs are folded or extended, as specified.

2. The supporting-arms E E, hinged together and hinged at their outer ends to the sliding plates F F, as and for the purposes set forth.

3. The side boards, *a*, of the frame of the table, formed with

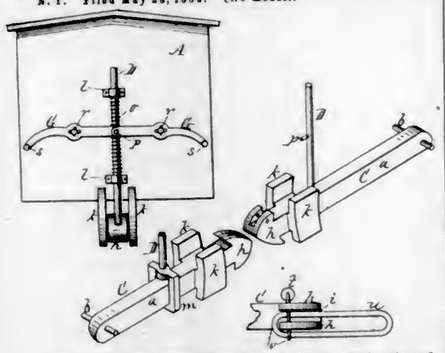
265,010.



the ways *g'*, in combination with the sliding plates F and the hinged arms E, substantially as and for the purposes set forth.

4. In combination with the hinged arms E E and the sliding plates F F, the cords *n n* and staples *p p*, substantially as and for the purposes set forth.

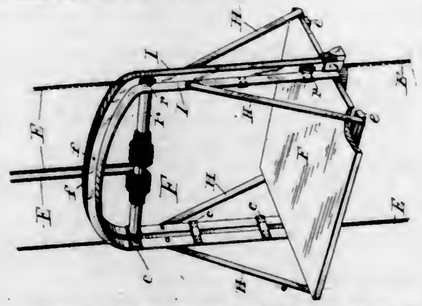
265,011. CAR-COUPLING. KIRK S. BLANCHARD, Clarendon, N. Y. Filed May 26, 1882. (No model.)



Claim.—1. In a car-coupling, the combination of the pivoted draw-bar C, the bearing B, the loop or stirrup *m*, embracing the draw-bar, and resting in grooves of the bearing, the vertical shaft D, attached to the loop, the coiled spring *o*, resting around the shaft, the pin *p*, attached to the shaft and projecting through the spring, and the pivoted levers G G, connected with the pin, as shown and described, and for the purpose specified.

2. In a car-coupling, the combination, with the draw-bar C and levers G G, of the vertical shaft D, connected with the draw-bar by a stirrup, *m*, and the spring *o* on the shaft, extending above and below the levers, and serving to center the draw-bar and levers by acting in both directions, as described.

265,012. BRICK-ELEVATOR. JOHN C. BOBBINS, Chicago, Ill. Filed Mar. 18, 1882. (No model.)



Claim.—1. The hoisting-ropes E and E', in combination with platforms D D', having pulleys P P', substantially as described and shown, and for the purpose set forth.

2. A platform-frame composed of two pieces of angle-iron connected together by cross-pieces, substantially as described and shown, and for the purpose set forth.

3. The hinged braces H, for the purpose set forth, substantially as shown and described.

4. The combination of platform having roller *r* and pulleys P, hoisting-ropes E, and drum B, substantially as shown and described.

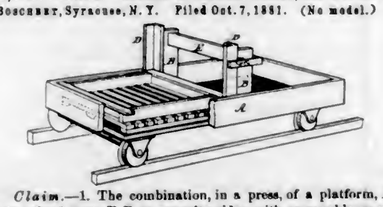
5. In an elevator-platform, the combination of the frame F, floor F', and hinged brace H, substantially as shown and described.

6. The combination of the frame F, composed of two pieces of angle-iron, I I, connected by cross-piece *c* with floor F', and hinged brace H, substantially as described and shown.

7. The combination of the platforms D' and D, hoisting-ropes E E', connection *g*, ropes R, wheels *a*, pulleys P, P', and P'' for drum B, and roller *r*, substantially as described and shown, and for the purpose set forth.

8. The combination, in an elevator, of the horizontal drum B, having grooves *b b'*, pulleys P, P', and P'', frame C, having pulleys *a a'*, elevator-frames having pulleys *p p'*, and rollers *r r*, provided with pawls and ratchets, the hoisting-ropes E E', and the rope R, connecting the elevator-frames, whereby the same are raised and lowered without the employment of fixed guides, substantially as shown and described.

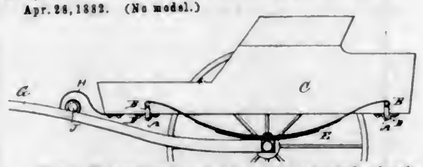
265,013. PRESS. GEORGE B. BOOMER, Mexico, and RUFUS K. BOSCHERT, Syracuse, N. Y. Filed Oct. 7, 1881. (No model.)



Claim.—1. The combination, in a press, of a platform, A, having fixed posts B B on opposite sides, with removable corner angle-guides, D D, supported upon the platform against said posts, and adapted to receive, set, and hold the racks and forms as they are laid upon the platform, substantially as described, for the purpose specified.

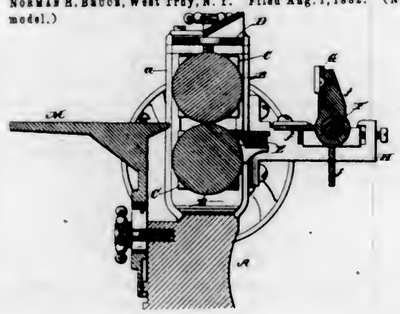
2. The combination of the platform A, having fixed posts B B, with the removable corner angle-guides, D D, and the buttons G, pivotal to the fixed posts, substantially as described, for the purpose specified.

265,014. DOG-CART. EDWARD BOWMAN, Santa Cruz, Cal. Filed Apr. 26, 1882. (No model.)



Claim.—The combination, in a dog-cart constructed as herein described, of the crank-shaped supports A, side springs, E, and front spring, H, substantially as shown and specified.

265,015. MACHINE FOR FOLDING AND CUTTING FABRICS. NORMAN H. BAUCH, West Troy, N. Y. Filed Aug. 1, 1882. (No model.)

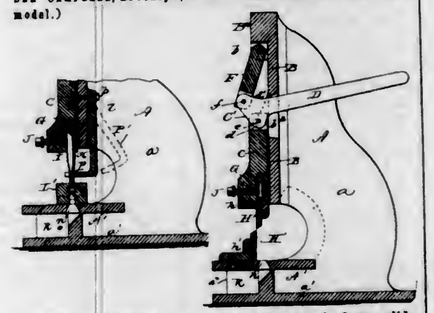


Claim.—1. A machine for folding and cutting fabrics, combining in its structure two horizontal revolving pressing-rollers, and a work-supporting table arranged at one side and in front of the rollers, and vertically adjustable for presenting the fabric to the rollers, either horizontally or at an angle, substantially as described.

2. In a machine for folding and cutting fabrics, the combination of two rollers rotating in horizontal planes, one above the other, and both provided at each end with a rigidly-attached journal, and an annular groove in the ends of the rollers filled with an absorbent material separated from the journal to absorb the lubricating material which escapes from the journal-bearings of the rollers toward the peripheries of the latter, substantially as described.

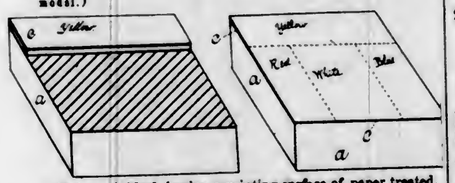
3. In a machine for folding and cutting fabrics, the combination, with the pressure-rollers and the rotary cutter-head, of a gear located between the gears upon the axles of the cutter-head and one of the said rollers, a sliding sleeve upon which the intermediate gear is loosely mounted, a stationary axle supporting the sliding sleeve and spirally grooved at its outer end, and a nut secured upon the sleeve and having a pin entering the spiral groove, whereby the intermediate gear can be thrown into or out of mesh with the said two remaining gears, substantially as described.

265,016. PUNCHING AND SHEARING MACHINE. ALEXANDER CAMPBELL, Brooklyn, N. Y. Filed June 3, 1881. (No model.)



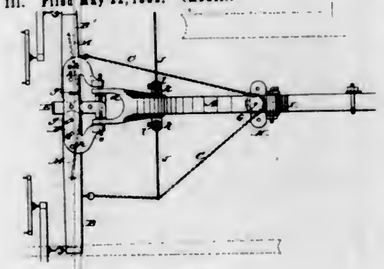
Claim.—The combination composed of the main frame, sliding follower, and its actuating devices, constructed and operating, substantially as shown and described, jointly with interchangeable shear h H' and punch I and the hinged stripper P, as set forth.

265,017. PRINTING-BLOCK. JOHN E. CAPS, Cincinnati, Ohio, assignor to Marie Caps, same place. Filed Dec. 29, 1881. (No model.)



Claim.—A block having a printing-surface of paper treated, as described, with albumen, beeswax, and plumbago, for the purpose set forth.

265,018. DRAFT-EQUALIZER. DALLAS CARR, Chandlerville, Ill. Filed May 22, 1882. (Model.)



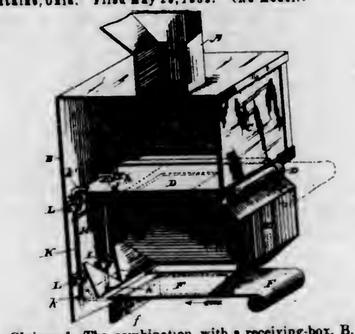
Claim.—1. The combination, with the plow-beam A and draft-equalizing levers B B', of the cross-jaws D D and arm E, adjustable up or down on or in said beam, substantially as specified.

2. The combination, with the plow-beam A and draft-equalizing levers B B', of the cross-jaws D D, provided with a series of apertures, *h h*, for lateral adjustment of the fulcrums *g g* of said levers relatively to the plow-beam, the arm E, carrying said cross-jaws, adjustable up or down on or within the plow-beam, the chain C, and the pulley G, by which the levers B B' are connected at suitable distances from their fulcrums with the plow-beam, essentially as and for the purposes herein set forth.

3. The swinging toothed or notched arms J J, in combination with the plow-beam A, the draft-equalizing levers B B', the chain C, and the pulley G, substantially as shown and described.

4. The combination, with the plow-beam A, the cross-jaws D D, the arm E, and the draft-equalizing levers B B', of the brace-rods M M, hooked or movably attached to said arm and the levers B B', and arranged in line with said levers, essentially as specified.

265,019. GRAIN-MEASURE. BLANCHARD CHAMBERLAIN, Bellefontaine, Ohio. Filed May 29, 1882. (No model.)

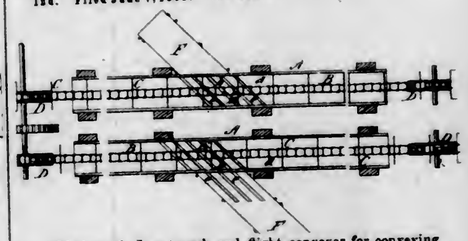


Claim.—1. The combination, with a receiving-box, B, and a measuring-box, E, of the slides D and F, provided with suitable locking devices, automatically fastening either slide on the removal of the other, as explained.

2. The combination, with the slides D and F, of the latches H and K, formed with oblique faces *h'* and *k'*, substantially as and for the purposes herein shown and described.

3. The combination, with receiving-box B and a measuring-box, E, of the slides D and F, having openings *d* and *f*, bolt H, formed with hook A and oblique face *h'*, and the bolt K, formed with lug having oblique face *k'*, as set forth.

265,020. GRAIN-CONVEYER. HENRY COBB, Indianapolis, Ind. Filed June 7, 1882. (No model.)



Claim.—1. In a trough and flight conveyer for conveying grain, the trough provided with a series of dumping-apertures arranged diagonally or oblique to said trough and to the line of motion of the flights passing therethrough, substantially as specified.

2. The combination, with the trough, of the grate-like frame E, having its apertures *b*, which form a dumping-hole, arranged obliquely across the bottom of the trough, and the gate F, having tongues *e*, arranged to fit within and to open and close said apertures, essentially as and for the purposes herein set forth.

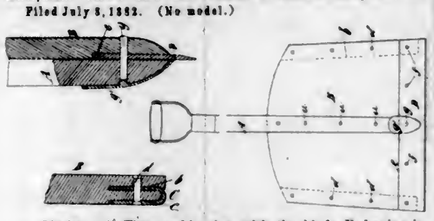
3. The combination, with the belt B, provided with the flights C, of the conveyer A, having its bottom *d* constructed of glass, substantially as described, and for the purpose set forth.

4. In grain-conveyers, the flights C, apertured for passage over the end of the link, in combination with the flight-links having cross-bar *f'*, constructed to cover or fill the aperture of the

flight when fastened to the link, substantially as shown and described.

5. The conveyer-chain B, composed of a series of open links having rounded and knife-edged sides *i i*, connected at their one end by cross-rounds *k* and terminating at their opposite end in hooks *l*, connected by a partial cross-socket, *m*, substantially as shown and described.

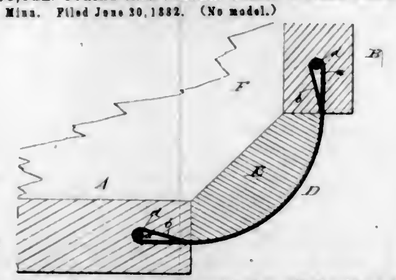
265,021. SNOW-SHOVEL. HENRY C. COLE, Wallingford, Vt. Filed July 8, 1882. (No model.)



Claim.—1. The combination, with the blade B, having in each side edge the groove *b* and the rabbet *c* on its under surface, of the U-shaped strengthening-plate C, one edge of which is inserted in the groove and the other edge of which underlaps the blade and rests in the said rabbet, and rivets *d*, or like devices, substantially as described.

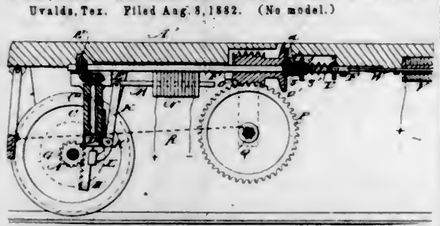
2. The combination of the blade B, the edge-plate D, the handle A, secured to the front or upper surface of the blade and overlapping said plate D, the rivet *g* or like device inserted through the blade B, the edge-plate D, and the handle A, and the cap *g'*, for protecting the end of the handle, substantially as described.

265,022. BURIAL-CASE CORNER. GEORGE W. COMBS, Wasecа, Minn. Filed June 30, 1882. (No model.)



Claim.—In a burial-case, the combination, with the sides A A and the ends B, provided with tapering grooves *a a* and the blocks E, of the corner-plates D, having their vertical edges formed into loops or eyes inserted into the grooves *a* of the ends and sides, and the rods or pins *d d*, forced into the eyes or loops of the corner-plates, D, substantially as and for the purpose set forth.

265,023. ELECTRIC CAR-BRAKE. PHILIP V. CONOVER, Uvalde, Tex. Filed Aug. 3, 1882. (No model.)



Claim.—1. In an electric brake, the combination, with a friction-wheel mounted on the axle, of a friction-wheel mounted on an adjustable shaft connected by suitable gearing with the shaft to which the brake-chain is attached, a cog-wheel mounted on the axle, and a rack hung on a lever, adapted to act on the adjustable shaft carrying the friction-wheel, which is to be pressed against the friction-wheel on the axle, substantially as herein shown and described, and for the purpose set forth.

2. In an electric brake, the combination, with the axle A, of the friction-wheel B, mounted thereon, the cog-wheel G, the rack H, the lever I, pivoted in the hollow standard C, projecting from the under side of the car-floor, the laterally-adjustable shaft C', the friction-wheel D on the lower end of the same, the beveled cog-wheel E at the upper end of the same, engaging with a cog-wheel, E', on a shaft connected by suitable gearing with a brake-chain, the lever K, the rod M, and the helix N, substantially as herein shown and described, and for the purpose set forth.

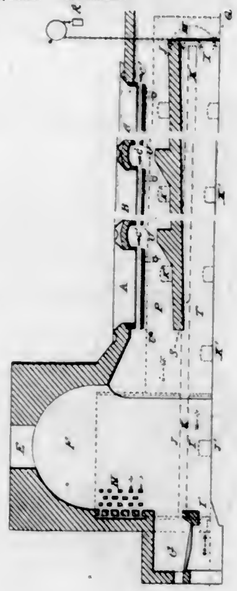
3. In an electric brake, the combination, with the axle A, of the friction-wheel B, mounted thereon, the cog-wheel G, the rack H, the lever I, pivoted in a hollow standard, C, projecting from the under side of the car-floor, the rounded head I' at the inner end of this lever I, the boxing J, the laterally-adjustable shaft C', the friction-wheel D on the lower end of the same, the beveled cog-wheel E at the upper end of the same, engaging with the beveled cog-wheel E' on the shaft, connected by suitable gearing with the brakes, the lever K, the rod M, and the helix N, substantially as herein shown and described, and for the purpose set forth.

4. In an electric brake, the combination, with the axle A, of the horizontal shaft F, journaled to the under side of the car, the worm O, loosely mounted thereon, the worm-wheel P, mounted on a shaft, Q, the brake-chain R, attached to the shaft Q, the devices for locking the worm O on the shaft F, and of the devices for operating the shaft F from the car-axle A when desired, substantially as herein shown and described, and for the purpose set forth.

5. In an electric brake, the combination, with the car-axle A, of the horizontal shaft F, the worm O, loosely mounted thereon, and provided at one end with an annular flange, O', provided with projecting studs *a*, the sliding sleeve S, held on the shaft F to rotate with the same, and provided with radial arms *d*, the worm-wheel P, mounted on the shaft Q, the brake-chain R, attached to the shaft Q, the devices for engaging the sleeve S with the worm O, and the devices for operating the shaft F from the car-axle when desired, substantially as herein shown and described, and for the purpose set forth.

6. In an electric brake, the combination, with the car-axle A, of the horizontal shaft F, the worm O, loosely mounted thereon, and provided at one end with an annular flange, O', provided with projecting studs *a*, the sliding sleeve S, held on the shaft F to rotate with the same, and provided with radial arms *d*, the worm-wheel P, mounted on the shaft Q, the spring T, the fork U, the rod W, the helix V, and the devices for operating the shaft F from the axle A, substantially as herein shown and described, and for the purpose set forth.

265,024. OPEN EVAPORATING TRAIN AND FURNACE FOR CANE-JUICE, &c. FREDERIC COOK, New Orleans, La. Filed Jan. 25, 1882. (No model.)



Claim.—1. A bagasse-furnace and train of evaporators arranged or set with a divided fire-flue, and provided with dampers to close the heat from each evaporator, and to turn or direct the heat into a separate or independent flue, substantially in the manner and for the purposes described.

2. The combination of the furnace F, the furnace G, and the divided air-flues I J for heated air, substantially as described.

3. Evaporating tubular open pans to work with direct heat, in combination with flues P and T and damper Q, substantially as set forth.

4. The flues T and P, in combination with a damper, Q, for the purpose described and set forth.

5. A damper through which water circulates to keep it cool, supplied from a head higher than itself, and to which head the steam generated is returned under the water-level and condenses again into water.

6. The circulating discharge-pipe A' B', substantially as set forth.

7. A tubular evaporating-pan, as described, in combination with a registering-damper to graduate the heat in tubes, as set forth.

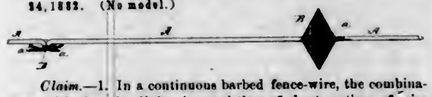
8. The method of regulating the passage of heat through tubes of open evaporating-pans working with fire heat by means of a jet of steam blown in against the draft, as set forth.

9. Twin trains of tubular open evaporating-pans acting with fire heat from bagasse, in combination with twin bagasse-burners and outside furnaces for solid fuel.

10. In a bagasse-furnace having trains of evaporators of the character set forth, the arrangement in the walls of the furnace of longitudinal air-passages, substantially as and for the purposes described.

11. The combination, substantially as described, of an open evaporating-pan arranged to work with fire heat, and a water-damper or its described equivalent, located in front of the pan, to direct or turn the heat partially or entirely away from said pan into another flue when the pan is empty, as and for the purposes set forth.

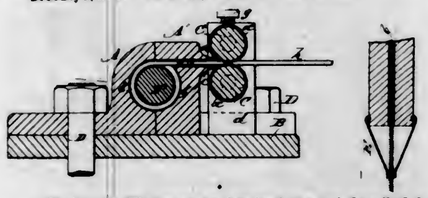
265,025. BARBED FENCE-WIRE. JOSEPH T. COOK, Chicago, Ill., assignor to Samuel S. Chisholm, same place. Filed Feb. 14, 1882. (No model.)



Claim.—1. In a continuous barbed fence-wire, the combination, with the wire links A, consisting of short sections of wire having hooks at their ends, of the alternating sheet-metal links B, provided with points, and apertured to receive the hooks of the wire links, so as to join the latter and serve as barbs, substantially as described.

2. In a barbed fence-wire, the combination, with the two-barbed sheet-metal link B, of the wire links A, having their hooks *a* turned in different planes, substantially as described, and for the purposes stated.

265,026. WIRE-COILING MACHINE. JOSEPH A. COULTAUS, Brooklyn, N. Y. Filed July 25, 1882. (No model.)



Claim.—1. The apparatus herein shown and described for coiling wire, consisting of the blocks A A', having semi-cylindrical grooves *b b'*, the block A', having the orifice *c*, in combination with the rollers C C', substantially as set forth.

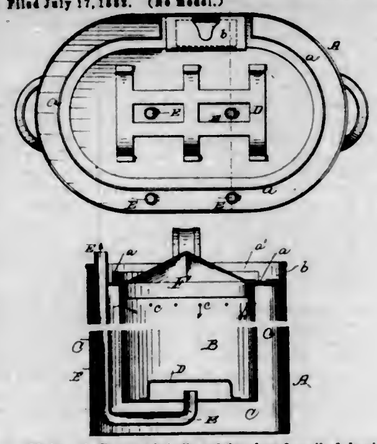
2. In a wire-coiling apparatus, the combination, with grooved block A, of the grooved block A', having the tangential orifice *c*, substantially as and for the purposes set forth.

3. The semi-cylindrically-grooved block A, having the spiral gutters *f*, in combination with the semi-cylindrically-grooved block A', having the corresponding spiral gutters, *f'*, substantially as and for the purposes set forth.

4. The combination, with the semi-cylindrically-grooved blocks A A', of the plain mandrel F, the block A being formed with the orifice *c*, substantially as and for the purposes set forth.

5. The combination, with the blocks or castings A A', of the thimble E, of rubber, substantially as and for the purposes described.

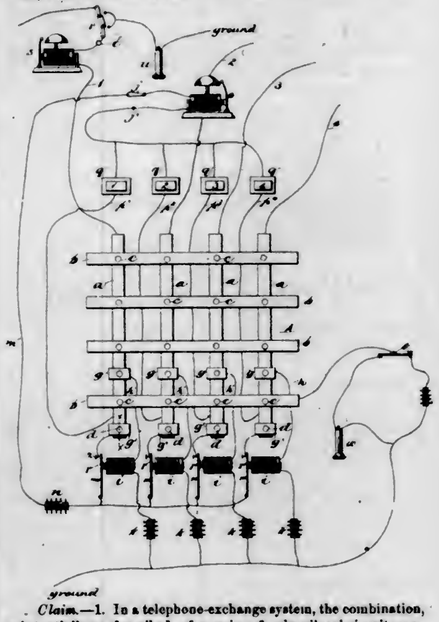
265,027. WASH-BOILER. STEPHEN COX, Keeseville, N. Y. Filed July 17, 1882. (No model.)



Claim.—1. In a wash-boiler of the class described, having an outer vessel for generating steam, the inner steam-chest, B, perforated near its upper end, and provided with steam-exit pipes E, attached to its bottom, said pipes passing through and to the exterior of the water-chamber, substantially as shown.

2. In a wash-boiler or clothes-cleansing apparatus, the water-chamber C, provided with a valve, *b*, in combination with a steam-chest suspended in the wash-boiler, and provided with perforations *c c*, grate D, the exit-pipes E E, and cover F, substantially as shown and described.

265,028. SIGNALING MECHANISM FOR TELEPHONE-EXCHANGE SYSTEMS. GEORGE W. COY, Milford, Conn. Filed May 3, 1882. (No model.)



Claim.—1. In a telephone-exchange system, the combination, substantially as described, of a series of subscribers' circuits con-

tering at a central station and each containing a relay with signaling devices in a local circuit operated by the relay and switch devices for connecting any two subscribers' circuits for oral communication.

2. In a telephone system, the combination, substantially as described, at a central station, of a series of subscribers' circuits centering thereat and each containing a relay with signaling devices in a local circuit operated by the relay and means for transmitting outgoing signals over the subscribers' lines without disturbing the signaling devices at the central station.

3. In a telephone-exchange system, the combination, substantially as described, at a central station, of a series of subscribers' circuits centering thereat and each containing a relay with signaling devices in a local circuit operated by the relays, means for transmitting outgoing signals over the subscribers' circuits without disturbing the local signaling devices, and switch devices for connecting any two subscribers' circuits for oral communication.

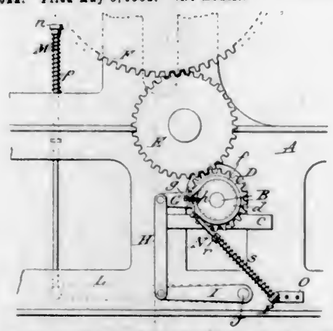
4. In a telephone-exchange, the combination, substantially as described, at a central station, of a series of subscribers' circuits centering thereat and each containing a relay with annunciators in a local circuit—one for each subscriber's circuit—and means for closing the local circuit by the operation of any one of the several relays, so as to operate the appropriate annunciator.

5. In a telephone-exchange system, the combination, substantially as described, at a central station, of a series of subscribers' circuits centering thereat and each containing a relay with a local circuit containing an annunciator for each subscriber's circuit and a call-bell common to all the subscribers' circuits and means for closing the local circuit by the operation of any one of the several relays, so as to operate the appropriate annunciator and sound the bell.

6. In a telephone-exchange system, the combination, substantially as described, at a central station, of a series of subscribers' lines centering thereat, each containing a relay and grounded through a battery, with a local circuit containing signaling or indicating devices, and the armatures of the relay, each operating, when released by the opening of the line containing its relay, to close the local circuit and shunt the battery into the same.

7. In a telephone-exchange system, the combination, substantially as described, at a central station, of a series of subscribers' lines centering thereat and each containing a relay with a local circuit containing an annunciator for each subscriber's circuit, and a call-bell common to all the subscribers' circuits, and means for closing the local circuit by the operation of any one of the several relays, so as to operate the appropriate annunciator and sound the bell, and switch devices for cutting out the bell, when desired, without disturbing the annunciators.

265,029. PRINTING-MACHINE. JOHN H. CRANSTON, Norwich, Conn. Filed May 3, 1882. (No model.)

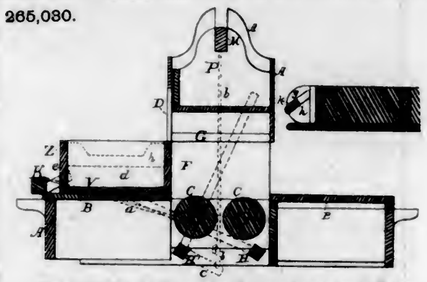


Claim.—1. In a printing-press, the combination, with the impression-cylinder, gears F E, shaft B, and gear D, secured thereon and provided with a hub or wheel, *d*, having a grooved periphery, of a friction-clutch consisting of the band *f*, the lever G, attached to said clutch, the yielding fulcrum N, and means, substantially as described, for imparting motion to the lever G for the purpose of stopping or reversing the cylinder, as specified.

2. In a printing-press, the combination, with the cylinder, gears F E and D, friction-clutch *f*, and yielding fulcrum N, of the levers G I, link H, shaft J, lever L, and spring-rod M, having treadle *s*, substantially as described.

265,030. BRICK-MACHINE. GILBERT DAVIS, Zanesville, Ohio. Filed May 20, 1882. (No model.)

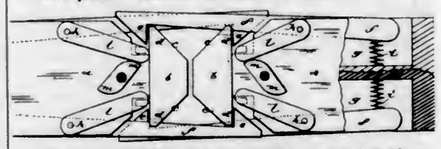
265,080.



Claim.—1. In a brick-machine, the open-bottom mold Z, having the detachable base-board V and the pivoted end lifters, *h*, adapted to bear by their lower edges on said, base-board, substantially as specified.

2. In a brick-machine, the combination, with the open-bottom mold Z and its detachable base-board V, of the roller-bed and guideway F below the press, the operating-levers L L' and rock-shafts H H', the press-beam M and drag-bar K, and the connections *a b*, substantially as specified.

265,031. CAR-COUPLING. DANIEL W. DEAL, Toddville, Iowa, assignor to himself and Joseph Vowels and John All, both of same place. Filed June 21, 1882. (No model.)

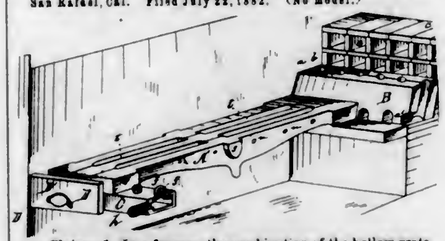


Claim.—1. In a car-coupling, the combination, with the draw bar provided with a hook-sided head, of a pair of draw-hooks pivoted in the draw-bar, a pair of levers secured to said pivots, a bar attached to said levers, operating against similar draw-hooks of another car, and a cam and hand-rod to operate said levers, whereby the turning of said hand-rod and cam actuates said levers to release the hooks of both cars by one and the same movement from engagement with said hook-heads, as shown and described.

2. The combination, with the hook-heads *d*, draw-hook *e f*, pivots *h*, and levers *l*, secured thereto, of the springs *i*, operating both the hook *f* and its lever *l*, as shown and described.

3. The swing-arms *l* and trip-bars *k*, in combination with the hook-catches *e f*, said arms *l* being pivoted on the pivots *h* of the said hook-catches, substantially as described.

265,032. GRATE-BAR AND FURNACE. WILLIAM H. DE VALIN, San Rafael, Cal. Filed July 22, 1882. (No model.)



Claim.—1. In a furnace, the combination of the hollow grate-bars A', hollow grate-support C, and back B, having openings *n* and passages *e*, substantially as described and shown.

2. The hollow grate-bar A', provided with air-passages *m* and *k*, slot *g*, and projection *i*, substantially as shown.

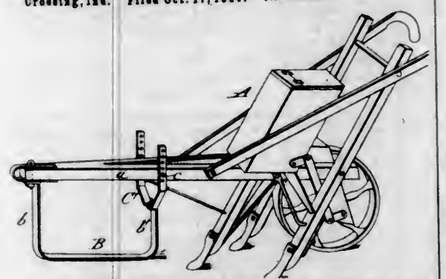
3. In combination with the hollow grate-bar A', the supporting-bar C, provided with openings *f*, and pipes *h*, which extend to the front of the furnace and are closed by dampers, substantially as shown, and for the purpose set forth.

4. The combination of the bricks B, having air-passages, and the bricks *c d*, arranged to form passages *e*, communicating indirectly with the passages in the grate-bars and directly with the fire-box, whereby air is introduced into the grate-bars while heated therein, and is intermingled at the bricks and in the passages there-

through with the products produced by the partial combustion of the fuel upon the grate, substantially as shown and described.

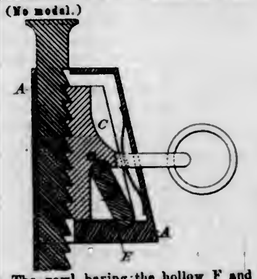
5. The combination of the facing D, provided with dampers D', the hollow grate-bar-supporting beam C, the hollow grate-bars A', the hollow backing B, and channels *c*, combined in the order herein shown and described.

265,033. GRAIN-DRILL GAGE. PHILIP DEVENDING, Kay's Crossing, Ind. Filed Oct. 17, 1881. (No model.)



Claim.—In a grain-drill, the combination, with the forked beam *a*, of the gage B, having arms *b b'*, forked extension C, having perforated arms, and the bolt or pin *c*, substantially as shown and described.

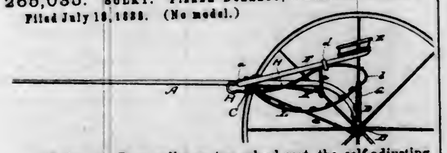
265,034. MODE OF OPERATING PAWLS USED IN LIFTING-JACKS, &c. FRANCIS M. DE WEESE, Chillicothe, Ohio. Filed Apr. 3, 1882. (No model.)



Claim.—1. The pawl having the hollow F and grooved seat G.

2. The oscillating support or supports, in combination with a pawl or pawls, substantially as described.

265,035. SULKY. FISHER DOHERTY, Crawfordsville, Ind. Filed July 19, 1882. (No model.)



Claim.—1. In a sulky or two-wheel cart, the self-adjusting side springs, H, upwardly and rearwardly curved at their front ends and downwardly and forwardly curved at their rear ends, in combination with the cross-bar C and seat-bars F, substantially as specified.

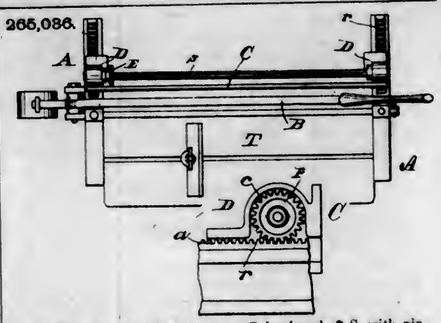
2. In a sulky or two-wheel cart, the shaft-springs K and the arms *c*, connecting the same to the seat-bars F, substantially as specified.

3. In a sulky or two-wheel cart, the combination, with the bow-support D and the transverse half-elliptic spring G, which is attached thereto, of the self-adjusting side springs and the seat-bars, substantially as specified.

4. The side springs, H, clipped to the cross-bar C, and having their upwardly-bent front ends, *a*, attached to the seat-bars, and their under curved rear ends, *b*, attached to the half-spring G, substantially as specified.

265,036. GAGE FOR BOOK-MAKERS' TABLE-SHEARS. EDWARD P. DONNELL, Chicago, Ill. Filed May 15, 1882. (No model.)

265,036.



Claim.—1. An adjustable gage, C, having shaft S, with pinions *p p* secured thereto and meshing with racks *r r*, in combination with hand-screw E on said shaft S, which screws against a bearing, *b*, for the purpose of holding the gage, substantially as described and shown.

2. The adjustable gage C, having heads D D, provided with the recesses *c c* and bearings *b b*, in combination with a shaft, S, pinions *p p*, racks *r r*, and hand-screw E, substantially as shown and described.

265,037. DEVICE FOR HANGING SAWS. EDWARD P. DONNELL, Chicago, Ill. Filed May 4, 1882. (No model.)

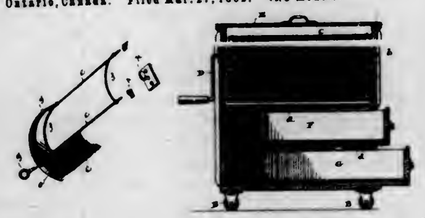


Claim.—1. In a saw-fastening device, the combination of a split collar, C, having its exterior partly tapered and partly screw-threaded, a solid collar, D, having a tapering bore corresponding with the taper of the split collar, to which it is fixed, and a nut, E, adapted to fit the threaded portion of the split collar, substantially as shown and described.

2. A split collar, C, tapered and screw-threaded, as shown and described, and provided with a projection, *c*, a correspondingly-tapered collar, D, with annular projection *e* and a nut, E, in combination with mandrel B, having a groove, *a*, substantially as shown and described.

3. The combination of the tapered and screw-threaded split collar C, having projection *c*, correspondingly-tapered collar D, with annular projection *e*, nut E, having holes *d*, saw A, and mandrel B, having groove *a*, substantially as shown and described.

265,038. CINDER-SIFTER. JOSEPH A. DONOVAN, Toronto, Ontario, Canada. Filed Mar. 27, 1882. (No model.)

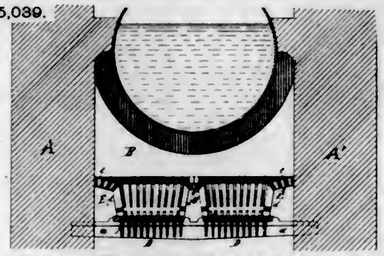


Claim.—1. A cinder-sifter comprising a perforated or wire-gauze cylinder provided with a detachable cover, a closed box carried on wheels, and the two drawers F and G, placed within the box, one below the other, and having their bearing-edges protected by the beveled stripe *d*, substantially as and for the purpose specified.

2. In an ash-sifter, the screening-cylinder having fixed eyes *g* upon one end and pivoted locking-keys *h* upon the other, combined with the door-frame, formed of the curved end bars, *f*, and the side bars, *e*, projecting beyond the bars *f* upon either side, as and for the purpose set forth.

265,039. GRATE FOR BOILER-FURNACES. MURILLO DOWNER and JOSEPH MOHR, Chicago, Ill. Filed Aug. 2, 1882. (No model.)

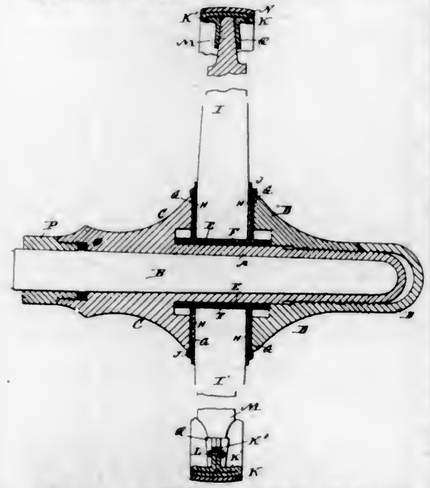
265,039.



Claim.—1. The main grate D in a boiler-furnace, in combination with the sectional perforated angular plates E, consisting of upright grates *d* and inclined top grates, *e*, the whole being constructed and arranged substantially as and for the purpose set forth.

2. In a boiler-furnace, and in combination therewith, the main grate D, the upright grates E, surrounding said grate D, and the grate-box F, consisting of the vertical bars *d'* and longitudinal bars *e'*, and intersecting said grates E, all substantially as and for the purpose set forth.

265,040. VEHICLE-WHEEL. CHARLES DRAULY, Carrizo Springs, Tex., assignor to himself and Tom Deats, Joseph Chapman, and F. Vandervoort, all of Dimmit County, Tex. Filed June 22, 1882. (No model.)



Claim.—1. In a wheel, the combination, with the screw-threaded tube A, provided with an annular shoulder, C, of the screw-threaded sleeve D, having its inner end flared coincidently with the shoulder C and closed at its outer end, said inclosure being cast or formed integral with the sleeve, substantially as shown and described, and for the purpose set forth.

2. In a wheel, the combination, with the tube A, provided with an annular shoulder, C, of the spokes I, the cushion-layer E, the metal layer F on the same, and the nut D, substantially as herein shown and described, and for the purpose set forth.

3. In a wheel, the combination, with the tube A, provided with an annular shoulder, C, of the spokes I, the cushion-layer E, the metal layer F, the flat cushion-rings G, and the flat metal rings H, and the nut D, substantially as herein shown and described, and for the purpose set forth.

4. In a wheel, the combination, with the tube A, provided with an annular shoulder, C, of the spokes I, the cushion-layer E, the metal layer F, the flat cushion-rings G, and the flat metal rings H, provided with an external annular ridge, J, substantially as herein shown and described, and for the purpose set forth.

5. In a wheel, the combination, with the tube A, provided with an annular shoulder, C, and having its outer end closed, of the spokes I and the nut D, substantially as herein shown and described, and for the purpose set forth.

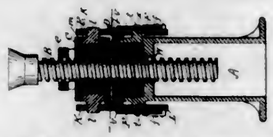
6. In a wheel, a rim made of sheet metal folded to form a head of double thickness and a web of double thickness, substantially as herein shown and described, and for the purpose set forth.

7. In a wheel, the combination, with the hub and spokes, of a rim made of sheet metal folded to form a head of double thickness and a web of double thickness, and sockets in this web for the outer ends of the spokes, substantially as herein shown and described, and for the purpose set forth.

265,041. SHOE AND LEATHER POLISH. JOHN F. EDDLEMON and WILSON L. WALKER, Witcherville, Ark. Filed Apr. 15, 1882. (No specimens.)

Claim.—A shoe and leather polish composed of alcohol, gum-shellac, English rosin, oil of sassafras, caster-oil, lamp-black, and beeswax, mixed in the proportions set forth

265,042. LIFTING-JACK. GILBERT R. ELLIOTT, Moncton, New Brunswick, Canada, assignor of five-eighths to Thomas E. Clary, Norwood, Mass. Filed Apr. 7, 1882. (No model.)



Claim.—1. The combination, in a lifting-jack, of the central lifting-bar, the screw-nuts adapted to rotate alternately around said bar, whereby the bar is partially raised by each alternate turn in the manner shown and described.

2. The combination, in a lifting-jack, of the central screw-bar screw-nuts C D, adapted for alternate rotation, by which the said bar is raised by each partial rotation of the nuts and the line-guides *e e*, whereby the screw-bar is retained centrally in position, for the purpose set forth and shown.

3. In a lifting-jack, the combination of the central screw-bar, the nuts C and D, adapted for alternate rotation, the pin *r*, and springs *f f'*, in the manner shown and described.

4. In a lifting-jack, the combination of the central screw-bar, the upper and lower nuts adapted for alternate rotation, and the cams whereby the weight may be transferred from the nuts while being rotated, in the manner set forth and described.

5. The combination, in a lifting-jack, of the central screw-bar, the screw-nuts provided with a ratchet-wheel, and the cams arranged to raise the weight and simultaneously turn the nuts, for the purpose shown and described.

6. In a lifting-jack, the frame A, provided with a disk having an apertnre through it, the upper side of said disk adapted to form a bearing, the lower nut adapted to rest on said bearing, and the central screw-bar, the said nut having on its periphery ratchet-teeth for the rotation of the same, all combined and arranged to operate in the manner shown.

7. In a lifting-jack, the combination of the central screw-bar, the upper nut having on its upper edge a collar, on its lower side a ratchet-wheel, and a casing having gudgeons and inclosing said nut, the gudgeons being adapted to receive a pair of friction-wheels, in the manner shown and set forth.

8. The frame A, having a cup-shaped recess in its upper portion, a nut fitting said recess, gudgeons *t t*, projecting from and fastened to said frame, the cams L L, working on said gudgeons, and the spring-lever F, working through said cams, whereby the rotation of the cams will also rotate the nut, in the manner and for the purpose described.

9. The combination, in a lifting-jack, of the frame A, nuts C D, cams L, and rollers K, and the bifurcated lever H, combined and arranged for joint operation in the manner shown.

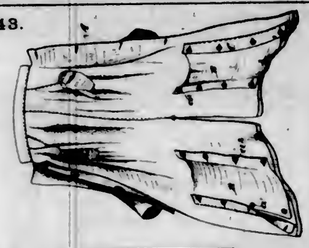
10. The combination, in a lifting-jack, of the central screw-bar, the ratchet-wheeled nuts, and the rings *j*, provided with clutches for the reception of the pins *r*, said rings adapted to carry the pawls by which the nuts are turned, as shown and set forth.

265,043. OVERCOAT. HENRY EMANUEL, New York, N. Y. Filed July 12, 1882. (No model.)

Claim.—1. In combination with the detachable and attachable shield C, a flap permanently secured by one edge to the coat and adapted to overlie and cover the outer edge of the said shield, substantially as described.

2. The combination, with the coat A, having buttons a^2, of a flap, *c*, secured to the inner face of the skirt, near each vertical edge, and provided with button-holes a^2, and a shield, B, having buttons upon one edge and button-holes upon the other, substantially as described.

265,043.



265,044. BRACELET. ALEXANDER EDELMANN, North Attleborough, Mass. Filed Nov. 27, 1878.



Claim.—1. In a bracelet having its wings or side pieces, A, hinged to a central member or plate, a detachable cap or cover constructed and arranged to operate substantially as and for the purpose set forth.

2. The combination, in a bracelet, of a central plate, O, provided with the ribs or flanges *e* for hinging the arms to, and a detachable cap or cover adapted to fit over said plate and ribs, substantially as shown and described.

3. The combination, in a bracelet, of a central section or plate having the wings hinged thereto, with one or more springs, arranged to operate upon said wings, so as to make them close automatically, and a detachable cap or cover arranged to cover said springs and joint-pins, substantially as described

265,045. CALL-BELL. J. YALE FAIRMAN, Middletown, Conn. Filed July 31, 1882. (No model.)



Claim.—1. In a call-bell, the combination, with the annular base, of arms extending therefrom upward to support the gong, and having lateral flanges formed thereon, to which the clapper is suspended, and a vertically-moving plunger having a perforation in its tang, through which passes an arm on the end of the bell-tongue, substantially as described.

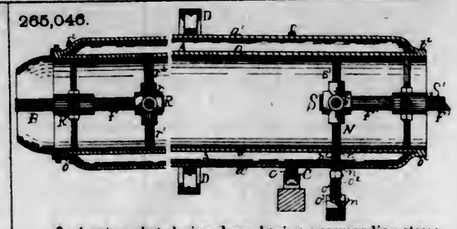
2. The combination, with the vertically-moving plunger provided with a tang having a transverse perforation, of the bell-tongue provided with a curved arm, which projects into the perforation and is free at its outer end, said arm being unattached to the tang, but adapted to freely slide in opposite directions through the said perforation when the plunger is operated, substantially as shown and described.

265,046. LEAD-SHOT-DRYING MACHINE. JOHN FARRELL, Pittsburg, Pa. Filed Apr. 13, 1882. (No model.)

Claim.—1. A rotary shot-drying drum having a steam-jacket surrounding the same, in combination with spider-supports R and S, having tubular passages from their hollow central hubs to the steam-jacket for supply and discharge, and suitable valve mechanism for opening intermittently the discharge-passage from the jacket, substantially as and for the purposes set forth.

2. A rotary shot-drying drum having a surrounding steam-jacket, in combination with spider-supports R and S, having hollow central hubs *r s*, adjustable brace-arms *r' s'*, and tubular radial arms affording steam-passages from the hollow hubs to the surrounding jacket, substantially as set forth.

265,046.



3. A rotary shot-drying drum having a surrounding steam-jacket, in combination with hollow hub *s*, radial brace-arms *s'*, pipe N, having ports *n'*, opening into the jacket, valve *o*, stem *o'*, spring *o'*, and suitable means for raising the valve to open escape-passage while the ports *n'* are on the under side of the drum, substantially as and for the purposes set forth.

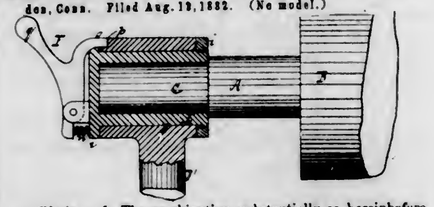
4. The combination of rotary drum *a a'*, spider-supports R R' and S S', pipes F F', leading to the centers of supports R and S in the axial line of the drum, and rotary joint-couplings for connecting the pipes F and F' to stationary pipes, substantially as set forth.

5. The coupling-piece E, having therein chambers *e' e²* and shoulder *e¹*, in combination with collared pipe H, collar *e²*, packing *e³*, gland E', and cap E², substantially as set forth.

6. A rotary shot-drying drum having a steam-jacket surrounding the same, in combination with a tubular axial shaft, spider-frames for support of the drum on such shaft, steam-pipe connections from the tubular shaft to the jacket for supply and discharge of steam, and automatic valve mechanism in the discharge-passage, substantially as described, for intermittent discharge of water of condensation by the steam.

7. A drying-drum having a steam-chamber formed by inner and outer metallic shells welded together at their ends, substantially as and for the purposes set forth.

265,047. JOURNAL-BEARING. GEORGE P. FENNER, New London, Conn. Filed Aug. 19, 1882. (No model.)

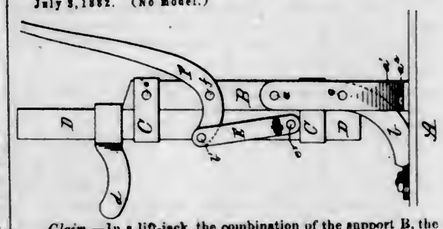


Claim.—1. The combination, substantially as hereinbefore described, of the segmental fixed hub D and the segmental rotating bushing E.

2. The combination, substantially as hereinbefore described, of the segmental fixed hub D, the segmental rotating bushing E, and the stops *i i*, formed at the opposite end of said bushing.

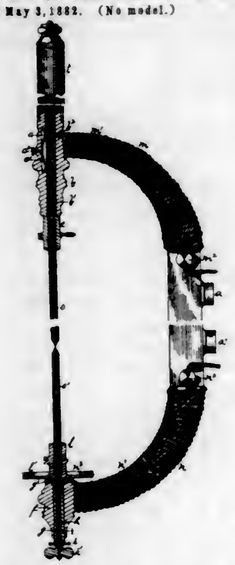
3. The combination, substantially as hereinbefore described, of the segmental fixed hub D, the segmental rotating bushing E, flanged at the opposite ends, the latch pivoted to the bushing and adapted to engage with a notch in the hub, and the spring *n*, acting on the latch.

265,048. LIFTING-JACK. HENRY H. PIPE, Elkdale, Pa. Filed July 3, 1882. (No model.)



Claim.—In a lift-jack, the combination of the support B, the lift-post D, sliding with the keepers C, and provided with an adjustable hook, *d*, the lever F, journaled in the support B, and the link E, journaled to the lift-post and to the end of the lever F, all arranged to operate substantially as and for the purposes set forth.

265,049. ELECTRIC-ARC LAMP. JOSEPH R. FINNEY, Pittsburg, Pa. Filed May 3, 1882. (No model.)



Claim.—1. In an electric lamp, the combination of the core of an electro-magnet having a sleeve composed of two parts, the inner one of which is formed of iron and is the pole of the electro-magnet, and the outer one is of brass or other diamagnetic metal, substantially as and for the purposes described.

2. In an electric lamp, the combination of the core of an electro-magnet having a sleeve, an iron carbon-holder placed in such sleeve, and an adjustable friction device for regulating the friction of the holder in the sleeve, substantially as and for the purposes described.

3. An electric-lamp frame or bracket composed of iron and having vertical sleeves at its opposite ends, the bores of which are in the same axial line, for receiving the stems of the carbon-holders, substantially as and for the purposes described.

4. In an electric lamp, the combination of the carbon-holders with a frame composed of iron and wrapped with the circuit wire or wires, so as to be converted into an electro-magnet, substantially as and for the purposes described.

5. The combination of an iron carbon-holder, an electro-magnet capable of acting on said holder to attract it, and a spring acting on the holder in a reverse direction to that of the attraction of the magnet, substantially as and for the purposes described.

6. The combination of the lower sleeve of the lamp-frame, an insulating-tube placed in the bore of said sleeve, having a flange extending over the top of the sleeve and an inward flange at its lower end, the rod of the lower carbon-holder extending through said tube, and a spring bearing against the lower flange of the tube and sustaining the rod, substantially as and for the purposes described.

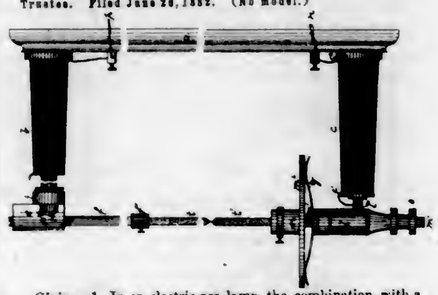
7. The combination of a recessed carbon-rod, capable of an axial movement, with an electric contact device, whereby the circuit of the lamp may be opened or closed, substantially as and for the purposes described.

8. The combination of an iron lamp-frame constituting the core of an electro-magnet, formed by wrapping it with one or both of the circuit-wires, the circuit-wires, one of which is connected to the frame and the other to the lower-carbon holder, and the lower-carbon holder insulated from the frame, substantially as and for the purposes described.

9. A carbon-clamp consisting of a tubular body, a loose segmental section, and an eccentric clamping collar or yoke encircling the same, substantially as and for the purposes described.

10. An upper-carbon clamp consisting of a tubular body, a loose segmental section, a lug extending from the segment into a recess in the tubular body, or vice versa, and a clamping collar or yoke encircling the same, substantially as and for the purposes described.

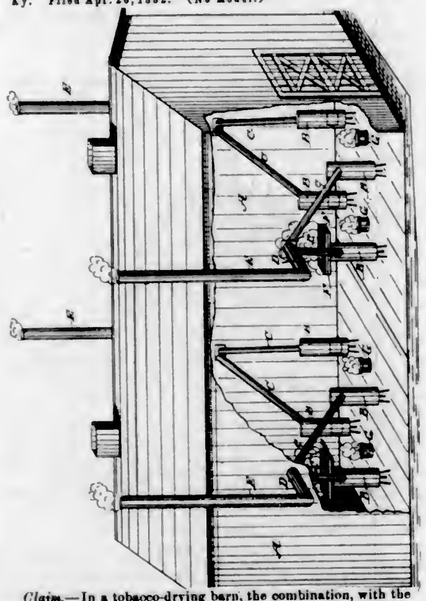
265,050. ELECTRIC-ARC LAMP. JOSEPH R. FINNEY and LOUDON CAMPBELL, Pittsburg, Pa., assignors to T. B. Kerr, Trustee. Filed June 26, 1882. (No model.)



Claim.—1. In an electric-arc lamp, the combination, with a carbon-holder or feed-rod, of a diamagnetic sleeve or case wherein the feed-rod slides, a pivoted diamagnetic lever having one end forked and the other faced with iron, and an electro-magnet arranged within the circuit, substantially as and for the purpose specified.

2. In an electric-arc lamp, the combination of an upper-carbon holder or feed-rod, a diamagnetic sleeve or case wherein said feed-rod slides, a pivoted diamagnetic grip-lever provided with an iron facing to act as an armature, and an electro-magnet, with a lower-carbon holder having a pendent stem, a sleeve wherein the stem of said holder slides, an interposed spring, and a second electro-magnet, the electro-magnets being arranged within the circuit and insulated from each other, substantially as and for the purposes specified.

265,051. TOBACCO-DRIER. JAMES H. FITCH, Millersburg, Ky. Filed Apr. 26, 1882. (No model.)



Claim.—In a tobacco-drying barn, the combination, with the heaters B, arranged in two parallel rows on opposite sides of the floor of the barn, of the elbow-pipes D E, leading from the sides of the barn above the roof, and the inclined pipes C, extending in pairs from the heaters to the pipes D E, substantially as and for the purpose set forth.

265,052. BROOM-SOCKET. ALVAH S. FLINT, Crete, Nebr. Filed May 15, 1882. (No model.)

Claim.—1. The combination of the socket B, provided with slits *b b'*, shoulders *c c'*, holes *d* and *e*, with wires *f* and *w*, and broom A, the socket being concealed and holding a handle, H, substantially as shown and described.

2. The combination of the wire *w* with the socket B and wire *f*, the wire *w* being between the socket B and wire *f*, substantially as shown and described, and for the purpose set forth

265,052.



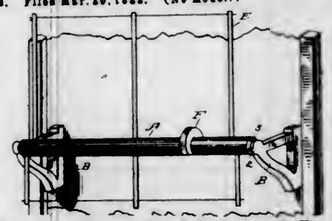
265,053. FAUCET. GEORGE T. FREEMAN, Whippany, N. J. Filed July 10, 1882. (No model.)



Claim.—1. The shank A, door F, link E, and lever D, combined with the cap H, having cylindrical portion A and threaded portion *h'*, and the whole adapted to serve as set forth.

2. The combination of the shank A, as described, the door F, link E, and lever D with the faucet I, having shank I', and annular recess *i*, as and for the purposes specified.

265,054. PILLOW-SHAM HOLDER. GILBERT B. FRENCH, Lynn, Mass. Filed Mar. 20, 1882. (No model.)

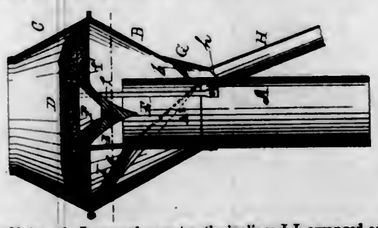


Claim.—1. In a pillow-sham holder, the weight F, combined with the frame E and pivoted rocker-shaft A, whereby the frame is held back against the head-board when turned up, substantially as set forth.

2. In a pillow-sham holder, the combination, with the head-board or corner-posts of a bedstead, of the brackets B, the rock-shaft A, and the pillow-sham frame attached to the rock-shaft and extending back of the same, as described.

3. In a pillow-sham holder, the combination, with the bracket B, frame E, and rocker-shaft A, of the stud-pin 3, fixed on the shaft and adapted to engage with a suitable boss in the bracket to stop the motion of the shaft, and thereby hold the frame suspended, substantially as described.

265,055. SPARK-ARRESTER. SAMUEL L. FRENCH and RICHARD B. MULLEN, Ligonier, Pa. Filed Jan. 31, 1882. (Model.)

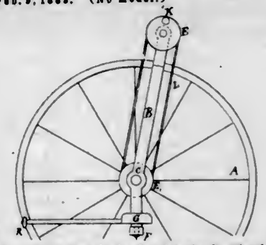


Claim.—1. In a spark-arrester, the inclines I I, arranged and constructed to form a ridge-line, *i*, extending downwardly from the upper end of the section B to the upper end of sleeve A', and continuously-inclined surfaces upon each side and around said sleeve to the lower opposite side of said section, substantially as shown and described.

2. The combination of the section B, sleeve A', and inclines I I, forming the ridge-line *i*, inclined above the upper end of the sleeve, as shown, with the stack A, supports E, and the deflector F, having continuously-curved smooth sides *f* and flange *f'* extending at right angles, substantially as shown and described.

3. The combination of the stack A, section B of a diameter at its base equaling that of the stack, double inclines I, screen D, and discharge-pipe H, with a deflector having continuously-curved smooth sides *f* and base-flange *f'* extending at right angles, substantially as shown and described.

265,056. VELOCIPEDE. WILLIAM GABLE and CHARLES H. PELTON, Springfield, Ohio; said Gable assignor to said Pelton. Filed Feb. 9, 1882. (No model.)

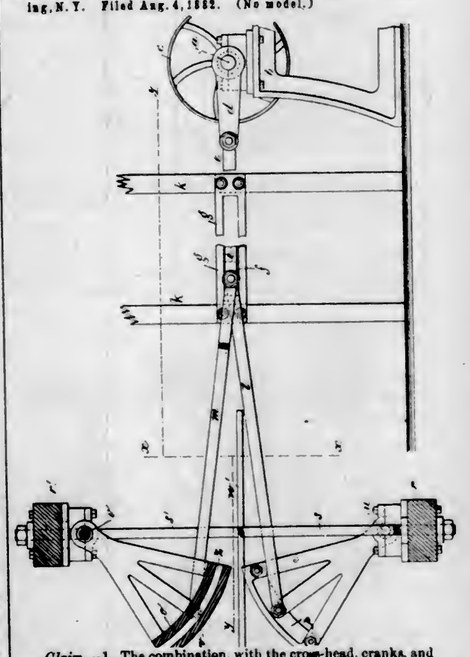


Claim.—1. In a velocipede, the single wheel supporting the rider at two points, G G, on the frame on each side of the wheel, said two points being below the center in a line parallel to the axis or shaft.

2. In a single-wheel velocipede, a frame having stirrups or points of support G G, for sustaining the weight of the rider below the center of the wheel, combined with hand-crank K and suitable mechanism for transmitting the power to the main wheel, substantially as described.

3. The steering apparatus, consisting of the spurs J J and stirrups G G, pivoted to the points of support in such manner as to be pressed against the rim of the wheel by a movement of the foot, as described.

265,057. EMBOSSING-MACHINE. GEORGE W. GARMAN, Flushing, N. Y. Filed Aug. 4, 1882. (No model.)



Claim.—1. The combination, with the cross-head, cranks, and links, of the connecting-rods *l m*, the sectors *o p*, embossing plate

or block, and the head-blocks *r* and *r'* and their connections, the parts being arranged so that the sectors *o p* separate to allow of the movement of the material that is being embossed, substantially as set forth.

2. The head-blocks *r* and *r'* and adjusting screw-rods and nuts, in combination with the sectors *o p*, the connecting-bearings and pivots, the embossing plate or surface, and the connecting-rods and means for giving to such rods and to the sectors the movements specified.

265,058. CAR-COUPLING. DAVID W. GLIDDEN, Montrose, Pa. Filed Jan. 14, 1882. (No model.)



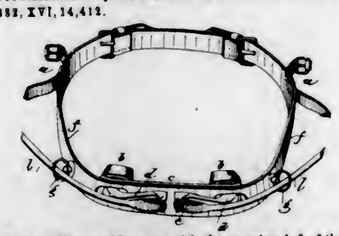
Claim.—1. The combination, substantially as before set forth, of the draw-bar, the movable jaws pivoted therein by a single bolt, (the inner face of one of said jaws—the draw-hook—being provided with a hooked projection, and the inner face of the other—the guard—being plain-surfaced,) and the spring for holding the free ends of said jaws in contact.

2. The combination of the draw-head, the draw-hook, the guard provided with a clearing-finger, and the spring, all constructed and arranged substantially as hereinbefore set forth.

3. The combination of the draw-bar, the draw-hook and guard pivoted therein, the spring for holding the free ends of the draw-hook and guard in contact, and means, substantially as before set forth, for moving the draw-hook and guard asunder.

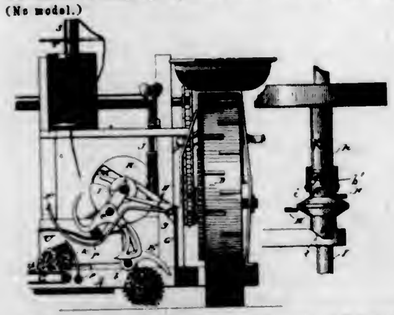
4. The combination, substantially as before set forth, of the draw-bar, draw-hook, the guard, the spring for holding the guard in contact with the hook, and the elbow-lever pivoted to the draw-hook.

265,059. DEVICE FOR STOPPING RUNAWAY HORSES. JACQUES GOUDET and GABRIEL DUROSAD, Lyons, France. Filed Aug. 4, 1882. (No model.) Patented in France July 31, 1880, No. 138,073; in Belgium July 3, 1882, No. 58,367; in England (Provisional) July 11, 1882, No. 3,277, and in Italy July 14, 1882, XVI, 14,412.



Claim.—The combination, with the nose-band *f*, of the spring *c*, pressers *b*, levers *d*, pivoted to the spring *c*, and the lines *l*, substantially as and for the purposes set forth.

265,060. AUTOMATIC BINDER. GEORGE F. GREEN, Kalamazoo, Mich., assignor to William M. Whiteley, Jerome Fassler, and Oliver S. Kelly, Springfield, Ohio. Filed Aug. 10, 1880. (No model.)



Claim.—1. In an automatic binder on the plane of the apron-carrier and receiving grain directly therefrom, a band-carrying arm in and forming part of the grain-receptacle, and which rises therefrom to separate and compress the bundle, combined with a set of stop-fingers, *k*, mounted upon a shaft parallel with the cord-carrier shaft and below the plane of the apron-carrier, and mechanism whereby said fingers are raised and supported while the band-carrier is in action.

2. In an automatic binder, the following instrumentalities in combination: a band-carrying arm, which also operates as a separating and compressing arm, mounted upon and moved by a shaft at the lower side of the receptacle, a counter-compressor mounted upon and moved by a shaft above the receptacle, and provided with ends widened in the direction of its movement, so that it may drop behind the discharged bundle and prevent its return, and mechanism whereby said separator and counter-compressor have imparted to them their several movements, as described.

3. The main shaft I, provided with the sliding clutch *h* and the circular bevel-edged disk *i*, combined with the bifurcated arm H, the ends whereof are in contact with opposite sides of said disk, as set forth, and the loose cam-disk K, substantially as described.

4. In an automatic binder, the following instrumentalities in combination: a band-carrying arm, which also acts as a separating and compressing arm, which is mounted on a shaft at the lower side of the receptacle, a pivoted arm, F, above the receptacle to receive the upward thrust of the accumulated grain supported below by said receptacle, a bifurcated arm, H, connected with and controlled by said arm F, and a circular bevel-edged disk, *i*, on the clutch *h*, in engagement with said arm H, whereby the clutch mechanism is operated to start the binding mechanism by the accumulation of grain sufficient for a sheaf, in the manner set forth.

5. The pivoted arm F, above the receptacle, and the bifurcated arm H, attached to said arm and in engagement with the clutch-disk *i* to actuate the same by the upward or downward motion of said arm, combined with the spring J and means whereby the tension of said spring may be varied at will, for the purpose set forth.

6. The adjustable grain-guide U and its operating-lever V, combined with a retracting-spring, W, substantially as set forth.

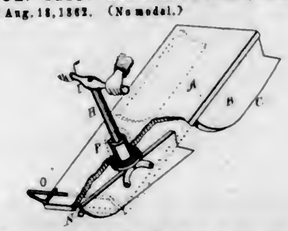
7. The band-carrying arm E, which also acts as a separating and compressing arm, and its shaft *b*, and the stop-fingers *k* on the shaft *p*, combined with a mutilated pinion, Q, on the shaft *b*, the reciprocating rack R, and the pinion on the shaft *p*, whereby the fingers *k* receive the proper periodic motion from the shaft *b*.

8. The spool-stand provided with a hollow spindle, S, and the disk T above the spool or ball, whereby the cord may pass over the edge of said disk and down through said hollow spindle, and be fed uniformly from all sides of the spool.

265,061. LETTER AND FIGURE. JOHN GUNNING, New York, N. Y., assignor of one-half to A. M. Ingersoll, same place. Filed Aug. 19, 1882. (No specimens.)

Claim.—As an improved article of manufacture, letters and figures made of enamel baked on copper or other metal plates, substantially as and for the purpose herein described.

265,062. SLED. ROBERT A. HALDEMAN, Cincinnati, Ohio. Filed Aug. 18, 1882. (No model.)

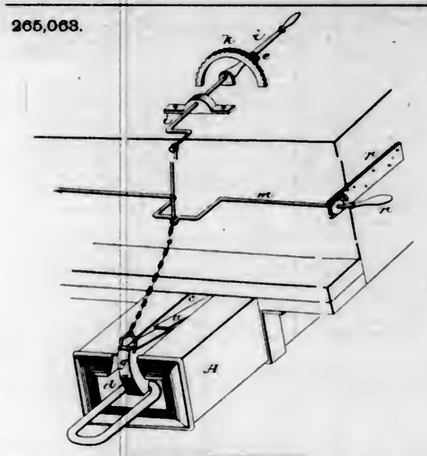


Claim.—In sleds, the seat having at its forward end the boxing D, provided with the flange E and lugs F, in combination with the swivel H, having the cross-handle I, shoulder J, lug K, ears L, and runner M, attached thereto, substantially as herein set forth.

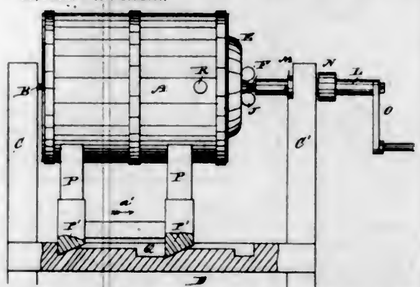
265,063. CAR-COUPLING. HALE H. HAWK, Kansas City, Mo. Filed Jan. 4, 1882. (No model.)

Claim.—In a device for controlling the automatic coupling and uncoupling of cars, a rod having a U-shaped projection working transversely across the end of a car, and provided with a suitable handle, in combination with a series of rods connected to the locking-bar in the draw-head, and operated from the top or side of said cars at will by suitable securing and releasing devices attached to said rods, substantially as described.

265,063.



265,064. CHURN. HENRY HAYS, Bridgeport, Cal. Filed Apr. 28, 1882. (No model.)

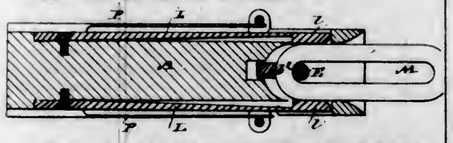


Claim.—1. The combination, with the cream-box A, constructed substantially as described, and provided with pintle B, of the threaded pintle F, provided with nut J for securing the cover E, journal-shaft L, provided with threaded end aperture, K, adapted to receive the said pintle F, groove L', latch M, and means for operating the cream-box, substantially as set forth.

2. The combination, with the cream-box A, of the cover E, the clips H, the cross-piece G, the threaded pintle F, the winged nut J, and the journaled shaft L, provided with a threaded end aperture, K, substantially as herein shown and described, and for the purpose set forth.

3. The combination, with the journaled serrated cream-box A, the standards C C', and the base D, provided with longitudinal grooves Q, having the ends beveled, of the supporting-frame P, having beveled tenons P', sliding in the grooves Q, substantially as herein shown and described, and for the purpose set forth.

265,065. CAR-COUPLING. FRANCIS M. HARLETON, Red Bluff, Cal. Filed Mar. 11, 1882. (No model.)



Claim.—1. In a car-coupling, the combination, with the draw-head A, provided with the recess *a*, the coupling-pin E, and the link M, of the sliding block B, provided with the downwardly-projecting lug b^2 and a rearwardly-projecting stem, *b*, the spring *c*, surrounding the said stem, and the plate or abutment *d*, contained in the said recess, substantially as herein shown and described, whereby the link-pin is supported when uncoupled and prevented from jolting out of place when coupled, as set forth.

2. In a car-coupling, the combination, with the draw-head A and the coupling-link M, of the spring-actuated sliding block B, provided with the downwardly-projecting lug b^2 and the side springs, L, provided with the projections *l*, substantially as and for the purpose set forth.

265,066. MANUFACTURE OF REFRACTORY FURNACE-LININGS. JAS. HENDERSON, Bellefonte, Pa., assignor to Charles G. Francklyn, New York, N. Y. Filed July 31, 1882. (No specimens.)

Claim.—The compound for furnace-linings or fire-brick, consisting of silica and alumina and water in the proportions specified and set forth.

265,067. ART OF LINING FURNACES, &c. JAS. HENDERSON, Bellefonte, Pa., assignor to Charles G. Francklyn, New York, N. Y. Filed June 21, 1882. (No specimens.)

Claim.—The compound for furnace-linings or fire-brick, consisting of lime or magnesian lime, oxide of iron, and water in the proportions specified and set forth.

265,068. COMPOUND FOR FURNACE-LININGS. JAS. HENDERSON, Bellefonte, Pa., assignor to Charles G. Francklyn, New York, N. Y. Filed Aug. 10, 1882. (No specimens.)

Claim.—1. The compound for furnace-linings and fire-brick, consisting of silica, a vegetable substance from which starch or sugar may be extracted, oxide of iron, and water, as specified and set forth.

2. The compound for furnace-linings and fire-brick, consisting of silica, glucose, oxide of iron, and water, as specified and set forth.

265,069. COMPOUND FOR FURNACE-LININGS AND FIRE-BRICK. JAS. HENDERSON, Bellefonte, Pa., assignor to Charles G. Francklyn, New York, N. Y. Filed Sept. 1, 1882. (No specimens.)

Claim.—The compound for furnace-linings and fire-brick, consisting of oxide of iron, ninety parts; lime or magnesian lime, ten parts, and water, as specified and set forth.

265,070. COMPOUND FOR FURNACE-LININGS AND FIRE-BRICK. JAS. HENDERSON, Bellefonte, Pa., assignor to Charles G. Francklyn, New York, N. Y. Filed Aug. 17, 1882. (No specimens.)

Claim.—The compound for furnace-linings and fire-brick, consisting of silica, magnesia, and water, as specified and set forth.

265,071. COMPOUND FOR FURNACE-LININGS AND FIRE-BRICK. JAS. HENDERSON, Bellefonte, Pa., assignor to Charles G. Francklyn, New York, N. Y. Filed Sept. 1, 1882. (No specimens.)

Claim.—The compound for furnace-linings or fire-brick, consisting of silica, glucose, water, and lime, or its herein-described equivalents, as specified and set forth.

265,072. COMPOUND FOR FURNACE-LININGS AND FIRE-BRICK. JAS. HENDERSON, Bellefonte, Pa., assignor to Charles G. Francklyn, New York, N. Y. Filed Sept. 1, 1882. (No specimens.)

Claim.—1. The compound for furnace-linings and fire-brick, consisting of silica, a vegetable substance from which starch or sugar may be extracted, magnesia, and water, as specified and set forth.

2. The compound for furnace-linings and fire-brick, consisting of silica, glucose, magnesia, and water, as specified and set forth.

265,073. COMPOUND FOR FURNACE-LININGS AND FIRE-BRICK. JAS. HENDERSON, Bellefonte, Pa., assignor to Charles G. Francklyn, New York, N. Y. Filed Sept. 1, 1882. (No specimens.)

Claim.—1. The compound for furnace-linings and fire-brick, consisting of a compound of fluor-spar and lime or magnesian lime and water, in the proportions specified, fritted, and then ground and mixed with an addition of fluor-spar and lime or magnesian lime and water, in the proportions specified and set forth.

2. The process of making a compound for furnace-linings or fire-brick, consisting in mixing fluor-spar and lime or magnesian lime and water, in the proportions specified, fritting the same, and then grinding the fritted mass and mixing it with fluor-spar and lime or magnesian lime (unfritted) and water, in the proportions specified and set forth.

265,074. COMPOUND FOR FURNACE-LININGS AND FIRE-BRICK. JAS. HENDERSON, Bellefonte, Pa., assignor to Charles G. Francklyn, New York, N. Y. Filed Sept. 1, 1882. (No specimens.)

Claim.—The compound for furnace-linings and fire-brick, consisting of silica and magnesian lime and water in the proportions specified and set forth.

265,075. COMPOUND FOR FURNACE-LININGS AND FIRE-BRICK. JAS. HENDERSON, Bellefonte, Pa., assignor to Charles G. Francklyn, New York, N. Y. Filed Sept. 8, 1882. (No specimens.)

Claim.—The compound for furnace-linings and fire-brick, consisting of oxide of iron, lime or magnesian lime, and water and a vegetable substance from which starch or sugar may be derived, substantially as specified and set forth.

265,076. MANUFACTURE OF REFRACTORY FURNACE-LININGS AND FIRE-BRICK. JAS. HENDERSON, Bellefonte, Pa., assignor to Charles G. Francklyn, New York, N. Y. Filed Aug. 23, 1882. (No specimens.)

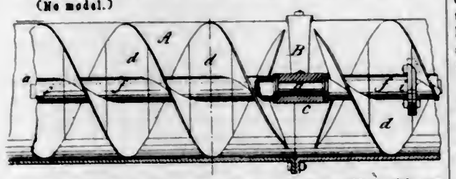
Claim.—1. The process of hardening the surface of refractory linings or fire-brick, consisting of coating the surface thereof with a mixture of a vegetable binding agent and water and drying them, as specified and set forth.

2. The process of hardening the surface of refractory linings or fire-brick, consisting of coating the surface thereof with a mixture of glucose and water and drying them, as specified and set forth.

265,077. MANUFACTURE OF REFRACTORY FURNACE-LININGS AND FIRE-BRICK. JAS. HENDERSON, Bellefonte, Pa., assignor to Charles G. Francklyn, New York, N. Y. Filed Aug. 31, 1882. (No specimens.)

Claim.—The compound for furnace-linings and fire-brick, consisting of silica, a vegetable substance from which sugar or starch may be derived, and water, as specified and set forth.

265,078. SCREW-CONVEYER. WILLIAM WALTER HEWITT, Swanscombe, County of Kent, England. Filed June 29, 1882. (No model.)

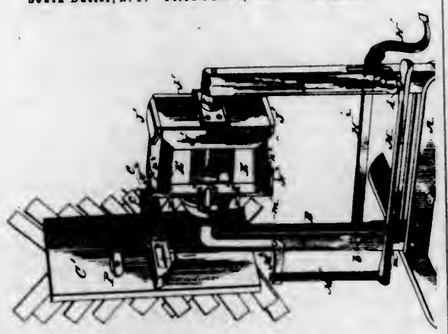


Claim.—1. In conveyers, the trough A, provided with an outer jacket, so as to form a space at the outside of the trough for receiving steam, hot air, or water, as and for the purposes specified.

2. In screw-conveyers, the U-shaped trough A, having the hangers B, with their upper ends resting thereon, and converging at their lower ends to support the conveyer-shaft boxes or bearings centrally in said trough, substantially as and for the purpose set forth.

3. The conveyer-sections *d*, formed with couplings *i*, substantially as shown and described.

265,079. BASKET-MAKING MACHINE. JEROME HIBBARD, South Butler, N. Y. Filed June 5, 1882. (No model.)



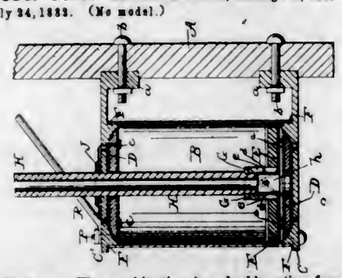
Claim.—1. In a basket-making machine, a former having rigid flaring sides, combined with a form having face-pins, means, substantially as described, for forcing the said former against the form, and means, substantially as described, for automatically forcing the completed basket off the form, all substantially as and for the purpose herein set forth.

2. A form having face-pins adapted to receive and hold the basket-blank, and loosely hung upon a bar, combined with a former similarly hung, and with means for forcing them together, all substantially as and for the purpose hereinbefore set forth and shown.

3. The former E, having pins *e*, and the frame N, having arms N³, with shoulders *n*³, combined with the former J, and with means for automatically forcing a basket off the form as the former is withdrawn, all substantially as and for the purpose hereinbefore shown and set forth.

4. The lever H, having pin *h*, and the lever M M', combined with the frame N, having arms N³ *n*³, the spring N², the swiveled form E and former, and operating means, all substantially as and for the purpose hereinbefore shown and set forth.

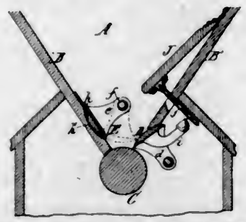
265,080. PUMP. ALFRED A. HINDS, Lexington, Ind. Filed July 24, 1882. (No model.)



Claim.—1. The combination, in a double-acting force-pump, of the cylinder, the cylinder-heads, the angular lugs formed thereon, the valves D D_1 the piston provided with vertical and lateral passages, the valves *d d*, and the tubular piston-rod, all constructed and arranged to operate substantially in the manner and for the purposes described.

2. In a double-acting forcing-pump, the combination of the cylinder-heads, the lugs formed thereon and bolted to the staff A, the cylinder, the bolts P, and the braces R, all constructed and adapted to operate substantially in the manner and for the purposes described.

265,081. FEED MECHANISM FOR ROLLER-MILLS. NOAH W. HOLT, Buffalo, N. Y., assignor to Richard K. Noye and E. Hayward Noye, both of same place. Filed Jan. 6, 1882. (No model.)



Claim.—1. The combination, with the feed-hopper, of the cut-off plate E, pivoted within the feed-hopper, feed-roller C, and automatic feed-plate D, substantially as set forth.

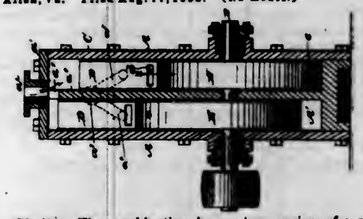
2. The combination, with the feed-plate D, of mechanism whereby the same can be automatically operated, mechanism whereby the plate D can be adjusted independent of the automatic mechanism, and means whereby either the automatic mechanism or the adjusting mechanism can be connected with the plate D, substantially as set forth.

3. The combination, with the feed-roller C, of the feed-plate D and mechanism whereby one of its pivots can be adjusted toward and from the feed-roller, substantially as set forth.

4. The combination, with the feed-hopper and the plate D, provided with pivots *k l*, of a pivoted plate, M, carrying the pivot *l*, and provided with a slot, m³, and thumb-screw *m'*, substantially as set forth.

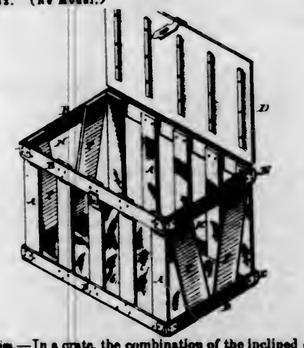
5. The combination, with the feed-hopper and the plate D, provided with pivot *l*, of the arm N, screw-bolt *n*, spring P, and lug *p*, substantially as set forth.

265,082. ROTARY STEAM-ENGINE. GEORGE HOPKINS, Glen Allen, Va. Filed Aug. 17, 1882. (No model.)



Claim.—The combination, in a rotary engine, of a steam-chest directly communicating with a steam-chamber having a continuous cylindrical wall, a partition having a passage, as *a'*, two drums each having a single abutment, and two valves having oppositely-arranged induction and eduction ports, substantially as shown and described.

265,083. CRATE. ANDREW J. HORSEY, Laurel, Del. Filed Aug. 3, 1882. (No model.)



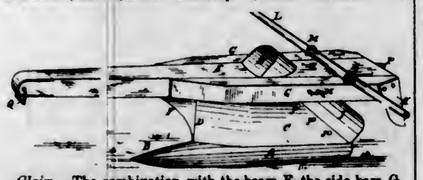
Claim.—In a crate, the combination of the inclined end slats, F, meeting at the bottom and diverging at the top, with the rectangular top and bottom rims, B, of uniform size, the vertical side slats, A, and the bottom board, C, as and for the purpose set forth.

265,084. HARROW-TOOTH. HARLAN S. HOWARD, Charles City, Iowa. Filed Sept. 1, 1881. Renewed Aug. 24, 1882. (Model.)



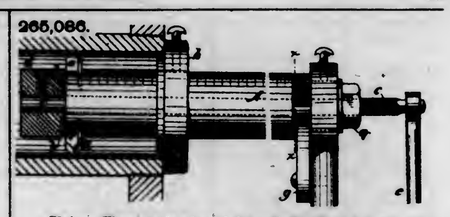
Claim.—A harrow-tooth having its shank constructed in the form of a square in cross-section, and its lower portion in the form of a rhomboidal pyramid, formed by gradually changing the plane of the bevel from that of the shank, and terminating in a point, substantially as specified.

265,085. DITCHING AND TILE-LAYING MACHINE. ANDREW S. HUGHES, Elders, Iowa. Filed Apr. 4, 1882. (Model.)



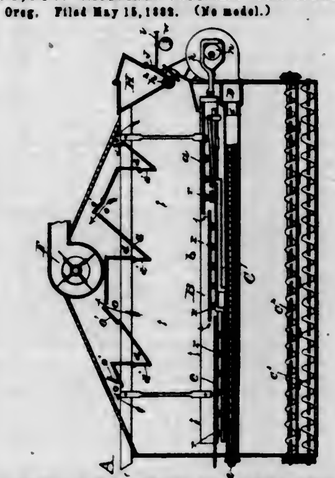
Claim.—The combination, with the beam E, the side bars, G, the cylindrical and pointed opener A B, the diverging blades C, the colter F, the inclined chute H I, and the scrapers K, of the balancing-pole L, secured to the upper surface of the side bars at right angles to the line of draft and projecting beyond the sides of the same, substantially as and for the purpose set forth.

265,086. TUBE CUTTER OR EXPANDER. ABRAM C. HUGHES, Portland, Pa. Filed May 17, 1882. (No model.)



Claim.—The combination of the radially-grooved hollow bar A, tools *a*, scroll-block *d*, and screw-threaded rod *e* with the screw-nut *g*, for holding the tools *a* in engagement with the scroll of the block *d*, as shown and described.

265,087. MIDDLINGS-PURIFIER. JOHN D. HURST, Salem, Oreg. Filed May 15, 1882. (No model.)

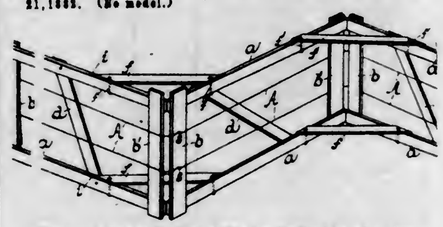


Claim.—1. In a middlings-purifier, the combination of the adjustable rubber *r*, consisting of a strip, *f*, covered with suitable soft substance, sliding piece S, and slide S', with the slotted frame A, angle-bar *h*, and set-screws for adjusting the slides vertically, substantially as shown and described.

2. In a middlings-purifier, the combination, with the reciprocating frame B, and the screens *a b c*, arranged at different levels in a series upon said reciprocating frame, of the series of adjustable rubbers *r*, arranged at different levels to suit the screens, and mechanism for operating said rubbers in such a manner as to sweep the entire under surface of the screens, substantially as shown and described.

3. In a middlings-purifier, the combination of the blower-fans E E, a series of graduated and perforated tubes, C C, the reciprocating frame B, screens *a b c*, arranged thereon in an overlapping series at different levels, the adjustable rubbers *r r*, hopper H, irregular portion G, having valved openings, the dead-air chamber *d*, and the exhaust-fan F, all substantially as and for the purpose described.

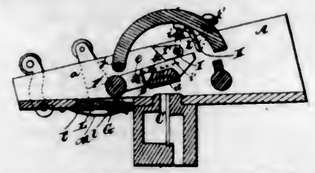
265,088. FENCE. THOMAS HUSTON, Kokomo, Ind. Filed June 21, 1882. (No model.)



Claim.—A fence consisting of the longitudinal boards *a*, having slots *i*, end boards, *b l*, incline brace *d*, corner-brace *f*, bolt

and nut *f'*, and wire A, the whole being constructed in the manner described.

265,089. MECHANICAL MUSICAL INSTRUMENT. G. W. ISBALLS, Worcester, Mass. Filed June 16, 1882. (No model.)



Claim.—1. In combination with a reed-board, a valve-bar for closing the reed-ducts and a crank-shaft for holding said bar against the mouths of said ducts by positive pressure.

2. In combination with a reed-board and a valve-bar for closing the months of the reed-ducts, a cam-shaft for holding said bar against the months of said ducts by positive pressure, and springs which tend to force said bar away from said reed-board.

3. A pair of pivoted arms, E, and a transverse valve-bar attached thereto on one side of the pivots, in combination with a reed-board and a cam-shaft, the came on said shaft being arranged to bear against said arms when said shaft is suitably turned and adapted to lock said bar positively against the months of the reed-ducts.

4. A pair of pivoted arms, E, in combination with valve-bar D, which is journaled thereto, a reed-board, and a crank-shaft which forces said valve-bar against the months of the reed-ducts.

5. A valve-bar journaled in pivotal supports, in combination with a reed-board and devices for moving said bar and supports toward and from said reed-board.

6. A reed-board, a valve-bar for closing the reed-ducts, and pivoted supports for said bar, in combination with a feed-roll, also mounted on said supports and on the other side of the pivots, and a rock-shaft, cams, and springs operating to lock down either said feed-roll or said valve-bar, as described.

7. A pair of pivoted arms provided on one side of their pivots with a valve-bar and on the other with a feed-roll, in combination with springs for forcing said roll down and said valve-bar up, and a rock-shaft provided with cams which are adapted to lock said valve-bar down and said feed-roll up, or to lock both of them in a raised position, as set forth.

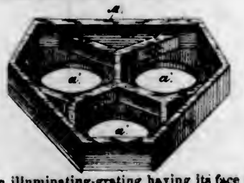
8. An upper feed-roll for an automatic musical instrument, journaled to a pair of pivoted arms, in combination with a cam-shaft operating on said arms to positively raise the upper feed-roll from the lower feed-roll, substantially as set forth.

9. A pair of pivoted arms, E, in combination with a roll journaled to one end of each of said arms and a cam-shaft operating on the other end of said arms to raise said roll.

10. The lower feed-roll of an automatic musical instrument, journaled in a hinged piece of the casing thereof, in combination with a spring attached to the casing of the instrument and bearing upon the outside of the hinged piece, but not bearing directly upon the roll, thereby forcing the lower feed-roll toward the other feed-roll, substantially as specified.

11. Pivoted lever or bar N, having a cam-face, N', on its lower end, in combination with a lower feed-roll, which is movable away from the upper feed-roll, said cam-face being arranged to bear upon a protruding part on the shaft of said roll and to depress the same, substantially as set forth.

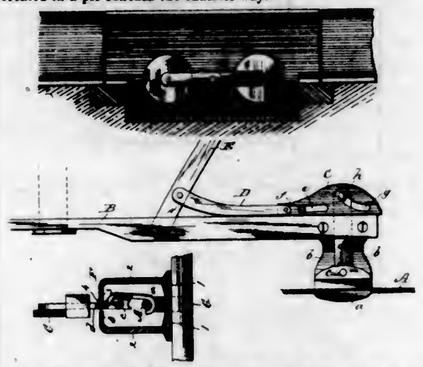
265,090. ILLUMINATING-GRATING. JACOB JACOBS, New York, N. Y. Filed Oct. 13, 1880. (Model.)



Claim.—An illuminating-grating having its face recessed for the reception of a non-slippery filling, provided with light-openings which are arranged in rows, and the openings of contiguous rows dodged, and having between said openings vertical intersecting flanges, which are each arranged at right angles to the radius of two of the same, substantially as and for the purpose specified.

265,091. CABLE-TRACTION. ORLANDO H. JASWIS, Brooklyn, N. Y. Filed Mar. 16, 1882. (No model.)

Brief.—A gripper consists of a draft-bar having a stationary shoe and a movable clamping-foot having a shank and a pin at its upper end, and is operated by a sliding cam-plate having a diagonal slot and moving in guides on top of the draft-bar, and connected to a lever by a rod. A channel-way is composed of two channel-bars having their inwardly-projecting base-flanges abutting against each other and of greater lateral projection than the top flanges. Compensating pulleys secured in suitable frames are located in a pit beneath the channel-way.

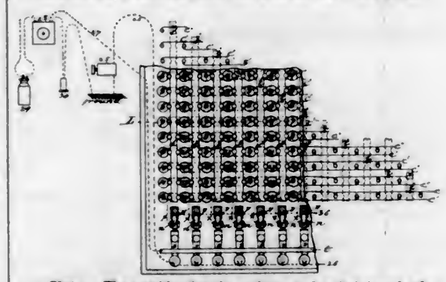


Claim.—1. The combination, with the draft-bar B and its stationary shoe, of the movable clamping-foot having a shank, *d*, with a pin at its upper end, the sliding cam-plate C, having diagonal slot and moving in guides on top of the draft-bar, the connecting-rod D, and the lever E, substantially as shown and described.

2. The cable channel-way composed of two channel-bars of like transverse form and dimension, having their inwardly-projecting base-flanges 1 1 of greater lateral projection than the top flanges, 3 3, and having their said inwardly-projecting base-flanges abutting against each other, substantially as shown and described.

3. The combination, with the channel-way and the compensating pulleys, with their frame G, located in a pit beneath the same, of the short channel-bars I I, having inwardly projecting and abutting flanges at their ends and without inner flanges at their middle portions, as shown and described.

265,092. SWITCH-BOARD FOR TELEPHONE SYSTEMS. JOSEPH JUPSON, Westfield, Mass. Filed Feb. 3, 1882. (No model.)

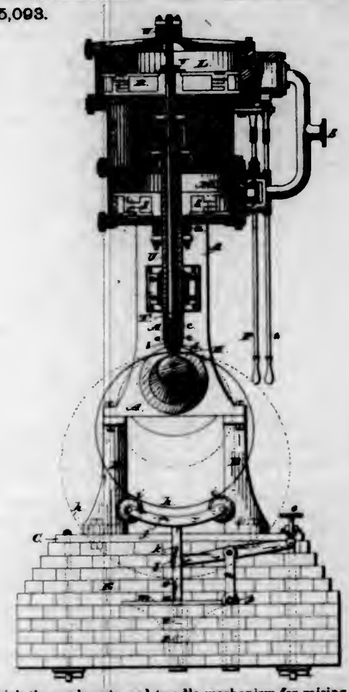


Claim.—The combination, in an improved switch-board, of a series of circuit-strips, each connected with one of the circuits of the system, a series of connecting-wires, each connected with one of the circuit-strips, and a series of plates or disks arranged at right angles to the length of said strips, said disks and strips alternating with each other, and each alternate disk in a direction at right angles to the length of the strips being connected to the same connecting-wire, whereby any two circuits in the system may be electrically connected by a single plug at either one of two places, substantially as described.

265,093. WORK-SUPPORTING FRAME. CHARLES G. JOHNSON, New Orleans, La. Filed Mar. 28, 1882. (No model.)

Claim.—1. In a riveting-machine, the combination, with the horn or anvil and the riveting-dies, of a work-supporting frame composed of a vertically-movable frame provided with rollers on

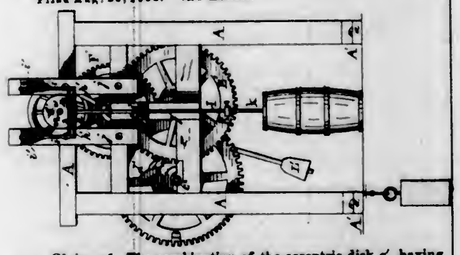
265,093.



which the work rests, and treadle mechanism for raising and lowering the work-supporting frame, substantially as described.

2. In a riveting-machine, the combination, with the horn or anvil and the riveting-dies, of a work-supporting frame composed of the arms *j*, carrying rollers *i*, on which the work rests, a vertical post, *k*, connected with the roller-carrying arms, and a pivoted lever, *l*, connected with the post at one end and the other end connected with a treadle, *o*, substantially as described.

265,094. CHURN-MOTOR. ADRIAN JOHNSON, Ringgold, Ga. Filed Aug. 23, 1882. (No model.)



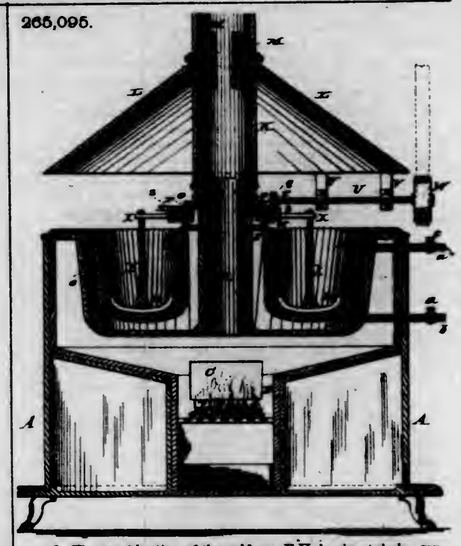
Claim.—1. The combination of the eccentric disk *g'*, having a series of holes for a wrist-pin at different distances from the center of motion, with the cross-head A' of a pitman-bar having guides *i i*, substantially as and for the purpose described.

2. The combination, in a motor, of the eccentric disk having a series of holes, as described, the cross-head of a pitman, the shaft G, the crank and wrist-pin *g'*, and the adjustable pendulum and rod, all substantially as and for the purpose described.

265,095. APPARATUS FOR THE MANUFACTURE OF SOAP. JAMES J. JOHNSTON, Columbiana, Ohio, assignor to the United States Improvement Company, (Limited,) same place. Filed Feb. 25, 1882. (No model.)

Claim.—1. The combination of the furnace A, caldrons F H having tubular centers G I, circular rails N P, wheel R, having carrier-rollers Q and arms X Y Z, and a driving mechanism, substantially as herein described, and for the purpose set forth.

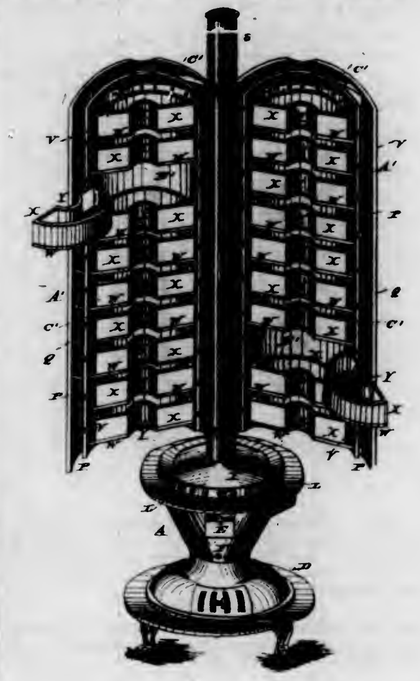
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2. The combination of the caldrons F H, having tubular centers G I, flue K, having pipes M, and canopy L, substantially as herein described, and for the purpose set forth.

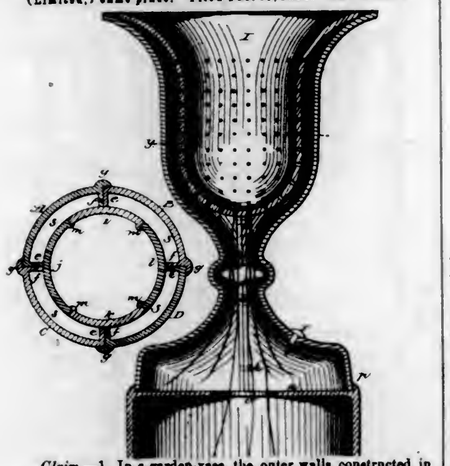
3. The combination of the caldron F, having center flue, G, pipes *a b*, caldron H, having tubular center I, flue K, having pipes M, and canopy L, substantially as herein described, and for the purpose set forth.

265,096. FRUIT-DRIER. JAMES J. JOHNSTON, Columbiana, Ohio, assignor to the United States Improvement Company, (Limited,) same place. Filed Feb. 28, 1882. (No model.)



Claim.—In a fruit-drier, the heat-chamber P, having spirally-arranged partitions Q, communicating with the air-heating chamber J of the stove A, said chamber surrounding the fruit-drying chamber C', having pivoted supports W and semicircular fruit-trays X, which have recesses Y, said chamber constructed in two parts, which are hinged together and adapted to inclose the flue S of the stove A, substantially as herein described, and for the purpose set forth.

265,097. GARDEN-VASE. JAMES J. JOHNSTON, Columbiana, Ohio, assignor to the United States Improvement Company, (Limited,) same place. Filed Feb. 23, 1882. (No model.)



Claim.—1. In a garden-vase, the outer walls constructed in sections having flanges *e f* and bead *g*, in combination with the earth-chamber I, constructed in sections having bead *m*, and said sections being held together and supported upon the flanges *e f*, substantially as herein described, and for the purpose set forth.

2. In a garden-vase, the outer walls constructed in sections having flanges *e f* and bead *g*, and earth-chamber I, constructed in sections having bead *m*, and said sections held together and supported upon the flanges *e f*, in combination with the water-reservoir J, constructed in one piece with opening *o*, substantially as herein described, and for the purpose set forth.

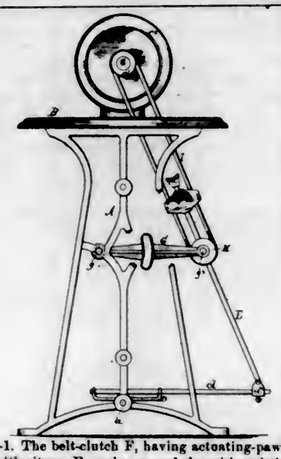
265,098. FLOWER-VASE. JAMES J. JOHNSTON, Columbiana, Ohio, assignor to the United States Improvement Company, (Limited,) same place. Filed Feb. 23, 1882. (No model.)



Claim.—A flower-vase consisting of pedestal A, having earth-chamber C, and detachable sections D, D, D, and E, rabbeted at F, so as to be interchangeable, and for increasing or diminishing the depth of the earth-chamber, substantially as described, and for the purpose set forth.

265,099. TREADLE-MOVEMENT FOR SEWING-MACHINES. PIERRE F. JOUTY, Cincinnati, Ohio. Filed May 9, 1881. Renewed June 10, 1882. (No model.)

265,099.



Claim.—1. The belt-clutch F, having actuating-pawls *f'* and *f''* engaging with pitman E, as shown, and also with resisting-pawls *f³ f⁴* by means of segmental gear *f⁵*, as and for the purpose set forth.

2. The permanent collar *e* and adjusting-collar *e'*, in combination with pawls *f' f''* and *f³ f⁴*, for adjusting the degree of their opening around the belt, substantially as described.

3. The pawls *f' f³ f'' f⁴*, in combination with the pitman, and so arranged that when one pair grasps the belt the other will simultaneously release the same, substantially as and for the purpose set forth.

4. The brake K, placed directly on the pitman, in combination with pulley *e'*, as set forth.

5. Endless belt I, pulley *e* on the driving-shaft, and mechanism for actuating said belt, in combination with tightening devices independent of said mechanism, and consisting of pulley H, arm G, and clamping-screw *g'*, substantially as and for the purpose set forth.

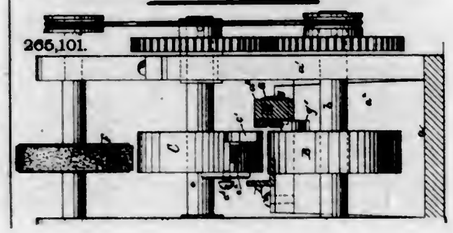
265,100. POOL-BOTTLE. TIMOTHY KENON and JOSEPH A. BOURKE, New York, N. Y. Filed Mar. 11, 1882. (No model.)



Claim.—1. As an improved article of manufacture, the pool-bottle A, provided with the lever D, pivoted between lugs on a band surrounding the neck of the bottle, the pins F, pivoted to the said lever on opposite sides of its pivot and at such a distance apart as to receive a ball between them, and the spiral spring G, interposed between the bottle and lever and surrounding the rear pin, the said pin serving the double purpose of preventing the escape of the balls and a guide for the spring, substantially as herein shown and described, and for the purpose set forth.

2. The combination, with the pool-bottle A, of the band B, provided with the lugs C, made integral therewith, the lever D, the pins F, and the spiral spring interposed between the bottle and lever, and surrounding the rear pin, substantially as and for the purpose set forth.

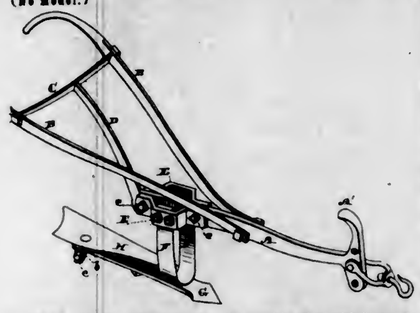
265,101.



265,101. TAG OR TICKET NUMBER PRINTING PRESS. JOHN KELLER, New York, N. Y. Filed Mar. 29, 1882. (No model.)

Claim.—In a tag-printing machine, the combination, with the feed and printing mechanism, substantially as described, of the adjustable side guide on the table, and the transversely-reciprocating arm G, operating through slotted guide E as a stop for the notched tag-strip, as specified.

265,102. DITCHING-PLOW. GEORGE O. KIRKPATRICK and ABRAHAM KIRKPATRICK, Bridgeport, Cal. Filed June 6, 1882. (No model.)

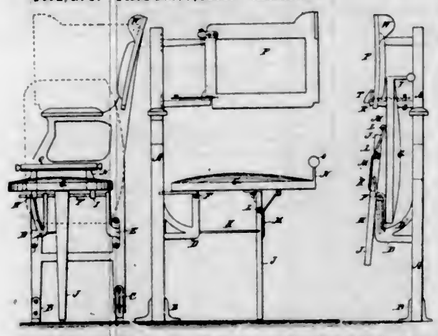


Claim.—1. In a ditching-plow, in combination with beam A, the U-shaped blade or share F, bolted to the beam, the underlying point or nose G, bolted to the share F, and the elongated mold-board H, bolted to the inclined rear portion of the nose G, behind the share, substantially as and for the purpose herein described.

2. In a ditching-plow, the U-shaped share or blade F, bolted to the plow-beam, the nose or point G, bolted to the share F, and having an inclined rear portion, and the elongated mold-board H, secured upon the nose G behind the blade F and rendered adjustable by the bolt *c*, and thimble *b*, substantially as and for the purpose herein described.

3. A ditching-plow consisting of the beam A, handles B, the brackets or loops E E, U-shaped blade or share F, point or nose G, and mold-board H, all arranged and constructed substantially as herein described.

265,103. OPERA-CHAIR. BERNHARD H. KOECHLING, New York, N. Y. Filed Feb. 8, 1882. (Model.)



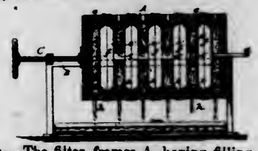
Claim.—1. In an opera-chair, the combination, with the frame A and the laterally-hinged seat G, of the inclined bracket D, having curved upper edge, and the hinge eye-strap H, having projecting notched end, substantially as herein shown and described, whereby the said seat receives a forward and rearward movement while being lowered and raised, as set forth.

2. The combination, with the bracket D, laterally-hinged seat G, hinged leg J, and rod K, of the spring M, whereby the seat rises automatically into a vertical position as soon as released from downward pressure, as described.

3. The bracket D, having its outer arm inclined rearwardly from its outer end and arc-shaped upon its upper edge, the bracket E, inclined forwardly from its outer end, and the rod F, arranged in eyes at the upper ends of said brackets, in combination with the hinged seat G and the eye-straps H I, the straps H having a notch in the projecting ends, as shown and described, whereby the seat will be carried forward when it is being lowered and rearward when being turned up, as described.

4. In an opera-chair, the combination, with the seat G, the seat-back P, and the pintle-bracket S, of the seat-back hinge, of the pivoted and slotted trip-bar U, having arm U', substantially as herein shown and described, whereby the upward movement of the seat will move the seat-back forward, as set forth.

265,104. FILTER-PRESS. ALEXANDER C. LAUBRY, New Orleans, La., assignor to himself and Charles Lauga, same place. Filed July 11, 1882. (No model.)



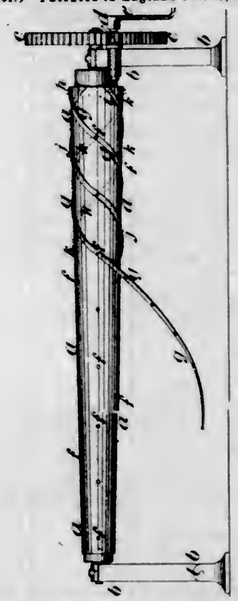
Claim.—The filter-frames A, having filling-openings *c*, in combination with the perforated plates *b*, the beveled strips *b'*, the thimble *c*, and the false bottom *k*, with outlet-pipe, as shown and described.

265,105. REAPING OR MOWING MACHINE KNIFE. VALENTINE LAPHAM, Marion, assignor of two-thirds to John S. Frank, same place, and J. B. Frank, Mansfield, Ohio. Filed Jan. 2, 1882. (No model.)



Claim.—In combination with the bars A A, the connecting-bolts D, the knives E, provided with the curved lugs G, adapted to engage under the said bolts, and with curved recesses F, into which the said lugs are adapted to set, the plates B and C, and the locking-plate H, and locking device N, all arranged substantially as and for the purposes specified.

265,106. DEVICE FOR FORMING LATTICE-PILLARS. ROBERT BRISTOW LEE, Manchester, County of Lancaster, assignor to James Hodgson, Ulverstone, England. Filed July 26, 1882. (No model.) Patented in England Oct. 25, 1881, No. 4,670.



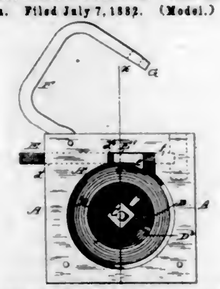
Claim.—1. A rotary mandrel provided with pins *f*, set in its periphery in a series of spirals.

2. A tapering mandrel provided with pins *f*, set in its periphery, substantially as and for the purpose set forth.

3. The combination of the tapering mandrel having pins in its periphery with supporting-standards, one of which is movable, substantially as specified.

4. The combination of the mandrel having pins in its periphery with standards, gearing, and operating-handle, as described.

265,107. PERMUTATION-PADLOCK. SANDRE H. LEIKVOL, Appleton, Minn. Filed July 7, 1882. (Model.)



Claim.—In a permutation-lock, the combination, with the circularly-chambered case having the apertured front plate and the apertured staple or bolt, of the circular notched tumblers having the varying-sized projections upon their inner circumferences, the tongued spindle, the slide or bar having the tooth or projection bearing upon the peripheries of the tumblers and adapted to connect with the staple and the dial B, substantially as specified.

265,108. NECKTIE-HOLDER. GEORGE L. LEWIS, Boston, assignor, by mesne assignments, of one-half to Charles S. Gooding, Brookline, Mass. Filed Jan. 30, 1882. (No model.)

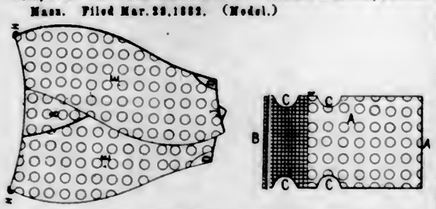


Claim.—1. A necktie-holder consisting of the metal neckband C, having the spring-clamps B, and provided with one or more flattened spiral springs, D, the ends of said neckband extending within said spiral springs having wires or other connecting devices E, provided with a spring clasp or fastening, G, as and for the purposes set forth.

2. A necktie or scarf holder consisting of the metal neckband C, having clamps B, flattened spiral springs D, and wires E, provided with a clasp or fastening, G, substantially as described, as and for the purposes set forth.

3. A necktie-holder consisting of the metal neckband C, having clamps B, flattened spiral springs D D′, wires E E′, clasp G, and support-wires F F′, constructed and arranged to operate substantially as shown and described, as and for the purposes set forth.

265,109. REVERSIBLE NECKTIE. GEORGE L. LEWIS, Boston, Mass. Filed Mar. 28, 1882. (Model.)



Claim.—1. The flat double reversible center-piece A B, provided with scallops C, and adapted to fold transversely, substantially as described, as and for the purposes set forth.

2. A necktie consisting of the double reversible center-piece A B, provided with scallops C, and the reversible side pieces, E, provided with notches D and openings J, adapted to be retained in position with the center-piece by means of the curved wire F, having hooks H, substantially as described, as and for the purposes set forth.

3. The reversible side pieces, E, provided with notches D and openings J, adapted to receive a retaining-wire to support a center-piece, as and for the purposes set forth.

265,110. COMBINED STEREOSCOPE AND GRAPHOSCOPE. WM. H. LEWIS, Brooklyn, assignor to E. & H. T. Anthony & Co., New York, N. Y. Filed May 20, 1882. (No model.)



Claim.—1. The detachable handle B, in combination with the slotted bar or slide C, to which it is jointed, the socket *d*, attached to the box *e*, and the lazy-tongs frame E, fitted to engage with and disengage from said slotted slide C, essentially as and for the purpose or purposes herein set forth.

2. In a stereoscope or graphoscope, the combination, with the holder of the lens or lenses and picture-holder, of a lazy-tongs frame having its opposite terminal bars at each of its ends geared together to work in unison, substantially as specified.

3. The combination, with the adjustable bar D of the graphoscopic lens, of the frame I and a pair of stereoscopic lenses, also made adjustable up or down said bar, essentially as herein described.

4. The combination, with the adjustable bar D of the graphoscopic lens, of the adjustable frame I and the stereoscopic lenses H, provided with toothed gears *k*, substantially as and for the purpose set forth.

5. The combination of the adjusting-screw J with pivoted arms *i i* of the lenses H H and toothed gears *k k*, connecting said arms, to insure their working in unison, essentially as shown and described.

265,111. CLOVER-HULLER. DAVID LIPPY, Mansfield, Ohio. Filed May 8, 1882. (No model.)

Claim.—1. In a clover-huller, the agitating-frame composed of the alternating longitudinally-reciprocating bars *a* and the laterally-rocking bars *b*, substantially as set forth.

2. In a clover-huller, the agitating-frame composed of the alternating longitudinally-reciprocating bars *a* and the laterally-rocking bars *b*, having space-notches cut upon their sides, and the crank-pins J and bar I, for the purpose of giving the bars *b* a simultaneous rocking movement, substantially as set forth.

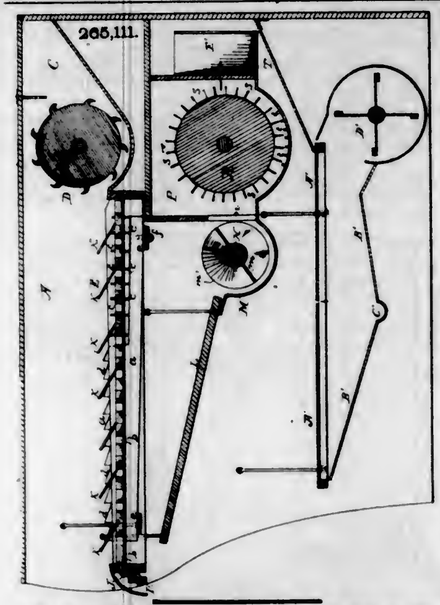
3. In a clover-huller, the combination of the trough M, having an outlet at one end, means for conveying the grain to that end and driving it through the outlet, the hopper P, and mechanism for moving the seed therein in an opposite direction to its movement in the trough M and hulling it, substantially as set forth.

4. In a clover-huller, the combination of the trough M, having an outlet at one end, the spiral shaft N and scraper *m*, the hopper P, and the hulling-cylinder R, provided with the blades *u* on its end opposite to the inlet to the hopper, the outlet for the grain being at the opposite end of the hopper, substantially as set forth.

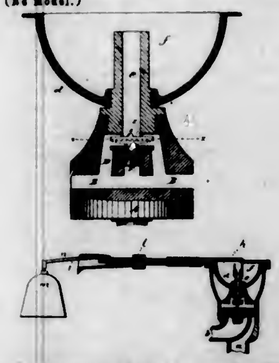
5. In a clover-huller, the agitating-frame, the trough M, having a perforated bottom, an outlet at one end, and means for carrying the grain to said end and driving it through the outlet, in combination with the hopper P and the hulling-cylinder R, substantially as set forth.

6. In a clover-huller, the hopper P, having an inlet at one end and an outlet at the other, in combination with the blade *w* and the hulling-cylinder R, provided adjacent to the inlet with the blades *u*, and in combination with the blade *w*, substantially as set forth.

265,111.



265,112. WATER-CLOSET VALVE. HENRY S. LORD and CORNELIUS BIRNEY, Hartford, Conn., assignors to the Hartford Sanitary Plumbing Company, same place. Filed July 12, 1882. (No model.)



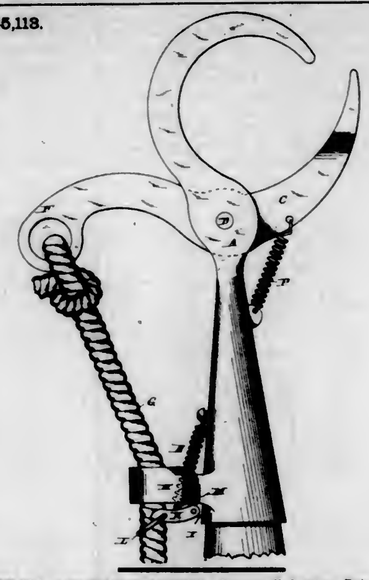
Claim.—1. The combination of the valve by which the flow to the bowl is opened and closed, an escape-passage from above the valve, a valve arranged to operate in connection with said escape-passage to partially close the said passage when the flow of water is admitted and open said passage when the flow is cut off, substantially as described.

2. The valve A, constructed with water-passages B into a chamber, D, the escape-passage *e*, opening into said chamber D, the valve E, arranged in said chamber and below the passage *e*, the said valve arranged to partially close the said passage *e* when the water is admitted and open said passage when the flow is cut off, substantially as described.

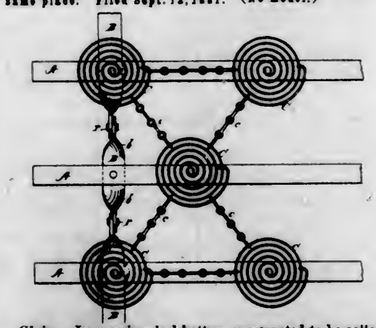
265,113. ANIMAL-CATCHER. JOHN W. LORDS, Fenwick, Mich. Filed July 12, 1882. (No model.)

Claim.—The combination, with the pivoted jaws of an animal-catcher, one of which is provided with a bracket having an eye or aperture, of a rope secured to one jaw and passing through the bracket, a clutch pivoted below the bracket and adapted to bind against the rope, a ring secured to the clutch, through which the rope passes, and a spring for holding the clutch in normal position, substantially as specified.

265,118.

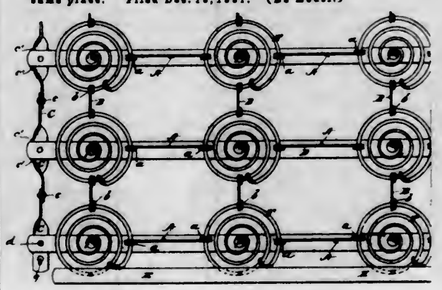


265,114. SPRING BED-BOTTOM. MELVIN N. LOVELL, Erie, Pa., assignor to the Lovell Manufacturing Company, (Limited,) same place. Filed Sept. 12, 1881. (No model.)



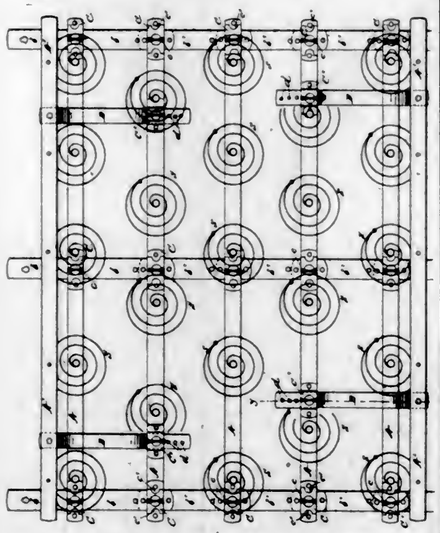
Claim.—In a spring bed-bottom constructed to be rolled up, a jointed cross-stay formed of sections of strap-iron, which are bent at each end from a horizontal to a vertical plane by a right-hand turn at one and a left-hand turn at the other end, and having a horizontal slat-seat in the middle, with shoulders on each side formed by the upturned edges of the bar.

265,115. SPRING BED-BOTTOM. MELVIN N. LOVELL, Erie, Pa., assignor to the Lovell Manufacturing Company, (Limited,) same place. Filed Dec. 16, 1881. (No model.)



Claim.—In a spring bed-bottom, the combination, with the springs thereof, of links which connect the springs and have their ends bent in the form of helices of greater diameter than the wire forming the springs, the coils of which may be separated or clinched together, as described, so that the links may be attached or detached without unwinding the coils or helices.

265,116. ADJUSTABLE SPRING BED-BOTTOM. MELVIN N. LOVELL, Erie, Pa., assignor to the Lovell Manufacturing Company, (Limited,) same place. Filed July 10, 1882. (No model.)



Claim.—1. A spring bed-bottom formed of sections, consisting of a longitudinal strip, A, having thereon a line of springs, S, sections of the transverse strips connected with and extending laterally from said strip A, and clips or clamps for detachably connecting said sections of the transverse strips with those on an adjoining section of the bed, substantially as and for the purposes set forth.

2. In a spring bed-bottom, the transverse strips, made of sections, which are detachably attached together and to the longitudinal strips, whereby any one of said sections of said strip or all of them can be readily removed and replaced, substantially as set forth.

3. In a spring bed-bottom, the transverse strips, made of sections, which are severally connected with the longitudinal strips, and are detachably connected together by clips in a manner substantially as set forth, whereby the width of said bed can be adjusted by the adjustment of said sections within said clips.

4. In a spring bed-bottom which is made of sections, consisting of a longitudinal strip having thereon a line of springs and a section of the transverse strip detachably connected therewith and extending therefrom laterally, the combination therewith of securing clamps or clips placed at the intersection of the sections of the transverse strips with the longitudinal strips, and of sufficient capacity to admit of several of the said sections of the transverse strips sliding upon each other therein, substantially as shown, whereby the several sections composing said bed can be brought in close proximity with each other, for the purposes mentioned.

5. In a spring bed-bottom, the transverse strips, made of sections of flexible metallic bars, which are detachably connected together and with the longitudinal strips severally, and are adjustable one upon the other, so as to regulate their aggregate length, substantially as shown, whereby the said bed-bottom is adjustable in width and may be rolled up into a roll, collapsed together, or sectionally disconnected, as set forth.

6. In a spring bed-bottom, the transverse slats or strips, made of sections of flexible metallic bars, adjustably connected together by securing-clips in a manner substantially as set forth, whereby the said bed may be adjusted as to width and may be rolled up without affecting the said adjustment.

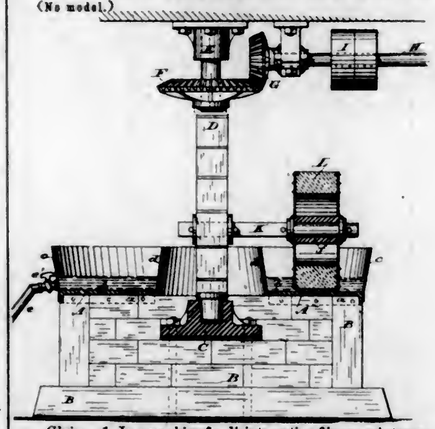
7. In a spring bed-bottom, the combination of longitudinal slats A, supporting the springs S, the transverse slats formed of sections *b b'*, &c., the clips C, and the clamping-screw *c*, all substantially as and for the purposes mentioned.

8. In a spring bed-bottom, the combination of the strips A, clips C, with lugs *c'*, with the notched sections *b b'*, &c., substantially as shown.

9. In a spring bed-bottom, a brace for staying the outer rows of springs, which has its inner end adjustably connected with one of the inner lower longitudinal strips, substantially as shown.

10. In a spring bed-bottom, the combination of the strips A, supporting the springs, the strips A' on the top of the outer row of springs, the brace D, and adjusting clamping-clip C' on the inner strips, A, as shown.

265,117. MACHINE FOR DISINTEGRATING FIBROUS MATERIAL. FRANZ LÜPT, New Orleans, La. Filed Feb. 25, 1882. (No model.)



Claim.—1. In a machine for disintegrating fibrous substances, the bed-plate A, provided with a roughened surface having points *b*, in combination with a revolving stone, substantially as set forth.

2. In a machine for disintegrating fibrous substances, the bed-plate provided with points *b* on the surface, and made in sections having downward-projecting flanges *a*, by which and suitable bolts the sections are secured together, substantially as described.

3. In a machine for disintegrating fibrous substances, the bed-plate A, having points *b* and annular rims *c d*, in combination with a roller, L, attached to a horizontal shaft, K, secured to the shaft D, substantially in the manner shown, and for the purpose specified.

4. In a machine for disintegrating fibrous substances, the roller L, consisting of a spider, to which the stone face is secured, and having its sides faced with metal provided with points, as and for the purpose set forth.

5. A machine for disintegrating fibrous substances, consisting of a bed-plate, A, with points *b*, an annular basin, an upright shaft, D, to which the horizontal shaft K is secured, having a roller, L, with roughened sides, and operated by means of a suitable gearing, all constructed and arranged substantially as specified.

265,118. BOTTLE-STOPPER. GERHARD LUTTIG and HENRY E. G. LUTTIG, New York, N. Y. Filed Aug. 30, 1882. (No model.)



Claim.—A cork or stopper for bottles, formed with an enlarged wooden head having an elongated neck, the inner edge of said neck being beveled or cut away to form a groove, and an elastic ring fitting in said groove and compressing the cork-body, substantially as and for the purpose set forth.

265,119. BOY'S JACKET. HOWARD LYNCH, New York, N. Y., assignor to Robert K. Davies & Company, same place. Filed June 12, 1882. (No model.)

Claim.—The combination, with a jacket open in the back, to be closed by buttons and button-holes, of the folds A B, each being stitched to the closed front on one side and at the ends, leaving the two adjacent edges free and provided with a series of eyelet-

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holes through which is laced a cord, *b*, and a collar, open only in front, attached to the neck of the jacket, as described, and provided at its free ends with eyelet-holes *c c' c' c'*, whereby the said ends are secured to the top of the front of the jacket by means of the said lacing-cord, all constructed and arranged as described.

265,120. FRUIT-WASHER. CHARLES E. MARSHALL, Lockport, N. Y. Filed June 15, 1882. (Model.)

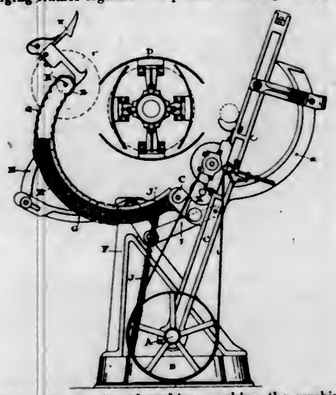


Claim.—1. The combination of vessel *a*, perforated false bottom *b*, filler *c*, and spout *h*, substantially as described.

2. The combination of bent hasp *i*, arranged obliquely to the side of the vessel *a*, with cover g_1, substantially as described.

265,121. BARREL-MAKING MACHINE. JAMES MASSIE, Toronto, Ontario, Canada. Filed May 27, 1882. (No model.)

Brief.—A collapsible drum, about which the barrel-staves are to be set up, is used in combination with a surrounding frame consisting of a swinging frame pivoted to the base of the machine and a second frame pivoted to the first and operated by a system of levers fulcrumed on the bed-frame and connected by links to the swinging frames. A peculiar catch device is provided to hold the swinging frames together and permit them to part slightly.



Claim.—1. In a barrel-making machine, the combination, with the cylinder for supporting the staves, of a grasping-frame divided in two parts, the main portion of which is journaled upon the machine-frame and the other half pivoted to the main grasping-frame, and a lever pivoted to the machine-frame and connected by links to opposite members of the grasping-frame, substantially as described.

2. In a barrel-making machine, the combination, with the cylinder for supporting the staves, of the grasping-frame C, pivoted at its lower end to the machine-frame, the grasping-frame E, pivoted at its lower end to the frame C, the lever G, pivoted to the machine-frame, and the links H I, for connecting the upper and lower ends, respectively, of the lever with the grasping-frames E C, substantially as described.

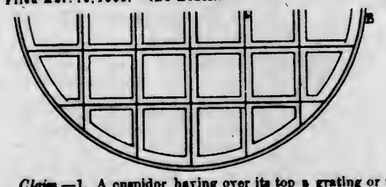
3. In a barrel-making machine, the combination, with a revolving cylinder for supporting the staves and a grasping-frame made of two hinged parts open at one end, of a coupling for connecting the loose ends, provided with a spring, P, to allow the two parts to spread open to admit the passage of staves of different sizes, substantially as described.

4. In a barrel-making machine, the combination, with a revolving cylinder, D, and the two-part grasping-frame C E, of the pivoted catch N, the spring O, and an elastic cushion, P, the parts being arranged to hold the grasping-frames together and yet allow them to spread partly open, substantially as described.

5. The combination of the main grasping-frame C, having ribs *a* to correspond with the cylinder D, with the auxiliary frame E, lever G, link H, and locking device N, as and for the purposes set forth.

6. The combination, with the lever G and link H, of the spring J, lug J', frame E, and frame C, the said spring serving to counterbalance the weight of the frame E and assist its upward movement when the frame C is thrown forward by the operator.

265,122. CUSPIDOR. JEAN A. MATHIEU, Port Leyden, N. Y. Filed Mar. 16, 1882. (No model.)



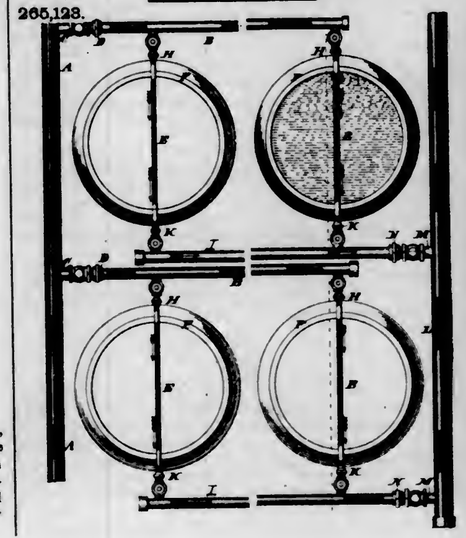
Claim.—1. A cuspidor having over its top a grating or netting adapted to partially conceal its contents, substantially as shown and described.

2. A cuspidor in whose mouth is suspended a receptacle for an absorbent or disinfectant, substantially as herein shown and described.

3. The combination of the cuspidor A, grating B, having bars *b b*, and cup F, suspended from grating B, substantially as herein shown and described.

4. The combination of the cuspidor A, cup F, suspended in the mouth thereof, and disinfectant G, as and for the purposes set forth.

265,123.



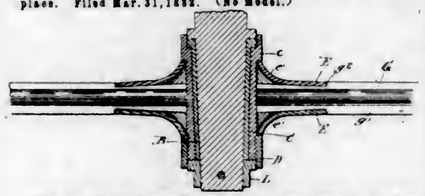
265,123. APPARATUS FOR COOLING BEER, &c. CHARLES G. MAYER, Melvoe, Ill., and EDMUND JUNGENFELD, St. Louis, Mo., assignors to the Empire Refrigerating Company, St. Louis, Mo. Filed July 6, 1882. (No model.)

Claim.—1. The combination of main pipe A, branch pipe or pipes B, one or more sections, E, vat or vats F, pipe or pipes I, and pipe L, all arranged substantially as and for the purpose set forth.

2. The combination of main pipe A, branch pipes B, sections E, vats F, and pipes I L, the said pipes being provided with valves and the sections being made removable, and being connected to the pipes B and I at points outside the vats and below the upper edge thereof, substantially as and for the purpose set forth.

3. The combination of main pipe A, branch pipes B, sections E, vats F, pipes I, and pipe L, the said pipes being connected together by means of short lengths and couplings, substantially as described, and the lengths being provided with valves, for the purpose set forth.

265,124. WHEEL FOR VEHICLES. MALCOLM MCDOWELL, Chicago, Ill., assignor of one-fourth to Walter G. Coolidge, same place. Filed Mar. 31, 1882. (No model.)



Claim.—1. In a metallic wheel, the cast central hub-box, shouldered as described, and having a polygonal surface, in combination with corrugated wrought-metal disk-rings bent or flared outward at their inner edges, and provided with central polygonal openings corresponding to the hub-box, and the fastening-nut on the end of the hub-box, substantially as described.

2. The wrought-metal hub-plates corrugated, as described, to form sockets for the spokes when fastened together, substantially as set forth.

3. The cast central hub-box having a polygonal surface, in combination with the wrought-metal plates corrugated to form sockets when fastened together, and metal spokes inserted in the sockets formed by the two plates and extending inward, with their inner ends resting on the flat surfaces of the polygonal hub-box, substantially as and for the purposes set forth.

4. The metal spokes G, provided with tapering side wings, g', notched at g^3, as specified, substantially as and for the purpose set forth.

5. The wrought-metal hub-plates E, provided with corrugations e, corresponding to the size of the spokes, in combination with the spokes G, provided with side ribs, g', notched at g^3 to form shoulders, and fastening bolts or rivets F, substantially as described.

6. The polygonal hub-box C, in combination with the wrought-metal hub-plates E, corrugated to form spoke-sockets when fastened together on the box, and the metal spokes G, provided with side ribs, g', having notches g^3, against which the upper edges of the plates abut, substantially as described.

7. The wrought-metal tire H, provided with a central web, h, of less width than the tire, and openings h', passing through the web, in combination with the wrought-metal spokes G, the upper ends of which are inserted in the openings h' and headed down, and are provided with lateral projections or shoulders g^3, which abut against the web of the tire when the spokes are secured thereto, substantially as described.

265,125. HANDLE FOR SATCHELS, &c. LOUIS HESSER, New York, N. Y., assignor to himself and SIMON ZINN, same place. Filed Aug. 12, 1882. (No model.)



Claim.—1. In combination with the frame of the satchel, pocket-book, or analogous article having transverse apertures i i, the bearings for each end of the handle having their free ends passing outwardly through the apertures, where they are bent toward each other in close proximity to the apertures to form shoulders, said free ends being connected directly with the handles by a pivot-bearing, substantially as described.

2. The bearings D, having their free ends projecting from the frame E, in combination with the handle A, and its end clips connected with the free ends of the bearings by a pivot, substantially as described.

265,126. COMBINED LIQUOR MIXER AND STRAINER. THOS. MILLER, Jersey City, N. J. Filed Aug. 22, 1882. (No model.)



Claim.—1. A liquor-mixer provided with a movable hood adapted to partly cover its mouth to act as a strainer thereto and be movable over against its side clear of the mouth, substantially as and for the purpose set forth.

2. In combination, the mixer c and hood a, pivoted thereto, and provided with a straining device, e, substantially as set forth.

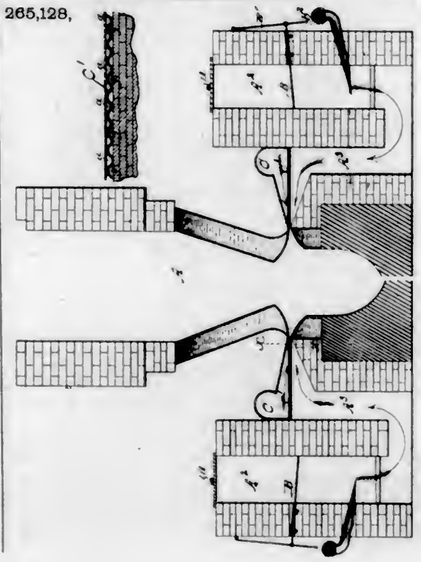
265,127. COUCH. ROBERT C. MILLINGS, Charleston, S. C. Filed July 17, 1882. (No model.)



Claim.—1. The combination, with the bedstead A', of the frame B, with its side rails, B, and top rails, b', uprights C, set-screws c' c^2, and eyebolts c, whereby the said frame B is secured to the bedstead A', substantially as shown and set forth.

2. The frame B, having side rails, b, top rails, b' uprights C, set-screws c' c^2, eyebolts c, and uprights or supports e, constructed and arranged substantially as set forth.

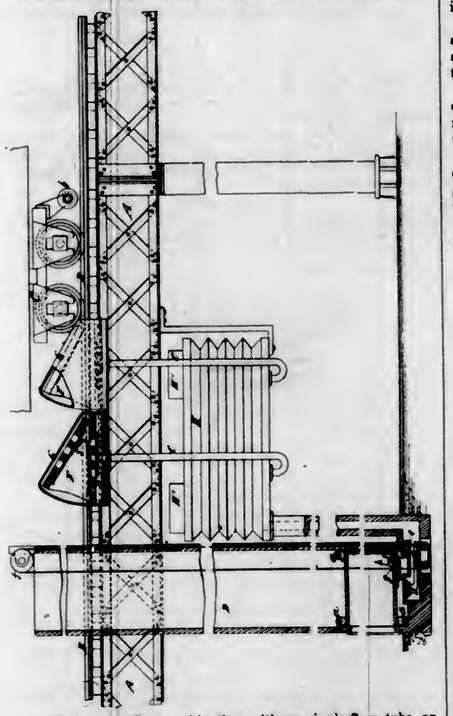
265,128.



265,128. SMELTING-FURNACE. CHARLES H. MURRAY, Louisville, Colo. Filed Feb. 3, 1882. (No model.)

Claim.—The combination, in a blast-furnace, of the smelting-chamber A', provided on each side with a horizontal blast-opening, a gas-generating chamber, A^3, on each side, connecting gas-flues A^5, air-blast chambers C, having bottom corrugated plate, C', the whole constructed as described, whereby the corrugated plate forms the roof of the delivery end of the gas-flue, substantially as set forth.

265,129. PNEUMATIC ELEVATOR FOR RAILWAYS. CHAS. A. NEEDHAM, New York, N. Y., assignor to himself and E. P. Needham, same place. Filed July 24, 1882. (No model.)



Claim.—1. The combination, with an air shaft or tube, an elevator-car fitting therein, and a railway-track, of a pump or pumps adapted to be operated by passing trains to compress air, a pipe or conduit for conducting the compressed air to said air tube or shaft, and valves for controlling the admission of air to said tube or shaft and its exit therefrom, substantially as specified.
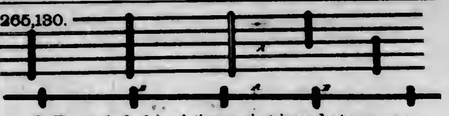
2. The combination, with an air shaft or tube, an elevator-car fitting therein, and a railway-track, of a pump or pumps adapted to be operated by passing trains to compress air, an accumulator or pressure-equalizer in which the compressed air is stored, a pipe or conduit connecting said accumulator or pressure-equalizer with said air shaft or tube, and valves for controlling the admission of air to said shaft or tube and the exit of air therefrom, substantially as specified.

3. The combination, with an air shaft or tube, an elevator-car fitting therein, and a railway-track, of a pump or pumps adapted to be operated by passing trains to compress air, a pipe or conduit for conducting the compressed air to said shaft or tube, a valve for controlling the admission of compressed air to said shaft or tube, and a valve in the floor of the car for controlling the exit of air through or past the car, substantially as specified.

265,130. ELECTRIC CONDUCTOR. JOSEPH V. NICHOLS, Brooklyn, N. Y. Filed Mar. 13, 1882. (No model.)

Claim.—1. The method herein described of insulating an electric conductor or assemblage of electric conductors, which consists in forming at intervals thereon adhering beads or rings of insulating material, substantially as and for the purpose set forth.

265,130.



2. The method of insulating an electric conductor or assemblage of electric conductors, which consists in heating the same at given points and forming or welding on the same, while hot, fusible beads or equivalent masses of insulating material, substantially as described.

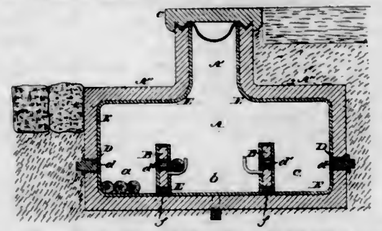
3. The combination, with an electric conductor or assemblage of electric conductors, of adherent beads or equivalent masses of insulating substance disposed thereon at intervals, as set forth.

4. The combination, with two or more electric conductors, of adherent masses of insulating material applied to the conductors at intervals and binding them mechanically together, substantially as described.

5. The combination, with two or more uninsulated electric conductors, of connecting masses of adherent non-conducting material applied to all or a portion of the wires at intervals, substantially as described.

6. The combination, with a sectional trough or casing, of one or more groups or assemblages of electric conductors, each of said groups being formed as a ribbon by connecting masses of adherent insulating material applied thereto at intervals, as set forth.

265,131. UNDERGROUND CONDUIT FOR ELECTRIC WIRES. CHAS. H. O'BRYON, Philadelphia, Pa., assignor of one-half to John E. Brown, same place. Filed May 23, 1882. (No model.)

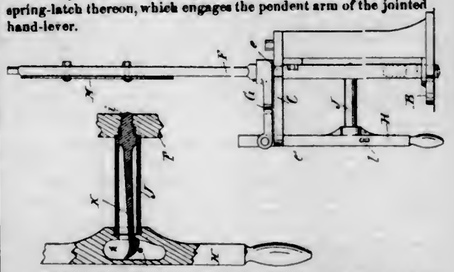


Claim.—1. The conduit A, provided with openings in its side walls, having removable plugs for insertion therein, and the partitions erected upon the base of said conduit, and provided with openings d', substantially as and for the purpose set forth.

2. The conduit and its cover, in combination with the water-proof material or water-holding receptacle H, clamped between the conduit and cover, and having its central portion depressed, whereby a water-receptacle is formed immediately beneath the cover, substantially as set forth.

265,132. SWITCH STAND AND LOCK. DANIEL O'CONNOR, Little Rock, Ark. Filed Apr. 12, 1882. (No model.)

Brief.—The rotary target-shaft is locked in position by a spring-latch thereon, which engages the pendent arm of the jointed hand-lever.

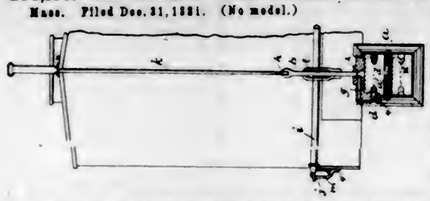


Claim.—1. The combination, with the base B, the notched top plate, C, and the target shaft or standard F, of the arm G, the bar H, pivoted to said arm, and means, substantially as shown and described, for locking said bar to the target-shaft, as set forth.

2. The combination, with the sleeve or tube J and spring-latch K, of the bar H, provided with the recess h, as shown and described, for the purpose specified.

3. The combination, with the sleeve or tube J, provided with the screw-threaded tang i, of the spring-latch K, welded to said sleeve, as herein shown and described.

265,133. CAR-COUPLING. JAMES W. OGLTON, Charlestown, Mass. Filed Dec. 31, 1881. (No model.)



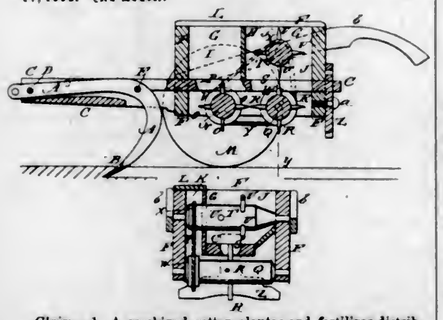
Claim.—1. The combination, with the draw-head provided with holes to receive the usual coupling-pins, of the spring-pressed link-holding devices provided with studs entering the sides of the said draw-head midway in the height of its opening, and the pin-holding projection connected with one of the said devices and automatically operated by the insertion of the link, as described, to release the pin and permit it to drop, substantially as set forth.

2. The combination, substantially as shown and described, of the coupling-pin-operating arm *h*, the rock-shaft *i*, supporting the same, the handled levers *j* of said rock-shaft, gravitating holders *m* for such levers, operating-rod *k*, and catch therefor, whereby the actuating of the arm *h* by the levers serves to unlock or release the rod also, and vice versa.

3. The coupling-pin-operating arm *h* and its rock-shaft *i*, provided with the levers *j*, having handles, combined with gravitating inclined fastening devices *m*, substantially as shown and described.

4. The combination of the draw-head *a*, divided into a number of link-chambers by webs *a'*, the plates *c*, pivoted at 3 upon opposite sides of the draw-head, each having a number of studs, *d*, corresponding in number with the number of chambers, and entering each chamber from opposite sides, and the springs *e*, pressing upon plates *c*, substantially as shown and described.

265,134. COMBINED COTTON-PLANTER AND FERTILIZER-DISTRIBUTER. JOHN R. OWEN, Pulaski, Tenn. Filed May 17, 1882. (No model.)



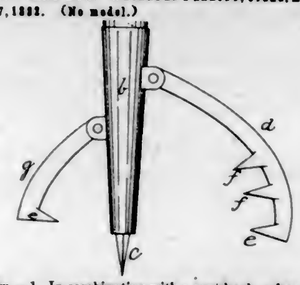
Claim.—1. A combined cotton-planter and fertilizer-distributer, constructed substantially as herein shown and described, and consisting of the opening-plow A B, the grooved and slotted bar C, the seed-box F, divided into three compartments, I J K, by two partitions, G H, the wheels M, the three cylinders N Q T, having radial arms O R U and pulleys V W X, the endless belt Y, and the coverer Z, as set forth.

2. In a combined cotton-planter and fertilizer-distributer, the combination, with the opening-plow A B and the seed-box F, of the grooved and slotted bar C, substantially as herein shown and described, to connect the said plow and seed-box and serve as a bottom to the seed-box, as set forth.

3. In a combined cotton-planter and fertilizer-distributer, the combination, with the seed-box F, the wheels M, and the slotted bar C, of the three cylinders N Q T, having radial arms O R U and pulleys V W X, and the endless belt Y, substantially as herein shown and described, whereby the fertilizer and cotton-seeds are removed from the box and dropped to the ground in uniform quantities, as set forth.

4. In a combined cotton-planter and fertilizer-distributer, the combination, with the seed-box F, opening-plow A B, and the coverer Z, of the bar C, having a grooved front portion for the reception of the plow-standard and a slot for the downward passage through it of the plow-standard, while its rear end is adapted to support the coverer, as shown and described.

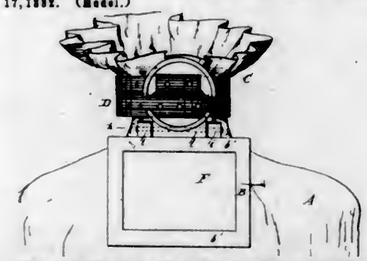
265,135. CANT-DOG. WASHINGTON PHARODY, Orono, Me. Filed July 7, 1882. (No model.)



Claim.—1. In combination with a cant-hook, a dog, *d*, having two or more points, *e f f*, at different distances from its end, substantially as herein set forth.

2. A cant-hook provided with the dogs *d g*, having one or more points, *e f f*, both of said dogs being secured to the same stock, substantially as shown and described, and being of different lengths, as herein set forth.

265,136. LOCK, SEAL, AND LABEL-HOLDER. THOMAS A. PLATT, Brooklyn, N. Y., assignor to himself, William O. Platt, Elizabeth, N. J., and William Man, New York, N. Y. Filed Apr. 17, 1882. (Model.)



Claim.—1. The device for locking, sealing, and labeling bags, made substantially as herein shown and described, consisting of the cup C and the frame B, the cup being slotted for the passage of a strap and the frame provided with a staple or loop, as and for the purposes set forth.

2. The sealing-cup C, formed with the slots *f f*, for the passage of the strap, substantially as and for the purposes set forth.

3. The sealing-cup C, formed with the slots *f f* and *f' f'*, substantially as described.

4. The central bar, *d*, of the cup C, reduced in size, as shown at *e*, substantially as and for the purposes set forth.

265,137. PACKAGE FOR OYSTERS, &c. CHARLES L. POND, Buffalo, N. Y. Filed Jan. 16, 1882. (No model.)



Claim.—1. The combination, with the body A, provided on its inner side with a hoop, *d*, of the grooved stationary end pieces, B, hinged cover C C', provided with grooves in its ends and ledges *e e'*, formed respectively on the stationary end pieces, and hinged cover, substantially as set forth.

2. The combination, with the body A, having end pieces, B, of the hinged cover C C' and clamps F, whereby the hinged cover is secured in place, substantially as set forth.

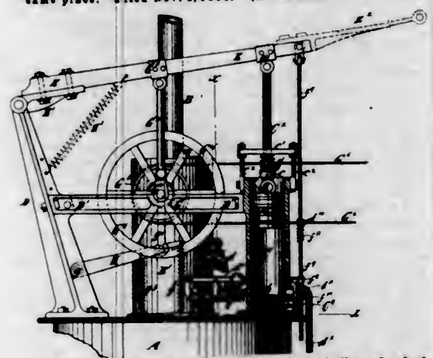
3. The clamp F, composed of two lips, *f*, secured to a pivot, *f'*, which is provided with a head, *h*, adapted to be seized by a wrench, substantially as set forth.

4. The combination, with the side pieces, B B, and the hinged cover C C', of one or more clamps, F, each provided with two lips, *f*, arranged respectively on the upper and lower sides of the cover, substantially as set forth.

5. The combination, with the side pieces, B B, and a hinged cover, C C', of one or more clamps, F, provided with lips *f*, adapted to engage over the adjacent portions of the cover, an arm, *g*, formed on the clamp, a fixed plate, *g'*, provided with stops *g² g³*, and means whereby the arm *g* can be locked to one of the stops, substantially as set forth.

6. The combination, with the cover, of a removable handle, I, straps *k k'*, and spring *l*, substantially as set forth.

265,138. STEAM-ENGINE. ALBERT T. POWELL, Stanfordville, N. Y., assignor to the Powell Steam Motor Company, (Limited,) same place. Filed Nov. 4, 1881. (No model.)



Claim.—1. The combination, with a steam-boiler, of a feed-water heater and a feed-pump erected thereon, a standard also erected thereon, a beam or lever fulcrumed in said standard, a cylinder or cylinders also erected on the boiler, and having a piston or pistons connected with said beam or lever, and a crank-shaft, and a connecting rod or rods for operating the shaft from said beam or lever, substantially as specified.

2. The combination, with a standard and a beam or lever fulcrumed therein, of a cylinder and piston and a crank-shaft, a rod connecting the piston with the beam or lever near its free end, and a connecting-rod for operating said crank-shaft, connected to the beam or lever between the cylinder and the standard, substantially as specified.

3. The combination, with a beam or lever, a cylinder and piston for operating the same, and a crank-shaft operated by said beam or lever, of a detachable arm or extension-piece fitted to the end of said beam or lever, substantially as specified.

4. The combination of the beam or lever E, the crank G', the connecting-rod G³, the crank-pin *g⁸*, the lever H, and rod *g'*, and one or more springs, *g³*, substantially as specified.

5. The combination, with a cylinder, C, and its piston C', and piston-rod C³, of the collar *c* on said rod, the cross-piece or abutment *c'*, and a spring, *b'*, surrounding the rod and arranged between said collar and cross-piece or abutment, substantially as specified.

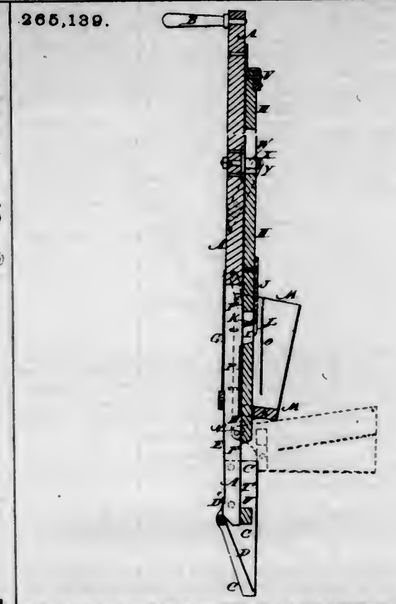
265,139. HAND CORN-PLANTER. FRANCIS B. PRESTON and WILLIAM H. STAPLETON, Fayette, Mo. Filed May 3, 1882. (Model.)

Claim.—1. A hand corn-planter constructed substantially as herein shown and described, and consisting of the stock A, having slot F, and provided with the shoe C, hinged plate D, spring E, and plates G P, the hinged seed-box M, having partition O, and the seed-dropping slide H, having plate and block T U, gage-plate J, and button and spring X Y, as set forth.

2. In a hand corn-planter, the combination, with the seed-dropping slide H, having seed-receiving aperture I, of the gage-plate J, having lip K, and guide-arms L, substantially as herein shown and described, whereby the seed is guided into the said aperture, as set forth.

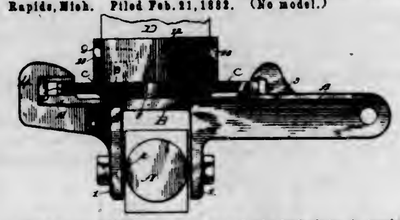
3. In a hand corn-planter, the combination, with the stock A, provided with pins R and button S, and the seed-dropping slide H, of the seed-box M, having its upper corners provided with apertures and hinged at its lower end to the stock, substantially as herein shown and described, whereby the said seed-box is securely held in place and can be swung back to allow the said seed-dropping slide to be withdrawn, as set forth.

4. In a hand corn-planter, the combination, with the stock A



and the slotted seed-dropping slide H, of the stud W, the button X, and the fastening-spring Y, substantially as herein shown and described, whereby the said seed-dropping slide can be readily secured in place and released, as set forth.

265,140. FIFTH-WHEEL. FORREST M. PRIESTLEY, Grand Rapids, Mich. Filed Feb. 21, 1882. (No model.)



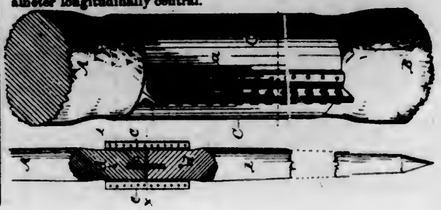
Claim.—1. A fifth-wheel composed of a bed-plate, A, having hooked standards 3 4, and a top plate, B, having recesses 10 and 11 and a central flange, 9.

2. The combination, with the bed-plate pivoted or hinged to the axle and having the standards 3 4 and pins 7, of the recessed top plate, B, having a central opening and a flange, 9.

3. The bottom plate having lugs 5 6, flanges 1 1, and standards 3 4, all cast in one piece, with the top plate having the recesses and vertical flange adapted to be secured removably to the bottom plate without independent fastening devices.

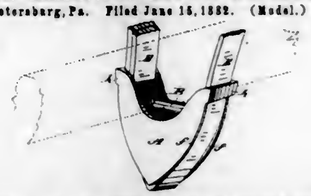
265,141. PILE. JOSEPH W. PUTNAM, New Orleans, La. Filed May 18, 1882. (No model.)

Brief.—The butt-ends of trees trimmed to a circular cross-section are secured together by two semi-tubular sleeve-sections having flanges bolted together, forming a pile with its largest diameter longitudinally central.



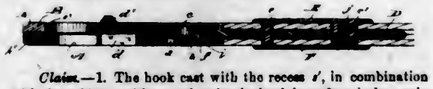
Claim.—A pile composed of tree-trunks having their butt-ends fitted together to give increased size and strength to the middle of the pile and dressed about the joint to a circle, in combination with a splice-sleeve of slightly-smaller diameter composed of semi-tubular sections C C, having flanged longitudinal edges, and screw-bolts passing through the same and clamping said sleeve-sections together, substantially as described.

265,142. THILL-LOOP FOR HARNESS. WILLIAM K. RAIRIGH, St. Petersburg, Pa. Filed June 15, 1882. (Model.)



Claim.—In a thill-loop for harness of that class employing a frictional roll, the block or bushing A, provided with continuous flanges *f*, projecting beyond its sides and with a pin or projection, *j*, at its lower end, said flanges having formed integral with themselves, upon their side edges at the upper ends, loops *h*, substantially as described, and for the purpose set forth.

265,143. TRACE-HOOK. WILLIAM K. RAIRIGH, St. Petersburg, Pa. Filed June 15, 1882. (Model.)

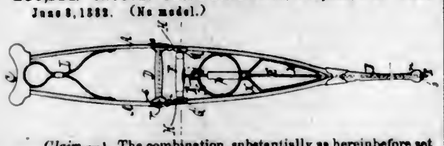


Claim.—1. The hook cast with the recess *s'*, in combination with the rubber packing *s*, whereby the hook is made noiseless, substantially as described.

2. The main part A of the hook, formed with the tang D, having the holes *g* and *h*, in combination with the clamp-plates E and F, the former being formed with the projection *e* and screw-tapped projection *e'*, and the latter being formed with the screw-threaded stud *j*, substantially as and for the purposes set forth.

3. The combination, with the main part A, provided with the recess *a* and projection *i* in said recess, of the jaw B, provided with the rim *f*, having slot *i'*, the screw *e*, and the coiled spring *b*, substantially as and for the purpose set forth.

265,144. CRUTCH. FRANK D. RANDALL, Waupaca, Wis. Filed June 8, 1882. (No model.)



Claim.—1. The combination, substantially as hereinbefore set forth, of the notch-plates arranged opposite to each other with their notches opening in opposite directions, with the spur-rod arranged to rotate, and provided with a cross-piece having end studs adapted to engage the plate-notches, for the purpose specified.

2. The combination, substantially as hereinbefore set forth, with the spur-rod, of the filling-frame provided with eyes forming guides for such rod, as specified.

3. The combination, substantially as hereinbefore described, with the spur-rod, of the filling-frame, provided with eyes forming guides for such rod, and the stop.

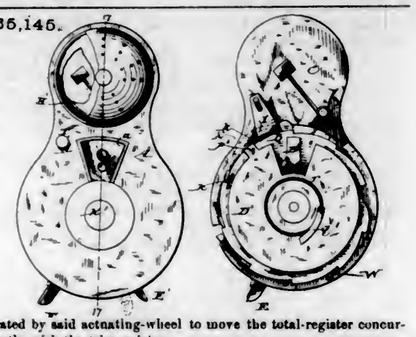
265,145. FARE REGISTER AND RECORDER. NEWMAN A. RANSOM, Chicago, Ill., assignor to the Railway Register Manufacturing Company, Buffalo, N. Y. Filed Aug. 30, 1879.

Claim.—1. The combination, substantially as hereinbefore set forth, of the trip-register, the total-register, and the zero-register wheel with driving-connections to operate said registers and wheel simultaneously, or nearly so.

2. The combination, substantially as hereinbefore set forth, of the trip-register, the total-register, the zero-register wheel, the driving-pawls to operate said registers and wheel simultaneously, or nearly so, and the alarm apparatus sounded once for each actuation of said registers and wheel.

3. The combination, substantially as hereinbefore set forth, of the trip-register actuated by the prime mover or actuating-lever, the main actuating-wheel, also actuated by said lever, the total-register, and an intermediate vibrating pawl-carrying lever op-

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erated by said actuating-wheel to move the total-register concurrently with the trip-register.

4. The main actuating-wheel constructed, substantially as hereinbefore set forth, with, first, the cam-notches in its periphery; second, the pins corresponding in number to said notches to actuate the bell-hammer, and, third, the circular ratchet upon its side for the engagement of a detent to lock the wheel from back rotation.

5. The combination, substantially as hereinbefore set forth, of the trip-register disks having inclined setting-projections thereon, the turning covering-plate having a projecting arm to act upon said setting-projections, the circular ratchet upon the front face of said plate, to be engaged by a detent on the inside of the casing to prevent back rotation of said plate, and the catch controlled by a knob from the outside of said casing to normally engage the projecting arm of the covering-plate and prevent its forward movement.

6. The combination, substantially as hereinbefore set forth, of the wheels of the total-register having actuating-notches in their peripheries, the washer interposed between said wheels, and the slotted plate connected with said washer overlapping the numbered edges of said wheels, and so organized as to permit the record of the total-register to be ascertained through the slot.

7. The combination, substantially as herein before set forth, of the recording-wheel, the dial carried by said wheel, the trip-register, mechanism for moving said recording-wheel and said trip-register concurrently in the process of counting, so that both register the same number of fares, and a marker to mark or indent said dial each time the trip-register is reset, and then only, whereby the number of times the trip-register is reset is indicated, as well as the number registered between the times of resetting said register.

8. The combination, substantially as hereinbefore set forth, of the zero-register wheel, (capable of an intermittent rotary movement,) having a scroll or volute groove at its back, with a dial applied to the face of said wheel, having a volute line and numbered radial lines marked thereon.

9. The combination, substantially as hereinbefore set forth, of the casing, the partition-plate separating the trip from the total register, and the tubular non-rotating post secured to said plate to support said registers and permit a turning-spindle to pass through it.

10. The zero-register wheel constructed, substantially as hereinbefore set forth, with a scroll-groove at its back, a seat on its face for a recording-dial, and operating-notches in its periphery.

11. The combination, substantially as hereinbefore set forth, of the main actuating-wheel having actuating-notches in its periphery, the trip-register disks, also actuated by notches or recesses in their peripheries and rotating about the same axis as the main actuating-wheel, and the prime mover having a single driving-pawl to operate said wheel and disks.

12. The combination, substantially as hereinbefore set forth, of a trip-register for consecutive counting, an actuator to operate said trip-register, a device independent of said actuator to reset said trip-register, a graduated paper dial upon which a permanent record of the counting actuations given to the trip-register is made, and a marker to mark or indent said dial.

13. The combination, substantially as hereinbefore set forth, of a trip-register for consecutive counting, an alarm sounded for each actuation of said register in the counting process, an actuator for operating said register and alarm simultaneously, or nearly so, a device independent of said actuator to reset said register, a graduated paper dial to permanently record the counting actuations given the trip-register by its actuator, and a marker to mark or indent said dial.

14. The combination, in a fare-register, substantially as hereinbefore set forth, of a graduated paper dial to receive marks or indentations to permanently record the number of fares received,

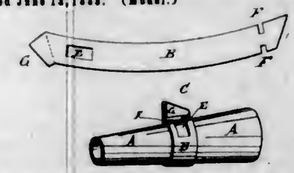
with an alarm apparatus operated by the actuator of the register for each fare received, whereby frauds are prevented.

15. The combination, substantially as hereinbefore set forth, of the graduated paper dial to receive marks or indentations indicating the number of fares received, with a yielding backing or cushion against which said dial is fastened, whereby said dial is readily indented or punctured by a marker to make a permanent record of the fares collected.

16. The combination, substantially as hereinbefore set forth, of the graduated paper dial to receive marks or indentations indicating the number of fares received, the yielding backing or cushion against which said dial is fastened, so that it may be readily indented or punctured to make a permanent record of the fares collected, and a yielding marking arm to indent or puncture the dial.

17. The combination, substantially as hereinbefore set forth, of the trip-register, the alarm, the actuator for operating said register and alarm simultaneously, or nearly so, the graduated paper dial, and mechanism, substantially as described, whereby said dial will show at the end of a predetermined time by radial and spiral lines the aggregate of the number of fares recorded by the trip-register and alarm sounded in registering them.

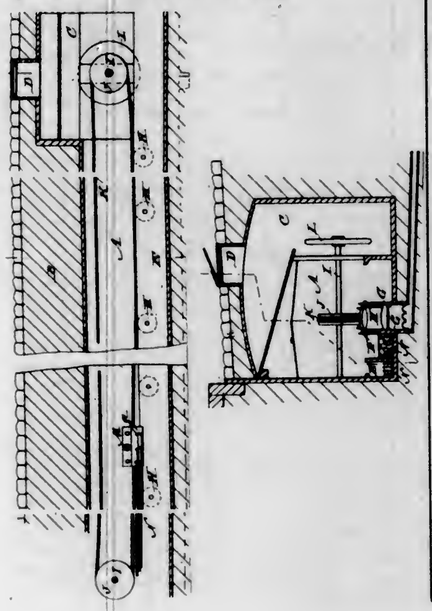
265,146. SAP-SPOUT. GUNNER J. RECORD, Concord, Ohio. Filed June 13, 1882. (Model.)



Claim.—1. In a sap-spout, the band B, having its ends bent parallel with each other and projecting radially, and the one end bent over the other end to strengthen the projection, substantially as herein shown and described, to adapt the band to be applied to a sap-spout, as set forth.

2. In combination with a sap-spout, the band B, provided with notches F near one end, the hole E at the other end, and offset G, as shown and described.

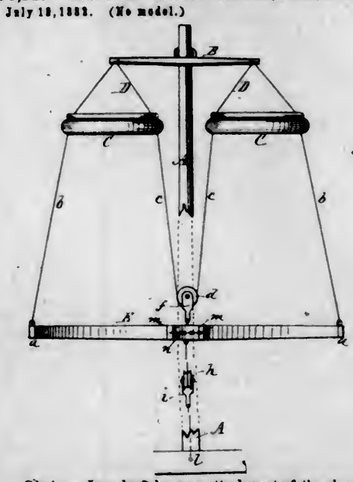
265,147. DEVICE FOR LAYING AND HOLDING UNDERGROUND ELECTRIC WIRES. HENRY C. REGISTER, Philadelphia, Pa. Filed Apr. 1, 1882. (No model.)



Claim.—1. In a device for laying and holding underground electric wires, the combination, with the box A, provided with the enlargements C, and the partitions G, having rollers H journaled between them, of the shafts I, the pulleys J, the endless cable or rope K, and the carrier M, provided with studs *a* and detachably secured to the said cable or rope, substantially as and for the purpose set forth.

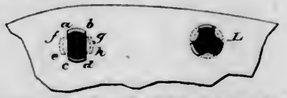
2. In a device for holding and laying electric wires, the combination, with the box A, of the pulleys J, the endless cable or rope K, and the carrier M, consisting of the sections M', provided with studs *a*, and the clamping-screw P, substantially as herein shown and described, and for the purpose set forth.

265,148. HARNESS. GUNNER ROBINSON, Sodus, N. Y. Filed July 18, 1882. (No model.)



Claim.—In a draft-harness attachment of the character described, the combination, with the evener adapted to pass beneath the bodies of the horses, of the standards *m m*, whereby the pole or tongue may be used in connection with the evener, all substantially as set forth.

265,149. SOLE-FASTENING FOR BOOTS OR SHOES. STILLMAN W. ROBINSON, Columbus, Ohio, assignor of one-half to O. E. Lewis, same place. Filed Feb. 6, 1882. (Model.)



Claim.—An improved sole-fastening consisting of a nail fluted longitudinally and provided with circumferential ribs, all substantially as and for the purpose stated.

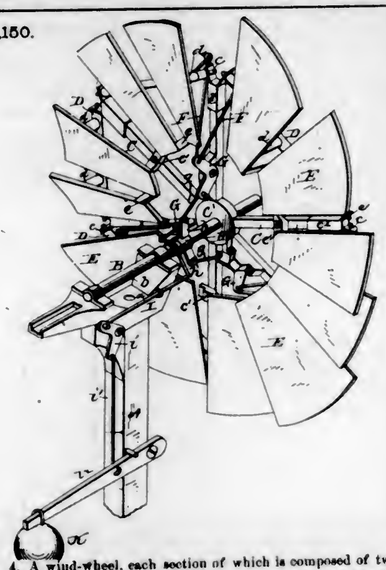
265,150. WIND-POWER. GEORGE A. ROLAND, Waseca, and C. POWELL ADAMS, Hastings, Minn. Filed June 15, 1882. (Model.)

Claim.—1. A wind-wheel made of a series of sections, each composed of the large trapezoidal sails E, each of which is fixed on one side directly to the shaft D, (said shaft capable of being revolved,) and at the other edge to the post *d* on said shaft, whereby the sails are inclined to each other, so as to allow a very broad exposure to the wind when the wheel is in operation, and a free circulation of the wind between the parts when the wheel is out of operation, all as shown and described.

2. In a wind-wheel, the shafts D, mounted in the flaring bearings *c* on the ends of the arms C, and having the large trapezoidal sails E attached thereto, as described, and combined with the levers F, joint G, link *g*, spider H, arm I, joint *i*, and counter-balance K, substantially as described.

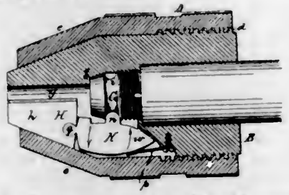
3. In a wind-power, the wheel mounted on turn-table A by its shaft B, and having arms C, provided with the movable trapezoidal-shaped sails E, having their smaller ends toward the center of the wheel, and set at an incline or angle each in relation to the other, and adapted to be stopped in their inner movements at *e'*, all as shown and described.

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4. A wind-wheel, each section of which is composed of two large trapezoidal sails, E, united at their inner ends by an angle-iron, *e*, and secured directly at one edge and by post *d* at the other on the shaft D, journaled at *c* on the ends of arms C of the wheel, substantially as shown and described.

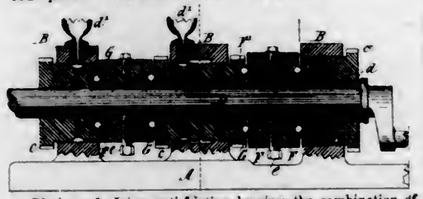
265,151. DRILL-CHUCK. GEORGE S. ROBINSON, Philadelphia, Pa. Filed Apr. 24, 1882. (No model.)



Claim.—1. The combination, as described, of the slotted body B and its tapered sleeve D with the pivoted levers N and the jaws H, connected to the ends of the levers, and having outer inclined edges adapted to the interior of the tapering portion of the said sleeve.

2. The combination, as described, of the slotted body B and sleeve D of the chuck with the pivoted levers N, jaws H, and springs *p*, one spring in each radial slot.

265,152. ANTI-FRICTION BEARING. ETIENNE SALOMON, Montreal, Quebec, Canada, assignor of one-half to Edmond Armant, same place. Filed June 13, 1882. (No model.)

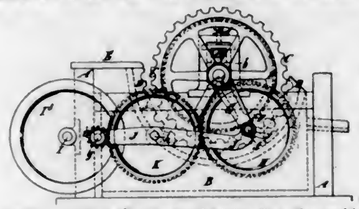


Claim.—1. In an anti-friction bearing, the combination of a bed-plate and stationary standards B B, of the longitudinal adjustable sleeves C C, secured to said stationary standards, and movable collars E, secured to the shaft, the said collar and stationary sleeves being provided with oppositely-placed grooves for the reception of anti-friction balls, all substantially as described.

2. The combination of the main shaft D, having the collar E rigidly secured thereto, said collar being provided with a counter-sunk wearing-ring, F, the stationary standard having the adjustable sleeves C, provided with corresponding bearing-ring, and the anti-friction balls forming a bearing between the said movable collar and stationary sleeve, substantially as described.

3. The combination of the central shaft, the stationary sleeve secured in the standard which supports the shaft, the movable collar secured rigidly to the shaft, the anti-friction balls, and the rollers *d d* interposed between the adjustable collars and the shaft, substantially as described.

265,153. APPARATUS FOR REDUCING FIBROUS PLANTS. GELSTON SANFORD, Brooklyn, assignor to W. M. Safford and the Sanford Universal Fibre Company, both of New York, N. Y. Filed Nov. 4, 1881. Renewed July 12, 1882. (No model.)

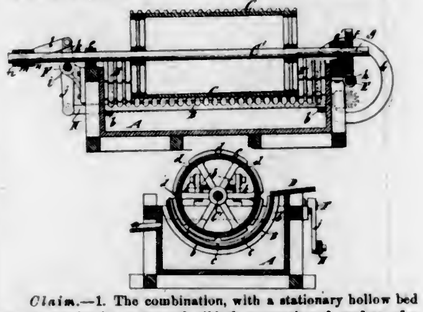


Claim.—1. In a machine for obtaining fiber, the combination of a semicircular or arc-shaped bed, and a cylinder arranged adjacent thereto and having a progressive alternate rotary motion, substantially as specified.

2. In a machine for obtaining fiber, the combination of a semicircular or arc-shaped bed composed of bars or sections and yielding supports therefor, and a cylinder arranged adjacent to the bed and having a progressive alternate rotary motion, substantially as specified.

3. In a machine for obtaining fiber, the combination of a semicircular or arc-shaped bed, D, a cylinder, C, arranged adjacent thereto, and having a gear-wheel, F, upon its shaft, the oscillating arms G, the shaft *f'*, journaled therein, and carrying the pinion *f* and wheel H, the crank I' and crank-pin *g*, the pinion *i* on said pin, and the pitman-rods J and wheel K, substantially as specified.

265,154. MACHINE FOR OBTAINING FIBERS. GELSTON SANFORD, Brooklyn, assignor to the Sanford Universal Fibre Company, New York, N. Y. Filed July 5, 1882. (No model.)



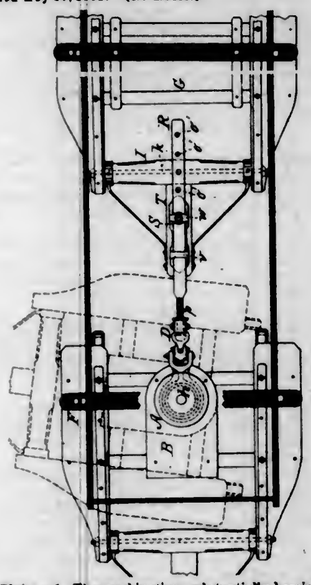
Claim.—1. The combination, with a stationary hollow bed or concave having a grooved, ribbed, or roughened surface, of a grooved, ribbed, or roughened cylinder arranged in said bed or concave and having both a rotary movement and a longitudinal movement or end chase, substantially as described.

2. The combination, with the stationary bed or concave and the cylinder, of a worm-wheel and worm or screw for rotating the cylinder, a crank upon the worm or screw shaft, and devices for imparting a reciprocating motion to the cylinder from said crank, substantially as described.

3. The combination, with the stationary bed or concave, grooved transversely, of the cylinder C, grooved circumferentially, and also provided with the longitudinal grooves *d*, and having both a rotary movement and a longitudinal movement or end chase, substantially as described.

4. The combination of the bed or concave B, the cylinder C and its shaft C', the worm-wheel *f*, the driving-shaft E, having the worm or screw *h* and the crank G, the rock-shaft F, provided with arms *j* and *k*, the links or rods *l*, and the connecting-rod H, substantially as described.

265,155. BOB-SLEIGH. ERNEST C. SCHNORRER, Itasca, Ill. Filed May 17, 1882. (No model.)
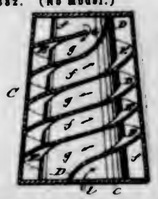


Claim.—1. The combination, substantially herein described, of the front bob provided with the flanged bolster-plate, and the rear bob provided with the coupling R, terminating in a cylindrical neck, and a head or shoulder, with an intermediate chambered box-coupling, D, and the ring-collar C *f*, the several parts being connected to allow of the rolling and vertical movements of the bobs, as specified.

2. In combination, the flanged bolster-plate A *a*, the ring-collar C, having a forked arm, *a f*, the box-coupling D, having the cross-head *g*, the tubular extension and the intermediate chamber, *s s'*, and the coupling R, having the cylindrical neck *p*, and the head or shoulder *o*, whereby to form a coupling for the bobs of a sleigh, substantially as described, for the purpose specified.

3. The coupling-box D, formed with a cross-head, *g*, and provided with a hinged top section secured to the base section, forming the chamber *s s'* and the tubular extension *s s'*, in combination with the coupling R *p o*, the ring-collar C, and the front and rear bobs, all constructed substantially as described, for the purpose specified.

4. In combination, in a bob-sleigh, the cross-head tubular chambered coupling-box D, the bolster-plate A, having the depending ring-flange *a*, the ring-collar C, having the forked arm *a f*, the coupling R, having a cylindrical neck, *p*, the head *o*, and a flat shank, with the rear bob, having tongue T, provided with a looped shoe, S, and the coupling-bolt *t*, all constructed and connected substantially as herein set forth.

265,156. TUYERE. WILLIAM H. H. SERETA, Pittsburg, Pa. Filed Apr. 17, 1882. (No model.)

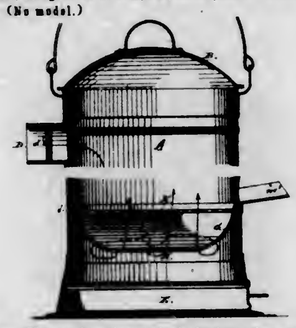


Claim.—1. The double-walled tuyere with its nose and butt closed and provided in the intermediate space between its walls with spiral partitions secured directly to said walls, whereby greater surface of contact for the water passing through it is furnished, as shown and described.

2. The combination, with the double-walled tuyere C, butt *c*, and nose *d*, of the spiral partitions D E, arranged substantially as herein shown and described.

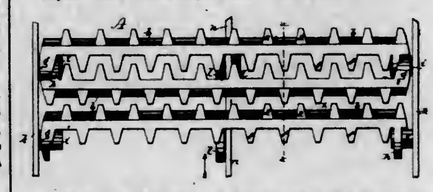
3. The combination, with the double-walled tuyere C, of the spiral channels *f g*, communicating with each other and extending from butt to nose and from nose to butt, the supply-pipe A, induction-port *l*, eduction-port *m*, and waste-pipe *i*, substantially as herein described.

265,157. TINMAN'S FURNACE. DAVID M. SHOEMAKER, Columbus, Ohio, assignor to L. S. Ayres, same place. Filed May 31, 1882. (No model.)



Claim.—The combination of the body A, the imperforate fire-pot G, having the grates K and H located therein, one above the other, said body being provided with the air-inlets L, located opposite and about the imperforate fire-pot, and the exit-flue D *d'*, located above the fire-pot, and the intermediately-located shelf and entrance *m'*, substantially as shown and described.

265,158. FURNACE-GRATE. FREDERICK SHRIVER, Grand Rapids, Mich. Filed May 9, 1882. (No model.)



Claim.—1. The improved fire-grate bar, made concavo-convex in vertical transverse section, and provided with slotted pivot-heads, substantially as described.

2. The improved fire-grate bar, made concavo-convex in vertical transverse section, and having projections *a* on the convex side of the bar, hollowed by cavities *d* on the opposite side, substantially as described.

3. The improved fire-grate bar, made concavo-convex in vertical transverse section, and having hollow projections *a* on the convex side and fingers *f* on the concave side, said fingers and projections being arranged alternately, substantially as described.

4. The improved fire-grate bar, made in concavo-convex transverse section, and having the sides armed with alternating projections and fingers, and also having slotted pivot-heads *g h*, arranged to overlap for the connection of the bars to the pivots in pairs, substantially as described.

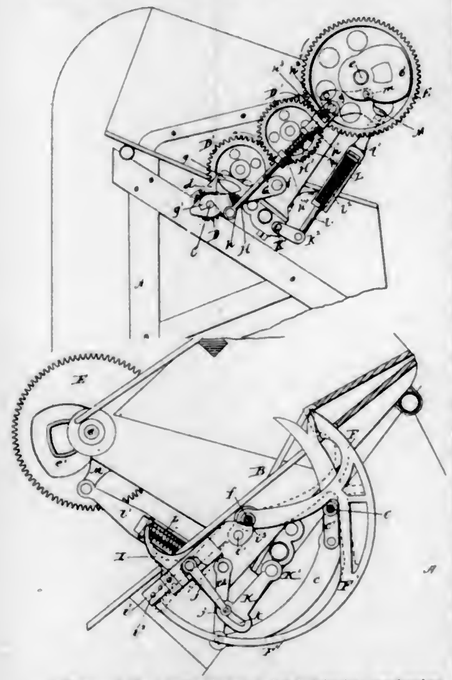
5. The improved fire-grate bar, made in concavo-convex transverse section, and having the sides armed with alternating projections and fingers, also having slotted pivot-heads, and also having arms connecting with the shaking-bar, substantially as described.

6. The improved fire-grate bar, made in concavo-convex transverse section, and having the sides armed with alternating projections and fingers, and also having arms connecting them with the shaking-bar, said arms being arranged whereby the arms of a pair of said bars connect with the shaking-bar by one and the same pivot, *m*, substantially as described.

7. The improved fire-grate bar, made in concavo-convex transverse section, and having the sides armed with alternating projections and fingers, also having overlapping pivot-heads, and also having arms connecting them with the shaking-bar, said bars being arranged in pairs, and the arms of the pairs being connected together in the axis of the pivots of the said bars, substantially as described.

8. The grate-bars, arranged in pairs upon the same pivots and connected by arm *l* with the shaking-bar by one and the same pivot, and the said arms being slotted for the pivots connecting them with said shaking-bar, substantially as described.

265,159. GRAIN-BINDER. CALVIN P. SHUFELT, Sandwich, Ill., assignor of one-half to J. Phelps Adams and Henry A. Adams, both of same place. Filed Mar. 15, 1882. (No model.)



Claim.—1. In a grain-binder, a clutch-shipping mechanism, in combination with the binding-arm, with which it is connected in such manner that the movement of the binding-arm in the direction of closing will operate the shipping mechanism to throw the binding mechanism into gear with its motor, substantially as and for the purposes set forth.

2. The binding-arm, in combination with a clutch-shipping mechanism connected therewith, the main gear-wheel of the binder, and a yielding pitman connecting the latter to the shipping mechanism, whereby the binding-arm is permitted to move to a limited extent without moving its main motor, substantially as and for the purposes set forth.

3. The binding-arm, in combination with the rock-shaft to which it is attached, a stop-arm attached to the same shaft, and a clutch-arm attached to the driving-pinion, substantially as and for the purposes set forth.

4. The driving-pinion D, provided with the spring clutch-arm *d*, in combination with the stop-arm G, provided with the curved finger *g*, the rock-shaft *f*, and the binding-arm F, substantially as described.

5. The binding-arm, in combination with a stop-arm connected therewith, the main gear-wheel of the binder, an elastic pitman connecting the latter to the stop-arm, whereby the binding-arm is permitted to move to some extent without rotating the gear-wheel, and a mechanism for moving the binding-arm to a limited extent independently of the main driving-gear of the binder, substantially as and for the purposes set forth.

6. The driving-pinion provided with the clutch-arm, in combination with the stop-arm G, the main gear E, and the elastic pitman H, connected to the stop-arm at a point below the center of motion of said arm, substantially as and for the purposes set forth.

7. The stop-arm G, provided with the curved stop-finger *g* and the curve or hook *g'*, substantially as described.

8. The main shaft C, in combination with the stop-arm G, the free end of which is adapted to rest on said shaft when in operative position, the main gear E, and the elastic pitman H, substantially as and for the purposes set forth.

9. The binding-arm, in combination with a yielding trip against which the bundle is formed, and mechanism operated by the yielding of said trip to move the binding-arm, whereby said binding-arm may be moved to a limited extent during the operation of forming the bundle independently of the ordinary driving mechanism of the binder, substantially as and for the purposes set forth.

10. A yielding trip against which the bundle is formed, in combination with the binding-arm, and a curved arm projecting from the back of the latter and extended around so as to be brought in contact with the trip-support when the binding-arm is open, substantially as described.

11. The trip I, in combination with the pivoted supporting-arm on which it is mounted, the binding-arm F, and the curved arm F', projecting from the rear of the latter, and extended so as to come in contact with the arm *i* when the binding-arm is open, substantially as and for the purposes set forth.

12. The binding-arm F, mounted on the rock-shaft *f*, in combination with the stop-arm G, mounted fast on the same rock-shaft, the trip I, the pivoted supporting-arm *i*, and the curved arm F', projecting from the rear of the binding-arm, all constructed and operating substantially as described.

13. The trip I, in combination with its pivoted supporting-arm *i*, provided with a heel-extension, *i'*, and the rock-shaft of the binding-arm, substantially as described.

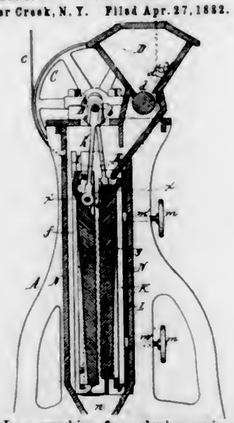
14. The trip-supporting arm *i*, in combination with the rod J, and the vibrating arm K, provided with the slot *k*, substantially as and for the purposes set forth.

15. The trip-supporting arm *i*, connected to the rock-shaft of the binding-arm at one side thereof, in combination with the connecting-rod J, slotted arm K, rock-shaft K', and yielding pitman L, connected to the main gear-wheel E, substantially as and for the purposes set forth.

16. The trip-supporting arm *i*, connected to the rock-shaft of the binding-arm, in combination with the connecting-rod J, slotted arm K, rock-shaft K', yielding pitman L, pivoted block M, and main gear E, provided with the cam-groove *e'*, all constructed and operating substantially as described.

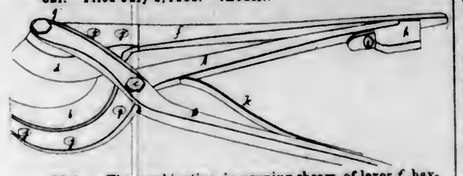
17. The pitman H, composed of the sections *h h'*, and the spring H', all constructed substantially as described, in combination with the main gear-wheel E, and the stop-arm G, attached to the rock-shaft of the binding-arm, substantially as and for the purposes set forth.

265,160. MACHINE FOR GRINDING GRAIN. CHAS. F. SHUMAKER, Silver Creek, N. Y. Filed Apr. 27, 1882. (No model.)



Claim.—In a machine for reducing grain and other like material, the combination, with two upright plates, F G, having their adjacent faces provided with suitable ribs or corrugations, and suitable mechanism whereby a reciprocating motion is imparted to both plates, of grooved guides or ways I, in which the plate F slides, grooved bars K, in which the plate G slides, suitable mechanism whereby the bars K can be adjusted toward and from the plate F, and means whereby the material to be reduced is introduced between the upper ends of the plates F and G, substantially as set forth.

265,161. PRUNING IMPLEMENT. FRANK O. SLAUGHTER, Pomona, Cal. Filed July 8, 1882. (Model.)



Claim.—The combination, in pruning-shears, of lever *f*, having blade *d*, lever A, having blade *b*, with lever B, said lever B being pivoted to lever A at *e*, and lever *f* being pivoted to lever B at *g*, substantially as described.

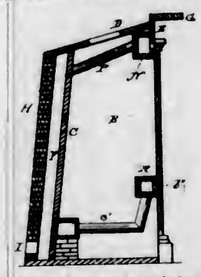
265,162. CAR-COUPLING. JAMES E. SMITH, Wilkes-Barré, Pa. Filed Mar. 10, 1882. (No model.)



Claim.—1. The draw-head A, having month B, transverse shaft C, coupling-pin D, slot E, recess F, flange H, bolt I, link G, stop K, and recess L, as set forth.

2. As an improvement in car-couplings, the draw-head A, constructed of two parts, the upper one of which is provided with the stop K, slot E, shaft C, and coupling-pin D, and the lower one with flange H and recesses F L, said parts being connected by bolts I J, the former of which passes through the link G, which is thus permanently secured in the draw-head, as and for the purpose set forth.

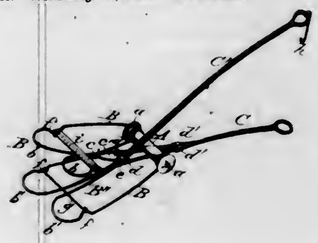
265,163. FIRE-PLACE. JAMES G. SMITH, Cleveland, Ohio. Filed July 22, 1882. (No model.)



Claim.—1. A fire-place front consisting of the back wall, C, side walls, B, and jamb or face-flange E, the upper and lower cross-flues, N R, the series of top flues, P, the series of hollow grate-bars *c'*, and the discharge-openings K and *b'*, substantially as specified.

2. In a fire-place, a heating and ventilating air-chamber, F, having in rear the supply-openings I, and extending around the back and sides of the fire-place, the upper and lower cross-flues, N and R, the series of top flues, P, the series of hollow grate-bars *c'*, and the air-outlets K, L, and *b'*, substantially as specified.

265,164. COMPOUND CULINARY TOOL. JULIA C. SMITH, Ashton, Ill. Filed Aug. 22, 1882. (No model.)

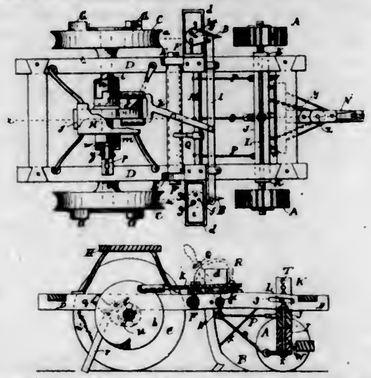


Claim.—1. A wire culinary tongs composed of the spring-jaws B' B'', fulcrumed on a cylinder, A, having enlarged ends, said jaws being provided with handles C C', substantially as shown and described.

2. In a wire tongs, the combination of the cylinder A, having disks or buttons *a a*, the spring-jaws B' B'', composed of wire B, coiled on said cylinder, the handles C C', and the retaining-hooks *g h*, substantially as shown and described.

3. In a wire tongs, the combination, with the spring-jaws B' B'', having bends *f f*, of the hooks or braces *g g*, inclosed in tubes *i*, substantially as shown and described.

265,165. CORN-PLANTER, CHECK-ROWER, AND DRILL. SIMEON SMITH, Graymont, Ill. Filed Apr. 25, 1882. (No model.)



Claim.—1. The combination, with the shovels B, of the wheels A, adapted to revolve in front thereof, and provided with transverse cutting-edges on its periphery, substantially as described, and for the purpose set forth.

2. The front axle, I, and cutting-wheels A, connected to the frame by a bolster, J K, arranged to swing back and elevate said wheels A, substantially as specified.

3. The combination of rock-shaft M, handle Q, and rods O and P with the axle I and bolster J, pivoted to the frame, substantially as specified.

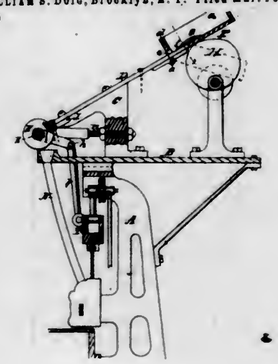
4. The bolster J and uprights K, having axle I attached, and being pivoted to the frame D by rod L in slots S of the frame, substantially as specified.

5. The axle I, having cutter-wheels A, combined with bolster J and uprights K, and being vertically adjustable on the frame by pivot-rod L and holes T, substantially as specified.

6. The tongue connected with axle I, to swing with it in a vertical plane, and connected to bolster J by chain Y and pulley Z, substantially as specified.

7. The combination, with the frame D, the axle I, and the wheel C, provided with check-marker G, of the foot-jack *q r w* and springs *r'*, whereby the check-markers can be adjusted without the driver dismounting from the machine, substantially as described

265,166. NAIL-FEEDING MECHANISM. THOMAS L. SMITH and WILLIAM S. DOIG, Brooklyn, N. Y. Filed Mar. 13, 1882. (No model.)

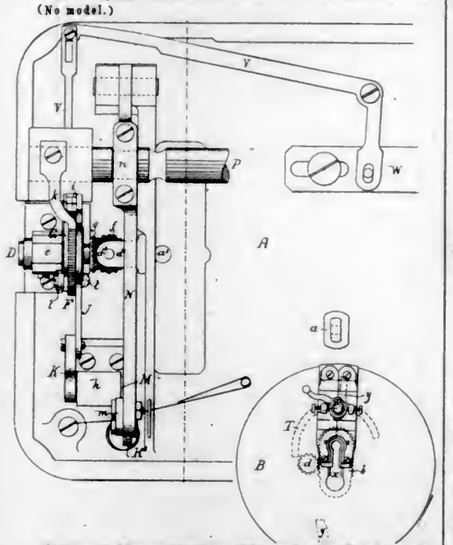


Claim.—1. In a nail-feeding machine, the combination of the inclined plates or guides D with spring-stop I, the foot or stop *g*, the spring-pointer K, and disk-cam F, substantially for the purpose set forth.

2. In a nail-feeding machine, the combination, with inclined plates or guides D, of the tilting nail receptacle or reservoir G, hinged thereto, having therein the slots *e* and *f*, and projections *g*, for the discharge of nails, and operated by the cam H, having thereon a dwell or rest, P, substantially for the purpose set forth.

3. In a nail-feeding machine, the combination of guides D, spring-stop I, point K, disk-cam F, and the coil-spring R, around the shaft E, to allow said shaft to recede when required, substantially as described, for the purpose specified.

265,167. BUTTON-HOLE SEWING-MACHINE. JAMES F. SCUDDER, Philadelphia, Pa., assignor to the National Sewing Machine Company, (Limited,) same place. Filed July 15, 1882. (No model.)



Claim.—1. The combination of the cloth-plate B and its rack *b* with the pinion *d*, shaft *d'*, bevel-gears *f* and *g*, ratchet-wheel F, and lever J with pawl *i*, as set forth.

2. The combination of the pinion *d*, ratchet-wheel F, and intermediate gearing with the pivoted lever J, having a pawl, *i*, and the crank-pin or eccentric *n*, adapted to actuate said lever, as set forth.

3. The combination of the pinion *d*, ratchet-wheel F, and intermediate gearing with the pawl-carrying lever J, the crank-pin or eccentric *n*, the pivoted arm N, and devices, substantially as described, for connecting said arm N and lever J, as set forth.

4. The combination of the pinion *d*, ratchet-wheel F, and intermediate gearing with the pawl-carrying lever J, the crank-pin or eccentric *n*, the arm N, the rock-shaft M, with arms K K', and the link *m*, as set forth.

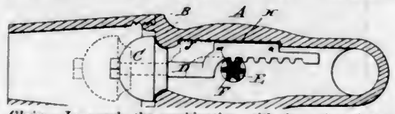
5. The combination of the feed-operating ratchet-wheel F, the cloth-plate B, located wholly above the bed of the machine, and having on the under side a cam-plate, T, the lever J, having a pawl, *i*, adapted to the ratchet-wheel, and a lever under control of the cam-plate T, and adapted to govern the extent of engagement of the pawl and ratchet, as set forth.

6. The combination of the cloth-plate having a cam, T, with the ratchet-wheel F, the lever J and its pawl *i*, the cam-lever G, and the pin *t*, whereby the cam-plate T is caused to actuate the lever G, as set forth.

7. The combination of the feed-operating ratchet-wheel F, the lever J and its pawl *i*, the looper-cam, operating-slide W, and mechanism, substantially as described, whereby the slide is caused to actuate the pawl in order to free the ratchet-wheel from the control of the same, as set forth.

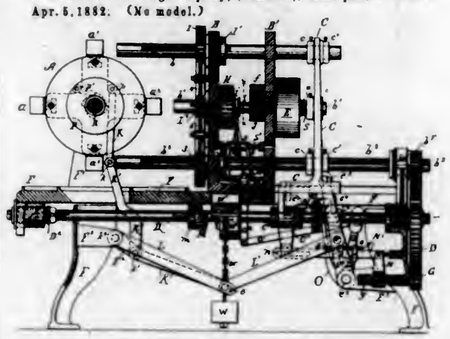
8. The combination of the feed-operating ratchet-wheel F, the lever J and its pawl *i*, the cam-lever H, the slide W, and mechanism, substantially as described, whereby said slide W and the lever H are connected, as set forth.

265,168. COCK. JOHN H. SOLIS, New York, N. Y., assignor of one-half to Samuel A. Churchill, same place, and George W. Churchill, Dunellen, N. J. Filed June 13, 1882. (No model.)



Claim.—In a cock, the combination, with the cock-casing A, provided with a longitudinal groove, J, in the inner surface of one side, of the valve C, the rack D, provided with shoulders *a*, moving in this groove J, and of the spindle F, provided with teeth E, substantially as herein shown and described, and for the purpose set forth.

265,169. MACHINE FOR TAPPING WATER AND GAS FITTINGS. ELIJAH F. SPAULDING, Erie, Pa., assignor to the Jarecki Manufacturing Company, (Limited,) same place. Filed Apr. 5, 1882. (No model.)



Claim.—1. In a screw-cutting machine, the combination, with the revolving fitting chuck-frame having a ratchet thereon, of the pawl-carrying plate P, pawl *p'*, connecting-rod K, elbow-lever K', chain W, and drum W', substantially as and for the purposes mentioned.

2. In a screw-cutting machine having a series of chucks mounted on a revolving frame, and a series of taps and tap-spindles for operating upon fittings held in said chucks, the combination therewith of a carriage, C, yoke C', shaft D, and lead-screw D^2, substantially as set forth.

3. In a machine for cutting screw-threads in pipe-fittings, a revolving chuck-frame, A, with a series of chucks, *a* a' a^2 a^3, thereon, in combination with the tap-spindles *b* b' b^2, the carriage C, lever L^2, and toggles L L', substantially as and for the purposes set forth.

4. In a machine for cutting screw-threads in pipe-fittings, a revolving chuck-frame, A, with a series of chucks, *a* a' a^2 a^3, thereon, in combination with the tap-spindles *b* b' b^2, the carriage C, lever L^2, toggles L L', lever K', rod K, pawl-carrier P, and pawl and ratchet P' R, said lever K' being connected to and moving with the toggles, whereby the said chuck-frame is revolved at the same time that the carriage is drawn back, as set forth.

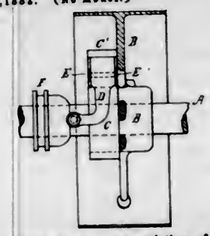
5. In a machine for cutting screw-threads in pipe-fittings, the combination, with the carriage C, which carries the tap-spindles, of a yoke, C', upon the lead-shaft, the connecting-pin c^3, lever c^4, pin c^5, collar m', bar M', pin m^3, collar *m*, and clutch M, substantially as and for the purposes set forth.

6. In a machine for cutting screw-threads in pipe-fittings, the combination, with the tap-spindle carriage and the devices by which it is moved from the lead-screw and made detachable therefrom, substantially as shown, of the levers L^2 L', drum W, clutch M, rod M', and lever O, substantially as shown.

7. In a machine for cutting screw-threads in pipe-fittings, a reversing apparatus consisting of the following elements: a shifting frame bearing a yoke which engages with the clutch-collar, a swinging lever having one end formed into a whip-spring and connected with said shifting parts, spring catch-bars which engage with said shifting parts, and a cross-head on said swinging lever for disengaging said catch-bars, substantially as shown.

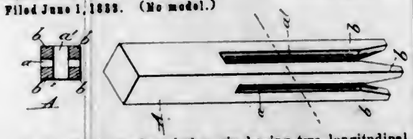
8. In a machine for cutting screw-threads in pipe-fittings, the combination, with the shifting apparatus, of the following elements: the screw *g*, nut N, rod N', adjustable tappet-jaws *o o*, pin o^3, lever O, and means, substantially as shown, for connecting said lever O with the said shifting apparatus.

265,170. FRICTION-CLUTCH. ELIJAH F. SPAULDING, Erie, Pa. Filed Apr. 5, 1882. (No model.)



Claim.—A clutching device consisting of part C, encircling the body to be clutched, and having a projecting lip, C', of links attached to one end of part C and transversely crossing lip C' and connecting with lever D, having one end in contact with the operative mechanism which draws the ends of part C together, for the purpose set forth.

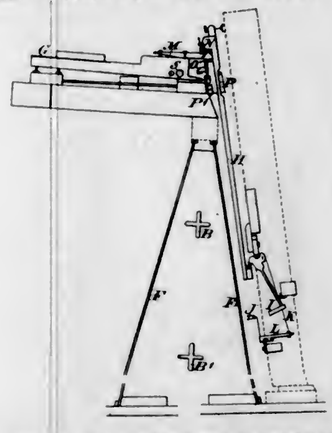
265,171. CLOTHES-PIN. JOHN SPERRY, Mountain Home, Pa. Filed June 1, 1882. (No model.)



Claim.—1. A wooden clothes-pin having two longitudinal slots intersecting each other at a right angle, whereby the pin is provided with four prongs, substantially as shown and described.

2. A clothes-pin having longitudinal slots *a a'* of varying width and arranged at a right angle to each other, substantially as shown and described.

265,172. PIANO-FORTE. WILLIAM H. SQUIRE, Camden Town, County of Middlesex, England. Filed Apr. 18, 1882. (No model.) Patented in England Sept. 5, 1881, No. 3,860.



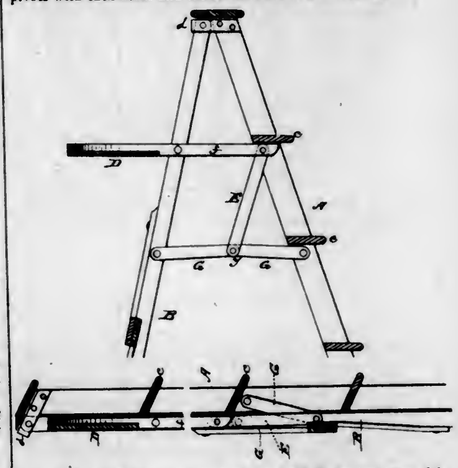
Claim.—1. The combination, in a piano-forte, of the two sounding-boards F F', inclined toward each other, with frames for supporting the same, the two sets of strings stretched across the sounding-boards and the strikers operating to act on said two sets of strings, substantially as described.

2. The combination, in a piano-forte, of the frame A A', with the two inclined sounding-boards, the two sets of strings, respectively, stretched across the said sounding-boards, the key-levers G, the striking-rods H, the short levers intermediate of the key-levers and the striking-rods, and the hammers I, substantially as described.

3. The combination, with the two sounding-boards F F' and the strings stretched across the same, of the two sets of dampers J, the levers L, and the actuating-wires K, constructed and arranged substantially as shown and described.

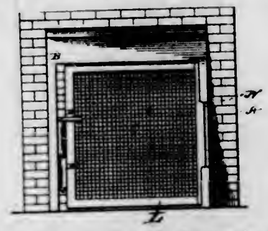
265,173. STEP-LADDER. EDMUND L. STAPLES, Ilion, assignor to Solomon Ford, Mohawk, N. Y. Filed May 17, 1882. (No model.)

Brief.—The hinged supporting-section of the ladder is connected to the step-section by two pairs of arms pivoted at one end to the ladder-sections, and at the other end to each other and to braces pivoted to the inner ends of pivoted arms carrying a shelf at their outer ends, all so arranged that opening or closing the sections without first moving the shelf will bring a direct end pressure of two pairs of the hinged pieces upon each other, while their pivots with each other and the sections are in a direct line.



Claim.—The combination of the shelf D, having arms *f f*, with the braces E, arms G, and sections A and B, substantially as and for the purpose specified.

265,174. GRATE-FENDER. STEPHEN S. STEDMAN and WILLIAM T. BARBER, Jordan's Store, Ga. Filed Apr. 28, 1882. (No model.)



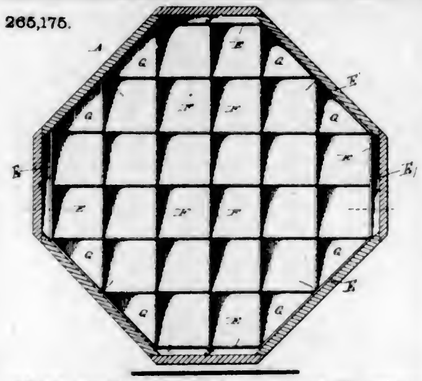
Claim.—1. In combination with a fire-place having a vertical groove, N, on one side, the removable screen C, provided with a frame, L, adapted to fit into the said groove N on one side of the mantel-piece, and having on the other side of the frame a long inverted-L-shaped bolt, D, adapted to enter the long sockets E, and thus secure the frame and screen in place, substantially as shown and described.

2. The combination of the inverted-L-shaped bolt D, adapted to enter the long sockets E, secured to one side of a fire-place, and the gauze screen C, secured to a frame, L, adapted to fill the entire opening in front of the fire-place, and to enter a vertical groove, N, on the other side thereof, as shown and described, and for the purposes set forth.

265,175. EGG-CARRIER. JOHN L. STEVENS, Chicago, Ill., assignor to George A. Smith and Edward Hempstead, same place. Filed Aug. 3, 1882. (Model.)

Claim.—The combination, in an egg-carrier, of an octagonal box, A, a removable octagonal cellular box, comprising a cell-structure having rectangular cells, triangular cells (, and inclosing walls for each box, there being spaces J between the outer and the cellular box, all arranged and adapted to operate substantially in the manner and for the purposes described.

265,175.

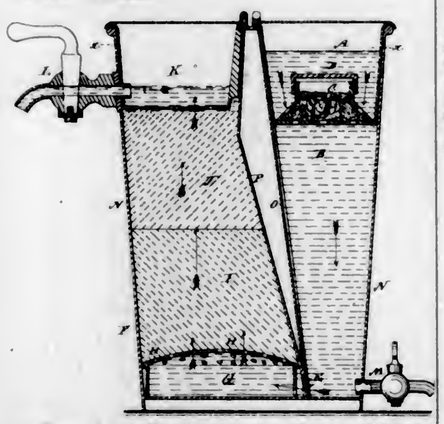


265,176. EGG-BOX. JOHN L. STEVENS, Chicago, Ill., assignor to Edward Hempstead and George A. Smith, same place. Filed July 25, 1882. (Model.)



Claim.—In an egg-box, the combination of the interlocking walls A A', the inclined walls B' B', united to the walls A A, the strips B B, and the partitions C, arranged above the inclined partitions B' and removable, all constructed and adapted to operate substantially in the manner and for the purposes described.

265,177. FILTER. JOHN N. STEVENS, Toledo, Ohio. Filed Apr. 8, 1882. (No model.)



Claim.—1. In a filter, the combination of a can or other portable vessel provided with a vertical partition separating it into two apartments, yet allowing water to pass under or through the partition, near its bottom, a mud-drum in the bottom of one of the apartments, provided with openings to allow water to pass from the partition through its side and out at its top, filtering material over the mud-drum, and a faucet or suitable device for drawing the filtered water from above the filtering material, as shown and described.

2. The combination, with the can or vessel N, having guides R, of the partition O, fitted to slide in said guides, and perforated near its lower end, and filtering material I J in one compartment of the can, above said holes in the partition, as shown and described.

3. The combination, with the can or vessel N, having guides R, the partition O, and filtering material I J, of the re-enforcement to the partition, consisting of the sides Q and back P, as shown and described.

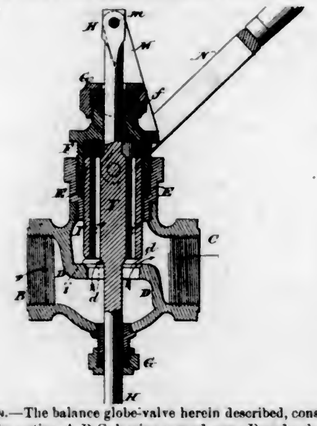
4. The combination, with the vessel N, the movable partition O, having holes through its lower part, and the filtering material I J, of the movable disk G, perforated through its bottom and one side, and inverted in the vessel N, as shown and described.

5. The combination of the vessel N, perforated partition O, mud-drum G, filtering material I J, and faucets L and M, as shown and described.

6. The combination, with the filtering apparatus N O G I J, of a preparatory or auxiliary filter consisting of the perforated dish A, sponge C, and cap D, as and for the purpose specified.

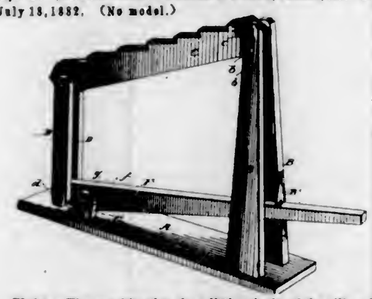
265,178. BALANCE GLOBE-VALVE. MARQUIS D. L. SWANK, JASPER T. THORNLEY, and JOHN A. AWALT, Anderson, Ind. Filed Jan. 27, 1882. (No model.)

Brief.—The valve I has the apertures i' longitudinally through it to allow steam to pass to both sides of the valve, and thus balance it.



Claim.—The balance globe-valve herein described, consisting of the body-casting A B C, having curved arms D and valve-seat *d*, the valve I *i*, having longitudinal apertures *i'*, and stem H, working at right angles to the direction of the current, the valve-cap F, having packing-gland *f*, the caps G, packing-chamber E, and operating means *m* M N, all arranged and combined to operate as and for the purposes set forth.

265,179. WAGON-JACK. DANIEL C. SWETT, Bethel, Me. Filed July 18, 1882. (No model.)



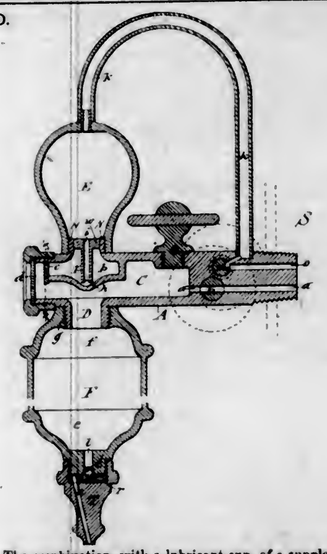
Claim.—The combination, in a lifting-jack, of the sill or base A, having the posts B B and short uprights G G, stepped lever C, adjustable fulcrum *e*, arms D D, and lifting-lever F, slotted at *f*, and pivoted to the lower end of arms D by bolt *d*, the whole constructed and combined to operate substantially in the manner and for the purpose herein shown and set forth.

265,180. LUBRICATOR. ALLEN W. SWIFT, Elmira, N. Y. Filed Aug. 21, 1882. (No model.)

Claim.—1. In a displacement-lubricator, the combination and arrangement, with the lubricant-reservoir, of a water-trap situated inside of said reservoir, at the top of same, substantially as set forth.

2. The combination, with a lubricant-cup, of a supporting-arm connected to the top of the cup and provided with a supplemental lubricant-reservoir connected with the cup and tapped by the lubricant-eduction channel, substantially as shown and set forth.

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3. The combination, with a lubricant-cup, of a supplemental lubricant-reservoir applied to and communicating with the top of the cup, and with an eduction pipe or channel, a water-inlet to the supplemental reservoir, and an observation-port on said reservoir in proximity to the water-inlet, as and for the purposes set forth.

4. In a displacement-lubricator, the combination, with the lubricant-reservoir, of a steam-condenser arranged above the said reservoir, a water-trap situated inside of the reservoir and communicating with the condenser, the discharge-opening of the trap, arranged at the extreme upper portion of the lubricant-reservoir, and an observing-port in front of the water-discharge, as set forth and shown.

5. In a displacement-lubricator, the combination, with the supporting-arm A, of the suspended lubricant-cup and its base and cap, formed in one piece, substantially as shown and described.

6. The supporting-arm A, provided with the cavity C, nipple D, and lubricant-duct *a*, the trap *b*, formed on the upper portion of the cavity C, and provided with the vent *c*, and the transparent plate *d*, secured in the arm A in front of the vent *c*, in connection with the superimposed condensing-chamber E and the pendent lubricant-cup F, substantially as described and shown.

7. In combination with the supporting-arm A, provided with the screw-threaded nipple D, the cup F, formed in one piece with its base *e* and cap *f*, and provided with the screw-threaded orifice *g* for the attachment of the cup to the supporting-arm, substantially as described and shown.

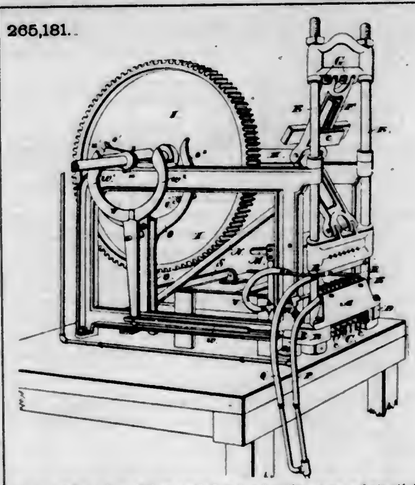
8. In combination with the cup F the supporting-arm A, provided with the cavity C and with the transparent front *d* and eduction-channel *a*, the condensing-chamber E, mounted on the arm A over the cavity C, the steam-pipe K, connected to and terminating at the top of the chamber C, the trap *b*, located in the cavity C, directly under the condenser, and having the depression *h* and end discharge *c*, and the drip-pipe *i*, extended from the base of the condensing-chamber to the depression *h* of the trap, all constructed and combined substantially in the manner described and shown.

9. The combination of the cup F, having the screw-threaded extension *e'*, provided with the orifice *l* and annular ridge *m*, the screw-threaded thimble T, provided with the channel *n*, and the packing-disk *r*, having an extension of said channel, substantially as and for the purpose shown and set forth.

265,181. MANUFACTURE OF BUTTONS FROM PLASTIC MATERIAL. PHILIP L. SYLVESTER, Auburn, N. Y., assignor to Woodruff Brothers, same place. Filed July 8, 1882. (No model.)

Claim.—1. As an improvement in the manufacture of buttons from plastic material, die-blocks constructed with die-cavities of the forms and sizes of the parts of the buttons to be molded therein, and adapted to be closed together, and provided with means whereby they may be heated for the compression of the said

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plastic material, and then cooled to harden the same, substantially as and for the purpose shown.

2. The combination, substantially as before set forth, of the die-block constructed with a die-cavity of the form and size of the part of the button to be molded therein, and the ejector for ejecting the molded button from said die-cavity.

3. The combination, substantially as before set forth, of the die-block constructed with a die-cavity of the form and size of the part of the button to be molded therein, and the ejector which both forms the thread-eye in the button and ejects the molded button from the said die-cavity.

4. The combination, substantially as before set forth, of the die-block constructed with a die-cavity of the form and size of the part of the button to be molded therein, the ejector which ejects the buttons from the said die-cavity, and the discharger which discharges the ejected buttons.

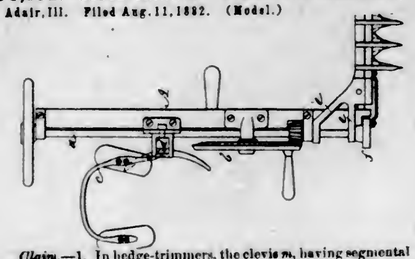
5. The channeled die-block constructed, substantially as before set forth, with a die-cavity of the form and size of the part of the button to be molded therein, and with an internal channel for the passage of heating and cooling fluids.

6. The combination, substantially as before set forth, of the die-block channeled internally for the passage of a fluid, and the ejector for ejecting the article from the cavity of said die-block.

7. The combination, substantially as before set forth, of the channeled die-block, the connecting-pipes, the valve, and the means of operating said valve, whereby steam and water may be automatically and alternately supplied to the internal channel of the die-block.

8. The apparatus, substantially as before described, in which die-blocks provided with interior channels, actuating mechanism whereby the same are moved toward and from each other, automatically-operating steam and water mechanism for alternately heating and cooling said die-blocks, and mechanism for forming thread-openings in buttons, and for removing the same from said dies, are combined and adapted to operate substantially in the manner and for the purpose set forth.

265,182. HEDGE-TRIMMER. WILLIAM P. THROCKMORTON, Adair, Ill. Filed Aug. 11, 1882. (Model.)



Claim.—1. In hedge-trimmers, the clevis *m*, having segmental slot *n*, in combination with the handle A, bar *d*, and screw *o*, substantially as shown and described.

2. In hedge-trimmers, the combination of the strap or brace A and the clamping-nut *l* with the handle A, and cutter-head B, hinged by arms *e* upon the driving-shaft, substantially as and for the purpose set forth.

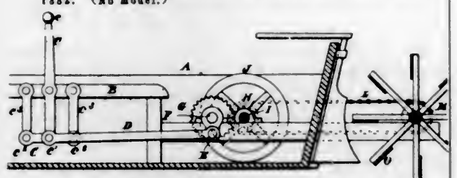
265,183. PAINT. ISAAC T. TICHENOR, Auburn, Ala. Filed May 4, 1882. (No specimens.)

Claim.—As a new article of manufacture, a paint composed of tar dissolved in turpentine or equivalent solvent, beeswax, white lead or zinc or other suitable coloring-matter, kaolin or fine clay and oil, substantially in the proportions as set forth and described.

265,184. PROCESS OF TREATING VULCANIZED INDIA-RUBBER. JAMES C. TITZEL, Allegheny, Pa., assignor of two-thirds to John Lynch and John A. Titzel, same place. Filed July 15, 1882. (No specimens.)

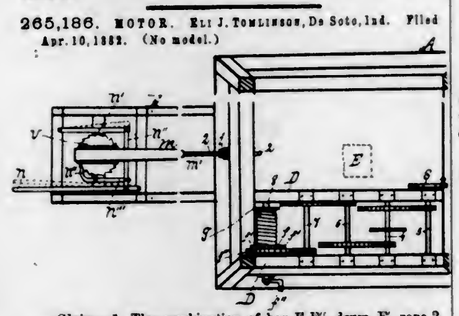
Claim.—The process herein described of treating vulcanized india-rubber for the production therefrom of a pure rubber, consisting in dissolving the rubber in turpentine and linseed-oil, then adding sulphuric acid and washing, then adding caustic potash, then precipitating from the soapy mass the pure rubber, substantially as described.

265,185. APPARATUS FOR PROPELLING BOATS. GERHARD TOD, Jr., and JOSEPH BUCKER, Washington, Mo. Filed May 16, 1882. (No model.)



Claim.—A propelling apparatus consisting of lever C, having handle *c* and foot-bar *c'*, rod F, carrying cranks E E, and spur-wheel G, connecting-rods D D, shaft I, carrying pinion H, balance-wheels J J, and chain-wheels K K, paddle-wheel O, having shaft N, carrying chain-wheels M M, and the connecting-chains L L, as set forth.

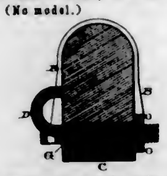
265,186. MOTOR. ELI J. TOMLINSON, De Soto, Ind. Filed Apr. 10, 1882. (No model.)



Claim.—1. The combination of box F F'', drum F', rope 2, pulley *i*, levers *n n' n'' n'''*, tower A, lever *m*, series of wheels, and pendulum *b c d d'*, as set forth.

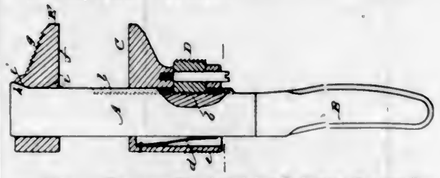
2. The combination of the weight B, ropes 1 2, pulley *c i*, box F, drum F', wheel *v*, and levers *n n' n'' n'''* with tower A, as set forth.

265,187. TRILL-COUPLING. OSCAR TOWER, Wilson, N. Y., assignor of one-half to Henry M. Davis, same place. Filed July 19, 1882. (No model.)



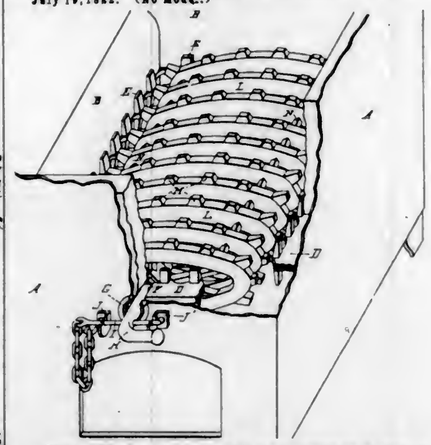
Claim.—The combination of the axle, clips, plate C, having the flange or shoulder G, the coupling D, having the shoulder I, and the nut O, substantially as shown.

265,188. WRENCH. HENRY THEBELLAS, Delaware Mine, Mich. Filed July 2, 1882. (No model.)



Claim.—The reversible slotted jaw E, having its opposite gripping-surfaces, *f g*, made plain and serrated, respectively, and having the slot through the jaw formed with enlarged beveling terminations *i i* on its one side, in combination with the bar A, having a wedge-shaped side projection, *h*, at or near its outer end, essentially as described.

265,189. FIRE-GRATE. JOHN VAN, Cincinnati, Ohio. Filed July 19, 1882. (No model.)



Claim.—The improved reversible grate, consisting of shaft G, having non-circular portion *g'''*, and a series of open disks, L, each formed with lateral studs N, and projecting hub K, having non-circular orifice *k*, as set forth.

265,190. CRIB FOR CHILDREN. NATHANIEL H. VAN WINKLE, New York, N. Y. Filed Aug. 17, 1882. (No model.)



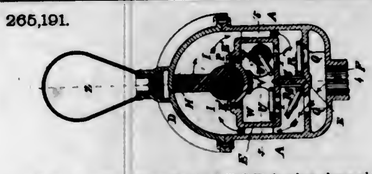
Claim.—1. The frame A, in combination with the extension C, having foot-board D hinged thereto, substantially as and for the purpose set forth.

2. The frame A and extension C, having grooved side rails, *e e*, in combination with the cushion-mattress E E, substantially as and for the purpose set forth.

265,191. PUMP. JOHN WALCHER, St. Louis, Mo. Filed June 20, 1882. (No model.)

Claim.—1. The combination of body A B C D, and piston G on shaft J with crank-shell E and valves R R' U U', all constructed substantially as shown and described.

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2. The combination of body A B C D, having channel Y, openings X Q Q', and shell E, having openings T T', and plugs E', the chamber Z, shaft J, piston G, centered plug K, journal-plug M, and valves R R' and U U', as set forth.

265,192. GRINDING-MILL FRAME. STEPHEN P. WALLING, South Edmeston, N. Y. Filed Apr. 20, 1882. (No model.)



Claim.—1. A frame for grinding-mills, consisting of the two parts or castings *a* and *d*, the first comprising the curb and upper parts of the supporting-columns and the latter comprising the base and lower portions of said columns, the two parts being united, substantially as shown and described.

2. A mill-frame consisting of the casting *a*, having the cup-shaped enlargements *f*, and the casting *d*, having the heads or enlargements *h*, said cups and enlargements being united, substantially as set forth.

3. The combination, in a mill-frame, of two parts, *a d*, as explained and shown, with a joint for uniting the said parts, the said joint comprising the cup *f*, having raised portion *g*, the head *h*, fastening-bolts B, and interposed soft-metal packing, all substantially as shown and described.

265,193. DEVICE FOR HOLDING THE FINGERS IN WRITING. CLAUDE IVY WALLIS, Memphis, Ala. Filed Apr. 1, 1882. (No model.)



Claim.—1. A device for holding the fingers in writing, consisting of a stock or frame for holding the forefinger united with a stock or frame for holding the remaining three fingers, substantially as herein shown and described.

2. In a device for holding the fingers in writing, the stock or frame *a*, provided with curved prongs *a b* at the lower end and curved prongs *c d* at the upper end, substantially as herein shown and described, and for the purpose set forth.

3. In a device for holding the fingers in writing, the stock or frame A, provided with curved prongs *a b* at the lower end, the curved prongs *c d*, and the projection or rest H for the pencil or pen-holder, substantially as herein shown and described, and for the purpose set forth.

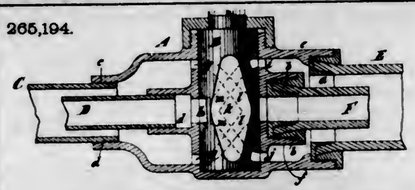
4. In a device for holding the fingers in writing, the combination, with the stock A or frame A, of the stock or frame D and the chain E, substantially as herein shown and described, and for the purpose set forth.

5. In a device for holding the fingers in writing, the combination, with the stock or frame A, of the stock or frame D, the chain E, and the loop F, substantially as herein shown and described, and for the purpose set forth.

265,194. COCK. MAURICE J. WALSH, New York, N. Y., assignor, by mesne assignments, to Louis Fitzgerald, same place. Filed July 20, 1882. (No model.)

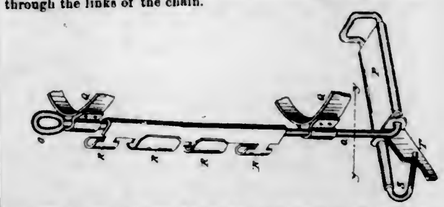
Claim.—In a cock, the combination of the barrel A, provided with the ports *h i g j*, and the plug provided with the ports *k l m*, substantially as specified.

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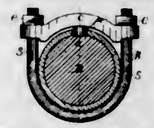
265,195. CLIMBING DEVICE. ANTHONY WARD, Brooklyn, N. Y. Filed Mar. 24, 1882. (No model.)

Brief.—A rod to which the foot-rest and the guide-hooks for the chain are attached is fastened by straps to the leg of the person to ascend. A spur at the side of the foot-rest is formed to pass through the links of the chain.



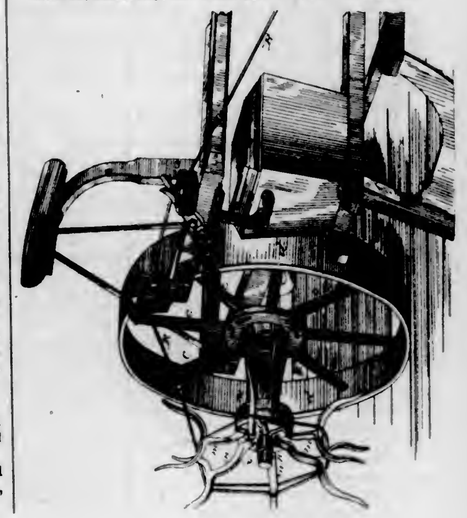
Claim.—In a climbing device, the combination, with the chain suspended from the building, of the rod O, having straps Q, foot-rest P, hooks R and S, and hinged spur T, substantially as herein shown and described, whereby a person can readily ascend a chain, as set forth.

265,196. AXLE FOR VEHICLES. JASPER P. WARNER, Dowagiac, Mich. Filed June 14, 1882. (No model.)

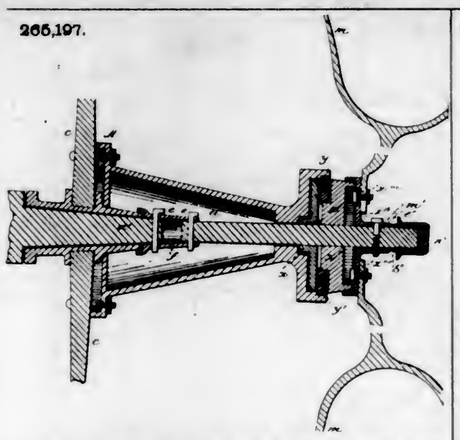


Claim.—The adjustable axle-coupling consisting of the central tube, B, inner movable parts, D, clip S, and yoke C, having pintle *a*, engaging with the hole *a'* of the tube B, as and for the purposes specified.

265,197. CHECK-ROWER REEL AND DRILL. LEWIS E. WATERMAN, Mason City, Ill. Filed Apr. 11, 1882. (No model.)



265,197.



Claim.—1. The combination, with a drive-wheel and axle of a corn-planter check-rower, of a shaft connected to one end of said axle and forming an extension thereof, and a rope or wire reel or spool loosely mounted on said shaft, and intermediate connecting mechanism for operating or revolving the rope or wire reel or spool, substantially as and for the purpose specified.

2. The combination, with drive-wheel and the axle of a corn-planter check-rower, of a shaft connected to one end and forming an extension thereof, and a rope or wire reel or spool loosely mounted thereon, and a friction-clutch for automatically adjusting the movements of said reel or spool in regulating the tension of the rope or wire, substantially in the manner specified.

3. The combination, with a drive-wheel and the axle of a corn-planter check-rower, of a shaft connected to one end and forming an extension thereof, a rope or wire reel or spool loosely mounted thereon, a friction-clutch connecting said reel or spool to the extension-shaft, and mechanism for connecting and operating said friction-clutch through the medium of said drive-wheel, substantially as and for the purpose specified.

4. The combination, with a drive-wheel and the axle of a corn-planter check-rower, of a shaft connected to one end of said axle and forming an extension thereof, and a rope or wire reel or spool loosely mounted thereon, a friction-clutch connecting the reel or spool to the extension-shaft, and spring-adjusting mechanism adapted to loosely engage said clutch, so that the reel or spool may revolve loosely on its shaft, substantially as and for the purpose specified.

5. The combination, with a drive-wheel and the axle of a corn-planter check-rower, of a shaft connected to one end and forming an extension thereof, a rope or wire reel or spool loosely mounted thereon, an adjustable friction-clutch, geared mechanism, and a conical shell connected to said drive-wheel for operating the reel or spool, substantially as specified.

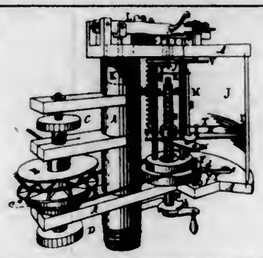
6. The combination, with a drive-wheel and the axle of a corn-planter check-rower, of a shaft connected to one end and forming an extension thereof, a reel or spool mounted on said shaft, and intermediate connecting mechanism, substantially as described, for operating said reel or spool, a pulley, P, and a knotted rope or wire passing around said reel or spool and pulley and adapted to engage the usual check-rower devices of a corn-planter, substantially as and for the purpose specified.

7. The combination, with a drive-wheel and axle of a corn-planter check-rower, of a conical shell connected at its enlarged end to the drive-wheel, its smaller end provided with an enlarged case having an internal gear, fixed lever carrying pinions *y y'*, friction-wheel *x'*, provided with cogs and a beveled lip around its circumference, friction plate or wheel *x''*, provided with a similar lip, shaft *a*, connected at one end to axle *a'*, inside of the conical shell, and having a rope or wire reel or spool loosely mounted thereon, and which consists of the friction plate or wheel *x''* and arms *m*, bolted thereto, the several parts arranged relatively to each other, substantially in the manner described, and for the purpose specified.

265,198. DIAGRAM-INSTRUMENT FOR ENGINES. J. BURKITT WEBB, Ithaca, N. Y. Filed July 21, 1882. (Model.)

Claim.—1. An indicator-diagram formed of substantially horizontal lines, which by interruption or deepening define the volume and pressure register line, substantially as specified.

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2. An indicator in which a recording-point is by the motion of the piston caused to pass over a recording-surface to form diagram-of-pressure lines, and by suitable feed mechanism has its position with reference to said lines regularly changed, and by means of the pressure of steam within the cylinder is moved toward and caused to impinge upon said recording-surface, substantially as shown.

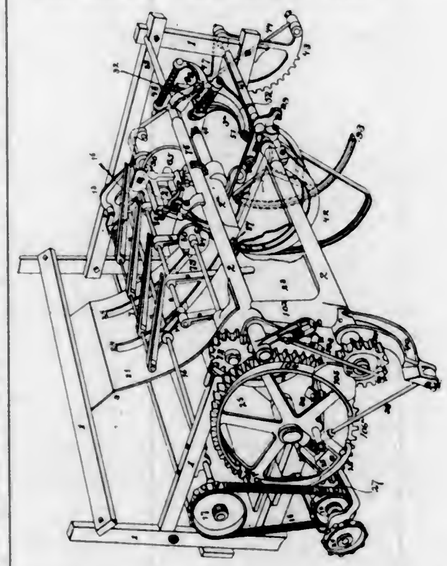
3. As a means for adjusting the indicator to engines having different lengths of stroke, the combination, with the adjustable pulley B, of the stationary pulley *c'* and movable pulleys *c²*, placed between and adapted to receive the operating-cord *c³*, substantially as set forth.

4. In combination with the vibrating frame which carries the recording-point, the spiral pulley B', adapted to receive the driving-cord *c'*, substantially as shown and described.

5. As a means for causing the recording-point to impinge upon the recording-surface, the diaphragm K, lever L, and springs M M, in combination with intermediate mechanism, substantially as specified.

6. As a means for recording the exact area at any given time, two fixed points arranged upon opposite sides of a properly-divided circular dial, two points provided respectively upon the ends of a long and a short hand, which are adapted to travel around said dial, the first to indicate thereon each movement of the recording-point and the latter to indicate several of such movements, and means whereby a paper blank may be simultaneously pressed upon and removed from each of said points, substantially as shown.

265,199. SELF-BINDER. WILLIAM N. WHITELEY and JOHN R. THOMAS, Springfield, Ohio, assignors to Whiteley, Fassler & Kelly, same place. Filed Jan. 30, 1882. (Model.)



Claim.—1. A mechanism for automatically connecting and disconnecting a binding with a harvesting machine, consisting of the arm 3*, movable tooth-section 2⁶, sliding head 28, guideways

29, spring 30, cam-track 31, lever 32, shaft 33, cam-track 34, pivoted lever 36, spring 37, and bolt 38, or their equivalents.

2. The combination of the compressor-shaft with its actuating-pinion and the pitman, connected at one end to an arm on the compressor-shaft by the spring-connection 111 112 and at the other end to a wrist on the pinion, whereby a limited elastic movement of the compressor-shaft is permitted independent of the pinion.

3. The combination of a toothed sector, 43, a pinion, 94, a ratchet-wheel, 95, a spring-pallet, 96, and a connecting-rod, 44, with the ejector 93, the cam 12, and means for operating the sector, whereby the position of the cam 12 is changed by the movement of said sector and the ejector 93 by a return movement of said toothed sector, for the purposes specified.

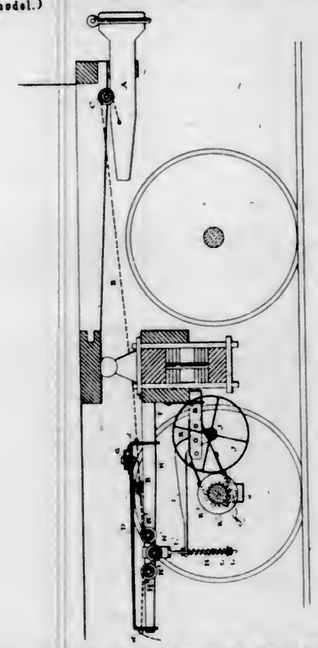
4. A toothed segment, 75, a pinion, 78, an eccentric, 76, on shaft 77, and connected with the segment by a pivoted lever, and a pivoted lever, 83, in combination with a cutter and gripper, 45, substantially as and for the purpose specified.

5. A shaft, 77, provided with a disk, 80, and cam 79, whereby the lever 83 and the gripper and cutter-rod 82 are actuated, and a disk, 65, provided with cam 73 and segment-gear 67, combined with the knotter 55 56 57 60, the pinion 66, roller 63, and spring 64, whereby the knotter and the gripper and cutter are actuated by the same shaft, as set forth.

6. The combination, with a wheel having a gear-segment, 67, the cams 73 73*, of a knotter, 55 56 57 60 63 64 66, and a stripper, 87 91, lever 88, rod 89, friction-roller 90, and spring 92, to return the stripper to its place of rest, as set forth.

7. A compress-arm, 3*, hinged to the part 32 of the frame, and provided with a spring, 48, in combination with an auxiliary compress, 52, hinged to the extremity of said compress 3*, and provided with spring 53, as and for the purpose specified.

265,200. CAR-BRAKE. WATSON P. WIDDIFIELD and ANSON T. BOTTOR, Uxbridge, Ontario, Canada. Filed Feb. 17, 1882. (No model.)



Claim.—1. In an apparatus for applying the brakes of railroad-cars in which the power is derived from a friction-pulley applied to one of the revolving axles, a crank-lever pivoted at a point near the axle and supporting on its short arm the axle of the friction-pulley, to which axle the brake-chain is attached, in combination with a spindle passing through and attached to the lever, and provided with a pulley around which a chain or rope leading from the draw-bar passes, after passing over stationary pulleys situated above it, so that the tightening of the chain will raise the spindle a given height, but no higher, and with a spring in said chain to cushion the force, substantially as and for the purpose specified.

2. In an apparatus for operating railroad-car brakes in which an adjustable friction-pulley operating against the revolving axle of the car is employed for tightening the ordinary brake-chain, a shaft formed in two parts, each part carried in independent bearings, the part to which the adjustable friction-pulley is keyed being journaled on a crank-lever pivoted on an arm journaled on the truck-axle, and the part to which the brake-chain is connected being journaled on brackets secured to the truck-frame, in combination with a universal joint, J³, arranged to connect the two parts together, and with a pivoted brake-pulley, J, substantially as and for the purpose specified.

3. In a car-brake, a friction-pulley, K³, composed of compressed paper made in semicircular segments to fit the car-axle, and having a fixed ring, P, and adjustable ring Q, combined and adapted to serve with means for operating the brake-chain, substantially as set forth.

4. The car-axle having friction-pulley K³ made in sections of compressed paper, the ring P, adjustable ring Q, and set-screw Q', combined with the friction-pulley J, as and for the purposes set forth.

5. In an apparatus for applying the brakes of railroad-cars in which a friction-pulley for imparting movement to the brake-winding mechanism is operated by the tightening of a chain or rope attached to the draw-head of the car, an adjustable bar, D, supported between two parallel bars, E, fixed to the truck-timber F, in combination with stop-blocks *d*, placed, as described, on the operating chain or rope for the purpose of holding the said chain on one side of the spindle H while being drawn upon by the compression of the draw-head on the other side of said spindle, substantially as and for the purpose specified.

6. The chain or cord B, having spring B' and stop *d*, combined with the adjustable bar D, and with the friction-pulley J and connections, as specified.

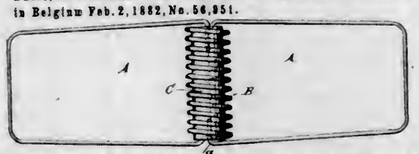
7. The arm K, furnishing journal for the axle K', and the oil-cup *e*, having communication with such journal, combined with the float or roller *f*, as and for the purposes set forth.

8. The spindle J³, having reverse recesses *b b'*, and the clutch-disk M, having reverse pawls *a a*, combined with the push-bar N, as set forth.

9. In an apparatus for applying the brakes of railway-cars in which the brakes are applied by the winding of the brake-chain upon a spindle caused to revolve by friction mechanism operated by one of the car-axles, the clutch M, having the brake-chain O connected to it, and the pawls *a*, pivoted upon its face, in combination with the notches *b* and *b'*, formed, as described, in the spindle J³, upon which the clutch M is journaled, and the rod N, for adjusting the said clutch, substantially as and for the purpose specified.

10. The chain B, having spring B', and the spring L, combined and adapted to serve with the pulley J, axle K', and their connections to cushion the force applied through the chain, as specified.

265,201. SPRING FOR MATTRESSES. JOSEPH A. WIDEMANN, Basle, Switzerland. Filed Aug. 8, 1882. (No model.) Patented in Belgium Feb. 2, 1882, No. 56,851.

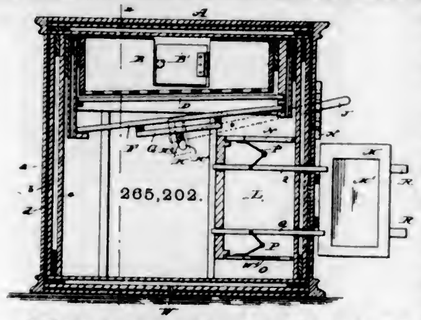


Claim.—1. A one-piece middle-coiled wire spring for mattresses, having both ends formed into rectangular or nearly-rectangular frames A A, whereby they may be applied between the top and bottom slats, as described.

2. In an upholstery-spring, the combination, with the frames A, of the transverse spiral spring B at the inner or open ends of the same, the block C, inserted into the said spring, and the bent ends *a* of the wire, forming the frames A and spring B, which bent ends *a* are driven into the ends of the block C, substantially as herein shown and described, and for the purpose set forth.

265,202. REFRIGERATOR. CHARLES G. WIESNER, Kansas City, Mo. Filed July 3, 1882. (No model.)

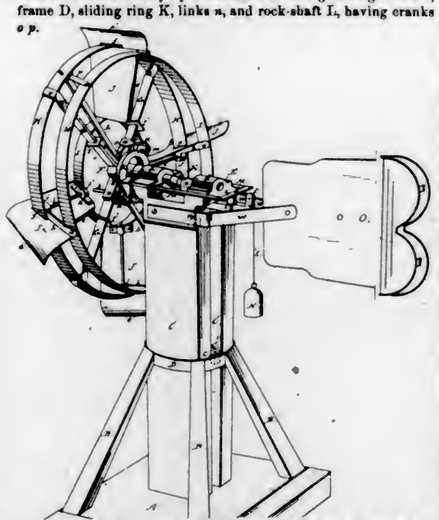
Claim.—1. In a refrigerator, the grooved slats F, arranged beneath the ice-box slats D, in combination with a vertically-movable frame, G, a cross-shaft, H, having end blocks, H*, and the box A, having curved slots in the sides, as and for the purpose specified.



2. The box L in chamber A, having a hinged top and bottom, in combination with the rods Q, the elbow-levers P, pivoted to said rods, the door M, having tongues R, and the glass-paned door S, whereby said chamber may be used, as described.

265,203. WINDMILL. EDWARD WILLIAMS, Dubuque, Iowa. Filed Nov. 15, 1881. (No model.)

Brief.—The sails J are pivoted to the rings H H' I, and are feathered automatically by the weight N acting through cord *t*, frame D, sliding ring K, links *n*, and rock-shaft L, having cranks *o p*.



Claim.—1. In a windmill, the sails of the wheel, curved at their upper and inner edges and strengthened at their outer edge, substantially as described and shown.

2. In a windmill, the combination, with the sails J and bands or tires H, H', and I, constructed and arranged substantially as described and shown, of the T-shaped hinges, composed of the parts *h*, *h'*, and *i*, secured to the back of said sails, and attached to said bands or tires in the manner substantially as described, shown, and for the purpose set forth.

3. In a windmill, the combination, with the shaft E, hub or spider F, and arms G, rigidly secured to band or tire H, of the inner band or tire, I, provided with loops I', through which pass the arms G, and by which the inner band or tire is secured to said arms, the several parts constructed and arranged substantially as described and shown.

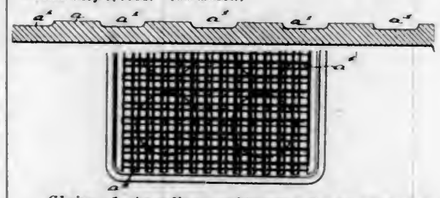
4. In a windmill, the combination, with the shaft E, hub or spider F, and arms G, of the inner band or tire, I, provided with loops I', passing around said arms, outer band or wheel, H, passing through opening *f* made in the sails, governing band or tire H', attached to the inner edge of the sails, and the sails J, the several parts constructed, arranged, and operating substantially as described, shown, and for the purpose set forth.

5. In the windmill described, the combination, with the shaft E, hub or spider F, arms G, bands or tires H H' I, and sails J, constructed and arranged substantially as described and shown, of the ring or yoke K, provided with the ears *l l* and extensions *m m*, and suspended around said shaft between the hub and shaft-bearings by means of the rods *k k*, passing into and through the arms of said hub or spider, substantially as described, shown, and for the purpose set forth.

6. In the windmill described, the combination, with the dead-weight N, means for suspending it, clutch-rods M M, and ring or yoke K, constructed and arranged substantially as described and shown, of the arms *n n*, levers *o o*, arms L L, having bearings in the bands or tires I and H, respectively, levers *p p*, governing band or tire H', and sails J, the several parts constructed, arranged, and operating substantially as described, shown, and for the purpose set forth.

7. In the windmill described, the combination, with the turn-table C C, secured at its upper end, substantially as described and shown, of the tail-vane Q, split and curved at its outer end, and rigidly secured at its inner end to the top of the turn-table by the arms *w w*, substantially as described, shown, and for the purpose set forth.

265,204. STOVE. CATHERINE A. WILLIAMSON, St. Louis, Mo. Filed July 6, 1882. (No model.)



Claim.—1. An ordinary cooking-stove the top of which is open to the air and grooved, the grooves extending through the movable covers as well as through the fixed part of the stove-top, for the purpose described.

2. An ordinary cooking-stove top open to the air and having two or more sets of grooves, *a'*, as and for the purpose described.

3. An ordinary cooking-stove top open to the air and having intersecting grooves *a'*, as and for the purpose described.

265,205. WITHDRAWN.

265,206. LENS AND MANUFACTURE THEREOF. THOMAS A. WILLSON, Reading, Pa. Filed Mar. 20, 1882. (No model.)



Claim.—1. The mode herein described of manufacturing lens-blanks, the said mode consisting in press-molding glass so that the blank shall have a continuous mold-finished edge to form the finished edge of the lens without grinding, the faces of the blank approximating in form to those of the finished lens, all substantially as set forth.

2. As a new article of manufacture, the within-described lens-blank, the same having a continuous mold-finished edge, forming the finished edge of the lens without grinding, and faces approximating to those of the finished lens, as set forth.

3. The mode herein described of manufacturing lenses, the said mode consisting in first press-molding glass into a lens-blank having a continuous mold-finished edge, and subsequently grinding and polishing the opposite faces only of the blank, as specified.

4. As a new article of manufacture, a pressed glass lens having ground and polished opposite faces and a continuous mold-finished unground edge, as set forth.

265,207. TOY. CHARLES C. WURST, St. Louis, Mo., assignor of one-half to Mathew Moosmann, New Orleans, La. Filed May 10, 1882. (No model.)



Claim.—1. The wheel A, having a bell or bells, G, secured thereto by spring-catches H, substantially as set forth.

2. The wheel A, having a bell or bells secured thereto, substantially as set forth.

3. The combination of wheel A, having groove B and openings D E, string C, bells G, and removable spring-catches H, all substantially as set forth.

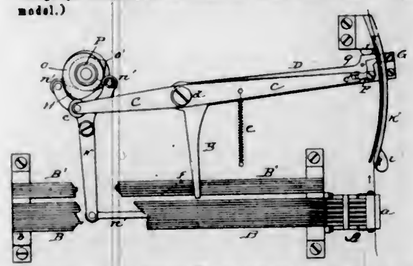
265,208. TOILET-STAND. RICHARD D. YOUNG, New York, N. Y. Filed July 15, 1882. (No model.)



Claim.—1. As a new article of manufacture, the perfume-stand herein described, which consists of a miniature wheeled vehicle the body of which is composed of an ornamental supporting-frame and of a filling-piece having a recess for the perfume-bottle, substantially as set forth.

2. As a new article of manufacture, the perfume-stand herein described, consisting of a miniature wheelbarrow the body of which is composed of an ornamental supporting-frame and of a filling-piece provided with a central recess for the perfume-bottle and side recesses for pin-cushions, said filling-piece being covered with velvet or other suitable material, as set forth.

265,209. AUTOMATIC FEEDER FOR PERFORATORS. FRANK ANDERSON, Peekskill, N. Y., assignor to the American Rapid Telegraph Company, of Connecticut. Filed Jan. 6, 1882. (No model.)



Claim.—1. In a machine for perforating telegraphic paper, a curved guide, a feed-lever pivoted concentrically therewith, mechanism, substantially as described, for operating said lever, and an automatic clamp adapted to the curved guide, operated by the lever C, all essentially as set forth.

2. In a machine of the class named, a curved guide, a feed-lever pivoted concentrically therewith and operated by mechanism substantially as described, an automatic clamp, and feed-bars having varied stops adapted to limit the motion of the feed-lever, substantially as set forth.

3. The combination of the plates K' K', pivoted levers C and D, angle-piece G, bell-crank pawl F, spring *e*, feed-bars B', and mechanism for oscillating the levers, substantially as described.

4. The combination of the levers D, carrying angle-piece G, and adapted to be stopped at different points by feed-bars B', with the lever C, carrying-pawl F, and with the stop *g* and spring *e*, the parts all operating as set forth.

5. The combination of the curved slotted plates K' K', levers C and D, angle-piece G, pawl F, and pin *g*, all the parts operating in the described apparatus as set forth.

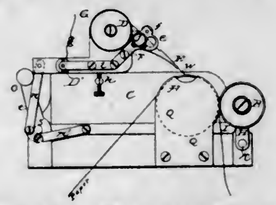
6. The combination of the levers C and D and their pawl mechanism, operating in connection with the curved plates, the feed-bars and connections, as described, and the cam H, operating substantially as described.

7. The levers C and D and connections for feeding the paper, in combination with the forked lever N, operating-cam, rod *n'*, and punches, all as set forth.

8. The combination of the self-acting clamp F G, the lever D, the feed-bars B', stops *f f*, lever C, cam H, and spring *e*, operating together as shown and described.

9. The combination of the cam H, levers C D, clamps F G, paper-guides K' K', and stop-spring or pawl *i*, operating substantially as shown and described.

265,210. CHEMICAL TELEGRAPH-RECORDER. FRANK ANDERSON, Peekskill, N. Y., assignor to the American Rapid Telegraph Company, of Connecticut. Filed Jan. 6, 1882. (No model.)



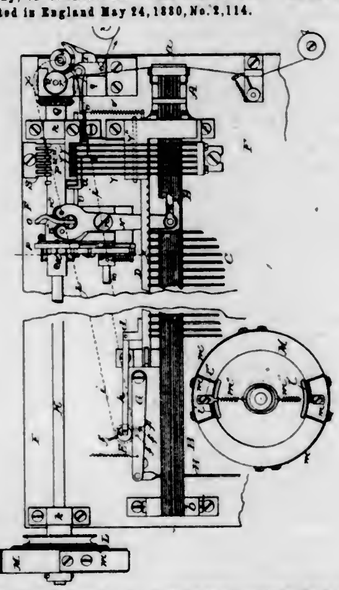
Claim.—1. In a recording-instrument, a carrying-wheel, r pivoted pen-holder, a pressure-roller mounted on a separate pivoted lever, a crank-shaft, and connecting-bars between said shaft and the pen-holder and pressure-roller, whereby the pen-holder is lifted and the lever of the pressure-roller moved by one operation of the hand, substantially as described.

2. The pivoted and chambered standard, in combination with a bracket having a channel for the pen, said standard being arranged in the described relation to the carrying-wheel of the recording-instrument and operating as set forth.

3. In combination with the standard and with devices for supporting and guiding the pen or pens, pressure-rollers mounted on said standard and provided with turning device fitted to the hand, substantially as described.

4. The carrying-wheel, a pivoted pen-holder, a separate pressure-roller on a pivoted lever, a crank-shaft, and bars connecting pen-holder and lever of pressure-roller, in combination with a switch connected to said crank-shaft, whereby all the parts are moved by one motion of the hand, as set forth.

265,211. TELEGRAPHIC PERFORATOR. FRANK ANDERSON, Peekskill, N. Y., assignor to the American Rapid Telegraph Company, of Connecticut. Filed Jan. 6, 1882. (No model.) Patented in England May 24, 1880, No. 2,114.



Claim.—1. In a perforator, a continuously-running feed-wheel connected to the main driving-shaft of the machine, and combined with means, substantially as described, acting in connection with the key-levers, for pressing the paper intermittently upon said wheel.

2. The combination of the feed-wheel B, connected to the main shaft and adapted to run continuously therewith, with the pressure-roller r', adapted to be pressed intermittently against the feed-wheel and to cause the same to act upon the paper strip, as set forth.

3. The combination of the feed-wheel B, connected to the main shaft and running continuously therewith, a pressure device adapted to press the paper strip intermittently against said wheel, mechanism, substantially as described, connected to the main shaft, for determining the length of time of pressure against said wheel, and devices controlled by the key-levers for throwing said mechanism into connection with the pressure device, as set forth.

4. The sleeve P, provided with cams u u u, apron U, having arm v', engaging with spring and lever of pressure-roller, the spring W, lever x, and plugs y, all combined with each other and with the bars Y and key-levers, as set forth.

5. The combination of the wheel R and its inclosing chamber, pressure-roller r', operated as described, and guide-piece T, substantially as described.

6. The sleeve P, loose upon the shaft K, and provided with mechanism for connection therewith, substantially as described, bevel-gears Q Q, shaft r, and feed-wheel moving with said shaft, in combination with the pressure-roller operating in connection therewith, as set forth.

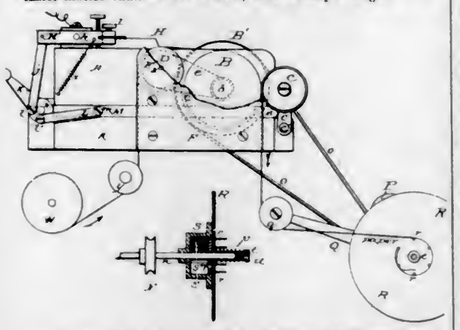
7. In a perforator of substantially the form described, a series of lifting-bars, shifting mechanism for the same, driven from the main driving-wheel of the machine and running constantly therewith, a frame rocked by key-levers which cause groups of perforations of uneven number, and mechanism between said frame and the shifting mechanism, whereby upon depression of any one of said keys the shifting mechanism is thrown into connection with the lifting-bars, and said bars are shifted by power derived from the main driving-wheel, substantially as described.

8. In the described perforator, the shifting bar D, connected to disk E, in combination with the pulleys and connecting-belt, and an escapement operated by the key-levers, substantially as described.

9. In combination with disk E, operating the shifting bar D by connection with main driving mechanism, the wings f f, pins f' f', lever G, and devices connecting the lever to the key-levers, as set forth.

265,212. TRANSMITTER FOR AUTOMATIC TELEGRAPHS. FRANK ANDERSON, Peekskill, N. Y., assignor to the American Rapid Telegraph Company, of Connecticut. Filed Jan. 13, 1882. (No model.)

Brief.—An arrangement for lifting the pin and removing the pressure-roller at the same time; also a paper-reel with loose pulleys for regulating the tension. The contact-roller has slightly faster motion than the feed-rollers, so as to keep it bright.



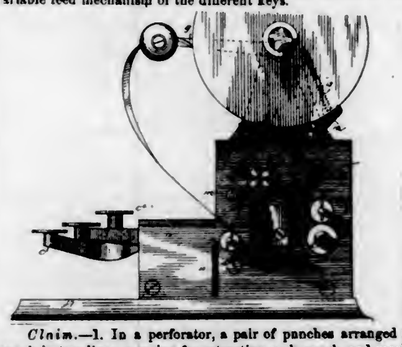
Claim.—1. In a transmitter for automatic telegraphs, a contact-wheel, a separate carrying-wheel, suitable pulleys, and a connecting belt or gearing, substantially as described, adapted to give the contact-wheel slightly slower motion than that of the carrying-wheel.

2. In combination with a transmitter, a winding-reel, R, geared to the transmitter by belt or friction device, and the lever Q and idlers q and P, all operating as shown.

3. A reel for winding the fillet, consisting of the flange R, shaft s, hollow hub S, disk T, carrying pins r, projecting through holes in R, said disk having also the sleeve and spring, the parts being constructed and connected to the carrying-wheel, all substantially as described.

265,213. TELEGRAPHIC PERFORATOR. FRANK ANDERSON, Peekskill, N. Y., assignor to the American Rapid Telegraph Company, of Connecticut. Filed Jan. 8, 1882. (No model.)

Brief.—Four keys are provided, one of which actuates the feed alone after being depressed. Each of the others actuates the feed on its return after being depressed, but a varying amount, dependent on the key, depressed. Each key operates both punches—first one and then the other—but only one punch is operated at each depression, so that by a series of depressions of any one key a series of perforations are made in alternate rows, the distance between which depends upon the key depressed, in view of the variable feed mechanism of the different keys.



Claim.—1. In a perforator, a pair of punches arranged to punch in two lines, a spring for retracting each punch, and mechanism for invariably operating said punches alternately, a key-lever connected to the punch-operating mechanism and also connected to the feed mechanism, whereby upon every depression thereof it operates the punch and retracts the feed mechanism, and means, substantially as described, for moving forward the feed mechanism upon the use of the key-lever, the combination operating as set forth.

2. In a perforator, a pair of punches arranged to punch in two lines, a spring for retracting each punch, and mechanism for invariably operating said punches alternately, a series of key-levers connected with said punch-operating mechanism, whereby depression of any one of said key-levers operates a punch and feed mechanism, and a varied connecting mechanism between said feed mechanism and the key-levers, whereby the feed mechanism is retracted a different distance by each key-lever, and means, substantially as described, for moving forward the feed mechanism when a key-lever rises, the combination operating as set forth.

3. In a perforator, a pair of punches arranged to punch in two lines, a spring for retracting each punch, and mechanism for invariably operating said punches alternately, a series of key-levers connected with said punch-operating mechanism, whereby depression of any one of said key-levers operates a punch and feed mechanism, and a varied connecting mechanism between said feed mechanism and the key-levers, whereby the feed mechanism is retracted a different distance by each key-lever, and a feed-key having connection with the feed mechanism only, all the parts being organized and combined as set forth.

4. In a perforator, and in combination, a pair of punches arranged across the path of the fillet-levers M M, provided with offsets l, a wheel carrying two rows of cams, key-levers, and intermediate mechanism, whereby any one of said key-levers operates said cams, springs to retract the punches, and suitable feed mechanism, substantially as described.

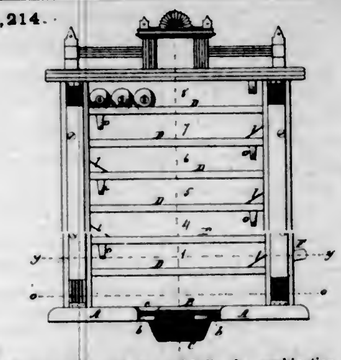
5. The combination of the key-levers, the rocking frame connected to the shaft J, the devices for depressing and retracting the punches, and the sleeve F, provided with arms bearing upon the ends of the key-levers connected to the feed-roller, all substantially as described.

6. The key-lever C^2, adapted to operate the sleeve through the arm c'', but not to operate the rocking frame, and the key-lever C^3, adapted to operate the said frame and the key C^2, all substantially as described.

7. The key-levers, constructed as described, in combination with the sleeve F, having arms c' c^2 c^3, and stops f, fixed to the sleeve and adapted to come in contact with the ends of the key-levers, substantially as described.

265,214. RACK FOR POOL-BALLS. WILLIAM M. BAYNS, Poughkeepsie, N. Y., assignor of one-half to Simon Potter, same place. Filed Apr. 26, 1882. (Model.)

265,214.



Claim.—1. In a rack for pool-balls, the combination, with a series of shelves pivoted centrally to the case, of means, substantially as described, for securing them to retain the balls and tilting them alternately in opposite directions to deliver the balls.

2. In a rack for pool-balls, the combination, with a series of shelves pivoted centrally to the back of the case, of the lifter-bars E E', provided with gains g g', the jamb of the case, and a lever, F, all substantially as and for the purpose described.

3. In a rack for pool-balls, a series of shelves, each provided with a hole, i, at one end and a depending stop-block, o, at the other, in combination with means for tilting them, substantially as described.

4. In a rack for pool-balls, a series of shelves, each provided with a hole, i, at one end and a depending stop-block, o, at the other, and inclines l, as described, in combination with means for tilting them.

5. In a rack for pool-balls wherein a series of centrally-pivoted shelves are caused to be tilted alternately to deliver the balls, the holding and tilting means, consisting of the lifter-bars E E' on both sides of the case, provided with notches f f' and gains g g', in combination with the jambs of the case, having guides and lever F pivoted to one of said jambs and to the bars E E' (in said jamb) at e' e'', all substantially as and for the purpose described.

6. In a rack for pool-balls, having a series of pivoted shelves and means for tilting them alternately in opposite directions, the said shelves each beveled from the edges to a middle groove, k, and covered with oil-cloth to form a noiseless gutter and holding-way, k, substantially as set forth.

7. In a rack for pool-balls, having tilting shelves capable of delivering the balls to a receptacle, the combination therewith of the sill A, provided with a gutter, c, and shouldered seat B b, substantially as and for the purpose described.

8. In a rack for pool-balls, the combination, with the case and the centrally-pivoted shelves, of the fabric-separating washers v and means for tilting the shelves, substantially as described, for the purpose specified.

9. In a rack for pool-balls, the combination, with a series of shelves, each provided with a hole, i, at one end and a depending stop-block at the other end, and fabric inclines arranged on the shelves beneath the said openings, of means, substantially as described, for freeing the stops from the balls.

10. In a rack for pool-balls, the shelves thereof, having a cushion-lined hole at one end and a cushion-incline at the other, in combination with the depending stops and means for operating said shelves to hold and to deliver the balls, as set forth.

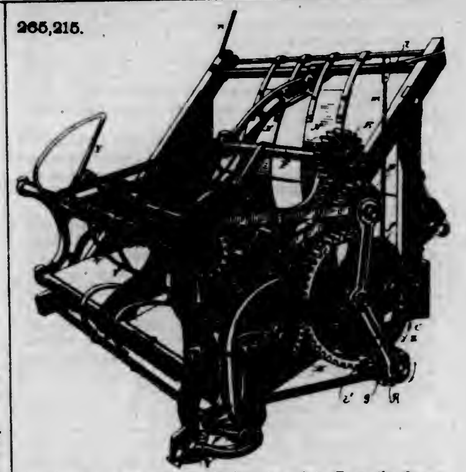
11. The receiving and delivering sill or lower shelf of a pool-rack, having a gutter, c, and a curved seat part, b, in combination with a noiseless receptacle supported upon said seats with its edge below the plane of said gutter, substantially as described, for the purpose specified.

12. The herein-described rack for pool-balls, consisting of the series of centrally-pivoted shelves, each having a depending stop, a delivering-hole, and a receiving-incline, the operating-bars E E', connecting the opposite ends of the shelves, the lever F, the guttered sill having the curved seat, the basket-receptacle, and pivot-cushions of the shelves, all constructed and arranged for operation substantially as described.

265,215. AUTOMATIC BINDER. WILLIAM BAYLEY, Springfield, Ohio, assignor to Whiteley, Fassler & Kelly, same place. Filed Oct. 26, 1880. (Model.)

Claim.—1. In an automatic grain-binder, a train-wheel, C, mutilated and provided with a bolt, h, impelled by a spring, combined with a cam and a swinging stop-plate, Z, on the frame, whereby said bolt h may be pushed in and so held or released, and when pushed in said wheel C will be absolutely stopped and prevented from engaging with its driver.

265,215.



2. In an automatic grain-binder, a train-wheel, C, mutilated and provided with a spring-impelled bolt, h, combined with a stationary cam, i', to push said bolt inward, a swinging stop-plate, Z, pivoted to the frame, and a pinion, A, carrying a stud or roller, k, to engage said bolt when it shall be liberated to cause the wheel C to engage with said pinion.

3. In an automatic grain-binder, a shaft provided with a pinion, A, carrying one or more rollers or studs, k, in combination with the mutilated train-wheel C and its spring-pressed bolt h, all arranged so that when the bolt h has been released and is forced outward into the path of the stud k the mutilation will be thereby bridged over and the wheel C will be moved.

4. A starting mechanism composed of the pinion A, with its stud k, and the train-wheel C, with its bolt h, and a stop-plate, Z, all arranged to work as described, and combined with an apron, N, and connection m, rigid or adjustable.

5. An apron, N, combined with a pivoted swinging stop-plate, Z, and the cam i' on the frame, and the bolt h on the main train-wheel, whereby when the apron N is raised said latch will be withdrawn to release said bolt h and bridge the mutilation in the wheel C.

6. A crank-wheel, h H, which gives motion to the shaft O by means of the curved and grooved arm I, or its equivalent, combined with a tyer-wheel, K, carrying a pinion, b, which is mutilated and governed by the wheel H, all arranged so that the pinion b is thrown into mesh with the wheel H, and the tyer-wheel K goes through its principal movements while the shaft O is nearly or entirely at rest.

7. A hollow wheel, K, provided with suitable segments and slides, as described, to give the desired motion and rest to the wheel d^4, and having also suitable cam-tracks to give reciprocating motion to the gripper and looper hook and knotter-hook of a tying device and a cord cutting and gripping device, as set forth.

8. In an automatic grain-binder, a wheel, K, provided with segments a^2 b^2, to give the required motion to the pinion d^4, and with cam-tracks k', k'', and c^3, arranged in tiers, each cam-track controlling a part of the knotting mechanism.

9. In an automatic grain-binder, a pinion, d^4, with its projections x^4 and y^4 on its outer or free end, the lip a^4, combined with the segment b^3, pinion a^3, with its stop c^4, and stud t^4, as set forth.

10. In an automatic binder, the arm I, with the slot I^2, and coil or recess q', combined with the latch t^4 and the rack-bar L and segment d, whereby the compressor is operated, as set forth.

11. A pusher, Q, and a pusher, R, arranged to reciprocate but restrained from rotation, the former by means of the arm a' and pin p^2 and the latter by means of the slot in the sleeve Q' and the roller b^2, or their equivalents, the pusher R and the sleeve Q' each provided with a projecting stud, which is operated upon by the proper cam-tracks on the wheel K to reciprocate the pushers.

12. A barrel, P, having at one extremity the knotter and at the other extremity the pinion d^4, combined with the non-rotating pushers Q and R within said barrel, the pinion arranged to give

rotation to the knotter, and the pushers arranged to give reciprocation to its gripper and looper hook and knotting-hook at the desired time during the revolution of the wheel K.

13. A fyer-wheel, K, having segments and slides for controlling the pinion d' and cam-tracks for controlling the pushers Q and R and the lever U, and having a pinion, b, which is mutilated and provided with a crescent-plate to allow of its being controlled by another wheel.

14. A cord-gripper bar, a', which secures and holds the ball end of the twine, combined with a rod, S, and bar b', carrying a knife which severs the twine, engaged with and operating said gripper, but so arranged that the cutting-edge of the knife has motion independent of the gripper-bar.

15. The gripper-bar a' and the slide d', coupled therewith, the retracting-spring f' and the pusher-rod S, combined with the cutter-bar b', coupled at its back end with said pusher-rod, whereby said pusher-rod, on its advance, first moves the knife beyond the notch in the gripper-bar, then comes in contact with the slide d', then advances the knife and gripper together until the pusher-rod is released from cam k', when the spring, acting against the slide d', closes the gripper, and the knife and its connection following and gathering force from the spring f', so that when the gripper has closed upon the string and its motion has been arrested the knife continues to move and severs the string.

16. A rotary knotter, combined with a gripper and looper, v, and actuating mechanism, so arranged that the said gripper is projected so as to receive the cord before the tyer commences to rotate, is shortly afterward retracted to grip and hold the same, and when the loop has been completed and the retrograde movement commences said gripper is projected to drop the cord, and retracted, and then again projected and retracted just as the knotting-hook w is releasing the knot.

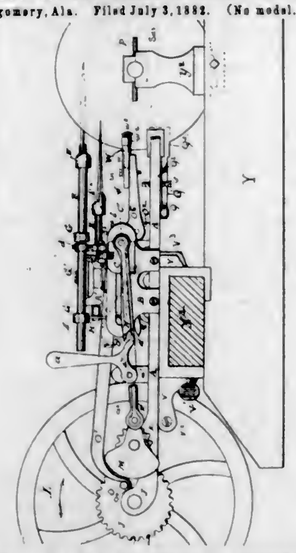
17. The reciprocating rack-bar L and segment d in mesh therewith, and the operative mechanism whereby said rack is actuated, combined with the lever B', pivoted to the frame, and linked at one end to said rack-bar and at its opposite end adapted to engage with the flange p on the train-wheel to force said rack-bar back to its initial position, as set forth.

18. In an automatic grain-binder, the arm I, with the slot p' and cell or recess q', combined with the latch C'.

19. The tension C', consisting of a tube pivoted at one end and at the opposite end provided with a transverse notch, u', a ledge, w', and a loop, y', combined with the cross-bar v'.

20. The elastic take-up E', composed of two elastic strips, secured at their bases to the frame of the machine and at their free ends joined to the stirrup.

265,216. GIN-SAW-FILING MACHINE. JOHN P. BUTLER, Montgomery, Ala. Filed July 3, 1882. (No model.)



Claim.—1. In a saw-filing machine, the combination of long lever O' and clutch W, as described, and for the purposes set forth.

2. In a saw-filing machine, the swing-plates G G', in combination with links H H' H' and spring I, as shown and described, and for the purposes set forth.

3. In a saw-filing machine, the slide C, in combination with hooked lever b, as shown and described.

4. In a saw-filing machine, the fly-wheel L, having a beveled rim provided with the lug Z, as described, and for the purposes set forth.

5. In a saw-filing machine, the combination of the fly-wheel L, having lug Z, with the spur-wheels J K', pitman N, guides B, slides C, plates G G', and hooked lever b, substantially as shown and described.

6. In a saw-filing machine, the combination of the metal frame A, clamp V, and saw clamp or guide Q' Q', substantially as shown.

7. In a saw-filing machine, the combination of lever O' O', spring O', curved end O', pin O, and saw-clamp W, as described, and for the purposes set forth.

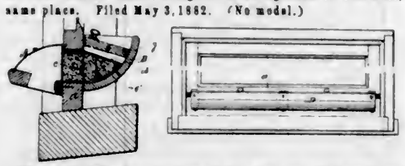
8. In a saw-filing machine, the combination of the pivoted adjustable clamp V, bar Y', and wooden frame Y, having adjustable boxes Y', substantially as described, and for the purposes set forth.

9. The clutch W, having pawl pivoted on screw w', in combination with spring w', secured thereto by the screw w, substantially as described, and for the purposes set forth.

10. In a saw-filing machine, the combination of the forked levers a, hooked levers b, slides C, and studs C', as shown and described, and for the purposes set forth.

11. In a saw-filing machine, the combination of frame A, clamp V, pivoted at V', binding-screw V', stud V', and binding-screw V', substantially as described, and for the purposes set forth.

265,217. WINDOW-VENTILATOR. EDWARD G. CALDWELL, Newton Centre, Mass., assignor to Georgianna D. Caldwell, same place. Filed May 3, 1882. (No model.)



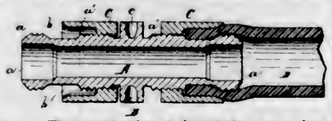
Claim.—1. The combination of the sash, provided with one or more openings through its lower bar, and with a strainer to each, with the hood and the trough and its cover or covers, arranged on opposite sides of the said lower bar.

2. The combination of the sash, provided with one or more openings through its lower bar, and with a strainer to each, with the hood and the trough and its cover and auxiliary strainer, arranged on opposite sides of such lower bar, as set forth.

3. A ventilator provided with a hood and a trough, and a strainer between them, as described, and having one or more covers pivoted to the trough, and arranged so as when down to abut against the lower bar of the window-sash, as set forth.

4. A ventilator provided with a hood and trough and two strainers, and a filling of sponge or fibrous material arranged between the said strainers, and also having one or more covers to the trough, and each of said covers arranged so as when down to abut against the lower bar of a window-sash to which such ventilator may be applied, all being substantially as set forth.

265,218. HOSE-COUPLING. CHAS. CHADWICK, Hannibal, Mo., assignor of one-half to Peter B. Grout, same place, and Andrew McNally, Chicago, Ill. Filed June 19, 1882. (No model.)



Claim.—1. The combination of the tubular part or barrel A, having on its ends the enlargements or bulbs a a and on its exterior surface the screw-threaded enlargements or portions a' a', in combination with the sleeves or clamps C C, internally threaded to engage the parts a' a', and having interiors otherwise smooth, and adapted to receive between them and the said barrel a hose or pipe, substantially as and for the purposes specified.

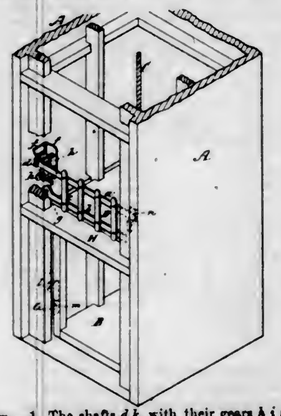
2. The barrel A, having thereon the stop or collar B, the screw-threaded enlargement a', and the bulb or enlargement a, in combination with the screw sleeve or clamp C, run upon the part a' and adapted to clamp or pinch the hose or pipe against the bulb a, substantially as and for the purposes specified.

265,219. HORSE AND CATTLE LINIMENT. PATRICK CONCORAN, York, Nebr. Filed July 21, 1882. (No specimens.)

Claim.—The herein-described composition of matter or blister-liniment, consisting of alcohol, cantharides, mercurial ointment, corrosive sublimate, oil of vitriol, muriate of ammonia, tincture of iodine, spirits of turpentine, oil of spike, oil of origanum, oil of olive, oil of amber, British oil, oil of cedar, and oil of hemlock, in the proportions specified.

265,220. AUTOMATIC GATE FOR ELEVATORS. GEORGE V. DELUE, Boston, Mass., assignor to himself and Edwin J. Lloyd, same place. Filed June 21, 1882. (No model.)

Brief.—The vertically-swinging gate is mounted on one of two horizontal shafts carrying gear-wheels arranged in different vertical planes and engaging with each other on a portion of the width of their teeth. Two racks on the elevator-car in different vertical planes engage the gear-wheels, respectively, to operate the gate.



Claim.—1. The shafts d k, with their gears h i arranged in different vertical planes, and adapted to engage with each other along a portion only of the width of their teeth, in combination with the gate D, secured to the shaft d or gear A, and two series of racks or projections, l m, on the elevator car or platform, arranged in different vertical planes, so that each rack or series of projections will engage with and operate one only of the gears h i, all constructed and arranged to operate substantially in the manner and for the purpose set forth.

2. The combination, with the gate D, of the two gears h i, arranged in different vertical planes, and adapted to engage with each other along a portion only of the width of their teeth, and operated alternately by two series of racks or projections, l m, secured to the elevator car or platform and arranged in different vertical planes, substantially in the manner and for the purpose described.

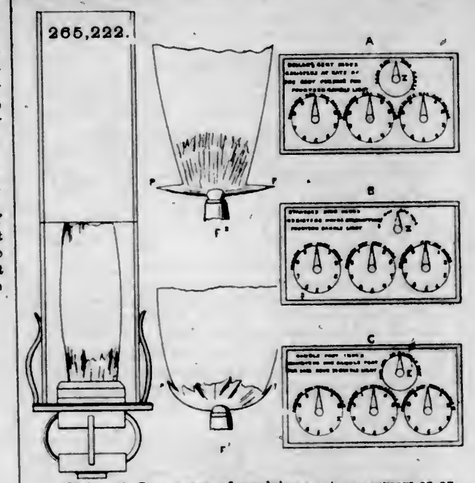
265,221. PROCESS OF APPLYING ALLOYS TO STEEL. PETER DE VILLIERS, St. Leonard-on-Sea, England. Filed Sept. 3, 1881. Renewed Sept. 1, 1882. (No specimens.) Patented in England Aug. 20, 1880, No. 3,349; in Canada Apr. 12, 1881, No. 12,620; in Belgium Apr. 15, 1881, No. 54,221; in Italy Apr. 16, 1881, and in France Apr. 19, 1881, No. 141,254.

Claim.—1. The process herein described of coating metal, which consists in roughening the surface of the articles to be coated by acids and heat, as set forth, again heating the metal, and then subjecting the metal thus prepared to the action of a molten bath of an alloy of lead, tin, and silver, which fills the roughened surface of the metal, all substantially in the manner and for the purposes set forth.

2. The process herein described of coating metal, which consists in roughening the surface of the articles to be coated by acid and heat, as set forth, again heating the metal, subjecting it to the action of a molten bath of an alloy of lead, tin, and silver, applying a secondary coating of amalgam, and then electroplating the same with silver, substantially in the manner and for the purposes set forth.

265,222. REGISTERING GAS-CONSUMPTION AND MANUFACTURING TO A STANDARD. HENRY H. EDGERTON, Danbury, Conn. Filed Apr. 10, 1882. (No model.)

265,222.



Claim.—1. In a system of supplying gas to consumers on an illuminating basis, the consumer's gas-meter, registering gas-consumption in dollars and cents, standard hours, candle-feet, or the like units indicating or representing the production of a given light for a specified time, in combination with a test-burner for proving the accuracy of registration, substantially as described.

2. A gas-meter having an index with divisions or gradeations indicating standard hours, candle-feet, or like terms directly expressive of quality and quantity, in contradistinction to terms expressive only of quantity—such as cubic feet—or terms indirectly expressive of quantity and quality—such as dollars and cents—substantially as described.

3. The combination, with a consumer's gas-meter registering the gas-consumption in units indicating or representing the production of a given light for a specified time, of a flat-flame test-burner for proving the accuracy of registration, substantially as described.

265,223. BARBED FENCING. GEORGE ELERY, Springfield, Mass., assignor to Isadore A. Upham, same place. Filed July 14, 1882. (No model.)



Claim.—The combination of a flattened main strand, f, having indentations, as shown, with straight wire barbs without shoulders, and metallic binders having parts e, with inclined inner edges, substantially as shown, and for the purpose stated.

265,224. HOOP. PARRY ENGLAND, Silver Cliff, Colo., assignor to L. W. England, same place. Filed Aug. 7, 1882. (No model.)

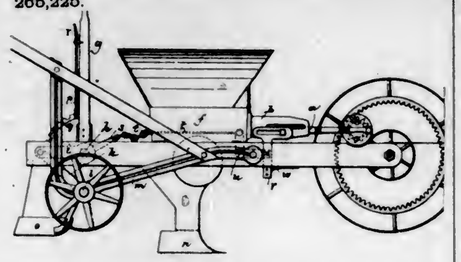


Claim.—The expansible metallic hoop herein shown and described, the same consisting of solid sections A, alternating with open sections composed of yielding and contracting links B B, made in one piece, substantially as set forth.

265,225. POTATO-PLANTER. SAMUEL H. FIES, Hinsdale, Ill., assignor of one-half to Henry C. Middaugh, same place. Filed Feb. 15, 1882. (No model.)

Claim.—1. The combination, substantially as hereinbefore set

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forth, of the tongues or plates and the series of forks carried by the cylinder, and means whereby the said tongues are extended and drawn in and the forks of each pair brought toward each other and separated, as and for the purpose specified.

2. The combination of reciprocating slides *b c*, pivoted to the arm *e*, and pawls *d' f' g'*, whereby the cylinder is moved step by step and the disks kept in motion, substantially as and for the purpose specified.

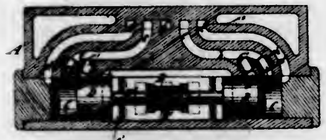
3. The combination, with the cylinder carrying the tongues and forks, of the disks *c'*, whereby large and small potatoes may be fed when mixed together, substantially as shown and described.

4. The combination, with the cylinder carrying the tongues and forks, of the block *h'*, whereby potatoes carried back by the cylinder are crowded forward while the cylinder is at rest, as and for the purpose set forth.

5. The hollow cylinder, in combination with series of forks and tongues, said forks and tongues being provided with levers and operated by the cams *p' r' s'*, and means for turning said cylinder step by step, substantially as and for the purpose specified.

6. The combination of the tongues carried step by step with the cylinder and one or more guides, *t' u'*, whereby the potatoes are directed to the successive tongues as the tongues are extended, substantially as shown and set forth.

265,226. STEAM-ACTUATED VALVE. WILLIAM F. GARRISON, Brooklyn, N. Y., assignor to Guild & Garrison, same place. Filed Apr. 21, 1882. (No model.)



Claim.—1. In a direct-acting engine, the combination, with an auxiliary piston and an auxiliary cylinder having separate induction and eduction ports at opposite ends, of means, substantially as described, for throttling or partly closing the eduction-ports, so that the auxiliary piston will be moved as rapidly as desirable during the first part of its movement and more slowly during the remaining portion of its movement, substantially as and for the purpose specified.

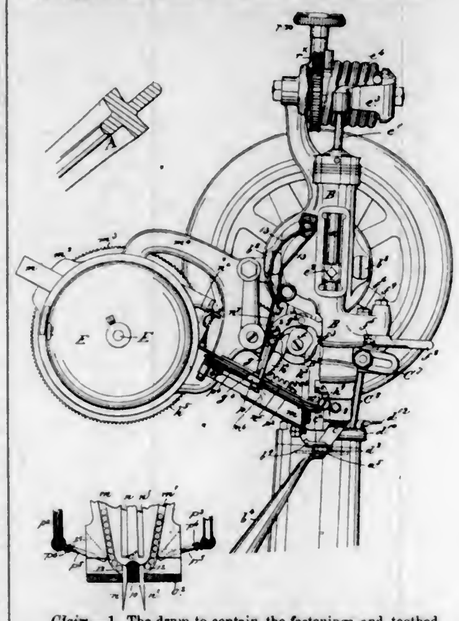
2. In a direct-acting engine, the combination, with an auxiliary piston, of an auxiliary cylinder provided at opposite ends with separate induction and principal eduction ports, and also provided with branch eduction-ports, leading from said principal eduction-ports, and terminating at a greater distance from the ends of the cylinder than said principal ports, substantially as and for the purpose specified.

3. In a direct-acting engine, the combination, with an auxiliary piston and an auxiliary cylinder provided with separate induction and eduction ports at each end, of cocks or valves for throttling or contracting said eduction-ports, substantially as and for the purpose specified.

4. The combination of the main valve B, the auxiliary cylinder C, provided with the induction-ports *d*, the principal eduction-ports *e*, and the branch eduction-ports *g*, the controlling-valves G G', and the auxiliary piston D, all substantially as and for the purpose specified.

5. The combination of the valve-chest A, containing the auxiliary-valve seat A^3, provided with ports *d d e e f*, the auxiliary cylinder C, the main valve B, and the auxiliary valve E, all substantially as and for the purpose specified.

265,227. MACHINE FOR DRIVING SOLE-FASTENINGS. LOUIS GODDU, Winchester, Mass. Filed June 10, 1882. (No model.)



Claim.—1. The drum to contain the fastenings and toothed gearing to rotate it, combined with friction devices to connect the drum and toothed gear, substantially as described.

2. The rotating drum provided with buckets and the chute and connected movable head combined with the loosely-held flanged disk m^3, to support and guide the nail-chute during its movements, as described.

3. The rotating drum provided with buckets and the chute into which the nails or fastenings are dropped, combined with the knocking-off device a^4, with its free end located just above the chute, to throw from the heads of the nails in the chute nails which are lodged therein and not in the chute, substantially as described.

4. The drum to contain and the chute to suspend the nails or fastenings by their heads, combined with the lifting device to act upon the heads of those nails which are too much elevated and lift them from between the walls of the chute, substantially as described.

5. The main chute and drum into which it is extended, combined with the auxiliary chute, to lift from the main chute those nails the heads of which are held too far above the top of the main chute, the auxiliary chute being carved or turned aside, as shown and described, to transfer the nails lifted by it back into the drum, substantially as and for the purpose described.

6. In a machine to drive headed and separate and loose fastenings contained in series in chutes, a block, c^*, provided with a nail-passage, 10, in which the driver works, combined with two chutes, stationary with relation to the said passage and having their ends opening directly into opposite sides of the said passage, and with two independent separators, whereby the nail next to be driven may be taken directly from the end of either chute by moving its corresponding separator to permit the passage of a nail into the said passage under the driver, the other separator closing the end of the other chute, substantially as described.

7. The block provided with the nail-passage 10 and the two chutes stationary with relation thereto and in communication with different portions of the said passage, and two independent separators and means to move them, combined with the nose *c*, located directly below the said block, substantially as described.

8. The two chutes and a block stationary with relation to the said chutes, and located between their ends, and provided with a passage, 10, for the reception of a nail or fastening from either chute at will, and two separators and means to move them, combined with the nose and the movable head of the machine, with which the said chutes are connected, substantially as and for the purpose described.

9. The two chutes, the block c^* between their ends, provided with the nail-groove passage 10, and the separators, combined with arms to engage the separators and with levers to move the said arms to retract the separator and uncover the ends of the chutes, substantially as described.

10. The chute and block c^*, provided with nail-passage 10, combined with the forked separator, and a bar to enter between its forked end as the separator is moved forward, whereby the separator is prevented forcing a nail accidentally through the passage in which the end of the separator works.

11. The chute, block c^*, provided with nail-passage 10, and a separator, combined with a pusher to act upon and press forward some of the loose nails at the rear side of the separator and near the delivery end of the chute, substantially as described.

12. The chute, slotted to receive the pusher, combined with the pivoted pusher, its carrying-arm, and means to move the said arm at the proper times to carry the pusher backward over the detached nails, and then to push the nails forward, as required, substantially as described.

13. The lever *g*, its arm g^4, a cam to move it, and the rod actuated thereby, and the separator with which the said rod is connected, combined with the chute, substantially as and for the purpose described.

14. The two chutes, two separators, a *s'*, and connecting devices to move the said separators to open or close the ends of either of the said chutes, combined with movable stops $f^* f^*$ to arrest the movement of the devices for actuating the separators, substantially as and for the purpose described.

15. The two stops provided with teeth, the sector, and the yielding holding device to co-operate with the said sector to retain either of the said stops projected forward, combined with the two separators and chutes and means to actuate the said separators, whereby by change of position of the said holding device a nail or fastening may be taken from either of the said chutes, substantially as described.

16. The presser and horn to clamp the work between them, and the head, and a driver and awl carrying bar, and awl and driver combined with the nose, and the two drums and separators and chutes connected to and made movable with the said head, as and for the purpose described.

17. The horn, its depressing-lever, and connected rack-bar, combined with the pawl-carrier, its pawl, and means to lift the pawl-carrier preparatory to moving the stock over the horn, substantially as described.

18. The horn, its depressing-lever, its connected rack-bar, and the pawl-carrier and pawl and means to operate the pawl-carrier, combined with the stop to disengage the said pawl from the teeth of the toothed bar as the carrier descends, substantially as described.

19. The driver-bar, the movable head in which it is reciprocated, and the lever to throw the driver-bar down, combined with the link c^4, having its ends loosely connected with the said lever and bar, to permit the head to be vibrated in one arc and the said lever in another arc at right angles to it, substantially as described.

20. The driver-bar link, with rounded ends, and lever-spring c^4, and the toothed disk, with which one end of the said spring is connected, combined with the gear to engage the said disk and move it to vary the force of the said spring, substantially as described.

21. The block having the passage 10, the driver, the chutes, the separators, and the pushers, combined with means to operate the said parts in the order specified, whereby the driver is retained in the passage 10 while the pusher (the separator being thrown back) acts to press a nail against the driver, the separator being subsequently moved forward, so that its point passes behind the endmost nail while the driver is yet down or not fully raised, and after the driver rises the separator, by its further forward movement, places the said nail in upright position in the passage 10 to be struck by the driver, substantially as described.

22. The chute, combined with the lifting device, having an opening in its side to permit the nails standing shank upward to tip and fall out into the drum, as described.

23. The chute, beveled at its upper edge, combined with the picking-up device, beveled at its lower edge, and provided with a shoulder, *r'*, to knock off nails lodged across the chute, substantially as described.

24. The chute having the space between its walls enlarged toward the under side of the chute, and cut away, as at m^4, to permit the escape of slivers and imperfect nails having small heads, as set forth.

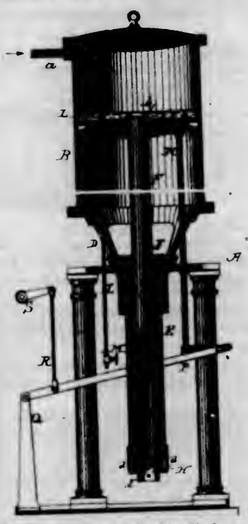
25. The vibrating head, the reciprocating bar and awl carried by it to feed the stock, the driver, the block provided with the nail-passage 10, a chute or guideway for the nails, a drum to supply the chute with nails, and the rotating work-supporting horn, combined with the presser, against which the face of the sole is held, while the nail or fastening is driven, substantially as described.

265,228. SAFETY-POCKET. HENRY B. GROSS, Philadelphia, Pa., assignor of one-half to Benjamin Brooks, same place. Filed May 31, 1882. (No model.)



Claim.—The combination, with a pocket, of a stay-piece, C, the same being attached at the top upon the inside of the pocket and provided with an opening, *a*, all being arranged substantially as shown and described.

265,229. ACCUMULATOR FOR HYDRAULIC PRESSES. JOHN W. HYATT, Newark, N. J., assignor to the Celluloid Manufacturing Company, New York, N. Y. Filed Nov. 22, 1881. (No model.)



Claim.—The accumulator herein described, consisting of a steam-cylinder and a water-cylinder, the former having an inlet and a piston, and the latter an inlet and an outlet for water, and a piston or ram, the two pistons being adapted to operate in concert, and through a suitable connection to open or close a supply by their movement, whereby when the quantity of water in the water-cylinder is sufficient to overcome the pressure in the steam-cylinder the pistons will ascend and cut off the supply, and when the said quantity has decreased the pistons will descend, permitting an additional supply of water to enter the water-cylinder, whereby the pressure on the surface of the water is continuous and uniform and the operation of the machine rendered automatic, substantially as set forth.

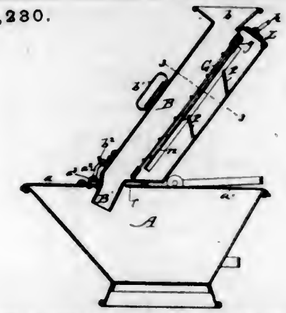
265,230. COMBINED COAL-SCUTTLE AND ASH-SIFTER. CHARLES IRWIN, Chicago, Ill., assignor of one-fourth to Granville G. Pierce, same place. Filed May 1, 1882. (No model.)

Claim.—1. The bucket A, having the middle section, *r*, of the cover made fast thereon and provided with a suitable opening for the spout B', and its front and rear sections *a* and *a'* hinged thereto, substantially as shown and described.

2. The separator B, in combination with the permanent section *r* of the cover, provided with staple a^3, link a^3, and hook b^3, adapted to hold the separator in position when in use and allow of its removal when not in use, substantially as described.

3. In combination with the shell of the separator B, having an ash-tight bottom, inclined as described, the vertical plates P, fastened upon said bottom, and the sieve G, the said plates being

265,280.

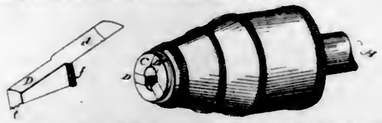


adapted to arrest the ashes and detain them and keep the sieve free of them along its whole length to the lower end, substantially as described.

4. The combination of the separator B, having spout B', with the bucket A, provided with a suitable opening for the spout B', substantially as described.

REISSUES.

10,205. DRILL-CHUCK. CHARLES GAGE, Boston, assignor to himself and Lewis B. Russell, Lynn, Mass. Filed June 23, 1882. Original No. 247,036, dated Sept. 13, 1881.



Claim.—1. In a drill-chuck, the jaws D, each of which has one of its sides arranged upon a line radiating from the axis of the chuck and its line of grip upon the drill-shank in advance (in the direction of chuck rotation) of this radiating line, substantially as set forth.

2. In a drill-chuck, the combination of the jaws D with their guiding-piece C, arranged to move longitudinally together, substantially as set forth.

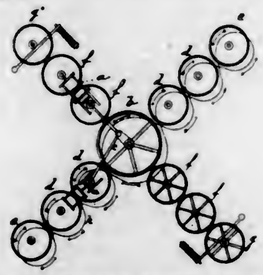
3. In a drill-chuck, the jaw-guiding piece C, having the guide-ways *c* and the guideways *b*, substantially in the manner and for the purpose set forth.

4. In a drill-chuck, the jaws D, having the guides *f* and the wings and guide-pieces *d*, substantially as set forth.

5. In a drill-chuck, the jaw-guiding piece C, having its guide-ways arranged with one surface pointing to the chuck-axis and the other pointing to one side of the same, substantially as set forth.

6. In a drill-chuck, the combination of the cone-piece E with the guide-piece C and the jaws D, as and for the purpose set forth.

10,206. MECHANICAL MOVEMENT. JOHN A. HARNER, Pittsburg, Pa. Filed Aug. 30, 1882. Original No. 230,387, dated July 4, 1880.

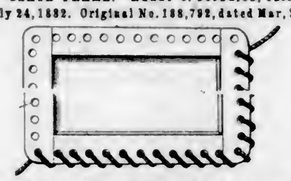


Claim.—1. A mechanical movement consisting of a drive-pulley, guide-wheels with their axes inclined to the axis of the drive-pulley, and a series of working-pulleys intermediate between the drive-pulley and guide-pulleys, the whole being connected by an endless belt running on alternate sides of the pulleys, substantially as described.

2. A mechanical movement consisting of a drive-pulley and adjustable guide-wheels with their axes inclined to the axis of the drive-pulley, and a series of working-pulleys intermediate between the drive-pulley and gnide-pulleys, the whole being conocted by an endless belt running on alternate sides of the pulleys, substantially as described.

3. A mechanical movement consisting of a drive-pulley, adjustable guide-wheels with elastically-journaled bearings with their axes inclined to the axis of the drive-pulley, and a series of working-pulleys intermediate between the drive-pulley and guide-pulleys, the whole being connected by an endless belt running on alternate sides of the pulleys, substantially as described.

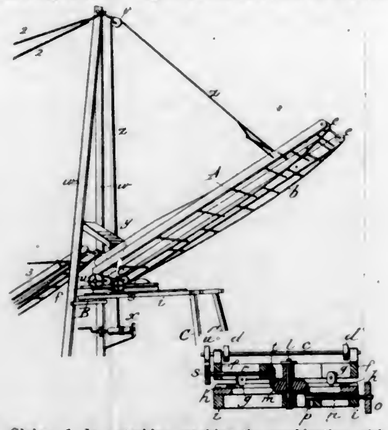
10,207. SLATE-FRAME. HARRY C. GOODRICH, Chicago, Ill. Filed July 24, 1882. Original No. 188,792, dated Mar. 27, 1877.



Claim.—1. A muffling-cord applied in a spiral or winding form to the edge of a slate-frame, and protecting the same both on the edge and on the two side faces, substantially as shown.

2. A slate-frame having both side faces and the outer edge protected by a single cord of muffling material applied spirally through and around the edge, as described.

10,208. STRAW-STACKER. MARSHAL T. REEVES, Columbus, Ind., assignor of one-sixth to Joseph I. Irwin, same place. Filed Aug. 9, 1882. Original No. 252,823, dated Jan. 24, 1882.



Claim.—1. In a stacking-machine, the combination, with a straw-carrier consisting of an endless belt, a chute, a turn-table on which said chute is mounted, and a driving mechanism adapted to run said belt in varying positions, of a main frame, and a derrick formed of two poles or masts set wide apart at the bottom and converging at the top toward a point considerably above the turn-table, and there connected, and forming a support for the free end of the carrier, and forming also above the base a support for one end of the main frame and turning-carrier, as described and shown, for the purpose set forth.

2. In a stacking-machine, the combination, with a turning straw-carrier and a derrick consisting of two poles or masts set wide apart at the bottom, converging at the top, and forming a partial support above the base for said turning-carrier, of a pulley suspended from said derrick in a vertical axial line over the center of rotation of the turning carrier, a windlass attached to said derrick, and a rope attached to and passing from the free end of said carrier over said pulley to said windlass, as described and shown, and for the purpose set forth.

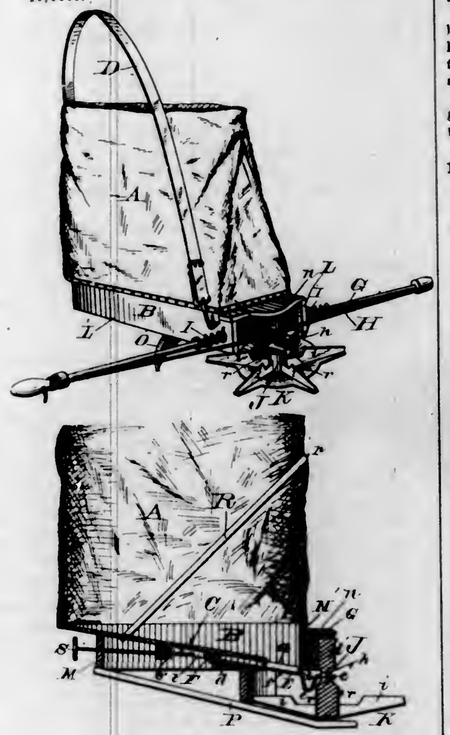
3. In combination with fixed frame *i*, having circular track *k* thereon, pivoted frame *f*, trucks *g*, horizontal shaft *e*, and straw-carrier A, attached to said shaft and movable thereon, all constructed and operating substantially as set forth.

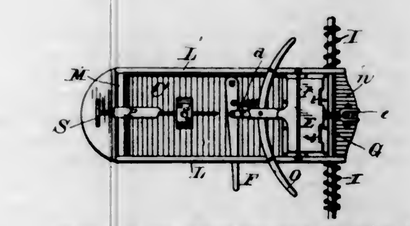
4. In combination with frame *i*, frame *f*, centrally pivoted thereto, shaft *e*, straw-carrier A, supported at its lower end by shaft *e*, chain or cord *z*, and a windlass for raising and lowering said straw-carrier, and pulley *c*, over which said chain passes, said pulley being arranged vertically above the pivotal point of frame *f*, substantially as and for the purpose set forth.

5. Vertical pin *l*, serving both as a shaft for double-bevel wheel *m* and as a pivot for frame *f*, in combination with frames *f* and *i*, gear-wheels *p*, *m*, and *t*, shafts *n* and *c*, and straw-carrier A, substantially as set forth.

6. In a straw-stacking machine having a turning straw-carrier, as described, and adapted for use in connection with the ordinary straw-carrier of a thrashing-machine, a derrick having its base separated from the thrasher and independently supported, a pulley suspended from the top of said derrick in a vertical line over the center of rotation of the turning-carrier, a windlass, and a rope attached thereto and passing over said pulley as a means of adjustably supporting the free end of said straw-carrier.

10,209. BROADCAST-SOWER. SAMUEL S. STEICHER, Urbana, Ind. Filed June 17, 1882. Original No. 236,640, dated Jan. 11, 1881.





Claim.—1. In a hand broadcast seed-sower, the vibrating feed-plate E, in combination with the downwardly-projecting thin lip or rim *b*, surrounding the feed-opening from the grain-receptacle, substantially as described.

2. The distributing-plate K, in combination with the reversed curved wings *i i*, substantially as set forth.

3. The combination of the eccentric spindle J, provided at its lower end with the distributing-wheel K, having reversely-curved wings *i i*, and at its upper end with the spool *l*, the crank or eccentric *h*, placed between the wheel and spool, and the reciprocating rod G and cord H, arranged above the wheel, all substantially as shown and described.

4. In a seed-sower, a vibrating plate, E, provided with the tongue *s*, bent at nearly right angles, as shown, curved upward and outward, and terminating in bifurcated end *e'*, to engage the eccentric spindle J, as described.

5. In a seed-sower, a vibrating plate, E, provided with the extended shallow recesses *l l*, substantially as described and shown.

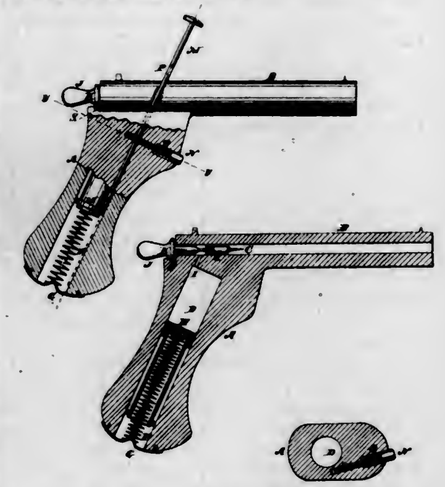
6. In a seed-sower, a vibrating plate, E, provided with the extended shallow recesses *l l*, in combination with the round metallic bar *f*, substantially as shown and described.

7. In a hand-sower, the bar P, secured at one end to the box B, and provided at the other with a bearing for wheel K, in combination with and secured to the deflector O, secured at each end to box B, substantially as shown and described.

8. The combination, with the vibratory plate E, having shallow recesses *l l*, of the hand-lever F, set-screw S, and spring *d*, said lever being pivoted at one end to the inclined bottom C, and extending through a slot, *t*, in the side piece, L, substantially as shown and described.

9. The removable sustaining-rod R, in combination with the grain-receptacle of a seed-sower, substantially as and for the purpose set forth.

10,210. TOY PISTOL. BENJAMIN HAVILAND and GEORGE P. QUINN, Herkimer, N. Y., assignors, by mesne assignments, to Henry M. Quackenbush, same place. Filed Dec. 14, 1880. Original No. 126,954, dated May 21, 1872.



Claim.—1. The combination of the piston E and cylinder D, the latter arranged in the stock of the pistol and at an angle with the axis of the barrel, substantially as shown and described.

2. In an air-pistol, the combination of a pistol-barrel, a cylinder, and an air-compressing piston and its spring with a charging-rod, which is attached to said pistol and extends in a line parallel to the line of motion of the piston to facilitate compression by pushing.

3. In combination with the air-compressing piston and its spring, a notched charging-rod connected to said piston and extending in a line parallel to the line of motion thereof, and a trigger arranged to engage with the notch of said rod.

4. An air-pistol having an air-compressing space or cylinder, D, which communicates with the breech end of the barrel, in combination with a breech-plug which is arranged to enter the open rear end of the barrel and to force the missile beyond the passage connecting said cylinder and barrel, and at the same time to close said barrel, so that the compressed air may drive said missile forward.

10,211. PREPARATION OF TAN-BARK FOR TRANSPORTATION. JONATHAN SHERMAN, Jr., Chicago, Ill., assignor, by mesne assignments, to American Pressed Tan Bark Company, of New Jersey. Filed Sept. 5, 1881. Original No. 182,985, dated Oct. 3, 1876.

Claim.—The process for the preparation of bark for tanning, consisting in drying and grinding and then compressing the bark sufficiently to crush the cells containing tannin, and at the same time to form small cakes of the ground material convenient for transportation.

PHOTO LITH NORRIS PETERS WASH. D.C.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF UNITED STATES COURTS IN PATENT CASES.

DECISIONS OF THE U. S. COURTS.

U. S. Circuit Court—Eastern District of Pennsylvania.

NELLIS v. THE PENNOCK MANUFACTURING COMPANY.

Decided August 1, 1882.

1. SUITS—INCLUSION OF SEVERAL PATENTS.

Several patents may be included in the same suit when their subjects are correlative and the inventions claimed are embodied in the same infringing machine. Demurrer for this cause overruled.

2. SAME—ASSIGNEES—RIGHT TO SELL AND USE.

An assignee of the exclusive right to manufacture and sell a patented invention throughout the United States is the proper party to maintain a suit for the violation of this right. The right to manufacture and sell carries with it the right to use the devices sold, and nothing short of an express qualification will change this result.

3. CONTRACTS—STRANGERS TO.

If the agreements between the parties have defined their contracts, it is out of place for an entire stranger to them to seek to circumscribe their scope by a technical limitation of the spirit and sense which the parties have impressed upon them.

4. LICENSES—PARTIES TO SUITS.

A grant of "the exclusive right under said recited letters patent to manufacture and sell a certain hay-elevator" *Held* not to be an assignment of an exclusive interest in the entire monopoly for the whole or any portion of the United States. It is a license only to manufacture and sell exclusively a specified form of hay-elevator, and the representatives of such an interest are not indispensable parties to a suit upon the patent.

Messrs. Bakewell & Kerr and *Mr. Geo. H. Christy* for the complainant.

Mr. Henry Baldwin, Jr., for the respondent.

MCKENNAN, *Cir. J.*:

On the 18th day of December, 1866, Letters Patent No. 2,429, for improvement in hay-elevators, were reissued to Edward L. Walker. On the 29th of May, 1866, Reissue Letters Patent No. 2,260, for improvement in horse hay-forks, were granted to Seymour Rogers, and on the 20th of March, 1866, Letters Patent No. 53,345, for improvement in horse hay-forks, were granted to Seymour Rogers. The title to these several patents is alleged to be vested in the complainant, and they constitute the subjects of the present controversy.

The bill alleges that the inventions described and claimed in these several patents "are susceptible of connected use in practical operation in the construction of horse hay-forks," and that they are embodied and contained in hay-forks manufactured, used, and sold by said respondent in violation of the exclusive right of complainant. With this averment in the bill it is not demurrable for multifariousness. The inclusion of several patents in the same suit, when their subjects are correlative and the inventions claimed are embodied in the same infringing machine, has been more than once sanctioned by the highest authority. (*Nourse* v. *Allen*, 3 Fish., 65; *Seymour* v. *Osbourne*, 11 Wall., 516, 559; *Bates* v. *Coe*, 15 O. G., 342.)

In *Seymour* v. *Osbourne*, Mr. Justice Clifford says:

That as all the patents sued upon refer to the same general subject, and are all embodied in the machines manufactured by the defendant, the objection, if it had been made, could not have been sustained.

The demurrer, for this cause, is therefore overruled. The complainant's title to the patents in question is denied in the answer, and it is insisted that the proofs do not establish his right to maintain this suit.

Patents Nos. 2,260 and 53,345 seem to have been regularly assigned to the complainant in terms which vest in him the entire interest in these patents, and therefore his right to sue on them is unquestionable; but Walker's assignment of his original letters, which were succeeded by Reissue No. 2,429, is claimed to be so restricted as to constitute the complainant only a licensee, and so to disable him from suing in his own name. That assignment is dated February 20, 1865, and, after reciting the grant to Edward L. Walker of Letters Patent No. 44,129, assigns to "D. B. Rogers & Sons, of Pittsburg, Pennsylvania, and their legal representatives the exclusive right to manufacture and sell my invention in the United States to the full end of the term for which said letters were granted," and is duly executed by Walker and recorded in the Patent Office. There can be no doubt that this conveyed to the assignees the entire right to manufacture and sell the invention throughout the United States, to the exclusion of the patentee, as well as all others. They were invested with the monopoly of manufacture and sale, and, so far as these two incidents of the franchise are involved, nothing whatever remained in the patentee. What interest, then, had he upon which he could maintain a suit for a violation of either of these rights? And why could not the party who alone is entitled to protection invoke directly the powers of a court of equity for that purpose? Even in an action at law, in which the plaintiff must be invested with the legal title to the patent, it was held by Mr. Justice Story that—

Where a grant was made of a right to construct and use fifty machines within certain localities, reserving to the grantor the right to construct, and to license others to construct, but not to use, them therein, the grant was of an exclusive right under the act of 1836 in regard to patents, and that suits were to be brought in the name of the assignees.

The judge saying:

The action for the violation of an exclusive right is confined to the owner of such right. (*Washburn* v. *Gould*, 3 Story R., 122.)

But, if this is not so, I think the entire monopoly in the patent is vested in the complainant. He has the exclusive right to manufacture and sell, and this carries with it the right to use machines sold. To the extent to which the patentee transferred the right to make and

sell his invention he parted with the monopoly of its use and authorized its use by those who had become lawful purchasers of it. But he had parted with entire right to manufacture and sell, so that necessarily he could not sell to others to use, and no part of the monopoly remained in him. The complainant alone has the right to sell, and as it would practically be nugatory without the right to use the machines sold, all that is essential to its full exercise and enjoyment must be taken to have been intended by the parties to pass with it; and nothing short of an express qualification will change this result. (See *Bloomer* v. *Millinger*, 1 Wall., 350.) Such was the practical construction put upon the instrument by the parties to it after the reissue of the original patent, to which the assignment referred to applied—to wit, on the 26th of January, 1867—and the assignment to D. B. Rogers & Sons was executed by Walker, in which the following is the granting clause:

And do confirm to them and their legal representatives, without further fee or payment, and without liability to forfeiture, all and every right to manufacture, sell, and use, and vend to others the right to manufacture, sell, and use, hay-elevators under the aforesaid letters patent, and pursuant to the aforesaid assignment, dated the 29th day of February, A. D. 1865, as fully and entirely to all intents and purposes as if the said agreement of the same date had not been made and executed, together with the same rights, powers, and privileges in the said invention and improvements under the reissue of the said letters patent that have been or may be obtained.

It is true that the technical import of this instrument is to release Rogers & Sons from liability assumed by them by an agreement of even date with the original assignment, and to nullify the effect of that agreement upon the rights conveyed by the assignment; but it cannot be conceived that the assignor would "confirm" to his assignees the right "to use, and to vend to others to use," his invention if he had not intended, and did not intend, to part with it, and unless it was understood and believed that a transfer of such right was comprehended by the previous assignment.

In addition to the "confirmation" of the rights to "manufacture, sell, and use, and vend to others to use," the invention, these "same rights" in the invention, under the reissue then obtained or to be obtained, are also conveyed; so that in every aspect of the question, it seems to me that these instruments are to be taken as intended by the parties to vest in the assignees the entire interest of the assignor in the patent; and when the parties have so expounded their contracts it is out of place for an entire stranger to them to seek to circumscribe their scope by a technical limitation of the spirit and sense which the parties have impressed upon them.

It is further alleged that Wheeler, Melick & Co. have such an interest in one of the patents in controversy that they are necessary parties to any suit founded upon it.

On the 28th day of June, 1867, D. B. Rogers & Sons, then owning the Walker patent, made an agreement with Wheeler, Melick & Co., by which they granted to the latter—

The exclusive right under said recited letters patent to manufacture and sell a certain hay-elevator which has a movable point, which also serves as and performs the functions of prongs or barbs to sustain the hay.

This is not an assignment of an exclusive interest in the entire monopoly for the whole or any portion of the United States. It is a license only to manufacture and sell exclusively a specified form of hay-elevator covered by the Walker patent, the beneficial ownership of it as to all other form of hay-forks, and the legal title to it remaining in D. B. Rogers & Sons. It is in terms defined as a license in this agreement, and its character as such is conclusively apparent from other agreements between the same parties, which have been made part of the evidence.

Under all the decisions the representatives of such an interest are not indispensable parties to a suit upon the patent; nor are they even proper parties here, because the decree asked for will not affect their interests, and they have, since the commencement of this suit, released to the complainants all right and interest which they might have under the patents in suit.

I do not propose to assume the labor of discussing in detail the various defenses set up by the respondent. This opinion is sufficiently extended. It is only necessary to say that these defenses and the argument in enforcement of them have failed to convince me that the complainant ought not to have the relief which he seeks.

I am of opinion—

1. That Reissue Patents Nos. 2,429 and 2,260 and original Patent No. 53,345, are valid, and that they have been severally duly assigned to the complainant.

2. That the respondent, in the hay-elevator exhibited in evidence and manufactured and sold by it, is shown to have infringed the first claim of No. 2,429, the first and second claims of No. 2,260, and the claim of No. 53,345.

A decree will accordingly be entered in favor of the complainant, with costs, and for a reference to a master to ascertain damages and profits.

U. S. Circuit Court---Southern District of New York.

WOOSTER v. BLAKE *et al.*

Decided April 27, 1881.

1. REISSUES NOS. 6,565 AND 6,566 HELD TO BE INFRINGED BY THE "JOHNSON" AND "TOOF" RUFFLERS.

Reissued letters patent to George H. Wooster for improvements in machines for making ruffles, No. 6,565, dated July 27, 1875, of original letters patent to John A. Pipo, No. 37,550, dated January 27, 1863, and No. 6,566, dated July 27, 1875, of original letters patent to Thomas Robjohn, No. 46,424, dated February 14, 1865, *Held* to be infringed by the "Johnson" and "Toof" rufflers.

2. CLAIMS 8 AND 9 OF REISSUE NO. 6,566 SUSTAINED.

Claims 8 and 9 of Reissue No. 6,566 are not anticipated by letters patent to George B. Arnold, No. 28,139, dated May 8, 1860.

3. INVENTION.

An invention consists primarily in finding out what mechanical operation is necessary to produce the practical result arrived at.

Mr. Frederic H. Betts for the plaintiff.

Mr. Benjamin F. Lee for the defendants.

BLATCHFORD, *J.*:

This suit is brought on two patents. One is Reissue No. 6,565, granted to George H. Wooster, July 27, 1875, for an improvement in machines for making ruffles, the original patent having been granted to Pipo and Sherwood, January 27, 1863, on the invention of John A. Pipo. Only four claims of the patent, of which there are thirteen, are involved in this suit. Those claims are claims 1, 7, 8, and 10, and are as follows:

1. In a ruffling mechanism, a spring or flexible blade, having its acting edge turned or bent toward the surface against which it acts to form the ruffle, in combination with a carrier, to which the blade is rigidly attached, substantially as described.

7. The combination, with the actuating-lever and ruffling-blade, of a regulating device to regulate the extent of backward movement of the blade without affecting the position to which the forward end of the blade moves, for the purpose set forth.

8. In a ruffling or plaiting mechanism, a spring or flexible blade rigidly affixed to its carrier, in combination with a surface opposed to the blade, and adapted to sustain the material being ruffled against the action of the blade, substantially as described.

10. In a ruffling mechanism, the combination, with a blade and rocking lever, of a vibrating member of the needle-actuating mechanism adapted to rock the lever and move the blade to form a ruffle, substantially as described.

The specification says:

This invention relates to a mechanism for forming ruffles or plaiting fabrics; and consists in the combination, in a ruffling mechanism, of a flexible ruffling-blade, and with such blade is combined a guide adapted to guide the material to which the ruffle is to be attached, and also other parts or devices, substantially as hereinafter described, to form a ruffle to be connected by a series of stitches.

The drawings represent the improvement as attached to a Wheeler & Wilson sewing-machine. The specification says:

1 is the bed-plate, upon which in an ordinary sewing-machine the work is usually laid to be sewed. 2 is the presser by which the work is kept down to its place. 3 is the needle. 4 is a lower, and 5 is an upper, guide, through which strips of cloth, between which the ruffling is to be sewed, are passed. * * * 6 is a tube which guides the strip of cloth of which the ruffling is formed. This tube is flat like the others, and with a proper internal width to receive and guide the cloth intended to be used. It is open on the top, near the end toward the needle, to receive blade 7, by which the ruffling is formed, so as to allow said blade to work directly upon the cloth. This blade is a spring, or is made flexible, and is provided at the end next the needle with points, or a roughened surface or sharp edge, which will take hold of the cloth to be ruffled, and move it forward upon the smooth surface to which it is opposed, and its acting edge is preferably turned or bent toward the surface against which it acts to form the material between it and the surface into a ruffle. This blade is adjustably attached to bar 8, actuated by the rocking or elbow lever 9, hung to a support or pendant connected with the bed-plate of the machine. This lever 9 is vibrated on its axis 10 by means of the vibrating member or rod 11, connected with and operating the needle and its carrier, which rises against the horizontal portion of the lever and causes it to move the blade forward, and form the cloth on which it bears into a ruffle. The movement of the blade back from the needle is regulated by means of a set-screw, 12, which restricts the return of the lever and blade. The bar 8 and consequently the lever 9 are drawn back from each forward vibration by a spiral spring, 13, which is attached at one end to this bar, and at the other end to the bed of the machine; and the end of the blade may be made to terminate at a greater or less distance from its carrying-bar by means of a slot and set-screw.

The operation of the lever is to press the spring-blade on the goods when advancing to form the ruffling while it is rocked or lifted from the goods during its retreating movement, and the pressure of the blade on the material is thereby diminished or removed.

The strip of cloth to be ruffled is passed under the blade and between it and the presser, and the plain or band material is led through guide 5, when the plain piece is to rest on top of the ruffled strip and under the presser, where, as the material is ruffled and sewed, it is carried forward by the feeding mechanism, such as is usually employed for that purpose, and in the ordinary manner. The edge or edges of the cloth to or between which the ruffling is to be sewed is or are folded in by the guides, as before stated, and the strips used are fed or moved forward in the same manner that other fabrics are moved on the same machine. The ruffle is formed by blade 7, which is made to reciprocate at each stroke of the needle a sufficient distance over and above the support or surface adapted to sustain the material to be ruffled against the action of the blade to form a ruffle, having folds or plaits of the size desired, the size of the fold to form various grades of ruffling being determined by the means already described.

* * * * *

I am aware that a rough-surfaced feeder and ruffler have been employed to engage a piece of material to be ruffled, forming the gather in and moving the ruffled piece forward, the ruffler and feeder both engaging the ruffled strip, and, in connection with such mechanism a separator has been employed to separate a band from the ruffled strip, the band being laid on the surface of the ruffled strip engaged on its under side by the ruffler and feeder made as four-motioned feeding devices; and I am also aware of United States Patent No. 14,475.

The defendants' rufflers are called the "Toof" ruffler and the "Johnson" ruffler, and are sold by them, to be attached to sewing-machines, for ruffling purposes.

The Crosby and Kellogg tape-trimming patent of August 5, 1862, does not show anything to anticipate No. 6,565. It had flexible blades, but they did not press, in working, on the table or surface which supported the goods, nor were their acting edges turned or bent toward the surface against which they acted.

The Crosby and Kellogg ruffler patent of December 2, 1862, does not show a flexible ruffler, and the ruffler is hinged to its carrier. The suggestion in the specification of that patent that the crimper may be a spring gives no details of construction, and cannot take an earlier date than the oath to the specification, June 21, 1862. Pipo's invention preceded that date.

The Arnold patent of May 8, 1860, does not show anything that is in No. 6,565, nor does the Fuller and Goodall patent of June 5, 1860.

The evidence of Kellogg, Manville, and Wilmot shows nothing but abandoned experiments. The crimpers tried by the Elm City Company were all of them hinged to their carriers. The Cary and Homans machine is not established with accuracy as prior to Pipo. Cary does does not go back with certainty of the spring of 1862, and Homans has no books or written evidence, but really relies solely on abstract memory. There is nothing in anything he states as to events which makes it necessary that the date he assigns for the machine should be correct.

Claim 1 of No. 6,565 has three elements in it: (1) a spring or flexible blade, (2) the acting edge of the blade turned or bent toward the surface against which it acts, (3) the blade rigidly attached to its carrier. It is not necessary in claim 1 that the carrier should cause the pressure of the spring to increase in advancing and decrease in retreating. The spring-blade has a springy action in respect to goods transversely as well as lengthwise. That transverse springy feature is in claim 1, and is in the defendants' rufflers. So, too, the longitudinal springy action enables the blade to follow, in moving forward, the plane of the opposing surface. The blades in the defendants' rufflers are springy lengthwise, and such lengthwise springiness is availed of by the defendants, and enables the edge of the blade, as it advances, to be certainly pressed on the cloth-plate by the action of the presser-foot and the cloth-plate, whatever be the motion of the carrier.

In regard to claim 1 and other features in the patent much is said in the evidence on the part of the defendants as to the obvious character of this or that arrangement, and that any mechanic would know enough to do this or that. This is the often-repeated story in belittling inventions.

The invention consists primarily in finding out what mechanical operation is necessary to produce the practical result arrived at. When such operation is hit upon the mechanical work is easy. It is easy when the mechanical operation is seen to say that it was obvious that certain mechanical arrangements would effect it; but mechanical arrangements are tried and tried in vain to reach a practical result, because the mechanical operation which is to effect such result is not yet seen. In looking at the completed thing the mechanical operation is there, but the inventor, though he knew all about cams and levers and other mechanical arrangements, did not have in advance before him the coveted mechanical operation.

In answer to the suggestion that the defendants' rufflers would work as well in use if the blade were hinged to the carrier, it is sufficient to say that it is not so made. The three forms of the defendants' ruffler all of them infringe claim 1 of No. 6,565. For the same reason they infringe claim 8. I am also of the opinion from the evidence that they infringe claims 7 and 10.

There is no evidence that anything is found in the

Reissue No. 6,565 which is not to be found in the description or drawing of the original patent or in the model accompanying the application for that patent.

The second patent sued on herein is Reissue No. 6,566, granted to the plaintiff, July 27, 1875, for an improvement in sewing-machines for making band-ruffling, the original patent having been granted to E. C. Wooster, on the invention of Thomas Robjohn, February 14, 1865.

There are eighteen claims in the reissue, but only claims 8 and 9 are involved in this suit. They are as follows:

8. The combination of a ruffling or plaiting blade or knife, arranged and operated above the cloth-plate, with a supporting or secondary plate, separate from the cloth-plate, between which and the blade or knife the fabric to be ruffled is held and advanced by the blade, substantially as described.

9. A plaiting or ruffling blade, arranged above the cloth-plate of a sewing-machine, and adapted to operate upon a surface other than such cloth-plate, whereby a strip of goods can be plaited or ruffled above a plain piece, substantially as described.

It is plain that the defendants' three forms of ruffler infringe claims 8 and 9. Those claims are not anticipated by anything shown in the Arnold patent of May 8, 1860, or by machines having a separator-plate such as is shown in the model filed with the application for the Arnold patent. Arnold had no ruffling-blade operating above the cloth-plate. What is contended for is that it required no invention to pass from Arnold to Robjohn. The evidence shows the contrary. The results following the change are very marked, and give to the change the character of invention as distinguished from ordinary skill. There is nothing else in the evidence which is an anticipation of Robjohn.

Many suggestions were made in argument on the part of the defendants which have been considered, though not now adverted to, as none of them control the salient points on which the decision is rested.

There must be the proper decree for the plaintiff in accordance with the foregoing views, and a like decree in the suit against Handy and in the suit against Thornton.

U. S. Circuit Court—Southern District of New York.

BERNARD *et al.* v. HEIMANN *et al.*

Decided October 7, 1881.

LETTERS PATENT NO. 219,462 SUSTAINED.

Letters Patent No. 219,462, dated September 9, 1879, for an improvement in head-coverings, sustained.

Mr. S. J. Gordon for the plaintiffs.

Mr. J. H. Goodman for the defendants.

BLATCHFORD, *J.:*

This suit is brought on letters patent granted to Robert Gray, September 9, 1879, for an improvement in head-coverings.

The specification, which is accompanied by and refers to a drawing, which represents a sectional side view of a hat embodying the invention, says:

This invention relates to the manufacture of hats, bonnets, or other head-coverings with a top layer of flock.

Hats of this description have been made by applying the flock to a buckram support, but have invariably been stiff, owing to the fact that in order to give the article the required body or strength it was necessary to use a heavy or thick piece of buckram. One objection to this hat is the stiffness referred to, it being desirable in some cases to furnish a soft hat, and another the visibility of the buckram tending to defeat the object of the flock layer, which is to produce a felt-like article.

My invention is a head-covering consisting of a support of buckram or the like, a top layer of flock, and a canton-flannel or other similar lining, whereby the article is rendered capable of taking a soft finish, while both surfaces thereof have the appearance or semblance of felt—one of plain felt and the other of napped felt.

In the drawing, the letter A designates the support; B, the flock layer, and C the canton-flannel or other similar lining.

In carrying out my invention I first cement the lining C to a piece of buckram or like fabric by a suitable adhesive substance, with the nap of the lining exposed, and then press the two together, in any usual or suitable manner, to the desired shape. In lieu of canton-flannel, the fabric known as "glove-lining" may be used. I now apply to the buckram a layer of cotton, wool, or other flock, this process consisting in coating the buckram with an adhesive substance and strewing the flock thereon in finely-powdered form. The article is then in a state for trimming.

The buckram A supports both the flock layer B and the lining C, and, being re-enforced by the lining, a light or thin piece of such material may be used, rendering the article pliable or soft, substantially like soft felt. The appearance of the article, moreover, is felt-like, inasmuch as the lining has the semblance of napped felt, and the flock layer that of plain felt.

The claim is as follows:

A head-covering consisting of a support of buckram or the like, a top layer of flock, and a canton-flannel or other similar lining, substantially as and for the purpose described.

The only defense is want of novelty. It is plain that the hat of the patent must be a hat made by pressing the materials into the shape of a hat, and not made the top in one piece, the side crown in another, and the brim in another, and then these joined. There must also be (1) a layer of flock on a support of buckram or the like; (2) a support of buckram or the like next the flock, with a coating of adhesive substance on the buckram on which the flock is strewn; (3) a canton-flannel or other similar lining on the face of the buckram to which the flock is not applied, with the napped face of the canton-flannel exposed and not next to the buckram.

The Kendall turban, defendant's Exhibit No. 3, has no side crown or brim. Irrespective of this it is not satisfactorily established that that article had in it any stockinet support or anything but canton-flannel, with flock applied directly to the unnapped face of the canton-flannel.

Bracher's frame No. 6 is made with the unnapped face of the canton-flannel exposed, had only flock enough put on the buckram to take an impression of straw-braid, and was made not for use in that condition as a hat, but solely to be stamped as an imitation of a straw hat. The flock was put on only as a pulp on which to emboss, and the flock by the embossing lost its identity and parted with all resemblance to felt.

The Morse hat No. 13 is a flocked buckram hat, with a strip of canton-flannel put in separately as a brim.

Hats, such as the Novelty Company hats of 1876, made of canton-flannel, muslin, and flock, with the napped face of the canton-flannel not exposed, were not the Gray hat. It is plain that cementing the nap to the buckram tended to destroy the pliability or softness aimed at by Gray, by reason of the absorption of the nap by the cement, and that there could be no appearance of napped felt.

The case is one where there was sufficient invention to support the patent, and there must be a decree for the plaintiffs, with costs.

THE
OFFICIAL GAZETTE
OF THE
United States Patent Office.
[BY AUTHORITY OF CONGRESS.]

VOL. 22—NO. 14. TUESDAY, OCTOBER 3, 1882. PRICE—$5 per year

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Issue of October 3, 1882.

Patents	321	No. 265,231 to No. 265,551, inclusive.
Designs	6	No. 13,324 to No. 13,329, inclusive.
Trade-Marks	6	No. 9,702 to No. 9,707, inclusive.
Labels	5	No. 2,771 to No. 2,775, inclusive.
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DESIGNS.

13,324.—HEATING-STOVE.—*Edgar W. Anthony*, Boston, Mass. Application filed August 16, 1882. Term of patent 14 years.

13,325.—MADE-UP SCARF.—*Henry Heath*, New York, N. Y., assignor to *Fisk, Clark & Flagg*, same place. Application filed August 28, 1882. Term of patent 3½ years.

13,326.—CARPET.—*Otto Heinigke*, New Utrecht, N. Y., assignor to *The Hartford Carpet Company*, Hartford, Conn. Application filed August 11, 1882. Term of patent 3½ years.

13,327.—KNITTED GOODS.—*Theodore P. Dresser*, Medford, Mass. Application filed May 18, 1882. Term of patent 7 years.

13,328.—PRINTING-TYPE.—*Joseph W. Phinney*, Boston, Mass., assignor to *G. J. Pierce, A. Phemister*, and *A. C. Converse*, same place. Application filed June 5, 1882. Term of patent 7 years.

13,329.—VEHICLE.—*Henry C. Sears*, Boston, Mass. Application filed August 9, 1882. Term of patent 14 years.

TRADE-MARKS.

[Certificates of registration of Trade-Marks numbered 8,191 and upward are registered under the act of March 3, 1881.]

9,702.—PRESERVATIVES OF ORGANIC SUBSTANCES.—*The Antitropic Company*, London, England. Application filed September 6, 1882.

"The word 'ANTITROPIC.'"

9,703.—PRESERVATIVES OF ORGANIC SUBSTANCES.—*The Antitropic Company*, London, England. Application filed September 6, 1882.

"The word 'GLACIALINE.'"

9,704.—EDGE-TOOLS.—*The Collins Company*, Collinsville, Conn. Application filed February 23, 1882.

"The words 'COLLINS & CO.'"

9,705.—COTTON DUCK.—*Wm. E. Hooper & Sons*, Baltimore, Md. Application filed March 21, 1882.

"The word-symbol 'WOODBERRY' and the representation of rays."

9,706.—PILLS.—*B. J. Kendall & Co.*, Enosburg Falls, Vt. Application filed August 29, 1882.

"The arbitrarily-selected word 'PERSIAN.'"

9,707.—BAND-SAWS AND STRIP-KNIVES.—*Perin, Panhard & Co.*, Paris, France. Application filed September 6, 1882.

"The representation of an endless serrated strip stretched or extended edgewise over two spoked wheels."

LABELS.

2,771.—Title: "THE ANTITROPIC ANNATTO FOR CHEESE COLORING."—*The Antitropic Company*, London, England. Application filed September 8, 1882.

2,772.—Title: "ANTITROPIC COWSLIP COLOR FOR BUTTER."—*The Antitropic Company*, London, England. Application filed September 8, 1882.

2,773.—Title: "ANTITROPIC PURE CONCENTRATED RENNET."—*The Antitropic Company*, London, England. Application filed September 8, 1882.

2,774.—Title: "DUFF GORDON SHERRY."—*Thomas Osborne*, Port St. Marys, Spain. Application filed September 6, 1882.

2,775.—Title: "E. ROBINSON'S RHEUMATIC LINIMENT."—*Edward Robinson*, Tallmadge, Ohio. Application filed August 12, 1882.

DISCLAIMER.

7,286, (Reissue.)—*Joseph White*, Philadelphia, Pa. Patent dated August 29, 1876. IMPROVEMENT IN GLOBE-HOLDERS. Disclaimer filed September 20, 1882, by the patentee.

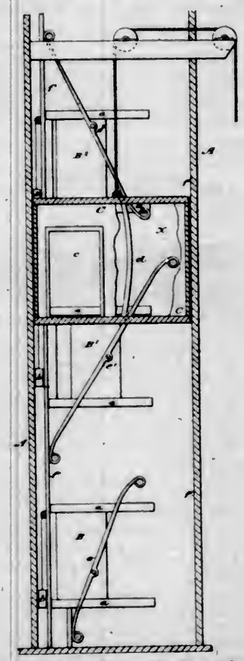
Enters his disclaimer to the following matter of description and claim in said reissue specification, to wit: In printed specification "to the word 'broadly' in line nineteen, to the words 'in any suitable manner as' in line thirty, and the word 'or' in the second line of the second claim, and desires it to be understood that he does not claim broadly a globe-holder composed of any kind of a center with spring-arms attached thereto in any manner, but limits his claim specifically to a globe-holder consisting of a disk-center with spring or elastic arms riveted thereto, said arms terminating at their outward extremities in hooks or catches adapted and designed to receive and hold the globe in their grasp."

PATENTS

GRANTED OCT. 3, 1882.

265,231. MEANS FOR OPERATING DOORS OF ELEVATOR-SHAFTS. FREDERICK H. ANGEL, Englewood, N. J. Filed July 12, 1882. (No model.)

Brief.—The doors are counterweighted to close them and opened by centrally-pivoted levers on them, one end of which lever bears against the side of the shaft when a cam on the elevator rides against the lever, so opening the door. As the elevator leaves the door it leaves the lever in position to be engaged by it on its return.

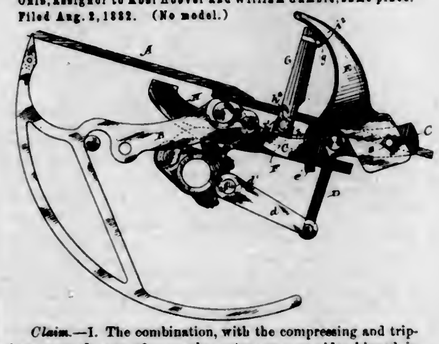


Claim.—1. As a means of automatically opening the doors of elevators, the combination of the following coacting elements: a door arranged to slide and provided with a weight or its equivalent to close it normally, a lever pivoted near its middle to said door, and the car bearing a cam to engage said lever in the ascent and descent of the car, said lever being arranged to bear against some fixed part of the shaft at its end to form a fulcrum, substantially as set forth.

2. The combination, to form an opening device for a sliding elevator-door, of a lever pivoted to said door, with one end arranged to rest against some fixed part of the shaft and the other arranged in the path of a cam on the car, and said cam fixed to the car and arranged to engage said lever and slide open the door horizontally by the vertical movement of the car, substantially as set forth.

3. The combination of the car C, the cam *d*, fixed thereto, the door B' in the shaft, arranged to slide in keepers and provided with a closing-weight, *b*, the shaft-casing, and the lever *c'*, pivoted to the door at its middle and having curved or beveled ends, said lever being arranged in the track of the cam *d* as the latter is moved up or down, substantially as set forth.

265,232. GRAIN-BINDER. WALES ALDRICH, Miamisburg, Ohio, assignor to Abel Hoover and William Gamble, same place. Filed Aug. 2, 1882. (No model.)



Claim.—1. The combination, with the compressing and tripping arm or fingers, of a supplementary arm or rider binged in advance of said tripping-arm and resting at its free end against the tip thereof.

2. The combination, with the compressing and tripping arm or fingers, of a supplementary arm or rider binged in advance of said tripping-arm, and a removable adjusting lift interposed between the free end of said rider and the tip of the tripping-arm.

3. The combination, with the pivoted compressing and tripping arm or fingers, of a supplementary arm or rider binged in advance of said tripping-arm to a fixed portion of the binder and resting at its free end against the tip of said tripping-arm.

4. In combination with a compressing and tripping arm and a supporting-bar, to which it is pivoted and along which it may be adjusted to increase or decrease the leverage required to start the clutch, a supplementary removable arm or rider binged in front of the tripping-arm and resting as to its free end against the tip thereof, to change the size of the grain-receiving space.

5. The combination of the supporting-bar, the tripping arm or fingers pivoted thereto, the trip-rod connected with the said tripping-arm, and the supplementary arm or rider pivoted to an offset from the heel of the tucker-cam above the supporting-bar and in front of the tripping-arm.

6. In combination with the tripping arm or fingers, the rider binged in front thereof, and the stops whereby the rider is prevented from closing too far upon its binge.

7. The rider formed with wings or runners at the end away from its binge, to rest upon the ribs of the compressing and tripping arm.

8. In combination with the rider, formed with an angular boss at its end farthest from the binge, the lift formed with a seat to take over said boss and with runners to rest against the tripping-arm, and the through-bolt detachably uniting the lift to the rider.

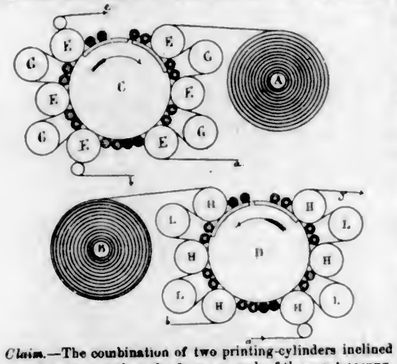
9. The rider formed, as described, with wings or runners at its

unhinged end, and an angular boss between said runners, combined with the lift having a recess or seat to take over said boss, and runners grooved beneath to saddle the runners upon the rider, and a removable bolt passing through rider, boss, and lift to secure the parts together.

10. The tucker-cam formed with an offset to overhang the supporting-bar and afford means for hinging the rider above said bar and directly in front of the tripping-arm.

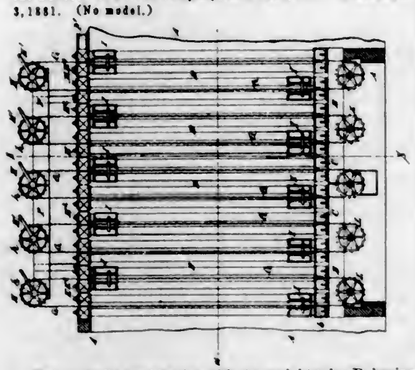
11. The tucker-cam having formed therewith one member of a hinge-connection and the shoulder or stop h', in combination with the rider having the other member of said hinge-connection and a second opposing shoulder or stop, h^2, substantially as described.

265,233. PRINTING-MACHINE. EDWYN ANTHONY and JACOB E. HARVEY, New York, N. Y. Filed May 12, 1882. (No model.)



Claim.—The combination of two printing-cylinders inclined at an angle to one another, the forms on each of them not occupying the whole surface, with impression and carrier cylinders and devices for deflecting the path of the webs, whereby a plurality of webs of paper may be simultaneously printed on both sides from type, stereotype, or a mixture of both, all substantially as described.

265,234. APPARATUS FOR HEATING WATER FOR BOILERS, &c. GEORGE H. BABCOCK, Plainfield, N. J., and STEPHEN WILCOX and NATHANIEL W. PRATT, Brooklyn, N. Y., assignors to the Babcock & Wilcox Company, New York, N. Y. Filed Sept. 3, 1881. (No model.)



Claim.—1. In combination with the upright tubes D, having connections for circulating water therethrough, arranged within the inclosing walls A, to be heated by the spent gases from a furnace, the scrapers J, extending up and down the tubes, with a scraping-surface at each end and provided near the center with a beveled spur, j, engaged by a correspondingly-recessed carrier or carriage, I J', so as to scrape forcibly during the rising motion only, as herein specified.

2. In a feed heater or economizer, the bottom connections C, having tapering sockets C', the top connections E, having tapering sockets E', larger than C', the tubes D, having one tapered end, d, and the ring m, fitted around the opposite end of the tube and driven tightly in the tapering socket E', as herein specified.

265,235. TRUSS. JASON T. BARTLETT and EDWARD E. BOTMAN, Boston, Mass. Filed July 7, 1882. (No model.)



Claim.—1. In a truss, the combination, with the pad D and pad-plate G, of the plate E, pivoted thereto upon a tubular stud or pivot, c, the supporting-arm B, hinged at a to the plate E, and the adjusting-screw H, passing through the arm B, and provided with a nut or collar, m, on the inner side of the arm, and adapted to turn within the threaded interior of the tubular stud or pivot c, substantially as and for the purpose set forth.

2. In a truss, the combination, with the pad D and pad-plate G, with its two screw-holes, g i, of the reversible slotted plate E, pivoted upon the plate G and connected with the supporting-arm B, and the set-screw f, adapted to be inserted in either of the holes g i of the plate G, all constructed to operate substantially as described, for the purpose set forth.

3. In a truss, the hinged or pivoted pad-supporting arm B, having its upper and lower surfaces, 12 13, immediately surrounding the slot or aperture k, of convex form, in combination with the adjusting-screw H and nut or collar m, having convex surfaces contiguous to the convex surfaces 12 13 of the arm B, all constructed to operate substantially in the manner and for the purpose described.

4. In a truss, the combination, with the pad D and pad-plate G, having the two screw-holes g i, of the reversible plate E, pivoted thereto at c, and provided with a curved slot, e, and set-screw f, the supporting-arm B, hinged at a to the outwardly-projecting lip b of the plate E, and the adjusting-screw H, passing through a slot or aperture, k, in the arm B, and provided with a nut or collar, m, on the inner side of the arm, whereby the latter is confined between the nut or collar and the head of the screw, and the pad thus held immovably when adjusted at the desired angle with respect to the arm B, all constructed to operate substantially in the manner and for the purpose set forth.

265,236. WRENCH. THADDEUS W. BOYLE, Augusta, Ga. Filed Feb. 14, 1882. (No model.)



Claim.—1. A wrench having a shank provided with two longitudinal grooves and formed with a serrated and a plane jaw, with a movable jaw having a smooth longitudinal opening adapted to receive said shank and be rotated thereon, and a latching device passing through the back of the movable jaw and adapted to enter either groove of the shank, and means for securing the movable jaw at any desired point of adjustment, substantially as and for the purpose described.

2. In a wrench, the combination of a shank provided with two longitudinal grooves and two stationary jaws, with a movable jaw having a smooth cylindrical opening adapted to receive said shank, a suitable latching device, and a hand-nut provided with a head engaging within a groove in the movable jaw and adapted to be rotated independently therefrom, substantially as and for the purpose set forth.

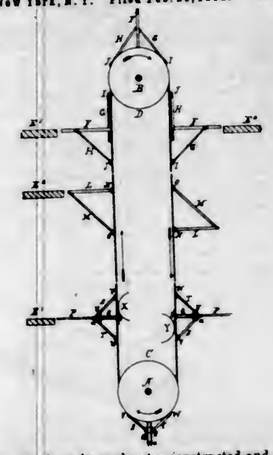
3. In a wrench, the combination of a shank provided with a T-shaped head and two longitudinal grooves, with a movable jaw having a smooth cylindrical opening adapted to receive said shank, a suitable spring latching device secured to and passing through the side of the jaw, and a hand-nut connected with the movable jaw, said jaw being adapted to be rotated independently from the nut, substantially as and for the purpose described

265,237. ORNAMENTAL GLASSWARE. CHARLES N. BRADY, Wellsburg, W. Va. Filed July 12, 1882. (No model.)



Claim.—In a lamp, the combination, with the bowl or reservoir, of a transparent or translucent hollow stem having on its inner surface a luminous compound or coating, and an opaque foot or base of a dark color, substantially as and for the purpose specified.

265,238. ENDLESS PACKAGE-ELEVATOR. GEORGE W. BROWN, New York, N. Y. Filed Feb. 20, 1882. (No model.)



Claim.—1. A package-elevator constructed and composed of companion endless ropes, preferably of wire, connected together by and carrying a platform or a series of platforms adapted to bear loads, and traveling upon and around suitable pulleys provided at each terminus.

2. A package-elevator constructed and composed of companion pairs or series of endless ropes or bands, preferably of wire or steel, whereby greater tractive power is acquired.

3. In an endless package-elevator, a platform frame or support constructed and composed of companion arms hinged to the traveling belt, each braced in position by a brace jointed respectively to the arm and to the traveling belt or its equivalent, whereby the frame-work becomes flexible enough to turn the pulleys around which the belt travels.

4. In an endless package-elevator, a platform frame or support constructed and composed of companion arms rigidly affixed at right angles to the traveling belt, each arm having an upper and a lower brace, each brace hinged respectively to the belt and to a sliding box or its equivalent, embracing the arm and movable thereupon, whereby the frame-work becomes flexible enough to turn the pulleys around which the belt travels.

5. In an endless package-elevator, a platform frame or support constructed and composed of companion arms rigidly affixed at right angles to the traveling belt, each arm provided with an upper and a lower brace hinged to the traveling belt and automatically movable, respectively and alternately on ascent and descent, from position beside the belt to position for bracing the arm, whereby the platform-frame is always braced firmly and its topmost surface always left clear for carrying loads.

6. In an endless package-elevator, a self-unloading carrying-platform pivoted back of its middle to and also fastened or caught horizontally in a platform-frame borne by the traveling belts, whereby a load tends to overbalance the platform and dumps itself when the platform is released from its horizontal fastenings.

7. In an endless package-elevator, a self-unloading carrying-platform pivoted back of its middle to frame-work borne by the traveling belt and held horizontal therein by a catch engaging therewith and automatically disengaged at any desired point or points by cam-like mechanism.

8. In an endless package-elevator, a carrying-platform borne by the traveling belt or equivalent, constructed to carry and discharge its load during either ascent or descent.

9. In an endless package-elevator, a self-unloading carrying-platform constructed to dump its load automatically at desired points by cam-like mechanism there located during ascent or descent, or both simultaneously.

10. An endless package-elevator bearing a series of carrying-platforms constructed and adapted to raise and lower loads simultaneously.

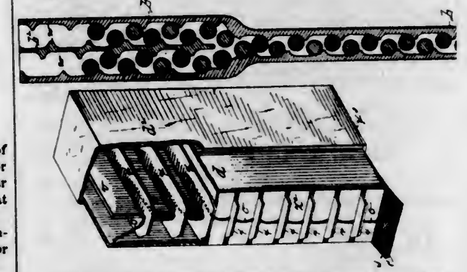
265,239. AUTOMATIC AIR-COCK FOR STEAM-HEAT RADIATORS. GILMAN W. BROWN, West Newbury, Mass. Filed July 24, 1882. (No model.)



Claim.—1. In combination with the case A and with the furcated compound expansion-bar C, fastened firmly in position at one end only therein, the thimble c, secured to the case near its opposite end, and the valve, grooved to receive the free end of the expansion-bar and provided with the guide-spindle extending within the thimble, all being substantially as set forth.

2. The combination of the guide-thimble, provided with the opening at its outer end and the valve-seat at its inner end, with the case, the furcated compound expansion-bar, fastened firmly at one end only in said case at or near one end thereof, and the valve, grooved to receive the free end of the expansion-bar and provided with the guide-spindle adapted to play in the thimble, all being essentially as shown and described.

265,240. CARTRIDGE-FEEDER FOR MACHINE-GUNS. LUCIEN P. BRUCH, Springfield, Mass. Filed Feb. 18, 1882. (No model.)



Claim.—1. A cartridge-feeder for guns, having a cartridge-channel therein inclosed on all sides, and whose adjacent widest walls are provided with a series of transverse corrugations, substantially as set forth.

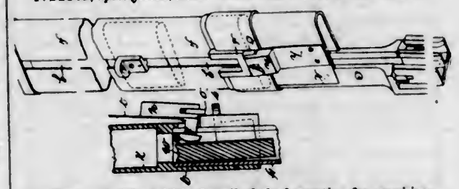
2. A cartridge-feeder for guns, having a cartridge-channel therein whose adjacent walls are provided with a series of transverse corrugations parallel with each other, the projecting portions of which upon one wall are located opposite the depressions in the opposite wall, substantially as set forth.

3. A cartridge-feeder for guns, having two cartridge-channels therein, side by side, whose adjacent walls are provided with a series of transverse corrugations, and a single cartridge-channel provided with like corrugations located below said two channels, with which the latter communicate, substantially as set forth.

4. In combination with the feeder b, having a vertical slot in its side, the block a, movable in said slot, and the lever i, pivoted to said block, substantially as set forth.

5. The within-described cartridge-box for machine-gun feeders, having a central partition between its sides, provided with a series of slots from its lower edge upward, a series of slotted transverse partitions, a cord engaging with said last-named partitions, having its free end extending outside of said box, and means, substantially as described, for removing one end of said box, all as set forth.

265,241. CHARGER FOR CARTRIDGE FEED-CASES. LUCIEN P. BRUCH, Springfield, Mass. Filed Jan. 31, 1882. (No model.)

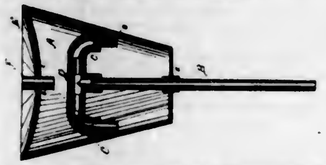


Claim.—1. The within-described feed-mouth e for machine-gun feed-cases, consisting of the tubular case K, having the spring h secured to it, which spring supports on its flexible end the cam

m, and the block n, having the sliding block o therein, all combined and operating substantially as set forth.

2. The combination, with the cartridge feed-case *f*, having a projection, *s*, thereon at one end of the slot *g* therein, and provided with the plunger *w*, of the feed-mouth *e*, provided with spring-cam *m* and sliding block *o*, substantially as set forth.

265,242. EXHAUST-STEAM TRAP. JOHN E. CHAPIN, Cleveland, Ohio. Filed June 26, 1882. (No model.)



Claim.—In an exhaust-steam trap, the combination of the chamber A with the pipes B and C, substantially as and for the purposes set forth and described.

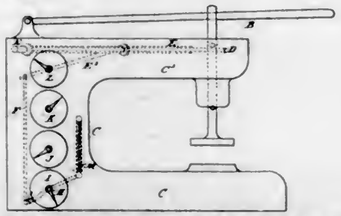
265,243. BAKING-POWDER. WILLIAM P. CLOTWORTHY, Baltimore, Md. Filed Apr. 6, 1882. (No specimens.)

Claim.—As a baking-powder, a compound of diacetate of alumina, bicarbonate of soda, (or its chemical equivalent,) and starch or flour, substantially in the proportions and for the purpose specified.

265,244. BAKING-POWDER. WILLIAM P. CLOTWORTHY, Baltimore, Md. Filed May 31, 1882. (No specimens.)

Claim.—As a baking-powder, a compound of acetate of lime, bicarbonate of soda, (or its chemical equivalent,) and starch or flour, substantially in the proportions and for the purpose specified.

265,245. REGISTERING-STAMP. HIRAM CODD, London, England. Filed Nov. 28, 1881. (No model.) Patented in England Mar. 16, 1881, No. 1,153, and in France Sept. 16, 1881, No. 144,886.



Claim.—1. The combination, substantially as hereinbefore set forth, of the casing provided with an overhanging arm, the series of stamps guided so as to be capable of independent reciprocation in said arm, the register common to all the stamps, and the intermediate operating connections, substantially as described, between said stamps and said register.

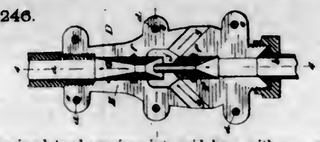
2. The combination, substantially as hereinbefore set forth, of the casing, a stamp fitted to reciprocate in said casing, a rocking lever connected at one end with said stamp and at the other with a turning shaft, so as to rock said shaft when the stamp is operated, a register operated by said rocking shaft and actuating connections, substantially as described, between said turning shaft and said register.

3. The combination of the casing, the series of independent stamps fitted to reciprocate in guides in said casing, the independent lever-connections of said stamps with a turning axis or shaft, whereby one of said stamps may be operated without forcing down the others, the register common to all of said stamps, so as to register their given value upon the operation of each stamp, and the link-connection between said turning shaft and the pawl-carrier, which actuates the ratchet-wheel of the register, whereby the rocking of said axis or shaft through the operation of one of said stamps causes the given value of said stamp to be recorded by the register, said combination being and acting substantially as described.

265,246. EJECTOR FOR RAISING LIQUIDS. LEON A. CONORD, Elizabeth, N. J. Filed June 21, 1882. (Model.)

Claim.—1. The combination, to form an injector-pump, of a shell, E, formed of two halves divided longitudinally, having a channel in each, forming a longitudinal bore when they are united,

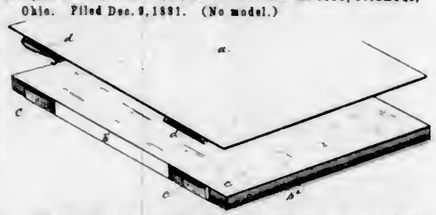
265,246.



and having lateral openings into said bore, with a nozzle-tube, F, and throat-tube G, fitting said bore and fixed in place therein, substantially as set forth.

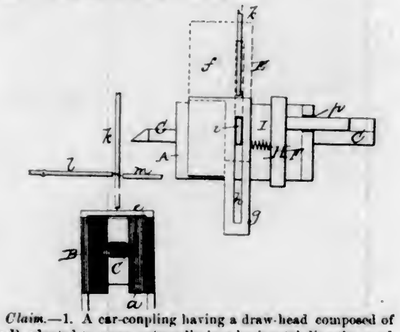
2. The combination of shell E, made in two separable halves, divided longitudinally, with a longitudinal channel through each, forming a bore or passage when they are united, with nozzle-tube F and throat-tube G, fitting said bore, and having each a rib or shoulder, *f*, entering corresponding grooves in said bore, and with inlet-apertures *g g*, substantially as set forth.

265,247. WRITING-TABLET. CHARLES M. COTT, Columbus, Ohio. Filed Dec. 9, 1881. (No model.)



Claim.—In a tablet-blotter, the combination, with the tablet part having a lapped backing-strip, *b*, of paper or fabric, pasted so as to form the pockets *c c* upon the back edge at or near each end of the tablet, of the blotting-sheet *a*, having the lapped pasted paper or fabric loops *d d* and the spring clamp-pins *e e*, the said clamp-pins being separately fitted into and connecting each blotter-loop with each tablet-pocket upon the back edge of said tablet, substantially as described, for the purpose specified.

265,248. CAR-COUPLING. WILLIAM CONNELLAN, New Haven, Conn. Filed Apr. 18, 1882. (No model.)



Claim.—1. A car-coupling having a draw-head composed of jaws B, adapted to move outwardly in a horizontal direction, and having studs or projections *i* on their outer sides, the cap or hood E, having top *e*, cheeks *f*, and legs *g*, and slotted at *h*, and the rod having arms *l* and *m*, substantially as and for the purpose set forth.

2. A car-coupling having jaws B, pivoted together near their rear ends, the spring-block D, coupling-bolt C, secured between said jaws, and the cap or hood E, substantially as and for the purpose set forth.

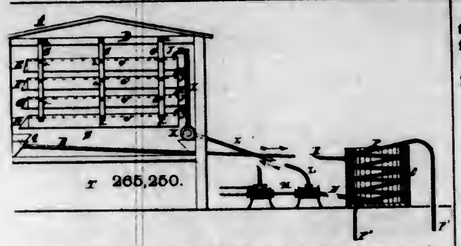
265,249.

WITHDRAWN.

265,250. REFRIGERATING APPARATUS. JOHN KUNIONT, Cleveland, Ohio. Filed July 20, 1882. (No model.)

Brief.—Instead of blocks of ice in chamber, uses tiers of open-topped troughs, through which cold brine is circulated to cool the compartment.

Claim.—1. A refrigerating apparatus consisting of a series of troughs arranged one above the other, a stand-pipe at one end, provided with supply-cocks, and drip-conveyers at the other, in combination with a discharge-trough having a pipe extending therefrom to the tank O, main pipe K, and force-pump connected by

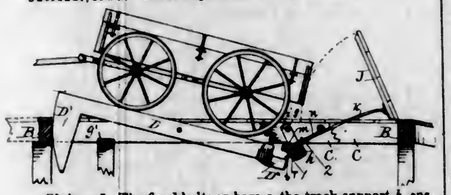


265,250.

an intermediate pipe with a pipe leading from said pump to the brine-tank, substantially as and for the purpose set forth.

2. In a refrigerating apparatus, a system of troughs arranged in horizontal series one above the other, in combination with pipes and pumping mechanism connected with a tank of cold brine, whereby the said brine is withdrawn from the tank to the troughs and returned from said troughs to the tank by one continuous operation, in the manner and by the means substantially as set forth.

265,251. PLATFORM WAGON-DUMP. AMOS K. RUSLAND, Sheldahl, Iowa. Filed Aug. 14, 1882. (No model.)

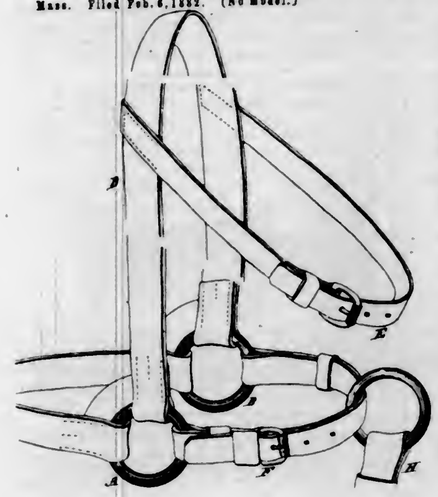


Claim.—1. The fixed bolts or bars *g*, the track-support *h*, suspended by means of bearers *i i*, and pivoted track-rails having elbow-shaped ends D'', arranged and combined in a dumping-platform, substantially as shown and described, to operate in the manner set forth, for the purposes specified.

2. The locking devices *n r s*, in combination with the suspended track-support *h* and pivoted track-rails and a platform, substantially as set forth for the purposes specified.

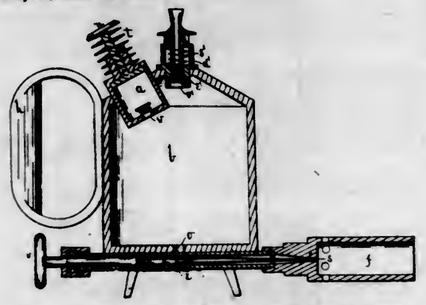
3. The wagon and car dumping platform composed of the frame and platform A B C, the track-rails D D' D'', the track-support *h i i*, having perforated plates *m*, the trap-door J, having hinged rods *k*, and the locking devices *n r s*, substantially as shown and described, to operate in the manner set forth, for the purposes specified.

265,252. HALTER FOR HORSES. HIRAM G. FARR, Boston Mass. Filed Feb. 6, 1882. (No model.)



Claim.—As an improvement in halters, the combination, with the nasal straps of a halter, of elastic rings, substantially as and for the purpose set forth.

265,253. PAINT-BURNER. JOHN A. PELT, Kent, Ohio. Filed July 21, 1882. (No model.)

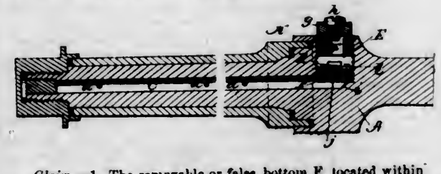


Claim.—1. The needle *x*, extending through opening *s*, tube *i*, and burner *f*, in combination with vessel *b*, provided with sliding valve *d*, formed suitably for a mouth-piece at its upper end, and having spring *s'*, substantially as described.

2. The vessel *b*, provided with air-pump *a*, situated in the top of vessel *b*, near its handle, in combination with tube *i*, needle *x*, and burner *f*, substantially as described.

3. The vessel *b*, provided with air-pump *a* and valve *d*, formed suitably for a mouth-piece at its upper end, in combination with tube *i*, needle *x*, and burner *f*, substantially as described.

265,254. SELF-OILING AXLE FOR VEHICLES. LEWIS H. FISHER, Walpole, Mass. Filed Feb. 25, 1882. (No model.)



Claim.—1. The removable or false bottom F, located within and at the bottom of the oil-reservoir E, and made secure at that place, and adapted to be used substantially as shown, and for the purpose described.

2. The adjustable screw-valve K, combined with and located in the removable or false bottom F, to regulate the flow of oil, substantially as shown and described.

265,255. METHOD OF PRESERVING OYSTERS AND SIMILAR SHELL-FISH. JOHN H. SCOTT, Jr., and ALBERT A. FREEMAN, Philadelphia, Pa. Filed Mar. 2, 1882. (No specimens.)

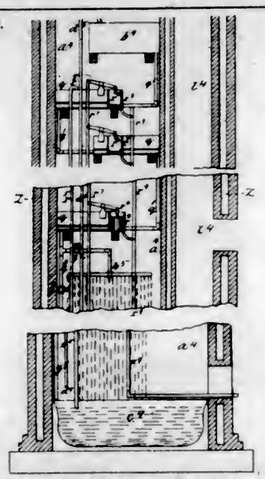
Claim.—The method of preparing oysters and other shell-fish for preservation and shipment, which consists in holding the shells thereof firmly clamped together while the animals are in natural condition by means of a binding-wire secured around the same, or equivalent clamping device, substantially as and for the purposes set forth.

265,256. SYSTEM OF PRODUCING AND CONTROLLING CURRENTS OF AIR FOR COOLING, WARMING, VENTILATING, &c. JOHN GAMGEE, London, England. Filed Jan. 30, 1882. (No model.)

Claim.—1. The combination, with a building provided with suitable air-conduits, of a tower connected therewith, provided with means for producing ice in the upper part thereof, and for producing and maintaining a downward current of air through the same by the falling of a liquid in showers therein, and with openings connecting the interior of the tower with the conduits of the building for the ingress and egress of the air, and constructed to operate substantially as described.

2. In combination, a tower provided with an ingress-opening at its upper part and egress-openings at its lower part, a building connected thereto by said ingress and egress openings, a series of refrigerating-shelves located in the upper part of said tower and adapted to hold water to be frozen, and a spraying or showering device located beneath the bottom refrigerating-shelf and con-

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nected thereto, adapted to shower the refrigerant liquid to the bottom of the shaft after it has passed through the refrigerating-shelves, as and for the purpose set forth.

3. In combination, the shelves q q, tank b^1, connecting-pipes q' q', water-supply pipe r^2, and tower a^4, substantially as and for the purpose set forth.

4. In combination, the shelves q q, tank b^1, connecting-pipes q' q', water-supply pipe r^2, showering device b^3, and tower a^4, substantially as and for the purpose set forth.

5. In combination, the shelves q q, tank b^1, connecting-pipes q' q', water-supply pipe r^2, showering device b^3, pipe q^3, and tower a^4, substantially as and for the purpose set forth.

6. The refrigerating-shelves q q, located in the upper part of the tower a^4, adapted to hold water, and provided with discharge gates or valves r^3, and drip-cups r^4, and pipe r^2, in combination, substantially as and for the purpose set forth.

7. The method of producing currents of air of any desired temperature by the action of a liquid falling in showers in a tower or confined space, in connection with devices adapted to change the temperature of the said currents after the entrance thereof into said tower, substantially as set forth.

8. In the method of producing currents of air by means of liquids showered or caused to fall in drops down through a tower or confined space, the employment of liquids containing in solution or charged with deodorizing or antiseptic agents, whereby the air whose circulation is induced by said falling liquid will by that same liquid be deodorized or purified, substantially as hereinbefore set forth.

9. In the hereinbefore-described system of ventilating and cooling, the application and use, as both the refrigerating and the air-current producing agent, of a refrigerating-liquid such as employed in freezing or ice machines, which first exercises refrigerating action upon a cooling or ice-making device, and then is showered or caused to fall in drops through the tower or other confined space, substantially as hereinbefore set forth.

265,257. RAILWAY-SWITCH. SETH GOODNOW, Wilmot, N. H. Filed Apr. 14, 1882. (No model.)

Brief.—The shifting-lever is actuated through rotating spirally-flanged treadles, one of said treadles being mounted in sliding bearings, whereby it can be moved out of the path of the wheel-flanges. The device is capable of operation by hand through a spring hand-lever, which engages the connecting-rod of the shifting-lever.

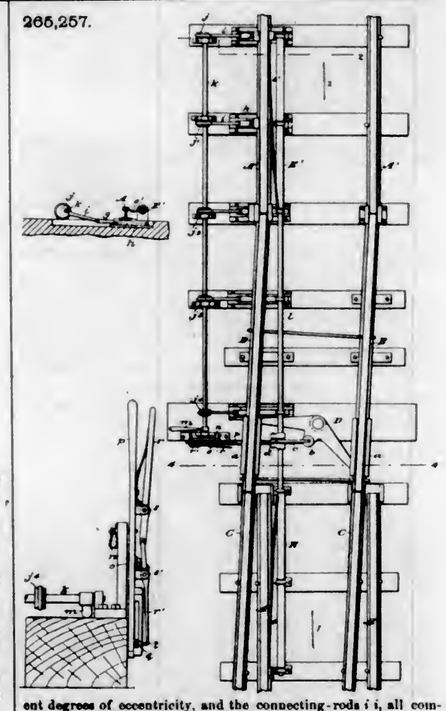
Claim.—1. The mechanism for shifting the switch-rails, comprising the rotating lever provided with two spiral flanges arranged oppositely, said lever being arranged at the inside of the track-rails, as shown, the shifting-lever arranged between the switch-rails, and one of its arms coupled to a crank on the rotating lever, the main-track rails and the switch-rails, all combined and arranged substantially as set forth.

2. The mechanism for setting over the rotating lever so that the wheel-flange may not act upon it, comprising the said lever mounted on sliding bearings, the shaft k, mounted to rotate in fixed bearings, the eccentrics mounted on said shaft and having different degrees of eccentricity, and the connecting-rods i i, all combined and arranged substantially as set forth.

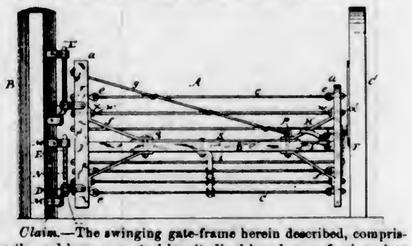
3. The combination, with the main-track and switch rails and the shifting-lever, of the rotating lever made in two sections, E E', provided with the concave spiral flanges e e', arranged oppositely, and the said sections loosely coupled together, the connecting-rod c, arranged to couple the arms b of the shifting-lever with the crank d, the eccentric shaft k, the eccentrics mounted thereon, and the connecting-rods i i, all arranged to operate substantially as set forth.

4. The combination, with the switch-rails, the shifting-lever D, the rotating lever coupled thereto, and the connecting-rod q, of the hand shifting mechanism, comprising the lever p, provided with a keeper and hung on a suitable fixed frame, said frame, the lever r, spring u, and lever r', provided with a pin, t, all arranged to operate substantially as and for the purposes set forth.

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265,258. SWINGING AND LIFTING GATE. ERASMUS L. HAMMOND, Galien, Mich. Filed May 25, 1882. (No model.)



Claim.—The swinging gate-frame herein described, comprising the end bars, a, central longitudinal bar, b, re-enforcing plate S, wire rods c, braces f and g, and bolts p q, all constructed and relatively arranged as herein set forth, for the purpose specified.

265,259. STRAP-SHIELD. ANDREW L. HILL, Decatur, Ill. Filed July 17, 1882. (No model.)

Claim.—1. The strap-shield herein set forth, consisting of the bent portion c, necks b b, and knobs a a, substantially as shown and described.

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2. A strap-shield consisting of the bent portions c, necks b b, knobs a a, and provided with the projection e, all substantially as set forth.

265,260. MACHINE FOR TRANSMITTING ROTARY MOTION. WILLIAM H. HOLCOMBE and CLIFFORD A. HOLCOMBE, Beloit, Wis. Filed Apr. 12, 1882. (No model.)

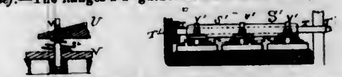


Claim.—1. In a device for transmitting rotary motion from one shaft to another, the combination of two or more reciprocating connecting rods, belts, or chains with a single wrist-pin and crank on each shaft, the rods, belts, or chains being connected with said wrist-pins, substantially in the manner shown and described.

2. In a device for transmitting rotary motion, the combination of the shafts A B, cranks C D, rocking sheaves E F and G H, reciprocating rods a b c d, and pitmen K L M N, constructed and arranged substantially as shown and described.

265,261. PUMP. WILLIAM D. ROGERS, St. Louis, Mo. Filed Dec. 15, 1881. (No model.)

Brief.—The flanges x x' guide the head of the bolt y.

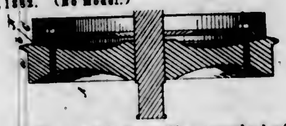


Claim.—1. In combination with one or more sets of valves and valve-guides, V', the tube S', having the projecting stops U to receive the ends of the guides V', the rod T, adapted to support the tube, and the sockets T' in the sides of the pump-case and the cover to receive the ends of the rod, substantially as set forth.

2. The combination of the sleeve S', having the projecting stops U, provided with screw-threaded openings at their ends, with the screw-threaded guides V', entering the openings in the ends of the stops, and with the rod T and valve V, substantially as set forth.

3. The combination of the recess for receiving the fastening means, having the direct rectangular cut w extending the full depth of the recess, and a short cut, w', at the bottom thereof, so formed as to present the stops x x x' x', with the T-headed bolt adapted to enter the cut w and be turned in the cut w', substantially as set forth.

265,262. CAR-WHEEL. THOMAS B. HOWE, Scranton, Pa. Filed July 28, 1882. (No model.)



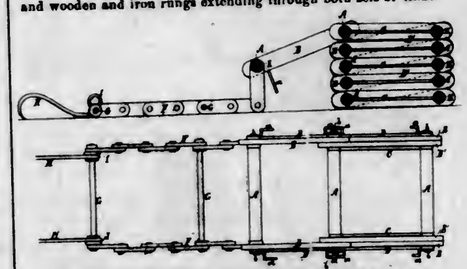
Claim.—1. The combination, with a car-wheel, of an independent brake-rim constructed in sections which are not joined together at their meeting edges, but are bolted or otherwise securely connected separately to the side of the wheel, substantially as described.

2. The combination, with a car-wheel, of a brake-rim bolted to the side of the wheel and separate and distinct from the supporting-tread of the wheel, and a non-conducting material interposed between the brake-rim and the wheel, substantially as described.

3. The combination, with the car-wheel, of the independent sectional brake-rim, the non-conducting material interposed between the rim and the side of the wheel, and the transverse securing-bolts, the whole arranged and operating substantially as described.

265,263. FIRE-ESCAPE LADDER. TIMOTHY HOWE, Foxborough, Mass. Filed May 8, 1882. (No model.)

Brief.—The ladder is composed of wooden and iron side links and wooden and iron rungs extending through both sets of links.



Claim.—1. A folding fire-escape constructed substantially as described—viz., of the wooden side connection-bars, B B', and the tubular rounds A, their joining headed transverse rods E, the series of internal metallic connection-rods, C, and the series of external connection-rods, D, provided with arms a, all being arranged and combined essentially and to operate as set forth.

2. A folding fire-escape or ladder composed of wooden and iron side links, arranged as represented, and suitable rungs extending through such links, and forming or aiding in forming hinge-joints for both sets thereof, all being substantially as set forth.

3. A folding fire-escape or ladder composed of wooden and iron side links and tubular rounds and suitable metallic rungs or rods extending through the said rounds and both sets of links, and forming or aiding in forming hinge-joints for such sets, all being substantially as set forth.

265,264. LOOM-TEMPLE. ALFRED ISHERWOOD, New Bedford, Mass. Filed Apr. 22, 1882. (No model.)



Claim.—1. The combination, with the temple-roller having recesses M, of the glass or other suitable bearings, N, secured in said recesses, as set forth.

2. The combination of the temple-roller having bearings N with the box having ends F, provided with screw-threaded openings G, and the set-screws H, having pins or plugs J, as set forth.

265,265. MACHINE FOR COOLING AND STRAIGHTENING METALLIC PIPING, BARS, OR SHAFTING. H. KELLOGG, New Haven, Conn., assignor to the Akron Iron Company, Akron, Ohio. Filed May 9, 1881. (No model.)

Claim.—1. In a machine for cooling rods or bars, the series of sets of cooling-rollers arranged to support two or more bars simultaneously and keep them revolving, substantially as described.

2. In a machine for cooling rods or bars, the combination of the cooling-rollers with the racks, so arranged that the movement of the racks causes the bar to be raised, permitting it to roll from one row of cooling-rollers to another, substantially as described.

3. In a machine for cooling rods or bars, the combination of the cooling-rollers and the receiving-rollers k, substantially as described.

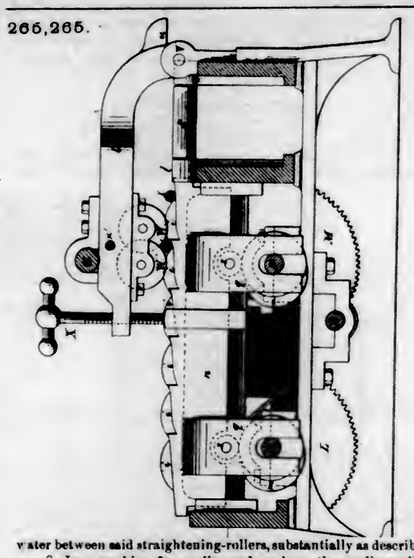
4. In a machine for cooling rods or bars, the combination of the cooling-rollers with the receiving-rollers and the feeding-roller H, substantially as described.

5. In combination with the cooling-rollers, the two sets of straightening-rollers W W, arranged to press upon the bar opposite to the supporting-rollers and straighten it, substantially as described.

6. In combination with the cooling-rollers and the racks, the straightening-rollers, arranged to be moved in unison with the motion of the racks, as and for the purpose described.

7. In combination with the cooling-rollers and the two sets of straightening-rollers, the distributing water-pipe arranged to drop

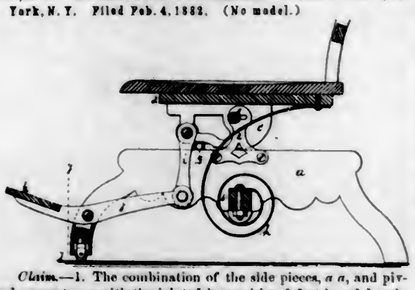
265,265.



water between said straightening-rollers, substantially as described.

8. In a machine for cooling rods or bars, the cooling-rollers arranged in rows, said rows being substantially in the same horizontal plane and arranged transversely to the machine-frame to receive the weight of and support the bar at separate points along its length and keep it rolling, while its surface is exposed on all sides between the rollers for cooling by the circulation of air in contact with it, substantially as described.

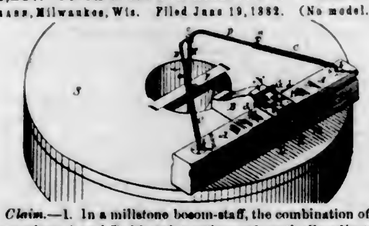
265,266. ROCKER-BASE FOR CHAIRS. WILLIAM LANG, New York, N. Y. Filed Feb. 4, 1882. (No model.)



Claim.—1. The combination of the side pieces, *a a*, and pivoted supports *e e* with the jointed levers *i j* and foot-board *k*, substantially as herein shown and described.

2. The combination of the side pieces, *a*, rod *b*, and supports *c* with the spring *h*, jointed levers *i j*, and foot-board *k*, substantially as specified.

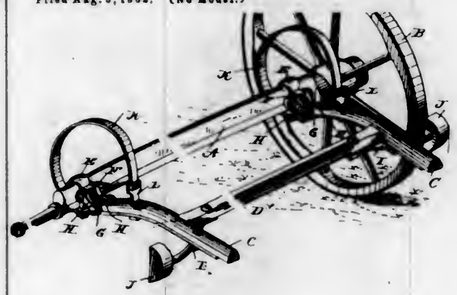
265,267. BOSOM-STAFF FOR MILLSTONES. WILLIAM LEHMANN, Milwaukee, Wis. Filed June 19, 1882. (No model.)



Claim.—1. In a millstone bosom-staff, the combination of the two members A and B, hinged together and vertically adjustable with respect to each other, and the guide-rod pivoted to member A at *b b*, and arranged to be lengthened and shortened by the telescoping of its parts C and D, substantially as and for the purposes set forth.

2. In a millstone bosom-staff, the combination of members A and B, hinged together and vertically adjustable with respect to each other, with the adjusting-screw K, extending through member A, and arranged to cause the outer end of member B to be raised or depressed by means of the point of the screw pressing upon the lower edge of its inner end, while the screw itself can be turned from the outer side of the member A, substantially as and for the purposes set forth.

265,268. WAGON-BRAKE. JAMES E. LUNDEN, Litchfield, Pa. Filed Aug. 3, 1882. (No model.)

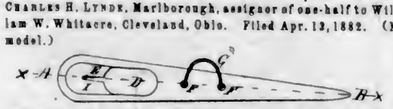


Claim.—1. The shafts connected to a vehicle by intermediate links or connecting-plates and having brake-blocks adapted to bear upon the front wheels, as set forth.

2. The shafts connected to a vehicle by intermediate links or connecting-plates, and having brake-blocks adapted to bear upon the front wheels, in combination with a spring adapted to lift the rear ends of the shafts and relieve the brakes, as set forth.

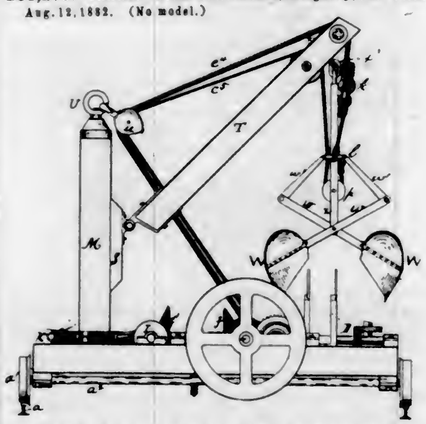
3. The combination, with a vehicle, of the thills C, having eyes L and brackets I, carrying brake-shoes J, the clips E, connecting-plates H, and the springs K, all arranged substantially as set forth.

265,269. GRAIN-BINDER AND CORN-HUSKER COMBINED. CHARLES H. LYNDE, Marlborough, assignor of one-half to William W. Whittacre, Cleveland, Ohio. Filed Apr. 12, 1882. (No model.)



Claim.—The compound tool or implement herein described, the same provided with a curved pointed end, B, and a rounded curved heel, A, with an opening, D, and slot E near one end thereof for the prepared bands, and a loop, G, substantially as and for the purposes set forth.

265,270. CRANE. MOSES A. MICHALES, Allegheny, Pa. Filed Aug. 12, 1882. (No model.)



Claim.—1. A grapple or scoop having a suspension or fulcrum bar, substantially as and for the purpose specified.

2. The combination, with a crane, of a grapple or scoops connected by compound levers, and a fulcrum or suspension bar having a link or movable connection with the crane, substantially as and for the purpose specified.

3. The combination, with the jib, of a grapple or scoops connected by compound levers, a fulcrum or suspension bar, and a single hoisting-rope, adapted to operate both the grapple or scoops and the jib, substantially as and for the purpose specified.

4. The combination of a grapple or scoops connected by compound levers, a fulcrum or suspension bar, a hoisting-rope which closes the grapple or scoops, and a trip-rope, substantially as and for the purpose specified.

5. The combination, with a crane and its jib, the crane-post having a swivel arranged thereon, of a hoisting-rope which extends from the power to the swivel on the crane-post and thence to the jib, substantially as and for the purpose specified.

6. The combination, with the crane-post having a swivel top, of the snatch-block and the hoisting and trip ropes which pass through the snatch-block, substantially as and for the purpose specified.

7. The combination, with the crane-post, of a sliding block having the jib pivoted thereon, grapples or scoops suspended from the jib by a suspension or fulcrum bar, and a hoisting-rope for operating the grapples or scoops and jib, substantially as and for the purpose specified.

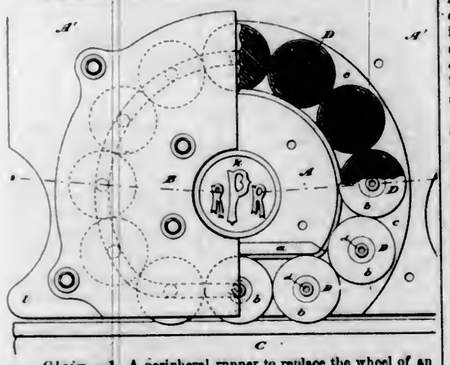
8. The combination, with the crane-post having a sprocket-wheel, of a chain, a hollow shaft having loose chain-pulleys arranged thereon, and clutches or dogs arranged to seize and release the loose chain-pulleys, substantially as and for the purpose specified.

9. The combination of the hollow shaft having sliding twin bevel-gear arranged thereon, with chain-pulleys arranged loosely on the shaft, and clutches or dogs for seizing and releasing the chain-pulleys, and with a bevel-gear arranged loosely on said shaft, and a clutch for securing said bevel-gear, whereby the power may be applied at will to the crane or the carriage, substantially as and for the purpose specified.

10. The combination, with the crane, of a hoisting and a trip rope, drums for receiving the said ropes, said drums being arranged loosely upon their power-shafts and provided with clutch mechanism for connecting the drums to their respective shafts, substantially as and for the purpose specified.

11. The combination, with a crane, of its hoisting-rope, a drum therefor, mounted loosely on the power-shaft and provided with a clutch mechanism, a bevel-pinion, mounted on the same power-shaft and provided with a second clutch mechanism, and a capstan operated from the bevel-pinion on the power-shaft, substantially as and for the purpose specified.

265,271. PERIPHERAL RUNNER FOR CARS. JAMES E. MILLER, Brooklyn, N. Y. Filed Jan. 30, 1882. (No model.)



Claim.—1. A peripheral runner to replace the wheel of an ordinary car, comprising a rider, A, having a channel, *c*, around it, as shown, and a series of detached rollers, D, arranged in said channel *c*, and provided with distance-wheels loosely mounted on their axes, substantially as set forth.

2. A roller for a peripheral runner, having loosely-mounted distance-wheels on its axis, said distance-wheels having a greater diameter than the roller and being arranged to contact with the wheels on the next adjacent roller of the series, substantially as set forth.

3. In a peripheral runner to replace the wheel of a car, the housing A', provided with the rounded projections *l*, substantially as and for the purposes set forth.

4. A roller for a peripheral runner for a car, comprising a concave roller, D, and the distance-wheels *b b*, mounted loosely on its axis at the ends of the roller, substantially as and for the purposes set forth.

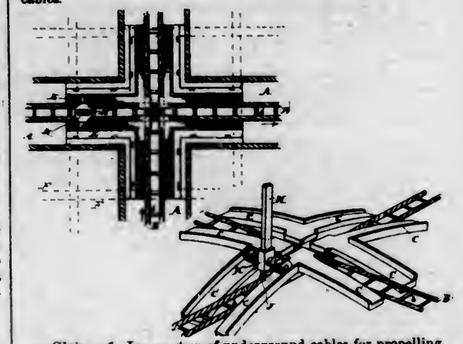
265,272. EXPANDING REAMER. VALENTINE MORSBACH, Brooklyn, assignor to John Thornton, Jr., New York, N. Y. Filed June 28, 1882. (No model.)



Claim.—The reamer described, having the slotted bar A *a*, with one or more cutters, D, fitted therein and connected by an axial pin or pivot, B, in combination with each other and with an axial screw, C, having a tapering bearing, C', adapted to serve as herein specified.

265,273. UNDERGROUND CABLE FOR STREET-CAR PROPULSION. LAURENCE MYERS, Philadelphia, Pa. Filed Dec. 19, 1881. (No model.)

Brief.—Where cables cross each other are placed inclined guideways, beginning below said cables and meeting at the point of crossing above said cables. The car is provided with a vertically-sliding bar carrying on the bottom friction-wheels adapted to travel on said guideways and disengage the clutch from the cables.



Claim.—1. In a system of underground cables for propelling street-cars, two cables crossing each other and traveling in different directions, in combination with a street-car, a vertically-sliding bar to connect with said cables, and mechanism arranged at said crossing to automatically raise said bar up and clear of both of said cables upon passing the place of intersection, and then allow said bar to fall into contact again with its cable, substantially as and for the purpose specified.

2. In a system of underground cables for propelling street-cars, two cables crossing at an angle, in combination with inclined guideways, said guideways beginning below said cables and meeting at or near the point of crossing and at some distance above it, substantially as and for the purpose specified.

3. In a system for underground cables for propelling street-cars, two cables crossing each other, in combination with a street-car provided with the vertically-sliding bar H, carrying on its bottom guide or friction-wheels L and inclined guideways C, substantially as and for the purpose specified.

4. The combination of an underground cable as a propeller for street-cars with a car, G, and a rod or bar, H, adapted to slide vertically, and provided on its bottom with a roller, J, substantially as and for the purpose specified.

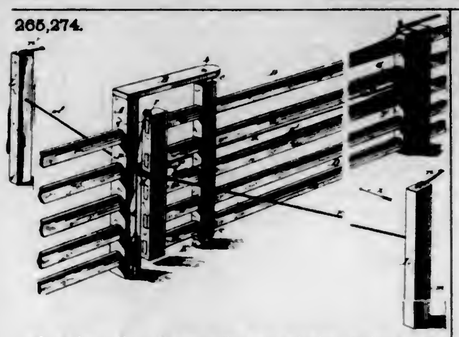
5. The combination of conduit A, covers E, having longitudinal slot *e*, cable B, rollers D D, car G, provided with vertically-sliding bar H, inclined guideways C, and heating-pipes M, substantially as and for the purpose specified.

6. The combination of conduit A, curved to turn a corner, vertically-pivoted guide-rollers, provided with flanges upon which the cable rests, with cable B, consisting of longitudinal strands B' and cross-bars *b*, substantially as and for the purpose specified.

265,274. GATE. WILLIAM W. NEWCOMB, Lebanon, Ky. Filed May 6, 1882. (No model.)

Claim.—1. In a gate, the combination, with a latch-releasing

265,274.



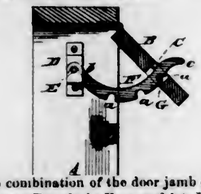
and an inwardly and outwardly gate-swinging device, as described, the auxiliary projecting latch, lateral keepers, and counter-weight, substantially as set forth, whereby the gate, after being automatically held open until the operator, on horseback or in a vehicle, passes through, is made to close by the operator without having to dismount or being retarded in his progress.

2. In combination with an inwardly and outwardly swinging gate, D, the post A, staple or pulley *p*, weight M, weight-rope *t*, pendulum-link *q*, and obliquely-resting eye *r*, substantially as described.

3. In combination with an inwardly and outwardly swinging gate, D, the lateral posts L L', fulcrum-post C, uprights F and I, ropes *m m'*, elongated latch *o*, and keepers *n n'*, substantially as described.

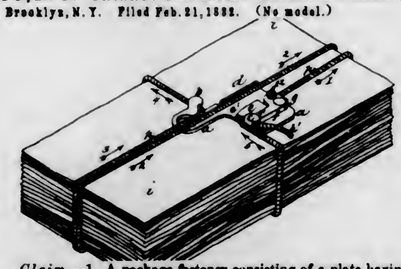
4. In combination with an inwardly and outwardly swinging gate, D, the fulcrum-post C, uprights F and I, unbroken horizontal rails *u u*, and removable rail-section *s*, substantially as described.

265,275. TRANSOM-ADJUSTER. JAMES T. OLINGER, Stelvideo, Ohio. Filed Feb. 8, 1882. (No model.)



Claim.—The combination of the door jamb or casing A, provided with the keeper D and pin E, curved bar F, having notches *a*, hook *b*, and thumb-piece *c*, and the hinged transom-sash B, slotted at C to receive the thumb-piece *c* of bar F, which is pivoted in said slot upon pin or bolt G, all constructed and combined to operate substantially in the manner and for the purpose herein shown and described.

265,276. PACKAGE-FASTENER. PATRICK A. O'MALLEY, Brooklyn, N. Y. Filed Feb. 21, 1882. (No model.)



Claim.—1. A package-fastener consisting of a plate having hooks formed thereon, and provided with a pivoted clamping-lever, and a binding-cord attached to one end of the clamping-lever, which is adapted to clamp the free end of the cord, after it is passed around the package against one of the hooks by tension and strain of the cord only, substantially as set forth.

2. In combination, the plate *a*, provided with hooks *b* and *c*, flange *d*, and stop *e*, the bell-crank lever-clamp *f*, and cord A, substantially as and for the purpose set forth.

265,277. TILE FOR WELLS AND CISTERNS. GEORGE W. OVERALL, Memphis, Tenn. Filed May 27, 1882. (No model.)

Brief.—The curbing is made in sections, the lowermost bowl-shaped, those above it tapering and ring-shaped. The joints (tongue and groove) are made tight by cement.

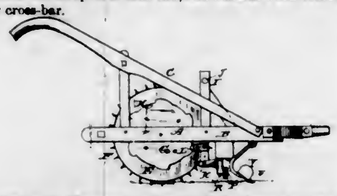


Claim.—1. A cistern consisting of a bowl-shaped bottom section, tubular tapering intermediate sections, and a top section, all constructed and arranged substantially as set forth.

2. The herein-described cistern-curbing, consisting of the bowl-shaped bottom section, A, having groove D, one or more tubular tapering intermediate sections, C, each having a tongue or flange, E, and groove F, and the top section, B, having tongue G and rim H, as and for the purpose set forth.

265,278. CULTIVATOR. LUTHER B. OWEN, Marietta, Ga., assignor to Cornelia E. Owen, same place. Filed May 23, 1882. (Model.)

Brief.—The driving-wheel carries a cam-wheel, which actuates a pendent bar connected by links and bell-cranks to the knives, giving them an intermittent motion, striking together to cut the row of plants, and then withdrawn to leave a hill. A cranked bar carries the scrapers at each end, and when at work bears against a rear cross-bar.



Claim.—1. The combination, with the frame having a cross-piece, O, standards I I, and carrying a rotary shaft on which is fixed the drive-wheel, and a wheel or disk, G, having cams or projections H, of a rock-shaft journaled between standards I I, having an arm, K, engaged by cogs H, and suitable spring mechanism, N, and the chopping-blades journaled on spindles or pins on piece O, and connected to the lower end of arm K by rods T, as set forth.

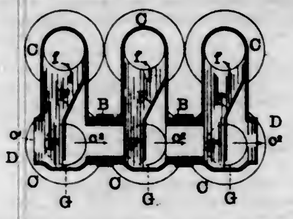
2. The combination, with a cross-piece, O, on the frame, having projecting spindles or pins R R, of chopping-blades, the shanks or tangs of which are journaled on said spindles, and provided with inwardly-extending arms S, to which is pivoted a connecting-rod, T, also pivoted at its rear end to the vibratory arm of a rock-shaft, as set forth.

3. The combination, with the frame having a cross-piece, O, carrying the hoes or choppers, and a cross-piece, X, in front of the same, of the plows on the ends of one U-shaped standard, hinged to the latter, so as to be thrown up out of engagement, and when in use adapted to bear against cross-piece O, as set forth.

265,279. STEAM-RADIATOR. JOHN B. PIERCE and JOSEPH BOSS, Buffalo, N. Y. Filed Feb. 20, 1882. (No model.)

Claim.—1. A steam-radiator consisting of the upper and lower inclined pipes or tubes, A A', connected by vertical tubes a^2 a^2, and having the inlet and outlet openings opposite and facing each other, and a separating-diaphragm in the vertical portion a^2, projecting downward to near the bottom of the same and partly closing the

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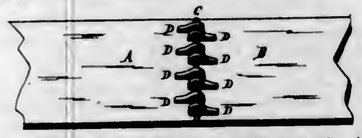


end of the lower horizontal pipe, both horizontal portions being slightly inclined in opposite directions, whereby the steam as it enters the inlet-opening is compelled to pass the entire circuit of the section before it leaves the outlet-opening, and the water which condenses in the section passes around the same in the same direction with the steam and through the outlet.

2. A series of radiator-sections, each section being provided with a diaphragm, F F', and connected together by nipples B, adapted to screw into the inlet and outlet openings, as shown, whereby the steam passes through each section and from section to section, and the condensed water from each section passes at right angles, or nearly so, to the length of the sections in a direct line through the inlet and outlet openings under the diaphragms, substantially as specified.

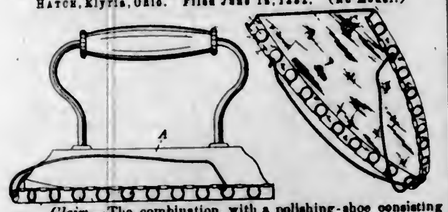
3. A series of radiator-sections, each section consisting of a complete pipe-circuit, the separating wall or diaphragm, substantially as specified, and the inlet and outlet openings, arranged opposite each other and threaded to receive the nipples, whereby all the sections may be made exactly alike and connected together, so as to form a straight passage from one section to the other, as described.

265,280. BELT-HOOK. WILSON L. POTTER, Hartford, Conn. Filed Nov. 15, 1880. Renewed Aug. 21, 1882. (No model.)



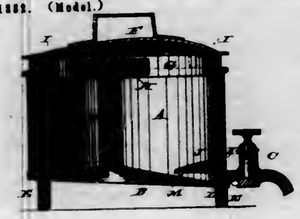
Claim.—The central wire combined with the hooks pivoted thereon, substantially as shown and described.

265,281. SAD-IRON. SAMUEL B. RAWSON and WALTER P. HATCH, Elyria, Ohio. Filed June 16, 1882. (No model.)



Claim.—The combination, with a polishing-shoe consisting in a plate of metal having the contour of a sad-iron, and provided with upright sides which are stiffened by a wire, of spring-wires arranged to cross each other, and having their ends hooked over the wire employed to stiffen the upright sides, substantially as and for the purpose set forth.

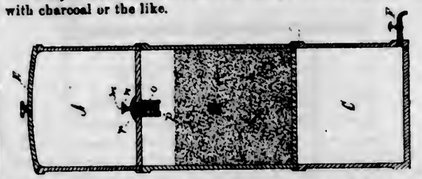
265,282. MILK-COOLER. JOHN H. RUBY, Harrisburg, Pa. Filed Feb. 1, 1882. (Model.)



Claim.—The can or vessel A, having inclined convex bottom B and spigot C, in combination with the shield or separator J, having legs K M, substantially as set forth.

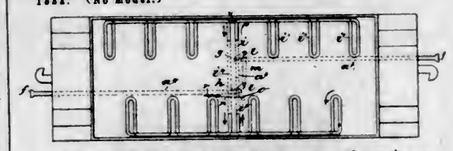
265,283. WATER-FILTER. LUTHER B. SANBORN, Prospect, Ill. Filed Nov. 5, 1881. (No model.)

Brief.—The tube *e* is filled with sponge and the chamber B with charcoal or the like.



Claim.—In a water-filter, the combination of the glazed earthenware jars A, B, and C, the faucet F, a filling of charcoal and sand or other filtering material for the jar B, and the regulator composed of tube *e*, the sponge-packing for same, the perforated cap *r*, the perforated disk *p*, the bolt *m*, and nut *n*, substantially as shown.

265,284. CAR-HEATING APPARATUS. DANIEL D. SEWALL, Augusta, and JAMES H. SEWALL, Portland, Me. Filed Apr. 27, 1882. (No model.)



Claim.—1. In an apparatus for heating cars, the main supply-pipe consisting of inlet and outlet portions upon each car to be heated, the said inlet portion being connected with the source of steam and the said outlet portion conveying the steam to the next car from the source of steam, combined with a direct connecting-pipe and a circulating-pipe passing through the interior of the car, each adapted to be placed in the steam-circuit between the said inlet and outlet portions of the main pipe, and cocks to control the passage of the steam from the said inlet-pipe through the said circulating or direct pipes, or both, to the outlet-pipe, and mechanism for operating the said cocks simultaneously, whereby any desired portion of the steam may be caused to traverse the circulating-pipe, and a passage is automatically afforded for the remainder through the direct pipe from the inlet to the outlet portion of the main pipe upon each car.

2. The inlet and outlet pipes and three-way cocks having one passage connected therewith, combined with a direct pipe connecting other passages of the said three-way cocks, a circulating-pipe interposed between the third passages of the said cocks, and means to operate the said cocks simultaneously, whereby they simultaneously afford an equal communication between the said inlet and outlet pipes and the direct or circulating pipes, substantially as and for the purpose described.

3. The main inlet and outlet pipes, and the circulating and direct pipes interposed between them, combined with three-way cocks for controlling the passage from the said inlet and outlet pipes to the said circulating or direct connecting-pipe, the said cocks being provided with drip-passages which are brought into communication with the said circulating-pipes when they are cut off from the main pipes, substantially as described.

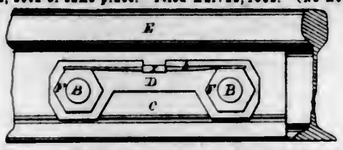
4. The main inlet and outlet pipes, the circulating-pipes, and direct pipes, combined with two cocks to control the said pipes, and the actuating-lever and connecting-link therefor, whereby both the said cocks are actuated simultaneously, substantially as described.

5. The main inlet and outlet pipes, and the circulating-pipe entering the car near its middle, thence passing under each seat on one side to the end, thence directly to the other end, and back therefrom under each seat to the middle, thence across to the other side of the car and therethrough with a similar arrangement, combined with means to control the connection of the said inlet-pipe with one end of the said circulating-pipe, and of the outlet-pipe with the other end of the said circulating-pipe simultaneously, substantially as described.

6. The main inlet and outlet pipes and circulating-pipe and the controlling-cocks therefor, combined with an independent drip-

cock connected with the said circulating-pipe, and mechanism whereby all the said cocks are operated simultaneously with the said controlling-cocks, substantially as described.

265,285. NUT-LOCK. SAMUEL E. SHUTT, Richmond, Ind., assignor of five-eighths to Elliot Holbrook and Edward Cookayne, both of same place. Filed Mar. 28, 1882. (No model.)



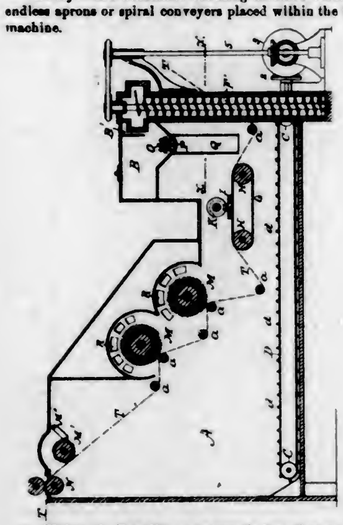
Claim.—1. The washer D, having the channel or hook I formed thereon as an integral part thereof, or otherwise attached, in combination with the spring A, having the shouldered depression K, for the purposes and uses herein described.

2. The washer D, having the channel I, and the spring A, in combination with the nuts F F, bolts B B, and parts held together by them, for the purposes and uses herein set forth.

3. The washer D, having the channel I formed thereon, in combination with the spring A, nuts F F, bolts B B, splice-bars C C, and rail E, combined and operated together for the purposes and uses herein set forth.

265,286. BRONZING-MACHINE. HENRY R. SILLMAN, Brooklyn, N. Y. Filed July 10, 1882. (No model.)

Brief.—An automatic bronzing-machine feeding itself by endless aprons or spiral conveyers placed within the frame of the machine.



Claim.—1. Broadly, an automatic bronzing-machine feeding itself by endless aprons or spiral conveyers placed within the frame of the machine.

2. In a bronzing-machine, a conveying device for carrying the waste or surplus bronze-powder from the bottom or sides of a bronzing-machine to a suitable mechanism to elevate it to a self-feeding hopper.

3. In a bronzing-machine, the endless apron or scraper D, or its equivalent, in combination with a revolving or stationary brush or duster, substantially as shown and described.

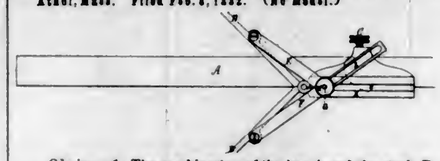
4. In a bronzing-machine, the spiral conveyer F, in combination with the spiral elevator or conveyer F', substantially as shown and described.

5. In a bronzing-machine, the conveyer or elevator F', in combination with a revolving self-feeding brush, O, substantially as shown and described.

6. In a bronzing-machine, the endless apron D, provided with scrapers, in combination with the spiral conveyer F and the spiral elevator F', substantially as shown and described.

7. In a bronzing-machine, the adjustable air-conveyers, with sliding doors R R, in combination with brushes or dusters M M, substantially as shown and described.

265,287. CENTERING TRY-SQUARE. WALTER H. SLEEPER, Athol, Mass. Filed Feb. 6, 1882. (No model.)

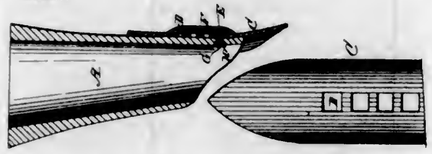


Claim.—1. The combination of the bar A and the stock B, adapted thereto, and provided with a clamp-screw, C, and dovetailed groove c, as set forth, with the two gages D and their supporting-arms E F, clamp-screw G, and nut H, all being constructed, arranged, and applied substantially as specified and represented.

2. The stock B, grooved as described, and provided with the abutment d, the two gages D, their supporting-arms E F, and clamping-screw G, and nut H, all arranged and applied substantially in manner and to operate with the rule A as specified.

3. The stock, grooved as described, and provided with the adjusting-screws s s, arranged in it, as set forth, and with the two gages D, their supporting-arms E F, and clamping-screw G and nut H, all being applied substantially in manner and to operate with the rule A as specified.

265,288. ADJUSTABLE DRILL OR PLOW POINT. CHRISTIAN E. STONESIFER, Boonsborough, Md. Filed July 10, 1882. (No model.)

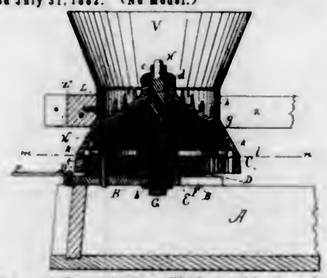


Claim.—1. The point or plow C, provided with openings D, of the form described, in combination with the cap F and boot or stock A, substantially as and for the purpose specified.

2. The cap F, provided upon its under side with the projection or head E, in combination with the point or plow C, having a series of openings, D, and the boot or stock A, substantially as and for the purpose set forth.

3. The boot or stock A, provided with the flanges B, in combination with the point or plow C, having the openings D, and the cap F, having the head or projection E, substantially as and for the purpose described.

265,289. GRINDING-MILL. DANIEL C. STOVER, Freeport, Ill. Filed July 31, 1882. (No model.)



Claim.—1. In a grinding-mill, the combination of an internally-geared outer grinding-cone pivoted at its vertex upon a central vertical shaft, an externally-geared sleeve rotating upon said shaft, an inner grinding-cone hung on the vertex of said sleeve, and connected therewith by means adapted to impart rotary motion of the sleeve to the cone and yet permit rocking motion of the cone, and a series of pinions engaging with the gearing of said outer cone and sleeve and adapted to produce reverse rotary motion of said sleeve upon the rotation of said outer cone, substantially as shown and described.

2. The combination of a sweep-actuated grinding-mill, the meal-box on which it rests, and a series of anchoring-rods attached at one end to the stationary base of the mill at points without the periphery of the meal-box and at the other to the ground by means of stakes, said rods being adapted to relieve the meal-box of the torsional strain generated by the rotation of the sweeps, substantially as shown and described.

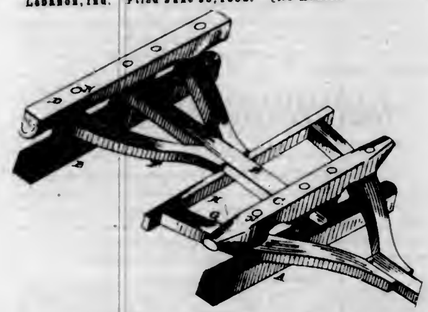
265,290. GOVERNOR-VALVE FOR ELECTRIC LIGHTING APPARATUS. GEORGES A. TABOURIN, Marseilles, France. Filed May 11, 1882. (No model.) Patented in France Jan. 6, 1881, No. 140,548.

Brief.—The rubber bag is expanded by the compressed air, thereby pushing the openings beyond the adjustable cylinder.



Claim.—In a governor for regulating the degree of pressure necessary for driving a compressed-air engine and dynamo-electric machine for lighting purposes, the combination of the shell *f* and the cylinder *a*, adjusted by means of rack and pinion, with the rubber bag *b*, provided with openings *c* near its bottom, substantially as set forth.

265,291. RUNNING-GEAR FOR WAGONS. HORACE C. WHEELER, Lebanon, Ind. Filed June 28, 1882. (No model.)



Claim.—1. The plate J, provided on its upper and lower sides with flanges K, at some distance from the edge, as set forth.

2. In a vehicle running-gear, the combination, with the axle-trees, hounds, and bolsters, having grooves M, of the plates J, having flanges K, and the connecting-bolts, as set forth.

3. In vehicle running-gear, the combination, with the axle-trees, hounds, and bolsters, having grooves M, of the plates J, having flanges K, the tubular washers P, having plugs Q, and the bolts N, as set forth.

265,292. ELECTRIC-LAMP SUPPORT. WILLIAM WHEELER, Concord, Mass. Filed Feb. 13 1882. (No model.)

Brief.—A stationary pendent rod has attached to its lower end an eye, through which is drawn the lamp-bail by means of pulleys, the lamp being thereby prevented from moving horizontally.

Claim.—1. The combination of the bail-guide eye and its supporting rod or device with the electric lamp, its bail, reflector or reflectors, and hoisting-tackle, all being arranged and to operate substantially as set forth.

2. The combination of the supporting-rod and the tackle-rope and bail-guide eyes applied to such rod with the electric lamp, its bail, reflector or reflectors, and hoisting-tackle, all being substantially as set forth.

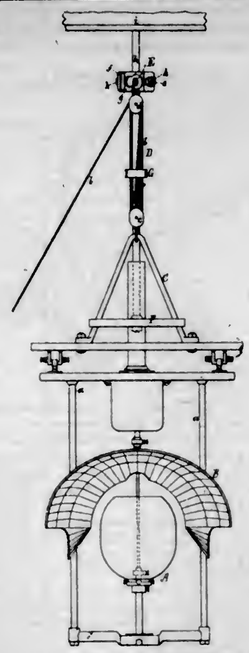
3. The combination of the adjustable tackle-rope-supporting eye and the bail-adjusting eye with the sustaining-rod and the electric lamp, its bail, and reflector or reflectors, substantially as set forth.

4. The combination of the adjustable tackle-rope supporting and guide eyes with the sustaining-rod, the bail-guide eye, the electric lamp, and its bail and reflector or reflectors, all being substantially and to operate as specified.

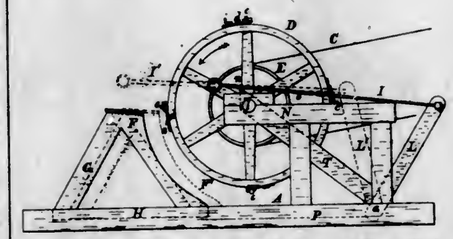
5. The combination of the bail-guide eye and its supporting rod or devices with the electric lamp, its bail, and reflector or reflectors, such bail being or to be supported by a hoisting rope or tackle, as explained.

6. The combination of the bail-guide eye and its supporting rod or device with the electric lamp, its bail, and hoisting tackle or rope, all being substantially as set forth.

265,292.



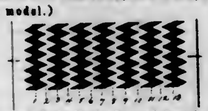
265,293. LEATHER-SCOURING AND HIDE-WORKING MACHINE. ALBERT WHITING, Rochester, N. Y., assignor to himself and Stephen Y. Alling, same place. Filed May 17, 1882. (No model.)



Claim.—1. The combination, with the wheel D, provided with spring scouring-tools c c c, of the movable bed F, lever L, and adjusting-rod I, substantially as and for the purposes set forth.

2. The combination, with the wheel D, of the scouring-tool c, clamp e g, and leaf-spring d, attached tangentially to the surface of the wheel D, and capable of a twisting or torsional movement, substantially as and for the purposes described.

265,294. DIE FOR CUTTING STOCK FOR SHEET-METAL CLASPS. LAZARUS WIRSBURGH, New York, N. Y. Filed Feb. 2, 1882. (No model.)

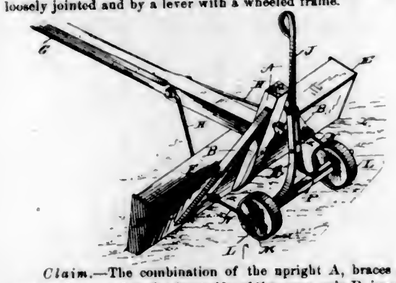


Claim.—A series of similarly-formed female cutters adapted to extend severally across a strip or sheet of metal and placed the one in advance of the other, so as to leave intermediate spaces between them similar to the cutters themselves, in combination with a similarly formed and arranged series of male cutters adapted to exactly fit the spaces between the female cutters, the coinciding faces of the male and female cutters being so dentated that the salient members on one cutter correspond to the entering members

on the next cutter, the two series being thus adapted to co-operate in cutting a number of similar blanks from one sheet at one action without waste between the blanks, substantially as herein shown and described.

265,295. ROAD-SCRAPER. JAMES B. WOOD, Clear Lake, Iowa. Filed July 17, 1882. (No model.)

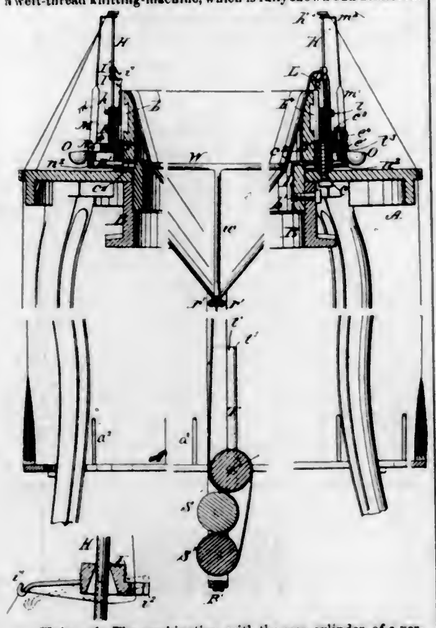
Brief.—The scraper is braced on an upright connected by rods loosely jointed and by a lever with a wheeled frame.



Claim.—The combination of the upright A, braces B B, scraper C, secured to the front side of the same, axle P, journaled in boxes at the rear ends of pivoted rods extending rearwardly from the braces B, and having wheels L and upward-projecting braces K, and the lever J, pivoted to a lug upon the rear side of upright A, the said braces K being pivoted to said lever J at some distance from its fulcrum, as set forth.

265,296. WEFT-THREAD KNITTING-LOOM. JOSEPH J. ADGATE, New York, N. Y. Filed July 20, 1881. (No model.)

Brief.—The invention embraces an improved thread-standard and thread-guide, an improved stop-motion mechanism, an improved take-up device, and an improved cloth-guide in connection with the take-up mechanism. These improvements are applied to a weft-thread knitting-machine, which is fully shown and described.



Claim.—1. The combination, with the cam-cylinder, of a vertical standard, H, slotted cross-bar *h'*, clamps I and I', having tapering holes to receive the standard H, the set-screws *i i*, and thread-guides *i' i'*, as described and shown.

2. The combination, with the revolving needle-cylinder B, stationary cam-cylinder E, and series of needles, of the stopping device M, consisting of the vertical lever *m'*, bracket N, pivots *n* and *n'*, rod *n'*, and cap O, as described and shown.

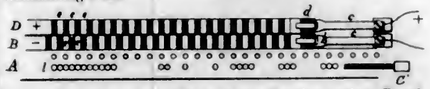
3. The combination, with the needle-cylinder and mechanism for revolving the same, and a table provided with inclined studs upon its under side, of a take-up device firmly fixed to and dependent from the bottom of said cylinder, and consisting of the frame R R R', rollers S S' and U, rods *r' r'*, rod Y, guide-link Y' Z, collars *y' y'*, movable blocks *s s*, screws *s' s'*, flanged plate T, arm J, ratchet-wheel J', pivoted roller *t*, pawls *y* and *z*, set-screws *y² y²*, hand-wheel *u*, and spring T', as described and shown.

4. The combination, with the table A and cam-cylinder E, of the inclined studs Z', attached to the table A, the cylinders B B' and mechanism for revolving the same, frame R, fixed to the cylinder and provided with the rollers S S' and U, blocks *s*, screws *s'*, flanged plate T, rods *r' r'*, arm J, ratchet-wheel J', hand-wheel *u*, rod Y, guide-links Y' and Z, pawls *y* and *z*, collars *y' y'*, set-screws *y² y²*, spring T', pivoted roller *t*, ratchet-wheel J, and bolts *r r*, as herein described and shown.

5. The combination, with the needle-cylinder B B' and the frame R of the take-up, of the adjusting cloth-guide W, consisting of a metallic ring with a bail-like appendage, as herein described and shown.

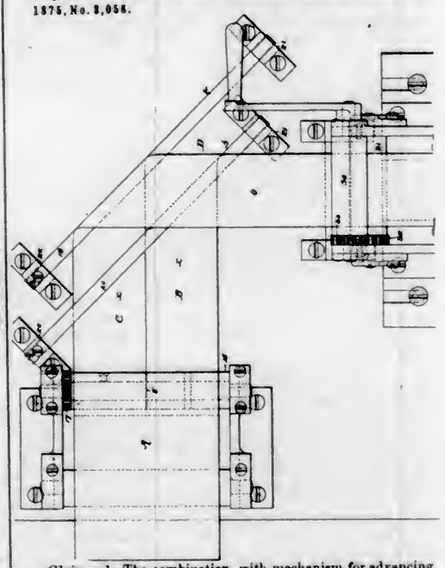
265,297. AUTOMATIC TELEGRAPH. FRANK ANDERSON, Peekskill, N. Y., assignor to the American Rapid Telegraph Company, of Connecticut. Filed May 20, 1881. Renewed Sept. 6, 1882. (No model.)

Brief.—A pole-changing drum making electrical contacts with alternate poles of the battery, sends impulses to line of a polarity dependent upon the location of any one of a series of selecting-holes in a perforated strip, which controls the contact of a transmitting-brush.



Claim.—A drum consisting of pole-changing sections D and B and a fillet-carrying section, A, in combination with contact devices bearing directly on sections D and B, respectively, and connected to opposite battery-poles, and with a brush connected to the line and bearing on fillet or drum A, the parts being adapted to operate in connection with the perforated fillet as set forth.

265,298. PRINTING-MACHINE. EDWYN ANTHONY, Hereford, County of Hereford, and WILLIAM W. TAYLOR, Ripon, County of York, England, assignors to R. Hoe & Co., New York, N. Y. Filed July 11, 1881. (No model.) Patented in England Aug. 31, 1875, No. 3,056.



Claim.—1. The combination, with mechanism for advancing a plurality of webs, of a plurality of turners arranged obliquely across the path of the webs, and having their turning-edges in such

co-relation that, each of the several webs being led over a turner, the whole will be associated in the space of one web, all substantially as described.

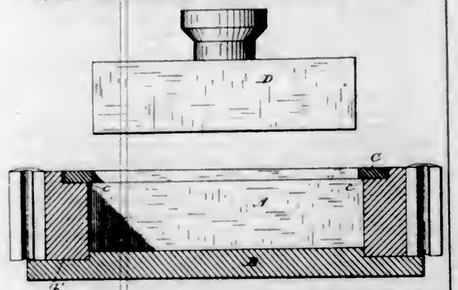
2. The combination, with mechanism for advancing a plurality of webs, and a plurality of turners arranged obliquely across the path of the webs, and having their turning-edges in such co-relation that, each of the several webs being led over a turner, the whole will be associated in the space of one web, of a single turner for changing the direction of travel of the associated webs, all substantially as described.

3. The combination, with a slitting mechanism and a mechanism for advancing a plurality of webs, of a plurality of web-turners arranged obliquely across the path of the webs, and having their turning-edges in such co-relation that, each of the several webs being led over a turner, the whole will be associated in the space of one web, all substantially as described.

4. The combination, with a printing mechanism and a mechanism for advancing a plurality of webs, of a plurality of turners arranged obliquely across the path of the webs, and having their turning-edges in such co-relation that, each of the several webs being led over a turner, the whole will be associated in the space of one web, all substantially as described.

5. The combination, with a printing mechanism, a slitting mechanism, and a mechanism for advancing a plurality of webs, of a plurality of turners arranged obliquely across the path of the webs, and having their turning-edges in such co-relation that, each of the several webs being led over a turner, the whole will be associated in the space of one web, all substantially as described.

265,299. GLASS-MOLD AND MANUFACTURE OF GLASS BOXES. THOMAS B. ATTERBURY, Pittsburg, Pa. Filed Sept. 4, 1882. (No model.)

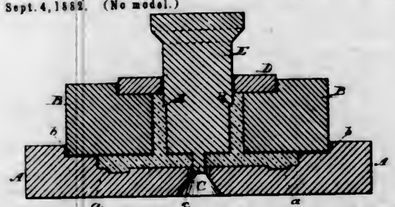


Claim.—1. In the manufacture of glass boxes and other like articles, the mold herein described, consisting of the recessed base-plate B, body A, and ring C, in combination with the plunger D, as and for the purpose set forth.

2. As a new article of manufacture, a glass-box blank the sides, ends, and bottom of which are made or pressed from a single body of glass, as set forth.

3. The glass box herein described, consisting of the main body, formed of one piece of glass, with the lid made also of glass, whether said parts are or are not connected by a hinge-joint, as set forth.

265,300. GLASS-MOLD AND MANUFACTURE OF GLASS CLOCK-CASES. THOMAS B. ATTERBURY, Pittsburg, Pa. Filed Sept. 4, 1882. (No model.)



Claim.—1. In the manufacture of glass clock-cases, the mold plate or bed herein described, provided with elevations or depressions therein or thereon for forming the index figures or letters on the dial portion of the case, and also with a central opening for producing a perforation in the dial to receive the arbor of the hands or indicators of the clock, as set forth.

2. In a mold for pressing glass clock-cases, the base A, provided with the central perforations, C, in combination with the body B and plunger E, said plunger being provided with a projecting pin, *c*, for forming a perforation in the face of the clock-face, as set forth.

3. The base A, provided with a depressed portion or offset, *b*, in combination with the body B, as and for the purpose set forth.

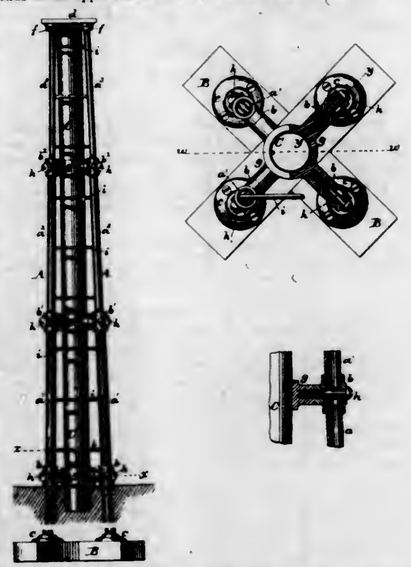
4. As a new article of manufacture, a glass clock-case the sides and face of which are made in one piece, with the index numerals or figures impressed thereon or therein, as set forth.

5. A clock-case the sides and face of which are made or pressed of one piece of glass, the rear portion of which is provided with a ledge, *e*, for the reception of the piece *f*, whereby the works of the clock are inclosed and excluded from dust, as set forth.

6. The method herein described of forming index numerals or figures on the face of glass clock-cases, the same consisting in pressing said figures in or on the dial-face, and then grinding, etching, or painting said numerals or figures in the manner described, so as to produce them in a different color from the main portion or body of the dial-face, as set forth.

266,301. SKELETON STRUCTURE. EDWARD C. BATES, Boston, Mass. Filed Jan. 9, 1882. (No model.)

Brief.—The sections of the supports are coupled together by couplings, through which pass bolts, which secure them to spiders or rings within the circle formed by said supports, and the upper ends of the upper sections are secured in a cap or head.

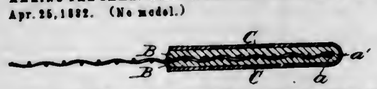


Claim.—1. The combination of the pipes, the T-fittings, the spiders, and the bolts uniting the couplings and the spiders, substantially as and for the purpose described.

2. The combination, in a skeleton structure, of the pipes, the T-couplings, the spiders, the bolts uniting the couplings and the spiders, and the ladder-rounds, substantially as and for the purpose described.

3. The combination, in a skeleton structure, of the supports A, each made in sections of different diameters, the couplings *b*, *b'*, and *b²*, the spiders *g*, *g'*, and *g²*, bolts *h*, the cap or head *d*, nuts *e* and *f*, and the central tube, C, all constructed, arranged, and adapted to operate substantially as described.

265,302. BOLTING AND SIEVE FABRIC AND METHOD OF MAKING THE SAME. SILAS O. BRIGHAM, New York, N. Y. Filed Apr. 25, 1882. (No model.)

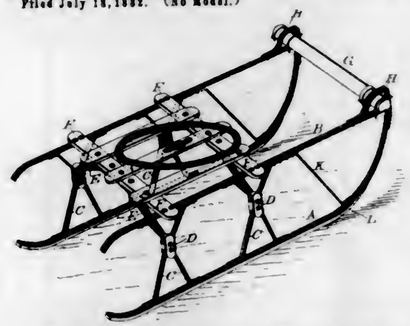


Claim.—1. The combination, with a bolting or sifting fabric, A, of the layers B, of plastic, elastic, and adhesive material, hav-

ing their inner surfaces united through the meshes or interstices of the fabric A, and the layer of cloth C, applied and cemented to the external surfaces of the layers B, all substantially as and for the purpose herein set forth.

2. The herein-described method of attaching the layers of india-rubber B and cloth C to the bolting or sifting fabric A, consisting essentially in placing the said parts in their relative positions, and then compressing the india-rubber upon the opposite sides of the fabric A and the cloth upon the outer surfaces of the india-rubber by the conjoint action of heat and pressure, substantially as and for the purpose herein set forth.

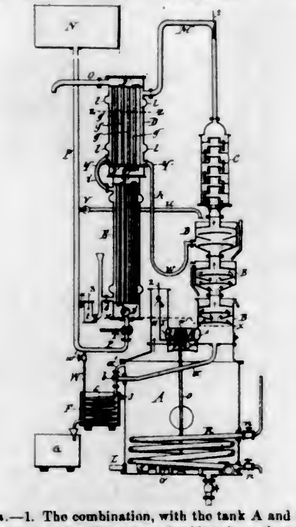
265,303. BOB-SLEIGH. WILLIAM D. BROOKS, Homer, N. Y. Filed July 18, 1882. (No model.)



Claim.—1. The herein-described bob-sleigh, composed of Bessemer-steel runner A, rave B, knees C, and braces E, with wood beams, (marked F,) wood cross-bar G, and wood D, all constructed, combined, and arranged as shown.

2. The cross-bar G, held by clips H, which, when loosened, allow the cross-bar to be adjusted to use pole or shafts, all substantially as set forth.

265,304. ALCOHOL-STILL. CHARLES J. T. SURCEY, Binghamton, N. Y. Filed May 18, 1882. (No model.)

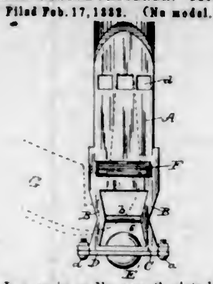


Claim.—1. The combination, with the tank A and the condensers B, mounted directly on top of said tank, as shown, of the vertical duct H, rising from the top of the tank A, and the descending duct I, extended from the top of the duct H, and the horizontal duct K, extended from the foot of duct I to the condensers B at their base or junction with the tank A, substantially in the manner described and shown.

2. The combination, with the tank A and the condensers B, mounted directly on top of said tank, as shown, of the pipe *a*, tapping the base of said condensers and extended through the tank, the two-way cock *b*, connected to the outer end of pipe *a*, and the pipe *a'*, extended from the two-way cock to the upper part of the tank A, substantially as described and shown.

3. The cylinder D, provided with the circumferential distention *l*, in combination with the flue-sheets *m m* and flues *g g*, substantially as and for the purpose set forth.

265,305. GRAIN-CRADLE FASTENER. GEORGE S. CLOW, Seymour, Ind. Filed Feb. 17, 1882. (No model.)



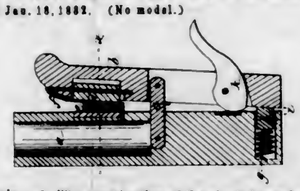
Claim.—In a grain-cradle, a snath-plate having the ribs B, as described, and provided with the plates C D, each having a half-socket, E E', in combination with the adjustable finger-post I, having a ball, H, inserted in said socket, whereby the finger-post and cradle-head can be adjusted in any direction, substantially as and for the purpose set forth.

265,306. WATER, GAS, SEWER, OR DRAIN PIPE. JOHN P. CULVER, Tucson, Ariz. Filed Sept. 24, 1881. (No model.)



Claim.—As a new article of manufacture, an open-ended tube consisting of a sheet of metal rolled or overlapped to form the required diameter, and provided between the folds with solder suitably applied and adapted to set, thereby constituting a homogeneous solid cylinder, substantially as set forth.

265,307. REIN-HOLDER. SHERWOOD W. DAY, Ottawa, Kans. Filed Jan. 16, 1882. (No model.)



Claim.—1. The combination of the pivoted arm *b*, having the projection *h*, and the eccentric gripping-roller *d*, formed with a curved extension, *f*, carried by said arm, with a socketed or other support having the recess *i*, the fixed gripping-plate *e*, the spring *g*, and the stop *j*, substantially as described, for the purpose specified.

2. In a rein-holder, the combination, with pivoted gripping-arm *b*, having the projection *h*, the eccentric roller *d*, having the curved extension *f*, and the lever *k*, of the socketed or other support, provided with the recess *i*, and the gripping-plate *e*, the pivoted lever and the said projection being carried by said gripping-arm below its pivot, substantially as set forth.

3. In combination, the pivoted arm *b*, the eccentric *d*, having the curved extension *f*, the cam-lever *k*, the fixed gripping-plate *e*, and the stop *j*, the several parts being constructed and arranged substantially as described, for the purpose specified.

4. In a rein-holder, the combination of the pivoted arm *b* and the fixed gripping-plate *e* with the eccentric *d*, pivoted within a recess in said arm, and having the curved extension *f*, whereby to limit the turning of said eccentric and to form a shield thereto, substantially as set forth.

265,308. SHUTTER-WORKER. LEON O. DION, Natick, assignor to George S. Trowbridge, Trustee, Newton, Mass. Filed June 24, 1882. (No model.)

Claim.—In a window-blind operator, a rotating rod passing

265,308.



diagonally through the window-casing to the inside thereof, and having its outer end pivoted to a plate of metal, which plate has also pivoted to it another plate which is rigidly attached to the blind, the pivotal axis of the last-mentioned plate being substantially at a right angle to the pivotal axis connecting the rod and plate first mentioned, all arranged and to operate substantially as herein set forth.

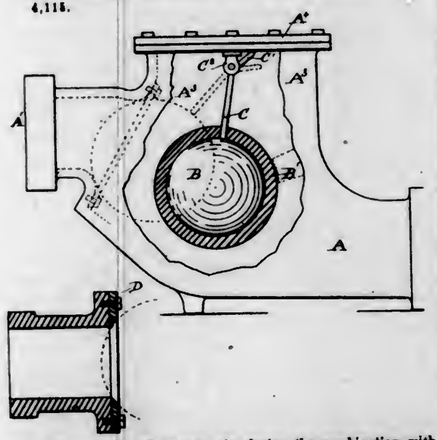
265,309. CONNECTING-ROD FOR MOWERS OR REAPERS. OLIVER P. DEURY, Girard, Pa. Filed July 26, 1882. (No model.)



Claim.—1. In the connecting-rod of a mower or reaper machine, a swiveled journal-box composed of the parts C and B, having interlocking fingers *b b* and *c*, substantially as and for the purposes mentioned.

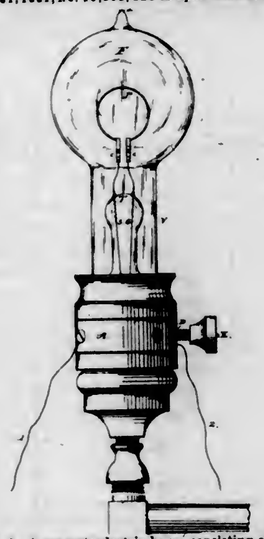
2. In the connecting-rod of a mower or reaper machine, the combination, substantially as shown, of the following elements: a journal-box for connecting with the pin on the sickle-bar, consisting of a hook, E', formed on the end of said rod, and a following-bar, F, entering the jaw of said hook and made adjustable by an adjusting-screw, a journal-box for connecting with the wrist-pin on the crank, consisting of two swiveled half-boxes, C and B, having interlocking fingers *b b* and *c*, and made adjustable by an adjusting-screw.

265,310. FLOOD-VALVE FOR DRAINS. FREDERICK DYER, Camden Town, County of Middlesex, England. Filed Feb. 7, 1882. (No model.) Patented in England Sept. 23, 1881, No. 4,115.



Claim.—In a flood-valve for drains, the combination, with the drain A, provided with a valve-seat, D, of the spherical float-valve B, rigidly connected with a lever, C, bent to form a stop, C', whereby said valve is pivotally suspended in the drain-pipe and prevented from assuming a vertical position, substantially as and for the purpose specified.

265,311. ELECTRIC LAMP AND HOLDER FOR THE SAME. THOMAS A. EDISON, Menlo Park, N. J., assignor to the Edison Electric Light Company, New York, N. Y. Filed Feb. 5, 1880. Renewed Aug. 14, 1882. (Model.) Patented in England Feb. 16, 1880, No. 578; in Italy Apr. 28, 1880; in Belgium Apr. 30, 1880, No. 51,155; in Victoria June 15, 1880, No. 2,642; in France June 16, 1880, No. 136,986; in India June 22, 1880, No. 415; in Sweden June 25, 1880; in Canada July 19, 1880, No. 11,520; in New South Wales July 26, 1880; in Queensland Aug. 3, 1880; in Austria-Hungary Aug. 13, 1880; in Portugal Sept. 22, 1880, No. 631; in Norway Sept. 24, 1880; in New Zealand Oct. 16, 1880, No. 484; in Russia Dec. 14, 1881; in Germany Dec. 31, 1881, No. 15,802, and in Spain Jan. 2, 1882.



Claim.—1. A separate electric lamp, consisting essentially of an inclosing globe entirely of glass, an incandescing material secured therein, conductors leading thereto and sealed in the glass where they pass therethrough, and a base of insulating material in which the neck of the globe is secured, said base being provided with metallic contact-plates, to which the conductors leading into the globe are secured at their outer ends.

2. A socket for an electric lamp, adapted to be placed upon a gas-pipe or other suitable support, and provided with contact-plates forming the terminals of an electric circuit, and arranged substantially as set forth.

3. A socket for an electric lamp, adapted to be placed upon a gas-pipe or other suitable support, and provided with contact-plates forming the terminals of an electric circuit, and also provided with a circuit-controller inserted in one branch of the circuit for controlling the circuit, substantially as set forth.

4. The combination of a separate electric lamp made and provided with a base, as described, and a socket adapted to be secured upon a gas-pipe or other suitable support, and provided with contact-plates, as set forth, so that the two may be readily attached or detached, substantially as set forth.

5. The combination, with a bracket or chandelier arm or other gas or hollow pipe containing the wires of an electric circuit, of a socket or holder for an electric lamp adapted to be secured therein and to receive and support the lamp, and provided with contact-plates forming the terminals of the wires of the electrical circuit, substantially as set forth.

6. The combination of an electric lamp having an insulated base provided with contact-plates thereon, and a socket or holder for receiving and supporting the lamp, provided with contact-plates forming electrical connection with and completing the circuit through the plates on the base of the lamp, substantially as set forth.

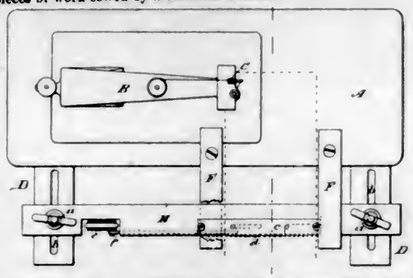
265,312. GAGE-TUBE. LINDLEY M. FLINT, Boston, Mass. Filed May 23, 1882. (No model.)



Claim.—The gage-tube A, provided with the float B and guard C, substantially as set forth and specified.

265,313. THREAD-CUTTING ATTACHMENT FOR SEWING-MACHINES. JAMES H. FOOTE, New York, N. Y. Filed Apr. 7, 1882. (No model.)

Brief.—For automatically severing the threads between short pieces of work sewed by a continuous seam.



Claim.—1. The combination, with a sewing-machine, of a bar arranged behind the needle, a guard-plate arranged on said bar and having a toothed edge overhanging the back edge thereof, and a cutting plate or blade arranged close beneath said guard-plate and capable of movement relatively to said plate, substantially as set forth.

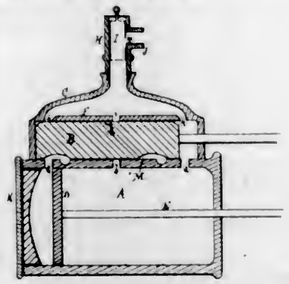
2. The combination, with a sewing-machine, of a bar, E, a guard-plate, *c*, fixed on said bar and having a toothed edge overhanging the rear edge thereof, with a moving cutting-plate, *d*, mounted immediately beneath said plate, with its cutting-edge beneath the teeth in said plate, substantially as set forth.

3. The combination, with a sewing-machine, of bar E, toothed plate *c*, fixed thereto, and saw *d*, arranged beneath said plate and capable of a reciprocating motion, substantially as set forth.

4. The combination, with a sewing-machine, of a bar, E, arranged behind the same and adjustable toward or from the same at will, and cutting mechanism mounted on said bar at the rear upper corner thereof, substantially as set forth.

5. The combination, with a sewing-machine, of fixed bars D D, adjustable bar E, clamps *a a*, and cutting mechanism *c d*, substantially as set forth.

265,314. BALANCED VALVE. JULIAN GRZYBOWSKI, Detroit Mich. Filed Feb. 16, 1882. (No model.)



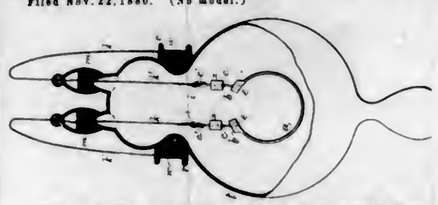
Claim.—1. The cylinder A, having a flat valve-seat, M, with the ports *a a*, in combination with the semicircular valve B, having its upper edges partially cut away under the port *h*, substantially as and for the purpose specified.

2. The valve-seat M, provided with parallel V-shaped ribs *d*, in combination with the steam-chest C, having corresponding grooves, but of less depth than the height of the ribs, whereby the chest can be lowered as the valve wears loose, substantially as described.

3. A slide-valve for steam engines and pumps, provided with a central channel-port, which affords communication through central side ports in the valve-seat to the cylinder, substantially as set forth.

4. The cylinder A, provided with ports *a b c*, in combination with the piston B, having cut-away portions or passages at K and at its lower surface and upper edges, substantially as and for the purpose specified.

265,315. ELECTRIC LAMP. JOHN H. GUEST, Brooklyn, N. Y. Filed Nov. 22, 1880. (No model.)



Claim.—1. The combination, with a blank of vegetable ivory or similar material, of a metallic wedge—such as platina—passing through a hole near each end of said blank and adapted to be connected with the wires of the electric circuit, substantially as set forth.

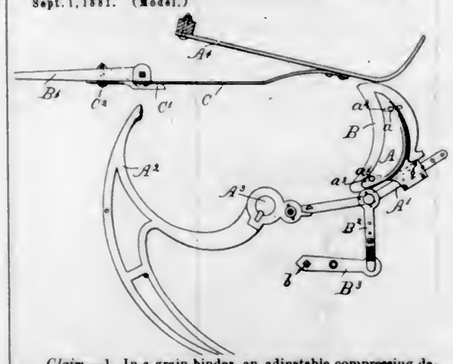
2. In an electric lamp, the combination, with the carbon and the metallic conductors thereof, of suspending loops or hooks and weights upon the metallic conductors, substantially as and for the purposes set forth.

265,316. HORSE-DETACHER. WALTER W. HAMILTON, Boston, Mass. Filed Apr. 12, 1882. (No model.)



Claim.—The combination of a whiffletree provided with studs at the ends, longitudinally-sliding rods, each provided with a flange at its inner end and with two lugs at its outer end, loops on the whiffletree in which the rods slide, the inner loops being provided with pulleys or eyes for the cords, spring encircling the rods between the inner flanges thereof and the inner loops of the whiffletree, and cords attached to the inner ends of the rods and passing over the pulleys of the inner loops, substantially as described.

265,317. GRAIN-BINDER. VICTOR HENRY, Chicago, Ill. Filed Sept. 1, 1881. (Model.)



Claim.—1. In a grain-binder, an adjustable compressing device consisting essentially of the parts B B', connected with the trip attachment and adapted to widen or narrow the circle between said trip and needle attachment, substantially as and for the purpose set forth.

2. In a grain-binder, the combination, with the adjustable compressing device B B', provided with the rectangular slots a^2 a^3, of the bolts *a a'* and the trip A, substantially as described.

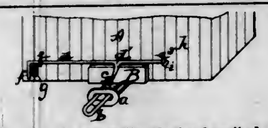
3. In a grain-binder, the combination, with the adjustable connecting-rod B^3, of the trip-bar A', the trip A, and the compressing device B B', substantially as described.

4. In a grain-binder, the combination, with the needle A^2, of the double knife C', substantially as described.

5. In a grain-binder, the combination, with the lever B^2, of the adjustable knife C' and the attaching-bolt C^2, substantially as described.

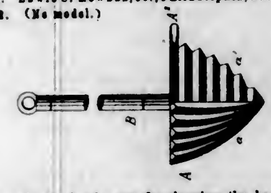
265,318. CAR-COUPLING. BENEDICT HICKOK, Buffalo, N. Y., and JOHN H. PUTNAM, Tioga, Pa., assignors of one-third to Robert C. Hickok, Buffalo, N. Y. Filed June 17, 1882. (No model.)

265,318.



Claim.—In a car, the uncoupling device described, consisting of the sliding rod *d*, having a central projection connected with the coupling-pin, a handle, *f*, at one end and bent end *i* at the other, a connection to the body of the car allowing lateral movement, and a hook, *h*, into which the bent end *i* is run when the pin is lifted, and from which it is withdrawn when the coupling is to take place, as herein set forth.

265,319. IMPLEMENT FOR CLEANING WATER-CLOSET BOWLS. LEWIS O. HOWELL, Jr., Philadelphia, Pa. Filed June 23, 1882. (No model.)



Claim.—1. An implement for cleaning the bowls of water-closets, consisting of an inverted corrugated or ribbed cone constructed of flexible material, as set forth, said cone being provided at its base with a handle, substantially as shown and described.

2. In an implement of the character herein specified, corrugated or ribbed inverted cone A, bearing lip A^3, core A', and handle B, the whole combined and arranged to operate substantially as shown and described.

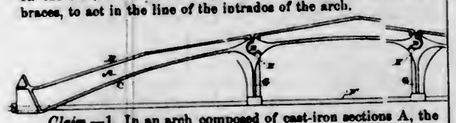
265,320. IMPLEMENT FOR CLEANING THE BOWLS OF WATER-CLOSETS. LEWIS O. HOWELL, Jr., Philadelphia, Pa. Filed Feb. 23, 1882. (No model.)



Claim.—An implement for cleaning the bowls of water-closets, consisting of a flat flexible disk to the center of which is attached a handle or shaft, substantially as shown and described.

265,321. ARCHED GIRDER. PETER H. JACKSON, San Francisco, Cal. Filed Apr. 11, 1882. (No model.)

Brief.—Arch-sections are so formed, having transverse cylindrical end extensions and corresponding recesses, as to cause the endwise compression thereof, resulting from the tensile strain on the tie-rod on which they rest through vertical supporting-braces, to act in the line of the intrados of the arch.



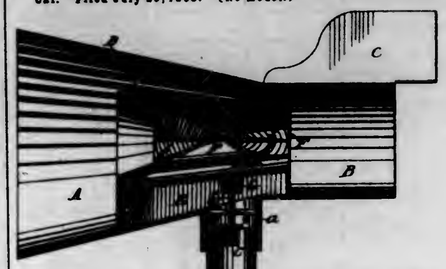
Claim.—1. In an arch composed of cast-iron sections A, the joints formed of the transverse cylindrical projections D upon one section, and the corresponding depression, E, in the face of the opposing section, said joints being in a line with the intrados of the arch, substantially as and for the purpose herein described.

2. In an arch or girder, and in combination with the sections A, having the joints D E, formed in a line with the intrados of the arch, the tie-rods F, extending from end to end of the arch and forming chords thereto, substantially as herein described.

3. In an arch or girder consisting of the sections A, with their joints D E, formed in line with the intrados of the arch, and the tie rods or chords F, the struts G, extending from the joints vertically down to and resting upon the tie-rods, substantially as and for the purpose herein described.

4. The combination, in an arch or girder, of the sections A, the tie-rods F, the struts G, and the joints D E, formed in line with the intrados of the arch, all constructed and operating substantially as and for the purpose herein described.

265,322. VENTILATOR. PETER H. JACKSON, San Francisco, Cal. Filed July 20, 1882. (No model.)



Claim.—1. In a ventilator for soil pipes, flues, &c., an outer casing and an inner casing, open at both ends and forming air-passages, in combination with an intermediate casing closed at its forward end and open at its rear end, forming between itself and the inner casing a space or passage between the two air-passages, and in relation with the soil pipe, flue, &c., substantially as and for the purpose herein described.

2. In a ventilator for soil pipes, flues, &c., the outer or main conical casing, A, in combination with the casing D and the central casing, F, between which and casing D a space is formed closed at the front and open at the rear, and a connecting-casing, E, opening from the soil pipe or flue into the space between the casings D and F, substantially as and for the purpose herein described.

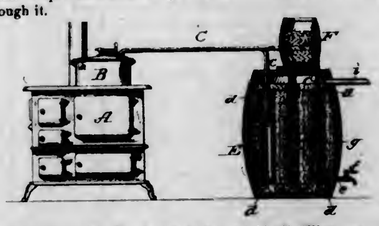
3. In a ventilator for soil pipes, flues, &c., the outer or main conical casing, A, in combination with the conical or tapering casings D and F, between the walls of which a space is formed closed in front and open at the rear, said casing F having spiral flanges *f* upon its inner surface, and a connecting casing opening from the soil-pipe into the space between the casings D and F, substantially as and for the purpose herein described.

4. In a ventilator for soil pipes, flues, &c., the outer or main conical casing, A, and the interior casings, D and F, between the walls of which a space is formed, in combination with the connecting-casing E, having sloping sides and a pointed or beveled front, substantially as and for the purpose herein described.

5. In a ventilator for soil pipes, flues, &c., the conical or tapering interior casing, F, having spiral flanges *f* upon its inner surface, in combination with the surrounding tapering casing D, forming a space between its inner wall and casing F, closed in front and open behind, and a connecting-casing, E, joining said space with the soil-pipe, substantially as herein described.

265,323. DISTILLING APPARATUS. ABRAHAM E. JOHN, Kirksville, Mo., assignor of one-half to Samuel M. Pickler, same place. Filed June 27, 1882. (No model.)

Brief.—The condenser is annular and formed of corrugated metal. Pipes communicating with the water in the tank pass through it.



Claim.—1. The herein-described portable distilling apparatus, consisting of evaporator B, pipe C, condenser composed of tanks E F, pipes *h i*, and corrugated body D, having tubes *g* within the corrugations, all combined and operating as explained.

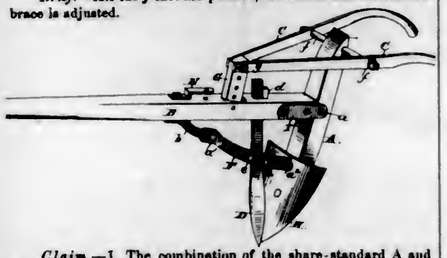
2. The herein-described condenser, consisting of corrugated hollow-walled cylinder D, having open-ended tubes *g* within the corrugations, tank E, surrounding cylinder D, and tank F, mounted above tank E, and having discharge-pipe *h*, extending downward centrally within the cylinder D, substantially as shown and described.

3. In combination with the condenser consisting of cylinders or drums *b c*, corrugated as shown, and tubes *g*, placed within said corrugations, water-tanks E and F, the latter being placed above

the condenser and provided with a pipe, *h*, extending centrally through the condenser to a point below the same, whereby the water is caused to pass upward through the tubes and in contact with the inner and outer walls of the drum.

265,324. SHOVEL-PLOW. WILLIAM O. JONSSON, Alma, Mich., assignor of one-half to Fred. D. Adams, same place. Filed July 1, 1880. (No model.)

Brief.—All the joints are pivoted, so that all move when the brace is adjusted.



Claim.—1. The combination of the share-standard A and beam B, united by a hinge-joint, and provided respectively with the eyebolt *c* and sector-bracket *b*, the latter having a series of adjusting-holes, and the diagonal brace F, united to said eyebolt and bracket by screw-bolts, and composed of parallel flat bars, whereby the strain on said bolts is equalized, and a colter-socket is formed below the beam, as herein specified.

2. The combination of the share-standard A and beam B, united by a hinge-joint, and provided respectively with the eye-bolt *c* and sector-bracket *b*, the latter having a series of adjusting-holes, a diagonal brace or braces, F, united to said eyebolt and bracket by screw-bolts, and a colter, D, fastened at its upper end within a vertical mortise in the beam B, and supported below the beam by said brace or braces F, whereby the shovel or share and the colter may be adjusted and supported as to angle simultaneously and by the same means, in the manner set forth.

3. In combination with the share-standard A and beam B, united by a hinge-joint, the devices for adjusting the former as to angle, and the handles C, united by a pivotal cross-bar *f* to the extended upper end of said standard A, substantially as herein specified, the adjusting-standard G, secured within a recess in the top of said beam by a pivotal bolt, and projecting upward between the front ends of the handles, and united with the latter by a vertically-adjustable clamping-bolt, *g*, substantially as shown, for fastening the handles at different heights independently of the pitch of the share-standard, in the manner set forth.

265,325. EXCAVATING-MACHINE. FREDERICK JONAS, Mount Pleasant, Iowa, assignor of one-half to Jesse Stubbs, same place. Filed Feb. 6, 1882. (No model.)

Brief.—The lower end of an inclined trough and the inner end of the plow rest in a stirrup suspended by arms to a frame, moving in vertical guides on the frame of the machine and operated by toothed segments engaging cogs thereon, the shaft of the segments having a lever and pawl engaging a rack. An elevating endless chain carrying hoes, which move through the trough, consists of sections having a plate, to which each hoe is secured. The sections also have pairs of double open and closed links, and the sections are connected by hooked links engaging notches in the closed links. The lower end of the chain passes around a sprocket-wheel having its shaft-bearings in spring-followers in a slotted frame pivoted at one end to the adjustable plow-frame, and having its free end resting on lugs thereon. The shaft-bearings of the upper sprocket-wheel of the chain are formed in spring-strips on the sides of the dirt-box, said strips being operated by cams on a shaft connected by rods with the lever at the driver's seat, which operates the plow-frame. The chain is driven by gearing connecting with teeth on the cart-wheels. The upper end of the trough rests in a bent plate hinged to a plate on the framing. The bottom of the dirt-box consists of drop-doors hinged to plates on the sides of the box and operated by bell-cranks, open links, and rods connecting with levers at the driver's seat.

Claim.—1. In combination with the plow E, trough F, and adjusting-frame, Fig. 3, the stirrup G, being constructed, as herein shown, to extend under and receive the lower end of the trough, as and for the purposes substantially as specified.

2. In combination with the elevator-trough F and the box of an excavating-machine, the trough-rest F', as combined also with the hinge-plate F'', substantially as shown, and for the purposes specified.

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3. In combination with the plow E, trough F, stirrup G, frame-pieces C, supporting-guides L'', and segments M, the adjusting-frame, Fig. 3, consisting of the side bars, L, and connecting-bar L', substantially as herein shown, and for the purposes specified.

4. In combination with the frame-pieces C, the shaft N, and the adjusting-frame, Fig. 3, the segments M, fastened on said shaft N, substantially as shown, and for the purposes specified.

5. In combination with shafts V' and a and the sprocket-wheels I, as arranged in pairs on said shafts, the elevator-chain H, composed of the sections, Fig. 8, links h, Fig. 9, and hoes H', Fig. 10, all constructed and combined substantially as herein shown, and for the purposes specified.

6. In combination with the chain H, shafts V' and *a*, the sprocket-wheels I, and the adjusting-frame, Fig. 3, the chain-supporting frame, Fig. 5, consisting of the arms K', bar K, followers V, and springs K'', substantially as shown, and for the purposes specified.

7. In combination with the frames, Figs. 3 and 5, the lugs X, substantially as shown, and for the purpose specified.

8. In combination with an excavator-box, the shaft *a*, pinions *a''*, gear-wheels A', and lever N', the shifting device, consisting of the pivoted bars *s'''*, uprights *e*, shaft *s'*, cams *s''''*, crank *s''*, and connecting-rod *s*, all substantially as herein shown, and for the purposes specified.

9. In combination with the sides B of an excavator-box, the drop-doors T, and the lever *o*, the mechanism herein shown for operating the drop-doors, consisting of the bell-cranks *e*, links *s'*, coupling-bars *o''*, connecting-rods *o'*, and supporting-plates X, having wrists X'', and being also provided with holes for the bearings of the doors T, all substantially as shown, and for the purposes specified.

10. In combination with the sides and ends of an excavator-box and the door-operating devices above described, the drop-doors T, having pivots X' attached to them near their forward edges, and also supporting-rods, with projecting ends *e* as bearings, attached on their under sides in rear of their centers, substantially as shown, and for the purposes specified.

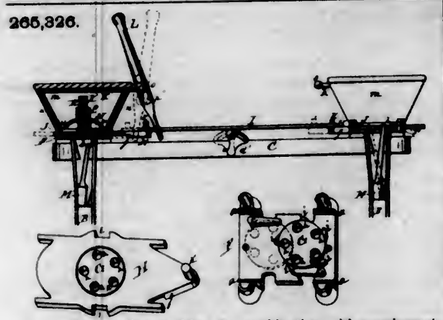
265,326. CORN-PLANTING MACHINE. JAMES HERVA JONES Rockford, Ill., assignor to Emerson, Talcott & Co., same place. Filed Mar. 17, 1881. (Model.)

Claim.—1. In a seeding-machine, the combination, with a reciprocating slide provided with a rotary seed-distributing disk, of the bed-plate provided with pawls for actuating said disk, the pawls being provided with studs projecting through the bed-plate, and springs on the under side of the bed-plate adapted to actuate the pawls, substantially as set forth.

2. A gravity cut-off consisting of like parts adapted to engage each other to prevent independent endwise movement, substantially as hereinbefore set forth.

3. A gravity cut-off consisting of like parts adapted to engage each other to prevent independent endwise movement, in combination with a socket or pipe bearing, substantially as and for the purpose hereinbefore set forth.

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4. In a seeding-machine, the combination, with a reciprocating slide and a rotary disk provided with a series of openings and furnished with a series of ratchet-teeth, the disk being fitted in the slides and adapted to be reciprocated therewith, of a bed-plate provided with a seed-discharge opening and with two spring-pawls to impart rotary motion to the rotary disk as it is moved forward and backward, substantially as set forth.

5. The combination, with a reciprocating seed-disk, of a bridge arranged to span the discharge-opening in the bed-plate, said bridge having openings at its sides, and a gravity cut-off mounted in said bridge, substantially as set forth.

6. The combination of a bed-plate, a seed-distributing slide, a seed-box bottom, a bridge, and a cut-off, consisting of two parts adapted to engage each other, all of said parts being made reversible and interchangeable, producing a seeding mechanism, substantially as set forth.

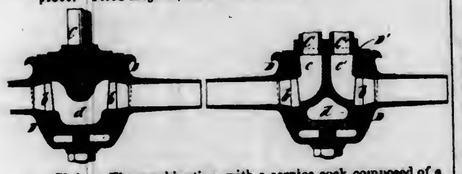
7. In a seed-distributing mechanism, the combination, with a reciprocating slide, of a distributing-disk provided with a series of seed-cells and adapted to rotate against its peripheral bearings within the reciprocating slide, substantially as and for the purpose hereinbefore set forth.

8. The combination, with a seed-slide, of a rotary seed-distributing disk provided with a series of seed-cells, said disk adapted to receive a reciprocating movement by peripheral contact with the reciprocating slide, substantially as and for the purpose hereinbefore set forth.

9. A seed-distributing disk provided with a series of seed-cells, said disk adapted to receive a reciprocating movement produced by peripheral contact with a reciprocating slide, in combination with means, in connection with the reciprocating movement of the slide, to impart a rotary movement to the disk, substantially as and for the purpose hereinbefore set forth.

10. The combination of a seed-distributing disk provided with a series of seed-cells and with ratchet-teeth, a reciprocating slide, provided with a bearing to receive the periphery of the seed-distributing disk, and spring-actuated pawls to engage the ratchet-teeth to impart a rotary movement to the disk within its peripheral bearings in the reciprocating slide, substantially as and for the purpose hereinbefore set forth.

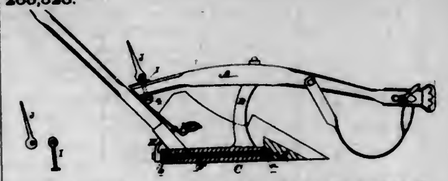
265,327. WATER-METER CONNECTION. JULIUS JOHSON, New York, N. Y., assignor of one-half to Julius Elson, same place. Filed Aug. 23, 1881. (No model.)



Claim.—The combination, with a service-cock composed of a shell having a straight water-way and a plug having a direct water-way ranging with that in the shell, and also having water-ways ranging with that in the shell and leading through the head of the plug, of pipes extending from the water-ways in the head of the plug and a water-meter having said pipes connected, one with its water-inlet and the other with its water-outlet, substantially as and for the purpose specified.

265,328. SIDE-HILL PLOW. ROBERT I. KNAPP, Halfmoon Bay, Cal. Filed Nov. 29, 1881. (Model.)

265,328.



Claim.—1. In a reversible mold-board plow, the landside C, having the stud *a*, entering an opening in the part D, and the socket *b* to receive the stud *b*, projecting from the brace E, in combination with the bolt F, extending through the landside and studs and screwing into nose-piece D, substantially as and for the purpose herein described.

2. In combination with a reversible mold-board plow, the beam A, swiveling upon the standard B, the horizontal slotted plate H, secured to the handles below the rear end of the beam, the bolt I, extending through the beam and the slot in the plate, and the locking cam-lever J, the whole combined to operate substantially as herein described.

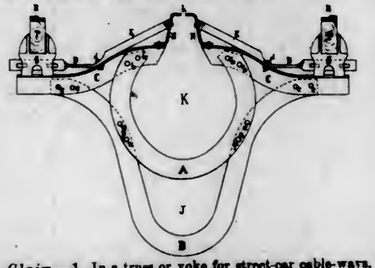
3. In a plow, the beam A, swiveling upon the standard, and having its rear end moving from side to side upon the rest-plate H, in combination with the bolt I and cam-lever J, as shown, the bolt I, having the adjustable nut *c*, substantially as and for the purpose herein described.

4. In a reversible mold-board plow having the share made concave, with the edges K K' turned up, as shown, the mold-board L, the rear portion of which is made plane or flat in its transverse diameter, substantially as herein described.

5. In a reversible mold-board plow, the combination of a share made concave upon its working-face both longitudinally and transversely, and the mold-board L, made concave longitudinally in continuation with the share, but having its rear portion plane or flat in its transverse diameter, substantially as herein described.

265,329. TUNNEL-FRAME FOR THE CONSTRUCTION OF CABLE-WAYS. JOHN LAHR, Hyde Park, Ill., assignor of one-half to H. S. Benton, same place. Filed Apr. 15, 1882. (No model.)

Brief.—The yoke consists of U and V shaped bars constructed of flat bar-iron bent edgewise, curved in opposite directions, and united together and to a tie-bar by bolts. To the tie-bar is secured slot-irons, which are suitably braced. A saddle which supports the rails is secured by means of braces to the tie-bar.



Claim.—1. In a truss or yoke for street-car cable-ways, the combination of the U-shaped bar A and the V-shaped bar B, constructed and united together substantially as shown, with the tie-bar C, and with the bolts or rivets *c b* uniting the ends of the said bars A and B to the said tie-bar C, all arranged and operating substantially as and for the purpose set forth.

2. In a truss or yoke for street-car cable-ways, the U-shaped bar A and the V-shaped bar B, both constructed of flat bar-iron bent edgewise and united together with bolts or rivets *a a*, and the ends of the said bars A and B bent curved in opposite directions, in combination with the tie-bar C, and the tie-bar C united to the ends of the said bars A and B with bolts or rivets *b c*, all arranged to operate substantially as and for the purpose set forth.

3. In a truss or yoke for street-car cable-ways, the U-shaped bar A and the V-shaped bar B, both constructed of flat bar-iron, and the said V-shaped bar bent to such a shape as to overlap the said bar A, and united thereto with bolts or rivets *a a*, and the ends of the said bars A and B bent in opposite directions, in combination with the tie-bar C, united to the ends of the said bars A and B with bolts or rivets *b c*, all substantially as specified.

4. In a truss or yoke for street-car cable-ways, the U-shaped

bar A, with its ends bent curved inward, the V-shaped bar B, with its ends bent curved outward, and the tie-bar C, with its middle part bent so that the inner end part of the said bar has an elevation above its outer end part, all constructed, combined, and arranged with the bolts or rivets *a a b b c c*, substantially as shown, and for the purpose set forth.

5. The combination of the brace E, having one end flattened and perforated, the other end having a perforated flange or lip, as shown, with the tie-bar C, and with the slot-iron H, arranged to operate substantially as and for the purpose set forth.

6. The combination of the brace D with the slots *f f* and the perforation *g*, with the tie-bar C, and with the saddle S, arranged to operate substantially as and for the purpose set forth.

7. The combination of the U-shaped bar A, the V-shaped bar B, and the tie-bar C, constructed and arranged with the bolts or rivets *a a b b c c*, as shown, and with the slot-iron H, the brace E, the saddle S, and the brace D, all arranged to operate substantially as and for the purpose set forth.

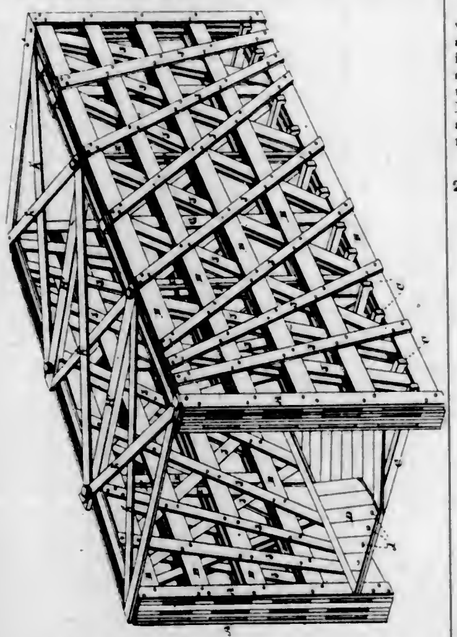
265,330. LOOM-SHUTTLE. ADOLPHUS J. LAUNDRAY, Turner's Falls, Mass. Filed Mar. 25, 1882. (No model.)



Claim.—The combination, with the shuttle-body provided with a thread-eye and a vertical slot leading to said eye, of the spiral and inclined loop G and hook D, all arranged substantially as and for the purpose set forth.

265,331. TRUSS-BRIDGE. WILLIAM LITTLE, Boise City, Idaho. Filed Feb. 6, 1882. (No model.)

Brief.—The truss is built up of light material, interlaced and arranged to take the strains, and spiked or bolted. Vertical end posts, a series of horizontal girders, diagonal braces, and vertical tie-rods are combined together.

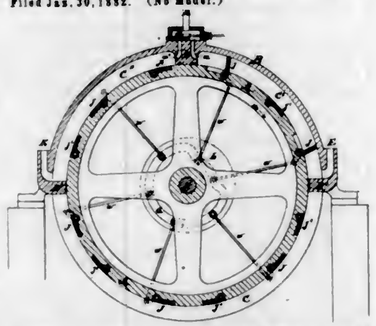


Claim.—1. In a truss-bridge, the posts A, composed of separated stripe, and the series of horizontal chords B, composed likewise of separated stripe fitting between the stripe of said posts and spiked or bolted therein, in combination with the vertical braces E E, composed of two separated stripe secured to the horizontal chords B, the rods or tie-bolts F, passing between these braces and extending past the chords B, above and below, and the transverse girders H H', under the bottom and upon the top chords, and in which said tie-bolts are bolted, substantially as and for the purpose herein described.

2. In a truss-bridge, the posts A, composed of separated stripe, and the series of horizontal chords B, also composed of separated stripe fitting between the stripe of posts A and secured therein, in combination with the series of diagonal lattice-braces J J, said braces being secured to and through the horizontal chords, as shown, and extending the whole distance from the top to the bottom chords, substantially as and for the purpose herein described.

3. A truss-bridge consisting of the posts A, series of horizontal chords B, sleepers or joists C, framed into the bottom chords, as shown, roadway D, girders H H', vertical braces E G, tie-bolts F, and the series of diagonal lattice-braces J J, arranged and secured together substantially as herein described.

265,332. ROTARY ENGINE. IGNATZ LOJDA, New York, N. Y. Filed Jan. 30, 1882. (No model.)



Claim.—A wheel, A, with projecting flanges *a a* and hinged valves J J', opening in opposite directions, and arranged to operate through levers *c* or *c'*, rods *w* or *w'*, and stationary wheels having cam-shaped grooves G or G', substantially in the manner described, in combination with a stationary casing, B, inclosing the upper half of said wheel A, and provided with abutments D and D', and passages *n n'* in the central abutment, D, closed by a suitable valve, the whole being arranged to operate substantially in the manner and for the purpose herein specified.

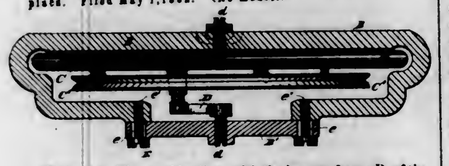
265,333. CHURN-MOTOR. BENJAMIN C. MAY, Pottsville, Tex. Filed Aug. 4, 1882. (No model.)



Claim.—1. The combination, with a wheel or disk having a toothed periphery and provided with a broad friction-flange, of a disk at right angles to the former, bearing against its friction-flange, and having studs engaging its teeth, as set forth.

2. In a churn-motor, the combination, with the box or body, of the cover B, having uprights C, shaft D, having crank E, disk F, having teeth G and flange H, and the vertical shaft I, having disk J, provided with studs K, all constructed and operating substantially as set forth.

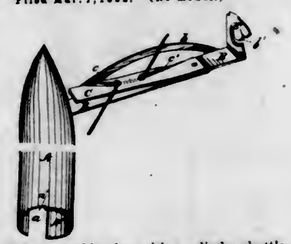
265,334. CRANK-SHAFT SUPPORT FOR SEWING-MACHINES. GOODRICH A. MAYO, Erie, Pa., assignor to George H. Noble, same place. Filed May 1, 1882. (No model.)



Claim.—1. The combination, with the hanger-frame B, of the detachable strap B', having holes *e e*, through which pass the screws by which it is attached to the frame B, larger than the shanks of said screws, substantially as and for the purposes mentioned.

2. The combination, with the supporting-frame, the drive-wheel, and crank-shaft of a sewing-machine, of the hanger-frame B, having thereon one of the centerings or journals of said wheel and crank-shaft, and the detachable strap B', having thereon the other of said centerings or journals, said strap being provided with means, substantially as shown, whereby it can be adjustably attached to the frame B, substantially as and for the purposes mentioned.

265,335. SEWING-MACHINE SHUTTLE. GOODRICH A. MAYO and VIRGINIUS J. MAYO, Erie, Pa., assignors to George H. Noble, same place. Filed Mar. 1, 1882. (No model.)

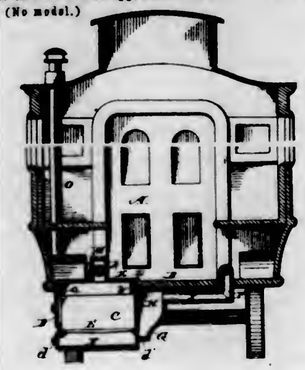


Claim.—1. The combination, with a cylinder-shuttle, of the swinging cover B, having end piece, B', with a slot serving as a bearing for the bobbin, and bearing on its under side a thread-carrying tension-producing spring, and the tension-screw D, substantially as and for the purposes set forth.

2. In a cylinder-shuttle for sewing-machines, the combination, substantially as set forth, of the following elements: a hollow open-ended body, A, with opening *a* along its top; a pivoted swinging cover, B, having an end part, B', for covering said slot *a* and the open end of the cylinder; a tension-producing and thread-carrying spring, C, attached to the under side of said cover, and having its loose end seated on a face, *a*', at the end of said slot *a*; and, finally, a screw for pressing the spring C toward the cover B.

3. In a cylinder-shuttle, the combination, with the spring C and slotted thread-guides *c c'*, of the guard *b*, arranged with relation thereto substantially as and for the purposes mentioned.

265,336. CAR-HEATER. THOMAS S. PAGE, New York, N. Y., assignor to James E. Gregg, Santa Fé, N. Mex. Filed Dec. 8, 1881. (No model.)



Claim.—1. In a car-heater, the combination, with a heater secured to the under side of the car-floor, and provided with a branch smoke-flue located within the car and beneath the seat, and connected with vertical smoke-discharge flues at opposite ends of the car, of a hot-air chamber connected with the heater, a hot-air pipe extending transversely beneath the car-floor, and perforated hot-air pipes located within the car and extending in opposite directions beneath the car-seat, substantially as set forth.

2. In a car-heater, the combination, with the heater located on the under side of the car-floor, of a smoke-flue that leads beneath the car-seats on one side of the car, a hot-air pipe that leads beneath the seats on the other side of the car, and a cold-air space between the heater and car-frame, the internal opening of the said cold-air space being covered with perforated zinc, substantially as set forth.

265,337. MANUFACTURE OF NITRO-CELLULOSE. HENRY PARKES, Tamworth Road, Gravelly Hill, near Birmingham, County of Warwick, England. Filed Nov. 21, 1881. (No model.) Patented in England May 10, 1879, No. 1,865; in France Sept. 2, 1879, No. 132,495, and in Belgium Nov. 14, 1881, No. 56,230.

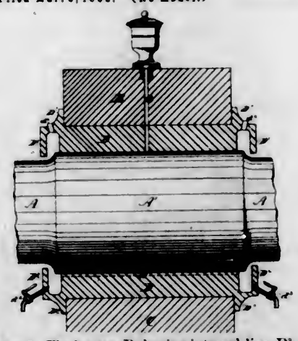
Claim.—1. Dyeing the nitro-cellulose and afterward dissolving it or softening it and causing it to cohere by means of a solvent.

2. The employment, to dissolve or soften the nitro-cellulose, of tetra-chloride of carbon, together with camphor.

3. The employment, to dissolve or soften the nitro-cellulose, of bisulphide of carbon, together with camphor.

4. The employment, to dissolve or soften the nitro-cellulose, of sulphurous acid, together with camphor

265,338. SHAFT-BEARING. RICHARD W. PECK, Brooklyn, N. Y. Filed Mar. 9, 1882. (No model.)



Claim.—1. The brasses D, having internal lips, D^1, in combination with a shaft having an enlargement, A', and arranged to serve as herein specified.

2. The brasses D, having internal lips, D^1, and the longitudinal channels d' in the inner surface of the lower brass, in combination with each other and with the pillow-block B, binder C, and shaft A A', as and for the purposes herein specified.

3. The brasses D, having internal lips, D^1, and the holes d^2 and drain-cocks d^4, in combination with a shaft, A A', swelled, as shown, and arranged to serve as herein specified.

265,339. OVERSHOE. EVERETT B. PRESTON, Chicago, Ill. Filed May 29, 1882. (No model.)

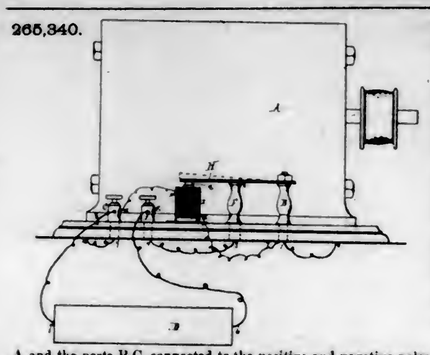


Claim.—The overshoe having the quarters A A' and the vamp B, the latter being provided with the ridges *b b'*, acting, in conjunction with the overlapping portions of the quarters, to exclude snow and water, substantially as specified.

265,340. ATTACHMENT TO DYNAMO-ELECTROPLATING MACHINES. SAMUEL M. PUTNAM, Detroit, Mich. Filed Feb. 11, 1882. (No model.)

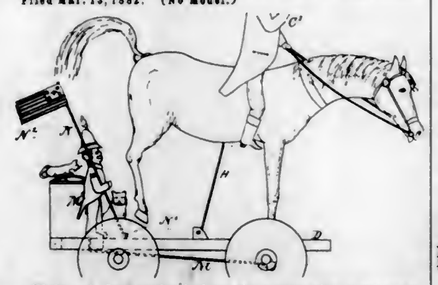
Claim.—The combination, with the dynamo-electric machine

265,340.



A and the posts B C, connected to the positive and negative poles of said machine, of a separate electro-magnet, I, connected by wires I II and III IV to the posts B C, the depositing-cell D, connected at one end by the wires 7 8 to the post C, and at its opposite end by suitable connections with the post F, the spring-plate H, secured to the post B and provided with an armature, *a*, over the electro-magnet I, and adapted to make and break the circuit between the posts B F, substantially as shown and described, and for the purpose specified.

265,341. MECHANICAL TOY. EBENEZER H. RICKER, Boston, Mass., assignor of one-half to George G. Frost, same place. Filed Mar. 13, 1882. (No model.)



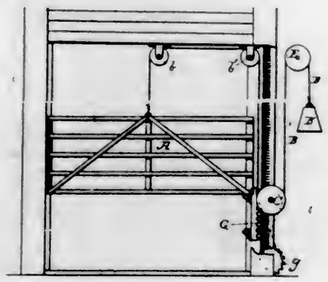
Claim.—1. In a mechanical toy, the combination of the crank E', the wire B', the lever H', and the fulcrum-rod H with the body of the horse, all operating together substantially as described, and for the purpose set forth.

2. In a mechanical toy, the combination of the crank E', wire B', wire D', and the bell-crank B' with the neck of the horse, all operating together substantially as described, and for the purpose set forth.

3. In a mechanical toy, the combination of the crank E', the wire B', lever H', and lever K with the tail K', all operating together substantially as described, and for the purpose set forth.

4. In a mechanical toy, the combination of the crank E' and the wire D with the platform D', lever C', and image C' and dog D', all operating together substantially as described, and for the purpose set forth.

265,342.

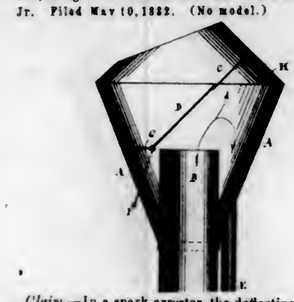


265,342. AUTOMATIC GATE FOR ELEVATORS. JOHN F. S. SMITH, Chicago, Ill. Filed Apr. 17, 1882. (No model.)

Brief.—The gate is raised and lowered by a rack on the elevator alternately engaging pinions on two horizontal shafts connected by a cross-belt. The gate-hoisting rope is wound several times around a drum on one of the horizontal shafts, and has a counterbalance-weight on its free end.

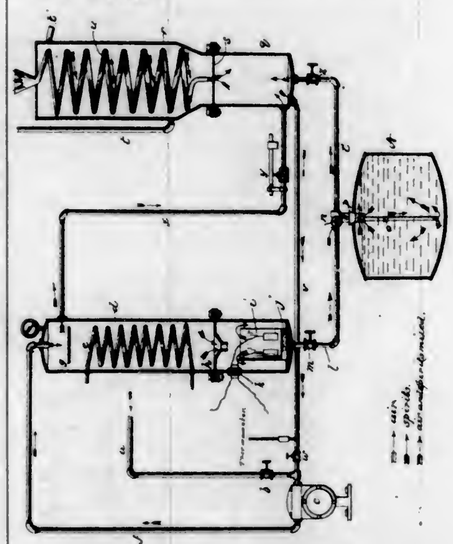
Claim.—In an automatic gate for elevators, a gate automatically raised or lowered through the medium of a rope wound several times around a drum, said drum being operated upon the approach or withdrawal of the elevator cage or truck by a rack attached to the side of the same and alternately engaging two pinions arranged and connected in the manner hereinbefore specified, in combination with a weight attached to the free end of said rope, substantially as and for the purpose set forth.

265,343. SPARK-ARRESTER. LEWIS C. SPARKS, Philadelphia, Pa., assignor to himself and Charles Zane and Andrew Zane, Jr. Filed May 10, 1882. (No model.)



Claim.—In a spark-arrester, the deflecting-plate D, the lever F, the sieve C, the deflecting-plate H, the fine E, and the pipe B, all arranged and constructed substantially as described.

265,344. PROCESS OF AND APPARATUS FOR IMPROVING SPIRITS. FREDERICK STIPEL, Louisville, Ky. Filed June 5, 1882. (No model.)



Claim.—1. The method of improving spirits, the same consisting in mixing air and spirits under pressure, subjecting the same to heat and electrolysis in a closed vessel, afterward agitating the same, and finally separating them, substantially as and for the purpose described.

2. The combination of an air forcing or pressure apparatus, a heating-vessel, a receptacle for spirits, a separating and distributing apparatus, a pipe provided with a cock connecting the heating-vessel and receptacle, a pipe provided with a cock for connecting the receptacle and separating and distributing apparatus, and a pipe provided with a cock connecting the separating and distributing apparatus with the air forcing or pressure apparatus, and a pipe connecting the air forcing or pressure apparatus and the heating-vessel, substantially as shown and described, whereby spirits are taken from the receptacle, circulated under pressure through these said apparatus, and returned to the receptacle, as specified.

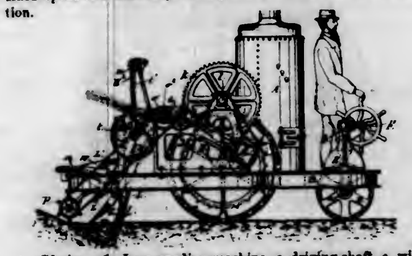
3. A pump for mixing and propelling air and spirits under pressure, a heating-vessel into which the mixed air and spirits are forced by the pump and therein expand, a spirits-supply vessel, and a receiving-chamber combined with connecting-pipes and controlling-cocks, constructed and arranged substantially as shown and described, whereby the spirits are in continuous motion through the apparatus in constantly new or changing quantities.

4. The method of improving spirits, the same consisting in taking constantly new quantities of the same from their container, mixing air therewith under pressure, and forcing the same into and through heating, agitating, oxidizing, and separating apparatus in a continuous round, substantially as set forth.

5. An apparatus for improving spirits, the same consisting of an air-forcing mechanism, *c*, air-pipe *a*, and cock *b* therein, a vessel, *d*, having a heating-coil, *e*, and diaphragms *g* and *h*, spirits-vessel A, with pipes *l o*, for connecting it with the vessel *d* and strainer *p*, and pipe *l'*, for connecting it with the chamber *q*, combined with such chamber, reservoir *r*, separated from said chamber by partition *i*, coil *u*, and pipes *v x f*, and valves *w m n y z*, substantially as and for the purpose described.

265,345. STEAM-PLOW. ROY STONE, New York, N. Y. Filed Jan. 16, 1882. (No model.)

Brief.—A series of spades actuated by crank-disks. Spring-links impart the required spading motion as the spades rise and fall. The crank-disks are revolved by friction-wheels upon a driving-shaft. The disks are held firmly against the friction-wheels, and are suspended by flexible connection to the winding-up shaft. Each spade and disk may rise separately if it strikes an obstruction.



Claim.—1. In a spading-machine, a driving-shaft, *o*, with wheels *p* thereon, a range of spades, L L', an independent crank, 3, and its disk *r* to each spade, and links *s*, to connect the driving-shaft *o* with the axes of the independent actuating-disks, substantially as set forth.

2. The combination, with a spade, L, and its handle, L', of a pair of disks, *r*, with a crank-pin, 3, between them, an actuating-shaft, *o*, with friction-wheels *p r*, and connecting-links *s*, between the actuating-shaft and the axes of the disks, substantially as set forth.

3. In a steam-plow, the combination, with the spade and handle, of a crank, 3, to actuate the same, and an extension spring-link, *w*, between the handle and the frame, constructed to act as a retractor and radius-bar, for the purposes and as set forth.

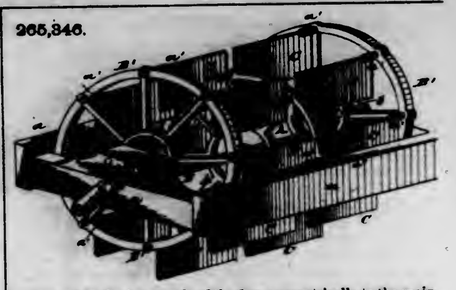
4. The shaft *o* and friction-pulley *p*, in combination with the disks *r*, having crank-pins 3, the connecting-links *s*, and spades L L', substantially as set forth.

5. The combination, with the spades and handles, of crank-pin disks in pairs, friction-pulleys for rotating the same, links connecting the studs of the disks with the shafts of the pulleys, bails or suspending devices, and a cross-bar or shaft to which the suspending device is attached for determining the downward movement of the spades, substantially as set forth.

265,346. FEATHERING PADDLE-WHEELS. EDWARD THIELE, Wellsville, Mo., assignor of one-half to Henry H. Linnesskmidt, same place. Filed June 10, 1882. (No model.)

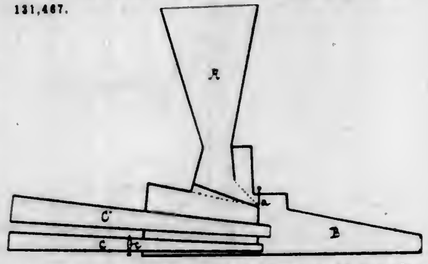
Claim.—The combination and arrangement, as described, of the frame *a*, the main shaft B, having fixed wheel A, the rings

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c, secured to the inner ends of the frame eccentrically to the main shaft, the wheels B', journaled upon said rings, and the paddles C, pivoted to the rings or wheels B' and B by pivots located at their outer upper corners and at the centers of their inner ends, respectively, as set forth.

265,347. BURNING PULVERULENT FUEL. ERNEST TOURANGIN, Salbris, (Loir et Cher,) France, assignor to Dexter H. Walker and Louis Durand, both of New York, N. Y. Filed Dec. 9, 1881. (No model.) Patented in France June 27, 1879, No. 131,467.



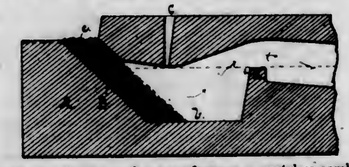
Claim.—1. In combination with the hopper and tuyere, the double blast-pipe having an efflux area equal to or in excess of that of the tuyere, and means for gradnating the blast.

2. In combination with the hopper having valve *a* and the tuyere, the blast-pipes having an efflux area equal to or in excess of that of the tuyere, and adapted to deliver a supply of air to the tuyere, as set forth.

3. In combination with the hopper A, having valve *a* and tuyere B, the pipes C C' and cock *c*, the said pipes having an efflux area equal to or in excess of that of the tuyere, as set forth.

4. In combination with the hopper and tuyeres, the blast-pipes C C' C'' and damper *c*, as set forth.

265,348. REVERBERATORY FURNACE. ERNEST TOURANGIN, Salbris, (Loir et Cher,) France, assignor to Dexter H. Walker and Louis Durand, both of New York, N. Y. Filed Dec. 9, 1881. (No model.) Patented in France June 26, 1879.

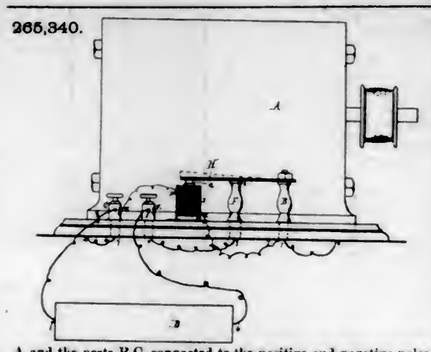


Claim.—In a reverberatory furnace, a grateless combustion-chamber having an inclined fuel-chute with parallel upper and lower walls, and a series of tuyeres located in the roof of the combustion-chamber, as described, whereby a blast may be directed downward upon the base of the fuel, as set forth.

265,349. EXTENSION-TABLE. JOHN C. VETTER, Indianapolis, Ind. Filed Feb. 18, 1882. (Model.)

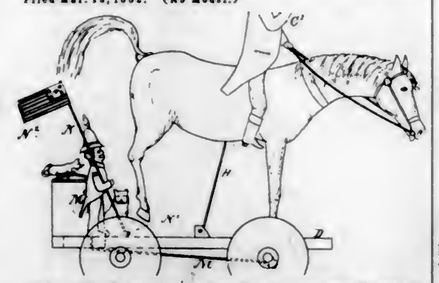
Claim.—1. The combination of the fixed leaves A A', legs A' A', intermediate folding leaves, outer drop-leaves, D D', frames A' A', sliding adjustable legs B B, and leaf-supports B' B', for supporting the intermediate leaves, the parts being constructed and arranged for operation substantially as and for the purpose set forth.

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A and the posts B C, connected to the positive and negative poles of said machine, of a separate electro-magnet, I, connected by wires I II and III IV to the posts B C, the depositing-cell D, connected at one end by the wires 7 8 to the post C, and at its opposite end by suitable connections with the post F, the spring-plate H, secured to the post B and provided with an armature, *a*, over the electro-magnet I, and adapted to make and break the circuit between the posts B F, substantially as shown and described, and for the purpose specified.

265,341. MECHANICAL TOY. REUBEN H. RICKER, Boston, Mass., assignor of one-half to George G. Frost, same place. Filed Mar. 13, 1882. (No model.)



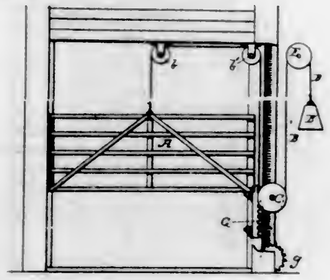
Claim.—1. In a mechanical toy, the combination of the crank E', the wire B', the lever H', and the fulcrum-rod H with the body of the horse, all operating together substantially as described, and for the purpose set forth.

2. In a mechanical toy, the combination of the crank E', wire B', wire D', and the bell-crank B' with the neck of the horse, all operating together substantially as described, and for the purpose set forth.

3. In a mechanical toy, the combination of the crank E', the wire B', lever H', and lever K with the tail K', all operating together substantially as described, and for the purpose set forth.

4. In a mechanical toy, the combination of the crank E' and the wire D with the platform D', lever C', and image C' and dog D', all operating together substantially as described, and for the purpose set forth.

265,342.

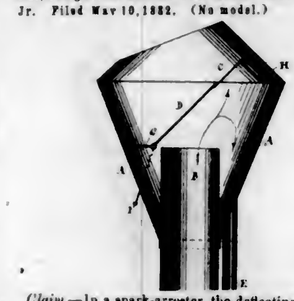


265,342. AUTOMATIC GATE FOR ELEVATORS. JOHN F. S. SMITH, Chicago, Ill. Filed Apr. 17, 1882. (No model.)

Brief.—The gate is raised and lowered by a rack on the elevator alternately engaging pinions on two horizontal shafts connected by a cross-belt. The gate-hoisting rope is wound several times around a drum on one of the horizontal shafts, and has a counterbalance-weight on its free end.

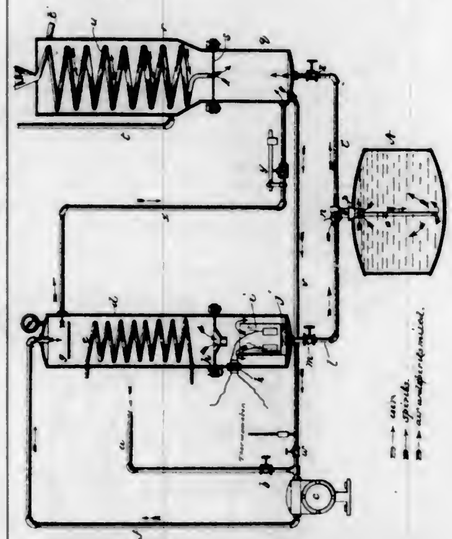
Claim.—In an automatic gate for elevators, a gate automatically raised or lowered through the medium of a rope wound several times around a drum, said drum being operated upon the approach or withdrawal of the elevator cage or truck by a rack attached to the side of the same and alternately engaging two pinions arranged and connected in the manner hereinbefore specified, in combination with a weight attached to the free end of said rope, substantially as and for the purpose set forth.

265,343. SPARK-ARRESTER. LEWIS C. SPARKS, Philadelphia, Pa., assignor to himself and Charles Zane and Andrew Zane, Jr. Filed May 10, 1882. (No model.)



Claim.—In a spark-arrester, the deflecting-plate D, the lever F, the sieve C, the deflecting-plate H, the flue E, and the pipe B, all arranged and constructed substantially as described.

265,344. PROCESS OF AND APPAPATUS FOR IMPROVING SPIRITS. FREDERICK STITZEL, Louisville, Ky. Filed June 5, 1882. (No model.)



Claim.—1. The method of improving spirits, the same consisting in mixing air and spirits under pressure, subjecting the same to heat and electrolysis in a closed vessel, afterward agitating the same, and finally separating them, substantially as and for the purpose described.

2. The combination of an air forcing or pressure apparatus, a heating-vessel, a receptacle for spirits, a separating and distributing apparatus, a pipe provided with a cock connecting the heating-vessel and receptacle, a pipe provided with a cock for connecting the receptacle and separating and distributing apparatus, and a pipe provided with a cock connecting the separating and distributing apparatus with the air forcing or pressure apparatus, and a pipe connecting the air forcing or pressure apparatus and the heating-vessel, substantially as shown and described, whereby spirits are taken from the receptacle, circulated under pressure through these said apparatus, and returned to the receptacle, as specified.

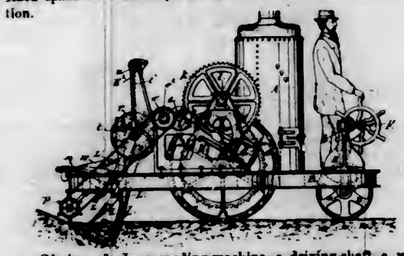
3. A pump for mixing and propelling air and spirits under pressure, a heating-vessel into which the mixed air and spirits are forced by the pump and therein expand, a spirits-supply vessel, and a receiving-chamber combined with connecting-pipes and controlling-cocks, constructed and arranged substantially as shown and described, whereby the spirits are in continuous motion through the apparatus in constantly new or changing quantities.

4. The method of improving spirits, the same consisting in taking constantly new quantities of the same from their container, mixing air therewith under pressure, and forcing the same into and through heating, agitating, oxidizing, and separating apparatus in a continuous round, substantially as set forth.

5. An apparatus for improving spirits, the same consisting of an air-forcing mechanism, *o*, air-pipe *a*, and cock *b* therein, a vessel, *d*, having a heating-coil, *e*, and diaphragms *g* and *h*, spirits-vessel A, with pipes *l o*, for connecting it with the vessel *d* and strainer *p*, and pipe *l'*, for connecting it with the chamber *q*, combined with such chamber, reservoir *r*, separated from said chamber by partition *s*, coil *u*, and pipes *c x f*, and valves *w m n y z*, substantially as and for the purpose described.

265,345. STEAM-PLOW. ROY STONE, New York, N. Y. Filed Jan. 16, 1882. (No model.)

Brief.—A series of spades actuated by crank-disks. Spring-links impart the required spading motion as the spades rise and fall. The crank-disks are revolved by friction-wheels upon a driving-shaft. The disks are held firmly against the friction-wheels, and are suspended by flexible connection to the winding-up shaft. Each spade and disk may rise separately if it strikes an obstruction.



Claim.—1. In a spading-machine, a driving-shaft, *c*, with wheels *p* thereon, a range of spades, L L', an independent crank, 3, and its disk *r* to each spade, and links *s*, to connect the driving-shaft *c* with the axes of the independent actuating-disks, substantially as set forth.

2. The combination, with a spade, L, and its handle, L', of a pair of disks, *r*, with a crank-pin, 3, between them, an actuating-shaft, *c*, with friction-wheels *p r*, and connecting-links *s*, between the actuating-shaft and the axes of the disks, substantially as set forth.

3. In a steam-plow, the combination, with the spade and handle, of a crank, 3, to actuate the same, and an extension spring-link, *w*, between the handle and the frame, constructed to act as a retractor and radius-bar, for the purposes and as set forth.

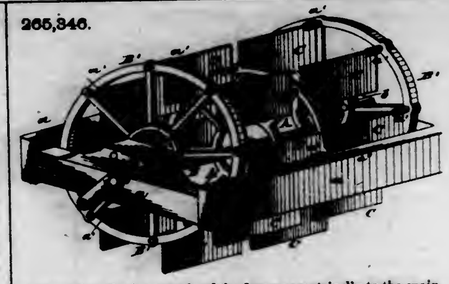
4. The shaft *c* and friction-pulley *p*, in combination with the disks *r*, having crank-pins 3, the connecting-links *s*, and spades L L', substantially as set forth.

5. The combination, with the spades and handles, of crank-pin disks in pairs, friction-pulleys for rotating the same, links connecting the studs of the disks with the shafts of the pulleys, bails or suspending devices, and a cross-bar or shaft to which the suspending device is attached for determining the downward movement of the spades, substantially as set forth.

265,346. FEATHERING PADDLE-WHEEL. EDWARD THIELE, Wellsville, No., assignor of one-half to Henry E. Lissauschmidt, same place. Filed June 10, 1882. (No model.)

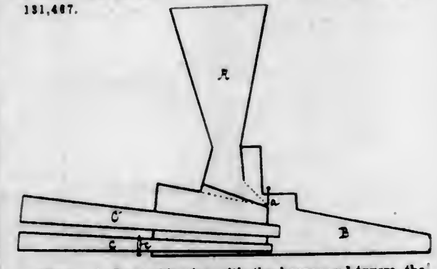
Claim.—The combination and arrangement, as described, of the frame *a*, the main shaft B, having fixed wheel A, the rings

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c, secured to the inner ends of the frame eccentrically to the main shaft, the wheels B', journaled upon said rings, and the paddles C, pivoted to the rings or wheels B' and B by pivots located at their outer upper corners and at the centers of their inner ends, respectively, as set forth.

265,347. BURNING PULVERULENT FUEL. ERNEST TOURANGIN, Salbris, (Loir et Cher,) France, assignor to Dexter H. Walker and Louis Durand, both of New York, N. Y. Filed Dec. 9, 1881. (No model.) Patented in France June 27, 1879, No. 131,467.



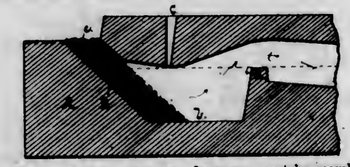
Claim.—1. In combination with the hopper and tuyere, the double blast-pipe having an efflux area equal to or in excess of that of the tuyere, and means for graduating the blast.

2. In combination with the hopper having valve *a* and the tuyere, the blast-pipes having an efflux area equal to or in excess of that of the tuyere, and adapted to deliver a supply of air to the tuyere, as set forth.

3. In combination with the hopper A, having valve *a* and tuyere B, the pipes O O' and cock *c*, the said pipes having an efflux area equal to or in excess of that of the tuyere, as set forth.

4. In combination with the hopper and tuyeres, the blast-pipes O O' O'' and damper *c*, as set forth.

265,348. REVERBERATORY FURNACE. ERNEST TOURANGIN, Salbris, (Loir et Cher,) France, assignor to Dexter H. Walker and Louis Durand, both of New York, N. Y. Filed Dec. 9, 1881. (No model.) Patented in France June 26, 1879.

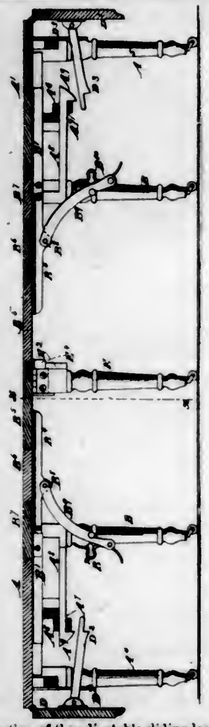


Claim.—In a reverberatory furnace, a grateless combustion-chamber having an inclined fuel-chute with parallel upper and lower walls, and a series of tuyeres located in the roof of the combustion-chamber, as described, whereby a blast may be directed downward upon the base of the fuel, as set forth.

265,349. EXTENSION-TABLE. JOHN O. VETTER, Indianapolis, Ind. Filed Feb. 18, 1882. (Model.)

Claim.—1. The combination of the fixed leaves A A', legs A' A', intermediate folding leaves, outer drop-leaves, D D', frames A' A', sliding adjustable legs B B, and leaf-supports B' B', for supporting the intermediate leaves, the parts being constructed and arranged for operation substantially as and for the purpose set forth.

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2. The combination of the adjustable sliding legs B B, swinging supports B^4, curved bars B^5, springs B^{10}, and leaves B^3, B^4, and B^7, substantially as and for the purpose set forth.

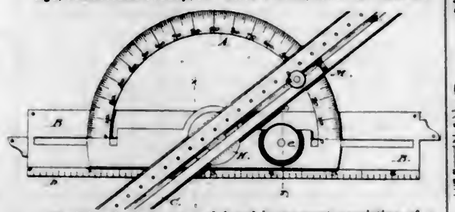
3. The combination of the adjustable sliding legs B B, the sliding bar B', the guides B^4 B^5, and the bar A^4, provided with a stop, A^5, upon its outer end, substantially as and for the purpose set forth.

4. The combination of the folding leaves B^3, B^4, and B^7, the hinged swinging supports B^4 B^5, and the folding legs E E, whereby provision is made for holding said leaves in position for use, and for allowing the legs to be folded upon them when they are folded together, substantially as described.

5. The combination of the leaves B^3 B^7, the folded legs E E, metal sockets E' E', attached to said leaves, and springs E^2 E', substantially as and for the purpose specified.

6. The swinging leaf-support consisting of the bars B^4 B^5 and the hooked bars B^6 B^7, the construction and arrangement of the parts being as described, whereby the bars B^4 are maintained in a horizontal position when the table is extended to its full limit and are allowed to fall into a vertical position when the table is folded up, as set forth.

265,350. SQUARE AND BEVEL INSTRUMENT. CHARLES D. WALTERS, Harrisburg, assignor of one-half to Alexander H. Egg, Cumberland County, Pa. Filed Dec. 14, 1881. (No model.)



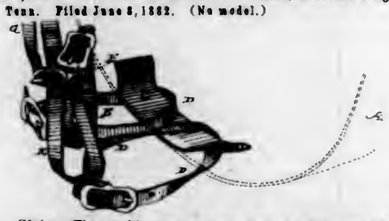
Claim.—1. A square and bevel instrument consisting of a graduated semicircle having two rules or blades arranged to slide on opposite sides thereof, as and for the purpose set forth.

2. In a square and bevel instrument, the combination, with a semicircular protractor, of the rule or blade C, provided with a longitudinal slot, one wall of which is coincident with the longitudinal center of said blade, and the clamping device M and chair H, as and for the purpose set forth.

3. In combination with a graduated semicircle, the slotted rule C, and the slotted and rabbeted blade B, both blades provided with pointers, the clamping device *e*, and guiding-beads, as and for the purpose specified.

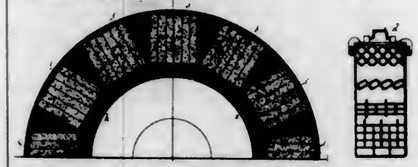
4. In combination with blade B, semicircle A and blade C, the graduated auxiliary attachable blade D, substantially as and for the purpose set forth.

265,351. HOPPLE. DANIEL T. WARREN, Chestnut Ridge, Tenn. Filed June 8, 1882. (No model.)



Claim.—The combination, with the belly-band carrying the leg-straps D D, which are connected by loops or straps E E to prevent separation, and the neck-strap G, extending from the point of juncture of the latter, of the retaining and securing cross-strap H, substantially as set forth.

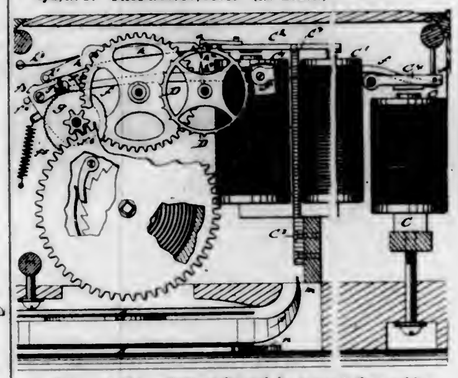
265,352. MANUFACTURE OF REFINED SUGAR IN STICKS AND LUMPS. MORIZ WEIDRICH, Vienna, Austria-Hungary. Filed Apr. 5, 1882. (Model.)



Claim.—1. In combination with a centrifugal machine, rectangular prismatic frames or molds subdivided into prismatic cells by means of removable ribbed or zigzag plates having ribs or projections, as shown and described, which support the next adjacent plate, and with it constitute the walls of such cells, and whereby the sugar may be formed into prismatic sticks.

2. The combined manufacture of sugar sticks simultaneously with sugar lumps in centrifugal machines and by means of the rectangular forms, as hereinbefore described.

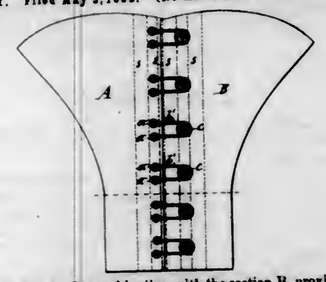
265,353. PRINTING-TELEGRAPH. ALOYS WIRSCHING, Brooklyn, N. Y. Filed Nov. 28, 1881. (No model.)



Claim.—1. In a printing-telegraph instrument, the combination of an escapement-wheel having sidewise-projecting teeth with a vertically-oscillating polarized armature, fulcrumed centrally to a forked steel magnet, supported intermediately between the coils of the escapement electro-magnet, substantially as set forth.

2. In a printing-telegraph instrument, the combination of the printing electro-magnet C, its armature C^1, and the fulcrumed unison-lever *f*, operated thereby, with a gravity-pawl, f^3, oscillating cam-plate f^4, fulcrumed stop-lever h h' h^3, and fixed radial arm h^4 of the shaft of the escapement-wheel, substantially as specified.

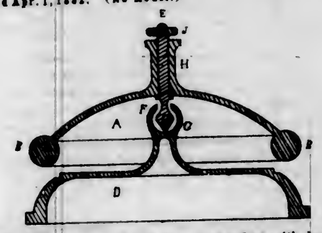
265,354. CORSET-FASTENING. BLANCHE WOOD, Syracuse, N. Y. Filed May 3, 1882. (No model.)



Claim.—1. In combination with the section B, provided with buttons *c c*, or their described equivalents, the section A, provided with eyelets *a a*, the cord *b*, extended successively through the eyelets and formed into loops *b' b'*, and the tension-stitches *e e*, applied across the cord at the inner face of the section A, substantially as shown and described.

2. In a corset, the front sections, A and B, provided each with the bones *d d*, the section A, having the eyelets *a a* between the said bones and the loops *b' b'*, and the section B, having the buttons *c c* between the said bones, substantially as shown and set forth.

265,355. SPINNING-TOP. WILLIAM C. WOOD, New York, N. Y. Filed Apr. 1, 1882. (No model.)

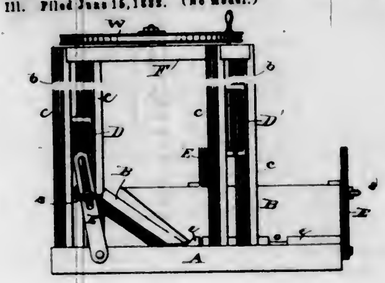


Claim.—1. The top A, revolving around or with loose spindle E, and having its main inertia ring or device B located at the outer rim or chine of A, below the resting-point C of spindle E, to poise on its step when at rest, as and for the purpose described.

2. The combination of receptacle F with the bottom of spindle E, as shown, whereby the spindle is prevented from flying off from the step while the top is being put in motion.

3. The combination of top A, spindle E, receptacle F, step G, and pedestal D, all as arranged and held together, for the purpose set forth.

265,356. MACHINE FOR CUTTING BEVELED AND MITER JOINTS. WILLIAM F. YOUNG and CHARLES R. DRAKE, Chicago, Ill. Filed June 15, 1882. (No model.)



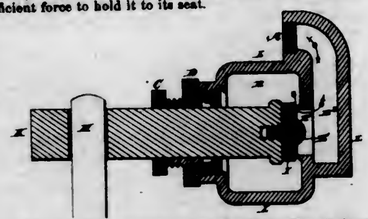
Claim.—1. The combination of the guiding-posts *c c*, arranged in pairs, guides D D', composed of frames D^2, supported between said posts, and having rollers *a a*, cross-piece F, connecting the guide-posts, hand-wheel W, journaled above the cross-piece, and the cords *b b'*, connecting the wheel with the guides D D', substantially as shown and described.

2. The combination of the base or frame A, wings B B, capable of being adjusted to any desired angle with said base, guiding-posts *c c*, guides D D', arranged between said posts, hand-wheel W, and cords *b b'*, connecting said wheel and guides, substantially as shown and described.

3. The combination of the base A, adjustable wings B B, slotted supports E, and thumb-screws *s*, for adjusting and supporting the wings at any desired angle, cleats *a a*, arranged at the bottom of each wing, guide-posts *c c*, arranged in pairs and connected at the top by cross-piece F, guides D D', adapted to move vertically between said guiding-posts, and hand-wheel W, having cords *b b'*, connected with the guides D D', substantially as shown and described.

265,357. BALL-VALVE. ALEXANDER G. ALEXANDER, Detroit, Mich. Filed Jan. 26, 1882. (No model.)

Brief.—The valve-stem being of about equal diameter as the valve-opening the water-pressure behind the valve will not exert sufficient force to hold it to its seat.

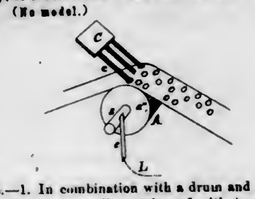


Claim.—1. The combination, substantially as herein described, of the shell or casing provided with an inlet and an outlet orifice, and divided into two chambers by a vertical partition having a lateral valve-opening, the horizontally-movable valve-stem constructed of a diameter substantially the same as that of the valve-opening, and a ball or float connected with the outer portion of the valve-stem, essentially as and for the purposes set forth.

2. The combination, substantially as herein described, of the shell or casing provided with an inlet and an outlet orifice, and divided into two chambers by a vertical partition having a lateral valve-opening, said inlet and outlet connecting with the two chambers, respectively, the horizontally-movable valve-stem carrying an attached valve, and constructed of a diameter equal or substantially equal to that of the valve-opening, a pivoted swinging lever connected with the outer portion of the valve-stem, and a ball or float sustained by the outer end of the lever, essentially as and for the purpose described.

3. The combination, substantially as herein described, of the shell or casing divided into two upright chambers by a vertical partition having a lateral valve-opening provided with a raised rim, the inlet and outlet pipes communicating respectively with the said chambers, a stuffing-box in said casing, a horizontally-movable valve-stem arranged in the stuffing-box, and constructed of a diameter equal or substantially equal to the diameter of the lateral valve-opening, and a ball or float connected with the valve-stem by a swinging lever pivoted to the shell or casing, the whole being constructed and arranged to operate essentially as and for the purposes set forth.

265,358. AUTOMATIC TELEGRAPH. FRANK ANDERSON, Peekskill, N. Y., assignor to the American Rapid Telegraph Company, of Connecticut. Filed May 20, 1881. Renewed Sept. 8, 1882. (No model.)



Claim.—1. In combination with a drum and electrical connections, as described, a fillet perforated with two rows of equidistant alternating holes, adapted to operate in connection with

contact-points, and also provided with a third set of selecting-holes adapted to operate in connection with a third brush or contact-point, whereby the selected impulses are put to line, substantially as described.

2. The combination of the drum composed of three insulated sections and provided with electrical connections, as described, a brush, C, adapted to cover the three sections, and of a fillet provided with two rows of equidistant holes made to operate in connection with the brushes as pole-changers, and provided also with a third row of selecting-holes, arranged in the described relation to the first, all substantially as set forth.

3. A fillet of paper or like material perforated with two continuous series of equidistant holes that act as pole-changers, and having a series of selecting-holes arranged in the described relation to the pole-changing holes—namely, having the selecting-holes so spaced that the distance from one impulse to another shall always include an odd number of the pole-changing holes—substantially as set forth.

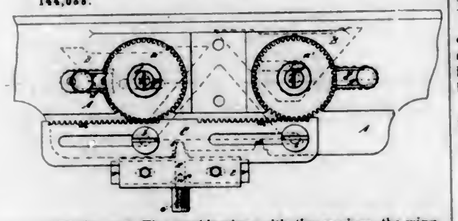
4. A fillet of paper perforated with two series of equidistant holes adapted to act as pole-changers, an additional row of holes adapted to select of the impulses presented those only that are an odd number distant, substantially as described.

5. In a transmitting-instrument in which a pole-changing fillet of paper is used of the special form shown, the drum or cylinder A, divided into three insulated sections, *a a' a''*, and the springs or brush C, made wide enough to cover the three sections, substantially as described.

6. A perforated non-conducting fillet having one or more rows of equidistant holes, in combination with a divided contact-wheel, suitable brushes, and line and battery connections, substantially as described, whereby the fillet acts as a continuous pole-changer, substantially as described.

7. A perforated non-conducting fillet having two rows of equidistant holes, in combination with a divided contact-wheel and line and battery connections, substantially as described, whereby the fillet acts as a pole-changer, substantially as described.

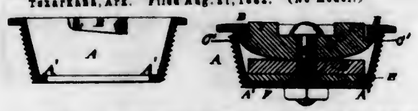
265,359. LOCK FOR KNITTING-MACHINES. ADOLF AMSLER, Schaffhausen, Switzerland, Filed Aug. 10, 1882. (No model.) Patented in Germany July 10, 1881, No. 17,334; in Belgium July 23, 1881, No. 56,256, and in France July 25, 1881, No. 144,058.



Claim.—1. The combination, with the carriage, the wing-cams, the bolts *b b'*, and the pins *r r*, set eccentrically therein, of the toothed disks *a a'*, the rack C, and the stops at the ends of the machine for arresting the racks while the movement of the carriage continues, substantially as herein described.

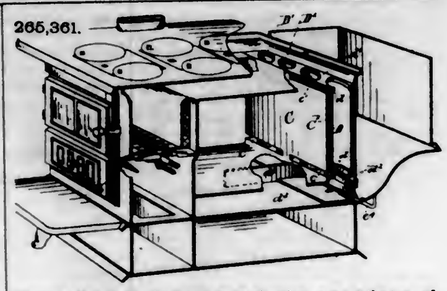
2. The combination, with the carriage or lock-plate provided with notches *s s*, of the rack C, the locking-pin *e*, and the sliding cam-bar *c* for operating on the said pin, substantially as described, and as illustrated in the accompanying sheet of drawings.

265,360. BUNG FOR BEER-BARRELS. WESSEL R. ANDERSON, Texarkana, Ark. Filed Aug. 21, 1882. (No model.)



Claim.—In combination with the ring A, having inturned flange A' at bottom and inclined inward-projecting lugs B at top, the bung consisting of clamp C, with side projections, C', disk D, washer E, plate F, and connecting bolt or rivet G, all arranged and operating substantially as shown and described.

265,361. STOVE. EDGAR W. ANTHONY, Boston, Mass. Filed May 19, 1882. (No model.)



Claim.—1. In a stove, the combination of the oven with an independent passage or chamber, C', upon one side thereof and adjoining a flue-plate, which passage or chamber opens at the top and bottom into the oven-space, all substantially as and for the purposes described.

2. In a stove, the combination of the auxiliary plate C with the flue-plate of the oven, the said plate C being so shaped and arranged in relation to the flue-plate as to provide a passage or chamber, C', between it and the flue-plate, which opens into the oven-space at the top and bottom thereof, all substantially as and for the purposes described.

3. In a stove, the separate downflues, tubes, or boxes D and upflues, tubes, or boxes D', arranged at one end or side of the oven, all substantially as and for the purposes described.

4. In a stove, the combination of the downflues D, the chamber d^2, the flue-plate d^1, the upflues D', and the perforated plates $d' d^3$, all substantially as and for the purposes described.

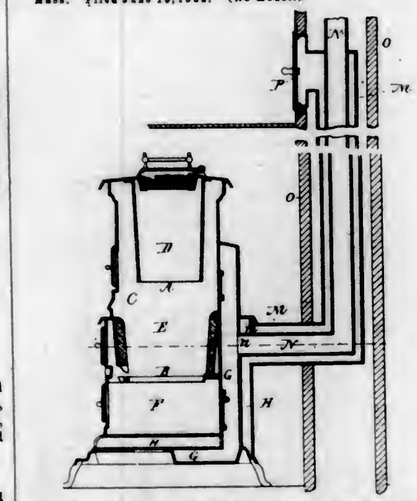
5. In a stove, the combination of the perforated plates $d' d^3$, having collars *d*, with the flue-boxes D D', all substantially as and for the purposes described.

6. In a stove, the combination of the downflue D of a stove, the chamber E, the upflue of the stove, the chamber d^3, and the double damper *e'*, one blade of which is adapted to be moved a greater distance than the other, all substantially as and for the purposes set forth.

7. The combination of the damper-rod e^3 with the damper-plate $e^2 e^1$, arranged in relation to the downflue D and the chamber E to operate substantially as described.

8. The combination of the auxiliary plate C with a vertically-corrugated or rounded oven-wall flue-plate, the said plate C being shaped and arranged to provide a passage or chamber, C', between it and the flue-plate, which opens into the oven-space at its top and bottom, all substantially as and for the purposes described.

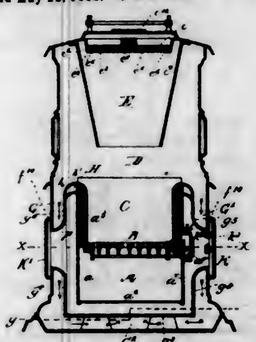
265,362. HEATING-STOVE. EDGAR W. ANTHONY, Boston, Mass. Filed June 15, 1882. (No model.)



Claim.—1. A heating-stove having an air-heating chamber in the base-section upon the sides and bottom of the stove, arranged in relation to the ash-pit, combustion-chamber, and down and base flues substantially as specified, and provided with one or more air-inlets through the base, and the opening at the rear into the pipe M, all substantially as and for the purposes specified.

2. A heating-stove comprising two sections, the base-section of which has an air-heating chamber arranged in relation to the ash-pit, combustion-chamber, and down and base flues substantially as specified, which chamber is provided with one or more inlets through the base of the stove, and the opening *m* at the rear into the pipe M, and the upper section of which has a single wall, all substantially as and for the purposes described.

265,363. HEATING-STOVE. EDGAR W. ANTHONY, Boston, Mass. Filed May 22, 1882. (No model.)



Claim.—1. In a heating or other stove, the combination of the combustion-chamber, the downflues G G', the flue-plates *g g' g'*, the base-flue G^2, and the uptake G^3, all substantially as and for the purposes described.

2. In a heating or other stove, the combination of the combustion-chamber, the downflues G G', the base-flue G^2, and the uptake G^3, all substantially as and for the purposes described.

3. In a heating or other stove, the combination of the air-heating chamber F, the inlets *f*, and its outlets, all substantially as and for the purposes described.

4. In a heating or other stove, the combination of the combustion-chamber, the downflues G G', the base-flue G^2, the uptake G^3, and the air-heating chamber F and its inlets and outlets, all substantially as and for the purposes described.

5. In a heating or other stove, the combination of the combustion-chamber, the downflues G G', the base-flue G^2, the flue-plates *g g' g''*, the uptake g^3, the air-heating chamber F, the inlets *f* thereto, and its outlets, all substantially as and for the purposes described.

6. The combination of the combustion-chamber, the downflues G G', the base-flue G^2, and uptake, and the flue-plate *g''*, shaped substantially as described, whereby each of the downflues G G' is separated into two passages for a portion of its length, all substantially as and for the purposes described.

7. In a heating or other stove, the combination of the combustion-chamber, the downflues G G', the base-flue G^2, and uptake G^3 with the air-heating chamber F above the base-flue, and shaped at the sides in relation to the downflues as shown and described, all as set forth.

8. In a heating or other stove, the combination of the chamber F, the grate shaft or shafts adapted to project within a box in said chamber, and the removable panel or door K, all substantially as and for the purposes described.

9. In a heating or other stove, the combination of the chamber F, the chamber H, and the holes or perforations connecting said chambers with each other and with the combustion-chamber, all substantially as and for the purposes described.

10. In a heating or other stove, the base-plate having the flue-plates *g g' g''* cast therewith, and of a shape substantially as represented, all as described.

11. In a heating or other stove, the combination, in a stove, of the door or cover *d*, provided with a packing, d^4, indestructible or substantially indestructible by heat, and the seat d^5, all substantially as and for the purposes described.

12. In a heating or other stove, the combination, in a stove, of the cover or door *e*, the packing e^4, the seat or frame against which the cover or door is adapted to be closed, and means for forcing the cover or door to the seat or frame, all substantially as and for the purposes described.

13. In a heating or other stove, the combination of the panel or door K and the link *k*, pivoted to the panel and to the frame of the stove, all as described.

14. The combination of the panel or door K, link *k*, pivoted as described, and the catch k^1 and latch k^2, all substantially as and for the purposes set forth.

15. In a heating or other stove, the combination of the panel or door K, the latch k^2, projecting inwardly therefrom, and catch k^1, all substantially as and for the purposes described.

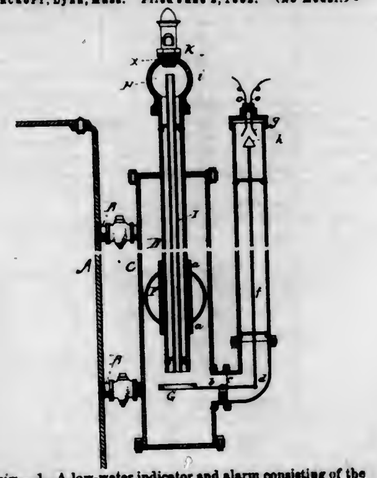
16. The combination of the cover *s* and the link s^1, pivoted at one end to the top plate of the stove and at or near the other end to the top of the cover, all substantially as described, and for the purposes set forth.

17. In a heating or other stove, the combination of the cover *s*, link s^1, and locking-bar s^{12}, all substantially as described.

18. In a heating or other stove, the combination of the cover *s* and packing s^2 with the raised seat s^3, all substantially as and for the purposes described.

19. In a heating or other stove, the combination of the ash-pit, the perforated plate o^1, uptake G^3, and damper o^4, all substantially as and for the purposes described.

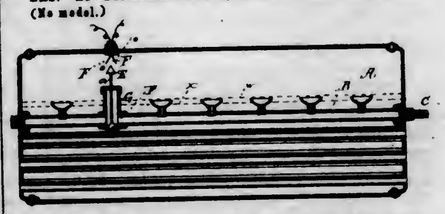
265,364. ELECTRICAL LOW-WATER DETECTOR. EDWARD H. AMCROFT, Lynn, Mass. Filed June 3, 1882. (No model.)



Claim.—1. A low-water indicator and alarm consisting of the vessel C, central pipe, D, float F, weighted platform G, rods *b* and *f*, the copper point A, and electric conductors, all operating together for the purpose set forth.

2. The combination, in a low-water indicator and alarm, of the vessel C, pipe D, float F, and pipe E with an electrical alarm mechanism, all arranged for joint operation in manner set forth.

265,365. ELECTRICAL ALARM FOR STEAM-BOILER CLEANERS. EDWARD H. AMCROFT, Lynn, Mass. Filed June 3, 1882. (No model.)

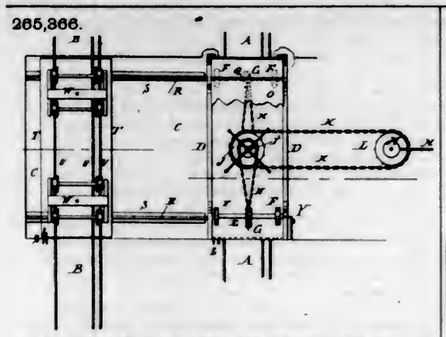


Claim.—The combination of the blow-off device with an electro-magnetic bell or alarm apparatus, the pipe B, the chamber G, and the float with its pointed stem, substantially as described.

265,366. APPARATUS FOR CHANGING CAR-TRUCKS. GEO. W. ATKINSON, Petersburg, Tenn. Filed Aug. 21, 1882. (No model.)

Claim.—1. An apparatus for changing railroad-car trucks, constructed substantially as herein shown and described, and consisting of a platform or frame raised and lowered by eccentrics and

265,366.

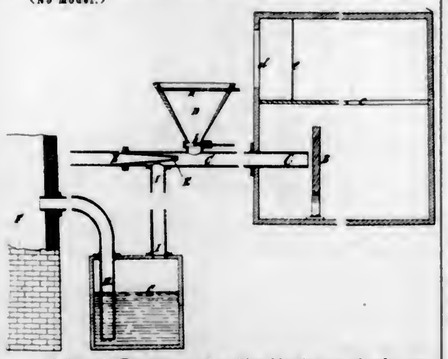


provided with rails corresponding with stationary rails placed at a lower level than the rails of the tracks and carrying a transfer-truck, as set forth

2. In an apparatus for changing railroad-car trucks, the combination, with the rails R, placed below the level of the main-line and siding tracks and at right angles therewith, of the transfer-truck T, the platform or frame O, the eccentrics F, and a driving mechanism, substantially as herein shown and described, whereby the trucks of cars can be readily and quickly changed, as set forth.

3. In an apparatus for changing railroad-car trucks, the combination, with the eccentrics F, carrying the platform or frame O, of the chain-wheels G I J L, the chains H K, and the capstan M N, substantially as herein shown and described, whereby the said eccentrics can be readily operated to raise and lower the said platform, as set forth.

265,367. MANUFACTURE OF BICARBONATE OF SODA. BENJAMIN T. BABBITT, New York, N. Y. Filed Feb. 15, 1882. (No model.)



Claim.—1. The process of making bicarbonate of soda, consisting in reducing soda-ash to powder, and at the same time scattering it by impelling it against a solid body or abutment, and subjecting it while so scattered to the action of carbonic-acid gas, substantially as herein described.

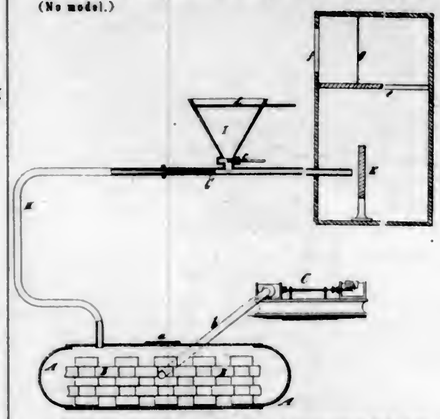
2. The process of making bicarbonate of soda, consisting in impelling soda-ash against a solid body or abutment by means of a blast composed of or comprising carbonic-acid gas, substantially as herein described.

3. The process of making bicarbonate of soda, consisting in impelling soda-ash against a solid body or abutment and inducing a current of carbonic-acid gas by means of a blast of superheated steam, substantially as herein described.

4. The combination, with a lower compartment containing an abutment against which soda-ash is to be impelled, of an upper compartment communicating therewith and provided with an outlet-opening for gas, protected by a screen, substantially as herein described.

5. The combination of a chamber containing an abutment, a conduit, and a hopper communicating with said conduit, a chimney or smoke-flue, a pipe or pipes connecting said conduit with said chimney, and an injector for impelling soda-ash through said conduit against said abutment and for inducing a current of carbonic-acid gas through said conduit, substantially as herein described.

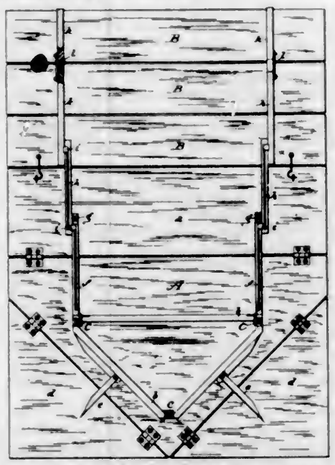
265,368. MANUFACTURE OF BICARBONATE OF SODA. BENJAMIN T. BABBITT, New York, N. Y. Filed Mar. 4, 1882. (No model.)



Claim.—1. The method of producing bicarbonate of soda, consisting in subjecting soda-ash to the action of carbonic-acid gas under a pressure in excess of atmospheric pressure, substantially as herein described.

2. The combination, with a closed receiver and a pump or other means for supplying carbonic-acid gas thereto under a pressure in excess of that of the atmosphere, of a closed chamber containing an abutment, an injector for impelling soda-ash into said chamber against said abutment, and a pipe for conducting surplus gas from said receiver to said injector, for operating the latter, substantially as and for the purpose herein described.

265,369. TABLE. HARLEY A. BARNHART, Hallsville, Ohio assignor to himself and Ferdinand D. Bochard, same place. Filed May 2, 1882. (No model.)



Claim.—1. The table A, provided with legs c, hinged corner-leaves *d d*, hinged side leaf, *a*, hinged rails *f f*, and swinging legs *g*, substantially as shown and described.

2. The combination of the slides *k k* with the hinged rails *f* and legs *g* of the table A, substantially as shown and described.

3. The combination of two tables, A, hinged rails *f*, slides *k k*, hooks *l l*, and removable leaves B, substantially as described, to form an extension-table convertible at will into two separate tables, as set forth.

265,370. GRAIN-VENTILATOR. ELI J. BARR, Lititz, Pa. Filed Aug. 14, 1882. (No model.)

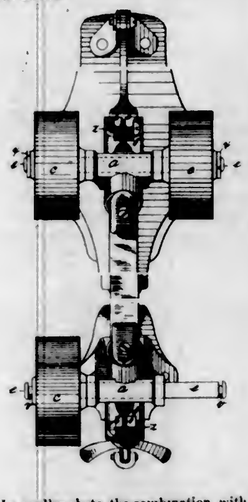
Claim.—The improved apparatus for cooling and ventilating grain, consisting of a foraminous and an imperforate tube connected at their lower ends by a conical point, and adapted to be inserted in a body of grain, substantially as specified

265,370.



265,371. ROLLER-SKATE. EVERETT H. BARNEY, Springfield, Mass. Filed July 25, 1882. (No model.)

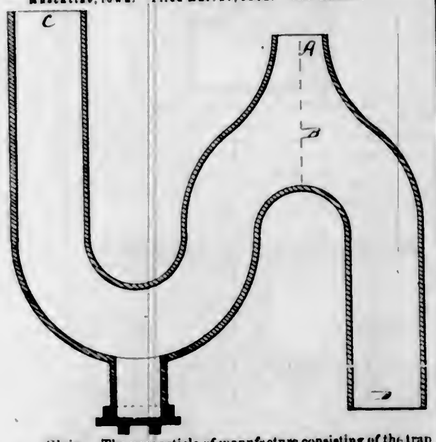
Brief.—This invention consists of an improved metallic frame and means for securing the wheel-trucks thereon, and of an improved axle for such skates.



Claim.—1. In a roller-skate, the combination, with the frame *a*, of the semi-divided truck *c*, and of a suitable clamp-screw, substantially as and for the purpose set forth.

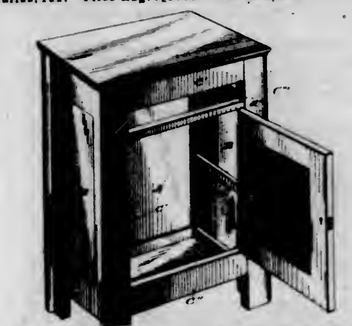
2. In a roller-skate, the hereinbefore-described roller-fastening, consisting of the axle *e*, provided with the grooves *r r*, and the split washers *x*, adapted to be secured in said grooves, substantially as set forth.

265,372. TRAP FOR WASTE-PIPES. NICHOLAS BARRY, Jr. Muscatine, Iowa. Filed Mar. 27, 1882. (No model.)



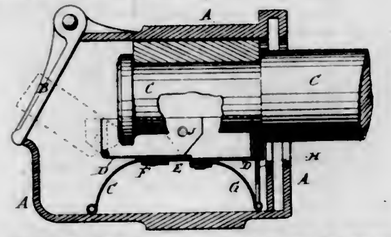
Claim.—The new article of manufacture consisting of the trap for waste-pipes, formed entire, and having a deep vertical chamber at B, a downwardly-flaring vent, A, an inflow-passage, C, an outflow-passage, D, and a screw-tapped collar, all constructed substantially in the manner and for the purposes described.

265,373. KITCHEN-CABINET. THEOPHILUS BILLINGTON, Dallas, Tex. Filed Aug. 7, 1882. (No model.)



Claim.—The knockdown cabinet or cupboard consisting of the grooved back piece, A, having dovetailed mortises *e*, front C C' C'' C''', provided with a removable hinged door, parallel grooves *n*, and dovetailed mortises *e*, tongued side pieces, B B, and removable cleats D, having wedge-shaped end pieces, *d*, the whole constructed and combined substantially as and for the purpose herein shown and described.

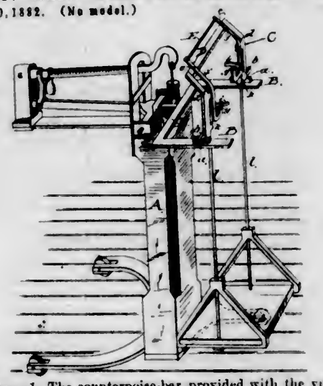
265,374. CAR-AXLE BOX. ISAAC P. BISSELL, Brooklyn, N. Y. Filed July 3, 1882. (No model.)



Claim.—1. A follower for applying lubricants to journals, made in two parts, hinged to each other at their adjacent edges, and provided with a fastening and separate springs, substantially as herein shown and described, whereby the said follower can be inserted in a journal-box while the journal is in place, as set forth.

2. In a follower for applying lubricants to journals, the combination, with the grooved end of the inner part of the follower D and the spring G, of a leather plate, H, substantially as herein shown and described, whereby the lubricant will be kept from being pressed out of the follower should it be softened by heat, as set forth.

265,375. SCALE. JOSEPH C. BOGGS, Harrisburg, Pa. Filed June 10, 1882. (No model.)

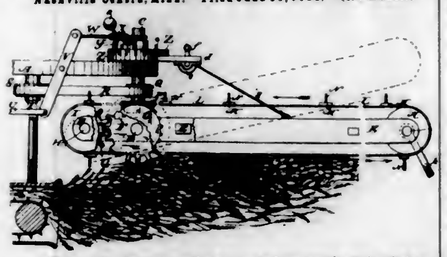


Claim.—1. The counterpoise-bar provided with the yoke B, having bearings *a a*, in combination with the vertical swinging

yoke C, having its upper portion bent out of the plane of the main body of said yoke and provided with knife-edge projections *b b*, and carrying a bag-holding device, substantially as and for the purpose set forth.

2. The counterpoise-bar and yoke C, in combination with depending fingers *f f*, pivoted to cross-bar D at *e e*, their upper ends connected by spiral spring E and bearing on their lower ends a clamp, 2 3 4, substantially as described.

265,376. AUTOMATIC STRAW-STACKER. SETH BOTTOMLEY, Nashville Centre, Minn. Filed June 13, 1882. (No model.)



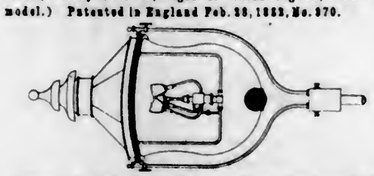
Claim.—1. An automatic straw-stacker constructed substantially as herein shown and described, and consisting of the hinged stacker-frame E, the pulleys I K, the toothed endless belts L, the journaled upright shaft C, the driving mechanism, the ratchet-wheel Z, the reversible double pawl X Y, and vibrating lever W, the adjustable trip-pins *c*, the windlass *e f*, and cords *g*, as set forth.

2. In an automatic straw-stacker, the combination, with the extended top B of a separator, the upright journaled shaft C, and the hinged frame E, pulleys I K, and toothed belts L N, of the ratchet-wheel Z, the double pawl X Y, and the vibrating lever W, substantially as herein shown and described, whereby the outer end of the stacker will be vibrated horizontally, as set forth.

3. In an automatic straw-stacker, the combination, with the ratchet-wheel Z and the reversible double pawl X Y, constructed with lip *b*, of the adjustable pins *c*, substantially as herein shown and described, whereby the double pawl will be reversed automatically and at fixed points to reverse the movement of the ratchet-wheel, as set forth.

4. In an automatic straw-stacker, the combination of the journaled upright shaft C, the hinged stacker-frame E, the pulleys I, the toothed belts L N, the gear-wheels G F O P, and the pulleys and belt Q S R, substantially as herein shown and described, whereby the vibrating stacker-belts can be driven from the driving mechanism of a separator, as set forth.

265,377. LANTERN FOR STREET-LAMPS. GEORGE BOAT, Leeds, County of York, England. Filed Aug. 28, 1882. (No model.) Patented in England Feb. 28, 1882, No. 970.



Claim.—1. The combination, with a lantern or exposed lamp having an opening in its bottom, of a ball having a diameter greater than the opening, said ball being free to rotate about its housing and seat itself in the opening by gravity, substantially as described.

2. The combination, with a lantern or exposed lamp having an opening in its bottom, of a ball composed of a shell of perforated metal or wire-gauze, having a diameter greater than the opening, said ball being free to rotate about its housing and seat itself in the opening by gravity, substantially as described.

265,378.



265,378. WATER-ELEVATOR CUP. EDWARD L. BROWNING, St. Louis, Mo. Filed Dec. 12, 1881. (No model.)

Claim.—1. The combination of body-blank A and side blanks, B B, the body-blank A having lips *a*, and adapted to form the half top, back, bottom, and front, and the side blanks, B B, each having lips *b*, and chain-flanges *b'*, the body-lips interlocking with the side lips and flanges, substantially as shown and described.

2. An elevator-bucket having a body, A, formed with lips *a*, and the sides B B, each formed with lips *b*, and chain-flanges *b'*, interlocked with the lips of the body, as set forth.

265,379. DRAFT-EQUALIZER. HIPPENSTEAD BRUNELL, Alleganey, N. Y. Filed July 6, 1882. (Model.)



Claim.—1. A draft-equalizer made substantially as herein shown and described, and consisting of two single-trees held to a double-tree by pins passing through two slots in each plate or clip, to which the single-trees are pivoted or held into the double-tree, as set forth.

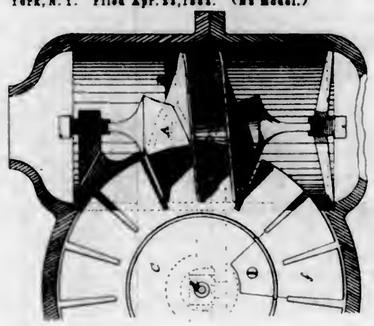
2. In a draft-equalizer, the combination, with the double-tree B and the single-trees A, of the plates or clips C, provided with two slots, D, each, to which plates or clips the single-trees are held, and of pins E, passing through the slots D into the double-tree, substantially as herein shown and described, and for the purpose set forth.

265,380. LARD AND BUTTER CUTTER. DEMPSEY T. BRYAN Rocky Mount, N. C. Filed July 24, 1882. (No model.)



Claim.—The combination of a graduated handle having a piston on its lower end with the two concentric cylinders which move independently of each other, the outer cylinder being provided with a wire across its lower end, substantially as described.

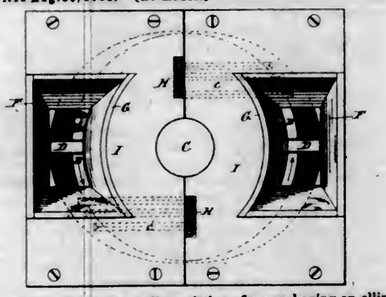
265,381. WATER-MOTOR, PUMP, &c. LEFFERT L. BUCK, New York, N. Y. Filed Apr. 21, 1882. (No model.)



Claim.—1. In a rotary pump, water-wheel, or meter, a disk or wheel, C, provided with radial straight-edged slits, in combination with a hub, A, provided with a screw-threaded concave surface, corresponding in curvature to the periphery of wheel C, and said screw-thread being of irregular pitch and slant to continually fit said radial slits in the wheel, while both revolve, as shown and described.

2. The combination of the concave-surfaced screw-threaded hub A with the radially-slitted wheel C, lying in the plane of the axis of the hub A, as shown and described.

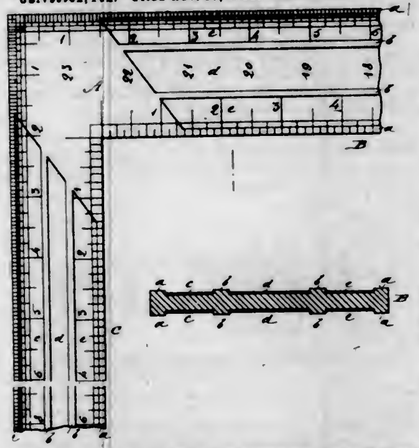
265,382. CIDER-MILL. ALLEN C. BURDER, Green Bank, W. Va. Filed Aug. 26, 1882. (No model.)



Claim.—1. A cider-mill consisting of a case having an elliptical chamber therein with inlet-openings for the apples and outlets for the juice and pomace, in combination with the revolving circular disk having radially-sliding pistons, with the pistons which are at right angles to each other coupled in pairs for the same movement, as described.

2. The cider-mill herein described, consisting of a case having an elliptical chamber with feed-openings F, discharge-openings H, and grooves *c* in the top and bottom plates, in combination with a circular disk having radially-sliding pistons coupled in pairs in planes at right angles, and provided also with leading-throats *b*, adapted to transfer the pomace from the ends of the crescent-shaped spaces to the grooves *c* and the outlet-openings, as described.

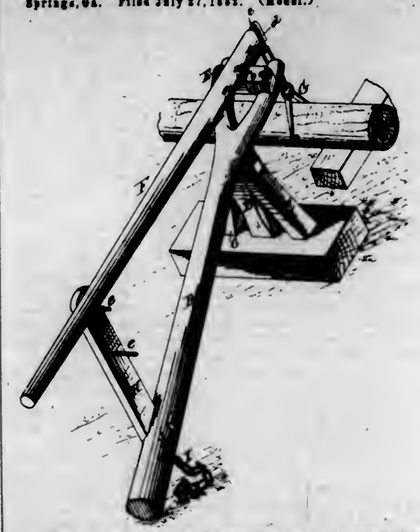
265,383. CARPENTER'S SQUARE. WILLIS H. CALLIHAN, Galveston, Tex. Filed Nov. 15, 1881. (No model.)



Claim.—1. A carpenter's square having its blades B C provided with the longitudinal parallel ribs *a a* along its edges, and the intermediate longitudinal parallel ribs, *b b*, substantially as herein shown and described, whereby the blades are strengthened and the spaces between ribs prevented from wear, as set forth.

2. The square constructed substantially as herein shown and described, made with the thickened angle A and the raised portions or ribs *a* and *b*, the sunken portions being plated, as and for the purposes set forth.

265,384. HOISTING-MACHINE. TYRE J. CHAFFIN, Crystal Springs, Ga. Filed July 27, 1882. (Model.)

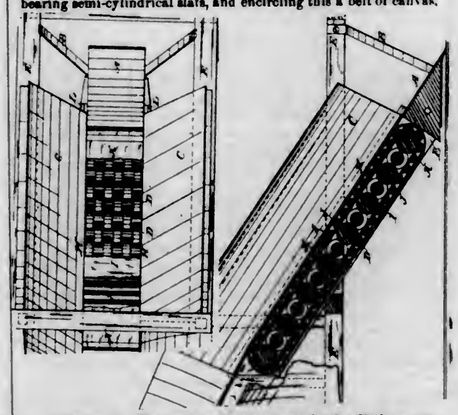


Claim.—1. In a device for handling logs or heavy timbers the lever F, provided with concavities *a* upon its under face and notch *c* upon its upper face, near its outer end, in combination with the grapples G and the upright H, fulcrum-bar E, and chain I, secured to the bifurcated beam D, substantially as and for the purpose set forth.

2. In a device for handling logs or heavy timbers, the bifurcated beam D, provided with the convex fulcrum-bar E, having shoulders *b*, upright H, and chain I, in combination with the sill A, standard B, braced by side pieces, C C, lever F, and grapples G, substantially as and for the purpose specified.

265,385. CARRIER-BELT FOR DITCHING-MACHINES. JAS. CLEMENT, Grand Forks, Dak. Filed May 10, 1882. (No model.)

Brief.—Intermeshing rollers carry a rubber or leather belt bearing semi-cylindrical slats, and encircling this a belt of canvas.

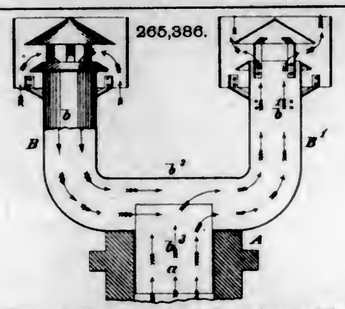


Claim.—1. The combination, in a carrier for ditching-machines, of the carrying-rollers D, leather or rubber belt I, slats J, and canvas cover K, substantially as described.

2. The combination, in a carrier for ditching-machines, of the intermeshing carrying-rollers D, leather or rubber belt I, slats J, and canvas cover K, substantially as and for the purpose set forth.

265,386. CHIMNEY. OTIS B. COLCORD, Greenville, Ill. Filed May 24, 1882. (No model.)

265,386.

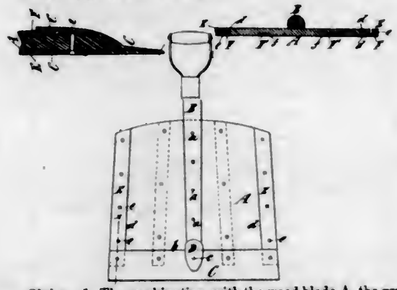


Claim.—1. The combination, with a chimney, of the outlet-flues B B', said outlet-flues being out of line with the main flue, and at their lower ends being closed to the outer air and bent or turned to cause any current descending through one of the outlet-flues to shoot across the main flue and ascend into the opposite outlet-flue, as and for the purpose described.

2. A chimney attachment consisting of the outlet-flues B B', said outlet-flues being out of line with the main flue, and at their lower ends being closed to the outer air and bent or turned to cause any current descending through one of the outlet-flues to shoot across the main flue and ascend into the opposite outlet-flue.

3. A chimney having two outlets, B B', said outlet-flues being out of line with the main flue, and at their lower ends being closed to the outer air and bent or turned to cause any current descending through one of the outlet-flues to shoot across the main flue and ascend into the opposite outlet-flue, as and for the purpose described.

265,387. SNOW-SHOVEL. HENRY C. COLE, Wallingford, Vt. Filed July 8, 1882. (No model.)



Claim.—1. The combination, with the wood blade A, the grain of which extends from side to side, and which is grooved or rabbeted on its bottom surface from end to end, of metal plates or strips inserted and secured in the grooves or rabbets, extending transversely to the grain of the wood, and having their outer surfaces flush with the bottom surface of the blade, substantially as specified.

2. The combination, with the blade A, having the rabbets *d* in its top and bottom surfaces and the grooves *f* in its bottom surface, of the pairs of plates or strips E F and the intermediate plates or strips, F', substantially as herein described.

3. The combination, with the wood blade A, having the grain extending from side to side, of the cutting-edge C, lapping over the top and bottom surfaces of the blade, the plates or strips E, rabbeted in the top surface of the blade transversely to the grain and abutting against the top portion of the cutting-edge, and the plates or strips F F', rabbeted and grooved into the bottom surface of the blade transversely to the grain, substantially as specified.

265,388. LOCOMOTIVE. EZRA COLEMAN, New York, N. Y. Filed Feb. 9, 1882. (No model.)



Claim.—In a locomotive, the boiler having an opening or recess, B, fitted with a U-shaped plate flanged and fastened upon the boiler, and itself fitted above the axle of the driving-wheels passed through it, with a wedge or block, B', having flanges *c'*, substantially as and for the purpose set forth.

265,389. PAINT. JACOB B. CORNELL, JACOB B. ZOOK, and BYRON N. CORNELL, Goshen, Ind. Filed July 20, 1882. (No specimens.)

Claim.—The paint consisting of the following ingredients, viz: asphaltum, gutta-percha, (or chip-rubber,) carbolic acid, oxide of iron, asbestus, slate-dust, (or marble-dust,) carbon bisulphide, japan, and coal-tar, compounded together substantially as specified.

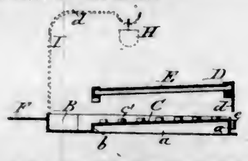
265,390. MEDICINE-SPOON. THOMAS CORBEY, St. Louis, Mo. Filed July 3, 1882. (No model.)



Claim.—1. As a new article of manufacture, a medicine-spoon consisting of handle C and bowls A and B, the latter having a flat portion, D, substantially as set forth.

2. In a medicine-spoon, the combination of bowl A, connecting-handle C, and bowl B, the bowls being graduated substantially as shown, and that of B having a flat bottom, D, as set forth.

265,391. GRIDIRON. GIDEON W. COTTINGHAM, Marianna, Ark. Filed Mar. 23, 1882. (No model.)

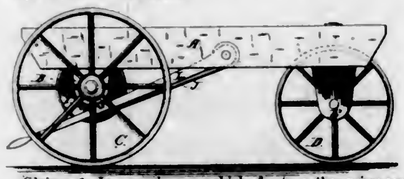


Claim.—1. In a device for broiling meat, the combination of the gridiron A, having gravy-receptacle B, raised plate C, having projecting openings *c*, and the rack D, having covering-bars E, substantially as shown and described.

2. In a device for broiling meat, the combination, with the gridiron A, having perforated raised plate C and handle F, of the rack D, having bars E and handle G, and the perforated cup H, depending from hook I, substantially as shown and described.

3. In a device for broiling meat, the combination, with the gridiron A, having gravy-receptacle B, walls *a a*, flange *b*, ears *c c*, handle F, and raised plate C, having perforations *c*, with rims *c'*, of the rack D, having curved bars E E, lugs *d d*, and handle G, substantially as shown and described.

265,392. TOY VEHICLE. GEORGE S. CROSBY, Bridgeport, Conn., assignor of one-half to James Watson, same place. Filed Sept. 11, 1882. (No model.)



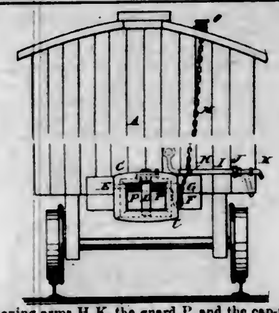
Claim.—1. In a carriage or vehicle for toys, the spring-case mounted upon the vertical side of the body A, in combination with the axle G, spring H, drum I, cord J, and forward drum and axle, N M, substantially as and for the purpose set forth.

2. In combination with the rear axle and drum, the spoke *a* on the hub K and the pivoted locking-lever L, provided with a slot, *b*, substantially as and for the purpose set forth.

265,393. CAR-COUPLING. THOMAS A. COLLIVAN and AUGUSTUS W. BALDWIN, Junction City, Kans. Filed Mar. 14, 1882. (No model.)

Claim.—1. A car-coupling constructed substantially as herein shown and described, and consisting of the draw-head C, the hinged coupling-pin D, the cross-pin E, having crank-arm F, the chain G,

265,393.

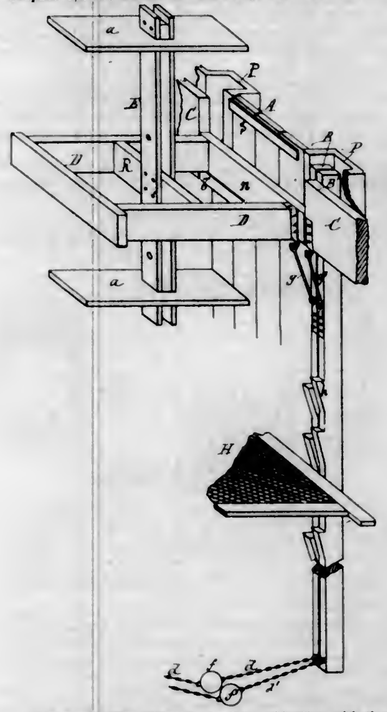


the rod I, having arms H K, the guard P, and the cap-plate B, as set forth.

2. In a car-coupling, the combination, with the draw-head C, the hinged coupling-pin D, and the hinging cross-pin E, having crank-arm F, of the chain G and rod I, having arms H K, substantially as herein shown and described, whereby the coupling-pin can be readily raised and can be locked in a raised position, as set forth.

3. In a car-coupling, the combination, with the draw-head C, the hinged coupling-pin D, and the hinging cross-pin E, of the guard P and its bolt Q, substantially as herein shown and described, whereby the said cross-pin will be protected from the entering link, as set forth.

265,394. APPARATUS FOR DRYING FRUIT. STEPHEN CULVER, Newark, N. Y., assignor of one-half to Harlan P. Van Duesen, same place; (Harlan P. Van Duesen, Administrator of said Stephen Culver, deceased.) Filed Sept. 20, 1880. (Model.)



Claim.—1. The lifting-frame, in combination with the bars B B suspended therefrom, and operating substantially as described.

2. The guiding-blocks C, from which the supporting-bars B' B' are suspended, in combination with the lifting-frame and its bars, arranged and operating substantially as described.

3. The supporting and the lifting bars suspended respectively from the blocks and from the lifting-frame, substantially as described, whereby they are adapted to alternately recede to permit the upward movement of the trays and the downward movement of the lifting-bars past said trays, substantially as set forth.

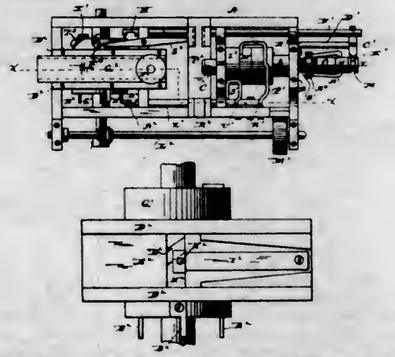
4. The drier-shaft provided with the grooved or recessed side walls, in combination with the supporting and lifting bars suspended and adapted to alternately recede within said grooves or recesses, substantially as described.

5. The links *g' g*, suspending respectively the supporting and the lifting bars, having the angular arrangement described, whereby the upper portions of the bars are held up to and caused to engage with the trays, substantially as and for the purpose set forth.

6. The combination, with the lower ends of the suspended supporting and lifting bars, of weights or equivalent means for holding said ends up to and causing them to engage with the trays, substantially as described.

7. The supporting and lifting bars made in sections, connected by hinges or their equivalents, substantially as described.

265,395. METAL-SCREW MACHINE. FRANCIS CURTIS, West Brattleborough, Vt. Filed Apr. 4, 1882. (Model.)



Claim.—1. In combination with the rotary mandrel, the longitudinally-movable chuck, and the spring-legs connected therewith, the longitudinally-movable tube and its spring-extensions and spring-clasp, the longitudinally-movable sleeve and the pawls operated thereby, the collar for confining the pawls and the mechanism for operating the same to feed the wire, substantially as specified.

2. In a machine for making screws, the combination of the reciprocating tool-bed having an oblique groove on its under side, an operating-lever, a tool-holder, the transversely-moving cutting-tool-carrying bed, and the operating-lever, and the cam-drum adapted to impart motion synchronously to the said tool-bed, substantially as specified.

3. In a machine for making screws, the combination of the rotary mandrel C, the longitudinal movable chuck E, fitting therein, and the feeding-tube G, having spring-extensions M N, the sleeve R, and pawls A', lever C', and reciprocating rod F', with the reciprocating bed G^2 and its tool-holder F^2, the transversely-movable cutting-tool-carrying bed P^2, and mechanism for operating the whole, consisting of a driving-shaft, L', a rotating cam-drum, G', and intermediate means, substantially as shown and described, for connecting the drum with and imparting its motion to the respective parts, all arranged to operate for the purpose and in the manner set forth.

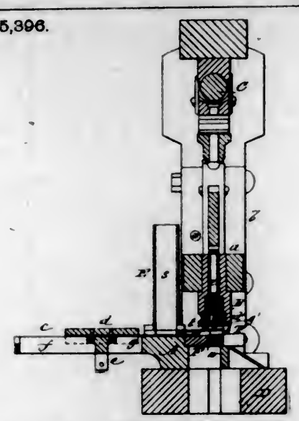
265,396. MACHINE FOR BENDING LOCK-PLATES. THOMAS DONAHUE and WILLIAM W. COBB, Terryville, Conn., assignors to the Eagle Lock Company, same place. Filed Apr. 12, 1882. (No model.)

Claim.—1. The die-bed F, formed with holes for the cutting-punches, and with its upper surface inclined, as and for the purposes set forth.

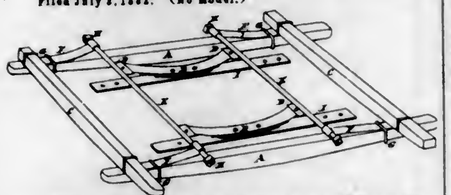
2. The combination of the punch-head B, formed with die *g'* and fitted with punches *d'*, with the reciprocating head *a* and bed-die F, substantially as shown and described.

3. The combination of the rod *s*, provided with T-head *p*, the actuating-disk *q*, provided with stud *r*, spring *o*, rock-shaft *k*, feed-slide *d*, and connections, substantially as described, for operation as set forth.

265,396.

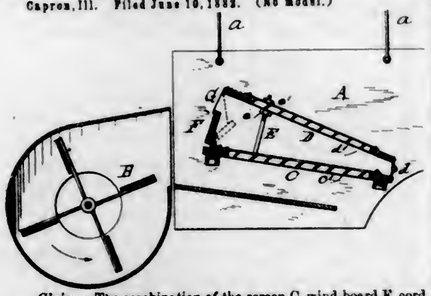


265,397. CARRIAGE-SPRING. JOSEPH KUDNER, Louisville, Ky., assignor of one-half to Stephen Severson, same place. Filed July 3, 1882. (No model.)



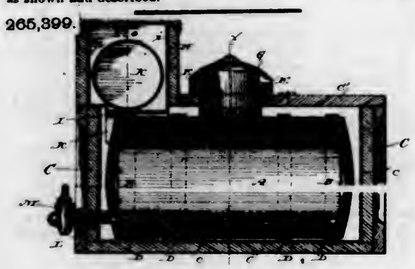
Claim.—The combination of the short springs F F and elliptic springs B B, connected by means of the cross-bars E E, to which the elliptic springs B B are rigidly secured by the lugs D D at the sides, thereby causing a regular elastic vertical motion to be given the body without straining the side bars, A, substantially as herein described, and for the purpose set forth.

265,398. GRAIN-SCREEN. ISAAC EDMOND and ALVIN H. FORD, Capron, Ill. Filed June 10, 1882. (No model.)



Claim.—The combination of the screen C, wind-board F, cord G, and rod E with the pivotally-connected screen D, substantially as shown and described.

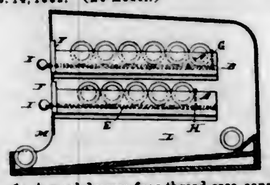
265,399.



265,399. MILK-CAN. GEORGE W. EVANS, Baltimore, Md. Filed July 18, 1882. (No model.)

Claim.—The combination of the box or casing C, containing the removable cylindrical milk-can A, having bulging heads B B and aperture *e*, provided with a flanged collar, E, and lid G, and the removable box H, having perforated bottom I, provided with parallel projections *k k*, and cylindrical cream-can K, all constructed and arranged substantially as and for the purpose herein shown and set forth.

265,400. THREAD-CASE. EUGENE L. PITCH, Des Moines, Iowa. Filed Feb. 14, 1882. (No model.)



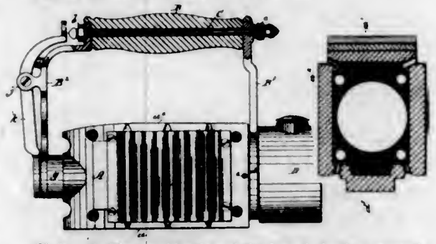
Claim.—1. A spool-drawer for a thread-case, constructed substantially as herein shown and described, with a longitudinal wire having a right-angle bend at the end and a right-angle projection to the wire and bend a distance from the end about equal to the diameter of one spool, as set forth.

2. In a thread-case, the combination, with the spool-drawer, of a wire on the bottom of the drawer, which wire is provided at the end with a right-angle bend and with a projection at right angles to the wire and to the bend a distance from the end of the wire about equal to the diameter of a spool, substantially as herein shown and described, and for the purpose set forth.

3. In a thread-case, the combination, with the spool-drawer A, of the wire E on the bottom of the drawer, the knob I on one end of the wire, the right-angle bend G at the opposite end of the wire, and the projection H at right angles to the wire and bend a distance about equal to the diameter of a spool from this end of the wire, substantially as herein shown and described, and for the purpose set forth.

4. In a thread-case, the combination, with the spool-drawer A, provided in its bottom with the groove D, and the recesses J and K at right angles to this groove, and of the wire E contained in this groove and provided with a right-angular bend, G, at one end and a projection, H, at right angles to the wire and bend a distance about equal to the diameter of a spool from this end, substantially as herein shown and described, and for the purpose set forth.

265,401. REVERSIBLE SAD-IRON. HENRY C. FOX, Evansville, Ind. Filed May 19, 1882. (No model.)



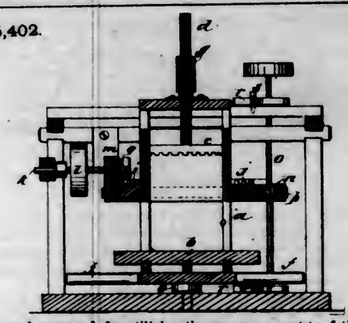
Claim.—1. The combination of the iron A, having recessed boss *g* in front, with locking-holes *n*, the handle-arm B', having projection *i*, the screw *h*, connecting the handle-arm to the body of the iron, and the locking-lever *k*, having its lower end covering the screw *h*, and provided with a locking-pin, *l*, passing through the handle-arm into the iron, as set forth.

2. The combination, with the iron A, of a rotary adjustable handle having arm B' connected to the iron by a grooved ring, *d*, and studs *e*, and having the arm B' connected by a screw, *h*, with a locking-lever, *k*, overlapping the head of said screw, substantially as shown and described.

265,402. COMBINED COTTON-PRESS AND GIN-POWER. EDWARD FRANKLIN, Thomasville, Ga., assignor to himself and William Reynolds, same place. Filed Aug. 21, 1882. (No model.)

Claim.—1. The combination, with a power-press of the character herein described, of a drum or wheel, *i*, attached to the press-case and arranged for utilizing the power apparatus of the press for driving other machinery, substantially as described.

265,402.



2. The drum or wheel *i*, fixed to the press-case *a*, combined with a pulley-shaft, *k*, having gear *m*, the shaft being journaled in a lever, *q*, for being lifted out of gear with wheel *i*, substantially as and for the purpose set forth.

3. The shaft *o*, journaled in levers *r*, pivoted in the frame, which is slotted to allow swing of the shaft for adjusting the tension of the drive-belt *p*, the levers being locked in position by stop-pins *s*, or equivalent device, substantially as shown and described.

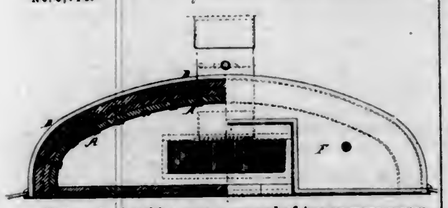
265,403. VESSEL-COVER. CHARLES GAYLORD, Chicago, Ill., assignor of one-half to S. P. Hodges, same place. Filed June 19, 1882. (No model.)



Claim.—1. The combination, with a vessel-cover having a pivoted bail and provided with slots or perforations, of a hinged supplemental lid adapted to close said slots and connected with the pivoted bail, whereby said bail and lid are simultaneously operated, substantially as described.

2. The combination, with a vessel-cover having a pivoted bail and provided with slots, of a spring-actuated supplemental lid adapted to close said slots and connected with the bail, substantially as described.

265,404. BAKE-OVEN. EUGÈNE GERSTE, Paris, France. Filed Apr. 3, 1882. (No model.) Patented in France Dec. 6, 1881, in Belgium Dec. 27, 1881, and in England Dec. 29, 1881, No. 5,714.

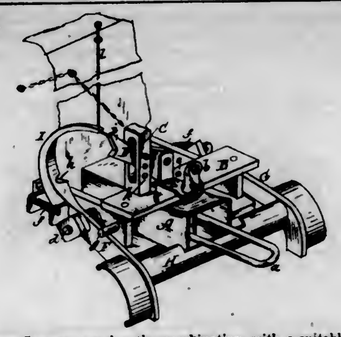


Claim.—1. A baking-oven composed of two or more separable arches or bays arranged side by side, each arch having its several component parts permanently secured together and forming a self-sustained section, substantially as set forth.

2. A baking-oven consisting of two or more separable arches, each having its component parts permanently secured together and each arch forming a self-sustained structure in itself, and upright pieces at opposite ends, one having a door and the other an outlet to the chimney.

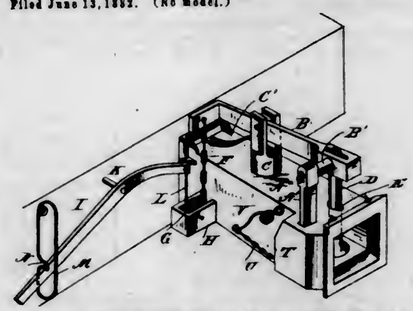
265,405. CAR-COUPLING. HENRY A. GIBSON, Otterville, Mo. Filed June 22, 1882. (No model.)

265,405.



Claim.—In a car-coupler, the combination, with a suitable frame, B, adapted to be connected to the draw-head, and having pivoted lever D, with finger *i*, and the pin-carrier E, of the arm F, cross-piece H, and trip-lever I, with slot A, substantially as and for the purpose set forth.

265,406. CAR-COUPLING. ELI H. GOODWIN, Antona, Kans. Filed June 13, 1882. (No model.)

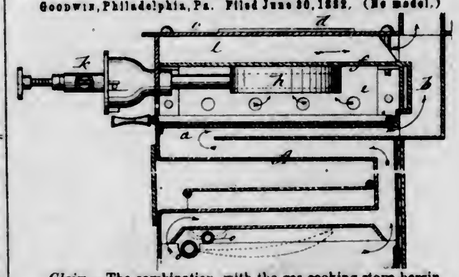


Claim.—1. The combination, with the draw-head, of the lever carrying the coupling-pin, the pulley to which said lever is connected by means of a chain, the elevating-lever connected to said pulley by means of a chain, and the bracket and its detent for holding the levers and the pin, substantially as specified.

2. In combination with the lever carrying the coupling-pin, the vertical rod attached to an extension thereon and extending into a box at the side of the draw-head, and the pawls and spring for holding and returning the same to a normal position, substantially as specified.

3. The combination of the lever carrying the coupling-pin, the pawls and spring for holding and returning the same to normal position, the vertical rod attached to the lever carrying the coupling-pin, and the spring-link adapted to engage the inner pawl, the whole arranged to operate substantially as specified.

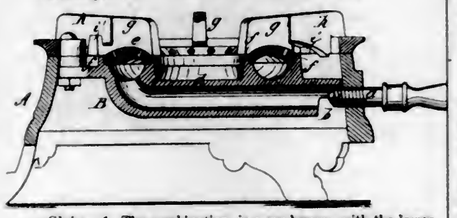
265,407. GAS COOKING STOVE OR RANGE. WILLIAM W. GOODWIN, Philadelphia, Pa. Filed June 30, 1882. (No model.)



Claim.—The combination, with the gas cooking-stove herein described, provided with the burners *c*, the flue *a*, the escape-pipe *b*, and the apertured top plate *e*, of the chamber *s*, forming two passages for the escape of the products of combustion in pipe *b*,

and provided with an apertured top plate *f*, having depending circular flanges *h*, upper burners, *i*, and auxiliary heating-chamber *l*, the whole constructed, arranged, and operated in the manner set forth.

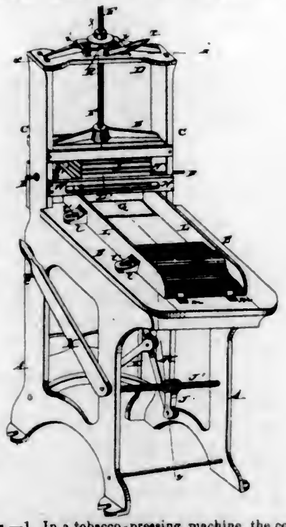
265,408. BURNER FOR GAS-STOVES. WILLIAM W. GOODWIN, Philadelphia, Pa. Filed July 15, 1882. (No model.)



Claim.—1. The combination, in a gas-burner, with the lower or fixed portion, *d*, of the cap *e*, fitted to rotate, and provided with the lugs *i* and projections *i'*, substantially as and for the purposes set forth.

2. The combination, with the stove-flanges *h*, of the burner-flanges *g*, having lugs *i* passing beneath the flanges *h*, and upward bends *i'* working against the sides of said flanges *h*, as and for the purpose described.

265,409. TOBACCO-PLUG MACHINE. JOHN C. GUERRANT, Danville, Va. Filed July 31, 1882. (No model.)



Claim.—1. In a tobacco-pressing machine, the combination of a follower, an adjustable and self-adjusting head, E, a tray or hopper, a slide, M, and a mold-box constructed and arranged to operate substantially in the manner and for the purpose described.

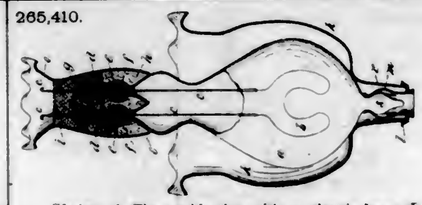
2. In a tobacco-pressing machine, the combination of a hopper or tray having adjustable sides, the slide M, the follower, means for moving the same, the head E, and a mold-box, all constructed and arranged to operate substantially in the manner and for the purposes described.

3. In a tobacco-pressing machine, the combination, with the head E, its rod F, and the cross-head D, of the plug *p*, the screw on the end of hand-lever T, the yoke R, and means for adjusting the latter, substantially in the manner and for the purposes described.

4. In a tobacco-pressing machine, the combination of the hopper or tray, the follower, the head E, and a mold-box having adjustable ends, the said hopper or tray having adjustable sides, all constructed and arranged to operate substantially in the manner and for the purposes described.

265,410. ELECTRIC INCANDESCENT LAMP. JOHN H. GUEST, Brooklyn, N. Y. Filed Dec. 6, 1881. (No model.)

265,410.



Claim.—1. The combination, with an electric-lamp globe formed with a pendent or projecting stem, of a detachable shade-globe adapted to encircle the same, and formed with a corresponding neck or socket, in which said stem is received, substantially as and for the purpose set forth.

2. The combination, with an electric-lamp globe formed with a pendent or projecting stem, of a detachable shade or globe adapted to surround the same, formed with a corresponding neck or socket, into which said stem fits, and a spring-clasp serving to detachably engage the stem with the socket by slipping the one into the other, substantially as herein shown and described.

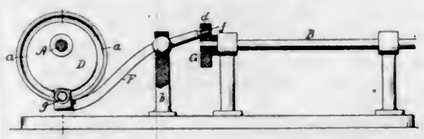
3. An electric-lamp globe provided with an elastic or expansible and contractible tenon or stem, in combination with a detachable shade-globe adapted to surround the lamp-globe, and formed with a neck or socket in which the said elastic tenon or stem may be sprung to detachably support the shade-globe upon the lamp-globe, substantially as herein shown and described.

4. An electric-lamp globe formed with the neck or necks *d d*, through which the conducting-wires issue, with swells or bulbs *f f* formed on said necks, and a charge of solidified metal or equivalent cement therein, substantially as and for the purpose set forth.

5. The combination, with an electric-lamp globe formed with tubular necks, through which the conductors issue, of a primary sealing of solidified metal in said tubes, and a secondary sealing of wax or equivalent cement applied to the external ends of said stems, substantially as herein shown and described.

6. The combination, with an electric-lamp globe having the apertures or necks through which the conductors issue sealed externally with a fusible cement, of a sheath surrounding said necks or apertures, and a filling of infusible cement within said sheath surrounding said necks and submerging the said fusible cement, substantially as herein shown and described.

265,411. MECHANICAL MOVEMENT. WILLIAM C. HARTMANS, Toughkenamon, assignor of one-half to Phineas William Lownes, Avondale, Pa. Filed Aug. 21, 1882. (No model.)

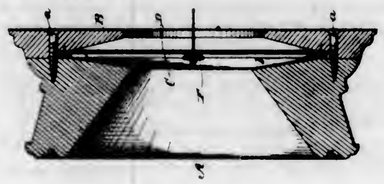


Claim.—1. The combination of the shaft A, having a combined cam and eccentric, D, the shaft B, having a wheel, G, and the universally-pivoted lever F, adapted to be acted upon by the device D and to actuate the wheel G, as set forth.

2. The combination of the shaft A, having an eccentric disk, D, set at an angle in respect to the shaft, as set forth, with the universally pivoted lever F, adapted to be acted upon by said disk, all substantially as specified.

3. The combination of the shaft A and its eccentric disk D, set at an angle in respect to the shaft, and having grooves *a*, the forked lever F, the set-screws *g*, blocks *h*, and balls *m*, as set forth.

265,412. MECHANICAL TELEPHONE. WILLIAM E. HATHAWAY and WILL B. JOHNSTON, Hornellsville, N. Y. Filed June 5, 1882. (No model.)



Claim.—1. In mechanical telephones, a diaphragm or vibrating plate formed of isinglass or mica, and having a netted fabric stretched behind and adapted to support said diaphragm, substantially as described.

2. In combination with the diaphragm C, a netted or textile fabric, D, stretched behind and in contact with said diaphragm, when the latter is attached to the box, substantially as described.

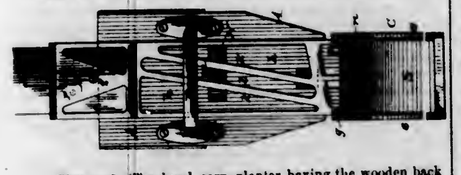
265,413. EGG-TESTER. CHARLES F. HECKER, Litchfield, Ill. Filed July 13, 1882. (Model.)



Claim.—1. The combination, with the box B, mirror *e*, and platform *f*, provided with openings *f'* for holding the eggs, and placed at the top of the box B, of the hood or reflector *d*, extended from side to side and over the top of the box B, and having its ends partially closed by aprons *d' d'*, and the lamp *e* below the reflector and midway between the ends thereof, and between the two series of openings *f' f'*, as set forth.

2. In an egg-tester, the combination, with the box B, provided with a lamp stand or support arranged midway between its ends and slightly below its top, and the lamp *e*, placed on the lamp-stand, of the egg-slides *f*, made in two parts, and provided with recesses *f' f'*, and sliding into place on top of the box and on opposite sides of and against the neck of the lamp-burner, as set forth.

265,414. HAND CORN AND BEAN PLANTER. ALBERT HOAG, Grand Isle, Vt. Filed July 8, 1882. (No model.)

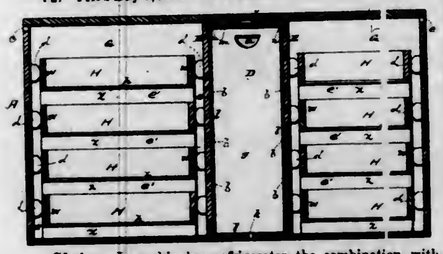


Claim.—1. The hand corn-planter having the wooden back board, A, iron plunger H, and shoe C, formed with the shoulder-bearings *a* for the lower ends of the branches of the back board, and the lateral guide-lugs *g*, engaging the plunger, substantially as specified.

2. In a hand corn-planter, the cored valve-seat P, forming the hopper-base, the openings in the plates thereof, the valve N, having the spring-fastened pivot *g'*, and the iron plunger-plate H, formed with the oblique guide-bars *k* of the slot *m*, which engages the arm of the valve, substantially as specified.

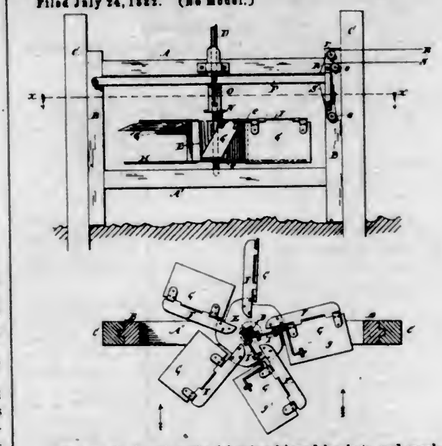
3. In a hand corn-planter having a valve-seat and vibratory valve, the detachable furring-plate P', having the opening r' placed over the valve to allow but one grain to pass at a time into the pocket of the valve, substantially as specified.

265,415. REFRIGERATOR-BOX. JOHN H. HOGWOOD, Norfolk, Va. Filed May 8, 1882. (No model.)



Claim.—In a shipping-refrigerator, the combination, with cold-air flues F, having openings *b* arranged in vertical series, and the fender-blocks *d* of the case-wall, arranged at different heights, of the slotted trays H, having under extensions, *z*, whereby horizontal communicating air-spaces are formed opposite the respective outlets *b*, substantially as specified.

265,416. WATER-WHEEL. HUBBY S. HOLDEN, Mason, Ga. Filed July 24, 1882. (No model.)



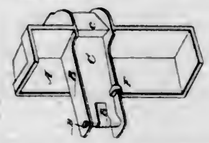
Claim.—1. A water-wheel having hinged buckets, and mechanism for throwing only a part of the buckets out of action, so that the wheel can stop by reason of the non-resistance of the hinged buckets swinging free on their hinges on the upstream side of the wheel, and the non-resistance of the buckets held out of action by said mechanism on the downstream side of the wheel, substantially as set forth.

2. In a water-wheel, the combination of a vertical shaft having horizontal arms carrying hinged buckets with mechanism for raising a part only of the buckets, as and for the purpose set forth.

3. In a water-wheel having a vertical shaft, hub, and horizontal arms with hinged buckets, the combination, with one or more of the hinged buckets, of a crank-lever having axis I, journaled to the hub, arm L, attached to the bucket, and arm K on the opposite side of the shaft from the bucket, in combination with a collar on the shaft, as and for the purpose set forth.

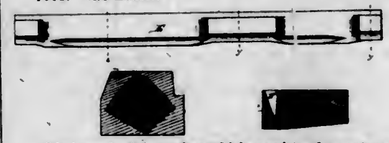
4. The combination of the end-pivoted lever P, ropes R S, pulleys *r s*, connecting-rod O, and sliding collar N with the crank-arms K, hinged buckets G, radial arms F, shaft D, and a suitable frame-work, as and for the purpose herein set forth.

265,417. LOCK-STRIKE. JAMES HOOVER, Gratis, Ohio. Filed Feb. 11, 1882. (No model.)



Claim.—The keeper A, having a transverse case, B, with the stop F, in combination with a rear pivoted spring-pressed catch, C *c*, arranged as shown and described.

265,418. HORSESHOE. WILLIAM G. HOWELL, Philadelphia, Pa., assignor to William Gerhard, same place. Filed Feb. 25, 1882. (No model.)

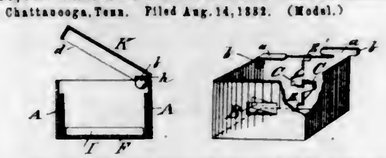


Claim.—1. A horseshoe which consists of a center of steel wholly inclosed in iron, to which it is welded, and provided with

a steel wearing-edge running through the calks of said shoe, substantially as shown.

2. A horseshoe which consists of a steel center of diamond shape, the edges corresponding with the sides of the shoe, said steel being wholly inclosed in iron, to which it is welded, and the creases for the nails being formed mainly through the iron, but also through one edge of the steel, substantially as shown and described.

265,419. MAKING BOXES AND BASKETS. JOHN HOWENSTINE, Chattanooga, Tenn. Filed Aug. 14, 1882. (Model.)



Claim.—1. A folding box made, substantially as herein shown and described, of a side blank provided with tongues and a bottom blank provided with apertures, into which the tongues of the side blank pass, the side blank being folded and the bottom blank passed within the folded side blank, as set forth.

2. In a folding box, the combination, with a side blank having tongues at the middle and ends, of a bottom blank having apertures in the vertical wings, into which apertures the tongues of the side blank pass, and of a swinging top which is held to the box by lugs on the upper edge of the side blank, substantially as herein shown and described, and for the purpose set forth.

3. In a folding box, the combination, with the side blank, A, provided with the hook-lugs C C at the ends and a tongue, B, at the middle, of a bottom blank, F, provided with vertical wings F' F², having the apertures G and H, respectively, through which apertures the hook-lugs C and the tongue B pass, the blanks being folded and the blank F passed within the blank A, substantially as herein shown and described, and for the purpose set forth.

4. In a folding box, the combination, with the blank A, having hook-lugs C C at the ends, having a tongue, B, at the middle, and also having short lugs E at the ends, one lug E being at the upper edge of one end and the other being at the lower edge of the other end of the bottom blank, F, provided with the wings F' and F², having apertures G and H, substantially as herein shown and described, and for the purpose set forth.

5. In a folding box, the combination, with the blank A, having the tongues C C and the recesses D at the ends and a tongue, B, at the middle, of the bottom blank, F, provided with the vertical wings F' and F², having the apertures G and H, respectively, substantially as herein shown and described, and for the purpose set forth.

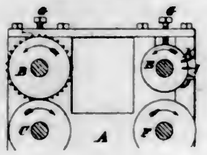
6. In a folding box, the combination, with the blank A, having the hook-lugs C C at the ends, the tongue B at the middle, and the lugs *a*, with the side wings, *b*, at the upper edges, of the bottom blank, F, provided with wings F' and F², having the apertures G and H, and of the top K, having a lug, *g*, with side wings, *h h*, substantially as herein shown and described, and for the purpose set forth.

265,420. POST-OFFICE-BOX LABEL. BRECKENRIDGE LAWIS, Decatur, Ill. Filed May 29, 1882. (No model.)



Claim.—As an improved article of manufacture, a blank for labeling post-office boxes on their inner ends, cut from gummed paper, with rounded ends and notches *a e*, and having a right-angle bend on a line with said notches, substantially as and for the purpose specified.

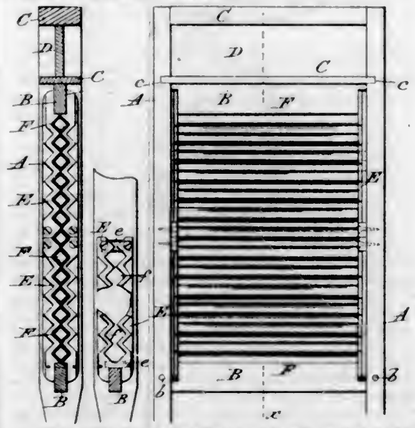
265,421.



265,421. MACHINE FOR MAKING BOTTLE-WRAPPERS. MARTIN V. KACHS, St. Louis, Mo. Filed Feb. 11, 1882. (No model.)

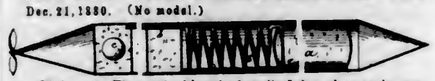
Claim.—In combination with rollers B C, having pins *b* and holes *c*, the rollers E F, the former having knives I J K L I', supported in frame A, and having a suitable driving-connection, substantially as and for the purpose set forth.

265,422. WASH-BOARD. MATTHEW W. KARR, Danville, Pa. Filed Dec. 27, 1881. (No model.)



Claim.—The herein-described wash-board, consisting of the recessed side pieces, A A, metallic bearings-plates E E, secured to the inner sides thereof, and provided with lugs *e* and slots *f*, the vertical cross-pieces B B, adapted to rest in slots formed in the ends of the metallic bearing-plates, the lower cross-piece having shouldered ends which enter recesses formed in the sides A A, where they are detachably secured by pins *b b*, the head-board D, and horizontal cross-pieces C C, dovetailed or mortised between the upper ends of the side pieces, and the removable tubes F, adapted to rest in the slots *f* in contact with each other, whereby a continuous corrugated surface is formed on both sides of the board, all the parts being detachably connected, as and for the purpose specified.

265,423. METHOD OF OPERATING GAS-ENGINES IN TORPEDO-BOATS. EDWARD W. KELLOGG, Hartford, Conn. Filed Dec. 21, 1880. (No model.)



Claim.—1. The method herein described for using gas in connection with a torpedo-boat, which consists in taking liquid from the reservoir and expanding it into gas in pipes exposed to the sea-water and then passing it to the engine, substantially as described.

2. The combination, with a torpedo-boat, engine, and liquid-reservoir, of coiled pipes arranged to come in contact with the sea-water, as described.

3. The combination of a torpedo-boat with an expansion-chamber, consisting of a series of pipes arranged on the outside of said boat and in contact with the sea-water, substantially as described.

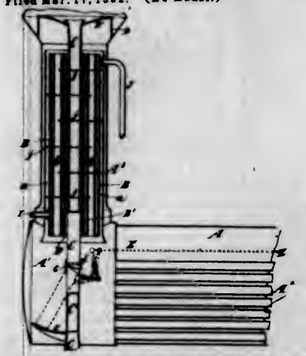
265,424. BOTTLE-STOPPER. SIDNEY B. KING, Buffalo, N. Y. Filed Feb. 4, 1882. (No model.)



Claim.—1. The combination, with the bail C, of the lever B, pivoted thereto and constructed of sheet metal bent to recede gradually from the fulcrum of the lever, and provided with a longitudinal slot, *i*, in its eccentric portion, and a stopper, A, provided with a vertical rivet, *j*, sliding in the slot *i* of the lever, substantially as set forth.

2. The combination, with the disk *m*, having one or more pointed and barbed studs, *n*, of a stopper-head, *l*, secured to the disk *m* by said stud or studs, substantially as set forth.

265,425. FEED-WATER HEATER. JOHN L. KRAUSER, Tylersburg, Pa. Filed Mar. 17, 1882. (No model.)



Claim.—1. The combination, with a locomotive-boiler and a feed-water heater arranged in the smoke-stack thereof, of a blast-pipe extending upward through or past said heater for preventing exhaust-steam from coming in contact with the heater, substantially as specified.

2. The combination, with a locomotive-boiler and a feed-water heater arranged in the smoke-stack thereof, of a blast-pipe extending through the smoke-box upward through or past the heater, and a valve in said pipe for admitting exhaust-steam to the smoke-box when it is desired to pass it through the heater, substantially as specified.

3. The combination, with the smoke-box A' and smoke-stack A³ of a locomotive-boiler, of the heater B and the pipe C, comprising the hinged section C', substantially as specified.

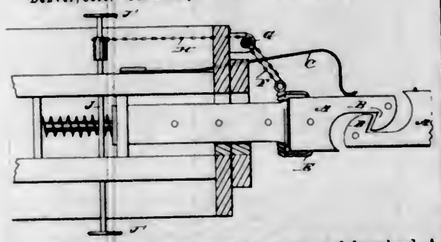
4. The combination, with the boiler, of a heater arranged in the smoke-stack, a blast-pipe extending through or past the heater and receiving a portion of the exhaust-steam, a steam-heater through which water may be passed before it enters the heater in the smoke-stack, and a branch pipe for conducting a portion of the exhaust-steam to said steam-heater, substantially as specified.

5. The combination, with the smoke-box A' and smoke-stack A³ of a locomotive-boiler, of the heater B, the pipe C, comprising the hinged section C', and the plate c, for closing the end of said section, substantially as specified.

6. The combination, with a locomotive-boiler, of a feed-water heater arranged in the smoke-stack thereof, a delivery-pipe for conducting heated water therefrom, and a pipe connecting the delivery-pipe with the tender-tank to provide for discharging the heated water into said tank, substantially as specified.

7. The combination, with a locomotive-boiler, of a heater and pipes for supplying exhaust-steam and cold water thereto, a second heater arranged in the smoke-stack, and a pipe for conducting water after passing through the steam-heater to the heater in the smoke-stack, substantially as specified.

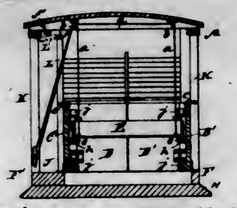
265,426. CAR-COUPLING. URIAH LONG and JOHN J. QUINN, Denver, Colo. Filed July 19, 1882. (No model.)



Claim.—The combination, with a rear pivoted draw-head, A B, of the pivoted bail E, the chain F, the vertical shaft G, having hand-wheel at the upper end, the chain H, and the horizontal shaft J, having hand-wheels J' J', whereby the draw-heads may be uncoupled, as described.

265,427. FREIGHT-CAR. ALEXANDER MORISON, Alpena, Mich., assignor of one-third to D. E. Thomas, same place. Filed June 2, 1882. (No model.)

265,427.



Claim.—1. The combination, with the false bottom of the car, adapted to be raised and lowered, as set forth, of the folding doors or sections D D', for dividing the car into compartments or stalls, as described.

2. In a freight-car, the combination, with the hinged sections B B' B'' and C C' C'', adapted to be raised and lowered, as set forth, of the folding hinged sections D D', substantially as described.

3. The combination, with the hinged false bottom composed of the sections B B' B'' and C C' C'', of the wide timber F² and its removable studs I, substantially as described.

265,428. FLOUR-BOLT. THEODORE H. NEANDER, Watago, Ill. Filed July 31, 1882. (No model.)



Claim.—1. A cylindrical flour-bolt formed of a bolt-cloth, a head to which said cloth is secured at one end, a ring at its other end, rods on which said ring is adjusted for the purpose of stretching the cloth lengthwise, an exterior ring at its mid-length, and means whereby the cloth may be stretched crosswise.

2. In a flour-bolt, in combination with a cylindrical bolt-cloth, a suitable head to which said cloth is attached at one end, rods exterior to said bolt-cloth and disposed parallel or about parallel with its axis, and a ring secured by suitable means to the other end of the bolt-cloth and adjustable lengthwise on said rods, for the purpose of stretching the cloth lengthwise, substantially as specified.

3. In a flour-bolt, in combination with a cylindrical bolt-cloth attached at one end to a suitable head, rods exterior to said bolt-cloth and disposed parallel or about parallel with its axis, and a ring adjustable lengthwise on said bolts, a ring surrounding the bolt-cloth at or near its mid-length, and means whereby it is adapted to stretch the bolt-cloth, substantially as and for the purpose specified.

4. In combination with a cylindrical flour-bolt cloth and with rods exterior thereto, a ring secured to said rods and provided with means for drawing the bolt-cloth thereto, substantially as and for the purpose set forth.

5. In combination with a cylindrical flour-bolt cloth, a ring exterior to said cloth, and means adapted to stretch the cloth crosswise of the bolt, substantially as and for the purpose specified.

6. In combination with a cylindrical flour-bolt cloth, the ring E, exterior thereto, a sectional ring, E', interior thereto, and means for adjusting it, substantially as and for the purpose specified.

7. In combination with the cylindrical bolt-cloth and central stretching-ring, the end ring, F, sectional rings F' F'', and their respective bolts, substantially as specified.

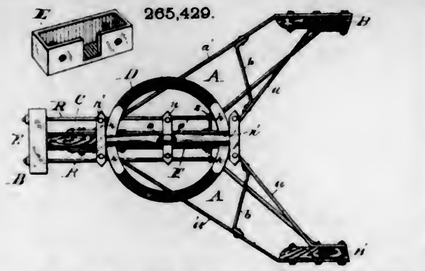
8. In combination with head B and cylindrical bolt-cloth secured thereto at one end, the rods G, rings E F, sectional rings E' F' F'', and bolts, substantially as and for the purpose specified.

9. In combination with a cylindrical bolt-cloth and ring E, the sectional ring E' and bolts for drawing the sectional ring toward the ring E, substantially as and for the purpose specified.

10. In combination with the head B, cylindrical bolt-cloth secured thereto, the rods G, ring F, sectional rings F' F'', and bolts securing them together, the nuts *h h'*, adapted to hold the ring F after adjustment on the rods G, substantially as and for the purpose specified.

265,429. FIFTH-WHEEL. HARVEY D. PALMER, La Porte, Ind., assignor of one-half to Edward L. Garwood, same place. Filed Feb. 28, 1882. (No model.)

265,429.



Claim.—1. In a platform-wagon or other vehicle, the combination of the fifth-wheel D, the piece *r*, provided with hook *r'*, bolt *d*, and bar *a'*, substantially as described and shown.

2. In a platform-wagon or other vehicle, the oscillating bearing *n*, hinged to the cross-bar F directly over the king-bolt *k* and between the lugs *o* and *o'*, whereby the fifth-wheel is prevented from sagging, substantially as described and shown.

3. In a platform-wagon or other vehicle, a fifth-wheel having a cross-bar with oscillating bearings journaled on its ends beyond the wings of the cross-bar, and an oscillating bearing directly over the king-bolt, substantially as described and shown, and for the purpose set forth.

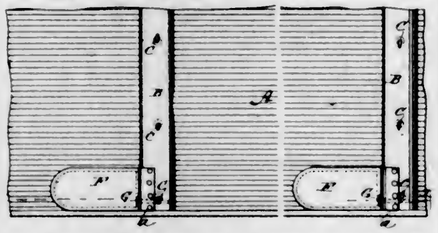
4. In a platform-wagon, the futchells A, composed of the bent pieces *a a'*, connected at *c*, and provided with brace *b*, and angle *e*, substantially as shown and described.

5. In a platform-wagon, the combination, with the head-blocks B B' B' and center piece, C, of futchells composed of the bars *a a'*, formed and connected substantially as shown and described.

6. In a platform-wagon, the combination, with the rear head-block, B, and center piece, C, of the cap E, having opening *f*, substantially as and for the purpose described.

7. In a platform-wagon, the combination of the head-blocks B B', center piece, C, having supports *s s*, the futchell-bars *a a'*, cap E, and truss-rods R R, all constructed and arranged substantially as and for the purpose described.

265,430. STRAW-CONVEYER BELT. ALTON J. PARK, Jr., Virginia, Mo. Filed Aug. 14, 1882. (No model.)



Claim.—1. The combination, with a straw-conveyer belt and the cross-slats on the same, of strips of leather or analogous material secured on the belt in advance of the slats at the ends of the same, and overlapping the slats, substantially as herein shown and described, and for the purpose set forth.

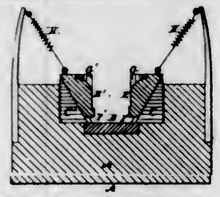
2. The combination, with the belt A and the cross-slats B, secured on the same, of the strips of leather or analogous material secured to the belt and overlapping the same at the ends, and of the rivets G, passed through the strips F and horizontally through the slats, substantially as herein shown and described, and for the purpose set forth.

265,431. DIE FOR FORMING CARRIAGE-SHAFT COUPLINGS. WILLIAM PEARCE, Plantsville, Conn., assignor to himself and Merritt N. Woodruff and Norman A. Barnes, both of Southington, Conn. Filed Apr. 13, 1882. (No model.)

Claim.—1. In dies for forming carriage-shaft couplings, the dies E E', having the inclined ways F F', by which they move upon the carriers in both a horizontal and vertical direction, substantially as described.

2. The dies E E' and the die-carriers C C', between which are the inclined guides F F', in combination with the base-block A and the bed-plate B, substantially as described.

265,431.

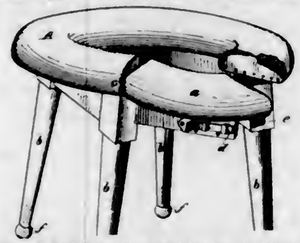


3. The latch J, in combination with the die E, the block A, and the spring H, substantially as described.

4. The combination of the vertically-moving die M, the diagonally-moving dies E E', the die-carriers C C', and the bed-plate B, whereby the clip is pressed in three directions at the same time, substantially as described.

265,432. WALKING-STOOL FOR CHILDREN. GUSTAV PETERSON, Galveston, Tex. Filed June 13, 1882. (No model.)

Brief.—A walking-stool for children, consisting of a ring supported on a frame with legs, and having a hinged section between a pair of said legs, constructed so as to swing outward.



Claim.—A child's walking-stool having the hinged section *a* arranged in its ring-shaped top between two of the legs, and resting at each end upon one of said legs, as shown and described.

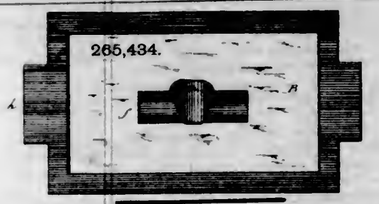
265,433. GAS-BURNER. JOHN W. PLUNKETT, Dunstall Priory, County of Kent, England. Filed May 12, 1882. (No model.) Patented in England Feb. 10, 1882, No. 643.

Claim.—The combination of the cross-bar M, frame A, and lever E, having inclined portion F, with the cock H, having the arm G and weight H', substantially as shown and described.

265,434. DIE OR MOLD FOR FORMING ELASTIC CORN AND BUNION PADS. FRANCIS G. POWERS, Champaign, Ill. Filed June 10, 1882. (No model.)

Claim.—The metal core D, having the circular rounded lateral projection formed solid therewith, in combination with the metal dies B C, having a central cavity adapted to receive such projection, but fitting closely to the end portions of the core, as shown and described.

265,434.

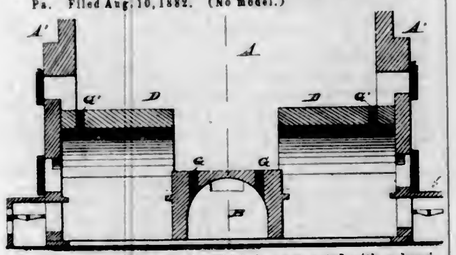


265,435. REVOLVING STOOL. JAMES O. PULLING, Columbus, Ohio. Filed Apr. 15, 1882. (No model.)



Claim.—In a revolving stool, the combination, substantially as hereinbefore described, of the metal pedestal constructed with the pivotal bearing *e*, flange *f*, cut away at *h*, and keyway, and the metal seat-frame formed with the socket and provided with the fixed key or pin *n*, for the purposes set forth.

265,436. BRICK-KILN. STEPHEN D. RADER, Siegfried Bridge Pa. Filed Aug. 10, 1882. (No model.)



Claim.—1. A brick-kiln which is constructed with a longitudinal fire-arch, in combination with transverse arches and offsets arranged outside of the furnace-walls, substantially in the manner and for the purposes described.

2. The combination of the longitudinal and transverse arches, the latter being arranged in banks above the plane of the longitudinal arch and provided with outside furnaces, substantially in the manner and for the purposes described.

3. In a brick-kiln, the combination of the end walls inclined inwardly internally, the side walls having vertical sides internally, the longitudinal centrally-arranged fire-arch, the external fire-chambers at the ends of the fire-walls, the transverse arches, and the external chambers arranged outside of the transverse arches, all combined and adapted to operate substantially in the manner and for the purpose described.

4. In combination with a brick-kiln, the end walls inclined inwardly, the two high banks of transverse arches, and the lower longitudinal bank of arches arranged with respect to the furnace-chambers outside of the main furnace-walls of the kiln, all constructed and arranged substantially in the manner and for the purposes described.

265,437. THILL-COUPLING. SAMUEL A. RICHARDS and GEORGE J. FREY, Nova, Ohio, assignors to said George J. Frey. Filed Aug. 1, 1882. (No model.)

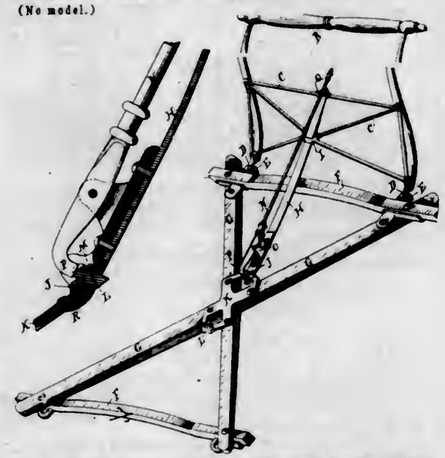


Claim.—1. The combination of the clip having the single lug C with perforation D, thill-iron G, having eye H, cross-bolt I, having large cylindrical portion J, shoulder K, small cylindrical portion L, and projecting pin M, and the spring P, having imperforate outturned end Q, and longer end, R, outturned and grooved longitudinally, said groove terminating in a perforation, T, as set forth.

2. The combination, with the clip A, thill-iron G, and cross-bolt I, one end being smooth and the other having a projecting pin, M, of the holding-spring P, having a straight imperforate portion terminating in an outturned end, Q, and a longer opposite end, R, having an outturned point and longitudinal inner groove, S, terminating in a perforation, T, whereby the spring is secured at only one side, as set forth.

3. In a thill-coupling, the combination, with clip A, having perforation D, in which is placed cylindrical washer E, arranged to form an annular shoulder, F, in said perforation, of the thill-iron G and intermediate washer, N, provided with an annular lateral flange, O, around its central perforation, said flange O entering opening D and abutting against shoulder F, as set forth.

265,438. REVERSIBLE HANDLE FOR CHILDREN'S CARRIAGES. HENRY M. RICHARDSON, Boston, Mass., assignor of one-half to George McKee, same place. Filed May 13, 1882. (No model.)



Claim.—1. In combination with a detachable handle provided with suitable means to secure it removably to the axle and perch frame-work of a carriage, a spring locking-bar provided with a hook or latch at its outer extremity, and with an unlocking-lever pivoted thereto, and a latch seat or catch for the hook or latch affixed to said axle and perch frame-work.

2. In combination, a hook-shaped latch slotted in the direction of its length and affixed to or formed upon the forward extremity of a spring locking-bar, which bar is connected with a detachable handle, and an unlocking-lever pivoted to said spring locking-bar, and provided with a toe adapted to register in line with and upon the vibration of the lever about its pivot enter the slot in the locking-bar.

3. In combination with a detachable handle adapted to be hooked or otherwise secured to either end of an axle and perch frame-work, a spring locking-bar provided with a hook-shaped latch at its outer end and with a lever pivoted to said locking-bar.

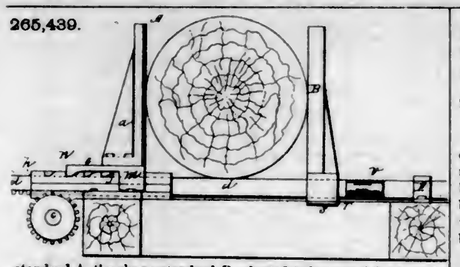
4. In combination, a detachable handle, a perch or axle frame-work provided with a latch seat or catch, a spring locking-bar attached to said handle and provided with a hook or latch at its outer extremity, and an unlocking-lever pivoted to said locking-bar, all so combined that power applied to one end of said unlocking-lever will cause the other end of said lever to strike against the perch or axle frame-work, or an attachment thereof, and thereby detach the hook or catch of the locking-bar from its seat on the frame-work.

265,439. LOG-HOLDER FOR SAW-MILLS. CHARLES E. RING, South Saginaw, Mich. Filed July 1, 1882. (No model.)

Claim.—1. A clamping device for fastening logs on saw-carriages, consisting of two adjustable clamp-standards, one of which can be turned down, a connecting rack bar or shaft, and a pinion engaging said rack-bar, substantially as specified.

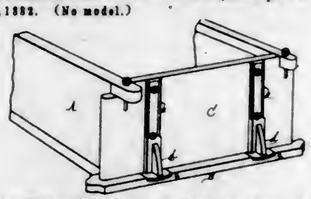
2. In a clamping device for fastening logs on saw-carriages, the combination, with a connecting bar or shaft, *d*, of the clamp-

265,439.



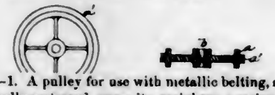
standard A, the clamp-standard B, adapted to be turned down, and devices for approximating said clamp-standards, substantially as specified.

265,440. END-GATE. MAXIM J. RIVARD, Detroit, Mich., assignor to himself and Calvin K. Brandon, same place. Filed May 17, 1882. (No model.)



Claim.—The combination, with the wagon-body A, of the apertured plates *a*, the end-gate C, the irons *b*, having hooks or lugs *c*, and shoulders *d* in the rear of the hooks or lugs, substantially as described.

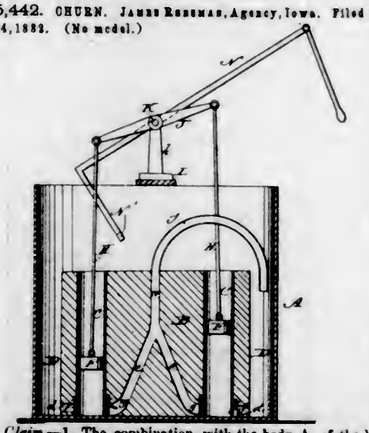
265,441. MANUFACTURE OF PULLEYS. JACOB RABER, Pittsburg, Pa. Filed Jan. 9, 1882. (No model.)



Claim.—1. A pulley for use with metallic belting, said pulley having centrally arranged upon its periphery a series of projections of uniform size and uniformly interspaced, substantially as and for the purpose specified.

2. The method herein described for forming pulleys for metallic belting, which consists, first, in casting the pulley with a continuous central rib on its periphery or face; secondly, truing and facing the central rib, and, finally, slotting or milling the rib to remove uniform portions of the rib at regular intervals, substantially as and for the purpose specified.

265,442. CHURN. JAMES RENEMAN, Agency, Iowa. Filed Feb. 14, 1882. (No model.)

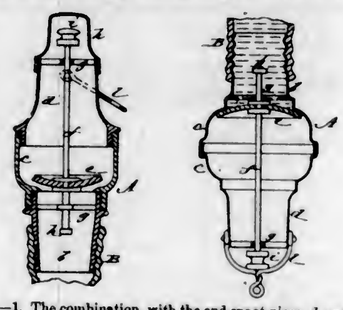


Claim.—1. The combination, with the body A, of the block B, having wells C connecting with space D, the central passage, *a*, the branch-valved passages *c*, and the valved openings *d*, the heads F, the rods H, the beam J, and the rock-shaft K, as and for the purpose specified.

2. The combination, with the churn and rocking shaft, of the lever N, having beater N', reaching into the churn, whereby said lever will rock said shaft, promote the circulation of the cream, and gather the butter, as shown and described.

265,443. AUTOMATIC SIPHON. ROBERT REIMAR, Egg Harbor City, N. J. Filed Jan. 10, 1882. (No model.)

Brief.—The invention is designed to prevent the danger of choking the operator by sudden flow of the liquid at the commencement of the siphon action. The mouth-piece *k* is detachably connected to the section *d*. The flow of the liquid is stopped by depressing the button *i*, so as to close the valve *e*, when said valve may be locked to its seat, after detaching the cap *k*, by the bale *l*



Claim.—1. The combination, with the end spout-piece, *d*, and the valve-rod *f*, provided with the knob *i*, of the removable apertured cap *k*, substantially as and for the purpose set forth.

2. The combination of the stirrup or catch *l* with the rod *f* of the valve *e* in the siphon starting and stopping device A, for the purpose of holding said valve closed when it is required to arrest the flow of the liquid through the siphon, essentially as herein set forth.

3. The combination of the removable mouth-piece *k* and the spout-piece *d* with the siphon starting and stopping device A, having a valve, *e*, arranged for operation substantially as specified.

4. As a new article of manufacture, a starting and stopping device for hose-siphons, composed of a body, *c*, having an end piece, *b*, for attachment of the hose, and an opposite end spout-piece, *d*, a valve, *e*, provided with a rod or stem, *f*, which projects within or through the spout, a removable mouth-piece, *k*, and a stirrup or catch, *l*, for holding the valve closed, substantially as shown and described.

265,444. PRODUCTION OF RELIEF STIPPLE PAPER. CHAS. ROSS, Burlington, N. J. Filed June 20, 1882. (Specimens.)

Claim.—1. The mode herein described of producing a matrix for molding a drawing-surface having stipple in relief, said mode consisting in first preparing a uniform stippled impression, then transferring it to stone prepared not to take the transfer, then counter-etching the stone and inking it, then washing off the ink and etching the stone to the desired depth, all substantially as described.

2. The mode herein described of producing a relief stipple surface, said mode consisting in first transferring a hand stipple impression to a stone prepared not to take the transfer; secondly, etching the stone to produce the natural surface on the parts unprotected by the impression; thirdly, inking the stone; fourthly, washing off the ink; fifthly, etching the stone to the desired depth, and, sixthly, molding paper or similar material in the matrix thus formed.

265,445. WRENCH. PETER ROTHMUND, Eureka, Cal. Filed Apr. 24, 1882. (No model.)

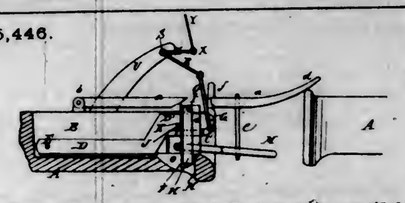


Claim.—In a wrench, the combination, with the bar A, having a stationary jaw, and provided on one edge with the teeth C, extending entirely across said edge, of the sliding jaw having the pivoted clutch D, provided with teeth arranged to enter endwise between the teeth of the bar when the clutch is closed, substantially as and for the purpose set forth.

265,446. CAR-COUPLING. FREDERICK H. RUDD, Hebron, Nebr. Filed Mar. 30, 1882. (No model.)

Claim.—1. The combination of pin-arm D D', latch F, and pin H with the draw-bar A and link M, substantially as specified.

265,446.



pin H with the draw-bar A and link M, substantially as specified.

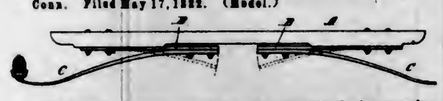
2. The combination of pin-arm D D', latch F, pin H, and stops J and K with the draw-bar and link M, substantially as specified.

3. The pin H, pivoted to latch F, and said latch pivoted to the pin-arm D, and the pin-arm pivoted in the slot B of the draw-bar A behind the link-socket C, substantially as specified.

4. The combination of cranked rod S and arm R with the pin-arm D D', having latch F and pin H pivoted to it, substantially as specified.

5. In a draw-bar, A, having the pin H pivoted to a latch, F, and the latch pivoted to the pin-arm D D', the slot O and shoulder N in the draw-bar below the link-socket C, substantially as specified.

265,447. VEHICLE-SPRING. ORRIN W. SALADEE, Torrington, Conn. Filed May 17, 1882. (Model.)

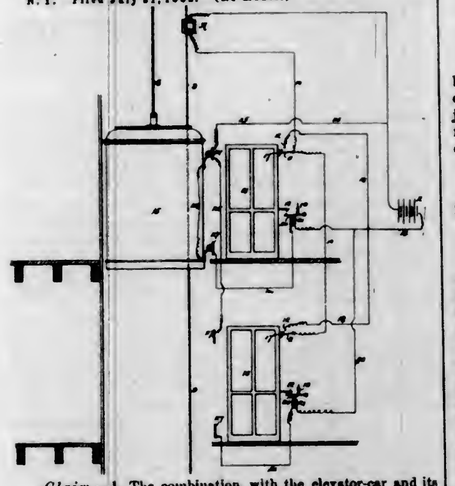


Claim.—1. A spring consisting of a straight flexion member and a bent arm, the outer ends of which are attached respectively to the bottom of the platform, at the sides or ends thereof, and to the side bar or frame on the same side or end, the inner ends being rigidly connected and extended toward the center of the platform, whereby said inner ends may act free of the platform or other parts, substantially as and for the purpose set forth.

2. The combination of the lower member, C, and upper member, B, made of wider steel than the lower member, C, substantially as and for the purpose set forth.

3. The combination of the platform, frame, and springs, consisting of members B C, the inner free ends of the springs being extended beyond the center of the body, substantially as shown and described.

265,448. SAFETY ATTACHMENT FOR ELEVATORS. WILLIAM E. SAWYER, New York, assignor to Horace G. H. Tarr, Yonkers, N. Y. Filed July 21, 1882. (No model.)



Claim.—1. The combination, with the elevator-car and its door and starting-rope, of the clutch, as A, and electrical connections through which the opening and closing of the door operates the clutch to grasp and release the rope, substantially as described.

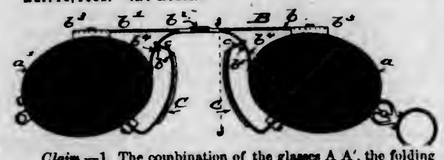
2. The combination, with the elevator-car and its door and starting-rope, of the clutch, as A, electrical connections through which the opening and closing of the door operates the clutch to grasp and release the rope, and the switch, as 14, whereby the clutch can be made inoperative when desired, substantially as described.

3. The combination, with the elevator-car and the doors at the several landings, of locking mechanisms, as 18, for said doors, and electrical connections whereby the car, upon arriving at and departing from a landing, operates said locking mechanism to release and to lock the door, substantially as described.

4. The combination, with the elevator-car and the doors at the several landings, of locking mechanisms, as 18, for said doors, and electrical connections whereby all of the doors are locked when the car is in motion and only one released when the car comes to rest at a landing, substantially as described.

5. The combination, with the elevator-car, its starting-rope, and the doors at the various landings, of a clutch, as A, and locking mechanisms, as 18, for the doors, and electrical connections operated by the car to unlock and lock the door, and by the door to clutch and release the starting-rope, substantially as described.

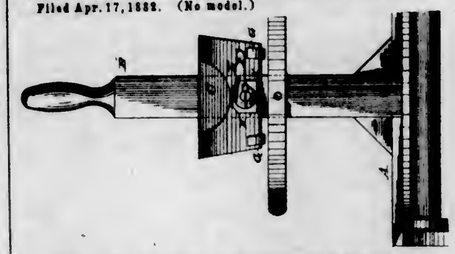
265,449. EYEGLASSES. JOHN SCHAFFER, St. Louis, Mo. Filed Mar. 16, 1882. (No model.)



Claim.—1. The combination of the glasses A A', the folding rigid bar B, the braces b^4 b^4, and the spring C C, having the parts C' C', substantially as described.

2. The combination of the glasses A A', the folding rigid bar B, the braces b^4 b^4, and the springs C C, substantially as described.

265,450. BAG-HOLDER. HENRY D. SHRIVER, Baltimore, Md. Filed Apr. 17, 1882. (No model.)



Claim.—In a bag-holder, the combination, with the hopper or bag-holding frame having the corner-hooks G at the lower front edge and back of the hopper, of the thin angle-bearing H, projecting in flange form at *k*, and the cam-lever L, pivoted to the front of the hopper between the front hooks, G, and operating in connection with said angle-bearing, substantially as specified.

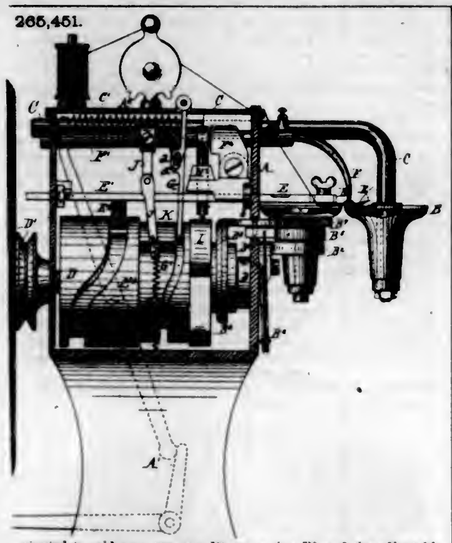
265,451. GLOVE-SEWING MACHINE. JOHN SIMON, New York, N. Y., assignor to Hermann E. Baumeister. Filed July 29, 1882. (No model.)

Claim.—1. The combination of the rotary feed-disks, the reciprocatory needle, the looper having a longitudinal, a vertical, and a lateral movement, a driving-shaft parallel to the needle, a series of parallel cams on said shaft, and mechanism connecting said cams with the feed-disk, needle, and looper, respectively, substantially as described.

2. The combination of the needle, the looper, the rotary feed-disks, and the mechanism for actuating said disks, consisting of a toothed disk attached to the inner feed-disk, a loose ring on a boss of the disk, provided with a projecting arm, an angular lever pivoted to said arm, the outer end of said lever being adapted to engage the toothed disk, a cam for operating the lever, and a spring which bears against the projecting arm and returns the parts to their normal position after they are acted upon by the cam, substantially as specified.

3. The combination, with the rotary feed-disks, of the toothed disk B', the ring B', provided with arm B^4, the angular lever B^5,

265,451.

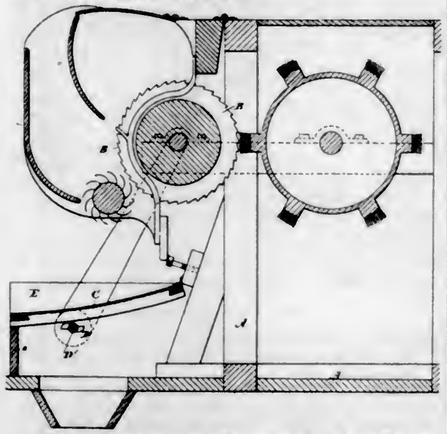


pivoted to said arm, the cam B', the spring B⁵, and the adjustable stop S, substantially as described.

4. The combination, with the looper-rod and looper, of an articulated lever, J, spring L, and cam K, whereby the looper-rod is made to oscillate axially and permitted to reciprocate longitudinally, substantially as specified.

5. The combination, with the looper-rod and looper, of the lever G, cam G', sleeve H, socket H', recessed cam I, articulated lever J, cam K, and driving-shaft D, substantially as set forth.

265,452. COTTON-GIN. WILLIAM A. SMITH, Memphis, Tenn. Filed Jan. 30, 1882. (No model.)



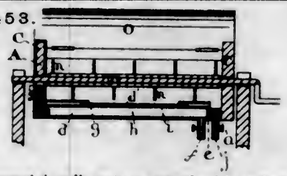
Claim.—In combination with a cotton-gin, a screen for separating cotton-seed from the hulls and trash, placed, substantially as described, to receive the same directly from the gin, and suitable mechanism for imparting a jumping or tipping motion to the said screen, for the purpose and in the manner hereinbefore set forth.

265,453. FEATHER-RENOVATOR. ALEXANDER SPEIRS, Windham, Me. Filed Apr. 22, 1882. (No model.)

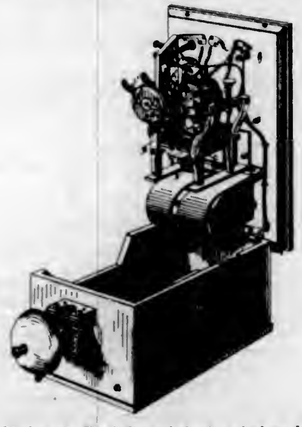
Brief.—Steam is admitted to the spaces *b* and *c* through port *k* and passes out through port *l*. Steam is admitted to the channel *d* through port *f* and passes to interior of cylinder through perforated cover *d'*, and thence out through port *j*.

Claim.—In a feather-renovating machine, the combination of the cylinder A, jacket B, end pieces, C, steam-passage *a*, spaces *b* and c, channel *d*, walls *e*, steam-ports *f* and *k*, perforated cover *d'*, made in sections *g h i*, cock *j*, cock *l*, agitator *m*, and cover O, as herein set forth, to operate as described.

265,453.



265,454. TELEPHONE LOCAL CALL-INSTRUMENT. JAMES P. STABLER, Sandy Spring, Md. Filed May 4, 1882. (No model.)



Claim.—1. The index-switch of a telephone local call, with its operative motor-magnets, vibrating polarized armature, push-and-pull pawls, and ratchet-wheel, combined with an escapement actuated by said armature, whereby the ratchet is arrested prior to the engagement of the index with and disengagement from the station-shunt, for the purpose set forth.

2. The index-switch K, with its motor-magnets, and the vibrating armature A and push-and-pull pawls D E, combined with the index-ratchet G, provided with the pin *i*, and the escapement-arms *h k*, projecting from said armature, as set forth.

3. In a telephone local call, a revolving index-switch and dial-rim in the line-circuit, combined with a unison-shunt twice as long as the local-station shunt, or thereabout, whereby the index may be moved forward out of normal position of rest without going off the unison-shunt, for the purpose set forth.

4. In a telephone local call, a revolving index in the line-circuit with a local station or bell-shunt, combined with a telephone in the bell branch circuit and an automatic switch, whereby the current will be sent direct to the bell and line when the receiver is hanging on its hook or through the receiver to the line when said receiver has been taken off its hook, as set forth.

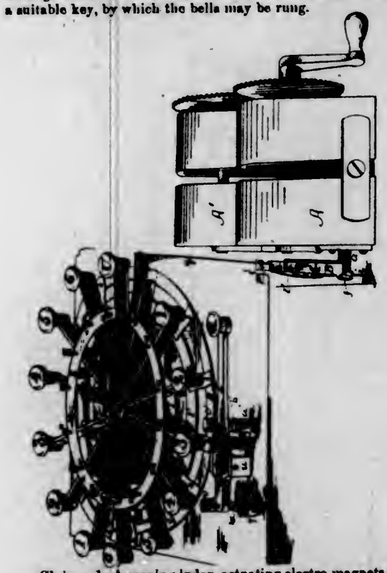
5. In a telephone local call, a revolving index-switch in the line-circuit, a local station or bell-shunt, and a contact-spring, *g'*, in connection with said local shunt, combined with a pivoted hook-lever, *f'*, whereon the telephone may hang, as usual, and switch-springs *i' k'*, one or the other whereof is in contact with said spring *g'* as said lever is up or down, and the current correspondingly shunted to the bell or to the telephone, as set forth.

6. In a telephone local call, a revolving index-switch in the line-circuit or unison-shunt and a station-bell shunt separated therefrom, combined with contact-springs *g'* and *s'*, switch-springs *i'*, and a pivoted hook-lever, *f'*, whereby the current may be automatically sent to the telephone from either the unison-shunt or station-shunt by the act of removing it from the hook.

7. In a telephone local call, a dial-rim and a revolving index in the line-circuit, combined with a local bell-shunt on said dial, the length whereof is such that the index, in passing, must make at least two pauses upon said shunt.

265,455. SIGNAL-TRANSMITTER FOR TELEPHONE-CALLS. JAMES P. STABLER, Sandy Spring, Md. Filed Jan. 27, 1882. (No model.)

Brief.—The device consists of a series of station-keys at the central office, arranged radially around the shaft of a revolving index, one of the keys corresponding to each station to be called. Each key has a stop, so arranged as to be in the path of the index when the key is depressed. The circuits are such that the depression of a key closes a circuit from the generator to line through an electro-magnet, by means of which the index is revolved. When the index comes against the stop of any key it presses the said stop against a metal piece, which closes a branch circuit to ground, thereby short-circuiting the electro-magnet and line. The key being released at this time first cuts out the generator and then breaks the ground-connection, the circuit to line being then closed. The electrical impulses, by which the index is moved, pass to line and operate the subscribers' instruments to put the bell at the desired station in circuit. The generator employed for these operations is not of sufficient strength to ring the subscriber's bell. Another generator is therefore provided, which may be put to line by a suitable key, by which the bells may be rung.



Claim.—1. A moving index, actuating electro-magnets for the same, and a circuit-closer in the electric line, combined with a series of station-stops having ground-connections to arrest the movement of said index, short-circuit the current, and cut out the line, and means whereby said circuit-closer may be controlled.

2. A moving index actuating electro-magnets, and a circuit-closer in the electric line, combined with a series of station-keys and a corresponding series of station-stops having ground-connections controlled severally by said keys to arrest the movement of said index, and means whereby said keys severally control said circuit-closer, so that when either station-key is moved the circuit will be closed and said index will be moved until arrested by the corresponding station-stops, and the current thereby short-circuited and the line cut out.

3. The moving index H and its motor-magnets in the electric line, combined with a key, J, and stop *r*, and ground-connections for the same, and a circuit-closer, whereby when said key is depressed the line-circuit is closed on the generator, the index H automatically moved to and arrested by the stop, and the current then short-circuited, as set forth.

4. A system of station-keys arranged radial to the axis of the index H and the stops *r* on said keys, and a ground-ring, E, combined with a lever, L, adapted to be operated by either one of said station-keys, a circuit-closer on the generator-line, and means whereby said lever L is connected with said circuit-closer and operated by the same.

5. A generator, a circuit-closer in the line-conductor therefrom, moving index, which also forms a part of the line, a key having a ground-connection, a stop to arrest said index and short-circuit the current to the ground, and means whereby the motion of said key will also operate the circuit-closer.

6. A generator, a circuit-closer on the line-conductor therefrom, a lever, L, connected with and controlling said circuit-closer, and an annulus, *a*, fixed on the inner extremity of said lever, combined with the station-keys J, arranged radially to the axis of said annulus, motor-magnets, and a revolving index in the line-circuit.

7. A local-call key-board for a telephone-line, provided with an outer contact-ring, E, having a ground-connection, and the station-keys J, pivoted to the posts *l* and radial to an axis common to all said keys, stops *r*, mounted on said keys, a lever, L, in several and joint connection with said keys, so as to be operated by either and all of the same, a revolving index and conductor-rim in the line-circuit, the axis of said index being coincident with the axis of the key-board, whereby when said index is arrested the current is short-circuited through the ring E to the ground.

8. A local-call key-board comprising a series of keys, each one whereof has a ground-connection contact when depressed, and elastic stops to arrest the moving index, and thereby short-circuit the current and cut out the line, combined with a relief-ring, M, with its contact-points *m'* and temporary ground-connection, whereby the electrical tension in the index-instrument is relieved, as set forth.

9. The radial keys J, with contact *s*, with ring E for a temporary ground-connection, the yielding stops *r*, and the revolving index H in the line-circuit, combined with the relief-ring M and its points *m'*, ground-ring E, and the contact-springs *s*, controlled by the keys J, as set forth.

10. The revolving index H and radial keys J, with the stops *r*, combined with the extended axis and pointer T above the keys, as set forth.

11. The revolving index H, conductor-rim *k*, and unison-shunt in the line-circuit, combined with the secrecy-shunt, also in the line-circuit, but located so as to place the indexes out of normal position of rest, as set forth.

12. An electrical generator automatically producing to and fro currents, and a circuit-closer on the line, combined with means whereby said circuit-closer is automatically controlled and permitted to close only when currents of the same polarity may be obtained.

13. The revolving axle or bearing for the magneto-generator A, with the insulated cylinder and cam-sleeve *a*, having the shoulder *c* interposed between said cam and cylinder, combined with a sliding circuit-closer, which is arrested and held out of electrical contact by the shoulder *c* until the revolving armature has reached a predetermined position, as set forth.

14. In a telephone-line, a series of call-instruments, with moving indexes and motor-magnets in the line, and local shunts or switches, combined with a magneto-generator of electricity and a circuit-closer adjusted to close only when the revolving armature has arrived at a certain predetermined position, as set forth.

15. The circuit-closer B, with its spring *i'* and insulator *p*, combined with the lever L and its elastic arm *q*, as set forth.

16. The lever L, with its elastic arm *q*, combined with the circuit-closer B and the adjustable insulated sleeve *a*, provided with cylindric and cam surfaces and interposed shoulder *c*, as set forth.

17. A series of call-instruments and a magneto-generator to operate the local switches of said instruments, combined with an intensity-key, P, contact-points *a'* and *d'*, and a magneto-generator, A', and its single-current commutator, N, whereby the circuit may be shifted from the one generator to the other, for the purpose set forth.

18. A call-instrument actuated by an electro-magnet, combined with a magneto-generator and a circuit-closer adjusted to close the circuit only at a point in the revolution of the armature when the negative current is being generated, as and for the purpose set forth.

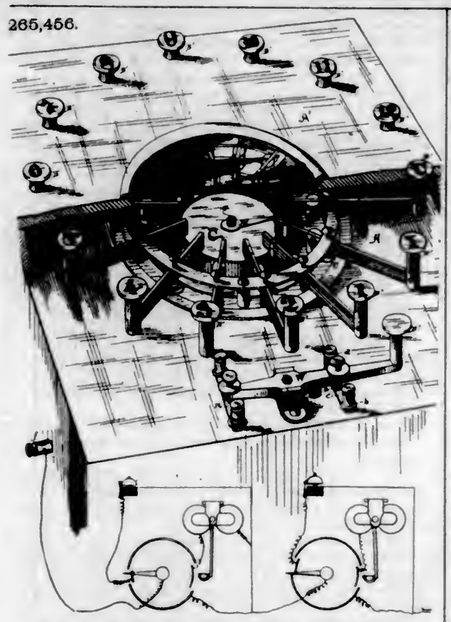
19. A series of call-instruments on a line-circuit, a generator of electricity, and a circuit-closer on the line, combined with a series of moving indexes, also in the line, station-keys, also having ground-connections, automatic stops to arrest said indexes in positions corresponding to the station-switches and cut out the line by short-circuiting through the stop, and a secondary circuit-closing lever, L, adapted to be operated by any one of said keys.

20. The intensity-key P, the axis whereof is in the ground-circuit, the spring *b'*, with which the key is in insulated contact, and the post *a'*, in combination with the contact-point *d'*, and the line-connections to the generators A A'.

21. A series of call-instruments operated by electromotor-magnets, and call-bells requiring stronger electric currents to operate them than is required by the indexes, combined with generators A and A', of different powers, and the intensity-key P, whereby the current from either of said generators may be thrown upon the line.

265,456. COMBINED KEY-BOARD, AUTOMATIC SWITCH, AND MAGNETO-GENERATOR FOR TELEPHONE-CALLS. JAMES P. STABLER, Sandy Spring, Md. Filed May 13, 1882. (No model.)

265,456.



Claim.—1. In a telephone-line, a series of call-instruments with moving index-switches and motor-magnets, all in the line, and local shunt-circuits, combined with a magneto-generator of electricity, and a circuit-closer for the operation of the same.

2. In a telephone local-call central-office instrument, the combination essentially as follows: a magneto-generator, motor-magnets, revolving index in the line-circuit, series of radial station-keys, levers, stops severally controlled by said keys to arrest said index, a ring against which said keys severally make contact to close circuit, and a ground-connection for said ring.

3. In a telephone local-call central-office instrument, the combination of a magneto-generator without a commutator, motor-magnets actuated by to-and-fro currents therefrom, a revolving index in the line-circuit, a series of radial key-levers severally mounted on a ring having a ground-connection, and stops severally attached to said keys to arrest said index, a ring against which said keys make contact to close circuit, whereby circuit is closed by depressing one of said key-levers, and contact of the index with the stop of said depressed lever will short-circuit the current to the ground and cut out the line.

4. In a telephone local-call central-office instrument, a source of electric energy, motor-magnets, and a revolving index in the line-circuit, actuated by said magnets, unison-detent shunt, and a series of radial station stop-key levers, whereby said index may be arrested, combined with an indicator stop-key, I^{s}, whereby the index may be moved to a position aside from its normal position of rest, as and for the purpose set forth.

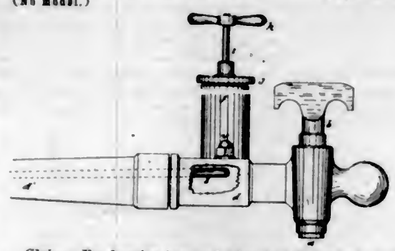
5. In a telephone local-call central-office instrument, a revolving index in the line-circuit, a dial-rim for contact of the same, a detent or unison shunt interposed in said rim, and motor-magnets to actuate said index detent-magnets, the armature-spring whereof will not yield to the currents which actuate the motor-magnets, combined with two magneto-generators of different generative powers and a suitable key-switch, whereby the weaker or stronger current may be passed to the line at will.

6. A telephone local-call central-office instrument comprising motor-magnets, a dial, revolving index, and series of radial station-keys, combined with a projecting cover, A', provided with perforations to admit the protrusion of the finger-buttons B', and a transparent center over the dial, as set forth.

7. The secondary circuit-closing and switch key W, which does not form a part of the circuit-conductor, combined with the contact-switch spring e and contact-closing spring s, and the line and return circuit connections, substantially as set forth.

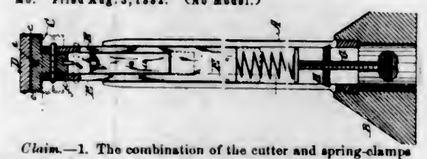
8. In telephone local-call central-office instrument, motor-magnets, a vibrating armature, and a revolving index actuated thereby, combined with a series of radial key-levers provided with elastic stops, said key-levers and stops being arranged with reference to the movements of said armature, so as to arrest said index at or near the conclusion of a movement of said armature in the same direction, whereby a stronger current of same polarity as the last operative current may be sent over the line to operate the local bell or detent magnets without moving the vibrating armature or indexes from their position.

265,457. FAUCET. JOSEPH G. STAPP, Pittsburg, Pa., assignor of one-half to H. A. Diamond, same place. Filed Aug. 14, 1882. (No model.)



Claim.—For drawing beer and other liquids, a faucet consisting of the barrel *d*, tail *d'*, and key *b*, in combination with a detachable and adjustable pump connected thereto, and provided with a horizontal air-passage, *r*, and outlet-valve *t*, internal pipe, *s*, operating in conjunction with the cylindrical space *m* and its inlet-valve *n* to take in and force atmospheric air to the interior of a tight cask or other vessel.

265,458. PEG-CUTTER. WILLIAM R. STRINGFIELD, Pineville, Mo. Filed Aug. 3, 1882. (No model.)



Claim.—1. The combination of the cutter and spring-clamps with a plate for supporting and carrying it, substantially as shown and described.

2. The combination of the cutter D, having spring-clamps attached to its edges, with the plate C, having lateral notches to receive said clamps, whereby the cutter is held in place for use, but adapted for convenient detachment, as specified.

3. The combination, with the hollow standard having a fixed stop-piece, *a*, provided with a hole, as specified, of the sliding bar E, having a slot, and carrying the cutter having a boss provided with pins, and a spring arranged in said standard to act on the sliding bar, all as shown and described.

4. The combination, with the hollow standard having horizontal grooves in its base, of the sliding plate and the set-screw working in latter, as shown and described.

265,459. SCARF-RING. FRANCIS A. SONDHEIM, Washington, D.C. Filed Mar. 17, 1882. (No model.)

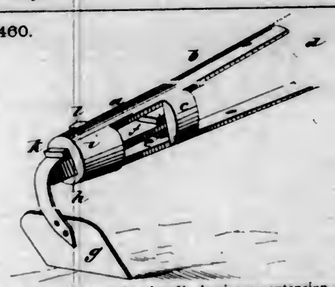


Claim.—In a scarf-ring, the wire yoke B C D D, soldered or otherwise attached to the extremities of the face-plate A, and having the flattened loop or enlargement B *b*, contracted neck C, and diverging legs D D, the neck C being bent to form an angle between the upper part, B *b*, and lower parts, D D, substantially as and for the purpose herein shown and set forth.

265,460. GARDEN-TOOL. JOSEPH J. SWAIN, Montevallo, Ala. Filed July 25, 1882. (No model.)

Claim.—1. The combination, with the handle-socket *b*, having extension *a*, notch *e*, and hole *h*, the hoe or other tool *g*, having shank *f* and shoulder *j*, of the key *k* and set-screw *l*, substantially as described.

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2. A socket, *b*, for a hoe-handle, having an extension, *a*, notch *e*, and hole *h* for the connection of the tang *f* of a hoe or other garden-tool, substantially as described.

3. A handle-socket having the cross-head *c*, provided with a notch, *e*, which receives and holds firmly the end of tang *f*, as shown and described.

4. The combination, with head *c*, having notch *e*, of a handle-socket and tool-tang provided with corresponding shoulders, *i j*, to prevent the tang from working forward out of the notch *e*, as described.

5. The combination, with the correspondingly-shouldered handle-socket and tool-tang, of the wedge *k* and set-screw *l*, as described, to prevent the tang from being lifted, so as to separate the shoulders.

265,461. CLOTHES-PIN. THOMAS A. SWEET, Cambria, Cal. Filed May 29, 1882. (No model.)



Claim.—A wire clothes clamp or holder consisting of a piece of wire bent in the middle to form a spring loop or eye, *a*, with its free ends bent to form converging legs B' and B'', provided respectively with an eye, *b'*, and hook *b²* at the outer ends, substantially as and for the purpose herein shown and described.

265,462. APPARATUS FOR AND PROCESS OF DISTILLING PETROLEUM. CHARLES J. TAGLIABUE, Brooklyn, assignor of one-half to Feargus B. Squire, New York, N. Y. Filed Mar. 24, 1882. (No model.)

Brief.—The still rests in a bath of whale-oil. An annular steam-atomizer, in conjunction with a jet of air or hydrogen, sprays the oil from the still into a vapor-chamber. The united steam and oil vapor issuing from the goose-neck of the vapor-chamber is mingled with vapor direct from the still, and passes into condenser jacketed with heated oil, where it is exposed to the action of a film of water at the inlet and to the joint action of jets of water and steam at the entrance to the outlet.

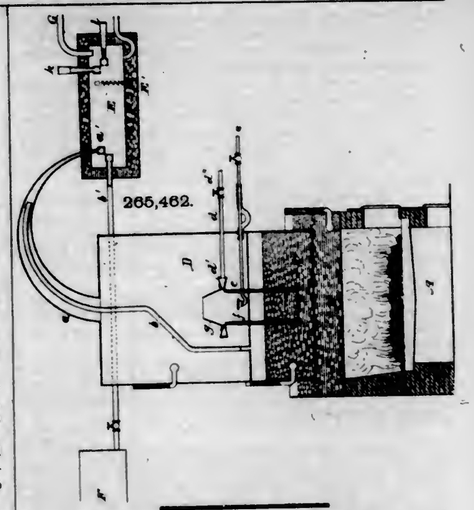
Claim.—1. The within-described process of distilling petroleum, which consists, first, in heating the oil, then breaking up the same by successive operations of a steam-atomizer and of a jet or jets of hydrogen gas or hot air, mingling it with vapor which has not been submitted to the process of atomization, and condensing the mixed vapors, substantially as herein set forth.

2. In an apparatus for distilling petroleum, the combination of the still or oil-tank C, vapor-chamber D, and annular oil-pipe *c*, with means for heating the still and a vapor-condenser connected with the chamber D, as and for the purpose set forth.

3. The combination of the cone-shaped cap *g* with the steam-atomizer *e d'*, gas-pipe *f*, steam-pipe *d*, vapor-chamber D, and still or oil-tank C, as and for the purpose set forth.

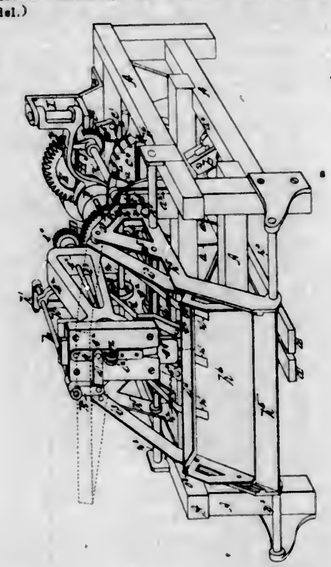
4. In an apparatus for distilling petroleum, the combination of the annular oil-pipe *c*, having a cylinder or chamber, *x*, and the gas-inlet pipe located therein, with the steam-pipe *d*, vapor-chamber D, and still or oil-tank C, as and for the purpose set forth.

5. The combination of the condenser having T-headed vapor and water pipes at one end, T-headed steam and water pipes at the other end, and an outlet-pipe located in rear of said steam and water pipes, with a petroleum-still having vapor-discharge pipes, as and for the purpose set forth.



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265,463. BOOK-SEWING MACHINE. JESSE F. TAPLEY and GEORGE B. KILBOE, Springfield, Mass. Filed Oct. 15, 1881. (Model.)



Claim.—1. The combination, in a book-sewing machine, of the needle-bar *c²* and needle and operating mechanism of the work-table A^3, the work-support A^4, to slide on said table, the signature-holder i^3, pivoted to table A^4, and of mechanism, substantially as described, for feeding said work-table from right to left and from left to right with an intermittent motion, all as set forth.

2. In combination, the work-table A^3, the work-support A^4, adjustable on said table, and the signature-holder i^3, pivoted to said table, substantially as set forth.

3. The support A^4, adjustable on table A^3, and having a turned-up rib along its rear edge, in combination with the side i^4, movable vertically, and having its lower edge grooved to fit over said rib, and with the tapes *s'* and the tape-roller shaft *n*, having the spring-held rollers *o'* thereon, substantially as set forth.

4. In combination with the shaft c^5, geared to table A^3, the feed-wheel c^4, transversely grooved around its periphery, the oscil-

lating pawl-carrier b^4, having the slot v' therein and carrying the pawl b^5, the feed-bar b^2, engaging with said pawl-carrier, and appliances, substantially as described, for imparting a reciprocating vertical motion to said feed-bar, substantially as set forth.

5. In combination, shaft b', the link b, the reversing-hook arm a^3, having the hooks a^4 pivoted thereto, and appliances, substantially as described, for imparting to said arm a^3 a horizontal reciprocating motion, and for raising and lowering said arm to cause hooks a^4 to engage alternately with either end of said lick, all as set forth.

6. In combination, the pawl b^5, the pawl-lifter b^6, and the rotating pin o' on gear c', substantially as set forth.

7. The combination, with the pawl-carrier b^4, having the arm s thereon, of the arm c^3, turning on shaft c^2, the arms c c, hung loosely on said shaft, and spring c', substantially as set forth.

8. In combination, the treadles a', shaft K, having thereon the treadle-yoke L, gear c', segment c^3, and the arm c^2, substantially as set forth.

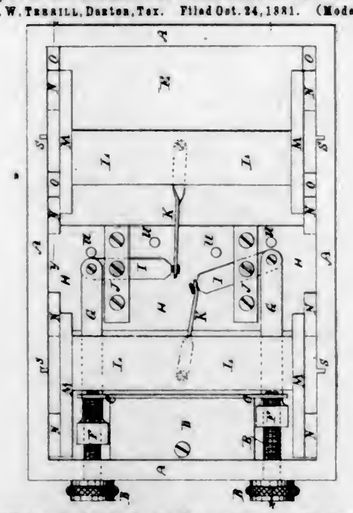
9. In combination, the feed-wheel c^6, the pawl-carrier b^4, pawl b^5, arms c c, spring c', arm c^3, segment c^3, gear c^6, shaft K, and the treadle-yoke L, connected by its two arms to the treadles a', substantially as set forth.

10. In combination, clutch F, the clutch-lever H, having the irregular slot x therein, arm J, shaft K, having arm W thereon, stop-lever a^3, and the table h^3, having the adjustable stop-blocks n' thereon, substantially as set forth.

11. The combination, with the pawl-carrier b^4 and with the vibrating take-up bar i, of appliances, substantially as described, to cause the thread-carrying end of said bar i to vibrate in accordance with the oscillations of said pawl-carrier, substantially as set forth.

12. In combination, the table h^3, the work-support h^5, and the pressure-rollers c^6, supported on frame c^3, substantially as set forth.

265,464. BOOK-REST FOR WRITING DESKS AND TABLES. R. W. TERRILL, Denton, Tex. Filed Oct. 24, 1881. (Model.)



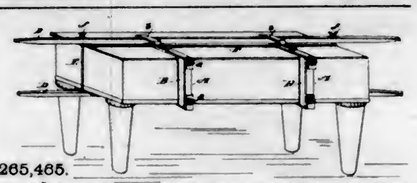
Claim.—1. In a book-rest, the combination, with the frame A and the platforms Q, connected together by flexible material, of the swiveled screws B, the cross-bars L, the inclined blocks N O, and the bars G, provided with nuts F at their forward ends and connected at their rear ends to the said cross-bars by jointed connections, substantially as and for the purpose set forth.

2. In a book-rest, the combination, with the frame A, provided with the inclined blocks O and the platform Q, of the swiveled screws B, the cross-bars L, the inclined blocks N, the bars G, provided with the nuts F, the levers I, and the connecting-rods K, substantially as and for the purpose set forth.

3. In a book-rest, the combination, with the cross-bars L, blocks M, provided with inclined blocks N, of the bars G, the swiveled screws B, the connecting-rods K, and the levers I, substantially as herein shown and described.

265,465. DEVICE FOR MOVING PIANOS. ROBERT L. THOMPSON, Boulder, Colo. Filed June 21, 1882. (No model.)

Claim.—1. The combination, with the stirrups A, provided with loops b at their upper ends, of the bars D, provided with the



holes c, the tie-rods E, and nuts f, whereby the bars are made to serve the double purpose of handles and means of securing the piano in the stirrups, substantially as herein shown and described.

2. The combination, with the stirrups A, provided with loops b at their upper ends, of the bars D, the tie-rods E, the nuts f, and the wedge G, substantially as and for the purpose set forth.

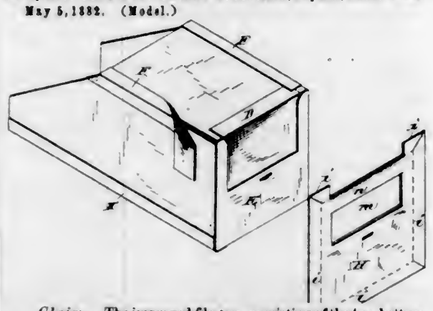
3. The combination, with the stirrups A, provided with loops b, the bars D, the tie-rods E, and the nuts f, of the wedges G and the stepped blocks H, substantially as and for the purpose set forth.

265,466. BROADCAST SEED-PLANTER. ARTEMUS J. TIBBITS, Southfield, Mich. Filed Feb. 10, 1882. (No model.)



Claim.—As an improvement in hand seed-planters, the concave box or trough A, having flanges B, perforations D, and partitions F, provided with guide-slots G and flaps or flanges I, in combination with the seed-slide H, having its lower edge rounded, and provided with recesses J and the operating-lever L, as and for the purpose set forth

265,467. FILE-BOX. GEORGE W. TINCHER, Topeka, Kans. Filed May 5, 1882. (Model.)



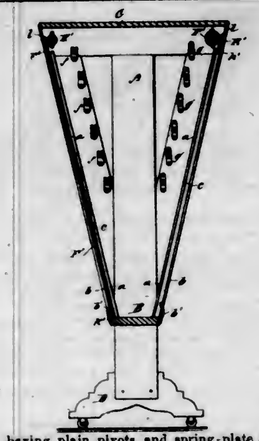
Claim.—The improved file-box, consisting of the top, bottom, and sides made of a single piece, the re-enforcing corner-strip F, the closed end with recessed re-enforcing piece E, and finishing-head H, with opening m and transverse strip n, substantially as set forth.

265,468. SHADE-RACK. FREDERICK H. TOMPKINS, Jersey City, N. J. Filed Feb. 2, 1882. (No model.)

Brief.—The shades are hung upon balanced rollers arranged one above the other in the rack in two diagonal series upon opposite sides of the frame, so that any one or all the shades in the series may be drawn down for exhibition.

Claim.—1. The combination, with the triangular side pieces, A, having cam-faced plates f and centrally-perforated plates g, of

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the rollers E, having plain pivots, and spring-plate h, the latter provided with square projections i, and spring-plate j, as and for the purpose described.

2. The combination, with curtain-rolls F', having sticks k', movable on ways c c and arranged on balanced rollers E', of the frames b, having the stop-cleats l and spring-catches b', as and for the purpose specified.

265,469. METALLIC ROD-PACKING. THOMAS TRIPP, East Stoughton, Mass. Filed Feb. 27, 1882. (No model.)



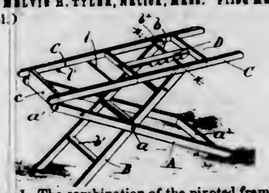
Claim.—The herein-described packing, composed of the two yokes or plates adapted to embrace opposite sides of a rod, each with the tongue, as shown, the tongue of one plate being straddled by and constituting a guide to the movement of the opposite plate, and the whole confined in place about a rod by spring-pressure suitably applied.

265,470. METALLIC ROD-PACKING. THOMAS TRIPP, East Stoughton, Mass. Filed Feb. 20, 1882. (No model.)



Claim.—The herein-described packing, consisting of the two pairs of semicircular rings or plates adapted to embrace a rod and arranged quartering with respect to each other thereupon, each ring or plate having a centrally-disposed segmental tongue composing one-fourth of a circular tube of square exterior, and the tongues of each pair of plates being embraced by the arms of the opposite plates, as explained, whereby each plate and tongue moves up to the rod each in its own path, which is never disturbed.

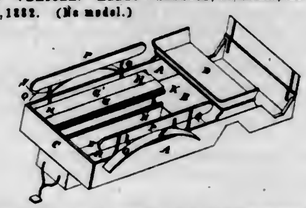
265,471. COMBINED STEP-LADDER AND ADJUSTABLE BENCH. MELVIN H. TYLER, Natick, Mass. Filed May 15, 1882. (No model.)



Claim.—1. The combination of the pivoted frames A and B, which form the step-ladder, with the pivoted frame C, the latter provided with the ratchet D and rod l, said rod having its ends bent at l', the whole constructed and arranged to produce at will a step-ladder or the legs and frame of a bench or table having vertical adjustment, substantially as shown and described.

2. The combination of the frames C and A with the frame B, the sides of the latter partly cut away at b^3 to form a shoulder or bearing for the frame C when the apparatus is used as an adjustable table or bench, substantially as shown and set forth.

265,472. VEHICLE. HENRY VALLANCE, St. Louis, Mo. Filed Aug. 21, 1882. (No model.)

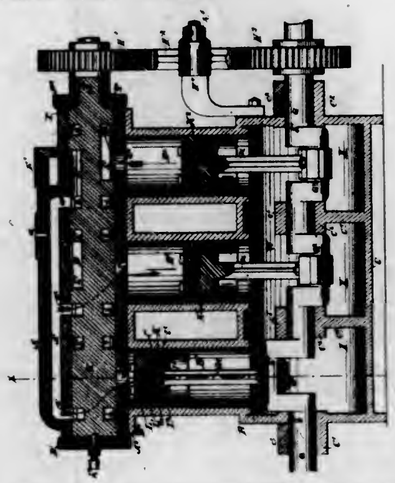


Claim.—1. In a convertible carriage and spring-wagon, the receptacle E in the bottom of the body, in combination with folding seats adapted to be supported on brackets or to cover the receptacle, substantially as shown and described, for the purpose set forth.

2. In a convertible carriage and spring-wagon, the seats G G', connected to the bottom B of the body by strips I J and connecting-arms K, with rule-joints adapted to be supported on brackets secured to the sides of the body, or to be folded up so as to be flush with the bottom of the body, substantially as shown and described, for the purpose set forth.

3. In a convertible carriage and spring-wagon, the combination of receptacle E in the bottom of the body, folding seats G G', connected to the bottom B by hinged strips I J and connecting-arms K, supporting-brackets F, hinged to the sides of the body, and removable back supports, P, all constructed and arranged substantially as shown and described, for the purpose set forth.

265,473. ENGINE. BENJAMIN C. VANDUSEN, Cincinnati, Ohio. Filed Jan. 16, 1882. (No model.)



Claim.—1. The rotary valve provided with annular chambers h, each having a chamber or recess, h^3, in the side of the valve, and the annular chambers h', each having a recess or chamber, h^2, in the side of the valve, in combination with the steam-chest having the ports a' a^3 a^2 and ports d d' d^2, and the port e, substantially as and for the purposes specified.

2. The combination of the piston-head L and piece L' and the piece L^2, provided with openings P and the pitman M.

3. The combination of the piston-head L and piece L' and the piece L^2, provided with openings P and the pitman-head m, substantially as and for the purposes specified.

4. The rotary valve provided with the annular chambers h, each having a chamber or recess, h^3, in the side of the valve, an-

nular chambers h', each having a recess or chamber, h^3, in the side of the valve, substantially as and for the purposes specified.

5. The rotary valve constructed substantially as specified, in combination with ports, as a' a^3 a^3, and ports, as e, substantially as and for the purposes specified.

6. The rotary valve provided with annular chambers h, each having a chamber or recess, h^3, in the side of the valve, annular chambers h', each having a recess or chamber, h^3, in the side of the valve and located in close proximity to the cylinders, in combination with the valve-chest placed upon the ends of the cylinders and forming the heads thereof, and the short ports, as d d' d^3, substantially as and for the purposes specified.

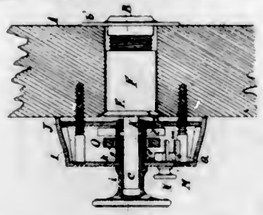
7. The rotary valve provided with annular chambers h, each having a chamber or recess, h^3, in the side of the valve, annular chambers h', each having a recess or chamber, h^3, in the side of the valve and located in close proximity to the cylinders, in combination with the valve-chest placed upon the ends of the cylinders and forming the heads thereof, and the ports, as a' a^3 a^3, and ports, as e, the short ports, as d d' d^3, substantially as and for the purposes specified.

8. The rotary valve provided with annular port h, having chamber h^3, and annular port h', having chamber h^3, and further provided with neck J, provided with the beveled face r, in combination with the steam-chest having ports, as described, and the beveled face r', and the center h^4, substantially as and for the purposes specified.

9. The rotary valve provided with annular port h, having chamber h^3, and annular port h', having chamber h^3, and the neck J, substantially as and for the purposes specified.

10. In combination with the rotary valve provided with annular ports and chambers, substantially as described, the valve-chest provided with extended port A', having openings, as a' a^3 a^3, and ports, as d d' d^3, and port a, and exhaust-port e, connected to one main exhaust, as E' or E², substantially as and for the purposes specified.

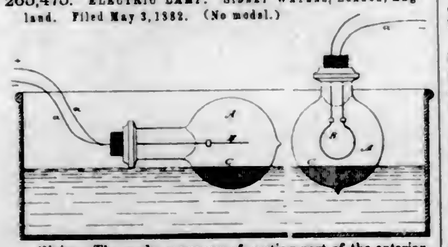
265,474. LOCKING-LATCH. GEORGE VOLL, Cincinnati, Ohio, assignor to the Morris Sash Lock Manufacturing Company, same place. Filed June 17, 1882. (Model.)



Claim.—1. In a latch-lock, the combination, with case I, having oblong slot i, of knob L, whose shank K has two diametrically-opposite lugs, k k', follower E, having cavity e, notches e' e'', and counterbore e''', latch O, spring Q, and cap J, substantially as set forth.

2. In combination, substantially as described, with a latch-lock having notched or indented follower E, the separable safety-cylinder consisting of cylinder proper, B b b', tongue C, and sleeve F f f', substantially as set forth.

265,475. ELECTRIC LAMP. SIDNEY WATERS, London, England. Filed May 3, 1882. (No model.)



Claim.—The mode or process of coating part of the exterior of the globe of an electric lamp, which consists in immersing the part to be coated in a solution of silver, and then sending an electric current through the carbon filament of the lamp to produce the necessary heat for causing a deposit of silver on the immersed part of the globe, substantially as set forth.

265,476. PENCIL-CLASP. JOHN M. WHITSON, Chicago, Ill., assignor to John R. Walsh, same place. Filed May 29, 1882. (No model.)



Claim.—1. The plate A B, bent on itself, shaped substantially as described, and perforated on the bend, in combination with the elastic pin C, inserted in the perforation without hinge or joint and bent parallel to the plate, substantially as and for the purpose described.

2. The pencil-holder consisting of the nearly parallel wings A and B, joined at one end and arched into a tube in the middle, the wing A overlapping the other at its free end, in combination with the pin C, arranged as described, for the purpose of locking the pin in place by means of the pressure of the wing B thereon, substantially as and for the purpose described.

3. The pencil-holder consisting of the nearly parallel wings A and B, joined at one end and arched into a tube in the middle, the wing A overlapping the other at its free end, and provided with the groove a^3 in the overlapping portion, in combination with the pin C, arranged as described, substantially as and for the purpose described.

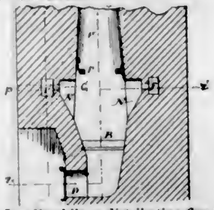
265,477. WHEELBARROW-WHEEL. LLEWELYN WILLIAMS, Ironton, Ohio. Filed Aug. 5, 1882. (No model.)



Claim.—1. A wheelbarrow-wheel provided with a casting, A, having journals on each side, and adapted to retain the spokes of the wheel at right angles with the journal, in combination with a spoke and felly socket made in one piece, and provided with rectangular sockets c of the same width as the felly, and bearing-wall d and e and side wall, f, extending over the joint in the felly, substantially as shown.

2. A wheelbarrow-wheel consisting of the metallic shells A' A', with journals, flat spokes beveled equally at the portion near the hub and tapered to a point near the fellies, the ends being rectangular in shape and fitted within a similar-shaped socket, having central and side walls and sectional fellies with tire, the parts being constructed and organized substantially as shown.

265,478. LIMEKILN. JOHN ZELLWEGER, Chicago, Ill. Filed Apr. 10, 1882. (No model.)



Claim.—1. In a limekiln, a distributing-flue having gas-ports opening from the bottom of the same, and all on a level, into the kiln-chamber, as and for the purpose set forth.

2. In a limekiln, a horizontal distributing flue or chamber having gas-ports in the side wall thereof adjoining the kiln-chamber, said ports being located at points some distance below the roof of the distributing-flue, and all opening on the same level and into the kiln-chamber, as and for the purpose set forth.

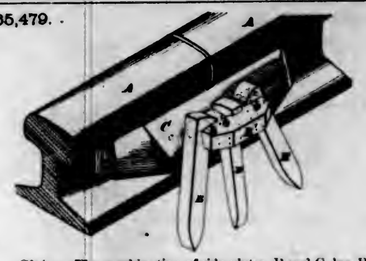
3. In a limekiln, the inverted-V-shaped bridge or shelf B, having openings in its ridge, and extending entirely across the kiln-chamber near the draw-pit thereof, as and for the purpose set forth.

4. In a limekiln, the combination of a gas-port with a recess in the wall of the kiln-chamber, said recess having a sloping back, as and for the purpose set forth.

265,479. RAILWAY-RAIL COUPLING. GEORGE W. BAKER, St. Louis, Mo. Filed Apr. 12, 1882. (No model.)

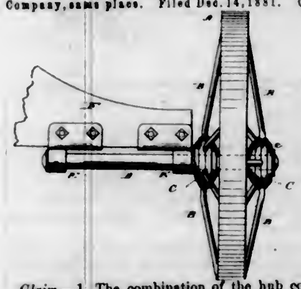
Brief.—Rails having notches are secured by means of plates, one of which is provided with a lug having a hole and notches, and the other having a mortise through which passes the log, which is secured by spikes, which enter into the tie.

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Claim.—The combination of side plates, B and C, lug B', with hole b and notches b', and the spikes D E, for the purpose set forth.

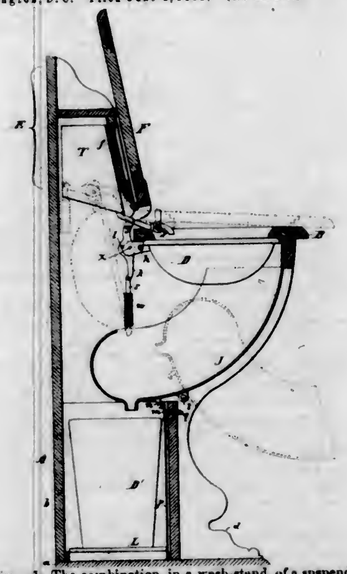
265,480. WAGON-WHEEL. JOHN BEAN and ROSCOE BEAN, Springfield, Ohio, assignors to the Tricycle Manufacturing Company, same place. Filed Dec. 14, 1881. (No model.)



Claim.—1. The combination of the hub constructed of two parts, b b', and riveted together at e e', substantially as described.

2. The combination of two adjustable bisected hubs, means for preventing these hubs from spreading, spokes secured to the hubs and rim of the wheel, and the short axle for the hubs, substantially as described.

265,481. WASH-STAND. NATHAN O. BOND, Fairfax Court-House, Va., assignor of one-half to Theodore J. Mayer, E. Kurtz Johnson, Fred W. Pratt, James L. Barbour, and F. Tenney, all of Washington, D.C. Filed June 2, 1882. (No model.)



Claim.—1. The combination, in a wash-stand, of a suspended bowl and hinged lid and connections, whereby an excess of water in the bowl depresses the lid and insures the discharge of the water, substantially as set forth.

2. The combination of the case, the hinged lid, and a bowl supported by arms connected to and supported by other arms attached to said lid, substantially as set forth.

3. The combination of the bowl and lid and jointed arms g h and stops l, substantially as specified.

4. The combination of the bowl, the lid, arms connecting the two, a hinge forming part of said arms and arranged to connect the lid to the case, substantially as set forth.

5. The combination of the hinged and counterbalanced bowl and a cock, S, and connections, arranged, as described, to close the cock as the bowl descends, substantially as set forth.

6. The combination of the bowl, pivoted to be swung down from a horizontal position, a counterbalance and auxiliary weight, and devices, as described, whereby the weight is added to that of the bowl when the latter descends to additionally depress the same, as set forth.

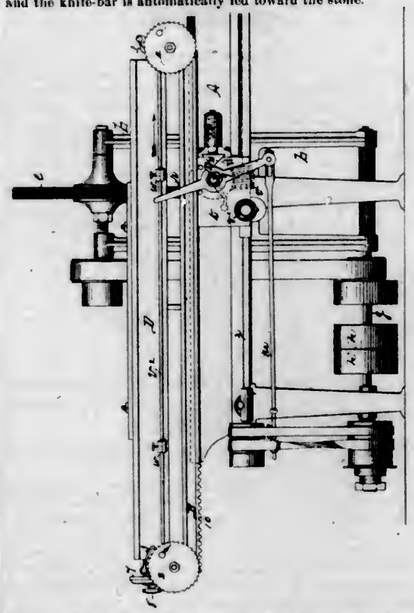
7. The combination of the bowl, pivoted to swing downward from a horizontal position, and the lid F, connected thereto, and connections between them, whereby the weight of the lid is added to that of the bowl as the latter descends.

8. The combination, with the swinging bowl, of a trough, J, and receptacle D', said trough being arranged between the bowl and the receptacle and pivoted to swing downward and expose its interior, substantially as set forth.

9. The combination of the pivoted platform I, vessel D', and trough J with a catch retaining the trough, and means whereby the descent of the platform releases the catch, as set forth.

265,482. KNIFE-GRINDING MACHINE. ORRIS BRYANT, Westfield, assignor to Elwin R. Hyde, Springfield, Mass. Filed Mar. 27, 1882. (No model.)

Brief.—The knife-bar carriage is automatically reciprocated and the knife-bar is automatically fed toward the stone.

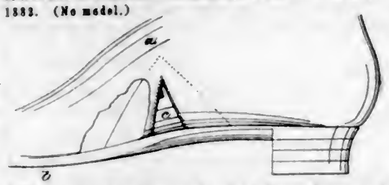


Claim.—1. In combination with the mechanism, substantially as described, for feeding the knife-bar toward the wheel e, the knife-bar carriage B, bar e^3, blocks w, lever r, bolts s, and rod m, having one end slotted, substantially as set forth.

2. The bar e^3, and mechanism, substantially as described, for sliding it on carriage B, the pawls 3 3, secured to the triangular-headed bolts 5, the pawl-holders 4, the adjusting-screws r^3, wheels 2 2, and the feed-screws 13, combined and operating substantially as set forth.

3. The knife-bar D, having the graduated head 6 thereon, the graduated plate 7 to receive said head, and screw 8, combined and operating substantially as set forth.

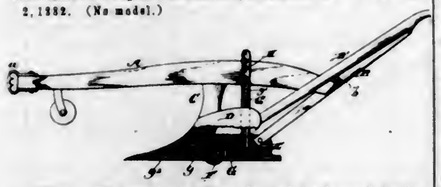
265,483. BOOT OR SHOE. GEORGE H. CLARK, Boston, assignor of one-half to G. Herbert Cushman, Lynn, Mass. Filed Aug. 25, 1882. (No model.)



Claim.—1. As an improved article of manufacture, a shoe provided with a gore, *c*, inserted into that part of the edge of the upper which is to fit and cover the inside hollow of the foot, whereby the said upper is permanently shaped to conform to the hollow of the inner side of the foot, as shown and described.

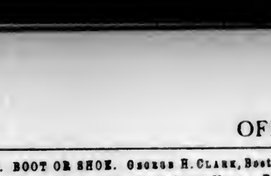
2. In a boot or shoe, the combination of the quarter-piece which covers the inner side of the foot with a piece of leather, *c*, united to the said quarter-piece to form a support or brace for the quarter above the shank of the sole of the said boot or shoe, substantially as described.

265,484. PLOW. REUBEN F. COCHRAN, Jefferson, assignor of one-third to Douglass H. Harkate, Frederick, Md. Filed May 2, 1882. (No model.)



Claim.—The combination, in a plow, of the frame G, having parallel sides *g*, a perforated arm, G', extending upwardly from its rear and adjustably secured to the beam, and at its front a spring-plate, g^3, detachably bolted to the under side of the mold-board, with the single wheel F mounted between the parallel sides of said frame, and located so as to balance the plow, substantially as described.

265,485. ELECTRO-MAGNET. THOMAS COCHRAN, Brooklyn, N. Y. Filed Sept. 28, 1880. (No model.)



Claim.—The combination, substantially as hereinbefore set forth, of an electro-magnet placed in an electric circuit, an armature, and an interposed short-circuiting bar.

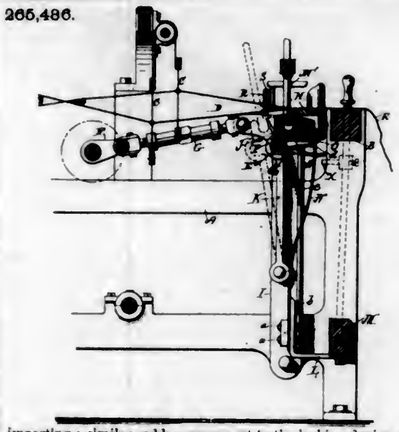
265,486. LOOM. JESSE D. COTTRELL, Central Falls, R. I. Filed Feb. 24, 1882. (No model.)

Claim.—1. The combination of the lay-frame with the reed-frame, means for operating said lay-frame and reed-frame, and the spring which serves to stop the reed-frame back from the lay-frame at an intermediate point in the forward beat of the lay, with a shuttle-operated locking device for bringing the reed-frame forward from its intermediate point against the action of the reed-opposing spring upon the proper entrance of the shuttle into the shuttle-box, substantially as described.

2. The combination of the lay-frame with the reed-frame, means for operating said lay-frame and reed-frame, and a spring adapted to cause said reed-frame to move simultaneously in its primary forward movement with the lay-frame, and to check the motion of the reed-frame at an intermediate point in the forward beat of the lay by the reflex action of the spring mechanism, substantially as described.

3. The combination of the lay-frame, means for operating the same, the reed-frame, and the devices for locking the reed-frame to the lay-frame with the shuttle-binder, shuttle-binder spring, and a stop upon the binder to limit the outward movement of the shuttle-binder spring, whereby the shuttle-binder is enabled to yield quickly to the entrance of the shuttle into the shuttle-box without

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imparting a similar sudden movement to the locking device, substantially as described.

4. The combination of the lay-frame, means for operating the same, a shuttle-binder, a shuttle-binder spring, and a stop for limiting the outward movement of the shuttle-binder spring with the protector-rod, its finger, and a stop for limiting the backward movement of the rod, whereby a uniform resistance may be secured against the rebound of the shuttle from the shuttle-box, substantially as described.

5. The combination of the lay-frame and means for operating the same, the reed-frame, the spring which serves to stop the reed-frame back from the lay-frame at an intermediate point in the forward movement of the lay-frame, the shuttle-operated locking device for bringing the reed-frame forward from its intermediate point against the action of the reed-opposing spring, with the protector-rod and dagger, protector-bar, the releasing pulley-brake shown and described, and a spring arranged between the protector-bar and the pulley-brake, substantially as described.

265,487. RETURN-BALL. CHARLES CURRYER, Chicago, Ill. Filed Aug. 7, 1882. (No model.)



Claim.—1. A return-ball composed of sawdust, Manila, tissue, and glazed paper, twine, and elastic or rubber string, all constructed and arranged substantially as shown and described.

2. A return-ball composed of sawdust A, Manila paper B, tissue-paper C, glazed paper D, twine E, and elastic or rubber F, all arranged and combined as shown.

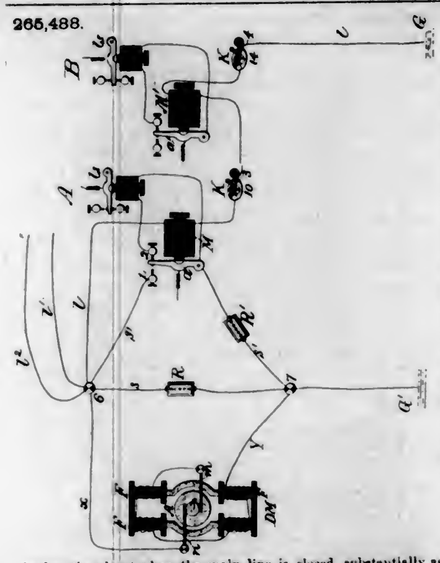
3. A return-ball composed of sawdust, Manila, tissue, and glazed paper, twine, and elastic or rubber string, having an oblong shape, substantially as described and set forth.

265,488. DYNAMO-TELEGRAPHY. GEORGES D'INTERVILLE, New York, N. Y., assignor to the Western Union Telegraph Company, same place. Filed Apr. 27, 1881. (No model.)

Claim.—1. A dynamo-electric machine for telegraphic purposes, in combination with a main telegraph-line, constituting, when closed, a portion of the external circuit of said dynamo-machine, and a compensating-shunt joining the opposite poles of said machine, whose resistance is approximately equal to the resistance of said main line, as specified.

2. A dynamo-electric machine for telegraphic purposes, in combination with a main telegraph-line, forming a portion of the external circuit of said machine when closed, and a compensating-shunt joining the opposite poles of said machine, whose resistance is approximately equal to that of the main line, and an automatic switch which closes said shunt when the main line is opened and

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brakes the shunt when the main line is closed, substantially as specified.

3. A dynamo-electric machine for telegraphic purposes, in combination with one or more main telegraph-lines, each forming a portion of the external circuit of the machine, a corresponding number of shunts joining the opposite poles of the machine, an automatic switch for each shunt, operating to open and close the same as the corresponding main telegraph-line is closed and opened, whereby the external resistance of the dynamo-machine, consisting of the main telegraph-lines and shunts joining the opposite poles of the machine, may be maintained practically constant as the said telegraph-lines are arbitrarily opened and closed in the process of sending messages.

4. A dynamo-electric machine for telegraphic purposes, in combination with a telegraph-line fed thereby and a shunt joining the opposite poles of said machine, whose resistance is substantially equal to the resistance of the line, as specified.

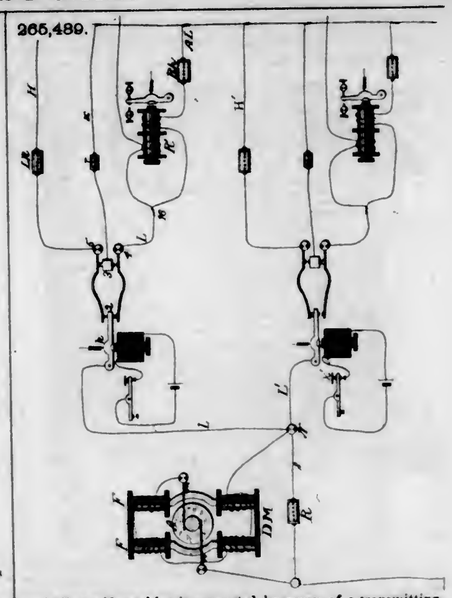
265,489. DYNAMO-TELEGRAPHY. GEORGES D'INTERVILLE, New York, N. Y., assignor to the Western Union Telegraph Company, same place. Filed Apr. 27, 1881. (No model.)

Claim.—1. The combination of a dynamo-electric machine, a duplex telegraph-line and artificial circuit, a transmitting-key, a compensating branch whose resistance is equal to or less than that of the duplex line, and a branch whose resistance is substantially equal to the internal resistance of the dynamo-machine.

2. The combination of a dynamo-electric machine and a series of duplex telegraph-lines attached to one of the poles of said machine in multiple arc, each line being provided with a transmitting-key and two compensating branches, the resistance of one branch being equal to or less than the resistance of the main line, and the resistance of the other branch being equal to the resistance of the generator, or to the joint resistance of the generator and its shunt, the whole being so arranged that upon the operation of the transmitting-key of any line said line is successively connected first through the dynamo-machine and then through the branch whose resistance is equal to the resistance of the machine, while at the same time the machine is successively connected first to the main line and then to the branch whose resistance is equal to or less than the resistance of the main line.

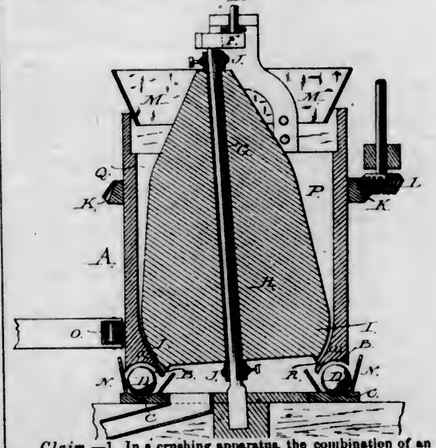
3. A dynamo-electric machine whose field-magnetism is maintained with the currents due to its own armature, and whose poles are joined by a constantly-closed shunt, in combination with a series of duplex lines, each of which line is provided with a transmitting-key and two compensating branches whose resistances are substantially equal to the respective resistances of the main line and the resistance of the generator, the whole being so arranged that when by the operation of the transmitting-key the main line is disconnected from the dynamo-electric machine said main line is connected with the branch whose resistance is equal to that of the generator, and also when the machine is disconnected from the

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main line said machine is connected by means of a transmitting-key to the branch whose resistance is equal to the resistance of the main line, substantially as set forth.

265,490. ROCK-CRUSHER. AARON G. DYER and JAMES M. DYER, San Francisco, Cal., assignors of one-third to A. A. Van Wormer, same place. Filed Feb. 18, 1882. (No model.)

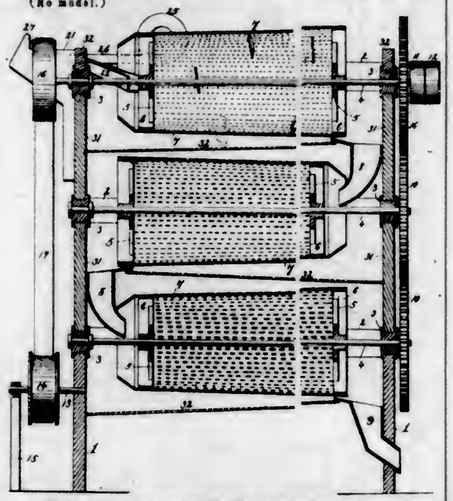


Claim.—1. In a crushing apparatus, the combination of an exterior rotating vertical cylinder having a contracted bottom, *a*, an inclined shaft, G, and an inner cone supported so as to turn loosely upon said inclined shaft within the cylinder, said cone having a curved base, I, corresponding with and fitting the curve *a*, substantially as herein described.

2. In a crushing apparatus, the combination of an exterior rotating vertical cylinder having a groove, B, an interior cone rotating at an angle with said cylinder, the balls D, and the grooved base-plate C, substantially as described.

3. In a rock breaking and crushing apparatus, the combination, with the hollow vertical rotating cylinder A, the cone H, inclined shaft G, said cone turning loosely upon said shaft within the cylinder, and grooved base-plate C, with the balls D and the screens N, substantially as herein described.

265,491. MACHINE FOR CLEANING AND GRADING PEAS. WILLIAM H. PELTZHOUSEN, Baltimore, Md. Filed Aug. 25, 1882. (No model.)



Claim.—1. An apparatus for cleaning and grading peas, combining in its structure a series of perforated cylinders arranged one above another, a hopper provided with a perforated hopper-bottom for cleaning the peas and delivering them to the upper perforated cylinder, and elevating mechanism for raising the peas and discharging them onto the perforated hopper-bottom, substantially as described.

2. The combination of a series of perforated pea-grading cylinders arranged one above another, a hopper having a perforated bottom for cleaning the peas and delivering them to the upper cylinder, an elevating mechanism arranged to raise the peas and deliver them onto the perforated hopper-bottom, and a blast-fan having its trunk arranged to discharge a blast of air on the peas in the hopper, substantially as described.

3. The combination, with the perforated cylinders arranged one above another, of the hopper for delivering the peas to the upper cylinder, said hopper having a hood, a chute, and inclined hopper-bottom perforated at its outer portion, and a channel at the outer end of the bottom, communicating with the chute, and a blast-fan for driving the light foreign matter into the hood, substantially as described.

4. The combination of a series of perforated pea-grading cylinders arranged one above another, a hopper having a perforated bottom for cleaning the peas and arranged to deliver them to the upper cylinder, a closed passage-way provided with a pea-receiving chute, and an elevating-hand provided with buckets and arranged to travel through said passage-way, substantially as described.

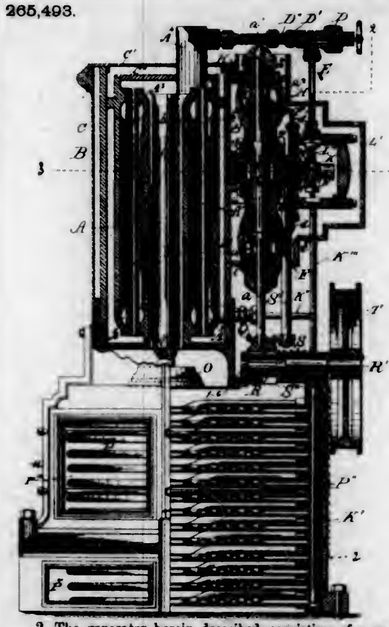
265,492. COFFIN. GEORGE A. FERGUSON and ROBERT W. FERGUSON, Decatur, Ill. Filed Feb. 1, 1882. (Model.)



Claim.—1. The combination, with a swinging face-plate, of the hooks *a*, glass C, and operating means H, as set forth.

2. The supporter described, having a portion adapted to be rigidly attached to a face-plate, and a curved extension provided with a slot adapted to engage with a screw or other holding means.

265,493. LIQUID CARBONIC ACID GAS MOTOR. ANTOINE SAYBAU, Chicago, Ill. Filed July 8, 1882. (No model.)



Claim.—1. In a gas-motor, the generator consisting of a shell, B, containing a series of integrally-formed tubes, A, in which smaller tubes, A′, are secured, forming annular independent spaces for generating the gas, communicating with chambers A^3, in combination with a central passage, A^4, by which, the tubes, and inclosing shell a double return-passage is formed for the hot air, substantially as set forth.

2. The generator herein described, consisting of a series of integral tubes, A, connected at their upper and lower ends to an annular pipe, A^3, the upper one communicating with a dome, A^4, and the central passage, A^5, in combination with the tubes A′, the heads C′ C″, and an inclosing casing, B, all substantially as specified.

3. In a motor, a cylinder consisting of a central part, G′, attached to a casing, B, and having the ends F F provided with liquid-chambers I I, secured to said central part, substantially as specified.

4. The central cylinder-section, G′, having a space for a packing-fluid, and the packing-rings *u*, arranged substantially as shown, and for the purpose set forth.

5. The combination of the cylinder ends F F with the piston-rods *a a′*, the packing-rings *t″*, the intermediate perforated rings, a^2, the chambers I I, and the screw-heads F′, all substantially as herein set forth.

6. In a motor, the rack-bar M′ and gear-wheel M‴, in combination with the part M″, the pump-rod *r′*, and rack-bar M, having stop-pins and springs L, and the main valve, substantially as and for the purpose specified.

7. The combination of the rack-bar M′ and wheel M‴ with the projection M^4, tappets *w*, lock-pins *c* and springs *c′*, and the main valve, substantially as set forth.

8. The combination of the rack-bar M′, gear-wheel M‴, and shaft *x* with the gear-wheel S‴, rod S′, and yoke Q, substantially as shown and described.

9. In combination with the piston G and the cylinder part G′ and end sections, F F, the packing-rings *u*, consisting of annular rings *u′*, having part *u″*, with lateral flanges *u‴*, all constructed substantially as specified.

10. In a motor, the combination, with the piston-rod *a*, of the yoke Q, having gear-faces on diagonally-opposite sides, between which the gear-wheels R revolve, and the main shaft S″, substantially as described.

11. The combination, with the piston-rod *a*, of the yoke Q, having gear-faces on diagonally-opposite sides, and the gear-wheels R, provided with rollers 1–6, arranged in the ratchet-notches of the shaft S″, to alternately revolve the wheels and the shaft continuously, substantially as specified.

12. In a motor, the condenser herein described, consisting of a casing containing a series of horizontal separate coils arranged above each other, and having a common vertical connection with the exhaust-passage from the motor-cylinder, substantially as and for the purpose specified.

13. In a motor, the condenser herein described, consisting of a casing provided with open panels and a series of coils arranged above each other in horizontal planes, and having a common connection with the exhaust-passage and the suction-pipe of the pump, as specified.

14. In the motor herein described, the combination of the condenser, having a series of coils arranged above each other in horizontal planes, and open panels P‴, with the lamp O and central passage, A^5, of the generator, substantially as and for the purpose herein set forth.

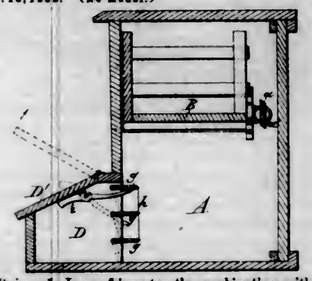
15. In a gas-motor, the gas-inlet passage controlled by two union-joints, D′ D″, and an inclined opening or passage, in combination with the throttle-valve D, substantially as specified.

16. The method of operating a motor by means of gas generated from carbonic acid triple-heated, then passing said gas to a working-cylinder, thence to a condenser, and finally returning it to the generator, substantially as and for the purpose set forth.

17. In a motor, a pump arranged to extend into the casing or gas-chamber to prevent leakage of gas toward the outside, substantially as specified.

18. In combination with the generator, working-cylinder, gas-chamber, and working parts of a gas-motor, the casing I′, entirely surrounding said parts and forming a space for the products of combustion, and said casing provided with a hinged front section having a lap-joint for gaining access to the parts, substantially as shown and specified.

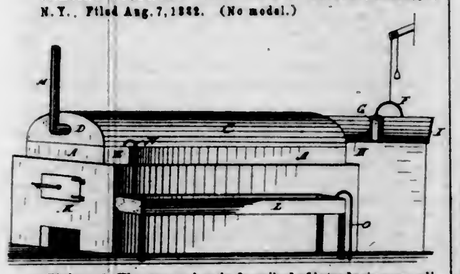
265,494. REFRIGERATOR. GEORGE H. GORTONIUS and JOHN C. SNUTS, Little Falls, N. Y. Filed June 11, 1880. Renewed Apr. 13, 1882. (No model.)



Claim.—1. In a refrigerator, the combination, with the chamber A and ice-rack B, of the semi-rotating valves *a a*, having bevel-gears *a′ a′*, the rod *d*, weight *d′*, rock-shaft *b*, arms *c c*, and door C, substantially as and for the purpose described.

2. In a refrigerator, the combination of the chambers A D, swinging valves *g g*, connecting-rod *h*, pivoted lever *i*, and cover D′, all constructed and arranged substantially as and for the purpose specified.

265,495. PROCESS OF AND APPARATUS FOR CONCENTRATING SULPHURIC ACID. JULIUS GRIDLEY, Brooklyn, N. Y. Filed Aug. 7, 1882. (No model.)



Claim.—1. The process herein described of introducing a small stream of dilute acid from the evaporating-pan of about 60° Baumé into a large quantity of acid of the strength of 66° Baumé contained in a concentrating-pan and kept at the boiling-point, substantially as hereinbefore described.

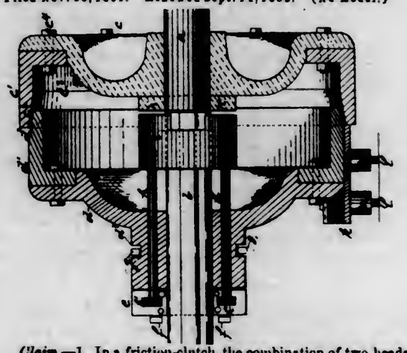
2. In an apparatus for concentrating sulphuric acid, a cast-iron concentrating-pan provided with an inwardly-projecting flange below the acid line, and with an arch and ends of fire-brick and tiles, respectively, an interposed layer of asbestus retort-cement being arranged between the arch and sides of the pan, whereby the pan is protected and the formation of sulphate is avoided, as hereinbefore set forth.

3. In combination with the cast-iron pan A, provided with flange B, the pocket E, communicating with the bottom of the pan, and suitable means for extracting the strong acid, substantially as described.

4. In combination with the pan A, provided with flange B, arch C, and ends D, the furnace K, evaporating-pans, acid inlet and outlet, and cooler L, substantially as described.

5. In combination with the evaporating and concentrating pans, the adjustable siphon F, cup G, and pipe H, arranged and operating as described.

265,496. FRICTION-CLUTCH. URI HASKIN, Pittsburg, Pa., assignor of one-half to Atlas Works, (Limited,) same place. Filed Nov. 24, 1881. Renewed Sept. 14, 1882. (No model.)



Claim.—1. In a friction-clutch, the combination of two heads having attachable peripheral flanges provided with beveled friction-surfaces, substantially as and for the purposes described.

2. The combination of the gear-clutch, adjustably connected to its operative collar, and the sliding head mounted on the same shaft between said clutch and collar, substantially as and for the purposes described.

3. The sliding head, in combination with its supporting-shoe, substantially as and for the purposes described.

4. A combined friction and gear clutch having reciprocating friction and gear parts mounted on the same shaft, in combination with a lever adapted to operate the friction-clutch both into and out of gear, and a lever adapted to move the gear-clutch into gear only, whereby the gear-clutch cannot be disconnected independently of the friction-clutch, substantially as and for the purpose specified.

265,497. MANUFACTURE OF RUBBER GOODS. THEODORE RAWLEY, Fairfield, Conn., assignor of one-half to Edward W. Harral, same place. Filed Sept. 2, 1882. (No model.)

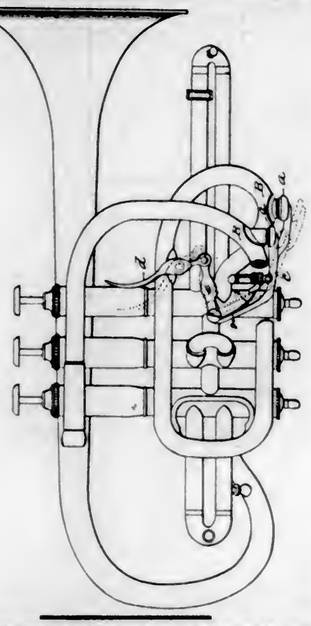


Claim.—In the manufacture of goods from rubber-coated textile fabrics, the described method of forming a seam, which consists in first placing the two pieces of fabric to be united upon each other and cementing the gum-coated surfaces along the edge where the seam is to be, then making one or more rows of stitches through the cemented edge, then cementing the top of the stitching and the uppermost piece of fabric on both sides thereof, then doubling said fabric upon itself across the stitching, then flattening and compacting the seam thus formed by pressure, and finally vulcanizing the two pieces of fabric and their uniting-seam, substantially as and for the purpose herein shown and set forth.

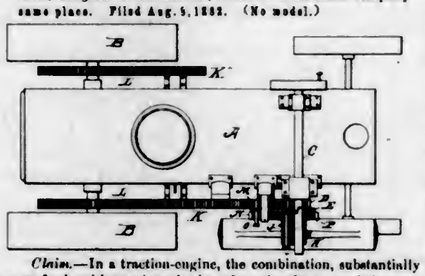
265,498. WATER-KEY FOR BRASS MUSICAL INSTRUMENTS. JOHN HEALD, Springfield, Mass., assignor to Charles W. Hutchins, same place. Filed July 25, 1882. (No model.)

Claim.—In a brass musical instrument, the combination, with the water-valve lever thereof, of the finger-lever *d* and the link *c*, arranged to operate substantially as and for the purpose set forth.

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265,499. TRACTION-ENGINE. GEORGE H. HELVEY, Hamilton Ohio, assignor to the Hooven, Owens & Rentschler Company same place. Filed Aug. 9, 1882. (No model.)



Claim.—In a traction-engine, the combination, substantially as set forth, with traction wheels and gearing for transmitting motion from the engine-shaft to the traction-wheels, of two driving-pinions of different diameters loose upon a driving-shaft, a means for locking one or both of said pinions to their shaft, two gears of different diameters fitted to run freely and independently upon a common axis and mesh into the said two pinions, as set forth, and a means for locking said two gears together.

265,500. APPARATUS FOR DREDGING HARBORS, DITCHING SWAMPS, &c. JAMES P. HENDON, Washington, D. C. Filed July 25, 1881. (No model.)

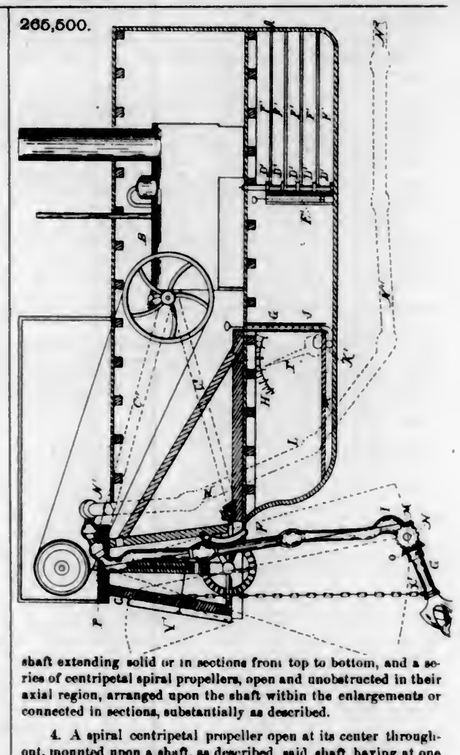
Brief.—A water-ballasted boat, a changeable water-ballast to obviate effect of rise and fall of tide, a vertical pump-tube provided with spiral propellers in swells of the tube, said propellers being open in their axial region, a rotary foot-tube and digging-bit hinged to the pump-tube by a hollow knuckle-joint, a turn-table carrying said tubes, and mechanism to cause a slow forward and rapid backward movement, and mechanism to automatically rotate the turn-table, and mechanism to cause the foot-tube to work on a horizontal plane, all being elements of the "reclaimer."

Claim.—1. A conoidal-shaped excavating-tool having spiral ribs or flanges, open slots between the flanges, with an open hollow shank, substantially as described.

2. A conoidal-shaped excavating-tool having spiral ribs provided with cutting-edges, open slots within the ribs, and a hollow shank, substantially as described.

3. A centripetal lifting and suction pump consisting of the pump-tube having enlargements or swells for propellers, a rotary

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shaft extending solid or in sections from top to bottom, and a series of centripetal spiral propellers, open and unobstructed in their axial region, arranged upon the shaft within the enlargements or connected in sections, substantially as described.

4. A spiral centripetal propeller open at its center throughout, mounted upon a shaft, as described, said shaft having at one end a squared socket to receive the squared end of the shaft of the next adjacent propeller, whereby one section communicates motion to the series of sections, substantially as described.

5. The combination, with the pump-tube having the enlargements or swells, of a spiral centripetal propeller with shaft attachments for pumping purposes, substantially as described.

6. The combination, with the pump-tube having an oscillating and circulating movement, of a pump-shaft, a driving-shaft, and a universal joint or flexible connection to communicate motion to propellers from a fixed or stationary power, substantially as described.

7. The combination of a shaft with a flexible or universal joint at one end, worm-gear at the other, and a rotary excavating-tool, for the purposes set forth, substantially as described.

8. The combination of a bevel-gear wheel connected with a worm-gear with the revolving foot tube or pipe, substantially as described.

9. The combination of a revolving foot tube or pipe with a leg pipe or tube, substantially as described, for conducting water and other material to said pipe or tube.

10. The combination, with the foot and leg pipes or tubes, of the hollow knuckle-joint to afford continuous free open passage-way within and between said pipes or tubes, substantially as described.

11. The combination of the pump-tube having enlargements or swells and the shaft-sections, each carrying a propeller at one end, and having its other end squared to fit into a square recess on the end of the next shaft-section, whereby the several sections are adapted to be fitted together within the tube, substantially as described.

12. The combination of the pump-tube having the enlargements or swells, the shaft-sections, each carrying a propeller at one end and having its other end squared, and the abutments on the pump-tube forming bearings and supports for the propellers, substantially as described.

13. The combination of a suction-pump and a tube jointed to the lower end of the pump-tube, and carrying a rotary excavating-tool having cutting-ribs, slots within the ribs, and a hollow shank opening into the jointed tube, substantially as described.

14. The combination of the pump-tube with the foot-tube carrying the excavating-tool, and swiveled upon a sleeve which is connected to the pump-tube by a knuckle-joint and rotated by power derived from the pump-shaft, substantially as described.

15. The combination of the pump-tube and the foot-tube carrying the excavating-tool and provided with a fixed gear, and swiveled upon a sleeve which is connected to the pump-tube by a hollow knuckle-joint, with the worm on the pump-shaft and the intermediate gear-wheel, substantially as described.

16. The combination, with the pump-tube and the foot-tube consisting of the neck which carries the excavating-tool and the hollow coupling collar-block, of the sleeve swiveled to the foot-tube and jointed to the pump-tube, substantially as described.

17. The combination, with the pump-tube, of the arm having the cam-slot and the operating-crank, whereby a slow graduated outward movement and a quick inward movement are given to excavating-tool, substantially as described.

18. The combination of the swinging pump-tube, carrying the rotary excavating-tool at its lower end, with the turn-table and mechanism set in operation by the swinging motion of the pump-tube, for automatically moving the turn-table in either direction to change the position of the excavating-tool, substantially as described.

19. The combination of the sliding plate on the turn-table, having the pivoted wedging-lever, with the rack on the stationary frame and the arm on the swinging pump-tube, whereby the turn-table is automatically turned as the pump-tube is vibrated, substantially as described.

20. The combination, with the sliding plate on the turn-table and its pivoted wedging-lever, of the weighted pilot-ball lever for holding the wedging-lever in position, substantially as described.

21. The combination, with the foot-tube carrying the excavating-tool and connected to the pump-tube by a hollow swivel and knuckle-joint, of the means for suspending said foot-tube so as to keep the tube in the same plane during all its forward, backward, and lateral movements, substantially as described.

22. The combination, with the foot-tube carrying the excavating-tool, of the loose collar on said tube, the suspending bail and chains or jointed rods, the vibrating yoke, and the rod connecting the yoke to the swinging pump-tube, substantially as described.

23. The pump-tube provided with excavating mechanism, in combination with means for imparting to said tube a swinging forward-and-backward movement, and other means for turning it so as to give the excavating-tool a circulating or lateral sweep, substantially as described.

24. In a dredging-boat, the combination of the small lower compartment and the large upper compartment, each compartment having an opening through the side of the boat, and valves for closing said openings, and a pump for emptying the lower compartment, whereby the position of the boat with respect to the bottom can be regulated with the rise and fall of tide by the regulated in and out flow of water, substantially as described.

25. The method herein described of maintaining the boat at the proper distance from the bottom during the rise and fall of tide, consisting in allowing the water to flow in and fill a lower compartment, and then likewise permitting it to flow in through a gaged valve and fill an upper compartment while the tide is rising, then, when the tide begins to fall, closing the valve of the lower compartment and pumping out the water therefrom, so as to give buoyancy to the boat and cause the water to flow gradually out through the gaged opening of the upper compartment, substantially as described.

26. The series of small water-tight compartments F' at the stern of the boat and the pump for filling and exhausting the same, and the valves for cutting off communication with the pump, substantially as described, whereby an economical and easily-controllable ballast is provided.

27. The herein-described boat for dredging and ditching purposes, in combination with a centripetal propeller, suction and lifting pump placed and attached at the fore end of the boat, shifting on a rising and falling frame-work, as shown, and for the purpose substantially described.

28. A dredging and ditching boat made to sink and rise in flowing and ebbing tides, combined with an oscillating and circulating pump having a suspended foot-tube carrying an excavating-tool for dredging out harbors, river-channels, &c., to a uniform depth, as desired, in higher or lower stages of water, substantially as described.

29. A boat having engine power with or without ballast arrangement, and having connected an oscillating and circulating pump with extended conducting-pipes, and a revolving foot-tube carrying an excavating-tool for ditching, dredging out, and reclaiming harbors, rivers, and water-channels, propelling the material uninterruptedly to shore-flats, overflowed lands, and low places for making levees or dikes, building up and reclaiming the same, substantially as set forth and described.

265,501. COMPOSITION FOR TREATING SULPHATES OF LIME FOR THE MANUFACTURE OF ARTIFICIAL MARBLE. RAPHAEL JOSIA, Florence, Italy, assignor to William Roy and C. De Varigny, both of Paris, France. Filed Aug. 9, 1882. (No specimens.)

Claim.—The composition for treating dehydrated gypsum, consisting of water, alum, and oxalic acid, substantially in the proportions hereinbefore described.

265,502. COMPOSITION FOR TREATING SULPHATES OF LIME FOR THE MANUFACTURE OF ARTIFICIAL MARBLE. RAPHAEL JOSIA, Florence, Italy, assignor to William Roy and C. De Varigny, both of Paris, France. Filed Aug. 9, 1882. (No specimens.)

Claim.—The composition herein described for treating dehydrated gypsum, consisting substantially of the following elements: water, sulphate of iron, sulphate of copper, Campeachy-wood gall-nuts, and logwood, in about the proportions specified.

265,503. COMPOSITION FOR TREATING SULPHATES OF LIME FOR THE MANUFACTURE OF ARTIFICIAL MARBLE. RAPHAEL JOSIA, Florence, Italy, assignor to William Roy and C. De Varigny, both of Paris, France. Filed Aug. 9, 1882. (No specimens.)

Claim.—The composition herein described for treating dehydrated gypsum, consisting substantially of the following elements: water, alum, oxalic acid, and rose of aniline in about the proportions set forth.

265,504. COMPOSITION FOR TREATING SULPHATES OF LIME FOR THE MANUFACTURE OF ARTIFICIAL MARBLE. RAPHAEL JOSIA, Florence, Italy, assignor to William Roy and C. De Varigny, both of Paris, France. Filed Aug. 9, 1882. (No specimens.)

Claim.—The composition herein described for treating dehydrated gypsum, consisting substantially of water, alum, oxalic acid, Brazil wood, sulphuric acid, and rose of aniline, in about the proportions set forth.

265,505. COMPOSITION FOR TREATING SULPHATES OF LIME FOR THE MANUFACTURE OF ARTIFICIAL MARBLE. RAPHAEL JOSIA, Florence, Italy, assignor to William Roy and C. De Varigny, both of Paris, France. Filed Aug. 9, 1882. (No specimens.)

Claim.—The composition herein described for treating dehydrated gypsum, consisting substantially of the following elements: water, alum, oxalic acid, Brazil wood, chloride of zinc, and cream-tartar, in about the proportions set forth.

265,506. COMPOSITION FOR TREATING SULPHATES OF LIME FOR THE MANUFACTURE OF ARTIFICIAL MARBLE. RAPHAEL JOSIA, Florence, Italy, assignor to William Roy and C. De Varigny, both of Paris, France. Filed Aug. 9, 1882. (No specimens.)

Claim.—The composition herein described for treating dehydrated gypsum, consisting substantially of the following elements: water, alum, oxalic acid, Brazil wood, chloride of zinc, cream-tartar, and sulphuric acid, in about the proportions set forth.

265,507. COMPOSITION FOR TREATING SULPHATES OF LIME FOR THE MANUFACTURE OF ARTIFICIAL MARBLE. RAPHAEL JOSIA, Florence, Italy, assignor to William Roy and C. De Varigny, both of Paris, France. Filed Aug. 9, 1882. (No specimens.)

Claim.—The two-part composition herein described for treating dehydrated gypsum in separate baths, each part consisting substantially of the following elements: in the first part water and sulphate of iron, and in the second part water, alum, oxalic acid, and bichromate of potash, in about the proportions set forth.

265,508. COMPOSITION FOR TREATING SULPHATES OF LIME FOR THE MANUFACTURE OF ARTIFICIAL MARBLE. RAPHAEL JOSIA, Florence, Italy, assignor to William Roy and C. De Varigny, both of Paris, France. Filed Aug. 9, 1882. (No specimens.)

Claim.—The composition herein described for treating dehydrated gypsum, consisting substantially of the following elements: water, alum, oxalic acid, and logwood, in about the proportions set forth.

265,509. COMPOSITION FOR TREATING SULPHATES OF LIME FOR THE MANUFACTURE OF ARTIFICIAL MARBLE. RAPHAEL JOSIA, Florence, Italy, assignor to William Roy and C. De Varigny, both of Paris, France. Filed Aug. 9, 1882. (No specimens.)

Claim.—The composition herein described for treating dehydrated gypsum, consisting substantially of the following elements: water, alum, logwood, and sulphate of indigo, in about the proportions set forth.

265,510. COMPOSITION FOR TREATING SULPHATES OF LIME FOR THE MANUFACTURE OF ARTIFICIAL MARBLE. RAPHAEL JOSIA, Florence, Italy, assignor to William Roy and C. De Varigny, both of Paris, France. Filed Aug. 9, 1882. (No specimens.)

Claim.—The composition herein described for treating dehydrated gypsum, consisting substantially of the following elements: water, alum, logwood, and sulphate of iron, in about the proportions set forth.

265,511. COMPOSITION FOR TREATING SULPHATES OF LIME FOR THE MANUFACTURE OF ARTIFICIAL MARBLE. RAPHAEL JOSIA, Florence, Italy, assignor to William Roy and C. De Varigny, both of Paris, France. Filed Aug. 9, 1882. (No specimens.)

Claim.—The composition herein described for treating dehydrated gypsum, consisting substantially of the following elements: water, alum, oxalic acid, Campeachy wood, and carbonate of soda, in about the proportions set forth.

265,512. COMPOSITION FOR TREATING SULPHATES OF LIME FOR THE MANUFACTURE OF ARTIFICIAL MARBLE. RAPHAEL JOSIA, Florence, Italy, assignor to William Roy and C. De Varigny, both of Paris, France. Filed Aug. 9, 1882. (No specimens.)

Claim.—The composition herein described for treating dehydrated gypsum, consisting substantially of the following elements: water, oxalic acid, alum, and cyanide of potassium, in about the proportions set forth.

265,513. COMPOSITION FOR TREATING SULPHATES OF LIME FOR THE MANUFACTURE OF ARTIFICIAL MARBLE. RAPHAEL JOSIA, Florence, Italy, assignor to William Roy and C. De Varigny, both of Paris, France. Filed Aug. 9, 1882. (No specimens.)

Claim.—The composition herein described for treating dehydrated gypsum, consisting substantially of the following elements: water, alum, oxalic acid, aniline-blue, and sulphuric acid, in about the proportions set forth.

265,514. COMPOSITION FOR TREATING SULPHATES OF LIME FOR THE MANUFACTURE OF ARTIFICIAL MARBLE. RAPHAEL JOSIA, Florence, Italy, assignor to William Roy and C. De Varigny, both of Paris, France. Filed Aug. 9, 1882. (No specimens.)

Claim.—The composition for treating dehydrated gypsum, consisting of water, sulphate of copper, and ammonia, substantially in the proportions hereinbefore described.

265,515. COMPOSITION FOR TREATING SULPHATES OF LIME FOR THE MANUFACTURE OF ARTIFICIAL MARBLE. RAPHAEL JOSIA, Florence, Italy, assignor to William Roy and C. De Varigny, both of Paris, France. Filed Aug. 9, 1882. (No specimens.)

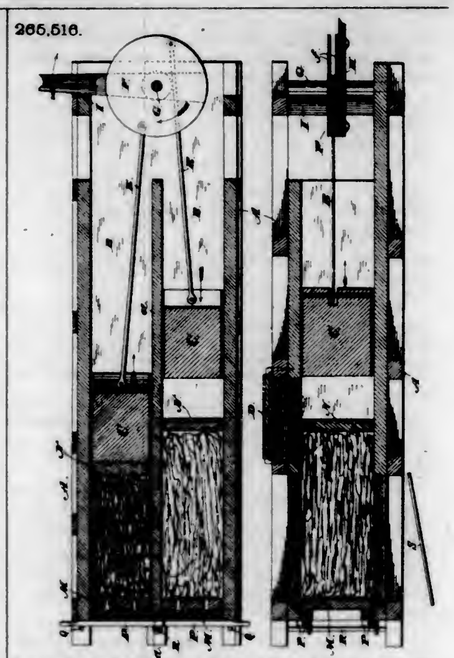
Claim.—The composition herein described for treating dehydrated gypsum, consisting substantially of the following elements: water and sulphate of iron, in about the proportions set forth.

265,516. BALING-PRESS. JOHN LA DOW, Albany, N. Y. Filed Mar. 6, 1882. (No model.)

Claim.—1. The combination, in a baling-press, of the mechanism for reciprocating the two platens in reverse directions within their respective bale-chambers and for locking either platen in position to hold the bale in a pressed condition within the bale-chamber to admit of its being baled, the same consisting in a horizontal wheel, F, to which the pitmen are connected at opposite sides of the shaft upon which the wheel is mounted, and a vibratory sweep-lever attached to the said wheel, substantially as described.

2. The combination, with the horizontal bale-compartment located in the same horizontal plane, and having slotted top and bottom walls, of the follower N, formed with vertical channels, and the abutment located at the end of the baling-compartment, and having vertical slots formed through it, whereby the wire can

265,516.



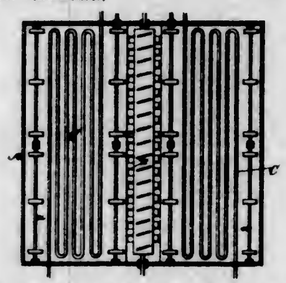
be passed around the bale and tied at the end of the press, substantially in the manner described.

3. The combination, with the two followers respectively arranged within the two horizontal bale-chambers, of the double-flanged wheel F, having the vibratory sweep-lever attached thereto, and the pitmen for actuating the followers connected with wrist-pins located between the flanges of the wheel, and at opposite sides of the center of motion, substantially as described.

4. The combination, in a baling-press, of the reciprocating platens C, located within the horizontal baling-chambers, with the wheel F, mounted at one end of the machine, and connected by links or pitmen with said platens, the vibratory sweep-lever attached to the wheel, and stops respectively located on the end of the press-chambers on opposite sides of the wheel, to check the swing of the sweep when either pitman is on the dead-center and in position to lock the platen with which it connects, substantially as described.

5. The combination, in a baling-press, with the two parallel bale-chambers B, provided with feed-openings and movable platens C, of the door D, hinged to the top of the bale-box between said feed-openings, and adapted to be swung to either side, so as to close either opening, substantially as described.

265,517. APPARATUS FOR EXTRACTING OIL BY MEANS OF A SOLVENT. MORRIS LANCASTER, Richmond, Ind. Filed Apr. 13, 1882. (No model.)



Claim.—1. The process herein described of treating oil-bearing matter with a solvent to remove the oil, which consists in removing the treated matter from the oil-extracting tank to an evaporating-tank without exposure to the air, then evaporating the remaining solvent by agitation of the material while in contact with hot surfaces—such as heated pipes—and afterward freeing the treated matter from any taint or odor by subjecting it to the action of a jet of steam and air combined.

2. The process of treating oil-bearing matter with a solvent for the removal of its oil, the same consisting in extracting the oil from the meal while in a heated condition, removing the treated matter from the oil-extracting tank while in a heated state to an evaporating-tank without exposing the treated matter to the air, evaporating the remaining solvent by heat and agitation, and then freeing the meal from any taint of taste or odor by a jet of steam or steam and air combined, substantially as described.

3. The combination, with the extracting-tank A, having an inclined bottom, the inclined screen, the conveyer arranged centrally in the bottom of the tank, the rotary shafts *a a'*, and the chains carried thereby, of the coils of steam-pipes, located respectively between the shafts carrying the chains and above the inclined screen, an evaporator, D, and an air-tight chute connecting the evaporator with the extracting-tank, substantially as described.

4. The combination of the evaporator D, the oil-extracting tank A, the coil of steam-pipe C, located within the latter and above a screen therein, an air-tight chute connecting the tank and the evaporator, and a conveyer located within the extracting-tank for delivering the heated meal from the same to the air-tight chute, substantially as described.
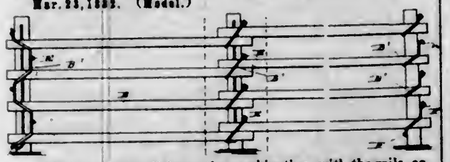
5. The combination, with the separator and the condenser H, of the oil-tank F, the steam-pipe connected with said tank at its bottom, the vapor-pipe *f'*, leading from the upper portion of the tank to the condenser, and the pipe *f²*, leading from the separator to the lower portion of the oil-tank, substantially as described.

6. The combination of the extracting-tank A with the evaporator D, the chute E, the pipe *e*, adapted to admit a jet of steam only into the chute, and the steam-pipe *e'*, entering the funnel *e²* in the chute, whereby air will be carried along with the jet of steam entering the chute from said pipe, substantially as described.

7. The combination of the separator with the oil-tank F and pipe *f²*, the steam-pipe F, the vapor-pipe *f'* and condenser H, and the superheater and agitator H' with pipe *f³*, substantially as described.

8. The combination, with the condensing-tank H, of the water-inlet pipe at its top, the perforated shelf below its top, the water-escape pipe connecting the space above and below the perforated shelf, the vapor-pipe connecting with the lower portion of the tank, and the outlet-pipes h^1 h^2, respectively, connecting with the tank at different heights, substantially as described.

265,518. FENCE. ISRAEL L. LANDIS, Lancaster, Pa. Filed Mar. 23, 1882. (Model.)



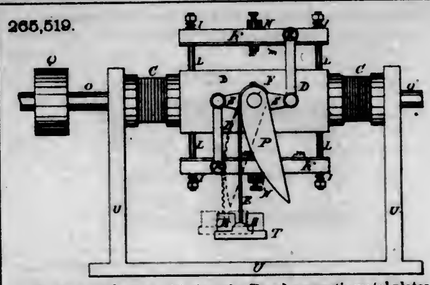
Claim.—In a rail fence, the combination, with the rails, arranged as described, and the posts, of the wire extending obliquely across the front of the rails, under the lapped ends of the same, and around the posts, the said wires being secured to fastenings at the top and bottom of the post, and at suitable intervals, and extending upward between the rails and post, substantially as specified.

265,519. REGULATOR FOR DYNAMO-ELECTRIC MACHINES. JOHN W. LANGLEY, Ann Arbor, Mich. Filed Mar. 9, 1882. (No model.)

Brief.—Improvement on Letters Patent No. 247,664, dated September 27, 1881. Magnetic plates are supported within the influence of the field-magnets in such a manner that when the field-magnets are too strongly charged the plates will be drawn toward them, and by closing the magnetic circuit diminish their strength. A counterpoise for these plates is hung to a swinging lever, the face of which is a curve of such form that the effect of the counterpoise will always have a certain relation to the strength of the magnets.

Claim.—1. In combination with the poles of a dynamo-electric machine and a magnetic metal piece so placed as to be attracted by said poles, a weight acting over and through a curved lever connected with such magnetic metal piece, and tending to force the same away from the poles, as and for the purposes set forth.

265,519.



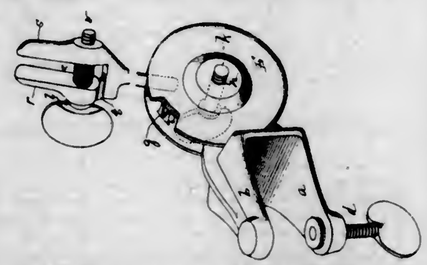
2. In combination with the poles B and magnetic metal plates L, the weight A and curved lever P, so connected with plates L that said weight offers an increasing resistance as plates L approach said poles B, as and for the purposes set forth.

3. The combination of the poles B, magnetic metal plates L, pivoted arm S, pivoted connecting-rods D, curved lever P, strap E, and weight A, as and for the purposes set forth.

265,520. PROCESS OF MANUFACTURING SOAP. OSKAR LIEBREICH, Berlin, Germany. Filed Apr. 5, 1882. (No specimens.)

Claim.—The within-described process for producing soap from oleiferous fruits or seeds, by first subjecting such fruits or seeds to a roasting operation, then treating the product thus obtained with alkaline lyes, and finally separating the parts which have saponified from those not saponified, substantially as set forth.

265,521. DEVICE FOR HOLDING EMBROIDERY-HOOPS. SAMUEL E. LINCOLN, Fulton, N. Y. Filed July 1, 1882. (Model.)



Claim.—The embroidery-hoop holder consisting of the pair of clamping-disks, each having a half-socket, *g*, extending radially inward from its margin, a forked clip having a set-screw, and a flange-arm, *c*, extending between the disks, and connected thereto by a pivotal clamp-screw and a detachable holding-arm having a pair of clamping-jaws and a rounded end adapted to be circularly adjusted in the bearing formed by the half-sockets of the disks, substantially as specified.

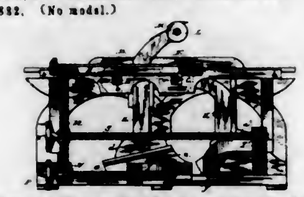
265,522. PORTABLE MOLD FOR CISTERNS. JAMES LOGAN. Waterloo, N. Y. Filed July 15, 1882. (Model.)



Claim.—1. In a portable mold for cisterns, the combination, with the separable sections A, B, C, D, and E, of the detachable key-piece F, having sides tapering toward the outside of the mold, adapting it to be wedged between the beveled sides *a* and *f* of the sections upon which it impinges, substantially as and for the purpose shown and set forth.

2. In a portable mold for cisterns, two or more pairs of separable sections having notches registering in pairs with each other, and adapted to receive the parallel beams or cross-bars M M, substantially as and for the purpose set forth.

265,523. MACHINE FOR PREPARING RAIL-PIECES OF BUREAUS, &c. GEORGE LUPPERT, Williamsport, Pa. Filed May 3, 1882. (No model.)

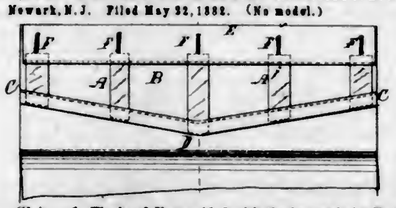


Claim.—1. In a machine for the purposes specified, the mandrels B, C, and L, provided respectively with the stationary saw and cutter-heads D, E, and M and the longitudinally-adjustable saw and cutter-heads D′, E′, and M′, arranged substantially as described, shown, and for the purposes set forth.

2. In the machine described, and in combination with the stationary and longitudinally-adjustable saws and cutter-heads, arranged substantially as described and shown, the extensible carriage H, mounted and traveling upon the stationary and movable rails or tracks *b b′*, arranged substantially as described, shown, and for the purpose set forth.

3. In the machine described, and in combination with the cutter-heads, arranged upon their mandrels substantially as described and shown, and capable of independent vertical adjustment, the mechanism consisting of the blocks or keys and intermediate connections, together with means for operating the same, whereby said cutter-heads may be vertically adjusted relatively to each other, or simultaneously vertically adjusted, for the purpose of regulating the same to cut the desired depth on both the upper and under sides of each end of the rail simultaneously, as set forth.

265,524. ATTACHMENT FOR PANTS. HENRIETTA J. LYON Newark, N.J. Filed May 22, 1882. (No model.)



Claim.—1. The band E, provided with the button-holes F, to the lower edge of which is attached a series of elastic strips, A, having their lower ends stitched to the inside of the rear portion of the pants B, substantially as and for the purpose specified.

2. In combination with the band E, having the button-holes F, the elastic strips A, having their lower ends secured to the inside of the rear portion of the pants, said strips made to increase in length from the sides to the center of the rear portion, substantially as and for the purpose set forth.

265,525. MOWER. DEWITT C. MARKHAM, Collinsville, N. Y. Filed Jan. 4, 1882. (Model.)

Claim.—1. The combination of the platform provided with the rear curved arms, the axle provided with the grooved segmental plates and lugs, and their means of connection, substantially as described.

2. The combination of the independent levers L L′, the separate rods *s s′*, their supporting-brackets, the side arms, C, D, and E, and the axle B, for jointly raising the cutter-bar and frame at the same time, substantially as described.

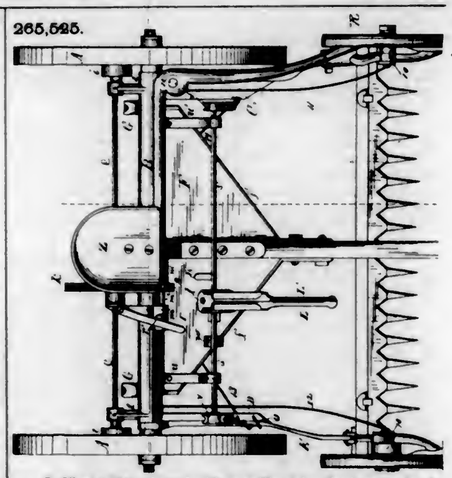
3. The foot-lever M, located in front of driver's seat, in combination with the platform provided with the slot directly under the lever-rods *s s′*, by which an easy and direct downward action of the foot-lever is obtained, substantially as described.

4. The single bent arm P, pivoted to the frame at or near the axle, its upper end connected directly to the crank-wheel, and its lower end connected directly to the sickle, substantially as described.

5. In a harvester, the combination, with the platform, of the sleeve-axle provided with the inclined lugs and the segmental plates, substantially as described.

6. In a harvester, the tongue slitted to receive the platform, in combination with said platform, the horizontal bar 15, the sleeve-axle B, and the lugs H H, on which the said platform rests, substantially as described.

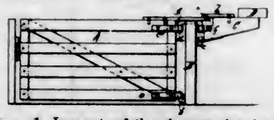
265,525.



7. The platform bound with metallic strips, the inner ends of which terminate in curved arms, in combination with suitable supports and the axle, substantially as described.

8. The combination of the foot-lever, independent hand-levers, side arms, connecting-rods, and finger-bar carrying lead-wheels, by which either lead-wheel is fixed at proper height, substantially as described.

265,526. FENCE-GATE. CYRUS MASON, Vicksburg, Miss. Filed May 26, 1882. (No model.)

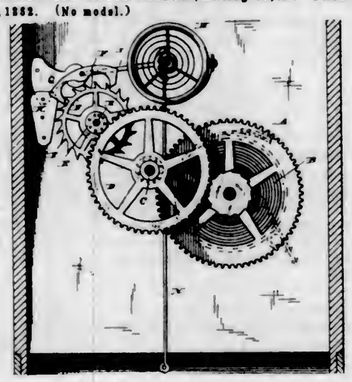


Claim.—1. In a gate of the character herein set forth, the hinge-rod uniting the gate and counter-balance and movable back and forth on or in the gate-post, the counter-balance and gate being both hinged to said post, and the parts combined and arranged substantially as shown and described.

2. The combination, with the hinged counter-balance, of the two hinged bars or arms, one connected with the gate and the other with the counter-balance, the arrangement being substantially as described, so as to cause the counter-balance to swing, in the manner and for the purposes set forth.

3. The combination of the hinged gate, the hinged counter-balance, the connecting hinge-rod, and the arms or bars uniting the gate and counter-balance, all constructed and arranged substantially as shown, and for the purposes set forth.

265,527. APPARATUS FOR OPERATING PUMPS. HERMAN H. MARTIN and CONRAD HARTSON, Millington, Ill. Filed June 15, 1882. (No model.)

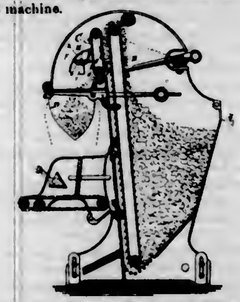


Claim.—1. In a pump-motor, the combination of the train of wheels actuated by a mainspring, the escapement, the lever I, the part G, formed thereon, the escapement-wheel, the weight K, pivoted to the part G, and the rod N, pivoted to semi-lunar part of the lever I, all constructed and arranged to operate substantially in the manner and for the purposes described.

2. In a pump-motor, the combination of a train of wheel-work actuated by a spring, the balance-wheel H, the hair-spring, the lever I, provided with a semi-lunar escapement on one end, with a pivoted counterbalancing-weight at the opposite end, the anchor-escapement, and the pump-rod N, pivoted to one arm of the said semi-lunar escapement, all constructed and arranged to operate substantially as described.

265,528. FEEDING MECHANISM FOR CARDING-ENGINES. JOHN L. MATHEWS, West Troy, N.Y. Filed July 19, 1882. (No model.)

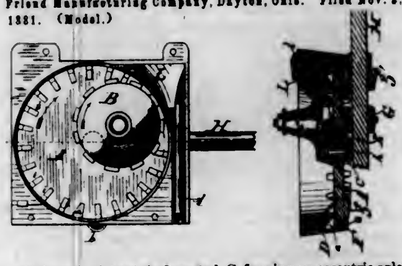
Brief.—Improvement on Letters Patent No. 216,373, dated June 10, 1879. A clearing device consisting of a strip of leather corresponding to the width of the stripper-apron is clamped between two bars secured together by screws and backward upon the frame of the machine.



Claim.—1. The combination, with the stripper-apron C, having transverse strips c, of the fixed flexible clearer-strip E, placed at right angles to the apron and overlapping its strips, substantially as set forth.

2. The combination, with the stripper-apron C, having transverse strips c, of the fixed flexible clearer-strip E, placed at right angles to the apron and overlapping its strips, and provided with the shield or deflector K, substantially as and for the purpose herein shown and set forth.

265,529. MACHINE FOR SOWING FERTILIZERS. EDWIN D. MEAD, Shortsville, N. Y., assignor of one-half to the Farmers Friend Manufacturing Company, Dayton, Ohio. Filed Nov. 5, 1881. (Model.)



Claim.—1. A bent shaft or stud, C, forming an eccentric axle *c′*, for the cleaner-wheel B to revolve upon, and also forming an axle for the horizontal rotating disk or feed-wheel A, substantially as herein set forth.

2. In combination with the feed-wheel A and the concave cleaner-wheel B, the bent axle C, located within the concavity of wheel B, and acting as a scraper to prevent the sticking of the material to the wheel, substantially as herein set forth.

3. The combination, with feed and cleaner wheels, of the vertically-oscillating gate or cut-off L, with its rod *l*, located to oscillate over the cleaner-wheel and above the discharge-orifice E, and adapted, when down, to act as a scraper for the cleaner-wheel.

4. The combination, in a machine for sowing fertilizers, of the feed-wheel, with the oil-cup *b* on the side wall, D, of the feed-chamber, connected by an orifice through said wall with the annular peripheral bearing of wheel A, whereby the parts are kept lubricated, substantially as herein described.

5. The horizontal revolving wheel A, having a series of lugs or starts for carrying the fertilizer arranged around upon the periphery of the wheel, with one or more of said lugs A projecting outwardly and acting as a scraper to scrape the fertilizer from the side walls of the feed-cup, to prevent the clogging of the feed wheel or disk, substantially as shown and described.

6. In a fertilizer-distributer, a metallic feed cup or hopper, with cylindrical sides D, and provided with the vertical discharge-orifice E, located within said feed-cup and abutting the peripheries of the wheels A and B, substantially as herein set forth.

7. The horizontal revolving wheel A, for carrying the fertilizer, revolving within a feed-cup, and provided with an upwardly-projecting lug abutting the inner periphery of the feed-cup, and acting as a scraper to clean the fertilizer from the side walls of the feed-cup and to prevent the sticking of the fertilizer to the walls thereof, substantially as shown and described.

8. A fertilizer-distributer composed essentially of a feed-cup having cylindrical sides and a feed disk or wheel revolving therein against such sides, the said feed-cup being cast or otherwise formed with a laterally-extending recess in one of its sides, which recess contains the vertically-discharging orifice, having its edge abutting the periphery of the feed-disk, substantially as shown and described.

265,530. DRAWER-PULL. JULIUS E. MERRIMAN, Meriden, Conn. Filed July 11, 1882. (No model.)

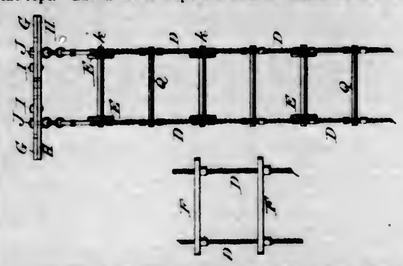


Claim.—1. A drawer-pull consisting of a metal head and the rosette *c d*, formed or struck up from one piece of metal, with the openings d^2 d^3, and adapted to be united with the drop-handle F, provided with trunnions to conform and fit into the openings d^2 d^3, in combination with the screw-stud *e*, provided with a nut, e^2, all substantially as and for the purposes described.

2. In a drawer-pull, the combination of the hollow head and rosette *c d*, with holes d^2, and the screw-rod *e*, united with or secured to the front of the head *c*, and adapted to hold the pull to the drawer and to prevent the twisting or turning of the head or plate, all substantially as and for the purposes described.

265,531. FIRE-ESCAPE LADDER. THOMAS MILLER, Jersey City, N.J. Filed Mar. 31, 1882. (No model.)

Brief.—The rungs are held in place on the sides by metal clips fitted around the rope and the ends riveted together and through the rope. The ladder is suspended from an extensible cross-bar.



Claim.—1. The combination, with a fire-ladder, of the extensible cross-bar G, arranged for suspending the ladder from a window, substantially as described.

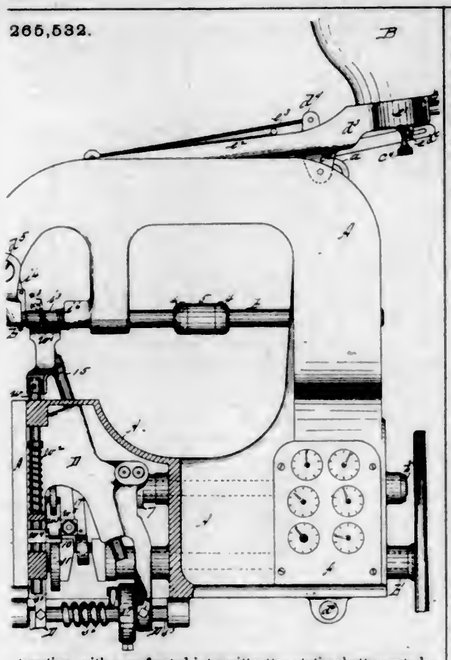
2. The combination, with the sides D, and the steps F of a fire-ladder, of metal clips M, fitted around and riveted together on the ropes through ears O, and also through the rope, substantially as described.

265,532. MACHINE FOR SEWING BUTTONS TO FABRICS. JAMES H. MORLEY, Holyoke, assignor to the Morley Sewing Machine Company, Boston, Mass. Filed Jan. 16, 1882. (No model.)

Claim.—1. In a machine for sewing shank-buttons to fabrics, the button-feed trough pivoted to the frame of the machine at or near its delivery end, and having the curved cap *c′* secured adjustably thereto, and the cap-spring *c²* secured to said cap, substantially as set forth.

2. In button-feed mechanism for sewing-machines, the com-

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bination, with a perforated intermittently-rotating button-gate located at the bottom of the hopper-bowl, of a button-guard to extend over a portion of the perforations in said button-gate, substantially as set forth.

3. In combination, levers d^4 and d^5, the slotted rod d, spring d^6, the button-ejector c^4, having arm e thereon, and operating mechanism substantially as described, and the trough d^2, substantially as set forth.

4. The combination, with the feed-trough d^2, having a hopper-bottom, c', thereon, provided with an opening, K, therein, of the button-ejector c^4, having a reciprocating motion under said bottom in a line with said trough, substantially as set forth.

5. In combination, the hopper-bowl B, having the inwardly-projecting button-rim e around its interior, and the perforated rotating button-gate c^3, substantially as set forth.

6. The combination, with the sewing and button-feeding mechanism of a machine for sewing buttons onto fabrics, of a button-counting device, f, connected by mechanism, substantially as described, with the operative parts of said machine, substantially as set forth.

7. The combination, with the button-carrier b, and with appliances, substantially as described, for imparting thereto a longitudinal and rotating reciprocating motion, of the button-finger i^2, having a shank extending into the end of said carrier, the sleeve i^3, having the finger-lever i^5 pivoted thereto, the plate i^7, and springs i^8 and o^4, substantially as set forth.

8. The adjustable wedge i^9, secured to the trough d^2, the button-finger i^2, and the finger-lever i^5, combined and operating substantially as set forth.

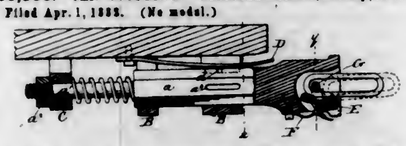
9. In combination with the main driving-shaft b', the cam w^2, the lever w^3, pivoted to the frame of the machine, the presser-bar w, the block w^4, adjustable on said bar w, and spring w^5, substantially as set forth.

10. In combination, the swinging needle-bar frame D, the needle-bar 15, carrying the hook-needle x^3, yoke 18, secured to said needle-bar, the cast-off bar 16, passing through said yoke, and having collars s s thereon and carrying the cast-off x', the needle-bar 14, carrying the eyed needle x^2, and mechanism, substantially as described, for imparting a reciprocating motion to said needle-bars 15 and 14, substantially as set forth.

11. The combination, with the cast-off bar 16, having a flat side, and with the swinging needle-bar frame D, of the friction-block r', bearing against said flat side of bar 16, piston r^3, spring r^2, and screw t, substantially as set forth.

12. The button-feed trough having thereon the fixed hopper-bottom, having through it the opening K, the hopper-bowl having the inwardly-projecting button-rim e around its interior, the button-gate having the ratchet c^3 thereon and a series of perforations through it, the button-guard extending over a portion of said perforations, the button-ejector having the pawl c^5 thereon, and mechanism, substantially as described, for vertically vibrating said trough and hopper-bowl, and for imparting to the button-ejector a reciprocating motion, all combined and operating substantially as set forth.

265,533. CAR-COUPLING. THEODORE MOSHER, Albany, N.Y. Filed Apr. 1, 1882. (No model.)



Claim.—1. A draw-bar provided with a spring-seated, pivoted, and weighted dog, substantially as shown and described.

2. The combination of the draw-bar A, having the polygonal body a, grooved at a' a^3 a^4, with the spring D, having the pin d, substantially as shown and described.

3. The combination of the draw-bar A, having the polygonal body a, grooved as shown, with the spring D, having pin d, and the straps B B, conformed thereto, substantially as shown and described.

4. The combination of the head a^3, and dog E, weighted at its outer end, with the spring F, adapted to pivotally support the dog, substantially as shown and described.

5. The combination of the head a^3, dog E, spring F, pin G, rod g, pivotally attached to the pin, spring g', case g^3, and means, substantially as shown and described, for withdrawing the rod g, substantially as and for the purpose set forth.

6. The combination of the rod H and bar I, loosely pivoted thereon, and slotted at i, with the rod g, spring g', and pin G.

7. The combination of the rod H, having lug h', brackets h h, one of which is provided with the key-hole slot h^2, and the bar I, pivotally attached to the rod, substantially as shown and described.

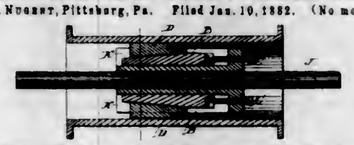
8. The combination of the rod H, pivotally-attached bar I, and detached lever J, substantially as shown and described.

265,534. CORSET-STIFFENER. WILLIAM A. NETTLETON, Bridgeport, Conn. Filed June 20, 1882. (No model.)



Claim.—As an improved article of manufacture, a corset-stiffener composed of two continuous parallel lines of short pieces of horn or whalebone, a, wrapped together by the thread b, said pieces being arranged so as to break joints in the manner specified.

265,535. BORING-HEAD FOR BORING CYLINDERS. RICHARD C. NUGENT, Pittsburg, Pa. Filed Jan. 10, 1882. (No model.)



Claim.—In a boring-head hereinbefore described, the combination of the head A, screw or screws C, wedge or wedges B, and cutters D, constructed and operating substantially as herein described, and for the purpose set forth.

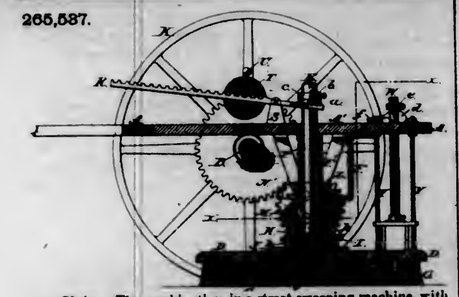
265,536. OVERCOAT. PETER J. OBERST, Minneapolis, Minn., assignor to Thomas B. Farrington, same place. Filed July 24, 1880. (No model.)



Claim.—As a new article of manufacture, a coat provided with straps upon the skirts, adapted to encircle the lower limbs of the wearer to hold the skirts enwrapped about them, as set forth.

265,537. STREET-SWEEPING MACHINE. CHAS. Z. O'NEILL, New York, N.Y. Filed May 9, 1882. (No model.)

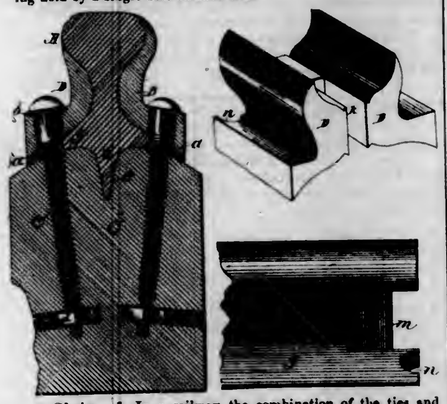
265,537.



Claim.—The combination, in a street-sweeping machine, with its frame, and with a horizontal sweeping-wheel supported thereby and adapted to revolve in a plane parallel with the street-level, of a vertical shaft having longitudinal play in its bearings, connected to the wheel by a universal joint and suitably geared to the driving-axle of the machine, an adjusting-lever adapted to engage the wheel-shaft and counterbalance the weight of the sweeping-wheel, and a lateral fender dependent from the frame of the machine at a angle with its line of movement, so that one end shall be in contact, or nearly so, with the circumference of the adjustable rotating sweeping-wheel and the other extend therefrom radially or tangentially toward the rear of the machine, all substantially in the manner and for the purpose herein set forth.

265,538. RAILROAD. JOHN M. REID, Allegheny, Pa. Filed Feb. 20, 1882. (No model.)

Brief.—Rails having downwardly-curved base-flanges and a lengthwise web below the same are laid upon grooved stringers supported on cross-ties. Each is secured at its middle part to the stringers, and can expand both ways therefrom. Stay-pieces are applied between said bolt-heads and rails. Stay-blocks at the joints are fitted to the slotted ends of the rails, both rail ends being held by a single bolt on each side.



Claim.—1. A railway, the combination of the ties and beams, preserved as set forth, and the rails having the downwardly-curved or drooping base-flanges and the lengthwise diaphragm below the same, as set forth.

2. A railroad-rail having curved or drooping base-flanges and a central longitudinal diaphragm below said base, as shown and described.

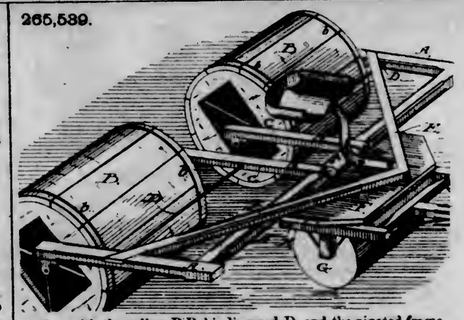
3. The herein-described middle fastening of the rails, consisting of the stays applied to the rail between the crown and the base, and the bolts applied substantially as shown and described.

4. The herein-described joint-fastening, consisting of the stay-pieces combined with the rails, substantially as described and shown, and having, with the rails, the registering half-holes and the bolts, as and for the purposes set forth.

265,539. LAND-ROLLER. CHARLES M. RIDDLE, Clintonville, Pa. Filed July 30, 1881. Renewed Mar. 10, 1882. (No model.)

Claim.—A land-roller constructed as described, and consisting of the frame A, provided with the two vertically-swinging arms C C, secured to the said frame by the collars a a, in combination with the rollers B B, binding-rod D, and the pivoted frame H, having journaled within it the roller G, substantially as and for the purpose set forth.

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265,540. JUG. HENRY ROBINSON and RICHARD WHITMORE, Akron, Ohio, assignors to Whitmore, Robinson & Co., same place. Filed Feb. 15, 1882. (No model.)



Claim.—1. The herein-described process of constructing a handle on a jug, which consists in forming integral with the top a fin projecting therefrom and subsequently cutting a hand-hole therein, substantially as hereinbefore described.

2. The herein-described jug, having straight sides, a strengthening-rim with a substantially horizontal upper surface at the base of the top portion, and a handle integral with the top portion and wholly within the upper surface of the rim, and on a level with or below the mouth, substantially as shown, and for the purpose specified.

265,541. HEAD-COVERING. WASHINGTON H. ROGERS, Hoboken, N.J. Filed Sept. 6, 1882. (No model.)



Claim.—1. A hat or head-covering made to imitate plush, fur, or beaver, composed of two layers of napped fabric and one or more intervening layers of rubber thane, substantially as and for the purpose set forth.

2. A hat or head-covering composed of two layers of napped fabric, two or more layers of rubber tissue placed against the plain surfaces of the napped fabric, and an intervening layer of buckram, substantially as and for the purpose set forth.

265,542. FEED-WATER REGULATOR. SILAS C. SALISBURY, New York, N.Y., assignor to the American Non Explosive Boiler Attachment Company, same place. Filed Jan. 30, 1882. (No model.)

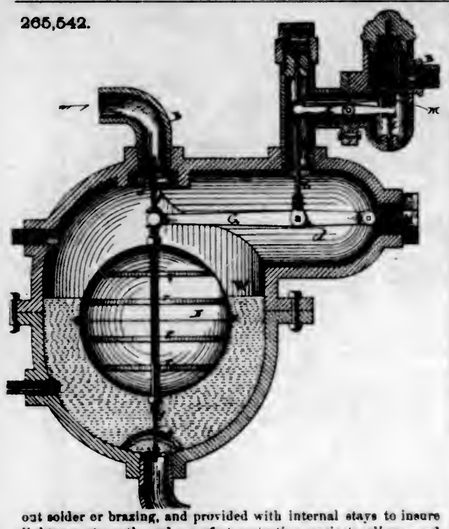
Claim.—1. A steam-pipe from the boiler to the feed-pump and interposed therein a float-chamber, D, having communication at the bottom with the water-space of said steam-generator, a float within said chamber, and a lever, G, fulcrumed at one end on the chamber-wall, and engaged at the other end with the stem of said float, combined with a throttle-valve in said steam-pipe and the lever K and rods i l, whereby said throttle is connected with and controlled by said lever G and float E.

2. A float, E, constructed of a hollow shell of cast or other metal, provided with tubular stays to strengthen said shell to resist compression from without, substantially as set forth.

3. A float, E, combined with a throttle-valve and its lever in the steam-pipe of the feed-pump and connecting mechanism, whereby said valve may be controlled, the water and steam pressure opposing each other to repress oscillation of the valve and prevent uneven feed of steam to the steam-pump, so that the amount of steam which enters the steam-pipe may be exactly sufficient to cause the feed to be exactly equal to the amount evaporated.

4. A metal float made in two parts united by seaming with-

265,542.

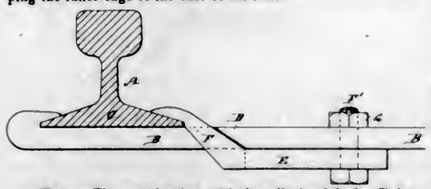


out solder or brazing, and provided with internal stays to insure lightness, strength, and a perfect protection against collapse and leaks.

5. The float-chamber D, adapted to receive the float with the smallest possible surplus surrounding space and the lateral extension of offset *d*, whereby the oscillations of the confined water will have but little effect of disturbance on said float, and the lever G may be received within the chamber, substantially as set forth.

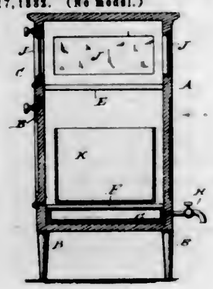
265,543. TIE-BAR FOR RAILROAD-RAILS. E. DANIEL SAMAIN, Pierceville, Kans. Filed Mar. 1, 1882. (No model.)

Brief.—The tie, having its ends bent back over the bases of the rails on the outer side, is provided with shoulders beveled downward, and has a plate secured by a bolt and having upwardly-projecting clips held against the beveled shoulders and overlapping the inner edge of the base of the rails.



Claim.—The combination, with the rails A, of the bar B, having its ends bent over the outer edges of the bases of the rails, and provided with beveled shoulders D a short distance from the inner edges of the bases of the rails, of the plates E, fastened to the under side of the bar B, and provided with inclined prongs or clips F, resting on the inner edges of the bases of the rails and of the bolts F', substantially as herein shown and described, and for the purpose set forth.

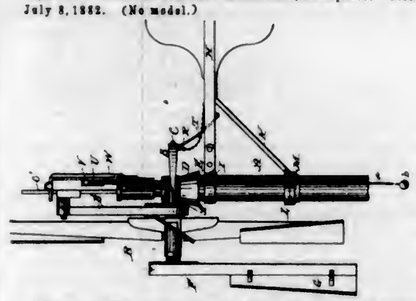
265,544. FISH-SAFE. DIEDRICH SCHMIDT, New York, N. Y. Filed July 17, 1882. (No model.)



Claim.—1. In a fish-safe, the combination, with the box A, of the doors C and D, the slatted floors E and F, and the water-pan G, substantially as herein shown and described, and for the purpose set forth.

2. In a fish-safe, the combination, with the box A, of the doors C and D, the slatted floors E and F, the glass panels J, and the water-pan G, substantially as herein shown and described, and for the purpose set forth.

265,545. WINDMILL. EMANUEL M. SCHROCK, Henry, Ill., assignor of one-half to Theodore Bickerman, same place. Filed July 8, 1882. (No model.)



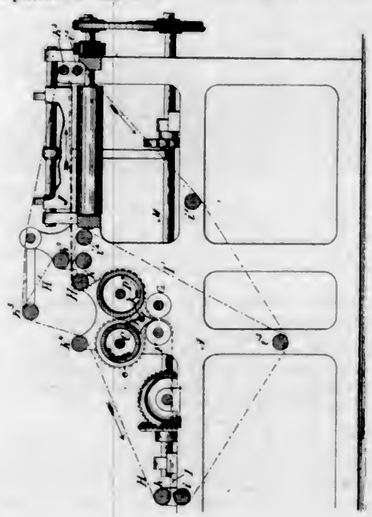
Claim.—1. The combination, with the wind-wheel mounted on a horizontal shaft journaled in a bearing in a hollow tube adapted to rotate in a supporting-tube, of the beam provided with inclined blades, and the beam swiveled to the supporting-tube and provided with a vertical blade, the said beam being connected to the horizontal shaft by means of a link and lever, the lever being provided with a rope passing over a pulley and down into the hollow tubes, its end having a counter-balance, the whole arranged to operate substantially as specified.

2. In combination with the wind-wheel and mechanism for automatically regulating its position to the power of the wind, the eccentric, eccentric-strap, pump-rod, and standard and friction roller, all arranged to operate substantially as set forth.

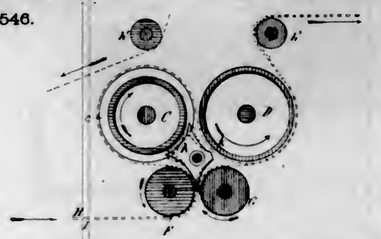
3. In a windmill, the pendent bar F, having a series of blades, G, and spindle C, combined with the wind-wheel, substantially as and for the purpose described.

265,546. SHEET-DELIVERY APPARATUS FOR PRINTING MACHINES. WALTER SCOTT, Plainfield, N. J. Filed May 10 1880. (No model.)

Brief.—The switch K, which directs alternate sheets over rollers F and G, has upper extensions guiding the sheet from roller F to the cylinder C and from it to cylinder D, where it joins the sheet passed over roller G.

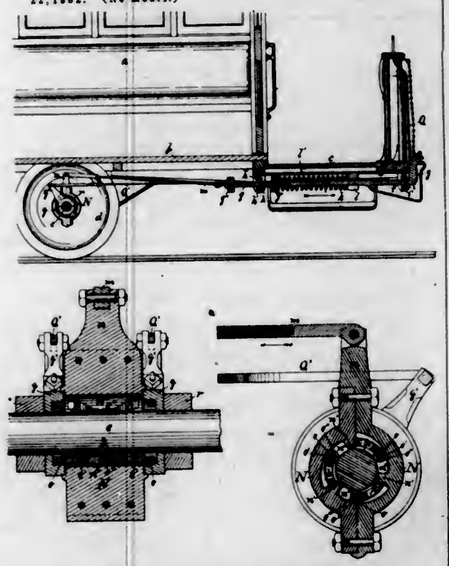


265,546.



Claim.—The cylinders C D, in combination with the rollers F G, conveying-tapes H I, and vibrating switches K, provided with extensions at their upper ends, constructed and adapted to operate as guides to the leading end of sheets passing from the roller F to the cylinder C and from the latter to the cylinder D, substantially as described.

265,547. CAR-STARTER. GEO. W. SMITH, Boston, assignor of one-half to Benjamin F. Smith, Somerville, Mass. Filed Apr. 22, 1882. (No model.)



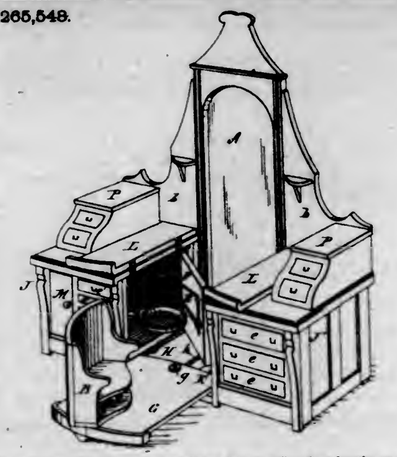
Claim.—The herein-described horse-car starter, consisting of the lever *n*, joined in its upper end to the yielding draw-bar *g*, and having a hollow hub, N, surrounding the axle *e*, such hub having tapering recesses *n''*, containing rolls *o'* on spindles *o*, and elliptic spring *p*, interposed between the spindles *o* and projections *n'*, combined with the shipper device composed of levers *q' q'*, connected to shipper bar or lever Q, and having hollow hubs *q q*, surrounding the axle *e*, and provided with projecting teeth *q''*, adapted to engage the outer ends of the spindles *o*, as and for the purpose set forth.

265,548. DRESSING-CASE. GEORGE R. SPEAR, Brooklyn, N. Y., assignor to himself and James H. McKillop, same place. Filed Mar. 2, 1882. (Model.)

Claim.—1. The combination, with a dressing-case having a mirror, A, and two compartments, J J', having an open space between them, in which the mirror is adapted to swing, of the sliding board G and the chair B, pivoted thereto and provided with a curved solid back, serving the double purpose of a seat-back and means of closing the front side of the space between the compartments.

2. The combination, with a dressing-case having a mirror, A, and two compartments, J J', having an open space between them, of the sliding board G, the chair B, pivoted thereto and provided

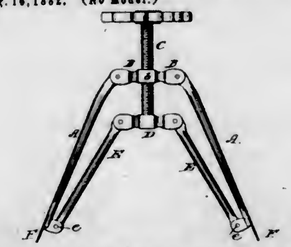
265,548.



with a curved solid back, and hinged leaves I, whereby the space between the compartments may be entirely closed.

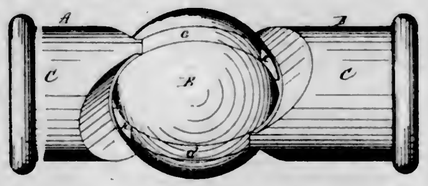
3. In a dressing-case, the combination, with the mirror A and the sliding chair B, of the compartment J, provided with the hinged door F, carrying a towel-rack, E, and a swinging basin-holder, D, substantially as and for the purpose set forth.

265,549. TINNER'S TOOL. JAMES M. UBIN, Boulder, Colo., assignor of one-third to Frederick S. Hall, same place. Filed Aug. 16, 1882. (No model.)



Claim.—The expanding device consisting of the cross-heads B and D, having the hinged arms A A and E E, plates or bars F F, and screw C, constructed and combined to operate substantially in the manner and for the purpose shown and set forth.

265,550. JOINT-COUPLING. OSWALD E. WIRTH, Freeport, Ill. Filed Aug. 24, 1882. (No model.)



Claim.—1. A universal joint employing a spherical center provided with meridian grooves crossing on its polar centers, substantially as and for the purpose set forth.

2. The combination, with a spherical center provided with meridian grooves crossing on its polar centers of the sphere, of coupling-heads provided with annular disk-rings to engage the meridian grooves of the sphere, substantially as and for the purpose set forth.

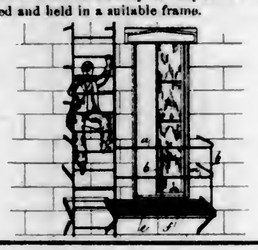
3. The combination, with a spherical center provided with meridian grooves crossing on its polar centers, and having a cylindrical center with flattened polar surfaces, of coupling-heads provided with annular disk-rings adapted to enter the grooves in the

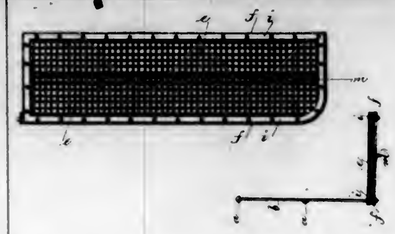
sphere, and having openings to pass the flattened polar surfaces of the cylindrical centers of the grooves, substantially as and for the purpose set forth.

4. Coupling-heads provided with annular disk-rings to enter the meridian grooves of the sphere, said annular disk-rings, one or both, provided with an axial slot, substantially as and for the purpose set forth.

265,551. FIRE-ESCAPE BALCONY. JOHN B. WICKERSHAM, Philadelphia, Pa. Filed Jan. 9, 1882. (No model.)

Brief.—The floor of the balcony is composed of wire work or netting clamped and held in a suitable frame.





Claim.—1. The combination, in a fire-escape, of a vertical or nearly vertical ladder, placed parallel with the building and having an intervening space for ascending and descending, and a balcony having a floor of open work or netting, substantially as set forth.

2. The combination, in a balcony-floor, of the open wire work or netting, the angle-iron frame and clamping-bars for securing the edges of the netting or open wire-work, and the bearing-bar *m*, substantially as set forth.

PHOTO LITH NORRIS PETERS WASHINGTON D.C.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

EX PARTE NORTON.

Decided June 16, 1882.

1. DESIGNS—UTILITY.

The term "useful" in the patent law is used in contradistinction to "mischievous." A design, if not mischievous, is useful if it is attractive, and the utility consists in such a shape or configuration of a given article that persons needing it will purchase it because of such shape or configuration in preference to other articles for the same purpose, but different in shape and configuration.

2. SAME—MECHANICAL FUNCTION.

Matter descriptive of the mechanical functions of a device should be omitted from a design application.

APPEAL from the Board of Examiners-in-Chief.

SHINGLE-MACHINE FRAME AND JOINTER-CASING COMBINED.

Application filed October 2, 1880.

Mr. William F. Searey for the applicant.

MARBLE, *Commissioner:*

Applicant claims as a new article of manufacture—

The T-shaped shingle-machine frame consisting of the parts *a* and *b*, the part *b* being the jointer-casing and supporting the saw-arbor, substantially as set forth and illustrated.

Two of the Examiners-in-Chief unite in holding that the decision of the Primary Examiner should be affirmed, but on different grounds.

The statute provides that design patents, among other things, may be granted for "any new, useful, and original shape or configuration of any article of manufacture." It is not denied that what is claimed here is an article of manufacture, and that it is new, but its utility seems to be questioned. An examination of the representation of the article shows that for its functional or mechanical use it is useful, being strong and compact, and in such shape as to recommend it to those engaged in the business for which it is intended. Such being the case, the question arises as to whether it is useful as a design for a shingle-machine frame. "'Useful,' in the patent law, is in contradistinction to 'mischievous.' The invention should be of some benefit." (*Cox v. Briggs*, 2 Fish., 174.) A design, if not "mischievous," is useful if it attracts persons to it or to articles made like it. It may not be of great artistic excellence, but if it be attractive it is useful.

So, I think, in articles of manufacture like the one under consideration, if the applicant has by his industry, genius, and efforts made a design of an article of manufacture—viz., the frame of a shingle-machine—which, because of its design and not because of its mechanical structure, (by which I mean its strength and durability,) commends itself to persons desiring to purchase such articles, it is useful, and the applicant should be protected in its manufacture and sale. It is not necessary that it should be ornamental, although it may be, to entitle the applicant to a patent therefor. The utility in an article of this kind consists in having a shape or configuration of such a character that persons needing it will purchase it because of its shape or configuration in preference to other articles for the same purpose but different in shape and configuration. Applicant, however, must strike out of his application everything descriptive of the mechanical functions of the device.

The decision of the Board of Examiners-in-Chief is overruled, and the patent will be allowed.

DECISIONS OF THE U. S. COURTS.

U. S. Circuit Court—District of New Jersey.

BATE REFRIGERATING COMPANY *v.* GILLETT.

Decided August, 1882.

1. REVISED STATUTES, SECTION 4887—PREVIOUS FOREIGN PATENT.

Section 4887 of the Revised Statutes expressly requires the Commissioner of Patents to limit the term of a domestic patent for an invention previously patented in a foreign country to the period of time which the foreign patent has to run, or, if there be more than one such foreign patent, to so limit the domestic patent that it will expire at the same time with the one having the shortest term.

2. SAME—SAME—FILING OF APPLICATION.

The limitation is the same, even if the domestic application was filed before the application for, or the grant of, the foreign patent, the word "previously" in the last clause of section 4887 referring to time prior to the grant of the domestic patent rather than to time prior to the application therefor. (*Ex parte Mann*, 17 O. G., 330, disapproved.)

3. GRANT OF CANADIAN PATENT.

The grant of a Canadian patent is to be determined by its date and issue, and not by the time of its delivery.

4. PREVIOUS FOREIGN PATENT—EXTENSION.

The term of the domestic patent is limited to the term of the foreign patent in force when the domestic patent was granted, and is not prolonged by any subsequent extension of the foreign patent.

STATEMENT.

[Petition to dissolve injunction. An injunction had issued restraining the defendants from violating the patent of the complainant. The petition set forth that the letters patent, whose violation was enjoined, were numbered 197,134, and had been granted to one Bate for seventeen years from November 20, 1877; that prior thereto—namely, January 9, 1877—a patent for the same invention had been granted to the said Bate in the Dominion of Canada for the term of five years; that said patent expired January 9, 1882, and that therefore the patent granted by the United States expired on the same day according to the Revised Statutes, section

4887; and that the Letters Patent No. 197,134, having been granted for seventeen years, were in violation of section 4887, and therefore null and void; and prayed a dissolution of the injunction. The affidavits showed that Bate had filed his application for letters patent at Washington on December 1, 1876, and before any action had been taken had filed a like application in Canada on December 19, 1876; that letters were granted in Canada and dated January 11, 1877; but the inventor not having furnished a working model of his invention, as required by section 15 of the Canadian patent act, the letters were withheld until June, 1878, when, a model having been furnished, they were mailed to the inventor's solicitor; that in the meantime the United States had issued their letters patent; that in 1881 Bate procured an extension of his Canadian patent.]

Mr. J. R. Bennett and *Mr. Geo. Harding* for the petitioner.

Mr. E. N. Dickerson, Jr., and *Mr. E. N. Dickerson* for the complainant.

NIXON, *J.*, in delivering the opinion of the court said:

The case turns upon the question whether the invention was patented in Canada previous to the issuing of the patent in the United States in the sense in which the word "patented" is used in section 4887 of the Revised Statutes. The provisions of the section:

> Every patent granted for an invention which has been previously patented in a foreign country shall be so limited as to expire at the same time with the foreign patent, or, if there be more than one at the same time, with the one having the shortest term, and in no case shall it be in force more than seventeen years.

The phraseology here used materially differs from the previous legislation upon the subject. The power of the Commissioner is defined and abridged. Where a foreign patent has been granted for the same subject-matter he is expressly required to limit the terms of the domestic patent to the period of time that the foreign one has to run; or, if there be more then one, then to make it expire at the same time with the one having the shortest term. We do not see how any language could have been employed that would more clearly express the legislative design that the life of the domestic patent should expire with the term of any outstanding foreign patent; but the counsel for the complainant contended that the present case did not fall within the limitation of the statute because the application of the United States patent was filed antecedent to the application for or the grant of the Canadian patent. We are at a loss to understand what the time of filing the application has to do with the matter. It is true the acts of 1836, section 8, and of 1839, section 6, made the date of filing the specifications and drawings in the one case and the date of application for the home patent in the other the point of time from which to reckon the six months intervening between the issue of the foreign and domestic patents. It is also true that by section 4886 and the first clause of section 4887 of the Revised Statutes an inventor is required to file an application for his patent within two years after his invention or discovery has been in public use or on sale, from all of which the late Commissioner was led to the opinion that the word "previously" in the last clause of section 4887 had reference to time prior to the filing of the application rather than to time prior to the granting of the patent, (*Ex parte Mann*, 17 O. G., 330;) but this seems to be wresting the language of the section from its plain and obvious meaning, and we are not able to follow the reasoning by which such an interpretation is reached.

It is further insisted that the grant of the Canadian patent was to be determined, not by its date or issue, but the time of the delivery to the patentee, namely, June 26, 1878, a long time after the date of the American patent. Hence it was said "the invention had not been previously patented in a foreign country" when the patent was granted here; but this position will not stand the test of analysis or examination. It appears upon the face of the Canadian patent that it was dated on the 9th and issued on the 11th of January, 1877, and was to continue in force for five years from its date. By the eighteenth section of the Canadian patent act the invention is patented so as to be available to the patentee when signed, sealed, and registered. Owing to the neglect of the inventor in not forwarding a model, it was not delivered until June, 1878; but it was no less a patent, securing to him the benefits of the invention and protecting him against infringement. This becomes manifest by referring to section 16 of the act. Again, the proofs show that the patent was absolutely granted as early as January, 1877, although the delivery was withheld, owing to the laches of the grantee.

It was further maintained that even if the American patent should terminate with the Canadian patent, the extension of the latter under the provisions of the act operated to lengthen the term of the domestic patent to the period of fifteen years from the date of the first issue of the foreign patent. By virtue of the provisions of section 17 of the Canadian laws, Bate procured extensions, first on December 12, 1881, for five years from January 9, 1882, and secondly on December 13, 1881, for another five years, to be computed from the expiration of the prior extension, to wit, January 9, 1887.

The question is an interesting one, and has already received examination and answer in other circuits. It first came before Mr. Justice Clifford, in *Henry* v. *Tool Company*, decided in 1878—(14 O. G., 855.) In that case the United States patented for the full term of seventeen years, although at the time of the grant there was an English patent for the same invention which had been granted for fourteen years from the 15th of November, 1860. The defendants claimed that the United States patent expired by operation of law at the same time with the English patent. The complainant insisted that the language of the statute extended not only to the term of the foreign patent in force when the United States patent was obtained, but also to the term of any prolongation which the patentee might secure from the foreign government, and that, as he had obtained an extension of four years to the original term, the owners of the domestic patent were entitled to add those four years to its life. Mr. Justice Clifford refused to accede to such a construction of the law, but held: 1. That by the provision of the act of July 8, 1870, Congress never intended to extend the term of the domestic patent beyond the legal term secured to the foreign patentee when the domestic patent was granted. 2. That the prolongation of the English patent for a further term, after the expiration of the original, did not save the domestic patent from lapsing under the statute. He was followed in this construction by Blatchford, J., in *Reissner* v. *Sharp*, 16 O. G., 356. There was an attempt made to distinguish the case from *Henry* v. *Tool Company, supra:* 1. Because the Canadian patent had not expired when the extension was granted; and 2. Because the extension by the terms of the Canadian law

was not a matter of favor, as it was under the English act. But the judge could not perceive that these considerations were of sufficient force to cause any other conclusion as to the plain meaning of the statute than that arrived at by Mr. Justice Clifford. We are clearly of opinion that the prayer of the petition should be granted and the injunction dissolved.

Whether the complainant's United States patent is void *ab initio* because the term was not limited on its face to expire at the same time as the foreign patent is not properly before the court on this motion. It was a defense to the suits of which the defendants did not choose to avail themselves, and a formal interlocutory decree entered on the case cannot be impeached in and by any such collateral proceedings.

Injunction dissolved.

U. S. Circuit Court—Southern District of New York.

PLIMPTON *v.* WINSLOW.

Decided November 12, 1881.

MOTION TO SET ASIDE SERVICE.

A motion to set aside service in a suit in New York made upon a defendant in the city of New York granted, it appearing that he had come there to attend an examination of witnesses, held by stipulation, in a suit then pending in Massachusetts between the same parties upon the same letters patent.

Mr. E. N. Elliot for the plaintiff.

Messrs. Wetmore, Jenner & Thompson for the defendant.

BLATCHFORD, *J.*:

A suit in equity brought by the plaintiff in this suit against the defendant in this suit for the infringement of letters patent is pending in the Circuit Court for the District of Massachusetts. Prior to November 2, 1881, it had been verbally agreed between Mr. Roberts, the counsel for the defendant, and Mr. Clark, the counsel for the plaintiff, in the suit in Massachusetts, that the defendant might have testimony on his behalf taken in the city of New York, for use in that suit, before Mr. Thompson, a special examiner, and Mr. Clark verbally agreed to attend before Mr. Thompson at any time, on telegraphic notice, for the purpose. Such notice was given, that the plaintiff, together with the defendant and Mr. Roberts, attended in New York, before Mr. Thompson, on November 2. Mr. Clark was not present on that day. Witnesses were examined on that day on behalf of the defendant, before Mr. Thompson, by Mr. Roberts, as counsel for the defendant, with the acquiescence of the plaintiff, who was present during the examination, and it was agreed between the plaintiff and Mr. Roberts that Mr. Clark should have the right to afterward cross-examine the said witnesses and enter objections to all questions in the direct testimony, and the examination was adjourned to November 3. On that day Mr. Clark appeared and cross-examined the said witnesses, and also, in conjunction with Mr. Roberts, signed a stipulation in writing, dated November 2, and entitled in the Massachusetts suit, stipulating and agreeing that Mr. Thompson might be appointed a special examiner by the court in Massachusetts to take the testimony for the defendant in the suit in New York under the 67th rule in equity as amended. After the adjournment on the 2d of November, and on that day, the defendant was served personally in the street in New York, after he had left the building where the examiner's office was and a few steps therefrom, with a subpœna to appear and answer in this suit, and with a copy of the bill and other papers in this suit, and notice of a motion to be made for an injunction herein. The bill in this suit was filed November 2, and is a bill for the infringement of the same letters patent. The defendant now moves to set aside the service of the subpœna and the other papers, on the ground that the privilege of the defendant was violated.

It is very clear that the motion must be granted. The defendant attended as a party before the examiner. The regularity of the examination was recognized by the attendance of the plaintiff, by the arrangement he then and there made for future cross-examination by Mr. Clark, and by the antedated written stipulation, which Mr. Clark signed the next day. The examination was thus made a regular proceeding in the suit in Massachusetts. The defendant had a right to attend upon it in person, whether he was to be himself examined as a witness before Mr. Thompson or not, and he had a right to be protected while attending upon it from the service of the papers which were served in this suit. He attended in good faith, the examination was pending and unfinished, and he was served during the interval of an adjournment. The privilege violated was a privilege of the Massachusetts court, and one to be liberally construed for the due administration of justice. (*Juneau Bank* v. *McSpedan*, 5 Bissell, 64; *Brooks* v. *Farwell*, 4 Fed. Reps., 166; *Bridges* v. *Sheldon*, 7 Id., 17, 42.)

The only objections urged against the motion are technical ones—that the written stipulation was not signed till after the service was made; that there was no order as to the examination entered in the Massachusetts court; that no formal written notice of the intended examination was served; that the sitting before the examiner was therefore unauthorized, and that the written stipulation cannot have an effect as of a date earlier than November 3. If these objections were allowed to have force, the plaintiff would only be placed in the position of having, by the prior verbal arrangements made, sanctioned by the subsequent action of himself and his counsel thereunder, decoyed the defendant to visit New York by deceptive inducements, and thus the case would be brought within the principle laid down in *Union Sugar Refinery* v. *Mathiesson* (2 Clifford, 304) and in *Steiger* v. *Bonn*, (4 Fed. Reps., 17.) The plaintiff and his counsel, by what they said and did, represented to the defendant that the proceeding before Mr. Thompson was regular and orderly and authorized, and induced him to rely on that view. He had a right as a party to the Massachusetts suit to attend a regular examination of witnesses in that suit in New York, and to be protected while so attending from the service of the papers in this suit. The plaintiff is estopped from raising the objections as to regularity.

The motion is granted.

U. S. Circuit Court—Southern District of New York.

FISH *v.* THE DOMESTIC SEWING MACHINE COMPANY.

Decided May 13, 1882.

DENIAL OF PRELIMINARY INJUNCTION.

Motion for a preliminary injunction denied where patents

have not been established, and complainant shows only a limited acquiescence, and defendants for years openly assert their invalidity.

Mr. T. C. Woodward for the plaintiff.
Mr. John Dane, Jr., for the respondent.

WALLACE, *J.*:

I am not satisfied that the complainant had perfected the invention described in his patent of February 13, 1872, any considerable length of time before his application for that patent. The numerous patents obtained by him between 1859 and the application tend strongly to refute his theory for delaying to make application. It is very improbable that he had invented his locking device at the time he applied for the patent of 1872, as that patent does not hint at any such feature, and it would have been a most important contribution to the value of that patent.

In this view of the case, I think the defendant has succeeded in casting sufficient doubt upon the originality of the invention to defeat an application for a preliminary injunction. The patents have never been established. The complainant shows only a limited acquiescence on the part of manufacturers, while the defendants for several years seem to have openly asserted their invalidity and the right to appropriate the improvements.

The motion is denied.

U. S. Circuit Court---Southern District of New York.

P. LORILLARD & CO. *v.* THE DRUMMOND TOBACCO COMPANY *et al.*

Decided February 28, 1882.

LABEL.

A single letter having been decided not to be a label, *Held* that the same rule applies to a horseshoe.

Messrs. Gifford & Gifford for the plaintiff.
Mr. S. S. Boyd for the defendants.

BLATCHFORD, *J.*:

The first claim of the reissue is the only one involved in this suit. That claim has not been directly sustained in any suit on final hearing. It was not directly sustained in the suit against Dohan. The third claim was infringed and sustained in that suit, and the novelty of that claim was put upon the ground of a distinction between metallic letters too large to have enough to answer the purpose of a label and a label with letters on it. If in that suit the first and fourth claims were considered, the word "label" in those claims did not require, for the purposes of the infringement, that any label not having letters on it should be considered.

The defendants' device in this case is a plain metallic horseshoe with no letters on it. It may be a trade-mark, but as such it is not like the plaintiff's device as a trade-mark. As anything else, it is no more a label than the letters which, in the Dohan case, were held not to be labels were labels. A single letter, recognizable as such, is quite as much a distinguishing-mark made by a piece of separate material as is a piece of metal of the form of a horseshoe. The letter B would be called the letter B and the plain horseshoe would be called a horseshoe; but, to sustain the patent, neither can be called the label referred to in it.

The motion is denied.

U. S. Circuit Court---Southern District of New York.

P. LORILLARD & CO. *v.* MCALPIN *et al.*

Decided February 28, 1882.

REISSUE CONSTRUED.

In view of *James* v. *Campbell* a reissue given a limited construction.

Messrs. Gifford & Gifford for the plaintiff.
Mr. B. F. Thurston and *Mr. S. A. Duncan* for the defendants.

BLATCHFORD, *J.*:

In view of the decision in *James* v. *Campbell*, (3 Morrison's Transcript, 439,) there is so much doubt as to the validity of the reissue in this case, if construed, in regard to claims 1, 3, and 4, as covering labels not put under wrappers, that those claims must be construed, for the purposes of this motion, as not extending to labels not under wrappers. That being so, the defendants do not infringe.

The motion is denied.

THE
OFFICIAL GAZETTE
OF THE
United States Patent Office.
[BY AUTHORITY OF CONGRESS.]

VOL. 22—No. 15. TUESDAY, OCTOBER 10, 1882. PRICE—$5 per year

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Subscriptions for 1882.

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Issue of October 10, 1882.

Patents	388	No. 265,552 to No. 265,939, inclusive.
Designs	7	No. 13,330 to No. 13,336, inclusive.
Trade-marks	14	No. 9,708 to No. 9,721, inclusive.
Labels	3	No. 2,776 to No. 2,778, inclusive.
Reissues of patents	5	No. 10,212 to No. 10,216, inclusive.
Total issue	417	

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks and Labels.	States.	Patents and Designs.	Trade-Marks and Labels.
Alabama			Nebraska	3	
Arizona Territory			Nevada		1
Arkansas			New Hampshire	2	
California	9	1	New Jersey	33	
Colorado	2		New Mexico Territ'y		
Connecticut	17		New York	78	2
Dakota Territory			North Carolina		
Delaware			Ohio	44	
District of Columbia	4		Oregon	11	
Florida			Pennsylvania	25	2
Georgia	2		Rhode Island	3	
Idaho Territory			South Carolina	1	
Illinois	27	1	Tennessee	2	
Indiana	14		Texas	4	
Indian Territory			Utah Territory		
Iowa	10		Vermont	2	
Kansas	4		Virginia	4	
Kentucky	2	4	Washington Territ'y		
Louisiana			West Virginia	3	
Maine	8		Wisconsin	5	
Maryland	6	1	Wyoming Territory		
Massachusetts	26	1	United States Army		
Michigan	15	1	United States Navy		
Minnesota	6				
Mississippi			Total to citizens of the United States	373	15
Missouri	11	1			
Montana Territory					

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks and Labels.	Countries.	Patents and Designs.	Trade-Marks and Labels.
Australia			England	10	
Austria			France	1	1
Barbadoes			Germany	4	
Belgium			Italy		
Bermuda			New Zealand		
Brazil			Russia	1	
Canada	5	1	Spain	1	
Chili			Sweden		
Colombia, U. S. of			Switzerland		
Cuba					
Denmark			Total to citizens of foreign countries	22	2
Ecuador					

DESIGNS.

13,330.—PHOTOGRAPHIC CARDS.—*Frank B. Clench*, Lockport, N. Y. Application filed September 4, 1882. Term of patent 7 years.

13,331.—SHELF-COVER.—*Herman Force*, Montrose, N. Y. Application filed August 19, 1882. Term of patent 14 years.

13,332.—CARPET.—*Winthrop L. Jacobs*, East Orange, N. J., assignor to *The Hartford Carpet Company*, Hartford, Conn. Application filed August 11, 1882. Term of patent 3½ years.

13,333.—CARPET.—*William McCallum*, South Orange, N. J., assignor to *The Bigelow Carpet Company*, Clinton, Mass. Application filed September 6, 1882. Term of patent 3½ years.

13,334.—HANGING LAMP.—*William S. McLevee*, New York, assignor to *Jacob J. Nichols*, Brooklyn, N. Y. Application filed July 12, 1882. Term of patent 7 years.

13,335.—COMBINED LAMP AND VASE.—*William S. McLevee*, New York, assignor to *Jacob J. Nichols*, Brooklyn, N. Y. Application filed May 27, 1882. Term of patent 14 years.

13,336.—GLOBE.—*Jacob J. Nichols*, Brooklyn, N. Y. Application filed July 12, 1882. Term of patent 7 years.

TRADE-MARKS.

[Certificate of registration of Trade-Marks numbered 8,191 and upward are registered under the act of March 3, 1881.]

9,708.—EIGHTEEN-CARAT-GOLD WATCH-CASES.—*The Dueber Watch Case Manufacturing Company*, Newport, Ky., Cincinnati, Ohio, New York, N. Y., and Chicago, Ill. Application filed July 28, 1881.

"The upper elongated hexagonal panel, the shorter elongated hexagonal panel below this, and the shield bearing an inclined anchor below this, said panels and shield being in intaglio when stamped upon the article, or darkened to simulate the same when printed on paper, &c., and said anchor being in real or represented relievo."

9,709.—TEN-CARAT-GOLD WATCH-CASES.—*The Dueber Watch Case Manufacturing Company*, Newport, Ky., Cincinnati, Ohio, New York, N. Y., and Chicago, Ill. Application filed July 28, 1881.

"The word 'DUEBER' in intaglio on the raised hexagonal panel, and the raised shield below the said panel, bearing the represented inclined anchor in intaglio."

9,710.—TEN-CARAT-GOLD RINGS.—*The Dueber Watch Case Manufacturing Company*, Newport, Ky., Cincinnati, Ohio, New York, N. Y., and Chicago, Ill. Application filed July 28, 1881.

"An inclined anchor printed or stamped in cameo on a darkened or sunken oblong hexagonal panel."

9,711.—FOURTEEN-CARAT-GOLD RINGS.—*The Dueber Watch Case Manufacturing Company*, Newport, Ky., Cincinnati, Ohio, New York, N. Y., and Chicago, Ill. Application filed July 28, 1881.

"The anchor printed or stamped in cameo on the darkened or sunken oblong hexagonal panel."

9,712.—CIGARETTES AND CUT TOBACCO.—*Diego Gonzalez*, New York, N. Y. Application filed September 11, 1882.

"The pictorial representation of a shield bearing a monogram, on either side of which stands the figure of a female, the one carrying in her right-hand a tobacco-plant, while the other holds in her left-hand a caduceus."

9,713.—CHEESE.—*Mende Brothers*, Philadelphia, Pa. Application filed August 17, 1882.

"The pictorial representation of a cow."

9,714.—WINES AND LIQUORS.—*Dulany, Meyer & Co.*, Baltimore, Md. Application filed September 14, 1882.

"The word-symbol 'AVALON.'"

9,715.—UNGROUND ROASTED COFFEE.—*William F. McLaughlin*, Chicago, Ill. Application filed September 13, 1882.

"The word 'McLAUGHLIN'S.' Immediately under the left side of said word there is the picture or likeness of two (2) hands clasped, as in greeting, inclosed in an elliptical figure in such manner as to show a small part of the wrists. Immediately to the right of and on a line with this last figure are four X's, of such a size as to be prominent in the whole figure."

9,716.—PERFUMERY.—*Jean B. F. Rigaud*, Paris, France. Application filed September 8, 1882.

"The figure of the Japanese woman holding a bouquet of Kananga flowers, the inscription in Japanese characters, and the fac-simile of the signature of the firm of Rigaud & Co."

9,717.—MEDICINE FOR THE CURE OF RHEUMATISM.—*Rheumatine Manufacturing Company*, St. Catharines, Ontario, Canada. Application filed September 13, 1882.

"The representation of a cat and the word 'RHEUMATINE.'"

9,718.—WHISKY.—*George Simmonds*, San Francisco, Cal. Application filed August 24, 1882.

"The arbitrarily-selected word 'NABOB.'"

9,719.—BITTERS.—*Henry D. Cook*, Philadelphia, Pa. Application filed July 21, 1882.

"The title 'CRYSTAL.'"

9,720.—CUT TOBACCO FOR SMOKING AND CHEWING, AND CIGARS.—*Globe Tobacco Company*, Detroit, Mich. Application filed August 9, 1882.

"The representation of a barrel provided with a cover and bail."

9,721.—STARCH-GLOSS.—*Adolph Maul*, New York, N. Y. Application filed September 2, 1882.

"The representation of a woman holding up an article of apparel in one hand and in the other an iron."

LABELS.

2,776.—Title: "COMPOUND MOUNTAIN SAGE."—*Simeon Bishop*, Reno, Nev. Application filed September 18, 1882.

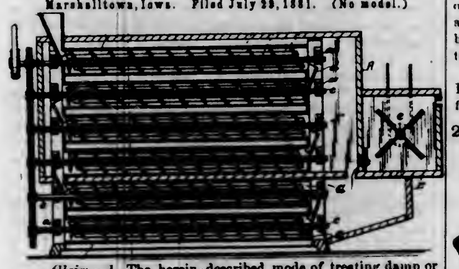
2,777.—Title: "MERCER'S RHEUMATIC, NEURALGIC AND GOUT QUICK CURE."—*Mary E. Mercer*, Boston, Mass. Application filed August 4, 1882.

2,778.—Title: "BESTER DOPPELTER STEINHÄGER WACHHOLDERLOEL U. WACHHOLDERSAFT."—*J. H. Rottmann & Co.* St. Louis, Mo. Application filed September 4, 1882.

PATENTS

GRANTED OCT. 10, 1882.

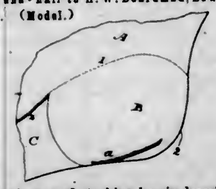
265,552. GRAIN DRIER AND COOLER. EDSON A. ABBOTT, Marshalltown, Iowa. Filed July 29, 1881. (No model.)



Claim.—1. The herein-described mode of treating damp or unsound grain, consisting in subjecting it first to the combined and simultaneous action of heat derived from steam surrounding the inclosing pipes and of currents of air passing through said pipes, and then subjecting it to the action of other currents of cold air passing through other tubes exposed to the atmosphere, substantially as described.

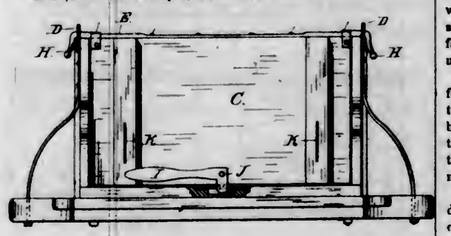
2. In a grain drier or cooler, an inclosed spiral conveyer consisting of a shaft, spiral flanges, and longitudinal bars connected to said flanges, so as to leave a space between the inner edges of said bars and the shaft, and also between the outer edges of said bars and the periphery of the spiral, substantially as described.

265,553. STOCKING. WILLIAM H. ABEL, Bridgewater, N. H., assignor of one-half to H. W. Boardman, Lowell, Mass. Filed Feb. 2, 1882. (Model.)



Claim.—The improved stocking herein described and shown, consisting of a leg and foot with the back of the heel thereof seamless and fashioned or narrowed and the two edges of the heel web-linked or seamed together at the bottom, as and for the purpose indicated.

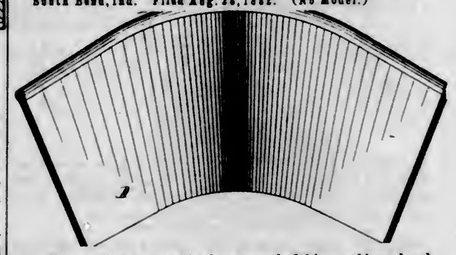
265,554. WAGON END-GATE. JOHN W. ANDERSON, South Bend, Ind. Filed July 1, 1882. (No model.)



Claim.—1. In combination with the side-boards and end-gate of a wagon-box, the plates D, formed with a hook or shoulder, and a bar, E, secured to the top edge of the gate, and having its ends bent flaringly to force inward and hold the side-boards, substantially as described.

2. The combination, with the wagon-box, of the plates D, bar E, and locking-lever I, substantially as and for the purposes set forth.

265,555. BACK FOR VEHICLE-SEATS. JOHN W. ANDERSON, South Bend, Ind. Filed Aug. 28, 1882. (No model.)



Claim.—A wagon-seat back composed of thin wood bound and finished at its top edge with a hollow metallic binding, held in position substantially as shown and described.

265,556. PRINTING-MACHINE. EDWIN ANTHONY, Hereford, County of Hereford, and WILLIAM W. TAYLOR, Ripon, County of York, England, assignors to R. Hoe & Co., New York, N. Y. Filed July 11, 1881. (No model.) Patented in England Aug. 31, 1875, No. 3,056.

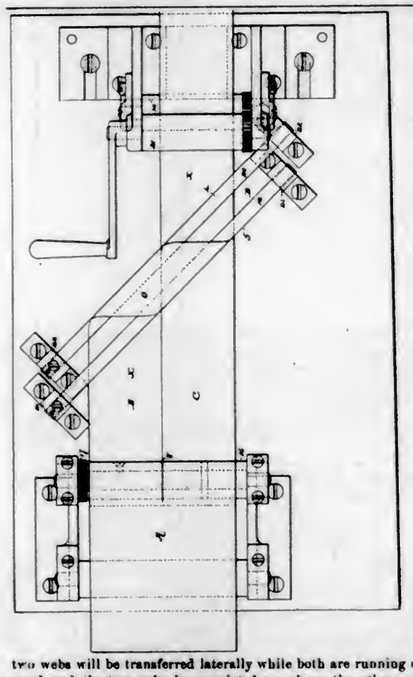
Claim.—1. The combination, with devices for advancing two webs of paper, of a turner arranged obliquely to the path of travel of the webs, whereby one of the two webs will be transferred laterally while both are running onward, and the two webs be associated one above the other, with the surface of the transferred web that was uppermost before transfer still uppermost, all substantially as described.

2. The combination, with devices for advancing two webs of paper, of a turner composed of two parallel bars arranged obliquely across the path of travel of the webs, whereby one of the two webs will be transferred laterally while both are moving onward, and the two webs be associated one above the other, all substantially as described.

3. The combination, with a slitting mechanism, of a mechanism for advancing two webs of paper, and a turner arranged obliquely to the path of travel of the webs, whereby one of the two webs will be transferred laterally while both are running onward, and the two webs be associated one above the other, with the surface of the transferred web that was uppermost before transfer still uppermost, all substantially as described.

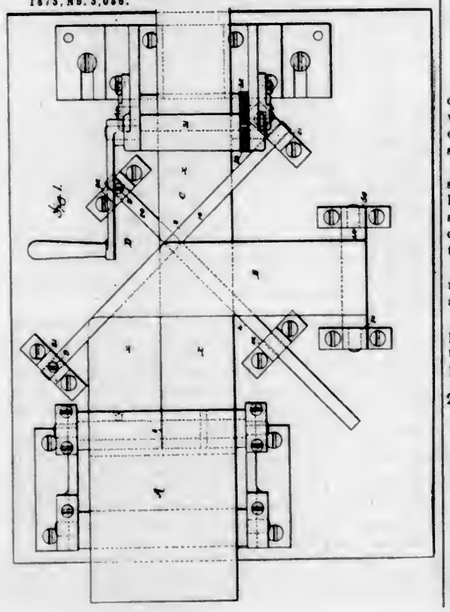
4. The combination, with a printing mechanism, of devices for advancing two webs of paper, and a turner arranged obliquely to the path of travel of the webs, whereby one of the two webs will be transferred laterally while both are running onward, and the two webs be associated one above the other, with the surface of the transferred web that was uppermost before transfer still uppermost, all substantially as described.

5. The combination, with printing and slitting mechanism, of devices for advancing two webs of paper, and a turner arranged obliquely across the path of travel of the webs, whereby one of the



two webs will be transferred laterally while both are running onward, and the two webs be associated one above the other, with the surface of the transferred web which was uppermost before transfer still uppermost, all substantially as described.

265,557. PRINTING-MACHINE. EDWYN ANTHONY, Hereford, County of Hereford, and WILLIAM W. TAYLOR, Ripon, County of York, England, assignors to R. Hoe & Co., New York, N. Y. Filed July 11, 1881. (No model.) Patented in England Aug. 31, 1875, No. 3,056.



Claim.—1. The combination, with mechanism for advancing two webs of paper, of the turning-bars, as 19 20, arranged obliquely across the path of travel of the webs and at an angle to each other, and the returning-roll, as 49, arranged to guide the web from one turning-bar to the other, whereby one of the two webs is transferred laterally while both are running onward, and the two are associated one over the other, all substantially as described.

2. The combination, with slitting mechanism and mechanism for advancing two webs of paper, of the turning-bars, as 19 20, arranged obliquely across the path of travel of the webs and at an angle to each other, and the returning-roll, as 49, arranged to guide the web from one turning-bar to the other, whereby a wide web is split and one of its parts is transferred laterally while both are on the run, and the two are associated one over the other, all substantially as described.

3. The combination, with a printing mechanism and a mechanism for advancing two webs of paper, of the turning-bars, as 19 20, arranged obliquely across the path of travel of the webs and at an angle to each other, and the returning-roll, as 49, arranged to guide the web from one turning-bar to the other, whereby two webs are printed and one is transferred laterally while both are on the run, and the two are associated together one over the other, all substantially as described.

4. The combination, with printing and slitting mechanisms and mechanism for advancing two webs of paper, of the turning-bars, as 19 20, arranged obliquely across the path of travel of the webs and at an angle to each other, and the returning-roll, as 49, arranged to guide the web from one turning-bar to the other, whereby a web is printed, split, and one of its parts transferred laterally while both are on the run, and the two are associated one over the other, all substantially as described.

265,558. CLIP FOR COILED FABRICS. HOLLAND C. BABCOCK, Hartford, Conn., assignor to P. Jewell & Sons, same place. Filed Aug. 18, 1882. (No model.)



Claim.—A clip adapted to secure the end of a coiled fabric to the coil provided with the right-angular points A, by which it is held on the coiled fabric, and the points C, by which the end of the material is prevented from slipping out, substantially as described.

265,559. POWDER-PUFF. ELLENE A. BAILEY, St. Charles, Mo. Filed July 3, 1882. (No model.)



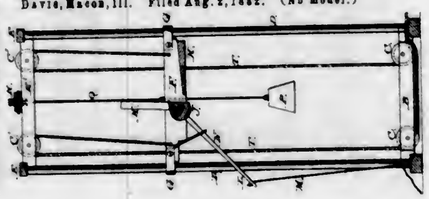
Claim.—1. As a new article of manufacture, a powder-puff consisting of a bag-shaped receptacle having a flat bottom provided with perforations, and having an inclosed layer of fibrous material over said perforated portion, substantially as and for the purpose set forth.

2. The combination, with a powder-puff consisting of a bag-shaped receptacle having a flat perforated bottom, of a grasping or handle device provided with two plates between which the top of said receptacle is secured, the lower of said plates being of increased size and secured within the top of the receptacle, substantially as and for the purpose set forth.

3. The combination of the receptacle *a*, having a flat perforated bottom, *b*, handle or grasping device *c*, and plates *f f'*, all arranged as and for the purposes set forth.

4. The combination, with a receptacle for containing toilet-powder, having a perforated bottom, of one or more layers of fibrous material covering said perforations and through which the powder passes, substantially as and for the purpose set forth.

265,560. HAY-STACKER. CHARLES W. BALL and THOMAS DAVIS, Macon, Ill. Filed Aug. 2, 1882. (No model.)

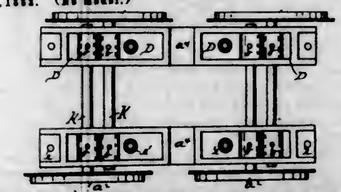


Claim.—1. The combination, with a movable upright guiding and supporting frame, and with an elevator adapted to traverse vertically up and down between the posts of said frame, of a rock-shaft, J, carried by said elevator and fitted with two sets of radial teeth, K L, projecting therefrom at an angle with each other more or less obtuse, to form a tilting cradle which shall receive the hay on one side and deliver it automatically on the other, substantially in the manner and for the purpose herein set forth.

2. The combination, in a hay-stacker, with a tilting cradle, J L K, and its elevator F H, of an adjustable cord, M, attached at one end to an arm or tooth of the cradle and at the other to the frame of the stacker, substantially in the manner and for the purpose herein set forth.

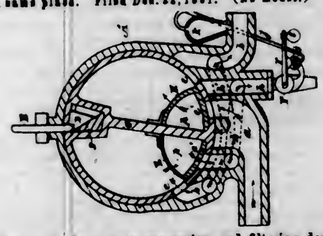
3. The combination, in a hay-stacker, with a tilting cradle, J L K, and its elevator F H, of an adjustable cord, N, extended and secured under the teeth L of the cradle, substantially in the manner and for the purpose herein set forth.

265,561. CAR-TRUCK. IRVING BARKER, Joliet, Ill. Filed May 26, 1882. (No model.)



Claim.—In a car-truck, the bed-plates P, having the axle-boxes containing the oil-chambers D on either side of the axle, and arranged to oil the axle by tilting the car, in combination with the wheels *a'*, having their axles K extending across the car, and box B, provided at its outer side with the oiling-pipes *c*, and secured to the bed-plates P, to form an oil-tight cover to the axle-boxes, all arranged to operate in the manner and for the purpose set forth.

265,562. WATER METER AND FILTER. ROBERT C. BARKER, Philadelphia, Pa., assignor of one-half to John H. W. Chestnut, same place. Filed Dec. 22, 1881. (No model.)



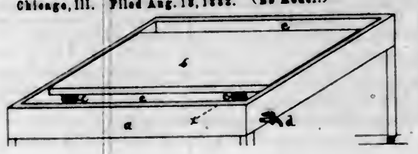
Claim.—1. In a water measuring and filtering device, the peculiar-shaped inlaid piece of metal D, having inclined surfaces *f* and *g*, in combination with the other connecting and operating parts, as and for the purpose shown and described.

2. In a water-meter, the cylinder A, piston C, and inlaid piece of metal D, having inclined surfaces *f* and *g*, in combination with the rod B and suitable connecting parts with the spring L, all arranged and operating together substantially as herein set forth and described.

3. In a water-filtering device, the filtering-chambers *p p* and sieves E, in combination with the cylinder A, piston C, inclined surfaces *f f g g*, rod B, and the connections with the spring L, all operating substantially in the manner and for the purpose shown and described.

4. In a meter and filter, the combination of the valve F, the rod *r*, weight *e*, flexible ball *i*, tube or pipe *j*, and air-chamber *k* with the waste-pipe *h* and supply-pipe *b*, as and for the purpose set forth.

265,563. PHOTOGRAPHER'S COOLING-SLAB. JNO. E. BENNE, Chicago, Ill. Filed Aug. 18, 1882. (No model.)

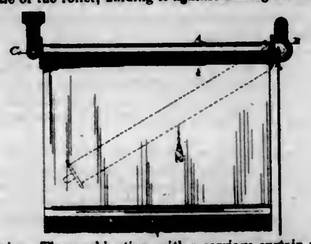


Claim.—1. In a photographer's cooling-slab, the tank *a*, provided with faucet *d*, leveling-screw *c*, and marble slab *b*, constructed to operate substantially as specified.

2. In a photographer's cooling-slab, the tank *a*, provided with faucet *d*, skids provided with leveling-screws *c*, and stone slab *b*, constructed substantially as and for the purpose specified.

265,564. CARRIAGE-CURTAIN-ROLLER BRACKET. GEORGE W. BERRY, Bridgeport, Conn. Filed July 7, 1882. (No model.)

Brief.—A spring-actuated pin within the post bears against the pintle of the roller, holding it against dislodgement.



Claim.—The combination, with a carriage-curtain post, C, of a spring-actuated detaining-pin, E, concealed and confined within the post, and adapted to bear outwardly with an elastic pressure upon the upper side of the journal-pin of the curtain-roller when adjusted to its bearing in the post, substantially as and for the purpose herein set forth.

265,565. CAR-COUPLING. ANTOINE BENOIT, Dunham, Quebec, Canada. Filed May 31, 1882. (No model.)



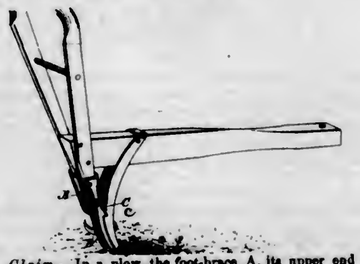
Claim.—1. In combination with the draw-head having the recess in its lower side, the vertical coupling-pin and the vertical sustaining-pin provided with arm *b*.

2. The draw-head and its coupling-pin, in combination with the rotary pin D, provided with the arm *b*, and with an external arm or handle, whereby the arm *b* may be forced against the coupling-link.

3. In combination with the draw-head having the mouth or opening to receive the coupling-link, the transverse vertically-movable bar E, mounted in the head.

4. In combination with the draw-head having the vertical slots and shoulders, the movable bar E, arranged to co-operate with the shoulders, as shown.

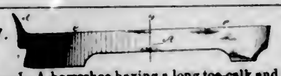
265,566. IRON-FOOT PLOW. ROLAND J. BEST, Lancaster, S. C. Filed May 29, 1882. (No model.)



Claim.—In a plow, the foot-brace A, its upper end being formed into a handle-socket, its lower end slotted and provided with teeth C, in combination with the foot D, having teeth C', and the clamping-bolt *b*, substantially as shown and described.

265,567. HORSESHOE. JOHN D. BILLINGS, New York, N. Y. Filed Feb. 14 1882. (No model.)

265,567.



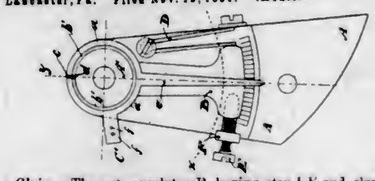
Claim.—1. A horseshoe having a long toe-calk and short heel-calks integral with the body of the shoe, and a continuous grooved flange extending from heel to heel outside the calks, whereby the shoe may be nailed in front of the long toe-calk as well as between the toe and heel calks, substantially as described.

2. A horseshoe having a beveled inner edge, separate toe and heel calks integral with the body of the shoe, which calks are beveled in continuity with the bevel of the inner edge, and a continuous grooved flange extending from heel to heel outside the calks, substantially as described.

3. A horseshoe having separate toe and heel calks integral with the body of the shoe, and a continuous groove and rim extending from heel to heel outside the calks, the body of the shoe between the calks projecting below the rim, whereby the shoe is strengthened and the heads of the nails protected, substantially as described.

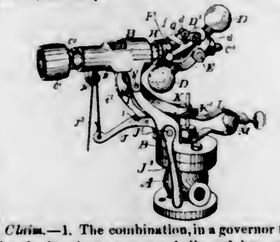
4. A horseshoe having separate toe and heel calks integral with the body of the shoe, the toe-calk being extended around the entire front of the shoe, and the ends thereof being transverse, or nearly so, to the line of draft, whereby said toe-calk is adapted to sustain the greater wear at this point and it ends adapted to serve as holds, substantially as described.

265,568. REGULATOR FOR WATCHES. ABRAHAM BITNER, Lancaster, Pa. Filed Nov. 19, 1881. (Model.)



Claim.—The sub-regulator B, having step *b b'* and circular aperture, and having slit *d*, to allow it to be snapped over the shoulder *e* of the dome A', the regulator C, having annular head and slit *e*, to allow it to be snapped over the step *b b'* of the sub-regulator B, the latter and the pointer C having a common pivot, the pointer being held to the sub-regulator by friction, and the sub-regulator being similarly held to the dome, the spring D, bearing with a constant force against one side of the sub-regulator, the adjusting-screw E, and the bridge A, having dome A' with annular flange *e*, and the scale, all combined, arranged, and adapted to serve as and for the purposes set forth.

265,569. GOVERNOR FOR STEAM-ENGINES. JOHN F. BROWN, Indianapolis, Ind. Filed Jan. 31, 1882. (No model.)

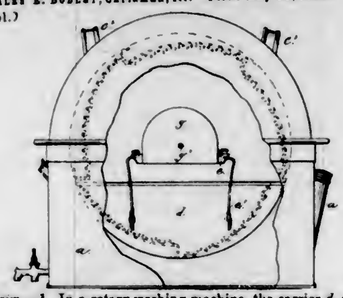


Claim.—1. The combination, in a governor for steam-engines, of the single-piece governor-balls and bar running diagonally across the shaft and pivoted thereon, the said shaft, a system of links and levers, G H I J, whereby said bar is connected with the valve-stem, said valve-stem and a valve thereon, and a spring which operates reversely to the force of said balls, all substantially as set forth.

2. The combination, with the single-piece governor-balls and bar D D D', of the sliding collar F on the same shaft as said bar, the link connecting said bar and said collar, and said collar, whereby said governor-balls are enabled to communicate their force to a system of levers, I J, and through them to the valve-stem, said valve-stem being situated directly beneath the governor-balls and bar, but at right angles with the axis thereof, substantially as described, and for the purposes specified.

3. The combination of the one-piece governor-balls and bar, and the sliding collar operated thereby, of the slide H, the arms of which extend back through the bearing and come in contact with the upper end of a lever, said slide thus forming a portion of the means of communicating power from said governor-balls to the valve, all substantially as set forth.

265,570. WASHING-MACHINE. BENJAMIN F. BURTNER and CHARLES E. BODLEY, Chrisman, Ill. Filed May 31, 1882. (No model.)

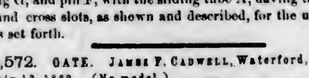


Claim.—1. In a rotary washing-machine, the carrier *d*, composed of a series of eccentric segments, *d'*, each having its forward and outer end projected over the rear and inner end of the next segment placed in front thereof, the radial plates *d²*, having their inner edges secured to the rear ends and their outer edges secured to the outer ends of the adjacent segments, and closing the intervening space between the overlapping ends thereof, the plates *d²* being perforated by a series of small openings, *d³*, and secured to the outer ends of the segments slightly in rear of the end, whereby a projection, *d⁴*, is provided, substantially as set forth.

2. The combination, in a washing-machine, of the eccentric segments *d'*, the plates *d²*, perforated with a series of openings, *d³*, and secured to and closing the intervening space between the overlapping ends of the segments, and the longitudinally-fluted surfaces *f*, arranged substantially as and for the purposes set forth.

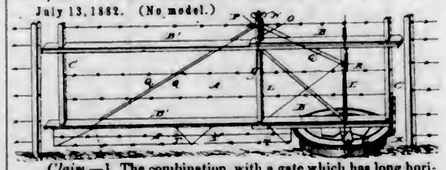
3. In a rotary washing-machine, the combination, with the eccentric segments *d'*, having their ends overlapped and secured together by radial plates *d²*, of the series of radial pipes *f*, having their outer open ends near to and in the same radial line with the radial plates *d²*, substantially as set forth.

265,571. TUBULAR SMOKING-PIPE. WILLIAM BUSHNELL, Brooklyn, N. Y. Filed Jan. 10, 1882. (Model.)



Claim.—The combination of tube B, having mouth-piece D, spring G, and pin F, with the sliding tube A, having the longitudinal and cross slots, as shown and described, for the uses and purposes set forth.

265,572. GATE. JAMES F. CADWELL, Waterford, Wis. Filed July 13, 1882. (No model.)



Claim.—1. The combination, with a gate which has long horizontal rails B' B', strengthened at the rear by short top and bottom rails, B B, and united by vertical pieces C C', of a bar or rod, L, having a vertically-adjustable lifting-bail, a vertical pivot-rod, E, and lifting-wires, substantially as set forth.

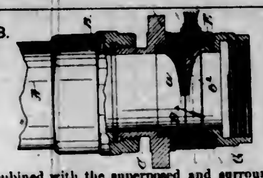
2. The combination, with the gate, of a vertical pivot rod or bar, L, surmounted by a screw-threaded rod, on which is vertically adjustable by means of a lifting thumb-nut a bail having shoulders or lugs on each side, and lifting-wires passing over the latter, substantially as set forth.

265,573. DISCHARGE-PIPE FOR HOSE. CORNELIUS CALLAHAN, Chelsea, Mass., assignor to the American Fire Hose Manufacturing Company, same place. Filed May 25, 1882. (No model.)

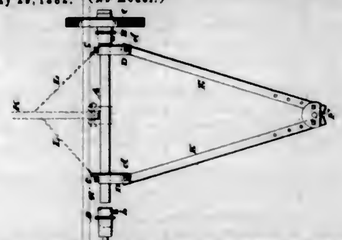
Claim.—1. A hose-nozzle having the threaded ring C and hose-coupling section G, with the annular valve-seat D *a* between them, combined with the valve-ring *b b'* seated by the pressure of water thereupon, substantially as shown and described.

2. The valve-ring *b*, having the portion *b'* and an operating-handle, combined with the superposed and surrounding annulus D *a*, in which the valve-ring and portion *b'* are seated by the pressure of water, the ring C, coupling G, and ring E, substantially as and for the purpose set forth.

265,578.



265,574. TRUCK FOR MOVING HARVESTERS. FRANK W. CALAIS, Lincoln, and SAMUEL M. BARNES, Fairbury, Ill. Filed May 29, 1882. (No model.)



Claim.—1. In a truck for moving harvesters, the combination, with an axle, of two reach-bars, an adjustable plate secured between said bars, and a caster-wheel adapted to pass through said plate, substantially as set forth.

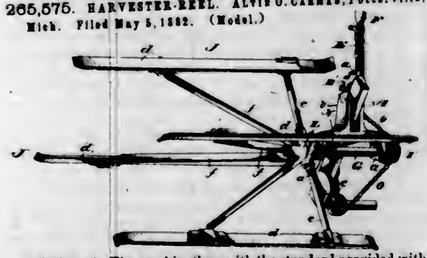
2. In a truck, the combination, with the axle, removable spindles, and wheels, of reach-bars pivotally connected to the axle, an adjustable plate secured between said bars, and a caster-wheel whose spindle passes through said plate, substantially as set forth.

3. In a truck for moving harvesters, the combination, with an axle adapted to be removably secured to the under side of the harvester parallel with the ground-wheel thereof, and wheels removably secured on the said axle at right angles to the said ground-wheel, of a plate connected to the said axle by suitable reach bar or bars, caster-wheel, yoke, and spindle adapted to pass through the said plate and be secured to the finger-bar of the harvester, substantially in the manner described.

4. In a truck for moving harvesters, the combination, with the axle and wheels, of collars adjustably secured to the said axle, reach-bars, the front ends of which are pivotally connected to the said collars, a plate connected to the rear ends of the said reach-bars, and a caster-wheel secured to the said plate, all of the above parts adapted to operate as described.

5. The combination, with the axle, a tongue pivotally secured thereto, collar or collars adjustably secured thereon, and spindles and wheels removably secured thereto, of reach bar or bars pivotally connected at one end to the said collar or collars, a plate adjustably secured to the said bar or bars at their rear ends, and a caster-wheel pivotally secured to the said plate.

265,575. HARVESTER-REEL. ALVIN O. CARMAN, Potterville, Mich. Filed May 5, 1882. (Model.)



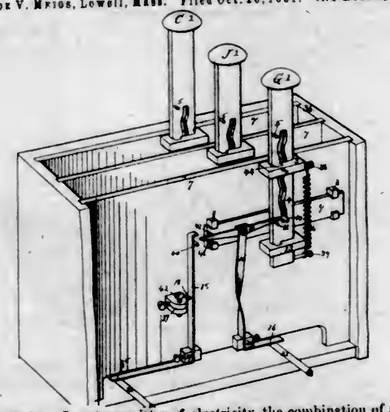
Claim.—1. The combination, with the standard provided with a segment-rack, of a lever provided with perforated arms, forming bearings for the reel-shaft, projecting arms between which is journaled a roller adapted to regulate the slack of the driving band or chain, and with a sliding dog, substantially as set forth.

2. The combination, with a stationary segment-rack, of the reel-supporting standard, pivoted adjacent thereto and carrying a segment-rack at its upper end, a reel supporting and operating lever pivoted to the upper end of said standard, and suitable dogs or detents attached to said standard and reel-supporting lever to engage with said segment-racks, respectively, substantially as and for the purpose set forth.

3. The combination, with the pivoted standard A, carrying a segment-rack at its upper end, of the stationary segment-rack C, the reel-supporting lever provided with bearings for the reel-shaft, and a segment-rack adjacent to one of said bearings, the reel-arms *e e*, attached to a rocking bearing, and dogs arranged on the standard, reel-supporting lever, and one of the reel-arms, to engage adjacent segment-racks, substantially as described.

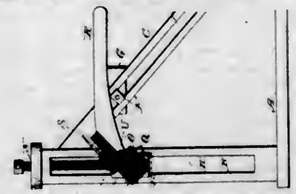
4. The combination, with the pivoted standard and the pulley *b'* on the driving-shaft P, of the adjustable pivoted reel-supporting lever F, having the arm H, on which is pivoted the pulley *c*, the reel-shaft mounted on the end of the reel-supporting lever and provided with the pulley I, the driving chain or band, and means for holding the standard and lever in position, substantially as described.

265,576. ELECTRICAL TRANSMITTER. GEO. J. CARNEY and JOE V. MEIGS, Lowell, Mass. Filed Oct. 20, 1881. (No model.)



Claim.—In a transmitter of electricity, the combination of a key-lever having a cam-shaped slot and pins 5 and 11, a reciprocating bar carrying a pin engaging with said cam-slot, a lever pivoted to the said bar and electrically connected with one end of the line, thereby forming one contact-point, with a spring-bar connected to the other end of the line and forming the other contact-point, and a stop, as 40, for the same, whereby positive and rapid makes and breaks of the circuit may be produced without chattering, substantially as set forth.

265,577. KNIFE POLISHER AND GRINDER. JOHN CARRERA, Reynolds Bridge, Conn. Filed June 26, 1882. (No model.)

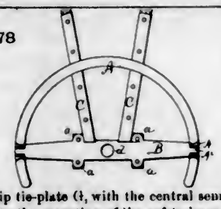


Claim.—The combination, with the base-pieces having the upright standards and inclined guide-braces provided with an adjustable cross rest or brace, the standards carrying vertically-adjustable blocks connected by a transverse shaft, of the block having a bearing on and laterally movable on said shaft, provided with means for holding the knife-blades and adapted to be turned over and held against the grindstone, substantially as set forth.

265,578. FIFTH-WHEEL. ROBERT P. CARTER, Arcade, N. Y. Filed Apr. 29, 1882. (No model.)

Claim.—1. The fifth-wheel described, consisting of the circle A and cross-stay B, provided at the point of junction with risers A' and depressions A² for receiving the springs, the deflected reach-holding attachments C C, provided with the cheeks *m*, to give lateral stiffness to the braces C' C', run out under the circle A, the whole being cast or formed in a single piece, combined with the plate D, having the rests *b*, substantially as set forth.

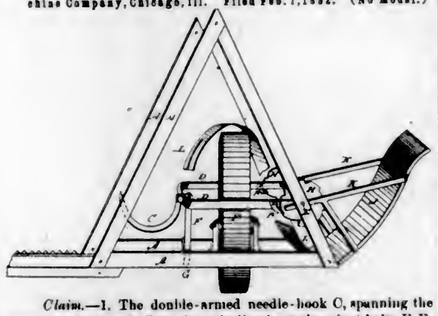
265,578



2. The clip tie-plate G, with the central semicircular hollow, *i*, and hole *k* for the reception of the safety-brace end *k'*, and with the lugs *g g g*, in combination with an axle and axle-plate, D, and to be bolted thereto, all substantially as and for the purpose specified.

3. In combination with the clip tie-plate G *i k*, the safety-brace H, having its end bent down into a pin, *k'*, and held by a nut underneath plate G; all substantially as and for the purpose specified.

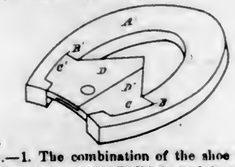
265,579. GRAIN-HARVESTER. ORLANDO L. CASTLE, Upper Alton, assignor of one-sixth to the McCormick Harvesting Machine Company, Chicago, Ill. Filed Feb. 7, 1882. (No model.)



Claim.—1. The double-armed needle-hook C, spanning the driving-wheel and vibrated vertically about the pivot-bolts E E, substantially as described.

2. The combination of the needle-hook C and the arms D, having thereon the pawls *p*, with the ratchet-wheels H, and the arms K of the gate J, substantially as described.

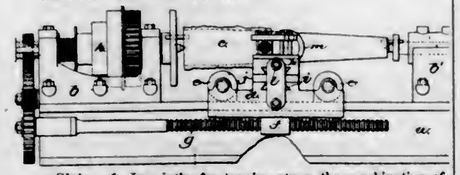
265,580. HORSESHOE. CHARLES CHAMBERLIN, Lowell, Mass. Filed May 7, 1881. (No model.)



Claim.—1. The combination of the shoe A, provided with recesses B B', a frog-support, D D', formed in rabbeted overlapping halves, and a screw, F, as and for the purpose specified.

2. The combination of the shoe A, provided with recesses B B', the frog-support D D', provided with arms C C', the bar H, and the screw F', as and for the purpose specified.

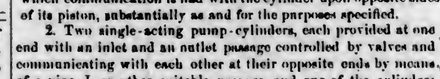
265,581. STONE-LATHE. ETHAN R. CHENEY, Chelsea, Mass. Filed June 10, 1882. (No model.)



Claim.—1. In a lathe for turning stone, the combination of the following elements, namely: the lathe-bed, longitudinal pattern-surface mounted thereon, the longitudinally-movable carriage provided with transverse guideways, and automatic feed mechanism therefor, the tool-carrying heads mounted in the said guideways of the carriage, the rotating disk-cutting tools thereon, and the pins connected with the said tool-carrying heads, and provided with rollers engaging the pattern-surface on the lathe-bed, substantially as and for the purpose set forth.

2. The lathe-bed and carriage provided with transverse guideways mounted on rollers on the said bed, combined with automatic feed mechanism for the said carriage, tool-carrying heads mounted in the transverse guides thereof, and rotating disk-cutting tools thereon, and a pattern-surface governing the position of the said tool-carrying heads in the guideways of the carriage as the latter is fed along the lathe-bed, whereby a column is automatically turned to any desired shape, substantially as described.

265,582. PROCESS OF ADAPTING OIL-WELLS TO FLOW WITHOUT TUBING ABOVE THE PACKER. CHARLES C. CONROY, Bolivar, N. Y. Filed Apr. 18, 1882. (No model.)



Claim.—1. The process of adapting an oil-well to flow without tubing the same above the packer, by means of a reducer applied to the tubing at or below the packer, substantially as described.

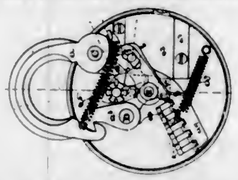
2. The method of securing the packer for the tubing in place by devices wedging against or grasping the walls of the well, whereby the necessity of the weight of tubing above said packer for securing the latter in place is obviated, substantially as described.

3. The reducer applied to the thimble, in combination with a check-valve applied thereto and operating substantially as described.

265,583. MEDICINAL PREPARATION. GILBERT DÉCLAT, Paris, France. Filed Nov. 28, 1881. (Specimens.)

Claim.—The composition or preparation of iodine and carbolic acid compounded as and in the proportions set forth.

265,584. REGISTERING-LOCK. CHARLES C. DICKERMAN, Boston, and DANIEL POWERS, Shelburne, Mass.; said Powers assignor to said Dickerman. Filed Jan. 14, 1882. (Model.)



Claim.—1. The above-described improved padlock, consisting of the shell A, the hasp *n*, the locking-dog a^3, the sliding tumbler-carrier o^1, the tumblers *x*, the tumbler-springs *o'*, the safety-guard a^7, the fence c^3, and the tumbler-carrier cover o^2, locking devices, the numeral-plates *c'*, the pawl-bearing lever a^2, the pawls *e*, and the spring-dogs e^1, registering devices, all made and arranged in relation to each other substantially as described.

2. In a padlock, in combination with the shell, hasp, and locking-dog, the sliding tumbler-carrier o^1, tumbler-carrier cover o^2, and tumblers *x*, made substantially as described.

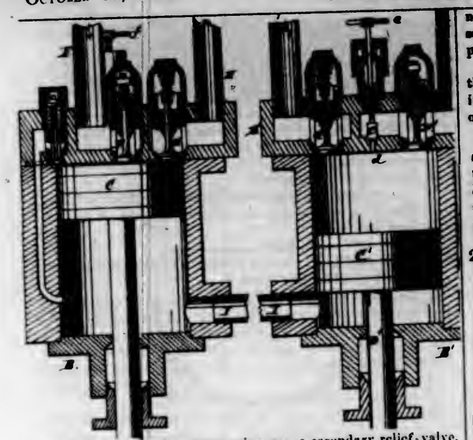
3. In a padlock, in combination with the shell, hasp, locking-dog, tumbler-carrier o^1, tumblers *x*, and tumbler-carrier cover o^2, the safety-guard a^7, and the fence c^3, made substantially as described.

4. A registering device for padlocks and other purposes, confined in a suitable case or shell, consisting of a series of concentric circular numeral-bearing plates *c'*, the pawls *e*, the spring-dogs e^1, and the lever a^2, in combination with any suitable device for actuating the lever.

265,585. GAS-COMPRESSING PUMP. WILLIAM W. DOOLITTLE, Chicago, Ill. Filed May 26, 1882. (No model.)

Claim.—1. Two single-acting pump-cylinders, each provided at one end with an inlet and an outlet passage controlled by valves and communicating with each other at their opposite ends, and one of said cylinders having a relief controlled by a valve, through which communication is had with the cylinder upon opposite sides of its piston, substantially as and for the purposes specified.

2. Two single-acting pump-cylinders, each provided at one end with an inlet and an outlet passage controlled by valves and communicating with each other at their opposite ends by means of a pipe, I, or other suitable passage, and one of the cylinders having a passage, *a*, communicating with the opposite ends of said cylinder and controlled by a valve, substantially as and for the purposes specified.



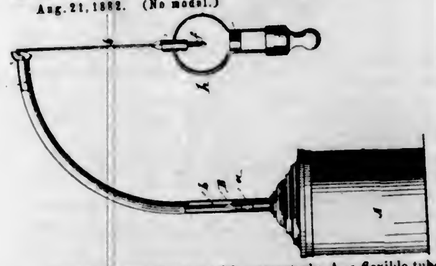
3. In a pump for compressing gas, a secondary relief-valve, *e*, located in that end of the cylinder in which compression takes place, and controlling a passage, one end of which communicates with the cylinder, while the other end communicates with the pipe or chamber from which gas is supplied to the cylinder for the purpose of relieving the pressure in the cylinder to facilitate the starting of the pump, substantially as specified.

265,586. VAPOR-BURNER. RUDOLPH FALKENRATH, Decatur, Ill., assignor to the American Vapor Stove Manufacturing Company, same place. Filed Feb. 25, 1882. (No model.)



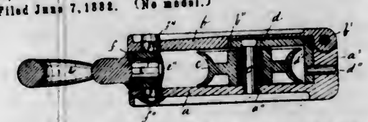
Claim.—Vapor-generator *c*, of the conformation shown, in combination with conveyer *d*, cap *b*, and nut-plate *n*, all connected by means of hook-bolt *m* and rod *n*, substantially as and for the purpose herein set forth.

265,587. GAS CUT-OFF. JOHN FARTHING, Chicago, Ill. Filed Aug. 21, 1882. (No model.)



Claim.—In combination with a receptacle, A, a flexible tube which passes over a bar or other suitable solid, and a weight connected with the free end of the tube, whereby the action of the weight will close the tube, and when the weight is lifted the tube will open, substantially as and for the purpose specified.

265,588. SNATCH-BLOCK. THOMAS R. FERRALL, Boston, Mass. Filed June 7, 1882. (No model.)

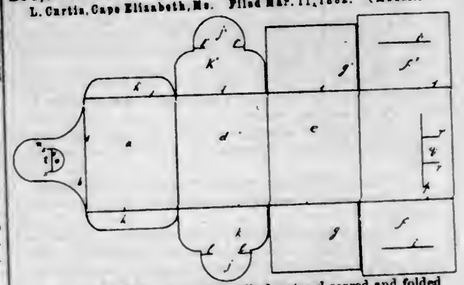


Claim.—1. In a snatch-block, the hook *e e'* and head *f*, in combination with the rear plate, *a*, and the bottom projection, *a'*, hinged at *b'* to the front plate, *b*, the latter being adapted to connect and disconnect from the lock *f''* on the hinged head *f*, and to serve as a shield and protector for the sheave *c*, as and for the purpose set forth.

2. In a snatch-block, the rear plate, *a*, with its lower projection, *a'*, hinged to the front plate, *b*, in combination with the bearing bracket or strap *d* for the spindle *c'*, and recess *b''* on the inside of plate *b*, as and for the purpose set forth.

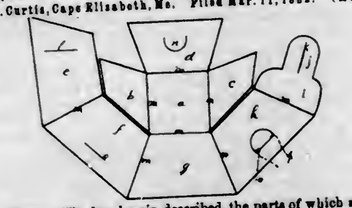
3. In combination, the hook *e*, shank *e'*, swinging head *f f f'*, and locking-lip *f''*, the rear plate, *a*, with its lower projection, *a'*, the front plate, *b*, hinged at *b'* to the piece *a'*, and having slot-hole *b'''* in its upper end, the independent bearing bracket or strap *d d'*, spindle *c'*, and sheave *c*, combined and arranged as and for the purpose set forth.

265,589. BOX. HENRY P. FISKE, Portland, assignor to Leslie L. Curtis, Cape Elizabeth, Me. Filed Mar. 11, 1882. (Model.)



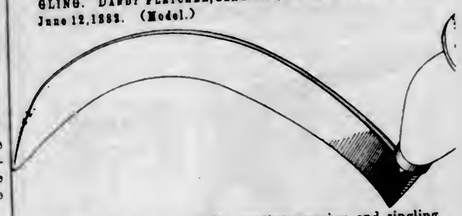
Claim.—The box herein described, cut and scored and folded in the manner set forth, having the end pieces, *f' f*, inside end pieces, *g g'*, slots *i i'*, ears *j j'*, with slits *l l'*, edge *m*, aperture *o*, slit *p*, slots *r r'*, and slits *s*, as herein set forth.

265,590. BOX. HENRY P. FISKE, Portland, assignor to Leslie L. Curtis, Cape Elizabeth, Me. Filed Mar. 11, 1882. (Model.)



Claim.—The box herein described, the parts of which are cut from a sheet of thin material, all connected and scored as set forth, folded as specified, having the handle *p* made and attached as set forth, said parts being the bottom *a*, side pieces, *b d e*, side pieces, *e f g h*, slits *l o k*, tongue *n*, ear *j*, slits *o*, and handle *p*, as herein described.

265,591. IMPLEMENT FOR WEEDING, PRUNING, AND SINGLING. DANDY FLETCHER, Sandwich, Ontario, Canada. Filed June 12, 1882. (Model.)

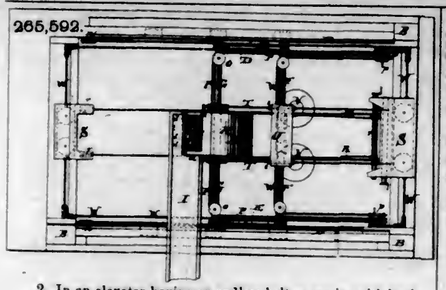


Claim.—An implement for weeding, pruning, and singling, consisting of a tempered steel blade, hooked, flat in the plane of its curve, sharpened on the inner edge, and twisted upward and inward near the shank, and a handle at an angle of about sixty degrees into the plane of the forward part of the cutting-edge of the blade, substantially as described, and for the purpose set forth.

265,592. ELEVATOR FOR LOADING AND UNLOADING VESSELS, &c. ALFRED D. FOX, New York, N. Y. Filed Feb. 16, 1882. (No model.)

Claim.—1. In an elevator-leg, the combination of the elevator-chains *d d*, having buckets *e e*, with the reticulated filling *f* between said chains, substantially as described.

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2. In an elevator having an endless belt or carrier with buckets thereon, the buckets made with projecting teeth *g*, substantially as herein shown and described.

3. The elevator-leg made with upright slots *h*, through which passes the suspending-bar G of the supporting-frame, substantially as and for the purpose specified.

4. The vertically-adjustable elevator-leg made with downwardly-projecting teeth *i*, substantially as herein shown and described.

5. In an elevator, the combination of the elevator-leg with one or more engines, J, rigidly attached thereto, substantially as specified.

6. In an elevator, the combination of the elevator-leg with the chains *d*, carrying the buckets, and with additional chains, *l*, that pass around the shafts of the elevator-leg and are united to the buckets, substantially as and for the purpose described.

7. The combination of the elevator-leg with the removable caps or covers L M, substantially as specified.

8. The combination of the elevator-leg with the longitudinally-movable carriage D E F G, and with the rope or chain O passing over the rollers *n*, substantially as and for the purpose described.

9. The combination of the elevator-leg with the shaft or supporting-bar G, and with the chains or ropes P, friction-rollers *o*, and winding-shafts *p*, substantially as described.

10. The combination of the elevator-leg with the rope or chain R, having its ends fastened thereto, and with the drums *r*, around which said rope or chain passes, substantially as described.

11. The combination of the elevator-leg with the ropes or chains R, having their ends fastened to it, and with the drums *r* and laterally-sliding frames S, substantially as specified.

12. The adjustable elevator-leg, combined with the balancing weight or weights V and laterally-movable framing U, substantially as described.

13. The elevator-leg, combined with the balancing-springs V', above and below its supporting-shaft G, substantially as specified.

14. The combination of the movable elevator-leg with the laterally-movable frames S and U, and with the ropes P W and winding-drums *p*, all for operation substantially as specified.

265,593. COMBINED ROCKING AND RECLINING CHAIR. ALEXANDER G. FULLER, Grand Rapids, Mich. Filed May 11, 1882. (Model.)



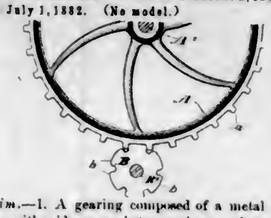
Claim.—The combination of the base-frame, rocker-frame, and springs for connecting them together, the back frame pivotally connected to the rocker-frame, as shown, the seat pivotally connected at its rear end to the lower end of the back frame, and the locking device attached to the rocker-frame, and adapted to engage with the base-frame to prevent rocking and with the seat or back frame to prevent reclining, substantially as specified.

265,594. INSULATING ELECTRICAL WIRES. GEORGE A. GAGE, Chicago, Ill. Filed Dec. 5, 1881. (No model.)

Claim.—1. The method herein described of laying and insulating underground telegraph-wires, which consists in placing a row of wires longitudinally in a receptacle, covering such wires with silicate of soda in a fluid state, permitting the latter to harden, and then arranging another row of wires on the hardened insulating material, and covering the same with silicate of soda, all substantially in the manner set forth.

2. An electrical conducting-wire covered with silicate of soda, which is in direct contact with the surface of the wire, as and for the purpose described.

265,595. GEARING. JAMES F. GILLILAND, Indianapolis, Ind. Filed July 1, 1882. (No model.)



Claim.—1. A gearing composed of a metal wheel having small cogs with wide spaces between them, and a rubber or similar wheel having large cogs with small spaces between them, substantially as set forth.

2. The combination of the metal wheel A, having thin cogs *a* with wide spaces between them, and the rubber wheel B, having thick teeth *b*, which fit in between the thin teeth in the wheel A, and narrow spaces between them, which fit over the said thin teeth, the ends of said thick teeth *b* and the bottoms of the spaces between the teeth *a* also constituting friction-surfaces, substantially as set forth.

3. The combination of the wheels A and B, constructed as specified, to form a combined spur and friction gearing, substantially as set forth.

265,596. TREADLE. ALBERT M. GREENWOOD, Phillips, Me. Filed Aug. 24, 1882. (No model.)



Claim.—1. The pitman-rod M, in combination with the horizontal bar K, to which it is jointed, and the foot-piece H, substantially as specified.

2. In a treadle substantially such as described, the pendulous lever G, in combination with the lever E and bars K L, substantially as set forth.

3. The pendulous lever E, in combination with the horizontal bars K L, pitman-rod M, and foot-piece H, substantially as set forth and described.

4. The improved treadle described, the same consisting of the pendulous levers G E, horizontal bars K L, pitman-rod M, and foot-piece H, in combination with the wheel C, shaft D, crank J, standard A, and arm B, substantially as specified.

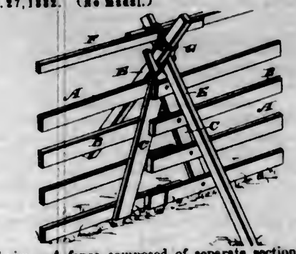
265,597. METHOD OF TREATING ANIMAL HAIR FOR TEXTILE PURPOSES. GEORGE J. GREGORSON, Millburn, N. J. Filed Mar. 4, 1882. (No specimens.)

Claim.—1. The process of treating the hair of domestic animals, such as hereinbefore specified, with a compound of commercial alum, muriatic acid, and a mixture of mercury, nitric acid, and water, by boiling the hair in the said compound, stripping off the fibers by a Hollander machine, drawing off the liquid and neutralizing with ammonia and water, as hereinbefore substantially described, and for the purpose described and set forth.

2. The changing of the tubular form by splitting the hair of domestic animals, such as hereinbefore described and specified, treated and changed into straight, fine, soft, split fibers of different lengths, as herein described, and for the purpose described.

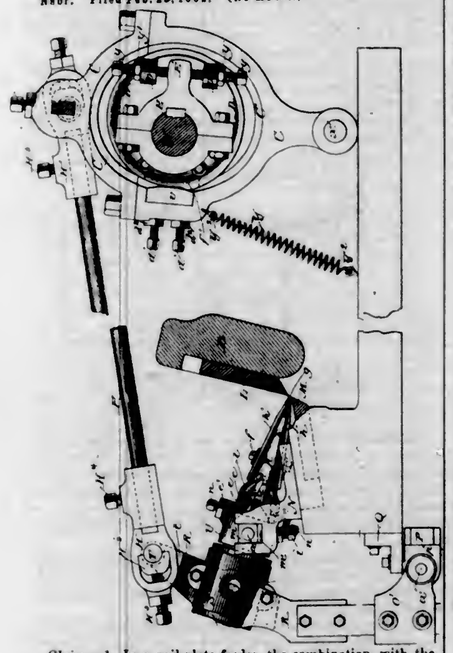
3. The new product, a split, straight, soft, fine fiber, obtained by the process as substantially described, and for the purpose described.

265,598. FENCE. JAMES T. GUTHRIE, Leesburg, Ohio. Filed Apr. 27, 1882. (No model.)



Claim.—A fence composed of separate sections, each provided with diagonal battens whose upper ends are crossed to form a saddle above the section, crossed stakes supported in said saddle, riders supported by the saddle formed by the crossing of said stakes, and a wire securing the rider, stakes, and battens together, substantially as set forth.

265,599. NAIL-PLATE FEEDER. JOHN F. HAMMOND, Omaha, Nebr. Filed Feb. 25, 1882. (No model.)



Claim.—1. In a nail-plate feeder, the combination, with the main driving-shaft, and with the cutting-knives, of the pivoted yoke and the plate-holding barrel sustained thereby, a connecting-rod to impart to said yoke and barrel their entire backward movement, and adjustable eccentric mechanism, substantially as described, whereby the relative action of the cutting-knives and of the barrel in feeding the nail-plate and in cutting the same may be maintained, substantially as set forth.

2. The combination, with the cutting-knives, and with the main driving-shaft, of an eccentric mounted thereon, a pivoted yoke to encompass said eccentric, a connecting-rod, a pivoted yoke, a plate-holding barrel sustained by said yoke, and an encircling collar provided with means to engage and rotate the barrel as the same is reciprocated, substantially as set forth.

3. The combination, with the plate-holding barrel having inclined ribs, and a journaled collar provided with means to engage therewith and rotate the barrel, of a pivoted yoke to sustain said barrel, and mechanism, substantially as described, to rock the yoke, substantially as set forth.

4. The combination, with the plate-holding barrel K, provided with the cam-ribs, and the collar U, carrying set-screws and provided with trunnions, of the standards N, the rocking yoke R, connecting-rod F, and eccentric mechanism for imparting motion to said rod, substantially as described.

5. The combination, with the barrel-supporting collar U, having trunnions thereon, of the slotted standards N, having mechanism for adjusting the vertical movement of said collar, substantially as described.

6. The combination, with the barrel K, having inclined or cam ribs *l*, of the collar U, having friction-rollers *e* and trunnion-bearings, the slotted standards N, the sleeve, and the rocking yoke R, substantially as described.

7. The combination, with standards N and with the collar U, mounted on trunnions therein, of the plate-holding barrel K, having cam-ribs, the sleeve, the yoke R, carrying center screws, *p''*, the bar G, and the rocking frame O, substantially as described.

8. In a nail-plate feeder, the combination, with the main driving-shaft, of a fixed collar, E, an eccentric cam journaled loosely on said shaft, and a pivoted yoke to encompass the cam, said yoke having adjustable shoes or plates set therein, substantially as set forth.

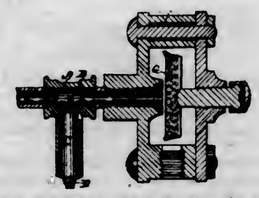
9. The combination, with the main shaft, of the fixed collar, the eccentric loosely journaled on said shaft and provided with adjusting mechanism, the eccentric yoke, the plate-holding barrel, and mechanism for communicating motion from the yoke to the barrel, substantially as described.

10. The combination, with the main shaft, of the fixed clamp E, the eccentric D, having adjusting mechanism, and having an enlarged portion, *f'*, the yoke C, carrying shoes *e*, the barrel K, and connecting mechanism, substantially as described.

11. In a nail-plate feeder, the eccentric D, formed with a separable section, *r*, said eccentric and section being provided respectively with the tongues and grooves, and with key-slots to receive the bolts *s'*, substantially as described.

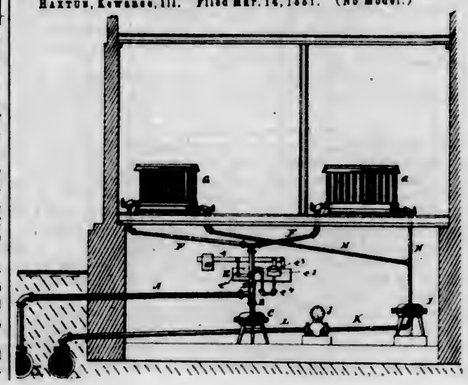
12. In a nail-plate feeder, the combination, with the eccentric D, having the enlargements *f'*, and the yoke C, provided with the shoes *e*, of the spring Y, substantially as described.

265,600. SEDIMENT-TRAP. LORING P. HAWES, New York, N. Y. Filed Apr. 17, 1882. (No model.)



Claim.—In a sediment-trap for pipes, the combination of a pipe-coupling and a sediment-chamber, provided with a discharging-outlet controlled by a valve or plug, with a transverse bar extending across the lower portion of the direct passage through the pipe-coupling, and adapted for the passage of a diminished current under the bar and across the upper end of the sediment-chamber, substantially as described.

265,601. APPARATUS FOR STEAM-HEATING. WILLIAM E. HAXTUN, Kewanee, Ill. Filed Mar. 14, 1881. (No model.)

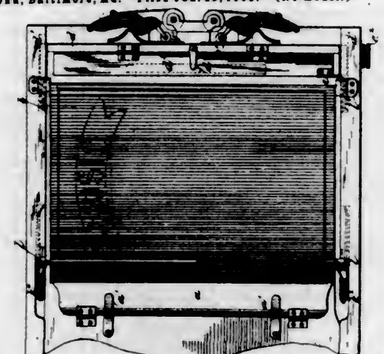


Claim.—1. The combination, with the radiators in a building, of the street steam-supplying main, the steam-pipe connection between said main and the radiator, the pressure-valve located at a point in said pipe-connection between the main and the radiator, the trap C in a branch pipe between the main and the pressure-valve, the pipe for returning the water of condensation back to the boiler-house, and a pipe leading from the trap to the return water-pipe, substantially as described.

2. The combination, with the radiator, of the steam-supply main S, pipe-connection between the two, the pressure-valve between the radiator and steam-supply main, the trap connecting with a branch pipe between the steam-supply main and the pressure-valve, the water-trap I, connecting with the radiator, the water-return pipe W, and pipe-connection between the same and said traps, substantially as described.

3. The combination, with the radiator, of the steam-supply main S, pipe-connection between the two, the pressure-valve between the radiator and steam-supply main, the trap connecting with a branch pipe between the steam-supply main and the pressure-valve, the water-trap I, connecting with the radiator, the water-meter J, pipe K, and return-pipe W, substantially as described.

265,602. MUSIC-LEAF TURNER. CHRISTIAN W. HERRINGSHAW, Baltimore, Md. Filed Jan. 25, 1882. (No model.)



Claim.—1. A music-leaf turner consisting of a stand, a sliding brush adapted to arch a leaf, two hinged arms for passing under the arched leaf at the upper and lower edges thereof, and suitable gearing for operating said parts, substantially as shown and described.

2. A music-leaf turner consisting of a stand or holder having a device for clamping the sheets at one edge, a sliding brush arranged above the free edges of the sheets, two arms arranged at the upper and lower edges of the stand, an oscillating lever connected to each arm, having retaining-springs and cords by which they shall be operated, and a train of levers, pulleys, and cords connecting said parts, substantially as shown and described.

3. A music-leaf turner consisting of a stand having a hinged leaf at one end forming a part of the holder, a suitable device for raising or lowering said leaf, a sliding frame arranged above said leaf and carrying a brush, and a deflecting-guide for pressing the brush down upon the music-sheet, in combination with hinged arms and oscillating levers carrying said arms, arranged at the upper and lower edges of the stand, near the center thereof, and a train of gearing connecting said parts and operated by a pedal, substantially as shown and described.

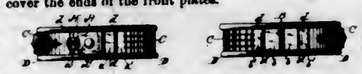
4. In a music-leaf turner, the combination of a stand having a hinged leaf, a wedge-shaped springing device supporting the leaf, a wedge-shaped block or blocks connected to a roller by crossed flexible strips or bands, so as to be moved to and from under the said supports, and a sliding frame arranged above the said leaf, carrying a stiff brush and having retaining-springs, and means for deflecting the brush, and oscillating levers having friction-rollers which are adapted to move along curved tracks or cams on the adjacent edge of the sliding frame, and which levers are provided with retaining-springs and connected by cords to a train of pulleys, substantially as shown and described.

5. In a music-leaf turner, the combination, with the sliding frame and the levers by which it is operated, of rollers connected to the said levers by cords, and which are adapted to wind the cords, a pulley arranged underneath the stand and connected to shafts of said rollers by cords or strips which are wound upon them, and a cord connecting the pulley to a pedal or other device for operating the pulley, substantially as shown and described.

6. In a music-leaf turner, the combination, with the stand and the pulley secured thereto, and retaining-springs connected to the shaft of said pulley, of supplemental pulleys secured to said shaft, two levers pivoted to the under surface of the stand and connected by cords both to the said levers and to the hinged arms, and their carrying-levers on the upper surface of the stand, substantially as shown and described.

265,603. BRACELET. FRANCIS G. HODGES, Mansfield, Mass., assignor to himself and Homer M. Daggett, Jr., and Harvey Clap, Attleborough, Mass. Filed Sept. 12, 1881. (No model.)

Brief.—The guide-spurs firmly hold the arms of the bracelet in line with each other to relieve the spring-clasp from transverse strain. The front plates are firmly secured to the back plates under the raised ends of the hinge and clasp, which serve to admit and cover the ends of the front plates.

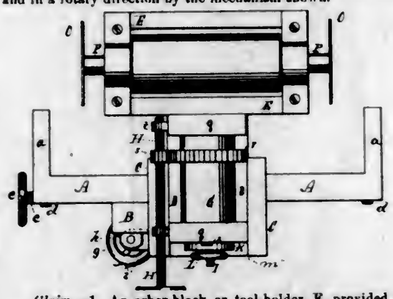


Claim.—1. In a bracelet, the combination of the arms D D, having the hollow turned edges *d d*, with the guiding-spurs E E and clasp-pieces A A′, substantially as described.

2. In a bracelet, the combination of the arms D D, having the hollow turned edges *d d*, with the permanently-attached front plates, C C, clasp-pieces A B′, and hinge B, turned up at their ends *a′ a′* and *b′ b′*, substantially as and for the purpose specified.

265,604. CUTTER-CARRIER FOR WOOD-WORKING MACHINES. HENRY A. HOLT, Wilton, N. H. Filed Dec. 21, 1881. (No model.)

Brief.—The cutters may be adjusted vertically, horizontally, and in a rotary direction by the mechanism shown.



Claim.—1. An arbor-block or tool-holder, E, provided with a journal, G, turning in a horizontally-adjustable bearing-block, D, which is mounted on a vertically-adjustable carrier-block, C, that is mounted on a carrier-block, B, adjustable horizontally in a direction transverse or at right angles to the adjustment of the bearing-block D, substantially as and for the purpose herein specified.

2. In combination with the horizontally-adjustable carrier-block B and vertically-adjustable carrier-block C, the horizontally-adjustable bearing-block D, the three blocks operating substantially as and for the purpose herein specified.

3. The combination of the hollow journal G, provided with the central rod, I, and arranged in its outer bearing, *q*, as described, with the loose collar K and clutch-collar M, substantially as and for the purpose herein specified.

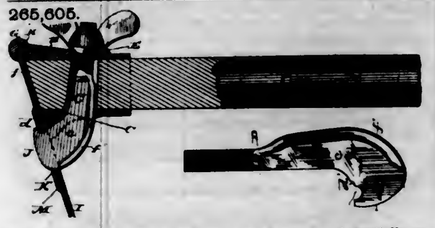
4. The combination of the clutch-collar M on the journal-rod I, the dial-pointer N, and the journal-bearing *q*, having a dial or graduated scale on its face, substantially as and for the purpose herein specified.

5. In a wood-working machine, the combination of two arbor-blocks or tool-carriers, E E, mounted on a girder, A, and each having the adjustments herein described, one being provided with a lathe-head and the other with a lathe foot-point, substantially as and for the purpose herein specified.

265,605. HOE, RAKE, &c. JOSEPH R. HOOD, Philadelphia, Pa. Filed Jan. 11, 1882. (Model.)

Claim.—1. The combination, with a socket having an elongated opening formed therein, and a flange on the end of the socket for receiving the upper edge of a blade, of a hook-bolt provided with a rectangular or flattened body or shank that extends into the elongated slot in the socket and fits against the sides thereof and prevents the bolt from turning and allows the lower

265,605.



end thereof to be moved backward and forward, substantially as set forth.

2. The combination, with a socket having an elongated opening formed therein, and a flange on the end of the socket for receiving the upper edge of a blade, of a hook-bolt provided with a screw-threaded end, and a flattened or rectangular shank that fits against the sides of the rectangular slot in the socket, and a nut for retaining the hook-bolt in place, substantially as set forth.

3. The combination, with a socket having an elongated opening formed therein, a flange for receiving the upper edge of a blade, and a concave bearing for the fastening-nut, of a hook-bolt provided with a screw-threaded end, and a flattened or rectangular shank that fits against the sides of the rectangular slot in the socket, and a nut constructed with a convex face that fits in said concave bearing in the socket, substantially as set forth.

4. The combination, with a socket provided with an enlarged flange on its outer end for receiving the upper edge of the blade, and a hook-bolt adapted to be inserted through the socket and secure the blade at different angles of inclination, of a wedge provided with a slot for receiving the lower portion of the hook-bolt and adapted to be inserted between the socket and blade, substantially as set forth.

5. The combination, with the eye or socket B, provided with the flange G, boss E, and rectangular opening C, and the blade I, of the hook-bolt D, constructed substantially as described, and the nut F, provided with the convex face *a*, substantially as set forth.

6. The combination, with the socket B, blade I, and wedge L, of the bolt D and nut F, substantially as set forth.

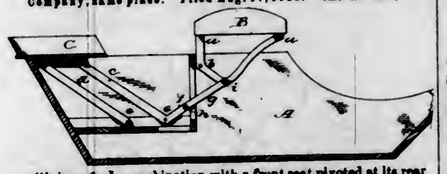
7. The combination, with the socket B, constructed as described, blade I, and wedge, of the bolt D, constructed as described, the lower end of which is adapted to pass through said wedge and blade, and the nut F, for securing the parts in position, substantially as set forth.

8. The combination, with the socket B, having an elongated opening formed therein, and the hook D, constructed with a flattened or rectangular body portion adapted to fit against the sides of the elongated slot in the socket, of a blade provided with the single re-enforcing and adjusting disk M, substantially as set forth.

9. The combination, with the eye or socket B, provided with the flange G, lateral flanges *g*, and depending lip or flange h, of the blade I and hook-bolt D, substantially as set forth.

10. The combination, with the eye or socket B, provided with the flange G, lateral flanges *g*, and depending lip or flange h, provided with a slot or recess for the reception of the hook-bolt, of the blade I, and hook-bolt D, substantially as set forth.

265,606. JUMP-SEAT CARRIAGE. JOSIAH JACKSON, Fort Atkinson, Wis., assignor to the Northwestern Manufacturing Company, same place. Filed Aug. 17, 1882. (No model.)



Claim.—1. In combination with a front seat pivoted at its rear side to permit it to drop forward, a rear seat carried by pivoted supports arranged to swing in a vertical plane, and an intermediate link or connection between the supports of the front and rear seats, having a pivot above a line passing through the lower pivot of the rear-seat irons and the point of connection with the forward seat when the latter is raised, whereby the forward seat is automatically locked and held in its upright position without the aid of special locking devices.

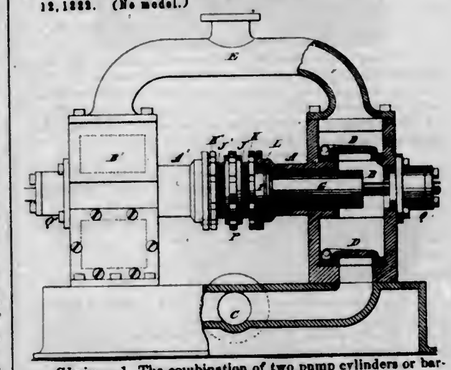
2. In a jump-seat mechanism, the combination of a front-seat frame or iron pivoted at its rear, a rear-seat iron pivoted at its lower end, and a link or connection pivoted to the front-seat iron and connected with the rear-seat iron at a point in line with or slightly above a line passing through the pivot of the rear-seat iron and the point of connection with the forward seat.

3. In combination with the iron *c*, having bent or laterally-projecting arm *f*, the iron *a*, and link *g*, connecting iron *a* and arm *f*, as and for the purpose set forth.

4. The herein-described jump-seat mechanism, consisting of irons *c d*, the former having arm *f* pivoted at *e*, iron *a*, and link *g*, connected with iron *a* at point *i*, and with arm *f*, the latter point of connection being in line with or slightly above a line passing through pivots *e* and *i* when the front seat is elevated, whereby said front seat is held in an elevated position, substantially as shown and described.

5. In combination with seats B C, irons *a c d*, and link *g*, said parts being proportioned and arranged as shown and described, whereby the forward seat is caused to assume a vertical position beneath the rear seat when the latter is moved forward, and thereby to serve as a curtain or flap to said seat.

265,607. PUMP. PIERRE E. JAY, New York, N. Y. Filed July 12, 1882. (No model.)



Claim.—1. The combination of two pump cylinders or barrels placed with their ends in juxtaposition and arranged one on the prolongation of the axial line of the other, the glands inserted in the proximate ends of said cylinders and provided with reverse screw-threads, the packing between said glands and the cylinders, and the nut receiving the screw-threaded portions of both glands, substantially as described.

2. The combination of the two pumps, barrels, or cylinders, as described, the glands, the packing, the nut, and the pins O, substantially as described.

3. In a pump, the combination of the two pump-cylinders A A′, the glands I I′, packing H H′, and nut P, substantially as described.

265,608. GRIDIRON. JAMES J. JOHNSTON, Columbiana, Ohio, assignor to the United States Improvement Company, (Limited,) same place. Filed Feb. 11, 1882. (No model.)



Claim.—A gridiron consisting of the body or case A, having an internal flange, E, an arched and detachable grate, D, having grooved bars F, grooved ring G, and reservoir H, constructed, arranged, and operating substantially as herein described, and for the purpose set forth.

265,609. HEAT-VESSEL. JAMES J. JOHNSTON, Columbiana, Ohio, assignor to the United States Improvement Company, (Limited,) same place. Filed Feb. 11, 1882. (No model.)



Claim.—A meat-vessel having the body A surrounded with a grooved projection, B, and a lid, C, the flange D of which in form and contour corresponds to the form and contour in said grooved projection B, said lid being furnished with a perforated diaphragm, substantially as herein described, and for the purpose set forth.

265,610. DINNER-POT. JAMES J. JOHNSTON, Columbiana, Ohio, assignor to the United States Improvement Company, (Limited,) same place. Filed Feb. 23, 1882. (No model.)



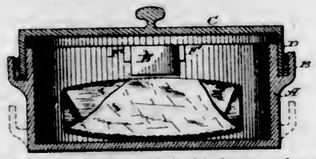
Claim.—In a dinner-pot, the secondary bottom E, having downwardly-projecting tube F and notches or recesses *g* in its periphery, the pot being of such diameter that its point of contact with the flanges B of the stove-hole shall be on the same horizontal plane as the periphery of the secondary bottom, substantially as herein described, and for the purpose set forth.

265,611. SKILLET. JAMES J. JOHNSTON, Columbiana, Ohio, assignor to the United States Improvement Company, (Limited,) same place. Filed Feb. 23, 1882. (No model.)



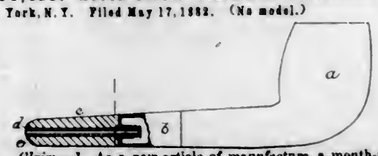
Claim.—In a skillet, a bottom the upper surface of which is a horizontal plane surrounded by a groove, C, which communicates with a drip-receptacle, D, the under surface of said bottom being convex, substantially as and for the purpose set forth.

265,612. BUTTER-VESSEL. JAMES J. JOHNSTON, Columbiana, Ohio, assignor to the United States Improvement Company, (Limited,) same place. Filed Feb. 11, 1882. (No model.)



Claim.—The vessel A, provided with the grooved projection B, pouring-lips G and H, and detachable chamber E, and said vessel furnished with a lid, C, having flange D, corresponding in form to the form of the groove in the projection, substantially as herein described, and for the purpose set forth.

265,613. MOUTH-PIECE. FREDERICK J. KALDENBERG, New York, N. Y. Filed May 17, 1882. (No model.)
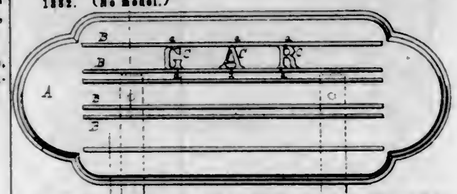


Claim.—1. As a new article of manufacture, a mouth-piece for pipes, having a tube arranged within the smoke-aperture and which projects beyond the lower end thereof, the inclosed portion of said tube having a smooth surface and the projecting end provided with a screw-thread, substantially as and for the purpose set forth.

2. A mouth-piece having a tube of impermeable material cemented within the smoke-aperture and projecting therefrom, the projecting end only of said tube being screw-threaded, as and for the purpose set forth.

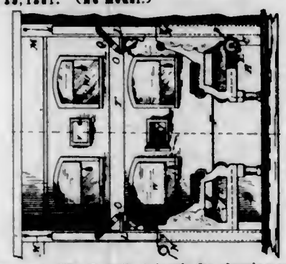
3. The combination, with the band *b* and mouth-piece *c*, of the tube *d*, provided with the screw *f*, substantially as and for the purpose set forth.

265,614. NAME-PLATE OR SIGN. WILLIAM KAUFMANN, New York, N. Y., and AUGUST DORR, Newark, N. J. Filed July 3, 1882. (No model.)



Claim.—A sign or name-plate, A, of cast metal, with parallel ductile metal strips B fixed thereto, in combination with a series of letters and numbers, C, having notches *a* formed therein, and adapted to be fastened to the strips by indenting portions of the strips into the notches *a*, as and for the purpose described.

265,615. SLEEPING-CAR. JOHN H. LASKEY, Boston, Mass., assignor of one-half to Isaac F. Dobson, same place. Filed Aug. 23, 1881. (No model.)



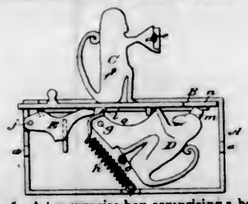
Claim.—1. The described berth for sleeping-cars, consisting of the flexible fabric F, stretched across and resting at its ends upon the yielding seat-cushions while in their normal positions, so as to receive elastic support from the springs thereof and to leave the space beneath the fabric and between the seats free for the storage of baggage, substantially as set forth.

2. The partitions I, each provided with the hinged shelves O, brackets P, and hangers Q, in combination with the folding slats S, substantially as and for the purpose set forth.

3. The upper-berth bottom herein described, consisting of crossing pivoted slats, suitably supported when spread for use, in combination with the recess R, to receive the folded slats, and the front piece, T, to conceal them when not in use.

265,616. TOY BOX FOR EXPLODING FULMINATE WAFERS. AMOS M. LYON, New York, N. Y., and HENRY S. LOCKWOOD, South Norwalk, Conn., assignors to Stein & Lyon, New York, N. Y., and the Lockwood Manufacturing Company, South Norwalk, Conn. Filed Apr. 6, 1882. (Model.)

Brief.—Toy box having sliding cover, a figure fixedly mounted thereon, a figure pivotally mounted in the box having a curved front, a heel-piece, spring, and a detent, said parts operating to explode a fulminate wafer when the box is opened.



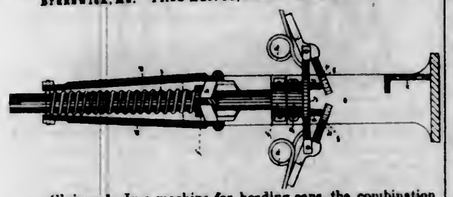
Claim.—1. A toy surprise-box comprising a box containing a figure pivotally mounted therein and arranged to be thrown out by a spring, a pivoted detent arranged to hold the said figure down in the box, a sliding cover for the box provided with a lug on its under side arranged to trip or free the detent and release the figure in the box when the cover is drawn back, and a figure mounted fixedly on the box-cover and provided with a receptacle for an explosive pellet, the said figure on the cover being arranged in the proper position to receive a blow from the ejected figure, all combined and arranged substantially as set forth.

2. A toy surprise-box comprising a box, a sliding cover, B,

provided with a lug, *l*, a figure, C, mounted thereon, the figure D, pivotally mounted in the box, and having a heel-piece, *i*, a spring, A, and a detent, E, all constructed, combined, and arranged to operate substantially as set forth.

3. A toy surprise-box comprising a box, a sliding cover, B, provided with a recess, *n*, and lug *l*, a figure, C, mounted fixedly on the cover, the figure D, pivotally mounted in the box, and having a curved front, *e*, and a heel-piece, *i*, a spring, A, and a detent, E, all constructed, combined, and arranged to operate substantially as set forth.

265,617. MACHINE FOR HEADING CANS. GEORGE A. MANER, Brunswick, Me. Filed Mar. 30, 1882. (No model.)



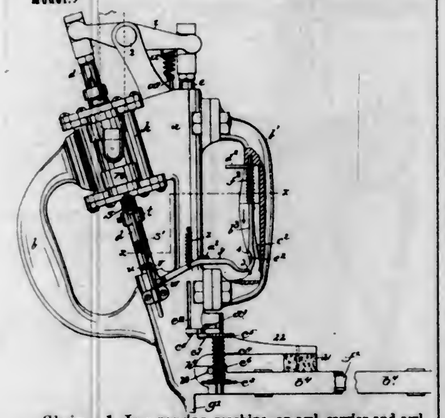
Claim.—1. In a machine for heading cans, the combination of the rod *a*, having the shouldered piece *g*, provided with recess J, with the hinged arms *i i*, having recess *m*, flange *o*, and beveled surface K.

2. The combination of the rod *a*, having the shouldered piece *g*, provided with recess J, guides *f f*, arms *i i*, having recess *m*, flange *o*, beveled surface K, and springs *h*, with pieces *l l*.

3. The combination of a rod having the shouldered piece *g*, provided with recess J, the guides *f f*, the rods *d d*, spring *e*, lever *b*, arms *i i*, having recess *m*, flange *o*, and beveled surface K, springs *h h*, and pieces *l l*, together with the guides *n n*.

4. The combination of the rod *a*, having the shouldered piece *g*, provided with recess J, with the hinged arms *i i*, having recess *m*, flange *o*, beveled surface K, springs *h h*, and guides *n n* and *f f*.

265,618. PEGGING-MACHINE. GORDON MCKAY, Newport, R. I., and HADLEY P. FAIRFIELD, West Medford, Mass.; said Fairfield assignor to said McKay. Filed Apr. 15, 1882. (No model.)



Claim.—1. In a pegging-machine, an awl-carrier and awl, driver-bar and driver, and cylinder *k*, and piston therein, combined with an independent valve and connecting means to automatically operate the said valve from the piston, to control the admission into and exit from the said cylinder of air or equivalent actuating-fluid, substantially as described.

2. In a pegging-machine, the bar *d*, its piston, the cylinder and valve-chest having ports for the admission of air or other actuating-fluid, and a valve to control the said ports, combined with a valve-rod provided with springs which are acted upon to move the valve-rod and valve, substantially as and for the purpose set forth.

3. In a pegging-machine, an awl and awl-bar, a driver and driver-bar, a piston and a cylinder therefor, and an independent valve and connecting devices to automatically operate the said valve from the piston, to control air or other equivalent power to actuate the piston and its connected mechanism, combined with a locking mechanism to hold the valve-rod in position to close the ports leading to the said cylinder and keep the awl and driver bars at rest, substantially as described.

4. In a pegging-machine, an awl and awl-bar, a driver and driver-bar, a piston fitted to a cylinder, and a valve to control air or other fluid motor to actuate the said piston and the bar with which it is attached, combined with a locking device to hold the valve-rod, means to release the locking device from the valve-rod, and a spring to move the valve-rod after the release of the locking device therefrom, substantially as described.

5. In a pegging-machine, the piston and the valve-rod actuated thereby, and the locking device, combined with a tripping device to enable the operator to release the locking device, and valve-rod to start the mechanism, substantially as described.

6. The guide-box for the peg-wood, and the feeding-wheel c^3 and wheel c^4, combined with the spring c^4, by which the wheel c^3 is held pressed in a yielding manner against the peg-wood which it is to feed forward, substantially as described.

7. The diagonally-reciprocating awl-bar, and driver-bar, and the awl and driver, respectively, connected therewith, combined with the open-sided nose in which the said awl and driver work, said awl serving when at its highest point also to prevent the loss of the pegs, the awl, when at its highest position, closing a portion of the slot in the nose and retaining the peg therein, substantially as shown and described.

8. In a pegging-machine, the guide-box pivoted at its peg-discharging end upon the frame-work to rise and fall upon its pivot, substantially as described, combined with a spring to keep the guide-box in its lowest position.

9. The guide-box provided with the shoulder 23, as described, to receive the ends of the extra strips of peg-wood, combined with the follower k^3 and feeding device to move forward the strip of peg-wood engaged by it, substantially as described.

10. The ratchet-wheel c^5 and spring c^4, combined with the feeding-wheel c^3 of larger diameter, substantially as and for the purposes set forth.

265,619. WASHER AND SEPARATOR FOR HOMINY, &c. FRIEDRICH MELKERSMAN, St. Charles, Mo. Filed Aug. 10, 1882. (No model.)

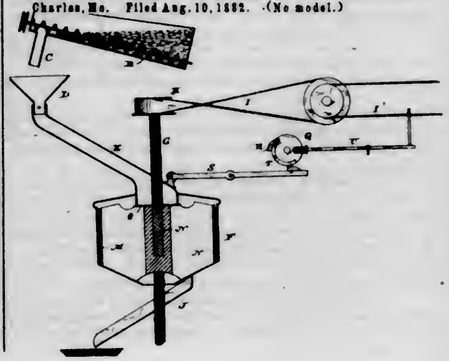


Claim.—1. In a machine for cleaning and separating hominy, grits, &c., the combination, with the fixed frame A, of the pivoted rocking frame B and the tub and its shaft and band-pulley, whereby the tub is rotated, supported by the rocking frame, substantially as set forth.

2. The combination, with the frame A, of the rocking frame B, the tub and its shaft and band-pulley, the guide-pulleys G G, the pivot guide-pulley K, the driving-pulley H, and the band, constructed and arranged substantially as set forth.

3. The combination, with the main frame A, of the pivoted rocking frame B, the tub and shaft, the belt-pulleys, the pull-cord, and the stop C, constructed and operating substantially as set forth.

265,620. METHOD OF AND APPARATUS FOR MANUFACTURING HOMINY, GRITS, &c. FRIEDRICH MELKERSMAN, St. Charles, Mo. Filed Aug. 10, 1882. (No model.)



Claim.—1. The improved method of manufacturing hominy, grits, &c., hereinbefore described, which consists in first cleaning and soaking the grain, then partially drying it, then reducing and granulating it, and finally separating the granulations from the hulls or other light and imperfect products, as set forth.

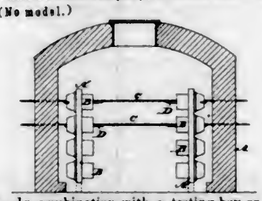
2. The combination, in a hominy-manufacturing apparatus, of a soaking-receptacle, a drier operating intermittently, and a granulating-mill with connecting mechanism, whereby the grain is automatically and intermittently fed from the soaking-receptacle to the drier, and thence to the granulating-mill, substantially as and for the purpose set forth.

3. The combination of the soaking-receptacle, the feeding-screw, the hopper D, the pivoted spout E, and the drier, substantially as and for the purpose set forth.

4. The combination of the hopper D, the pivoted spout E, the shaft G, passing through the delivery end of the spout, the disk O, and the drier with means for raising and lowering the end of the spout to coincide with the motion or rest of the drier, whereby the feed of the grain and the action of the drier are intermittent, substantially as and for the purpose set forth.

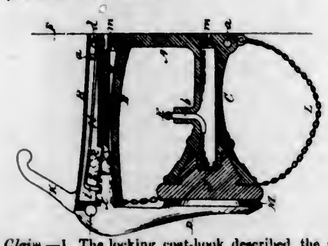
5. The combination of the cam Q, provided with the catch R and projections T T, with the belt-shifter, lifting-lever S, and the pivoted spout E, substantially as and for the purpose set forth.

265,621. WIRE-SUPPORT FOR UNDERGROUND CONDUITS. ALBERT H. MEGRON, Philadelphia, Pa., assignor to the Morse Underground Conduit Company, of New Jersey. Filed Jan. 26, 1882. (No model.)



Claim.—In combination with a testing-box or station of an electric conduit, a wire-support located therein, consisting of plates having perforations, as set forth, in combination with insulating sleeves and supports, as stated, whereby the wires are properly sustained and securely retained in position, substantially as and for the purpose described.

265,622. COAT-HOOK. GEORGE H. MILLS, Boston, Mass. Filed May 5, 1882. (No model.)



Claim.—1. The locking coat-hook described, the same consisting of the body A, provided with the brackets B C, pad D, and spring-catch H, all constructed and arranged to operate substantially as and for the purpose set forth.

2. The support E, arranged horizontally within the jaws or pads of the hook, in combination with the brackets C B, locking-spring H, and pads J D, substantially as and for the purpose set forth.

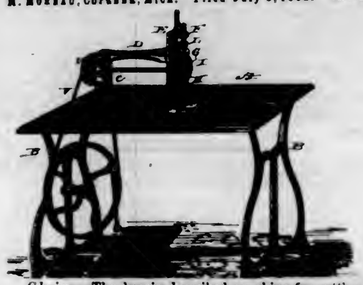
3. The bracket C, provided with the yielding cushion J at its outer end, in combination with the locking-pad D, bracket B, and spring-catch H, constructed and arranged to operate substantially as described.

4. The shank G, provided with the annular groove *x*, in combination with the spring-catch H, substantially as and for the purpose specified.

5. The chain L, provided at its free end with the spool or clutch *f*, in combination with the body A, pad D, and bracket B, provided with the hole or aperture *g*, for receiving and holding the clutch, substantially as and for the purpose specified.

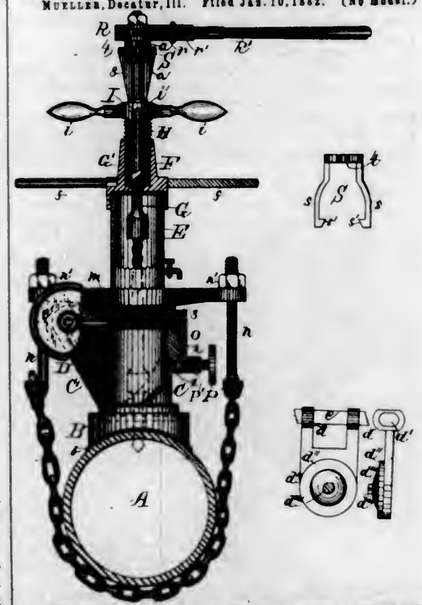
6. The locking-pad D, having its inner face inclined, as shown in Fig. 4, in combination with the wedge-shaped cushion M, cushion J, brackets B C, and catch H, substantially as and for the purpose specified

265,623. MACHINE FOR CUTTING WOODEN TYPES. VOLNEY M. MORRAU, Corunna, Mich. Filed July 3, 1882. (No model.)



Claim.—The herein-described machine for cutting wooden types, consisting of the table A, frame B, having arms D E and brackets F G H, the vertical shaft I, journaled in brackets G H, and having at its lower end a socket to receive the cutting-tool, the shaft M, journaled in bracket F and swiveled to the upper end of shaft I, the spring N, coiled upon shaft M and adapted to force the shafts M I in a downward direction, the lever-cam O, pivoted to shaft M and adapted to raise said shafts M I, the pinion R, placed loosely upon shaft I and having a notch, Q, to receive a feather, P, upon said shaft when the latter is lowered, and mechanism for imparting a rotary motion to said pinion, all substantially as specified.

265,624. MACHINE FOR TAPPING MAINS. HIERONYMUS MUELLER, Decatur, Ill. Filed Jan. 10, 1882. (No model.)



Claim.—1. In a machine for tapping water or gas mains while under pressure, an indirect communication between the upper and lower chambers independent of the valve D, said communication being controlled by a screw, P, as shown, for the purpose of equalizing the pressure in the upper and lower chambers when the valve D is closed, as specified.

2. In a machine for tapping water and gas mains while under pressure, the yoke S, having tangs *s s*, provided with dogs *s' s'*, adapted to engage with the feeding-nut I by hooking into the oblong slots *i*, its upper part having slot *t*, which fits on the drilling-rod G between the collars *a a*, substantially as set forth.

3. In a machine for tapping water and gas mains, the combination of the swinging valve, the frame of which has the enlargements *d* and oblong hole *d'*, and the transverse shaft, from which the valve is suspended within the lower chamber, jointly with the soft-rubber disk *d''*, secured to the upper surface of the valve by a metallic washer and screw, substantially as and for the purpose described.

4. In a machine for tapping water and gas mains while under pressure, the valve D, constructed as described, and suspended within the lower chamber, substantially as set forth, jointly with an indirect channel between the upper and lower chambers, through the projection or lug O, for the purpose of equalizing the pressure above and below the swinging valve, so as to facilitate its operation, said channel being controlled by a screw, P, substantially as and for the purpose set forth.

265,625. BOX FOR LETTER-PAPER AND ENVELOPES. HENRY P. OAKES, New York, N. Y., assignor to White & Stokes, same place. Filed Aug. 19, 1882. (Model.)



Claim.—The box A, open at one end and at part of its face, combined with the jointed L-shaped lid B and with the receptacle C, secured in said lid, substantially as and for the purpose specified.

265,626. EYEGLASSES. STACY B. OPDYKE, New Haven, Conn. Filed May 20, 1882. (No model.)

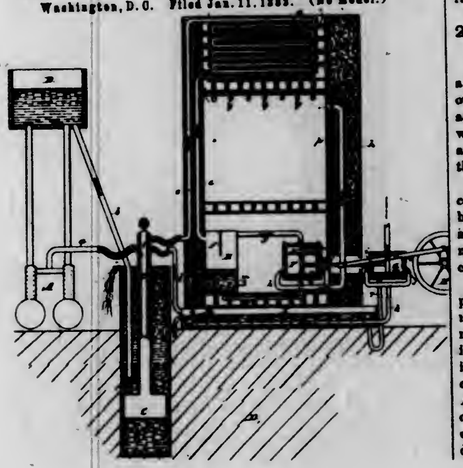


Claim.—1. In combination with the eyeglass frames and bow, the padding E, for each side of the bow, and a pair of plates having lateral lips, which are bent upon the padding to hold in place.

2. A pair of padded yielding plates adapted to fit the sides of the wearer's nose, in combination with the eyeglasses and their necessary attachments, each pad having a waist or depression in its middle, for the purpose set forth.

3. In combination with eyeglass frames and the bow, a pair of padded spring-plates, D', each having a depression and opening formed in its middle, and a bow, *d'*, formed in it behind said opening part, substantially as set forth.

265,627. REFRIGERATING APPARATUS. ORIN PARKER, Washington, D. C. Filed Jan. 11, 1882. (No model.)



Claim.—1. The process of refrigeration which consists in utilizing, during cold-expansion, the motive energy of compressed air of low temperature for the purpose of compressing another independent body of air, then conducting this independent body of air to that part of the main body of compressed air and allowing them to become cooled together and expand to produce the same work of compressing more new air and then escape, as described.

2. The combination, with a compressed-air holder and a pipe connecting the same with the freezing-room, of an expansion-engine, substantially as described, placed in the path of the compressed air to the freezing-room for utilizing the motive energy of the compressed air in expanding, and a supplemental air-compressor connected to said expansion-engine and also to the air-holder, and having inlet-valves for external air, and an outlet-connection to the holder of the main bulk of air for augmenting the bulk of compressed air at the expense of its expansible energy, as and for the purpose described.

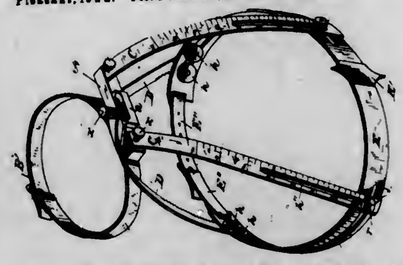
3. The trap-tank E, combined with the compressed-air pipe, and the expansion-engine, as and for the purpose described.

4. The combination, with an air-compressor, of the air holder and cooler, consisting of well D and elongated hollow column C, closed at the top and open at the bottom, and provided with flexible connection, as shown and described.

5. The combination of the dry-air compressor having a water-jacket, the shallow tank I of the perforated exhaust-pipe *k* entering the shallow tank, and the trap-pipe *r*, effecting a water communication between the water-jacket of the air-compressor and the shallow tank, as and for the purpose described.

6. The combination, with the expansion-air engine having a water-jacket, of a set of air-pipes connecting with the air-engine cylinder and communicating with the freezing-chamber, and a set of water-pipes connecting with the water-jacket and communicating with the freezing-chamber, substantially as and for the purpose described.

265,628. TAILOR'S MEASURE. JOSEPH H. PARNELL, Mount Pleasant, Iowa. Filed June 27, 1882. (No model.)



Claim.—The combination of the yoke A, having a level, *a*, the neck-belt B, straps D and C, chest-belt E, provided with the pointer E', loops F, and set-screws *x* and A, all constructed and arranged substantially as herein shown, for the purposes specified.

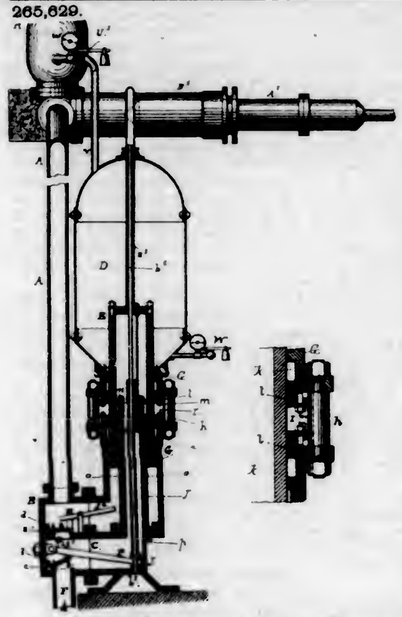
265,629. WATER-ELEVATOR. JOHN PATTEN, San Francisco, Cal. Filed Aug. 17, 1881. (No model.)

Claim.—1. The herein-described method of raising water to a greater height than thirty-three and one-third feet above the level of the body of water, consisting of driving a column of water from an upper level against a body of air below and admitting additional water as said air is compressed, then relieving the pressure above and allowing the expansion of the compressed air below to force the water upward, as set forth.

2. A hydropneumatic pump consisting of the air-chamber D, connected with the water-chambers B C by the piston E, the chamber C being connected with the suction-pipe F by ingress-valve *b*, and with pipe A by egress-valve *a*, and the chamber B being connected with the pipe A through an open port, the pipe A being connected with the power above, substantially as described.

3. In a pumping system for transmitting power through the pipe through which the water is raised, the means for producing movement of the water-column, consisting of the plungers A' A', moving in the cylinders B' B', and means for connecting the cylinder B' with the discharge-pipe C' while the plunger is advancing, and for disconnecting it with the pipe A while retreating, the cylinder B' being connected through an open port with the pipe A all the time, whereby by the movement backward and forward of the plunger the water is made to reciprocate in the pipe, traveling farther while ascending than descending, and at each stroke discharging water, substantially as described.

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4. The valves F' G', connected with rocking levers *g h'* and links *f i k*, operated by an auxiliary engine, H', the valve of which is operated by the main plungers, substantially as described.

5. In a hydropneumatic pump, the valves *a b*, provided with slotted arms projecting above the free side of the valves, in combination with levers *f'* I', for preventing a too sudden closing of said valves, substantially as set forth.

6. The improvement in packing the plunger or piston of hydropneumatic pumps, consisting in dividing the cylinder G into two parts and fastening them together by the space-bolts *k*, in combination with the packing-groove *k* and follower or gland *l* and screw *m*, substantially as described.

7. The packing between tube J and annular piston E, consisting of the flange *n*, fixed to the top of the tube J, the long tube or follower surrounding the tube J and extending to the bottom of the cylinder, and the screws *p*, substantially as described.

265,630. APPARATUS FOR RAISING WATER THROUGH SIPHON-PIPES. JOHN PATTON, San Francisco, Cal. Filed June 13, 1881. (No model.)

Claim.—1. The siphon-pipe A, connected at the suction end with the chambers B C, provided with the valves K L, an atmospheric-pressure pump having a piston interposed between it and the chambers B C, and connections therefrom to the valves, said pump being connected with the water-supply by a suction-pipe, F, through which water is raised by the action and reaction of the column of water in the siphon-pipe, substantially as described.

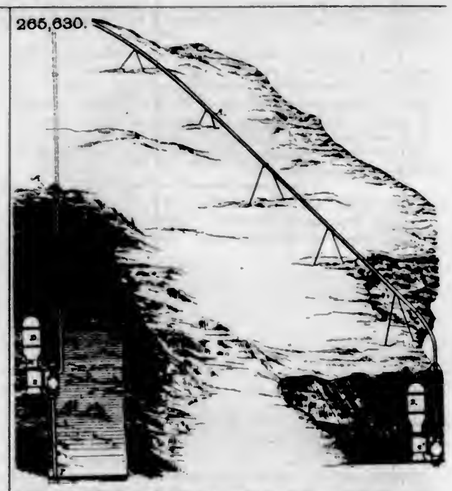
2. The method of transferring water from one leg to the other of a siphon-pipe of unlimited height, consisting in balancing the water in the pipe between two bodies of compressed air, and then producing an action and reaction of the water in the pipe by intermittently discharging a portion of the water at the lower end of the outer or longer leg of the siphon, so as to relieve the pressure first upon one and then upon the other body of air, substantially as described.

3. In a pump, the air-chamber D, connected with the upper chamber, B, by means of the neck or cylinder H, and having the tube *h* extending up into it from the lower chamber, C, in combination with the inverted-cup-shaped piston E, substantially as above specified.

4. In a pump, the air-chamber D, connected with two water-chambers, B C, by independent passages, in combination with a piston, E, which is arranged to receive a pressure from either or both water-chambers, substantially as described.

5. In a pump having an air-chamber, D, connected with two water-chambers by independent passages and separated therefrom

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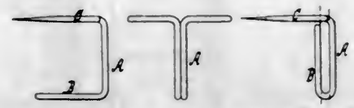
by a piston, E, the valve L, operated by the movement of the piston E by means of the pivoted lever M, rod *o*, and sliding rod, substantially as and for the purpose described.

6. The improvement in valves to be operated under high pressure, consisting in providing a movable valve-seat, *b*, which moves between a fixed valve-seat, *d*, and the valve K', so that when the movable valve-seat is raised the passage is closed by the valve K' dropping upon the seat and opened by the seat dropping below the valve upon the fixed seat, substantially as above described.

7. The upper valve, K, with its guide-spindle *i*, and having the tube *m* projecting downward from its center, and the lower valve, L, with its short spindle *q*, arranged to drop upon a cross-bar, *q'*, and having the rod *s* extending upward into the tube *m* of the upper valve, the motion of the rod in the tube being limited by the key *u*, moving in a slot in the tube, in combination with the upper movable valve-seat, *b*, with its downward-projecting bar *a'*, the lower end of which clasps around and moves along the tube *m*, and is connected with toggle-levers *c'*, and trip-bar *d'*, and the interposed spring *b'*, and the lower movable valve-seat, connected by the arms *f'* and cross-bar *g'* with the toggle-levers *n' p'*, and the spring *h'*, interposed between the lower end of the tube *m* and the cross-bar *q'*, the whole operated by the lever M from the motion of the piston E, substantially as above described.

8. In a pump in which water is admitted under pressure from above into two chambers, B' and C', and the water in the lower chamber is cut off from the upper chamber and discharged therefrom, the combination of movable valve-seats and movable valves, as described, whereby the valve is opened to discharge the water downward by dropping the valve-seats away from the valves and closed by dropping the valves upon the movable valve-seats after they have been raised to an intermediate position, substantially as described.

265,631. TAG-FASTENER. NATHAN M. PHILLIPS and JOHN C. ST. JOHN, New York, N. Y. Filed Feb. 24, 1882. (No model.)

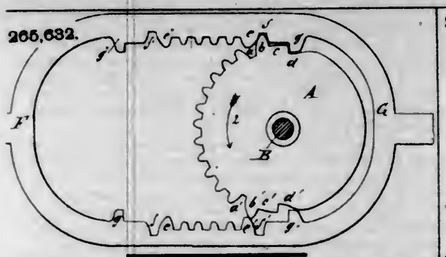


Claim.—An improved tag-fastener, composed of a single piece of metal bent to form the parts A B C C', arranged substantially as shown, and adapted to operate as set forth.

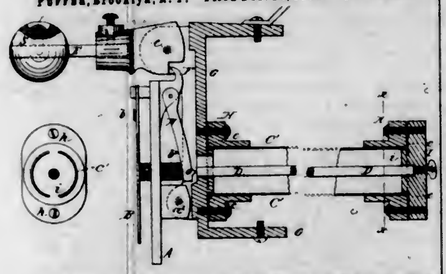
265,632. MECHANICAL MOVEMENT. BENJAMIN B. POWELL, Petoskey, Mich. Filed Mar. 15, 1882. (No model.)

Claim.—In a mechanical movement, a segmental wheel having at opposite ends of a series of epicycloidal teeth large spaces *a a'*, large teeth *b b'*, plain surfaces *c c'*, and notches *d d'*, in combination with a double rack having corresponding teeth and spaces, and lugs *g g'*, substantially as herein specified.

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265,633. AUTOMATIC REGULATOR FOR FURNACES. WM. E. PURVES, Brooklyn, N. Y. Filed Feb. 18, 1882. (No model.)



Claim.—1. In a furnace-regulator, the expansible parts C or C', connected to the base-piece G and head I by rings provided with lugs, in combination with flanges turned up on the ends of said expansible parts, substantially as and for the object set forth.

2. In an automatic damper-regulator, the combination of the base G, lever A, lever E, regulating-screw P', expansible tube C, and non-expansible rod D, with asbestus covering *d*, substantially as and for the purpose set forth.

3. In a furnace-damper, a damper-case provided with a series of projections which surround the valve when closed, substantially as and for the object specified.

265,634. ATTACHMENT FOR COOKING-STOVES. SILAS G. RANDALL, Groton, N. Y., assignor to Amelia A. Randall, same place. Filed June 26, 1882. (No model.)



Claim.—1. The stove-ring herein described, having the hollow lateral extension, the floor or flange *a* to rest upon the top of the stove, and lugs to hold the ring in place on the stove-hole.

2. The stove-ring formed of an internal diameter equal to that of the opening of the stove-hole, and having the lugs *b*, the hollow lateral extension with the upright tube or nipple thereon, and the flange or floor *a* to rest upon the top of the stove, substantially as set forth.

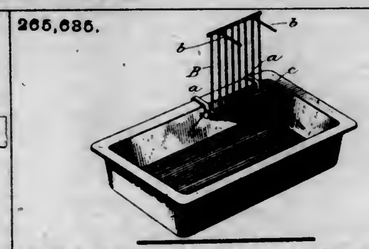
3. The combination, substantially as set forth, of a hinged connecting-pipe adapted to be applied to the cover of a cooking-vessel on one stove-hole, and a ring formed with a hollow lateral extension, to which the hinged-pipe is connected, and adapted to be applied to the adjoining stove-hole.

4. The stove-ring herein described, having the hollow lateral extension, the flange or floor, the lugs *b*, and the lip *c*.

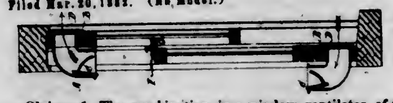
265,635. DISH-DRAINING RACK. MICHAEL RAGHTIGAN and ALBERT A. CLARK, Norwich, Conn. Filed Aug. 24, 1882. (No model.)

Claim.—The cast-metal draining-rack B, having the feet *b b* and bearings *c c*, in combination with the removable supports *a a*, as described, and for the purpose specified.

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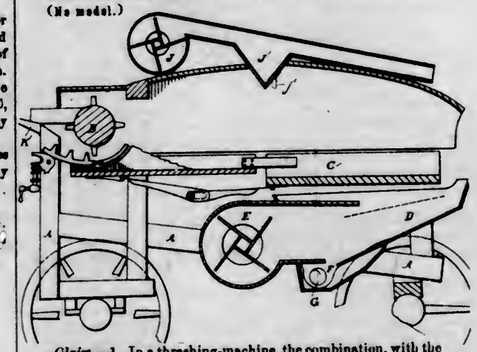
265,636. VENTILATOR. RUFUS S. READ, Philadelphia, Pa. Filed Mar. 20, 1882. (No model.)



Claim.—1. The combination, in a window-ventilator, of the oblong bar B, provided with oblique parallel ends *b b'*, air-opening and wire-gauze D, curved trough A, hinged cover C, and spring S, substantially as shown and described.

2. The combination of the adjustable plate G, slots *e e'*, set-screws H H, air-openings and wire-gauze D' D', and cover E with the upper or meeting rail of the lower sash, substantially as shown and described.

265,637. GRAIN-SEPARATOR. GEORGE A. ROBERTS and CHRISTIAN SCHAFER, Three Rivers, Mich. Filed Mar. 23, 1882. (No model.)

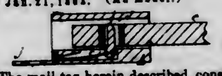


Claim.—1. In a thrashing-machine, the combination, with the shoe arranged to receive the grain from the main riddle, of an elevator leading from said shoe, the sieve arranged under the upper end of the said elevator, a settling-chamber arranged under said sieve, and a suction-fan communicating with said settling-chamber, substantially as and for the purpose set forth.

2. The combination of the elevator, the casing thereof, constructed with a sieve-bottom near its upper end, a settling-chamber arranged beneath the sieve, and a suction-fan having its inlet communicating with said settling-chamber, substantially as described.

3. The combination, with the straw-shaker C and the settling-chamber I', of the suction-fan having its inlet communicating with the settling-chamber I', and the settling-chamber J', arranged in advance of the discharge of said fan and provided with a valved passage opening into the space above the straw-shaker C, substantially as and for the purpose set forth.

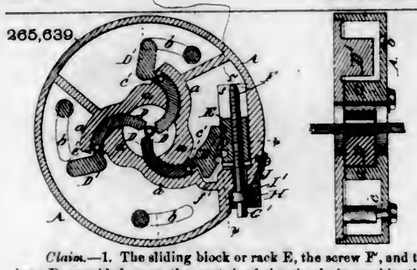
265,638. MAIL-TAG HOLDER. LEROY S. SAUNDERS, Portland, Me. Filed Jan. 21, 1882. (No model.)



Claim.—The mail-tag herein described, consisting of the part *a*, bottom piece, *b*, spring *c*, carrying the tongue *d*, having the inclined top end, *g*, the lip *j*, and perforation *k*, in combination with the tag having the hole *f*, the same adapted to be attached to a mail-bag, as set forth.

265,639. CHUCK. ANDREW SAUNDERS, Yonkers, N. Y., assignor to D. Saunders' Sons, same place. Filed Apr. 26, 1882. (No model.)

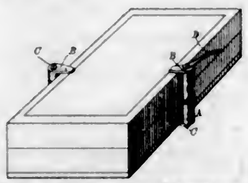
265,639.



Claim.—1. The sliding block or rack E, the screw F, and the jaws D, provided upon the part A of the chuck, in combination with the tooth-sector *f'*, and the shoulders D' on the other part, B, all substantially as and for the purpose herein set forth.

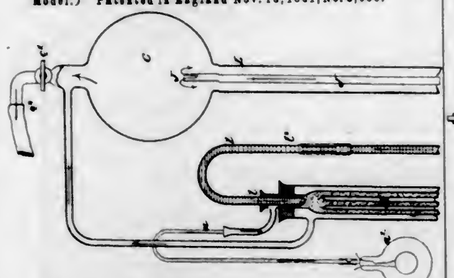
2. The toothed block or rack E, constructed with a rib or spline, *g*, part A, constructed with a socket, I', and carrying the jaws D, and toothed block or rack E, the screw F, having the flange or collar H', and the bracket-piece J, in combination with the part A, constructed with a tooth-sector, *f'*, to shoulder D', all substantially as and for the purpose herein set forth.

265,640. CLAMP. CHARLES M. SHEELER, Baltimore, Md. Filed July 13, 1882. (No model.)



Claim.—A clamp which consists of the sections A and B, interiorly threaded in opposite directions, having their inner ends notched, so as to interlock, and thereby prevent independent rotation of the said sections, and adapted to admit of the longitudinal extension and contraction of the same, combined with the screw C, substantially as specified.

265,641. MERCURIAL AIR-PUMP. CHARLES HENRY STEARN, Newcastle-upon-Tyne, England. Filed May 15, 1882. (No model.) Patented in England Nov. 15, 1881, No. 5,000.



Claim.—1. In a mercurial air-pump, the combination of the upper receiver, lower receiver connected therewith, and means for automatically bringing into operation the pressure of a fluid—such as air—to raise the mercury from the lower to the upper receiver, substantially as described.

2. The combination, with the upper receiver, of a lower receiver connected therewith, and provided with a valve adapted to open automatically when a suitable amount of mercury has accumulated therein, substantially as described.

3. In a mercurial air-pump, the combination of a fall-tube of less height than the barometric column, the upper receiver, and the lower receiver, provided with an automatic valve for admitting air at the proper moment, substantially as described.

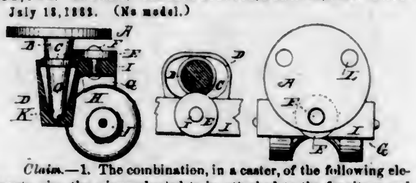
4. The combination, with the upper receiver and connecting pipes and tubes of a mercurial air-pump, of a lower receiver, spring supporting said receiver, flexible diaphragm or similar device dividing said receiver into two chambers, and an automatic valve operated by the rise and fall of said receiver for admitting a suitable fluid—such as atmospheric air—capable of exerting pressure upon said diaphragm into said receiver, substantially as described.

5. The lower receiver, connected with the other parts of the mercurial air-pump in the manner explained, supported on an elastic or flexible joint, as explained, so as to rise or fall as it becomes lighter or heavier, and provided with a valve which is automatically closed and opened by the rise and fall of the said receiver, substantially as and for the purposes set forth.

6. The combination with the upper receiver and connecting-tubes, as specified, of the lower receiver, supported so as to be capable of falling and rising as it increases or diminishes in weight, and means, substantially as described, for putting said receiver, when it descends, into communication with the outside air, and for connecting it, when it rises, with the exhaust-pipe, as and for the purposes specified.

7. The combination, with the upper and lower receivers of a mercurial air-pump and the pipe or tube connecting them, of a check-piece in said pipe or tube, constructed and arranged, substantially as described, to allow the mercury to pass rapidly into the lower receiver, but to cause it to return slowly to the upper receiver, as set forth.

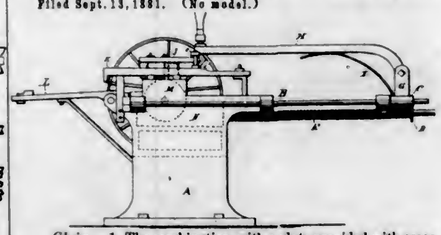
265,642. CASTER. CHARLES STREGEL, Hamilton, Ohio. Filed July 18, 1881. (No model.)



Claim.—1. The combination, in a caster, of the following elements, viz: the piece adapted to be attached to the furniture and having an annular shoulder, and the floor-wheel housing, the one part swiveling upon the other, with the wheel journaled at the top of said housing and having its axis vertical, and said wheel arranged to engage said annular shoulder with its under side, substantially as described.

2. In a caster, the combination, substantially as set forth, with a piece adapted to be attached to furniture and having a step-ended pendent stem with an annular shoulder, one or more floor-wheels journaled in the housing, and a horizontally-moving wheel journaled to the housing and engaging upon the upper surface of said shoulder, of a housing having a deep closed-bottomed cup surrounding said stem.

265,643. MACHINE FOR CREASING AND PASTING BLANKS. FRANK H. STRIBBY and MATTHEW RANKIN, Cleveland, Ohio. Filed Sept. 13, 1881. (No model.)



Claim.—1. The combination, with a plate provided with creasing-knives and pasting-pads, a blank-holding table provided with grooves to receive the knives, and a paste receptacle and distributer located below said pads, of devices, substantially as shown, for moving said plate to first bring said pads in contact with the paste-distributer, and, secondly, to bring both the knives and pads in contact with said table to simultaneously crease and paste the blank lying thereon, substantially as set forth.

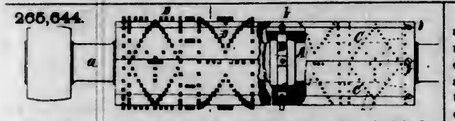
2. In a machine for creasing and pasting blanks, the combination of the arm H, plate J, said plate having creasing-knives and pasting-pads, and a paste-supplying roll, M, all operating substantially as and for the purpose shown and described.

3. In a machine for creasing and pasting blanks, the combination of the arm H, plate J, and guiding-bars K K with roll M, all operating substantially as and for the purpose shown and described.

265,644. CLOTH-SHEARING MACHINE. DWIGHT C. SUMNER, New York, N. Y. Filed Jan. 3, 1882. (No model.)

Claim.—1. A revolver or cylinder for cloth-shearing machines, the cutters of which are formed as independent pins or

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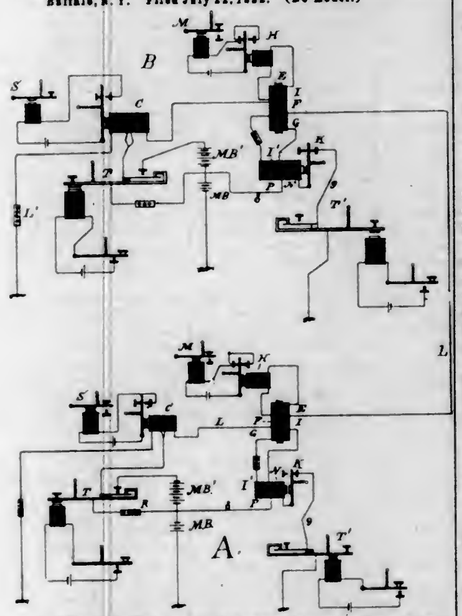


teeth separately supported in the periphery of a cylindrical body in patterns or ornamental order, and adapted to be individually removed and rearranged in different order for changing the pattern or design, substantially as hereinbefore set forth.

2. The combination, with the ledger-blade and cloth-support in a cloth-shearing machine, of a revolver-cylinder and a series of cutting points or teeth independently supported in the periphery of said cylinder, and adapted to be removed, rearranged, or reset in different orders of adjustment for the production of different designs or styles of ornamentation, substantially as hereinbefore set forth.

3. In combination, substantially as described, the shaft A, provided with disks or supports B, the shell or lags C, having holes *c*, and the cutting teeth or sections D, supported independently in said lags or shell, as and for the purpose set forth.

265,645. MULTIPLEX TELEGRAPH. BENJAMIN THOMPSON, Buffalo, N. Y. Filed July 22, 1882. (No model.)



Claim.—1. The combination, upon the same telegraph-line, of continuity-preserving transmitters interposed in the main line, and wave or vibratory signal apparatus the receivers of which are placed in the local secondary circuit of an induction-coil whose primary is in the main-line circuit, substantially as and for the purpose described.

2. The combination, upon the same telegraph-line, of a Morse transmitter interposed in the main line and provided with continuity-preserving points, suitable receiving apparatus therefor, an induction-coil whose primary forms a portion of the main line, a vibratory receiver in the secondary of said coil, and devices for producing in the main line vibratory currents, said devices being in a circuit independent of the secondary of said coil, and controlled by a suitable transmitting-key.

3. The combination, with a main telegraph-line used for signaling by apparatus working without rupture of the main-line circuit, of vibratory or wave signal receiving apparatus whose electro-magnet is included in the local secondary circuit of an induction-coil, the primary coil of which latter is included in the main-line circuit, a local battery controlled by the vibrating armature of the receiver, and an electro-magnet or sounder in the local-battery circuit.

4. The combination, with the main line of a duplex telegraph, as described, of an induction-coil the primary of which is in the main-line circuit, an electro-magnet having a vibratory armature connected in the local secondary circuit of said induction-coil, back and front contact-stops for the armature or other vibrating part of the electro-magnet, and a local battery and electro-magnet whose circuit is through said stops.

5. The combination of main line L, induction-coil I, coils E F, electro-magnet H, and armature therefor, local battery connected to the armature-lever and to a receiving electro-magnet, and back and front contact-stops for the armature electrically connected to one another.

6. The combination, upon the same main line of duplex or quadruplex telegraph apparatus, of an automatic vibrator in a short circuit for a section of the main-line battery, an induction-coil in the main-line circuit, and a vibratory receiving apparatus in a local secondary circuit of said induction-coil.

7. The combination, upon the same telegraph-line, of duplex telegraph apparatus at each end thereof, controlling a section, M B', of a main-line battery, automatic vibrators in a short circuit for the section M B of battery at each end and operating at the same rate of speed, and vibratory-current-receiving apparatus at each end of the line connected to the local secondary circuit of a line induction-coil.

8. The combination, substantially as described, of main batteries M B, M B' at both ends of a telegraph-line, duplex telegraph-transmitters controlling one section of said batteries, an automatic vibrator controlling the other section, and induction-coils I at each end provided each with a local-receiver secondary, a line primary, and a local equating primary coil.

9. The combination, with an induction-coil having a local-receiver secondary, a line primary, and a local equating primary coil, of an automatic vibrator and a second induction-coil whose primary is in circuit with the vibrator, and whose secondary is connected to the equating-primary of the first-named coil.

10. The combination, with a line primary coil, of a receiver secondary local coil, an electro-magnet in circuit with the latter, a vibratory armature, and front and back stops for the latter electrically connected and in circuit with a local battery.

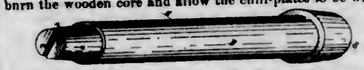
11. The combination of duplex transmitters T, normally disconnected from sections M B' of battery, transmitters T', normally connected with the contacts of an automatic vibrator in a short circuit for section M B of battery, suitable duplex telegraph-receivers, C, and vibratory receiver-magnets in the local secondary circuits of induction-coils whose primaries form portions of the main-line circuit.

12. The combination of induction-coil I, wound and connected as described, induction-coil I', and automatic vibrator K, actuated thereby and in circuit with the primary of said coil, as and for the purpose described.

13. The combination, substantially as described, of a vibratory-current receiver, a local circuit controlled thereby and containing a receiving electro-magnet, and an electro-magnet placed in a derived circuit to the receiver electro-magnet, so as to prevent by its discharge a false signal by the momentary action of armature for the vibratory-current receiver.

265,646. CHILL FOR CHILLING METAL. WILLIAM TUTTLE, Dowagiac, Mich. Filed June 12, 1882. (No model.)

Brief.—The chill-plates, being heated by the molten metal, burn the wooden core and allow the chill-plates to be withdrawn.



Claim.—1. In a chill, the combination of the convexed exterior plates of metal, B B, with the perishable or wood center, as and for the purposes specified.

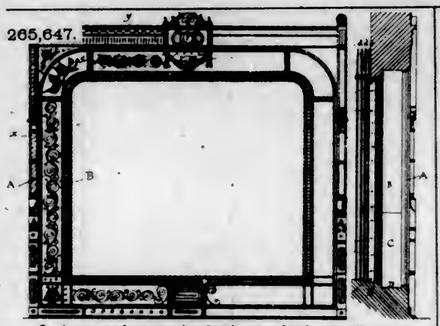
2. In combination, the convexed metal plates having sloping shouldered ends *a a* and wood center, the thimbles *s s*, and sand fillings, as and for the purposes herein specified.

265,647. PROSCENIUM-OPENING FOR THEATERS. DE WITT C. WAUGH, Cincinnati, Ohio. Filed May 15, 1882. (No model.)

Claim.—1. A proscenium-opening for theaters, composed of two frames continuously connected on three sides, the four sides of the one nearest the auditorium being outside of the front line of the stage, and the other being placed in the rear and far enough back of the first to allow of a passage-way between them, substantially as described.

2. In a proscenium-opening for theaters, a frame having four sides, all of which are outside of the front line of the stage, said frame having a four-sided frame continuously connected to it on three sides, whose opening is smaller than the opening in the front frame, substantially as described.

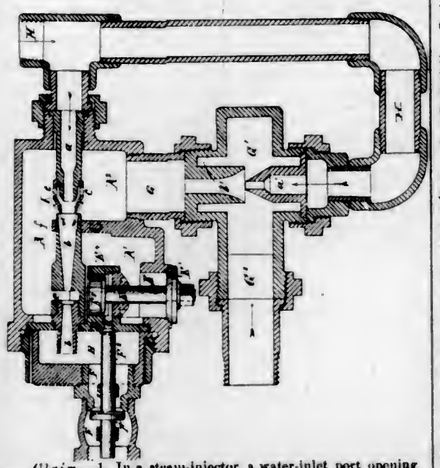
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3. A proscenium-opening for theaters, having two frames continuously connected on three sides, in combination with lights placed on all four sides of the interior frame on its stage-face, substantially as described.

4. A proscenium-opening for theaters, having two frames continuously connected on three sides, in combination with a stage-floor having in it a depression for foot-lights behind the interior frame, and a lower depression between the frames forming the floor of a passage-way between said frames, substantially as described.

265,648. STEAM-INJECTOR. GARDNER C. WILLIAMS, Ellerville, N. Y., assignor to William Sellers, Philadelphia, Pa. Filed Jan. 16, 1880. Renewed May 15, 1882. (Model.)



Claim.—1. In a steam-injector, a water-inlet port opening into and an overflow-port opening out of one and the same chamber, constructed and combined to operate substantially as and for the purposes specified.

2. In a steam-injector, a steam-nozzle and a water-inlet port opening into one and the same chamber, and an overflow-port opening out of said chamber, constructed and combined to operate substantially as and for the purposes specified.

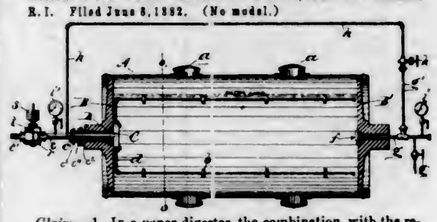
3. The combination, in a steam-injector, of the water-inlet port, the overflow-port, and the steam-nozzle, all in one and the same chamber, and arranged relatively to one another as described, whereby water entering the chamber will submerge the injector-nozzle before it can pass out through the overflow, substantially as set forth.

4. In a steam-injector, the combination of a steam-nozzle and a water-inlet port opening into one and the same chamber, an overflow-port opening out of said chamber, and a partition between said ports, so that water entering the chamber from the inlet-port must flow over the steam-nozzle and partition before it can pass out of the overflow-port, substantially as and for the purposes set forth.

5. In a steam-injector, the combination of a steam-nozzle and a water-inlet port opening into one and the same chamber, an overflow-port opening out of said chamber, a combining-tube, and a shield interposed between the steam-nozzle and the combining-tube, substantially as and for the purposes set forth.

6. In a steam-injector, the combination, with the overflow-port, of an overflow-valve opening outward under the pressure of the steam in the injector when the water is not flowing to the boiler and closed by the pressure of the water when it is flowing into the boiler, substantially as and for the purposes described.

265,649. REVOLVING BOILER FOR PAPER-MAKING AND OTHER PURPOSES. GEORGE P. WILSON, East Providence, R. I. Filed June 8, 1882. (No model.)



Claim.—1. In a paper-digester, the combination, with the revolving boiler, of a level-indicating glass tube and draw-off cock, substantially as described.

2. In a paper-digester, the combination, with the revolving boiler, of the level-indicating glass tube, the pipe connected therewith and communicating through the journal with the interior of the boiler below the water-line, and the steam-pipe, also connected with the level-indicating tube, substantially as described.

3. The combination, with the revolving ring provided with ports, of the conical valve having a seat in said ring and provided with a metal piece or device for successively closing said ports, substantially as described.

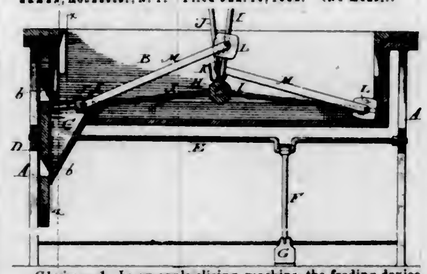
4. The combination of the revolving boiler, the hollow journal, steam-supply pipe passing through said journal, the distributing steam-pipes, the conical valve operating to put the supply-pipe into communication with said distributing-pipes as they successively pass below the water-level, and the adjusting devices for regulating said valve, located without said boiler, substantially as described.

5. The combination of the revolving boiler, hollow ring, and pipes *e*, connected therewith, the supply-pipe passing through the journal of the boiler and terminating in a conical valve, the stuffing-box e^3, and adjusting devices e^3 e^4, located outside of said boiler, so as to be accessible while it is in motion, substantially as described.

6. In a paper-digester, the combination of the revolving boiler, the valve for regulating the pressure of steam in said boiler, the level-indicator for indicating the level in said boiler, and the draw-off cock, substantially as described.

7. In a paper-digester, the combination of the revolving boiler, the interior steam-distributing pipes, the steam-inlet pipe extending through the journal of the boiler, the water-pipe extending through the opposite journal, the level-indicating tube connected with said water-pipe, the draw-off cock, also connected therewith, and the steam-pipe connecting the level-indicating tube with the aforesaid steam-inlet pipe, substantially as described.

265,650. MACHINE FOR SLICING APPLES. PHILIP M. ACKERMAN, Rochester, N. Y. Filed Jan. 16, 1882. (No model.)



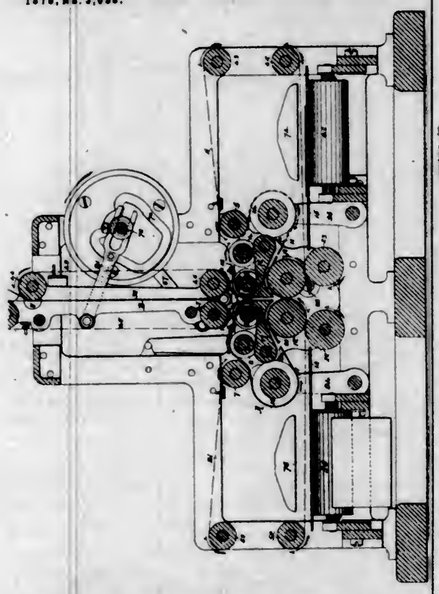
Claim.—1. In an apple-slicing machine, the feeding device consisting of the rock-shaft, its two vibratory arms at substantially right angles to each other, the sliding weight and sliding collar mounted on the respective arms, and the connection between said weight and collar.

2. The combination of the vertical cutting-wheel, the rock-shaft, its two diverging arms, and the sliding weight and collar

mounted on the respective arms and connected with each other, as shown.

3. In combination with the vertical disk and the inclined pocket, a horizontal fruit-supporting arm, arranged in relation thereto, substantially as described and shown.

265,651. PRINTING-MACHINE. EDWYN ANTHONY, Hereford, County of Hereford, and WILLIAM W. TAYLOR, Ripon, County of York, England, assignors to R. Hoe & Co., New York, N. Y. Filed July 11, 1881. (No model.) Patented in England Aug. 31, 1876, No. 3,056.



Claim.—1. A sheet-collecting apparatus consisting of a central or main pathway and two auxiliary pathways leading thereto, and a pendulous conductor and means for causing its alternate co-operation with the said pathways, whereby successive sheets are associated in pairs, all substantially as described.

2. The combination, with the central or main pathway, the two auxiliary pathways leading thereto, and pendulous conductor co-operating with said pathways, of a vibrating folding-blade and opposite pairs of folding-rollers, whereby successive sheets are associated in pairs and the sheets composing said pairs are folded and delivered in opposite directions, substantially as described.

3. The combination, with a printing-machine and cutting devices, of a pendulous conductor, a main pathway and two auxiliary pathways leading thereto, and means for causing the alternate co-operation of said conductor with said pathways, whereby a web is printed, severed into sheets, and said sheets are associated and delivered in pairs, all substantially as described.

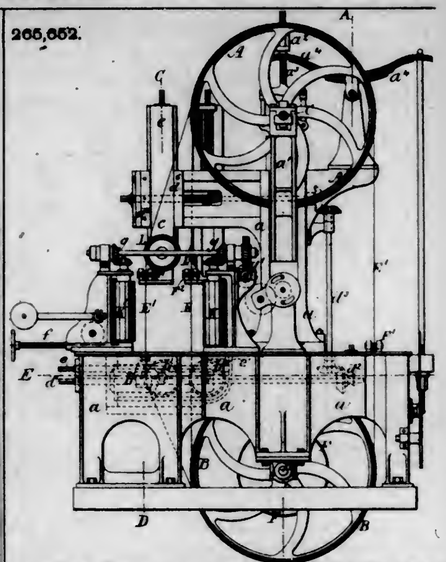
4. The combination, with cutting devices, of a pendulous conductor, a main pathway and two auxiliary pathways leading thereto, means for causing the alternate co-operation of said conductor with said pathways, two sets of folding-rollers, and a vibrating folder co-operating therewith, whereby a web is severed into sheets and said sheets are collected in pairs that are folded and delivered alternately in opposite directions, all substantially as described.

5. The method of collecting succeeding sheets into pairs, the same consisting in causing the last sheet of each pair to be placed alternately to the right and to the left of the first sheet of such pairs, all substantially as described.

265,652. BAND SAWING-MACHINE. HUGHES AYLESBURY, Bristol, County of Bristol, England, assignor of one-half to John Watts, same place. Filed May 31, 1881. (No model.) Patented in England Feb. 15, 1879, No. 612; in France June 1, 1881, No. 143,174, and in Belgium June 3, 1881, No. 54,809.

Claim.—1. In a band-saw machine having two band-saws, two pulleys on one shaft, by which the saws are driven, in combination with two separate pulleys and shafts and adjustable bearings for the same, and distending pulleys for the saws, substantially

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as specified, whereby two cuts can be made simultaneously, either parallel or at a bevel, substantially as set forth.

2. In a sawing-machine, the two band-saws E E', the pulleys B B', and the driving-shaft for the same, in combination with the pulleys A A' and their separate shafts C C', elastically-adjusting bearings, the distending pulleys L L' L^2 L^3, mechanism for simultaneously adjusting the pulleys L L', feed-rollers K K', and fences K^2, and mechanism for adjusting the same, substantially as described and shown, whereby the two cuts are made simultaneously, either parallel or at a bevel, the adjustment being effected without disturbing the fence, substantially as set forth.

265,653. STATIONARY WASH-BOWL. WILLIAM BLACKWOOD, Jr., Detroit, Mich. Filed Feb. 4, 1882. (No model.)

Brief.—In an offset of the bowl is a recess, *a*, for soap, which recess at top is covered by the top of the stationary wash-stand.



Claim.—1. A stationary wash-bowl provided with an offset having a recess, the front of which is protected by a ledge, and leading from which are one or more apertures, substantially as and for the purposes described.

2. The combination of the stationary wash-bowl provided with a soap-receptacle, herein described, with a stationary wash-stand, the marble top of which forms the top of the recess in the bowl, substantially as specified.

265,654. FIRE-BRICK. ADOLPH BRAHM, Scioto ville, assignor of one-half to William Q. Adams, Portsmouth, Ohio. Filed July 6, 1882. (No specimens.)

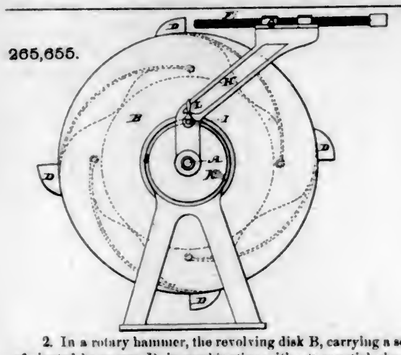
Claim.—1. Fire-brick formed of clay raised to incandescence and suddenly cooled previous to being molded and burned, substantially as set forth.

2. A process of making fire-brick, consisting in raising raw clay to incandescence and suddenly cooling it by water, and in molding and burning brick formed from clay so treated, substantially as set forth.

265,655. ROTARY HAMMER. WILLIAM T. BROWN, Stockton, Cal. Filed Jan. 16, 1882. (No model.)

Claim.—1. In a rotary hammer adapted to strike blows tangent to the circle of rotation, the revolving disk B, in combination with a series of hammers, D, provided with handles C, extending through one-quarter of the circumference of the disk and pivoted at *a'*, and supporting springs E E, all constructed, arranged, and operated as set forth.

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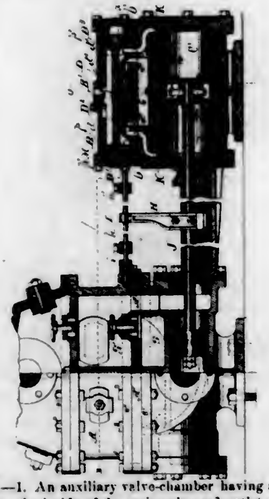
2. In a rotary hammer, the revolving disk B, carrying a series of pivoted hammers, D, in combination with a tangential plunger, F, for the purpose specified.

3. The revolving disk-carrying hammers D, in combination with the tangential plunger F and the radially-adjustable arm H for supporting said plunger, substantially as described.

265,656. PROCESS OF MAKING STEEL. WILLIAM W. CHIPMAN, New York, N. Y., assignor to Spencer D. Schuyler, same place, and the Graphite Steel and Iron Company, New Hamburg, N. Y. Filed Dec. 29, 1881. (No specimens.)

Claim.—The process, substantially as hereinbefore set forth, of making steel directly from the oxide-of-iron ores or from sands or furnace-slags containing oxides of iron by melting them in a furnace or crucible having its inner surfaces composed wholly or in part of plumbago, so that the oxides of iron shall be converted or reduced to steel, substantially as described.

265,657. STEAM PUMPING-ENGINE. GEORGE M. CONWAY, Milwaukee, Wis. Filed Dec. 27, 1881. (No model.)



Claim.—1. An auxiliary valve-chamber having an inlet-port leading from the inside of the main valve and outlet-ports leading to the main-valve chamber outside of the heads of the main valve, in combination with a cylindrical auxiliary valve have a port through its transverse center, as set forth.

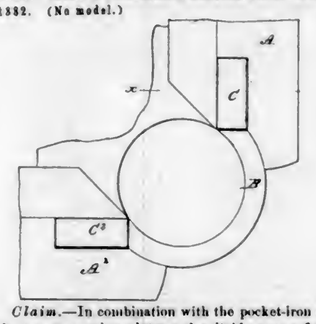
2. The auxiliary valve having a slot through its transverse center, depressions *e e*, and partitions *g g*, in combination with the chamber C, having inlet 5 leading from the interior of the main valve, and ports 1 2 leading to the ends of the main-valve chamber outside of the heads of the main valve, and ports 3 and 4 leading to a common exhaust, as set forth.

3. The cylindrical auxiliary valve having a slot extending through its entire length to a point below its longitudinal center to receive its stem I, and having a transverse slot through it to admit steam through it to its outlet-ports, as set forth.

4. The main valve D, having slot *d' d d''* and grooves *d''*, in combination with its cylinder having ports *k k'*, and the main cylinder having ports B', K, and 6, as set forth.

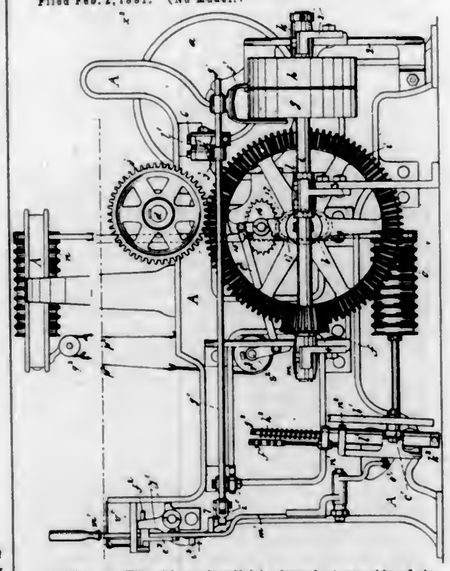
5. The hollow cylindrical main valve adapted to take steam into its center, and having ports leading from its inside through the chamber in which it works to an auxiliary-valve chamber, and other ports leading to the main cylinder, substantially as described.

265,658. POCKET-IRON ATTACHMENT FOR BILLIARD-TABLES. HUGH W. COLLENDER, Moreton, Conn. Filed Sept. 12, 1882. (No model.)



Claim.—In combination with the pocket-iron of a billiard-table, top or covering plates and suitable means for holding the said pocket-iron in place, all substantially as and for the purpose set forth.

265,659. LOOM. GEORGE CROMPTON and HORACE WYMAN, Worcester, Mass.; said Wyman assignor to said Crompton. Filed Feb. 2, 1881. (No model.)

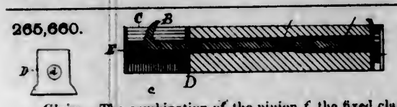


Claim.—1. The shipper-handle *t'*, pivoted at one side of the loom, rod *s'*, and yoke *c²*, combined with the shipper-handle *m'* and slotted plate *r'*, the said yoke being pivoted upon the shipper-handle *m'*, as and for the purposes described.

2. The lay, tier of shuttle-boxes, shuttle-box rod and means to move it and the shuttle-boxes, and the guide *n²*, combined with the spring-case, collar *k²*, and spiral spring arranged in the case and between it and the shuttle-box rod, the lower end of the spring and spring-case and collar being located below the said guide *n²*, substantially as and for the purpose described.

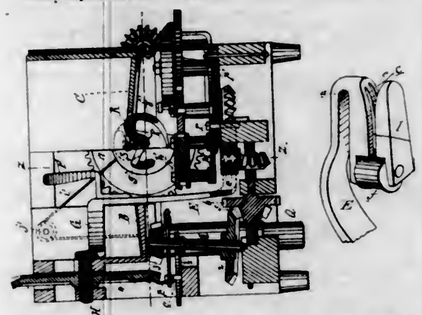
265,660. STEREOTYPE-PLATE HOLDER. CHARLES E. CURTISS, Brooklyn, N. Y. Filed Jan. 3, 1882. (Model.)

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Claim.—The combination of the pinion *f*, the fixed clamp *b* the shanked hook B, and the metallic bearing D, provided with shoulders *j j*, all arranged and combined substantially as described.

265,661. GRAIN-BINDER. GEORGE DAVIS, Milford, Mich. Filed Sept. 28, 1881. (Model.)



Claim.—1. In a grain-binder, the platform consisting of the separate tables B and C, inclined in opposite directions, as and for the purposes set forth.

2. In combination with the forked tucker R and operating mechanism, the bar S, having loop *l*, as specified.

3. The binder-arm E, having the compressor-sweep F, combined with means, substantially as described, for automatically stopping said arm at each rotation, as specified.

4. The binder-arm E, having binding-head I, with flaring recess *c*, throats *e*, and the roller *f*, combined and operating as and for the purposes set forth.

5. The binder-arm E, having loop *a* and head I, with throats *e*, combined with means, substantially as described, for throwing said arm out of operation at each rotating stroke, as set forth.

6. The mechanism for shifting the motion from binder-arm to pinion-twister, consisting of bevel-gear wheel 4, detent *p*, pivoted lever L, latch *m*, stop *o*, bevel-pinion 3, shaft *g*, and bevel-gear wheels 2 and 5, substantially as described.

7. As a means for throwing the parts of the grain-binder into gear and releasing them automatically, the pivoted lever L and pivoted plate M, each provided with a hooked spring-latch engaging with suitable stops and connected by rod *s* and chain *t*, in combination with the revolving detents *p* and *d'*, substantially as described.

8. The pinion-twister having recesses *a'*, combined with friction-rollers *b' b² b² b¹*, and adapted to serve as set forth.

9. In combination with the pinion-twister, the volute spring O, latch *v*, and detent *d'*, whereby the pinion-twister is enabled to return in its exact position, substantially as described.

10. The claw-tucker R, having prongs *f' f'*, combined with the arm *g'* and gear 17, and adapted to serve as set forth.

11. The combination of the tucker R, shaft P, arm *g'*, slot *h'*, and gear-wheel 17, as and for the purposes described.

12. The combination of the tucker R, shaft P, sheave *k'*, cord *i'*, sheave *j'*, and weight Q.

13. The combination of tucker R, rod *n'*, and knife T with the shaft P, arm *g'*, gear 17, and weight Q, whereby the said knife is reciprocated automatically, substantially as described.

14. The combination of reciprocating knife T, rod *n'*, tucker R, shaft P, arm *g*, slot *h*, and gear-wheel 17, operating substantially as described.

15. The pivoted plate M, in combination with latch *v*, detent *d'*, stop *o'*, and spring *u*, for throwing the pinion-twister, tucker, and knife simultaneously out of gear, substantially as described.

16. The combination, substantially as hereinbefore set forth, of the pivoted plate M, a pinion-twister mounted thereon with its actuating-gear, a locking-latch, a detent on the gear acting thereon, a fixed stop, and a volute spring for automatically releasing the pinion-twister and revolving it back in its position.

17. In a machine for binding grain, a combined binding and compressor arm performing one whole revolution around the sheaf in the action of binding it, and defining thereby alone its proper position on the grain-table, substantially as described.

18. In a machine for binding grain, the combination of a combined binder-arm and compressor, a pinion-twister, cutter, and tucker, when constructed and operating automatically substantially as described and shown.

265,662. EAR-RING. THOMAS H. DE VAUSNEY, Jr., Newark, N. J. Filed Aug. 9, 1882. (No model.)



Claim.—The locking device F, having the openings O Q, adapted to slide on the swing-arm E, in combination with the pin B, substantially as and for the purpose specified.

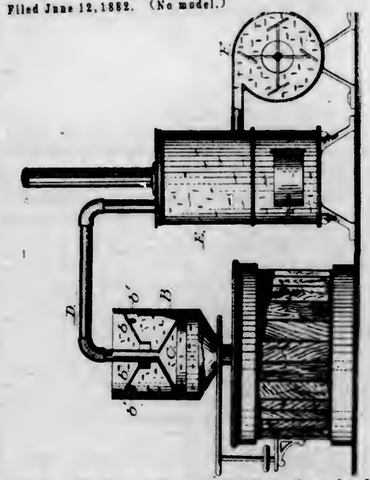
265,663. WAIST-BELT. FANNY T. DONALDSON, Cranford, N. J. Filed June 10, 1882. (No model.)



Claim.—1. The combination, with a waist-belt, of a detachable or fixed pincushion and one or more spool-receptacles connected thereto, substantially as set forth.

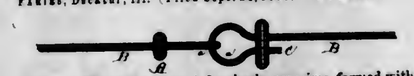
2. The combination, with a waist-belt, of one or more spool receptacles or boxes connected thereto, substantially as set forth.

265,664. GRAIN-HEATER. ROBERT ENGLISH, Austin, Tex. Filed June 12, 1882. (No model.)



Claim.—The hopper B, provided with the flange *b* and perforations *b'*, in combination with the hot-air pipe D, provided with the inverted-funnel-shaped mouth C, having its sides perforated, and all constructed and arranged to operate substantially as and for the purpose described.

265,665. FASTENING FOR SECTIONS OF WIRE. ROBERT PARISS, Decatur, Ill. Filed Sept. 24, 1881. (No model.)

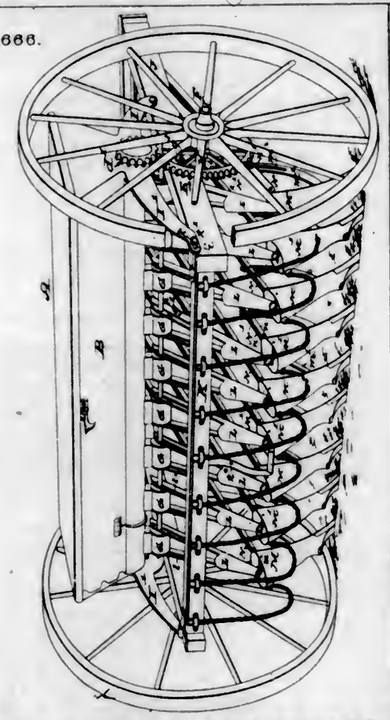


Claim.—The ring or stop A for check-row wires, formed with an oblong hole and a web of thinner metal toward its center, as and for the purpose specified.

265,666. GRAIN-DRILL. JACOB FOURNIE, Belleville, Ill. Filed Mar. 2, 1882. (No model.)

Claim.—1. The seed-cylinder G, having the semi-spherical cells *g*, arranged in quincunx order, substantially as described.

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2. The combination of the hoes M M', the draft-irons N N', frame or bar O, bars *o o'*, links *p p'*, and lever P, substantially as described.

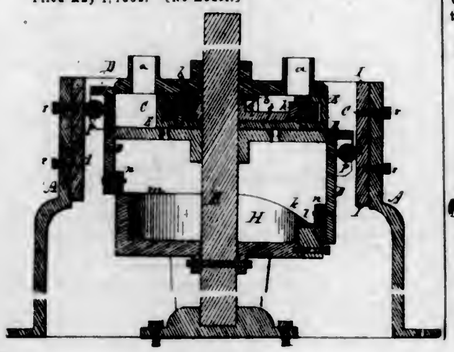
3. The combination of the trough C, having the openings *c*, the continuous screw D, having the disks d^3, and the seed-cylinder G, having semi-spherical cells *g*, arranged in quincunx order substantially as described.

4. The seed-box B, carrying the trough C, having openings *c*, the continuous screw D, having the disks d^3, the shaft *g'*, and gears d' g^3, legs I I', frame J, and crank-axle *k*, substantially as set forth.

5. The combination of the spout L, hung by bar *l* on the shaft *g'*, the eye *l'*, the hoes M M', said hoes having bars *m*, and made narrow, as shown, to enable the hoe to have lateral or torsional play upon the spout, substantially as described.

6. The combination of the hoe flattened at the toe end and cut away at the heel, the tie m', having slot m^3, the draft-iron N, and the pin n', enabling the lower end of the hoe to be drawn backward without breaking the pin, substantially as described.

265,667. BRICK-PRESS. EMERY R. GARD, Baltimore, Md. Filed May 1, 1882. (No model.)

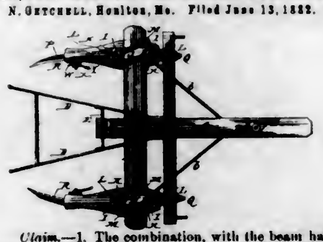


Claim.—1. The combination of the molds C C, the reciprocating bed-plates D D, having movements to positions below the molds, opposite to the molds, and up to the top of the press, the plungers E E, and the cams G H on the shaft B, one situated within and the other below the operative parts of the press, substantially as and for the purpose herein specified.

2. The plungers E E, provided with movable face-plates *s s*, secured in exact positions by a readily-fusible material, substantially as and for the purpose herein specified.

3. The adjustable counter-ways I I, in combination with the reciprocating bed-plates D D and molds C C, substantially as and for the purpose herein specified.

265,668. HOE-CULTIVATOR. JOHN S. GETCHELL and GEORGE N. GETCHELL, Houlton, Me. Filed June 13, 1882. (No model.)



Claim.—1. The combination, with the beam having the longitudinal groove in its under side, of the longitudinally-slotted plate secured to the beam by a nut and bolt, and having a hooked end working in said slot, as set forth.

2. The combination, with the central beam and rear transverse beam, of the standards having a lug on the front edge and a top plate, rearwardly-extended platforms or strips having a clamping device, clamping-plates with bolts and nuts, the hoes pivoted to the standards and provided with rear upwardly-extended rods and forward convergent brace-rods, substantially as set forth.

3. The combination, with the cross-beam B, of the standards having a top plate, and the hoes pivoted at their lower ends, the rearwardly-extending platforms secured and clamped between said top plate and the under side of the beams, vertically-adjustable rods U U, top clamping-plates, J J, and securing nuts and bolts, as set forth.

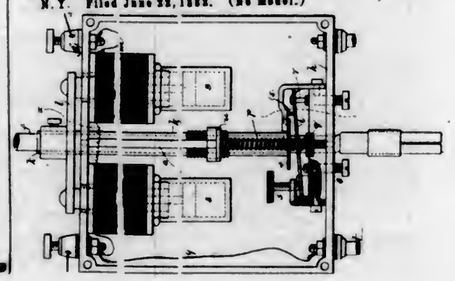
4. The combination, with the central longitudinal beam having a groove in its under surface, and provided with a longitudinally-adjustable plate having a hooked end moving therein, of the rear cross-beam, the standards adjustable on the latter by means of clamping-plates, and provided with headed lugs on their front edges, and the brace-rods secured thereon and extending up over the end of the plate on the central beam, as set forth.

265,669. PHOTOTYPOGRAPHY. HANNIBAL GOODWIN, Newark, N.J. Filed Nov. 30, 1881. (No specimens.)

Claim.—1. In the process of etching with acid on a metal or stone surface photographically impressed for the production of a printing-plate, the employment of dragon's blood, as described, to said photographic impressions, for the purpose specified.

2. In the process of etching with an acid on a metal or stone surface photographically prepared for the production of a printing-plate, flowing the photographically impressed, developed, and inked plate with dragon's blood, then removing the ink and its overlying film of dragon's blood by means of turpentine, and then with a suitable solvent removing the hardened albumen, substantially as described.

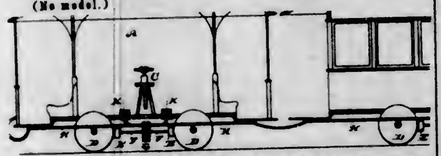
265,670. ELECTRIC-ARC LAMP. JOHN H. GURNY, Brooklyn, N.Y. Filed June 22, 1882. (No model.)



Claim.—1. The combination, with the upper carbon holder *f*, of the tubular sleeve *h*, the two solenoid-bobbins *m*, their cores, and cross-bar *l*, connected to said sleeve *h*, the cross-head *n*, guide-rods *s*, springs *p*, flange *i* upon the sleeve *h*, the clamp *t*, and stops, substantially as set forth.

2. The combination, with the carbons and carbon-holders in an electric lamp, of a clamp, *t*, acting upon the upper-carbon-holding rod, a sleeve around such rod with a flange acting upon the clamp, springs *p* to raise the carbon-holder and parts therewith connected, a solenoid-magnet of high resistance in a shunt, the cores of which solenoid are connected to the mechanism supporting the upper carbon to feed the carbon as the same is consumed, substantially as set forth.

265,671. AIR-BRAKE FOR CARS OF CABLE RAILROADS. WILLIAM W. HANSCOM, San Francisco, Cal. Filed May 9, 1882. (No model.)



Claim.—The brakes E, mounted so as to be moved outwardly against the wheels D by means of the cushions G and rods F, in combination with the air-compressing cylinder or bellows K and connecting-pipe H, substantially as herein described.

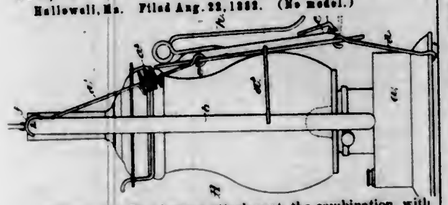
265,672. SUPPORTING-BANDAGE. EDWARD H. HART, New York, N.Y. Filed Aug. 23, 1882. (Model.)



Claim.—1. The combination of the bag B with the eyes *d e*, elastic cords C D, belt A, and one or more hooks, substantially as herein shown and described.

2. The porous bag B, lined on the inner side with a removable water-proof lining, *h*, which contains an interior removable porous lining, *i*, substantially as herein shown and described.

265,673. LANTERN ATTACHMENT. CHARLES J. HIGGINS, Hallowell, Me. Filed Aug. 22, 1882. (No model.)



Claim.—1. In a lantern attachment, the combination, with a reflector, of a series of holding-arms loosely connected therewith, substantially as and for the purpose described.

2. The combination, with a reflector, of a series of holding-arms connected therewith, a portion of the said arms being longitudinally extensible, substantially as described.

3. The reflector combined with hooked holding-arms having a loose pivotal connection therewith, one or more of the said arms having a portion of its length bent to give it longitudinal elasticity, substantially as described.

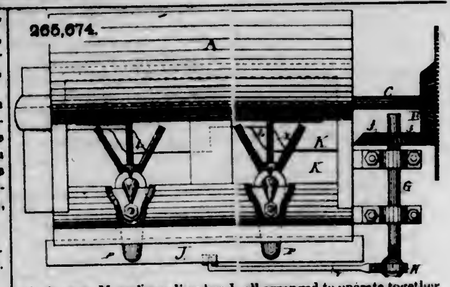
4. The reflector provided with the supporting-hook *h*, combined with the loosely-pivoted hooked holding-arms *d d'*, some of which have a portion of their length bent into a spiral spring, substantially as and for the purpose described.

5. The combination, with the reflector, of its supporting-hook *h* and folding-prop *i*, substantially as and for the purpose described.

265,674. FERTILIZER-DISTRIBUTER. JOHN F. KELLER, Martinsburg, W. Va. Filed June 9, 1882. (No model.)

Claim.—1. The combination of the swinging stirrers P, provided with fingers Q, the pivot-plates T, attached to the hopper,

265,674.

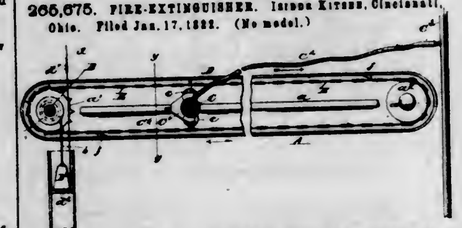


the keepers M, and coupling-bar J, all arranged to operate together substantially as and for the purposes set forth.

2. The above-described stirrer, consisting of the cast-iron body P, molded upon the wrought-steel fingers, said body having the hook *p* and projection R cast thereon, and the finger S, inserted into said projection, substantially as and for the purposes set forth.

3. In a fertilizing-machine, the feed-slides K, forming the S-shaped feed-opening, and having the sharp edges *l*, Fig. 4, in combination with the steel fingers Q, having sharp edges, and mechanism for operating said fingers, substantially as and for the purposes set forth.

265,675. FIRE-EXTINGUISHER. ISIDOR KITSEE, Cincinnati, Ohio. Filed Jan. 17, 1882. (No model.)



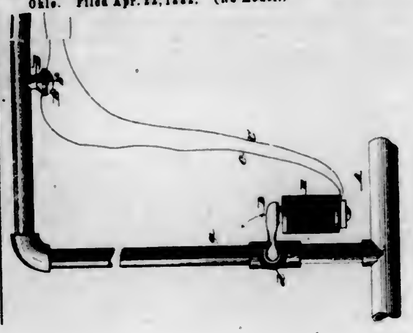
Claim.—1. In a fire-extinguishing device, a traveling perforated pipe provided with suitable bearings that bear and travel upon and are guided by rails or tracks arranged at the sides of rooms, and means for transmitting motion to said pipe, substantially as described.

2. In a fire-extinguishing device, the combination of the shell or case A, provided at each end with sprocket-wheels a' a^3 and sprocket-chain E, with the perforated pipe C, provided at each end with casting C', having rollers c c, and bar D, having triangular projections D', and spring-pressed bolt C^3, and means for transmitting motion thereto, substantially as described.

3. In a traveling fire-extinguishing device, the casting C', having upper and lower projections c^2, provided with movable bar D, having central projection, D', and studs c' c^4, said casting further provided with perforated projections c^2 c^2, and spring-pressed bolt C^3, as and for the purpose intended, substantially as described.

4. In a traveling fire-extinguishing device, the combination of the shell A, having track *a* and sprocket-wheels a' a^3, with the shaft B, drum B', and cord and weight *b* B^3, substantially as described, as and for the purpose specified.

265,676. FIRE-EXTINGUISHER. ISIDOR KITSEE, Cincinnati, Ohio. Filed Apr. 22, 1882. (No model.)

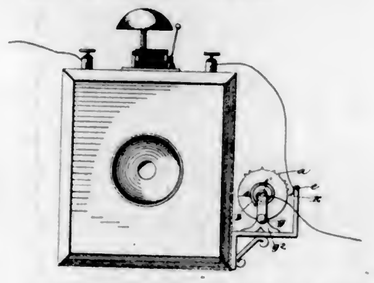


Claim.—1. In an automatic fire-extinguisher, a metallic discharging-nozzle provided with a metallic cap having a locking device readily fusible by heat, said cap and said nozzle being each respectively connected to one of the current-wires of an electro-magnet, substantially as described.

2. In an automatic fire-extinguisher, the combination of a spring-pressed feed-valve having an armature-handle, an electro-magnet, the wires of an electric circuit, and a metallic eduction-opening having a metallic cap connected thereto by substance easily fusible by heat, substantially as described.

3. In an automatic fire-extinguisher, the supply-pipe A, the stand-pipe *a*, having spring-pressed valve, the armature-handle D, electro-magnet E, and distributing-pipe *a'*, having eduction-opening B, provided with covering-cap B', sealed with substance *b'*, easily fusible by heat, in combination with the electric-circuit wires C C, all arranged as described, adapted, when the fusible substance *b'* is melted, to break an electric circuit, and thereby open the supply-valve, as and for the purpose intended, substantially as described.

265,677. ELECTRIC SIGNAL. ISIDOR KITSEE, Cincinnati, Ohio. Filed Jan. 31, 1882. (No model.)

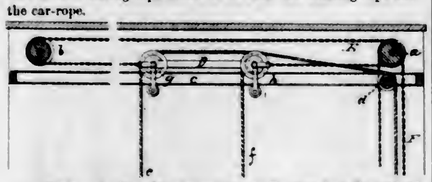


Claim.—1. In an electric-circuit breaker, the combination of a rotating metallic disk having on its periphery groups of extending teeth held in tension by a spring provided with a detent on its periphery, said detent arranged to receive an engaging-bolt operated by a push-bar, said metallic disk being mounted on insulated bearings, with a coinciding metal spur, said spur and said disk being in electric connection with the line-wire of an electric circuit, all arranged as set forth, adapted, when said disk is rotated by withdrawal of said bolt from said detent, to bring the groups of peripheral teeth in contact with said metal spur and make and break an electric circuit, substantially as described.

2. In an electric-circuit breaker, the combination of the rotating disk A, having groups of peripheral teeth *a*, and provided with a detent, *a'*, and spring B, with the detent-engaging bolt G, having outer push-button, *g*, spring *g'*, and guide-blocks g^2 g^3, as and for the purpose intended, substantially as described.

265,678. FIRE-ESCAPE. GUSTAV KOSMAK, New York, N. Y. Filed May 27, 1882. (No model.)

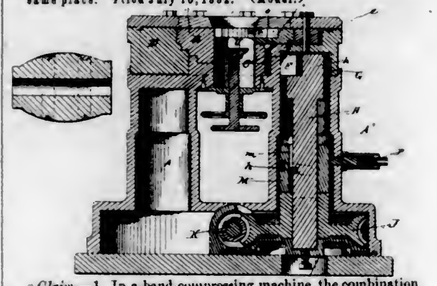
Brief.—The hoisting-rope and the rope by which the car is moved backward and forward across the building are operated by means of gearing actuated by a crank and placed in any accessible location, and provided with clutch mechanism to transmit motion to the hoisting-rope alone or to both the hoisting-rope and the car-rope.



Claim.—1. In a fire-escape, the car D, placed on the rails C, combined with the rope or chain E, rollers or pulleys *a b*, rope or chain F, and drum G, and with the rope or chain H, cage I, and drum J, and with mechanism for rotating said drums jointly or the drum J alone, substantially as described.

2. The combination of the shaft M, having fixed pinion *i* and loose pinion *j*, with the drums G and J, having toothed wheels, and with the clutch-lever *m*, and with mechanism for transmitting the motion of said drums to the cage I, substantially as described.

265,679. BAND-COMPRESSING MACHINE. WM. KRUTZSCH, Dayton, Ohio, assignor to the Buckeye Iron and Brass Works, same place. Filed July 10, 1882. (Model.)



Claim.—1. In a band-compressing machine, the combination of a rest for the hub, the radially-grooved head, the radially-moving dies therein, and the semi-rotating ring having the rollers or cams for simultaneously forcing the dies inward, substantially as described.

2. In a band-compressing machine, the combination of a radially-grooved head with radially-moving dies operating simultaneously therein, each die having pivoted beveled jaws normally pressed apart by a spring, and adapted when forced inward to be closed by contact with the jaws of the adjoining dies, substantially as described.

3. In a band-compressing machine, the combination, with the radially-grooved head, of the dies arranged therein, each consisting of the metal block, the jaws pivoted thereto, and the springs between the jaws, substantially as described.

4. In a band-compressing machine, the combination of the radially-grooved head, the radially-moving dies consisting of the blocks and the pivoted jaws, and having the cam-grooves in their blocks, and the semi-rotating ring carrying the pins or studs which enter the cam-groove, and the rollers or cams for bearing upon the ends of the blocks to force the dies simultaneously inward when the ring is partially rotated, substantially as described.

5. In a band-compressing machine, the combination, with the radially-grooved head, of the radially-moving dies, the semi-rotating ring having the radial slot, and the vertical crank-shaft having the slide on its wrist, substantially as described.

6. The combination, with the semi-rotating ring having the radial slot, of the vertical crank-shaft having the pin or stud therein, the slide on its wrist, the internally-grooved gravitating clutch, and the loosely mounted gear-wheel, the whole arranged and operating substantially as described.

7. The combination, with the vertical crank-shaft having the pin or stud, of the gravitating clutch having the vertical internal groove and the external spiral groove, the gear-wheel having the toothed hub for co-operating with the clutch and the spring-pin for engaging with the spiral groove of the clutch, the whole arranged and operating substantially in the manner described.

8. The combination, with the spirally-grooved clutch, of the spring-pin having the teeth on its side, the pinion engaging with said teeth, the vertical shaft on which the pinion is mounted, and the hand-lever on said shaft, substantially as described.

9. The combination of the counter-shaft carrying the worm or endless screw, the vertical crank-shaft, the loose gear-wheel having the toothed hub, the gravitating clutch, and means for raising the clutch to disengage it from the hub, substantially as described.

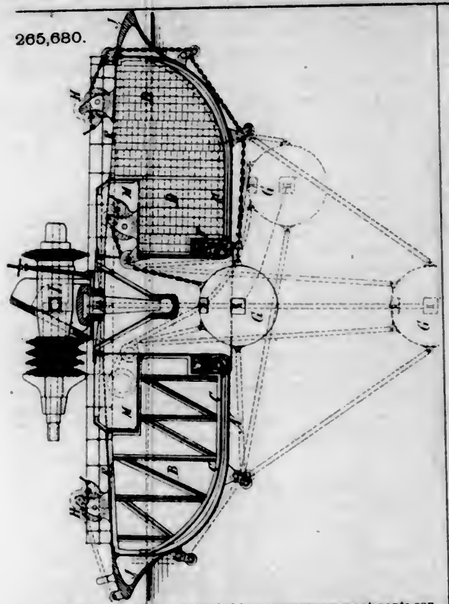
10. The combination, with the radially-moving dies, of the adjustable rest for the hub, substantially as described.

265,680. FLOATING BATTERY. ALFRED KRUPP, Essen, Germany. Filed Dec. 19, 1881. (No model.) Patented in England Sept. 27, 1881, No. 4,156; in Germany Nov. 13, 1881, No. 18,193; in France Nov. 30, 1881, No. 146,124; in Belgium Dec. 16, 1881, No. 58,510; in Italy Dec. 31, 1881, XV, 13,714, and in Austria Feb. 14, 1882, No. 280.

Claim.—1. A circular floating battery having a central well, a platform covering said well, and a gun upon the same, in combination with numerous water-tight cells or boxes arranged around said central well, and a filling of cork or similar material between said cells, substantially as and for the purposes set forth.

2. A floating battery constructed with an inner skin or double bottom and divided into separate compartments, in combination with metallic water-tight cells or boxes placed perpendicularly in said compartments, said cells or boxes being removably connected to said double bottom and to each other, substantially as set forth.

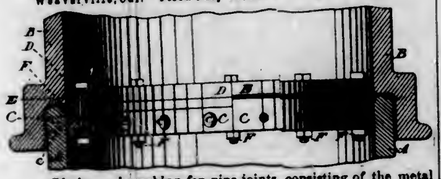
265,680.



3. A floating battery divided into separate compartments containing water-tight cells or boxes, and arranged around a central well having movable ballast G, and means for changing position of the latter, substantially as set forth.

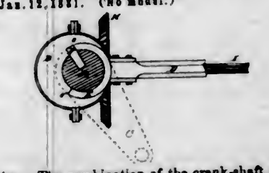
4. A combined ring-shaped floating battery consisting of separate connectible ring-sector parts containing detachably-connected water-tight cells or boxes, and forming each a platform for one or more guns, for the purpose of being used either as a combined battery or as separate batteries, all substantially as set forth.

265,681. PACKING FOR PIPE-JOINTS. ORANGE M. LOVERIDGE, Weaverville, Cal. Filed July 31, 1882. (No model.)



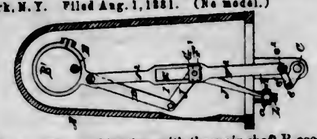
Claim.—A packing for pipe-joints, consisting of the metal ring or band C, secured within the end of a pipe, the metal ring or band D, and the intervening leather or flexible packing-ring, E, both of which are secured to ring C by bolts F, and extended beyond the end of the pipe, the flexible ring being turned down upon the outer surface of ring D, and the whole inserted within the enlarged end of another pipe, and operating substantially as herein described.

265,682. VALVE-GEAR. WILLIAM W. LOVELL, Racine, Wis. Filed Jan. 12, 1881. (No model.)



Claim.—The combination of the crank-shaft A, having the pin F, the loose eccentric B, having stops *s s*, the bevel-gear pinion G, rigid with said eccentric, and the shaft I, provided with the beveled-gear wheel H, meshing with the pinion G, and the band-wheel J, together arranged and operating substantially as described, and for the purposes set forth.

265,683. SEWING-MACHINE. THOMAS A. MACAULAY, New York, N. Y. Filed Aug. 1, 1881. (No model.)



Claim.—The combination, with the main shaft B, eccentric B', eccentric-rod D, connected directly to the short arm of the bell-crank lever J J, and shuttle-lever K, of the pitman-lever F' F', pivoted to and receiving its motion from the eccentric-rod D, and feed-shaft C, substantially as described.

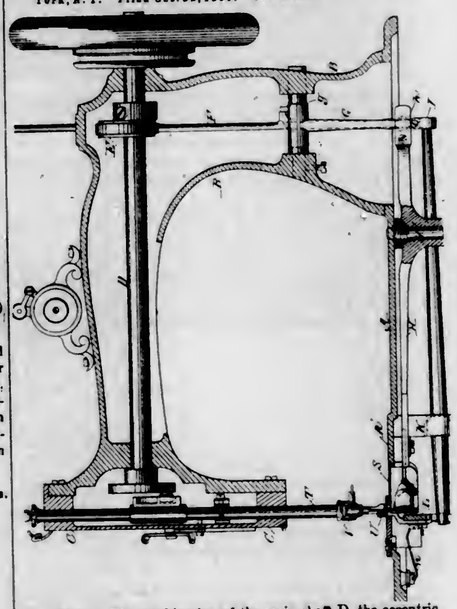
265,684. SEWING-MACHINE. THOMAS A. MACAULAY, New York, N. Y. Filed Sept. 7, 1881. (No model.)



Claim.—1. The combination of the main shaft D, eccentric E, pitman-lever F F', bell-crank lever G, and shuttle-lever H with the levers I I' and feed-bar L, substantially as set forth.

2. The combination of the milled-headed thumb-nut R, having a portion projecting beyond the raised part R', with the countersunk bed-plate, substantially as and for the purpose herein specified.

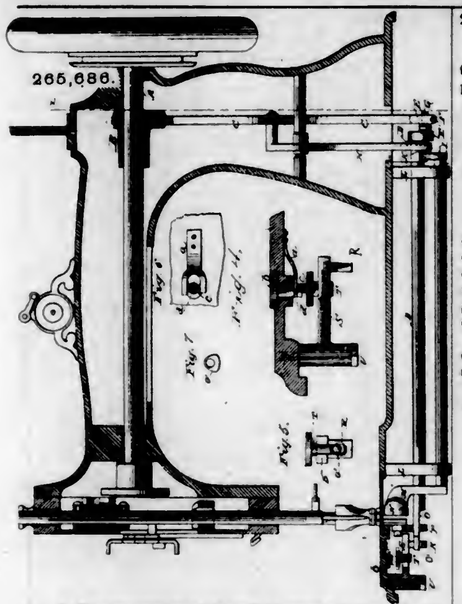
265,685. SEWING-MACHINE. THOMAS A. MACAULAY, New York, N. Y. Filed Oct. 22, 1881. (No model.)



Claim.—The combination of the main shaft D, the eccentric E, bell-crank lever G G', and shuttle-lever H with the pitman-lever F F', feed-lever J J', all operated by the said eccentric E, and feed-bar L, substantially as set forth.

265,686. SEWING-MACHINE. THOMAS A. MACAULAY, New York, N. Y. Filed July 1, 1882. (No model.)

Claim.—1. The combination of the bell-crank lever H H' with the main shaft A, eccentric B, and pitman-lever C C, and with the crank-arm I and rock-shaft J, substantially as set forth.

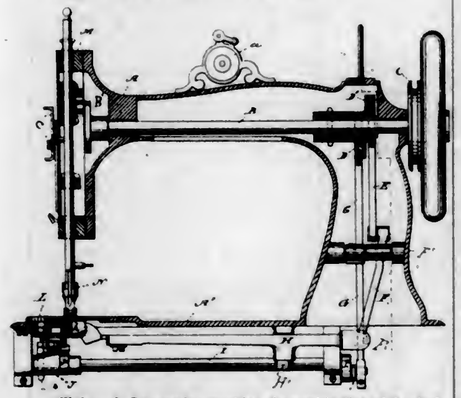


2. The combination of the shaft D, cam-pin O O', feed-bar P, rocking lever S, regulating-lever T, having the slot *s*, and crank-pin *c* upon the shaft *d*, substantially as described.

3. The regulating-lever T, having the slot *s*, and the shaft *d*, having crank-pin *c*, in combination with the feed-bar P and devices for operating the same through the lever T, substantially as set forth.

4. The combination of the slotted lever S, regulating-lever T, having the slot *s*, shaft *d*, having the crank-pin *c*, and feed-bar P, substantially as described.

265,687. SEWING-MACHINE. THOMAS A. MACAULAY, New York, N. Y. Filed July 1, 1882. (No model.)



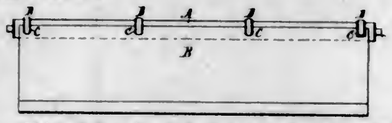
Claim.—1. In a sewing-machine, the combination of the shaft B and eccentrics D D' thereon with the shuttle-driving mechanism E, F, and H and feed-operating mechanism G G' *g* I I', substantially as set forth.

2. The combination of the eccentrics D D', pitman E, levers F and G, stud F', and radius-bar G', said lever F and radius-bar G' being mounted on said stud F', substantially as described.

3. The conical cam J, fixed to the feed-shaft I, in combination with the feed-bar K', stitch-regulating lever K, having the slot K' and bent portion K', the crank-pin K', and spring P, substantially as set forth.

265,688. ATTACHING WINDOW-SHADES TO ROLLERS. JNO. W. MARES, Oxford, Mass. Filed June 5, 1882. (No model.)

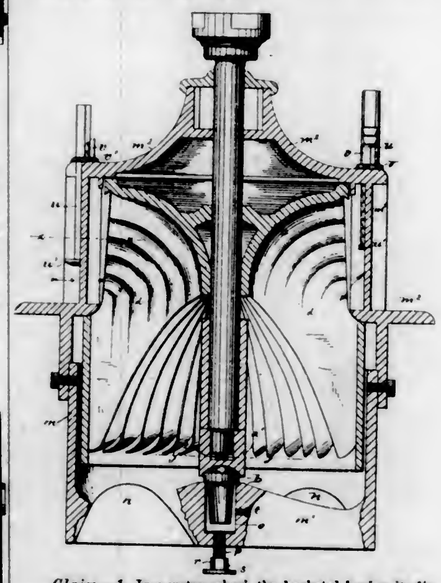
Brief.—An elastic metal open ring presses the end of the toothed grip-piece down upon the edge of the shade to hold it in place on the roller.



Claim.—1. As an improved article of manufacture, the within-described device for attaching window-shades to rollers, consisting of a curved metal gripping-piece, C, having projections or teeth *c*, and adapted to be fixed to a curtain-roller, and an elastic metal ring, D, open at one side, and adapted for embracing the roller and grip-piece for pressing down the end of said grip-piece upon the edge of the shade, as hereinbefore set forth.

2. The combination, with a roller, A, and window-shade B, of the curved grip-piece C and the movable supporting-ring D, substantially as shown and described.

265,689. WATER-WHEEL. JOHN B. MCCORMICK, Holyoke, Mass., assignor to the Holyoke Machine Company, same place. Filed Oct. 25, 1881. (No model.)



Claim.—1. In a water-wheel, the bucket *d*, having its discharge-edge 4, made with the parabolic curvature shown, concaved toward the axis of rotation from the innermost point of discharge to or almost to the periphery of the wheel, substantially as described.

2. The buckets provided with water-guiding grooves or corrugations on their acting faces, substantially as and for the purpose set forth.

3. The buckets provided with a series of water-guiding grooves or corrugations, the successive grooves of the series gradually decreasing in width from the uppermost downwardly, substantially as and for the purpose described.

4. The wheel-shaft and its step, combined with the step-adjusting screw provided with wrench-faces, and a flange to support the end of a wrench engaging the said faces, substantially as described.

5. The wheel-inclosing case and a series of guides surrounding its periphery, combined with a series of independently-movable gates, one to each of the said guides, and means to fasten them at any desired height, substantially as and for the purpose described.

6. The wheel-inclosing case and its guides, provided with gate supporting and fastening projections, combined with the series of independent gates, each provided with a series of engaging-projections, to be held by the corresponding gate-supporting projection, and the clasps to retain the said gates engaged at any desired height, substantially as described.

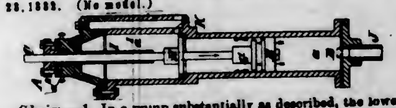
7. The shaft-bearing piece, chambered as described, whereby the water is caused to circulate just above the step to keep the bearing cool, substantially as set forth.

265,690. CORSET. CHARLOTTE A. MCGEE, Jackson, Mich. Filed Jan. 28, 1881. (Model.)



Claim.—The combination, in a corset, of a supplemental breast-pocket permanently secured to the inside of the breast-pocket at both ends, and composed of the central horizontal rib, *c*', the upper part formed of a fabric, C', and an edge rib, *c*, curved downwardly at its ends, and the lower part formed of a fabric, C, and an edge rib, *c*, curved upwardly at its ends, the two pieces of fabric being stitched together at or near the central rib, *c*', and adapted to bear against the upper and lower parts of the fabric of the outer pocket, substantially as set forth.

265,691. PUMP. LOUIS C. MILLER, St. Louis, Mo. Filed Jan. 28, 1882. (No model.)



Claim.—1. In a pump substantially as described, the lower compartment, *a*, having foot-valve B, the piston-rod C, disk F, valve G, sliding on rod C, sliding valve H, seat A, outlet K, and upper compartment, *a*, closed at its top, all combined and operating substantially as set forth.

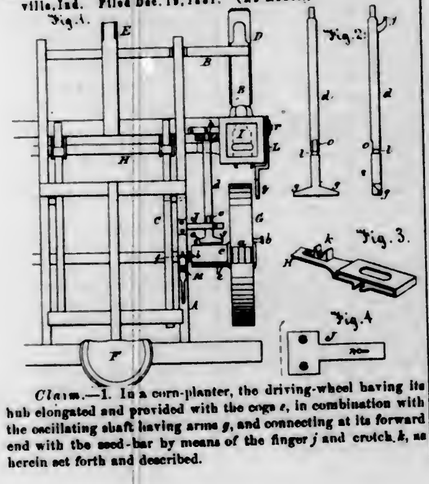
2. In a pump substantially as described, the piston-rod C, having disk F at its end, and valves G and H sliding upon it, the lower chamber, *a*, having valved inlet, as stated, the closed upper chamber, *a'*, seat A, outlet K, and side pipe, L, with opening *l*, substantially as set forth.

3. In a pump substantially as set forth, the piston-rod C, having disk F on its end, and valve G working upon it in chamber *a*, and valve H working upon it in chamber *a'*, and provided with stop I, combined with chamber A, having valved inlet J, valve-seat *h*, educt *k*, and side pipe, L, provided with opening *l* or *l'*, all constructed and operating substantially as and for the purposes set forth.

4. The combination of the handle M, the rod C, having the tenon *c'*, and the clip N, substantially as described.

5. The combination of the handle M, the standard O, having the gudgeons *o'* *o'*, and the plate P, substantially as described.

265,692. CORN-PLANTER. JAMES V. MITCHELL, Martinsville, Ind. Filed Dec. 19, 1881. (No model.)



Claim.—1. In a corn-planter, the driving-wheel having its hub elongated and provided with the cogs *c*, in combination with the oscillating shaft having arms *g*, and connecting at its forward end with the seed-bar by means of the finger *j* and crotch *k*, as herein set forth and described.

2. The adjustable key provided with a wing or flange, *n*', in combination with the slotted bearing J and shaft *d*, whereby the wing of the key may be adjusted in a groove or recess, *n'* *n'*, of the bearing, to either hold the shaft in position for operating or hold it out of gear, substantially as set forth.

3. The slotted bearing J, attached to the frame of the planter, and provided with the grooves *n'* *n'* and key-hole *n*, in combination with the adjustable key having wing *n*', and the shaft *d*, having the flat surface *o*, substantially as set forth.

4. The chair A, fixed to the frame B of the planter, in combination with shaft *d*, the said chair having a beveled or flaring aperture, as shown, forming a bearing for the oscillating shaft to prevent the rocking motion of frame B from binding the shaft, as herein set forth.

5. In a corn-planter, the combination of the oscillating shaft *d*, provided with arms *g* and the finger *j*, to work in the crotch *k* on the seed-bar, the elongated hub *c*, provided with cogs *c*, slotted bearing J, provided with adjustable key K, and chair A, having a beveled aperture to receive the end of the shaft, substantially as set forth.

6. In a planter, the sputter L, pivoted to the side of the machine, and provided with a lifting-spring, the scoop *p*, and arm *q*, in combination with the driving-wheel having the impinging lugs *b*, the parts being constructed as shown, for the purposes set forth.

7. The wheel of a planter, having an elongated hub, *c*, provided with guide-points *i*, in combination with an eye, *f*, or other indicating-point on the side beam of the frame, substantially as and for the purpose set forth.

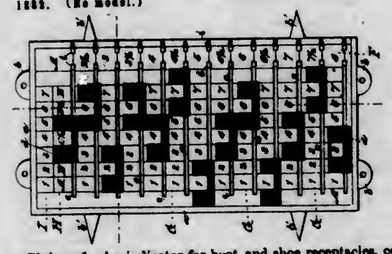
8. The side beam of frame A, provided with an eye, *f*, to afford a bearing for the lever *v* of the standard M, and at the same time serve as an indicating-mark for the guide-points *i* on the hub of the driving-wheel G, substantially as set forth.

9. In combination with the frame of a planter, having its side beam provided with eye *f* and slot *u*, the notched standard M, slotted lever *v*, and fastening-pin *v'*, the parts being constructed as shown, for the purposes set forth.

10. In combination with the oscillating valve *w* in the seed-tube of a planter, the aprons *z*, connected with the segment-valve *x*, constructed substantially as shown, for the purpose set forth.

11. In combination with an oscillating valve in the seed-tube of a planter, the shelf *y* and aprons *z*, substantially as and for the purpose set forth.

265,693. INDICATOR FOR BOOT AND SHOE RECEPTACLES. ANTHONY HUCKENHAUPT, Poughkeepsie, N. Y. Filed Mar. 15, 1882. (No model.)



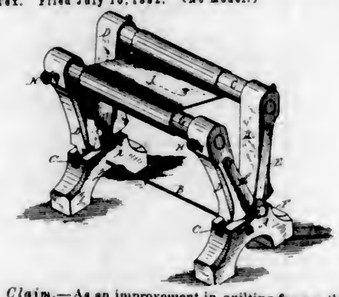
Claim.—1. An indicator for boot and shoe receptacles, comprising a plate to be secured to such receptacle, and said plate being provided, first, with a column, F, of numerals to indicate the sizes of the shoes; second, with a column or row, G, of numerals arranged at an angle to each numeral in the column F; third, with slots *e* in said plate arranged between the rows G; and, fourth, slides *d*, mounted in and arranged to be moved along said slots *e*, the said slides having apertures through which the numerals in rows G appear, and plates to conceal the adjacent numerals, all constructed and arranged substantially as set forth.

2. An indicator for boot and shoe receptacles, comprising the slotted plate A, bearing the size-numerals in column F, and the several rows G of numerals at an angle thereto, arranged between the slots *e*, and the slides *d*, mounted in the slots and provided with apertures to show the numerals, and spring back plates *c*, all substantially as herein set forth.

3. The combination, in an indicator for boot and shoe receptacles, of a slotted polished metal plate, A, provided with the size-column F of numerals, and the several rows G of numerals arranged at an angle thereto, and the slots *e*, and the colored or blackened slides *d*, mounted in and adapted to be moved along the slots, whereby the plate is made to serve as a reflector and to produce a sharp contrast between the plate and the slides, substantially as and for the purposes set forth.

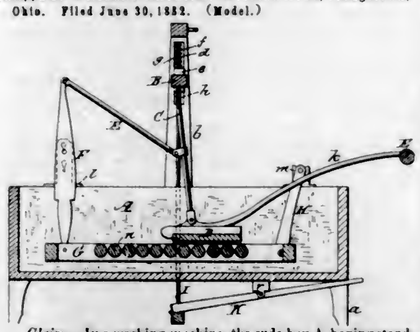
4. An indicator for boot and shoe receptacles, comprising the slotted plate A, provided with a column, F, of numerals indicating the sizes of the shoes contained in the receptacles, and rows G of numerals connected at an angle with the numerals in the size-column to indicate the number of pairs of each size, and a row, H or I, of letters or numerals, or both, to indicate the width of the shoes, and slides *d*, mounted in the slots *c* in the plate and arranged to be moved along the same to indicate the particular width of the shoes in the receptacle and the number of pairs of each size, substantially as set forth.

265,694. QUILTING-FRAME. JOHN B. MURPHREE, Lindsey, Tex. Filed July 10, 1882. (No model.)



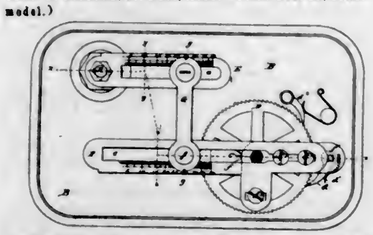
Claim.—As an improvement in quilting-frames, the combination, with the foot-pieces A, of the hinged arms D, braces E, clamping-screws F, rollers G, and set-screws H, substantially as and for the purpose herein set forth.

265,695. WASHING-MACHINE. WILLIAM MYER, Youngstown, Ohio. Filed June 30, 1882. (Model.)



Claim.—In a washing-machine, the suds-box A, having standards *b*, cross-bar B, springs *g*, depending arms *h*, and pivoted rods C, having pivoted to their lower end the rubber D, in combination with the oscillating frame G, carrying rollers *a*, said frame being connected to the adjustable bars F and bars H, and the pivotal rods E, connecting the bars F with the rods C, the rods I, and foot-treadle K, constructed and arranged to operate substantially as and for the purpose set forth.

265,696. ADJUSTABLE ACTUATOR FOR REGISTERS. EUGENE F. OSBORNE, St. Paul, Minn. Filed Feb. 20, 1882. (No model.)

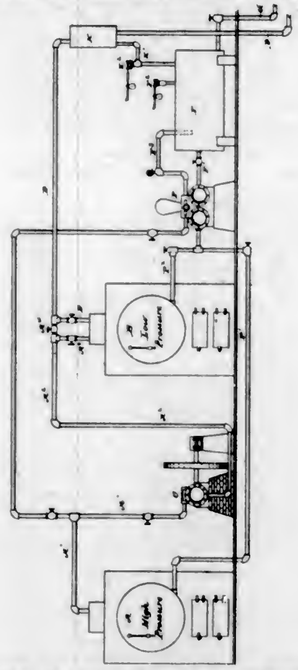


Claim.—1. In a register connecting mechanism, the combination of the actuating-shaft A, having a lever, E, the axially-fixed register-shaft C, provided with a ratchet, D, the lever F, fulcrumed on shaft C and provided with a pawl engaging with the ratchet, and the bar G, pivotally and movably connected with the levers E and F, substantially as described, and for the purposes set forth.

2. In an adjustable register connecting mechanism substantially as shown, the combination, with the ratchet D and its shaft, of the pawl-lever composed of the pawl bearing part *f'*, having permanent relation to the ratchet bearing shaft, and the longitudinally-movable part *f*, substantially as described.

3. In a register for registering in units of money value, the adjustable devices described for transmitting variable motion from the meter to the register, consisting of the levers E and F and pivoted connecting-bar G, said levers being graduated in opposite directions from their several axes of motion, whereby the bar G may be set to give the required registration, substantially as described.

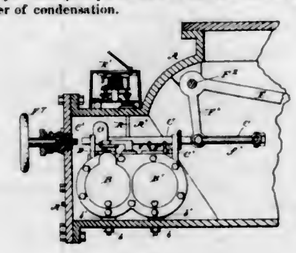
265,697. STEAM HEATING APPARATUS. EUGENE F. OSBORNE, St. Paul, Minn. Filed May 29, 1882. (No model.)



Claim.—In combination with a steam heating apparatus comprising a pipe for the return of the water of condensation to the source of steam-supply, two steam-generators carrying different pressures and constituting such source of steam-supply, an engine connected between said generators so as to run by the difference in their pressures, and a pump and connections for returning the water of condensation to both generators, substantially as described.

265,698. METER FOR STEAM HEATING APPARATUS. EUGENE F. OSBORNE, St. Paul, Minn. Filed June 27, 1881. (No model.)

Brief.—A duplex piston-meter located within a trap to meter the water of condensation.



Claim.—1. The combination, in a steam heating apparatus, of a trap, a fluid-meter, and a contrivance or contrivances for controlling the discharge of the meter from the water-level in the trap, substantially as and for the purposes set forth.

2. In combination with the steam-supply pipe and the trap in a steam heating apparatus, a fluid-meter arranged to take from the trap, and operating by the difference in pressure between the supply and return pipes, as set forth.

3. In the combination of a trap and a fluid meter wherein the water-level serves to adjust the valves so as to control the ports of the meter, the said meter-ports arranged in open communication with the trap interior, whereby stuffing-boxes or other friction-joints are avoided, substantially as described.

4. In combination with a steam-supply pipe, a trap and a fluid-meter, the said meter being located within the trap, substantially as described, and for either one or all of the purposes specified.

5. In a steam heating apparatus, a meter provided with interior moving parts and submerged in the fluid it measures, substantially as described.

6. In combination with the float of a float-trap, a piston-meter provided with a port-valve having both a lateral and a longitudinal movement, and mechanism connecting said valve with the float, whereby the lateral movements of the valve are governed by the movements of the float, substantially as described.

7. Combined with and arranged within the trap of a steam heating apparatus, the duplex piston-meter described, consisting essentially of the cylinders B and B', their pistons, inlet and outlet ports provided with the positive and negative port-valves D and D', having the compound movements described, and mechanism, substantially as described, for operating the valve of one cylinder from the piston of the other.

8. In the combination of a trap and meter, the ports I, I', and X of the duplex meter described, the compound-motioned valves D and D', mechanism for shifting each valve from the piston of the other, and mechanism for varying the area of the entry-ports from the water-line of the trap, combined and operating substantially as described.

9. In combination with the fulcrumed float-lever F F' and the compound-motioned port-valves D and D', the rod C, provided with flanges c and controlled by guides C', substantially as described.

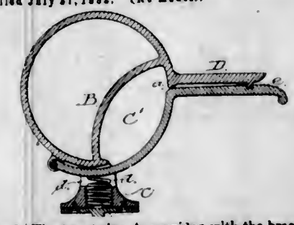
10. Combined with the rod C, connected with the trap-float and meter-valve, as shown, the set-screw F', arranged and operating from the exterior of the trap, as and for the purposes stated.

11. In the combination of a trap and meter, as described, the shaft F', keyed to the float-lever and extended through the side of the trap-shell, combined with the arm F⁶ and weight F⁷, substantially as and for the purposes stated.

12. In the combination and arrangement of the trap and meter shown, the cylinders B and B', provided with the passages b^2 b^3, and the bolts *b*, provided with longitudinal apertures and external petcocks, *p'*, substantially as shown, and for the purposes specified.

13. The valve D', having the L-shaped cavity *d'*, combined with the cylinder-ports, and with actuating mechanisms for producing both lateral and longitudinal motions, as set forth.

265,699. HARNESS-MOUNTING. CALEB D. PAGE, Greeley, Colo. Filed July 31, 1882. (No model.)



Claim.—1. The terret-ring A, provided with the brace B and projecting jaw D, in combination with the pivoted spring-operated arm E, provided with the projecting jaw *e*, all constructed and arranged to operate substantially as and for the purpose set forth.

2. The sectional terret-ring A, provided with the brace B, and having the jaw D, in combination with the pivoted arm E, spring *f*, and projecting jaw *e*, all constructed and arranged substantially as set forth.

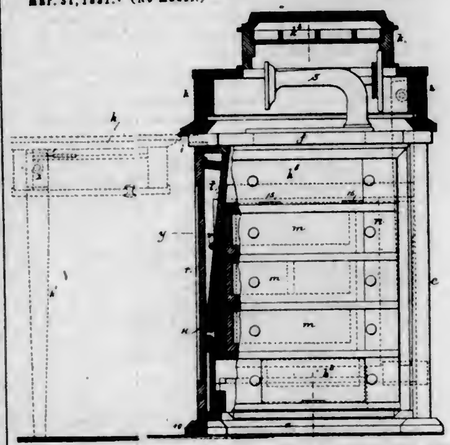
265,700. FLOWER HOLDER AND STAND. JOSEPH PERKINS, San Francisco, Cal. Filed July 25, 1882. (No model.)



Claim.—1. A basket or other receptacle having a reservoir attached to its bottom, and opening therefrom, in combination with a support or stand constructed to sustain the receptacle and conceal the reservoir from view, substantially as herein described.

2. The receptacle or basket A and reservoir or tube B, extending from its bottom, in combination with the support or stand C to support the basket and the sheath D to receive and hide the tube, substantially as herein described.

265,701. CASE FOR SEWING-MACHINES. GUSTAV RANGE, New York, N. Y., assignor to Sophie Range, same place. Filed Mar. 31, 1881. (No model.)



Claim.—1. The combination, with the hinged cabinet-cover *h*, of a pendent leg, *h'*, pivoted to the back of the cover and hanging behind the cabinet when in use and supporting the cover *h* when swung aside from over the bed *f*, substantially as set forth.

2. The combination, in a sewing-machine cabinet, of the reversible cover *h*, hinged to the table, and the removable box *k* above the opening in the cover having a lid, *k'*, and tray k^2, substantially as set forth.

3. The combination, with a cabinet-case, of a door at one side hinged to the back of the case, a leaf hinged to the inside of the door and folding downwardly against the inside of said door, and a bolt between the leaf and the bed of the cabinet-case to retain the same in position when raised up for use, substantially as specified.

4. The combination, with the sewing-machine cabinet and its reversible cover, of a pendent leg pivoted to the back of the cover and a socket, 3, upon the back of the case near the bottom for receiving the lower end of the leg, as set forth.

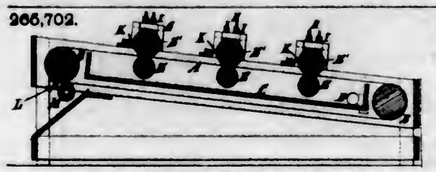
5. The combination, in the cabinet for a sewing-machine, of a frame with a table, a case, *n*, and drawers, the ways 7 and 8 in the lower part of the cabinet, upon which the case *n* rests, and a support, 10, at one end of the case of drawers resting on the floor, whereby the case and drawers can be drawn out at the side of the cabinet-case and from beneath the sewing-machine table, as set forth.

6. The combination, with the table and frame supporting the same, of the case *n*, having drawers, and a foot, 10, resting on the floor, the slideways 7 and 8, in the bottom of the cabinet, and the flap h^2 and hinges 15 to connect the flap to the case *n*, so that the flap may be turned down when the case *n* has been drawn out for increasing the table-room, substantially as specified.

265,702. APPARATUS FOR EXPRESSING MALT EXTRACTS FROM THE HUSKS OF BREWERS' MASH. HENRY R. RANDALL, Brooklyn, N. Y., assignor of one-half to Charles O. Till, same place. Filed Jan. 25, 1882. (No model.)

Claim.—1. In an apparatus for expressing malt extract or

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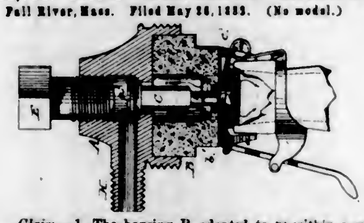


analogous matter, the combination, with a reticulated or foraminous apron provided at the edges with upwardly-projecting ledges or ribs, of a receptacle for liquid, arranged below and extending beyond the edges of said apron, and rollers above the apron for exerting a pressure on the same, and made shorter than the width of the apron, so as to work between and not press upon the ledges or ribs, substantially as specified.

2. In an apparatus for expressing malt extract and analogous matter, the combination, with a reticulated or foraminous apron and rollers which exert a pressure on the substance carried by it, of yielding bearings hung by bolts, whereby they may be adjusted up or down, and on which they may rise and fall automatically, substantially as specified.

3. In an apparatus for expressing malt extract and analogous matter, the combination, with a reticulated or foraminous apron and rollers which exert a pressure on the substance carried by it, of yielding bearings hung by bolts, and blocks of india-rubber interposed between the bearings and housings containing them, substantially as specified.

265,703. BOTTLE-FILLING MACHINE. AUGUSTUS E. RICH, Fall River, Mass. Filed May 26, 1882. (No model.)



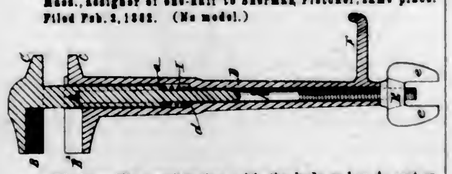
Claim.—1. The housing B, adapted to fit within a suitable cavity in the head of a bottle-filling machine, provided with a conical cavity in its lower portion, and slots *a*, as and for the purpose set forth.

2. The combination, with a head of a bottle-filling machine, of the elastic housing B, nut G, and valve C, provided with lug b^3 as and for the purpose specified.

3. The combination, with a bottle-stopper having an induct opening and a perforated cap, of the housing B and valve C, the latter having a movement within openings in said housing and the head of a bottle-filling machine, as and for the purpose set forth.

4. The combination, with head A, of valve C and bolt E, substantially as and for the purpose set forth.

265,704. CARRIAGE-WRENCH. THOMAS C. RICE, Worcester, Mass., assignor of one-half to Sherman Fletcher, same place. Filed Feb. 3, 1882. (No model.)

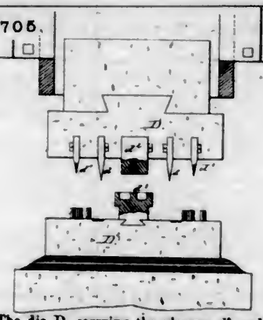


Claim.—The combination, with the body or bar A, cast or formed upon the screw-threaded wrought-iron shank-rod A', and provided with jaws B C, of the hollow sheath D, surrounding said body and shank and carrying the jaws B' C', and having the projecting prong F near its outer end, and the adjusting-nut E, with its sides *e e* or thumb-pieces shaped into a forked wrench, substantially as and for the purposes set forth.

265,705. MACHINERY FOR MANUFACTURING SPRING-MORSESHOES. FREDERICK A. RICE, New York, N. Y. Filed Mar. 11, 1882. (No model.)

Claim.—1. The dies B B', having their surfaces curved and grooved, as shown and described, and provided with the recess *a* for forming the calk of the shoe, substantially as herein set forth.

265,705.



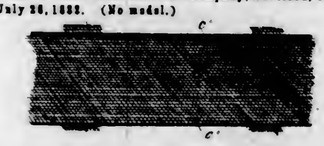
2. The die D, carrying the plunger d^3, and provided with blades d d', in combination with the die D', provided with the recessed block d^2, the recess e', the guide-pins E, and the groove e^2, all constructed to operate substantially as and for the purpose described.

3. The stationary die F, recessed to receive the shoe-blank, in combination with the vertical drop-die F', provided with the ribs d^4, substantially as and for the purpose set forth.

4. In combination with a table provided with the die H, guides J, and formers J', provided with the friction-rollers *j j'*, the plate H', provided with the spring-pin k, substantially as and for the purpose set forth.

5. The die L, recessed to receive only the spring portion of the shoe, in combination with the die L', fitting said recess, and provided with a beveled face, substantially as and for the purpose herein described.

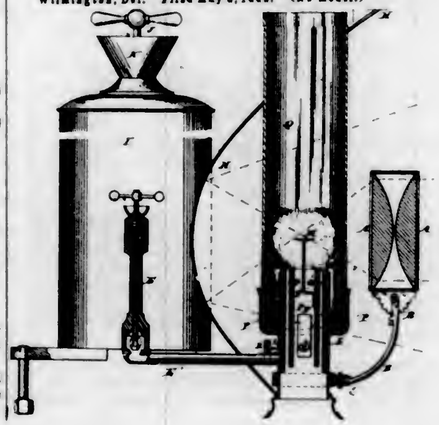
265,706. BED-BOTTOM. ENOCH A. SAWYER, Chester, assignor to the Peerless Wire Mattress Company, Hartford, Conn. Filed July 26, 1882. (No model.)



Claim.—1. In a bed-bottom, in combination, side rails, *a*, continuous curved end rails, *b*, and wire-web mattress *c*, having wings *d*, adapted to be secured to the tangential portions of the end rails, all substantially as described.

2. In a bed-bottom, a wire-web mattress, *c*, having wings woven outside of the side cord, *c'*, and adapted to be fastened to a curved and continuous end rail, whereby the latter is held in shape, all substantially as described.

265,707. LAMP AND LOCOMOTIVE HEAD-LIGHT. ROBERT E. H. SCHUBART, Philadelphia, Pa., and EDWIN T. CARSWELL, Wilmington, Del. Filed May 2, 1882. (No model.)

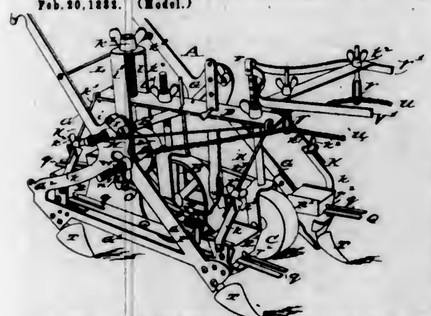


Claim.—1. In combination with a stationary head-light box and lamp L, the lens A, supported on a standard or bracket, B', and provided with a hinge, B, which permits the lens to be deflected so as to throw its face downward, or vice versa, whereby the rays of light from the lamp may be thrown downward or upward in their passage through the lens, substantially as described.

2. In combination with a lamp, L, the lens A, supported on a standard or bracket, B', and provided with a hinge, C, adapted to permit the bracket of the lens to be moved around laterally in either direction, whereby the rays of light in their passage through the lens A can be thrown to either side, substantially as described.

3. In combination with a lamp, L, the lens A, supported on a standard or bracket, B', and provided with a hinge, B, for the purposes described, and the stationary reflector H in the head-light box, substantially as set forth.

265,708. SEED-DRILL. PAUL SIEBENOLD, St. Louis, Mo. Filed Feb. 20, 1882. (Model.)



Claim.—1. The combination of the beam G, the bar E, and the boss h, substantially as described.

2. The combination of the beam G, the plate I, the screw J, the bar E, and the boss h, substantially as described.

3. The combination of the bolt K, the grooved nut k^2, and the holder k^3, substantially as described.

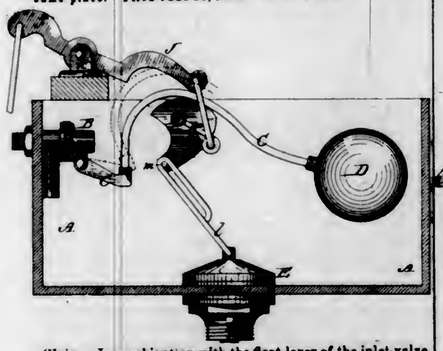
4. The combination of the pulley M, the crank N, the pin n, having the boss n', the pitman O, the upright P, having the boss p, and the slide-bar Q, substantially as described.

5. The combination of the slotted bar Q, the seed-box R, and the pin r^3, substantially as described.

6. The combination of the beams G G^2 and the tie G', substantially as described.

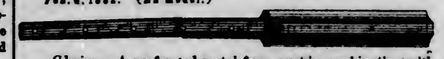
7. The combination of the chains U U, the guides V V, the thills V', the bolts W W, and the beams G G, substantially as described.

265,709. WATER-CLOSET TANK OR CISTERN. SAMUEL F. SHIPPEN, New York, N. Y., assignor to Henry C. Meyer & Co., same place. Filed June 19, 1882. (No model.)



Claim.—In combination with the float-lever of the inlet-valve and the outlet-valve, a cam-like lifter device flexibly connected to the outlet-valve and adapted to act directly on the said lever of the inlet-valve, the construction being such, as described, that said cam-like lifter will come into contact with and hold up the said lever before it begins to operate to effect the lifting of the outlet-valve, all as set forth.

265,710. FENCE-POST. AARON K. STILES, Chicago, Ill. Filed Feb. 4, 1882. (No model.)



Claim.—A perforated metal fence-post in combination with a cement base molded or cast around its lower end, and a series of pins passed transversely through the perforation in the post, so as to project from each side into the cement base, substantially as described.

265,711. KNURLING-TOOL. WILLIAM STOKES, Mansfield, Mass., assignor of two-thirds to Frederick Beardman and Samuel N. Stone, both of same place. Filed Feb. 20, 1882. (No model.)



Claim.—1. The improved knurling-tool above described, having a stock in which one of the arms is separable for the purpose of removing and replacing the roller, substantially as set forth.

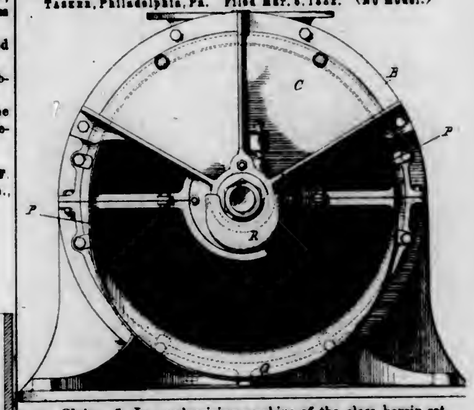
2. A knurling-tool having a movable arm, A, in combination with a locking device for holding the movable arm in position, substantially as described.

265,712. SCREW-DRIVER. JAMES SWAN, Seymour, Conn. Filed Apr. 3, 1882. (No model.)



Claim.—A round-rod screw-driver blade, *a*, having the angular or other than round end c, and the handle *d*, bored longitudinally to receive said blade, and having the upper end of its said bore expanded or widened out downwardly into the body of the handle to form an upwardly-tapering cavity or recess, into which cavity the end c of the blade projects, combined with the permanent metal bushing c^4, cast in the cavity of the bore of the handle and surrounding the end c of the blade, to securely retain the said blade in position in the handle, substantially as shown and described.

265,713. WET-PULVERIZING MACHINE. STEPHEN P. M. TASKER, Philadelphia, Pa. Filed Mar. 6, 1882. (No model.)



Claim.—1. In a pulverizing-machine of the class herein set forth, in combination with a casing containing two revolving disks and a ball carried thereby, screens incasing the sides of the casing, and outwardly and downwardly inclined discharging-chutes, substantially of the character represented and described.

2. In a pulverizing-machine of the class herein set forth, in combination with the disks, peripheral beveled bearing-plates and means for removably attaching the plates to the disks, substantially as and for the purpose specified.

3. In a pulverizing-machine of the class herein set forth, in combination with disks, radial blades, and take-ups or material-returning devices which catch material exterior to the disks and discharge it between the disks, substantially as set forth.

4. In a pulverizing-machine of the class herein set forth, in combination with the sleeve-journals, clutch-lugs or kindred devices, as and for the purpose specified.

5. In a machine of the class herein recited, in combination with sleeve-journals revolving upon and in connection with a driving-shaft, two disks surrounding said shaft and fitted to rock upon the sleeve-journals, a spiral spring surrounding said shaft and abutting between the facing-surfaces of the disks, and clutch devices between the disks and sleeve-journals, operating upon the rear faces of the disks, as and for the purpose specified.

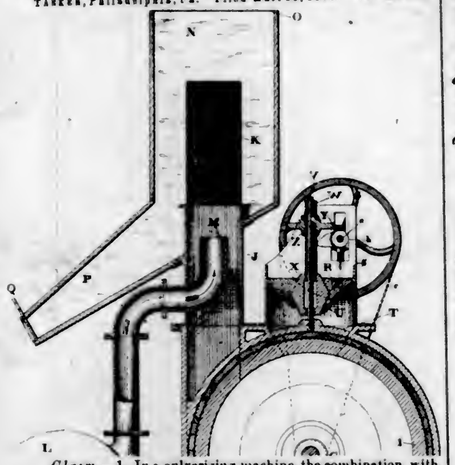
265,714. WET-PULVERIZING MACHINE. STEPHEN P. M. TARKER, Philadelphia, Pa. Filed Mar. 11, 1882. (No model.)



Claim.—1. In a pulverizing-machine of the class herein referred to, in combination with a disk provided with openings around the periphery thereof, an adjusting-plate provided with openings corresponding in peripheral alignment with the openings in the disk, substantially as and for the purpose set forth.

2. In a pulverizing-machine of the class herein referred to, in combination with a disk provided with openings around the periphery thereof, an adjusting-plate provided with openings corresponding in peripheral alignment with the openings in the disk, and means for adjusting the plate with respect to the disk, substantially as and for the purpose set forth.

265,715. DRY-PULVERIZING MACHINE. STEPHEN P. M. TARKER, Philadelphia, Pa. Filed Mar. 15, 1882. (No model.)



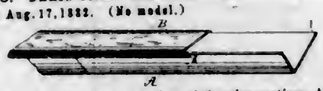
Claim.—1. In a pulverizing-machine, the combination, with an inclosing casing provided with means for pulverizing metalliferous ores and other substances, and an exhausting device adapted to suck the pulverized material from out the casing, consisting of a stack or exhaust-pipe opening into the casing on the one hand and inclosed by a sifting screen or cap on the other, of a blower or kindred device for producing or inducing a current of air, a blow-pipe communicating with the blower and opening within the stack, and a receiver located at the discharging extremity of the stack and inclosing the sifting-screen thereof.

2. In a pulverizing-machine, in combination with a casing provided with a circular ball-track upon the surface of which the pulverizing action takes place, a vertically-erected exhausting-stack communicating with the casing at a point above the lower face or bottom of the ball-track, and inclosed at its upper portion by a sifting screen or cap, and a blow-pipe (through which a current of air is caused to pass) the discharging extremity of which is within the stack between the point at which the stack opens within the casing and the sifting-screen, and is directed toward the screen, the arrangement being such that pulverized material sucked from the casing and blown against the screen, not being of sufficient size to pass through said screen, gravitates to the ball-track, as and for the purposes set forth.

3. In a pulverizing-machine, in combination with a casing provided with a circular ball-track upon the surface of which the pulverizing action takes place, a vertically-erected exhausting-stack communicating with the casing at a point above the lower face or bottom of the ball-track and terminating in a receiving-chamber, a receiving-chamber, and a blow-pipe (through which a current of air is caused to pass) the discharging extremity of which is within the stack between the point at which the stack opens within the casing and the point at which it terminates in a receiving-chamber, and is directed toward said chamber.

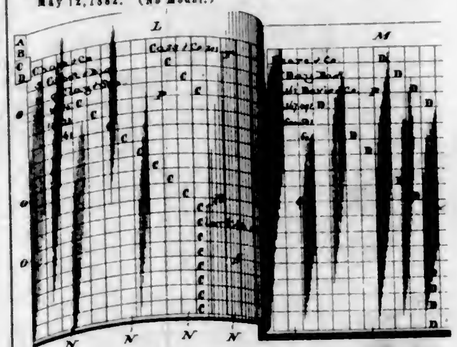
4. In combination with a primary hopper, a conical valve and means for alternately lifting and dropping and revolving said conical valve.

265,716. DRAIN-TILE. JAMES TAYLOR, New Lexington, Ohio. Filed Aug. 17, 1882. (No model.)



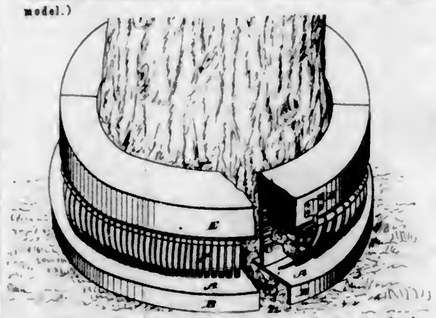
Claim.—A drain-pipe consisting of the pipe-sections A, having turned flanged edges throughout their length, in combination with the pipe-sections B, having the edges throughout their length provided with the interlocking flange *b*, as set forth.

265,717. INDEX. LEWIS R. TREBETTS, St. Louis, Mo. Filed May 12, 1882. (No model.)



Claim.—An index the pages of which have the initials of the names printed diagonally upon the pages, and being ruled to form vertical spaces to enable the reference-number to be entered in columns, respectively, beneath said initials.

265,718. CODDLING-MOTH TRAP AND TREE-PROTECTOR. GEORGE W. THISSELL, Winters, Cal. Filed June 12, 1882. (No model.)



Claim.—1. The table A, formed to surround a tree or shrub, and having the flange B around its periphery to enter the earth, in combination with a chamber, D, upon the inner part of the table, and into which the insects may be received, substantially as herein described.

2. The flanged table A, surrounding a tree or shrub, and having the annular chamber D upon it, in combination with the inclined veil or flexible flap F, fixed to the chamber, and having its free edge resting upon the table, substantially as and for the purpose herein described.

3. A device for protecting trees from insects, consisting of a table, A, surrounding the tree, and having an exterior flange, B, entering the earth, an annular chamber, D, to receive the insects, and a flexible veil or wall, F, beneath or through which the insects may pass, substantially as herein described.

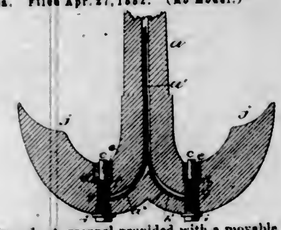
265,719. IRON FENCE. JOHN L. THOMSON, Detroit, Mich., assignor to Eugene T. Barnum, same place. Filed July 29, 1882. (Model.)



Claim.—1. A metallic washer formed with an elongated opening one section of which corresponds with the cross-section of the post or picket, with parallel sides extending from the sides thereof, inclosing a space of less diameter and terminating in an angle fitting the sides of the post or picket, and adapted to slide in notches in the corners of the post or picket, substantially as described.

2. In an iron fence, the combination of the metallic washer D, formed with an opening of the character as described, the notched picket A, stringer B, and washer C, the whole united and secured substantially as described.

265,720. GRAPNEL FOR RAISING TELEGRAPHIC CABLES. SAMUEL TROTT and HERBERT KINGSFORD, Halifax, Nova Scotia, Canada. Filed Apr. 27, 1882. (No model.)



Claim.—1. A grapnel provided with a movable plug extending outward through the fluke or arm of the grapnel, and with an electric contact-plate in connection with a signal, substantially as explained, whereby the engagement of the fluke or arm with a body is caused to press the plug inward and complete the circuit, thereby operating the signal.

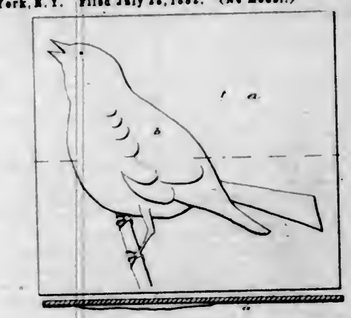
2. The herein-described grapnel, consisting of a body having arms or flukes, one or more of said arms containing an insulated contact-plate in electric connection with a signal, and a yielding or spring-sustained plug held normally out of contact with said plate, but extending outside of the arm, and adapted to be pressed inward by contact with bodies against which the grapnel is drawn, and thereby to complete the circuit and cause the operation of the signal.

3. The herein-described grapnel, consisting of body *a*, insulated conductor *a'*, contact-plate *h*, plug C, having point or needle *f*, and spring *g*, all combined and operating as set forth.

4. In a grapnel substantially such as described and shown, the combination of insulated conductor *a'*, contact-plate *h*, elastic packing *g*, plug C, having point or needle *f*, washer *d*, and tubular threaded plug *e*, all arranged substantially as shown and described.

5. In combination with contact-surface *h* and spring *g*, plug C, having threaded stem or pin *f*, adapted to be screwed in or out to lengthen or shorten the distance between its point and the contact-surface *h*, as explained.

265,721. DECORATIVE TILE. SAVILLION VAN CAMPEN, New York, N. Y. Filed July 28, 1882. (No model.)

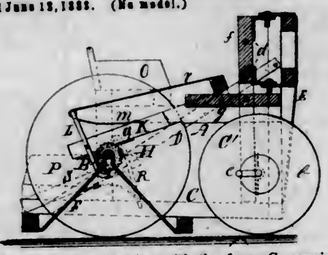


Claim.—1. As a new article of manufacture, a decorative tile made of paper and finished in the manner herein described in imitation of pottery-tiles.

2. The process herein described of making decorative tiles of paper, which consists in first producing designs in relief on a sheet of paper, spreading over the relief-surface a coat of size, and then flooding the surface with a coloring solution, which is allowed to settle thereon in a natural manner, as and for the purpose set forth.

3. The process of manufacturing paper tiles, consisting in producing figures in relief on a sheet of paper, securing the same to a backing of smooth paper, coating the relievo-surface with size, and flowing over it a coloring solution containing size, and then applying a coat of varnish, substantially as set forth.

265,722. VELOCIPEDE. AARON VREELAND, Cedar Grove, N. J. Filed June 13, 1882. (No model.)



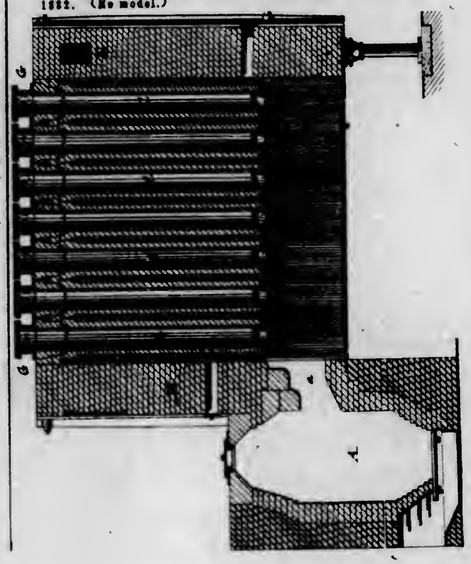
Claim.—1. In combination with the frame C, carrying the wheels A and the ratchet-wheels G H, the double cant-hooks I, operated by the lever K and cross-bar I, substantially as and for the purpose specified.

2. The double cant-hooks I, in combination with the ratchet-wheels G H, cords *r*, and springs *m*, and a suitable lever for operating them, substantially as and for the purpose set forth.

3. In combination with the frame C and wheels A, arranged and operated substantially as described, the ratchet-wheels Q R, cant-hooks T, and levers S, substantially as and for the purpose named.

4. The combination of the double cant-hooks I, operating the driving-wheels A by means of the ratchets G H and levers S in the exercise of hand-power, and the steering-wheel *b*, hung by the double bracket-bearings *d* in the frame *f* to the frame C, said steering-wheel carrying the cranks *e* for the exercise of foot-power, substantially as and for the purpose specified.

265,723. FURNACE FOR BURNING AND REVIVIFYING BONE-BLACK. ADAM WEBER, New York, N. Y. Filed July 15, 1882. (No model.)



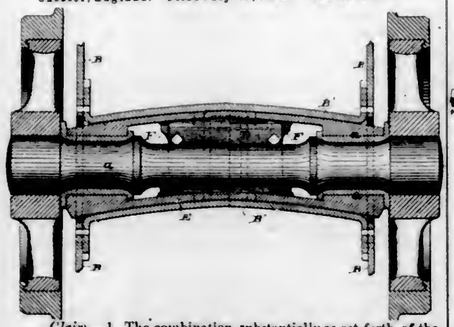
Claim.—1. A bone-black furnace having two or more rows of retorts which are arranged at both sides of the central arched combustion-chamber, a separate gas-generating furnace arranged at the front part of the kiln, two sets of primary air-channels arranged in the side walls of the gas-generating furnace, two sets of secondary air-channels at both sides of the central gas-channel, and air-openings of the uppermost air-channels, through which openings air is admitted to the combustion-chamber and burned with the gas from the gas-generating furnace, substantially as described.

2. The combination of a gas-generating furnace, A, having a series of primary air-channels in each side wall thereof, a combustion-chamber, A', having a central gas-channel, *b*, and openings *b' b'*, and three secondary series of air-channels, $D' D^2 D^3$, at the bottom part thereof, the upper air-channels, D, having lateral discharge-openings $d^3 d^4$, one or more rows of retorts, C, at each side of the combustion-chamber, passages between the retorts, bottom flues *f*, vertical flues *f'* back of the retorts, and horizontal main flues E, leading to the chimney, all substantially as and for the purpose set forth.

3. In a bone-black furnace or kiln, the combination of a central combustion-chamber, A', having a series or row of retorts, C, at each side thereof, said retorts having short abutting side ribs, *s s*, and intermediate draft-passages, longitudinal bottom flues *f'*, vertical abutments *f''*, supported on projecting bracket-tiles *f*, intermediate vertical flues, f^3, extending along the rear walls of the retorts from the bottom flues *f'*, and horizontal main flues E, leading to the chimney, substantially as specified.

4. In a bone-black furnace, the combination of a bone-black retort with a hinged double bottom or trap-door secured by a pivoted transverse center bar, retaining-hook, and fastening-screw, and by a latch device at a point opposite to the hinge, substantially as described.

265,724. AXLE-BOX. FRANCIS W. WEBB, Crewe, County of Chester, England. Filed July 29, 1882. (No model.)



Claim.—1. The combination, substantially as set forth, of the outer boxing or frame, B', rigidly secured to the main frame, the inner laterally-moving boxing carrying the axle, the elastic cushion carried by the outer frame, and the thrust bosses or heads carried by the inner laterally-moving box.

2. The combination, substantially as set forth, of an axle boxing or frame rigidly secured to the main frame, a laterally-moving boxing carrying the axle, and a spring or elastic cushion which receives the lateral thrust of the axle-box in either direction.

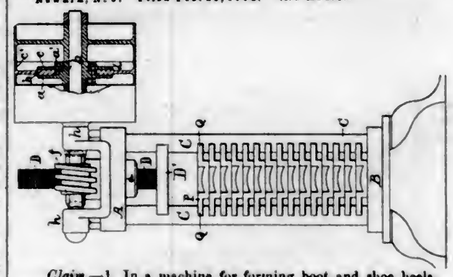
3. The combination, substantially as set forth, of an axle boxing or frame rigidly secured to the main frame, a laterally-movable axle-box carrying the axle, a spring or elastic cushion which receives the side thrust of the moving box in either direction, and the strut-rods which support the frame upon the top of the laterally-moving boxing.

4. The combination, substantially as set forth, of the outer skeleton boxing or frame rigidly bolted to the main frame, the inner laterally-moving box carrying the axle, the nest of springs or elastic cushion carried by the outer frame or boxing, the thrust cross-heads carried by the laterally-moving boxing, and the frame-struts which support the locomotive-frame upon the laterally-moving boxing.

5. The combination, with the locomotive or vehicle frame, of the outer boxing secured thereto, the inner laterally-moving box carrying the axle, and the struts or rods which support the weight of the frame directly upon the inner axle-box, substantially as set forth.

6. The combination, substantially as set forth, of the outer boxing or frame rigidly bolted to the main frame and shaped in the arc of a circle in horizontal section, the correspondingly-shaped axle-box moving laterally within the outer casing, and an elastic cushion which receives the thrust of any sidewise movement of the parts.

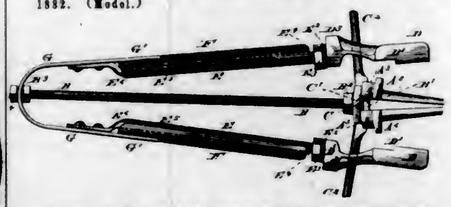
265,725. HEEL-PRESSING MACHINE. DANIEL WHITLOCK, Newark, N. J. Filed Feb. 20, 1882. (No model.)



Claim.—1. In a machine for forming boot and shoe heels, the combination, with pressing mechanism, substantially as described, of dies having a flat surface upon one side and a recess with a convex bottom, *q*, upon the opposite side, all arranged and adapted to operate in forming a series of heels at one operation.

2. The combination, in a screw-press, of a screw, a nut, a worm-wheel to rotate the screw or nut, a worm and shaft arranged to drive the worm-wheel, and a friction-pulley, substantially as described, applied to the shaft to transmit a restricted degree of force, substantially as and for the purpose described.

265,726. TOOL FOR FINISHING THE NECKS AND LIPS OF BOTTLES. ALLAN F. WILSON, Clayton, N. J. Filed Feb. 4, 1882. (Model.)



Claim.—1. In a tool for finishing the lips and mouths of glassware, the combination of grooved non-conducting handles with the ribbed or T-shaped shanks of such instruments, substantially as shown as described.

2. The combination of grooved slow-conducting handles F with the ribbed or T-shaped shanks E and springs G', substantially as shown and described.

3. In a tool for finishing the necks and mouths of glassware, the combination of the spring G with the ribbed shanks E, connecting the jaws therewith, for the purpose of retarding the conduction of heat from the jaws to the spring, substantially as set forth, shown, and described.

4. The core or plug A, diametrically adjustable at its base, in combination with the flanges A^3 and curved plate C', as and for the purpose set forth.

5. The expansible plug A, in combination with the shoulder B', curved plate C', rod B, and nut B^4, arranged to operate substantially as and for the purpose set forth.

6. The expansible plug A, in combination with a longitudinally-adjustable rod B and shouldered jaws D, for varying the thickness of external lips of glassware, substantially as shown and described.

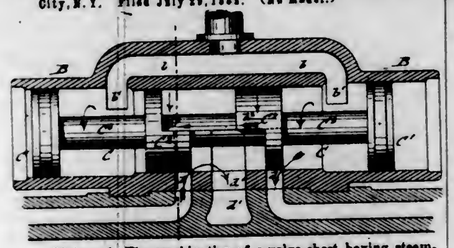
7. The expansible and contractible and longitudinally and diametrically adjustable jaws D, in combination with the shanks E, handles F, and spring G, arranged to operate substantially in the manner set forth and described.

8. The combination of the slotted jaws D with the guiding cross-bar C, arranged to operate substantially in the manner set forth and described.

9. The combination of the longitudinally and diametrically adjustable jaws D, shanks E, handles F, spring G, rod B, nuts B^3 and B^4, guides C, and expansible and contractible plug A, arranged to operate substantially in the manner set forth and described.

10. As an article of manufacture, grooved non-conducting handles F, adapted to fit upon the ribbed shanks of tools for forming the mouth and lips of glassware, substantially as shown and described.

265,727. PISTON-VALVE. EDWARD A. WILDT, Long Island City, N.Y. Filed July 29, 1882. (No model.)



Claim.—1. The combination of a valve-chest having steam-passages, a reciprocating slide-valve having thicker and thinner portions opposite each other, and mechanism whereby simultaneously with the reciprocating motion a shifting motion is imparted to the valve, so as to gradually enlarge the exhaust-opening for the free exit of the exhaust-steam, substantially as set forth.

2. A piston-valve having recessed collars, the thick and thin portions arranged relatively to each other, as shown, at opposite sides of the steam and exhaust cavity, substantially as described.

3. The combination of a valve chest or cylinder, B, having steam-supply passages *b* and *d*, with a reciprocating piston-valve, C, having recessed collars C^2, the thicker halves of which are opposite the thinner halves, and an intermediate annular exhaust-cavity, substantially as specified.

4. The combination, with a valve-chest, B, having steam-passages *b d*, of a reciprocating piston-valve, C, having packed end pistons, C', and intermediate collars, C^2, with thicker halves opposite their thinner halves, and with mechanism whereby a rotary shifting motion is imparted to the piston-valve simultaneously with its reciprocating motion, so as to increase the area of the exhaust-passage, substantially as set forth.

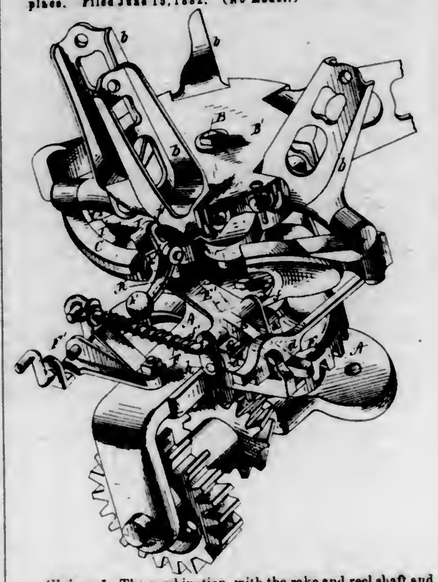
265,728. HARVESTER-RAKE. WILLIAM ARSON WOOD, Youngstown, Ohio, assignor to Frank Wood, same place. Filed Mar. 20, 1882. (No model.)



Claim.—1. The adjustable tripping-lever connected by a horizontal pivot with a vertical rock-shaft, in combination with the rake cam-switch and its latch, arranged and operating substantially as described.

2. A tripping-lever for releasing the cam-switch latch, pivoted to a rock-shaft, in combination with mechanism for rocking said lever out of the path of the tripping devices, adapting it to be controlled by the driver in his seat on the machine, substantially as described.

265,729. RAKE AND REEL FOR HARVESTERS. WILLIAM ARSON WOOD, Youngstown, Ohio, assignor to Frank Wood, same place. Filed June 15, 1882. (No model.)



Claim.—1. The combination, with the rake and reel shaft and a cam and cam-switch for controlling the path of the arms thereof, of a series of tripping-gears of different diameters, adjustable around and in mesh with an actuating-gear on said shaft, and a tripping-lever arranged and operating substantially as described.

2. The gear-plate provided with gears of different diameters, adjustable around and in mesh with an actuating-gear on the rake-shaft, and each provided with a tripping pin or spur, in combination with the tripping-lever for releasing the cam-switch latch, substantially as described.

3. The tripping-lever for releasing the cam-switch latch connected by a horizontal pivot with an upright horizontally-pivoted and vertically-swinging support, whereby said tripping-lever is adapted to swing down out of the path of the tripping-spurs actuating it, substantially as described.

4. The combination, with the cam-switch and its retaining-latch, of the tripping-lever for releasing said latch, the adjustable tripping-gears for automatically actuating said lever, the swinging yoke or support in which said lever is pivoted, and mechanism controlled by the attendant in his seat on the machine for removing said lever out of the path of its actuating devices, substantially as described.

5. The combination, with a combined reel and rake, of the adjustable tripping-gear plate with its retaining pin or latch and the lever for releasing said pin and adjusting the gear-plate, substantially as described.

265,730. LEAD AND CRAYON HOLDER. PHILLIPS ABBOTT and CHARLES C. PARSONS, Brooklyn, assignors to Joseph Rockendorfer, New York, N. Y. Filed May 9, 1882. (No model.)



Claim.—1. The combination, with the lead clamp or grasping device of a lead or crayon holder, of means, substantially as described, whereby said clamp or grasping device, at or near the conclusion of its movement in the direction necessary to release the lead, is caused to again close sufficiently to intercept or stop the lead, substantially as hereinbefore set forth.

2. The combination, with the sheath or case and the longitudinally-movable lead-grasping device, of means, substantially as hereinbefore described, whereby the lead-grasping device is operated, at or near the conclusion of its forward movement, to close sufficiently to intercept the lead at a predetermined distance beyond the tip or end of the sheath, substantially as and for the purpose set forth.

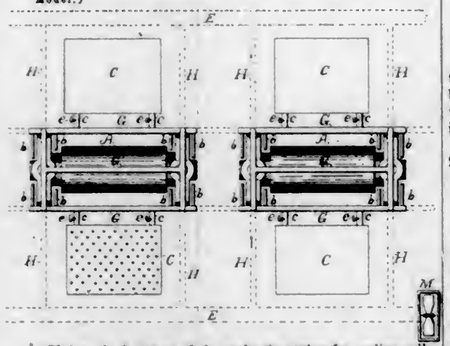
3. The combination, with the sheath or case, the longitudinally-movable lead-grasping device, and means, substantially as described, whereby the lead-grasping device is caused, at or near the conclusion of its forward movement, to close sufficiently to intercept the lead, of a lead detent or retaining device operated to release its hold on the lead at the time and in the manner substantially as hereinbefore set forth.

4. The combination of the sheath or case and the longitudinally-movable expanding lead-grasping jaws, provided with two sets of swells or inclines, arranged and adapted to operate in connection with the sheath, substantially as and for the purpose hereinbefore set forth.

5. The combination, substantially as described, of the sheath, the longitudinally-movable expanding lead-grasping jaws, provided with two sets of swells or inclines, means, substantially as described, for moving said jaws, a lead detent or retaining device carried by the sheath, and a cam or rise carried by the jaws or some part moving in unison therewith and operating to lift the detent from the lead at the time and in the manner substantially as set forth.

6. The combination, with the sheath, the longitudinally-movable lead-tube, the pressure-cap, and the retracting-spring, of the expanding lead-grasping jaws provided with two sets of inclines, the lead detent or retaining device carried by the sheath, and the detent-operating cam or rise formed on or carried by the jaws or the lead-tube, substantially as and for the purposes hereinbefore set forth.

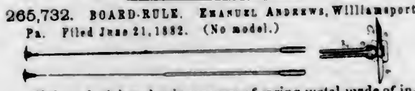
265,731. DEVICE FOR COOLING ROLLS OF ROLLING-MILLS. JACOB ALTMEYER, Benwood, W. Va. Filed May 3, 1882. (No model.)



Claim.—1. A system of air-conducting tubes for cooling rolls in rolling-mills, consisting substantially of a line of perforated air-pipes running parallel with each roll, adapted to discharge a stream of air upon their surface, a series of branch supply-pipes connecting the same with a service-pipe running parallel with the train of rolls, and a fan or blower adapted to drive the air through the pipes, all combined and operated substantially as herein shown.

2. The combination, with the rolls A and housing B, of the perforated pipes G G, fitted with nozzles *b b*, riser *k*, supply-pipes H H, service-pipe E, and fan or blower M, substantially as herein shown, and for the purpose set forth.

265,732. BOARD-RULE. EMANUEL ANDREWS, Williamsport, Pa. Filed June 21, 1882. (No model.)



Claim.—1. A board-rule measure of spring metal made of increasing flexibility toward the head, substantially as described.

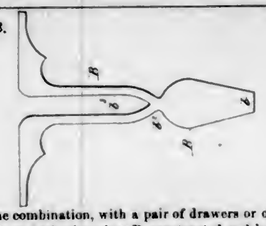
2. A board-rule measure of spring metal, having a head with cutting-edges secured to the same by a clamp which locks the head on both sides, and also serves to secure it to the outer end of the board-rule, substantially as described.

265,733. DRAWERS. ROBERT H. ANDERSON, Richmond, Va. Filed June 24, 1882. (No model.)

Claim.—1. A re-enforcing piece, B, for garments such as described, consisting of a seaf part having the contracted portion or neck b^3 and the two diverging tongues b^2, and adapted to be applied as described.

2. A re-enforcing piece constructed to re-enforce the seat of a pair of drawers or other like garment and constitute the facing of the front opening and a portion of the waistband, substantially as and for the purpose specified.

265,733.



3. The combination, with a pair of drawers or other like garment, of the re-enforcing piece B, constructed and having the configuration described and shown, and applied to such garment, substantially as specified.

265,734. WASHING-MACHINE. COLEMAN BARKER, Woodburn, Iowa. Filed July 5, 1882. (No model.)



Claim.—The herein-described washing-machine, consisting of the tub or box A, removable corrugated or ribbed and false slatted bottom B, removable half-sections C C, having semicircular and vertical corrugated surfaces *c c*, beaters *d*, and operating mechanism, arranged as shown and specified.

265,735. PUTTING UP DRIED FISH. JAMES H. BAXTER, Portland, Me., assignor to himself and Charles A. Dyer and David L. Fernald, both of same place. Filed May 31, 1882. (Specimens.)



Claim.—1. A package of boneless fish bound at intervals with strings and incased in wrapping-papers, one of which wrappers is marked to indicate where said package may be cut across to separate it into divisions of one pound each, or of any other unit of weight.

2. A package of boneless fish pressed into a solid mass of uniform size throughout its length and incased in a wrapper which is marked into equal divisions indicating where the package may be cut across to separate it into multiples of the whole package, as one-half, one-third, one-fourth, &c., as shown and described.

265,736. HYDRAULIC MAIN. WILLIAM R. BEAL, New York, N. Y. Filed July 24, 1882. (No model.)

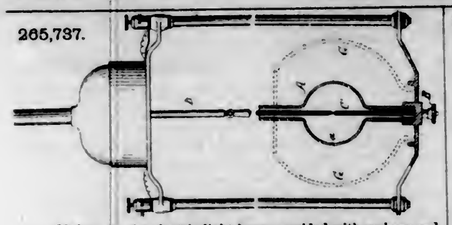


Claim.—1. A hydraulic main provided with the dip-pipes D and with two communicating chambers, *a b*, the chamber *a* receiving the dip-pipes D and the chamber *b* having a detachable cover and fastening devices, and communicating with the chamber *a* opposite each dip-pipe through an opening at the bottom of the chamber *a* and below the water-level, as set forth.

2. The hydraulic main having a chamber, *a*, and dip-pipes, and a supplemental chamber, *b*, provided with a removable cover, in combination with a stand-pipe, any suitable connections communicating with the chamber *b*, and an inflow water-pipe, F, connecting with the chamber *a*, substantially as set forth.

265,737. ELECTRIC LAMP. GEORGE W. BRADDLEE, Brooklyn, N. Y., assignor to William P. Jubbins, East Orange, N. J. Filed June 15, 1881. (No model.)

265,737.

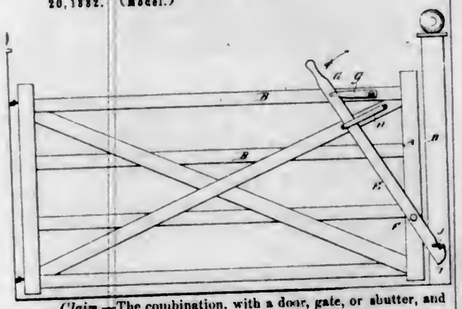


Claim.—1. An electric-light lamp provided with carbons and carbon-holders, in combination with a globe or inclosure having one end closed, and at the other end a contracted opening through which one of the carbons freely passes, substantially as and for the purpose set forth.

2. The combination of the carbon C of an electric lamp with a tube, *h*, of carbon, and a pencil, *i*, within said carbon tube, as and for the purpose described.

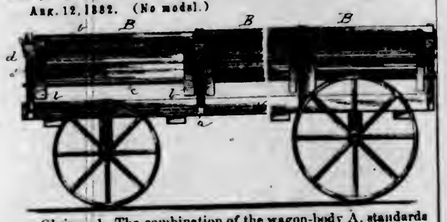
3. The combination of the carbon points of an electric lamp and globe, A, with the carbon-holder D, having a stop, *m*, adjustably secured thereto, and adapted to rest on and be supported by the top of the globe, as and for the purpose specified.

265,738. GATE-LATCH. ALFRED C. BELT, Anllville, Mo., assignor to himself and John P. Horr, same place. Filed Apr. 20, 1882. (Model.)



Claim.—The combination, with a door, gate, or shutter, and a stud or catch, J, affixed to the gate-post or other support, of the gravity-lever E G, arranged to hang obliquely to the front edge of the gate, door, or shutter, its shorter arm disposed below its fulcrum and its longer arm above that point and engaged by a spring-catch, *g*, while its lower end has a notch or beak to engage the catch or stud J, substantially as and for the purpose set forth.

265,739. WAGON. LEWIS B. BERELY, Waterloo, Iowa. Filed Apr. 12, 1882. (No model.)



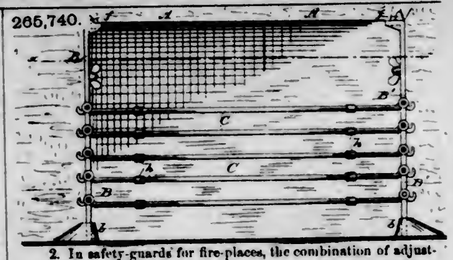
Claim.—1. The combination of the wagon-body A, standards *a*, adjustable sections B, and the guide-rods *d*, provided with a series of holes, whereby the sections B are made adjustable between the standards *a*, substantially as shown and described.

2. The combination, with the wagon having the removable side sections B, of the hoppers or boxes D, adapted to be placed on the wagon bed with the base-beams *e* rested down on the side bars A, and provided with the hinged bottom *e'*, and the elevating-rope *f*, substantially as shown and described.

265,740. ADJUSTABLE GUARD FOR FIRE-PLACES. ELISHA BETTS, Lombardy Grove, Va. Filed Mar. 25, 1882. (No model.)

Claim.—1. The combination, in the safety-guard herein described, of the adjustable supports B B' and means, as shown, for clamping them in position, with the adjustable guard-rods C and supporting-pins *g*, all constructed and arranged substantially as and for the purpose set forth.

265,740.

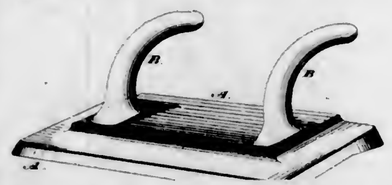


2. In safety-guards for fire-places, the combination of adjustable supports B B' with adjustable guard-rods C, substantially as shown, and for the purpose described.

3. In safety-guards for fire-places, the supports B B', having extensions *a* for vertical adjustment, and the clamps *c* for lateral adjustment, arranged substantially as shown, and for the purpose specified.

4. In safety-guards for fire-places, the guard-rods C, with suitable means for adjustment, and provided with a hole at one end and a hook at the other, so as to be lifted off the supporting-pin at one side, substantially as shown and specified.

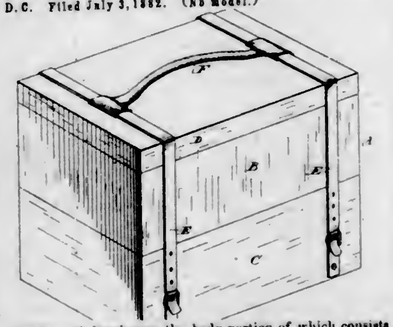
265,741. CARPET-STRETCHER. JABE A. BIDWELL, Plain City, Ohio. Filed Mar. 20, 1882. (No model.)



Claim.—1. As a means for stretching carpets, a block of metal or stone having a straight front edge, and provided with handles whereby it may be moved over a carpet and caused at its said front edge to engage with and carry said carpet in the same direction, substantially as and for the purpose specified.

2. The block A, provided with the handles B, and having its lower face made concave from front to rear, substantially as and for the purpose shown.

265,742. LUNCH-BASKET. JOHN W. BOTELER, Washington, D.C. Filed July 3, 1882. (No model.)

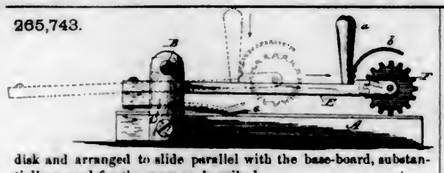


Claim.—A lunch-case the body portion of which consists of two or more trays adapted to fit into or upon each other, and provided with suitable compartments for dishes, napkins, &c., a removable lid or cover, D, fastening-straps E E, attached to the bottom tray, and the handle F, secured to the straps, all constructed and adapted to operate as set forth.

265,743. PAPER-PERFORATOR. JAMES B. BRAY, Waverly, N. Y. Filed Jan. 21, 1882. (No model.)

Claim.—1. The combination, with a base-board and a horizontal rod held in supports above the same, of a block or frame hung upon said rod and having a guide in its lower portion arranged at right angles to the said rod, and a longitudinally-sliding bar or shank fitting in said guide and carrying the perforating-

265,743.

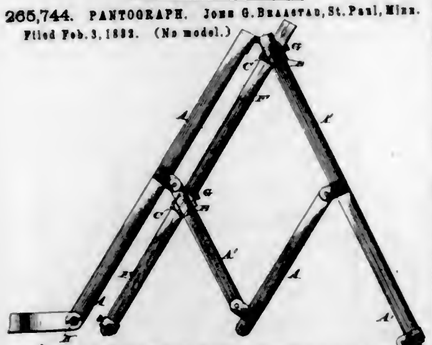


disk and arranged to slide parallel with the base-board, substantially as and for the purpose described.

2. The combination, with a base-board and a horizontal screw-threaded rod held in bearings above the same, of an interiorly screw-threaded block or frame hung upon said rod and having a guide in its lower portion at right angles to the rod, and a bar or shank arranged to slide in said guide and carrying the perforating-disk, substantially as and for the purpose described.

3. The combination, with a base-board and a horizontal rod held in supports above the same, of a block or frame hung upon said rod and having a guide at right angles to the said rod, a bar or shank sliding in said guides and carrying the perforating-disk, and a foot or clamp attached to the block or frame and adapted to hold the paper while the perforating-disk is being drawn out, substantially as shown and described.

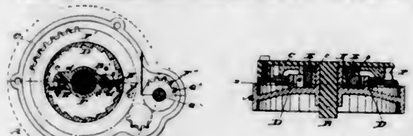
265,744. PANTOGRAPH. JOHN G. BRAASTAD, St. Paul, Minn. Filed Feb. 3, 1882. (No model.)



Claim.—1. The clamp K, having duplicate recesses, as shown, the lower one adapted to receive the edge of the table and the other the arm A of the pantograph, combined with said pantograph and with set-screws for adjustably securing the clamp to the table or the pantograph loosely to the clamp, as set forth.

2. The combination of the bars A A and A' A', pivoted together, as shown, the sliding bar F, slides B, and clamp K, to which the frame A is pivoted, all constructed to serve as and for the purposes specified.

265,745. PAWL-AND-RATCHET MECHANISM. MATHIAS BRAUN, Philadelphia, Pa. Filed Dec. 30, 1881. (No model.)

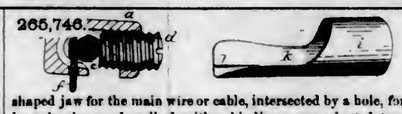


Claim.—1. The pawl consisting of the tooth *a* and journal *b*, in combination with the box *d*, formed with an opening, *e*, for the journal and cut-away portion *e* for the tooth, the shoulders *e' e'* of said portion *e* being at or about a right angle to each other, substantially as and for the purpose set forth.

2. The hub of the gear-wheel, having a box, *d*, with an opening *c*, and cut-away portion *e*, leaving shoulders *e' e'* at or about a right angle to each other, and the L-shaped pawl E, formed of a tooth, *a*, and journal *b*, the latter being continued beyond the side of said tooth, substantially as and for the purpose set forth.

265,746. CABLE-COUPLING. ARTHUR W. BRENTNALL, London, County of Middlesex, England. Filed Mar. 24, 1882. (No model.) Patented in England Nov. 29, 1881, No. 5,236; in France Dec. 30, 1881, No. 146,614; in Germany Jan. 7, 1882, and in Belgium Feb. 25, 1882, No. 57,167.

Claim.—1. In a coupling for connecting a branch to a main wire or cable for electrical purposes, the combination of a hooked



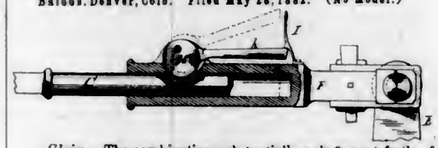
shaped jaw for the main wire or cable, intersected by a hole, for the branch wire, as described, with a binding-screw adapted to press the main wire into the hollow of the jaw and into forcible contact with the branch wire, substantially as herein shown and described.

2. A coupling for connecting a branch to a main wire or cable, constructed of a stud, *a*, having a hooked-shaped jaw, *b*, a hole, *c*, and a binding-screw, *d*, combined for use substantially as herein specified and shown.

3. The combination, with the coupling herein described, and with the branch wire and cable held therein, as described, of the insulating-sheath *g* and the fusible-wire connection A, applied substantially as and for the purpose set forth.

4. The combination, with a coupling constructed of a stud with hooked jaw and hole, and a binding-screw for connecting a branch to a main wire or cable, of an insulating-sheath formed of a tube closed at one end and provided with an extension or tab at the other and applied to the coupling, substantially as herein described and shown.

265,747. STOP-MOTION FOR STEAM-ENGINES. GEORGE W. BRIGGS, Denver, Colo. Filed May 26, 1882. (No model.)



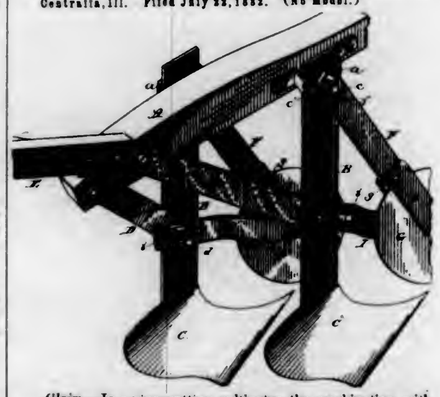
Claim.—The combination, substantially as before set forth, of a reciprocating rod provided with a depression or notch, a sleeve or socket adapted to transmit the motion of such rod, and a cam pivoted to the sleeve and adapted to enter the depression in the rod through a hole in the sleeve for the purpose of locking the rod to the sleeve at a determinate point.

265,748. COMBINED PARER AND CORER. WM. E. BROCK, Dunellen, N. J. Filed June 24, 1882. (No model.)



Claim.—The combined parer and corer having a tapered hollow handle terminating in an oblique-pointed blade having a slot with a separate cutting-edge, substantially as set forth.

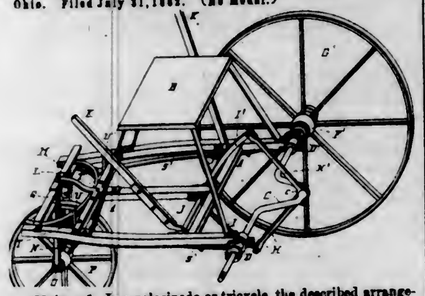
265,749. PLOW. GABRIEL L. BRUNTON and JULIUS BRUNTON, Centralia, Ill. Filed July 22, 1882. (No model.)



Claim.—In a vine-cutting cultivator, the combination, with the beam, of the plow-standards B, braced rearwardly to the beam, the colters G, arranged in front of the plows, the slotted yokes F, and the slotted braces I, pivotally secured to the axle of the colter and connected with the standard by the bolt which secures the handle-brace thereto, substantially as set forth.

265,750. WITHDRAWN.

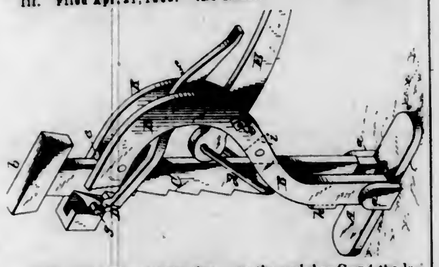
265,751. VELOCIPEDE. HENRY C. BUDDENBERG, Cincinnati, Ohio. Filed July 31, 1882. (No model.)



Claim.—1. In a velocipede or tricycle, the described arrangement of crank-axle C c, links H H', armed shafts I J 1' J', and levers or handles K K', for the purpose set forth.

2. The latch-formed levers S S', combined at their front ends with the pilot-wheel stops V V' and at their rear ends with spring-clutches D E D' E' of the drive-wheels, as and for the purposes set forth.

265,752. WAGON-JACK. MORTIMER CAHILL, Jacksonville, Ill. Filed Apr. 21, 1882. (No model.)

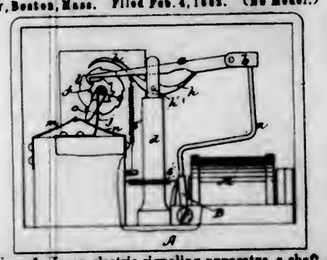


Claim.—1. The combination, with the rack-bar C and the lever E and link *d*, of the standards B, formed from a single piece of metal and bent in the form shown and described, substantially as and for the purpose specified.

2. A lifting-jack consisting of the base-plate A, upright curved standards B, and cross-headed rack-bar C, operated by means of the link *d* and lever E, said rack-bar being held at any desired elevation by means of the weighted catch D, substantially as shown and described.

3. The combination, with the upright curved standards B, constructed substantially as described, and the cross-headed rack-bar C, of the lever E, link *d*, weighted catch D, base-plate A, having lugs *a*, and the guide-brace pieces A *i*, all arranged to operate substantially as and for the purpose set forth.

265,753. ELECTRIC SIGNALING APPARATUS. JAMES H. CARY, Boston, Mass. Filed Feb. 4, 1882. (No model.)



Claim.—1. In an electric signaling apparatus, a shaft carrying a circuit-breaker and a ratchet, an electro-magnet having a neutral armature provided with a device for rotating said shaft through its ratchet step by step, a detent adapted to engage with the ratchet and prevent forward rotation of the shaft, and automatic devices whereby the detent is intermittently operated and each forward step or rotation of the shaft is limited, as set forth.

2. The combination of the shaft having the circuit-breaker, the oppositely-toothed ratchets *f l*, the reciprocating lever *c*, actuated by the armature of the electro-magnet, and provided with a cam-surface, and the pivoted lever A, operated by said cam-surface, and serving as an automatic detent to limit the step-by-step rotations of the shaft, as set forth.

265,754. SAFETY BLOCK AND SIGNAL SYSTEM FOR RAILWAYS. JOHN CHANDLER, Brooklyn, N. Y. Filed Apr. 1, 1882. (No model.)

Brief.—A safety block and signal system consisting of safety-sidings normally set to the main line, whereby all trains are compelled to enter said sidings in the absence of the switchman, who is automatically signaled by the approaching train. When entering the siding the brakes are applied through a loop on brake-rope engaging a fixed hook on siding. Spring clamp-bars also engage the wheel-flanges to check speed of train.

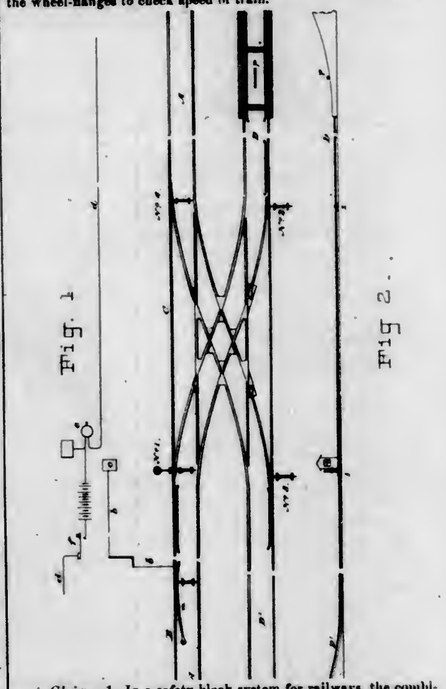


Fig. 1.

Fig. 2.

Claim.—1. In a safety block system for railways, the combination, with the main track, of a series of safety-sidings connected with the main tracks by self-closing switches closed normally to the main track and open to the safety-siding, and the said switches, substantially as shown, whereby the services of switchmen are rendered necessary to keep the trains on the main track, for the purposes specified.

2. In a safety block and signal system for railways, the combination, with the main track, of a series of safety-sidings connected with the main track by self-closing switches closed normally to the main track and open to the sidings, the said switches and signal mechanisms to be actuated by the wheel-flange of the locomotive to warn the switchman of the approach of a train, all arranged substantially as and for the purposes set forth.

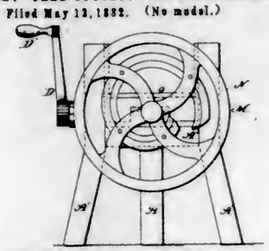
3. In a safety block and signal system for railways, the combination, with the main track, of the siding D, provided with the pressure or clamping rails E E, the self-closing switch No. 1, closed normally to the main track and open to the siding, the lever *a*, cord *b*, and signal *c*, all constructed and arranged to operate substantially as set forth.

4. As a means for checking the momentum of a train on a safety-siding, the clamping-rails E, arranged at the inside of the track-rails and kept normally and elastically pressed toward the latter, as set forth, whereby the flanges on the wheels of the locomotive will be frictionally impeded, substantially as set forth.

5. The combination, with the clamping-rails E and the track-rails of the sidings, of the guard-rails F, all constructed and arranged to operate substantially as set forth.

6. As a means of automatically setting the air-brakes on a train, the rigidly-fixed hook on the safety-siding, arranged to catch a loop suspended from the valve or valve-cord of the air-brake, substantially as set forth.

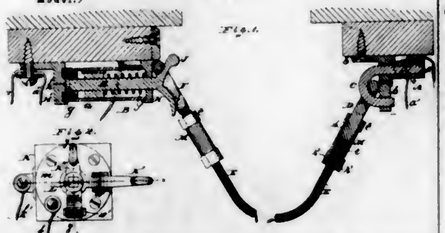
265,755. FEED-CUTTER. CHARLES CHRISTIAN, Knoxville, Tenn. Filed May 13, 1882. (No model.)



Claim.—1. In a feed-cutter, a feed-shaft having disks keyed thereon and feed-rakes journaled in the disks, for the purpose set forth.

2. In a feed-cutter, a feed-shaft having disks with lugs on their inner faces and feed-rakes journaled in the disks, for the purpose set forth.

265,756. ELECTRIC SIGNAL FOR RAILWAY-TRAINS. JEREMIAH P. CLARK, Philadelphia, Pa. Filed Jan. 7, 1882. (No model.)



Claim.—1. In an electric signaling apparatus for railway-trains, consisting of an open metallic circuit, wires, and an interrupting bell-magnet, a weather and dirt proof coupling-fixture consisting of the bracket *b*, the bent link C, spring *c*, and the inclosing box *d*, one eye of the coupling-cord being permanently fixed to the link C and forming a bright metallic connection therewith, the two limbs of the link passing through said bracket *b* and the box *d* inclosing the long limb of the link and said spring *c*, substantially as and for the purpose set forth.

2. In an electric signaling apparatus for railway-trains, the cylinder G, the bracket H, the bracket H', and the sliding stem *s* with the hook J, in combination with the coupling-cord having an eye, F, said eye being removably fitted to said hook J, and bearing against the bracket H, substantially as and for the purpose set forth.

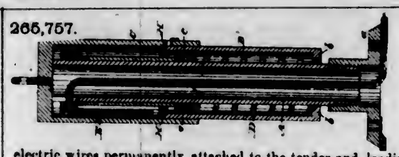
3. In an electric signaling apparatus for railway-trains, the coupling-cord consisting of wires with collars *r* encircling the ends thereof, the inclosing sleeves M, with internal shoulders, *r'*, nuts *t*, and the eyes D F, the stems of the eyes entering the sleeves M and bearing against the wires whose ends are held by the aforesaid collars *r*, which latter abut against the described shoulders *r'*, substantially as and for the purpose set forth.

4. In an electric signaling apparatus, a key consisting of two or more levers and a circuit-closing stem common to said levers, substantially as and for the purpose set forth.

5. The sliding stem L, in combination with the loosely-fulcrumed key K'', which is connected to said stem, whereby the key may be pulled out or down, substantially as and for the purpose set forth.

265,757. ELECTRIC SIGNAL FOR RAILWAY-TRAINS. JEREMIAH P. CLARK, Philadelphia, Pa. Filed Jan. 7, 1882. (No model.)

Claim.—1. As an improvement in electric signals for railway-trains, the fixture connected to the tender, and provided with



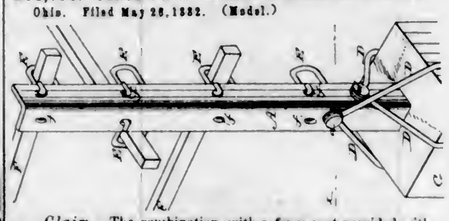
electric wires permanently attached to the tender and leading to the engine, said fixture being provided with means of attachment with and adapted to be operated by the ordinary bell-cord of the train, as set forth.

2. The combination of the stand, inclosing cylinder movable thereon, and circuit-forming devices, said cylinder being closed at top, and having a base which encircles the stand and closes the space between said stand and the bottom of the cylinder, substantially as and for the purpose set forth.

3. The stand, in combination with the spring or tongue and the exterior cylinder formed of two parts, B' C, of different diameters, substantially as and for the purpose set forth.

4. The stand A and the spring-tongue E, in combination with the exterior cylinder formed of two parts, B' C, detachably connected, substantially as and for the purpose set forth.

265,758. FENCE-POST. LORENZO D. CLEMENTS, Tallmadge, Ohio. Filed May 26, 1882. (Model.)



Claim.—The combination, with a fence-post provided with a series of openings along its edge or edges, of the loops E, having one of their arms pivoted to the post and adapted to receive and hold the rails by the weight of the same, substantially as shown and described.

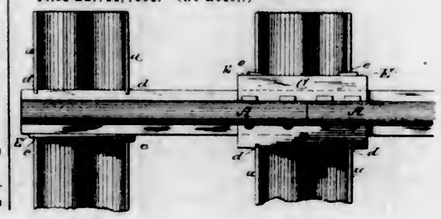
265,759. COMBINATION-GARMENT. JOSEPH W. CONGDON, Paterson, N. J. Filed Apr. 12, 1882. (No model.)



Claim.—1. The combination-garment of shirt or blouse, cut open at the front, and provided with fly *f*, lacing-cord *e*, and waistband *c*, substantially as shown and described.

2. The combination-garment of shirt and blouse, cut open at the front, and provided with fly *f*, lacing-cord *e*, waistband *c d*, and pocket *g*, substantially as herein shown and described.

265,760. RAILROAD-TIE. MOSES I. CORTRIGHT, Port Byron, N. Y., assignor of one-half to J. Herschel Wothey, same place. Filed Mar. 22, 1882. (No model.)



Brief.—Corrugated cross-ties have their outer upturned edges cut away to form seats. Beveled overhanging shoulders are formed in said upturned edges on one side of said seats, while on the opposite are perpendicular shoulders. The rails are secured by means of wedges and fish-plates provided with notches.

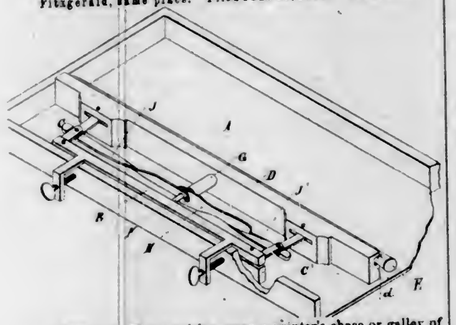
Claim.—The combination, with the rails A and fish-plates B C, having notches *f*, of the corrugated cross-ties D, having their outer upturned edges cut away to form seats *c*, beveled overhanging shoulders *d*, and the perpendicular shoulders *e*, and the wedges E, for securing the rails to the ties, substantially as and for the purpose set forth.

265,761. SAW-CLAMP. THOMAS CRISPIN, Detroit, Mich. Filed Apr. 15, 1882. (No model.)



Claim.—The combination of the frame having the two standards E I, presser-bar D, adjustable back and forth, and having the ends B H, and the pivotal bolt, substantially as shown.

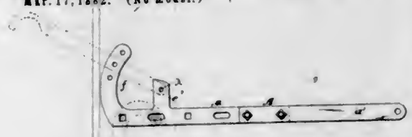
265,762. PRINTER'S LOCKING-UP DEVICE. BENJAMIN F. CURTIS, Cincinnati, Ohio, assignor of one-half to Robert C. Fitzgerald, same place. Filed June 26, 1882. (No model.)



Claim.—1. The provision upon a printer's chase or galley of a locking-bar or cheek, D, having groove *d*, which contains a rubber gasket, E, for the purpose set forth.

2. As a new article of manufacture, the attachment for printers' chases and galleys, consisting of clamp B, toggles C C', lock-bar D, elastic fillet E, lever H, rods J J', and pivot F G, substantially as set forth.

265,763. PLOW. WM. J. DAVIDSON, Big Spring, Va. Filed Mar. 17, 1882. (No model.)

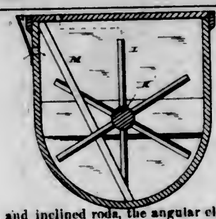


Claim.—1. The combination of the divided plow-beam having the straight sections overlapping and secured, and one or more adjustable brackets and standards secured to each section, as specified.

2. The beam *a a'*, having the turned-up end *f* and the lug or projection *e*, in combination with the handles and the adjustable brackets and standards, substantially as shown and described.

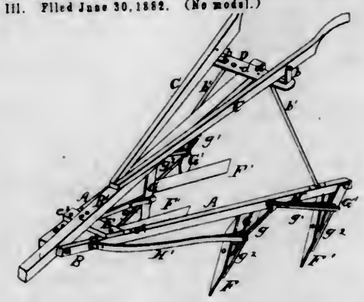
265,764. CHURN. LEVI DAVIS, Windsor, Vt. Filed June 14, 1882. (No model.)

Claim.—In combination with the churn-vessel and its rotary



shaft, dashers, and inclined rods, the angular chamber communicating with the upper part of the vessel by suitable apertures, whereby air may be admitted to the vessel, the vessel charged with cream, and the discharge of the cream prevented, substantially as set forth.

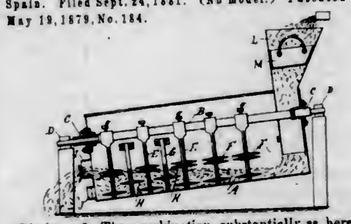
265,765. CULTIVATOR. JAMES H. D'LAMATTER, Earlville, Ill. Filed June 30, 1882. (No model.)



Claim.—1 The combination of the frame A and inclined central draft-beam, B', pivoted together and relatively-adjustable with the cross-bar, D, and supporting standards or braces *b' b'*, substantially as described and shown.

2. The movable and adjustable cross-bar E and braces *b' b'*, in combination with the connected and relatively-adjustable frame A A and draft-beam B', substantially as described.

265,766. ORE-WASHER. ALONZO MESIA DE LA CERDA, Madrid, Spain. Filed Sept. 24, 1881. (No model.) Patented in Spain May 19, 1879, No. 184.



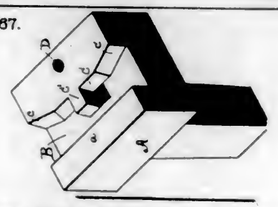
Claim.—1. The combination, substantially as hereinbefore described, of the longitudinally-inclined cradle having two openings at the lower end thereof—one next to the bottom for discharging the ore and the other above the bottom for discharging the sand and water—the fixed shaft extending longitudinally through the cradle and having the latter arranged to rock thereon, and the ore-agitators fixed to the cradle and shaft, respectively.

2. The combination, substantially as hereinbefore set forth, of the longitudinally-inclined cradle having two openings at the lower end thereof—one next to the bottom for discharging the ore and the other above the bottom for discharging the sand and water—the fixed shaft extending longitudinally through the cradle and having the latter arranged to rock thereon, the ore-agitators fixed to the cradle and shaft, respectively, and the bifurcated hopper extending into the cradle, at the upper end thereof, and straddling the shaft.

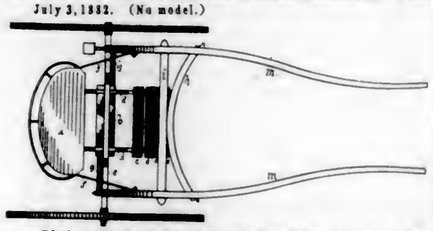
265,767. TOE-CALK SWAGE. ROBERT H. DENNIS, Seymour, Iowa. Filed Apr. 17, 1882. (No model.)

Claim.—The herein-described tool for blacksmiths, consisting of the base A, channel B, straight side *a*, and opposite side C, having projection C', and beveled corners *c c'*, and recess D, as and for the purposes set forth.

265,767.



265,768. ROAD-CART. JACOB W. DILLER, Decatur, Ill. Filed July 3, 1882. (No model.)

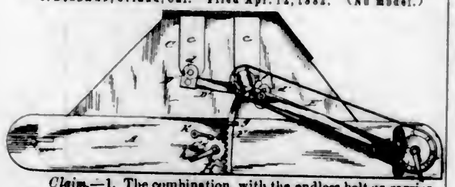


Claim.—1. Arched axle *c*, strip *d*, and springs *g g*, as and for the purpose set forth.

2. The combination, with shafts *m m* and axle *c*, of braces *n n*, that form supports for the springs, substantially as shown and described.

3. The swinging frame *a b d e f*, hinged to the shafts *m m* and supported by springs *g g*, substantially as shown and described.

265,769. FEEDER FOR THRASHING-MACHINES. MARSHALL C. DILLMAN, Orland, Cal. Filed Apr. 12, 1882. (No model.)



Claim.—1. The combination, with the endless belt or carrier, of armed shafts D E, the adjustable side bars, D′ E′, having boxes *d e* for said shafts, and toothed rack-bars and pinions for simultaneously adjusting the side bars and armed shafts, substantially in the manner herein shown, and for the purpose specified.

2. The combination of the fulcrumed side bars E′ E′, having boxes *e*, the side bars D′ D′, fulcrumed to the bars E′ E′, and having boxes *d* and slotted guides *d′*, the guide-pins *f f*, and scouring devices, and the armed shafts D E, substantially in the manner as and for the purpose herein shown and described.

265,770. HOG-CHOLERA REMEDY. RUDOLF DORN, Omaha, Nebr. Filed Aug. 10, 1882. (No specimens.)

Claim.—The compound for the prevention and cure of cholera in animals, composed of sulphate of iron, Glauber's salt, arsenic, carbolic acid, hydrochloric acid, and tincture of opium, as set forth.

265,771. HAT CIGAR-HOLDER. ALFRED DOUBLEDAY, New York, N. Y. Filed Mar. 17, 1882. (No model.)

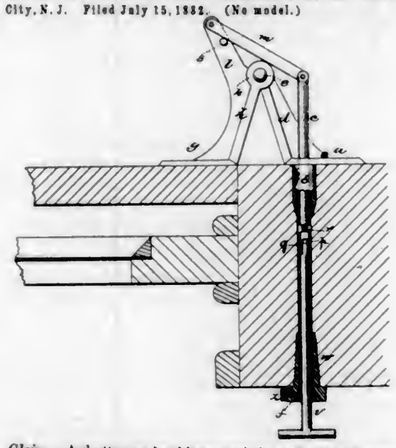


Claim.—1. A hat cigar-holder composed of card-board or wood A, the springs B B′, moving in suitable guides, and an elastic band or strap, as shown, for the purpose specified.

2. The combination, with a piece of card-board or wood A, provided with openings in which rollers are arranged, of springs B B′, having points or teeth on their outer edges, such springs adapted to move in guides C C′, and being connected at their ends *a′* by an elastic band or strap, I, for the purpose specified.

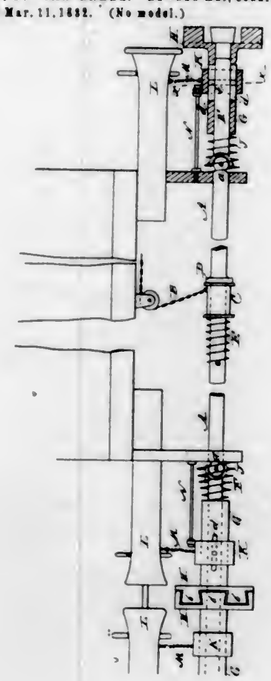
3. The combination, with card-board or wood A, provided with openings in which rollers are arranged, of springs B B′, having points or teeth on their outer edges, such springs adapted to move in guides C C′, being connected at their ends *a′* by an elastic band or strap, I, and an ornamented piece of material covering the guides C C′ and partially covering the said springs B B′, as and for the purpose set forth.

265,772. SHUTTER-WORKER. RUSSELL G. DUDLEY, Jersey City, N. J. Filed July 15, 1882. (No model.)



Claim.—A shutter-worker hinge consisting of the fixed branch *a*, having a pintle-carrying arm, *d*, and a tubular bearing, *b*, for the operating slide-rod, and the shutter-branch *g*, having the pintle-bearing *k*, and the oblique arm *l*, extending outwardly therefrom, and having the fulcrum-stud *s* to engage the bar connecting said oblique arm to the operating slide-rod, substantially as specified.

265,773. CAR-BRAKE. EDWARD ERI, Cedar Rapids, Iowa. Filed Mar. 11, 1882. (No model.)



Claim.—1. The combination, with the brake-rod A, of longitudinally-sliding sleeves G, provided with clutch-plates H on their outer ends, substantially as and for the purpose set forth.

2. The combination, with the brake-rod A and the jointed rods F, of the longitudinally-sliding and spring-pressed sleeves G, provided with the clutch-plates H on their outer ends, substantially as and for the purpose set forth.

3. The combination, with a brake-rod, A, of the jointed rods F, the sleeves G on these rods F, and the clutch plates or disks H at the ends of the sleeves G, substantially as herein shown and described, and for the purpose set forth.

4. The combination, with the brake-rod A, of the jointed sections F, the springs J, the sleeves G, and the clutch plates or disks H at the ends of sleeves G, substantially as herein shown and described, and for the purpose set forth.

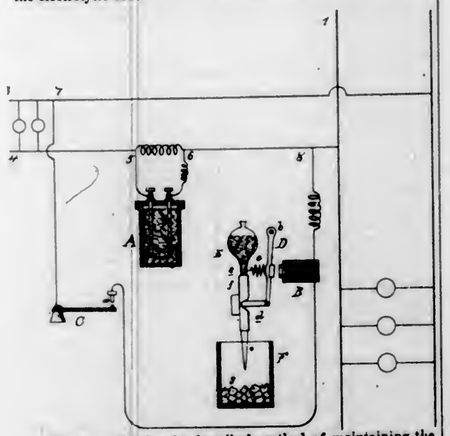
5. The combination, with the brake-rod A, of the jointed sections F, the springs J, the sleeves G, provided with clutch plates or disks H, the sleeves K, and the suspending-chain M, substantially as herein shown and described, and for the purpose set forth.

6. The combination, with a brake-rod, A, of the jointed sections F, the sleeves G, provided with clutch-plates H, the springs J, the sleeves K, the chains M, and rods N, substantially as herein shown and described, and for the purposes set forth.

7. The combination, with the brake-rod A, of the rods F, connected to the brake-rod by a universal joint, and provided with the studs *e*, the sliding sleeves G, provided with the longitudinal slots *d*, and the clutch-plates H at their outer ends, substantially as and for the purpose set forth.

265,774. METHOD OF MAINTAINING TEMPERATURE IN WEBERMETERS. THOMAS A. EDISON, Menlo Park, N. J., assignor to the Edison Electric Light Company, New York, N. Y. Filed Nov. 11, 1881. (No model.)

Brief.—An electric circuit, closed by the contraction of a thermostat-spring, operates an agency for generating heat, as by the discharge of water upon quicklime inclosed in the case with the electrolytic cell.



Claim.—The herein-described method of maintaining the temperature of the liquid in an electrolytic cell above the freezing-point, which consists in causing a fall in temperature to set in action agencies for generating heat, substantially as set forth.

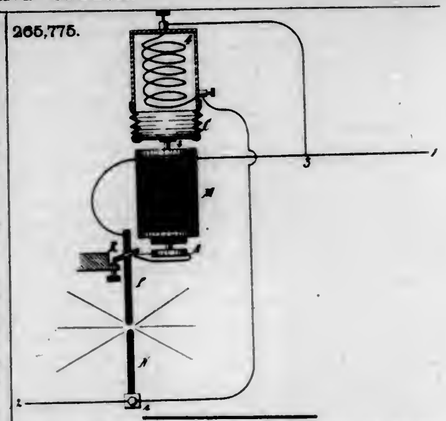
265,775. ELECTRIC-ARC LIGHT. THOMAS A. EDISON, Menlo Park, N. J., assignor to the Edison Electric Light Company, New York, N. Y. Filed Nov. 28, 1881. Renewed Aug. 14, 1882. (No model.)

Claim.—1. In an electric-arc lamp, the combination of the main circuit containing the carbons and an electro-magnet or solenoid, with a shunt around the arc, containing a heating-coil adapted to oppose by its action the action of the magnet, substantially as set forth.

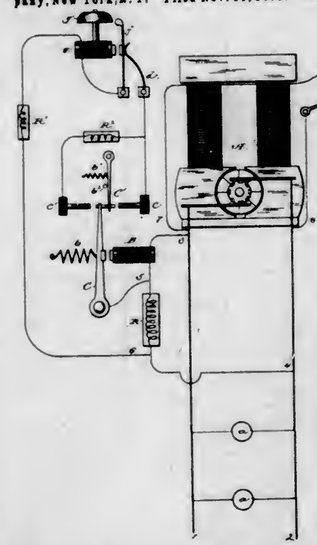
2. In an electric-arc lamp, the combination of the main circuit containing the carbons and an electro-magnet or solenoid, a shunt around the arc, containing a heating-coil, and an expansible chamber, substantially as and for the purpose set forth.

3. In regulating mechanism for electric-arc lights, the electric heating-coil and expansible inclosing chamber, substantially as and for the purpose set forth.

265,775.



265,776. ELECTRIC-LIGHTING SYSTEM. THOMAS A. EDISON Menlo Park, N. J., assignor to the Edison Electric Light Company, New York, N. Y. Filed Nov. 11, 1881. (No model.)



Claim.—1. The combination, with one or more electrical generators, means for regulating such generator or generators, and electric lamps arranged in multiple arc, of an electrically-operated alarm or indicator for indicating predetermined limits above or below or both above and below the desired or normal condition of the current, and an electro-magnet located in a multiple-arc circuit and controlling the circuits of such alarm or indicator, substantially as set forth.

2. The combination, with one or more electrical generators, means for regulating such generator or generators, and electric lamps arranged in multiple arc, of an electrically-operated alarm or indicator for indicating predetermined limits above or below or both above and below the desired or normal condition of the current, an electro-magnet located in a multiple-arc circuit, the armature-lever of such magnet, making and breaking the circuits of such alarm or indicator at its contacts, and means for determining the central position of such armature-lever, substantially as set forth.

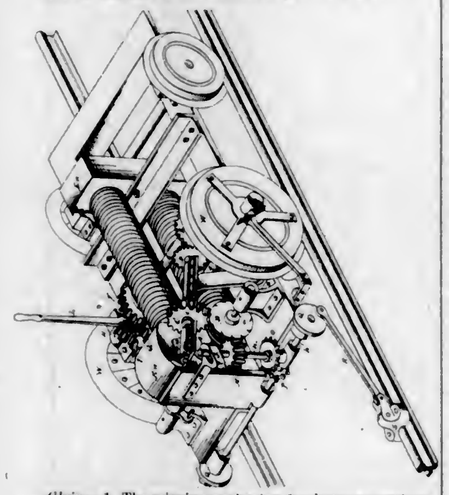
3. The combination of a main circuit, an electro-magnet in a derived circuit, and an armature-lever therefor, completing circuits at both its front and back contacts, resistances differing in amount located in said circuits, and a vibrating magnetic alarm, substantially as set forth.

265,777. METHOD OF TREATING CARBONS FOR ELECTRIC LAMPS. THOMAS A. EDISON, Menlo Park, N. J., assignor to the Edison Electric Light Company, New York, N. Y. Filed Dec. 15, 1880. (No model.) Patented in England Feb. 9, 1881, No. 562; in Italy May 19, 1881; in Belgium May 31, 1881, No. 54,587; in Victoria June 15, 1881, No. 3,024; in Canada July 5, 1881, No. 13,057; in France July 20, 1881, No. 142,723; in Austria-Hungary Aug. 3, 1881; in New South Wales Aug. 13, 1881; in Queensland Aug. 23, 1881; in Spain Sept. 5, 1881; in New Zealand Sept. 15, 1881, No. 549, and in Portugal Dec. 14, 1881, No. 715.

Claim.—1. The method of treating the carbon filament of an incandescing electric lamp, consisting in raising such carbon filament to incandescence during the latter part of the process of exhausting the lamp-globe, whereby the air and gas are driven from the carbon filament and the flexibility of the filament is increased, substantially as set forth.

2. The method of treating the carbon filament of an incandescing electric lamp, consisting in raising such carbon filament to a higher incandescence than that at which it is designed to be used during the latter part of the process of exhausting the lamp-globe, whereby the air and gas are driven from the carbon filament and from its enlarged ends and clamps, and the flexibility of such filament is increased and its shape fixed, substantially as set forth.

265,778. ELECTRO-MAGNETIC RAILWAY-ENGINE. THOMAS A. EDISON, Menlo Park, N. J. Filed July 22, 1880. (No model.) Patented in England Sept. 25, 1880, No. 3,894; in Canada Mar. 31, 1881, No. 12,568; in India May 3, 1881, No. 341; in Victoria May 12, 1881, No. 3,012; in France May 27, 1881, No. 141,752; in New South Wales June 25, 1881; in Queensland June 30, 1881, and in New Zealand Aug. 2, 1881, No. 542.



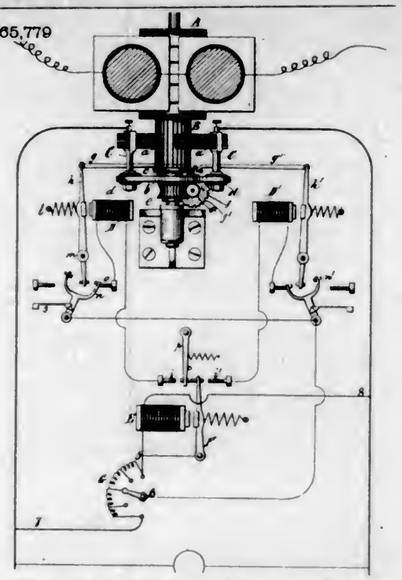
Claim.—1. The gripping mechanism for electro-magnetic engines, consisting of an open-bottomed box or casing and eccentric rollers or cam-plates pivoted to or secured within the box or casing upon opposite sides thereof, and adapted to approach each other upon movement of the box in one direction longitudinally and to recede from each other upon movement of the box in an opposite direction, substantially as set forth.

2. The combination, with an electro-magnetic railway-engine, of a crank-shaft revolved by connection with the motor, two reciprocating arms attached to such shaft at opposite points, so as to work oppositely, and grippers carried by such reciprocating arms and acting upon the rails of the road, substantially as set forth.

3. The combination, with the electric motor of an electric railway-engine, of an arm or arms reciprocated thereby through suitable intervening mechanism, and each carrying a creeper or traveler, as described, and means for connecting or disconnecting at will the arm or arms and the motor from each other, substantially as set forth.

265,779. REGULATOR FOR DYNAMO-ELECTRIC MACHINES. THOMAS A. EDISON, Menlo Park, N. J. Filed Aug. 7, 1882. (No model.)

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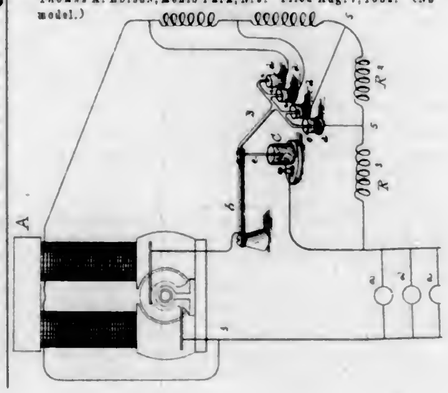
Claim.—1. The combination, with the commutator-brushes of a dynamo or magneto electric machine, of one or two electromotors capable of continuous operation and adapted to move such brushes in either of two directions, and an electro-magnet located in a multiple-arc circuit and controlling such motor or motors, substantially as set forth.

2. The combination, with the commutator-brushes of a dynamo or magneto electric machine, of one or two electromotors capable of continuous operation and adapted to move said brushes in either of two directions, an electro-magnet located in a multiple-arc circuit, the armature-lever of said electro-magnet controlling such motor or motors, and means for determining the central position of said armature-lever, substantially as set forth.

3. The combination, with an electro-magnet energized by the current generated by a dynamo or magneto electric machine, of an armature-lever, a divided shunt closed by the forward and backward movements of said armature-lever, and mechanism, included in the branches of said divided shunt, for changing the position of the commutator-brushes of the machine, substantially as set forth.

4. The combination, with the multiple-arc circuit, of a divided shunt therefrom, each division containing an electro-magnet provided with a vibrating armature, and mechanism operated by said vibrating armature for shifting the position of the commutator-brushes of the machine, substantially as set forth.

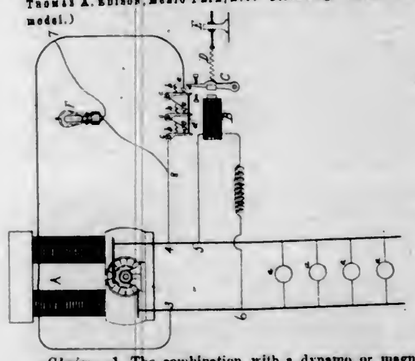
265,780. REGULATOR FOR DYNAMO-ELECTRIC MACHINES. THOMAS A. EDISON, Menlo Park, N. J. Filed Aug. 7, 1882. (No model.)



Claim.—1. The combination, with a dynamo or magneto electric machine and translating devices arranged in multiple arc, of a resistance in the field-circuit, mercury-cups connected with such resistance at intervals, and a thermostatic device in the main circuit carrying points which dip into said mercury-cups in succession, substantially as set forth.

2. The combination of a multiple-arc circuit including the coils of the field-magnet of a dynamo-electric machine, a multiple-arc circuit including the armature of said machine, multiple-arc circuits containing lamps or other translating devices, (all such multiple-arc circuits being derived from the same main conductors,) a resistance in the field-circuit, mercury-cups connected with such resistance at intervals, and a thermostatic device in the main circuit carrying points which dip into said mercury-cups in succession, substantially as set forth.

265,781. REGULATOR FOR DYNAMO-ELECTRIC MACHINES. THOMAS A. EDISON, Menlo Park, N. J. Filed Aug. 7, 1882. (No model.)



Claim.—1. The combination, with a dynamo or magneto electric machine and its regulating-circuit, of a continuously-vibrating circuit-controller acting to open and close said circuit rapidly for regulating the generation of current by the machine, substantially as set forth.

2. The combination, with a dynamo or magneto electric machine and its regulating-circuit, of a continuously-vibrating circuit-controller adapted to make and break said circuit at several points simultaneously for regulating the generation of current by the machine, substantially as set forth.

3. The combination with a dynamo or magneto electric machine and its regulating-circuit, of a continuously-vibrating circuit-controller acting to open and close said circuit rapidly for regulating the generation of current, and an electro-magnet energized by said current for operating said circuit-controller, substantially as set forth.

4. The combination, with a dynamo or magneto electric machine and its regulating-circuit, of a vibrating circuit-controller for regulating the generation of current, and an electro-magnet for operating said circuit-controller, located in a multiple-arc circuit from said machine, substantially as set forth.

5. The combination of the vibrating circuit-controller located in the field-circuit of the generator, and the electro-magnet for operating the same, located in a multiple-arc circuit from said generator, substantially as set forth.

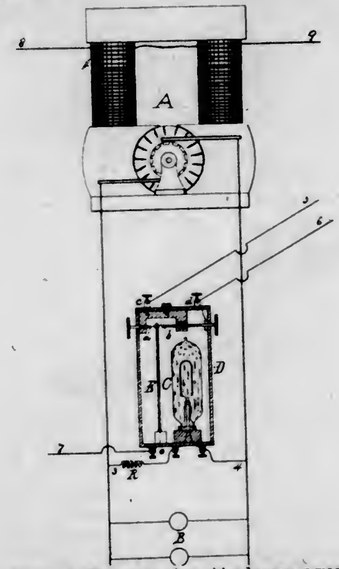
6. The combination of a dynamo or magneto electric machine, its regulating-circuit, and translating devices arranged in multiple-arc, with a continuously-vibrating circuit-controller acting to open and close said regulating-circuit rapidly for regulating the generation of current by the machine, substantially as set forth.

7. The combination of a multiple-arc circuit including the field-magnet coils of a dynamo-electric machine, a multiple-arc circuit including the armature-coils of said machine, multiple-arc circuits containing lamps or other translating devices, all said multiple-arc circuits being derived from the same main conductors, and a continuously-vibrating circuit-controller acting to open and close a circuit rapidly for regulating the generation of current by said machine, substantially as set forth.

8. The combination, with a dynamo or magneto electric machine and its regulating-circuit, of a continuously-vibrating circuit-controller acting to open and close said circuit rapidly for regulating the machine, and a spark-arresting shunt around such circuit-controller, substantially as set forth.

9. The combination, with a dynamo or magneto electric machine and its regulating-circuit, of a continuously-vibrating circuit-controller acting to open and close said circuit rapidly for regulating such machine, and an adjustable retractor for regulating the make and break, substantially as set forth.

265,782. REGULATOR FOR DYNAMO-ELECTRIC MACHINES. THOMAS A. EDISON, Menlo Park, N. J. Filed Aug. 14, 1882. (No model.)



Claim.—1. The combination, with a dynamo or magneto electric machine and translating devices arranged in multiple arc, of an electrical heating device arranged in multiple arc, circuits for regulating the generator, and a switch controlled by such electrical heating device and closing such circuits at the limits of the normal condition of the current, substantially as set forth.

2. The combination, with a dynamo or magneto electric machine, of a lamp or other heating-resistance, and a thermostatic or expansion device affected by the heat of the lamp and circuits closed thereby for controlling the regulation of the machine, substantially as set forth.

3. The combination, with a dynamo or magneto electric machine supplying translating devices in multiple arc, of a lamp or other heating-resistance arranged in multiple arc, and a thermostatic spring affected by the heat of the lamp or other resistance, and circuits closed at the front and back contacts of the spring for controlling the regulation of the machine, substantially as set forth.

265,783. REGULATOR FOR DYNAMO-ELECTRIC MACHINES. THOMAS A. EDISON, Menlo Park, N. J. Filed Aug. 14, 1882. (No model.)

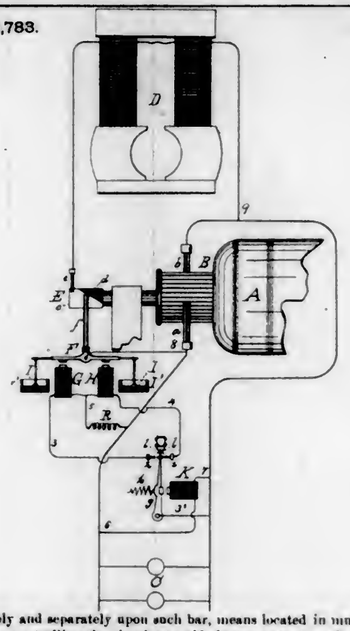
Claim.—1. The combination, with a dynamo or magneto electric machine, of a circuit-breaker for regulating the generative capacity of the machine and means controlled by the current for varying the proportion of make and break, substantially as set forth.

2. The combination, with a dynamo or magneto electric machine, of a revolving circuit-breaking cylinder having a surface of tapered insulating material and metal, a movable brush or spring, and a mechanism controlled by the current and adjusting said movable brush or spring upon the breaking-cylinder, for regulating the generative capacity of the machine, substantially as set forth.

3. The combination, with a dynamo or magneto electric machine, of a revolving circuit-breaking cylinder located in the field-circuit and having a surface of tapered insulating material and metal, a movable brush or spring, oppositely-working electro-magnets for adjusting said movable brush or spring, and a controlling device arranged in multiple arc, substantially as set forth.

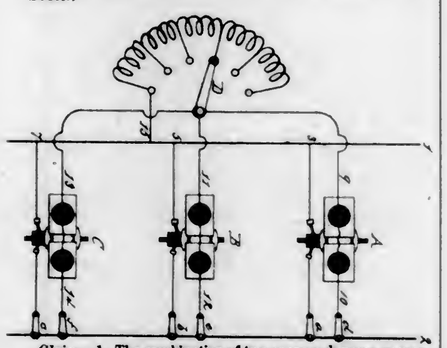
4. The combination, with a dynamo or magneto electric machine, of a revolving circuit-breaking cylinder located in the field-circuit of the machine and having a surface of tapered insulating material and metal, an adjustable brush or spring, a pivoted bar for adjusting such brush or spring, two electro-magnets acting op-

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positely and separately upon such bar, means located in multiple arc for controlling the circuits to said electro-magnets, and one or more dash-pots for retarding the movement, substantially as set forth.

265,784. REGULATOR FOR DYNAMO-ELECTRIC MACHINES. THOMAS A. EDISON, Menlo Park, N.J. Filed Aug. 14, 1882. (No model.)



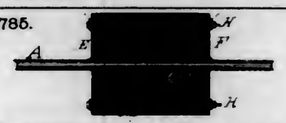
Claim.—1. The combination of two or more dynamo or magneto electric machines having their field-coils in independent circuits and their armature-coils in independent circuits connected with the same conductors or system of conductors, with separate circuit-controllers for all of such independent circuits, whereby the connections can be made and broken in the order stated, substantially as set forth.

2. The combination, with two or more dynamo or magneto electric machines having their armatures in separate multiple-arc circuits, of a multiple-arc circuit having an adjustable resistance and branches from the resistance through the field-magnets of the machine, such resistance being common to all of said branches, substantially as set forth.

265,785. DYNAMO-ELECTRIC MACHINE. THOMAS A. EDISON, Menlo Park, N.J. Filed Aug. 14, 1882. (No model.)

Claim.—1. In a solid cylindrical armature-core, the combination of an interior core of suitable insulating material with a magnetic portion composed of rings of thin sheet-iron separated by insulating material, substantially as set forth.

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2. An armature-core having its magnetic portion composed of rings of thin sheet-iron separated by insulating material, in combination with clamping-plates, substantially as set forth.

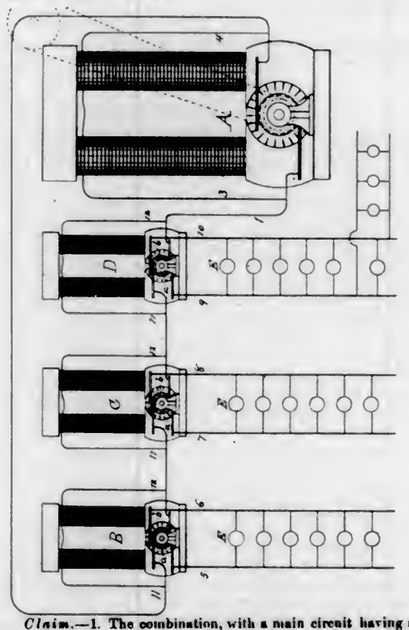
3. In a solid cylindrical armature-core, the combination of the interior core of suitable insulating material with the magnetic portion composed of thin sheet-iron rings separated by insulating material, and the clamping-plates, substantially as set forth.

4. In an armature-core, the combination, with the rings of thin sheet-iron separated by insulation and clamped between plates, of the clamping-bolts insulated from the clamping-plates, substantially as set forth.

5. In an armature-core, the combination, with the thin sheet-iron rings separated by insulation, of clamping-bolts passing through such thin sheet-iron rings and insulated therefrom, substantially as set forth.

6. A solid cylindrical armature-core composed of an interior core of insulating material, a magnetic portion of thin sheet-iron rings separated by insulation, clamping-plates, and clamping-bolts insulated both from the clamping-plates and from the thin sheet-iron rings, the parts being constructed, arranged, and combined substantially as set forth.

265,786. APPARATUS FOR THE ELECTRICAL TRANSMISSION OF POWER. THOMAS A. EDISON, Menlo Park, N.J. Filed Aug. 7, 1882. (No model.)



Claim.—1. The combination, with a main circuit having a current of high tension, of two or more combined electro-dynamic motors and dynamo-electric generators arranged in series as motors in such main circuit, and independent translation-circuits connected with the generating-coil of such machines and supplied thereby with currents of low tension, substantially as set forth.

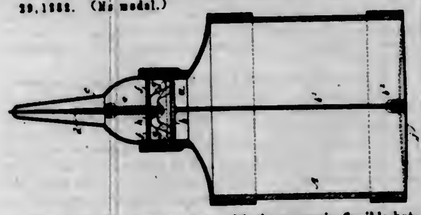
2. The combination, with one or more dynamo or magneto electric machines supplying a main circuit with a current of high tension, of two or more combined electro-dynamic motors and dynamo-electric generators, each having two sets of armature-coils connected with two independent commutators, one set of commutator-brushes being in the line of the main circuit and the other set connected with conductors independent of the main circuit, and translating devices arranged in multiple-arc circuits from such independent conductors, substantially as set forth.

3. The combination, with the main circuit, having a current of high tension, of two or more combined electro-dynamic motors and dynamo-electric generators arranged in series as motors in the main circuit, and independent translation-circuits connected with the generating-coils of such machines and supplied thereby with currents of low tension, each of said combined machines being adapted for independent regulation, substantially as set forth.

4. The combination, with a main circuit, of two or more combined electro-dynamic motors and dynamo-electric generators arranged in series as motors in the main circuit, and independent translation-circuits supplied by such machines with currents of low tension, the coils of the field-magnet of each combined machine being in an independent circuit derived from the main circuit, substantially as set forth.

5. The combined electro-dynamic motor and dynamo-electric generator described, consisting of an armature having two independent continuous windings connected with separate bar-commutators, and a field magnet or magnets common to both windings, substantially as set forth.

265,787. OILER. CHARLES W. ELLIOTT, Boston, Mass., assignor of one-half to Rufus S. Merrill, same place. Filed Aug. 29, 1882. (No model.)



Claim.—1. The combination, with the reservoir, flexible bottom, oil-discharge nozzle, and spring-controlled nozzle-closing stem, of elbow-levers having their interior opposite ends pivoted to the stem and a presser intermediate between and in operative connection with the flexible bottom and said levers for joint operation, substantially as hereinbefore set forth.

2. The combination, with the oil-reservoir and its flexible bottom, of the nozzle, the spring-controlled nozzle-closing stem, the chamber or recess *a*, the elbow-levers *g*, having their interior opposite ends pivoted to the stem and their elbows resting against the head of chamber *a*, and the presser *b*, arranged to bear upon the projecting free ends of said levers and connected to the flexible bottom, as and for the purposes hereinbefore set forth.

265,788. DRILL-JAR. LORENZO D. ROSENBAUGH, Rock View, N.Y. Filed May 31, 1882. (Model.)



Claim.—1. In drill-jars, the tool-carrying links, each having three reins springing from a solid end, having a flat knocker-surface, z^2, each link having an anvil formed with flat striking-faces at both ends, one of which is of triangular form, substantially as described, for the purpose specified.

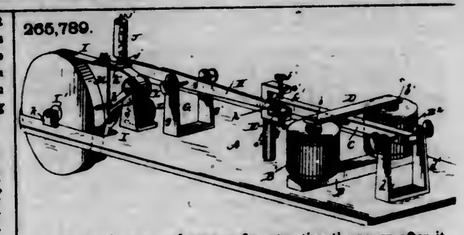
2. The tool-carrying links of a drill-jar, each having an anvil formed with a flat striking-face at both ends, one of which is of triangular form and beveled at *s* on its non-connected sides, corresponding with and joining the beveled ends of the reins to which the anvil is riveted, substantially as described, for the purpose specified.

3. A drill-jar composed of two links of three reins each, in the form of longitudinal segments of a hollow cylinder, flat on their inner faces, and an anvil for each link, formed with a flat striking-face at both ends, one of which is of triangular form and beveled at *s* on its non-connected sides, corresponding with and joining the beveled ends of the reins to which said anvil is riveted, and co-operating with corresponding flat knocking-surfaces z^2, formed as the junction of the three reins with the solid end of the link, substantially as shown and described.

265,789. TELEGRAPHIC RECORDING-INSTRUMENT. SAML. V. ESSICK, Alliance, Ohio. Filed Jan. 19, 1882. (No model.)

Claim.—The combination, in a telegraphic receiving and recording apparatus, of a stationary fountain-pen having a pointed valve, a lever interposed between said pen and the armature-lever, and having a pivotal connection with the latter for moving the

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paper up to the pen, and an arm for retracting the paper after it has acted upon said pen.

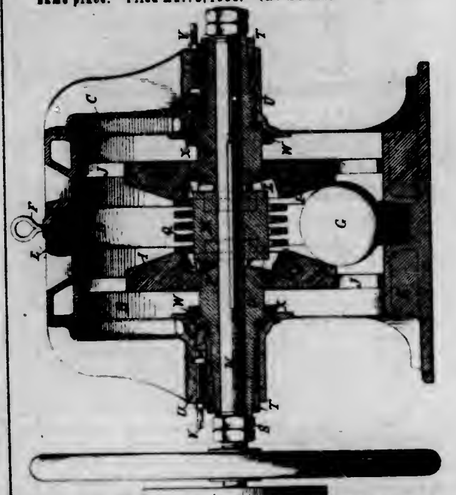
265,790. ELECTRIC LAMP. MOSES G. FARMER, Newport, R.I., assignor to the United States Electric Lighting Company, New York, N.Y. Filed Mar. 7, 1881. (No model.)



Claim.—1. An electric lamp, the light-producing portion of which consists of a thin and broad strip of metal having its edges shaped to a geometrical curve corresponding with the law of heat-conductivity in such metal, so as to produce a uniform illumination throughout every portion of said strip, substantially as and for the purpose specified.

2. An electric lamp the light-giving portion of which is composed of a flat strip of metal, broadest in the center of its length, and gradually decreasing in breadth from the center to each end thereof, substantially as and for the purpose specified.

265,791. PULVERIZING-MACHINE. HERMAN B. FELDMANN, Philadelphia, Pa., assignor to Stephen P. M. Tasker, same place. Filed Mar. 3, 1882. (No model.)



Claim.—1. In a pulverizing-machine, the combination of a casing, a shaft journaled in the casing, two disks upon the shaft, and a clutch upon the shaft located at a point between the disks and engaged with both disks, so as to revolve them.

2. In a pulverizing-machine, the combination of a casing, a shaft journaled therein, two oppositely-placed sleeve-journals surrounding and revolving with said shaft, and rounded as to their inner extremities, and two disks, likewise surrounding said shaft and fitted upon the rounded inner extremities of the sleeve-journals, so as to be capable of being rocked thereupon.

3. In a pulverizing-machine, the combination of a casing, a shaft journaled therein, two sleeve-journals mounted upon and revolving with the shaft, and having rounded inner extremities, two disks fitted upon the rounded inner extremities of the sleeve-journals, a clutch fitted upon the shaft between the disks, revolving with the shaft and connected with the disks, and a spiral spring compressed between the opposing faces of the disks.

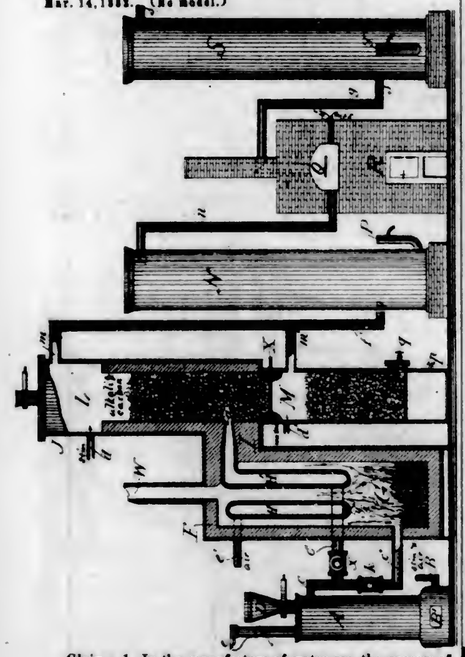
4. In a pulverizing-machine, the combination, with a casing provided with a circular ball-track, of a shaft journaled in the casing axially with respect to said ball-track, two disks revolving with the shaft and free to rock with respect thereto, a spiral spring compressed between the opposing faces of the disks, and a ball resting upon the track and embraced between the disks.

5. In combination with the externally-tapered sleeve-journals, the correspondingly tapered journal-bearings, the journal-boxes, and the adjusting-screws, substantially as described.

6. In a pulverizing-machine, the combination, with an inclosing casing having journal-boxes formed in its sides, of conically-tapered journal-bearings fitted in said journal-boxes, two sleeve-journals keyed to a central shaft and fitted in said journal-bearings, and two packing rings and collars, substantially as and for the purposes specified.

7. In a pulverizing-machine, in combination, the shaft, the spiral spring, the disks, the sleeve-journals, and tightening-up nuts, whereby the set of the sleeve-journals upon the shaft and the tension of the spring upon the disks are regulated, substantially as set forth.

265,792. PROCESS OF AND APPARATUS FOR MANUFACTURING GAS. THOMAS B. POGARTY, Brooklyn, N. Y. Filed Mar. 14, 1882. (No model.)



Claim.—1. In the manufacture of water-gas, the process of, first, generating the crude gas through the decomposition of air and steam by incandescent carbon; second, removing the undecomposed steam from the crude gas by subjecting the mixture to a high degree of heat; third, converting the nitrogen of the crude gas into ammonia, and removing the ammonia, substantially as described.

2. In the manufacture of water-gas, the process of, first, generating the crude gas through the decomposition of air and steam by incandescent carbon; second, removing the undecomposed steam from the crude gas by causing it to be decomposed by the carbonic oxide of the gas itself by raising it to incandescence; third, converting the nitrogen of the crude gas into ammonia and removing the same by subjecting the gaseous mixture to the action of water; fourth, converting the carbonic oxide in the gas into carbonic acid by subjecting the gas, together with steam, to a high or incandescent temperature, producing carbonic acid and free hydrogen, substantially as described.

3. In the manufacture of ammonia and hydrogen gas, the process of heating the mass of carbon and alkali (used in extracting nitrogen from the crude gas) and producing cyanides, which consists in superheating the crude gas and then passing it in an incandescent state through the mass of carbon and alkali.

4. In a process for manufacturing water-gas in which the gas is purified from nitrogen and carbonic oxide by converting the former into ammonia and the latter into carbonic acid, the process of converting the nitrogen into ammonia consisting in, first, raising the crude gas to a state of incandescence wherein its undecomposed steam is decomposed by the carbonic oxide of the gas itself; second, causing the incandescent gas to pass through carbon and alkali and by contact therewith to raise such carbon and alkali to incandescence, its nitrogen combining with them to form alkaline cyanides; third, decomposing the alkaline cyanides so formed by steam, producing ammonia, substantially as described.

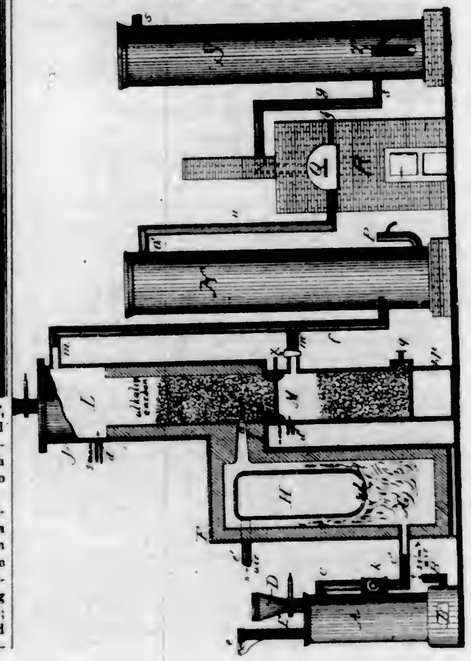
5. In a process for manufacturing gas through the decomposition of steam and air by incandescent carbon, and for purifying such gas from nitrogen by converting the latter into cyanogen or alkaline cyanides or cyanates, the process of converting such cyanogen and its gaseous and solid compounds into ammonia, which consists in subjecting the gaseous portion, as it is formed, to the action of steam in a separate chamber, and subjecting the solid compounds to the action of steam in a separate chamber, substantially as described.

6. In an apparatus for the manufacture of gas, the combination of the genecator A, superheater F, alkali-furnace J, scrubbers N and S, and furnace R, constructed and operated substantially as described.

7. In an apparatus for the manufacture of gas and ammonia, the furnace J, suitably divided into the chambers L and M, the former provided with a suitable steam-pipe, *d*, and the latter with a water-pipe, *d'*, and suitable induction and eduction pipes for gas, substantially as described.

8. In an apparatus for the manufacture of gas, the superheater F, containing the combustion-chamber G, in combination with the air-superheater H, having its air-inlet *d'* and its outlet *y*, the latter opening into the combustion-chamber, and the gas-superheater H', suitably provided with a gas-inlet, X, and an outlet or tuyere, *a*, substantially as described.

265,793. PROCESS OF MANUFACTURING GAS. THOMAS B. POGARTY, Brooklyn, N. Y. Filed Mar. 29, 1882. (No model.)



Claim.—1. The combination of smoke and air pipes S S, having downturned front ends, S' S', and vertical branches *s' s'*, located on each side of the boiler, and having openings receiving smoke at or near the end of the space surrounding the boiler, the air-inlets *s s* being located above the boiler-setting and steam-injectors T T at the juncture of the smoke and air inlets, as set forth.

2. The smoke-pipes S S, provided with vertical branches *s' s'*, open down the front sides, and the downturned ends S' S', entering the fire-chamber, the said pipes S S being located on each side of the boiler, and the vertical branches receiving the smoke before it reaches the smoke-box, as set forth.

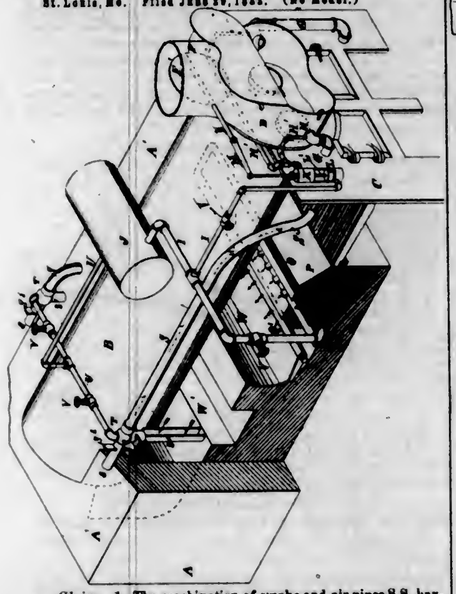
3. The superheating steam-pipe G O', the portion O extending transversely through the furnace at the top of the bridge-wall, within the fire-chamber, and the portion O' extending transversely of the furnace at top of the bridge-wall, on the rear side, and the turnable pipe Q, concentric with the portion Q' of the steam-pipe, and forming an annular chamber, Q', the pipes O' and Q having orifices in the opposite sides thereof to cause the steam to pass around and through the annular chamber, as set forth.

4. The combination of steam-pipe I, upright cylinder K, weighted piston L, rods L' M, arm N, damper F' in a chimney, F, breeching D, pipes H G, and injector H', as set forth.

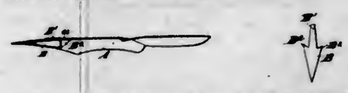
5. The combination, with the flues of a boiler, descending smoke-passages G, and injectors H', of the cap E, formed with chambers connecting the flues with the passages, as set forth.

Claim.—In the manufacture of gas through the decomposition of steam and air by incandescent carbon, the process of freeing the gas from nitrogen and forming cyanogen and cyanides, which consists in, first, producing carbonic oxide and hydrogen in a generator-furnace; second, burning the gas so produced in a combustion-chamber; third, passing the incandescent products of such combustion through carbon and alkali contained in a suitable retort, causing the nitrogen in the products of combustion to combine with such carbon and alkali and to produce cyanogen, substantially as described.

265,794. STEAM-BOILER FURNACE. MICHAEL A. FOSTER, St. Louis, Mo. Filed June 29, 1882. (No model.)



265,795. FOUNTAIN-PEN. J. FRED. FRANKLIN, New York, N. Y. Filed Jan. 23, 1882. (No model.)



Claim.—1. The pen attachment described, having the body B, rear extensions or wings B², and narrow tongue B', adapted to be inserted in the hole *a* in the pen A and to be bent over forwardly onto the pen-body and to be held in place thereby, substantially as described.

2. The attachment described, having the forwardly-bent tongue B' and the wings or extensions B², projecting rearward beyond the junction of the tongue, in combination with a pen, A, having a hole, *a*, and adapted to serve therewith, as and for the purposes herein specified.

265,796. LUNCH-BOX. EDWARD L. GERHARD, Baltimore, Md. Filed Dec. 16, 1881. (Model.)



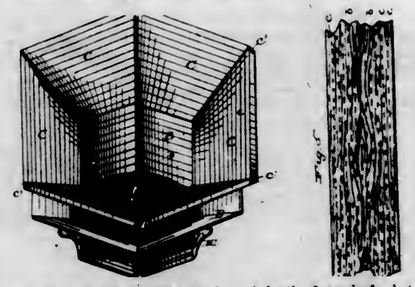
Claim.—A folding lunch-box having a metallic inner surface or lining and an outside non-metallic covering provided with hinges to connect the several sides and a binding-border to retain the outside covering, both the hinges and binding-border being integral with the metallic lining, and the said binding-border having a uniform width all around, including that part where the hinge is formed, as set forth.

265,797. RELEASING DEVICE FOR CATTLE-STALLS. JOHN C GERMUTH, Carlisle, Pa. Filed Mar. 28, 1882. (Model.)



Claim.—The bolt-plate D, having the guide *c*, opening *d*, staple *d'*, and orifice *d'*, made of a single piece of metal, in combination with the link M, rod C, and bolt K, as set forth.

265,798. HATTER'S KETTLE. CARLOS W. GLOVER, Boston Mass. Filed Aug. 16, 1882. (No model.)



Claim.—1. The body B of a hatter's kettle, formed of a bottom, A, and cants or strips *b*, having their ends arranged to break joints, substantially as set forth.

2. The flange C, composed of strips *c*, having a uniformity of grain, substantially as set forth.

3. A hatter's kettle composed of the body A B and flange C, formed of narrow strips or cants of wood, substantially as set forth.

265,799. TOBACCO-CUTTER. HARVEY C. HALL, Brooklyn, assignor of one-half to Harry A. Stoothoff and Thomas J. Donigan, New York, N. Y. Filed June 24, 1882. (No model.)

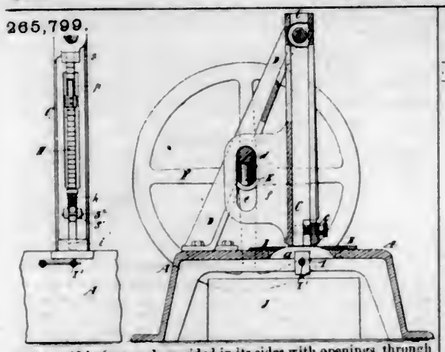
Claim.—1. The combination of two stationary knives, a stop or rest between them for controlling the thickness of the cut material, and a holder for the material to be cut, pivoted above and midway between the knives, and adapted to be swung to and fro past the knives, substantially as described.

2. The combination, with a stationary knife or knives, of a holder for the material to be cut, composed of two parts pivoted independently of each other on the same trunnions or centers, and one part having side flanges, which receive the other part between them, and devices for adjusting said parts toward and from each other at the lower end, substantially as described.

3. The combination of a stationary knife or knives, a holder for material to be cut, composed of two parts pivoted independently of each other to the same trunnions or centers, and devices for adjusting said parts toward and from each other, substantially as described.

4. The combination of two stationary knives, a rest or stop between the knives for controlling the thickness of the cut material, and a holder for the material to be cut, pivoted above and be-

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tween said knives, and provided in its sides with openings, through which the fingers may be inserted to force the material to be cut downward, substantially as described.

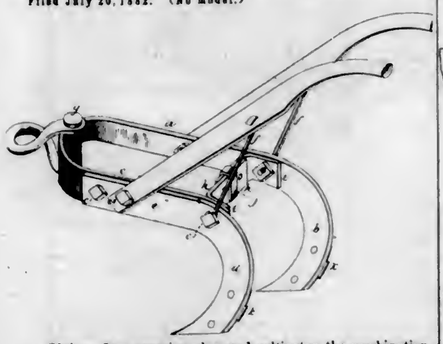
5. The combination of the bed A, the stationary knives B, a rest or stop between them, the two-part holder C, provided with the slotted lug *f*, the adjusting-screws *c*, the crank-shaft E, and the standard D, comprising centers or trunnions on which said holder may swing and bearings for said shaft, substantially as described.

265,800. EXTENSION-TABLE. HIRAM S. HALL, Jamestown, N. Y. Filed July 26, 1882. (No model.)



Claim.—A table-slide clip or lug one edge of which is divided and bent in opposite directions at an angle to the body of the lug, one of said bent portions being formed corrugated, substantially as and for the purpose shown and described.

265,801. CULTIVATOR. JOHN I. HANCOCK, Thomasville, Ga. Filed July 20, 1882. (No model.)



Claim.—In a covering-plow and cultivator, the combination, with a frame consisting of two hinged beam-plates, *a c*, of a removable curved standard, *e d*, and two perforated angle-braces, *h h*, secured respectively to the beam-plates *a c* and their adjusting devices, substantially as described.

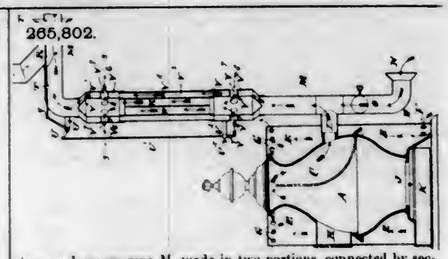
265,802. COMBINED HEATER AND VENTILATOR. MATHIAS HECKEL, St. Louis, Mo. Filed Aug. 23, 1882. (No model.)

Claim.—1. In combination, the stove A, the escape-pipe M, having a lower extension provided with an open bell-mouth, N, and damper O, and upper pipe, P, having open bell-mouth Q, and damper R, all substantially as shown and described, for the purpose set forth.

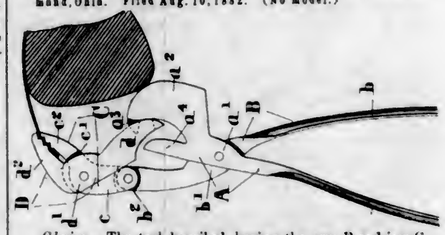
2. In combination with the stove A, the escape-pipe M, consisting of two portions connected by duplicate sections V V′ and lengths of pipes V² V², the interior of the inner pipe communicating with the outer air by openings V³ in the sections V V′, substantially as shown and described, for the purpose set forth.

3. The combination of stove A, provided with diaphragm C, inclosing case D, provided with openings G at top and F at bottom, and escape-pipe M, made in two portions, connected by sections V V′ and pipes V² V², and having a lower extension, with an open mouth, N, and damper O, and an upper pipe, P, with open mouth Q, and a damper, R, secured to a rod, S, and operated by a bell-crank lever, U, all substantially as shown and described, for the purpose set forth.

265,802.

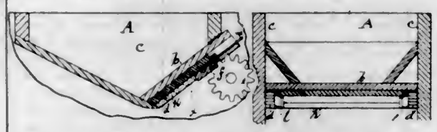


265,803. LASTING-TOOL. FREDERICK HENDERSON, New Richmond, Ohio. Filed Aug. 10, 1882. (No model.)



Claim.—The tool described, having the arm B and jaw C, combined with the arm A, having the enlarged bearing portion *a*¹ and finger *a*¹, and the jaw D, having the pivoted shank *d*, adapted to move in the open recess between the finger and the enlarged portion, as described.

265,804. FEEDING APPARATUS FOR GRAIN-SEPARATORS, &c. PAUL P. HERBERG and PETER H. CLAUSSEN, Oale, Trempealeau County, Wis. Filed May 8, 1882. (No model.)



Claim.—The herein-described feeding apparatus for grain-separators, comprising hopper A, main gate *b*, shaft *f*, the racks and pinions *d e*, crank *g*, having pointed end and ratchet-teeth, pawl *h*, gradnated scale, the auxiliary gate K, and grooves and guide-strips for the gates, all substantially as and for the purpose described and shown

265,805. CANDY. WILHELM HEUSSLER, New York, N. Y. Filed Sept. 6, 1882. (No specimens.)

Claim.—1. The herein-described saccharine composition or candy, consisting of nuts, sugar, and cream, about in the proportions stated.

2. The method of making candy herein described, consisting in melting nuts and sugar together, hardening, and then pulverizing the mass, and mixing it with sugar and cream that have been boiled together, whereby a dough is formed from which the candies or pellets are made, as set forth.

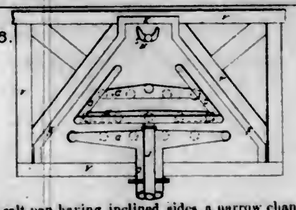
3. The improvement in the art of making candy herein described, consisting in mixing pulverized sugared nuts with a boiled mixture of cream and sugar to form a dough which does not harden, as set forth.

265,806. SALT-PAN. HENRY N. HEWLETT, Oscoda, Mich. Filed June 16, 1882. (No model.)

Claim.—1. The combination of the salt-pan, having inclined sides B′ and channel B, with pipe H, having therein jets S, and pocket L, as and for the purposes set forth.

2. The combination of the salt-pan, having therein the pocket L, with belt N, carrying buckets O, and operated by suitable mechanism.

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3. A salt-pan having inclined sides, a narrow channel along its bottom, with a pocket therein adapted to collect the salt crystals and deliver them to an elevator, and suitable mechanism for forcing a current of brine through said channel and toward said pocket, substantially as herein shown and described.

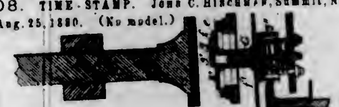
265,807. VEHICLE-BOW TRIMMING. HENRY HIGGIN, Newport, Ky. Filed July 31, 1882. (No model.)



Claim.—1. A valance or trimming for vehicle-bows, formed of a single strip of metal and secured to the bow by its edges overlapping the shouldered extensions of a suitable filling-strip attached to the face of the bow, substantially as herein set forth.

2. The combination, with a vehicle-bow, A, of the metallic valance B, secured by the beaded edges *a a*′, which overlap the shouldered extensions *c c*′ of the filling-strip C, and the socket-plate D, substantially as herein set forth.

265,808. TIME-STAMP. JOHN C. HIRCHMAN, Summit, N. J. Filed Aug. 25, 1880. (No model.)

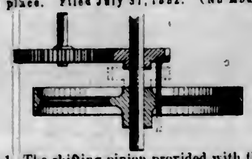


Claim.—1. The combination, substantially as hereinbefore set forth, of a stationary stereotyped representation of a time-dial, a disk or plate revolving concentrically upon the face of said dial, and carrying a representation of a pointer, a platen for simultaneously taking an impression of said dial and its pointer, a seat for supporting said disk when struck by the platen, and a spring for supporting said disk out of contact with its seat, except at the moment of taking an impression.

2. The combination, substantially as herein set forth, of a stationary time-dial, movable hands or pointers indicating hours and minutes, respectively, a time-train for communicating motion to said movable hands or pointers, and mechanism for disconnecting the pointers from the time-train in order to adjust the position of the former without interfering with the movement of the latter.

3. The combination, substantially as hereinbefore set forth, of a stereotyped representation of a time-dial, a type or character representing a pointer movable concentrically within said dial, a time-train for moving said pointer, a platen for simultaneously taking an impression of said dial and pointer, and an elastic mechanical connection between the said pointer and its motor.

265,809. TRACTION-ENGINE. ANDREW J. HOAG and JOHN A. DANN, Battle Creek, Mich., assignors to Nichols, Shepard & Co., same place. Filed July 31, 1882. (No model.)

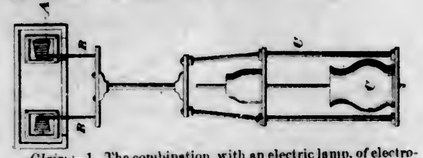


Claim.—1. The shifting pinion provided with the projecting rod, bar, or shaft for adapting it to be connected with the band or fly wheel, for the purpose and substantially as described.

2. The shifting pinion connected to the band or fly wheel through the rod, bar, or shaft, for the purpose and substantially as described.

3. The shifting pinion provided with the projecting rod, bar, or shaft, said shaft having its bearing in the band or fly wheel, in combination with the set-screw or equivalent device for holding said gear in its adjusted position, for the purpose and substantially as described.

265,810. ELECTRIC LAMP. DANIEL N. HUALBUT, Chicago, Ill. Filed Jan. 28, 1882. (No model.)

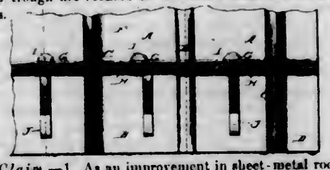


Claim.—1. The combination, with an electric lamp, of electro-conducting flexible supports B B, constructed and connected to form a part of the general circuit, and conical spring drums or rollers A A, substantially as and for the purpose set forth.

2. The combination of the conical or compensating spring drums or rollers A A, the flexible and electro-conducting cables or supports B B, and an electric lamp, substantially as and for the purpose set forth.

265,811. ROOFING. ORONON HUTH, Delta, Ohio. Filed June 24, 1882. (No model.)

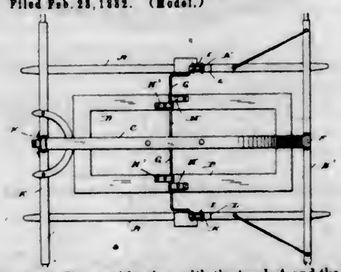
Brief.—The sheets are centrally corrugated and the crosswise seams are nailed and soldered. Hooks for suspending the eaves-trough are secured in the lower crosswise seam near the eaves.



Claim.—1. As an improvement in sheet-metal roofing, the sheets A, connected at their edges by seams B, and having longitudinal corrugations C, the same being arranged in rows, each overlapping the row below, and secured by nails G and solder H I, as herein described.

2. In sheet-metal roofing, the rows D F, overlapping one another and secured by nails G, in combination with hooks J, the shanks of which are interposed between said rows D F and secured by said nails G, as and for the purpose set forth.

265,812. VEHICLE-SPRING. JOSEPH HUTCHINS, Middlebury, Ind. Filed Feb. 23, 1882. (Model.)



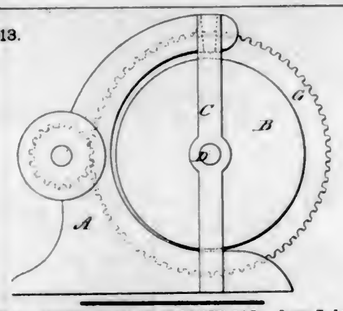
Claim.—1. The combination, with the truck A and the body-frame D of the vehicle, and the central longitudinal springs, *a* and *b*, connected respectively with the frame and the axles, of the transverse torsional spring-bar G, adapted to centrally support the body, and pivoted to the side bars by the links I and hangers K, whereby a perpendicular play of the body is obtained, substantially as shown and specified.

2. In combination with the truck and body-frame, the longitudinal spring and transverse rod and brackets, the flat springs bearing upon said rod to prevent rattling, substantially as specified.

265,813. MACHINE FOR ROLLING COUPLING-PINS. FRANK A. INDINGS, Warren, Ohio. Filed May 3, 1882. (No model.)

Claim.—The bed of a rolling-machine for coupling-pins, made to vary at the starting-point of its die from the corresponding part of the roll-die, but gradually conforming thereto, as and for the purpose specified.

265,813.



265,814. VENTILATOR OR CHIMNEY-CAP. JOHN H. IRWIN, Morton, Pa. Filed Apr. 24, 1882. (No model.)



Claim.—1. A ventilator or chimney-cap formed of cast-metal plates, as set forth, bearing wings or arms upon their upper surfaces, the upper edges whereof adapted and arranged to fit within grooves formed in the under side of the plate above, said plates being held in place and secured to a section of pipe or the chimney-top, substantially as shown and described.

2. In a ventilator or chimney-cap, pipe A, wherein are located eyes B, said pipe bearing annular plate A', having wings or arms *a*, plate A³, having grooves therein or projecting studs thereon, as specified, and being provided with wings or arms *a*, plate A³, and bolts or screws C, the whole combined and arranged substantially as shown and described.

3. In a ventilator or chimney-cap, pipe A, whereon is formed a rib, D, extending thereabove and from side to side, substantially as shown and described.

265,815. CHALK-LINE HOLDER. JNO. S. JENKINS, Lima, Ohio. Filed Mar. 28, 1882. (Model.)



Claim.—1. An improved chalker, consisting of a casing having conical ends and apertures in said ends, substantially as herein shown and described.

2. The combination, with the cylinders A A', provided with conical caps B B', of the cord C, passing longitudinally through the casing formed of the two caps, substantially as herein shown and described, and for the purpose set forth.

265,816. FENCE-POST. ISAIAH JOHNSON, Alliance, Ohio. Filed Mar. 25, 1882. (No model.)

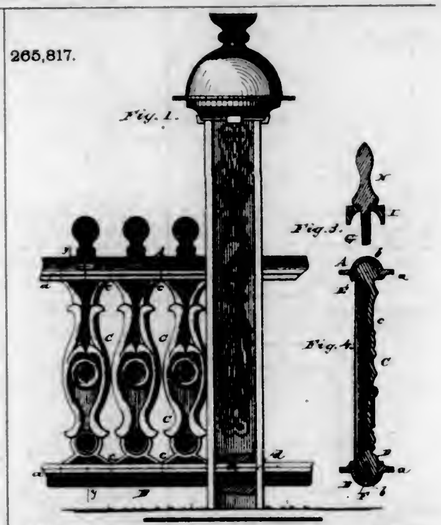


Claim.—In combination with a fence-post composed of the wooden parts *d* and the metallic strengthening-plate *a*, a cast-iron base to which said parts are bolted, the base being provided, for the purpose of receiving said parts, with opposite recesses *s* and *r* at its upper end, which recesses are curved outward at the bottom, substantially as shown and described.

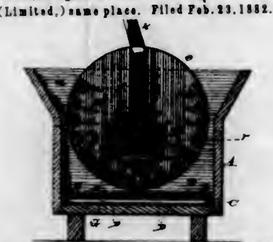
265,817. IRON FENCE. JAMES J. JOHNSTON, Columbiana, Ohio, assignor to the United States Improvement Company, (Limited,) same place. Filed Feb. 11, 1882. (No model.)

Claim.—In an iron fence, the combination of the U-shaped rails A B, having side flanges, *a*, cast-iron vertical rails C, screw G, having ornamental head H and grooved base I, and post J, substantially as hereinbefore described, and for the purpose set forth.

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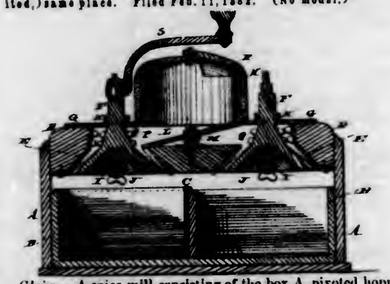


265,818. WASHING-MACHINE. JAMES J. JOHNSTON, Columbiana, Ohio, assignor to the United States Improvement Company, (Limited,) same place. Filed Feb. 23, 1882. (No model.)



Claim.—In a washing-machine, the combination of the water-vessel A, having a secondary bottom, B, furnished with a series of bell-mouthed openings, D, the circular rubbing-chamber E, having grooves *f*, detachable arms *k*, and the corrugated rubbing-roller F, pivoted within the circular rubbing-chamber E in adjustable pressure-bearings *g*, having rod *i* and spiral spring *j*, and operating in the grooves *f*, substantially as herein described, and for the purpose set forth.

265,819. SPICE-MILL. JAMES J. JOHNSTON, Columbiana, Ohio, assignor to the United States Improvement Company, (Limited,) same place. Filed Feb. 11, 1882. (No model.)



Claim.—A spice-mill consisting of the box A, pivoted hopper K, four burrs, F, and four shells, E, detachable receiving-vessels C, and drawer B, constructed, arranged, and operating substantially as hereinbefore described, and for the purpose set forth.

265,820. GARDEN-RAKE. JAMES J. JOHNSTON, Columbiana, Ohio, assignor to the United States Improvement Company, (Limited,) same place. Filed Feb. 11, 1882. (No model.)

Claim.—In a garden-rake, the combination of the head constructed in two parts, A and B, the part A having recesses for the

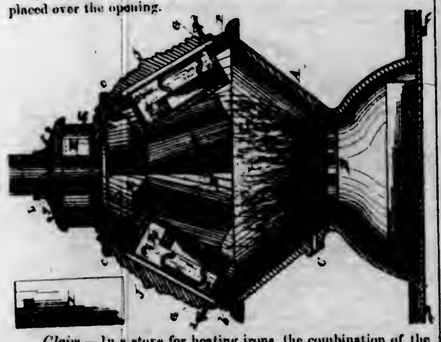
265,820.



teeth C, said teeth being made in pairs from a single piece of iron or steel, the part A having also a recess for the handle G, which is reduced in diameter at F, so as to fit therein, and the braces H, provided with points *a*, the said teeth C, handle G, and braces H being firmly secured to the rake-head by the uniting of the two parts A and B, all substantially as described and shown, for the purpose specified.

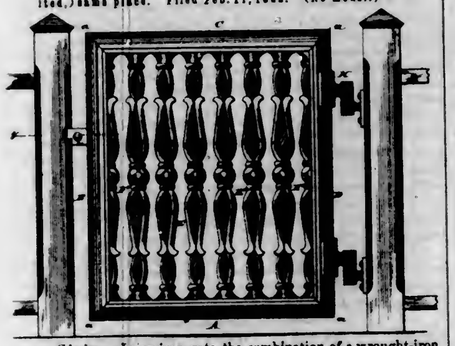
265,821. IRONING-STOVE. JAMES J. JOHNSTON, Columbiana, Ohio, assignor to the United States Improvement Company, (Limited,) same place. Filed Feb. 23, 1882. (No model.)

Brief.—When one of the parts H is removed the cover is placed over the opening.



Claim.—In a stove for heating irons, the combination of the part F, having openings G, receptacles H, lids I, pivoted panels J, and top K, forming a reservoir having pivoted lid L, all constructed, arranged, and operating substantially as herein described, and for the purpose set forth.

265,822. IRON GATE. JAMES J. JOHNSTON, Columbiana, Ohio, assignor to the United States Improvement Company, (Limited,) same place. Filed Feb. 11, 1882. (No model.)

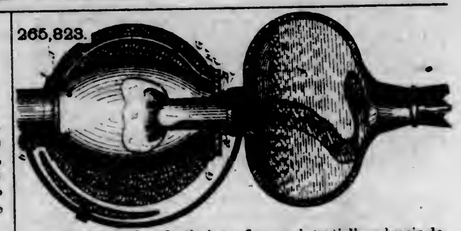


Claim.—In an iron gate, the combination of a wrought-iron frame constructed of U-shaped iron, with side flanges, *b*, said frame being made in sections, with miter-joints *a*, vertical rails E F, of cast-iron, having end pieces, I, and projections *c*, said end pieces and projections fitted to the groove in the sections of the frame and secured therein through the medium of screws *f*, the section B, furnished with the latch G, and the section D, provided with knuckle part H of the hinge, fitted to its outer wall and secured to the flanges *b*, substantially as herein described, and for the purposes set forth.

265,823. LAMP. JAMES J. JOHNSTON, Columbiana, Ohio, assignor to the United States Improvement Company, (Limited,) same place. Filed Feb. 11, 1882. (No model.)

Claim.—1. In a lamp, a globe constructed in two halves, having air-channels in the walls thereof to prevent smoking and give increased steadiness to the flame, said globe forming a universal

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concave-convex lens for the lamp-flame, substantially as herein described, and for the purpose set forth.

2. In a lamp, a globe forming a universal concave-convex lens for the lamp-flame, in combination with a metallic chimney having flanges I and J, substantially as herein described, and for the purpose set forth.

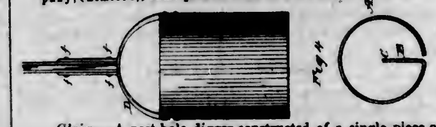
3. In a lamp, the detachable wire K, forming a section of a circle, secured at its lower end to the burner B and at its upper end to the chimney H, said wire having an adjustable deflector, substantially as herein described, and for the purpose set forth.

265,824. DOOR-SCRAPER. JAMES J. JOHNSTON, Columbiana, Ohio, assignor to the United States Improvement Company, (Limited,) same place. Filed Feb. 11, 1882. (No model.)



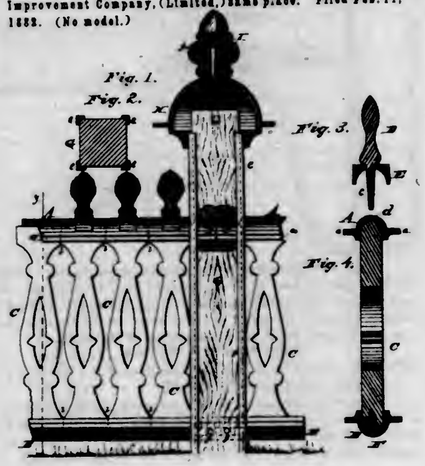
Claim.—In the door-scraper hereinbefore described, the bowl B, having detachable receptacle C, provided with bail F and handle G, substantially as and for the purpose set forth.

265,825. POST-HOLE DIGGER. JAMES J. JOHNSTON, Columbiana, Ohio, assignor to the United States Improvement Company, (Limited,) same place. Filed Feb. 11, 1882. (No model.)



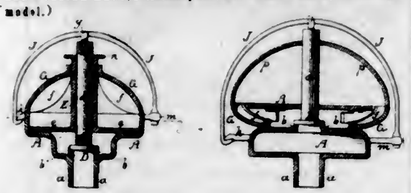
Claim.—A post-hole digger constructed of a single piece of steel bent in the form shown, with the portion B extending on a radial line to the axis of the barrel A, and having its inner walls beveled from its cutting-edge to the upper end of said barrel, substantially as and for the purpose set forth.

265,826. COMBINED IRON AND WOOD FENCE. JAMES J. JOHNSTON, Columbiana, Ohio, assignor to the United States Improvement Company, (Limited,) same place. Filed Feb. 11, 1882. (No model.)



Claim.—In a combined iron and wood fence, the combination of the U-shaped rails A B, having side flanges, *a*, the vertical rails C, ornaments D, having screw-tang *c*, groove-base E, and the post G, having corners *e* of angle-iron, and hollow metallic cap H, secured in place by screw I, substantially as herein described, and for the purpose set forth.

265,827. AUTOMATIC FIRE-EXTINGUISHER. JOHN KANE and WILLIAM KANE, Philadelphia, Pa. Filed June 9, 1882. (No model.)



Claim.—1. The combination, in an automatic fire-extinguisher, of the following elements, namely: a valve-chest, A, having an inlet for receiving water under pressure; a valve having a seat in the chest; a device by which the valve may be maintained in a closed condition through the medium of fusible material, and a vaned distributer, G, adapted to be rotated by the action of the water when the valve is released, all substantially as set forth.

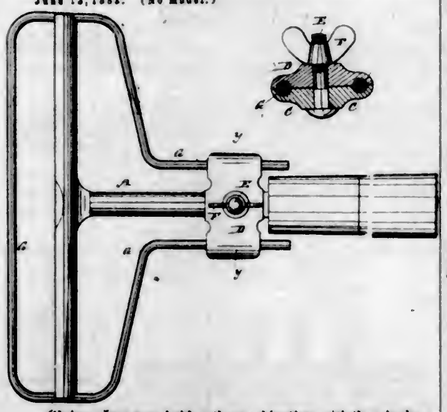
2. The combination of the valve-chest, the valve and its stem, the spring J, connected to the casing by a fusible joint, and the distributer G, adapted to be acted upon and rotated by the escaping water, as set forth.

3. The combination of the valve-casing, the valve D, the stem *d*, the spring J, and a screw-connection, substantially as described, whereby the valve can be adjusted after the spring has been secured in place, as set forth.

4. The combination of the valve-chest A, the valve D, the valve-stem *d*, a retaining device therefor having a fusible joint, the tubular guide E, having a nut, *n*, and the distributer G, adapted to slide on said guide, as set forth.

5. The combination of the valve-chest having a lug, *h*, and arm *m*, the valve D and its stem *d*, the distributer G, and the spring J, hooked to the log *h*, and connected to the arm *m* by a fusible joint, as set forth.

265,828. MOP. THOMAS I. KENNEDY, Wallingford, Vt. Filed June 13, 1882. (No model.)

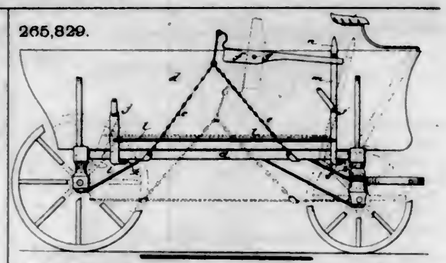


Claim.—In a mop-holder, the combination, with the wire loop G and T-shaped head A, of the grooved lugs C upon the sides of and integral with the shank of the head A, the clamp-plate D, the bolt E, and nut F, as shown and described, whereby the same becomes a complete mop-holder independent of the handle.

265,829. DUMPING-WAGON. JAMES M. KIMBALL, Woodstock, Ill. Filed July 10, 1882. (Model.)

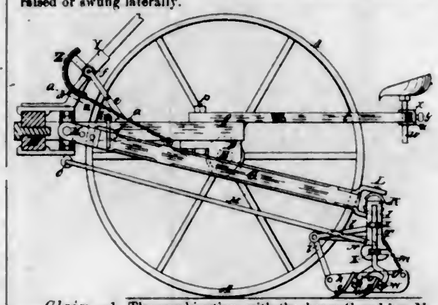
Claim.—In a wagon-body, the combination, with the leaves *a a*, hinged to a median fixed beam, *c*, of the branching chains *e*, the levers *f*, and the connected pivoted catches *i*, the latter connecting with the levers *f*, all arranged as shown and described.

265,829.



265,830. CULTIVATOR. BRADFORD A. KNIGHT, Beatrice, Nebr. Filed Apr. 26, 1882. (No model.)

Brief.—Swiveled connections of standard and beams to preserve the parallel position of the shovels whether the beams are raised or swung laterally.



Claim.—1. The combination, with the beam G and bar M, hung to the beam E by the universal joint H O, of the plow consisting of the parallel bars I, for supporting the plows, the cross-bar J, pivoted to the drag-bar M, and the cross-bar K, horizontally journaled in boxes which are vertically journaled at L in ears projecting from the beam G, as shown and described.

2. The plows S, connected to bent or crank rods T U, in combination with plow-stocks I J K by hook-bolts X, as shown and described.

3. The combination of the plows S, connected to and fitted adjustably on bent rods or cranks T U, with the stocks I and means for adjusting them on said stocks, as shown and described.

4. The combination, with plow-beams G, of plow-stocks consisting of vertical bars I and cross-bars J K, pivoted to said beams, and having plow-rods T and plows S connected to said stocks, substantially as specified.

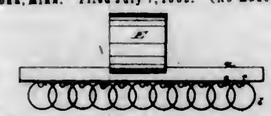
5. The combination of the shields K, the bars *l* and *l'*, and chain *m* with the plows S and plow-stocks, as shown and described.

6. The combination of the swivel-jointed rod *g*, eyes *h*, and pins *i* with the laterally-adjustable plow-beams G and slotted plates *j*, attached to said beam, as shown and described.

7. The combination of fixed catches *d* with the ratchets *b* of the lever-pullers Y Z, said lever-pullers being arranged for lateral motion on their pivots *f*, substantially as specified.

8. The plow-rods T, connected to the plow-standards by upper and lower hook-bolts, X, and the lower hook-bolts fitted adjustably in slots X' of the plow-standards to alter the pitch of the plows, substantially as specified.

265,831. CURRY-COMB. CHARLES KNOPP and JOSEPH KNOPP, Winona, Minn. Filed July 7, 1882. (No model.)

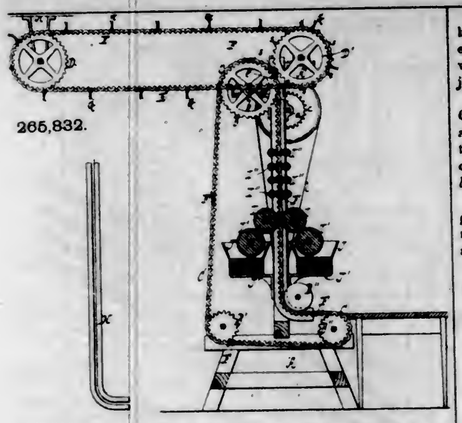


Claim.—A curry-comb consisting of a series of coils of wire arranged side by side, intercoiled with each other, and attached to a suitable back, substantially as described.

265,832. MACHINE FOR STAINING AND DRYING PAPER. ALBERT KOMP, New York, N.Y. Filed Sept. 6, 1882. (No model.)

Claim.—1. The combination, substantially as hereinbefore set forth, of the vertical chains having grippers for seizing and elevating the sheets, the horizontal chains having grippers for suspending the sheets, and devices whereby the grippers of the vertical chains are adapted to automatically open those of the horizontal chains and deposit the leading ends of the sheets therein.

265,832.



2. The combination, substantially as hereinbefore set forth, of the vertical chains having grippers each composed of two self-opening spring-jaws, and the guide-channels arranged adjacent to the ascending portions of the vertical chains, respectively, to receive and close said grippers.

3. The combination, substantially as hereinbefore set forth, of the vertical chains, the horizontal chains, the grippers of the vertical chains, each comprising the self-opening spring-jaws and offset *f*, the grippers of the horizontal chains, each comprising the self-closing spring-jaws and offset *g*, and the guide-channels arranged adjacent to the ascending portions of the vertical chains, respectively, to receive and close their grippers, and operating to release said grippers when the leading ends of the sheets have been brought into the grippers of the horizontal chains.

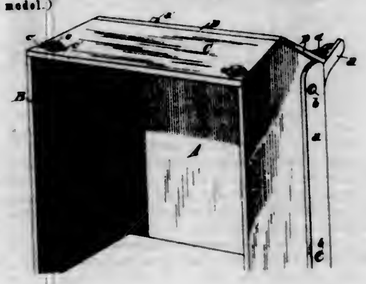
4. The combination, substantially as hereinbefore set forth, with the vertical chains having grippers for seizing and elevating the sheets, of the staining or sizing rollers arranged on opposite sides of the ascending portions of said chains to act on the sheets carried thereby.

5. The combination, substantially as hereinbefore set forth, with the vertical chains having grippers for seizing and elevating the sheets, of the staining or sizing rollers and the laterally-reciprocating brushes, both arranged on opposite sides of the ascending portions of the vertical chains to act on the sheets carried thereby.

265,833. MANUFACTURE OF ARTIFICIAL BUTTER OR OLEOMARGARINE. HENRY LAUPHEIMER, New York, N.Y. Filed Aug. 10, 1882. (No specimens.)

Claim.—The improvement in the manufacture of artificial butter or oleomargarine which consists in treating in the manner described both the milk and the oleomargarine-oil separately with sal-soda, prepared and taken in the proportions as specified, then mixing or churning the creamy substance produced from the treated milk with the prepared oleomargarine-oil, and coloring, salting, and working the mixture, as hereinbefore set forth.

265,834. FIRE-PLACE FRAME. JOHN J. LUBEAU and CHARLES L. SHANNON, Cincinnati, Ohio, assignor to the Eureka Co-Operative Foundry Association, same place. Filed June 21, 1882. (No model.)

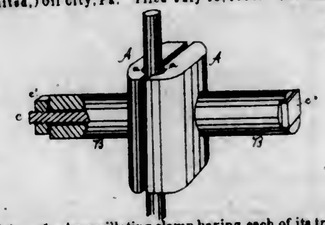


Claim.—1. In a fire-place for grates, the combination of the horizontal top plate, C, the side jambs, B B, having their upper ends adjustably connected with the ends of the top plate, and the vertical back plate, A, connected with the rear ends of the side jambs, substantially as described.

2. In a fire-place for grates, the combination of the top plate, C, having slots *c'* at its ends, the side jambs, B, having flanges *b'* adjustably connected with the top plate by bolts *c* passing through the slots in the latter, and the back plate, A, having flanges *a* connected with the rear ends of the side jamb by means of bolts *b*, substantially as described.

3. In a fire-place frame for the reception of a fire basket or grate, the tilting plate D, provided with brackets *d d*, in combination with the back plate, A, having brackets *a' a'*, substantially as and for the purpose described.

265,835. PUMP-ROD ADJUSTER FOR OIL-WELLS. DANIEL L. LEWIS, Bradford, assignor to the Oil Well Supply Company, (Limited,) Oil City, Pa. Filed July 18, 1881. (No model.)



Claim.—1. An oscillating clamp having each of its trunnions formed on distinct pieces of the clamp, substantially as described.

2. An oscillating clamp having separable clamping-pieces, each provided with a trunnion integral therewith, substantially as described.

3. An oscillating clamp having each of its trunnions formed on distinct pieces of the clamp and its clamping-faces parallel to each other and at right angles to the trunnions, substantially as described.

4. A pump-rod adjuster having clamping-jaws, each provided with a trunnion formed integral therewith, and arranged to approach and recede from each other by a motion parallel to the axis of the trunnion, substantially as described.

5. An oscillating clamp having clamping-jaws, each provided with a journal or trunnion formed integral therewith, the axes of motion of which form a right line, substantially as described.

6. An oscillating clamp having clamping-jaws, each provided with a journal or trunnion held in a right line by a clamp, substantially in the manner described.

7. An oscillating clamp having clamping-jaws, each provided with a journal or trunnion held in right line by a bolt passing through the center of said trunnion and held in place by means of nuts, substantially in the manner described.

8. A pump-rod adjuster consisting of two jaws held together by means of a clamp located at one side of the rod, substantially in the manner described, to allow the rod to be removed laterally from the adjuster by the lateral displacement of one of the clamping-jaws, substantially as described.

9. A pump-rod adjuster consisting of two jaws for clamping the rod, and both held together by means of a bolt provided with a nut or nuts located at one side of the rod, substantially in the manner described, to allow the rod to be removed laterally from the adjuster by the lateral displacement of one of the clamping-jaws, substantially as described.

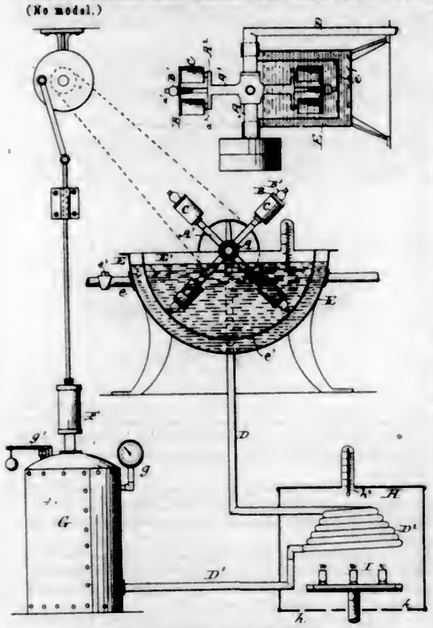
10. An adjusting pump-rod clamp having on each of its clamping-jaws and to one side of the clamping-bolt a truncated wedge-shaped groove, registering with each other, for the purpose substantially as set forth.

265,836. ADVERTISING DEVICE. FRANK H. LINDNER, Brooklyn, N.Y. Filed Apr. 17, 1882. (No model.)



Claim.—An advertising device or card formed of a flat sheet with printed matter on its outer surface, and adapted to be curved into a tubular or vase form, with projections *f f* cut on the bottom edge thereof, serving as feet on which the vase may stand, substantially as herein shown and described.

265,837. PROCESS OF AND APPARATUS FOR TESTING CANS. WILLIAM B. MANN, Baltimore, Md. Filed June 29, 1882. (No model.)



Claim.—1. The process above described for testing sheet-metal packages, consisting of, first, stopping the cap of a can; second, filling it with hot air or vapor under pressure; and, finally, submerging the entire can beneath the surface of a liquid, substantially as and for the purposes described.

2. A machine for testing sheet-metal packages or cans, consisting of a mechanism to clamp the cans and connect them with a compressed-air supply, in combination with a tank adapted to contain a liquid to submerge them, substantially as and for the purpose described.

3. The combination of a water-tank, a revolving shaft having a series of hollow arms carrying clamps, and a pipe, D, with an air reservoir and pump, substantially as and for the purpose described.

4. The combination of a water-tank and a revolving shaft supported thereon, having a series of hollow arms carrying clamps, with a pipe, D, its heating-chamber, and an air-pump, substantially as and for the purpose described.

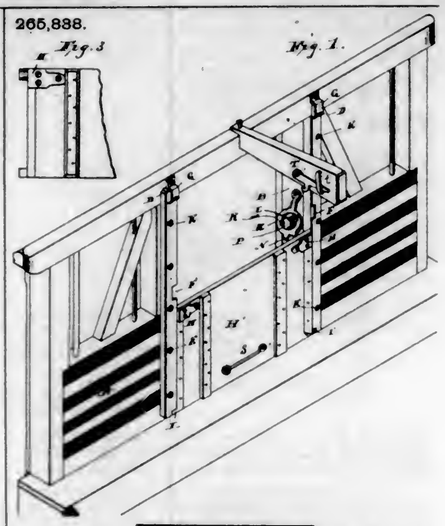
265,838. GRAIN-CAR DOOR. LENARD MANCY, Sedalia, Mo. Filed Oct. 10, 1881. Renewed Sept. 5, 1882. (No model.)

Brief.—A vertically-sliding door, with lugs which travel in ways and rest in brackets at the upper end of the ways, has a staple, which engages a hook pivoted to the car-roof. The free end of the hook moves in a staple. The door is fastened at its upper edge by a pivoted detent-pawl having an elliptical opening and an eccentrically-pivoted locking-pawl adapted to work in said opening.

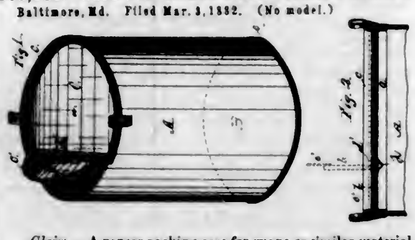
Claim.—1. In combination with the vertical ways secured to the door-frame, the brackets at the upper ends of said ways, the sliding door, its lugs and staple, and the latch, constructed as described, and adapted to hold the door when elevated, substantially as specified.

2. In combination with the sliding door located in vertical ways, the pivoted detent-pawl provided with an elliptical opening, and the eccentrically-pivoted locking-pawl adapted to work in said opening, substantially as specified.

265,838.

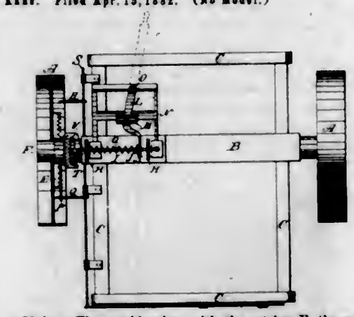


265,839. HEAD FOR PACKING-CASES. GEORGE O. MANNING, Baltimore, Md. Filed Mar. 3, 1882. (No model.)



Claim.—A veneer packing-case for guano or similar material, having one of its heads or ends composed of two parts, one of the parts being firmly attached to the body and the other part connected to the adjacent or meeting edge of the fixed part by a water and acid proof flexible strip, forming a hinged connection, and having its curved edge provided with a flexible strip for connecting the same with the body of the case, and a strip for covering the hinge-joint, as described.

265,840. AUTOMATIC CHECK-ROW AND DRILL ATTACHMENT FOR CORN-PLANTERS. GEORGE MAPLE, Osage City, Kans. Filed Apr. 15, 1882. (No model.)



Claim.—The combination, with the ratchet E, the crank-rod S, provided with arms Q R, and the base-plate I, provided with the stud V, of the sleeve F, provided with one or more tappets, P, and notch T, the lever L, the bar G, and spring J, substantially as and for the purpose set forth.

265,841. REVOLVING SIGN. TILLMAN A. MARTHENEY, Peoria, Ill. Filed July 19, 1882. (No model.)

265,841.



Claim.—1. In a revolving sign, the top and bottom strips, A B, in the form of a letter S, and correspondingly-curved thin sheets H, fastened to the curved sides of the strips, in combination with a supporting-axis.

2. In a revolving sign, the top and bottom strips, A B, in the form of a letter S, and correspondingly-curved thin sheets H, fastened to the curved sides of the strips, in combination with the pipe T and rod R, substantially as and for the purpose specified.

3. The top and bottom strips, A B, in the form of a letter S, curved sheets H, and pipe T, having enlargement G, in combination with the rod R, having collar F, substantially as and for the purpose set forth.

4. The sign composed of strips A B in the form of a letter S curved sheets H, tube T, enlargement G, and the indented and perforated cup D, having cap C, in combination with the rod R, projection E, and collars F V, substantially as and for the purpose specified.

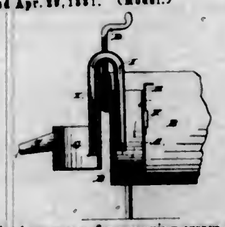
265,842. NURSING-BOTTLE-TUBE CLEANER. THOMAS MARSHALL, East Greenwich, London, England. Filed June 27, 1882. (Model.) Patented in England Mar. 10, 1882, No. 1,185; in France June 8, 1882, and in Belgium June 10, 1882.



Claim.—1. An instrument for cleaning the elastic tubes of infants' nursing-bottles, consisting of a flexible shank provided at one end with a seamless metallic tube, having formed integral therewith a suitable head, which head and tube is secured to the shank by stamping, upsetting, or spinning, and which is provided with a denuding-edge, B, for removing the coating from the interior of the flexible tube, substantially as specified.

2. An instrument for cleaning the elastic tubes of infants' nursing-bottles, consisting of a flexible shank provided at one end with a seamless metallic tube, having formed integral therewith a suitable head carrying a wiper, H, which head and tube is secured to the shank by stamping, upsetting, or spinning, and which is provided with a sharp denuding-edge, B, for removing the coating from the interior of the flexible tube, substantially as specified.

265,843. DAIRY APPARATUS. JAMES B. MARQUIS, Norwich, N. Y. Filed Apr. 20, 1881. (Model.)



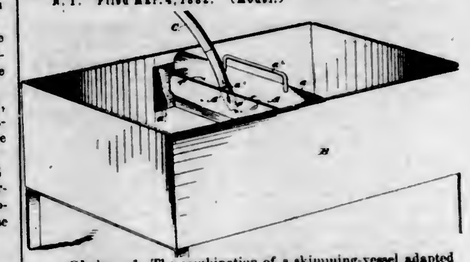
Claim.—1. As a means for removing cream from the surface of milk, an apparatus composed of a gathering-vessel adapted to be placed within a milk-vat and adjusted until its upper edge is at the division-line between the milk and cream, a receiving-vessel placed outside of said vat, and a siphon extending between and connecting said vessels, whereby cream from said milk-vat will automatically flow into said gathering-vessel, and from the same through said siphon into said receiving-vessel, substantially as and for the purpose specified.

2. In combination with a vessel adapted to be submerged within a milk-vat, vertically-adjustable gages, whereby the position of the upper edge of said vessel with relation to the line of division between the milk and cream may be determined with certainty, substantially as and for the purpose shown.

3. A siphon which extends between and connects two vessels that have such relative vertical adjustment as to bring the upper edge of the lower vessel above the short inner arm of said siphon and thereby prevent said siphon from being emptied of its liquid contents, substantially as and for the purpose set forth.

4. The hereinbefore-described apparatus for removing or skimming cream, consisting of the vessels A and G, connected by means of the bars H and siphon I, the guide-bars C, the adjusting-screws D, and the vertically-adjustable gages E, said parts being combined substantially as shown and adapted for attachment to a milk-vat, in the manner and for the purpose substantially as described.

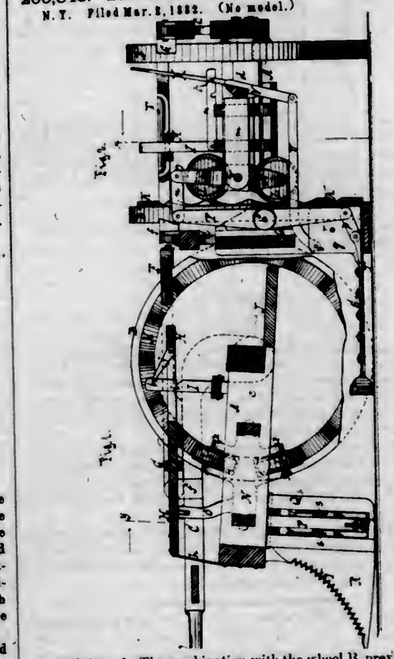
265,844. DAIRY APPARATUS. JAMES B. MARQUIS, Norwich, N. Y. Filed Mar. 4, 1882. (Model.)



Claim.—1. The combination of a skimming-vessel adapted to be partially submerged within milk and drawn horizontally through the same, with a suction-pipe and means whereby cream entering said vessel may be caused by atmospheric pressure to pass through said pipe into a suitable receptacle, substantially as and for the purpose specified.

2. The hereinbefore-described skimmer, consisting of the blade A, provided with rubber ends *a'*, and having attached to its upper edge a float, *a*, substantially as and for the purpose shown and described.

265,845. MOWING-MACHINE. WILLIAM MCCORD, Sing Sing, N. Y. Filed Mar. 2, 1882. (No model.)



Claim.—1. The combination, with the wheel B, provided with an undulating track, K, of the slides *m*, the rock-shaft N, journaled in said slides, the lever M, and arm O, extending from the rock-shaft, and provided with the rollers L, the vertical lever P,

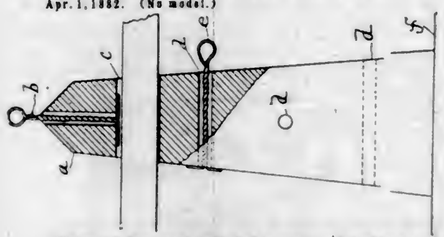
pivoted at or near its center to the upright Q, the link *u*, connecting the upper ends of the arm O and lever P, and the link *p*, connecting the lower end of the latter directly with the cutter-bar, substantially as shown and described.

2. The combination, with the wheel B, provided with an undulating track, K, of the lever M and arm O, mounted on the rock-shaft N and provided with the rollers L, slides *m*, in which the rock-shaft is journaled, the vertical double-armed lever P, pivoted at or near its center to an upright, Q, a link, *u*, connecting the upper ends of the arm O and lever P, and a link, *p*, connecting the lower end of the latter directly with the cutter-bar S, a lever arranged to move the slides, and devices connecting said lever with the cutter-bar, whereby the slides and cutter-bar are simultaneously operated, substantially as and for the purpose described.

3. The combination, substantially as hereinbefore described of the undulating track, the rollers L L, mounted in a lever extending from the rock-shaft N, the slides *m m*, forming the bearings of said rock-shaft, the cam-plate V, acting on said slides, the cutter-bar connected to a lever, P, which is actuated by the rollers L L, and the finger-bar mounted on the pivot *r* and connected to the cam-plate V.

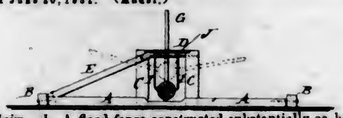
4. The combination of the main frame A, hung at its rear end on the axle of the drive-wheels, the arms C, supported by the journals of the latter and carrying the thill, the levers E, supported by the arms and carrying a driver's seat, a shaft, G, supported by said arms, the lever H, attached to said shaft and having its front end connected with the forward part of the main frame, and locking devices for securing the rear end of the lever H, substantially as and for the purpose described.

265,846. FENCE-POST. William McGee, Mountain Spring, assignor of one-half to M. A. Stamper, Valley View, Tex. Filed Apr. 1, 1882. (No model.)



Claim.—A fence-post molded of a cement and sand or gravel, with a transverse vertical slot, *c*, a vertical opening in its top communicating with the vertical slot *c* for the wire fastening *b*, openings *d* in its sides or edges for the wires *e*, and a flange, *f*, around its lower end, substantially as specified.

265,847. FLOOD-FENCE. Henry D. Merrill, Springfield, Ill. Filed June 20, 1882. (Model.)

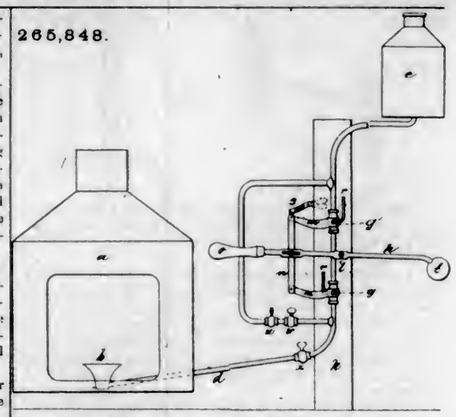


Claim.—1. A flood-fence constructed substantially as herein shown and described, and consisting of the mud-sills A, the stakes B, the posts C, connected at their upper ends by a cap-bar or stay-bolt, the braces E, the fence-shaft F, carrying the pickets G, and the pairs of chains I, as set forth.

2. In a flood-fence, the combination, with the shaft F, having pickets G, of the pairs of posts C, the chains I, the cap-bar D, and the inclined braces E, substantially as herein shown and described, whereby the said shaft will be firmly held against the pressure of the water, as set forth.

3. In a flood-fence, the combination, with the shaft F, having pickets G, and the pairs of posts C, of the two chains I, substantially as herein shown and described, whereby the said pickets can turn down at either side, as set forth.

265,848. HAT-SINGEING DEVICE. James J. Hoyt, East Orange, N.J. Filed Aug. 7, 1882. (No model.)

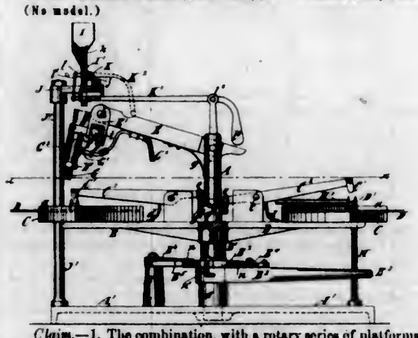


Claim.—1. A hat-singeing device composed of a hat-singeing chamber, *a*, a fluid-receptacle, means adapted to keep a constant or pilot light, and means adapted to increase the size of said light to a singeing-flame, all substantially as herein set forth.

2. In a hat-singeing machine, in combination, the receptacle *b* and tank *c*, the pipe *d*, cocks *g g'*, adapted to open simultaneously, and means adapted to open said cocks simultaneously, all as herein set forth.

3. In a hat-singeing machine, in combination, the receptacle *b* and tank *c*, pipe *d*, and U-shaped pipe connected therewith, cocks *e* thereon, cocks *g g'*, and mechanism adapted to operate the same simultaneously, all substantially as herein set forth and shown.

265,849. MACHINE FOR SOLDERING HANDLES ON CANTOPS. Herman Miller, New York, N. Y. Filed June 9, 1882. (No model.)



Claim.—1. The combination, with a rotary series of platforms or tables, C, of the post A, the beam E, the piece E', pivoted at *h* to said beam, so as to swing toward and from the post, the frame F, pivoted at *i*, so as to swing in a plane transversely to that in which the piece E' swings, a soldering iron or irons carried in said frame, and means for heating the iron or irons, all adapted to operate substantially as described, and for the purpose set forth.

2. The combination, with a rotary series of platforms or tables, C, of the post A, the beam E, the piece E', pivoted to said beam at *h*, the frame F, pivoted to said piece E' at *i*, one or more hollow irons, G, in said frame, means for heating said iron or irons, a hopper for solder pellets, and devices actuated by the rising and falling movements of the beam E to deliver pellets one by one into said iron or irons, substantially as described.

3. The combination, with a rotary series of platforms or tables, C, of the post A, the beam E, the piece E', fulcrumed to said beam at *h*, the frame F, pivoted to said piece E' at *i*, and carrying one or more soldering-irons, means for heating said iron or irons, the pressers C', levers C', carrying said pressers, and fulcrumed at *e*, the stationary track or way *f* and cam *f'*, and the springs *g*, all substantially as described.

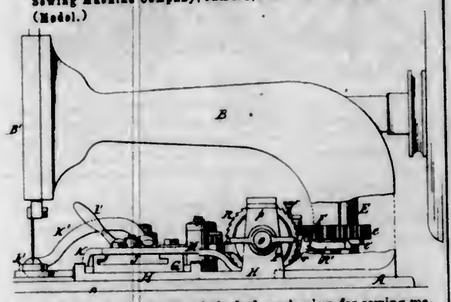
4. The combination, with the post A and frame or spider B, of the ratchet-wheel B', the lever B', provided with a pawl, B', and projection *s'*, and the pawl B', adapted to be thrown out of engagement with the ratchet-wheel by the projection *s'* striking against it, substantially as and for the purpose described.

5. The combination, with the rotary series of platforms or tables C, the post A, and the beam E, of the hollow soldering-irons G, carried by said beam, the hopper I for solder pellets, the solder-tubes I', the rock-shaft K, provided with the cams *j*, having the lower projection, *j'*, and the sharp upper projection, *j''*, and connections through which said rock-shaft is operated by said beam in its rising and falling movements, substantially as described.

6. The combination of the tube I' and the rock-shaft K, having fixed upon it the cam *j*, provided with the lower projection, *j'*, and the sharp upper projection, *j''*, substantially as described.

7. The combination of the hollow irons G, the holder E E' F therefor, the hopper I for solder pellets, the outlet-tubes I', the shaft K, lever K', arm *l*, link *l'*, and cams or dogs *j*, provided with the lower projections, *j'*, and the sharp upper projections, *j''*, substantially as described.

265,850. BUTTON-HOLE SEWING-MACHINE. Daniel Mills, Philadelphia, Pa., assignor to the United States Button Hole Sewing Machine Company, Camden, N.J. Filed Aug. 22, 1881. (Model.)



Claim.—1. In a button-hole-feed mechanism for sewing-machines, the combination of the primary slide carrying a stud with a pivoted operating-lever, F', having springs *f' f'* bearing on said studs, as and for the purpose set forth.

2. The combination of the base-plate of a button-hole-sewing-machine attachment, having lugs *h* and cylindrical rods *g*, with a primary slide mounted on said rods, and a yielding operating-lever, F', all substantially as described.

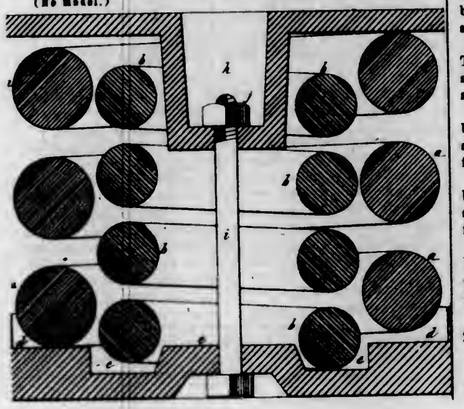
265,851. EXTENSION-CORNICE. James H. Montgomery, Jr., Columbus, Ohio, assignor to Jesse W. Dean, same place. Filed May 9, 1882. (No model.)

Brief.—Bulged and roller-bearing brackets span and brace the center-piece and sliding arms.



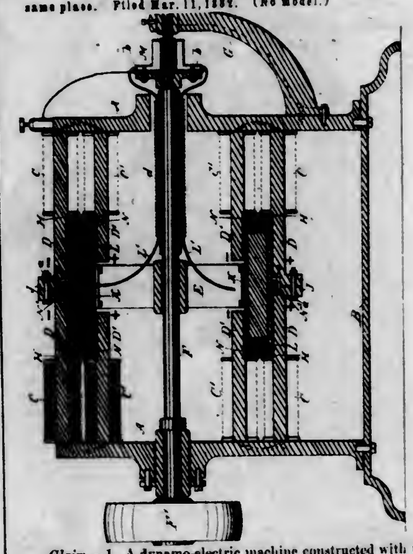
Claim.—In an extensible cornice of the described class, the bridge-plates C C, spanning and bracing the body of the cornice and its extensible arms, and bent or bulged to form boxes *e*, having pins or studs *f*, in combination with the sheaves or pulleys D and cords for extending the arms, substantially as and for the purpose shown and specified.

265,852. CAR-SPRING. George W. Morris, Chicago, Ill., and George W. Prescott, St. Louis, Mo. Filed Aug. 23, 1882. (No model.)



Claim.—A graduated bolster-spring composed of spirally-coiled bars of equal length placed one within the other, and a seat-plate having recesses of different depths, whereby to let the top of the inner spiral spring down below the top of the outer one, as shown and described.

265,853. DYNAMO-ELECTRIC MACHINE. Hans J. Muller, New York, N. Y., assignor to himself and Alexander Levett, same place. Filed Mar. 11, 1882. (No model.)



Claim.—1. A dynamo-electric machine constructed with two sets of field-magnets, each set composed of four electro-magnets, and each set forming a double outer and two inner poles, substantially as herein shown and described, and for the purpose set forth.

2. In a dynamo-electric machine, the combination, with a rotary armature, of field-magnets having in each set of magnets an outer double pole and two inner single poles, the outer and inner poles being of opposite polarity, substantially as herein shown and described, and for the purpose set forth.

3. In an armature of a dynamo-electric machine, the combination, with the armature-wheel E, of the cores K, the coils L, and the bracing-rings N in the ends of the cores K, substantially as herein shown and described, and for the purpose set forth.

4. In a dynamo-electric machine, the combination, with the armature-wheel E, of the cores K, the coils L, and the bracing-rings N and N', substantially as herein shown and described, and for the purpose set forth.

5. In a dynamo-electric machine, the combination, with a swinging brush-holder, of a spring for pressing the brush-holder toward the commutator and a spring for pressing the end of the brush upon the commutator, substantially as herein shown and described, and for the purpose set forth.

6. The combination, with the brush R, a holder, P, and spring T, for pressing on the former, of the bracket or fixed arm S, and screw *h*, for adjusting the pressure of said spring, as shown and described.

7. In a dynamo-electric machine, the combination, with the brush-holder P and brushes R, of the arm S and the screw *h*, substantially as herein shown and described, and for the purpose set forth.

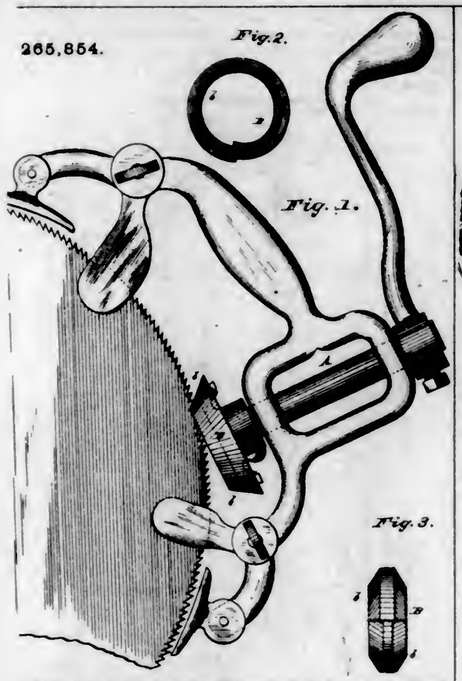
8. In a dynamo-electric machine, the combination, with the brush-holder P, of the arm S, the screw *h*, and the spring T, substantially as herein shown and described, and for the purpose set forth.

9. In a dynamo-electric machine, the combination of the sleeve V, having hook *l*, and the clamp-screw W, as shown, with the spindle Q, the spring U, coiled on the latter, and the swinging brush-holder P, all as shown and described.

265,854. SAW-SHARPENING TOOL. Robert S. Mosher, Mexia, Tex. Filed Mar. 3, 1882. (No model.)

Claim.—1. A rotary saw-sharpening tool having a curved edge-shaped rim provided with filing-surfaces on the edge and each side

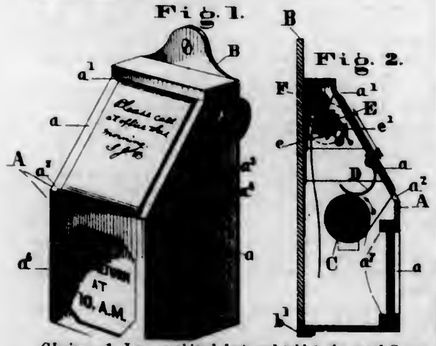
265,854.



thereof, one or both of which sides are inclined inwardly from heel to edge toward the axis of the tool, substantially as and for the purpose described.

2. A rotary self-feeding saw-sharpening tool having an edge-shaped rim of helical form provided with a file cut on the edge and sides thereof, one or both of which sides are inwardly inclined from heel to edge toward the axis of the tool, substantially as and for the purpose described.

265,855. COMBINED DESK-FRAME AND TABLET. WILLIAM H. NELSON and MOSES J. WATERMAN, Alexandria, Va. Filed Apr. 22, 1882. (No model.)



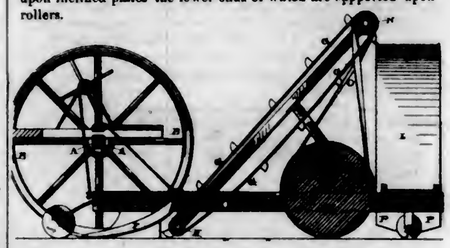
Claim.—1. In a combined desk and tablet, the spool C and spring D, the supporting-surface *a*, with slots *a' a²*, and the drawing-rollers E F, with ratchet and pawl *e e'*, as described.

2. In a desk or tablet case, the independent back-board B, adapted for permanent attachment to a suitable surface, in combination with the removable body portion A and means, substantially as described, for securing the body portion to the back-board.

3. In combination with the permanently-attached back-board B to a suitable surface and removable body portion A, the sliding door *a'*, the door being adapted to be opened only when the body portion is removed from the back-board, as shown and described.

265,856. MACHINE FOR DITCHING AND GRADING. TRUMAN B. MILES, Swanville, Ind. Filed Feb. 25, 1882. (No model.)

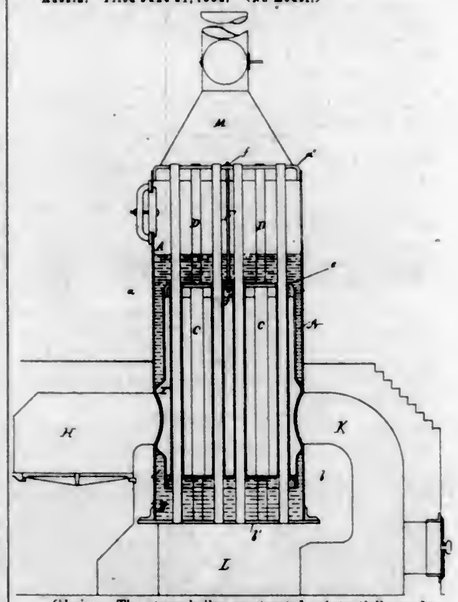
Brief.—The plows deposit the earth upon an endless carrier driven from the rear supporting-wheel, said earth being deposited upon inclined plates the lower ends of which are supported upon rollers.



Claim.—1. In a ditching-machine, the combination of the frame D, supported at its front end upon the wheels B and at its rear end by the roller E, which runs in the ditch made by the plows F, the endless apron G, operated by the belt O from the roller, and the plates J J and P P, the latter provided with the rollers R, substantially as shown.

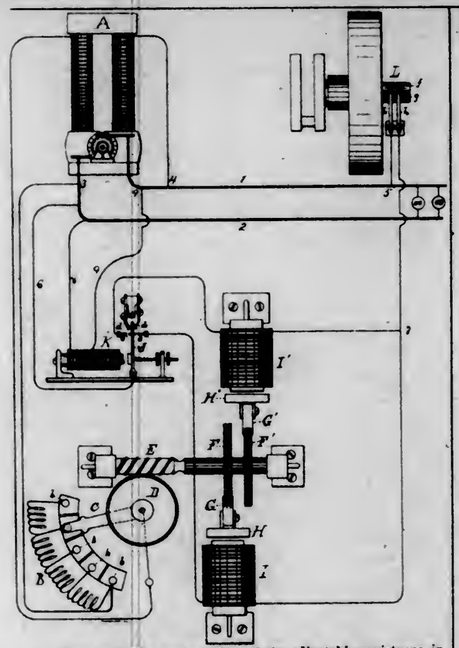
2. In a ditching-machine, the leaves for carrying the dirt to each side of the ditch and provided with a roller or other suitable devices at their outer ends, substantially as specified.

265,857. STEAM-BOILER. DIMITRIUS I. MOVIKOFF, Drosna, Russia. Filed June 21, 1882. (No model.)



Claim.—The steam-boiler constructed substantially as described, having upper and lower reservoirs, A B, respectively, water-tubes C, connecting said reservoirs, fire-flues D, passing through said tubes and extending completely through said reservoirs, fire-box or furnace H, combustion-chamber I, through which said tubes and flues pass, smoke-chamber L below said combustion-chamber, and diving-flue K, connecting said chambers, the parts specified being constructed substantially as shown and described, whereby the flames, &c., will first surround the water-tubes at their bases and then pass upwardly through the flues D direct to the smoke-stack or chimney, as set forth.

265,858. REGULATOR FOR DYNAMO-ELECTRIC MACHINES. JOHN F. OTT, Newark, N. J., assignor to the Edison Electric Light Company, New York, N. Y. Filed Aug. 14, 1882. (No model.)



Claim.—1. The combination of the adjustable resistance in the field-circuit of a dynamo or magneto electric machine, the pivoted arm for varying such resistance, the electro-magnets, each in a division of a multiple-arc circuit from the main line, for turning said arm in one or the other direction, means actuated by variations in the current on the main line for closing circuit to one or the other of said electro-magnets, and means actuated by any moving portion of the generating apparatus for causing successive makes and breaks of the circuit energising said electro-magnets, substantially as set forth.

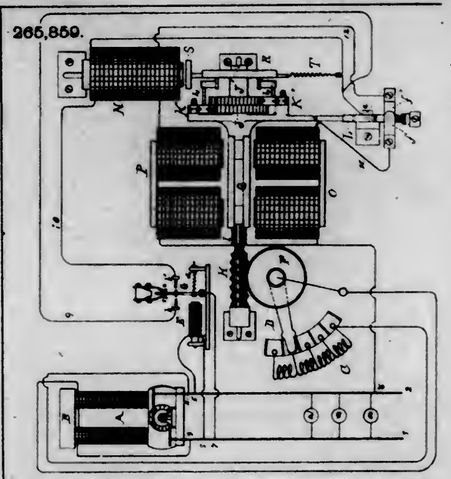
2. The combination, with the adjustable resistance in the field-circuits, of the electro-magnet in a multiple-arc circuit, two other electro-magnets the circuits of which are controlled by the first electro-magnet, the shaft of the engine or of the generator-armature formed into a circuit-breaker in the manner described, whereby the circuit to the last-mentioned electro-magnets is made and broken as the shaft revolves, a pawl-and-ratchet device operated by the armature of each of said last-mentioned electro-magnets, and an arm worked by said pawls and ratchets for adjusting the resistance, substantially as set forth.

3. The combination, with a dynamo or magneto electric machine, of an adjustable resistance for varying the strength of the field-current, an electro-magnetic escapement or escapements controlling the resistance by a step-by-step movement, and a circuit-breaker controlled by a moving part of the machinery and adapted to alternately make and break the escapement-circuit, substantially as set forth.

265,859. REGULATOR FOR DYNAMO-ELECTRIC MACHINES. JOHN F. OTT, Newark, N. J., assignor to the Edison Electric Light Company, New York, N. Y. Filed Aug. 14, 1882. (No model.)

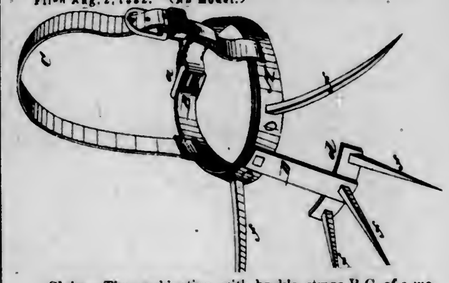
Claim.—1. In a regulating apparatus for dynamo or magneto electric machines, the combination of an electromotor actuated by the current generated, and having a vibrating armature, with a resistance in the field-circuit, two pawl-arms and two ratchet-wheels actuated by said vibrating armature, and means actuated by variations in the number of translating devices in circuit for throwing one or the other of said pawls into engagement with its ratchet-wheel to throw resistance into and out of the field-circuit, substantially as set forth.

2. The combination, with a dynamo or magneto electric machine, of a variable resistance in its field-circuit, an electromotor, an electro-magnetic escapement or escapements for controlling the resistance by step-by-step movement, and an automatic circuit-breaker controlled by the motor itself for giving the intermission of current necessary to the step-by-step movement, substantially as set forth.



3. The combination, with a dynamo or magneto electric machine, of a variable resistance in its field-circuit, an electromotor, an electro-magnetic escapement or escapements for controlling the resistance by step-by-step movement, and an automatic circuit-breaker controlled by the motor itself, for giving the intermission of current necessary to the step-by-step movement, and means for determining the direction of action of the escapement or escapements, substantially as set forth.

265,860. MUZZLE. EDWIN PARKER, Council Bluffs, Iowa. Filed Aug. 2, 1882. (No model.)



Claim.—The combination, with buckle-straps B C, of a metallic spike-band, A, and a metallic strip, D, having a spiked cross-strip, the whole adapted to prevent animals from sucking, as described.

265,861. ELECTRODE FOR BATTERIES. JAMES PITKIN, Clerkenwell, County of Middlesex, England. Filed July 13, 1882. (No model.)

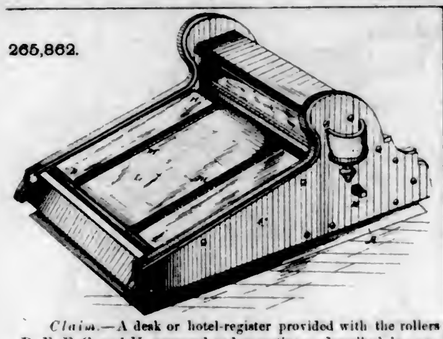


Claim.—1. In a battery, the combination, with an electrode composed of a mass of finely-comminuted metal, of a holder for said mass, constructed of series of louver-like laths arranged across the opposite sides of a frame, and having interstices between them, substantially as shown and described.

2. The combination, with an electrode composed of a mass of finely-comminuted metal, of inclosing plates having downwardly and inwardly inclined apertures and fixed to opposite sides of an inclosing frame, as shown and described.

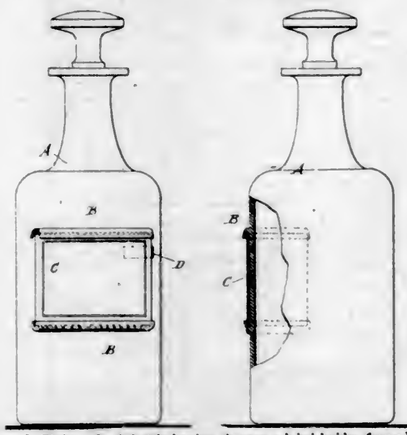
265,862. REVOLVING HOTEL-REGISTER. HARRY PORTER, Independence, Kans. Filed May 26, 1882. (No model.)

265,862.



Claim.—A desk or hotel-register provided with the rollers D, E, F, G, and H, arranged and operating as described, in combination with the continuous apron L, as and for the purpose shown and set forth.

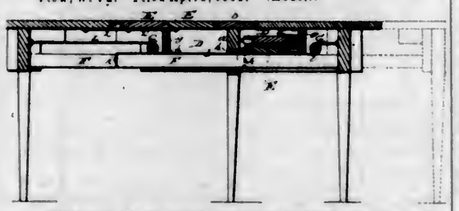
265,863. BOTTLE-LABEL HOLDER. WILLIAM WALLACE QUIGGLE, Winnebago City, Minn. Filed July 18, 1882. (Model.)



Claim.—1. A bottle having thereon a label-holder formed of two parallel transverse flanges, B B, turned toward each other, forming opposite grooves, closed at one end, and having the upper flange extended out from the bottle a little farther than the lower one, whereby the label is protected from being soiled or defaced, as described.

2. The combination, with the bottle A, provided with grooved flanges B, of the glass or porcelain label C, having its edges passed into the grooves of the flanges, and of the locking piece or strip D, inserted between the label and the bottle, substantially as herein shown and described, and for the purpose set forth.

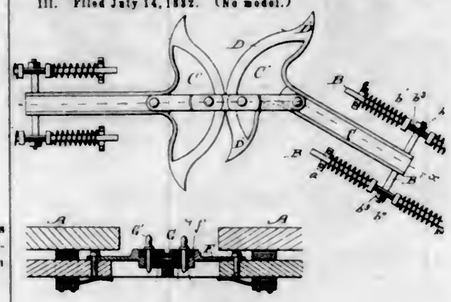
265,864. EXTENSION-TABLE. HARPER M. RALSTON, Fair View, W. Va. Filed Apr. 8, 1882. (Model.)



Claim.—1. In an extension-table, the self-adjusting leaves E, having reciprocal concave and convex edges e' and e, centering-pins p, and open-bottom recesses r and flexible connections z, substantially as specified.

2. In an extension-table, the combination, with the vertically-grooved walls a' of the receptacles D in the middle frame and the self-adjusting leaves E, of the projections p on the outer edges of said leaves, and the flexible connections z, attached to said leaves near said outer edges, substantially as specified.

265,865. CAR-COUPLING. CHARLES W. RASMUSEN, Chicago, Ill. Filed July 14, 1882. (No model.)



Claim.—1. A car-coupling having draw-heads provided with broad laterally-curved bearing-surfaces, and having connecting bars or bar pivoted back of said bearing-surfaces at such distance as to permit said surfaces to move freely one upon the other from side to side, and at the same time to hold them constantly together, substantially as described.

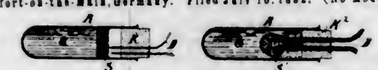
2. A car-coupling having draw-heads each provided with a broad laterally-curved bearing-surface, and each provided with a connecting-bar pivoted back of said bearing-surface, and having mechanism, substantially as described, for uniting said connecting-bars, substantially as set forth.

3. A car-coupling having draw-heads with broad laterally-curved bearing-surfaces, and having connecting-bars pivoted back of said draw-heads, and having guides on the draw-heads for the free ends of said bars, and having mechanism for uniting the free ends of said bars, substantially as described.

4. A car-coupling having laterally-curved bearing-surfaces, and having connecting bars or bar in length proportionate to the curve of said surfaces, as described, so that the draw-heads may be held constantly together, and having stops to limit the movement of said draw-heads, substantially as described.

5. The combination, with the draw-heads having the laterally-curved bearing-faces D and journaled shanks C, of the spring mechanism for said shanks, and pivoted connecting mechanism for the draw-heads, substantially as described.

265,866. VITAL-HEAT ALARM. WILHELM REISSIG, Darmstadt, assignor to Gebrueder Schmidt, Bockenheim, near Frankfort-on-the-Main, Germany. Filed July 10, 1882. (No model.)



Claim.—1. A device, made substantially as herein shown and described, for sounding an alarm when life and the natural warmth of the body return in apparently dead persons or persons in a trance, consisting of a tube or vial containing mercury and connected with a battery and alarm apparatus, which mercury is held from closing the circuit between the two electric conductors or wires by a plug of highly-fusible material, which melts when the natural warmth of the body returns, permitting the mercury to come in contact with both conductors, thereby closing the circuit, so that the alarm will be sounded, as set forth.

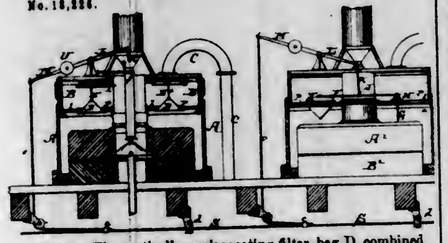
2. The combination, with a tube containing mercury and connected with a battery, of a plug of fusible material, which prevents the mercury from coming in contact with the wires, substantially as herein shown and described, and for the purpose set forth.

3. The combination, with a tube containing mercury, of wires connected with a battery and projecting into this tube, a plug of highly-fusible material to prevent the mercury from coming in contact with the wires, and of a stopper for closing the end of the tube, through which stopper the wires pass, substantially as herein shown and described, and for the purpose set forth.

265,867. PRINTING-INK. WILHELM REISSIG, Darmstadt, assignor to Gebrueder Schmidt, Bockenheim, near Frankfort-on-the-Main, Germany. Filed July 22, 1882. (No specimens.)

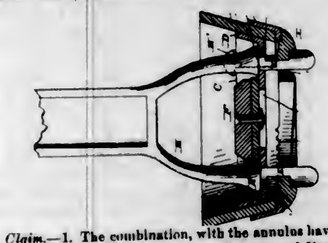
Claim.—An improved printer's ink, consisting, as herein described, of black or dioxide of manganese and linseed-oil varnish, as set forth.

265,868. DUST-COLLECTOR FOR FLOUR-MILLS. JOHANN G. E. REICHARDT, Zwenkau, near Leipsic, Germany. Filed July 11, 1882. (No model.) Patented in Germany Sept. 17, 1880 No. 16,226.



Claim.—The vertically-reciprocating filter-bag D, combined with perforated plate b, valve-plate T, suction-pipe C, lever M, and with mechanism, substantially as described, for moving said lever, and with the grindstones A^1 B^1, for operation substantially as herein shown and described.

265,869. PUMP-BUCKET. LESTER M. RICE, Cedar Rapids, Iowa. Filed July 25, 1882. (No model.)

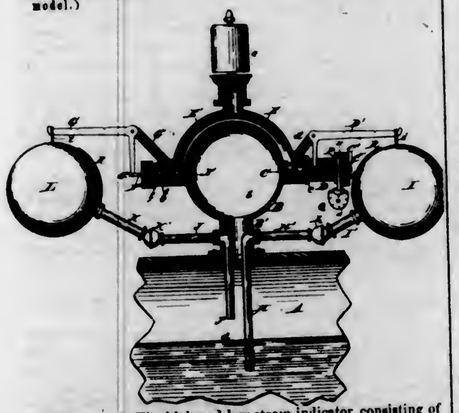


Claim.—1. The combination, with the annulus having a flaring rim, of the valve-disk having a parallel rim and diametrically-opposite openings, the lower annulus provided with recesses and inclined walls and the bifurcated shouldered and recessed portion of the pump-rod, all arranged to be secured together, substantially as and for the purposes specified.

2. In combination with the upper and lower annuli and the bifurcated pump-rod, adapted to be secured together, as described, the set-screws adapted to bear in corrugations on the lower annulus, substantially as and for the purposes set forth.

3. In a pump-bucket, the combination, with the upper annulus, against which the packing rests, of the lower annulus having inclined lower walls or cams and suitable fastening devices whereby it may be secured to the upper annulus, substantially as specified.

265,870. HIGH AND LOW STEAM AND WATER ALARM. JOSEPH RICHTER, Cincinnati, Ohio. Filed July 31, 1882. (No model.)



Claim.—1. The high and low steam indicator consisting of chamber b, adjustable weighted spring-valves C and F, and escape-passage E E', substantially as herein set forth.

2. The combination of the indicator B, having an escape-passage, E, and a single point of communication with the boiler, with the stuffing-box e, projecting from the indicator, the valve C, seated in one side of the indicator, the spring-impelled valve-stem C', extending through the stuffing-box, and the weighted bell-crank lever D', pivoted at its angle to a bracket on the indicator, and having one end projecting through the stuffing-box and connected with the valve-stem, substantially as described.

3. The combination of the indicator B, having an escape-passage, E', and a single point of communication with the boiler, with the stuffing-box f, projecting from the indicator, the valve F, seated in one side of the indicator, the valve-stem F', projecting through the stuffing-box, and the weighted bell-crank lever G, pivoted at its angle to a bracket on the indicator, and having an end connected with the valve-stem, substantially as described.

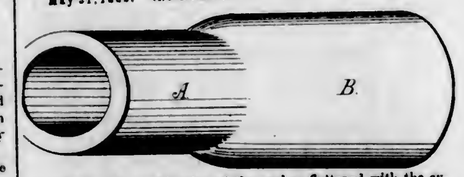
4. A combined high-steam and low-water indicator, consisting essentially of the adjustable spring-valve C, lever D', and hollow weight I, with jointed pipe-connection H H' h, substantially as herein set forth.

5. A combined low-steam and high-water indicator, consisting essentially of the adjustable spring-valve F, lever G, and hollow and jointed pipe-connection K K' J J', substantially as herein set forth.

6. A combined high and low steam indicator, consisting of hollow chamber b, adjustable spring-valves C F, ports or passages E E', and weighted levers D' G, connected respectively to the valve-stems, substantially as herein set forth.

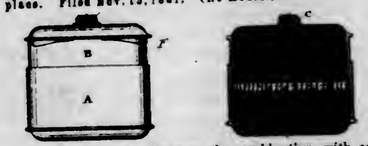
7. A combined high and low steam and high and low water indicator, composed of chamber b, adjustable valves C F, levers D' G, and hollow weights I L, with jointed pipe-connections, and pipes communicating with the interior of the boiler by but a single opening made in the shell thereof, substantially as herein set forth.

265,871. WATER GRATE-BAR. MATTHEW L. RITCHIE, New York, N. Y., assignor to John B. Kitchlag, same place. Filed May 31, 1882. (No model.)



Claim.—A combination of the oval or flattened with the cylindrical water grate-bar, forming an oval or flattened bar with cylindrical ends that may be substituted for the ordinary cylindrical water grate-bar as now used without change of bearings, as herein set forth.

265,872. HAND-STAMP. GEORGE J. B. RODWELL, Toronto, Ontario, Canada, assignor of one-half to William Dicks, same place. Filed Nov. 15, 1881. (No model.)



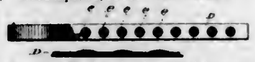
Claim.—In a hand-stamp, the combination, with an outer case, A, provided with an inking-pad, b, of the hollow removable inner case, B, carrying type, and provided with a stopper, C, and a brush, D, and the springs F, secured to the case B, and adapted to rest upon the edge of the case A, substantially as and for the purpose specified.

265,873. STOVE-PIPE. TIMOTHY E. ROLLINS, Corning, N. Y. Filed July 21, 1882. (No model.)



Claim.—In a pipe-joining device, the combination of the semicircular recessed plates or half-rings A, adjustably hinged at a, said plates or half-rings being recessed to a shoulder from one edge and beveled inwardly from the opposite edge, as shown and described, with the clamping half-handles held together by catch F or the ring, as shown and described.

265,874. PERCUSSION-TAPE. ISRAEL M. ROSE, Norwalk, Conn. Filed Apr. 24, 1882. (No model.)



Claim.—1. The herein-described improvement in tapes for lamp-lighters, consisting of the strip of woven fabric D, having the percussion-pellets *e e* arranged upon its surface and exposed without covering, substantially as described.

2. The herein-described improvement in tapes for lamp-lighters, consisting of the strip of woven fabric D, having the percussion-pellets *e e* arranged upon its surface and exposed without covering, the opposite side of the tape having a backing of paper, E, secured thereto, substantially as described.

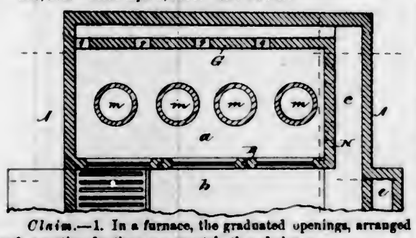
265,875. WINDOW-SHADE. LODOVICK L. SAWYER, CHAUNCEY BUCKLEY, and JUDSON C. PERKINS, Meriden, Conn. Filed May 15, 1882. (No model.)

Brief.—The upper semi-transparent portion is provided with one or more openings therein.



Claim.—A window-shade consisting of the lower opaque portion, A, the upper semi-transparent portion, B, with one or more openings, D, in the part B, substantially as described.

265,876. BONE AND WOOD BURNER. ADAM SCHAFER, Newark, N.J. Filed Apr. 5, 1882. (No model.)



Claim.—1. In a furnace, the graduated openings, arranged and operating for the purpose set forth and shown.

2. In a furnace, the partition B, formed of tile, having thin panels or centers, as herein set forth and shown.

3. In a furnace, the partition B, separating the fire-chamber *b* from the retort-chamber *a*, formed of tongue-and-grooved tile, the panels or central portions being comparatively thin, as herein set forth and shown.

4. In a furnace for burning bone, &c., the chamber *a*, having retort *m* therein, the fire-chamber *b*, passages *c d*, leading from chamber *b* to chamber *a*, ingress-openings *g*, and exit-ports *n*, leading the flame into and from said retort-chamber, all being arranged substantially as shown and described.

5. In a bone or wood burner, the chamber *a*, with retort *m* therein, fire-chamber *b*, passages *c d f*, and chimney *e*, all being arranged substantially as shown, for the purpose set forth.

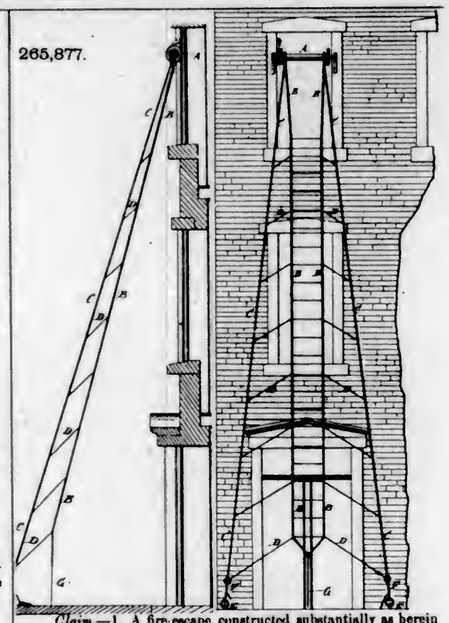
6. An improved furnace for burning bone, wood, &c., composed of an outer wall, A, inner walls, G N B, and partition or wall H, the walls G N having respectively openings *g* and ports *n* therein, the walls G N B H forming passages or chambers *b c d f* and chimney *e*, all being arranged substantially as shown, for the purpose set forth.

7. A furnace composed of walls forming the retort-chamber, fire-chamber, passages leading from said fire-chamber to said retort-chamber and from said retort-chamber to the chimney, the exit-ports of the retort-chamber being approximately near the floor, and said retort-chamber having retorts *m* arranged therein, all substantially as set forth.

265,877. FIRE-ESCAPE. CHARLES E. SEABURY, Stony Brook, N.Y. Filed Feb. 28, 1882. (No model.)

Brief.—The ladder is provided with guy-ropes, which are connected to it by inclined brace-ropes.

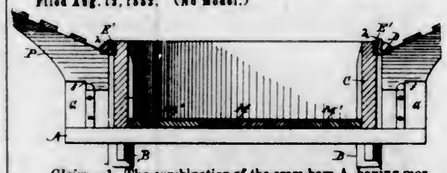
265,877.



Claim.—1. A fire-escape constructed substantially as herein shown and described, and consisting of the shaft A, flexible ladder B, the guy-ropes C, the brace-ropes D, and the hauling-rope G, as set forth.

2. In a fire-escape, the combination, with the shaft A and flexible ladder B, of the guy-ropes C and inclined brace-ropes D, substantially as herein shown and described, whereby the said ladder can be held firm and steady, as set forth.

265,878. WAGON-RACK. JOHN SHAFER, Logansport, Ind. Filed Aug. 12, 1882. (No model.)



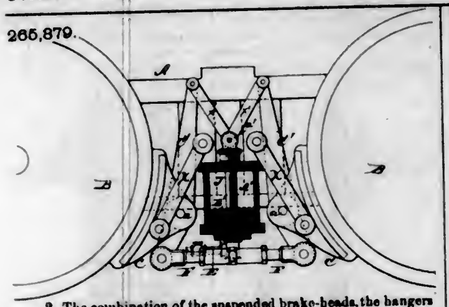
Claim.—1. The combination of the cross-bars A, having mortises near their ends and standards G at their extreme ends, the side-boards C, having tenons B and ribs D, provided with openings E E′, the removable extension-standards H, supported upon standards G, and having hooks engaging with the openings E′, the removable tenons I, securing the side-boards to the forward end-gate, and the brackets I, secured to the outer surface of the side-boards, underneath the tenons I, substantially as shown and described, whereby the standards F of the wood-rack or the inclined arms P P′ of the hay-rack may be combined with the bed at will, as set forth.

2. The combination of the cross-bars A, having tongues N, the bottom boards, M′, having lips N′ engaging with tongues N, and provided with inclined beveled edges, and the central bottom board, M, having converging beveled edges and adapted to be wedged between the adjacent boards, substantially as shown and described.

265,879. STEAM-BRAKE. THOMAS J. SHELLHORN, Hancock, Mich. Filed Feb. 18, 1882. (No model.)

Claim.—1. The combination of the suspended brake-heads C C, the hangers *x x* therefor, the vertical levers C′ C′, pivoted thereto, the endwise-adjustable fulcrum-rod F, pivoted to the lower arms of the levers C′ C′, the toggle-links *x′ x′*, connecting the upper ends of the said levers directly to the piston-rod, and the vertical steam-cylinder located below the axis of the wheels, all arranged for joint operation substantially in the manner and for the purposes described.

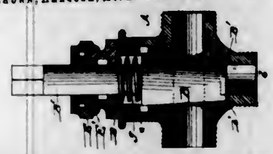
265,879.



2. The combination of the suspended brake-heads, the hangers therefor, the vertical levers pivoted to these heads, the adjustable fulcrum-rod, the toggle-links connecting the upper ends of said levers directly to the piston-rod, the vertical steam-cylinder, the steam inlet and outlet pipes, and the spring-actuated valve c, connected to the supply-pipe, all arranged substantially in the manner and for the purposes explained.

3. In a power-brake system, a vertical cylinder having a steam-tight piston and glandless heads, said cylinder being adapted to take steam from the lower end and exhaust it from the same end, in combination with a relief-valve connected to the steam-pipe, all constructed and arranged substantially as described.

265,880. THREE-WAY COCK FOR STEAM-BRAKES. THOMAS J. SHELLHORN, Hancock, Mich. Filed Feb. 21, 1882. (No model.)



Claim.—1. The combination of the coupling-box A, the plug B, having the vertical and horizontal exhaust-port F, the steam-port G, and the seat B′, formed in the said coupling-box, substantially in the manner and for the purpose described.

2. The combination of the coupling-box having three ways, a plug, B, a spring to hold it down, the vertical and horizontal exhaust-passages in this plug, the seat B′ in said coupling-box, and the passage G, substantially as described.

265,881. FIRE-ESCAPE. GEORGE W. SMITH, Harlansburg, Pa., assignor to himself and John C. Dean, Lawrence County, Pa. Filed Apr. 6, 1882. (No model.)

Brief.—Upon two slotted vertical tubes secured to the house-front two balconies rise and descend, being connected to supports extending into and guided by the tubes. The balconies and supports counterbalance each other upon the working-rope, which extends up through one tube and across to and down the other. Suitable brakes are provided to be worked both in the balconies and upon the ground.

Claim.—1. The combination, with the side wall of a house, of a fire-escape consisting of a couple of guideway-tubes, C, a balcony, J, fitted to slide on each, and a suspending and operating wire rope, both of the balconies being attached to and balanced on the rope, said rope being continuous over guide-pulleys from one tube to the other at the upper end, substantially as specified.

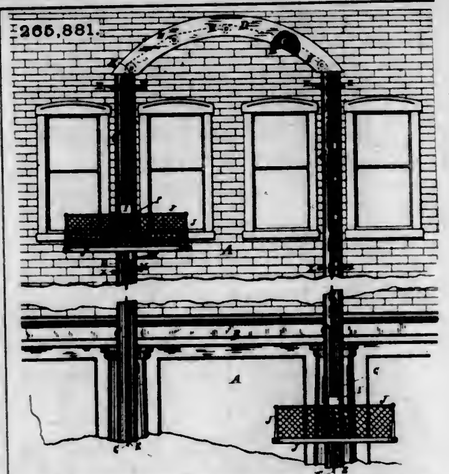
2. The combination, in a fire-escape, of a slotted guideway-tube, C, balcony J, and balcony-support, I, provided with central web, F, having the T-bar K, and connecting said balcony with and adapting it to slide upon the slotted tube, substantially as specified.

3. The combination, in a fire-escape, of a pair of guideway-tubes, C, a supporting and operating rope and slide working in said guideway-tubes, a pair of balconies sliding on said guideway-tubes and counterbalanced thereon by each other, and a self-acting safety-brake, L, substantially as specified.

4. A fire-escape consisting of a balcony suspended and sliding on a guideway-tube, C, and having a safety-brake, L, the said brake having a cord, O, connected to it and arranged on a guide, R, to be worked by said cord from the ground, substantially as specified.

5. In a fire-escape consisting of a balcony suspended and sliding on a guideway-tube, C, by a rope, G, and the balcony-support I, the toothed rack S in the tube and a crank and pinion in the balcony-support to work the balcony, substantially as specified.

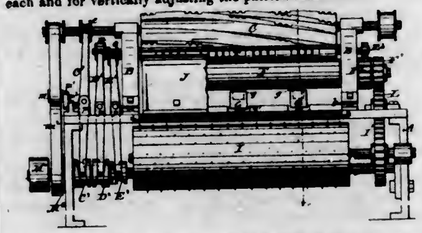
265,881.



6. The combination, with a building, of a pair of vertical slotted tubes, C, a tubular top, D, connecting the tubes, guide sheaves or pulleys H, and a suitable rope arranged in said tubes for the guide-ways and the suspending and operating devices of a fire-escape, substantially as specified.

265,882. CLOTH-SHEARING MACHINE. J. HARPER SMITH, Raritan, N.J. Filed Mar. 29, 1882. (No model.)

Brief.—A notched ledger-blade, a notched revolving cutter, and a pattern-roll are combined with mechanism for reciprocating each and for vertically adjusting the pattern-roll.



Claim.—1. The combination of a ledger-blade, a notched revolving cutter, and a pattern-roll directly under said revolving cutter, and adapted to elevate portions of a cloth-surface against said notched revolving cutter, substantially as and for the purpose described.

2. The combination of a notched ledger-blade, a revolving cutter, and a pattern-roll adapted to elevate portions of a cloth-surface against the revolving cutter, substantially as and for the purpose described.

3. The combination of a notched ledger-blade, a notched revolving cutter, and a pattern-roll adapted to elevate portions of a cloth-surface against the revolving cutter, substantially as and for the purposes described.

4. The combination of a reciprocated ledger-blade, a revolving cutter, and a pattern-roll, with mechanism for operating the pattern-roll, substantially as and for the purpose described.

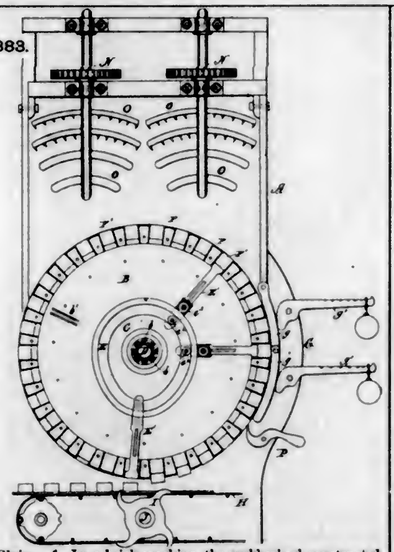
5. The combination of a ledger-blade, a revolving cutter, and a reciprocated pattern-roll, with suitable mechanism for operating the pattern-roll, substantially as and for the purposes described.

6. The combination of a reciprocated ledger-blade, a revolving cutter, and a reciprocated pattern-roll, with suitable mechanism for operating the pattern-roll, substantially as and for the purpose described.

7. The combination of a reciprocated ledger-blade, a reciprocated revolving cutter, and a reciprocated pattern-roll, with suitable mechanism for operating the pattern-roll, substantially as and for the purposes set forth.

265,883. BRICK-MACHINE. JOHN OWEN SMITH, Savannah, Ga., assignor to himself and Wm. Francis Chaplin, Jr., same place. Filed Apr. 3, 1882. (No model.)

265,883.



Claim.—1. In a brick-machine, the mold-wheel constructed of the shells B', having radial guides *b'* on the inner surface thereof, and the partitions F, secured between the shells in recesses near their peripheral edges, substantially as shown and described.

2. In a brick-machine having plungers arranged in peripheral contact with a stationary cam, the combination, with the cam having recesses E in its sides, of the plungers formed with parts *c'*, one of which is made removable, and which are provided with friction-rollers c^2, arranged in said recesses, substantially as shown and described.

3. In a brick-machine, the combination, with the mold-wheel, of a press consisting of a number of curved plates hinged to the frame-work and to each other, and a number of weighted levers for holding the plates in contact with the wheel, as and for the purpose described.

4. In a brick-machine, the combination, with the stationary shaft, of the mold-wheel formed of two shells having hubs which are provided with circular recesses and have friction-rollers arranged in the recesses, substantially as shown and described.

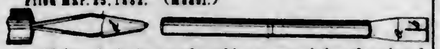
5. In a brick-machine, the combination, with the mold-wheel, of a grinding and feeding apparatus consisting of a number of vertical pendent shafts, N, having blades provided with knives, and propellers, said shafts being arranged in line with the wheel, substantially as shown and described.

265,884. MUSLIN-PAPER FOR THE MANUFACTURE OF PAPER-BAGS. THOMAS STEWART, Philadelphia, Pa. Filed July 15, 1882. (Model.)

Claim.—1. As an article of manufacture, paper for the manufacture of sacks, bags, or similar articles, having muslin netting embedded in and covered on both sides by the pulp in the process of manufacturing the paper, substantially as set forth.

2. As an article of manufacture, paper for the manufacture of sacks, bags, or similar articles, having muslin netting A, made with re-enforcing strands *a'*, embedded in and covered on both sides by the pulp in the process of manufacturing the paper, substantially as set forth.

265,885. MARKING-PEN. JAMES W. STOAKES, Milan, Ohio. Filed Mar. 25, 1882. (Model.)



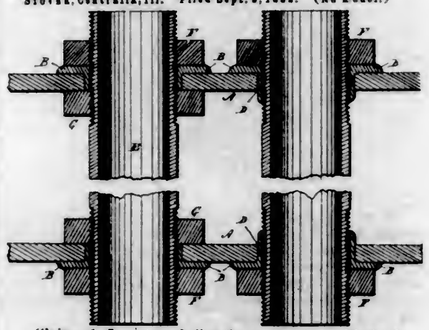
Claim.—1. An improved marking-pen consisting of two broad blunt flexible blades of the same length lying opposite and converging toward each other at their upper and lower ends, and each provided with one or more slits parallel with the sides of the pen, substantially as and for the purpose set forth.

2. In marking-pens, the partition *d*, combined with the slitted blades, substantially as described, and for the purposes specified.

3. A marking-pen provided with a partition fixed on one blade and extending loosely into a slit in the other blade, substantially as shown and described.

4. A marking-pen having two partitions forming a middle space having a hole, *c*, as and for the purpose set forth.

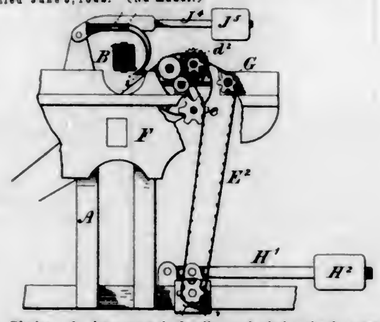
265,886. SECURING FLUES IN STEAM-BOILERS. ISAAC L. STOVER, Centralia, Ill. Filed Sept. 5, 1882. (No model.)



Claim.—1. In a steam-boiler, the combination, with the flue-sheets, of the flues or tubes having threaded ends, the flanged rings or washers, and the tightening-nuts, as set forth.

2. The combination and arrangement, as described, of the flue-sheets A, flanged rings or washers B, flues E, having threaded ends, tightening-nuts F, and jam-nuts G, as and for the purpose set forth.

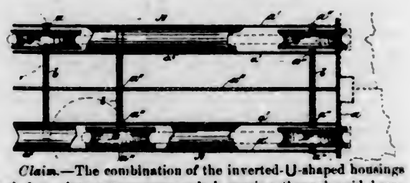
265,887. MOLDING-MACHINE. FREDERICK H. SWEET, Williamsport, Pa., assignor to Rowley & Hermance, same place. Filed June 5, 1882. (No model.)



Claim.—1. An upper feed-roller and chain-wheel secured upon a shaft mounted in bearings on a fixed frame, and a lower feed-roller and chain-wheel mounted in bearings on a movable bed or table, combined with a driving-chain passing around the said feed-roller chain-wheels, which are on the shaft between the feed-rollers and their gears, and with two idlers, around which the chain passes, one rotating in fixed and the other in yielding weighted bearings, substantially as set forth.

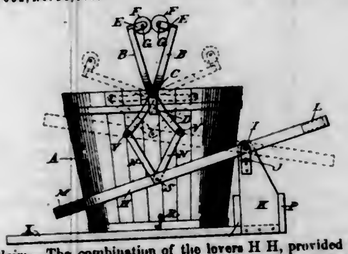
2. A weighted shaving-hood having a chip-breaker and pressure-shoe forming the toe or free end thereof, combined with arms to which it is adjustably secured, said arms being pivoted to the frame of the machine, substantially as set forth.

265,888. SASH-CORD GUIDE. ALEXANDER B. TADLOCK, Knoxville, Tenn. Filed Oct. 11, 1880. (No model.)



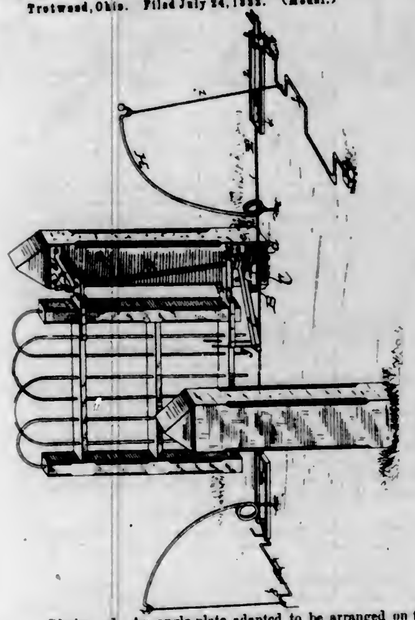
Claim.—The combination of the inverted-U-shaped housings a' a^3, face-plate *a*, transverse rods *b*, passing through said housings, front pair of sheaves, B', intermediate sheave, B, and rear sheave, B^3, with the mortised casing F and studding G, sashes C, and weighted cords E E', as and for the purpose herein set forth.

265,889. MOP-WRINGER. HENRY TAYLOR, London, Ontario, Canada, assignor of one-half to Patrick Walsh, same place. Filed July 10, 1882. (No model.) Patented in Canada Apr 27, 1882, No. 14,673.



Claim.—The combination of the levers H H, provided with foot-board M and brace L, strips N N, bent frame-pieces B B, bearings D D, bearings E E, and rollers F F, with the brackets K K, bearings J J, pivot-bolts I I, base-board X, and vessel A, constructed substantially as shown and described, and for the purpose specified.

265,890. GATE. GEORGE W. TREVER and CHARLES E. TREVER, Trotwood, Ohio. Filed July 24, 1882. (Model.)



Claim.—1. An angle-plate adapted to be arranged on the hinge-post of a gate formed with an angular slot and a lump or knob on the upper front face between the angles, substantially as described.

2. In a gate, a gravity-latch formed of a lever journaled about the hinge-bar and pivotally attached to the under bar of the gate by a loop, substantially as described.

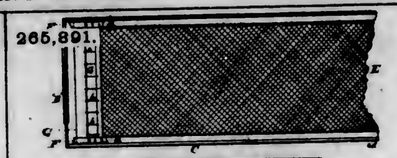
3. In combination with the hinge-bar of a gate, an angle-plate formed with an angular slot and a knob on the upper front face, and a gravity-latch journaled about the hinge-bar and pivoted to the under bar of the gate, substantially as described.

4. In combination with a swinging gate, a gravity-latch journaled about the hinge-bar, an angle-plate with angular slots and central lump or knob, a hinge-bar, and a trip device actuating the movement of the gate, substantially as described.

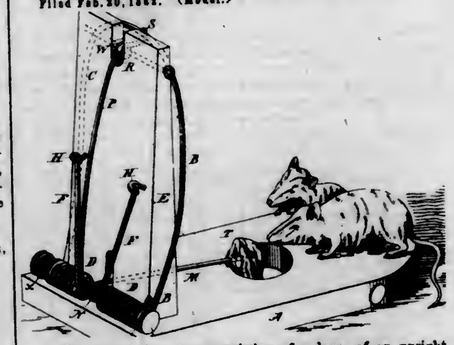
265,891. FOLDING BED. HENRY A. THAYER, Chicago, Ill. Filed Apr. 15, 1882. (No model.)

Claim.—The recessed plates F, each provided with a pivot on its rear side, and perforations *a a*, in combination with the rails C and G, operating in the manner and for the purpose specified.

265,891.

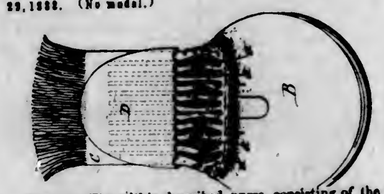


265,892. ANIMAL-TRAP. HORACE TINKER, Meadville, Pa. Filed Feb. 20, 1882. (Model.)



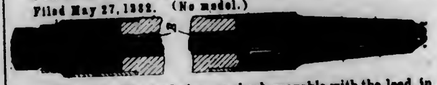
Claim.—A jaw-trap consisting of a base, of an upright mounted upon said base, of a bolt located behind the upright and attached to the base, of a wire choker-bow wound around said bolt to form a spring and the ends resting against the back of the upright, of hooks attached to the upright for holding the ends of the spring in place, and of a catch and trigger for holding the choker in an upright position, all combined and arranged substantially as set forth.

265,893. PURSE. ANNA M. TOWN, St. Johns, Kans. Filed June 22, 1882. (No model.)



Claim.—The within-described purse, consisting of the rear section, A, front section, B, having the extension C, provided with slits *a a*, and the flap D, attached to the rear section by stitches *a a* through the slits *a*, and having intermediate crimped loose portions partially surrounding the strips formed by the slits *a*, substantially as described and shown.

265,894. LEAD AND CRAYON HOLDER. RICHARD W. UHLIG, New York, N. Y., assignor to Joseph Reckendorfer, same place. Filed May 27, 1882. (No model.)



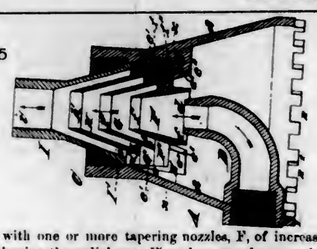
Claim.—1. The lead clasp or check movable with the lead, in combination with the lifting or expanding contrivance, substantially as and for the purposes hereinbefore set forth.

2. The lead clasp or check consisting of a ring loosely encircling the lead-tube, and provided with a stop lip or flange, and with spring-fingers which clasp between them the lead through the slotted lead-tube, in combination with the lead-tube, longitudinally movable and provided with lifting-surfaces, and the case or sheath provided with a stop or shoulder to co-operate with the flange on the check-ring, substantially as hereinbefore set forth.

265,895. STEAM WATER-ELEVATOR. EZRA W. VANDUSEN, Newport, Ky. Filed Oct. 27, 1881. (Model.)

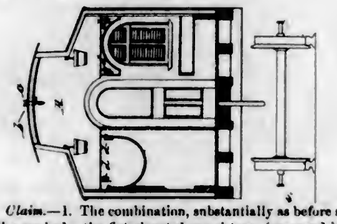
Claim.—In a steam water elevator or ejector, the conical shell A, having the upturned pipe D, terminating centrally therein, the internal radial brackets, E, having the inclined faces *e'*, and the plain cylindrical surface *e*, and a screw-threaded surface, in com-

265,895



bination with one or more tapering nozzles, F, of increasing diameters, having the radial arms F', and an annular space between its larger end and the upper end of the pipe D, and the conical nozzle I, having the annular flange I' at its lower end and the cylindrical pipe i' at its upper end, substantially as described.

265,896. RAILROAD-CAR. GARRET VAN NOSTRAND, Nyack, N. Y. Filed Feb. 13, 1882. (No model.)

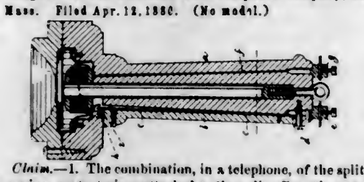


Claim.—1. The combination, substantially as before set forth, of the car-body, the flat elevated car-cistern, (arranged in an elevated position at the end of said car-body,) and the stop-cock arranged within said car-body, whereby water may be drawn from said cistern.

2. The combination, substantially as before set forth, of the car-body, the elevated water-cistern, and the stop-cock at the exterior of said car-body, whereby water may be drawn at the exterior of the car from the said cistern.

3. The combination, substantially as before set forth, of the car-body, the elevated water-cistern, and the stop-cock at the exterior of said car-body, communicating with the upper part of said cistern, whereby water may be drawn at the exterior of the car from the said cistern when the car is overturned.

265,897. TELEPHONE-SWITCH. THOMAS A. WATSON, Everett, assignor to the American Bell Telephone Company, Boston, Mass. Filed Apr. 12, 1880. (No model.)



Claim.—1. The combination, in a telephone, of the split handle, spring, contact-piece attached to the split-off portion, and two contact-points between which the end of said contact-piece plays, substantially as described, said piece and said points being connected with the telephone-wires, as set forth.

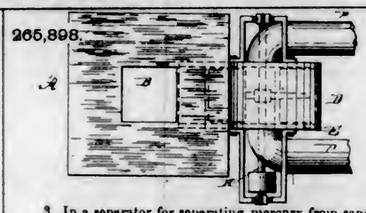
2. In a hand-telephone, a spring circuit-controller to be automatically operated to change an electric circuit by the pressure of the hand in taking and holding the telephone in use, and adapted to return to its original position as soon as the pressure of the hand is removed, substantially as described.

265,898. SEPARATOR FOR SEPARATING MERCURY FROM SAND. FREDERICK W. WHEELER and WILLIAM UNDER, Chicago, Ill. Filed Aug. 7, 1882. (No model.)

Claim.—1. In a separator for separating mercury from sand containing precious metals, the copper box A, amalgamated on its inside surface, having sides *s s*, provided with cups *p p*, in combination with casing C, having copper top D, mouth M, and iron sides E E, suction-pipes P P, amalgamated copper fan or fans F, suspended on shaft H, substantially as shown and described, and for the purpose set forth.

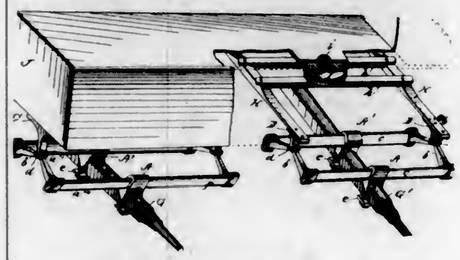
2. In a separator for separating mercury from sand, the copper box A, amalgamated on its inside surfaces, having air-escape B and sides *s s*, provided with cups *p p*, substantially as described and shown.

265,898



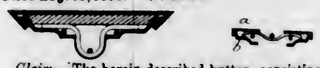
3. In a separator for separating mercury from sand, the casing C, having copper top D and copper mouth M, D and M being amalgamated on their inside surface, and having iron sides E E and connecting suction-pipes P P, and having an amalgamated copper fan, F, suspended on a shaft, H, substantially as shown and described, and for the purpose set forth

265,899. VEHICLE-SPRING. JEROME W. WETMORE, Erie, Pa. Filed Feb. 6, 1882. (No model.)



Claim.—The spring *a''' p*, when placed nearly on its edge, at right angles to the axle or other support, and sustained in the middle only with its ends connected by arms to the body of the vehicle, substantially as described.

265,900. BUTTON. ELONZO S. WHEELER, Saugatuck, Conn., assignor of one-half to Jonathan E. Wheeler, same place. Filed Aug. 18, 1882. (No model.)



Claim.—The herein-described button, consisting of the front and back combined with the inner disk, *d*, cut from woven wires the mesh of which is substantially half the diameter of the opening in the button-back, the wires soldered together at their crossings, and arranged between the front and back of the button, the two central wires crossing each other at the center of the button-opening to form bars across the said opening for the attachment of the button, substantially as described.

265,901. CARDING-MACHINE. CHARLES E. WHITWORTH, Boston, Mass., assignor to J. Conrad Gerlach, same place. Filed Feb. 23, 1882. (No model.)

Brief.—The fiber is passed to and under a smooth roller, by which it is held against the action of a needle-roller, which serves to open and loosen the fiber and remove seeds &c., therefrom. It then passes over and under a succession of rollers to the main cylinder, provided, as usual, with workers and strippers. Slow motion is imparted to the workers by means of a belt passing over a pulley actuated by a bevel-gear upon a shaft driven from the doffer-shaft; also by means of gears.

Claim.—1. The needle-roller D, constructed as described and shown, in combination with the brush F, smooth roller C, and lap-roller A, as specified.

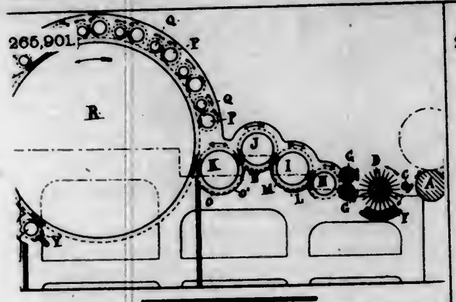
2. The combination of the smooth roller C, needle-roller D, brush F, and feed-rollers G G, as shown and described.

3. The combination of the smooth roller C, needle-roller D, brush F, and feed-rollers G G with the breaker-roll H, the discharging-roller I, the carrier-roll J, licker-in K, and cylinder R, as shown and described.

4. The combination of roller C, needle-roller D, brush F, feed-rollers G G, breaker-roll H, discharging-roller I, carrier-roll J, licker-in K, the clearing-bars L, and the saw-teeth bars N, substantially as described.

5. The combination of the shaft *a*, the gear-wheels *b* and *c*, chain D, and workers P, as and for the purpose set forth.

265,901



265,902. MITTEN OR GLOVE. WILLIAM W. WHITAKER, Gloversville, N. Y., assignor of one-half to William H. Hulett, Jr., same place. Filed Nov. 9, 1881. (No model.)



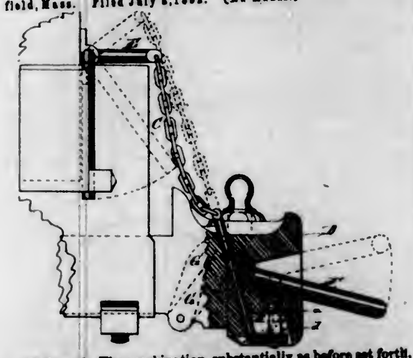
Claim.—1. A back piece for a glove or mitten formed of fibrous material slitted at one end to form one or more fingers, and having a line of stitching adjacent to the cut edges of the fabric, and having at the opposite end a portion adapted to surround the wrist.

2. A back piece for a glove or mitten, made of two layers of fibrous material slitted at one end to form one or more fingers, having a line of stitching surrounding the cut edges of the fabric, and provided with a slit, *a'*, for the insertion of the hand through the wrist portion, substantially as set forth.

3. A glove or mitten having a back piece of fibrous material slitted at one end to form one or more fingers, and having also a portion at the other end adapted to surround the wrist, and provided with a slit, *a'*, for the insertion of the hand, in combination with a leather palm and finger-fronts, and a forgette which unites the edges of the finger-backs with the edges of the leather finger-fronts, substantially as set forth.

4. In a glove or mitten, a two-ply back of fibrous material, with two-ply finger-backs attached thereto, in combination with a leather palm stitched to the edges thereof, substantially as set forth.

265,903. CAR-COUPLING. JOHN A. WHITTEMORE, Springfield, Mass. Filed July 5, 1882. (No model.)



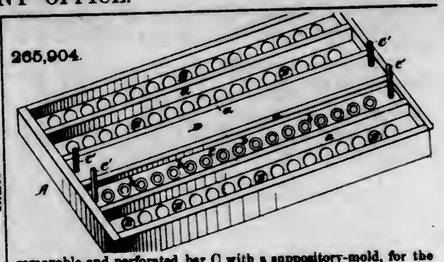
Claim.—1. The combination, substantially as before set forth, of the draw-head provided with channels *a b*, the lifter, the shank of which is arranged to slide in channel *a*, and the pull-bar connected with its short arm to the lifter, and having its long arm arranged to slide in channel *b*.

2. The combination, substantially as before set forth, of the draw-head having the channels *a b*, the lifter, the pull-bar connected thereto, the chain, and the lifting-shaft.

265,904. SUPPOSITORY-MOLD. JOHN L. WIGGIN, Clinton, Iowa, assignor to Charles F. Keeler, Chicago, Ill. Filed July 17, 1882. (No model.)

Claim.—1. The combination, substantially as specified, of the

265,904



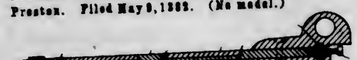
removable and perforated bar C with a suppository-mold, for the purpose set forth.

2. The combination, substantially as specified, with a suppository-mold, of one or more removable and perforated bars, C C, provided with handles, for the purpose set forth.

265,905. COMPOSITION FOR POLISHING METALS. BENJ. WILSON, Keyport, N. J., assignor to himself and Alfred Walling, Jr., same place. Filed May 27, 1882. (No specimens.)

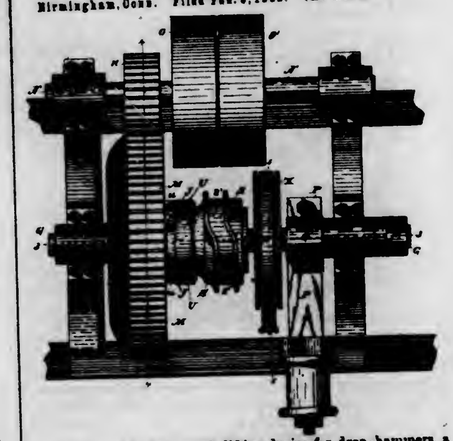
Claim.—The herein-described composition for polishing metals, consisting of potter's clay, soot from hard coal, oxide of iron, and chalk, in substantially the proportions specified.

265,906. CUTTER-BAR. HENRY A. WILLIAMS and WILLIAM A. PRESTON, Princeton, Ind.; said Williams assignor to said Preston. Filed May 9, 1882. (No model.)



Claim.—In a cutter-bar, the combination, with the longitudinally-grooved and transversely-recessed main bar, provided with a head made integral therewith, and having an overhanging portion, of the adjusting screw or bolt and its bearing, whereby the binding-bar is protected, as set forth, and made to bind and hold the knives, substantially as described.

265,907. DEVICE FOR OPERATING DROP-HAMMERS. DARIUS WILCOX, Derby, assignor of one-half to Isaac P. Hawe, Birmingham, Conn. Filed Feb. 9, 1882. (No model.)



Claim.—1. In a crank lifting device for drop-hammers, a gear-wheel mounted loosely on a crank-shaft and provided with one or more pawls pivoted to the face of the wheel and seated at their inner ends within one or more sockets, whereby the working-strain is transferred from the pivotal point of the pawl to the face of the socket, substantially as and for the purposes set forth.

2. The combination of counter-shaft N, provided with a pinion, *n*, with the gear-wheel M, provided with the rim L, having sockets *l* and spring-pawls J, and the shaft G, with its ratchet-disk I', substantially as and for the purposes set forth.

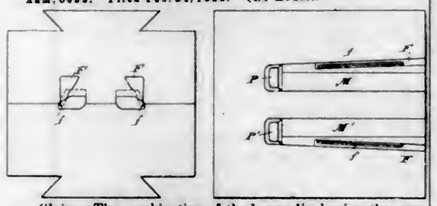
3. In a crank lifting device for drop-hammers, the combination of a ratchet-wheel fixed to the crank-shaft, one or more pawls engaging therewith, and a longitudinally-sliding sleeve to retract the pawl or pawls, substantially as set forth.

4. The combination of the crank-shaft G, ratchet-wheel I, one

or more pawls, J, bracket T, with its roller *t*, and cam-wheel S *s'*, for actuating the longitudinally-sliding sleeve, substantially as herein set forth.

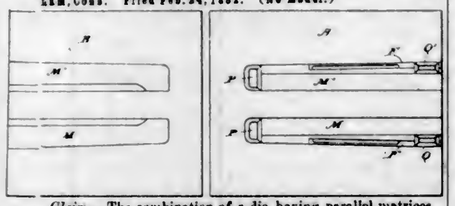
5. The combination, with the sliding sleeve S and one or more pawls, J, of the loose collar U, to prevent friction, as set forth.

265,908. DIE FOR MOLDING HORSESHOE-BLANKS. DARIUS WILCOX, Derby, assignor of one-half to Isaac P. Howe, Birmingham, Conn. Filed Feb. 24, 1882. (No model.)



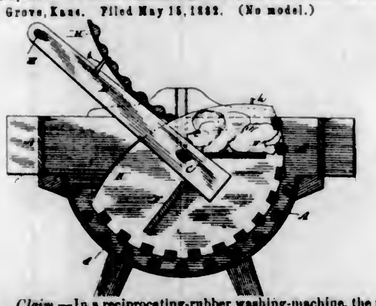
Claim.—The combination of the lower die, having the matrices M M' and adjustable gage D, and the upper die, A, provided with the matrices M M', having the pockets P P' and creaser-tongues *f*, as and for the purpose set forth.

265,909. DIE FOR MOLDING HORSESHOE-BLANKS. DARIUS WILCOX, Derby, assignor of one-half to Isaac P. Howe, Birmingham, Conn. Filed Feb. 24, 1882. (No model.)



Claim.—The combination of a die having parallel matrices, containing front and rear pockets, and removable crease formers or ribs, arranged substantially as shown, with a second die provided with matrices having continuous or unbroken bottom faces, as and for the purpose set forth.

265,910. WASHING-MACHINE. JOHN H. WOODBURY, Mulberry Grove, Kans. Filed May 15, 1882. (No model.)



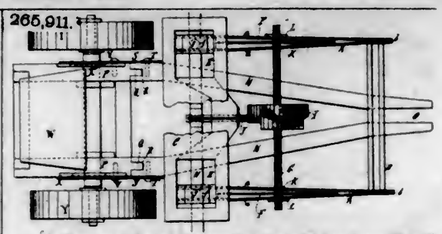
Claim.—In a reciprocating-rubber washing-machine, the rubber B, having slanting uprights D D, connected on top by the handle or cross-bar E, agitators or dasher-boards F, and hinged covers H H, constructed and arranged substantially as and for the purpose herein shown and described.

265,911. CORN-PLANTER. DAVID A. YOAKAM, Windham, assignor to himself and Joseph Yoakam, Washington Township, Johnson County, Iowa. Filed Mar. 29, 1882. (Model.)

Claim.—1. In a corn-planter, the combination, with the runners A, composed of the rearwardly-diverging plates *a a*, provided with the partitions *d s*, and the seed-slide H, of the wheels F, journaled in the cross-shaft G between the plates *a a*, substantially as and for the purpose set forth.

2. In a corn-planter, the combination, with the runners A, composed of the rearwardly-diverging plates *a a*, and the hoppers E, of the shaft G, carrying the wheels F, arranged between the runner-plates and provided with central tappet-wheel, I, and seed-slide H, provided with the vibrating bar J, substantially as and for the purpose set forth.

265,911.



3. In a corn-planter, the combination, with the frame N and the truck-frame P, of the lever S, pivoted to both of the frames N P, and having its end extended upwardly, and serving the double purpose of a hinge and lever, substantially as set forth.

265,912. WATCHMAN'S ELECTRIC REGISTER. GEORGE W. ADAMS, Boston, Mass., assignor to the Boston Electric Protective Association, same place. Filed Aug. 22, 1882. (No model.)



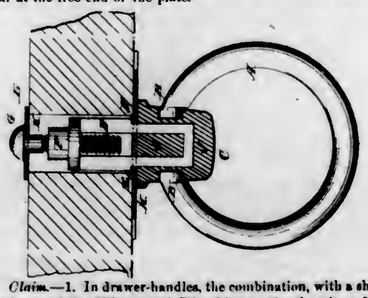
Claim.—1. In a watchman's detector, the combination, with the traveling recording-surface, of the recording-instrument consisting of an electro-magnet, its armature and back contact-point therefor, in circuit with the said magnet, and the arm provided with a puncturing-finger mounted on and actuated by the said armature, substantially as described.

2. The combination of a series of station recording-instruments, conductor leading therefrom to a series of corresponding stations, circuit-controlling devices at the said stations, and tell-tale recording-instrument and conductors leading therefrom to all the said stations, and normally connected through the said circuit-controlling devices with the conductors leading to the several station recording-instruments, whereby if a signal is given otherwise than by the circuit-controlling device at the station a simultaneous record will be produced by the tell-tale recording-instrument and one of the station-instruments, substantially as described.

3. The traveling recording-surface and series of recording-instruments and inclosing-case therefor, combined with a recording-instrument and circuit-controlling device therefor, operated by the door of the said case, whereby a record is made of the opening of the door, substantially as and for the purpose described.

265,913. HANDLE. CHARLES S. BARNARD, New York, N. Y., assignor to S. A. Burns & Co., same place. Filed Aug. 23, 1880. Renewed May 26, 1882. (No model.)

Brief.—The hollow cap of struck-up metal, carrying the annular handle, is secured to the remaining parts by passing a slotted plate provided with suitable shoulders into the cap and filling the same with molten metal. These parts are then attached to the drawer by a washer and screw working in an internally-threaded collar at the free end of the plate.



Claim.—1. In drawer-handles, the combination, with a sheet-metal cap, of the filling metal J in this cap, the ring A, and the stem D, substantially as herein shown and described, and for the purpose set forth.

2. In drawer-handles, the combination, with the slotted stem D and the apertured plate H, of the filling metal J, the ring A, and the sheet-metal cap C, substantially as herein shown and described.

3. In drawer-handles, the slotted stem D, constructed, substantially as herein shown and described, with an internally-screw-threaded collar, F, and a shoulder or shoulders, E E, on the outer edges, as set forth.

4. In drawer-handles, the combination, with the sheet-metal cap C, of the handle A, the stem D, the molten metal J, the screw G, and the washer-plate L, and the facing-plate H, substantially as herein shown and described, and for the purpose set forth.

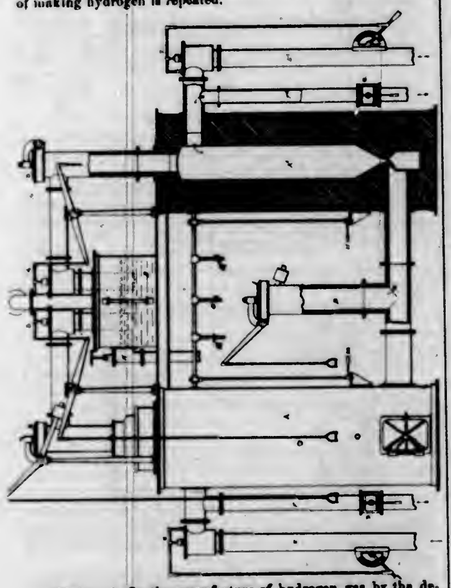
265,914. SPRING-CONNECTION FOR VEHICLES. PETER BARRY, New York, N. Y., assignor of one-half to JOHN W. BRITTON, Henry Brewster, and Channing M. Britton, all of same place. Filed Apr. 10, 1882. (No model.)



Claim.—The combination, with the spring provided with the lugs *a*, which are arc-shaped on their under sides, of the caps or bearings D, having arc-shaped surfaces, to which said lugs are fitted, and which are longer than the arc-shaped under sides of said lugs, substantially as and for the purpose specified.

265,915. PROCESS OF AND APPARATUS FOR MANUFACTURING HYDROGEN GAS. WILLIAM M. BRADLEY, New York, N. Y. Filed Sept. 9, 1882. (No model.)

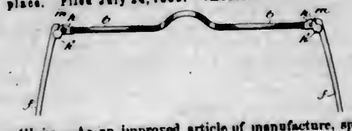
Brief.—Two bodies of caustic lump-lime in suitable furnaces are highly heated by the combustion of gas and air in contact therewith. Steam and hydrocarbon vapor or gas are decomposed by passage down through one body of lime with the production of hydrogen and carbonic acid, and the carbonic acid is absorbed by passage of the mixed gas through the other body of hot lime, while the hydrogen is passed to the holder. After this process is continued till the heat is reduced too low in one body of lime and the other body is fouled with impurities or changed to carbonate, then one body is reheated, as in the first instance, and the other body is decarbonated by superheated steam, and then the process of making hydrogen is repeated.



Claim.—1. In the manufacture of hydrogen gas by the decomposition of steam and hydrocarbon in contact with a body of heated lime, the process of revivifying the lime used in purifying the gas, which consists in decarbonating the comparatively dry carbonate of lime or carbonates of the alkaline earths by subjecting it, while in a heated condition, to the action of superheated steam, substantially as above described.

2. The within-described apparatus for the manufacture of hydrogen gas, consisting of two or more vertical chambers, A and A', the gas and air supply pipes, the steam and oil supply pipes, and a gas-eduction pipe connected with the top thereof, and a purge-pipe connected with the bottom thereof, and suitable valves in the inlet and outlet pipes, all combined and operating substantially as described.

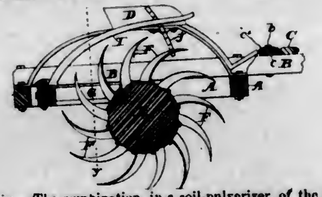
265,916. SPECTACLES. HORACE N. CARPENTER, Southbridge, Mass., assignor to the Southbridge Optical Company, same place. Filed July 24, 1882. (Model.)



Claim.—As an improved article of manufacture, spectacles having the temples and end pieces provided with concavities and conical projections, as described, and held together by a clamping-screw, *m*, substantially as shown and described.

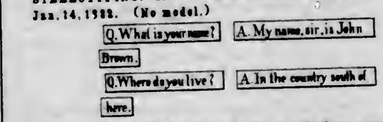
265,917. SOIL-PULVERIZER. ANDREW J. COCHRAN, Indianapolis, Ind. Filed June 20, 1882. (No model.)

Brief.—Forked cutters, which also act as cleaners, are mounted on a rock-shaft, and adjusted to any pitch by lever and ratchet. The cutting-teeth make a shear cut, the final strain of cutting being at the base of the teeth.



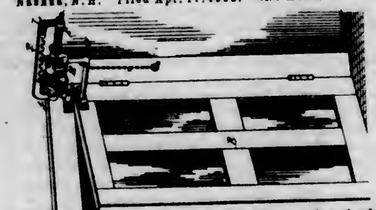
Claim.—The combination, in a soil-pulverizer, of the frame, the roller, the curved teeth F, the combined cutters and cleaners G, mounted on the rock-shaft H, said rock-shaft, the lever I, and the ratch J, all constructed, arranged, and operating substantially as shown and described, and for the purposes specified.

265,918. METHOD OF PREPARING MATRIX-FORMS FOR STEREOTYPING. MERRITT H. DEMENT, Brooklyn, N. Y. Filed Jan. 14, 1882. (No model.)



Claim.—The method of preparing a matrix-form composed of type-indented strips for stereotyping, which consists in securing said strips on a support and applying to the spaces between the lines, and between and at the ends of said strips, a fluid or plastic material for filling said spaces, and allowing the same to harden, substantially as shown and described.

265,919. PNEUMATIC DOOR CHECK AND CLOSER. GILBERT R. ELLIOTT, Boston, Mass., assignor, by direct and mesne assignments, to the Elliott Pneumatic Door Check Company, Nashua, N. H. Filed Apr. 17, 1882. (No model.)



Claim.—1. The combination of the door-spring-check cushioning device consisting of the spring-rod and air-cylinder and piston with the door-retaining device, in the manner shown.

2. The door-check consisting of the spring-rod and spring, the air-cylinder and its piston, and the auxiliary spring-cushion, combined with the door and jamb-fastening mechanism, substantially as described.

3. The combination, in a door-check, of the air-cylinder and piston and their inclosing casing or cage, and means for forcing the door to, the weighted lever *p*, the catch-lever, and the releasing-lever, all arranged and described for joint operation.

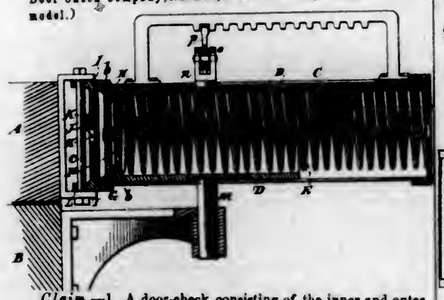
4. In a door-check, the air-cylinder, having beveled mouth, as described, its piston and rod I, and springs, the said rod having an air groove or port at its lower end, and the bracket-arms C and F, said arms being adapted to retain the checking apparatus in position and to serve as pivots for said apparatus, all combined to operate in the manner described.

5. The combination, in a door-check, of the air-cylinder, the piston, the rod I, and spring S, the auxiliary spring *b* in said cylinder, the rack *l'*, and the locking mechanism, with the bracket-arms C F, all operating together to retain the door in any desired position when open and to prevent its slamming when being closed, in the manner shown and described.

6. The door-check consisting of the rod I, spring S, locking devices P L M, the bracket-arms C F, and the air-chamber H, combined and arranged to operate as set forth.

7. The combination of the door-check with the air-chamber, the spring-rod and spring, the cage or casing, the rack l_4, and the bracket-arms F C, with their pivotal projections or journals, said casing being provided with longitudinal slots, substantially as shown and described.

265,920. PNEUMATIC DOOR CHECK AND CLOSER. GILBERT R. ELLIOTT, Boston, Mass., assignor to the Elliott Pneumatic Door Check Company, Nashua, N. H. Filed Apr. 25, 1882. (No model.)



Claim.—1. A door-check consisting of the inner and outer hollow cylinders, the inner cylinder having at its bottom a piston adapted to fit the internal bore of the outer cylinder and containing a spring, and the casting I, having an annulus, the whole being arranged to preserve the said spring in a true line, in the manner set forth.

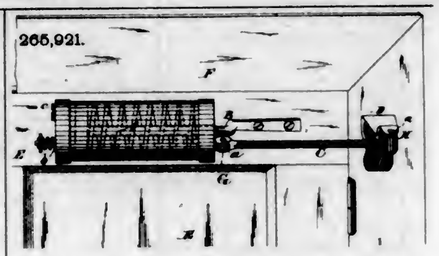
2. The inner and outer concentric cylinder, C D, the outer cylinder having slots and the inner cylinder provided with projections *m n*, the former forming a swivel or journal and the latter provided with means to hold the door in any desired position, the said projections being adapted to work in the said slots, as shown and described.

3. The combination, in a door-check, of the two concentrically-arranged cylinders, the outer one having slots and the inner one having projections to work in said slots, with the bracket-arm M, having a journal in its outer end, adapted to receive said stud or projection *n*, being also adapted to hold the door in position, in the manner set forth.

4. In a door-check, the concentric cylinders adapted to work one within the other, the inner having at its bottom a disk or diaphragm and stud cast thereon, an annulus, G, around said disk, a packing, *b*, between said annulus, and a disk or follower, H, adapted to secure said packing in position, and the spring E, all arranged as set forth.

5. A door-check having concentric cylinders, the inner one provided with a working-piston to fit the internal bore of the outer cylinder, the casting I, having a disk or diaphragm provided with an air-duct and a valve, said casting having also double flanges for the reception of the outer cylinder, and the pintle-rod c, all combined and arranged in the manner set forth.

265,921. PNEUMATIC DOOR-CHECK. GILBERT R. ELLIOTT, Boston, Mass., assignor, by direct and mesne assignments, to the Elliott Pneumatic Door Check Company, Nashua, N. H. Filed June 16, 1882. (No model.)



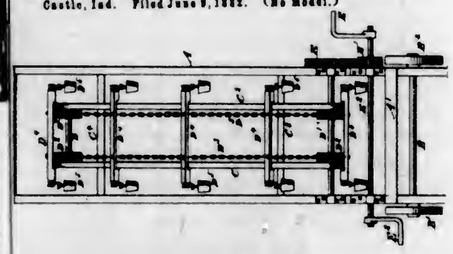
Claim.—1. The combination, in a pneumatic door-check, of the movable cylinder and stationary piston-rod with the connecting-rod C, adapted to connect said cylinder to a bracket fixed to a part other than the door, the parts being arranged to close the door with less force than when at right angles to the jamb, as set forth and described.

2. A door-check consisting of a movable cylinder and a fixed piston-rod, the latter being fixed to the door and the former to a part other than the door, the rod having a piston-head and the cylinder provided with air-valves, whereby the door, when being closed, is cushioned by means of air controlled by said devices in the manner set forth.

3. A pneumatic door-check the cylinder of which is adapted to move upon a fixed piston-rod, the cylinder also having on one of its ends a pintle-bearing moving with said cylinder and connected to a bracket by a suitable connecting-rod, all operating in the manner set forth and described.

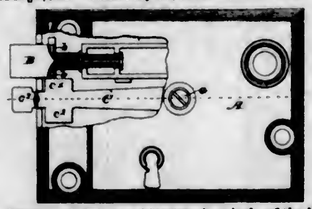
265,922.—[Withdrawn.]

265,923. WATER-ELEVATOR. JAMES J. HAMILTON, New Castle, Ind. Filed June 9, 1882. (No model.)



Claim.—In an implement for carrying water to the roof or upper windows of buildings, the combination of a frame having wheels for moving it from place to place, a series of buckets for containing water to be elevated, said buckets being carried upon the ends of cross-bars attached to endless chains, and suitable mechanism for giving motion to said chains and buckets, substantially in the manner and for the purpose set forth.

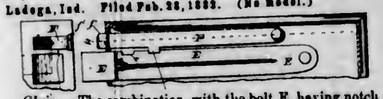
265,924. CATCH FOR LATCH-BOLTS. MARTIN M. HENRY, Ludoga, Ind. Filed July 31, 1882. (No model.)



Claim.—1. The combination, in a lock, of the latch-bolt B, provided with the cross-bar *b*, and the catch-spring C, provided with the catch-ears c' c^2 and the stud c^3, substantially as shown and described, and for the purposes specified.

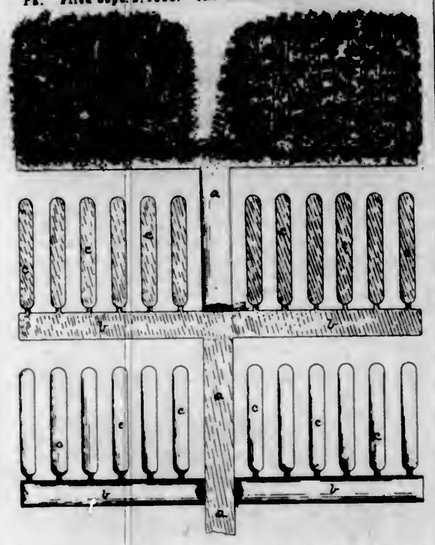
2. The combination, with the latch-bolt of a lock and the catch-spring therefor, said bolt and spring being provided with suitable engaging devices, of a means for securing said spring to the lock-casing, consisting of the two bosses a' a^2, and the screw *a*, substantially as shown and specified.

265,925. CATCH FOR LATCH-BOLTS. MARTIN M. HENRY, Ludoga, Ind. Filed Feb. 28, 1882. (No model.)



Claim.—The combination, with the bolt E, having notch *e* in its side, of the straight flat spring F, arranged alongside said bolt, and provided with the lateral projection *f*, which is adapted to enter the notch *e*, and a turned-up portion or projection, *f'*, on its front end, which is adapted to come in contact with the strike on the door-casing, all substantially as shown and described, and for the purposes specified.

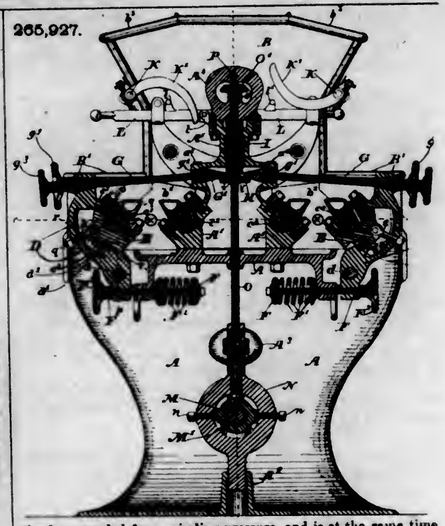
265,926. CASTING PIG METAL. J. G. A. LEISSMAN, Pittsburg, Pa., assignor to himself and William P. Snyder, same place, and Joseph M. Lippincott, Kilbuck Township, Allegheny County, Pa. Filed Sept. 2, 1882. (No model.)



Claim.—1. A blast-furnace casting bed or floor for casting pig metal, formed of dolomite sand or other sand composed of equivalent basic calcareous material, substantially as and for the purposes set forth.

2. The method herein described of casting the pig metal produced in blast-furnaces, consisting in casting the molten metal in dolomite sand or other sand composed of equivalent basic calcareous material, and covering the pig metal so cast with such sand, substantially as and for the purposes set forth.

265,927. ROLLER-MILL. DANIEL W. MANNON and JESSE WARRINGTON, Indianapolis, Ind., assignors to the Nordyke & Marmon Company, same place. Filed June 3, 1882. (No model.)



Claims.—1. The combination, in a roller-mill, of roll-supporting arms D, movable bearings therefor, the rods F and G, provided with adjusting-screws, and springs F', said bearings being located between said rods, substantially as set forth.

2. The combination, in a roller-mill, of swinging arms supporting one of the rolls of a pair, rods at both ends thereof, which hold said arms and the roll supported thereby toward the other roll of the pair, and springs on the rods at the ends of the arms opposite to the ends which support the roll and beyond the supporting-pivots of said arms, which springs operate to throw the ends of said arms which support the roll and the roll supported thereby outward, thus forcing said roll away from its fellow as far as the rods which hold it inwardly will permit, substantially as set forth.

3. The combination, in a roller-mill, of the swinging roll-supporting arms D, having elongated pivot-openings, the pivot-pins *d*, the adjusting-rods G, the rods F, and the springs F', whereby said arms are adjusted to position and held in said position against fixed stops, and the roll supported thereby is held forward with all the force needed for a grinding pressure, and is at the same time permitted to swing back slightly when any hard substance comes between it and its fellow, all substantially as set forth.

4. The combination, in a roller-mill, of supporting-arms for the bearings for the rolls, the boxes forming said bearings, and means for moving said boxes on said arms, said boxes having portions with spherical surfaces fitting spherical surfaces on the arms, said surfaces having a common center horizontally removed from the center of the rolls, whereby a vertical adjustment of said boxes may be had by a shifting of the box on its seat, these spherical surfaces at the same time obviating any binding action of the boxes on the roll-journals, substantially as set forth.

5. In a roller-mill, the combination of the journal-boxes and supporting-surfaces therefor, said surfaces being struck from a common center, as at ⊗, and said boxes being formed to fit said surfaces, whereby a moving of said boxes on said surfaces will vary the relation of said rolls on the plane which passes through both without causing a binding on the roll-journals, substantially as set forth.

6. The combination, in a roller-mill, of the swinging arms D, the rods G, the bell-crank levers G', and the bar H, said bell-crank levers being pivoted to the frame-work by pivots *a* and to said rods by pivots *g'*, and connected together by said bar, as specified, whereby a movement of the long arms thereof at opposite ends of the same roll in the same line and same direction acts to move the rods G and arms D at opposite ends of the same roll simultaneously to or from the fixed roll, substantially as set forth.

7. The combination, in a roller-mill, of the arms D, the rods G, the bell-crank levers G', the connecting-bar H, and means for operating the same, all constructed, arranged, and operating substantially as shown and specified.

8. The combination of the arms D, the arm-operating rods G, the bar H, for connecting said rods, and the device I, having cam-shaped portion *i*, whereby said bar is given a reciprocating movement, and said rods are all operated simultaneously, substantially as set forth.

9. The combination of the feed-gates J, the shafts K, having arms K', and the sliding bar L, whereby both said gates can be moved at once, substantially as set forth.

10. The combination of the feed-gate J, having arms *j'*, with a notch in each, the shaft K, having a projecting lug, *k*, secured thereto, the arms K', and the bar L, adapted to operate said arms, substantially as set forth.

11. The combination of the arm-operating mechanism, the feed-gate-operating mechanism, and the device I, having a cam, *i*, to operate one mechanism, and a handle, I', having a projecting end to operate the other, whereby both mechanisms can be operated simultaneously, and the rolls thus thrown apart from each other and the feed-gates closed at one operation, substantially as set forth.

12. The combination, with the counter-shaft M, of an adjusting mechanism consisting of the devices N, the rods O, and mechanism connecting said rods together, whereby they are operated simultaneously, all substantially as set forth.

13. The combination of the feed-gates, shafts for operating the same, arms K' K' on said shafts on opposite sides of the machine, and a bar, L, having lugs *l' l'*, whereby said arms, shafts, and feed-gates are operated simultaneously, substantially as set forth.

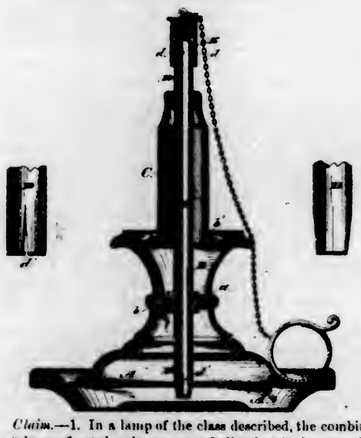
14. The combination of the feed-gate-operating mechanism, the bar L, provided with pivoted catches *l l*, and the handle I, said bar being adapted by means of said pivoted catches to be operated by the inwardly-projecting end of said handle, or to be operated without moving said handle, substantially as set forth.

15. The combination of the feed-gates, their operating-shafts, the arms K' K' on said shafts, the bar L, having lugs *l' l'*, which operate said arms and the pivoted catches *l l*, and the handle I', whereby said bar can be operated by the inwardly-projecting end of said handle I', or is permitted to be operated independently of said handle, substantially as set forth.

16. The combination, with the hopper and feed-gate, of the stops *j*⁵ and the arms *j'*, the surfaces whereof come in contact, and are in effect non-yielding during the normal action of the machine, but which are constructed to yield upon the application of additional force and to return to their normal position when said additional force is withdrawn, substantially as set forth.

17. The combination of the hopper, the feed-gate, its arms *j'*, having springs *j*⁶, the stop-surfaces, and stops *j*⁵, substantially as described, and for the purposes specified.

265,928. HYDROCARBON-BURNER FOR ILLUMINATING PURPOSES. RICHARD MCALLISTER, Washington, D.C. Filed Aug 21, 1882. (No model.)

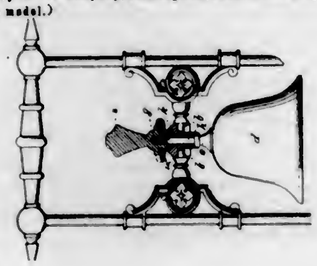


Claim.—1. In a lamp of the class described, the combination of a tube, perforated at its upper and slitted at its lower end, with a shield adapted to support the same and a jacket, substantially as described.

2. In a hydrocarbon-burner, a tube the lower end of which is slitted and laterally compressed to form a supply-duct, substantially as shown and described.

3. The combination of the body, the exteriorly and interiorly screw-threaded shield, and the exteriorly screw-threaded perforated and slitted tube, substantially as described.

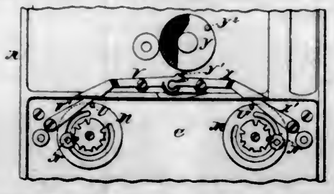
265,929. CALL-BELL FOR TABLE-WARE. WATSON J. MILLER, Birmingham, and HENRY BURRY, Shelton, assignors to the Derby Silver Company, Birmingham, Conn. Filed July 1, 1882. (No model.)



Claim.—1. The bell *d*, having the threaded pivotal stem *e*, the adjustable socket-piece *k* on the pivotal portion, and the winged handle *s* on the threaded portion of said stem, substantially as specified.

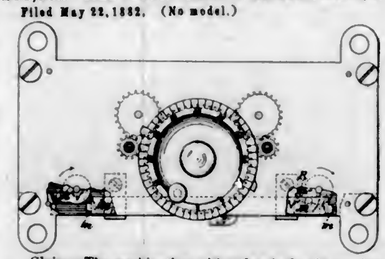
2. A caster-handle having lateral separated pivots turned toward each other, and a detachable bell having lateral pivot-sockets seated on said pivots, and wings or arms projecting from the bell-handle at right angles to the vertical plane of the pivot-sockets, substantially as specified.

265,930. TIME-LOCK. HENRY F. NEWBURY, Brooklyn, N.Y. Filed May 5, 1882. (No model.)



Claim.—The combination, in a chronometric or time lock, of a time movement or movements, a supplemental unlocking mechanism operated by a power other than that of the mainsprings of the clocks, and an intermediate detent or detents for holding such mechanism out of action during the normal operation of the parts, but capable of being tripped by the clocks a brief interval before the clocks run down, such detent or detents being constructed and arranged relatively to the time mechanism, substantially in the manner set forth, being thereby wholly out of the path of travel of the time mechanism when put in motion relatively to the other parts of the lock by a sudden and heavy shock.

265,931. TIME-LOCK. HENRY F. NEWBURY, Brooklyn, N.Y. Filed May 22, 1882. (No model.)



Claim.—The combination, with a time-lock, of a supplemental unlocking mechanism operated by the power of the springs that drive the clocks, and means, substantially as specified, for preventing the premature running down of the mainsprings when the lock is subjected to a sudden and heavy shock.

265,932. TIME-LOCK. HENRY F. NEWBURY, Brooklyn, N.Y. Filed May 22, 1880. (Model.)

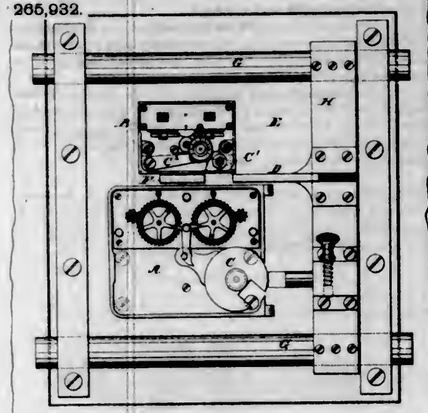
Claim.—1. The combination of a lock arranged to dog or guard the bolts of a safe or vault door, a supplemental guard or check arranged to be brought into action by the force of a shock capable of breaking or displacing the main lock or parts of the same, and means for withdrawing such supplemental check from the locking position arranged within the safe or vault and constructed to be operated with a slow motion, as set forth.

2. The combination of a lock arranged to dog or guard the bolts of a safe or vault door, a supplemental guard or check arranged to be brought into action by the force of a shock capable of breaking or displacing the main lock or parts of the same, and one or more electric motors for withdrawing such supplemental check from the locking position, and a governor for retarding the speed of such motors, for the purpose set forth.

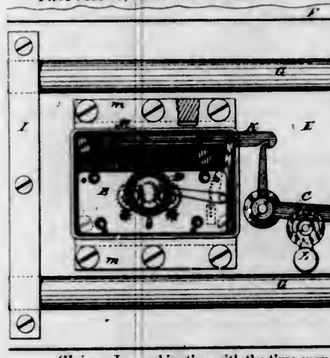
3. The combination of a lock arranged to dog or guard the bolts of a safe or vault door, a supplemental guard or check arranged to be brought into action by the force of a shock capable of breaking or displacing the main lock or parts of the same, and means for withdrawing such supplemental check from the locking position with a slow motion, such supplemental check and such unlocking mechanism being mounted on a flexible and elastic support, as set forth.

4. In combination with a supplemental guard or check arranged to be brought into action by a shock capable of breaking or displacing the main lock of a safe or vault, means for withdrawing such supplemental guard from the locking position with a slow motion, and devices for short-circuiting such unlocking mechanism or otherwise rendering it inoperative while the supplemental guard is in the raised position.

265,932.

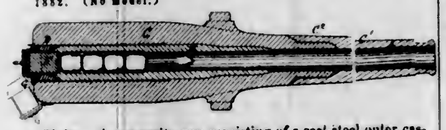


265,933. TIME-LOCK. HENRY F. NEWBURY, Brooklyn, N.Y. Filed June 27, 1882. (No model.)



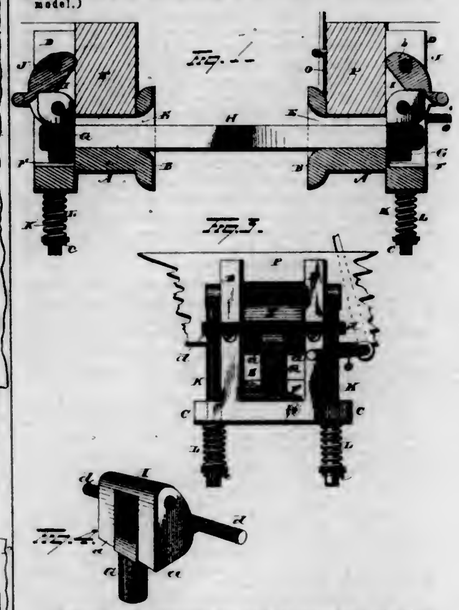
Claim.—In combination with the time-movement or the time-movement and other parts of a chronometric lock, a yielding or flexible support therefor and a lock-bolt or dog mounted outside the flexibly-supported parts of such lock and held in the locking position by suitable means, also located outside such parts of the lock, substantially as and for the purpose set forth, whereby the clock mechanism will have freedom of motion relatively to the door or wall of the safe without disturbing the action of the lock-bolt, and will itself be protected from injury under the force of an explosion directed against the exterior of the structure and of a character to break the more delicate parts of the lock if mounted in the modes hitherto practiced.

265,934. ORDNANCE. JAMES L. NORRIS, Washington, D.C., Administrator of William Palliser, deceased. Filed July 18, 1882. (No model.)



Claim.—A composite gun consisting of a cast-steel outer casing, C C', formed in two parts screwed together, in combination with a front lining-tube, A, of either coiled wrought-iron or of steel, and a rear lining-tube, B, of coiled wrought-iron screwed into the casing from the breech, substantially as described.

265,935. CAR-COUPLING. ALBERT S. REEVES, Port Elizabeth, N.J., assignor of two-thirds to Francis Lee, same place, and Benjamin F. Lee, Trenton, N.J. Filed July 18, 1882. (No model.)



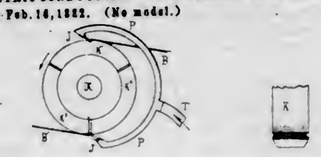
Claim.—1. The combination, with the draw-head, of a block supported in a vertically-yielding pivot, and coupling-pin pivoted to said block, the parts being formed to interlock when forced in one direction and to turn in their pivots when forced in the opposite direction, and springs for imparting pressure to the coupling-pin for retaining the link in a horizontal position, substantially as set forth.

2. In a car-coupler, the combination, with a draw-head having two upwardly-extending arms, each being provided with an oblong slot, two horizontal side arms, and a stop formed in the linkway of the draw-head, of a pivoted cam-block, the pivot-bolt of which passes through the oblong slots in the upwardly-extending arms of the draw-head, vertical bars connected in the said pivot-bolt and passing downward through the horizontal side arms, springs encircling the lower ends of the said bars and retained thereon by any suitable means, and a coupling or locking pin secured to the said cam-block by an elbow-joint, all of the above parts constructed and adapted to operate as described.

3. The combination, with the draw-head provided with the step, upwardly-extending arms, and side arms, as described, the cam-block provided with the laterally-extending arms, the pivot-bolt, vertical bars, and springs, and the locking-pin secured to the cam-block by elbow-joint, of the bent lever O, secured to the car-frame and adapted to partly turn the cam-block and elevate the locking-pin, all of the above parts constructed and adapted to operate as described.

4. The combination, with a draw-head provided with a step, as described, a cam-block pivotally secured to the said draw-head, and a locking or coupling pin secured to the said cam-block by elbow-joint, of a coupling-link provided with lateral extensions or equivalent means for preventing the link from entering too far into the draw-head, substantially as described.

265,936. MEANS FOR PREVENTING FLASHING BETWEEN ELECTRIC CONDUCTORS. ELIHU THOMSON, New Britain, Conn. Filed Feb. 16, 1882. (No model.)



Claim.—1. The herein-described method of improving and maintaining the insulation of two electric conducting plates or surfaces, consisting in forcing between them or across the intervening space by which they are separated a jet or stream of an insulating-fluid of sufficient strength to act mechanically, in the manner set forth, to prevent the formation of any conducting-line of particles or to displace or dissipate any electric current or stream that may have established a path for itself.

2. The combination, with two conducting bodies or surfaces in different states of electric excitement, of suitable means for forcing into, across, or through the space by which they are separated a jet or stream of an insulating-fluid having a sufficient force or strength to act mechanically, in the manner described, in aiding or maintaining the insulation of such surfaces.

3. The combination, substantially as described, with a moving commutator or circuit-changing device, the parts of which are separated by free-air spaces, of a jet or stream of insulating-fluid sent through the insulating or separating spaces with a sufficient force to act mechanically, in the manner described, to maintain or restore the insulation of the parts.

4. The combination, with a cylindrical commutator the plates of which are separated by free air-spaces, of air ducts or pipes applied, in the manner described, so as to direct a jet or current of an insulating-fluid radially between the plates, said jet or current being of a sufficient force or strength to act mechanically, in the manner described, so as to re-enforce the natural insulating quality of the fluid.

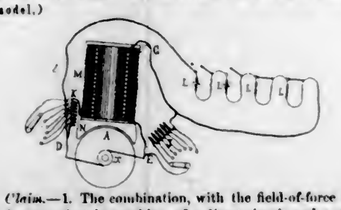
5. The combination, with the commutator of a dynamo-electric machine constructed in the manner described, of a series of plates or segments separated from one another by free spaces, means, substantially as described, for directing a current of insulating-fluid into, through, or across the free spaces at the point in the revolution of the commutator immediately after a segment or plate leaves a commutator-brush.

6. The combination, with a commutator having a collecting-brush applied thereto, of an attachment, P, and jets J, directed upon the commutator at points immediately succeeding that at which the collecting-brush and a commutator segment or plate are disconnected from one another.

7. The combination, with a revolving commutator, of jets J, applied to the interior thereof and directed into the spaces between the successive commutator plates or segments.

8. The combination, with the revolving commutator, of the jets J, attached to the interior of said commutator and revolving therewith, and the stationary supply-pipe, substantially as and for the purpose described.

265,937. REGULATOR FOR DYNAMO-ELECTRIC MACHINES. ELIHU THOMSON, New Britain, Conn. Filed June 28, 1882. (No model.)



Claim.—1. The combination, with the field-of-force magnet in a dynamo-electric machine, of a direct-circuit and a derived-circuit magnetizing coil or helix, bearing to one another the definite magnetizing relation described, such that the magnetizing influence of one shall develop in a closed circuit connected to the armature an electro-motive force or current strength, as the case may be, the same as that produced in the main or working circuit when the field-magnet is under the influence of both coils.

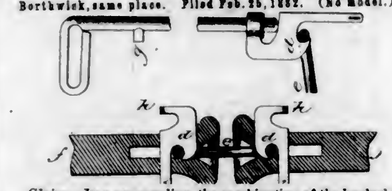
2. The combination, with a dynamo-electric machine operating a series of lights or working-resistances, of two field-magnet coils, one in a direct and the other in a derived circuit to the working-resistances, the magnetizing influence of the former being related to that of the latter when all the lights are in circuit as the resistance of the circuit when the lamps or resistances are all shunted out is to the resistance of the circuit when all the lamps or working-resistances are in circuit.

3. The combination, with a dynamo-electric machine, supplying current to a number of lights or working-resistances in series, of two field magnetizing coils or helices bearing to one another the definite magnetizing relation specified, such that under the magnetizing influence of the direct-circuit helix only carrying the standard current the current flowing in a short circuit connected to the armature shall be the same as that flowing in the main circuit containing all the working-resistances when the armature is under the influence of both coils or helices and the main-circuit helix is in circuit with said armature.

4. The combination, with the field-magnet in a dynamo-electric machine, of a main and a derived circuit helix separate from one another and applied one to magnetize one pole and the other the other pole of the field-magnet.

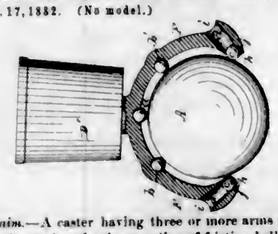
5. The combination, in a dynamo-electric machine, of two magnetizing-helices, one in the direct and the other in a derived circuit around the work, each provided with an adjustable resistance connected thereto for the purpose of modifying and adjusting their relative magnetizing effects.

265,938. CAR-COUPLING. GEORGE W. BRADBURY, Portland, Oreg., assignor, by direct and mesne assignments, to A. E. Borthwick, same place. Filed Feb. 25, 1882. (No model.)



Claim.—In a car-coupling, the combination of the hooked pin *d*, the swiveling lifting-rod *a*, provided with pin *g*, and sleeve *b*, having slot *b'* and extension *b''*, substantially as described.

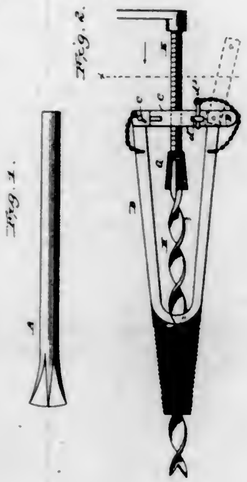
265,939. CASTER. OSCAR F. PARPER, Indianapolis, Ind. Filed Feb. 17, 1882. (No model.)



Claim.—A caster having three or more arms provided with interior depressions for the reception of friction-balls placed above the horizontal plane of the caster-ball, and grooves in the lower ends of the arms to receive friction-balls, whereby the caster-ball A is held up against the upper friction-balls, as set forth.

REISSUES.

10,212. MINING APPARATUS. JOSIAH BLOSS, Leadville, Colo., and ELISHA J. WHITE, Wilkes-Barré, Pa. Filed June 17, 1882. Original No. 159,396, dated Feb. 2, 1875.



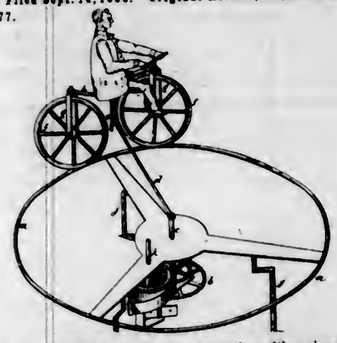
Claim.—1. The combination, in a rock or coal drill, with the frame having a hollow tapering screw-threaded portion adapted to be secured directly to the body of the mass to be bored, and provided with a divided screw-nut, of the feed-screw having a socket for the reception of detachable bits, the said screw being adapted to work in the nut, substantially as and for the purpose set forth.

2. A tubular drill-frame, B, provided with a tapering external screw, and with means, substantially as described, for sustaining and operating the drill.

3. A tubular drill-frame, B, provided with a tapering external screw, combined with a drill and means for operating the same, substantially as shown and described.

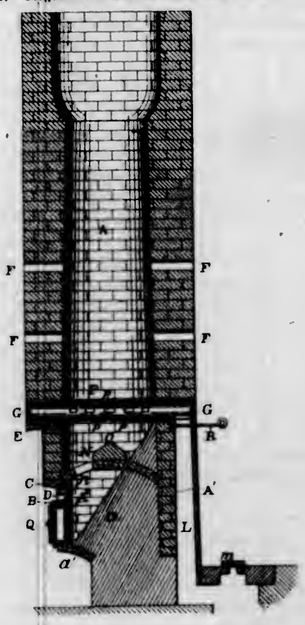
4. The combination, with the drill-frame and the two-part nut-bar C D, having detachable pins *c d*[2] and staple *d'*, of the screw E, adapted to work therein, and the bit H, the said screw being adapted to revolve and force the drill, substantially as described and set forth.

10,213. TOY VELOCIPEDE. JOHN E. CONKLIN, Seneca Falls, N. Y. Filed Sept. 14, 1882. Original No. 181,276, dated May 29, 1877.



Claim.—A toy having wheels, in combination with a circular track, a central shaft, a spring and gearing to give motion to the central shaft, and an arm from such shaft to the toy, substantially as set forth.

10,214. LIMEKILN. JOHN DRUECKER, Chicago, Ill. Filed Aug. 28, 1882. Original No. 258,735, dated May 30, 1882.



Claim.—1. In combination with the body or cupola of the kiln, the convex bottom or charge-supporting arch N, perforated at *n*, and the saddle *o*, the latter operating to support the central portion of the column of the mass and to deflect the burned lime toward the aperture *n* of the arch N, as set forth.

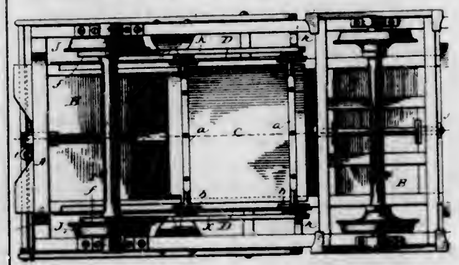
2. In combination with the hopper A, arched roof N, (having an aperture, *n*,) and the discharge-door B, an aperture, D, entering said hopper above the discharge-door B and beneath the roof N, all substantially as and for the purposes set forth.

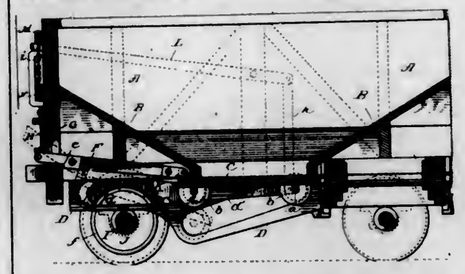
3. In combination with the body or cupola A and a suitable source of gas-supply, a perforated gas-channel, P, arranged transversely of the body A, and a vertical duct, I, forming a communication between said gas-channel and said source of gas-supply, all substantially as set forth.

4. In combination with a body portion or cupola having a space arched over at C, and a discharge-door, B, located below said arch, a recess beneath said door, arched as at *a'*, and adapted to permit the placement beneath said arch of a wheelbarrow, as and for the purpose set forth.

5. In combination with the discharge-hopper A', having an inclined portion, *a*, the discharge-door B, and a register or draft-hole, Q, for the purpose of regulating a supply of cold air to cool the contents of the hopper A', and then (ascending) pass into the burning mass and assist in the combustion thereof, as set forth.

10,215. DUMPING-CAR. SIDNEY D. KING, Pittston, assignor, by mesne assignments, to John B. Smith, Dunmore, and Antoinette L. King, West Pittston, Pa. Filed July 24, 1882. Original No. 221,577, dated Nov. 11, 1879.





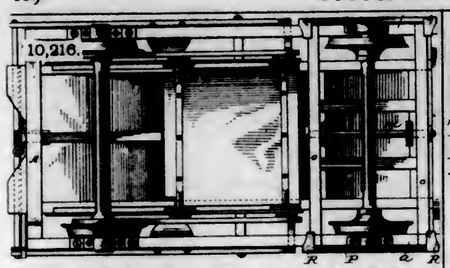
Claim.—1. In a dumping-car, a central sliding door, inclined ways, and a latching or locking device connected with the door, the said door being arranged to slide on an incline automatically by the weight of the coal or like load within the car when the latching device is released, substantially as herein set forth.

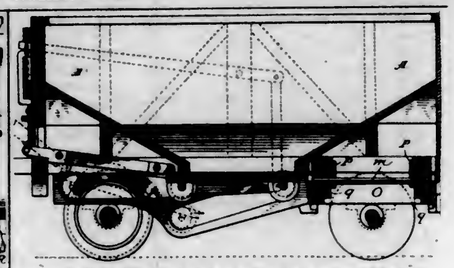
2. The combination of the door C, having shafts and rollers, as described, the slotted plates or castings D D, arm F, with shoulder *e*, and the slotted plate G, substantially as and for the purposes herein set forth.

3. The pivoted latch H, in combination with the plate G, shouldered arm F, and door C, substantially as and for the purposes herein set forth.

4. The combination of the brakes K, links A, levers I, with cross-bar M, chain *i*, and operating-lever N, with the wheels J, having inside flanges, *f*, substantially as and for the purposes herein set forth.

10,216. CAR-TRUCK. SIDNEY D. KING, Pittston, assignor, by mesne assignments, to John B. Smith, Dunmore, and Antoinette L. King, West Pittston, Pa. Filed July 24, 1882. Original No. 221,577, dated Nov. 11, 1879.





Claim.—1. A truck-frame having a single pair of wheels supporting said frame, in combination with a car-body, and with non-swiveling and rocking connections between said body and truck-frame, substantially as described.

2. A truck-frame having a single pair of wheels supporting said frame, in combination with a car-body and central bearings in front and rear of the axle, whereby the truck is made non-swiveling and the body permitted to rock, substantially as described.

3. A truck-frame having a single pair of wheels supporting said frame, in combination with a car-body, with bearings to prevent swiveling of the truck and permit rocking motion of the body, and with devices for limiting the said rocking motion, substantially as described.

4. The combination of the truck-frame, the single pair of wheels, the car-body, the central non-swiveling rocking support, and the limiting devices P R, substantially as described.

5. The castings P, with flanged corner projections, R, formed with stops at their lower extremities, in combination with a car-body and a car-truck hung to the body on a longitudinal central shaft, substantially as and for the purposes set forth.

PHOTO LITH NORRIS PETERS WASH. D.C.

DECISIONS
OF THE
COMMISSIONER OF PATENTS
AND OF
UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

EX PARTE SCHUMACHER & ETTLINGER.

Decided October 2, 1882.

1. REGISTRY OF LABELS—POWER OF COMMISSIONER.
The statute which charges the Commissioner of Patents with the supervision and control of the entry or registry of prints and labels confers upon him the right to determine whether the subject-matter of an application is properly registrable as a label.

2. SAME—MERELY FANCIFUL DESIGNS.
A fanciful and arbitrarily-selected design which is not descriptive of the contents or ownership of the articles to which it is to be applied is not entitled to registry as a label. *Ex parte Schumacher & Ettlinger* (19 O. G., 791) approved.

APPEAL from the Primary Examiner.

Applications for registration of five labels filed June 8 and 10, 1882.

Messrs. Briesen & Betts for the appellants.

MARBLE, *Commissioner:*

The alleged labels are fanciful designs, printed upon slips of paper, and intended to be used in connection with cigars and cigar-boxes. The Examiner refuses to register them on the ground that they do not properly constitute labels.

The applicants assert that the only power conferred by the statute upon the Patent Office is that of receiving and receipting for applications for labels and forwarding a copy of the record. In other words, upon the receipt of such an application the duty of the Office is purely ministerial, and the statute gives no authority for questioning whether the so-called label is a label, trade-mark, or something else.

The statute provides that the Commissioner of Patents shall be "charged with the *supervision* and *control* of the entry or registry of such prints or labels." What kind of supervision and control does it refer to? The words are general. In this country the patent system is organized so as to protect the inventor and the public. The statute directs the Commissioner to examine into the subject-matter of applications for patents and determine whether they exhibit such inventions as should be protected. Inventions are of more value than labels, yet the latter are equally entitled to protection. It is not unreasonable to presume that Congress, being fully aware of the equity in the patent system, in conferring upon the Commissioner the "supervision and control" of the registry of labels, intended this power to be administered so as to protect the public. If trade-marks are registered as labels, a *prima facie* case is made out, and a moral protection obtained injurious to the multitude. Though the label is invalid, yet the public is misled. The Patent Office assists in the injury, and the innocent individual will find the remedy expensive.

Again, the statute says that only prints and labels, not trade-marks, may be registered in the Patent Office upon payment of six dollars. The fee for registering trade-marks is twenty-five dollars. The law, by implication, prohibits the registry of a trade-mark upon payment of only six dollars. The Patent Office receives both the applications and the fees. Who, then, should decide whether a trade-mark or a label is embraced? How fruitless to await the action of a court on a trade-mark so registered as a label. The difference made in the matter of fees shows it to be clearly the intent of the statute for the Commissioner at the outset to distinguish between a label and a trade-mark. The appellants, however, urge that their applications embrace proper labels and not trade-marks.

The definition of the word "label" as given by Webster's Dictionary, and which has been adopted by this Office in the matter of their registration, is as follows:

A narrow slip of silk, paper, parchment, &c., affixed to any thing, denoting its contents, ownership, and the like; as, the label of a bottle, or a package.

An examination of the prints shows them to be peculiar designs, fanciful, and arbitrarily selected, with nothing about them descriptive or suggestive of the contents or ownership of the packages to which they are to be applied. The case of *Schumacher & Ettlinger* (19 O. G., 791) is directly in point, and should have warned the applicants against filing these applications.

I must hold that it is within the authority of the Patent Office to refuse to register trade-marks under the guise of labels, and that in the present instance the applications do not present labels for registration.

The decision of the Examiner is therefore affirmed.

DECISIONS OF THE U. S. COURTS.

U. S. Circuit Court—Northern District of New York.

HOLT *et al. v.* KEELER *et al.*

Decided August 1, 1882.

REISSUE—LAPSE OF TIME.
The original patent claiming a type-wheel provided with yielding flanges to permit the types to be impressed upon the surface to be marked, a claim in a reissue granted after the manufacture of non-infringing devices, and nine years after the issue of the original, *Held* not to be sustainable to cover rigid flanges. If there were any error in restricting the original to elastic flanges, it was a plain one, apparent at once to the patentee, and as capable of prompt correction then as after a lapse of more than nine years.

Mr. George W. Hey for the plaintiffs.
Mr. James A. Allen for the defendants.

BLATCHFORD, *J.*:

This is a suit in equity brought on Reissue Letters Patent No. 6,714, granted to Horace Holt, one of the plaintiffs, October 26, 1875, for an improvement in marking-wheels, the original patent, No. 52,169, having been granted to him January 23, 1866. As questions concerning the validity of the reissue are raised, it will be useful to place the two specifications side by side. The left-hand one is the specification of the original patent and the right-hand one is that of the reissue. In each the parts which are not found in the other are in italics.

Original.

Figure 1 represents a side elevation of this invention. Fig. 2 is a sectional plan or top view of the same.

Similar letters of reference indicate like parts.

This invention consists in a revolving type-wheel arranged in a suitable handle, in combination with an ink-roller, in such a manner that by carrying said type-wheel over the cover of a box, or over any other surface, the types on said wheel produce an impression, and the marking of a box or other article can be effected neatly and distinctly with little loss of time.

The ink-roller is composed of a hollow cylindrical reservoir perforated with small holes, and surrounded by a strip of cloth or other absorbent material, so that the same is capable of holding a supply of ink for a large number of impressions.

The type-wheel is provided with *yielding* rims or flanges, made of india-rubber or other elastic material, so that the types can be depressed on the surface to be marked with the requisite force to produce the desired impression.

and a coiled or other spring *is applied* to said type-wheel *in such a manner that it carries* the same back after each impression to the starting-point, and thereby the types are brought in contact with the ink-roller, and supplied with the requisite quantity of ink for the subsequent impression; and, furthermore, the type-wheel readjusts itself in the required position for starting.

A represents a wheel, made of cast-iron or other suitable material, and arranged so that the desired types can be applied to or inserted in its periphery, either permanently, by means of a strip of copper or other suitable material, or so that said types can be changed at pleasure. This type-wheel is mounted on an axle, *a*, which has its bearings in a forked handle, B, and it is provided with projecting flanges *b*, *made of india-rubber or other soft and elastic material, so that by pressing the wheel down upon the surface to be marked the types are brought in contact with said surface with the requisite force to produce the desired impression.*

As the wheel revolves, the types on its circumference come in contact with the surface of the ink-roller C, which is mounted on an axle, *c*, having its bearings in the extreme ends of the forked handle B. Suitable springs, *d*,

Reissue.

Figure 1 represents a side elevation of this invention. Fig. 2 is a sectional plan or top view of the same.

Similar letters of reference indicate like parts.

This invention consists in a revolving type-wheel arranged in a suitable handle, in combination with an ink-roller, in such a manner that by carrying said type-wheel over the cover of a box, or over any other surface, the types on said wheel produce an impression, and the marking of a box or other article can be effected neatly and distinctly with little loss of time.

The ink-roller *shown in the drawings* is composed of a hollow cylindrical reservoir perforated with small holes, and surrounded by a strip of cloth or other absorbent material, so that the same is capable of holding a supply of ink for a large number of impressions.

The type-wheel is provided with rims or flanges, *preferably* made of india-rubber or other elastic material, so that the types can be depressed on the surface to be marked with the requisite force to produce the desired impression. *The rims or flanges serve to keep the surface of the types in a plane parallel with the surface to be marked, which is otherwise often difficult, owing to the different lengths of lines of type, or the position of the type at the side of the surface of the type-wheel.*

It is also advantageous to use a coiled or other spring, *which, when* applied to said type-wheel, *is arranged to carry* the same back after each impression to the starting-point, and thereby the types are brought in contact with the ink-roller, and supplied with the requisite quantity of ink for the subsequent impression; and, furthermore, the type-wheel readjusts itself in the required position for starting.

A represents a wheel, made of cast-iron or other suitable material, and arranged so that the desired types can be applied to or inserted in its periphery, either permanently, by means of a strip of copper or other suitable material, or so that said types can be changed at pleasure. This type-wheel is mounted on an axle, *a*, which has its bearings in a forked handle, B, and it is provided with projecting flanges *b*.

As the wheel revolves, the types on its circumference come in contact with the surface of the ink-roller C, which is mounted on an axle, *c*, having its bearings in the extreme ends of the forked handle B. Suitable springs, *d*,

draw the ink-roller toward the type-wheel, and by disconnecting said springs the ink-roller can be removed from its seat.

Said ink-roller may be made solid, similar to ordinary printers' rollers; but I *prefer to make the same of* a hollow cylindrical reservoir, *e*, to which access can be had by removing one of its heads. This reservoir is perforated with a large number of small holes, *and it* is surrounded by a strip, *f*, of cloth or other absorbent material. *By these means* a large supply of ink can be carried in the roller, and the marking-wheel produces a number of impressions before it is necessary to recharge the same. A spring, *g*, applied to the axle of the wheel A, (see Fig. 1,) carries the same back until the stud *h* in the wheel comes in contact with a pin, *i*, projecting from the inner surface of the forked handle.

By this stud and pin the starting-point of the wheel is defined, and by the action of the spring the wheel is carried back to this starting-point after each operation. In moving back, the types, being in contact with the ink-roller, are supplied with the requisite quantity of ink for the subsequent operation.

It is obvious that the starting-point of the type-wheel can be determined by other means besides the stud *h* and pin *i*.

By this simple device a large number of boxes or other packages can be marked neatly and distinctly with great dispatch.

I claim as new and desire to secure by Letters Patent—

1. *The combination of the type-wheel A, inking-roller C, and ink-reservoir e, all constructed, arranged, and operating as specified.*

2. *The yielding flanges b on type-wheel A, constructed and operating substantially as and for the purpose described.*

3. *The spring g, applied in combination with the type-wheel A, stud h, and pin i, or their equivalents, substantially as and for the purposes set forth.*

draw the ink-roller toward the type-wheel, and by disconnecting said springs the ink-roller can be removed from its seat.

Each end of the fork of the handle has two slots—one long and the other short—which form main and secondary bearings for the journals of the inking-roller. When it is desired that the roller and wheel should be in contact, the journals of the former should be in the long slots, as shown in the drawing, which represents the roller in its normal position; but as it is sometimes necessary that the marking-wheel and roller should revolve independent of each other, as when "distributing" ink on the latter, or when it is being used on a separate flat form, or when either the wheel or the roller, or both, are being cleaned, then the journals of the latter should be placed in the short slots or secondary bearings.

Said ink-roller may be made solid, similar to ordinary printers' rollers; but I *have shown in the drawings* a hollow cylindrical reservoir, *e*, to which access can be had by removing one of its heads. This reservoir is perforated with a large number of small holes. *The roller* is surrounded by a strip, F, of cloth or other absorbent material. *By means of the reservoir, if used,* a large supply of ink can be carried in the roller, and the marking-wheel produces a number of impressions before it is necessary to recharge the same. A spring, *g*, applied to the axle of the wheel A, (see Fig. 1,) carries the same back until the stud *h* in the wheel comes in contact with a pin, *i*, projecting from the inner surface of the forked handle.

By this stud and pin the starting-point of the wheel is defined, and by the action of the spring the wheel is carried back to this starting-point after each operation. In moving back, the types, being in contact with the ink-roller, are supplied with the requisite quantity of ink for the subsequent operation.

It is obvious that the starting-point of the type-wheel can be determined by other means besides the stud *h* and pin *i*.

By this simple device a large number of boxes or other packages can be marked neatly and distinctly with great dispatch.

I am aware that a patent was granted Edwin Craveley, dated July 8, 1856, in which was shown a handle holding a type-wheel and several inking-rollers, arranged with a distributing-band. This I do not claim; but

I claim as new and desire to secure by Letters Patent—

1. *The combination, with a frame and handle, of a type-wheel provided with a stud-pin, for defining the starting and stopping points, and an inking-roller, constructed and operating substantially as specified.*

2. *The combination, with a handle, of a type-wheel provided with flanges for keeping the plane of the type parallel with the surface of the article to be marked.*

3. *A type-wheel provided with yielding flanges, constructed and operating substantially as and for the purpose described.*

4. *A spring, in combination with a type-wheel and stop-pin, or its equivalent, for retracting the type-wheel to its starting-point, substantially as and for the purpose set forth.*

5. *The combination of a type-wheel with a combined inking-roller and ink-reservoir, constructed substantially as and for the purpose described.*

6. *The combination of a handle and type-wheel with a spring for retracting the type-wheel to its starting-point, substantially as described.*

7. *In combination with an inking-roller and its usual bearings, secondary bearings so arranged that the roller may revolve independently of the wheel, substantially as set forth.*

The answer in this case alleges that the surrender of the original patent was not made on account of any defect or insufficiency of the specification, but with the fraudulent design of enlarging the claims, so as to embrace inventions not made by him prior to the time when the original patent was issued, and which are not embraced therein; that the reissue in its description and claims embraces matters claimed therein as the invention of Holt, which were not invented by him prior to the issue of the original patent, and which are not described or alluded to therein, such enlargement of the claims of the reissue being produced substantially by the insertion of claims 1, 2, and 7, which embrace new matter not shown in the claims, specification, model, or drawing of the original patent, and that the reissued patent is for a different invention from the original patent and is void.

The only claims in the reissue which it is now contended have been infringed are claims 2 and 3. In the specification of the original patent what is said about the flanges is this:

> The type-wheel is provided with yielding rims or flanges, made of india-rubber or other elastic material, so that the types can be depressed on the surface to be marked with the requisite force to produce the desired impression. * * * This type-wheel * * * is provided with projecting flanges *b*, made of india-rubber or other soft and elastic material, so that, by pressing the wheel down upon the surface to be marked, the types are brought in contact with said surface with the requisite force to produce the desired impression.

The claim based on the above descriptive matter is claim 2 of the original, as follows:

> 2. The yielding flanges *b* on type-wheel A, constructed and operating substantially as and for the purpose described.

The foregoing descriptive matter is altered in the specification of the reissue to the following:

> The type-wheel is provided with rims or flanges, preferably made of india-rubber or other elastic material, so that the types can be depressed on the surface to be marked with the requisite force to produce the desired impression. The rims or flanges serve to keep the surface of the types in a plane parallel with the surface to be marked, which is otherwise often difficult, owing to the different lengths of lines of type, or the position of the type at the side of the surface of the type-wheel. * * * This type-wheel * * * is provided with projecting flanges *b*.

The claims of the reissue, based on the foregoing descriptive matter in it, are these:

> 2. The combination, with a handle, of a type-wheel provided with flanges for keeping the plane of the type parallel with the surface of the article to be marked.
>
> 3. A type-wheel provided with yielding flanges, constructed and operating substantially as and for the purpose described.

There is in the original a distinct statement that the flanges are made of india-rubber or other elastic yielding material, and there is no suggestion that they can, consistently with the ideas of the inventor, be made of any elastic non-yielding material. They are also stated to be projecting flanges. This expression, with nothing more, would be satisfied by flanges projecting from and beyond the face of the type-wheel, and would not necessarily mean that the flanges should project to a distance beyond the line of the impression-faces of the types. But the expression is, that they are projecting flanges, made of elastic material, "so that by pressing the wheel down on the surface to be marked, the types are brought in contact with said surface with the requisite force to produce the desired impression." This clearly implies that until the wheel is pressed down on the surface to be marked the types are out of contact with that surface, because they are raised above it by reason of the fact that the flanges project farther from the face of the wheel than the types project from said face, and that by reason of the fact that the flanges are elastic and yielding, the pressing down of the wheel will cause the flanges to be compressed and to yield, and will allow the types to come into contact with the surface to be marked. It is true that figure 2 of the drawings of the original patent shows the face of the type projecting from the wheel to a greater distance than the flanges project from it; but in figure 2 of the drawings of the reissue the face of the type does not appear to project from the wheel to a greater distance than the flanges project from it.

Mr. Stark, an expert for the defendants, testifies that figure 2 of the drawings of the reissue shows the flanges to project more than the type, and that if they did not the types could not be "depressed on the surface to be marked" to accomplish the result set forth in the specification. On the other hand, Mr. Robertson, an expert for the plaintiffs, testifies that he thinks the drawings of the reissue are intended to represent the type as on or about the same level as the flanges; that the word "depressed" in the connection in which it is used means that the type must be depressed into the surface of the material, and that this, where hard types were used, would necessitate the yielding of the flanges. It is very clear, however, that where hard types are used with elastic flanges in the Holt wheel, the flanges must project to some extent beyond the faces of the types in order to be operative as elastic flanges, unless the hard types enter the material that is being marked. Nothing is said in the original specification as to the material of which the types are to be made, whether of hard metal or of elastic material; but it is shown that the model deposited by Holt in the Patent Office with his original application showed types of hard metal with elastic flanges. It must, therefore, be held that the original patent admitted of the use of hard types with elastic flanges. This being so, it follows that the elastic flanges must have been intended to project beyond the faces of hard types in order to be operative, and that such is the meaning of the language of the original specification. That that language was so understood at the time by the inventor is stated by him in his testimony. He says that when the original specification was submitted to him by his solicitor he objected to that part of it which says "that force is required to bring the printing-surface down to a level or below the flexible bearers, so that an impression could be taken," calling his attention to the fact that the bearers on the model were no higher than the face of the type. He says that the elastic flanges in the filed model projected so as to be on a line with the face of the metal types. Yet the specification was allowed to go out in that shape. The inventor does not seem to have used rigid flanges until after the original patent was issued, or to have had any idea when he obtained his original patent of rigid flanges. One object in obtaining the reissue clearly was to procure a claim which should cover flanges, whether rigid or not, in connection with a handle, while retaining the claim to a type-wheel with yielding flanges such as the original patent describes.

One form of the defendants' wheel has rigid flanges which do not project to a distance as far as the faces of the type. In this form of wheel there is a border around the types, but it is a part of the types, and is inked and an impression taken from it, and it is not a flange in the sense of the Holt patent, although it is elastic, the types being elastic and the flanges being rigid. In the other form of the defendants' wheel, called the "Barnes and Allen" wheel, the elastic border is omitted, the types being elastic and the flanges being rigid and not projecting as far as the face of the types. Neither of these forms of wheel would have infringed claim 2 of the original patent. Nor does either of them infringe claim 3 of the reissue. They do infringe claim 2 of the reissue as it stands, because they have a handle and rigid flanges which keep the plane of the type parallel with the surface of the article to be marked, if claim 2 can be construed as covering any flanges but such as were shown in the original patent.

The original patent was granted in January, 1866. The reissue was applied for in March, 1875, and granted in October, 1875. If there were any error in the original patent in not setting forth and claiming rigid flanges, or in stating that the flanges were to be elastic, and were to be so arranged that the types were to be out of contact with the surface to be marked until, by the yielding of the flanges through pressing down the wheel, the types would be brought in contact with such surface, the error was a plain one, apparent at once to the patentee, and as capable of being promptly corrected then as after a lapse of more than nine years. Meantime the manufacture of wheels substantially the same as those of the defendants had been entered upon, they being no infringement of any claim of the original patent in respect to flanges. In view of all these facts claim 2 of the reissue cannot be upheld as a claim covering rigid flanges such as the defendants use. The decisions to this effect are numerous. (*Bell* v. *Sayles*, 102 N. Y., 128; *Manufacturing Company* v. *Ladd*, Id., 408; *Manufacturing Company* v. *Corbin*, 103 U. S., 786; *Miller* v. *Brass Company*, 3 Morrison's Transcript, 419; *Bantz* v. *Frantz*, 4 Id., 341; *Matthews* v. *Machine Company*, Id., 347; *Johnson* v. *Railroad Company*, Id., 931.)

It appears that the inventor held the legal title to his patent for more than five years after it was issued, permitting the use of it by the Lecombe Company for a royalty on each wheel. It does not appear that he was not at full liberty to apply for a reissue of it.

In addition to what has been said about the defendants' wheel with the elastic border, it may be said that it extends wholly around the types, and does not compass the entire circumference of the wheel, and has the same operation which types in the same place would have, and its face is on the same plane with the faces of the types, and it is a part of the printing-surface. In all these respects it differs from what is described in the original specification of Holt.

It follows from these views that the bill must be dismissed, with costs.

TYLER v. GALLOWAY *et al.*

Decided July 29, 1882.

JOINT STOCK ASSOCIATION—SUIT AGAINST INDIVIDUAL MEMBERS.

The defendants were members of a joint stock association capable of being sued without making all its shareholders parties. The infringing device was owned by the association and used by its agents for the benefit of its stockholders. *Held* that a suit in which several of the shareholders were individually joined was properly brought, and that each defendant was liable to be enjoined. Bill, however, dismissed against a party who was an officer of the association, but not a shareholder.

Mr. George W. Hey for the plaintiff.
Mr. Henry R. Durfee for the defendants.

BLATCHFORD, *J.*:

This suit is brought on Reissue Letters Patent No. 8,832, granted to the plaintiff August 5, 1879, for an improvement in cheese-hoops, the original patent having been granted to William Sternberg, March 21, 1871. By agreement of parties the case has been heard and a decision rendered (12 Fed. Rep., 567) upon all questions in the suit except that now presented for consideration. The question reserved was—

The question of the liability of the defendants in this action under its present title and form, or any other question touching their liability as individuals or members of the Macedon Cheese Association, or the liability of the Cheese Association as a company.

The bill is filed against four persons—Galloway, Durfee, Kent, and Billings—individually as defendants. It alleges that the defendants, "at Macedon Cheese Factory, in the county of Wayne, New York, have unlawfully and wrongfully made or caused to be made, sold or caused to be sold, used or caused to be used" cheese-hoops containing the patented invention.

It appears that the defendants Galloway, Durfee, and Billings were members of a copartnership, called the "Macedon Cheese Association," with other persons; that the extent of the interest of the members in the copartnership was measured by the number of shares of stock held by each in the copartnership as a joint stock association, and that the number of holders of shares was greater than seven, so that the association could be sued as a whole under the laws of New York by suing its president as such, without making all the shareholders parties. The plaintiff did not attempt to sue the association as a whole. It is shown that the infringing cheese-hoop was owned by the association, and was used by its agents in making cheese in its business at its works for the benefit of its stockholders. Galloway, Durfee, and Billings were shareholders. The use aforesaid was a use by each of them quite as much as if there had been a copartnership without shares of stock, or one with shares belonging to less than seven shareholders in number. The use by each was a tort, and each is liable to be enjoined. What the extent of the liability of each for profits and damages is will be a question to be determined hereafter, after a hearing on the report of a master on a reference for that purpose.

Kent is shown to have been secretary of the association; but it does not appear on the present evidence that he was a shareholder. As the case stands the bill must be dismissed as to him, but without costs, as he answered jointly with Durfee.

The motion of the plaintiff to amend his bill by alleging that the defendants were severally president, secretary, and directors of the association is denied. If intended to aid the suit as one against the defendants individually, it is unnecessary. If intended to make the suit one against the association as a whole, the plaintiff cannot now be allowed to put this suit into that shape.

The usual decree for an injunction and an accounting against all the defendants but Kent, with costs, must be entered.

THE OFFICIAL GAZETTE OF THE United States Patent Office.

[BY AUTHORITY OF CONGRESS.]

VOL. 22—No. 16. TUESDAY, OCTOBER 17, 1882. PRICE—$5 per year

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Subscriptions for 1882.

The OFFICIAL GAZETTE is published every Tuesday, two volumes a year, commencing in January and July. Terms: To all subscribers within the United States and Canada, $5 per annum; to foreign subscribers, $7; single copies, 10 cents; bound volumes, $3.50 per volume. No club rates. *Payment in advance.* All orders should be addressed to "The Commissioner of Patents, Washington, D. C."

Issue of October 17, 1882.

Patents	323	No. 265,940 to No. 266,262, inclusive.
Designs	5	No. 13,337 to No. 13,341, inclusive.
Trade-Marks	19	No. 9,722 to No. 9,740, inclusive.
Labels	2	No. 2,779 to No. 2,780, inclusive.
Reissues of patents	2	No. 10,217 to No. 10,218, inclusive.
Total issue	351	

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks and Labels.	States.	Patents and Designs.	Trade-Marks and Labels.
Alabama	1		Nebraska	3	
Arizona Territory			Nevada		
Arkansas	3		New Hampshire		
California	7	1	New Jersey	12	1
Colorado	2		New Mexico Territ'y		
Connecticut	8		New York	65	4
Dakota Territory	1		North Carolina	4	
Delaware			Ohio	20	
District of Columbia	4		Oregon	1	
Florida	1		Pennsylvania	46	6
Georgia	1		Rhode Island	4	
Idaho Territory			South Carolina		
Illinois	22		Tennessee	3	
Indiana	10		Texas	2	
Indian Territory			Utah Territory	1	
Iowa	13		Vermont		
Kansas	4		Virginia	1	1
Kentucky	4		Washington Territ'y		
Louisiana	1		West Virginia		
Maine	6		Wisconsin	9	
Maryland	4	1	Wyoming Territory		
Massachusetts	30	1	United States Army		
Michigan	8	1	United States Navy		
Minnesota	5		Total to citizens of the United States	314	16
Mississippi	3				
Missouri	5				
Montana Territory					

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks and Labels.	Countries.	Patents and Designs.	Trade-Marks and Labels.
Australia			England	7	4
Austria			France	2	1
Barbadoes			Germany	2	
Belgium			Italy		
Bermuda			New Zealand		
Brazil			Russia		
Canada	3		Spain		
Chili			Sweden		
Colombia, U. S. of			Switzerland		
Cuba			Total to citizens of foreign countries	14	5
Denmark					
Ecuador					

DESIGNS.

13,337.—CIGAR-LIGHTER.—*Gustav Fuchs*, Chicago, Ill. Application filed September 20, 1882. Term of patent 3½ years.

13,338 and 13,339.—CARPET.—*Arthur L. Halliday*, New York, N. Y., assignor to *The Bigelow Carpet Company*, Clinton, Mass. Applications filed September 21, 1882. Term of patents 3½ years.

13,340.—EARTHENWARE COFFEE-POT.—*Daniel E. McNicol*, East Liverpool, Ohio. Application filed September 6, 1882. Term of patent 3½ years.

13,341.—CARPET.—*Henry Wortz*, New York, N. Y., assignor to *The Worcester Carpet Company*, Worcester, Mass. Application filed July 28, 1882. Term of patent 3½ years.

TRADE-MARKS.

[Certificates of registration of Trade-Marks numbered 8,191 and upward are registered under the act of March 3, 1881.]

9,722.—MEDICINAL BITTERS.—*Samuel R. Adams*, New York, N. Y. Application filed September 21, 1882.

"The pictorial representation of Hercules and Cerberus and the fac-simile signature of Clayton & Russell."

9,723.—PREPARATION FOR CLEANING GARMENTS, FABRICS, SILVERWARE, &c.—*Bean & Rabe*, Philadelphia, Pa. Application filed September 21, 1882.

"The fanciful term 'CHING CHONG' and a Chinese scene, some of the characters therein apparently cleansing different articles and others watching the work."

9,724.—CERTAIN MEDICAL COMPOUNDS.—*Burroughs, Wellcome & Co.*, London, England. Application filed April 4, 1882.

"The word 'ELIXOID.'"

9,725.—CERTAIN MEDICAL COMPOUND.—*Burroughs, Wellcome & Co.*, London, England. Application filed September 28, 1881.

"The word 'HAZELINE.'"

9,726.—WHISKY.—*Francis J. Orilly*, Philadelphia, Pa. Application filed September 5, 1882.

"The word 'KENSINGTON.'"

9,727.—POWDER TO BE TAKEN INTERNALLY.—*R., F. E. & J. A. Greene*, Boston, Mass., and St. Louis, Mo. Application filed June 16, 1882.
"The words 'ORIENTAL BEAUTY.'"

9,728.—PEACHES.—*Homer & Masheter*, Pool's Island, Md. Application filed July 1, 1882.
"The words 'POOL'S ISLAND.'"

9,729.—SMOKING-TOBACCO AND CIGARS AND FINE-CUT CHEWING-TOBACCO.—*Charles B. Hull*, Detroit, Mich. Application filed July 27, 1882.
"The arbitrarily-selected words 'BULL FROG.'"

9,730.—TOOTH AND MOUTH WASH.—*Johnson & Lund*, Philadelphia, Pa. Application filed September 21, 1882.
"The fanciful word 'DOUCHALEINE.'"

9,731.—CIGARS.—*Horace R. Kelly & Co.*, New York, N. Y. Application filed September 1, 1882.
"The representation of the female figure, the two children, tobacco-plants, and palm-trees."

9,732.—TOILET-VINEGAR.—*A. & M. Landon*, Paris, France. Application filed September 14, 1882.
"The smaller and oblong eight-sided member, inclosing the signature and the two geometrical figures and their inclosed monograms, and the larger member, having the three columns and the escutcheon, monogram or interlaced letters, figure of Mercury, female figure, clouds, and phrase 'AU TEMPLE DE FLORE.'"

9,733.—SHIRTS.—*Lewis Levi*, Paterson, N. J. Application filed September 5, 1882.
"The representation of a lion rampant and a lozenge."

9,734.—INSECT-DESTROYING POWDER.—*Giovanni N. Milco*, Stockton, Cal. Application filed September 12, 1882.
"The word-symbol 'BUHACH.'"

9,735.—PORT-WINE.—*Morgan Bros.*, London, England. Application filed July 19, 1882.
"The representation of a double diamond."

9,736.—PORT-WINE.—*Morgan Bros.*, London, England. Application filed July 19, 1882.
"The word 'DIXON'S.'"

9,737.—PRINTS, LABELS, SHOW-CARDS, CALENDARS, PRINTED CARDS, AND TAGS.—*Schumacher & Ettlinger*, New York, N. Y. Application filed September 21, 1882.
"The arbitrary words 'HENRY LEE.'"

9,738.—PERFUMES.—*Sharpless & Sons*, Philadelphia, Pa. Application filed September 19, 1882.
"The word-symbol 'LOUISE.'"

9,739.—CHEWING AND SMOKING TOBACCO.—*Salmon, Hancock & Co.*, Richmond, Va. Application filed September 19, 1882.
"The word-symbol 'SUNSHINE.'"

9,740.—MEDICINAL FOOD PRODUCTS, COMPOUNDS, OR SUBSTANCES.—*Reed & Carnrick*, New York, N. Y. Application filed September 25, 1882.
"The arbitrarily-selected words 'BEEF PEPTONOIDS.'"

LABELS.

2,779.—Title: "CHINESE CLOTHES CLEANER."—*Bean & Rabe*, Philadelphia, Pa. Application filed September 21, 1882.

2,780.—Title: "CHINESE RENOVATOR."—*Bean & Rabe*, Philadelphia, Pa. Application filed September 21, 1882.

PATENTS

GRANTED OCT 17, 1882.

265,940. MANUFACTURE OF SAND-PAPER. CHAS. BARBER, Jenkintown, Pa. Filed June 17, 1882. (No model.)

Fig. 1.

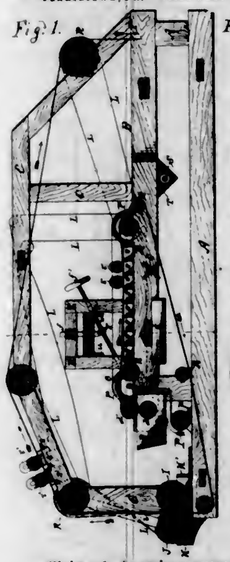
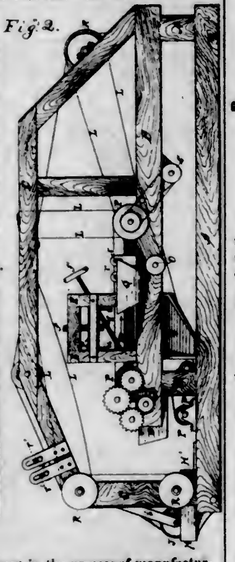


Fig. 2.



Claim.—1. As an improvement in the process of manufacturing sand-paper and similar products, subjecting the glued and sanded surface, while the glue is still soft, to positive and uniform pressure, substantially as set forth.

2. As an improvement in the manufacture of sand-paper and similar products, subjecting the glued and sanded surface continuously to a secondary sizing operation, substantially as and for the purpose described.

3. In an apparatus for the manufacture of sand paper and similar products, the combination of rollers and scrapers, substantially as described, whereby the sheet is simultaneously rolled upon its upper surface and scraped upon its under surface while the glue is still soft, for the purpose set forth.

4. In an apparatus for manufacturing sand-paper and similar products, scrapers applied and operating upon the under side of the paper, substantially as and for the purposes specified.

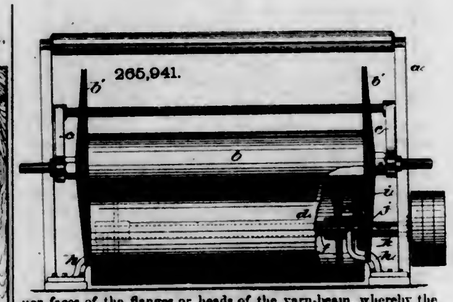
5. The combination, with the gluing-roller and the sieve, of the pressure-rollers *r r*, revolving in slotted bearings, substantially as and for the purposes specified.

265,941. WARPING-MACHINE. WILLIAM BANCROFT, Hopedale, Mass. Filed Apr. 13, 1882. (No model.)

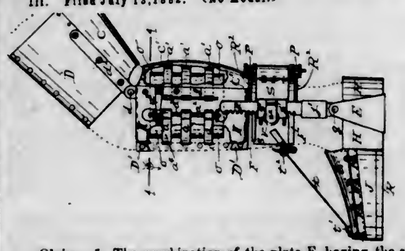
Brief.—The bearings for the supporting-cylinder are located within the ends of said cylinder, thereby enabling the flanges or heads of the yarn-beam to extend past the axial center of the said cylinder.

Claim.—The yarn-beam, the supporting cylinder or roller, and means to rotate it, combined with bearings or supports for the said cylinder or roller, located within the planes of rotation of the inner faces of the flanges or heads of the yarn-beam, whereby the said flanges or heads may extend past the axial center of the said cylinder, as and for the purpose described.

265,941.



265,942. CLUB-FOOT APPARATUS. JAMES BURNS, Joliet Ill. Filed July 13, 1882. (No model.)



Claim.—1. The combination of the plate F, having the segmental toothed racks R³, plate S, having the pinions P and V, frame S', and toothed shaft R, hinged at *g* to the shoe, and having the hinge-joint *j*, as and for the purpose set forth.

2. In an apparatus for club-feet, the toothed side shafts, R, having the joint *j*, in combination with the pinion V, for the purpose set forth.

3. In an apparatus for club-feet, the upper L of the shoe, adjustable up or down by means of the screws W, as set forth.

4. The combination of the plate *o*, straps *a* and *a'*, splint N, shaft *a²*, ratchet *a⁴*, and pawl *a³*, as and for the purpose set forth.

5. In a club-foot apparatus, the combination of the plate *d*, plates B and B', hinged together at *b*, splints *c* and *c'*, flaps D and D', plate A', and band A, as and for the purpose set forth.

265,943. WIRE CHAIN. EUGENE G. BURT, Sidney, Kans. Filed July 11, 1882. (No model.)

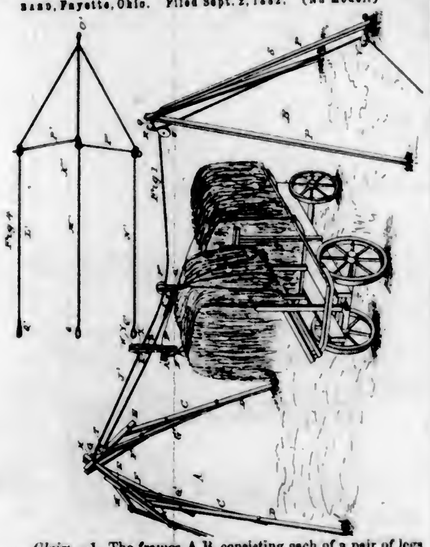


Claim.—1. As a new article of manufacture, a chain, the links being composed of a single piece of wire having the ends bent over and upon each other forming loops uniting the parts, the free ends of the wire resting between the ends of the loops of the chain-links, substantially as shown.

2. The improved wire links for chains, consisting of the loops B B, bent at right angles with each other, the ends of the wire being bent so as to form loops C C, the ends *a a* resting within the

central end of the loops B B, so as to form a stop, substantially as described, and for the purpose set forth.

265,944. HAY ELEVATOR AND STACKER. PETER F. CHAMBARD, Fayette, Ohio. Filed Sept. 2, 1882. (No model.)



Claim.—1. The frames A B, consisting each of a pair of legs pivoted together by a bolt having at its front end a hook or eye, and provided with a jam-nut having a hook to sustain a third leg or brace, as set forth.

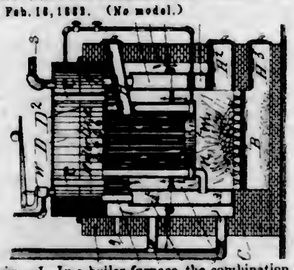
2. The frame A, having legs or compound beams C, consisting or made up of the parts D E F G', bolted together as described, as and for the purpose set forth.

3. The combination of the frames or supports A B, the carrier, consisting of blocks W F', the former having pulleys Y Z, and pivoted frame A', provided with trip-hook B', spring-catch C', and trip-rope D', the pulleys T U V, arranged as described, the draft-rope J', and the sling K', as and for the purpose set forth.

4. In a hay-stacking device constructed substantially as described, the carrier consisting essentially of the block W, having a pivoted frame carrying a trip-hook, and the block F', having a permanent pivoted hook, G', and bail I', as and for the purpose set forth.

5. The herein-described hay-sling, consisting of the parallel ropes L', M', and N', connected at one end, and provided with a loop, O', spaced at some distance from said connected end by separate metallic braces P' P', and having loops Q at their outer free ends, as set forth.

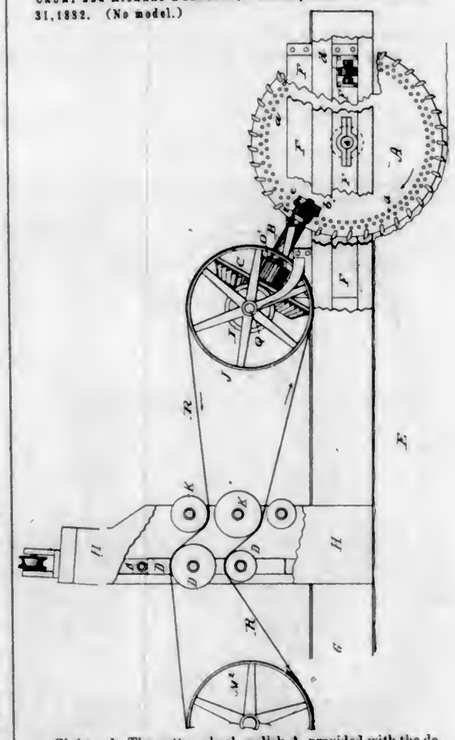
265,945. BOILER-FURNACE. JOHN COLLIS, Des Moines, Iowa. Filed Feb. 16, 1882. (No model.)



Claim.—1. In a boiler-furnace, the combination of a double-walled fire-box and vertical boiler-section having a skeleton top, a horizontal boiler section and dome, an outer wall or jacket, and an annular plate having an opening to allow the downward passage of the products of combustion, substantially as shown and described, for the purposes specified.

2. The improved boiler-furnace and steam-generator, composed of the double-walled fire-box and boiler-section A A', *f*, a grate, B, a surrounding wall, C, having a series of ports, *g*, a crown-plate and boiler-section, D D', an annulus, J, having an opening, *k*, a fuel-magazine, 3 4 5 6 m, having connecting-branches *n* at its base, and a chute for conveying fuel to the fuel-chamber, substantially as shown and described, to operate in the manner set forth, for the purposes specified.

265,946. ROTARY QUARRIER AND STONE-SHAPER. JOHN CRUMP and RICHARD BURGESS, Philadelphia, Pa. Filed May 31, 1882. (No model.)



Claim.—1. The cutter wheel or disk A, provided with the detachable cutters and perforations *a*, in combination with the driving-shafts B B', each provided with the studs or pins *e*, arranged to engage in said perforations, substantially as shown and described.

2. In combination with the disk or wheel A, provided with detachable cutters and perforations *a*, the shafts B B', provided with the studs or pins *e*, and the pinions O and O', all arranged to operate substantially as and for the purpose set forth.

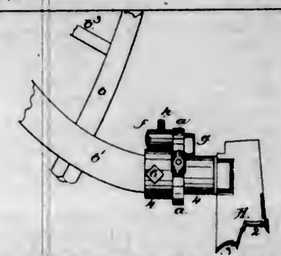
3. The combination of the disk or wheel A, provided with the perforations *a*, and mounted on a shaft rotating in fixed bearings, with the driving-shafts B B', provided with the studs or pins *e* and the collars or rollers *b b*, all arranged for joint operation as set forth.

4. In combination with the ways G G, the carriage F F, having mounted thereon the cutter-wheel A, provided with the perforations *a*, and the driving-shafts B B', provided with the pins or studs *e*, said shafts being arranged to engage with the cutter-wheel on opposite sides and parallel with each other, with suitable gearing for operating the same, substantially as shown and described.

5. In a stone-cutting apparatus substantially such as described, the combination of the reciprocating carriage having the cutter-wheel A, with its operating mechanism mounted thereon, and arranged to be driven by a belt or similar flexible connection, the stationary motor, and the intermediate stationary frame H, provided with fixed pulleys K K, and the sliding pulleys D D, having the counter-weight W attached, all arranged to operate as set forth.

265,947. SOLE-BURNISHING MACHINE. MYRICK DUDLEY, Lynn, Mass., assignor to Ira B. Keith, Josiah C. Bennett, and George E. Barnard, all of same place. Filed Aug. 24, 1882. (No model.)

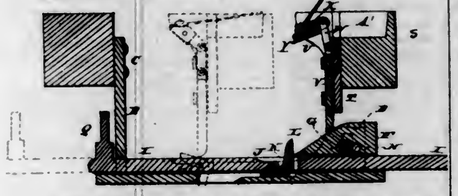
265,947.



Claim.—1. The burnishing-tool and its loosely-held plug and stem extended therefrom, and a vibrating lever or arm to actuate the said tool, combined with the tool holder or sleeve, cam-lever, bolt, and sliding pin *g*, to operate as and for the purpose described.

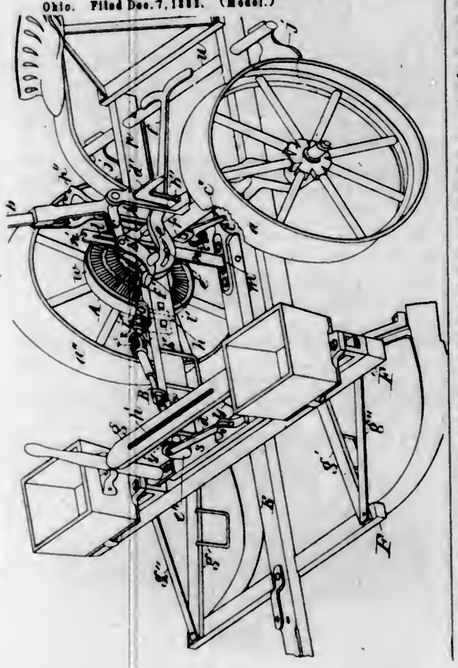
2. The tool holder or sleeve 4, the slotted lever mounted thereon, the guide A, and bolt and sliding pin, combined with the burnishing-tool A, its loosely-held plug, and laterally-extended stem, as and for the purpose set forth.

265,948. WEFT STOP-MOTION FOR LOOMS. SIMEON A. ESTES and MARK R. SHONEY, North Vassalborough, Me. Filed Mar. 13, 1882. (No model.)



Claim.—The combination of the cam-arm B, having slot O, cam D, bar I, and the bell-crank lever K, with the dagger V, connecting-rod W, shaft X, and feelers Z, all arranged and operating as herein described, for the purpose set forth.

265,949. CORN-PLANTER. AUSTIN C. EVANS, Springfield, Ohio. Filed Dec. 7, 1881. (Model.)



Claim.—1. In drilling-machines for corn-drills, a tumbling-shaft made of telescopic sections coupled together and longitudinally adjustable, for the purpose set forth.

2. In drilling devices for corn-drills, a tumbling-shaft made of adjustable telescopic sections coupled together, the inner section mounted upon and combined with a pivot which permits of lateral motion of the shaft, for the purpose set forth.

3. In drilling devices for corn-drills, the combination, with the slide-lever and the driving-gear, of a tumbling-shaft connecting said lever and gear and made of adjustable telescopic sections mounted in a pivoted sleeve, which permits of longitudinal and lateral motion of the shaft, for the purpose set forth.

4. In drilling devices for corn-drills, the combination, with a tumbling-shaft made of adjustable telescopic sections and having a crank-wheel at one end and a pinion at the other, of driving-gear connected to said pinion, and of a slide-lever connected to said crank-wheel by a pitman, for the purpose set forth.

5. In drilling devices for corn-planters, the combination, with the tumbling-shaft made of longitudinally-adjustable sections coupled together, one of which is mounted upon a pivot and provided with a pinion, of a gear-wheel or driver having several concentric gearings, and of coupling attached to the shaft above the pinion and adapted to engage or disengage said pinion, for the purpose set forth.

6. A concentric gear-wheel having a shield encircling its periphery for protecting the teeth, said wheel and its shield being cast in a single piece, as shown and specified.

7. In a corn-planter, a pintle, A, mounted in a socket, A^1, and having a sleeve, *e*, in combination with a shaft longitudinally adjustable within the sleeve *e*, and supported and radially adjustable by means of the pintle, substantially as set forth.

8. In combination with the sectional shaft B, having a pinion, *a'*, on its gear end, and pivoted in the manner described, the spring-coupling K, having the short sleeve *k'* pivoted in its coupling-fork *k* to allow the shaft-section *b''* to have a radial and longitudinal movement therein when operated by said coupling and its auxiliary devices through the hand-lever of the implement.

9. In drilling devices for corn-planters, having an adjustable shaft and pinion pivoted in the manner described, the spring-coupling K, connected therewith, located beneath and in line with the axle, and operated by the hand-lever *b* and foot-levers *d'* and *f* through its auxiliary intermediate devices, substantially as hereinbefore set forth.

10. In drilling devices for corn-planters, having an adjustable shaft connecting the driving-gear with its seed-sowing devices, pivoted to allow a radial movement of its end section, so that the pinion thereon may be thrown in and out of gear with the driver, a spring-coupling, K, having a spring, V, on its shaft Z made adjustable by a collar, V', whereby the depth of the mesh of said pinion with the gear of the driver A may be regulated, substantially as hereinbefore specified.

11. In drilling attachments for corn-planters, having an adjustable shaft connecting the drive-wheel with the slide-lever, operated as described, the combination therewith of a spring-coupling having a sleeve within which it is free to rotate pivoted between the fork-prongs on its outer end, and a loop attached to its inner end, whereby the shaft of the coupling is operated and its movements controlled through an angular lever pivoted to the axle above said loop, and having one arm of the same extending downward through it and the other arm over a prong on the tongue of the implement, so that when the latter is elevated by the hand-lever the arm of the angular lever extending over its prong will be raised and its depending arm extending through the loop on the shaft of the spring-coupling will be thrown inward in the same vertical plane and operate the coupling to throw the pinion out of gear with the driver, substantially as shown and specified.

12. The combination, with a device for operating the gear engaging and disengaging mechanism, of a tongue, E, having a slotted plate provided with a prong, *c''*, on the rear end for tripping the operating-lever of said mechanism, for the purpose set forth.

13. In a corn-planter, the combination, with hand-lever *b*, foot-levers *d* and *f*, and their several connecting devices, of mechanism for engaging and disengaging the gearing, and of mechanism for operating the front section, which, when depressed, operates the engaging mechanism and when raised disengages the same.

14. The combination, with the standards *p' p''*, of the foot-lever *f*, having a hollow shaft, *f''*, with the square hole *j* therein, located between standards *p' p''*, of foot-levers *d'*, located one on each side of standards *p' p''*, and of bolt *b''*, which extends through the shaft *f''* and secures the two sets of foot-levers together in the standards to give them a common fulcrum in elevating and depressing the front section.

15. In a corn-planter, the combination, with a pivotal shaft

having its bearings in standards fixed upon the axle of said standards, one at each end of the pivotal shaft, of a square bolt passing through the standards and pivotal shaft, and of two foot-levers, one on each side of the standards and attached to the square bolt, for the purpose specified.

16. The foot-lever *f*, pivoted in standards upon the axle, extending from under the driver's seat to a point forward of said axle, having a vertical slot in its front end through which the upright slotted bar *n* extends and is operated, and a semicircular slot, *e*, extending transversely through and cutting the plane of the vertical slot, within which a loose pin, *e'*, extends, connecting the lever and upright, which pin is free to rotate therein from end to end of the semicircular slot as the foot-lever is raised or lowered, thereby giving greater scope to the movements of the implement and more flexibility to its connections.

17. The combination, with the tongue E and upright *n*, having slot *l*, of lever *f*, having semicircular slot *e*, and the loose pin *e'*, extending through the lever and upright, for the purpose hereinbefore set forth.

18. In combination with the hand-lever *b*, pivoted in the top of standards *p' p''*, and having arm *c* and link *b'*, for operating the front section of a corn-planter through the upright vertical bar *n*, in connection with the foot-levers, constructed and pivoted as described, the tongue E, having prong *e''*, the pivoted angular bar *c'*, and the spring-coupling K and shaft B, whereby the drilling devices of the implement are thrown into engagement and are disengaged automatically, substantially as specified.

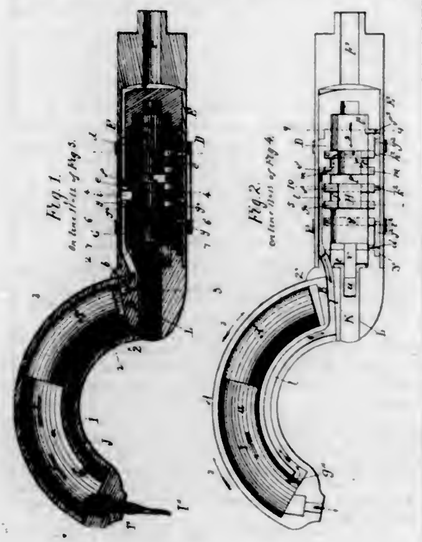
19. The combination of the hand-lever *b*, having arm C and link *b'* pivoted therein, with foot-lever *f*, having hook *f'*, whereby the sections of the planter are locked rigidly together when its runners are out of the ground by having the bar *s'* of the link caught by the hook and the hand-lever latched in its rack to retain the parts in position, as shown in Fig. 1, for the purpose specified.

20. In a corn-planter convertible from a dropper to a drill, the combination, with the supporting-frame 3, the slide-lever 4, seed-tube 5, and their several operative devices, of the thin seed-disk 1 and the washer-plate 2, substantially as shown, for the purpose set forth.

21. In a seeding device, the combination, with the chamber for the feeding-plate, having a predetermined depth, of interchangeable plates of various thicknesses, as described, so that the device may be used as a drill or dropper, for the purpose set forth.

22. In corn-planters convertible from a dropper to a drill, the combination, with the supporting-frame 3, having slots 6, of the washer-plate 2, having lugs 6' fitting into said slots to prevent the washer-plate from displacement and to fill the interspace between the thin disk 1 and said supporting-frame, substantially as shown and specified, for the purpose set forth.

265,950. DENTAL PLUGGER. BENJAMIN FITTS, Worcester, Mass. Filed June 15, 1882. (Model.)



Claim.—1. A valve having reciprocating and partial rotary motion, in combination with its case, a hammer operated by air passing through said valve, a plugger-point operated by said hammer, a cylinder inclosing said hammer and provided with an opening, and an adjustable device for partly closing or uncovering said opening and thereby determining the rapidity of the hammer-strokes, substantially as set forth.

2. In combination with the tubular cylinder A, piston-hammer A', and valve H, the head or bolt K, connected with one end of the slide-bar I, the latter having spurs upon each end protruding into the cylinder to intercept the hammer, substantially as stated.

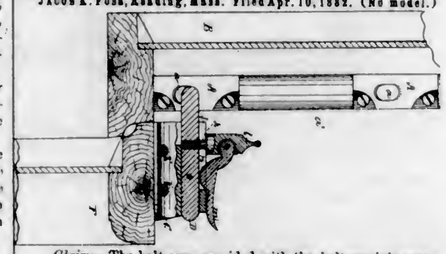
3. The passage *l*, in combination with the cylinder A, piston-hammer A', handle E, and valve H with the various ports and passages, as hereinbefore described, whereby the said passage becomes during the direct stroke of the hammer a vent or exhaust to the cylinder, and on the return-stroke of the hammer a direct live-port, substantially as before described.

4. In combination with the cylinder and its piston-hammer and vent or exhaust-passage, a device for governing the area or capacity of such exhaust, for purpose explained.

5. The valve H, containing the annular peripheral channels *j*, co-operating with the peripheral channels *f g'* in the valve-chamber, and the channel *j''*, co-operating with the channels *m o* in said chamber, with the intermediate ledge or collar, *p*, adapted to close communication between such two pairs *f g'* and *m o* of channels.

6. The combination, with the cylinder A, handle E, and valve-cage D, of the passages G, *b*, and *l* and ports *g* and *e'*, communicating with such cylinder and with the valve-chamber, as explained, whereby air admitted to the cylinder direct by way of the port *g* and passage G *b* exhausts by way of the passage *l* and port *e'*.

265,951. FASTENER FOR MEETING-RAILS OF SASHES. JACOB K. FOSS, Reading, Mass. Filed Apr. 10, 1882. (No model.)



Claim.—The bolt-case provided with the bolt-receiving passage *h*, and with the slots *e*, *f*, and *g*, arranged as shown, in combination with the bolt having the projection *d*, and the stud and the locking-lever applied to the head of the latter, all being to operate substantially as described, with one or more catch-plates, applied as explained.

265,952. CARRIAGE-TOP JOINT. NORMAN L. FOX, Ceylon, Ohio. Filed Aug. 30, 1882. (No model.)



Claim.—The combination of the seat-rail having a screw-threaded bolt-hole, the bow, and the screw-threaded bolt and set-nut, substantially as set forth.

265,953. FRICTION-CLUTCH. DENNIS FRIESIE, New Haven, Conn. Filed July 25, 1881. (No model.)



Claim.—1. In a friction-clutch, an annular channel of dovetailed or reversed-V-shaped section, in combination with corresponding reversed-V-shaped friction-pieces traversed therein and attached to the other part, and with abutting surfaces or pieces to allow of inducing the friction by pressing the reversed-V-shaped and abutting pieces together, as herein specified.

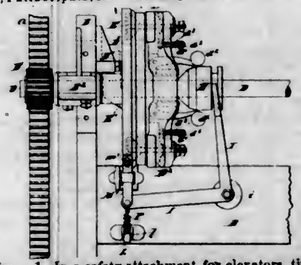
2. The two independent lengths of shafting A B, a long hub, A' A², and bushing C, in combination with each other and with the wheels A² D, mounted on the respective shafts, and friction-pieces I, and means for operating them, arranged to serve as a friction-clutch, with the shafts held in line at the center, as herein specified.

3. In a friction-clutch, the friction-pieces I, carried on one wheel and engaging frictionally with the other, in combination with the compound lever H E, toggle-links F, and operating-sleeve G, as herein specified.

4. The bolt I' and adjusting-nut J thereon, in combination with the friction-piece I, and with the compound lever H E, toggle-links F, and sleeve G, to allow of adjustment to accommodate the toggle action, as herein specified.

5. The pinching-screw K and threaded shoe K', in combination with each other and with the nut J, bolt I', friction-piece I, and with the lever H and its operating means, as herein specified.

265,954. SAFETY ATTACHMENT FOR ELEVATORS. DENNIS FRIESIE, Philadelphia, Pa. Filed Apr. 3, 1882. (No model.)



Claim.—1. In a safety attachment for elevators, the loaded levers d^3 and friction-clutch D^3, operated thereby, in combination with the shaft D and gear-wheel D', carried on an elevator-carriage, and with a rack, *a*, on the fixed guideway A, arranged to serve as herein specified.

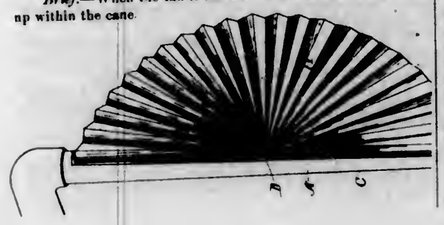
2. The carriage B, shaft D, and pinion or pinions D', engaging in the rack or racks *a* on the fixed frame-work, in combination with each other and with the friction-clutch D^3, having arms d^3 arranged to be engaged by centrifugal force, and with the springs d^5, adjusting-nuts d^6, and jam-nuts d^7, arranged to serve as herein specified.

3. In a safety attachment for elevators, the shaft D, carrying one or more pinions, D', engaging with one or more fixed racks, *a*, in combination with a friction-clutch, D^3, engaged by centrifugal force when the proper velocity is exceeded, and with the loose wheel E, having an arm or stop, E', and with the cone H, bell-crank I, and straps M' M^3, arranged to serve as herein specified.

4. In a safety attachment for elevators, the combination, with the shaft D, pinion D', and friction-clutch D^3, of the loose wheel E, having an arm, E', engaging with an arm, B', on the carriage B through an elastic cushion, B^5, and with a strap, M^3, bell-crank I, and cone H, for holding the friction-clutch engaged after the motion is arrested, and with the spring G and strap G', controlling the loose wheel E while the mechanism is out of action, as herein specified.

265,955. COMBINED CANE AND FAN. WILLIAM H. FULLER, Cincinnati, assignor to Mark L. Fuller, Milford, Ohio. Filed Feb. 18, 1882. (No model.)

Brief.—When the fan is not desired for use it can be folded up within the cane.

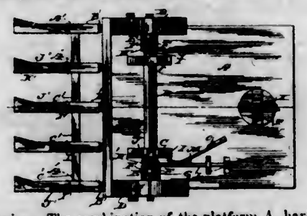


Claim.—1. A cane having on one of its faces the rectangular groove B, provided with a lid, C, as shown, in combination with a fan, H, secured to the said lid and to the groove B within, substantially as and for the purpose set forth.

2. A fan, H, as shown, having one of its edges secured within to a groove, as shown, and its opposite edge to a hinged lid adapted to close this groove, substantially as and for the purpose herein set forth.

265,956. STEAM-PLOW RUNNING-GEAR. JAMES M. GARDNER, Ramsey, Ill. Filed June 12, 1882. (No model.)

Brief.—Spring to hold clutch in engagement. Drag-bars with miter-joint to prevent dropping below level.



Claim.—The combination of the platform A, having boxes Z Z, opening Q, and rack or bracket R, axle B in bearings C C, carrying drive-wheels D D, provided with notched flanges F, E, independent collar H at one end, operating-collar H' at the other, lever L, limiting-bracket N, spring O, and lever P, as set forth.

265,957. STONE BREAKER AND CRUSHER. PHILETUS W. GATES, Chicago, Ill. Filed Aug. 28, 1882. (No model.)



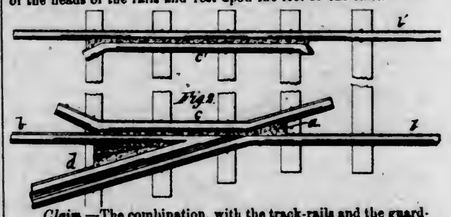
Claim.—1. The combination, with the crusher cylinder or case, of the inclined diaphragm-chute constructed separately and united to the crusher cylinder or case, substantially as and for the purpose herein described.

2. The inclined diaphragm-chute formed of a base portion, F, and a removable wearing portion, *m*, substantially as and for the purpose described.

3. The removable diaphragm-chute made of hard-surfaced metal, substantially as and for the purpose described.

265,958. SAFETY-GUARD FOR RAILWAYS. PHILONZO F. GIVEN, Cedar Rapids, Iowa. Filed Nov. 15, 1881. (No model.)

Brief.—Consists of a reversible elastic cushion having its upper and under faces alike and made with longitudinal central grooves extended from end to end. The sides fit snugly against the vertical faces of the adjacent rails and against the under faces of the heads of the rails and rest upon the feet of the rails.

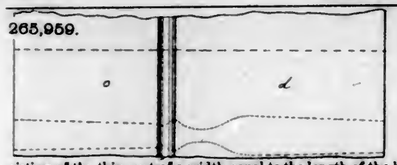


Claim.—The combination, with the track-rails and the guard-rails in a railway frog or switch, of a reversible elastic cushion having its upper and under faces alike and made with longitudinal central grooves or channels extended from end to end, and having its ends fitted snugly against the vertical faces of the adjacent rails and against the under face of the head of the rail and rested on the upper face of the foot of the rail, substantially as set forth.

265,959. MANUFACTURE OF CUTLERY. GEORGE L. HART, Unionville, Conn., assignor of one-half to H. C. Hart, same place. Filed Dec. 6, 1881. (No model.)

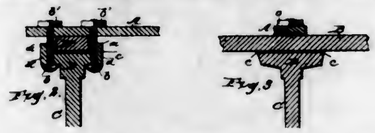
Claim.—The bar, substantially as hereinbefore described, for cutting out blanks for solid table knives and forks, the same con-

265,959.



sisting of the thin part of a width equal to the length of the blade to be cut therefrom, a middle part having the ribs and grooves, the combined width of which is equal to the length of the bolster portion of the knife or fork to be produced therefrom, and the thicker part of a width and thickness equal to the length and thickness of the handle for said knife or fork.

265,960. HARROW-TEETH FASTENING. DANIEL C. HARTUNG, Blairstown, Iowa. Filed June 19, 1882. (No model.)



Claim.—1. The herein-described harrow-tooth, consisting of the body portion C, having the recessed head-block D *a* cast integral or rigidly secured thereto, the side lugs, *d d*, cast with said block and provided with vertical holes for the reception of the fastening-bolts *b*, substantially as specified.

2. The combination, with the lower bars, B, and upper bars, A, having bolt-holes through them, of the teeth C, each tooth having a head-block, D, provided with a central recess, *a*, side lugs, *d d*, having bolt-holes through them, and the fastening bolts and nuts, substantially as and for the purpose herein shown and described.

265,961. COMPOUND FOR FIRE-BRICK, FURNACE-LININGS, &c. JAMES HENDERSON, Bellefonte, Pa., assignor to Charles G. Franklyn, New York, N. Y. Filed Apr. 6, 1882. (No specimens.)

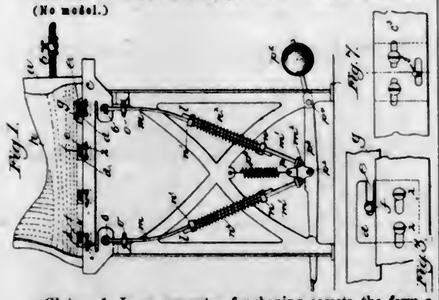
Claim.—1. The compound consisting of water and glucose and lime as a lining for furnaces, converters, and other vessels for the manufacture of iron and steel, as specified and set forth.

2. The compound consisting of glucose and water and magnesian lime and fluor-spar as a lining for furnaces, converters, and other vessels for the manufacture of iron and steel, as specified.

265,962. FURNACE-LINING. JAMES HENDERSON, New York, N. Y., assignor to Charles G. Franklyn, same place. Filed July 22, 1882. (No specimens.)

Claim.—The furnace-lining consisting of lime compounded with fluor-spar in the proportions and in the manner hereinbefore specified and set forth.

265,963. APPARATUS FOR FORMING AND SHAPING CORSETS. JAMES A. HOUSE, Bridgeport, Conn. Filed May 25, 1882. (No model.)



Claim.—1. In an apparatus for shaping corsets, the form *a* and holders *c c'*, to engage the opposite edges of the corset, combined with the rods *m m'* and springs *n*, composing yielding links *l*, and mechanism to operate said links and holders to stretch the corset snugly about the form, substantially as described.

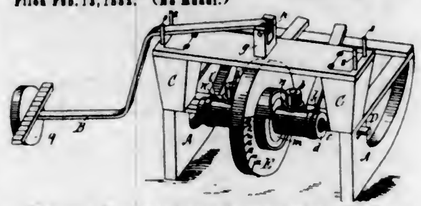
2. The holder *c*, composed of the bar having the attached forks to hook over the studs *f* of the corset steel or busk, substantially as described.

3. The holder *c'*, composed of the grooved or flanged bars having between them a space, *4*, to receive the eyeleted edge of the corset thickened at its edge by a steel or piece, *g*, as and for the purpose set forth.

4. The combination, substantially as shown and described, of the form *a*, holders *c c'* on opposite sides thereof to engage opposite edges of the corset to be operated upon, rods *m m'*, and springs *n*, constituting yielding links *l*, depressing mechanism for said holders and links, and the guides *o* for the said links, arranged to operate as set forth.

5. In an apparatus for stretching corsets, the holder *c* and the series of stud-engaging forks made adjustable thereon, substantially as and for the purpose described.

265,964. SELF-DROPPING AND CHECK-ROWING ATTACHMENT TO CORN-PLANTERS. AMOS JOHNSON, Jefferson, Iowa. Filed Feb. 13, 1882. (No model.)



Claim.—1. In a corn-planter, the combination, with the reciprocating slide and the studs thereon, of the fixed tubular axle and the traction-wheel mounted loosely upon said axle and provided on opposite sides with cams to operate the slide, as described and shown.

2. The traction-wheel provided with cam-surfaces on opposite sides, in combination with the reciprocating slide passing centrally through said wheel and arranged to reciprocate under the action of its cams, substantially as described and shown.

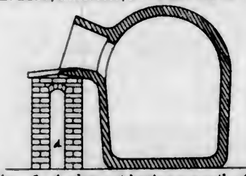
265,965. CAR-WHEEL. EDWARD E. JOSSY, Buffalo, N. Y. Filed Mar. 13, 1882. (No model.)



Claim.—1. The wheel consisting of the sectional hub B B', the flanged disks A A *a a a' a'*, and central separating and strengthening collar, C, all fastened together by bolts *b b* or screws, and with or without the ring D, all in combination with any suitable independent tire fastened around the periphery of the disks A A, substantially as and for the purpose specified.

2. In combination with the hub B B' and disks A A of a wheel, the non-vibrating washer *e*, (of rubber, leather, paper, or other non-vibrating material,) arranged in connection therewith, substantially as and for the purpose specified.

265,966. GLASS-POT AND FORE-PLATE FOR SAME. SAMUEL M. KANN, Rochester, Pa. Filed June 24, 1882. (No model.)



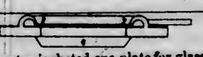
Claim.—1. A glass-pot having a mouth of substantially uniform thickness, except at its bottom, and said bottom being recessed to form a seat for the reception of a fore-plate, substantially as and for the purpose specified.

2. A metallic fore-plate adapted for use with glass-pots, said fore-plate having an offset, whereby it may engage with the mouth of the pot, substantially as and for the purpose specified.

3. The combination, with a glass-pot and the front wall of the furnace, of a fore-plate arranged and luted within the mouth of the pot, substantially as and for the purpose specified.

265,967. WATER-JACKETED EYE-PLATE FOR GLASS-FURNACES. SAMUEL M. KANN, Rochester, Pa. Filed June 24, 1882. (No model.)

265,967.



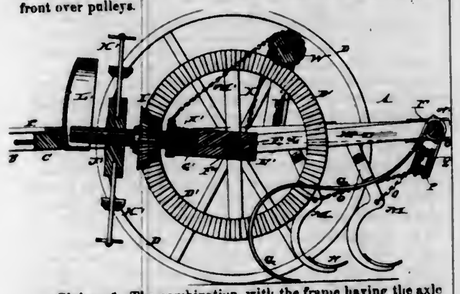
Claim.—1. A water-jacketed eye-plate for glass-furnaces, constructed and operated so that the water will overflow into the fire-chamber, whereby the plate will be protected and the overflow of water will be vaporized, substantially as and for the purpose set forth.

2. The method herein described for preserving the eye and grate-bars in glass-furnaces, which consists in the introduction of steam below the eye-plate, substantially as specified.

3. A sectional eye-plate having an open water-channel or cap upon its under surface, substantially as and for the purpose specified.

265,968. CULTIVATOR AND COTTON-CHOPPER. MATHEW H. KEYS, Oxford, Miss. Filed July 29, 1882. (No model.)

Brief.—Platforms carrying the standards are hinged to the front bar of the frame and at the rear rest upon the axle. Chains both from the platforms and the chopper-shaft pass up over a roller operated by a windlass and rope, so that both may be elevated together. Platforms and plows held down by a sliding latch and spring-catch. Chains from each pair of pivoted standards pass front over pulleys.



Claim.—1. The combination, with the frame having the axle and cross front rod or bar, of one or more platforms, hinged on said rod at their front ends and supported on the axle at their rear ends, said platforms carrying the cultivators and adapted to be elevated, as set forth.

2. The combination, with the frame having the front cross rod or bar, on which is hinged and adapted to slide one or more pulley-blocks, of one or more platforms hinged on said front rod provided with series of slots, in which the cultivator-shanks are hinged or pivoted, and the connecting chain or rope secured to the cultivators and passing over the pulley, as set forth.

3. The combination, with the frame having the front cross bar or rod, of the two platforms hinged on the latter, one at each side, and carrying the hinged or pivoted cultivators, and the central cultivator hinged on said front rod between the platforms, as set forth.

4. The combination, with the frame having the front cross rod or bar and carrying the rock-shaft in rear thereof, of one or more platforms hinged on said front rod, and connected at their rear ends to the rock-shaft by a chain or cord extending up and adapted to wind round the latter to elevate the platforms on their hinges, as set forth.

5. The combination, with the frame comprising the side beams having the standards carrying a rock-shaft, one beam being provided with a bracket having bearings for a shaft carrying a pulley, the front cross rod or bar, and carrying the axle, of the platforms hinged on the latter and supported at their rear ends by the axle, the platform-elevating chains or ropes, and the rock-shaft-operating chain or rope, as set forth.

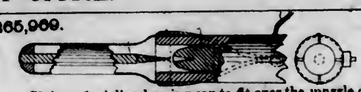
6. The combination, with the rod carrying a plate, T, at its end, of a spring-plate, U, to limit the movement of plate T, and by its downward tension thereon retain it in position, as set forth.

7. The combination, with the frame having the side beams carrying the axle and cross front rod or bar, of the platforms (one or more) hinged on the latter and resting on the former, and the rods moving on the beams and having at their ends angular plates to retain the platform down, as set forth.

8. The combination of the frame carrying the rock-shaft, and having the front cross rod or bar and the rotary axle, the hinged platforms carrying the forward cultivators, the hinged standard carrying the rotary chopper-shaft, mechanism for operating the latter, and the elevating chains or ropes, as set forth.

265,969. LIME-THROWING PROJECTILE. MARCUS W. LYON and WILLIAM B. GORDON, U. S. Army. Filed Feb. 23, 1882. (No model.)

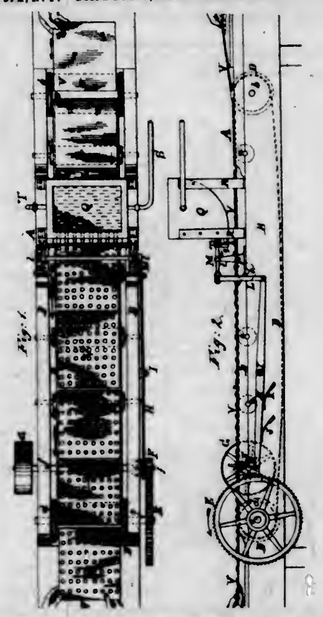
265,969.



Claim.—1. A line-bearing cap to fit over the muzzle of a gun, said cap having a passage for the escape of gas, and being adapted to rest upon and become part of the projectile when the gun is fired, substantially as described.

2. A line-bearing cap adapted to fit upon the muzzle of a gun, and having a central spindle extending toward the bore of the gun to engage with the bullet when fired, as set forth.

265,970. MACHINE FOR MAKING CANDY. HENRY MAILLARD New York, N. Y. Filed Feb. 2, 1882. (No model.)



Claim.—1. In a machine for making candy, the tank Q, made with hollow walls r, and provided with pipes S and T for the introduction of steam within such walls and its discharge therefrom, and also with a series of outlets, *g*, that traverse the steam-space, substantially as shown and described.

2. In a machine for making candy, the combination of a tank provided with series of outlets, a cutting-blade, and mechanism for actuating the same in front of said outlets, and a moving table or belt passing under said tank and blade, all substantially as and for the purposes described.

3. In a machine for making candy, the combination of the table A, provided with rollers *a b d*, over which passes an endless belt, D, with the wheel E, arranged to revolve said belt, and with the pulley-wheel G, cog-wheel F, pivoted bar H, moved by said wheel F and spring or springs J K, and with the pivoted bars L and M, shaft *l*, and crank *m*, transmitting the movement of the bar H to the blade P, and with the blade P and tank Q, all substantially as and for the purposes described.

4. The combination of the following elements: the pulley-wheel G, shaft *f*, on which it is fixed, and cog-wheel F, fixed on the same shaft and provided with pins *i*, the pivoted bar H, arranged to be moved by the impact of said pins *i* on it against the force of the spring or springs J K, the pivoted bars L and M, and the shaft *l* and crank *m*, arranged to communicate the motion of the bar H to the blade P, the blade P, and tank Q, all substantially as and for the purposes described.

5. The tank Q, combined with mechanism, with which it is connected, for heating its contents, and with the removable bar U, having series of apertures through which the contents of the tank can escape, substantially as herein shown and described.

265,971. MEANS FOR OPERATING WATER-WHEEL GATES. JAMES MCCOID, Logan, Iowa. Filed Apr. 27, 1882. (No model.)

265,971.



Claim.—1. As a means for operating the gates of water-wheels, the arm A, having terminal points B and C, combined with the shaft D and chains E and F, operating substantially as set forth.

2. As a means for operating the gates of water-wheels, the arm A, having terminal points B and C, turned up, as shown, combined with the shaft D and chains E and F, substantially as set forth.

265,972. TELEPHONE CIRCUIT AND APPARATUS. WALTER D. MCKINNEY, Boston, Mass. Filed July 8, 1882. (No model.)

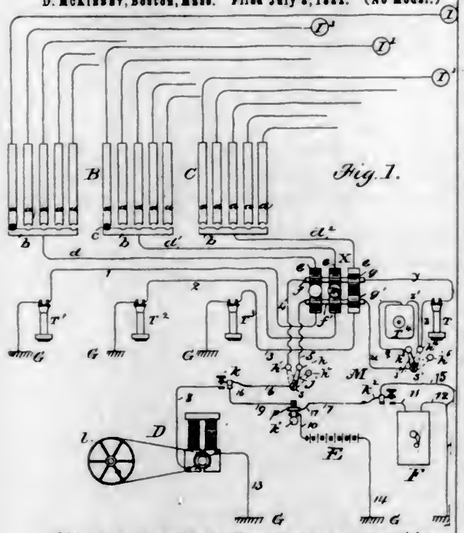


Fig. 1.

Claim.—1. A circuit-changing apparatus at a supervising-desk, through which the telephone-circuit of each switch-board section is looped, in combination with a telephone or telephones, the power magneto-generator D, a battery, E, and an auxiliary generator, F, the switches *j* and *j'*, whereby the telephones or the generating-circuit may be included in the switch-board circuits, and the keys *k*, *k'*, and *k²*, whereby the several generating devices are controlled or made operative, substantially as described.

2. In combination with the speaking and listening telephone circuits of a series of central-office switch-boards and a circuit-changer located at a supervising-desk, through which all the said telephone-circuits are looped, a supervising telephone or telephones, an auxiliary signaling-circuit provided with normally-open branches connecting respectively with magneto-generating machines and with a battery, a switch controlling the signaling-circuit, and a separate switch controlling the supervising-telephones and connecting devices, whereby either signaling or telephone circuit may be included in any of the switch-board telephone-circuit loops, substantially as and for the purposes set forth.

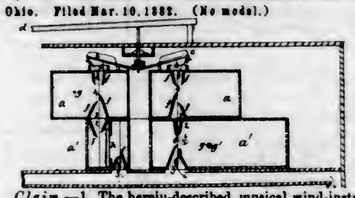
3. In a telephone-exchange, a series of separate switch-boards upon which the entering lines are grouped, a normally-open listening and talking circuit, including a telephone for each switch-board and adapted for temporary connection with any of the lines thereof, each of the said normally-open circuits being looped through a circuit-changer located at a chief operator's desk, and a telephone or telephones adapted to be included in any of the listening-circuits by means of the said circuit-changer, all in combination and for the purposes described.

4. The combination, with two or more switch-boards and the operators' telephone-lines, of circuit-changers on the chief operator's table, through which the operators' telephone-lines are looped, and the chief operator's telephone-circuit adapted for connection with any one of said operators' telephone-lines, substantially as described.

5. The combination, with two or more switch-boards and the operators' telephone-lines, one for each switch-board, of a supervising-circuit, means for including the same in the line between the subscribers' stations and any of said operators' telephones, and a switch under the control of the supervising-operator for grounding the line at his desk and short-circuiting the operator's line, substantially as described.

6. The combination, with a circuit-changer comprising a series of springs arranged in pairs normally in contact, the back contact-rods for said springs, and the wedges, of a switch for grounding either of said contact-rods or for disconnecting the ground, substantially as described.

265,973. ORGAN-PIPE. WILLIAM L. HORNIN, Fredericktown, Ohio. Filed Mar. 10, 1882. (No model.)



Claim.—1. The herein-described musical wind-instrument, it consisting of a chamber having inlet and outlet passages for a current of air on opposite sides of the said chamber (both of small size) relative to the sectional area of the said chamber traversed by the said air-current, combined with a lip within the said chamber to act upon the said current of air, substantially as described.

2. The combination of a series of chambers each having inlet and outlet passages, the outlet-passage of one chamber communicating with the inlet-passage of the next of the series, to permit a current of air to flow through the entire series, each chamber being provided with internal lips, substantially as described.

3. The combination, with the chamber inclosing a body of air and provided with inlet and outlet passages on opposite sides of the said chamber, and of the small size relative to the sectional area thereof for a current of air therethrough, of a reed operated by the said air-current, substantially as described.

4. The chamber provided with inlet and outlet passages, combined with internal lips and a reed located in the path of the current of air through the said passages, substantially as described.

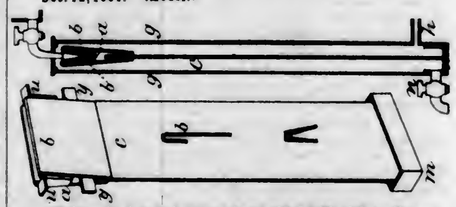
5. The air-chamber having its side walls of large area relative to the other dimensions of the chamber, and provided with small inlet and outlet passages in its edges, combined with a series of two or more internal lips secured between the said side walls, substantially as described.

6. The chamber having inlet and outlet passages and internal lips, combined with a sound-post fixed between the side walls of the said chamber, substantially as described.

7. The air-chamber, combined with the post fixed between its side walls and the loose sleeve or collar on the said post, whereby a beating effect is produced, substantially as described.

8. The chamber having inlet and outlet passages and internal lips, and divided or made in two portions for the purpose of rendering the said lips readily accessible, substantially as described.

265,974. APPARATUS FOR EVAPORATING OR CONCENTRATING LIQUIDS AND SATURATING LIQUIDS WITH GASES. FREDERIC B. NICHOLS, Halifax, Nova Scotia, Canada, assignor of one-half to Cuthbert Thomson, same place. Filed Dec. 12, 1881. (Model.)



Claim.—1. A vessel or trough provided with siphon-slips or thin strips of solid material bent over the edge of said vessel, whereby a continuous flow of liquid out of the vessel may be maintained, as described.

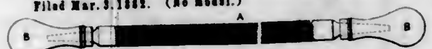
2. The combination of a vessel or trough provided with siphon-slips with diffusion-strips, or broad strips of thin solid material, arranged to maintain a constant flow of liquid over their surfaces, as described.

3. The evaporating apparatus consisting of troughs or vessels provided with siphon-slips, in combination with diffusion-strips, and means for applying heat to one or both sides of said diffusion-strips, substantially as described.

4. The evaporating apparatus composed of a series of troughs, *a*, connected by longitudinal troughs *d*, and provided with siphon-slips and diffusion-strips, substantially as described.

5. An apparatus for saturating liquids with gases or vapors, consisting of a vessel or trough, siphon-slips, and a diffusion strip or strips, in combination with a gas-tight receptacle or chamber having a gas-pipe for supplying gas or vapor and inlet and outlet for fluid, provided with stop-cocks or their equivalents, all in the manner and for the purpose specified.

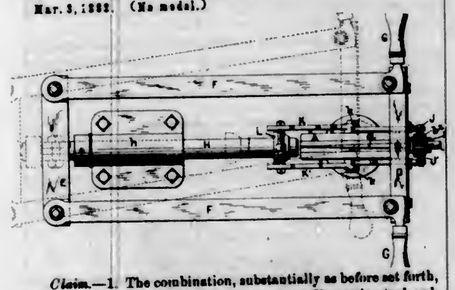
265,975. FORMING TEETH UPON FILE-BLANKS AND APPARATUS THEREFOR. WILLIAM T. NICHOLSON, Providence, R. I. Filed Mar. 3, 1882. (No model.)



Claim.—1. The improved method, substantially as herein described, of forming file-teeth upon file-blanks, consisting in causing a tool having the characteristics of construction, substantially as described, to be rubbed under pressure over the surface of the blank, while the axis of such tool is held relatively to the axis of the blank, as set forth.

2. The tool for forming teeth upon the surfaces of file-blanks, consisting of a bar of hardened steel grooved or threaded so as to have salient cutting-sections corresponding in number to the inch with the number of teeth to the inch with which the blank is to be cut, and adapted to be rubbed under pressure over the surface of the blank, substantially as described.

265,976. MACHINE FOR FORMING TEETH UPON FILE-BLANKS. WILLIAM T. NICHOLSON, Providence, R. I. Filed Mar. 3, 1882. (No model.)



Claim.—1. The combination, substantially as before set forth, of a bed for supporting a file-blank to be cut, a file-cutting tool such as specified, cutting by a rubbing motion, and means, substantially as described, for preserving a fixed relation between the longitudinal axes of the tool and file-blank bed when the tool is rubbed over the surface of the blank to form teeth thereon.

2. The combination, substantially as before set forth, of the bed for supporting a file-blank to be cut, a file-cutting tool, as described, and a sliding parallel-motion frame controlled by a guide for preserving a fixed relation during the movements of the cutting-tool over the surface of the file-blank between the longitudinal axis of such tool and the longitudinal axis of the file-blank.

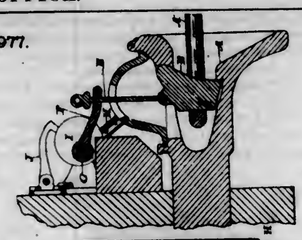
3. The combination, substantially as before set forth, of a holder for the file-blank capable of rotating axially, a ratchet-wheel attached thereto, levers and pawls for operating the same, a bed for supporting the file-blank, a sliding parallel-motion frame carrying the tool for cutting the teeth on the blank and controlled by a guide in its path of movement, and mechanism, substantially as described, for causing the blank-holder to be intermittingly rotated by the movement of the sliding frame.

265,977. CAR-COUPLING. JOHN S. OWEN and GEORGE L. SWIGER, North Indianapolis, Ind. Filed Mar. 7, 1882. (No model.)

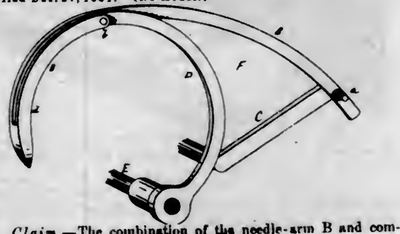
Claim.—1. The combination, in a car-coupling, of the draw-head A, catch-pin B, rod E, arm F, shaft G, having hand-levers H, wheel I, constructed to operate as specified, and pawl J, substantially as set forth.

2. The combination, with the rotating shaft G, for lifting the catch-pin of a car-coupling, of a catch-wheel, I, mounted thereon and provided with a recess wherein a pawl may travel back and forth, and a notch, *i'*, wherein said pawl will engage at a certain point in the rotation of said wheel, but from which it will be disengaged by a slightly further rotation, substantially as set forth.

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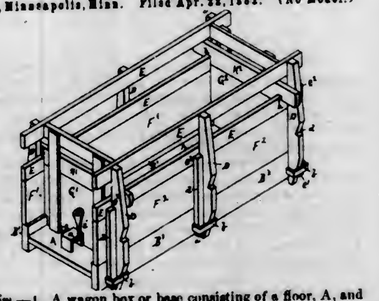


265,978. COMBINED NEEDLE-ARM AND COMPRESSOR FOR GRAIN-BINDERS. JOHN LLOYD OWENS, Minneapolis, Minn. Filed Dec. 27, 1881. (No model.)



Claim.—The combination of the needle-arm B and compressor-arm D, the said compressor-arm pivoted at one end in said needle-arm and at the other end to a shaft, E, and said needle-arm adapted to be oscillated about said shaft by a crank-arm, C, whereby the parts operate as and for the purpose described.

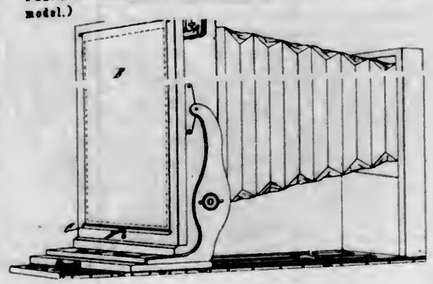
265,979. COMBINED HAY AND STOCK RACK. JOHN LLOYD OWENS, Minneapolis, Minn. Filed Apr. 22, 1882. (No model.)



Claim.—1. A wagon box or base consisting of a floor, A, and sides B' B², having bands *a* in the center of said floor, and sockets *b* projecting from the outer surfaces of said sides, in combination with bars D, rails E, and boards F' F², having cleats *d*, with projecting ends *e'* *e²*, substantially as and for the purpose set forth.

2. A wagon box or base consisting of the floor A and sides B' B², having sockets *b* projecting from said sides, and bands *a* in the center of said floor, in combination with bars D, rails E, boards F' F², having cleats *d'* *d²*, with projecting ends *e'* *e²*, and the end boards, G' G², adapted to be attached to said rails E and floor A, substantially as set forth.

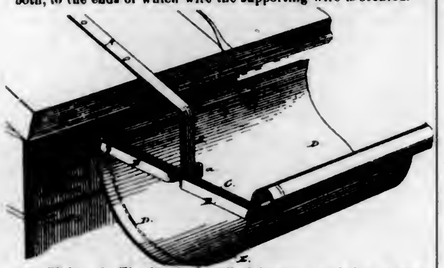
265,980. SCREEN FOR PHOTOGRAPHIC CAMERAS. G. FRANK E. PEARSALL, Brooklyn, N. Y. Filed July 31, 1882. (No model.)



Claim.—In combination with a photographic camera, a flexible translucent screen attached to said camera and automatically operated, substantially as and for the purposes specified.

265,981. EAVES-TROUGH HANGER. CHARLES L. PIERPONT, Red Wing, Minn. Filed June 30, 1882. (No model.)

Brief.—The lower end of the attaching-strap is inserted in the bend of the cross-strap and held by a wire passing through both, to the ends of which wire the supporting-wire is secured.

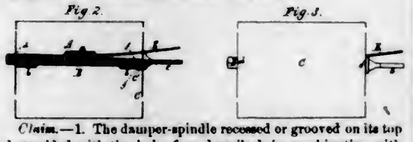


Claim.—1. The herein-described hanger, consisting of strap A, cross-strip B, having bend *a* and ears *b*, and wire C, all combined and operating as set forth.

2. In combination with trough D, the hanger consisting of strap A, cross-strip B, having bend *a* and ears *b*, wire C, and supporting-wire E, applied as shown.

265,982. STOVE-PIPE DAMPER. WILLIAM E. QUIGGLE, Dedham, Mass. Filed Aug. 21, 1882. (No model.)

Fig 2. Fig 3.



Claim.—1. The damper-spindle recessed or grooved on its top and provided with the hole *f*, as described, in combination with the stove-pipe having the cruciform opening to receive such spindle, and also with the V-spring arranged in the recess or groove and hole of the spindle and in the said opening of the pipe, all being substantially as set forth.

2. The stove-pipe having the cruciform spindle-bearing hole, and the damper having the raised part *a* and depressed parts *b b*, as shown, in combination with the spindle arranged in the damper and grooved or recessed and provided with the hole *f*, as described, and with the V-spring arranged in the hole and recess and extended through the said bearing-hole and underneath the raised part *a*, all being substantially as set forth.

265,983. PANTALOONS AND TROUSERS. CROWELL H. RYNO, New York, N. Y. Filed Dec. 7, 1881. (No model.)



Claim.—A waisting or waistband attachment for trousers provided with one or more cords incorporated in and extending the length of the waisting above, or both above and below, the button-holes formed therein, as and for the purposes described.

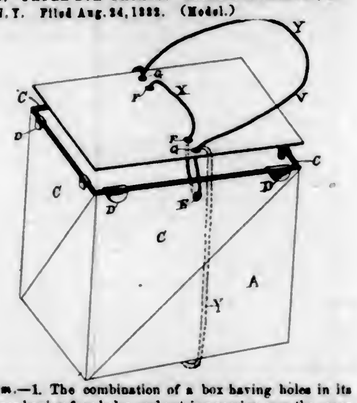
265,984. FAN-WHEEL. WILLIAM SCHMOLZ, San Francisco, Cal. Filed Feb. 10, 1882. (No model.)



Claim.—1. In a fan-wheel, the combination, with the rim A and hub C, of the radiating blades B, set at an angle to the plane of revolution and provided with transverse corrugations D, substantially as and for the purpose described.

2. In a fan-wheel, the combination of the rim A, hub C, corrugated blades B, radiating from the hub and set at an angle to the plane of revolution, and the interposed lozenge-shaped plates or braces E, all substantially as and for the purpose described.

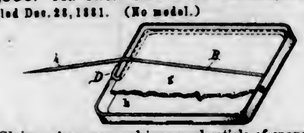
265,985. PAPER BOX-BASKET. CHARLES B. SEABURY, New York, N. Y. Filed Aug. 24, 1882. (Model.)



Claim.—1. The combination of a box having holes in its sides, a cover having four holes, and a string passing over the cover between two of its holes and through these holes, thence through the holes in the box, and thence through the other two holes of the cover, as and for the purpose set forth.

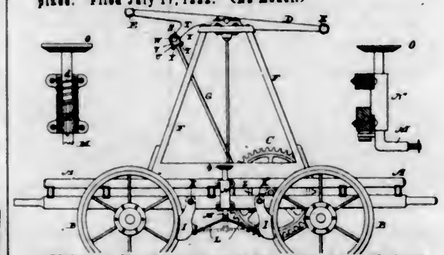
2. The combination of a box having holes in its sides, a cover having four holes, and a string passing over the cover between two of the holes and through these holes, through the holes in the box and the other two holes of the cover, forming two loops, as and for the purpose set forth.

265,986. PIN-TAG. THEODORE W. SEARING, New York, N. Y. Filed Dec. 26, 1881. (No model.)



Claim.—As a new and improved article of manufacture, the struck-up or embossed tag or similar article, with a flange forming a recess, into which is fitted and secured the shank and body of the fastening-pin by cement, substantially as described.

265,987. HAND-CAR. GEORGE S. SHEFFIELD, Three Rivers, Mich., assignor to the Sheffield Velocipede Car Company, same place. Filed July 17, 1882. (No model.)



Claim.—1. In combination with the walking-beam of a hand-car provided with a central rock-shaft hole, a rock-shaft adapted to pass through the hole in the beam, these two parts being secured together adjustably and detachably by means of a thread on the rock-shaft and a clamping-nut, substantially as set forth.

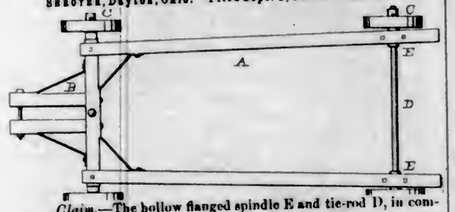
2. In combination with the walking-beam of a hand-car, a turned wrist-pin rigidly attached thereto, and a pitman-rod provided with the head or plate U, the two parts of the journal-box V and W, and the U-bar X, and nuts Y, all constructed and operated as set forth.

3. A main driving-gear for a hand-car, provided with a radial recess for the crank-arm, substantially as set forth.

4. The combination, with the main driving-gear, of the cross-bar Z and lugs *a*, forming a recess for the crank-arm, substantially as set forth.

5. In a hand-car, the combination, with the brake-shoes and toggle-levers, of a foot-rod provided with a retracting-spring and having a step upon which the weight of a person may be thrown so as to brake both front and rear wheels at one side of the car, substantially as set forth.

265,988. TRUCK FOR MOVING REAPERS. OLIVER H. P. SHROYER, Dayton, Ohio. Filed Sept. 1, 1882. (No model.)



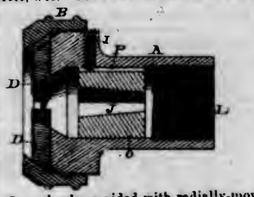
Claim.—The hollow flanged spindle E and tie-rod D, in combination with a truck-frame, substantially as set forth.

265,989. METALLIC POST FOR WIRE FENCES. THOS J. SMITH, Topeka, Kans. Filed Nov. 15, 1881. (No model.)



Claim.—The metallic fence-post A, in the form of an inverted V, in combination with the underground coupling-bar C, with its ends bent upward from or near its center, to provide a firm footing for the legs of the post that will oppose the maximum of resistance to lateral pressure against the fence, the post A being combined with the coupling-bar C by passing its legs B through the holes c of the bar and keying them in place with a small metallic wedge or horseshoe-nail.

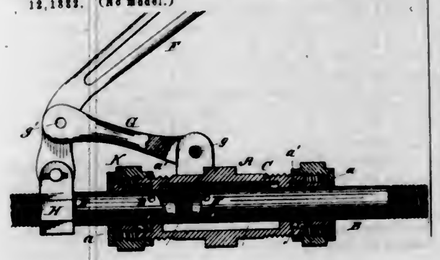
265,990. ADJUSTABLE BIT AND DRILL CHUCK. GEORGE H. SUMMERS, Beloit, Wis. Filed June 7, 1882. (No model.)



Claim.—1. In a chuck provided with radially-moving jaws, an adjustable socket-block, substantially as shown, whereby adjustment may be made both for the length and for the diameter of a tool-shank.

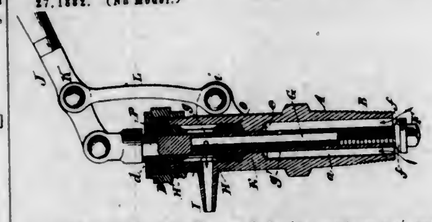
2. The herein-described chuck, consisting of shank or body A, collar B, jaws D, adjustable socket-block O, and set-screw I, all combined and operating substantially as set forth.

265,991. BALANCED THROTTLE-VALVE. MARQUIS D. L. SWARE and JASPER T. THORNLEY, Anderson, Ind. Filed May 12, 1882. (No model.)



Claim.—The combination of the reciprocating cylinder A, packing-rings *a*, packing-spaces *a'*, heads K, link G, lever F, steam-space C, with the hollow cylindrical threaded stem B, and a steam-boiler, the whole adapted to serve for the purposes herein set forth.

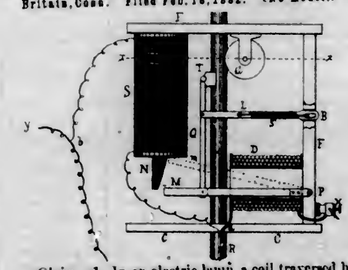
265,992. STEAM GAGE-COCK. MARQUIS D. L. SWARE, JASPER T. THORNLEY, and JOHN A. AWALT, Anderson, Ind. Filed Jan. 27, 1882. (No model.)



Claim.—1. The valve F, stem G, having apertures *g g'*, and uncoupling-connections, combined with the casing A, having collar E, with seat *e*, gland H', having annular recess H, the exit I, and operating means J L, as and for the purposes set forth.

2. The combination of the case A B C, having tube *a*, drip-chamber N, and packing-chambers O P, the exit I, and internal annular collar E, combined with the valve F, stem G, having ports *g g'*, the gland H', having annular recess H, the cap-nut D, the separable lever J, and link L, all as and for the purposes specified.

265,993. ELECTRIC-ARC LIGHT. ELIHU THOMSON, New Britain, Conn. Filed Feb. 16, 1882. (No model.)



Claim.—1. In an electric lamp, a coil traversed by the direct current, surrounding a movable magnetizable bar, pivoted, as described, to an iron frame, in combination with a coil traversed by the derived circuit surrounding a separate fixed core, the pole of which is placed in juxtaposition with the movable bar aforesaid, said movable bar having a transverse play inside the direct coil aforesaid, substantially as described.

2. In an electric lamp, the combination of a fixed shunt-magnet with a movable bar inclosed by the direct coils, leaving sufficient space in the interior thereof for the transverse movement of said movable bar, and the adjoining poles of which shunt-magnet and movable bar-magnet are of the same polarity in action.

3. In an electric lamp, a friction-shoe, T, bearing upon the carbon rod, in combination with the lifting-bars Q and M, releasing bar L, and spring S', or their equivalents, substantially as described.

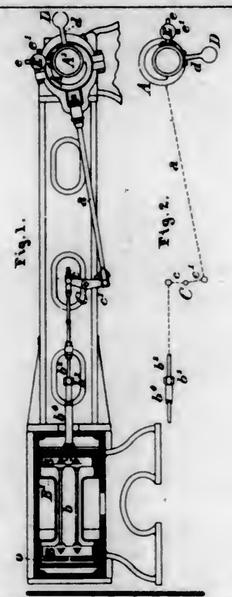
265,994. ECCENTRIC FOR STEAM-ENGINES. JOSEPH W. THOMPSON, Salem, Ohio, assignor of one-half to the Buckeye Engine Company, same place. Filed Aug. 15, 1882. (No model.)

Claim.—1. The combination, substantially as set forth, of an adjustable eccentric and a balance or counter-weight secured thereto in such position as to exert its gravity upon the eccentric in a reverse direction to the action of the steam-pressure upon the stem of the valve actuated by said eccentric.

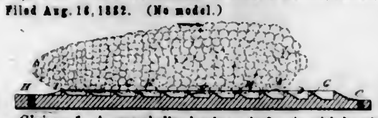
2. The combination, substantially as set forth, of an adjustable eccentric, a balance or counter-weight acting in reverse direction to the preponderance of weight of the eccentric upon the shaft, and a counter-weight acting in reverse direction to the pressure of steam upon the stem of the valve actuated by the eccentric.

3. The combination, substantially as set forth, of an adjustable eccentric, a valve actuated thereby through an intermediate connection, and a balance or counter-weight acting upon the eccentric in reverse direction to the pressure of steam upon the stem of said valve.

265,994.



265,995. CORN-SHELLER. ELIJAH E. TOWNS, TOWNS, Ga. Filed Aug. 16, 1882. (No model.)

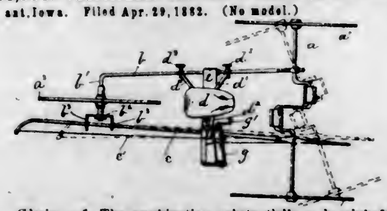


Claim.—1. A corn-sheller having a body, A, with longitudinal upright side flanges, B B, and transverse ridges E, of a height equal to the flanges, the ridges formed with a front wall, F, which gradually increases in height, and a beveled or curved rear wall, G, as set forth.

2. A corn-sheller having a body gradually increasing in width and provided with transverse ridges, each having an abrupt front wall and inclined rear wall, the series of abrupt walls gradually increasing in depth toward the larger end of the body, whereby the increasing width of the body adapts it to the shape of the ear and the varying size of the ridges is suited to the varying size of the grains as arranged on the ear, as set forth.

3. A corn-sheller having a body, A, with longitudinal upright side flanges, B B, said body gradually increasing in width and provided with transverse recesses or depressions D, gradually increasing in depth, and formed by transverse ridges E, each having an abrupt front wall, F, and inclined rear wall, G, and of a height equal to that of the flanges, the series of abrupt walls F gradually increasing in depth toward the larger end of the body, as set forth.

265,996. VELOCIPEDE. BENJAMIN F. TREXELL, Mount Pleasant, Iowa. Filed Apr. 29, 1882. (No model.)



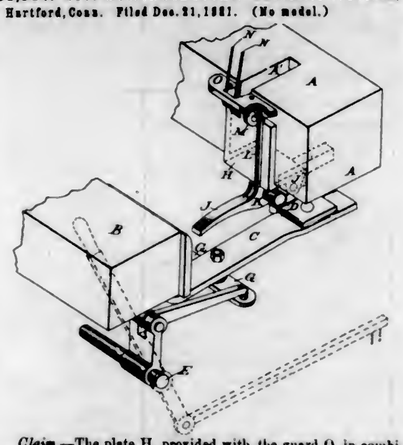
Claim.—1. The combination, substantially as hereinbefore described, of the axle *a*, the rods *b b'*, bracket *b*³, and steering-bar *c*, as and for the purposes set forth.

2. The combination of the rods *b b'*, bracket *b*³, bar *c*, cord *c'*, and windlass *g*, substantially as set forth.

3. The combination, with the rods *b* and bar *c*, of the seat *d*, supported on standards secured to rod *b* and beam *e*, and the beam *e* and roller *f*, substantially as set forth.

4. The combination, with the rod *b* and bar *c*, of the beam *e*, having one end pivoted on rod *c* and its opposite end bifurcated and supported on roller *f*, substantially as set forth.

265,997. STOP-MOTION FOR LOOMS. FREDERICK O. TUCKER, Hartford, Conn. Filed Dec. 21, 1881. (No model.)



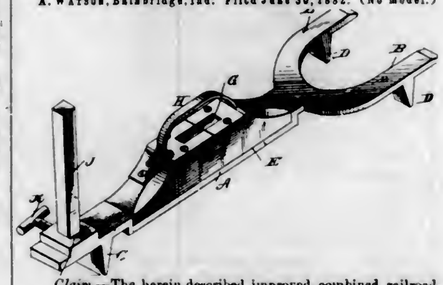
Claim.—The plate H, provided with the guard O, in combination with the lay of a loom, substantially as and for the purpose described.

265,998. REAMER. GEORGE R. VALENTINE, New Bedford, Mass. Filed July 13, 1881. (No model.)



Claim.—As an article of manufacture, a reaming-bit, A, provided with a double series of rib-cutters, *a* and *b*, the series *a* being each made parallel with the axis of the bit and to immediately alternate with one of the series *b*, which latter are each made to diagonally incline either at the same angle to said axis or at equal opposite angles to each other while alternating with said series *a* from shank to end, substantially as and for the purposes specified.

265,999. RAILROAD-TRACK GAGE AND LEVEL. FRANCIS A. WATSON, Bainbridge, Ind. Filed June 30, 1882. (No model.)

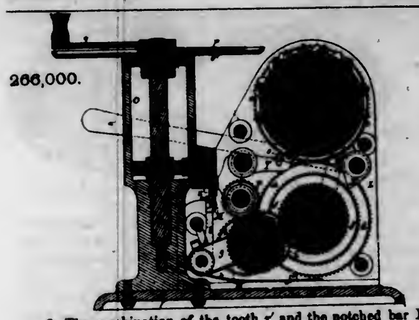


Claim.—The herein-described improved combined railroad-track gage and level, consisting of the bar or body A, having arms B B and downward-projecting legs C D D, the rod J, vertically adjustable in an opening, I, in one end of body A by means of a set-screw, K, the block F, fitted in a recess, E, in a bar, A, and having spirit-level G, and the protecting bail or handle H, all arranged and operating substantially as set forth.

266,000. MECHANISM FOR SIGNALING. AMBROSE WEBSTER and EDGAR P. WEBSTER, Waltham, Mass. Filed July 5, 1882. (No model.)

Claim.—1. The combination of the series of variable gears *f* and the operative gears *c*, *d*, and *h*, and the supporting-arms of the said gears *h*, with the series of star-wheels A B C, &c., and the sliding arm T and gear P, combined with the slide-bar N, all being adapted and arranged substantially in the manner and to operate as set forth.

266,000.



2. The combination of the tooth *x'* and the notched bar M, with the slide-bar N, and the series of arms *g*, provided with the actuating-gears *h* of the series of variable gears, all being adapted, arranged, and to operate substantially as set forth.

3. The combination of one or more sectors, *y*, and levers W with the series of star-wheels A B C, &c., the notched bar M, and the slide-bar N, provided with the tooth *x'*, the said slide-bar and star-wheels being provided with operating-gears *c*, *d*, *f*, and *h*, arranged, adapted, and to operate substantially as set forth.

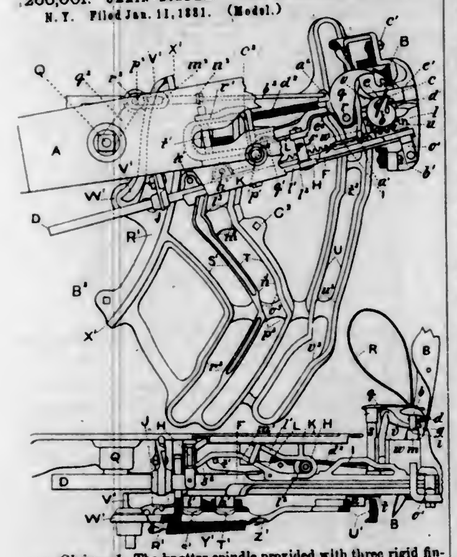
4. The dial, its pointer, and the latter's shaft, and the pinion *n*, in combination with the slide-bar N, provided with the toothed rack *m'* and the sliding arm, the gear P and its splined shaft R, as set forth.

5. The combination of the shaft *z* and the cams *y'* thereof with the levers W, applied to the sectors *y* and to the notched bar M, substantially as set forth.

6. The supporting-frame and stationary cam X, in combination with the splined shaft S, its whistle-operating arm U, and the sliding arm T, as set forth.

7. The shaft *b*, its series of star-wheels A B C, &c., the shaft *e*, the connecting-gears *c d*, and the separate train of gears *f* and *h*, the former carried by shaft *c*, and their supporting-arms *g*, in combination with the slide N, the splined shaft R and its gear P, the splined shaft S, provided with arm U and its arm T, all arranged as and for the purpose set forth.

266,001. GRAIN-BINDER. CYRENUS WHEELER, Jr., Auburn, N. Y. Filed Jan. 11, 1881. (Model.)



Claim.—1. The knotter-spindle provided with three rigid fingers, one of said fingers being made in the form of an inclined spiral wing, substantially as described.

2. The knotter-spindle having the convex-faced top or head and provided with three rigid fingers, one of said fingers being made in the form of an inclined or spiral wing, substantially as described.

3. The knotter-spindle provided with the convex-faced head, the straight radial finger inclined upward from its base, and the inclined spiral wing, arranged and operating substantially as described.

4. The knotter-spindle provided with the rigid inclined and tapering finger and a second finger curved on its outer edge in the arc of a circle of which the axis of the spindle is the center and terminating at its outer end, with its lower face in the same plane with the lower face of the point of the straight inclined finger, substantially as and for the purpose described.

5. A hollow knotter-spindle having a fixed projecting finger at one end inclined upward and outward from its axis, in combination with an internal spindle having two rigid fingers, operating in connection with said hollow spindle and its finger, substantially as described.

6. A hollow knotter-spindle having a rigid laterally-projecting finger at one end inclined upward and outward from its axis, and provided at its outer end with a short lug or tooth, substantially as described.

7. In combination with the binder-arm, the knotter-carrying arm, and the cord-holder, the knotter-spindles arranged in a vertical plane passing transversely through the knotter-carrying arm and at an inclination to a vertical plane passing longitudinally through said arm, substantially as and for the purpose described.

8. The combination of the hollow knotter-spindle, the two-fingered spindle rotated therein, mechanism for giving to the former two motions independent of the latter, and mechanism for giving to the latter one motion independent of the former, substantially as described.

9. In combination with the knotter-spindle, the pivoted cord-guide, the straight reciprocating rack for operating one of the spindles, and the camway on said rack for raising the cord-guide, substantially as described.

10. In combination with the knotter-carrying arm, the knotter-spindles, the pivoted cord-holder, the independently-reciprocating racks for operating said spindles, and a camway or track on one of said racks for raising and depressing the cord-holder, substantially as described.

11. In combination with the double knotter-spindle and its pinions, the straight independently-reciprocating racks for operating the same, all carried on a swinging arm, friction-rollers on said racks, and fixed camways on the binder-frame for operating the same, substantially as described.

12. In combination with the knotter-carrying arm, the knotter-spindles, and the reciprocating racks having friction-rollers, the fixed separate camways arranged in a horizontal plane below the knotter-carrying arm, said camways having vertical walls for receiving and guiding the friction-rollers, substantially as described.

13. The combination, with the knotter-carrying arm, of the knotter-spindles, arranged one within the other, and having separate actuating-pinions, the straight independently-reciprocating racks for actuating said pinions, and mechanism for operating the same, said racks being arranged on a line divergent from the center line of the knotter-carrying arm, substantially as described.

14. In combination with the knotter-carrying arm and its knotter-spindles, the vertically-vibrating cord-holder connected with said arm by a horizontal pivot, and a reciprocating rack provided with a camway for vibrating said cord-holder, substantially as described.

15. The combination, with the swinging arm carrying the band-securing mechanism, of the inclined knotter-spindles and the horizontally-pivoted vertically-oscillating cord-holder, arranged and operating substantially as described.

16. In a cord-holder, the movable jaw having a wedge-shaped extension on its end, in combination with a fixed jaw having an inclined bearing to receive said extension, substantially as described.

17. The pivoted cord-finger, inclined double-spindled rotating knotter, and a horizontally-pivoted vertically-oscillating cord-holder, all supported upon a horizontally-oscillating arm, and means for operating them, all arranged and combined for joint operation substantially as described.

18. The pivoted cord-finger having a short lever at the lower end of its pivot, provided with a friction-roller, in combination with a fixed cam-track having vertical side walls, substantially as and for the purpose described.

19. In combination with the binder-arm, the knotter, and the cord-holder, the cord-guide pivoted to the knotter-stand on the inner side of said knotter and holder, and the reciprocating rack on the outer side of the same, provided with a cam for operating the cord-guide, substantially as described.

20. In combination with the cord-guide, pivoted as stated, and the reciprocating rack, provided with a cam for operating said guide, a spring for keeping the foot of the guide in proper working relation to the cam, substantially as described.

21. The branched and pivoted vertically-oscillating cord-holder, the movable jaw and cutter, the connecting-link and pivoted lever, in combination with a pivoted switch on the horizontal binder-frame, substantially as described.

22. The combination of the vertically-oscillating cord-holder, its movable jaw and cutter, the pivoted switch, the horizontal binder-frame, the spring for holding the switch in working position, and the adjustable connecting-link, having a long loop or eye, substantially as and for the purpose set forth.

23. Inclined rotating knotter-spindles having rigid fingers, two reciprocating racks, a pivoted vertically-oscillating cord-holder, and a pivoted cord-finger, all supported on a horizontally-oscillating arm and moving with it, a vertically-oscillating and horizontally-swinging binder-arm, and operating mechanism, the whole arranged and combined substantially as and for the purpose set forth.

24. Inclined rotating knotter-spindles having rigid fingers on their upper ends and pinions on their lower ends, straight reciprocating racks, a pivoted finger, and a vertically-oscillating cord-holder, all supported and carried on a horizontally-oscillating arm, in combination with fixed camways supported on the binder-frame and connecting devices, substantially as described.

25. The inclined knotter-spindles having rigid projecting fingers on one end and pinions on the other, a pivoted cord-finger, and pivoted cord-guide connected with and supported by the removable knotter-stand, substantially as and for the purpose set forth.

26. The rotating gear-wheel supported in bearings on the binder-frame, the lever pivoted at one end thereto and at its other end to the lower end of a vertical rock-shaft, a binder-arm hinged to the upper end of said rock-shaft, a pitman connecting said binder-arm with the pivoted lever, the rigid arm connected with and projecting from the rock-shaft in the same vertical plane with the binder-arm, the inclined rotating knotter-spindles having rigid fingers, the straight reciprocating racks, the vertically-oscillating cord-holder, said knotter-spindles, racks, and cord-holder being carried by said horizontal arm, the fixed camways supported below said arm and parallel to it, and intermediate operating mechanism, the whole being arranged and combined for joint operation substantially as described.

27. The horizontally-oscillating knotter-arm, the inclined rotating knotter-spindles having rigid projecting fingers, a pivoted cord-finger, and pivoted cord-guide mounted on a removable stand, the cord-holder, the vertically-oscillating and horizontally-swinging binder-arm, the oscillating take-up carried thereby, and intermediate operating mechanism, arranged and combined for joint operation in the manner and for the purpose described.

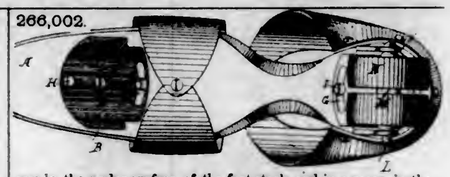
28. A binder-frame arranged outside of and below the discharging ends of the elevator-aprons of a harvester, a vertical rock-shaft supported in bearings on said frame, a vertically-oscillating binder-arm hinged to the top of said rock-shaft, a lever hinged at one end to the lower end of said rock-shaft, its other end being pivoted to a rotary gear-wheel supported on said binder-frame and deriving its motion from the main driving-wheel of the harvester, a pitman connecting the lever with the binder-arm, a horizontal arm rigidly connected by one of its ends to the rock-shaft between the lever and the binder-arm and projecting from said rock-shaft at right angles thereto and in the same vertical plane with the binder-arm, inclined knotter-shafts having rigid fingers at one end and separate pinions at the other, straight reciprocating racks gearing with said pinions and having each a downwardly-projecting roller, said knotter-shafts and racks being supported on said rigid horizontal arm, a fixed camway for each roller supported on the binder-frame below said horizontal arm, and a slotted grain-receiving table arranged above said arm, the whole combined and arranged for joint operation substantially as and for the purpose described.

29. The pivoted cord-finger, in combination with its camway having different inclines for giving four separate movements to said finger: first, to bring the cord to the knotter-fingers; second, to move back to give room for the crossed cords on the knotter-fingers; third, a forward movement to push off the loop and complete the knot; and, fourth, a backward movement to permit the opening knotter-fingers to discharge the knot, substantially as described.

266,002. ROLLER-SKATE. GEORGE L. WITSIL, Philadelphia, Pa., assignor to Samuel G. Paps and Albion Foulds, same place. Filed Jan. 26, 1882. (Model.)

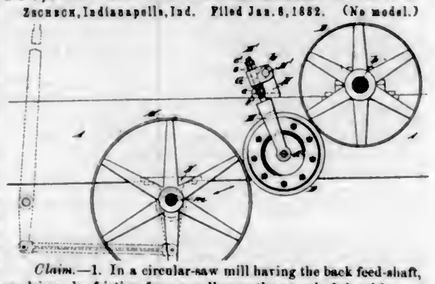
Claim.—1. In combination with the axle of a roller-truck, two rollers and three revolving balls placed respectively between and exterior to the rollers, as and for the purpose specified.

2. In combination with a truck which is pivoted to the foot-stock of a roller-skate, a rubber cushion partially seated in a recess in the under surface of the foot-stock and in a recess in the truck, substantially as and for the purposes described.



3. In a roller-skate, two rollers reamed out on both sides of their hollow axes, in combination with three anti-friction balls mounted upon the axle of said rollers, as and for the purposes set forth.

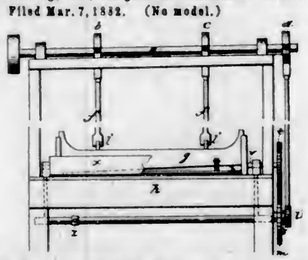
266,003. SAW-MILL FEED MECHANISM. GUSTAVUS H. ZSCHECH, Indianapolis, Ind. Filed Jan. 6, 1882. (No model.)



Claim.—1. In a circular-saw mill having the back feed-shaft, *m*, driven by friction from a pulley on the saw-shaft *b*, with provisions for moving the former toward and from the latter to make and break the connection, an intermediate pulley, D, and means *e e'*, for changing its position to allow for different positions of the saw-shaft *b*, and adapted to transmit the motion by friction, as herein specified.

2. The intermediate pulley, D, and provisions *e e'*, for adjusting up and down to compensate for change in position of the saw-shaft, in combination with the pulley M on the back feed-shaft, *m*, means for moving the latter to make and break the frictional contact, and the provisions E' H', for allowing said intermediate pulley to swing and swivel, all substantially as herein specified.

266,004. MACHINE FOR CUTTING LEATHER. ROBERT SMITH ALLEN, Dearing, Me., assignor to Charles E. Morrill, same place. Filed Mar. 7, 1882. (No model.)



Claim.—1. In a machine for cutting leather, the combination of the shaft *a*, eccentrics *b* and *c*, rods *f f*, cutter or knife *g*, and bar *p*, with springs *r'*, for the purposes set forth.

2. The combination of the shaft *a*, eccentrics *b*, *c*, and *d*, rods *f f* and *o*, knife *g*, gears *m* and *l*, rod *n*, ratchet *l*, and pawl, and friction-roller *x*.

3. The combination of the shaft *a*, eccentric *d*, and rod *o*, gears *m* and *l*, ratchet *l*, and pawl, and slotted slide *a'*, for the purposes set forth.

266,005. STOVE-BACK LINING. WILLIAM ALLEN, Dubuque, Iowa, assignor of one-third to George H. Fry, same place. Filed Feb. 23, 1882. (Model.)

Claim.—1. The combination of the main plate A, having the slots D D', the wings B B, having the slots E E', and the bolts C C, substantially as and for the purpose herein set forth.

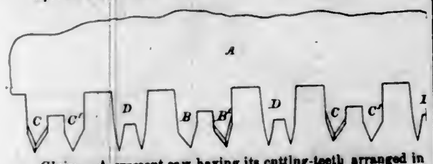
2. The combination of the main plate A, having the central portion, *a*, and offsets *b b*, the perpendicular slot D and diagonal slot D', the slotted wings B B, and the bolts C C, substantially as and for the purpose herein set forth.

266,005.



3. The combination of the slotted wings, the main plate having slots disposed at different angles from the slots of the wings, and the bolts C C, substantially as and for the purpose set forth.

266,006. SAW. ELIAS C. ATKINS, Indianapolis, Ind. Filed Apr. 17, 1882. (No model.)



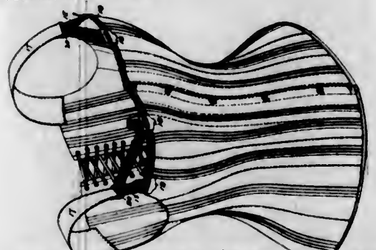
Claim.—A crescent-saw having its cutting-teeth arranged in sets, with a clearing-tooth between each set, one set, B B', being sharpened in the form shown to cut in one direction, and the other, C C', being sharpened in like manner to cut in the other direction, and the clearing-tooth D, being composed of two parts, both parts being alike, and each part alike on both sides, all substantially as shown and described, and for the purposes specified.

266,007. SMOKER'S IMPLEMENT. JONATHAN BADGER, New York, N. Y. Filed Feb. 24, 1882. (No model.)



Claim.—The combined cigar-tip cutter and cigar-holder herein described, composed of two strips of elastic sheet metal, which are united intermediate of their ends and diverge in opposite directions, which are bent at one end to form tip-cutting jaws and bent at the other end to form cigar-holding fingers, in combination with a sliding ring arranged to compress or clamp such fingers.

266,008. CORSET. JULIA D. BANFIELD, Boston, Mass. Filed June 30, 1881. (Model.)



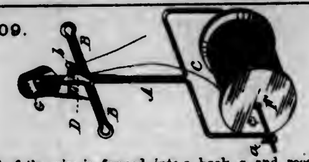
Claim.—1. The combination, with a corset, of the straps 17 and 18, the latter passing through a loop in the former, and having its ends connected to the corset at either side of the full or breast portion, substantially as described.

2. The combination, with a corset, of a strap, 17, and a strap, 18, made of an elastic material, substantially as described.

3. The combination, with a corset, of a strap, 17, with an elastic strap connecting it with the corset at both sides of the full or breast portion, substantially as described.

266,009. COMBINED SPOOL AND THIMBLE HOLDER AND THREAD-CUTTER. ANTONIO M. BARNETT, Iowa City, Cal. Filed July 15, 1882. (No model.)

Claim.—1. A spool and thimble holder constructed of a piece of wire bent to form a vertical center, A, upon top of which the thimble is sustained, and an open base, C, in one corner of which one end of the wire is formed into a hook, *a*, and receives the other end from the spindle *c*, upon which the spool is fitted, and a hook or pin, E, upon the back of the device to secure it, the top of said pin being separated from the center A to receive the rim or edge of the thimble, substantially as herein described.



2. A combined spool and thimble holder and thread-cutter, constructed of wire bent to form a vertical center, A, upon top of which the thimble is sustained, cross-arms B, and wide open base C, in one corner of which one end of the wire is formed into a hook, *a*, and receives the other end forming the spindle *c*, upon which the spool is fitted, the cutting-blade D, supported from the front of the device by a strip or piece, *b*, and the pin or hook E, secured to the back of the center A, and having its upper portion free to receive between it and the center A the rim or edge of the thimble, substantially as herein described.

3. A combined spool and thimble holder and thread-cutter, consisting of a central piece, A, cross-arms B, open lower portion, C, having a hook, *a*, at one corner, and a spindle or base, *c*, adapted to rest in said hook or to be removed therefrom, a cutting-blade, D, in front, and a pin or hook, E, behind, all arranged and used substantially as herein described.

266,010. BRICK FOR BUILDING ARCHES AND FURNACE-ROOFS. WILLIAM G. BELL, Allegheny City, Pa. Filed Mar. 30, 1882. (No model.)



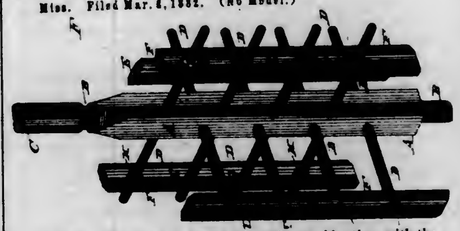
Claim.—1. A brick for building arches and furnace-roofs, having its edge key-shaped in one direction and its face wedge-shaped or narrowed in the other direction, substantially as set forth.

2. A brick for building arches and furnace-roofs, having its edge key-shaped for part of its length in one direction and its face wedge-shaped or narrowed for part of its length in the other direction, substantially as set forth.

3. A brick for building arches and furnace-roofs, having a combined key and wedge shape in one direction and wedge shape or narrowed in the other direction, substantially as and for the purposes set forth.

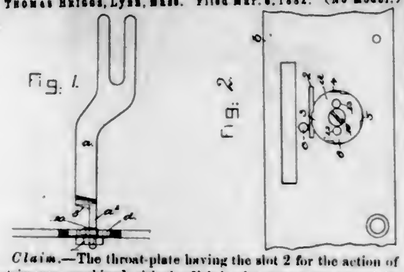
4. An arch or furnace-roof formed of brick having a key-shaped lower end and a wedge shaped or narrowed upper end, and mortar or other binding material entirely surrounding the upper ends of the brick, substantially as set forth.

266,011. CHURN-DASHER. ANDREW J. BLACKMAN, Meridian, Miss. Filed Mar. 4, 1882. (No model.)



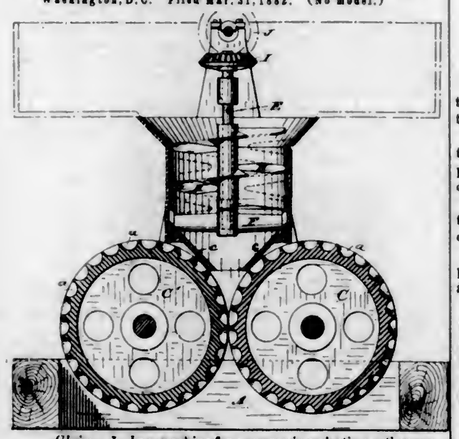
Claim.—In a rotary churn-dasher, the combination, with the central rotary shaft, A, having radial beaters D, arranged in four sets or series, having the beaters arranged one above the other, and the beaters of one set adapted to correspond, when the shaft revolves, to the space between the beaters of the adjoining sets, said beaters being all of the same length and extending nearly to the sides of the churn, of the vertical beaters or cutters having perforations G, by which they are adjusted, one on each set of beaters D, parallel to the shaft, and arranged, one on the extreme ends of the beaters of its series D, the next near the center of the beaters, the next at the center, and the next near the shaft, so that the cutters each operate in a different circular course, as set forth.

266,012. TRIMMING MECHANISM FOR SEWING-MACHINES. THOMAS BRIGGS, Lynn, Mass. Filed Mar. 6, 1882. (No model.)



Claim.—The throat-plate having the slot 2 for the action of the trimmer, combined with the disk having two or more straight faces adapted to be brought, when desired, into position to form one side of the trimmer-slot, substantially as and for the purpose described.

266,013. MACHINE FOR PRESSING PLASTIC OR OTHER CONDITIONED MATERIAL INTO BLOCKS. GEORGE F. BRETT, Washington, D.C. Filed Mar. 31, 1882. (No model.)

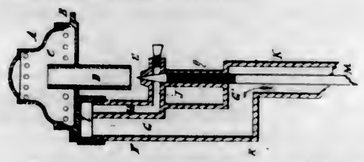


Claim.—1. In a machine for compressing plastic or other conditioned material into blocks or forms, a primary compressing device located above or in such position as to deliver the material to be operated upon to the final shaping and compressing rolls in a compact, compressed, and continuous stream, as set forth.

2. The combination of the primary compressing-screw, with its surrounding cylinder, with the final compressing and shaping cylinders C C', as set forth.

3. The combination, in a machine for shaping plastic or other conditioned material, of the main driving-shaft, provided with pinion P and the intermediate gears, Q and S, with the compressing and shaping cylinders C C', as set forth.

266,014. VAPOR-BURNER. FRANK M. CAMPBELL, St. Louis, Mo. Filed Apr. 7, 1882. (No model.)



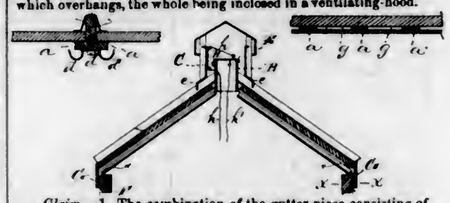
Claim.—1. In vapor-burners, the stem-pipe Q, with a needle-valve threaded therein and provided with a stuffing-box, I, in combination with the pipes K G H and tube D, connected with a combustion-chamber, substantially as described, and for the purpose specified.

2. In combination with a vapor-burner, the pipes G and H, and the supply-pipe K, connected with the stem-pipe Q, the latter having the needle-valve stem threaded therein in line with the tube D, said pipe K provided with a stuffing-box and constructed and arranged to receive the leakage through the thread in the stem-pipe to be utilized, substantially as and in the manner set forth.

3. In vapor-burners, the pipe G, auxiliary pipe H, arranged in open connection with the chamber I and combustion-chamber imposed thereon, in combination with the needle-valve mechanism and the tube D, leading into the combustion-chamber, and having the stem threaded in the stem-pipe at its upper part extending through the pipe K, and provided with a stuffing-box at I, substantially as described, and for the purpose specified.

266,015. SKYLIGHT AND VENTILATOR. WILLIAM CARELLY, New York, assignor to himself and John Seton, Brooklyn, N. Y. Filed Feb. 23, 1882. (No model.)

Brief.—T-bars of rolled iron, with sheet-metal gutter portions attached below, are offset at the lower ends to fit the curb. The ridge-piece is open from end to end and is covered by a damper, which overhangs, the whole being inclosed in a ventilating-hood.



Claim.—1. The combination of the gutter-piece consisting of two gutter portions and the interposed attaching portion secured to the lower portion of the T-bar, as specified and set forth.

2. The combination of the gutter-piece consisting of two gutter portions and interposed attaching portion secured to the lower portion of the T-bar, and the covering cap attached to the ridge of the bar, as specified and set forth.

3. The combination of the ridge-piece having an opening through it, the inclosing box and cap, and damper arranged to overhang the ridge-piece, substantially as specified.

4. The combination, substantially as specified, of the rafters provided with an extension at one end of the flanges, bent at an angle to the body of the rafter, with the base-plate and curb.

5. The combination, substantially as specified, of the rafters provided with an extension at one end of the flanges, bent at an angle to the body of the rafter, with the base-plate and curb, and with the gutters of the rafter.

266,016. SHEEP-HOLDING DEVICE. CLARESSA B. COOK, San Francisco, Cal. Filed July 26, 1882. (No model.)



Claim.—A device for holding sheep and other animals, consisting of the fixed standards B and C, having the sectional hinged collars D, E, and F fixed to their upper ends, all arranged substantially as herein described.

266,017. SHEET-METAL-PIPE JOINT. JOHN Y. COOPER, Nashville, Tenn. Filed Aug. 11, 1882. (No model.)

Claim.—As an improvement in sheet-metal-pipe joints, the combination of two sections of pipe, one provided with a groove to receive projections on the other pipe, which projections will be entirely hidden from view when the pipes are adjusted together, and will lock the pipes from disengagement by force exerted longitudinally in either direction, said sections of pipe each having a seam arranged to tally with the seam of the adjoining section when the entirely-hidden projections are at the point where they can be



separated from the grooves, the sections being capable of complete revolution on each other to bring said seams together, all arranged and operating substantially as shown and specified.

266,018. DEVICE FOR HOLDING BACK THE CHANNEL-LIP OF A BOOT OR SHOE SOLE. GEO. W. DAY, Haverhill, Mass., assignor to the Day Sewed Shoe Company, Portland, Me. Filed June 27, 1881. (No model.)

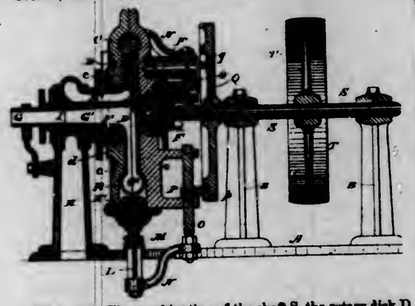


Claim.—1. The device, substantially as shown and described, adapted to be detachably secured to the sole of a boot or shoe, near the toe portion, and to hold back the channel lip or flap while the upper inner sole and outer sole are being sewed together, substantially as set forth.

2. The holder-plate C, having a prong, A, all substantially as and for the purpose described.

3. The holder-plate C, having a prong, A, and concave portion d, substantially as and for the purpose described.

266,019. ROTARY PUMP. WILLIAM M. DE GREAT, Knoxville, Tenn., assignor of one-half to A. L. MAXWELL, same place. Filed Oct. 21, 1881. (No model.)

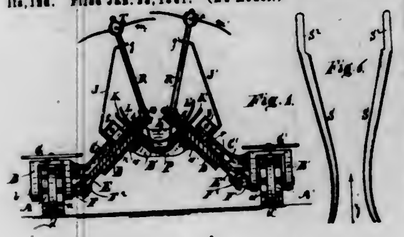


Claim.—1. The combination of the shaft S, the rotary disk D, having one or more piston-heads, E, the cylinder C, and sliding abutments K' K' K', all constructed and operating substantially as and for the purposes herein described.

2. The rotary disk constructed with one or more depressions for equalizing the pressure on opposite sides of the radial abutments before said abutments are moved, as set forth.

3. The combination of the revolving disk D and the annular cylinder E, extending inward in webs or plates c c on either side or face of the disk, and packed at the journals thereof by suitable glands, as herein set forth.

266,020. SUGAR-CANE AND MAIZE HARVESTER. WOOD C. DOLLOSS, Covington, Ky., assignor to Albert Gall, Indianapolis, Ind. Filed Jan. 28, 1881. (No model.)



Claim.—1. In a sugar-cane and maize harvester, the frame composed of the bridge D', with angular arms D D, and the housings B B', with arms C C', substantially as shown and described.

2. In a sugar-cane and maize harvester, the housing B, with arm C, combined with the arm D of the bridge D', and the wheel A, with shaft F, having a universal joint, F', at one end, substantially as shown and described.

3. In a sugar-cane and maize harvester, the combination of the wheel A, the shaft F, the shaft E, and shaft R, said shafts being united together by universal joints F' O, all substantially as shown and described.

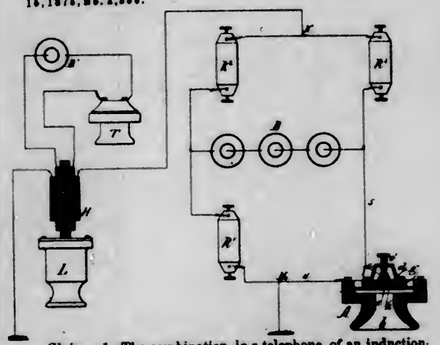
4. In a sugar-cane and maize harvester, the combination of the wheel A, shafts F and E, with universal joint F', and the revolving cutting-disk K, as and for the purpose specified.

5. In a sugar-cane and maize harvester, the combination of the wheel A, the shafts F and E, with universal joint F', the revolving disk-cutter K, feeder s L, and projecting finger P of the bridge, having cutting-edges, substantially as shown and described.

7. In a sugar-cane and maize harvester, the combination of the wheel A, the shafts F, E, and R, with universal joints F' O, and the adjustable reel T m, substantially as shown and described.

8. In a sugar-cane and maize harvester, the bridge D', with angular side arms, D D, the central forward-projecting finger, P, with cutting-edges, and the inclined table I, substantially as shown and described.

266,021. TELEPHONE. THOMAS A. EDISON, Menlo Park, N. J. Filed Oct. 17, 1881. (No model.) Patented in England June 16, 1878, No. 2,396.



Claim.—1. The combination, in a telephone, of an induction-coil having primary and secondary circuit-connections, with a diaphragm adjacent to and acted upon by such induction-coil and transmitting-instruments in such circuits, substantially as specified.

2. In combination with a battery or batteries, a system of balanced circuits, a telephonic transmitter constituting a variable resistance in one of the balanced circuits, and a telephonic receiver in the bridge-wire of the balance, substantially as set forth.

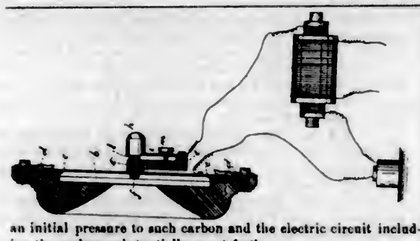
3. The combination, in a telephone, of carbon or similar material, forming a circuit-regulator, a diaphragm, and a holder upon and entirely supported by the diaphragm, and arranged to resist the movement of the diaphragm and circuit-regulator, substantially as set forth.

4. In a speaking-telephone, the combination, with the diaphragm, of carbon or equivalent material in the electric circuit, and a spring or yielding presser to apply an initial pressure to the carbon, and means for supporting both the carbon and presser upon the diaphragm, substantially as set forth.

5. In a speaking-telephone, the combination, with the diaphragm, of carbon or similar material, a spring pressing upon the carbon, and means for adjusting the pressure and supports therefor upon the diaphragm, substantially as set forth.

266,022. TELEPHONE. THOMAS A. EDISON, Menlo Park, N. J. Filed Aug. 6, 1879.

Claim.—1. The combination, in a telephone, of a metallic diaphragm, an elastic ring forming a rest for the same, a spring-finger pressing the diaphragm to its rest, an arm connected with the diaphragm near the middle, carbon or similar material in a socket in said arm, and an adjustable spring carried by the arm to apply

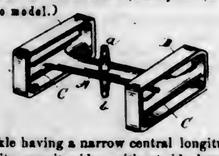


an initial pressure to such carbon and the electric circuit including the carbon, substantially as set forth.

2. In a telephone, the combination, with the diaphragm, of an arm attached at one end to the diaphragm, a spring attached at the other end of such arm, carbon or similar material between the spring and arm, a screw passing through the spring to adjust the initial pressure on the carbon, and a weight carried by the spring to act by inertia, substantially as set forth.

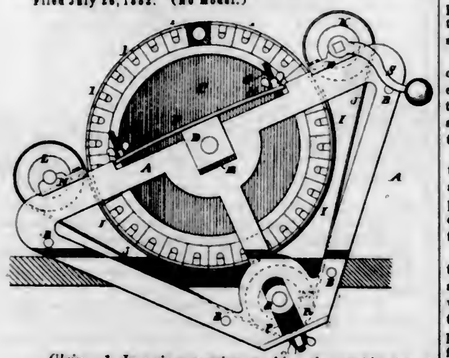
3. In a telephone-instrument, a loose diaphragm, an elastic ring forming a rest for the same, and one or more spring-fingers to hold the diaphragm to its seat and yielding material between the diaphragm and fingers, substantially as set forth.

266,023. BUCKLE. GEVAN P. KENNY, Edneyville, N.C. Filed July 6, 1882. (No model.)



Claim.—A buckle having a narrow central longitudinal bar with rigid studs on its opposite sides, without side bars, and provided with divided or double loops at each of its ends, as set forth.

266,024. CIGAR-MACHINE. GOTTLIEB D. ELGES, Clinton, Mo. Filed July 26, 1882. (No model.)



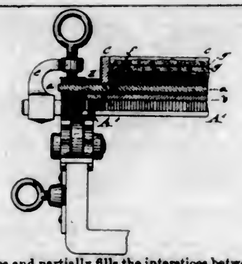
Claim.—1. In a cigar-pressing machine, the combination of drum C, carrying molds I, rollers K, L, and M, and endless belt or apron J, the drum and rollers being journaled in suitable boxes secured to the frame, and the belt passing around the rollers and under the drum, all substantially as shown and described.

2. In a cigar-pressing machine, the combination of frame A, drum C, carrying molds I, and journaled in boxes secured to the frame, upper rollers, K L, journaled in boxes secured to the frame, lower roller, M, journaled in boxes O, sliding in openings in the frame, and adjustable by means of bolts P, secured to the boxes, and set-screws Q and endless belt J, all arranged and operating substantially as set forth.

3. In a cigar-press, the combination of frame A, drum C, carrying molds I, and journaled in boxes D, held from upward movement under pressure of the belt by spring-plates F, bolts G, and set-screws H, apron J, rollers K, journaled in boxes N, secured to the frame, and adjustable roller M, all arranged and operating substantially as shown and described.

266,025. MANUFACTURING MOSAIC PLATES. ROBERT W. ELTZNER, New York, N.Y. Filed Dec. 8, 1881. (No model.)

Claim.—1. As an article of manufacture, a mosaic tablet composed of a series of blocks or tiles and a cement backing which



unites the tiles and partially fills the interstices between them, said interstices being open for a certain depth below the face of the tablet, substantially as described.

2. As an article of manufacture, a mosaic tablet consisting of a series of blocks or tiles and a backing which unites the tiles and partially fills the interstices between them, composed of cement and metallic gauze or binding-strips, the joints between the tiles being open for a certain depth below the surface of the tablet, substantially as described.

3. The art of making mosaic tablets, consisting in placing individual blocks in position, according to the design, face downward, then filling the interstices between the blocks for a certain depth with loose sand, then filling the remainder of said interstices with cement, then forming a backing of cement over said blocks and allowing the same to harden, and finally removing the loose sand from the interstices, substantially as described.

4. The art of making mosaic tablets, which consists in placing a translucent sheet containing the design between glass plates, then placing colored blocks or tiles upon the face of the upper glass plate to accord with the design as seen through said plate, then forming a backing of cement over and between the tiles, substantially as described.

5. The combination, in an apparatus for use in the manufacture of mosaic tablets, of a translucent or transparent lower plate, a transparent upper plate, means for supporting the plates which permit the passage of light through them, and means for holding the plates together when the translucent sheet containing the design is placed between them, substantially as described.

6. An apparatus for use in the manufacture of mosaic tablets, consisting of a transparent or translucent lower plate, a transparent upper plate, means for holding the plates together when the translucent sheet containing the design is placed between, and strips for surrounding the blocks and holding the cement, substantially as described.

7. The combination, in an apparatus for use in the manufacture of mosaic tablets, of a lower translucent or transparent plate, an upper transparent plate, a supporting skeleton frame for said plates which admits the passage of light through them, and an elastic packing interposed between the frame and plates, substantially as described.

8. The combination, in an apparatus for use in the manufacture of mosaic tablets, of a lower translucent or transparent plate, an upper transparent plate, a supporting-frame for said plates which admits light therethrough, an elastic packing interposed between the frame and plates, retaining-strips upon the transparent plate for surrounding the blocks and holding the cement, and flanged metallic strips between the retaining-strips and plate, the flanges of which project upward and serve to support gauze bands, substantially as described.

9. A table for use in the manufacture of mosaic tablets, consisting of a skeleton frame, A', glass plates *a b*, upright glass strips *c c*, and clamping devices *d e*, substantially as described.

266,026. STEAM PUMPING-ENGINE. WILLIAM M. FERRY, Park City, Utah. Filed Mar. 29, 1882. (No model.)

Claim.—1. A steam-pump consisting of two steam and two water cylinders secured together upon the same axial line and provided with a continuous plunger, in combination with yokes and mutilated gear-wheels for converting the reciprocating motion of the piston into rotary motion of the shaft, and eccentric and valve connections operated by said shaft, and communicating alternating motion to the valves of each of the steam-cylinders, substantially as set forth.

2. In a steam-pump having two steam-cylinders and two water-cylinders secured together, the steam-pistons, and water-plungers, combined with the yoke H, having internal rack-bars, the shaft R, carrying segmental gears V and eccentrics U, and with the valve-stems G and steam-valves, as set forth.

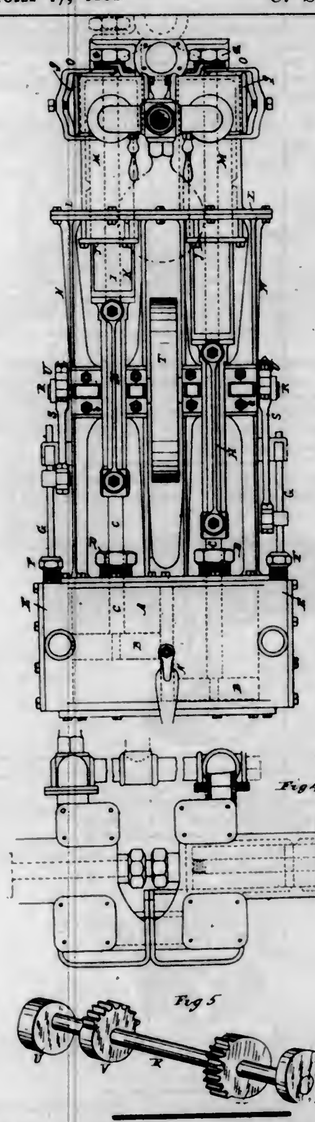


Fig 4.

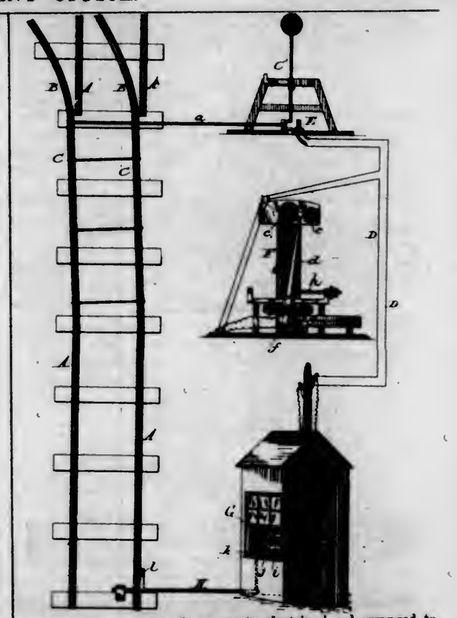
Fig 5

266,027. MAGNETO-ELECTRIC RAILWAY-SIGNAL. WESLEY W. GARY, Boston, Mass. Filed June 1, 1881. (No model.)

Brief.—A magneto-electric signal arranged in a circuit between the switch-operating mechanism and a magneto-generator, whereby when the circuit is closed (by the proper alignment of the switch) an approaching train in operating the generator gets a safety-signal; but when the circuit is open (through the misplacement of the switch) no safety-signal can be procured.

Claim.—1. In a switch-signal for railways, the combination of the following elements: the magneto-generator and appliances for operating the same from passing railway-trains, a magneto-electric signal, electric conductors connecting said signal and generator, and a circuit opening and closing device connected with and operated by a switch mechanism, substantially as described and shown.

2. In an automatic switch-signal, the combination of the magneto-electric generator and appliances for operating the same from

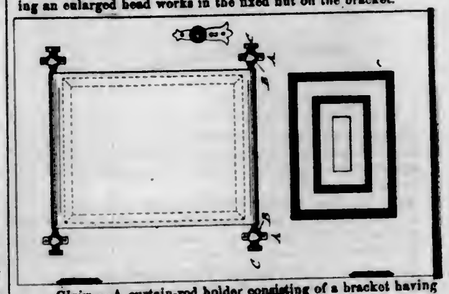


passing railway-trains, the magneto-electric signal arranged to stand normally in a position indicating danger, electric conductors connecting said signal and generator, and circuit-closing devices connected with and operated by the switch mechanism, said device arranged to close the circuit when the switch is closed, and vice versa.

3. In an automatic switch-signal, the combination of a circuit-closing device operated by the switch mechanism, the magneto-electric signal in circuit with said device, a magneto-electric generator in circuit with the signal, and appliances, substantially as described, whereby the generator may be operated by passing railway-trains, whereby the moving train is caused to determine the position of the signal, dependent upon the position of the switch.

266,028. CURTAIN-ROD HOLDER. ROBERT S. GOULD, New York, N.Y. Filed Dec. 19, 1881. (No model.)

Brief.—A socket-piece with the shank screw-threaded and having an enlarged head works in the fixed nut on the bracket.

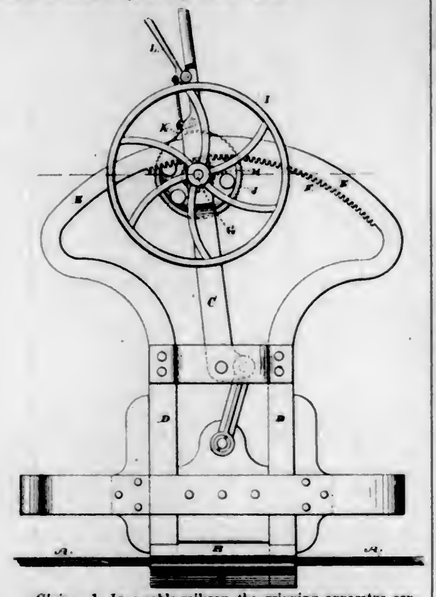


Claim.—A curtain-rod holder consisting of a bracket having a fixed nut, and of a laterally-adjustable socket-piece having an exteriorly-threaded shank, a socket at the inner end, and an enlarged head at the outer end, substantially as specified.

266,029. DEVICE FOR OPERATING CABLE-RAILWAY GRIPS. ALBERT GRUTTER, San Francisco, Cal., assignor to A. S. Hallidie, same place. Filed June 29, 1882. (No model.)

Brief.—Upon a frame are secured gripping-jaws connected to an operating-lever, to which is secured a supplemental power hand-wheel suitably journaled and provided with a pinion, which engages with the curved segment-rack. A ratchet wheel and pawl oper-

ated by a hand-lever is also journaled and attached to the hand-wheel to retain the parts in position when set.



Claim.—1. In a cable-railway, the gripping apparatus consisting of the jaws B B, the lever C, and the frame D, in combination with the pinion H, engaging the curved rack F, and the hand-wheel I, substantially as and for the purpose herein described.

2. The lever C of a cable-gripping apparatus, the pinion H, hand-wheel I, and the curved rack F, as shown, in combination with the ratchet-wheel J and pawl K, substantially as and for the purpose herein described.

3. In a cable-railway grip, and in combination with the gripping-jaws B, frame D, and lever C, a supplemental power consisting of the wheel I and pinion H, having the shaft journaled upon the lever C, and the segment-rack F, with which the pinion engages, substantially as herein described.

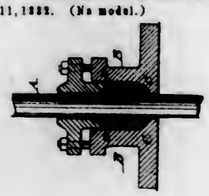
266,030. MEAT AND VEGETABLE CHOPPER. LEVI HAAS, Chester, Pa. Filed June 27, 1882. (No model.)



Claim.—1. In a meat or other chopper or implement, the shank having a circular, hexagonal, octagonal, or other similar shaped head, said head provided with central round-faced stud and series of alternating teeth and projections, substantially as and for the purpose set forth.

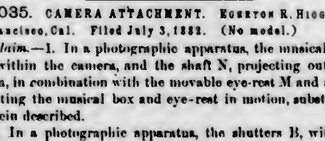
2. In a meat or other chopper, the shank having a handle, and circular heads or disks armed with alternating series of teeth and projections, and rounded or convexed studs of less height than the teeth or knives, substantially as and for the purpose specified.

266,031. ROD-PACKING. WILLIAM HAAS, New York, N. Y. Filed Mar. 11, 1882. (No model.)



Claim.—The combination, with a steam-valve or stuffing-box and a valve-stem or piston-rod, of a packing of fine shot placed in a cavity of the valve or stuffing-box around the valve-spindle or piston-rod, and retained by a packing-ring and tightening-sleeve, substantially as set forth.

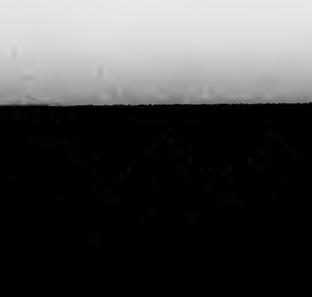
266,032. ICE-CREEPER. GEORGE HANCOCK, North Adams, Mass. Filed Aug. 19, 1882. (Model.)



Claim.—1. The detachable ice-creeper D, having shank *d*, horizontal plate *e*, and spring attachment *f*, in combination with the box C, which is open in front and has shoulder *i* to engage with said spring attachment, substantially as and for the purpose described.

2. A boot or shoe having a box with closed bottom and open at the end inserted in its heel, leaving the substance of the heel entirely beneath it, combined with a detachable ice-creeper placed underneath said heel and carrying a spring-fastener by which it can be held and locked to said box and entirely removed therefrom, substantially as specified.

266,033. KNOB AND ROSETTE ATTACHMENT. FRANCIS J. HARPER, Norwich, Conn. Filed May 17, 1882. (No model.)



Claim.—1. In combination with the knob-shank B and rosette C, the fastening-plate D, having projections *f f* and screws *e e*, as described, and for the purpose specified.

2. In combination with the knob-shank B and spindle E, the spiral spring *d*, as and for the purpose specified.

266,034. RAZOR. EDWARD HESSLER, St. Louis, Mo. Filed Aug. 15, 1882. (No model.)



Claim.—The herein-described razor, the same consisting of the frame A, the blade B, the screw C, and the rollers D D′, combined and operated substantially as described.

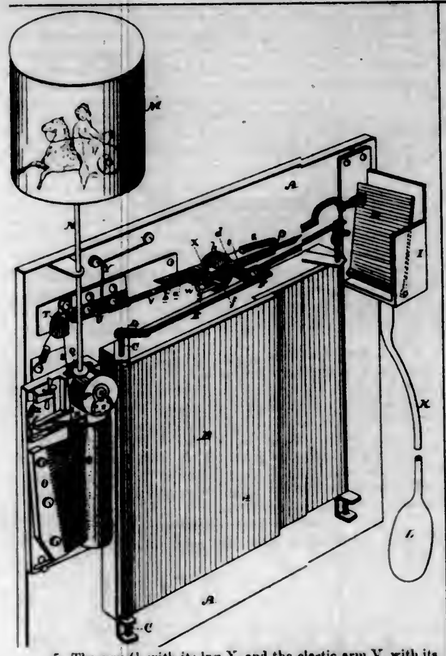
266,035. CAMERA ATTACHMENT. EGERTON R. HIGGINS, San Francisco, Cal. Filed July 3, 1882. (No model.)

Claim.—1. In a photographic apparatus, the musical box O, fixed within the camera, and the shaft N, projecting out of the camera, in combination with the movable eye-rest M and a means for setting the musical box and eye-rest in motion, substantially as herein described.

2. In a photographic apparatus, the shutters B, with their hinge-shafts, crank-arms, and connecting-rods, as shown, in combination with the hinged plate H, box I, bulb J, tube K, and bulb L, substantially as herein described.

3. The arm G, connected with the actuating-plate H, and having the lug X fixed to it, in combination with the arm V, having the lug W, the inclined plate *a*, and the tripping-pin *b*, substantially as and for the purpose herein described.

4. The arm G, with the lug X, adapted to engage the lug W, as shown, and the plate W, connected with the shutters, so as to operate them when moved, said arm G being slotted and loosely connected with the plate F.



5. The arm G, with its lug X, and the elastic arm V, with its lug W, engaging and operating as shown, in combination with the disk *h*, pin *f*, and arm *g* for disengaging the lugs, substantially as herein described.

6. In a photographic apparatus, the movable eye-piece and the musical box, in combination with a camera having shutters B, and a means for first setting the eye-piece and musical box in motion and afterward opening the shutters, substantially as herein described.

266,036. MECHANICAL MUSICAL INSTRUMENT. GUSTAVUS W. INGALLS, Worcester, Mass. Filed June 16, 1882. (No model.)



Claim.—1. In combination with a reed-board, a valve-bar for losing the reed-ducts, and a crank-shaft for holding said bar against the mouths of said ducts by positive pressure.

2. In combination with a reed-board and a valve-bar for closing the mouths of the reed-ducts, a cam-shaft for holding said bar against the mouths of said ducts by positive pressure, and springs which tend to force said bar away from said reed-board.

3. A pair of pivoted arms, E, and a transverse valve-bar attached thereto on one side of the pivots, in combination with a reed-board and a cam-shaft, the cams on said shaft being arranged to bear against said arms when said shaft is suitably turned, and adapted to lock said bar positively against the mouths of the reed-ducts.

4. A pair of pivoted arms, E, in combination with valve-bar D, which is journaled thereto, a reed-board, and a crank-shaft which forces said valve-bar against the mouths of the reed-ducts.

5. A valve-bar journaled in pivotal supports, in combination with a reed-board and devices for moving said bar and supports toward and from said reed-board.

6. A reed-board, a valve-bar for closing the reed-ducts, and pivoted supports for said bar, in combination with a feed-roll, also mounted on said supports and on the other side of the pivots, and a rock-shaft, cams, and springs operating to lock down either said feed-roll or said valve-bar, as described.

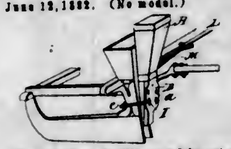
7. A pair of pivoted arms provided on one side of their pivots with a valve-bar and on the other with a feed-roll, in combination with springs for forcing said roll down and said valve-bar up, and a rock-shaft provided with cams which are adapted to lock said valve-bar down and said feed-roll up, or to lock both of them in a raised position, as set forth.

8. An upper feed-roll for an automatic musical instrument, journaled to a pair of pivoted arms, in combination with a cam-shaft operating on said arms to positively raise the upper feed-roll from the lower feed-roll, substantially as set forth.

9. A pair of pivoted arms, E, in combination with a roll journaled to one end of each of said arms and a cam-shaft operating on the other end of said arms to raise said roll.

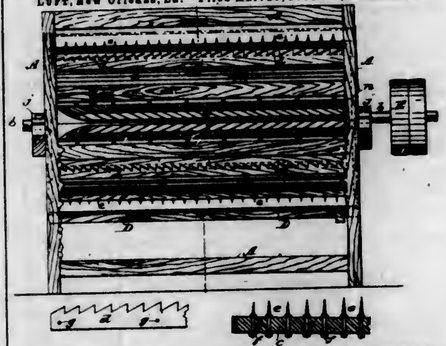
10. Pivoted lever or bar N, having a cam-face, N′, on its lower end, in combination with a lower feed-roll, which is movable away from the upper feed-roll, said cam-face being arranged to bear upon a protruding part on the shaft of said roll and to depress the same, substantially as set forth.

266,037. FERTILISER ATTACHMENT AND INSECT-EXTERMINATOR FOR CORN-PLANTERS. MILTON L. LAHR, Marengo, Iowa, assignor of one-half to Alex. Scott, same place. Filed June 13, 1882. (No model.)



Claim.—In a fertilizer and insect-exterminating dropper, the combination, with the chute B, formed with slotted side flanges to receive the adjusting-bolts I, by which the same is bolted to the corn-planter, of the dropper F, having pockets or cavities, the cut-off D, pivoted near the lower extremity of the chute, with its upper end fitted in the lower side of the dropper, its legs bearing against the sides of the chute, and the crank-shaft G, crank-arm G′, with toothed surface, toothed washer H, and pitman M, as and for the purpose set forth.

266,038. DISINTEGRATING-MACHINE FOR JUTE, &c. FRANZ LUPP, New Orleans, La. Filed Mar. 23, 1882. (No model.)



Claim.—1. In a machine for disintegrating fibrous material, a cylinder, B, made of a series of staves provided with graduated saw-teeth and knives, and secured to spiders C C′, substantially as specified.

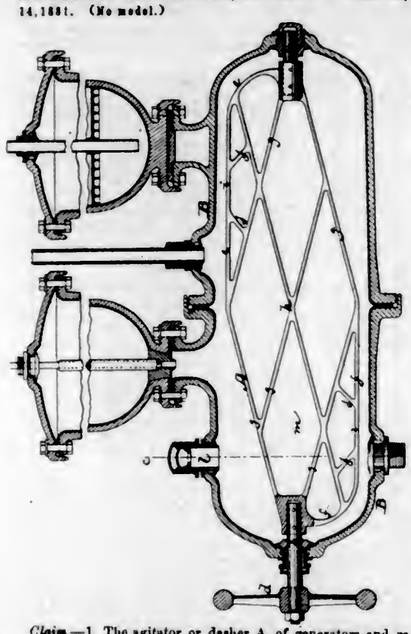
2. In a disintegrating-machine for fibrous material, the cylinder B, constructed of staves *e*, provided alternately with saw-teeth *d* and knives *e*, and secured to suitable spiders, substantially as set forth.

3. In a disintegrating-machine, a cylinder, B, having a series of staves, *e*, provided with removable knives *e* and saw-teeth *d*, made of graduated size from one side to the other of the cylinder, and plain staves *h*, substantially as and for the purpose specified.

4. In a disintegrating-machine, the cylinder B, provided with staves *e*, having saw-teeth *d* and knives *e*, secured to suitable spiders C C′, in combination with the feed-bars *k l*, arranged substantially as shown, and for the purpose specified.

5. In a disintegrating-machine, the combination of a frame, A, the cylinder B, consisting of the spiders C C′, the series of staves *e*, provided with graduated saw-teeth *d* and knives *e*, with the feed-bars *k l* and the receptacle D, all constructed and arranged substantially as shown, and for the purpose set forth.

266,039. AGITATOR FOR SODA-WATER RECEIVERS AND GENERATORS. JOHN MATTHEWS, New York, N.Y. Filed May 14, 1881. (No model.)



Claim.—1. The agitator or dasher A, of generators and receivers for aerated liquids, having an orifice, *m*, at some point between its extremities for passage of acid or other agent, substantially as and for the purposes stated.

2. The agitator or dasher A, having the gudgeons *a b*, and made with the orifice *m*, for passage of acid, and with the barred or perforated vanes *e f*, arranged diagonally with respect to each other upon opposite sides of the agitator, substantially as explained.

3. The agitator constructed with the lattice-work *g*, gudgeons *a* and *b*, and diagonally-placed vanes *e* and *f*, substantially as described.

4. The combination of the generator B, having acid-inlet opening *l*, with the agitator A, having aperture *m*, all arranged so that said aperture can be brought beneath said opening, substantially as specified.

266,040. CLOTHES-DRIER. JAMES H. MCCANNA, Fresno City, Cal. Filed Apr. 20, 1881. (No model.)

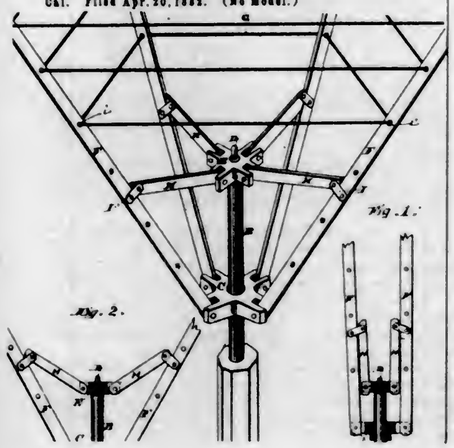


Fig. 1.

Fig. 2.

Claim.—In a clothes-drier, the post B and sliding (unsupported) hub C, to which is pivoted the lower ends of the rope-holding arms F F, in combination with the fixed hub E, pivoted arms H, connecting said hub with arms F, and ropes G of a dimension to prevent arms F from spreading to such an extent as to allow arms H to reach a horizontal position, as set forth.

266,041. SEWING-MACHINE SHUTTLE. MILVERN H. MCINTIRE and SAMUEL B. BARTHOLOMEW, Springfield, Mass. Filed Mar. 21, 1882. (No model.)

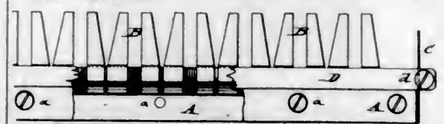


Claim.—1. In a sewing-machine shuttle, the combination, with the tension-spring having the thread-passage W, of the spring-latch D, secured thereupon and adapted to be moved upon the spring to catch in said passage to close it, and so entirely inclose the thread.

2. In a sewing-machine shuttle, the combination, with the tension-spring having the thread-passage W, of the spring-latch D, provided with the flange *f* and cam *b* and adapted to be moved upon the tension-spring to catch in the passage W to inclose the thread and form a smooth surface over the mouth of said passage.

3. In a sewing-machine shuttle, the combination, with the tension-spring L, having the passage W, and with the latch D, secured thereon and adapted to move thereupon to close the mouth of said thread-passage, of the vertically-flaring surface *m*, arranged to operate as and for the purpose set forth.

266,042. GAGE. MAX MERZ, New York, N.Y. Filed July 1, 1882. (No model.)

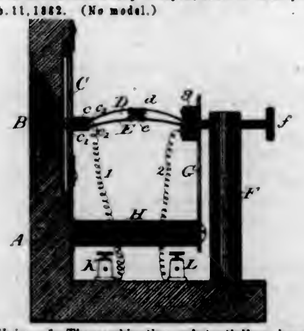


Claim.—1. A gage for laying off the cutting-lines in joining wood, which consists of longitudinally-recessed supporting main strips A A, of a series of adjustable marking-pieces, B B, having shanks fitted into the recesses of the main strips, and of longitudinal side strips, D D, substantially as set forth.

2. The combination of longitudinally-recessed main strips A A, adjustable marking-pieces B B, having shanks fitting into the recesses of the main strips, longitudinal side strips, D D, and a stop-plate C, at one end of the gage, substantially as set forth.

3. The combination of longitudinally-recessed main strips A A, adjustable marking-pieces B B, stop-plate C, and longitudinal adjustable side strips, D, connected by transverse end screws, *d*, substantially as specified.

266,043. TELEPHONIC TRANSMITTER. OSCAR F. MILLIKEN, Boston, Mass., assignor of two-thirds to James Wentworth Brown and Henry D. Hyde, both of same place. Filed Feb. 11, 1882. (No model.)

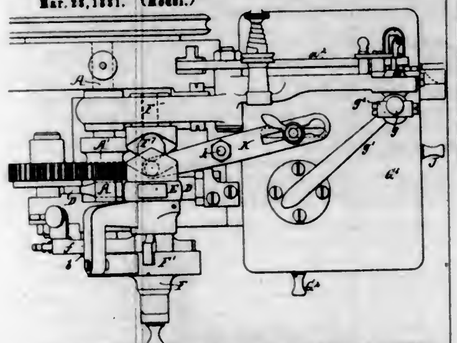


Claim.—1. The combination, substantially as hereinbefore set forth, of a diaphragm, a curved flexible spring, one end of which bears against the vibrating portion of the diaphragm and the other against a stationary support in line with the axis of the diaphragm, a contact-surface mounted upon said spring at a point intermediate between its points of support, and a second contact-surface mounted upon a yielding support.

2. The combination, substantially as hereinbefore set forth, of a diaphragm, two curved flexible springs, each of which bears at one end against the vibrating portion of the diaphragm and the other against a stationary support, and two adjacent contact-surfaces, mounted respectively upon said springs at points intermediate between their points of support.

3. The combination, substantially as hereinbefore set forth, of a diaphragm, one or more curved flexible springs bearing at one end against the vibrating portion of the said diaphragm and at the other against a stationary support in line with the axis of said diaphragm, a contact-surface mounted upon one of said springs at a point intermediate between its points of support, a second contact-surface mounted upon a yielding support, and means for adjusting the distance of said stationary support from the diaphragm, whereby the normal curvature of the spring or springs may be increased or diminished.

266,044. BUTTON-HOLE SEWING-MACHINE. DANIEL MILLS, Philadelphia, Pa., assignor to the United States Automatic Button Hole Sewing Machine Company, of New Jersey. Filed Mar. 28, 1881. (Model.)



Claim.—1. In a button-hole sewing-machine, the combination of a stitching mechanism and reciprocating cloth-clamp, operating devices, and intermediate yielding connection, with a yoke attached to the clamp and having two projecting faces and intervening recesses, and a rotating cam with a single working-face, substantially as set forth.

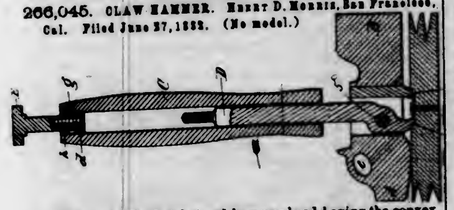
2. In a button-hole sewing-machine, the combination of a stitching mechanism and reciprocating cloth-clamp, operating devices for the latter, and intermediate yielding connection, with a yoke having two projecting faces and intervening recesses, and an adjustable cam therefor, substantially as specified.

3. In a button-hole sewing-machine, the combination of a stitching mechanism and reciprocating cloth-clamp, operating devices for the latter, and intermediate yielding connection, with adjustable stops for limiting the reciprocating movement of the clamp all substantially as described.

4. In a button-hole sewing-machine, the combination of stitching mechanism, a reciprocating cloth-clamp, operating devices for the latter, and an intermediate yielding connection, with adjustable stops limiting the motion of the clamp, a yoke connected to the clamp, and a cam controlling the yoke, all substantially as set forth.

5. The combination of the reciprocating cloth-clamp of a button-hole sewing-machine with a yoke connected thereto, having projecting faces and intermediate recesses, and a cam provided with a tappet having an expansible working-face.

266,045. CLAW HAMMER. HENRY D. MORRIS, San Francisco, Cal. Filed June 27, 1882. (No model.)



Claim.—1. The hatchet and hammer head having the convex fulcrum *e*, in combination with the lever-handle D and claw 3, passing through the head, the pivot 5, and stationary claw 4, substantially as set forth.

2. The combination, with the hammer-head, of the lever-handle D, having a claw, 3, and passing through the head, the pivot 5, the stationary claw 4, the hollow handle C, surrounding the lever D, and the screw-nut E, substantially as set forth.

3. The screw-nut E, having the notched ring-flange *b*, in combination with the handle C, lever-handle D, hammer or hatchet head claws 3 and 4, and pivot for attaching the lever-handle D to the hammer-head, substantially as set forth.

4. The combined hammer or hatchet and nail-puller, consisting of a head, a lever-handle pivoted to the head, claws 3 and 4, a hollow handle, serving also as a weight to drive the claws into the wood, and means for connecting the handle and lever-handle and clamping them to the head, substantially as set forth.

266,046. STEAM HEAT AND POWER DISTRIBUTING APPARATUS. EUGENE P. OSBORN, St. Paul, Minn. Filed Dec. 19, 1881. Renewed Sept. 14, 1882. (No model.)

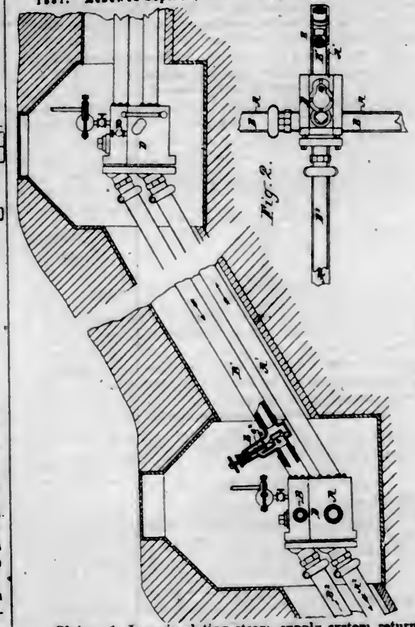


Fig. 2.

Claim.—1. In a circulating steam-supply system returning the water of condensation to the generator and extending to districts of unequal elevation, the combination, with the condense-water-return pipe, of automatic mechanism, substantially as described, for controlling the flow of water therein in opposition to the force of gravity due to the difference in elevation, substantially as set forth.

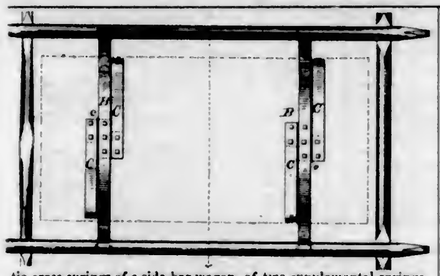
2. In combination with a pipe giving descent to the water of condensation in a steam-supply circulation, the pressure-regulator valve E, arranged in said pipe near the point of normal pressure, substantially as and for the purpose specified.

3. In combination with a condense-water-return pipe giving ascent to the water of condensation in a steam-supply circulation, and with an adjacent steam-supply pipe, a pump automatically operated by steam from said supply and connected to force the water upward in the return-pipe, substantially as set forth.

4. In combination with the steam-supply pipe having a reducing-valve, E', and the adjacent condense-water-return pipe, disconnected at P at a low point thereof, a steam-pump, S, having its steam-supply *s*, provided with an automatic valve, S', connected to open by the pressure of water in the return-pipe below the point of disconnection, and its steam-exhaust connected into the steam-supply pipe beyond the valve E', and having its water-cylinder connected to receive from the return-pipe below and to deliver into the same above its point of disconnection, substantially as described, and for the purposes set forth.

266,047. VEHICLE-SPRING. JOHN G. PARSONS, Oshkosh, Wis. Filed May 18, 1882. (No model.)

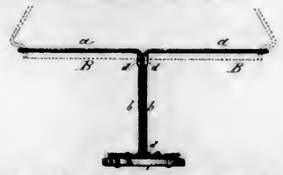
Claim.—1. The combination, with one of the main semi-ellip-



tic cross-springs of a side-bar wagon, of two supplemental springs attached at one end to a bearing-plate in the center of the main cross-spring, said supplementary springs extending in different directions from each other, as set forth.

2. The combination, with spring B, of supplementary springs C C and plate A, as and for the purpose set forth.

266,048. LAMP-SHADE HOLDER. CONRAD PETSCH, New York, N. Y. Filed June 6, 1882. (No model.)



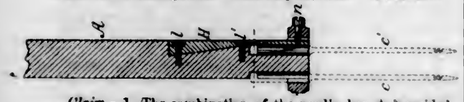
Claim.—A lamp-shade holder consisting of the base A and of two connected sections, B, each bent of a continuous piece of wire, with a semicircular upper portion or rim, *a*, and downwardly-extending curved arms *b*, the arms *b b* of the sections B B being connected by fastening devices *d d*, and secured to the base A at their lower ends, substantially as set forth.

266,049. HOLDBACK FOR VEHICLES. ORLANDO V. PRICE, Cleveland, Ohio. Filed Jan. 23, 1882. (No model.)



Claim.—In carriages, a safety holdback-strap attachment consisting of a slide, B, provided with a point or projection, *a*, and spring, in combination with a shell or case provided with a hook having its upper end so shaped as to form a notch, F, when said end is in contact with the projection *a* of the slide, substantially as set forth, and for the purpose specified.

266,050. NEEDLE-BAR FOR SEWING-MACHINES. RICHARD RAIFFORTH, Chicago, Ill. Filed July 28, 1882. (No model.)



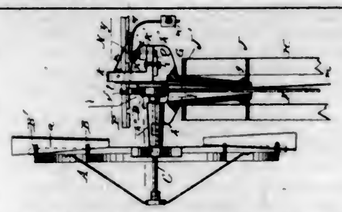
Claim.—1. The combination of the needle-bar A, provided with the groove *f*, and a double-beveled recess having a projecting shoulder, *d*, as shown, with the spring-jaw H, doubly beveled to correspond to the beveled recess of the needle-bar, and means for adjustably securing said jaw to said bar, substantially as described.

2. The combination, with the needle-bar A, provided with the grooves *b* and *f* and a double-beveled recess, as shown, of the spring-jaw H, doubly beveled to correspond with the beveled recess of the needle-bar, and having the groove *f'*, the fastening-screw *l*, adjusting-screw *t*, collar *m*, and set-screw *s*, substantially as set forth.

266,051. WINDMILL. DANIEL M. REED, Aurora, Ill. Filed Aug. 2, 1882. (Model.)

Claim.—1. The rims B B' of the wheel A, having diagonal slots formed in them, in combination with the sheet-metal sails *a*, secured in the slots by means of the nails *b*, substantially as described.

2. The combination, with the eccentric D, of the frame E, sliding block *e*, and connecting-rod F, substantially as and for the purposes set forth.



3. The frame E, formed with the extension *d*, in combination with the slotted block *e*, set-screw *f*, and eccentric D, substantially as and for the purposes set forth.

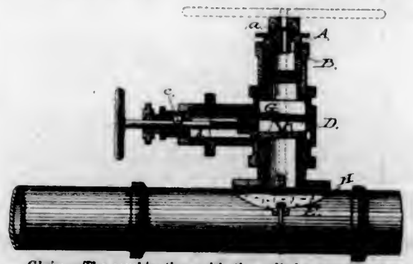
4. The combination, with the main vane P, of the smaller hinged upright vane O, attached to the shaft N by the rod *q* and arm *p'*, substantially as and for the purposes set forth.

5. The brake R, hinged to the beam Q, in combination with the vane P, connecting-rod *s*, and brake-disk R', secured to the shaft C, substantially as and for the purposes set forth.

6. The combination, with the vane-shaft N, vane P, and the weighted arm M, of the hinged vane O, the arm *p'*, and the connecting-rod *q*, substantially as and for the purpose set forth.

7. The combination, with the shaft C and the tower H, provided with the plates J J', of the conical casting G, provided with the side extensions, *h h'*, and the offset *g* at its lower end, the removable plate *h''*, and the removable casting *k*, substantially as and for the purpose set forth.

266,052. DEVICE FOR TAPPING MAINS. GEORGE RICHARDSON, Bridgeport, Conn. Filed Apr. 8, 1882. (No model.)

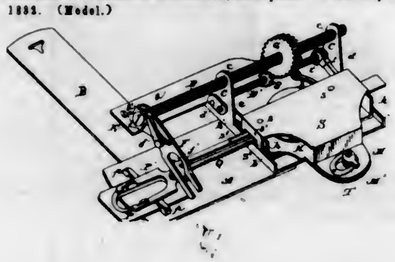


Claim.—The combination, with the cylinder or valve-chamber, of the hollow screw-cap *A*, having the drill-guide B, projecting both above and below the top plate, and the nut *a*, fitted on the screw-threaded upper projection of said guide, substantially as set forth.

266,053. PRODUCTION OF MATERIALS FOR CASTINGS, CEMENTS, LEAD-PENCILS, &c. JOSEPH J. SACHS, Manchester, County of Lancaster, England. Filed Nov. 1, 1880. (No specimens.) Patented in England Sept. 8, 1880, No. 3,650; in France Oct. 23, 1880; in Austria Oct. 24, 1880; in Belgium Oct. 25, 1880; in Germany Oct. 25, 1880; in Italy Dec. 21, 1880; in India Apr. 9, 1881, and in Spain Apr. 28, 1881.

Claim.—The compositions described, comprising sulphur and plumbago or other non-metallic substances or mixtures containing the same in substantially the proportions specified—that is to say, four parts of the former to three of the latter, or thereabout—as set forth.

266,054. BUTTON-HOLE ATTACHMENT FOR SEWING-MACHINES. JOSEPH S. SACKETT, Plattsburg, N. Y., assignor of one-half to William E. Chatterton, same place. Filed May 1, 1882. (Model.)



Claim.—1. In a button-hole attachment for sewing-machines, the combination, with a bed-plate adapted to be secured to the machine and provided with vertical standards and guideways, of a main shaft supported in bearings of said standards, a ratchet-wheel arranged on the inner end of said shaft, a slotted lever provided with a spring-pawl and loosely mounted on said shaft adjacent to said ratchet-wheel and adapted to be connected to the needle-bar of the machine, an auxiliary shaft located below said main shaft and connected to the latter by suitable gearing and eccentrically to reciprocating plate carrying an oscillating disk or disks, and a rack-bar connected to the needle-plate and adapted to be operated by said disk or disks, substantially as described.

2. The combination, with a main shaft carrying a toothed wheel and adapted to be operated from the needle-bar of the machine, of an auxiliary shaft located below the main shaft and carrying a pinion which meshes with said toothed wheel, a slotted reciprocating plate connected to said auxiliary shaft by suitable eccentrics, and a rotating disk centrally pivoted on said plate and perforated to receive a stud of the bed-plate projecting through the slot of the reciprocating plate, and provided with spring-pawls which engage a rack-bar connected with the needle-plate, substantially as described.

3. The combination, with the operating-shafts and reciprocating plate, the latter being provided with vertical guides, of an oscillating disk provided with spring-pawls, a rack-bar connected with the needle-plate of the device and adapted to be operated by said pawls, and a guide-plate adapted to fit over said disk and provided with downwardly-projecting lugs to embrace the rack-bar, and guiding-studs adapted to the slots in said bar, and a spring-cam and an eccentric finger-piece, whereby said guide-plate may be slid backward or forward to throw the rack-bar in contact with one or the other of the pawls on the oscillating disk, substantially as described.

4. The combination, with the reciprocating plate, its operating mechanism, and the oscillating disk or disks, of a guide-plate fitting over the sides of said reciprocating plate and provided with downwardly-projecting lugs to embrace the rack-bar, and a spring-cam and eccentrically-pivoted finger-piece or lever for moving said guide-plate, substantially as set forth.

5. The combination, with the needle-plate and cloth-clamp, of a rack-bar supported in suitable guides and adapted to be operated by an oscillating disk or disks provided with spring-pawls and mechanism for operating said disk or disks from the needle-bar of the machine, substantially as set forth.

6. The combination, with the bed-plate and reciprocating plate and the operating mechanism of the device, of a guard-arm secured to said bed-plate and adapted to bear upon said reciprocating plate, as and for the purpose described.

266,055. ART OF CONNECTING BUTTONS TO FABRICS. JEROME B. SACON, Bridgeport, Conn. Filed Aug. 15, 1881. (No model.)

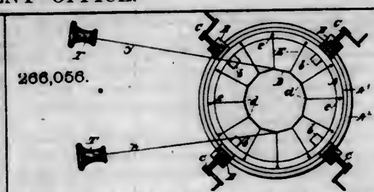


Claim.—1. The process herein described of securing buttons to fabrics, the same consisting in doubling a thread, passing the loop thus formed through the fabric in one direction laterally above the fabric through the button-eye, and then through the fabric in the opposite direction, and then passing through the looped end another doubled portion of the thread, forming a loop of the latter to make another stitch on the face of the fabric, and repeating the above-described operations with such second portion, all substantially as set forth.

2. The combination, with the fabric and with the buttons secured thereto, of a single thread formed into a series of loops on the face of the fabric, each loop on said face passing crosswise to the line of the stitching through one of the button-eyes, and forming at the back of the fabric a single line of stitches, as specified.

266,056. MECHANICAL TELEPHONE-EXCHANGE. GEORGE F. BRAYER, Erie, Pa. Filed July 17, 1882. (No model.)

Claim.—1. In a system of mechanical telephone-lines, the combination, with a series of converging lines at the point of convergence thereof, of the following elements: a series of telephones which are severally connected with the said several converging wires, and are provided with means, substantially as shown, for connecting therewith an extension-line, an angle-hanger located centrally with relation to said converging lines and their attached



266,056.

telephones, and, finally, the lines *x* and *y*, for connecting two of said telephones together through said angle-hanger, substantially as and for the purpose set forth.

2. In a system of mechanical telephone-lines, the combination, with a series of converging lines at the point of convergence, of an angle-hanger located centrally with relation to said line termini, which is provided with branch lines *x* and *y*, which can be attached and detached from any of said line termini, and thereby form a circuit with any two of said lines, substantially as and for the purposes set forth.

3. A universal angle-hanger for use as a switch-board for a system of mechanical telephone-lines, which consists of a hoop, A, guys E, and ring D, arranged together, substantially as and for the purposes set forth.

4. In a system of mechanical telephone-lines, the combination of a universal angle-hanger constructed substantially as herein shown, and mounted in a frame, with means, substantially as shown, for securing the same at various points within said frame for the purpose of drawing the connected lines taut, as set forth.

266,057. MINER'S PICK. WILLIAM H. SHERMAN, Marysville, Ohio. Filed Aug. 16, 1882. (No model.)



Claim.—As an improvement in miners' picks, the combination, with the body A, having mortises C, openings D, and beveled ends E, of the detachable points F, having shanks G, threaded stems H, and beveled flanges H', and the nuts I, as herein described, for the purpose shown and specified.

266,058. LUBRICATOR. CHARLES W. SHERBURNE, Somerville, Mass. Filed Apr. 26, 1882. (No model.)

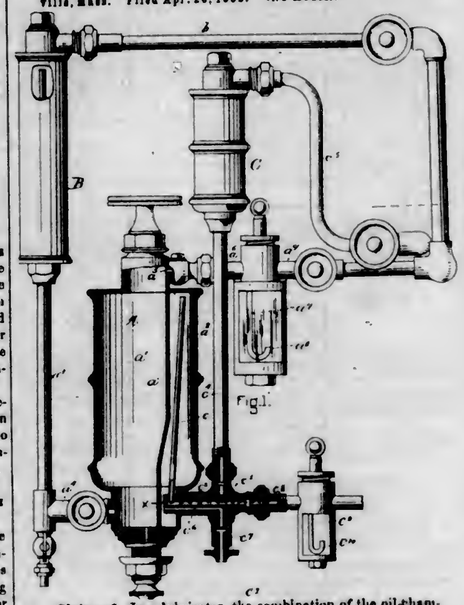


Fig. 1.

Claim.—1. In a lubricator, the combination of the oil-chambers *a' a²*, two sight-feed devices, two condensers, one of which is connected directly with the boiler or steam-dome, and connecting-

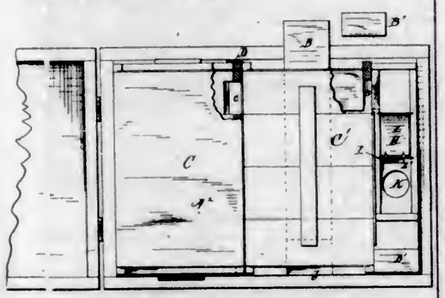
piping, as specified, all substantially as and for the purposes described.

2. A sight or visible feed lubricator having one oil-supply cup separated internally into two chambers and connected with condensing-chambers, and adapted to receive steam from two distinct sources and to lubricate two independent machines, all substantially as and for the purposes described.

3. In a lubricator, an oil-supply cup divided by a partition into two chambers, each chamber being attached or connected with a separate condensing-chamber, substantially as and for the purposes set forth.

4. In a lubricator, two sight or visible feed chambers connected with separate chambers of a single oil-supply cup, substantially as and for the purposes set forth.

266,059. BEE-HIVE. JOHN W. SILCOTT, Salemsville, Va. Filed May 11, 1882. (No model.)



Claim.—1. In a bee-hive having passages connecting the brood-chamber with a honey-box, and the honey-box having connecting passages with a conductor leading back to the brood-chamber, the combination of the brood-section and honey-box with the slide B for closing the entrance, and means for allowing the exit and automatically preventing the return of the bees from and to the said honey-box, as specified.

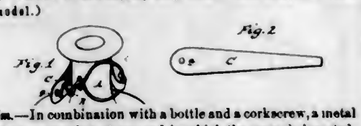
2. In a bee-hive, a series of honey-boxes arranged upon the honey-board and having connecting passages with the brood-chamber and with each other, combined with slides B, plate D, and means for allowing the exit of bees from the last box of the series and automatically preventing their return, as specified.

3. The sectional honey-box C', having raised floor with interstices c', and composed of the rigid sections C'', connecting-bars c^3, and intermediate sections, C^3, combined with the brood-section, the honey-board having aperture b, and the slide B, as set forth.

4. The conductor H, having partition i, with aperture i', and the pivoted plate I, having tongue I', combined with the honey-box, the brood-section and connections, as set forth.

5. The combination, with the brood-section and connected series of honey-boxes having communicating apertures, of the slides B, blocks B', the conductor H, pivoted plate I, and the plate D, as specified.

266,060. MEANS FOR ATTACHING CORKSCREWS TO BOTTLES. HENRY W. SIMMS, Bay City, Mich. Filed Aug. 10, 1882. (No model.)



Claim.—In combination with a bottle and a corkscrew, a metal piece having an opening at one end in which the screw is inserted, and a lip at the other end bent around the handle of the corkscrew, substantially as herein described.

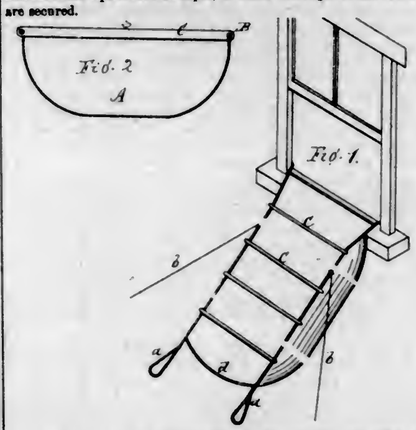
266,061. CAR-WHEEL. FREDERICK H. SMITH, St. Louis, Mo. Filed Aug. 26, 1882. (No model.)



Claim.—A car-wheel having a center composed of wrought iron or steel annular web-plates which extend from the tire to the axle-hole and are stiffened by and combined with wrought iron or steel spokes bolted or riveted in between the web-plates.

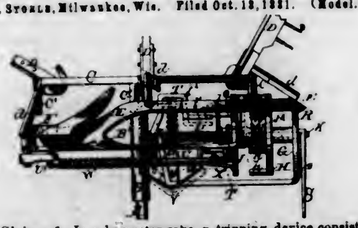
266,062. FIRE-ESCAPE. CHARLES F. SPENCER, Rochester, N. Y. Filed Aug. 22, 1882. (No model.)

Brief.—The ends of the rungs of the ladder are perforated and mounted upon the side ropes, to which the edges of the chute are secured.



Claim.—As an improvement in fire-escapes, the chute A, having its edges attached to the ropes or cables B, in combination with the rounds or cross-pieces C, having their ends perforated and mounted around the ropes B, as described and shown.

266,063. AUTOMATIC TRIP FOR HARVESTER-RAKES. OLE O. STOKLE, Milwaukee, Wis. Filed Oct. 13, 1881. (Model.)



Claim.—1. In a harvester-rake, a tripping device consisting essentially of a notched wheel, spring for throwing the wheel back into place, shaft having rigid stop and pins or projections, in combination with the depending cogs of a rake-head, adapted to mesh with the aforesaid pins, and a latching device for holding and freeing the switch-bolt, all substantially as shown and described, and for the purpose set forth.

2. In combination with the depending cogs of a rake-head, a notched wheel, spring for throwing the wheel back into place, shaft having rigid stop, pins or projections for meshing with the cogs, latching device for holding and freeing the switch-bolt, and an adjusting-lever or equivalent device, all substantially as shown and described, and for the purpose set forth.

3. A tripping device consisting essentially of notched wheel I, spring L *l*, shaft K, with rigid stop N, housing O, projections I' Q, and projections or pins h h', adapted to strike against the depending cogs of a rake-head, whereby the tripping device is actuated, all combined and operating as shown and described.

4. The trip G, consisting of the notched wheel I, pin-wheel H, shaft K, stop N, springs M m and L *l*, housing O, and projections *i*, P, and Q, as shown and described.

5. In combination with the depending cogs of a rake-head, a tripping device having pins or projections to move it forward by contact with said depending cogs and a spring to throw it back, as and for the purpose set forth.

6. In combination with the depending cogs of a rake-head, a tripping device having pins or projections to move it forward by contact with said depending cogs and a spring to throw it back, a switch-bolt connecting with the trip, and a depending latch to hold the bolt from sliding back, whereby the tripping can be delayed, as and for the purpose set forth.

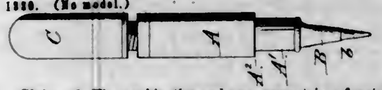
7. In combination with the depending cogs of a rake-head, a tripping device having a backwardly-yielding wheel provided with pins or projections to mesh with the cogs, a spring to throw the said wheel back, and another spring to throw the wheel forward into position, as and for the purpose set forth.

8. The combination, with the tripping device and operating mechanism of a rake-head, substantially as described, of the switch-bolt U, having groove *u'* and spring W, with the latch V and cord c, as and for the purpose set forth.

9. The combination, with the depending cogs of a rake-head, of a tripping device consisting essentially of a notched wheel, spring for throwing the wheel back into place, shaft with rigid stop, pins or projections for meshing with cogs on a rake-head, adjusting-lever secured rigidly to the shaft, and a dial or face-plate for holding the lever at the point required, all substantially as shown and described, and for the purpose set forth.

10. The combination, with the depending cogs of a rake-head, of a tripping device having a wheel and pins or projections for meshing with the cogs of a rake-head to move the wheel forward, with a releasing-latch and a spring to throw the wheel back into place, as and for the purpose set forth.

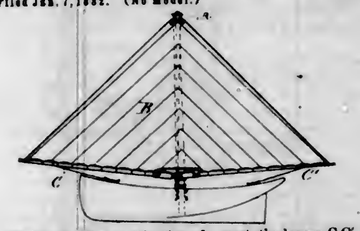
266,064. STYLOGRAPHIC FOUNTAIN-PEN. ALEXANDER M. SUTHERLAND and FRANCIS C. BROWN, New York, N. Y., assignors to the MacKinnon Pen Company, same place. Filed Dec. 6, 1880. (No model.)



Claim.—1. The combination and arrangement, in a fountain-pen, of barrel A, closed at its top end by plug *d*, which forms the head of the air-tube D, and with reduced shouldered end A' A^2, point-section B, containing the valve mechanism, made gradually tapering from top to point and without abrupt shoulders, air-cap E, of equal diameter with the shouldered end A' of the barrel, and point cover or protector C, made of about equal length and diameter with the barrel, and adapted to fit upon the part A' of the barrel to protect the point when the pen is not in use, and upon the cap E to form an extension of the body when the pen is in use, all as and for the purposes hereinbefore described and shown.

2. In combination with the point-section formed with recess *a*, the writing-point G, formed with tapering writing part 1, cylindrical part 2, fitting within the recess *a*, and screw-shaft 3, as and for the purposes described.

266,065. SPAR AND SAIL. HENRY TUDOR, Boston, Mass. Filed Jan. 7, 1882. (No model.)



Claim.—1. The combination of a mast, the booms C C', having independent vertical movements in relation to each other, and means, substantially as specified, for locking them in any given position or at any given inclination, and the triangular sail B, entirely above the booms, having equal areas, or substantially equal areas, upon either side of the supporting-mast, all substantially as and for the purposes described.

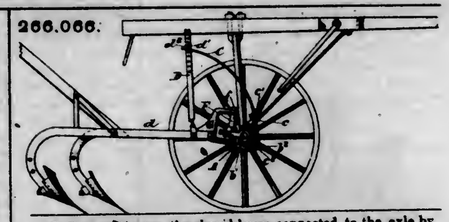
2. The combination of a mast, the booms C C', having the movements in relation to each other specified, and means for holding them in any given position pivoted to the mast or other suitable support in a manner to permit their horizontal swinging movement thereon, and a triangular sail entirely above the booms, having equal, or substantially equal, areas upon each side of the mast, all substantially as and for the purposes described.

266,066. CULTIVATOR. JOHN Q. ADAMS, Marseilles, Ill. Filed Nov. 16, 1881. (No model.)

Brief.—The spring is pivoted on the coupling, so that it may swing around to accord with the sway of the drag-bar. The coupling is held by a spline and groove, a movable block in recess of the coupling, and a set-screw to force it into the groove.

Claim.—1. In a cultivator, the axle provided with a longitudinal groove, a forked beam-coupler mounted loosely on the axle, a bracket also mounted loosely on the axle between the forks of the coupler, and provided with an interior chamber, a spline-block set loosely in the chamber over the axle-groove, and a setting device for forcing the spline down into the groove and firmly holding it in place, substantially as and for the purposes set forth.

266,066.



2. In a cultivator, the shovel-beam connected to the axle by a double-jointed coupling, permitting both vertical and lateral movement of the beam, in combination with a vertical pivot secured to the axle at or near the pivotal coupling of the shovel-beam, and a spring secured at one end to said vertical pivot extending upward and backward and connected at its other end to the shovel-beam, substantially as and for the purposes set forth.

3. The shovel-beam connected to the axle by a double-jointed coupling, in combination with the bracket attached to the axle substantially in line with the vertical pivot of the beam-coupling, a vertical pivot-bolt mounted on the bracket, and the spring attached at one end to the pivot-bolt, so as to turn with it and at the other end connected to the beam back of its coupling, substantially as and for the purposes set forth.

4. The bracket B, provided with projections b^2, the pivot-bolt c, mounted on the bracket, with its bearings in the projections, and the beam-lifting spring C, having the bend c^2 at its extremity, which receives the projecting lower end of the pivot-bolt, and fastened rigidly to said bolt at a point above the lower bearing thereof, substantially as and for the purposes set forth.

5. The axle A, in combination with the beam *d*, connected to the axle by a double-jointed coupling, the bracket B, the spring C, pivoted to the bracket substantially in line with the vertical beam-pivot and extended back over the beam, and the rod D, connecting the rear end of the spring to the beam, substantially as and for the purposes set forth.

6. The vertical pivot-pin *f* of the beam-coupling, in combination with the spindle F, sleeved thereon and provided with a wedge-shaped enlargement or rib on one side, and the sleeve *e'* of the coupling-link, the opening in which conforms to the wedging shape of the spindle that is received therein, substantially as and for the purposes set forth.

7. The coupling-sleeve *e'*, the opening of which is V-shaped on one side, in combination with the spindle F, having a wedge-shaped rib on one side formed to fit the V-shaped opening of the sleeve, the pivot-pin *f*, the set-screw *f'*, and the beam-clevis G, substantially as described.

3. The axle A, in combination with the sheaves I, mounted and turning on the axle, the block H, inclosing the sheaves, and provided with openings in front and rear for the draft-chains, and the draft-chains K, substantially as described.

266,067. CHECK-ROWER FOR CORN-PLANTERS. SETH R. ALLEN, Lynnville, Iowa. Filed July 1, 1882. (No model.)



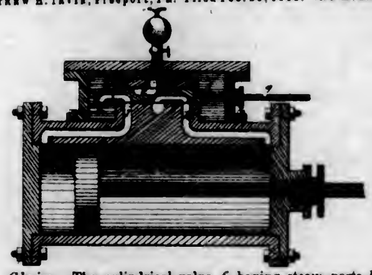
Claim.—1. The operating-wheel H, having the radial pointed spokes *g*, circle-plate K, and Z-shaped spur-plates N connected thereto, substantially as specified.

2. In a check-rower, the operating spoke-wheel H, having the dropping-spurs *l* and the setting-spurs *m*, following said dropping-spurs, and the crank-shaft F, having the dropping-arms e and the setting-arms *d*, arranged in rear thereof and at right angles thereto, substantially as specified.

3. The check-rower devices consisting of the crank-shaft F, its arms e and *d*, the operating spoke-wheel H, its circle-plate, and outwardly-turned spurs *l* and inwardly-turned spurs *m*, its adjustable markers *k*, and the jointed finger or pointer P, substantially as specified.

4. In a check-rower, the combination, with the outwardly and inwardly turned spurs *l* and *m* of the operating-spoke wheel, of the crank-shaft and the bevel-end arms e and *d* thereof, arranged respectively at the forward and rear ends of said shaft and at right angles to each other, substantially as specified.

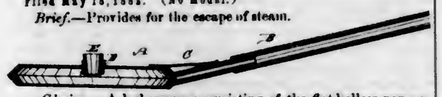
266,068. BALANCED VALVE. WILLIAM S. ALTER and MATTHEW H. IRVIN, Freeport, Pa. Filed Feb. 25, 1882. (No model.)



Claim.—The cylindrical valve *f*, having steam-ports A *i*, steam-space *e*, and inclosed in a tubular case constructed in two parts, A B, having open ends, and an opening, D, said steam-ports A *i* communicating at each alternate movement of the cylindrical valve *f* with the steam-ports of the cylinder and the exhaust-port *l*, substantially as and for the purpose set forth.

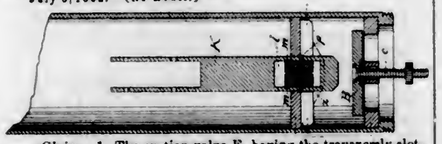
266,069. WARMING-PAN. ELIJAH M. AMES, Pepperell, Mass. Filed May 18, 1882. (No model.)

Brief.—Provides for the escape of steam.



Claim.—A bed-warmer consisting of the flat hollow pan or vessel A, having its edges beveled upon their upper and lower surfaces and provided with a plugged filling, opening D, and of the handle-tube B, open at both ends and affixed to the vessel or pan A, substantially as herein shown and described, and for the purpose set forth.

266,070. PUMP. SAMUEL S. ANDREWS, Knoxville, Iowa. Filed July 8, 1882. (No model.)

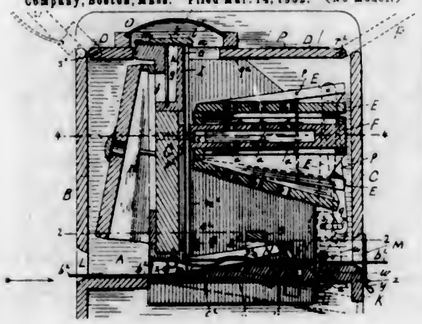


Claim.—1. The suction-valve E, having the transversely-slotted stem K, the wings *g g*, recessed in the middle portions of their joint edges *r*, and having the arms *m* projecting from said recesses and pivoted in the transverse slot of the stem, and the leather covering-disk J, connecting the wings, substantially as specified.

2. The suction-valve E, consisting of the stem K, transversely slotted at *l*, the wings *g g*, having the arms *m*, pivoted in the slot *l*, the stop-lugs *z* on their under sides, and the leather disk J, covering and connecting the wings, substantially as specified.

3. The combination, with the sucker-valve E, having the wings *g g*, of the chamber A, having the open-work valve-seat *d* at its lower end, and the governing-valve B, having the screw-stem *c*, whereby it can be adjusted, substantially as specified.

266,071. MECHANICAL MUSICAL INSTRUMENT. OLIVER H. ARNO, Wilmington, assignor to the American Automatic Organ Company, Boston, Mass. Filed Mar. 14, 1882. (No model.)



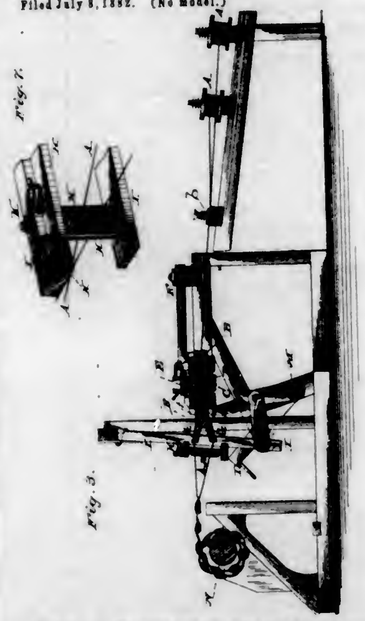
Claim.—1. In a mechanical musical instrument, the combination, with a raceway for the travel of a music-strip, of bellows, reed-board having reed-chambers and reeds, valves for the reed-chambers, and mechanism for operating the valves by means of the traveling music-strip, and severally constructed and all arranged above said raceway and music-strip, substantially as described.

2. In a mechanical musical instrument, a reed-board having reed-chambers and reeds, and valves to said reed-chambers, in combination with rods n^3, levers N, music-strip b^3, and bellows E H, said rods n^3 extending from said levers N through the bellows-board F up to the valves, and all severally arranged together for operation substantially as and for the purpose specified.

3. In a mechanical musical instrument, levers N, having detachable and adjustable studs l^5, in combination with the perforated music-sheet and the valves of the reed-chambers.

4. In a mechanical musical instrument, bellows E E, communicating with bellows H through a series of air-passages, *a b c d*, in combination with rods n^3, moving through gnideways l^{10} in the board F, separating the air-passages *d*, levers N, valves *l*, reed-chambers *g*, and reeds *h*, of a reed-board, I, raceway K, and music-sheet b^3, all substantially as described, for the purpose specified.

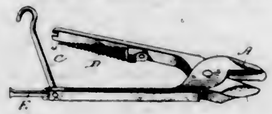
266,072. WIRE-FENCE MACHINE. JOSEPH ARN, Quincy, Ill., assignor of four-fifths to Edward E. Manson, Sanford C. Pitney, J. M. Harrop, and Monroe Robertson, all of same place. Filed July 3, 1882. (No model.)



Claim.—1. The combination, with the twisting mechanism for twisting the wires between the slats, of the swinging clamp-shuttle provided with pivoted spring-actuated jaws between which the wires pass, substantially as described.

2. The combination of the rotary drum upon which the fence is wound, with the wire-twisting mechanism supporting the wires in pairs and spreading them apart, so as to allow the slats or pickets to be inserted between each pair of wires, and the swinging shuttle carrying pivoted spring-actuated jaws adapted to adjust the slats and bring the wires together thereon, substantially as described.

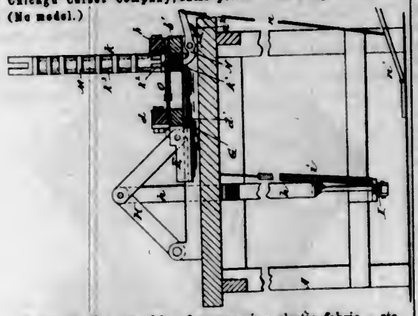
266,073. COMBINATION TOILET IMPLEMENT. AARON M. AUSTIN, Rockland, Me. Filed July 20, 1882. (No model.)



Claim.—1. The nail-cutter composed of the pivoted jaws or duck-bills having a spring, I, and the latch E for holding said jaws closed, substantially as described.

2. The implements for toilet use described, consisting of the hinged jaws *a a*, the pivoted screw D, the pivoted button-hook C, and the fastening, all substantially as and for the purpose set forth.

266,074. MACHINE FOR CRIMPING AND PREPARING ELASTIC FABRIC. THOMAS H. BALL, Chicago, Ill., assignor to the Chicago Corset Company, same place. Filed Apr. 10, 1882. (No model.)



Claim.—1. In a machine for preparing elastic fabric, a stationary clamp or holder, in combination with a movable clamp or holder, within which the two ends of the wire thrust through the fabric are received, and a removable clamp into which the fabric is crimped or shirred by the moving up of the sliding holder, substantially as and for the purposes set forth.

2. The supporting-wires passed through the pockets in the fabric, in combination with the clamp B, receiving and loosely holding one end of said wires, and the sliding clamp D, in which the other ends of the wires are tightly fastened, whereby when the latter clamp is moved toward the former the wires are slipped through the clamp B and the fabric puckered or shirred, substantially as described.

3. The wires on which the fabric is arranged, in combination with the clamp B, sliding clamp D, toggle H, and mechanism for operating the latter to reciprocate the clamp D, substantially as and for the purposes set forth.

4. The wires P, on which the fabric is supported by insertion in pockets therein, in combination with the stationary clamp B, loosely holding these wires at one end, the movable clamp D, tightly holding the wires at the other end, and the removable clamp K, arranged on the machine at the side of the clamp B in an open position while the clamp D is moved up to it, substantially as and for the purposes set forth.

5. The clamp K, the two members of which are provided with blocks M, of elastic material, arranged at suitable distances apart to receive the pocket-sections in the fabric between them when placed in the clamp, substantially as and for the purposes set forth.

6. The clamp K, composed of the two members *k k'*, provided with elastic blocks M on their inner faces and with serrations k^2 on the edges of their inner faces, substantially as and for the purposes set forth.

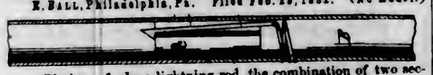
7. A clamp composed of two members provided with blocks or projections on one or both of their inner faces, arranged at intervals to clamp the fabric in the spaces between the pocket-sections when the two members are fastened together, substantially as described.

8. The needle R, consisting of a straight shaft pointed at one end and at the other provided with a section, *r*, of smaller diameter, to which the wire coil Q is attached by slipping it upon the section *r*, substantially as described.

9. The stationary clamp B, in combination with the sliding clamp D, removable clamp K, slide E, toggle H, pitman *h*, and spring-treadle I, substantially as described.

10. The stationary clamp B, in combination with the removable clamp K and lever N, substantially as and for the purposes set forth.

266,075. LIGHTNING-ROD JOINT OR COUPLING. CHARLES E. BALL, Philadelphia, Pa. Filed Feb. 25, 1882. (No model.)



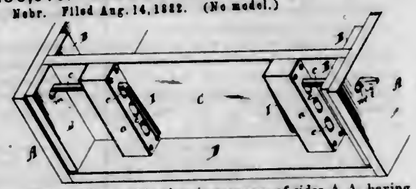
Claim.—1. In a lightning-rod, the combination of two sections of a hollow conductor, a thimble attached to one section, and a spring-catch attached to the interior of the other section, the thimble being adapted to project into the section containing the catch and engage therewith, substantially as described.

2. In a lightning-rod composed of tubular sections, the combination, with two such sections, of a thimble having a grooved side and attached to one of said sections, with a spring-catch attached to the interior of the other of said sections, and adapted to pass through the groove in the thimble and engage therewith to secure the sections together, substantially as described.

3. In a lightning-rod composed of tubular sections, the combination, with two such sections, of a spring-catch attached to one section and capable of expansion in the direction of the longitudinal axis of the section, and a thimble attached to the succeeding section of the conductor, constructed, as described, so as to be capable of projecting into the section having the spring-catch and engaging therewith, whereby an expansible joint is formed, substantially as described.

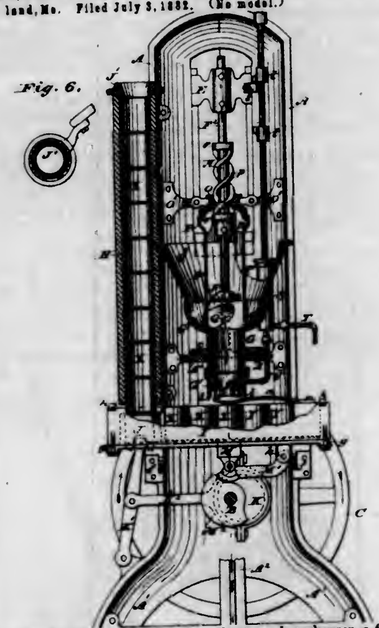
4. In a joint for a tubular conductor, the combination, with the adjoining sections, of a spring-catch, formed with or connected to a coil or spiral attached to one of said sections and a detent attached to the other section, the spring-catch being adapted to project into the section having the detent and engage therewith, thereby forming an expansion-joint, substantially as described.

266,076. WAGON END-GATE. FRANKLIN BALL, Palmyra, Nebr. Filed Aug. 14, 1882. (No model.)



Claim.—The combination, in a wagon, of sides A A, having cleats B B and slots *m m'*, and a sliding end-gate, C, having ribs *a*, each with a series of slots, *c*, and bolts I, having flat heads *i*, and bent to form handles parallel to said heads, as set forth.

266,077. CAN-FILLING MACHINE. VOLNEY BARKER, Portland, Me. Filed July 3, 1882. (No model.)



Claim.—1. The combination of a tunnel, a plunger, a force-feed mechanism auxiliary to the plunger, a can-supplying mechanism, and suitable actuating mechanism, substantially as set forth.

2. The combination of a tunnel, a plunger, a force-feed mechanism auxiliary to the plunger, mechanism for supplying a determinate quantity of liquid to each can, and suitable actuating mech-

anism, whereby the several parts are made to operate in unison, substantially as set forth.

3. The combination, of a tunnel, a plunger, a force-feed mechanism auxiliary to the plunger, a can-supplying mechanism, mechanism for supplying a determinate quantity of liquid to each can, and suitable actuating mechanism, whereby the several parts are made to operate in unison, substantially as set forth.

4. The combination of a tunnel, a plunger, a rotary force-feed mechanism auxiliary to the plunger within the hopper, and suitable actuating mechanism, substantially as set forth.

5. The combination of a tunnel, a plunger, means for operating the plunger, a spirally-threaded sleeve loose on the plunger-rod, a rotary nut supported in bearings and actuated by the sleeve, arms depending from said nut, wings attached to said arms, and means for locking and releasing the sleeve on the up and down stroke of the plunger, substantially as set forth.

6. The combination of a tunnel, a plunger, means for supporting and operating the plunger, and a can-supplying mechanism, whereof the can-receiving spout is provided at its mouth with a collar the opening through which is of less diameter than the diameter of the spout, substantially as set forth.

7. The combination of a tunnel, a plunger, means for operating the plunger, a channel for guiding the cans beneath the tunnel, the inner vertical sides of said channel being provided with longitudinal ribs, and means for forcing the cans along the channel, substantially as set forth.

8. The combination of a tunnel, a plunger, means for operating the plunger, a channel for guiding the cans beneath the tunnel, a sliding pusher for forcing the cans along the tunnel-channel, and means for operating the pusher, consisting of a lever pivoted to the frame, a cam on the driving-shaft, and a rod connecting the lever and cam, substantially as set forth.

9. In a can-filling machine, a tunnel having a shallow hopper, a straight tube, and a contracted nozzle, substantially as set forth.

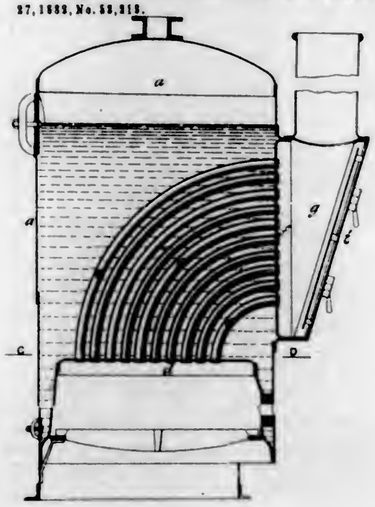
10. In a can-filling machine, a can-channel one side of which is connected to the other parts by means of hinges and suitable fastening devices, whereby the channel may be readily opened, substantially as described.

11. A tunnel for can-filling machines, provided with a nozzle the mouth of which is surrounded by short downwardly-projecting studs, which protect the heads of the cans from bulging while being filled, substantially as described.

12. A tunnel for can-filling machines, provided with a nozzle adapted to enter the opening in the head of a can, and with downwardly-projecting lugs which serve to guide the can to the nozzle, substantially as described.

13. A tunnel for can-filling machines, provided with a nozzle constructed with short studs near its mouth and longer guiding-lugs beyond the studs, substantially as described.

266,078. STEAM-GENERATOR. WILLIAM BEESLEY and JAMES BEESLEY, Barrow-in-Furness, County of Lancaster, England. Filed June 7, 1882. (No model.) Patented in England May 3, 1882, No. 2,074; in France June 27, 1882, and in Belgium June 27, 1882, No. 58,318.

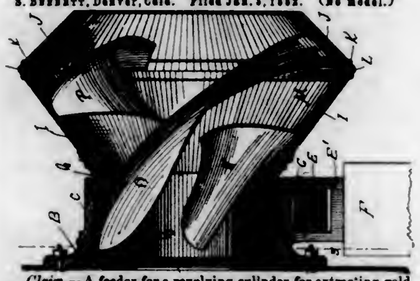


Claim.—In a steam-generator, the combination of the fire-box *b*, having the opening *c*, and covered by the horizontal flue or crown-plate *d*, with the smoke-box *g*, provided with doors *i*, located directly above the opening *c*, and a series of continuously-curved flues, *e*, whereby direct and ready access is had to both ends of the flues for cleaning purposes, substantially as shown and described.

266,079. REMEDY FOR CORNS, BUNIONS, &c. GEORGE F BEHRENT, Philadelphia, Pa., and LUIGI G. MARISI, Washington, D.C. Filed Mar. 15, 1882. (No specimens.)

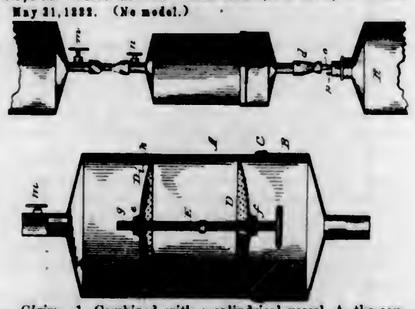
Claim.—The combination or mixture consisting of soft fine india-rubber with gum-tragacanth, aconitia, subacetate of copper, and alcohol, in about the proportions described.

266,080. FEEDER FOR REVOLVING CYLINDERS. ERASTUS S. BURNETT, Denver, Colo. Filed Jan. 3, 1882. (No model.)



Claim.—A feeder for a revolving cylinder for extracting gold from auriferous deposits, attached horizontally to said cylinder, consisting of the body I, expanding from the mouth of the cylinder, the converging flange J, secured to said body I at its outer rim, and having conveyers secured to the inner side of said flange J, extending in toward the mouth of the cylinder, leaving the center of the feeder entirely open, said conveyers, in combination with the body I and flange J, forming pockets which receive the material thrown or fed into the mouth of said feeder, substantially as described.

266,081. PERCOLATOR. JOHN BERRY, Biddeford, Me. Filed May 21, 1882. (No model.)



Claim.—1. Combined with a cylindrical vessel, A, the central rod E, having screw-threads of opposite pitch at its ends, and the perforated diaphragms D D, mounted upon the opposite ends of said rod and having correspondingly screw-threaded hubs or bosses.

2. A percolating-vessel, A, having two independently-removable perforated diaphragms adjustably mounted upon a common rod and suspended within the said vessel.

266,082. BUCKET-ELEVATOR. JAMES BOARDMAN, Hayward, Dak. Filed June 5, 1882. (Model.)

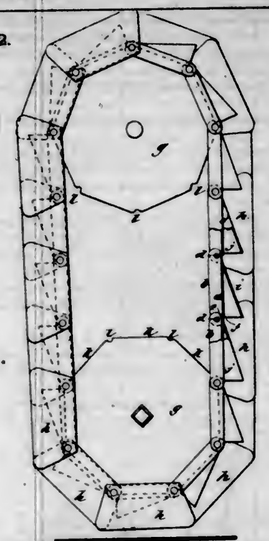
Claim.—1. The endless carrier for bucket-elevators, consisting of plates *a*, having flanges *b* and curved ends *c*, and being lapped at *e f* and on the flanges *b*, and connected by pivot-rods *d*, substantially as described.

2. The combination of bucket-plates *i* and *j* with carrier-plates *a*, having flanges *b* and curved ends *c*, and being lapped and pivoted together, substantially as described.

3. The combination, with the drums *g*, grooved at *l*, of the carrier-buckets, having flanges *b*, which overlap the sides of the drums, substantially as described.

4. The combination of side plates *h* with the endless chain of buckets and carrier therefor, substantially as described.

266,082.



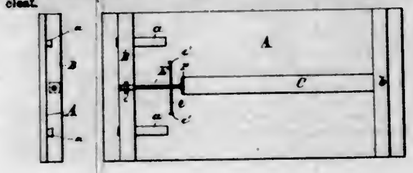
266,083. ENTRANCE-TUBE FOR GRAIN-VENTILATORS. LAFAYETTE T. BOW, Barkesville, Ky. Filed Aug. 18, 1882. (No model.)



Claim.—A grain or hay ventilator consisting of a straight perforated tube, A, a wrench, D, a plug, E, a pin, F, a tapered spiral penetrating-tube, B, detachable from the tube A and thickly perforated, and the solid removable penetrating-point C, all constructed and adapted to operate substantially as described.

266,084. GRAIN-DOOR. JACOB BERGER, Chicago, Ill. Filed May 22, 1882. (No model.)

Brief.—The door is provided with a fixed cleat and a movable cleat sliding and adjustable upon dovetail cleats by means of a rod journaled at one end in the end of a horizontal strip on the door and having its other end threaded in a nut in the movable cleat.



Claim.—1. In a car grain-door, a stationary cleat, *b*, and a movable cleat, B, provided with a nut, *c*, in combination with a screw-threaded rod, E, substantially as and for the purpose set forth.

2. The combination of a stationary cleat, *b*, a movable cleat, B, with a nut, *c*, mortised therein, slides *a a*, piece C, rod E, and handle-bar *e*, with a door, A, substantially as shown and described, and for the purpose set forth.

266,085. PIVOT COTTON-TIE. JOHN W. BROWN, Utica, Miss. Filed Aug. 26, 1882. (No model.)



Claim.—A bale-tie consisting of the band C, provided with a movable slide, D, the U-shaped frame A, having hooks or open bearings at its open end, the oblong frame B, having an opening at one end and its opposite end adapted to receive a lever projection, and having side trunnions, *d d*, at a short distance from its lever end, adapted to fit in the hooks or bearings *c c* of the frame A and form a fulcrum, and the projecting lug *e* upon the lever end of the plate B, all combined and operating substantially as and for the purpose set forth.

266,086. WHEELED CULTIVATOR. WILLIAM P. BROWN, Evansville, Ohio. Filed May 12, 1882. (No model.)



Claim.—1. The plow-head G, having a forward projection, in combination with a spring connected to the said projection of the plow-head at a point over or in front of the vertical pivot-bolt to assist in lifting the plows in the rear and prevent side swing, as described.

2. The combination, with the pipe-box and its bracket H, the pivot-bolt, the plows, and the spring F, of the head G, having a projection extending over and to the front of the pivot-bolt and there connected to the spring, as and for the purpose described.

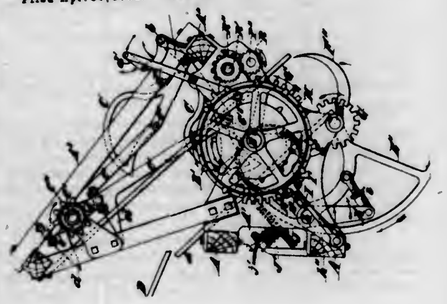
3. The combination, with the pivot-bolt I, of the bracket H, having flanges with a series of vertical bolt-holes, and the head G, having flanges with a series of vertical bolt-holes, and a neck or arm, *b*, extending over and to the front of the pivot for connection with the spring, whereby the tension of the latter is made to hold the plows straight or give them a lateral drift, as described.

4. The combination, with the pipe-coupling and the spring F, of the plow-head having projection *b*, with vertical sockets *f* at its end, and a pin, *g*, and a loose sliding connection with the spring, as and for the purpose described.

5. The draft-ring P and perforated loop Q, the latter surrounding the pivot-bolt below the pipe-coupling and combined with the same, the plow-head G and bracket H, as shown and described.

6. The clamp composed of the three parts R S H, fastened together by bolts *e*, the parts S and H having clutch-faces and a slotted connection that permit of the adjustment of H over S to secure a rotary adjustment of the plows about their longitudinal axis.

266,087. GRAIN-BINDER. ROBERT BROWN, Springfield, Ohio. Filed Apr. 26, 1882. (Model.)



Claim.—1. The combination of the crank C' and link mechanism *b*, *b'*, *c'*, and *c* with the packer-fingers C, suspended upon the frame over the binding-table for pressing the grain into the binding-receptacle, substantially as described.

2. The combination of the crank C' and link mechanism *b*, *b'*, *c'*, and *c* with the packer-fingers C and the series of revolving raking-fingers arranged in front of and above the packer-fingers, substantially as described.

3. In a cord-knotter, the combination of a slotted stationary knotting bill-shaped jaw, upon whose shank the loop is formed, with a reciprocating jaw working in the slot of said bill-shaped jaw and operating to seize the ends and to push the loop from the bill-shaped jaw over the ends, substantially as herein set forth.

4. The combination, with the stationary jaw K, for receiving the loop, and reciprocating jaw N', for seizing the ends and shedding the loop, the hook Q, revolving around both the stationary and reciprocating jaws, and operating to catch, hold, and wind the twine, substantially as herein set forth.

5. In a grain-binder, the twine cutting and holding mechanism composed essentially of the reciprocating bar K'' and knife M, the spring-jaw *l'*, and the guard *m*, substantially as herein set forth.

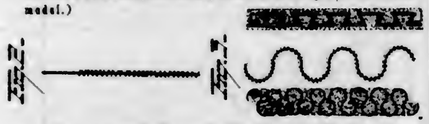
6. In a grain-binder, the binder-arm journaled loosely upon the shaft which carries the compressor and ejector fingers, combined with and operated by means of a secondary shaft, A, and the crank and link connections, substantially as herein set forth.

7. In a grain-binder, the compressor-finger F, adjustably connected to the ejector F' by means of the serrated faces *f f'*, said parts being united as described, and carried by one shaft, substantially as herein set forth.

266,088. ARTIFICIAL FUEL. GEORGE F. BROTT, Washington, D.C. Filed Nov. 15, 1881. Renewed Sept. 25, 1882. (No specimens.)

Claim.—An artificial fuel consisting of cut straw, chaff, or hay, and residuum of petroleum, combined with peat, turf, or other like material molded by pressure into suitable blocks, as set forth.

266,089. SECONDARY OR STORAGE BATTERY ELEMENT. CHARLES P. BRUSH, Cleveland, Ohio. Filed May 27, 1882. (No model.)



Claim.—A secondary-battery element consisting of a support or body having a coating attached thereto, said coating primarily composed of divided metallic lead and lead oxide united together into a firm and coherent mass, substantially as set forth.

266,090. SECONDARY BATTERY. CHARLES P. BRUSH, Cleveland, Ohio. Filed June 9, 1881. (No model.)



Claim.—1. In a secondary battery, an element or electrode made up of a series of ribs, substantially as and for the purposes set forth.

2. In a secondary battery, a plate or element provided with outwardly-projecting ribs.

3. A secondary-battery element or electrode having its body support or frame provided with ribs.

4. In a secondary battery, the combination, with one cell thereof, of two or more ribbed plates or elements, substantially as set forth.

5. In a secondary battery, a plate, frame, or other sustaining-body provided with ribs or their equivalent, of less general thickness than the said plate or support, substantially as set forth.

6. In a secondary battery, a plate, frame, or other sustaining-body, provided with ribs or their equivalents, said ribs or their equivalents being thicker at their bases than at their free edges or ends, substantially as set forth.

7. A secondary-battery element or electrode having its frame, support, or body provided with cells or cavities, the walls of said cells or cavities, or the septa between them, having an increasing thickness from their outer or free edges inward.

8. In a secondary battery, plates or elements provided with comparatively thin ribs, or their equivalents, for surface exposure, and thicker ribs suitably disposed for supporting or stiffening purposes, substantially as set forth.

9. A secondary battery having a body frame or support of cast-lead.

10. A secondary-battery element consisting primarily of cast-lead.

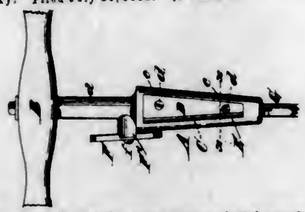
11. A method or process of making a secondary-battery element, consisting in casting a suitable body, frame, or other support of lead and producing thereon an active or absorbing coating or substance.

12. A secondary-battery element or electrode having a supporting body or frame of cast-lead for the active coating or substance, said body or frame provided with ribs or projections.

13. A secondary-battery element or electrode having a supporting body or frame of cast-lead for the active coating or substance, said body or frame provided with cells, cavities, or depressions.

14. A secondary-battery element or electrode having a supporting body or frame of cast-lead for the active coating or substance, said body or frame provided with slots, perforations, or openings.

266,091. BUNG-HOLE REAMER. HENRY F. W. BUECKER, Newport, Ky. Filed July 25, 1882. (No model.)



Claim.—1. A bung-hole reamer composed of the stock A and shank *a*, formed in one piece, the stock A having the open throat E *e*, the depression, and cap-plate D, for detachably and adjustably securing the flat slotted knife C in position for cutting, substantially as herein set forth.

2. The combination, in a bung-hole reamer, of a tapering stock, A, having a chip-clearing throat, E *e*, and a longitudinal recess, the base or back of which forms a flat seat, a cutter or knife, C, arranged on the said seat, a cap-plate, D, arranged longitudinally along the stock over the cutter or knife, and screws *d*, passing through the cap-plate and knife and tapping the stock, substantially as described.

3. In a bung-hole reamer, the combination of the stock A, having the transverse perforations *o*, the flat slotted knife or cutter C C', seated within a longitudinal recess in the stock, the cap-plate D, arranged upon the knife or cutter, and the screws *d*, passing through the cap-plate and the slots in the knife or cutter, substantially as described.

266,092. PRESERVATION OF WOOD. RUDOLPH G. BÜNSTERBINDER, Hamburg, assignor to Peter Johann Friedrich Röper, Pinneberg, Germany. Filed Aug. 16, 1882. (No specimens.)

Claim.—The process of preserving wood, which consists in exposing the timber to a current of steam under pressure, then removing the moisture by the production of a vacuum marked on a barometer about equal to a column of mercury of twenty-seven cubic centimeters, then introducing a solution of sulphate of zinc under pressure until the wood is saturated therewith and removing same by a vacuum, and, lastly, introducing a dilute solution of calcium chloride, substantially as set forth.

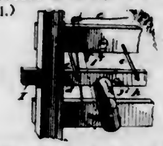
266,093. TRACE-BUCKLE. HENRY J. BUTLER, Independence, Oreg. Filed July 25, 1881. (No model.)



Claim.—1. The combination, with the hame-tug and trace, of the plate A, arranged between the same, the plate B, inclosing the trace and having its arms passed through the plate A and pivoted to the end of the hame-tug, and the plates C D, inclosing the trace and tug, respectively, and pivoted to each other and to the trace, the plates B C D having stationary tongues engaging with the trace and tug, substantially as shown and described.

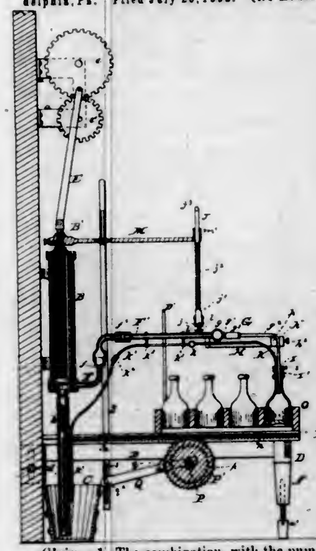
2. The combination, with the hame-tug and trace, of the plate A, having opening N and braces H at opposite sides thereof, and the plate B, having tongue L and spring I and arms which are pivoted to the rear end of the hame-tug, and suitable means for confining the forward end of the trace to the tug, substantially as shown and described.

266,094. GATE. EUGENE M. CASE, Ithaca, Wis. Filed Apr. 25, 1882. (No model.)



Claim.—The combination, with the gate, of the latch I, suspended by hangers c c from one of the rails of the gate-panel, and having projections *d* and *h*, the cam consisting of the hinged parts J and J' and their actuating-spring *g*, lever I', connected to the lower part, J, of the cam by a short shaft, *f*, forming a fulcrum for the lever, spring *i*, and suitable mechanism for operating the spring-actuated lever I', all constructed and combined substantially as and for the purpose herein shown and specified.

266,095. BOTTLING-MACHINE. JOHN W. CREWDING, Philadelphia, Pa. Filed July 20, 1882. (No model.)



Claim.—1. The combination, with the pump and its flexible discharge-pipe, of the distributer provided with a series of nozzles connected with said discharge-pipe, and the distributer lifting and dropping devices connected with and operated by the pump-plunger, substantially as described.

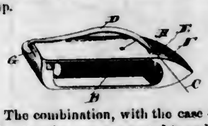
2. The combination, with the pump and the rising and falling nozzles connected therewith, of the adjustable table, substantially as described.

3. The distributer composed of the cylinder *g*, and the attached bent nozzles provided with the adjustable stoppers, in combination with the devices for raising and dropping said distributer, and a bottle-support, substantially as described.

4. The combination, with the pump, of the flexible discharge-pipe, the distributer connected with said flexible discharge-pipe, the rod J, provided with means for lifting and releasing said discharge-pipe, the arm M, secured to the pump-plunger at one end and provided at the other end with an aperture embracing the said rod J loosely below its head, the sliding platform, and mechanism for operating the several parts in proper relation to each other, substantially as described.

266,096. SEWING-MACHINE SHUTTLE. ALFRED E. CHOQUETTE and LOUIS E. WALLERMAN, Milwaukee, Wis. Filed May 19, 1882. (No model.)

Brief.—The shuttle is provided with a spring-arm adapted to serve as a take-up.

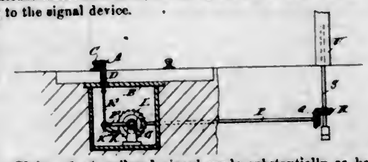


Claim.—1. The combination, with the case of a sewing-machine shuttle, of a vibrating arm connected to and adapted to move with said case, over or around which arm the thread is adpated to be drawn as it passes from the case, said arm being provided with an actuating-spring, by which it is thrown back and the slack of the thread is taken up, substantially as and for the purpose specified.

2. The combination of case A, provided with recesses F and G, and arm D, provided with spring E, said arm and spring being respectively secured to the case in the respective recesses F and G, substantially as and for the purpose specified.

266,097. RAILROAD-SIGNAL. JOSEPH A. I. CLAUDON, Titusville, Pa. Filed Apr. 17, 1882. (No model.)

Brief.—The rotating shaft operates the gong or bell, and is driven through a spring-treadle carrying a pawl, which acts upon a ratchet-wheel on a shaft, which is geared to other shafts extending to the signal device.

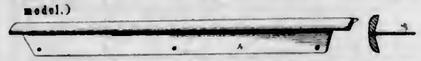


Claim.—1. A railroad-signal made substantially as herein shown and described, and consisting of a spring at the side of the rail, and provided with a rod pivoted to arms, to which a pawl is pivoted which acts upon a ratchet-wheel on a shaft connected with one or more shafts acting on gongs or bells, whereby these gongs or bells will be sounded every time the spring is depressed by the wheels, as set forth.

2. In a railway-signal, the combination, with the spring A at the side of the rail, of the pawl K, connected therewith, the ratchet-wheel L, the shaft G, the shaft P, the bevel cog-wheels N, O, Q, and R, the vertical shaft S, the frame U, the bell or gong V, the ratchet-wheel W, and the spring-hammer X Y, substantially as herein shown and described, and for the purpose set forth.

3. In a railroad-signal, the combination, with the spring A at the side of the rail, of the pawl K, connected therewith, the ratchet-wheel L in an underground box, J, the shaft G, the box or tube M, the shaft P, the bevel cog-wheels N O Q R, the vertical shaft S, the frame U, the bell or gong V, the ratchet-wheel W, and the spring-hammer X Y, substantially as herein shown and described, and for the purpose set forth.

266,098. PROTECTOR FOR THE EDGES OF BOOK-COVERS. ALFRED L. CLARK, Dubuque, Iowa. Filed Dec. 16, 1881. (No model.)



Claim.—1. A protector for the edges of book-covers, consisting of a metal plate, to the concave surface of which is attached a metal blade, said blade being wedge shape, substantially as shown and described.

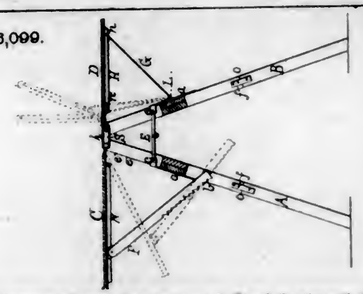
2. In combination with a book-cover protector consisting of a metal plate and a wedge-shape metal blade attached thereto, a series of pins, said pins passing through the metal blade and having their heads extending above the level of the book-cover, substantially as described.

3. In combination with a book-cover, the protecting-plate A, with blade *b* attached to its concave surface, and of wedge shape, and the pins E, for holding said plate firmly against the edge of the book-cover, having their heads slightly raised above the outer surface of the cover, substantially as and for the purposes shown.

266,099. DRAWING-TABLE. EDWIN C. CLEAVES, Cortland, N. Y. Filed Feb. 13, 1882. (No model.)

Claim.—1. A drawing, writing, and study table having hinge folding legs held apart by toggle-joint, said legs being adjustable, combined with the adjustable top and shelf, hinged at one edge,

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and supported respectively by the rods F and G, substantiatlly as specified.

2. The combination, in a drawing-table, of the adjustable top C and rod F, the shelf D, screen, and rod G, substantially as and for the purpose specified.

3. A drawing, writing, and study table having hinge folding legs held apart by a toggle-joint, and the tray S, secured between said legs by means of pins or screws, combined with the adjustable hinged top and shelf, and the rods F and G, substantially as and for the purposes set forth.

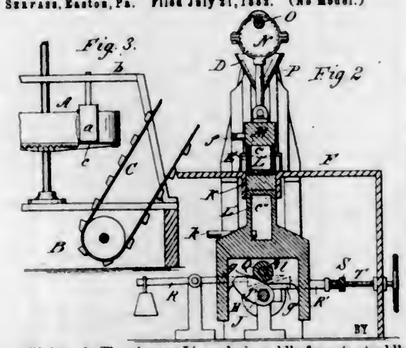
4. The adjustable shelf D, having perforated lug H, combined with the hooked rod G and spring-locking-rod P, as and for the purposes set forth.

5. In a drawing, writing, and study table, the combination of the adjustable folding legs, the shelf D, the hook G, and adjustable rest *w*, all substantially as and for the purposes set forth.

6. In a drawing, writing, or study table, the combination of the adjustable folding legs, the adjustable shelf D, the hook G, adjustable rest *w*, and clamp J, all substantially as and for the purposes set forth.

7. In a drawing, writing, or study table, the combination of the adjustable folding legs, the shelf D, the adjustable screen T, and movable rods *q v*, all substantially as and for the purposes set forth.

266,100. BRICK-MACHINE. SAMUEL COLLINS and AARON SNYDER, Easton, Pa. Filed July 31, 1882. (No model.)



Claim.—1. The plunger L', made in saddle form to straddle the shaft J, and having the shaft *q* projecting from its sides, in combination with the wedge-shaped or inclined heads *g g'*, for adjusting the plunger, substantially as described.

2. The plunger made to straddle the shaft J, and provided with the roller Q, the shaft of which extends past the sides of the plunger, in combination with the said shaft J, cam J', inclined heads *g g*, and adjustable heads *g' g'*, placed between the ends of the shaft of the roller Q and the shaft J, substantially as and for the purpose set forth.

3. The combination, with the plunger L', the shaft *q*, journaled in the lower end of and having its ends projecting beyond the sides of the plunger, and the shaft J, of the weighted arms R R, provided with the wedge-shaped heads *g g*, the arms R' R', provided with the wedge-shaped heads *g' g'* and connected together by the bars S, and the screw-rod T, provided with the hand-wheel T', substantially as and for the purpose set forth.

266,101. WAGON RUNNING-GEAR. MARTIN CONRAD, Chicago, Ill. Filed Apr. 27, 1882. (No model.)

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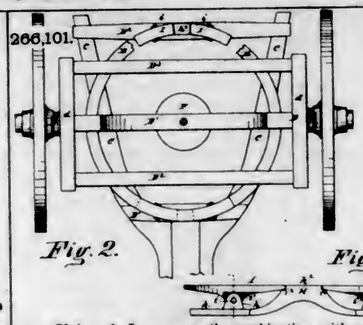


Fig. 2.



Fig. 3.

Claim.—1. In a wagon, the combination, with a fifth-wheel, of rocking supports having broad bearing-surfaces in contact with the wheel and central stationary axes, said supports being arranged in front of and at the rear of the axle, substantially as described.

2. In combination with the fifth-wheel E, the four rocking plates I I, arranged in pairs at front and rear of the axle, and with their axes parallel and in line, substantially as described, and for the purposes specified.

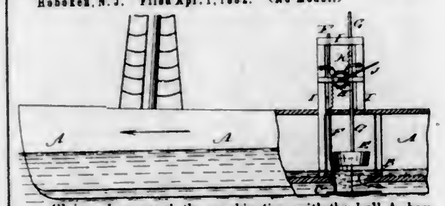
3. In combination with the fifth-wheel, the frame H, having the plates I I pivoted thereto by parallel axes, adapted to be secured to subjacent parts, substantially as described.

4. In combination with the fifth-wheel E and the rocking supports I I of said wheel, the frame H, having pivotal connection with said supports and rising centrally into contact with said fifth-wheel, substantially as described.

5. In combination with the fifth-wheel and with the elongated rocking plates I I, the frame H, constructed to support the inner ends of said rocking plates, substantially as described.

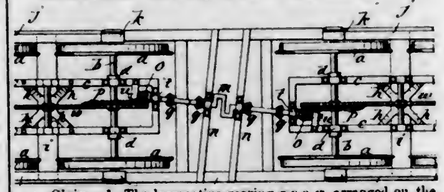
6. The combination, with the axle and bolster, of the fifth-wheel E, rocking plates I, and T-headed king-bolt, together arranged and operating substantially as and for the purposes set forth.

266,102. BILGE-WATER VALVE FOR SHIPS. HENRY CONDES, Hoboken, N. J. Filed Apr. 1, 1882. (No model.)



Claim.—In a vessel, the combination, with the hull A, having opening B in its bottom, the semi-cylindrical case C, having bottom plate, D, and the plug E, of the rack-bars F G and the gear-wheel H, having crank J and pawls K, substantially as herein shown and described, whereby the said case and plug can be readily operated and will be securely held in place, as set forth.

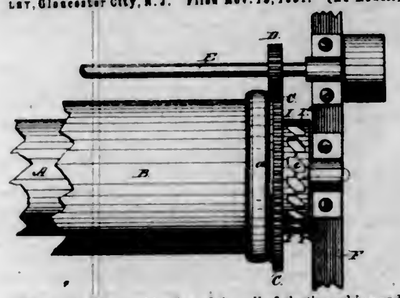
266,103. LOCOMOTIVE DRIVING-GEAR. WILLIAM CRIPPEN, Cadillac, Mich. Filed Aug. 12, 1882. (No model.)



Claim.—1. The locomotive-gearing *x p p w*, arranged on the axles in a vertical plane passing through the longitudinal middle of trucks, in combination with a diagonal crank-shaft, *w*, having universal joints and end pinions, and adapted to slide in said pinions, as and for the purpose specified.

2. The combination, in the running-gear of a locomotive, of inside truck-frames, *e*, branched center pins, *f*, truck-bolsters *i*, pedestal-frames *j k*, roller-supports *l*, and the locomotive-frame *e*, substantially as described.
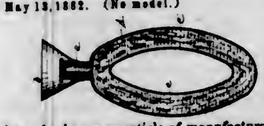
266,104. MACHINE FOR DRYING CALICO. FRANCIS J. CROWLEY, Gloucester City, N. J. Filed Nov. 15, 1881. (No model.)



Claim.—1. The combination of the roll of elastic packing and annular plate pressing thereon with the fixed and revolving cylinders having a joint, as specified.

2. The combination, with the fixed and revolving cylinder, of the movable wheel I and fixed wheel I', having teeth adapted to mesh or interlock, as specified, the gear provided with locking pins and mounted loose on the annular flange of the fixed cylinder, as shown and described, for the purpose specified.

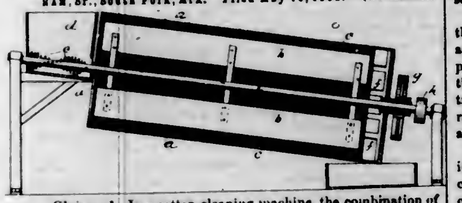
266,105. MUFF. SARAH A. CUNNINGHAM, New York, N. Y. Filed May 13, 1882. (No model.)



Claim.—1. As a new article of manufacture, an interlining for muffs, consisting of the receptacle A, adapted to hold heated water or other liquid, provided with a hand-opening, and having a funnel, within which is arranged a filling-tube, as set forth.

2. The combination, with the receptacle A, having the filling-tube and funnel arranged, as described, in the center of the outer wall of a finished muff, of an inclosing flap or cover, substantially as set forth.

266,106. COTTON-CLEANING MACHINE. JAMES F. CUNNINGHAM, Sr., South Fork, Ark. Filed May 10, 1882. (No model.)



Claim.—1. In a cotton-cleaning machine, the combination of an inclined wire cylinder and a hopper, *d*, with a shaft, L, provided with fan-blades and spiral pins *e*, and suitable mechanism for actuating said shaft and wire cylinder, substantially as and for the purpose set forth.

2. In a cotton-cleaning machine, the combination of the inclined wire cylinder *a*, having discharge-openings *f*, and shaft L, provided with fan-blades *b*, brushes *c*, and the spiral pins *e*, with the hopper *d* and receptacle K, substantially as and for the purpose set forth.

266,107. ELECTRIC SAFETY DEVICE FOR ELEVATORS. ROBERT M. CURTISS, Brooklyn, N. Y. Filed July 3, 1882. (No model.)

Claim.—1. The combination, with a hoisting or elevating apparatus, of a frangible or separable electric conductor, traversing portions of the hoisting machine or motor which are subjected to the working strain or wear, and arranged in a closed electric circuit including an electro-magnetic detent which controls safety-catches arranged to uphold the car, whereby the breaking of the parts of the motor so traversed will break the electric circuit, and thereby relax the magnetic detent and release the safety-catches to uphold the car, substantially as herein set forth.

2. In an elevating apparatus, the combination, with an engine constructed with a working-cylinder and a piston operatively connected with the car through the intervention of a pulley and cable, or their equivalent, of a frangible or separable electrical conductor traversing the piston-rod or other working parts of the engine, a closed electric circuit in which said conductor is included, an electro-magnet forming part of said circuit and arranged to control safety-catches to uphold the car, so arranged that on the breaking of the electric circuit the said magnet acts to release the catches to sustain the car, substantially as herein shown and described.

266,107.

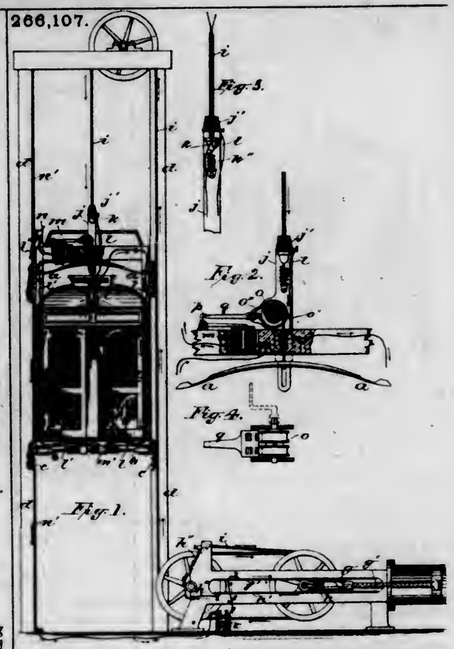


Fig. 3.

Fig. 2.

Fig. 4.

Fig. 1.

3. In a hoisting apparatus, the combination, with the car and the hoisting-cable or equivalent from which the car is suspended, and with safety-catches to uphold the car, of an electric circuit passing through the contacts by which the car is suspended from the cable, and an electro-magnet in said circuit arranged to control the safety-catches, whereby the slacking of the cable will separate said contacts, break the circuit, and release the safety-catches substantially as herein set forth.

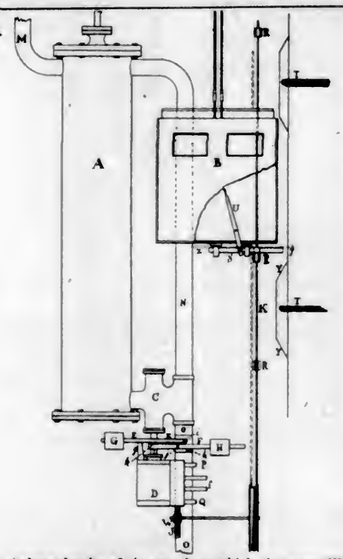
4. In an elevator, the combination, with the car and the hoisting-cable from which the same is suspended, and with safety-catches arranged to uphold the car when released, of an electric circuit and a magnet in said circuit controlling the safety-catches, with the end of the cable arranged loosely in the suspending-socket on the car and capable of play therein when slacked, and so connected with said electric circuit that the relaxation or movement of the cable end in the suspending-socket will make or break said circuit, and thereby operate said magnet so as to release the catches and sustain the car, substantially as herein set forth.

5. The combination, with an elevator car or platform provided with safety-catches arranged to uphold the car when released, of a frangible or separable electric conductor traversing the car or portions of the car, and arranged in a closed electric circuit, with an electro-magnet in said circuit arranged to control said safety-catches, whereby the breaking or straining of the car will break the electric circuit and release the safety-catches, and thereby hold or sustain the broken car, substantially as herein set forth.

266,108. HYDRAULIC ELEVATOR. CHARLES G. CURTIS and SCHUYLER S. WHEELER, New York, N. Y. Filed Feb. 6, 1882. (No model.)

Claim.—1. A hydraulic elevator consisting of a movable car or platform and apparatus for raising and lowering the same by means of hydraulic pressure acting in a cylinder upon a piston, in combination with a starting and stopping apparatus controlled by the operator and constructed so as to automatically start the car with a fixed acceleration and to stop the car with a fixed re-

266,108.



tardation, independently of the speed at which the controlling mechanism is worked by the operator, substantially as described.

2. A hydraulic elevator substantially as described, in combination with a starting and stopping apparatus controlled by the operator and constructed to close and open the valve which controls the flow of water into and out of the cylinder at a fixed speed or speeds, independently of the speed at which the controlling mechanism is worked by the operator, substantially as described.

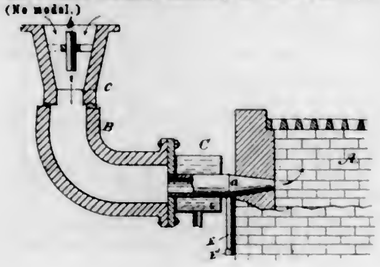
3. A hydraulic elevator, substantially as described, in combination with the stopping apparatus controlled from the car and constructed to act automatically to close the valve at a uniform rate, so as to insure the bringing of the car to rest with its platform at the level of the desired floor, substantially as and for the purposes described.

4. In a hydraulic elevator consisting of a movable car or platform and apparatus for raising and lowering the same by means of hydraulic pressure acting in a cylinder upon a piston, the combination, with a valve controlling the flow of water into and out of the said cylinder, of a supplementary cylinder provided with a piston moved by fluid-pressure under the control of the operator, substantially as described, and mechanically connected to the said valve, so that the movement of the supplementary piston closes and opens the said valve, substantially as described.

5. The combination, with the cylinder of a hydraulic elevator, of a valve having a tapering port of gradually-increasing width in the direction of motion of the valve-piston, substantially as shown and described, so that the gradually-diminishing speed of the valve-piston will effect the closing of the port-orifice at a uniform rate, substantially as described.

6. A hydraulic elevator substantially as described, in combination with an apparatus for automatically regulating the size of orifices through which the water flows into and out of the cylinder according to the load in the car, substantially as described.

266,109. AIR-INJECTOR FOR FURNACES. JOHN B. DAVIS and WILLIAM WALKER, Glenwood, Pa. Filed June 16, 1882. (No model.)



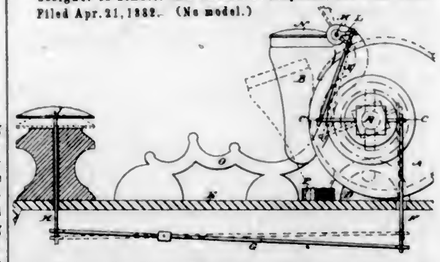
Claim.—In an air-injector, the combination, with the trunk B, of the outlet-nozzle *a*, the water-box C, and the condensation-water receptacle E, extending downward from the nozzle *a*, substantially as shown and described.

266,110. PROCESS OF VULCANIZING INDIA-RUBBER. HENRY MARIE FERDINAND JULES COMTE DE LA TOUR DU BREUIL and ALEXANDER MARIE AUGUSTE VICOMTE DE LA TOUR DU BREUIL, Pellevoisin, France. Filed June 20, 1882. (No specimens.) Patented in France Mar. 21, 1882, No. 148,010.

Claim.—1. In vulcanizing india-rubber by means of a water bath, the process herein described of raising the boiling-point of the water by adding thereto a soluble salt or other substance incapable of acting on the india-rubber, for the purpose of enabling the temperature of the bath to be raised to from about 140° to 150° centigrade under atmospheric pressure—that is to say, to a degree of heat higher than the melting-point of sulphur and suitable for effecting the vulcanization, substantially as hereinbefore described.

2. The improved process of vulcanizing india-rubber, consisting essentially in melting the sulphur in a bath composed of water and a substance which raises the boiling-point of the water to the required degree, and immersing the articles to be vulcanized in this bath, substantially as hereinbefore described.

266,111. INKSTAND. CHARLES DE ROBERTS, Albion, Nebr., assignor to himself and Thomas P. Stephens, Red Oak, Iowa. Filed Apr. 21, 1882. (No model.)



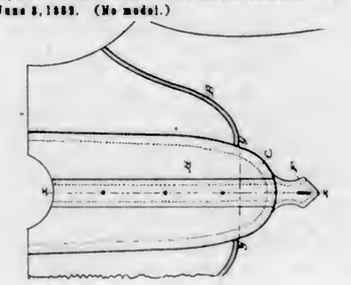
Claim.—1. The combination, with a swinging ink-vessel, of a swinging cover and devices, substantially as described, for swinging the ink-vessel and cover simultaneously, substantially as herein shown and described, and for the purpose set forth.

2. In an inkstand, the combination, with the swinging ink-vessel A, provided with a spout, of the arm C, the rod F, the pivoted lever G, rod H, and the knob J, for operating the lever G, substantially as herein shown and described, and for the purpose set forth.

3. In an inkstand, the combination, with the swinging ink-vessel A, provided with a spout, B, of the rod F, the lever G, rod H, provided with button J, the arms C C', the rod K, the shaft M, the arm L, and the cover N, substantially as herein shown and described, and for the purpose set forth.

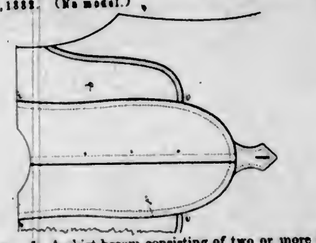
4. In an inkstand, the combination, with the base E and standards D, of the ink-vessel A, pivoted eccentrically to the standards D, the arm C, having its rear end pivoted to a rod, F, pivoted to the rear end of a lever, G, pivoted to the base E, the knob J at the front end of the lever G, the rod H, the rod K, pivoted to the front end of the arm C', the shaft M, provided with an arm, L, pivoted to the upper end of the rod K, and the cover N, attached to the shaft M, substantially as herein shown and described, and for the purpose set forth.

266,112. SHIRT. PAUL E. DURBROIL, Baltimore, Md. Filed June 8, 1882. (No model.)



Claim.—The combination, in a shirt, of a re-enforce strip, D, secured to the body by a line of stitching, *y y*, so as to form an integral part of such body, and the bosom C, secured without lateral stitching to the body of the shirt and to the said re-enforcing strip by a row of stitching passing around its outer edge, substantially as described.

266,113. SHIRT. PAUL E. DURBROIL, Baltimore, Md. Filed Aug. 10, 1882. (No model.)

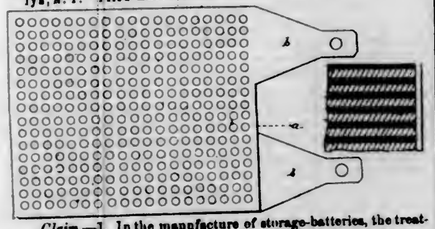


Claim.—1. A shirt-bosom consisting of two or more thicknesses, having the edges of the front and rear thicknesses stitched together and turned inwardly, and provided with a line of stitching near the edge, whereby a finished beaded edge is formed upon the bosom and such bosom is fitted to be applied to the shirt-front, all substantially as described.

2. A shirt having a front composed of the linen and lining, made with an inwardly-turned edge, stitched as described, in combination with the hemmed edge of the opening in the front of the shirt, the bosom being stitched to the outside of the edge, forming a raised bead, substantially as described.

3. In a shirt, a bosom composed of the linen and lining, formed with the inwardly-turned edge and stitched as described, said bosom being attached to the shirt-front, having a hemmed edge, with an opening underneath the flap, substantially as described.

266,114. SECONDARY BATTERY. ASAHEL K. EATON, Brooklyn, N.Y. Filed Mar. 1, 1882. (No model.)



Claim.—1. In the manufacture of storage-batteries, the treatment of skeleton plates in a solution of metallic salts for the purpose of obtaining a coating of sponge metal upon the skeleton, by which the metallic sponge-plates are formed previous to the organization of the battery, and of then combining said plates in a passive fluid to form the battery, substantially as described.

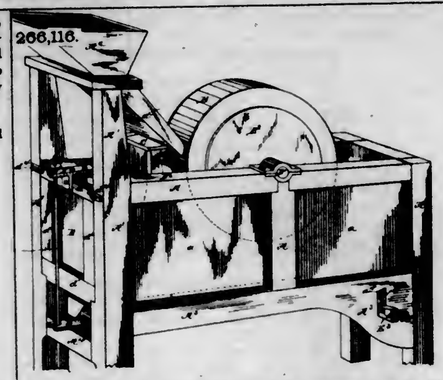
2. The method, substantially herein described, of preparing a storage-battery, which method consists of making a series of skeleton plates and of treating them with acetate of lead in the presence of zinc or its equivalent for the purpose of covering them with lead sponge, and of then combining them in an electrolytic solution and electrically connecting them to complete the battery, substantially as described.

3. In a storage-battery, the two electrodes, consisting of lead sponge upon skeleton plates, one electrode being combined with a coating of peroxide of lead in organizing the battery, by which it is made ready for use without the aid of a primary battery, substantially as described.

266,115. PREPARING PEROXIDE OF LEAD. ASAHEL K. EATON, Brooklyn, N.Y. Filed Aug. 14, 1882. (No specimens.)

Claim.—The chemical process, substantially herein described, of simultaneously producing peroxide and acetate of lead, which process consists of the treatment of red lead with acetic acid, by which the protoxide component of the red lead is removed, producing acetate of lead and leaving the peroxide of lead as a residuum, substantially as described.

266,116. GRINDING-MILL. JOHN H. EULL, Chicago, Ill., assignor of one-half to Frederick A. Battey, same place. Filed Aug. 18, 1882. (No model.)



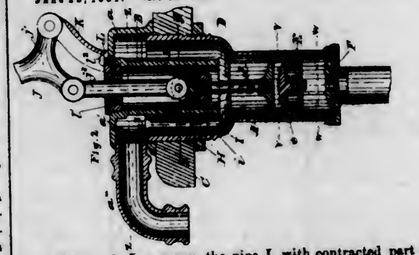
Claim.—1. The combination, with the concave C, and with its lateral walls C' extended above the working-face of the stone, of the cylinder B, and its circular metal end plates, B^3, extended to the margin of the cylinder, so as to be embraced by the projecting walls of the concave, substantially as described, and for the purposes set forth.

2. In a cylinder and concave grinding-mill, the combination, with a removable concave, of a removable rear end piece of the housing, whereby the concave may be passed out or in at the end of the machine, substantially as described.

3. In a cylinder and concave grinding-mill, the combination of the cylinder B, the removable concave C, rising at its front end above the lowest point of the cylinder, a bridge-tree, E, adapted to be lowered so that the concave may clear the cylinder when drawn out rearwardly, and a removable end piece, D, of the housing, substantially as and for the purposes set forth.

4. In a cylinder and concave grinding-mill, the combination of the cylinder B, bridge-tree E, tram-rod F, concave C, provided with a downwardly and outwardly inclined rear wall, and a stationary part of the frame, as D, whereby when the bridge-tree is lifted the concave is both raised and thrust forward, substantially as described.

266,117. PUMP. JOSEPH P. ELLACOTT, Chicago, Ill., assignor to the Union Brass Manufacturing Company, same place. Filed June 25, 1881. (No model.)



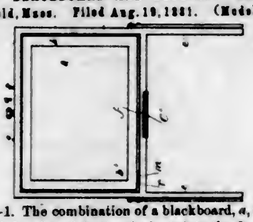
Claim.—1. In a pump, the pipe I, with contracted part *i*, a valve, F, piston E, carrying a valve, *e*, air-chamber M, and cylinder B, with piston D, all combined and operating substantially as set forth.

2. In a pump, an adjustable top to which a spout is attached, in combination with a secondary top, which supports the handle and is adjustable independently of the former, whereby the lateral adjustment of the spout and handle may be effected independent of each other, substantially as described.

3. The pump-stock A, in combination with the top *a*, secured to the upper end of the former by a screw-thread, so as to be adjustable thereon, the spout attached to said top, the top L, secured to the top *a* by a screw-thread, so as to be adjustable on said top, and the handle J, connected to and supported by the top L, substantially as and for the purposes set forth.

4. The pump-stock A, in combination with the top *a*, secured to the upper end of the former by a screw-thread, so as to be adjustable thereon, the spout attached to said top, the top L, secured to the top *a* by a screw-thread, so as to be adjustable on said top, the handle J, connected to and supported by the top L, and the set-screw *f*, substantially as and for the purposes set forth.

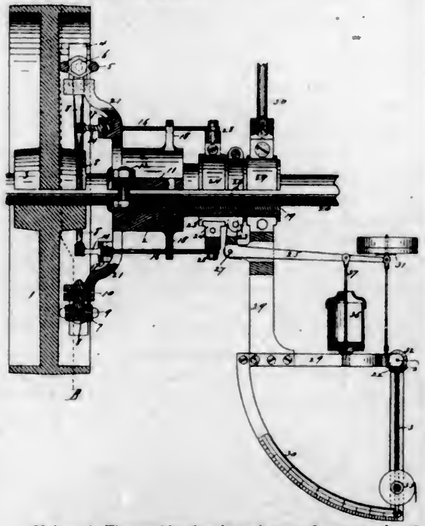
266,118. BLACKBOARD AND SUPPORT. GEORGE ELSBY, Springfield, Mass. Filed Aug. 19, 1881. (Model.)



Claim.—1. The combination of a blackboard, *a*, frame *c*, having leg *e*, with leg *d*, and button *j*, pivoted to the frame, substantially as shown.

2. The combination of the blackboard *a*, having frame *b*, said frame having pin *r*, and sockets for pivots *f* and *g*, and the easel-frame *c*, having spring *m*, all constructed and arranged substantially as shown, for the purposes stated.

266,119. POWER-SCALE. JAMES EMERSON, Williamsett, assignor of one-half to William A. Chace, Holyoke, Mass. Filed July 10, 1882. (No model.)



Claim.—1. The combination, in an improved power-scale, of a spider adapted to be secured to a shaft and forming a hub around said shaft, a sliding collar, and a stationary weighing-frame supported upon said hub, and two prime levers having their fulcrums in said spider, substantially as described.

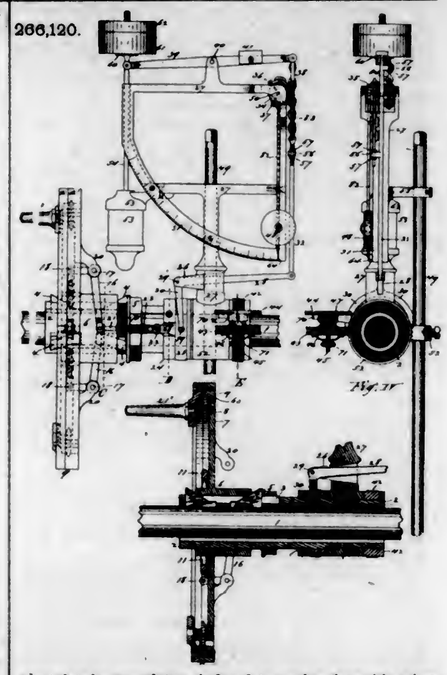
2. In an improved power-scale, the combination of a spider adapted to be supported upon a shaft, prime levers having their fulcrums in said spider, with their long arms connected with and adapted to operate the weighing mechanism, and with their short arms pivoted in a socket or support and adapted to be secured to pulleys of different sizes, substantially as described.

3. In an improved power-scale, the combination of a stationary frame, a pivoted scale-beam whose short arm is connected with and is operated by a sliding collar, and whose long arm is adapted to receive fixed weights, a graduated scale, and an indicating-arm pendent from said frame and connected with said scale-beam, substantially as described.

4. In an improved power-scale, the combination of a stationary frame, a pivoted scale-beam having its short arm connected with and operated by a sliding collar, a graduated scale, and an indicating-arm pendent from said frame, a cylinder closed at its lower end and secured to said frame, and provided with a piston connected by a rod with said scale-beam, substantially as and for the purpose set forth.

266,120. POWER-SCALE FOR SHAFTING. JAMES EMERSON, Williamsett, assignor of one-half to William A. Chace, Holyoke, Mass. Filed July 17, 1882. (No model.)

Claim.—1. The combination, in a power-scale, of a frame



adapted to be secured to a shaft and to revolve therewith, prime levers having their fulcrums in said frame, and a ring connected with said frame and having its bearing upon rolls secured therein, and in which the short arms of said prime levers are pivoted, and provided with a projecting arm to engage with the pulley of the machine to which the instrument is attached, substantially as described.

2. In a power-scale, the combination of a tubular shaft or sleeve having longitudinal openings, and having fitted thereto a revolving frame, a sliding collar, a stationary frame supporting a scale-beam and pendent arm, and inclined or wedge-shaped keys adapted to be inserted through said openings, and a nut to be turned against said keys, whereby all the working parts are supported in place on said tubular shaft and secured to said permanent shaft, substantially as described.

3. The combination, in a power-scale, of a tubular shaft or sleeve provided with longitudinal openings, a frame fitted to said tubular shaft or sleeve which supports the fulcrums of prime levers and adapted to be secured to a permanent shaft by keys inserted into said openings, a ring connected with said frame and provided with a side projecting arm to engage with the arms of a driving-pulley and supporting the short arms of said prime levers, bell-crank levers pivoted in said frame, one arm of which is connected with the long arm of said prime levers and the other arm with a collar adapted to slide to and fro on said tubular shaft or sleeve to actuate a scale-beam and pendent arm supported in a stationary frame, substantially as described.

4. The combination, in a power-scale, of a tubular shaft or sleeve having longitudinal openings, a revolving frame fitted thereto and adapted to be secured to a permanent shaft by wedge-shaped or inclined keys inserted into said openings and supporting a ring adapted to engage with and be actuated by a driving-pulley, prime levers having their fulcrums in said frame and with their short arms pivoted in said ring, a collar fitted to and adapted to slide on said tubular shaft or sleeve and actuated by said prime levers through the medium of bell-crank levers pivoted in said revolving frame, and a scale-beam having its fulcrum in a stationary frame supported on said sleeve, an actuating-lever pivoted in said stationary frame connected with the sliding collar, and a pendent arm connected with said actuating-lever and with said scale-beam, substantially as described.

5. The combination, in a power-scale, of the tubular shaft having a collar provided with a worm or screw secured thereto, a stationary dial, a worm-gear engaging with and revolved by said worm or screw, a spindle extending through said dial and worm-gear and carrying an index or pointer on one end outside the dial, and a clamp-spring on the other end, which is held against the worm-gear by a shoulder or pressure-nut, whereby said spindle and pointer are caused to revolve with said worm-gear, and whereby the pointer may be held stationary while the worm-gear is revolving, substantially as described.

6. The combination, in an improved power-scale, of a stationary frame secured upon and supported by a tubular shaft or sleeve and provided with a graduated scale, a scale-beam having its fulcrum in said frame, an actuating-lever having its fulcrum in said frame and connected at one arm with a sliding collar on said sleeve, a pendent arm pivoted or suspended in said frame and connected with one arm of the scale-beam, and also with one arm of said actuating-lever, whereby said pendent arm and said scale-beam are moved on their fulcrums or pivots by said actuating-lever, substantially as described.

7. The combination, in a power-scale, of a stationary frame fitted to a tubular shaft or sleeve and supporting a scale-beam, and pendent arm pivoted in said frame, and a removable pointed rod to be secured in said frame by a set-screw, whereby when said rod is driven into the floor and secured in the frame the pendent arm may be held in its proper vertical position, substantially as described.

266,121. PLOW. EDWIN J. ETELEN, Tyrone, Pa. Filed June 3, 1882. (No model.)

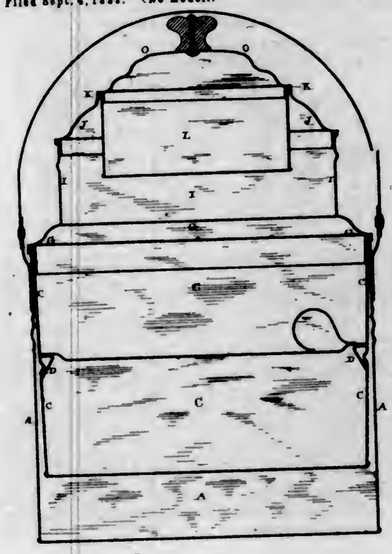


Claim.—1. A plow having its mold-board and share separated from each other from front to rear and connected together by the half-tube *f*, supported by the curved bars *c*, substantially as herein shown and described, whereby a continuous air-space, *e*, entirely open at top, is formed between the mold-board and share, as set forth.

2. A plow having an air-space, *e*, along the joint between the mold-board and share, and a notched or serrated margin of the share along the space, substantially as described.

3. The combination, with the mold-board *a* and serrated share *b*, provided with an air-space, *e*, between them, of the half-tube *f*, having an inner head, *h*, tube *g*, and means, substantially as described, for forcing air through said tube, as specified.

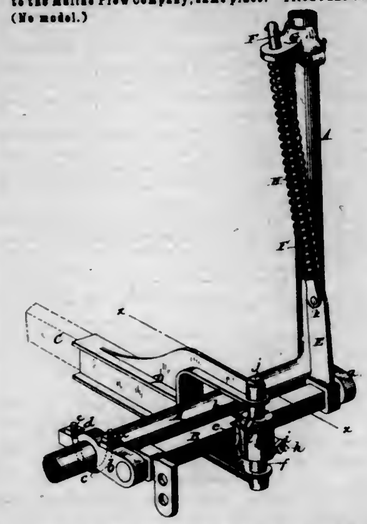
266,122. DINNER-BUCKET. WILLIAM H. ETE, Marietta, Ohio. Filed Sept. 4, 1882. (No model.)



Claim.—1. A dinner-bucket having an extension formed upon the top of the cover of the main bucket, the extension being provided with a perforated top to receive a drinking-cup, substantially as shown.

2. The combination of the extension formed upon the top of the cover of the bucket, the perforated top J, and a drinking-cup having a flange formed upon its top, so as to catch over the edge of the top J, substantially as described.

266,123. CULTIVATOR. WILLIAM EVANS, Moline, Ill., assignor to the Moline Plow Company, same place. Filed June 29, 1882. (No model.)



Claim.—1. The combination of the axle A, rock-shaft B, the draft-head or coupling D, and the lifting-spring, arranged, substantially as described, to rotate the rock-shaft.

2. In combination with the axle A, bearings *a* and *b*, the horizontal rock-shaft B, having the arm E thereon, the rod F, guide G, and spring H.

3. In combination with the main axle and the rock-shaft B, having the spring applied, as shown, to give the same a forward rotation, the draft-head D, connected to the rock-shaft by means of the tube *f*, pivot *j*, plates *c* and *g*, and bolt *i*.

4. In a cultivator, the horizontal main axle, in combination with the horizontal rock-shaft B, sustained therefrom, substantially as specified, the forked draft-head D, and the vertical axis *j*, connecting the draft-head and rock-shaft, and adjustable both vertically and laterally upon the latter by means of the clamping device, substantially as shown.

5. In a cultivator, the combination of the main axle, the independent rock-shaft mounted upon and in advance of said axle, the draft-head passing loosely around the axle and jointed to the rock-shaft, and the spring attachment, substantially as shown, connected with the rock-shaft for the purpose of turning the same forward.

6. In combination with the main axle and the supplemental rock-shaft B, the draft-head jointed to said rock-shaft, substantially as shown, and the depending arm J, connected rigidly to said rock-shaft.

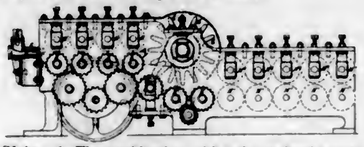
7. In combination with the angular horizontal rock-shaft B, the beam connection or coupling consisting of the forked draft-head D, flanged plates *c* and *g*, tube *f*, bolt *i*, and pivot *j*.

8. In a cultivator, the combination, with the axle or arch A, of the supplemental rock-shaft B, sustained substantially as described, and provided with one or more projections adapted to operate, as described, with a spring, weight, or draft device.

266,124. MACHINERY FOR PREPARING FIBERS OF PLANTS. PIERRE A. FAVIAN, Villefranche, France. Filed June 8, 1882. (No model.) Patented in Belgium June 14, 1880, No. 51,753; in France June 17, 1880, No. 137,398; in Germany Aug. 1, 1880, No. 1,276; in Italy July 27, 1881, No. 13,201; in Spain Aug. 9, 1881, No. 703, and in England Apr. 26, 1882, No. 1,973.

Brief.—The invention relates to the extraction of fibers of china-grass, ramie, &c., in two operations: First, feeding through a conical throat having knives arranged therein, so as to lay open

the stalk, to a series of rollers and breaker to remove the bark; second, subjecting the stalks so treated to the action of longitudinally-corrugated rollers revolving about a larger central corrugated cylinder, in order to separate the fibers.



Claim.—1. The combination, with a throat for the reception of a stalk, of a knife entering said throat for making a longitudinal cut in the stalk, the said throat being constructed behind the knife, so as to lay the stalk open from the longitudinal cut, substantially as herein described.

2. The throat A, provided with a splitting-knife and provided behind the said knife with: a prow-like internal projection, C, and being gradually contracted vertically and widened from the front of the prow, and furnished with a knife, B, all substantially as and for the purpose herein described.

3. In a machine for preparing fibers from fibrous plants, the combination of the throat A, having a knife, B, and a divider, C, the rollers E E, the bar F, and the beaters G and rollers H H', substantially as herein described.

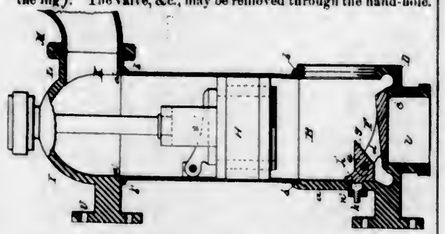
266,125. BUCKLE. WILLIAM A. FISHER, Philadelphia, Pa. Filed Sept. 5, 1882. (No model.)



Claim.—The combination of the buckle A and pin *a'* with catch or guard *b*, substantially as shown and described.

266,126. BEER-PUMP. JOHN FOWLER, Louisville, Ky. Filed Dec. 24, 1881. (No model.)

Brief.—The base B has a hand-hole, D, opposite which is a squared aperture, *h'*, in which is seated the squared projection of the lug *f*. The valve, &c., may be removed through the hand-hole.



Claim.—1. In a beer-pump, the hollow base B, having a vertical wall, *a*, formed with an annular recess, *b*, in its upper edge, a hand-hole, D, in said wall, a raised valve-seat, *c*, and annular depressed way N around said seat, and threaded inlet-neck *l* extending downward, substantially as specified.

2. The hollow base B, having a hand-hole, D, in its vertical wall *a*, and opposite said hole a squared aperture, *h'*, in combination with the hinge-lug *f*, its squared projection *h*, threaded end *k*, and nut *n*, substantially as specified.

3. The combination, with the base-valve F, of the hinge-lug *f*, having the oblique overhanging stop-face *g*, substantially as specified.

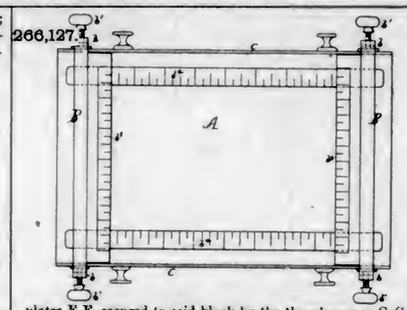
266,127. PILL, PLASTER, AND LOZENGE MACHINE. WILLIAM C. FRANCISCUS, Lock Haven, Pa. Filed May 10, 1882. (No model.)

Claim.—1. The reversible plaster and pill forming board A, having the fixed plates C C, movable plates F F, grooved plate E, graduated bars B B, and strips D D, all constructed and arranged substantially as described.

2. In a pill-board, the combination of side plates F F, having slots *f f*, through which pass thumb-screws G G, with the grooved or channeled plate E and board H, having plate A and guides *h' h'*, substantially as set forth.

3. In a combined pill and lozenge forming board, the combination, with the block A, of side plates C C and adjustable side

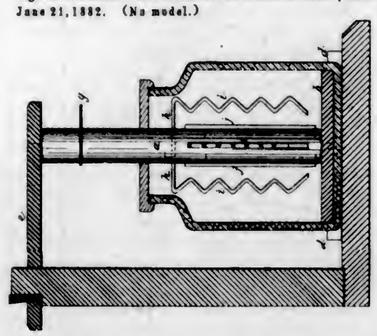
266,127.



plates F F, secured to said block by the thumb-screws G G, passing through slots *f f* in said plates F F, substantially as described.

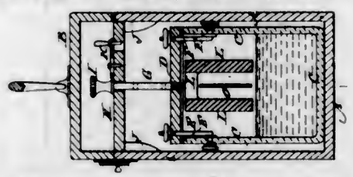
4. In a plaster, pill, and lozenge board, the combination, with block A, of bars B B, with depending ears *b b* and set-screws *b' b'*, with the strips D D, both said bars and strips being graduated, as shown, and for the purpose set forth.

266,128. CHURN. RUFUS GARDNER, Scotland Neck, N. C., assignor of one-half to William Rufus Walston, same place. Filed June 21, 1882. (No model.)



Claim.—The churn-dasher herein described, consisting of the vertical shaft having the surface-ribs *j*, and the dasher-rods of angular form in cross-section, having the straight arms *h* passing through the shaft, and the vertical arms *i i* of zigzag form, as shown and described.

266,129. PORTABLE GALVANIC BATTERY. CHARLES GIBBS, New York, N. Y. Filed July 26, 1882. (No model.)

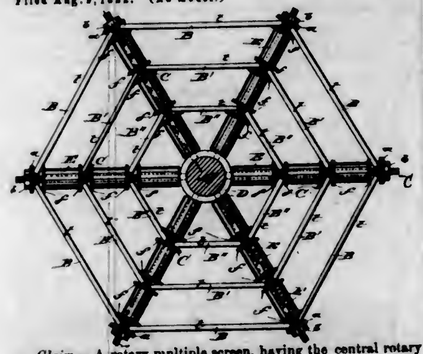


Claim.—1. The combination, with the jar C and cover D, of the rods E, bent outward at the lower end, passed through holes in the sides of the jar as well as through the cover, and secured by nuts, as shown and described.

2. A portable galvanic battery constructed, substantially as herein shown and described, with a case, A, a jar, C, provided with a water-tight cover, D, the stationary cover H, supported from the case A, the jar-adjusting rod G, the electrodes L O and their rods M P, and binding-posts N Q, as set forth.

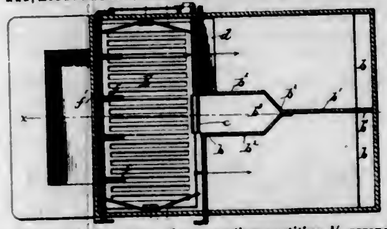
3. In a portable galvanic battery, the combination, with the case A, the jar C, having a closely-fitting cover, D, firmly secured to it, and the electrodes L O, of the stationary cover H, the sliding rod G, attached to the jar-cover D and its fastening K, and the stationary rods M P, attached to the electrodes and their binding-posts N Q, substantially as herein shown and described, whereby the electrodes and the solution can be readily brought into contact and separated, as set forth.

266,130. SCREEN. NICHOLAS W. GODFREY, Bayville, N. Y. Filed Aug. 9, 1882. (No model.)



Claim.—A rotary multiple screen, having the central rotary shaft and screen-frames combined with and connected by collars D, threaded radial rods C, having washers *a f*, end nuts, *b*, and the short tubes or pipes E, substantially as shown and described.

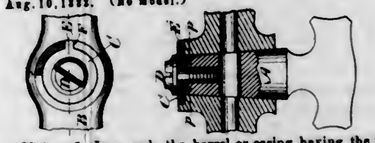
266,131. HAY AND STRAW BURNING STOVE. HENRY GOODMAN, Redwood Falls, Minn. Filed Mar. 20, 1882. (No model.)



Claim.—1. In a stove, the supporting-partition *b'*, arranged centrally above and behind the oven C, bifurcated at *b*, forming a smoke-space, *b²*, having outlet in the smoke-flue *a*, substantially as shown and described.

2. In a stove, the dampers *c* and *d*, the damper *c* arranged at the mouth of the space *b²* and the damper *d* at the opening of one side of the flue *b*, in combination, substantially as shown, and for the purposes set forth.

266,132. COCK. CHARLES H. GOODRICH, Stoneham, Mass. Filed Aug. 10, 1882. (No model.)



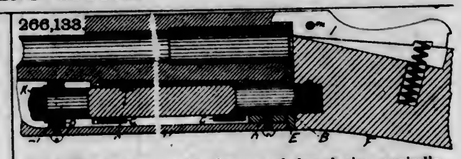
Claim.—1. In a cock, the barrel or casing having the fixed member of the plug-arresting stop, combined with the washer attached, as usual, to the plug, and serving to connect the latter to the barrel, and provided with the stud E or its equivalent, whereby said washer is enabled to serve as the movable member of said stop in addition to its usual function, as set forth.

2. In a cock, the combination of a cylindrical plug, the barrel having the fixed member, of the top and the detachable washer having the movable member of the stop, and pins *p p*, entering orifices in the end of the plug, whereby independent movement of the washer is prevented, as set forth.

266,133. BREECH-LOADING FIRE-ARM. HENRY R. GRANGER, New York, N. Y., (Albert Granger, Administrator of said Granger, deceased.) Filed Feb. 27, 1880.

Claim.—1. The combination, in a fire-arm, of a breech-piece, a spirally-grooved rod secured therein and projecting therefrom, a fore-stock fitting upon said rod and capable of turning thereon, but incapable of longitudinal movement, and a barrel provided with a socket fitting upon said rod adapted to turn with the said fore-stock, and provided with one or more projections or threads engaging with the groove or grooves in the rod, substantially as and for the purpose specified.

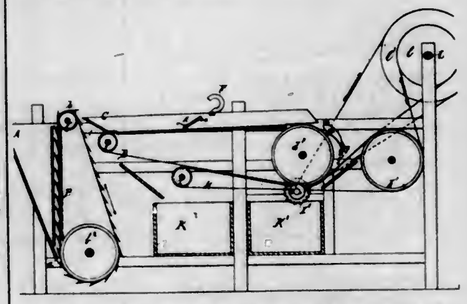
266,133.



2. The combination, in a fire-arm, of a breech-piece, a spirally-grooved rod secured therein and projecting therefrom, a fore-stock fitting upon said rod and capable of turning thereon, but incapable of longitudinal movement, a barrel, an attached carriage fitting upon said rod adapted to turn with the fore-stock, and provided with one or more projections or threads engaging with the groove or grooves in the rod, and a spring-latch for preventing the carriage from accidentally turning upon the rod, substantially as and for the purpose specified.

4. The combination of the breech-piece F, the spirally-grooved rod B, the fore-stock D, fitting upon said rod, the nut K, for preventing longitudinal movement of the said fore-stock, the barrel A, and its attached carriage C, provided with one or more projections or threads, H, substantially as specified.

266,134. FISH-CUTTER. JAMES E. GRADY, Philadelphia, Pa. Filed July 22, 1882. (No model.)



Claim.—1. In a machine for dressing fish, the combination of the hopper A, the elevator-belt B, provided with buckets *b*, chute C, endless belts D and H, with their pulleys *d h* and *d' h'*, and knives I and I', substantially as shown and described.

2. In a machine for dressing fish, the combination of the endless belt or carrier D, pulleys *d d'*, swing-gate E, deflectors F and G, chute C, and the cutters I and I', substantially as shown and described.

3. In a machine for dressing fish, the combination of the endless belts D and H, with their pulleys *d h* and *d' h'*, and the cutters I I', on each side of the belt, with the chute C and deflector G, whereby the fish are delivered sidewise to the cutters, substantially as shown and described.

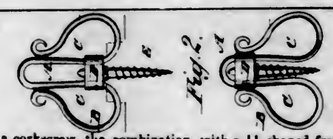
4. In a machine for dressing fish, the combination, with the chute C and carrier D, of the inclined gate E and curved deflector F, whereby the position of the fish on the carrier is automatically regulated, substantially as described.

5. In an apparatus designed to prepare and dress fish by mechanical means, a deflector made, substantially as described, as the longitudinal section of a cone or conoid, and having a flattened side or projection, and adapted to alter the relative position of the fish while descending from one carrier to another carrier parallel to it.

266,135. CORKSCREW. GEORGE W. GRISWOLD, Pottersville, N. Y. Filed Sept. 2, 1882. (No model.)

Claim.—1. A corkscrew made substantially as herein shown and described, and consisting of a screw attached to a block sliding on the shanks of a U-shaped frame, as set forth.

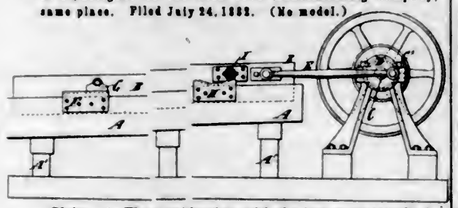
266,135.



2. In a corkscrew, the combination, with a U-shaped frame having the ends of the shanks bent upward to form spring-loops, of a sliding screw mounted on the shanks of the frame, substantially as herein shown and described, and for the purpose set forth.

3. In a corkscrew, the combination, with the U-shaped frame A, having its shanks curved outward and upward to form spring-loops C at the sides of the frame A, of the sliding block D, mounted on the shanks of the frame A, and of the screw E, attached to the block D, substantially as herein shown and described, and for the purpose set forth.

266,136. STARCH-SEPARATOR. PAUL H. GRIMM, Glen Cove, N. Y., assignor to the Glen Cove Manufacturing Company, same place. Filed July 24, 1882. (No model.)

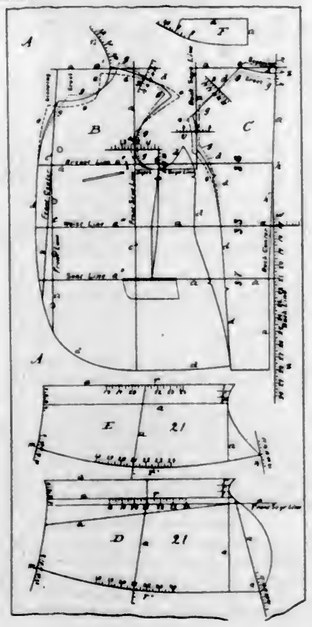


Claim.—1. The combination, with the box or receptacle A, the screen B, and devices for reciprocating the screen, of a roller or runner, I, and a curved or double inclined bearing, H, substantially as specified.

2. The combination, with the box or receptacle A, the screen B, and devices for reciprocating the screen, of curved or double inclined bearings H, attached to the box or receptacle, and rollers or runners I, attached to the screen, substantially as specified.

266,137. PATTERN-DRAFT. JOHN LA RUE GROVER, Elizabeth, N. J. Filed Mar. 16, 1882. (No model.)

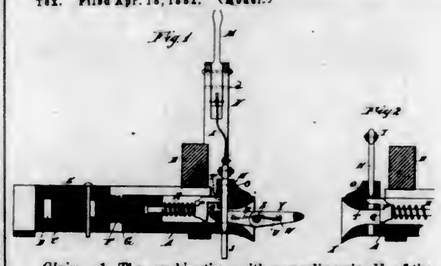
Brief.—The pattern-drafts are printed, have outlines varying for the same size, and base-lines and scales graduated thereon, serving as guides for producing a pattern for a standard, a stooping, or an erect form.



Claim.—1. Printed pattern-drafts of garments, having outlines *d*, *e*, and *g*, varying for the same size, and scales or graduated lines thereon, serving as guides, substantially as specified.

2. Printed pattern-drafts of garments, having outlines *d*, *e*, and *g*, varying for the same size, and base-lines *a* and scales or graduated lines thereon, serving as guides, substantially as specified.

266,138. CAR-COUPLING. NATHAN M. HALE, Grand View, Tex. Filed Apr. 18, 1882. (Model.)

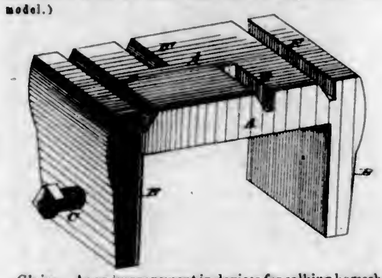


Claim.—1. The combination, with a coupling-pin, H, of the arm I, rod J, clip K, rod L, and lever M, all arranged as shown and described.

2. The combination, with a draw-bar having the extension O, of a lever limited by the stop-pin *d*, as shown and described.

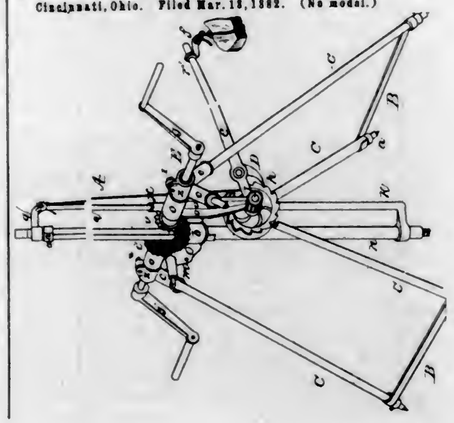
3. In car-couplings, the coupling-link, made in two U-shaped parts, pivoted together at S, and sustained in coupling position by spring or springs U, substantially as shown and described.

266,139. DEVICE FOR FORMING CALKS ON HORSESHOES. WILLIAM K. HARRELL, Clarinda, Iowa. Filed Apr. 24, 1882. (No model.)



Claim.—As an improvement in devices for calking horseshoes, the block A, having arms B B, set-screw C, transverse grooves D E, and short grooves F G, extending from the edge toward the center of the face of said block, substantially as and for the purpose set forth.

266,140. ROCK-BORING MACHINE. WILLIAM HASENBAHL, Cincinnati, Ohio. Filed Mar. 13, 1882. (No model.)



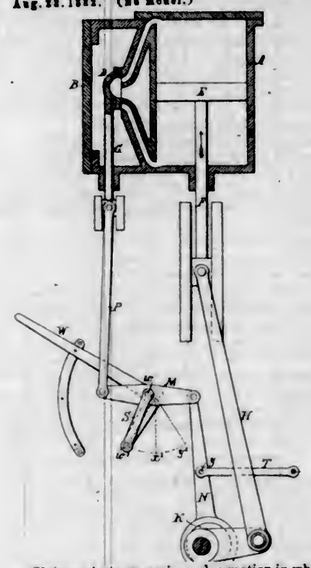
Claim.—1. The frame O, provided with the tubular bearings *g g*, combined with the driving-shaft E, journaled within said bearings, and the leg-socket clamp *s*, immediately about said shaft E, so as to clamp to the frame O, as and for the purpose set forth.

2. The frame O, provided with the horisontal tubular bearings *g* for the driving-shaft E and vertical bearings for the gear-pinion *b*, combined with leg-sockets *c c* upon the clamp *s*, adapted to clamp the exterior surfaces of said bearings *g g*, pinions *b'* *b'*, and drill-rod *n*, as set forth.

3. The rotating drill-rod *n* and the mechanism whereby it is driven, combined with the frame O, provided with horizontal cylindrical tubular bearings *g* for the driving-shaft E, the leg-sockets *c c*, and cylindrical clamp *s*, arranged to clamp the exterior surface of said bearing, whereby the angular direction of said rod in a vertical plane may be adjusted at will.

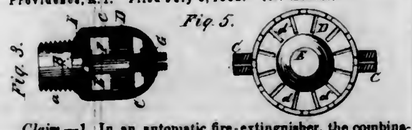
4. The rotating drill-rod *n* and hollow driver *b*, whereby it is propelled, combined with the long feather *r*, whereby said rod is compelled to rotate with said driver, and the concave clamp *a*, whereby said feather is rigidly but adjustably secured to said drill-rod.

266,141. VALVE-GEAR. JOHN HAUG, Philadelphia, Pa. Filed Aug. 22, 1882. (No model.)



Claim.—A steam-engine valve-motion in which are combined the following elements—namely: first, the valve and valve-rod; second, an eccentric and an eccentric-rod; third, a fulcrum, *y*, for the eccentric-rod; fourth, a lever, M, one arm of which is connected to the eccentric, the other arm being connected to the valve-rod; fifth, a link, S, on one end of which is the fulcrum for the lever M; and, sixth, mechanism whereby the outer end of the said link may be adjusted, all substantially as set forth.

266,142. AUTOMATIC FIRE-EXTINGUISHER. OZRO C. HEATH, Providence, R. I. Filed July 8, 1882. (No model.)



Claim.—1. In an automatic fire-extinguisher, the combination, with the base provided with a nozzle, of the pendent distributer having the serrated edge, and the slits extending down the rim and partially across the bottom of the distributer, and the conical valve with its stem, substantially as shown and described.

2. The combination, substantially as before set forth, of the base provided with a nozzle and valve-seat, the frame secured to the base and provided with the annulus, and a distributer arranged between said base and annulus, the valve with its screw-threaded valve-stem, and the screw-threaded hard-metal nut secured with low-fusible material to the annulus.

3. The base provided with a nozzle and valve-seat, the frame secured to the base and provided with the annulus, the distributer attached to the frame between said base and annulus, and having the upturned rim with its serrated edge, and the slits extending down the rim and partially across the bottom of said distributer, the valve with its screw-threaded stem, and the screw-threaded hard-metal nut secured with low-fusible material to the annulus, in combination, substantially as shown and described.

266,143. COMPOUND FOR FURNACE-LININGS AND FIRE-BRICK. JAMES HENDERSON, Bellefonte, Pa., assignor to Charles G. Francklyn, New York N. Y. Filed Sept. 4, 1882. (No specimens.)

Claim.—1. The process of manufacturing furnace-linings or fire-brick, consisting of mixing curd of milk or lactic acid with the refractory materials or compounds, as specified.

2. The process of manufacture of furnace-linings or fire-brick, consisting in subjecting lime, magnesian lime, or magnesia to sufficiently high temperatures to frit or harden it, and, secondly, to pulverize the fritted lime, magnesian lime, or magnesia and mix it with curd of milk or lactic acid, as specified.

266,144. MANUFACTURE OF COMPOUNDS FOR FURNACE-LININGS AND FIRE-BRICK. JAMES HENDERSON, Bellefonte, Pa., assignor to Charles G. Francklyn, New York, N. Y. Filed Sept. 4, 1882. (No specimens.)

Claim.—The process of manufacture of furnace-linings or fire-brick, consisting in subjecting lime or magnesian lime to sufficiently high temperatures to frit or harden it, and, secondly, to pulverize the fritted or hardened lime or magnesian lime and mix it with hydrated lime or magnesian lime, as specified.

266,145. MANUFACTURE OF COMPOUNDS FOR FURNACE-LININGS AND FIRE-BRICK. JAMES HENDERSON, Bellefonte, Pa., assignor to Charles G. Francklyn, New York, N. Y. Filed Sept. 4, 1882. (No specimens.)

Claim.—1. The process of manufacture of furnace-linings or fire-brick, consisting in subjecting lime or magnesian lime to sufficiently high temperatures to frit or harden it, and, secondly, to pulverize the fritted or hardened lime or magnesian lime and mix it with a vegetable binding substance from which starch or sugar may be derived and water, as specified.

2. The process of manufacture of furnace-linings or fire-brick, consisting in subjecting lime or magnesian lime to sufficiently high temperatures to frit or harden it, and, secondly, to pulverize the fritted or hardened lime or magnesian lime and mix it with glucose and water, as specified.

3. The process of manufacture of furnace-linings or fire-bricks, consisting in subjecting lime or magnesian lime to sufficiently high temperatures to frit or harden it, and, secondly, to pulverize the fritted or hardened lime or magnesian lime and mix it with a compound of glucose, hydrated lime or magnesian lime, and water, as specified.

266,146. COMPOUND FOR FURNACE-LININGS AND FIRE-BRICK. JAMES HENDERSON, Bellefonte, Pa., assignor to Charles G. Francklyn, New York, N. Y. Filed Sept. 6, 1882. (No specimens.)

Claim.—1. The compound for furnace-linings and fire-brick, consisting of silica, sulphate of lime, and water, as specified and set forth.

2. The compound for furnace-linings and fire-brick, consisting of silica, sulphate of lime, and water, and a vegetable substance from which starch or sugar may be derived, as specified and set forth.

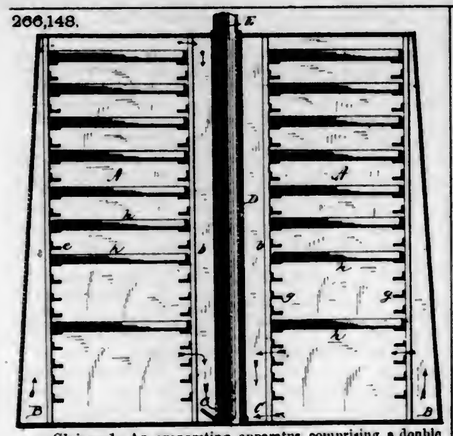
266,147. METHOD OF MANUFACTURING CHENILLE. GEORGE F. HEBERL, Philadelphia, Pa. Filed May 5, 1882. (Model.)



Claim.—The method herein described of making chenille, said method consisting in weaving a web having spaced warped bands, as described, then cutting said web into strips, each having two or more warp-bands, and then twisting these strips, whereby they are first caused to fold in the center and then to assume a spiral form, as set forth.

266,148. EVAPORATOR. JOSEPH C. HENDERSON, Troy, N. Y. Filed July 27, 1882. (No model.)

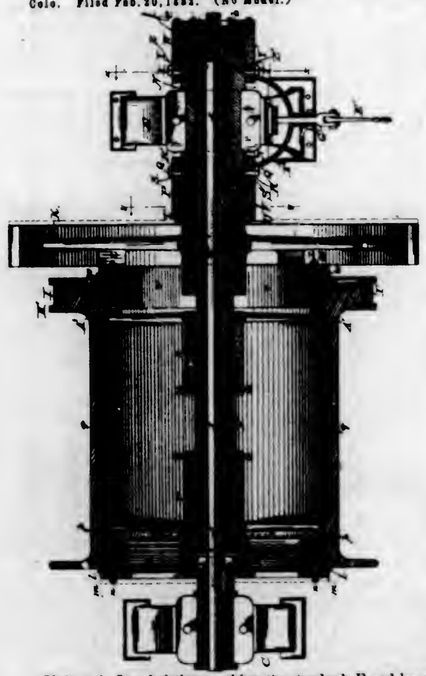
266,148.



Claim.—1. An evaporating apparatus comprising a double drying-chamber with upwardly-inclined side walls or deflectors, in combination with the hot-air flues, and an exhaust-flue located between the drying-chambers, suitable dampers, and a smoke-flue extending up through said exhaust-flue, substantially as herein described.

2. In an evaporating apparatus, the drying-chamber A, constructed with an inclined wall or equivalent deflector, in combination with a heater provided with a pipe or flue carrying the heat up and into one side of the said chamber, the horizontal trays between which the heat is conducted, the exhaust-flue and the smoke-pipe extending from the heater into said flue, and both located on the side of chamber A opposite to the side in which the heat is introduced, substantially as described.

266,149. HOISTING-MACHINE. ARTHUR HEADEY, Denver, Colo. Filed Feb. 20, 1882. (No model.)



Claim.—1. In a hoisting-machine, the standards E and lever E', fork F', and arms C' and D', in combination with the outer collars, P and W, having the diagonal slots, and inner collar, N, having the flanges V and *a*, and outer caps, T and *e*, for operating against the flange on the hub of the gear K and the nut *b* on the rod *d*, said inner collar, N, being provided with pins having anti-frictional rollers, which pins enter the slots in the outer collars and allow of a partial diagonal revolution of said outer collars around the inner collar, N, substantially as described.

2. The hollow shaft H, having the slots *h* and *h'*, and working in the bearing C and collar N, and upon which is mounted the drum *q*, gear K, and friction-wheels *i* and *v*, in combination with the rod *d*, having the pin *g* working longitudinally in the slots *h* and *h'* of the shaft, the ends of said pin being fastened in the hub of the friction-wheel *i*, one end of the rod *d* having a screw upon which is screwed the nut *b*, held in place by the key *c*, said nut *b* being between the inner flange, *a*, of the outer collar W and the outer plate *e*, substantially as and for the purpose described.

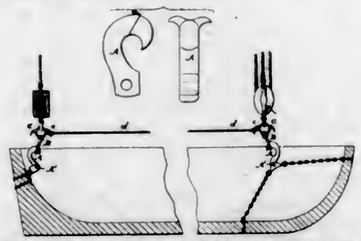
3. The hollow shaft H, in combination with the rod *d*, having the nut *b* fastened to one end and provided with the slots S in one end, and the nut *b*, provided with the grooves, for the purpose specified, said rod *d* being moved longitudinally back or forward through the shaft H by the action of the flange *a* and outer cap *e* of the outer collar W against the nut *b* when said outer collar is moved diagonally around the inner collar, N, substantially as described.

4. The combination of the diagonally-slotted outer collar P with the gear K and friction-wheel *v*, said gear K and friction-wheel *v* being moved laterally by the diagonal revolution of the outer collar P around the inner collar, N, and causing said friction-wheel *v* to engage with the friction-flange A' of the drum when moved one way and be removed from said friction-flange when moved the other, substantially as described.

5. The combination of the diagonally-slotted outer collar W and rod *d*, secured to the friction-wheel *i*, said rod *d* being moved longitudinally back or forward through the shaft H by the diagonal revolution of the outer collar W, and causing the friction-wheel *i* to engage with the friction-flange *p* of the drum, substantially as described.

6. In a hoisting-machine, the drum, the hollow shaft H, mounted in suitable bearings, through which runs the rod *d*, which engages at one end with the friction-wheel *i* and at the other with the outer collar W, the inner collar, N, mounted in suitable bearings, and around which diagonally revolve the outer collars, P and W, the pins in said inner collar having anti-frictional rollers and working in the diagonal slots in the outer collars, P and W, the diagonally-slotted outer collars, P and W, having inner flanges, one of which engages with the rod *d* and imparts motion to said rod, the other engaging with the gear K and friction-wheel *v*, the two friction-wheels operated by the movement of the rod *d* and collar P, and the lever for moving said outer collars, substantially as described.

266,150. BOAT-DETACHING APPARATUS. EDWARD J. HILL and JOSIAH L. CLARK, Westminster, England. Filed June 18, 1881. (No model.) Patented in England Sept. 28, 1879, No. 3,887; in France Mar. 25, 1880, No. 135,777, and in Belgium Mar. 30, 1880, No. 51,002.

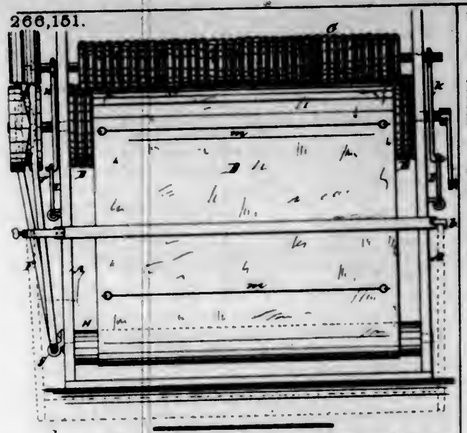


Claim.—In a boat lowering and detaching apparatus, the combination of a hook formed with horn-like projections or stops, as described, and fixed in an inverted position to a ship's boat, with a link attached to the boat-lowering tackle and engaging said hook and bearing against the projections or stops, substantially as and for the purpose specified.

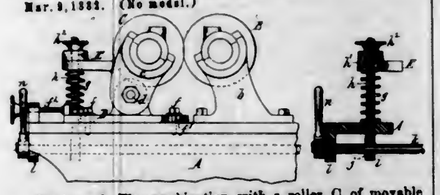
266,151. WASHING-MACHINE. JONATHAN K. HOBBY, Ottawa, Kans. Filed Feb. 17, 1882. (No model.)

Claim.—In combination with the shaft of roller B, the grooved cam E, the hinged rods F, having projections engaging the opposite sides of said cam, the long slotted tubes G, and the roller-shafts having projections *i*, whereby said rolls C may be reciprocated without any interference with their rotary movement, as described.

266,151.



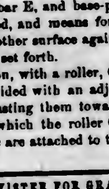
266,152. ROLLER-MILL. NOAH W. HOLT, Buffalo, N. Y., assignor of one-third to Richard K. Noye, same place. Filed Mar. 9, 1882. (No model.)



Claim.—1. The combination, with a roller, C, of movable bearings *c*, connecting-bar E, and base-pieces D, upon which the bearings *c* are supported, and means for adjusting them toward and from the roller or other surface against which the roller C operates, substantially as set forth.

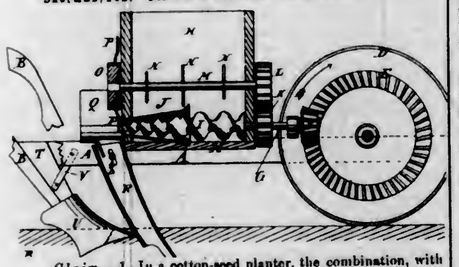
2. The combination, with a roller, C, of movable bearings *c*, connecting-bar E, provided with an adjusting device, base-pieces D, and means for adjusting them toward and from the roller or other surface against which the roller C operates, and pivots *d*, whereby the bearings *c* are attached to the base-piece D, substantially as set forth.

266,153. WIRE-TWISTER FOR GRAIN-BINDERS. HARRISON H. HOOTON, Centralia, Ill. Filed Mar. 14, 1881. (No model.)



Claim.—A twisting-pinion having curved projecting hooks on opposite sides and radial slots or grooves at the bases of the hooks for receiving and holding the wire while the twist is being made, substantially as described.

266,154. COTTON-SEED PLANTER. THOMAS P. HOPPER, Sherman, Tex. Filed Feb. 18, 1882. (No model.)



Claim.—1. In a cotton-seed planter, the combination, with the frame A, the drive-wheel D, the gear-wheel E, and the hopper H, of the gear-wheel F, the shaft G, the tapering screw I, and the tapering tube J, having a flaring inner end, substantially as and for the purpose set forth.

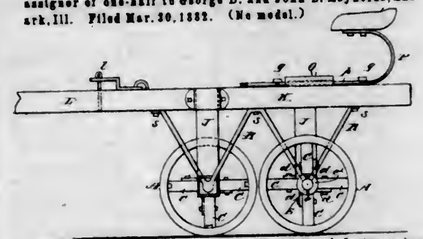
2. In a cotton-seed planter, the combination, with the hopper H, the screw I, and the stirrer-shaft, of the wheel O, provided with radial arms P, and means for operating the said screw and wheel, substantially as and for the purpose set forth.

3. In a cotton-seed planter, the combination, with the hopper H, the shaft G, screw I, and the gear-wheel K, of the gear-wheel L, the stirrer-shaft M, and the wheel O, provided with radial arms P, substantially as and for the purpose set forth.

4. In a cotton-seed planter, the combination, with the frame A, the hopper H, the screw I, and the wheel O, provided with radial arms P, of the flanged apron Q and the adjustable hoe R, substantially as and for the purpose set forth.

5. In a cotton-seed planter, the combination, with the frame A, the hopper H, and the scraper U, of the adjustable hoe R, provided with a series of holes in its lower end to receive the point of the scraper, substantially as and for the purpose set forth.

266,155. LAND-ROLLER. ROBERT A. HOSKINS, Brookville, assignor of one-half to George D. and John L. Reynolds, Lanark, Ill. Filed Mar. 30, 1882. (No model.)



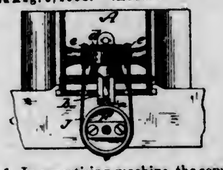
Claim.—1. A roller consisting of end-beveled staves, two bands, B B, turned backward to form a flange, *b*, rounded on the outside and V-shaped on the inside, radial braces, and a hub having radial wings bolted to said braces, as shown and described.

2. In a land-roller, the combination of the cylinders A, the radial braces C, and the hubs D, provided with the radial wings *d*, substantially as and for the purposes herein described.

3. In a land-roller, the combination, with the hub D, beam H, and clamping-plates *g*, of the axles E, provided with the horizontal transverse pivots *f*, substantially as and for the purpose herein described.

4. The combination, with the axles, rails, and tongue, of the W-braces R, having a bearing at each angle, a connection with one of the rails at each free end, and attached in the middle to the tongue, as shown and described.

266,156. MORTISING-MACHINE. LEVI HOUSTON, Montgomery, Pa. Filed Aug. 8, 1882. (Model.)



Claim.—1. In a mortising-machine, the combination of a driving-shaft, a tool-carrier driven thereby, a reversing-head, and a double pulley having its two sections of unequal diameter interposed between the driving-shaft and the reversing-head, and serving to impart motion from the former to the latter, as explained, whereby the reversing-head is given a slow motion relatively to the driving-shaft.

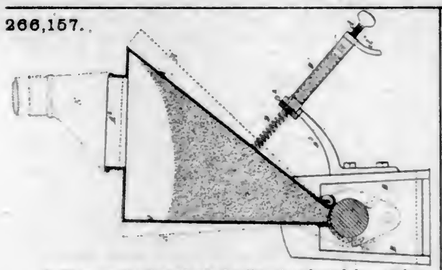
2. The combination, substantially as shown and described, of the shaft B, provided with pulley I, the reversing-head F, the double pulley G, having sections of unequal diameter, interposed between the shaft and reversing-head, and connected with the two by belts H and J, respectively, and the guide-pulleys *e*, all arranged and operating as and for the purpose set forth.

266,157. FEEDING APPARATUS FOR GRAIN-MILLS, &c. JOHN HURT and ALEXANDER MORTON STRATHERN, Glasgow, Scotland, assignors to said Hurt. Filed Sept. 5, 1882. (No model.) Patented in England Dec. 28, 1881, No. 5,899.

Claim.—1. The combination of the feed-roll of a device for feeding granular material with a balanced hopper pivoted over said roll, substantially as and for the purpose set forth.

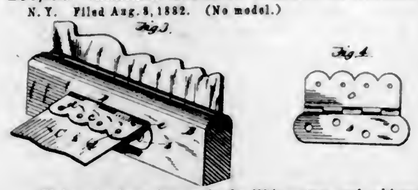
2. The combination of a feed-roll with a movable hopper having its delivery end over said roll and devices, substantially as described, for balancing said hopper against the weight of its contents.

266,157.



3. The combination of a feed-roll and a pivoted hopper having one of its sides about vertical, and having its discharge end over said roll, with a counterbalancing device for supporting the hopper on its inclined side.

266,158. CARRIAGE-TRIMMING. JOSEPH IRVING, Rochester, N. Y. Filed Aug. 8, 1882. (No model.)

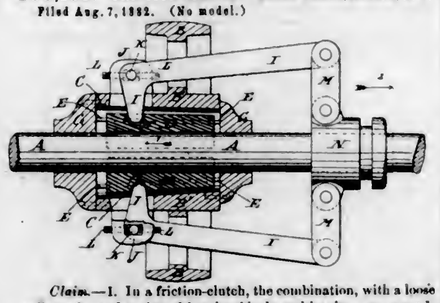


Claim.—1. A carriage-sash, the lifting-strap, and a hinged connection, substantially as shown, uniting said strap and the lower end of said sash, whereby the strap is permitted to fold upward and downward without being bent closely against the face of the sash.

2. The combination of the carriage-body having the recess or pocket, the vertically-sliding sash mounted therein, and the flexible lifting-strap C, attached to the lower edge of said sash by means of the hinged connection, as described and shown.

3. As a new article of manufacture, a lifting-strap for carriage-sash, the same consisting of the flexible strap provided at one end with a hinged leaf or plate adapted, substantially as described, for attachment to the window.

266,159. FRICTION-CLUTCH. HENRY JAMES, Hudson, N. Y. Filed Aug. 7, 1882. (No model.)



Claim.—1. In a friction-clutch, the combination, with a loose pulley, of a wedge-shaped bearing-block working in a corresponding recess in the hub of said pulley, and adapted to be slid back and forth therein while the shaft is in motion, substantially as and for the purpose set forth.

2. In a friction-clutch, the combination, with a loose pulley provided with wedge-shaped recess in its hub, of a wedge-shaped bearing-block, and mechanism, substantially as shown and described, for sliding the said block back and forth in the said recess, as and for the purpose set forth.

3. In a friction-clutch the combination, with the loose pulley B, provided with the wedge-shaped recess C in its hub, of the wedge-shaped bearing-block D, having a recess, H, the elbow-levers I, the links M, and the sliding collar N, substantially as and for the purpose set forth.

4. In a friction-clutch, the combination, with the loose pulley B, provided with the wedge-shaped recess C, having grooves E, of the wedge-shaped bearing-blocks D, provided with the tongues F and recess H, the elbow-levers I, the links M, and the sliding collar N, substantially as and for the purpose set forth.

5. In a friction-clutch, the combination, with the slotted hub B′, of the loose pulley provided with the wedge-shaped recess C and the lugs J, and the wedge-shaped bearing-blocks D, of the elbow-levers I, adjustably pivoted therein, the links M, and the sliding collar N, substantially as and for the purpose set forth.

6. In a friction-clutch, the combination, with the slotted lugs J and the pivots K, of the set-screws L, substantially as herein shown and described, whereby the throw of the bent levers can be readily adjusted to take up the wear of the wedges, as set forth.

266,160. REFRIGERATING APPARATUS. DAVID D. JOHNSON, New York, N. Y. Filed Aug. 12, 1882. (No model.)

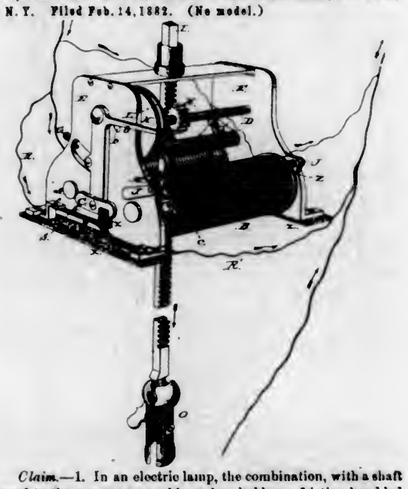


Claim.—1. In combination with a chamber or vessel to be cooled, a tubular gas receiver or holder containing compressed or liquefied gas, said holder being located directly within the chamber or vessel in which the cooling is to be effected, whereby the cold of the holder is fully utilized.

2. A gas holder or receiver for use in refrigerating, composed wholly or mainly of tubes or pipes, substantially as shown and described, whereby a large cooling-surface is secured, and the holder is adapted to act also as a cooler.

3. A tubular gas-receiver, substantially such as described and shown, provided with two valves or cocks, the whole constituting a new article of manufacture.

266,161. ELECTRIC-ARC LAMP. OTTO KARTZMARK, New York, N. Y. Filed Feb. 14, 1882. (No model.)



Claim.—1. In an electric lamp, the combination, with a shaft geared to the upper or movable carbon-holder, a friction-band led over a pulley upon said shaft, and an adjusting-magnet in a shunt-circuit of greater resistance than the general circuit, of a lever actuated by the armature of the adjusting-magnet and adapted to release the tension of the friction-band when said magnet is excited, substantially in the manner and for the purpose herein set forth.

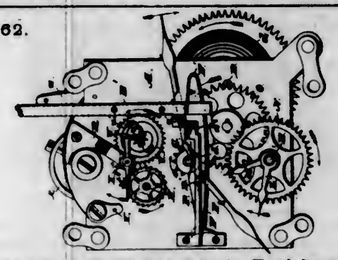
2. In an electric lamp, an insulated offset upon the armature of the regulating-magnet A, in combination with double contact-springs S S, placed in a cut-out circuit and actuated by said offset, each independently and successively, to open or close the circuit as the armature moves to or from its magnet, substantially in the manner and for the purpose herein described.

3. In an electric lamp, a support, *h*, for the lamp-shade, closed from below by a hinged lid, *n*, and combined with a divided socket, *l*, for holding the lower carbon, adapted to be closed by the closing of the lid and to open by gravitation when the lid is opened, substantially in the manner and for the purpose herein set forth.

266,162. CHRONOGRAPH. JACOB KARN, Washington, D. C. Filed June 23, 1882. (Model.)

Claim.—1. As a means for operating the quarter-seconds hand x^2, the supplemental escape-wheel V, and four-armed pallet x', each independently driven in the manner and for the purpose specified.

266,162.



2. In combination with the pallet-arbor X and four-armed pallet x', the wheel V, journaled upon the arbor U and connected therewith by means of the spring u', substantially as and for the purpose shown.

3. The combination of the arbor X, provided with the toothed carrier x, with the wheel V, journaled upon said arbor and provided with the relieving-pin v, and the spring u', secured to said wheel and adapted to engage with said carrier and pin, substantially as and for the purpose set forth.

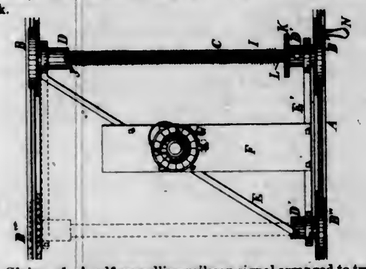
4. In combination with the marker B′, the sleeve C′, adapted to move longitudinally upon the arbor G, and provided at its outer end with the arm c' and near its inner end with the groove c^2, the spring D′, having the lug d' and twisted free end d^2, the vertically-movable bar E′, provided with the inclined lug e', and the spring F′, adapted to hold said bar at the upper limit of its motion, substantially as and for the purpose shown and described.

5. A clock in which the ordinary minutes and hours hands are located below the center of the dial, and are driven directly by the second arbor, to which said minutes-hand is attached, substantially as and for the purpose specified.

6. A clock in which the ordinary minutes and hours hands are placed below the center of the dial, and are driven directly by the second arbor, and a supplemental minutes-hand is located at the center of said dial, and is driven through dial-wheels by said second arbor, substantially as and for the purpose shown.

266,163. RAILROAD-SIGNAL. J. MILLER KELLY, Rochester, N. Y. Filed May 10, 1882. (No model.)

Brief.—An automatically-propelled signal traveling upon the track.



Claim.—1. A self-propelling railway-signal arranged to travel on the track, substantially as and for the purposes set forth.

2. The combination, with a danger-signal, of a suitable frame-work and running-gear and the spring I, substantially as and for the purposes set forth.

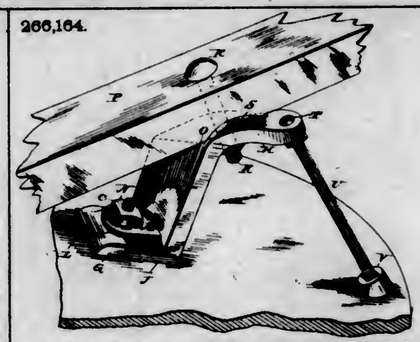
3. The combination, with a danger-signal, of suitable frame-work and running-gear, spring I, and detent L, substantially as and for the purposes set forth.

266,164. PLOW. KIRK KELLOGG, Kalamazoo, Mich., assignor to himself and O. M. Allen, Jr., same place. Filed Feb. 7, 1882. (No model.)

Claim.—1. The combination, with the mold-board or with the landside of a plow, provided on its inner face with lugs to clasp the head of a bolt, of a connecting-plate recessed at one end to fit over the said lugs, and perforated to receive the bolt, which is held between them while its opposite end is adapted to be secured to the handle of the plow, substantially as set forth.

2. The combination, with the mold-board or with the landside of a plow, provided on its inner face with a pair of lugs, the opposing edges of which are beveled to receive and retain the head of a bolt, of a connecting-plate recessed at one end to fit over said lugs, and perforated to receive the bolt which is held between them, substantially as set forth.

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3. The combination, with the mold-board or with the landside of a plow, provided on its inner face with a pair of T-shaped lugs, the opposing edges of which form a V-shaped recess to receive the head of a bolt, of a connecting-plate recessed at one end to fit over and lock with the lugs, and perforated to receive the bolts held between them, substantially as set forth.

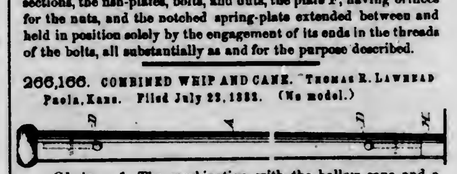
4. The combination, with the mold-board of a plow, provided on its inner face with lugs adapted to clasp the head of a bolt, and with a socket to receive one end of a trace, of a connecting-plate recessed at one end to fit over and lock with the lugs, and perforated to receive the bolt held between them, and provided at its opposite end with a perforated projection to receive the other end of the brace aforesaid, substantially as set forth.

266,165. NUT-LOCK. WILLIAM C. LADD, Kingsley, Fla. Filed July 18, 1882. (No model.)



Claim.—In railway-rail joints, the combination of the rail-sections, the fish-plates, bolts, and nuts, the plate F, having orifices for the nuts, and the notched spring-plate extended between and held in position solely by the engagement of its ends in the threads of the bolts, all substantially as and for the purpose described.

266,166. COMBINED WHIP AND CANE. THOMAS R. LAWHEAD Paola, Kans. Filed July 22, 1882. (No model.)



Claim.—1. The combination, with the hollow cane and a whip, having groove G, of the hook-ended latch D, having a head, D′, caused to protrude through a hole in the cane, as shown and described.

2. The combination, with the tubular cane A, of the whip part B, having an annular groove, G, in its base end, and of the latches D at the opposite ends of the same, substantially as herein shown and described, and for the purpose set forth.

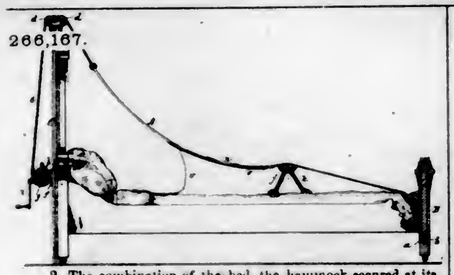
3. The combination, with the tubular cane A, of the whip part B, having an annular groove, G, at its base end, and the latches D, pivoted at the ends of the cane in recesses in the inner surface, substantially as herein shown and described, and for the purpose set forth.

4. The combination, with the tubular cane A, of the whip part B, having an annular groove, G, at its base, and the latches D, provided with heads D′, and pivoted in recesses in the inner surface of the cane, substantially as herein shown and described, and for the purpose set forth.

266,167. INVALID-HAMMOCK. ANDREW LESLIE, St. Louis, Mo. Filed Sept. 2, 1882. (No model.)

Claim.—1. The combination, with a bedstead of ordinary or suitable construction, of a hammock placed over the bed and attached at its lower end to the foot of the bedstead and a hoisting device connected with the other end of the hammock and adapted to raise or lower and sustain that end of the hammock, substantially as and for the purposes hereinbefore set forth.

266,167.

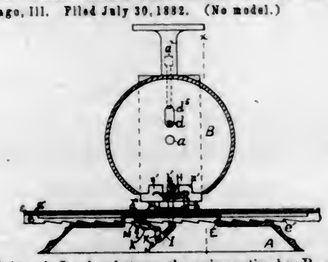


2. The combination of the bed, the hammock secured at its lower end to the foot of the bed, and a hoisting device attached to and carried by the bed and connected by a cord or equivalent instrumentality to the head of the hammock, substantially as and for the purposes hereinbefore set forth.

3. The folding knee-rest, constructed and adapted for use in connection with the bed and hammock, substantially as hereinbefore set forth.

4. The hammock formed with a hole or opening, as described, in combination with the covering-flap and flap-fastening devices on the under side of the hammock, substantially as hereinbefore set forth.

266,168. PERFORATING HAND-STAMP. GEORGE W. LE VIN, Chicago, Ill. Filed July 30, 1882. (No model.)



Claim.—1. In a hand-stamp, the reciprocating box B, carrying a revolving punching-wheel, D, provided with a fixed dial, D^s, and slots d', working over a pin, d, an arm, H, actuating a shaft, J, carrying the arm K, provided with a spur, o, and pawl M, in combination with the pawl m and clamp L, substantially as and for the purpose specified.

2. In a hand-stamp, the revolving wheel D, provided upon its periphery with punches s, arranged to punch the paper beyond the exterior margin of the character desired, slots d', and notches n', in combination with the box B, provided with dial D^s and arm H, arranged to actuate the clamp L, operated by pawls M and m, substantially as and for the purpose specified.

266,169. LETTER-COPYING BOOK. GEORGE C. LIPMAN, Brooklyn, N. Y. Filed Apr. 22, 1882. (No model.)

Brief.—A letter-press copying-book having leaves of absorbent paper bound in at intervals with the copying-leaves.

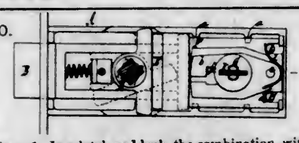


Claim.—1. A press-copying book provided with absorbent pads in alternation with groups of copying-leaves, substantially as and for the purpose set forth.

2. In a press-copying book, the combination, with the copying-leaves, of a series of absorbent pads separated by groups of copying-leaves and narrower than the latter, substantially as described, and for the purposes set forth.

266,170. LOCKING-LATCH. JOSEPH LOCH, New York, N. Y., assignor to himself and George Bayer, same place. Filed Feb. 10, 1882. (Model.)

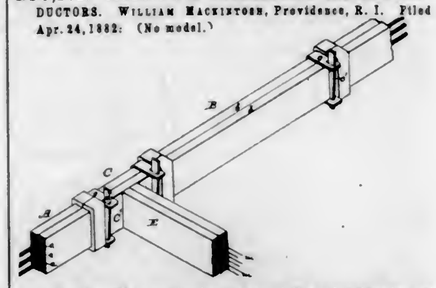
266,170.



Claim.—1. In a latch and lock, the combination, with the casing and the sliding latch arranged in the front end of the casing and operated by the knob-spindle, of a sliding lock-bolt, F, arranged in rear of the latch, but in line therewith, two sets of tumblers, $b\,b'$, arranged respectively on opposite sides of the lock-bolt, a rotary hub, and a detachable key recessed in its opposite edges and adapted to rotate the said hub from either side of the door for sliding the locking-bolt against the rear end of the sliding latch, substantially as and for the purpose described.

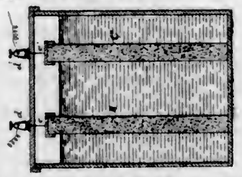
2. The combination of the bolt F, two sets of tumblers, $b\,b'$, one on each side of the bolt, the rotary slotted hub G, the bit A, projecting from said hub, and the slotted disks $g\,g'$, placed in cavities of the lock-case and secured to the ends of the slotted hub, all constructed to operate substantially as and for the purpose set forth.

266,171. CONDUIT FOR UNDERGROUND ELECTRIC CONDUCTORS. WILLIAM MACKINTOSH, Providence, R. I. Filed Apr. 24, 1882. (No model.)



Claim.—The combination, substantially as hereinbefore set forth, of a main conduit constructed with multiple chambers for containing electric conductors, removable sections interposed at requisite intervals along the length of said main conduit and consisting of short lengths of conduit having the same internal construction as the main conduit, interchangeable sections for replacing the removable sections, and branch conduits having chambers for containing electric conductors corresponding to those of the main conduit, the said interchangeable sections and branch conduits being also constructed as described, whereby the two may be united so as to connect the chambers of the branch conduit with the corresponding chambers with the main conduit.

266,172. PLATE FOR SECONDARY BATTERIES. JAMES A. MALONEY, Washington, D. C., and CHARLES H. KOYL, Cobourg, Ontario, Canada, assignors to the American Electrophore Company, Washington, D. C. Filed Sept. 26, 1882. (No model.)



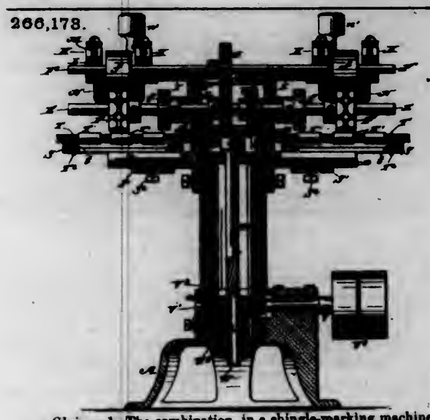
Claim.—1. A porous carbon plate for secondary batteries, primarily permeated or filled with a solid polarizable substance, substantially as hereinbefore set forth.

2. The combination, in a secondary battery, of two porous plates having their pores or cells primarily filled, the one with peroxide of lead or other higher form of lead oxide, the other with a lower form of lead oxide, substantially as hereinbefore set forth.

3. The method of preparing porous plates of secondary batteries, consisting in exhausting or expelling the air from their pores or cells and then filling said plates with a solid polarizable substance, substantially as hereinbefore set forth.

266,178. MACHINE FOR MARKING SHINGLES. HENRY E. MARCHAND, Allegheny, Pa. Filed June 9, 1881. (No model.)

266,178.

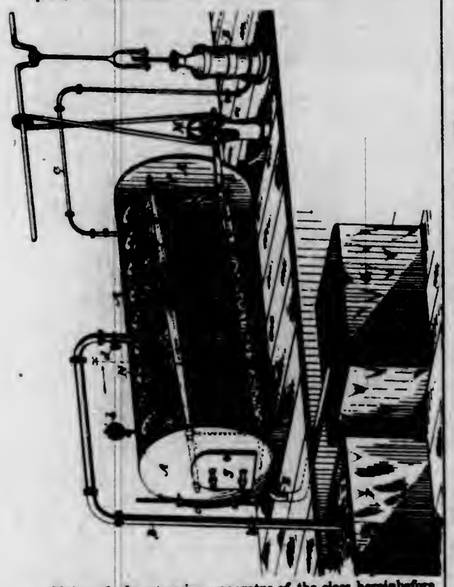


Claim.—1. The combination, in a shingle-marking machine, of the shafts carrying the inking and marking rollers, and having intermeshing gears, with a vertical rotary shaft arranged within a tubular standard and carrying a gear engaging a gear upon the shaft that is provided with a marking-roller, the worm-wheel upon the vertical rotary shaft, and the rotary horizontal driving-shaft provided with a worm engaging the said worm-wheel, substantially as described.

2. In a shingle-marking machine, the combination, with the marking-roller, of the horizontal table provided at one end with a gage, s^3, for the ends of the shingles, said gage running transversely to the axis of the shaft carrying the marking-roller, and the said table being adjustably secured below the said marking-roller upon an arm of the vertical standard, substantially as described.

3. The combination, in a shingle-marking machine, of the feed and marking rollers with the table, and the yielding frame carrying the rollers and supported upon the table, substantially as described.

266,174. TANNING APPARATUS. WENZEL MAŠEK, Philadelphia, Pa. Filed Aug. 26, 1882. (No model.)



Claim.—1. In a tanning apparatus of the class hereinbefore specified, the combination, substantially as shown and described, of the cylinder having a door for entrance and exit and means for suspending hides therein, the board arranged contiguous to the bottom of said cylinder and fulcrumed or hinged, as specified, and means for oscillating the board in a vertical plane, whereby it is adapted to subserve the functions hereinbefore set forth.

2. The combination, with an oscillating frame adapted for use in suspending the hides, of the oscillating footway and splasher and rods for suspending it from said frame, substantially as shown and described.

266,175. VEHICLE-HUB. DANIEL MAY, Washington, D. C. Filed July 15, 1882. (Model.)

Fig. 1.



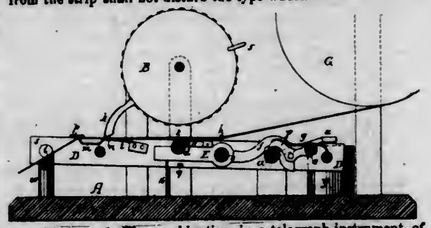
Fig. 3.



Claim.—The combination, with the axle-box having a permanent and an adjustable cap and provided with a longitudinal key or feather, of the wooden semi-hubs having registering flanges and pockets, said semi-hubs being inclosed by and clamped between the caps upon the axle-box, so as to clamp and hold the spokes, which are also clamped and supported by the flanges $x\,x'$ of the metallic caps, as set forth.

266,176. PRINTING-TELEGRAPH. WILLIAM J. MCCAUSLAND, Philadelphia, Pa., assignor to William W. Kurtz, same place. Filed Feb. 6, 1882. (No model.)

Brief.—The printing-pads are attached to a rock-shaft carried by the press-lever, being so arranged that they fall away from the type-wheel after each impression, whether the printing-magnet is demagnetized or not, thus avoiding blurred letters on the message-strip. A pin on the type-wheel serves, when brought into different positions, to set the pads for numbers or for letters, as desired. An improved unison mechanism which permits three complete revolutions of the type-wheel, after which it is held till the press-lever is actuated. A pin is attached to the press-lever for holding the message-strip firmly after each message, so that persons reading from the strip shall not disturb the type-wheel.



Claim.—1. The combination, in a telegraph-instrument, of the pivoted frame D and impression-block, the type-wheel B, the rock-shaft a, actuated by a magnet, and a device for clutching the frame to and releasing it from the said rock-shaft, all substantially as specified.

2. The combination, in a telegraph-instrument, of the type-wheel B, the pivoted frame D, the rock-shaft a, actuated by a magnet, a lug or finger adapted to clutch the frame D to the rock-shaft, and a lever, E, hung to the frame D, and having at one end the impression-block, and connected at the opposite end to the clutching lug or finger, as set forth.

3. The combination, in a telegraph-instrument, of a type-wheel, an impression-block, and means for actuating the same, with strip-retaining devices having a pin, t, for puncturing and holding the strip of paper, as set forth.

4. The combination of the strip-printing devices with the pivoted frame D, having a slotted plate, i, and the pivoted arm k, having a pin adapted to the slot of the plate, whereby the strip of paper is fed forward on each vibration of the frame, as set forth.

5. The combination of the pivoted frame D, having the spring-plate i and projection p, forming a strip-retainer, with the pivoted arm k, adapted to act in conjunction with the plate i to effect the feeding of the paper strip, as set forth.

6. The combination of the duplex type-wheel with the pivoted printing-frame D and the rock-shaft d, having two radial impression-blocks, 1 2, arranged in respect to each other and to the rows of type on the wheel, as set forth, whereby on the partial rotation of the rock-shaft one of said blocks is brought into use and the other is thrown out of operative position, as set forth.

l. The combination of the duplex type-wheel having a pin, 5, the frame D, and the rock-shaft *d*, having two radial impression-blocks, 1 2, and two arms, 3 4, as specified.

8. The combination of the duplex type-wheel having a pin, 5, the frame D, the rock-shaft *d*, having impression-blocks 1 2, arms 3 4, lug 7, and the spring 6, as set forth.

9. The combination of the type-wheel and pivoted printing-frame D, with stop mechanism, comprising a pin or pins on the type-wheel, and a sleeve hung to the frame D, and having pins adapted to engage with the pin or pins of the type-wheel, as specified.

10. The combination of the type-wheel having a pin or pins, the pivoted printing-frame D, the sleeve S, hung to said frame D, and having pins adapted to engage with the pin or pins of the type-wheel, and a pin, 12, adapted to engage with the hooked pin 16, for restoring the sleeve to its normal position on the elevation of the frame D, as set forth.

266,177. BOLT-CLEANER. H. CLAY MCKEE, Terre Haute, Ind. Filed Aug. 23, 1882. (No model.)



Claim.—1. The combination, with a rotating horizontal bolting-reel, of a ball or balls, D, hung in position to be struck by the angles of the reel, and adapted to swing freely against the faces of the reel, substantially as described.

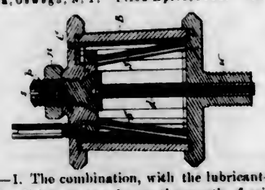
2. The combination, with a rotating horizontal reel, of one or more elastic rubber balls, D, hung in position to be struck by the angles of the reel, and adapted to swing freely against the following face of the reel, substantially as described.

3. In combination with a rotating horizontal bolting-reel, a series of flexibly-suspended balls arranged in irregular order, so as to be successively struck by the angles of the reel, substantially as described.

4. In combination with the chest A, rotating horizontal bolting-reel B, balls D, connections E, the horizontal suspending device C, and means for adjusting its vertical position, substantially as described.

5. In combination with the reel-chest A, rotating reel B, main suspending-cord C, flexible connections E, attached at one end to the cords C, the balls D, attached to the free ends of the connections E, and means for adjusting the tension of the cord C, substantially as described, and for the purposes set forth.

266,178. AUTOMATIC LUBRICATING-CUP. WILLIAM E. HICKNELL, Oswego, N. Y. Filed Apr. 1, 1882. (No model.)



Claim.—1. The combination, with the lubricant-cup and its tube *d*, of the disk *c*, arranged over the mouth of said tube, and formed on its under side with an outward and downward projection over the exterior of the tube, substantially as described and shown, for the purpose set forth.

2. In combination with the lubricant-cup, the tube *d*, having a sharp-edged flaring mouth, and the disk *c*, arranged adjustably over the mouth of said tube, and having a concave bottom projecting over the exterior of the same, substantially as shown and described, for the purpose specified.

3. The combination of the base A, provided with the tubular externally-screw-threaded stud *u*, the tube *d*, having its lower extremity inserted in said stud, the skeleton standard S, rigidly attached to or integral with the base A, and provided at its top with the screw-threaded ring *a*, the cap C, provided on its under side with a screw-threaded projection, *r*, engaging the ring *a*, the disk *c*, pendent from the center of the cap, and the shell B, clamped by and between the base A and cap C, as shown and described.

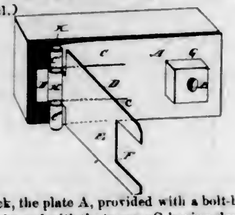
4. The frustum-shaped body or shell B, in combination with the base A, provided with the vertical tube *d*, and the cap C, provided with the disk *c*, arranged over the upper end of the tube *d*, substantially as shown and set forth.

266,179. HORSE-DETACHER. JAMES H. MIDDLETON, Clifton, Tenn. Filed Apr. 26, 1882. (No model.)



Claim.—The improved horse-detacher herein shown and described, the same consisting of the whiffletree A, having cylindrical tenoned ends *a a*, cylindrical sleeves B B, and blocks C C, having hooks D D and cylindrical tenons *c c*, and rod E, fastened into said blocks and bent at its middle part to form the bail E', all constructed and combined as specified, for the purpose set forth.

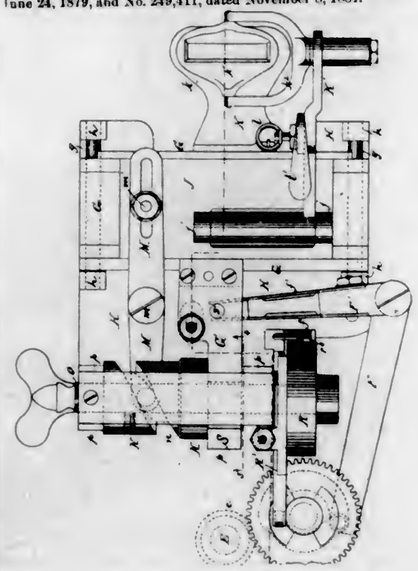
266,180. NUT-LOCK. WILLIAM P. MILLER, Tipton, Mo. Filed Mar. 28, 1882. (Model.)



Claim.—In a nut-lock, the plate A, provided with a bolt-hole at one end, and at its opposite end with the tongues C, having sleeves C' at their ends, and intermediate spring-tongue, D, the said spring-tongue being integral with said plate, in combination with the plate E, provided with the recess F, and the sleeve H, having cam-projection J and the pintle K, substantially as and for the purpose set forth.

266,181. BUTTON-HOLE SEWING-MACHINE. DANIEL MILLS, Philadelphia, Pa. Filed Mar. 16, 1882. (No model.) Patented in England July 29, 1881, No. 3,298; in Belgium Oct. 31, 1881, No. 56,034; in Italy Oct. 31, 1881, No. 13,480; in France Nov. 8, 1881, No. 144,017, and in Austria-Hungary Dec. 30, 1881, No. 33,249 and No. 48,249.

Brief.—Improvements on Letters Patent No. 216,902, dated June 24, 1879, and No. 249,411, dated November 8, 1881.



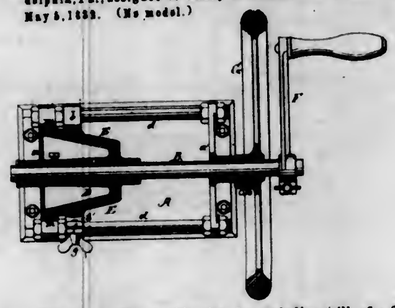
Claim.—1. The combination of a base, a slide carrying the clamps of a button-hole feed mechanism, lever M, and cam-shaft, with a rimmed disk carried by said shaft, lever R, anti-friction rollers in pockets in said lever R, an anti-friction roller, *r*', in a pocket on the base, lever R', and cam-wheel, all substantially as set forth.

2. The combination of the reciprocating slide of a button-hole sewing-machine, and a yoke connected thereto, having projecting faces and intervening recesses, with a stop-cam made in two parts, shaft O, slide *s*, having projecting wedge, and adjusting-screw and wedge for acting on the slide.

3. The combination of a yoke, S, and shaft O, with segments *t' t'*, spring *t*', projections *t t*, and expanding devices, all substantially as described.

4. The combination of reciprocating slides, cloth-clamp, operating devices for the latter, and intermediate yielding connection, with base-plate having projections, with inclined faces, and taper screw to come into contact with said projections, all substantially as set forth.

266,182. GRINDING-MILL. ARCHIBALD MONTGOMERY, Philadelphia, Pa., assignor to Henry Troemner, same place. Filed May 5, 1882. (No model.)



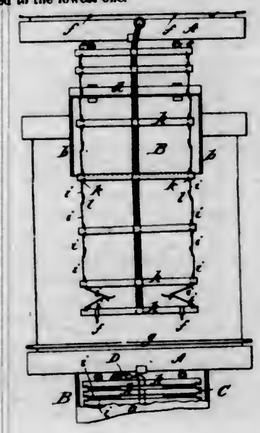
Claim.—1. The combination, in a grinding-mill, of a fixed frame and a shaft, B, adapted to bearings therein, and having a burr, D, with a longitudinally-guided shell, E, capable of sliding toward and from the burr D, to permit access to the interior of the mill, and devices, substantially as described, whereby the said shell E may be secured in position for grinding, as set forth.

2. The combination of the plates *a a'*, the rods *d d*, connecting said plates, the shaft B, the burr D, and the shell E, having wings *b b'*, adapted to the rods *d*, as set forth.

3. The combination of the shaft B, burr D, plates *a a'*, rods *d*, and shell E with wings *b b'*, said wing *b'* being slitted and provided with a tightening-screw, as set forth.

266,183. FIRE-ESCAPE. ELBRIDGE J. HOUSE, New York, N. Y. Filed Feb. 9, 1882. (No model.)

Brief.—The jointed folding side pieces are connected to the rounds by hinges recessed in the rounds. The ladder is folded by means of a strap passing down through the center of the rounds and fastened to the lowest one.



Claim.—1. The combination, with the middle slotted rounds, A, connected by flexible sides, of the fastening-strap D, made fast to the lowest round of the ladder, passing through slots of the other rounds, and adapted to be fastened at the upper end to a pin, as described.

2. The combination, with the rounds *h*, of the side pieces, *i i*, constructed intermediately of their length to flex inward, and united at their outer ends to the rounds by joints *k*, and provided at said joints by tongues *m* and recesses *n*, substantially as specified.

266,184. SEED-PLANTER. JAMES H. MOORE, Bennettsville, S. C., assignor of one-half to John S. Moore, same place. Filed May 18, 1882. (No model.)



Claim.—The combination of the rectangular frame or casing A, formed with the vertical slots *b*, seed-opening *c*, leading from the hopper, and the cavity *e*, the plunger B, formed with a cavity and beveled end, and the coiled spring surrounding the upper portion of the plunger, as described.

266,185. BUSTLE. HENRY W. HOULTON, Jackson, Mich., assignor to Charles W. Higby, same place. Filed July 10, 1882. (No model.)

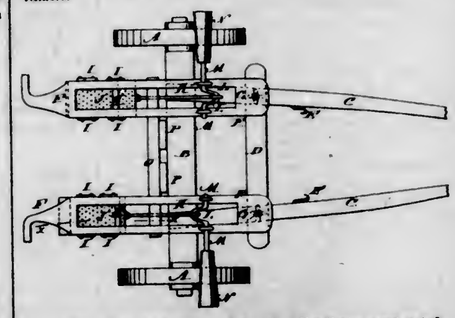


Claim.—1. In a bustle, the side foundation-springs, A, and curved springs B, combined with the apron D, having an opening, E, formed in it and rendered adjustable by elastics, substantially as and for the purpose described.

2. A bustle composed of the springs A B C *c*, as shown, the apron D, having an opening, E, provided with elastics *b*, the skirt G, spring F, and cord *d*, the whole constructed and arranged substantially as and for the purpose specified.

266,186. PARIS-GREEN AND FERTILIZER DISTRIBUTER. BENJAMIN F. MURCHEY, Morrisville, Pa. Filed Apr. 28, 1882. (No model.)

Brief.—Laterally and vertically vibrating frames carry feed-receptacles, to the bottoms of which are hinged screens receiving from friction-rolls working on bearing-wheels through connecting-rods reciprocating movement, for distributing paris-green and fertilizers.



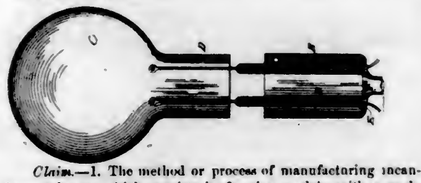
Claim.—1. A paris-green and fertilizer distributer constructed substantially as herein shown and described, and consisting of the carriage A B C, the pivoted slotted bars F, carrying boxes H, the suspended screens J, and the connecting-rods K, crank-shafts M, and friction-rollers N, as set forth.

2. In a paris-green or fertilizer distributer, the combination, with the carriage A B C, of the pivoted bars F, carrying the boxes H, the vibrating suspended screens J, and the connecting-rods K,

crank-shafts M, and friction-rollers N, substantially as herein shown and described, whereby the said bars can be moved laterally to follow crooked and irregular rows and vertically to throw the operating mechanism out of and into gear, as set forth.

3. In a paris-green and fertilizer distributer, the combination, with the axle B and the pivoted bars F, carrying the boxes H, of the cross-bar O and the uprights P, substantially as herein shown and described, whereby the pivoted bars F and their attachments are supported, as set forth.

266,187. MANUFACTURE OF INCANDESCENT ELECTRIC LAMPS. JOSEPH V. NICHOLS, Brooklyn, assignor to the United States Electric Lighting Company, New York, N. Y. Filed Mar. 14, 1882. (No model.)



Claim.—1. The method or process of manufacturing incandescent lamps, which consists in forming a globe with a neck, closing the end of the neck, forming therein perforations, sealing in said perforations wires coated with vitreous material, dividing the neck, mounting the carbon on the wires, and joining the two parts to form a complete lamp, substantially in the manner hereinbefore set forth.

2. The method of forming incandescent lamps, which consists in sealing into a receiver made in one piece conducting-wires, dividing the receiver in two parts, then attaching a carbon to the conducting-wires, and joining the two parts of the receiver together, substantially in the manner described.

3. The method or process of manufacturing incandescent lamps, which involves the following operations, to wit: forming a closed receiver of glass, perforating the same, and sealing metallic conductors in the perforations, cutting or dividing that portion of the receiver containing or adapted to contain the metallic conductors from the main portion, mounting the carbon on the said conductors, and joining the two parts of the receiver together, all substantially as set forth.

266,188. TRUSS-PAD. FREDERICK N. NORRIS, Poughkeepsie, and CLAYTON E. SWEET, Wappinger's Falls, N. Y. Filed July 8, 1882. (No model.)

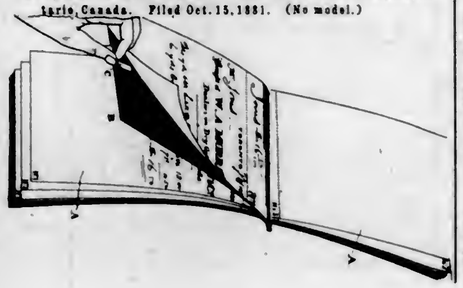
Brief.—The regulating and adjusting rack moves with the body-band, and the spring-pawl acting with the same is located upon the inner side of the upper plate of the pad.



Claim.—1. The combination, with a pad-supporting plate and a pad-plate hinged thereto, of a toothed segment or rack rigidly attached to the supporting-plate and working through the pad-plate, a sliding stop or dog on the exterior of the pad-plate, and a spring for holding said stop or dog in engagement with said segment or rack, substantially as and for the purpose herein described.

2. The combination of the pad-plate B and pad-supporting plate C, hinged together at *b*, the segment or rack D, provided with ratchet-teeth, and the stop h, the sliding stop or dog E, and the spring *f*, substantially as herein described.

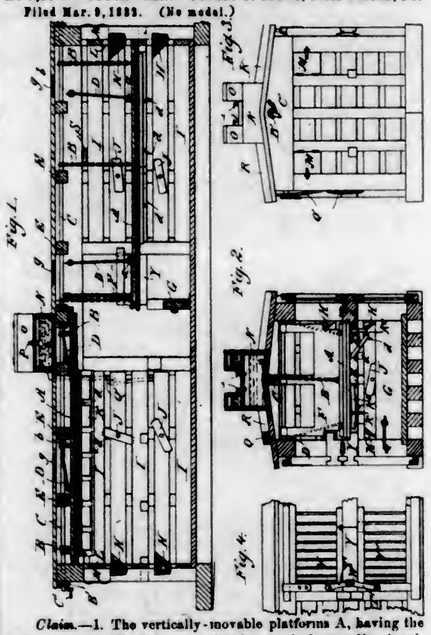
266,189. COPING-BOOK. JAMES L. O'CONNOR, Toronto, Ontario, Canada. Filed Oct. 15, 1881. (No model.)



Claim.—1. A copying check-book having a black impression-leaf, B, bound substantially in the center of the book, substantially as and for the purpose set forth.

2. A copying check-book having a black impression-leaf, B, bound substantially in the center of the book, with the leaves numbered consecutively and correspondingly from either side of the back leaf, substantially as described.

266,190. STOCK-CAR. GEORGE F. OERLL, Belle Vernon, Pa. Filed Mar. 9, 1882. (No model.)



Claim.—1. The vertically-movable platforms A, having the top loops, *a*, and flexibly suspended from a shaft extending longitudinally below the top of car, and provided with end cranks, C, in combination with a ratchet and pawl, and hook-rods pivoted to the inner sides of the car by staples *b*, as and for the purpose specified.

2. The combination, with the vertically-movable platform A, of the gates F G, the latter pivoted below the former and adapted to swing, as shown, and for the purpose set forth.

3. The folding troughs H, pivoted to the inner sides of the car in rows, one above another, whereby the animals on the platform and on the car-floor may be respectively fed, as described.

4. The combination, with a stock-car, of the vertically-adjustable platforms A and the folding hay-racks K, pivoted to the under sides of these platforms, substantially as herein shown and described, and for the purpose set forth.

5. The combination, with a stock-car, of the vertically-adjustable platforms A and the folding hay-racks K, composed of hinged sections K' K², and the screw-bolts *d* for locking the hay-racks in position, substantially as herein shown and described, and for the purpose set forth.

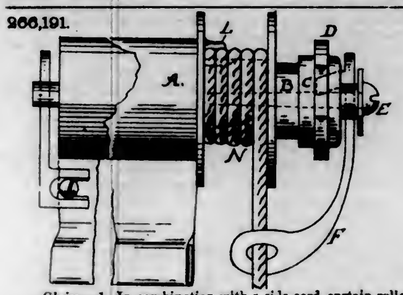
6. The combination, with a stock-car, of the vertically-adjustable platforms A, the folding hay-racks K, and the gates or doors M in the ends of the car, substantially as herein shown and described, and for the purpose set forth.

7. The combination, with a stock-car, of the troughs H, the feed-box N, the water-tanks O on the feed-box, and the pipes Q, leading from the feed-box to the troughs, substantially as herein shown and described, and for the purpose set forth.

266,191. CURTAIN-FIXTURE. PELATIAH OSGOOD, Waterville, Me., assignor to the Eagle Shade Roller Company, Boston, Mass. Filed Jan. 28, 1882. (No model.)

Brief.—A packing-box containing a packing of ordinary wicking is placed upon the end of the roller, and is tightened thereon by a screw passing through it into the roller. A ratchet on the edge of the packing-box and a pawl engaging therewith hold the box from turning with the roller, if desired.

266,191.

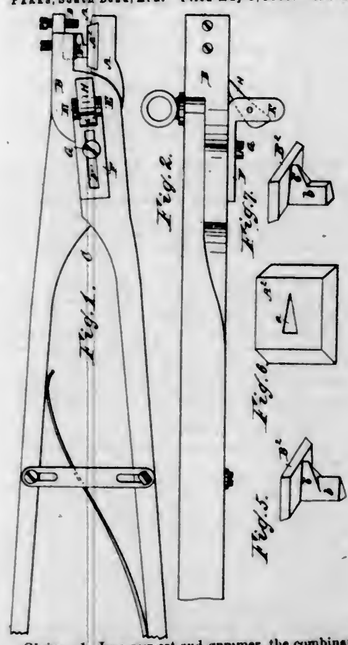


Claim.—1. In combination with a side-cord curtain-roller, a metallic packing-box and ratchet, made or cast in one piece, and adapted, with its inclosed packing, to hold the roller frictionally, whereby either the box may be held from turning by a pawl engaging the ratchet, or the curtain may be drawn down by force applied to overcome the friction of the box, or by releasing the ratchet the box may revolve with the roller, substantially as described.

2. The combination, with a side-cord curtain-roller, of a packing-box and packing applied upon the roller, and a screw passing through the packing-box into the end of the roller, for the purpose of increasing or diminishing the friction, substantially as described.

3. In combination with a curtain-roller, a recessed packing box and a packing made of ordinary wicking, said packing-box inclosing the packing and the end of the roller for frictional purposes, substantially as set forth.

266,192. COMBINED SAW SET AND GUMMER. ELIJAH A. PARKS, South Bend, Ark. Filed May 2, 1882. (No model.)



Claim.—1. In a saw set and gummer, the combination, with the tongs C, provided with dovetailed grooves A' and B' in the jaws A and B, of the female die A², provided with a triangular aperture or recess, *a*, and the male die B², provided with a projection, *b b'*, fitting within the aperture or recess *a*, substantially as herein shown and described, and for the purpose set forth.

2. In a saw set and gummer, the combination, with the tongs C, of the dies A² B², held in the jaws thereof, the plate F, provided with lugs E, and the block H, pivoted in these lugs, substantially as herein shown and described, and for the purpose set forth

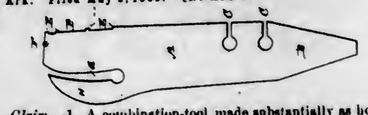
3. In a saw set and gummer, the combination, with the tongs C, of the dies A² B², held in the jaws thereof, the longitudinally-slotted plate F, provided with lugs E, the block H, pivoted to these jaws, and the screw G, substantially as herein shown and described, and for the purpose set forth.

4. In a saw set and gummer, the combination, with the tongs C, of the die B² and the plate K, provided with an aperture, *k*, and a recessed guide-strip, N, extending across it, substantially as herein shown and described, and for the purpose set forth.

5. In a saw set and gummer, the combination, with the tongs C, of the die B², the plate K, having its outer portion raised above the inner portion, and of the guide-strip N, substantially as herein shown and described, and for the purpose set forth.

6. In a saw set and gummer, the combination, with the tongs C, of the die B², the plate K, and the screw L, passing through a slot, M, in the jaw A, substantially as herein shown and described, and for the purpose set forth.

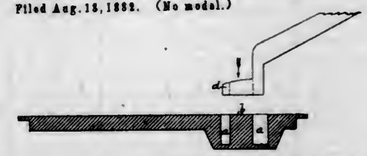
266,193. COMBINATION-TOOL. ELIJAH A. PARKS, South Bend, Ark. Filed May 2, 1882. (No model.)



Claim.—1. A combination-tool made substantially as herein shown and described, and consisting of a plate or strip of metal, A, having one end pointed to form a screw-driver, B, having notches C in one edge, and having one edge beveled and provided with projections E, thereby forming a gage for the inclination of saw-teeth, as set forth.

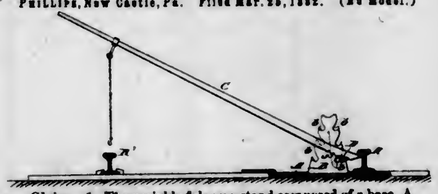
2. In a combination-tool, the strip or plate of metal A, having one end beveled to form a screw-driver, B, and having notches C in one edge, having the end of this edge beveled and provided with projections E, and provided in one end with a recess, G, forming a sharpened prong, H, to be used as a can-opener, substantially as herein shown and described, and for the purpose set forth.

266,194. STOVE-LID AND LIFTER. ROBERT P. PEARSON, Philadelphia, Pa., assignor to Edwin V. Machette, same place. Filed Aug. 18, 1882. (No model.)



Claim.—A stove lid or plate having therein a recess, *a*, with a vertically-projecting stud, *b*, adapted for the reception of a socketed lifter, substantially as set forth.

266,195. TRACK LIFTER AND HOLDER. ALEXANDER C. PHILLIPS, New Castle, Pa. Filed Mar. 25, 1882. (No model.)



Claim.—1. The variable fulcrum-stand composed of a base, A, and notched upright or plates B B, erected upon the base, with the notches *b b*, arranged one above the other, for changing the fulcrum-surfaces of the stand to different altitudes, substantially as specified.

2. The plates B B of the variable fulcrum-stand, made of diminishing tapering construction in an upward direction, essentially as specified, to facilitate the sighting of the track on curves, essentially as described.

3. The plates B B of the variable fulcrum-stand, having notches *b b* arranged one above the other on both edges of each of said plates, to provide for varying both the altitude of the fulcrum and length of the leverage or distance of the fulcrum from the work, substantially as specified.

4. The combination of the lever C and fulcrum-pin D with the fulcrum-stand A B B, having notches *b b*, arranged one above

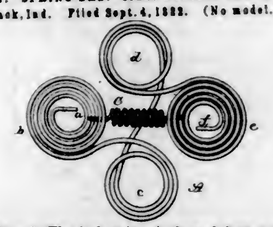
the other, for varying the position of the fulcrum, essentially as shown and described.

5. The movable toothed or notched lever-holder E, in combination with the variable fulcrum-stand A B B, to which said holder is attached, substantially as specified.

266,196. COMPOSITION FOR ROOFING. DAVID H. PRIEST, Everett, Mass. Filed July 28, 1882. (No specimens.)

Claim.—A composition for roofing, consisting of coal-tar or gas-oil, resin, muriate of soda, and soapstone, combined substantially in the proportions and in the manner and for the purpose specified.

266,197. SPRING-BED. ISAAC PURCELL and ENOCH PURCELL, Cambark, Ind. Filed Sept. 4, 1882. (No model.)

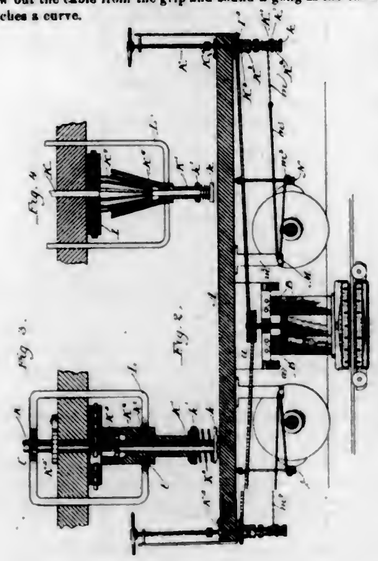


Claim.—1. The bed-spring A, formed from a single piece of wire, and having the hooks *a f*, cones *b e*, and spirals *c d*, arranged at right angles to the cones, the hooks *a f* being adapted to take hold of the opposite edges of a bed-slat, in combination with a bed-slat, substantially as set forth.

2. The bed-spring A, formed from a single piece of wire, and having the hooks *a f*, cones *b e*, and spirals *c d*, arranged at right angles to the cones, in combination with a spring, C, connecting the two cones *b e*, and a bed-slat, B, all combined to operate substantially as shown and described.

266,198. CABLE-RAILWAY APPARATUS. CHARLES W. RASMUSSEN, Chicago, Ill. Filed Mar. 21, 1882. (No model.)

Brief.—In the gripping-jaws rollers are movably journaled, and have a surrounding belt, which operates between the rollers and the cable. A rigid brake-surface also comes in frictional contact with said belt when the jaws are closed. A corrugated brake-surface likewise engages the rollers. The jaws are operated by a screw, sprocket-wheel, and chains extending to the ends of the car. Supporting-pulleys wearing an inclosing belt carry the cable in the tube, and rollers with extensible flanges carry the same round curves. A system of levers struck by the grip-shank operate to throw out the cable from the grip and sound a gong as the car approaches a curve.



Claim.—1. A cable-grip having a gripping-jaw provided with an endless belt, and with brake mechanism placed in such relation to the belt that the action of clamping the cable will force the belt against the brake mechanism, substantially as described.

2. A cable-grip having a gripping-jaw provided with an endless belt, and with a rigid brake-surface around which the belt passes, and which is adapted to arrest the movement of the belt when the cable is clamped, substantially as described.

3. The combination, with the gripping-jaw, of a cable-grip of the rollers, the endless belt passing over said rollers, and the brake mechanism for acting on said belt, substantially as described.

4. A cable-grip having a gripping-jaw provided with a series of movably-journaled rollers, and an elevated brake-surface, arranged in such relation thereto that the action of clamping the cable will depress said rollers and permit the elevated brake-surface to operate, substantially as described.

5. The combination, with a gripping-jaw, of a series of rollers, journal-plates common to said rollers, springs for acting upon said journal-plates, and brake mechanism, substantially as described.

6. The combination, with a gripping-jaw having a corrugated brake-surface, of the movably-journaled rollers, substantially as described.

7. The combination, with a gripping-jaw having corrugated bottom, of a supplemental friction-plate, substantially as described.

8. The combination, with a gripping-jaw having a corrugated bottom, of a supplemental friction-plate and an intermediate elastic strip, substantially as described.

9. The combination, with a cable-grip, of rollers the surface of which is roughened, and an endless belt passing over the surface of said rollers, substantially as described.

10. A cable-grip having a gripping-jaw provided with a series of movably-journaled rollers the peripheries of which are partially roughened, and a brake-surface back of said rollers and between the roughened portions, substantially as described.

11. The combination, with a cable-grip, of a tube-cleaning device, substantially as described.

12. The combination, with the cable-grip, of the screw-shaft and beam, the twin sprocket-wheels, the sprocket-chains, and the winding-posts, substantially as described.

13. The combination, with the jaws of the cable-grip, of mechanism for operating the same, mechanism for connecting the grip to the winding-post of the car, mechanism for connecting the winding-post to the brake-beams, and the brake-beams, substantially as described.

14. The combination, with mechanism for operating the cable-grip and the car-brakes, of mechanism for connecting and disconnecting the actuating mechanism of the car-brakes, substantially as described.

15. The combination, with the winding-post K, of the sleeve K', treadle L, and crown gear-wheels K^3 and K^4, substantially as described.

16. The combination, with the cable-tube, of a series of rollers provided with an endless belt passing over the same for supporting the cable, substantially as described.

17. A cable-supporting pulley for the curves of cable roads, having a rigid portion, and radially-movable ledges adapted to be forced backward by the grip, substantially as described.

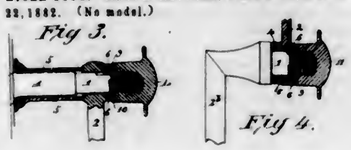
18. A cable-supporting pulley for the curves of cable roads, having a rigid central portion and spring-seated side portions, substantially as described.

19. The combination, with the cable-tube, of a gong, and mechanism for sounding said gong, located in the path of the cable-grip, substantially as described.

20. The combination, with the cable, of mechanism located beneath the surface of the road-bed, and adapted to throw the cable from the grip, and a lever for operating said mechanism, located in the path of the grip and adapted to be moved thereby, substantially as described.

21. The combination of the lever R, carrying at its end the yoke R' and roller R^3, with the lever r^4 and intermediate connecting-levers, substantially as described.

266,199. COMBINED FASTENING AND NUT-LOCK FOR VEHICLE-TOPS. SILAS H. RAYMOND, South Bend, Ind. Filed July 22, 1882. (No model.)



Claim.—The combined nut-lock and fastening for rotatively uniting parts of vehicles, consisting of the screw-stud 1, attached to one of the parts and having a flat portion or depression, 8, an elastic washer, 4, placed thereon and resting against a suitable bearing-surface, a metal washer resting on the elastic washer, the other part to be fastened, a metal washer, 6, having a flat portion or straight edge, 7, in its eye and radial projections 9 on its face, and nut 11, having radial recesses 10, as and for the purposes set forth.

266,200. BED-BOTTOM. SAMUEL H. REEVES, New York, N. Y. Filed Aug. 17, 1882. (No model.)



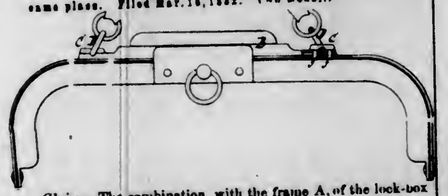
Claim.—1. In a bed-bottom, the combination of a bottom frame-work, standards erected on the same near the ends, and a reticulated metal fabric supported at the ends by the standards, substantially as specified.

2. In a bed-bottom, the combination of a bottom frame-work, standards erected on the same near the ends, cross-bars connected to the standards, and a reticulated metal fabric connected at the ends to the cross-bars, substantially as specified.

3. In a bed-bottom, the combination of a bottom frame-work composed of two independent sections, standards erected on the same near the ends, cross-bars connected to the standards and composed of sections hinged together, and a reticulated metal fabric connected at the ends to the cross-bars, substantially as specified.

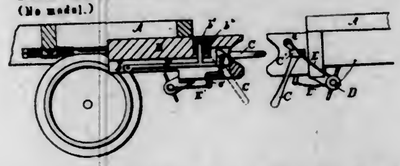
4. In a bed-bottom, the combination of a bottom frame-work, standards erected on the same near the ends, and braces for the standards, substantially as specified.

266,201. STAPLE AND LOCK FOR BAG-FRAMES. OSCAR REICHENBACH, Newark, N. J., assignor to Richard C. Jenkinson, same place. Filed Mar. 16, 1882. (No model.)



Claim.—The combination, with the frame A, of the lock-box provided with extensions having in their outer surfaces semicircular recesses near their ends, two staples provided with semicircular recesses in their inner surfaces, and with pins adapted to project through holes in the extensions of the lock-box and in the bag-frame, and two links intended for the support of the handle and placed into the sockets between the staples and the extensions of the lock-box, all constructed to operate substantially as and for the purpose shown and described.

266,202. CAR-COUPLING. CYRUS ROBERTS, Three Rivers, and H. DUANE BROCKWAY, Detroit, Mich. Filed May 9, 1882. (No model.)

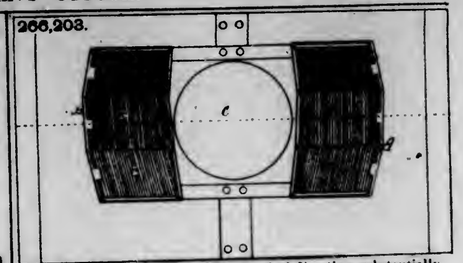


Claim.—1. The combination, with the draw-head B, of the bar B', pivoted at its rear end, and with the hook b^2 at its front end, the stem b^3, and the spring b^4, the shaft D, and intermediate connections, by means of which the turning of the shaft is caused to draw the hooked bar downward, substantially as described.

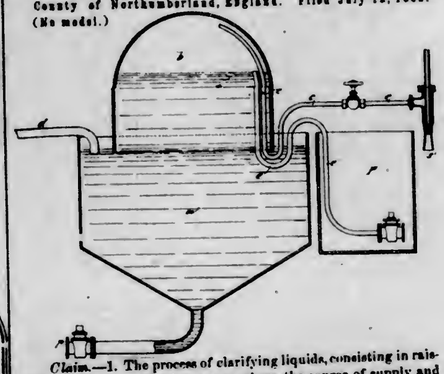
2. The combination, with the spring-actuated hooked bar B' and the link C, of the shaft and the intermediate connections by means of which motion is transmitted from the shaft to either the link or hooked bar, according to the direction in which said shaft is turned, substantially as described.

266,203. CAR-REFLECTOR. CHAS. ROBINSON, Cambridgeport, Mass. Filed Apr. 1, 1880. Renewed Aug. 14, 1882. (Model.)

Claim.—The combination, with the lamp B, of the reflectors A A, composed of vertical faces *a* and inclined faces *b c*, all arranged obliquely to the light in a horizontal direction, and the faces *b c* obliquely to the light in a vertical direction, substantially as and for the purpose herein specified.



266,204. PROCESS OF AND APPARATUS FOR CLARIFYING LIQUIDS. CARL HEINRICH ROSCHER, Newcastle-upon-Tyne, County of Northumberland, England. Filed July 12, 1882. (No model.)



Claim.—1. The process of clarifying liquids, consisting in raising them by atmospheric pressure above the source of supply and keeping them suspended by such pressure for a sufficient time for the solid matters or impurities to fall back to the source of supply, substantially as herein described.

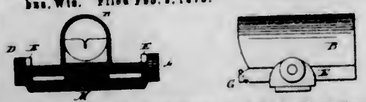
2. The combination, in an apparatus for clarifying liquids, of the open-bottomed receptacle *b* and the discharge-pipe *c*, the two constituting a siphon, substantially as herein described.

3. The combination of the open-bottomed receptacle *b*, the discharge-pipe *c*, the two constituting a siphon, and the air-exhaust pipe *e*, and an exhaust device applied to the latter, substantially as described, and as illustrated in the accompanying sheet of drawings.

266,205. CALORIFIC COMPOUND. LEONHARD ROTH, Brooklyn, assignor to himself and Adolf Schmideberg, New York, N. Y. Filed Jan. 24, 1882. (No specimens.)

Claim.—A composition for storing up and gradually giving out the heat of fusion, as well as the sensible heat, consisting of ten parts of dry sodium meta phosphate and four parts of dry sodium citrate, as described.

266,206. SIGHT FOR FIRE-ARMS. HARVEY ROWELL, Columbus, Wis. Filed Feb. 9, 1878.



Claim.—1. The combination, with the hood, of the screw G, whereby the hood is adjusted to the rear sight, substantially as specified.

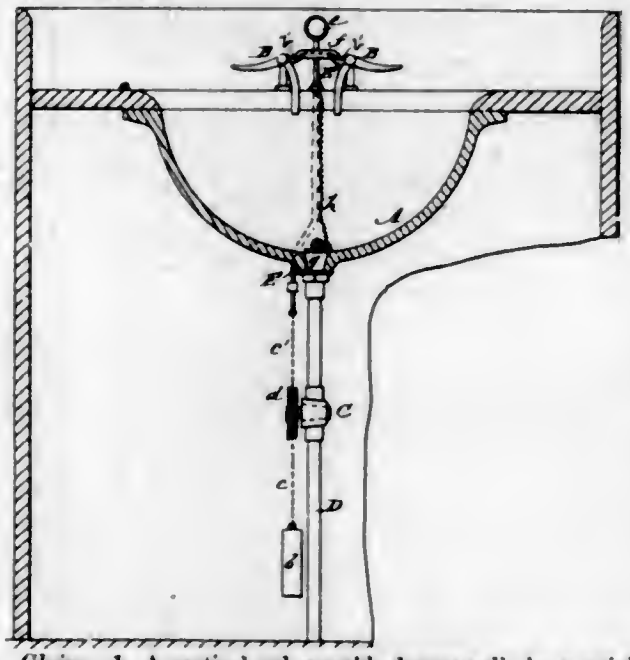
2. The combination, with the block M, having split lugs and projections F F, of the screw having a countersunk head and the countersunk nut, the projections engaging in the countersinks to hold the screw in position while loosened for adjustment, substantially as and for the purposes herein specified.

3. The combination, with the block, thumb-screw, slide, and nut, of the hood, whereby, in tightening, the slide and screw are drawn in opposite directions and the hood held firmly in position, substantially as specified.

266,207. LIQUID SOAP. JONATHAN SCHARR, Philadelphia, Pa. Filed Aug. 14, 1882. (No specimens.) Patented in England Apr. 4, 1877, No. 1,319; in Belgium Apr. 30, 1877, No. 41,841, and in France June 30, 1877, No. 117,881.

Claim.—The herein-described liquid soap, consisting of water, linseed, farina-starch, (or, in lieu of the linseed and the farina-starch, Irish or Iceland moss,) refined soda, resin, borax, sal-ammoniac, oleine-oil, spirits of turpentine, and liquid ammonia, to which ingredients may be added calcined potash, substantially as and for the purpose herein described.

266,208. TRAP AND OVERFLOW-STOP FOR WASH-BASINS, &c. WILLIAM D. SCHUYLER, New York, N. Y. Filed Mar. 1, 1882. (No model.)

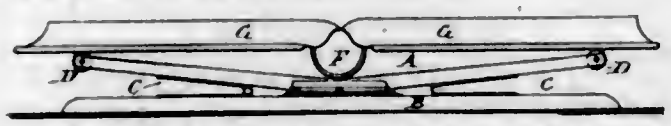


Claim.—1. A vertical rod movable downwardly by a weight and having a stop, *f*, in combination with faucets B, having each an extension, *b*, whereby the faucets will be closed automatically, as described.

2. The waste-pipe valve C, carrying a pulley, *d*, in combination with the weighted cord *c*, attached to a rod raised by the opening of the supply valves or faucets, whereby the supply and waste pipe valves will open and close simultaneously, as described.

3. The operating-levers of either faucet B, constructed with an extension, *b'*, combined and arranged for operation with the self-closing waste-pipe valve C through a loose connection, E *e'*, and stop *f*, substantially as described, whereby an adequate opening of the waste-pipe valve is insured, as set forth.

266,209. BOOK-SUPPORT. FERDINAND SCHUBERT, Higginsport, Ohio. Filed Apr. 27, 1882. (Model.)



Claim.—1. A book-support having an angular rod or bar pivoted at its angle, and provided with arms resting on springs fastened to the base, anti-friction wheels being pivoted in the ends of said arms, substantially as shown and described.

2. In a book-support, the combination, with the base B, of the angular bar or rod A, horizontally pivoted thereon at its angle, and the springs C, interposed between the rod or bar A and the base B, substantially as herein shown and described, and for the purpose set forth.

3. In a book-support, the combination, with the base B, of the angular bar or rod A, horizontally pivoted thereon at its angle, the springs C, and the anti-friction rollers or pulleys D, pivoted in the ends of the bar or rod A, substantially as herein shown and described, and for the purpose set forth.

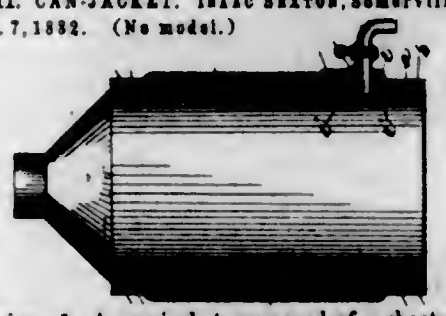
266,210. SHIELD FOR PROTECTING TAPER-FLAME OF GAS-BURNERS. WILSON D. SCHOOLEY, Richmond, Ind. Filed June 17, 1882. (No model.)

Claim.—The combination, with a gas-burner and means for regulating the supply of gas to feed a small taper or flame, of a shield enlarged at its central point, with perforations through it above and below said point, arranged around and extending above the tip of said burner, and having a flame-opening, and a collar which fits snugly around the burner to hold the shield in place, substantially as and for the purpose herein shown and described.

266,210.



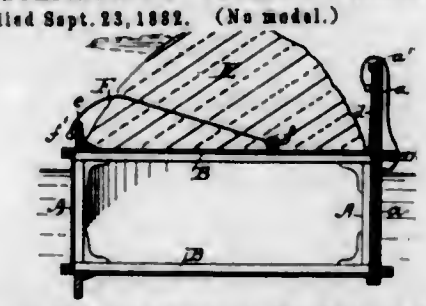
266,211. CAN-JACKET. ISAAC SEXTON, Somerville, Mass. Filed Sept. 7, 1882. (No model.)



Claim.—1. A can-jacket composed of a sheet-metal cylinder having plain or uncorrugated portions at its ends, intermediate vertical corrugations, and wooden hoops secured to the interior surfaces of said plain portions, as set forth.

2. A corrugated sheet-metal can-jacket having a faucet-receiving aperture provided with a facing of tin surrounding said aperture and secured to the jacket, substantially as described, said facing providing a surface to which the faucet-braces may be soldered, as set forth.

266,212. DUMPING-SCOW. FREDERICK E. SICKELS, New York N. Y. Filed Sept. 23, 1882. (No model.)



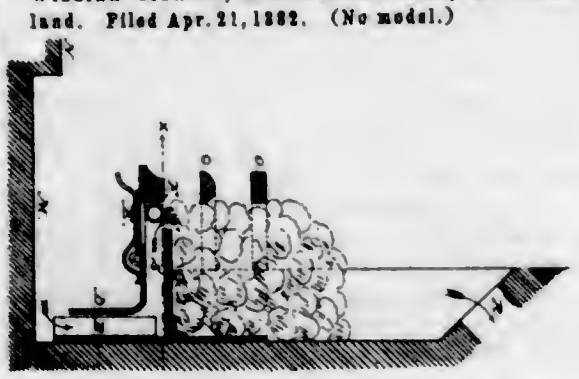
Claim.—1. The process herein described of overturning a loaded scow by shifting its load against side stoppers by means of a power located outside the scow, substantially as described, until the equilibrium of the scow is destroyed and it is overturned.

2. The combination of the hull of a scow having its deck and bottom similar in form with movable side stoppers connected with said hull, substantially as described, and incapable of swinging outward over the side of the scow under the pressure and shifting of its deck-load, and whereby said deck-load is retained after being shifted to one side by a power located outside the scow, substantially as described.

3. The combination of the hull of a scow adapted to have its deck or its bottom uppermost with side stoppers projecting above the edge of the deck and an apron having one end inserted within the load of the scow and the other provided with ropes whereby said apron is adapted to be pulled over the load, substantially as and for the purpose described.

4. The combination of a hull of a scow having its deck and bottom similarly formed with side stoppers hinged to the deck and adapted to be folded upon or made to project above said deck, substantially as described.

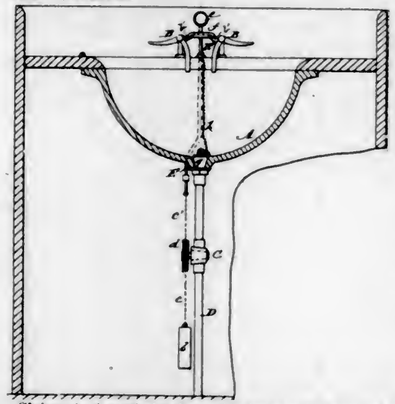
266,213. DOMESTIC GRATE OR FIRE-PLACE. CHARLES WILLIAM SIEMENS, Westminster, County of Middlesex, England. Filed Apr. 21, 1882. (No model.)



266,207. LIQUID SOAP. JONATHAN SCHARR, Philadelphia, Pa. Filed Aug. 14, 1882. (No specimens.) Patented in England Apr. 4, 1877, No. 1,319; in Belgium Apr. 30, 1877, No. 41,941, and in France June 30, 1877, No. 117,881.

Claim.—The herein-described liquid soap, consisting of water, linseed, farina-starch, (or, in lieu of the linseed and the farina-starch, Irish or Iceland moss,) refined soda, resin, borax, sal-ammoniac, oleine-oil, spirits of turpentine, and liquid ammonia, to which ingredients may be added calcined potash, substantially as and for the purpose herein described.

266,208. TRAP AND OVERFLOW-STOP FOR WASH-BASINS, &c. WILLIAM D. SCHUTLER, New York, N. Y. Filed Mar. 1, 1882. (No model.)

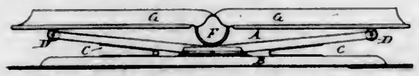


Claim.—1. A vertical rod movable downwardly by a weight and having a stop, *f*, in combination with faucets B, having each an extension, *b*, whereby the faucets will be closed automatically, as described.

2. The waste-pipe valve C, carrying a pulley, *d*, in combination with the weighted cord *e*, attached to a rod raised by the opening of the supply valves or faucets, whereby the supply and waste pipe valves will open and close simultaneously, as described.

3. The operating-levers of either faucet B, constructed with an extension, *b'*, combined and arranged for operation with the self-closing waste-pipe valve C through a loose connection, E *e'*, and stop *f*, substantially as described, whereby an adequate opening of the waste-pipe valve is insured, as set forth.

266,209. BOOK-SUPPORT. FERDINAND SCHUBERT, Higgins port, Ohio. Filed Apr. 27, 1882. (Model.)



Claim.—1. A book-support having an angular rod or bar pivoted at its angle, and provided with arms resting on springs fastened to the base, anti-friction wheels being pivoted in the ends of said arms, substantially as shown and described.

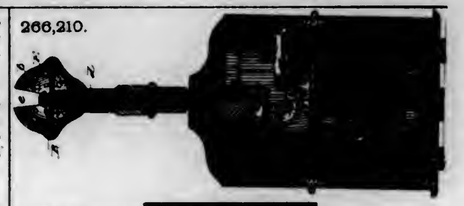
2. In a book-support, the combination, with the base B, of the angular bar or rod A, horizontally pivoted thereon at its angle, and the springs C, interposed between the rod or bar A and the base B, substantially as herein shown and described, and for the purpose set forth.

3. In a book-support, the combination, with the base B, of the angular bar or rod A, horizontally pivoted thereon at its angle, the springs C, and the anti-friction rollers or pulleys D, pivoted in the ends of the bar or rod A, substantially as herein shown and described, and for the purpose set forth.

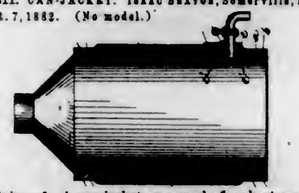
266,210. SHIELD FOR PROTECTING TAPER-FLAME OF GAS-BURNERS. WILSON D. SCHOOLEY, Richmond, Ind. Filed June 17, 1882. (No model.)

Claim.—The combination, with a gas-burner and means for regulating the supply of gas to feed a small taper or flame, of a shield enlarged at its central point, with perforations through it above and below said point, arranged around and extending above the tip of said burner, and having a flame-opening, and a collar which fits snugly around the burner to hold the shield in place, substantially as and for the purpose herein shown and described.

266,210.



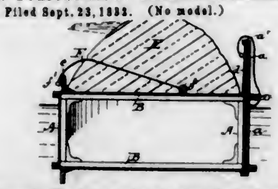
266,211. CAN-JACKET. ISAAC SEXTON, Somerville, Mass. Filed Sept. 7, 1882. (No model.)



Claim.—1. A can-jacket composed of a sheet-metal cylinder having plain or uncorrugated portions at its ends, intermediate vertical corrugations, and wooden hoops secured to the interior surfaces of said plain portions, as set forth.

2. A corrugated sheet-metal can-jacket having a faucet-receiving aperture provided with a facing of tin surrounding said aperture and secured to the jacket, substantially as described, said facing providing a surface to which the faucet-braces may be soldered, as set forth.

266,212. DUMPING-SCOW. FREDERICK E. SICKELS, New York N. Y. Filed Sept. 23, 1882. (No model.)



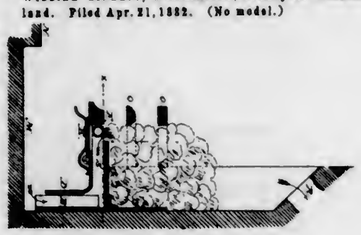
Claim.—1. The process herein described of overturning a loaded scow by shifting its load against side stoppers by means of a power located outside the scow, substantially as described, until the equilibrium of the scow is destroyed and it is overturned.

2. The combination of the hull of a scow having its deck and bottom similar in form with movable side stoppers connected with said hull, substantially as described, and incapable of swinging outward over the side of the scow under the pressure and shifting of its deck-load, and whereby said deck-load is retained after being shifted to one side by a power located ontside the scow, substantially as described.

3. The combination of the hull of a scow adapted to have its deck or its bottom uppermost with side stoppers projecting above the edge of the deck and an apron having one end inserted within the load of the scow and the other provided with ropes whereby said apron is adapted to be pulled over the load, substantially as and for the purpose described.

4. The combination of a hull of a scow having its deck and bottom similarly formed with side stoppers hinged to the deck and adapted to be folded upon or made to project above said deck, substantially as described.

266,213. DOMESTIC GRATE OR FIRE-PLACE. CHARLES WILLIAM SIEMENS, Westminster, County of Middlesex, England. Filed Apr. 21, 1882. (No model.)



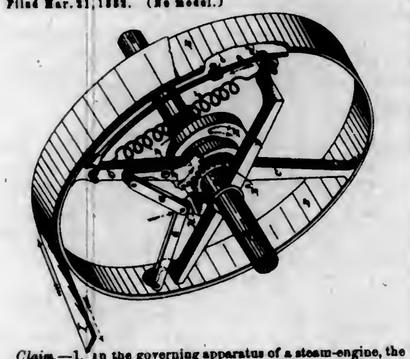
Claim.—1. The combination, in a domestic fire-place, of a back and bottom entirely closed to prevent the admission of air, whereby the rapid combustion of fuel is prevented at the bottom and back of the grate, and a perforated gas-supply pipe.

2. The combination of the back and bottom of the grate with a perforated gas-supply pipe or channel in front of the close bottom of the grate and behind the bottom bar of the grate, as and for the purposes described.

3. In a domestic grate, the combination of a metallic plate, upon which the fuel or non-combustible material rests or partly rests, and a gas-supply pipe arranged between the metallic plate and front bars of the grate, as and for the purposes described.

4. In a domestic grate, a conducting plate or plates, constructed as described, and adjacent air-conduit, whereby the heat from the back of the ash-pit is extracted and imparted to air flowing in to support combustion.

266,214. ENGINE-GOVERNOR. LE GRAND SKINNER, Erie, Pa. Filed Mar. 21, 1882. (No model.)



Claim.—1. In the governing apparatus of a steam-engine, the combination of the following elements: a frame or cross-head, D, keyed to the main shaft of the engine, a drive-wheel, B, loose upon the main shaft and connected to the cross-head D by a spring, a lever, F, pivoted on the web of said drive-wheel and connected at one end to said cross-head by toggle-levers G G, having weights H, and at the other end geared to mechanism for moving the valve-eccentric, substantially as and for the purposes mentioned.

2. In the governing apparatus of a steam-engine, the combination of the arm D, keyed to the shaft, the drive-wheel B, loose upon the shaft and flexibly connected with the arm D, the toggles G G, lever F, sleeve E', and eccentric E, substantially as and for the purposes mentioned.

3. In the governing apparatus of a steam-engine, the combination, substantially as shown, of the following elements: a frame or arm fixed upon the main shaft, a drive-wheel loose upon the shaft and connected to said arm or frame by a flexible connection, which may be limited in its degree of movement and flexibility, and, finally, valve-gearing which is operated from the movement of the said flexibly-connected parts when they are made to change their relative positions.

266,215. TRUSS. FRANKLIN R. SMITH, Syracuse, assignor to Charles H. Tasker, Jordan, N. Y. Filed July 29, 1882. (No model.)



Claim.—1. In combination with the pad P and bar B, hinged to the base thereof, the set-screw *c*, applied to the upper portion of the bar B, and the arm A, hinged on said bar, and having the extension *b* over the head of the set-screw, substantially in the manner and for the purpose shown and set forth.

2. The combination, with the pad P, of the bar B, hinged to the base of said pad, the arm A, hinged to the upper end of the bar B and provided with the extension *b*, the set-screw *c*, applied to the bar underneath the extension *b*, and the spring *a*, bearing on the upper portion of the pad, substantially as described and shown.

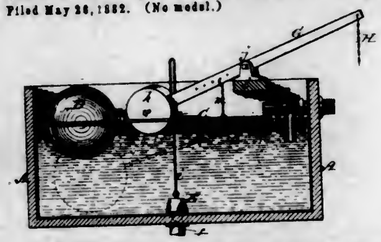
3. The combination, with the supporting-arm A, of the clasp C, detachably connected thereto, and provided with the transverse grooves *c c*, and the bar D, clamped in said clasp, substantially in the manner described and shown.

4. In combination with the pad P, the supporting-arm A, composed of sections or parts adapted to slide longitudinally one upon the other, substantially as and for the purpose set forth.

5. In combination with the pad P, the tang *t*, hinged thereon, and having its free end screw-threaded, and the sleeve S, provided internally with the nut *n* for the reception of the tang, substantially as shown and described.

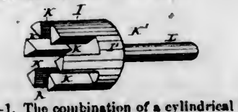
6. The combination, with the pad P, of the bar B, hinged to the base thereof, the spring *a*, connected to said bar and bearing on the upper portion of the pad, the adjusting-screw *g*, bearing on said spring, the arm A, hinged to the upper end of the bar B and provided with the extension *b*, and the set-screw *c*, applied to the bar underneath said extension, substantially as shown and set forth.

266,216. WATER-CLOSET CISTERN. SAMUEL P. SHIPPEN, New York, N. Y., assignor to Henry C. Meyer & Co., same place. Filed May 26, 1882. (No model.)



Claim.—In a cistern provided with a supply-cock, the combination, with the chain-lever, the float-lever, and the discharge-valve, of the looped rods or straps *m* and *i*, whereby the supply-cock is held closed whenever the discharge-valve shall be opened.

266,217. VALVE FOR STEAM-ENGINES. ELMER A. SPERRY, Cortland, assignor of one-half to Alvin J. Belden, Syracuse, N. Y. Filed June 28, 1882. (No model.)



Claim.—1. The combination of a cylindrical valve-seat having a series of ports arranged around the periphery thereof and communicating with the end of the cylinder of the engine, and a slide-valve consisting of a cylindrical piston having radial steam-channels extended to one end of said piston, said ports and channels being so proportioned and spaced that by a partial rotation of the valve the solid portions between the channels of said valve are capable of closing and opening to the fullest extent the ports of the seat, substantially as specified and shown.

2. The combination, with a steam-chest having two cylindrical valve-seats provided with radial ports communicating with opposite ends of the cylinder, of a valve composed of two pistons connected by a central stem, and provided with corresponding radial passages on the live-steam side only of said piston, and adapted to control the induction of steam to the cylinder by a combined reciprocating and partial rotating movement of said valve, substantially as set forth and shown.

3. A valve composed of two pistons connected with each other and having radial steam-passages open to the end of the piston, in combination with a steam-chest having steam-receiving ports at its two extremities, cylindrical valve-seats with radial ports between the steam-receiving ports and in proximity thereto, and an exhaust port or ports in the center of the length of the steam-chest, and mechanism for imparting to said valve a rectilineal reciprocating and partial rotary motion, substantially as specified and shown.

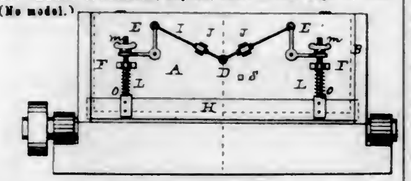
4. In combination with the cylindrical chamber C, provided with the steam-induction ports D D, ports E E, and exhaust-ports F F, in the manner shown, the valve composed of the pistons I I, connected by the stem L, and provided with the radial steam-passages K K, the valve-stem N, having a square or polygonal end, N', the sleeve O, rock-arm P, governor Q, and the pitman or eccentric-rod M, connected with the valve-stem by a coupling loosely embracing said stem and confined longitudinally thereon, substantially as described and shown.

5. In combination with the cylindrical valve-chamber C, having near its opposite ends the valve-seats C', with ports E E therein, and provided with the steam-induction channel at the outer side of the valve-seat, and with the exhaust-port F between the two seats, the valve consisting of pistons I, united by a stem or rod, L, and

having a solid portion, I', adapted to cover the ports E E, and provided at the outer end of said solid portion with diametrical steam-passages K K, and mechanisms for imparting to said valve respectively a constant or invariable rectilineal reciprocating stroke, and a variable partial rotary motion, substantially as set forth and shown.

6. In combination with the cylindrical valve-seat C', and cylindrical valves I I, having diametrical steam-passages K at opposite ends and circumferential depression K' intermediately of its length, the valve-stem N, having the square or polygonal end N', the sleeve O, rock-arm P, governor Q, governor-rod R, connected to the rock-arm, and provided with the constant weight S and the adjustable tension-spring T, the slide U, coupled with the valve-stem, and the pitman or eccentric-rod M, all as and for the purpose set forth.

266,218. FEED MECHANISM FOR MIDDLINGS-PURIFIERS, &c. HARRY O. STANLEY, Dayton, Ohio. Filed Sept. 1, 1882. (No model.)



Claim.—The hopper A, suspended board B, rod D, cord I, levers E, rods O, and slide H, in combination, substantially as set forth.

266,219. CHURN. FRANK P. STEBBINS, Detroit, Mich. Filed May 13, 1882. (No model.)

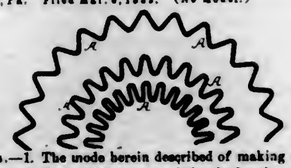


Claim.—1. The cover-plates D D', having a tongue-and-socket connection, and a separable arm, E, for the drive-wheel, carrying a double bearing for the upper ends of the stems of the dashers, substantially as specified.

2. The cover-sections having the plate-sections D D', connected by tongue p' and socket r, and the edge-hooks L of the wall engaging the rim-flanges c of the cover-sections, substantially as specified.

3. The combination, with the dashers C, having the splined and shouldered stems g, and their pinions h H and the drive-wheel G, of the cover-sections B, plate-sections D D', their socket-and-tongue connection, the socket s, pin e, and removable arm E, having the lateral bearings z, and the extension F, substantially as specified.

266,220. STEAM-BOILER TUBE. GEORGE S. STRONG, Philadelphia, Pa. Filed Mar. 6, 1882. (No model.)



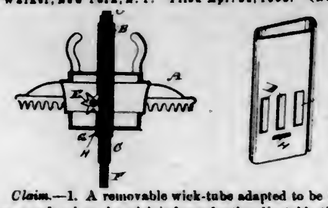
Claim.—1. The mode herein described of making tapering tubes for steam-boilers, said mode consisting in forming on an ordinary cylindrical lap-welded tube corrugations prominent at the small end of the tube, but gradually decreasing in prominence until they merge into the cylindrical portion of the tube at or near the opposite end, as set forth.

2. The within-described tapering tube for steam-boilers, said tube having at its small end prominent corrugations which gradually decrease in prominence until they merge into the cylindrical portion of the tube at or near the large end of the same, as set forth.

3. A tapering tube having tapering corrugations concentrated and welded at and near the contracted end of the tube, as set forth.

4. A tapering tube having tapering corrugations, and having at its large end a flange, d, and at its small end a concentrated and welded portion, h, as set forth.

266,221. REMOVABLE WICK-TUBE FOR LAMP-BURNERS. JOHN SWINBURY, Sing Sing, assignor to himself and Alfred Walker, New York, N. Y. Filed Apr. 22, 1882. (No model.)



Claim.—1. A removable wick-tube adapted to be locked in a burner and to have its wick independently adjustable therein, substantially as herein shown and described.

2. The combination, with a burner, of a removable wick-tube cut open or split longitudinally, substantially as herein shown and described, and for the purpose set forth.

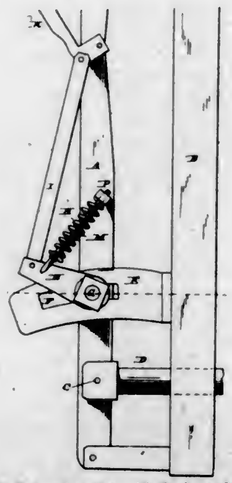
3. The combination, with the lamp-burner A and the fixed tube B thereof, provided with a recess or slot, G, of the removable wick-tube C, provided with a stud or projection H, substantially as herein shown and described, and for the purpose set forth.

266,222. WITHDRAWN.

266,223. WATERPROOFING COMPOUND OR PAINT. JOHN A. TITZEL, Allegheny, Pa., assignor, by direct and mesne assignments, to himself, James O. Titzel, and John Lynch, all of same place. Filed Mar. 7, 1882. (Specimens.)

Claim.—A waterproofing compound formed of equal parts of raw resin-oil and vulcanized rubber in solution, and mixed with one part of resin, a neutralizer for the sulphur and acid, and four parts of benzine, as described.

266,224. FRICTION-CLUTCH FOR THROTTLE-VALVES. ERASMUS R. TRAUMBULL, Birmingham, Ala. Filed June 14, 1882. (No model.)



Claim.—1. In combination with the lever fulcrumed to a bracket secured to the boiler-head, and having connected to it the throttle-valve rod, the bracket provided with a segmental slot, the bolt, elliptical or approximately elliptical in cross-section, the securing-nut, and the mechanism for securing or releasing the nut, substantially as and for the purposes specified.

2. In combination with the friction-clutch adapted to move and to be adjusted in a slotted bracket secured to the boiler, and the throttle-valve-rod lever attached to said clutch, the compound lever fulcrumed to the throttle-lever and connected with the friction-clutch, whereby said clutch may be operated, substantially as specified.

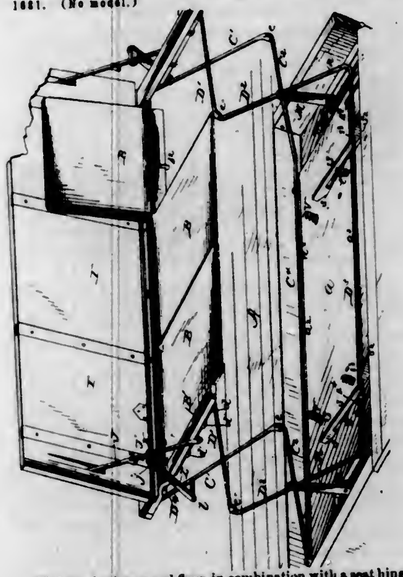
3. In combination with the friction-clutch, the slotted bracket and throttle-lever, the compound lever, and the spring secured to the friction-clutch and adapted to shift the parts to and from a normal position, substantially as specified.

266,225. GRINDING-MILL. EDWARD TUER, Manchester, Iowa. Filed July 25, 1882. (No model.)



Claim.—In a roller-mill, the double-concave E, having its grinding-faces cut into ridges inclined toward each other at an angle of about forty-five degrees to its upper edge, K, said ridges having a square section, in combination with the longitudinally-corrugated rolls B, substantially as shown and described, and for the purposes set forth.

266,226. FOLDING SEAT FOR THEATERS. EDWARD F. UNDERHILL and VINCENT F. LAKE, New York, N. Y. Filed Dec. 27, 1881. (No model.)



Claim.—1. A recessed floor, in combination with a seat hinged thereto and folding into a recess in said floor, hinged folding arms or links for adjusting and supporting said seat, and rock-shafts rigidly connected with said links for preventing lateral vibration, substantially as described.

2. The combination, with a recessed floor, of a seat hinged to said floor and folding into a recess therein, compound toggle links or levers for adjusting and supporting said seat, and a lever having a movable fulcrum for adjusting said supporting-links.

3. A recessed floor, in combination with a seat hinged to said floor and folding into a recess therein, and provided with a folding back, folding supports for said seat, jointed links connecting the sides and folding back of the seat, sleeves sliding on said folding links, and pivoted links connecting said sleeves and the folding seat-supports, substantially as and for the purpose described.

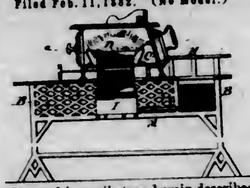
4. A recessed floor and a seat hinged to said floor and folding into a recess therein, and provided with rigid side frame-bars, in combination with slides moving in ways on said bars, and folding links connected therewith, substantially as and for the purpose described.

5. A recessed floor, in combination with a seat hinged to said floor and folding into a recess therein, a false bottom to said recess, and mechanism connected with said seat and false bottom, whereby when the seat is raised or lowered said false bottom is raised or lowered simultaneously with the seat, and its horizontality preserved, substantially as described.

6. The combination, with a recessed floor and a seat hinged thereto and folding into a recess in said floor, of an adjustable false bottom or flooring to said recess, and mechanism for simultaneously adjusting the front and rear sides or edges of said false bottom, substantially as described.

7. A floor provided with a recess, in combination with a seat hinged to said floor and folding into said recess, an adjustable false bottom to said recess, and springs for sustaining, in part, the weight of said seat and false bottom, substantially as described.

266,227. SAD-IRON OIL-STOVE. ADOLPH VELGUTH, Milwaukee, Wis. Filed Feb. 11, 1882. (No model.)



Claim.—The sad-iron oil-stove herein described, consisting in the combination and arrangement of frame B, platform H, combustion-chamber A, said combustion-chamber extending above said frame and platform, and having vertical front and inclined rear walls, series of burners D D, located within said combustion-chamber, series of small reservoirs located beneath said burners, and primary reservoir, H', said primary reservoir being connected with said secondary or smaller reservoirs by the distributing-pipes M, L, and K, substantially as and for the purpose specified.

266,228. WITHDRAWN.

266,229. WITHDRAWN.

266,230. WITHDRAWN.

266,231. STAND FOR SUPPORTING MUSICAL INSTRUMENTS. ALEXANDER WARNER, New York, N. Y. Filed Nov. 22, 1881. (No model.)

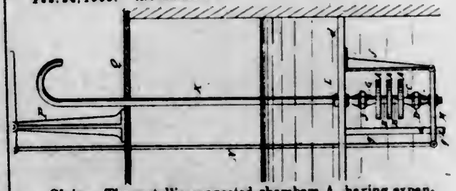


Claim.—1. A stand for the leg of a piano or the case of a musical instrument, comprising a plate, upon which the leg or case may rest, and pointed feet or projections, which support the piano-leg or case of the musical instrument independently of the caster and are adapted to pass through a carpet and penetrate the floor beneath, substantially as specified.

2. A stand for a piano-leg or the case of a musical instrument, adapted to support the same independently of its caster, and having an opening extending entirely to one side and adapted to receive the caster, and allowing the stand to be slipped laterally over the caster, substantially as specified.

3. A stand for a piano-leg, adapted to support the same independently of the caster, and comprising a flange adapted to fit in the recess in the leg, substantially as and for the purpose specified.

266,232. PUMP. DAVID E. WASHBURN, Houghton, Mich. Filed Feb. 24, 1882. (No model.)



Claim.—The metallic connected chambers A, having expansible and contractible sides, the upper chamber being provided with a valved eduction-pipe and the lower one with a valved induction-pipe, in combination with the frame and the levers M O, connected by a rod, N, and arranged to cause the upper and lower sides of said chambers to alternately move to and from each other, as described.

266,233. HORSE-BOOT. JOSEPH E. WATSON, Toledo, Ohio. Filed Aug. 19, 1882. (Model.)

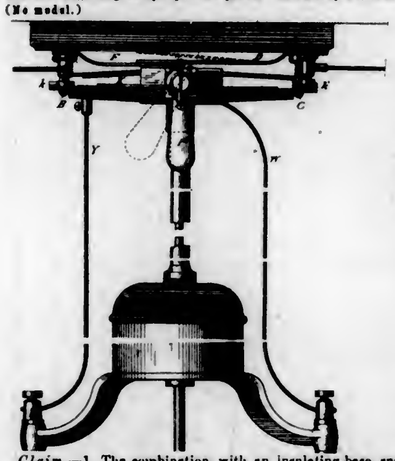
Claim.—In a horse-boot, the partially-split strap C, having the steel plate D secured to its forward end, the said plate and end

266,233.



of the strap being adapted to be secured between the hoof and shoe of the animal, as described, and the buckle by which the rear ends of the split strap are secured, the strap being adapted to carry a tubular pad, as and for the purposes specified.

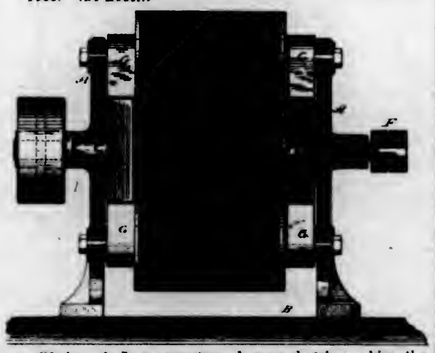
266,234. DEVICE FOR SUSPENDING ARC-LAMPS. ADDISON G. WATERHOUSE, New York, N. Y., assignor to the United States Electric Lighting Company, same place. Filed May 24, 1882. (No model.)



Claim.—1. The combination, with an insulating-base, suspending-hooks, binding-posts, and contact-springs connecting said posts, arranged thereon, of an insulating supporting-bar, an electric lamp connected therewith, a switch for separating the contact-springs on the base, and circuit-connections from the binding-posts of the base to the terminals of the lamp, substantially as hereinbefore set forth.

2. The combination, with an insulating-base, suspending-hooks B C, springs D F, and means for connecting the same with an electric circuit, of a bar, K, supported by said hooks, an electric lamp connected with the bar, a bar or spindle, M, extending from the bar K, a metallic contact-arm, S, fixed to the same, and circuit-connections from the terminals of the lamp to one of the springs and to the contact-arm S, respectively, these parts being constructed and arranged for operation substantially in the manner set forth.

266,235. MAGNETO OR DYNAMO ELECTRIC MACHINE. ADDISON G. WATERHOUSE, New York, N. Y., assignor to the United States Electric Lighting Company, same place. Filed May 24, 1882. (No model.)

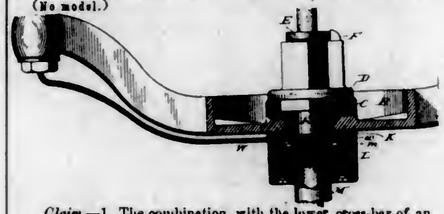


Claim.—1. In a magneto or dynamo electric machine, the combination, with straight field-magnet cores disposed in a circle, of a revolving armature consisting of a core wound with insulated wire and provided with right-angled pole-pieces which rotate in proximity to the ends of the field-magnets, as set forth.

2. The combination, with straight field-magnets mounted in a circle in a supporting-frame, of a soft-iron core mounted in line with said magnets, right-angled pole-pieces secured to or integral with the said core, a coil of insulated wire wound around said core, and a commutator or collector, to which the ends of the coil are connected, these parts being constructed and combined to form a magneto or dynamo machine in which the currents are produced by rapid reversals of the magnetic polarity of the core, as set forth.

3. The combination of a supporting-frame, straight field-magnets mounted in a circle in said frame and provided with right-angled pole-pieces, a revolving core mounted in the frame in the center of the group of field-magnets, a coil of insulated wire wound around said core, and pole-pieces arranged to rotate before the faces of the poles of the field-magnets, substantially in the manner described.

266,236. CARBON-HOLDER FOR ARC-LAMPS. ADDISON G. WATERHOUSE, New York, N. Y., assignor to the United States Electric Lighting Company, same place. Filed June 2, 1882. (No model.)



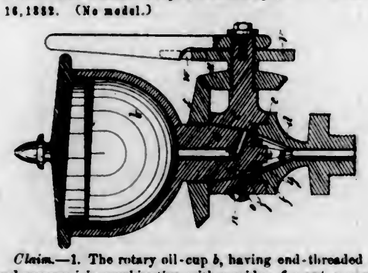
Claim.—1. The combination, with the lower cross-bar of an electric-lamp frame, of a box or seat, D, a tube, E, and devices for clamping a carbon therein, and a tube, M, for containing the projecting end of a carbon, and for drawing down the tube E and its clamping mechanism into the seat D, as set forth.

2. The combination, with the lower cross-bar of an electric-lamp frame, of a box or seat, D, provided with an incline or beveled part, G, a slotted tube, E, plate F, and tube M, for containing the projecting end of a carbon pencil, and for drawing down the tube E into the seat D, as described.

3. The combination, with the cross-bar of an electric-lamp frame, of a clamping socket or holder extending through the cross-bar, insulating-washer C, a grooved washer, K, and a clamping-nut for the projecting portion of the socket or holder, and a wire, W, entering the groove in washer K, these parts being constructed and combined in substantially the manner hereinbefore set forth.

4. The combination, with the cross-bar of an electric-lamp frame, of a box or seat, D, clamping tube or holder, E, extending through the cross-bar, insulating-washer C, grooved washer K, block L, nut *m*, tube M, and wire W, these parts being constructed and combined in substantially the manner hereinbefore set forth.

266,237. OILER. EDGAR JAMES WELLS, Hagan, assignor to himself and William Hooper, Ticonderoga, N. Y. Filed Aug. 16, 1882. (No model.)



Claim.—1. The rotary oil-cup *b*, having end-threaded stem *a* and passage *i*, in combination with a spider, *f*, a nut, *g*, a socket, *c*, and a stem, *d*, whereby the cup-stem may be revolved in the socket, substantially as described.

2. In an oiler, a cup, *b*, having a movable stem, *a*, in a socket, *c*, of the supporting-stem *d*, said stem *a* having the discharge-passage *i* and the groove *k*, and the socket *c*, having the cavity *j*, all arranged and operating substantially as described.

3. The combination of the oil-cup stem *a*, having lateral delivery *i* and groove *k*, a socket, *c*, having cavity *j*, and a stem, *d*, having passage *m*, as shown and described.

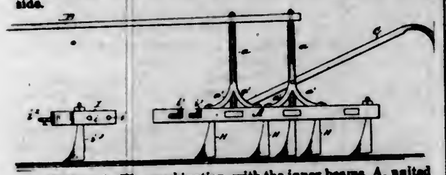
4. The combination, in an oiler, of a movable stem, *a*, having passages *i* and *k*, and a socket, *c*, having a cavity, *j*, said cavity *j* being variable in capacity, substantially as described.

5. The combination, in an oiler, of the movable cup *b*, stem *a*, stud *h*, nut or cap *g*, stationary socket *c*, spider *f*, and stem *d*, substantially as described.

6. The combination, with a pinion, *t*, on stem *a*, an arm on socket *c*, and a pawl-lever, *g*, loose on said arm, of a rigidly-connected pinion, *u*, and ratchet *v*, loose on said arm, as and for the purpose specified.

266,238. CULTIVATOR. WILLIAM H. WEST, Grand Island, Nebr. Filed Mar. 13, 1882. (No model.)

Brief.—A double cultivator. Two sides connected by arched rods. Outer beams hinged to inner and slotted to receive tenons of transverse beams. Removable head-block with draft-eye and pins to fit in L-shaped recesses. A detachable draft-bar on each side.



Claim.—1. The combination, with the inner beams, A, united by rods *a*, of the slotted outer beams, D, hinged to the beams A, the transverse beams E F G, secured to the inner beams and working in the slots of the hinged beams, and means for securing the hinged beams to the transverse beams, substantially as and for the purpose set forth.

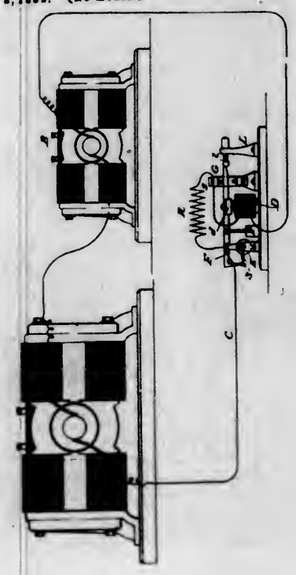
2. In combination with a double cultivator, substantially as described, a removable head-block, I, as and for the purpose set forth.

3. In combination with the cultivator-beams A A, having the recesses *i' i'*, the head-block I, with pins *i i*, as described.

4. The combination, with the hinged beams D and the transverse beams F of the two frames, of the detachable draft-bars J, substantially as and for the purpose set forth.

5. The cultivator described, having the inner beams, A A, united by the arched rods *a a*, the outer beams, D D, with capacity for lateral adjustment, the beams E F G, and the head-block I, substantially as set forth.

266,239. SYSTEM FOR THE ELECTRICAL TRANSMISSION OF POWER. EDWARD WESTON, Newark, N. J., assignor to the United States Electric Lighting Company, New York, N. Y. Filed May 8, 1882. (No model.)

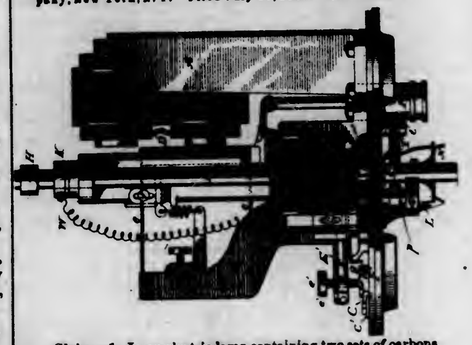


Claim.—1. In a system for the transmission of power by electricity, the combination of a dynamo or magneto electric machine, an electric motor, a retarded circuit including the same, and a circuit-breaker inserted in said circuit and constructed or arranged to interrupt the continuity of the circuit upon a predetermined fall of the counter electro-motive force produced by the motor, as set forth.

2. In a system for the transmission of power by electricity, the combination of a dynamo or magneto electric machine or a group of machines located at a central station, a circuit for conveying the current generated by the same to distances, two or more electric motors connected with said circuit in multiple arc, and retarded circuit-breakers included in the motor-circuits, the said circuit-breakers being constructed or arranged to interrupt the continuity of the motor-circuits upon a predetermined fall of the counter electro-motive force produced by the motors, as set forth.

3. The combination, with a dynamo-machine, a motor, and conductors connecting the same, of an electro-magnet included in the said circuit, an adjustable armature for the magnet, a dash-pot connected with the armature, a catch for holding the armature when attracted toward the magnet, and contact-stops, forming, in connection with the magnet and armature, a circuit-interrupter, as described.

266,240. ELECTRIC-ARC LAMP. EDWARD WESTON, Newark, N. J., assignor to the United States Electric Lighting Company, New York, N. Y. Filed July 17, 1882. (No model.)



Claim.—1. In an electric lamp containing two sets of carbons, the combination, with the electro-magnet, of independent feed mechanisms, one for each set of carbons, a pivoted bar adapted to maintain either of said feed mechanisms out of operation, a spring for shifting the same, an electro-magnet independent of the feed-magnets, and an armature therefor, arranged to lock or release the pivoted bar, substantially as and for the purpose set forth.

2. In an electric lamp containing one set of feed-controlling magnets and two sets of carbons, the combination, with the movable armature, of two independently-connected clutch mechanisms, one for each set of carbons, a pivoted bar adapted to raise the free end of either of the said clutch mechanisms, a spring connected with the said bar, and an electro-magnet and pivoted armature for locking and releasing the bar, as and for the purpose set forth.

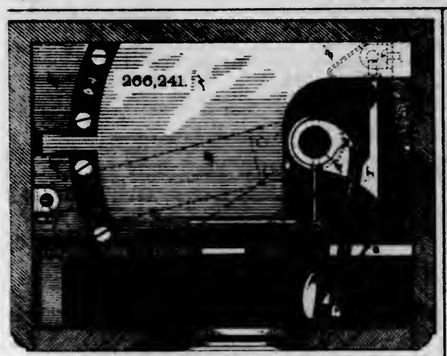
3. In an electric lamp containing one set of feed-controlling magnets and two sets of carbons, the combination, with the movable armature, of two independently-connected clutch mechanisms, one for each set of carbons, a pivoted bar adapted to maintain either of said clutch mechanisms out of operation, a catch hinged to said bar and arranged for sustaining the carrier of the inactive set of carbons, a spring for shifting the pivoted bar, and an electro-magnet and pivoted armature for locking and releasing the same, substantially as set forth.

4. The combination, with the spring-shifting bar C, of a magnet, M, and armature G, placed above the base F, and a pin, *p*, extending through the said base and arranged for raising the armature, substantially as described.

5. In an electric lamp, the combination, with the carbon-carrier, of a bearing-spring, T, or its equivalent, and a cam for controlling the position of the same, substantially as set forth.

266,241. CUT-OUT FOR ELECTRIC CIRCUITS. EDWARD WESTON, Newark, N. J., assignor to the United States Electric Lighting Company, New York, N. Y. Filed May 2, 1882. (No model.)

Claim.—1. The combination of a shunting or short-circuiting apparatus, levers for operating the same, and an indicator con-



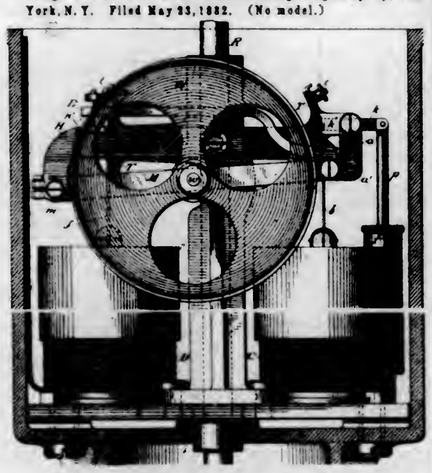
nected with a movable portion of the apparatus, as described, with a box or casing divided into compartments by a slotted partition secured therein, the slots being arranged to allow the levers to extend through them and to expose the indicator to view.

2. In a shunting or short-circuiting apparatus, the combination of an oscillating shaft, two contact-springs forming terminals of an electric circuit fixed thereto, a lever for turning said shaft, a lever provided with a catch for holding it in place, and contact-plates placed in the path of movement of the springs, two of said plates being connected with insulated binding-posts and two in metallic contact, as and for the purpose set forth.

3. The combination of oscillating shaft A, insulated rings *b c*, and springs B C, fixed thereto, key L, spring *s*, and key E, having a catch for engaging with a toe on shaft A, with contact-plates H K and circuit-connections to the springs B C and from the plates H, substantially as described.

4. The combination, with an oscillating shaft, A, springs B' and C', and devices for locking and releasing the said shaft, of circuit-closing springs connected with the shaft, contact-plates H K, and an indicator-slide, G, connected with and operated by the movement of the shaft A, as set forth.

266,242. ELECTRIC LAMP. EDWARD WESTON, Newark, N. J., assignor to the United States Electric Lighting Company, New York, N. Y. Filed May 23, 1882. (No model.)



Claim.—1. In an electric lamp in which the carbon-carrier is positively connected or geared with feed-controlling mechanism, substantially as herein described, the combination, with the swinging lever or frame, of a brake-wheel and a pivoted locking-lever, both of which are carried by said frame, and a stop arranged in the path of movement of the locking-lever, these parts being constructed and arranged in such manner that the locking-lever may release the brake-wheel and allow the carbon-carrier to descend when the said lever encounters the fixed stop.

2. In an electric lamp of the kind described, the combination, with the carbon-carrier, a fixed stop, and electro-magnets, of a feed-controlling mechanism consisting essentially of a swinging lever or frame, a shaft journaled therein, a friction disk or wheel on said shaft, and a locking or brake lever pivoted on the frame and adapted to lock or release the wheel, substantially in the manner hereinbefore set forth.

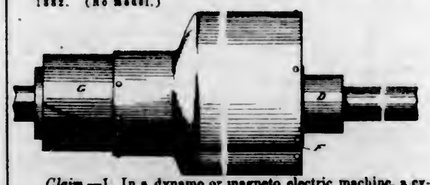
3. In an electric lamp, the combination, with a gravitating carbon-carrier, of a swinging lever or frame, a shaft journaled in said frame and connected or geared with the carrier, a disk or wheel fixed to said shaft, a locking or brake lever pivoted to the frame, a fixed stop in the path of movement of the lever, and electro-magnets and armatures connected with and operating to tilt the frame, substantially as herein set forth.

4. In an electric lamp, the combination of a carbon-carrier, a swinging frame, a shaft journaled therein and geared with the carrier, a disk or wheel on said shaft, a locking or brake lever pivoted on the frame, a fixed stop, a pivoted armature-lever, and magnets connected therewith, and a connection between the ends of the armature and brake levers, as described, whereby the weight of the carbon-carrier and carbon attached thereto will be added to that of the brake-lever, causing the same to positively lock the wheel or disk, substantially as hereinbefore set forth.

5. The combination of armature-lever K, swinging frame M M', shaft *w*, connected or geared with the carbon-carrier, wheel W, locking or brake mechanism A', having a long tail-piece, L, a link, *e*, connecting the armature-lever with the locking mechanism, and a fixed stop, *s'*, these parts being constructed and combined in substantially the manner described.

6. The combination, in an electric lamp, of a grooved pulley-wheel, forming a part of the feed-regulating mechanism, a slotted carbon-carrier, and a metal wire passing around said pulley and secured to opposite interior ends of said carrier and electrically insulated therefrom, as and for the purpose set forth.

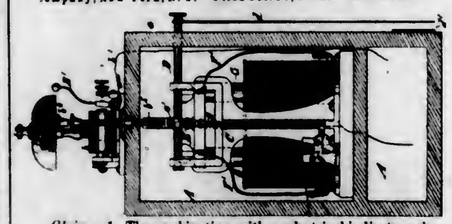
266,243. DYNAMO OR MAGNETO ELECTRIC MACHINE. EDWARD WESTON, Newark, N. J., assignor to the United States Electric Lighting Company, New York, N. Y. Filed Mar. 27, 1882. (No model.)



Claim.—1. In a dynamo or magneto electric machine, a cylindrical core, in combination with longitudinal conductors composed of sheets or plates of metal bent or rolled to conform to the shape of the core, and connected together and to the segments of a commutator, in substantially the manner described.

2. In combination with a cylindrical core, an insulated circular plate at one end, a commutator at the other, and conductors composed of sheets or plates conforming to the shape of the core, the said plates being insulated from the core and connected to the insulated plate and to the segments of the commutator, in substantially the manner described.

266,244. ELECTRICAL INDICATOR. EDWARD WESTON, Newark, N. J., assignor to the United States Electric Lighting Company, New York, N. Y. Filed Oct. 17, 1881. (No model.)



Claim.—1. The combination, with an electrical indicator substantially such as described, and included in a main circuit, of an alarm mechanism included in an independent or shunt circuit, and a circuit-closer adapted to be operated by the indicator without arresting the movement of the same, and thereby close the circuit through the alarm, substantially in the manner set forth.

2. An electro-magnet having its coils included in an operative electric circuit and its core in conjunction with yielding contact-pieces for closing a shunt or local circuit, and operating an electrical alarm, in combination with a graduated scale and index-arm connected with the said core, substantially as and for the purpose set forth.

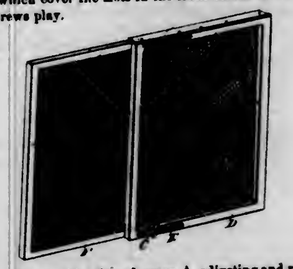
266,245. LOCK FOR FIRE-ARMS. ANDREW E. WHITMORE, Springfield, Mass. Filed Mar. 27, 1882. (No model.)



Claim.—In a breech-loading fire-arm, the hammer C, L-shaped lever M, with its pin R and indicator N, and the pivoted thumb-lever L, with its pin S, in combination with the sear K, spring J, and trigger D, substantially as herein set forth.

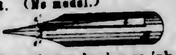
266,246. WINDOW-SCREEN. HENRY E. WILLEE, Milwaukee, Wis. Filed Mar. 30, 1882. (No model.)

Brief.—The rear of two screens sliding upon one another has extensions, which cover the slots in the front screen in which the adjusting-screws play.



Claim.—The combination of screen A, adjusting and retaining screws C, rigidly attached thereto, screen B, provided with slots E E, for the reception of the front ends of said screws, bar H, attached to the front screen, B, and adapted to close the space between said screen and the lower rail of the sash, said rear screen A being provided with projections G G, adapted to close said slots E E when said screens are extended, said screws being adapted to retain said screens at the required points of adjustment, substantially as set forth.

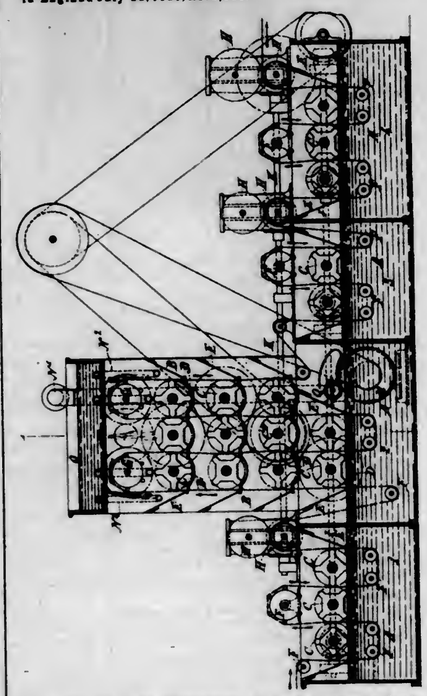
266,247. FOUNTAIN-PEN. PAUL R. WITT, Bloomsburg, Pa. Filed Apr. 5, 1882. (No model.)



Claim.—1. A fountain-pen having an ink-duct upon one nib and a valve upon the other, substantially as described.

2. The pen E, having the passage-way *c*, communicating above with the fountain and below with the tube *c'*, and the valve *c²*, adapted to close the opening into tube *c'*, as described.

266,248. APPARATUS FOR SCOURING, DYEING, AND WASHING PIECE-GOODS. JAMES WORRALL, Ordsall, Salford, County of Lancaster, and JOHN KERSHAW, Wadsworth, Hallfax, County of York, England. Filed May 3, 1882. (No model.) Patented in England July 23, 1881, No. 3,321.



Claim.—1. The arrangement of rotating wheels or beaters mounted in shallow troughs provided with a constant supply of liquor, such wheels or beaters serving to discharge a limited amount of such liquor onto piece-goods traveling over or past such rotating wheels or beaters, as and for the purpose described.

2. In combination with one or more series of rotary wheels or beaters mounted in shallow troughs, whether arranged vertically or horizontally, the yielding plates E, for retaining the liquor in contact with the traveling cloth or piece-goods, as and for the purpose above described.

3. In combination with apparatus for scouring, dyeing, or washing pile fabrics, in which rotary wheels or beaters are employed, a perforated or reticulated cylinder or web adapted to revolve, and arranged to separate lint or fluff from the liquid in the vat by suction, substantially as herein described.

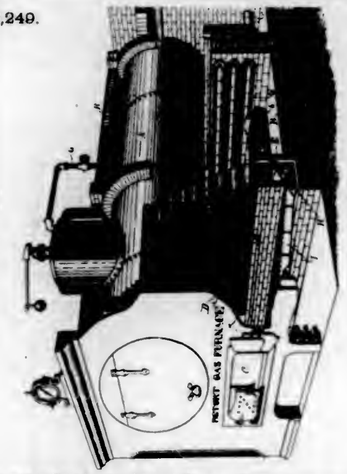
266,249. BOILER-FURNACE AND ATTACHMENT. ROBERT E. ZELL, Baltimore, Md. Filed June 19, 1882. (No model.)

Claim.—1. In combination with a box adapted as a bridge-wall or a part of a bridge-wall, having a series of openings therein in communication with its interior, a system of hollow grate-bars adapted to fit in the said openings, the said bars being closed at their upper and lower faces and provided with lateral exit-apertures and apparatus for introducing air to the interior of the said bridge-wall box, substantially as and for the purpose specified.

2. A box adapted as a bridge-wall or a part of a bridge-wall, having a series of lateral apertures extending from its interior to receive the ends of hollow grate-bars, a steam-pipe with nozzles opposite to the said opening, substantially as and for the purpose specified.

3. A box adapted as a bridge-wall or a part of a bridge-wall and having a series of lateral apertures extending from its interior, and a system of hollow grate-bars connected with the said apertures, combined with a steam-pipe having nozzles opposite to the said apertures, the said nozzles being removed from contact with the wall of the box and the said lateral apertures to form an exit-passage for the contents of the said box and an entrance-channel

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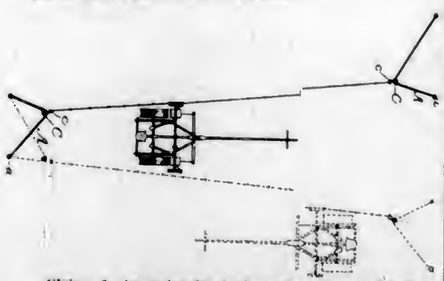


to the said hollow bars, substantially as and for the purpose specified.

4. In combination with a box adapted as a bridge-wall or a part of a bridge-wall and in communication with a system of hollow grate-bars having lateral exit-apertures, a supply-pipe extending to a point under the boiler in the rear of the bridge-wall, substantially as and for the purpose specified.

5. In combination with a box adapted as a bridge-wall or a part of a bridge-wall and in communication with a system of hollow grate-bars having lateral exit-apertures, a supply-pipe extending to a point under the boiler in the rear of the bridge-wall, and a branch leading to the outer air, substantially as and for the purpose specified.

266,250. ANCHOR FOR CHECK-ROW LINES. JAS. E. BERING, Decatur, Ill., assignor to Chambers, Bering & Quinlan, same place. Filed Jan. 17, 1882. (No model.)

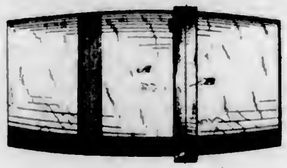


Claim.—1. An anchor for check-row lines, formed of flexible material, substantially as described, which adjusts itself to the varying position of the planter, substantially as set forth.

2. An anchor for check-row lines, having the portion which the check-row line traverses formed of flexible material, substantially as described.

3. An anchor for check-row lines, consisting of a flexible portion, A, provided with set-pins *a*, substantially as described.

266,251. HUB FOR VEHICLE-WHEELS. THOMAS BROWN and SAMUEL M. BROWN, Dayton, Ohio, assignors to S. M. Brown & Co., same place. Filed Aug. 16, 1882. (Model.)

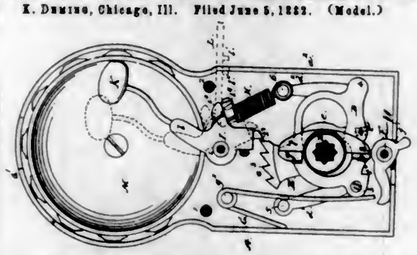


Claim.—1. The method of banding hubs substantially as herein described, which consists in making an annular peripheral groove in the hub and compressing therein a solid metallic band by pressure exerted upon its surface in radial or concentering lines without producing unequal end-pressure upon the grain of the wood.

2. A wooden hub strengthened by one or more seamless metallic bands pressed in annular peripheral grooves in the hub by pressure exerted upon the surface of the band in radial or concentering lines at right angles to the axis of the hub without any longitudinal movement being imparted to either the band or bands or to the hub during the act of compressing.

3. The combination, with a wooden hub provided with one or more annular grooves formed in its periphery, of the continuous annular metallic strengthening-band, which is triangular or plano-convex in cross-section, and which is pressed in the said groove by pressure exerted upon the surface of the band acting in radial or concentering lines at right angles to the axis of the hub without any longitudinal movement of the band or bands or the hub while compressing the band or bands, substantially as described.

266,252. BURGLAR-ALARM. MARCELLUS DECKER and JAMES K. DEMING, Chicago, Ill. Filed June 5, 1882. (Model.)



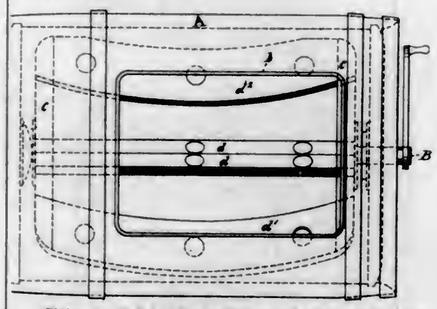
Claim.—1. The combination, in a burglar-alarm, of the swinging frame D, tumbler B, the plate E, pivoted to frame D and provided with ratchet e^2, and the dog and the thumb-piece F f', substantially as and for the purpose described.

2. The combination of the knob-spindle, the spindle-tumbler, the ratchet-plate, and the swinging frame with bell-lever and bell-hammer, whereby on turning the knob either way the alarm is made to sound, substantially as described.

3. The combination of the ratchet-frame pivoted to the swinging frame, the spindle-tumbler, the swinging frame located between said tumbler and ratchet-frame, and suitable operating mechanism, substantially as described.

4. In a burglar-alarm, the combination of the swinging frame, the side hangers, and the bell-lever with suitable intermediate connection with swinging frame and the spindle-tumbler, substantially as described.

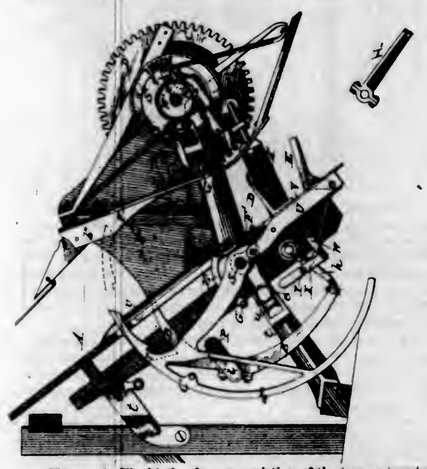
266,253. CHURN. JOHN H. DUNBAR, Philadelphia, Pa., assignor to Clement & Dunbar, same place. Filed Jan. 9, 1882. (No model.)



Claim.—1. A dasher having its wings *d d* as near the axis as practicable, and the wings d' d^2, intermediate thereto, farther from the center and curved lengthwise in opposite directions from each other, with their outer end corners rounded off, substantially in the manner and for the purpose set forth.

2. A dasher having two of its wings at opposite sides and farthest from its axis, inclined forward in the direction of the revolutions of the dasher to throw the cream from the circumference of the churn toward its center, and the outer edges of the intermediate wings inclined backward to throw the cream from the center toward the circumference, thus to produce two opposite currents of the cream to strike against each other, whereby, in connection with the concussions produced by the sudden striking of the wings upon the cream, its globules will be thoroughly broken up, substantially as described.

266,254. GRAIN-BINDING MACHINE. GEORGE ESTERLY, Whitewater, Wis. Filed Mar. 28, 1882. (Model.)



Claim.—1. The binder-frame consisting of the two cast-metal sills N, constructed in the form and with the shaft-bearings as shown, and the overhanging arm or standard O, bolted to one of said sill-pieces, as shown and described.

2. In a binder-frame, the combination of the cast-metal sills N, constructed and arranged, as shown, with seats in their under sides, the cross-bars *e*, secured and seated within said seats, and the standard O, secured to one of said sills, as shown.

3. The vertically-swinging arm U, having the sliding compressor mounted thereon, in combination with the rock-shaft G', having two arms, one connected with the compressor and the other arranged to act upon the trip-arm for starting the binding mechanism, as shown.

4. The rock-shaft S, having the binder-arm attached, in combination with the arm or hub T, secured to the shaft independently of the binder-arm, the arm U, pivoted to the hub, the compressors sliding upon said arm, and means, substantially as described, for operating said arm U and the compressor.

5. The vertically-swinging arm U, in combination with the reciprocating plate thereon and the compressor mounted on said plate.

6. In combination with the rotary tyer-head, the cord-placing arm having the extended end with its edge extended inward toward the knotting-hook, substantially as represented at A, whereby it is adapted to present the cord with certainty to the tying-fingers.

7. In combination with the rock-shaft Y, having crank-arms at both ends, the cam-wheel D', connected by a lever and yielding coupling with one of said crank-arms, the vertically-swinging arm U, connected with the other of said arms, the compressor arranged to slide upon the arm, as shown, and a spring attachment tending to slide the compressor upward.

8. In combination with the trip-arm I', arranged and operating in the connection described, the vibratory lifting-finger H', having its free end arranged to act beneath the free end of the trip-arm near its extremity, as shown.

9. The combination of the cord-controlling arm L and the crank-arm K', applied to the binder-arm shaft and arranged to act upon and raise the arm L, as described and shown.

10. In combination with the rotary tyer-head having the pivoted jaw, the co-operating spring, and the two screws applied to the spring in the manner described and shown, whereby the tension of the spring may be accurately adjusted and its proper position maintained.

11. The improved breast-plate for a grain-binder, having the upright box or bearing *s* cast rigidly thereon, as and for the purpose described.

12. The standard V, constructed, as shown, with the opening *g* to receive the tyer-pinion, the sustaining-arms extending downward past both sides of the pinion to sustain the lower end of the tyer-spindle, as set forth.

13. In a grain-binder having the peculiar driving and trip mechanism described, the trip-arm I, secured to its horizontal shaft by means, substantially as described, adapted to permit the arm to be removed from the shaft by an endwise motion at right angles to the axis of the shaft, as and for the purpose described.

14. In combination with the tyer-head, the vibratory cord-placing arm having the cord-receiving notch, and the arm A, overhanging said notch, as described and shown.

15. The cord-placing arm H, having the notched T-shaped end, as described and shown.

16. In combination with the grooved cam-wheel W', the rocking plate Z', pivoted at a point near said wheel, the cord-clamping wheel J, mounted upon said plate, and the ratchet-lever b', mounted upon said plate and engaging at one end directly in the cam-wheel, as described and shown, whereby motion is communicated directly from the cam-wheel to the ratchet-lever and the rocking of the plate permitted without disconnecting the wheel and lever.

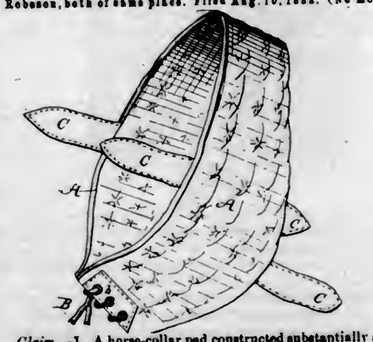
17. In a grain-binder, the combination of the binding-table or receiver, the mechanism whereby the grain is delivered to said table in a continuous stream, mechanism, substantially as shown, for gaveling and binding the grain, and a rotating arm, substantially as described, arranged to act at the heads of the grain to separate the gavel from the loose grain and discharge the bundle from the machine, whereby the bundles are prevented from clinging to the grain upon the machine and being carried therewith.

18. In a grain-binder, the upright standard or bracket overhanging the binding-table from the front side, or side on which the butts of the grain are received, in combination with the intermittingly-rotated shaft mounted therein, and provided with the rotary delivering-arms Q' Q', arranged to act upon the bundles upon opposite sides of and adjacent to the applied band, and the third delivery-arm, Q'', arranged to act upon the grain at the head.

19. The vertically-swinging compressor-arms, having their upper ends curved downward to facilitate the discharge of the bound bundles.

20. In combination with the main shaft K, having the discharge-arms thereon, the wheel S, provided with the shoulder T', and the spring-pawl U', mounted on the brace and arranged to engage with said shoulder, as described, whereby backward motion of the discharge-arms is prevented.

266,255. HORSE-COLLAR PAD. ARNOLD H. PETTY, Champaign, Ill., assignor to himself and Frank K. Robeson and John Robeson, both of same place. Filed Aug. 10, 1882. (No model.)



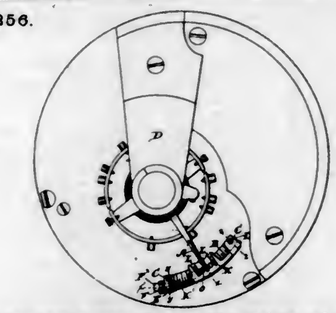
Claim.—1. A horse-collar pad constructed substantially as set forth, and provided with retaining-straps C C, adapted to lie between the collar and hames and hold the pad in place, substantially as and for the purpose described.

2. The combination, with a horse-collar and hames, of the pad A, adjustably connected at its top or bottom, and provided with retaining-straps interposed between the collar and hames, as and for the purposes set forth.

266,256. WATCH-REGULATOR. FRANK C. GOULD, Boston, Mass., assignor of one-third to John P. Lowell, same place. Filed June 17, 1882. (No model.)

Claim.—1. The combination, with a watch-regulator, of a seg-

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mental bar slotted to engage the arm of the regulator, and moved and guided, by means substantially as described, in a path that is concentric with the center on which the regulator-arm turns, as and for the purpose specified.

2. The combination, with a watch-regulator, of the segmental plate B, having a guide, J, a journaled nut, F, with a tapered partly-threaded orifice, and the segmental bar K, adapted to slide at one end in the guide J and threaded at its other end to engage with the nut F, as set forth.

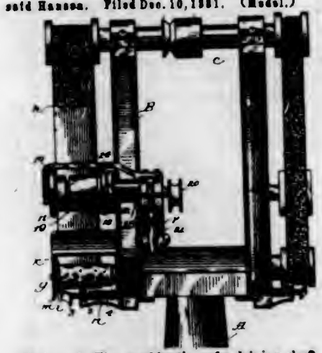
3. The combination, with the regulator-arm, of the segmental bar K, guided and operated as described, and provided with the slots L, which are oblique to said arm, as set forth.

4. The segmental bar K, having the slots L and the intermediate orifices, O, as set forth.

5. The combination, with a curved screw, of a nut partially severed at one or more points in its threaded portion, and thereby adapted to conform to the curvature of the screw.

6. The combination, with the flanged nut F, of the bearing E, split transversely, as described, whereby end motion of said nut is prevented, as set forth.

266,257. SOLE-EDGE TRIMMER. CHARLES C. HANSON and GEORGE B. DURHAM, Lynn, Mass.; said Durham assignor to said Hanson. Filed Dec. 10, 1881. (Model.)



Claim.—1. The combination of a driving-shaft, a pulley carrying a rand-cutter, and a scouring-belt adapted to run in or nearly in contact with the rand-cutter.

2. The combination of the driving-shaft, loose drum, rand-cutter, and scouring-belt with the guard-plate *m*.

3. The combination of the rand-cutter, mounted on the loose drum, and the scouring-belt with the spring-pressure plate *m*.

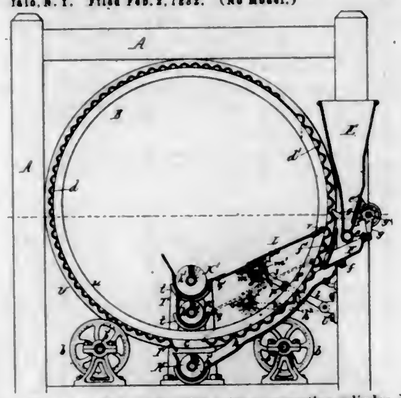
4. The combination of the driving-shaft, the scouring-belt, the adjustable belt-trimming knife, and means, substantially as described, for adjusting the belt to compensate for the portion removed by the trimming-knife.

5. The combination of the adjustable arm 7, having the drum 13, and the scouring-belt.

6. The combination of the scouring-belt, the drum 13, and flanged wheel 11 with the independent shaft 18, having cutter 19 and pulley 20, and the collar 14 on the drum.

7. A device for trimming and scouring sole-edges, consisting essentially of a main frame, a driving-shaft, a loose drum carrying a rand-cutter, a scouring-belt, an independent trimming-knife adapted to be revolved to trim the belt, and a movable collar for adjusting the position of the belt with respect to the rand-cutter.

266,258. GRAIN-SEPARATOR. FREDERICK W. HOWELL, Buffalo, N. Y. Filed Feb. 2, 1882. (No model.)



Claim.—1. The combination, with a separating-cylinder, B, provided in its surface with a longitudinal feed-opening, *c*, of means whereby the material is intermittently delivered from the feed-hopper into the feed-opening of the cylinder, a catch-board arranged in the cylinder, means whereby the material falling from the catch-board is carried off, and means whereby the residue discharged from the cylinder through the feed-opening is collected and removed, substantially as set forth.

2. The combination, with a separating-cylinder, B, having a longitudinal feed-opening, *c*, of a chute, *h*, curved concentric with the cylinder, and a plate, I, projecting from the lower side of the opening *c* and running in contact with the concentric chute, substantially as set forth.

3. The combination, with a separating-cylinder, B, having a longitudinal feed-opening, *c*, provided with a projecting plate, I, of a feed-hopper, E, tilting bucket F, and chute *h*, substantially as set forth.

4. The combination, with a separating-cylinder, B, and two conveyer-troughs, K K′, arranged within the same, of a movable catch-board, L, and means whereby the latter is made to deliver into either conveyer-trough, substantially as set forth.

5. The combination, with a separating-cylinder, B, and two conveyer-troughs, K K′, arranged within the same, of a movable catch-board, L, arms *l*, to which the board is pivoted, and cams P, whereby the catch-board is raised and lowered, substantially as set forth.

6. The combination, with a separating-cylinder, B, having a longitudinal inlet-opening, *c*, of two conveyers, K K′, *k k′*, arranged within the cylinder B, a conveyer H *h′*, arranged below the cylinder B, a movable catch-board, L, and a chute, *h*, substantially as set forth.

7. The combination, with a separating-cylinder, B, of a catch-board, L, having its outer portion made adjustable toward and from the cylinder, and means whereby the material falling from the catch-board is collected and discharged, substantially as set forth.

8. The combination, with the catch-board L, of a roller, *r*, arranged at the edge of the catch-board, substantially as set forth.

9. The combination, with a separating-cylinder, B, having a longitudinal inlet-opening, *c*, of a stationary deflecting-board, *s*, arranged within the cylinder, substantially as set forth.

10. The combination, with a separating-cylinder, B, of conveyer-troughs K K′ H and standards T, having curved flanges *t*, upon which the conveyer-troughs are supported, substantially as set forth.

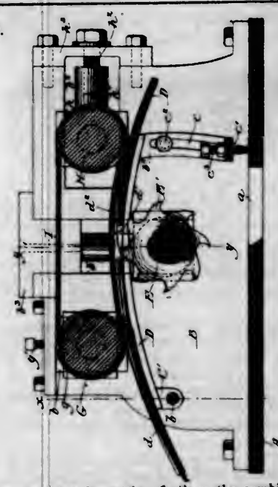
266,259. MACHINE FOR CUTTING THE SHAFTS OR STEMS OF FEATHERS. MILES H. MORRIS and FREDERICK WESTERMAN, Chicago, Ill. Filed July 27, 1882. (No model.)

Claim.—1. In a machine for cutting the shafts of feathers, the combination, with the rotary cutting-knife, of a curved support for the feather, substantially as described.

2. The combination, in a machine for cutting feathers, of the cutting-knife, the curved table, and the endless feeding-belt, substantially as described.

3. In a machine for cutting feathers, the combination, with the rotary cutting-knife, of the table having a groove or its equivalent adapted to guide a feather, substantially as described.

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4. In a machine for cutting feathers, the combination, with the cutting-knife, of the curved table having a groove or its equivalent to guide the feather, substantially as described.

5. In a machine for cutting feathers, the combination, with the cutting-knife, of the table having a groove to guide the feather, and an endless feeding-belt located above the table, substantially as described.

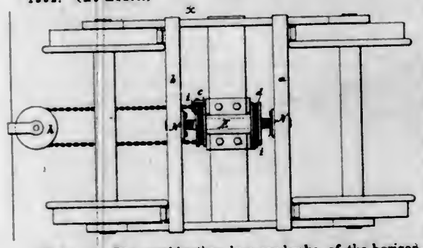
6. The combination, with the cutting-knife and grooved feather-supporting table, of mechanism for adjusting said table, substantially as described.

7. The combination, with the cutting-knife, of the grooved feather-supporting table pivoted at one end and provided with adjusting mechanism at its opposite end, substantially as described.

8. The combination, with the cutting-knife, of the grooved feather-supporting table pivoted at one end and provided with clamping mechanism at its opposite end, substantially as described.

9. The combination, with the cutting-knife, of the curved feather-supporting table, the endless belt extending above and on each side of said knife, and adapted to bear upon said curved table, and mechanism for adjusting said belt, substantially as described.

266,260. CAR-BRAKE. HENRY BARRATT, York, Pa., assignor of one-third to Jacob D. Miller, same place. Filed Feb. 17, 1882. (No model.)



Claim.—1. The combination, in a car-brake, of the horizontal screw-shaft F, having right and left hand screws, turning in bearings between the axles on the cross-beam of the truck, and carrying two drums, *c d*, and the brake-beams *a b*, provided with nuts, through which the ends of the screw-shaft F pass, and chains *e f*, and devices for drawing upon and relaxing the same, substantially as set forth.

2. The combination, in a car-brake, of the shaft F, having right and left screw-threads, hung centrally within the frame of the truck, between the axles carrying the drums *c d*, the brake-levers *a b*, having threaded perforations, through which pass the ends of the screw-shaft F, a shaft, *m*, and drum *h*, and chains *e f*, wound upon the drums *c d h*, substantially as set forth.

266,261. FENCE-POST. DAVID W. CORELAND, Lowville, N. Y. Filed Sept. 21, 1882. (No model.)

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Claim.—1. A metal foot or anchor for posts, consisting of a central perforated hub, radial arms set on edge, and flat spuds set across the ends of the arms, all as described.

2. In a foot or anchor for posts, a central hub composed of two interlocking parts with perforations to admit the post, and with arms and spuds connected to said hub parts, substantially as described.

266,262. SECONDARY BATTERY. WILLIAM ANTHONY SHAW, Brooklyn, assignor of one-half to Lebbeus K. Rogers, New York, N. Y. Filed Sept. 18, 1882. (No model.)



Claim.—1. The combination, with a secondary or other galvanic battery, of means, as indicated, for artificially cooling the same, substantially as described.

2. A hollow electrode, substantially as described, having its exterior in contact with the electrolyte, and provided with an interior cavity having close walls, as set forth.

3. In a secondary battery, a plate-like electrode formed of a rod or tube bent upon itself and primarily coated or combined with active material, substantially as described.

4. An electrode formed of a tube bent or folded upon itself, substantially as described.

5. In a secondary battery, a hollow or tubular electrode coated on the exterior with active material, and provided with an interior cavity having close walls, substantially as described.

6. A serpentine tubular electrode having the spaces between the bends or coils filled or packed with active material, substantially as described.

7. An electrode formed in whole or in part of an alloy of lead and bismuth, substantially as described.

8. An electrode having applied thereto a mixture of red lead or like material and sulphur, substantially as described.

9. An electrode for a secondary battery, coated with a paste of lead compound or other active material and sulphuric acid, substantially as described.

10. An electrode for secondary batteries, comprising, in combination with the conducting-support, an active layer or coating which contains sulphur, substantially as described.

11. The electrodes of a secondary battery, comprising a conducting body or support primarily coated or combined with active material—such as lead oxide—in combination with a solid filling material between the electrodes, comprising a non-conducting pulverulent porous material—such as earth or sand—and a soluble salt—such as alkaline nitrate—substantially as described.

12. The electrodes of a secondary battery, in combination with a solid filling material of alkaline nitrate and earth, substantially as described.

13. The method of preparing electrodes of secondary batteries by dipping the electrode into a solution of nitrate of potash or other salt or salts, removing it from said solution, and evaporating the solvent, all prior to the immersion of the electrode in the battery-fluid, substantially as described.

14. An electrode having the active coating glazed with nitrate of potash or its equivalent, substantially as described.

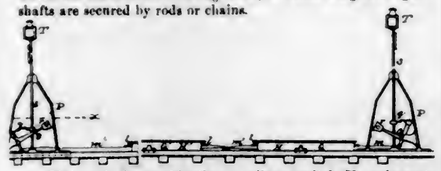
15. A secondary battery comprising the case, the tubular electrodes with their active coating, and the solid filling containing a soluble salt or salts, substantially as described.

16. In a galvanic battery, an electrode having in its interior a circuitous passage with imperforate walls, and provided with an inlet and an outlet opening communicating with said passage, substantially as described.

REISSUES.

10,217. RAILROAD-SWITCH SIGNAL. AUGUSTUS H. BARNS, Hartford, assignor of one-half to Henry L. Pinney, South Windsor, Conn. Filed Apr. 20, 1882. Original No. 229,075, dated June 22, 1880.

Brief.—Signals each way from switches indicate their relative position to main line through sliding rods attached to the throw-rails, said rods actuating links pivoted to vibrating levers which are connected to sliding arms, to which weighted signal-shafts are secured by rods or chains.



Claim.—1. In combination, a railway-switch, E, reciprocating bar G, links *i i*, vibrating levers *k k*, flexible connecting-wires, sliding arms *l*, connecting-wires *m m' n*, and signal T, all substantially as described.

2. In combination, a railway-switch throwing either or each side of the main track, a reciprocating bar, converting mechanism of the shifting-boxes and signal-cases, and connecting-wires, whereby the condition of the main track as to continuity is designated by signals at a distance from the switch, all substantially as described.

3. In a railway-switch signal, in combination, a main signal-wire, one or more switches connected with a like number of shifting-boxes provided with converting mechanism, and signals located at a distance either or each way therefrom, whereby the condition of the main track as to continuity will be indicated by each of the signals, all substantially as described.

4. In combination, signal T, vertical rod *s*, arm *r*, link *q*, weighted lever *o*, and signal-case P, all substantially as described.

10,218. STOVE-BACK. WILKENS SCHENCK, St. Paul, Minn. Filed Sept. 12, 1882. Original No. 237,450, dated Feb. 8, 1881.



Claim.—1. A stove-lining composed of two central overlapping plates capable of relative vertical adjustment, and four overlapping end plates capable of relative vertical adjustment and of lateral adjustment with relation to said central plates, whereby the vertical and longitudinal dimensions of said stove-lining may be increased or diminished, substantially as and for the purpose specified.

2. The plate A, provided with the offset *a*, the corrugations *a'* and *a²*, and the horizontal slots *a³*, in combination with the plates B, having the horizontal slots *b*, and with the bolts C, substantially as and for the purpose shown.

3. In combination with the plates A and B, constructed and united as shown, the plate D, fitting between said plates and adapted to be moved vertically, substantially as and for the purpose set forth.

4. The hereinbefore-described lining, consisting of the plate A, provided with the offset *a* and slots *a³*, the plates B, having the slots *b*, the plate D, provided with the grooves *d*, the plates E, having each a spur, *e*, and the screws C, passing through said slots *a³* and *b*, all constructed and combined substantially as and for the purpose specified.

PHOTO LITH NORRIS PETERS WASHINGTON D.C.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

DECISIONS OF THE U. S. COURTS.

Supreme Court of the District of Columbia.

UNITED STATES, EX REL. HORACE KOECHLIN AND OTTO N. WITT *v.* EDGAR M. MARBLE, COMMISSIONER OF PATENTS.

Decided June 5, 1882.

1. PATENT OFFICE—PARTY RESPONDENT TO A MANDAMUS.

Whether, in an application for a mandamus to compel the issuance of letters patent for an invention, the Secretary of the Interior, and not the Commissioner of Patents, should be made the party respondent, *quære.*

2. SAME—POWER TO MAKE RULES.

Congress in creating the Patent Office has by express legislation given that Office the power to enact rules for its conduct. Those rules, if within the powers of the Office and reasonable, are just as authoritative as the laws of Congress itself.

3. RULE 39 SUSTAINED.

There is nothing unreasonable in the requirements of Rule 39 of the Patent Office, and where it has not been complied with this court will not issue a mandamus to compel the issue of a patent, although the invention be new and useful.

4. DURATION OF PATENT.

An inventor receiving a patent in the first instance in this country is entitled to seventeen years' protection of his invention; but if he has previously obtained letters patent in one or more foreign countries, then, while not deprived of his right to a patent here, the term to which the law in such case limits his protection is a period not extending beyond the date of the expiration of that one of the foreign patents first expiring.

5. MANNER OF CONSTRUING STATUTES.

In the construction of statutes in *pari materia* they are all to be kept alike in view, and construed in the light of each other, and their effect considered under such construction.

STATEMENT OF THE CASE.

This was an application for mandamus against the Commissioner of Patents, commanding him to issue letters patent to the relators for their invention, and ordered to be heard in the general term in the first instance.

The petition sets forth that the relators, Horace Koechlin, a citizen of France, and Otto N. Witt, a citizen of Switzerland, residents, respectively, of Loerrach and Mulhouse, in the Empire of Germany, did on the 22d day of March, 1882, make application for letters patent of the United States for certain improvements in the production of blue and violet coloring-matters; that their said application was examined by the said Commissioner of Patents and their said invention found to be new and useful and entitled to protection by the grant of letters patent, whereupon an official circular of allowance was issued by the said Commissioner on the 28th day of April, 1882, and the final fee required by law was paid by relators on the 4th day of May, 1882; and that thereupon it became the duty of the said Commissioner to issue to relators letters patent of the United States for their said invention. Yet the said Commissioner has refused and still refuses to issue said letters for said invention to the great and irreparable injury of relators, who have no other remedy except that herein prayed for. The petition concludes with a prayer for an alternative writ of mandamus against the Commissioner, commanding him to issue letters patent to relators for their said invention or to show cause for his refusal so to do.

A rule to show cause having issued, the respondent in his return admitted the filing of the application for letters patent and the allowance by the Examiner, also the notice to the applicants of said allowance and the payment by them of the final fee of twenty dollars, but set forth that on an examination of the papers it was found that the applicants in the oath filed with their application had stated that their invention had been patented before the filing of said application, in France by a patent dated March 19, 1881, in England March 28, 1881, in Belgium April 4, 1881, and in Sweden July 30, 1881; and it was also recited in said oath that a patent had been applied for in Austria, but that none had been yet issued, whereupon applicants were called upon, under Rule 39 of the Rules of Practice of the Office, to state whether or not a patent had issued to them in Austria, and to give the date and number of the same. This request was based on the requirement of section 4887 of the Revised Statutes of the United States, which provides that every patent granted where the invention has been first patented in a foreign country shall be so limited as to expire when the foreign patent expires, and if more than one such patent has been issued, then with the one having the shortest term to run. It appearing in the affidavit that a patent had been applied for in Austria at some time not named, it was deemed proper that applicants should state whether such patent had issued, and, if so, to give its date and number. Patents may issue in Austria for fifteen years, or any lesser period, and if a patent had already issued, then the patent issued by this Office should be limited so as to expire at least when the Austrian patent would expire. Such oath not having been filed by the applicants, the patent was withdrawn from issue. The only reason, therefore, why the patent was not issued is because applicants have not complied with what is deemed to be a proper requirement in the Office and in accordance with the decision of the Secretary of the Interior dated April 10, 1882. (21 OFFICIAL GAZETTE, page 1197.)

In conclusion, it was submitted that the writ of mandamus should be denied for the following reasons: first, because the requirement of the Office in this case was reasonable and just in the proper administration of the Office under the section of the statute above referred to; second, because applicants were not remediless without the aid of the writ of mandamus, for if the patent were improperly withheld it was within the directory powers of the Secretary of the Interior, under section 481 of the Revised Statutes, to have given him the relief sought in this court; third, because the issue of the patent has not been refused applicants, but they have simply been required to file an oath which shall determine the length of life of the patent when issued.

Mr. A. Pollok for the relators.

Mr. Chief Justice Cartter delivered the opinion of the court.

Preliminary to the decision in this case we make the suggestion that this application for mandamus is not made against the right party. My recollection is that the Secretary of the Interior is the officer of the Gov-

ernment who issues letters patent, and that we had occasion some time ago to dismiss an application for a mandamus for the reason that the relator had misconceived the party to be proceeded against; and if no other reason existed for a dismissal of the petition in this case, want of the proper parties might be sufficient. That question, however, was not presented, nor has it been particularly considered by us. Our conclusion is predicated upon the substance of the petition, and our inquiry has been whether we could grant the relief even if the proper party were before us; and that inquiry has brought us to a consideration of the force and effect of a rule of the Patent Office. Congress, in creating the Patent Office, has by express legislation given that office the power to enact rules for its conduct. Those rules, if they are within the powers of the office, are just as authoritative as the laws of Congress itself, if within the limitations of its powers. If, therefore, Rule 39 of the Patent Office is a reasonable one, the Commissioner of Patents has only exercised a power vested in him by law.

The language of Rule 39 is as follows:

In every original application the applicant must distinctly state, under oath, whether the invention has been patented to himself or to others with his consent or knowledge in any country, and if it has been, the country or countries in which it has been so patented, giving the date and number of each patent, and that it has not been patented in any other country or countries than those mentioned, and that, according to his knowledge and belief, the same has not been in public use in the United States for more than two years prior to the application in this country.

We see nothing unreasonable about this rule. On the contrary, we think it a very reasonable one. The applicant is merely required to make oath in reference to a matter of which he of all persons ought to be best informed.

Section 4887 of the Revised Statutes of the United States, regulating the issuing of patents, provides:

No person shall be debarred from receiving a patent for his invention or discovery, nor shall any patent be declared invalid, by reason of its having been first patented or caused to be patented in a foreign country, unless the same has been introduced into public use in the United States for more than two years prior to the application. But every patent granted for an invention which has been previously patented in a foreign country shall be so limited as to expire at the same time with the foreign patent, or, if there be more than one, at the same time with the one having the shortest term, and in no case shall it be in force more than seventeen years.

All that the Commissioner of Patents has required of these applicants is that, in view of the provisions of this law, they shall state under oath what patents they have obtained in foreign countries. This the applicants have refused to do, and the reason disclosed in their argument here is that one of these patents has but three years more to run in that country. Now, the natural life of a patent originally obtained in the United States is seventeen years; but if the applicant's invention has been previously patented in Europe, then a patent can only issue in the United States for a period limited to expire with that one of the foreign patents which shall first expire. The reason given by the applicants for their non-compliance with the rule is that the only power of the Commissioner is to issue a seventeen years' patent, and they argue that the clause of the statute providing for a seventeen years' term for the first inventor of any new and useful article, being inconsistent with the provisions in regard to patents obtained in foreign countries, consequently overrules it.

As the provision, however, in regard to letters patent issuing for a term of seventeen years applies only to patents first obtained in this country, the point made by the applicants is without force.

It is a well-known rule in the construction of statutes in *pari materia* that they are all to be kept alike in view, and construed in the light of each other, and their effect to be considered under such construction. Applying this rule in the reading of these statutes, we find the law declaring that an inventor taking out a patent in the first instance in this country is entitled to a seventeen years' protection; but if he has previously obtained letters patent in one or more foreign countries, then, while not deprived of his right to a patent here, the term to which the law in such case limits his protection is a period not extending beyond the date of the expiration of that one of the foreign patents first expiring. That is the law; whether it be wise or unwise is something with which we have nothing to do. It is a matter of legislative discretion, and not a question for this court. All that concerns us is the compatibility of the statutes, and we think they are perfectly so. The law-makers were legislating in regard to different conditions of the same subject, and they have made the law clear and express, and neither we nor the Commissioner of Patents can disregard it.

Even, therefore, were the proper parties before us with the case as made out we should discharge this rule, and it is so ordered.

The Chief Justice and Justices Cox and James sat in this case.

THE UNITED STATES, EX REL. THE WILLCOX & GIBBS SEWING MACHINE COMPANY *v.* E. M. MARBLE.

Decided November 30, 1881.

1. THAT WHICH CONSTITUTES A TRADE-MARK MAY BE REGISTERED IN THE UNITED STATES PATENT OFFICE AS A LABEL—PROPRIETOR MAY ELECT.

The several acts of Congress regarding the registration of prints designed to be used as labels do not exclude from registration a label containing matter which might be registered as a trade-mark; nor does the fact that a label bears such distinguishing marks as entitle it to registration as a trade-mark, exclude it from registration as a label, if the owner desires it to be registered as such. Whether the Commissioner of Patents is to regard it as the one or the other depends wholly upon the will of its proprietor.

2. SUPREME COURT OF THE DISTRICT OF COLUMBIA WILL ISSUE MANDAMUS TO REGISTER—WHEN

The owner of a label entitled to registration under the law made application to the Commissioner of Patents for its registration. Applicant had complied with all the requirements of the law; but the examiner in charge of that department of the Patent Office rejected the application on the ground that the label was not of the class entitled to registration, whereupon applicant, instead of appealing to the Commissioner of Patents, as he might have done, petitioned this court for a *mandamus* to compel the Commissioner to register the label. The Commissioner, in his answer to the rule to show cause, recited the facts of the failure of the applicant to appeal to the Commissioner from the examiner's decision, but at the same time approved of and indorsed the reasons of the examiner for refusing to register the label. *Held*, that a peremptory *mandamus* to register the label should issue, and so ordered.

STATEMENT OF THE CASE.

This was an application for *mandamus* against the Commissioner of Patents, which was ordered to be heard in the general term in the first instance.

The petition set forth that the relator, a corporation under the laws of the State of New York, had, on or about the 3d day of May, 1881, made application under the act of Congress approved June 18, 1874, entitled "An act to amend the law relating to patents, trade-marks, and copyrights," to the Commissioner of Patents for the registration of a label designed to be used for hosiery or other knit goods made in accordance with certain improvements for which it had obtained letters patent of the United States, and had paid to the said Commissioner the sum of six dollars, the fee required by law in such cases, and that thereupon it became the duty of said Commissioner, under the said act of Congress, to cause said label to be registered; yet the said

Commissioner had refused to register said label or cause the same to be registered, to the great injury of relator, &c. The petition concluded with a prayer that an alternative writ of *mandamus* be issued directed to said Commissioner, commanding him to cause said label to be registered or show cause for his refusal so to do. The writ having issued, the answer of respondent was as follows:

The respondent, E. M. Marble, Commissioner of Patents, makes return to the order of the honorable the Supreme Court of the District of Columbia, in the above entitled matter, to show cause why a writ of *mandamus* should not issue against him as prayed by the relator, as follows:

It appears by the records and files of this Office that on May 3, 1881, the relator filed an application for the registration of what it alleged to be a label, paying the fee of six dollars, the amount required by law for the registration of labels; that on the 6th of the same month applicant was notified by the examiner having charge of the registration of labels that the monogram formed of the letters W and G, forming part of the alleged label, could not be registered because it amounted to a trade-mark; that subsequently, and on the 10th of the same month, Mr. Pollok, the attorney of said corporation, having filed his power of attorney, requested to be advised on what ground the label was rejected, stating that the same was a label and not a trade-mark; and that on the 14th of the same month the said examiner again informed applicant, through its attorney, that the application could not be allowed for the reasons given in his former letter. It will thus be seen that all action taken in the Office upon the application of the relator was by the examiner having charge of applications for the registration of labels.

While it is true that the Commissioner of Patents is charged with the transaction of all business done in the Patent Office, it is also true that he cannot and does not know of the pendency of individual applications, except such as are brought to his attention on appeal or by inquiry for instruction by examiners. The first actual knowledge that the respondent had of the pendency of the application in question was the service upon him of the order to show cause why the writ of *mandamus* should not issue compelling him to register applicant's alleged label. The practice of the Office allows parties whose applications are rejected by examiners to have the decisions of the examiners rejecting such applications reviewed on appeal by the Commissioner. No appeal of this kind was taken by applicant, although its attorney, at least, must have known and did know what the practice of the Office in such cases is. It is respectfully submitted, therefore, that the application for a writ was premature, for the reason that the respondent should not be called upon to show cause why such writ should not issue until the case or matter which the relator complains of has been brought to his personal attention. It cannot be said that applicant's petition has been denied by the Commissioner of Patents, in view of the practice of the Office, until the Commissioner has some personal knowledge of his application, and while applicant has a remedy in the Office for the correction of what he believes to be erroneous action he has no ground to ask for the intervention of this court by writ of *mandamus* to compel an officer to do what upon application to that officer might have been done.

For further answer I respectfully submit that the Commissioner of Patents must determine what is and what is not proper subject-matter for registration as a label.

The statute says:

There shall be paid for recording the title of any print or label, not a trade-mark, six dollars, which shall cover the expense of furnishing a copy of the record under the seal of the Commissioner of Patents to the party entering the same.

The statute also prescribes that a fee of twenty-five dollars shall be paid for the registration of a trade-mark. It becomes necessary, therefore, in each and every case for the officer whose duty it is to receive and register labels and trade-marks to determine upon the receipt of such applications whether they belong to one or the other class, and upon such determination to require the payment of the fee which the law prescribes. Such has been the practice of this Office since the passage of the laws providing for the registration of trade-marks and of labels.

A trade-mark is defined by Webster to be:

A distinguishing mark or device used by a manufacturer on his goods or labels, the legal right in which is recognized by law.

A label is defined to be:

First, a tassel; second, a narrow slip of silk, paper, parchment, &c., affixed to anything denoting its contents, ownership, and the like, as the label of a bottle or a package; third, a ribbon or silk, a slip of paper, parchment, &c., attached to a diploma or legal document to hold the appended seal; fourth, any paper annexed to a will by way of addition, as a codicil.

It must be presumed that Congress in passing the laws providing for the registration of trade-marks and labels intended that certain fees should be paid for the registration of what was then known and recognized as labels and as trade-marks. It is not competent for a party to state that this or that is a label, and this or that is a trade-mark, and thus determine its character. Whether it is a label or whether it is a trade-mark must be determined by the definition which has been given and accepted everywhere as clearly and fully covering the meaning of those words.

The action taken by the examiner in this case was in accordance with the well-settled rulings and decisions of the Office. He refused to allow applicant to register as a label subject-matter clearly and undeniably included within the definition of a trade-mark, as he would have denied the registration of any application for a trade-mark of subject-matter properly registrable as a label.

I submit that the writ should be denied for the following reasons: first, because the registration of the alleged label has never been denied by the respondent; second, because the alleged label contains subject-matter clearly registrable as a trade-mark, and therefore not registrable under the statute as a label.

E. M. MARBLE,
Commissioner of Patents.

A report of the examiner having charge of the registration of labels, addressed to the Commissioner, giving his reasons for refusing to register the label, accompanied the foregoing answer, and was as follows:

SIR: In the matter of the application of The Willcox & Gibbs Sewing Machine Company for registration of a label, wherein, on petition of A. Pollok, Esq., a rule to show cause why registration has been refused by the Office has been issued by the Supreme Court of the District of Columbia, and referred to me by yourself for report as to the examiner's action on the case, I have the honor to report:

On the 3d of May, 1881, the above-named company duly filed an application for the registration of a label for hosiery, paying the fee of six dollars required by law. On the 6th of May a letter was written to applicants (not at that time represented by attorney) in which they were informed that the monogram formed of the letters W and G, forming part of the alleged label, could not be registered for the reason that it amounted to a trade-mark.

On the 10th of May, Mr. Pollok, now appearing as attorney for the applicant, filed an argument in which he questioned the right of the Office to determine that matter presented as a label could be rejected for the reason given, and advised the Office that the label was not a trade-mark. The examiner's second letter merely repeated the former action, citing a decision of the Commissioner in support thereof.

The case, having been twice rejected, was now in condition for appeal to the Commissioner in person, the usual and recognized recourse in label cases when registration has been refused by the examiner; but the record shows no such step taken in that direction.

As regards the merits of the case, the examiner is guided in his practice by former decisions based upon the act of June 18, 1874, by which the Office is necessarily governed.

This act distinctly excludes trade-marks from the protection it was designed to afford. In the case of *Simpson & Sons*, (10 O. G., 333,) the Acting Commissioner sustained the examiner in his refusal to register a label in which the arbitrary word "Eddystone" was included. He says:

Applicant will be permitted to register the name of his firm, their place of business, description of the nature, quality, and quantity of his parcels as a label; but he cannot be allowed to claim the arbitrary words and fanciful figures mentioned as part of the label. These should be registered as trade-mark.

In the case of *Ex parte Thaddeus Davids & Co.*, (16 O. G., 94,) cited in examiner's second letter, the Commissioner held that "the presence in a label of matter registrable as a trade-mark excludes the whole from registration."

There appears never to have been any question in the Office that a monogram such as that shown in applicant's fac-simile constituted a registrable trade-mark.

The fact that from time immemorial monograms have been regarded as trade-marks is set forth in Browne on Trade-Marks, paragraphs 15 and 262, and the Office practice has been in accordance with this doctrine.

The examiner cannot find that it has ever been disputed; but it is clearly laid down in the Commissioner's manuscript decision in the case of *Ex parte The Dr. Harter Medicine Company*, July 29, 1879. This was an appeal from the examiner's refusal to register a trade-mark in which certain descriptive matter was shown in connection with a monogram, and the Acting Commissioner said:

Applicant may amend its application and restrict the trade-mark to the monogram and shield. The balance of the label should be registered as a label.

With the doctrine and practice so clearly established, as these rulings indicate, there has never been any room for question as to the propriety of the examiner's action. If applicant deemed it erroneous it was so because the decisions on which it was based were erroneous, and this the applicant has an opportunity to show whenever he chooses to avail himself of the rehearing by the Commissioner in person, to which he is entitled.

Respectfully submitted,

F. A. SEELY,
Examiner of Trade-Marks.

Mr. A. Pollok for the relator.

Mr. Justice JAMES delivered the opinion of the court.

The relator claims the right to have its label registered in the Patent Office, as a label designed to be used on an article of manufacture, under the act of June 18, 1874. In order to ascertain the intent of that act it will be necessary to refer to the statutory provisions relating to the same matter existing at the time of its passage.

Section 4937 of the Revised Statutes provided as follows:

Any person domiciled in the United States * * * who intends to adopt and use any trade-mark for exclusive use within the United States, may obtain protection for such lawful trade-mark by complying with the following requirements: First. By causing to be recorded in the Patent Office a statement specifying the names of the parties * * * who desire the protection of the trade-mark; the class of merchandise, and the particular description of goods comprised in such class by which the trade-mark has been or is intended to be appropriated; a description of the trade-mark itself, with fac-similes thereof, showing the manner in which it has been or is intended to be applied or used, and the length of time, if any, during which the trade-mark has been in use. Second. By making payment of a fee of twenty-five dollars, &c.

Section 4939 excluded from the class of registrable trade-marks any mark which was merely the name of a person unaccompanied by a mark sufficient to distinguish it from the same name when used by other persons.

These sections applied to trade-marks which were in the form of labels bearing distinguishing marks.

It was at the same time provided by section 4952 that—

Any citizen of the United States, or resident therein, who shall be the author, * * * designer, or proprietor of any * * * engraving, cut, print, &c., shall, upon complying with the provisions of this chapter, have the sole liberty of printing, * * * publishing, * * * and vending the same.

Sections 4956 and 4957 contain the provisions referred to—namely, for the deposit of copies and the recording of a description of such engraving, cut, or print in the office of the Librarian of Congress. As the application of these sections did not depend upon the importance of the print, they of course included prints which were to be used merely as labels.

It is plain that these contemporaneous provisions relating to trade-marks and prints authorized any person who owned a label bearing distinguishing marks to have it recorded in the Patent Office as a trade-mark; or, if he preferred to do so, to have it registered in the office of the Librarian of Congress as a mere print. It must bear such distinguishing marks in order to be admitted to record as a trade-mark; but the fact of bearing them did not exclude it from registry as a print. The Librarian of Congress had no discretion to refuse to recognize it as a print because it could be recognized by the Commissioner of Patents as a trade-mark. Whether it should be treated as the one or the other depended wholly on the will of its proprietor. It was for him to determine whether he would adopt it as his trade-mark, and whether he would make the declarations necessary to that end. When the registering of such prints as were designed to be used as labels on manufactures was transferred from the office of the Librarian of Congress to the Patent Office by the act of 18th of June, 1874, was this choice of the owner of the label as to the character which it should have and the purposes which it should serve taken away? The first section of that act provides that no person shall maintain an action for the infringement of his copyright of any book, "print, cut, engraving," &c., unless he shall give notice thereof by inscribing upon some visible portion of such books, prints, engraving certain words. The third section provides:

That in the construction of this act the words "engraving," "cut," and "print" shall be applied only to pictorial illustrations or works connected with the fine arts; and no prints or labels designed to be used for any other article of manufacture shall be entered under the copyright law, but may be registered in the Patent Office. And the Commissioner of Patents is hereby charged with the supervision and control of the entry or registry of such prints or labels in conformity with the regulations provided by law as to copyright of prints, except that there shall be paid for recording the title of any print or label, not a trade-mark, six dollars, which shall cover the expense of furnishing a copy of the record, under the seal of the Commissioner of Patents, to the party entering the same.

After the passage of this act the Commissioner of Patents was charged with two distinct duties relating to labels. If any person intending to adopt a particular label as his trade-mark desired to obtain protection for it, the Commissioner was bound, provided it bore the necessary distingnishing marks, to cause to be recorded the statement of the owner specifying the facts prescribed by the statute. He was now required to register also labels which were not trade-marks; but was he clothed with power to control the entry of labels so far as to determine that a label which, by reason of its distinguishing marks, might have been entered as a trade-mark should not be admitted to registry as "a label not a trade-mark?" The only reference to any control to be exercised by him is found in the clause which provides that he shall have "control of the entry or registry of such prints or labels in conformity with the regulations provided by law as to copyright prints;" but this is merely the same control which has been exercised over the registering of these labels as copyright prints by the Librarian of Congress by authority of section 4948 of the Revised Statutes, and in conformity with the regulations found in sections 4956 and 4957, and such control did not, as we have already said, include authority to exclude from the registry any particular print on the ground that it should more properly be entered at the Patent Office as a trade-mark. Of course, then, when this control over the registry of the same prints now called "labels which are not trade-marks" was transferred to the Commissioner of Patents, it had only the same limited application, and did not include any discretion to determine whether a particular label should be classed as a trade-mark or as only a label. If Congress had intended to take away from the owner of a label his former right to determine what use he should make of it and how he would have it entered, that intention would have been plainly expressed. The actual intention was merely to change the place of registry. When an applicant for registry complies with all the requirements of the law and the lawful regulations, as the relator appears to have done, the function of the Commissioner is merely ministerial.

The peremptory writ will issue accordingly.

The Chief Justice and Justices Wylie and James sat in this case.

THE
OFFICIAL GAZETTE
OF THE
United States Patent Office.
[BY AUTHORITY OF CONGRESS.]

VOL. 22—No. 17. TUESDAY, OCTOBER 24, 1882. PRICE—$5 per year

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The OFFICIAL GAZETTE is published every Tuesday, two volumes a year, commencing in January and July. Terms: To all subscribers within the United States and Canada, $5 per annum; to foreign subscribers, $7; single copies, 10 cents; bound volumes, $3.50 per volume. No club rates. *Payment in advance.* All orders should be addressed to "The Commissioner of Patents, Washington, D. C."

Signature of Affiant to Oath Accompanying Application for Patent, Essential.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 24, 1882.

In all applications for letters patent filed in this Office subsequent to this date the signature of the applicant will be required to the oath, in accordance with the form prescribed in the Rules of Practice in the Patent Office. (See Rules of Practice, page 61, form 17.)

E. M. MARBLE,
Commissioner of Patents.

Order No. 103.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 20, 1882.

The attention of the Examiners is called to Rule 71 of the Office Rules of Practice:

Hereafter drawings will in no instance be returned to an applicant or his authorized agent unless a model has been filed and accepted by the Examiner as a part of the application.

E. M. MARBLE,
Commissioner of Patents.

Issue of October 24, 1882.

Patents	334	No. 266,263 to No. 266,596, inclusive.
Designs	22	No. 13,342 to No. 13,369, inclusive.
Trade-marks	12	No. 9,741 to No. 9,752, inclusive.
Labels	4	No. 2,781 to No. 2,784, inclusive.
Reissues of patents	5	No. 10,219 to No. 10,223, inclusive.
Total issue	383	

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks and Labels.	States.	Patents and Designs.	Trade-Marks and Labels.
Alabama	1	.....	Nebraska	1	.....
Arizona Territory	.....	.....	Nevada	.....	.....
Arkansas	2	.....	New Hampshire	5	.....
California	4	.....	New Jersey	14	1
Colorado	1	2	New Mexico Territ'y	.....	.....
Connecticut	10	.....	New York	81	3
Dakota Territory	2	.....	North Carolina	.....	.....
Delaware	.....	.....	Ohio	28	1
District of Columbia	4	.....	Oregon	1	.....
Florida	1	.....	Pennsylvania	40	3
Georgia	.....	.....	Rhode Island	8	.....
Idaho Territory	.....	.....	South Carolina	1	.....
Illinois	42	.....	Tennessee	2	.....
Indiana	8	.....	Texas	1	.....
Indian Territory	.....	.....	Utah Territory	1	.....
Iowa	8	.....	Vermont	2	.....
Kansas	1	.....	Virginia	1	.....
Kentucky	3	.....	Washington Territ'y	1	.....
Louisiana	2	.....	West Virginia	2	.....
Maine	1	.....	Wisconsin	5	.....
Maryland	2	.....	Wyoming Territory	1	.....
Massachusetts	31	.....	United States Army	.....	.....
Michigan	7	2	United States Navy	.....	.....
Minnesota	5	.....			
Mississippi	.....	.....	Total to citizens of the United States	339	15
Missouri	8	3			
Montana Territory	1	.....			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks and Labels.	Countries.	Patents and Designs.	Trade-Marks and Labels.
Australia	.....	.....	England	7	.....
Austria	1	.....	France	5	.....
Barbadoes	.....	.....	Germany	5	.....
Belgium	.....	.....	Italy	.....	.....
Bermuda	.....	.....	New Zealand	.....	.....
Brazil	.....	.....	Russia	.....	.....
Canada	4	1	Spain	.....	.....
Chili	.....	.....	Sweden	.....	.....
Colombia, U. S. of	.....	.....	Switzerland	1	.....
Cuba	.....	.....			
Denmark	.....	.....	Total to citizens of foreign countries	23	1
Ecuador	.....	.....			

DESIGNS.

13,342 and 13,343.—STOVE.—*Edward L. Calely*, Philadelphia, assignor to *Buckwalter & Co.*, Royer's Ford, Pa. Applications filed September 23, 1882. Term of patents 7 years.

13,344.—ORGAN-CASE.—*Edwin P. Carpenter*, Worcester, Mass. Application filed August 24, 1882. Term of patent 7 years.

13,345.—CARPET.—*Etienne Fajon*, Boston, Mass., assignor to *The Roxbury Carpet Company*, same place. Application filed September 25, 1882. Term of patent 3½ years.

13,346 to 13,357, inclusive.—PRINTED FABRIC.—*John Glen*, Brooklyn, N. Y. Applications filed September 26, 1882. Term of patents 3½ years.

13,358.—OIL-LAMP, &c.—*Dickson R. Lowden*, Philadelphia, Pa. Application filed March 30, 1882. Term of patent 7 years.

13,359.—CARPET.—*David G. Melville*, Medford, assignor to *The Roxbury Carpet Company*, Boston, Mass. Application filed September 25, 1882. Term of patent 3½ years.

13,360 to 13,365, inclusive.—OIL-CLOTH.—*Charles T. Meyer* and *Victor E. Meyer*, Bergen, N. J., assignors to *Edward O. Sampson*, New York, N. Y. Applications filed September 28, 1882. Term of patents 3½ years.

13,366.—HANDLE FOR A KNIFE, FORK, OR SPOON.—*Edward B. Towle*, Newburyport, Mass., assignor to *The Towle Manufacturing Company*, same place. Application filed July 11, 1882. Term of patent 7 years.

13,367.—ADVERTISING-CARD.—*Henry Pennington*, Philadelphia, Pa. Application filed September 11, 1882. Term of patent 7 years.

13,368.—BRACELET-CHARM.—*Herbert G. Mackinney*, Providence, R. I. Application filed June 27, 1882. Term of patent 3½ years.

13,369.—ADVERTISING-BLANK.—*Elhanan L. Moodie*, New York, N. Y., assignor to *Charles H. Gillespie*, same place. Application filed May 1, 1882. Term of patent 3½ years.

TRADE-MARKS.

[Certificate of registration of Trade-Marks numbered 8,191 and upward are registered under the act of March 3, 1881.]

9,741.—SAWS, TOOLS, AND FILES.—*Henry Disston & Sons*, Philadelphia, Pa. Application filed August 14, 1882.
"The word 'KEYSTONE.'"

9,742.—SAWS, TOOLS, AND FILES.—*Henry Disston & Sons*, Philadelphia, Pa. Application filed August 14, 1882.
"The representation of a keystone."

9,743.—TABLETS OF BOILED OR CHEMICALLY PURE LOAF-SUGAR COMBINED WITH THE ESSENTIAL PROPERTIES OF THE LIME-FRUIT.—*Henry Sugden Evans*, Montreal, Canada. Application filed September 30, 1882.
"The word 'OLVESTON' and the letter 'E' within a diamond."

9,744.—SMOKING-TOBACCO, CIGARS, AND CIGARETTES.—*Globe Tobacco Company*, Detroit, Mich. Application filed August 9, 1882.
"The word 'GLOBE.'"

9,745.—PIG-IRON.—*R. W. Coleman's Heirs*, Cornwall, Pa. Application filed September 7, 1882.
"The letters 'C. R. S.'"

9,746.—CHEWING AND SMOKING TOBACCO.—*Charles B. Hull*, Detroit, Mich. Application filed July 27, 1882.
"The words 'HOME COMFORT.'"

9,747.—TOILET-PERFUME.—*George Kemp*, New York, N. Y. Application filed September 29, 1882.
"Figures and designs, which consist of a fountain in the center pouring over and upon a rose and other flowers; of two birds, one on the right and one on the left; of a garland of roses and other flowers below each bird; of a butterfly on a scroll branching, ornamented with flowers, in the lower corners; of a woman holding a bird on the left and a man holding a musical instrument on the right, surrounded by a scroll, which meets in the center, around a pink ground; of that pink ground; of the garland of flowers above the scroll, and of each and every figure and design on my said trade-mark."

9,748.—EMBROIDERED CANVAS, CLOTHS, SILKS, VELVETS, AND RIBBONS.—*Jean Baptiste Theodore Lœpaix*, New York, N. Y. Application filed September 29, 1882.
"A shield, in the top of which are bees, representing 'INDUSTRY;' in the center of said shield a ship, representing 'ENTERPRISE;' on one side of said shield a branch of oak-leaves, representing 'STRENGTH;' on the other side a branch of laurel-leaves, representing 'VICTORY,' and beneath the shield a scroll, suggesting 'PEACE.'"

9,749.—MEDICINAL ARTICLE USED FOR TOILET AND OTHER PURPOSES.—*Nye Brothers & Co.*, Zanesville, Ohio. Application filed July 18, 1882.
"The word 'DERMATINE.'"

9,750.—WHEAT-FLOUR.—*E. O. Stanard & Co.*, St. Louis, Mo. Application filed September 30, 1882.
"The words 'EAGLE STEAM.'"

9,751.—WHEAT-FLOUR.—*E. O. Stanard & Co.*, St. Louis, Mo. Application filed September 30, 1882.
"The numeral '1' printed or executed in red."

9,752.—WHEAT-FLOUR.—*E. O. Stanard & Co.*, St. Louis, Mo. Application filed September 30, 1882.
"The words 'ROYAL PATENT.'"

LABELS.

2,781.—Title: "DR. GAFF'S MOUNTAIN SAGE BITTERS."—*John V. Gaff*, Denver, Colo. Application filed September 27, 1882.

2,782.—Title: "DR. GAFF'S COMPOUND SYRUP OF MOUNTAIN SAGE." *John V. Gaff*, Denver, Colo. Application filed September 27, 1882.

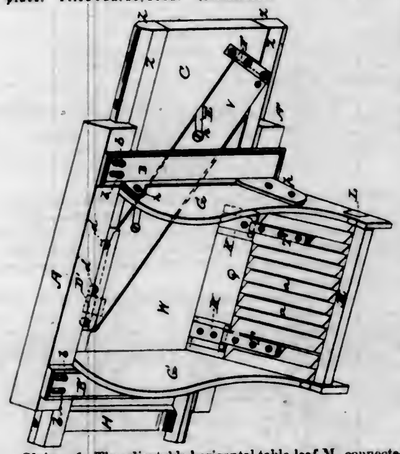
2,783.—Title: "PASTE POWDER."—*James M. Keep* and *William Harrison Bayles*, Montclair, N. J. Application filed September 26, 1882.

2,784.—Title: "KERR & CO'S EXTRA SIX CORD COTTON."—*Kerr & Co.*, East Newark, N. J., and New York, N. Y. Application filed September 27, 1882.

PATENTS

GRANTED OCT. 24, 1882.

266,263. MEAT AND VEGETABLE SLICING MACHINE. JOHN W. ANDERSON, Lancaster, Pa., assignor to Adam B. Groff, same place. Filed Jan. 25, 1882. (No model.)



Claim.—1. The adjustable horizontal table-leaf M, connected to the stationary part Q of the machine-table by sliding connectors K T K T, that it may be erected and advanced to feed up articles before it to the knife V after said articles are too small to be handled safely by the hand unaided, all the said parts being constructed and arranged substantially as set forth.

2. In a slicing-machine, the braces B B', provided with lugs *p h*, for attaching the shields G G', and with the oblong holes *b*, for attaching the guides A A' of the slide C W Z adjustably, all the parts co-operating as and for the purpose set forth.

3. The knife V, having its back secured releasably at slots E E' by screws *m n*, in combination with the sheath-plate D and the heel-plate F, all arranged and operating as and for the purposes set forth.

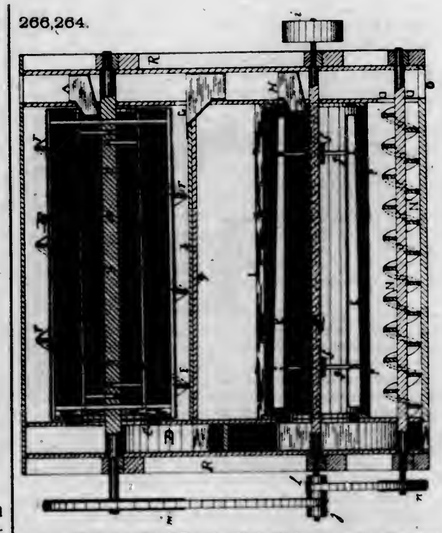
4. The series of slant guiding-studs *e*, all alike, inclined or parallel with each other and firmly fastened on the ledges Z, in combination with the eye-plates *y*, attached to the gage W, and arranged to correspond with said studs and with the brace H, which serves to keep said gage on said studs, a clamp, C' C² N' N² W', serving to set the same at all intermediate points on said studs, as and for the purpose set forth.

5. The clamping device for holding the gage W in adjusted position, the same consisting of the standard C' C², eyebolt W', nut N², and lever N', all constructed and arranged to operate substantially as set forth.

266,264. FLOUR-DRESSING MACHINE. FRANK W. ANDRUS, Chicago, Ill. Filed Aug. 10, 1882. (No model.)

Claim.—1. In a flour-dressing machine, the bolt B, provided at one end with the radial wing conveyer-plates E, arranged angularly to the shaft *a*, and having on its perimeter a spiral plate or conveyer-screw, F, the trough *b*, cylinder I, and a hopper and spout

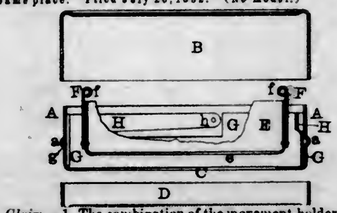
266,264.



intermediate of said bolt B and cylinder I, for connecting the same together and admitting of the passage of the flour and middlings from the bolt to the cylinder, substantially as set forth.

2. In a flour-dressing machine, the stationary cylinder I, having solid imperforate semi-cylindrical bottom P and removable gauze-covered sections L L', consisting of quarter-cylindrical frames, and the clamps T, for securing said sections together and to the bottom P, in combination with shaft *d*, having hubs *f*, arms *g*, and spiral wing-plates K, substantially as and for the purpose set forth.

266,265. WATCH-MOVEMENT BOX. LLEWELLYN W. ARNOLD, Chicago, Ill., assignor of two-fifths to John L. Hutchinson, same place. Filed July 20, 1882. (No model.)



Claim.—1. The combination of the movement-holder, the box, and the springs at the side of the holder, connecting it to the box, substantially as described.

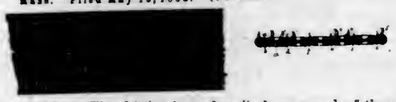
2. The combination of the box, the holder, the springs at the side of the holder, and the spring-band for connecting the same to the box, substantially as described.

3. The combination of the box having the bead *a*, the holder, the springs, the spring-band, and the projections on the band entering the bead of the box, substantially as described.

4. The combination of the box, the opening C therein, and the removable bottom D, so that the box may be used for both display and transportation, substantially as described.

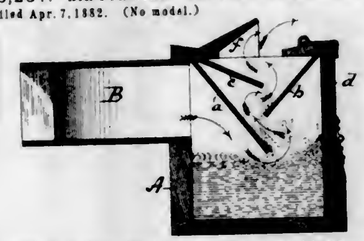
5. The combination, with the movement-holder, of the upright springs F, connected near their lower ends with the holder, and having the catches *f*, with their inner edges rounded, substantially as described.

266,266. FABRIC. STEPHEN H. BALDWIN, Chelsea, assignor of one-half to the Boston Elastic Fabric Company, Boston, Mass. Filed May 13, 1882. (No model.)



Claim.—The fabric above described, composed of the main warps, the covering-warps, and the filling, the main warps being covered by the filling and the filling being secured and strengthened by the covering-warps, as set forth.

266,267. AIR-PURIFIER. PETER BREEN, Cincinnati, Ohio. Filed Apr. 7, 1882. (No model.)



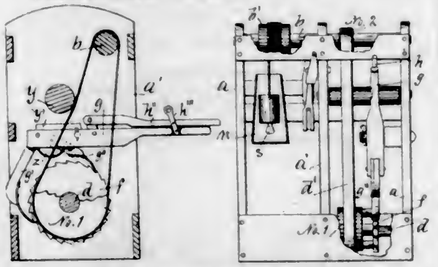
Claim.—In an air-purifier, a partition arranged in a box containing a body of water in such manner as to deflect the air against the surface of the water at an angle, so as to spray the same, in combination with one or more partitions arranged in the subsequent path of the air, so as to catch the water-particles and drip them across the air-passage, substantially as set forth.

266,268. MANUFACTURE OF GLUCOSE FROM CACTUS. WILLIAM E. BRITTINGHAM, New York, N. Y. Filed Apr. 11, 1882. (No specimens.)

Brief.—Treats one hundred pounds of cactus-pulp with one thousand grains of starch and one grain of diastase.

Claim.—The manufacture of glucose from the plant known as "cactus," substantially in the manner hereinbefore described.

266,269. WATER-ELEVATOR. DAVID F. BROWN, Sr., Walnut, Iowa, assignor of one-half to Solomon Engleman, same place. Filed Feb. 11, 1882. (No model.)



Claim.—1. The bifurcated lever *g*, having the pawls *g'* and *g''*, in combination with the axle *d*, having a fixed ratchet-wheel, *f*, and drive-wheel No. 1, substantially as shown and described, to produce a compound leverage adapted to operate a winch in the manner set forth, for the purposes specified.

2. The pawl-governor consisting of the parts *h h' h'' h''' i k*, in combination with the bifurcated lever *g*, substantially as shown and described, to operate in the manner set forth, for the purposes specified.

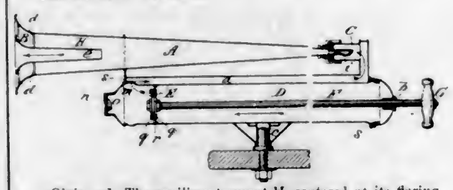
3. The lever *g*, the pawl *g'*, the pawl *g''*, having an arm, *i*, the pawl-governor *h h' h'' h''' k*, the shaft *d*, having a fixed ratchet-wheel, *f*, and drive-wheel No. 1, the winch *b b'*, having a fixed pulley, No. 2, and a drive chain or belt, *d'*, arranged and combined substantially as shown and described, to operate in the manner set forth, for the purposes specified.

4. The lever *g*, having the friction-bar *z* on the under side of its short arm, in combination with the drive-wheel No. 1 and the drive chain or belt *d'*, substantially as shown and described, to operate in the manner set forth, for the purposes specified.

5. The pivoted water-spout or conveyer *m*, having a projecting pin, *s*, the lever *n*, the lever *r*, and the link *r'*, arranged and combined, substantially as shown and described, to operate in the manner set forth, for the purpose of drawing and conveying water from a suspended bucket or barrel.

6. A well bucket or barrel having a valve in its bottom and an opening or eduction-port in one side of its base and rim, and a vent, *t*, in the opposite side of the same rim, in combination with a flat-bottomed spout, substantially as shown and described, to operate in the manner set forth, for the purpose of facilitating the flow of water from the bucket and through the spout.

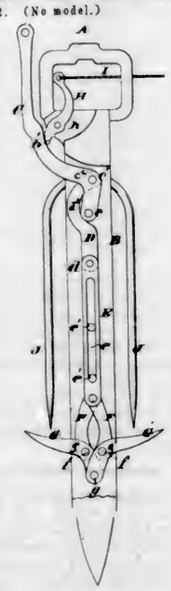
266,270. FOG-HORN. RICHARD CHESTER, Chicago, Ill. Filed Feb. 10, 1882. (No model.)



Claim.—1. The auxiliary trumpet H, centered at its flaring end in the mouth B of a fog-horn, and provided with an inwardly-tapering extension, *s*, reaching about one-fourth the length of the fog-horn, whereby the volume of sound is arrested in the body of the horn, there broken up, and the power of the vibrations thereby augmented, as described.

2. The combination, with a fog-horn trumpet, A, of an air-compressing cylinder, D, communicating with said trumpet, and having enlargements at each end, and a piston, E, having a packing of larger diameter than the piston-cylinder, as and for the purpose specified.

266,271. HORSE HAY-FORK. JOHN J. CRIBBS, St. Louis, Mo. Filed Aug. 28, 1882. (No model.)



Claim.—The sheath B, provided with plates L L, secured to the opposite sides thereof, and having each a pair of downwardly-projecting tines, J J K K, the said sheath being of such width that the four tines are equidistantly spaced with reference to each other, in combination with the lifting-prongs G G, expanding and contracting within the lower end of the sheath and substantially opposite the lower ends of the tines, as set forth.

266,272. GUIDE FOR ENGINE CROSS-HEADS. FRANCIS W. DEAN, Cambridge, Mass. Filed Aug. 8, 1882. (No model.)

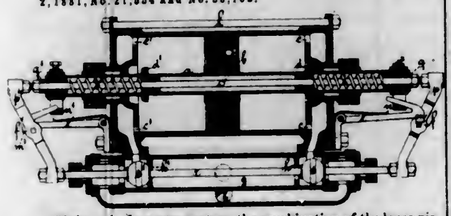


Claim.—1. The combination, with the cross-head, of the guide consisting of a plate affording a bearing for the upper surface of the said cross-head, and L-shaped flanges at either side of the said plate, embracing the guiding portion of the cross-head, and affording a bearing for its lower bearing-surface, substantially as described.

2. In a locomotive, the combination of the cross-head with the guide consisting of the flat guide-plate grooved at its edges, and the L-shaped flanges having ribs to enter the said grooves and bolted to the said plate, which is bolted at one end to the cylinder-head and at its other end to the yoke or transverse portion of the frame-work of the locomotive, substantially as described.

3. The combination of the cross-head and its guide, consisting of a flat guide-plate and lateral L-shaped flanges, the said plate being provided with an opening for the inspection of the wearing-surface of the cross-head, substantially as described.

266,273. WATER-METER. JOHANN C. DENNERT and GEORGE O. LIND, Altona, Prussia, Germany. Filed Sept. 8, 1881. (No model.) Patented in Germany Dec. 15, 1880, No. 15,225; in England May 30, 1881, No. 2,367, and in Austria-Hungary July 2, 1881, No. 21,554 and No. 35,102.



Claim.—1. In water-meters, the combination of the loose piston *b* with the movable hollow piston-rod *a*, inclosing the spring-rod *o*, and the springs *i* and *i'*, which parts cause the sudden working of the reversing mechanism, substantially as described.

2. In water meters or motors, the combination of the piston *b* with the piston-rod *a*, the spring-rod *o*, the springs *i* and *i'*, the projections *d* and *d'*, and the collars *q* and *q'*, substantially as set forth.

3. In water meters or motors, the combination of the hollow piston-rod *a*, the annular projections *d d'*, and the collars *q q'* with the spring-operated rod *o*, the springs *i* and *i'*, the arms *p p'*, with pins *f* and *f'*, the latches *e e'*, and inclines *n n'*, substantially as set forth.

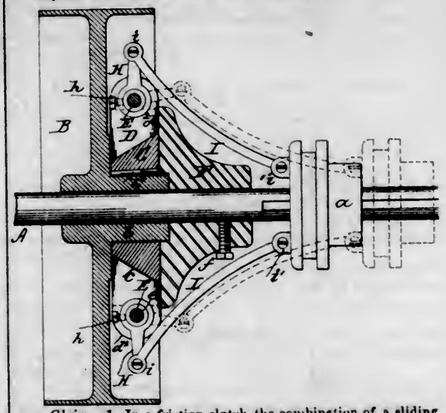
266,274. PLOW. JESSIE C. DUNSON and STEPHEN B. BELL, Lamonia, Fla. Filed July 31, 1882. (No model.)

Brief.—The perforated bars are secured on each side of the beam at an oblique angle thereto and parallel to each other, and serve to adjust the standards at any desired distance apart.



Claim.—The combination, substantially as set forth, of the beam A and the bars B B', arranged on opposite sides of the beam A, and parallel to each other and at an angle to the said beam, and having their adjacent ends secured, the one close to the beam A and the other off to one side thereof, and adapted to carry the standard C, as and for the purpose described.

266,275. FRICTION-CLUTCH. FRANCIS O. DESCHAMPS, Philadelphia, Pa. Filed Feb. 27, 1882. (No model.)



Claim.—1. In a friction-clutch, the combination of a sliding sleeve, a carrier, semicircular shoes formed with beveled sides *d'* and lugs *d''*, having right-and-left-hand screws, to which are secured levers, and mechanism interposed between said levers and sleeves, substantially as shown and described.

2. The combination, with a loose pulley upon the driven shaft and a collar for said pulley, having a beveled periphery, with the smallest diameter toward the spokes of the pulley, of clutch-shoes formed with lugs, into which are passed right-and-left-hand screws carrying levers or arms, a carrier for said shoes, rigidly secured to driven shaft, a sliding sleeve thereon, and mechanism interposed between the latter and said levers or arms, substantially as shown and described.

3. The combination, with pulley B, having a beveled collar, C, secured to or formed on said pulley, of beveled clutching-shoes provided with lugs carrying right-and-left-threaded screws with levers attached thereto, a carrier therefor, and means, substantially as described, whereby when said screws are rotated in one direction said shoes approach each other, and recede from one another when said screws are reversely turned, substantially as set forth.

4. The shoes D, having beveled sides *d'*, and lugs *d''*, designed and adapted to be connected together by right-and-left-hand screws, substantially as and for the purpose set forth.

5. The combination of carrier F, shoes D D, pins *g g*, and screws E E, constructed substantially as shown and described.

6. In combination with a loose pulley having a beveled collar formed on or secured thereto, correspondingly-shaped friction or clutching shoes, provided with right-and-left-hand screws carrying operating-levers, and means for altering the angle of inclination of said levers in relation to said screws, substantially as shown and described.

7. The combination, in a friction-clutch, of a pulley or shaft provided with a beveled collar, clutching-shoes formed with correspondingly-beveled sides to engage with said collar, said shoes having lugged ends which carry right-and-left-threaded screws, and mechanism interposed between said screws, and a sliding collar or sleeve designed to move upon the shaft to which said parts are attached, substantially as and for the purpose set forth.

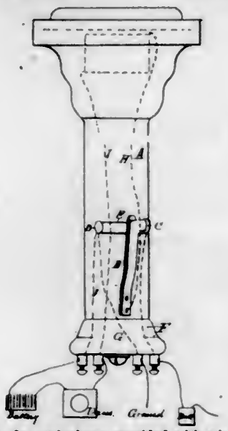
266,276. SCREW-NAIL. HENRY DURHAM, Abington, Mass. Filed Nov. 19, 1881. (No model.)



Claim.—A nail having a head, *b*, the shank *b'*, tapering and twisted throughout its length, and the clinching-point *b''*, substantially as shown, and for the purpose set forth.

266,277. COMBINED TELEPHONIC RECEIVER AND AUTOMATIC CIRCUIT-BREAKER. WILLIAM H. ECKERT, JOHN A. SEELY, and EDWARD A. ECKERT, Cincinnati, Ohio. Filed Apr. 21, 1882. (Model.)

266,277.



Claim.—1. In a telephone provided with wires G, H, I, and J, the combination of the spring B, the button C, post D, and spring E, substantially as and for the purpose set forth.

2. In a telephone-circuit, the combination of a receiving-telephone having keys upon its body with a separate transmitter and battery, arranged as described, whereby when the receiving-telephone is grasped by the listener the keys can be operated to switch the receiving and transmitting telephones and battery into the line-circuit.

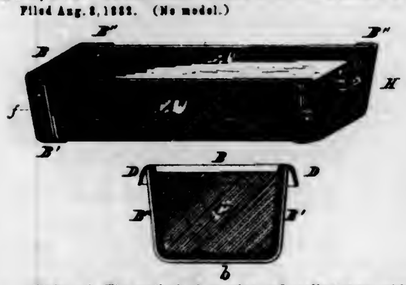
266,278. ART OF MAKING ORNAMENTAL CHAINS. WILLIAM ENOS, Newark, N. J. Filed Jan. 13, 1882. (No model.)



Claim.—1. In an ornamental chain, in combination, two or more series of links interlocked, as set forth, each series composed of closed links passed through the opened bent ends of one, two, or more preceding links, and then opened out at their central parts to form a hollow chain, substantially as and for the purpose set forth.

2. In an ornamental chain, in combination, two or more series of links interlocked, as set forth, each series composed of closed links passed through the opened bent ends of one, two, or more preceding links, substantially as and for the purpose set forth.

266,279. SUGAR-PAN. FRANK FIRMENICH, Buffalo, N. Y. Filed Aug. 8, 1882. (No model.)



Claim.—1. The method of panning and cooling sugar which consists essentially in first placing into the sugar-pans a lining of textile fabric, then running the sugar into the pan, then allowing the sugar to cool and harden, then removing the sugar from the pan, and finally removing the textile fabric from the block of sugar, substantially as and for the object specified.

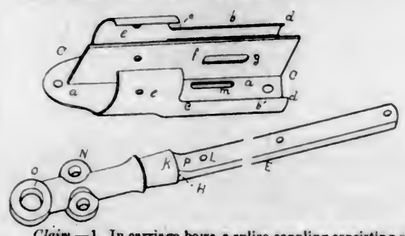
2. In sugar-cooling pans, the removable textile lining, substantially as specified, for the object stated.

3. In sugar-cooling pans, the combination, with the sides and bottom, of two malleable-iron heads or ends having a lateral flange, B' B'' *b*, projecting outside of said pan over the said sides and bottom, whereby the part *b* of said flange serves as a rest for said pan, substantially as and for the purpose indicated.

4. In sugar-cooling pans, the combination, with the sheet-metal bottom and sides, of malleable-iron heads or ends, the parts being secured together and adapted for use substantially in the manner and for the purpose specified.

5. A sugar-cooling pan having projecting heads forming projecting parts around said pan and serving as a rest for the same, substantially as described and mentioned.

266,280. CARRIAGE-BOW. WILLIAM F. FLEHARTY, Elyria, Ohio. Filed June 8, 1882. (No model.)



Claim.—1. In carriage-bows, a splice-coupling consisting of a plate having flanged sides *b c*, and web or rib *f*, in combination with the sections A and B of a carriage-bow, substantially as described, and for the purpose set forth.

2. Coupling the sections of carriage-bows by means of a slit in the abutting ends thereof for the reception of a web or rib extending from one section to the other, and inclosing the said sections by flanges lapping upon the side and over the abutting ends of the said sections, substantially as and for the purpose specified.

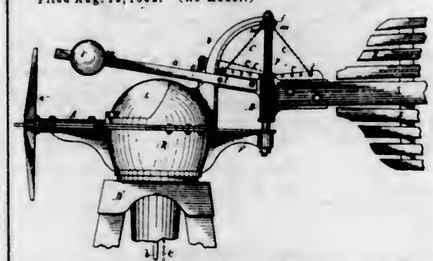
3. A splice-coupling having a central web, and provided with curved side flanges, *c c*, and flanges *b b*, substantially as and for the purpose described.

4. The combination of the flat re-enforcing plate D, embedded in the section B, and confined only at each end, and the upper end of the slat-iron of the front bow of a carriage-top, substantially as and for the purpose of a spring, as described.

5. A carriage-bow consisting of the splice-coupling C, re-enforcing plate D, and slat-iron, in combination with the sections A B of the bow, substantially as and for the purpose set forth.

6. A slat-iron having a curved or tapering shoulder, P, extending from the shank to the flat section thereof, entirely embedded in and which shoulder and flat part are inserted within a groove in and in combination with the section B of the bow, and secured thereto by suitable fastenings, substantially as and for the purpose set forth.

266,281. WINDMILL. GEORGE GARDEN, Kalamazoo, Mich. Filed Aug. 10, 1882. (No model.)



Claim.—1. A windmill having a hinged vane suspended and balanced with various points to adjust suspending device to increase or decrease the pressure at which the mill shall turn out of the wind, as specified and shown.

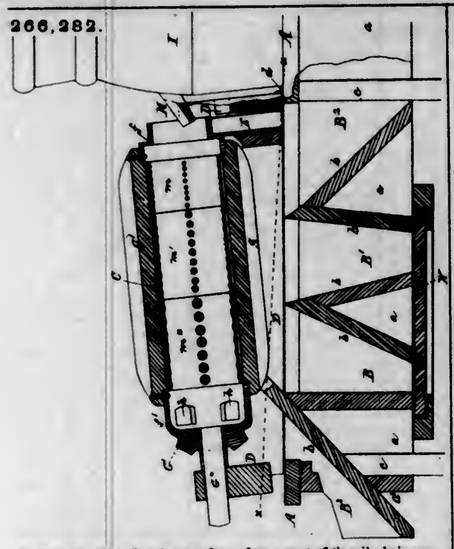
2. A windmill having a hinged vane producing a twisting and increasing resistance on its suspending-chains, as described and set forth.

3. A windmill having a hinged balanced vane suspended by chains, for the purpose specified and set forth.

266,282. SCREENING AND ASSORTING MACHINE FOR STONE BREAKERS AND CRUSHERS. PHILETUS W. GATES, Chicago, Ill. Filed Aug. 18, 1882. (No model.)

Claim.—1. In a screening and assorting machine for stone breakers and crushers, the combination of removable cylindrical screen-sections with a skeleton frame comprising end pieces and longitudinal connecting-ribs, one of the end pieces being of collar

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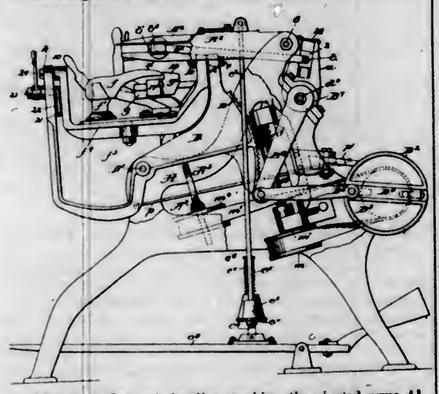


form, while the other is a perforated cup, part of the ribs being removable, substantially as and for the purpose described.

2. The combination, with the skeleton screen-frame having a collar at one end and a perforated cup at the other, of cylindrical screen-sections having different gage of perforations, a hinged adjustable frame, friction-rollers, a short journal, gear-wheels, a pulley-shaft, and a supporting-frame having bins and chutes which receive the materials discharged through the screen-sections and the perforated cup end of the skeleton frame, substantially as and for the purpose described.

3. The combination, with the supporting-frame provided with a friction-roller support, bins, and chutes, of the hinged frame provided with driving-gearing, the skeleton screen-frame having a sectional screening-surface, a supporting-collar, a bevel-gear wheel, and a short journal, substantially as and for the purpose described.

266,283. SOLE-LEVELING MACHINE. OTHNIEL GILMORE, East Bridgewater, Mass. Filed Apr. 15, 1882. (No model.)



Claim.—1. In a sole-leveling machine, the pivoted arms A^3, the leveling-roller and its frame guided thereby, the roller-receiver and last, the vibrating arms *a*, and means, substantially as described, to vary the connection of the carrying-frame of the leveling-roller with the said arms, whereby the throw of the leveling-roller may be changed without altering the throw of the said arms, substantially as described.

2. The vibrating arms *a*, the pivoted arms A^3, and the leveling-roller, and the frame to connect it with the said arms, combined with toothed racks, pinions, and rack-bar, to change the point of connection of the said frame with relation to the axis of motion of the said arms, substantially as described.

3. The arms *a*, their boxes and the cross-bar therein, the toothed racks, rack-bar, and intermediate pinions held by the arms *a*, combined with the lever to move the rack-bar, substantially as described.

4. The arms *a* and rectangular rack-bar fitted to slide in line with the axis of motion of the said arms, and the pin d^3, combined with the lever d^4, to move the said bar longitudinally, the slot in the said lever being of such length as to prevent the escape of the pin d^3 as the arms *a* are being vibrated, substantially as described.

5. The arms *a*, the rack-bar, its pin, the elbow-lever, link, and hand-lever d^4, provided with a pin, combined with the catch to hold the lever in place, substantially as described.

6. The hand-lever having a pin thereon and a catch to hold it, combined with a catch-lifting lever pivoted upon the said hand-lever, substantially as described.

7. The last, its heel-pin, the jack-plate, the pivoted yoke f^1, the U-shaped lever, its sector, the worm, shaft 19, the belt, loose pulleys, clutch-hub, and means to operate it, substantially as described.

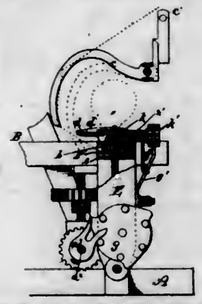
8. The yoke f^1, the pivoted jack-plate, its heel-pin, and last, combined with the locking mechanism for the jack-plate, substantially as described.

9. The last and its heel-pin, and the reciprocating leveling-roller, combined with the roller-receiver having its top surface inclined with relation to the bottom of the fore part of the last, substantially as and for the purposes set forth.

10. The last, its heel-pin, and the roller-receiver, made horizontally-adjustable toward and from the heel-pin, combined with the jack-plate adapted to be moved away from the roller-receiver to permit the application to or removal from the last of a boot or shoe, substantially as described.

266,284. GRAIN-BINDER. ALBERT GOODYEAR, Akron, Ohio. Filed Mar. 15, 1881. (No model.)

Brief.—Relates to that class of machines which twists the ends of the band together and then tucks the twisted ends under the band.



Claim.—1. In a device for uniting the ends of a band, the combination of a rotary cutter and holder and twister with a clamping device for holding the cord, after being united by the twister, between the twisted ends and the gavel, and a rotary reciprocating tucker, whereby the said ends are tucked beneath the band, substantially as shown and described.

2. A binder-arm for placing the band around the bundle, in combination with a rotary twister, a clamp independent of said arm, and located between the twister and the bundle, means for operating said clamp to hold the band after it has been united, and a rotary reciprocating tucker, substantially as set forth.

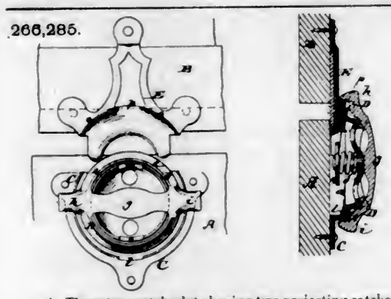
266,285. TRUNK-CATCH. CLARENCE P. GOULD, Newark, N. J. Filed Mar. 16, 1882. (Model.)

Claim.—1. In a trunk-catch, the annular catch-plate D, having diametrical handle-brace *g*, and combined with the spring *j*, plate C, and hasp E, said plate D being adapted to be completely revolved, and to be pulled by said handle-brace, substantially as described.

2. In a trunk-catch, the catch-plate D, arranged to revolve completely around a raised ring, *f*, and combined with a spring, and with a hasp, E, having notch *p* cut away vertically above the center of said ring, substantially as described.

3. The combination of the plate C, having circular ribs *b* and *f*, with the swiveled plate D, having projection *h*, and with the spring *j* and hasp E, substantially as and for the purpose specified.

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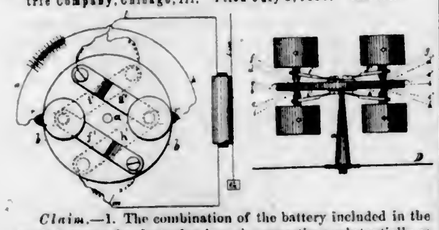


4. The rotary catch-plate having two projecting catches, *h* and *i*, on diametrically opposite sides, and having the handle-brace *g*, rim *c*, and pin *d*, in combination with the plate C, having the rib *f*, with notches *m m*, rib *b*, with notch *l*, and with the hasp E, having rib *o*, with notch *p*, all arranged for operation substantially as specified.

5. The hasp E, having rib *o*, combined with the plate C, having rib *b*, said ribs forming, when the trunk is closed, a complete circle, having notches *p* and *l*, in combination with the rotating catch-plate D, having projections *h* and *i* and spring *j*, substantially as described.

6. The catch-plate D, combined with bracket C and hasp E, and adapted to lock at the same time into said bracket and said hasp by the projections *h i*, and to be unlocked by being pulled horizontally off the bracket C, substantially as described.

266,286. MICROPHONE. CHARLES D. HASKINS, New York, N. Y., assignor, by mesne assignments, to the Western Electric Company, Chicago, Ill. Filed July 3, 1881. (Model.)



Claim.—1. The combination of the battery included in the circuit between the electrodes, branch connections substantially as shown and described, and the weighted electrodes supported entirely by the diaphragm, whereby the current of the battery may be sent in undulatory reversals through that portion of the battery-circuit included between the said branch connections.

2. The combination of two carbon pieces with four contact-points, two points for each carbon piece, the diaphragm, primary of induction-coil, and circuit-connections, as described, whereby the current of the local battery is sent in undulatory reversals, as and for the purpose set forth.

3. The combination of battery C in the circuit of line *k n*, the line *l m*, including the primary of the induction-coil, the branch connections, main line, secondary of induction-coil, electrodes, and diaphragm, whereby induced currents may be sent to line in undulatory reversals, as and for the purpose specified.

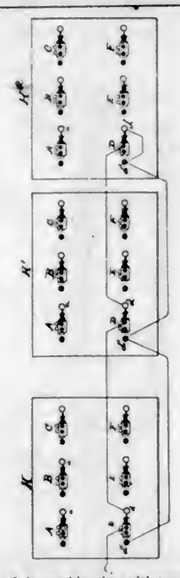
4. The combination of conducting-springs *f g h i*, supporting the contact-points *f g h i*, respectively, provided with weighted heads, the carbon pieces *c c'*, the disk supported at the center by the stud *a*, the diaphragm, and circuits, substantially as shown and described.

266,287. MULTIPLE SWITCH-BOARD FOR TELEPHONE-EXCHANGES. CLARK C. HASKINS and CHARLES H. WILSON, Chicago, Ill., assignors, by mesne assignments, to the Western Electric Company, same place. Filed Oct. 23, 1879.

Brief.—The subscribers' lines pass through the switch-boards consecutively and then return by the open try-circuits. Each switch is provided with a movable portion, whereby the insertion of a plug breaks the line at that switch. The lines are tested by applying a grounded signal-battery to the try-circuit at any switch, when the signal will be operated if the line be not in use, but will remain silent if the line is engaged.

Claim.—1. Multiple switch-boards provided with series of switches, one series for each telephone-line, and one switch of each

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series on each board, in combination with try-circuits, one for each line, extending to all the boards, and electrical apparatus, whereby the attendant at any given board may make a preliminary test to determine whether the line called for is in use.

2. The combination of many normally-open telephone-circuits with two or more duplicate switch-boards at the central office, and series of switches, one switch on each board for each line, and series of testing-plates, one testing-plate on each board for each line, said circuits passing through their respective series of testing-plates and a common circuit, in which is placed a signaling instrument and battery, whereby a switchman at a given board may determine whether the line of the subscriber called for is in use at any other of the duplicate boards.

3. The combination of normally-open telephone-lines with multiple switch-boards provided with switches, one for each line on each board, and test or connecting plates, one or more in the try-circuit of each line, and a call-circuit including a signaling instrument and battery, whereby an attendant at either board may send current to any given line, and at the same time operate the signaling-instrument, substantially as and for the purpose specified.

4. The switch, in combination with a plug provided with a notch, and the slide-piece M of said switch, whereby the plug may be held in place, substantially as shown and described.

5. The switch provided with a plug-hole in the slide-piece M, and guide M', in combination with a plug and contact-point, *d*, whereby the circuit of a telephone-line is cut off from its try-plates *d'* when a plug is inserted, as and for the purposes specified.

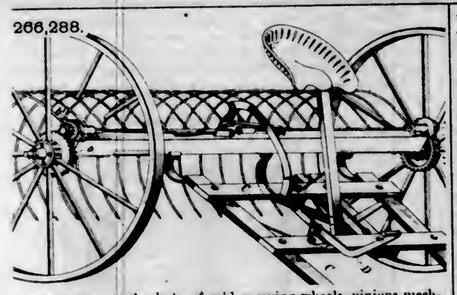
266,288. HORSE HAY-RAKE. WILLIAM H. HALL, Tiffin, Ohio. Filed Sept. 4, 1882. (No model.)

Claim.—1. The combination, substantially as hereinbefore set forth, of an oscillating rake-head, carrying-wheels by which it is supported, a gear-wheel driven by said carrying-wheels, a pinion turning in bearings upon the rake-head and meshing with said gear-wheel, and a friction clutch or device adapted to arrest the motion of said pinion, whereby it will be carried onward along the periphery of the gear-wheel to lift the rake-head and the teeth attached thereto.

2. The combination, substantially as hereinbefore set forth, of a rake-head, carrying-wheels by which it is supported, spur-gears upon the hubs of said carrying-wheels, pinions normally turning freely in or upon bearings connected with the rake-head and meshing with said gears, and friction-clutches with which said pinions may be caused to engage to prevent their rotation, whereby they will be carried along the periphery of the spur-gears to lift the rake-head.

3. The combination, substantially as hereinbefore set forth, of an oscillating rake-head, carrying-wheels by which it is supported,

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spur-gears upon the hubs of said carrying-wheels, pinions meshing with said spur-gears and mounted to turn loosely upon the ends of the rake-head, disks or flanges upon said pinions, and opposing disks or flanges upon the ends of the rake-head, with which the pinions may be forcibly brought into contact to prevent their revolution and cause them to be carried onward by the gears to oscillate the rake-head.

4. The combination, substantially as hereinbefore set forth, of an oscillating rake-head, carrying-wheels by which it is supported, spur-gears upon the hubs of said carrying-wheels, flanged spur-pinions meshing with said gears and mounted to turn idly in or upon bearings carried by the rake-head, boxes upon the rake-head for the bearings of said pinions, provided with opposing flanges, and mechanism for moving the bearings longitudinally within the boxes to clamp the flanges upon the pinions against the flanges upon the boxes, and thereby prevent the rotation of the latter to cause the dumping of the rake.

5. The combination, substantially as hereinbefore set forth, of the oscillating rake-head, draft or carrying-wheels by which it is supported, spur-gears upon the hubs of said wheels, flanged spur-pinions engaging with said gears, stubs or spindles upon which these pinions turn loosely, boxes upon the ends of the rake-head through which the squared shanks of the spindles are carried, flanges upon said boxes opposing the flanges upon the pinions, and rods connecting said shanks to a double or compound lever at or near the center of the rake-head, whereby the pinions may be simultaneously moved in against the box-flanges to prevent their rotation by frictional contact therewith.

6. The combination, substantially as hereinbefore set forth, of the oscillating rake-head, the draft-wheels, the spur-gears upon the hubs of said wheels, the flanged spur-pinions intermeshing with said gears, the stubs or spindles upon which said pinions turn, the box-flanges at the ends of the rake-head, and the rods operated by a central lever and connected to the squared shanks of said stubs by adjustable joints.

7. The combination, substantially as hereinbefore set forth, of the oscillating rake-head, the draft-wheels, the spur-gears upon the hubs of said wheels, the flanged spur-pinions meshing with said gears, the stubs or spindles upon which these pinions turn loosely, the flanged boxes mounted upon the ends of the rake-head and supporting said spindles, the rods connected at one end to the shanks of said spindles, the double lever to which the rods are connected at their meeting ends, a sliding link passing through the rake-head and taking into a slot in the force-arm of said lever, and the foot-lever for operating said link.

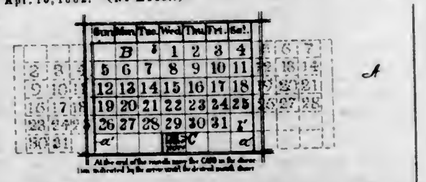
8. The combination, substantially as hereinbefore set forth, of the oscillating rake-head, the draft-wheels, the spur-gears upon the hubs of said wheels, the flanged spur-pinions intermeshing with said gears, the spindles upon which these pinions turn loosely, the flanged boxes fixed to the ends of the rake-head and supporting said spindles, the double lever pivoted near the center of the rake-head, the rods connecting it with the shanks of the spindles at each end of said head, the sliding rod passing through the rake-head and taking into a slot in the force-arm of said lever, the foot-lever pivoted to the thill-frame and operating said rod to clamp the pinions against the box-flanges, and the spring pressing against the heel-extension from the double lever on the rake-head to return it and the pinions to their normal position when the foot-lever is released.

9. The combination, to form a means for operating the clutch of a horse hay-rake, of a lever pivoted near the center of said rake, rods pivoted to said lever on opposite sides of the lever-pivot and passing longitudinally to the respective ends of the rake-head, where they are connected with the clutching mechanism, a sliding rod passing through the rake-head and taking into a slot upon the force-arm of the lever thereon, and a foot-lever pivoted to the thill-frame and connected with said rod, whereby the lever upon the rake-head may be moved to project or retract the rods.

10. The combination, to form a means for operating the clutches in a horse hay-rake, of a lever pivoted near the center of the rake-head, rods pivoted to said lever on each side of the lever-pivot and passing to the clutching devices at the respective ends of the rake-head, a sliding rod passing through the rake-head and taking into the slotted force-arm of the lever thereon, a foot-lever pivoted to the thill-frame and connected with said sliding rod, whereby the lever on the rake-head may be moved to cause the engagement of the clutching devices, and a spring mounted upon the rake-head and pressing against the heel extension from the lever thereon to restore it to its normal position and throw the clutching devices out of engagement.

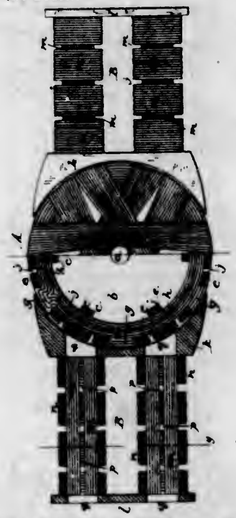
11. The combination of the oscillating rake-head, the draft-wheels, the spur-gears upon the hubs of said wheels, the idly-revolving spur-pinions meshing with said gears and supported by boxes on the rake-head, and shields or guards fixed to said boxes and covering or protecting the spur-gears and pinions.

266,289. CALENDAR. ELROY N. HEATH, Boston, Mass. Filed Apr. 10, 1882. (No model.)



Claim.—The main card A, having the slits *a a'* made therein and the names of the days of the week above the space between the slits and those of the months between the lower ends of the slits, in combination with the sliding card B, having the numbers of the days of the month arranged as described, and provided with a notch, C, at its bottom edge, whereby the latter card is held to the former simply by resting in the slits and the proper month is exposed at the notch, as set forth.

266,290. DYNAMO-ELECTRIC GENERATOR. ROBERT C. HINDLEY and WILLIAM S. BUFFHAM, Racine, Wis. Filed Apr. 28, 1882. (No model.)



Claim.—1. An armature-core for dynamo-electric generators, composed of wire wound in coils, said coils being bound together and magnetically insulated from each other by a non-magnetic substance applied in a fluid state and allowed to set or harden.

2. An armature for dynamo-electric generators, having a core composed of wires arranged in groups with intervening spaces, substantially as shown and described, the wires being magnetically in-

sulated from one another and bound into a compact mass by a non-magnetic substance, substantially as set forth.

3. A dynamo-electric generator provided with a field-magnet having a core composed of wire arranged in groups or bundles, said bundles being separated by open spaces, substantially as and for the purpose set forth.

4. In a dynamo-electric machine, the combination of a field-magnet and an armature, both formed with cores of wire arranged in groups or bundles, said bundles being separated by open spaces, substantially as and for the purpose set forth.

5. In a dynamo-electric generator, a field-magnet having a core composed of separated bundles of wire and an enveloping coil or wire wound thereon in separated groups or bundles, whereby communicating air-spaces are formed through the induction-coil and core.

6. In a dynamo-electric machine, a field-magnet consisting of a wire core, solid end piece, and a sourrounding coil, the wire of the core and of the surrounding coil being arranged in separated bundles or groups, as shown.

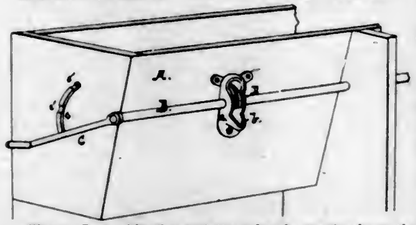
7. A core for magnets or armatures, consisting of a bundle of iron wires bound together by a non-magnetic substance passing between the individual wires, and thereby serving also to magnetically insulate them one from another.

8. The herein-described method of constructing cores for magnets and armatures, consisting in winding or arranging a series of wires side by side and at short distances apart, pouring between and around them a non-magnetic substance in a fluid condition, and permitting said substance to set or harden, and thereby to bind the wires into a compact body and to magnetically insulate them one from another.

9. The herein-described armature-core, consisting of wire wound or wrapped circumferentially in bundles or coils, united and formed into a solid body by a binding material applied in a fluid state and allowed to set or harden upon and between the wires, said core being formed with seats or recesses to receive the induction-coils, substantially as set forth and shown.

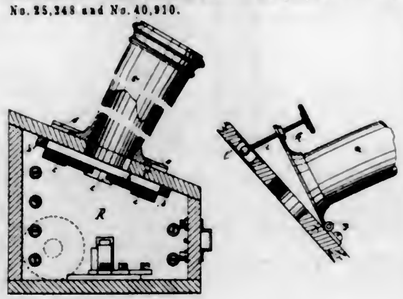
10. The herein-described dynamo-electric generator, consisting of armature A, provided with a wire core formed of separated sections, and with induction-coils, also wound in separate groups or bundles, and the field-magnets B B, provided with the solid end plates, divided wire cores, and coils wound in separated groups or bundles upon the cores, as explained.

266,291. DEVICE FOR DETACHING STOCK. AMOS B. HOLLINGSWORTH, Wilna, Md. Filed June 30, 1882. (No model.)



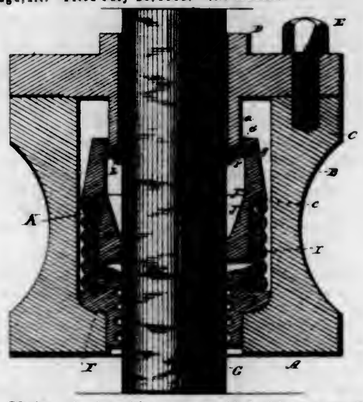
Claim.—In combination with the rod and actuating-lever, the casting *a*, having ledge *b*, and the hook D, substantially as set forth.

266,292. BATTERY-TELEPHONE. LOUIS JACOBSON, Berlin, Germany. Filed Sept. 3, 1881. (No model.) Patented in England July 13, 1881, No. 3,053; in Belgium Aug. 16, 1881, No. 55,367; in Italy Aug. 26, 1881, CCCXVI, 13,258; in France Oct. 29, 1881, No. 144,278, and in Austria-Hungary Nov. 11, 1881, No. 25,348 and No. 40,910.



Claim.—In an electric speaking-telephone, and in combination therewith, a tube or mouth-piece and means, substantially as shown and described, for adjusting the same relatively to the opening in the diaphragm-inclosing box or casing to admit of the escape of a portion of the sound-waves, substantially as and for the purpose set forth.

266,293. PISTON-ROD PACKING. CHARLES C. JEROME, Chicago, Ill. Filed July 29, 1882. (No model.)



Claim.—1. A packing-cone provided with an outwardly-expanding cavity, in combination with a follower adapted to fit in a steam-tight manner against the inner projection of the gland.

2. The combination, with the gland having an inwardly-projecting portion or flange, of a packing-cone having an internal conical or converging space, a spring for holding the cone in position, a follower adapted to bear against the inwardly-projecting flange of the gland, and suitable packing-rings situated behind the follower.

3. The combination, with the gland provided with an inwardly-projecting portion or flange, of a packing-cone having a conical or converging space, and the follower, the latter being larger in circumference than the inwardly-projecting flange on the gland, so as to form a space between the said flange and cone, for the purpose set forth.

4. The combination, with the gland provided with an inwardly-projecting portion or flange, and a follower larger in circumference than the flange and adapted to bear against the end of the flange, of a packing-cone having an internal space in which the said follower rests, and a spring for holding the said cone in position, all of the above parts combined and adapted to operate as described.

5. The combination, with the gland having an internal projecting portion or flange thereon, of the metallic follower provided with the lap-joint, as described, and the split collar snugly placed in a peripheral recess on the upper surface of the said follower, and means for holding the said follower in position against the flange.

6. The combination, with the gland provided with an internal projecting portion or flange around the piston-rod opening, of the packing-cone, constructed as described, the follower provided with a lap-joint, the split collar secured thereon, packing-rings interposed within the packing-cone behind the follower, and the spring holding the cone in position.

7. The combination, with the cylinder-head provided with the bosbing, the stuffing-box, and gland provided with an internal projecting portion or flange, of the follower, packing-cone, packing-rings, and spiral spring, all of the above parts combined and adapted to operate as described.

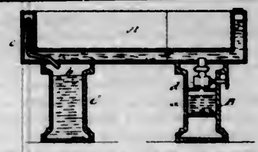
266,294. CORPSE-COOLER. HENRY C. JOHNSON, Washington, D. C., and FRANCIS M. MCMILLAN, New York, N. Y. Filed Aug. 5, 1882. (No model.)

Claim.—1. The herein-described method of preserving corpses, consisting in expanding a compressed or liquefied gas in a pipe or chamber in the box or coffin containing the corpse and permitting the gas to escape directly into said box or coffin.

2. A corpse-cooler consisting of a box or receptacle having hollow walls and a gas-receiver communicating with the space within said walls, substantially as shown and described.

3. In combination with the box or receptacle A, having an

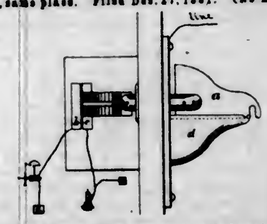
266,294.



expansion coil or chamber, as described, pedestals B C, the former containing a gas-receiver, and both communicating with the coil or chamber, substantially as explained.

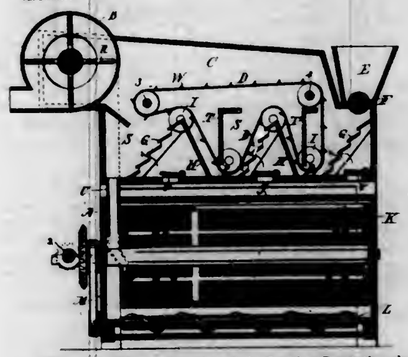
4. In combination with box or receptacle A, pedestals B C, containing gas-receiver *a* and chamber *b*, coil or pipe *c*, and valve *d*, all arranged and operating as set forth.

266,295. TELEPHONE-SWITCH. CHARLES W. LEWIS, Chicago, Ill., assignor, by mesne assignments, to the Western Electric Company, same place. Filed Dec. 27, 1881. (No model.)



Claim.—The horizontally-moving circuit-changing piece, provided with a notch to receive the telephone-ring, in combination with the fixed support and circuit-connections, as described, whereby the circuit of the telephone-line may be changed automatically as the telephone is placed upon or removed from said support.

266,296. MIDDLINGS-PURIFYING MACHINE. HIRAM J. LIVINGSTON, Brantford, Ontario, Canada. Filed Nov. 12, 1881. (Model.)



Claim.—1. The combination of air-chamber C, rotating shafts 3 and 4, combined boxes and brackets Q, pulleys or wheels mounted on said shafts, endless belts D D, buckets mounted on said belts, belt Z, and feed-roller F.

2. The combination of fan B, separating-chamber S, inclined series of slats G, inclined boards H, endless belts D D, and buckets, and the check-boards T.

3. The combination of fan B, separating-chamber S, inclined series of slats G, and inclined boards H, forming V-shaped hoppers P, in connection with said slats, the series of slats G being less inclined from the perpendicular than the boards H.

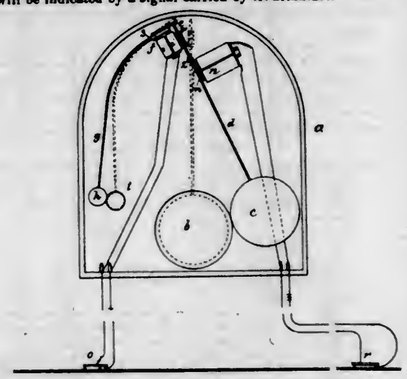
4. The combination of hoppers P, fan B, chamber S, endless chains or belts D D and buckets, and idle-pulleys I I, upon which the belts are arranged to give it a zigzag course corresponding to the hoppers.

5. The combination of air-chamber S, endless belts D D and buckets, hoppers P P, having one side formed of slats, perforate deck J, and suction-fan B.

6. The combination of fan B, belts and buckets D D W W, air-chamber S, hoppers P, perforate deck J, and valves V V, for regulating the upward current of air.

266,297. RAILWAY SIGNAL APPARATUS. JOSEPH P. LIVERMORE, Boston, Mass. Filed Feb. 13, 1882. (No model.)

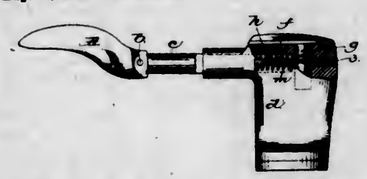
Brief.—The signal is normally at "safety," being held there by a spring-latch upon the armature of a normally-closed circuit. When said circuit is broken the signal goes to "danger" by its gravity, and is returned to "safety" through the armature of a normally-open circuit. The spring-catch of the armature of the closed circuit yields to engage the end of the signal-stem without breaking said circuit. Should the closed circuit become inoperative, this fact will be indicated by a signal carried by its armature.



Claim.—1. In a railway signal apparatus, the following elements in combination: the signal arranged to be displayed when not positively held otherwise, the actuating-magnet and normally-open circuit and circuit-closer, by means of which the signal is removed from view, and the latch and its controlling-magnet, and normally-closed circuit and circuit-breaker, the said latch being arranged to engage and lock the signal while its controlling-magnet is charged, substantially as described.

2. In a railway signal apparatus, the signal and the controlling-magnet and normally-closed circuit therefor, combined with an armature for said magnet and signal operated thereby, as described, for the purpose of indicating when the circuit of the said magnet is inoperative, substantially as set forth.

266,298. LAST. JAMES F. MCHOLLETT, Philadelphia, Pa., assignor to James W. Brooks, Trustee, Cambridge, Mass. Filed Aug. 19, 1882. (No model.)



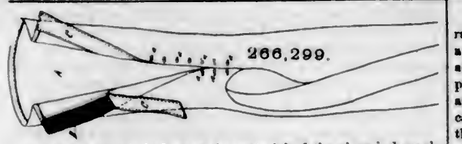
Claim.—1. The toe-piece A of the last, the center piece, and main or heel part *d*, combined with the independent movable heel-seat *f*, substantially as and for the purposes set forth.

2. The main or heel part of the extensible last, and the heel-seat *f*, pivoted thereon to move or vibrate horizontally, as set forth, combined with means, substantially as described, to limit the extent of horizontal vibration of the heel-seat to right and left shoes, as and for the purposes set forth.

266,299. GLOVE. SAMUEL MONTGOMERY, New York, N. Y. Filed May 24, 1882. (No model.)

Claim.—1. In a glove of the character herein set forth, the stiffening-pieces applied at the margins of the wrist-opening and held in place only by the fastening devices which pass through said stiffening-pieces and through the material of the glove, as explained, the same being arranged to preserve the stretch of the glove from margin to margin of the wrist-opening, substantially as and for the purposes set forth.

2. In combination with the stiffening-pieces applied at the margins of the wrist-opening and held in place only by the metallic fastening devices, the covering-strips extending over the stiffen-

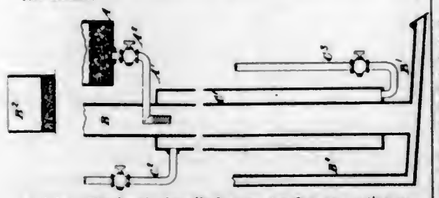


ing-pieces and stitched upon the material of the glove independently of the stiffening-pieces, forming pockets within which said pieces are located and concealed, substantially as shown and described.

3. The combination, with the glove, of the stiffening-pieces bearing against the outer margins of the wrist-opening, the covering-strips attached to the material of the glove independently of said stiffening-pieces and forming pockets therefor, and the fastening devices passing through the stiffening-pieces and the material of the glove, substantially as and for the purposes set forth.

266,300. APPARATUS FOR THE MANUFACTURE OF SUGAR.

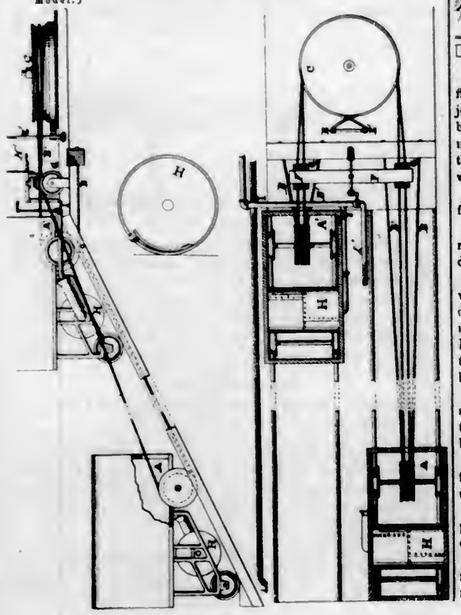
JAMES A. MORRELL, New York, N. Y., assignor to the James A. Morrell Evaporator Company, same place. Filed Feb. 21, 1882. (No model.)



Claim.—The herein-described apparatus for evaporating saccharine and other substances, it consisting of the combination of the following-named elements: a vertical pipe or vessel heated by steam or hot air, a cylinder surrounding said pipe or vessel, a perforated pipe or equivalent device for spraying or comminuting the material as it passes into the evaporating pipe or vessel, a pipe for drawing off the resultant product, and a valve for preventing the ingress of air to the evaporating pipe or vessel, all substantially as and for the purpose set forth.

266,301. OPERATING INCLINED-PLANE-RAILWAY CARS.

JOHN C. MORRIS, Cincinnati, Ohio. Filed Dec. 8, 1881. (No model.)



Brief.—A counterbalancing water-roadway wherein cars arranged to travel on a double-track inclined way are provided with a cylindrical water-chamber arranged to swing clear of the track and fitted with an inlet-pipe and an outlet-valve. A force-main pipe is arranged to admit of connection with an operative pump and reservoir. The cars are operated by means of one or more cables passing around pulleys on the cars and a change-wheel at the top of the incline, and secured at both ends to substantial anchorage.

Claim.—1. The combination, with the double-track inclined way and a change-wheel, of cars arranged to travel on said way and having pulleys or sheaves, and one or more cables secured at both ends to substantial anchorage and passing around said sheaves.

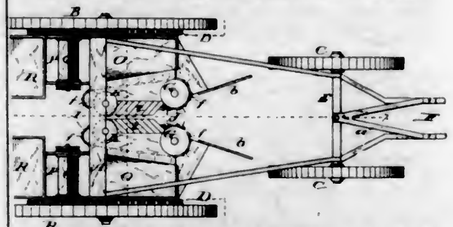
2. The combination of inclined-railway cars having pulleys or sheaves lapped by bights formed in the cables B B B' B' in a manner to sustain said cars while in motion or at rest upon the tracks, with the change-wheel brake and levers E E, substantially as shown and specified.

3. The combination of guide rollers or wheels G G G' G' with the brake F F', extended to bring its rubbing-surface in contact with all said rollers and the running parts of the descending and ascending portion of the cables moving in opposite directions, substantially as and for the purposes shown.

4. In the arrangement of a double-track inclined railway whereon cars are moved by gravity, employing water derived from a reservoir or other source at the upper terminus to make up the deficit of weight on the descending car required for traction of the ascending car, a cylindrical water-chamber carried by each car, arranged to admit covering all its exterior surfaces for protection of its contents from congelation, and having charging mechanism and discharging mechanism, each for its respective terminus, as specified, in combination with water-pipes arranged to admit of connections for the reciprocal interchange of water between the source of supply and said water-chamber, substantially as described.

266,302. COMBINED CORN HARVESTER AND HUSKER.

ALDEN MOTT, Richmond, Ind. Filed July 19, 1882. (No model.)



Claim.—1. In a corn-harvester, the combination of a pair of fluted upright rolls adapted to draw the stem by which the ear is joined to the stalk between them, and to firmly retain without breaking the same, and one or more reciprocating bars arranged to move across and in front of the space between the rolls, substantially as explained, whereby the bar is adapted to break the stem within the husk.

2. The herein-described corn-harvester frame, consisting of framing A, wheels B C, axle E, and cross-bar *g*.

3. In combination with the upright corrugated cylinders K, reciprocating bars L, and means, substantially such as shown and described, for imparting a reciprocating motion thereto.

4. In a corn-harvester, the combination of a frame provided with a cross-bar, *g*, a pair of upright corrugated cylinders in rear of said cross-bar, adapted to draw in, without breaking, the stem uniting the ears to the stalk, and one or more reciprocating bars, L, arranged, substantially as shown and described, to move across the space between the cylinders, and to strike and detach the ear held by the rollers, substantially as described.

5. The combination, in a corn-harvester, of a frame having a cross-bar, *g*, at a point sufficiently low to strike and bend over the stalks, and a pair of vertical toothed rollers below the cross-bar, as and for the purpose specified.

6. In a corn-harvester provided with a central passage-way for the stalks, a series of slats, *t*, each carried by an upright stem, *u*, provided with a spring, *r*, as and for the purpose set forth.

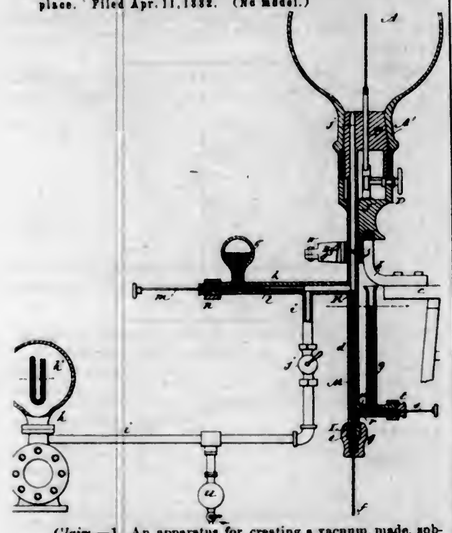
7. In combination with the husking-cylinders K and bars L, platform O, concaves P, and elevators Q, as and for the purpose explained.

8. In combination with the husking-cylinders K, bars L, platforms O, concaves P, and elevators Q, the receptacles R, all arranged substantially as shown.

9. The herein-described corn-harvester, consisting of frame A, having cross-bar *g*, rolls G, bands J, cylinders K, bars L, slats *t*, and elevators Q, and means, substantially as shown and described, for imparting motion to the various parts.

266,303. APPARATUS FOR CREATING VACUUMS IN INCANDESCENT-ELECTRIC-LAMP GLOBES.

HAMS J. MULLER, New York, N. Y., assignor to himself and Alexander Lovett, same place. Filed Apr. 11, 1882. (No model.)



Claim.—1. An apparatus for creating a vacuum, made, substantially as herein shown and described, with a tube for containing mercury, and plugs below and above the mercury, and with devices for forcing the plugs and the mercury into the seal-tube of a lamp, which seal-tube is to be held on the end of a tube containing the plugs and the mercury, as set forth.

2. In an apparatus for creating a vacuum, the combination, with an air-pump, and a tube which communicates with the lamp-bulb, and a suitable device for cutting off communication with the pump after the air has been exhausted, of a piston, *e*, having rod *f*, for use in forcing a suitable seal into the said lamp-tube, substantially as shown and described.

3. In an apparatus for creating a vacuum, the combination, with an air-pump and a tube communicating with the lamp-tube, of the branch tube *h*, the piston *l* therein, the piston *e*, having rod *f*, and the seal consisting of mercury-column M and plugs K L, as shown and described.

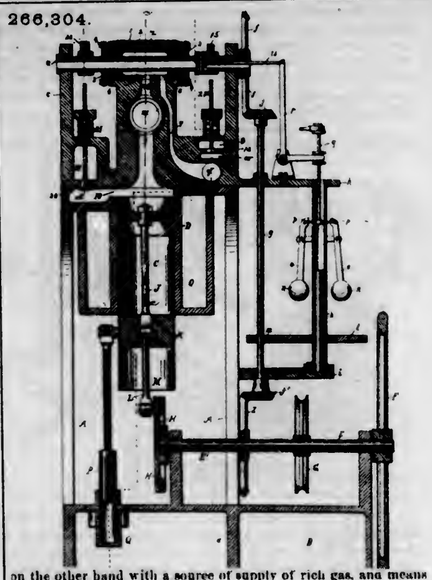
4. In an apparatus for creating a vacuum, the combination, with the air-pump and the tube J, which communicates with the lamp-chamber, the tube *h*, and piston *l*, working in the latter, of the mercury receptacle or bulb O, connected with tube *h* in rear of said piston, to operate as specified.

5. In an apparatus for creating a vacuum, the combination, with the tube *d*, the piston *e*, the piston-rod *f*, and the branch tube *p*, of the mercury-feeding vertical tube *q*, the piston *r*, and the piston-rod *s*, substantially as herein shown and described, and for the purpose set forth.

6. In an apparatus for creating a vacuum, the combination of an air-pump, the tube *d*, containing a column of mercury, the piston *e*, the piston-rod *f*, the tube *h*, containing mercury, and the piston *l*, with rod *m*, the tube *i*, leading to the air-pump, and the mercury-collecting receptacle *u*, suspended from the pipe *i*, substantially as herein shown and described, and for the purpose set forth.

266,304. GAS-ENGINE.

PETER MUSSELMAN, Philadelphia, Pa. Filed Mar. 3, 1882. (No model.)



Claim.—1. In a gas-engine in which the motive power is derived from the ignition of explosive gaseous mixtures, in combination with an injector communicating on the one hand with a source of supply of explosive gaseous mixtures and on the other hand with the combustion-chamber in which the explosion is to take place, a conduit or passage-way communicating on the one hand with the injector at a point within the influence of the injector-nozzle and on the other hand with a source of supply of rich gas, a valve upon said conduit to control the influx of rich gas, a movable cam, and mechanism connecting said cam with a governor operated by the engine, whereby upon the slow movement of the governor the cam is moved to engage against and open the valve, and upon the rapid movement of the governor is moved out of said engagement.

3. In a gas-engine in which the motive power is derived from the ignition of explosive gaseous mixtures, in combination with a combustion-chamber, a jet of burning gas exterior to said chamber and adapted to heat the air in the flame-carrier, a flame-carrier, (preferably within a carrier-chamber communicating with the combustion-chamber,) and means for automatically moving said flame-carrier athwart the burning flame and then against an ignition port or opening in the combustion-chamber, so as to project both flame and heated air into said chamber into contact with the explosive mixture therein.

4. In a gas-engine in which the motive power is derived from the ignition of explosive gaseous mixtures, in combination with a combustion-chamber, a jet of burning gas exterior to said chamber, a flame-carrier within a carrier-chamber communicating with the combustion-chamber, a flame-valve within a burning-gas chamber, and means for moving said flame-valve synchronously with the flame-carrier, so as to regulate and reduce the supply of burning-gas subsequent to the closing of the carrier.

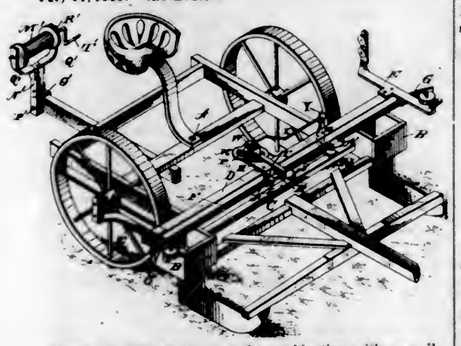
5. In a gas-engine in which the motive power is derived from the ignition of explosive gaseous mixtures, as a tubular rotary induction-valve, the combination of the hollow cylinder provided with ports, the cones, and the shaft, substantially as and for the purpose specified.

6. The method of producing an explosion in a gas-engine herein set forth, which consists in introducing both flame and heated air into the combustion-chamber in which is contained an explosive mixture of gas and air.

7. In a gas-engine in which the motive power is derived from the ignition of explosive gaseous mixtures, in combination with a combustion-chamber, an ignition-valve controlling a port entering thereinto, a reciprocating flame-carrier, a jet of burning gas exterior to the port of the ignition-valve and in the path of said flame-carrier, and means for both advancing said carrier athwart said flame and against the ignition-port, and for unseating said ignition-valve from said port, as and for the purposes set forth.

8. In a gas-engine of the class herein recited, the combination of the following instrumentalities for the purposes set forth: a combustion-chamber, an ignition-port, a flame-carrier, a jet of burning gas, a valve controlling said jet, means for supplying an explosive mixture to the combustion-chamber, and means for operating the carrier, ignition-valve, and burning-gas valve, substantially as described.

266,305. CHECK-ROWER. LEVI J. ODELL, Fairbury, Ill. Filed July 21, 1883. (No model.)



Claim.—1. In a check-rower, the combination, with an oscillating plate having a slot with enlarged ends, and a hinged lip or plate extending over said slot, of the operating-arm having its end adapted to engage said slot, and the actuating-arm on the rock-shaft, as set forth.

2. In a check-rower, the combination of the actuating-arm on the rock-shaft, a connecting-arm jointed thereto, an oscillating plate having a slot with enlarged ends covered by a hinged lip, a connecting-rod pivoted to the plate, and the pivoted seed-slide-operating lever, as set forth.

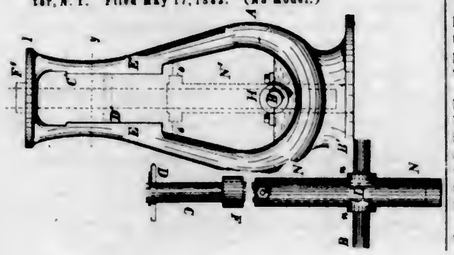
3. In a check-rower, the combination of the base-plate having an oscillating plate pivoted thereto, the latter being formed with a slot having enlarged ends, and provided with a hinged lip or plate extending over said slot, the connecting-arm having its end engaging the slot, the actuating-arm on the rock-shaft, a connecting-rod pivoted to the oscillating plate, and the pivoted seed-slide-actuating lever, as set forth.

4. In a check-rower, the combination, with the cross-bar carrying a base-plate, in which are formed bearings for the rock-shaft, and to which is pivoted an oscillating plate having a slot with enlarged ends covered by a hinged lip, and the pivoted seed-slide-actuating lever, of the rock-shaft carrying the actuating-arm, the connecting-arm engaging said slot, and the connecting-rod pivoted at each end, as set forth.

5. In a check-rower, the combination, with the base-plate adapted to be secured on the cross-bar, and provided with two separated downwardly-extending arms formed with bearings for the rock-shaft, of the rock-shaft having an actuating-arm secured and fitting between said arms, as set forth.

6. In a check-rower, the combination, with the base-plate having a rear extension and front downwardly-extending arms formed with bearings, of the oscillating plate pivoted to said extension and having a slot with enlarged ends, covered by a hinged lip, the actuating-arm journaled between said downwardly-extending arms, and the connecting-arm with its end working in the slot, as set forth.

266,306. METAL-BORING DEVICE. DANIEL O'NEIL, Rochester, N. Y. Filed May 17, 1883. (No model.)



Claim.—1. The improved boring device herein described, consisting of the trunnioned boring-bar guide L, substantially as and for the purposes set forth.

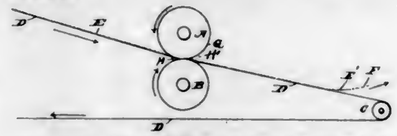
2. The combination of the sleeve N, provided with trunnions B B', and the boring-bar C, substantially as described.

3. The combination of the trunnioned guide L, provided with shoulders *n n*, and the boring-bar C, substantially as described.

4. The combination of the trunnioned guide L, boring-bar C, and collar F, substantially as described.

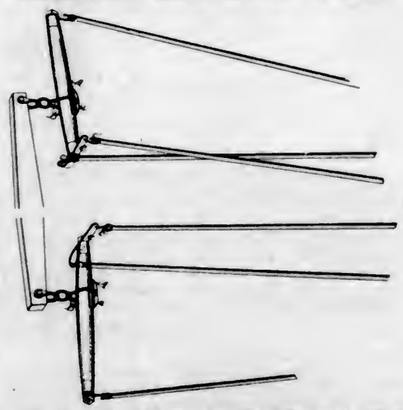
5. The combination of the sleeve N, provided with trunnions B B' and screws *o o*, and the boring-bar C, substantially as described.

266,307. PAPER-MAKING MACHINE. CALEB PARENT, Rockdale, near Hamilton, Butler County, Ohio. Filed Sept. 19, 1882. (No model.)



Claim.—The combination, in a paper-making machine, substantially as set forth, of a bottom press-roll, a felt or wire, and a top press-roll having a surface of soft rubber.

266,308. WHIFFLETREE. THOMAS J. PEARSON, Cayuga, Ill. Filed Oct. 18, 1881. Renewed July 1, 1882. (No model.)



Claim.—1. In whiffletrees, the adjustable plate A, with lug *a*, and socket-pins *a' a'*, substantially as described.

2. In whiffletrees, the draft-equalizer C, either curved or straight, with eye *c*, and trace-hooks *c' c'*, perpendicularly adjusted for use as a triple-tree, substantially as described.

3. In whiffletrees used as triple-trees, the combination of the plate A, lug *a*, pins *a' a'*, ring B, and equalizers C C, substantially as and for the purposes described.

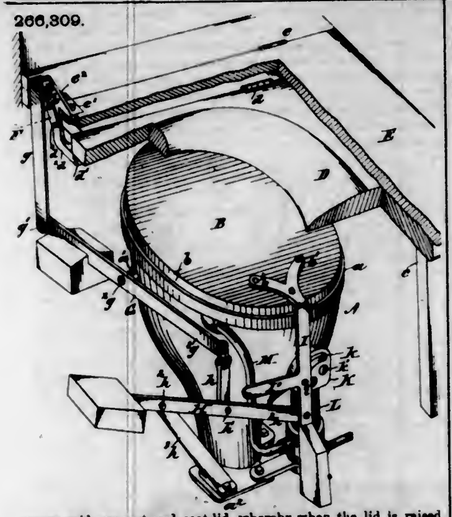
266,309. WATER-CLOSET. CHARLES F. PIKE, Philadelphia, Pa., assignor, by mesne assignments, to the National Anti Sewer Gas Company, of New Jersey. Filed Apr. 12, 1881. Renewed Mar. 23, 1882. (Model.)

Brief.—On raising lid E seat D is raised high enough to allow cover B, which rests in a sealing-trough on the rim of bowl A, to be turned down on one side, when the seat resumes its proper position. On closing lid E the operation is reversed, and the bowl, when not open for use, is always trapped.

Claim.—1. In a water-closet, the combination of bowl A, having sealing-trough *a* and cap B, the seat D and seat-lid E, hinged to casing C and connected to each other, and mechanism interposed between said cap seat and seat-lid, adapted to be operated by the movement of said lid, to effect the removal and replacement of said cap from and to said bowl, said seat being partially lifted and returned to its normal position during each such movement of said cap.

2. A water-closet provided with a bowl having a sealing-trough and cap, a seat and seat-lid, and mechanism interposed be-

266,309.



tween said cap seat and seat-lid, whereby when the lid is raised or lowered said cap will be moved off from and onto said bowl, and the seat raised and lowered during each such movement of the cap, substantially as set forth.

3. The combination, with a water-closet bowl having a trough surrounding its upper edge, of a cap or valve adapted to seat in said trough, a seat and seat-lid for such bowl, and mechanism interposed between said cap seat lid and seat, whereby when the seat lid is raised or lowered said cap will be oscillated off from and onto said bowl, and said seat will, during such movement of the cap, be partially raised and then returned to its normal position, substantially as set forth.

4. In a water-closet, the combination of a bowl formed with a trough on or around its upper edge, adapted to hold mercury or packing to form a seal, a valve or cap therefor, a seat, seat-lid, and mechanism interposed between said cap seat and seat-lid, constructed substantially as shown and described, and adapted to oscillate said cap off from and lower it down alongside of said bowl beneath the casing, said seat rising during such oscillation to permit such movement of said cap, and returning to its normal position when the said movement of the cap is completed.

5. The combination of a water-closet bowl, A, having trough *a*, cap B, the movable seat D, lid E, and mechanism interposed between said cap, seat, and seat-lid, substantially as shown and described.

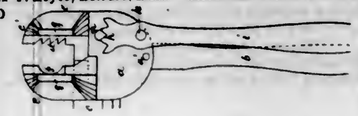
6. The combination, with bowl A, of a hinged seat, D, and seat-lid E, connected to each other by link mechanism F, whereby when said seat-lid is lifted or lowered said seat will be partially raised and returned to its normal position, substantially as shown, and for the purpose set forth.

7. The combination, with bowl A, having trough *a* and cap B, of a movable seat, D, and seat-lid E, levers G H, links *g* A, bar I, having stud *i*, and connected to cap B, and slotted bracket K, said parts being arranged substantially as shown and described.

8. A water-closet bowl provided with a projecting conduit, to which is secured a valve, *l*, substantially as shown and described, whereby any leakage or drip from said valve will pass into said conduit and then be conducted into said bowl, substantially as set forth.

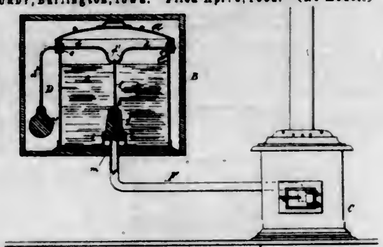
9. The combination of bowl A, having trough *a*, cap B, and water-cock *l*, the seat D and lid E, bar I, having finger I', weighted tripping-lever N, and mechanism interposed between said lid and bar, said parts being arranged substantially as shown and described, and for the purpose set forth.

266,310. COMBINED WRENCH, VISE, AND NAIL-PULLER. DANIEL R. PENTER, Cambridgeport, assignor of one-fourth to Stephen F. Noyes, Melrose, Mass. Filed Mar. 19, 1880. (No model.)



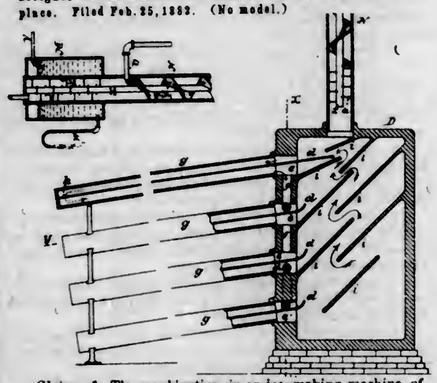
Claim.—A combined wrench, vise, and nail-puller consisting of the head *a*, provided with a longitudinal groove and attached to a handle, *b*, having teeth which engage with teeth on the movable block *c*, the jaws *c'* and *c*, the supplementary jaws *g g*, and the adjustable detachable lever or handle *i*, as and for the purpose set forth.

266,311. FIRE-EXTINGUISHER FOR RAILROAD-CARS. H. PURDY, Burlington, Iowa. Filed Apr. 6, 1882. (No model.)



Claim.—The combination of a water-containing vessel, rocking-shaft D, connecting-rod *f*, valve *g*, a device for centering the valve to its seat, and tube F, substantially as and for the purpose described.

266,312. ICE-MACHINE. THOMAS L. RANKIN, New York, N. Y., assignor to the Rankin Ice Manufacturing Company, same place. Filed Feb. 25, 1882. (No model.)



Claim.—1. The combination, in an ice-making machine, of the still-cylinder D, having one side cored or chambered at *e f*, the still-pipes *g*, fitted into the said cylinder, the diaphragms arranged in the pipes *g*, and the inclined gates *i*, substantially as described.

2. In an ice-making machine, the combination of a stand-pipe provided with a winding evaporating-flange, drip-plates terminating at the lower end thereof, a still-chamber communicating with the pump I through an equalizer, inclined gates or plates arranged in the still-chamber, the chambered wall thereof, the still-tubes and diaphragms arranged therein, substantially as described.

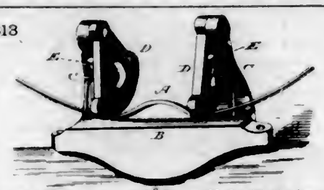
3. The still-chamber having inclined plates, inclined tubes, diaphragms arranged in the tubes, passages A, a perforated wall having passages leading from one tube, *g*, to another, a communication leading to the pump I, a stand-pipe also communicating with said pump and with a condenser, C, a pipe leading from the condenser to a liquid ammoniacal gas-receiver, K, and a draw-off pipe provided with cocks, substantially as described.

4. The combination of the still-chamber D, its inclined plates, chambered wall, inclined still-pipes, and perforated diaphragms therein, with the pipes leading into and out of this still-chamber, the condenser C, the receiver K, the cooling-coil F, the absorber B, the receiver H, and the pump I, all operating together for the purpose and in the manner specified.

5. The combination of the still-chamber D, the stand-pipe, the winding flange Y, the plates *a'* above this flange, and the water-jacket M, arranged above the inlet of the pipe O, substantially as described.

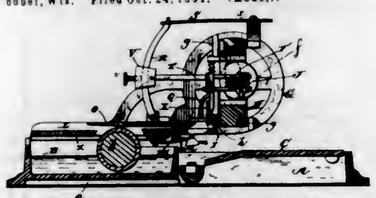
266,313. MACHINE FOR UPSETTING TIRES. SILAS H. RAYMOND, Grand Rapids, Mich., assignor to Charles H. Southwick, same place. Filed Jan 17, 1880.

266,313



Claim.—The eccentrics D D, provided with the lugs or rests E E, in combination with the posts C C and bed-piece B, so constructed and arranged that the movement of the eccentrics is at right angles with the bed-piece and tire, substantially as described.

266,314. LABELING-MACHINE. JAMES C. RICHARDSON, Boscobel, Wis. Filed Oct. 24, 1881. (Model.)



Claim.—1. The combination of the gumming box and roll, the plate O, frame X X', and spring W, with the plate L, having grooved fingers, and operating means, substantially as and for the purposes herein specified.

2. The combination of the plate O, having serrated fingers o', with the frame M, having serrated fingers m, the levers P, rods Q, and spring m', as and for the purposes set forth.

3. The plate O o' and frame M, having serrated fingers m, combined with levers P, rods Q, lever R, and spring-arm S, and with the spring m', as set forth.

4. In a labeling-machine, the combination of the lever R and adjusting-plate V, having set-screw e, with the frame T t, spring-arm S, having adjusting-slot s, and set-screw, by means of which the feed may be adjusted at will, as described.

5. The combination of the lever R, plate V, having set-screw e and spring-arm S s, with the frame T t, having the plates, as shown, the arm f upon the shaft F, the set-screw t^2, and the feed-frame, as and for the purposes set forth.

6. The table C and frame D, pivoted as shown, combined with means, substantially as described, for adjusting the sweep of the said table, substantially as specified.

7. The combination of the table C and frame D, substantially as described and shown, with the power-shaft F, arm E, and set-screw, as set forth, for the purposes specified.

8. The spring-plate S, having slot s, combined with the pivoted lever R and the feed-frame, whereby the proper conjunction of the slip with the knife is obtained whatever the stroke of the feed or width of label, as specified.

9. The frame X X' and springs W, combined with the plate L, having concave fingers l, and with the plate O o' and frame M m, whereby the paper slip is locked during the backward stroke of the feed-frame, as specified.

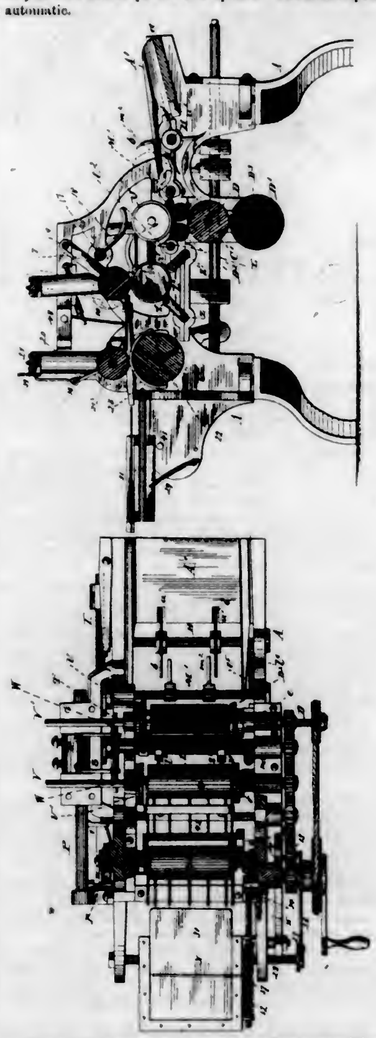
10. The plate L, having recess L', concave fingers l, slots l^2, and guides l', combined with the plate O o', box B, roll b, frame M m, and spring m', as and for the purposes specified.

11. The combination of the plate L L' l l' l^2, frame M m, plate O o', and gumming devices B b with the frame X X', spring W, platen H, and knife I, as and for the purposes specified.

12. The plate L, having slot l^2 and slots l^3, combined with the frame M m, plate O o', and pin o, whereby the said frame and plate are made to reciprocate together, as specified.

266,315. CAN-LABELING MACHINE. JAMES C. RICHARDSON, Boscobel, Wis. Filed Nov. 7, 1881. (No model.)

Brief.—The can is rolled down an inclined table at one end of the machine and the label is fed in at the other from a reciprocating table. As the can reaches the lower end of the table it rolls over radial arms on an intermittingly-rotating shaft, which arms transfer it to others on a rock-shaft, and the latter place the can over two gum-applying rolls supplied from a reservoir below. As the can is placed over the gumming-rolls a revolving clamping-head at each end comes against the can and holds it until the gum is applied, after which the clamps recede, and an arm on another rock-shaft throws the can onto friction-rollers at the ends of supporting-arms on two other rock-shafts. Other revolving clamping-heads here seize the can and rotate it while the label (which has been taken from the reciprocating table by feed-rolls and then fed into reach of another feed-roll) is pressed onto the already-gummed can by the last-mentioned roll, which is a swinging and spring-actuated feed-roll. When the label has been thus attached the clamping-heads recede, the supporting-arms open, and the completely-labeled can drops into a receptacle. The entire operation is automatic.



Claim.—1. In a can-labeling machine, the gum-applying rolls and a labeling-roll provided with means, substantially as described, for automatically throwing the can from the said gumming to the said labeling rolls, all combined and operated by a common power, as specified.

2. In a can-labeling machine, a clamping-head over the gumming-rolls, adapted to recede automatically to allow an automatically-acting arm to throw the article being labeled to the labeling-roll, combined with said arm, and arranged and adapted to serve as and for the purposes specified.

3. In a can-labeling machine, a revolving head connected to the main shaft by a train of gears, and a clamping-head combined with gum-feeding and gum-applying rolls, and with means, substantially as described, for receding said clamps to liberate the can, as specified.

4. In a can-labeling-machine, a clamping-head and gum-applying rolls, combined with gear-connections with the main shaft, means, substantially as described, for automatically carrying the gummed article to the labeling-roll, and means, substantially as described, for releasing the article from said labeling-roll, as specified.

5. In a can-labeling machine, the carrying and gumming devices, substantially as described, combined with holding and revolving means, as shown, means, substantially as described, for applying the label, and with means, substantially as described, for simultaneously releasing the cans from both gumming and labeling rolls, as specified.

6. In a can-labeling machine, an inclined feeding-table, a carrier, and means, substantially as described, for gumming, for clamping, and revolving the article while being gummed, for throwing the article to the labeling-roll, for applying the label, and for ejecting the labeled article, the whole combined and operating automatically, as and for the purposes set forth.

7. In a labeling-machine, a label-carrying reciprocating table and means, substantially as described, for holding the label thereon, combined with means, substantially as described, for feeding, gumming, and carrying the article and for applying the label, all working automatically, for the purpose specified.

8. The feed-roll 22, having roughened surface and segmental recess 22', and being provided with circumferential grooves 23, combined with frame 24 24', friction-roll 21^3, and reciprocating table, as specified.

9. In a can-labeling machine, the frame A, combined with the adjustable portion A^a, having slotted arms 60, and secured to said frame A at any desired position, and adjusting set-screws 61, to accommodate different-sized cans by set-screws 61, as set forth.

10. The disk G, rod I, and lever h', combined with the block M, having lug m, the shaft M', having arms m', and spring i^2, as and for the purposes set forth.

11. The reciprocating rod I, carrying blocks K M N, combined with the rock-shafts B M' L, provided with arms, as and for the purposes set forth.

12. The shaft D, having annular groove d^1 and screw-thread d^{11}, combined with the frame A, pivoted arm d^2, and roller C', whereby the said roller may be readily removed at will, as specified.

13. The cap or disk G, having lug o, combined with the rock-shaft P, arm p, clamping-heads U U', and springs W W, as set forth.

14. The disk G, having lug o, combined with the rock-shaft P, having arm p, clamping-heads U U', springs W W, heads e f, and shaft L, having arm l^2 l^3, as and for the purpose set forth.

15. The shafts Z Z', having the arms z^2 z^3, pivoted together, the arms Z^2, having friction-rolls z^4, the spring z^5, and operating means, all combined and adapted to operate as set forth.

16. The rock-shaft P, having arm 1, the link 3, arm 4, and frame 5, combined with the roller 10, and adapted to serve as set forth.

17. The rock-shaft P, arm 1, link 3, arm 4, and frame 5, having sockets 10^2, combined with roller 10, spring 10', bar 9, and slotted arms 7, as and for the purposes set forth.

18. In a can-labeling machine, the combination of the gear 12, having a cam, 12', with a lever, 14, having a pin, the arm 16, shaft 17, and arms 18, for holding the can to the gumming-rolls, and with said gumming-rolls, the whole operating automatically, as specified.

19. The rock-shaft 32, having arm 34, and spring-arms 36, combined with the incline 35, slotted arm 26, arm 27, shaft 28, and arm 29, and with the reciprocating table 31, as and for the purpose specified.

20. The spring-wire frame 38 and roller 21^3, combined with frame 21, springs 21^4, and lock-lever 39, for the purpose set forth.

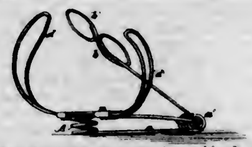
21. The combination of the clamp U U', springs W W, and revolving heads e f, with means, substantially as described, for automatically retreating said clamps U U' when it is desired to release the can, as set forth.

22. In a can-labeling machine, the oscillating shafts L M', each provided with a spring-pawl adapted to engage the lugs upon the adjustable blocks in one direction, and allowing said lugs to pass idly back in the other direction, as specified.

23. The clamp-heads U' and their operating mechanism, substantially as described, combined with the shafts Z Z', arms Z^2, and rollers z^4, as specified.

266,316. HAND-REST FOR PENMEN. JOSEPH KIDDE, Chicago, Ill. Filed Apr. 25, 1881. Renewed Mar. 2, 1882. (No model.)

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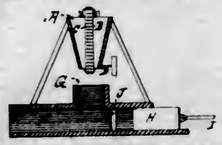


Claim.—1. The elastic wrist-support A, combined with a fastening for holding the same to the hand, and with the lateral arm a, substantially as described, and for the purposes set forth.

2. Combined with the wrist-support A and clasp d d', the rings b and b' and an elastic connection joining them to the clasp, substantially as described.

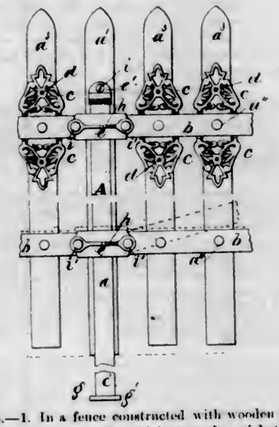
3. The combination of the elastic wrist-support A, clasp d d', lateral arm a a', and rings b and b', substantially as and for the purposes set forth.

266,317. CONVEYER FOR BALING-MACHINES. JNO. L. RITER, Brownsville, Ind. Filed Apr. 3, 1882. (No model.)



Claim.—The combination, with the straw-deliverer of a thrasher, the receiving-port of a baling-machine, and a propelling device adapted and arranged to move the straw from the thrasher toward the baling-machine, of a straw-conduit having convergent sides, substantially as and for the purpose set forth.

266,318. COMPOSITE FENCE. TIMOTHY ROGERS, Springfield, Ohio, assignor to the Rogers Fence Company, same place. Filed July 10, 1882. (No model.)



Claim.—1. In a fence constructed with wooden pickets and wrought-iron rails, a post in which a wooden picket is clamped between iron uprights formed of channel-rail, substantially as set forth.

2. In a fence having iron rails and wooden pickets, a post made of two uprights of wrought-iron channel-rail, with an interposed picket of wood between the uprights, the latter diverging from the ground-line downward and riveted to a cast base-plate at their lower ends, substantially as hereinbefore set forth.

3. In a fence-post composed of wood and iron, constructed as described, the cast base having a hollow arched middle part and straight parallel sides, the two channel-rail uprights and the interposed wooden picket, in combination with the caps for covering the ends of the uprights, having flanges extending therefrom, by which they are attached to said picket, substantially as set forth.

4. A fence in which a series of wooden pickets are secured between wrought-iron channel-rails by bolts extending through the rails and interposed picket.

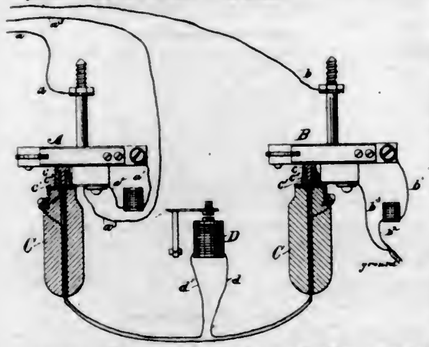
5. The combination, with a post made of two uprights of wrought-iron channel-rail and an interposed picket of wood, of

rails the ends of which overlap the front edges of the interposed picket and abut against the iron upright of the post upon either side thereof, and a plate connecting said rail ends, provided with rearwardly-extending flanges resting against the front of the picket thus interposed and upon each edge of the same.

6. In a fence having wrought-iron channel-rails and a post composed of wrought-iron uprights, with an interposed picket of wood, a series of ornaments having rectangular hooks bent backward over the edges of the intervening picket, downward in line with the same, thence forward into the cavity of the rail and engaging with the flange of the same.

266,319. CIRCUIT FOR ANNUNCIATORS OF TELEPHONE EXCHANGES.

CHARLES E. SCRIBNER, Chicago, Ill., assignor, by mesne assignments, to the Western Electric Company, same place. Filed Nov. 3, 1880. (No model.)



Claim.—The combination, in the circuit of two connected telephone-lines, of double-pointed plugs, one plug inserted in the spring jack-switch of each of the lines, respectively, and an annunciator-magnet included in the strand of the cord which connects the central points of the plugs, whereby the annunciator is included in the circuit, whether the plugs are used for connecting single lines or metallic circuits.

266,320. TELEPHONE SWITCH-BOARD AND PNEUMATIC SIGNAL THEREFOR.

CHARLES E. SCRIBNER, Chicago, Ill., assignor, by mesne assignments, to the Western Electric Company, same place. Filed Jan. 7, 1881. (Model.) Patented in England Nov. 29, 1879.

Brief.—A duplicate system of switch-boards is provided with pneumatic annunciators, the annunciators for the switches of each subscriber upon the several boards being connected by air-pipes, so as to act simultaneously. The valves of the pneumatic apparatus are operated by magnetic devices in local circuits, having circuit-closers located in proximity with the switches and in such relation thereto that the insertion of a plug into any switch of a subscriber's line for telephonic connection closes the local circuit for that line, whereby the annunciators of said line are displayed at all the switch-boards.

Claim.—1. In a telephone-exchange system, the combination of two or more switch-boards, with each of which the subscribers' lines are connected, and local circuits—one for each subscriber—which are automatically closed or broken as the telephone-lines are connected or disconnected, each of said circuits operating one or more indicators, whereby the attendants may readily ascertain what lines are in use, substantially as set forth.

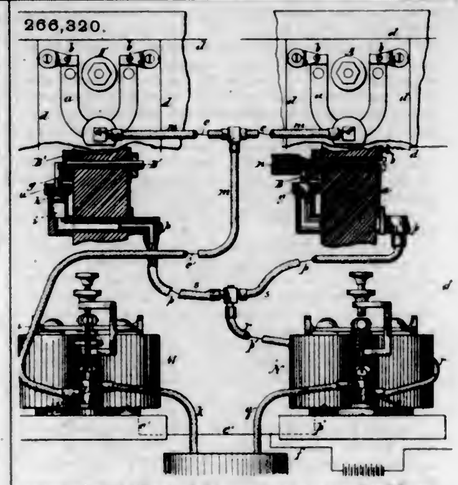
2. The combination of two or more switch-boards to which the telephone-lines are connected, and a local circuit for each telephone-line, and means, substantially as described, whereby an indication is automatically made when a connection is formed upon either of the boards, substantially as and for the purpose specified.

3. A local circuit which is closed through a magnet when a plug is inserted in a bolt or switch of a given series on the switch-boards, said magnet being combined with a valve in a pneumatic tube, said pneumatic tube being connected with one or more targets, substantially as and for the purpose specified.

4. A local circuit, in combination with one or more circuit-closers corresponding to the bolt or bolts of a subscriber, and an electro-magnet, and means whereby said electro-magnet actuates one or more targets when a plug is inserted in or withdrawn from a bolt.

5. The combination of the circuit, consisting of the wire *d*, extending from one pole of the battery and branching to one or more

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contact-points, *b*, of each of the circuit-closers upon the different boards, and extending from the other pole of the battery, as indicated by line *f*, and branching to magnets, as indicated by lines *c' p'*, each branch being divided, as indicated by *c c* and *p p*, and connected with circuit-closers of a single subscriber's bolts, and means whereby one or more visual signals are automatically obscured or disclosed when a plug is inserted in or withdrawn from a bolt.

6. The valve *l*, consisting of the piston provided with the upper and lower enlarged portions, so adjusted in the cylinder that the lower enlarged portion, when below opening *r*, leaves the pneumatic tube open, but when raised above said opening closes the tube against the air forced into opening *q*, in combination with an electro-magnet and one or more targets, which are disclosed or obscured when the piston is reciprocated, substantially as shown and described.

7. The combination of the circuits of wires *c'* and *p'*, each connecting with corresponding circuit-closers upon the different boards and passing through magnets M and N, respectively, to common return-wire *f*, with the battery, substantially as shown, for the purpose specified.

8. In a duplicate switch-board system, a bolt on each board for each subscriber's line, in combination with circuit-closers—one for each bolt—said circuit-closers being placed in local circuits, and an electro-magnet in each local circuit, and means whereby one or more visual signals are automatically disclosed when a connection is made with a bolt, substantially as and for the purpose specified.

9. The combination of independent keys or circuit-closers with the bolts or switches of a switch-board—one key or circuit-closer for each bolt or switch—and means whereby the keys or circuit-closers are opened or closed automatically as connections or disconnections are made with the switches.

10. In combination with duplicate or multiple switch-boards, the targets *g* upon each board, for indicating automatically at any other board or boards the connections and disconnections of each line at any of the duplicate switch-boards.

11. In combination with a series of subscribers' bolts, the several bolts of the series being on different boards, the electro-magnet M, said magnet controlling through suitable mechanical devices a visual signal, which, when standing in one position, indicates that the line of said series is in use, and when standing in its other position indicates that said line is not in use.

12. In combination with duplicate or multiple switch-boards, the electro-magnet M for each subscriber's line, said magnet controlling through suitable mechanical devices a visual signal, its circuit being closed through a battery by means of local connections when the telephone-line to which it belongs is connected at either of the duplicate boards.

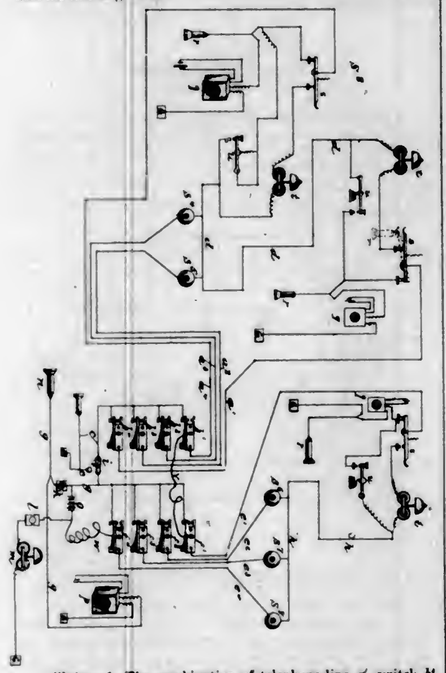
13. A single magnet for each subscriber's line whose circuit is closed through a battery by means of local connections when the telephone-line to which it belongs is connected at either of the duplicate boards, substantially as and for the purpose specified.

14. The combination of piston *k*, packing *u*, cylinder *i*, target *g*, and shield *t*, whereby the plug-holes of a bolt are obstructed, substantially as shown and described.

266,321. TELEPHONE-EXCHANGE SYSTEM.

CHARLES E. SCRIBNER, Chicago, Ill., assignor, by mesne assignments, to the Western Electric Company, same place. Filed Mar. 22, 1881. (No model.)

Brief.—The subscribers' lines are grouped and connected with listening-telephones in ground-lines, switches being provided whereby a greater or less number of groups may be connected with any given listening-telephone, according to the condition of business. All subscribers' lines of each group are connected at their outer terminals by a common wire, the normal return-circuit of each line being by way of the other lines of the group. The subscriber is provided with a switch, whereby he can sever his connection with the system of closed loops forming the group and connect his line to ground.



Claim.—1. The combination of telephone-line *a'*, switch *b'*, ground-line *c*, telephone *r*, switch *s*, signal-instrument *t*, and common line *d* with a return-circuit of such lines of the group as are at the time connected with line *d*, substantially as shown and described.

2. The circuit consisting of two subscribers' telephone-lines, connected through the central office, one line being grounded at its terminal station, the other line connecting from the telephone-switch of its subscribers' station to a line common to the group, and one or more lines of the group connecting said common line with the line of the listening operator.

3. The circuit of a telephone-line, beginning at the common line of the listening operator and passing through a switch to a subscriber's line, and thence to the telephone-switch of said subscriber's station, and thence normally through the call-bell to a line common to the group of telephone-lines, and thence by one or more lines of said group to the said common line of the listening operator, in combination with a calling-battery in said circuit, substantially as shown and described.

4. The combination of the group of subscribers' lines *c' c² c³*, &c., the wire *g*, common to the lines of the group, the line *h*, connecting the outer ends of the lines of the group, the battery *e*, and switches *f' f² f³*, &c., substantially as shown and described.

5. The groups of subscribers' lines *a' a²*, &c., and *c' c²*, &c., normally connected at the central office through listener's telephone *n* to earth, in combination with lines *d* and *h*, substantially as shown and described.

6. The telephone-switch *s*, in combination with the subscriber's line and the common line connecting the outer ends of the group.

7. Two or more groups of telephone-lines, each group in combination with an outer common line, and at the central office with a listening operator's telephone and one or more switches, whereby the groups may be united or separated as occasion may require, substantially as and for the purpose specified.

8. The key *u*, combined with the circuit connecting subscriber's telephone with common line *d*, whereby the subscriber may close a circuit over the lines of the group connected with line *d* to the ground-wire of the listening operator.

9. The combination of the group of telephone-lines *c' c² c³*, &c., the wire *g*, common to the lines of the group, common line *h*, connecting the outer ends of the lines of the group, and the switches *k l*, or their equivalent, substantially as and for the purpose specified.

10. The combination of the switches *s* and *u*, under the control of the subscriber, with circuits, substantially as shown, whereby the subscriber may converse with the central office over his individual line, or by a circuit over one or more lines of the group to which his line belongs.

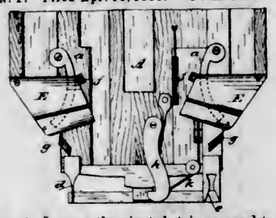
11. The switches *s* and *u*, signal-instrument *t*, and telephone *r* at subscriber's station, in combination with individual line *a'* and common line *d*, substantially as and for the purpose specified.

12. The combination of key *u* with common wire *d* and subscriber's line *a'*.

13. The combination of a group of telephone-lines with a common line connecting their outer ends, and polarized bells, one at each subscriber's station, responding to currents in but one direction.

266,322. RAILWAY-CAR.

CHARLES S. SMITH, Bath-on-the-Hudson, N. Y. Filed Apr. 13, 1882. (No model.)



Claim.—1. In cars, the pivoted stairs secured to the bottom of cars and revolving on a curved guide-rail, so as to be moved outward or inward, as shown, and for the purpose set forth.

2. The combination of the pivoted stairs, revolving on a curved guide-rail, with a pivoted hand-rail, arranged substantially as described.

3. The combination of the pivoted stairs E, the curved guide-rail *a*, pivoted hand-rail *c*, and lever *l*, all arranged substantially as and for the purpose herein specified.

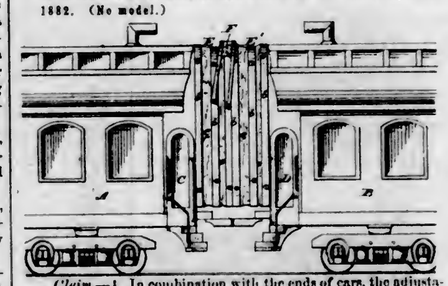
4. The combination of the pivoted stairs E, having recess *b* to fit over the curved guide-rail *a*, and the stops *f* and *g*, as shown, and for the purpose set forth.

5. In cars, the combination of the pivoted stairs E, having recess *b*, the curved guide-rail *a*, and stops *f* and *g*, with the inclined or angled doors B C, arranged substantially as shown and specified.

6. In cars, the doors B C, arranged at an angle of about forty-five degrees, in the corners of the cars, in combination with the revolving stairs E, substantially as set forth.

266,323. ADJUSTABLE HOOD FOR CAR-PLATFORMS.

CHARLES S. SMITH, Bath-on-the-Hudson, N. Y. Filed Apr. 13, 1882. (No model.)



Claim.—1. In combination with the ends of cars, the adjustable hoods E E', made of flexible material, supported on a suitable

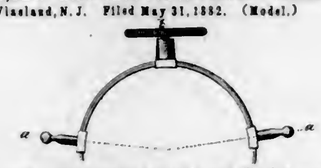
frame-work, and provided with doors in their ends, substantially as shown and set forth.

2. In combination with the ends of cars, the adjustable hoods E E', made of flexible material, supported on a suitable frame-work, and provided with an auxiliary hood, F, pivoted to one of the main hoods, substantially as shown and described.

3. In combination with the ends of cars, the adjustable hoods E E', made of flexible material, secured to a suitable frame-work, and provided with end doors, *g g*, and auxiliary hood F, all arranged substantially as specified.

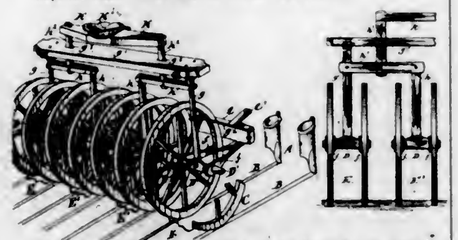
4. In combination with the ends of cars having doors C D, the adjustable hoods E E', made of flexible material, secured to a suitable frame-work, *b*, and provided with doors *g g* in their ends, and an auxiliary hood, F, all arranged substantially as shown and specified.

266,324. RING-GAGE FOR JEWELERS. CHARLES F. SMITH, Vineland, N. J. Filed May 31, 1882. (Model.)



Claim.—The combination of the metallic ring or coil, marked as herein described, with the clasps and handles *a a'*, and set-screw *b*, all substantially as set forth.

266,325. GRAIN-DRILL ATTACHMENT. PERRY H. SMITH, Topeka, Kans. Filed Feb. 18, 1882. (No model.)

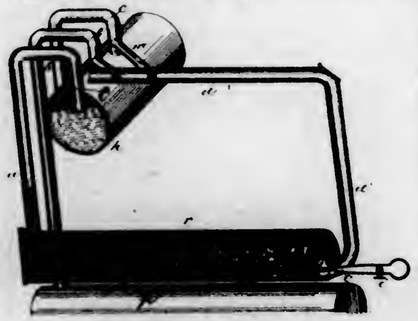


Claim.—1. The combination, with the frame for carrying the rollers, of an axle provided at its opposite ends with spindles and pivoted at its middle to the framing, and the two rollers placed on the spindles of the oscillating axle, and arranged in rear of and so that they will travel in the furrows formed by the shovels on the seeder-frame, substantially as set forth.

2. In a roller attachment for grain-drills, the combination, with a frame, of a series of rollers arranged in pairs, each pair being coupled to an adjacent pair, and having an independent vertical movement or adjustment, substantially as set forth.

3. The combination of the pair of rollers E, the standard *g*, cross-beam *g'*, having slots *g²*, of the pair of rollers E', support *h*, equalizer *h'*, support *h²*, and seat-bar K, substantially as set forth.

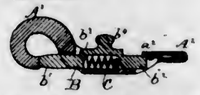
266,326. PROCESS OF AND APPARATUS FOR MAKING COAL-GAS. ANTON STAMM, Leadville, Colo., assignor of one-sixteenth to Charles W. Buck and Robert H. Buck, both of same place. Filed Nov. 7, 1881. (No model.)



Claim.—1. The improvement in the process of manufacturing gas which consists in converting the tarry vapors given off from a fresh charge of bituminous coal during the early part of the distillation into a fixed gas by injecting such vapors by a jet of coal-gas under pressure into and through a mass of incandescent coke in a separate retort, as hereinbefore described.

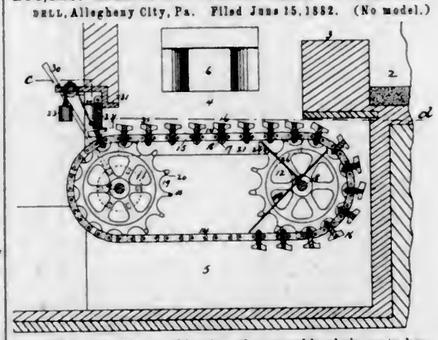
2. In a plant for manufacturing coal-gas, the combination, with the distilling-retorts *p*, &c., the stand-pipes *a a*, &c., the dip-pipes *c c c c*, and the hydraulic main *b*, of the connecting-pipes *m m m m* and *d*, provided with valves, the injector *j*, and the retort *r*, all substantially as described, and for the purpose specified.

266,327. SNAP-HOOK. MILES SWEET, Troy, N. Y., assignor to Sweet & Clark Manufacturing Company, same place. Filed July 27, 1882. (No model.)



Claim.—The combination of the body A, having its rear end perforated, and a transverse shoulder, *a'*, within its trough-cavity, with the bolt B, having both ends cylindrical and retained in bearings formed in the body A, and the central portion of its upper side cut away, and the spring C, located within the cut-away portion and in line with the axis of both ends of the bolt, substantially as shown and described.

266,328. SHAKING AND DUMPING GRATE. WILLIAM SWINDELL, Allegheny City, Pa. Filed June 15, 1882. (No model.)



Claim.—1. The combination of a movable chain-grate having a grated surface of greater area than that of the fire-chamber in which it is placed, in combination with said fire-chamber having a door or opening in front of the grate and a fore-plate or dam above said door, substantially as and for the purposes described.

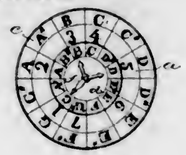
2. The combination of a chain-grate turning on wheels with a shield or deflector extending over the axle of the rear wheels, to prevent the ashes, &c., from falling in the rear of the ash-pit back of the fire-chamber, substantially as and for the purposes described.

3. A movable chain-grate having bars, one edge of which is higher than the adjacent edge of the preceding bar, substantially as and for the purposes described.

4. A fire-chamber having a movable grate, in combination with a chain-grate attached thereto, so that when the former is drawn out the latter will take its place and sustain the fire in the chamber, substantially as and for the purposes described.

5. In a reciprocating chain-grate, the combination of the continuous chain-carriers and a series of detachable transverse bars, said series of bars being less in extent than the continuous carriers, substantially as and for the purpose specified.

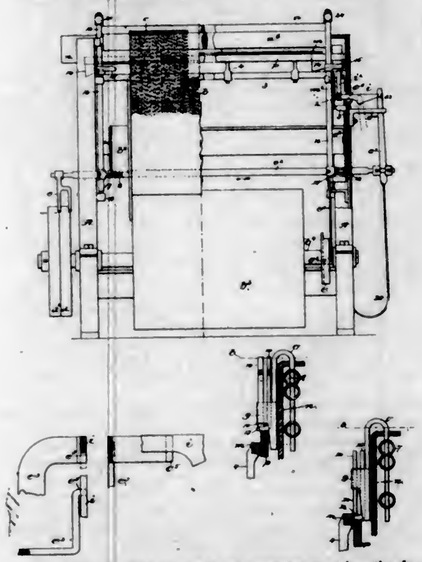
266,329. MUSICAL-SCALE INDICATOR. CHARLES F. VETTER, Boston, Mass., assignor to Charles O. Hunter, same place. Filed Jan. 21, 1882. (No model.)



Claim.—1. The combination, substantially as shown and described, of the two dissimilar fixed scales or indicating portions *c d* and the intermediate movable indicating-ring, *a*, the whole constituting a music-scale indicator.

2. A ring having an annular groove and series of letters or note-signs, representing all the notes of the chromatic scale at either side thereof, one series representing the half-tones as sharps and the other series representing them as flats, combined with an indicating-ring mounted to rotate in the said groove, and provided with the numbers 1 to 7, spaced in accordance with the notes of the musical scale, substantially as and for the purpose described.

266,330. WARPING AND BEAMING MACHINE. JAMES WALMSLEY, Hopedale, Mass., assignor to the Hopedale Machine Company, same place. Filed Jan. 26, 1882. (No model.) Patented in England Nov. 20, 1873, No. 3,779.



Claim.—1. In a warping and beaming machine, the drop-wire carriers *e* and their guides, combined with drop-wires fitted to slide vertically with relation to the said carriers, substantially as described.

2. The box *n*, the drop-wire carrier *e*, provided with guides for the drop-wires, and the expanding springs to receive parts of and adjust the said carriers, and the drop-wires fitted to slide vertically with relation to the said carriers, combined with the vibrator and means to operate it to engage a drop-wire when the latter is permitted to fall by reason of a broken yarn, substantially as described.

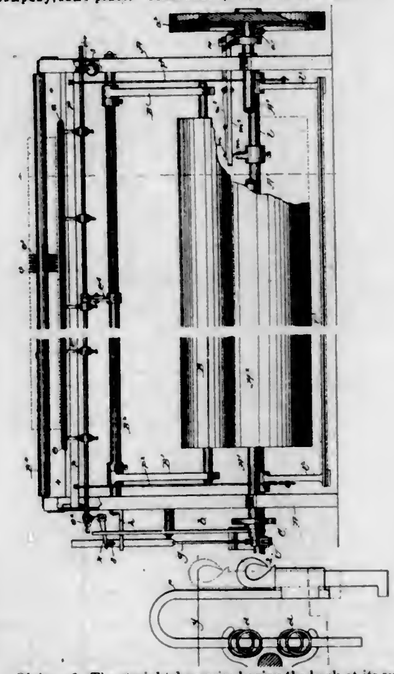
3. The box *n*, drop-wire carriers, movable drop-wires mounted to move vertically with relation to the said carriers, a vibrator, a catch or arm pivoted thereon, a spring to move the vibrator in one direction, and a lever or bar having a projection, e^3, means to move the said lever and also to move the vibrator in the opposite direction, combined with shipper-lever and its holding-plate c', from which the shipper is released when the movement of the vibrator is arrested by a drop-wire interposed between it and the box *n*, substantially as described.

4. The lever e^2, having the projection e^3 and means to operate it, and the vibrator and its pivoted catch or arm *i*, combined with the shipper-lever and its pin or projection to lift the said catch or arm and permit it to be placed on the projection of the said lever e^2, substantially as and for the purposes described.

5. The drop-wire carriers and loosely-connected drop-wires and means to hold the carriers and the drop-wire lifter, combined with means to elevate the said lifter and simultaneously lift all the drop-wires which have descended below the path of movement of the vibrator, substantially as described.

6. The combination, in a warping and beaming machine, of the following instrumentalities, viz: a series of drop-wire carriers and means to hold them, a series of drop-wires loosely connected therewith and adapted to hang on the yarn, a shipper-lever, a vibrator the movement of which is arrested by the descent of a drop-wire into its path, a catch or arm moved with the said vibrator, a spring to move the vibrator in one direction, a shipper-actuating lever to move the vibrator in the opposite direction, suitable means to move the shipper-actuating lever, a shipper-lever, a holding-plate for it, a lifting-bar to act upon and lift the drop-wires, and suitable connecting means between the shipper-lever and the lifting-bar to elevate it automatically as the shipper-lever is released from its holding-plate, substantially as and for the purposes described.

266,331. WARPING AND BEAMING MACHINE. JAMES WALMSLEY, Hopedale, Mass., assignor to the Hopedale Machine Company, same place. Filed Jan. 7, 1882. (No model.)



Claim.—1. The straight drop-wire having the hook at its end extended in the direction of the width of the body of the drop-wire below the drop-wire carrier, combined with the drop-wire carrier, with which the drop-wire is loosely connected, whereby the hook of the drop-wire and the carrier are enabled to occupy substantially the same extent of space in the direction of the thickness of the carrier, substantially as set forth.

2. The box 4 and its drop-wire carriers and connected drop-wires, and the shaft *l* and its arms l^2 and means to move them, combined with the lifting-bar for the drop-wires, and rod p^3, to elevate the lifting-bar vertically and lift the drop-wires, all substantially as described.

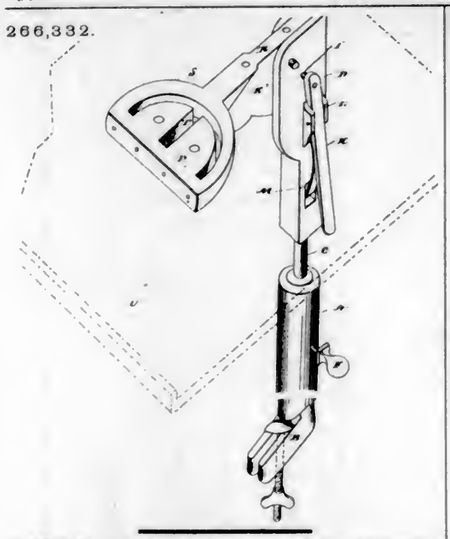
3. The fast and loose parts of the friction or clutch pulley and the lever m^3 and its spring m^4, combined with the pin to press against the said spring and move the said lever, the shaft *l*, and means to operate said shaft, substantially as described.

266,332. READING AND WRITING TABLE. CHRISTIAN WALTER and WEBSTER M. DYAS, Sandwich, Ill. Filed Dec. 19, 1881. (No model.)

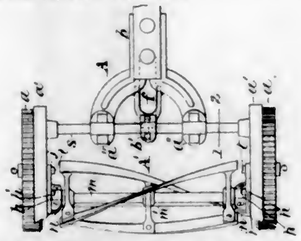
Claim.—1. The combination of the vertical standard and devices for securing it to a suitable support, the vertically-adjustable rod and slotted head, the pivoted segment and adjusting device, and the slotted plate and devices for attaching the table-top adjustably thereto, substantially as specified.

2. In combination with the table-top and its set-screw, the plate having a semi-annular and a straight slot, to which said table-top is adjustably secured, substantially as specified.

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266,333. LAWN-MOWER. ANTHONY WALSH, Springfield, Ohio, assignor of one-half to Theodore Huhl, same place. Filed June 12, 1882. (No model.)



Claim.—1. In a lawn-mower, the combination, with the main frame-plates, of wing-plates *n*, attached to said frame-plates by means of bolts passing through the curved slots therein, and having journals for the reel-shaft, and arms extending to a central stud upon the plates, which studs form the center of adjustment for the knife-reel, and of a knife-reel journaled in wing-plates *n*, for the purpose set forth.

2. In a lawn-mower, the combination, with the main frame-plates, of wing-plates *n*, attached to said frame-plates by means of bolts passing through curved slots therein, and having journals for the reel-shaft, and arms extending to a central stud upon the plates, which studs form the center of adjustment of the knife-reel, of a knife-reel shaft journaled in wing-plates *n*, and of a stationary knife below the knife-reel and adapted to be adjusted to and from the latter, for the purpose set forth.

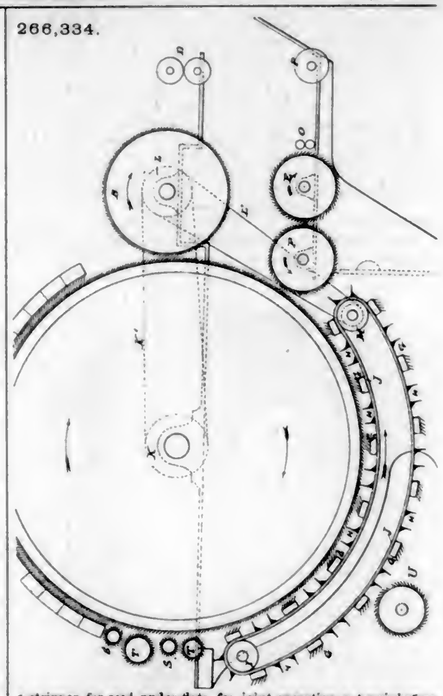
3. In a lawn-mower, the combination, with the main frame-plates, connected together as shown, and each having a spindle, *o*, and a flange, *o'*, extending about two-thirds of its periphery, and overlapping and serving as a scraper for the traction-wheel, of said traction-wheel, having a tubular sleeve, which fits over the spindle *o*, for the purpose set forth.

266,334. CARDING-MACHINE. WILLIAM E. WHITEHEAD, Miles Platting, England, assignor to the Whitehead & Atherton Machine Company, Lowell, Mass. Filed May 7, 1881. (No model.)

Brief.—The main cylinder is cleaned by means of traveling flats and buckets carried upon an endless apron located below the axis of said cylinder, which operate in connection with the ordinary top-flats. Said flats and buckets are cleaned by means of a stripper.

Claim.—1. The combination of the carding-cylinder, the top-flats, under-flats mounted on or forming part of a power-driven traveling endless apron placed below the axis of said cylinder, and

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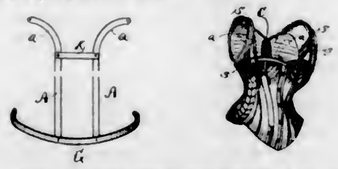
a stripper for said under-flats, for joint operation as hereinbefore shown and described.

2. The combination, with the carding-cylinder and top-flats, of traveling buckets and flats combined, placed below the axis of said cylinder, substantially as hereinbefore set forth.

3. The combination, substantially as hereinbefore set forth, of the carding-cylinder, top-flats, rollers and clearers combined, arranged above the axis of said cylinder, and flats and buckets combined, arranged below the axis of said cylinder.

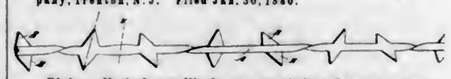
4. The combination of the lickers-in, the carding-cylinder, the traveling buckets and flats, the rollers and clearers, the top-flats, and the doffer, under the arrangement and for operation substantially as hereinbefore set forth.

266,335. CORSET. AMORETTA WOODARD, Indianapolis, Ind. Filed Apr. 28, 1881. (Model.)



Claim.—The combination, with a corset, of the herein-described brace, consisting of parallel upright strips or plates A A, having the top ends, *a a*, curved outwardly, and connected by cross-plate K and curved hip-brace G, secured to the lower ends of strips A A, arranged as shown, substantially as and for the purpose specified.

266,336. METALLIC BARBED FENCING. THOMAS V. ALLIS, New York, N. Y., assignor to the T. V. Allis Manufacturing Company, Trenton, N. J. Filed Jan. 30, 1880.



Claim.—Barbed metallic fencing consisting of a core or body portion and points or barbs cut from a thin fin or web of the core

or body, the core or body being so united to the fin or web that upon one side they form a uniform and flat or nearly flat plane the whole breadth of the strip, while on the other side the core or body rises abruptly from the fin or web as much as the said core or body is thicker than the fin or web, and the notches cut in the fin or web to form the points extend to and terminate at the side of the core or body, said notches being equal in depth and the points equal in length to the width of the fin or web, substantially as specified.

266,337. ELECTRIC-ARC LAMP. JOSEPH D. F. ANDREWS, Charlton, County of Kent, England. Filed Aug. 26, 1881. (No model.) Patented in England June 11, 1878, No. 2,321, and in France Dec. 10, 1879, No. 134,073.



Claim.—1. In an electric lamp, broad plate electrodes placed parallel face to face, substantially as set forth.

2. In an electric lamp, the plate-electrodes placed parallel face to face, one being shorter than the other, substantially as and for the purpose set forth.

3. The plate-electrodes consisting of layers of carbon differing in purity, substantially as set forth.

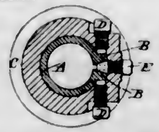
4. The electric lighter, substantially as herein described, which consists in the combination of the helix, its split core, the pivoted lever, and the carbon attached thereto.

5. The combination, substantially as herein described, of the helix, its split core, the pivoted lever, the carbon attached thereto, the iron strip or armature, and electrodes of an electric lamp.

6. The combination, substantially as herein described, of the helix, its split core, the pivoted lever, the carbon attached thereto, and electrodes of an electric lamp.

7. The combination of the plate-electrodes placed parallel face to face, the carbon-lighter g_1, which establishes the arc at the sides of the plate-electrodes below their upper edges, and the electro-magnet and the mechanism for operating the lighter, substantially as set forth.

266,338. FASTENING FOR TAPPETS OF STAMP-STEMS, &c. PETER H. BARRY, San Francisco, Cal., assignor of one-half to George W. Waitt and Joseph S. Bacon, same place. Filed Nov. 25, 1881. (No model.)



Claim.—1. The tappet C, having a circumferential groove or recess around its bore and a chamber on one side, and an open band or ring, A, secured in the circumferential recess and provided with lugs B B, extending into the chamber, said tappet being also provided with screw-threaded openings, in combination with shaft or stem F and set-screws D D, arranged to press the lugs toward each other to close the band upon said stem, substantially as specified.

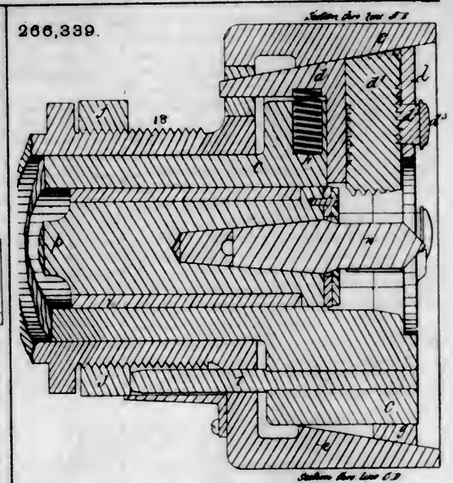
2. A metallic ring or band, A, split or open on one side, and provided with lugs B B and a recessed tappet, C, in combination with shaft or stem F and set-screws D D and E, substantially as described

266,339. SCREW-CUTTING MACHINE. JOSEPH BARROW, Headingley, near Leeds, County of York, England. Filed Aug. 22, 1882. (No model.) Patented in England Oct. 28, 1872, No. 3,198.

Claim.—1. In a machine for screw cutting and turning in which the cutting tools or dies revolve and the metal to be operated upon moves in the direction of its axis, but does not rotate, the combination, for holding the material to be operated on, of a center carried by the traveling part or saddle, that carries the vise or gripping apparatus for holding the work, with a second center moving axially within a hollow mandrel, the two connecting-rods, one on each side, the rigid frame or cross-bar, the die-holders, and their dies, arranged for the purposes and substantially in the manner set forth.

2. In a machine for screw cutting and turning, the means for adjusting the position of the die-holders simultaneously, consisting of a conical sleeve or tube with inclined surfaces, arranged

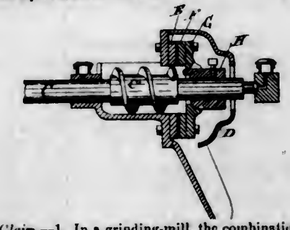
266,339.



concentrically, in combination with the two centers carrying the metal to be operated upon, and the two connecting-rods—one on each side of the machine—substantially as described.

3. In a machine for screw cutting and turning, the combination of the head or chuck *c*, the die *d'*, having serrations, the block d^3, and the set-screw d^2, whereby the dies may be set up for recutting, substantially as described.

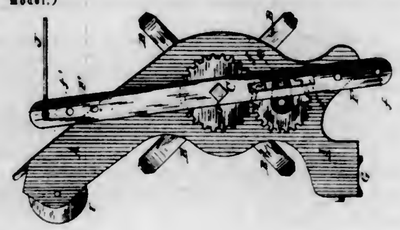
266,340. GRINDING-MILL. THOMAS W. BEAL, Sandwich, Ill., assignor to the Sandwich Enterprise Company, same place. Filed Apr. 24, 1882. (No model.)



Claim.—1. In a grinding-mill, the combination of a stationary grinding-plate, a shaft, a running grinding-plate mounted upon the shaft with a ball-and-socket joint, substantially as described, and a spring exerting its tension against the shaft and operating to press the grinding-plates together, substantially as and for the purpose set forth.

2. In a grinding-mill, the combination of a stationary grinding-plate, a shaft, a running grinding-plate mounted upon the shaft with a ball-and-socket joint, and a hinged arm under spring-tension abutting against the outer end of the shaft and operating to press the grinding-plates together, substantially as described.

266,341. CHECK-ROW ATTACHMENT FOR CORN-PLANTERS. LORENZO D. BENNER and JOSEPH STAFFORD, Galesburg, Ill., assignors to George C. Alden and Alonzo C. Clay, both of same place. Filed Aug. 3, 1881. Renewed June 10, 1882. (No model.)



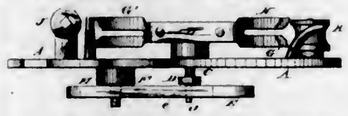
Claim.—1. The combination, with the radially-forked levers B, which are acted upon by a knotted cord or wire, spur-pinion D, and crank-pinion E, of slotted bar F, pivoted at its central part and adapted to be oscillated by the crank-pinion for operating the seed-slides of a planter, substantially as specified.

2. The combination, with the radially-forked levers B, which are acted upon by a knotted cord or wire, spur-pinion D, and crank-pinion E, of slotted bar F, centrally journaled or pivoted on the shaft of the pinion C, and adapted to be oscillated by the crank-pinion for operating the seed-slides of a planter, substantially as specified.

3. The combination, with the radially-forked levers B, which are acted upon by a knotted cord or wire, spur-pinion D, and a slotted bar, F, pivoted at its central part, of a pinion, E, provided with a crank-pin, *c*, arranged relatively to said bar F, as shown and described, whereby at the termination of each throw of the seed-slides it will be on its dead-point with relation to the bar F, substantially as and for the purpose specified.

266,342. CHECK-ROW ATTACHMENT TO CORN-PLANTERS.

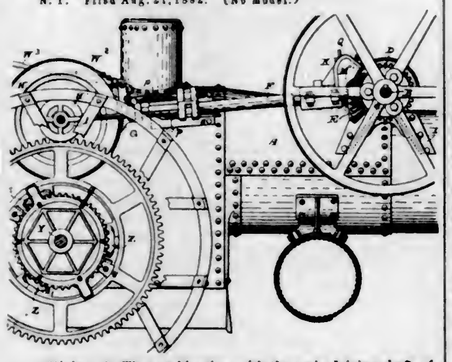
LORENZO D. BENNER, Galesburg, Ill., assignor to George C. Aldea and Alonzo C. Clay, both of same place. Filed Aug. 3, 1881. Renewed July 10, 1882. (No model.)



Claim.—1. In combination with a bar, B, having forked arms G H and auxiliary forked arms G' H', a cord or wire having knots i and auxiliary knots i', adapted to operate one of the main arms and one of the auxiliary arms to give a half-rotation to the bar B, and thereby a motion to the corn-planter seed-slides, substantially as and for the purpose specified.

2. In combination with the crank D and oscillating bar E and with the bar B, having forked arms G G' on one end and similar arms, H H', on its other end, the check-row chain having knots i and auxiliary knots i', substantially as and for the purpose specified.

266,343. TRACTION-ENGINE. EDGAR M. BIRDSALL, Auburn, N. Y. Filed Aug. 21, 1882. (No model.)



Claim.—1. The combination, with the main driving-shaft, of the beveled pinion D, the beveled pinion E, the shaft F, the pinion G, the bevel-wheel H, spur-pinion H', and fixed shaft I and its adjusting mechanism, whereby all the said parts may be disconnected and separated from the gear-wheel, substantially as set forth.

2. The combination of the shaft F and its pivotal supports upon the main driving-shaft, and the shaft I, forming the bearings of the shaft F, and the housings of the bevel-pinions E and G, substantially as set forth.

3. The combination of the lock-fork Q, the shaft F, the pinion E, and the curved projection and recess R and R', substantially as set forth.

4. The combination, with the shafts F and I, of the pieces S and S', constructed and arranged substantially as set forth.

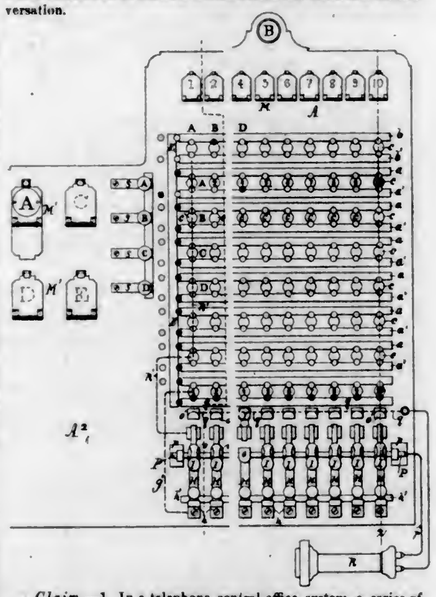
5. The combination of the rear axle, Y, the fixed shaft I, the springs *l m*, the brackets *i k* and *g h*, and the posts 1, 2, 3, and 4, substantially as set forth.

6. The combination, with the axle Y and shaft I, of the posts 3 and 4, and the stay-rods *p*, substantially as set forth.

7. The combination of the pendent guide slotted casting U with the guide V, bracket W, and post 4, substantially as set forth.

266,344. SYSTEM AND APPARATUS FOR TELEPHONE CENTRAL OFFICES. HENRY W. BUCKINGHAM and JOHN W. DUXBURY, Providence, R. I. Filed Oct. 17, 1881. (No model.)

Brief.—The invention relates principally to the means of intercommunication between the operators at different switch-boards of a telephone-exchange and to the circuits and connections through which subscribers at different switch-boards are connected for conversation.



Claim.—1. In a telephone central-office system, a series of switch-boards provided with line-switches, each of which is composed of two metal plug-bars and an intermediate series of metal plug-disks or plates arranged for plug-connection with said bars, the bars of the switches on one board being electrically connected respectively with bars on the opposite sides of the disks of switches on other boards, substantially as described.

2. A series of telephone switch-boards provided with switches composed of two metal plug-bars and a series of intermediate metal disks adapted for plug-connection therewith and connected electrically in rows transverse to the bars, one of which bars is provided with a ground-connection, each board having a metal plug-bar, E, arranged transversely to the ends of its switch-bars and adapted for connection with the ground, and any desired number of the switch-bars of each board, exclusive of the switch-bar connected with the ground, being in permanent electrical connection with switch-bars of one or more other boards, substantially as described.

3. In a telephone central office, a series of switch-boards, each provided with switches composed of metal plug-bars *a* and *a'* and intermediate metal plug-disks, *c*, the metal bar E, arranged for plug-connection with the ends of all said switch-bars, the line and local annunciators for indicating connections to be made, keys, and electrical connections, substantially as described.

4. In a telephone central-office system, the combination, with a series of line switch-boards, each provided with terminal points, arranged in pairs, and means for connecting one terminal point of one board with an opposite terminal point on another board, as described.

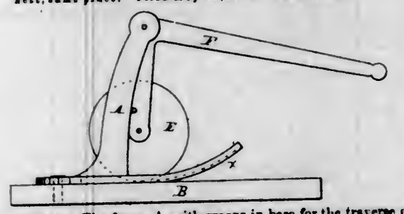
5. In a telephone central-office system, the combination, with a series of line switch boards provided with terminal points, arranged in pairs, and connecting-lines, of means for connecting the points with the ground, so that after the calling subscriber is connected with the board of the called subscriber the calling subscriber can still signal to the operator of the board with which he is connected, as described.

6. In a telephone central-office apparatus, a series of switch-boards, each provided with line-switches, transfer or board-connecting conductors connecting the switches of each board with those of other boards, and local telephone-circuits connecting the boards independently of the said transfer or board-connecting conductors, substantially as described.

7. In a telephone central-office apparatus, a series of switch-boards, each provided with line-switches, in combination with a series of transfer-lines connecting each switch of each board permanently with a corresponding switch of another board, local telephone-lines connecting all the boards—one line for each board—and independent local annunciators and annunciator-circuits connecting each board with every other board in the system, substantially as described, and for the purpose set forth.

8. In a telephone central-office system, the combination, with the series of switch-boards, each provided with line-switches and line-annunciators, of the local telephone-circuits—one for each board—a local annunciator connected in the local telephone-circuit at each board, the local telephone-circuit plug-switch at each board, the local telephone-switch I at each board, constructed substantially as described, the wire *n'*, connecting said switch with the lower bar of the local telephone-circuit switch, the key H of said switch, the upper stop, *h*, of the said key, the wire *g'*, connecting said stop with ground-connections, and the lower stop of said key, connected with an electric generator, the local annunciator being connected with one of the disks of the local telephone-circuit switch at each board, and said disks being adapted for connection with adjacent bars by means of metal plugs, substantially as set forth.

266,345. TOBACCO-CUTTER. ROBERT A. BURNETT, Washington Court-House, Ohio, assignor of one-half to James A. Burnett, same place. Filed May 22, 1882. (No model.)



Claim.—The frame A, with groove in base for the traverse of the circular cutter E, the outer face of said base having a corresponding curve to that of the travel of the cutter's edge, these parts in combination with the curved handle F, substantially as shown and set forth.

266,346. ABRADING-DISK. EDWARD E. CALL, Peoria, Ill. Filed May 17, 1882. (No model.)

Claim.—1. The herein-described process of forming abrading-disks for dental purposes, consisting of producing a corrugated surface upon a vulcanized disk of rubber and some hard powder and cementing said surface to the roughened surface of a metal disk, substantially as set forth.

2. The herein-described process of forming abrading-disks, consisting of producing a corrugated surface upon a vulcanized disk of rubber and corundum, oxidizing the surface of a steel disk, and cementing the two roughened surfaces together.

3. As an article of manufacture, a grinding-plate consisting of a thin layer of hard rubber mixed with some abrading-powder, cemented to the oxidized surface of a steel plate, substantially as and for the purpose specified.

4. A grinding-disk consisting of a thin disk of hard rubber mixed with corundum and cemented to the oxidized surface of a steel disk.

5. An abrading-disk consisting of a thin disk of some easily-fusible substance mixed with a gritty powder and cemented to the oxidized surface of a steel disk.

266,347. PAD FOR HORSES' HOOFS. WILLIAM E. CASSIDY, Rochester, Minn. Filed Mar. 11, 1882. (No model.)

Claim.—1. The metallic box A, recessed at *g* and provided with clutch-bolts, whereby it may be secured to the shoed foot of the animal, substantially as specified.

2. The metallic hoof pack or box having the rim bent inward at the heel on each side, the lateral inwardly and upwardly projecting abutments *e*, and the clutch-bolts *k*, having outwardly-turned end catches, *k*, substantially as specified.

266,347.



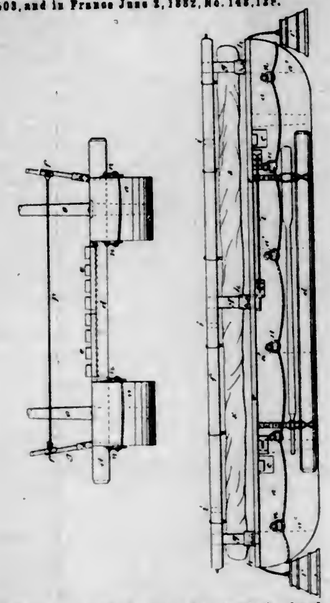
266,348. SPRING-TOOTH HARROW. HIRAM COBB, Kalamazoo, Mich. Filed June 28, 1881. (No model.)

Brief.—The tooth-seat is formed with an extension having a funnel-shaped orifice, and the tooth with an upwardly and rearwardly curved and slotted shank. A binding plate and bolts secure the tooth to the seat, and a bolt passing through said orifice and slot assists in binding the tooth rigidly to the seat. The binding-bolts may be loosened to allow the tooth to rock or play slightly in its bearings.



Claim.—The combination, with a tooth-beam provided with a concave seat having the rearward and upward extension formed with the funnel-shaped orifice, and a binding-bar, of a spring harrow-tooth having the curved shank provided with the rearward and upward extension having the elongated slot, and the locking-bolt, all substantially as described and shown.

266,349. LIFE-RAFT. EDWARD S. COPEMAN, Downham Market, England. Filed May 8, 1882. (No model.) Patented in England Jan. 6, 1882, No. 70; in Belgium Apr. 15, 1882, No. 57,503, and in France June 2, 1882, No. 148,128.



Claim.—1. A seat having a buoyant body closed in on all sides in the form of a decked barge, and provided with cross-recesses *c c* to receive spars *d d*, for connecting two seats together to form a raft, substantially as set forth.

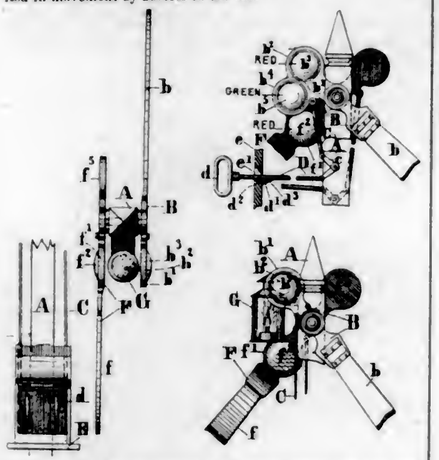
2. A seat having a buoyant body closed in on all sides in the form of a decked barge, divided into compartments, and provided with recesses *c*, mast-sockets *b*, and tubes *q*—one in each compart-

ment—extending down to near the bottom, substantially as set forth.

3. A seat having an air-tight or buoyant body constructed in the form of a decked barge, and provided with mast-sockets *b*, recesses *c*, hinged straps *m*, hooks *l*, and masts *o*, in combination with the spars *d* and slotted frames *e*, all arranged substantially as and for the purposes set forth.

266,350. SEMAPHORE-SIGNAL. HENRY F. COX, Altoona, Pa. Filed Aug. 8, 1881. (No model.)

Brief.—Two opposite semaphores mounted on the same pivot in the center of the post, one having a lens in its short arm, the other the lens in its long arm, so that either may intercept the rays of a lantern set on one side of the post. The semaphores normally fly to "danger" and are operated positively to "safety" and limited in movement by devices in the cab.

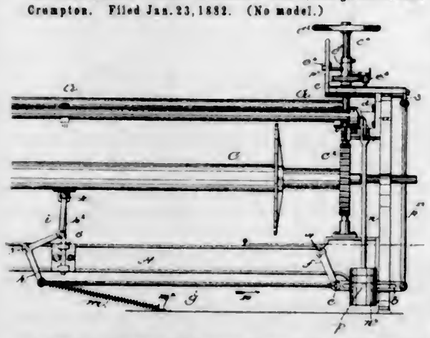


Claim.—1. In combination with a single supporting-post and a single lamp located upon one side of the post, two semaphores, B and F, united to the center of the post by a single pivot, one of which semaphores has a lens in its short arm and the other a lens in its long arm, the construction being such that the rays of light from the single lamp may be transmitted directly through the lens of either semaphore, as described.

2. In combination with a semaphore, substantially as described, the handle D, with the stop *d'*, the latter being adapted to limit the movement of the handle at the proper point, as and for the purpose set forth.

3. In combination with a semaphore, substantially as described, the handle D, with stop *d'*, and back-board *e*, with slot *e'*, the construction being such that the stop may be drawn through the back-board when desired, as and for the purpose set forth.

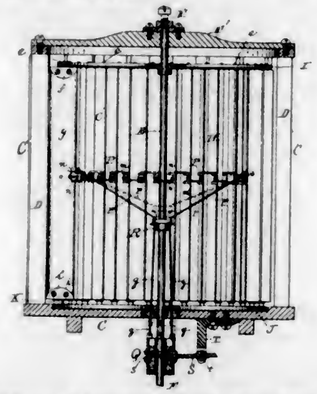
266,351. LET-OFF MECHANISM FOR LOOMS. GEORGE CROMPTON and HORACE WYMAN, Worcester, Mass., assignors to said Crompton. Filed Jan. 23, 1882. (No model.)



Claim.—1. The whip-roll, means to keep it pressed up in a yielding manner against the strain of the warp on the whip-roll, and a lever the fulcrum of which is changeable in its position, and connecting means between the said whip-roll and lever, combined with a pad adapted to bear against the warp on the warp-beam, and suitable connecting devices between the said lever and pad, whereby decrease in the amount of warp on the warp-beam enables the outer end of the said lever to be raised a greater distance, substantially as described.

2. The whip-roll, means to keep it pressed up in a yielding manner against the strain of the warp on the whip-roll, and a lever the fulcrum of which is changeable in its position, and connecting means between the said whip-roll and lever, a pad adapted to bear against the warp on the warp-beam, suitable connecting devices between the said lever and pad, the warp-beam, the shaft C', and gearing between it and the warp-beam, combined with a pawl and ratchet and means between the said lever and pawl to actuate said pawl, substantially as described, whereby decrease in the amount of warp on the warp-beam enables the outer end of the said lever to be raised a greater distance and makes the said pawl and ratchet turn the shaft C' and warp-beam a greater distance by the automatic change of position of the fulcrum of the said lever, as set forth.

266,352. WINDMILL. JOHN A. DEAN, Worcester, Mass. Filed July 10, 1882. (No model.)



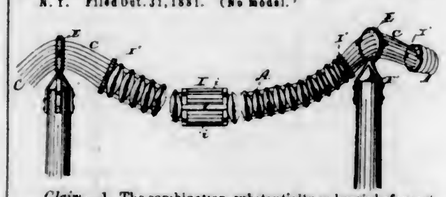
Claim.—1. In a horizontal windmill having stationary outside wind-guiding slats, D, fastened to the frame of the tower in which the mill is arranged, and an inner revolving wheel, C', having swivel-slats H arranged upon the same, of said swivel-slats H, in combination with connecting parts P *m*, for connecting or fastening one sail to another throughout the circumference of the inner side of the rotary wheel C', substantially as and for the purposes set forth.

2. The combination, with two or more of the sail-connecting parts P *m*, of connecting-rods *q r*, central shaft, E, and governing-weight Q, substantially as and for the purpose set forth.

3. In a horizontal windmill, the combination, with the bearing-piece *h*, provided with pivot-pin *i*, and rim J, of lubricating-cup *k*, substantially as and for the purpose set forth.

4. In a horizontal windmill, the combination, with the circular rims I J and the wide overlapping swivel-sails H, of the inner rotary wheel, C', sail-connecting parts P *m*, connecting-rods *q r*, collar R, governing-weight Q, and central shaft or axis E, substantially as and for the purposes set forth.

266,353. ELECTRIC CABLE. PATRICK B. DELANY, New York, N. Y. Filed Oct. 31, 1881. (No model.)



Claim.—1. The combination, substantially as hereinbefore set forth, of the series of wires with contiguous round-ended incombustible perforated insulating-buttons loosely strung thereon.

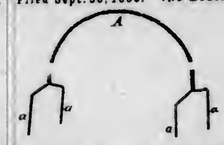
2. The combination, substantially as hereinbefore set forth, of the series of wires, the contiguous round-ended incombustible perforated insulating buttons loosely strung thereon, and the sheathing.

266,354. COMBINED SATCHEL AND MUFF. CASPAR DICKHAUT, New York, assignor of one-half to William Hellmann, Brooklyn, N. Y. Filed July 28, 1882. (No model.)



Claim.—A satchel provided with duplicate or false sides, both composed of fur, plush, or other like material, one of which forms a hand pocket or muff, while the other forms a handkerchief-receptacle, substantially as set forth.

266,355. CROQUET-WICKET. HENRY J. ENGLAND, Falls Church, Va. Filed Sept. 30, 1882. (No model.)



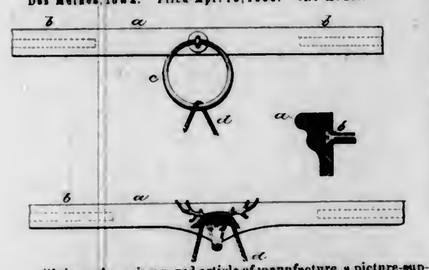
Claim.—1. A wicket for ball-games, having two or more prongs at each of its extremities for the purpose set forth.

2. A wicket constructed of two or more wires twisted together and having prongs formed at their extremities, substantially as and for the purpose described.

3. A wicket constructed of wires twisted together and having prongs formed at their extremities, so that two prongs at each end of the wicket will be on a line at right angles with the line of position of the wicket, substantially as set forth.
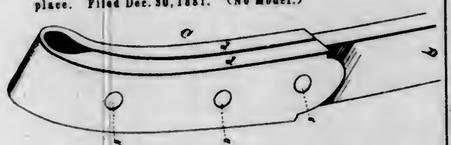
4. A wicket formed of two or more wires twisted or braided upon each other, the outer ends being bent to form two or more prongs, substantially as and for the purpose set forth.

266,356. PICTURE-HANGING DEVICE. DANIEL O. ESMBAUGH, Des Moines, Iowa. Filed Apr. 15, 1882. (No model.)



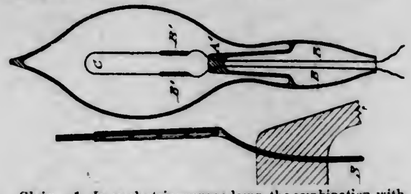
Claim.—As an improved article of manufacture, a picture-supporting device consisting of a strip or molding, *a*, having grooves or nail-head bearings *b* in or on its back, and a fixed cord-holding device, *c*, in its longitudinal center, substantially as and for the purposes set forth.

266,357. HAME-TUG CLIP. NATHANIEL D. FOWLER, Marysville, Cal., assignor of one-half to George N. Osgood, same place. Filed Dec. 30, 1881. (No model.)



Claim.—The hame-tug clip consisting of the plate C, reduced to form an eye, *e*, at its middle, bent upon itself, and provided with the side flanges, *d*, meeting upon the top and bottom surfaces of the strap or tug, all made in one piece, as set forth.

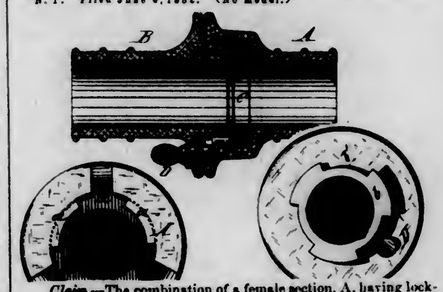
266,358. ELECTRIC INCANDESCENT LAMP. HENRY GOEBEL, New York, N. Y., assignor of one-half to John W. Kulenkamp, same place. Filed Jan. 23, 1882. (No model.)



Claim.—1. In an electric vacuum-lamp, the combination, with a carbon conductor, of sockets made of flattened spirally-coiled wire integral with the conducting-wires, the lower end of the spiral being bent in toward the center of the sockets, thereby forming a seat for the carbon, substantially as described.

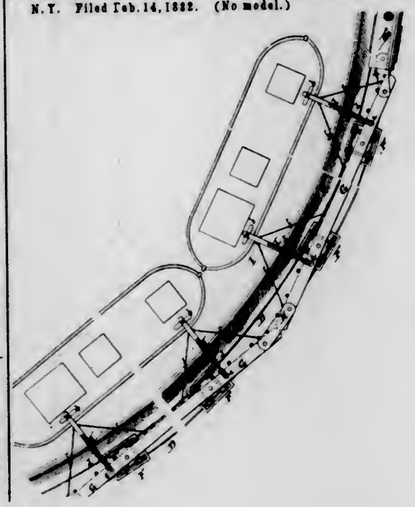
2. In an electric vacuum-lamp, sockets made of flattened spirally-coiled wire integral with the conducting-wires, in combination with the carbon conductor and a coating of carbonaceous cement applied to the ends of the sockets and to the space between the coils, substantially as described.

266,359. HOSE-COUPLING. THEODOR GÖTZEL, New York, N. Y. Filed June 6, 1882. (No model.)



Claim.—The combination of a female section, A, having locking-flanges *a* and intermediate recesses *a'*, with the male section B, having locking-flanges *b* and intermediate recesses *b'*, and interposed packing-ring C', a spring-pressed and axially-turning locking-bolt, D, set into a socket of the male section, said bolt being beveled at the under side and adapted to take into beveled radial face-recesses *d* of the female section, all substantially as and for the purpose set forth.

266,360. TOWING CANAL-BOATS. OLIVER GREENE, Buffalo, N. Y. Filed Feb. 14, 1882. (No model.)



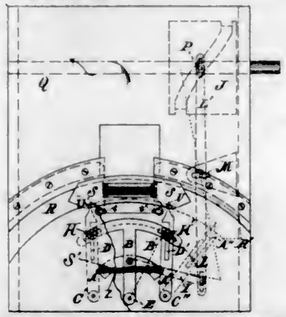
Claim.—1. The method herein described of propelling canal-boats by joining them by transverse rigid beams flexibly to a locomotive or train propelled on rails that are laid along the bank of the canal, substantially as described.

2. The propelling-car F G, provided with the hinged beam or beams I I, having clasps *a*, in combination with a boat having a cleat or rail adapted to be grasped by said clasp, substantially as specified.

3. The combination of the car F G with the beam or beams I, having clasps *a* and braces or cables *f*, and with the boat having cleat or rail adapted to be grasped by said clasp, substantially as specified.

4. The combination of the car or cars F G with the beam I, having clasp or connection *a*, and with the lifting rope or chain *d* and post *e*, and with a boat having a cleat or rail adapted to be grasped by said clasp, substantially as described.

266,361. LOOM-SHUTTLE MOTION. JOHN GREENWAY, Paterson, N. J. Filed Dec. 19, 1879.



Claim.—1. The combination of the supporting-frame and the stops *t* and *t'* with the shuttle-actuating fingers, spring Z, and mechanism for operating said fingers, substantially as shown, and for the purpose described and set forth.

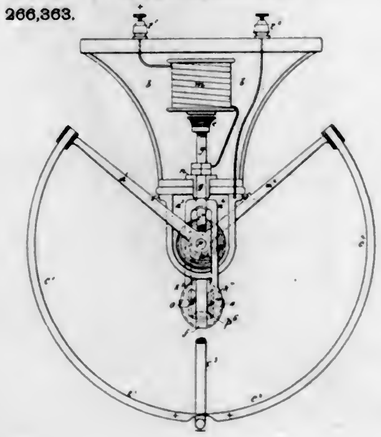
2. The combination of the lever B, link I, lever L L', roller P, and cam J, with the actuating fingers A A', arranged as and for the purpose described and set forth.

266,362. DRIVING-CALK. GEORGE H. HAYNES, Chester, Me. Filed July 20, 1882. (No model.)



Claim.—A driving-calk having the rectangular point *a*, shoulder *b*, and tang *c*, substantially rectangular in cross-section, twisted into a quick screw having a sharpened point, *f*, whereby the calk may be inserted either by driving or screwing, and is removable at pleasure, substantially as set forth.

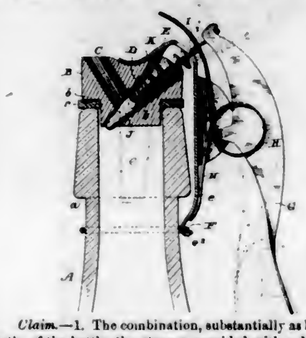
266,363.



266,363. ELECTRIC LAMP. CHARLES F. HENRICHS, London, England. Filed Mar. 23, 1882. (No model.) Patented in France May 13, 1879, No. 130,648; in England Nov. 11, 1879, No. 4,539, and in Germany May 21, 1880, No. 14,648.

Claim.—In an electric lamp in which four movable circular carbons are employed, the combination, with the two sets of carbons, of the carbon-holder, arms, gear, and regulating-pinions, frame, armature, and magnet, all as and for the purposes described.

266,364. BOTTLE-STOPPER AND DRAFT-NOZZLE. PETER HENRICHS, Fargo, Dak. Filed July 25, 1882. (No model.)

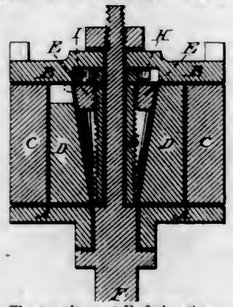


Claim.—1. The combination, substantially as hereinbefore set forth, of the bottle, the stopper provided with a draft-tube intersecting an oblique valve-opening, the valve fitted to move endwise in said valve-opening, the armed frame securing said stopper to the bottle, and mechanism mounted upon said frame to operate said valve.

2. The combination, substantially as hereinbefore set forth, of a bottle, a bottle-stopper, and a frame to secure said stopper to the bottle, said frame having one or more arms engaging an external shoulder upon said bottle, and another arm receiving a fastening device surrounding the bottle.

3. The combination, substantially as hereinbefore set forth, of the bottle, the stopper having a draft-tube, the valve controlling communication between said tube and the interior of the bottle, the spring acting upon said valve to keep it normally pressed to its seat, the lever for moving said valve against the force of its spring by a link-connection, and an auxiliary spring acting upon said lever to steady it and aid in keeping it in a normal condition in readiness for retracting the valve to permit of the withdrawal of the contents of the bottle.

266,365. ADJUSTABLE PISTON-PACKING. LOUIS HERBERT, Hicksville, Cal. Filed June 29, 1882. (No model.)

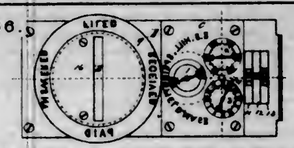


Claim.—The tapering nut E, fitting the screw-thread upon the sleeve S, surrounding the piston-rod F, so as to be advanced into the conically-bored sectional cylinder D, to separate the sections and expand the packing, in combination with the ratchet G and pawl H, substantially as and for the purpose herein described.

266,366. CHRONOMETRIC STAMP. BENJAMIN B. HILL, Springfield, Mass. Filed Dec. 18, 1880. (Model.)

Claim.—1. In a chronometric stamp, a die-plate provided with one dial-die having characters representing the hours of the day, a second dial-die having characters indicating the minutes or divisions of the hour, each of said dies being provided with a re-

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cess to receive an index-die, in combination with the index-dies having their acting faces on the same plane as the acting faces of the dial-dies, each index being by a time-movement turned in a separate recess surrounded by a different dial-die, and each index being set in a separate bearing adapted to support said index against the force of the impression in printing independently of the other index-dies, and a device constructed to press upon said dial and index dies, all substantially as described.

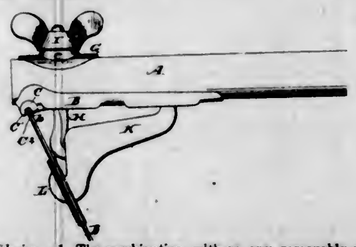
2. In a chronometric stamp, an impression device, a time-movement, a die-plate provided with meridian, hour, and minute dial-dies, and meridian, hour, and minute index-dies, each index-die working in a separate recess in a different dial-die, and supported on its own center independently of the others on the same plane as the dial-dies, and each connected with the time-movement by wheels as large, or nearly so, as the periphery of the dies, all substantially as and for the purpose specified.

266,367. HAND CORN-PLANTER. SETH W. ROAG, Grand Isle, Vt. Filed June 5, 1882. (No model.)



Claim.—As an improvement in hand corn-planters, the combination, with the plunger having a diagonal guide-wire, T, arranged longitudinally in an oblique slot, U, of the oscillating valve H, pivoted at its outer end, and having a bifurcated tongue, S, of less width than the width of slot U, the arms of which tongue clasp and embrace wire T, and are guided thereby, while the flexibility of the wire readily gives to the movement of the valve, as and for the purpose set forth.

266,368. HOE, RAKE, AND OTHER AGRICULTURAL IMPLEMENTS. JOSEPH R. HOOD, Philadelphia, Pa. Filed Dec. 21, 1881. (Model.)



Claim.—1. The combination, with an arm removably connected at its opposite ends with the blade and handle, of a fastening-bolt constructed substantially as shown, and adjustably connected with the handle and movably attached to said arm, and adapted to form two lateral bearings for the arm, and thereby prevent its lateral displacement in either direction, as set forth.

2. The combination, with an arm removably connected with the blade and handle, said arm being provided with a transverse bearing-piece and a longitudinal opening beneath the same, of a hook-bolt constructed to be adjustably secured to the handle and to be hooked to the arm and serve as a lateral brace therefor, substantially as set forth.

3. The combination, with the blade and handle, of an arm, K, removably secured to the handle and blade, and a hook-bolt arranged with its hook in line with the arm, substantially as set forth.

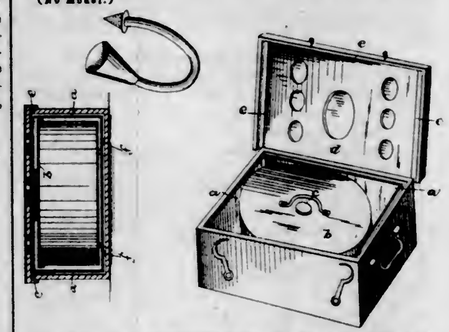
4. The combination, with the arm provided with forwardly-inclined ratchet-teeth, of the bar or plate provided with rearwardly-inclined teeth, substantially as set forth.

5. The combination, with the arm provided with forwardly-inclined teeth, of the bar or plate provided with rearwardly-inclined teeth, and keepers or flanges on the sides of the teeth, substantially as set forth.

6. The combination, with the arm having the longitudinal opening formed tapering in cross-section, of the hook-bolt made tapering in cross-section, substantially as set forth.

7. The combination, with the blade and handle, of an arm adapted to be removably secured to the handle, and a hook-bolt adapted to be attached to the arm, with its hook portion in line therewith or parallel thereto, and to be secured in reverse positions for varying the inclination of the blade, substantially as set forth.

266,369. LIME-HEATING FOOT-STOVE. PHILIP O. JERKINS, Washington, D. C. Filed Oct. 12, 1881. Renewed Oct. 2, 1882. (No model.)

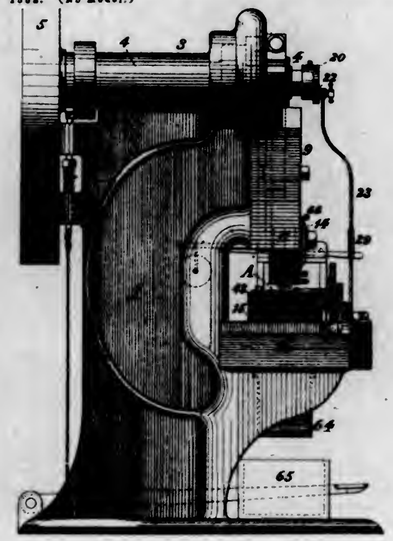


Claim.—1. The combination of the lime-receptacle, Fig. 3, with the box, Fig. 1, said receptacle being surrounded by zinc or other suitable lining and the lining separated from the box by projections, as seen at *f*, and the receptacle being separated from the lining in like manner, the whole being provided with a perforated lid having a perforated lining and an imperforate top covering.

2. The combination of the perforated lid-lining with the corresponding perforated lid and its top covering.

3. The combination of the conical sprinkler with the lime-receptacle, as described and set forth, all substantially as herein described, and for the purposes named.

266,370. MACHINE FOR MAKING BAGGAGE-CHECKS. ELLIS T. JONES, New York, N. Y., assignor to the Hoole Manufacturing and Baggage Check Company, same place. Filed Apr. 28, 1882. (No model.)



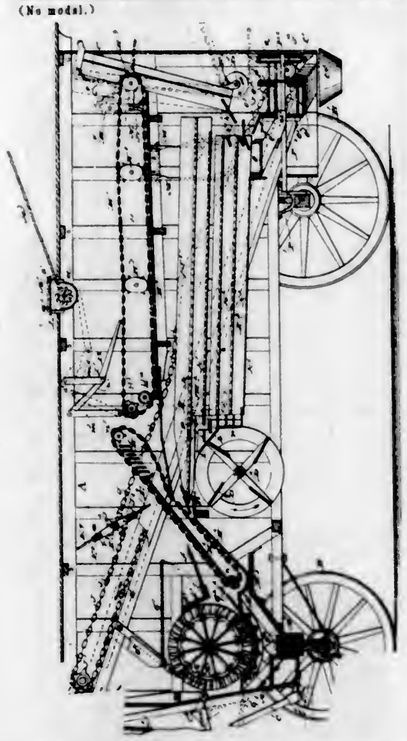
Claim.—1. The combination, substantially as set forth, of a driving-shaft, a press-head reciprocated thereby, slotting, printing, and shaping punches connected to the press-head, and feed-gearing operated intermittently by the driving-shaft.

2. The combination, substantially as set forth, of a press-head, a punch-block, a slotting-punch, a printing-punch, and a shaping-punch.

3. The combination, substantially as set forth, of a reciprocating press-head, a punch-block, a printing and a shaping punch, a stationary gage, a pair of feed-rolls, and yielding entrance and discharge guides to regulate the position of a blank relatively to the gage and punches.

4. The combination of a pair of feed-rolls, a friction-roller mounted in a fixed bearing at right angles to said rolls, and a friction-roller mounted in a yielding bearing and pressed up by a spring in the direction of the first-named friction-roller, these members being combined for joint operation to regulate the position of a blank relatively to the length of the feed-rolls, substantially as set forth.

266,371. THRASHING AND SEPARATING MACHINE. PETER KAUFMANN, Normal, McLean County, Ill. Filed Dec. 21, 1880. (No model.)



Claim.—1. In a thrasher and separator, the combination, with the thrashing cylinder and concave, of the hinged frame C', the platform or foot-board C^{11}, the frame C^3, hinged feed-table C^{10}, and mechanism for securing them in a lowered or elevated position, substantially as and for the purpose specified.

2. In a thrasher and separator, the combination, with the thrashing cylinder and concave, of the hinged frames C' C^3, connecting-links C^4 C^4, stationary and hinged floors C^{11} C^{12}, and mechanism for securing said floors in a lowered or elevated position, substantially as and for the purpose specified.

3. In a thrasher and separator, the combination of the machine-casing, tailings-conveyers arranged upon opposite sides of the machine-casing and inside thereof, and a thrashing-cylinder constructed with the bands at each end and the flanges arranged a short distance from the ends of said cylinder, substantially as and for the purpose specified.

4. In a thrasher and separator, the combination of the machine-casing, tailings-conveyers arranged upon opposite sides of the machine-casing and inside thereof, and a thrashing-cylinder constructed with the bands at each end, and the corrugated flanges arranged a short distance from the ends of said cylinder, substantially as and for the purpose specified.

5. In a thrasher and separator, the combination, with the concave bottom, of the brackets G^1, provided with the angular arms G^1 G^2, and the frame-timbers A^2 A^4, meeting each other at an angle, substantially as and for the purpose specified.

6. In a thrasher and separator, the combination of the bracket d, constructed with bearing-boxes, d^2, extended lower part, d', and bolt-holes, d^3, the cylinder-shaft R^1, bracket V, constructed with boxes, d^2, extended lower portion, and bolt-holes, d^3, the concave floor, and the cross-rod d^3, substantially as and for the purpose specified.

7. In a thrasher and separator, the combination of the cylinder-extension C', cylinder-shaft R^1, cylinder G, pinion R' on cylinder-shaft R^1, inside of the extension G^3, the wheel R_2, projecting through the machine-case A and meshing in gear with pinion R', inside of the cylinder-extension G^3, and a suitable shield for said gearing connected to the machine-case, substantially as and for the purpose specified.

8. In a thrasher and separator, the combination, with the cylinder G, constructed as described, and journal-boxes d^2 d^2, of bracket-bearings d and e, having on their upper ends projections and the set-screws, to prevent the boxes d^2 d^2 from slipping, as shown and described.

9. In a thrasher and separator, the combination, with the cylinder and concave, the timber base A^3, and bracket-bearings d e, of the cylinder-boxes d^2 d^2, bolted laterally thereto, supporting set-screws for said boxes, the concave brackets G^1, formed with projecting bolt-arms G^1 G^2, and frame-timbers A^1 A^4, secured to brackets d and e, forming a combined frame-support for the cylinder and concave, substantially as herein shown and described.

10. In a thrasher and separator, the combination of the casing, two inside elevators, inside frame-timbers, e e' and A^2 A^3, flanges G^3, the cylinder and concave arranged with their ends in the space between the elevators, bands G^7, grain and straw carriers H and H', and the two shoes K and K^1, all arranged and constructed substantially as herein shown and described.

11. In a thrasher and separator, the combination, with the grain belt or carrier H' and the top shoe, K, of the floor H^3, of the grain belt or carrier, said floor having the horizontal part H^4, extending backward under the front end of said top shoe, substantially as specified.

12. In a thrasher and separator, the combination of the endless straw-carrier H', sprocket-driver H^3, and oval sprocket-chain beaters H^5, H^6, and H^7, the top chains being alternately accelerated and retarded by means of the oval sprocket beater or wheel H^6, in rear of the sprocket-driver H^3, whereby the upper carrier, H', becomes stretched and slacked twice with each revolution of the oval sprocket beater or wheel H^6, substantially as and for the purpose herein shown and described.

13. In a thrasher and separator, the combination, with the concave floor G^3 and shoe K, of carrier-belt H, the floor H^3, arranged inside of said carrier, and constructed with a series of slats, H^2, with openings between them, the bottom floor, H^4, having its lower curved end connected with the concave floor (G^3, and its upper end projecting backward under said shoe K, substantially as and for the purpose specified.

14. In a thrasher and separator, the thrashing-cylinder G, constructed with the bands G^7 at each end thereof, and the flanges G^3, arranged near the ends thereof and corrugated upon their opposite sides, in combination with a toothed concave extending the entire width of the machine, substantially as and for the purpose specified.

15. In a thrasher and separator, the combination, with the cylinder G, the concave floor G^3, brackets G^1, having angular projecting bolt-arms, and the brackets for connecting and supporting the cylinder and concave, substantially as and for the purpose specified.

16. In a thrasher and separator, in combination with the cylinder G, the concave floor G^3, brackets G^1, the timber base A^3, and the bracket-bearings d and e, forming a frame-support for the cylinder, substantially as and for the purpose herein shown and specified.

17. In a thrasher and separator, the combination of the casing, the thrashing-cylinder, the stationary inside inclined conveyer-boxes e', extending from the lower rear end to the upper front end of the machine, and the carrier-belts, the upper ends of said boxes being provided with spouts e^5, for discharging the tailings onto the ends of the cylinder, as herein shown and described.

18. In a thrasher and separator, the elevator mechanism consisting of the endless chains, the open-spoked sprocket-wheels, and guide sheave-wheels, the sprockets of the wheels J^1 extending through the chain a short distance into the guide sheave-wheels J^3, and the projections j on the chains adapted to extend toward the hub of each wheel J^2 in between the sprockets in the openings s, substantially as and for the purpose specified.

19. In a thrasher and separator, the elevator-chains provided with projections j at suitable intervals, in combination with the open-spoked sprocket-wheels, the beater and crank shaft E', the guide sheave-wheels J^3, and stud-bearings for said wheels fastened to the machine-case, substantially as herein shown and described.

20. In a thrasher and separator, the combination of the beater and crank shaft E', means for actuating the same, and sprocket-wheels mounted on said shaft for the actuation of the elevator-chains, whereby motion is communicated to the elevator-chains J, substantially as herein shown and described.

21. In a thrasher and separator, the combination of the machine-casing, the conductors e^3, extending to the front end of the machine-casing A, the cylinder flanged heads G^3, and extensions G^7, the machine-casing forming the outsides of the conductors e^3, substantially as herein shown and described.

22. In a thrasher and separator, the combination, with the thrashing-cylinder, concave G^3, and shoe K, of carrier-belt H, and the bottom floor, H^3, having its lower curved end connected with the concave G^3, and the upper end of said concave projecting backward under said shoe K, substantially as and for the purpose specified.

23. In a thrasher and separator, the combination, with the straw-carrier H, of the straw-pitching device consisting of the forks I, the shaft I', the arms m', and links m^2 m^3, as and for the purpose specified.

24. In a thrasher and separator, the combination, with the straw-carrier H, of the straw-pitching device consisting of the forks I and the shaft I', the arm m and links m^2 and m^3, the shaft a^4, with crank E^3, the rod E^3, and crank-wheel E, the several parts arranged to operate substantially in the manner as herein shown and described.

25. In a thrasher and separator, the combination of the frame and casing thereof with the jointed stacker connected to the machine, and adapted to be folded inside of the casing thereof, substantially as herein shown and described.

26. In a thrasher and separator, the combination of the frame and casing thereof, of the jointed stacker connected to the machine and constructed with the adjustable section C^{16}, said jointed stacker adapted to be folded inside of the machine, as herein shown and described.

27. In a thrasher and separator, the combination, with the frame and casing thereof, of the jointed stacker connected with the machine, and constructed with the adjustable section C^{16}, said jointed stacker adapted to be folded inside of the machine, and a pair of doors, C C', adapted to close the end tightly when the machine is not in operation, and when opened to form side-boards to prevent the wind from blowing the straw in passing over the stacker, substantially as herein shown and described.

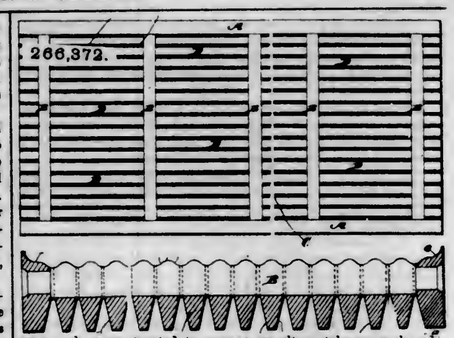
28. In a grain-separator, the combination of the longitudinal shaking-spouts O^4 O^5, the rocking bars P^2 P^4, the spouts O', the rod y^4, the arm y^5, the vertical rocking shaft Q, the arm y, and the link y', substantially as shown and described.

29. In a grain-separator, the combination of the lower shoe, K^3, having two parallel floors, K^2 K^3, with a wind-space between them, collecting-spout O at the rear end of the floor K^3, formed with a center discharge, and inclined central spout, O', substantially as and for the purpose specified.

30. In a grain-separator, the grain-spout O^4 and tailings-spout O^5, in combination with the stacker and inclined central discharge-spout, O', the tailings-spout being above the latter and under the end of the section c of the stacker, substantially as and for the purpose specified.

31. In a thrasher and separator, the combination of the casing, the adjustable stacker-frame pivoted within the casing, and the rear end of the straw-carrier H', adjustable to make room for the section of the stacker adapted to be folded inside of the casing, the straw-carrier H' and the upper end of the stacker being coupled together, substantially as and for the purpose described.

32. In a thrasher and separator, the combination, with the casing of the machine, of the hinged feed-table frame C^3, and the folding floor C^{12}, adapted to close the front end of the machine when not in operation, substantially as and for the purpose specified.



266,372. OIL-PRESS MAT. WILLIAM KNUTZSCH, Dayton, Ohio, assignor to the Buckeye Iron and Brass Works, same place. Filed Sept. 14, 1882. (Model.)

Claim.—1. An oil-press mat composed of a series of parallel strips transversely grooved or recessed at intervals and having their upper edges constructed to present an alternately grooved and ridged surface, combined with a cross bar or bars arranged in the transverse grooves or recesses, and having their upper edges fitted or fashioned to conform to the longitudinal grooves or furrows and the ridges of the strips, substantially as described.

2. An oil-press mat composed of a series of parallel strips having their upper edges constructed to present an alternately grooved or furrowed and ridged surface, combined with side walls, and cross-bars tying the strips together and secured to the side walls, substantially as described.

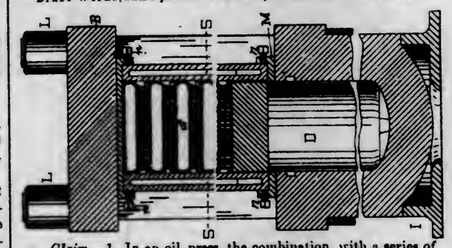
3. An oil-press mat composed of a series of strips arranged parallel to each other, with intervening longitudinal slits, and having their upper edges constructed to present an alternately grooved and ridged surface, substantially as described.

4. An oil-press mat composed of a series of parallel strips having their lower sides beveled or inclined to create widened intervening channels, and their upper edges constructed to present an alternately grooved and ridged surface to the mat, substantially as described.

5. An oil-press mat composed of a series of strips arranged parallel to each other, with intervening slits, and their lower sides beveled or inclined, and their upper edges constructed to present alternating grooves or furrows and ridges, substantially as described.

6. An oil-press mat composed of the parallel strips having beveled lower sides and their upper edges constructed to present an alternately grooved and ridged surface, said strips being spaced by washers to form narrow longitudinal slits, combined with the side walls, and the fluted or corrugated cross-bars arranged flush with the upper surfaces of the parallel strips, substantially as described.

266,373. OIL-PRESS AND OIL-PRESS BOX. WILLIAM KNUTZSCH, Dayton, Ohio, assignor to the Buckeye Iron and Brass Works, same place. Filed Sept. 14, 1882. (No model.)



Claim.—1. In an oil-press, the combination, with a series of press-boxes, of hollow vertical guide-plates adapted to bear against the press-boxes, and having chambers or passages for the circulation of hot air or steam in contact with the boxes, substantially as described.

2. In an oil-press, the combination, with the boxes and vertical guide-plates, of the blocks arranged at the top and bottom of the press, and means for adjusting the guide-plates or walls against the sides of the boxes, substantially as described.

3. In an oil-press, the combination of two press-boxes arranged one above the other, with a grating resting on the lower box and a division-plate resting on the grating, substantially as described.

4. In an oil-press, a press-box having all its four sides provided with chamfered edges, which match with the chamfered edges of the adjacent box, combined with an interior grating and a division-plate resting on the grating, substantially as described.

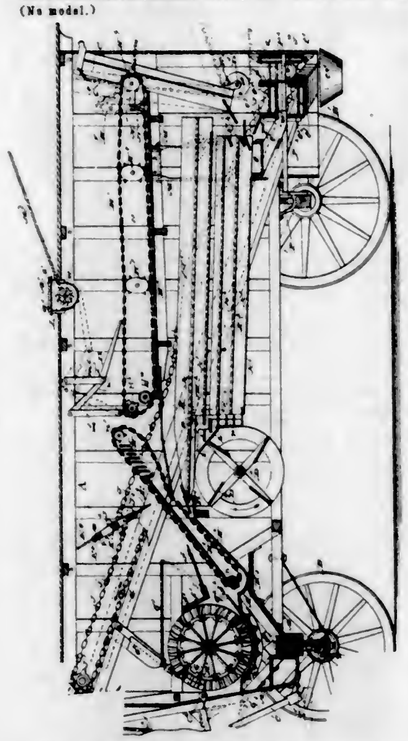
Claim.—1. The combination, substantially as set forth, of a driving-shaft, a press-head reciprocated thereby, slotting, printing, and shaping punches connected to the press-head, and feed-gearing operated intermittently by the driving-shaft.

2. The combination, substantially as set forth, of a press-head, a punch-block, a slotting-punch, a printing-punch, and a shaping-punch.

3. The combination, substantially as set forth, of a reciprocating press-head, a punch-block, a printing and a shaping punch, a stationary gage, a pair of feed-rolls, and yielding entrance and discharge guides to regulate the position of a blank relatively to the gage and punches.

4. The combination of a pair of feed-rolls, a friction-roller mounted in a fixed bearing at right angles to said rolls, and a friction-roller mounted in a yielding bearing and pressed up by a spring in the direction of the first-named friction-roller, these members being combined for joint operation to regulate the position of a blank relatively to the length of the feed-rolls, substantially as set forth.

266,371. THRASHING AND SEPARATING MACHINE. PETER KAUFMANN, Normal, McLean County, Ill. Filed Dec. 21, 1880. (No model.)



Claim.—1. In a thrasher and separator, the combination, with the thrashing cylinder and concave, of the hinged frame C', the platform or foot-board C^{11}, the frame C^2, hinged feed-table C^{12}, and mechanism for securing them in a lowered or elevated position, substantially as and for the purpose specified.

2. In a thrasher and separator, the combination, with the thrashing cylinder and concave, of the hinged frames C' C^2, connecting-links C^3 C^4, stationary and hinged floors C^{11} C^{10}, and mechanism for securing said floors in a lowered or elevated position, substantially as and for the purpose specified.

3. In a thrasher and separator, the combination of the machine-casing, tailings-conveyers arranged upon opposite sides of the machine-casing and inside thereof, and a thrashing-cylinder constructed with the bands at each end and the flanges arranged a short distance from the ends of said cylinder, substantially as and for the purpose specified.

4. In a thrasher and separator, the combination of the machine-casing, tailings-conveyers arranged upon opposite sides of the machine-casing and inside thereof, and a thrashing-cylinder constructed with the bands at each end, and the corrugated flanges arranged a short distance from the ends of said cylinder, substantially as and for the purpose specified.

5. In a thrasher and separator, the combination, with the concave bottom, of the brackets G^4, provided with the angular arms G^4 G^5, and the frame-timbers A^3 A^4, meeting each other at an angle, substantially as and for the purpose specified.

6. In a thrasher and separator, the combination of the bracket *d*, constructed with bearing-boxes, d^2, extended lower part, *d'*, and bolt-holes, d^3, the cylinder-shaft R^2, bracket V, constructed with boxes, d^4, extended lower portion, and bolt-holes, d^5, the concave floor, and the cross-rod d^6, substantially as and for the purpose specified.

7. In a thrasher and separator, the combination of the cylinder-extension C', cylinder-shaft R^2, cylinder G, pinion R' on cylinder-shaft R^2, inside of the extension G^3, the wheel E, projecting through the machine-case A and meshing in gear with pinion R', inside of the cylinder-extension G^3, and a suitable shield for said gearing connected to the machine-case, substantially as and for the purpose specified.

8. In a thrasher and separator, the combination, with the cylinder G, constructed as described, and journal-boxes d^3 d^3, of bracket-bearings *d* and *r*, having on their upper ends projections and the set-screws, to prevent the boxes d^3 d^3 from slipping, as shown and described.

9. In a thrasher and separator, the combination, with the cylinder and concave, the timber base A', and bracket-bearings *d r*, of the cylinder-boxes d^3 d^3, bolted laterally thereto, supporting set-screws for said boxes, the concave brackets G^4, formed with projecting bolt-arms G^4 G^5, and frame-timbers A^3 A^4, secured to brackets *d* and *c*, forming a combined frame-support for the cylinder and concave, substantially as herein shown and described.

10. In a thrasher and separator, the combination of the casing, two inside elevators, inside frame-timbers, *c c'* and A^3 A^4, flanges G^3, the cylinder and concave arranged with their ends in the space between the elevators, bands G^2, grain and straw carriers H and H', and the two shoes K and K^2, all arranged and constructed substantially as herein shown and described.

11. In a thrasher and separator, the combination, with the grain belt or carrier H' and the top shoe, K, of the floor H^3, of the grain belt or carrier, said floor having the horizontal part H^4, extending backward under the front end of said top shoe, substantially as specified.

12. In a thrasher and separator, the combination of the endless straw-carrier H', sprocket-driver H^3, and oval sprocket-chain beaters H', H', and H', the top chains being alternately accelerated and retarded by means of the oval sprocket beater or wheel H^3, in rear of the sprocket-driver H^3, whereby the upper carrier, H', becomes stretched and slacked twice with each revolution of the oval sprocket beater or wheel H^4, substantially as and for the purpose herein shown and described.

13. In a thrasher and separator, the combination, with the concave floor G^3 and shoe K, of carrier-belt H, the floor H^3, arranged inside of said carrier, and constructed with a series of slats, H^3, with openings between them, the bottom floor, H^3, having its lower curved end connected with the concave floor G^3, and its upper end projecting backward under said shoe K, substantially as and for the purpose specified.

14. In a thrasher and separator, the thrashing-cylinder G, constructed with the bands G^2 at each end thereof, and the flanges G^3, arranged near the ends thereof and corrugated upon their opposite sides, in combination with a toothed concave extending the entire width of the machine, substantially as and for the purpose specified.

15. In a thrasher and separator, the combination, with the cylinder G, the concave floor G^3, brackets G^4, having angular projecting bolt-arms, and the brackets for connecting and supporting the cylinder and concave, substantially as and for the purpose specified.

16. In a thrasher and separator, in combination with the cylinder G, the concave floor G^3, brackets G^4, the timber base A', and the bracket-bearings *d* and *c*, forming a frame-support for the cylinder, substantially as and for the purpose herein shown and specified.

17. In a thrasher and separator, the combination of the casing, the thrashing-cylinder, the stationary inside inclined conveyer-boxes *c'*, extending from the lower rear end to the upper front end of the machine, and the carrier-belts, the upper ends of said boxes being provided with spouts c^5, for discharging the tailings onto the ends of the cylinder, as herein shown and described.

18. In a thrasher and separator, the elevator mechanism consisting of the endless chains, the open-spoked sprocket-wheels, and guide sheave-wheels, the sprockets of the wheels J^3 extending through the chain a short distance into the guide sheave-wheels J^4, and the projections *j* on the chains adapted to extend toward the hub of each wheel J^3 in between the sprockets in the openings *s*, substantially as and for the purpose specified.

19. In a thrasher and separator, the elevator-chains provided with projections *j* at suitable intervals, in combination with the open-spoked sprocket-wheels, the beater and crank shaft E', the guide sheave-wheels J^3, and stud-bearings for said wheels fastened to the machine-case, substantially as herein shown and described.

20. In a thrasher and separator, the combination of the beater and crank shaft E', means for actuating the same, and sprocket-wheels mounted on said shaft for the actuation of the elevator-chains, whereby motion is communicated to the elevator-chains J, substantially as herein shown and described.

21. In a thrasher and separator, the combination of the machine-casing, the conductors c^4, extending to the front end of the machine-casing A, the cylinder flanged heads G^3, and extensions G^7, the machine-casing forming the outsides of the conductors c^4, substantially as herein shown and described.

22. In a thrasher and separator, the combination, with the thrashing-cylinder, concave G^3, and shoe K, of carrier-belt H, and the bottom floor, H^3, having its lower curved end connected with the concave G^3, and the upper end of said concave projecting backward under said shoe K, substantially as and for the purpose specified.

23. In a thrasher and separator, the combination, with the straw-carrier H, of the straw-pitching device consisting of the forks I, the shaft I', the arms *m'*, and links m^2 m^3, as and for the purpose specified.

24. In a thrasher and separator, the combination, with the straw-carrier H, of the straw-pitching device consisting of the forks I and the shaft I', the arm *m* and links m^2 and m^3, the shaft n^4, with crank E^3, the rod E^4, and crank-wheel E, the several parts arranged to operate substantially in the manner as herein shown and described.

25. In a thrasher and separator, the combination of the frame and casing thereof with the jointed stacker connected to the machine, and adapted to be folded inside of the casing thereof, substantially as herein shown and described.

26. In a thrasher and separator, the combination of the frame and casing thereof, of the jointed stacker connected to the machine and constructed with the adjustable section C^{16}, said jointed stacker adapted to be folded inside of the machine, as herein shown and described.

27. In a thrasher and separator, the combination, with the frame and casing thereof, of the jointed stacker connected with the machine, and constructed with the adjustable section C^{16}, said jointed stacker adapted to be folded inside of the machine, and a pair of doors, C C', adapted to close the end tightly when the machine is not in operation, and when opened to form side-boards to prevent the wind from blowing the straw in passing over the stacker, substantially as herein shown and described.

28. In a grain-separator, the combination of the longitudinal shaking-spouts O^4 O^5, the rocking bars P^4 P^4, the spouts O', the rod y^4, the arm y^3, the vertical rocking shaft Q, the arm *y*, and the link y', substantially as shown and described.

29. In a grain-separator, the combination of the lower shoe, K^3, having two parallel floors, K^3 K^3, with a wind-space between them, collecting-spout O at the rear end of the floor K^3, formed with a center discharge, and inclined central spout, O', substantially as and for the purpose specified.

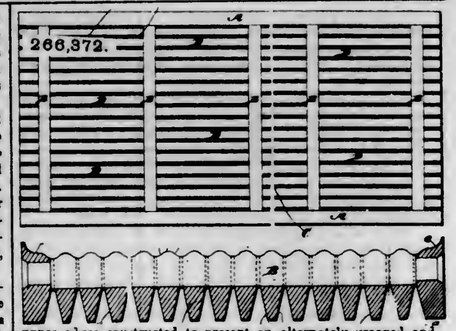
30. In a grain-separator, the grain-spout O^3 and tailings-spout O^5, in combination with the stacker and inclined central discharge-spout, O', the tailings-spout being above the latter and under the end of the section c of the stacker, substantially as and for the purpose specified.

31. In a thrasher and separator, the combination of the casing, the adjustable stacker-frame pivoted within the casing, and the rear end of the straw-carrier H', adjustable to make room for the section of the stacker adapted to be folded inside of the casing, the straw-carrier H' and the upper end of the stacker being coupled together, substantially as and for the purpose described.

32. In a thrasher and separator, the combination, with the casing of the machine, of the hinged feed-table frame C^2, and the folding floor C^{12}, adapted to close the front end of the machine when not in operation, substantially as and for the purpose specified.

266,372. OIL-PRESS MAT. WILLIAM KRUTZSCH, Dayton, Ohio, assignor to the Buckeye Iron and Brass Works, same place. Filed Sept. 14, 1882. (Model.)

Claim.—1. An oil-press mat composed of a series of parallel strips transversly grooved or recessed at intervals and having their upper edges constructed to present an alternately grooved and ridged surface, combined with a cross bar or bars arranged in the transverse grooves or recesses, and having their upper edges fluted or fashioned to conform to the longitudinal grooves or furrows and the ridges of the strips, substantially as described.



2. An oil-press mat composed of a series of parallel strips having their upper edges constructed to present an alternately grooved or furrowed and ridged surface, combined with side walls, and cross-bars tying the strips together and secured to the side walls, substantially as described.

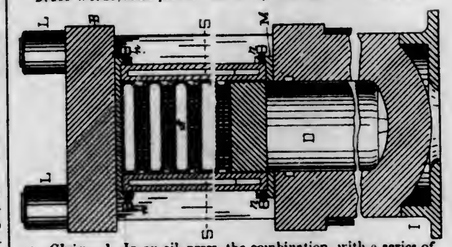
3. An oil-press mat composed of a series of strips arranged parallel to each other, with intervening longitudinal slits, and having their upper edges constructed to present an alternately grooved and ridged surface, substantially as described.

4. An oil-press mat composed of a series of parallel strips having their lower sides beveled or inclined to create widened intervening channels, and their upper edges constructed to present an alternately grooved and ridged surface to the mat, substantially as described.

5. An oil-press mat composed of a series of strips arranged parallel to each other, with intervening slits, and their lower sides beveled or inclined, and their upper edges constructed to present alternating grooves or furrows and ridges, substantially as described.

6. An oil-press mat composed of the parallel strips having beveled lower sides and their upper edges constructed to present an alternately grooved and ridged surface, said strips being spaced by washers to form narrow longitudinal slits, combined with the side walls, and the fluted or corrugated cross-bars arranged flush with the upper surfaces of the parallel strips, substantially as described.

266,373. OIL-PRESS AND OIL-PRESS BOX. WILLIAM KRUTZSCH, Dayton, Ohio, assignor to the Buckeye Iron and Brass Works, same place. Filed Sept. 14, 1882. (No model.)



Claim.—1. In an oil-press, the combination, with a series of press-boxes, of hollow vertical guide-plates adapted to bear against the press-boxes, and having chambers or passages for the circulation of hot air or steam in contact with the boxes, substantially as described.

2. In an oil-press, the combination, with the boxes and vertical guide-plates, of the blocks arranged at the top and bottom of the press, and means for adjusting the guide-plates or walls against the sides of the boxes, substantially as described.

3. In an oil-press, the combination of two press-boxes arranged one above the other, with a grating resting on the lower box and a division-plate resting on the grating, substantially as described.

4. In an oil-press, a press-box having all its four sides provided with chamfered edges, which match with the chamfered edges of the adjacent box, combined with an interior grating and a division-plate resting on the grating, substantially as described.

5. In an oil-press, a series of press-boxes arranged vertically one above the other, and each having the upper and lower edges of all its sides chamfered, whereby such edges will match and the entire series be brought together in the manner and for the purpose described.

6. In an oil-press, the combination of two press-boxes, one adapted to enter the other, a grating resting on the lower box, and a perforated division-plate having longitudinal corrugations and resting on the grating, substantially as described.

7. In an oil-press, the combination of the press-box, having on its under side the longitudinal corrugations, with the under press-box, the grating and the division-plate having longitudinal corrugations on its upper side, substantially as described.

8. In an oil-press, the combination, with the press-frame and a series of boxes arranged therein, of the obliquely-arranged links, each having one end fixed to a box by a pivot on which it can turn, and the other end having a slot loosely fitting a pin on the adjacent box, substantially as described.

9. In an oil-press, the combination, with a series of press-boxes, of hollow imperforate walls, forming guide-plates for the boxes and serving for the circulation of a heating medium, substantially as described.

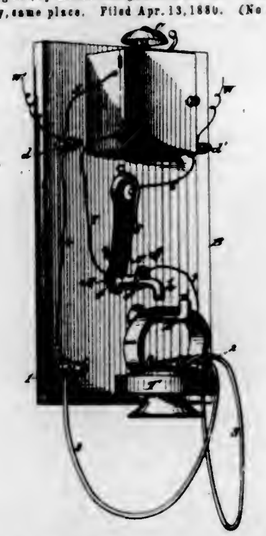
10. In an oil-press, the combination of a press-box provided with ledges on its upper and under surfaces and longitudinally corrugated on one side, a perforated division-plate of similar construction, and a loose grating removably arranged between the box and its plate, substantially as described.

11. In an oil-press, the combination, with a vertical series of press-boxes and interposed division-plates and gratings, of hollow walls or guide-plates provided with chambers or passages for the circulation of heat adjacent to the press-boxes, substantially as described.

12. In an oil-press, in combination with the press-boxes thereof, one or more hollow vertical walls inclosing chambers or passages formed by interlapping partitions, substantially as described.

13. In an oil-press, a box having on its upper and lower faces walls or ledges provided with chamfered edges, said plates being corrugated longitudinally and provided at the end with an opening for the passage of oil, substantially as described.

266,374. TELEPHONE-SWITCH. CHARLES W. LEWIS, Chicago, Ill., assignor, by mesne assignments, to the Western Electric Company, same place. Filed Apr. 13, 1880. (No model.)



Claim.—1. The combination, in a telephone apparatus, with the telephone-supporting arm, of a swinging switch-lever adapted to switch the telephone and signal alternately in or out of circuit, and provided with a handle the end of which is arranged to be brought in coincidence with the end of said supporting-arm when the telephone is in circuit and form a guard which must be removed before the telephone can be placed upon said supporting-arm and switched out of circuit.

2. In a telephone-station apparatus, the combination, with the signal-bell circuit, telephone-circuit, and telephone-supporting arm, of a combined signal and telephone switch-lever provided with an arm or guard adapted to be brought close to or cover the end of said telephone-supporting arm when the telephone is in circuit and the signal out of circuit in such manner that the telephone cannot be hung upon its supporting-arm until the said arm of the switch is moved away from said supporting-arm, the telephone being thereby switched out of and the signal into the circuit, substantially as described.

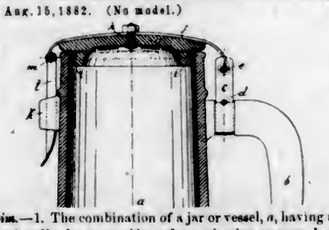
3. The combination of the telephone-circuit plate A', forming one terminal of said circuit, the telephone-supporting arm and the switch-lever S, provided with arm *o*, arranged to be brought close to and form a guard for said supporting-arm when the switch is in contact with said plate A', substantially as described.

4. The combination of the signal-circuit, telephone-circuit, plates A and A', forming terminals of said circuits, respectively, the telephone-supporting arm, and the switch-lever S, provided with arm *o*, arranged to be brought close to and form a guard for said supporting-arm when the switch is in contact with said plate A', and to be swung away from said arm when the switch is in contact with plate A, substantially as and for the purpose set forth.

5. The combination of the contact-plates, swinging switch-lever making rubbing or friction contacts with said plates, and a hook or supporting-arm for the telephone, so placed with reference to said switch-lever that the latter must be moved to break the circuit through the telephone before the telephone can be hung upon its said hook or support, substantially as described.

6. The combination, with the telephone-circuit, call-bell circuit, and supporting arm or hook for the telephone, of a swinging switch-lever provided with a guard-arm which, when the said lever is so turned as to bring in the telephone, will cover the point or close the opening of said hook or supporting-arm, substantially as and for the purpose set forth.

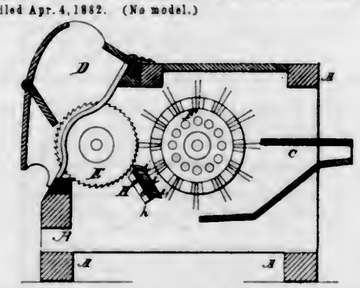
266,375. JAR. ANTON LUCKE, Vienna, Austria-Hungary. Filed Aug. 15, 1882. (No model.)



Claim.—1. The combination of a jar or vessel, *a*, having a projection or handle, *b*, at one side and a projection or nose, *k*, at the other side, with a lid or cover, *g*, having an elastic packing ring or gasket, *i*, a strap or cross-piece, *f*, attached to the cover, and means for connecting the strap *f* respectively with the handle *b* and nose *k* of the jar, substantially as set forth.

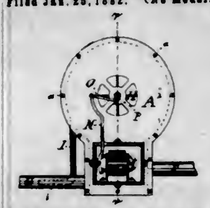
2. The combination of a jar or vessel, *a*, having a handle, *b*, at one side and a nose or projection, *k*, at the other side, a lid or cover, *g*, having an elastic packing ring or gasket, *i*, a diametrical strap or cross-piece, *f*, attached to the cover *g*, a clasp, *c*, secured to the handle *b*, and by a hinge-connection to strap *f*, and a hinged latch or link, *l*, locking over the nose *k*, substantially as specified.

266,376. COTTON-GIN. FRANKLIN R. LUMMUS, Brooklyn, N. Y. Filed Apr. 4, 1882. (No model.)



Claim.—A whipping-bed having longitudinal parallel ridges or blades, the outer edges of which are depressed from a horizontal plane, substantially as described.

266,377. SIPHON-PUMP. ALEXANDER D. MACKELLAR, Brooklyn, N. Y.; (John MacKellar, Administrator of said MacKellar, deceased.) Filed Jan. 25, 1882. (No model.)



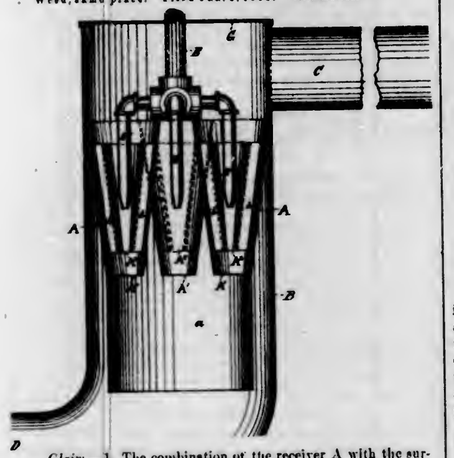
Claim.—1. A siphon-pump having as an auxiliary suction-power an air-blower, H, driven by an electric motor, M, in combination with a funnel-shaped air-duct, I, all concealed and arranged to operate within a portable casing, A, A', A^2, *d*, and *e*, substantially as and with the object specified.

2. In combination with a siphon-pump, the chamber B, air-blower H, shaft J, air-duct I, electric battery L, and electric motor M, arranged to operate as herein described.

3. The air-chamber B and water-chamber C, inclosed with covers A' A^2, having upon their outer sides, respectively, the chambers D and E, inclosed with covers *d* and *e*, in combination with inlet-pipe F, outlet-pipe G, air injector or blower H, shaft J, funnel-shaped air-duct I, battery L, and motor M, so arranged as to compose the portable siphon-pump, as herein described and set forth.

4. The arrangement of an electric motor, with its battery, either in separate compartments or both in one compartment, inclosed and in combination with casing A, chambers B and C, and air-blower H in a siphon-pump, as and for the purpose described.

266,378. VACUUM-BLOWER FOR FURNACES. JAMES P. MASON, Philadelphia, Pa., assignor of one-half to Frederick T. Wood, same place. Filed Jan. 9, 1882. (No model.)



Claim.—1. The combination of the receiver A with the surrounding case B and steam-pipe E, the case having an inlet-passage for air into the funnel, and a blast-pipe, D, substantially as described.

2. The funnels A', in combination with the receiver A and branch pipes E', for increasing the effective power of the blower, substantially as described.

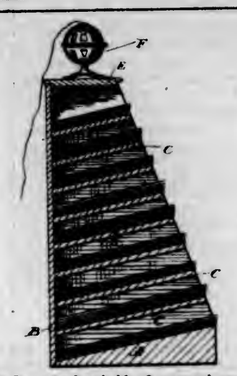
3. The combination of the funnels A^2 with the funnels A' and branch pipes E^2, for giving still increased power to the blower, substantially as described.

4. The combination of the pipe E, having branch pipes E', with the funnels A' and A^2, substantially in the manner and for the purpose set forth.

266,379. PAPER-BAG HOLDER. FRANK A. MASTERS, Troy, N. Y. Filed July 5, 1882. (No model.)

Brief.—A three-sided case with shelves has its base inclined rearwardly on its upper side, the shelves being parallel thereto and forming an acute angle with the back.

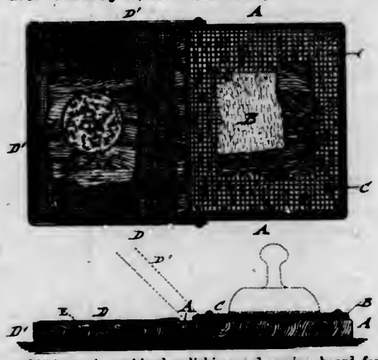
266,379.



Claim.—1. In a stand or holder for paper bags, the combination, with the base and back, of the shelves so arranged with relation to the back as to leave between said shelves and back an acute-angled space, whereby the uppermost bag is projected forward, as set forth.

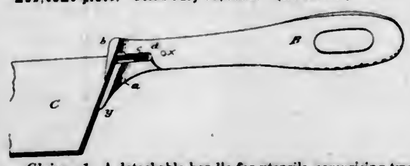
2. The combination of the wedge-shaped base-piece A, having downwardly and rearwardly inclined upper side, the vertical back B, the shelves C, parallel to each other and to the upper side of the base-piece, and the sides D, as and for the purpose set forth.

266,380. POLISHING AND WAXING BOARD FOR SAD-IRONS. JOHN D. MULLER, New York, and BENJAMIN MILLER, Brooklyn, N. Y. Filed Aug. 15, 1882. (No model.)



Claim.—A combined polishing and waxing board for sad-irons, which consists of a supporting-board, A, covered partly with a layer, B, of asbestus or other non-combustible material and a retaining wire plating, and partly with a removable cloth, D, secured by retaining devices D' to the board, said board being provided with one or more depressions below the cloth, and a removable cup or cups, E, containing wax, substantially as and for the purpose set forth.

266,381. DETACHABLE HANDLE FOR UTENSILS. FRED. A. MEIDER, Augusta, Ky., assignor of one-half to George Grossman, same place. Filed July 15, 1882. (No model.)



Claim.—1. A detachable handle for utensils, comprising two parts pivoted together near their gripping ends, and provided with pendent jaws to take over and under the flanged rim of the utensil, and having an elongated recess, *d*, and a recess, *c*, formed in the side of the recess *d*, substantially as and for the purposes set forth.

2. The combination, to form a detachable handle for utensils,

of the part A, provided with the long exterior lower jaw, *a*, and the part B, provided with the short interior upper jaw, *b*, the said parts being pivoted together at *x*, the pivot extending in a plane parallel with the faces of the jaws, and having an elongated recess, *d*, formed in them beyond the pivot-point, substantially as and for the purposes set forth.

266,382. DETACHABLE HANDLE FOR UTENSILS. FRED. A. NEIDER, Augusta, Ky., assignor of one-half to George Grossmas, same place. Filed July 15, 1882. (No model.)



Claim.—1. A detachable handle for utensils, composed of two elements, A and B, pivoted together to play longitudinally, and provided with suitable jaws to grasp the utensil, and with a beveled projection on one element arranged to take against some part of the other element when the elements are brought together, in the manner described, so as to cause the jaws to approach each other and adjust themselves to utensils of different thicknesses, substantially as set forth.

2. A detachable handle for utensils, composed of two elements, A and B, loosely pivoted together by the engagement of the neck *a* on A with the elongated slot *b* in B, and said elements provided with gripping-jaws *c* and *d*, arranged at an angle with the elements, and one element provided with a beveled projection, *e*, to take against some part, *f*, on the other in closing, whereby the jaws are given two motions in closing—one motion in an arc and the other in a direction substantially at right angles to the planes of their faces—as and for the purposes set forth.

3. The combination, to form a detachable handle for utensils, of the element A, provided with the neck *a*, slotted to receive the axial pivot, the jaw *c* and projection *e*, and the element B, provided with the slot *h*, pivot-pin *g*, jaw *d*, and face *f*, substantially as set forth.

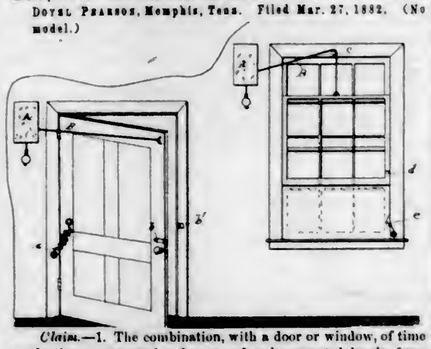
266,383. PROCESS OF MANUFACTURING PAPER-PULP FROM WORN-OUT CORSETS, &c. ANDREW PATTERSON, Worcester, Mass. Filed Sept. 20, 1882. (No specimens.)

Claim.—1. The described process of removing bones or horn from waste textile material or corsets, which consists in mangling or reducing the same to small pieces and exposing them to the action of a boiling alkaline solution, as set forth.

2. The described process of removing bones or horn from waste textile material or corsets, which consists in reducing them to small pieces, saturating them in boiling alkaline solution, and finally washing the rags, as set forth.

3. The described process of removing the bones or horn from waste textile material or corsets, which consists in reducing the same to small pieces, exposing them to the action of a boiling solution of caustic soda, and then washing the rags, as set forth.

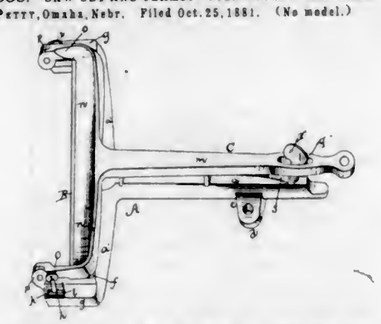
266,384. DEVICE FOR CLOSING WINDOWS AND DOORS. DOYAL PEARSON, Memphis, Tenn. Filed Mar. 27, 1882. (No model.)



Claim.—1. The combination, with a door or window, of time mechanism constructed and arranged to be operated by the force employed in closing the same, substantially as and for the purpose set forth.

2. The combination of a door or window provided with automatic locking devices with a time mechanism arranged to be operated by the force employed in closing the same, substantially as shown and described.

266,385. SAW SET AND CLAMP. JOHN W. PETTY and JAMES K. PETTY, Omaha, Nebr. Filed Oct. 25, 1881. (No model.)



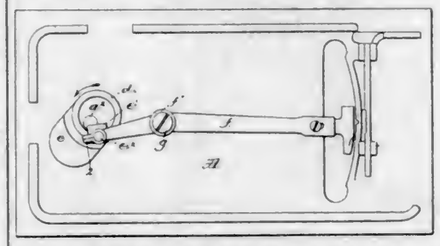
Claim.—1. In a saw set and clamp, the combination of the base A, having arms *a a' g*, standards *p*, slotted guides *k*, and thumb-screws *i*, and the clamp C, having arms *m n o*, pivotally secured to the standards *p*, and elongated slot *q*, and the thumb-screw *r*, supported by the base A and operating within the slot *q*, substantially as and for the purpose set forth.

2. The combination, with the base A, of the clamp C, pivotally secured at its front end to the front end of said base, and having at its rear end an elongated slot, *q*, the spring *s*, secured at one end to the under side of the arm *m*, its free end resting against the upper face of the base A, and the thumb-screw *r*, having bearing in said base and adapted to enter said slot and engage the clamp-arm *m*, substantially as and for the purpose set forth.

3. In a saw set and clamp, the base A, having longitudinal arm *a* and a transverse arm, *a'*, having recess *f*, anvil B, having one square and three beveled edges, and adapted to fit within said recess *f*, and the clamp C, having a longitudinal arm, *m*, and a transverse arm, *n*, pivotally connected at each end to standards *p*, to adapt the same to be turned over upon said base and retain the anvil and the saw to be operated upon in position, substantially as set forth.

266,386. WITHDRAWN.

266,387. SEWING-MACHINE. JOHN B. PRICE, Wollaston, Mass. Filed Aug. 28, 1882. (No model.)



Claim.—1. The rotating shaft a^3, its arm or plate and attached ring or annulus *d*, and the shuttle-carrying lever *f*, combined with the oscillating rider in which the said ring travels, substantially as described.

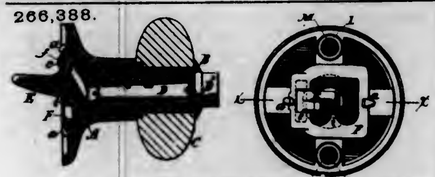
2. The shaft a^3, its arm or plate, and the eccentrically-placed ring *d*, and the lever *f*, combined with the oscillating rider and its adjusting-gib, as shown and described.

3. The bed-plate and its connected hub and the lever and conical-headed stud or screw *g*, combined with a setting device accessible from the top of the bed-plate, substantially as described.

4. The bed-plate and the conical hub driven therein, and the conical-headed screw *g* and lever *f*, combined with a screw-setting device, *m*, to hold the said screw *g* in adjusted position, substantially as described

266,388. LATCH. AUGUSTUS B. PROUTY, Worcester, Mass Filed Dec. 17, 1881. (Model.)

266,388.



Claim.—1. In a latch-knob mechanism, the combination, with the knob and latch actuating devices, of a reciprocating push-bar provided with an offset or projection adapted to hook upon an inner shoulder or end of the hollow stem or guide-sleeve, and a spring for supporting said bar with its offset in contact with said shoulder, whereby said push-bar can be readily removed and replaced by depression of said spring, substantially as set forth.

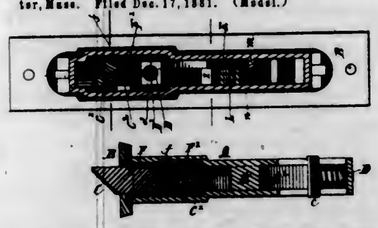
2. The push-bar D, having the offset *d*, and provided with a spring, K, in combination with the hollow bolt or knob-stem B, knob C, and rose-casting A, substantially as and for the purpose set forth.

3. The retaining-plate F, provided with bearing-depressions *f*, in combination with the angle-lever E, having trunnions *e*, and the rose-casting provided with pins or lugs *a*, substantially as and for the purposes set forth.

4. The combination, with the rose-casting A, of the retaining-plate F, provided with the guard-finger *i*, and the angle-lever E, having a lug or shoulder for engaging said finger, as and for the purpose set forth.

5. The combination, with the stem B, the push-bar D, having flange or lug *a*, and the spring K, of the wedge or dog-piece *m*, inserted beneath said spring and past said flange, substantially as and for the purpose set forth.

266,389. LOCKING-LATCH. AUGUSTUS B. PROUTY, Worcester, Mass. Filed Dec. 17, 1881. (Model.)



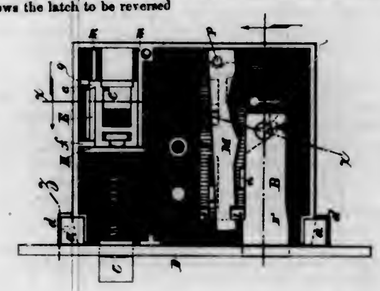
Claim.—1. The latch-bolt formed in two parts, respectively, adapted to be independently actuated by the outside and inside knob devices, in combination with a key-actuated mechanism for moving one part of said bolt, substantially as set forth.

2. The combination, substantially as described, of the latch-bolt, formed in two parts, adapted for independent action by the respective knob devices, the thumb-slide for dogging or locking one portion of said bolt, the key-slide, and the tumbler mechanism, organized and operating as set forth.

3. The combination, substantially as described, of the latch-bolt C, provided with lug *d*, the spring D, and bar, D', the slide E, with guards I and J, and flange *a*, and the tumbler-bars L, constructed and operating as set forth, and for the purposes stated.

266,390. LOCK. AUGUSTUS B. PROUTY, Worcester, Mass. Filed Dec. 17, 1881. (Model.)

Brief.—Upon inverting the case the loose bar drops down and allows the latch to be reversed



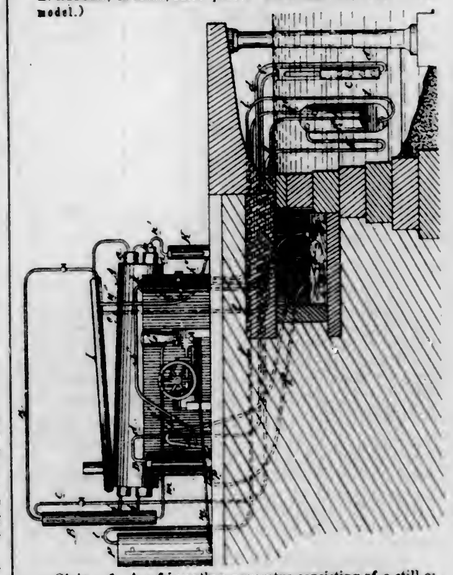
Claim.—1. The combination, with the lock-case provided with channeled bosses *c*, as described, of the face-plate provided with flanges *d'* and studs or projections *d*, clinched or riveted within said bosses in the manner set forth, whereby a rigid connection is afforded while the face-plate is sustained at a short distance from the edge of the case, as and for the purpose specified.

2. The combination, with the slide-piece C', provided with a beveled lug, *e*, and the latch-bolt C, swivel-connected to said slide, of the loose bar or dog E, confined between said slide and the case by flanges *f g*, said parts being constructed and arranged for action in the manner shown and described, and for the purpose set forth.

3. The combination of the locking-bolt B, the bolt-carrier I, provided with key-seat and guards, and arranged to slide on guides *i* above the bolt, and a tumbler mechanism for engaging said guards, substantially as set forth.

4. The combination, substantially as shown and described, of the carrier or slide I, provided with key-seat, upper and lower guards, J L, flange *a*, and stud K, the tumbler-bars M, pivoted on the fixed stud P, with their forward ends acting in conjunction with said guards, and the bolt B, located as shown and connected for action with said carrier, as and for the purposes set forth.

266,391. REFRIGERATING APPARATUS. THOS. L. RANKIN, New York, N. Y., assignor, by mesne assignments, to Charles A. Randall, Trustee, same place. Filed Mar. 17, 1880. (No model.)

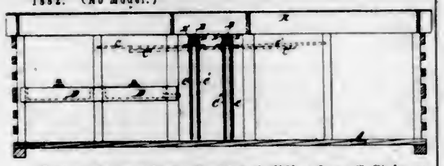


Claim.—1. A refrigerating apparatus consisting of a still or apparatus for vaporizing a volatile liquid, a refrigerating room or inclosure with expansion-pipe, and an absorber and condenser, the said absorber and condenser being immersed in or located below the level of a natural or topographical body of water, and having their connecting-pipes extended to the vaporizing device and the refrigerating-room beneath the ground, to take advantage of the non-conducting properties of the earth and the economical cooling effect of said natural body of water, as and for the purpose described.

2. The combination, in a refrigerating apparatus, of a still for the volatile liquid, a refrigerating room or inclosure with expansive pipes, an absorber and condenser, and pipes located underground connecting these devices, of an indicator-pipe, N, with valve located above ground and connecting the liquefied-gas receptacle with the absorber-pipes for the purpose of enabling the operator to test the effectiveness of the apparatus, as described.

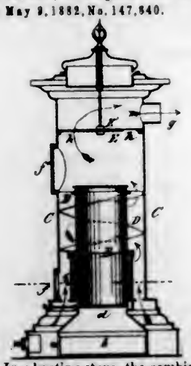
3. The absorber E, arranged in inclined position in the water and having pipe *k* at its lower end, and a pipe, k^2, at its upper end, both communicating with the discharge end of the expansion-pipes of the refrigerating-room and combined with the same, as described, to divide the gas and cause one portion to be absorbed and the other portion to supply the pressure for raising the enriched liquor to its receiver and thus reduce the work of the pump, as described.

266,392. STOCK-CAR. SAMUEL W. REMER, Bridgeport, Conn., assignor to Child & Oliver, New York, N. Y. Filed June 12, 1882. (No model.)



Claim.—In a stock-car, the hinged sliding doors C C', hung on separate ways and sliding past each other and forming partitions across the car, substantially as described, and capable of being hung up or removed whenever required, for the purpose set forth.

266,393. HEATING-STOVE. EWALD SCHÖNBERG, Bockenheim, Germany, assignor to himself and Otto Cullmann, Cullman, Ala. Filed July 15, 1882. (No model.) Patented in England Feb. 28, 1882, No. 967; in Belgium Mar. 15, 1882, No. 57,218, and in France May 9, 1882, No. 147,840.



Claim.—1. In a heating-stove, the combination of an interior combustion-cylinder having holes in its wall, a perforated circular plate at the top of the base, a hinged lid at the top of the cylinder, and a spiral flue surrounding the cylinder, and in which air and gas are mingled, the gas being admitted through said holes in the cylinder, the air through the perforations of said plate, substantially as described.

2. In a heating-stove, the combination of an interior combustion-cylinder having holes in its wall, a flue surrounding said cylinder, a perforated plate at the top of the base, a hinged lid at the top of the cylinder, and a horizontal partition-plate having front and back openings, and a damper which registers with either the front or back opening, whereby a direct or circuitous draft is established between the spiral flue and the exit-pipe, substantially as described.

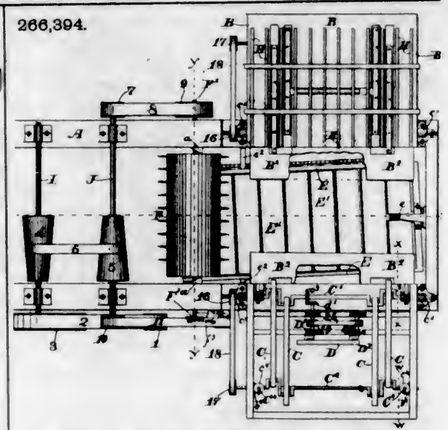
3. The combination of an interior combustion-cylinder having holes in its wall for the escape of gas into the flues surrounding the cylinder, a casing of larger diameter than the cylinder, having air-openings in its base-plate, a spiral flue around the upper part of the combustion-chamber, and a horizontal damper arranged at the upper part of the stove, below the exit-pipe, substantially as described.

266,394. BAND CUTTER AND FEEDER. GEORGE W. SHARP, Crawfordsville, Ind. Filed July 3, 1882. (No model.)

Claim.—1. The combination, with the cylinder and grain-carriers of a thrashing-machine, of a revolving scatterer consisting essentially of two toothed bars, F, parallel with but on opposite sides of its axis, bars *f*, and operating-bars *f'*, and strikes *a* on the frame-work, with which said operating-bars come in contact as the scatterer revolves, whereby the toothed bars are caused to make sudden movements longitudinally of their shaft, thus distributing and scattering the grain, substantially as set forth.

2. The combination of the frame E, suspending devices *e e' e²*, slats E' in said frame, and means for imparting a rotary movement to said slats and a sidewise or vibrating movement to the frame, substantially as set forth.

3. In a band-cutting and feeding attachment for thrashing-machines, the side tables, B, having carriers which operate to move the grain toward the center table between them, in combination with reciprocating band-cutters D, which operate transversely of



the direction in which said carriers operate, (their forward paths being nearer the centers of the bundles than their backward paths,) and located between said carriers, substantially as shown and specified.

4. In a band-cutter and feeder for thrashing-machines, the combination of the adjustable side tables, B, band-cutting and feeding mechanism therein, the shaft for driving said mechanism, and the combined journal and pivot bearings *c'*, in which said shaft runs and whereon said tables are pivoted, whereby the axis of rotation of the shaft and of the swing of the table are rendered coincident, substantially as shown and described, and for the purposes specified.

5. The combination, with the side tables, B, of the aprons or extensions B³, the levers *a'*, and cams *c³* on the shaft C', for operating the same, substantially as shown and specified.

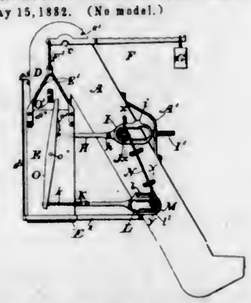
6. The combination of the side table, B, carriers C therein, and spring-bars H, said several parts being constructed, arranged, and operating substantially as shown and specified.

7. The combination, with the pivoted side table, B, of the ratchet-bar B', the pinion *b'*, the clevis *b³*, and the swinging pawl *b⁴*, substantially as described, and for the purposes specified.

8. The combination, with the grain-carriers and their shafts C', of the fingers C⁴, substantially as set forth.

9. The combination of the shaft C³, fingers C⁴, provided with gears *c'*, and table B, provided with cogged rims *b'*, substantially as set forth.

266,395. GRAIN-METER. GEORGE W. SHARP, Crawfordsville, Ind. Filed May 15, 1882. (No model.)



Claim.—1. The combination, in a grain-measurer, of a receptacle suspended to a weighted arm, and provided with two cut-off doors, and mechanism consisting essentially of continuously-revolving pinions and double rack-bars, whereby said doors are opened and closed, substantially as shown and described, and for the purposes specified.

2. The combination of the receptacle E, weighted arm F, doors H and K, rack-bars I and L, and pinions J and M, substantially as set forth.

3. The combination of the grain-receptacle, its doors, the rack-bars, the pinions, and the connecting-rod N, arranged and operating substantially as shown and specified.

4. The combination, with the grain-receptacle, its doors, and the mechanism for operating the same, of the flange *l'* on one of the rack-bars of said mechanism, and the spring-pin *a*, projecting from the surface over which said rack-bar moves, substantially as shown and described, and for the purposes specified.

5. The combination, in automatic measuring apparatus, of the catch-bar O, catch O', and the arm *k*, for operating said catch-bar, substantially as set forth.

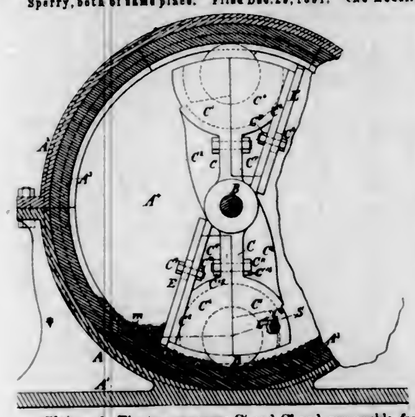
6. The combination of the rod N, having trip *n* and the two rack-bars l and L, the upper one being provided with the projection *i* and the lower with the rod *l*, forming a sliding attachment, substantially as set forth.

266,396. BALANCE-SPRING HOLDER FOR WATCHES. THEODORE SMITH and MERRITT P. MCKOON, Franklin, N. Y. Filed Apr. 28, 1882. (No model.)



Claim.—The fastening device for hair-springs of watches, consisting of the stud A, having the horizontal transverse aperture *a* through one end, one side of said aperture being rounded or convexed, and of the partly cut-away or reduced screw *c*, working in a screw-threaded aperture intersecting the horizontal or transverse aperture *a*, and having an overhanging portion arranged above the transverse aperture *a*, the said reduced or cut-away side of the screw being also rounded or convexed, as shown and described, and for the purpose set forth.

266,397. QUARTZ CRUSHER AND PULVERIZER. JAMES A. SPERRY, Brooklyn, N. Y., assignor to Frank Sperry and Eugene Sperry, both of same place. Filed Dec. 29, 1881. (No model.)



Claim.—1. The two concaves C' and C⁴ and removable fastenings C¹¹ and C¹², in combination with the ball D, arm C, shaft B, inclosing-case A, and suitable means for impelling the shaft, as herein specified.

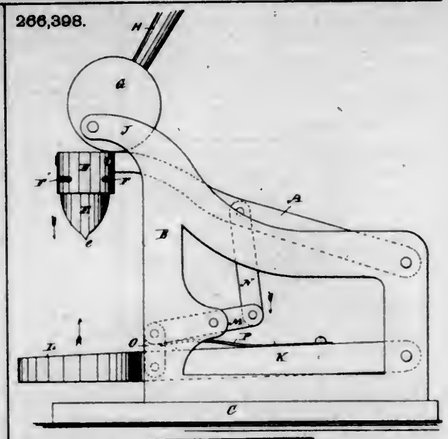
2. In a quartz-pulverizer, the scraper E, flange C⁵, and means for adjustably securing said scraper, in combination with the ball D, concaves C' and C⁴, the case A, and the shaft B, as herein specified.

266,398. CAN-OPENER. WILLIAM A. STODDARD, Dallas, Oreg. Filed June 23, 1882. (Model.)

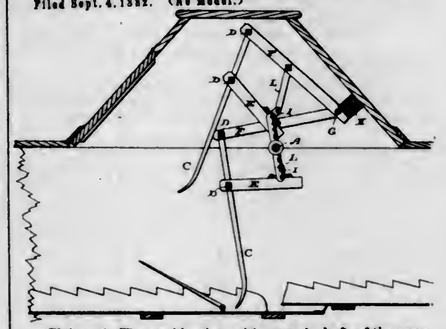
Claim.—1. A can-opener constructed, substantially as herein shown and described, with a lever carrying knives, a lever carrying a can-receiving plate, and levers for connecting these two levers, and adapted to cause the elevation of the can-carrying lever as the knife-carrying lever is depressed, as set forth.

2. In a can-opener, the combination, with the frames B, of the lever A, the knives E, the lever K, the plate L, the lever M, the links N and O, the spring P, the eccentrically-pivoted disk G, and the handle-lever H, substantially as herein shown and described, and for the purpose set forth.

266,398.



266,399. THRASHING-MACHINE. GEORGE STRINGER, Auburn, N. Y., assignor to the E. M. Birdsall Company, same place. Filed Sept. 4, 1882. (No model.)

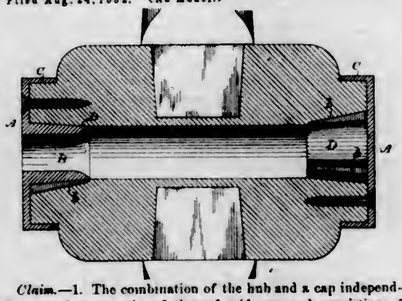


Claim.—1. The combination, with a crank-shaft, of the arms E and F, the link L, the rod G, and the tine C, pivotally connected, substantially as set forth.

2. The combination, with a crank-shaft, of the arms E and F, the link L, the lug I, the rod G, and the tine C, pivotally connected, substantially as set forth.

3. The combination, with a crank-shaft, of the arms E and F, the link L, the lug I, the rod G, the tine C, all pivotally connected, and the stay-bar H, substantially as set forth.

266,400. WHEEL-HUB. GEORGE W. THOMAS, Toledo, Ohio. Filed Aug. 24, 1882. (No model.)



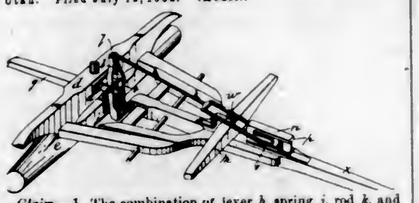
Claim.—1. The combination of the hub and a cap independently secured upon each end thereof, said caps each consisting of a collar, a face-plate, and a tubular extension or axle-bearing extending into the hub-body, substantially as and for the purpose set forth.

2. The cap cast in a single piece consisting of the face-plate

having the screw-holes *a a a* therein, the collar, and the short tubular extension or axle-bearing having the feathers *b b b*, and adapted to extend part way through the hub, substantially as set forth.

3. The combination of the hub and a combined face-plate, A, collar C, and conical tubular extension or axle-bearing D, extending into the hub-body, and independently secured to each end of the hub, substantially as set forth.

266,401. TONGUE-SUPPORT. JOHN J. THOMAS, Salt Lake City, Utah. Filed July 19, 1882. (Model.)



Claim.—1. The combination of lever *b*, spring *j*, rod *k*, and a connecting-block, *n*, with the tongue *x* and the front running-gear of a wagon, substantially as described.

2. The bracket-frame *a*, brace *f*, stud *h*, and spring *j*, in combination with lever *b* and the axle and sand-board of a wagon, substantially as described.

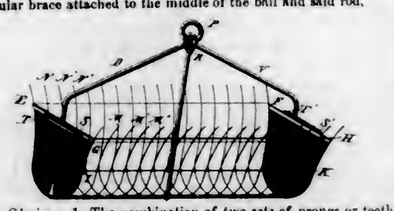
3. The combination, with the rod *k*, having studs *o*, and the tongue *x*, of the block *n*, having grooves *t r*, and gravity-pawls *q*, substantially as described.

4. The block *n*, having top ledges, *p*, grooves *t r*, passages *u*, and gravity-pawls *q*, in combination with rod *k* and tongue *x*, substantially as described.

5. The levers *b* and tongue *x*, in combination with the rod *k*, pivoted at *l* to the upper end of the lever, extending beyond the part *m* and locking to the block *n*, as shown and described.

266,402. DREDGE FOR MINING SUBMERGED ROCK. CHAS. W. TOWNSEND, Charleston, S. C. Filed May 18, 1882. (No model.)

Brief.—A dredging-vessel is formed of a rod with two parallel rows of teeth projecting upward and outward therefrom and closing end pieces. It is dragged by a bail pivoted at the ends to the ends of the rod, and limited in motion by guide-slots at the top of said end pieces, being also connected to said rod by a perpendicular brace attached to the middle of the bail and said rod.

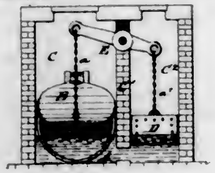


Claim.—1. The combination of two sets of prongs or teeth symmetrically arranged on opposite sides of a central longitudinal plane, each set in turn operating to gather or retain the deposits as the dredge is drawn back and forth upon its one side or the other over the surface to be dredged, substantially as described.

2. The combination, with the prongs or teeth, constructed and arranged as described, and the end pieces, of a frame or bail pivoted to said end pieces, and loops or slots to guide and limit the movement of said frame or bail, as described.

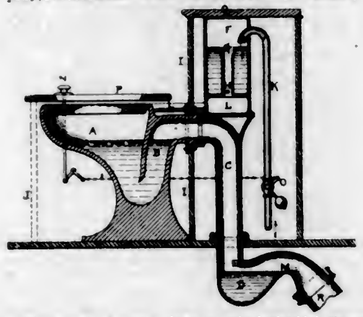
266,403. FLOOD-GATE. HEINRICH VOELMI, New York, N. Y. Filed Apr. 24, 1882. (No model.)

Brief.—Sewer-pipe enters one of two compartments separated by a partition and connecting at bottom, and is closed by a valve controlled through chains and lever by a float in the smaller compartment operated by the rise and fall of water therein as received through the outlet-pipe.



Claim.—An apparatus to prevent the flooding of sewer-pipes during flood-tide, consisting of sewer-pipes A A', two adjoining apartments, side by side, divided by a partition having an opening at its lower part for a free passage of water between the apartments, a float, D, which rides upon the surface of the water, a chain connecting the float to a lever fulcrumed transversely to the partition, and a valve hinged to the top of the sewer-pipe and connected by a chain to the lever, substantially as described.

266,404. WATER-CLOSET AND URINAL. OGDEN E. WARING Jr., Newport, R. I., assignor to the Drainage Construction Company, Boston, Mass. Filed Jan. 20, 1882. (No model.)



Claim.—1. A water-closet or urinal of which the contents are discharged by the action of a valveless siphon having a depth of seal or dip greater than the greatest diameter of the siphon.

2. In combination with the bowl of a water-closet or urinal whose contents are discharged by the action of a valveless siphon, a siphon which is of uniform diameter throughout its length, substantially as shown.

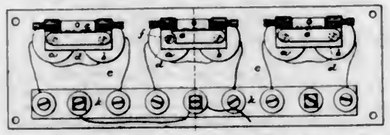
3. In combination with the bowl of a water-closet or urinal, a discharging-siphon the mouth of whose discharging-limb delivers to a weir-chamber or a false trap or other form of obstruction so constructed that when the outflow of the siphon is greater than the capacity of the free space between the mouth of the siphon and the bottom of the overflow of the weir-chamber or false trap, or between the mouth of the siphon and the obstruction, the mouth of the siphon becomes sealed or closed against the admission of air, substantially as set forth.

4. In combination with the bowl of a water-closet or urinal and a siphon by which the same is discharged, a weir-chamber or false trap so constructed that the water discharged into it wells up, so as to seal or close the mouth of the outlet at the beginning of the flow, and from which a portion of the water remaining at the end of the flow is discharged, so as to unseal or open the mouth of the outlet, substantially as set forth.

5. In combination with the bowl of a water-closet or urinal and a siphon for discharging its contents, a weir-chamber or false trap or other obstruction so constructed that the mouth of the siphon is sealed at the beginning of the flow and is unsealed after the flow ceases, substantially as set forth.

6. A water-closet or urinal of which the contents are discharged by the action of a valveless siphon so constructed that the mouth of the receiving-limb of the siphon is not opened for the admission of air until after the water in the bowl is lowered to less than one-half its normal depth, substantially as set forth.

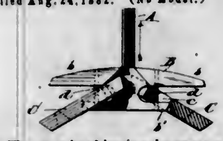
266,405. ELECTRIC ANNUNCIATOR. JAMES C. WARNER, Chicago, Ill., assignor, by mesne assignments, to the Western Electric Company, same place. Filed June 5, 1882. (No model.)



Claim.—1. The combination of the electro-magnets with the iron plate forming the common heel-bar and ground-connection, the brass supports attached directly to the spools, the armatures and levers extending through the slots to the shutters, substantially as and for the purposes specified.

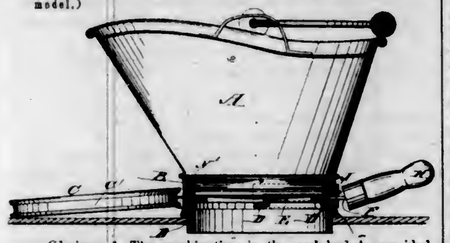
2. The combination of the brass piece with the armature pivoted thereto, and iron screws attaching said brass piece directly to the cores and forming the poles thereof, substantially as and for the purpose specified.

266,406. CHURN-DASHER. NICHOLAS WARRELL, Farragut, Iowa. Filed Aug. 24, 1882. (No model.)



Claim.—The cross-head having the upper and lower arms, the former being slotted, as described, and the pintles for securing the blades, in combination with the blades having the openings for the passage of the pintles to allow vertical play of the blades, the latter also having recesses to permit them to lap the shank of the cross-head, as and for the purpose shown and described.

266,407. COMBINED COAL HOD AND SIEVE. ALEXANDER WATSON, East Pepperell, Mass. Filed Aug. 31, 1882. (No model.)



Claim.—1. The combination, in the coal-hod A, provided with the slotted vertical flange B, of the clips D, circular sieve E, wire K, and shield J, having notched flanges L, substantially as shown and described.

2. The combination, in the coal-hod A, of the vertical flange B, the hinged bottom C, the sieve E, the shield J, having end flanges, L, provided with notches *a*, and the wire K, substantially as shown and described.

266,408. SHOE-NAIL. EPHRAIM L. WIRES, Milford, Mass. Filed Nov. 24, 1879.



Claim.—The improved wire shoe-nail above described, having a laterally-projecting head formed by upsetting one end of a short piece of wire, a body whose size is due to the size of the wire from which the nail is made, and a cut, two-sided, wedge-shaped, malleable point adapted to clinch, as and for the purposes specified.

266,409. CARRIAGE-BOW. FREDERICK A. WITTICH, Ashtabula, Ohio. Filed Apr. 24, 1882. (No model.)



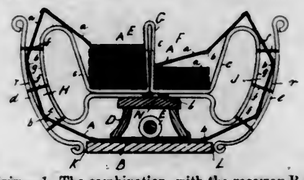
Claim.—In a carriage-bow, the combination, with a tubular metal side piece having a metal plug or thimble provided with a screw-threaded opening welded within the lower end of said side piece, of a slat-iron having a screw formed on its upper end, said screw being of less diameter than the slat-iron and adapted to fit within the plug or thimble, and the surfaces of the side piece to be flush with those of the slat-iron, substantially as described.

266,410. THILL-SUPPORT. WILLIAM C. WOOD, New York, N. Y. Filed Feb. 7, 1882. (No model.)



Claim.—The arrangement of the spring A and lug D with the catch E, located in the thills or pole for the purpose of supporting the same, as shown and described.

266,411. ATTACHMENT FOR MECHANICAL MUSICAL INSTRUMENTS. OLIVER H. ARMS, Wilmington, Mass. Filed June 21, 1882. (No model.)



Claim.—1. The combination, with the raceway B and with a folding music-sheet, A, of an attachment composed of a receptacle and a guideway having two sides connecting the receptacle with one end of said raceway, substantially as described, for the purpose specified.

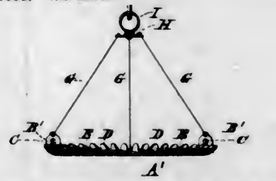
2. The combination, with the raceway B and with a folding music-sheet, A, of an attachment composed of two receptacles, E F, and of two guideways, H J, each having two sides connecting said receptacles, respectively, with the forward and rear ends of said raceway, substantially as described, for the purpose specified.

3. The combination, with the raceway B, of an attachment composed of a receptacle or receptacles, E F, and of a guide way or ways, H J, connecting said receptacle or receptacles with said raceway, and all made of wire, substantially as and for the purpose described.

4. The combination, with the raceway B, of an attachment composed of a receptacle or receptacles, E F, and a guide way or ways H J, connecting said receptacles with said raceway, and provided with side guide-loops, *t*, substantially as and for the purposes described.

5. An attachment for the raceway B, consisting of a receptacle or receptacles, E F, and a guide way or ways, H J, all complete in itself, and adapted to be fastened in position in relation to said raceway, substantially as described, for the purposes specified.

266,412. WHIP-HOLDER. SAMUEL BAKER, Buffalo, N. Y. Filed Aug. 1, 1882. (No model.)



Claim.—As an improved article of manufacture, a whip holder and exhibitor constructed essentially of two sections, A A', each being provided with lugs B B', secured together by a fastening, C, and suspended from a disk and a swivel-ring, as stated, the sections adapted to be separated and to each form a complete whip holder and exhibitor to be secured to a wall, &c., substantially as specified.

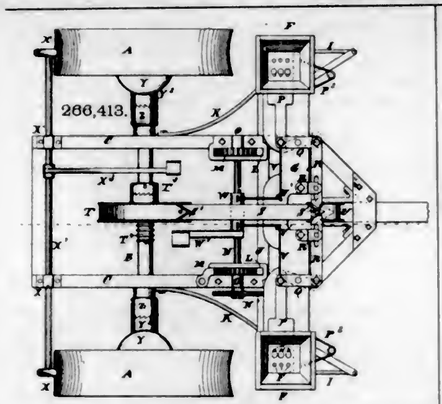
266,413. COMBINED SELF-DROPPING CORN-PLANTER AND CHECK-ROWER. JAMES W. BAPPLE, Sedalia, assignor of one-half to Joseph Englaender, St. Louis, Mo. Filed June 20, 1882. (No model.)

Claim.—1. In a planter, the combination of slides P P, swinging levers Q Q, arms R R, springs for pressing said slides outward, belt S, provided with cams S', adapted to force the arms apart, and the wheels T and U, as set forth.

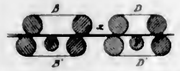
2. In a planter, the combination of belt S, provided on its outer side with cams S', and transverse ribs S^2 on its inner side, the belt-supporting wheels T U, having transverse grooves T^2, the slides P, springs P^2, levers Q, and arms R, as set forth.

3. In a planter, the combination of slides P P, cords V V, guides V' V', shaft N, rock-sleeve W, and foot-lever W', as set forth.

4. In a planter, the combination of markers Y Y, mounted on arms Y' Y', extending from sleeves Y^2 Y^2, clutch-collar Z, axle B, wheels T and U, having grooves T^2, belt S, having cams S', and ribs S^2, slides P P, arms R R, and levers Q Q, as set forth.



266,414. RUBBING MECHANISM FOR CARDING-MACHINES. JAMES BARKER, Philadelphia, Pa. Filed June 9, 1882. (No model.)



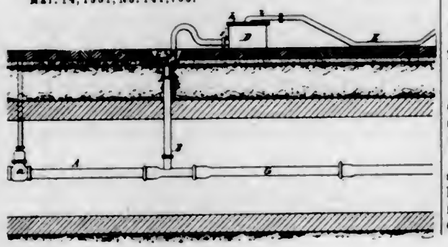
Claim.—A rubbing mechanism for carding-machines in which short endless aprons B B' are combined with a second pair of aprons, D D', arranged at a short distance from the first pair, as and for the purpose set forth.

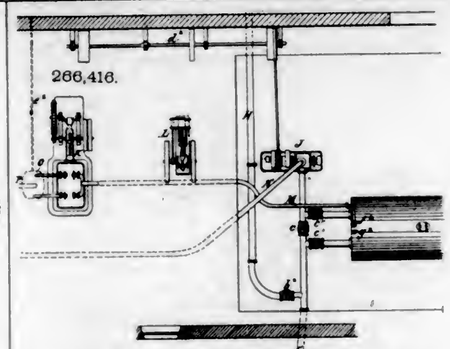
266,415. COMBINED WARBLER AND CAGE. JAMES R. BARRY, Brooklyn, N. Y. Filed Mar. 2, 1882. (No model.)



Claim.—A bird-cage having a warbler, C, connected therewith, as and for the purpose specified.

266,416. PNEUMATIC APPARATUS FOR REMOVING NIGHT-SOIL FROM CESSPOOLS. JEAN BAPTISTE BERLIER, Paris, France, assignor to the Compagnie Générale de Salubrité, same place. Filed Jan. 12, 1882. (No model.) Patented in France Mar. 14, 1881, No. 141,763.





Claim.—1. The pneumatic tube G, combined with purge-pipe A, cock *a*, supply-pipe B, and with apparatus, substantially as described, for creating suction in pipe G, as and for the purpose specified.

2. The strainer D, combined with pipes *i j* and gratings *l* and with the pneumatic tube G and pipe B, with which it communicates, substantially as specified.

3. The valve-box C, combined with valve *c d*, mouth-piece *f*, and with the pneumatic tube G and pipe B, with which it communicates, substantially as herein shown and described.

4. The combination of the pipe E, strainer D, valve-box C, pipe B, pneumatic pipe G, water-supply pipe A, and valve *a* with apparatus, substantially as specified, for creating a vacuum in the pipe G, as set forth.

5. The combination of pipe C^2, having bend b^2, with the pipes F^2 and E^2, for the passage of gases where the pneumatic tube is siphoned in case of any obstruction in the bend of the siphon, as described.

266,417. COLORING COMPOUND FOR ARTIFICIAL BUTTER. HUGO BRATHOLD, New York, N. Y. Filed June 14, 1882. (Specimens.)

Claim.—A coloring compound for admixture with oleomargarine-oil after the usual churning operation, consisting of saccharine matter, glycerine, annotto, and oil of ben, mixed together in the manner and about in the proportions specified.

266,418. GAS-BURNER FOR STOVES. LEWIS F. BEYTS, Morton, Pa., assignor to John H. Irwin, same place, and Robert E. Dietz, New York, N. Y. Filed Mar. 11, 1882. (No model.)

Brief.—The lugs c fit into notches in the cones (not shown in the drawings) and hold them in place, so that their slots will coincide with the gas-openings in the top of the burner.



Claim.—1. In a gas-burner for stoves, the combination, with tube A, of triangular burner-tips united thereto by means of solder, substantially as shown and described.

2. The burner-tips B, formed of sheet metal, shaped substantially as specified, the edges thereof being bent over each other or swaged and united, substantially as shown and described.

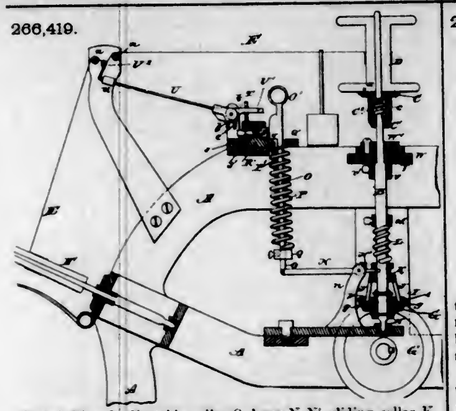
3. In a gas-burner of the character herein specified, the combination, with pipe A and burner-tips B, constructed of sheet metal, as set forth, of plate C, having guiding-lugs c thereon, substantially as shown and described.

266,419. MACHINE FOR SPOOLING YARN. LOUIS C. BILLINGS, Milford, N. H. Filed Apr. 27, 1882. (No model.)

Brief.—When the yarn breaks the winding-spindle is withdrawn from its rotating mechanism and subjected to a brake. A spiral spring supplies a yielding connection between the spool and the spindle.

Claim.—1. In a machine for spooling yarn, thread, or silk, the stop motion or mechanism consisting of the levers U' and U, the latter having the eye U^3 for the yarn to pass through on its passage from the cop or reel F to the spool D, trigger T, spring-bolt S, rod O, having the offset or shoulder *o*, and provided with the springs

266,419.

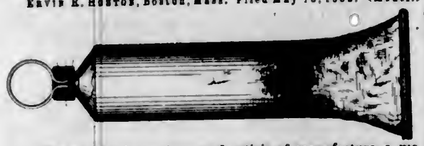


P' and P'' and adjustable collar Q, lever N N', sliding collar K, having pivoted clutch-fingers J J', loose pinion G, having notches *g*, and spindle B, having the fixed disks H and I, spring L, and adjustable collar M, all constructed and combined substantially as and for the purpose herein shown and set forth.

2. In a machine for spooling yarn, thread, or silk, the combination of the spindle B, provided with suitable mechanism for rotating it, brake-disk V, fixed adjustably upon the spindle, brake-disk W, fixed in the frame of the machine, and having a central bushing, W', for the insertion of the spindle, adjustable collar M, spring L, collar K, and mechanism for sliding the same upon the spindle, and thereby disengaging or uncoupling it (the spindle) from its rotating mechanism, substantially as and for the purpose herein shown and set forth.

3. In a machine for spooling yarn, thread, or silk, the combination of spindle B, having the shell C' fixed thereon, disk C, having the pin or stud *x* and cylindrical sleeve c, fitting into shell C', and coiled spring C^4, encircling the spindle within sleeve c, and having its upper end fixed in disk C and its lower end fixed in the bottom of shell C', substantially as and for the purpose herein shown and described.

266,420. METALLIC PACKING-CASE. ALFRED A. BLAIR and ERVIN R. HORTON, Boston, Mass. Filed May 13, 1882. (Model.)

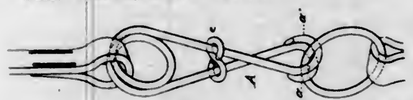


Claim.—1. As an improved article of manufacture, a metallic packing-case having a collapsible tubular body and a closing-bar to hold and hermetically seal one end of the said collapsible tubular body, as shown and described.

2. The cover, combined with the wire eye-piece, the ends of which are extended down into and rigidly secured to the cover, as shown and described.

3. The collapsible tube, combined with the closing-bar connected with and sealing one end thereof, the ends of the said closing-bar being extended beyond the tube, substantially as and for the purpose set forth.

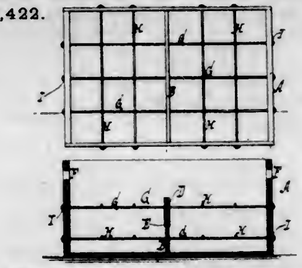
266,421. SNAP-HOOK. GEORGE W. BLAKE, Port Townsend, Wash. Filed July 15, 1882. (No model.)



Claim.—The snap-hook having the bent and coiled body made of a single piece or rod having the hooks *a a'* at its ends, in combination with the safety-link *s*, substantially as specified.

266,422. BOX FOR HOLDING AND TRANSPORTING BOTTLES. JOHN BOE, Mount Vernon, N. Y. Filed Sept. 9, 1882. (No model.)

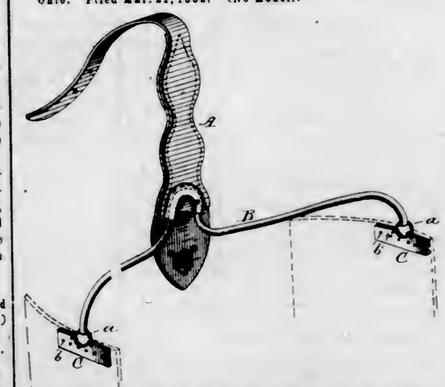
266,422.



Claim.—1. The box A, provided with a central transverse partition, B', and two or more series of wires, G and H, extending through the ends and sides of the box and riveted outside of the box, the wire G extending also through the partition B, substantially as described.

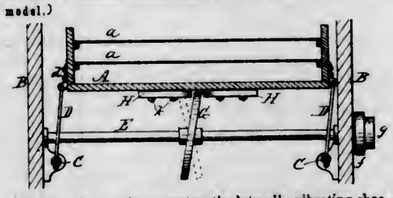
2. The box A, in combination with the wires G and H, and with the partition B, which aids to support the wires G, and is provided with tenons C, resting on shoulders E, formed in the sides of the box, substantially as described.

266,423. BRIDLE-BLINDER STAY. JESSE A. BOWDLE, McComb, Ohio. Filed Mar. 21, 1882. (No model.)



Claim.—In a headstall or bridle, the stay B, having connected to its outer ends by ball-and-socket joints *a* plates C, for attaching thereto the blinders, substantially as and for the purpose set forth.

266,424. GRAIN-SEPARATOR FOR THRASHING-MACHINES. CEPHAS W. BRACKETT, Jordan, N. Y. Filed July 13, 1882. (No model.)



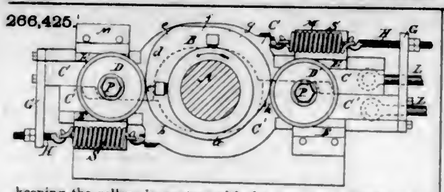
Claim.—In a grain-separator, the laterally-vibrating shoe A, the separate wooden blocks H H, having slots *m m* and the bolts *k k*, in combination with the staggering wheel or cam G and cross-shaft E, as herein shown and described.

266,425. CUT-OFF-VALVE GEAR. HENRY BROOMELL, Christiana, Pa. Filed Aug. 18, 1882. (No model.)

Claim.—1. The combination, in a steam-engine valve-gear, of a cam, a sectional yoke or carriage, and means for keeping each side of the carriage in contact with the cam, substantially as and for the purpose described.

2. The combination, in a steam-engine valve-gear, of the cam, the sectional yoke or carriage, the friction-rollers and means for

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keeping the rollers in contact with the cam, substantially as described.

3. In a steam-engine valve-gear, the combination of the cam, the sectional yoke or carriage, the friction-rollers, and the springs, whereby the yoke is kept in contact with the cam, substantially as and for the purpose described.

4. In a steam-engine valve-gear, the combination of the cam, the sectional yoke or carriage, the friction-rollers, the springs, and means for adjusting the tension of the springs, substantially as described.

5. In a steam-engine valve-gear, the combination of the cam, the sectional yoke or carriage, means for keeping the yoke in contact with the cam and the two valves, and stems whereby the two valves are operated by the cam, substantially as described.

6. In a steam-engine valve-gear, the combination of the cam, the sectional yoke or carriage, means for keeping the yoke in contact with the cam, and guides for the yoke, substantially as described.

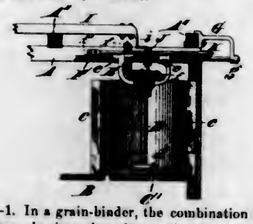
7. In a steam-engine valve-gear in which a single cam operates two valves, the combination of a cam having its contour as follows: an admission, a cut-off, a stop for expansion, and an exhaust-face, and means by which the valves are alternately operated, substantially as described.

8. In a steam-engine valve-gear, the combination of the cam, the sectional yoke or carriage, means for keeping the yoke in contact with the cam, and the detachable cut-off face of the cam, substantially as described.

9. In combination with a steam-engine, the two valves and means for operating them alternately and independently of each other, to admit, cut off, and exhaust the steam supplying the cylinder, substantially as described.

10. In a steam-engine valve-gear, the combination of the cam, the sectional yoke or carriage, the guides, the rollers, the adjustable springs, and the valves and rods, all arranged as shown, and operating as described.

266,426. GRAIN-BINDER. ROBERT BROWN, Springfield, Ohio. Filed July 25, 1882. (No model.)



Claim.—1. In a grain-binder, the combination of a rotating cylinder or drum having wings for evening the butts of the grain with a horizontal driving-shaft, and means for adjusting the cylinder or drum longitudinally along said driving-shaft, and mechanism for rotating the same, substantially as described.

2. In a grain-binder, the combination of a drum, C, provided on its exterior with radial wings or blades, a horizontal driving-shaft, F, a shaft, D, attached to the drum and carrying a journal-box, E, which is arranged to slide on the driving-shaft, and mechanism for rotating the drum-shaft and shifting the journal-box on the driving-shaft to adjust the drum, substantially as described.

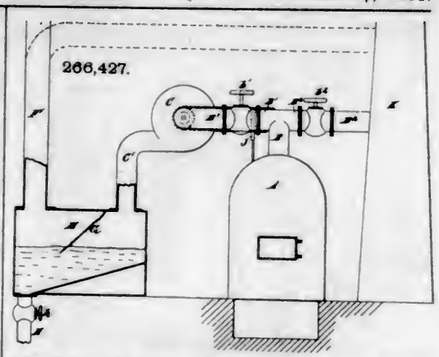
266,427. SPARK-ARRESTER. JOSEPH W. BUDD, New York, N. Y. Filed Nov. 23, 1881. (No model.)

Claim.—1. The inclined strainer G, mounted in the partially-filled water-chamber E, set transversely across and covering the entire space above the water, in combination with the boiler A, blower C, and connecting-passages B' C' F, as herein specified.

2. The branch passages B' B^3, with their controlling means b' b^3, leading the one directly to a stack, K, and the other through the blower C, in combination with each other and with the partially-filled water-chamber E and passage F, as herein specified.

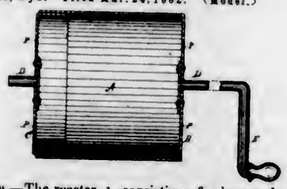
3. The partially-filled water-chamber E and inclined foraminous screen G, arranged in the passage between the boiler A and

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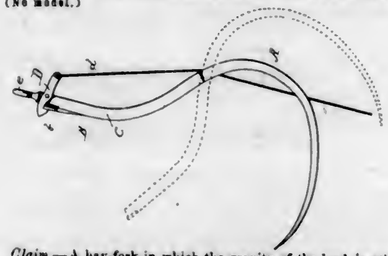
a flue, F, discharging into the atmosphere, in combination with the blower C, cone-pulley m', belt I, and shifter J, so as to vary the draft through the same, as herein specified.

266,428. COFFEE-ROASTER. HUGH P. BUFFON, Fort D. A. Russell, Wyo. Filed Mar. 24, 1882. (Model.)



Claim.—The roaster A, consisting of a long and a short cylinder, the latter sliding within the former, and provided respectively with the heads B C, having central journals, of which the one D serves both as a pivot and a handle for the head C, as shown and described.

266,429. HAY-FORK. LOUIS CLAIRMONT, Ottawa, Ill., assignor of one-third to James McManus, same place. Filed Apr. 4, 1882. (No model.)



Claim.—A hay-fork in which the gravity of the load is utilized to operate the same, having a shank or extension of the fork adapted to shut within a case of corresponding shape and dimensions, said fork being fulcrumed in the lower end of the case, between the cheeks thereof, in combination with the tripping-hook pivoted to the outside of the case at its upper end, and engaging with the upper end of the shank or extension of the fork, bent to form a laterally-projecting finger, whereby the same is adapted to limit the inward movement of the shank and to receive the engaging-hook, substantially as set forth.

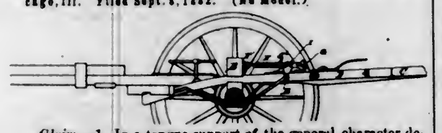
266,430. FLOOD FENCE AND GATE. JOSIA A. CLARK, Locust Grove, Ohio. Filed May 25, 1881. Renewed July 22, 1882. (Model.)



Claim.—1. In a flood-fence, the combination of the section A, having the ends of the lower rail, C, provided with the metallic slotted stirrups D D, and the posts with pins or journals working in the slots of the stirrups, and the locking device for sustaining the sections, as set forth.

2. A flood-gate provided with slotted hinges or stirrups, which serve the double purpose of a mooring device and a weight for the purpose set forth.

266,431. WAGON-TONGUE SUPPORT. MARTIN CONRAD, Chicago, Ill. Filed Sept. 8, 1882. (No model.)



Claim.—1. In a tongue-support of the general character described, the stationary member G, provided with a notch, g', and trip-block I, and secured to the tongue, in combination with a spring-link attached to the sand-board, substantially as described.

2. In combination with a stationary notched plate, G, secured to the tongue, the link F, pivotally secured to the sand-board, and consisting of two parallel barrels, f, twin springs F^2, and bent link-rod f'', substantially as described.

3. In the tongue-support described, the combination, with the two spring-housings f, separated by a space and joined by a neck at f', of the eyebolt F^2, threaded through the neck f', and pivoted to the sand-board, substantially as described.

4. In a wagon-tongue support, the combination, with a link pivoted to the sand-board, of a plate, G, adapted to engage said link, and provided with arms G', engaged with the queen-bolt as a means of attachment of said plate to the tongue, substantially as described.

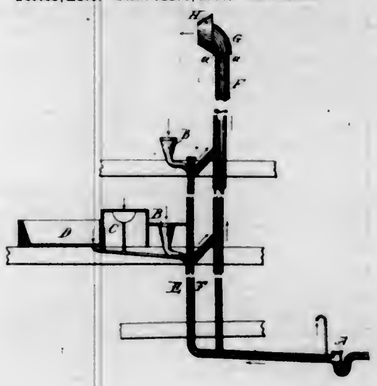
5. In the tongue-support described, the combination, with the tongue, of the member G, having apertured arms G', and the arm G^2, the queen-bolt E, and the clip H, substantially as described.

266,432. TRACE-CARRIER. DUANE B. COOLEY, Yankton, Dak., assignor of one-half to John O. Bates, same place. Filed June 15, 1882. (No model.)



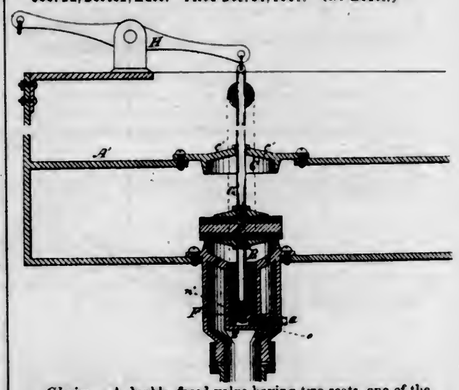
Claim.—A trace-carrier comprising the base-plate A, slotted as described, to form the end loops, the dome-shaped cage or shield b, hooks or carriers B, S-shaped on their inner edges, each having an inwardly-curved projecting point and rounded receding heel, and each secured to the base-plate a by the short curved stud b^3, attached to the hooks at one side of the center thereof, as and for the purpose set forth.

266,433. VENTILATING PIPE AND COWL. JOHN COOPER, Boston, Mass. Filed Jan. 3, 1882. (No model.)



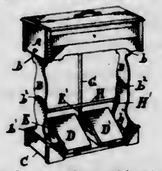
Claim.—A ventilating-pipe, F, increasing in size toward the top, in combination with the cowl G, of greater diameter than the pipe F, and having the base-plate a and the guard H, substantially as described.

266,434. SUPPLY-TANK FOR WATER-CLOSETS. JOHN COOPER, Boston, Mass. Filed Dec. 24, 1881. (No model.)



Claim.—A double-faced valve having two seats, one of the seats inverted and placed above the valve, in combination with a cylinder, plunger, check-screw, and air-port, substantially as and for the purposes set forth.

266,435. REED-ORGAN. JOSEPH COURVILLE and GEORGE T. DAVIS, Detroit, Mich. Filed Aug. 18, 1882. (No model.)



Claim.—1. In a reed-organ, the combination of an organ-box, A, and a box or base, C, united together by hinged and folding supports B, with foot-pedals in the box or base, bellows arranged under the pedals, an air-chamber in the organ-box, and a flexible tube serving to connect the bellows under the pedals with the air-chamber in the organ-box, substantially as described.

2. A folding reed-organ consisting essentially of the following elements, to wit: an upper organ-box containing the reed air-chamber, a box or base provided with foot-pedals and bellows under the pedals, folding legs permanently connecting the organ-box with the box or base and adapted to fold within the latter over the pedals to permit the organ-box to descend and be supported by the box or base, and a flexible tube connecting the bellows under the pedals with the air-chamber in the organ-box, substantially as described.

266,436. EYEGLASSES AND SPECTACLES. JOHN M. CRAWFORD, Philadelphia, Pa. Filed Feb. 13, 1882. (No model.)



Claim.—1. An eyeglass bow-spring having a double joint, consisting of the pivoted piece b', said joint-piece being of spring-steel of the same width as the body of the bow-spring, substantially as shown and described.

2. In combination with the lenses A A of eyeglasses or spectacles, a bow-spring or bridge, B, composed of two pieces, b b, united by a link, b', and two pivots, c c, the pieces b b b' being of the same width, the joint of the nose-piece being adapted to allow the glasses to be folded together on either side, substantially as shown and described.

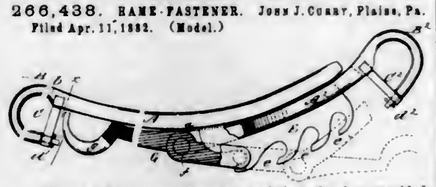
3. In eyeglasses and spectacles, a folding joint in the bow-spring or bridge adapted to adjust the distance between the lenses and their relative distance from the eyes, substantially as set forth.

266,437. ROCKET. PATRICK CUNNINGHAM, New Bedford, Mass. Filed Feb. 6, 1882. (No model.)



Claim.—The rocket constructed, as herein shown and described, with the head A, a tube, B, secured within said head and extending to the rear to form the tail, and the intervening space between said tube and the inner wall of the head filled with rocket composition.

266,438. HAME-FASTENER. JOHN J. CORRY, Plains, Pa. Filed Apr. 11, 1882. (Model.)

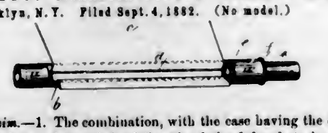


Claim.—1. A hame-fastener consisting of a bar provided with one or more ratchet-teeth, and a forked bar provided with a lever pivoted between its branches and engaging with the said ratchet-teeth and operating after the manner of a cam, said bars being provided with hooks for engagement with the hames, substantially as herein described.

2. The combination, with the bar A, provided with the rib or fin E and ratchet-teeth *e*, of the bar A^1 and pivoted lever G, provided with the finger-piece *g*, substantially as and for the purposes herein described.

3. The combination, with the hooks B B^3, of the bolts C C^3, having tenons engaging with mortises in the bars and slots engaging with tenons on the hooks, and the fastening-rings *d* d^3 for securing said bolts, substantially as herein described.

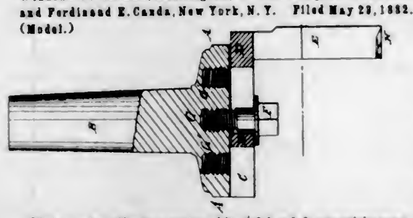
266,439. CIGARETTE-FORMER. THOMAS DANIELS, JR., Brooklyn, N. Y. Filed Sept. 4, 1882. (No model.)



Claim.—1. The combination, with the case having the cylindrical ends *a* and trough *b*, of the wire forks *d d* and stock *e*, substantially as set forth.

2. The case having the cylindrical ends *a*, trough *b*, and inclined edges *o* to the trough, in combination with the forks *d* and stock *e*, substantially as set forth.

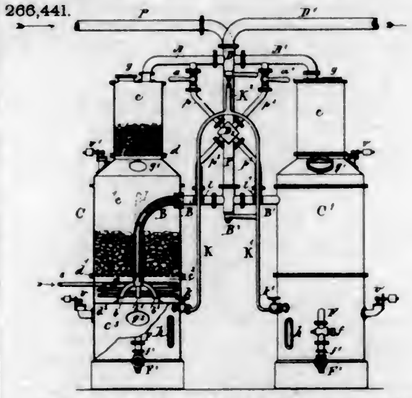
266,440. ROTARY CUTTER FOR MORTISING-MACHINES. WILLIAM A. DUCKER, Huntington, W. Va., assignor to himself and Ferdinand E. Canda, New York, N. Y. Filed May 29, 1882. (Model.)



Claim.—An adjustable rotary bit and head for mortising-machines, constructed substantially as herein shown and described, and consisting of the head A, having stem B, groove C, and screw-holes G G', the bit E, having slotted shank D and lip H, and the screw-bolt F, as set forth.

266,441. PRODUCTION OF SPIRITS OF GREAT PURITY DIRECTLY FROM THE MASH. W. H. AUGUST DREISBORN, Berlin, Germany. Filed Apr. 17, 1882. (No model.) Patented in Germany Feb. 16, 1882; in Belgium Mar. 27, 1882, No. 57,454; in France Mar. 27, 1882, No. 148,104; in Italy Mar. 31, 1882, XXVIII, 68, and XVI, 14,044, and in Sweden June 14, 1882.

266,441.



Claim.—1. In the process of obtaining fine spirits directly from the mash, the method of rectifying the crude spirits resulting from the distillation, which consists in passing the vapors generated in the still first through a layer of chloride of strontium and a porous material and then through charcoal, as and for the purposes specified.

2. In the process of obtaining fine spirits directly from the mash, the method of rectifying the crude spirits resulting from the distillation and facilitating the elimination of the deleterious alcohols, which consists in heating the vapors from the still to about 135° Celsius, and then passing the so heated vapors first through a layer of an alkaline chloride and then through charcoal, as and for the purpose specified.

3. The process of obtaining fine spirits directly from the mash and recovering the alcohol from the absorbents, which consists in passing the vapors generated in the still first through a layer composed of a chloride of alkaline earth and then through charcoal, and, after saturation of the absorbents, subjecting the same to the direct action of steam, substantially as and for the purposes set forth.

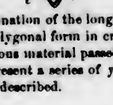
4. The rectifying apparatus consisting of the columns C C', pipes B B', three-way valve B^3, and pipe P^1, whereby the vapors from the still may be passed to either one of the columns by manipulating the valve B^3, substantially as and for the purposes shown and described.

5. The combination, with the pipes A A' B B' and the columns C C', of the pipes *p p'* p^2 p^3, provided with suitable stop-cocks or valves, whereby the vapors issuing from the top of either column may be conducted to the lower part of the other column, substantially as and for the purposes specified.

6. In a rectifying apparatus, a rectifying-column having chambers *c*, *c'*, and c^3, in combination with the steam-coil S, located within chamber c^3, and a spray or current-dividing pipe located within the coil S and connected with the still, whereby the vapors issuing from the spray-pipe are superheated before being passed through the rectifying-chambers *c c'*, substantially as and for the purposes specified.

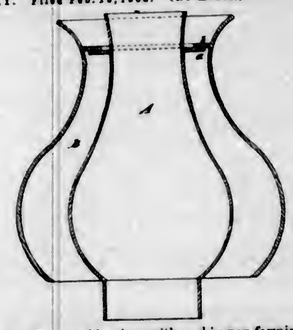
7. A rectifying apparatus constructed for continuous operation and recovery of absorbed alcohol, composed of two rectifying-columns, C C', having chambers *c c'* c^2 c^3, in combination with valved pipes arranged to operate, as set forth, whereby said columns may be connected independently of each other with a still, a condenser, a steam-generator, a source of water-supply, and with each other for conducting the vapors from one into the other, whereby the several steps of the process hereinbefore described may be carried out in continuity, substantially as and for the purposes set forth.

266,442. ANTI-NERVOUS ATTACHMENT FOR PEN-HOLDERS OR PENCILS. GEORGE A. DIEDEL, New York, N. Y., assignor to Eberhard Faber, same place. Filed Mar. 21, 1882. (No model.)



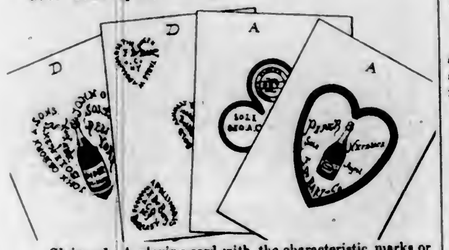
Claim.—The combination of the longitudinally-split tube B', of triangular or other polygonal form in cross-section, with the exterior tubes of anti-nervous material passed over the split tube and by the latter made to present a series of yielding flat finger-bearings C, substantially as described.

266,443. CHIMNEY AND SHADE. JAMES J. DILLON, Brooklyn, N. Y. Filed Feb. 13, 1882. (No model.)



Claim.—The combination, with a chimney forming of itself a complete draft-inducing device and having near the top an outwardly-extending flange, of a shade having near the upper end a flange made integral with it and projecting inward relatively to its mouth or upper end, and resting on the flange of the chimney, substantially as specified.

266,444. PLAYING-CARDS. BERNARD DREYFUSS, New York, N. Y. Filed Sept. 7, 1882. (No model.)



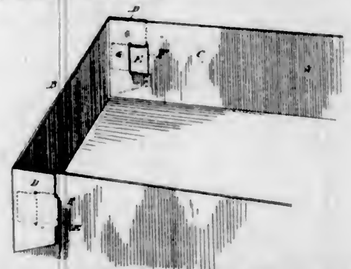
Claim.—1. A playing-card with the characteristic marks or devices on its face formed of letters or designs and its back provided with advertising-matter, substantially as is shown and described.

2. In a playing-card, the face-spots composed of letters and sentences printed to be read from each end to the center of the card, substantially as is shown and described.

3. In a playing-card, the characteristic spots on the face of the card suitably outlined and the space within the outlines filled in by letters and words, substantially as shown and described.

4. In a playing-card, the back thereof printed so as to be read from each end and from each side to the center of the card, substantially as is shown and described.

266,445. PAPER BOX. FRANCIS R. DUCK, Chicago, Ill. Filed Sept. 18, 1882. (No model.)



Claim.—1. In a box having its sides of the same piece with the bottom, one of said sides provided with a slot, F, and the adjacent side provided with a tongue, E, said tongue being inserted through the slot and returned and secured, substantially as and for the purposes set forth.

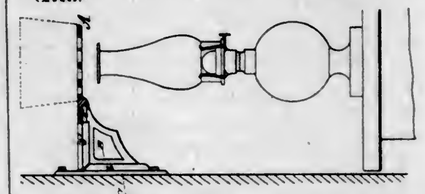
2. In a box having its sides of the same piece with the bottom, one of said sides provided with the slots F and G, and the adjacent side provided with a tongue, E, said tongue being inserted through the slot F and returned and tucked through the slot G, substantially as described, and for the purposes set forth.

3. In a folded box having a tongue, E, upon one of its sides inserted through a slot in the adjacent side and returned and secured, as set forth, the flap D, provided with a shoulder or shoulders, *e*, arranged to bear against the ends of the slot when the side C bears with its end against the inner surface of the side B, substantially as described.

4. The blank shown, having the corners cut to form the flap D and tongue E, and provided with the slots F and G, substantially as described, and for the purposes set forth.

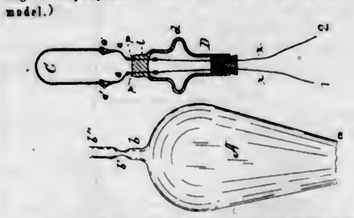
5. The blank shown, having the tongue E and slot F, said tongue being transversely scored at a point where it is to be backwardly folded after being inserted through the slot, substantially as described.

266,446. ADJUSTABLE BRACKET FOR HEATING PURPOSES. JOHN H. KAGNE, New Orleans, La. Filed July 19, 1882. (Model.)



Claim.—The combination of the plate A, having arm *d* and slotted socket *b'*, the angle-plate B, having the laterally-flanged arms *e e'*, and the flat plate C, having the slotted socket *b*, as and for the purpose specified.

266,447. ELECTRIC INCANDESCENT LAMP. THOMAS A. EDISON, Menlo Park, N. J., assignor to the Edison Electric Light Company, New York, N. Y. Filed Apr. 26, 1881. (No model.)



Claim.—1. The method of manufacturing incandescent electric lamps, substantially as set forth, consisting in forming the inclosing bulb or globe directly from molten or pot glass, forming separately the supporting tube or neck for the incandescent conductor, sealing therein the leading-in wires, attaching the carbon thereto, and then hermetically uniting the parts by a welding together prior to the exhaustion of the lamp, substantially as set forth.

2. A leading-in wire composed of a central platinum section for sealing into the glass an outer section and an inner section, having a clamping device formed integral therewith, substantially as set forth.

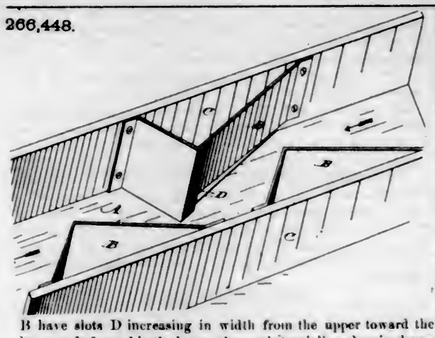
266,448. SLATE-SEPARATOR FOR COAL-CHUTES. JEREMIAH S. FARRINGER and MARTIN CRIPPEN, Dickson Borough, Pa. Filed June 27, 1882. (No model.)

Claim.—1. In a slate-separator, the combination, with a chute, of a series of plates projecting downwardly and inwardly from the sides of the said chutes, and each having a tapering opening between its lower edge and the bottom of the chute for the passage of the slate, substantially as herein shown and described.

2. In a slate-separator, the combination, with the chute A, provided with apertures E, of a series of plates, B, projecting inwardly and downwardly from opposite sides of the chute, which plates have slots D formed in the lower edges, substantially as herein shown and described, and for the purpose set forth.

3. In a slate-separator, the combination, with the chute A, provided with apertures E, of a series of plates, B, projecting inwardly and downwardly from the sides of the chute, which plates

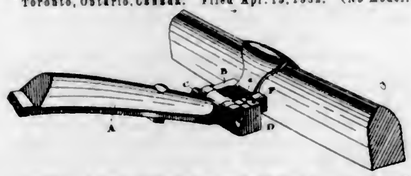
266,448.



B have slots D increasing in width from the upper toward the lower ends formed in the lower edges, substantially as herein shown and described, and for the purpose set forth.

4. The combination, with the chute A, of the plates or separators B, projecting inwardly and downwardly and alternately from opposite sides, the slots D in the lower edges of the plates, and the apertures E, formed in the chute A, between these plates and the sides of the chute, substantially as herein shown and described, and for the purpose set forth.

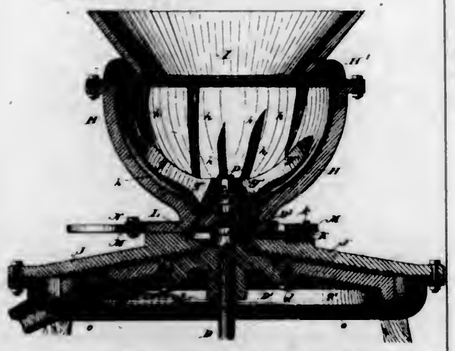
266,449. THILL-COUPLING. CHARLES LESLIE FERGUSON, Toronto, Ontario, Canada. Filed Apr. 15, 1882. (No model.)



Claim.—1. The combination, with the clip B, of the bolt C, provided with a head, D, having a hook, E, and the pivoted plate F, substantially as described.

2. The combination, with the clip B, of the bolt C, head D, hook E, and the spring pivoted plate F, having a down turned lip, *f*, substantially as described, and for the purpose specified.

266,450. CORN-MILL. JAMES A. FIELD, St. Louis, Mo. Filed Jan. 24, 1882. (Model.)



Claim.—1. The combination of spindle D and breaker-head G, mounted thereon, having horns *g* and ribs *g'*, with case H, having ribs or projections *h*, grinders F J, and throat L, intermediate of breaker and grinders, as set forth.

2. The slides K and means for radially adjusting the same to regulate the feed, in combination with and arranged between the breaker and grinders, as set forth.

3. The combination, with the breaking and grinding devices, of the slides K and obliquely-slotted ring M, for the purpose set forth.

266,451. SIZING FOR PAPER-MAKERS. ROBERT A. FISHER, Philadelphia, Pa., assignor of one-half to G. T. Lewis, same place. Filed Sept. 29, 1882. (Specimens.)

Claim.—1. The process of manufacturing a viscous aluminous compound for sizing for paper-makers, consisting essentially in first making an acid solution of aluminium sulphate, then neutralizing a portion of the acid contained in the solution by means of sodic or zincic oxide or zinc, next evaporating the resulting liquid to the required density, and then cooling under agitation, substantially as set forth.

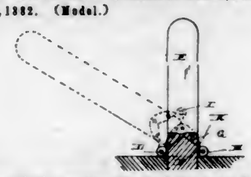
2. As a new article of manufacture, a sizing for paper-makers consisting of an aluminous compound containing sodium or zinc, substantially as and for the purpose described

266,452. SIZING FOR PAPER-MAKERS' USE. ROBERT A. FISHER, Philadelphia, Pa., assignor of one-half to G. T. Lewis, same place. Filed Sept. 26, 1882. (Specimens.)

Claim.—1. The process for the manufacture from substances containing alumina of a sizing material for paper-makers, consisting essentially in first producing a solution of sulphate of alumina, evaporating said solution to about 37° Baumé when boiling, and then cooling under agitation, substantially as and for the purpose described.

2. As a new article of manufacture, a sizing for paper-makers' use, consisting of sulphate of alumina of a viscous or creamy consistency, substantially as set forth.

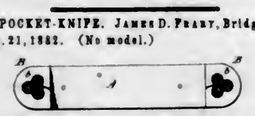
266,453. GATE-POST. FREDERICK FORDS, Butler, Ill. Filed Mar. 15, 1882. (Model.)



Claim.—1. In combination with the gates A B, the post E, hinged to the post F, and adapted to be swung into a horizontal position, substantially as and for the purposes specified.

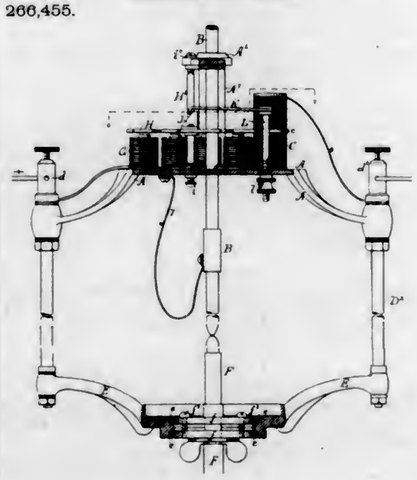
2. In combination with the post E, having a recess at its lower end, the post F, beveled as described, and the hinge-connection whereby the post E is secured to the post F, substantially as specified.

266,454. POCKET-KNIFE. JAMES D. FRARY, Bridgeport, Conn. Filed Aug. 21, 1882. (No model.)



Claim.—The herein-described improvement in the manufacture of cutlery handles, consisting in the sheet-metal ornament *b*, introduced into the outer surface of the soft-metal bolster in the process of casting the bolster upon the lining, substantially as described.

266,455.



266,455. ELECTRIC-ARC LAMP. WARREN P. FREEMAN, New York, N. Y., assignor to William F. Jobbins, East Orange, N. J. Filed July 8, 1882. (No model.)

Claim.—1. The combination of the movable carbon-holder and clamp-lever of an electric-arc lamp with electro-magnets and a rotary armature carrying wedge-projections to operate on said clamp, substantially as set forth.

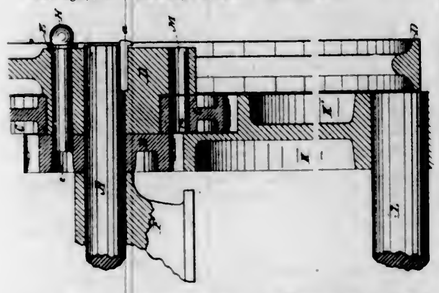
2. The combination of the movable carbon-holder and clamp of an electric-arc lamp with electro-magnets, armature having radiating pole-pieces mounted on an axis, and provided with wedge-projections, on which one end of the said clamp rests.

3. The combination of the clamp of an electric-arc lamp with a rotary armature operating said clamp, and having a series of radiating pole-pieces, each with a north and south pole, and a corresponding number of pairs of electro-magnetic coils, substantially as described.

4. The combination of the electro-magnets, rotary armature and clamp operated thereby, with a resistance-coil whose core has a flange or projection adjacent to and adapted to act on said armature.

5. An electric lamp having its stationary carbon-holder secured to a pair of disks, *f f*, with curved edges secured together and adapted to corresponding seats in the frame, substantially as described.

266,456. TRACTION-ENGINE. ABRAHAM O. FRICK, Waynesborough, Pa. Filed Sept. 5, 1882. (No model.)

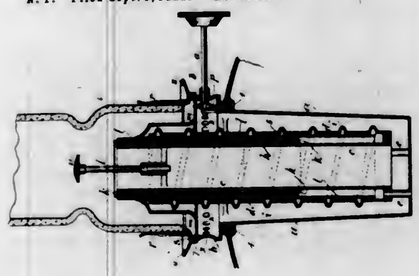


Claim.—1. The combination, with the spur-wheel K, shaft L, pillow-block F, main shaft A, and fly-wheel D, secured thereon and provided with a turned hub for a bearing for the gear-wheel C, of the pin-hole E, extending through the hub of wheel D, and said turned bearing thereon, the pin-hole *e* in wheel B, within the circle of its teeth, and the pin H, fitted easily in holes E *e*, as shown and described.

2. The combination, with the shaft L, spur-wheel K', the pinion C, meshing therein, the pillow-block F, the shaft A, the pulley D, secured thereon and provided with a turned hub serving as a bearing for the wheel C, of the pin-holes M *m* in wheels D C, respectively, and the pin H, for the purpose of revolving shaft L by means of said wheels C and K', as shown and described.

3. The combination, with the shaft L, the two spur-wheels K K', of different sizes, firmly secured thereon, the pillow-block F, shaft A, the fly-wheel D, secured thereon, provided with a turned hub, the pinion C, revolving freely on said hub, the pinion B, revolving freely on shaft A, the holes E M in wheel D, and the holes *e m* in wheels B and C, respectively, of the pin fitted to enter said holes easily, as shown and described.

266,457. ARGAND LAMP. JOSEPH FUNCK, Tompkinsville, N. Y. Filed Sept. 6, 1882. (No model.)

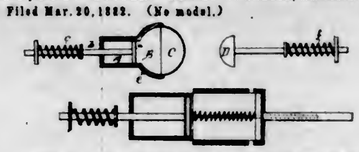


Claim.—1. The combination, in a lamp-burner, of the air-well, the air-tube c, and the wick-tube, united at their lower ends, the oil-supply tubes, the ferrule and its pin, the wick-raiser slotted longitudinally, the gallery at the top end of the air-well, the air-distributer connected with the wick-raiser and passing inside of the gallery, and the thumb-wheel, shaft, and pinion, operating upon the air-distributer to revolve the same and raise and lower the wick, substantially as set forth.

2. The movable chimney-rest and spring chimney-holder, in combination with the separate air-distributer that is below the same, the gallery, air-well, wick-tube and air-tube, and wick-raiser, substantially as set forth.

3. The combination, in an Argand burner, of a chimney with a contracted neck, a button above the wick, a movable chimney-rest and spring chimney-holder, a gallery on which the chimney-holder rests, and an air-distributer below the chimney-rest connected with the wick-raiser, and a thumb-wheel and pinion to rotate the air-distributer and wick-raiser, substantially as set forth.

266,458. BUFFER. ROBERT P. GARSED, Norristown, Pa. Filed Mar. 20, 1882. (No model.)



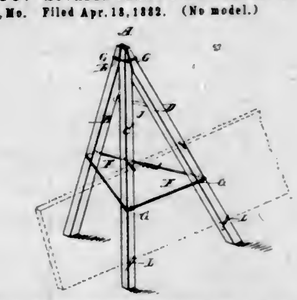
Claim.—1. The combination, in a car or other buffer, of the cylinder A, jacket B, rubber thimble C, and piston *a*, substantially as and for the purposes described.

2. The combination, in a buffer, of the cylinder A, imperforate rubber covering C, piston *a*, and check-valve *c*, substantially as and for the purposes described.

3. The combination, in a buffer, of the cylinder A, imperforate covering C, piston *a*, and spring *c*, substantially as and for the purposes set forth.

4. The combination, in a buffer, of the cylinder A, piston *a*, and spring *c*, with the plunger D and its spring *f*, substantially as and for the purposes described.

266,459. MOVABLE FENCE-POST. SAMUEL GIBBS, Blue Mound, Mo. Filed Apr. 18, 1882. (No model.)



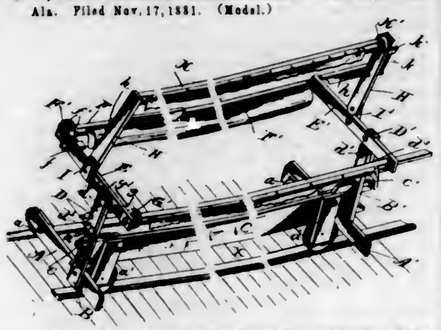
Claim.—In a fence-post, the combination, with the inclined stakes B C D, beveled at their upper ends, of the binding-wires E F, substantially as herein shown and described, whereby the said stakes will be firmly held in place, as set forth.

266,460. INDICATOR FOR SPIRIT-CISTERNS. JOHN GRADIGNER, Jr., Paris, Ky. Filed Apr. 20, 1882. (Model.)



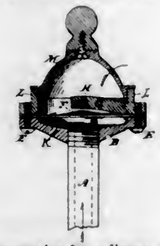
Claim.—The combination, with the cistern A, the tube B, and the cock C, having seat M and screen N, of the collar E, the right and left screw-threaded parts H I, and the right-and-left coupling-nut G, substantially as and for the purpose set forth.

266,461. QUILTING-FRAME. THOMAS GOODE, Rogersville, Ala. Filed Nov. 17, 1881. (Model.)



Claim.—In a portable quilting-frame, the combination of the standards B B', connecting-brace C, and wedges *c c'*, extension-bars D D', having at the upper ends series of adjustment-holes for the pins *d d'*, and at the lower ends holes for pins *d² d²*, and horizontal rails E E', substantially as and for the purpose described

266,462. VENT-VALVE. EDWARD F. GORDON and HORATIO HOBBS, Concord, N. H. Filed May 26, 1882. (No model.)

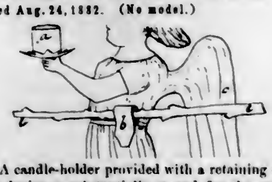


Claim.—1. A vent-valve for radiators, &c., consisting of a steam-cup, a flexible diaphragm spanning the same, and a vent, the parts being arranged relatively to automatically close the vent under heavy pressure and open it when the pressure is relieved, for the purposes set forth.

2. The combination of a steam-cup spanned by a flexible diaphragm and provided with a suitable vent, and an adjacent arm or bar adapted to close the vent when the diaphragm is distended, substantially as and for the purposes set forth.

3. The cup B, with its perforated diaphragm, in combination with the arm G, retaining-rim L, and cover M, for the purposes set forth.

266,463. CANDLE-HOLDER. CHARLES GRAHNER, New York, N. Y. Filed Aug. 24, 1882. (No model.)



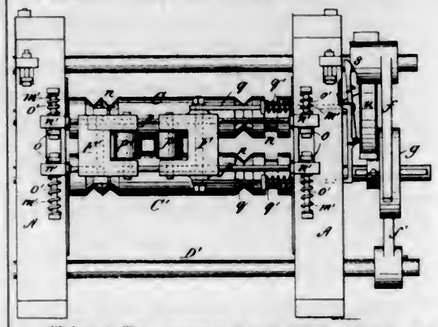
Claim.—A candle-holder provided with a retaining device, *b*, and a friction device, *c*, substantially as and for the purpose set forth.

266,464. RAILROAD-SPIKE. HOWARD GIBBS, Chicago, Ill., assignor of one-half to George H. Christy, Trustee, Sewickley, Pa. Filed Mar. 3, 1882. (No model.)



Claim.—A railroad-spike having on the rail side of its shank B a concavity, B', and on its opposite side a rib, *c*, substantially as set forth.

266,465. MACHINE FOR ROLLING HARROW-TEETH. JOHN S. GRIFFIN, Cleveland, Ohio. Filed Apr. 21, 1882. (No model.)



Claim.—1. The combination of rolls C C' in sliding boxes *a* and the rock-shafts D D', provided with cams *d e*, that bear on the boxes of the rolls, substantially as shown and described.

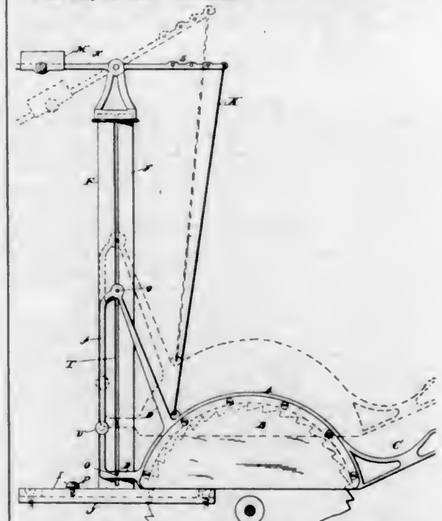
2. In rolling-machines, the shafts D D', placed above and below the rollers, and provided with cams or eccentrics for pressing the rolls together, substantially as shown and described.

3. The combination of rolls C C', shafts D D', cams *d e*, arms *f f*, fitted on the shafts, and cam *g*, fixed on the shaft of the lower roll, substantially as described, for operation as set forth.

4. The combination of cams *l l'* and *g* on the shaft of the lower roll, C', and the rock-shafts D D', provided with adjustable arms *f f'*, substantially as described.

5. The combination of block F', slide-block F, rods *q*, springs *q'*, lever *r*, and cam *s* with the compression-rolls C C', substantially as described, for operation as set forth.

266,466. SAW-GUARD. JOSEPH G. GROFF, Connersville, Ind. Filed July 15, 1882 (No model.)

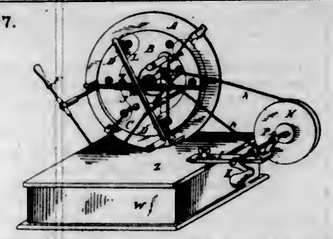


Claim.—1. The combination, with the vertically-movable saw-hood, of the lifting-cord and pivoted lever and the adjustable weight arranged upon the lever, substantially as described.

2. The combination of the hood, the vertical standards having the slot between them, the arms projecting from the hood on opposite sides of the standards, the cross-pins playing in the slot, and the set-screws extending through the hood-arms and adapted to bear upon opposite sides of the standards, so as to regulate the lateral position of the hood, substantially as described.

266,467. ELECTRICAL MACHINE. EMILE GUERIN, Paris, France, assignor to George A. Smith, Boston, Mass. Filed Apr. 13, 1882. (No model.)

266,467.



Claim.—1. In combination with the properly-recessed lid of the containing-box, the upright supporting-frame G, secured at its base by a bolt and thumb-screw, and carrying upon proper supports both the fixed and rotating glass disks and frame-pulley S, all as and for the purpose described.

2. The combination of the upright G with two projecting recessed or grooved shafts O O, in which recesses are secured the edges of the fixed glass disk A, all as and for the purpose described.

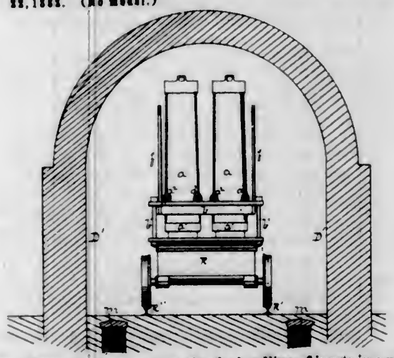
3. The combination, with the upright G, of the shaft N, secured therein by the thumb-nut R, and carrying the sleeve M, pulley S, and grooved washer T, in which rests the comb, and also the handle carrying bars, all as and for the purposes set forth.

4. The combination of the upright G, the shaft N, with its sleeve M, the grooved washer, the comb-arm and arms with handled discharges, the arms O O, extending at right angles to the upright arm, and the disks A and B, the arrangement being as set forth, whereby all these parts are supported upon a single base attached to the lid of the containing-box.

5. The combination of the bent brush-arms C, carrying at one end a brush adjustable to and from the rotary disk B by a screw-threaded shank, and secured at its other by a clamp and set-screw to the fixed disk A, as and for the purposes set forth.

6. The combination, with the properly-recessed lid of the containing-box W, of an upright secured by a bolt and thumb-nut thereto, and serving to mount the fixed and rotary disks, the comb and brush arms, discharge-arms and pulley, and of a pulley and shaft journaled in the arms of a slotted base adjustably secured for tightening and loosening the pulley-band, the arrangement being substantially as described, whereby all the working parts of a frictional generator of electricity are mounted at two points upon the lid of a box for containing them, thus dispensing with the usual table, all as and for the purposes set forth.

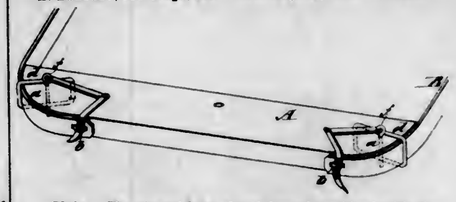
266,468. APPARATUS FOR HANDLING AND HEATING CAST-STEEL. WILLIAM HAINSWORTH, Pittsburg, Pa. Filed June 22, 1882. (No model.)



Claim.—1. An apparatus for the handling of ingots in a vertical position during their passage or transfer from the casting pit or place to the blooming-train, having in combination a car or track on which the ingot-molds are placed, and adapted to carry the molds and ingots therein thence to the blooming-mill, a track connecting the two, an intermediate oven of capacity to receive both the car and its load, and a reheating-furnace arranged in convenient proximity to the track at the blooming-mill, and adapted in form to receive the ingots in a vertical position while being reheated, and means for transferring the ingots from the furnace to the blooming-train, substantially as and for the purposes set forth.

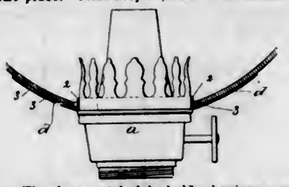
2. The frame *b*, provided with lifting-stirrups *f*, in combination with molds *a*, provided with lugs *a²*, substantially as set forth.

266,469. SINGLE-TREE. MARQUIS D. L. HARTLEY and JAMES M. HARTLEY, San Diego, Cal. Filed Aug. 15, 1882. (Model.)



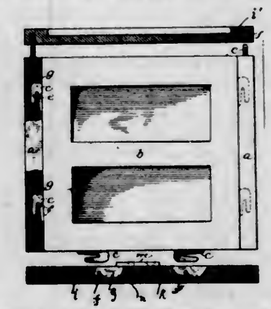
Claim.—The pivoted loops *d* and keys *f*, combined with the end-rounded single-tree to allow the loops to be swung into position to hold the traces, or to prevent their removal, or to permit their attachment, as described.

266,470. GLOBE-HOLDER FOR ARGAND LAMPS. HIRAM W. HAYDEN, Waterbury, Conn., assignor to Holmes, Booth & Haydens, same place. Filed July 17, 1882. (No model.)



Claim.—The sheet-metal globe-holder having a central opening and flange for the Argand burner, and of a zone shape corresponding to the glass globe, and numerous perforations in the sheet metal, and a notched or scalloped edge, substantially as set forth.

266,471. JOINTED PACKING-BOX. LEONARD N. HEADINGTON, Mount Vernon, Ohio. Filed Sept. 18, 1882. (No model.)



Claim.—1. A jointed packing-box consisting of side and end pieces, provided with the hooks *c* and slots *d*, having transverse pins, the parts being adapted to interlock, as described.

2. In a box having jointed sides and ends, provided on top or bottom with the described form of hooks facing outward, a cover or covers composed of two parts, provided with grooves and pins adapted to the hooks, and a locking device, substantially as described.

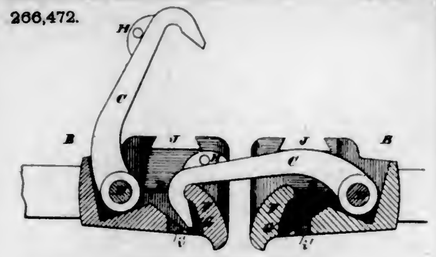
3. In combination with the two-part covers, having grooves adapted to the hooks on the box, arranged facing outwardly, the plate *m* and screw *n*.

266,472. CAR-COUPLING. WILLIAM H. HEAVENER, St. Louis, Mo., assignor of one-half to William H. Calvert, same place. Filed July 31, 1882. (No model.)

Claim.—1. A draw-head formed with hollow center E, rearwardly-inclined cross-web F, having concave inner face, G, and transverse bolt-hole in the rear of the hollow center, as set forth.

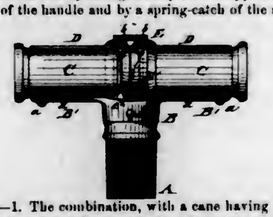
2. A draw-head formed with hollow center E, inclined cross-web F, having concave G, transverse bolt-hole *d*, dovetail horizontal groove J, pin-hole *i'*, and dovetail block I, having pin-hole *i*, the whole being adapted for the use of either coupling pins or hooks, as set forth.

266,472.



266,473. COMBINED CANE AND OPERA-GLASS. SAMUEL HELFGOTT, New York, N. Y. Filed May 24, 1882. (No model.)

Brief.—The handle of the cane is formed of the tubes of an opera-glass, which are pivoted at their under side to laterally-extending bracket-arms of the handle and at the top to a slotted bridge, so as to be placed parallel to each other, in which latter position they are locked by a hinged clasp-section applied to a fixed clasp-section of the handle and by a spring-catch of the same.



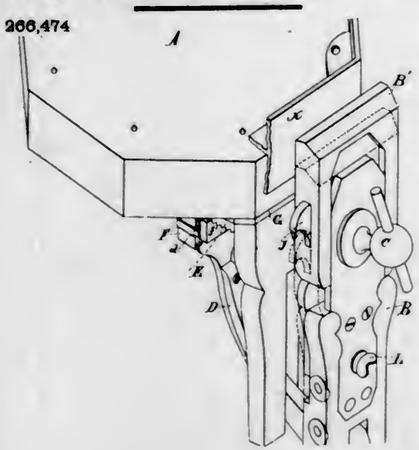
Claim.—1. The combination, with a cane having laterally-extending bracket-arms, of an opera-glass the tubes of which are pivoted to said arms and to a slotted connecting-bridge, the tubes being adapted to be placed in line with each other on the bracket-arms, or in a position parallel to each other and at right angles to the bracket-arms, substantially as set forth.

2. The combination of a cane, A, having laterally-extending bracket-arms B', with an opera-glass having tubes C, pivoted to the bracket-arms and to a slotted connecting-bridge, D, applied to the top of the tubes, and with means for locking the tubes in line with each other on the bracket-arms, substantially as specified.

3. The combination of a cane, A, having laterally-extending bracket-arms B', tubes C, pivoted to the bracket-arms, and connected by a slotted top bridge, D, and a fixed clasp-section, E, a hinged clasp-section, E', and a spring-catch, *e*, substantially as specified.

4. The combination of a cane, A, having a socket, B, with laterally-extending bracket-arms B', the latter having spring-lugs *d d*, with opera-glass tubes C C, pivoted at the under side to the ends of the bracket-arms, and connected to the top by a slotted bridge, D, a fixed clasp-section, E, a hinged clasp-section, E', and a spring-catch, *e*, substantially as set forth.

266,474



266,474. VISE. MARVIN T. HERRON, Pratt, Ohio, assignor of one-half to Chester G. Bartholomew, Union City, Ind. Filed July 15, 1882. (No model.)

Claim.—1. The combination of jaw B, screw C, pawl D, racks E E, having shoulders *e e*, nut F, having shoulders *f f* and guard-plate *f'*, bearing-plate G, king-bolt H, and washer I, substantially as set forth.

2. In combination with jaw B and screw C, the half-round strap-bearings M M', rabbeted washer N *n*, forked plug O, and keeper P, substantially as and for the purpose set forth.

266,475. FOUNTAIN-PEN. SYLVESTER W. HIGGINS, St. Louis, Mo. Filed Jan. 4, 1882. (No model.)

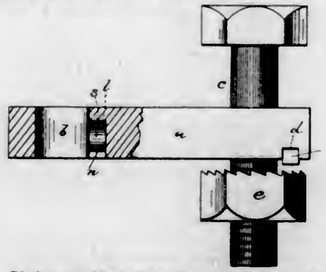


Claim.—1. The combination, with the nib E, of the valve G, consisting of a head, *g*, and an elastic axial stem, *g'*, for raising the head from its seat, substantially as described.

2. The combination, with the nib E, of the valve G, constructed with a head, *g*, and axial stem *g'*, in one piece of soft rubber, substantially as and for the purposes set forth.

3. The combination of nib E, valve G, and adjustable valve-seat F, constructed to operate substantially as set forth.

266,476. NUT-LOCK. ANDERSON D. HOLLAND, Newport, Ark. Filed July 22, 1882. (No model.)



Claim.—1. The perforated base-plate having a channel, *d*, tangent to the perforation, a recess, *g*, therein, and the oblique spring *s*, having a reverse bend, *l*, terminating in an angularly-bent arm, *n*, said bend seated in the recess of the plate and said arm engaging an offset-notch of said recess, substantially as specified.

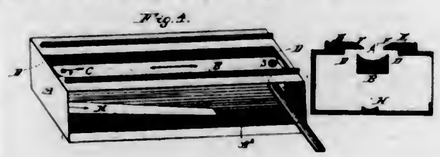
2. The combination, with the spring *s*, having the reverse bend *l* and angular arm *n*, and the under serrated nut, *e*, of the perforated plate *a*, its open-end channel *d* tangent to the perforation, the recess *g*, and offset-notch *h*, substantially as specified.

266,477. ABSORBENT COMPOUND FOR THE MANUFACTURE OF TORCHES, FIRE-KINDLERS, &c. ALBERT G. HURLBUTT, Troy, assignor to himself, George A. Whittemore, Keene, and Henry W. Farrar, Troy, N. H. Filed Jan. 9, 1882. (Specimens.)

Claim.—The described composition for absorbing a combustible liquid and to serve with such as a torch, fire-kindler, &c., it consisting of infusorial earth and potters' white clay, substantially as set forth.

266,478. DEVICE FOR BURNING CRUDE OIL IN STOVES AND FURNACES. JOSEPH F. IRONS, Bradford, Pa. Filed July 3, 1882. (No model.)

Brief.—The partition *c*, Fig. 5, may be dispensed with, and the plate B inclined from the hole S, so that the oil will pass around the groove in both directions to reunite at the lowest side, when it may run through a hole provided for that purpose, located similarly to the hole *v* shown in Figs. 1, 2, and 4.



Claim.—1. In a device for burning crude oil, the combination, with a burner-plate having a groove for containing the oil to be burned, of a deflector-plate located above and provided with an opening of less width than and registering with the groove for the flame to pass through, and air-passages between the deflector and burner plates, substantially as described.

2. In a device for burning crude oil, the combination, with a burner-plate having a groove for containing the oil to be burned, of a deflector-plate located above and provided with an opening of less width than and registering with the groove for the flame to pass through, and gradually-decreasing air-passages between the burner and deflector plates, substantially as described.

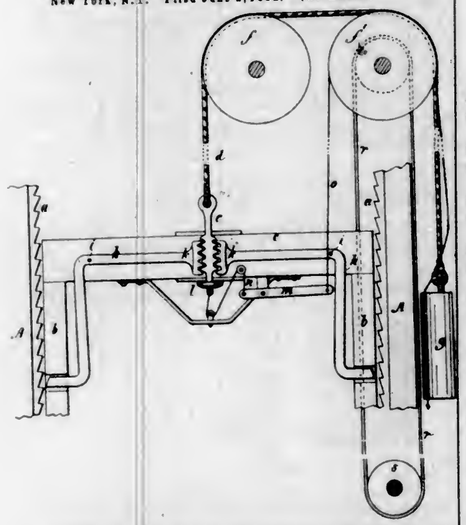
3. In a device for burning crude petroleum, the combination, with a burner-plate having an oval groove for containing the oil to be burned, and a central opening, of a deflector-plate located above and overlapping each side of the groove, and air-passages between the deflector and burner plates, substantially as described.

4. In a device for burning crude petroleum, a burner-plate having a groove inclined from the inlet-opening to the lower end, which is provided with an exit-opening smaller than the inlet, for the purpose set forth.

5. In a device for burning crude petroleum, the combination, with a plate having a groove provided with an inlet-opening at one end and an outlet-opening at the other, of a trough, H, placed obliquely below the plate and having its upper end beneath the outlet-opening, for the purpose set forth.

6. In a device for burning petroleum, the combination, with the fire-box, of a burner-plate, and an inclined supply-pipe connected to the burner-plate and having an opening, *n*, for the purpose set forth.

266,479. SAFETY-STOP FOR ELEVATORS. JOHN JOHNSTON, New York, N. Y. Filed June 2, 1882. (No model.)

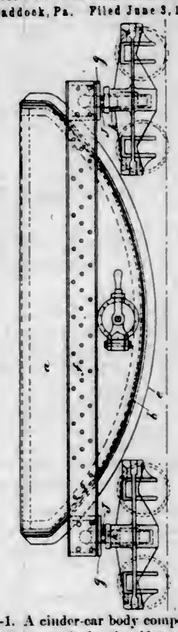


Claim.—1. In an elevator, the combination, with the suspension-rope *d*, provided with the counterbalance-weight *g* at its end, and stop mechanism attached to the car, of a safety-rope, *o*, having one end connected to the safety-stop mechanism and its free end passed through the counterbalance-weight of the suspension-rope, substantially as herein shown and described, whereby the safety-rope is adapted to sustain the counterbalance-weight when the suspension-rope breaks, and thereby apply the stop mechanism to arrest the motion of the car, as set forth.

2. The combination of the guide-posts A, provided on their inner faces with the racks *a*, crank-levers *h h*, pivoted to the car, and having cog-segments *k* on their inner ends, cogged suspension-rod *c*, drums *f f'*, suspension-rope *d*, provided with the counterbalance-weight *g*, safety-rope *o*, passing over one of the drums and through the counterbalance-weight, lever *m*, and rope *n*, substantially as described, and for the purpose set forth.

3. The combination of the pawl-arms *h h*, provided with racks, the gear-wheel *p*, drum *q*, and safety-rope *o*, connected to the balance-weight, substantially as described, for operation as set forth.

266,480. CINDER-CAR FOR BLAST-FURNACES. JULIAN KENNEDY, Braddock, Pa. Filed June 3, 1882. (No model.)



Claim.—1. A cinder-car body composed of plate-iron shell and lining of refractory blocks, the sides and bottom being arched throughout, substantially as described.

2. A cinder-car body having its sides composed of plate-iron lined with refractory blocks, both sides and lining being arched, substantially as described.

3. A cinder-car body having its bottom composed of plate-iron lined with refractory blocks, both bottom and lining being arched, substantially as described.

4. A car-body having the inclined sides *a* arched, as described, throughout, in combination with the curved channel-bars *f* and suitable bolsters, substantially as set forth.

5. In a car, the combination of the bolsters *g*, having bearings *h* and attached to the car-body trucks, having vertical socket *k* and T-headed center post, *i J*, substantially as described.

6. A cinder-car having the plate-iron sides *a*, continuously-arched refractory lining *c*, and angle-irons *d* to retain the lining, substantially as described.

7. A cinder-car having the plate-iron sides and continuously-arched refractory lining, with an opening or openings in said sides and a door therefor, substantially as described, whereby the fluid cinder may be quickly discharged.

266,481. ENRICHING DYE-BATHS WITH DYEING SOLUTIONS. CHARLES L. KLAUDER, Philadelphia, Pa. Filed Apr. 1, 1882. (No model.)

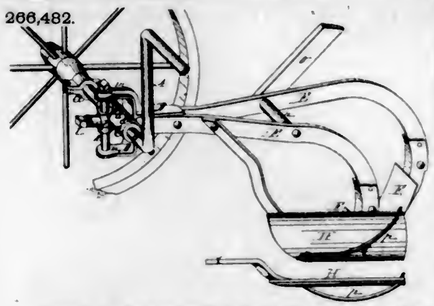


Claim.—The mode herein described of enriching steam-heated dyeing-baths with enriching solution, the said mode consisting in first introducing the solution into the steam heating-pipes, and subsequently intermixing the said solution with the liquid in the bath by the steam, as herein set forth.

266,482. CULTIVATOR. WILLIAM A. KNOWLTON, Rockford, Ill. Filed May 26, 1882. (No model.)

Brief.—Coupling of two right-angled sleeves. The axle-sleeve has annular and lengthwise grooves. The fenders have vine-lifters attached.

266,482.

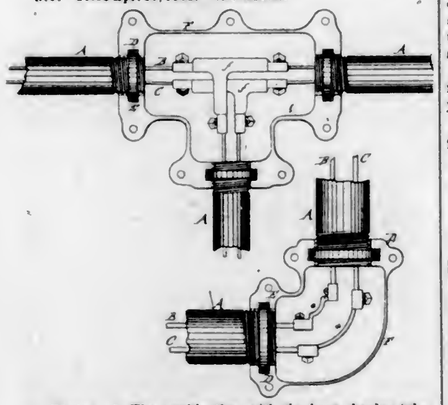


Claim.—1. A sleeve capable of an oscillating motion and lateral adjustment on the axle-tree of a cultivator, provided with a transverse socket-piece on its inner edge to receive the vertically-adjustable coupling, in combination with a yoke adapted to be connected therewith and with the shovel-beams, substantially as described.

2. The combination, with a shield, of a curved wire or rod extending from the forward lower portion thereof to the upper rear portion, substantially as and for the purpose described.

3. The herein-described shield, having a curved wire or rod fixed to its inner face and extending diagonally across the same, in combination with the shovel-beams, substantially as and for the purpose described.

266,483. JUNCTION FOR CONDUCTORS OF SYSTEMS OF ELECTRICAL DISTRIBUTION. JOHN KRUESI, Menlo Park, N.J. Filed Apr. 20, 1882. (No model.)



Claim.—1. The combination, with the boxes having tube-openings, of the tubes and means for adjustably attaching the tubes to the boxes, substantially as set forth.

2. The combination, with the boxes having tube-openings with grooved walls, of the tubes provided with adjustable collars held by the grooves, substantially as set forth.

3. The combination, with the boxes having the grooved openings, as described, of the tubes having screw-threaded ends, and screw-threaded collars upon such tubes, substantially as set forth.

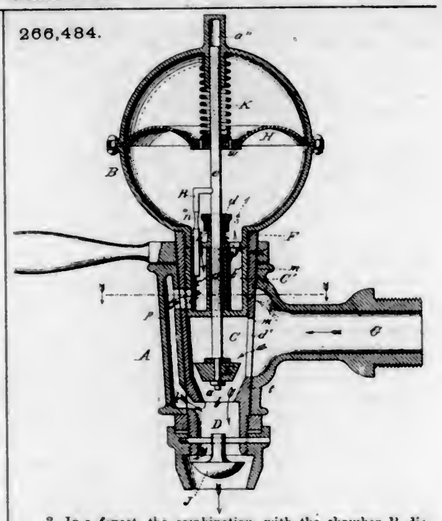
4. The combination with the metal tubes provided with adjustable end collars, of the inclosing boxes made in two equal longitudinal parts and provided with grooved tube-openings, substantially as set forth.

266,484. FAUCET. TOLBERT LANSTON, Washington, D. C. Filed June 2, 1882. (No model.)

Claim.—1. A faucet having, in connection with a water-chamber, a diaphragm therein, and a check-valve connected to said diaphragm, an outlet-passage leading from said chamber and an inlet-passage leading thereto from the seat of the turning or hand-valve, substantially as specified.

2. A faucet having a main water passage or outlet and a secondary independent water-passage, combined with the diaphragm-chamber and the stop-valve, the secondary water-passage connecting said diaphragm-chamber with the main water-way beyond the seat of the stop-valve, substantially as set forth.

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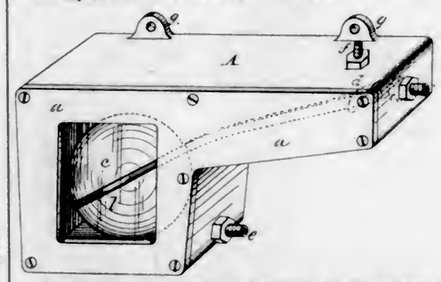


3. In a faucet, the combination, with the chamber B, diaphragm H, and reciprocating stop-valve E, of the hand-valve F, valve-chamber C, water-passages, and the slide-check R, substantially as specified.

4. A faucet having independent of the main water-way a secondary water-way through a diaphragm-chamber, and an accelerating drip-check rod in the outlet from said chamber connected to the stem of a stop-valve which is attached to the diaphragm in said diaphragm-chamber, substantially as specified.

5. A faucet having a positive automatic cut-off or stop for the flow arranged in the main water-way, and inclosed so as to be beyond the control of the operator, substantially as specified.

266,485. WASTE OR SEWER TRAP. COLIN LIGHTBODY, Brooklyn, N.Y. Filed Feb. 25, 1882. (No model.)



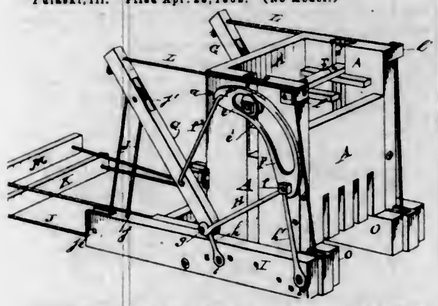
Claim.—1. The combination, with the trap, of an inclosed tank inclosing a float-valve and placed on a level with the sealing-bend of the trap, or nearly so, having the base of its water-chamber communicating with the sealing-bend of the trap, its float-valve connected with the water-supply, and a suitable air-vent opening from the top or air chamber of the tank, substantially as and for the purpose set forth.

2. A new article of plumbers' ware adapted for ready connection to traps, consisting of a detached and inclosed tank inclosing a float-valve, with the neck of the valve opening or projecting from the exterior of the tank, and with an aperture or nipple opening from the base or water-chamber of the tank, and a vent-aperture or air-vent nipple opening from the top of the tank, and the whole adapted to be connected with the plumbing of a house, substantially as and for the purpose herein set forth.

3. The combination, with a trap, of an inclosed tank, A, arranged on a level therewith and inclosing a float-valve, with a communicating pipe, *h*, extending from the base of the tank to the base of the trap, a water-supply pipe, *k*, connected with the float-valve, and an air-vent pipe, *i*, extending from the top of the tank to the top of the trap or its equivalent, substantially as and for the purpose set forth.

4. An inclosed tank formed in a recumbent L shape and inclosing a float-valve, with external connections adapted to connect with a trap, substantially as herein shown and described.

266,486. HAY-PRESS. EDGAR M. LOW and TRUMAN S. LOW, Pulaski, Ill. Filed Apr. 26, 1882. (No model.)



Claim.—1. In a hay-press, the combination of the bed, the platen provided with the cross-bar and friction-rollers, the curved levers pivoted to the front of the side of the press and connected to secondary levers pivoted to the rear of the side of the press, and means, substantially as shown and described, for operating said levers, whereby an increasing leverage is gained by means contained within the limits of the side of the press, substantially as shown and described.

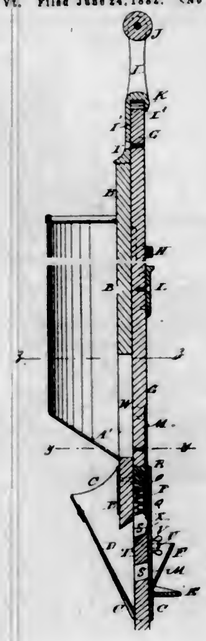
2. The combination of the platen B, provided with bar E, friction-rolls *c*, guides *c'*, levers F, pivoted at *f*, rods *f''*, levers G, and means for their operation, all substantially as shown and described.

3. The combination of platen B, levers F and G, and braces H *h* K', substantially as shown and described.

4. The combination of platen B, levers F and G, with ropes J L, draw-bars K M, rope Y, and pulley Z, substantially as shown and described.

5. The combination of bed C, gate D, chain *o*, slanted bed-plates O, bar N, arm *o*, rod o^3, and eccentrics o^3 o^3, substantially as shown and described.

266,487. HAND CORN-PLANTER. SAMUEL M. MACOMBER, Grand Isle, Vt. Filed June 24, 1882. (No model.)

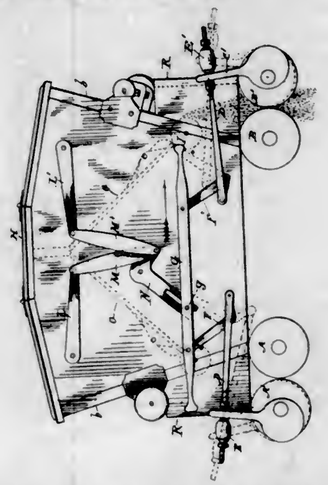


Claim.—1. In a hand corn-planter, the slide-bar G, provided with a cut-off brush, P, arranged in the slot O of a plate, M, and under a cap-plate, Q, underlapping the plate M, as shown and described.

2. In a hand corn-planter, the combination of the gage T, the bar B, having slot W, the brush P, the shoe C, and the spring D, all arranged as described, with the slide-bar G, having plate M, for the purpose specified.

3. In a hand corn-planter, the combination, with the upper end of the slide-bar G, of the handle I, having rabbet I' and groove I', to receive the upper end of the said bar, and having a projection, K, to engage with the said end of the bar and adapt the handle to be secured by a single screw, substantially as herein shown and described.

266,488. ROLLER-MILL. WILLIAM A. MANAFFY, Rockford, Minn. Filed Aug. 26, 1882. (No model.)



Claim.—1. The hopper having inclined sides and bottom *a b*, and a feed-roll, I, at the bottom thereof, in combination with the outside feed-gate, O, and the longitudinally-adjustable bar P, having incline sections *i* and a screw-threaded end with nut, as described.

2. The combination, with the hopper having inclined sides and bottom *a b*, of the feed-roll I, arranged at the bottom thereof, the longitudinally-reciprocating stirrer Q, and the overlapping apron T, substantially as described.

3. The combination of the hopper, the cut-off bars J, rock-shafts K, having arms *c* and L L', the links M M', the elbow-lever N, the bar G, levers F F', rods D D', and the arms C C', with hubs carrying the eccentrically-journaled rolls, substantially as shown and described.

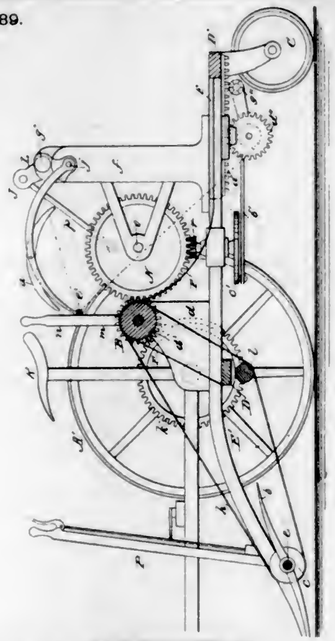
266,489. CLEANING AND BINDING MACHINE. JOHN FRANCIS MAHON, London, Ontario, Canada. Filed Nov. 25, 1881. (No model.) Patented in Canada Jan. 13, 1882, No. 13,983.

Claim.—1. The combination, with the drive-wheel A', provided with the pinion *k*, the shaft *a*, provided with the gathering-fingers *b* and the rollers *c*, the elevators *h*, and the gear-wheel N, of the shaft B, provided with the rollers *d*, the fast pinion *i*, and the sliding pinion *m*, and means for operating said pinion, substantially as and for the purpose set forth.

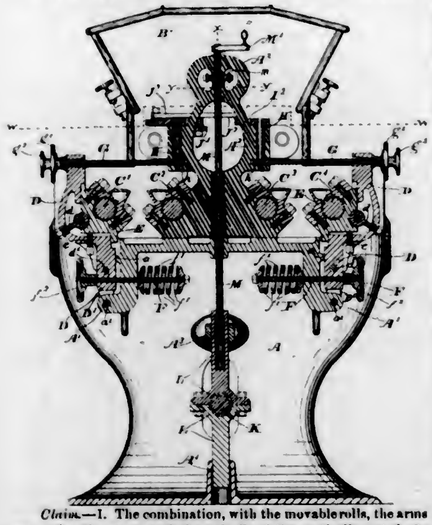
2. The combination, with the drive-wheel A', provided with the pinion *k*, and the elevator-shaft H, provided with the fast pinion *i* and the sliding pinion *m*, of the upright arm *f*, the bracket O, the gear-wheel N, the rod *p*, the crank-shaft *j* L, the hollow arm *g*, and the binding-arm J, substantially as and for the purpose set forth.

3. The combination, with the drive-wheel A', provided with the pinion *k*, the shaft B, provided with the fast pinion *i* and the sliding clutch-pinion *m*, and the gear-wheel N, for operating the binding-arm, of the pinion *r*, the crank *c'*, the connecting-rod *b'*, the lever *j*, rack *d*, and pinion *d''*, substantially as and for the purpose set forth.

266,489.



266,490. ROLLER-MILL. DANIEL W. MARMON and JESSE WARRINGTON, Indianapolis, Ind., assignors to the Nordyke & Marmon Company, same place. Filed Aug. 3, 1882. (No model.)



Claim.—I. The combination, with the movable rolls, the arms supporting the same, and the rods G, of the vertically-set shafts H, having eccentric portions *h*, to which said rods are connected, and levers for operating the same, substantially as set forth.

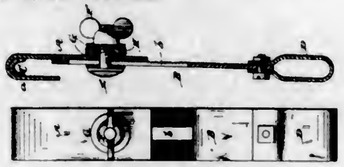
2. The combination of the movable roll-supporting arms, the rods G, the shafts H, having eccentric portions, the levers, and the described means of connecting the same, substantially as set forth.

3. The combination of the rolls, the boxes, the arms, the rods, the shafts H, the levers I' I' I' I', and the bars J' J' J', substantially as set forth.

4. The combination, with the roll-journal boxes E, formed, as shown, to slide vertically on their supports, and said supports formed with vertical slides to receive said boxes, of the set-screws *c*, adapted to impart the vertical movement to said boxes, and the bolts *d*, adapted to hold said boxes downwardly against the set-screws and laterally against the bearings on the supports, substantially as set forth.

5. The combination of the arms D, the links D', mounted on pivots *d' d'*, the stops or fulcrums *a*, and the rods F and G, substantially as set forth.

266,491. ADJUSTABLE JACK-STRAP FOR LOOMS. DAVID D. MASON, Manchester, N. H., assignor of two-thirds to Benjamin F. Garland and Gilbert P. Whitman, both of same place. Filed Apr. 13, 1882. (No model.)



Claim.—1. The combination, with the harness-frame of a loom, of the jack-strap composed of two parts, one having a longitudinal slot and a serrated face and the other having a serrated face, a screw-threaded bolt extending through the slot, and a thumb-nut applied to the threaded end of the bolt for confining the slotted part of the strap in its adjusted position, substantially as described.

2. The combination, with the harness-frame of a loom, of a jack-strap consisting of the part A, having a hooked end, *a*, connected with the harness-frame, the part B, having a longitudinal slot, *b*, and a loop, D, and the screw-bolt E and thumb-nut F, for adjustably connecting the parts of the strap, substantially as described.

3. The metal jack-strap for looms, composed of two parts adjustably connected together by a screw-bolt and thumb-nut, an elastic washer being arranged upon the bolt between the nut and the jack-strap, substantially as and for the purpose set forth.

4. The metal jack-strap composed of two parts adjustably secured together by a screw-bolt and thumb-nut, a pair of metal washers being arranged upon the bolt between the thumb-nut and the jack-strap, and an elastic washer being interposed between the pair of metal washers, substantially as described.

266,492. CONVERTIBLE SWING AND CHAIR. GEORGE W MASON, Washington, D.C. Filed Aug. 24, 1882. (No model.)



Claim.—1. A combined swing and chair in which portions of the supporting-frame of the chair are articulated and extensible to constitute the hangers of the swing, substantially as set forth.

2. The combination of the chair A B C D, hinged legs J, and base-pieces E, substantially as and for the purposes set forth.

3. The combination of the chair A B C D and hinged legs J, base-pieces E, and stays or braces K, substantially as and for the purposes set forth.

4. The combination of the chair A B C D, hinged legs J, base-pieces E, stays or braces K, and hooks M, substantially as and for the purposes set forth.

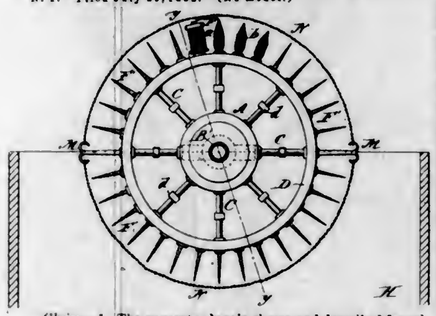
5. The combination of the chair A B C D, hinged legs J, base-pieces E, and locking-notches N, substantially as and for the purposes set forth.

6. The combination of the chair A B C D, hinged legs J, base-pieces E, braces K, and extension-hangers O, substantially as and for the purposes set forth.

266,493. ARTIFICIAL STONE FOR VENEERS, &c. WILHELM MATT, New York, N.Y. Filed Aug. 2, 1882. (Specimens.)

Claim.—A composition of matter for veneering, produced by the admixture, substantially in the proportions and manner herein described, of a solution of glue with rosin, linseed-oil, paper-pulp, glycerine, and steatite or its equivalent, substantially in the manner and for the purpose herein set forth.

266,494. APPARATUS FOR DYEING, BLEACHING, WASHING, AND DRYING YARN, &c. WILLIAM MAYBURY, Gansevville, N.Y. Filed July 20, 1882. (No model.)



Claim.—1. The apparatus herein shown and described for coloring, bleaching, washing, or drying yarn in the cop or on the bobbin, consisting of a tank and a hollow skeleton frame provided with perforated spindles and suitable pipes for supplying the coloring or other material to the frame, substantially as described.

2. The skeleton frame provided with the perforated spindles F or F' and with the supply-pipes K, in combination with the tank H, substantially as and for the purposes set forth.

3. The combination, with the perforated bobbins and supply-pipes D E, of the hollow laterally-perforated spindles, receiving from the one and transmitting to the other, as described.

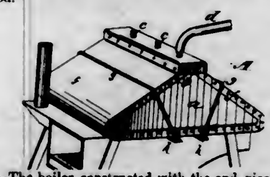
4. The skeleton frame composed of the hollow hubs A A, formed or provided with the hollow journals B B', the hollow arms C C, and hollow pipes and cross-pieces D and E, provided with the hollow perforated spindles, substantially as and for the purposes set forth.

5. The hollow hubs A, formed with the hollow journals B B', in combination with the stuffing-boxes J J' and pipes K K, substantially as and for the purposes described.

6. The combination, with the skeleton frame having the spindles F or F', of the strips of cloth N N, surrounding the frame, substantially as and for the purposes set forth.

266,495. BOILER AND FEED STEAMER. JESSE H. MCCANDLESS, Oxford, Iowa. Filed Aug. 5, 1882. (No model.)

Brief.—The ends of the boiler and the transverse strip *b* are made of wood.

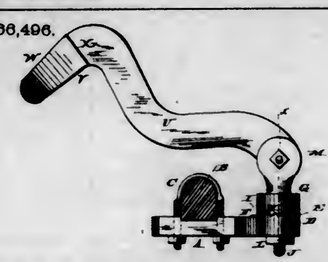


Claim.—The boiler constructed with the end pieces, *a a*, top piece, *b*, and metal sides and bottom attached to the end pieces, substantially as shown and described.

266,496. THILL AND TONGUE HOLDER. WELLINGTON B. MCFAIL, Vassar, Mich. Filed Mar. 30, 1882. (No model.)

Claim.—1. The combination, with the plate A, having ratchet-

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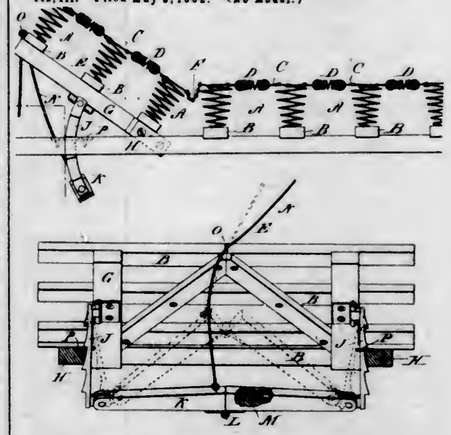


disk D, of the ratchet-disk G, carrying the holding-spring U, and having the screw-threaded shank passing through disk D, and provided with a securing-nut, L, whereby the spring is adjusted laterally, as set forth.

2. The combination, with the plate A, carrying the vertical ratchet-disk M, of the holding-spring, provided at its lower end with a corresponding ratchet-disk, N, and means for securing the same together to adjust the spring vertically.

3. The combination, with the holding-spring U, of the herein-described means for adjusting it in both the lateral and vertical direction, the same consisting of suitable ratchet mechanism, as set forth.

266,497. SPRING BED-BOTTOM. UPTON MILLER, Mount Morris, Ill. Filed May 6, 1882. (No model.)



Claim.—1. In a spring bed-bottom, the combination, with the spiral springs A, of the links C and the spiral rings D, substantially as herein shown and described, and for the purpose set forth.

2. In a spring bed-bottom, the combination, with the spiral springs A, of the links C, the spiral rings D, and the chains F, connecting the springs of the pivoted head-rest and those of the fixed part of the bed-bottom, substantially as herein shown and described, and for the purpose set forth.

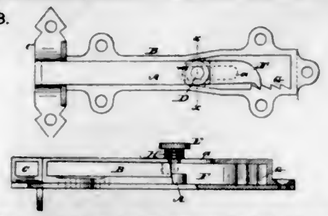
3. The combination, with a bed-bottom and its pivoted head-rest, of ratchet-bars hinged to the head-rest, and of a hinged bar connecting the lower ends of these ratchet-bars, substantially as herein shown and described, and for the purpose set forth.

4. The combination, with a bed-bottom and its pivoted head-rest, of the ratchet-bars J, hinged to the head-rest, the hinged bar K, attached to and connecting the lower ends of these ratchet-bars, and the cord N, attached to this hinged cross-bar K for raising it at the middle, substantially as herein shown and described, and for the purpose set forth.

5. The combination, with a bed-bottom and its pivoted head-rest, of the ratchet-bars J, hinged to the head-rest, the hinged cross-bar K, and the plates P, attached to the upper surfaces of the side bars H of the bed-bottom, substantially as herein shown and described, and for the purpose set forth.

266,498. DOOR AND SHUTTER BOLT. ROBERT B. MORROW, Philadelphia, Pa. Filed Mar. 16, 1882. (No model.)

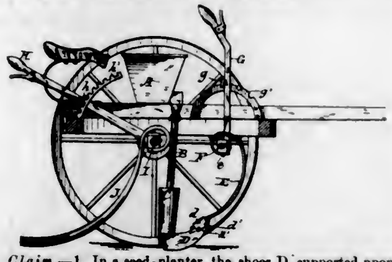
266,498.



Claim.—1. A sliding bolt, in combination with a knob journaled to it, a tooth fixed to said knob, and the casing of the bolt having a rack or serrations, with which said tooth is adapted to engage or lock, substantially as and for the purpose set forth.

2. A tooth journaled to a sliding bolt, in combination with a rotatable guard fitted on a rotatable knob, which is rigidly attached to said tooth, substantially as and for the purpose set forth.

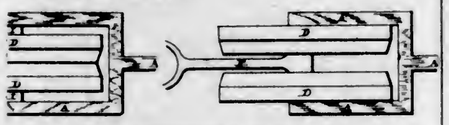
266,499. GRAIN-DRILL, ENOS A. MORPHEW and HARRISON WITHROW, Petersburg, Ill., assignors to said Withrow, and John A. Brahm, James M. Robbins, and Alfred W. Stoker, all of same place. Filed July 24, 1882. (No model.)



Claim.—1. In a seed-planter, the shoes D, supported upon springs E, in combination with a shaft, F, and lever G, adapted to be secured adjustably in desired positions at will, substantially as and for the purpose set forth.

2. The combination of the shoes D and the spring-coverers J, each adapted, substantially as shown and described, to be yieldingly depressed and adjustably held in said depressed condition, substantially as and for the purpose set forth.

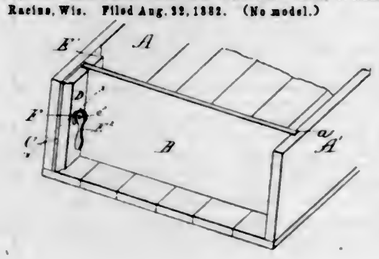
266,500. CORN-PLANTER. JESSE NEFF, Avenue, Ohio. Filed July 14, 1882. (Model.)



Claim.—1. The combination of the frame, the two wheels beveled on their inner edges, and the covering device which is pivoted between the two wheels, substantially as shown.

2. The combination of the frame A, which is adapted to be attached to a corn-planter, the axle C, the wheels D, beveled on their inner edges and made adjustable back and forth on the axle, and the washers I, for holding the wheels together when used for covering, substantially as shown and described.

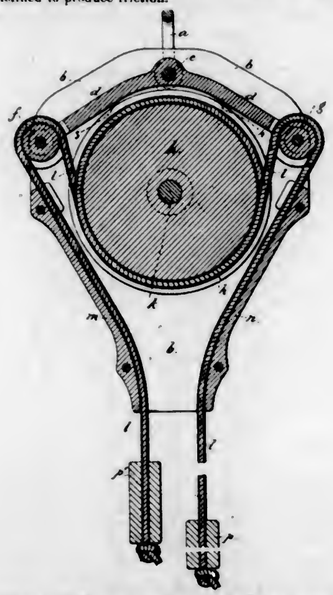
266,501. END-GATE LOCK FOR WAGONS. JAMES C. NELSON Racine, Wis. Filed Aug. 22, 1882. (No model.)



Claim.—The locking-plate having lugs *b*, slot *d*, and countersink *d'*, in combination with the slotted re-enforce C, and with the key E and its handle, the latter having an eccentric head, E^2, and being pivoted to the shank of the said key, as set forth.

266,502. FIRE-ESCAPE. ALLEN NEWHALL, Brooklyn, N. Y., assignor to himself and John C. Dickinson, same place. Filed Apr. 17, 1882. (No model.)

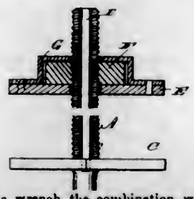
Brief.—The ends of the rope pass over wheels on the ends of the brake-bar. The jaws of the shell, over which the rope passes, are inclined to produce friction.



Claim.—1. The combination, with the wheel *h*, and the suspending-shell for the same, of the brake-lever *d*, the wheels *f g* at the respective ends thereof, and the rope passing around the wheels *h*, *f*, and *g*, substantially as set forth, whereby the lever is brought into action as a brake when either end of the rope is descending, substantially as set forth.

2. The combination, with the wheel *h*, of a suspending-shell having the inclined jaws *m n*, the lever *d*, the wheels *f g* at the ends of such lever, and the rope *l*, the parts being arranged so that the rope draws over the surfaces of the jaws *m n*, substantially as set forth.

266,503. WAGON-WRENCH. STEPHEN O'CONNELL, Billings, Mont. Filed Aug. 31, 1882. (Model.)



Claim.—1. In a wrench, the combination, with the rod A having its upper part screw-threaded and provided with longitudinal grooves D, of the fixed jaw-plate C, the movable jaw-plate E, provided with lugs *a*, the nut F, and the frame or clip G, substantially as herein shown and described, and for the purpose set forth.

2. In a wrench, the combination, with the rod A, having its upper part screw-threaded and provided with longitudinal grooves D, of the fixed tapered jaw-plate C, the movable tapered jaw-plate E, provided with lugs *a*, the nut F, and the frame or clip G, substantially as herein shown and described, and for the purpose set forth.

266,504. METHOD OF SEPARATING GLYCERINE FROM SPENT SOAP-LYES, SALINE, AND OTHER SUBSTANCES. FRANCIS J. O'FARRELL, Dublin, Ireland. Filed Feb. 25, 1882. (No specimens.) Patented in England July 27, 1881, No. 3,284; in France Jan. 13, 1882, and in Germany Jan. 19, 1882.

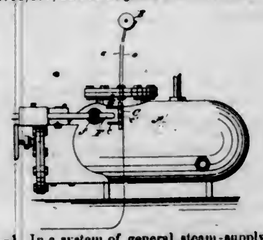
Claim.—The herein-described method of treating soap-lye immediately as it is drawn off from the copper by fire heat or dry steam until an aqueous solution of common salt is obtained, and using this solution for separating the glycerine from a fresh charge of soap, thus enabling the process to be repeated until a maximum amount of glycerine is obtained from the minimum volume of spent lye, then evaporating the solution thus obtained to crystallize out the salt, and finally eliminating the water from the glycerine by distillation *in vacuo* and the injection of a jet of steam, as specified.

266,505. DOG FOR LOG-CHAINS. PETER ORELL, Fort Madison, Iowa. Filed Aug. 1, 1882. (No model.)



Claim.—A dog for log-chains, constructed in two parts, with adjoining recesses or grooves, in which a chain-link is adapted to fit, the parts being provided with suitable chisel-edges, and with screw or other fastening devices, whereby the parts are secured together, substantially as shown and described.

266,506. STEAM HEATING APPARATUS. EUGENE F. OSBORN, St. Paul, Minn. Filed Oct. 31, 1881. Renewed Sept. 14, 1882. (No model.) Patented in France Jan. 4, 1881, No. 140,479; in Germany Jan. 4, 1881, No. 15,888; in Belgium Jan. 5, 1881, No. 52,497, and in England Oct. 17, 1882.



Claim.—1. In a system of general steam-supply for many buildings from a common source, the combination, with the several local apparatuses, of an annunciator located at a convenient point and connected with a moving part of each of said local apparatuses, whereby the annunciator at once indicates a derangement of either of said local apparatuses, substantially as described.

2. In a system of general steam-supply for many buildings from a common source, the combination, with the several local apparatuses, of an annunciator located at a convenient point and connected with a moving part of each of said local apparatuses, and a local signal connected with such moving part, whereby an alarm is simultaneously signaled to the occupants of the building and at the central annunciator, substantially as described.

266,507. STAINED-GLASS WINDOW. EUGÈNE OUDINOT, Paris, France. Filed Nov. 18, 1881. (No specimens.) Patented in France July 8, 1880, No. 137,700.

Claim.—1. The process of coating stained glass with metal, consisting in first applying over the whole surface of the stained glass a coating of metallic powder, flux, and adhesive substance, then perfecting the design by removing more or less of the coating from some portions and increasing the coating on other portions, and in finally firing the glass thus coated, substantially as and for the purpose described.

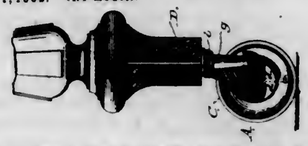
2. As a new article of manufacture, stained glass having applied to each side a thin vitrified coating of metal, whereby I produce the triple effect herein described, substantially as set forth.

266,508. ORNAMENTING GLASS FOR ARCHITECTURAL PURPOSES. EUGÈNE OUDINOT, Paris, France. Filed Nov. 18, 1881. (No specimens.) Patented in France Jan. 21, 1870, No. 193,576.

Claim.—1. The process of ornamenting glass, consisting in first delineating the outlines of the design upon the glass, then coating such parts of the glass as are not included in the design with a mixture of gold-powder and a liquid composition of ground glass or silex, then covering the design with enamel of the desired color or colors, and finally subjecting the glass to the action of heat or firing it, substantially as and for the purpose herein described.

2. The process of ornamenting glass, consisting in first delineating the outlines of the design upon the glass, then covering the design with enamel of the desired color or colors, then applying gold-leaf and flux or a vitrifiable preparation of liquid gold to the back of the glass, and finally subjecting the glass to the action of heat or firing it, to vitrify both the enamel and gold and secure them to opposite sides of the glass, substantially as and for the purpose herein described.

266,509. CASTER. OLE PEDERSON, Columbus, Ohio, assignor to Robert G. Jordan and David C. Meehan, same place. Filed Sept. 1, 1882. (No model.)

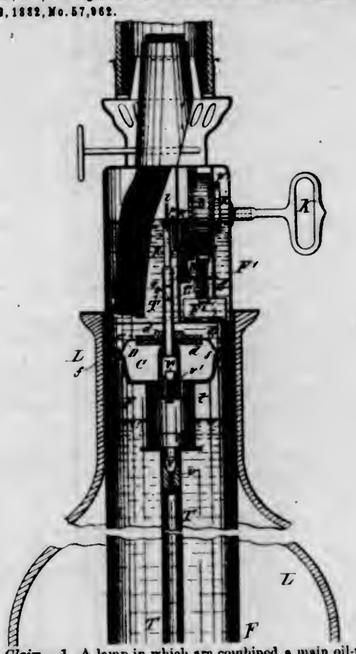


Claim.—1. The shank C, provided with the collar having the malleable metal lip *i*, and the step *f*, in combination with the stem D, provided with the groove *g*, substantially as and for the purpose set forth.

2. In a furniture-caster, the rollers A A and the pivots B B, rigidly connected by the rectangular bar *a*, and provided with the flanges *b b*, in combination with the shank C, slotted at its lower end, and provided with lips *d d*, all constructed to operate substantially as and for the purpose herein described.

3. In a furniture-caster, the shank C, having its lower end slotted and provided with the lips *d d*, in combination with the pivots or axle provided with the flanges *b b*, whereby the caster is secured oscillation directly on its shaft, as herein described

266,510. LAMP. HENRY PEIGNIER, Paris, France. Filed Aug. 14, 1882. (No model.) Patented in France Oct. 11, 1881, No. 145,260; in England Feb. 9, 1882, No. 630, and in Belgium May 10, 1882, No. 57,962.



Claim.—1. A lamp in which are combined a main oil-fount, an auxiliary or wick fount, a pump for transferring the oil from

the former to the latter, a spring-operated train of gearing for actuating said pump, and appliances whereby said operating-gearing is automatically thrown out of or into operation when the oil in the auxiliary reservoir falls or rises to given levels, substantially as and for the purposes specified.

2. In a lamp of the class specified, the combination of a main oil-fount, a wick-tube, an auxiliary oil-fount interposed between said wick-tube and main oil-fount, a pump, a spring-motor, and operating-gearing to operate said pump, a float, and a lever and stop connected with and operated from said float, and arranged to automatically engage or release the pump-operating mechanism as the float rises or falls with the oil in said auxiliary fount, as set forth.

3. In a lamp of the class specified, a main oil-fount, a wick-tube, an auxiliary oil-fount connected with said wick-tube, and a pump-plunger constructed to form the partition between the two founts, as described.

4. In a lamp of the class specified, a main oil-fount, a wick-tube, an auxiliary oil-fount connected with said wick-tube, and a diaphragm pump-plunger carrying a valve, and constructed to form a flexible partition between the main and auxiliary founts, as described.

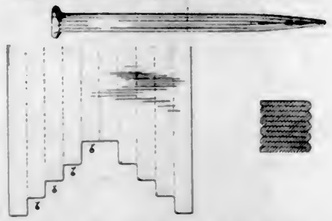
5. The combination, with the founts F F', of the pump composed of the plunger-tube T', carrying a valve, the flexible diaphragm D, the cap C, and tube T, carrying a valve also, and arranged for co-operation as described.

6. The combination, with the founts F F' and a pump and its operating-lever, of the spring-motor B, the gear-wheel W, pinions P P', worm-wheel W', worm S, carrying the fly F², a stop that is normally in engagement with said fly, and appliances to automatically release the stop from the fly and set the pump in operation, as described, for the purpose specified.

7. The combination, with the founts F F' and the plunger of a pump, of the rod R, slotted lever *l*, crank c, gear-wheel W, pinions P P', worm-wheel W', worm-spindle S, carrying a fly, a stop normally engaged with said fly, a spring-motor, and a float arranged to automatically release the fly and set the pump in operation, as and for the purposes set forth.

8. In oil-feeding devices of a lamp, the combination, with the fly of the train of feed-operating gear, of the float F², its rod R'', the lever L', and the stop or pawl S', all constructed and arranged for co-operation substantially as described.

266,511. SHEET-METAL NAIL. GEORGE H. PERKINS, Philadelphia, Pa. Filed Aug. 1, 1881. (No model.)

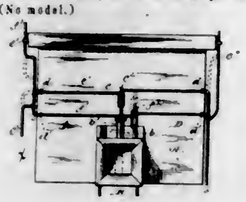


Claim.—1. As a new article of manufacture, a nail, spike, brad, or kindred article the body of which consists of sheet metal folded upon itself.

2. As a new article of manufacture, a nail, spike, brad, or kindred article the body of which consists of sheet metal folded upon itself and provided with a head.

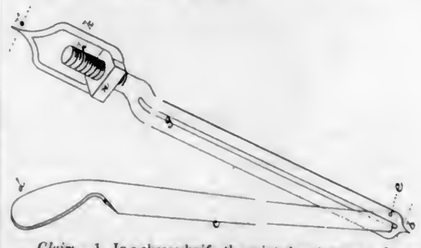
3. As a new article of manufacture, a nail, spike, brad, or kindred article formed of folded sheet metal, one or more of the folds of which upon the edge or side is or are notched, barbed, serrated, or indented, substantially as set forth.

266,512. CAR-COUPLING. JOHN D. PERRY, Naperville, Ill., assignor of one-half to Jasper L. Dille, same place. Filed July 21, 1882. (No model.)



Claim.—The combination, with the car-body A, the draw-head B, provided with the vertical grooves or channels *a*, formed on opposite sides of the mouth thereof, and the pin *b'*, of the stirrup *b*, placed in the channels *a* and having the ends of its side arms projected above the draw-head, the rod *e*, extended from side to side across the end of the car A, and having one end bent downward and its opposite end bent upward to the top of the car, and having an arm, e^3, extended forward over and coupled to the pin *b'*, and the rod *f*, extended from side to side across the end of the car-body, and having one of its ends bent to the top of the car and its other end bent downward, and having a central arm, f^3, extended forward over and coupled to one of the upwardly-projected ends of the stirrup *b*, the bent ends of the rods *e* and *f* being arranged so that on any given side of the car the end of one rod will extend to the top of the car and the end of the other rod will extend downward within reach of the operator, substantially as shown and set forth.

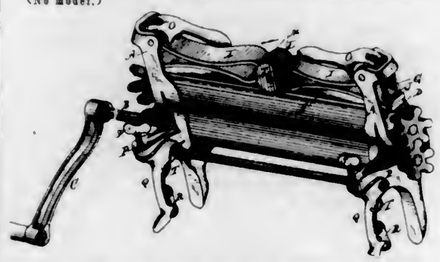
266,513. CHEESE-KNIFE. MARTIN G. PETTEY, Searcy, Ark. Filed Mar. 11, 1882. (No model.)



Claim.—1. In a cheese-knife, the pointed center stem, *a b*, provided with the seat-slot *g*, in combination with the knife c, having the handle *d* pivoted by one end in the lower end of the seat-slot *g*, whereby the knife is adapted to be inserted centrally and vertically through the cheese from the top thereof, substantially as specified.

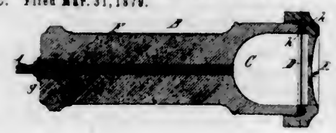
2. A cheese-knife consisting of the centering-stem *a*, having the blade slot or seat *g*, threaded end *h*, and pointed bracket-nut *n*, and the knife c, pivoted to the lower end of the stem, and having the handle-portion *d* at its outer or free end, substantially as specified.

266,514. CLOTHES-WRINGER. DENNIS B. PIPER, Keene, N. H., assignor to the Victor Wringer Company. Filed Sept. 2, 1882. (No model.)



Claim.—The combination, with the frame, of the vertically-sliding boxes D, having upward-projecting pins G, the rollers, one of which is journaled in said boxes D, the brace F, having staple K, the springs I, the plates L, having flanges M, the screw N, and the cam-levers O, as set forth.

266,515. APPARATUS FOR TRANSMITTING SOUND. CHARLES L. POND, Buffalo, N. Y., assignor, by direct and mesne assignments, of three-fourths to Edward Wilhelm and John J. Bonner, both of same place, and James H. Rogers, Washington, D. C. Filed Mar. 31, 1879.

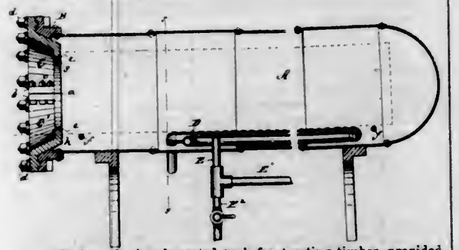


Claim.—1. An apparatus for transmitting sound, composed of a hollow conveyer, passage, or tube, A, and two or more diaphragms, D, adapted to transmit sound to and from the air or other fluid contained in the hollow conveyer.

2. The combination, with the tube A, provided with screw-sleeve *g*, of the receiver B, composed of the chamber C, diaphragm D, cap E, packings *h h*, and threaded shank F, substantially as set forth.

3. The combination of a tube for the transmission of impulses from sound-waves, diaphragms for transmitting the impulses from the sound-waves through the tube and reproducing said sound-waves at one end of the tube, and mouth-pieces adjacent to the diaphragms, substantially as set forth.

266,516. APPARATUS FOR TREATING TIMBER WITH ANTISEPTICS. JOSEPH W. PUTNAM, New Orleans, La. Filed May 19, 1882. (No model.)



Claim.—1. An elongated tank for treating timber, provided with a detachable annular head made in two sections with a diametrical joint, and also containing suitable steam-pipes and connections for steaming the timber and heating the antiseptic material.

2. The combination of the receptacle A, having marginal flange B, and the sectional annular head C C', having a diametrical joint, with flanges *b b* and the bolts *c* and *d*, substantially as shown and described.

3. The combination of the receptacle A, having heads made in two sections, C C', with a circular opening in the center, combined with and adapted to operate upon a pile having a peripheral groove fitted to the circular opening in the head, for the twofold purpose of making a tight joint and resisting the tendency of the internal pressure against the pile to force it out of the tank.

4. The combination of the receptacle A with head C C', and steam-inlet and perforated pipe for steaming the timber, and steam-coil for heating the antiseptic fluid, substantially in the manner shown, and for the purpose described.

266,517. MACHINE FOR MAKING SPLINTS. CHAS. E. RAMUS, Chicago, Ill., assignor to RAMUS, BAKER & CO., same place. Filed May 22, 1882. (No model.)

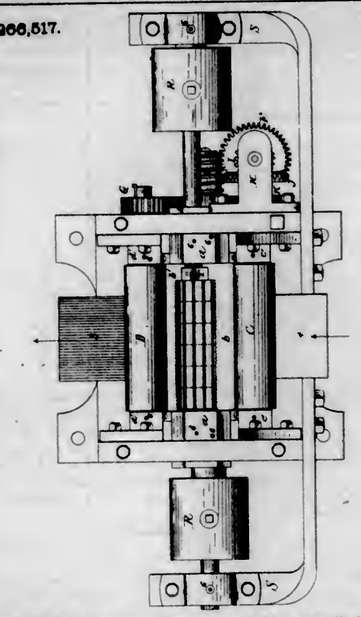
Brief.—Thin boards are cut into sheets of splints by rotary cutters, between which the material is fed. Presser-bars above and below the board are so arranged as to form a confining-passage both before and behind the cutters and a support opposite each cutter.

Claim.—1. The combination, substantially as described, in a machine for making match-splints, of the splint-producing cylinders, arranged with their cutting-edges describing circles which lap in close proximity in the path of the board, with the feed-rollers and the two sets of fixed table-guides, arranged so that each set will enter between the cutting-cylinders on opposite sides of their lapping circles and extend to and enter between the feed-rollers, whereby to form a confining-passage for the thin board to the cutting-cylinders and for the sheet of splints emerging from the cutting-cylinders between the delivering-rollers.

2. In combination, in a machine for making matches, the splint-producing cylinders, the two sets of table guide-supports *b b b' b'*, the yielding delivering feed-rollers D D, and the receiving feed-rollers B C, composed of a smooth yielding and a grooved or fluted non-yielding roller, all constructed and arranged substantially as described, for the purpose specified.

3. The combination, in a machine for making match-splints, of the splint-producing cylinders and the feed-rollers with a confining-passage for the thin board and for the sheet of splints produced therefrom, formed by the two sets of table-guides *b b b' b'*, the upper plate of one set extending over the lower cutting-cylinder and the lower plate of the other set extending beneath the upper cutting-cylinder, the inner ends of both said plates beveled and crossing the vertical axial lines of their respective cylinders, and both sets of said guide-plates extending to and between the feed-

266,517.

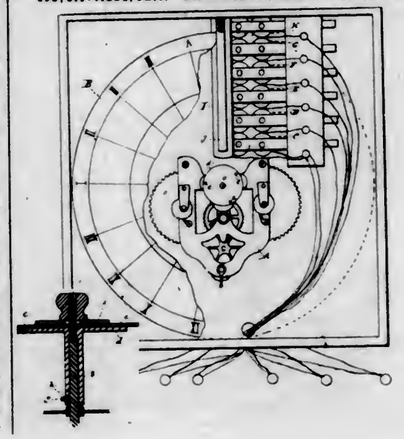


ing and the delivering rollers, substantially as described, for the purpose specified.

4. In a machine for making match-splints, the combination of the splint-producing cylinders with the two sets of table-guides *b b b' b'*, each set having fixed relations to said cutter-cylinders, and the feeding and delivering rollers, each set having fixed relations to said table-guides, and means, substantially as described, for connecting and operating the said rollers from one of said cutting-cylinders, for the purpose specified.

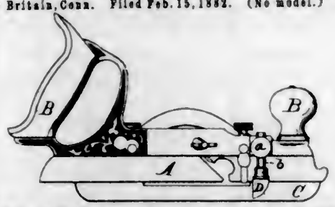
5. In combination, in a machine for making match-splints, the splint-producing cylinders A A, provided each with a driving-pulley, R, the two sets of table-guides *b b b' b'*, the feeding and delivering rollers, and the train of gear consisting of the spur-gears K L Q P, connecting each set of rollers, the bevel-gear I J, the worm-gears F and E, the intermediate stud-gears, M N O, connecting the gears L P of the lower rollers, all arranged at one end of the frame, and the driving-pulleys R R, arranged at opposite ends of the frame, all constructed and adapted for operation substantially as herein set forth.

266,518. WATCHMAN'S TIME-DETECTOR. GEORGE F. RANSOM, Cleveland, Ohio. Filed Mar. 31, 1882. (No model.)



Claim.—In a watchman's time-registering clock, the combination, with a clock-movement, a revolving dial connected therewith, and parallel bars located on opposite sides of the dial and radially thereto, of a series of electro-magnets having needles secured directly to their armatures, said needles being arranged radially to the clock-dial for piercing the dial on a radial line, substantially as and for the purposes set forth.

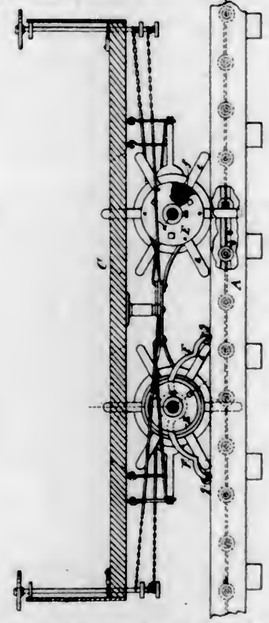
266,519. CARPENTER'S PLOW. FRANK A. RAPPLYE, Kendaia, N. Y., assignor to the Stanley Rule and Level Company, New Britain, Conn. Filed Feb. 15, 1882. (No model.)



Claim.—The convertible plow and slitting-tool, substantially as hereinbefore described, consisting of the plow-stock A, adapted for the attachment and detachment of the ordinary plow-bit, the slitting-knife D, secured to one side of said stock, and the fence C, secured to the opposite side, the bottom face of said stock being between the fence and knife, the latter extending downward from the lower outside corner of the stock, substantially as described, and for the purpose specified.

266,520. WIRE-ROPE TRAMWAY. CHARLES W. RASMUSEN, Chicago, Ill. Filed June 6, 1881. (No model.)

Brief.—A slotted tube has double tracks for guiding the wheels carrying a cable. A wheel or wheels is loosely sleeved on the axles of a car and is provided with radial arms to engage the cable, and having a lateral yield and a flexible guide or yoke therefor adapted to follow the curve of the track and guide said arms into the slot. Said wheel may revolve on the axle or be held fixed thereon by brake mechanism. A braw-bridge, to transfer cars across navigable streams, is provided with inclined tracks for the purpose of propelling the cars by their own gravity across such streams. Grooves between the tracks thereof permit the passage of the armed wheels.



Claim.—1. In cable-tramways, a tube or guideway for the cable, having at its curved portions grooves of varying curvature or twist, whereby said cable, with its supports, may be given new direction without undue strain, substantially as described.

2. In cable-tramways, a car drive-wheel the radial arms of which are laterally yielding, substantially as described.

3. In cable-tramways, the combination, with the drive-wheel of the car, of the radial arms secured therein, and the yielding side supports to said arms, whereby a lateral movement thereof is allowed, substantially as described.

4. In cable-tramways, a car drive-wheel formed in two halves or sections, in combination with radial arms, and yielding side supports secured therein, substantially as set forth.

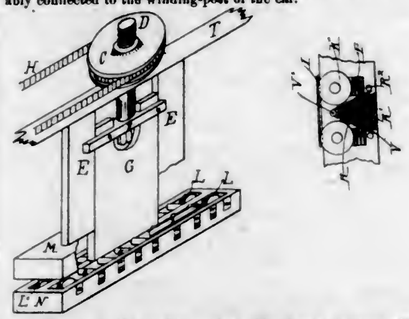
5. In cable-tramways, the combination, with the slotted cable-tube or guideway and of the cable moving therein, of the car drive-wheel having radial arms and a depending yoke to direct said arms, substantially as described.

6. In cable-tramways, the combination, with two traction-cable lines, of an interposed bridge or like swinging section having a track of single incline to connect with said cable-lines, substantially as described.

7. In cable-tramways, the combination, with two traction-cable lines, of an interposed bridge or like swinging section having double tracks of single and reverse inclines to connect with said cable-lines, substantially as described.

266,521. GRIP FOR CABLE RAILROADS. CHARLES W. RASMUSEN, Chicago, Ill. Filed Dec. 3, 1881. (No model.)

Brief.—Consists of a rigid and vertically-sliding jaw, each provided with a double set of oblong recesses, in which are secured a series of spring-seated rollers loosely journaled therein and having a band passing over them. An elastic brake mechanism arranged above the rollers and in such relation thereto that the action of clamping the cable will force the rollers against the brake mechanism. The grip is operated by a screw-shaft and wheel suitably connected to the winding-post of the car.



Claim.—1. A grip for traction-cables, having its vertically-sliding jaw provided with a double set of oblong recesses, and with a series of sheaves or rollers loosely journaled therein, and having brake mechanism, substantially as described, arranged above the series of rollers and in such relation thereto that the action of clamping the cable will force the rollers against the brake mechanism, as set forth.

2. A grip for traction-cables, having gripping-jaws, one, at least, of which is provided with spring-seated sheaves or rollers, and with a friction-surface or brake mechanism in such relation to said sheaves or rollers that the action of gripping the cable will force said rollers against the friction-surface, substantially as described.

3. The combination, with the sheaves or rollers of a cable-grip, of elastic brake mechanism, substantially as described.

4. A grip for traction-cables, having gripping-jaws, one, at least, of which is provided with sheaves or rollers loosely journaled therein, and with elastic brake mechanism affixed thereto, substantially as described.

5. In a grip for traction-cables, the combination, with the gripping-jaws, of loosely-journaled sheaves or rollers and a band or belt passing over the same, substantially as described.

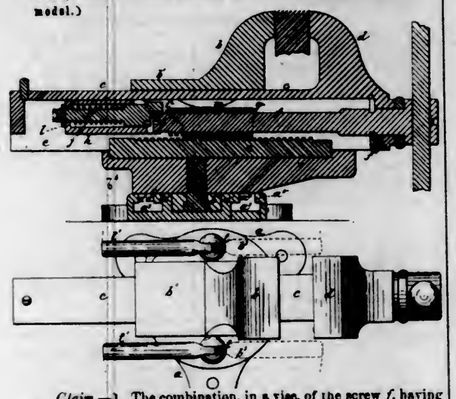
6. A grip for traction-cables, having gripping-jaws, one, at least, of which is provided with rollers, and with a belt passing over said rollers, and with a friction-surface or brake mechanism, substantially as described.

7. In a cable-grip having a rigid and a movable jaw, the combination, with the movable jaw, of a screw-shaft, a screw-wheel, and mechanism extending to and connecting said wheel with the winding-post of the car, substantially as described.

8. The combination, with the cable-grip, of the screw-shaft

D, the sprocket-wheel C, the endless chain H, the winding-post A, and the sprocket-wheel B, substantially as described.

266,522. VISE. HENRY F. READ, Brooklyn, N. Y., assignor to Read, Gleason & Read, same place. Filed Apr. 13, 1882. (No model.)



Claim.—1. The combination, in a vise, of the screw *f*, having the unthreaded cylindrical end *i*, the fixed rack *e*, and the sliding rack-nut *g*, formed with inclines *g'*, and with right-angled or square teeth, with a sliding stem, *i'*, having a concave end, *i''*, a spring, *j*, for operating said sliding stem, a spring-bearing for the sliding nut, and the fixed inclines *h'*, substantially as described, for the purpose specified.

2. The combination, in a vise, of the screw having the unthreaded end *i*, the fixed rack *e*, the sliding rack-nut *g*, formed with inclines *g'*, and its bearing-spring *m*, with the sliding stem *i'*, having a concave end, *i''*, and a guide-box, *h*, for said stem, having inclines *h'*, and a spring, *j*, for operating said sliding stem, arranged within said guide-box, substantially as described, for the purpose specified.

3. In combination with the jaws of a vise, a screw having an unthreaded cylindrical end, *i*, a rack-nut, *g*, having inclines *g'*, a sliding stem, *i'*, having a concave end, *i''*, the guide-box *h*, having the inclines *h'*, and the springs for operating the rack-nut and the sliding stem of the rack *e*, of the fixed jaw having the side projections, *n*, corresponding with and forming the ways for the movable jaw-bar, substantially as described, for the purpose specified.

4. The combination, in a vise, of the bed-plate *a*, having the central rimmed projection and the surrounding annular way, and the fixed jaw part *b'*, having the central hub part, *b''*, with the square-headed bolts *r*, and the jointed lever-nuts *t t'*, adapted to receive the said screw-bolts by interior screw-threads, substantially as described, for the purpose specified.

5. In a swiveling vise, the fixed jaw part *b'*, having the circular recessed seats or sockets in its upper surface around the bolt-holes, in combination with the screw-bolts *r*, the cylindrical nuts *t*, having interior screw-threads, the levers *t'*, jointed to said nuts, and the bed-plate, all constructed and adapted for use, substantially as described, for the purpose specified.

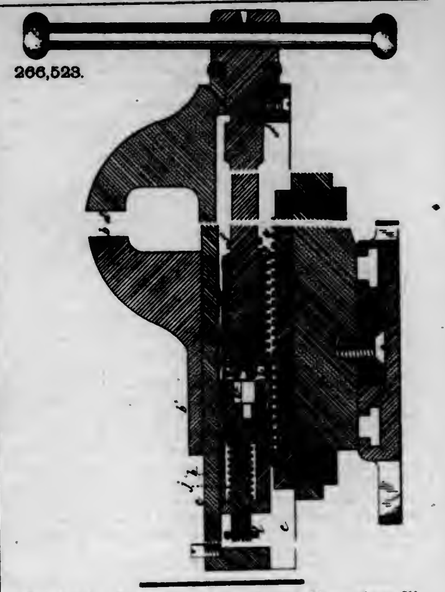
266,523. VISE. HENRY F. READ, Brooklyn, N. Y., assignor to Read, Gleason & Read, same place. Filed Sept. 5, 1882. (No model.)

Brief.—Introduces a spring-actuated sliding plate to prevent the rack-nut from engaging with the rack until its inclined faces are entirely free from those of the box *h*.

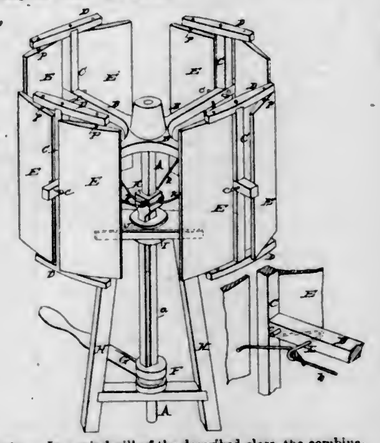
Claim.—1. The combination, in a vise, of the screw *j*, having the unthreaded cylindrical end *i*, the fixed rack *e*, and the movable rack-nut *g*, having the projecting inclines *g' c*, with the locking device *i'*, having the concave end *i''*, the fixed inclines *h'*, the springs *m* and *j*, and a plate-slide, *n*, arranged to be projected in position under the movable rack-nut to hold it out of engagement with the fixed rack in the operation of separating the inclines, for the purpose specified.

2. In combination, in a parallel vise, the fixed rack *e*, the movable rack-nut *g*, having the projecting inclines *g' c*, the screw *f*, having the unthreaded cylindrical end *i*, the plate-spring *m*, the fixed box *h*, the locking device *i'*, having the concave end *i''*, the spring *j*, the slotted plate-slide *n*, fitted within said fixed box, and its spring *r*, all constructed and arranged for co-operation, substantially as herein described, for the purpose specified.

266,523.

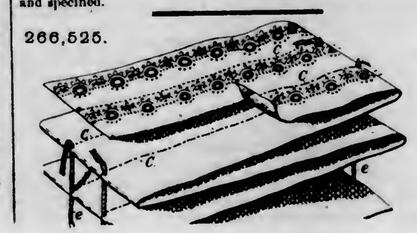


266,524. WINDMILL. FRANK REITER, Warrensburg, Ill. Filed Aug. 18, 1882. (No model.)



Claim.—In a windmill of the described class, the combination of the vertical drive-shaft A, having radial arms B, provided with end pieces, C, having stop-pins *c c* and cross-heads D D, vanes E, hung in pairs between said cross-heads, doubled levers I, hung in the outer ends of arms B, rods *k*, sliding head K, having rod *a*, sliding sleeve F, and lever G, all constructed and combined to operate substantially in the manner and for the purpose herein shown and specified.

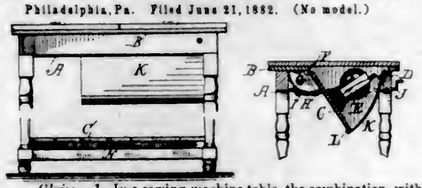
266,525.



266,525. DRESS-TRIMMING. ALBERT L. RICE, Wheeling, W. Va. Filed Jan. 28, 1882. (No model.)

Claim.—A bolt of embroidery containing two or more rows separated by a line of perforations adapted to be folded and secured by ties at the folds, substantially as described.

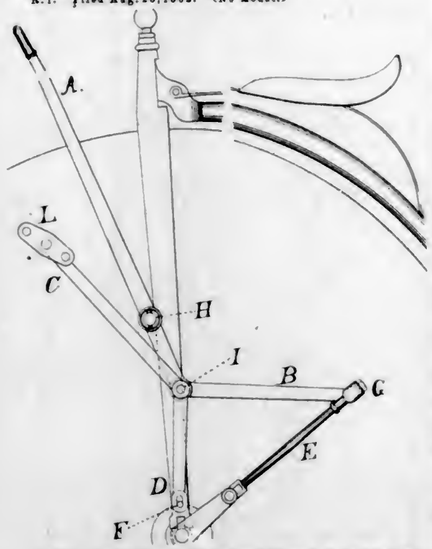
266,526. SEWING-MACHINE TABLE. GEORGE A. RIDER, Philadelphia, Pa. Filed June 21, 1882. (No model.)



Claim.—1. In a sewing-machine table, the combination, with the stationary lid, of the two trap-doors, the larger one of which is adapted to hold the other in a closed position by contact with its free edge, the curved plate having a flange at its lower edge for supporting the larger door when the latter is down, and which plate serves as a guide for bringing the free edges of the doors together when the larger door is moved upward, and means for operating the larger door, substantially as shown and described.

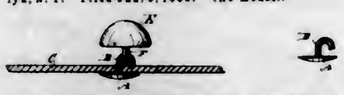
2. In a sewing-machine table, the combination, with the cross-rails at the top and bottom of the table, of the hinged standard to which the fly-wheel is attached, the jointed and swiveled pitman, which is adapted to be turned down to a horizontal position with the standard, and the hinged lid adapted to fold over said standard and pitman to form a shelf at the lower part of the table, substantially as shown and described.

266,527. VELOCIPEDE. FRANK RITTENHOUSE, Providence, R.I. Filed Aug. 26, 1882. (No model.)



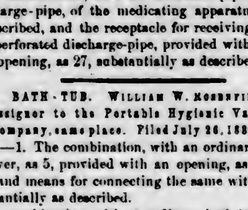
Claim.—The combination of hand-levers A B with the foot-levers C D and the crank of the bicycle, tricycle, or any similar machine, as shown in the drawings, for the purpose of giving power and motion to the machine, substantially as described.

266,528. BUTTON-FASTENER. JAMES H. ROBERTSON, Brooklyn, N. Y. Filed Jan. 5, 1882. (No model.)



Claim.—A button-fastener having the head A and the shank B, which is cylindrical in cross-section, and is bent or curved upon itself and toward the inner face of said head, and with its free end approaching said inner face, as described, whereby the said curved shank may be passed coincidently through an oblong slot in the material to which the device is to be applied, and after receiving the eye of the button may be turned in said slot and have its free end clamped down upon the said material, substantially as and for the purpose specified.

266,529. COILED-WIRE BELT. HOWARD C. ROOT, Philadelphia, Pa., assignor of one-half to Frank Shaw, Brooklyn, N.Y. Filed July 31, 1882. (No model.)



Claim.—A coiled-wire belt having the coils at one end reduced in diameter and introduced into the coils of the opposite end of the belt, as set forth.

266,530. INHALING AND VAPORIZING APPARATUS. WILLIAM W. ROSENFIELD, New York, N. Y., assignor, by mesne assignments, to the Portable Hygienic Vapor and Disinfector Company, same place. Filed Apr. 22, 1882. (No model.)

Claim.—1. The combination, with the closed liquid-receptacle 8, of the air-chamber 7, of a size substantially equal to or greater than that of the liquid-receptacle, the two being connected by a passage, as described, and a pipe, as 14, affording free communication between the latter and the air above the liquid in the former, substantially as described.

2. The combination, with the closed liquid-receptacle 8, of the air-chamber 7, of a size substantially equal to or greater than that of the liquid-receptacle, the pipe, as 14, connecting the latter with the former at a point above the surface of the liquid, and means for regulating the flow of the liquid, substantially as described.

3. The combination, with the induction-pipe 1 and the perforated discharge-pipe 3, of the medicating apparatus, substantially as described.

4. The combination, with the induction-pipe and the perforated discharge-pipe, of the medicating apparatus, consisting of the receptacle 2, the air-chamber 7, and the liquid-receptacle 8, and their connections, substantially as described.

5. The combination, with the induction-pipe and the perforated discharge-pipe, of the medicating apparatus, substantially such as described, and the receptacle for receiving the drippings from said perforated discharge-pipe, provided with a cover, as 26, having an opening, as 27, substantially as described.

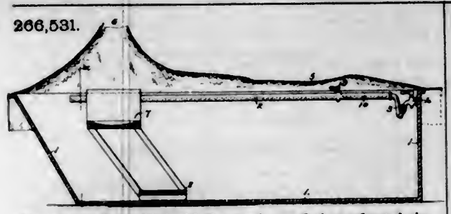
266,531. BATH-TUB. WILLIAM W. ROSENFIELD, New York, N. Y., assignor to the Portable Hygienic Vapor and Disinfector Company, same place. Filed July 26, 1882. (No model.)

Claim.—1. The combination, with an ordinary bath-tub, of a flexible cover, as 5, provided with an opening, as 6, a perforated pipe, as 2, and means for connecting the same with the hot-water cock, substantially as described.

2. The combination, with an ordinary bath-tub, of the longitudinal perforated pipe, as 2, provided with a cock, as 9, for shutting the water off from a part of its length, substantially as described.

3. The combination, with an ordinary bath-tub, of the flexible cover, as 5, provided with the opening, as 6, the perforated pipe, as 2, and means for detachably connecting the same to the hot-water cock, substantially as described.

266,531.

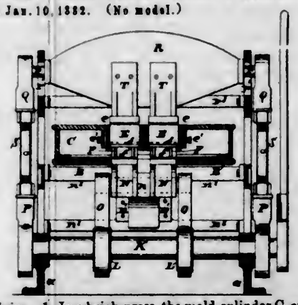


4. The combination, with an ordinary bath-tub, of a flexible cover, as 5, provided with an opening, as 6, a perforated pipe, as 2, and a removable seat and foot-rest, as 7 8, substantially as described.

5. The combination, with an ordinary bath-tub and its hot-water cock, of the perforated pipe, as 2, flexible connecting-pipe, as 3, nipple, as 11, plain annulus, as 13, and annulus, as 16, substantially as described.

6. The combination, with an ordinary bath-tub and its hot-water cock, of the perforated pipe, as 2, flexible connecting-pipe, as 3, and means whereby the flexible pipe is coupled directly to the cock, substantially as described.

266,532. BRICK-PRESS. ROBERT N. ROSS, St. Louis, Mo. Filed Jan. 10, 1882. (No model.)



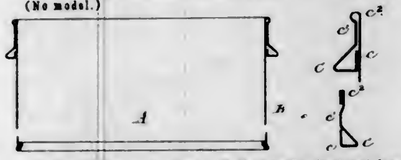
Claim.—1. In a brick-press, the mold-cylinder C, supported on friction-rollers D, adjustably secured to the bed-plate B, substantially as and for the purpose set forth.

2. In combination with cylinder C and molds E, the set-screws e', as and for the purpose set forth.

3. The combination of shaft K, eccentrics L L M M, mounted thereon, lower plungers, N N, links O O, P P, and Q Q, beam R, upper plungers, T T, adjustable connecting-rods S S, and suitable molds, E E, as set forth.

4. The removing-plungers V, connected to the shaft X by eccentric W and link V', the frame a^2, bevel-wheel Y, and segment Z, all substantially as and for the purpose set forth.

266,533. MEASURE. CHARLES SANDSTEN, Marissa, Ill., assignor to James H. Hamilton, same place. Filed July 27, 1882. (No model.)

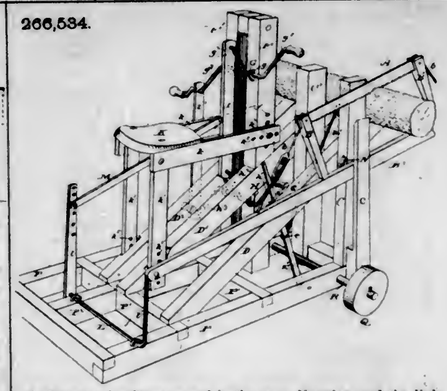


Claim.—The combination, with the top of a sheet-metal measure or other vessel, of a strengthening-band having at its lower end a handle angular in cross-section, the base of which presents a broad flat surface for the fingers to grasp, and the vertical side of which presents a continuation of the flat portion and lies in close contact with the outside of the measure, for the purpose set forth.

266,534. DRAG-SAW. CHARLES SAWYER, Morris, Minn. Filed Feb. 8, 1882. (No model.)

Claim.—1. As a means for operating a drag-saw, the combination of the shafts G and H, rotated respectively by hand and foot cranks, connecting-bars I I', which cause the rotation of said shafts to be simultaneous and in the same direction, and the link M, rock-shaft L, and crank-arms l l', which arms connect said shaft with the link M and bar B^3, whereby the power is transmitted from the connecting-bar I to the bar B^3, substantially as shown and described.

266,534.



2. The combination, with the reciprocating saw of the crank-shafts G and H, adapted to be rotated by the hands and feet and connected by links, so as to revolve together, and means for transmitting the motion of the cranks to the saw, substantially as shown and described.

3. The combination, with the reciprocating saw, of the crank-shafts G and H, adapted to be rotated by the hands and feet, connected by links, so as to revolve together, and connected by an adjustable link to the rock-shaft, whereby the motion of the cranks is transmitted to the saw, substantially as set forth.

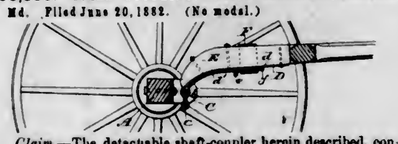
4. The means for adjusting the seat horizontally relative to the power-cranks, consisting of the upright bars k', pivoted to the main frame, and the bars k, pivoted to the bars k' and longitudinally adjustable on the main frame, substantially as shown and described.

5. The means for adjusting the seat vertically, consisting of the bars k, carrying the seat and pivoted at one end to the main frame, and the uprights k', pivoted to the bars k and vertically adjustable on the main frame, substantially as set forth and described.

6. The means for adjusting the seat relative to the power-cranks, consisting of the combination of the upright bars k', adjustably pivoted to the main frame, and bars k, carrying the seat and vertically adjustable upon the main frame, substantially as shown and described.

7. The combination, with a drag-saw adapted to operate in a vertical plane, of the frame for mounting the saw, consisting of the gravitating bar B^3 below the saw, and supports which connect the bar B^3 and the saw-blade, said bar B^3 being arranged to lie below the wood and keep the saw-blade in engagement with the wood by the action of gravity, substantially as set forth and described.

266,535. THILL-COUPLING. PHILIP SCHNEIDER, Rosedale, Md. Filed June 20, 1882. (No model.)



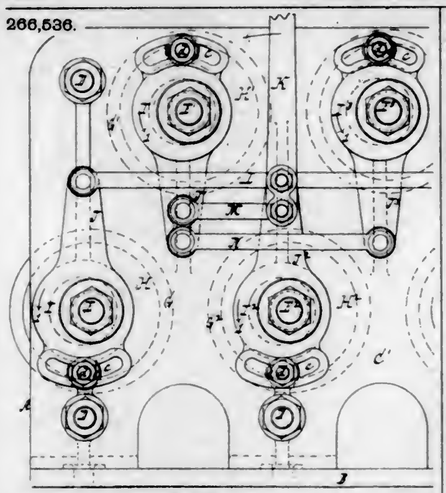
Claim.—The detachable shaft-coupler herein described, consisting of the double hinge D, having the upper part, d, secured to the ends of the shafts, and the lower jointed part, d', provided with a raised part, e, and ridge f, and both provided with semi-recesses b, in combination with the clips C, all constructed and arranged for operation substantially as shown and specified.

266,536. RAIL-STRAIGHTENING MACHINE. WILLIAM K. SHAMAN, Scranton, Pa. Filed Apr. 8, 1882. (No model.)

Claim.—1. The combination, with a series of rollers, G, and their axles, of the eccentric bushes I and the adjusting-lever K, substantially as and for the purpose described.

2. The combination, with a series of rollers, G, and their axles, of the second series of rollers, H, and their axles, the eccentric bushes I, and the adjusting-levers K, substantially as and for the purpose described.

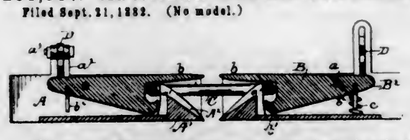
266,536.



Claim.—1. The combination of the body A, having the interior incline, A′, and its immovable prong A^1, with the upper movable jaw, B, having an internal recess and lip, *b′*, at its front end, and a stop-pin, *c*, under its tail end, substantially as and for the purpose described.

2. The combination of the body A, having the interior incline, A′, and its prong A^1, projecting above said incline, with the upper movable jaw, B, having a link-lifting lip, *b′*, and a tail end in the rear of its pivot, and a lever, D, having a curved under surface and adapted to press upon the tail end of the movable jaw to release the link, substantially as described.

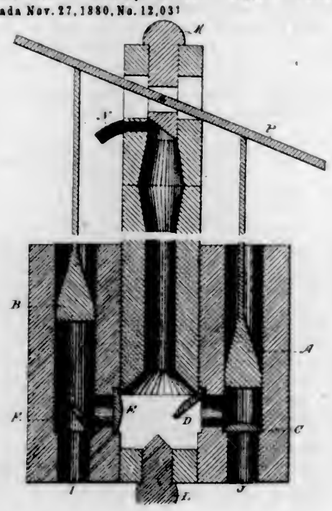
266,537. CAR-COUPLING. LEWIS SMITH, Bloomville, Ohio. Filed Sept. 21, 1882. (No model.)



Claim.—1. The combination of the body A, having the interior incline, A′, and its immovable prong A^1, with the upper movable jaw, B, having an internal recess and lip, *b′*, at its front end, and a stop-pin, *c*, under its tail end, substantially as and for the purpose described.

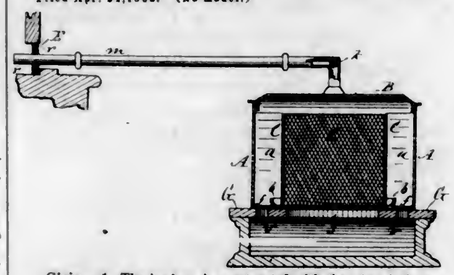
2. The combination of the body A, having the interior incline, A′, and its prong A^1, projecting above said incline, with the upper movable jaw, B, having a link-lifting lip, *b′*, and a tail end in the rear of its pivot, and a lever, D, having a curved under surface and adapted to press upon the tail end of the movable jaw to release the link, substantially as described.

266,538. FORCE-PUMP. GEORGE W. SIMONS and ROBERT H. GEBOTT, St. Catharines, Ontario, Canada; said Simons assignor to said Gebott. Filed Apr. 18, 1881. (Model.) Patented in Canada Nov. 27, 1880, No. 12,031.



Claim.—1. The combination, in a pump having plungers A B, of valves C, D, E, and F and plugs L M, arranged as shown.

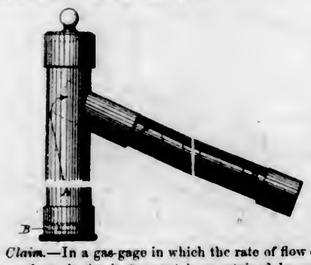
266,539. CORPSE-COOLER. JAMES C. SLOAN, Holley, N. Y. Filed Apr. 24, 1882. (No model.)



Claim.—1. The ice-box A, constructed with the wire-cloth or perforated plates C C C C, forming an interior receptacle, the longitudinal troughs or grooves *b b* outside the plates for catching and discharging water, the holes or slots *f f* outside the troughs, for allowing the passage of cold air downward, and the end passages, *g g*, provided with holes top and bottom, and communicating with the pipes *k m*, for the passage of the warmer air upward and outward, as herein shown and described.

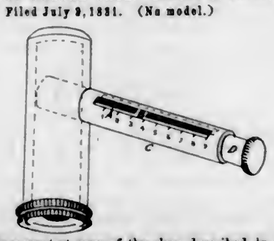
2. In a corpse-cooler, the combination, with the pipes *k m*, for the discharge of warm air and gases from the coffin, of the extensible slide E, fitted beneath the sash of a window, and provided with one or more openings to receive the end of the discharge-tube, as herein shown and described.

266,540. GAS-BURNER GAGE. DEXTER M. SMALL, Providence, R. I. Filed Feb. 12, 1880.



Claim.—In a gas-gage in which the rate of flow or passage of the gas through the instrument is ascertained by measuring the flame produced thereby, the combination, with a graduated scale, of a series of small apertures, openings, or perforations for the gas to pass through, and at which to ignite it and measure the flame, substantially as described, and for the purpose set forth.

266,541. GAS-BURNER GAGE. DEXTER M. SMALL, Providence, R. I. Filed July 9, 1881. (No model.)

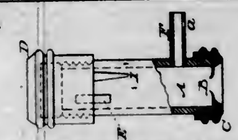


Claim.—In a gas-test gage of the class described, in connection with a graduated scale, a longitudinally-slotted tube having a device whereby the width of the slot may be regulated, substantially as and for the purpose set forth.

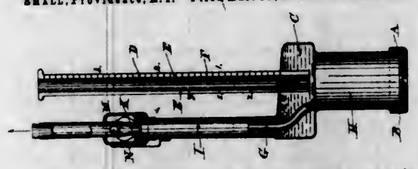
266,542. GAS-BURNER GAGE. DEXTER M. SMALL, Providence, R. I. Filed Oct. 29, 1880. (Model.)

Claim.—A device for testing the capacity of a gas-burner, or the rate at which gas under any pressure is passing through it, which consists of an instrument constructed with an inlet and an adjustable and graduated outlet for the gas, in connection with some suitable device for indicating the pressure of the gas within the instrument, for the purpose set forth.

266,542.



266,543. GAS-TEST AND PRESSURE-GAGE. DEXTER M. SMALL, Providence, R. I. Filed Mar. 13, 1882. (No model.)



Claim.—1. The combination, in an instrument for ascertaining the capacity of gas-burners, of an adjustable outlet, in connection with a graduated scale and a suitably-graduated pressure-gage, substantially as described, and for the purpose set forth.

2. The combination, in a gas-pressure gage, of an enlarged well above the base H, for holding liquid, with a transparent tube extending perpendicularly above and down into the liquid, and a suitable passage for the gas from the base H to a point above the liquid in the well, all arranged and operating substantially as described.

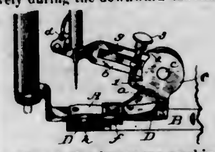
3. In a gas-burner gage, the chamber H, well C, and tubes D and G, together with an adjustable outlet, in connection with a graduated scale, arranged to operate substantially as described.

4. In a gas-gage of the class described, the combination, with a graduated outlet, of a scale of the nature described and designated as *x y z*, in accordance with which the size of the outlet is to be varied, as and for the purpose set forth.

5. In a gas-burner gage, a compound scale indicating the corresponding pressures when the outlet is closed and when it is opened, so as to permit the gas to flow at a predetermined rate.

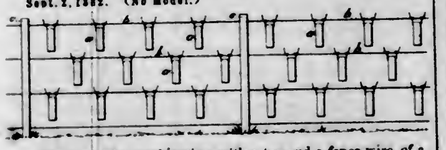
266,544. RUFFLING ATTACHMENT FOR SEWING-MACHINES. ANNA L. SMITH, Edmore, Mich. Filed May 15, 1882. (Model.)

Brief.—The ruffling-blade bears upon a guard beneath the supporting-arm of the attachment, and by its own resilience forces itself forward to act upon the fabric to be ruffled, being moved backward positively during the downward movement of the needle-bar.



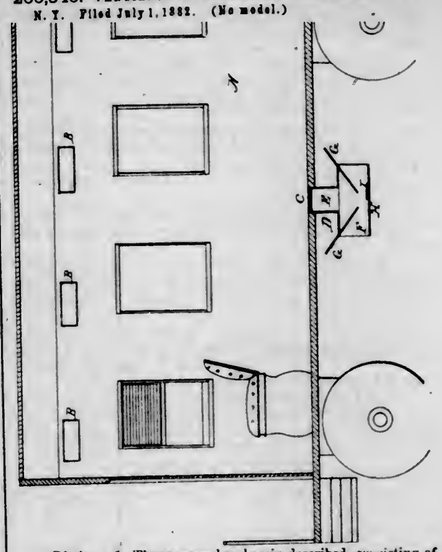
Claim.—A ruffling device for sewing-machines, consisting of a plate, A, secured to the presser-foot of the machine above the table, lever *b*, pivoted to such plate and connected by a link to the needle-bar, a piece, C, having the stops 1 2, the spring ruffling-blade D, sliding within guard *f* and attached to the said piece C, and the adjusting-screw 3 on the lever *b*, the parts being constructed and arranged to operate substantially as described.

266,545. WIRE FENCE. ELDRIDGE J. SMITH, Williamsport, Pa., assignor of one-half to John Schwer, Jr., same place. Filed Sept. 2, 1882. (No model.)



Claim.—The combination, with a tag and a fence-wire, of a securing wire or wires the projecting ends of which form the barbs, substantially as specified.

266,546. VENTILATION. MARSHALL B. STAFFORD, New York, N. Y. Filed July 1, 1882. (No model.)

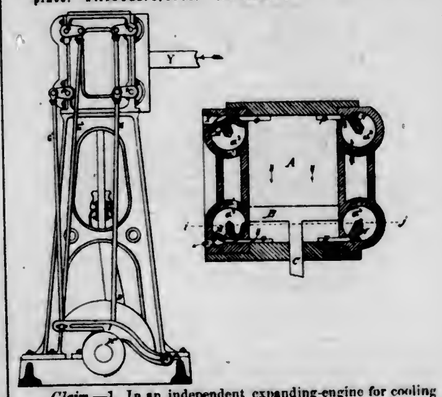


Claim.—1. The vacuum-box herein described, consisting of the vertical flue, the horizontal flue, and the inclined plate or plates, the horizontal flue having a flat bottom, substantially as set forth.

2. The vacuum-box D, consisting of the vertical and horizontal flues and the inclined plate or plates G, the upper end of which projects outward beyond the box for the purpose of creating a large bearing-surface for the air, substantially as set forth.

3. The vacuum-box D, consisting of the horizontal and vertical flues, the plate or plates G, and the damper, substantially as set forth.

266,547. AIR-COOLING AND ICE-MAKING MACHINE. HENRY P. STARBUCK, Chicago, Ill., assignor to W. A. Reynolds, same place. Filed Jan. 3, 1882. (No model.)



Claim.—1. In an independent expanding-engine for cooling air, as described, to be operated by compressed air, the combination of a jacket or chamber, *a a*, with the expanding-cylinder A, and surrounding the latter, for the purpose substantially as set forth.

2. In a cooling-engine operated by compressed air, an exhaust-valve, M, made, as described, so as to receive the pressure upon the back side of the valve, and to leave a straight portway, so as to offer no obstruction to the free passage of air in its discharge, substantially as set forth.

3. In any engine using independent oscillating exhaust-valves, the valve M, constructed so as to receive the pressure on the back side of the valve, thus obviating the usual clearance or lost space, and operating substantially in the manner described.

4. In a cooling-engine operated by compressed air or gas, in which cams are used to operate the inlet-valves, an air-cushion within the surface of the cam, for the purpose as set forth and described.

5. In a cooling-engine operated by compressed air or gas, in which cams are used for moving the inlet-valves, movable trip-pieces T and T', for regulating the automatic movements of such inlet-valves, as described and set forth.

6. A revolving cam, with automatic air-cushion within the surface of the cam, with valve within air-cushion, for the purpose as described and set forth.

7. A ball-valve in the pocket of an air-cushion of a cam, as described and set forth.

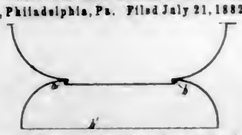
8. An automatic air-cushion within the surface of a cam, in which an ordinary check-valve may be used, as set forth and described.

9. In a revolving cam operating the valves of an engine, the combination of a plunger, L, a valve, *b*, the air-holes *t* and *t'*, and the regulating-screw *u*, together with the movable trip-pieces T and T'.

10. In a cooling-engine operated by compressed air or gas, the combination of the cylinder A, the jacket or chamber *a a*, the valve-chamber a^2 and a^4, the valves M M N N, and the exhaust-ports X X, substantially as set forth.

11. In a cooling-engine operated by compressed air or gas, the combination of the cylinder A, the valves M M and N N, together with the cams H H' and the automatic air-cushion L L, substantially as and for the purpose set forth.

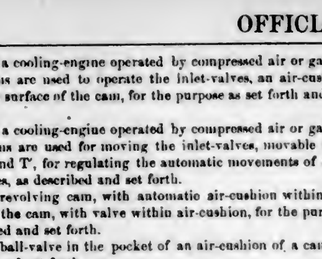
266,548. CUSPIDOR AND SIMILAR VESSELS. ALEXANDER STEWART, Philadelphia, Pa. Filed July 21, 1882. (No model.)



Claim.—1. The combination of breast or body A, having sunken bottom A', with foot B, having flange *b*, the wall *a* of said bottom being lapped over the flange of said foot, substantially as shown and described.

2. The combination of seamless body A, having the depressed portion A' integral therewith, with the seamless foot B, provided with an opening receiving said depressed portion, and a flange, *b*, a portion of A' being lapped over and pressed against flange *b*, substantially as described and shown.

266,549. ELECTRICAL FIXTURE. LUTHER STIERINGER, New York, N. Y. Filed June 14, 1882. (No model.)



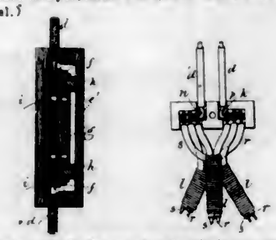
Claim.—1. The combination, with the gas-pipe of a house, of an electrical fixture having a hollow arm or stem supported from such gas-pipe, means for closing the end of the gas-pipe at the wall or ceiling to prevent the escape of gas, and insulated electrical conductors forming the two parts of the circuit passing through the interior of such hollow arm or stem, but outside of said gas-pipe, substantially as set forth.

2. The combination, with the gas-pipe of a house, of an electrical fixture having a hollow arm or stem supported from such gas-pipe, a supporting or sustaining joint connecting said arm or stem with said gas-pipe, and closing the end of such gas-pipe at the wall or ceiling, an opening or openings in such joint leading to the interior of the hollow arm or stem, and insulated electrical conductors forming the two parts of the circuit, passing through such opening or openings into or out of the arm or stem and extending through the interior of said hollow arm or stem, substantially as set forth.

3. The combination, with a supporting-pipe of an electrical fixture, conducting-wires carried by such fixture, a joint connecting the fixture and supporting-pipe, means for permitting the connection and disconnection of the fixture and pipe without turning such fixture, and means for preventing the turning of the fixture in use, substantially as set forth.

4. The combination, with a supporting-pipe, a fixture, and conducting-wires carried by such fixture for supplying electric light, of a connecting-joint composed of two parts, and a loose screw-collar securing them together without turning either part, the meeting faces of the two parts having means for locking them against turning independently, substantially as set forth.

266,550. ELECTRIC-LIGHT CHANDELIER. LUTHER STIERINGER, New York, N. Y., assignor, by direct and mesne assignments, to himself and Charles P. Harrington, same place, and Richard N. Dyer, Menlo Park, N. J. Filed Dec. 27, 1881. (No model.)



Claim.—1. In fixtures for electric lamps, the combination, with the two primary conductors and the separate distributers, of the secondary conductors running in pairs to the lamps, one conductor of each pair being connected with one of the distributers and the other conductor with the other distributer, substantially as set forth.

2. In fixtures for electric lamps, the combination, with the primary conductors and the separate distributers, of the secondary conductors running in pairs from such distributers, each pair being composed of two separately-insulated wires secured together by an ornamental covering, substantially as set forth.

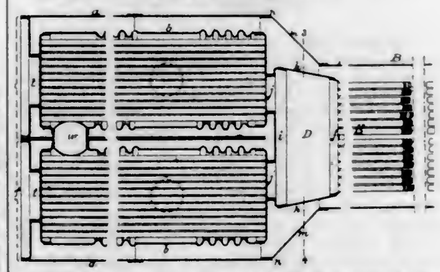
3. In combination with the primary conductors, their branches, and the pairs of secondary conductors united to the branches of the primary conductors, a clamp of insulating material to keep the branches separate, substantially as set forth.

4. A safety-catch for chandeliers for electric lights, having a block of non-conducting material, screws for securing two wire ends to such block, and a safety-catch link composed of a flat strip with perforated ends secured by other screws, and completing the circuit between such wire ends, substantially as set forth.

5. In a safety-catch for electric-light chandeliers, the combination, with two wire ends, *d d*, of the separable case *e e'*, of non-conducting material, the perforated safety-catch link *g*, and the screws *f h*, substantially as described and shown.

6. In safety-catches for chandeliers for electric lights, the flat fusible link constructed with a central web of definite carrying capacity and enlarged clamping ends, substantially as set forth.

266,551. LOCOMOTIVE-BOILER. GEORGE S. STRONG, Philadelphia, Pa. Filed Aug. 28, 1882. (No model.)



Claim.—1. The combination, in a locomotive-boiler, of two fire-boxes placed side by side, and each consisting of a cylindrical outer casing and a cylindrical inner casing, with the barrel into which the outer casings of the fire-boxes merge, substantially as set forth.

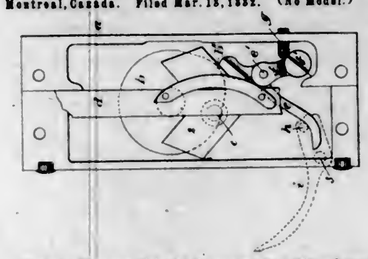
2. The combination of the two cylindrical fire-boxes placed side by side, and the tubed barrel B, into which the outer shells of the fire-boxes merge, with the chamber D, communicating with two fire-chambers of the fire-boxes and with the tubes of the barrel, substantially as set forth.

266,552. INSULATOR FOR MUSICAL INSTRUMENTS. JOSEPH STHAR, Honesdale, Pa., assignor of two-thirds to Henry B. Sysar, same place, and John T. Sysar, Green Ridge, Pa. Filed Apr. 29, 1882. (No model.)



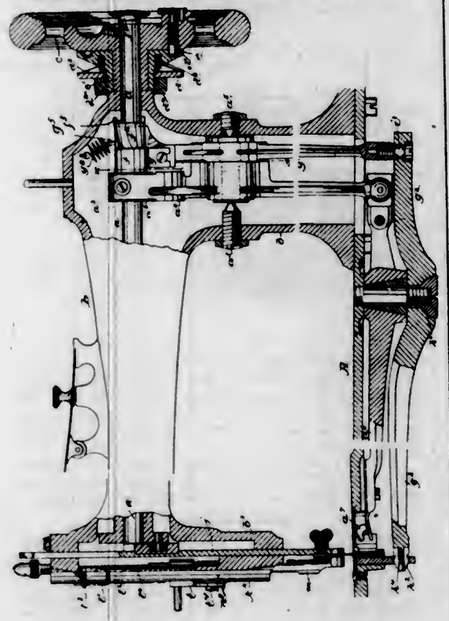
Claim.—An insulator or support for the legs of pianos and other musical instruments, formed of a hollow sounding body, A, having its top wall depressed centrally, the base of said depression being removed, so as to allow the leg of the instrument to rest on the bottom wall of said body, substantially as set forth.

266,553. SEWING-MACHINE. EDDY T. THOMAS, New York, N. Y., assignor to the C. W. Williams Manufacturing Company, Montreal, Canada. Filed Mar. 18, 1882. (No model.)



Claim.—The cam-disk and the presser-foot-lifting lever *i*, combined with the auxiliary lifting-lever *e* and the adjustable link *f*, to support the fulcrum of the lever *e*, the latter by its movement turning the usual lifting-lever and lifting the presser bar and foot automatically once for each stitch, substantially as and for the purpose described.

266,554. SEWING-MACHINE. EDDY T. THOMAS, New York, N. Y., assignor to the C. W. Williams Manufacturing Company, Montreal, Canada. Filed Jan. 14, 1882. (No model.)



Claim.—1. The feeding device *h*, and horizontally-vibrating lever g^3, and shaft *a*, and cams *f f'*, carried by it to actuate the feeding device, combined with the lever *g'* and its adjustable shoe *g*, to operate substantially as described.

2. The main shaft *a* and fly-wheel, combined with an expansible belt-pulley composed of two notched cones or parts adjustable horizontally with relation to each other, and springs d^3, all substantially as described.

3. The fly-wheel and its extended hub, the part *d'* of the belt-pulley placed thereon, the opposed part *d* of the belt-pulley, the springs d^3, and the nut to adjust the parts *d d'* of the said belt-pulley, substantially as described.

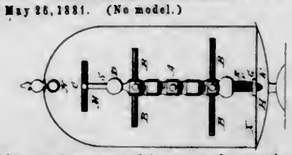
4. The shaft *a* and fly-wheel *c*, fast upon it, and the pin *e*, carried by the fly-wheel, combined with the expansible belt-pulley *d d'*, loose with relation to the fly-wheel, except when held by the pin *e*, the nut d^4, and springs d^3, substantially as described.

5. The presser-foot and its bar and the take-up, combined with the thread-support rigidly connected with and carried by the said presser-bar, and made to rise and fall with the presser, to support the needle-thread at a higher or lower level with relation to the cloth-plate of the machine as the presser-foot rides over material of greater or less thickness, substantially as described, and for the purpose set forth.

6. The presser-foot and its bar, combined with the presser-foot-locking device pivoted upon the presser-bar, and adapted to operate substantially as described.

7. The take-up pivoted upon the face-plate, and the presser-bar, combined with the rest *l'* for the needle-thread between the take-up and eye of the needle, the said rest being connected rigidly with the presser-bar, and moving vertically with it to lower and raise the needle-thread with relation to the path of reciprocation of the take-up lever, to enable it to take up more or less thread, according to variation in the thickness of the material under the presser-foot, substantially as described.

266,555. BIRD-PERCH. GEORGE B. THORPE, Chicago, Ill. Filed May 26, 1881. (No model.)



Claim.—1. As a new article of manufacture, the perches of a bird-cage, composed of standard A, arms B, spring M, and swing C, substantially as and for the purpose specified.

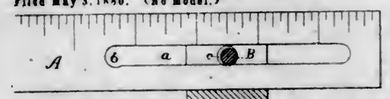
2. The combination of a standard, A, provided with a hollow base, arms B, pin H, surrounded by saturated felt, and spring E, the standard being secured to the bottom of the cage, substantially as and for the purpose specified.

3. The combination of standard A, arms B, and spring E, secured to said standard for connecting the same to the top of a bird-cage, substantially as and for the purpose specified.

4. In combination with a bird-perch, the pin H, saturated felt F, and spring E, substantially as set forth.

5. The combination of a standard provided with a recessed base, and arms B, with pin H, having ring G, and secured by nut K to the bottom of a cage, substantially as and for the purpose set forth.

266,556. TRY-SQUARE. JUSTUS A. TRAUT, New Britain, Conn. Filed May 3, 1880. (No model.)



Claim.—The combination of the slotted head, the eccentrically-grooved pin, and the blade having a longitudinal slot, the width of which slot is less than the diameter of the pin B, substantially as described, and for the purpose specified.

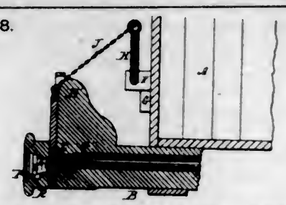
266,557. WITHDRAWN.

266,558. CAR-COUPLING. ARTHUR M. TRUDE and WILLIAM GRAY, Hartford, Conn., assignors of one-third to Charles H. Cooley, same place. Filed July 28, 1882. (No model.)

Claim.—1. The guide and projection B' on the bar B, in combination with said bar, the pin D, the chain J, the arm H, the bar E, having the handles E', and the rod K, substantially as described.

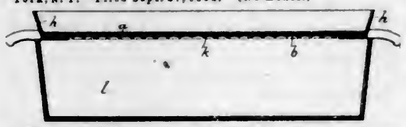
2. In a car-coupling, the combination of the pin D and its lifting mechanism, and the lever I' and its lifting mechanism, with

266,558.



the longitudinally-shifting bar E and block G, whereby the pin D and the lever P can be operated separately by the same handle and crank, substantially as described.

266,559. PERCOLATOR FOR ROSIN. CHARLES C. TYLER, New York, N. Y. Filed Sept. 27, 1882. (No model.)

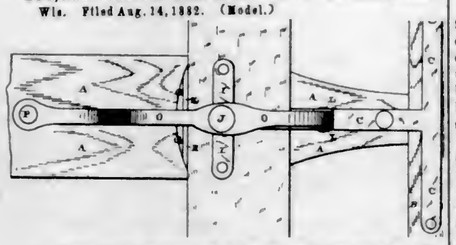


Claim.—1. The combination, with the metal sieve in a rosin-percolator, of a layer of cotton with a woven or knitted fabric upon its under side next to the sieve, substantially as and for the purposes set forth.

2. The percolator for rosin, formed of a layer of cotton with a fabric cemented to one side, and rolled upon a roller, with strips of paper intervening between the layers, for the purposes and as set forth.

3. The percolator for rosin, formed of a layer of cotton with a fabric attached to one or both of its surfaces, substantially as and for the purposes set forth.

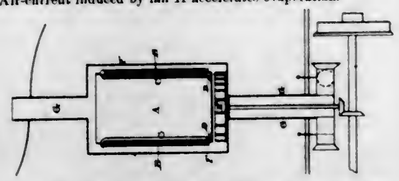
266,560. VEHICLE-POLE IRON. OLIVER VANORMAN, Racine, Wis. Filed Aug. 14, 1882. (Model.)



Claim.—The combination of the pole and the cross-bar with the plate C, having the circular flange made upon its front end, the hinged strap which passes over the top of the evener, the metallic plate which is secured to the under side of the evener, and the two bolts P J, substantially as shown and described.

266,561. WATER-COOLER. ISAAC M. VAN WAGNER, Nyack, N. Y. Filed June 7, 1882. (No model.)

Brief.—Water is cooled by evaporation from absorbent covering B, water being supplied to it through wicks D in tubes C. Air-current induced by fan H accelerates evaporation.



Claim.—In combination, the refrigerator A, the pipes C, having wicks D passing through them, and the absorbent material B, which is applied to the refrigerator, substantially as shown.

266,562. MANUFACTURE OF TILES. LEWIS J. WALKER, East Liverpool, Ohio. Filed Jan. 30, 1882. (No model.)

Claim.—1. In a drier for bricks or tiles, the rectangular dry-board *a*, having strips *b b* secured at right angles across its lower side near each end, projecting from its edges, and provided with

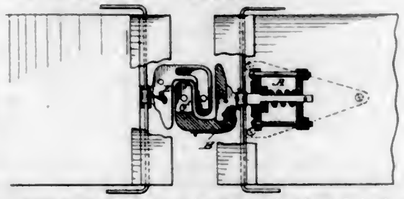
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vertical supports *c c*, secured to the ends of the strips, a ventilating-space remaining between said support and dry-board, said driers being adapted to be arranged in tiers of three or more by placing two or more beside each other upon a level surface, separated by a space equal to the width of a dry-board, *a*, and by placing a third drier over the space between the lower two, its strips *b b* resting upon the supports *c c*, substantially as shown and described.

2. A device for drying bricks and tiles, consisting of a dry-board, *a*, rectangular in form, and provided with sides *c*, secured to the outer ends of strips *b b*, secured to the lower side of the dry-board and projecting from the edges thereof, whereby a ventilating space is left between the sides and the dry-board, the said sides *c* being adapted to serve as supports for adjoining driers when arranged in tiers, substantially as shown and described.

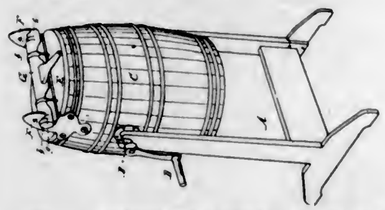
266,563. CAR-COUPLING. GUSTAVE WALLENBERG, Chicago, Ill. Filed Aug. 5, 1882. (No model.)



Claim.—1. In a car-coupler, the coupling-head C, having front hook and rear arm projecting laterally beyond said hook, in combination with the draw-bar A, recessed within the rear of the coupling-head, and provided with spring B, said parts being connected to each other and provided with a gravity retaining-pin, E, having members of different lengths, which passes through an opening in the coupling-head and draw-bar, the whole constructed substantially as shown, and for the purpose set forth.

2. In combination with the draw-bars A, having perforations *c c'*, recess *a'*, and spring B, the bifurcated coupling-heads embracing the draw-bars and pivoted thereto, said coupling-heads having rear ends of greater length than the forward interlocking ends, and provided with retaining-bolts, substantially as shown and described.

266,564. CHURN. ARTHUR B. WARD, Millington, Mich. Filed Sept. 16, 1882. (No model.)



Claim.—1. In combination with a churn, C, provided with the ears F, the cover E, and cam-bar G, provided with a series of cams upon opposite sides, substantially as set forth.

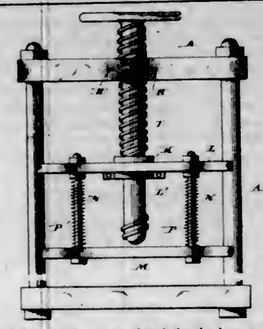
2. In combination with a churn-body, C, provided with an adjustable cover, E, the annular angle-iron H and packing I, substantially as specified.

3. A churn consisting of the body C, cover E, cam-bar G, annular angle-iron H, and packing I, adapted to be rotated in a suitable frame, substantially as and for the purposes herein described.

266,565. GLASS-PRESS. MICHAEL WARD, Pittsburg, Pa., assignor of one-half to Henry F. Voigt, same place. Filed July 27, 1882. (No model.)

Claim.—1. In a glass-press, the combination of the vertical posts, the upper cross-beam, and the detachable nut having exter-

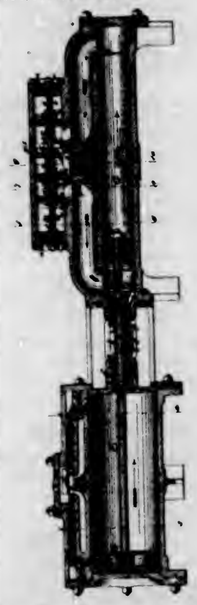
266,565.



nal notches and means for securing it in the beam with the vertically-descending screw-threaded shaft, as shown and described.

2. In a glass-press, the combination, with the frame having the screw-threaded shaft working through the cross-beam thereof and provided with collars, of the guide and pressure plates and the connecting-bolts and pressure-springs, substantially as shown and described.

266,566. PUMP. THOMAS H. WARD, Tipton, County of Stafford, England. Filed Nov. 14, 1881. (No model.) Patented in England Apr. 14, 1881, No. 1,850.



Claim.—1. The combination of the valve-box, covers, and set of piston-valves having overlapping flaps *s*, with annular projections *u* and a longitudinal rod connecting said covers and guiding the valves, substantially as described.

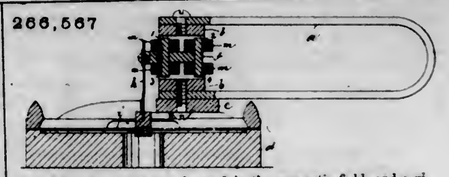
2. The combination of the valve-box, covers, and set of piston valves with rod *o*, tubes 6, and collars *p*.

3. The combination of the valve-box, covers, and set of piston-valves with valve-seats, a longitudinal rod connecting said covers and guiding the valves, and springs for the valves and cushions *r*, substantially as described.

266,567. MAGNETO-TELEPHONE. THOMAS A. WATSON, Everett, assignor to the American Bell Telephone Company, Boston, Mass. Filed Apr. 17, 1880. (No model.)

Claim.—1. In a magneto-telephone, the combination, with the magnet, of an armature pivoted to oscillate on an axis passing through or close to its center of gravity, induction-coils included

266,567



in the electric circuit and located in the magnetic field, and a vibratory surface or diaphragm connected with said armature on a point or one side of its axis, substantially as described.

2. The combination of a vibratory surface or diaphragm with a magnet, induction-coils included in the electric circuit and located in the field of said magnet, and an elongated armature connected with said diaphragm and pivoted to oscillate on an axis parallel or approximately parallel with the line of length of said armature, substantially as described.

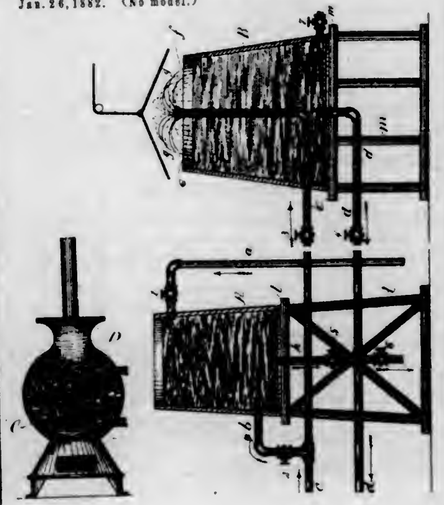
3. The combination, with a permanent magnet and an armature wound with insulated wire and pivoted to oscillate in the field of force of said magnet, of a vibratory surface or diaphragm and connecting-rod joining the said armature at a point on one side of the axis thereof, with said vibratory surface or diaphragm, and adapted to impart the movements of one to the other in both directions, substantially as described.

4. A telephone-diaphragm and an armature connected therewith pivoted to oscillate between the poles of the magnet, the said armature being provided with a series of poles each provided with induction-coils so arranged that as the armature oscillates the several poles alternately approach and recede from the poles of the magnet, a part approaching while the rest recede, substantially as and for the purpose described.

266,568. PROCESS OF MAKING ARTIFICIAL BUTTER. GEORGE H. WEBSTER, Chicago, Ill. Filed Sept. 30, 1882. (No specimens.)

Claim.—The hereinbefore-described process of making artificial butter, which consists in minutely dividing leaf-lard, rendering and straining it, mixing a butter-coloring matter with it, immersing it for thirty-six hours in cold brine, transferring it from the brine to dry tables or shelves, and keeping it there covered with salt for thirty-six hours; then heating it to about 130° Fahrenheit and mixing it with lukewarm buttermilk, a small quantity of clarified tallow, and a minute quantity of pepsin, and allowing the mixture to settle; then transferring the liquid lard and tallow to a vessel containing comminuted butter of about half the weight of the lard, thoroughly mixing the contents of the vessel by stirring, pouring the mixture into cold water, and thoroughly working it in the usual manner, substantially as described.

266,569. PROCESS OF AND APPARATUS FOR AGING AND COMPOUNDING LIQUORS. JOHN H. WELSH, Erie, Pa. Filed Jan. 26, 1882. (No model.)



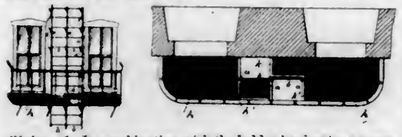
Claim.—1. The process of aging liquors herein described—viz., heating the liquor and spraying it while hot in the open atmosphere, as described, so that the lighter particles can escape out of the way of the mass being injected from the nozzle.

2. In an apparatus for compounding and aging liquors, the combination of the water-tank A', liquor-tank B, heating-coil C, furnace D, pipes *b c u e h*, and stop-cocks 1, 2, 3, 4, 5, and 6, for the purpose described.

3. In an apparatus for compounding and aging liquors, the combination of the tank B, coil C, furnace D, pipes *c d*, and pipe *e*, provided with spray-jet *f*, for the purpose set forth.

266,570. FIRE-ESCAPE. JOHN B. WICKERSHAM, Philadelphia, Pa. Filed Feb. 10, 1882. (No model.)

Brief.—A ladder with two ranges of rungs placed parallel with the face of the building, close enough to the same as to form a support for the back of a person descending. The balconies are provided with openings abreast of one of the ranges of rungs alternately, to allow passage also down the ontside of the ladders and at the same time furnish alternate rests.

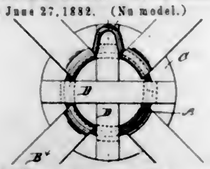


Claim.—1. In combination with the ladder having two ranges of rungs and placed parallel, or nearly so, with the surface of the building, the resting-places *k*, between the ladder and the building, and extending in from the balcony half the width of the ladder, substantially as set forth.

2. The combination, with a ladder placed vertically, or nearly so, of a backing that is parallel with the ladder and in such close proximity to the same as to form a support for the back of the person descending such ladder, and braces or guards between the edges of the ladder and the building to prevent a person falling out laterally, substantially as specified.

3. The combination, with a ladder placed vertically, or nearly so, of a backing that is parallel with the ladder and in such close proximity to the same as to form a support for the back of the person descending such ladder, a balcony extending outside the ladder, and having an opening through it to allow for passing up or down the outside of the ladder, as well as the inside, substantially as set forth.

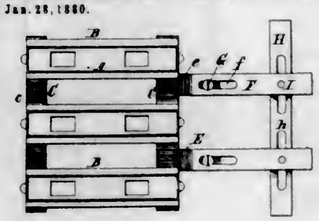
266,571. SADDLE-GIRTH. CALVIN WILLIAMS, Big Valley, Tex. Filed June 27, 1882. (No model.)



Claim.—1. The combination, with the central ring, A, and pad B, of the strips D D and the radiating straps B B' B' B', as herein shown and described.

2. The combination, with the central ring, A, and pad C, of the loop E and the radiating straps B B' B' B', as shown and described, for the purpose specified.

266,572. DIE FOR CUTTING BLANKS FOR NECKED PAPER BOXES. MERRICK F. WILSON, Chicago, Ill., assignor of one-half to Charles R. Steele and V. Clarence Price, same place. Filed Jan. 28, 1880.



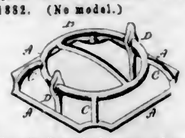
Claim.—1. The cutters A, of rectangular form, and attached to suitable supporting die-blocks, in combination with supporting-bars C, to which the blocks are adjustably attached, to permit the spaces between them to be regulated, the bars F, adjustably attached to the die-support, at one side thereof, and movable lengthwise to project more or less from the side of said support, and the gage-bar H, attached to the bars F, substantially as and for the purposes set forth.

2. The rectangular cutters A, in combination with the blocks B, provided with the serrations *b'*, the supporting-bars C, provided with the serrations *c* and slots *c'*, the clamping-screws D, the serrated arms E, attached to one of the bars C and projecting laterally therefrom, the serrated bars F, provided with slots *f*, the clamping-screws G, and the bar H, attached to the bars F by slots and screws, all constructed and arranged substantially as and for the purposes set forth.

266,573. MEDICAL COMPOUND FOR RHEUMATISM, &c. EBER B. C. WRIGHT, Charles City, Iowa. Filed May 15, 1882. (No specimens.)

Claim.—A medical compound composed of compound extract of sarsaparilla, fluid extract of poke-root, gum-guiacum, iodide of potassium, English wine of colchicum, and alcohol, combined in about the proportions described.

266,574. TRACE-CARRIER. MELANCTHON E. ZELLER, Bluffton, Ohio, assignor to O. B. North & Co., New Haven, Conn. Filed Aug. 28, 1882. (No model.)



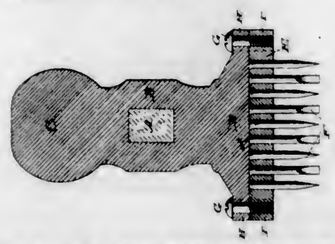
Claim.—The herein-described improved trace-carrier, consisting of the lower or base frame, A, and the ring-shaped frame B, supported by suitable standards, C, and having tongue D loosely pivoted thereon at opposite points, as described, said tongues being adapted to hang in a vertical position by their own gravity, substantially as and for the purpose set forth.

266,575. GAG-RUNNER. MELANCTHON E. ZELLER, Bluffton, Ohio, assignor to O. B. North & Co., New Haven, Conn. Filed Aug. 28, 1882. (No model.)



Claim.—As an article of manufacture, the herein-described gag-runner, consisting of the eye A, constructed with the loop B at its upper end, and with the hook-shaped tongue *b*, extending outward and upward from the upper bar of the loop, substantially as described.

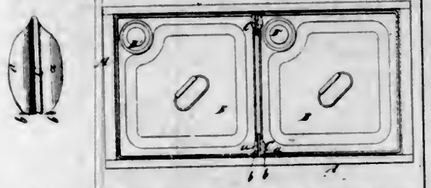
266,576. MEAT-TENDERER. JACOB ZIMMER, Binghamton, N. Y., assignor of one-half to Alexander S. Patten, same place. Filed May 12, 1882. (No model.)



Claim.—1. In a portable meat-tendering implement, the combination of the weighted head, the handle connected to said weighted head, the plate D, carried by said weighted head, the removable perforated plate E below said plate D, the clamping devices G, and the teeth F F, adapted to be passed from the inner face to the outer of said plate, and having expanded heads which bear against plate D, the other parts of the teeth being free and unsupported between the plate E and their outer ends, substantially as set forth.

2. In a portable meat-tendering implement, the combination of the weighted head, the handle connected thereto, the ears H H, connected to the head, a perforated plate, E, provided with countersunk recesses and with the ears I, the teeth F, removable by passing them upwardly through the plate E, and the screw-clamps G G, carried by the ears H and I, for detachably securing the plate E to the head, substantially as set forth.

266,577. PACKING CANS. PAUL BABCOCK, Jr., Jersey City, N. J. Filed Sept. 18, 1882. (No model.)



Claim.—1. The combination, with cans and a case containing them, of partition-pieces inserted between the cans and provided with flanges which rest upon the tops of the cans, and thereby support the partition-pieces, substantially as and for the purpose described.

2. The combination, with cans and a case containing them, of partition-pieces inserted between the cans and provided with flanges which rest upon the tops of the cans, and thereby support the partition-pieces, and also provided with flanges which project between the cans and the case and retain said partition-pieces horizontally in place, substantially as and for the purpose described.

3. The combination, with the case A and cans B, of the partition-pieces C, formed from sheet metal and having flanges *a*, substantially as and for the purpose described.

4. The partition-piece C, of U-shaped transverse section, provided with flanges *a*, substantially as and for the purpose described.

5. The partition-piece C, of U-shaped transverse section, provided with flanges *a*, and also provided with flanges or lips *b*, substantially as and for the purpose described.

266,578. BURIAL-CASKET. HENRY H. BARRY, Council Bluffs, Iowa, assignor of one-half to Samuel Tate, Topeka, Kans. Filed Sept. 16, 1882. (Model.)



Claim.—The combination, in a burial-casket constructed of two flanged sections, of the adjustable clips provided with set or binding screws to clamp the flanges, and the handles provided with pintles setting in recesses in the said clips, substantially as and for the purposes specified.

266,579. AUTOMATIC FIRE EXTINGUISHER AND ALARM. CHARLES E. BUELL, New Haven, Conn. Filed Sept. 22, 1882. (No model.)

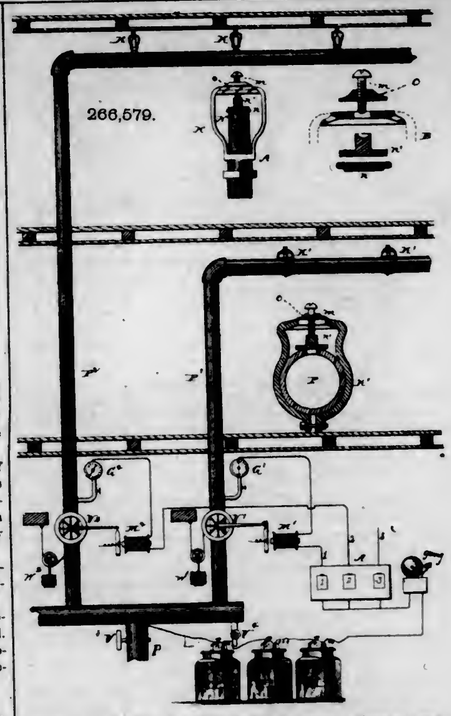
Claim.—1. The combination, with pipes arranged to conduct water through a building and provided with valves which open by heat, of an electric circuit and automatic devices adapted to indicate the pressure in said pipes, and to make operative said electric circuit when the pressure in said pipes, or either of them, falls below a predetermined degree, substantially as set forth.

2. The combination, with a distributer adapted for fire-extinguishing purposes, of a plate closing the outlet thereof, a support having a nut secured thereto by easily-fusible solder, and a screw passing through said nut and adapted to secure said plate over the outlet of the distributer, substantially as and for the purpose set forth.

3. The combination, with the distributer and the support, of the nut *o*, screw *m*, and plates *n n'*.

4. The combination, with a distributer adapted for fire-extinguishing purposes, of a clamp or support which clasps the distributer, and a device for closing the outlet of the distributer, the said device being held in position by being secured to the clamp or support by an easily-fusible alloy, substantially as described.

5. The combination, with the distributing-pipe of a fire-extinguishing system provided with an opening for the discharge of the extinguishing-fluid, of a plate closing the same, a clamp or support having a nut secured thereto by an easily-fusible alloy, and a screw passing through said nut and adapted to secure said plate over the opening in the pipe, substantially as and for the purpose set forth.



6. The combination, with the distributing-pipe, of a device for closing the opening therein, a clamp which clasps said pipe, and which is provided with a nut secured thereto by easily-fusible alloy, and a screw which secures said device over the opening in the pipe, substantially as described.

7. A distributing-pipe of a fire-extinguishing system, provided with openings for the discharge of the extingnishing-fluid, combined with devices for closing said openings, supports having nuts secured thereto by easily-fusible alloy, and screws passing through said nuts and holding said closing devices over the openings in the pipe, substantially as set forth.

266,580. ARTIFICIAL BUTTER AND METHOD OF MAKING THE SAME. WILLIAM H. BURDET, Chicago, Ill. Filed June 30, 1882. (No specimens.)

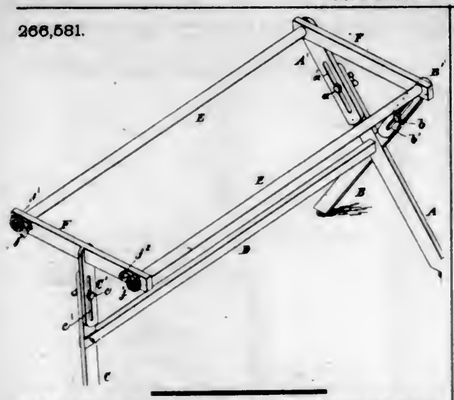
Claim.—1. The process of making the butter-like product described, which consists in first rendering the hog's fat, then curing the same in the manner described, and thereafter combining therewith the ingredients mentioned, substantially as and in the proportions set forth.

2. The butter-like product described, consisting of the ingredients specified—to wit, lard, beef-suet, butter, glycerine, salt, water, and coloring material—in substantially the proportions set forth, the lard having been rendered and subsequently cured, as stated.

266,581. QUILTING-FRAME. HENRY T. DAVIS, St. Louis, Mo., assignor to William J. Walsh, Scottsborough, Ala. Filed Jan. 5, 1882. (No model.)

Claim.—The combination of cross-bars F F', rollers E E, corner legs, A B, having sliding arms A' B', secured by bolt-and-slot connections *a a' b b'*, leg C, central of the cross-bar F, and having sliding arm C', secured by bolt-and-slot connection *c c'*, and the connecting-bar D, extending from the crossed legs A B to the middle of the central leg, C, as set forth.

266,581.



266,582. CELLULOID MOUTH-PIECE OR BIT FOR CIGAR AND CIGARETTE HOLDERS AND PIPES. WILLIAM DEMUTH, New York, N. Y. Filed July 1, 1882. (No model.)

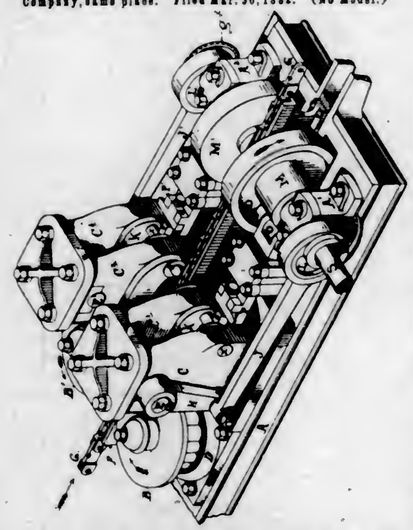


Claim.—1. As a new article of manufacture, a mouth-piece or bit for pipes and cigar and cigarette holders, consisting of celluloid or other pyroxyline material, substantially as set forth.

2. As a new article of manufacture, a mouth-piece or bit the body of which consists of celluloid or other pyroxyline material provided with a separable attaching-screw, substantially as set forth.

3. The combination, in a mouth-piece or bit, of a body consisting of celluloid or other pyroxyline material, a tube, *e'*, and screw *f*, substantially as described.

266,583. MACHINE FOR SEPARATING AND HEADING HORSESHOE-NAIL BLANKS. WILLIAM P. DURFEE, Bridgeport, Conn., assignor to the Wheeler & Wilson Manufacturing Company, same place. Filed Mar. 30, 1882. (No model.)

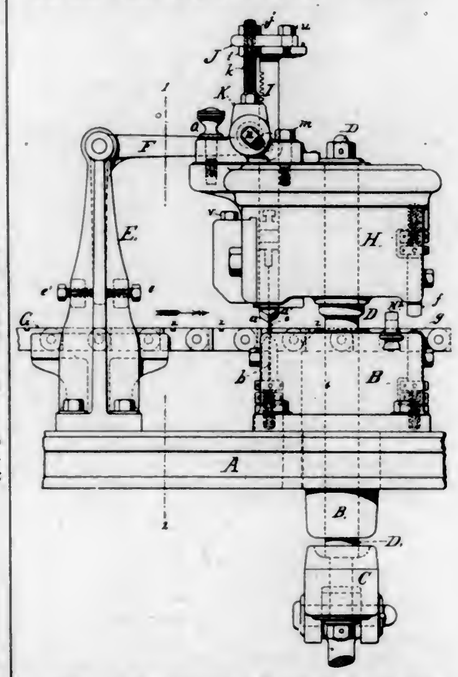


Claim.—1. The combination of a notched chain for carrying metallic blanks, a mechanism for dividing or separating said blanks, and carrying disks or plates provided with holding-jaws for removing the blanks from the chain and conveying them to any point convenient for subsequent operations after they are divided, substantially as described.

2. The combination of a notched chain for conveying metallic blanks, a mechanism for dividing or separating the blanks, carrying disks or plates provided with holding-jaws for removing the divided blanks from the conveying-chain, and mechanism for heading the blanks, all substantially as described.

3. In combination with the notched chain for conveying metallic blanks, the carrying-plates, the movable and adjustable finger, and the two stationary fingers for the purpose of holding the axis of the blank in a radial direction as respects the plate while the blank is being conveyed, substantially as shown and described.

266,584. MACHINE FOR TRIMMING AND STAMPING HORSE-SHOE-NAIL BLANKS. WILLIAM P. DURFEE, Bridgeport, Conn., assignor to the Wheeler & Wilson Manufacturing Company, same place. Filed Mar. 30, 1882. (No model.)



Claim.—1. The combination of the vertically-movable press-head H, carrying upper trimming-dies, *a a'*, and stamping-dies *f f*, the vertical supporting and guide bars D D, the base-block B, provided with lower trimming-dies, *b b*, and anvil-dies *g g*, the blank-conveying chain G, and suitable operating mechanism, substantially as and for the purpose described.

2. The combination of the press-head H, vertically-adjustable bar I, upper trimming-dies, *a a'*, and intermediate attaching-blocks, *r s*, whereby said dies are made capable of an adjustment in any direction in a horizontal plane while the vertical bar remains stationary, substantially as and for the purpose described.

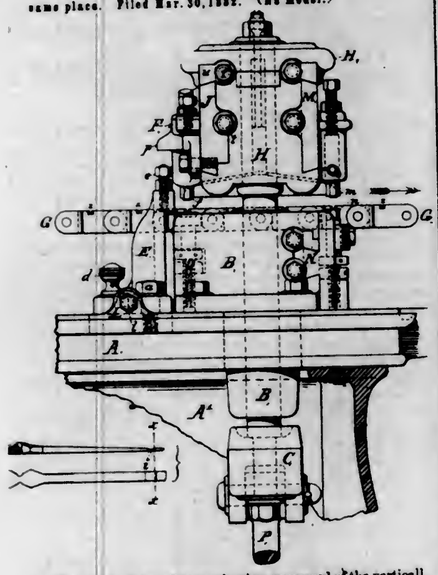
3. The combination of the press-head H, shaft *n*, carrying pinion T, the vertically-adjustable rack-bar I, and the upper trimming-dies, *a a'*, all substantially as and for the purpose described.

4. The combination, with the dies of a cutting or trimming press, of a triangular block and a series of wedges adapted to act on three sides of said dies, said wedges being provided with suitable operative means, whereby the dies are secured and made capable of adjustment in any direction in a horizontal plane without obstructing their action, substantially as described.

5. The combination, with a blank-conveying chain and the upper and lower dies of a blank-trimming press, of a stationary extractor, *d*, provided with projecting wings *c c*, substantially as and for the purpose described.

6. The combination, with the trimming-dies, of the standard E, bell-crank lever F, the adjusting devices *e e'*, and the extractor *d*, attached to the horizontal arm of the lever, substantially as shown and described.

266,585. MACHINE FOR BEVELING AND TRIMMING HORSE-SHOE-NAIL BLANKS. WILLIAM P. DURFEE, Bridgeport, Conn., assignor to the Wheeler & Wilson Manufacturing Company same place. Filed Mar. 30, 1882. (No model.)



Claim.—1. A beveling mechanism composed of the vertical, adjustable lower dies, *g g*, the swinging die-holders F F, having lugs *p p*, the upper dies, *f f*, carried by said holders, the pressure-bolts *e e*, and suitable supporting and operating devices, all combined and arranged substantially as set forth, whereby a combined pressing and drawing motion is imparted to the beveling-dies, substantially as and for the purpose described.

2. The combination, with the base-plate A, block B, vertically-movable press-head H, and the notched conveying-chain G, of the horizontally-adjustable plates L L and J J, swinging standards E E, having pressure-bolts *e e*, vertically-adjustable lower dies, *g g*, and the swinging die-holders F F, having lugs *p p* and upper dies, *f f*, substantially as and for the purpose described.

3. The combination of an intermittingly-moving chain having notches adapted to receive double horseshoe-nail blanks, the head H, upper beveling and trimming dies carried thereby, and the base-block B, provided with lower beveling and trimming dies, substantially as described.

4. The combination, with an intermittingly-moving chain having notches adapted to carry double horseshoe-nail blanks, of the head H, trimming-dies *m m* carried thereby, and having their ends polygonal in cross-section, and the base-block B, provided with lower similarly-shaped dies, *n n*, substantially as described.

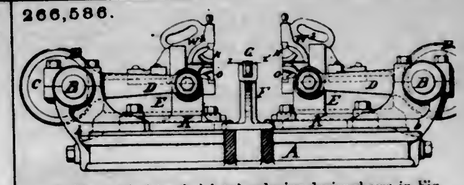
5. The combination, with an intermittingly-moving chain provided with notches adapted to receive and carry double horseshoe-nail blanks, of upper and lower beveling and trimming dies, means for adjusting said dies to carrying lengths of blanks, and suitable operating mechanism, substantially as described.

266,586. MECHANISM FOR REDUCING AND TAPERING HORSESHOE-NAIL BLANKS. WILLIAM P. DURFEE, Bridgeport, and THADDEUS FOWLER, Seymour, assignors to the Wheeler & Wilson Manufacturing Company, Bridgeport, Conn.: said Thaddeus Fowler Administrator of Heber P. Fowler, deceased. Filed Mar. 30, 1882. (No model.)

Claim.—1. The combination of the base-plate A, grooved bracket F, conveying-chain G, gibs K K, carriages E E, adapted to move thereon in opposite directions, shafts B B, eccentrics C C, connections D D, reducing and tapering devices mounted on said carriages, and suitable operating mechanism, substantially as shown and described.

2. The combination, with the notched conveying-chain G and carriages E E, of the adjusting-blocks H³, jaws or levers *u u'*, pivoted by means of a stud, H³, and carrying rollers *h h'*, the profile bars I I, and means for operating said carriages and chain, substantially as shown and described.

266,586.



3. The vertical toggle-jointed reducing device shown in Fig. 10, provided with rollers in the adjacent ends of the joints, forming the toggles aforesaid, in combination with a pressure-pin (acted upon by means of a spiral spring) pressing against the rear of said toggles through the medium of a pressure-block, to the sides of which block are attached one end of a pair of links, the other extremities of which are provided with jaws which engage with pins in the sides of the adjacent ends of said toggles, thus insuring their simultaneous action, all inclosed and held by means of a frame in which their several functions are performed, arranged and operating in the manner and for the purpose substantially as described.

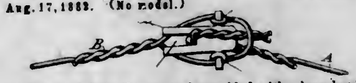
4. In a notched chain for carrying metallic blanks, the adjustable pentagonal blocks *g g*, secured to the chain-links, substantially as and for the purpose set forth.

5. The combination, with the conveying-chain G and reciprocating carriage E, having holder V, of the yoke W, having bearings *p p'*, projections *p³ p³*, screws *p³*, T, and R³, hook-bolt X, having nuts *y y*, toggle-levers R U, supported by the yoke W, and provided with adjustable grooved rollers *r r'*, the links *a a'*, screws *c c f f*, pressure-block Y³, rod Y, spring *y'*, and nut Z³, substantially as and for the purposes described.

6. The combination, with the conveying-chain G and carriage E, of a smoothing mechanism consisting of the yoke W³, provided with stop *w*, toothed sectors N O, supported in said yoke and having removable grooved dies *s' s²*, sliding bar M, carrying rack *u*, and roller *m*, the cam L, spring *s*, and suitable actuating mechanism, substantially as shown and described.

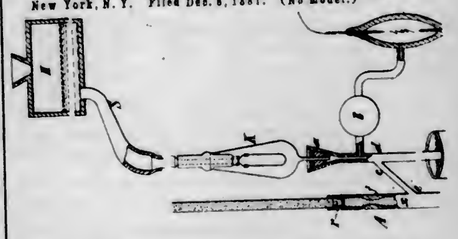
7. The combination, with the notched chain G and means for imparting an intermittent motion thereto, of the carriages E E, tapering mechanism H, composed of jaws *u u'*, having grooved rollers *h h'*, the reducing devices W W', having spring-actuated toggle-levers provided with grooved rollers *r r'*, smoothing devices W³, composed of a yoke or frame supporting the toothed sectors N O, and suitable operating mechanism, all substantially as shown and described.

266,587. BALE-TIE. DAVID B. EASTBURN, South Bend, Ind., assignor of one-half to Marvin Campbell, same place. Filed Aug. 17, 1882. (No model.)



Claim.—A bale-tie, one end provided with a loop having eyes from which is suspended or pivoted a plate or tongue for the purpose of engaging and holding the other end of the tie, substantially as set forth.

266,588. VACUUM APPARATUS. THOMAS A. EDISON, Menlo Park, N. J., assignor to the Edison Electric Light Company, New York, N. Y. Filed Dec. 8, 1881. (No model.)



Claim.—1. The mercury-filter consisting of a tube or vessel with a contracted or capillary exit and containing broken or crushed glass, substantially as set forth.

2. The combination, with mercurial vacuum apparatus, of a filter for cleaning the mercury, located between the elevated mercury-reservoir and the point of exhaustion, substantially as set forth.

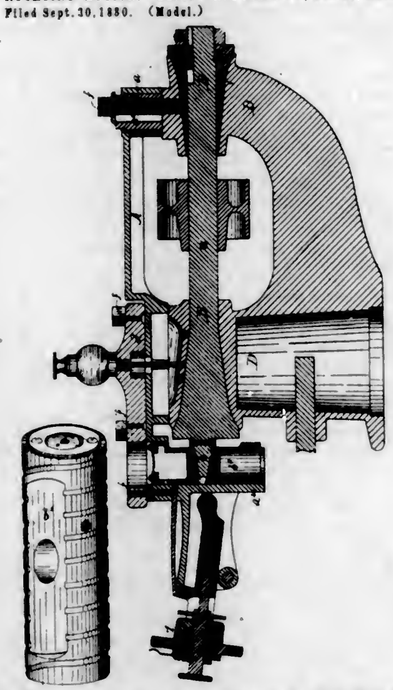
3. The combination, with a Sprengel or drop pump, of a filtering-tube containing broken or crushed glass and having a contracted exit, said filtering-tube being located between the elevated mercury-reservoir and the drop-tube of the pump, substantially as set forth.

266,589. RIB-TIP RETAINER FOR UMBRELLAS, &c. Robert A. Fisher, Philadelphia, Pa. Filed July 31, 1882. (No model.)



Claim.—The rib-tip retainer C, provided with the L-shaped transverse slot D, in combination with the staff of an umbrella or parasol provided with locking-pin E, all constructed and arranged to operate substantially as and for the purpose set forth.

266,590. DEVICE FOR CONVERTING ROTARY INTO RECIPROCATING MOTION. George A. Fullerton, Boston, Mass. Filed Sept. 30, 1880. (Model.)



Claim.—1. In combination, pivoted carriage A and shaft B, arranged together, as shown, by means of crank *b* and plug *b'*, the pivot *a'* of the carriage being near one end and the box a^2 for plug *b'* near the other end of the carriage, all substantially as described.

2. In combination, carriage A, its journal *a*, made adjustable, substantially as described, shaft B, with its conoidal journals, one of which is adjustable, frame D, with its conoidal journal-boxes, crank-pin *b*, and plug *b'*, all substantially as and for the purpose specified.

3. The plug *b'*, formed with a cavity in its interior for containing a lubricant, in combination with its box a^2, substantially as set forth.

266,591. MUFFLING THE SOUND OF SEWING-MACHINES. John S. Hain, Newark, Ohio, assignor of one-half to Isaiah Hain, New York, N. Y. Filed June 10, 1882. (Model.)

Claim.—1. A muffler, E, having raised borders *d d* and conical projections *e e e*, substantially as and for the purposes specified.

2. In combination with the hinge C, a muffler, E, with conical projections *e e e*, substantially as and for the purposes specified.

3. In combination with the hinge C, a muffler, E, with the

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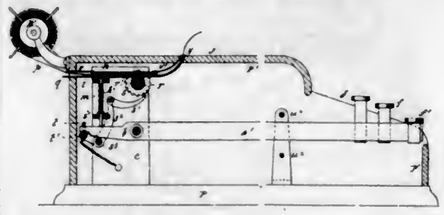


raised borders *d d* and conical projections *e e*, substantially as and for the purpose herein specified.

4. The muffler E E, provided with raised borders *d d*, having a groove, *h h*, along the line of the bend, and notches *g g* at the bend, substantially as and for the purposes specified.

266,592. PERFORATOR FOR AUTOMATIC PRINTING-TELEGRAPHS. Albert F. Johnson and Frank B. Johnson, Brooklyn, N. Y., assignors to the Johnson Manufacturing Company, same place. Filed Feb. 23, 1882. (No model.) Patented in England Mar. 29, 1882, in Austria Apr. 7, 1882, in France Apr. 15, 1882, in Belgium Apr. 17, 1882, and in Germany Apr. 18, 1882.

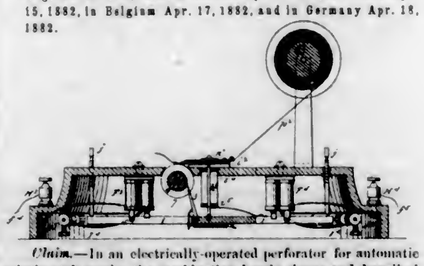
Brief.—A key for each punch represents a particular character, and one key operates a punch for spacing, the punch thereof being actuated by any key independent of its particular key. The message-strip is adapted for use where an independent line-wire is used for each character it is desired to transmit.



Claim.—1. In combination with the levers *a*, each provided with and operated by a knob, *f*, representing a particular letter or character, and the lever *a'*, provided with and operated by a knob, *f'*, the punching-rods *h* and *h'*, feed-roller *r*, ratchet-wheels *s*, pawls *s'*, bent levers s^2, and bars *t t'*, as and for the purpose set forth.

2. In combination with the rods *h h'*, the ratchet-wheels *s*, and feed-roller *r*, the bent levers s^2, provided at their upper ends with pawls *s'* and at their lower ends with the transverse bars *t t'*, and the levers *a* and *a'*, having their ends fitted between said bars *t t'* in the relative positions shown and described—that is to say, with the upper surfaces of the levers *a* in contact with the bar *t* and the under surface of the lever *a'* in contact with the upper surface of the bar *t'*, for the purpose set forth.

266,593. PERFORATOR FOR AUTOMATIC PRINTING-TELEGRAPHS. Albert F. Johnson and Frank B. Johnson, Brooklyn, N. Y., assignors to the Johnson Manufacturing Company, same place. Filed Feb. 23, 1882. (No model.) Patented in England Mar. 29, 1882, in Austria Apr. 7, 1882, in France Apr. 15, 1882, in Belgium Apr. 17, 1882, and in Germany Apr. 18, 1882.



Claim.—In an electrically-operated perforator for automatic printing-telegraphs, the combination herein shown and described of the series of punching-rods h^3, each representing one particular letter or character, the punching-rod h^3 for making a separate series of perforations to operate the feed mechanism of a receiving-instrument, the feeding device composed of the pawl 3, ratchet 4, and rollers or disks 7, to feed forward the paper p^3, and the electro-magnets F^3 F^4, each provided with a lever-armature, 1, constructed as described, to operate said rods h^3 h^4, and having one of its coils connected with one of the line-wires f^3 f^4 and its other coil connected with a local battery through the medium of the copper ring J^3, the whole being constructed as described, for the purposes specified.

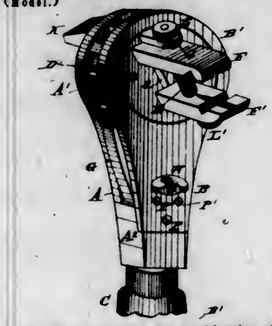
266,594. HORSE-COLLAR PAD. James O'Brien, Minneapolis, Minn. Filed Aug. 24, 1882. (No model.)



Claim.—1. A harness-collar pad composed of two double sections of leather having intervening skived sections, the whole united by a single line of blind-stitching along the line of the fold, substantially as specified.

2. The combination, in a collar-pad, of the sections constructed of the doubled parts, the inner parts being skived as described, and the outer parts being provided with upturned edges, the said sections being united along the line of the fold by a single line of blind-stitching, and provided with a central connecting-strap extending over the line of union, and with straps near each end, substantially as and for the purposes specified.

266,595. SCREW AND PIPE WRENCH. William J. Owen, Nashville, Tenn., assignor to George W. Hight, same place, and Daniel H. Bailey, Sr., Davidson County, Tenn. Filed Mar. 23, 1882. (Model.)



Claim.—In a ratchet-wrench, the combination of the wrench-bar A, having annular head A' and shoulder A^2, face-plate B, having annular head B', slotted ratchet-wheel D, having standards O O', sliding double jaws F' K', F K, screw E, having milled heads L and L', pivoted pawls G and G', connected by the spring H, and having notches *g g*, and turn-bolt M, all constructed and combined in the manner and for the purpose herein shown and specified.

266,596. FIRE-ESCAPE. John Travers, Albany, N. Y. Filed Aug. 1, 1882. (No model.)

Brief.—The rope sides of the ladder are kept apart by metal stays at intervals along its length. The life-line is coiled around the central hub of the case, which is provided with a radially-flanged cover for holding the coil in place.

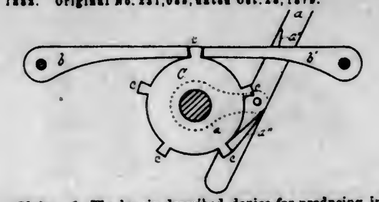


Claim.—1. The combination, with the rope fire-escape ladder having a life-line, of the stays C for spreading apart the rope sides of the ladder, substantially as described.

2. The case G for containing the coiled life-line of the herein-described rope fire-escape ladder, said case being constructed with a central hub, G', and provided with a cover, H, substantially as specified.

REISSUES.

10,219. CHECK-ROWER FOR CORN-PLANTERS. George W. Murphey and Frank P. Murphey, Keaney, Ill. Filed May 4, 1882. Original No. 231,089, dated Oct. 26, 1879.



Claim.—1. The herein-described device for producing intermittent rotary motion in a check-rower for corn-planters, consisting in the combination of ratchet C and loose-jointed bifurcated lever *a*, provided with catch *a''*, all substantially as herein set forth.

2. In a check-rower for corn-planters, the locking device herein described, consisting in a locking-pawl, *b'*, forming an absolute stop for both the lever *a* and ratchet C, in combination with said ratchet and lever, whereby also the pressure of the lever on said pawl makes the ratchet lock secure, substantially as herein shown.

3. In a check-rower for corn-planters, the combination of the lever *a*, ratchet C, and gear-wheels *e f* with the arm *g*, substantially as set forth.

4. Rocking catch *h* in the bifurcated lever *a*, in combination with trip-plates *i i*, and with said lever and check-line, as and for the purpose set forth.

5. The sliding bars *s* and *n*, adjusted in check-row bar *m* by screw *r*, in combination with said bar *m* and pinching-screw *r*, as and for the purpose set forth.

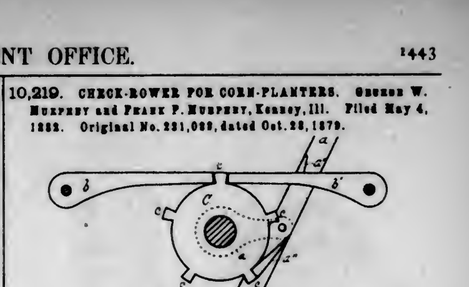
6. The revolving arm *g*, provided with set-screw *g'* and projection *g''*, connected with the seed-slide of a planter, combined as herein described, to produce and regulate the throw of said slide.

7. The combination, in a device for regulating and testing the tension of the check-row cord, of plate O, with its pulley, ratchet *p*, supports *o' o'*, and shaft *o*, with its tension-spring, as and for the purpose set forth.

8. In a stop for check-row cords, wire *t* and stop *r*, in combination, as and for the purpose set forth.

9. In a planter, the pawl *b*, in combination with lever *a*, provided with the stop *a'* and the ratchet C, as and for the purpose set forth.

10,220. BED-BOTTOM. Harrison Osborn, Richmond, Ind., and Andrew W. Kendrick, Brooklyn, N. Y., assignors, by mesne assignments, to the C. T. Segar Manufacturing Company, Utica, N. Y. Filed Sept. 6, 1882. Original No. 135,725, dated Feb. 11, 1873.



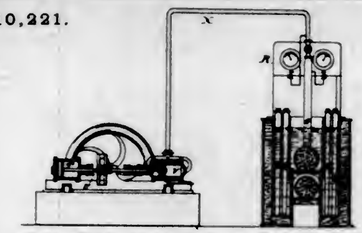
Claim.—1. A mattress the springs of which are formed with hooks and eyes of the last coils thereof when the ends of the wire forming the coils are secured to or around the eyes, substantially in the manner and for the purposes herein set forth.

2. A mattress constructed of the springs, as described, with a head or bolster elevation formed by graduating the springs at the head.

3. A wire spring having an eye, D, formed on its outer coil, secured to the end of the wire of which the spring is made to retain said spring in shape and prevent sagging, substantially as specified.

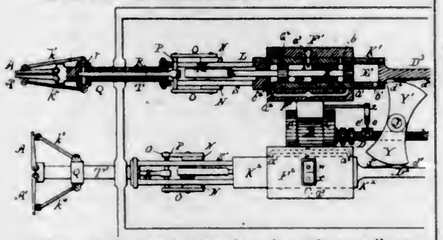
10,221. PROCESS OF PRODUCING ARTIFICIAL COLD BY MEANS OF ANHYDROUS SULPHUROUS OXIDE. Raoul Pierre Pictet, Geneva, Switzerland, assignor to Pictet Artificial Ice Company, (Limited,) New York. Filed Oct. 2, 1882. Original No. 187,413, dated Feb. 13, 1877.

10,221.



Claim.—The herein-described process of producing artificial cold, which process consists in the utilization of sulphurous oxide that has been rendered anhydrous and condensed by causing the same to be continuously alternately vaporized and condensed in a refrigerator, substantially as described.

10,222. RECIPROCATING PROPELLER FOR VESSELS. RICHARD SMITH, Sherbrooke, Quebec, Canada. Filed July 21, 1882. Original No. 230,264, dated July 20, 1880.



Claim.—1. The combination of a reciprocating propeller provided with blades to open and close by means of a double piston operating by suitable ports within a steam-cylinder, which latter moves with and forms part of the driving-shaft of said propeller, with a second or primary cylinder, and a piston provided with a yoke or arm to exert reciprocating movements upon the propeller and its connecting-shaft, substantially as and for the purposes stated.

2. The combination of the propeller-blades A A', the yoke Q, operated and controlled by the rod R through the arms O O and cranks N N, the latter being moved and operated by the double pistons G' G³ within the double cylinder K' and steam-chest F', said cylinder moving with and forming part of the propeller-shaft D³, with the double-armed yoke Y Y', operated by the primary rod *d*, with its piston B and cylinder C, substantially as and for purposes stated.

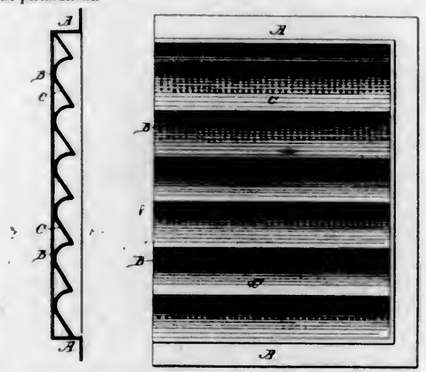
3. In reciprocating propellers, the combination of the primary cylinder C, with its piston B and rod *d*, to exert reciprocating movements through an intermediary mechanism upon the propeller-shafts D³ D⁴, and vanes A A', to propel the vessel forward or backward, said shafts D³ D⁴ containing or having formed upon them steam-cylinders K' K', within which and operated by suitable ports are pistons which effect proper opening and closing of the propeller-blades A A' by means of the sliding rod R, connected therewith and traveling within the hollow shaft T, substantially as and for the purposes stated.

4. The combination of the hinged propeller-blades A A', connected to the yoke Q, the sliding rod R, operated within the hollow shaft T, the rod P, arms O O, cranks N N, and spindle M, with its piston-rod H working in a suitable cylinder, substantially as and for the purpose described.

5. The combination of the propeller A A', constructed as described, the yoke Q, operated by means of the rod R, arms O O, cranks N N, spindle M, piston-rod H, pistons G' G³, and chambers E' and E³, with a sliding cylinder, K', with its steam-chest F', substantially as and for the purposes hereinbefore described.

10,223. METALLIC SHUTTER. GEORGE HAYES, New York, N. Y. Filed Sept. 29, 1882. Original No. 173,786, dated Feb. 22, 1876.

Brief.—A metallic panel in one piece, perforated in bands and corrugated or stepped, the inclines being above and shielding the perforations.



Claim.—A metallic plate or panel in one piece, perforated in bands and corrugated or stepped in the manner described, and for the purpose herein set forth.

PHOTO LITH NORRIS PETERS WASH'N D.C.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

DECISIONS OF THE U. S. COURTS.

U. S. Circuit Court—District of New Jersey.

SPRING *et al. v.* THE DOMESTIC SEWING MACHINE COMPANY.

Decided August 16, 1882.

1. OPENING OF DECREE AND REHEARING AFTER INTERLOCUTORY DECREE AND REFERENCE.

After interlocutory decree and reference to a master for an account, a rule to show cause why the decree should not be opened and a rehearing ordered granted, it being alleged that a court of equity, in view of *Root* v. *Lake Shore and Michigan Southern Railway Company*, (21 O. G., 1112,) had no jurisdiction, and that the defendants had newly-discovered evidence to prove that the complainants' patent was invalid.

2. JURISDICTION—WHEN COURT MAY CONSIDER.

A court may consider the question of its jurisdiction at any time during the pendency of the proceedings, especially the Federal courts, where it has long been the practice of the judges, *sponte sua*, to decline jurisdiction and dismiss the case where the want of authority to act becomes apparent.

3. SAME—CONCURRENT LEGAL AND EQUITABLE.

Notwithstanding section 723 of the Revised Statutes there remains a limited range of cases in which legal and equitable jurisdiction are concurrently exercised.

4. SUIT FOR DAMAGES AFTER ASSIGNMENT OF PATENT.

A suit may be maintained to recover past damages for infringement, although the parties plaintiff have parted with their interest in the patent at the time suit is brought.

5. SECTION 4919 REVISED STATUTES—ACTION BY ASSIGNEE FOR DAMAGES.

Section 4919 of the Revised Statutes permits an assignee of a patent, and of all claims for damages and profits accrued thereunder before the assignment, to maintain an action at law in his own name to recover such damages.

6. INJUNCTION—SUIT BY JOINT OWNERS FOR DAMAGES AFTER ASSIGNMENT OF ONE TO THIRD PARTY.

In a suit in which parties who had been joint owners of a patent, but one of whom had assigned his interest to a third party, sought to recover damages for infringement during their joint ownership, *Held* that an injunction could not be granted, as an adequate remedy existed at law, and the court therefore had no equitable jurisdiction.

APPLICATION FOR REHEARING.

Mr. George E. Betton and *Mr. George S. Boutwell* for the complainants.

Mr. John Dane, Jr., for the defendant.

NIXON, *D. J.*:

An interlocutory decree was entered in the above-stated case in favor of the complainants on the 22d day of May, 1882, and an order of reference made to the master for an account. The defendant company now comes in and asks for a rule upon the complainants to show cause why the decree should not be opened and a rehearing ordered. Four reasons are assigned for such an order—the first and second of which are frivolous, but the third and fourth seem to have merit. The third raises the question of the want of jurisdiction of the court in equity, in view of the recent decision of the Supreme Court in *Root* v. *The Lake Shore and Michigan Southern Railway Company*, (21 O. G., 1112,) and the fourth presents evidence of the existence and public use of a machine in Watertown, Connecticut, prior to the date of the complainants' invention, which, if true, suggests very grave doubts in regard to the novelty of the complainants' patent.

The patent in controversy was originally issued to Charles and Andrew Spring, as their joint invention, for the period of fourteen years from the 10th of May, 1859. At the expiration of the term its life was extended for seven years from the 10th of May, 1873. The complainants, Charles Spring and John F. Wood, were its owners from May 12, 1873, to December 23, 1876, and the present suit was brought to recover profits and damages for its infringement by the defendant company during that period. On the 23d of December, 1876, Charles Spring assigned his interest to the Howe Machine Company, and there is another action pending here against the same defendant in favor of Wood and the Howe Machine Company for infringement since that date, and which has not yet been brought to final hearing.

It is evident from this statement that the only claim which the complainants can maintain in this suit are the profits which they lost and the damages they sustained from the defendant's infringement during their joint ownership, from May, 1873, to December, 1876. The patent had not expired, indeed, when the bill was filed, as was the case in *Root* v. *The Railway Company*, *supra;* but these complainants, in a bill for damages and profits ending in 1876, were not entitled to an injunction restraining the defendants from infringement in 1879. Considering the peculiar relations of these complainants to the patent, and remembering that they expressly limited their demands in their bill of complaint for the profits and damages to the date when Charles Spring transferred his interest to the Howe Machine Company, it would seem that they had a plain, adequate, and complete remedy at law to recover all that they were permitted to ask for in this suit. Not being entitled to an injunction, some other ground for equitable relief must be disclosed in the bill besides a naked account for profits and damages in order to give the court jurisdiction in equity; but, without expressing at this time any opinion on the subject, there is enough in the second and fourth reasons to justify a rule to show cause why the decree should not be opened, and it is granted accordingly.

To promote the convenience of counsel the court agreed that the rule to show cause might be argued on

briefs. These have been submitted, and have had careful examination and consideration.

The rule to show cause why a rehearing should not be had was granted on two allegations: 1, that the court, sitting in equity, had no jurisdiction over the case; 2, because the defendants were prepared to prove by newly-discovered evidence that the complainants' patent had been anticipated.

(1.) The question of jurisdiction was not raised in the pleadings or adverted to on the final hearing. It has been suggested now in view of the recent decision of the Supreme Court in the case of *Root* v. *The Lake Shore and Michigan Railway Company*, (21 O. G., 1112.) The learned counsel for the complainants, confounding the question with the one of the want of proper parties to the bill of complaint, has entered into a long argument to show that the objection comes too late. But it is never too late at any time during the pendency of the proceedings for the court to examine into its right and power to make a decree or enter a judgment in a case. In the Federal courts, especially where there is no presumption in favor of jurisdiction, but where it rests solely upon the facts which appear in the record of the suits, (*ex parte Smith*, 4 Otto, 456,) it has long been the practice of the judges at any stage of the proceedings, *sponte suâ*, to decline jurisdiction and dismiss the case when the want of authority to act becomes apparent. They do not wait for the question to be raised by demurrer or answer or plea, or to be suggested by the counsel, and they pursue this course for obvious reasons. It is not merely a matter of the form of procedure. To entertain a suit in equity when the party has a plain and complete remedy at law is to deprive the defendant of his constitutional right of trial by jury. The late Justice Baldwin of this circuit discusses the subject with much ability and research in the case of *Baker* v. *Biddle*, (1 Bald., 394.) See, also, the more recent cases of *Hipp* v. *Babin*, (19 How., 278;) *Lewis* v. *Cocks*, (23 Wall., 466;) *Dumont* v. *Fry*, (12 Fed. Rep., 21.)

There are a number of subjects over which courts of law and equity have a concurrent jurisdiction. Notwithstanding the provisions of section 723 of the Revised Statutes, which prohibit suits in equity in either of the courts of the United States in any case where a "plain, adequate, and complete remedy" may be had at law, there remains a limited range of cases in which the jurisdiction continues to be exercised concurrently for the reason that the remedy at law, although existing, seems less practical and less efficient to the ends of justice and its prompt administration than the remedy in equity. (*Boyce's Executors* v. *Grundy*, 3 Pet., 215.)

The single question which we have to consider is: Have the complainants set forth such a state of facts as entitles them to equitable relief, or have they a plain, adequate, and complete remedy at law? In granting the rule to show cause I stated these facts with sufficient fullness to enable any one to understand the relations which the complainants sustain to the patent. Charles Spring, one of the complainants, was the absolute owner of the undivided one-half of the patent sued on from May 12, 1873, to December 23, 1876, when he transferred the legal title to the Howe Machine Company, but reserved his interest in the damages and profits for all infringements anterior to that date. George E. Betton, the assignor of John F. Wood, the other complainant, owned the remaining half during that time; but when he assigned to Wood his title on the 21st of April, 1879, he included in the transfer all his claims for damages and profits which had accrued to him before the date of the assignment. If he had not included these claims in the transfer, the action, nevertheless, would have been maintainable in the joint names of Spring and Betton, and they would have been entitled to recover the past damages for infringement within the period of time specified, although neither of the actors when the suit was instituted had any interest whatever in the title to the patent. (See *Morse* v. *Marsh*, 7 Wall., 515.) But did Wood acquire such an interest in the past damages and profits by the assignment from Betton that he could bring suit in his own name for their recovery? Doubtless he could not have done so if the claim for damages had been divorced from the ownership of the letters patent and had been assigned independently of and not as an incident to the title. Such a claim standing alone is a mere *chose in action*, and at common law no suit could be maintained thereon in the name of the assignee; but such a difficulty has been remedied by statute in a number of the States, and the provisions of section 4919 of the Revised Statutes of the United States seem broad enough to bring the present case within their scope and design. It is there enacted that damages for the infringement of any patent may be recovered by action on the case in the name of the party interested either as patentee, assignee, or grantee. Interested in what? Not merely in the title, but in the damages, and not as patentee only, but as assignee. If I am correct in this construction of the section, it is an answer to the labored argument of the counsel for the complainants that the court had jurisdiction on its equity side only, because the title of one of the complainants (Wood) was equitable and not legal.

In order to show the right of complainants to an injunction, and hence the equitable jurisdiction of the court, the learned counsel invoked the principle, so well settled in patent practice, that any person to whom a part of a patent has been assigned may maintain the suit alone for the protection of his own interest. (Kerr on Injunction, 404.) The right of the partial owner will not be disputed, subject, nevertheless, to the limitation that in such a case he must make his copartners in the ownership defendants in the suit, which was not done here. We must take the case as we find it, and consider it in the light of what the parties have, in fact, done, and not in the light of what they might have done. Wood's interest in the patent continued to the end of the term, and at any time before the expiration of its life it may have been competent for him, under the circumstances of the case, to have gone into court in his own name and to have obtained an injunction against future infringement. But he chose to pursue a different course. Dividing his interests by the date of the transfer from Charles Spring to the Howe Machine Company, he commenced two suits—one, in connection with Charles Spring, to recover the damages and profits arising from infringement during their joint ownership, and the other, in connection with the Howe Machine Company, for the damages and profits from the beginning of their joint title to the 10th day of May, 1880, when the patent expired. It is not necessary to determine until the question is raised whether he was entitled to an injunction

in the last-named suit or not. But I cannot understand upon what principle one can be claimed in the former. None, certainly, is necessary to protect the rights of the complainants. Charles Spring has ceased to have any interest in the patent, and everything that John F. Wood ought to have he can get in his suit in union with the Howe Machine Company for the infringement subsequent to his purchase.

An injunction is a preventative remedy, having reference to the future rather than the past. The complainants not being entitled to one in this case, and the provisions of the patent law giving to one to whom has been assigned an interest in the damages for past infringement, as incidental to the transfer of the legal title, the remedy of an action on the case, I am of the opinion that this court in equity has no jurisdiction; that the interlocutory decree heretofore entered must be opened and the bill of complaint dismissed, but, under the circumstances, without costs to the defendant.

U. S. Circuit Court—District of Indiana.

GOTTFRIED v. THE CRESCENT BREWING COMPANY.

Decided September 21, 1882.

PATENT NO. 42,580 CONSTRUED AND DECLARED VALID.

Upon rehearing, Letters Patent No. 42,580, to J. F. T. Holbeck and M. Gottfried, dated May 3, 1864, for an improved method of pitching barrels, which were declared invalid, (9 Fed. Rep., 762; 22 O. G., 497,) *Held* to be valid, and decree entered for complainant.

Messrs. Banning & Banning for the complainant.
Messrs. Parkinson & Parkinson for the defendant.

GRESHAM, *J.*:

I have considered the proofs and arguments on the motion for a rehearing, and am convinced that in holding the complainant's patent invalid undue importance was attached to the German publications, the Cochrane and Slate patent, and the Siebel device as anticipating defenses. (See 9 Fed. Rep., No. 13, p. 762.) The German publications are vague and uncertain, and describe no machine capable of practical and successful use by brewers for pitching casks and kegs.

It is sufficient to say of the Cochrane and Slate device, without again stopping to describe it, that, without material changes in its construction or arrangement, it cannot be made to produce the same useful results as are produced by the complainant's device.

I am still of opinion, however, that the complainant's patent cannot be sustained on the theory that they were the first to use a hot blast from which the oxygen had been removed in heating the interior of casks for the purpose of pitching them. Siebel, we have already seen, heated the cask with his machine for the same purpose by the application of a hot blast, which he deprived of its combustible properties by forcing it through and in actual contact with the fire in the furnace. This furnace he inserted into the cask through the man-hole and there operated it. Of course, this machine could not be used in pitching kegs or other small receptacles into which it could not be inserted. In this and other respects the Siebel device was crude and imperfect compared with the complainant's machine, which was located and operated outside the receptacle to be heated and pitched, and which was adapted to pitching barrels and small kegs as well as casks. The complainant's device was the first, and the proof shows that it is to-day the only means by which brewers are enabled to pitch barrels and kegs without removing the heads. This device also forces into the receptacle to be heated a much hotter blast than Siebel can apply with his machine, and with it brewers are enabled to do their pitching more expeditiously and economically.

The method or means which the complainant employed in forcing into the cask a hot blast consisting of the same elements as the Siebel blast, produced, if not a new result, certainly a much better one than could be produced by any other method or means then known to persons engaged in the business of brewing. Compared with other means for heating the interior of casks and receptacles, the compainants produced a new mechanism or thing which enabled them to pitch casks and kegs more rapidly and economically than they had ever been pitched before. I think the complainants were entitled to a patent, not for the improved or better result or effect, but for the mechanism or means by which the result was accomplished.

It is the policy of the law to encourage useful improvements, and I am unwilling to hold that the complainants' device, consisting of old elements combined and operated as stated in the specification, practically superseding, as it does, all other known means of pitching kegs and other small receptacles, and greatly superior, as it confessedly is, to Siebel's machine for pitching large casks, is the mere mechanical equivalent of the latter or of any other device.

These are briefly my reasons for withdrawing my former ruling and for now entering a decree in favor of the complainants, with an order for an account of profits.

U. S. Circuit Court—District of New Jersey.

SCHNEIDER v. BASSETT & CO.

Decided July 25, 1882.

REISSUE NO. 10,087 DECLARED VALID.

No defense having been made, Reissue No. 10,087 of Letters Patent No. 182,973, to Carl Votti, dated October 3, 1876, for an improvement in shade-holders for lamps, declared *prima facie* valid and injunction granted.

Mr. Livingston Gifford and *Mr. A. Q. Keasby* for the complainant.

NIXON, *D. J.*:

The bill of complaint was filed against the defendants for infringing Reissue Letters Patent No. 10,087, dated April 11, 1882, for shade-holders for lamps, and the case comes now before me on a motion for a preliminary injunction.

The application for the original patent was filed August 18, 1876, and Letters Patent No. 182,973 were granted October 3, 1876. These were surrendered January 27, 1877, and the first reissue, No. 7,511, dated July 13, 1877, was duly obtained. A suit was brought against an alleged infringer of this first reissue in the Circuit Court of the United States for the Eastern District of New York, which resulted in a decree for the defendant, his Honor Judge Benedict holding that the patent was invalid because it did not contain that full, clear, and exact description of the invention which the law required. Another suit was instituted upon the same

reissue before his Honor Judge Blatchford, in the southern district of New York, which also resulted in favor of the defendants, the court holding that the reissue must be limited to the particular form of shade shown in the drawings. As nothing was said in the specification or claims about the shape or size or proportion of the parts of the shade, and inasmuch as the defendants were not shown to have made or sold any such shade, they could not be chargeable with infringing the complainant's patent. After these decisions the owner of the patent made another surrender for the purpose of correcting the defective specification, and obtained another reissue, on which the present suit is brought.

I think it is quite obvious, upon inspection and comparison, that the lack of definite specification which induced these learned judges to declare the patent to be inoperative has been cured by the present reissue. No suggestion to the contrary, at least, has been made, and *prima facie* the reissue is good. The defendants have not appeared and denied the infringement or set up any defense. The lamp which they are making and selling has been produced and proved before the court.

There is no reasonable doubt that it infringes the patent of the complainant, and the motion for a provisional injunction must prevail.

U. S. Circuit Court—Northern District of New York.

BARKER *v.* TODD.

Decided July 29, 1882.

REISSUE No. 6,531 CONSTRUED AND SUSTAINED.

Reissue Letters Patent, to W. C. Barker, No. 6,531, dated July 6, 1875, of original Letters Patent No. 116,138, dated June 20, 1871, for an improved bucket for chain-pumps, construed and sustained.

Mr. R. H. Duell for the plaintiff.
Mr. A. P. Smith for the defendant.

BLATCHFORD, *J.:*

This suit is brought on reissued letters patent granted to the plaintiff July 6, 1875, for an improvement in buckets for chain-pumps, the original patent having been granted to him June 20, 1871, and reissued to him May 19, 1874. The reissue of 1875 was sustained by this court in a suit brought by the patentee against James D. Shoots, and decided in January, 1882.

The defendant has used two forms of bucket—the Stowe bucket and the Rumsey bucket. It is very clear that both of them infringe claims 1 and 2 of the plaintiff's patent. They are both of them solid elastic buckets having an elastic-bearing edge, with the upper portion convex or contracted from said edge, so that the bucket will readily yield to any irregularities in the pump-tube and be easily drawn up, while it will resist moving downward, and the bucket is adapted to fit and work in the bore of a pump-tube to raise water by suction, and is provided with a suitable orifice or outlet through which the water remaining in the pump-tube above the bucket is allowed to escape down to the source of supply. All of these features are found in the plaintiff's bucket and in the Stowe and in the Rumsey buckets. They are not shown to have existed before in unison in any bucket. These features make up claims 1 and 2. If they had existed before, the plaintiff could only claim modifications of the form embodying those features, and if the defendant's buckets differed in form, they would not infringe; but the plaintiff is entitled to a broad construction of his claims. The defendant's buckets have the same structure and mode of operation so far as the above-named features are concerned. The elastic bucket, working by suction in the bore and having the drip-orifice, is the subject of claim 1. The solid elastic bucket, with the elastic-bearing edge and the convex or contracted upper portion, so that the bucket will readily yield and easily go up but resist going down, is the subject of claim 2.

The Patent No. 83,117, granted to Orrin O. Witherell, October 13, 1868, and the Patent No. 58,368, granted to Emmet R. Austin, October 2, 1866, do not show anything anticipating the plaintiff's claims. No witness testifies that they do, while there is testimony on the part of the plaintiff that Witherell's patent does not. Witherell's patent shows merely an elastic plate clamped between two metal plates. It is a lift-valve, raising water by lifting instead of suction, and has no such elastic bearing-edge as the plaintiff's bucket has, and no drip-orifice. The Austin arrangement works by lifting, and there is no pump-tube and no suggestion that the bucket is elastic.

The testimony of White and Wardwell is the same that was taken and introduced in the suit against Shoots. It shows only the use, not in new pump-tubes, but in worn pump-tubes, of a flat, thin, cylindrical disk of rubber slipped over the loop of the chain and lying flat on the metal buttons to compensate for the wear which had taken place in the tube by the rubbing of the metal button. There was not an elastic bucket fitted to operate by suction fitting the bore and having a drip-notch, nor was it a solid elastic bucket with an elastic bearing-edge and its upper portion convex or contracted from said edge. What was said on this subject in the decision in the suit against Shoots need not be here further repeated.

The testimony of Witherell shows the use of nothing different from what is above described. He testifies that the rubber disks which he placed on the metal buttons in the worn pump-tubes were intended to fit about the same as it was intended the original metal buttons should fit, and were made to fit so loosely that they would not stick in the tube when the chain fell back after pumping, and would work without friction and leave space enough between the disk and the bore of the tube for the water to escape downward. There was here no raising water by suction and no elastic bearing-edge, and so no anticipation of the plaintiff.

There must be a decree for the plaintiff for an account of profits and an ascertainment of damages, and a perpetual injunction, with costs.

THE
OFFICIAL GAZETTE
OF THE
United States Patent Office.
[BY AUTHORITY OF CONGRESS.]

VOL. 22—No. 18. TUESDAY, OCTOBER 31, 1882. PRICE—$5 per year

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Issue of October 31, 1882.

Patents	364	No. 266,597 to No. 266,960, inclusive.
Designs	23	No. 13,370 to No. 13,392, inclusive.
Trade-Marks	20	No. 9,753 to No. 9,772, inclusive.
Labels	0	
Reissues of patents	7	No. 10,224 to No. 10,230, inclusive.
Total issue	414	

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks and Labels.	States.	Patents and Designs.	Trade-Marks and Labels.
Alabama	2	.....	Nebraska	.....	.....
Arizona Territory	.....	.....	Nevada	.....	.....
Arkansas	.....	.....	New Hampshire	2	1
California	13	.....	New Jersey	24	1
Colorado	2	.....	New Mexico Territ'y	.....	.....
Connecticut	12	1	New York	72	6
Dakota Territory	.....	.....	North Carolina	4	.....
Delaware	.....	.....	Ohio	37	.....
District of Columbia	5	.....	Oregon	1	.....
Florida	.....	.....	Pennsylvania	31	1
Georgia	4	.....	Rhode Island	5	1
Idaho Territory	.....	.....	South Carolina	1	.....
Illinois	28	1	Tennessee	4	.....
Indiana	16	1	Texas	5	.....
Indian Territory	.....	.....	Utah Territory	.....	.....
Iowa	8	.....	Vermont	1	.....
Kansas	4	1	Virginia	2	2
Kentucky	6	1	Washington Territ'y	1	.....
Louisiana	1	.....	West Virginia	2	.....
Maine	6	.....	Wisconsin	8	.....
Maryland	4	.....	Wyoming Territory	.....	.....
Massachusetts	33	1	United States Army	1	.....
Michigan	4	.....	United States Navy	.....	.....
Minnesota	1	.....			
Mississippi	7	1	Total to citizens of the United States	370	19
Missouri	.....	.....			
Montana Territory	.....	.....			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks and Labels.	Countries.	Patents and Designs.	Trade-Marks and Labels.
Australia	.....	1	England	3	.....
Austria	.....	.....	France	4	.....
Barbadoes	1	.....	Germany	2	.....
Belgium	.....	.....	Italy	1	.....
Bermuda	.....	.....	New Zealand	.....	.....
Brazil	.....	.....	Russia	1	.....
Canada	4	.....	Spain	.....	.....
Chili	.....	.....	Sweden	.....	.....
Colombia, U. S. of	.....	.....	Switzerland	1	.....
Cuba	.....	.....			
Denmark	.....	.....	Total to citizens of foreign countries	17	1
Ecuador	.....	.....			

DESIGNS.

13,370.—FINGER-RING.—*William S. Dolbey*, Brooklyn, N. Y. Application filed June 21, 1882. Term of patent 3½ years.

13,371 and 13,372.—HAT-LINING.—*Robert Dunlap*, New York, N. Y. Applications filed September 29, 1882. Term of patents 7 years.

13,373 to 13,375, inclusive.—CARPET.—*Otto Heinigke*, New Utrecht, N. Y., assignor to *The Hartford Carpet Company*, Hartford, Conn. Applications filed August 11, 1882. Term of patents 3½ years.

13,376 to 13,381, inclusive.—CARPET.—*Winthrop L. Jacobs*, East Orange, N. J., assignor to *The Hartford Carpet Company*, Hartford, Conn. Applications filed August 11, 1882. Term of patents 3½ years.

13,382 and 13,383.—CARPET.—*Julius S. Meyer*, New York, N. Y., assignor to *The Hartford Carpet Company*, Hartford, Conn. Applications filed August 11, 1882. Term of patents 3½ years.

13,384.—WEAR-IRON.—*John L. Pope*, Cleveland, Ohio. Application filed August 2, 1882. Term of patent 7 years.

13,385.—BUCKET-EAR.—*John L. Pope*, Cleveland, Ohio. Application filed August 2, 1882. Term of patent 7 years.

13,386.—SPRING-SADDLE CLIP-PLATE.—*John L. Pope*, Cleveland, Ohio. Application filed August 2, 1882. Term of patent 7 years.

13,387.—WEAR-IRON.—*John L. Pope*, Cleveland, Ohio. Application filed August 2, 1882. Term of patent 7 years.

13,388.—WHIFFLETREE-PLATE.—*John L. Pope*, Cleveland, Ohio. Application filed August 15, 1882. Term of patent 7 years.

13,389 and 13,390.—WHIFFLETREE-PLATE.—*John L. Pope*, Cleveland, Ohio. Application filed August 2, 1882. Term of patent 7 years.

13,391.—WATCH-CHARM.—*Herman T. Regnell*, Attleborough, Mass. Application filed September 25, 1882. Term of patent 7 years.

13,392.—GROUP OF STATUARY.—*John Rogers*, New Canaan, Conn. Application filed October 2, 1882. Term of patent 14 years.

TRADE-MARKS.

[Certificates of registration of Trade-Marks numbered 8,191 and upward are registered under the act of March 3, 1881.]

9,753.—MINCE-MEAT.—*Adams Packing Company*, Indianapolis, Ind. Application filed September 16, 1882.
"The picture of a steer's head."

9,754.—MEDICINE TO REGULATE THE LIVER AND DIGESTIVE ORGANS. *Alexander Bros.*, Providence, R. I. Application filed October 7, 1882.
"The pictorial representation of Dr. Morse."

9,755.—ENAMELED CARRIAGE, TABLE, AND STAIR OIL-CLOTH.—*Atha & Hughes*, New York, N. Y. Application filed October 9, 1882.
"The word 'STANDARD.'"

9,756.—MATTRESSES AND OTHER FILLED ARTICLES OF UPHOLSTERY. *Henry A. Bartlett*, Philadelphia, Pa. Application filed October 3, 1882.
"The arbitrary compound-word symbol 'PINO-PALMINE.'"

9,757.—WATER-PROOFING-FLUID.—*Joseph L. Chadwick*, Stonington, Conn. Application filed July 25, 1882.
"The words 'RISING SUN.'"

9,758.—INDIGESTION-DROPS.—*Charles Cross*, Gawler, South Australia. Application filed September 16, 1882.
"A circular figure inclosing a representation of the sea and sea-shore, with rocks and two human figures in the foreground."

9,759.—REFINED LARD, NEAT'S-FOOT AND TALLOW OILS.—*The Davis Oil Company*, New York, N. Y. Application filed October 3, 1882.
"The letters 'D.' and 'O.' and the word 'Co.' arbitrarily selected, and arranged to form a monogram or other fanciful symbol, or, in fact, in any manner that taste and fancy may dictate."

9,760.—PLUG-TOBACCO.—*Elwell, Brackett & Hawes*, Boston, Mass. Application filed October 4, 1882.
"The words 'BOSS LUMP.'"

9,761.—PERFUMES.—*Egbert W. Gillett*, Chicago, Ill. Application filed August 19, 1882.
"The word 'FLORENTINE.'"

9,762.—DYES OR COLORING-MATTER.—*Jordan & Slack*, Brooklyn, N. Y. Application filed September 28, 1882.
"The word 'ECHURINE.'"

9,763.—DANDELION TONIC.—*Leis Chemical Manufacturing Company*, Lawrence, Kans. Application filed August 29, 1882.
"The figure of a girl kneeling upon a bed of dandelions."

9,764.—SHIRTS.—*Lewis Levi*, Paterson, N. J. Application filed September 5, 1882.
"The arbitrary word 'MANHATTAN.'"

9,765.—CIGARS.—*Lozano, Pendas & Co.*, New York, N. Y. Application filed September 30, 1882.
"The words 'LA SULAMITH.'"

9,766.—CIGARS.—*Lozano, Pendas & Co.*, New York, N. Y. Application filed September 30, 1882.
"The words 'ENTRE LAS ROSAS.'"

9,767.—MEDICINAL COMPOUNDS OR SUBSTANCES.—*The Maltine Manufacturing Company*, New York, N. Y. Application filed May 11, 1882.
"The word 'MALTO.'"

9,768.—SHOE-PEGS.—*Charles Mindt*, Lisbon, N. H. Application filed September 25, 1882.
"The letters 'M M' and the representation of an anchor."

9,769.—PLUG CHEWING-TOBACCO.—*R. A. Patterson & Co.*, Richmond, Va. Application filed October 3, 1882.
"The word 'MOZART' or a picture of Mozart."

9,770.—PLUG CHEWING-TOBACCO.—*R. A. Patterson & Co.*, Richmond, Va. Application filed October 3, 1882.
"The arbitrarily-selected words 'SHELL ROAD.'"

9,771.—PLUG-TOBACCO.—*Pfingst, Doerhoefer & Co.*, Louisville, Ky. Application filed September 23, 1882.
"The letters 'N. T. W.' and the circular border."

9,772.—MEDICAL COMPOUNDS.—*August H. Vordick*, St. Louis, Mo. Application filed September 18, 1882.
"The fac-simile of the autograph of the registrant."

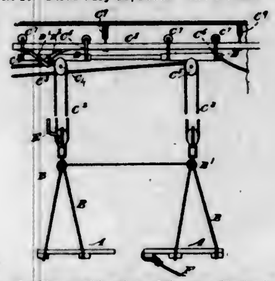
LABELS.

None.

PATENTS

GRANTED OCT. 31, 1882.

266,597. HAY AND GRAIN UNLOADER. LYMAN ACKERMAN, Dexter, N. Y. Filed July 21, 1882. (No model.)



Claim.—1. The combination of the arm K, the levers D' D², and the shoulders or stops formed on the rail or track C', substantially as and for the purpose set forth.

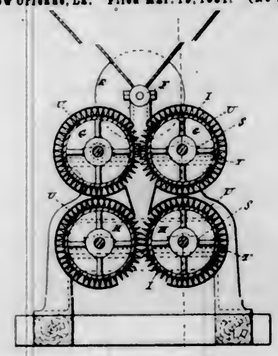
2. The combination of the sectional platform A A, the bridles or ropes B, bars C C, hoisting-ropes C² and C³, blocks C⁴ C⁵, and a car or carriage traveling on a rail or track adjustably attached to the ridge-pole of a barn or other structure, substantially as and for the purpose set forth.

266,598. LAWN-TENNIS APPARATUS. ELISA H. ALEXANDER, New York, N. Y. Filed Sept. 7, 1882. (No model.)



Claim.—A racket provided with a ball-lifter, substantially as described.

266,599. MACHINE FOR BEATING BRAN. JOSEPH W. BARBEAU, New Orleans, La. Filed Mar. 15, 1881. (No model.)



Claim.—1. In a machine for beating bran, the combination of rollers G and G, said rollers being adapted to revolve rapidly, and provided with conical or tapering pins or teeth in circumferential row, the teeth of the one roller being arranged to be intercurrent with the teeth of the other and to leave a clearance through which the bran may pass and be beaten, substantially as described.

2. An organized bran-duster consisting essentially of a hopper, a feed-roller, and a pair or set of revolving rollers provided with intercurrent conical or tapering teeth, substantially as set forth.

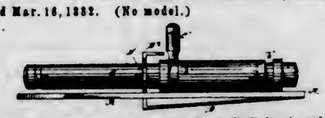
266,600. DOOR-BOLT. ARTHUR C. BLAYNEY, Chicago, Ill. Filed Mar. 16, 1882. (No model.)



Claim.—1. In combination with the plate A, barrel B, and bolt C, a spring, D, longitudinal with and attached to the plate A, and arranged to rise at the rear of the bolt when the latter is thrown and exposed to direct pressure of the thumb or finger for its disengagement with the bolt, substantially as described.

2. In combination with the plate A, having aperture *a*, barrel B, and bolt C, the spring D, provided with the stud *d'*, entering the aperture *a*, substantially as and for the purpose stated.

266,601. DOOR-BOLT. ARTHUR C. BLAYNEY, Chicago, Ill. Filed Mar. 16, 1882. (No model.)

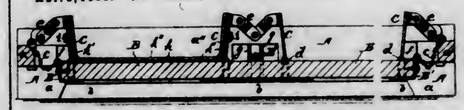


Claim.—1. In combination with the bolt C, having the knob C' and notch *c*, the barrel B, having the slot B', with lateral and rearward extensions *b' b*, and a spring, D, arranged to engage the notch *c* when the bolt-knob is retracted in the recess *b*, substantially as described.

2. In combination with the notched bolt C, having the knob C', and with the slotted barrel B, fixed to the plate A, the spring D, provided with the apertured part D', arranged and operating substantially as described.

3. In combination with the spring D, arranged beneath the plate A and for engaging the bolts in its locked position, the flange *a'*, arranged on said plate and at both sides of the spring, substantially as described, and for the purposes set forth.

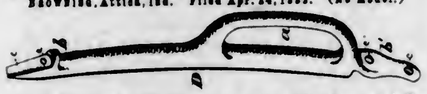
266,602. BRICK-MOLD. JOSEPH BLUM, Chicago, Ill. Filed Mar. 2, 1882. (No model.)



Claim.—The combination, in a brick-mold, of the frame A, consisting of the side pieces, *a a*, and of the end pieces, *a' a'*, rigidly attached to the side pieces, the bottoms B B, fitting loosely in

the said frame, and suspended therefrom by means of flexible connections, permitting the bottoms to be moved vertically in the frame, the end pieces, C C, hinged at their lower edges to the bottoms B B and at their upper ends to the frame A, the whole constituting a brick-mold having vertically-movable mold-bottoms, tilting expansible end pieces, and in which the sides of the frame serve as sides for the mold-compartments, substantially as and for the purpose specified.

266,603. TRACE-BEARER FOR HARNESS. MARFORD A. BROWNING, Attica, Ind. Filed Apr. 24, 1882. (No model.)



Claim.—The combination, with the saddle-skirt and belly-band billet, of the metallic trace-bearer, constructed in a single piece and provided with perforated upper end riveted to the saddle-skirt, and with perforated lower end riveted to the belly-band billet, substantially as set forth.

266,604. DOUBLE-SEAMING MACHINE. ORRIN W. BURRITT, Woodsport, N. Y. Filed Aug. 28, 1882. (Model.)



Claim.—1. The combination of the jaw C, bar B, and hinged lip F, and means for operating the lip, substantially as and for the purpose set forth.

2. The means for self-adjustment of hinged lip, consisting of the spring I, attached to the hinged lip, and to the bar B and stop-lugs K, arranged to operate substantially as herein shown and described, for the purposes set forth.

266,605. ANIMAL-TRAP. JOSEPH H. BUSHARD, Harmony, Md. Filed Aug. 19, 1882. (No model.)



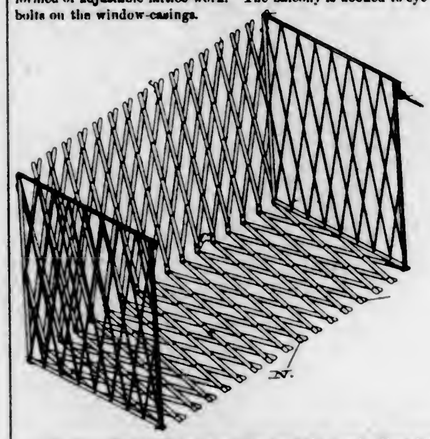
Claim.—1. An animal-trap provided with a bail formed of a single piece of spring-wire bent round and having its spring ends M bent up, and provided with inturned ends O to clasp a bait, as set forth.

2. The combination, with top B, having an entrance-opening, I, at one end of which is arranged a cross-strip, J, provided with staples K K, of the bail, formed of elastic wire, having upturned ends M M, provided with inturned points O O to clasp a bait, as set forth.

3. The combination of imperforate bottom A, top B, having exit-opening G, and entrance-opening I, with depending rectangular housing having perforations R, wire-netting D, securing longitudinal strips C, cross-piece J, overhanging opening I, lever T, having beveled top end, V, weighted lower end, W, box X, and piece Y, having perforations Z, and transverse pivot pin or shaft S, as set forth.

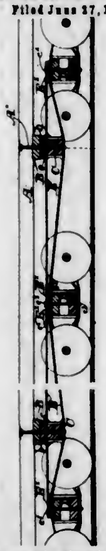
266,606. PORTABLE ADJUSTABLE WINDOW-BALCONY. GEORGE W. JARVIS, Poughkeepsie, N. Y. Filed Aug. 24, 1882. (No model.)

Brief.—The sides are fixed parts and the bottom and front are formed of adjustable lattice-work. The balcony is hooked to eye-bolts on the window-casings.



Claim.—The combination of the fixed sides and adjustable lattice-work forming the bottom and front of the balcony with the eyebolts secured on the window-casings, substantially as described.

266,607. RUNNING-GEAR FOR CARS. ELBAZER D. CARTER, Terre Haute, Ind. Filed June 27, 1882. (No model.)



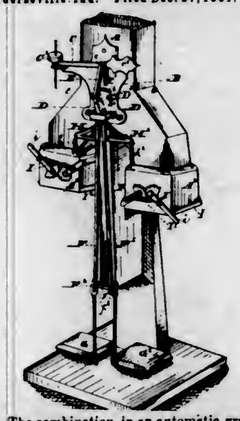
Claim.—1. The combination, in a running-gear for cars, of three trucks, each having four or more wheels and two double trusses, each of which trusses connects one of the end trucks to the central truck and supports one end of the car-body at a point between said end truck and central truck, substantially as shown and specified.

2. The combination of a car-body, three car-trucks, one at each end and one at or near the center of said car-body, and trusses connecting the end trucks to the central truck, said trusses each being mounted, as shown, with one end resting on an end truck and the other resting on the central truck, and said car-body being mounted upon and supported by said trusses, substantially as described, and for the purposes specified.

3. A running-gear for cars, composed essentially of three trucks and two trusses, wherein said trusses run from the end trucks to the center truck, where they nearly meet, and are connected together and to said center truck by means of a plate, e^3, extending from each, and the pin e^4, which passes through said plates and down into the bolster of said truck, said pin serving both as a joint-pin and as a pivot on which the trusses may swing laterally, substantially as set forth.

4. The combination of the car-body, the car-trucks D D D, and the trusses E E, said trusses being provided with cross-beams C, on which the bolsters of the car-body rest, substantially as set forth.

266,608. AUTOMATIC WEIGHER FOR GRAIN, &c. ASHLEY R. COOPER, Moorsville, Ind. Filed Dec. 27, 1881. (Model.)



Claim.—1. The combination, in an automatic grain-weighing machine, with the tilting arm which operates the trap-valve for changing the flow of grain from one mouth of the spout to the other, of set-screws d^3 d^3, whereby the movement of said tilting arm may be accurately controlled, all substantially as shown and specified.

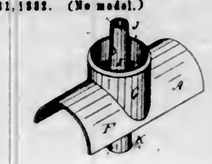
2. The combination, with the spout and weighing apparatus, as specified, of the mouth to the spout provided with the sack-holder, consisting of the two jaws I I, connected together by toothed segment-shaped heads and a spring, substantially as set forth.

3. The combination of the device D, the rods F F', the cross-arm F², and the bag-rests G G', said arm F² being pivoted to the frame-work of the machine at f^3, and to said rods F F', near their lower ends, by pivots f', said rods being pivoted at their upper extremity to the device D, and said bag-rests being provided with upwardly-extending rods which are connected at their upper ends to the rods F F', substantially as set forth.

4. The combination of the spout A, the scale-beam C, the tilting device D, having a slot in its upper end which acts on a stud, a^2, on the trap-valve A³, said trap-valve, a link, E, which extends from the device D to the scale-beam and together with said device forms a toggle-joint for operating said scale-beam and sack-sustaining rods F F', attached to the wings of the device D, all substantially as set forth.

5. The combination of the device D, the rods F F', the arms H H', the springs h h', and the spout-mouths A' A², all substantially as shown and specified.

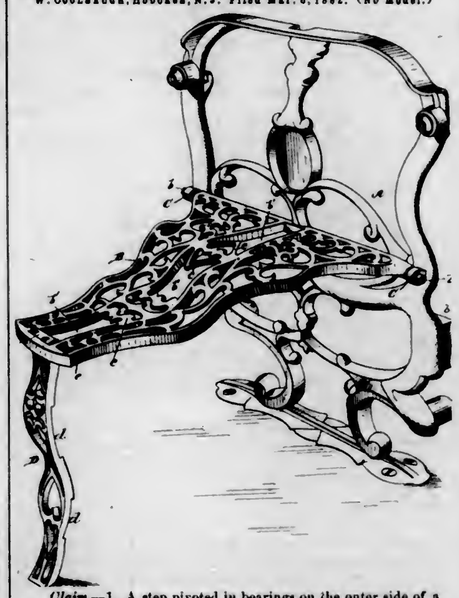
266,609. SPOKE-SOCKET. JOHN Y. COOPER, Nashville, Tenn. Filed Aug. 31, 1882. (No model.)



Claim.—1. In a spoke-socket, the combination, with the double tube extending one end into the end of the spoke and the other into the felly, both ends being slitted, of the retaining-pin having bulging or enlarged ends to expand the ends of the tube, as set forth.

2. The combination, with the felly having a curved inner surface terminating in a shoulder at each side and an opening or perforation enlarged at its outer end, of a spoke-socket having a curved base-plate arranged with its side edges abutting on the shoulders, and provided with a tube capable of expansion, as and for the purpose set forth.

266,610. STEP ATTACHMENT FOR RAILWAY-CARS. FRANK W. COOLBAUGH, Hoboken, N. J. Filed Mar. 8, 1882. (No model.)



Claim.—1. A step pivoted in bearings on the outer side of a car-seat standard at a point intermediate the upper and lower ends thereof and adjacent to the car-seat, said step being arranged and adapted to swing to a horizontal position across the aisle between the car-seats, and to fold against the outer side of the seat-standard, and provided with folding legs or bars for bracing and sustaining the step when in a horizontal position, all substantially as and for the purposes described.

2. The combination of the frame of a railway-car seat, a folding step pivoted to the end of said frame and having a slot or recess on its under side, and a leg pivoted to the outer end of said step and adapted to fold within said recess, whereby the step may be extended across the aisle to serve as a support in lighting the car-lamps, or may be folded so as to remain suspended at the end of the seat-frame when not required for use, substantially as described.

266,611. BUTTON. JOHN COSTELLO, Attleborough, Mass., assignor to Watson & Newell, same place. Filed Sept. 14, 1882. (No model.)

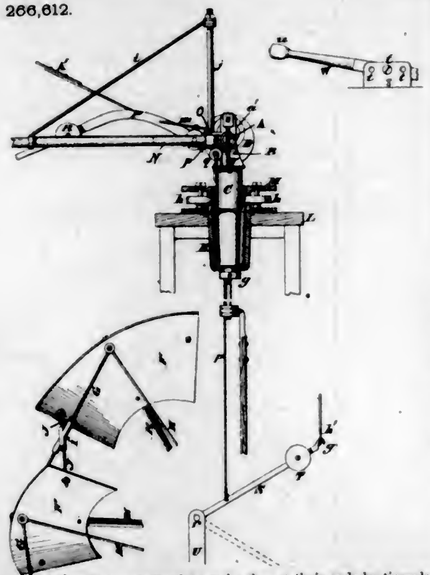


Claim.—The combination, with the head of a button or other article having a cavity with a beveled wall, as described, of a back member provided with a fastening-plate, B, having a rib, *b*, substantially as and for the purposes specified.

266,612. WIND-ENGINE. HENRY CROFT, Jr., Springfield, Ohio. Filed May 31, 1882. (No model.)

Claim.—1. In a wind-engine, the wind-wheel the sails of which are attached at their middle to substantially-radial arms,

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which arms are connected to each other at their ends by tie-rods, and are farther supported by inclined brace-arms extending from the top of each of the sail-arms to a point in front of the wind-wheel, substantially as described.

2. The herein-described wind-wheel, composed of the segmental inclined sails secured at their middle to substantially-radial arms and braced by the inclined rods H, the tie-rods G running around the wheel, and the sail-connecting braces J, substantially as described.

3. The combination, with the two-part pump-rod, of the ring c', having an annular groove in its under face, the nut d', having an annular rib which fits the groove of the ring, and the nut b', fitting over the said ring c', said parts b', c', and d' being perforated for the passage of the tail-vane-operating cord, substantially as described.

4. In a wind-engine, the combination of a wind-wheel having its head mounted upon a vertical axis, a pivoted tail-vane, a weighted governor-arm connected to the wind-wheel head and to the tail-vane and tending to throw the wind-wheel out of the wind, a fan or vane attached to said governor-arm, and a second weighted governor-arm connected to the tail-vane, normally operating to keep the wind-wheel into the wind against the force of the first-mentioned governor-arm and overbalanced only by an abnormal force of wind against the fan or vane on said first-mentioned governor-arm, substantially as described.

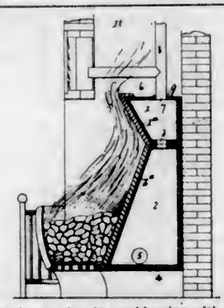
5. In a wind-engine, the combination of a wind-wheel having its head mounted upon a vertical axis, a pivoted tail-vane, a weighted governor-arm connected to the wind-wheel head and to the tail-vane and tending to throw the wind-wheel out of the wind, a second weighted governor-arm connected to the tail-vane and normally operating to keep the wind-wheel into the wind against the force of the first-mentioned governor-arm, and locking devices, substantially as described, for locking the said second governor-arm when raised, so as to permit the first-mentioned governor-arm to throw the wheel out of the wind, substantially as described.

6. In a wind-engine having a hinged or pivoted tail-vane and a governor-arm for causing said tail-vane to swing at right angles, or substantially so, to the wheel-spindle, the combination, with said tail-vane, of an operating chain or cord and a second weighted governor-arm attached to the lower end of said chain to counterbalance the first governor-arm, and to cause the tail-vane to swing back in line with the wheel-spindle, substantially as described.

266,613. HOT-AIR GENERATOR FOR FIRE-PLACES. JESSE S. DEARDORFF, Canal Dover, Ohio. Filed May 5, 1882. (No model.)

Claim.—1. The chamber 1 of irregular quadrilateral shape in vertical cross-section, and provided with the inlets 3, outlets 7, and the removable corrugated front plate 1^a, with its overlapping upper

266,613.



edge and beveled lower edge, in combination with the lower chamber, 2, of similar shape to chamber 1, but larger, and provided with inlets 5, outlets 3, and removable corrugated front 2^a, with a beveled upper edge, as shown.

2. The chamber 1, of irregular quadrilateral shape in vertical cross-section, with its removably-attached corrugated front plate 1^a, having an overlapping upper edge and a beveled lower edge, said chamber being provided with inlets 3 and outlets 7, surrounded by raised projections 9, in combination with the lower chamber, 2, of similar shape to chamber 1, but larger, and provided with inlets 5, outlets 3, and removable corrugated front plate 2^a, with a beveled upper edge, as and for the purposes set forth.

266,614. BATHING-STOCKING. ELIZABETH N. DOUGLASS, Washington, D.C. Filed Apr. 27, 1882. (No model.)

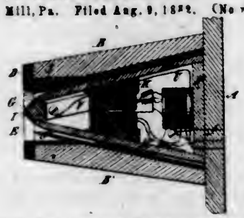


Claim.—1. As a new article of manufacture, bathing stockings or hose which consist of ordinary stockings or hose to the soles or the bottoms of the feet of which is applied india-rubber or other substantial and flexible water-proof material, substantially as described.

2. The method of applying india-rubber or other flexible and water-proof material to the soles of stockings or hose, whereby the parts so covered are rendered stronger and more durable, and may serve as a protection to the feet in sea-bathing or for other purposes, substantially as described.

3. The combination of a stocking or hose with the sole or bottom of india-rubber or other flexible and water-proof material, for the purposes substantially as described.

266,615. TELEPHONE-TRANSMITTER. DANIEL DRAWBAUGH, Eberly's Mill, Pa. Filed Aug. 9, 1882. (No model.)



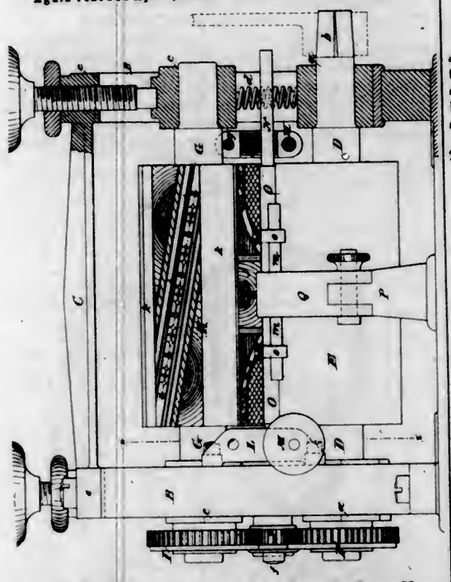
Claim.—1. In a telephone, the combination of a mouth-piece and its orifice and two diaphragms relatively inclined to one another, so that the line of junction of their edges or the line extending along the apex of the angle formed by the inclined diaphragms shall bisect the orifice of the mouth-piece, substantially as described.

2. A telephone having a mouth-piece and mouth-piece orifice and two diaphragms relatively inclined to one another, so that the line of junction of their edges or the line extending along the apex of the angle formed by the inclined diaphragms shall bisect the orifice of the mouth-piece, in combination with two sound-receiving chambers formed between the diaphragms and the exterior

case, each chamber communicating with the same mouth-piece orifice, substantially as described.

3. The combination of the single mouth-piece orifice with the two diaphragms and the exterior sound-chambers, as herein described, and with a series of low conductors arranged between the two diaphragms and connected to each diaphragm, so as to be put under compression simultaneously on opposite sides by the vibration of both diaphragms, substantially as described.

266,616. MACHINE FOR IMPRESSING DESIGNS ON TUBES AND RODS. EDWARD FACKNER, Brooklyn, N. Y. Filed Feb. 25, 1880. Renewed Mar. 1, 1881. Again renewed Sept. 8, 1881. Again renewed Apr. 7, 1882. (Model.)



Claim.—1. The combination of the two rolls E and K, arranged to rotate in unison, and the centering device for the rod to be operated upon, all arranged substantially as set forth.

2. The centering device for the rod N, which consists of the plates *h h*, arranged in pairs at opposite ends of the machine, and each pair adapted to be actuated by means of a right and left threaded screw, M, substantially as set forth.

3. The engraved roll K, having its surface divided off into engraved strips *j j* and into recessed spaces *k k* between said strips, substantially as and for the purposes set forth.

4. The steady-rest consisting of the foundation-post and the adjustable rod *n* and arms *o o*, in combination with the rolls, substantially as shown.

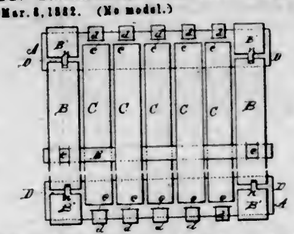
5. The combination of the engraved roll K, having its surface divided off into engraved strips *j j*, and recessed spaces *k k* between the strips, with the bearing-roll E, made of wood or some material softer than metal, and the gear-wheels arranged to drive the rolls in unison, substantially as set forth.

266,617. EGG-CARRIER. ASA B. FISK, Lyndonville, N.Y. Filed Aug. 14, 1882. (No model.)



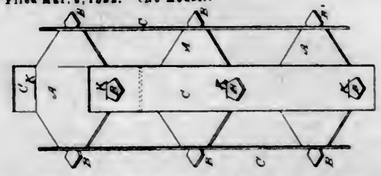
Claim.—The egg-carrier herein described, consisting of the tray B, having the frame *b*, the permanent bottom *c*, the partitions *d*, the lifting-cords *f f*, fastened to the permanent bottom in each of the corner cells and crossed in the center of the tray, and the lid C, having the comparatively high sides *e*, substantially as set forth.

266,618. EGG-CARRIER. DAVID GOODWILLIE, Chicago, Ill. Filed Mar. 8, 1882. (No model.)



Claim.—The wooden bottom for egg-carriers, consisting of strips C, looped onto and shouldered against the strips A, so that the latter cannot slide inward, and the strips B, looped onto the strips A, and, by means of tongues *n n* locking over loops D D, holding the strips A from sliding outward, as and for the purpose specified.

266,619. EGG-CARRIER. DAVID GOODWILLIE, Lake View, Ill. Filed Mar. 8, 1882. (No model.)



Claim.—A package or carrier for holding a tier of eggs placed on end, one above the other, consisting of the partitions A, provided with locking tenons, substantially as shown, and combined with the strips C, provided with mortises K, as and for the purpose set forth.

266,620. SWIVEL FOR WATCH-CHAINS. JOHN HANCOCK and LEVI RICHARDS, Providence, R.I. Filed Aug. 18, 1882. (Model.)

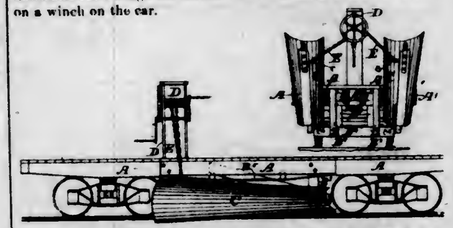


Claim.—1. In a swivel, the nicked ring G, in combination with the slotted ferrule F, stem B, and spring E, operating to hold said ring in position, substantially as specified.

2. The improved swivel herein described, consisting of the bow A, stem B, locking-cap C, center D, spring E, ferrule F, and ring G, constructed and combined substantially as shown, and for the purpose specified.

266,621. RAILROAD SCRAPER AND LEVELER. DANIEL L. HARRIS and ELEAZER D. CARTER, Terre Haute, Ind. Filed July 1, 1882. (No model.)

Brief.—To a frame-work beneath the car are hinged scrapers, adapted to swing up and into recesses in the sides of the car and down and out through the medium of rear arms and chains wound on a winch on the car.

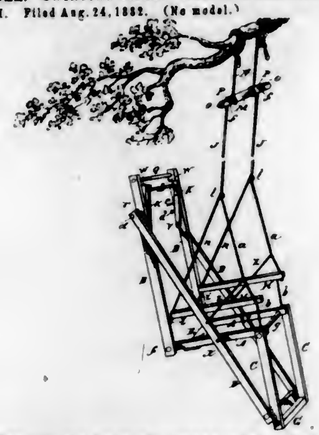


Claim.—1. The combination of a car, scrapers C, hinged at c^2 and c^4 to the frame-work beneath the car to swing upward, as shown, a winch mounted on said car, and chains or ropes connecting said scrapers and said winch, substantially as set forth.

2. The combination, with a car having its sides cut away to receive the scrapers when raised up, of said scrapers and mechanism for raising and lowering them, substantially as set forth.

3. The combination of the car, the frame-work $B' B^2 B^3 B^4 B^5$, the scrapers C, the winch D, and the chains E, substantially as shown and specified.

266,622. SWINGING CHAIR. GEORGE E. HASTINGS, Antrim, N. H. Filed Aug. 24, 1882. (No model.)



Claim.—1. The improved swinging chair described, the same consisting of the rails A B C G, bars D E, rods *m g* Q, and cords *J n a b i*, combined and arranged to operate substantially as and for the purpose specified.

2. In a chair substantially such as described, the braces or cords *z z*, substantially as and for the purpose set forth.

3. The bolster K L, in combination with the rails B B, bars D D, and studs *d d*, provided with the studs *e e*, substantially as and for the purpose specified.

4. The arms H H, in combination with the cords *a n i b*, substantially as and for the purpose set forth.

5. The slotted bar M, provided with the concaves *f f*, in combination with the cords J J and N, for suspending the chair, substantially as specified.

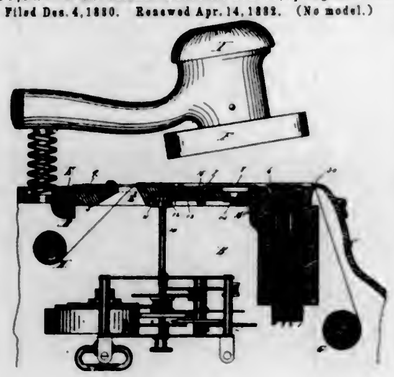
266,623. TENONING-MACHINE. WILLIAM D. HERSCHEL, Philadelphia, Pa., assignor to Joseph O. Colladay & Brother, same place. Filed May 19, 1882. (No model.)



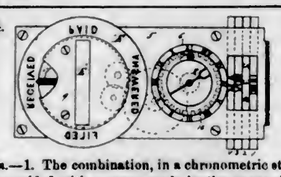
Claim.—1. A screw-threaded adjusting-shaft in combination with two cutter-head slides or frames, two screw-tapped parts, and clamping devices, whereby either one of said screw-tapped parts may be locked to said shaft, for the purpose set forth.

2. A screw-threaded adjusting-rod and two cutter-head slides or frames, one of which has a nut that receives said rod, in combination with a head or nut to which the operating-handle is attached, and clamping-screws K and L, whereby either one of said nuts may be locked to said rod, for the purpose set forth.

266,624. HAND-STAMP. BENJAMIN B. HILL, Springfield, Mass. Filed Dec. 4, 1880. Renewed Apr. 14, 1882. (No model.)



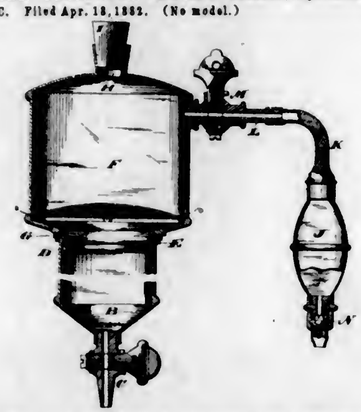
266,624.



Claim.—1. The combination, in a chronometric stamp, of the die-plate provided with a recess made in the upper side thereof, movable pointer or index dies each provided with a toothed wheel, and each having a bearing in said recess and upon said die-plate, and actuated by toothed wheels connected with a clock-movement contained within said stamp, substantially as described.

2. The combination, in a chronometric stamp, with a die-plate having a recess in its upper side, of index or pointer dies each provided with a toothed wheel and resting in said recess and upon said die-plate, a clock-movement contained within said stamp beneath said die-plate and adapted to actuate said index or pointer dies, a clock-dial die, and an impression-pad, all for indicating and taking an impression of the time of day, substantially as set forth.

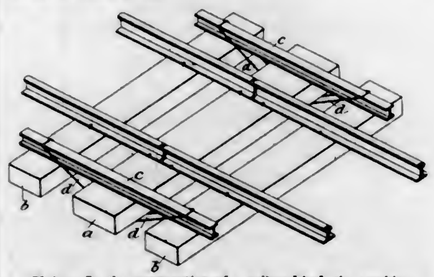
266,625. PERCOLATOR. SAMUEL J. HINSDALE, Fayetteville, N. C. Filed Apr. 18, 1882. (No model.)



Claim.—In a percolator, the combination, with a percolating-chamber for receiving the substance to be percolated, and an upper chamber into which the menstruum is introduced, said upper chamber being provided at its lower end with a diaphragm of slightly less diameter than the interior of the chamber, and arranged and adapted to deflect the menstruum between its periphery and the sides of the upper chamber, of devices for compressing the air above the surface of the menstruum, substantially as set forth.

266,626. RAIL-JOINT. GEORGE M. HODGDON, Nashua, N. H. Filed May 25, 1882. (No model.)

Brief.—The rail ends rest upon a supporting-tie, upon which and upon a tie on each side thereof are placed bars, which, by means of straps passing over said bars and under the middle supporting-tie, forms a truss.



Claim.—In the construction of a railroad-bed, the combination of the rail-joint-supporting tie *a*, the side ties, *b b*, the bar *c*, and the strap *d*, arranged and constructed essentially as described.

266,627. SWIVEL-PLOW. JAMES A. HOWE, Ayer, Mass., (Esther W. Howe, Administratrix of said James A. Howe, deceased.) Filed Feb. 14, 1882. (Model.)

Brief.—The rear of the mold-board is an ellipse in cross-section, the arc of the central part being twice the radius of the two side portions. At the front are also three arcs of the same relative proportions, each outer one being concave.



Claim.—1. The mold-board of a swivel-plow, having its rear end convex and its front portion made with a central convex arc and side concave arcs, arranged transversely and increasing in radius from rear to front, substantially as shown and described.

2. The mold-board A, having three transverse arcs, the central convex arc being equal in radius to that of both the side concave arcs and converging at the rear to form a convex mold-board at B C, substantially as shown and described.

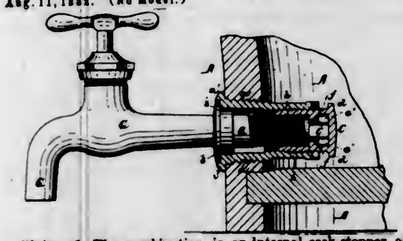
3. The combination, with the mold-board A, having at its front end a series of three arcs, arranged transversely to each other, of the supporting-shoes L L', substantially as shown and described.

266,628. CHART. EDWARD L. HYDE, Centreville, R. I. Filed Aug. 23, 1882. (No model.)



Claim.—The improved educational map or chart herein described, from which are omitted the names of places, &c., usually found on such maps or charts, and which is provided at the places where such names should appear with means, substantially as described, for receiving and temporarily holding supplemental cards, as described, bearing such names, substantially as and for the purposes specified.

266,629. FAUCET ATTACHMENT OR CASK-STOPPER. WILLIAM W. JACKSON, Chicago, Ill., assignor of two-thirds to George H. Eaton and Caleb W. Webster, both of same place. Filed Aug. 11, 1882. (No model.)



Claim.—1. The combination, in an internal cask-stopper, of an external shell or bush projecting into the interior of the cask, and having an internal screw-thread, *b*, and the hollow ported valve C, having an external screw-thread, *b'*, to engage the thread *b*, and also having an internal screw-thread, *c*, and internal projections or shoulders, *f f*, with a faucet having an external screw-thread adapted to engage the thread *c* and meet the projections or shoulders *f f*, substantially as and for the purposes specified.

2. The combination of the internally-threaded bush or shell B with the hollow ported screw-valve C, having therein the internal projections or lugs, *f f*, which are adapted to receive a suitable wrench, substantially as and for the purpose specified.

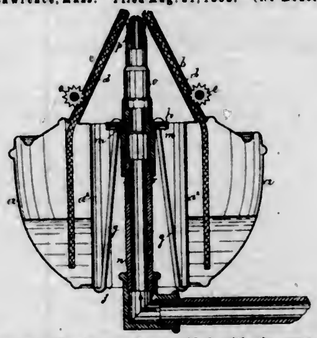
3. The hollow shell or bush B, having a flange or shoulder, *a'*, and an external screw-thread, *a*, and a polygonal interior portion at its forward or open end, the latter adapted to receive a suitable wrench, substantially as and for the purpose set forth.

266,630. LEG AND FOOT REST. PIERRE J. M. JAMBERE, Nevada City, Cal., assignor to Antonio Tam, same place. Filed July 14, 1882. (No model.)



Claim.—In a leg and foot rest, the combination of a support, A, having slotted sides forming guides for the movable end of the adjustable handle D, a foot-rest hinged to the legs C, said legs being hinged to the support, the foot-rest and leg-support having eyes *a b* to receive the hooked ends of the handle, whereby the foot-rest is held in its raised position and the device carried when folded, the parts being held, when folded, by a pivoted holding-piece, *h*, substantially as shown and described

266,631. COMBINED GAS AND OIL BURNER. JAMES H. KIDDER, Lawrence, Mass. Filed Aug. 31, 1882. (No model.)



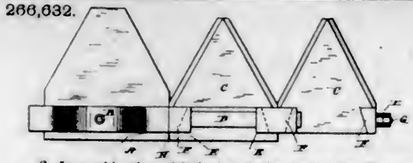
Claim.—1. The lamp-body provided with the open central passage, and its two converging wick-tubes, *c d*, extending above the said lamp-body, and the gas-burner extended through the open central passage of the lamp-body and above it and between the wick-tubes, as shown, combined with means to support the lamp-body with relation to the gas-burner, all being arranged to operate as and for the purposes set forth.

2. The lamp-body *a*, having a central passage, *f*, and the wick-tube and the supports *g*, combined with the gas-burner, and a suitable connected washer or device to support the weight of the lamp-body, substantially as described.

266,632. HARVESTER-KNIFE. JAMES MCCORMICK, Princeton, Ind. Filed Feb. 3, 1882. (Model.)

Claim.—1. A cutter-bar consisting of two parallel bars, a series of removable sleeves having suitable openings and adapted to fit on said bars, the said sleeves being provided with angular recesses to hold the cutters, a series of removable knife-sections provided with angular beveled rear corners adapted to fit said recesses, and the screw-bolt and nut for securing the parts together, substantially as specified.

266,632.



2. In combination with the bar A, the parallel bar D, extending from the eye-section, whereby said bar A is re-enforced at its weakest point, the sleeves E, provided with oblique recesses *e*, the knives C, provided with angular beveled rear corners adapted to fit in said recesses, and the bolt G and confining-nut, all constructed and arranged substantially in the manner specified.

266,633. BED OR CRIB. CHANDLER MCWAYNE, Colfax, Cal. Filed May 24, 1882. (No model.)



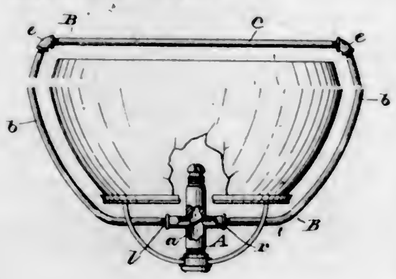
Claim.—1. The combination, with two swinging frames, of a bed or crib base removably secured thereto, and a bed or crib secured on the said base.

2. The combination, with two swinging frames, the base-beams of which are provided with indented metallic pieces, of a bed or crib base provided with downwardly-projecting lugs adapted to rest in said indented pieces, and a bed or crib removably secured to said crib-base.

3. The combination, with two swinging frames, the base-beams of which are provided with indented metallic pieces, of a bed or crib base having arms or extensions at the four corners thereof, the lower faces of the said arms or extensions being curved, as shown, and provided with the downwardly-projecting fingers, and a crib or bed pivotally secured to the said crib or bed base.

4. The combination, with the frame A, of the swinging frame, bed or crib base, and bed or crib, all of the above parts being constructed and adapted to operate as described.

266,634. GAS-BURNER. JAMES G. MILLER, Green Bay, Wis. Filed Mar. 24, 1882. (No model.)

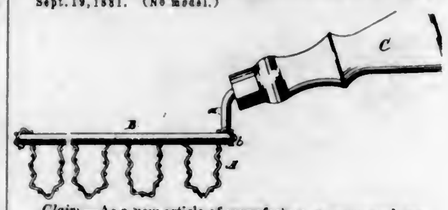


Claim.—1. A gas-burner, A, having partition *a*, in combination with a tube, B B, connected thereto by means of right and left threads in such a manner that it may be readily removed, substantially as shown and described.

2. In a gas-burner, a tube, B B, composed of pieces *b b*, connected together by piece *c*, provided with right and left threads, substantially as described and shown, and for the purpose set forth.

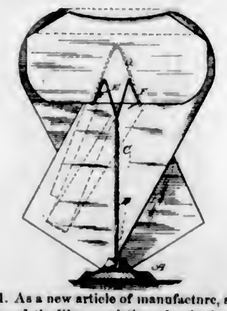
3. In a gas-burner, the combination of the side pieces, *b b*, top piece, *c*, and elbows *c c*, with the gas-burner A, having partition *a*, substantially as shown and described.

266,635. CURRY-COMB. EDWIN MILLER, Chicago, Ill. Filed Sept. 19, 1881. (No model.)



Claim.—As a new article of manufacture, a curry-comb consisting of a piece of woven-wire cloth bent or folded as specified and secured to a suitable frame or back, substantially as and for the purposes shown and described.

266,636. DEVICE FOR EXHIBITING NECKSCARFS, &c. LYMAN D. MINOR, New York, N. Y. Filed May 27, 1882. (No model.)

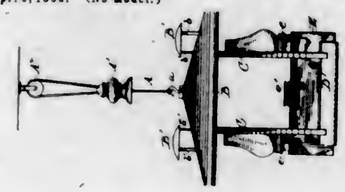


Claim.—1. As a new article of manufacture, a support for displaying scarfs and the like, consisting of a single piece of wire the ends of which are twisted together to form the shank or standard, above which are two outwardly and rearwardly extending branches curved over and downwardly to form a back, from which they converge upwardly to form a supporting-tongue, the apex or point of which is the center of the wire, substantially as set forth.

2. The combination, with a stand or base of suitable construction, having a central opening, of a support or holder for displaying neckscarfs and the like, formed of a single piece of wire, the ends of which are twisted together to form a standard and passed through said opening, the central portion of the wire being so formed as to provide a back and supporting-tongue at the top, substantially as set forth.

3. The combination, with the stand or base having a central opening, of the support or holder formed of wire suitably bent to conform to the shape of the article, and having a twisted stem or standard the ends of which are inserted into the said opening, as set forth.

266,637. LAMP. ANDREW NELSON, Rushford, Minn. Filed Apr. 6, 1882. (No model.)

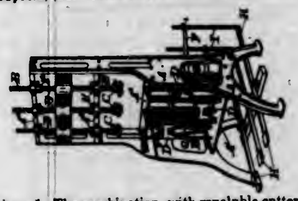


Claim.—1. In a hanging lamp, the combination of the rectangular-shaped reservoir E, slid into the seat, with the suspended lamp-seat D, having the inwardly-sloping elastic sides D' pressing against the sides of the reservoir E, as set forth.

2. In a hanging lamp, the combination of the reservoir E and clamping-seat D D' with the rigid straps C, secured to the reflector above and adding to the inward spring of the sides D' below, as set forth.

3. In a hanging lamp, the clamping-seat D D', formed in one piece of metal, the sides D' being bent up and inward to press against the contained reservoir when in place.

266,638. MACHINE FOR POINTING BOLTS. OLAF R. OLSEN, Indianapolis, Ind. Filed Feb. 21, 1882. (No model.)



Claim.—1. The combination, with revoluble cutter-heads and blocks for sustaining bolts to be operated upon, of levers F, connecting-rods I, and treadles H, said several parts being arranged as shown, whereby the weight of the same and such additional weight as may be mounted thereon will operate automatically to force said blocks in the direction of said cutters, substantially as set forth.

2. The combination, in a machine for pointing bolts, &c., with the vertically-moving blocks or carriers for sustaining said bolts and forcing them against the cutters, of levers F, pivoted on bolts *f*, said bolts being a part of vertically-adjustable bearings for said levers, whereby the positions of said levers and said blocks are vertically adjusted, substantially as set forth.

3. The combination, in a machine for pointing bolts, &c., of the blocks D, slides E, levers F, slides G, treadles H, and rods I, substantially as described, and for the purposes specified.

266,639. REGRINDING VALVES. JEREMIAH O'MEARA, New York, N. Y. Filed June 8, 1882. (No model.)



Claim.—1. The combination, with a socketed valve stem or spindle, a socketed valve or disk adapted to be connected thereto, a pin in said socketed stem and valve to prevent lateral displacement thereof, and a wire to retain the pin, of means to lock the valve to its spindle or stem, to cause said valve to be positively rotated by the turning of the stem to regrind the valve, substantially as described.

2. A connected socketed valve-stem and valve, a pin, and a pin-retaining wire to prevent lateral displacement of the valve, but at the same time affording freedom of rotation to the valve on its stem, combined with a device held to the stem against independent rotation, and adapted to engage the valve to lock it to the stem, and thereby positively cause it to rotate with the stem to enable the regrinding of the valve, substantially as shown and described.

3. The combination, with a socketed valve stem or spindle, a socketed valve or disk adapted to be connected thereto, a pin in said socketed stem and valve to prevent lateral displacement thereof, and a wire to retain the pin, of means connected with or forming part of the spindle to lock the valve to its spindle or stem, to cause said valve to be positively rotated by the turning of the stem to regrind the valve, substantially as described.

4. A valve and its spindle, each provided with a socket having angular and round portions, combined with a pin adapted to fit in such sockets, substantially as specified.

5. A valve and its spindle, each provided with a socket having angular and round portions, combined with a pin adapted to fit in such sockets, and a wire to retain the pin in place, substantially as specified.

6. A valve and its spindle, each provided with a socket having angular and round portions, combined with a pin having corresponding angular and round portions to engage said sockets, to either lock the valve to the spindle to cause the two to turn together for grinding the valve, or to permit the valve to turn upon the spindle for ordinary operation, substantially as described.

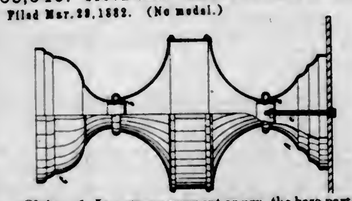
7. A flanged spindle having a longitudinal socket made with a round portion and a communicating angular portion, and a valve provided with lips to engage said flanged spindle, and having a similarly-constructed socket, combined with a pin having a round portion and a square portion to fit in said sockets, substantially as and for the purpose described.

8. A valve and its spindle, each provided with a socket having angular and round portions adapted to be brought into alignment, combined with a pin having one end angular and the other round, and adapted to lock the valve and spindle together by the engagement of its angular portion with the angular portions of the sockets of the spindle and valve, substantially as and for the purpose described.

9. A valve and its spindle, each provided with a socket having angular and round portions adapted to be brought into alignment, combined with a pin having one end angular and the other round, and adapted to permit the free and independent rotation of the valve upon its spindle by the engagement of its angular end solely with the angular part of the spindle-socket, while its round end rests in the round portion of the valve-socket, substantially as described.

10. In a valve, the shell, a bonnet adapted to be screwed thereinto and threaded internally to receive a threaded spindle, combined with such threaded spindle and the valve or plug thereto attached, constructed and arranged substantially as shown and described, whereby by running the bonnet into the shell the distance of about two threads the spindle may be run down through the bonnet, so as to become detached from its threads to thus be rotatable free of the bonnet to grind the valve, as specified.

266,640. STOVE-URN. HENRY L. PALMER, Brooklyn, N. Y. Filed Mar. 29, 1882. (No model.)



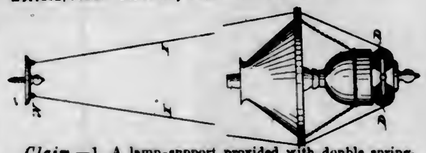
Claim.—1. In a stove ornament or urn, the base part, the middle or central section, and the open top for the reception of a water-cup, the three parts of the urn being united one to the other by readily-separable locking-joints applied upon the parts, substantially as set forth.

2. In a stove-ornament, the combination of the several independent sheet-metal sections arranged one above the other and united one to the other by readily-separable joints, the base-section resting upon the stove-top, and a bolt for securing said base-section to the stove-top, leaving the remaining parts free to be detached from the base-section, substantially as and for the purposes set forth.

3. In a stove-urn, the base part, the middle or central part, and the open top, all made of sheet metal, and each provided with screws, forming readily-separable joints, by means of which any part may be separated from the one next adjacent, all constructed and arranged substantially as shown and described.

4. The separable parts A B C of the sheet-metal stove-urn, separable from each other, as explained, nested together, substantially as and for the purposes set forth.

266,641. EXTENSION-CHANDELIER. EDMUND A. PARKER, Meriden, Conn. Filed May 12, 1882. (No model.)



Claim.—1. A lamp-support provided with double spring-drums underneath the same, in combination with the chains or bands I I and a suitable hanger, N, whereby the limit of upward movement is dependent only upon the height of lamp proper and its chimney, substantially as set forth.

2. The double spring-drums D, arranged underneath the lamp or shade support, and provided with chains or bands I I, in combination with the hanger N and the seats and friction-pulleys in the lamp or shade support, as set forth.

3. The double spring-drums D, arranged underneath the lamp-support and provided with crown-racks, in combination with the double pawl J, hanger N, and chains or bands I I, whereby the weight of fixture and lamp is sustained positively, as set forth.

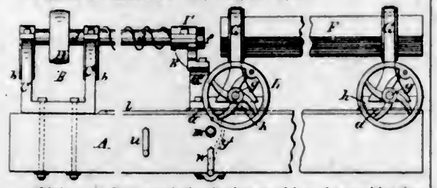
266,642. REVERSIBLE SCREW-DRIVER. FRANK R. PARTRIDGE, Augusta, Me. Filed July 10, 1882. (No model.)



Claim.—1. The reversible screw-driver, substantially as described, having the two sections *a b* of its handle arranged and connected by cars, and adapted to revolve on the shank of the blade, as set forth, in combination with the said shank, provided at its lower end with the clutch portion *f*, and with the handle-section *b*, having the clutch portion *g* and the spring A arranged in it, to operate with the said clutch portion *f*, as explained.

2. The combination of the arm C, pivoted to the lower end of the upper section of the handle, and the actuator D, arranged between the two sections and to revolve on the shank of the blade, as explained, with the handle and blade provided with the two clutch portions, and with the spring arranged in one of such portions of the handle, as set forth.

266,643. MACHINE FOR BORING PUMP-LOGS, &c. PARDON T. PERKINS, Oswego, N. Y. Filed Jan. 31, 1882. (No model.) Patented in Canada Nov. 29, 1880, No. 12,051.



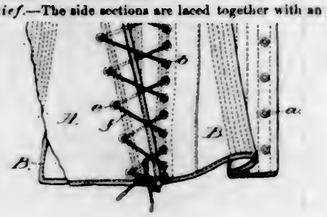
Claim.—1. In a wood-pipe-boring machine, the combination of the frame A, stationary head-block B, tube *d*, provided with a spiral ribbon and a cutter, *f*, at its outer extremity, with a log-carriage operated by a rack and pinion, the pinion-shaft being provided at one of its extremities with a bevel-gear, *s*, adapted to engage opposing pinions, *p p'*, having a clutch, *b'*, constructed and arranged as shown, whereby the feed may be automatically tripped or stopped by the motion of the log-carriage, substantially as described.

2. In combination with the frame A, provided with an adjustable head-block, B, and a suitable boring-tool, the log-carriage provided with a feeding device consisting of the shaft r, having thereon the gears *r d' c'*, bevel-gears *p p'*, and clutches *a' b'*, respectively, between said sets of plain and beveled gears, and the shaft O, provided with the engaging-gears R S T, the said feeding device being adapted, with suitable shifters, to engage the bevel-gear s on the pinion-shaft of the log-carriage, whereby the feed may be automatically tripped or stopped, all substantially as described.

3. A wood-pipe-boring machine having a head-block, B, provided with removable journal-brackets A' and D', for the purpose of accommodating either a Wyckoff or core auger, substantially as described and shown.

266,644. CORSET. WILLIAM H. RAMSEY, Newark, N. J. Filed Aug. 19, 1882. (No model.)

Brief.—The side sections are laced together with an elastic cord.

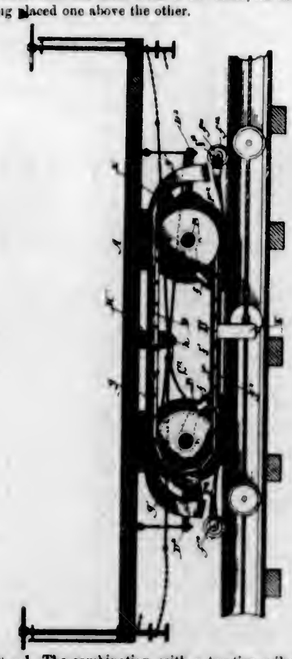


Claim.—1. The corset-section A, provided with eyelets *e*, and section B, provided with twice the number of eyelets *b*, and with the stiffened underlay increased in width from the waist of the corset downward, combined with a lacing-cord extended through the said eyelets, as described, from opposite sides of the corset, whereby the lacing-cord is made to cross only the edge of the section A, as and for the purposes set forth.

2. In a corset, the section B, provided with the row of eyelets *b*, set therein back from its edge to form an underlay or flap extending from the top to the bottom of the corset, the underlay being increased in width from the waist of the corset downward and stiffened, as described, combined with the section A, provided with eyelets *e* and a lacing-cord, the said two sections forming one-half of a corset, as specified.

266,645. TRACTION-RAILWAY APPARATUS. CHARLES W. RASMUSEN, Chicago, Ill. Filed Feb. 7, 1882. (No model.)

Brief.—An endless sprocket-chain supported by sprocket-wheels, its links bearing friction-rollers, and provided with hinged and movable projecting arms. Said mechanism is mounted upon the car-axles, and has a guiding mechanism provided with an expanded end, by which the projecting arms are directed into the slot of the tube. A hinged clamp having interiorly-beveled ends has its upper surface curved longitudinally to conform to the driving-pulley, and to each side of the same is attached an axle and a supporting-wheel for the support of the running cable. The tube is formed of a bottom plate and separate side portions having top and bottom flanges, respectively, to form the cover and to receive the bolts. Tracks are arranged in said tube out of horizontal plane, and the cable is provided with trucks the wheels of which have their interior surface convex, the said wheels being provided with an open supplemental wick-holder having a channel extending on its inner surface to the axle-bearing. To the clamp is secured a cleaning-brush. A terminal drum is provided with separate grooves extending around its periphery to receive the cable and the wheels of the cable-trucks. A switch-track connects with the main track, and is provided with a supplemental cable for propelling the cars from one main track to the other, the intersecting tracks being placed one above the other.



Claim.—1. The combination, with a traction-railway car, of an endless chain or band mounted upon the car, and provided with projecting arms, substantially as described.

2. The combination, with a traction-railway car, of an endless chain or band carried thereby, and provided with projecting arms and wheels for supporting such chain or band, substantially as described.

3. The combination, with the truck-axles of a traction-railway car, of sprocket-wheels journaled thereon and an endless sprocket-chain provided with projecting arms, substantially as described.

4. The combination, in a traction-railway car, of an endless chain or band having projecting arms and mechanism for guiding such projecting arms, substantially as described.

5. The combination, with a traction-railway car, of a chain or band provided with projecting arms and friction-rollers for such arms, substantially as described.

6. The combination, with a traction-railway car, of chain-carrying wheels, a chain or band provided with projecting arms, friction-rollers located near said arms, and a guide to receive said arms, and friction-rollers, substantially as described.

7. The combination, with a traction-railway car, of an endless chain or band having projecting arms hinged thereto, substantially as described.

8. In a traction-railway car, the combination of hinged projecting arms and a guide for directing said arms into the slot of the cable-tube, substantially as described.

9. In a traction-railway car, the combination, with the chain-carrying wheels, of a chain or band provided with arms hinged thereto, and a guide for turning said hinged arms and permitting the same to pass beneath the car-bottom, substantially as described.

10. The combination, with a traction-railway car, of movable projecting arms connected thereowith and a hinged guide for said arms, substantially as described.

11. The combination, in a traction-railway car, of movable projecting arms connected therewith, a guide for said arms, and mechanism arranged to travel in the slot of the cable-tube and retain the guide in correct position above the same, substantially as described.

12. In a traction-railway car, the combination of movable projecting arms and a guide having an expanded end to receive said arms, substantially as described.

13. In a traction-railway car, the combination of sprocket-wheels, an endless chain provided with projecting arms, and mechanism for locking the movement of the endless chain, substantially as described.

14. The combination, with a single-rope traction-cable, of a truck having a single hinged clamp, to each side of which is attached an axle for supporting one of the truck-wheels, substantially as described.

15. The clamp for the stops or trucks of a traction-cable having its upper surface curved longitudinally, substantially as described.

16. The combination, with a traction-cable, of stops or trucks the clamps of which are provided with interiorly-beveled ends, substantially as described.

17. The clamp for traction-cables, having its upper surface curved, and having its hinge located upon one side of said upper surface, substantially as described.

18. A traction-cable truck consisting of a single axle, a single clamp, and two loosely-journaled wheels, substantially as described.

19. The combination, with the cable, of stops having friction-sleeves adapted to revolve in the plane of travel of the cable and to relieve the stops from the friction of the arms depending from the car, substantially as described.

20. The combination, with a traction-railway car having an arm or arms depending therefrom, of a cable-tube having tracks arranged out of horizontal plane and a cable provided with trucks the wheels of which have their interior surface convex, substantially as described.

21. A wheel for cable-trucks, provided with an open supplemental hub or wick-holder, and with a channel extending from said wick-holder on its inner surface to the axle-bearing, substantially as described.

22. A cable-tube formed of a bottom plate and separable side portions having top flanges to form the cover of the tube and bottom flanges to receive bolts, substantially as described.

23. The combination, with the cable, of a cleaning-brush and a clamp for attachment to the cable, substantially as described.

24. A terminal drum for traction-cables, provided with separate grooves to receive the wheels of the cable-trucks, substantially as described.

25. A terminal drum for traction-cables, provided with a cable-groove, and with grooves extending around its periphery to receive the wheels of the cable-truck, substantially as described.

26. A terminal drum for traction-cables, provided with a groove for the cable and a groove for the clamps, substantially as described.

27. The combination, with the terminal drum, of the main-cable tubes, having their terminal portions twisted, substantially as described.

28. The combination, with the main car-track and its depressed cable-tube, of a switch-track, substantially as described.

29. The combination, with the two adjacent main tracks of a cable-railway, of a switch-track connecting the same and a supplemental cable for propelling the car from one main track to the other, substantially as described.

30. The combination, with the switch-track, of a cable-tube having a portion depressed to admit the arm projecting from the car, substantially as described.

31. In traction-railway apparatus, an oil feeder or reservoir having wick-holders at a distance from each other corresponding with the distance between the cable-truck wheels, substantially as described.

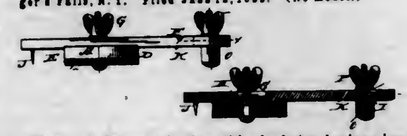
32. In traction-railway apparatus, an oil-feeder fixed in the path of the cable-supporting truck-wheels, and provided with an elongated wick-holder, substantially as described.

33. The combination, with the main track, of the depressed cable-tube and supplemental guide mechanism for directing the arm depending from the car while out of the cable-tube, substantially as described.

34. The combination, with the intersecting tracks, of the cable-tubes arranged one above the other, substantially as described.

35. The intersecting traction-railway tracks having their respective cable-tubes arranged one set above the other, and having guide-plates at their intersection, substantially as described.

266,646. MARKING-GAGE. FREEMAN H. ROSEMAN, Wappinger's Falls, N. Y. Filed June 12, 1882. (No model.)



Claim.—1. The combination, with a heel-plate having a longitudinal slot in its upper face and shoulders at its lower edges, one end being curved and the other straight, of a slotted arm longitudinally adjustable, and provided with a toe-marking pin and a longitudinally-adjustable cylindrical toe-plate, substantially as set forth.

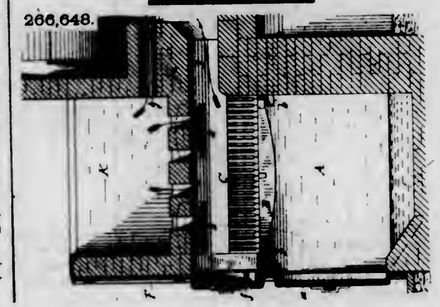
2. The combination, with a heel-plate having shouldered edges and grooved, one end being curved and the other straight, and a securing-bolt and thumb-nut, of a slotted adjustable arm having a heel and toe marking pin, and provided with a toe-plate formed by a screw-bolt having a cylindrical shank, substantially as set forth.

266,647. SPRING-BRACE FOR VEHICLES. CYRUS W. SALADEE, Torrington, Conn. Filed Sept. 9, 1882. (No model.)



Claim.—In a road-wagon having end supporting-springs over the front and rear axles, connected by rigid perches, a central longitudinally-arranged supplemental body-supporting spring having its inner end rigidly secured to the bottom of the body and the other end secured to the frame, substantially as set forth.

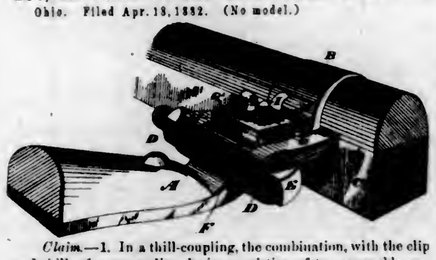
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266,648. BOILER-FURNACE. KARL SCHNOLL, Chicago, Ill. Filed June 13, 1882. (No model.)

Claim.—In a boiler-furnace, the combination of ash-pit A, grate B, and inclined grates C, arch E, having feed-openings *d* and air-vents *e*, fuel-chamber K, and bridge-wall H, having channel J and air-vents *g*, the whole being constructed and arranged substantially in the manner and for the purpose set forth.

266,649. THILL-COUPLING. DAVID W. SEELY, Tremont City, Ohio. Filed Apr. 18, 1882. (No model.)



Claim.—1. In a thill-coupling, the combination, with the clip and thill, of an expanding device consisting of two separable sections, a bolt provided with laterally-projecting arms, and a thumb-nut operating to force said sections apart, substantially as set forth.

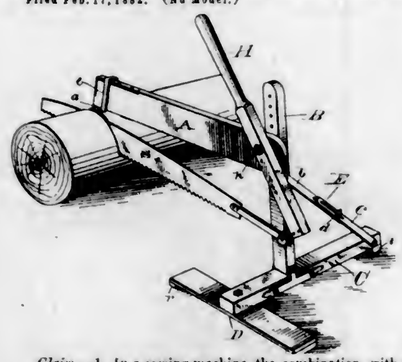
2. In a thill-coupling, the combination, with the clip and thill, of an expanding device consisting of two separable sections provided with suitable packing, and a bolt provided with beveled arms and a thumb-nut, substantially as set forth.

3. In a thill-coupling, the combination, with the clip and thill, of a two-part device placed between said thill and clip, one of the said parts being provided with four inclined ridges placed as shown, and the other part with four inclined ridges, also placed as shown, a T-bolt, the arms of which are adapted to rest between the inclines on the two parts of the device, and a thumb-nut for moving the arms of the T-bolt between the said inclined ridges, substantially as and for the purpose set forth.

4. In a thill-coupling, the combination, with the clip and thill, of a two-part device adapted to be placed between the said thill and clip, one of the said parts being provided on its outer face with a suitable elastic packing and on its inner face with four inclined ridges placed substantially as shown, the other part of which is also provided with an elastic packing on its outer face and four inclined ridges on its inner face, the latter being situated substantially as shown, a double T-bolt, the arms of which are adapted to rest between the inclined ridges of the two parts, and a thumb-nut for moving the said arm between the said inclined ridges, all of the above parts being constructed and adapted to operate substantially as set forth.

5. The combination, with the parts G G', of the bolt I and thumb-nut J, all of the above parts being constructed and adapted to operate substantially as and for the purpose hereinbefore described.

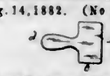
266,650. DRAG-SAW. MARVIN O. SMITH, New Buffalo, Mich. Filed Feb. 17, 1882. (No model.)



Claim.—1. In a sawing-machine, the combination, with the cross-piece C and the upright B, hinged thereto and connected to the saw-lever H and bar A, of the adjustable brace E, formed in two parts, having slotted ends connected by a set-screw, substantially as and for the purpose described.

2. In a sawing-machine, the combination of the cross-piece or support C, having foot D, pivoted thereto, the upright B, hinged to the support C, the adjustable brace E, the bar A and lever H, pivoted to the upright, and the saw S, connected to the lower end of the lever, all substantially as and for the purpose described.

266,651. LACING-HOOK. FRANKLIN A. SMITH, Jr., Providence, R. I. Filed Aug. 14, 1882. (No model.)



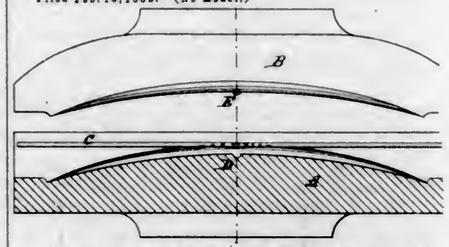
Claim.—The metallic button-blank A, adapted to be bent or molded to form the hook *d*, and plate *e*, all substantially as shown and described.

266,652. BUTTON-FASTENING. FRANKLIN A. SMITH, Jr., Providence, R. I. Filed Aug. 14, 1882. (No model.)



Claim.—As an improved article of manufacture, the fastener herein described, consisting of a base-plate formed with parallel securing-prongs, and arms E, extending from the body, connecting said prongs, and bent, one over the other, over said base-plate, substantially as described, so that one will rest upon the top of the other, the whole being formed from a blank of sheet metal, as and for the purposes specified.

266,653. DIES FOR SHAPING AND SETTING PLATES FOR ELLIPTIC SPRINGS. EDWARD SPAULDING, Brooklyn, N. Y. Filed Feb. 18, 1882. (No model.)



Claim.—1. A pair of dies having the longitudinal convex and concave shapes for longitudinally curving or shaping the plates or leaves of elliptic springs, and also having transverse convex and concave faces for simultaneously producing said longitudinal curves, and also the transverse concavo-convex shape, substantially as described.

2. A pair of dies having the longitudinal convex and concave shapes for longitudinally curving or shaping the plates or leaves of elliptic springs, also the transverse convex and concave shapes for transversely curving the plates, the arrangement being such that they produce the transverse concavity in the longitudinally-convex side and the transverse convexity in the longitudinal concave side of the plates, substantially as described.

3. A pair of dies having the longitudinal convex and concave shapes for longitudinally shaping and curving the plates or leaves of elliptic springs, also the transverse convex and concave shapes for transversely curving said plates, the transverse curvatures of both the dies being formed on one and the same radius for making the plates thicker in the middle and diminishing in thickness therefrom to the edges, substantially as described.

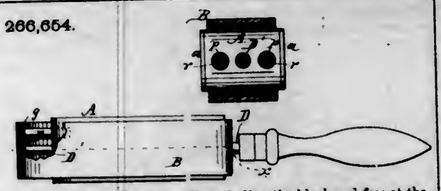
4. The method of reshaping and setting the hardened leaves or plates of elliptic springs, consisting of subjecting them, after being heated for drawing the temper and while hot, to squeezing or swaging pressure in the dies employed for previously shaping them, the said pressure being continued till the heat is reduced to the normal temperature, or thereabout, substantially as described.

5. A pair of dies constructed with longitudinal and transverse curves for shaping the leaves of elliptic springs, as described, and also provided with the socket or recess D and stud E, for simultaneously shaping said leaves or plates and also forming the studs and indentations, substantially as described.

266,654. RAZOR-STROP. AUSTIN V. M. SPRAGUE, Rochester, N. Y. Filed Apr. 17, 1882. (No model.)

Claim.—1. The combination of the wooden block A, provided with the central passage, *b*, the nut *d*, set into a slot in the body of

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the block, the endless strap B, encircling the block and free at the end opposite the handle, the rod D', sliding freely in the passage *b*, and provided with a plate, *g*, over which the strap passes, and the screw-shaft D, attached to the handle, passing through the nut and bearing against the end of the rod, as shown and described, and for the purpose specified.

2. In a razor-strop, the combination of the wooden block A, the nut *d*, set in a cross-slot of the block, the endless strap B, encircling the block and free at the end opposite the handle, the rod D', sliding freely in the passage *b*, the screw-shaft D, attached to the handle, passing through the nut and bearing against the rod, and the plate *g*, attached to the outer end of rod D', and provided with dowels *p p*, which rest in sockets *r r* in the end of the block, as shown and described, and for the purpose specified.

266,655. ROLLING SUPPORT FOR CUSPIDORS. ALEXANDER STEWART, Philadelphia, Pa. Filed Mar. 20, 1882. (No model.)



Claim.—1. A clamp ring or collar supported on rollers or casters and provided with means for clamping it on or about the breast of a cuspidor or spittoon, substantially as set forth.

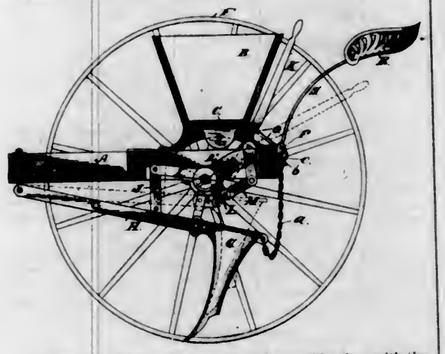
2. The combination, with a cuspidor or spittoon, of a ring encircling such cuspidor or spittoon above its bottom and clamped on or about the breast of the latter, substantially as specified.

3. The combination, with a cuspidor or spittoon, of a ring or collar encircling the latter above its bottom, and having casters or rollers which stand outside the circumference of such bottom, substantially as shown and described.

4. The combination, with a cuspidor or spittoon, of an encircling ring sustained upon rollers or casters, such ring affording a roller support and protection for the cuspidor or spittoon, substantially as set forth.

5. The combination, with ring A, supported on rollers or casters, and designed and adapted to form a rolling support for a cuspidor or spittoon, of securing-lugs *a a'*, substantially as shown and described.

266,656. SEEDING-MACHINE. E. FOWLER STODDARD and WILLIAM H. NAUMAN, Dayton, Ohio. Filed Feb. 23, 1882. (No model.)



Claim.—1. In a seeding-machine, the combination, with the hopper, the hoes, and drag-bars and connecting mechanism, of an oscillating axle, whereby upon oscillating the axle the hoes are raised or lowered simultaneously.

2. In a seeding-machine, the combination, with the hopper, the hoes, and drag-bars, of an oscillating axle upon which the supporting-wheels revolve, and connecting mechanism, whereby upon oscillating the axle the hoes are simultaneously raised or lowered, and whereby any hoe can be raised independently of the others.

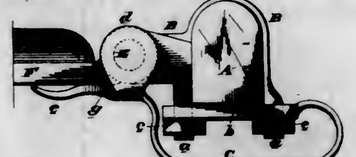
3. In a seeding-machine, the combination, with the hopper, the hoes, and drag-bars, and an oscillating axle connected to the drag-bars by lifting-arms and links, of means whereby said axle may be oscillated to raise or lower the hoes.

4. In a seeding-machine provided with the hopper and an oscillating axle upon which the supporting-wheels revolve, and by the oscillation of which axle the hoes are raised and lowered, the combination, with said axle, of a lever and connecting-links, whereby said axle is oscillated for the purpose described.

5. In a seeding-machine provided with an oscillating lifting-axle, the lifting-arms I and links J, or their equivalents, substantially as described.

6. The construction of the lifting-arm I', with hinged and clamped sleeve, one portion of which is slotted to receive the end of a pin projecting from the axle, substantially as described.

266,657. THILL-COUPLING. LEWIS F. TAYLOR and WILLIAM F. CLARK, Orland, Ind. Filed Aug. 30, 1882. (No model.)



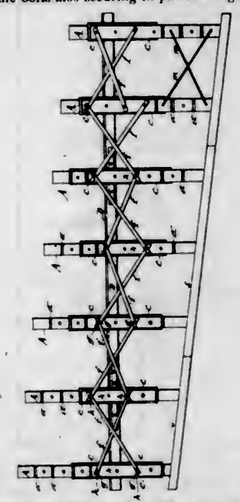
Claim.—1. The combination, with the clip, thill-iron, and bolt, of the spring-holder having a straight portion, by means of which it is secured to the clip, side ear or ears for holding the bolt in position, and a finger, all of the above parts adapted to operate as described.

2. The combination, with the clip, thill-iron, and headless bolt, of the spring-metal holder, curved as shown, and provided with two side ears and a finger, all of the above parts constructed and adapted to operate as described.

3. The combination, with the clip-bolt and thill-iron, of the spring-holder, curved as shown, and provided with two ears, a raised portion between the two ears, and a finger, all of the above parts constructed, combined, and adapted to operate as described.

266,658. TRESTLE. DANIEL E. THAL, Oneida Castle, N. Y. Filed Apr. 27, 1882. (No model.)

Brief.—Braced cross-beams are adjusted by loops and notches upon their posts. The parts are secured by plates bolted to the posts, the same bolts also securing in place a lengthwise bracing.



Claim.—1. The combination of the posts A, provided at their outer side with notches *a a* at various points of their height, the

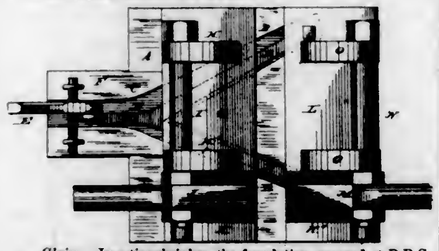
cross-beam B and braces C, provided respectively at their under side with the notch *a'*, and the straps *c c*, hooked in two of the notches of the post and in the notch of the cross-beam and its brace, respectively, substantially as described and shown.

2. The combination of the sill *s*, provided with the holes *d*, the posts A, provided with dowels *e* and with notches or shoulders *a a*, the cross-beam B and braces C, provided with notches or shoulders *a' a'*, and the removable straps *c c*, embracing the post and the cross-beam and its brace and adapted to engage the shoulders thereof, substantially as shown and set forth.

3. The combination of the posts A, provided with notches *a a*, the beam B, and brace C, provided respectively with the notch *a'*, the adjustable straps *c c*, engaged with said notches, the plate K, placed over the notches of the post, the metal straps *f f*, provided with eyes *g*, and the bolts *h h*, connecting said plate and straps detachably on the post, substantially as described and shown.

4. In combination with the posts A and cross-beam B, the track-stringer D, having on its side the clip or shoe *o*, with flanges *p*, engaging opposite sides of the post, and the stay *r*, adjustably connected to the beam B, substantially in the manner shown and described, for the purpose set forth.

266,659. TIRE-UPSETTER. JOSEPH M. TERRY, Palmetto, Ga. Filed Sept. 29, 1881. (No model.)

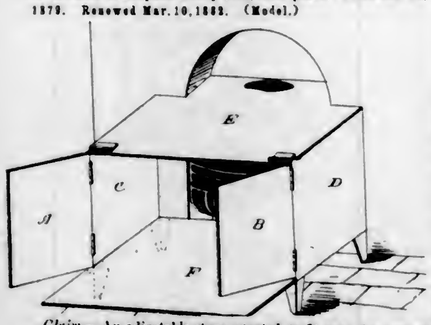


Claim.—In a tire-shrinker, the foundation, grooved at B B C and curved at that portion upon which the movable gripping mechanism rides, in combination with a fixed and a movable table, each provided with two uprights, one at or near each end thereof, and each having a series of holes in line with each other and disposed in pairs, a bolt extending from one upright to the other on each table and adapted to removably support a corrugated-faced gripping-cam, each of said tables being provided with an opposing curved corrugated gripping-surface, with the lever E and connecting-rod D, bifurcated and secured to each end of the movable table, substantially as shown and described.

266,660. BLEACHING FIBER. PETER THOMAR, Elberfeld, Prussia, Germany. Filed Mar. 7, 1882. (No specimens.) Patented in England Feb. 4, 1882, No. 549.

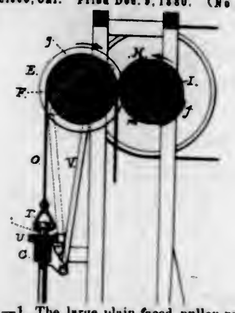
Claim.—The process of bleaching, which consists in first boiling the material with caustic soda, then treating with a bath of potassium permanganate, and lastly with a solution of borax in hydrated sulphurous acid, as described.

266,661. STOVE. HARRIET R. TRACY, New York, N. Y., assignor of one-half to Stephen Henry Olin, same place. Filed Oct. 16, 1879. Renewed Mar. 10, 1882. (Model.)



Claim.—An adjustable stove adapted to fit over the grate of a fire-plate, and consisting of the parts A, B, C, D, F, and E, the latter having a rearward extension provided with a smoke-exit which fits into the fire-place, substantially as described.

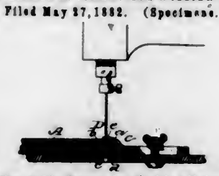
266,662. ORE-STAMP BATTERY. ALFRED J. VAN DRAKE, San Francisco, Cal. Filed Dec. 9, 1880. (No model.)



Claim.—1. The large plain-faced pulley presenting a large extent of frictional surface for the strap to work in contact with, in combination with the stamp-stem, intermittently-acting gripping-pulley placed behind the plain-faced pulley and geared with it, as described, so that the two pulleys rotate with uniform motion in opposite directions and at the same rate of speed, and the flexible band or strap attached at the lower end to the stamp-stem and passed over the plain pulley and between it and the gripping-pulley, substantially as set forth.

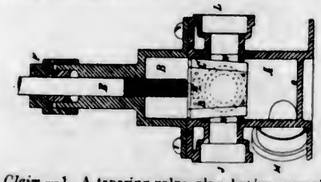
2. In combination with a stamp-stem or rod, the means for rotating the same, consisting of the ratchet-wheel U, the grooved stem working through it independently of its rotary movement, the lever V, pivoted to a fixed point and provided with a pawl, and the pulley E, provided with its pins or stops W, substantially as and for the purpose herein set forth.

266,663. GUIDE FOR THE MANUFACTURE OF BOOTS OR SHOES. WALLACE L. VARNEY and WILLIAM H. HOWARD, Waupun, Wis. Filed May 27, 1882. (Specimens.)



Claim.—The guide for use in stitching linings to uppers, having the face *a* provided with the two grooves *b d* and notch *e*, substantially as shown and described.

266,664. STOP-VALVE FOR WATER AND GAS. FREDERICK C. VIBBY, Philadelphia, Pa. Filed Jan. 18, 1882. (No model.)



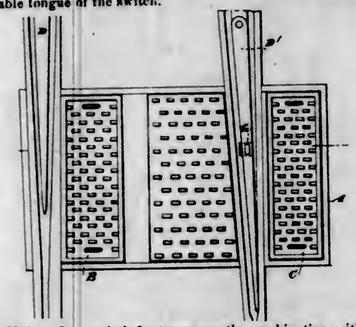
Claim.—1. A tapering valve-plug having several sides, and the vertically-movable valve-stem fitted to the head of said valve-plug, in combination with valve-seats N, formed of circular cavities filled with soft metal to correspond with the tapered sides of said plug, and outlets or passages covered by said valve-plug and corresponding in number and location with the sides thereof, substantially as set forth.

2. A vertically-movable valve-stem and the tapering valve-plug having several sides, each side covering a separate passage or outlet, in combination with removable hard-metal plates fitted to said sides, and valve-seats N, constructed to fit the tapering shape of the sides of said valve-plug, substantially as set forth.

266,665. RAILROAD-SWITCH. MOSHER M. WHITE, New York, N. Y. Filed June 12, 1882. (No model.)

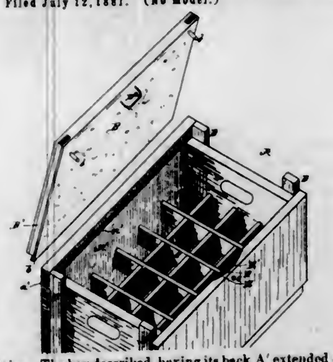
Brief.—A tramway-switch which is moved automatically by the weight of the animal when driven over certain parts of it. The movable tongue has an arm. The seat or base on which the

said tongue moves is provided with an aperture to afford a ready passage for dirt, to permit movement of the arm, and by means of bearings therefor prevents the rolling or turning action upon the movable tongue of the switch.



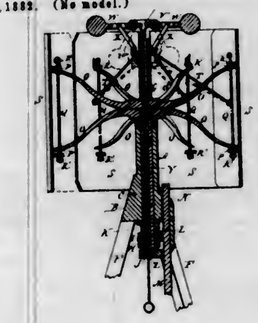
Claim.—In a switch for tramways, the combination, with the movable tongue and its moving arm, of the frog and its seat, said seat being provided with an aperture, formed substantially as herein described, whereby it is made to afford a ready passage for dirt and to support said moving arm, and thus prevent the rolling or turning action upon the movable tongue of the switch, substantially as hereinbefore described.

266,666. BOX-FASTENER. KELLY M. WILLIAMSON, Chicago, Ill. Filed July 12, 1881. (No model.)

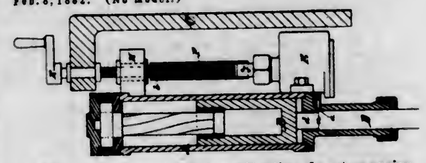


Claim.—The box described, having its back A' extended above the sides, and provided with the groove *a'*, and having the upwardly-extended cleats D, combined with the cover B, having the tongue *b'* on its rear edge and the pins *b* near its front edge, and a suitable fastening or catch for the front edge of the cover, substantially as and for the purposes specified.

266,667. WIND-ENGINE. CHARLES A. YOUNG, Sterling, Colo., assignor of one-half to David B. Davis, same place. Filed Sept. 1, 1882. (No model.)



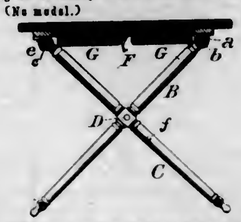
266,668. ROCK-DRILL. JOHN F. ALLEN, Brooklyn, N.Y. Filed Feb. 8, 1882. (No model.)



Claim.—1. In a rock-drill, the combination of a rotary engine with the feeding-screw, connected without intermediate gearing, substantially in the manner and for the purpose specified.

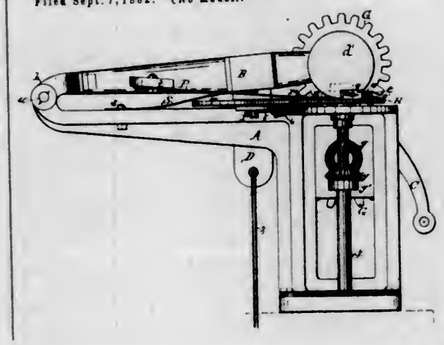
2. In combination with the feeding-screw G of a rock-drill, a rotary engine, E, in combination with the passage *a* and recess *d*, arranged to operate substantially as described.

266,669. FOLDING TABLE. FRANCIS F. ATKINSON, New York, N.Y., assignor to Henry W. Gwinner, same place. Filed May 9, 1882. (No model.)



Claim.—The combination of a table-top, a pair of legs hinged or pivoted at one end thereto, a second pair of legs pivoted at or near their centers to the first pair, a pair of spring-clasps, a pair of metal supporters backing said clasps, and a recessed or countersunk cross-bar connecting the upper ends of the second pair of legs, the spring-clasps being adapted to enter the recesses or countersinks of said bar and prevent end movement of the same, substantially as set forth.

266,670. MACHINE FOR CUTTING STRINGS. WILLIAM BARRY, Syracuse, assignor to Willoughby Pagley, Ovid, N. Y. Filed Sept. 7, 1882. (No model.)



Claim.—1. In a machine for cutting strings, the combination of a movable carrier for automatically centering the material to be cut, said carrier being supported and operated upon a platform attached to the frame of the machine, with suitable feeding mechanism and a cutter, substantially as specified and shown.

2. In a machine for cutting strings, a platform adjustably attached to the frame, and provided with a carriage adapted to carry centrally the material to be cut to the cutter by means of suitable feeding mechanism, substantially as specified and shown.

3. In a machine for cutting strings, a platform adjustably attached to the frame, and provided with a carriage adapted to automatically center the material to be cut while being fed to the cutter, said carriage being attached yieldingly to its frame, in the manner and for the purpose specified.

4. The combination of the carrier-platform T, having curved end T' abutting against flanged guide-disk *c'*, and adjustably attached to the frame A by screws *i i*, passing through the radial slots I I in the frame A, substantially as specified and shown.

5. The combination of the platform T, adjustably attached to the frame A, as described, with the cutter *c*, adjustably attached to the adjustable cutter-carrier H, substantially as shown and as specified.

6. The combination of the adjustable platform T, attached to the frame A, as described, having slot S', and a carriage composed of the parts E R, pivot *r'*, rod 5, and spring 6, substantially as described and shown.

7. The combination of the carriage E R, moving in the slot S' of the platform T, with pivot *r'*, rod 5, post 4, spring 6, and strap *f*, having slot 7 and screw 8, all arranged and operating as described.

8. In combination, the frame A, hinged carrier-arm B, presser-bar P, platform T, and flanged guide-disks *d' d'* and cutter *c*, substantially as shown and specified.

9. In combination, the frame A, hinged carrier-arm B, spring S, platform T, flanged guide-disks *d' d'*, cutter *c*, and crank C, as shown and described.

10. In combination, the frame A, hinged carrier-arm B, having a flanged guide-disk, *d d'*, journaled in its free end, and the strap D, having slot 2, through which passes the pin 1 in the frame A, and the pedal-connection 3 3', in the manner as and for the purpose specified.

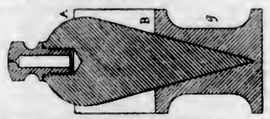
11. In combination, the hinged arm B, having journaled in its free end a flanged guide, *d d'*, held out of engagement by the spring S, the presser-bar P, frame A, platform T, cutter *c*, flanged guide-disk *e e'*, and a pedal attached to the arm B, adapted to bring the said arm and its attachments into action, substantially as specified.

12. In combination, the arm B, hinged to the frame A, having the flanged guide-disk *d d'* journaled in its free end, the spring S, platform T, carriage R, cutter-bracket H, and flanged guide *e e'*, all substantially as described.

13. The frame A, hinged arm B, spring S, presser-bar P, platform T, carriage R, spike *r*, cutter *c*, cutter-carrier H, combined with the actuating-crank C, and a pedal, as specified.

266,671. PLUMB-BOB. WILLIAM L. BERGEN, Batavia, Ill.

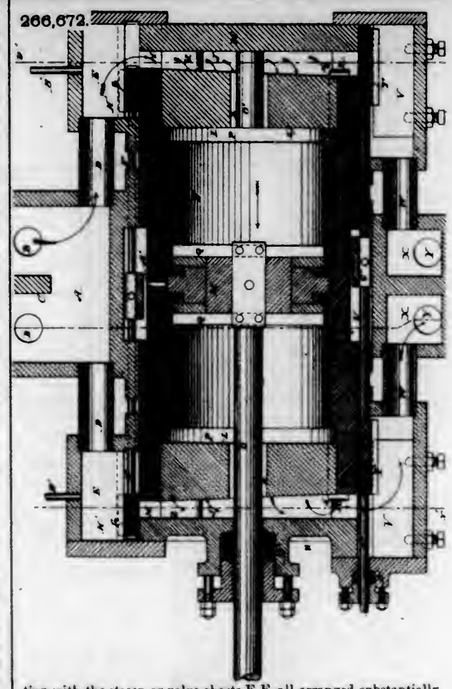
Filed June 30, 1882. (No model.)



Claim.—The combination of the plumb-bob A with the case and spool B, substantially as and for the purpose herein described and shown.

266,672. STEAM-ENGINE. JOHN D. BROWN, New York, N. Y.

Filed Mar. 13, 1882. (No model.)



Claim.—1. In a steam or other engine, the central steam-chest, A, having the two steam-pipes B B entering on opposite sides of central partition, C, and having exit-pipes D D, all arranged substantially as and for the purposes herein set forth.

2. In a steam or other engine, the central steam-chest, A, in combination with the pipes D D and auxiliary steam or valve chests E E, all arranged substantially as and for the purposes herein set forth.

3. In a steam or other engine, the central steam-chest, A, in combination with the pipes B B, partition C, pipes D D, and auxiliary steam or valve chests E E, all arranged substantially as and for the purposes herein set forth.

4. In a steam or other engine, the partition H', in combination with the steam or valve chests E E, all arranged substantially as and for the purposes herein set forth.

5. In a steam or other engine, the grates K K and partition or central grate, Z, in combination with the steam-valve G, all arranged substantially as and for the purposes herein set forth.

6. In a steam or other engine, the steam-port H, valve G, and flues or openings L, in combination with the clearance-space J and secondary clearance-space P, all arranged substantially as and for the purposes herein set forth.

7. In a steam or other engine, the wings or keys Q Q, in combination with the piston-head M and flues or openings L, arranged substantially as and for the purposes herein set forth.

8. In a steam or other engine, the condenser-tube S, in combination with the flues or openings L and exhaust-port R, all arranged substantially as and for the purposes herein set forth.

9. In a steam or other engine, the exhaust-chest V, in combination with exhaust-port R, clearance-space J, flues or orifices L, exhaust-valve T, and rod U, all arranged substantially as and for the purposes herein set forth.

10. In a steam or other engine, the exhaust-chest V, in combination with pipe W and chamber X, all arranged substantially as and for the purposes herein set forth.

11. In a steam or other engine, the chamber X, in combination with pipe Y and exhaust-pipe W, all arranged substantially as and for the purposes herein set forth.

12. In a steam or other engine, the projection O' from cylinder-head N, in combination with clearance-space J and flues or openings L, all arranged substantially as and for the purposes herein set forth.

13. In a steam or other engine, the exhaust-rod U, in combination with cross-arm G' and valve-lever E', all arranged substantially as and for the purposes herein set forth.

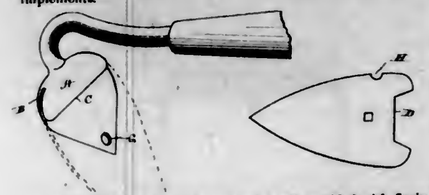
14. In a steam or other engine, the steam valve-rods F F, in combination with cross-arms G'' and valve-levers E' E', all arranged substantially as and for the purposes herein set forth.

15. In a steam or other engine, the pivots F' F', in combination with valve-levers E' E' and cross-arms G' G' and cross-arms G'' G'', all arranged substantially as and for the purposes herein set forth.

16. In a steam or other engine, the adjustable supporting-partitions S', in combination with the valves T, having a groove in the back thereof, all arranged substantially as and for the purposes herein set forth.

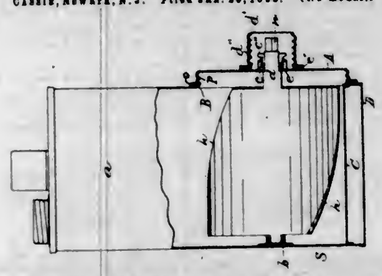
266,673. HOE. JAMES N. BURTON, Warrenville, Ga. Filed Mar. 10, 1882. (Model.)

Brief.—The hoe-shank has flaring beveled sides and an unconcealed shoulder on the front lip, and can be used with a variety of implements.



Claim.—The eye-section or shank-head provided with flaring or beveled undercut sides and an unconcealed transverse shoulder on its front surface, and the blade provided with a recess having flaring or beveled sides and a transverse straight edge adapted to abut against the shoulder of the eye-section or shank-head, whereby the blade may be accurately adjusted, substantially as specified.

266,674. AIR-TIGHT PAINT-STIRRING CAN. GEORGE E. CASSIE, Newark, N. J. Filed Jan. 25, 1882. (No model.)

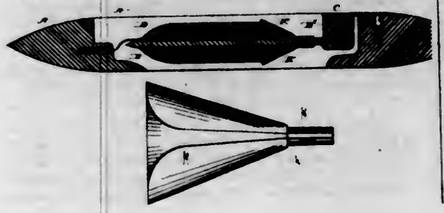


Claim.—1. The combination, with the rectangular can-body *a*, having a stirring shaft or blade inserted transversely across its lower part, and provided with a semi-cylindrical casing, C, as and for the purpose described, of projections of or from the body of the can at its lower part, for holding it in an upright position when set upon a flat surface, substantially as herein set forth.

2. The combination, with the body *a*, having a stirring-blade inserted transversely across the lower part, and provided with an aperture, B, for inserting the blade, as described, of the sheet-metal screw-cap A, provided with a bearing and packed joint for the shaft of the stirring device, and fitted to the can by a thread, *p*, and packing *o*, for the purpose of receiving, supporting, and permitting the withdrawal of the stirrer from the can, as herein shown and described.

266,675. COP-SUPPORTER FOR LOOM-SHUTTLES. TILLIE J. CLARKE, Philadelphia, Pa. Filed Dec. 23, 1881. (No model.)

Brief.—The cop-supporter consists of a hollow conical cup formed of sheet metal or other similar elastic material, adapted to be slipped upon the tongue or spindle of a loom-shuttle, to receive the butt or base of a cop and prevent the same from becoming jammed or broken in the movements of the shuttle. The cone is provided at its apex with a cylindrical prolongation to fit the shuttle-tongue, the cone and cylinder being slitted to adapt them for fitting cop-bases and shuttle-tongues of different sizes, and the corners of the slit being rounded off to prevent them from cutting the yarn. A shoulder is formed at the junction of the cone and cylinder to prevent the cop or paper cop-tube from jamming in the angle at that place.



Claim.—1. As a new article of manufacture, the hollow cone E, adapted to be slid upon a shuttle-tongue and receive within its interior or hollow the butt of the cop, whereby the end of the butt is prevented from jamming against the interior of the shuttle, substantially as described.

2. The cone E, terminating in a cylinder, E', adapted to be passed down upon and around the bottom part of the tongue of a shuttle, substantially as and for the purposes described.

3. The cone E, having a longitudinal slit, as described, and terminating in a cylinder, E', the latter being adapted to be set upon and clasp the tongue of a shuttle, whereby the butt of a cop upon the tongue can be covered and protected by the cone E, substantially as and for the purposes described.

4. The cone E, the apex of which terminates in a cylinder, E', and having a slit extending longitudinally through the sides of the cone and cylinder, whereby the cone will clasp cop-butts of various shapes, and the cylinder E' will fit and clasp shuttle-tongues of various sizes, substantially as and for the purposes described.

5. The cone E, adapted to be set upon a shuttle-tongue and receive the butt of the cop, and having a longitudinal slit, whereby it is adapted to fit cop-butts of various shapes, substantially as described.

6. The cone E, adapted to be set upon a shuttle-tongue and receive the butt of the cop, and provided with a slit, the corners formed by the slit being rounded off, substantially as and for the purposes described.

7. The cone E, adapted to be set upon a shuttle-tongue and receive the butt of the cop, for the purposes described, said cone having an interior shoulder, F, to prevent the end of the paper tube or the terminus of the butt from jamming fast between the end of the cone and the tongue, substantially as described.

266,676. GAS-BURNER. SIDNEY COOK and JOHN H. PIPER, Boston, Mass. Filed Mar. 18, 1882. (No model.)



Claim.—1. The upper closed cup or vessel, D, in combination with the bulb B, the drum C, surrounding said bulb and communicating therewith by openings *a*, and the supply-pipe and burners, all substantially as set forth.

2. The combination, with a gas-supply pipe and a receiver connected therewith, to permit of expansion of the gas and heated by the gas inflamed at the burners attached thereto, of a steam-generator heated by such drum, and provided with steam-delivery pipes which deliver the steam from such generator to a point where it shall mingle with the flames of the burners.

3. In combination, the gas-supply pipe, the inner perforated receiver, the outer superheating-drum, the gas-burners connected with such drum, and the steam-generator connected with and heated by such drum.

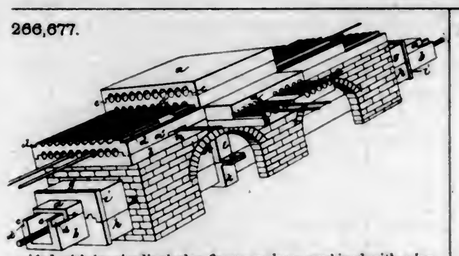
4. In combination with a gas-supply pipe, a receiver which allows expansion of the gas from said pipe, and an Argand burner consisting of an annular body or chamber, a pipe or pipes communicating with the supply-pipe, and a cap or cover adjustable on the outlet of said chamber to regulate the flow therefrom, said burner being located in proximity to the receiver, in order that the burning gas may heat the latter and its contents.

5. The combination, with the Argand burner, consisting of the circular body or chamber, the annular cap screwing into the same and governing its gas-outlet, and the radial pipes connecting the annular chamber with the gas-supply pipe, of the inner perforated receiver, the outer superating-drum communicating therewith, and the steam-generator, with its steam-delivery pipes arranged to direct the escaping steam to the flame of the burners.

266,677. CONDUIT FOR ELECTRIC LINES. ROBERT H. CORBETT, New York, N. Y. Filed Dec. 27, 1881. (No model.)

Claim.—1. Pipes, tubes, or posts for conducting and supporting electric wires, and for other purposes, composed of longitudinal non-conducting pieces or sections laid with break-joints, and pro-

266,677.



vided with longitudinal edge flanges or laps, combined with a longitudinally-divided sectional external metallic casing laid with break-joints, and also having longitudinal edge flanges or laps, and end flanges, and divided clamps or couplings applied to such external casing partly on its end flange and partly on the body of the lapping section, to hold the whole together, substantially as shown and described.

2. The non-conducting grooved sections *a a' b*, provided with flanges *c c'* and grooves *d d'*, substantially as shown, and for the purpose described.

3. The non-conducting or insulating section *a'*, grooved on opposite faces, and provided with side or edge flanges or lips and rabbets, combined with superposed and underlying sections having in their adjacent faces grooves to register with the grooves of the section *a'* to form tubular cavities, and provided with rabbets and flanges to engage the flanges and rabbets of said section *a'*, substantially as and for the purpose described.

4. The flanged and rabbeted section *b'*, having its grooves or half-tubes curved or diverted from a straight line, as shown and described, adapted to be combined with similar sections having grooves or half-tubes, and flanges and rabbets, to form with the section *b'* tubes, and with similarly grooved flanged and rabbeted sections, forming straight tubes, to connect with the diverting tubes to conduct a line in the desired direction, substantially as described.

5. The combination, with the wire-receiving sections, of the divided flanged and rabbeted casing-sections *g h*, the end flanges, *i*, on said casing-sections, and the clamp members *k l*, substantially as shown and described.

6. The combination, substantially as shown and described, of the grooved sections *a b*, provided with flanges *c* and rabbets *d* along their longitudinal edges, the casing-sections *g h*, having end flanges, *i*, and the clamps *k l*, to engage the flange *i* of one section in binding the parts together.

7. The box of non-conducting material provided with tubes for receiving the ends of longitudinally-divided electrical conduits, such box and tubes being divided into two equal parts, provided with rabbeted edges, as shown, and perforated lugs, in combination with such longitudinally-divided conduits, substantially as and for the purpose set forth.

8. The longitudinally-divided sectional external casing, laid with break-joints and having longitudinal edge flanges or laps and end flanges, combined with divided clamps or couplings applied to such external casing partly on its end flanges and partly on the body of the lapping sections to hold the whole together, substantially as set forth.

266,678. HAME-CLIP. CHARLES M. DENNICK, Howland Flat, Cal. Filed Sept. 2, 1882. (No model.)

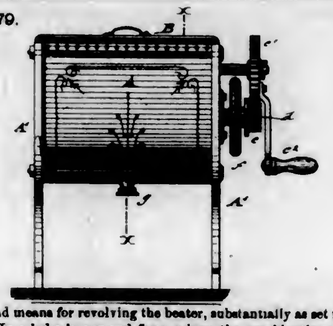


Claim.—The hame A, having lugs B B, and a series of outwardly-inclined holes or sockets, *a*, in combination with the pintle C, secured in lugs B B, and the vertically-adjustable hooks D D, loosely fitting the pintle, and adapted to engage in the holes *a*, in which they are held by said pintle, substantially as set forth.

266,679. EGG AND FLOUR MIXER. ARNOLD DOLL, Cleveland, Ohio. Filed Sept. 22, 1882. (No model.)

Claim.—1. In a baker's egg and flour mixer, the combination of a jacketed mixing-trough, a detachable beater having rows of radial arms connected by longitudinal stiffening-rods at their outer

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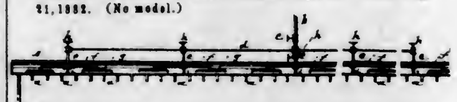


ends, and means for revolving the beater, substantially as set forth.

2. In a baker's egg and flour mixer, the combination of the jacketed mixing-trough A A' A², having a shaft-bearing in one side standard and a journaled opening in the opposite side standard, with a detachable beater, C, composed of a center shaft, *b*, having a collar, *b'*, at one end, a socket, *b²*, at the other end, and rows of radial arms *b³*, connected by longitudinal stiffening-rods *b⁴* at the outer ends, and a detachable driving-shaft, *d*, for revolving the beater, said shaft being passed through the journaled opening of the side standard, A', and coupled to the socket end of the beater-shaft, substantially as specified.

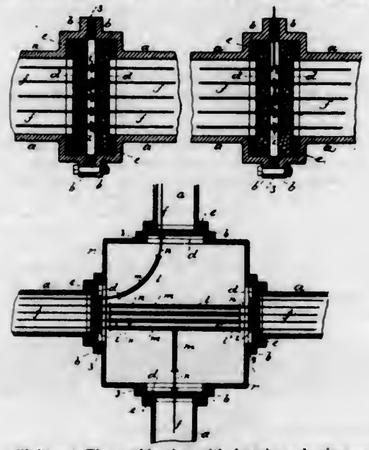
3. In a baker's egg and flour mixer, a beater composed of a center-shaft having rows of radial stirrer-arms, connected by longitudinal stiffening-rods at the ends, the arms of one row being arranged to alternate with the arms of the adjoining rows, substantially as specified.

266,680. LIQUID-DISTRIBUTER FOR REFRIGERATING-MACHINES. WILLIAM W. DOOLITTLE, Chicago, Ill. Filed Aug. 21, 1882. (No model.)



Claim.—A main supply-pipe, *b*, distributing-pipes *d e*, and valves *h*, in combination with a manifold or pipe, A, provided upon the inside with distributing-passages, substantially as and for the purpose specified.

266,681. CONDUIT FOR ELECTRICAL CONDUCTORS. GEO. S. EATON, Brooklyn, N. Y. Filed May 1, 1882. (No model.)



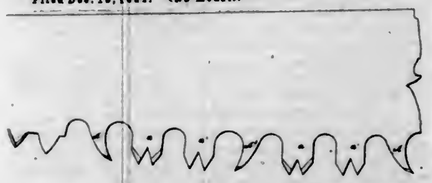
Claim.—1. The combination, with the tubes *a*, having connecting-flanges *b*, of the disks *d*, elastic washers *e*, and wires *f*, passing through the disks, each wire being provided with a head or tube, *i*, at one end, and a nut, *o*, at the other end, substantially as set forth.

2. The combination, with the tubes *a* and connecting-flanges

in one piece, of the disks *d*, elastic washers *e*, wires *f* within the tubes and passing through said disks, the movable coupling-tubes *l*, having sliding rods *n* within them, and means for fastening the tubes *l* to the circuit-wires, substantially as set forth.

3. The tubes *a*, having flanges at their ends, in combination with the disks *d*, wires *f*, passing through the disks, and devices, as described, for holding the wires taut within the tubes, the means for connecting the wires at their ends, as set forth, elastic washers between the flanges, and bolts for holding and uniting the same, whereby the tubes are closed air-tight, substantially as specified.

266,682. SAW. LUCIUS S. ERLENBUTH, Cincinnati, Ohio. Filed Dec. 19, 1881. (No model.)



Claim.—A saw composed of a series of double-pointed cutting-teeth, *a a'*, beveled in opposite directions, each pair of cutting-teeth being separated by a single drag, each alternate drag being pointed in opposite directions, and each drag being diamond-pointed, substantially as and for the purposes specified.

266,683. POLE-STRAP ATTACHMENT. JAMES FERRING, Danbury, Conn. Filed July 17, 1882. (No model.)



Claim.—1. The metallic pole-ring consisting of the divided ring S S and a ring, V, at a right angle thereto, in combination with a neck-yoke and stop, A, substantially as described.

2. The metallic pole-ring consisting of the divided ring S S, the metallic ring V, and the elastic ring V², in combination with the neck-yoke and stop A, as and for the purpose set forth.

3. The metallic pole-ring, comprising the divided ring S S, the metallic ring V, at a right angle thereto, the latter provided with an inner elastic ring, V², and the whole adapted to be applied to a neck-yoke substantially in the manner and for the purpose set forth.

266,684. AUTOMATIC AIR-BRAKE FOR RAILWAY-CARS. WALTER J. FORD, Concord, Tenn. Filed May 24, 1882. (No model.)

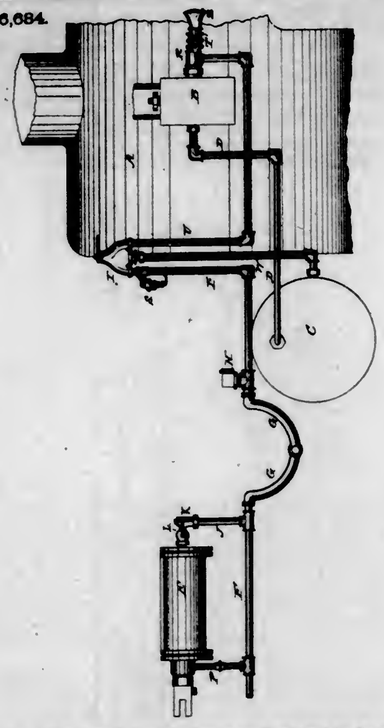
Claim.—1. In an automatic air-brake for railway-cars, the method of operating the same herein described, viz: compressing the air and transmitting it to the brake-cylinders and automatically returning the compressed air back to the air-compressing mechanism for reuse, substantially as and for the purpose set forth.

2. In an automatic air-brake for railway-cars, the method of operating the same, viz: compressing air and transmitting it to the brake-cylinders and returning the same to the compressing mechanism for reuse, maintaining a maximum pressure of the compressed air in the train-pipe through the medium of a relief-valve and controlling the distribution thereof to the brake-cylinders and its return to the compressing mechanism and its rapid escape into the atmosphere in case of emergency by means of a control-valve at the will of the operator, substantially as and for the purpose set forth.

3. An automatic air-brake provided with a valve adapted to control the transmission of compressed air to the brake-cylinder, maintain an equilibrium of pressure therein, and then return the same to the compressing mechanism, substantially as herein described, and for the purpose set forth.

4. An automatic air-brake provided with a valve adapted to control the transmission of compressed air to the brake-cylinder, balance the piston therein, and in an emergency to suddenly relieve the cylinder of pressure and return the air to the compress-

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ing mechanism, substantially as herein described, and for the purpose set forth.

5. In an automatic air-brake, the combination of the air-brake cylinder E, valve L, auxiliary reservoir N, check-valve K, and train-pipe F, communicating with air-compressing mechanism, substantially as herein described, and for the purpose set forth.

6. In an automatic air-brake, a control-valve, I, communicating with the train-pipe F, air-reservoir C, and the inlet-pipe R of the air-compressing mechanism B, substantially as herein described, and for the purpose set forth.

7. In an automatic air-brake, a control-valve, I, communicating with the train-pipe F, air-reservoir C, and the inlet-pipe of the air-compressing mechanism B, in combination with the check-valve S and pipe O', substantially as herein described, and for the purpose specified.

8. In an automatic air-brake, the control-valve I, consisting of the case *a*, having ways *d' c'*, opening T, segment of a cylinder, *m'*, having vertical faces *n'*, valve *c'*, having ports 1, 4, and 5, cap *o'*, and adjusting-nut *h'* and jam-nut *j'*, constructed and arranged substantially as herein described, and for the purpose set forth.

9. In an automatic air-brake, the check-valve S, the case constructed in three parts, a^2 b^2 c^2, secured together by screw-threads at f^2, the part a^2 having port o^2, and part c^2 having port n^2, part b^2 having opening r^2, the valve d^2 having port g^2 and cylindrical seat k^2, and nuts h^2 i^2, and the diaphragms i^2 j^2, constructed, arranged, and operating substantially as herein described, and for the purpose set forth.

10. In an automatic air-brake, the combination of the control-valve I, train-pipe F, pipe U, inlet-pipe R, having check-valve T, air-compressing mechanism B, pipe D, and reservoir C, communicating with said control-valve, substantially as herein described, and for the purpose set forth.

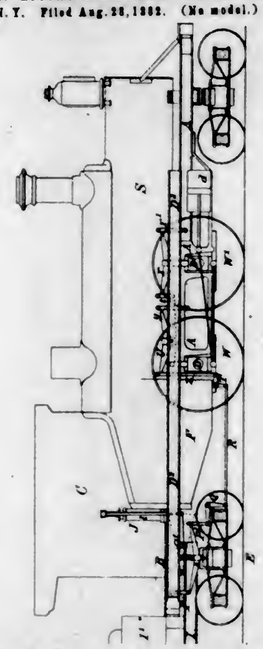
11. In an automatic air-brake, the air or brake cylinder E, having the end M, communicating with the train-pipe F through the medium of the branch pipe J, provided with stop-valve L, and check-valve K, and the end O, communicating with said train-pipe through the medium of branch pipe P, substantially as and for the purpose set forth.

12. In an automatic air-brake, the auxiliary reservoir N, interposed between the check-valve K and stop-valve L, and com-

municating with the brake-cylinder E and train-pipe F, substantially as herein described, and for the purpose set forth.

13. In an automatic air-brake, the combination of the brake-cylinder E, control-valve I, train-pipe F, pipe U, inlet-pipe R, having check-valve T', air-compressing mechanism B, pipe D, and reservoir C, communicating with said control-valve, substantially as herein described, and for the purpose set forth.

266,685. LOCOMOTIVE-ENGINE. MATTHIAS N. FORNEY, New York, N. Y. Filed Aug. 28, 1882. (No model.)



Claim.—1. The combination, substantially as set forth, of a locomotive-engine, a tender, and a truck or bogie which is adapted to support a portion of the weight of both the engine and tender, and to which the engine and tender are connected with the capacity of movement about a pivot or vertical axis upon the truck independently each of the other.

2. The combination, substantially as set forth, of a locomotive-engine, a tender, and a truck or bogie adapted to support a portion of the weight of both the engine and tender, these members being combined for joint operation, so that either the engine or the tender, or both, shall have the capacity of lateral movement on or in relation to the truck.

3. The combination, substantially as set forth, of a locomotive-engine, a tender coupled thereto by a connection which is flexible both vertically and horizontally, and a truck or bogie which is adapted to support a portion of the weight of both the engine and tender.

4. The combination, substantially as set forth, of a locomotive-engine having all its driving-axles located between the fire-box and the cylinders, a tender coupled thereto, and a truck or bogie which is adapted to support a portion of the weight of both the engine and tender.

5. The combination, substantially as set forth, of a locomotive-engine, a tender, a truck or bogie adapted to support a portion of the weight of both the engine and tender, and mechanism whereby the weight of the engine supported by said truck can be removed or relieved to a greater or less degree therefrom at will during the operation of the engine.

6. The combination, substantially as set forth, of a locomotive-engine, a tender, a truck or bogie adapted to support a portion of the weight of both the engine and tender, and mechanism for varying the load upon the leading truck of the engine at will during operation.

7. The combination, substantially as set forth, of a locomotive-engine, a tender, a truck or bogie adapted to support a portion of the weight of both the engine and tender, and two separate sets of springs bearing upon said truck, and carrying respectively such portions of the weight of the tender and the weight of the engine as are applied to said truck.

8. The combination, substantially as set forth, of a locomotive-engine, a tender, a truck or bogie adapted to support, through separate sets of springs, respectively, portions of the weight of the engine and of the tender, and a steam or air cylinder having its piston connected with the springs of said truck, which support the weight of the engine, these members being combined for joint operation to enable the weight of the engine to be removed or relieved in greater or less degree from said springs at the will of the operator.

9. The combination, substantially as set forth, of a locomotive-engine, a tender, a truck or bogie adapted to support portions of the weight of the engine and of the tender, and a steam or air cylinder having a piston of substantially different areas on its opposite sides, said piston being adapted to receive pressure either upon its greater area or on both sides, and being connected with the truck which supports part of the weight of the engine.

10. The combination, substantially as set forth, of a locomotive-engine, a tender, a truck or bogie adapted to support a portion of the weight of both the engine and tender, and equalizing mechanism between the driving-wheels and said truck for transferring weight from the former to the latter, or vice versa.

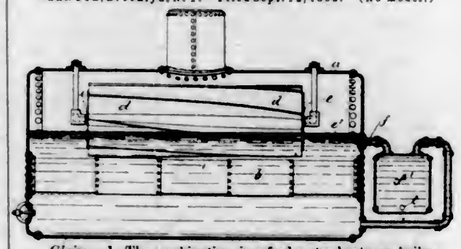
11. In a locomotive-engine, the combination, substantially as set forth, of a pair of main frames located inside the driving-wheels, a pair of supplemental frames located outside the driving-wheels and connected rigidly to the main frames in advance of the rear driving-axle, and a fire-box the forward portion of which is located between the rear driving-wheels, and which is laterally extended in rear thereof to a width greater than the distance between the driving-wheels.

12. In a locomotive-engine, the combination, substantially as set forth, of an equalizing-lever having one of its ends supported upon an axle-box and the other by a spring, which rests upon an adjoining axle-box and sustains the weight carried thereby, and a spring which is connected at its ends to the engine-frame, and which forms a fulcrum or bearing for the equalizing-lever.

13. The combination, substantially as set forth, of a locomotive-engine, a tender, and a draw-bar, connected at its rear end to the engine and at its front end to the tender, these members being so combined as that, first, the lateral movement of the engine on a curve will incline the draw-bar from its connection with the tender toward the outside of the curve; and, second, that the forward tractive force of the engine will induce a compressive strain on the draw-bar and a tendency to force the rear end of the engine outwardly and the front end inwardly in passing around a curve.

14. The combination, substantially as set forth, of two locomotive-engines and an interposed tender, each end of which is supported by a truck or bogie adapted to sustain a portion of the weight of the adjacent engine.

266,686. SURFACE-AGITATOR FOR STEAM-BOILERS. EDWARD FOX, Brooklyn, N. Y. Filed Sept. 12, 1882. (No model.)



Claim.—1. The combination, in a feed-water heater or boiler, of an automatic rotary agitator formed of inclined blades upon a shaft, supports for the same, a mud drum or chamber below the water-line, and circulating-pipes connecting the same with the water-space, substantially as specified, whereby the water near the surface is automatically caused to circulate toward the pipe leading to the mud drum or chamber, substantially as set forth.

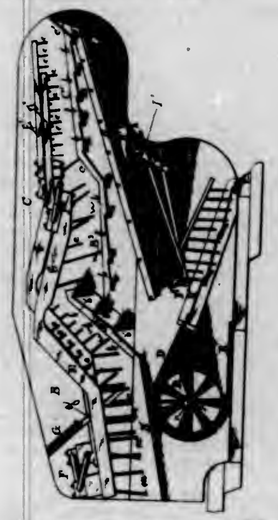
2. The combination, with a steam-boiler or water-heater, of an automatic agitator and surface evaporator formed of a shaft and inclined blades and supports for the same, substantially as specified, whereby the agitator is revolved by the steam as it rises, and a movement of the water near the surface toward one end of the heater or boiler is effected by the rotation, substantially as specified.

266,687. FIRE-KINDLER. JAMES H. FRENCH, Willimantic, Conn. Filed May 11, 1882. (No model.)



Claim.—As an article of manufacture, a package of wood or other suitable material saturated with an inflammable oil, and having a wrapper coated with glue, substantially as set forth.

266,688. MACHINE FOR THRASHING AND CLEANING GRAIN. DANIEL GRIESER and NORRIS D. GRIESER, Waynesborough, Pa. Filed June 10, 1882. (No model.)



Claim.—1. In combination with crank-shafts F F', a rake for grain-separators consisting essentially of an angular rake extending from one crank-shaft to another, said rake being constructed with suitable bearings for the crank-shafts, and having a section secured to the end for extending the rake to any desired length for varying sizes of machines, so as to avoid the necessity for changing the crank-points, substantially as shown and described.

2. The combination of the main driving-shaft F, rakes E, second shaft, F', pulleys *f* and *f''*, shaft F'', rod J, arms I'' and I, bolster H', and shoe H, whereby the shoe is reciprocated, substantially as shown and described.

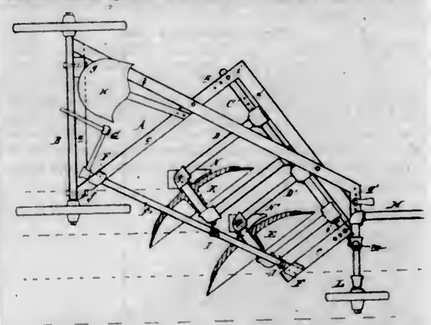
3. In combination with a separating grate, one or more rakes and suitable mechanism for reciprocating them, said rakes being constructed with one or more teeth made longer than the regular teeth to pass below the wires of the grate and to break up and distribute the straw upon the backward movement of the rake, substantially as described.

4. The hollow bolster H', having the socket-piece *i* and springs *i''* fitting in said hollow bolster, the socket-piece *i*, having a socket in its face, said socket-piece and springs being covered and held in place by a cap screwed or bolted onto said bolster over the hollow opening, said cap having a slot in its face for the admission of the end of a crank-arm to the socket, substantially as shown and described.

5. The bars *b'*, supporting the grate nearest the thrashing-cylinder, arranged one above the other to deflect the grain thrown from the cylinder directly on the fan-shoe and lower grates, in combination with the grate H', thrashing-cylinder, fan-shoe, lower grate, and rakes E, substantially as shown and described.

266,689. ADJUSTABLE ROTARY SULKY-PLOW. EZRA G. GUBBARD, East Saginaw, Mich. Filed June 10, 1882. (No model.)

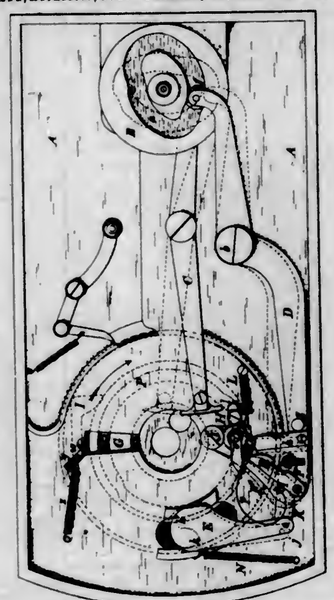
Brief.—The frame is of peculiar construction, and has secured thereto a diagonal rod or shaft, to which are adjustably connected U-shaped swinging frames, each of which carries a disk. The shaft is adjustably attached to the main frame, so that the angle of the disks to line of draft may readily be changed, and by sliding the disk-frames upon the shaft the disks are adjusted laterally.



Claim.—1. In a rotary plow, the combination, with the frame A, consisting of the base *a*, beam *b*, and beam *c*, provided with extensions *d e*, of the shaft C and the separate U-shaped frames D D', swinging upon said shaft C, substantially as specified.

2. In a rotary plow, the combination, with the frame A, consisting of the base *a*, beam *b*, and beam *c*, having the extensions *d e*, of the shaft C and the swinging frames D D', the shaft being adjustably connected to the frame by bolts and holes, and the swinging frames constructed to slide on the shaft, as specified.

266,690. BUTTON-HOLE SEWING-MACHINE. JAMES G. GREEN, Rochester, N. Y. Filed May 22, 1882. (No model.)



Claim.—1. The combination, with the feed mechanism of a button-hole sewing-machine, of the swinging notched cam-bar T and latch R, substantially as described.

2. The combination, with the feed mechanism of a button-hole sewing-machine, of the movable plate F, the cam-bar T, latch R, spring *p*, and shipper H, substantially as described.

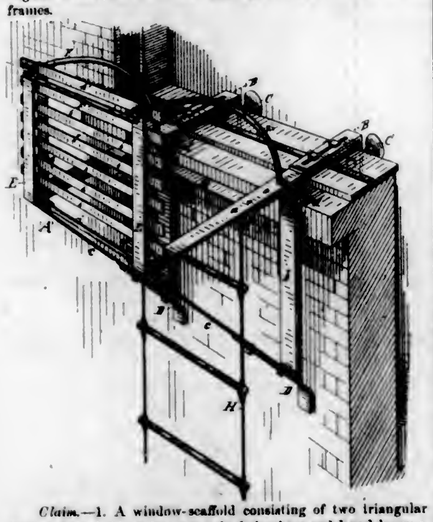
3. The combination, with the feed-lever D, provided with roller *g*, of the feed-wheel G, feed-dog E, swinging plate F, provided with inclined bearing-surface *h*, cam-bar T, latch F, spring *p*, and shipper H, substantially as and for the purposes set forth.

4. The brake-dog I, concealed within the groove O of the feed-wheel, and provided with pin *w*, projecting into an inclined plane in the bed-plate, substantially as and for the purposes described.

5. In combination with the movable plate F, the pivoted shipper H, latch R, and swinging notched cam-bar T, substantially as described.

266,691. WINDOW-PLATFORM AND FIRE-ESCAPE. FRANK H. HEIMSATH, Chicago, Ill. Filed July 5, 1882. (No model.)

Brief.—Two triangular frames connected by cross-bars have adjustable angle foot-plates and adjustable L-plates at top provided with set-screws. One of the cross-bars has hooks for a fire-escape ladder. The inner edge of a platform, hinged at its outer edge to the outer cross-bar, moves on curved brace-rods on the triangular frames, the brace-rods passing through standards on the frames.



Claim.—1. A window-scaffold consisting of two triangular frames, A and A′, each composed of shanks *a* and *b* and brace *c*, and connected by bars or rods G and *i*, and provided with adjustable L-plates B, having fastening-screws C, and with adjustable angle-plates D, all substantially as and for the purpose set forth.

2. A window-scaffold consisting of two triangular frames, A and A′, each composed of shanks *a* and *b* and brace *c*, and provided with adjustable L-plates B, having fastening-screws C, and with adjustable angle-plates D, and being connected by bar G, having hooks *f*, for suspending ladder H, the whole being constructed and arranged substantially in the manner set forth.

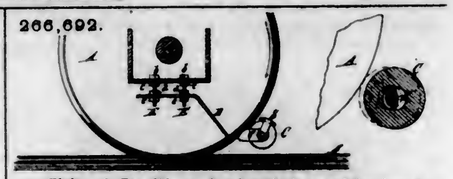
3. A window-platform consisting of two triangular frames, A and A′, that are provided with adjustable L-plates B, having fastening-screws C, and with adjustable angle-plates D, each frames being connected by a rod, *i*, that forms the pivot for a platform, I, and by a bar, G, that has hooks *f* for suspending ladder H, the whole being arranged to operate substantially in the manner and for the purpose described and shown.

4. A window-platform consisting of two triangular frames, A and A′, that are provided with adjustable L-plates B, having fastening-screws C, with adjustable angle-plates D, and with standard-bars E and braces F, that are connected by bar G, having hooks *f*, and by rod *i*, which forms the pivot for platform I, the whole being constructed and arranged substantially as and for the purpose set forth.

266,692. LIFE-GUARD AND TRACK-CLEARER. CHARLES W. HOLD, Jr., Brooklyn, N. Y. Filed Apr. 16, 1880. Renewed May 1, 1882. (No model.)

Brief.—A flattened suspended arm capable of lateral and vertical adjustment carries a revolving block, which turns upon an axle of reduced size as compared with the size of the bearing of the block, whereby said block is only rotated when forced against the wheel by an obstruction upon the track.

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Claim.—1. In a life-guard and track-clearer of the character herein specified, the combination, with the axled block, of the flattened suspending-arm D, constructed substantially as shown and described, and adapted to resist lateral strains, as set forth.

2. The supporting-arm for the axled block, provided with an elongated slot for the reception of the attaching bolt or bolts which form an elongated bearing for said arm, preventing the same from being disarranged by lateral thrusts or strains, substantially as shown and described.

3. In combination with bar D, having elongated slot *a*, the attaching-bolts E E, applied to the axle-box and provided with the clamping-nuts, substantially as shown and described.

4. The combination, with the axled guard operating in conjunction with the car-wheel, of a supporting-bar and means for connecting said bar with the axle-box, operating substantially as specified, so as to permit a vertical and horizontal adjustment of the said bar for the purpose of regulating the position of the guard, substantially as set forth.

5. The combination, with the separated bolts E E, of the attaching-plate G, adapted to be mounted upon the axle-box or elsewhere, all substantially as shown and described.

6. In a life-guard and track-clearer of the character herein shown, the combination, with the car-wheel, of an axled guard-support in front of and clear of said wheel, and adapted to be revolved by contact therewith as soon as struck by any object upon the track, substantially as shown and described.

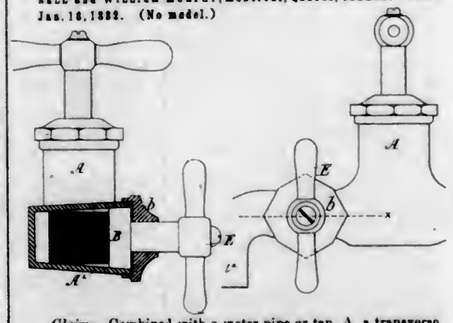
7. In a life-guard and track-clearer of the character herein shown, the combination, with the car-wheel, of the axled guard supported in front of said wheel upon an axle cut away or made smaller than the interior of the block, said block being made to ride clear of the wheel until struck by some object on the track, substantially as shown and described.

8. The herein-described rotatory block C, made of solid rubber, and mounted upon an axle supported in the angular space between the car-wheel and the track, said block being made to ride clear of the track and the wheel, in the manner and for the purposes set forth.

9. In a rotatory life-guard, the combination, with the supporting-arm, of the block-axle secured in said arm by means of the nut *t*′, and bearing the scraper S, substantially as shown and described.

10. The combination of the rotatory block C, axle K, washers *g g*, nuts *k t*′, arm D, and scraper S, substantially as shown and described.

266,693. WATER-FILTERING DEVICE. AUGUSTUS H. HOSSELL and WILLIAM MURPHY, Montreal, Quebec, Canada. Filed Jan. 16, 1882. (No model.)



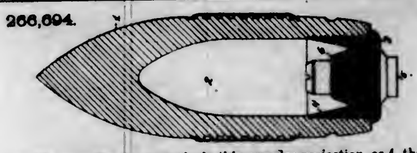
Claim.—Combined with a water pipe or tap, A, a transverse tapering or conical chamber, A′, a revolving plug, B, having correspondingly coned or tapered bearings, and the wire-gauze disks D, inclosing a filtering medium secured between said conical heads.

266,694. SHELL. BENJAMIN B. HOTCHKISS, New York, N. Y. Filed Mar. 4, 1882. (No model.)

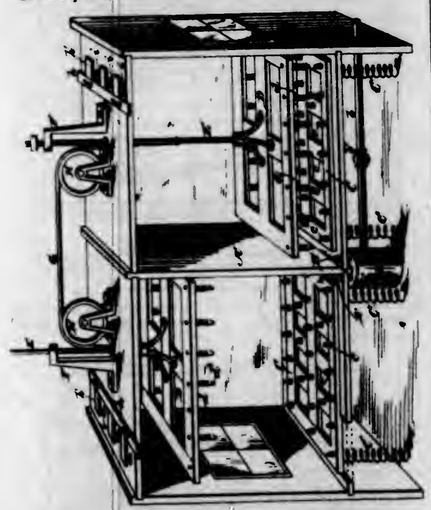
Claim.—1. In a hollow explosive projectile or shell, a base closure consisting of a fuse-receiver having a fuse-seat and an inwardly-extending comparatively thin annular projection, as 4, that forms a rearward continuation of the charge-chamber, substantially as described.

2. In a hollow explosive projectile or shell, a base closure consisting of a fuse-receiver having two inwardly-extending annular projections, one forming a fuse-housing and the other a rearward continuation of the walls of the charge-chamber, substantially as described.

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266,695. MACHINERY FOR TREATING LEATHER WITH HOT AIR. ANTHONY ISER and ALBERT WETTER, Lancaster, Pa. Filed Sept. 15, 1882. (No model.)



Claim.—1. A compartment for treating hides with hot air, provided with a relatively-stationary studded frame, in combination with a reciprocating frame which carries the hides, substantially as set forth.

2. A compartment for treating hides with hot air, provided with a stationary frame, in combination with a vertically-movable hide-carrying frame and devices for supplying said compartment with hot air, substantially as set forth.

3. In a receptacle for treating hides with hot air, a vertically-movable frame provided with spring-hooks for suspending hides, in combination with a lower frame provided with studs against which said hides are plunged, substantially as set forth.

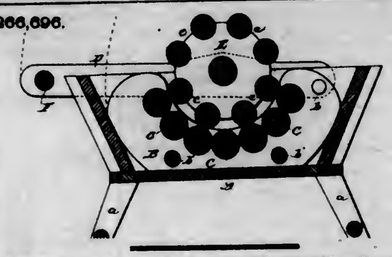
4. A lower frame, C, supported on springs C′, and provided with studs *c*, in combination with an upper hide-hanging frame and devices for vertically reciprocating the latter to plunge the hides against said studs, substantially as set forth.

5. A pair of hide-suspending frames and suitable connecting devices, whereby one frame descends as the other rises, in combination with a pair of compartments for holding heated air within which they work, and lower frames provided with studs against which said hides are plunged, substantially as set forth.

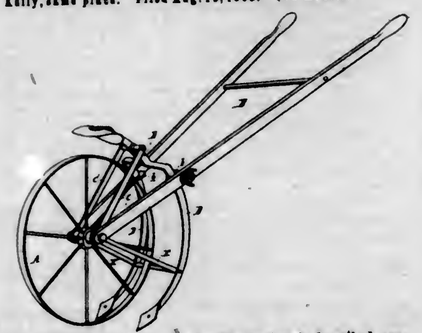
266,696. WASHING-MACHINE. MATHEW J. JONES, Martinsburg, W. Va. Filed June 1, 1882. (Model.)

Claim.—In a washing-machine, the semicircular frame B, provided with a series of rollers, C, in combination with the frame D, having rollers E *e*, adapted to operate in close contact with the rollers C at all points, said frames B and D being hinged to the box A by a common pivot, *b*, whereby both frames are adapted to be conveniently swung back upon each other or detached from the tub, all combined and arranged substantially as set forth.

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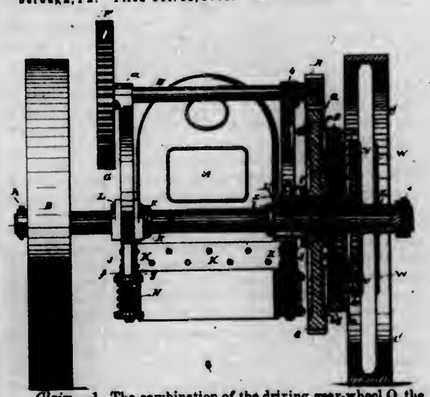


266,697. REVERSIBLE HARROW-CULTIVATOR. WALLACE C. KELLY, Hastings, Mich., assignor to himself and Walter W. Kelly, same place. Filed Aug. 10, 1882. (No model.)



Claim.—The reversible hand-cultivator herein described, consisting of the handle-frame B, in which is journaled the axle of the wheel A, the curved frame D, carrying a single plow upon one side, adapted to follow the track of the wheel, and cultivators upon the other side, one upon each side of said wheel, the saddle-arms C E, sleeved upon the axle and connecting with the frame D, and means *b*, for adjusting the relative positions of frame and handles, all constructed, combined, and operating as set forth.

266,698. TRACTION-ENGINE. FRANK P. LABBIS, Waynesborough, Pa. Filed Oct. 22, 1881. (No model.)



Claim.—1. The combination of the driving gear-wheel Q, the body T of a compensation-gear, and means for connecting them with the toothed disks, and pinions connecting respectively the axle and the driving-wheel, substantially as shown and described.

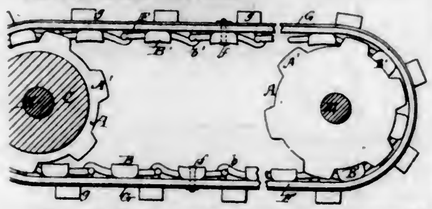
2. The body T, having projecting arms *q*, and sheet of metal Y, in combination with the disks U and V, substantially as shown and described.

3. The body T, provided with projecting arms *q*, in combination with connecting-ring and any suitable means for connecting them, substantially as shown and described.

4. The body T of a compensation-gear, provided with arms, as *q*, projecting from its periphery for connection with the motive power, substantially as shown and described.

5. The combination of the axle D, hub X, revolving upon said axle, having a flanged internally-toothed disk, V, with the disk U, keyed to the shaft D, and body T, revolving upon the hub, and pinions *v y* and *w z*, substantially as shown and described.

266,699. BELT-GEARING. HENRY LANDON, Massillon, Ohio. Filed Sept. 22, 1882. (No model.)

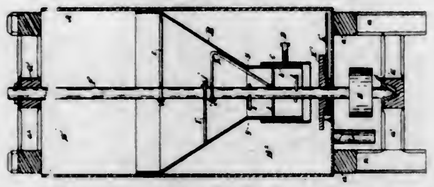


Claim.—1. The combination of a cylinder having journal E at each end, and a short cylinder, A, secured thereto, and having a series of lugs, A', at each end thereof, with drive-chain links B, having lugs B' upon their sides, adapted to enter between the lugs of the cylinder A, substantially as and for the purpose described.

2. The combination of a cylinder, A, having a series of lugs, A', arranged in pairs facing each other, with drive-chain links having lugs B' projecting from their sides, and a solid central portion, B², uniting said lugs, substantially as and for the purpose described.

3. The combination of drive-chain links having side lugs and a central solid portion, B², with a belt, F, riveted to said part B², substantially and for the purpose described.

266,700. FLOUR FEEDER AND MIXER. JOHN H. LANGLOIS, Cincinnati, Ohio. Filed May 20, 1882. (No model.)



Claim.—1. The cylinder A and interior hopper, B, having neck *b*, in combination with the shaft F, provided with the straight fingers I and bent finger or scraper K, located within the hopper B, and the straight fingers *k*, located within the neck *b*, substantially as and for the purposes set forth.

2. The combination of the hopper B, having neck *b*, the shaft F, provided with projecting fingers, substantially as described, the sliding cylinder C, disk H', having finger or scraper *k'*, and the chamber B², provided with spout L, substantially as and for the purposes mentioned.

266,701. COMBINED HEADER AND THRASHING-MACHINE. ALBERIN H. LIGHTHALL, San Francisco, Cal., assignor to William B. Carr, same place. Filed Dec. 19, 1881. (No model.)

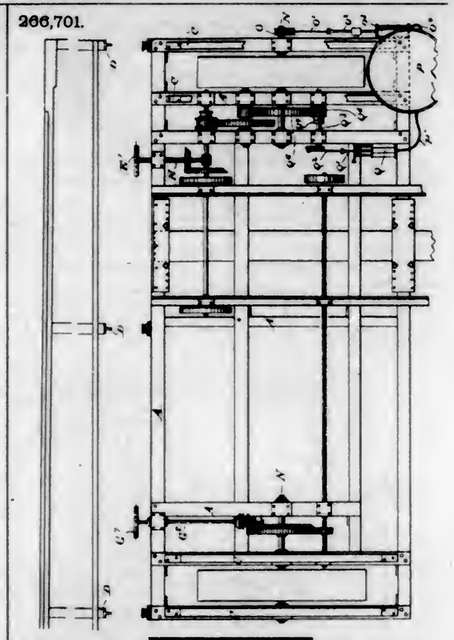
Claim.—1. In a combined header and thrasher, the means for applying tension to the truss-rods thereof, consisting of the threaded bolt C', having a rectangular base fitting into a correspondingly-shaped recess in a step, C', and having set-nuts C², by which to regulate the tension of said truss-rods, constructed, arranged, and operating substantially as herein shown and described.

2. In the steering-gear of a combined header and thrasher, the rudder-wheels J', revolving on the axle J², vertical shaft J³, boxes J', and goose-neck J, secured to the end of the push-beam, said axle J² having attached to its outer ends the circular band J⁴, around which the steering-chain J⁵ passes and is connected at a point equidistant from the rudder-wheels, constructed and arranged to operate substantially in the manner as herein set forth.

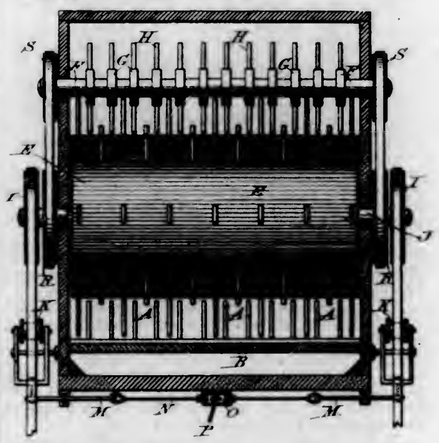
3. The combination of the lateral inwardly-inclined drapers F F', the transverse draper F², the swinging draper F³, chute F⁴, hood F⁵, roller F⁶, and guide F⁷, all constructed and arranged as and for the purpose described.

4. The combination of the draper-frame D, the lever-bar D', pivoted to said frame and to the rear framing of the machine, the drum D², chain D³, connecting said drum and lever-bar, the reel-rod D⁴, and the cord or chain D⁵, connecting the same with the vertical portion of the draper-frame, whereby said frame may be raised or tilted, as and for the purpose described.

266,701.



266,702. GRAIN-SEPARATOR. ALBERIN H. LIGHTBALL, San Francisco, Cal., assignor to William B. Carr, same place. Filed Mar. 13, 1882. (No model.)



Claim.—1. In a grain-separator, the combination of the toothed cylinder E, shaft J, band-wheels R R, the shaft F, cylinder-teeth H, mounted thereon, band-wheels S S, and belting connecting said wheels with the wheels on the shaft J, substantially as shown and described.

2. In a grain-separator, cylinder-pulleys I I, mounted on both ends of its shaft, the pulleys K K, belted to pulleys I I, lever-rods L L, pivoted arms M M, slack cord N, pulley-block O, cord P, and reel-rod Q, substantially as and for the purpose described.

266,703. APPARATUS FOR TREATING CARBON CONDUCTORS. JOSEPH E. LOCKWOOD, Paris, France, assignor to the United States Electric Lighting Company, New York, N. Y. Filed Mar. 14, 1882. (No model.)

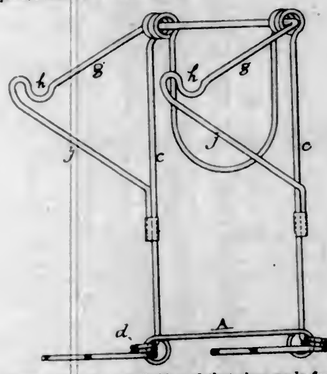
Brief.—The principle of the Wheatstone bridge is utilized in fixing the limit of resistance of the carbons under treatment. For specific arrangement of the parts see claims.



Claim.—1. The combination, with a branched or divided circuit, of an electro-magnet and standard resistance included in one branch, an electro-magnet and carbon to be treated included in the other branch, a circuit of high resistance joining the two branches and passing in opposite directions around the said magnets, an armature-lever and armature connected therewith, and a circuit-interrupting mechanism, these parts being arranged in the manner and for the purposes herein set forth.

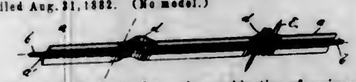
2. An apparatus for use in the electrical treatment of carbon conductors, consisting in a pivoted armature-lever and circuit-interrupting mechanism operated thereby, in combination with electro-magnets the coils of which are composed of coils of coarse wire, wound in the same direction and constituting branches of the same circuit, and coils of finer wire wound in opposite directions in the two magnets and constituting a bridge between the said branches of the circuit, as and for the purpose set forth.

266,704. LANTERN-HOLDER. EDWIN LUFKIN, Monroe, Mo., assignor of one-half to Edmund H. Neadley, same place. Filed Sept. 4, 1882. (No model.)



Claim.—In a lantern-holder of that class made from wire or like material, provided with proper clasps for holding the lantern and having a frame of said wire *c c* extending from top to bottom on each side of the center of said lantern, the connection or cross-bar A uniting the lower ends of said frame, substantially as and for the purposes herein described.

266,705. WIRE FENCE. CHARLES A. MANN, Buffalo, N. Y. Filed Aug. 31, 1882. (No model.)



Claim.—1. In a wire fence, the combination of a wire with a flat metal strip provided with a longitudinal corrugation or groove for the reception of the wire, which is secured in the corrugation, substantially as described, as and for the purpose stated.

2. In a wire fence, in combination, the wire *b*, the flat metal strip *a*, provided with the longitudinal corrugation *a'*, and the fastening-strips C, as and for the purpose stated.

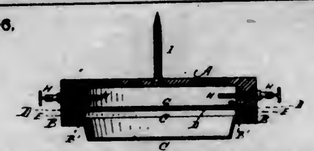
3. In a wire fence, the flat metal strip *a*, provided with the longitudinal corrugation *a'*, and the wire *b*, secured in the corrugation *a'*, the strip *a* and wire *b* being provided with the transverse grooves or bends *d* for the reception of a suitable barb, all combined, substantially as shown and described.

266,706. AUTOMATIC FIRE-ALARM. MORRIS MARTIN, Malden, assignor of one-half to Edwin A. Jaffery and Frederick O. Jaffery, both of Boston, Mass. Filed May 1, 1882. (No model.)

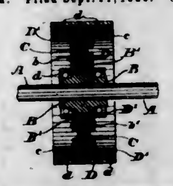
Claim.—1. A device for automatically causing an alarm to be given when the temperature reaches a certain point, consisting essentially of the following parts, viz: a vessel containing ammonia or analogous material and provided with an elastic cap or cover, a metallic plate resting on said cover, and a non-conducting shell or frame adapted to sustain the said vessel, and provided with conducting binding-screws or pins having electrical connections, whereby the action of the gas formed at a certain temperature within the vessel will, by lifting said plate, establish or complete an electrical circuit through said screws or pins, thus allowing an alarm to be given, substantially as and for the purpose set forth.

2. The combination of the frame A, provided with the binding-screws H, having electrical connections, the ring B, provided with the inner flange, B', the elastic tight cover D and pan C, and the plate G, all constructed and arranged substantially as and for the purpose described.

266,706.



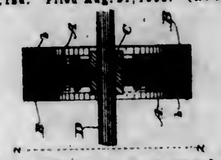
266,707. WHEEL OR PULLEY. ELIJAH B. MARTINDALE, Indianapolis, Ind. Filed Sept. 11, 1882. (No model.)



Claim.—1. The combination, in a wheel or pulley, of the hub B, the web C, the rim D, and the flanges, angle-pieces, and rivets for securing the same together, substantially as set forth.

2. A combination wheel or pulley consisting of a cast-iron hub, a paper or pasteboard web, a wrought-iron rim, and means for securing said several parts together, substantially as set forth.

266,708. WHEEL OR PULLEY. ELIJAH B. MARTINDALE, Indianapolis, Ind. Filed Aug. 21, 1882. (No model.)



Claim.—1. A pulley or wheel constructed of layers or disks of paper or pasteboard forming the web, and other layers surrounding the web to form the rim, the whole being solidified by pressing, substantially as set forth.

2. The process of forming a pulley or wheel, which consists in laying up a web of sheets of pasteboard or paper, surrounding said web with a rim composed of other sheets, placing the whole in dies, and subjecting the same to pressure, substantially as set forth.

3. A wheel or pulley the web of which is constructed of sheets of paper or pasteboard which extend from the hub toward the periphery of the wheel, and the rim of which is constructed of other sheets wound around the outer edges of the web, in combination with said hub, and means for attaching said web to said hub, substantially as set forth.

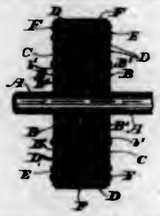
4. The combination of the web A, rim B, and hub C, said several parts being constructed and arranged substantially as set forth.

266,709. PULLEY. ELIJAH B. MARTINDALE, Indianapolis, Ind. Filed Aug. 28, 1882. (No model.)

Claim.—1. The combination of the hub B, web C, rim D, said rim and said web being composed of layers of paper or pasteboard, arranged as specified, metal rings E, and bolts or rivets F, all substantially as set forth.

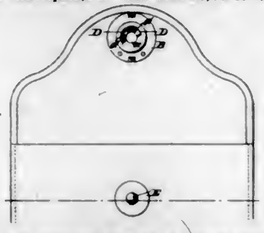
2. The combination, in a pulley, of the hub B, the central portion of which is shouldered and of a form to hold the pulley from turning thereon, and flanges B' B', which come against the

266,709.



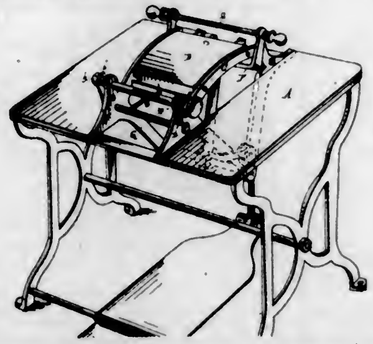
shoulders on said hub, and are secured to said wheel by bolts *b'*, thus also holding said pulley fixedly on said hub, substantially as shown and specified.

266,710. FASTENING FOR POCKET-BOOKS, &c. JOHN W. MEAKIN, Philadelphia, Pa. Filed June 21, 1882. (No model.)



Claim.—The improved fastening for pocket-books, &c., consisting of a cap having a perforation the wall of which has slots, substantially as described, a button and spring-tongues, the button being adapted to be held both by the said wall and tongues, and the ends of the tongues vibrating or playing in the aforesaid slots, for the purpose stated.

266,711. CIGAR-BUNCHING MACHINE. GEORGE MORSE, Detroit, Mich. Filed Aug. 2, 1882. (No model.)



Claim.—1. In a cigar-bunching machine, a curved table supported between and hinged or pivotally secured to bars of coincident curvature, which are provided with stops to arrest the fall of the free end of the table, and an apron secured to the under side of said table, substantially as and for the purposes described.

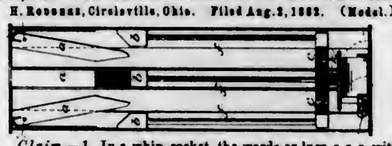
2. In a cigar-bunching machine, the combination of a curved table, hinged or pivoted as shown, and an apron or bunching-cloth, with a ratcheted roller, and a spring for holding said roller in locked position until the force of said spring is overcome, as specified.

3. The curved table D, having trough *b*, and hinged as shown, combined with the curved frame C, having stops *a*, and with the apron E, secured to the under side of said table D, as set forth.

4. The combination of the apron E and roller C with the roller *d*, having rack *m*, the pawl *n*, nut *h*, and spring *i*, as set forth.

5. The combination of the curved hinged table D, frames C *a*, roller *c*, and apron E, as shown, with the roller D, having rack *m*, pawl *n*, nut *h*, and spring *i*, as set forth.

266,712. WHIP-SOCKET. BENJAMIN W. MORRIS and WILLIS H. ROGERS, Circleville, Ohio. Filed Aug. 2, 1882. (Model.)

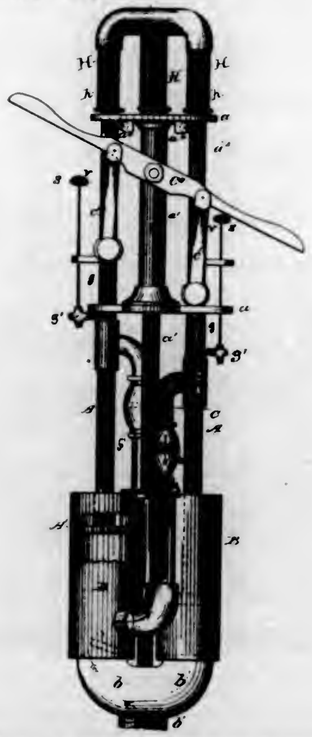


Claim.—1. In a whip-socket, the wards or lugs *a a a*, with the spring fastened to each playing in the grooves of the standards, and pushing said wards or lugs toward the center, thus forming a circular spring-clamp that seizes and holds the whip-handle, as set forth.

2. In combination with the wards or lugs *a a a*, the combination-bolt *f*, that may be lengthened and shortened at pleasure, and which works in the grooves behind the wards and pushes them out from the grooves and holds them out, thus causing them to clasp the whip-handle and hold it in place.

3. The screw K at the bottom or lower end of the combination-bolt, combined with the plate *c* and bolts, to change the position of the beveled ends of the bolts with relation to the wards, as set forth.

266,713. FORCE-PUMP. PETER MOURBY, Amwell, Ohio. Filed Feb. 16, 1882. (No model.)



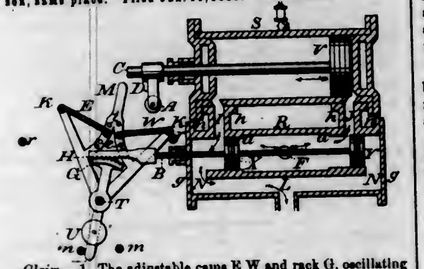
Claim.—1. In a double-cylinder force-pump, the combination of the tubular piston-rods and their pistons, the cylinders, and the curved pipes having check-valves, and connected to opposite cylinders and piston rods or tubes, as shown and described.

2. In a double-cylinder force-pump, the alternately rising and falling tubular piston-rods, combined with screw-caps and cylindrical joints connected at their upper ends by a curved cap or tube, said tube having a discharge-nozzle attached, substantially as shown and described.

3. In combination, the cylinders B, having sectional pipes *e* and *f'*, screw-caps *f*, and tubular piston-rods A, substantially as shown and described.

4. In a double-cylinder pump provided with hollow piston-rods, the discharge-cocks *g'*, provided with operating-arms *s s*, and adapted to relieve the piston-rods of water, substantially as and in the manner described.

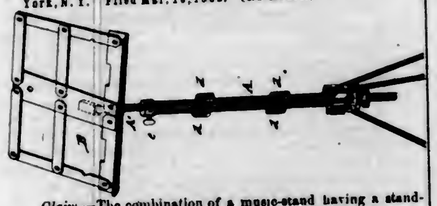
266,714. VALVE-GEAR. FREDERIC BOOTH NICHOLS, Halifax, Nova Scotia, Canada, assignor of one-half to Cathcart Thomson, same place. Filed Jan. 16, 1882. (No model.)



Claim.—1. The adjustable cams E W and rack G, oscillating on pivot T, in combination with reciprocating rack H, valve-stem B, attached to valves X Y, stops *r r*, and counterbalance-weight U, all in combination in the manner and for the purpose herein specified.

2. The arm D and roller A on piston-rod C, in combination with the adjustable cams E W, racks G and H, valve-stem B, and valves X Y, all in the manner herein set forth.

266,715. PORTABLE MUSIC-STAND. HENRY NIEMOFF, New York, N. Y. Filed Mar. 16, 1882. (No model.)



Claim.—The combination of a music-stand having a standard, A, with fixed side sockets, *d d*, supporting bracket-arms E, having bent ends, and clamp-pieces E', having sockets *g g* and set-screws *g'*, substantially as set forth.

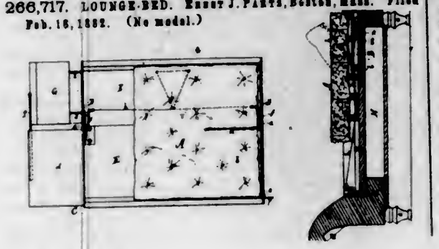
266,716. SHEEP-SHEARS. GERVAIS NOLIN, Skowhegan, Me. Filed Aug. 14, 1882. (No model.)



Claim.—1. The improved shear-handles, concavo-convex transversely, and dome-shaped and notched at their upper ends, and provided with lips arranged within them and below the notches, as set forth.

2. The shear-handles, dome-shaped and notched at their upper ends, and provided with lips arranged within them, as described and represented, in combination with the blades, provided with shanks arranged in the notches and against the lips of the handles, and secured to such lips by means essentially as set forth.

266,717. LOUNGE-BED. ERNST J. PAETZ, Boston, Mass. Filed Feb. 16, 1882. (No model.)



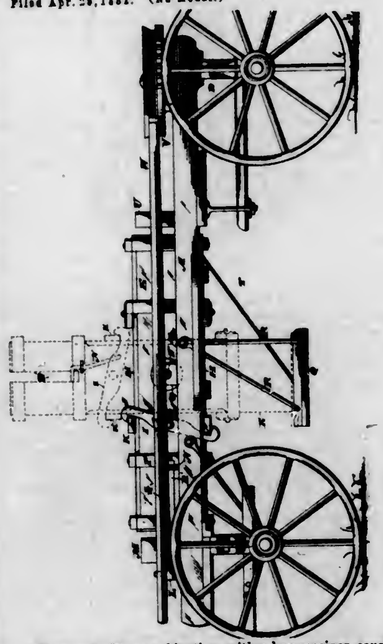
Claim.—1. The seat-frame E, notched at its lower end, as shown at *e*, in combination with the movable arm B, applied to such seat-frame, as described, and provided with the vertical front portion, *p*, to enter the notch *e*, as set forth.

2. The combination of the chambered lounge-frame C, its stationary arm *d*, and the seat and back frames E and F, arranged and applied as specified, with the movable arm B, adapted to the seat-frame, as described, and with the mattress A, fixed to the seat and back frames, and separated along its middle, as explained, so as to enable the part of it that may be on the arm B to be turned upward therewith, all being substantially as set forth.

3. The rest G, combined with the lounge-frame C and the back frame F by means of the arm *q*, and the curved rods *s s*, arranged with and applied to it (the said rest) and to such frames C and F, substantially as set forth.

4. The combination of the lounge-frame C, seat and back frames E and F, stationary arm *d*, movable arm B, rest G, and the allt mattress A, arranged, constructed, and applied substantially and to operate as set forth.

266,718. HAY-PRESS. LAWSON G. PEEL, Hazelhurst, Miss. Filed Apr. 29, 1882. (No model.)



Claim.—1. The combination, with a hay-receiver consisting of a box having open ends and adapted to be adjusted to a horizontal or a vertical position, of two followers arranged to be received within the opposite open ends of the said box when in its horizontal position, and to simultaneously approach or recede from each other, substantially as set forth.

2. The combination, with a hay-receiver consisting of a box having open ends and adapted to be adjusted to a horizontal or a vertical position, of two followers arranged to be received within the opposite ends of the box when in its horizontal position, and devices to close the lower open end of the box when in its vertical adjustment.

3. The combination, with a hay-receiver consisting of a box having open ends and adapted to be adjusted to a horizontal or a vertical position, of two followers arranged to be received within the opposite ends of the box when in its horizontal position, and a swinging platform to close the lower open end of the box when in its vertical adjustment.

4. The combination, with a hay-receiver consisting of a box having open ends, provided on its upper and lower faces with hinged doors, and adapted to be adjusted to a horizontal or to a vertical position, of two followers arranged to be received within

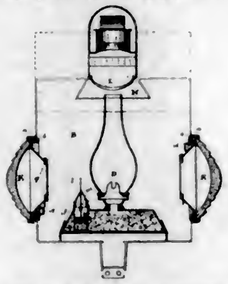
the opposite open ends of the box when in its horizontal position, and a system of levers operated by one of the said followers and arranged to unlock said doors at the completion of a bale of hay.

5. The combination, with a hay-receiver consisting of a box having open ends, of two followers adapted to be received within the opposite open ends of the box when in its horizontal position, and platforms to support said followers when they are not in the box.

6. The combination, with a hay-receiver consisting of a box having open ends, of two followers adapted to be received within the opposite open ends of the box when in its horizontal position, two disks meshing with each other, and connections between the followers and disks, the latter being rotated to cause the followers to simultaneously approach or recede from each other.

7. The combination, with a carriage provided with two parallel side beams, of a hay-receiver consisting of a box having open ends, said box being provided with short axles, which are journaled in said side beams, adapting the box to be adjusted horizontally or vertically with relation to said beams, and two followers arranged to be received within the opposite open ends of the box.

266,719. SIGNAL-LAMP. EDWARD S. PIPER, Toronto, Ontario, Canada. Filed Apr. 27, 1882. (No model.)



Claim.—1. The lamp-box having a contained lamp, and having a permanent holding-flange for the lenses and internal screw-threads, the lens E and screw-ring *b*, adapted to be secured in place from the inside of the box, combined with a car or coach having an opening in the side thereof corresponding with the opening in the lamp-box, as set forth.

2. A lamp-box containing a lamp and attached to the outside of a car or coach having a hole through its side to communicate with the interior of the box, the said box being provided with a signal-lens protected by a reflector formed in the shape of a frustum of a cone, in combination with the signal-glass G, detachably connected to the reflector F, substantially as and for the purpose specified.

3. In a lamp-box containing a lamp and provided with a signal-lens protected by a reflector formed in the shape of a frustum of a cone, a signal-glass, G, contained within a frame provided with a hoop-wire, *g*, in combination with a hole or holes made in the reflector F for the purpose of forming a detachable connection between the signal-glass and reflector, substantially as and for the purpose specified.

4. In a lamp-box containing a lamp and having a circular hole or holes pierced through it, a flanged ring, *a*, formed around each hole and having a thread cut on its inner surface to receive the screwed ring *b*, in combination with the flanged lens E and flanged reflector F, for the purpose of protecting the hole in the lamp-box, as specified.

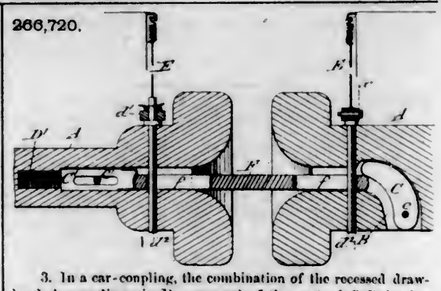
5. In a lamp-box containing a lamp provided with a chimney and a door to give access to the interior of the box, a semicircular hood, H, formed on the interior roof of the lamp-box around the mouth of the upper ventilator, substantially as and for the purpose specified.

266,720. CAR-COUPLING. LEANDY RECHT, Platte City, Mo. Filed July 27, 1882. (No model.)

Claim.—1. In a car-coupling, the combination, with the recessed draw-head A and coupling-pin D, composed of the vertical parts *d d²* and horizontal portion *d'*, of the supporting-block G, substantially as shown and described.

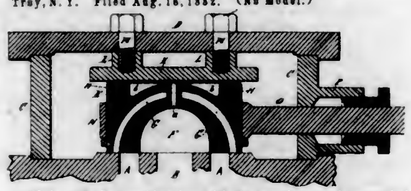
2. In a car-coupling, the combination of the recessed draw-head A, horizontal spring-slide C, coupling-pin D, composed of the vertical parts *d d²* and horizontal part *d'*, and the link F, substantially as shown and described.

266,720.



3. In a car-coupling, the combination of the recessed draw-head A, coupling-pin D, composed of the parts *d d² d'*, having spring-connection E, extending to the top of car, link F, and means for supporting the pin when the link is withdrawn, substantially as shown and described.

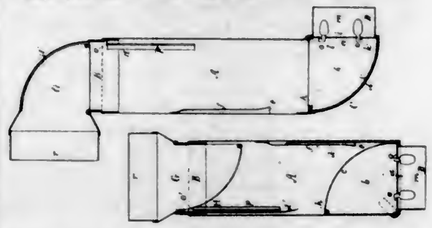
266,721. BALANCED SLIDE-VALVE. FRED W. RICHARDSON, Troy, N. Y. Filed Aug. 16, 1882. (No model.)



Claim.—1. In combination with the supplemental port, a balancing device, and an exhaust-cavity in a valve for steam-engines, the perforation or channel connecting the exhaust with the shallow chamber on top of the valve, said perforation being made through a centrally-located stud, substantially as and for the purposes set forth.

2. The combination and arrangement of the slide-valve having the supplemental channel for conveying live steam in the manner explained, the four packing-strips located in grooves cut in the top of the valve, the central perforation connecting the exhaust-cavity, and a shallow chamber formed in the top of the valve, and the balance-plate, substantially as shown and described.

266,722. STOVE-PIPE ATTACHMENT. FREDERICK A. RISO, Maplewood, Mass. Filed July 10, 1882. (Model.)



Claim.—1. The quadrantal elbow C, provided with the flexile apron *d*, fixed to it, and arranged with its quadrantal sides substantially as set forth.

2. The quadrantal elbow C, having flanges *c* to extend inward from its quadrantal sides *b*, and also having a flexile apron, *d*, applied and to operate with such flanges, substantially as set forth.

3. The combination of the tube A and its partition *f*, arranged therein, as described, with the quadrantal adjustable elbow C, as explained, pivoted to the tube, and with the flexile apron *d*, applied to such elbow, and arranged with the partition *f*, substantially as shown and specified.

4. The combination of a separable stove-educt connection, substantially as described, with the quadrantal elbow C, provided with the flexile apron *d* and pivoted to the pipe A, such educt-connection and elbow having means of engaging them, as set forth.

5. The combination of the prismatic tube A with the shorter auxiliary prismatic tube B, and with a quadrantal elbow, G, and its flexile apron *d'* and the guide H therefor, applied to such tube B, as explained.

6. The quadrantal elbow G, provided with the cylindrical

mouth *r* and the flexile apron *d'*, arranged with each other and the quadrantal sides of the said elbow, substantially as set forth.

7. The combination of the tube A with two quadrantal elbows, their aprons, and guides therefor, substantially as described, adapted to such tube A at its opposite ends.

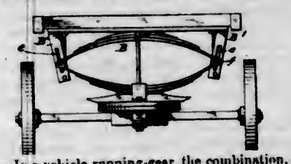
8. The combination of the tubes A and B with the two quadrantal elbows C and G thereof, and with their flexile aprons and guides therefor, adapted to operate substantially as set forth.

9. The improved stove-pipe section or attachment, composed of the prismatic portion A and a telescopic end section pivoted to the portion A, and provided with a terminal adapted to fit a section of pipe, as set forth.

10. The improved stove-pipe section or attachment, composed of the prismatic portion A and two telescopic end sections pivoted to opposite ends of the portion A, and each provided with a terminal adapted to fit a section of pipe, as set forth.

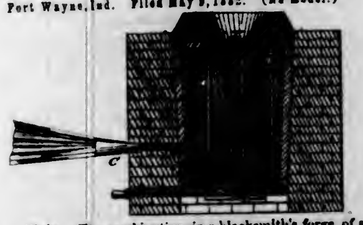
11. The combination of the prismatic pipe A and an elbow pivoted thereto at one or each of the ends of such pipe, and provided with a mouth or terminal to receive and fit to a second pipe at one end thereof, such elbow being constructed so as to be adjustable, as described, relatively to the pipe A, and constitute, in any of the positions of it, (the said elbow,) a close conduit from the pipe A to the said second pipe.

266,723. RUNNING-GEAR FOR VEHICLES. JOHN W. ROBERTS, Dallas, Tex., assignor of two-thirds to John M. Shackleford and Sanford P. Roberts, same place. Filed June 29, 1882. (No model.)



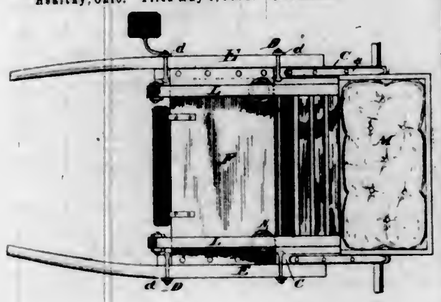
Claim.—In a vehicle running-gear, the combination, with the springs and laterally projecting and nutted bolts, of the inclined braces B', having slots *c*, which receive said bolts, as and for the purpose specified.

266,724. FIRE-POT FOR BLACKSMITHS. SAMUEL H. SAVINE, Fort Wayne, Ind. Filed May 9, 1882. (No model.)



Claim.—The combination, in a blacksmith's forge, of a tuyere having a horizontal supporting top plate forming a cover, and provided with a grate, the removable fire-pot having a flat bottom which rests on the horizontal top bed-plate of the tuyere, and provided with a beveled interior extending entirely down to the grate, and the brick-work built up around the edge of the fire-pot to prevent lateral displacement thereof, as set forth.

266,725. TWO-WHEELED VEHICLE. LEWIS G. SAYRE, Mount Healthy, Ohio. Filed May 1, 1882. (No model.)

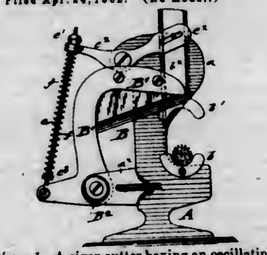


Claim.—1. In a two-wheeled vehicle, the axle-brackets C C, arranged as described, and provided with the clamps D D, for attaching the shafts properly, in combination with the cross-piece F, brackets G G', and bolt H, for attaching a pole.

2. The clevis-loops I I, arranged, as described, for attaching either the traces or the single-trees J J, as and for the purpose described.

3. In a two-wheeled vehicle, the springs l' l', having their front ends bolted firmly to the cross-beam F and their rear ends bolted firmly to the bars L or the bottom of the seat, as and for the purpose described.

266,726. CIGAR-BUTT CUTTER. PETER SCHIFFACK, Newark, N. J. Filed Apr. 24, 1882. (No model.)

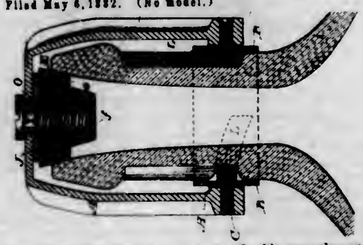


Claim.—1. A cigar-cutter having an oscillating cutting-knife, a fixed clamping-jaw having a semicircular inclosing face, a vertically-movable clamping-jaw having a semicircular inclosing face, a vertically-adjustable crutch, whereby cigars of different sizes may be so presented to the knife as to secure a straight cut at right angles to the axis of the cigar, means for actuating the knife, and means for causing said clamping-jaws to grasp the cigar in advance of the cutting-knife, substantially as described.

2. A cigar-butt cutter having a longitudinally and vertically adjustable crutch for raising or lowering the tip end of a cigar, a gage for measuring the length of the cigar, movable longitudinally on the bar A, and means for securing the crutch and gage, substantially as described.

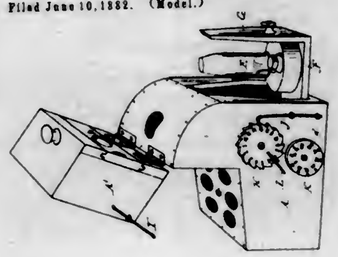
3. A cigar-butt cutter having the frame A, provided with guide-groove *g*, clamp-post g^2, having base-plate g', vertical gage C, crutch or bridge D, and clamp-nut g^3, substantially as described.

266,727. BOTTLE-STOPPER. ADOLPH C. SCHULZ, La Salle, Ill. Filed May 6, 1882. (No model.)



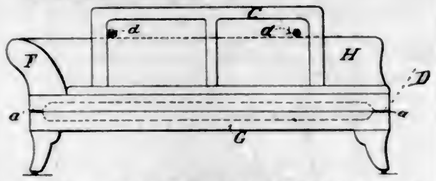
Claim.—In a bottle-stopper, the double-cone-shaped elastic plug E *e*, washer J, and screw Y, in combination with the bail A, provided with rivets C C, having heads *c c*, the collar B, and vessel formed with vertical and inclined lateral slots L, as shown and described.

266,728. EGG-TESTER. JAMES A. SHEFFIELD, Boaz, Wis. Filed June 10, 1882. (Model.)



Claim.—The egg-tester herein described, having the removable lamp-frame and lamp, the dishing reflector arranged in front of and adjacent thereto when the lamp is in position to reflect the rays of light upon the convex surfaces of the eggs, the perforated plate *a*, and the hinged portion C, having the inspecting-aperture *c*, the whole constructed, combined, arranged, and adapted to serve as set forth.

266,729. BED-LOUNGE. THOMAS SEDER, New York, N. Y. Filed Apr. 4, 1882. (No model.)



Claim.—1. The frame D and movable frame E, in combination with the levers *h h*, substantially as and for the purpose set forth.

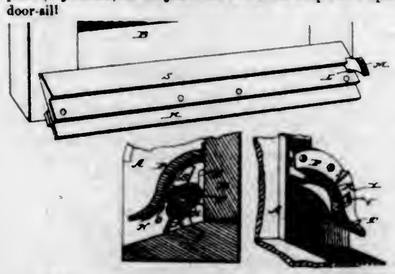
2. The main frame G, in combination with the frames D and E and levers *h h*, substantially as and for the purpose set forth.

3. The movable frame E, in combination with the levers *h h* and supports *g g*, substantially as and for the purpose set forth.

4. The permanent back H, having casters *d d*, in combination with the movable back C, substantially as and for the purpose specified.

266,730. WEATHER-STRIP. THEODORE STRICKEL, Klecknersville, Pa. Filed July 7, 1882. (No model.)

Brief.—The curved plate covers and protects the hinged weather-strip. An arm projecting therefrom strikes a bearing-plate (adjustable) on the jamb and forces the strip down upon the door-sill

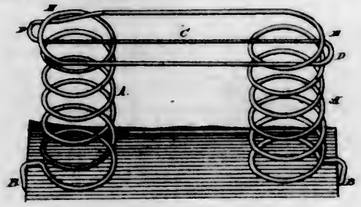


Claim.—1. The combination, with a door, of the hinge-plates C D, having perforated lugs E, the latter being also provided with an additional lug, I, the weather-strip S, having hinge-plates H, the hinge-rod F, and the spring J, coiled upon the latter between the lugs E I of plate D, with its ends bearing against the door and weather-strip, as set forth.

2. The combination of the door, the weather-strip having a notch, L, at one end, the hinge-plates, and the hinge-rod F, having lever or arm M, fitted in said notch L, as set forth.

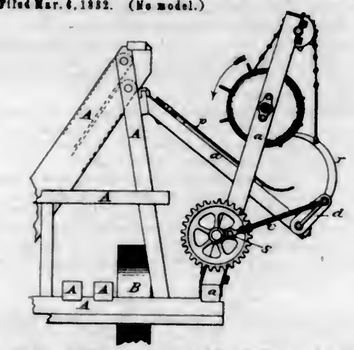
3. The combination, with the weather-strip, hinged, as described, by the rod F, having lever M, fitting in a notch, L, in said strip, of the bracket P, secured to the side of the door-frame, and composed of a flanged plate, Q, and an adjustable plate, S, having tongue T, as and for the purpose set forth.

266,731. BED-SPRING. JAMES STEPHENS, Washington, Ind., assignor of one-half to John T. Sparks, same place. Filed Aug. 31, 1882. (No model.)



Claim.—The herein-described twin springs, connected by a flattened S-shaped bridge-piece the loops of which extend beyond and are tucked under the upper coils of the respective springs, as set forth.

266,732. GRAIN-BINDER. JOHN F. STEWARD, Chicago, Ill. Filed Mar. 6, 1882. (No model.)



Claim.—1. The combination of the binding mechanism with the continuously-moving packers and means connecting the packers with the needle or other vibrating part of the binder mechanism, whereby the packers are carried out of contact with the grain during the descent of the needle, substantially as described.

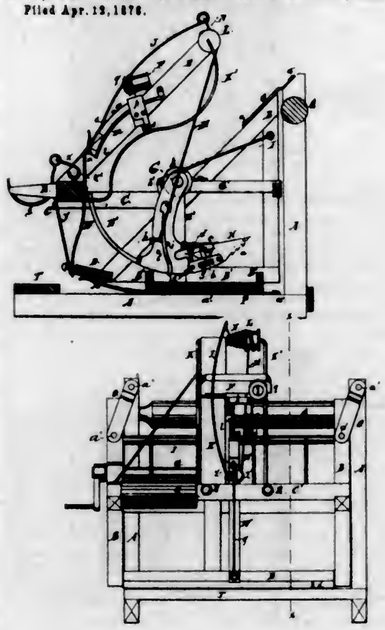
2. The combination of the continuously-moving packers with their vibrating support, for the purpose specified, substantially as described.

3. The combination of the continuously-moving packers and their vibrating support with means for producing a vibration of said support, substantially as described.

4. The combination, with the needle, of the continuously-moving packers and means connecting the packers and needle, whereby the said packers are given alternate positions of action and inaction upon the grain, substantially as described.

5. The combination of the wheels, the packers, and the vibrating eccentrics, substantially as described.

266,733. GRAIN-BINDER. JOHN F. STEWARD, Plano, Ill. Filed Apr. 12, 1876.



Claim.—1. In a grain-binder, the combination, with the main frame A, of the binder-frame B, supported at its base, and the arms O O, pivoted to the upper portion of the binder-frame and to the main frame, substantially as described.

2. In a grain-binder, the combination, with the main frame A and the binder-frame, connected at their upper portions, of the arms P P, pivoted to the base of the binder-frame and to the lower portion of the main frame, substantially as described.

3. The swinging arms O P, in combination with the frames A B of a grain-binder, substantially as described.

4. The dog or latch *g*, in combination with the pinion *b*, for holding the hook *a*, so as to prevent the release of the binding-wire, substantially as specified.

5. The combination of the blade *c* with the blade *d*, arm *f*, and stop *n*, substantially as and for the purpose specified.

6. The combination of the arm H, twisting-hook *a*, pinion *b*, dog *g*, and cutter *c d* with the wire-guide *p*, rack *m*, projection *o*, and stop *n*, substantially as and for the purposes specified.

7. The roller or wheel *q*, guide-plate *p*, overhanging the arm H, guide-wheels *r r*, and wheel *s*, for keeping the wire in position, in combination with the revolving arm H, substantially as specified.

8. The combination of the cord M, spool L, and spring J with the spring-catch *h*, guide *i*, and knob *j*, substantially as described.

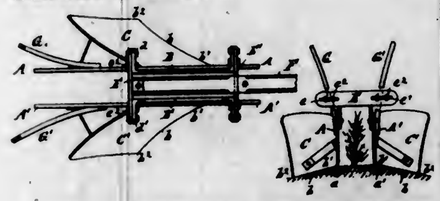
9. The hook or spring-catch *h*, in combination with the projection *h'* and cam-wheel *k*, for releasing the cord M, substantially as described.

10. The notches *u*, in combination with the catch *e*, spring-arm *w*, and treadle D, for giving the gavel an additional compression, substantially as specified.

11. The supporting-pins E E, in combination with the frame B and foot-board T, for enabling an attendant to adjust said frame and the mechanism thereon in the direction of the length of the grain, substantially as specified.

266,734. COTTON-CULTIVATOR. JAMES W. SURGI and JOHN T. DOWDALL, St. Louis, Mo. Filed June 26, 1882. (No model.)

Brief.—Long cutters beveled outward on lower edges joined to shares, points of which are above and back points below bottom of said cutters. Cutters adjustable.



Claim.—1. In combination with the cutter-blades A A', plowshares C C', frame-pieces B B', having lateral arms or plates *d d'*, the transverse straps or plates E E', having elongated slots, and the fastening-bolts, by means whereof the lateral adjustment and inclination of the said cutter-blades and plows can be made in the manner and for the purposes set forth.

2. The combination, with tongue F, of the cutter-blades A A', having bevel cutting-edges *a a'*, the plowshares C C', having their inner cutting-point, *b'*, raised higher than the said bevel cutting-edge, the latter also extending forward of the plows, as shown and described, the frame-pieces B B', having lateral arms *d d'*, transverse straps or plates E E', having elongated slots, and fastening-bolts, all said parts forming the improved cultivator, substantially as set forth.

266,735. INDUCTORIUM. CHARLES J. VAN DEPOELE, Chicago, Ill. Filed Aug. 2, 1882. (No model.)

Claim.—1. An inductorium composed of an equal number of independent induction-coils, having all the primary circuits connected with one another, so that the inner end of one coil is electrically connected to the outer end of the next through the whole group, and in which the outer end of the first coil is connected to the inner end of the last coil in the group, substantially as and for the purposes described.

2. An inductorium having all the primary coils connected together, as described, and to corresponding sections of a stationary commutator, provided with conducting-brushes whereby on passing the conducting-brushes connected to the source of electricity on opposite sides of said commutator one half of the coils in the group will present north and the other half of said coils south polarity, and on further moving said brushes around said commutator the polarity in the group of coils will be constantly changed or shifted as long as the brushes are traveling, whereby alternating currents are induced in the secondary coils, substantially as and for the purposes specified.

3. An inductorium having a stationary commutator with insulated sections corresponding to the number of induction-coils in a group, each section of said commutator being permanently connected to the primary of one of said induction-coils, the primary circuits being connected with each other in a continuous series, in combination with positive and negative conducting-brushes, leading a current of electricity through said group of coils, such brushes being adapted to revolve around said sectional commutator, and thereby to continually change the polarity of the coils without breaking the circuit, thus avoiding all sparks and allowing the use of continuous primary currents of any desired strength, substantially as described.

4. An inductorium having a stationary commutator connected to the primary coils, connected in a continuous series, as described, and having cores inclosed within said coils, in combination with suitable positive and negative conducting-brushes mounted on a central axis, and a permanent or electro magnet mounted on the same central axis and adapted to be rapidly rotated, together with the said brushes, by the attraction of the cores, caused by their shifting polarity during the progressive passage therethrough of a continuous main current, substantially as described.

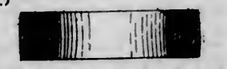
5. The combination of the group of induction-coils secured around and connected to a stationary central commutator, the centrally-placed rotating axis carrying conducting-brushes, and a suitable actuating-magnet operated by the shifting polarity of the cores of said induction-coils, and a ring for conveying the negative current through the machine to one of its rotating conducting-brushes, substantially as described.

266,736. TEA-KETTLE. WILLIAM WARWICK, Buffalo, N. Y. Filed Mar. 28, 1882. (No model.)



Claim.—A kettle having a spout divided vertically into two parts, each formed in one piece with the adjacent portion of the body or band of the kettle, and both parts secured together by joints on the upper and lower sides of the spout, substantially as set forth.

266,737. WATCH-SPRING. EDWIN J. WATSON and HORACE W. WILLSON, Worcester, Mass., assignors to the Washburn & Moen Manufacturing Company, same place. Filed May 31, 1882. (No model.)

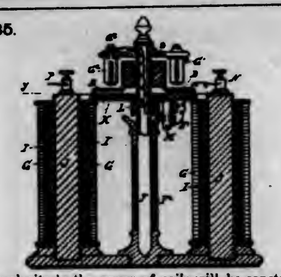


Claim.—As an improved article of manufacture, a watch-spring convex upon one or both sides, substantially as and for the purposes set forth.

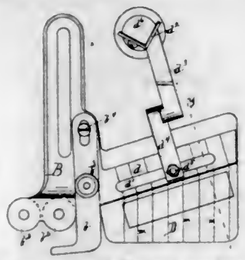
266,738. BINDING ATTACHMENT FOR SEWING-MACHINES. RICHARD J. WELLS, Chicago, Ill., assignor to Louis E. Hastings, same place. Filed Aug. 17, 1882. (No model.)

Claim.—1. The combination, with the sewing-machine and binder, of a device for notching the corners of the binding material, substantially as specified.

266,785.


a
G
G
G
G
F
F
F

266,738.



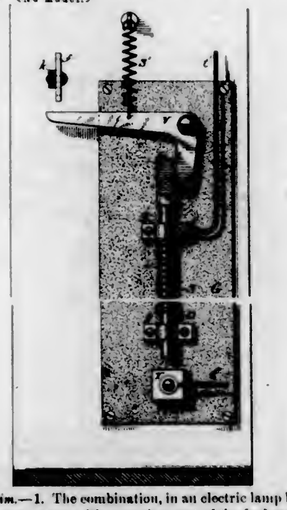
2. The combination, with the sewing-machine and binder, of a device for notching the binding material and a gage for determining the points at which the notches are to be cut, substantially as specified.

3. The nicking device consisting of the swinging arm, provided with an L-shaped cutting-edge, combined with the slide and the supporting-plate, substantially as specified.

4. The notch-cutter hinged to the gage-plate, provided with the diagonal line *d*, in combination with such gage-plate, substantially as specified.

5. The binder consisting of the spring-leaves, having guide-projections thereon, and the anti-friction rollers for guiding the material to be bound, substantially as specified.

266,739. SHUNTING DEVICE FOR ELECTRIC LAMPS. EDWARD WESTON, Newark, N. J., assignor to the United States Electric Lighting Company, New York, N. Y. Filed June 7, 1882. (No model.)

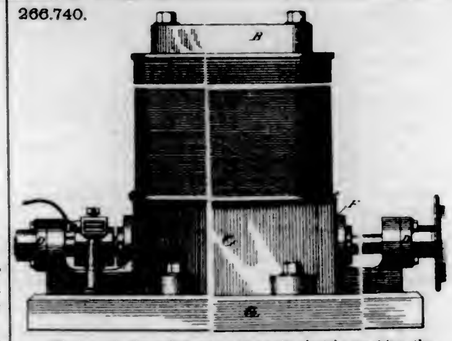


Claim.—1. The combination, in an electric lamp having main and shunt magnets, with a moving part of the feed mechanism, of a normally-open circuit around the lamp, a circuit-closer contained therein, and a lever or catch for preventing the same from acting, these parts being constructed and combined in such manner that the circuit-closer will be operated by contact therewith of the said moving part of the feed mechanism, due to an abnormal increase in the attraction of the shunt-magnet, as set forth.

2. The combination, in an electric lamp having main and shunt magnets, with a moving part of the feed mechanism, of a contact-plate, T, pin O, spring S, lever V, adapted to engage with and hold the said pin up against the force of spring S, and circuit-connections, as described, these parts being constructed and arranged in such manner that a movement of the feed mechanism beyond the normal range will trip the lever V and cut the lamp out of circuit.

266,740. MAGNETO OR DYNAMO ELECTRIC MACHINE. EDWARD WESTON, Newark, N. J., assignor to the United States Electric Lighting Company, New York, N. Y. Filed July 17, 1882. (No model.)

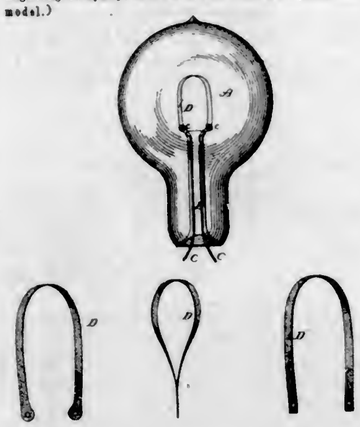
266,740.



Claim.—1. In a dynamo or magneto electric machine, the combination, with an armature, of field-magnets having pole-pieces between which the same rotates, and solid arms or extensions cast in one piece with said pole-pieces and constituting supports for the journals of the armature-shaft, as described.

2. In a dynamo or magneto electric machine, the combination, with a cylindrical armature, F, of magnets *A A'*, pole-pieces C C, arms E E, extending from the same, and plates D D, containing bearings for the armature-shaft, and clamped to the arms E E in substantially the manner indicated.

266,741. INCANDESCENT ELECTRIC LAMP. EDWARD WESTON, Newark, N. J., assignor to the United States Electric Lighting Company, New York, N. Y. Filed July 19, 1882. (No model.)



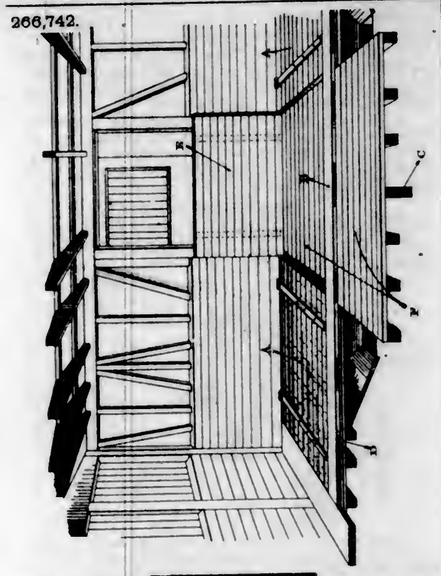
Claim.—1. In an incandescent lamp, a loop or arch shaped conductor having its ends twisted one-quarter of a turn with respect to the center or bow of the loop, in combination with clamping-surfaces adapted to maintain the loop in its distorted condition, substantially as hereinbefore set forth.

2. In an incandescent lamp, a flat carbon strip bent into a loop, and having its ends twisted one-quarter of a turn with respect to the center or bow of the loop, in combination with metallic clamping-surfaces arranged to maintain the loop in a distorted condition, whereby a more uniform amount of radiating-surface is obtained, as set forth.

266,742. FREIGHT-CAR. THOMAS L. WILSON, Port Hope, Ontario, assignor of one-half to Eugene Harmon Davis, Toronto, Canada. Filed July 15, 1882. (No model.)

Claim.—A freight-car adapted to serve for grain or general merchandise at will, having hoppers in its bottom with a series of transverse joists permanently secured over the top of the hoppers, a central longitudinal plank, B, having beveled edges, the hinged doors A, having corresponding inclines, the sub-floor F, and the door E, the latter being adapted to be closed down, so as to be flush with the plank B, and the whole constructed, combined, arranged, and adapted to serve as and for the purposes specified.

266,742.



266,743. STAY FOR GARMENTS. LEWIS ABRAHAM, Washington, D. C. Filed Aug. 30, 1882. (No model.)



Claim.—1. A continuous band or facing for the openings of shirts, drawers, and analogous articles, doubled over and returned, as described, at the middle, and thereby forming a mitered re-enforce fork-stay of more than one thickness, substantially as described.

2. In a shirt or analogous article, the continuous band A, having side extensions, *A'*, and a middle portion doubled and folded over upon itself, the middle portion where doubled and folded, as described, forming a fork-stay, all made of a single piece of fabric, substantially as described.

3. The combination, with the slit or opening on an article of wearing-apparel, of a continuous fly or facing for said opening folded and returned over at its middle, as and for the purpose intended, substantially as described.

4. In a continuous band fly-facing for the openings of garments, the folded mitered fork re-enforce stay B, substantially as described.

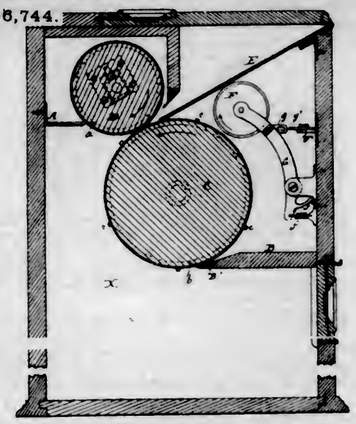
266,744. BALLOT-BOX. STEUBEN T. BACON, Boston, Mass. Filed May 1, 1882. (No model.)

Claim.—1. In a ballot-box of the character described, the combination, with the feed-rollers having one or more annular grooves therein, of two shelves or partitions projecting from the sides of said box and dividing it into two compartments, said shelves or partitions being provided on their edges with projections or fingers which enter the grooves in said feed-rollers, substantially as and for the purposes set forth.

2. The combination, in a ballot-box, with the marking wheels or devices, of the ink-roller supported on a lever, slotted piece connected with the lever, and notched finger or catch for engaging said slotted piece and holding the roller out of contact with said marking devices, substantially as described.

3. In a ballot-box, the combination of the marking-wheels, ink-roller, lever supporting said ink-roller, slotted piece on the lever of said roller, notched finger or catch, spring, and stop, substantially as described.

266,744.

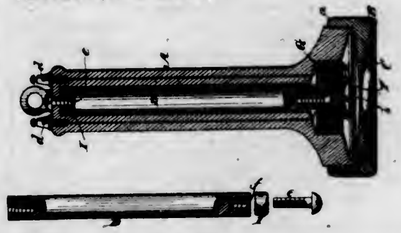


266,745. SEWING-MACHINE SHUTTLE. SAMUEL B. BARTHOLOMEW, Springfield, Mass. Filed Feb. 24, 1882. (No model.)



Claim.—The combination, in a sewing-machine shuttle, of a threading-channel near the outer edge of the face-plate, and on its inner face a tension-spring secured to the inner face of said plate, and having a threadway coinciding with said channel and a thread-stop therein overhanging one side of said slot, so as to form a free passage for the thread, a spring-point lying against said plate, and a thread-slot on the edge thereof opposite to said threadway, and a screw securing said spring to said plate, the parts being all arranged to operate substantially as set forth.

266,746. TELEPHONIC RECEIVER. SETH E. BEEDY, Farmington, Me., assignor of one-half to John J. Linscott, same place. Filed June 13, 1882. (No model.)



Claim.—1. A telephone-receiver provided with a single diaphragm having one or more perforations, as described, in combination with an adjustable soft-iron core having a concaved or cup-shaped extremity next the diaphragm, and a stem which passes through the spool and into the permanent magnet, as set forth.

2. In a telephone-receiver provided with a perforated diaphragm, the combination, with an adjustable permanent magnet adjustably secured to the telephone-handle at one end, the opposite end being provided with a soft-iron core having a cup-shaped extremity, of the bobbin G, secured to the permanent magnet and soft-iron core, substantially as set forth.

3. In a telephone-receiver having a perforated diaphragm, a soft-iron core provided with a cupped or concaved exterior face adjacent to and larger than the opening or openings in the diaphragm, said core being secured to the permanent magnet and adjustable with relation to the diaphragm, substantially as set forth.

4. The combination, with the permanent magnet and the soft-iron core, of the concaved disk and perforated diaphragm, as set forth.

5. In a telephonic receiver having an adjustable permanent magnet, a cup-shaped detachable core adjustably secured to the permanent magnet, substantially as set forth.

266,747. TELEPHONIC TRANSMITTER. SETH E. BUEDY, Farmington, Me., assignor of one-half to John J. Linscott, same place. Filed June 13, 1882. (No model.)



Claim.—1. The combination, with the wooden diaphragm, of the two carbons, one mounted upon the central part thereof, and the other supported by an arm, G, attached to the box, said arm having a bent end, *d*, and a set-screw, H, bearing against the end *d*, whereby the said carbon may be adjusted toward the diaphragm, substantially as described.

2. The combination, with the hinged door carrying the mouthpiece, of the separate diaphragm covering the whole face of the box, the carbon mounted thereon, the second carbon mounted on a spring-arm, and a set-screw bearing against the bent end of said arm, substantially as and for the purpose set forth.

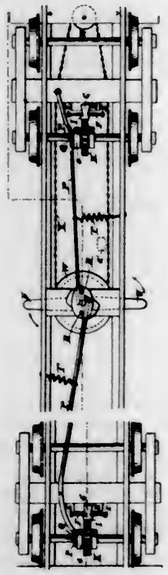
266,748. SHIRT. DAVID P. BELKNAP, San Francisco, Cal. Filed Feb. 16, 1882. (No model.)



Claim.—1. The open-front shirt hereinbefore shown and described, provided with the overlapping or interchangeable flaps A and B and the offset D, constructed and arranged to operate substantially in the manner specified.

2. The combination and arrangement of a shirt having one or more flaps or bosoms, and provided with an offset or disconnection at the base of the bosom or flaps, and adapted to be worn with a collar permanently connected to the shirt, or a detachable collar, substantially in the manner as herein set forth and described.

266,749. DUMPING-CAR. JOHN E. BEMIS, Waupun, Wis. Filed May 8, 1882. (Model.)

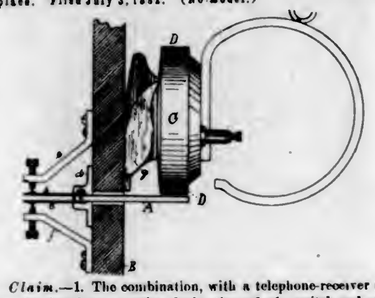


Claim.—1. The combination of retarding rods or bars D with the dumping-platform of a car, substantially as described.

2. The combination, with a dumping-platform divided along the middle and hinged to the frame at B, dog *a'*, and tappet-wheel arms U, of the cross-heads F, the toothed slides G, and gears J K, substantially as and for the purpose set forth.

3. In a dumping-car having the platform geared with the axle and a clutch for connecting and disconnecting said gears, the tappet-wheel for working the clutch-levers, geared with a hand-wheel, Z, located on the end of the car, by pulleys W and Y and chains X, substantially as described.

266,750. TELEPHONE-SWITCH. SIGMUND BERGMANN, New York, N. Y., assignor of one-half to Edward H. Johnson, same place. Filed July 3, 1882. (No model.)



Claim.—1. The combination, with a telephone-receiver (or transmitter) and a supporting device thereof, of a switch and contacts, and a permanent magnet and armature moving such switch, and brought into action by the attaching of such instrument to such supporting device, substantially as set forth.

2. In a telephone-switch, the combination, with a polarized switch-lever, of the movable instrument having an iron ring carried thereby, substantially as and for the purpose set forth.

3. In a telephone-switch, the combination, with a movable instrument provided with an armature, of a pivoted horseshoe-magnet provided with contacts and acting as the switch-lever, substantially as set forth.

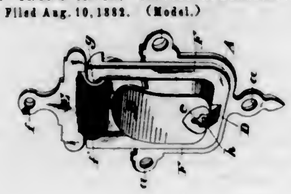
266,751. METHOD OF WELTING OR HEMMING FABRICS. JOHN BIGELOW, Philadelphia, Pa. Filed Sept. 10, 1881. (Specimens.)



Claim.—1. The improvement in the art of making a welt or hem on knit goods or other fabrics, which consists in folding the goods on the line at which the seam is to be made, turning back the outer portion upon the fold, so as to leave a welt of the desired width, holding the work by clamping devices—such as the presser-foot and work-plate of a sewing-machine—and uniting the superposed layers by stitches which pass through the goods parallel with the folded edge and at a suitable distance from said edge, as stated, so that the folded material can be flattened out, substantially as described.

2. The method herein described for welting or hemming material, which consists in folding the same back upon itself, as shown, next folding the edge of the material back and under, with the fold thus made in line with and over the first edge or fold, as shown, and then uniting the parts with a line of sewing-machine stitches, substantially as and for the purposes described.

266,752. TRUNK-CATCH. GILBERT R. BLAKESLEY, Bristol, Conn. Filed Aug. 10, 1882. (Model.)

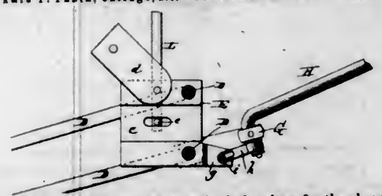


Claim.—1. A fastening device consisting of a swinging loop journaled in a plate, in combination with a locking stud or projection on a separate plate, and a spring-pressed catch or bolt constructed to be moved inwardly and allow the loop to pass over and engage the locking stud or projection, and to move outwardly and engage the outer surface of the loop and prevent its accidental displacement, substantially as set forth.

2. In a trunk-fastener, the combination, with a swinging loop journaled in a plate, of a plate provided with a chambered projection or locking-stud, and a spring-actuated bolt located within said chamber, and constructed to extend beyond the locking end of the projection or stud and secure the loop against accidental displacement, substantially as set forth.

3. The swinging loop having a lug or cam formed on its under side, near its cross-bar, and adapted to rest against the side of the trunk or valance and retain the free end of the loop at a sufficient distance from the trunk to cause it to pass over the locking stud or projection, substantially as set forth.

266,753. CHEESE-CUTTER. JOHN W. BLODGETT and BENJAMIN F. FELIX, Chicago, Ill. Filed Jan. 31, 1882. (Model.)



Claim.—1. The combination of a bed or base for the cheese, the standards rising therefrom, the pivoted bails, a knife-head applied to the same, and a lever-handle for raising and depressing the knife and bail, substantially as described.

2. The combination of the pivoted bails, a knife-head applied to the same, a knife applied to the said head, and means for giving endwise movement to the knife, substantially as described.

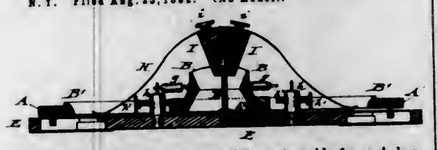
3. The combination of one or more bails pivoted to fixed standards, and a knife-head applied to the bail or bails and bearing a knife for cutting cheese, with a lever-handle which is connected by a slotted link to said knife-head, substantially as described.

4. The combination of one or more pivoted bails, a knife-head applied thereto, a longitudinally-movable knife, a swivel hand-lever, and a slotted link connecting this lever to the said knife-head, substantially as described.

5. The combination of the parallel bails pivoted to standards, the knife-head connected to the bails, a knife removably applied to its head, a pivoted closing-plate therefor, check-posts rigidly fixed to one of the bails, a lever pivoted thereto, and a slotted link connecting the lever to the knife-head, substantially as described.

6. The combination, in a cheese-cutter, of the lever-handle H with the pivoted nut G, to which said handle is pivoted, the check-pillows, the knife-head, the link-connection of the said handle with this head, the knife, and the bails, substantially in the manner and for the purposes described.

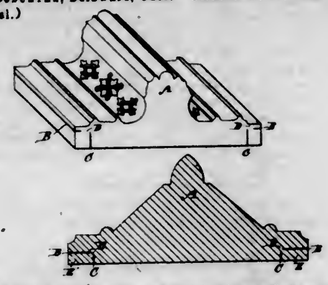
266,754. PARALLEL RULER. GUSTAV BLUSCK, New York, N. Y. Filed Aug. 23, 1882. (No model.)



Claim.—1. The combination of the main guide-frame A, having a raised and centrally-recessed center part, B, and corner-pieces *a a* at the under side, with a slide-piece, E, steel band-spring H, and wedge-piece I, said slide-piece being guided along the corner-pieces *a a* at one side of frame A, and by a central adjustable guide-stud, *b*, at the opposite side of frame A, substantially as set forth.

2. The combination, with the main guide-frame A, having a raised and centrally-recessed part, B, of a slide-piece, E, actuating steel spring H, and wedge-shaped center piece, I, the latter being attached to the spring H, and provided with conically-shaped shorter sides, whereby a vertical central contact is obtained between the center piece, I, and the inner inclined side wall of the raised part B, substantially as set forth.

266,755. REVERSIBLE MOLDING FOR FRAMES. CHARLES H. BOSWORTH, Delaware, Ohio. Filed Mar. 21, 1882. (No model.)

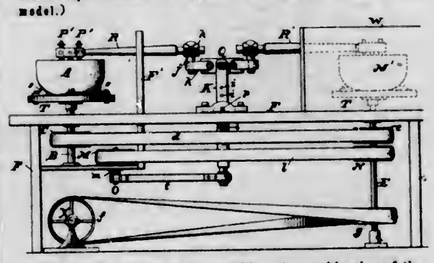


Claim.—1. As an improved article of manufacture, a molding made, substantially as herein shown and described, with a longitudinal cut, B, in each edge, and with a cut, C, in the inner surface parallel with each edge, whereby a rabbet can be formed in either edge by deepening the cuts sufficiently to loosen the strip of wood between the cuts, as set forth.

2. A molding having its outer surface made symmetrical with the longitudinal central line of the molding, which molding is provided with longitudinal cuts in the edges, and with cuts C parallel with the edges in the inner surface, substantially as herein shown and described, and for the purpose set forth.

3. A frame made of moldings having a longitudinal cut in each edge, and a cut, C, parallel with each edge in the inner surface of the molding, substantially as herein shown and described, whereby a frame can be formed without wasting any of the material, as set forth.

266,756. TRITURATING-MACHINE. FRANCIS E. BOERICKE and GEORGE GOLL, Philadelphia, Pa., assignors to said Boericke and Adolph J. Tafel, same place. Filed Sept. 26, 1882. (No model.)



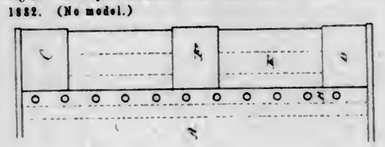
Claim.—1. In a triturating-machine, the combination of the rotating mortar, the pestles, the adjustable rod, the vibrating lever K, and means for adjusting said lever vertically in order to adapt the throw of said rod to suit the different sizes of mortars, substantially as shown and described.

2. The mortar, the table T, the vertical shafts B and *m*, the pestles, rod R, the vibrating lever K, pitman *t*, a crank upon shaft *m*, the vertical shaft E, and the pulleys C M N *e*, the whole combined, arranged, and operating together substantially as and for the purposes set forth.

3. In a triturating-machine, the combination, with the rotating mortar, of the vertically-movable pestles P' and the reciprocating rod R, provided with slots or bearings for said pestles, substantially as and for the purpose stated.

4. The combination of the rotating mortar and the reciprocating rod R, provided with the fixed pestles P and the independently-movable pestles P', substantially as shown and described.

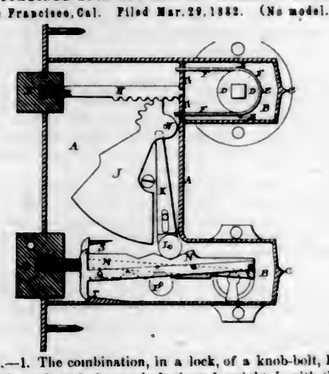
266,757. CORSET. MORRIS P. BRAY, New Haven, Conn., assignor to Mayer, Strouse & Co., same place. Filed Aug. 28, 1882. (No model.)



Claim.—1. A corset having pockets C D, attached respectively at the top and bottom of the corset at the rear and inside the line of eyelets, extending outward beyond the eyelets, the pockets opening toward each other, combined with a protector, E, constructed for insertion or removal from the said pockets C D, substantially as described.

2. A corset having pockets C D, attached respectively at the top and bottom of the corset at the rear and inside the line of eyelets, extending outward beyond the eyelets, the pockets opening toward each other, combined with a protector, E, constructed for insertion or removal from the said pockets C D and the auxiliary pocket, substantially as described.

266,758. COMBINED LOCK AND LATCH. RICHARD F. BRIDSWELL, San Francisco, Cal. Filed Mar. 29, 1882. (No model.)



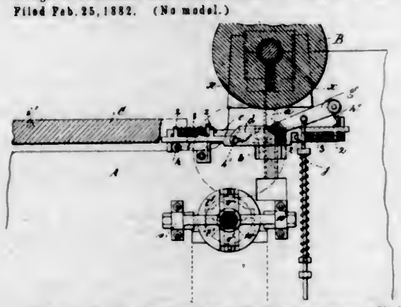
Claim.—1. The combination, in a lock, of a knob-bolt, H, provided with teeth and the toothed pivoted weight J, with the connecting-rod G, the perforated strap F, and the knob-barrel D, provided with projections E, substantially as described.

2. The combination, in a lock, of the swinging weight J, the rod K, provided with a roller, L, a corrugated locking-bolt, and the supporting-roller P, the bolts being provided with suitable tumblers, substantially as set forth.

3. The combination of the locking-bolt N, the levers R and Q, provided with shoulders upon their front ends and pivoted at different points upon the bolt, with suitable stops, S and T, which are placed inside of the lock-frame, a suitable means for supporting the bolt in position, and a suitable means for holding the bolt down, substantially as specified.

4. In a lock, the combination of the locking-bolt with the two headed levers or tumblers, which are pivoted to the bolt, and which are moved at their front ends in opposite directions, so as to catch behind different stops, substantially as shown.

266,759. PRINTING-PRESS. JOHN BROOKS, Plainfield, N. J., assignor to himself and C. Potter, Jr., & Co., New York, N. Y. Filed Feb. 25, 1882. (No model.)

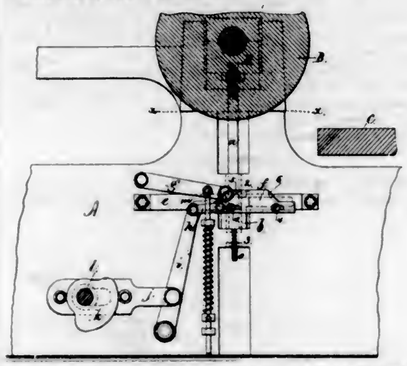


Claim.—1. The combination, with the impression-cylinder and reciprocating bed, of screws and nuts to raise and lower the impression-cylinder, and mechanism, substantially as described, intervening between the reciprocating bed and the nuts, to give motion to such nuts in opposite directions near the termination of the reciprocations of the bed, substantially as set forth.

2. The combination, with the bed, of the stops *i i'*, the bar *f*, the spring-cushions *h h'*, the rack-bars and toothed nuts and screws, and the impression-cylinder and its journals, substantially as set forth.

3. The combination of the bed C, rack *t*, pinion *e*, and bridle bar pivoted at its ends, with the shaft *w*, having a T or cross shaft at its end, the joint-blocks *o o'*, and the hub *l'*, having a transverse slot for forming a universal joint between the driving-shaft *q* and the shaft *w*, substantially as set forth.

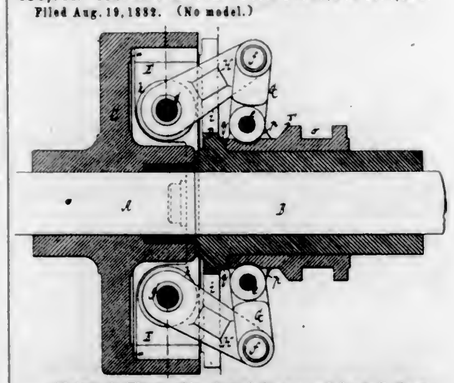
266,760. PRINTING-PRESS. JOHN BROOKS, Plainfield, N. J., assignor to himself and C. Potter, Jr., & Co., New York, N. Y. Filed Feb. 25, 1882. (No model.)



Claim.—1. In a printing-press, the combination, with the impression-cylinder, its journal-boxes, and the screws connected with such journal-boxes, of nuts for such screws within an opening in the frame of the machine, below the cross-bar 2 and above the rest 3, teeth upon the nuts, the rack-saddles *d*, and bars *f*, one at each side of the press and running longitudinally of the frame, and mechanism, substantially as described, for giving end motion to such racks, as set forth.

2. The combination, with the impression-cylinder and each of its journal-boxes, of the screw *a*, nut *b*, rack-saddle *d*, saddle-bar *e*, bar *f*, lock-lever *g*, and mechanism, substantially as described, for moving the lock-lever, substantially as set forth.

266,761. FRICTION-CLUTCH. FELIX BROWN, New York, N. Y. Filed Aug. 19, 1882. (No model.)



Claim.—1. The combination of the grooved drum C, the expansible segments E E, the levers G H, the screw-spindles *g*, the sleeve F, and the slotted disk D, provided with a hub on which the sleeve slides, and having at the inner end of its hub the shoulder *q*, against which the inner end of the sleeve abuts to arrest the sleeve and levers in their locked position, substantially as described.

2. The combination, with the disk D, the expansible segments E, and levers H, forming part of the mechanism for expanding the segments, of recesses *i i* in the disk and screws *b*, passing through slotted flanges *d*, projecting from the segments, for retaining said segments in a central position, substantially as set forth.

3. The combination, with the grooved drum C, of the disk D, the expansible segments E E, engaging with the grooved drum, the screw-spindles *g g*, the nuts *h h*, the heads *h'*, formed on said nuts, the plugs h^2, fitting grooves h^3 in said nuts, and the set-screws h^4, substantially as and for the purpose shown and described.

266,762. PROCESS OF MAKING ELECTRODES FOR SECONDARY BATTERIES. CHARLES F. BRUSH, Cleveland, Ohio. Filed July 20, 1882. (No model.)

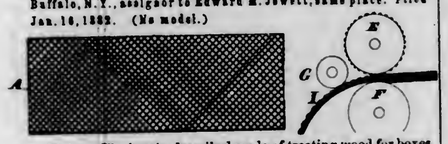


Claim.—1. A method of manufacturing elements for secondary batteries, consisting in superficially oxidizing particles or separate pieces of lead and then subjecting such oxidized pieces or particles to pressure and uniting them into a compact and firmly-coherent mass, substantially as set forth.

2. The method of manufacturing elements for secondary batteries, consisting in subdividing lead into small pieces or particles and superficially oxidizing said particles or pieces, and then subjecting a mass of such oxidized particles to pressure and uniting them into a compact and firmly-coherent mass, substantially as set forth.

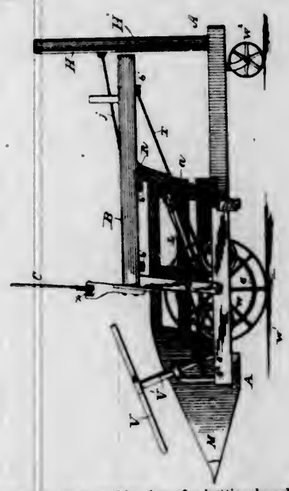
3. A method or process for making material from which secondary-battery elements can be constructed, said method consisting essentially in subdividing lead into small particles, superficially oxidizing said particles, and finally subjecting a collection of said superficially-oxidized particles to pressure sufficient to concentrate or unite them into a coherent mass or body, substantially as set forth.

266,763. METHOD OF CORRUGATING WOOD. JOHN J. BUHL, Buffalo, N. Y., assignor to Edward M. Jewett, same place. Filed Jan. 16, 1882. (No model.)



Claim.—The herein-described mode of treating wood for boxes or other purposes, consisting in passing it in a dry state through rollers, one of which is corrugated and the other smooth, whereby the wood is compressed, corrugated, and bent or formed into a cylinder at the same time.

266,764. CORN CUTTER AND SHOCKER. FRANK W. BURR and ORVIL A. SMITH, Lafox, Ill. Filed July 20, 1882. (No model.)



Claim.—1. The combination of a butting-board, a dumping-table, a catch for holding said table in its normal position, a wheel mounted loosely on a revolving shaft, a clutch mechanism, a lever, and suitable connections whereby the catch for holding the table may be disengaged and the clutch mechanism thrown into gear for the purpose of turning said table, substantially as described.

2. The dumping-table B, strap T, and wheel F, provided with a clutch mechanism for connecting it with a revolving shaft, in combination with an arrangement for automatically disengaging said clutch when the table has reached the limit of its stroke, substantially as described and shown.

3. The combination of the table B, wheel F, and means of connecting the same with the clutch mechanism F' F^2, clutch-lever J, and push-rod J', substantially as shown and described.

4. The combination of the wheel F, clutch F' F^2, clutch-lever J, spring *f'*, push-rod J', spring-bolt *g*, and lever L, in combination with the table B, substantially as described and shown.

5. The combination of the table B, strap T, wheel F, clutch F' F^2, spring *f'*, clutch-lever J, push-rod J', spring-bolt *g*, lever L, catch h', and connections *i* and h^2, substantially as shown and described.

6. The combination of the arms C and C', having springs *x x'*, rope D, wheel E, friction-cones E' E^2, revolving shaft S^2, and lever L, substantially as described and shown.

7. In a corn cutter and shocker, a compress-arm and rope, in combination with a wheel on which said rope is wound placed loosely on a revolving shaft, and arranged to be connected and revolved therewith by friction-cones, and provided with a ratchet for holding it at any desired point, substantially as shown and described.

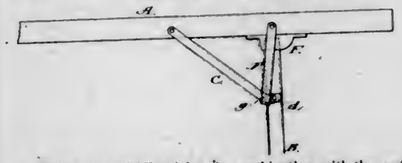
8. The combination of the arms C and C', having springs *x x'*, rope D, wheel F, friction-cones E' E^2, shaft S^2, ratchet *r*, lever L, and spring-bolt *d*, substantially as described and shown.

266,765. CORN-PLANTING MACHINE. ZERCLON W. BURT, Rome, Ohio; (Lydia Ann Burt, Administratrix of said Burt, deceased.) Filed Aug. 19, 1881. (No model.)



Claim.—The hoppers *a*, slotted seed-slide J, having the pin *s* at its middle, slotted adjustable plates L, and set-screws *z*, in combination with the axle *o*, provided with the pins *y* and cam-rod *n*, pivoted near its middle to the transverse bar *k* of the frame, and provided at its upper end with the hinged slotted clasp *t*, adapted to be opened and closed vertically to engage or disengage the cam-rod from the pin of the seed-slide, when desired, substantially as described.

266,766. FOLDING JOINT. JOHN S. BURTON, Paris, Ill. Filed Nov. 26, 1881. Renewed Aug. 17, 1882. (No model.)

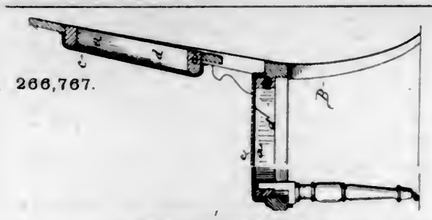


Claim.—In a folding joint, the combination, with the part A and leg B, of the socket E, curved brace C, and pivoted loop or stirrup lock F, substantially as specified.

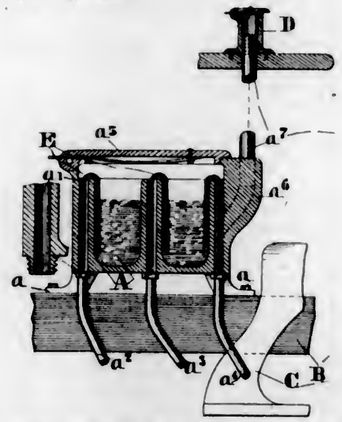
266,767. UPHOLSTERED CHAIR, SOFA, &c. WILLIAM E. BUSER, Chillicothe, Ohio. Filed Mar. 3, 1882. (No model.)

Claim.—An upholstered chair having the upholstering fabric or cloth of the seat or back supported in relief within the margin of the chair-frame by a frame secured inside the chair-frame, and forming an offset therefrom, substantially as shown and described, whereby an inexpensive article of furniture may be provided, which shall have the finished appearance of the more costly upholstered kind, as set forth.

266,767.

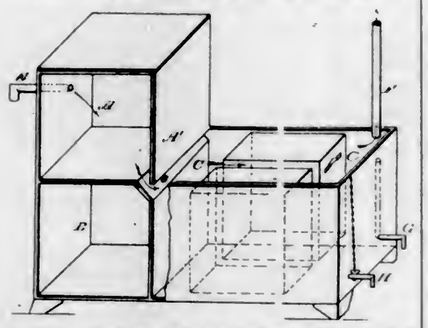


266,768. AUTOMATIC OILER FOR LOCOMOTIVE-ENGINES. A. HAMILTON CAMPBELL, Waynesborough, Pa. Filed Sept. 21, 1882. (No model.)



Claim.—The box A, having the tubes a' a', lid a^3, and projection a^4, in combination with the pipe a^7 and oil-cup D, and the pipes a^5 a^6 a^1, as described.

266,769. CREAMER. FRANK B. CHAPIN, Detroit, and JOHN W. MEAGER, Candor, Minn. Filed Apr. 11, 1882. (No model.)

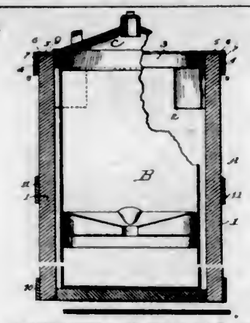


Claim.—In a milk-cooler, the combination of an ice-chest provided with an air-inlet pipe, E, a milk-pan receptacle, C, provided with an air-outlet pipe, by means of which the air and animal odors are carried off, an overflow-pipe, G, and water-escape pipe H, the bottom of the ice-chest sloping to an opening to the pan-receptacle formed by the beveled edge of the refrigerator and projecting to one side, A', of the ice-chest, substantially as shown and described, and for the purpose set forth.

266,770. CAN FOR TRANSPORTING MILK. JOHN G. CHERRY, Cedar Rapids, Iowa. Filed June 26, 1882. (No model.)

Claim.—The combination of the side pieces, 1, the top 3, supported on the corner lugs, 2, the strips 4, the metal plate 6, having the flanges 7 8, and the inner can having the flange 9, by which it is secured to the top plate, 6, all substantially as and for the purposes set forth.

266,770.



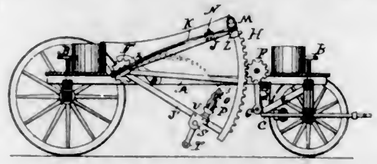
266,771. MANUFACTURE OF VEGETABLE FIBER. JENS H. CHRISTIANSEN, Moses Island, N. J., (P. O., Chester, Pa.) Filed Sept. 14, 1882. (No specimens.)

Claim.—1. The process of treating stalks and leaves of the plants hereinbefore specified, which consists in hackling or combing them into strips, boiling the latter in an alkaline bath, next removing the gluten and immersing the fiber thus obtained in a bath of boracic acid, soap, and glycerine, substantially as described.

2. The subsidiary process of treating stalks and leaves of the kind specified, which consists in softening the same by immersion in water, next hackling or combing them to reduce them to long thin strips or strands, and boiling in an alkaline bath to soften and dissolve the adhering gluten, and finally removing the latter, as specified.

266,772. CATAPULT FOR THROWING LIFE-LINES. PHILIP W. CLAYPOOL, Denver, Colo. Filed Apr. 3, 1882. (No model.)

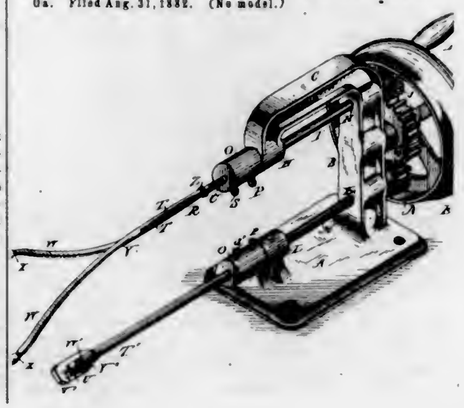
Brief.—The platform is leveled on its bed by screws. The sector-lever, operated by a pinion, applies tension to the spring.



Claim.—1. The combination, with the wheel-frame A, provided with leveling-screws B, of the sector-wheels H, crank-shaft G, axle I, gearing F F', dogs x, and springs K, carrying cup M, substantially as described, and for the purpose set forth.

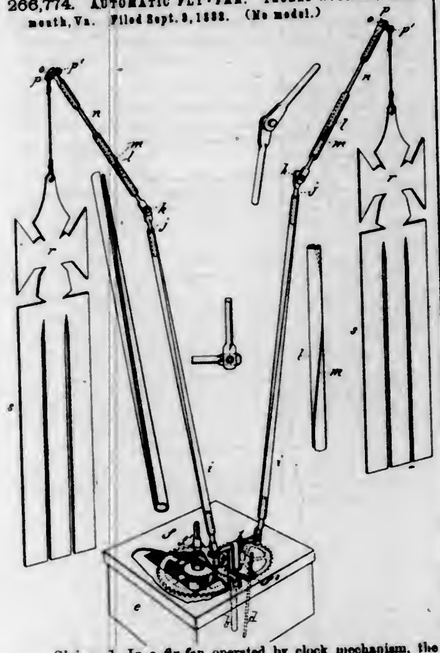
2. The combination of the gearing F, the sector-wheels H, and the springs K with the hook O, the nippers P, the funnel U, and the windlass S, all substantially as set forth.

266,773. BOTTLE-WASHER. HENRY E. CLINTON, Augusta Ga. Filed Aug. 31, 1882. (No model.)



Claim.—The combination, with the standard and operating mechanism having rotary shafts I K, of the upper spring-arms, T T, for cleaning the sides of the bottle, and lower rod, T', having piece V' for cleaning the bottom, as set forth.

266,774. AUTOMATIC FLY-FAN. THOMAS W. COREN, Portsmouth, Va. Filed Sept. 8, 1882. (No model.)



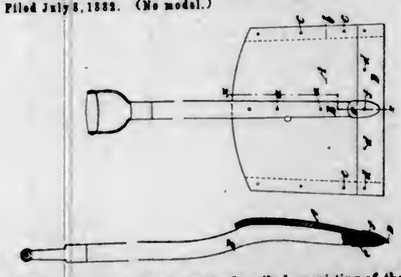
Claim.—1. In a fly-fan operated by clock mechanism, the combination, with the rotary shaft provided with the stop and the cross-arm, of the shifting lever and the pivoted and hinged sectional fan-arms, substantially as specified.

2. In a fly-fan, the extensions n, having the eyes and swivel-pins at their outer ends, in combination with the tubular fan-arms, the cords, and fans, substantially as specified.

3. A fan-arm having a swivel-connection at its outer end, in combination with the cord and fan and mechanism for rotating the fan-arm in a horizontal plane, substantially as shown and described.

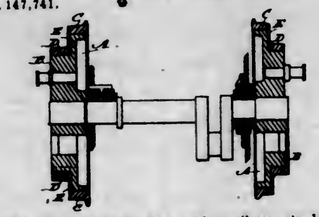
4. The combination of a furcated fan, a cord, and a fan-arm having a swivel-pin at its outer end, to which the cord is attached, as set forth.

266,775. MALT-SHOVEL. HENRY O. COLE, Wallingford, Vt. Filed July 3, 1882. (No model.)



Claim.—The malt-shovel herein described, consisting of the wood blade A, the handle B, the edge-plate D, of V-shaped transverse section, the strips C, inserted in grooves in the side edges of the blade and extending downward into a V-shaped edge-plate, and rivets D, inserted through the blade, the strips, and the portions of the edge-plate which lap on both the upper and under surfaces of the blade, substantially as herein described.

266,776. CAR-WHEEL. ALFONSO COTTRAU, Naples, Italy. Filed May 23, 1882. (No model.) Patented in Italy Jan. 14, 1882, No. 12,763; in England Mar. 7, 1882, No. 1,054; in Belgium Mar. 16, 1882, No. 57,265, and in France May 16, 1882, No. 147,741.



Claim.—1. The combination, with a railway-wheel provided with two concentric treads, of two concentric tires made integral and surrounding the treads of the wheels, substantially as herein shown and described, and for the purpose set forth.

2. The combination, with the wheel A B, provided with two concentric treads, of the concentric tires C D, fitting on the treads of the wheel A B, and united by a flat ring portion, E, placed edgewise in relation to the two tires, substantially as herein shown and described, and for the purpose set forth.

266,777. SUBSTITUTE FOR BUTTER. OSCAR H. COLMER, Washington, D. C., and ROBERT R. ROBERTS, New Orleans, La., assignors, by direct and mesne assignments, of one-half to M. J. Wine, Washington, D. C. Filed May 13, 1882. (No specimens.)

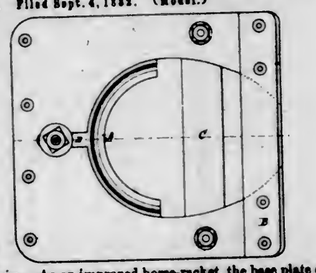
Claim.—1. An improved article of commerce known as "butterold," and consisting of cotton-seed or other vegetable oil treated with a solution of caustic soda, in combination with farinaceous flour first thoroughly cooked in salt-water, substantially as herein described.

2. The process herein described for the production of butterold, which consists in raising vegetable oil to a temperature of about 90° Fahrenheit and slowly adding a cold solution of caustic soda, then adding farinaceous flour first thoroughly cooked in salt and water and completely incorporating the mass, and then working out the oil-milk, and lastly coloring and flavoring, substantially as herein described, and in the proportions named.

266,778. SUBSTITUTE FOR LARD. OSCAR H. COLMER, Washington, D. C., and ROBERT R. ROBERTS, New Orleans, La., assignors, by direct and mesne assignments, of one-half to M. J. Wine, Washington, D. C. Filed May 13, 1882. (No specimens.)

Claim.—As a new article of manufacture, oleard, consisting of vegetable oil, in combination with cooked farinaceous flour, substantially as and in the proportions herein set forth.

266,779. HORSE-RACKET. HORACE B. DAVIS, Lexington, Mass. Filed Sept. 4, 1882. (Model.)

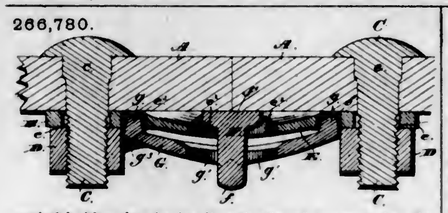


Claim.—As an improved horse-racket, the base plate or board provided with the beveled front piece, B, and the foot-rest C, combined with the flanged plate A, adjustably secured to said base-plate by means of the slot D and adjustable bolt, as shown, all substantially as and for the purpose set forth.

266,780. NUT-LOCK. LEWIS H. DAVIS, West Chester, Pa. Filed Sept. 22, 1882. (No model.)

Claim.—1. The combination of a bearing-plate provided at or near its center with a slot and a recess on its back or under side, a button having at its inner end a head loosely seated in said recess, and projecting through the slot in the bearing-plate, and the

266,780.



arched locking-plate having its ends adapted to rest against the nuts, said button having a locking-head to secure the locking-plate in position, substantially as described.

2. The combination, with a bearing-plate having end bolt-holes, and provided at or near the center of its back or under side with a recess communicating with a slot through the plate, of a button having a locking-head loosely seated in the recess on the under side of the plate, and projecting through the slot therein, and a spring locking-plate, through which the button passes to secure it in position, substantially as described.

3. The combination, with a bearing-plate provided at or near its center with a circular recess communicating with a slot, of a slotted locking-plate and a button having a circular head adapted to rotate in the said circular recess, substantially as described.

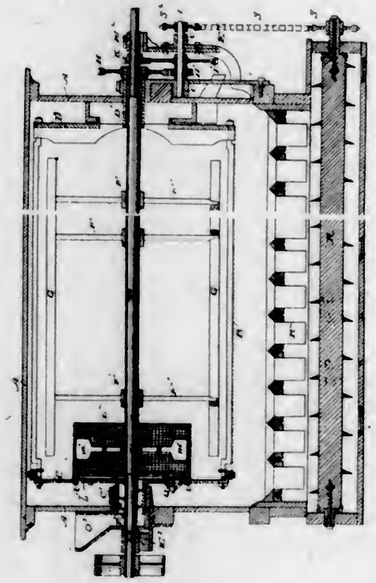
4. The combination, with a bearing-plate having end bolt-holes, and provided at or near its center with a circular recess communicating with a slot, of a slotted spring locking-plate and a button having at one end a head adapted to rotate in the circular recess and at its other end a T locking-head to confine the locking-plate in place and spread its ends apart, substantially as described.

5. The combination, with a bearing-plate provided with a circular recess communicating with a slot and with bolt holes, of an arched slotted locking-plate provided with studs, and a button having a head adapted to rotate in the said circular recess, substantially as described.

6. The combination, with the rails A A and fish-plate B, or their described equivalents, of the bolts C, nuts D, arched locking-plate G, and the button F, substantially as described.

7. The combination of the bolts C C, nuts D D, bearing-plate E, perforated at e e e^1 e^1, the arched locking-plate G, slotted at g', grooved at g^2, and provided with lugs g, and the button having the circular head f' and a locking-head, f, substantially as described.

266,781. CENTRIFUGAL FLOUR-DRESSING REEL. WILLIAM B. DELL, West Croydon, County of Surrey, England, assignor to the George T. Smith Middlings Purifier Company, Jackson, Mich. Filed July 6, 1882. (No model.)



Claim.—1. The combination, with the bolting-reel provided with a silk or cloth covering, beaters or spreaders mounted within the reel, and means for moving said beaters or spreaders independently of the reel, of a guard, cage, or basket secured inside said cloth covering at the receiving end of the reel, substantially as set forth.

2. In a centrifugal bolting-reel, the combination, with a wire guard, cage, or basket inside of said reel, of a disintegrator or detaching device arranged within the guard, cage, or basket, substantially as set forth.

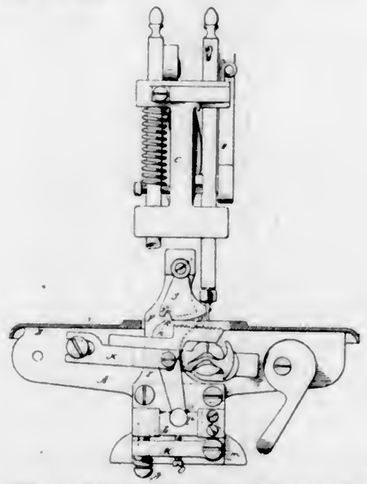
3. The combination, with the bolting-reel provided with the interior guard, cage, or basket, of the shaft carrying beaters inside of the reel, the means for rotating the reel, and the means for rotating the beaters with a speed greater than that of the reel, substantially as set forth.

266,782. PROCESS OF BLEACHING PAPER-STOCK. AUGUSTE DEMMURS, Hayssinghen, Belgium. Filed Sept. 11, 1882. (No specimens.) Patented in Belgium Mar. 24, 1882, No. 57,431, and June 26, 1882, No. 58,304; in England Apr. 14, 1882, No. 1,775, and in Germany June 19, 1882.

Claim.—1. The process herein described of treating materials composed of hemp, flax, or other products to transform them into paper-pulp completely bleached, the said process consisting in first treating them in the usual manner with chlorine or with chlorides, washing them with water, and then attacking the straws, stalks, or other impurities by means of a caustic lye, and proceeding afterward in the ordinary manner, substantially as set forth.

2. The employment, in the above-described process, of a lye composed of caustic soda or other alkali, according to the nature of the materials to be treated, substantially as set forth.

266,783. TRIMMING ATTACHMENT FOR SEWING-MACHINES. JOHN W. DEWEES, Philadelphia, Pa. Filed Mar. 18, 1882. (No model.)



Claim.—1. A trimmer or device for removing parts of hosiery or other fabric, comprising two jaws or cams having blunt edges, which are opposed to each other, and which operate by a rocking motion to produce a severance or rupture of the fabric by pressure or abrasion, substantially as set forth.

2. A fabric-trimmer comprising two levers arranged to form a toggle, and having segmental opposing severing or rupturing edges adapted and designed to be rocked on each other, substantially as shown and described.

3. In a fabric-trimmer, the combination of the pivoted levers g k, one having a flat and the other a round severing or rending edge, substantially as shown and described.

4. In a fabric-trimmer operated by or in connection with the working parts of a sewing-machine, the combination, with the bracket F, of severing or rupturing toggle-levers g k, having gear-teeth g^3 k^3, substantially as shown and set forth.

5. The combination, with a sewing-machine, of means for rupturing or severing by pressure or abrasion hosiery or other fabric while being stitched, such means comprising two blunt jaws between which such fabric is passed while being fed to the needle, and mechanism for rocking the abrading edges of said jaws against each other, substantially as set forth.

6. The combination, with the severing or rupturing interlocking cam or toggle levers g k, of feed-bar K and screw or pivot k, substantially as shown.

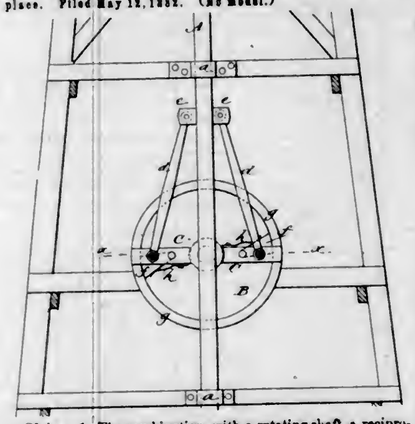
7. In a fabric-trimmer designed and adapted to be operated by or in connection with the working parts of a sewing-machine, the combination, with the severing or rupturing cam or toggle levers g k and shaft D, of intermediate mechanism, substantially as shown and described, for communicating a rocking motion to said levers, as set forth.

8. In a fabric-trimmer designed and adapted to be operated by or in connection with the working parts of a sewing-machine, the combination, with the severing or rupturing cam or toggle levers g k, of means, substantially as set forth and shown, for adjusting one of said levers toward the other, for the purpose described.

9. In a fabric-trimmer designed and adapted to be operated by or in connection with the working parts of a sewing-machine, the combination, with the severing or rupturing cam or toggle levers g k, of slide L and adjusting-screw O, substantially as shown and set forth.

10. The combination of bracket F, the severing or rupturing cam or toggle levers g k, feed-bar K, cross-head L, guides l l', lever or bar M, and adjusting-screw O, the several parts being constructed for operation substantially as shown and described.

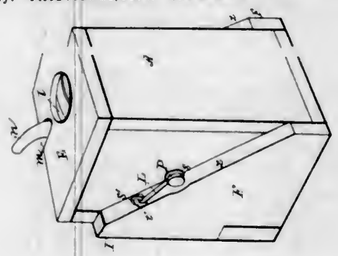
266,784. MECHANISM FOR CONVERTING MOTION. ALLEN DIXON, Larned, Kans., assignor to himself and John Lund, same place. Filed May 12, 1882. (No model.)



Claim.—1. The combination, with a rotating shaft, a reciprocating rod, and rods connecting it with pawls and carriers swiveled on said shaft, substantially as shown and described, of a fixed wheel having a right-angled peripheral flange, with the inner side of which latter the pawls alternately engage, substantially as set forth.

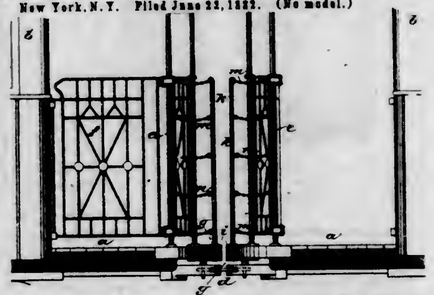
2. In a machine for converting motion, the flanged wheel B, shaft b, pawl-carriers C, pawls f, springs h, connecting-rods d, and reciprocating rod A, all constructed and operating substantially as shown and described.

266,785. SWINGING CAN. JAMES C. DOZIER, Jr., Louisville, Ky. Filed June 24, 1882. (No model.)



Claim.—A swinging-can package consisting of the inner case, A, inclosing the can or vessel, the outer base-box, C, having triangular sides, and the links L, connecting the sides to the center pivots, P, of the inner case, substantially as specified.

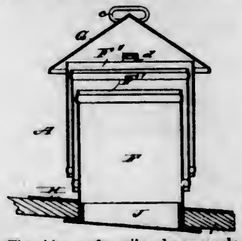
266,786. GUARD FOR CAR-PLATFORMS. JOHN B. DRISCOLL, New York, N. Y. Filed June 22, 1882. (No model.)



Claim.—1. The combination, with a car having its platform formed with receding corners, of a springy or yielding bar, g, connected at the center with the middle of the platform, and projecting therefrom outward at opposite ends, with posts k, affixed to and rising from the free ends of said bar in advance of the receding corners of the platform, and chains or equivalent connections extending from said post across the gap to a support upon the platform, substantially as herein shown and described.

2. The combination, with the platform of a car, of the arm g, holding-bolt h, clip or clips i i, posts k, chains m, or their equivalent, with the post or support on the platform, arranged and operating substantially as herein shown and described.

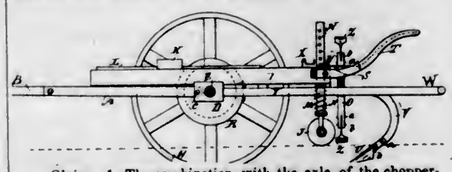
266,787. RAILROAD-CAR CHIMNEY. CHARLES A. DUBEY, Brooklyn, N. Y. Filed Aug. 22, 1882. (Model.)



Claim.—The chimney for railroad-cars, made substantially as herein shown and described, consisting of the flanged section F, sliding outer sections, F' F'', and the adjustable or sliding cover G, as and for the purposes set forth.

266,788. COTTON-CHOPPER. GREENE W. DUDGER, Greensborough, Ala. Filed Mar. 29, 1882. (No model.)

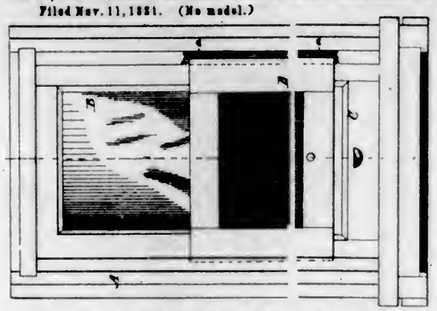
Brief.—Chopper-frame balanced on the axle, with a spring-wheel support at the rear, and at front a sliding balance-weight. Tongue, hounds, and drag-bars hinged to blocks on the axle. Wheels locked to axle by ratchet and pawl, so as only to impart motion to the chopper when going forward.



Claim.—1. The combination, with the axle, of the chopper-supporting frame I, mounted at its middle on the axle, provided with a gage-roller, J, at the rear, and having a sliding counterbalance in front on the bar L, as shown and described.

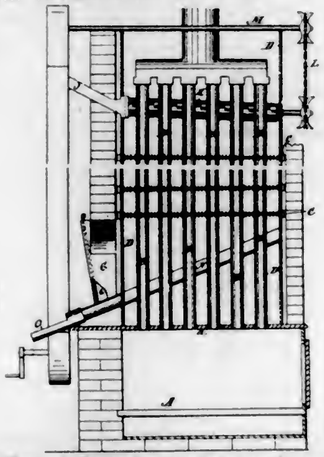
2. The combination, with the depressible frame I and gage-wheel J, having a standard, N, of the spring M, and the spring-pin Y, adapted to be entered in one of several holes in the standard N, as and for the purpose specified.

266,789. INSECT-SCREEN. JOHN C. DUNN, Ottumwa, Iowa. Filed Nov. 11, 1881. (No model.)



Claim.—The combination, with the sashes B C, of the adjustable and removable screen D, having at both top and bottom moldings *b*, upon the outer side thereof, to operate in connection with the rails of the lower sash to form a cut-off, substantially as and for the purpose set forth.

266,790. COFFEE-ROASTER. WILLIAM W. DUNN, Fort Worth Tex. Filed Mar. 24, 1882. (No model.)



Claim.—1. The heating chamber or oven for roasting green coffee, &c., the same being formed of a casing, a series of vertical flues traversing the same, and horizontal wire screens for retarding the velocity of the falling coffee-kernels, substantially as specified.

2. The combination, with horizontal rods traversing the roasting-chamber, of the wire screens, arranged horizontally, and constructed with hooks for supporting them upon said rods, as shown and described.

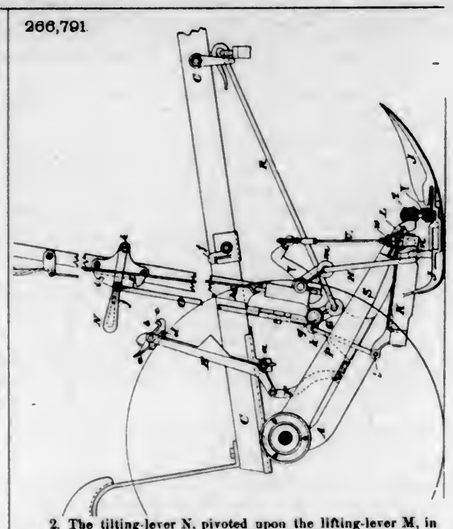
3. The screens formed of wires secured side by side at a suitable distance apart, and having their ends bent to form hooks to adapt them for attachment to and detachment from supporting devices, as specified.

4. In combination with the elevator and discharge-spout of the roasting-chamber, the nozzle O, which is cut away on one side and attached to said spout, substantially as described, whereby it is adapted to be rotated or adjusted for discharging into the elevator or some other receptacle, as may be required.

266,791. MOWING-MACHINE. RUFUS DUTTON, Yonkers, N. Y., assignor to Whiteley, Fassler & Kelly, Springfield, Ohio. Filed Aug. 26, 1880. (No model.)

Claim.—1. The combination, in a mowing-machine, of a device for lifting the outer end of the finger-bar, and connected to and moving therewith a device capable of independently tilting the points of the fingers, whereby when the finger-bar is raised to a vertical position it will assume substantially the same position relative to the rim of the wheel, whatever may be the position of the tilting device.

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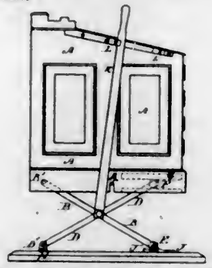


2. The tilting-lever N, pivoted upon the lifting-lever M, in combination with the rod O, link P, and shoe J, all arranged to operate as and for the purpose specified.

3. In combination with a differential oscillating gear and its rigidly-attached vibrating arm, a laterally-flexible and longitudinally-adjustable supporting-rod, which permits vibration of said arm while preventing rotation of said oscillating gear, and enables registration of the sickle mechanism.

4. A reciprocating cutter-bar and a vibrating arm and connecting-pitman, whereby said cutter-bar is actuated, combined with a laterally-movable and longitudinally-adjustable support for the outer end of said vibrating arm, whereby the position of said vibrating arm as to the supporting-frame and plane of the cutters may be adjusted.

266,792. ATTACHMENT FOR RAISING AND LOWERING DESKS. J. ALVIN KADEY, Middletown, Conn. Filed Apr. 7, 1882. (No model.)



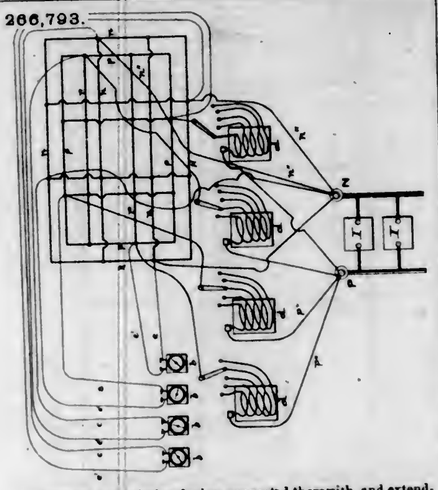
Claim.—1. In combination with a desk, the bars B, pivoted to the sides of the desk and provided with rollers E, the bars D, pivoted to the floor and provided with rollers F, the horizontal bar C, the lever K, and hooks I, substantially as described.

2. In the parallel-motion mechanism for raising desks herein described, the combination of the series of catches or stops J with the bars B, the rollers E, the bars D, and the rollers F, substantially as set forth.

266,793. ELECTRIC DISTRIBUTION SYSTEM. THOMAS A. EDISON, Menlo Park, N. J., assignor to the Edison Electric Light Company, New York, N. Y. Filed Dec. 9, 1881. (No model.)

Claim.—1. In a system of electrical distribution, the intersecting and connected positive conductors and the intersecting and connected negative conductors, forming the main conductors of the consumption-circuit, upon which the drop in electro-motive force is not sufficient to vary practically the candle-power of the lamps, in combination with a central station and feeding-conduct-

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ors having no translating devices connected therewith, and extending from the source of electrical energy at the central station to the main conductors of the consumption-circuit, said feeding-conductors being connected with such main conductors of the consumption-circuit at or near centers of consumption, substantially as set forth.

2. The combination, with a feeding-circuit of an electrical distribution system, of an auxiliary circuit composed of smaller conductors connected at its terminals with the terminals of the feeding-circuit, and containing a suitable device for indicating electric tension, so that the electro-motive force of the current in the main circuit is indicated, substantially as set forth.

3. The combination of the conductors forming a circuit of an electrical distribution system, placed in an inclosing tube, of smaller conductors in the same tube, having their terminals connected with those of the main conductors, and forming a circuit in which is placed a suitable device for indicating electric tension, substantially as and for the purpose set forth.

4. In a system of electrical distribution, the combination of the intersecting and connected positive conductors and the intersecting and connected negative conductors, forming the main conductors of the consumption-circuit, with cross-connections connecting the conductors of the same polarity together between the points of intersection, a central station, and feeding-conductors having no translating devices connected therewith, and extending from the source of electrical energy at the central station to the main conductors of the consumption-circuit at or near centers of consumption, substantially as set forth.

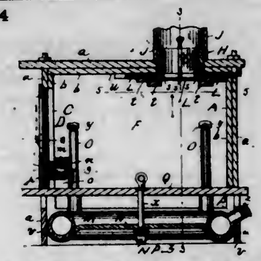
5. In a system of electrical distribution, the intersecting and connected positive conductors and the intersecting and connected negative conductors, forming the main conductors of the consumption-circuit, in combination with a central station, feeding-conductors extending from the central station to the consumption-circuit, and having no translating devices connected therewith, and means located in each feeding-circuit for regulating the tension of the current supplied thereby to the consumption-circuit, substantially as set forth.

6. In a system of electrical distribution, the intersecting and connected positive conductors and the intersecting and connected negative conductors, forming the main conductors of the consumption-circuit, in combination with a central station, feeding-conductors extending from the central station to the consumption-circuit, and having no translating devices connected therewith, an auxiliary circuit extending to the outer end of each feeding-circuit and containing a device for indicating electro-motive force, and an adjustable resistance in each feeding-circuit, substantially as set forth.

266,794. STOVE. GRANVILLE M. EDWARDS, Gray, assignor to himself and WILLIAM E. DENNISON, Portland, Me. Filed Apr. 26, 1882. (No model.)

Claim.—1. In a stove, the chamber *o*, separated by a wall, *n*, from the combustion-chamber F, in combination with the door E, having passage *m*, extending nearly to said wall *n*, substantially as and for the purpose specified.

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2. In a stove, the chamber *o*, separated by a wall, *n*, from combustion-chamber F, in combination with the door E, having passage *m* and slides *l*, said passage extending nearly to said wall *n*, substantially as and for the purpose specified.

3. In a stove, a damper-slide, L, constructed and arranged to slide in pairs, one of such pairs at right angles to the other pair, in common guide grooves or ways, *t*, across an air-passage, G, all substantially as and for the purpose specified.

4. In a stove, a damper-slide, L, in four parts, constructed and arranged to slide along common guide grooves or ways, *t*, across an air-passage, G, in combination with the funnel having the legs or prongs *z*, substantially as and for the purpose specified.

266,795. PNEUMATIC DOOR-CHECK. GILBERT R. ELLIOTT, Boston, Mass., assignor to the Elliott Pneumatic Door Check Company, same place. Filed Sept. 5, 1882. (No model.)



Claim.—1. The combination, in a pneumatic door-check, of a cylinder provided with a double piston-head, said heads having a valve and valve-seat, whereby the vacuum on one side of the heads is utilized with the air on the other side of the piston-heads for forming a combined cushioning and holding-back medium, as described.

2. The combination, in pneumatic door-checks, of a cylinder inclosing operating mechanism, with a muffling device secured thereto to prevent the noise arising either from induction or eduction of the air when rapidly entering or escaping from the cylinder, as shown and described.

3. The combination, in a pneumatic door-check, of the cylinder, double piston-heads provided with a valve and valve-seat, as described, and the operating-spring with a muffling device, substantially as described.

4. The combination, in a pneumatic door-check, of the cylinder, a piston, a spring, the air-controlling valves, whereby the pressure of air within the cylinder is regulated by its admission and escape, with the noiseless muffling device, arranged to move laterally over the valve or valves, and adapted to muffle the air on its induction and eduction, substantially as shown and described.

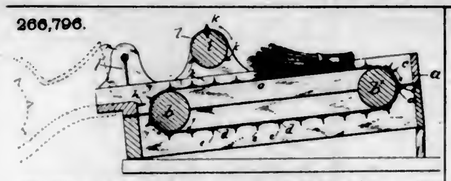
5. The combination, in a pneumatic door-check, consisting of a piston-rod, tight and loose piston-heads or disks, one of said piston-heads having a valve and the other a valve-seat, the loose piston being adapted to approach and recede from the tight piston-head, and adjustable thereto, whereby, when the piston-heads are moving in one direction, two forces are made to retard the motion in the opposite direction, the pressure in the cylinder is equalized, substantially as set forth.

6. The combination, in a door-check, of the cylinder, the piston-rod E, link F, and links G and H, the latter having a pintle adapted to revolve in a pivoted socket, said socket also being adapted to adjust itself to any irregularities of the settling of the door-frame or sagging of the door, in the manner shown and set forth.

266,796. BAND-CUTTER AND FEEDER FOR THRASHING-MACHINES. JAMES B. B. EVANS, Junction City, Mo. Filed May 6, 1882. (No model.)

Claim.—The combination, with the frame *a*, provided with the transverse rolls *b b'* and teeth *h*, and slotted sheaf-carrier *c*,

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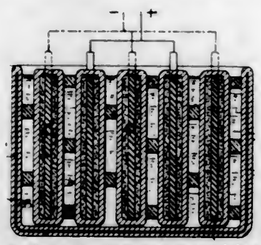


provided with pins *e*, of the band-cutting and sheaf-feeding roll *i*, armed with knives *k*, arranged on its periphery, as set forth, and transversely-reciprocating shaker *l*, substantially as described, and for the purpose set forth.

266,797. COLLYRIUM. JOHN FALE, Hawkinsville, Ga. Filed Sept. 21, 1882. (No specimens.)

Claim.—An eye-water composed of muriate of berberina, pulverized camphor, and camphor-water, in substantially the proportions named.

266,798. CONTAINING-VESSEL FOR GALVANIC BATTERIES. CAMILLE A. FAURE, Paris, France. Filed Aug. 10, 1882. (No model.)

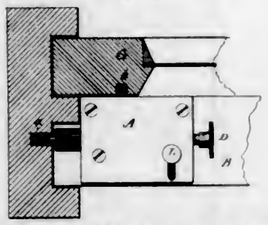


Claim.—1. In a galvanic battery, a containing vessel or cell lined or coated with a non-corrodible varnish or composition, such as the varnish of pitch, linseed-oil, paraffine, and tar, united or combined with fibrous material, such as felt, asbestus cloth, pulp, wood, or the like, substantially as described.

2. In a galvanic battery, a containing vessel or cell having a base or foundation of iron or other metal, and lined or coated, both inside and outside, with a non-conducting and non-corrodible fibrous coating, substantially as described.

3. A portable battery having a containing-vessel lined with a non-corrodible fibrous coating, substantially as described.

266,799. SASH-FASTENER. LOUIS FELSBURG, New Haven, Conn. Filed Sept. 11, 1882. (No model.)

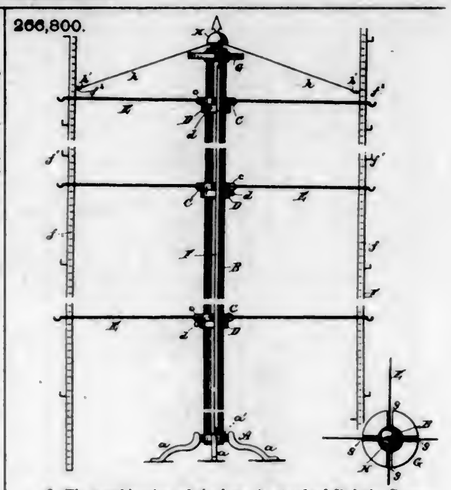


Claim.—The combination of the bolt C, its nose projecting through the case, its other end fitted with a handle by which the bolt may be drawn, a spring arranged to throw the said bolt, a transverse bolt, F, the bolt C, constructed with an inclined rib, *d*, to engage the corresponding groove in the transverse bolt, whereby the movement of the bolt C will impart a corresponding transverse movement to the bolt F and the locking-lever H, substantially as described.

266,800. CLOTHES-DRIER. WILLIAM FENNER, Battle Creek, Mich. Filed July 20, 1882. (No model.)

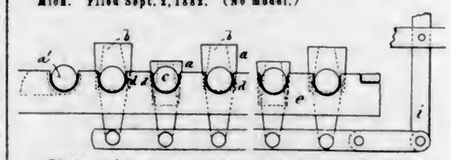
Claim.—1. The combination of the base A, standard B, hubs C, secured thereto, flanges D, radial arms E, pivoted in rings, vertical rods F, connecting the outer ends of the radial arms E, flange G, having the open slots *g*, for the reception of the rods F when folded up, and cap H, having cords *h*, for supporting the radial arms E in a horizontal position, substantially as shown and described.

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2. The combination of the base A, standard B, hubs C, supported on the adjustable flange D, and having radial arms E pivoted thereto, flanges D, vertical rods F, provided with the perforations *f*, and adapted to connect the outer ends of the radial arms E, flange G, having the open radial slots *g*, for the reception of the vertical rods F when folded up, and cap H, having cords *h*, for supporting the radial arms in a horizontal position, all combined and arranged to operate substantially in the manner and for the purpose set forth.

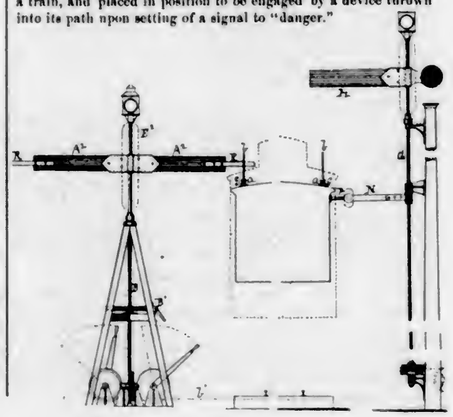
266,801. FURNACE-GRATE. JOHN R. FISH, Grand Rapids, Mich. Filed Sept. 2, 1882. (No model.)



Claim.—A rocking grate having each alternate bar higher than the one next it and spaces between the bars, as shown and described, whereby the cakes or lumps, which form in burning coke and obstruct the ingress of air to support combustion, may be broken up when the grate is rocked.

266,802. RAILWAY TELL-TALE. MATTHIAS N. FORNEY, New York, N. Y. Filed Dec. 22, 1881. (No model.)

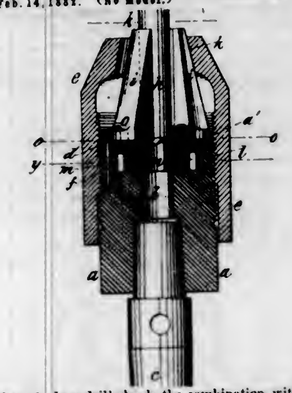
Brief.—A tell-tale in case of overrunning a danger-signal, consisting of a frangible staff secured by a seal in a socket upon a train, and placed in position to be engaged by a device thrown into its path upon setting of a signal to "danger."



Claim.—1. As a means of detection in case a train or a part thereof runs past a danger-signal, a frangible signal-staff or other frangible object or device and a seal for securing the same, arranged on some part of a train and in position to be struck or engaged by a device thrown into its path by or on the setting of a signal at "danger," substantially as set forth.

2. The combination of a frangible signal-staff, *b*, socket *a*, seal *c*, and arm R, substantially as described.

266,803. DRILL-CHUCK. JOHN T. FOSTER, Arlington, N. J. Filed Feb. 14, 1882. (No model.)



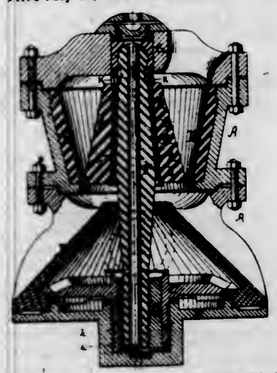
Claim.—1. In a drill-chuck, the combination, with a sustaining chuck-head, of a series of radially-arranged jaws pivoted on the chuck-head at or near the outer circumference thereof, with their grasping ends presented tangentially inward toward the drill in the manner of pawls, with an encircling sleeve screwing onto the chuck-head over the said pawl-jaws to wedge the same inwardly, substantially as herein set forth.

2. The combination, with the chuck-head *a*, of the pivotal pawl-jaws *d*, having an inclined or wedging surface, *i*, on their exterior, with the screw-sleeve *e* screwing onto the chuck-head over the said jaws, substantially as herein shown and described.

3. The combination, in a chuck with pivotal pawl-jaws, of the curved or coiled spring *l*, arranged to bear upon notched or flatted portions on the pivotal stems of the pawl-jaws, substantially as and for the purpose set forth.

4. The combination, in a chuck with pivotal pawl-jaws, of the spring *l*, socketed in a recess in the chuck-head, and the retaining-plug *o*, driven into the same, substantially as herein shown and described.

266,804. ROCK OR ORE CRUSHER. DAVID R. FRAZER, Chicago, Ill. Filed July 13, 1882. (No model.)



Claim.—1. A crusher acting by rotary motion in a horizontal plane, armed with horizontal removable crushing-rings provided with cylindric overlapping portions *h*, whereby strains transverse to the axis on one ring are distributed to the adjoining rings, substantially as described.

2. The gyrating spindle F, combined with the hard-iron horizontal rings H, of varying width and arranged in an increasing order from the bottom, to constitute a crushing-head wherein the parts most subject to wear may be replaced, as set forth.

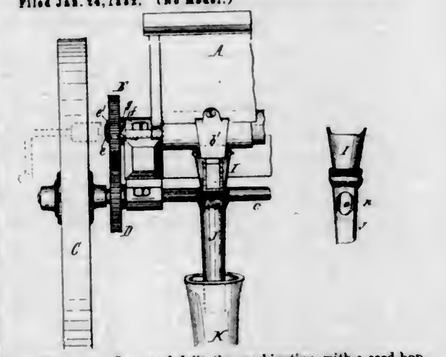
3. The conical spindle F, provided with one or more shoulders, I, and the horizontal rings H, fitted to said spindle, and said rings and spindle jointly provided with recesses *i* to receive the tie-bolts J, combined with said tie-bolts J, the heads whereof engage with said shoulders I, and the nuts K whereof engage with uppermost of said rings, to tie the whole together and act as keys to prevent rotation, as set forth.

4. The driving-wheel C and its hollow hub M, combined with the thimble D', provided with the eccentric socket *f*, and means whereby said thimble may be locked to said hub, whereby it may be partly rotated in said hub from time to time to vary the location of the wearing-surfaces, as set forth.

5. The bevel-driver C, provided with a hollow hub, M, and a socketed base-plate, E, combined with the thimbles D', provided with the sockets *f*, of different eccentricities, and the spindle F, stepped therein, whereby the eccentricity or throw of said spindle may be changed by substituting thimbles of different eccentricities, as set forth.

6. The wheel C, having bearing-hub M, provided with calks *k* and anti-friction metal on its exterior surface.

266,805. SEED-DRILL. FRANKLIN GETZ, Tonawanda, N. Y. Filed Jan. 24, 1882. (No model.)

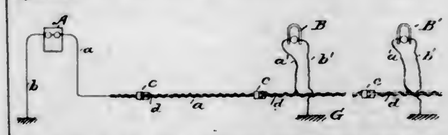


Claim.—1. In a seed-drill, the combination, with a seed-hopper, A, and the feed-roller B, which is connected with the wheels of the machine by driving mechanism constructed to be thrown in and out of gear at desire, of a removable hand-crank, which can be applied to the feed-roller when its driving mechanism is thrown out of gear, and whereby the feed-roller can be rotated without moving or lifting the machine to discharge the grain contained in the seed-hopper, substantially as set forth.

2. The combination, with the flexible grain-tubes J, provided on their rear sides with openings *p*, of glass tubes *o*, secured within the flexible grain-tubes to cover the openings *p*, substantially as set forth.

266,806. RAILROAD-TRAIN ELECTRIC SIGNALING APPARATUS. EZRA T. GILLILAND, Indianapolis, Ind. Filed June 15, 1882. (No model.)

Brief.—A magneto-generator in each car. Circuit-wires coupled at the same time with air-brake tubes and by the same operation.



Claim.—1. A system of electrical train-signaling circuits and apparatus comprising the following elements: a magneto-electric generator in the several cars, an electric alarm-bell upon the locomotive, a main conductor attached at one extremity thereof to the metal frame of the locomotive, having the helix of said alarm-bell included in its circuit and extending throughout the length of the train and in normally-open branches to each generator, a return-wire for each generator, including the generating-helix in its circuit, and connected on one side of the said helix with the metal

of the car-truck and extending on the other side of the helix to a normally-open termination, and means adapted to effect a contact between the normally-open return-circuit, including the generating-helix, and the branch of the main conductor adjacent thereto, and immediately thereafter to transmit signals over the signaling-circuit thus completed, substantially as described.

2. The combination, in a system of electrical train-signaling between the cars and locomotive of a railroad-train, of a main conductor extending the length of the train and composed of sections—one for each car—the said sections being supported by the air-tubes of the brake apparatus and permanently at each end with the metal couplings thereof, an alarm-bell connected in the circuit of the said main conductor, normally-open branch wires extending from the said conductor to each car, a normally-open ground or return conducting-wire extending from the metal truck-frame into each car, and a series of magneto-electric generators—one for each car—placed between the branch and ground wires, and adapted, when operated, to make contact between the said branch and ground wires, whereby a signaling-circuit including a generating-coil is completed and signals transmitted.

3. The combination of a normally-open signaling-circuit and branches thereof, and an electric bell included in the said circuit, with a series of normally-open return-wires and a series of magneto-electric generators interposed between the branches of the main signaling-circuit and the return-wires, each of the series being adapted to close the main signaling-circuit through the alarm-bell and through its own helix by means of its own return-wire, and to transmit signals over the completed circuit, substantially as described.

4. The combination of a normally-open signaling-circuit, and an alarm-bell included therein, with a magneto-electric generator and a normally-open ground or return line attached to the armature-helix thereof, and circuit-closing devices, as indicated, whereby when the generator-helix is rotated the said signaling-circuit is automatically closed and the generating-helix included therein for the purpose of sending signals, and automatically reopened at the cessation of such rotation, substantially as described.

5. At any station on a normally-open signaling-circuit and on a derived line of the same, the combination of the said derived line with a magneto-generator the armature-circuit of which is normally open or discontinuous, a normally-open ground or return line, driving mechanism for the generating-helix, and a circuit-closer actuated by the said driving mechanism, whereby when the armature-helix is rotated by the said driving mechanism the derived circuit is united with the ground-wire and the armature-helix included in the completed circuit, substantially as specified.

6. The combination, substantially as hereinbefore described, in a system of electric signaling between the cars and the locomotive of a railroad-train, of a series of magneto-electric generators and operating devices therefor, an electric alarm-bell in the engine-cab, a normally-open main circuit connected by means of the engine-frame with the earth, having the bell-helix permanently included therein and extending the length of the train, supported by means of the air-tubes of the brake apparatus, or by means of a system of tubing arranged for the conveyance of gas or steam between the several cars, and made continuous by the couplings thereof, a series of branch wires permanently united with the main circuit and extending to each magneto-generator, these being normally open, a series of return or ground wires, one for each generator, permanently including the helix of the said generator-armature in the circuit thereof, and leading therefrom by means of the metal car-frames to earth, and a circuit-closer adapted to become operative when the generator is rotated, and to complete the main circuit by means of the return-wire and generating-helix, for the purposes specified.

7. A magneto-electric machine having its armature-helix in a normally-open or discontinuous circuit, the said circuit being adapted to close or become continuous only during the rotation of the armature, as described.

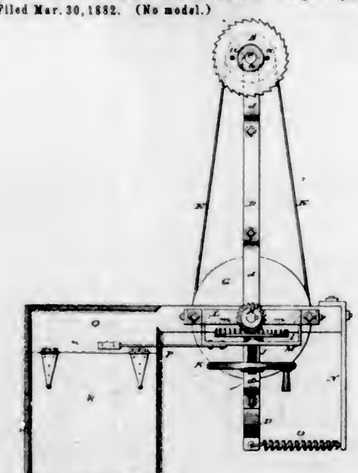
8. In a magneto-electrical apparatus, the combination, substantially as hereinbefore described, of a normally-discontinuous derived circuit from a main line, a ground or return wire, a generating-coil having one of its terminals permanently connected with the said ground or return wire, and the other terminal being maintained normally open, but adapted to make electrical connection with the derived main-line circuit by the act of transmitting a signal, whereby the said main circuit may be completed and the generating-coil included therein, for the purposes set forth.

9. In a magneto-electric apparatus, the combination, substantially as hereinbefore set forth, of a generating-coil or armature-helix, a ground or return wire having the said helix included in its circuit, driving mechanism whereby the said helix may be rotated, a branch line attached thereto and extending outwardly therefrom for connection with a main-line conductor, the said branch line and return-wire both being normally open and insulated from one another, and a circuit-closer adapted to be actuated by the driving mechanism to connect the said coil and return-wire with the branch line, whereby the circuit of the coil may be closed and electrical pulsations transmitted over the main line, substantially as described.

10. The combination, with the hammer of an electric bell, of an automatic guard therefor, consisting of an auxiliary electro-magnet, an armature, a retracting-spring, an armature-lever, and a jaw fixed thereon, the said jaw being adapted to clasp the bell-hammer when retracted by the spring and to release the same when the electro-magnet is energized, substantially as set forth.

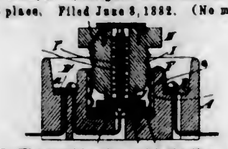
11. In an electrical alarm-bell apparatus, the combination of an electro-magnet, an armature therefor, and a bell-hammer attached to the said armature, with an auxiliary electro-magnet in circuit with the bell-hammer magnet, provided with an armature and armature-lever, and a mechanical guard consisting of a jaw affixed to the armature-lever and normally actuated by a retracting-spring to clasp the bell-hammer, but adapted to release the same when the armature of the auxiliary magnet is attracted by the influence of a passing current, substantially as described.

266,807. MINING-MACHINE. JOHN GRAY, Osage City, Kans. Filed Mar. 30, 1882. (No model.)



Claim.—The gang of circular saws A, adjusted upon the spindle c and operated by the pulley B, rope E, driving-disk G, spindle and pinion H h, geared wheel I, and crank K, and oscillated by the bar D *d* and spiral spring O, substantially as and for the purpose described.

266,808. SAFETY OR CUT-OFF SWITCH. EDWIN T. GREENFIELD, New York, N. Y., assignor of one-half to Sigmund Bergmann, same place. Filed June 3, 1882. (No model.)



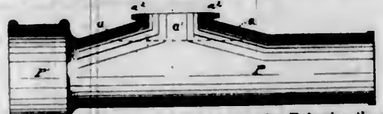
Claim.—1. The combination, with the line-wire of a circuit leading to an electric lamp or other article, of a section of pliable wire or wires, an insulating material sustaining the same, extended and adapted to melt when the said pliable wire or wires become heated to an undesirable extent, so as to release said pliable wire or wires, a spring tending to move said pliable wire or wires away and break the circuit, and a receptacle containing the said pliable wire or wires and insulating material, substantially as specified.

2. The combination, with the line-wire of a circuit, of a plug forming a part of the circuit, and consisting of metallic heads connecting a pliable wire or wires, and insulating material incasing the pliable wire or wires and adapted to melt at any desired heat, a spring tending to move one end of the pliable wire or wires away from the device with which the plug makes contact, and a receptacle containing said plug and spring, substantially as specified.

3. The combination, with the line-wire of a circuit and a plug forming part of the circuit, and consisting of a pliable wire or wires, and an insulating material incasing the pliable wire or wires and adapted to melt at any desired heat, of a spring tending to move one end of the pliable wire or wires away from the device with which the plug makes contact, substantially as specified.

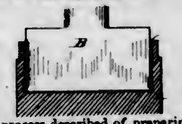
266,809. DRAIN AND SEWER. HENRY R. GREENLEAF, Boston, Mass. Filed May 26, 1882. (No model.)

Brief.—A section of the pipe is made gradually enlarged up to the covered aperture to facilitate cleansing.



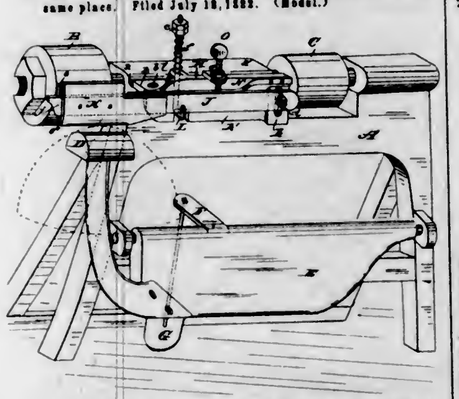
Claim.—The section of drain or sewer pipe P, having the upward inclines *a a*, the aperture *a'*, and the flanged seat *a²*, as shown, combined with the cover *b* and securing means, and the whole adapted to serve as and for the purposes set forth.

266,810. MODE OF FORMING COMMERCIAL PACKAGES OF GUMS, &c. EDWIN W. GROVE, Paris, Texas. Filed July 25, 1882. (Specimens.)



Claim.—The process described of preparing plastic gums for the retail market in packages of assorted weight, said process consisting in lining a mold of suitable size with foil or equivalent material, melting the gum and pouring it into said mold, and thereafter, when the gum has set, removing it, together with the lining of foil, from the mold, said foil adapted to form a wrapper for the packages, substantially as described.

266,811. HAT-POUNCING MACHINE. THEODORE HADDEN, Mattenawa, N. Y., assignor of one-half to Merville A. Robinson, same place. Filed July 18, 1882. (Model.)



Claim.—1. The combination, with the frame A, the wheel B, and tension-frame H, of the tension-bar J, carrying the plate K, secured adjustably at its rear end to said tension-frame, supported at the front end by the hook-rod L, and extending in front of and beyond the pouncing-wheel, as shown and described.

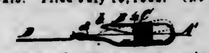
2. The combination, with the tension-frame H and bar J, of the hooked rod L, spring *f*, spring N, nut *e*, and thumb-screw O, substantially as described.

266,812. TONGUE OF BOOTS OR SHOES. CHARLES HAGGERTY and WILLIAM H. KING, Webster, Mass. Filed July 24, 1882. (No model.)



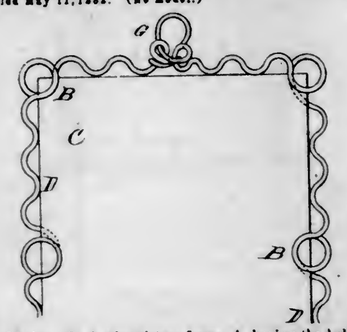
Claim.—A boot or shoe tongue provided with a hook or projection near its upper end, adapted to project from the surface of the tongue between the lacing-edges of the boot or shoe and catch the lacing-string, whereby the tongue is held in place, substantially as shown and described.

266,813. TOY CAP-EXPLODER. CHARLES P. HARMAN, Cincinnati, Ohio. Filed July 15, 1882. (No model.)



Claim.—A toy detonator or cap-exploder consisting of two jaws pivoted one on the other intermediate their ends, in combination with a spring-band encircling the two jaws, one of the latter having an upwardly-inclined end at one side of the pivotal connection, substantially as and for the purposes described.

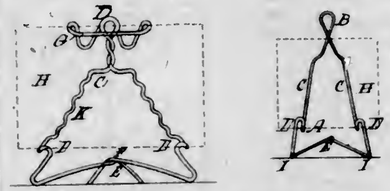
266,814. PICTURE-FRAME. HORACE HARRIS, New York, N. Y. Filed May 11, 1882. (No model.)



Claim.—1. A wire picture-frame, A, having the holders B and doublings D, substantially as and for the purpose set forth.

2. A wire picture-frame, A, having the doublings D, said doublings being also made to serve as holders, substantially as and for the purpose named.

266,815. EASEL. HORACE HARRIS, New York, N. Y. Filed Aug. 11, 1882. (No model.)



Claim.—1. The easel having the frame or standard A, with the rests D, and supported by portions E of said frame bent back from the lower end thereof, constructed and arranged substantially as and for the purpose specified.

2. The combination of the support E and standard A, said standard being provided with the rests D, doublings K, holders G, and loop B, and said support being adapted to be bent up at I to connect with the standard, to allow the easel-frame to be hung on the wall, substantially as set forth.

266,816. HEATER FOR DWELLING-HOUSES. JAMES B. HARRIS, Jr., Geneseo, N. Y. Filed Apr. 28, 1882. (No model.)

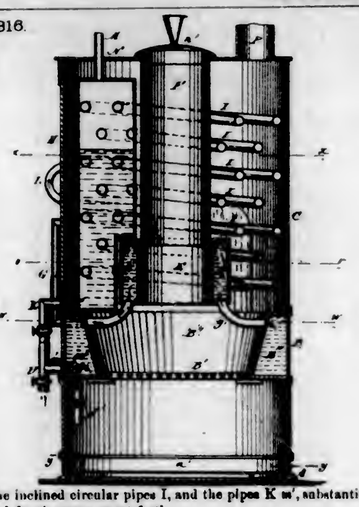
Claim.—1. In a water-ring, B‴, the vertical partition *c'*, provided with opening *d'*, substantially as herein shown and described, for the purpose of aiding in the circulation of the water within the heater.

2. The water-base E, provided with vertical diaphragms *h' h'*, in combination with the pipes G *g' f'* I, substantially as and for the purpose described.

3. In a heater, the combination, with the fire-pot B″, the pipes *g' f'* G, and the water-space E', of the drum H and the inclined circular pipes I, substantially as and for the purpose set forth.

4. In a heater, the combination, with the fire-pot B″, the water-ring B‴, the pipes *g' f'* G, and the water-space E', of the drum

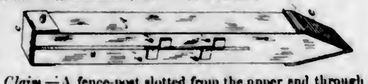
266,816.



H, the inclined circular pipes I, and the pipes K K', substantially as and for the purpose set forth.

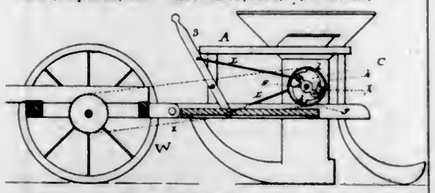
5. In a heater, the combination, with the water-space E', surrounding the base E, and the drum H, of the curved pipe I, extending from the water-space E' radially through the heater, and thence curved inwardly into the drum H, substantially as and for the purpose set forth.

266,817. FENCE-POST. NORMAN A. HAVEN, Lime Spring, Iowa. Filed Mar. 22, 1882. (No model.)



Claim.—A fence-post slotted from the upper end through the middle down to a point at the desired height of the bottom rail above the ground, and having metallic filling-pieces *b*, with ears *b'* turned in opposite directions, as shown and described.

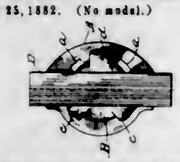
266,818. FERTILIZER AND PLANTER. WILLIAM A. HAZELRIGG, Napoleon, Ind. Filed Mar. 2, 1882. (No model.)



Claim.—1. The wheel C, having an internal ratchet-rim, *g*, bordering a lateral recess on each side, the diameter levers *k*, pawls *p*, rods L, operating-lever S, and the shaft *b*, carrying the dropping-cups, substantially as specified.

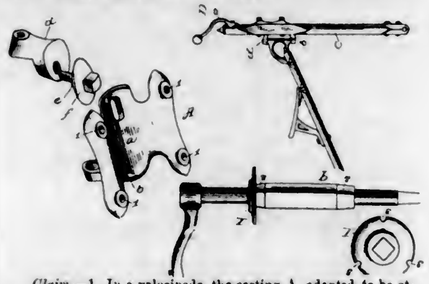
2. The wheel C, having the lateral ratchet-rims *g*, bordering the recesses *d* in its sides, the central bearing, *e*, and the radially-projecting chain engaging teeth *h*, substantially as specified.

266,819. FIFTH-WHEEL. WATSON A. HEATH, Binghamton, N.Y. Filed July 25, 1882. (No model.)



Claim.—In the described connection, the notched ring A and disk B, having wide and narrow lugs, these parts being adapted to interlock and to connect the parts to which they are fixed, substantially as described.

266,820. VELOCIPEDE. WATSON A. HEATH, Binghamton, N.Y. Filed July 25, 1882. (No model.)



Claim.—1. In a velocipede, the casting A, adapted to be attached to the standard, and having a laterally-adjustable arm and bearings, in combination with a pintle fixed to the reach and fitted to said bearings, substantially as described.

2. In a velocipede, the casting A, adapted to be attached to the standard, and having a laterally and vertically adjustable arm and bearings, in combination with a pintle rigidly attached to the reach and fitted to said bearings, substantially as described.

3. The casting A, having the web *a*, the fixed arm *b*, and movable arm, with bearings in said arms, and the enlarged hole in the web, with threaded nut, whereby the movable arm may be adjusted, substantially as described.

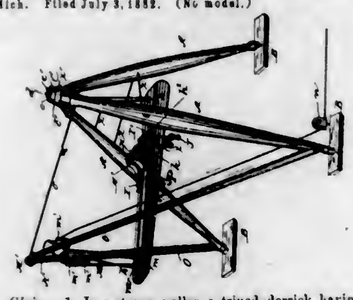
4. The combination of the reach-rods of a velocipede with the block B, having pintle cast therewith, hollowed side for the reach-rods, and openings for the transverse bolts, and placed between the said reach-rods, substantially as described.

5. In a velocipede, the tiller-bracket having the side bars and the cross-brace *p*, and secured to the forks independently of the reach-connection, substantially as described.

6. The axle for a velocipede, having the square shank with beveled ends, in combination with the washers fitted thereto, substantially as described, and for the purpose set forth.

7. The described axle for velocipedes, consisting of the square or polygonal part, having tapered ends, in combination with the washers fitted thereto, and having holes or notches for brads, all substantially as described.

266,821. STUMP-PULLER. CHARLES M. HILLMAN, Pierson, Mich. Filed July 3, 1882. (No model.)



Claim.—1. In a stump-puller, a tripod-derrick having suspended fulcrum, and an auxiliary derrick rigid therewith, having a suspended power-connection, combined with a flying-lever having movable object-point, the whole being arranged to accommodate strain in any direction, as set forth.

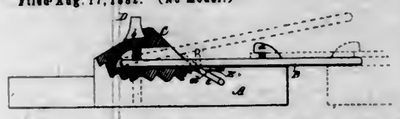
2. The tripod-legs jointed to form a cylindrical body, *b'*, having vertical apertore *b*, cap C, having cross-bar c and apertures *c'*, and the hooked link *d*, combined with the suspended fulcrum and operating-lever, as set forth.

3. The operating-lever H, rack-bar I, and block I', combined with the pinion K, suspended fulcrum *h*, and suspended power-connection *h'*, as and for the purposes set forth.

4. The sheaves *m* and blocks *m'*, combined with the rope M, triangular bracket N, cap-frame M', auxiliary derrick O, and flying-lever H, as specified.

5. The combination of the main and auxiliary derricks A O, rigid with each other and having triangular bearings, with the suspended lever H, rack-bar and pinion, and with the fulcrum and power connections, substantially as and for the purposes set forth.

266,822. CAR-COUPLING. LEWIS I. HINKLE, Piedmont, Mo. Filed Aug. 17, 1882. (No model.)

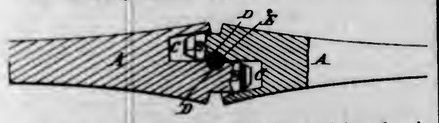


Claim.—1. The combination, with the link and hood having wings or sides whose front edges are inclined rearwardly, of the crank-lever *d e*, which is hinged beneath the link in proximity to the hood, so that when thrown back it will rest on the latter and support the link.

2. The combination, with the link and a device for adjusting it, of the hood C and a pin, D, arranged as specified.

3. The combination of the pin having a spear-shaped head with the hood C, having an undercut cavity, and the link B, as shown and described.

266,823. CAR-COUPLING. GEORGE K. HOPP, Philadelphia, Pa. Filed Aug. 24, 1882. (No model.)

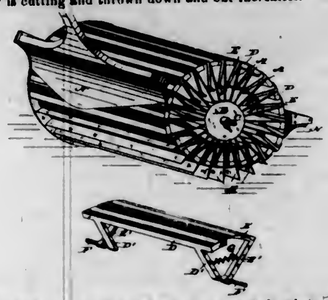


Claim.—1. In a car-coupling, the draw-head A, made, substantially as herein shown and described, with a projection, B, having beveled end upon one part of its end, a socket, C, in the other part of its end, and a curved notch partly in its end and partly in the base of the projection, as set forth.

2. In a car-coupling, the combination, with the draw-heads A, having bevel-ended projections B, sockets C, and curved notches D, of the coupling-pin E, substantially as herein shown and described, whereby the said draw-heads will be securely locked together, as set forth.

266,824. REVOLVING PLOW. JUDSON B. HOAD, Sour Lake, Tex. Filed June 27, 1882. (No model.)

Brief.—Series of cutting-blades with intermediate scrapers. Said scrapers are formed in two pieces, connected by springs. Arms of one blade are fastened rigidly to pivot, arms of sharper overlapping blade working on said pivot. Series of said pivots project through and play in slots in circular plate, attached to end of cylinder, and finally rest and revolve in eccentric groove on outside plate, fastened by arms to side of handle and beam. Turning of pivots in eccentric groove causes scrapers to be drawn up while furrow is cutting and thrown down and out thereafter.



Claim.—1. A revolving plow constructed, substantially as herein shown and described, with a series of radial blades attached to a roller or cylinder and a series of radially-movable scraper-blades between the cutting-blades, as set forth.

2. In a revolving plow, the combination, with a cylinder and a series of radial blades attached to the same, of movable scraper-blades between the cutting-blades, and devices for moving the scraper-blades to and from the outer edges of the cutting-blades, substantially as herein shown and described, and for the purpose set forth.

3. In a revolving plow, the combination, with a cylinder and a series of radial blades attached to the same, of scraper-blades between the cutting-blades, and of circular blades at the ends of the cylinder, substantially as herein shown and described, and for the purpose set forth.

4. In a revolving plow, the combination, with a cylinder and radial blades attached to the same, of movable scraper-blades between the same, and of scraper-plates resting against the outer edges of the cutting-plates and attached to the frame of the plow or the end plates of the roller, substantially as herein shown and described, and for the purposes set forth.

5. In a revolving plow, the combination, with the cylinder B and the radial blades A, attached to the same, of the scraper-blades D E between the blades A, the pivots F, attached to the arms of the blades D E, and the end plates, K, each provided with a groove, M, in the shape of a semicircle united at the ends by a chord, substantially as herein shown and described, and for the purpose set forth.

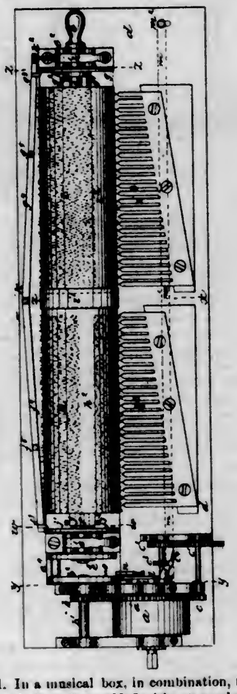
6. In a revolving plow, the combination, with the cylinder B and the radial blades A, of the scraper-blades D E, the pivots F, attached to the ends of the arms of the same, the circular cutters J, provided with radial slots H, and the end plates, K, provided with grooves M in the inner surfaces, substantially as herein shown and described, and for the purpose set forth.

7. In a revolving plow, the combination, with the cylinder B and the radial blades A, of the scraper-plates D E between the blades A, the springs for pressing the outer edges of the blades D E against the blades A, and devices for moving the blades D E to and from the outer edges of the blades A, substantially as herein shown and described, and for the purpose set forth.

266,825. PREPARING FABRICS FOR DYEING TURKEY RED. ARMAND MÜLLER JACOBS, Moscow, Russia, assignor to Otto Winckler, Bronxville, N.Y. Filed July 24, 1882. (No specimens.)

Claim.—The within-described process of preparing fabrics for dyeing Turkey red or alizarine, which consists in previously treating the fabric in a solution of ammonium-aluminum tartrate, whereby the oiling and alumming of the fabric are conducted at one operation.

266,826. MUSICAL BOX. ALBERT JEANRENAUD, St. Croix, Switzerland, assignor to M. J. Paillard & Co., New York, N.Y. Filed May 6, 1882. (No model.)



Claim.—1. In a musical box, in combination, two pin-cylinders on the one shaft, each provided with a tune-changer and two independent sets of keys, said cylinders being arranged, substan-

tially as described, so that their blank spaces pass in front of their respective sets of keys alternately.

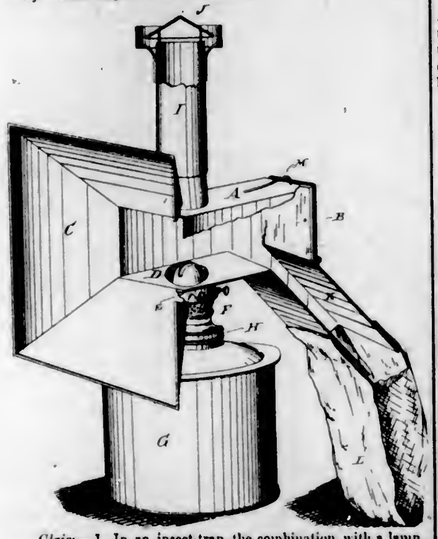
2. In combination, the shaft *e*, cylinders *h* and *i*, tune-changers f^2 and g^2, and spring h^1, substantially as described.

3. In combination, the shaft *e*, disks *f* and *g*, driving-pin g^1, pin-cylinder *i*, tune-changer g^2, keys i^2, driving-pin f^1, adjusting-box *j*, cylinder *h*, tune-changer f^2, and keys h^2, substantially as described.

4. In combination, the hinged cap k^1, link k^2, lever g^1, with dog g^3, and lever f^1, with dog f^3, and tune-changers f^2 and g^2, carried by the cylinder-shaft.

5. In combination, the three-arm lever *l*, fly e^1, starting-lever *m*, ratchet-wheel *n*, having a notched hub, and pin *o*, carried by a disk which actuates the cylinder-shaft, substantially as described.

266,827. INSECT-TRAP. WILLIAM O. JESSE, Georgetown, Ky. Filed Aug. 21, 1882. (Model.)



Claim.—1. In an insect-trap, the combination, with a lamp, of a box having a mirror at its closed end, mounted on the lamp and adapted to turn thereon, substantially as herein shown and described.

2. In an insect-trap, the combination, with a box having an open end and adapted to be mounted on a lamp, of a downwardly-inclined chute at the inner end of the same, and of a bag or receptacle attached to the lower end of the said chute, substantially as herein shown and described, and for the purpose set forth.

3. In an insect-trap, the combination, with the box A, having an open end and constructed to be mounted on a lamp, of the mirror B at the inner end of said box, the downwardly-inclined chute K between the lamp-burner and the mirror, and the bag or receptacle L, attached to the lower end of the chute, substantially as herein shown and described, and for the purpose set forth.

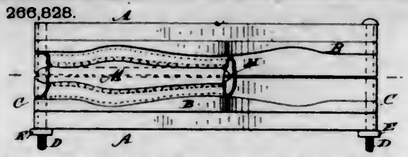
4. In an insect-trap, the combination, with the box A, having its inner end made removable, of a mirror, B, attached to the said inner end, and of a catch or latch for locking the said movable end in place, substantially as herein shown and described, and for the purpose set forth.

5. In an insect-trap, the combination, with the box A, of the lamp G, having a collar, H, with an outwardly-turned flange, *a*, and the burner F, provided with annular internal ridges, *b*, above and below the flange *a*, substantially as herein shown and described, and for the purpose set forth.

6. In an insect-trap, the combination, with the lamp G, of the box A, provided with a flaring mouth, C, the mirror B, the downwardly-inclined chute K, and the bag L, substantially as herein shown and described, and for the purpose set forth.

266,828. HARNESS-PAD PRESS. JOS. W. JOHNSON, Lathrop, Mo., assignor to himself and Augustus F. Hoyt, same place. Filed Aug. 22, 1882. (No model.)

Claim.—1. An improved harness-pad press consisting of two V-shaped frames, each provided with a longitudinal vertical ridge



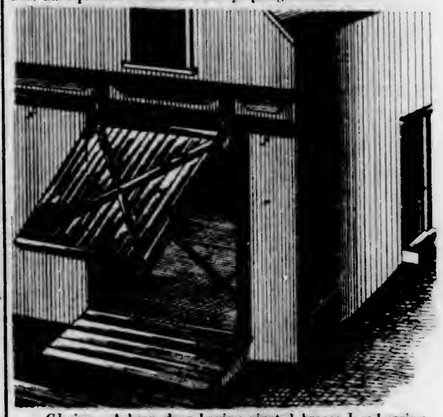
having one surface flat and the other curved, and secured together, substantially as herein shown and described, whereby both swelled and plain pads can be made with the said frames, as set forth.

2. The combination, with the frames A, provided with longitudinal ridges B, having one surface flat and the other curved, and bolt-loops C at their ends, of the bolts D and the V-shaped filling-piece F, having shoulders G, substantially as shown and described.

3. In a harness-pad press, the combination, with the frames A, provided with longitudinal vertical ridges B, having one surface flat and the other curved, of the forming-irons J, for shaping the leather, of a wedge for separating the forming-irons, and of a clinching-iron to be placed on the forming-irons, substantially as herein shown and described, and for the purpose set forth.

266,829. BARN-DOOR. JAMES J. JOHNSTON, Columbiana, Ohio, assignor to the United States Improvement Company, (Limited,) same place. Filed Feb. 11, 1882. Renewed Oct. 11, 1882. (No model.)

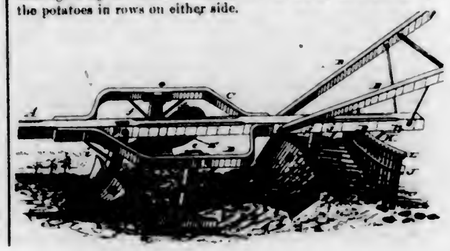
Brief.—The door is suspended by hinged hangers carrying friction-rollers traveling on a track in a recess. The sides of the door have pivoted braces secured by spring-catches.



Claim.—A barn-door having pivoted braces J and spring-latches K, in combination with the hinged hanger D, having friction-rollers E, railway M, and recess C in timber B, all constructed, arranged, and operating substantially as hereinbefore described, and for the purpose set forth.

266,830. POTATO-DIGGER. JAMES J. JOHNSTON, Columbiana, Ohio, assignor to the United States Improvement Company, (Limited,) same place. Filed Feb. 23, 1882. (No model.)

Brief.—A shovel-plow in the center is followed by two plows, which throw the earth and potatoes in front of a concave scoop, over the upper edge of which they pass into an arc-shaped shaker, the loosely-working rods of which travel over the broken ground, thus agitating the shaker, riddling out the earth, and depositing the potatoes in rows on either side.



Claim.—In a potato-digger, the combination of beam A, having handles B B, shovel-plow G, small plows E F, each having point *a*, landside *b*, and mold-board *c*, concave scoop I, the top edge of which forms an arc, pivoted rods *l*, forming an arc, and guides *m*, attached to piece L and supported by brace J, said guides also forming an arc, all substantially as herein described, and for the purpose set forth.

266,831. HALTER. JAMES J. JOHNSTON, Columbiana, Ohio, assignor to the United States Improvement Company, (Limited,) same place. Filed Feb. 23, 1882. (No model.)



Claim.—The halter A, provided with the face-strap B, attached to the nose-strap C, and passing up through guide D, having friction-roller E, said guide being attached to the brow-strap, substantially as herein described, and for the purpose set forth.

266,832. BRICK-MOLD. JAMES J. JOHNSTON, Columbiana, Ohio, assignor to the United States Improvement Company, (Limited,) same place. Filed Feb. 23, 1882. Renewed Oct. 11, 1882. (No model.)



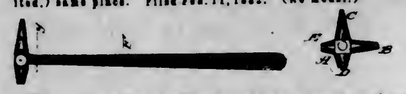
Claim.—A mold for molding angular brick, consisting of the side walls C D E, secondary bottom O, having side walls P, and a movable bottom, H, operated through the medium of the lever L and upright I, having guide J, substantially as herein described, and for the purpose set forth.

266,833. GARDEN-HOE. JAMES J. JOHNSTON, Columbiana, Ohio, assignor to the United States Improvement Company, (Limited,) same place. Filed Feb. 23, 1882. (No model.)



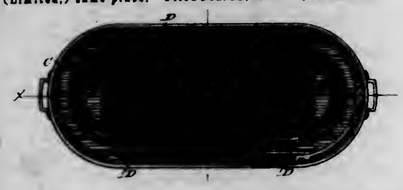
Claim.—In a garden-hoe, the combination of the blade F, cut from beveled strips of sheet-steel, and the malleable-iron cap-piece G, having the socket H, and formed thereon the hooked blade or prong I, hardened into steel, and provided with cutting-edge J, all substantially as herein described and shown, for the purpose set forth.

266,834. NAIL-SET. JAMES J. JOHNSTON, Columbiana, Ohio, assignor to the United States Improvement Company, (Limited,) same place. Filed Feb. 11, 1882. (No model.)



Claim.—A cruciform nail-set having two points for nail-sets and two hammer ends and a handle, constructed substantially as herein described, and for the purpose set forth.

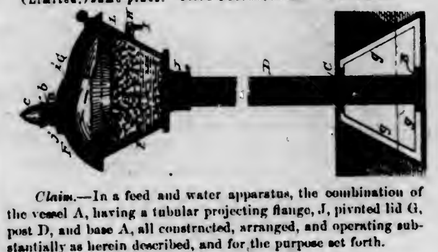
266,835. WASH-BOILER. JAMES J. JOHNSTON, Columbiana, Ohio, assignor to the United States Improvement Company, (Limited,) same place. Filed Feb. 23, 1882. (No model.)



Claim.—1. In a wash-boiler, the bottom B, having groove C, extending entirely around it, with transverse grooves F communicating therewith, in combination with the water distributer A', consisting of horizontal pipes G G and vertical curved pipe H, having perforations I, said pipes G G adapted to fit in the groove C or transverse grooves F, substantially as hereinbefore described, and for the purpose set forth.

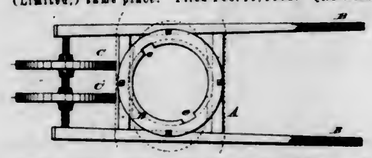
2. In a wash-boiler, the bottom B, having a groove, C, extending entirely around it, with transverse grooves F communicating therewith, and plane D, substantially as herein described, and for the purpose set forth.

266,836. FEED-TROUGH. JAMES J. JOHNSTON, Columbiana, Ohio, assignor to the United States Improvement Company, (Limited,) same place. Filed Feb. 23, 1882. (No model.)



Claim.—In a feed and water apparatus, the combination of the vessel A, having a tubular projecting flange, J, pivoted lid G, post D, and base A, all constructed, arranged, and operating substantially as herein described, and for the purpose set forth.

266,837. WHEELBARROW. JAMES J. JOHNSTON, Columbiana, Ohio, assignor to the United States Improvement Company, (Limited,) same place. Filed Feb. 11, 1882. (No model.)

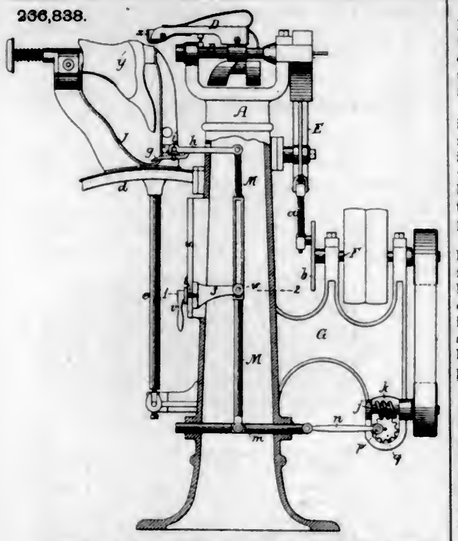


Claim.—In a farm-barrow having side bars forming handles B B, and grooved and notched circle D, wheels C C, arranged equidistant apart and also from the side bars, and legs G, with wheels J at their lower end, in combination with bed E, having stiffening-circle *h*, with lugs *g*, and means for securing the body E in any position it may be turned, substantially as described, and for the purpose specified.

266,838. HEEL-BURNISHING MACHINE. CHARLES KNIGHLEY, Vineland, N. J. Filed Dec. 14, 1881. (No model.)

Brief.—The jack is reciprocated at right angles to the vibrations of the burnisher by automatic mechanism.

266,838.



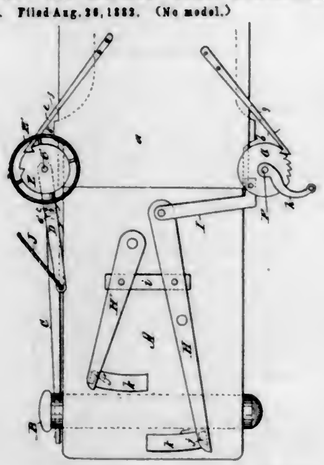
Claim.—1. The combination, in a heel-burnishing machine, of a vibrating shaft carrying a burnisher, a shoe-carrying frame, a driving-shaft, and mechanism, substantially as described, whereby said driving-shaft imparts to the frame or burnisher a definite reciprocating movement in a direction at right angles to the plane of vibration of the burnisher-shaft, as set forth.

2. The combination of the standard A, the vibrating burnisher, the shoe-carrying frame J, adapted to move in a plane at right angles to the plane of movement of the burnisher, the lever M, connected to the said frame J, and mechanism for vibrating said lever, all substantially as specified.

3. The combination of the slotted standard A, the vibrating burnisher, the shoe-carrying frame, the link *h*, the lever M, the vertically-adjustable bracket *s*, carrying the fulcrum-pin *w*, and means for clamping the bracket to the standard, as set forth.

4. The combination of the standard, the vibrating burnisher, the shoe-carrying frame, the lever M, the link *h*, the guided rod *m*, and the worm-wheel and worm for actuating the latter, as specified.

266,839. CAR-COUPLING. DANIEL E. KELLEY, Gaylord, Kans. Filed Aug. 26, 1882. (No model.)



Claim.—1. In a car-coupling, the combination, with the coupling-pin, of the notched wheels, their spring-pawls, and shaft having the bail-shaped lever, and the lifting-lever connected to the coupling-pin, and having the bail-shaped lever arranged underneath and crosswise of it, substantially as and for the purpose set forth.

2. In a car-coupling, the combination, with the coupling-pin, its lifting-lever, the bail-shaped lever, with its forward end arranged underneath and crosswise of the pin-lifting lever, and having its side bars connected to an axis or shaft provided with notched wheels or ratchets engaged by spring-pawls, of the moving drawhead provided with shoulders arranged on their upper sides contiguously to the said spring-pawls, substantially as and for the purpose set forth.

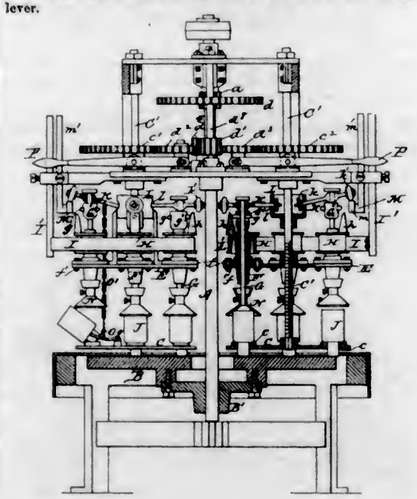
3. In a car-coupling, the combination, with the slotted drawhead, of the levers arranged, two on each side thereof, with their forward ends connected to cross-bars arranged one in a plane below the incoming link and in front of the coupling-pin and the other in a plane above the link and behind the pin, said levers being connected together between their pivots, the L-shaped pitmen, and the ratchets engaged by spring-pawls, the shaft of the latter having means for its operation, substantially as and for the purpose described.

4. In a car-coupling, the combination, with the cross-bars arranged one in a plane below the incoming link and in front of the coupling-pin and the other in a plane above the link and behind the pin, levers connected to said cross-bars and connected together between their pivotal points, the L-shaped pitmen and the ratchet-wheels having a handled shaft and engaged by spring-pawls, of the moving slotted draw-head having a shoulder on its lower side adapted to disengage said pawls from their ratchets, substantially as and for the purpose specified.

5. In a car-coupling, the combination of the coupling-pin, its lifting-lever, the bail-shaped lever with its forward cross-piece arranged underneath and crosswise of the pin-lifting lever, and having its side bars or arms connected to a shaft carrying a notched wheel engaged by a spring-pawl, and the cross-bars, arranged one in a plane below the incoming link and in front of the coupling-pin and the other in a plane above the link and behind the pin, and connected by connected-together levers and L-shaped pitmen to ratchets engaged by spring-pawls, with the slotted moving drawhead having shoulders at its upper and at its lower side adapted to operate on the aforesaid spring-pawls, substantially as and for the purpose stated.

266,840. GLASS-GRINDING MACHINE. ALEXANDER W. KELLY, Philadelphia, Pa. Filed Feb. 25, 1882. (No model.)

Brief.—The jar is inserted in a revolving holder with its mouth on a revolving grinder, and is held in position by a cone-shaped clamp. The jar is revolved on its axis by the holding-clamp. When the jar is ground the motion of the clamp is stopped and the jar is automatically tipped from the holder by a tilting-lever.



Claim.—1. The combination, in a machine for grinding glass jars or other articles, of a vertical rotating shaft having a clamp or holding socket for such jars or articles, and means, substantially as described, for automatically lifting such shaft to release the jar or other article, as set forth.

2. The combination, in a machine for grinding glass jars or other articles, having a vertical shaft, with a clamp or socket for holding such jars or articles and a disk or carrier in which the jars or other articles rest while being ground, of means, substantially as described, for tilting such jars or other articles on the carrier when the clamp-shaft is raised, as set forth.

3. The combination, in a machine for grinding glass jars or other articles, of vertically-movable shaft G, having cross-piece *g*, with pulley H, having upwardly-projecting finger *h*, substantially as shown and described.

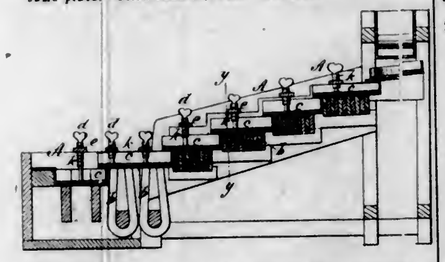
4. The combination, with shaft C' and cup I, of vertically-moving and rotating shafts G, rocking arms K, and cam or incline M, substantially as shown and described.

5. The combination, with vertically-moving shaft G and disk or carrier C, of fork O, connected with said shaft by means of link O' and bar K, whereby as the latter is lifted the fork will be raised, as and for the purpose set forth.

6. In a machine for grinding glass jars or other articles, the combination, with center shaft, A, having pinion or gear wheel *a*, of shafts C' C', having gear-wheels c' c^2, pinions d d', intermediate shifting-wheels d^3 d^2, and adjustable idler d^4, whereby both said shafts may be adjusted to turn either to the right or left, substantially as shown and described.

7. In combination with the sleeve F, sliding spindle G, and pin *g*, the loose collar G', having slot *g'*, substantially as shown and described.

266,841. MAGNETIC GOLD-SEPARATOR. HIRAM KENTON, Albany, Oreg., assignor to himself and Samuel H. Althouse, same place. Filed June 24, 1882. (No model.)



Claim.—1. The apparatus for separating gold, consisting of the sluice pans or boxes A A', arranged in step-like order and fitted with the perforated copper plates c, substantially as shown and described.

2. The set-screws *d*, in combination with the perforated plates c and sluice-boxes A, substantially as and for the purposes set forth.

3. In apparatus for separating gold, the zincs K, combined with the copper screws *d* and plates c, substantially as and for the purposes set forth.

4. In an apparatus for separating gold, the combination of the sluice-box A A', arranged in step-like order and fitted with the perforated plates c and magnets *b*, substantially as described, and for the purpose set forth.

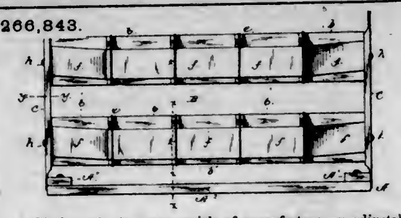
266,842. VEHICLE-SPRING. JOSIAH KITZMILLER, Keedysville, Md. Filed Sept. 13, 1882. (No model.)



Claim.—A triple vehicle-spring consisting of the middle lower concave spring, D, its transverse bearing-bar B, connected to the side bars, and the parallel upper arch-springs, E E, centrally secured to the body or body-block, and connected by their upwardly-turned ends to the ends of the lower spring by coupling-bolts, substantially as specified.

266,843. DISPLAY-RACK. J. LEE KNIGHT and HENRY K. ROWLEY, Topeka, Kans. Filed July 19, 1882. (Model.)

266,843.



Claim.—1. As a new article of manufacture, an adjustable display-rack for use in show-cases, show-windows, and similar places, composed of the base A, leaves or cases B, end box-clamps, *c*, elastic webbing *f*, blocks *d*, and brace-rods *g*, substantially as shown and described.

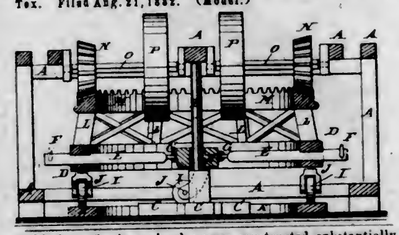
2. In an adjustable display-rack, the combination of the slats *b*, elastic webbing *f*, and means for holding the elastic webbing *f* longitudinally parallel and laterally at an angle to the said slats, and the necessary supporting mechanism, substantially as and for the purposes set forth.

3. The combination, substantially as hereinbefore described, of the slats *b*, adjustable triangular blocks *d*, elastic webbing *f*, and wire clamp *e*, all constructed and arranged substantially as set forth.

4. The combination, substantially as set forth, of the base A, provided with holes *a*, end box-clamps, *c*, holding the slats *b* and elastic webbing *f*, and provided with holes c' c^2, and the brace-rods *g*, having their ends turned to enter holes a c' c^2, as and for the purposes described.

5. In a display-rack, the combination, with the slats *b*, of the elastic webbing *f*, secured to the sides of the slats, and adjustable distending-blocks placed between the elastic webbing and the slats, and means for holding the slats, elastic webbing, and blocks firmly together, substantially as set forth.

266,844. ANIMAL-POWER. WILLIAM C. KNOX, Groesbeck, Tex. Filed Aug. 21, 1882. (Model.)



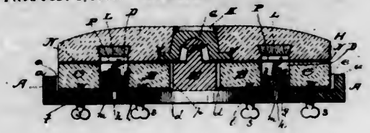
Claim.—1. An animal-power constructed substantially as herein shown and described, and consisting of a small wheel placed loosely upon an upright shaft, and connected by hinges with the inner ends of arms and sweeps attached to the main wheel, mounted upon caster-wheels and carrying a large gear-wheel, into the teeth of which, upon the opposite side of its axis, mesh two small gear-wheels, each provided with a driving-pulley, as set forth.

2. In an animal-power, the combination, with the upright stationary shaft B and the arms and sweeps E' E, attached to the main wheel D, of the small loose wheel H and the connecting-hinges G, substantially as herein shown and described, whereby the power-wheel is centered, as set forth.

3. In an animal-power, the combination, with the main wheel D and the large gear-wheel M, of an interposed frame, L, substantially as herein shown and described, whereby the said gear-wheel can be brought to any desired level, as set forth.

4. In an animal-power, the combination, with the large gear-wheel M, of the two opposite gear-wheels N, and the driving-pulleys P, connected with the said gear-wheels, substantially as herein shown and described, whereby two separate machines can be driven by the same power and at the same time, as set forth.

266,845. GRINDING-MILL. JOHN P. LANCASTER, Goshen, Ind. Filed June 2, 1882. (No model.)

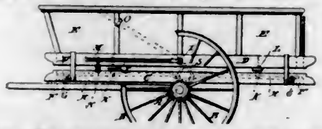


Claim.—1. In a grinding and reducing mill, the bed-plate having the outer rim, *a*, the inner concentric rib, *b*, the intermediate concentric, *c*, and the perforations *k* through the bottom of said plate into the recess formed between the inner and intermediate ribs, substantially as specified.

2. In a grinding and reducing mill, the combination, with a bed-plate having perforations *k*, of an inner circular stone, B, an outer circular stone, C, a ventilating chamber or recess between the two stones, a porous filling in the recess, and air-tubes *l*, extending through said filling to said air-chamber under the same, which communicates with the perforations of the bed-plate, substantially as specified.

3. In a grinding and reducing mill, the combination, with outer and inner concentric lower stones having dressed faces, a ventilating-chamber, and porous filling, of a running-stone having inner and outer dressed faces and an intermediate circular porous filling covering the ventilating-chamber between the lower stones, substantially as specified.

266,846. WEIGHING ATTACHMENT TO CARTS. BERNARD LENSING, Evansville, Ind. Filed July 25, 1882. (No model.)



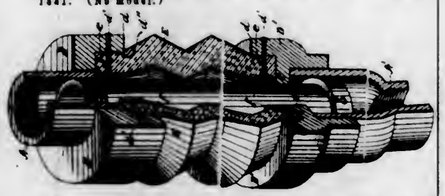
Claim.—The combination of the axle A, frame C, frame D, having wagon-body E and crank-shaft I, links S, and levers H, having bearing-studs K, and the scale-beam or steelyard M, all constructed, arranged, and operating as herein described, for the purpose shown and specified.

266,847. HAME. ODDEN P. LUTCHWORTH, Buffalo, N. Y. Filed June 3, 1882. (No model.)



Claim.—The combination, with the wooden portion A of a hame, of the back-strap B, bent over the end of said wooden portion, a cap, C, covering the bent portion of the back-strap, and provided with a strap, *c*, and means whereby the cap and strap are secured to the hame, substantially as described

266,848. OIL-WELL PACKER. DANIEL L. LEWIS, Bradford, Pa., assignor, by direct and mesne assignments, to Isaac Lewis, Johnsonburg, N. Y., and L. C. Hallock, Erie, Pa. Filed Oct. 28, 1881. (No model.)



Claim.—1. In combination with the tubing of an oil-well, a cylindrical elastic block pierced with a central longitudinal opening, and provided with a neck at the end thereof, adapted, as shown, to fit within a cap-shaped pressing-flange, for the purposes mentioned.

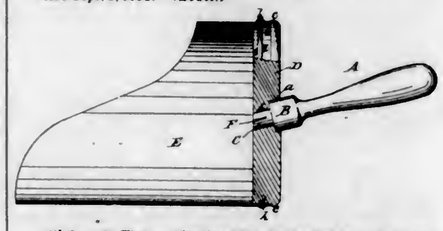
2. In an oil-well-packing device, a solid elastic annulus provided with a neck at the end, in combination with a flange for pressing the same, which is provided with an annular rim for embracing said neck, substantially as and for the purpose set forth.

3. In an oil-well-packing device, a solid elastic annulus provided with a neck at the end, in combination with a flange for pressing the same, which is provided with an annular ring or rim for embracing the said neck, which rim is provided on its inside with a lip or bead, substantially as and for the purposes mentioned.

4. In an oil-well packer, the combination, substantially as shown, of the following elements: a telescopic or slip joint, a pressing-flange attached to each of the parts of said tubing, and provided with annular rims for overreaching part of the packing material, and a solid rubber annulus provided with necks or thin extensions therefrom at each end thereof, said annulus being placed between said flanges and the said necks embraced by the said annular rims on said flanges.

5. In an oil-well packer, a compressing-flange adapted, substantially as shown, to cap over or encircle the end of the rubber annulus, for the purposes mentioned.

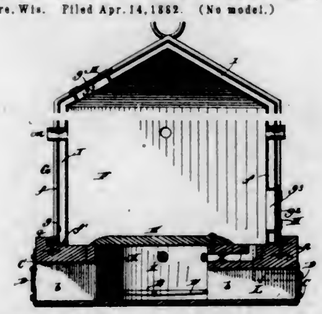
266,849. SCOOP. MARK J. LIDDELL, East Saginaw, Mich. Filed Sept. 2, 1882. (Model.)



Claim.—1. The combination, with the head D, provided with the inclined recess *a* and smaller inclined aperture *b*, leading therefrom, of the handle A, provided with the cylindrical collar B, inserted in the recess *a* of the head, and pintle C, inserted in the aperture *b* of the head and secured therein, substantially as shown and described.

2. The combination, with the hollow body E of the scoop, made cylindrical at its inner end, and provided with the hollow flange or head *b*, of the head D, provided with the flanges *c d* on its circumference, substantially as shown and described.

266,850. CHARCOAL-KILN. WALTER A. LOVELACE, West De Pere, Wis. Filed Apr. 14, 1882. (No model.)



Claim.—1. The combination of the kiln-hood with the foundation A, provided with an inclosed centrally-located fire-place, B, the hot-air flues K, for conducting the hot air from the fire-place into the kiln, and the smoke and steam escape flues L, for conducting smoke and steam through the foundation from the kiln to the external atmosphere when the hood is closed, said members being constructed and organized substantially as described.

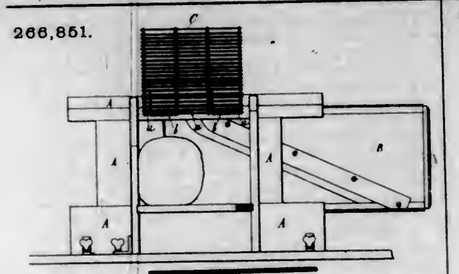
2. The combination, in a charcoal-kiln, of an open-bottom hood, in which the wood to be charred is placed, with the foundation A, upon which the hood is seated, formed with a central fire-place, B, closed at the top by a suitable door and having one or more side passages, *b*, a series of flues, K, radiating from the sides of the fire-place and leading up through the foundation, so as to open into the hood, and a second series of exit-flues, L, leading from the top of said foundation to points along its sides, substantially as described.

266,851. BREAD-CUTTER. JOHN H. LYNCH, Baltimore, Md. Filed Sept. 8, 1882. (No model.)

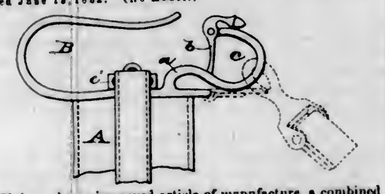
Claim.—1. In combination with the frame A and the sliding knife B, the hinged wire-work guard C, substantially as and for the purpose specified.

2. The wire-work guard C, hinged to the frame A, and provided with springs *b*, to retain it in an upturned position when not in use, substantially as and for the purpose specified.

266,851.

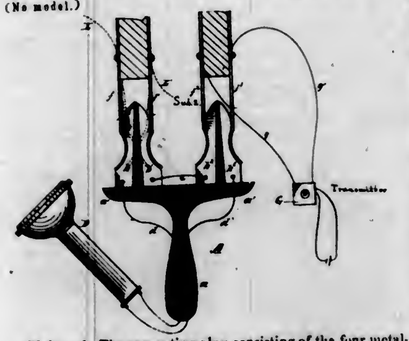


266,852. TRACE-CARRIER. HUBER MALO, Wellington, Ill. Filed June 19, 1882. (No model.)



Claim.—As an improved article of manufacture, a combined check-book and trace-carrier, consisting of the check-book B, having eyes *c' c'*, and provided with rear branches or horns, *a a*, having trace-hooks *c c*, with drop-latches *b b* pivoted thereto, substantially as and for the purpose set forth.

266,853. CONNECTING DEVICE FOR OPERATORS' TELEPHONES. LEWIS MANN, Detroit, Mich. Filed Feb. 20, 1883. (No model.)



Claim.—1. The connecting-plug consisting of the four metallic contact-terminals arranged in two pairs projecting from a non-conducting base, a single terminal of one pair being in electrical connection with a single terminal of the other pair, and the other two terminals adapted for connection with a telephone, substantially as described.

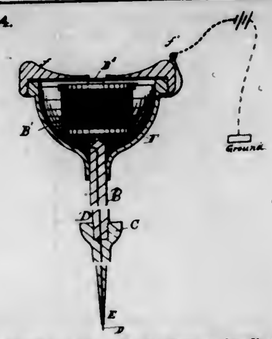
2. The plug consisting of base *a'*, of non-conducting material, and having a suitable handle, and the pairs of metallic terminals *b b'* and *b² b²* projecting from said base, the terminals *b'* and *b²* being electrically connected, substantially as described.

3. The combination, with the terminal springs connecting subscribers' lines and the terminal springs of the transmitter, of the connecting-plug having four metallic terminals arranged in pairs for insertion between the pairs of springs, respectively, substantially as described.

266,854. IMPLEMENT FOR CLOSING AND TESTING ELECTRIC CIRCUITS. LEWIS MANN, Detroit, Mich. Filed Feb. 13, 1882. (No model.)

Claim.—1. A circuit closing and testing implement consisting of a non-conducting handle having an electric conductor arranged therein and projecting therefrom, an electro-magnet mounted on said handle, and having one of its coil-terminals connected with said conductor and the other arranged for connection with an exterior conductor, and a signaling device arranged to be operated by the magnet, substantially as described.

266,854.



2. The combination, with the stem or handle B, having the swell C, of the conductor D, arranged in said stem or handle, and projecting from one end thereof, an electro-magnet mounted on said stem or handle, and having one of its coil-terminals connected with said conductor and its other terminal arranged for connection with a battery, and a signaling device forming a part of the implement and arranged to be operated by the said magnet, substantially as described.

266,855. COMMUTATOR-BRUSH FOR DYNAMO-ELECTRIC MACHINES. WILLIAM B. MASON, Boston, Mass., assignor of one-half to Rufus S. Merrill, same place. Filed Sept. 4, 1883. (No model.)



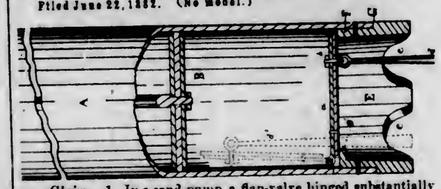
Claim.—1. A commutator-brush composed of a number of superposed laminæ or strips detachably and adjustably connected together at their rear ends by a clamp or binder, substantially as set forth.

2. In a commutator-brush, the combination of a number of superposed strips longitudinally slotted at their rear ends with a clamp or binding screw, which passes through said slots, substantially as and for the purposes hereinbefore set forth.

3. A commutator-brush composed of superposed laminæ or strips, adjustably and detachably connected at their rear ends by a clamp or binder, in combination with a brush-holder, in which the compound strip is held and can, as an entirety, be adjusted, substantially as set forth.

4. A commutator-brush composed of two or more separate and independent piles or compound strips, formed of superposed detachably and adjustably connected laminæ, as described, in combination with a brush-holder provided with separate and independent clamping or holding devices, one for each pile or compound strip, substantially as hereinbefore set forth.

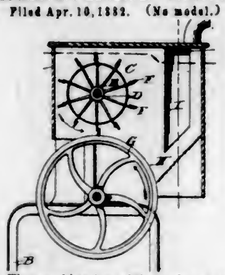
266,856. SAND-PUMP. SAMUEL MCCAHONTAY, Bradford, Pa. Filed June 22, 1882. (No model.)



Claim.—1. In a sand-pump, a flap-valve hinged substantially as shown, and having a hinged stem projecting below the bottom of the pump, for the purpose set forth.

2. In a sand-pump, the combination of a valve-seat having a ledge, *c'*, and a flap-valve having its hinge above the top of the valve and a space between the rear of the valve and the cylinder, for the purpose set forth.

266,857. SEPARATING-MACHINE. SAMUEL MCKENNA, Memphis, Tenn. Filed Apr. 10, 1882. (No model.)



Claim.—1. The combination of the casing, a rotary cylinder, an oppositely-rotating beater, an inclined screen or platform, and a series of upright plates or deflectors disposed at an angle to the beater, as set forth.

2. The combination of the casing, a rotary cylinder, an oppositely-rotating beater, inclined screen, entrance-opening at one end and exit-opening at the other, and a series of upright plates or deflectors disposed at an angle to the beater and arranged on a cross-bar at the top of the casing, as set forth.

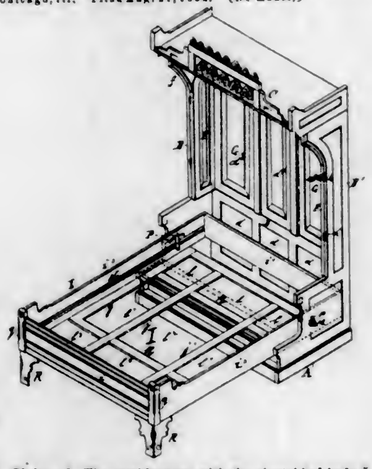
266,858. GRAFTING-WAX. THOMAS MCLOUGHLIN, Judsonville, Cal. Filed Aug. 15, 1882. (No specimens.)

Claim.—The herein-described composition of matter or grafting-wax, consisting of black pitch, resin, pine-pitch, honey, tallow, and bees-wax, in the proportions substantially as specified.

266,859. LANTERN-OIL. WILBER R. MEEDS, Newark, Ohio. Filed Mar. 11, 1882. (No specimens.)

Claim.—In the manufacture of lantern or signal oils, the herein-described compound, consisting in the admixture, with a compound composed of commercial lard-oil, commercial illuminating-oil—that is, a mixture of lard-oil and kerosene—of 300° fire-test, and turpentine, in the proportions set forth, of a quantity of refined tallow-oil equal in bulk or volume to one-half the volume of the commercial lard-oil, (irrespective of the lard-oil contained in the commercial illuminating-oil,) as specified.

266,860. WARDROBE-BEDSTEAD. ROBERT F. MEISSNER, Chicago, Ill. Filed Aug. 21, 1882. (No model.)



Claim.—1. The combination, with the pivotal bed-body I, of the wardrobe-shaped receptacle composed of sections that consist of base A, uprights B B', canopy C, and back frame, D, detachably connected by dowels *a* and bolts *b* and *c*, all constructed and arranged substantially as and for the purpose set forth.

2. The pivotal bed-body I, having bottom frame, *j k*, with panels *e e*, in combination with the wardrobe-shaped receptacle that forms the head of the bed-body, and consists of base A, uprights B B', canopy C, and back frame, D, with panels *d d*, and with the two section folding doors F and G, hinged together and to the uprights B in the manner to operate substantially as and for the purpose set forth.

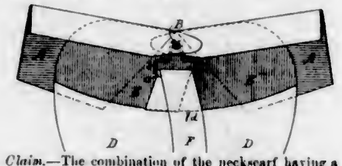
3. In a wardrobe-bedstead, the uprights B, having brackets *f* for better supporting the canopy C, and the doors F, that are hinged to the uprights, made to fit against such brackets, *f*, all substantially as described and shown.

4. In a wardrobe-bedstead, the fulcrum-studs *n*, secured to uprights B B', for pivotally supporting the bed-body I, said studs being secured to the inner ends of helical springs, J, the exterior ends of which are connected with studs *o*, secured to the bed-body I, for counterbalancing such bed-body while being raised or lowered, the same being constructed and arranged substantially as set forth.

5. In a wardrobe-bedstead, the fulcrum-stud *n*, pivotally secured in plate L, that is attached to upright B, carrying ratchet-wheel M, that is locked by pawl *p*, and helical spring J, that is connected to bed-body I by stud *c*, the whole being constructed and arranged to operate substantially as set forth.

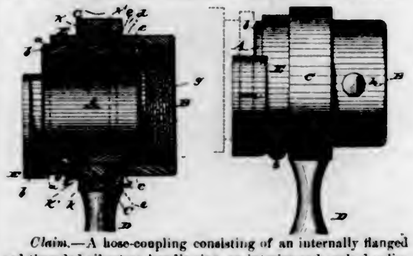
6. In a wardrobe-bedstead, the bed-body I, having legs R connected thereto by hinges *r*, and having loops *s*, for coupling hooks *t* of rods N, that are again connected to levers P, such levers P being pivotally secured to the side rails of the bed-body I, with their upper ends connected to studs *u*, that are rigid with the uprights B, and projected through a segmental slot in such side rails of the bed-body, all substantially as described and shown, for the purpose specified.

266,861. NECKSCARF. WILLIAM E. T. MERRILL, Philadelphia, Pa., assignor of one-half to William A. Laverty, same place. Filed July 15, 1882. (No model.)



Claim.—The combination of the neckscarf having a retaining-pin, *d*, the loop *b*, adapted to the collar-button, and the strap F, connected at one end to the scarf, passed through the loop *b*, and adapted for application to the retainer *d*, as set forth.

266,862. HOSE-COUPLING. JOSEPH MEYRICK, JR., and WILLIAM MELCHER, Louisville, Ky. Filed July 22, 1882. (No model.)



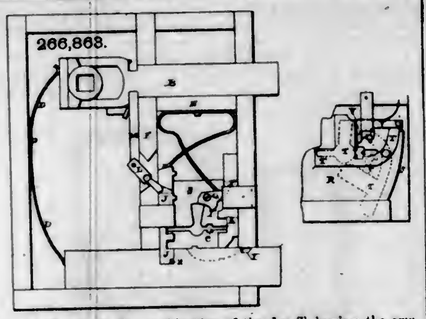
Claim.—A hose-coupling consisting of an internally flanged and threaded vibratory handle-ring, an interior end-packed cylinder having an external collar-bearing, a double-threaded base-coupling screwed to the interior cylinder, and an outer reciprocating coupling-ring having an arc-shaped socket for the hose-head, a large exterior thread engaging the handle-ring, and a guide-stud engaging a slotway or groove of the interior cylinder, substantially as specified.

266,863. LATCH AND LOCK COMBINED. WILLIAM MICHEL, Mount Sterling, Ohio. Filed June 12, 1882. (Model.)

Claim.—1. In a lock, the combination of the tumblers J M, which are connected together, with the tumbler K, dog Q, and the two bolts C B, substantially as shown.

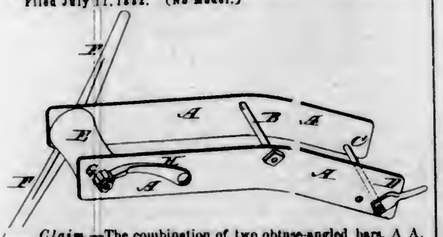
2. The combination of the tumbler J, the dog Q, having the projections I', and an arm which catches in a recess in the side of tumbler K, with the key provided with arms or wards, substantially as described.

3. In a lock, the combination of the tumblers J K, actuated by suitable springs, the dog Q, provided with an arm to catch in the side of the tumbler K, and the projections I', with the bolt C, having the recesses H I made in its upper edge, and a suitable key for operating the tumblers, substantially as set forth.



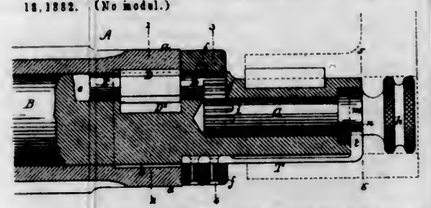
4. In a lock, the combination of the dog T, having the arm U, with a spring dog or catch, V, and a lever, W, for moving the dog, substantially as shown.

266,864. WIRE-STRETCHER. ROBERT MILBY, Morales, Tex. Filed July 11, 1882. (No model.)



Claim.—The combination of two obtuse-angled bars, A A, connected at one end by a detachable rod, C, provided with the straining devices at the other end, and having the vertices of the angles connected by a rod, B, as shown and described.

266,865. CLUTCHING AND RELEASING DEVICE FOR SHAFTS. FREDERICK H. MILES, Philadelphia, Pa. Filed Sept. 12, 1882. (No model.)

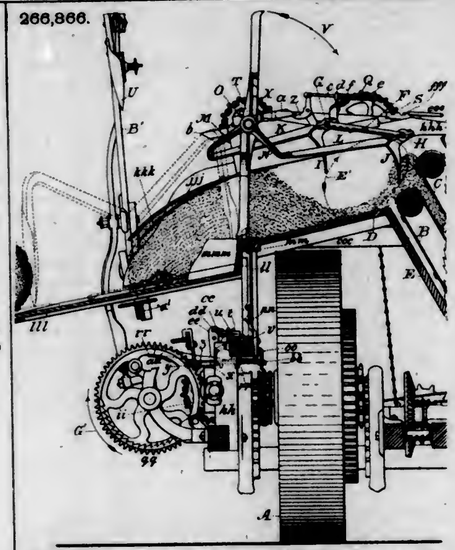


Claim.—1. Stopping and starting mechanism in which the following elements are combined, namely: a shaft, B, a spindle, G, which has its bearing in and which projects from the end of the shaft, a wheel or pulley adapted to the shaft and provided with ratchet-teeth, and a pawl or pawls adapted to be actuated by the said spindle G, all substantially as set forth.

2. The combination of the shaft B, pawl-controlling shaft G, having two flat sides, *a* and *p*, and a spring, T, secured to the said shaft B, substantially as specified.

3. The combination of the shaft B, the wheel A with teeth *b*, the pawl-carrying pin E, the spindle G, projecting from the end of the shaft B, and gearing for connecting the pin E and spindle G, as set forth.

266,866. SELF-BINDING HARVESTER. ANDREW C. MILLER, Sparta, Ill., assignor of one-half to David M. Osborne, Auburn, N. Y. Filed Mar. 14, 1882. (No model.)



Claim.—1. In a grain-binding harvester, the combination, with the elevating-canvas, of the receiving-table located over the main driving-wheel and the raking and packing fingers working above said table and wheel.

2. The table for receiving the grain from the elevating mechanism, located over the main driving-wheel, in combination with the packing-fingers and the intermittingly-revolving separator working above said table.

3. The receiving-table located over the main driving-wheel, in combination with raking and packing fingers working over said table and wheel, a binder-table and binding mechanism located outside of the longitudinal vertical plane of said wheel, and the intermittingly-rotating separator, arranged and operating substantially as described.

4. The receiving-table located over the main driving-wheel, and the binding-table and binding mechanism located on the outer side of said receiving-table, in combination with the packing-fingers working above said table, and the intermittingly-rotating separator interposed between said packing-fingers and the binding mechanism, substantially as described.

5. The inclined receiving-table located over the driving-wheel, and the inclined binder-table receiving the grain from said receiving-table, in combination with the revolving separator and the fingers *j j j* and *k k k*, projecting over the binder-table, substantially as and for the purpose set forth.

6. The combination, with the inclined receiving-table located over the driving-wheel, of the double elevating-aprons delivering the grain thereto, packing-fingers working above said table, an inclined binder-table receiving the grain therefrom, mechanism for binding the grain on said binder-table, and an intermittingly-revolving separator interposed between the packing-fingers and the binding mechanism, all arranged and operating substantially as described.

7. In combination with the revolving separator, a yielding atop mechanism consisting of the cross-head Y and its latch Z and the adjusting devices, arranged and operating substantially as described.

8. The combination of the raking and packing fingers, arranged to operate above the receiving-table D, the revolving separator, also working above and over the discharging edge of said table, and the shield-boards arranged above said table and on each side of said fingers and separator, substantially as described.

9. The combination, with the revolving separator, of the cross-head Y, sprocket-wheel X, and its clutch *g*, intermediate shifting devices operated by the cross-head to throw the clutch and sprocket-wheel out of engagement, and the spring for throwing said parts into engagement, substantially as described.

10. The intermittingly-revolving separator T, having the concave-convex separating-arms, in combination with the sliding bolt for locking said arms, and the binder-needle working within the concave face of said arms for effecting a separation of the grain, substantially as described.

11. The combination of the cam-wheel *p* and the cam-lever *q* and its connecting devices with the clutch *g g* and sprocket-wheel *i i*, substantially as and for the purpose described.

12. The combination, with the elevating-canvas and the table receiving the grain therefrom, located over the driving-wheel, of the raking and packing fingers and the vibrating butt-board working above said table and wheel, substantially as described.

13. The combination of the double elevating-canvas, the re-

ceiving-table located over the driving-wheel, the raking and packing fingers for moving the grain outward over said table, and the vibrating butt-board and intermittingly-rotating separator, arranged and operating relatively thereto substantially as described.

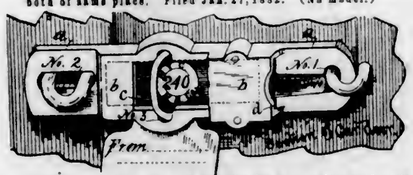
14. The combination of the double elevating-canvas, the table receiving the grain therefrom, located over the driving-wheel, the raking and packing fingers, vibrating butt-board, and intermittingly-rotating separator working above said table, and a binder-table and mechanism for binding the grain thereon, located on the outer or stubble side of the driving-wheel, substantially as described.

15. The revolving separator-shaft provided with a sprocket-wheel, in combination with the chain and sprocket-wheel connecting said shaft with the packer-shaft, substantially as described.

16. The combination of the double elevating-canvas, the table for receiving the grain therefrom, located over the driving-wheel, the raking and packing fingers, vibrating butt-board, and intermittingly-rotating separator, all arranged and working above said table, the inclined binder-table arranged outside of and on a lower plane than said receiving-table, and mechanism for binding the grain on said binder-table, all arranged and operating substantially as described.

17. The combination of the cam *p* and the cam-lever *q* and its connecting devices with the lever *x*, having the pivot *y* and stud *z*, and operating the push-bar lever *a a*, substantially as and for the purpose described.

266,867. SEAL-LOCK. CHARLES D. MILLER, Des Moines, Iowa, assignor of three-fourths to Thomas G. Orwig and H. S. Butler, both of same place. Filed Jan. 27, 1882. (No model.)



Claim.—1. An improved hasp having a complete seal cavity or box adapted to engage a fixed eye or staple, and to receive and retain a seal independently of any lock, bolt, or other extraneous device, and to rupture and destroy the seal by removing the hasp from the staple, substantially as set forth, for the purposes specified.

2. In combination with a hasp, *a a*, having a slot, No. 3, the sealing-box *b b*, having a cavity, *d d*, with an inclined plane or swell, *g*, and a stop or shoulder, *h*, substantially as shown and described, for the purposes specified.

3. The hasp *a a*, having a slot, No. 3, a seal-cavity, *d d*, and an intersecting opening, *r*, and thereby adapted to simultaneously and jointly seal a car, box, or bag, and a shipping-tag, substantially as and for the purposes specified.

266,868. HORSESHOE-NAIL. WILLIAM W. MINER, Boston, Mass., assignor to Globe Nail Company. Filed Oct. 25, 1880. (No model.)



Claim.—1. As an improved article of manufacture, a horse-shoe-nail having a hardened head and shank and a soft neck, as and for the purpose described.

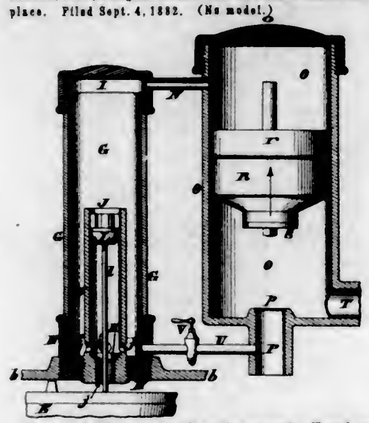
2. A horseshoe-nail having that portion of it which when driven lies at and near the junction of the shoe and hoof in that condition of softness which results from hot-rolling the plate from which the blank is cut and having its body or shank from thence to the point in the condition of hardness produced by cold-rolling, substantially as set forth.

266,869. FINGER-RING. NOAH MITCHELL, New York, N. Y. Filed Aug. 5, 1882. (No model.)



Claim.—In a finger-ring, the combination of a ring-body constructed with a stone-seat at the top or front of the ring and an internally-screw-threaded opening perpendicular to said stone-seat, a precious stone permanently secured upon said seat by a close setting, as described, and a removable stone-protector in the form of a matching screw-plug, which, when in position, tightly closes said opening behind the stone, substantially as herein specified, for the purposes set forth.

266,870. WATER-CLOSET VALVE. EMIL MOELLMANN, Cincinnati, Ohio, assignor of one-half to John G. Murdock, same place. Filed Sept. 4, 1882. (No model.)

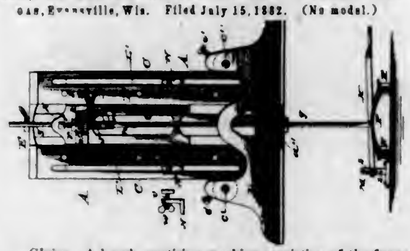


Claim.—1. The chamber O, having an outlet, T, and an inlet, P, which latter is opened and closed by an automatic valve, as R S, said chamber and inlet communicating respectively by the pipes N and U V with the vessel G, whose wasteway *j* is opened by some of the operating appliances of the water-closet, substantially as herein described, and for the purpose set forth.

2. In combination with the vessel G, communicating by pipes N U V with the cylinder O P T, traversed by the automatically-acting valve R *r* S, in the manner described, the wasteway *j*, closed with the plug L, which latter is operated by the discharge-valve E of the closet, as herein described.

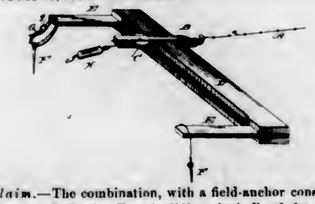
3. The vessel G, communicating with the valve-chamber O in the manner described, said vessel being screwed into the thimble H, with which latter is engaged the perforated guide-tube J *j'*, provided with the wasteway *j*, for the purpose described.

266,871. BENCH MORTISING-MACHINE. WILLIAM S. MORGAN, Evansville, Wis. Filed July 15, 1882. (No model.)



Claim.—A bench mortising-machine consisting of the frame A, slotted adjustable face-plates F, slide-holders N, engaging said face-plates, the reciprocating slide G, its turn-holder and treadle-rod, and the adjustable gage-plate S, substantially as specified.

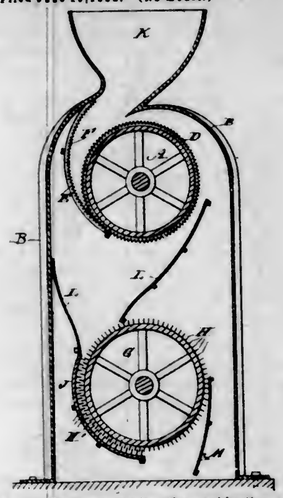
266,872. FIELD-ANCHOR. WILLIAM P. MORRIS, Paris, Ky. Filed June 3, 1882. (No model.)



Claim.—The combination, with a field-anchor consisting of body D, arms E E, pins F, and sliding-clevis B, of the strap G,

buckle *g*, and spring-balance H, substantially as and for the purposes set forth.

266,873. CORN-CRUSHER. GEO. C. MUELLER, San Francisco, Cal. Filed June 19, 1882. (No model.)

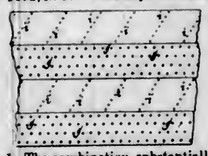


Claim.—1. In a corn-crusher, the combination, with the casing B, of the cylinder A, provided with the series of parallel saws D, and the frame E, provided with the saws F, working between the saws D, of the cylinder G, provided with a series of parallel rows of pins, H, and the frame J, provided with the pins H', working between the rows of pins H of the cylinder G, substantially as and for the purpose set forth.

2. In a corn-crusher, the combination, with the casing B, of the cylinder A, provided with saws D, the frame E, provided with saws F, the cylinder G, provided with studs H, the frame J, provided with studs H', and the guide plates or frames L, substantially as herein shown and described, and for the purposes set forth.

3. In a corn-crusher, the combination, with the casing B, of the cylinder A, provided with saws D, the frame E, provided with saws F, the cylinder G, provided with studs H, the frame J, provided with studs H', and the guide plates or frames L and M, substantially as herein shown and described, and for the purposes set forth.

266,874. MACHINE FOR SCOURING COFFEE, &c. JOHN OLDSORT, New York, N. Y. Filed Sept. 21, 1882. (No model.)



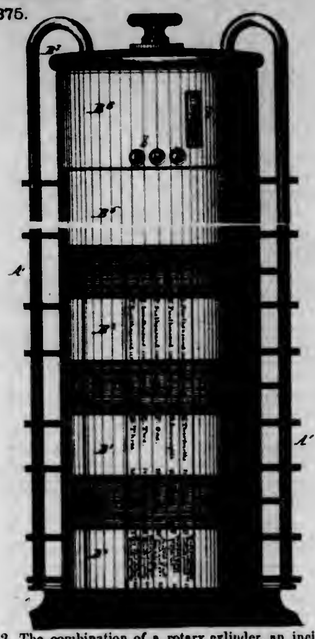
Claim.—1. The combination, substantially as hereinbefore set forth, of the outer cylinder, having the main teeth *g*, extending longitudinally thereto in sets, and the conveyer-teeth *i*, extending in a spiral plane at intervals in the spaces between the main teeth, with the inner toothed cylinder, for the purpose specified.

2. The outer cylinder, A, having on its inner side the main teeth *g*, conveyer-teeth *i*, and convex surfaces J, arranged over the toothless portions of the cylinder, as described, in combination with the inner cylinder, B, having the exterior teeth, *k*, substantially as set forth.

266,875. CIPHER CODE AND APPARATUS. ROBERT T. OREY, Huntington, W. Va. Filed May 13, 1882. (Model.)

Claim.—1. The combination of the rotary head having intelligible characters on it, the inclosing shell thereof having an opening through it, slides which are vertically movable and arranged opposite said opening, and cylinders, which have characters on them which are movable about the said vertical axis, all constructed and arranged to operate substantially in the manner and for the purposes specified.

266,875.



2. The combination of a rotary cylinder, an inclosing shell therefor, provided with an angular opening, vertical slides, which are exposed through said opening, and characters on said cylinders, which are also exposed to view through the opening made through said cylinder, all constructed and arranged to operate substantially in the manner and for the purposes described.

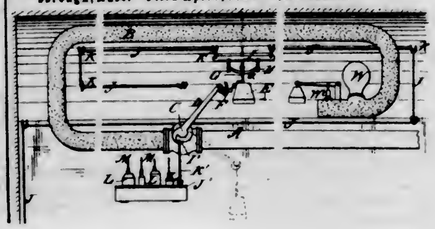
3. The within-described means of operating a cipher code, consisting of a combination of different characters, which are arranged on movable slides and cylinders adjustable at right angles to each other, whereby any secret key can be arranged, all substantially in the manner described.

4. The combination of the internally-screw-grooved male rings or cylinders, the intermediate female rings or cylinders, the core or shaft E of the shell B', the slides which are moved by said screw-grooved rings, the angular plates, which are rigid with said slides, the head or cap on the core or shaft E, and the shell surrounding said head, all constructed and arranged substantially in the manner and for the purpose described.

5. The combination of the rods A', or the equivalent thereof, the head B', the shell B', the ring B', the intermediate rotary internally-screw-threaded rings, and the adjustable slides actuated by turning said head, the characters on the said slides and head being exposed to view substantially in the manner and for the purposes described.

6. As a new and improved article of manufacture, the combination of a column of rotary rings or hollow cylinders independently adjustable, an adjustable end or cap, and vertically-movable slides, which are adjustable by means of the said cap, and which are exposed to view through the shell or part surrounding the latter, substantially as and for the purposes specified.

266,876. FIRE-EXTINGUISHER. DANIEL PARHAM, Tyngsborough, Mass. Filed Apr. 1, 1882. (No model.)



Claim.—1. In a fire-extinguisher, the combination, with a water or gas supply pipe, A, and a stop-cock or valve, C, of the cock-lever, D, the chain F, the weight E, suspended by its hook G on the yoke H of the bar I, which is held up by the combustible cord J, and a suitable sprinkler, B, as shown and described.

2. The combination, with the pipe A and stop-cock C, of the lever D, weight E, hook G, yoke H, bar I, cord J, and the perforated pipe or sprinkler B, extending about the room, as shown and described.

3. The combination, with the pipe A, stop-cock C, lever D, weight E, cord J, and perforated pipe B, of the air-chamber W at or near the end of said pipe B, as shown and described.

4. The combination, with the pipe A, stop-cock C, lever D, weight E, cord J, and perforated pipe B, of the safety-valve W' near the end of pipe B, as shown and described.

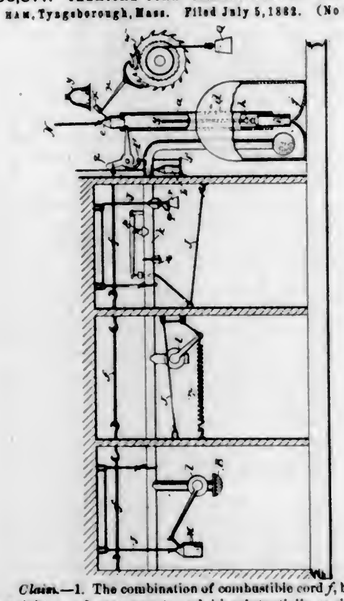
5. The combination, with the lever D, weight E, and combustible cord J, of the hook I', cord K', shelf J', and one or more weights, L, connected with a fire-alarm, so that the dropping of said weight L shall give the alarm, as shown and described.

6. The combination, with the weight E, hook G, yoke H, bar I, and combustible cord J, of the cord N and slide-bolt O, communicating between the weight E and the stop-wheel P of a fire-alarm, as shown and described.

7. The combination, with the weight E, hook G, yoke H, bar I, combustible cord J, cord N, bolt O, and stop-wheel P, of the spur-wheel R, provided with pins U, the weight Q, the trip-hammer and spring S, and the bell T, as shown and described.

8. The combination of weight E, hook G, yoke H, bar I, and combustible cord J with the cock C and lever D of a water-supply pipe, substantially as described.

266,877. CHEMICAL FIRE-EXTINGUISHER. DANIEL PARHAM, Tyngsborough, Mass. Filed July 5, 1882. (No model.)



Claim.—1. The combination of combustible cord *f*, bell-crank *x*, weight *e*, and gas-generator *g h i j*, substantially as shown and described.

2. The combustible cord *f*, bell-crank *x*, weight *e*, generator *g h i j*, gas-pipe *k*, having cocks *l*, and weights or springs connected thereto by the cords J, substantially as shown and described.

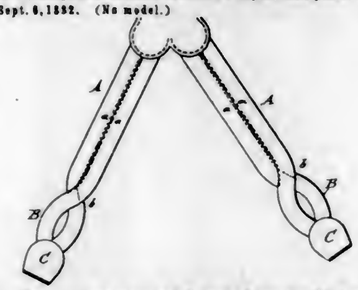
266,878. COMPOUND FOR ARTIFICIAL STONE. ANTONIO PELLETIER, Washington, D. C. Filed Aug. 17, 1882. (No specimens.)

Claim.—1. The chloride or compound chloride solution, adapted to be combined with a hydraulic cement, sand, and a metallic oxide, substantially as specified.

2. The compound consisting of the cement prepared as described, silicious sand, oxide of iron or other metallic oxide with sal ammoniac and corresponding sesquichloride and water combined, substantially as specified.

3. The compound solution for mixing, employed to render plastic the material for the formation of artificial stone, consisting of chloride of ammonia or other suitable chloride and corresponding sesquichloride, substantially as specified.

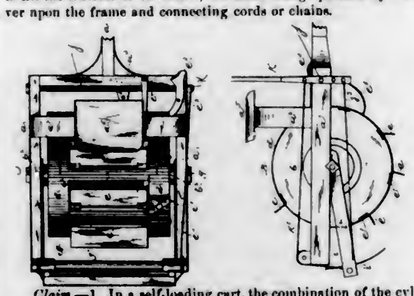
266,879. SUSPENDER-END. BERNARD PETCHAFT, New York, N. Y., assignor of one-half to James F. Hyde, same place. Filed Sept. 6, 1882. (No model.)



Claim.—A suspender-end formed of two stranda parallel to each other until near their lower ends, and then crossed before reaching and at the ends, the two crossings being fastened by rigid clamping devices, substantially as shown, and a button-hole, B, formed as shown and described.

266,880. SELF-LOADING CART. ANDREW JACKSON PETRIE, Melrose, Minn. Filed July 20, 1882. (No model.)

Brief.—A hollow roller has rectangular openings in its periphery. In said openings are hinged spades outwardly and doors swinging inwardly. The spades are locked in a closed position by buttons operated by a lever under the foot of the driver and unlocked and drawn open by spring-bars on the frame. A rear scraper swinging upon the center shaft co-operates with the spades to fill the interior of the roller, the same being operated by a lever upon the frame and connecting cords or chains.



Claim.—1. In a self-loading cart, the combination of the cylinder B, provided with openings *e*, the shovel-doors *e*, secured to said cylinder and arranged to deliver dirt through the openings *e*, and the doors *f*, hinged within the cylinder in position to automatically open and close the openings *e*, substantially as and for the purposes set forth.

2. In a dirt-cart, the combination of the rolling cylinder B, provided with the openings *e*, the shovel-doors *e*, hinged and arranged to drop into the openings *e*, and the doors *f*, hinged within the cylinder and arranged to automatically open and close the openings *e* as the cylinder is revolved, substantially as and for the purposes set forth.

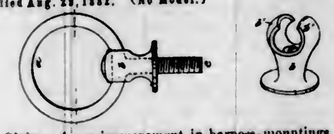
3. In a rolling cart, the combination of the cylinder B, provided with openings *e*, the shovel-doors *e*, hinged within the openings *e*, the latches *e'*, pivoted at one side of and arranged to be turned over the edge of and lock the doors *e*, and means for operating the latches *e'*, substantially as and for the purposes set forth.

4. In a rolling cart, the combination of the cylinder B, provided with hinged doors *e*, and the spring-bar *e*^{3}, having one end properly supported on the framing of the cart and its opposite end held in position to engage and open the doors *e* as the cylinder is revolved, substantially as and for the purposes set forth.

5. In a rolling cart, the combination, with the cylinder B, provided with doors *e* and latches *e'*, of the levers *e*^{3} *e*^{4}, having one end pivoted on the framing of the cart in front of the cylinder and their opposite ends arranged to be turned to engage the opposite ends of the latches *e'*, and in convenient reach of the operator, substantially as set forth.

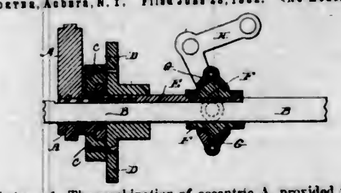
6. In a rolling cart, the combination of the cylinder B, the scraper *i*, having its arms journaled on the gudgeons of the cylinder B, and its hoe arranged to work immediately in rear of the cylinder, the windlass *k*, supported on the framing and connected with the scraper *i*, the lever *k*, secured on shaft *j* and connected with the windlass and the scraper by rods *k' j*^{2}, and the shaft *j*, having the lever secured to one end and provided at its other end with the depending arm *j'*, connected with the scraper by rod *j*^{3}, substantially as and for the purposes set forth.

266,881. HARNESS-MOUNTINGS. PETER PETRY, Newark, N. J. Filed Aug. 29, 1882. (No model.)



Claim.—As an improvement in harness-mountings, the terret-ring consisting of the ring portion *a*, having the screw-threaded shank *c*, integral therewith, and the base portion *b*, provided with the aperture *c'*, through which the shank of the terret-ring passes, and with the hemispherical jaws *b' b'*, adapted to grasp and securely inclose the ring *a*, as shown, all substantially as and for the purpose set forth.

266,882. CUT-OFF AND REVERSING VALVE-GEAR. HUGH T. PORTER, Auburn, N. Y. Filed June 28, 1882. (No model.)



Claim.—1. The combination of eccentric A, provided with incline teeth on its bearing, and collar *a* of the disk D, split collar C, the rack E, and shaft B, substantially as described.

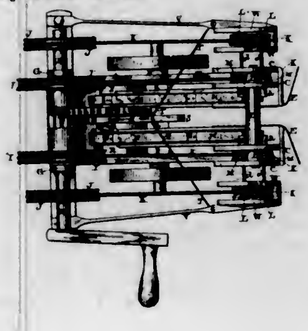
2. The combination of the shaft B, the sliding sleeve F, provided with the V-rib, the strap G, adapted to fit the same, and connected by trunnions to the bifurcated arm of the bell-crank lever H, the rack E, and the eccentric A, each provided with inclined teeth, and the latter provided with a collar, *a*, and the disk D, provided with the split collar C, substantially as shown and described.

266,883. BUTTON-FASTENING. GEORGE W. PERRETICE, Providence, R. I. Filed Sept. 9, 1882. (No model.)



Claim.—As an improved article of manufacture, the herein-described button-fastening, consisting of the base or plate A, having a single sharp-pointed prong, B, projecting upward therefrom, and at right angles thereto, and provided with a loop or neck, C, substantially as and for the purpose specified.

266,884. COTTON-PICKER. DAVID RAWL, Batesburg, S. C. Filed Aug. 14, 1882. (Model.)



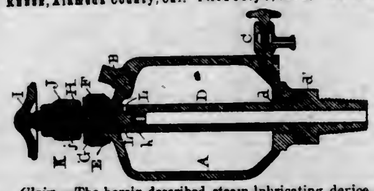
Claim.—1. In a machine for gathering cotton, a series of endwise-moving spindles which have a serrated shoulder formed upon one side, in combination with a mechanism for revolving them and a series of cleaning devices, substantially as shown.

2. In a cotton-picker, the combination of two series of endwise moving and serrated spindles with means by which they are thrust into the cotton-plants from opposite sides, cleaning devices, a mechanism for revolving them, the spring-arms V, connecting-rods, pitman, and cranked driving-shaft, substantially as described.

3. The combination of the spring-arms having a series of revolving spindles connected to their front ends, the connecting-rods, the pitman, and the cranked shaft, whereby the spindles are moved back and forth through suitable guides to and from the center of the machine, substantially as set forth.

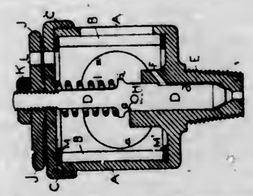
4. In a cotton-picker, the combination of two series of endwise moving and serrated spindles, two series of pulleys for revolving them, and two series of revolving pulleys provided with the cleaning devices *a*, through which the spindles pass, substantially as specified.

266,885. LUBRICATING-CUP FOR STEAM-ENGINES. EVAN L. REESE, Alameda County, Cal. Filed July 5, 1882. (No model.)



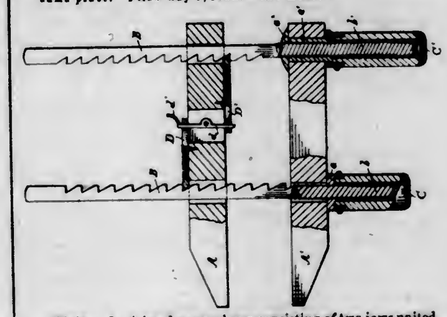
Claim.—The herein-described steam lubricating device, consisting of the shell A, tube D, firmly screwed therein at *d*, and having passages at L, the stuffing-box E, plug H, and screw-gland J, the whole arranged and operating substantially as herein described.

266,886. LUBRICATING-OIL CUP. EVAN L. REESE, Alameda County, Cal. Filed July 5, 1882. (No model.)



Claim.—In a lubricating-cup, the combination, with the cup A, of the spindle D, passing down into the shank E, and having the flat side at *d* and the adjusting-nuts J and K, the whole arranged and operating as and for the purposes described.

266,887. CLAMP. THOMAS RUHO, Detroit, Mich., assignor, by mesne assignments, of one-half to the Detroit Tool Company, same place. Filed May 9, 1882. (No model.)



Claim.—1. A hand screw-clamp consisting of two jaws united by two ratchet-bars having screw-cut tangs, and engaging handles, and, in connection therewith, dogs or pawls upon one of said jaws, adapted to engage said ratchet-bars, substantially as described.

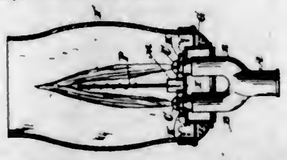
2. A hand screw-clamp consisting of two jaws united by two ratchet-bars having screw-cut tangs and engaging handles, and, in connection therewith, a set of spring dogs or pawls upon one of said jaws, adapted to engage said ratchet-bars, and a handle and a connecting-link, whereby both pawls may be operated simultaneously, substantially as described.

3. The combination, with the jaws, of the two ratchet-bars with screw-cut tangs and engaging handles, one of said bars provided with pawls or dogs to engage said ratchets, and the ratchets on one bar formed in the opposite direction from those of the other bar, substantially as described.

4. The combination, with the jaws, of the two ratchet-bars with screw-cut tangs and engaging handles, the handle farthest from the free end of the jaws provided with a stationary nut, and, in connection therewith, dogs or pawls upon one of said jaws, adapted to engage said ratchet-bars, substantially as described.

266,888. GAS-BURNER. ELIAS B. REQUA, Jersey City, N. J.

Filed Sept. 19, 1882. (No model.)



Claim.—1. The combination, substantially as hereinbefore described, with two pipes branching from a common source of gas-supply and provided at their upper ends with independent gas-burning tips, of a platinum structure fixed in a vertical plane taken between the tips, whereby the independent flames from the gas-burners will act on the opposite sides of the platinum structure.

2. The combination, substantially as hereinbefore described, with two pipes branching from a common source of gas-supply and provided at their upper ends with gas-burning tips, a chamber inclosing the upper portions of the burners and provided with a perforated bottom wall, and a top wall having openings through which the burners project, and a platinum structure arranged in a vertical plane taken between the burners, and supported at its base by suitable means on the top wall of the chamber, said members being organized and arranged for operation as set forth.

3. The combination, substantially as hereinbefore described, with two gas-burners connected with a single gas-supply pipe, a chamber inclosing the upper portions of the burners, provided with a perforated bottom plate, and a top plate having openings through which the burners project, means for supporting a chimney, and an upright platinum structure interposed between the two burners and supported by the top plate of the chamber, whereby the independent flames from the burner-tips act on opposite sides of the platinum structure, said members being organized and arranged for operation as set forth.

4. The combination, with a multiple gas-burner, of a platinum structure located in a plane taken vertically between the burners, and having its supports fitted in blocks which are non-conductors of heat, and which are received in holders upon a cap which incloses the upper end of the burners, substantially as described.

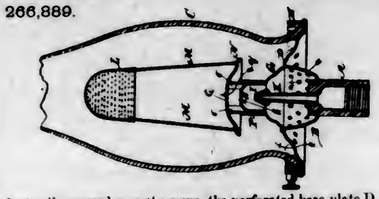
5. The combination, with a multiple burner, of the jacket inclosing the upper ends of the burners, and having short tubular passages rising from the top plate for the burner-tips, which extend above the upper ends of the sleeves forming said passages, the top and the bottom plates of the chamber within the jacket being provided with perforations for the inflow of air, substantially as described.

6. The combination, with a multiple burner having its upper ends inclosed by a chamber which is provided with air-inlets at the top and bottom, and also with short passages leading upwardly from its top and receiving the burner-tips which extend above said passages, of the perforated base-plate to which the jacket forming the above-specified chamber is secured, substantially as described.

7. The combination, with a multiple burner, of the chamber inclosing the upper ends of the burners, and provided with upper and lower air-inlets, and with passages leading from its top to the burner-tips, and the perforated base-plate, to which the jacket forming said chamber is secured, adapted to constitute a support for a chimney, substantially as described.

266,889. GAS-BURNER. ELIAS B. REQUA, Jersey City, N. J.

Filed Sept. 19, 1882. (No model.)



Claim.—1. The combination, substantially as hereinbefore described, of the perforated cup-shaped jacket B, the conical deflector G, secured over the same, the perforated base-plate D, forming a chimney-rest, and a gas-burner the body of which projects into the chamber formed by the jacket and the deflector and is provided with a gas-burning tip terminating at a point beneath the top portion of the deflector, whereby the inflowing currents of air are directed unto the base of the gas-flame on all sides beneath the top portion of the deflector, substantially as described.

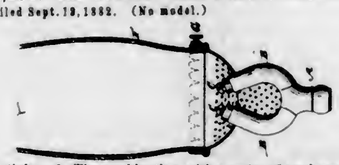
2. The combination, substantially as hereinbefore described, of the perforated cup-shaped jacket B, the conical deflector secured over the same, the perforated base-plate forming a chimney-rest, a gas-burner the body of which projects into the chamber formed by the jacket and the deflector, and is provided with a gas-burning tip terminating beneath the top portion of the deflector, and a platinum structure supported above the deflector in the plane of the flame issuing through the slot therein, as set forth.

3. The combination, with one or more gas-burner tips inclosed by deflectors, of a perforated strip of platinum supported above the deflectors by means of intermediate connections, the body of said burner being surrounded by a perforated jacket which is fitted to its body portion, whereby air entering the jacket will pass upwardly through the deflectors, so as to feed the flames, and thereby develop greater heat for rendering the platinum incandescent, substantially as described.

4. The combination, with the body of a gas-burner provided with one or more tips, of a combined chimney-supporting plate and deflectors supported by a perforated jacket which is fitted to the burner-body and a platinum structure located above the deflectors, the burner-tips being inclosed within the deflectors above the perforated jacket, substantially as described.

266,890. GAS-BURNER. ELIAS B. REQUA, Jersey City, N. J.

Filed Sept. 19, 1882. (No model.)



Claim.—1. The combination, with a series of gas-burners emanating from a common source of gas-supply and arranged in the relative position described, of a perforated jacket surrounding the burners and having an open upper end through and above which the burner-tips project, and a base-plate projecting laterally from the upper edges of the open end of the jacket and provided with means for supporting a chimney, substantially as and for the purpose described.

2. The combination, with a series of gas-burners emanating from a common source of gas-supply and arranged in the relative position described, of a perforated jacket surrounding the burners and having an open upper end through and above which the burner-tips project, and a concavo-convex perforated base-plate secured around the open upper end of the jacket and shielding the burner-tips, said base-plate having means to support a chimney, substantially as described.

3. The combination, with two or more gas-burners branching from a main pipe, of the perforated jacket surrounding said burners and fitted at its lower contracted end to the pipe below the burners, and the concavo-convex plate for supporting the lamp-chimney, provided with a central opening and secured to and supported by the jacket, which is open at its top, so as to allow the air which flows in through its sides to pass upwardly around the burners to the base of the flames, the tips of these burners being located within the concavity of the base-plate above the jacket, and being adapted to direct the flames toward each other, substantially in the manner and for the purpose described.

266,891. METAL-SCREW MACHINE. HENRY REYNOLDS and JAMES ENGLISH, New Haven, Conn., assignors to Reynolds & Co., same place. Filed June 23, 1881. (Model.)

Claim.—1. The combination of a chuck or holder for the blank to be operated upon, with a tool-holder arranged on a carriage and in guides on said carriage at right angles to the axis of the chuck, said carriage arranged on guides parallel to the axis of said chuck, and means, substantially such as described, to impart longitudinal movement to said carriage on its guides and transverse movement to said tool-holder on its guides, substantially as described.

2. In a screw-making machine substantially such as described, the combination of a longitudinally-sliding carriage, with a tool-holder carrying the several tools and arranged upon said carriage on transverse guides, and mechanism, substantially such as described, to impart to said carriage its longitudinal or forward-and-back movement, and to the said tool-holder a transverse movement to present the several tools for work upon the rod and return the said sliding carriage after the tools have performed their respective operation, and a locking device, substantially such as described, to engage said tool-holder as each tool is presented for work upon the rod, substantially as described.

3. In a screw-cutting machine substantially such as described, the combination of the hollow mandrel C, carrying the jaws C^2, the tails of the jaws extending outside the mandrel, with the inclined sleeve C^3, movable longitudinally on the mandrel between the tails of the jaws, and a lever hung to said sleeve, a cam operating upon one arm of the said lever to move said sleeve forward and back to close and open said jaws, and a fulcrum upon which the other arm of the lever is hung, with a spring on said fulcrum, against which the said arm of the lever bears, so as to permit the lever to yield so soon as the power of said spring is overcome, substantially as described.

4. In a screw-making machine substantially such as described, a longitudinally-sliding carriage, a tool-holder movable transversely upon said carriage to present the respective tools for operation upon the blank, a gear-wheel hung in said carriage, working in a rack on said tool-holder, and a cam to impart a back-and-forth longitudinal movement to said carriage, and also, at the proper time, to impart rotation to the said gear-wheel and corresponding transverse movement to the tool-holder, substantially as described.

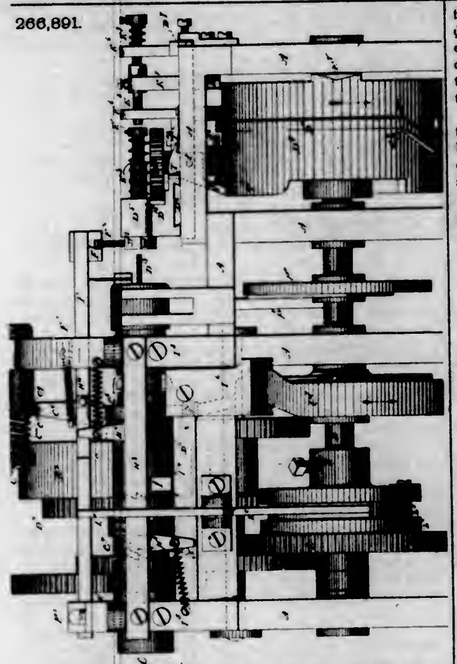
5. In a screw-making machine substantially such as described, the combination of the longitudinally-movable screw-cutting die, the bar F, movable longitudinally with said die, the clutch-bar H', arranged to slide parallel with said bar F, the clutch-arm H, extending from said clutch-bar into engagement with the cluteh C^4, and latch-levers, substantially as described.

6. The combination of the longitudinally-movable screw-cutting die with the bar F, lever L^4, projection L^{13} on said bar, the disk L^5, fixed to the cam-shaft, the gear L, loose on said shaft and engaged with the driving-shaft, inclined rib L^7 on the lower end of the lever, bolt L^4 in the disk, and cap L^9 on the disk, operating to draw the rib L^7 into the path of the notch in the bolt, substantially as described.

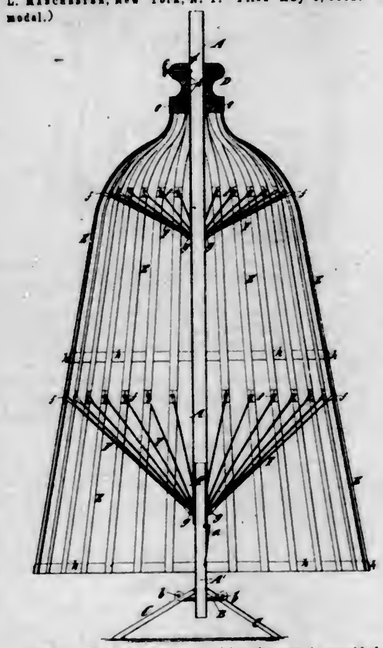
7. The combination of the longitudinally-movable screw-cutting die, the bar F, movable longitudinally with said die, the clutch-bar H', provided with an arm extending therefrom to the clutch on the mandrel, a follower within said clutch-bar, provided with a spring at each end, a cam to impart to said follower a longitudinal movement to compress the spring first at one end and then at the other, a latch to engage the said clutch-bar at its extreme movement, an arm on said bar F to trip the latch which engages the clutch with the mandrel to impart a forward rotation, and mechanism, substantially such as described, to engage the mandrel for reverse rotation, substantially as described.

8. In a machine for automatically making screws from the rod, the combination of the hollow mandrel carrying a chuck to grasp the rod as the rod is presented thereto through the said hollow mandrel, a longitudinal carriage, a tool-holder arranged in transverse guides thereon, and carrying a series of tools which are successively presented in axial line with the mandrel for operation upon the projecting end of the rod, and a lever hung upon a pivot to swing in a plane at right angles to the axis of the mandrel, one arm of said lever engaged with a cam on the cam-shaft to impart a swinging movement to said lever in said plane, the other arm extending forward and carrying the cutter rigidly attached thereto, and which, by the vibratory movement of the lever is forced inward to cut the screw formed on the end of the rod by said tool, substantially as described.

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266,892. DRESS-FORM. JOHN D. RICHARDSON and FRANCIS L. MASCHERPER, New York, N. Y. Filed May 4, 1882. (No model.)

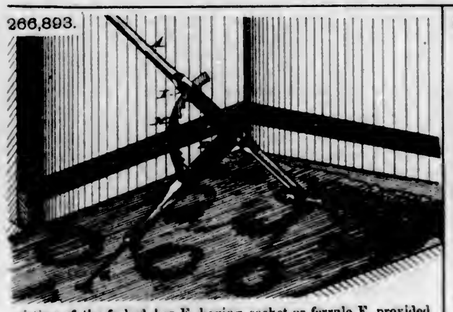


Claim.—The dress-form comprising the post A, provided with a base or feet whereon it may be supported, one or more series of radial stretchers, F, a series of flexible and elastic ribs, E, the head or collar D, adapted to slide upon said post, and a catch, c, for adjustably securing said head or collar when depressed, all combined and adapted to operate substantially as described, and for the purpose set forth.

266,893. CARPET-STRETCHER. JAMES A. RISDON, Ithaca, N. Y., assignor of one-half to Sidney A. Risdon, Waltham, Mass. Filed Aug. 18, 1882. (No model.)

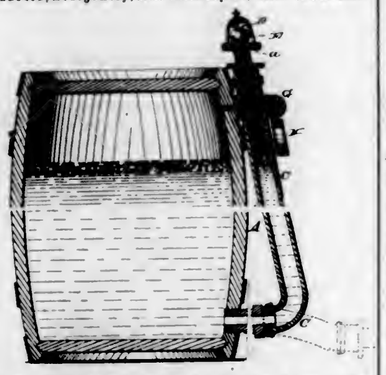
Claim.—The herein-described improved carpet-stretcher, con-

266,893.



sisting of the forked bar E, having socket or ferrule F, provided with the long and thin smooth and sharp point G and the pivoted ratchet-bar H, in combination with the lever A, having beveled slot I and head B, provided with teeth or points C, as and for the purpose herein set forth.

266,894. FLEXIBLE SELF-GAGING FAUCET. WILLIAM T. ROBERTSON, Montgomery, Ala. Filed Sept. 9, 1882. (No model.)

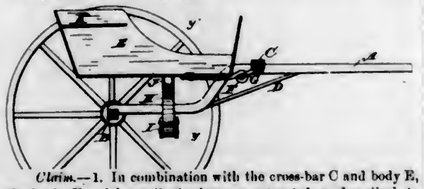


Claim.—1. The flexible tubular faucet provided with a valve on its free end, substantially in the manner and for the purposes described.

2. The combination of a flexible tubular faucet having a valve at the free end thereof with a clip for holding the said faucet in an erect position, substantially in the manner and for the purposes described.

3. The combination of the flexible tubular faucet C, having the ball-valve at the free end thereof, with the clips G and the lock H all constructed and adapted to operate substantially in the manner and for the purposes set forth.

266,895. SULKY. JOHN ROBINSON, Ottumwa, Iowa. Filed Sept. 12, 1882. (No model.)

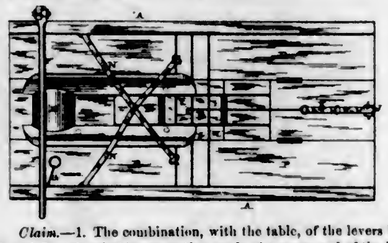


Claim.—1. In combination with the cross-bar C and body E, the hooks F and loops G, the latter constructed, as described, to permit lateral movement of the body, as set forth.

2. The spring H, connected to the under side of the body A, and having its ends connected to the rear portions of the shafts by double shackles I, whereby vertical and lateral motions are permitted, substantially as set forth.

3. In a two-wheeled wagon in which the body is pivotally connected at its forward end, a spring, H, arranged between such pivotal connection and the axle, as and for the purpose set forth.

266,896. SHEEP-SHEARING TABLE. MILTON T. ROSE, Orland, Ind. Filed Aug. 2, 1882. (No model.)



Claim.—1. The combination, with the table, of the levers F, H, and J, with suitable connecting-cords, the upper end of the lever J being fastened in any suitable manner to one of the hind legs of the sheep, substantially as shown.

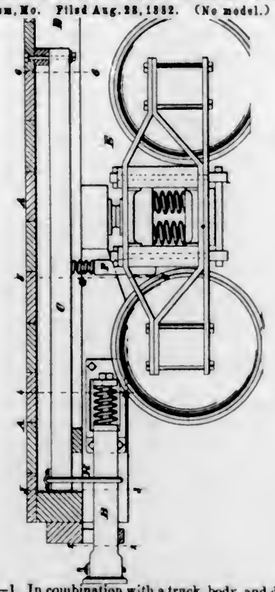
2. The combination of the lever J, pivoted upon one end of the table, and provided with strap K, for fastening its upper end to the hind leg of the sheep, with suitable connecting cords and straps, M N, which are fastened to the lower end of the lever, and which straps N are fastened to the shoulders of the sheep, substantially as specified.

3. The combination of a lever for catching over the neck of the sheep, the pivoted levers H J, and suitable connecting-cords, with the cord and shoulder-straps which are secured to the lower end of the lever J, and a suitable strap and cord which is secured to the upper end of the lever J, substantially as shown.

4. The combination, with a sheep-shearing table having its top formed of a number of hinged pieces which can be turned up so as to form a box, of the self-adjusting braces, which move at right angles to each other, and which catch against the under sides of the turned-up parts and hold them in position, substantially as described.

5. A table for sheep-shearing purposes, provided with a trough for holding the sheep in place upon the table, the levers F H J, and suitable straps for connecting the levers to the sheep, in combination with the hinged parts P Q, which form the sides of the press in which the fleece is bundled after the sheep is removed from the table, substantially as described.

266,897. DRAW-BAR FOR RAILWAY-CARS. EBEN B. SARGENT, Salem, Mo. Filed Aug. 28, 1882. (No model.)

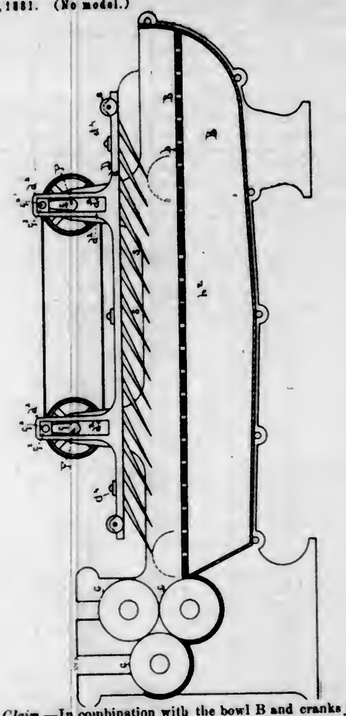


Claim.—1. In combination with a truck, body, and draw-head of a railway-car, a lever so connected to the parts as to sustain the draw-head when the body sags, substantially as and for the purposes set forth.

2. The combination of car-body A, lever C, hinged to the car-body by its inner end, truck E, vertical post F, rigidly secured to the truck and supporting the lever C when the car-body descends, draw-head B, and stirrup H, connecting the lever and the draw-head, all substantially as shown and described, for the purpose set forth.

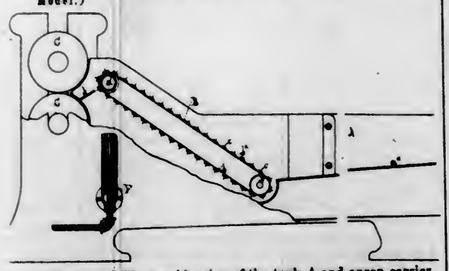
3. The combination of car-body A, lever C, truck E, vertical post F, supporting-spring G, draw-head B, and connecting-stirrup H, all constructed and arranged substantially as shown and described, for the purpose set forth.

266,898. WOOL-WASHING MACHINE. FREDERICK G. SARGENT and ALLAN C. SARGENT, Graniteville, Mass. Filed June 13, 1881. (No model.)



Claim.—In combination with the bowl B and cranks f^3, the carrier D, provided with teeth inclined forward at as great or greater angle from the perpendicular than the chord of the semi-arc described by the carrier-moving cranks f^3 while moving the carrier upward and backward, substantially as described.

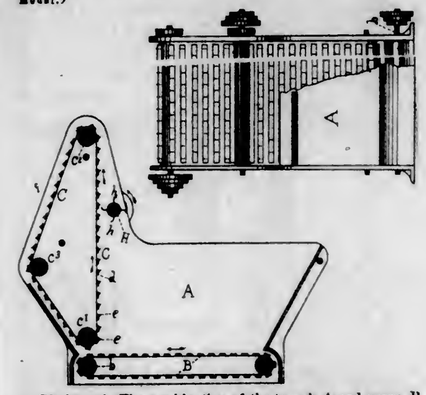
266,899. WOOL-WASHER. FREDERICK G. SARGENT and ALLAN C. SARGENT, Graniteville, Mass. Filed May 2, 1882. (No model.)



Claim.—1. The combination of the tank A and apron-carrier B with the pipe D, provided with the slot *d*, adapted to throw a stream of water against the wool passing over the carrier and throw it off toward the rolls, substantially as described.

2. The combination of the tank A, the slat-apron provided with spines, and the pipe D, adapted to project the stream and doff the fiber from the apron, substantially as described.

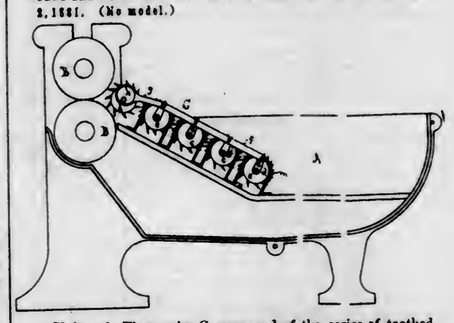
266,900. WOOL-WASHER. FREDERICK G. SARGENT and ALLAN C. SARGENT, Graniteville, Mass. Filed May 23, 1882. (No model.)



Claim.—1. The combination of the trough A and apron B with the feeding-apron C, provided with spurs e e, and moving vertically upward over the roller c^2 and at an incline downward over the roller c^3, substantially as described.

2. The combination of the apron B, carrying the fiber forward to the feeding-apron C, the latter being provided with spurs e e, and moving vertically and at an incline over the rollers c^2 c^3 at a greater surface speed than that of the apron B, substantially as described.

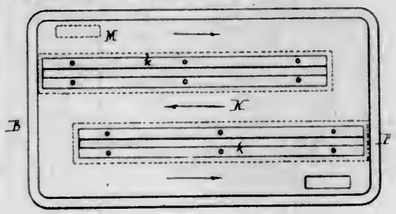
266,901. WOOL-WASHING MACHINE. FREDERICK G. SARGENT and ALLAN C. SARGENT, Graniteville, Mass. Filed Sept. 2, 1881. (No model.)



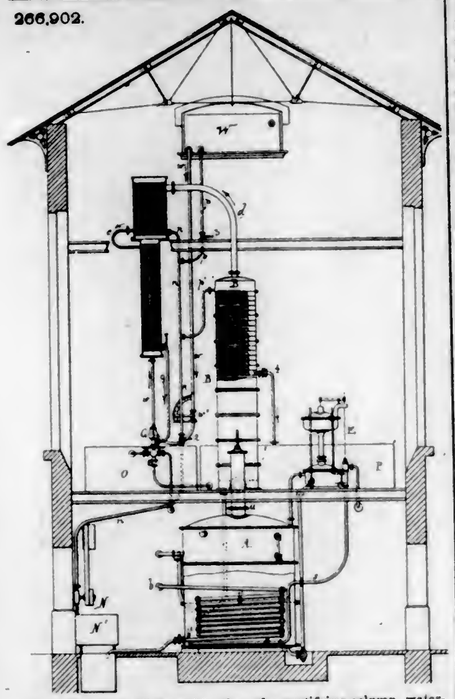
Claim.—1. The carrier C, composed of the series of toothed rolls, mechanism for imparting a reciprocating motion thereto, and intermediate stationary or oppositely-moving holding-teeth, substantially as described.

2. The combination, with the rolls e e and *e'*, of the strip S, provided with retaining-teeth, *s*, substantially as described.

266,902. APPARATUS FOR RECTIFYING ALCOHOL. DESIRÉ F. SAVALLE, Paris, France. Filed July 5, 1881. (No model.) Patented in France Sept. 14, 1880, No. 138,688.



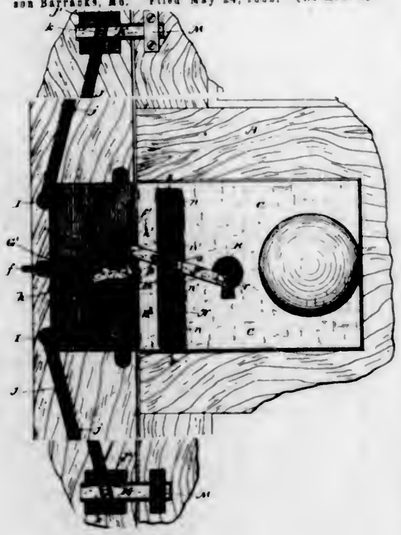
266,902.



Claim.—1. The combination of a rectifying-column, water-tank W, pump N, and alcohol-supply tank with pipe *p'* and valved pipes *n* and *p*, substantially as and for the purpose set forth.

2. A rectifying-column having a series of horizontal division-plates, each provided with two slots, one adjoining one end plate and the other adjoining the other end plate of the column, and each having walls and a cap, all substantially as described.

266,903. DOOR-FASTENING DEVICE. JULES T. SOBERTZEN U. S. Army, assignor of one-half to Charles H. Schmidt, Jefferson Barracks, Mo. Filed May 24, 1882. (No model.)



Claim.—1. The combination, with a door-lock on one member, of a bar, lever, and bolt on the other member, the bar and lever being operated by the lock-bolt of the door-lock to throw the other bolt into engagement with the opposite member, as set forth.

2. The bar F, actuated by the lock-bolt E, with detent H to hold the bar F, lever J, and bolt K in locking position, substantially as set forth.

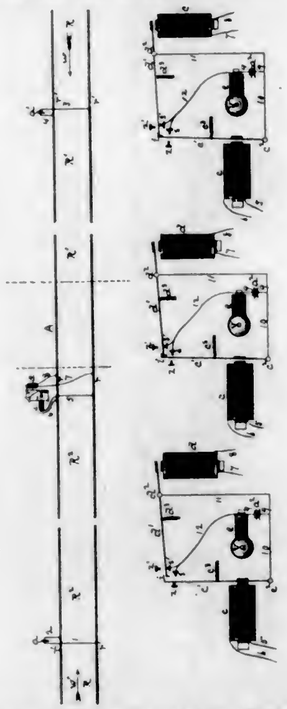
3. The combination, with the detent H, of the lever P, fulcrumed to the door and actuated by the disk R, substantially as set forth.

4. The combination of lock C, keeper D, and bar F, connected with levers J and bolts K, for the purpose set forth.

5. The combination of disk R, made to fit the end of the door-key, lever P, detent H, bar F, lock-bolt E, and lever J and bolt K, for the purpose set forth.

266,904. ELECTRIC RAILWAY SIGNALING APPARATUS. CHARLES A. SCOTT, Boston, Mass. Filed Nov. 23, 1881. (No model.)

Brief.—Interlocking armatures and magnets operating the same are arranged in normally-closed circuits extending each way from the signal mechanism, whereby an alarm-signal in a normally-open circuit is caused to sound during the short-circuiting of one circuit until train has passed the signal, when the short-circuiting of the other track-circuit is prevented from resounding alarm; but the first armature can at same time be again actuated by a following train before the first has left the second track-circuit.



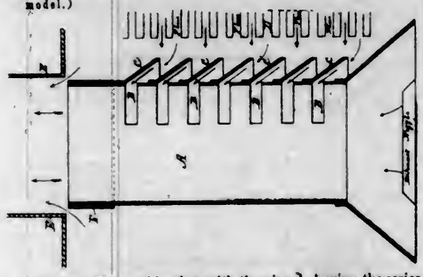
Claim.—1. The combination of two railway signaling-circuits, an alarm-circuit split or divided at both ends, and armature-levers locking or engaging each other, substantially as set forth.

2. Hook-ended armature-levers *c' d'*, in combination with contacts *s s'* on an electro-magnetic alarm-circuit, substantially as set forth.

3. The combination of a railway signaling-circuit and electro-magnet on one side of a point to be protected by an audible signal, a make-and-break mechanism arranged on the other side of said point, an alarm-circuit and electro-magnet and an alarm to be actuated thereby, and a stop actuated by the armature-lever of the track-circuit, by which to prevent the making of a new alarm-circuit by the make-and-break mechanism on the other side of the point to be protected, substantially as set forth.

4. The combination of an electric alarm, a railway track-circuit on each side thereof, and interlocking armature-levers, either of which is adapted to be worked by a train approaching on one circuit, and to be locked out of action by the same train going out on the other circuit, as against any electric action effected by such outgoing train, but free to be actuated from the former circuit, substantially as set forth.

266,905. PETTICOAT-PIPE FOR LOCOMOTIVE-ENGINES. ALBERT J. SHAMAN, Stanford, Ky. Filed July 24, 1882. (No model.)



Claim.—The combination, with the pipe A, having the series of openings B and plates C, of the sleeve F, formed of a cut band having its ends bolted together adjustably, as and for the purpose described.

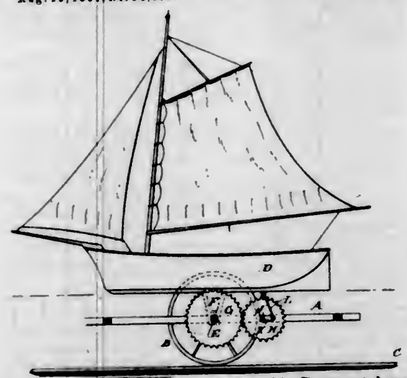
266,906. EARTHENWARE JUG. JOHN P. SHERWOOD, New Brighton, Pa. Filed Mar. 25, 1882. (No model.)



Claim.—1. An earthenware jug provided with a top having a bearing, *y*, above the body and inclined to the nozzle *b*, and with a bottom recessed at the center and provided with a surrounding flange, *e*, forming a recess adapted to receive the top of another jug, and to serve as a means of grasping the jug, substantially as specified.

2. A jug having a recessed bottom and top A, inclined as specified and provided with lugs *f*, arranged to fit within the bottom of another jug of like dimensions and construction, and constructed for the attachment of the bail, substantially as described.

266,907. ROUNDABOUT. CORNELIUS R. SILSON, Hull, County of York, England. Filed Aug. 7, 1882. (No model.) Patented in England May 3, 1880, No. 1,812, and in Germany Aug. 10, 1881, No. 14,656.



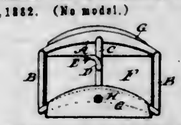
Claim.—1. The combination, with a ship, D, supported upon a block, F, of the axle E, cog-wheels G H, crank-shaft J K, and the rod L, connecting crank K with the keel of the ship, substantially as shown and described.

2. In a roundabout, the ships D, in combination with the crank-shafts J, connecting-rods L, and suitable gearing for revolving the crank-shafts, substantially as and for the purposes described.

3. In a roundabout, the frame A, supported upon the wheels B B and axle E, in combination with the ship D, cog-wheels G H, crank-shaft J, and connecting-rod L, substantially as and for the purposes described.

4. In a roundabout, the center-pole M, arms Q, pivoted in the collar R, and ships D, secured upon the outer ends thereof, in combination with the cogged track N, crank-shafts P, cog-wheels O, and connecting-rods L', the crank-shafts being pivoted at their inner ends in the collar V, placed upon the pole, substantially as and for the purposes set forth.

266,908. BUCKLE. DAVID W. SMITH, Port Townsend, Wash. Filed May 26, 1882. (No model.)



Claim.—1. The improved rigid buckle herein described, consisting of the slightly arched and tapering side arms, A, end cross-bars, B, middle cross-bar, C, upright nipple D, curved at the top, and the nearly-vertical beak E, constructed substantially as hereinbefore described.

2. The combination, with the buckle-frame, of a rigid upright nipple, D, curved at the top toward one of the end cross-bars, B, and the nearly-vertical beak E, forming the point of said nipple, substantially as described.

3. The combination of a shoe-plate, F, provided with ears G and journal-holes, as shown, with the buckle, substantially as specified.

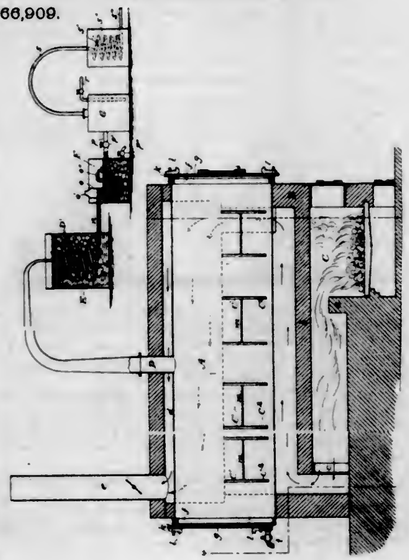
4. The combination of the shoe-plate F, having the buckle, substantially as herein described, attached at each end, and loops I J, attached to said plate to the lips K between said buckles, substantially as specified.

5. The combination, with a buckle, substantially as herein described, of the shoe-plate having an attaching device, substantially as set forth.

6. The combination of two or more buckles, substantially as herein described, and the shoe-plate, said buckles being arranged around a central point, substantially as described.

7. The combination of the buckle and shoe-plate, substantially as described, the said shoe-plate having ears G, attached to journals H of the buckle, as set forth, so that said buckle shall be pivoted in said shoe, substantially as herein described.

266,909.



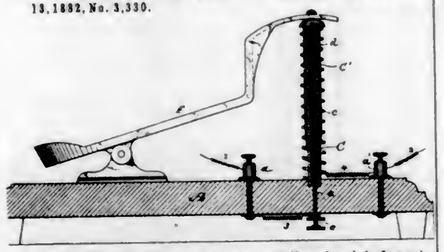
266,909. APPARATUS FOR DISTILLING TURPENTINE AND FOR THE PURIFICATION OF THE CRUDE PRODUCTS OF DISTILLATION THEREOF. JAMES D. STANLEY, Wilmington, N. C. Filed Mar. 14, 1882. (No model.)

Brief.—A retort with a door at each end rests on an arch over the furnace. Flues pass at the side and above. Pine wood, &c., are supported on cradles in the retort. The turpentine vapors are led away by a goose-neck, then condensed in the worm and U-shaped receiver, and passed to chamber G, where they are treated by wet steam and again condensed. When the wood has begun to char the heavy products then resulting are retained in tank F, whence they are drawn off by cock *p''*.

Claim.—1. The combination of the fire-box C, the arch *b*, the retort-chamber above the same, and the retort located therein, with spaces above and below, separated for the greater part of the length of the chamber, but connected at one end, as described, for the purpose specified.

2. In an apparatus for distilling turpentine from wood, the combination of the tank F, trap *o o' o''*, inlet-pipe *n*, outlet-pipe *p*, having cock *p'*, steaming-chamber G, outlet-pipe *s*, and condensing worm and tank *s' s''*, with the retort A, outlet-pipe D, tank E, and worm D', as and for the purpose set forth.

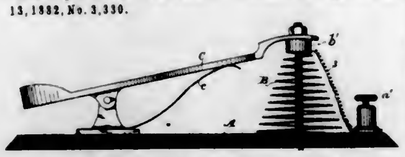
266,910. RHEOSTAT. ELI T. STARR, Philadelphia, Pa., assignor of one-half to William J. Peyton, Washington, D. C. Filed Sept. 4, 1882. (No model.) Patented in England July 13, 1882, No. 3,330.



Claim.—1. The combination, substantially as hereinbefore set forth, with an electric circuit, of the variable-resistance device consisting of the vessel containing a resistance-fluid and the conductors in contact with said fluid, one of said conductors being movable in the fluid toward and from the other, the treadle to govern the approach of said conductors relatively to each other, and a spring to return said treadle to its normal position when the pressure thereon is removed.

2. The combination, substantially as hereinbefore set forth, of the expansible and contractible vessel, the sections of which are each provided with a conductor, the spring to normally maintain said sections distended, and the resistance-fluid contained within said vessel, in which said conductors are in contact.

266,911. RHEOSTAT. ELI T. STARR, Philadelphia, Pa., assignor of one-half to William J. Peyton, Washington, D. C. Filed Aug. 25, 1882. (No model.) Patented in England July 13, 1882, No. 3,330.



Claim.—1. The improved variable-resistance coil for electric circuits, constructed, substantially as hereinbefore set forth, of a tapering or equivalent form, whereby the respective members of the coil close in contact with each other gradually and in order one after another when subjected to pressure.

2. The combination, substantially as hereinbefore set forth, with an electric circuit, of a variable-resistance coil the members of which are constructed in a tapering or equivalent way, so as to close gradually and in order under pressure to short-circuit the current.

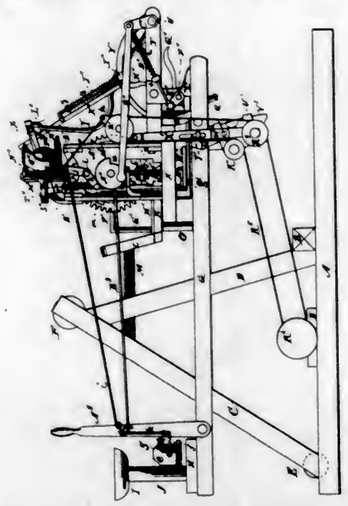
3. The combination, substantially as hereinbefore set forth, of an electric circuit, a resistance-coil the members of which are constructed in a tapering or equivalent way, so as to close gradually and in order under pressure to short-circuit the current, and mechanism to compact said coil.

4. The combination, substantially as hereinbefore set forth, with an electric circuit, of a spring resistance-coil constructed in a tapering form or equivalent way, so that its members close in order under pressure, and mechanism to compact said coil and permit it to return to its normal condition by its resiliency when the pressure is removed.

266,912. COLORING-MATTER OR DYE-STUFF. JAMES H. STEBBINS, Jr., New York, N. Y. Filed Dec. 23, 1881. (Specimens.)

Claim.—The green dye-stuff produced by the action of benzoyl chloride upon methyldiphenylamine in the presence of zinc chloride, substantially as herein set forth.

266,913. GRAIN-BINDER. JOHN F. STEWARD, Plano, assignor to Elijah H. Gammon and William Deering, Chicago, Ill. Filed Aug. 16, 1878.



Claim.—1. The rock-shaft E', provided with the elongated fulcrum *d*, in combination with the rake-arm F' and a suitable mechanism for operating the rake-arm, whereby the leverage of the arm is increased as it rises and its outer end given a greater elevation, substantially as and for the purpose specified.

2. The rock-shaft E', provided with the incline *c*, in combination with the rake-arm F', provided with the double-inclined projection *b*, and a suitable mechanism for operating the arm, for holding the arm down while sweeping across the grain-receiving table, substantially as and for the purpose specified.

3. The rock-shaft, incline *c*, and anti-friction roller *c²*, in combination with the rake-arm F', double-inclined projection *b*, and a suitable mechanism for operating the rake-arm, substantially as and for the purpose specified.

4. The rock-shaft E', provided with the elongated fulcrum *d* and incline *c*, in combination with the rake-arm F', provided with the double-inclined projection *b*, and a suitable mechanism for operating the arm, substantially as and for the purpose specified.

5. The rake-arm F', having the rake-tooth G', and provided with the double incline *b*, and spring-holder I', for holding the grain down while passing over the table, in combination with the rock-shaft E', provided with the incline *c*, stationary receiving-table K, and metal plate H', substantially as and for the purposes described.

6. The rake-arm F', having the rake-tooth G', and provided with the double incline *b*, tooth K', and spring-holder I', in combination with the rock-shaft E', having the incline *c*, stationary table K, plate H', and swinging table N, for delivering the grain to the binding mechanism in proper condition for binding, substantially as specified.

7. The table N, plate P, and inclined socket Q, in combination with the support R and cross-bar S, whereby the socket serves the purpose of a pivot for the table and a bearing for the twisting-hook, substantially as specified.

8. The pivotal socket Q, forming a bearing for the twisting-hook, in combination with a swinging table and a twisting-hook, substantially as and for the purpose specified.

9. The shaft U and vibrating binder-arm V, in combination with the crank C'', rod or link D'', spring *w*, crank E'', shaft F'', and arm G'', all constructed and operating substantially as and for the purposes specified.

10. In combination with an automatic grain-binder, the disk A'', having a cut-away portion or depression, the lever *j*, rod *i*, rock-shaft *h*, rod *g*, the pedal *e*, and the binding mechanism, substantially as and for the purposes described.

11. The pinion N', provided with the shoulders or stops *u*, in combination with the sliding shaft O', provided with the pin *t*, the support Q', and a suitable mechanism for sliding the shaft and stopping the movement of the binding mechanism, substantially as and for the purpose specified.

12. The sliding shaft O', provided with the pin *t*, and pinion N', provided with the shoulders *u*, in combination with the pin *s*, head *q*, having the incline *r*, crank *p*, link *v*, bell-crank lever *j k*, roller *m*, wheel A'', having a portion, *n*, cut away, and a mechanism for operating the bell-crank lever by the driver, substantially as and for the purpose set forth.

13. The sliding shaft O', provided with the pin *t*, and pinion N', provided with the shoulders *u*, in combination with the pin *s*, head *q*, having the incline *r*, crank *p*, rod *o*, bell-crank lever *j k*, roller *m*, wheel A'', having the portion *n* cut away, rod *i*, rock-shaft *h*, rod *g*, and treadle *e*, substantially as and for the purpose specified.

14. In combination with the driving mechanism of an automatic grain-binder, the driving chain or belt, the sliding plate U', carrying the pulley-wheels R'' R², curved bar V', and connecting-bars W X', for taking up the slack of the chain or belt, substantially as specified.

15. The wire-spool P'', mounted on the spindle *y'*, in combination with the pivoted yielding lever S'' and the flexible backing or friction-pad O'', for relieving the spool from undue tension of the binding-wire, substantially as and for the purpose specified.

16. The pivoted lever S'', supporting the wire-spool P'', in combination with the friction-pad O'', coiled spring V'', cord U'', spool T', and a tightening-nut, *x'*, for regulating the amount of yield of the lever, substantially as and for the purpose specified.

17. The flexible tension-pad O'', having fixed supports at its ends, in combination with the wire-spool P'', supported upon the yielding pivoted lever S'', for partly regulating the amount of tension on the binding-wire by the weight of the spool, substantially as and for the purpose specified.

18. The tension-pad O'', wire-spool P'', and pivoted lever S'', in combination with the coiled spring V'', cord U'', and spool T'', all constructed and operating substantially as and for the purposes specified.

19. The sliding cutter Z'', having the cutting-notch *r'*, opening *t'*, and projection *q'*, in combination with the segment F'', having projection *p'*, and with the roller *u'*, twisting-hook, and binder-arm V, substantially as specified.

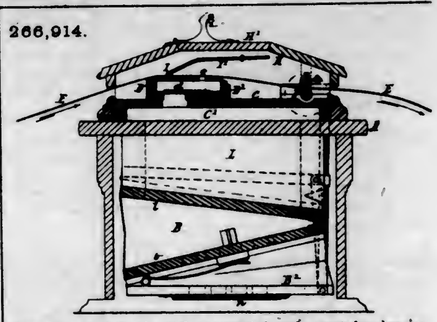
20. The lever A², supporting the double-crank shaft *h*, for operating the mechanism disconnecting the sliding shaft O' and pinion N', in combination with the pedal *e*, whereby the clutch between the shaft O' and pinion N' can be operated by the pedal in whatever position the swinging table may be adjusted, substantially as and for the purpose specified.

21. The combination of the vibrating arm G'', the shaft F'' by which it is supported and moved, provided with the crank E'', a moved part of the machine, and the connecting-link, provided with a spring, so that its length may elastically yield, whereby said vibrating arm will oppose the needle and coact therewith as a compressor and move away to permit the escape of the bundle, substantially as described.

266,914. MECHANICAL MUSICAL INSTRUMENT. FRANK STONE, Worcester, Mass., assignor to the Monroe Organ Reed Company, same place. Filed Jan. 16, 1882. (No model.)

Claim.—1. In a mechanical musical instrument, the combination, as shown and described, of the sounding-board C, having chamber C' beneath it, the tube-board D, permanently fixed upon the top of said sound-board and provided with the horizontally-arranged reeds *d*, and air-passages *e*, formed through the roof of the reed-cells, with the gate-piece D', closing the mouths of said cells, the music-sheet E, working across and in contact with the top of said tube-board and acting directly as a valve to the passages *e*, and the bellows apparatus consisting of the horizontal reservoir B, with exhausters B B and B' B', located, as shown, with the hollow vertical standard I, connecting the central part of said reservoir with the wind-chamber C', for exhausting air therefrom,

266,914.

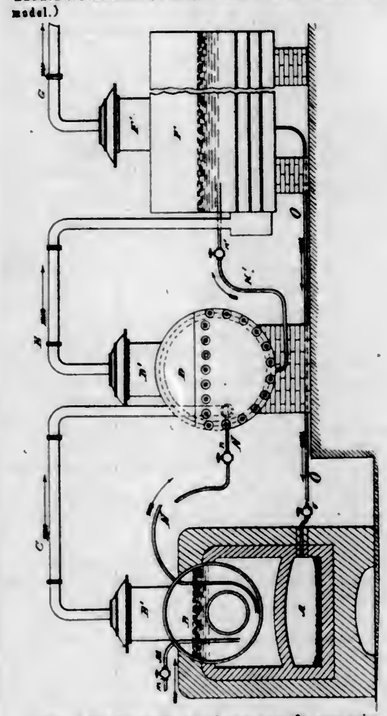


the said parts being located, constructed, and operated as hereinbefore set forth.

2. The combination, with tube-board D and removable cap-piece H, of the presser I, consisting of a wire having its ends bent to form spring portions I', which are secured to said cap-piece, and with its central portion extending transversely across the top surface of the tube-board for pressing upon the music-sheet at the position and in the manner as shown and described.

3. In combination, as shown and described, the action bed or table A, with the sounding-board C, tube-board D, bellows apparatus, and feed devices, all constructed and arranged in the manner illustrated, and adapted to fit the case A', as described, and the cap-piece H, having the inclined top with central hinged portion, H', provided with thumb-piece *i*, fitted to cover the sounding devices, and removably connected to said table by the side catches, *h*, said parts being formed and arranged as herein set forth.

266,915. APPARATUS FOR THE RECOVERY OF SODA. HERRIK C. F. STÖRMER, Paris, France. Filed Mar. 24, 1882. (No model.)

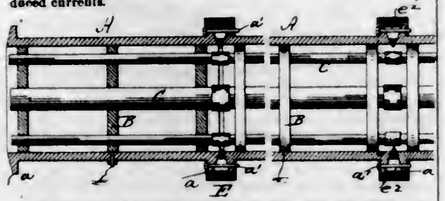


Claim.—The herein-described apparatus for recovering soda and other lyes used in the manufacture of wood pulp, straw pulp, and other fiber pulps for paper-manufacture, the same consisting

of a set or series of boilers, B D F, connected by steam-pipes C and E, and having escape-pipe G, in combination with the reverberatory furnace A, feed-pipe M, connecting pipes N and N', and pipe O, for returning the concentrated lye from the last boiler in the series to the reverberatory furnace under the first, substantially as and for the purpose herein shown and set forth.

266,916. UNDERGROUND ELECTRICAL CONDUIT. SAMUEL D. STROHM, Philadelphia, Pa. Filed Feb. 13, 1882. (No model.)

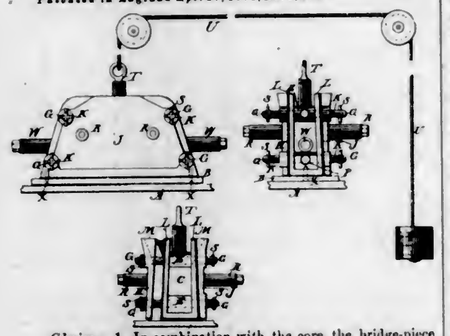
Brief.—The inner pipes carrying the conducting-wires are, together with the supports and external casing of the conduit, made of conducting material, for the purpose of grounding directly-induced currents.



Claim.—1. An underground electric conductor-conduit comprising an external casing, internal pipes or conduits, and diaphragms or supports, said several parts being composed of metal or equivalent good conducting material, and in electrical contact for the purpose of grounding the internal conduits, as set forth.

2. The combination of casing-sections A A, having flaring or inclined end flanges, *a a*, beveled rigid joint-rings E E, with slots e^2 e^2, and screws a' a' and e' e', substantially as shown and described.

266,917. APPARATUS FOR CASTING WATER-CLOSET CISTERNS. HENRY SUTCLIFFE and WRIGHT SUTCLIFFE, Halifax, County of York, England. Filed Jan. 16, 1882. (No model.) Patented in England Apr. 27, 1881, No. 1,815.



Claim.—1. In combination with the core, the bridge-piece and the side plates.

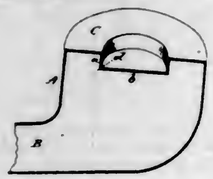
2. In combination with the core, the bridge-piece provided with studs and the side plates provided with holes or slots.

3. The bridge-piece formed with bosses, and the studs therein, in combination with the binding-screws or other like devices.

4. The bridge-piece provided with studs and pins S, to limit the lateral movement of the side plates, and thereby prevent them from falling off.

5. The bridge-piece provided with projecting faces L L_4, in combination with the side plates and means for holding them contiguous.

266,918. MANUFACTURE OF GLASS WATER-CLOSET BOWLS. JUNIUS A. TALMADGE, Meriden, Conn. Filed July 31, 1882. (No model.)

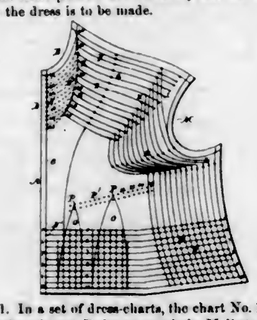


Claim.—1. The herein-described improvement in hollow articles of blown glass having an opening formed therein, consisting in forming a recess in the article corresponding to the opening to be made and in the process of blowing, the blow-over forming a bottom to said recess, and subsequently cut away, leaving an inwardly-projecting flange around said recess, substantially as described.

2. As a new article of manufacture, the herein-described bowl for water-closets and urinals as made from glass blown in a mold, and having the inwardly-projecting flange *a* around the opening, substantially as described.

266,919. DRESS-CHART. DAVID J. TAYLOR, Grinnell, Iowa. Filed Feb. 11, 1882. (No model.)

Brief.—The same pattern can be readily marked on the material of which the dress is to be made.



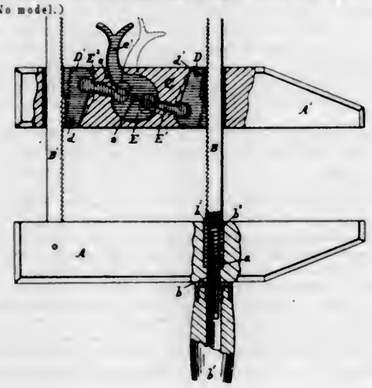
Claim.—1. In a set of dress-charts, the chart No. 1, provided with the curved neck part B, lower arm-hole, M, lines of perforations D E G H I K L N, with parallel lines F passing through said perforations to the bottom of the chart, scales D' D^2 N', parallel lines of perforations P, scale P', and movable darts O, whereby dress-fronts of different sizes and the same pattern can readily be marked out on the material of which the dress is to be made, substantially as described, and for the purpose set forth.

2. In a set of dress-charts, the chart No. 3, provided with the inclined work-line S, having perforations S' S^2 at its ends provided with scales, wedge-shaped margin T, provided with a scale, parallel perforated lines U, perforated lines V W W X, perforated line Y, so drawn as to strike the center of the shoulder Z on all sizes of garments, and lines *a*, drawn through the perforations S', V, Y, W, and U to the inclined bottom line of the chart, substantially as described, and for the purpose set forth.

3. In a set of dress-charts, the sleeve-chart No. 4, provided with a curved top, *d*, having a series of perforations, e, perforated lines *g*, *h*, *k*, and P^2, and scales *e*, *l*, l', P^3, P^4, and P^5, substantially as described, and for the purpose set forth.

4. In a set of dress-charts, the skirt-chart No. 5, provided with the curved side *s*, scaled perforated lines *o*, perforated darts *p*, and perforations *p'* along the edges of the trimmings, substantially as described, and for the purpose set forth.

266,920. CLAMP. HARRISON H. TAYLOR, Detroit, Mich., assignor, by direct and mesne assignments, to Thomas Reed and the Detroit Tool Company, same place. Filed July 18, 1882. (No model.)



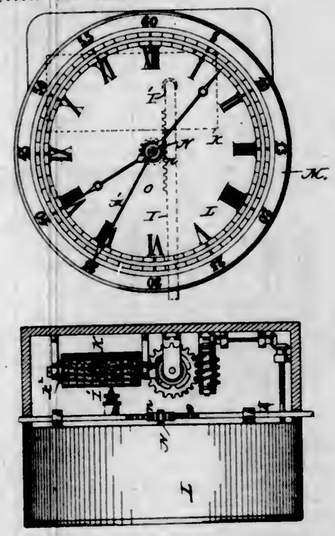
Claim.—1. A hand screw-clamp consisting of a jaw provided with two ratchet-bars, one of which has a screw-cut tang and engaging-handle, a jaw arranged to be adjusted on the ratchet-bars, two pawls arranged to swing in recesses formed in the adjustable jaw to engage and disengage the ratchet-bars, and toggle mechanism connected with the said pawls and serving to positively swing them both in engaging and disengaging the ratchet-bars, substantially as described.

2. A hand screw-clamp consisting of a jaw provided with two ratchet-bars, one of said bars provided with a screw-cut tang, an engaging-handle, and suitable spring, and in connection therewith a jaw adapted to be adjusted upon the ratchet-bars, and provided with pawls constructed with a series of teeth adapted to engage with the ratchet-bars, and a double-acting toggle mechanism adapted to operate said pawls, substantially as described.

3. A hand screw-clamp combining in its structure a jaw carrying two ratchet-bars, a jaw adjustable thereon and provided with two swinging pawls, and operating mechanism consisting of a pivoted cam-shaped disk having a projecting thumb-piece, and two lever-arms connecting the disk with the pawls, substantially as described.

4. A hand screw-clamp composed of two jaws united by two ratchet-bars, one of which has a screw-cut tang and engaging-handle, a set of pawls arranged to swing on one of said jaws, and operating mechanism consisting of two lever-arms and a disk having thumb-piece, said disk and lever-arms serving to positively swing the pawls in both their movements to engage and disengage the ratchet-bars, substantially as described.

266,921. SPEED INDICATOR AND RECORDER. LEWIS H. TAYLOR, Jr., and SAMUEL D. STROHM, Philadelphia, Pa. Filed Jan. 6, 1882. (No model.)

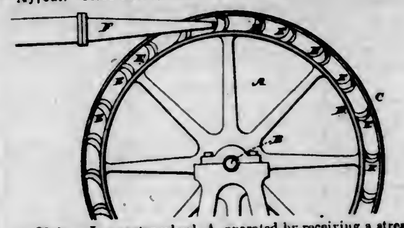


Claim.—1. In a speed-indicator, the combination, with the axle or shaft A, of hangers c c, cross-head D, shafts E and F, gear-wheels *a*, *e*, and *f*, and springs G G, substantially as shown and described.

2. The combination, with clock or time-piece L, of the surrounding speed-dial M and index M', having movement independently of the clock-work, whereby both the time and rate of speed are simultaneously denoted on the face of the clock.

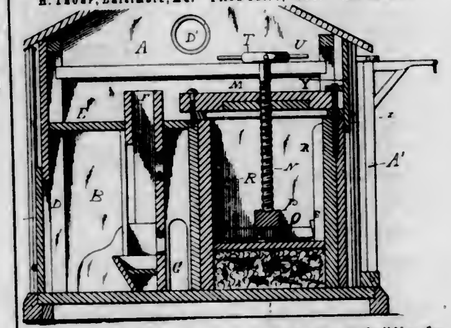
3. In a speed indicator and register, the combination of a clock having time and distance marks on its face and hands with independent movements, a traveling band moved thereby, said band having time and distance scales marked upon it, a marker capable of moving transversely to the direction of the movement of the band, an axle or shaft, and intermediate devices between said axle or shaft and marker for communicating to the marker a motion depending in extent upon the rate of rotation of said axle or shaft, whereby a continuous line representing the rate of speed is marked upon the band and the rate of speed and time of day are indicated on the dial, substantially as set forth.

266,922. WATER-WHEEL. MICHAEL C. TAYLOR, Grass Valley, Cal. Filed Feb. 6, 1882. (No model.)



Claim.—In a water-wheel, A, operated by receiving a stream of water under pressure, and having concentric rims C D, the buckets E, secured transversely between said rims, said buckets having a sharp curved end, within the face of which they receive the stream, and thence extending with an inclined curved face for conducting and discharging the waste water upon the other side of the wheel, substantially as herein described.

266,923. PRESERVATION OF FOOD FOR CATTLE. JAMES H. THORP, Baltimore, Md. Filed Oct. 7, 1882. (No model.)



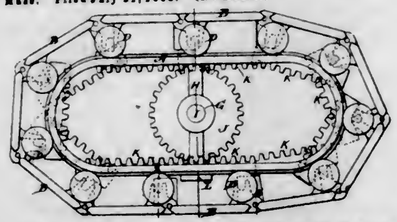
Claim.—1. The combination, in a structure or building for preserving fodder in a green state, of a series of silos opening into the upper chamber of said structure, a series of stalls communicating with said upper chamber by means of suitable passages, and the detachable tops and packing device to be used in connection with the silos, substantially as specified.

2. In combination with the silos, the interchangeable tops and packing device adapted to be secured to the silos, substantially as and for the purposes specified.

3. In combination with the silos and the stalls, the driveway located between the same, substantially as and for the purposes specified.

4. In combination with the silos or chambers, the crane and elevating mechanism adapted to work through a suitable door for filling the silos or chambers, substantially as set forth.

266,924. TRACTION-WHEEL. RUFUS E. TILTON, Brockton, Mass. Filed July 21, 1882. (No model.)



Claim.—1. In a traction-wheel, the combination of the sectional tire composed of jointed flat plates B, placed end to end, the rollers D, journaled in lugs on the inner surfaces of said plates, and the flanged elliptical tracks A, adapted to be attached to the vehicle to which the wheel pertains, and supporting said rollers and tire, so as to give the latter an elongated continuously-supported flat bearing on the ground, as set forth.

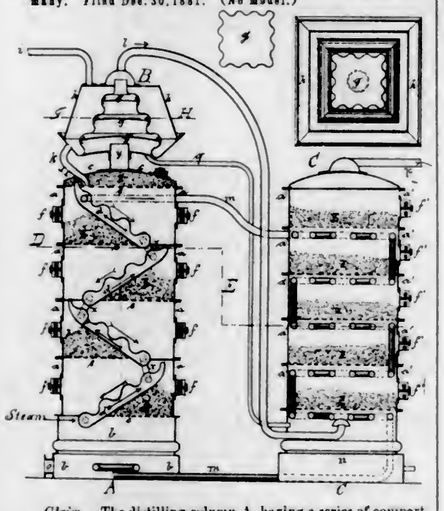
2. In a traction-wheel, the combination of the flanged tracks A, the sectional tire composed of flat plates pivoted together end to end, surrounding said tracks and adapted to bear on the surface over which the wheel travels, the racks K, attached to said plates, the interposed rollers D, and the shaft I, having the cog-wheel J, meshing with said racks and propelling the tire, as set forth.

3. The combination of the tracks A, having the lugs L L, the cog-wheel J, the plates B, and the racks K, attached to said plates and supported, as described, by the lugs L L.

4. The combination of the plates B B, the pivots *a*, and the ears *b c* on the proximate ends of said plates, the ears *b* being rigidly attached to the pivots, and the ears c being journaled on said pivots and formed to cover the onter ends thereof, and provided with stuffing-boxes at their inner sides, as set forth.

5. The combination of the plates B, the lugs F, the roller-arbors E, journaled in said lugs, the casing i, and the stuffing-boxes, whereby the bearings of the shafts E are protected, as set forth.

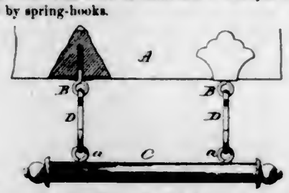
266,925. PROCESS OF AND APPARATUS FOR DISTILLING ALCOHOL. KONRAD TROBACH and ALFRED CORDS, Berlin, Germany. Filed Dec. 30, 1881. (No model.)



Claim.—The distilling-column A, having a series of compartments, *a*, one arranged above the other, and separated by perforated partitions, each partition having upon it a layer of asbestus impregnated with chloride of barium, and having upper corrugated surfaces, and placed as described, the said column being provided with a surrounding case, *h*, provided with a pipe, *i*, and its interior chamber connected to the column A by a pipe, *k*, which enters the same above the upper part of the box or pipe *d*, substantially as described.

266,926. WINDOW-SHADE PULL. LUTHER G. TURNER, Torrington, Conn. Filed Aug. 10, 1882. (No model.)

Brief.—The handle-bar is connected to the eyes in the window-stick by spring-hooks.



Claim.—The herein-described window-shade pull, consisting of the bar C, combined with two eyes for attachment to the stick, and with a spring-hook connection between the said eyes, and corresponding points on the bar, substantially as described.

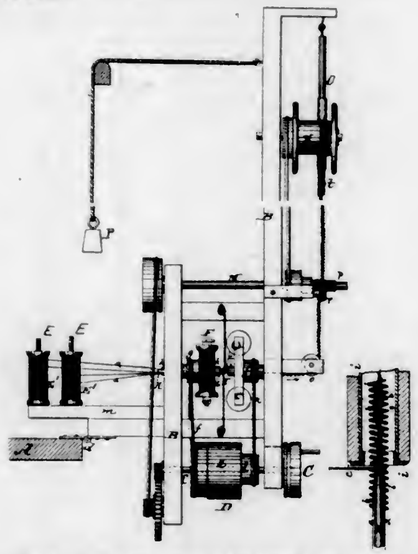
266,927. PLOW-POINT. WILLIAM J. TURNER, Battle Creek, Mich. Filed Jan. 3, 1882. (Model.)



Claim.—1. A plow-point having its upper surface provided with a concave groove and its lower surface and sides flat, the said groove being of variable curvature in its cross-section, as described, and for the purpose set forth.

2. A plow-point having its upper surface provided with a concave groove and its lower surface and sides flat, the said groove being flared and abruptly inclined, as described, at its point, whereby the walls of the point are sharpened and at varying radii as it proceeds to the body of the point, substantially as shown and specified.

266,928. MACHINE FOR MAKING ORNAMENTAL LOOPED CORD. ALWILL UHDAHN, Paterson, N. J., assignor of one-half to Abraham G. Jennings, Brooklyn, N. Y. Filed Feb. 3, 1882. (No model.)



Claim.—1. The combination of the frame B, carrying the winding mechanism, substantially as specified, with its driving-shaft C, having driving-pulley *e*, the hinge *d*, supporting the frame A and belt D, said belt serving to partly support the frame B and to revolve the shaft C, substantially as specified.

2. The frame A, hinged frame B, and driving-shaft C, combined with pulley *e*, driving-belt D, and with the counter-weight P, connected to the frame B, substantially as specified.

3. The combination of the core-supplying device E with the tube *h*, tapering core-spreading pin H within said tube, adapted to spread the core-threads, means adapted to carry and wind enveloping threads around the core while spread by said pin, and means adapted to carry and wind binding-threads around the straight core, and around said enveloping threads beyond the thickest portion of said spreading-pin, substantially as herein shown and described.

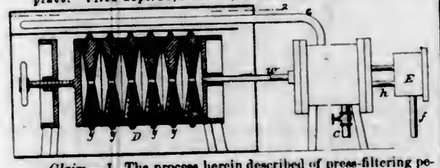
4. The tube *h*, having the notched or perforated disk *n*, in combination with the tapering core-spreading pin H, spindles E, means adapted for carrying spools containing enveloping and binding threads, and mechanism for revolving said spools containing the enveloping and binding threads around the straight core, substantially as herein shown and described.

5. The combination of means adapted for carrying a spool or spools for supplying the core-threads with means adapted for carrying a spool or spools containing an enveloping thread, means for carrying a spool or spools containing a binding-thread, means for revolving said spools that carry the enveloping thread in one direction around the core, and said spool or spools containing the binding-thread in the opposite direction, but with less speed than the enveloping thread around the core, and means for holding the core taut and for spreading it while the enveloping threads are wound around it, all without turning the core, substantially as described.

6. The combination of the tubes *h i*, that are in line, but not in contact with each other, with the intervening loop I, inner wire, M_1, and with means adapted for carrying two sets of spools, and with mechanism, substantially such as described, for revolving said spools, substantially as specified.

7. The means adapted for supporting and revolving the spool carrying the binding-threads, and means for supporting and revolving the spool or spools carrying the enveloping thread, substantially as described, combined with means for spreading and supplying the core-threads, and the tension device s^3, applied only to the spool that carries the binding-threads, to insure the tight binding of the thread that is discharged from said spool, and the loose coiling of the enveloping thread, substantially as set forth.

266,929. FILTERING PETROLEUM DISTILLATES FOR THE SEPARATION OF PARAFFINE. HENRY WARNER, Philadelphia, Pa., assignor to the Atlantic Refining Company, same place. Filed Sept. 22, 1882. (No model.)

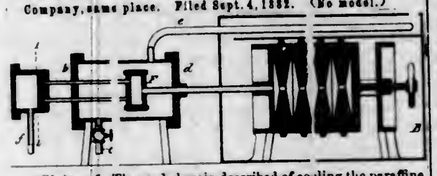


Claim.—1. The process herein described of press-filtering petroleum distillates while the filtering-press is subjected to cooling influences, substantially as set forth.

2. The process herein described of first cooling petroleum distillate and then maintaining it in a cooled condition while it is being press-filtered, as set forth.

3. The combination of a filtering-press with a refrigerating-chamber in which the said press is contained, substantially as described.

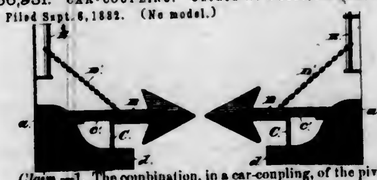
266,930. COOLING PETROLEUM DISTILLATES. HENRY WARNER, Philadelphia, Pa., assignor to the Atlantic Refining Company, same place. Filed Sept. 4, 1882. (No model.)



Claim.—1. The mode herein described of cooling the paraffine distillates of petroleum, the said mode consisting in forcing the distillates through a series of short refrigerating-tubes in the succession or order herein described, for the purpose specified.

2. Cooling apparatus in which are combined the following elements, namely: first, a refrigerating-chamber containing a series of tubes; second, a distributing-box connected to the tubes; third, a valve or valves contained in the box for determining which of the tubes shall communicate therewith; and, fourth, a receiving-box communicating with all the tubes and having an outlet, all substantially as set forth.

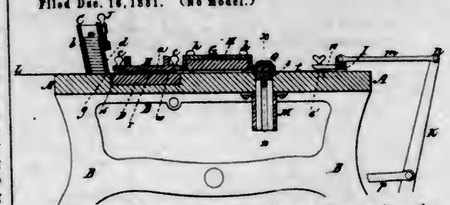
266,931. CAR-COUPLING. GEORGE W. WATTS, Durham, N. C. Filed Sept. 6, 1882. (No model.)



Claim.—1. The combination, in a car-coupling, of the pivoted arrow-headed bar with the drop-plate C, pivoted to said bar, and adapted to rest, when in a vertical position, upon the draw-head, substantially as described.

2. The combination, in a car-coupling, of the draw-head with the pivoted arrow-headed bar formed with a recess in its under side, and the pivoted drop-plate C, adapted to fit in said recess when forced into a horizontal position, substantially as described.

266,932. MACHINE FOR RUBBING AND DRESSING TYPE. WILLIAM H. WELSH and CHARLES W. WOODWARD, Boston, Mass. Filed Dec. 16, 1881. (No model.)



Claim.—1. In a machine for rubbing and dressing type, the combination of a bed or table, one or more adjustable rubbing or abrading surfaces applied thereto, and means, substantially as described, for positively carrying or forcing simultaneously an entire line or row of type over or under the rubbing surface or surfaces, as and for the purpose set forth.

2. In a machine for rubbing and dressing type, the combination of a bed or table provided with one or more adjustable rubbing or abrading surfaces, a hopper for containing the type to be rubbed, means for positively carrying or forcing simultaneously an entire line or row of type over or under the rubbing surface or surfaces, a box or receiver having a movable bottom for containing the type after being rubbed, and a presser device for forcing each line of type deposited in the receiver down flush with the upper surface of the table to allow the next line of type to pass thereover, substantially as described.

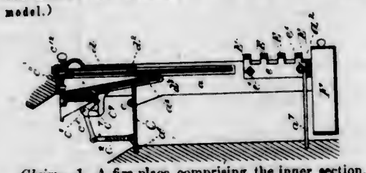
3. In a machine for rubbing and dressing type, the combination, with the table, hopper, and adjustable rubbing mechanism, of the carrier-plate L, adapted to bear upon the jet ends of the type and simultaneously force or carry through the machine positively an entire line or row of type, substantially as described.

4. In a machine for rubbing and dressing type, the combination, with the type-receiver M, with its sliding bottom *s*, and the type carrying and rubbing mechanism, of the presser-bar Q, the slides *l*, with their projections *w*, the cross-bar I, with its projections *e'*, and the plates or springs *t*, with their inclines 20, all constructed to operate substantially in the manner and for the purpose set forth.

5. In a machine for rubbing and dressing type, the combination, with the receiver M, of the sliding bottom *s*, provided with tongues *a'*, adapted to slide in the vertical slots *b'*, and springs *c'*, adapted to bear against the friction-plates *d'*, substantially as and for the purpose set forth.

6. In a machine for rubbing and dressing type, the combination of the receiver M, the sliding bottom *s*, with its tongues *a'* and sustaining-springs *c'*, and the friction-plates *d'*, converging toward their lower ends for the purpose of increasing the pressure of the springs *c'* as the bottom descends and the weight of the type thereon increases, substantially as described.

266,933. FIRE-PLACE. CHARLES A. WELLINGTON, Lexington, and ALBERT CHASE, Boston, Mass. Filed July 17, 1882 (No model.)



Claim.—1. A fire-place comprising the inner section, A, to which the operative parts of the fire-place are secured, and which is adapted to be fastened in masonry or the wall, and the outer section, B, adapted to cover the inner section and conceal the said mechanism and detachably secured to said inner section, substantially as and for the purposes described.

2. The combination of the inner section, A, with the front bars, E, the side supports, *e*, cross-piece a^2, and the bolts *e'*, all substantially as and for the purposes described.

3. The inner section, A, comprising the side frames, *a*, the cross-piece a^1, the plate a^3, and the damper-plate a^4, all substantially as and for the purposes described.

4. In combination with the inner section, A, of the fire-place, having a damper-plate, a^4, the damper C, hinged to said plate, the knob c^{13}, and intermediate mechanism, substantially as described, whereby upon turning the knob the damper is operated, all substantially as and for the purposes set forth.

5. The combination, in a fire-place, of the section A, having a damper-plate, a^4, and damper C, hinged thereto, the cam-sector c, link c^2, and lever c^3, and means for revolving the sector from the front of the fire-place, all substantially as described.

6. The combination of the damper C, the link c^2, the lever c^3, pivoted as described, the cam-sector, and means for revolving the same and for locking it in any desired position, all substantially as described.

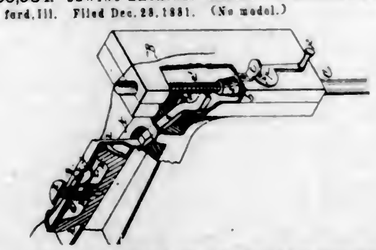
7. In a fire-place, as a means for operating a damper-lever, the sector having a bearing on the section A, provided with a spiral cam, c^4, upon one side and notches upon the other, with means for revolving the sector and for locking it by the notches, all substantially as and for the purposes described.

8. In a fire-place, the combination of the counterbalanced blower D with the plates b^3 a^3 and their lips d^3 d^3, all substantially as and for the purposes described.

9. In a fire-place, in combination with the inner frame, A, the separate tubes d^7, arranged upon either side of the frame, as shown, and adapted to receive and protect the counterbalancing-weights, all substantially as described.

10. In a fire-place, the front grate comprising the bars E, the side supports, e, and the cross-piece a^3, in combination with means, substantially as specified, for attaching it to the section A, all substantially as and for the purposes described.

266,934. SEWING-MACHINE. SAMUEL C. WESTERLING, Rockford, Ill. Filed Dec. 28, 1881. (No model.)



Claim.—1. In a tension mechanism for sewing-machines, the spring-plates d and f, set-screw k, piston-rod e, and connecting-bar, the upper plate, d, being extended and adapted to be acted upon by said piston-rod through the medium of said connecting-bar for releasing the tension, substantially as described.

2. The combination, with the tension mechanism and with the vertical-moving piston of the presser-foot, of an intermediate crank-formed connecting-bar, capable of an axial or rolling movement by means of the vertical movement of the piston to release the tension, substantially as and for the purpose hereinbefore set forth.

3. In a tension mechanism for sewing-machines, the spring-plates d and f and set-screw k, in combination with the vertically-moving piston and the intermediate crank-formed connecting-bar, capable of an axial or rolling movement, substantially as and for the purpose described.

4. In a tension mechanism for sewing-machines, the spring-plate d, provided with depression e, spring-plate f, set-screw k, and piston-rod of the presser-foot, in combination with the connecting-bar, all arranged and operating substantially as described.

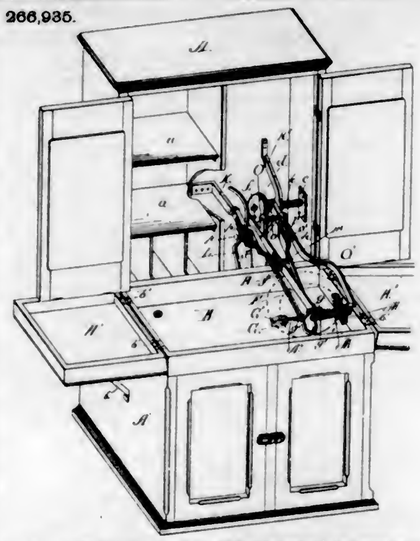
266,935. DISH-WASHING MACHINE. BETSEY S. WHEELER, North Wauwatosa, Wis. Filed July 26, 1882. (No model.)

Claim.—1. In a dish-washing machine, the yoke H and pitman F, in combination with the lever O′, crank-shaft G, grippers M M, and mechanism for actuating these parts, substantially as set forth.

2. In a combined dish-washing machine and cabinet, the combination of the basin B with the downwardly-slanting draining-lids B′, connected together by the thick hinges b', attached so that the bolts or joints of the hinges will lie between the top edges of the said basin and the adjacent edges of the lids, when opened, and thereby force the then inverted top inner edges of the lids in against the sides of the cabinet, as shown and described, and for the purpose set forth.

3. In a dish-washing machine, the combination of the yoke H, pitman F, and crank-shaft G, and operating mechanism with

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the gripper M, having jaws provided with teeth m', for securing a sponge or rag between them, and pivoted shanks M′ M′, substantially as set forth.

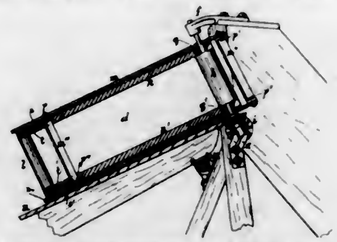
4. In a dish-washing machine, the combination of the pulley d, wrist-pin f, yoke H, rod m, crank-shaft G g, and pitman F, having slot f', substantially as set forth, and for the purpose described.

5. The combination of the pulley d, wrist-pin f, yoke H, rod m, crank-shaft G g, and slotted pitman F f' with the arm O, rod o, bent and slotted lever O′ o', and sponge-grippers M M, substantially as set forth, and for the purpose described.

6. The combination of the yoke H, having lug h, with the slotted pitman F f', rod m, crank-shaft G g', grippers M M, and actuating-pulley and wrist-pin, and the bent and slotted lever O′ o', connected to the pitman F, and the pin P, spring q, and nut q', substantially as set forth, and for the purpose described.

266,936. WITHDRAWN.

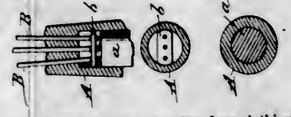
266,937. SELF-BINDER. WILLIAM N. WHITELEY and WILLIAM BAYLEY, Springfield, Ohio, assignors to Whiteley, Fassler & Kelly, same place. Filed June 27, 1882. (No model.)



Claim.—1. A continuous and revolving butt-evener and grain-adjuster swinging upon the journals of its driving-roller through the agency of a rectangular frame, m m' m'' m''', so as to admit of an adjustment of its free end to suit the varying lengths of straw and bring the grain centrally on the table for binding, provided with guides n n', having perforations q q', apertures s s', and springs v v', for forcing the roller l away from the upright m''', for the purposes specified.

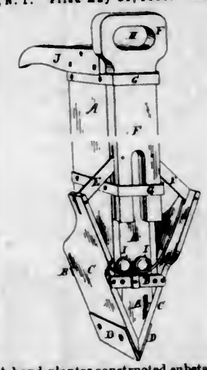
2. A continuous and revolving butt-evener and grain-adjuster, d, swinging upon the journals of its driving-roller through the agency of a frame, substantially such as hereinbefore specified, provided with guides n n', having perforations q q', apertures s s', metallic pieces t t', and springs v v', for the purposes specified

266,938. CLOTHES-BEATER. LEVI H. WHITNEY, Lowell, Mass. Filed Feb. 21, 1882. (No model.)



Claim.—In a beater for removing dust from clothing, carpets, and similar fabrics, the combination of the handle A, hollow at one end, elastic rods or wires B, connected within the handle by means of a bridge-piece, b, the core or plug a, inserted in one end of the handle, and the caps or ferrules C C, attached at each end, all substantially as and for the purpose described.

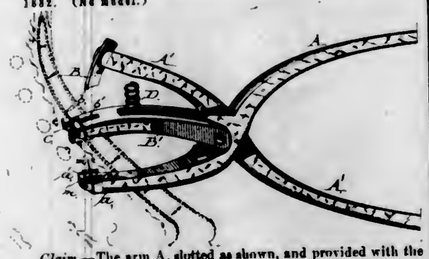
266,939. HAND-PLANTER. CHARLES WILLIAM WILFERT Jeffersonville, N. Y. Filed May 29, 1882. (Model.)



Claim.—1. A hand-planter constructed substantially as herein shown and described, and consisting of the box A, having its lower end beveled upon the opposite sides, the hinged plates C, the hinged connecting-bars E, the slide F, and the springs I, as set forth.

2. In a hand-planter, the combination, with the box A, having its lower end beveled upon the opposite sides, and provided with the handle J, and keepers G, of the hinged plates C, the hinged connecting-bars E, the slide F, and the springs I, substantially as herein shown and described, whereby the seed can be readily planted at any desired depth.

266,940. APPARATUS FOR SECURING BUTTON-FASTENERS. ALEXANDER G. WILKINS, Meadville, Pa. Filed Aug. 28, 1882. (No model.)



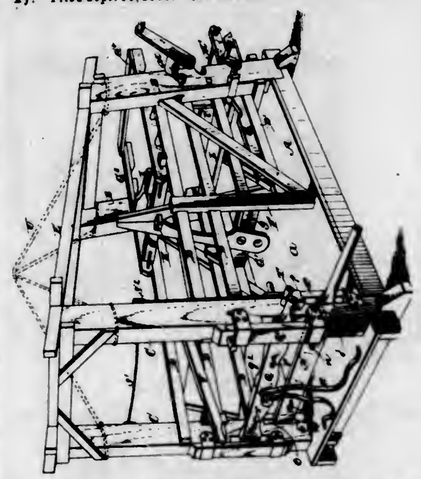
Claim.—The arm A, slotted as shown, and provided with the spring a, having the flanges a', and the arm A′, provided with the grooved finger B, in combination with the bar B′, provided with the slot b' and side springs, c c, and recessed to receive the button and the interposed spring D, all constructed to operate substantially as and for the purpose set forth.

266,941. BUTTON-FASTENER. ALEXANDER G. WILKINS, Meadville, Pa. Filed Aug. 28, 1882. (No model.)



Claim.—The button-fastener herein described, consisting of the pin C, provided with the flat head a, and having a looped point adapted to be secured to the eye of the button, in combination with a metallic countersunk washer, D, all constructed and arranged substantially as and for the purpose described.

266,942. STOCK-STALL. EDWARD WILKINS, Madisonville, Ky. Filed Sept. 16, 1882. (No model.)



Claim.—1. The combination, with a stall for stock, of a sliding frame provided with a breast-board, G′, and means whereby the frame may be shifted and held within the stall, substantially as described.

2. The combination, with a stall for stock, of the neck-yoke carried by a sliding frame, and means whereby the frame may be shifted and held within the stall, substantially as described.

3. The combination, with a stall, a sliding frame therein provided with a breast-bar, G′, and means for shifting and holding said frame, of a neck-yoke composed of two upright bars pivoted at their lower ends to the breast-bar, and provided at their upper ends with a latch-lever, substantially as described.

4. The combination, in a stall for stock, of the breast-board G′, with the sliding frame comprising the upper and lower rack-bars, and the rock-bar L, with the locking-rods l', connected therewith, said rock-bar and locking-rods being employed for holding and releasing the frame carrying the breast-board, substantially as described.

5. The combination, with the sliding frame for carrying the breast-board or a neck-yoke, of the windlass and cords for shifting the position of the said frame within the stall, and also for drawing refractory animals into the latter, substantially as described.

6. The combination, with the rear standards, C, of the stall, provided respectively with the stationary pins o o', of the foot-board N, having at one end a notch and near its other end a perforation, said bar being provided with devices for holding the animal to be altered, substantially as described.

7. The combination, with the bar N, of the pins o and o' and the slide P, for holding the said bar in position at the foot end of the stall, substantially as described.

8. The combination, with the bar Q, provided with a pin, q'', carrying an attached strap, R, of the pin q and the slide Q′, for holding said bar at the foot end of the stall, substantially as described.

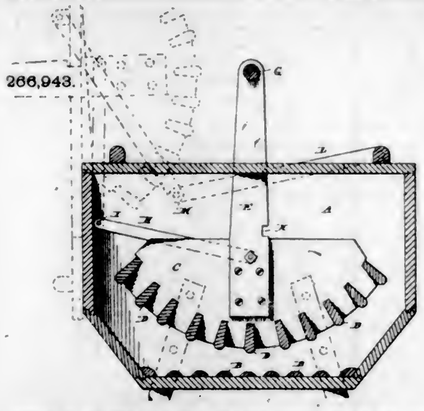
9. The combination, with the bar N, detachably located at the foot end of the stall, of the bar Q, provided with attachments for holding the animal, and having a cleat, Q^x, to prevent the legs of the animal from sliding over the bar N, substantially as described.

10. The combination, with the rear standards of a stall provided respectively with the pins o o', of the rear bar, N, having shoulders n' n', a notch at one end and a perforation near the other end, substantially as described.

266,943. WASHING-MACHINE. WILLIAM T. WILLIAMS, Shenandoah, Iowa. Filed Aug. 19, 1882. (Model.)

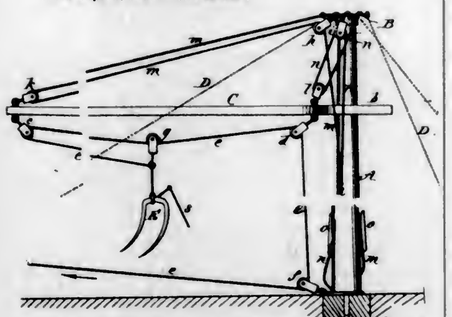
Claim.—The combination, with the rubber pivoted to the bars pivoted within the machine, and provided with notched handles, of the slotted shifting top through which the handles pass,

266,943.



secured to the vessel by pivoted rods, and adapted to interlock the handles when the rubber is elevated and the said top thrown back, substantially as and for the purposes specified.

266,944. HAY-STACKER. JAMES A. WILSON, Marango, Iowa. Filed Sept. 8, 1882. (No model.)



Claim.—1. In a hay-stacker, the combination, with a fork-rope, *e*, passing over pulleys *c d f*, of the pulley-sheave *g*, fastened to rope at its lower end, near the fork, and supported by a roller on that part of the rope between the pulleys *c d*, whereby the fork may be made to travel between the two pulleys *c d*, as described.

2. The revolving head B, in combination with the post A, the ropes *m n*, the sheaves *h i k l*, the jib C, fitted to the post so as to be capable of rising and falling and rotating thereon or around the tripping hay-fork E, with its attached sheave *g*, the rope *e*, and the sheaves or pulley-blocks *c d f*, essentially as described.

3. The guy-ropes D, in combination with the revolving head B, the post A, the jib C, having an open jaw, *b*, arranged to freely receive the post within or through it, the tripping hay-fork E, having an attached sheave, *g*, the fork supporting and operating tackle *c*, *d*, *f*, and *e*, and tackle or devices for supporting, or for supporting and raising or lowering, the jib, substantially as and for the purposes herein set forth.

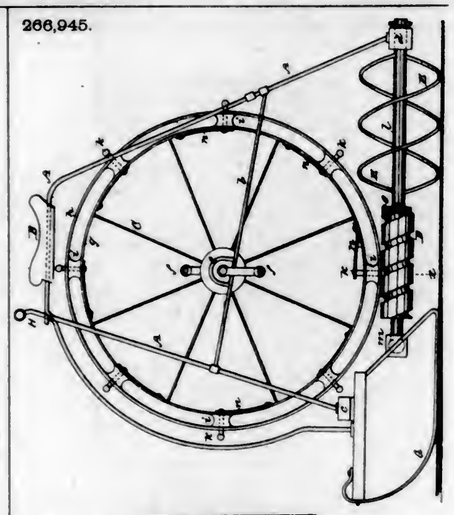
266,945. ICE-VELOCIPEDE. AUGUSTUS F. WOODHAM, Minneapolis, Minn. Filed Apr. 3, 1882. (No model.)

Claim.—1. In a velocipede, the combination of a suspended driving-wheel having attachments for engaging a screw, front sled-runners having an attached hand steering device, and a rear spiral propeller having a screw on its shaft, as and for the purpose specified.

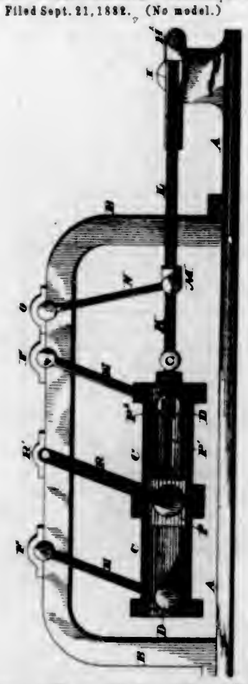
2. The driving-wheel C, constructed of inner and outer rims or bands, *g h*, having boxes *i* in between them, in combination with the radial pins *k*, fitted to work in said boxes, and the springs *n*, pressing said pins outward, essentially as described.

3. The shaft *l*, supported by a ball-and-socket joint, and the screw D and propeller E, in combination with the runners and runner-frame of the vehicle, substantially as specified.

266,945.



266,946. STEAM-ENGINE. CHARLES D. WOOLSEY, Walden, N. Y. Filed Sept. 21, 1882. (No model.)



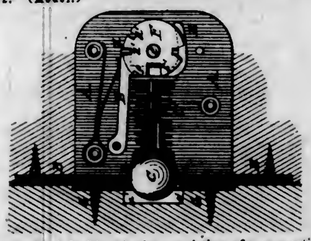
Claim.—1. The combination, with a cylinder, of swinging links journaled at their free ends on trunnions located at opposite ends of the cylinder, the opposite ends of the links being journaled in fixed bearings, substantially as set forth.

2. The combination, with a cylinder suspended at opposite ends by swinging links, of a crank-shaft, and connecting-rods for transmitting the motion of both the piston and cylinder to the crank-shaft, substantially as set forth.

3. The combination, with a cylinder supported at its opposite ends by swinging links, of an eccentric mounted on the crank of one of the connecting-rods, substantially as set forth.

4. In a steam-engine, the combination, with a swinging cylinder, connecting-rod, and cross-head, of a swinging link or rod for supporting the cross-head, substantially as set forth.

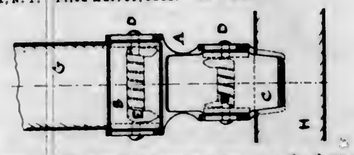
266,947. LOCKING-LATCH. JOSEPH ZEAPAS, New York, N. Y., assignor to himself and Andrew Berger, same place. Filed May 3, 1882. (Model.)



Claim.—1. A locking device consisting of a supporting-stem the shank end of which is guided by a perforated lug, while the other end is enlarged and provided with a concave recess fitted to receive a spherical bolt, a spiral spring one end of which presses against the enlarged part of the stem, while the other end presses against the lug, a locking-disk, and a tumbler operated in connection with the disk, substantially as described.

2. The combination of a main plate, A, face-plate B, having circular opening *a*, spherical bolt C, cup D, spiral spring C', perforated lug *b*, spring-pressed tumbler E, having projection *d*, and locking-disk F, having notches *d' d''*, *f*, and *f'*, substantially as described.

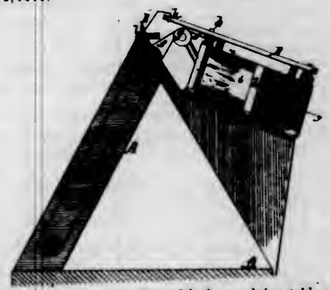
266,948. GARMENT-CLASP. WILLIAM W. ANDERSON, New York, N. Y. Filed Mar. 31, 1882. (No model.)



Claim.—1. In a clasp for a garment-supporter, the short unyielding webbing-clamp B, combined with the yielding lever C, the free end whereof is arranged to fall behind and be protected by said lever B, as set forth.

2. A garment-supporter consisting of a base-plate, A, provided at one end with suitable means for attaching the webbing, and the clamp-lever C, actuated by a coiled spring of flat wire, substantially as shown and described.

266,949. GRAIN-ADJUSTER FOR HARVESTER-BINDERS. JOSEPH P. BULLOCK and JOHN F. APPLEBY, Beloit, Wis. Filed Sept. 2, 1879.

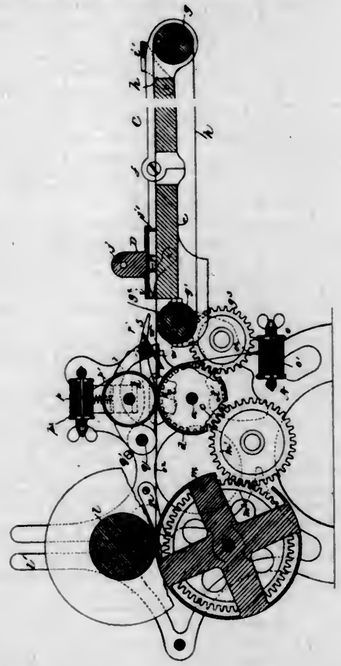


Claim.—1. In combination with the receiving table or surface of a harvester provided with an elevator which discharges the cut grain onto said table, a deflector and adjuster having a traveling operative surface and means for causing said surface to move at a proper speed, all substantially as set forth.

2. A deflector or adjuster provided with an endless apron and mounted on or over the receiving-table of a harvester, so as to vibrate, for the purposes of adjustment, about an axis coincident with that of the upper and driving roller of the apron, as and for the purposes set forth.

3. An endless belt moving in the direction of the grain-delivery and operating in contact with the stubble end of the grain on its passage from the elevator to deliver it to a binding mechanism, substantially as set forth.

266,950. VOTING-MACHINE. AUGUSTUS C. CAREY, Boston, Mass. Filed July 26, 1882. (No model.)



Claim.—1. A voting-machine composed of a moving carrier, upon which the ballots are deposited with overlapped ends, means to form tongues in such overlapped ends to connect said ballots in a continuous strip, feeding devices for such connected ballots, and a spool upon which they are wound, substantially as shown and described.

2. The combination of a table having an endless revolving carrier, upon which ballots are laid end for end, and with each successive ballot overlapping the end of its predecessor and pasted thereto, and a cutting device for forming tongues in such overlapped ends to connect or lock the ballots, and a bed-plate having holes corresponding in number with the number of tongues to be formed, means to actuate such cutter, supporting-threads for such connected ballots, feeding devices and a spool upon which said connected ballots are wound for counting, substantially as shown and described.

3. In a voting-machine in which the successive ballots are attached to each other to unite them in a continuous strip, threads fed in with and supporting the strip as it passes to a spool upon which it is wound, substantially as shown and described.

4. In a voting-machine in which the successive ballots are attached to each other to unite them in a continuous strip, threads arranged above and below said strip and fed in with and supporting the strip as it passes to a spool upon which it is wound, substantially as shown and described.

5. In a voting-machine, a ballot-receiving table and carrier, a ballot-connecting device for uniting said ballots into a connected strip, feed-rolls, and a receiving winding-spool, combined with spools of thread, and thread-guides arranged above and below said feed-rolls, and having threads therefrom leading between the feed-rolls to the spool to support the strip of ballots and be wound upon the spool with the same, substantially as shown and described.

6. In a voting-machine, a table to receive the ballots, provided with an endless carrier-apron upon which the ballots are deposited, and also constructed with rule-joints to permit the folding

of the table and to insure its horizontality when extended, substantially as shown and described.

7. In a voting-machine in which the separately-deposited ballots are united in a continuous strip, a rock-shaft, a cutter thereupon, and means timed to properly actuate the same, substantially as and for the purpose described.

8. In a voting-machine in which the separately-deposited ballots are united in a continuous strip, a rock-shaft, a rectangular curved yoke fixed thereupon and provided with serrated blades, and actuating means therefor, combined with a bed-plate to co-operate with the blades in forming tongues in the ballots to lock the same together, substantially as shown and described.

9. In a voting-machine in which the separately-deposited ballots are united in a continuous strip, a rock-shaft, a rectangular curved yoke fixed thereupon and provided with serrated blades, and actuating means therefor, combined with a bed-plate to co-operate with the blades in forming tongues in the ballots to lock the same together, and feed-rollers to finally lay said tongues back upon the strip and deliver said strip to its place of final deposit, substantially as shown and described.

10. In a voting-machine in which the separately-deposited ballots are united in a continuous strip, a rock-shaft, a cutter thereupon, a trip-lever, an operating-cam therefor on the main shaft, and a retracting-spring, substantially as shown and described.

11. In a voting-machine in which the separately-deposited ballots are united in a continuous strip, a rock-shaft, a cutter thereupon, a trip-lever, an operating-cam therefor on the main shaft, and a retracting-spring, combined with an operating-crank on the main shaft, pins on the main driving-pinion, and a starting and stopping lever, substantially as shown and described.

12. The method of preventing fraud in voting herein described, the same consisting in interlocking the first deposited ballot and a suitable election authorization, then interlocking each successive ballot with the end of its predecessor, and at the end of the voting attaching a final certificate of authority, the said several parts being permanently attached to one another to form a continuous strip of connected ballots, whereby fraud in the voting and counting is made impossible.

13. The continuous strip formed of interlocked and connected ballots, substantially as shown and described.

14. The combination, with the forwarding-drum of a voting-machine, of a vote-registering mechanism, substantially as shown and described.

266,951. AUTOMATIC WEIGHING AND PACKAGE-FILLING MACHINE. CLEMENT C. CLAWSON, Raleigh, N. C., assignor of one-half to H. K. & F. B. Thurber & Co., New York, N. Y. Filed Aug. 30, 1881. (No model.)

Claim.—1. The upright lever-arm fulcrumed at its lower end and the gate supported and operated by said arm, in combination with a hopper and weighing-scale, substantially as described.

2. The combination, with a hopper, of the gate and the upright lever-arm carrying said gate, and having the fulcrum at its lower end and to the rear of the hopper's mouth, substantially as described.

3. The combination, with a hopper, of the gate carried by a lever-arm having its fulcrum at the bottom and adjusted to work out of contact with, but in close proximity to, the walls of the hopper's mouth, substantially as described.

4. The combination, with a hopper and a gate carried by an upright lever-arm fulcrumed at the bottom, of means, as explained, for adjusting the position of the gate with respect to the hopper's mouth, substantially as described.

5. The combination, with a hopper, of a gate carried by lever-arm, and having its upper surface convex to conform to the arc in which it moves, substantially as described.

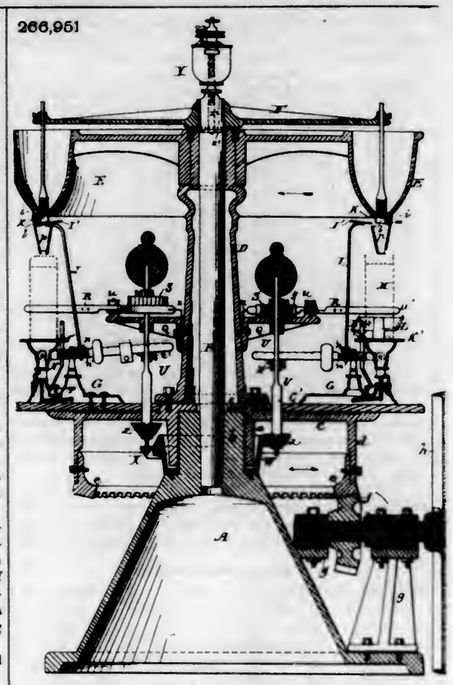
6. The combination, with a hopper and a weighing-scale, of the lever-arm fixed to and carried by the scale-beam, and the supply-controlling gate supported and operated by said arm, substantially as described.

7. The combination of the hopper, weighing-scale, lever-arm supported and operated by the scale-beam, gate supported and operated by the lever-arm, and the adjusting means, substantially as described.

8. The combination, with a hopper and weighing-scale, of the gate and the upright supporting-arm carrying the gate, fulcrumed at its lower end, and arranged to fall forward out of the perpendicular when the scale is overbalanced, substantially as described.

9. The combination, with a hopper and an automatic apparatus for measuring the material delivered from said hopper, of means, as described, independent of said apparatus for regulating the size of the opening in the bottom of the hopper, substantially as described.

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10. The combination, with the hopper, weighing-scale, and gate, of the removable bushing or its equivalent, as specified, placed between the said gate and the body of the hopper, substantially as described.

11. The hopper having its mouth formed on one side by a brush and on the others by a metallic lip or flange, and combined with a gate adapted to operate as described.

12. The combination, with the hopper and gate, of the brush removably secured at the front of the hopper's mouth, substantially as described.

13. The combination, with a hopper having the front wall of its mouth formed of yielding material—such as the bristles of a brush—of a gate carried by a lever-arm fulcrumed at the bottom and adjusted to work out of contact, but in close proximity to the walls of said mouth, substantially as described.

14. The combination, of the hopper, the weighing-scale, the gate controlled by said scale, and the stationary spout attached to the hopper below the gate, and forming a housing for the latter when closed, substantially as described.

15. The combination, with an automatic weighing-scale, of a latch for holding the scale-pan depressed with the supply-gate closed, substantially as described.

16. The combination, with an automatic weighing-scale, of the latch for keeping the supply-gate closed, adapted automatically to be released by the insertion of a cartoon or package, substantially as described.

17. The combination, with the scale pan or plate, of the adjustable gage-plates, substantially as described.

18. The scale pan or plate provided with the gage-plates and stop, substantially as described.

19. In a package-filling apparatus, the combination, with a weighing-scale, of a chute for delivering any overflow clear of the scale, substantially as described.

20. The weighing-scale, gage-plates, and stop, in combination with the latch provided with a contact-piece, substantially as described.

21. The combination of the hopper, weighing-scale, lever-arm, gate, gage-plates, and latch, substantially as described.

22. The combination, with weighing and package-filling apparatus, of mechanical tapping devices for shaking down the material in the cartoons or packages, substantially as described.

23. The combination, with a weighing-scale, of mechanical devices for tapping the cartoon or package on said scale, substantially as described.

24. The combination, with the tapping-arms adapted to receive a cartoon or package between their front ends, of mechanism for vibrating said arms so that they strike the cartoon or package at the same time on opposite sides, substantially as described.

25. The combination of the horizontal tapping-arms, ratchet-wheel, and spring, substantially as described.

26. The tapping-arms having the front or operating ends formed of flexible bars detachably secured to the body of the arms, substantially as described.

27. The combination, with the weighing and filling apparatus and the tapping devices, of means for throwing or keeping the latter out of action, substantially as described.

28. The combination, with a rotary supporting-table and rotary hopper, of a series of automatic weighing-scales, each having a gate controlled and operated directly by the weight in the scale-pan, substantially as described.

29. The combination of the rotary supporting-table, rotary hopper, and series of automatic weighing-scales having each its scale-pan or scale-plate adapted to receive a cartoon or package, substantially as described.

30. An automatic weighing-scale having a scale pan or plate provided with side plates for supporting in an upright position a cartoon or package, substantially as described.

31. The automatic weighing-scale having a supply-gate, of which the movement in both directions is controlled by said scale, and provided with a scale-pan adapted to receive and support upright a cartoon or package, substantially as described.

32. The combination, with an automatic weighing-scale having a gate controlling the delivery from a hopper, of an automatic mechanism—such as a cam—and connections for insuring the closing of the aforesaid gate at intervals irrespective of the condition of the scale, substantially as described.

33. The combination, with a package-filling apparatus and tapping devices, of automatic mechanism—such as the cam—and connections for throwing said devices out of action, substantially as described.

34. The combination, with the rotary table and hopper, automatic weighing-scales, and tapping devices, of a stationary gear for operating said devices and a stationary cam for throwing the same out of action, substantially as described.

35. The combination, with the tapping-arms, of the operating-wheel carried by a longitudinally-movable spindle, and having ratchet-teeth for vibrating said arms, and surfaces inclined to the vertical for spreading and holding apart the arms, substantially as described.

36. The combination of the pedestal, the table supported by and revolving upon said pedestal, the upright stationary shaft, the stirrer-frame carried by said shaft, the upright column carried by the table, and the hopper carried by the column, substantially as described.

37. The combination of the pedestal, the revolving table, the upright shaft provided with oil-passages, the oiler on top of said shaft, and a drip-cup surrounding the base of said shaft and the hub of said table, substantially as described.

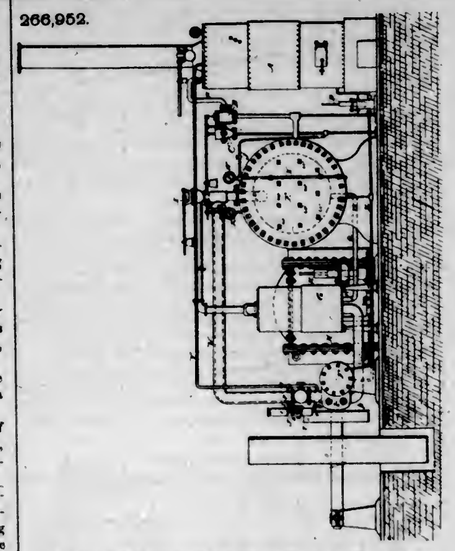
38. The herein-described weighing and package-filling apparatus, comprising the following elements in combination, to wit: the table, the weighing-scales supported thereon, the hopper, the attachments to the scales, including the latch and supply-gates, the tapping devices, the gearing for operating the same, and the cam and its connections, all substantially as and for the purpose set forth.

266,952. UTILIZATION OF LATENT HEAT FOR GENERATING A MOTOR. WILLIAM S. COLWELL, Pittsburg, Pa. Filed Aug. 30, 1881. (No model.)

Claim.—1. In a bisulphide-of-carbon engine, the process hereinbefore described—viz., evolving steam from water and utilizing the latent heat thereof by causing said steam to travel circuitously over the exterior and through the tubes in the interior of the boiler charged with liquid bisulphide of carbon, and thereby transmit said latent heat to said bisulphide of carbon for evolving a vapor therefrom for a motor.

2. In a bisulphide-of-carbon engine, the process hereinbefore described—viz., evolving steam from water and utilizing the latent heat thereof by causing said steam to travel circuitously over the exterior and through the tubes in the interior of the boiler charged with liquid bisulphide of carbon, and thereby transmit said latent heat to said bisulphide of carbon for evolving a vapor therefrom for a motor, and continuously heating said vapor in its passage from said boiler and until it has performed its office upon the piston of the engine, and condensing said vapor after being exhausted from said engine, and subsequently heating the product thereof by vapor exhausted from said engine, and forcing saturated vapor evolved from said condensed product into said boiler through the medium of a pump and a volume of heated liquid bisulphide of carbon, for the purpose set forth.

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3. In a bisulphide-of-carbon engine, the process hereinbefore described—viz., evolving steam from water and utilizing the latent heat thereof by causing said steam to travel circuitously over the exterior and through the tubes in the interior of the boiler charged with liquid bisulphide of carbon, and thereby transmit said latent heat to said bisulphide of carbon for evolving a vapor therefrom for a motor, and continuously heating said vapor in its passage from said boiler and until it has performed its office upon the piston of the engine, and condensing said vapor after being exhausted from said engine, and subsequently heating the product thereof by vapor exhausted from said engine, as and for the purpose set forth.

4. In a bisulphide-of-carbon engine, the process hereinbefore described—viz., evolving steam from water and utilizing the latent heat thereof by causing said steam to travel circuitously over the exterior and through the tubes in the interior of the boiler charged with liquid bisulphide of carbon, and thereby transmit said latent heat to said bisulphide of carbon for evolving a vapor therefrom for a motor, and continuously heating said vapor in its passage from said boiler and until it has performed its office upon the piston of the engine, and condensing said vapor after being exhausted from said engine, and subsequently heating the product thereof by vapor exhausted from said engine, and forcing saturated vapor evolved from said condensed product into said boiler through the medium of a pump and a volume of heated liquid bisulphide of carbon, for the purpose set forth.

5. In a bisulphide-of-carbon engine, the combination of a heater for heating a liquid product obtained from the vapor exhausted from the engine, a pump, and vapor-generator, substantially as herein described, and for the purpose set forth.

6. In a bisulphide-of-carbon engine, the combination of a boiler or steam-generator, a boiler for evolving the bisulphide of carbon, a heater, condenser, and a pump whereby the vapor exhausted from the engine may be returned to said boiler or generator, substantially as herein described, and for the purpose set forth.

7. In a bisulphide-of-carbon engine, a boiler or generator for evolving liquid bisulphide of carbon into a vapor, said boiler or generator surrounded with a case divided into two compartments, *f*, communicating with each other through the medium of tubes passing through said boiler, and communicating with the circulating-chamber O, substantially as herein described, and for the purpose set forth.

8. In a bisulphide-of-carbon engine, a boiler or generator for evolving liquid bisulphide of carbon into a vapor, said boiler or generator surrounded with a case divided into two compartments communicating with each other through the medium of tubes passing through said boiler, a receiving and circulating chamber, and a perforated pipe, R, substantially as herein described, and for the purpose set forth.

9. In a bisulphide-of-carbon engine, an apparatus for lubricating with plumbago the valves, valve-seats, cylinder, piston, and

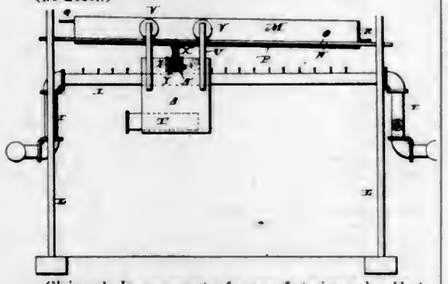
rods connected therewith by the pressure of vapor of bisulphide of carbon being applied to the upper surface of the plumbago for forcing it into the valve chamber or chambers and cylinder of the engine, substantially as herein described, and for the purpose set forth.

10. In a bisulphide-of-carbon engine, an apparatus for lubricating with plumbago the valves, valve-seats, cylinder, piston, and rods connected therewith, said apparatus consisting of a hopper communicating with a receiving and distributing chamber, which communicates with the vapor-generator and the valve chamber or chambers and the cylinder of the engine, substantially as and for purpose set forth.

11. In a bisulphide-of-carbon engine, the apparatus J, for lubricating with plumbago the valves, valve-seats, cylinder, piston, and rods connected therewith, said apparatus consisting of hopper 1, receiving and distributing chamber 2, and pipes 3, 4, and 7, furnished with valves, substantially as and for the purpose set forth.

12. In a bisulphide-of-carbon engine, the union or combination of plumbago and vapor of bisulphide of carbon for a lubricant for the valves, valve-seats, cylinder, piston, and the rods connected therewith, substantially as and for the purpose set forth.

266,953. APPARATUS FOR MANUFACTURING CARBON BLACK. JOHN T. DYSART, Sallisville, Ohio, assignor to himself and JACOB FOX, Philadelphia, Pa. Filed May 20, 1882. (No model.)



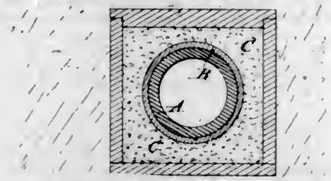
Claim.—1. In an apparatus for manufacturing carbon-black, a depositing-surface consisting of a metallic surface faced with asbestus, substantially as set forth.

2. In an apparatus for manufacturing carbon-black, a depositing-surface faced with asbestus, and provided with means for deflecting a current of water over the upper face of said depositing-surface, for the purpose of cooling it, substantially as set forth.

3. In an apparatus for manufacturing carbon-black, the combination, with a depositing-surface, of a traveling carriage to receive the carbon-black, a clamp mounted in and adapted to be vertically reciprocated and laterally deflected in slots formed in opposite sides of the carriage, and a brush mounted in the clamp, substantially as set forth.

4. In an apparatus for manufacturing carbon-black, the combination, with a depositing-surface, of a traveling carriage to receive the carbon-black, a clamp mounted in and adapted to be vertically reciprocated and laterally deflected in slots formed in opposite sides of the carriage, a brush mounted in the clamp and weighted levers to press on the bottom of the clamp and hold the brush against the depositing-surface, substantially as set forth.

266,954. NON-ABSORBING AND HEAT-INSULATING MATERIAL. ROBERT J. EDERTS and J. LAWRENCE LEE, New York, N. Y.; said EDERTS assignor to the American Heating and Power Company, same place. Filed Sept. 25, 1882. (No model.)



Claim.—1. The heat-insulating and water-repelling material herein described, consisting of finely-divided tan-bark, dried and coated with a suitable waterproofing material and mixed with cement, sand, &c., or other material or materials capable of setting.

2. The process of making the heat-insulating and water-repelling material herein described, which consists of, first, drying finely-divided tan-bark, then, second, coating it with a water-proof material, then, third, of mixing with a suitable mass formed of materials capable of setting the prepared tan-bark, and, lastly, permitting the mass to set around the article to be insulated and protected.

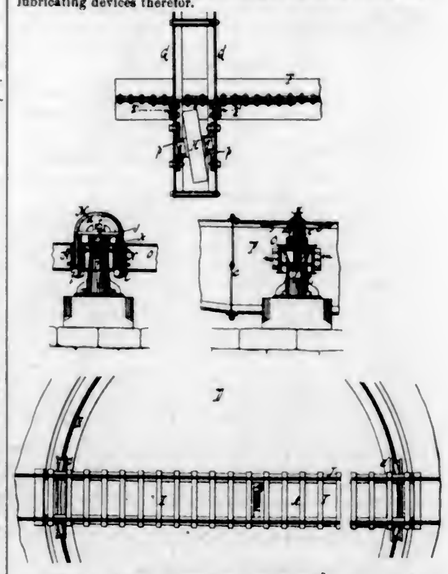
3. As a heat-insulating and water-repellent material for packing steam-pipes and similar purposes, finely-divided tan-bark coated with tar and asphalt and embedded in cement, substantially as described.

4. A concrete for incasing steam or hot-water mains or for similar uses, composed of finely-divided tan-bark having the individual particles coated with water-proof material, compacted into a solid mass with cement by means of compression, substantially as described.

5. As a heat-insulating and water-proof material, the admixture of tan-bark and tar and asphalt and hair or other fiber, substantially as described.

266,955. TURN-TABLE. CHARLES O. H. FRITZSCHE, New York, N. Y. Filed June 20, 1882. (No model.)

Brief.—Consists of main girders having channel-plates extending transversely through said girders, between which lounge-wheels are mounted. A center pin has a transversely-grooved head and a yoke resting in the said grooved head. The lower ends of the shanks of said yoke are adjustably attached in position on opposite sides of the post, so as to turn with the center pin. The whole rests on a suitable foundation, the center pin being stepped into a socket in the top of a post upon said foundation, with special lubricating devices therefor.



Claim.—1. The combination, substantially as hereinbefore described, of the main girders F F, the channel-plates extending transversely through these girders, and the lounge-wheels mounted between said channel-plates.

2. The combination, substantially as hereinbefore described, of the turn-table A, the center pin, K, having a transversely-grooved head, *d*, the post L, forming a step for the center pin, and the yoke M, resting in the grooved head of the center pin and having the lower ends of its two shanks adjustably attached in position on opposite sides of the post, to turn with the center pin when the turn-table is rotated.

3. The combination, substantially as hereinbefore described, of the turn-table A, the center pin, K, having a transversely-grooved head, *d*, the post L, forming a step for the center pin, the blocks N, rigidly fixed in position on opposite sides of the post, and the yoke M, resting in the grooved head of the center pin, and having its two shanks passing through the said blocks and adjustably confined in place by nuts *l*, to turn with the center pin when the turn-table is rotated.

4. The combination, substantially as hereinbefore described,

of the turn-table A, the center pin having a transversely-grooved head, *d*, the post L, forming a step for the center pin, the rigidly-fixed blocks N, the transverse girders O, arranged at opposite sides of the post and the blocks, and the yoke M, resting in the grooved head of the center pin and having the lower ends of its two shanks adjustably connected with the blocks, to turn with the center pin when the turn-table is rotated.

5. The combination, substantially as hereinbefore described, of the web-plate *r*, the angle-irons *s s'*, of different width, the angle-irons *t*, and the plates *u*.

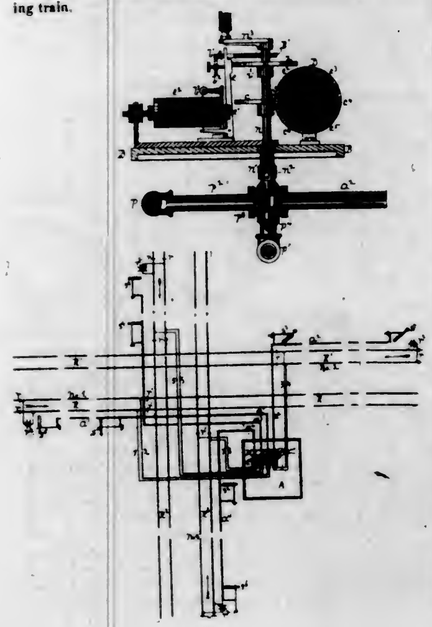
266,956. WEEDING-MACHINE. MYRON H. FULLER, Phelps, N. Y., assignor of one-half to E. G. Carpenter, same place. Filed July 12, 1882. (No model.)



Claim.—In a weeding-machine, the combination of the axle D, having a longitudinal slot, E, the frame A secured thereto, and provided with the slotted cross-bar F, the spring-bar M, carrying the backwardly-curved rake-head M', the beams G, carrying the cutters I, and the adjusting-screws and nuts H, the whole arranged to operate substantially in the manner specified.

266,957. HYDRAULIC AND ELECTRIC INTERLOCKING APPARATUS. OSCAR GASSETT, Boston, Mass., assignor to the Union Switch and Signal Company, Pittsburg, Pa. Filed May 6, 1882. (No model.)

Brief.—A hydraulic and electric interlocking signal apparatus having rotary valve-stems carrying locking-disks, which enter slots in a rotary locking-cylinder, said slots being arranged out of line with each other circumferentially and longitudinally. The controlling signal-disk or the locking-cylinder is electrically locked through armature-levers operated by the short-circuiting of a passing train.



Claim.—1. In an interlocking railway signaling apparatus, a rotary cylinder having in its periphery a series of two or more slots or recesses arranged out of line with each other, both circumferentially and longitudinally, in combination with a corresponding number of rotary disks adapted to be rotated into and out of the cylinder-slots, substantially as set forth.

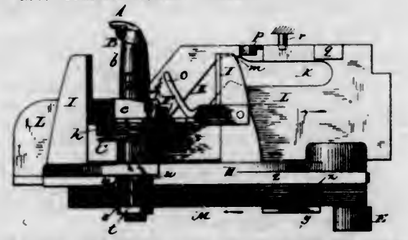
2. The combination of slotted cylinder D, two or more locking-disks, *c*, and two or more fluid-pressure cocks, P^2, substantially as set forth.

3. In combination with slotted cylinder, locking-disks, and fluid-pressure cocks, a fluid-pressure-supply pipe, P, a waste-pipe, P', and a series of two or more transmitting-pipes leading to the signals to be actuated, substantially as set forth.

4. In combination with a slotted rotating cylinder, two or more locking-disks, *c*, and cocks P^2, a notched disk, *z*, on the shaft of one or more of the disks *c*, and an armature-lever and electro-magnet for each disk *z*, the same being included in a train-actuated electric circuit, substantially as set forth.

5. A system of apparatus for railway-crossing signals, having, in combination, a slotted rotary cylinder, a series of two or more rotary disks to enter or clear the slots of the same, fluid-pressure cocks with pipe connections to actuate the signals, and one or more electro-magnets, the circuit-wires of which are connected with an insulated track section or sections, substantially as set forth, whereby the short-circuiting of a track-section shall drop an armature-lever and lock the cylinder.

266,958. GRAIN-BINDER. JAMES F. GORDON, Rochester N. Y. Filed Nov. 15, 1881. (Model.)



Claim.—1. A knot-tying head consisting of two differentially-rotating tying-fingers arranged to move concentrically in planes lying at substantially right angles to the axis of rotation, said fingers provided on their opposite faces with the respective cord-retaining lips abutting against each other when the fingers overlap, substantially as described and shown.

2. The combination of two concentric differentially-rotating tying-fingers provided on their opposite sides with lips abutting against each other when the fingers overlap, substantially as shown.

3. A cord-tying device consisting of two differentially concentrically-rotating fingers, said fingers constructed to close together by a rotary motion parallel with each other in planes at substantially right angles to the axis of rotation, and thereby confine the cord between their adjacent faces, as set forth.

4. A cord-knotting device consisting of two concentric differentially-rotating fingers, each extending from its axis in one direction only, as contradistinguished from fingers having a heel-projection.

5. The combination of the knotting-fingers arranged to revolve in parallel planes lying at right angles to the axis of rotation, and actuating mechanism, substantially as described, whereby the fingers are rotated differentially an entire revolution or more in a forward direction, as described, whereby the formation and completion of the knot in the cord are effected without a backward rotation of the finger.

6. The combination of the two knotting-fingers adapted, as described, for independent rotation in parallel planes, and to grasp the ends of the cord between their adjacent faces, in combination with actuating mechanism, substantially as described, whereby the fingers are turned apart, revolved while separated a complete revolution, or thereabout, to form a loop, closed together to seize and retain the ends of the cord until the loop has been cast off from their ends, and finally turned apart to release the completed knot.

7. A knot-tying head consisting of two differentially-rotating tying-fingers extending at right angles to the axis of rotation, and adapted to admit the cord between their adjacent faces, in combination with actuating devices, substantially as shown, for imparting the differential rotations thereto to grasp and release the end of the cord.

8. In a tying device, the combination of two concentric spin-

dles, a laterally-projecting finger attached to the end of each spindle and extending therefrom in one direction only, and mechanism, substantially as described, whereby the spindles are rotated differentially and positively, substantially as described and shown.

9. The combination of two fingers revolving differentially in parallel planes, and adapted to complete a knot during their forward rotation, with a stripping device, substantially as shown, which is advanced to remove the knot from the fingers.

10. In combination with the tying-head, the movable stripper-plate provided with an opening, *i*, substantially as shown, for the purposes set forth.

11. In combination with the tying-head, the elastic stripper-plate provided with an opening and arranged to bear upon the end of and over the tying-head, as described.

12. The movable stripper-plate provided with the cord-guiding notch, and also with the edge or surface to engage directly with the knot upon the tying-fingers, substantially as shown.

13. The cord-clamping device mounted around the tyer-shaft and movable lengthwise thereof, substantially as described and shown.

14. The combination of the rotary tying-head and the rotary cord-clamping wheel arranged concentrically, and suitably actuated mechanism, substantially as described, whereby the clamping-wheel is moved without being rotated toward the tyer-head during the time that the latter is turned in a forward direction to form the knot, whereby the cord is slackened with a positive regular action to the tying device during the formation of the knot, and at the same time retained by the clamping-wheel.

15. The combination of a tyer-shaft, a tubular bearing therefor, and a cord-clamping wheel mounted upon and around said bearing.

16. The combination of a knotting-head and a cord-clamping wheel rotating in parallel planes, the wheel being movable to and from the head, substantially as described and shown.

17. In combination with the tying-fingers, which revolve differentially in parallel planes, a cord guide or presenting device and mechanism which moves the same in a direction transverse to the fingers, first carrying the cord over one finger and then changing its position to carry the cord beneath the other finger.

18. In combination with the two tying-fingers, as described, the reciprocating clamping-wheel and its casing provided with the cord-guiding lip or flange *e*, arranged to rise past the ends of the fingers, as described and shown.

19. The combination of the cord-clamping wheel having the grooved periphery, the clamping-plate D beneath the wheel, and the plate or lip *l*, entering the groove of the wheel, as described and shown.

20. The combination, with the rotary tyer-head, of a concentric rotary clamping-wheel movable to and from said head, the non-rotating shell or casing for said wheel, and the fixed knife upon said casing.

21. In combination with the notched cord-clamping wheel, a clearer arranged to pass transversely through the notched edge of the wheel, substantially as described, to remove the waste ends, lint, &c.

22. In combination with the fixed clearer-arm, the movable clamping device adapted to pass over and co-operate with the clearer-arm, in the manner described and shown.

23. The combination of the rotary clamping-wheel, the sliding support therefor, and the reciprocating plate provided with a slot to effect the raising and lowering of the sliding support.

24. In combination with the knotting-head and the clamping device having a guide, *b''*, the reciprocating plate having the slot for raising and lowering the clamp, provided with an elevated portion, as described, whereby the clamp and cord are momentarily elevated to an extreme height to effect the proper presentation of the cord to the fingers.

25. The combination of the cord looping and tying fingers revolving differentially in parallel planes, their spindles, the two operating-pinions provided with flat faces, and the reciprocating rack-bar provided with mutilated teeth and with the two flattened faces located at opposite sides of the rack on the bar, as shown.

26. In combination with the knotting-head, the vibrating stripper-plate operating against the end of the knotter, as and for the purpose described, the shaft and crank-arm attached to the stripper, and the reciprocating bar or plate provided with the two cams or inclines X X', for vibrating the stripper, as set forth.

27. The combination of the two independently-rotating tying-fingers, their spindles, the two operating-pinions, provided each with a flat face, and the reciprocating rack-bar provided with the mutilated teeth at two points, as shown, and with the two flattened faces at opposite sides of the rack, as described and shown.

28. In combination with the clamping-wheel, the reciprocating plate having the yielding dog and the rigid stud, arranged to act successively in turning the wheel, as described and shown.

29. In combination with the reciprocating cord-clamping device and the tyer-pinions, the reciprocating plate L, provided with the rack-bar to operate the pinions and the slot to move the clamp, and the cam-track F, whereby the reciprocating motion is imparted to the plate.

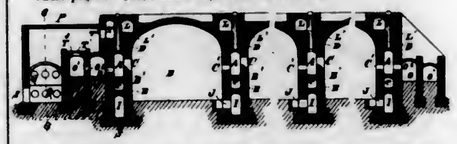
30. The slotted bed-plate, in combination with the connected plate L and M, on opposite sides thereof.

31. The combination of the tubular tyer-shaft, having the extended arms *a'*, and the pinion slotted to fit thereon.

32. The tubular tyer-shaft *b*, provided with the arms *a'*, turning the pinion seated thereon, in combination with the central tyer-shaft extending through and beyond the tubular shaft and its pinion, and provided with the transverse pin *c'* and the pinion seated thereon.

33. A rotary knotting device adapted to be reversed after completion of the knot, in combination with the clearer-plate adapted to strip the loop from the tying-bills and then hold the cord out of the path of rotation of the tyer-bills during their backward revolutions, substantially as set forth.

266,959. BRICK-KILN. WILLIS N. GRAVES, St. Louis, Mo., assignor of one-half to the Hydraulic Press Brick Company, same place. Filed June 14, 1882. (No model.)



Claim.—1. In a brick-kiln, the fire-chambers arranged in the pier-walls between the kiln-chambers, in combination with feed-openings extending down from the top of the kiln, substantially as shown and described.

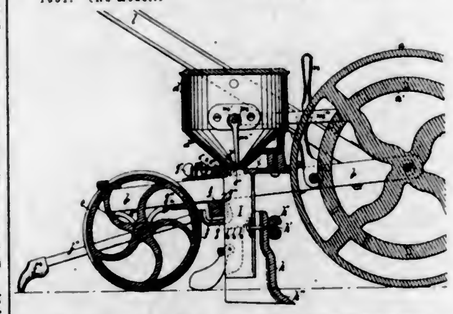
2. The arrangement of firing-chamber A, arranged in the pier-walls between the kiln-chambers, ash-pit E, tapering feed-openings D, and air-openings *e*, substantially as described.

3. The series of kiln-chambers arranged side by side and having independent end flues, O, which are connected by cross-flues O', substantially as set forth.

4. The air-heating furnace P, in combination with the top flues, K, branch flues L, provided with dampers M, openings L', feed-openings D, combustion-chambers A, openings C' C'', and kiln-chambers B, substantially as and for the purpose set forth.

5. The combination of air-heating furnace P, flue T, flues K, branch flues L, feed-openings D, and combustion-chambers A, the hot air from the furnace being used to assist combustion when gas is used as a fuel, as set forth.

266,960. SEED-DRILL. ELBRIDGE G. MATTHEWS, Oakham, assignor to Elijah E. Lummus, Beverly, Mass. Filed Dec. 5, 1881. (No model.)



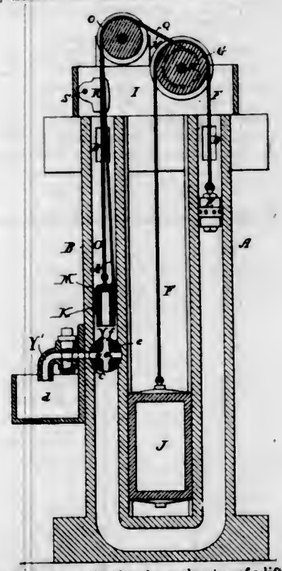
Claim.—1. The combination, with the bar *b* of hopper-frame and the marker-bar *f*, of the staple-shaped bar *g*, having an arm and provided with points or projections *g'''*, and the adjusting screw-bolt *g'* and nut *g''*, substantially as described.

2. The combination of the hopper *d d'*, plate *e*, base-plate *i*, cast with the seed-conductor I, having transverse bars I' and a vertical slot, the plow *k*, adjustably connected to said conductor, the agitator-shaft *m*, having the lever *m'''*, and stirrer *m''*, marker-bar *f*, detachably connected to the frame-bar *b*, and having hinged arm *f'*, provided with a shoe, *f''*, and driving and transporting wheels *e e*, substantially as described.

3. In a seed-drill, the seed-box, as described, composed of upper cylindrical part, *d*, combined with lower tapering part, *d'*, and exposed seed-delivery plate *e*, as and for the purpose described.

REISSUES.

10,224. HYDRAULIC ELEVATOR. CYRUS W. BALDWIN, Chicago, Ill., assignor to the Hydraulic Elevator Company, same place. Filed Apr. 4, 1881. Original No. 162,282, dated Apr. 20, 1875; Reissue No. 7,019, dated Mar. 28, 1876.



Claim.—1. The combination, in an elevator, of a lifting piston and cylinder, and pipes and valve appliances arranged to discharge the water from one end of the cylinder as the water under atmospheric pressure flows into the other end to lift the cage, and also to circulate the water without discharging as the cage descends, substantially as set forth.

2. The combination, with the two communicating upright cylinders, of the lifting-piston in the one cylinder and the water-escape in the other cylinder, located with respect to the lifting-piston, substantially as shown and described.

3. The combination, in a hydraulic elevator, of a lifting-cylinder communicating with a reservoir of water under atmospheric pressure, a cage connected to the piston, a valve device constructed to discharge the water from one side of the piston, and also to permit the water to circulate, and appliances whereby said valve may be operated from the cage while the latter is in any position, substantially as set forth.

4. The combination, with the cylinder of a hydraulic elevator, of a valve device and operating appliances constructed to open the discharge, and to close the discharge and permit the water to circulate from one side to the other of the piston, and to arrest both the discharge and circulation each by a single movement of the valve device, substantially as set forth.

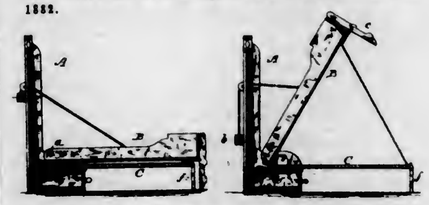
5. A hydraulic elevator provided with a cylinder exceeding thirty feet in length, and with a water-escape at a point thirty feet below the upward limit of the piston's motion, and connecting with the lower end of said cylinder, substantially as set forth.

6. In a hydraulic elevator, the combination of the working cylinder and piston, and a supplementary valved piston connected to the cage and arranged in a tube communicating with the lower end of the said cylinder, and appliances whereby to operate the valve of said piston, substantially as set forth.

7. The combination, in a hydraulic elevator, of a motor-cylinder containing a piston, an inlet to supply water, an outlet or discharge passage below the piston, and a valve device whereby the column of water above and below the piston is caused to load and move the latter with a uniform power.

8. The combination, in a hydraulic elevator, of a motor-cylinder containing a piston attached to the cage, an inlet-passage to supply water under pressure above the piston, an outlet or discharge passage below the piston, and a valve device whereby the power of the column of water above the piston and of the column of water below the piston may be jointly and simultaneously exerted to load or carry down the piston with a uniform power.

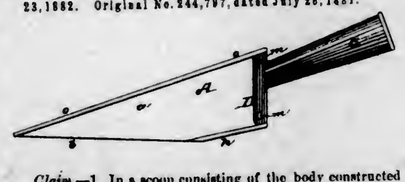
10,225. FOLDING BEDSTEAD. SANFORD S. BURR, Winnetka, Ill. Filed Oct. 2, 1882. Original No. 261,305, dated July 18, 1882.



Claim.—1. The combination, with the counterweighted folding bed and support or case to which the same is hinged, of a folding front or its equivalent, hinged to said case or bed and connected to the bed, substantially in the manner hereinbefore described, so that it may turn or vibrate upon its hinge to a certain extent independently of the bed, as and for the purposes set forth.

2. The combination of the case, the counterweighted bed hinged thereto, and the front, hinged also to the case at a point below the bed-hinge and connected to the bed, substantially as and for the purposes hereinbefore set forth.

10,226. SCOOP. THOMAS B. DAVIS, New York, N. Y. Filed Sept. 23, 1882. Original No. 244,797, dated July 26, 1881.



Claim.—1. In a scoop consisting of the body constructed of a single piece of sheet metal, the converging side portions, *a a*, united together by a double lap-joint, *g*, substantially as described.

2. In a scoop consisting of the body constructed of a single piece of sheet metal, the inner edges, *f f*, of the converging side portions, and the rear semicircular edge, *c*, of the bottom part united together by a double lap-joint, *h*, substantially as described.

3. In a scoop consisting of the body constructed of a single piece of sheet metal, a double lap-joint, *g*, and a handle constructed with a grooved end plate, D, whereby such handle is secured to the body opposite the lap-joint, the groove of the end plate being adapted to receive the lap-joint, substantially as described.

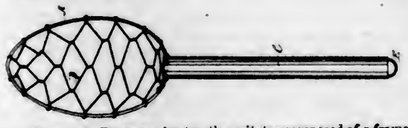
10,227. SEPARABLE BUTTON. DAVID HUMPHREYS, Norfolk, Va. Filed Sept. 8, 1882. Original No. 259,159, dated June 6, 1882.



Claim.—1. A separable stud or button having its face-plate attached to cylindrical barrel-shaped prongs open from end to end, as shown, and its back plate attached to the barrel-shaped stem, said prongs being adapted for telescoping within the stem, as described, whereby the prongs shall, when engaged, be held by their spring action closely against the inner wall of the stem from end to end, substantially as specified.

2. The separable stud or button consisting of the back plate, *b*, and its open-end, hollow, convex, or barrel-shaped stem *c*, having a roughened inside surface, and the head *a*, having the outwardly-bowed and edge-roughened prongs *g*, corresponding in convexity to the hollow stem *c*, substantially as specified.

10,228. EGG-BEATER. REUBEN M. HARRISON, Faribault, Minn., assignor to Adolph W. Henkle, Minneapolis, and Charles T. Palmer, Faribault, Minn., and Thomas J. Curtis, Lincoln, Nebr. Filed Sept. 4, 1882. Original No. 200,290, dated Feb. 12, 1878.



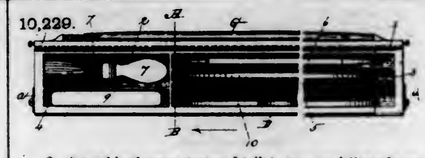
Claim.—1. In an egg-beater, the agitator composed of a frame and intervening cross-wires supported thereby, in combination with the handle, substantially as and for the purpose described.

2. An egg-beater composed of a sheet-metal handle, C, having its edges *a* bent inward, an agitator-frame formed of a wire, A, whose projecting ends *a* are secured in the handle, and the wire body B, in combination, substantially as set forth.

10,229. COMBINED RAZOR-STROP AND TOILET-CASE. JOSEPH E. TURRY, Worcester, Mass. Filed July 29, 1882. Original No. 240,055, dated Apr. 12, 1881.

Claim.—1. A combined razor-strop and toilet-case, consisting of a case, K, provided with divisions 1, 2, 3, 4, and 5, for receiving the razor, brush, comb, soap, and toilet-brush, and also provided with hinged top J, and stropping-surfaces, all substantially as shown and described.

10,229.



2. A combined razor-strop and toilet-case, consisting of a case having suitable compartments for receiving toilet articles, and provided with a hinged cover and exterior stropping-surfaces, substantially as shown and described.

10,230. PREPARATION OF TAN-BARK FOR TRANSPORTATION. JONATHAN SHERMAN, Jr., Chicago, Ill., assignor, by mesne assignments, to American Pressed Tan Bark Company, of New Jersey. Filed Oct. 3, 1882. Original No. 182,965, dated Oct. 3, 1876. Division B.

Claim.—As a new article of manufacture, compressed tan-bark in which the tannin-cells have been crushed or broken by the compression, whereby the free tannin is readily and entirely yielded up when the compressed cake is soaked out, substantially as described.

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DECISIONS
OF THE
COMMISSIONER OF PATENTS
AND OF
UNITED STATES COURTS IN PATENT CASES.

DECISIONS OF THE U. S. COURTS.

U. S. Circuit Court—Northern District of New York.

LULL *v.* CLARK *et al.*

Decided August 8, 1882.

1. PATENT NO. 10,477 CONSTRUED AND HELD TO BE INFRINGED BY PATENT NO. 156,277.

The claim of Letters Patent No. 10,477, dated July 31, 1854, to Harvey Lull, for an improvement in shutter-hinges, and twice extended, construed and sustained, and *Held* to be infringed by hinges manufactured under Letters Patent No. 156,277, dated October 27, 1874, to Charles B. Clark.

2. CONSTRUCTION OF CLAIM.

A claim to "the so forming of a self-locking shutter-hinge in two pieces as that" certain results may follow, *Held* to be a claim to mechanism, the particular mechanism covered being determined by the description in the specification and the statement of the results in the claim.

Mr. Livingston Gifford and *Mr. Philip J. O'Reilly* for the plaintiff.

Mr. George J. Sicard for the defendants.

BLATCHFORD, *J.*:

This suit is brought on Letters Patent No. 10,477, granted to Harvey Lull and Richard Porter, on the invention of Lull, January 31, 1854, for fourteen years from January 2, 1854, for an improvement in shutter-hinges, extended for seven years from January 2, 1868, and again extended for seven years from April 29, 1876, under the provisions of a special act of Congress approved on that day.

The specification says:

Figure 1 represents the hinge as opened and locked. Fig. 2 represents the hinge in its position when the shutter is drawn from the wall sufficiently far to unlock it; and Fig. 3 represents the hinge when the shutter is closed.

There are several varieties of shutter and door hinges, the greater portion of which, in being opened, bring two inclined planes in action, causing the shutter or door to rise, the object being to cause doors especially to swing clear of the carpet. Some of these are provided with a fastening, which is formed of a separate piece. Another method is to make a series of planes, which admits of the door rising and falling several times in the act of swinging it open and shut. I do not lay claim to any of these hinges, for they are almost useless for shutter-hinges, for which purpose my hinge is especially designed. It is well known that window shutters must swing into the frames several inches before they come to their seats, and to use either of the class of hinges before mentioned would cause the shutter to rise up against the frame and bind, or else it must be cut away, which would admit rain, snow, &c. My hinge allows the shutter to swing around horizontally until it almost reaches the wall, when it drops and locks. This is one distinguishing-feature of mine over other hinges. Again, my hinge is composed of but two pieces, each entirely of cast metal, while the others, which are self-locking, are composed of three or more, and, indeed, many of those which work upon the planes use a friction-roller to aid in causing one-half of the hinge to rise on the other half, which is expensive and very liable to become disarranged, as well as adding another piece to the hinge. This constitutes a second difference. But the most essential point of difference between my hinge and those heretofore essayed consists in my being able to use a cast-iron spindle with perfect safety, from the fact that when the shutter is opened and locked the force of the wind tending to close the shutter is taken entirely off the spindle and thrown upon two cast arms, and in opening or closing the shutter its weight is partially taken upon two square shoulders, thus relieving the spindle, which is really but a directrix to the other parts, without taking the weight of the shutter upon it. For this reason I can safely rely upon the cast-iron spindle. I do not contend, however, that cast-iron spindles have not been used, but I do contend that they are liable to be broken by any sudden slamming of the shutter, as they heretofore had to sustain its entire weight.

I do not assert that my invention consists of three distinct differences between what has heretofore been done and what I have done, but I claim so combining these differences as to produce in a hinge of two pieces a very cheap, strong, and effective self-locking hinge, which has not been done before.

The nature of my invention, therefore, consists in the so forming of a self-locking hinge cast in two pieces as that a shutter hung thereon may swing open or shut on a horizontal plane and lock when opened to its limit, and so that, also, when locked open, the strain shall be taken off the spindle and thrown onto cam-arms, and thus effectually relieve the spindle from the force of the winds.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings.

My hinge is cast in two pieces, of iron or any other suitable metal, each piece being identical in form, with the exception that one carries the spindle, the other the socket.

Instead of forming the inclined planes on the shoulder of the hinge, as is heretofore done, I place them outside of the shoulder, and as remote from the center of the hinge as possible, placing one, *b*, Fig. 3, on the arm or shank of the hinge extending from the shoulder to the wing or plate, and projecting from two-thirds to three-fourths of its inclination from the face of the hinge. The other, *a*, Fig. 3, is placed directly opposite, and extends the same distance from the center of the hinge, and faces in the opposite direction to that *b*. The inclination of the planes should be about forty-five degrees at the extreme outer end, and approach the vertical as they come nearer the center of the hinge. The shoulder is formed with the half next the arm standing even with the top of the planes and the other half cut down level with the bottom of the planes. The bottom half of the hinge inverted makes the top half by substituting the hole for the pivot. When a shutter hung on these hinges is thrown open, resting on the shoulders of the hinges, it neither passes over notches nor up inclined planes, but swings freely around to a position nearly parallel with the wall, where the support of the shutter passes from the shoulders *c d*, Fig. 2, to the inclined planes, and the bottom of the planes A A are brought to the top of the planes B B, as shown in Fig. 2, and the shutter is carried to the wall by its gravity on these inclined planes, and the hinge is locked, as shown in Fig. 1, one-half having dropped below its general position. In closing the shutter a slight force only is necessary—viz., to draw the shutter four or five inches to force it up the planes—when the support of the shutter is returned to the shoulders *c d*, on which it rests and swings horizontally to its seat, entirely preventing the planes from coming in contact as it closes, as shown in Fig. 3.

The claim is in these words:

The so forming of a self-locking shutter-hinge cast in two pieces as that the blind or shutter hung thereon may swing open or shut on a horizontal plane and lock when open to its limit, and so that, also, when locked open the strain shall be taken off from the spindle and thrown onto cam-arms, and thus effectually relieve the spindle from the weight or strain of the shutter, substantially as described.

In order to construe properly the claim of the Lull patent it is necessary to understand what preceded it. The defendants have introduced two English patents to David Redmund—one of 1841, No. 4,607, and one of 1842, No. 9,454. The Redmund hinge is in two parts, and has inclined planes on the shoulder, and also horizontal planes; but it is arranged to be so applied to a door that the door will, when it begins to open, rise up, because the inclined planes come immediately into action, and as the door is further opened the inclined planes go out of action and horizontal shoulders come into action, so that the door goes on opening without rising any more. If the horizontal shoulders are left at rest, the door will remain at rest. If the door is pushed so that the horizontal shoulders lap by each other, it will

drop, because the socket, being unsupported, drops on the spindle, and the hinge is locked, so that the entire door must be raised in order to unlock the hinge. If when the door is supported by the horizontal shoulders it is pushed to close so far as to bring the inclined planes into action, it will close by their action and its weight without further pushing. The inclined planes face in opposite directions, and the two parts are identical in shape, except that one carrries the spindle and the other the socket. It is clear that this structure does not anticipate Lull's hinge. It is useless as a shutter-hinge, for that must open horizontally at first and then drop and be locked, and not rise at first in opening, and then move horizontally and be locked, and it would require the molding of the window to be cut away, and it could not be unlocked by merely pulling the shutter. It is plainly referred to in Lull's specification and distinguished from his invention.

The Cryer hinge is substantially like Redmund's. Inclined planes come into action first, and then horizontal planes. There is no locking when the gate or door is open.

To say that Redmund's and Cryer's hinges can be made to operate on a shutter by so arranging them that the horizontal planes will act before the inclined planes is merely to say that Lull's invention might have been made by Redmund and Cryer if they had made it.

The Stewart hinge, patented April 24, 1847, locks by gravity, but it has no inclined planes, and has more than two parts, and cannot be unlocked by pulling or pushing the shutter.

Whatever there is in the Baker patent of April 13, 1852, it is shown that Lull made his invention before June 6, 1851.

The Reed patents of 1848 and 1849 are of no moment, and may be passed without observation, and so may the Robison patent of 1848 and the Peck patent of 1847 and the Palmer patent of 1843.

None of these prior hinges accomplished the object attained by Lull. One feature may be found in one structure and another in another; but no one before Lull made a shutter-hinge cast in two pieces which would swing open horizontally and then come to a self-locking position by the action of the weight of the shutter through inclined planes, allowing the shutter to drop, and then permit the shutter to rise by pulling it, so as to bring the inclined planes into action and elevate the shutter, so as to admit of its closing horizontally as it opened. In the Lull hinge, also, the strain is taken off of the spindle and is thrown onto the arms as far as possible by having the inclined planes on the arms and as far from the spindle as possible, and by having those planes face in opposite directions and having the two parts alike, so as to reduce to a minimum the risk of breaking a cast-iron spindle.

The defendants' hinge is of the form described in Letters Patent No. 156,277, granted to Charles B. Clark, October 27, 1874. The specification of that patent says:

> My invention relates to that class of blind-hinges which are self-locking, or those which fasten the blind, when opened, by the half of the hinge to which the blind is attached sliding down an incline on the half attached to the house; and it has for its object the more effectually to secure the blind when in an open position, and prevent its being closed by the wind or other accidental cause, and yet admit of its ready closing by hand when required; and it consists in the combination, with a gravity-locking hinge provided with gravitating locking-inclines, of a projecting catch or stop formed upon the pin of the hinge, which, when the blind is swung open and the male portion descends—the inclines of the knuckle on the female portion of the hinge—drops into a notch formed in the eye of the female half, and acts in conjunction with and anxiliary to the locking-inclines, to increase the resistance, and thus serves to hold the blind securely in an open position.
>
> Figure 1 of the accompanying drawings is a perspective view of my improved hinge when closed. Fig. 2 is a plan and part section of the same when open; and Fig. 3 a plan of the parts detached, in which A represents the male portion inverted, and B the female portion of the hinge.
>
> In the drawings, A represents the male portion of the hinge, provided with the pin *c*, and B the female portion, having the eye *e*. The pin *c* is surmounted by the knuckle *k* and the flange *d*, on which are formed the inclines *m' n'*. Corresponding inclines *m n* are also formed on the proximate side of the knuckle *k*. The part A being rotated upon the part B, the weight of the blind is borne by the under surface of the lower part of the flange *d* bearing against the upper surface of the higher part of the knuckle *k*, until the blind is nearly open, bringing the double inclines *m m'* coincident, when the blind gravitates to the bottom of the inclines, in which position it rests, being fully open and locked against accidental causes. When desired to close it, it is disengaged by steadily pulling, the force of the hand overcoming the resistance caused by the inclines.
>
> The pin *c* and socket *e* are preferably formed cylindrical on one side and angular on the opposite one, as seen in Fig. 3, leaving, however, sufficient room in the socket to admit of the pin turning freely.
>
> In gravity-locking blind-hinges constructed with inclines which engage, by the gravitation or descent of one half upon the other, when the blind is open, to lock it in that position, it is found that, although the locking-inclines offer sufficient resistance to ordinary winds to prevent the closing of the blind, yet will yield to unusually strong winds, and it is hence desirable to provide such hinges with a means which will increase the resistance to unintentional closing, and effectually prevent the same. To this end I provide the hinge with a stop, *f*, on the circular side of the pintle, situated so as to come into action when the blind gravitates down the inclines. The stop *f* projects radially on one side. Its other side is beveled, and its outer face inclined to correspond with the inclines *m' n'*, and its base joined with the flange *d*. The female portion has a corresponding recess, *g*, formed in the eye next the bearing-surface of the knuckle *k*, one side of which is abrupt, and the other beveled like the stop *f*. The positions of this projection and its recess are such that when the blind is opened to the fullest extent their abrupt sides approximate, and the blind is so firmly held by the engagement of this stop, aided by the inclines and the pin bearing against the side of the eye, that it is secure against accidental causes—such as sudden gusts of wind, &c.—unlocking the blind, and yet it yields to the effort of the hand, the steady lateral pull of which raises the stop *f* out of the recess by the movement of the inclines *m m'* upon each other. It will be observed that the stop and recess offer no resistance to this movement, as they are formed parallel with or with the same inclination as the inclines *m n m' n'*, so that the blind may thus be closed by the hand with as much ease as if the stop were not used.
>
> The construction is such that the blind may be thrown violently open without straining the hinge, and it may be molded and cast as readily as the old form.
>
> The claim of the Clark patent is this:
>
> In combination with the locking-inclines *m n m' n'*, the auxiliary locking-stop *f* and recess *g*, said inclines, stop, and recess arranged and operating in conjunction with each other, as and for the purpose herein set forth.

In the printed copy furnished in the printed record of the specification of the Clark patent there are some manifest errors, which are corrected in the foregoing copy. Wherever the knuckle *k* on the female portion of the hinge is intended to be mentioned (which is three times) it is misprinted *k*, which is the designation in the drawings of the knuckle on the male portion of the hinge. So also the double inclines are called in the print "the double inclines *m m'*," but it should read "the double inclines *m m' n n'*;" and, in regard to raising the stop out of the recess, the print reads "the movement of the inclines *m m'* upon each other," whereas it should read "the movement of the inclines *m m' n n'* upon each other."

It is contended for the defendants that the Clark hinge does not infringe the Lull patent for these reasons: (1) the two parts of the Clark hinge are not identical in form, except as to spindle and socket; (2) the inclined planes on it are formed on the shoulder of the hinge, and not outside of it; (3) it does not have two inclined planes placed diametrically opposite and facing in opposite directions, but the two principal inclined planes on each shoulder face in the same direction, and there is no inclined plane on the same shoulder which faces in an opposite direction; (4) the strain is

not taken off of the spindle and thrown upon cam-arms, there being no cam-arms nor anything taking their place.

The claim of the Lull patent must be construed as a claim for mechanism. It is awkwardly drawn. It is a claim to the so forming of a hinge cast in two pieces as that certain results will follow in the use of the hinge on a shutter "substantially as described." It is a claim to the "so forming" "substantially as described." This is a claim to mechanism. The description must be looked to to ascertain what the mechanism is and the results named in the claim must be taken into consideration in ascertaining what parts of the mechanism described enter into the claim. The claim is not one for the results mentioned in the claim.

It is very clear that the Clark hinge is a self-locking shutter-hinge cast in two pieces; that it swings open on a horizontal plane by the bearing of horizontal shoulders on each other until the horizontal shoulders cease to bear on each other, and the shutter descends by gravity by means of inclined planes on the hinge, and the hinge is locked in that position against ordinary movements; that the shutter may be shut by pulling it and bringing the inclined planes into action first and then the horizontal planes, and that when the shutter is locked open the operation of the inclines bearing against each other in case of a movement of the shutter by the wind or otherwise is such as to throw the strain on the knuckles to which the inclines are attached to an extent sufficient to make the strain on the spindle less than it would be if the inclines were not arranged as they are.

Lull in his specification describes the two parts of his hinge as like each other. They are so constructed. But this is not of the essence of the invention. It is undoubtedly the best form, and with the two planes on each arm facing in opposite directions and of the same size and in the same relative position their coaction with the other two planes gives the most perfect relief to the spindle. But a departure from these features to some extent, while producing an inferior hinge in respect to relieving the spindle, still relieves it to some extent, and constitutes no departure from the invention of Lull, all the other features of his claim being used. Still, it cannot be said that Clark's inclined planes are not on the shoulder of the hinge, or are outside of the shoulder, or are on cam-arms such as the Lull patent has. But a fair construction of the Lull patent is that it really makes two claims.

In stating the nature of the invention, the specification says that it consists—

> In the so forming of a self-locking hinge cast in two pieces as that a shutter hung thereon may swing open or shut on a horizontal plane and lock when opened to its limit.

This is a construction involving certain features and parts. It involves those parts which cause the shutter to swing open on a horizontal plane, and then to lock by the operation of inclined planes, and then to shut by being pulled, and rising through the return action of the inclined planes until it is raised far enough to shut on a horizontal plane. This operation of mechanism is independent of any relief of the spindle. Then the specification goes on to say—

> And so that, also, when locked open the strain shall be taken off the spindle and thrown onto cam-arms, and thus effectually relieve the spindle from the force of the winds.

The specification thus states that the nature of Lull's invention consists in the so forming of a self-locking hinge cast in two pieces as that when it is locked open the result named as to strain will take place, in addition to the so forming of such hinge as that it will have the described operation as to swinging open or shut and locking when open. The features of mechanism which provide for the horizontal swinging and the after locking may fully exist without being in such form as to produce the effect as to strain spoken of by Lull. The language of the specification is to be taken distributively, and not as for a combination of all the features. So, too, with the claim. It is, in effect, by its structure and by reference to the descriptive part of the specification, two claims—one for such of the described mechanism as is necessary to secure the described swinging and locking and the other for such of the described mechanism as is necessary to secure the result described as to strain. A reissue with a division of the claim into two claims would have been sustainable, and the patent as it is is fairly capable of the foregoing construction. The Clark hinge embodies the swinging and locking mechanism of Lull, which is a material part of his invention, and is thus separately claimed. Having the inclines on the shoulder or outside of the shoulder on cam-arms or not on cam-arms is not a matter effecting the swinging and locking, but effecting only the relief of the spindle. The feature which Clark had added of the additional stop is a feature not concerned with the swinging and locking through the action of the horizontal planes and inclined planes, but is something added to the locking. The Clark patent is granted for the auxiliary locking stop and recess, added to and combined with the four inclines which allow the blind to descend by gravity, and be locked after it has opened horizontally. The mechanism used in the Clark hinge to cause it to open horizontally and then lock is a mere formal variation from that of Lull, having the same mode of operation. In opening the shutter swings freely on horizontal shoulders, and then the support passes to inclined planes, and the shutter is carried by gravity down such planes and is locked, and then is pulled by the hand up the inclined planes, and the support is returned to the horizontal shoulders and the shutter is swung shut.

There must be the usual decree for the plaintiff for an injunction and an account, with costs.

LEFEVER *et al. v.* E. REMINGTON & SONS.

Decided August 4, 1882.

1. BREECH-LOADING FIRE-ARMS—NON-INFRINGEMENT.
   A claim for a projection, locking together the barrels and breech-piece of breech-loading fire-arms, formed with a square shoulder curved on one of its faces, *Held*, in view of the state of the art and the limitations of the patent, not to be infringed by a similar projection not having the curved face.
2. LIMITATION OF PATENT—HOW MATERIALLY DETERMINED.
   Where, from the language of the specification and claim and the state of the art, the inventor must be considered to have regarded a certain element as material, *Held* that those claiming under him could not show that it was immaterial, as the question was determined by the claim.

Mr. George W. Hey for the plaintiffs.

Mr. Thomas Richardson for the defendants.

BLATCHFORD, *J.:*

This suit is brought on Letters Patent No. 205,193,

granted to Daniel M. Lefever, June 25, 1878, for an improvement in breech-loading fire-arms. The specification states the object of the invention to be—

To give a more perfectly-fitting and permanent connection between the barrels and breech-piece than has heretofore been effected, with greater security, and less liability of the breech and barrels springing apart.

The barrels are connected with the breech-piece by means of certain hooks on the under side of the barrels, that are brought in contact with pins passing horizontally through the mortise in the breech-piece below the barrels, a part of which devices are old and have already been patented.

The specification then goes on to describe the inventor's improvements thereon. Only one of them is of importance in this suit. It is described thus:

As a further security, a projection, *k*, extends backward from the rear end of the barrels, and fits into a corresponding recess in the recoil-plate, similar to some other arms, the important difference being that the projection *k* has square shoulders on its front face, as clearly seen in Fig. 2, which are cut to the curve of a circle centering on pivot *d'*, corresponding with the shoulders in the recess in the recoil-plate. This form of shoulder, instead of being rounded or wedged, as heretofore made, which allows the barrels a spring off from the recoil in firing, securely locks the parts together.

The pivot *d'* is the pivot-pin on which the barrels turn when their rear ends are thrown up.

The claim founded on the above description, and which is the claim alleged to have been infringed by the defendants, is as follows:

1. In breech-loading fire-arms, the projection *k*, formed with square shoulders on its sides, in combination with the recoil-plate, provided with a corresponding recess, the shoulders on said projection and on the recess being curved in the arc of a circle struck from the pivot on which the barrels turn, substantially as and for the purpose described.

In the defendants' fire-arm there is a projection extending backward from the rear end of the barrels and fitting into a corresponding recess in the recoil-plate. The projection has square shoulders—that is, their horizontal section is a right angle—but, instead of being curved in the arc of a circle struck from the pivot on which the barrels turn, the shoulders are straight and tangential to the line of movement. In both the plaintiffs' and the defendants' arms the shoulders come up to the top surface of the barrels. It is contended for the plaintiffs that the curving of the shoulders is immaterial and non-essential to the operation of the device, and that the invention really consists in the square shoulders coming up to the top surface of the barrel. Evidence to show this has been introduced on the part of the plaintiffs and evidence to show the contrary has been introduced on the part of the defendants. It is very clear that the vertical form of the shoulders is made an element of the claim by distinct language, and as that form is a curve in the arc of a circle struck from the pivot on which the barrels turn, and is not found in the defendants' arm, the plaintiffs contend that the rectilinear shoulders in that arm are the equivalents mechanically of the curved shoulders of the patent.

If the claim had been intended to be a claim broadly to square shoulders, without reference to their vertical form, it would have been easy to make such a claim; but the claim industriously introduces the element of the vertical curving. The inventor must have regarded that as a material element, and those who claim under the patent cannot now be heard to say that it is immaterial. The question cannot now be left for the domain of testimony. It is determined by the claim. Otherwise the plaintiffs are put in the position of averring that the specification contains more than is necessary to produce the desired effect, and it is impossible to escape the conclusion that this was done for the purpose of deceiving the public, because the presumption is that the claim would not have been allowed in any broader form than that in which it appears.

The patent to Gundersen of December 30, 1873, shows a barrel constructed with an extension-rib on which are formed shoulders, which are rectangular in a lateral direction, and engage with corresponding shoulders on the recoil-plate. All the shoulders are rectilinear in a direction about tangential to the line of movement at its intersection with the upper edge of the barrel. They do not extend to the top surface of the barrel, but are covered by the extension of the rib. In view of the Gundersen patent there was no ground for Lefever to claim shoulders rectangular in their horizontal cross-section and extending out to the top surface of the barrel without reference to their vertical form. There would have been no invention in merely prolonging the upward extent of the shoulders. So the curved vertical form of the shoulders was introduced in connection with their being square.

So far as appears the first claim was novel and is valid, but it is not infringed by the defendants, because in its arm the shoulders are rectilinear.

The bill is dismissed, with costs.

U. S. Circuit Court—Southern District of New York.

COBURN *et al. v.* SCHROEDER *et al.*

Decided January 16, 1882.

1. REISSUE NO. 8,091—FORMER DECISION AFFIRMED.

Former decision, (see 20 O. G., 1524,) declaring Reissue Letters Patent No. 8,091, granted February 19, 1878, to Charles E. Coburn and Harriet F. Billings, assignees of John L. and George W. Stevens, valid, affirmed.

2. REISSUE — ORIGINAL SPECIFICATION MAY BE REFERRED TO TO CORRECT CLAIM.

The decision of United States Supreme Court in *Lehigh Valley Railroad Company* v. *Mellon*, (20 O. G., 1891,) while it limits the effect of the specification to the claim does not exclude reference to the original specification to correct the claim, upon a reissue.

WHEELER, *J.*:

This cause has been reargued pursuant to leave of court upon one point to which counsel did not address themselves at the hearing. Upon reconsideration it still seems that the patented invention involved, as embodied in the useful features of the egg-carrying case of the Stevenses, was new with them as inventors, and that nothing which can upon the evidence be properly found to have existed before, anticipates it in its full combination of parts. The case of *Lehigh Valley Railroad Company* v. *Mellon*, (20. O. G., 1891,) decided since the former hearing, and to which attention has been called by the defendants, limits the effect of the specification of the patent to the claim, but does not exclude reference to the specification to correct the claim by, upon a reissue. The disclaimer of a two-tier case, filed since the former decision, takes that out of the patent, although it might not save the patent if that device, as found to have existed before the invention, anticipated the invention as made and patented; but as shown to exist it did not. Upon the disclaimer the plaintiffs are not entitled to costs of suit. (*Burdett* v. *Estey*, 15 Blatchf., 349.)

The decree is to be modified, so as to be without costs.

THE
OFFICIAL GAZETTE
OF THE
United States Patent Office.
[BY AUTHORITY OF CONGRESS.]

VOL. 22—NO. 19. TUESDAY, NOVEMBER 7, 1882. PRICE—$5 per year

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Subscriptions for 1882.

The OFFICIAL GAZETTE is published every Tuesday, two volumes a year, commencing in January and July. Terms: To all subscribers within the United States and Canada, $5 per annum; to foreign subscribers, $7; single copies, 10 cents; bound volumes, $3.50 per volume. No club rates. *Payment in advance.* All orders should be addressed to "The Commissioner of Patents, Washington, D. C."

Order No. 104.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 31, 1882.

The following transfers in classes are hereby ordered:

Part of Class 36, Electricity, from Division III, Examiner Whitaker, to Division XVI, Examiner Freeman.

Class 90, Ore, from Division III, Examiner Whitaker, to Division XXV, Examiner Mason.

Sub-class 32 of Class 104, Electric Railway-Signals, from Division IV, Examiner Pond, to Division XVI, Examiner Freeman.

Class 120, Stationery, from Division XVII, Examiner Cooke, to Division II, Examiner Behrens.

Class 43, Fishing and Trapping, from Division II, Examiner Behrens, to Division XXIV, Examiner Fisher.

E. M. MARBLE,
Commissioner of Patents.

Issue of November 7, 1882.

Patents	353	No. 266,961 to No. 267,313, inclusive.
Designs	10	No. 13,393 to No. 13,402, inclusive.
Trade-marks	26	No. 9,773 to No. 9,798, inclusive.
Labels	16	No. 2,785 to No. 2,800, inclusive.
Reissues of patents	5	No. 10,231 to No. 10,235, inclusive.
Total issue	410	

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks and Labels.	States.	Patents and Designs.	Trade-Marks and Labels.
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Arizona Territory			Nevada		
Arkansas	3		New Hampshire	2	
California	11		New Jersey	7	
Colorado	2		New Mexico Territ'y		
Connecticut	20	1	New York	67	5
Dakota Territory			North Carolina	2	
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Kansas	3		Virginia	2	8
Kentucky	3		Washington Territ'y	1	
Louisiana			West Virginia	1	
Maine	1		Wisconsin	5	2
Maryland	8	1	Wyoming Territory		
Massachusetts	22	6	United States Army		
Michigan	18	2	United States Navy		
Minnesota	7		Total to citizens of the United States	339	35
Mississippi	1				
Missouri	11				
Montana Territory					

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Australia			England	6	
Austria	1		France	2	4
Barbadoes			Germany	10	2
Belgium			Italy	2	
Bermuda			New Zealand		
Brazil			Russia		
Canada	1		Spain		
Chili			Sweden		
Colombia, U. S. of			Switzerland	2	1
Cuba			Total to citizens of foreign countries	24	7
Denmark					
Ecuador					

DESIGNS.

13,393.—EMBROIDERY.—*Henry Bosshardt*, New York, N. Y., assignor to *The Kursheedt Manufacturing Company*, same place. Application filed September 28, 1882. Term of patent 7 years.

13,394.—OIL-BURNING LAMP.—*William L. Ewing*, Wheeling, W. Va., assignor to *The Buckeye Glass Company*, Martin's Ferry, Ohio. Application filed September 22, 1882. Term of patent 3½ years.

13,395.—HOLDER FOR CIGARETTE-PAPERS.—*Jacob L. Haas*, New York, N. Y., assignor to *Wemple & Co.*, same place. Application filed October 4, 1882. Term of patent 3½ years.

13,396.—HALL-FRINGE.—*George S. Hensel*, Philadelphia, Pa. Application filed October 4, 1882. Term of patent 7 years.

13,397 and 13,398.—CARPET.—*Henry Hunt*, Greenville, N. J., assignor to *The Hartford Carpet Company*, Hartford, Conn. Applications filed August 11, 1882. Term of patents 3½ years.

13,399.—CHARM.—*Sigmund L. Lederer*, Providence, R. I. Application filed October 3, 1881. Renewed September 29, 1882. Term of patent 7 years.

13,400 and 13,401.—TOY BANK.—*Charles F. Ritchel*, Bridgeport, Conn., assignor to *S. S.* and *G. D. Tallman*, both of New York, N. Y. Applications filed October 7, 1882. Term of patents 3½ years.

13,402.—JEWELRY.—*Ernst Thoma*, Maywood, N. J. Application filed October 3, 1882. Term of patent 7 years.

TRADE-MARKS.

[Certificate of registration of Trade-Marks numbered 8,191 and upward are registered under the act of March 3, 1881.]

9,773.—CIGARS, CIGARETTES, AND SMOKING AND CHEWING TOBACCO. *Esberg, Bachman & Co.*, San Francisco, Cal., and New York, N. Y. Application filed October 7, 1882.
"The word 'UNMATCHED.'"

9,774.—BLACKING AND LEATHER-DRESSING.—*Edward H. Fennessy*, Newton, Mass. Application filed September 29, 1882.
"The arbitrarily-selected words 'SATIN POLISH.'"

9,775.—BLACKING AND LEATHER-DRESSING.—*Edward H. Fennessy*, Newton, Mass. Application filed September 29, 1882.
"The arbitrarily-selected words 'ARMY & NAVY.'"

9,776.—BLACKING AND LEATHER-DRESSING.—*Edward H. Fennessy*, Newton, Mass. Application filed September 29, 1882.
"The arbitrarily-selected words 'CIRAGE FRANÇAIS OR FRENCH DRESSING.'"

9,777.—CIGARS.—*Eduardo H. Gato*, Key West, Fla. Application filed October 10, 1882.
"The word 'LASSO.'"

9,778.—CERTAIN PREPARATION FOR DRESSING AND POLISHING LEATHER BOOTS AND SHOES.—*The Lustro Company*, New York, N. Y. Application filed October 3, 1882.
"The word 'LUSTRO' resting upon a ground having the form of an ellipse, and which spreads out or extends in diverging or radiating lines."

9,779.—CALF-SKINS.—*A. B. Martin & Co.*, Lynn and Boston, Mass. Application filed August 12, 1882.
"The arbitrarily-selected word 'CARACAL.'"

9,780.—CHAMPAGNE-WINE.—*G. H. Mumm & Co.*, Reims, France. Application filed June 17, 1881.
"The words and letters 'G. H. MUMM & CO.' and a circular design."

9,781.—SMOKING-TOBACCO, CHEWING-TOBACCO, CIGARS, AND CIGARETTES.—*J. R. Pace Tobacco Company*, Richmond, Va. Application filed October 7, 1882.
"The words 'HOME STRETCH.'"

9,782.—WASHING COMPOUND.—*Charles O. Strutz*, Chicago, Ill. Application filed September 18, 1882.
"The monogram or symbolic letters 'P. C. W.' and a solid oblong mal bar of color across the face of the label, and different in color from that of the label itself, in connection with the word 'ELECTRIC.'"

9,783.—WATCH CASES AND MOVEMENTS.—*Vacheron & Constantin*, Geneva, Switzerland, and New York, N. Y. Application filed October 11, 1882.
"The representation of a cross."

9,784.—PLUG OR CHEWING TOBACCO.—*S. W. Venable & Co.*, Petersburg, Va. Application filed October 10, 1882.
"The word 'VINCO.'"

9,785.—PLUG OR CHEWING TOBACCO.—*S. W. Venable & Co.*, Petersburg, Va. Application filed October 10, 1882.
"The words 'VIRGINIA DARE.'"

9,786.—TANNING COMPOUND.—*R. A. Wirbel & Co.*, Hayman, Germany, and New York, N. Y. Application filed August 24, 1882.
"A spring-shears and the arbitrary letters 'P. B. C.'"

9,787.—TANNING COMPOUND.—*R. A. Wirbel & Co.*, Hayman, Germany, and New York, N. Y. Application filed August 24, 1882.
"A spring-shears and the arbitrary letters 'P. B. A.'"

9,788.—BAKING-POWDER.—*The Chicago Chemical Works*, Chicago, Ill. Application filed September 25, 1882.
"The arbitrarily-selected words 'THE GEM.'"

9,789.—CERTAIN EDGE-TOOLS.—*The Collins Company*, Collinsville, Conn. Application filed October 13, 1882.
"The word 'COLLINS.'"

9,790.—MIXTURE OF MOSS AND FIBER.—*J. Domergue & Co.*, Nimes, France, and New York, N. Y. Application filed October 17, 1882.
"The figure of a horse."

9,791.—LAGER-BEER.—*Eble & Herter*, Philadelphia, Pa. Application filed October 17, 1882.
"The name-word 'JUMBO.'"

9,792.—BITTERS.—*Herman Toser Company*, Milwaukee, Wis. Application filed September 11, 1882.
"The arbitrarily-selected word-symbol 'MONOPOLE.'"

9,793.—REMEDY AND CURE FOR CORNS, BUNIONS, AND OTHER SIMILAR DISEASES.—*William B. Moore*, East Saginaw, Mich. Application filed October 10, 1882.
"The words 'ROUGH ON CORNS,' the letters composing said words having serrated edges, together with the symbol 'R on C' on a diamond-shaped ground.

9,794.—SMOKING-TOBACCO, CHEWING-TOBACCO, CIGARS, AND CIGARETTES.—*J. R. Pace Tobacco Company*, Richmond, Va. Application filed October 7, 1882.
"The words 'PEACH ORCHARD.'"

9,795.—SOAP.—*Schultz & Co.*, Zanesville, Ohio. Application filed October 13, 1882.
"The arbitrary word 'HANDKERCHIEF.'"

9,796.—SOAP.—*Senderhauf & Schultz*, Milwaukee, Wis. Application filed October 11, 1882.
"The arbitrary word-symbol 'GOLDEN COMET.'"

9,797.—CHAMPAGNE-WINE.—*Veuve Pommery & Fils*, Reims, France. Application filed October 10, 1882.
"The designation 'POMMERY & GRENO.'"

9,798.—CHAMPAGNE-WINE.—*Veuve Pommery & Fils*, Reims, France. Application filed October 10, 1882.
"Two designs, in the former of which the central field consists of a conventionalized representation of an eagle, in gilt, upon a black ground, surrounded by concentric circles in gilt, between which, upon a black ground, are the words 'POMMERY & GRENO SEC.' Outside of the concentric circles aforesaid are arranged concentrically alternating beaded work and plain-line circles, and beyond these, upon a gilt ground, is a border or frame of black, supplemented by projections above and below and upon either side, the whole forming an ornate design approximating in its outline to a diamond. In the latter the central field of the design consists of the words 'EXTRA SEC' upon a gilt ground."

LABELS.

2,785.—Title: "BROWN'S AGUE CURE OR PADDIE'S "DEAD SHOT."—*John Brown*, Grand Rapids, Mich. Application filed October 9, 1882.

2,786.—Title: "CORWIN'S ANTISEPTINE."—*Theadore L. Corwin*, Marathon, N. Y. Application filed October 11, 1882.

2,787.—Title: "FIVE PACKS CRANE'S EXTRA SUPERFINE LADIES' ENVELOPES. COMMERCIAL."—*Z. Crane, Jr., & Bro.*, Dalton, Mass. Application filed October 11, 1882.

2,788.—Title: "FIVE PACKS CRANE'S SUPERFINE LADIES' ENVELOPES. OCTAVO."—*Z. Crane, Jr., & Bro.*, Dalton, Mass. Application filed October 11, 1882.

2,789.—Title: "BUTTERFLY."—*Lawrence Lottier*, Richmond, Va. Application filed August 8, 1881.

2,790.—Title: "DURHAM BULL."—*Lawrence Lottier*, Richmond, Va. Application filed August 8, 1881.

2,791.—Title: "LILY WHITE."—*Lawrence Lottier*, Richmond, Va. Application filed August 8, 1881.

2,792.—Title: "RED ROSE."—*Lawrence Lottier*, Richmond, Va. Application filed August 8, 1881.

2,793.—Title: "RUBY'S ROYAL GILDING."—*New York Chemical Manufacturing Company*, New York, N. Y. Application filed October 11, 1882.

2,794.—Title: "HAWKEYE SKIN REMEDY."—*M. W. Savage*, Iowa Falls, Iowa. Application filed October 12, 1882.

2,795.—Title: "MRS. STAUFF'S SALVE."—*Stauff & Foster*, Baltimore, Md. Application filed September 30, 1882.

2,796.—Title: "HONEY DEW."—*J. F. Stevenson*, Allegheny, Pa. Application filed October 14, 1882.

2,797.—Title: "FORESMAN'S ANODYNE."—*Harry C. Tyler*, Lafayette, Ind. Application filed October 13, 1882.

2,798.—Title: "FORESMAN'S VEGETABLE LIVER PILLS."—*Harry C. Tyler*, Lafayette, Ind. Application filed October 13, 1882.

2,799.—Title: "MORRIS' CELEBRATED ENGLISH STABLE LINIMENT FOR HORSES."—*Harry C. Tyler*, Lafayette, Ind. Application filed October 13, 1882.

2,800.—Title: "WILLIAM'S LIQUID GOLD."—*New York Chemical Manufacturing Company*, New York, N. Y. Application filed October 17, 1882.

DISCLAIMER.

No. 51,085. *Lewis Rathbone* and *William Hailes*, Albany, N. Y. Patented November 21, 1865. IMPROVEMENT IN COAL-STOVES. Disclaimer filed October 30, 1882, by the assignees, *William Hailes, James Gray*, and *Charles Selkirk*.

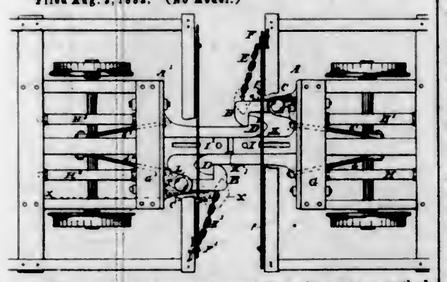
"Enter their disclaimer to so much of the first claim as covers perforations or openings in the sides of a suspended fire-pot, extending throughout the entire depth of its sides, and limiting such perforations or openings to substantially the lower half of the fire-pot, the material or substantial part of the thing patented in and by said claim not hereby disclaimed being as follows:

"'A fire-pot suspended from its upper edge with substantially the upper half of its sides made solid, and substantially the lower half of its sides containing perforations or openings.'"

PATENTS

GRANTED NOV. 7, 1882.

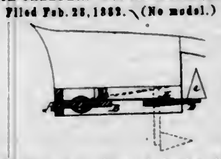
266,961. CAR-COUPLING. WILLIAM R. BAGLEY, Indianapolis, Ind., assignor of one-half to Chris H. Harmening, same place. Filed Aug. 3, 1882. (No model.)



Claim.—1. A car-coupler consisting of an open-mouthed draw-head, a rigid projecting hook-bar, D, with an outturned hook upon one side of the draw-head and a short pivoted hook upon the other side, the construction and combination being substantially as herein described.

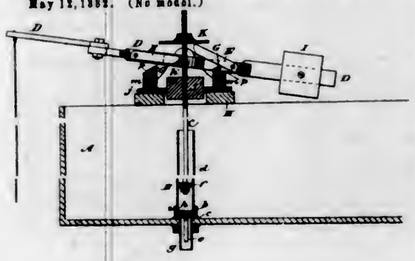
2. A draw-head having flange A and a long projecting hook, D, and a short hook, B, pivoted in ears *c* on the flange A, the parts being combined and operating substantially as described.

266,962. ICE-CREEPER. LUDWIG BUSSEL, Insterburg, Prussia, Germany. Filed Feb. 28, 1882. (No model.)



Claim.—The ice-creeper frame A, having fixed plate B and pivoted plate D, with spurs *e* on the latter, the upper ends of said spurs projecting horizontally back of the plate D and extending partly beneath the contiguous plate B, when they are turned down, in combination with the spring E, as set forth.

266,963. OPERATING TANK-VALVES. JAMES E. BOYLE, Brooklyn, assignor to Henry Huber, New York, N. Y. Filed May 12, 1882. (No model.)



Claim.—1. The combination, with a self-closing valve, of a lever and suitable intervening mechanism, substantially as described, whereby at each vibration of said lever said valve will be opened, in the manner substantially as set forth.

2. The combination, as a means for operating a self-closing tank-valve to produce a double discharge from the tank, of the weighted tank-lever, a pivoted dog or small lever in connection therewith, a spur arranged under said dog at a point intermediate of its free and pivoted ends, whereby upon the tilting of the tank-lever the free end of said dog shall be elevated, and an overhanging portion, in connection with the valve, arranged over and to be lifted by the free end of the said dog, substantially as set forth.

3. The combination of lever D, pivoted dog E, spur G, valve-stem C, and overhanging portion connected to said stem, and arranged over and to be lifted by the free end of said dog, substantially as set forth.

4. The combination of lever D, dogs E E, pivoted thereto, bearing-frame F for said lever, and fixed spurs G G, substantially as set forth.

5. The combination of lever D, dogs E E, bearing-frame F, spurs G G, valve-stem C, and disk K, adjustable on said stem, substantially as set forth.

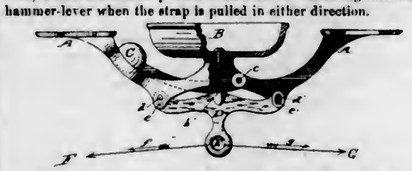
6. The combination of valve-stem C, weight J, and disk K, with lever D, dogs E E, bearing-frame F, having hole *l*, and spurs G G, substantially as set forth.

7. The combination of lever D, having trunnions *i i*, and dogs E E, with frame F, formed in two parts, each consisting of a section of base-plate, *j*, a wall, *k*, pierced with a hole to receive one of said trunnions, and a post, *m*, on which is formed a spur, G, substantially as set forth.

8. The combination of lever D, dogs E E, pivoted thereto at equal distances from the fulcrum of the lever, and two fixed spurs, G G, arranged one under each dog, and the two unequally distant from said fulcrum, substantially as set forth.

266,964. STREET-CAR GONG. CHARLES T. BROWN, Chicago, Ill. Filed Apr. 25, 1882. (No model.)

Brief.—The T-shaped lever is pivoted at each end by pins in slots, so that the central portion of said lever is forced against the hammer-lever when the strap is pulled in either direction.



Claim.—A double-acting bell or gong for street-cars and other purposes, comprising the following elements, viz: a gong secured in suitable position to the vehicle, a frame below the gong, also secured to the vehicle, a hammer pivoted at one end to the frame, and a T-shaped lever, upon the center of which the hammer rests, near its pivotal point, said lever being hung by each horizontal branch thereof to the frame by means of pins and slots, substantially as described, whereby the pulling of pendent arm of the T-shaped lever in either direction serves to throw the hammer upward against the gong.

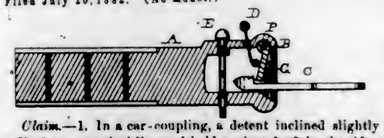
266,965. RUBBER BOOT OR SHOE. WILLIAM W. BROWN, Jr., Providence, R. I. Filed Aug. 30, 1882. (No model.)

266,965.



Claim.—In a rubber boot or shoe, the composite inner sole composed of a leather heel portion, and the remaining part of felt, textile fabric, or other similar fibrous material, substantially as described.

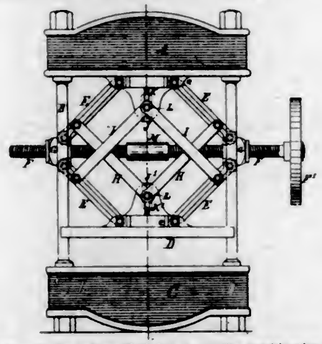
266,966. CAR-COUPLING. EDWARD J. BURNS, Dayton, Ohio. Filed July 20, 1882. (No model.)



Claim.—1. In a car-coupling, a detent inclined slightly inwardly from a vertical line and held against draft by the side projections of the draw-bar and the housing, substantially as set forth.

2. The link C, with notch in top of its projection, in combination with the detent B and draw-bar, substantially as and for the purpose set forth.

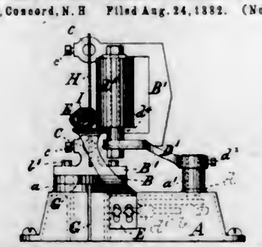
266,967. KNUCKLE-JOINT PRESS. OSCAR P. BUSHNELL, Worcester, Mass. Filed Aug. 24, 1882. (No model.)



Claim.—1. In a knuckle-joint press, the combination, with the head-piece A, the follower D, and pressing-arms E, of an upper and lower system of bracing-arms, I and H, connecting the knuckles or pressing-arms with vertically-movable guides working in guideways K K', respectively, supported on said head-piece and follower, substantially as herein shown and described.

2. The slides or guide-blocks J J', of cylindrical shape, and the guideways K K', having cylindrical cavities *d* for the reception of the same, in combination with the arm-seats, pressing-arms, and brace-arms in a knuckle-joint press, substantially as hereinbefore set forth.

266,968. SAW-GUIDE. JACOB F. CHANDLER and HENRY G. CHANDLER, Concord, N. H. Filed Aug. 24, 1882. (No model.)



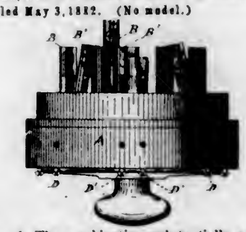
Claim.—1. The movable arm B', to which are attached the adjustable saw-guides C C, secured in any desired lateral position by set-screws *c c*, said arm B' being adjustably fastened to the swivel-piece B by means of set-screws *b'* and slots *b³*, said swivel-piece B being oscillated by lever *b*, in combination with levers D D', friction-roll d^3, spindle d^4, and bed-plate A, to which is adjustably attached the rest E, as drawn and described, and for the purpose set forth.

2. The arm B', with its saw-guides C C, oscillated by and in combination with arms or levers D D', spindle d^4, friction-roll d^3, swivel-piece B, and spring F, all arranged to operate within and upon the bed-plate A, as herein described.

3. The lever D, fulcrumed at *d*, and friction-roll *d'*, in combination with lever D', provided with set-screw d^3, slot d^2, spindle d^4, and friction-roll d^3, operating as herein described and set forth.

4. The swivel-piece B, journaled into the bed-plate at A', actuated by lever *b*, held in a position of rest by a suitable spring, F, all arranged for the purpose of oscillating the arm B', which may be adjustably fastened to swivel-piece B by means of set-screws *b'* and slots b^3, as herein described and set forth.

266,969. CHANDELIER FOR ELECTRIC CANDLES. CHARLES A. CHEEVER, New York, and WILLARD L. CANDEE, Brooklyn, N. Y. Filed May 3, 1882. (No model.)



Claim.—1. The combination, substantially as described, of the base-block K, the candle-holders B B', mounted thereupon, the supporting ring or block for said base-block, electric switches mounted in said supporting-block for completing the general circuit when the base-block is removed, and means, as described, connected to said base-block for operating said switches when the base-block is placed in position.

2. The combination, substantially as described, of the block or support K, the candle holder or holders B B', mounted thereupon, a supporting ring or block, an electric switch or switches mounted therein and connected to the two wires of the general circuit, and one or more studs or projections upon the block K, arranged, as described, to bear against and operate the movable portion of the switch or switches when the support K is placed in position.

3. The combination, substantially as described, of the base-block K, a candle-holder, B B', mounted thereupon, a supporting ring or block for said base-block, binding-posts, and a switch mounted in said supporting-block, means connected to the base-block for operating the switches, and circuit-closing plates or surfaces for completing the electrical connection to the candle-holder when the circuit through the electric switch is opened.

4. The combination, substantially as described, of the base-block K, posts L L' for the candle-holders, projecting plates or studs upon the base-block, electrically connected with the posts L L', and spring-switches mounted in the support for said base-block and arranged in the manner described, so that the projecting plates or studs will open the switches when the block is placed in position, and will simultaneously complete the connection to the candle-holders.

5. The combination, substantially as described, of the supporting-ring A, the spring-switches mounted therein and tending by their own elasticity to complete the connection between the two wires of the general circuit, the base-block K, supporting the candle-holders, and projections upon said base-block electrically connected to the candle-holders and arranged in the manner described, so as when the block is placed in position to bear against the spring-switches, thus breaking the circuit through the same and simultaneously completing a circuit to the candle-holder.

6. The combination, substantially as described, of a base-block, K, a candle-holder mounted upon the same, a contact plate, lug, or projection upon said block, electrically connected with one side of the candle-holder, a spring upon the support for said base-block, electrically connected to one of the general-circuit wires, and normally tending to make contact with a stop electrically connected to the other circuit-wire, said spring being arranged, as described, so that when the base-block is placed in position the contact plate, lug, or projection upon the same will bear against the spring, making connection with the same, and simultaneously removing said spring from its stop.

7. The combination, substantially as described, of the ring-support A, the binding-posts mounted therein, the springs G, connected to one binding-post of a pair, and adapted to make contact with a stop connected to the other binding-post of a pair, a contact plate, spring, or surface permanently connected to the latter, a supporting-block or base-piece for the candle-holders, and two contact lugs or projections for the two sides of each candle-holder, said lugs or projections being arranged, as described, so that when the block by which they are carried is placed in position one of them will make contact with the spring G and remove it from contact with its stop, while the other will come into contact with the plate, stud, or projection connected to the binding-post to which said stop is connected.

266,970. MANUFACTURE OF MAGNESIA. JEAN BAPTISTE MARIE PROSPER CLOSSON, Paris, France, assignor to Sidney Gilchrist Thomas, London, England. Filed Apr. 3, 1882. (No specimens.) Patented in France Aug. 17, 1881, in Belgium Sept. 2, 1881, in England Sept. 3, 1881, in Germany Sept. 8, 1881, and in Austria Oct. 11, 1881.

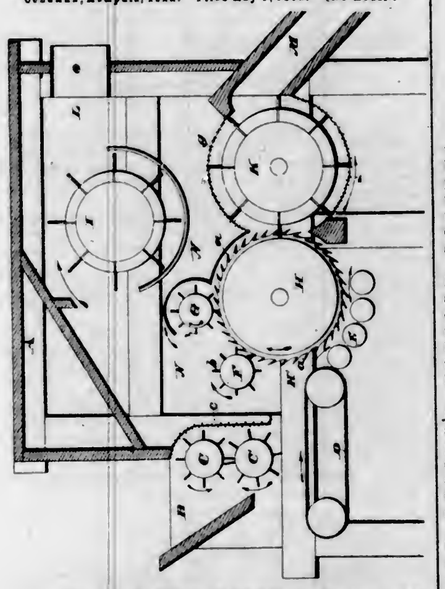
Claim.—1. The process of manufacturing magnesium chloride by heating crude or artificially-recarbonated dolomite with chloride-of-calcium solution, substantially as set forth.

2. The process of manufacturing magnesia, consisting of treating crude or artificially-recarbonated dolomite by digesting it with a solution of chloride of calcium and treating the resulting solution of chloride of magnesium by heating it with calcined dolomite or ordinary burned lime, substantially as herein described.

266,971. ARTIFICIAL FUEL. CAREL H. COGGESHALL, St. Louis, Mo. Filed Mar. 8, 1882. (No specimens.)

Claim.—An artificial fuel consisting of cinders, each saturated with tar and coated with sawdust, forming a fuel in a loose or non-compact condition, substantially as described.

266,972. SEED-COTTON-CLEANING MACHINE. WILLIAM O. COLEMAN, Memphis, Tenn. Filed May 5, 1882. (No model.)



Claim.—1. In a machine for cleaning and separating cotton, the combination, with the receiving-hopper and two cylinders journaled therein, and provided with spikes or beaters, of an endless apron arranged below said cylinders, and a series of rollers arranged under the saw-cylinder, substantially as set forth.

2. The combination, with the saw-cylinder, of a suitable number of rollers situated under the said cylinder, in close proximity thereto, and adapted to convey the heavier particles of refuse material from out of the machine, substantially as set forth.

3. The combination, with the saw-cylinder and an endless apron for delivering the seed-cotton and heavier particles of foreign matter to the saws, of the rollers E, situated under the saw-cylinder, and adapted to operate as described.

4. The combination, with the hopper, its contained cylinders, the endless apron, rollers E, and fan I, of the saw-cylinder adapted to take the seed-cotton from the endless apron, substantially as set forth.

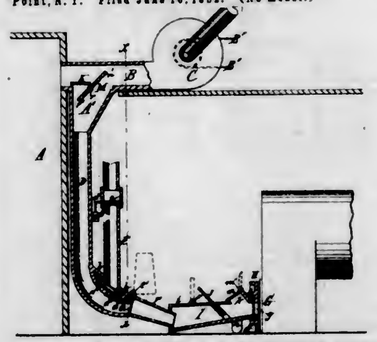
5. The combination, with the endless apron, rollers E, and the saw-cylinder, of the stripping-cylinder F, provided with nails or spikes adapted to pass between the saw-blades, substantially as set forth.

6. The combination, with the saw-cylinder, of the cylinder G, incased, as described, and provided with slotted metallic flanges *f*, constructed and adapted to operate in conjunction with the saw-cylinder, substantially as set forth.

7. The combination, with the hopper, endless belt D, rollers E, and saw-cylinder H, of the cylinders F and G and the fan I, all of said parts being adapted to operate as described.

8. The combination, with the hopper B, cylinders C C', endless belt D, rollers E, and saw-cylinder H, of the cylinders F G K and fan I, all of said parts operating substantially as described.

266,973. APPARATUS FOR FEEDING SHAVINGS TO STEAM-BOILER AND OTHER FURNACES. LEWIS P. CONKLIN, Green Point, N. Y. Filed June 16, 1882. (No model.)



Claim.—1. The combination of the chamber I, constructed with the plate or cover *i*, the opening *k*, and lid or cover *m*, and having the slide J, the fire-box G, the hood F, pivoted to the lower part of the pipe D, the said pipe D, the pipe E, connected therewith and having the valve *e*, the blast-pipe B, and a valve, M, arranged in relation with the said pipe B and the pipe D, the whole constructed and combined for joint use and operation substantially as and for the purpose herein set forth.

2. The combination of the pipe D, constructed with the openings *a'* at the inner side of its bend, the shell *b*, placed over the said openings, the escape-pipe E, having the valve *e*, and its lower end opening through the shell *b*, the blast-pipe B, and valve M, arranged to control the passage of air and shavings from the said blast-pipe to the said pipe D, and means substantially as described, for transmitting air and shavings from the said pipe D to the fire-box G, all substantially as and for the purpose herein set forth.

3. The combination of the plate H, constructed with the flange *f* and attached to the front of the fire-box G, the chamber I, constructed with the slide J, the opening *k*, and lid or cover *m*, the pipe D, the blast-pipe B, the valve M for directing the current of shavings and air from the said blast-pipe to the pipe D, and means, substantially as described, for transmitting the said current from the lower end of the pipe D to the chamber I, all substantially as and for the purpose herein set forth.

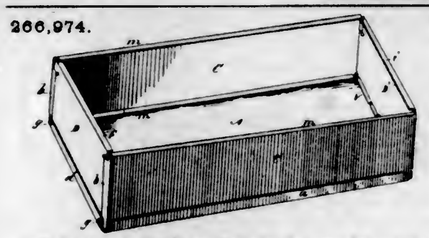
4. The combination of the laterally-movable slide K with the blast-pipe B, the pipe D, the valve M, arranged to direct the current of air and shavings from the pipe B to the pipe D, and means, substantially as described, for transmitting said current from the lower end of the pipe D to the fire-box G, all substantially as and for the purpose herein set forth.

266,974. LUNCH-BOX. ALLAN COX, Chelsea, Mass. Filed Sept. 20, 1882. (No model.)

Claim.—1. The combination of the hinged end pieces, D D', sides C, and cover B, the tops of the sides being level with the top of the end D', but lower than the end D, substantially as and for the purpose specified.

2. The ends D D', provided with the slots *x*, in combination

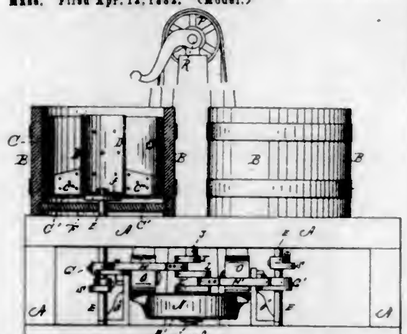
266,974.



with the hinged sides C, provided with the inwardly-projecting flanges *m b*, substantially as set forth.

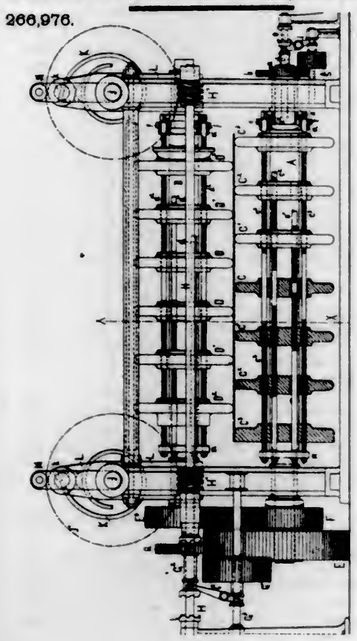
3. The bottom A, provided with the flaring flanges *a*, in combination with the hinged side pieces, C, cover B, and hinged ends D D', substantially as and for the purpose set forth.

266,975. WASHING-MACHINE. JAMES G. CRAWFORD, Boston, Mass. Filed Apr. 12, 1882. (Model.)



Claim.—In a washing-machine, the combination, with the reciprocating rotary tub or basket C, constructed substantially as described, of the central annular guard or tube, D, secured in said tub or basket, substantially as and for the purpose set forth.

266,976.



266,976. CORRUGATING-MACHINE. VITAL B. DARLEN, Berlin, Germany. Filed June 9, 1882. (No model.)

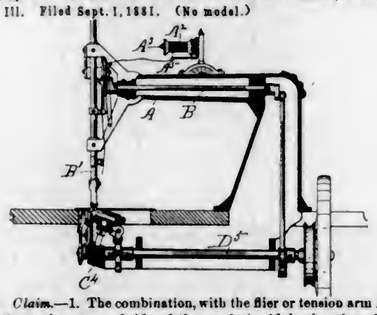
Claim.—1. In machines for the manufacture of corrugated plates and tubes, the combination, with a base consisting in a roller or a die, of movable corrugating rings or ledges and the screws *e e' e²*, &c., and *d d' d²*, &c., by which the said rings or ledges are shifted together during the formation of the corrugations transversely to the latter, substantially as and for the purpose described.

2. The combination, with the movable corrugating rings or ledges C C' C² D D' D², &c., of the rotating screws *e e' e² d d' d²*, &c., having different pitch, and operating on the said rings or ledges, substantially as specified.

3. The combination, with the roller B, provided with the movable rings D D' D², &c., and the screws *d d' d²*, &c., of the cam-disks K K, or the described equivalent cam-plates, acting on the bearings L L of the roller B, as hereinbefore set forth.

4. The combination, with the driving-gears, cam-disks K, or equivalent cam-plates, and the adjusting-screws *e e'*, &c., and *d d'*, &c., of reversing mechanisms consisting of a counter-shaft with two fixed coupling-boxes and a loose coupling-sleeve arranged to engage with either of these boxes, and carrying fixed thereon a toothed wheel, which, according to the position of the coupling-sleeve, gears with one or the other of two toothed wheels rotating in different directions, substantially as and for the purpose described.

266,977. SEWING-MACHINE. GEORGE S. DARLING, Chicago, Ill. Filed Sept. 1, 1881. (No model.)



Claim.—1. The combination, with the flier or tension arm A^3, of the stationary spool A^4 and the spool-pin A^2, having the collar *a* formed integral therewith, which is provided with spurs adapted to penetrate the end of the spool and secure the same in a locked position, substantially as described.

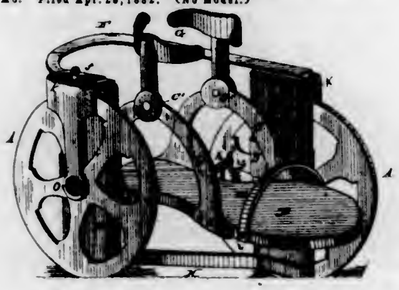
2. The combination, with the flier or tension arm A^3, of the spool-pin A^2, having the collar *a*, the elastic washers *a' a'*, the tension-spring A^4, and the adjusting-nut A^5, substantially as described.

3. The combination, with the rocking shaft B, of the double rocker-arm B^2 and the take-up arm or lever B^4, substantially as described.

4. In a sewing-machine, the needle-bar B', provided with the detachable part B^3, cut away at an oblique angle and adapted to receive a needle having a beveled upper end corresponding thereto, substantially as and for the purpose described.

5. The combination, with the main shaft D^2, of the crank D^4, the crank-pin D^5, the yoke D, the screw-rack C^2, the screw-wheel C^3, the arbor d^3, the shuttle-carrier C^4, and the bracket C^5, substantially as herein shown and described.

266,978. WHEEL-SKATE. NORMAN W. DARROW, Kansas City, Mo. Filed Apr. 28, 1882. (No model.)



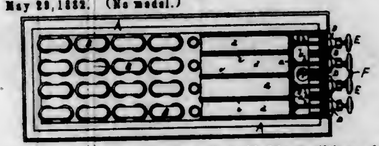
Claim.—1. The foot-rest of wheel-skates, when so constructed that the entire rest is raised up by the foot and forced down by the gravity or weight of the operator, as described, and for the purpose set forth.

2. The endless chain, in combination with the foot-rest of wheel-skates, as described, and for the purpose set forth.

3. The pawls, ratch, and spur-wheel *a*, in combination with the endless chain and foot-rest, as herein described, and for the purpose set forth.

4. In combination with the foot-rest, the sliding plate, as described, and for the purpose set forth.

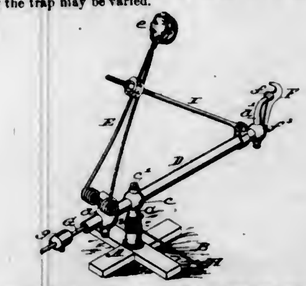
266,979. RADIATOR. THOMAS DAVIS, St. Paul, Minn. Filed May 29, 1882. (No model.)



Claim.—In a radiator, a base, A, divided by partitions *c* into a series of compartments, *d*, and by transverse partition *a* into an end compartment, *b*, in combination with independent rows of pipes B, opening into compartments *d*, supply-pipe F, and valves *g*, passing through compartment *b*, and controlling communication between compartments *b* and *d* through partition *a*, substantially as set forth.

266,980. BALL-TRAP. ARCHIBALD G. EASTON, Sedalia, Mo. Filed June 21, 1882. (No model.)

Brief.—The trap is sprung by the centrifugal force of a weight attached to a sliding rod arranged in the tubular arm of the trap, to which rod the trigger is connected. The weight is adjustable, so that the speed of rotation necessary to impart the requisite force to spring the trap may be varied.



Claim.—1. The tube D, carrying the spring-arm, and mounted and operated as described, and having at one end the standard *d'*, to which the trigger F is jointed, combined with the rod G, which is movable centrally within said tube, and has a weight, *g*, at its other end, substantially as described.

2. The combination of the revolving post C, mounted, as described, on base A, and having eye *c*, with the tube D, carrying the spring-arm, and the trigger and set-screw *c'*, whereby said tube can be revolved and adjusted longitudinally, substantially as set forth.

3. The combination of the rod G, having weight *g* on one end and trigger F on the other, with the tube D, carrying the spring-arm, and the standard *d'*, substantially as set forth.

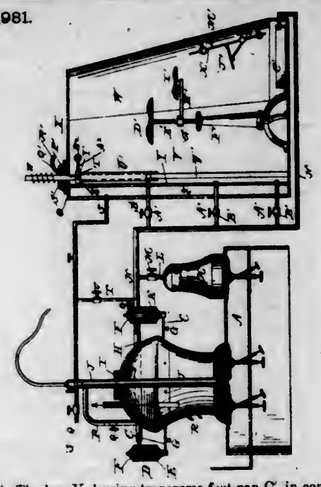
266,981. APPARATUS FOR BATH PURPOSES. LOWELL M RUBEY, Louisville, Ky. Filed June 30, 1882. (No model.)

Claim.—1. The combination, with the vessel B, having pipes or brackets C, of the vessels D, supported upon the same, and connected with a circular discharge-pipe, as set forth.

2. The vessel B, having radiating pipes C, provided with stop-cocks G, in combination with the vessels D, supported upon said brackets, and having perforated bottoms or strainers E and removable caps or covers F, said vessels D being connected with a discharge-pipe, as set forth.

3. The combination and arrangement, as described, of the vessel B, having pipes C, vessels D, discharge-pipe H, connecting said vessels with vessel K, having pipe L, discharge-pipe N, connecting the pipes H L, steam-pipe S, connecting-pipe T, and suitable regulating and stop cocks, as set forth.

266,981.



4. The box V, having transverse foot-pan C', in combination with the pipe N, being the discharge-pipe from the vapor-generators, said pipe opening into the foot-pan C', and having branches opening into the body of the box, as set forth.

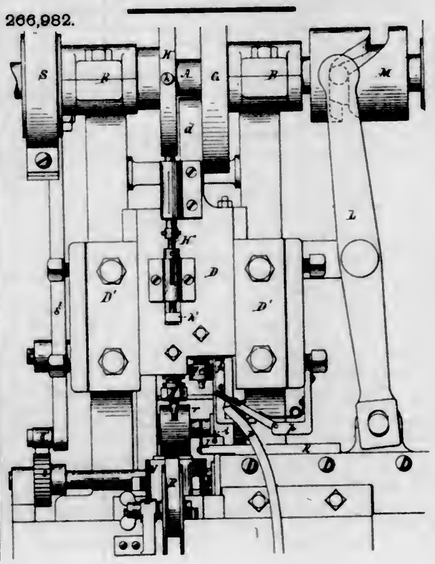
5. The combination, with the bath-box V, of the seat D', having screw-stem E', by which it is adjustable in a socket or upright, F', secured to the floor of said box, and the sleeve G', adjustable upon stem E', and having an arm, H', carrying foot-rest I', as set forth.

6. The bath-box V, having vertically-adjustable seat D', in combination with a foot-rest adjustable upon a rod secured by brackets to the inclined front end of said box, as set forth.

7. The combination, with the bath-box having opening O', surrounded by a flanged sleeve or collar, P', of the revolving disk Q', the vertically-sliding rod T', having tube U', the guide-rod V', spring W', and a sponge-holder adjustable upon tube U', all arranged substantially as set forth.

8. The combination of the bath-box, the vertically-sliding rod T', having tube U', the guide-rod V', spring W', adjustable sleeve Y', having arm A', carrying sponge B', and means for turning the rod T' in its bearings, as and for the purpose set forth.

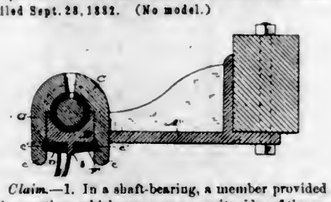
266,982.



266,982. MACHINE FOR MAKING ROLLER-CHAIN UNITS. SILAS M. FIELD and WILLIAM HALEYARD, Providence, R.I., assignors to Henry A. Church, same place. Filed Feb. 20, 1882. (No model.)

Claim.—The combination, with the anvil having the collet-carrying pin *i*, of the hinged fork O and channel P, mechanism for moving the anvil laterally into position for the fork to embrace said pin, and devices for raising said fork, substantially as and for the purpose set forth.

266,983. JOURNAL-BOX. JOHN M. FISCH, Jackson, Mich. Filed Sept. 28, 1882. (No model.)

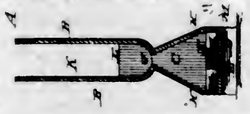


Claim.—1. In a shaft-bearing, a member provided with projecting portions which pass upon opposite sides of the second member, and a locking device permanently attached to said second member, substantially as set forth.

2. In a shaft-bearing, a member provided with mortises or recesses and having a locking device permanently attached thereto, in combination with a member having projecting legs which enter said mortises or recesses and are adapted to engage with the locking device, substantially as set forth.

3. In a shaft-bearing, the combination, with the locking-button and its pivotal parts, of the friction-stop, adapted to prevent accidental displacement of the button, substantially as set forth.

266,984. DEVICE FOR HEATING TIRES. WILLIAM H. FREY and JAMES H. FREY, Erie, Pa. Filed Feb. 24, 1882. (No model.)



Claim.—1. The herein-described segmental box A, having its bottom D provided with an opening, E, surrounded by a flange, F, as set forth.

2. The segmental box A, having its bottom D provided with slot E, surrounded by a flange, F, and the ridges G, as set forth.

3. The segmental box A, having oil-receptacle I, draft-openings E H, sides B, contracted so as to form a throat, J, above which they are expanded to form a heating-chamber, K, and ends C, terminating a short distance above throat J, so as to form rests or supports L, as set forth.

4. The combination, with the herein-described segmental tire-heaters, of the ring or disk N, having annular grooves O, as and for the purpose set forth.

266,985. MIDDLINGS-PURIFIER. LOUIS GATHMANN, Chicago, Ill. Filed July 21, 1882. (No model.)

Claim.—1. In a middlings-purifier, the combination of a screen, a wooden shaft or shafts arranged to revolve in proximity thereto, a series of beaters, B, made of flexible material, each constructed with a metal eyelet, *t*, and staples adapted to secure said beaters upon said shafts, substantially as described and shown.

2. The combination of flexible beaters B, shafts A A′, bars C C, connecting brace-bars *c c′*, grooved or flanged end wheels, *a*, and guide-rails D, all substantially as and for the purpose set forth.

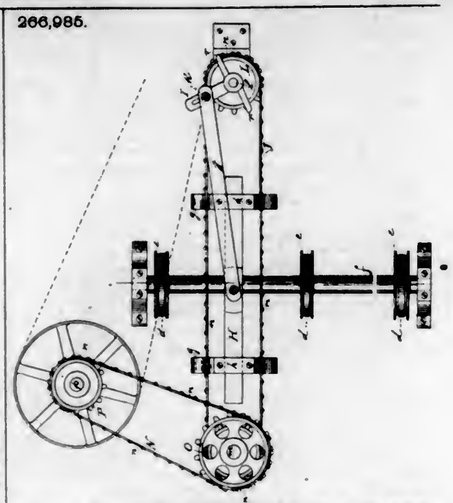
3. The combination of the flexible beaters B, shafts A A′, grooved or flanged end wheels, *a*, guide-rails D, endless belt *d*, pulleys *e*, and oscillating shafts *f*, substantially as described, to operate as specified.

4. The combination of shafts A A′, flexible beaters B, frames C *c c′*, guide-rails D, endless belts *d*, pulleys *e*, upright shafts *f*, strap or belt *i*, and reciprocating bar H, all constructed and arranged substantially as described and shown.

5. The combination, with screen R, a cloth-cleaner frame below said screen, oscillating shaft *f*, pulley *e*, belt *i*, and bar H, of pitman *j*, crank I, constructed with arms *r r*, sprocket-wheels L M, and endless chain J, constructed with lugs *n*, substantially as set forth.

6. The combination, with the screen, the cloth-cleaners arranged to reciprocate thereunder, the sliding bar H, and means for transmitting motion from said bar to said cleaners, of pitman *j*, crank I, having arms *r*, sprocket-wheels L M, and chain J, constructed with lugs *n*, adapted to engage alternately the arms *r r*, all constructed and arranged substantially as set forth.

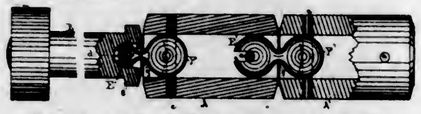
266,985.



7. The combination, with reciprocating frames C *c c′*, of shaft *f*, sliding bar H, adapted to impart oscillation thereto, pitman *j*, crank I, having arms *r r*, sprocket-wheels L and M, the latter having projections *o*, endless chain J, having lugs *n*, adapted to engage arms *r r*, sprocket-wheels O P, and endless chain N, having lugs *n*, the whole being constructed and arranged substantially as set forth, to operate as specified.

266,986. SECTIONAL ROLL FOR COTTON-OPENERS. HIRAM C. GILMAN, Lowell, Mass., assignor to Alfred Clarke and Haven C. Perham, same place. Filed May 23, 1882. (No model.)

Brief.—The roll is composed of a series of sections connected together by universal joints, said sections as a whole being also connected with a driven shaft by a universal joint, whereby the roll is driven positively.

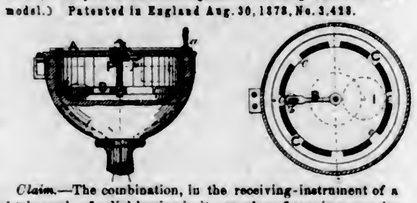


Claim.—1. A sectional roll for a cotton-opener having its sections connected together by universal joints, substantially as described.

2. A sectional roll for a cotton-opener, provided with universal joints connecting its several sections, and with a universal joint connecting it with a driven shaft, whereby the roll is driven positively by the shaft, substantially as described.

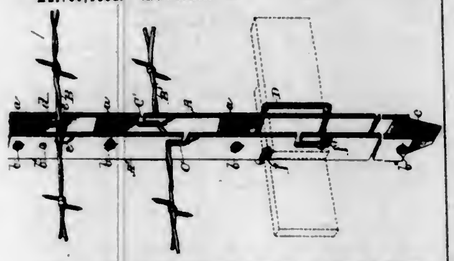
3. A sectional roll for cotton-openers, provided with a driving-shaft, and having each of its sections connected thereto by one or more couplings, substantially as described.

266,987. SHIP-TELEGRAPH. JOHN S. GIBBONS, Charing Cross, County of Middlesex, England. Filed Aug. 31, 1880. (No model.) Patented in England Aug. 30, 1878, No. 3,428.



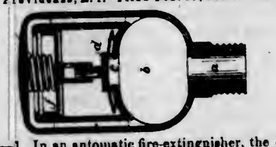
Claim.—The combination, in the receiving-instrument of a dial-telegraph, of a dial having in it a number of openings, a series of screens arranged below or behind said dial, pivoted arms to which said screens are fixed, electro-magnets whereby any one of said screens may be moved to cause it to appear opposite an opening in the dial, a ring comprising notches which receive said pivoted arms to lock said screens, and an electro-magnet for moving said ring to release said screens and arms, substantially as specified.

266,988. FENCE. WILLIAM GLEASON, Milwaukee, Wis. Filed Mar. 30, 1882. (No model.)



Claim.—The combination of the two parallel bars A A′, provided with angular recesses C C′, with the interposing blocks *a*, retaining-bolts *b*, and wire cables B, all substantially as and for the purpose specified.

266,989. AUTOMATIC FIRE-EXTINGUISHER. FREDERICK GUISBELL, Providence, R.I. Filed Feb. 20, 1882. (No model.)

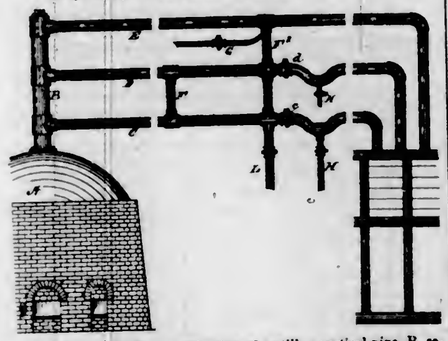


Claim.—1. In an automatic fire-extinguisher, the combination, with a valve held to its seat by the pressure of the fire-extinguishing fluid, of a piston acted upon by the internal pressure, constructed to operate as and for the purpose described.

2. An automatic fire-extinguisher consisting of a valve acted upon by the internal pressure and a piston connected with the valve and arranged to hold the valve to its seat until by the action of the heat the device holding the valve is released and the valve is opened by the pressure of the fire-extinguishing fluid.

266,990. APPARATUS FOR SEPARATING PETROLEUM VAPORS. WILLIAM C. HALL, Oil City, Pa., assignor of one-half to Benjamin F. Brundred, same place. Filed July 19, 1881. (No model.)

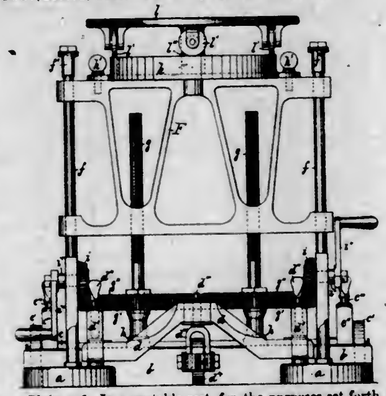
Brief.—May be used to obtain paraffine.



Claim.—1. The combination of a still, a vertical pipe, B, secured to the top thereof, a series of pipes, C D E, connected at different heights to the pipe B, and united together again at a distance from the still, with a steam-pipe connected with the uppermost pipe, E, cocks *c d*, and traps H, upon the lower pipes, C D, leading from the still, substantially as and for the purpose described.

2. The combination of a still, a pipe, B, secured to the top thereof, a series of pipes connected at different heights to the pipe B, and united together by means of a suitable pipe, L, with a tank, L′, and steam-pipe O, to lead a jet of steam toward said tank, substantially as and for the purpose described.

266,991. PORTABLE DRILL AND FORGE REST. JOHN HATHAWAY, Boston, Mass. Filed May 25, 1882. (No model.)



Claim.—1. In a portable rest, for the purposes set forth, the bottom frame, *a a b*, the stationary vertical guide-posts *f f*, the vertically-adjustable frame F, and one or more screw-shafts, *g g*, gear-wheels *g′ g″*, *g′ g″*, and pinions *i i*, with crank or cranks *i″ i″*, combined and arranged as specified.

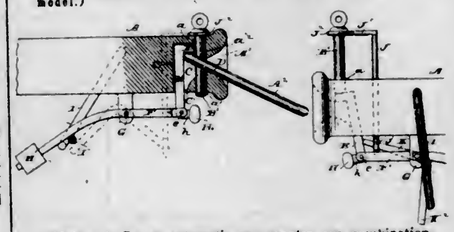
2. In a portable rest, for the purposes set forth, in combination with the bottom frame, *a a b*, vertical guide-posts *f f*, and vertically-adjustable frame F, the circular rail-plate *k* and rotary table *l*, with its rollers *l′ l′*, as described.

3. In a portable rest, for the purposes set forth, the combination of vertical posts *f f*, vertically-adjustable frame F, circular rail-plate *k*, the rotary table *l′ l′*, and swivel-rest *n n′ n″*, as herein described.

4. In a portable rest, for the purposes set forth, the combination of vertical guide-posts *f f*, vertically-adjustable frame F, brackets *o o*, and roller *o″*, as described.

5. In a portable rest, for the purposes set forth, the combination of the lower frame, *a a b*, vertically-adjustable axle *c*, with its slotted bearings *c″ c″*, wheels *c′ c′*, and regulating-screws *c‴ c‴*, and forward vertically-adjustable axle, *d*, with corresponding slotted bearings, *d′ d′*, regulating-screws *d″ d″*, and swivel-wheel *d*, supported in forked spindle-piece *d‴*, as described.

266,992. CAR-COUPLING. WILSON F. HEATH and MAX NIEDLINGER, Fort Wayne, Ind. Filed Sept. 27, 1882. (No model.)



Claim.—1. In an automatic car-coupler, the combination, with the draw-head, having the recess C to receive the inner end of the link, of the hooked arm or bar E E′, passing through the lower side of the draw-head, and arranged loosely therein to slide vertically on substantially straight lines, and the means attached thereto below the draw-head, and extending to the sides of the car, for drawing down the inner end of the link, substantially as set forth.

2. The combination, with the draw-head, having the recess C, the link, and the coupling-pin, of the rising and falling and swinging hooked bar E E′, the weight H, arranged to swing said bar forward, and the weight H′, arranged to move said bar upward, substantially as set forth.

3. The combination, with the draw-head, having the recess C behind the coupling-pin, and the slot or groove C' behind said recess, and extending through the bottom of the draw-head, of the bar or arm E, situated in substantially the same longitudinal plane of the draw-head as the coupling-pin, and extending through the bottom of the draw-head in the slot C', wherein it slides on substantially straight lines vertically, means for automatically swinging outward the upper end of said bar to hold the coupling-pin up, and mechanism attached to said bar or arm E below the draw-head, and extending to the side of the car, for sliding it up and down, through the bottom of the draw-head, to guide the end of the link vertically, substantially as set forth.

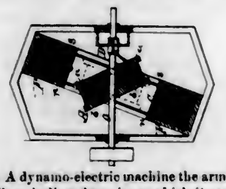
4. The combination, with the draw-head, having the aperture C behind the coupling-pin, of the rising and falling and swinging bar E E', the weighted arm A, carried thereby, the weighted lever F, pivotally connected thereto, and the means extending to the side of the car for elevating the inner end of said weighted lever F, substantially as set forth.

5. The combination, with the draw-head, having a recess to permit the vertical swinging of the inner end of the link, of the hooked bar E, arranged to swing forward to hold the pin up, and to be swung backward by the entering link to permit the pin to drop, means for automatically engaging said bar E loosely with the inner end of the link, and the means, extending to the side of the car and loosely connected to said bar E below the draw-head, to pull downward the inner end of the link, substantially as set forth.

6. The combination, with the pin-lifting devices and the link-guiding devices, of the crank-levers extending to the sides of the car, and adapted to operate alternately the pin-lifting devices and the link-guiding devices, substantially as set forth.

7. The combination, with the coupling-pin and the devices for elevating the pin from the side of the car, of the swinging bar E' within the draw-head, and provided with a weight arranged, substantially as set forth, to lock the pin in its uppermost position after being elevated by said devices.

266,993. DYNAMO-ELECTRIC MACHINE. PAUL JABLOCHKOFF, Paris, France. Filed Sept. 6, 1882. (No model.) Patented in France May 2, 1882, and in England June 13, 1882, No. 2,768.



Claim.—1. A dynamo-electric machine the armature of which consists of a coil encircling the axis on which it revolves, and arranged in a plane inclined to said axis, substantially as and for the purposes set forth.

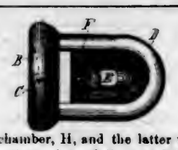
2. The combination, to form a dynamo-electric machine, of an armature consisting of a coil encircling the axis on which it revolves, and wound on a soft-iron spool the opposite ends or cheeks of which become its poles, and fixed on its rotary spindle in a plane inclined relatively to the axis thereof, with a field-magnet the fixed poles of which are arranged in proximity to the opposite poles of the armature, substantially as set forth.

3. In a dynamo-electric machine, an armature consisting of a coil wound on a soft-iron spool, which is fixed on its spindle with its axis crossing the axis of revolution of the spindle at an angle, in combination with a field-magnet consisting of a larger coil encircling the armature, and fixed in a plane identical, or nearly so, with that of the armature-coil at one point in the revolution of the latter, substantially as set forth.

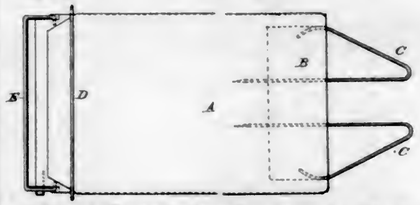
4. The combination of an armature consisting of a coil wound on a soft-iron spool and mounted on a spindle whose axis of rotation passes through the coil at an angle to the central axis thereof, with a solenoid field-coil encircling the armature, and arranged in an inclined plane identical, or nearly so, with that of the armature at some one point in its revolution, and with commutators arranged to cause a continuous current to traverse the armature-coil and an alternating current to traverse the field-coil, substantially as set forth.

266,994. UTERINE SUPPORTER. ELI JAMES, Pickering, Mo. Filed May 26, 1882. (No model.)

Claim.—The uterine supporter constructed as herein described, having an outer and inner vessel, D E, the former provided with an air-chamber, H, and the latter with a foramen, F, arranged and operating substantially as and for the purpose set forth.



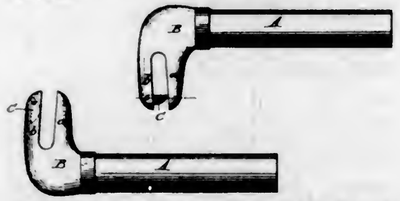
266,995. IRONING-BOARD. M. WOODBURN JAMES, Decatur, Ill., assignor to John T. Hand, same place. Filed Apr. 10, 1882. (Model.)



Claim.—1. The combination, with the board A, having a slot or mortise, B, in one end, of the self-adjusting springs C C, one end of each being secured in the board and the other end left free to move in said slot or mortise B.

2. The combination, with the board A, of the pivoted stretchers D and E, the stretcher E being smaller than stretcher D, both being arranged as described, whereby the stretcher D will pass by the stretcher E, as and for the purpose specified.

266,996. KNOT-TYING DEVICE FOR GRAIN-BINDERS. NATHAN JEWETT, Toledo, Ohio, assignor of one-half to William H. Gray and Alphonso E. Reed, same place. Filed June 26, 1882. (No model.)



Claim.—1. In a tyer-head, two rotary rigid tying-fingers lying transversely of the axis of rotation, in combination with an intermediate gravitating cord-retaining latch or dog, substantially as described.

2. In a cord-tyer, the combination of the revolving spindle, the two rigid tying-fingers extending laterally from its end, and a gravitating latch, substantially as described, operating to close the space between the outer ends of said fingers.

3. In a cord-tyer, the combination of two rigid tying-fingers revolving in a substantially vertical plane, and an intermediate gravitating latch pivoted within the outer end of one of said fingers, as described and shown.

4. A cord-tying head revolving in substantially a vertical plane, and provided with an opening to admit the cord, in combination with a gravitating cord-retaining device carried thereby to close said opening, substantially as shown.

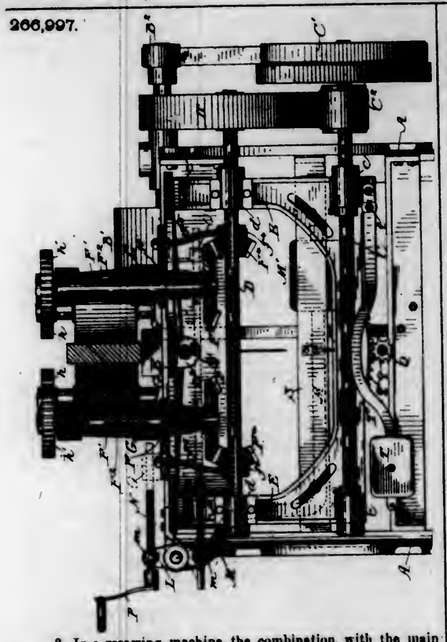
5. The combination of the spindle A, the rigid laterally-projecting fingers *a* and *b*, and the latch C, pivoted in a recess in the inner face of the finger *b*, as described and shown.

266,997. RESAWING-MACHINE. RICHARD B. JONES, Chicago, Ill., assignor of two-thirds to Ransom Richards and George F. Wetherell, both of same place. Filed July 14, 1882. (No model.)

Claim.—1. In a resawing-machine, the combination, with the main frame of the machine, of a tilting frame carrying the feed-rolls, the axle of the tilting frame being sustained at both ends in said main frame, substantially as described.

2. In a resawing-machine, the combination, with the main frame and a tilting frame carrying the feed-rolls, and having a rack-bar, of a pinion to engage therewith, operated from the machine-front, substantially as described.

266,997.

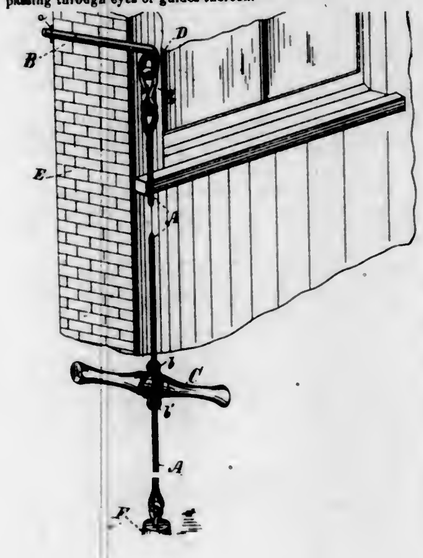


3. In a resawing-machine, the combination, with the main frame and the tilting frame, of a cross-bar extending entirely across the main frame, and adapted to strengthen the same, and afford a broad bearing-surface, against which the tilting frame may be directly clamped, substantially as described.

4. In a resawing-machine, the combination, with the main frame A, of the tilting frame E, carrying feed-rolls, and the sustaining-axle *e* whereof is journaled at both ends in said main frame, the rack-bar *q'*, secured to said tilting frame, the pinion *q*, cross-bar S, and clamp-wheels R, substantially as described.

266,998. FIRE-ESCAPE. JOHN E. JUDD, New York, N. Y. Filed May 23, 1882. (No model.)

Brief.—The lowering-rope is looped around a horizontal bar, passing through eyes or guides thereon.



Claim.—A fire-escape consisting of a rope or chain, A, provided with means of attaching one end thereof to a building or other object, and the horizontal bar C, connected with said rope or chain by the same being looped around said bar, and passing through eyes or guides *b b'*, secured to said bar, all constructed and arranged and combined as and for the purpose described.

266,999. BED-BOTTOM. EZRA W. KEELER, New York, N. Y. Filed July 18, 1882. (No model.)



Claim.—1. In a bed-bottom, the combination, with a series of slats, of a flexible bolt or bolts for uniting the parts together and permit of being folded or rolled together, substantially as set forth.

2. In a bed-bottom, the combination, with a series of slats, of one or more flexible bolts adapted for adjustment, whereby the width of the bottom may be varied, substantially in the manner and for the purpose set forth.

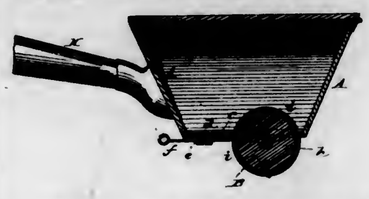
3. In a bed-bottom, the combination, with a series of slats adapted to form a base and an upper adjustable surface, substantially such as described, of spiral supporting-springs with connecting-caps for adjustment, substantially as and for the purpose set forth.

4. A bed-bottom with a base consisting of a series of slats flexibly and adjustably connected by one or more bolts, substantially as described, an upper adjustable surface composed of crimped cross-wires supported and held in position by a series of coiled springs, substantially as set forth.

5. A bed-bottom provided with a series of slats connected by one or more flexible bolts, adapted to be expanded or contracted by said bolt or bolts, and the intersecting nuts, or strips of metal, attached to said slats, substantially as described.

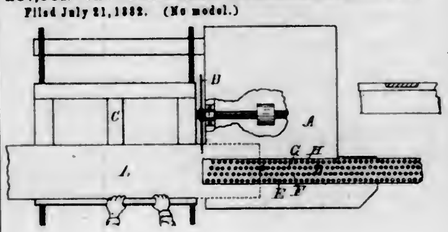
6. A bed-bottom consisting of an adjustable base composed of a series of slats and an upper surface supported by elastic springs, and adapted to expand and contract in conjunction with the base, substantially as and for the purpose set forth.

267,000. PASTE-DISTRIBUTER. WILLIAM M. KENNEDY, Dixon, Ill. Filed Jan. 7, 1882. (No model.)



Claim.—As a portable hand implement, a paste-distributer consisting of the box A, handle H, and wheel B, in combination, the wheel B being provided with a groove, *h*, and the box A being provided with the gate *f* and rubber packing or wipers *e e*, substantially as shown, and for the purpose named.

267,001. SAW-TABLE GAGE. JOHN KIRK, Cincinnati, Ohio. Filed July 21, 1882. (No model.)



Claim.—1. A gage for saw-tables, composed of a plate permanently secured to the stationary part of a saw-table, having therein on a line parallel with the saw-mandrel four rows of holes, which alternate regularly with each other, as described, in combination with a center pin adapted to be placed in said holes and a roller placed thereon, and with the reciprocating table and saw, substantially as and for the purpose herein shown.

2. A gage for saw-tables, composed of a center pin adapted to be placed in suitable holes in the plate or table, carrying rollers or spools which regularly increase in size with respect to each other, in combination with the reciprocating table and with the saw, substantially as and for the purpose herein set forth.

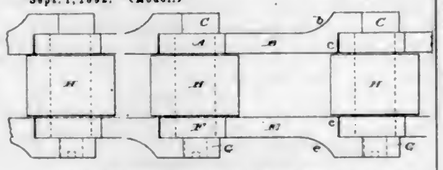
3. The plate D, secured permanently to the saw-table, and having the perforations, as shown, at regular intervals and alternating, in combination with the removable center pin, I, having the rollers K, of varying sizes, and with the reciprocating table and saw, substantially as and for the purpose herein shown.

267,002. APPARATUS FOR TAKING VAPOR AND HOT-AIR BATHS. JOHN M. LAFLIN, New York, N. Y. Filed May 19, 1882. (No model.)



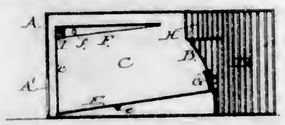
Claim.—The cloak A, having the openings *a a'*, and constructed so as to entirely or nearly entirely isolate the atmosphere around the person wearing it, in combination with the detachable bag or air-cushion B *b*, all adapted to serve substantially as and for the purposes herein specified.

267,003. CHAIN. SAMUEL C. LOCHNER, Columbus, Ohio, assignor of two-thirds to Francis M. Lochner, same place. Filed Sept. 1, 1882. (Model.)



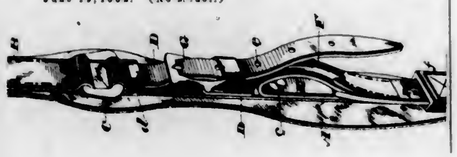
Claim.—The combination, with the side bar A B C and end bar, D, provided with pintle *d* and spur *d'*, of the bar E F G, provided with the opening to receive the pintle, and having the notch *g*, substantially as set forth.

267,004. ANIMAL-TRAP. WILLIAM LUBER, Seward, Nebr. Filed Aug. 28, 1882. (No model.)



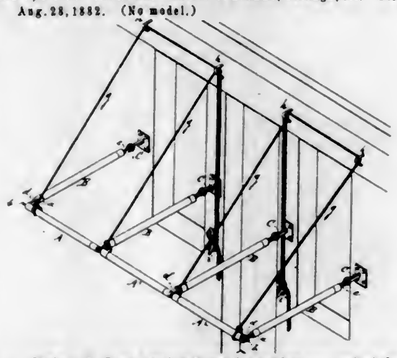
Claim.—In a self-setting animal-trap, the oscillating platform E, provided at its rear end with the curved plate or door G and on its front with the connecting-rods *c c*, in combination with the swinging door F, provided with the weight I, the curved partition B, provided with the opening *b*, and the chamber D, provided with the bait-box H, all constructed and arranged to operate substantially as and for the purpose set forth.

267,005. TUG-SLIDE. JOHN G. LENTZ, Hiawatha, Kans. Filed June 19, 1882. (No model.)



Claim.—The combination, with the saddle-skirt A, strap B, and attaching-loop C, of the tug-loop E, facing-strap F, and straps H and D, secured together at their lower ends, and buckle G, secured to the upper end of the facing-strap, said strap D being rigidly secured to the tug-loop and extending up through the loop C and adjustably secured by the buckle G, substantially as set forth.

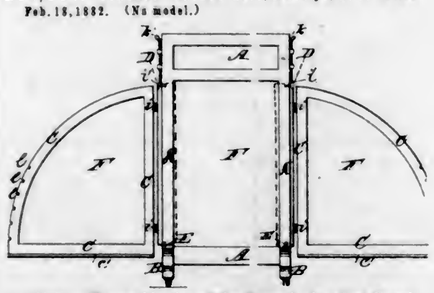
267,006. AWNING. JONAS C. LJUNGL, Chicago, Ill. Filed Aug. 28, 1882. (No model.)



Claim.—1. In an awning-frame the wooden cross-rods A, having ferrules *a*, the iron studs *b*, each having one end pointed and its opposite end screw-threaded and provided with the screw-nuts *c*, in combination with the wooden stretcher-rods B, having at each end a ferrule, *a*, and eye-headed pin *d*, all substantially as and for the purpose specified.

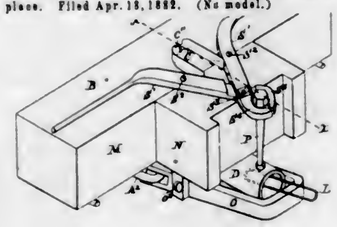
2. An awning-frame composed of wooden cross-rods A A' A', each having ferrules *a* at their ends, and being connected by screw-studs *b* and nuts *c*, and of wooden stretcher-rods B, having ferrules *a* and pointed eye-pins *d* and *e*, one of which being passed over the stud *b* and the other ones forming hinge-connections with the bifurcated wall-brackets C, having eyes and bolts or pins *f*, the whole being constructed and arranged substantially in the manner described and shown.

267,007. SCREEN. ARTHUR LOTT, Brooklyn, N. Y. Filed Feb. 18, 1882. (No model.)



Claim.—The combination of the frame A, the wings F, and the strips D, the wings F being hinged to the strips D, and the strips D engaging with the sides of the frame A, substantially as and for the purposes set forth.

267,008. CAR-COUPLING. GEORGE MARSELLIS, Meehanicsville, N. Y., assignor of one-fourth to John Caleb Green, same place. Filed Apr. 18, 1882. (No model.)

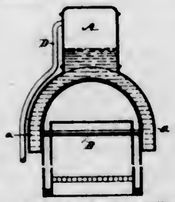


Claim.—1. In a car-coupling device, the combination of the shear-arms S' S', pivoted to the car platform or floor separately, and also pivoted to each other by means of a slotted shear-joint provided with jaws to produce the tongs-clutch S', and the spring C, arranged between the shear-arms, the whole constructed and arranged to hold and release the coupling-pin in the manner herein described and set forth.

2. In a car-coupling device, the combination of a U-form lever having its side arms each journaled to a jointed standard or hanger, and slotted at each of its ends to receive motion from a crank-shaft journal working in said slots at each side, a crank-shaft upon each side of said lever, having bearings in jointed standards or hangers, and a crank upon the inner end of each shaft, which journals into the adjoining slot in said lever to actuate the latter, and motor-cranks upon the outer end of each crank-shaft, arranged to operate as and for the purposes set forth.

3. A car-coupling device consisting, in combination, of a tongs-clutch actuated by shear-arms that are pivoted to the car platform or floor and by a slotted shear-connection with each other, the spring C, arranged between the shear-arms, the U-form lever O, the crank-shafts A' A', having journals in jointed stnds or hangers, the inner cranks, A' A', and the outer cranks, A' A', constructed to operate as and for the purposes herein set forth.

267,009. DEVICE FOR HEATING RAILROAD-CARS. WILLIAM MARTIN, Tidioute, Pa. Filed May 12, 1882. (No model.)



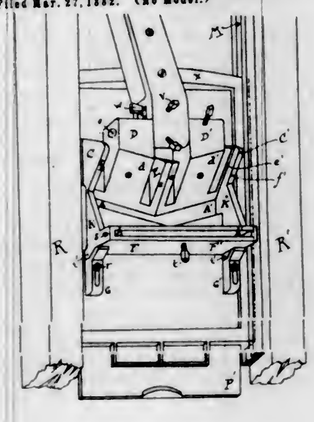
Claim.—1. In a device for heating railway-cars, a tank or reservoir secured to and partially surrounding the engine-boiler, for holding or collecting the steam supplied by water-pipes located in the top of the furnace, substantially as described, and for the purpose set forth.

2. In a device for heating railway-cars, the tank or reservoir A, provided with extensions *a*, which partially surround the boiler of the locomotive, in combination with the pipes B B, located in the upper portion of the furnace, connecting the said extensions *a*, and forming a continuous conduit for the generation and passage of steam to the reservoir, as set forth.

3. In a device for heating cars by steam, the combination of the tank or reservoir A, mounted on the engine-boiler, with the pipes B and D, as set forth.

4. In a device for heating railway-cars by steam, the combination of the tank or reservoir A, for collecting and holding the steam, secured to engine, with the pipes B D E and universal coupling F.

267,010. EXCELSIOR-MACHINE. HENRY R. MATHIAS, Athens, Ohio. Filed Mar. 27, 1882. (No model.)



Claim.—1. In an excelsior-machine, the combination of a detachable spur-block with a double-bladed angled shaving-edge and a strap-joint having an adjustable bearing-block, substantially as described.

2. In an excelsior-machine, the combination of a knife-plate having an apron with a detachable spur-block, a double-bladed angled knife, and a strap-joint with adjustable bearing-block, substantially as described.

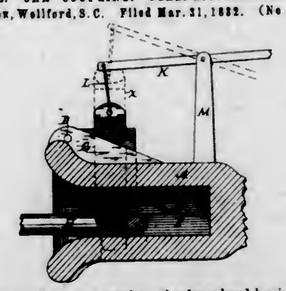
267,011. PAD FOR HORSE-COLLARS. EDWARD L. MCCLAIN, Greenfield, Ohio. Filed Aug. 11, 1882. (No model.)



Claim.—1. As an attachment to a horse-collar pad or other harness-pad, and as a means of adjustably attaching a pad to a horse-collar or other part of harness, the elastic single-roll or single-curved spring S, constructed, arranged, attached, and operating substantially in the manner shown or described, and for or with the purposes set forth.

2. The combination, with a horse-collar pad, of elastic single-roll or single-curve spring S, substantially in the manner shown or described, and for the purposes set forth.

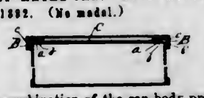
267,012. CAR-COUPLING. JAMES D. NORMAN and WILLIS A. BURSON, Wellford, S. C. Filed Mar. 31, 1882. (No model.)



Claim.—1. In car-couplers, the draw-head having the slot B in the upper wall and the ribs or enlargements C, in combination with the sheath E, having the pin-apertnre F and shoulders G, hinged to the draw-head, and the pin, substantially as and for the purpose herein shown.

2. In car-couplers, the draw-head having the slot B and enlargement C, in combination with the sheath E, having the pin-aperture F, and shoulders G, hinged thereto, and with the pin J, spring P, and link H, substantially as and for the purpose herein shown.

267,013. SHEET-METAL CAN. EDWIN NORTON, Chicago, Ill. Filed Sept. 30, 1882. (No model.)

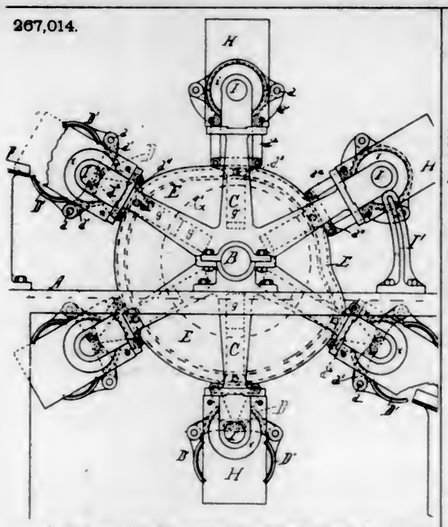


Claim.—The combination of the can-body provided with an interior flange with a seamless ring, having its inner edge folded or crimped over said flange on the can-body, and a slip-cover having a depending flange, over which flange is folded or crimped the outer edge of said seamless ring, whereby the can may be closed tight and at the same time admit of the cover being readily removed without injury thereto, substantially as specified.

267,014. MACHINE FOR PUTTING ON THE ENDS OF FRUIT AND OTHER CANS. EDWIN NORTON, Chicago, Ill. Filed June 24, 1882. (No model.)

Claim.—1. In a machine for applying to can-bodies heads fitting outside the same, the combination of a device for sizing the exterior diameter of the can-body to conform to the interior diameter of the can-head and holding the same so sized while the head is applied, said sizing and holding device having its end enlarged to fit the exterior diameter of the can-head, so as to leave an annular space between it and the can-body for the reception of the flange of the can-head, with a device for forcing the can-head into said annular space, and thereby applying the head outside the can-body, substantially as specified.

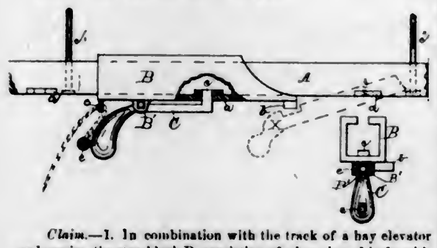
267,014.



2. In a machine for applying to can-bodies heads fitting outside the same, the combination of a chute or device for delivering the can-bodies to the machine, with a movable device for clamping the can-body and sizing its exterior diameter to conform to the interior diameter of the can-head, said clamping and sizing device having its end or mouth enlarged to leave an annular space between the same and the can-body clamped therein for the reception of the flange of the head, a chute or device for delivering the can-heads to the machine, and a device for forcing the can-head into said annular space at the end of said clamping and sizing device, substantially as specified.

3. In a machine for simultaneously applying the heads to both ends of a can, the combination of a series of movable devices for clamping the can-body and sizing its exterior diameter to conform to the interior diameter of the can-heads, said clamping and sizing devices having enlargements at each end or mouth for the reception of the can-heads outside the can-body, with devices for simultaneously forcing the can-heads on each end of the can-body into the annular spaces at each end thereof between the can-body and said clamping and sizing device, substantially as specified.

267,015. ADJUSTABLE STOP-BLOCK FOR HAY-CARRIERS. JAMES H. PRATT, Pana, Ill., assignor to Charles Cutler, same place. Filed Apr. 15, 1882. (No model.)

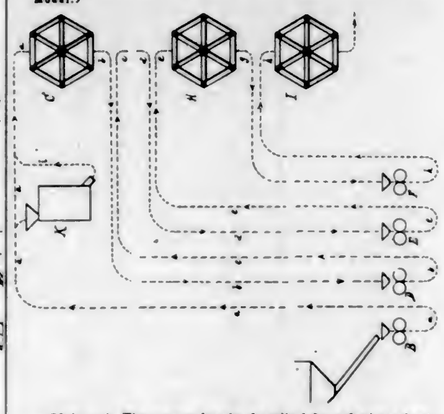


Claim.—1. In combination with the track of a hay elevator and carrier, the stop-block B, consisting of a box-shaped body with open ends, adapted to move on said track and slide freely its entire length, and provided with lug *b* and a longitudinal slot on its upper side, substantially as and for the purpose set forth.

2. In combination with the track of a hay elevator and carrier, the stop-block B, having a tubular body, as set forth, and the weighted latch C, pivoted underneath the body to the lower projections or ears, B' B', and adapted to engage alternately with the series of perforated plates *a a*, let into the under side of said track, substantially as specified.

3. In combination with the tubular body B and weighted latch C, the loops *c c*, secured to each in the manner shown, for the purpose of connecting a cord by means of which the weighted latch may be operated from the floor, as described.

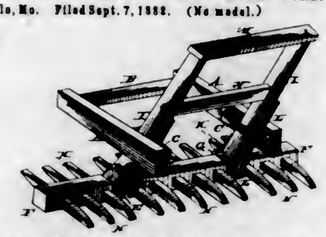
267,016. PROCESS FOR THE MANUFACTURE OF FLOUR. FAUSTIN PRIMS, St. Paul, Minn. Filed Dec. 16, 1881. (No model.)



Claim.—1. The process herein described for reducing wheat to flour, consisting in first cracking the wheat by passing it between smooth-surfaced rolls set far enough apart to merely crack the wheat without crushing the germ; secondly, in separating the germ, coarser middlings, and bran by passing the product of the first step through suitable bolts or screens; and, thirdly, in cracking or crushing the cleaned wheat and coarse middlings of the second step by passing them between corrugated rolls, as set forth.

2. The process herein described for reducing wheat to flour, consisting, first, in cracking the wheat by passing it between smooth-surfaced rolls set far enough apart to merely crack the wheat without crushing the germ or cutting the bran; next, in separating the germ, coarse middlings, and bran by passing the product of the first step through a brushing or rubbing machine, and afterward through suitable bolts or screens, and then cracking the cleaned wheat and coarse middlings of the second step by passing them between corrugated rolls, as set forth.

267,017. REVOLVING HAY-RAKE. ROBERT W. RAY, Monticello, Mo. Filed Sept. 7, 1882. (No model.)



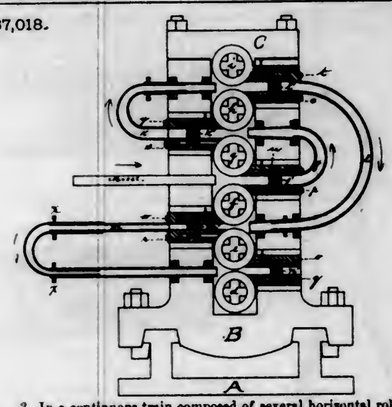
Claim.—The combination, with the front frame, having side bars A A, each having on its inner face, near the rear end, a parallel strap or staple, C, and provided with forwardly-inclined extensions D D, of the rake-head journaled at the bottom of the latter, and having pins G G, and the side bars I I of the rear operating-frame, which are pivoted to the extensions D and pass up through the staples C, and are provided each with a front short spring, K, and long rear spring, L, which extends up and is secured above the staple, as set forth.

267,018. MACHINERY FOR ROLLING METAL. JACOB REESE, Pittsburg, Pa. Filed May 27, 1882. (No model.)

Claim.—1. A continuous universal train, which consists of a series of horizontal rolls mounted in suitable housings, all of the rolls arranged in the same vertical line, and provided with vertical edging-rolls and guiding-troughs, substantially as and for the purpose specified.

2. A continuous universal train, which consists of a series of horizontal rolls having grooves, or tongues and grooves, of uniform proportions, said rolls mounted in suitable housings and in vertical line, and provided with vertical edging-rolls and guiding-troughs, substantially as and for the purpose specified.

267,018.

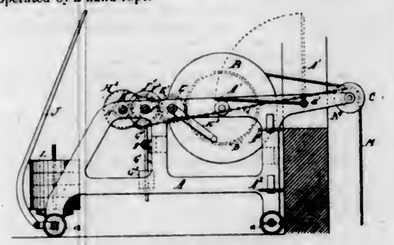


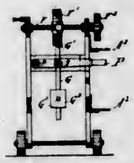
3. In a continuous train composed of several horizontal rolls vertically aligned to obtain two or more passes, the combination of the rolls for the first pass arranged centrally of the series to coact with each other and the next outer rolls of the series, substantially as and for the purpose specified.

4. The combination, with a continuous train of vertically-aligned rolls, of guide-troughs provided with an adjustable U-shaped connecting section, substantially as and for the purpose specified.

267,019. FIRE-ESCAPE. JAMES ROBERTS, New York, N. Y., and NEWTON W. PALMER, Boston, Mass. Filed Feb. 13, 1882. (No model.)

Brief.—The speed of descent of the ladder is controlled by a pivoted pendulum-lever having an adjustable weight, and a small roller on the top of the pendulum moves in a zigzag groove in the periphery of a wheel above it. Weights on the rear of the truck serve to steady it. Steps are provided on the side of the truck and hinged uprights for support in passing to the ladder. A brake-strap passing around a flanged wheel in the rear of the ladder-reel is operated by a hand-rope.





Claim.—1. In a portable fire-escape, the wheel F', having a zigzag groove in the periphery thereof, in combination with the pendulum-lever G, pivoted to the lever P, and having an adjustable weight, and with the windlass B, carrying a flexible ladder, M, arranged to serve as herein specified.

2. The rigid framing A A°, mounted on wheels *a*, and adapted to be conveniently placed, with the stout arm A° protruding from the window of a building, in combination with the roller C on the arm A°, and with the windlass B, flexible ladder M, and weights I, arranged to serve as herein specified.

3. The stops A' and hinged uprights A', in combination with the frame A A°, flexible ladder M, windlass B, and operating means E' and its connected shaft and gearing E E', as herein specified.

267,020. ROTARY SHUTTLE FOR SEWING-MACHINES. THOMAS B. ROBERTS, Pittsburg, Pa., assignor of two-thirds to David Hutchison and Joseph M. Moffat, both of same place. Filed Feb. 24, 1882. (No model.)



Claim.—1. The rotary shuttle composed of the two hollow shells A B, having a thread-opening between them, and a bobbin-spindle, one of said shells having the projecting horn *g*, substantially as described.

2. In a rotary shuttle, the shell A, having spring-stem *a*, provided with catches *b*, in combination with shell B, having horn *g*, and hollow spindle *c*, provided with recesses *d*, substantially as described.

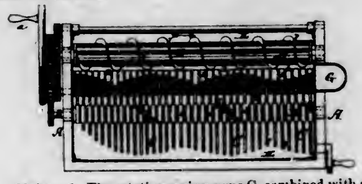
3. The rotary shuttle composed of the two hollow shells A B, having circumferential thread-opening between them, and a bobbin-spindle shell B, having horn *g*, and constructed with its rim overlapping that of shell A, substantially as described.

4. In a rotary shuttle carrying an inclosed bobbin, an automatic tension independent of the shuttle and inclosed therein, substantially as described.

5. In a rotary shuttle carrying an inclosed bobbin, an automatic tension and thread-guide independent of the shuttle and inclosed therein, substantially as described.

267,021. POTATO-PEELER. FRIEDRICH SCHULTE, Kalk, near Cologne, Prussia, Germany, assignor to himself and Heinrich Bauser, same place. Filed May 17, 1882. (No model.) Patented in Germany Sept. 22, 1880, No. 13,889.

Brief.—On the shaft is mounted a series of brackets, which support the roughened spring-arms. A toothed bar supports the potatoes (which are fed forward by the spirally-flanged cylinder) while being subjected to the action of the roughened spring-arms. A bar above the feeding-cylinder prevents the potatoes from being thrown upward. Water through a perforated pipe sprinkles and washes the potatoes.



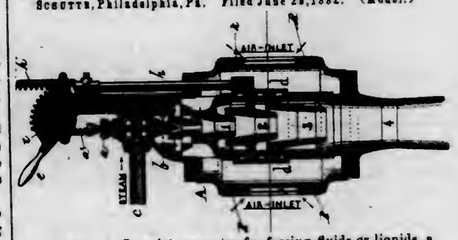
Claim.—1. The rotating spring-arms C, combined with a support for the potatoes to be peeled, and with a rest against which they are pressed, and with mechanism for feeding the potatoes, substantially as described.

2. The combination of the shaft B with the bracket *e*, having arms *f*, and with the pivoted arms C, that are roughened at *g*, lugs *h*, and spring *i*, substantially as specified.

3. The combination of the shaft B, having the roughened spring-arms C, with the supporting-teeth *d*, roller D, and feeding-blade *l*, substantially as specified.

4. The combination of the shaft B, having roughened spring-arms C, with the roller D and rod *m*, and with devices for supporting and longitudinally moving the potatoes, substantially as described.

267,022. STEAM-JET INJECTOR AND EXHAUSTER. LOUIS SCHUTTE, Philadelphia, Pa. Filed June 29, 1882. (Model.)



Claim.—1. In a jet apparatus for forcing fluids or liquids, a series of nozzles or separate inlets, an actuating-nozzle, a slide to

close the inlets, a spindle to close the nozzle, and means, substantially as described, connecting said closing devices to cause their simultaneous movement.

2. In a jet-forcing apparatus embracing an actuating-nozzle and a series of inlet nozzles or openings, as described, a controlling device connected with and adapted to actuate both the devices for closing the actuating-nozzles and the inlet-openings.

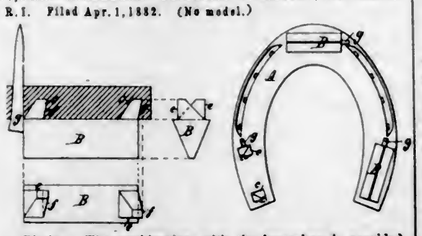
3. In combination with the actuating-nozzle and the series of inlet-nozzles, the spindle and its rack, the slide and its rack, the two pinions, and the actuating handle or lever.

4. In a jet apparatus embracing the actuating-nozzle and a series of inlet nozzles or openings, separate means for closing the two, connected with a common operating device, and adjustable in relation to each other, substantially as described.

5. In a jet apparatus, the combination of an actuating-nozzle, a series of inlet nozzles or openings, as described, and means, substantially as described, whereby the flow of the fluid or liquid into the main body of the apparatus may be controlled in a positive manner.

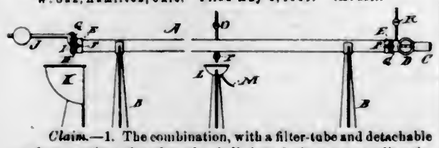
6. In combination with the injector-body, the actuating-nozzle, its controlling device *a*, the series of inlet-nozzles 1 2, &c., and the regulating-valve B, applied to the body, substantially as described, to control the admission of air or other fluid thereto.

267,023. HORSESHOE. FREDERICK W. SEABURY, Providence, R.I. Filed Apr. 1, 1882. (No model.)



Claim.—The combination, with the horseshoe A, provided with the dowel-holes c c, extending partially through the same and provided with two inclined walls, as shown, of the calks B, provided with the dowels d d, each of which has one perpendicular side, *e*, an overhanging side, *f*, and two inclined sides, as shown, to fit against corresponding faces of the dowel-holes, and the nail *g*, having a wedge-like head and adapted to be driven into a through nail-hole, with which the shoe is provided adjacent to the inner dowel-hole, all arranged to operate, as specified.

267,024. FILTERING AND EXTRACTING MACHINE. JAMES W. SEE, Hamilton, Ohio. Filed May 3, 1881. (Model.)



Claim.—1. The combination, with a filter-tube and detachable end connections therefor, of a bell-shaped piece surrounding the end of said tube, a beveled nozzle upon said end connection, and joint-bolts or equivalent means for drawing the parts together, substantially as and for the purpose specified.

2. The combination of a chamber having filtering-walls, an inlet for the material to be filtered, and a self-acting loaded outlet-valve for the filtrate, substantially as and for the purpose specified.

3. The combination of a casing-tube, a cloth tube therein, a perforated tube next outside the cloth tube, and a spiral wire jacket surrounding and fastened to said perforated tube, substantially as and for the purpose specified.

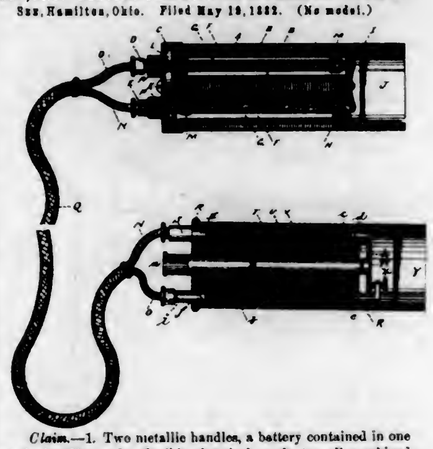
4. The combination, with spiral wire in a filter-tube, of notches U across said wire, substantially as and for the purpose specified.

5. The combination of a filtering-tube, an inlet therefor, an outlet therefor, and an internal tube having an inlet independent of said inlet, substantially as and for the purpose specified.

6. The combination of a casing-tube, a cloth tube therein, a cleaning-pipe connecting through the casing directly with the space between the casing and cloth, and an outlet for draining said space, substantially as and for the purpose specified.

7. The combination, with a filtering-tube having an inlet and an outlet, of an internal core independent of the inlet, and forming an annular space, into one end of which the substance to be filtered is admitted, substantially as and for the purpose specified.

267,025. ELECTRO-THERAPEUTIC APPARATUS. JAMES W. SEE, Hamilton, Ohio. Filed May 19, 1882. (No model.)



Claim.—1. Two metallic handles, a battery contained in one of the handles, and a flexible electrical conductor, all combined substantially as and for the purpose set forth.

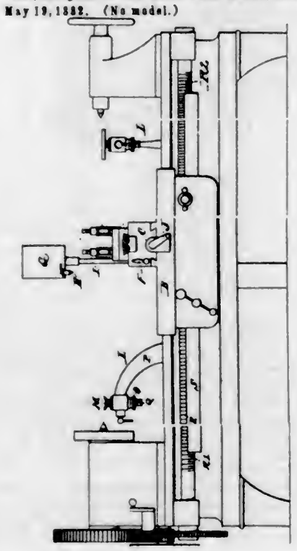
2. Two metallic handles, a battery contained in one of the handles, a rheotome contained in the other, and a flexible electrical conductor, all combined substantially as and for the purpose set forth.

3. Two metallic handles, a battery contained in one of the handles, a rheotome and an induction-coil contained in the other handle, and a flexible electrical conductor, all combined substantially as and for the purpose set forth.

4. The combination, substantially as set forth, of an electro-therapeutic battery holder having contact-surfaces, a metallic bottle adapted to make electric contact with its bottom outside surface, a flexible cork in said bottle, and a carbon stick within said bottle protruding through said cork, to form a contact-point.

5. The two metallic handles with their internal accessories, the two dissimilar binding-posts on each handle, and the two flexible electrical conductors having dissimilar connectors adapted to properly engage with the two binding-posts, all combined substantially as and for the purpose set forth.

267,026. SCREW-CUTTING LATHE. JAMES W. SEE, Hamilton, Ohio, assignor to the Miles Tool Works, same place. Filed May 19, 1882. (No model.)



Claim.—1. The combination, with a screw-cutting lathe, of a lead-screw having a decreasing pitch, the coarser-pitch end of the lead-screw being at the driving end of the lathe.

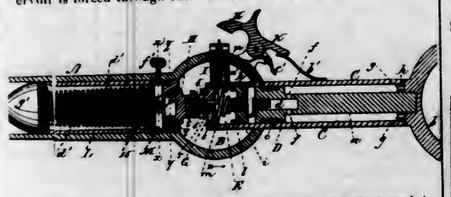
2. The combination, with a screw-cutting lathe, of the swing-rests L, having vertically-adjustable bearings M to support the work.

3. The combination of a hollow tool-block, a gutter to drain thereinto, a hand-pump attached thereto, a water-cup supported thereby, and a pipe connecting the pump and cup, substantially as set forth.

4. In a drip-cock for a lathe, the combination of milled sleeve H, threaded pipe *t*, and disk-seat *w*, substantially as set forth.

267,027. AIR-GUN. LORING D. SHAW, Boston, Mass., assignor to himself, ALONZO WARREN, and J. CULLEN AYER, same place. Filed MAR. 15, 1882. (No model.)

Brief.—The air is forced into the barrel through a valve operated by a piston having a greater surface area than the valve, and sliding within a chamber, from which (by means of an exit-tube operated upon by the hammer of the gun) the air in the reservoir is forced through the valve into the barrel, as shown.



Claim.—1. In an air-gun, the combination, with the barrel A, air chamber or reservoir B, and an air-compressing pump or device, of the valve H, for admitting compressed air to the barrel, connected with and operated by a piston, G, having a greater surface area than the valve, and sliding within a chamber, E, from which the compressed air is allowed to escape by the opening of a valve when the gun is to be discharged, substantially as and for the purpose described.

2. In an air-gun, the combination, with the air chamber or reservoir B and the air-compressing pump, with its valve *e* and air-passages *d f*, of the air-chamber E, with its valve *l*, the piston G, carrying the valve H, having a smaller surface area than the piston, and provided with a valve, *r*, through which the air is admitted to the chamber B from the chamber E, and the exit-tube I, with its valve *u*, for liberating the compressed air in the chamber E when the gun is to be discharged, all constructed to operate substantially as and for the purpose described.

3. In an air-gun, the combination of the two chambers B and E, adapted to contain air at an equal pressure, the piston G and valve H, connected together and having different surface areas, and the exit-tube I, with its valve *u*, for liberating the compressed air in the chamber E when the gun is to be discharged, substantially as and for the purpose set forth.

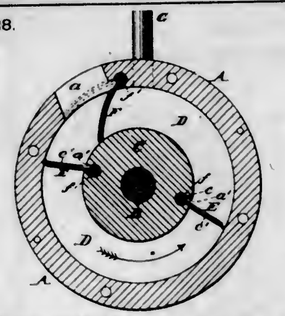
4. In an air-gun, the combination, with the air-chamber B and piston G, connected with the valve H, for admitting compressed air to the barrel, of the air-chamber E, containing said piston and interposed between the air-compressing pump or device and the chamber B, whereby the air which enters the latter is forced therein from the rear side of the piston G and caused to maintain its full pressure thereon to keep the valve H upon its seat until the gun is to be discharged, substantially as set forth.

5. In an air-gun, the combination, with the air-chambers B and E, valve H, and piston G, connected together and having different surface areas, and the exit-tube I, with its valve *u*, of the hammer K, adapted, when released, to open the valve *u* and liberate the compressed air in the chamber E, to produce the discharge of the gun, substantially as described.

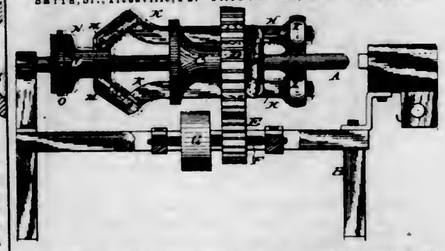
267,028. ROTARY MOTOR. GEORGE V. SHEFFIELD, New York, assignor of two-thirds to WILLIS H. WINN, same place, and C. COLES DUNSBURY, White Plains, N. Y. Filed Mar. 23, 1882. (No model.)

Claim.—The rotary motor comprising as its essential elements the following, namely: the cylinder shell A, having in its cylindrical circumference the large air-inlet opening *a*, the axial shaft B, the cylinder C, of such size as to give the space or chamber D an annular form, the floats or vanes E, connected by the bearings *e* and cylindrical pivots *f* with the cylinder C, and having the flexible packings *e'*, and the gate or valve F, pivoted to the shell A at the edge of the inlet-opening *a*, and having its inner end bearing upon the circumferential surface of the cylinder C, the whole constructed, combined, and arranged for joint use and operation substantially as and for the purpose herein set forth.

267,028.



267,029. MACHINE FOR WELDING PIPE, &c. ALEXANDER A. SMYTH, Sr., Titusville, Pa. Filed June 16, 1882. (No model.)

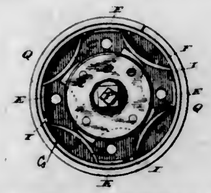


Claim.—1. The combination, with the stationary mandrel, of the three rollers arranged around the same to cover three adjacent quadrants only of the surface of the mandrel, and adapted to travel around the latter, substantially as specified.

2. The combination, with the stationary mandrel and the rotary hub on the same, of the pivoted arms carrying the rollers, the connecting links or pieces, and the sliding clutch or collar, substantially as set forth.

3. Jointly with the welding-machine having the stationary mandrel to receive the tubing, a forge having a supporting-plate provided with a curved groove or channel through which the tubing is fed, as set forth.

267,030. PISTON. MICHAEL L. SNYDER, JOHN R. HOWELLS, and ELIAS BITTENBENDER, Plymouth, Pa. Filed July 7, 1882. (No model.)

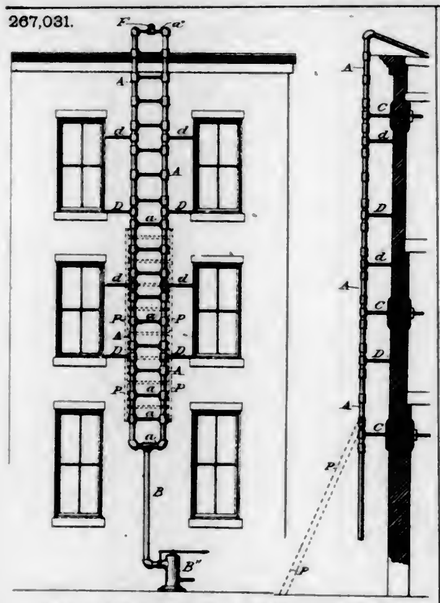


Claim.—The combination of the piston-rod with the head C, having the boss D, through which the piston-rod passes, and also having the four braces or lugs E, the cam or spider K, surrounding said boss D, the cap O, secured to said cam or spider, the annular spring F, open at G, and having the studs I on its inner surface, the springs J, braced against the studs I and lugs E, the packing-rings, the plate R, screws S, connecting the plate R and head C, and screw P, running through the cap O and screwing into the end of the piston-rod, substantially as and for the purpose shown and described.

267,031. FIRE-ESCAPE LADDER. PATRICK H. SPELMAN, New York, N. Y. Filed Apr. 7, 1881. (No model.)

Brief.—The ladder and braces are made of tubing, and the ladder is placed vertically and in such close proximity to the wall of the building as to form a support for the back of the person descending.

267,031.

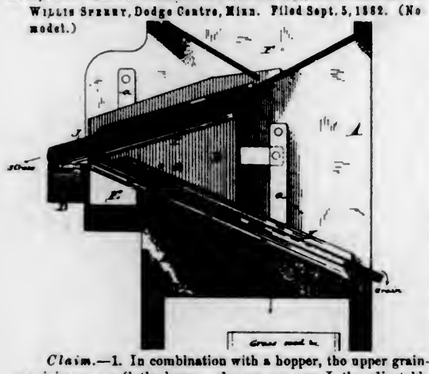


Claim.—1. The combination, in a fire-escape ladder, of the side pipes A A, and the hollow braces D D *d d*, communicating with said side pipes, substantially as described.

2. The combination, with a ladder placed vertically, and with the supports for the same, of a backing or wall that is parallel with the ladder and in such close proximity to the same as to form a support for the back of the person descending such ladder, substantially as specified, for the purpose set forth.

3. The combination of the side pipes, A A A A, with the transverse pipes or rounds *a a a a*, the fastening-rods C C C, the braces D D and *d d*, the supply-pipe B, and the pump B″, together with the T's and the check-valve F, and the short sectional ladder P P P P, substantially as described, and for the purposes set forth.

267,032. GRAIN CLEANING AND SEPARATING MACHINE. WILLIS SPERRY, Dodge Centre, Minn. Filed Sept. 5, 1882. (No model.)



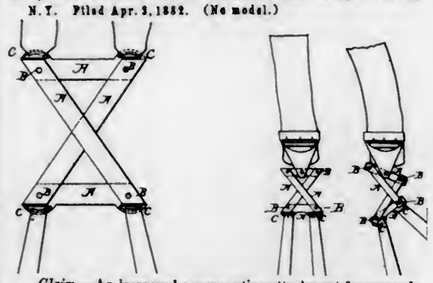
Claim.—1. In combination with a hopper, the upper grain-receiving screen G, the lower and coarser screen J, the adjustable lower screen K, inclined in the opposite direction, and the spouts D and E, arranged the former beneath screen J and the latter beneath the screen G, as described.

2. The combination of the screen G, the coarser screen J, adapted to receive the tailings therefrom, the spout D, located beneath the screen J, a second spout, E, inclined in the opposite direction and arranged to receive the material passing through the lower end of the screen G, and the bottom screen K, inclining in the opposite direction from the upper screen G, and arranged to receive the material passing through the upper end of said screen.

3. In a grain-separator, the vibratory shoe or shaker B, the two oppositely-inclined spouts D and E, attached to the foot of said shoe and partaking of its movements, in combination with the screens G and J and longitudinally-adjustable screen K, arranged in the relative positions described.

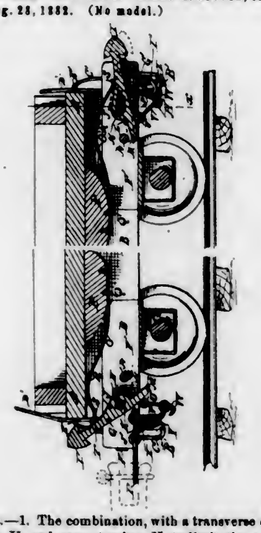
4. The combination of the screen G, coarser screen J, spouts D and E, longitudinally-adjustable screen K, and board L, arranged with respect to the inner spout and the adjustable screen as described and shown.

267,033. SUSPENDERS. MARSHALL B. STAFFORD, New York, N. Y. Filed Apr. 3, 1882. (No model.)



Claim.—An improved compensating attachment for suspenders, consisting of the longitudinal cross-stripe pivoted to the transverse stripe, as set forth, and provided with suitable attaching-eyes, all substantially as described, and for the purpose set forth.

267,034. CAR-COUPLING. ISAAC L. STOVER, Centralia, Ill. Filed Aug. 28, 1882. (No model.)



Claim.—1. The combination, with a transverse circular pivot pin or bolt, H, and rear stop-bar, N, to limit the upward movement of the rear end of the coupling-hook, and a flat spring, O, bearing on the top of the hook in front of the pivot, of a coupling-hook having an oval pivotal bearing, as set forth.

2. The combination, with the bumper-beam B, having a socket, C, in its end, of the boxing F, having screw-threads *f* on its central interior portion, and a coiled spring, E, screwed onto said threads *f* and retained in socket C by a vertical pin, D, as set forth.

3. The combination, with the parallel beams B B, between which is pivoted a coupling-hook, said beams having a transverse rod, G′, at their front ends, and one having a depending hook, J′, of the link H′, carrying a coupling-link, I′, whereby pin-and-link coupling may be effected, as set forth.

4. The combination, with a depending rack or ratchet plate, A′, having its lower end bifurcated, of the bracket C′, engaging said bifurcated end and inclosing a lever, X, as set forth.

5. The combination of parallel beams B B, forming buffers or bumpers, a coupling-hook, G, pivoted between, and having arrow-shaped head I and extension M, the rear stop cross-bar, N, a transverse pivot pin or bolt, H, a flat spring, O, secured at its rear end and bowed at its front end, and operating-levers X X, working in brackets C′, and connected to hook G in rear of its pivot, as set forth.

6. The combination of beams B B, arranged parallel and to form bumpers, the intermediately-pivoted coupling-hook G, having an arrow-head, I, shank J, provided with a curved upper face, T, and substantially oval pivotal bearing K, a flat spring, O, secured at its rear end and bowed at its front end, R, with turned-up or curved point S, a cross-bar, N, and pivot-bolt H, as set forth.

7. The combination of parallel beams B B, forming buffers or bumpers, and having standards Y on their under sides, rear stop-bar, N, pivot pin or bolt H, coupling-hook G, pivoted between, having curved face T and extension M, and rear staples, U, flat spring O, secured at the rear end on block P, bowed at its front end, and having turned or curved point S, levers X X, links V, rack A′, and bracket C′, as set forth.

267,035. ADJUSTABLE DOOR-SECURER. JAMES STEBBINS, Rochester, N. Y. Filed Mar. 20, 1882. (No model.)

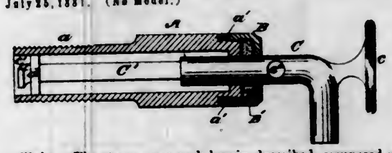
Brief.—The device can be angularly adjusted by means of the ratchet-teeth, so as to be used on doors of different thicknesses.



Claim.—1. The combination, in a door-fastener for fitting between the edge of the door and the jamb, of an axis or pintle, *d*, two plates, *a b*, having knuckles fitting upon the axis, one plate being provided with a spur, *f*, for striking into the jamb, or fitting in the socket of the keeper, the other plate being movable in and out from a right-angled position to fit doors of different thicknesses, and a locking device connected with the plates, whereby the parts may be locked at any angular adjustment, as herein shown and described.

2. In a door-fastener, the combination, with the two plates *a b*, provided with knuckles *c c c′*, of the ratchet-teeth *i* on the knuckles, and the nut *l* on the screw-bolt *d*, for engaging the ratchet-teeth together, as described.

267,036. STEAM-GAGE COCK. MARQUIS DE L. SWANK, JASPER T. THORNLEY, and JOHN A. AWALT, Anderson, Ind. Filed July 25, 1881. (No model.)



Claim.—The steam-gage cock herein described, composed of the tube A, having external threaded portion, *a*, for attachment to a steam-boiler, and threaded connection *a′*, with cap B, which incloses the packing B′, the cock C, having handle *c*, and thin extension C′, provided with hook *c′*, all formed in one piece, and the lug *d*, all arranged and combined to serve as set forth.

267,037. CATCH FOR PINS OR EAR-RINGS. WILBUR C. TEMPLE, Boston, Mass. Filed Jan. 26, 1882. (No model.)

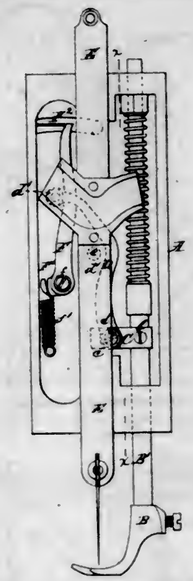
Brief.—A cone-shaped socket formed in the catches receives and holds the pin-point.



Claim.—The combination of the body A, the tong or loop B, and a catch composed of two adjacent spring-jaws of thin elastic sheet metal, said jaws being provided with outwardly-curved lips at their free ends and with transverse indentations or grooves extending partially across the same, which grooves together form a socket closed at one end for receiving the end of the tong, substantially as described.

267,038. TAKE-UP MECHANISM FOR SEWING-MACHINES. JAMES TRIPP, New York, N. Y. Filed Aug. 5, 1882. (No model.)

267,038.

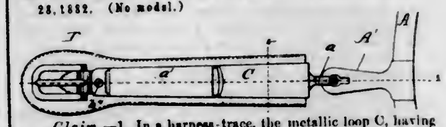


Claim.—1. The combination, with the presser-foot and presser-foot bar of a sewing-machine, of a bent or curved lever, D, provided with a cam portion, *d*, adapted to be raised and lowered automatically by the presser-foot B and bar B′ from time to time into position to regulate the position of an arm or lever, F, carrying the take-up portion F′, and operated by a friction-pulley or an equivalent stud or projection, *e*, carried by the needle-bar E, substantially as and for the purposes set forth.

2. In combination with the presser-foot and presser-foot bar of a sewing-machine, an arm or bearing, C, and a bent arm, D, pivoted thereto, and provided with a cam-surface, *d*, of a friction-pulley, or an equivalent stud or projection, *e*, carried by the needle-bar, and a bent or curved lever, F, formed at its upper end with a take-up portion, F′, the bearing C and arm D being controlled in position by the presser-foot and bar, and controlling the length, time, and extent of the take-up, substantially as and for the purposes described.

3. The combination, with the presser-foot B and presser-foot bar B′ of a sewing-machine, of the arm C and the pivoted bent lever D, cam portion *d*, and friction-pulley *d′*, of the needle-bar E, friction-pulley or equivalent stud or projection *e*, curved pivoted spring-lever F *f*, take-up portion F′, and loop A′, substantially as and for the purpose described.

267,039. HAME-TUG. IRA H. TUBBS, Chicago, Ill. Filed Mar. 28, 1882. (No model.)



Claim.—1. In a harness-trace, the metallic loop C, having the raised part *a′*, and provided with the pins *a′ a²*, and the hollow interior-threaded posts *b b′*, substantially as described.

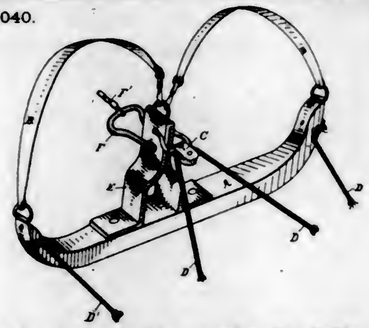
2. The combination, with a harness-trace, of the clip B, perforated for the insertion of attaching-screws, and provided with the projecting pins *d³ d⁴*, substantially as described.

267,040. DRAFT-EQUALIZER. MORRIS W. TUCKER, Sumner, Mich. Filed June 27, 1882. (No model.)

Claim.—1. In a draft-equalizer, the arch provided with the upward extension or arm for the attachment of the draft-block, substantially as described.

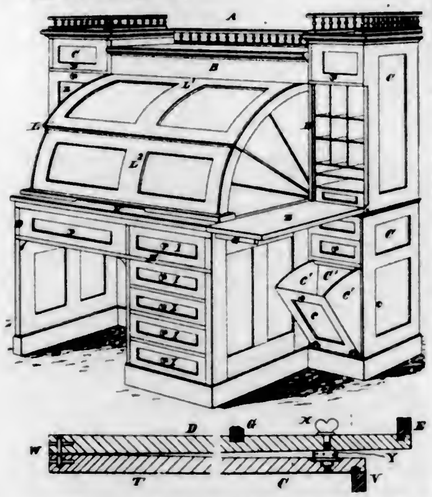
2. In a draft-equalizer, the combination, with a draft-bar, of an arch having an upward extension or arm, substantially as described.

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3. In a draft-equalizer, the combination, with a draft-bar, of an arch having an upward extension or arm, a suitable draft-block secured to said extension or arm, and means for connecting the rear draft to the extension or arm, substantially as described.

267,041. OFFICE-DESK. CHARLES H. TYLER, St. Louis, Mo. Filed Feb. 20, 1882. (No model.)



Claim.—1. In a desk, a curved cover the ends of which are each formed with a sector-shaped frame hinged at the center of its radius to the desk, and provided with a toe, R, formed upon the frame at its pivotal point, in combination with the bar Q, pivoted at its rear end to the side of the desk, the bar N, jointed at its upper end to the front end of the bar Q and provided with the pin *s*, spring P, and catches M, and the drawers I, provided with slots or staples *i*, substantially as and for the purposes specified.

2. The combination of base A, wing C, attaching device W *d*, and adjustable attachment X Y, substantially as set forth.

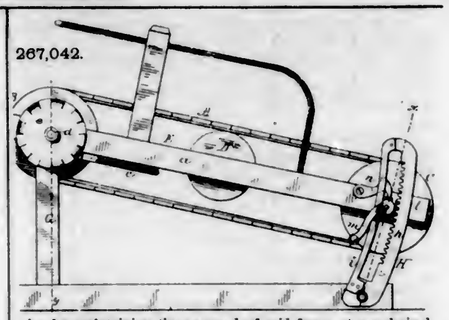
3. In a desk, the central member, A B, having the fixed table K, in combination with the extension C, having hinged leaf Z and the thumb-screw X, and interposed elastic buffer Y, substantially as and for the purposes set forth.

4. In a desk, the central member, A B, provided with a fixed table, K, in combination with an extension, C, having a hinged leaf, Z, arranged to drop in line with the fixed table, substantially as and for the purpose set forth.

267,042. TREAD-MILL. BROS. N. VAN NESTE, Tiffin, Ohio. Filed Sept. 18, 1882. (No model.)

Claim.—1. The combination, with a pivoted tread-mill bed-frame, of an adjusting-shaft extended laterally across and through said frame near its rear end, a pair of curved rack-bars, pinions at each end of said shaft for engaging with the teeth of said rack-bars, a crank or handle for rotating said shaft, and a locking device for maintaining the rear end of said frame at any desired height, substantially as described.

267,042.



2. The combination, with a pivoted tread-mill bed-frame, of the rear roller-shaft having bearings in said frame, the pinions, crank, rack-bar, and locking device, substantially as described.

3. The combination, with the bed-frame, adjusting-shaft, pinions, rack-bars, and crank, of a pawl, substantially as described, for locking the bed-frame at any desired position of adjustment.

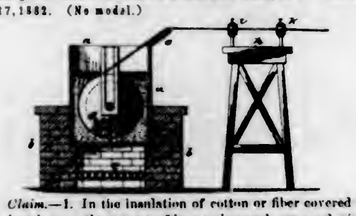
4. The combination, with the bed-frame, adjusting-shaft, pinions, crank, and rack-bar, of guiding-bars which have bearings against the shaft adjacent to the pinions, substantially as described, for maintaining said pinions in proper engagement with the teeth of the rack-bar.

5. The combination, with a tread-mill bed-frame, its driving-shaft, and its front standards, of boxes for said shafts, which are secured to said frame and pivotally connected to said standards, substantially as described.

267,043. PRESERVING MILK. HEINRICH W. L. OTTO VON ROSEN, Hamburg, Germany. Filed Mar. 15, 1882. (No specimens.) Patented in England Nov. 14, 1881, No. 4,952.

Claim.—In the process of preserving milk by bottling, the method of excluding air prior to sealing, which consists in covering the milk with a film or layer of edible oil during the first heating, then removing the same, sealing, and reheating.

267,044. PROCESS OF AND APPARATUS FOR INSULATING WIRES FOR ELECTRIC USES. RICHARD S. WARING, Pittsburg, Pa., and J. BURROWS HYDE, New York, N. Y. Filed July 17, 1882. (No model.)



Claim.—1. In the insulation of cotton or fiber covered wires for electric uses, the process of immersing such prepared wires, in coils or otherwise, into baths of heated insulating material at high temperature, to expel all moisture therefrom and saturate the fiber with mixture, substantially as and for the purpose set forth.

2. In the use of cotton or other fiber covered wires for electric uses, the process of immersing such covered wires upon reels in a bath or baths of heated insulating compound, and drawing it from such bath-immersed reels by a second and storing reel through an intermediate and gaging mold or molds, substantially in the manner and for the purpose set forth.

3. The method herein described of insulating wire, consisting of first heating the compound to the required temperature, then immersing fiber-coated wire in said compound, releasing the cotton or other fiber of all moisture and thoroughly saturating it, then drawing the insulated wire through gaging devices, and finally reeling it on a receiving and storing reel.

267,045. INSULATING MATERIAL FOR ELECTRIC USES. RICHARD S. WARING, Pittsburg, Pa., and J. BURROWS HYDE, New York, N. Y. Filed Aug. 17, 1882. (No specimens.)

Claim.—1. An insulating compound for telegraph-wires and electric uses, composed of two or more of the heavier products arising from the redistillation of the residuum of petroleum, as set forth.

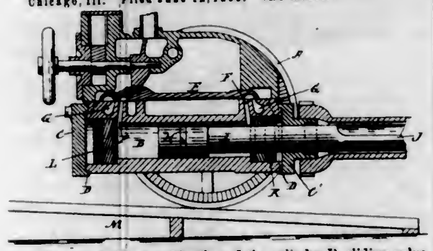
2. An insulating material for telegraph-wires and electric uses, consisting of the residuum of petroleum freed from paraffine and combined with clay, pulp, or other suitable solid substances, as set forth.

3. An insulating material for electric uses, consisting of one or more of the heavier distillates of petroleum-residuum, except paraffine and such as are fluid when cold.

267,046. INSULATING COMPOUND FOR ELECTRIC WIRES. RICHARD S. WARING, Pittsburg, Pa. Filed Sept. 5, 1882. (No specimens.)

Claim.—The compound herein described for insulating telegraph and other electrical wires, the same consisting in the liquid distillates of petroleum, such as described, combined with resinous or bituminous substances, and with clay, chalk, pulp, or other suitable material.

267,047. COAL-MINING MACHINE. GEORGE D. WHITCOMB, Chicago, Ill. Filed June 12, 1882. (No model.)

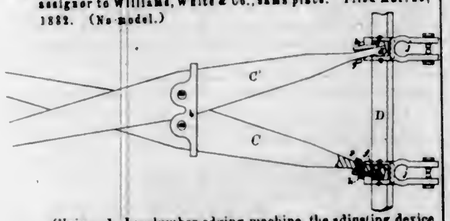


Claim.—1. The combination of the cylinder B, sliding valve E, inlet-ports F, and exhaust-ports G, arranged between the inlet-ports and the heads of the cylinder, substantially as and for the purpose described.

2. The cushion-packing K, having a double crimp made from two pieces, shaped and arranged substantially as specified and shown.

3. The combination of the inclined platform M and mining-machine for the purpose of holding the machine to its work, substantially as specified and shown.

267,048. EDGING-MACHINE. ALFRED WILLIAMS, Moline, Ill., assignor to Williams, White & Co., same place. Filed Mar. 28, 1882. (No model.)



Claim.—1. In a lumber-edging machine, the adjusting device at the end of the broad thin lever C, consisting of the adjustable plate *e*, the dowel-pin *f*, and the adjusting-screws *g* and *h*, in combination with the sliding frame c and the broad guide-bar D, substantially as described and shown.

2. In a lumber-edging machine, the sliding frame c, with lugs or pins to receive the end of lever and the tapering dovetailed recess to receive the saw-guide, in combination with the broad guide-bar D and the saw-guide *j*, substantially as described and shown.

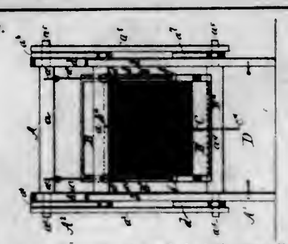
267,049. SELF-SHAKING SIFTER FOR SAND. ELIZABETH A. WILCOX, Belvidere, Ill. Filed July 6, 1882. (No model.)

Claim.—1. In a self-shaking sifting device, the combination, with a folding frame, A, composed of two main portions, $A' A^2$, having standards $a' a^2$, connected by cross-bars *a a*, $a^1 a^1$, provided with pins or extensions $a^3 a^3$, passing through the standards $a^3 a^3$ of the pivoted bars $a^4 a^4$, and removable side bars, $a' a^2$, $a' a^2$, substantially as and for the purpose described.

2. In a self-shaking sifting device, the combination, with a folding frame composed of two main portions, $A' A^2$, pivoted to cross-bars $a^2 a^2$, and held in position by removable side bars, $a' a^2$, $a' a^2$, of the sieve B, suspending means *a a'* a^3 *b*, and jolt-pin C, substantially as and for the purpose described.

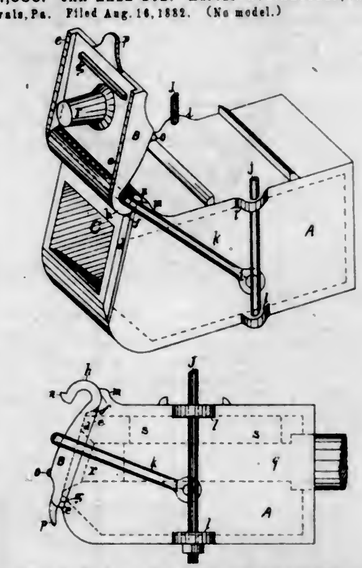
3. A folding self-shaking sifting device having a frame, A, constructed in two parts, $A' A^2$, pivoted together by means of

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bars a^4, removable distending bars $a' a^3$, $a^3 a'$, suspending means *a a'* a^4, sieve B, jolt-pin C, and dividing board or shield D, all arranged and adapted to operate substantially as shown and described.

267,050. CAR-AXLE BOX. ARNOLD W. ZIMMERMAN, Swissvale, Pa. Filed Aug. 16, 1882. (No model.)



Claim.—1. A car-axle-box lid convexed and hinged on its upper edge, and held in its place and forced against the box by means of a stirrup hinged to the sides of the box, and operating as a lock, and both lid and stirrup closing by gravity, substantially as specified

2. A car-axle-box lid provided with a convexed surface, placed substantially as specified, a hook, *h*, operating in concave bearing *f*, in combination with the box A, provided with studs *i* and stirrup *k*, substantially as specified.

3. A car-axle box provided with strip *m*, concave *f*, opening C, and studs *i*, in combination with a convexed lid, B, provided with, hook *h*, spurs *s* and *r*, lips *e*, strip *g*, and stirrup *k*, all constructed to operate substantially as specified.

4. A car-axle box provided with strip *m*, concave *f*, opening C, and studs *i*, in combination with a convexed lid B, provided with hook *h*, spurs *s* and *r*, handle *p*, lips *e*, strip *g*, stirrup *k*, and bolts *j*, substantially as specified.

267,051. SEA-GOING VESSEL. DANIEL AMMEN, Baltsville, Md. Filed Mar. 10, 1882. (No model.)

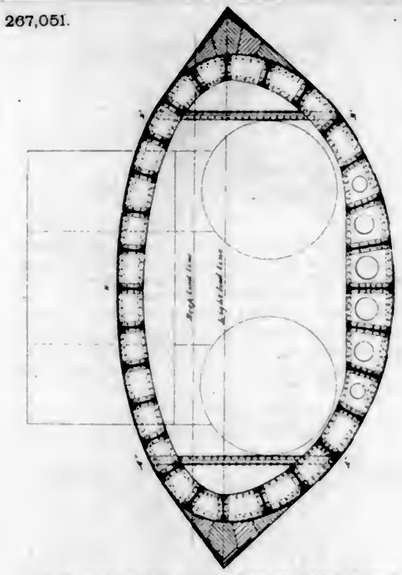
Brief.—The hull of the vessel is made in the form of two semi-ellipses, or nearly so, both in cross and longitudinal section.

Claim.—1. A vessel constructed on a double system of arches and on tangents to the same for the cross-section, substantially as described.

2. A vessel whose longitudinal sections follow the arc of a parabola to a common point in the bow in the plane of the two half-ellipses, substantially as described.

3. A vessel the lower section of the after body having parabolic curves to a common point, substantially as described.

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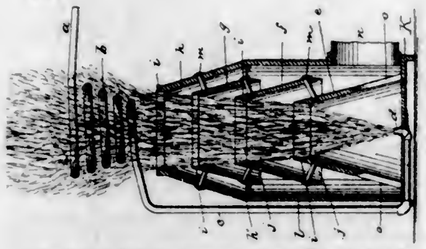


4. The arm, as shown in the drawings, which supports the heel of the rudder-post, in combination with the line of keel rounding upward, as described.

5. A vessel having the double elliptical cross-section and the longitudinal parabolic section, substantially such as described.

6. The keel rounding upward, as described, in combination with the arm which supports the propeller, as set forth.

267,052. APPARATUS FOR BURNING HYDROCARBONS. ELDRIDGE BAKER, Malden, Mass. Filed Feb. 23, 1882. (No model.)



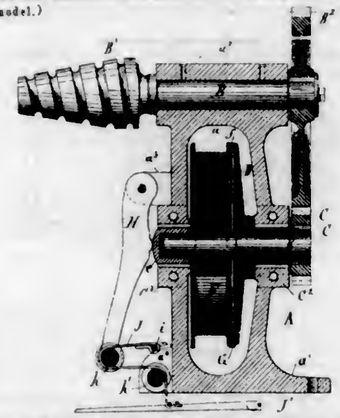
Claim.—1. The combination, substantially as hereinbefore set forth, of a series of conical or tapering tubes or funnels, provided each at the top with a short flame-directing tube or nozzle, as described, and placed at intervals apart, so as to provide air ducts or passages between them, a retort or heater in which the hydrocarbon fuel is vaporized or gasified, a tip or nozzle from which the hydrocarbon gas or vapor so generated is discharged under pressure into the first funnel of the series, and air-openings which admit air at a point where it will meet the gas issuing from said nozzle, the arrangement being such that the gas or vapor, when ignited, burns in the body of the burner and passes up in an inflamed condition through the passage formed by the flame-directing funnel-nozzles, substantially as and for the purposes described.

2. The funnels formed with short flaring nozzles and placed in series so as to constitute a burner, provided with a central expanding or flaring flame-passage, with air-admission passages *j* in its walls, in combination with the coil or other retort or heater for the hydrocarbon fuel, the gas jet or nozzle, the pipe leading therefrom to the coil or retort, and means for feeding the hydrocarbon fuel to the retort, substantially as hereinbefore set forth.

3. In a burner for hydrocarbons, a series of superposed funnels provided with short flame-directing nozzles, and formed and arranged with respect to one another substantially as herein shown and specified, in combination with the gas tip or nozzle and means for supplying the same with hydrocarbon gas or vapor under pressure, substantially as hereinbefore set forth.

4. The heating-coil, formed with gently and uniformly downwardly-inclined folds or turns, proportioned so as to heat the hydrocarbons to the extent substantially as specified, and placed so as to receive heat from the burner, in combination with the series of superposed funnels provided with nozzles arranged to form a central flame-passage, with air-inlets *j*, the gas tip or nozzle, and the pipe leading therefrom to the coil, substantially as and for the purposes hereinbefore set forth.

267,053. VARIABLE FRICTION-GEAR FOR SPINDLES. GEORGE BANCROFT, Evanston, Ill. Filed Aug. 19, 1882. (No model.)

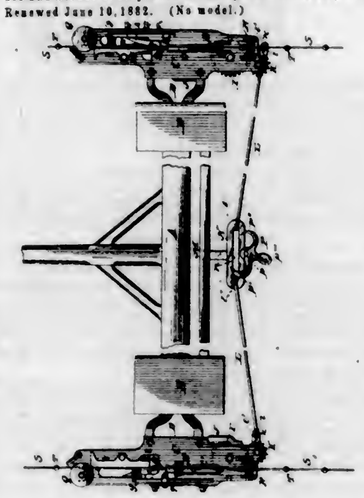


Claim.—1. The combination, with the spindle carrying upon its free end a former, of the gear-wheels, the driving mechanism, and the variable friction-gear, substantially as described.

2. The combination, with the spindle B, of a friction-plate, D, constantly connected therewith, a movable friction plate or surface constantly connected to the driving mechanism, and means, substantially as described, for forcing said friction-plates together, as set forth.

3. The combination, with the spindle B, of the friction-plate D, the belt pulley F, having the friction-surface *f*, the lever H, and treadle J', all substantially as described.

267,054. CHECK-ROW ATTACHMENT FOR CORN-PLANTERS. LORENZO D. BENNER, Galesburg, Ill., assignor to George C. Alden and Alonzo C. Clay, both of same place. Filed Aug. 3, 1881. Renewed June 10, 1882. (No model.)



Claim.—1. In combination with the knotted-wire chain, and with a sliding head on which each knot of the chain acts to impart a movement to the seed-slides, a forked lever adapted to be acted on by each knot after its acts upon the sliding head, and to return the sliding head to its proper position for the action of the next knot.

2. In combination with a sliding head upon which the knots on the wire chain act to give it motion, a tappet-arm, J, adapted to give an intermittent rotary motion in one direction to the pinion I, substantially as and for the purpose specified.

3. In combination with the sliding head G, sliding arm J, and pinion I, having lugs *i*, adapted to receive an intermittent rotary motion in one direction from the arm J, the lever E, and arm F, adapted to restore the sliding head G to its normal position, substantially as and for the purpose specified.

4. The crank-pinion K, in combination with the pinion I, having lugs *i*, rod L, tappet-arm J, head G, lever E, and rod F, substantially as and for the purpose specified.

5. In combination with the sliding head G and knotted check-row chain, the lever E, pivoted as described, and connected at one end with head G by a rod, F, substantially as and for the purpose specified.

6. In combination with a rod, L, adapted to give motion to the seed-slides of a planter, a crank adapted to receive motion from a knotted cord or wire, and which stops at its dead-points at the end of each of its throws, and thereby forms a lock for the planter seed-slides, substantially as and for the purpose specified.

7. In combination with the slide-bar which operates the seed-slides of a corn-planter, and with rods L, which transmit motion from the check-row devices to said slide-bar, a lock or catch adapted to lock one rod L in contact with said slide-bar for the purpose of operating it without imparting movement to the check-row devices on the opposite side of the planter from the rod L which is actuating the seed-slide bar.

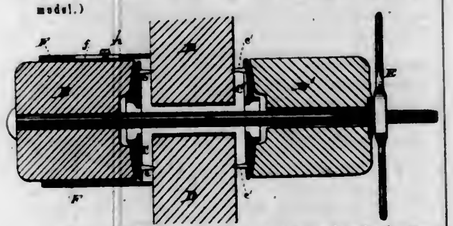
8. In combination with the bar M and rods L, the catch or lock P, adapted to engage one bar L with the bar M while the other is left free, substantially as and for the purpose specified.

9. In a check-row chain, the knot secured to the chain by a loop on one section of the chain passed through the knot and coiled upon itself, and the end of the other section interlocked therewith and coiled upon itself, substantially as and for the purpose specified.

10. The combination, in a check-row wire chain, of knots, T, having holes through them, with sections of wire S, each of which is looped at one end, and said loop passed through the hole in the knot, and the end of the wire coiled upon itself to retain the knot in place on the wire, substantially as and for the purpose specified.

11. In a check-row wire chain, in combination with the wire sections S S', the knot secured to the chain by a loop on one section of wire passed through the knot, and its end coiled upon the main portion of the section, and the end of the other section interlocked therewith and coiled upon itself, substantially as and for the purpose specified.

267,055. CLAMP FOR ADJUSTING DOOR-KNOB ROSES. GEORGE V. BLACKMAN, Oakland, Cal. Filed Feb. 25, 1882. (No model.)

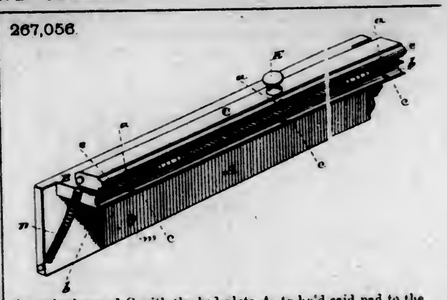


Claim.—A device for adjusting and securing door-knob roses, consisting of a spindle, A, a stationary block, B, upon one end, having a recessed face for receiving a rose, a loose block, B', upon the other end, with a recessed face for receiving the opposite rose, a sliding ring or band, F, on the block B, and serving as a gage, and a nut, E, operating together and constructed substantially as described.

267,056. PAPER-FILE. HENRY H. BLAKE, Chico, Cal. Filed June 29, 1882. (No model.)

Claim.—1. A paper-file consisting of the bed-plate A, projecting stationary pad or stick B, provided with pins *c*, swinging pad or stick C, hinged to the front edge of the stationary pad, and provided with holes *a* to receive the pins *c*, and springs D, connecting

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the swinging pad C with the bed-plate A, to hold said pad to the stationary pad, all arranged substantially as herein described.

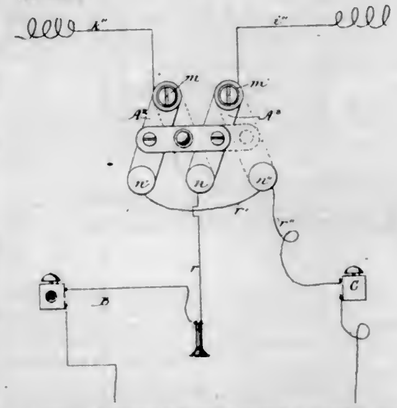
2. A paper-file consisting of the bed-plate A, projecting stationary pad or stick B, provided with a groove, *b*, in its face, and pins *c*, swinging pad or stitch C, hinged to the front edge of the stationary pad, and provided with a tongue, *e*, and holes *a*, and the springs D, to hold the swinging pad to the stationary pad, all arranged substantially as herein described.

267,057. WATCH-KEY. ALBERT BOURGOIS and PAUL JACKY, Bienne, Switzerland. Filed July 7, 1882. (No model.)



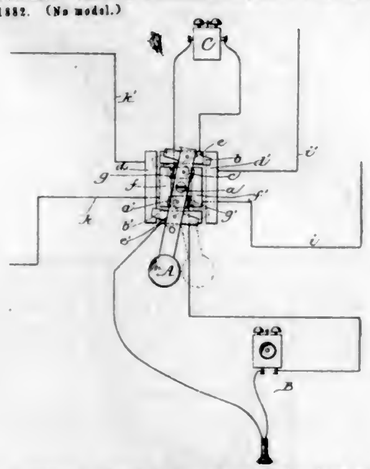
Claim.—The watch-key A, with a notched flange thereon, and with inclines upon the flange at each side of the notch, in combination with the hollow pendant or shank P, pin *c*, and spring *r* substantially as and for the purposes set forth.

267,058. ELECTRIC CIRCUIT FOR TELEPHONE SYSTEMS. JAMES W. BRENNAN, Chicago, Ill. Original application filed Apr. 4, 1882; divided and this division filed Sept. 14, 1882. (No model.)



Claim.—In electric telephone or telegraph systems, the combination, at one station, with two separate loops or main lines, and with a single set of receiving and transmitting instruments having the usual audible signal, of an extra audible signal and a shifting switch, which said switch consists of two pivoted arms insulated from each other and adapted to move in unison upon a set of contact-buttons, whereof two are electrically joined, the entire combination of parts being such that the two separate loops or main-line circuits coming into the station may be maintained permanently closed, the one through the instruments and the other through the extra signal, or reversely, substantially as described.

267,059. ELECTRIC SWITCH AND CIRCUIT FOR TELEPHONE SYSTEMS. JAMES W. BERNARD, Chicago, Ill. Filed Apr. 4, 1882. (No model.)



Claim.—1. An electric switch for two distinct loops or circuits, said switch consisting of a pivoted lever-arm having a series of contact-pieces secured thereto, in combination with a series of contact-plates arranged, substantially as described, to meet said contact-pieces, so that the loops or circuits may be closed in either position of the switch-lever, substantially as set forth.

2. In electric telephone or telegraph systems, the combination, with a single set of receiving and transmitting instruments having the usual audible signal, of an extra audible signal and a shifting switch, substantially as described, by which two distinct loops or sets of main-line wires may be maintained in closed electric circuit, the one through the instruments and the other through the extra signal, or reversely, substantially as set forth.

3. In electric telephone or telegraph systems, the combination, with a single set of receiving and transmitting instruments having the usual audible signal, of an extra audible signal and a shifting switch, which said switch consists of a pivoted lever-arm carrying a series of contact-pieces, and of a series of contact-plates arranged, substantially as set forth, to meet and coact with said contact-pieces, the entire combination being such that two distinct loops or sets of main-line wires may be maintained in closed electric circuit, the one through the instruments and the other through the extra signal, substantially as described.

267,060. TOOL-HANDLE. EDGAR BUELL, Clinton, Conn., assignor of one-half to Andrew L. Buell, same place. Filed Mar. 1, 1882. (No model.)



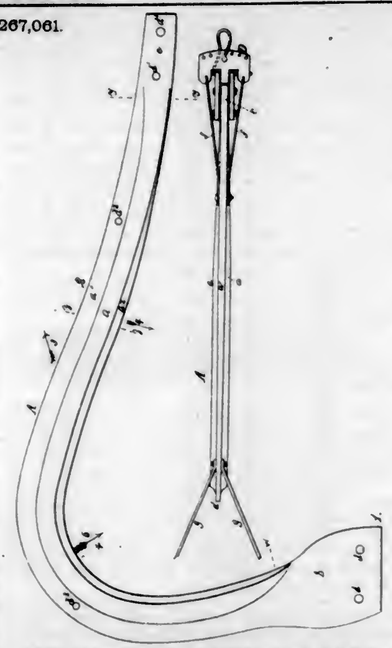
Claim.—1. The combination of a hollow tool-handle having a butt-end with beveled rim, and a fixed socket at the interior of the handle, with an end plate pivoted to the interior socket and pressed upon the end of the handle by a spring interposed between the head of the socket and the enlarged end of the pivot-pin, substantially as specified.

2. The combination of a tool-handle having a shank-socket, a tool-shank having a slotted end and a beveled socket-hole, and a transversely-guided and spring-pressed locking-key having an enlarged inner end, a tapering portion, and a shoulder in front of the tapering portion, substantially as described.

267,061. PLOW-BEAM. WILLIAM C. CHAMBERLAIN, Dubuque, Iowa. Filed June 22, 1882. (No model.)

Claim.—1. A wrought-metal beam, A, constructed with the thick portion *a* and thin portions *a'* *a²*, substantially as described.

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2. In a metal beam, A, the combination of the thin portion *a'*, thick portion *a*, thin portion *a²*, and widened foot *b*, substantially as and for the purpose described.

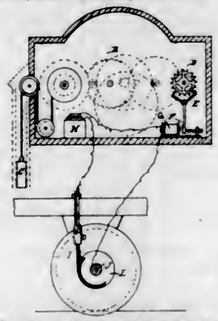
3. A metal beam comprising the thick portion *a*, thin portions *a'* and *a²*, which latter are terminated in the clevis-attaching portion *c* and the plow-attaching portion *b*, and the metal forming the entire beam formed and proportioned substantially as and for the purpose described.

4. The combination, with the beam having the thick portion *a*, thin portions *a'* *a²*, and the portions *b c*, of the plow-handle braces *g*, substantially as and for the purpose described.

5. The combination, with the beam having the thick portion *a*, thin portions *a'* *a²*, and the portions *b c*, of the clevis D and clevis-brace *f*, which latter is attached at *d²* to the thin portion *a'*, at a point above the thick portion *a*, while the clevis is attached at *d'* to the thin portion *c*, substantially as and for the purpose described.

6. A wrought-metal beam in its cross-section having the form of an inverted cross, or with its short lateral arms or branches nearer the bottom than the top of the beam, substantially as and for the purpose described.

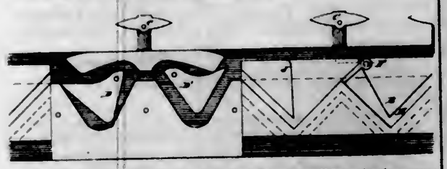
267,062. ELECTRIC DISTANCE-REGISTER. EDWARD R. E. CEWELL, Detroit, Mich. Filed Apr. 26, 1882. (No model.)



Claim.—The electric distance-register herein described, consisting of the car-axle J, having one pole of the magnet electrically connected permanently thereto, the metal wheel L, rigid with such axle J, and having a portion of its periphery composed of non-conducting substance, the brush I, supported at all times against the periphery of said wheel L, to make and break the circuit at each revolution, the train of gearing B, the weight C, escapement-wheel D, anchor E, battery H, magnet G, and armature F, the whole constructed, arranged, combined, and adapted to serve as and for the purposes set forth.

267,063. KNITTING-MACHINE. JOHN K. CRAWFORD, Philadelphia, Pa. Filed May 29, 1882. (No model.)

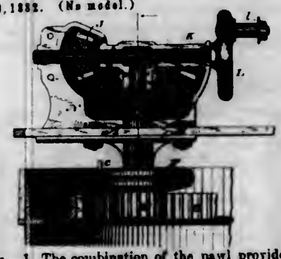
Brief.—The cam-cylinder is provided with a scalloped cam, whereby the needles may be operated and yarn knitted into the fabric from several yarn-guides or "feedings" around the machine. At one of the feedings the cam-cylinder is provided with swinging cams of usual construction, by which the machine is adapted to knit the heel of a stocking by a reciprocating motion of the cam-cylinder, as is common. To throw the desired number of needles out of action in forming the heel the scalloped cam-cylinder is provided with a switch, and is made vertically adjustable. By the invention a variously-colored continuously spirally-striped stocking having a seamless heel is produced.



Claim.—1. The combination of the reversible swinging cams D D', with the vertically-movable scalloped cam E, and two or more yarn-carriers, C C, whereby the several carriers can be supplied with different colors and a continuously spirally-striped stocking can be knitted with a seamless heel, substantially as described.

2. The combination of the upwardly and downwardly movable cam-cylinder B, reversible swinging cams D D', with the vertically-movable scalloped cam E, and two or more yarn-carriers, C C, whereby the several carriers can be supplied with different colors and a continuously spirally-striped stocking can be knitted, substantially as described.

267,064. CLUTCH. JOHN S. DAVIS, Toledo, Ohio, assignor to the Toledo Mower and Reaper Company, same place. Filed Sept. 18, 1882. (No model.)



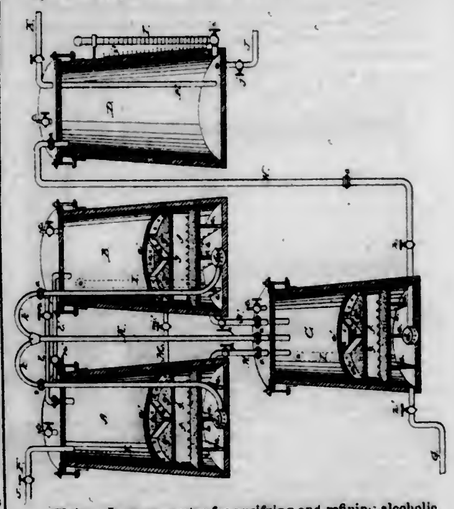
Claim.—1. The combination of the pawl provided with the lug, the plate to which it is pivoted, and the spring provided with the incline or shoulder and acting on the pawl-lug to hold the pawl in either of two positions, according to adjustment, substantially as hereinbefore set forth.

2. The combination of the rotated ratchet, the shaft upon which it is loosely mounted, the pawl-carrier fastened to said shaft, the adjustable pawl, and the spring by which the pawl is held in or out of action, substantially as hereinbefore set forth.

3. The combination of the slotted pawl-carrier, the shaft to which it is keyed, the rotated ratchet-plate having the internally-toothed peripheral flange and loosely mounted on said shaft, the pawl, the pin secured thereto and projecting through the slot of the pawl-carrier, the pawl-lug, and the spring provided with the incline or shoulder and acting on the pawl-lug, substantially as and for the purpose hereinbefore set forth.

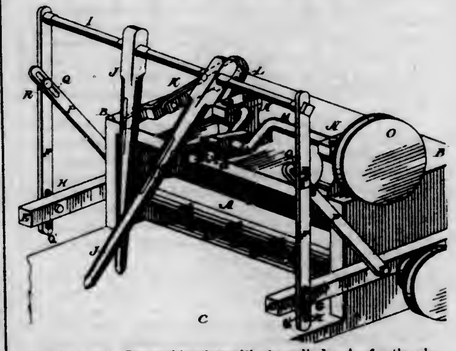
4. The combination of the clutch-carrying shaft, the pawl-carrier fastened thereon, the adjustable pawl, the spring by which the pawl is held in or out of action, according to adjustment, the ratchet loosely mounted on the clutch-carrying shaft, and the pinion H, or its specified equivalent, substantially as and for the purpose hereinbefore set forth.

267,065. APPARATUS FOR REFINING, PURIFYING, AND AGING ALCOHOLIC LIQUORS. LOUIS A. DE LINE, Frankfort, Ky. Filed Sept. 30, 1882. (No model.)



Claim.—In an apparatus for purifying and refining alcoholic spirits, the tanks A, B, and C, having connecting-pipes to and with each other, and provided with the perforated divisions having filtering materials and blankets, as described, said divisions being located in each tank, as specified, whereby chambers *e* and *f* are formed, in combination with an auxiliary air-tank having a suitable air-supply, and a pipe connecting said air-tank with the lower tank, C, all substantially as and for the purpose described.

267,066. FEEDER FOR THRASHING-MACHINES. JOHN DUCKER, Santa Rosa, Cal. Filed Aug. 26, 1882. (No model.)



Claim.—1. In combination with the cylinder A of a thrashing-machine, the alternately-swinging arms J, the shaft I, shaft M, having the cranks L, the adjustable rods K, and means for moving said shaft I to or from the cylinder, so as to change the throw of the arms, as set forth.

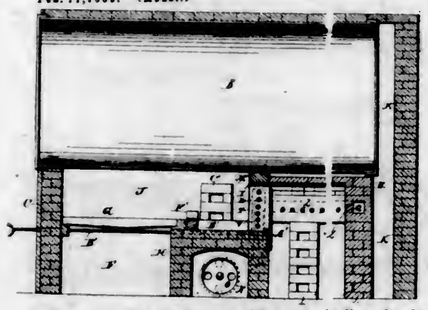
2. The standards F, having the adjusting-slots H, suitable supports for said standards, bolts G, shaft I, and vibrating arms J, in combination with the slotted braces P and the cylinder A of a thrashing-machine, substantially as and for the purpose described.

267,067. BARBED FENCE-WIRE. LEMUEL E. EVANS, East Orange, N.J. Filed Apr. 26, 1882. (Model.)



Claim.—In combination with a fence-wire cable of two or more strands, a barb-piece formed of a short piece of wire, and attached to said cable by crossing the two end portions of the barb-piece and bending said end portions separately around each of two strands or two sets of strands of the cable, and also by bending two bights formed in said barb-piece around the cable, substantially as described.

267,068. FURNACE. GEORGE H. FIELD, New York, N. Y. Filed Feb. 11, 1882. (Model.)



Claim.—1. The combination, with a commingling-chamber having closed side and rear walls supporting an imperforate arch or top, said walls being provided with flues adapted to introduce atmospheric air into the open space inclosed by them, of a structure, provided with issues, to support said chamber in an elevated position, and forming an open space below it, substantially as set forth.

2. The combination, with a fuel and a combustion chamber, of a wall located between said chambers and having an aperture formed in it, a commingling-chamber located in the combustion-chamber, having closed side and rear walls supporting an imperforate top or arch, and provided with flues adapted to introduce atmospheric air into the space inclosed by said walls, and a structure, provided with issues, to support the commingling-chamber in an elevated position in the combustion-chamber, one end of said chamber being open to admit the caloric-current, substantially as set forth.

3. The combination, with a fuel-chamber and a combustion-chamber, of a wall located between said chambers and having an aperture formed in it, flues located in said aperture, a closed oven located within the fuel-chamber, arranged to prolong the caloric-current, and having communication with the outer air, and passages leading from the oven to the flues aforesaid, substantially as set forth.

4. The combination, with a fuel-chamber and a combustion-chamber, of a wall located between said chambers and provided with an aperture, of a commingling-chamber, located in the combustion-chamber, having closed side and rear walls supporting an imperforate top, and provided with flues to introduce atmospheric air into the space inclosed by said walls, a closed oven located in the fuel-chamber and communicating with the outer air, and passages leading from said oven to the flues in the commingling-chamber, substantially as set forth.

5. The combination, with a fuel-chamber and a combustion-chamber, of a vertical wall located between said chambers and having an aperture formed in it, and a damper having its lower end pivotally secured to said wall, and adapted, when elevated, to partially close the aperture therein, substantially as set forth.

6. The combination, with a fuel-chamber and a combustion-chamber, of a vertical wall located between said chambers and provided with an aperture, and a damper having its lower end pivotally secured to said wall, and adapted, when elevated, to partially close the aperture in the wall, leaving a narrow space between the upper end of the damper, and provided with a recess to receive the damper when depressed, substantially as set forth.

7. In a furnace, the combination, with a fuel-chamber, of a shelf located in the rear end of said chamber, and arranged to prolong the caloric-current, said shelf being provided with a recess to give additional room between the boiler and the shelf.

8. In a furnace, the combination, with a fuel-chamber, of a shelf located in the rear end of said chamber and arranged to prolong the caloric-current, said shelf being provided with a recess to give additional room between the boiler and the shelf, and a grate located in the forward end of said recess.

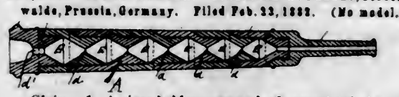
9. In a furnace, the combination, with a fuel and a combustion chamber, of a wall located between said chambers, and provided with an aperture, flues located in said aperture, a commingling-chamber located in the combustion-chamber, and a shelf located in the fuel-chamber, and inclosing an oven provided with flues arranged to convey heated air to the flues located in the aperture aforesaid and to the flues of the commingling-chamber.

267,069. HARROW-TOOTH. ABRAHAM M. FORRESTER, Racine Wis. Filed Apr. 21, 1882. (No model.)



Claim.—The angular bracket B, having serrated head *b*, pivotal perforation E^3, and the series of apertures E E' E^2, in combination with the sword-tooth C and bolt B', as set forth.

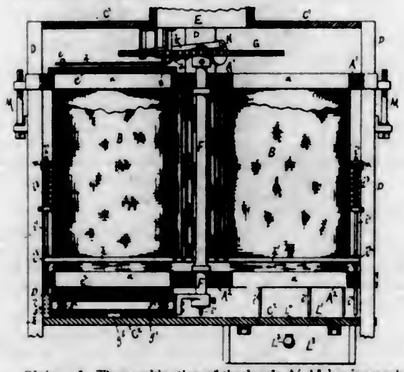
267,070. CIGAR-HOLDER. FRIEDRICH W. FRAHN, Pfeiterwalde, Prussia, Germany. Filed Feb. 23, 1882. (No model.)



Claim.—1. A cigar-holder composed of several tubular sections or parts, having the contractions on their outer side forming the shoulder against which the end of the preceding section fits, and having the contractions on their inner side forming the end to fit against the shoulder of the following section, and a further contraction forming the narrow openings *d*, and which contractions on the inner side, taken in connection with the corresponding contractions of the other sections, form the alternately narrowing and widening channel for the passage of the smoke, substantially as described.

2. In a cigar-holder, the combination of the several tubular sections or parts, having the contractions and tapering on their outer and inner sides, with the mouth-piece and tip or bolder for the cigar, substantially as described.

267,071. DUST-COLLECTOR FOR FLOUR-MILLS, &c. WILLIAM H. FROST, Minneapolis Township, Hennepin County, and SAMUEL POTTS and CHARLES J. ELLIOTT, Minneapolis, Minn. Filed Oct. 29, 1881. (No model.)



Claim.—1. The combination of the heads A' A^4, having ports *a*, the tubes B, of suitable dust-collecting fabric or texture supported at the ends only and connecting said heads, and the valves *c' c²*, adapted to be revolved over and beneath said heads, whereby the air may be shut off from one or more of said tubes B in succession, substantially as set forth.

2. The combination of the heads A' A^4 C' C', tubes B, of suitable dust-collecting fabric or texture, shaft F, and valves *c' c²*, substantially as set forth.

3. The combination of the heads A' A^4, shaft F, valves *c' c²*, ratchet-wheel G, adapted to be revolved, and the tubes B, substantially as set forth.

4. The combination of the heads A' A^4, tubes B, posts D, and adjusting-screws M, substantially as set forth.

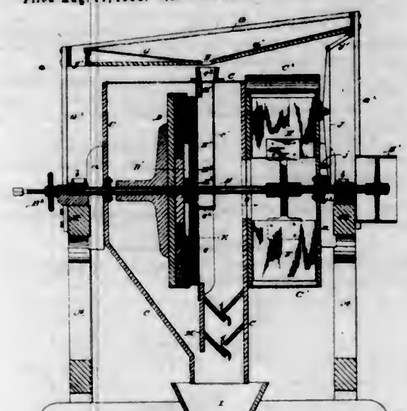
5. The combination of the heads A' A^4, tubes B, hoops A, rods *i'*, springs i^2, and cam *g'*, adapted to be revolved beneath said rods, substantially as set forth.

6. The combination of the heads A^4 C^2, casing *g'*, valve c^3, springs g^2, and revolving shaft F, substantially as set forth.

7. In dust-collectors, the combination of a dust-collecting conduit and a trough for receiving the dust from said conduit, having a hinged valve provided with a projecting arm, with a moving valve intermediate between said conduit and trough, adapted in its movements to close communication between the conduit and trough, and to strike the projecting arm of the hinged valve, so as thereby to open said valve, whereby the several parts will operate as set forth.

8. The combination of casing *g'*, having the recess g^3, valve L^3, having the rigid arm L^4 and weighted arm L^5, and the plate C^3, having the port L', substantially as set forth.

267,072. GRAIN-CLEANER. LOUIS GATEMANN, Chicago, Ill. Filed Aug. 11, 1882. (No model.)

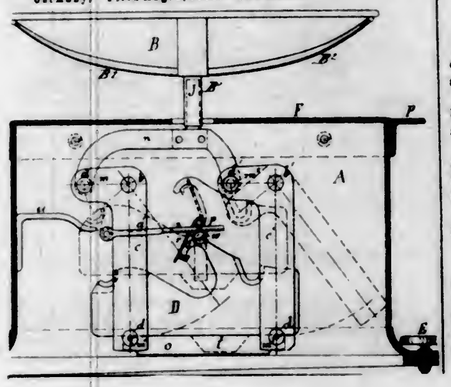


Claim.—1. In a disk-brush grain-cleaner, the combination, with an opposing disk-brush, of a perforated working-face provided with one or more convolute ribs running from center to circumference in the direction of motion of the brush, substantially as described, and for the purposes set forth.

2. In a disk-brush grain-cleaner, the combination, with a perforated working-face provided with one or more ribs, of a disk-brush having its bristles rearwardly inclined with reference to the direction of its rotary motion, substantially as described, and for the purposes set forth.

3. In a disk-brush grain-cleaner, the combination of a perforated working-face, E, having one or more spiral or convolute ribs, E', and a disk-brush having furrows *d* in its working-face, substantially as described.

267,073. PENDULUM-SCALE. HUGO F. E. GERIKE, Berlin Germany. Filed Aug. 2, 1882. (No model.)



Claim.—1. The combination of two or more pairs of laterally connected and fulcrumed elbow-levers, *c c c' c'*, with transverse shafts *m m' m² m²*, scoop-carrying bridge *n*, connecting the upper shafts, *m m²*, and a weighted balance-plate, *o*, connecting the lower shafts, *m' m²*, of the elbow-levers, substantially as set forth.

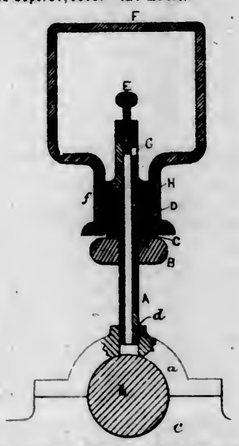
2. The combination of the oscillating elbow-levers *c c c' c'*, means for supporting said levers, the transverse shafts *m m²*, the bridge connecting said shafts, the scoop B, supported on said bridge, the transverse shafts *m' m²*, connecting the lower ends of said levers, a weighted plate, *o*, supported on said shafts, a larger weight, D, adapted to rest on said plate, and mechanism whereby the same can be raised or lowered, so as to use the scales with a variable balance-weight, substantially as set forth.

3. The combination of the oscillating elbow-levers *c c c' c'*, suitable supports therefor, connecting-bridge *n*, carrying-scoop B, weighted plate *o*, balance-weight D, having upwardly-extending hook *s*, transverse shaft *p*, having hook *r*, and fixed arm *u*, entering into a recess, *u'*, of the balance-weight D, substantially as and for the purpose set forth.

4. The combination of the oscillating and weighted elbow-levers *c c c' c'*, suitable supports for said levers, pivoted rack *z*, shaft *w*, having interior pinion, *y*, and an exterior double-pointer, *x*, and a double dial at the outside of the casing A, substantially as specified.

5. The combination of the oscillating elbow-levers *c c c' c'*, suitable supports therefor, the bridge *n*, balance-scoop B, weighted plate *o*, balance-weight D, mechanism for raising and lowering the balance-weight, shaft *w*, mechanism for transmitting the oscillating motion of the elbow-levers to said shaft, and the double pointer *x*, the arms of which are arranged at such a distance from each other that the arms *x' x²* are set to the zero-points of their respective dials, according as the scale mechanism is used with or without the vertically-adjustable weight, substantially as and for the purpose set forth.

267,074. LUBRICATOR. WALTER M. GERMOND, Baltimore, Md. Filed Sept. 27, 1882. (No model.)



Claim.—1. The combination of the tube A, having rib H and exterior thread, with the cork or gum cylinder H and nut B, as set forth.

2. The bottle F, having neck *f*, in combination with tube A, having shoulder H and exterior thread, the cork or gum cylinder, and the nut B, as set forth.

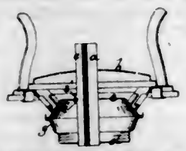
3. In an automatic lubricator, an oil-reservoir, a cylindrical flexible packing, means for laterally expanding the same, a feed-tube, and means for regulating the oil-supply, all constructed and combined substantially as set forth.

267,075. LAMP-BURNER. CHARLES GORDON, Cleveland, Ohio. Filed Sept. 6, 1882. (No model.)

Claim.—1. A gas-tube for lamp-burners, made with projections, in the manner described, and adapted to be inserted endwise into an aperture large enough to accommodate it, with its said projections, and to be subsequently interlocked endwise with one or more of the disk-like portions of the burner by lateral movement of the tube, as set forth.

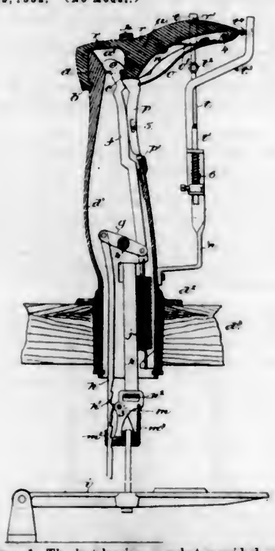
2. In combination with the wick-tube and the perforated disk-

267,075.



like portions of the burner through which said tube passes, a gas-tube formed or provided with laterally-projecting devices, which engage with some one or more of the disks through which said gas-tube passes to hold the latter in place endwise when it and the wick-tube are in place, as set forth.

267,076. LASTING-JACK. ISAAC HALL, Boston, Mass. Filed Sept. 18, 1882. (No model.)



Claim.—1. The last having a socket provided with a projecting shoulder and inclined seat, as described, combined with the standard having a last-holding projection co-operating with the said socket, and the last-locking and ejecting device and its actuating-treadle, substantially as and for the purpose set forth.

2. The combination of the last locking or ejecting device and the sole-holding strap with their actuating-treadle and engaging device, whereby it is caused to operate either the said strap or the said locking device independently, substantially as described.

3. The combination, with a last, of a sole-holding projection loosely connected therewith, whereby it is permitted to yield when the boot or shoe is removed therefrom, substantially as and for the purpose set forth.

4. The combination, with the last having a recess, of the pivoted block adapted to drop into the said recess, whereby the last may be removed from the boot or shoe without detaching the said block from the last, substantially as described.

5. The recessed last and pivoted block therefor, adapted to drop into the recess of the last, combined with the block-operating device, whereby it is held in proper position to sustain the upper until it is desired to remove the boot or shoe from the said last, substantially as described.

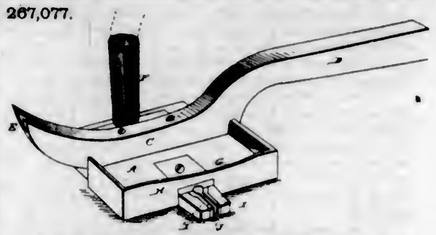
6. The combination of the standard and last mounted thereon with the sole-gage mounted on the said standard, substantially as described.

7. The combination, with the standard and last, of the last-block and its operating device having a yielding connection with the said standard, substantially as and for the purpose described.

267,077. CARPET-STRETCHER. FRANCIS P. HART, Little, Pa. Filed Sept. 23, 1882. (No model.)

Claim.—1. The combination, with the stretching-plate having a roughened under surface, of the lateral arms having their inner adjoining edges provided with elastic packing for holding the tack, as set forth.

267,077.



2. The combination, with the stretching-plate having a roughened under surface and cross-handle on top, of the lateral tack-holding arms on the edge in front of said handle, as set forth.

3. The combination, with the stretching-plate having the cross-handle, of a socket at one side thereof to receive a long handle, as set forth.

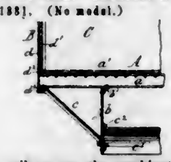
4. The stretching-plate having a cross-handle and vertical flanges surrounding its edges on one side of said handle to provide a tack-receptacle, as set forth.

5. The combination, with the stretching-plate having the cross-handle and roughened under surface, of a handle-socket at one side of the cross-handle and two lateral tack-holding arms at the other, as set forth.

6. As a new article of manufacture, a carpet-stretcher comprising in its construction a stretching-plate, tack-draw, tack-receptacle, and tack-holder, as set forth.

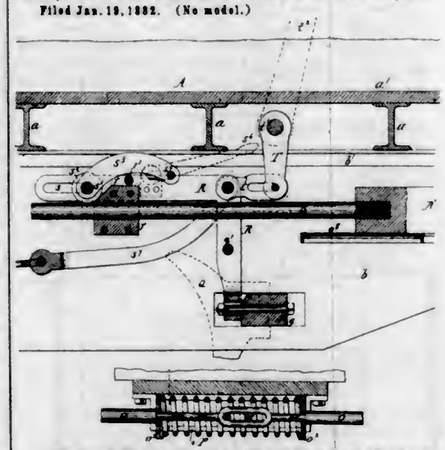
7. The flat stretching-plate adapted to be pushed along the carpet, and provided with a serrated or roughened under surface, as set forth.

267,078. RAILWAY-CAR. THOMPSON HUBBER, Buffalo, N. Y. Filed Sept. 13, 1881. (No model.)



Claim.—In a railway-car, the combination, with the floor-beams *a*, arranged crosswise, and flooring *a'* and stringers *b*, secured lengthwise to the beams *a*, of diagonal braces *c*, extending laterally from the stringers *b* and connecting the same with the floor-beams, substantially as set forth.

267,079. CAR-BRAKE. THOMPSON HUBBER, Buffalo, N. Y. Filed Jan. 19, 1882. (No model.)



Claim.—1. The combination, with two draw-heads, N, of rods *o*, extending inwardly from the draw-heads, and having their inner ends connected by links *o'*, followers *o²*, fitted against shoulders on the inner ends of both rods *o*, and a spring, P, interposed between the followers *o²*, substantially as set forth.

2. The combination, with the draw-heads N, of the rods *o*, connected at their inner ends, as specified, and provided with reduced inner portions, *o²*, followers *o²*, fitted on the reduced portions *o²* of the rods, and constructed with ears *o³*, sliding in ways *o⁴*, and a spring, P, arranged between the followers *o²*, substantially as set forth.

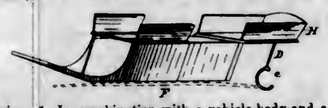
3. The combination, with a draw-head, N, of the rod *o*, provided with a projection, *r*, the pivoted brake-lever R, adapted to be operated by the projection *r*, and brake-shoes connected with the brake-lever R on opposite sides of its fulcrum, substantially as set forth.

4. The combination, with the rod *o*, provided with a projection, *r*, of the pivoted brake-lever R, having its upper arm provided with rollers *s²*, and means whereby said rollers can be adjusted so as not to be operated by said projection when the brake is to be operated by hand, substantially as set forth.

5. The combination, with the brake-lever R, provided with one or more slots, *s*, of the arms *s²*, provided at one end with one or more rollers, *s²*, and a bolt, *s'*, sliding in the slot *s*, and connected with its opposite end to a crank-shaft, *s⁴*, substantially as set forth.

6. The combination, with the brake-lever R and mechanism whereby the brake can be applied from the draw-head, of a slotted link, *t*, connecting the lever R with mechanism whereby the brake can be applied by hand, substantially as set forth.

267,080. SHIFTING SEAT FOR VEHICLES. ERNEST C. HILDEBRAND, New Haven, Conn. Filed Aug. 22, 1882. (No model.)

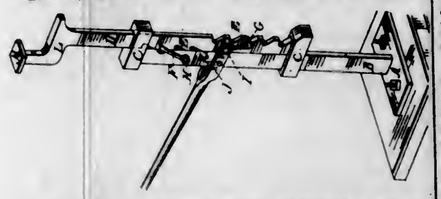


Claim.—1. In combination with a vehicle-body and a shifting rear seat, the side pieces, B, hinged to the inside of said body, and adapted to turn down within the same, and rabbeted on their inner edges, and the removable central piece, A, adapted to fit upon the said rabbeted edges, substantially as set forth.

2. In combination with recessed supports attached to the under gearing of a vehicle, a pair of seat-legs attached to the shifting-arms of the rear seat, and adapted to set into said supports, substantially as set forth.

3. In combination with the vehicle-body, the shifting seat H, arms *g*, supports *e*, and seat-legs D, the latter being attached to said arms *g*, and arranged to fold horizontally under said seat when it is shifted into its forward position, but to extend vertically downward when said seat is shifted into its rear position, substantially as set forth.

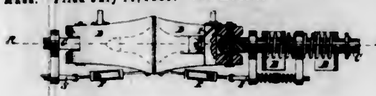
267,081. LIFTING-JACK. ORADIAH H. HOAG and NELSON B. HERVEY, Santa Rosa, Cal. Filed Aug. 26, 1882. (No model.)



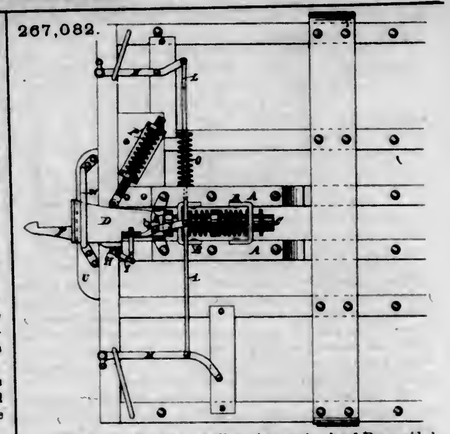
Claim.—1. In a lifting-jack having the standard B, the sliding bar or support D, and the guide-bands, as shown, the link G, suspended from the lever J, so as to traverse the arc of a circle and be brought to engage the serrations E either on the upward or the downward stroke of the lever, substantially as herein described.

2. In a lifting-jack having the standard B and the sliding bar D, with guides, the link G, suspended from the lever J, so as to engage the serrations or notches E, as shown, and the link F, journaled or pivoted to the standard, so as to engage the opposite serrations E and hold the bar D, substantially as herein described.

267,082. CAR-COUPLING. JOHN R. HOWARD, Somerville, Mass. Filed July 11, 1882. (No model.)



267,082.



Claim.—1. In a car-coupling, the coupler-head D, provided with a funnel-shaped socket and the pointed hook-shaped fastening-bar F, rigidly secured thereto, substantially as described.

2. The coupler-head D, provided with a funnel-shaped socket and a projecting hook-shaped fastening-bar, in combination with the spring-actuated pawl G, all arranged and adapted to operate substantially as and for the purpose described.

3. The coupler-head D, provided with a funnel-shaped socket and a projecting hook-shaped fastening-bar rigidly attached thereto, in combination with a pivoted pawl located within said socket, a spring for operating said pawl in one direction, and one or more levers for operating said pawl in the other direction, substantially as described.

4. The coupler-head D, provided with a funnel-shaped socket and a projecting hook-shaped fastening-bar rigidly attached thereto, in combination with a pivoted pawl located within said socket, a spring for moving said pawl inward, the lever I, provided with a sliding looped connection, the levers J, N, and M, a rod or rods connecting said levers J, N, and M, and the spring O, all constructed, arranged, and adapted to operate substantially as and for the purpose specified.

5. The coupler-head D, provided with a funnel-shaped socket and a projecting hook-shaped fastening-bar attached rigidly thereto, jointed to shaft C, in combination with the spring-actuated shaft S and the swiveling screw-rod E, that connects said shaft with said coupler-head, whereby said coupler-head is maintained in a horizontal position until moved up or down in the act of coupling, and the yoke W, that retains said coupler-head in a central position on one side, and the laterally-movable bar P, that retains said coupler-head in a central position on the other side until moved laterally in the act of coupling, substantially as described.

6. The shaft C, mounted in cross-heads B B, and provided with three bands or collars, in combination with two springs surrounding said shaft between said cross-heads, and separated by the central collar, and in connection with the vertically and laterally movable coupler-head D, as set forth, substantially as described, for the purpose specified.

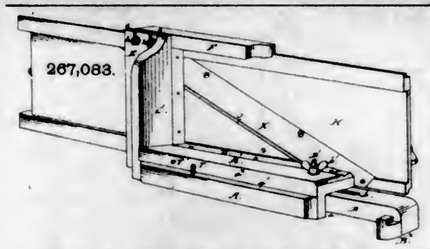
7. In combination with a coupler-head, jointed so as to be movable vertically and laterally, as set forth, the shaft S, mounted in suitable bearings, and provided with a central collar and two springs between said collar and bearings, and the swiveling screw-rod E, connecting the shaft S and the coupler-head, whereby the coupler-head is maintained in a central or horizontal position until moved up or down in the act of coupling, substantially as described.

8. In combination with the laterally-movable coupler-head D, the bar P, mounted in suitable bearings and provided with the anti-friction roll *a*, and the spring P', all arranged and adapted to operate substantially as and for the purpose specified.

9. The combination of the laterally-movable coupler-head D, the yoke W, that surrounds said coupler-head, and rigidly secured to the bunter U in close proximity to said coupler-head on one side, so as to prevent said coupler-head from passing beyond a central position, and the laterally-movable spring P', so as to allow said coupler-head to move a limited distance on the other side, substantially as described.

267,083. MEAT-SLICING MACHINE. ANTHONY IBER and ALBERT IBER, Lancaster, Pa., assignors of one-half to Robert M Slaymaker, same place. Filed July 10, 1882. (No model.)

267,083.



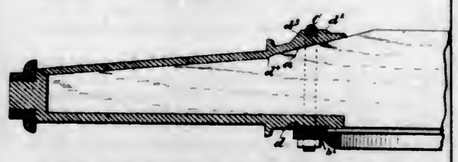
Claim.—1. A slicing-knife, a knife-frame, and a gage-board obliquely adjustable in said frame, in combination with an obliquely-slotted plate on said gage-board, a stud on said frame which enters said slot, a bracket attached to said frame, a screw-tapped plate attached to the end of said gage-board, a pair of guide-rods attached to said plate and extending obliquely through holes in said bracket, and an adjusting-screw extending obliquely through said bracket into said screw-tapped plate.

2. The base A of a meat-slicing machine, having a longitudinal channel, *a*, in its under side, in combination with a reversible and longitudinally-movable slide, B, which fits in said channel, and a clamp-screw and nut for locking said slide in any position desired, said slide having a slot to receive said screw, and being provided at one end with a block, B^2, substantially as set forth.

3. In combination with the cutter-table provided with a pin, a supplemental cutter-table provided with sockets or recesses adapted to receive said pin, said supplemental table being adapted to sit upon the main cutting-table and to be held there by said pin and socket, substantially as set forth.

4. A slicer-knife, a cutter-table having a lower platform, and a pin extending upward therefrom, in combination with a supplemental cutting-table which has a block on its under side at the front and the two sockets *a a'*, arranged as stated, whereby either of them may be used for attaching this supplemental table to the main cutting-table, as set forth.

267,084. WAGON-AXLE. HENRY JAMES, Memphis, Tenn. Filed Sept. 7, 1882. (No model.)



Claim.—The combination, with the axle-tree A and the skein, of the T-shaped truss-bar B, formed at its end with a cross-bar, b^3, seated in a transverse recess in the skein, and the clip C, seated on the skein and having its ends passed through the ends of the cross-bars formed on the truss-bar and confined in place by nuts or similar means, substantially as described.

267,085. PROCESS OF MANUFACTURING SALT. ANDREW JOHNSON, Saginaw, assignor of one-half to JAMES W. PERRIS, East Saginaw, Mich. Filed July 3, 1882. (No model.)

Claim.—1. In a steam salt-grainer, pivoted scrapers adapted to automatically force the salt in one direction and to rigidly back over the salt, as and for the purposes set forth.

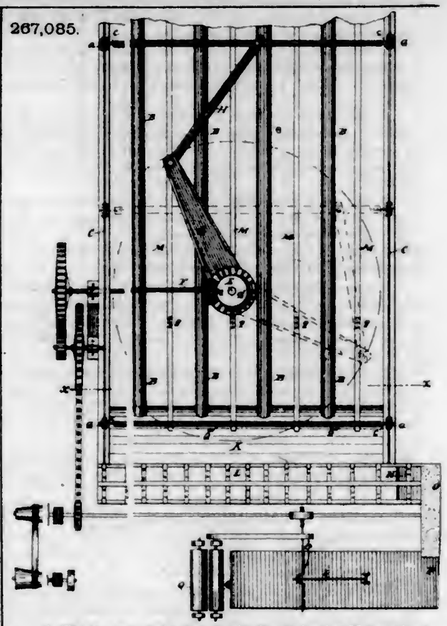
2. The pivoted scraper I J, combined with the truck and with connections G H to the power-shaft, as and for the purposes set forth.

3. In combination with a salt-grainer having an inclined plane at the head and with a washing-trough adjacent to the top of said incline, mechanical appliances, substantially as described, for forcing the salt from the grainer up the incline and into the washing-trough into a drainer automatically and continuously, as specified.

4. In combination with a salt-grainer having an incline at the head, a washing-trough having an incline and a drainer adjacent thereto, a drying-pan having a reciprocating motion, and mechanical means, substantially as described and shown, for automatically forcing the grained salt from the grainer to the drainer, as described.

5. In combination with a salt-grainer and washing-trough and means for automatically forcing the salt from the former to and past the latter, a drainer, a drying-pan, and a pair of adjustable rolls for grinding the salt more or less fine, all working automatically, as and for the purposes set forth.

267,085.

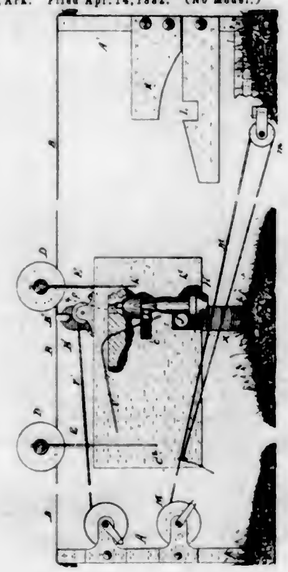


6. The grainer A, having tracks C and incline K, combined with the trough L, having incline N, combined with a truck, M, operating means E G H, and the scrapers, as set forth.

7. The hinged truck M *g* and grainer A, having tracks C and incline K, combined with the shaft E, arm G, link H, bars *b' b''*, and pivoted scrapers I J, as and for the purpose set forth.

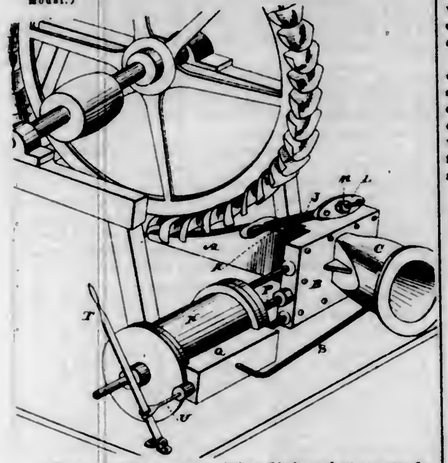
8. The combination of the grainer A, having incline K, truck M *g*, and scrapers I J, the operating mechanism therefor, the washing-trough L, having scrapers and incline, the drainer O, reciprocating drier P, and grinding-rolls Q, all constructed, arranged, and adapted to serve as and for the purposes set forth.

267,086. WATER-CARRIER. ELIJAH R. KILLINGSWORTH, Cord, Ark. Filed Apr. 14, 1882. (No model.)



Claim.—In a water hoisting and carrying device, the means for securing and releasing the vessel, consisting of the supporting-piece H, socket c^2, bar I, and means for moving the bar I toward and from the piece H, substantially as set forth.

267,087. GATE AND NOZZLE FOR WATER-WHEELS. SAMUEL N. KNIGHT, Sutter Creek, Cal. Filed Feb. 25, 1882. (No model.)



Claim.—1. In a nozzle consisting of independent passages for the discharge of water under pressure upon a wheel rotating in a vertical plane, the gate having ports by which one, two, or more of the passages may be opened or closed, in combination with a piston moving within a cylinder and connected with the gate by its piston-rod, so that a pressure of water admitted to either side of the piston will move the gate across the water-passages, substantially as herein described.

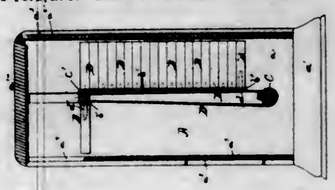
2. The nozzle A for the discharge of water in independent parallel streams upon the periphery of a vertically-rotating wheel, as shown, in combination with the transversely-moving gate E, having many ports, the cylinder N, piston O, and rod P, valve R, and the pipe S, leading from the main supply-pipe to the valve-chamber, substantially as and for the purpose herein described.

3. The nozzle A, having independent parallel ports, and gate E, as shown, in combination with the independent gate I, and stem, whereby the opening of the upper port may be regulated, substantially as herein shown.

4. In combination with a wheel rotating in a vertical plane and having buckets arranged around its periphery, the independent parallel water-passages placed one above the other in the plane of rotation and exterior to the wheel, and the gate E, sliding transversely across the passages, and having openings F G H of different heights, substantially as described.

5. In combination with a wheel rotating in a vertical plane and having peripheral buckets into which water under pressure may be discharged through a nozzle consisting of two or more independent parallel passages or chambers, as shown, the main gate E, having ports of different sizes, the piston N, moving in a cylinder and connected with the gate by its piston-rod, and the supplemental gate I, with its independent actuating-stem, substantially as herein described.

267,088. OPTOMETER. JAMES LEE, New Brighton, assignor to Louis W. Levy, Edward Dreyfus, and Philip Hecht, all of New York, N. Y. Filed Mar. 23, 1882. (No model.)

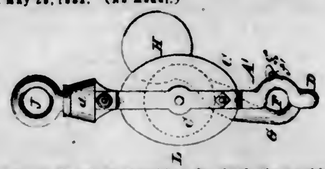


Claim.—1. In an optometer, the combination of the inclosing case A, the described lenses fixed on the flexible strip or apron *b'*, the shafts C and C', and the belt D, secured to said strip or apron, and having its opposite ends fixed to and adapted to coil upon said shaft C, all as and for the purpose specified.

2. In an optometer, the combination of the inclosing case A, having the nose-opening a^4 between the eye-openings a^4 on the front thereof, and the lens-frames B, capable of being passed flatwise successively around the shaft C', and having the notches or concaves b^2 in their outer longitudinal edges, between the lens-openings *b*, substantially as and for the purpose specified.

3. In an optometer composed of a case, A, containing a series of lenses, B, capable of being carried by a belt or apron successively into the range of vision through the instrument, the sides *a* of the case, fixed in the base *a'*, and having the bearings of the operating-shafts, the front plate, a^2, in which are the eye-openings, working in the grooves a^3, together with the sliding cover a^4, and the plate a^1, fixed in grooves a^3, and plate a^5, sliding in said grooves and constituting the back, all as described.

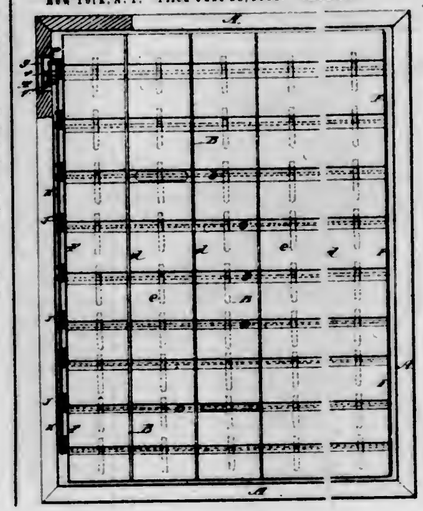
267,089. SWIVEL-HOOK. GEORGE W. LEIBMANN, Buffalo, N. Y., assignor of one-half to TIMOTHY GINGRAS, same place. Filed May 25, 1882. (No model.)



Claim.—1. In a boat-detaching, &c., hook, the combination, with an O-shaped frame having in its lower part the indents E, of a pivoted hook, F, provided with a counter-weight, H, said hook being pivoted between the parallel members A' A'' of said frame, and constructed to operate in conjunction with the said indentations E in said frame, substantially in the manner as and for the object stated.

2. The improvement in detaching-hooks, substantially as described, consisting essentially in the combination, with an O-shaped frame having in its lower parts semicircular indents E, of a hook, F, having on one end the curved part or hook proper, forming in conjunction with said semicircular indents E a substantially-circular aperture for the reception of a ring, &c., and on its opposite end a counter-weight, H, said curved part *g* being provided with an aperture, *f*, for the reception of a locking-pin, *f'*, and the whole constructed for operation substantially in the manner as and for the use and purpose specified.

267,090. TRAY FOR FINGER-RINGS. BENJAMIN LEMKOWITZ, New York, N. Y. Filed June 22, 1882. (Model.)



Claim.—1. In a tray for holding finger-rings, the combination of a series of shafts carrying bolts adapted to be operated by them, a series of arms attached to said shafts, and a connecting rod or bar having said arms pivoted thereto, whereby all of said bolts may be operated simultaneously, substantially as herein described.

2. The combination, with the shafts G, carrying bolts adapted to be operated by them, the arms J, connecting rod or bar K, and plate L, of the springs M, for retracting all of said shafts simultaneously, as herein shown and described.

3. The combination, with the plate L, provided with the hole *l* and carried by the shaft G, of the sliding pin P, substantially as and for the purpose herein described.

4. The combination, with the plate L, having the hole *l*, and the pin P, engaging with said plate, of the key R, provided with the pin *s*, substantially as and for the purpose herein described.

5. The combination, with the key R, having the pin *s*, of the plate V, having the central hole, *r*, and arc-shaped slot *y*, substantially as and for the purpose herein described.

267,091. BARREL-HEAD STRENGTHENING DEVICE. OLIVER A. LIBBY, Lowell, Mass., assignor of one-half to James W. Beckett, same place. Filed Aug. 14, 1882. (No model.)



Claim.—1. The plate E and means of securing the same to a barrel-head, C, wholly outside of the inner face of said head, as and for the purpose specified.

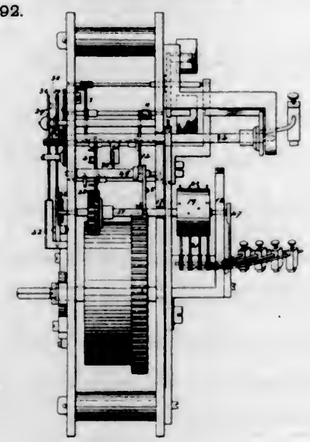
2. The combination of the plate E, provided with holes G', the bolts F and nuts F', and head C, having the counterbored hole G and the ring *i*, as and for the purpose specified.

3. The combination of the plate E, the bolt F, the washer H, of slightly-elastic material, the head C, provided with the counterbored hole G, and means of drawing the head of said bolt against said washer and compressing the same, as and for the purpose specified.

4. The combination of the plate E, the head C, and the bolts F, connecting said plate and head, and running from points near the outer edge of said head to points about half-way between the outer edge and the center of said plate, as and for the purpose specified.

5. In combination with a barrel for containing fermented or aerated liquids, and having wooden heads of the usual construction, a head-strengthening device and means of securing the same to the outer face of a head of said barrel, said strengthening device and securing means being adapted to be placed wholly between the inner face of said head and the adjacent outer ends of the staves of said barrel, as and for the purpose specified.

267,092.



267,092. CHIME-CLOCK. JOSEPH LINDAUER, New York, N.Y., assignor to Tiffany & Co., same place. Filed Mar. 2, 1882. (No model.)

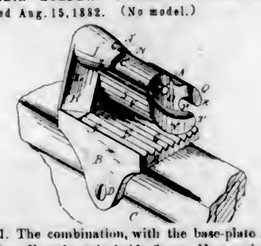
Claim.—1. The combination of an hour-striking mechanism and its bell with a chimes mechanism and its set of chimes, adapted to strike at the full hour and each quarter, both being operated by a single train and mainspring, substantially as described.

2. The combination of the segmental rack 13 with the bevel-faced block 23, chimes-barrel shaft 17, and spring 27, all arranged so as to shift such shaft after the ringing of the chimes, substantially as described.

3. The combination of the segmental rack 13 with bevel-faced block 23, chimes-barrel shaft 17, the spring 27, and the shaft 24, carrying the pin 28, all arranged so as to bring into operation with the train successively the chimes and the hour-striking mechanism, substantially as described.

4. The combination of the snails 1 and 33, the segmental racks 13 and 35 and their attached snail-levers 15 and 34, the levers 10 and 36 and their attached spurs 14 and 37, and the revolving dog 16, with the bevel-faced block, chimes-barrel shaft 17, the spring 27, and the shaft 24, carrying the pin 28, all so arranged as to bring into operation with the train the chimes mechanism at every quarter-hour and the chimes and hour-striking mechanism successively at every full hour, substantially as described.

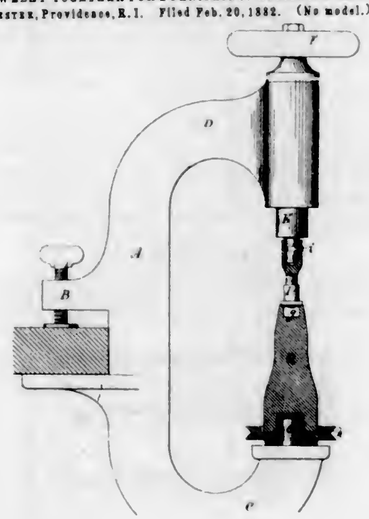
267,093. REIN-HOLDER. GEORGE LIVINGSTON, Oskaloosa, Iowa. Filed Aug. 15, 1882. (No model.)



Claim.—1. The combination, with the base-plate A, having a roughened face, E, and vertical side flange, H, carrying shaft K, and provided with a stop-recess, N, and the coiled spring B', having an arm, C', at each end, of a cam-lever, O, having corresponding recess or groove Y, as set forth.

2. The combination of the base-plate A, having a rearwardly-inclined roughened face, E, and side flange, H, carrying shaft K, and provided with socket M and groove N, the coiled spring B', having an arm, C', at each end, and cam-lever O, having an operating-handle, Q, convexly-curved roughened surface S, recess X, and groove Y, as set forth.

267,094. TOOL FOR HOLDING THE FRAMES AND BACKS OF JEWELRY TOGETHER FOR BURNISHING. BENJAMIN B. MANCHESTER, Providence, R.I. Filed Feb. 20, 1882. (No model.)

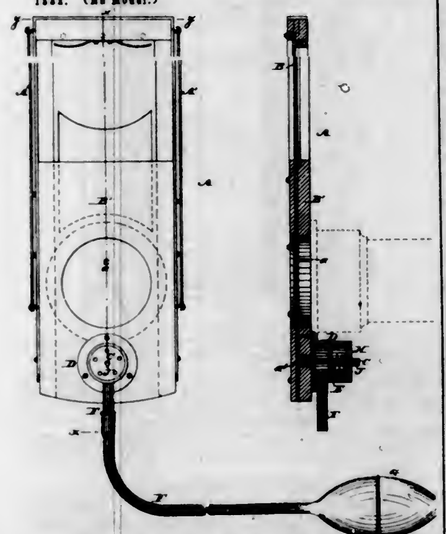


Claim.—1. A tool for holding the backs and frames of jewelry together for burnishing, consisting of a rotating holder and a follower adapted to rotate with the holder, substantially as described.

2. The combination, with the frame A, having brackets C and D, of the rotating holder G, provided with the cavity *g*, and the adjustable spindle E, provided with the follower I, adapted to rotate independently of said spindle, as described.

3. The combination, with the frame A B C D, of the adjustable spindle E, the follower I, the holder G, and whirl *h*, all constructed and arranged to operate substantially as and for the purpose described.

267,095. DROP-SHUTTER FOR INSTANTANEOUS PHOTOGRAPHY. CHARLES H. MANN, Philadelphia, Pa. Filed July 24, 1882. (No model.)

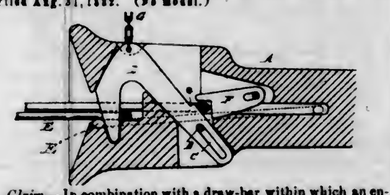


Claim.—1. A photographic drop-shutter provided with a catch, substantially as described, in combination with a chamber and air-forcing device or compressor whereby the air directed into said chamber operates said catch, substantially as and for the purpose set forth.

2. The photographic drop-shutter provided with the catch C, in combination with the chamber D, head or piston E, tube F, air-forcing device or compressor G, and spring H, substantially as and for the purpose set forth.

3. The photographic drop-shutter and its catch, in combination with the rib J, attached to said catch and guided to prevent rotation of the catch, substantially as and for the purpose set forth.

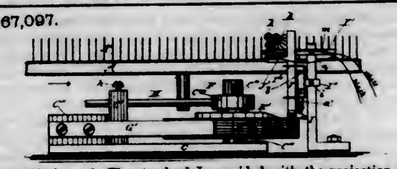
267,096. CAR-COUPLING. JAMES MCCREA, Lansing, Mich. Filed Aug. 31, 1882. (No model.)



Claim.—In combination with a draw-bar within which an entire link is concealed, the hook D, having shoulder *a* and slot C, operating upon pivot B, the pivoted dog F, and link E, as and for the purposes set forth.

267,097. MECHANISM FOR OPERATING THE YARN-GUIDES OF CIRCULAR-KNITTING MACHINES. EDWARD MCDONNELL and JAMES H. SHERWOOD, Amsterdam, N.Y., assignors to said McDonnell, James R. Snell, Charles D. Dean, and Henry O'Bryan. Filed Aug. 4, 1882. (No model.)

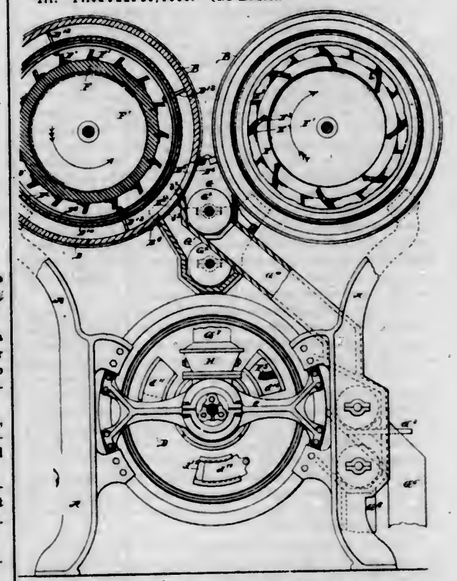
267,097.



Claim.—1. The standard J, provided with the projection *b*, hanger *a'*, thread-guide J', and pulley *a*, combined with a series of stationary thread-guides, I', and movable thread-guides L at the several headings or "feeds" of the springs *p*, the connections *d d' d''* and *e e'*, and mechanism for operating said standard J, all constructed and operating substantially as set forth.

2. The cylinder A, provided with the needles A' and pin B, sinker-barr K, lever C''', pawl G, spring F, plate C, having lugs C' and C'' attached thereto, stump C''', and gage-rod H, the spring-pawl G', ratchet-wheel E, containing the cams E', sinker-stand I, guide-frame I'', provided with the hanger *a'* and pulley *a*, standard J, having attached thereto the thread-guide J', the series of stationary thread-guides I', and movable thread-guides L at the several headings or quarters, and devices for connecting said movable guides L with the standard J, consisting of the wires or cords *d*, *d'*, and *d''* and bell-cranks *e e'*, substantially as shown and described.

267,098. CENTRIFUGAL BOLT. JONATHAN HILLS, Chicago, Ill. Filed June 30, 1882. (No model.)



Claim.—1. In a horizontal centrifugal bolt, the combination of an outer shell, a reel, revolving longitudinal continuously-arranged flier-blades, and a central drum having a close or continuous peripheral surface, together arranged and operating substantially as described, and for the purposes set forth.

2. In a horizontal centrifugal bolt, the combination, with the outer shell and reel, of a flier having a number of longitudinal troughs or recesses in its circumferential surface, said troughs being closed at their bottom and embraced laterally by longitudinal spirally-directed flier-blades, whereby material falling into said recesses is prevented from falling to the bottom of the reel, substantially as described, and for the purposes set forth.

3. In a horizontal centrifugal bolt, the combination, with the outer shell, and with the reel, of a flier consisting of a peripherally-closed drum proximating in diameter that of the reel, and provided with longitudinal spirally-directed blades applied to the circumferential surface thereof, substantially as described, and for the purposes set forth.

4. In a horizontal centrifugal bolt, the combination, with the

surrounding bolting-reel, of the inner drum, and secured to the drum-surface a number of longitudinal blades, each separately adjustable, and shorter than the length of the drum, but arranged together to operate as a continuous blade or series of continuous blades, for the purpose of acting at all points of the reel opposed to the drum, substantially as described.

5. In a horizontal centrifugal bolt, the combination, with the bolting-reel, of an inner flier constructed with one or more series of short blades, arranged substantially longitudinally of the flier, so as to throw the material being acted upon outward against the bolting-reel, said blades for a part of the length of the flier being slightly inclined from a longitudinal direction for the purpose of feeding the material along in the reel, and those near the tail of the reel being less inclined, or otherwise set so as to retard the progress of the material lengthwise of the reel, substantially as described.

6. In a horizontal centrifugal bolt, the combination of an outer stationary shell, an inner rotating bolting-reel, and a central drum having a close or continuous peripheral surface, said drum being provided with longitudinal blades on its peripheral surface, arranged to operate together as a continuous blade or series of continuous blades, and having a rotary motion in the same direction with, but at a higher speed than, the reel, whereby material being bolted is prevented from overloading the bottom of the reel, substantially as described.

7. In a centrifugal bolt, the combination, with the flier-drum F and with the reel having an opening or openings in its front end for the admission of air, of oblique blades applied to the front end of the drum to induce an air-current through the reel-head by the rotation of the drum, substantially as described.

8. In a reel, the combination, with a fastening for securing the reel-cloth at one end thereof, of an adjustable fastening for the opposite end, consisting essentially of a contractible clamping-hoop, D^{10}, provided with external hooks, d', and tension-rods d^9, combined with the reel-rim D', substantially as described.

9. In a centrifugal bolt, the combination, with the feed-spout, having a door, h, and with the reel-head provided with a cam-face, d, of an apertured hopper, H', pivotally mounted within the spout, engaged with the cam and accessible from the door h, whereby objectionable substances in the material to be bolted are retained and may be removed, substantially as described.

10. A group of three centrifugal bolts mounted on a single frame and forming a unitary machine, two of said bolts being elevated equally and the third arranged centrally beneath them, combined with conveyers and a spout or spouts forming part of the machine, whereby material may pass from either of the elevated bolts to the lower one, substantially as described.

11. In a group of two or more centrifugal bolts, the combination of two of said bolts, arranged side by side, inclosing chests therefor provided with discharge-openings on their adjacent sides, and a conveyer box or boxes located between said two bolts, and common to both, the moving parts in said bolts which carry the bolted flour out of the chests being arranged to revolve in opposite directions inwardly and upwardly, substantially as described.

12. As a means for communicating reduced motion from a flier-shaft to the reel and conveyer-shafts in a centrifugal bolt, the combination, with a rotating reel, a flier, and two parallel conveyers, of gear connecting the conveyer-shafts with each other, reducing-gear leading from the flier to one of said conveyer-shafts, and gear leading from the other of said conveyers to the reel, substantially as described.

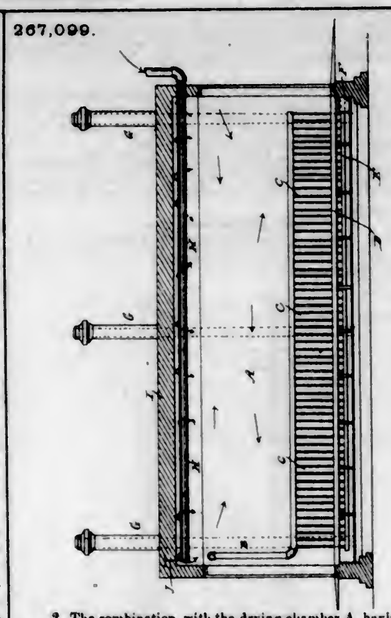
13. In a group of three centrifugal bolts arranged as shown, the combination of the flier-shaft E, the driving-belt E^3, the conveyer-shafts G^4 and G^3, gear-wheels g, g', and g^3, fixed pulley I^1, loose pulley I^2, having the pinion i, flier-pulleys I, I', and I^2, arranged in the plane of I^1, reel-pulleys I', I^2, and I^3 in the plane of the pulley I^1, the conveyer-pulleys I^3 and I^4, also in the plane of the pulley I^1, the belts R and R', and tightening-pulleys J and J', arranged in the respective planes of said belts and located at the left of pulleys I' and I^3, substantially as described

14. In a group of centrifugal bolts, the combination, with the flier, reel, and conveyer-shafts and their pulleys, and with the belt or belts forming the "drive" of the group, of the fixed head J^4, provided with a recess, J^{10}, the arm J^5, supporting a pulley or pulleys on an axis, J^6, at right angles with said arm, a screw, J^7 J^8, arranged and applied as shown, and a spring, J^9, interposed between the head J^4 and wheel or head J^8, all substantially as described, and for the purpose set forth.

267,099. DRYING-KILN. OLIVER HOOKS, Mount Clemens, Mich. Filed May 10, 1882. (No model.)

Claim.—1. A dry-kiln wherein the radiating pipes C E, tracks D, trap F, flues G, and air-pipe H are arranged and operate substantially in the manner and for the purposes specified.

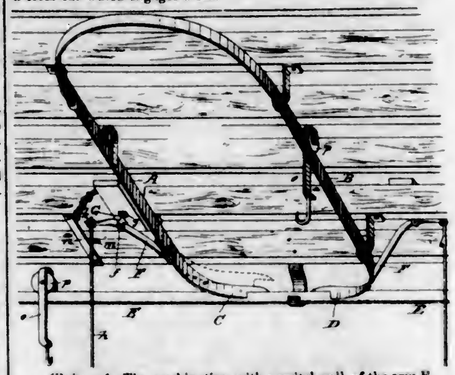
267,099.



2. The combination, with the drying-chamber A, having flues G and radiators C, of the pipe H, secured near the top of the drying-chamber and having perforations in its upper surface, and suitable means for causing a supply of dry air to flow through said pipe into the drying-kiln, substantially as described.

267,100. SWITCH-RAIL FOR SLAUGHTERING ESTABLISHMENTS. ROBERT NEILL, Chicago, Ill. Filed Mar. 14, 1882. (No model.)

Brief.—The switch-rail is operated by an arm pivoted to a screw-threaded supporting-rod held by two nuts. A handle-rod is connected by a screw-thread and nut to the pivoted arm, and has a cross-bar which engages a bar.



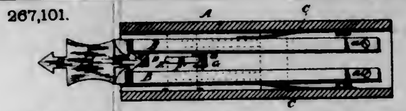
Claim.—1. The combination, with a switch-rail, of the arm F, the fulcrum f, the rod or handle h, and the bar n, all arranged and constructed substantially as described, and for the purpose specified.

2. In an improved slaughter-house switch device, the switch-rail C, in combination with the arm F, the rod or support G, the fulcrum f, the nuts g and r, the handle h, the nut k, the cross-rod or projection m, and the bar n, all arranged, constructed, and operated substantially as described, and for the purpose specified.

267,101. CAR-COUPLING. JOHN B. NELSON, Viola, Tex. Filed Sept. 13, 1882. (No model.)

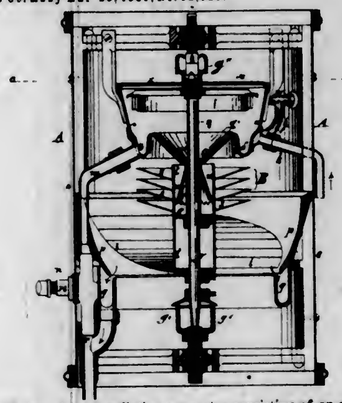
Claim.—In a car-coupling, the combination, with the parallel

267,101.



spring-jaws arranged in the draw-bar or case, of the cam and its shaft, said jaws having L-shaped bars, with their shorter portions disposed parallel with the said cam, substantially as and for the purpose set forth.

267,102. VENTILATING APPARATUS. EMIL H. C. OEHLMANN, Berlin, Germany. Filed Mar. 27, 1882. (No model.) Patented in Germany Mar 26, 1880; No. 12,520.



Claim.—1. A ventilating apparatus consisting of an exterior casing, of a water-wheel and water-wheel casing, of a water-spray apparatus below the water-wheel casing, and of a ventilating-fan below the water-spray apparatus, both the water-spray apparatus and fan being revolved by the water-wheel, substantially as set forth.

2. In a ventilating apparatus, a water-spray apparatus consisting of a number of dishing trays secured to a fixed perforated cylinder which is closed at the bottom and provided with an interior deflector having a lower serrated edge, substantially as set forth.

3. The combination of an exterior casing, a water-wheel, a water-wheel casing having a funnel-shaped bottom, a water-spray apparatus, a ventilating-fan, a conducting-funnel of parabolic shape around the fan, and a water-collecting gutter below the funnel, substantially as set forth.

4. In a ventilating apparatus, the combination of a main casing, a water-wheel inclosed by an interior casing, a disinfecting apparatus below the water-wheel, and a ventilating-fan, the ventilating-fan and disinfecting apparatus being secured to the water-wheel shaft and revolved therewith, substantially as set forth.

5. In a ventilating apparatus, the combination, with the water-wheel shaft, of a disinfecting apparatus composed of radial supporting-arms and of a wire-gauze tray having concentric pockets for the absorptive material, substantially as described.

6. In a ventilating apparatus, a water-wheel and its inclosing casing, the latter arranged with a bottom having a funnel-shaped center portion and an annular, encircling gutter, in combination with a water-spray apparatus below the casing, a water-supply pipe, a water-discharge pipe connected to the bottom of the gutter, and a water-discharge pipe for the water-spray apparatus, so that the water can be conducted off directly or supplied to the spray apparatus, substantially as described.

267,103. FAUCET. EDWIN F. PIERCE, Milwaukee, Wis. Filed Dec. 27, 1881. Renewed Sept. 23, 1882. (No model.)

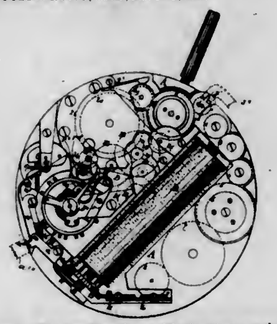


Claim.—1. In a single faucet, the combination and arrangement of two stoppers upon a single connecting-rod, one of said stoppers being located below the spout and adapted to close with the water, and the other located above the spout and adapted to be closed against the water and serve as a packing to prevent the escape of water around the faucet-stem when said lower stopper is opened, substantially as set forth.

2. In faucets, the device for communicating downward pressure to said valves, consisting in the combination of stem G, axle E, provided with anti-friction rollers F F, and stationary disk I, provided with cams D D, said stem G being formed in a separate piece from and adapted to bear upon said rod as it is revolved, substantially as set forth.

3. In faucets, the combination, within the barrel or body thereof, of stopper A, located above the spout, stopper B, located below the spout, connecting-rod C, stem G, handle H, disk I, cams D D, rollers F F, and axle E, all substantially as set forth.

267,104. STEM-WINDING MUSICAL WATCH. LÉON PIGUET, Geneva, Switzerland. Filed June 5, 1882. (No model.) Patented in France Nov. 8, 1881, No. 144,866.



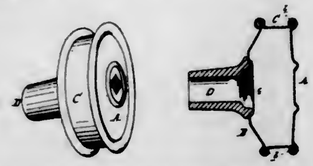
Claim.—1. The combination, with the time mechanism in a watch, of a music-barrel and tongues, a spring and gearing to revolve the barrel, the parts being arranged, substantially as shown, so that the gearing and ply of the music-barrel are near the edges of the pillar-plate and do not interfere with the time mechanism, substantially as specified.

2. The combination, with the time mechanism and spring-barrel in a watch, of a music-barrel, gearing and spring, and a stem-winding mechanism and rocker-plate G, and gearing, substantially as specified, whereby the stem-winding mechanism is disconnected from the spring-barrel of the watch when in gear for winding the spring of the music-barrel, as set forth.

3. In a watch containing time mechanism and its spring and a music-barrel and its actuating-spring, a stem-winding mechanism and a rocker-plate for connecting the stem-winder and gearing with either one of the spring-barrels, substantially as specified.

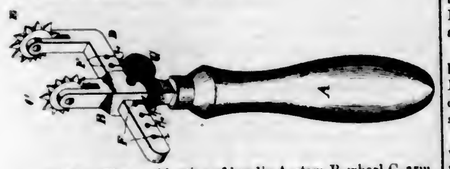
4. The combination, in a watch, of a time mechanism and its spring-barrel, a music-barrel and its spring, a rocker-plate and gearing, a train of gearing to the hands, and a crown-wheel and mechanism for connecting the same with the hands' gears by an end movement of the stem, substantially as set forth.

267,105. MANUFACTURE OF METALLIC DOOR-KNOBS. CHARLES PUDDEFOOT, Detroit, Mich., assignor to the Detroit Stamping Company, same place. Filed Aug. 10, 1882. (No model.)



Claim.—The process of manufacturing door-knobs herein described, consisting in first forming and pressing the metal into sections, then securing the back section to the knob-socket by pressure, then similarly securing the body to the back portion, and finally securing the front section to the body, the securing means being of the material at the several points of contact, as specified.

267,106. PATTERN-TRACER. LOUISE J. PURDY, St. Louis, Mo. Filed June 15, 1882. (No model.)



Claim.—The combination of handle A, stem B, wheel C, arm D, wheel E, and set-screw G, all constructed substantially as and for the purpose set forth.

267,107. PATTERN-TRACER. LOUISE J. PURDY, St. Louis, Mo. Filed July 10, 1882. (No model.)



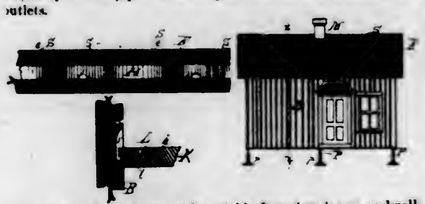
Claim.—The combination of handle A, screw-threaded pin B, hollow stem C, having opening E and wheel D, and adjustable arm F, circular in cross-section to adapt it to turn, having wheel G, all substantially as shown and described, for the purpose set forth.

267,108. HARDENING EXPLOSIVE GRANULATED POWDERS CONTAINING NITRO-CELLULOSE, &c. WALTER F. REID, Stowmarket, County of Suffolk, and DAVID JOHNSON, Chester, County of Chester, England. Filed Feb. 28, 1882. (No specimens.)

Claim.—The method herein specified of hardening explosive granulated powders containing nitro-cellulose or solid organic nitro compounds, consisting in moistening such grains with a spirit, as described, and preventing the adhesion of the grains, substantially as set forth.

267,109. PORTABLE HOUSE. JAMES REILLY, Sherbrooke, Quebec, Canada. Filed Apr. 20, 1882. (No model.)

Brief.—The house is frameless, with its sides, ends, and roof made of sections detachably joined together and constructed of two thicknesses of boards. One layer of boards has its joints united by tongue and groove, the tongue being grooved and the joints having double beads. The two layers of boards break joints. An air-space is formed in the roof by interposed cleats having waveline surfaces grooved at their lowest points. Sheets of water-proof material are placed on the lower layer of the roof-boards. The ends of the notched floor-beams rest in mortises in the walls, and a hook-plate on the former engages a plate over the mortise. The halves of the roof are detachably joined together and to the walls by angle-irons. Under posts consist of a screw-rod with extended base, the rod secured to the sill by nuts and encircled part of its length by a loose pipe. The air-space in the roof is provided with outlets.



Claim.—1. An improved portable frameless house or dwelling having its sides, ends, and roof detachably joined to one another, and said sides, ends, and roof composed each of sections detachably joined together and constructed of two thicknesses of boards, substantially as shown and described.

2. In an improved portable house, the sections *b*, composed of two thicknesses of boards, said sections detachably held together by means of the compound joint D, substantially as set forth.

3. An improved house or building, having its sides and ends made of two walls or thicknesses and divided into sections, said sections detachably joined together by means of the compound joint, as described, and for the purpose set forth.

4. In a portable house or building, the roof formed of sections detachably joined together, said sections composed of two thicknesses of boards secured to the intermediate transverse cleats, H, the latter provided with the openings, as shown and described, and for the purpose set forth.

5. An improved house or building, having its roof divided into halves, said halves detachably held together with the angle-irons F, the halves constructed of sections joined together, and the whole detachably secured to the sides of the building by means of the angle-irons G, as set forth.

6. An improved house or building, having a double roof provided with an intermediate air-space, and divided into halves detachably held together with the angle-irons F, said halves constructed of sections joined together, and the whole detachably secured to the sides of the building by means of the angle-irons G, substantially as set forth.

7. The sectional roof provided at its joints with the double bead S, and the tongue provided with a groove, *e*, as shown, and for the purpose set forth.

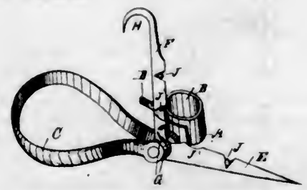
8. The double roof having the intermediate air-space and layer or layers of water-proof material, and the cleats having each a wave-line surface and provided with grooves meeting the lowest points of said wave-line surface, as shown, and for the purpose set forth.

9. In a portable house, a gable-roof provided with the openings T and divided along its ridge into halves, said halves connected together and formed of sections detachably joined together and composed of two layers of boards secured to the intermediate transverse cleats, H, provided with the openings, as shown and described, and for the purpose set forth.

10. The combination, with the sides B, having the mortises and plates *l*, arranged as described, of the notched floor-beams K *k*, provided with locks L, as shown and described, and for the purpose set forth.

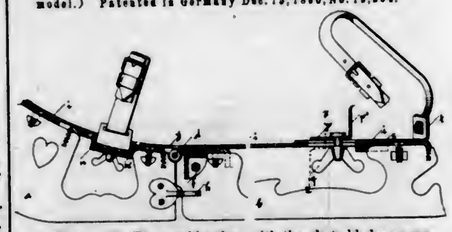
11. The herein-described anchor-post, composed of the extended base and the screw-rod having a nut or nuts, and provided with a loose pipe encircling said screw-rod a part of its length, as shown and described, and for the purpose set forth.

267,110. COMBINED MINER'S CANDLE-HOLDER AND FUSE-CUTTER. JOSEPH RETALLACK, Central City, assignor of two-thirds to Oliver S. Underhill, South Pueblo, Colo. Filed Oct. 8, 1881. (No model.)



Claim.—The combination, with the U-shaped spring-handle C, of the candle-holder B and the cutter-blades E and F, pivoted between the free ends of the handle, said cutter-blades being provided with notches J and J', and adapted to be folded within the handle, substantially as set forth.

267,111. SKATE. ERNST KIERLING, Bornikow, near Königsberg in the Neumark, Prussia, Germany. Filed Feb. 28, 1882. (No model.) Patented in Germany Dec. 15, 1880, No. 16,264.



Claim.—1. The combination, with the skate blades or runners *a b*, hinged at the top, as described, of the guide A, for permitting free motion of the blades on the hinge, but preventing the blades from moving laterally out of line with each other, substantially as described.

2. The combination, with the blades *a b*, hinged together as described, of the elastic metal foot-plate *i*, extending from end to end of the skate, and having the slots *k k'* over the hinge to increase its flexibility at that point, substantially as described.

3. The combination, with the foot-plate *i*, of the longitudinally-sliding heel-plate *r*, having the upturned ends *t t*, with the adjustable sliding plate *p*, having the spur *p'*, and the thumb-screw *q*, whereby either the plate *r* or the plate *p*, or both, can be adjusted longitudinally and locked in adjusted position by the set-screw, substantially as described.

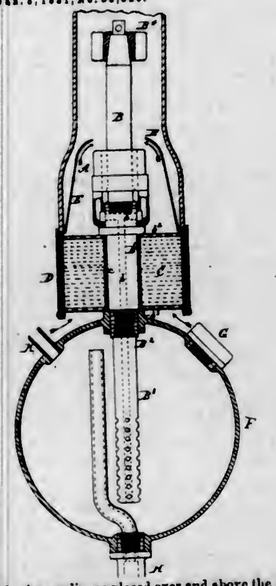
267,112. SPRING-RING. LUCIUS H. SANDERSON, New York, N. Y., assignor to Lysander Stillwell, Newark, N. J. Filed Jan. 21, 1881. (Model.)



Claim.—1. In a spring-ring, the tubular section B, containing a loosely-arranged coil-spring having at one end a sliding catch, and at the other end a toe-piece capable of being moved under the conditions and in the manner as hereinbefore stated.

2. A spring-ring consisting of the sections B and C, with a coil-spring, *b*, a sliding catch, *d*, a locking device, *h*, and a movable piece, *e*, substantially as described.

267,113. GAS-LAMP. CHARLES W. SIEMENS, Westminster, County of Middlesex, England. Filed May 2, 1882. (No model.) Patented in England Nov. 13, 1880, No. 4,838; in France Jan. 6, 1881, No. 140,509; in Germany Jan. 7, 1881, No. 15,467, and in Belgium Jan. 8, 1881, No. 53,520.



Claim.—1. An appliance placed over and above the flame for abstracting heat from the products of combustion and conveying such waste heat, by means of one or more solid metallic stems or rods of good heat-conductivity, to the lower part of the lamp, wherein the incoming air is heated previous to combustion.

2. A chamber for heating the air on its way to supply the flame, consisting of metallic surfaces externally covered with imperfectly-conducting or refractory material, substantially as described.

3. The appliance herein described, placed over and above the flame, for abstracting heat from the products of combustion and conveying such waste heat, by means of one or more solid metallic stems or rods of good heat-conductivity, to the lower part of the lamp, whereby the combustible gas may be heated or be generated from hydrocarbons previous to combustion.

4. The stem situated outside the burner, with extended metallic surfaces at its upper and lower parts, the former being exposed to the heat of the flame, while the latter serves to heat the air and gas supplying the burner, substantially as shown and described.

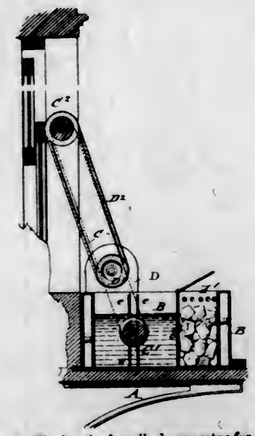
5. The combination, with the stem B', having a collar, *b'*, and nut *b''*, of a number of annular metal disks, C, kept a little distance apart by rings *c*, as and for the purpose specified.

6. The combination of the burner and the perforated metal plate or wire-gauze, placed over a grating at the foot of the burner, for breaking up the incoming air-current and increasing the heating-surface to which it is exposed.

7. The heat-conducting stem B, coated with a refractory substance capable of refracting light and protecting it from the flame, substantially as described.

8. The heat-conducting stem situated outside the burner, coated with a substance or substances capable of resisting heat and refracting light.

267,114. APPARATUS FOR COOLING AIR. JOHN P. L. SIMON and CHARLES ABELL, New York, N. Y. Filed Mar. 1, 1882. (No model.)



Claim.—1. The herein-described apparatus for cooling atmospheric air, consisting of a water-tank, an endless evaporating-apron, the lower roller of which is vertically guided within the tank, while the upper is mounted to the window-frame, and of a suitable motor and transmitting mechanism, whereby a slow continuous motion is imparted to the evaporating-apron, substantially as and for the purpose set forth.

2. The combination of a refrigerating-tank supported on a level with or below the window-sill, said tank being provided with an ice-chamber, with an endless evaporating-apron stretched on rollers, the lower one of which is vertically guided within the tank, while the upper one is applied to the window-frame, and with a suitable motor for imparting a slow and continuous motion to the apron, substantially as set forth.

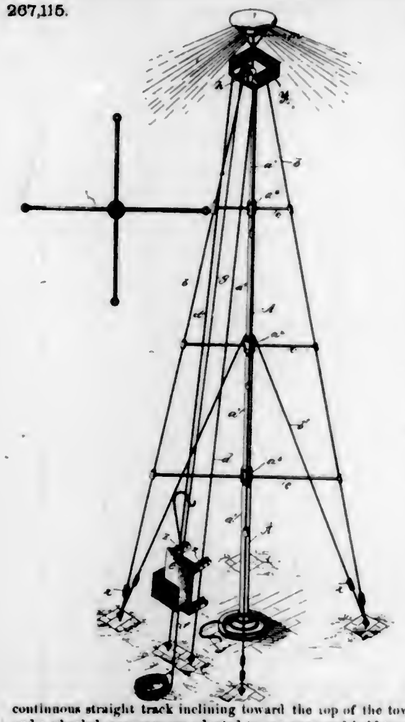
3. The combination of a water-tank having an ice-chamber and a surrounding air-chamber, an endless evaporating-apron, the lower guide-roller of which is vertically movable in interior guides of the tank, while the upper roller is mounted to the window-frame, a suitable motor, and transmitting mechanism connecting the motor with the upper roller of the apron, substantially as specified.

267,115. TOWER FOR ELECTRIC LIGHTS, &c. CHARLES D. F. SMITH, Aurora, Ill. Filed July 29, 1882. (No model.)

Brief.—Guys or stays pass through the ends of the arms, which are secured at intervals to the central tubular column, and an inclined cable-track is arranged for a passenger-cab to be run up and down upon by means of a counterweighted cable attached to the car and passing up over a pulley on the top of the tower and down through the central tube to a windlass on the ground.

Claim.—1. In combination with a tower adapted for elevated electric lights, &c., the parallel cable-tracks *d d*, secured at the base or ground, and also at the top of the tower, and forming a

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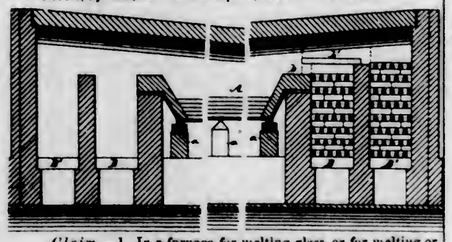
continuous straight track inclining toward the top of the tower, and a wheeled passenger-car adapted to run upon and hold to such tracks, substantially as shown and described.

2. In combination with the tubular tower, the inclined cable-tracks *d d*, and the car arranged to be run up and down thereon, the cord or cable *g* and the counterpoise *i*, placed within the tubular column and adapted to rise and fall therein.

3. In combination, the central tubular column, the inclined cable-tracks *d d*, the car *c*, cord or cable *g*, counterpoise *i*, cord or cable *j*, and pulley I, substantially as and for the purposes set forth.

4. In combination, the tubular central column, the guys or stays *b b'*, and the horizontal braces or ties made and applied to the column and to the guys or stays, and adapted for adjustment, as set forth.

267,116. FURNACE FOR MELTING GLASS, &c. MARTIN V. SMITH, Tyrone, Pa. Filed Sept. 8, 1882. (No model.)



Claim.—1. In a furnace for melting glass, or for melting or heating other substances, the combination of a melting-tank with the gas and air heating devices, substantially such as described, located above the ground or on the floor-level of the furnace and in juxtaposition to said melting-furnace, as set forth.

2. In a furnace for melting glass or metal, the checker-work of the air-heating compartment arranged so as to extend above the point at which the gas enters the combustion or melting chamber, as set forth.

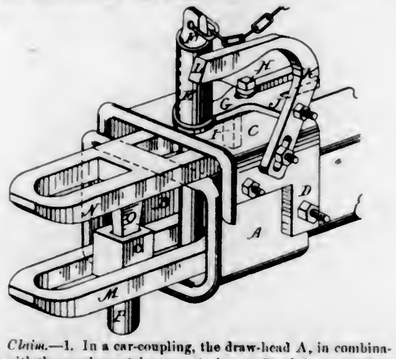
3. In a furnace for melting glass or metal, the combination of the melting-tank with regenerators arranged at each end thereof in close proximity thereto, and all inclosed within or under a common roof or arch, whereby the construction of separate arches for the regenerators are dispensed with, as set forth.

4. In a furnace for melting glass or metal, the combination of the openings *b* in the walls of the melting-tank with the slat *b'* for covering the checker-work of the gas-regenerator, whereby the gas is directed into the melting or combustion chamber in a horizontal line and direct from the regenerator, as set forth.

5. In a regenerator-furnace for melting glass or metal, the valves for controlling the direction of the air and gas, located within vertical supply-pipes on or above the floor-level and to the rear of the working-face of the furnace, for the purpose set forth.

6. In a regenerative furnace for melting glass or metal, the valves for controlling the ingress of air and gas to the regenerators, located within vertical supply-pipes, and provided with weighted levers to facilitate the operation of said valves, as set forth.

267,117. CAR-COUPLING. THERON A. SMITH, Arbuckle, Cal. Filed July 31, 1882. (No model.)



Claim.—1. In a car-coupling, the draw-head A, in combination with the supplemental cap or attachment C and the double link M N, centrally united, substantially as herein described.

2. In a car-coupling, the attachment C, mounted above the draw-head A, and having the sliding pin-support G, the projecting arms I and J, and the weighted or spring lever K, substantially as and for the purpose herein described.

3. In a car-coupling, the two links M and N, having the jointed central uniting arm or connection O, in combination with the draw-head A and the superposed attachment C, substantially as herein described.

4. The double connected link M N of a car-coupling, with the extension P, projecting downward from the center of the lower link, so as to rest against the front of the draw-head and hold the links level, substantially as herein described.

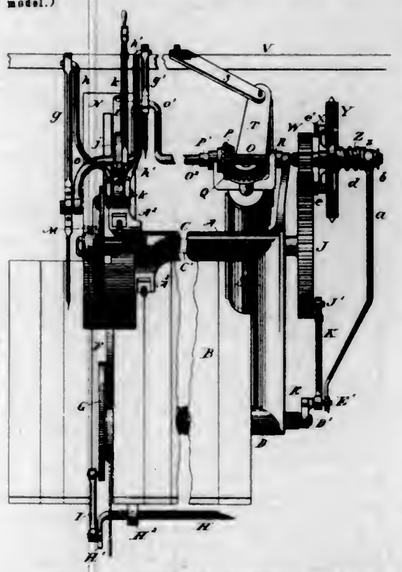
267,118. STEP-LADDER. HENRY P. SPENCER, Howell, Mich. Filed May 24, 1882. (No model.)

Brief.—On a square rod attached to the step-frame slides a sleeve on the end of a brace-rod hinged to the stay. Between two ears on said sleeve is pivoted a cam-lever actuated by gravity to automatically lock the sleeve at the point at which it is placed.



Claim.—In a step-ladder, the combination, with the ladder A, prop B, brace-bar C, and sleeve D, of the square or rectangular bar E and cam F, having gravital arm *f*, all constructed, arranged, and operating as and for the purposes set forth.

267,119. GRAIN-BINDER. JOHN F. STEWARD, Chicago, and ROBERT H. DIXON, Ravenswood, Ill. Filed Mar. 6, 1882. (No model.)



Claim.—1. The binder frame or standard constructed, as described, to form a support for the binder, gearing, and the grain-packing and butt-adjusting mechanisms, substantially as set forth.

2. In a grain-binder, an adjusting device operating to engage and advance the butts of the grain and deflect it lengthwise on the receptacle while the gavel is being formed, combined with mechanism to operate the same, and to intermit during the operation of the binding mechanism, substantially as described.

3. The combination, with the binder mechanism, of an intermittingly-revolving shaft, and the grain-adjusting mechanism, arranged and operating substantially as described, whereby the shaft is started by the binder mechanism at or near the completion of its operation.

4. The combination of the intermittent shaft O, for carrying the packers, with the adjuster, also carried and operated by said shaft, substantially as described, whereby the packers and the adjuster have simultaneous intermittent movements.

5. The combination of the intermittingly-operated grain-adjusting mechanism with the intermittingly-operated binding mechanism, connected by means operating alternately, or each to cause the movement of one while the other is at rest.

6. The combination, with the wheel M, of the tyer-frame, supported from and made adjustable around the axis of the wheel, and the adjusting-bracket *i*, substantially as described.

7. The intermittingly-operated shaft O, with the cranks and packers, provided with the double alternately-operating clutching mechanism, in combination with intermittingly-operated binding mechanism, and the continuously-revolving wheel Y, substantially as described.

8. The combination of the packer-shaft provided with its cranks carrying the packing-arms, the pinion P, sliding thereon, the pinion W, mounted loosely thereon, and the clutch Z, with the continuously-revolving wheel Y, carrying the described doubly-acting clutching devices, substantially as described.

9. In a grain-binder, the packing mechanism and means for adjusting the same at will, whereby the attendant may adjust their operative positions to vary the capacity of the receptacle for the purpose specified, substantially as described.

10. The combination of the cranks, the packers carried thereon, and the pivoted links *k k'*, connected to the heels of the packers, and means whereby the links are adjusted in relation to the axis of revolution of the cranks for changing at will the path of movement of the operating-points of the packers, substantially as described.

11. The combination, with the frame A, of the bracket *i*, forming a support for the shaft O, and for the links *k k'*, substantially as described.

12. The combination of the bracket *i*, the packer-shaft mounted thereon, and the lever *k*, the ratchet *j*, links *k k'*, and the packers, arranged and operated substantially as described.

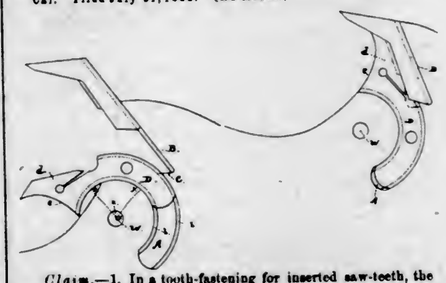
267,120. RUBBER COAT. GEORGE B. THOMSON, St. Louis, Mo. Filed Aug. 11, 1881. (No model.)



Claim.—1. A coat of rubber cloth or other water-proof material, having long skirts or tails adapted to be folded completely around the legs of the wearer, and provided with straps on the outside of the skirts or tails for securing them at the ankles, substantially as described.

2. A coat of rubber cloth or other water-proof material, convertible at will into a combined coat and leggins or trousers, or into a plain coat, substantially as described.

267,121. SAW-TOOTH. ALFRED J. VAN DRAKE, San Francisco, Cal. Filed July 31, 1882. (No model.)



Claim.—1. In a tooth-fastening for inserted saw-teeth, the combination of the curved recess A in the plate and a curved locking-plate, D, which is formed on a curve having a radius less than the radius of the curved recess, substantially as set forth.

2. The combination, with a seat or socket, C, and an inserted saw-tooth, of a recess, A, formed on a curve which is the segment of a circle, and a curved locking-plate, D, formed on a curve of smaller radius than the radius of the recess, and provided with the forward extensions, *d*, substantially as set forth.

267,122. BOX-FASTENER. RELLY M. WILLIAMSON, Chicago, Ill. Filed Aug. 3, 1882. (No model.)



Claim.—1. In combination with the box-front provided with the aperture A', and with the cover arranged to rest on the box-front when closed, the vertical spring-catch C C', arranged over the aperture, secured at its lower end to the inner face of the box-front, and having its hook or head C' directed outwardly, and a loop, D, applied and secured to the cover in position to engage said catch, the whole being located on the interior of the box when closed and arranged substantially as shown and described.

2. In the catch C C', the combination, with the strip of metal bent to form the head C', of the wooden plug E, fitted in the triangular space within the head, and having its projecting ends battered, as a means of securing the same, substantially as described.

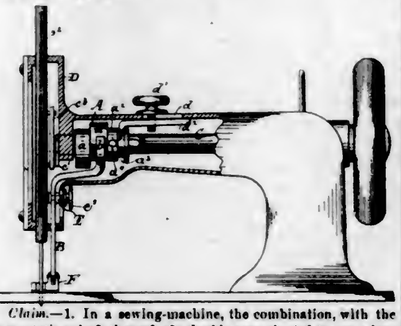
267,123. REGISTER-PIN FOR PRINTING-PRESSES. GIDEON WISE, Faribault, Minn. Filed May 10, 1880. (Model.)

Brief.—The part of the body of the pin which is inserted in the tympan draws down thereupon the part above the tympan and the point of the upright guide.



Claim.—A register-pin having the upright guide A and the spring-body C D E F, of which one part is curved under the other, substantially as described, and for the purposes specified.

267,124. REVERSIBLE FEED MECHANISM FOR SEWING MACHINES. CHARLES ZELNER, New York, N. Y. Filed Aug. 14, 1882. (No model.)



Claim.—1. In a sewing-machine, the combination, with the upper rotating shaft thereof, of a double cam adapted to move longitudinally thereon and rotate therewith, and a lever pivoted to a fixed part of the arm of the machine and connected to the feed mechanism, substantially as and for the purpose set forth.

2. In a sewing-machine, the combination, with a rotating shaft thereof, of a double cam adapted to move longitudinally thereon and rotate therewith, and a bifurcated lever pivoted to a fixed part of the machine and connected to the feed mechanism, substantially as and for the purpose set forth.

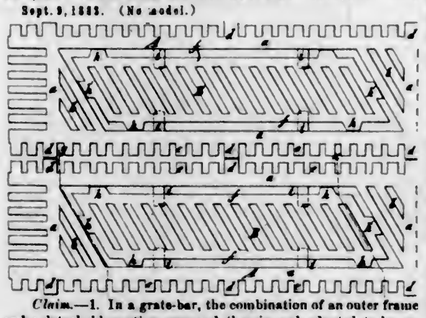
3. The combination of a shaft, a double cam adapted to be moved longitudinally thereon, and a bifurcated lever adjustably pivoted to a fixed part and connected to the feed-dog, substantially as shown and described.

4. The combination of a slotted lever, a washer upon each side thereof, a slotted frame-work, a nut and washer on opposite sides thereof, and a screw-threaded bolt having a shoulder and head, whereby said lever is pivotally and adjustably secured to said frame-work at desired points, substantially as shown and described.

5. The combination of the lever B, double cam A, having grooved collar a^3, the pin a^4, slotted shaft C, the frame-work, slotted as at d, the bent plate d^2 and thumb-nut d^3, pivot E, and feed-dog F, substantially as shown and described.

6. The combination of the slotted lever B, slotted frame-work D, the washers c' c^2 c^4, and the bolt c c^3, having a screw-threaded extension, and the nut c^3, substantially as shown and described.

267,125. GRATE-BAR. RAWLEY ADAMS, New York, N. Y. Filed Sept. 9, 1882. (No model.)



Claim.—1. In a grate-bar, the combination of an outer frame and a detachable section arranged therein and adapted to be reversed, end for end, substantially as specified.

2. In a grate-bar, the combination of an outer frame having a number of short lugs extending from its sides and several longer lugs for extending into proximity with corresponding lugs of adjacent bars, and a detachable section arranged within the same, substantially as specified.

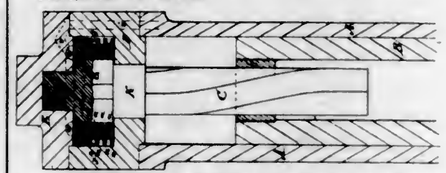
267,126. STRAP-LOOP FOR HAMES. COTTON H. ALLEN, St. Louis, Mo. Filed Apr. 27, 1882. (Model.)

Claim.—As an improved article of manufacture, the strap-loop for harness-hames herein shown and described, consisting of the frame E, having an enlarged portion, a, and an attaching-bar, b, provided at its ends with the shields or guards c c, said shields being of greater diameter than said bar, and being in line with and forming part of the converging side bars of the frame, the whole being formed in one piece, substantially as set forth.

267,127.

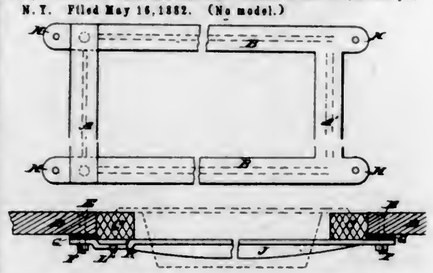


267,127. ROCK-DRILL. JOHN F. ALLEN, Brooklyn, N. Y. Filed Feb. 6, 1882. (No model.)



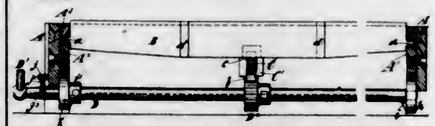
Claim.—In a rock-drill provided with a central bolt connected to a suitable nut attached to the piston, or to the piston itself, for the purpose of turning said piston partly around when moving in one direction, a series of disks, a a, attached to the central bolt, C, in combination with alternate stationary disks, n n, and recess w, connected through suitable passages with the end of the cylinder of the rock-drill, arranged to operate in the manner and for the purpose substantially as herein described.

267,128. HOT-AIR REGISTER. JAMES S. BAILEY, Brooklyn, N. Y. Filed May 16, 1882. (No model.)



Claim.—The combination, with a hot-air register and stone, marble, tile, or other solid insulating material, of a supporting-frame for the latter, secured to the floor by adjusting devices, enabling said frame to be adjusted for different thicknesses of the insulating material, substantially as described.

267,129. GRATE. JOHN C. BAND, Albany, assignor of one-half to John G. Hoffman, New York, N. Y. Filed Sept. 7, 1882. (No model.)



Claim.—1. The combination, with a grate-frame comprising cylindric bearings, of the rocking bars provided with pointed or beveled pivots or trunnions fitting in said bearings, substantially as specified.

2. The combination of a grate-frame, grate-bars pivoted therein, and provided on their sides with lugs d, having their greatest projection at their upper and lower edges, and concave faces between said edges, and devices for rocking said bars, substantially as specified.

3. The combination, with a grate-frame, of grate-bars provided with pivots or trunnions at a considerable distance below their upper surfaces, and also provided on their sides with lugs d, having their greatest projection at their upper and lower edges, and concave faces between said edges, substantially as specified.

4. The combination, with a grate-frame provided with closed or covered bearings at one end and bearings having a removable

cap at the other end, of grate-bars provided with pivots or trunnions fitting in said bearings, and the upper surfaces of which project above the frame, so that ashes will collect on the latter and keep it comparatively cool, substantially as specified.

5. The combination, with the pivoted bars B, provided with lugs d, of the reciprocating agitator engaging with all said bars except the two outside bars, and stops f, for arresting the rocking movement of said outside bars away from the frame, substantially as specified.

6. The combination of the frame A, the pivoted bars B, the reciprocating agitator C, and the rigid blocks C', forming bearings for the agitator, and provided with escape-openings g for ashes, substantially as specified.

7. The combination of the frame A, the pivoted bars B, the reciprocating agitator C, provided with a rack, b, and the shaft D, provided with the pinion D^2, which is adapted to be turned on the shaft to bring new teeth into engagement with said rack, substantially as specified.

8. The combination of the frame A, the bars B, the agitator C, the pinion D^2, and the shaft D, supported in bearings A A', and provided at the one end with the shoulder i and at the other end with a collar, i', substantially as specified.

9. The combination of the frame A, the pivoted bars B, the agitator C, the shaft D, provided with a pinion, and a locking device applied to said shaft, substantially as specified.

267,130. CARTRIDGE-RELOADING TOOL. JOHN H. BARLOW, New Haven, Conn., assignor to the Winchester Repeating Arms Company, same place. Filed May 19, 1882. (No model.)



Claim.—1. The herein-described improvement in cartridge-reloading tools, consisting of a former arranged in a cavity in diameter corresponding substantially to the external diameter of the shell, the said former conical, or gradually contracted from the base of the cavity or point where the mouth of the shell rests, and so as to enter the mouth of the shell, substantially as and for the purpose described.

2. In a cartridge-reloading tool consisting of a cavity to receive the mouth end of the shell, and means for forcing the shell into said cavity, the combination therewith of a removable former constructed to be set into the cavity, and conical or gradually contracted from the base or bottom where the mouth rests, and so as to enter the shell forced therein and upon the mouth, substantially as described.

3. In a cartridge-reloading tool consisting of a cavity, its lower end shaped corresponding to the ball end of the cartridge, and means for forcing the shell into said cavity, a former constructed to fit the ball portion of said cavity and removable therefrom, its upper portion conical or gradually contracted from the base or point where the mouth of the shell rests, and so as to expand the mouth of the shell when forced onto said former, substantially as described.

267,131. HOLDER FOR TABLE-BELLS. JOSEPH B. BEACH, Meriden, Conn., assignor to the Meriden Britannia Company, same place. Filed July 17, 1882. (No model.)



Claim.—In articles of table-service, a seat, C, constructed as a part of such article, with a flange corresponding to the mouth of the bell D, and so that the said bell may rest with its mouth upon said seat as its support when not in use, substantially as described.

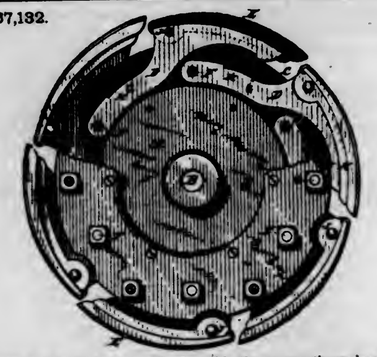
267,132. POLISHING AND GRINDING WHEEL. THOMAS C. BELOING, Waynesburg, Ohio. Filed Mar. 20, 1882. (Model.)

Claim.—1. In a grinding and polishing wheel, the combination of a series of spring-actuated polishing-pads, the end of one pad being made to overlap the end of the next adjoining one, substantially as shown.

2. The combination of the wheel A, having the groove C, and a series of spring-actuated arms, which are pivoted in the groove, and provided with polishing or grinding pads which overlap each other, so as to form practically a continuous surface, substantially as described.

3. In a polishing and grinding wheel, the combination of the

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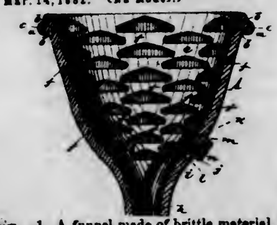


grooved body A, the arms D, pivoted in the groove, the springs H, placed between the arms, and the stops G, the grinding-surfaces of the arms being made to form almost a continuous surface around the wheel, substantially as set forth.

4. In a grinding and polishing wheel, the combination of the arms D with the pads E, grooved on their inner sides, so as to catch over the ends of the arms, and held in place at their lower ends by the bolts J, substantially as specified.

5. The combination of a grooved wheel, a series of pivoted arms, each one of which is provided with a polishing pad or cushion, and suitable stops for preventing the arm from being thrown too far outward by centrifugal force, substantially as set forth.

267,133. FILTERING-FUNNEL. HENRY BELL, Baltimore, Md. Filed Mar. 14, 1882. (No model.)



Claim.—1. A funnel made of brittle material, having an annular projection around the brim, and a groove on each side of the projection, in combination with an elastic band, substantially as shown and described.

2. A funnel having the inner surface of its bowl provided with segmental projections, made sloping from the top to the ends, and arranged in concentric rows in such manner that the projections of one row shall cover the spaces between those of the next lower row, as and for the purpose described.

3. A funnel having an orifice through one side of the bowl, in combination with a vent-tube secured in the orifice by means of rubber washers and a nut, substantially as shown and described.

267,134. LEAD AND CRAYON HOLDER. JOHN S. BLACK, New York, N. Y. Filed Jan. 5, 1882. (No model.)

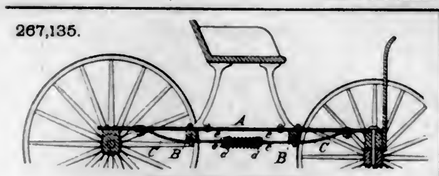


Claim.—The collar F, fitted to turn on case A, and having spring E attached to it and bearing on the lead through notch G of the lead-tube, said collar also having spring M attached to it and causing spring E to bind the lead, and allowing said binding to be suspended, substantially as described.

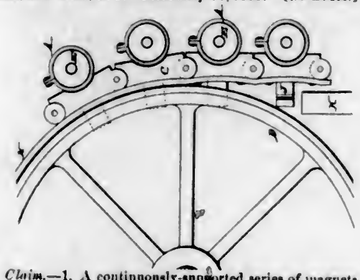
267,135. BUCKBOARD-WAGON. HENRY L. BIRDSALL, Bedford Station, N. Y. Filed July 1, 1882. (No model.)

Claim.—In a buckboard-wagon, the combination, with the board A and its under cleats, B B, extending transversely, of the longitudinal brace-rod sections C C, and the coupling spring or springs g, through which the ends d of said brace-rod sections pass in opposite directions, engaging opposite ends of said coupling-spring, substantially as specified.

267,135.



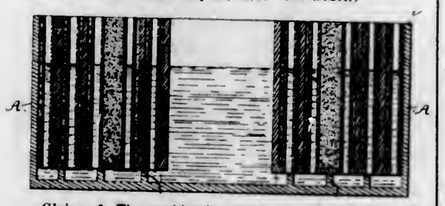
267,136. DYNAMO-ELECTRIC MACHINE. VIRGIL W. BLANCHARD, New York, N.Y. Filed July 31, 1882. (No model.)



Claim.—1. A continuously-supported series of magnets, consisting of separate electro-magnets secured in endless series across the face of a belt, constructed as described, and suitable driving mechanism, whereby the said belt may be moved in proximity to stationary magnets in a magneto-electric generator, substantially as described.

2. A continuously supported and connected series of electro-magnets extending across the faces of suitable supporting-belts and arranged with their poles projecting beyond the edges thereof, substantially as described.

267,137. SECONDARY BATTERY. VIRGIL W. BLANCHARD, New York, N.Y. Filed July 24, 1882. (No model.)

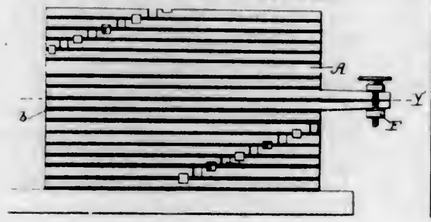


Claim.—1. The combination of the concentric leaden cylinders, the perforated tubes located in the annular spaces between and having an outlet below said cylinders, and a filling of granulated lead, oxide of lead, or peroxide of lead packed into the said annular spaces, substantially as described.

2. In an electric accumulator, the cells A A, connected by the fluid-receptacle A', provided with the angular projections *a*, in combination with the concentric cylinders, the perforated tubes, and granular packing, as described.

3. In an electric accumulator, the cup formed of two or more communicating sections provided with internally-extending ribs on their lower side, whereby, the electrodes being raised from the bottom, circulation of the electrolytic liquid is promoted, substantially as described.

267,138. ELECTRO-MAGNET. VIRGIL W. BLANCHARD, New York, N.Y. Filed July 31, 1882. (No model.)



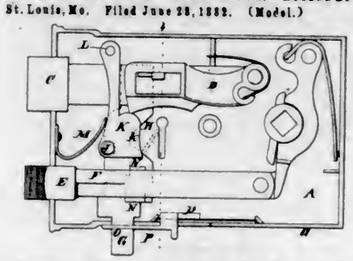
Claim.—1. An electro-magnet composed of alternating slitted disks of copper and insulating material arranged upon a core composed of soft-iron wires inclosed within an insulated soft-iron tube, said plates being continuously connected, substantially as described.

2. The centrally-perforated radially-slitted metal disks A, formed with grooves *f f'*, substantially as shown and described.

3. The disks A, provided with projecting ear *a'*, in combination with the coupler F, insulating-disks *b*, and a magnetic core, substantially as shown and described.

4. The centrally-apertured radially-slitted insulating-disks, in combination with metal disks A and the core of an electro-magnet, substantially as described.

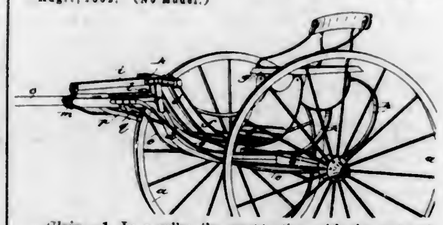
267,139. COMBINED LOCK AND LATCH. EUGÈNE BOURQUIN, St. Louis, Mo. Filed June 28, 1882. (Model.)



Claim.—1. The combination, with bolt G, formed with notch H, tumbler-notches I, and projection N, of tumbler K, stud J, and latch E, formed with projection F, as set forth.

2. The combination, with bolt G, formed with shoulder O, projection N, and notches H I, of tumbler K, stud J, latch E, having projection F, and catch P, having lip *p*, as set forth.

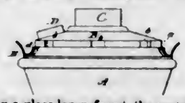
267,140. SULKY. WILLIAM M. BOYD, Rushville, Ind. Filed Aug. 7, 1882. (No model.)



Claim.—1. In a sulky, the combination, with the seat and tongue or thills, of the foot-rack, *f*, arranged above the tongue and connected at the rear with the seat, the rods *j*, the cross-bar *k*, the lever *i*, jointed to pole at *m*, and the rubber cushion *l*, all arranged substantially as described.

2. The guide-studs *o*, attached to lever *i* and arranged with relation to the pole *c*, said lever being pivoted to the pole *c* and connected to the rods or bars of the foot-rest, substantially as described.

267,141. LAMP-FOUNT. NATHANIEL L. BRADLEY and ALBERT PATITE, Meriden, Conn., assignors to the Bradley & Hubbard Manufacturing Company, same place. Filed Sept. 23, 1882. (No model.)



Claim.—1. In a glass lamp-fount, the metal ring-shaped channel arranged upon the top of the fount near its outer circumference, and so as to leave that part of the top of the fount within the ring uncovered, substantially as described.

2. A lamp-fount constructed with radial notches *b*, combined with a metal channel-ring having upon its inner edge projections corresponding to said notches, and by which the said ring may be secured to the fount, substantially as described.

267,142. CAR-COUPLING. FRANCIS A. BRADY, Leavittsburg, Ohio. Filed June 16, 1882. (No model.)

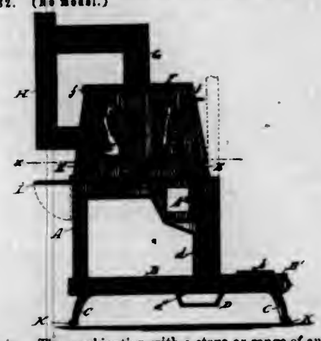
267,142.



Claim.—1. The coupling-catch B, having in its side the longitudinal groove *a*, the oblique connected groove *b*, the transverse groove *c*, connected with the lower end of the longitudinal groove, and the upwardly-extending slot D, connected with the groove *c* and separated from the vertical groove by an abrupt shoulder, substantially as and for the purpose set forth.

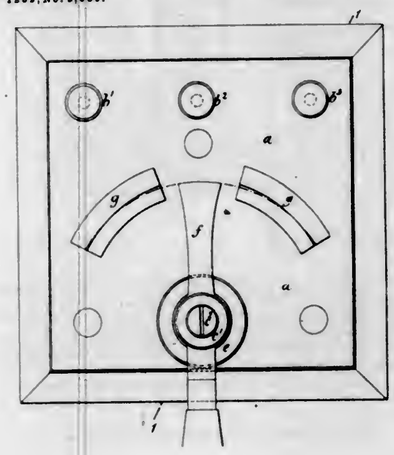
2. The combination, with the slotted draw-head and the guide-pin *e*, of the coupling-catch B, having in its side the longitudinal groove *a*, oblique connected groove *b*, transverse groove *c*, connected with the lower end of the longitudinal groove, and the longitudinal slot D, extending upward from the groove and substantially parallel with the longitudinal groove, from which it is separated by an extended intervening abrupt tongue, the said slot having a length to distinguish it from a mere notch, essentially as specified, and for the purpose set forth.

267,143. STOVE. DOMINICUS BRIX, Geneseo, Ill. Filed Sept. 9, 1882. (No model.)



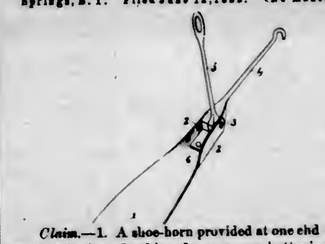
Claim.—The combination with a stove or range of any suitable construction, of a detachable dome or hot-air chamber formed by the removably-hinged side plates, E, removable corners *e*, and flanged top or cover F, said dome being provided with suitably-arranged flues G H, substantially as and for the purpose herein shown and described.

267,144. TELEGRAPH-SWITCH. REGINALD BROUGHAM, Hoddon Street, Regent Street, County of Middlesex, England. Filed Sept. 21, 1882. (No model.) Patented in England Apr. 28, 1882, No. 2,030.



Claim.—The combination, substantially as set forth, of the pivoted switch-lever *f* and the arcs *g g*, the contact-faces of which are arranged eccentrically to the pivot of the lever, for the purpose described.

267,145. SHOE HORN AND BUTTONER. JOHN S. BULKELEY, Ballston Spa, assignor of one-half to Cora E. Lucas, Saratoga Springs, N.Y. Filed June 12, 1882. (No model.)



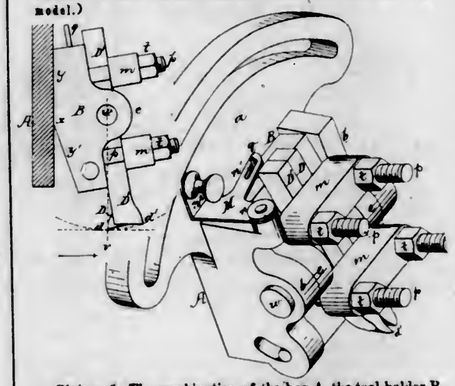
Claim.—1. A shoe-horn provided at one end with projections, to which is pivoted or hinged one or more buttoning devices adapted to be opened or thrown back from the horn, and capable of being folded into the concave surface of the latter, substantially as and for the purpose herein set forth.

2. The combined tool consisting of a shoe-horn having its handle end contracted, and provided with flanges or projections, one or more buttoning devices hinged or pivoted to said projections, and a spring on the horn arranged to bear against the pivoted end of the buttoner and hold it to open or closed position, as explained.

267,146. OINTMENT. JAMES M. BUTLER and JOHN A. SMITHISLER, Danville, Ohio. Filed June 22, 1882. (No specimens.)

Claim.—The herein-described ointment, composed of the dried and ground root of Solomon's-seal plant (*Polygonatum multiflorum*) and vaseline, mixed in the proportion set forth.

267,147. TOOL-HOLDER FOR METAL-PLANING MACHINES. PETER J. BYRNE, Phœnixville, Pa. Filed May 1, 1882. (No model.)



Claim.—1. The combination of the box A, the tool-holder B, pivoted to the box and having at the back two inclined planes, *y y'*, and the tool or tools having cutting ends pointing in contrary directions, substantially as described.

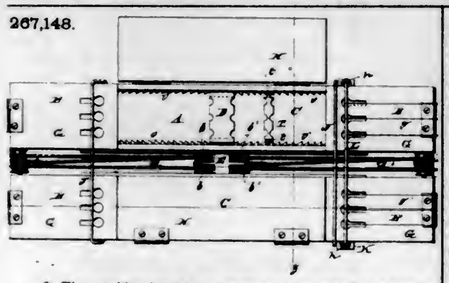
2. The combination of the box A, the pivoted tool-holder B, and the three-armed lever M, as set forth.

267,148. COTTON-PRESS. HENRY G. CADY and CHARLES L CULVER, Pine Bluff, Ark. Filed Aug. 22, 1882. (No model.)

Claim.—1. The combination of the press-boxes and filling-chambers arranged horizontally on a single base, the vertical longitudinal channel between the same, connected followers D D, the follower-bar E, movable in slots F F, and the system of ropes and pulleys for operating the followers, all combined, arranged, and adapted to operate substantially in the manner and for the purposes described.

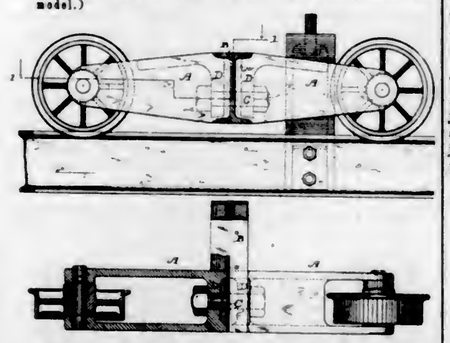
2. The combination of the grooved movable partition T, the racks r and spring-latches *t*, with the filling-chamber, one or more press-boxes, and a reciprocating follower, all constructed and adapted to operate substantially in the manner and for the purposes described.

267,148.



3. The combination of two press-boxes arranged at opposite ends of two filling-chambers, two followers, a connecting-bar for the same, a vertical longitudinal channel between the press-boxes and filling-chambers, and a system of ropes and pulleys in this channel for actuating the said followers, all constructed and adapted to operate substantially in the manner and for the purposes described.

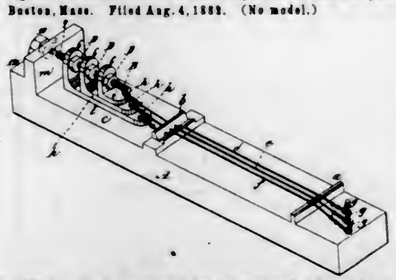
267,149. TRUCK FOR THE BRIDGE OF A TRAVELING CRANE. THOMAS W. CAPEN, Stamford, Conn., assignor to the Yale Lock Manufacturing Company, same place. Filed Oct. 4, 1882. (No model.)



Claim.—1. In a bridge-truck, the combination of castings A A with the interposed end of the bridge-girder and a bolt, C, substantially as set forth.

2. In a bridge-truck, the combination of the castings A A with the interposed ends of the I-beams, a block, E, and bolt C, substantially as set forth.

267,150. STRINGING PIANO-FORTES. GRANVILLE CHARD, Chelsea, and DEPENDENCE S. LITTLEFIELD, Cambridgeport, assignors to the Mason & Hamlin Organ and Piano Company, Boston, Mass. Filed Aug. 4, 1882. (No model.)



Claim.—1. A compound tension device for the strings of piano-fortes, consisting of a series of slides placed one upon the other, and each having means of adjustment whereby they may be independently adjusted to bring the several strings of a note which are attached thereto into unison, and a separate means of adjustment whereby they may be moved simultaneously by a separate nut or screw to vary the pitch of the note, substantially as described.

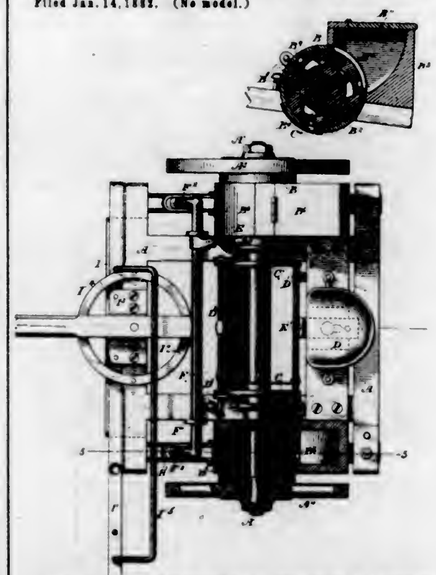
2. In a device for stringing and tuning piano-fortes, the combination, with the string-frame, of a series of slides provided with means for attaching thereto the separate strings of a note, and arranged one upon the other on a single screw-shaft, B, and having the screw-nuts D, whereby they may be adjusted thereon independently of each other to bring the strings in unison, and having a separate and independent actuating device for straining or tightening all of the strings simultaneously and equally for the purpose of varying the pitch of the note, substantially as set forth.

3. In a device for stringing and tuning piano-fortes, the string-frame A, provided with a series of slides, each provided with means for attaching thereto one of the strings of a note, and arranged one upon the other on the screw-shaft B, and having screw-nuts D, for independently adjusting them thereon in the direction of their length to bring the strings connected therewith into unison, in combination with the screw-nut *s* upon the screw-shaft B, arranged between the flange *m* of the string-frame and the head 10 of the screw, whereby the screw may be moved in the direction of its length for the purpose of simultaneously moving all of the slides longitudinally, and thereby varying the pitch of the note without affecting or disturbing the unison of the strings thereof, substantially as described.

4. In a device for stringing and tuning piano-fortes, the slides *i k l*, with their adjusting-nuts D, arranged as described, in combination with the screw-shaft B, passing through the flange *m* of the string-frame, and provided with head 10, whereby the screw is prevented from rotating by the contact of one side of the head with the shoulder 12 or equivalent device, and the screw-nut *s* upon the screw-shaft B, arranged between its head 10 and the flange *m* of the string-frame, all constructed to operate substantially in the manner and for the purpose set forth.

5. In a device for stringing and tuning piano-fortes, the combination, with the screw-shaft B, of a series of slides provided with means for attaching thereto the strings of a note, and having adjusting-nuts D, whereby they may be moved one upon the other along the shaft B, and provided with longitudinal guides or projections *p*, fitting into grooves *r*, substantially as and for the purpose described.

267,151. CORN-PLANTER. ALVIN B. CLARK, Richmond, Ind. Filed Jan. 14, 1882. (No model.)



Claim.—1. The herein-described mechanism for dropping corn in drills or continuous rows or in hills, it consisting of partially-rotating wheels or disks C C', placed upon the shaft of a corn or seed planter, and carrying a plate, C³, which covers and uncovers the cells of the dropping-wheels, the parts being arranged substantially as described, whereby they are made capable of being manipulated by the foot of the operator for the purpose of enabling him to place the hills at a greater or less distance apart, as set forth.

2. The combination of the laterally-adjustable marking-bar I', plate I, springs I² I², pins I³ I³, ring I⁴, and inclined handle I⁵, the whole constituting a row-marker, as set forth.

3. The herein described seed-dropping wheels B B', they consisting of metal cylinders, having in the peripheries hinged seed-cells operated by springs, and upon their outer ends a series of recesses for the reception of the spokes of the carrying-wheels from which they receive their motion, substantially in the manner described.

4. The combination of the partially-rotating device to be operated by the foot or feet of the person in attendance, consisting of the disks C C' and suitable connecting-rods and springs for returning the devices to their proper positions after they have been moved for dropping the seeds, and the locking-slide E', the parts being constructed and arranged to operate substantially as described, whereby they are made capable of changing the machine from one which drops seeds in hills to one which deposits them in drills or continuous rows.

5. The combination of the disks C C', of the partially-rotating disks, sliding rod D⁴, and controlling-plate C³, the movements of which are controlled by said rod, substantially as and for the purpose specified.

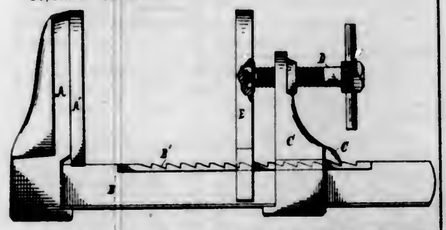
6. In combination with the carrying-wheels of a corn or seed planter, the recessed dropping-wheels having in them hinged cells operated by springs for regulating the quantity of seed dropped, and which receive their motion from the spokes of the carrying-wheels, and the stationary casing B³, in which said dropping-wheels revolve, substantially as set forth.

7. The combination of the lever E, adjustably-sliding rod D⁴, sliding plate C³, and the dropping-wheel B', the arrangement of the parts being substantially as shown, and for the purpose set forth.

8. In combination with the main frame of a corn-planter, the pivoted frame G, seed-coverers G⁴, pivoted to the frame G, springs G², for controlling the distance that the rear end of the frame G shall be allowed to rise, and tamping-wheels G³, substantially as set forth.

9. The combination of the lever E, the yoke H', the pivoted coverer G⁴, pivoted to the frame G, and said frame G having its front end pivoted to the main frame of the machine and its rear end controlled by a spring, the arrangement of the parts being substantially as described, and for the purpose set forth.

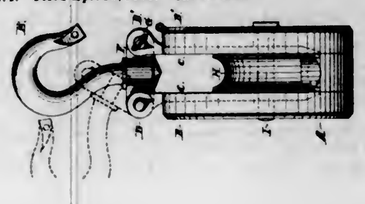
267,152. CLAMP. WILLIAM H. CLOUD, Detroit, Mich., assignor of one-half to James V. Campbell, Jr., same place. Filed July 20, 1882. (No model.)



Claim.—1. A hand-clamp consisting of a stationary jaw with a ratcheted guide-arm extending at right angles therefrom, a sliding jaw embracing said ratchet-arm and provided with a pawl adapted to engage the ratchet, and a clamp-screw tapped through the sliding jaw and provided at its end with a loose bearing-plate swiveled therewith, substantially as described.

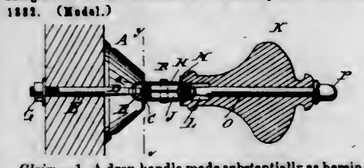
2. The combination, with the stationary jaw and right-angular ratchet guide-arm, the sliding jaw, and clamp-screw, of a loose bearing-plate swiveled at the end of the screw and loosely engaged at its lower end over the guide-bar, whereby rotary motion is prevented, substantially as described.

267,153. SNATCH-BLOCK. EDWARD J. F. COLEMAN, Providence, R.I. Filed Apr. 18, 1882. (No model.)



Claim.—The snatch-block herein described, consisting of the cheek-pieces B B', of equal length, the strap C, extending above the same and terminating in ears D D', the cross-bar F, provided with suspension-hook E and pivoted to the ear D, the fastening-pin G, fitted in the other ear, D', and the sheave H, journaled between the cheek-pieces, as and for the purpose herein set forth.

267,154. DRAWER-PULL. CHARLES A. COOK, New York, N.Y., assignor to Samuel A. Burns & Co., same place. Filed July 3, 1882. (Model.)

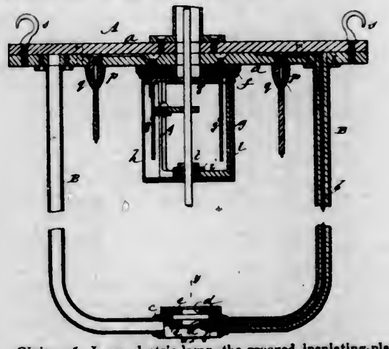


Claim.—1. A drop-handle made substantially as herein shown and described, and consisting of a handle-knob provided at its upper end with a U-shaped clip pivoted to a U-shaped clip held to the cap on the drawer, as set forth.

2. In a drop-handle, the combination, with the handle-knob K and hook N, of the U-shaped clip H at the upper end of the same, the clip C, to which the clip H is pivoted, the cap A, and the hook D, passed through the bent or curved inner end of this clip, substantially as herein shown and described, and for the purpose set forth.

3. In a drop-handle, the combination, with the handle-knob K, of the U-shaped clip H, provided with cups J, and the clips C, substantially as herein shown and described, and for the purpose set forth.

267,155. ELECTRIC-ARC LAMP. CHARLES A. COOLEY, New Britain, Conn. Filed July 14, 1882. (No model.)



Claim.—1. In an electric lamp, the grooved insulating-plate *f*, attached to the frame and carrying the lamp-feeding mechanism, the skeleton frame *g*, and the outer cylindrical covering, *h*, combined substantially as shown.

2. In an electric lamp, an inner skeleton frame, *g*, fitting the outer casing, and provided with upright and horizontal slats for receiving the guiding screws or pins, substantially as described.

3. In an electric lamp of the arc type, the lower-carbon support composed of the cup-shaped inverted device *e*, adapted for attachment to the tubular rods forming part of the lamp-frame, the insulating-plates *d d*, applied on the upper and under sides of said device, and metal facing-plates *e e*, all as shown and described.

4. The combination, with the inner skeleton frame, *g*, of the inclosing cylinder *h*, which is adapted to slide vertically thereon, as shown and described.

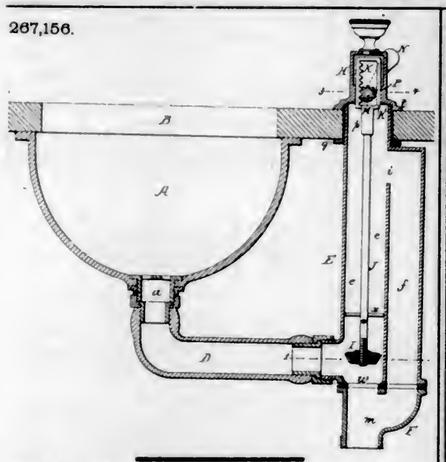
5. In an electric lamp, the binding-post provided with insulating-covering, and having a contact-plate for the switch, attached substantially as described.

6. In an electric lamp, the safety-plate *r*, attached under the contact-plate and switch, for the purpose described.

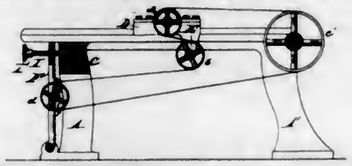
267,156. OVERFLOW-VALVE FOR WASH-BASINS. WILLIAM S. COOPER, Philadelphia, Pa. Filed Sept. 17, 1881. (No model.)

Claim.—The combination of the overflow-chest, the valve I, and valve-spindle J, with rack K, the cap H, the pinion P, the spindle M, and the handle N, adapted to hold the valve-rod in either of its extreme positions, as set forth.

267,156.



267,157. CIRCULAR SAWING MACHINE. HENRY J. CORDESMAN, Jr., Cincinnati, Ohio. Filed Aug. 17, 1882. (No model.)



Claim.—1. In a sawing-machine, the combination, with the boxes D, arranged to slide longitudinally on the frame of the machine and carrying the driving-pulley *a* and roller *b*, of the tightener-pulley *d*, arranged at one end of the machine and laterally adjustable with respect to such end, substantially as described.

2. In a sawing-machine, the upright frame F, having its lower end hinged to the base of the frame, the tightener-pulley *d*, carried by the hinged frame intermediate its upper and lower ends, and means for adjusting the upper end of the frame toward and from the end of the machine, substantially as described.

3. In a sawing-machine, the combination, with the boxes D, arranged to slide longitudinally on the frame of the machine, and carrying the driving-pulley *a* and idler-pulley *b*, of the vertically-arranged frame F, hinged at its lower end and carrying the idler-pulley *d*, intermediate its upper and lower ends, and the screw-rod I, extending through the hinged frame to abut against the end of the machine, substantially as described.

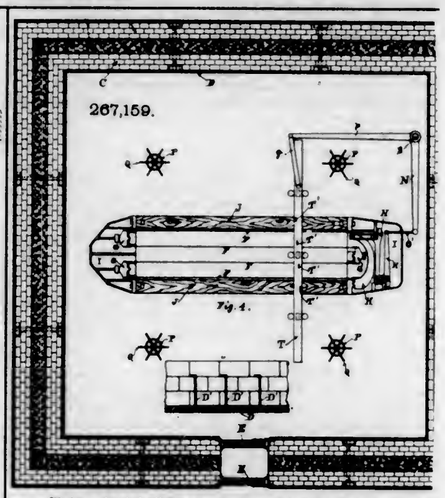
267,158. SPARK ARRESTER AND CONDUCTOR. JOHN A. COTTER, Saginaw, Mich. Filed Nov. 21, 1881. (No model.)



Claim.—In a spark arrester and conductor, the combination, with the smoke-stack having an elbow, a damper, and means for operating the latter, of the pipe B and the support F, having swiveled adjustable hanger O N, as set forth.

267,159. BUILDING AND APPARATUS FOR KEEPING AND COMPARING STANDARD MEASURES. SAMUEL DARLING, Providence, R. I. Filed May 31, 1882. (No model.)

Brief.—Within and independent of a surrounding structure is a standard-room constructed with non-heat-conducting walls. A refrigerator in the ceiling and heaters under the floor are arranged to supply cold or heat to the room, the supply being regulated automatically by expansion and contraction devices governed by the temperature of the room itself. Fan-wheels maintain a circulation of the air in the room to render the temperature uniform.



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Fig. 4.

Claim.—1. A building or apartment having a heater and a refrigerator, in combination with an apparatus that will by its expansion and contraction automatically open and close the heater and the refrigerator as the temperature of the apartment varies, and thereby keep its temperature uniform, substantially as described.

2. A building or room having thick walls made in three or more walls or parts, two of which are made of fire-bricks or equivalent material, with a space between them filled with dry earth or some other very slow conductor of heat, located within another building, but made independent of it, and especially constructed to be indestructible by fire, and with reference to keeping its interior of a uniform temperature by devices provided for that purpose, substantially as described.

3. A building or room having a heater and a refrigerator, in combination with an apparatus consisting of thin metallic plates attached to beams and levers, the heater and refrigerator being automatically opened and closed by the contraction and expansion of the plates as the temperature of air in the room varies, substantially as described.

4. A building or room having one or more upright cylinders, each having a wheel at one of its ends for circulating the air to make it of a uniform temperature in all parts of the room, substantially as described.

5. A building or room having a heater and a refrigerator, in combination with an apparatus for automatically opening and closing such heater and refrigerator when such apparatus is placed nearly midway between the floor and ceiling in the mean temperature of the air of the room, substantially as described, and for the purpose set forth.

6. A building or room having a heater and a refrigerator, and having thin plates for opening and closing them, in combination with fan-wheels R, arranged to force the air of the room upon such plates to keep them of the same temperature of the room, substantially as shown and described.

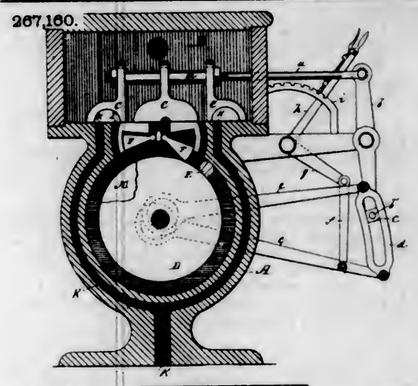
7. A building or apartment having a heater and a refrigerator, in combination with an apparatus that will by expanding and contracting open and close such heater and refrigerator as the temperature of the apartment varies, and with a pier or elevated platform, 22, adapted to support the standard measures or other articles whose temperatures are to be preserved at an elevation midway between the floor and ceiling of the room, for the purpose set forth.

267,160. ROTARY ENGINE. JOHN H. DAHRAGH, San Francisco Cal. Filed Dec. 31, 1881. (No model.)

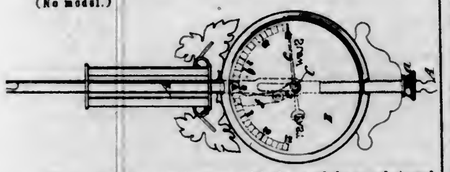
Claim.—1. The combination, with the shell or case A, having heads M, the ports K I K, and the steam-chest B, of the stem *a*, carrying three slide-valves, C, the hinged gates F F, and the disk D, fixed on shaft H, said shaft being also provided with one or more suitably-packed pistons, E, as and for the purpose specified.

2. The combination of hinged gates F F and slide-valves C, fitted to raise and retain either gate, substantially as shown and described.

267,160.



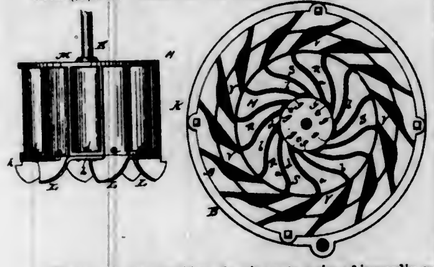
267,161. REGULATING ATTACHMENT TO CLOCK-PENDULUMS. WALTER D. DAVIES, Brooklyn, N. Y., assignor to himself and HENRY J. DAVIES, same place. Filed June 10, 1882. (No model.)



Claim.—1. The combination, with the pendulum-rod A and its ball or bob B, adjustable thereon, of the shaft or arbor C in the ball or bob, carrying an index or finger, *e*, the arm or lever *e* on said shaft or arbor, and the link *f*, forming a connection between said rod and said arm or lever, whereby said shaft or arbor and its index or hand are caused to turn by the movement of the ball or bob upon the rod, substantially as described.

2. The combination, with the rod A, provided with the slot or yoke *d*, and the adjusting-nut *a*, of the ball or bob B, the shaft or arbor C, the index or finger *e*, the arm or lever *e*, and the link *f*, substantially as herein described.

267,162. TURBINE WATER-WHEEL. ISAAC P. DAVIS, Greensborough, N. C. Filed June 24, 1882. (No model.)



Claim.—1. In a turbine, the alternate series of inwardly or centrally discharging buckets S and downwardly-discharging buckets R, substantially as specified.

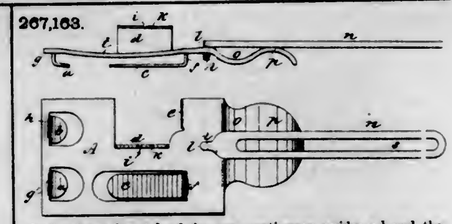
2. In a turbine, the circular series of buckets R, closed on the inside and opening downwardly, the alternating buckets S, closed at the bottom and opening inwardly, and the curved directing-flanges L, extending backward, downward, and outward below the open bottoms of the buckets R, substantially as specified.

3. The turbine consisting of the chute A, tub B, gates V, bridge-tree C, stem E, and wheel having the alternate inwardly-discharging buckets S, downwardly-discharging buckets R, curved flanges L, extending below the latter, and centrally and downwardly projecting hub-cone *m*, substantially as specified.

267,163. TUCK-FOLDER FOR SEWING-MACHINES. CHARLES M. DEXTER, Sacramento, Cal. Filed May 2, 1882. (No model.)

Claim.—1. The combination, in a tuck-folder made from a single plate of metal, of the non-continuous guides *g h* and the supporting-tongues *a b*, formed from the body of the plate and without material above them, as and for the purposes set forth.

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2. In a tuck-folder, the guide *f* and tongue *e*, formed in one piece and from the body of the tuck-folder, substantially as and for the purpose set forth.

3. The combination and arrangement, in a tuck-folder, of the supporting-tongues *a b c* and the guides *e f g*, formed out of the single plate of metal of the folder, substantially as shown and described.

4. In tuck-folders, the tongues *a b*, serving as supports for the tuck already made, bent downward at an incline to allow free passage of seams, as specified.

5. In tuck-folders, the supporting-tongues *a b*, bent downward at an incline and formed with rounded ends, as and for the purposes set forth.

6. In tuck-folders, the plate formed with the curve *t*, parallel with the guides *g h*, as and for the purposes set forth.

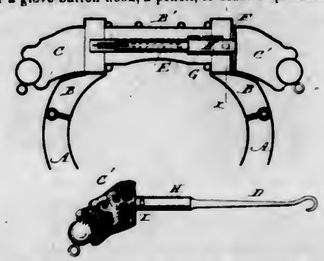
7. In tuck-folders, the stop *d*, formed from the metal in the body of the plate and arranged between the tongues *a b c* and the flange *e*, substantially as shown and described.

8. In tuck-folders, the stop *d*, formed with notches *i k*, as and for the purposes specified.

9. The combination, in a tuck-folder, of the elevations *l p*, separated by the depression *o*, for service as friction-surfaces, on which the holder presses, as shown and described.

267,164. BRACELET. ANTONIO DI MARIANO, New York, N. Y. Filed May 9, 1882. (No model.)

Brief.—The middle portion of the bracelet serves as a receptacle for a glove-button hook, a pencil, or other implement.



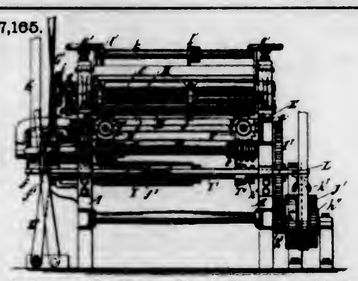
Claim.—1. A bracelet constructed, substantially as herein shown and described, with a hollow straight part, B', having an ornament, C, attached to one end, and at its other end a plate, F, and tube G, slotted to receive the shank H and locking-toe I of an implement attached to a corresponding ornament for its other end, as set forth.

2. In a bracelet, the combination, with the hollow straight part B', having a plate, F, and tube H, provided with a slot, of an implement-shank attached to an ornament and provided with a locking-toe, substantially as herein shown and described, whereby the wearer of the bracelet will always have a convenient implement in a readily-accessible position, as set forth.

267,165. MACHINE FOR STRETCHING LEATHER BELTING. HORACE N. DODGE, Brooklyn, N. Y. Filed Sept. 7, 1882. (No model.)

Claim.—1. In a machine for stretching and straightening belting, the combination of a stationary clamp for holding the belting, a traveling carriage provided with a clamp and mechanism for operating said carriage, and a table-anvil or bed between the clamps, over which the belting may pass while being stretched, and upon which it may be hammered for the purpose of straightening it, substantially as described.

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2. In a machine for stretching belting, the combination of a stationary clamp, a carriage, B, provided with a clamp and screw-nuts, the screws E, the driving-shaft F, and the worms or screws *e*, and worm-wheels *e'*, all substantially as described.

3. In a machine for stretching belting, the combination of a stationary clamp, a movable carriage provided with a clamp, and split screw-nuts, screws for engaging with said nuts, mechanism for operating said screws, and devices for opening said nuts to free them from the screws when it is desired to run the carriage back, substantially as described.

4. The combination, with a stationary clamp and a movable clamp for stretching belting, and devices, substantially such as described, for operating the movable clamp to perform the stretching operation, of a winding-drum to which the end of the belting may be attached, and a drag entirely independent of both said clamps arranged between the movable clamp and the winding-drum, and by which the belting is sufficiently retarded to cause it to be wound under tension, substantially as described.

5. The combination, with the drag-rolls H H, of the winding-drum I, provided with a groove, *i'*, adapted to receive the end of the belting, and mechanism, substantially such as described, for rotating said winding-roll, as set forth.

6. The combination, with the drag-rolls H H, of the winding-roll I, composed of sections, and the shaft I', whereon said sections are fitted, substantially as described.

7. The combination, with the drag-rolls H H, of the winding-roll I, the shaft-section I', and the shaft-sections I² I², all substantially as described.

267,166. RAPIDLY-ADJUSTABLE NUT FOR CALIPERS. SAMUEL B. DOVER, Dayton, Ohio. Filed Mar. 7, 1882. (No model.)



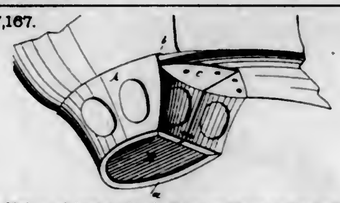
Claim.—1. An attachment for spring-calipers or analogous tools, consisting of a sleeve provided with pivoted jaws and fitted to slide upon the rod which is connected with on leg of the calipers and extended through the remaining leg, and a collar loosely fitted upon said rod and adapted to wedge between the shanks of the jaws when the caliper-legs are opened, so as to cause the jaws to grip the rod, substantially as described.

2. The combination, with a pair of spring-calipers, of the longitudinally-slotted sleeve fitted to slide upon the rod which is connected with one leg and extended through the remaining leg of the calipers, the jaws pivoted in the slots of the sleeve, and a collar slidably arranged upon the rod between the sleeve and one of the caliper-legs, said collar being adapted to wedge between the shank portions of the jaws when the legs are expanded, and to thereby cause the jaws to grip the rod and prevent the collar from sliding thereon, substantially as described.

3. The combination, with a pair of spring-calipers or analogous instrument, of the longitudinally-slotted sleeve fitted to slide upon rod C, and provided with jaws B, pivoted in its slots, of the collar D, adapted to enter the inner end of the sleeve, which has its bore enlarged at such end, and to force outwardly the shank ends of the jaws, whereby their clamping ends will be clamped upon the rod, substantially as described.

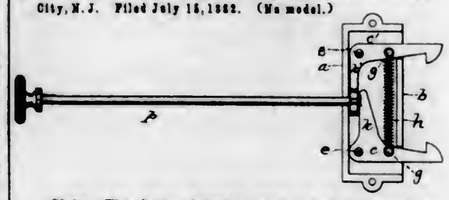
267,167. HEEL FOR BOOTS AND SHOES. CHARLES DEANLY, La Salle, Tex., assignor to Deanly, Davis & Co., same place. Filed June 29, 1882. (Model.)

267,167.



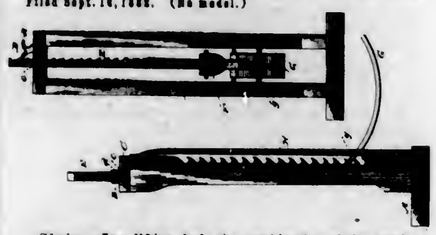
Claim.—A boot or shoe heel having the metallic shell A, provided with a bottom rim, *a*, turned inwardly, an inwardly-turned lip, *b*, at the upper edge, and a vertical projection, *c*, whereby the filling may be securely held and the shell attached to the shank, as well as between the sole and upper, all as described.

267,168. SHUTTER-FASTENER. RUSSELL G. DUDLEY, Jersey City, N. J. Filed July 15, 1882. (No model.)



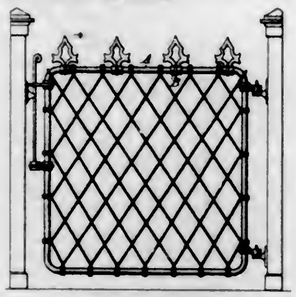
Claim.—The shutter-fastening consisting of the connecting face-plate *a*, having the depending stop-flange *b*, the laterally-opposed inwardly-turned hooks *c c'*, pivoted to said plate, connected by the spring *h*, and having the horizontal inwardly-extending arms *k k'*, one in front of the other, the notch-bearing lug *l* of the rear arm, and the operating-rod *p*, having a neck-channel to engage said notch-bearing lug, substantially as specified.

267,169. LIFTING-JACK. JOSEPH L. ELLIS, Millington, Mich. Filed Sept. 14, 1882. (No model.)



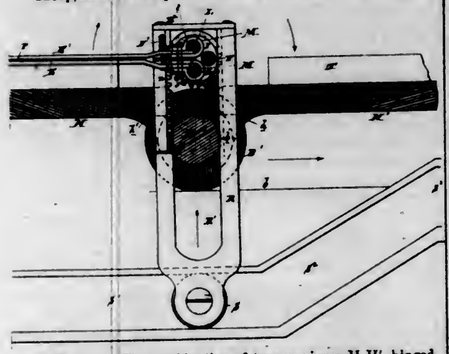
Claim.—In a lifting-jack, the combination of the notched standards B B, having guide-strips H H, and connected on top by cross-piece C, having aperture *c*, hinged pawl D, rack-bar E, yoke F, and bifurcated lever G, having cross-head *g*, adapted to work in the notched standards, substantially in the manner and for the purpose herein shown and set forth.

267,170. GATE AND RAILING. SETH R. EVANS, Chicago, Ill. Filed May 3, 1882. (No model.)



Claim.—The frame A of a gate or railing, joined together by means of the eccentric hub or sleeve B and the longitudinal full-length key C, specifically as shown.

267,171. PRINTING-MACHINE. HENRY P. FRIESTER, Philadelphia, Pa., assignor of two-thirds to Isaac Pine and Isaac S. Sharp, both of same place. Filed May 4, 1882. (No model.)



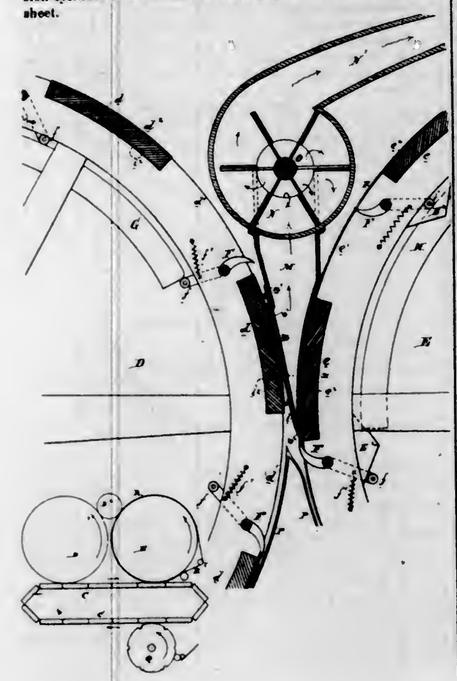
Claim.—1. The combination of type-carriages H H', hinged together at B, bearings K K K', plates O O, pinion J, with hub I, rack-piece R, rigid rod F, loose rods L L, and nippers E E', substantially as set forth.

2. The combination of type-carriages H H', hinged together at B, bearings K K, plates O O, pinion J, rack-piece R, rigid rod F, loose rods L L, levers Z Z, pins U U, nippers E E', and a spring to press them together, substantially as and for the purpose specified.

3. The combination of nipper-rods L L, notched at *l l*, clamps M, nippers E E', plates O O, the rod N, and spring N', substantially as and for the purpose specified.

267,172. PRINTING-PRESS. HENRY P. FRIESTER, Philadelphia, Pa., assignor of two-thirds to Isaac Pine and Isaac S. Sharp, both of same place. Filed June 2, 1882. (No model.)

Brief.—A suction apparatus for automatically transferring a sheet (after its first side has been printed) from the first impression-cylinder to the second, in order to print the other side of the sheet.



Claim.—1. In a printing-machine, two impression-cylinders provided with a series of impression-surfaces and make-readies, in combination with an endless chain of type-form carriages, mechanism, substantially as described, to feed the paper to the impression-surfaces of one cylinder, and means, substantially as described, to automatically transfer said paper from one of said impression-cylinders to the other after it has been printed upon on one side.

2. In a printing-machine, two impression-cylinders provided with a series of impression surfaces and spaces, and an endless chain of carriages adapted to carry the type-forms, one of said cylinders printing from every alternate type-form and the other printing from those omitted, in combination with means, substantially as described, to feed paper sheets to the impression-surfaces of one cylinder, and a suction delivery and feed for said sheets of paper from one cylinder to the other after they have been printed upon on one side.

3. In a printing-machine, two impression-cylinders provided with a series of impression surfaces and spaces, said surfaces being furnished with automatically-acting nippers to hold the paper, and an endless chain of type-form carriages, one of said cylinders printing from every alternate type form or carriage and the other printing from those omitted, in combination with mechanism, substantially as described, to feed paper sheets to one of said cylinders, and means, substantially as described, to automatically transfer said paper from one of said impression-cylinders to the other, reversing the said sheet, after it has been printed upon on one side.

4. In a printing-machine, two impression-cylinders provided with a series of impression surfaces and spaces, said surfaces being furnished with automatically-acting nippers to hold the paper, and an endless chain of type-form carriages, one of said cylinders printing from every alternate type-carriage and the other printing from those omitted, in combination with mechanism to feed paper sheets to one of said cylinders, and upon which the sheets are held by the nippers, a suction-plate adapted to receive and hold the sheets after having been printed upon on one side, and to feed them to the other cylinder, mechanism to actuate said nippers upon one cylinder to free the paper when before the suction-plate, and mechanism to cause the nippers on the other of said cylinders to clamp the paper and draw it off said suction-plate and cause it to be printed upon on the other side, and means to create a suction, all substantially as set forth.

5. In a printing-machine, the combination of cylinders D and E, having surfaces *d* and *e* and spaces *d'* and *e'*, type-form carriages C, nippers F, means, substantially as described, to actuate said nippers, suction box or trunk M, having suction-plate *m*, fan N, and a trunk, N', substantially as described.

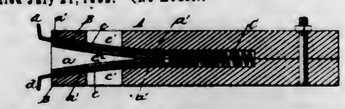
6. In a printing-machine, the combination of cylinders D and E, having surfaces *d* and *e* and spaces *d'* and *e'*, type-form carriages C, nippers F, means, substantially as described, to actuate said nippers, suction-box M, having suction-plate *m*, adjustable stop *m'*, and fan N, substantially as specified.

7. In a printing-machine, the combination of cylinder E, having surfaces *e* and spaces *e'*, nippers F, means to actuate said nippers, endless bands or tapes R, R', and R², supported upon band-wheels, and means to receive and bind said sheets into book form, all substantially as specified.

8. In a printing-machine, the combination of cylinders D and E, having surfaces *d* and *e* and spaces *d'* and *e'*, type-form carriages C, nippers F, means to actuate said nippers, suction-box M, having suction-plate *m*, fan N, guides P and P', means to feed the paper sheets to one cylinder, and means to deliver the said sheets from the other cylinder, all substantially as specified.

9. In a printing-machine, the suction-box arranged between two impression-cylinders, provided with a perforated suction-plate having fins or ribs, upon which the paper rests, to prevent blurring, substantially as shown.

267,173. CAR-COUPLING. JOHN FURNIMORE, Orleans, Ind. Filed July 21, 1882. (No model.)



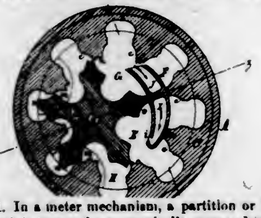
Claim.—1. In a car-coupling, the combination, with the chambered draw-bar A, of the spring sliding plates B, having their outer ends projecting beyond the forward end of the draw-bar, and apertures *c* through them, adapted to register with a transverse horizontal passage, *c'*, in the draw-bar, and the spring coupling plate or bar D, adapted to pass through the aforesaid apertures *c* of the

plates B and the passage c' of the draw-bar, with an operating-lever, substantially as and for the purpose set forth.

2. In a car-coupling, the combination, with the chambered draw-bar A, of the spring sliding plates B, having their outer projecting ends provided with lateral projections or flanges *d*, and apertures c through them, adapted to register with a transverse horizontal passage, c', in the draw-bar, the coupling plate or bar D, adapted to pass through the aforesaid apertures c and passage c', the spring H, and the lever F, substantially as and for the purpose set forth.

3. In a car-coupling, the combination, with the chambered draw-bar A, having passages a', of the sliding laterally-apertured plates B, with their inner convergent ends secured to a block, *b*, having connected thereto a spring, C, said spring-plates diverging toward and at the forward end of the draw-bar, beyond which they project, substantially as shown and described, and for the purpose set forth.

267,174. ROTARY WATER-METER. BENJAMIN FITTS and JAMES F. WILSON, Worcester, Mass. Filed June 5, 1882. (No model.)



Claim.—1. In a meter mechanism, a partition or bulk-head piece introduced between the eccentrically-arranged piston and the surrounding cylinder or ring-gear, for separating the intermediate space into receiving and delivering chambers, substantially as set forth.

2. The combination, in a meter, of an outer ring or cylinder having internally-arranged projections or cogs, an externally-toothed intermeshing piston mounted upon an axial support or journals eccentric to and revoluble about the main or central axis, and an intermediate barrier or partition adapted to move about the main axis in unison with the axial bearing of said piston, substantially as hereinbefore set forth.

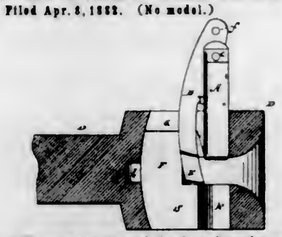
3. The combination, with the ring-gear and intermeshing piston-gear, of revoluble end plates concentrically journaled within the cylinder-heads, and adapted for supporting the partition or bulk-head piece and the piston-journal, substantially as set forth.

4. The partition or barrier-piece F, constructed with one or more conduits or passages, in combination with the cylinder-gear and revoluble piston, whereby said partition is adapted to serve as a mouth-piece for the entrance or exit of fluid to or from (either or both) the piston-chamber of the meter, substantially as hereinbefore set forth.

5. The combination, with the cylinder-gear, revoluble piston, and revoluble end plates having conduits or openings to the piston-chambers, of the heads A' A², provided with connecting-bosses a a', and having annular chambers W, whereby fluid can be taken and discharged irrespective of the varied positions of the internal revoluble parts, substantially as set forth.

6. The combination, with the intermeshing cylinder-gear and piston-gear, of heads or end plates having the recesses or channels m, as and for the purpose set forth.

267,175. CAR-COUPLING. CHARLES FLEMING, Ypsilanti, Mich. Filed Apr. 8, 1882. (No model.)



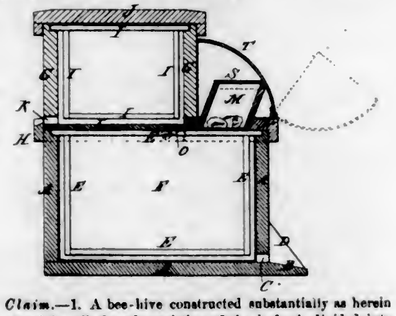
Claim.—The combination of the draw-bar, the coupling-pin, and the pin-supporting rod pivoted to the latter, and arranged, substantially as shown and described, to swing and rest at its lower end on the interior lower surface of the mouth of the draw-bar when the coupling-pin is elevated, as and for the purpose set forth.

267,176. COMPOUND FOR CLEANING PAINTED AND VARNISHED SURFACES. ALBERT FORD, Atlanta, Ga. Filed Aug. 10, 1882. (No specimens.)

Claim.—1. The wash compound consisting of the following ingredients: pulverized pumice-stone, pulverized wood-ashes, muriatic acid, and vinegar, in about the proportions described.

2. The finishing compound consisting of the following ingredients: muriatic acid, kerosene-oil, linseed-oil, gum-copal, and turpentine, mixed in about the proportions described.

267,177. BEE-HIVE. ALEXANDER PEALEY, Grayson, Ky., assignor to himself and Lewis Prichard, same place. Filed June 20, 1882. (No model.)

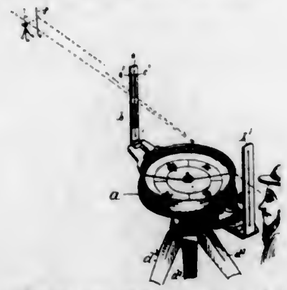


Claim.—1. A bee-hive constructed substantially as herein shown and described, and consisting of the body A, divided into two compartments by a division-board, F, and provided with two entrance-openings, C, and a honey-board, L, the surplus-honey upper hive-section, G, provided with an entrance-opening, K, and the sliding frame N, provided with a feed-trough, M, and a quadrantal cover, T, as set forth.

2. In a bee-hive, the combination, with the body A, of the feed-trough M, having perforated bottom mounted upon a sliding frame, N, divided into two feed-compartments and two passages by partitions P Q Q, and provided with covers R R S, substantially as herein shown and described, whereby the bees can be supplied with liquid or dry food, as set forth.

3. The combination, with the body A, the upper hive-section, G, the trough M, and the frame N, of the cover T, hinged to the outer edge of said frame, and closing with its free edge against said chamber, whereby convenient access can be had to the trough, as described.

267,178. SURVEYING-INSTRUMENT. KASSON FREEMAN, Grand Rapids, Mich., assignor of one-fourth to Henry Durbin, Oak Creek, Wis. Filed Feb. 16, 1882. (No model.)



Claim.—1. The cross and register *i*, provided with the plain and micrometer sights *b b'*, substantially as described, and for the purpose set forth.

2. The combination, with a tripod provided with the collar *d*, having central orifice, sleeve *e*, and flange *h* and staff *f*, of the cross and register *i*, having the plain and micrometer sights *b b'*, substantially as described, and for the purpose set forth.

3. The cross and register *i*, provided with the plain and micrometer sights *b b'*, stationary graduated rings *k k'*, provided with holes *l*, rotating graduated rings *n n'*, spring-levers *m'*, secured to the rotating rings, and cam-levers *m²*, substantially as described, and for the purpose set forth.

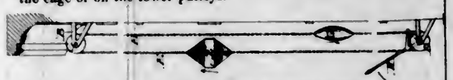
4. The combination of a compass provided with opposite plain

and micrometer sights, a cross and register provided with opposite plain and micrometer sights, a tripod for supporting said cross and register, having a central orifice in its collar, and a detachable staff, substantially as described.

5. The combination, with a compass or transit-instrument, of the micrometer-sight *b*, provided with the vertical central slot, c, and parallel vertical side slots, c' c', substantially as described, and for the purpose set forth.

267,179. FIRE-ESCAPE. KASSON FREEMAN, Grand Rapids, Mich., assignor of one-fourth to Henry Durbin, Oak Creek, Wis. Filed Feb. 16, 1882. (No model.)

Brief.—A cage or platform with a hinged guard is secured to the endless cables on one side of the pulleys, and a counter-weight having its ends pointed is secured to the cables on the other side of the pulleys. Suitable brakes are applied to the cable, either on the cage or on the lower pulleys.

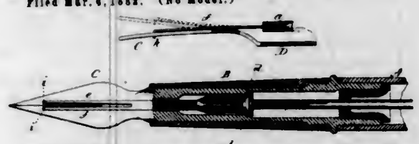


Claim.—1. The herein-described fire-escape, consisting of pulleys C D, cage or platform F, endless cables E, and weight G, applied directly to said cables and adapted to automatically elevate the cage, all combined and operating as set forth.

2. In combination with a fire-escape cage and its supporting-cable, a counter-weight, G, having its ends pointed, as shown and described, whereby it is adapted to ride over obstructions, as set forth.

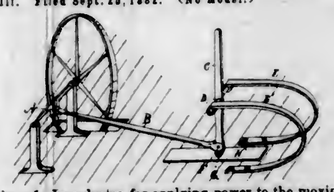
3. The cage F, provided with guard I, hinged at its lower edge and cut away, as shown and described, for the purpose specified.

267,180. FOUNTAIN-PEN. JOSEPH FRIEDMANN, Seymour, Conn. Filed Mar. 4, 1882. (No model.)



Claim.—The combination of the fountain-holder, the reverse-curved pen, and the spindle *a*, carrying the valve *b* at the foot of the fount, with extensions from the spindle down over the back of the pen, and connected to the two parts of the pen near the point, substantially as described.

267,181. MECHANICAL MOVEMENT. MAX FRÖHLICH, Freeport, Ill. Filed Sept. 25, 1882. (No model.)



Claim.—1. In a device for applying power to the moving of machinery, the combination of a reciprocating lever and means, substantially as described, whereby a portion of the power applied to the lever may be stored up at the middle of each stroke thereof and used at the end of the stroke.

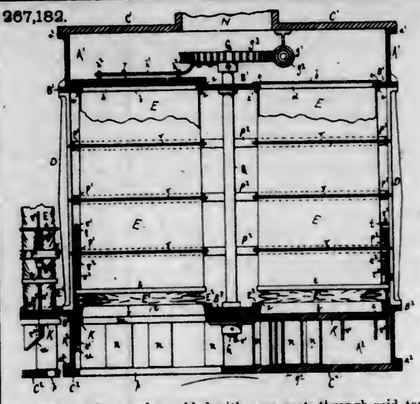
2. In a power-applying device, the combination of a reciprocating lever, a yielding fulcrum on which said lever is pivoted and means whereby said fulcrum may be deflected from its normal position at the middle of each stroke of the lever and return thereto at the end of each stroke, substantially as and for the purpose described.

3. The combination of the springs E E', shaft D, lever C, and roller G, substantially as and for the purpose set forth.

267,182. DUST-COLLECTOR FOR FLOUR-MILLS, &c. WILLIAM H. FRUDD, Minneapolis Township, Hennepin County, Minn. Filed Mar. 10, 1882. (No model.)

Claim.—1. A chamber having its sides and bottom cast in one piece and adapted to receive the dust-laden air, and provided with open ports through said bottom, a chamber adapted to receive the dust after it is extracted from the air, having its sides and top

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cast in one piece, and provided with open ports through said top, and a series of tubes composed of suitable dust-collecting fabric connecting the ports of one of said chambers with the ports of the other, in combination with means for shutting off the upper openings into said tubes consecutively and opening the lower ends of the same tubes that are shut off from above at the same time, substantially as and for the purpose set forth.

2. The combination of the plate B', having the angular-sided ports *b*, with the clamping-frames *d* and tubes E, substantially as set forth.

3. The combination, with the plates B' B³, provided with ports *b*, and tubes E, of suitable dust-collecting fabric, of shaft G, valve I, and disk K, having port *m*, substantially as set forth.

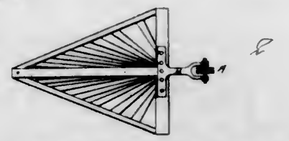
4. The combination of the plate B³, having the ports *b*, ring A³, and bottom C³, having the discharge-port *p*, with disk K, having the sweeps *n* and port *m*, substantially as set forth.

5. The plates B' B³, having ports *b*, the posts D, and tubes E, of suitable dust-collecting fabric, in combination with guards *r*, arranged and operating substantially as set forth.

6. The combination of the plate B³, having the ports *b* and upwardly-projecting ribs *c*, with the sleeves E' and holding-plates E², substantially as and for the purpose specified.

267,183. AUTOMATIC RAILWAY-SWITCH. ROBT. F. GARRED, Norristown, Pa. Filed May 8, 1882. (No model.)

Brief.—A spring or springs in connection with a wheel, fastened beneath a locomotive, with suitable mechanism for the operating of switches from the engine. The wheel consists of a wooden center made of two or more solid disks of wood fastened together with the grain running in opposite directions, outside disks of iron, and a rubber tire.



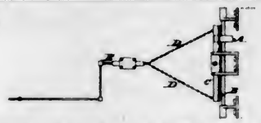
Claim.—1. The herein-described device, to be situated beneath a locomotive or other part of a train, and to operate a switch or signal mechanism, consisting of the spring B and wheel A, both arranged and operating substantially as and for the purposes set forth.

2. The wheel A, consisting of the wooden center C, iron side plates, D, and rubber tire E, substantially as and for the purposes described.

267,184. MECHANICAL MOVEMENT FOR OPERATING RAILWAY-SIGNALS. ROBT. F. GARRED, Norristown, Pa. Filed Mar. 3, 1882. (No model.)

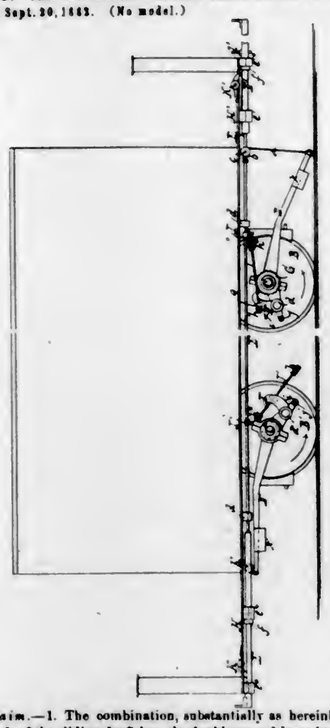
Brief.—A signal-operating mechanism carried upon a car or locomotive wherein a rotatable wheel operates a striker, which, in turn, actuates a pivoted bar having flexible connection with a signal mechanism, whereby the signal device is operated in the same direction irrespective of the forward or backward movement of the car or locomotive, and the consequent rotation of the wheel and tappet backward or forward.

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Claim.—A rotatable wheel and striker or its equivalent operated thereby, in combination with a tappet and rod and flexible connections intermediate of the tappet and rod, whereby by the operation of the tappet in either direction the direction of motion of the rod is not varied, substantially as and for the purpose set forth.

267,185. CAR-STARTER. EDUARD GERIO, Berlin, Germany. Filed Sept. 20, 1882. (No model.)



Claim.—1. The combination, substantially as hereinbefore described, of the sliding draft-bar, the double-armed lever hung on the axle which carries a ratchet-wheel, said lever having a short arm in rear and a long arm in front of the axle, a pawl pivoted to the rear arm of said lever, the horizontal rod connected with the draft-bar, and means connecting the pawl with the said rod for throwing the pawl into and out of gear with the ratchet-wheel on the axle, as set forth.

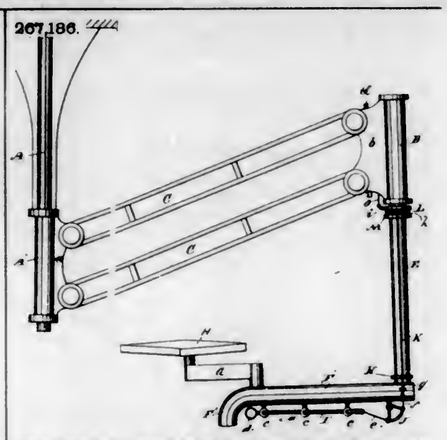
2. The combination, substantially as hereinbefore described, of the draft-bar E, sliding in brackets e e^2, the lever-pawl D, having its long arm connected to the draft-bar, and carrying on its short arm the pawl F, the ratchet-wheel G, mounted on the car-axle, the rod J, secured in an arm, I, fastened to the draft-bar, and passing through a leg, g, projecting from the pawl, and the tappets h h^2 on said rod J.

3. The combination, substantially as hereinbefore described, of the draft-bar E, sliding in brackets e e^2, the collar f on said draft-bar, the weighted lever-pawl D, having its long arm connected to the draft-bar, and carrying on its short arm the pawl F, the ratchet-wheel G, mounted on the car-axle, and the pawl K.

267,186. DENTAL BRACKET. CHARLES H. GILBERT, Andover, Mass. Filed Feb. 24, 1882. (No model.)

Claim.—1. The combination, with the arm F, rod E, and sleeve D, having projection n, of the slide-rod I in guide-loops e, the wire e, the bell-crank lever J, the wires f, the rods K in guide-

267,186.



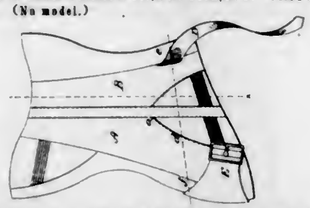
loops g, the loose rings L N, the loose grooved ring M, having finger i, the pivoted rod O, the bell-crank lever having pawl j and finger m, the bar Q, having racks k l, the pinions R on the ends of the pivoted arms C, and the spring S, as and for the purpose specified.

2. The combination, with arm F F', of the rod I, having end loop, d, the wire e, the bell-crank lever J, the wire f, the rod K, passing through loops g, the loose ring L, the loose grooved ring M, the loose guide-ring N, the spindle E, the rod O, pivoted to a finger, i, of ring M, the bell-crank lever P, having pawl j and finger m, the sleeve D, having jaws b and projection n, the bar Q, having racks k l, the pivoted arms C, having pinions R, and the spring S, as and for the purpose specified.

3. In a dental bracket, the combination, with the fixed shaft or spindle A and the sleeve A', of the arms C, the spindle D, the rack-bar Q, the quadrant P, the spring S, the pinions R, and devices for releasing the quadrant from the rack-bar, substantially as herein shown and described, and for the purpose set forth.

4. In a dental bracket, the combination, with the spindles A and E, the sleeves A' and D, and the pivoted arms C, of the arm F, the rods I and K, the quadrants J and P, the ring L, the annularly-grooved ring M, the rod O, the spring S, and a ratchet and pawl for locking the several parts in the desired positions, substantially as herein shown and described, and for the purpose set forth.

267,187. CORSET. THOMAS S. GILBERT, New Haven, Conn., assignor to Lewis Schiele & Co., New York, N. Y. Filed Aug. 18, 1882. (No model.)



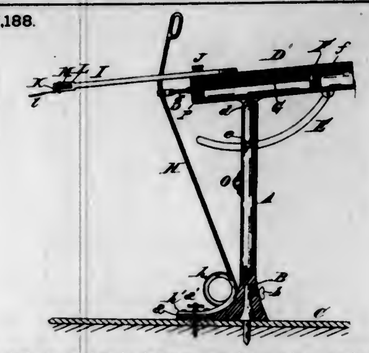
Claim.—1. A corset having the hip-section composed of two thicknesses, one thickness continuous from top to bottom, the other cut away over the hip, so as to expose the surface of one thickness through said cut-away portion, the two thicknesses stitched together and stayed, combined with the straps D and E, attached respectively to the front and rear edges of the hip-section and detachably connected over the hip, substantially as described.

2. A corset having the hip-section composed of two thicknesses, one thickness continuous from top to bottom, the other cut away over the hip, so as to expose the surface of one thickness through said cut-away portion, the two thicknesses stitched together and stayed with the elastic band C across said cut-away portion and over the single thickness, substantially as described.

267,188. TRAP FOR THROWING BALLS. JACOB GLUCHOWSKY, Cincinnati, Ohio. Filed June 27, 1882. (No model.)

Claim.—1. In a target-shooting trap, the combination of a standard or post adapted to rotate on a supporting-base, a barrel or cylinder pivoted to the standard or post and provided with an

267,188.

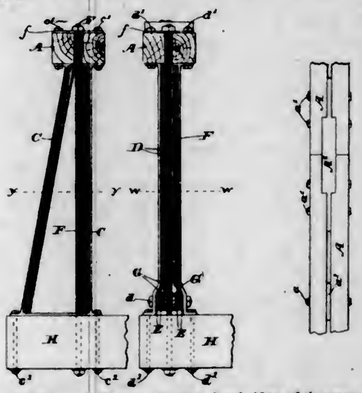


attached rearward-projecting arm, carrying a trigger, a plunger arranged within the barrel or cylinder and provided with a rod or stem, and a spring hand-lever having its lower end connected with the rotatable standard or post to move with the same and connected at its upper portion with the plunger rod or stem, substantially as described.

2. In a target-shooting trap, the combination of the standard or post A, the barrel or cylinder D, pivoted thereto, the plunger F, having a rod or stem, G, the longitudinally-slotted arm I, secured to the barrel or cylinder and provided with a trigger, K, and the spring hand-lever H, having its lower end secured to the standard or post and its upper portion extending through the slotted arm and connected with the plunger rod or stem, substantially as described.

267,189. BRIDGE. SOLOMON H. GODMAN, Indianapolis, Ind. Filed July 11, 1882. (No model.)

Brief.—A combined wood and iron bridge, the special improvement being in making the end and center struts of cast-iron, the center struts being swelled and opened at the bottom to admit the lower chords and truss-rods, both end and center struts being secured by means of bolts and flanges to the upper chord and floor-beams. Also, the improvement in splicing the different members of the chords. The construction of the struts avoids all forging except for the bolts, and only a crushing strain comes upon the cast metal, the carrying strain being all upon the wrought metal.

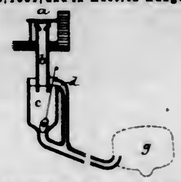


Claim.—1. The combination, in a bridge, of the upper chords, the end posts, the cast-iron struts C and D, the latter of which are swelled and open at the bottom to admit the lower chords and truss-rods, said lower chords and truss-rods sustaining rods F, which pass from the top of the upper chord to the lower side of the floor-beams, and said floor-beams, when all are constructed and operate substantially as set forth.

2. The combination, with the other parts of a bridge, of the struts D, constructed as shown, and secured by means of bolts and flanges to the upper chords and floor-beams, and the suspensory rods F F, with plates f, all substantially as shown and specified.

3. The combination, with the members of the chords A, of the splice-piece A', having its center of a sufficient thickness to fit into gains in said members, and its ends thin enough to pass between the members without gaining them, all substantially as shown and specified.

267,190. WATER-CLOSET. STEPHEN GELDNER, Baden, Germany. Filed Aug. 24, 1882. (No model.) Patented in Germany June 26, 1881, in France July 16, 1881, in Belgium Oct. 14, 1881, in Great Britain Oct. 20, 1881, in Spain Nov. 8, 1881, in Italy Nov. 12, 1881, and in Austria-Hungary Jan. 15, 1882.

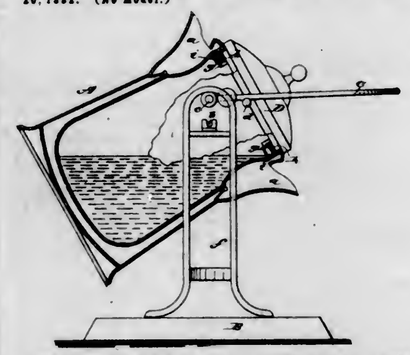


Claim.—1. The combination, with the receiver or reservoir provided with overflow and discharge pipes, the latter connected with said receiver at the bottom, of the soil-pipe dipping into said receiver or reservoir a suitable distance, as indicated, below the mouth of said overflow-pipe, substantially as described.

2. The combination of the receiver adapted to contain a volume of water, the soil-pipe projecting below the level of the water therein to about the depth indicated, the overflow-pipe at the top of said receiver, and the discharge-pipe at the bottom thereof, normally closed by a valve or stopper, substantially as described.

3. The combination of the receiver, the soil-pipe projecting thereinto, the discharge normally closed by a valve or stopper, and the overflow connected with the receiver at a point above the lower orifice of said soil-pipe and emptying into the discharge-pipe beyond said valve or stopper, substantially as described.

267,191. PITCHER. GEORGE GOUGH, New York, N. Y., assignor to E. G. Webster and A. A. Webster, same place. Filed Sept. 20, 1882. (No model.)



Claim.—1. A pitcher having two opposite spouts, a, valved at the bottom and connected by a tubular passage, as shown and described.

2. The combination, with the double-spouted pitcher A and stand B, of the bail C, adapted to tilt the pitcher in opposite directions, as set forth.

3. The combination, with the pitcher A, formed with the spouts a a and provided with the studs d d, of the bail or handle C, hinged to the stand B, the studs coming upon opposite sides of the bail, substantially as and for the purposes set forth.

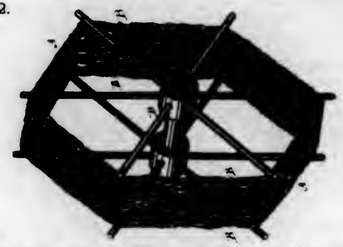
4. The pitcher formed or provided with the flanges h h, with or without stops, in combination with the cover D, provided with the headed studs g g, substantially as described.

267,192. ART OF REELING AND WINDING SILK AND OTHER THREAD. JAMES M. GRANT, Hartford, Conn. Filed June 20, 1882. (No model.)

Brief.—Silk or other thread wound upon the reel in the form of a wide band, the thread being laid or crossed diagonally and laced, so as to hold it in its band-like condition and prevent it from becoming entangled in dyeing.

Claim.—1. A skein of silk or other thread wound upon a reel diagonally from side to side, in the manner described, and laced

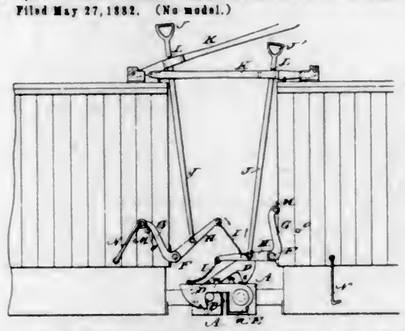
267,192.



back and forth across its width to preserve its form, substantially as set forth.

2. The combination of the lacing B with a wide skein of silk or other thread in which the strands are diagonally crossed, substantially as described.

267,193. CAR-COUPLING. FRANCIS GRIFFIN, Greenville, Miss. Filed May 27, 1882. (No model.)

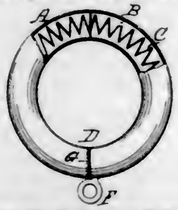


Claim.—1. In a car-coupling, the combination, with the draw-head A, of the hook-plate D, the shaft F, the arm H, the chain I, the rod or bar J, and the lever K, substantially as herein shown and described, and for the purpose set forth.

2. In a car-coupling, the combination, with the draw-head A, of the hook-plate D, the shaft F, the arm H, the chain I, the rod or bar J, the lever K, and the pintle L, passed through the rod or bar J above the lever K, substantially as herein shown and described, and for the purpose set forth.

267,194. CURTAIN-POLE RING. SIGMUND GROM, Newark, N.J. Filed Sept. 4, 1882. (No model.)

Brief.—The curtain-ring is made in two sections held together by a spiral spring therein or by any form of slip-joint.



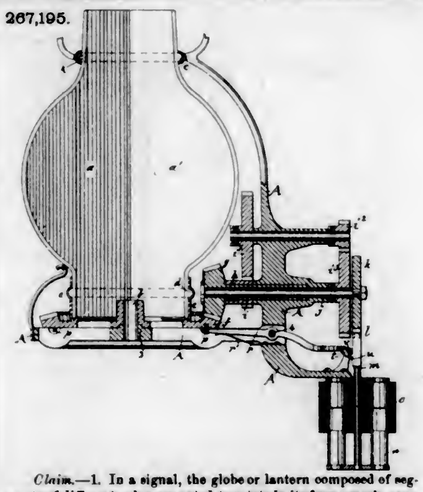
Claim.—1. As a new article of manufacture, the curtain-pole ring made in two sections, A B, in combination with the eye F, substantially as and for the purpose specified.

2. The combination of the sections A B, spring C, and eye F, substantially as and for the purpose set forth.

267,195. RAILWAY-SIGNAL. GEORGE O. HARLOW, JOSEPH P. A. HARLOW, and JOHN F. HARLOW, Cambridge, Mass. Filed Sept. 2, 1882. (No model.)

Brief.—On sending electric current through coil *o* armature *a* is raised and pawl *l* turns wheel *k*, the shaft of which is rigidly attached to i^2, but passes loosely through *g*. Power is transmitted through gear-wheels i^2, i^3, i^4, and *g* to *f*, which turns to present a different-colored section of the globe at each upward movement of *a*.

267,195.



Claim.—1. In a signal, the globe or lantern composed of segments of different color, mounted to rotate in its frame-work, combined with an actuating-magnet and intermediate mechanism between the armature of the said magnet and the said lantern, whereby it is rotated to present a different segment in the path of the light when the said armature is moved, substantially as described.

2. The combination, with the lantern composed of segments of different color, of a supporting gear-wheel for the said lantern, and an actuating-ratchet operatively connected with the said gear-wheel, and an electro-magnet and its armature provided with a pawl to engage the teeth of the said ratchet and rotate the said lantern, substantially as described.

3. The combination of the lantern having segments of different color, mounted to rotate, as described, and provided with locking-projections, with an actuating electro-magnet, its armature, and a locking device for the said lantern operated by the armature of the said magnet, as described, whereby the said lantern is released when the magnet begins to rotate it, and is engaged and locked at the end of the said rotation, substantially as described.

4. The lantern composed of segments of different color, mounted to rotate upon a pivoted wheel provided with locking-projections, combined with an electro-magnet, its armature, intermediate mechanism between the said armature and supporting-wheel for the lantern, and a pivoted locking-lever normally in the path of the said projections and operated by the said armature, whereby it is removed from the path of the said projections when the armature begins to move the signal, substantially as described.

267,196. DYNAMO-ELECTRIC MACHINE. ERNEST JOHN HARLING and EMIL HARTMANN, London, England. Filed July 15, 1882. (No model.) Patented in England Aug. 11, 1881, No. 3,472, and in France Feb. 11, 1882, No. 147,324.

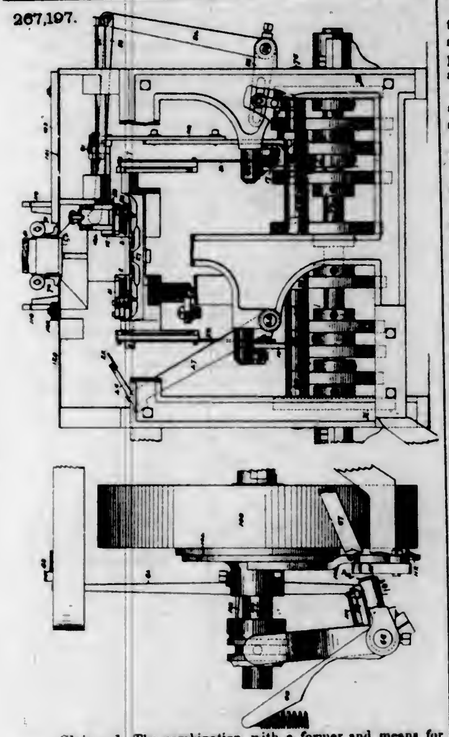


Claim.—1. An annular armature composed of the soft-iron plates *b*, having projections *p*, and arranged flatwise together with the said projections separated by spaces in which are wound coils arranged for connection with a commutator, substantially as described.

2. In a dynamo-electric machine, a field-magnet having its cores provided with transverse pole-pieces, which project to a greater extent on one side of the core than on the other, substantially as and for the purpose set forth.

267,197. MACHINE FOR MAKING BAGS. ORVILLE S. HARMON, Brooklyn, N. Y., assignor to P. Lorillard & Co., Jersey City, N.J. Filed Feb. 19, 1881. (No model.)

267,197.



Claim.—1. The combination, with a former and means for moving it to and from guiding-stocks, of guiding-stocks, as 20 21, the face-plates whereof form a folding-box, one of which stocks is provided with means for reciprocating it to fold the edge of the overlapped ply of the sheet, and fold the same upon the side of the tube, all substantially as described.

2. The combination, with the former, of the folders 22 23, and means for reciprocating said folders, so that the folder 22, after laying the first lap, shall dwell and hold the same until the folder 23 has advanced over the edge of said first lap, all substantially as described.

3. The combination, with the former, of the folders 22 23 and stock 21, and means for reciprocating the latter, all substantially as described.

4. The combination, with the former, of the reciprocating carrier 124 and the oscillating primary end-lap folder, 24, substantially as described.

5. The combination, with the former, of the reciprocating carrier 124, and oscillating folder 24 and its wings 18 19 with the folders 25 26, whereby the plies forming the projecting sides of a tube end are laid snugly together, and the folded edge thereof is pressed, substantially as described.

6. The combination, with a former and forming-table and means for carrying the two into co-operative relation, of a series of side-lapping folders, whereby a sheet of material is lapped about the former and converted into a tube, said side-lapping folders being also provided with devices for partially closing the end of the tube, all substantially as described.

7. The combination, with a forming-table and a former pivoted or hinged thereto, of means for oscillating the former, a slide carrying said former and table, and means for reciprocating said slide to carry said former to and from the position of co-operation with the folding mechanisms, all substantially as described.

8. A folder having a wing or wings provided with a recessed face, whereby a space is provided for the lapped plies of material and the folded edge of the same is pressed, substantially as described.

9. The combination of the table and oscillating former, and means for bringing the former onto the table, and means for locking the former, all substantially as described.

10. The combination, with a support for one side of the material, of a folder operating upon the opposite side of the material, and provided with a wing or wings recessed to accommodate the plies of folded material and press its doubled edge or line of fold, all substantially as described.

11. The combination, with the former and folders 24, 25, 26, and 28, of an auxiliary lap-forming folder, 27, substantially as described.

12. The combination, with the folder 28, of the folders 25 26, having recessed wings *l l*, substantially as described.

13. The combination, with the folders 25 26, of the folder 24, having wings 18 19, substantially as described.

14. The combination, with the former, of the carrier 124, the folder 23, and folder 24, of means for reciprocating the carrier 124 and for oscillating the folder 24, all substantially as described.

15. A folder mounted to turn with the corner of the former for its center of motion, and provided with an actuating device hung behind said folder to swing upon an independent center, all substantially as described.

16. The combination, with the hollow former and table 52, of the stops 114, whereby the position of the hollow former with respect to the folders is determined, substantially as described.

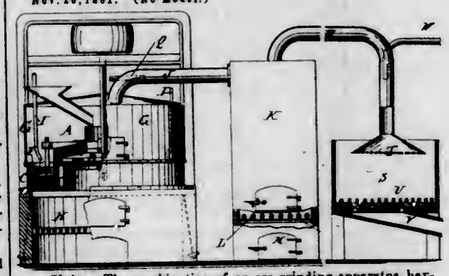
17. The combination, with the former and the shaft 66, of the clutch 104, pulley 100, and lever 67, substantially as described.

18. The combination, with the former, folding mechanism cooperating therewith, and means for actuating the same, of a clutch mechanism and means operated by the driving-pulley to release the said clutch, all substantially as described.

19. The combination, with the former and the mechanisms operating it from the main shaft, of the clutch mechanism, its releasing mechanism carried by the shaft 66, and the lever 67, substantially as described.

20. The combination, with a former, of a folder, as 26, provided with lugs, as *c n*, and an arm, as *e*, having bearers which travel in a curved guiding-slot, and a pivoted rock-arm, as 12, provided with fingers *m n*, substantially as described.

267,198. APPARATUS FOR DESULPHURIZING GOLD AND SILVER ORES. WILLIAM E. HARRIS, New York, N.Y. Filed Nov. 26, 1881. (No model.)



Claim.—The combination of an ore-grinding apparatus having above it an inclosing air-tight case, air-inlet pipes adapted to be connected with an air-forcing apparatus, and a fire-chamber under said grinder with a pipe connecting said case with the upper part of a desulphurizing-furnace, such furnace being constructed as described, whereby the blast carrying the pulverized ore enters above the grate and passes down through the same, the whole operating to dry the ore as it is ground and then blow the same through the desulphurizer, as set forth.

267,199. BOTTLE-WASHING MACHINE. JOHN HAUCK and GUSTAVE LAUTENSCHLAGER, Cincinnati, Ohio. Filed Mar. 27, 1882. (No model.)



Claim.—1. The combination of the cylinder A and the brushes E, attached thereto by means of the frame E', said frame being provided with the arms *d*, the free ends of which are connected to the interior of the cylinder, substantially as and for the purposes specified.

2. The combination of the cylinder A and the adjustable brushes E, attached to the interior of the cylinder by arms *d*, the cylinder being provided with the set-screws G, for causing the brushes to be pushed toward the center of the cylinder, substantially as and for the purposes specified.

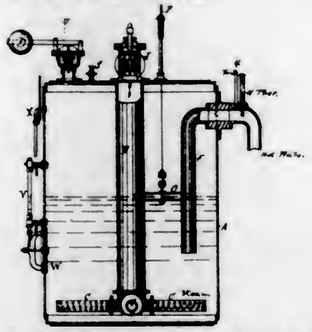
3. The cylinder A, provided with interior lugs, *c*, in combination with the brushes E, each provided with arms *d*, by which said brushes are connected to the lugs, and means for adjusting said brushes at a varying distance from the center of the cylinder, substantially as and for the purposes specified.

4. The cylinder A, in combination with the brushes E, each provided with arms *d*, by which the brushes are connected to a fastening device on the cylinder, and means for adjusting said brushes at a varying distance from the center of the cylinder, substantially as and for the purposes specified.

5. The combination of the brush E with the frame E', said frame being provided with the arms *d*, the free ends of which are connected to the interior of the cylinder, and means for adjusting said brushes at a varying distance from the center of the cylinder, substantially as and for the purposes specified.

6. The combination of the cylinder A, provided with bottom C, and the flexible brush F, located in the bottom of the cylinder, the bottom C being provided with a curved projection, H, substantially as and for the purposes specified.

267,200. AUTOMATIC WATER-HEATER. JAMES HAWLEY, Liverpool, England, assignor to Frederick Myers, New York, N. Y. Filed Jan. 20, 1882. (No model.)

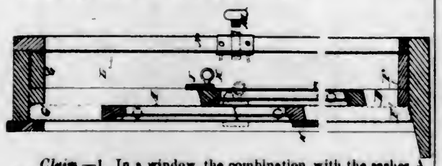


Claim.—1. The combination, in a water-heater, of the tank or boiler A, steam-supply pipe and its regulator, water-supply pipe and its regulator, and the discharge-pipe F, substantially as described.

2. The combination, with tank or boiler A, having an automatic steam-supply apparatus and an automatic water-supply apparatus, of a discharge-pipe for the hot water, forming a trap to prevent the escape of the steam by receiving the water below the level thereof in the tank and delivering it from said tank above said level, substantially as described.

267,201. WINDOW-SASH. WILLIAM HOAPS, Walden, N. Y. Filed May 10, 1882. (No model.)

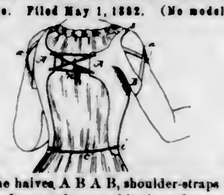
Brief.—Holding-strips movable in the jambs may be retracted to permit one of two half-sashes, which normally stand in the same plane, to be raised or lowered past the other.



Claim.—1. In a window, the combination, with the sashes A B, of the strips or rails L in grooves or recesses D in the jambs of the window, and the screws M, swiveled in the inner edges of the rails L and passing through nuts in the casing N, substantially as herein shown and described, and for the purpose set forth.

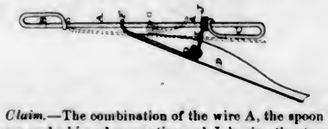
2. In a window, the combination, with the sash A, provided with a projecting strip, H, on the lower rail, and the sash B, provided with a projecting strip, J, on the upper rail, of the rails or strips L in the recesses D of the window-jambs and the screws M, substantially as herein shown and described, and for the purpose set forth.

267,202. DRESS-WAIST PROTECTOR. SARAH ELIZA HERVEY, Taunton, Mass. Filed May 1, 1882. (No model.)



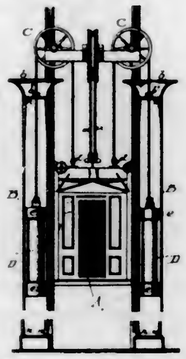
Claim.—The halves A B A B, shoulder-straps *s s*, arm-straps *a a*, waist-cord *c*, front cords, *m*, and back cord, *n*, combined for operation substantially as shown and described.

267,203. SPOON-BAIT. LYSANDER S. HILL, Grand Rapids, Mich. Filed Aug. 14, 1882. (Model.)



Claim.—The combination of the wire A, the spoon D, sliding thereon, and a hinged connecting-rod, I, having the stops O formed on its outer ends for striking against the spoon, substantially as shown.

267,204. ELEVATOR. PHILIP HINKLE, San Francisco, Cal. Filed Oct. 18, 1882. (No model.)



Claim.—1. An elevator-cage in combination with a counterpoise-weight moving in a tube containing a liquid, for the purpose specified.

2. The counterpoise for an elevator-cage, provided with a longitudinal opening or openings closed by a valve when the counterpoise is moved in one direction and opened when it is moved in the other.

3. The tube in combination with a counterpoise having the heads *e e*.

4. The counterpoise-tube B, in combination with the funnel-shaped top A', for the purpose specified.

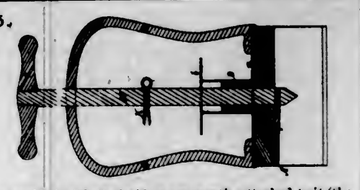
5. The counterpoise-tube B, having its interior diameter contracted at *a a* near its ends, substantially as set forth.

6. The counterpoise D, in combination with the tube containing a liquid, a cage, and a connecting-rope, all constructed, arranged, and operated as set forth.

267,205. BUTTER-CUTTING APPARATUS. FRANK HIBBY, Pittsfield, assignor to James Mason, Dalton, Mass. Filed May 15, 1882. (No model.)

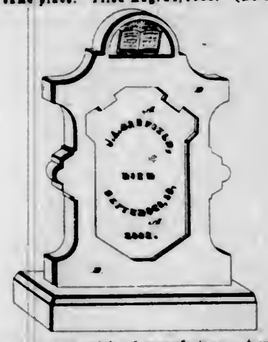
Claim.—The combination of the mold and its handle with the stamp and its handle, arranged within and concentrically with such mold, and with the plunger-rod arranged concentrically in the

267,205.



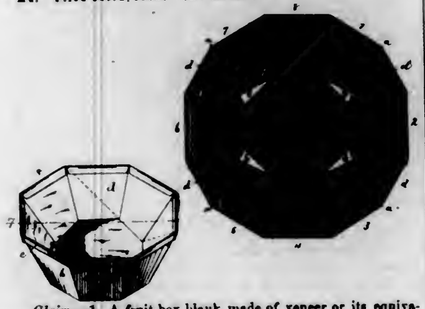
stamp and provided with the knife permanently attached to it (the said rod) at a right angle to it, as set forth.

267,206. MANUFACTURE OF TOMBSTONES, &c., FROM PLASTIC MATERIAL. WILLIAM H. HOOPES, Baltimore, Md., assignor to the Hoopes Artificial Stone, Cement and Paint Company, same place. Filed Aug. 24, 1882. (No model.)



Claim.—As a new article of manufacture, a tombstone, tablet, or other like article composed of a body of plastic material embracing and containing letters formed of vitreous material, substantially as and for the purpose specified.

267,207. FRUIT-BASKET. EUGENE W. HUMPHREYS, Salisbury, Md. Filed Oct. 2, 1882. (No model.)



Claim.—1. A fruit-box blank made of veneer or its equivalent, with through cuts *a* and removed sections *b*, substantially as and for the purpose described.

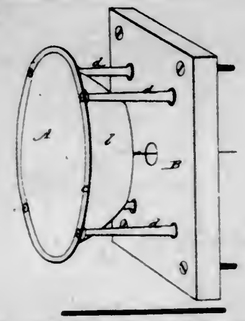
2. The blank A, for making fruit baskets or boxes, consisting of a twelve-sided piece of veneer or its equivalent, as described, having the through cuts *a* and removed triangular sections *b*, substantially as shown and described.

3. An octagonal fruit basket or box composed of a body portion formed of a twelve-sided blank, with through cut *a* and removed triangular sections *b* drawn together at the top with four lapped sections, *d*, and surmounted by a metallic rim, substantially as shown and described.

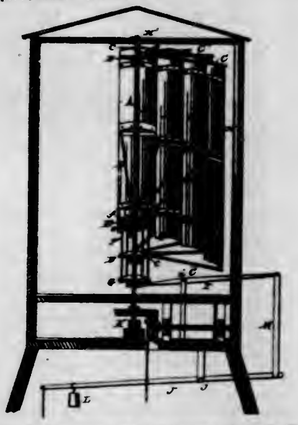
267,208. MECHANICAL TELEPHONE. HARVEY E. HUSTON, Mantisello, Ill. Filed June 3, 1882. (No model.)

Claim.—The combination, with the perforated base B and the posts *d*, secured thereto, of the diaphragm A, formed with the flat base *a*, the beveled or concaved sides *b*, and the perforated rim *c*, the screws *g*, and the packing *h*, substantially as and for the purpose set forth.

267,208.

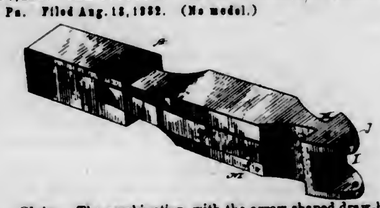


267,209. WINDMILL. WILLIAM C. JACOB, Knoxville, Iowa. Filed Sept. 2, 1882. (No model.)



Claim.—The combination, in a horizontal windmill, of shaft A, having spiders B B and radial arms C, concave vanes H, arms D, sliding sleeve E, rods F, notted adjustably to said sleeve E at their upper ends, sliding sleeve G, lever I, connecting-rod M, and lever J, provided with the adjustable weight L, all constructed and combined to operate substantially in the manner and for the purpose herein shown and described.

267,210. CAR-COUPLING. IRVIN M. JACOBS, East Greenville, Pa. Filed Aug. 18, 1882. (No model.)

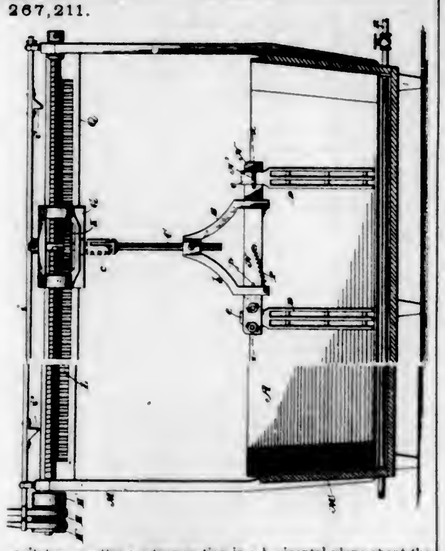


Claim.—The combination, with the arrow-shaped draw-head G H, pivoted at the outer end of the draw-bar A, of the flat springs K K, fixed on opposite sides of the draw-head and bearing with their free ends against the sides of the draw-bar, substantially as and for the purpose herein shown and specified.

267,211. CHEESE-MAKING APPARATUS. SCOTT JENNS, Cheshire, Mass., assignor of one-half to Charles Millar and Henry W. Millar, both of Utica, N. Y. Filed Aug. 19, 1882. (No model.)

Claim.—1. In an apparatus for preparing, cutting, or agitating curd in the art of making cheese, the combination of a vertical rod or shaft, carrying at its lower portion a depending agitator or cutter for agitating or cutting the curd, with means for supporting and reciprocating the rod or shaft in a longitudinal plane, and means for rotating the shaft, and thereby imparting to the

267,211.



agitator or cutter a rotary motion in a horizontal plane about the vertical rod or shaft as the latter is reciprocated, substantially as described.

2. An apparatus for preparing, cutting, or agitating curd in the art of making cheese, combining in its structure a vertical suspension rod or shaft provided at its lower end with a carrier, a curd cutter or agitator suspended from the carrier and adapted to be immersed in the curd contained in a vat, and mechanism for reciprocating the carrier longitudinally, and at the same time imparting thereto a rotating movement in a horizontal plane about the suspension rod or shaft, substantially as described.

3. The combination, in an apparatus for preparing, cutting, or agitating curd in cheese-making, of a carrier for the agitators or curd-knives, with an endless screw which causes a reciprocating movement on the part of the carrier, and a rack and pinion which imparts a rotary movement to the carrier-shaft and the carrier simultaneously with its reciprocating movement, as set forth.

4. The combination, in an apparatus for preparing, cutting, or agitating curd in cheese-making, of a rotary carrier for the agitators or the curd-cutters, with a carriage which supports the carrier-shaft, an endless screw for propelling the said carriage, and a rack which is engaged by a pinion upon the carrier-shaft for imparting a rotary motion to the carrier, substantially as described.

5. The combination, in an apparatus for preparing, cutting, or agitating curd in cheese-making, of a rotary carrier for the agitators or the curd-knives, with an endless screw, or its equivalent, which propels a carriage from which the carrier is suspended, means, substantially as described, for imparting to the carrier a rotary motion, and a belt-shifter which is acted upon by the carriage at both terminals of its line of travel, so as to automatically reverse the motion of the screw, and thereby cause a reciprocating movement on the part of the carriage and a reverse revolution of the carrier, as set forth.

6. In an apparatus for preparing, cutting, or agitating curd in cheese-making, one or more bars or supports by which the curd cutters or agitators are carried, said bar or bars being mounted in a rotary carrier, B, in combination with springs P or their equivalent, substantially as described.

7. The combination, in an apparatus for preparing, cutting, or agitating curd, of cutters or agitators, mounted on a traveling and rotary carrier, with mechanism for automatically reversing the movement and the rotation of said cutters or agitators as the carrier arrives at each end of the vat, substantially as described.

267,212. DOLL'S HEAD. CHAS. C. JOHNSON, Springfield, Vt. Filed Feb. 8, 1882. (No model.)

Claim.—1. A doll's head constructed with an interior wooden shell or a solid wooden foundation, with its exterior surface covered by a plastic substance, substantially as and for the purpose described.

2. In a doll's head, an interior wooden foundation with a neck-

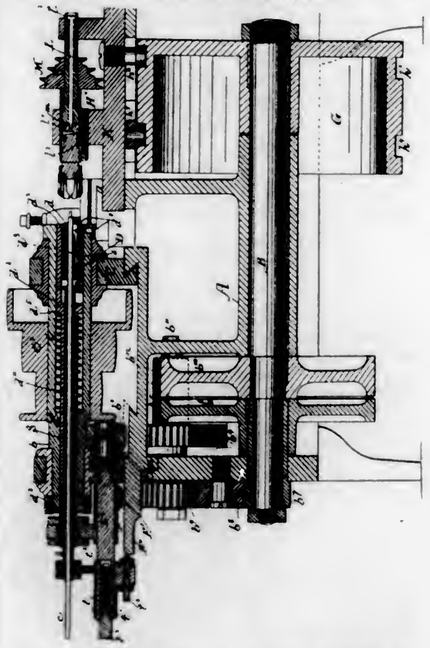
267,212.



piece, C, formed thereon, substantially as and for the purpose described.

3. In a doll's head, a wooden shell or a solid wooden foundation covered with plastic material from which the exterior of the head and the features of the face are formed in a mold, substantially as and for the purpose described.

267,213. METAL-SCREW MACHINE. ALLEN JOHNSTON, Ottumwa, Iowa. Filed July 21, 1881. (No model.)



Claim.—1. The combination of the chuck, the series of cutting-tools, the independent slides or reciprocatory supports for the chuck, and the tools, respectively, and the cams and connections or equivalent automatic mechanism for moving said slides or supports back and forth, the one laterally, the other longitudinally, substantially as described.

2. The combination of the chuck adapted to receive a long rod or screw-stock, the chuck-slide or reciprocatory support for the chuck, the feeder for advancing the rod or screw-stock through the chuck, the sliding or reciprocatory tool-holder, the milling and threading tools, and the cutting-off tool, the said chuck-slide and tool-holder being independently supported in the machine-frame and movable in directions at right angles to each other, substantially as described.

3. The combination of the chuck adapted to receive a long rod or screw-stock, the slide or reciprocatory support for the chuck, the feeder for advancing the rod or screw-stock through the chuck, the sliding or reciprocatory tool-holder, one or more cutting-tools—such as milling and threading tools—carried by said holder, the cutting-off tool, and the cams and connections or equivalent automatic mechanism for shifting the chuck slide or support, for operating the feeder and for moving the tool-holder back and forth, substantially as described.

4. The combination, with a revolving chuck and cams and

connections or equivalent mechanism for moving said chuck laterally back and forth, of a system of linked gears or equivalent gearing connecting the chuck-spindle and the said cams, substantially as described.

5. The combination of the revolving chuck adapted to receive a long rod or screw-stock, the transverse chuck-slide or laterally reciprocatory support for the chuck, the feed-clamp movable with said chuck, the means for releasing and restoring the bite of the chuck-jaws, and the means for advancing the feed-clamp while the bite is released, substantially as described.

6. The combination of the revolving chuck adapted to receive a long rod or screw-stock, the transverse chuck-slide or laterally reciprocatory support for the chuck, the feeder for advancing the rod or screw-stock through the chuck, and the stationary cutting-off tool, substantially as described.

7. The combination of the chuck adapted to receive a long rod or screw-stock, the transverse chuck-slide or laterally reciprocatory support, the feeder, the longitudinally sliding or reciprocatory tool-holder, and the stationary cutting-off tool, substantially as described.

8. The combination, with the chuck, of the feed-clamp comprising the independent springs movable in guides, and the tube connected with said springs by the collar, substantially as described.

9. The combination, with the chuck and hollow chuck-spindle, adapted to receive a long rod or screw-stock, and the feeding means, such as described, of the lateral slide or reciprocatory support for the chuck and chuck-spindle, the stationary cam, and the mechanism between the cam and the chuck-jaws for opening and closing said jaws by the reciprocatory movement of said chuck and its slide or support, substantially as described.

10. The combination, with the chuck adapted to receive a long rod or screw-stock, of the transverse chuck-slide or laterally-reciprocatory support, the feeder for advancing the rod or screw-stock, and the stationary cams and connections for opening and closing the chuck-jaws and for operating the feeder, substantially as described.

11. The combination of the chuck adapted to receive a long rod or screw-stock, the chuck-slide or laterally-movable support, the cams and connections for moving said support back and forth, the feeder, the stationary cams and connections for operating said feeder, the longitudinally-sliding tool-holder, the cams and connections for moving the said tool-holder back and forth, and the stationary cutting-off tool, substantially as described.

12. The combination, in a chuck, with the chuck-jaws, wedges, and stay-pieces, of springs supported in grooves in the stay-pieces and projecting between the chuck-jaws, substantially as described.

13. A screw-machine comprising, in combination, the chuck, the hollow chuck-spindle mounted on the laterally-movable support, the tool-holder, the cams and connections or equivalent mechanism for reciprocating the said chuck-spindle in the lateral and the tool-holder in the longitudinal direction, the gearing connecting said cams with the said chuck-spindle, the cut-off tool, and the means, as indicated, for feeding the rod through the chuck, substantially as described.

267,214. METAL-SCREW MACHINE. ALLEN JOHNSTON, Ottumwa, Iowa. Filed Oct. 28, 1881. (No model.)

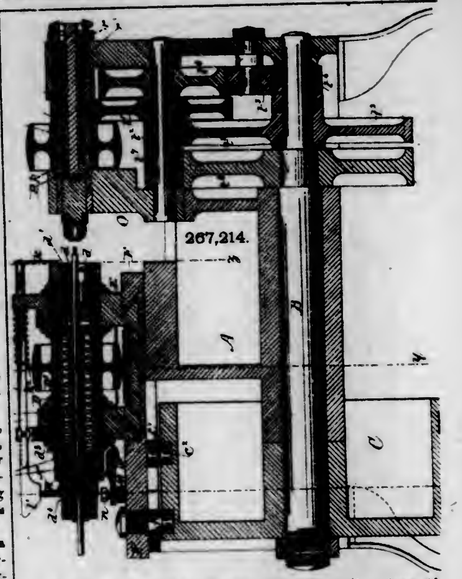
Claim.—1. The combination of the chuck, the hollow chuck-spindle, the pulley or its equivalent for revolving said chuck and spindle, the means for releasing at intervals the bite of the chuck-jaws and for feeding a long rod or screw-stock through said spindle, and the lateral and longitudinal slides or reciprocating supports, the one carried by the machine-frame, and the other, which forms the immediate support for the chuck, mounted in ways of the first slide, substantially as described.

2. The combination of the chuck adapted to receive a rod or long screw-stock, the longitudinal slide carrying said chuck, the means for relieving and restoring the pressure of the chuck-jaws, and the means for feeding the rod or screw-stock when the pressure of the chuck-jaws is relieved, said means operating independently of the longitudinal movement of said chuck, substantially as described.

3. The combination, with the milling and threading tools, of the chuck and the longitudinal and lateral slides or reciprocating supports, the one carrying the chuck and being mounted in the ways of the other, substantially as described.

4. The combination, with the milling and threading tools, the chuck, and the laterally and longitudinally movable slides or supports, the one carrying the chuck and being itself carried by and movable in ways of the other, of the cams and connections or equivalent automatic mechanism for shifting said slides or supports back and forth, substantially as described.

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5. The combination of the chuck adapted to receive a long rod or screw-stock, the lateral and longitudinal slides or reciprocating supports, the one carrying the chuck and being itself carried by and movable in ways of the other, the feeder, the series of cutting-tools, including a cutting-off tool, and the cams and connections or equivalent automatic mechanism for reciprocating said slides or supports and for operating said feeder, substantially as described.

6. The combination, with the chuck, the milling-tool, the threading-tool, and the cutting-off tool, of the feed-clamp and its operating means, said clamp being arranged between the front of the chuck and the said milling and threading tools and out of the way of said cutting-off tool, substantially as described.

7. The combination, with the chuck and laterally-movable support therefor, of the feed-clamp, carried also by said support and arranged in front of the chuck, substantially as described.

8. The combination, with the chuck and the means for releasing at intervals the bite of the chuck-jaws of the feed-clamp, arranged in front of said chuck, the springs for closing and for advancing the clamp, and the cams and connections for opening and for returning the same, substantially as described.

9. The combination, with the chuck and laterally-moving support therefor, of the four-motion-feed clamp and cams and connections operated by the lateral movement of said chuck and its support to close the arms of said clamp, to advance the same, to open them, and return them, the operations being performed successively and in the order named, substantially as described.

10. The arms of the feed-clamp and their supporting-shafts, capable of limited longitudinal and rotary motions, in combination with the means for imparting positively such motions thereto in one direction, and the springs for returning the same, substantially as described.

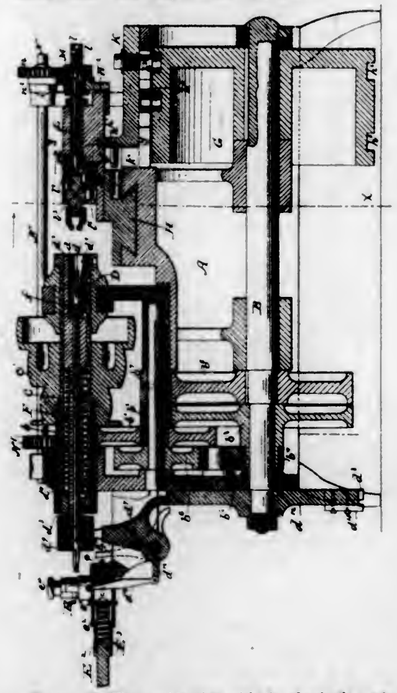
11. The combination of the chuck and chuck-spindle, the arms of the feed-clamp, the shafts extending lengthwise of said spindle and carrying the said arms at their outer ends, and being capable of limited longitudinal and rotary motion, the springs surrounding the said shafts, the latch for governing their rotary motion, the lever for imparting their longitudinal motion, and operating-cams and connections, substantially as described.

12. The combination of the chuck, the support therefor, the cams and connections or equivalent automatic mechanism for imparting lateral and longitudinal motion to the chuck and its support, the die or threading-tool, and the cutting-off tool, both mounted on the stationary support or supports, substantially as described.

13. The combination of the chuck, the movable support therefor, cam-operated mechanism for shifting said chuck and support, the die or threading-tool comprising the die-spindle with the inclosing sleeve, the belt-pulley mounted on said sleeve, and gearing for communicating motion from said pulley to said cam mechanism, substantially as described.

14. An automatic screw-machine comprising, in combination, the chuck, lateral and longitudinal slides, the cams and connections or equivalent automatic mechanism for operating the same, the feed mechanism, with feed-clamp in front of said chuck, the devices fixed on said longitudinal slide for operating said feed mechanism, and the stationary tool-holder with threading and other tools mounted thereon, substantially as described.

267,215. METAL-SCREW MACHINE. ALLEN JOHNSTON, Ottumwa, Iowa. Filed July 5, 1882. (No model.)



Claim.—1. The combination, with the chuck, the series of two or more cutting-tools—such as turning, milling, or threading tools—the lateral-moving support or slide, and the series of independent longitudinal slides carrying the tools above mentioned, of automatic mechanism comprising cams and connections, or their equivalents, for operating said laterally-moving support, to bring the several tools successively into line with the chuck, and for advancing the longitudinal tool-slides separately and in succession, substantially as described.

2. The combination, with the hollow spindle, revolving chuck carried by said spindle, and the series of cutting-tools having longitudinal motion, of the cams and connections, or equivalent automatic mechanism, for bringing by lateral motion said chuck and the several tools successively in line with each other, and for advancing said tools separately and in succession, substantially as described.

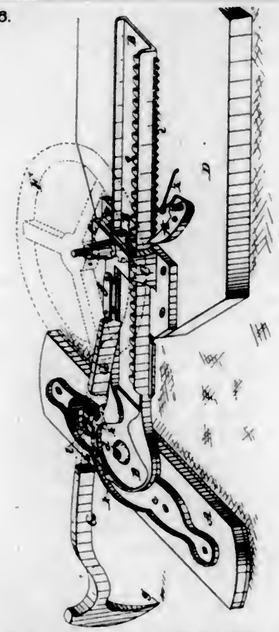
3. The combination, with the laterally-moving tool-holder and the series of cutting-tools carried by independent slides supported in ways of said tool-holder, of the automatic mechanism comprising the cams and connections, or their equivalents, for shifting said tool-holder laterally, and for reciprocating the tool-slides separately and in succession, substantially as described.

267,216. CARPET-STRETCHER. CHARLES W. JONES, Lowell, Mass. Filed Sept. 26, 1882. (No model.)

Claim.—1. In a carpet-stretcher, the combination, with a base or floor board, D, an extensible stretching-head, A, and mechanism connecting said head with said board for operating the head, of one or more anchoring-arms, G, having teeth *g*, substantially as and for the purposes specified.

2. The combination, with the floor-board D, the bar B, and mechanism for working said bar in or out, of the stretching-head

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A, pivoted intermediately of its length to said bar, whereby it may be swiveled or adjusted to occupy different angular positions relatively to or across said bar, essentially as and for the purpose described.

3. In combination with the extensible bar B and swiveling stretching-head A, of the locking-stop *l*, arranged to engage with notches or between teeth on said bar, substantially as and for the purposes described.

4. The sliding rack-bar B, in combination with the pinion E, engaging therewith, the base or floor board D, and the stretching-head A, essentially as shown and described.

5. The combination of the holding-pawl H with the rack-bar B, the floor-board D, mechanism for operating said bar in or out, and the stretching-head A, substantially as specified.

267,217. ARTIFICIAL STONE, MARBLE, &c. RAPHAEL JOSIA, Florence, Italy, assignor to La Société Anonyme de Cortaldo, Paris, France. Filed Mar. 2, 1882. (Specimens.) Patented in Belgium July 26, 1881, No. 55,372; in England July 26, 1881, No. 3,303; in Luxemburg Nov. 25, 1881, No. 172; in France Dec. 27, 1881, No. 146,555; in Austria Apr. 7, 1882, No. 4,724, and in Spain May 3, 1882, No. 2,813.

Claim.—1. The method of preparing gypsum for use in the arts by first dehydrating it, without pulverization, substantially as described, and then treating it with a liquid salt, substantially as described, and either with or without a coloring-matter, substantially as described.

2. The method of preparing gypsum without pulverization, for use in the arts, by first dehydrating it, substantially as described, and then treating it with a bath or baths containing a liquid salt and an acid, substantially as described, either with or without a coloring-matter, substantially as described.

3. In the production of articles of manufacture from gypsum without pulverization, the method of operation set forth, which consists in first driving off all or the greater part of the chemically-combined water by the application of heat in a suitable oven, and then soaking it to, or nearly to, the point of saturation in a moderately-strong or unsaturated solution of alkaline salt at about atmospheric temperature, and either with or without the use in the same or a separate bath or baths of a soluble acid or coloring-matter, or both, substantially as set forth.

4. As a new product or material in the arts, gypsum artificially dehydrated, hardened, and polished, without pulverization, substantially in the manner set forth.

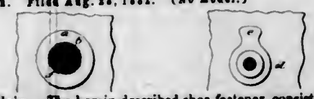
5. As a new product or material in the arts, gypsum artificially dehydrated, hardened, colored, and polished, without pulverization, substantially in the manner set forth.

6. As a step in the process of making imitation marble, stone, &c., from gypsum, subjecting the unground gypsum for about twelve hours to a temperature of about from 120° to 150° centigrade, substantially as set forth.

7. As a step in the process of making imitation marble, stone, &c., from gypsum, subjecting the unground gypsum after dehydrating for about twelve hours to the action of a moderately-strong but unsaturated solution of alkaline salt, either with or without other ingredients, substantially in the manner set forth.

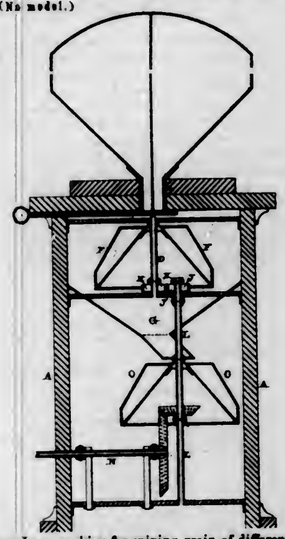
8. In the preparation of gypsum for use in the arts, the method of treating the gypsum by repeated dippings in a suitable bath, the successive dippings being of gradually-increasing length and separated by gradually-increasing intervals of time, substantially as set forth.

267,218. SHOE-FASTENER. JOSEPH L. JOYCE, New Haven, Conn. Filed Aug. 28, 1882. (No model.)



Claim.—The herein-described shoe-fastener, consisting of the stud constructed with the body *b*, and with a projecting annular flange, *c*, the said body to rest upon the outside of the upper and leave a space between the upper and the flange, combined with a disk, *d*, constructed to be applied upon the inside of the upper, and with a radially-projecting finger, *e*, bent outwardly, so as to bear upon the inside of the upper and force the upper toward the flange of the stud upon the outside, substantially as described.

267,219. MACHINE FOR MIXING GRAIN OF DIFFERENT SIZES. J. AUGUST W. JUSTI, Charleston, S. C. Filed Sept. 11, 1882. (No model.)



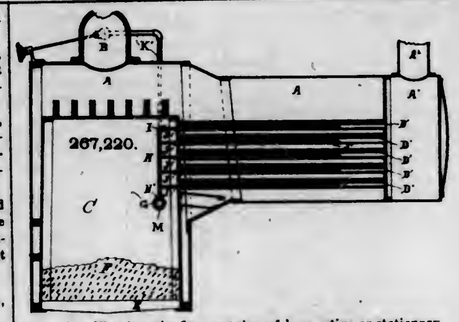
Claim.—In a machine for mixing grain of different sizes, the combination of the hopper, two oppositely-revolving wheels having ribs on their tops, an inclosing frame, and an operating mechanism, substantially as shown.

267,220. SPARK-ARRESTER AND DRAFT-PRODUCER FOR LOCOMOTIVES. JOHN G. KALBACH and THOMAS P. KIRBY, Reading, Pa. Filed Feb. 3, 1882. (No model.)

Claim.—1. A spark-arrester and draft-producer for locomotive, tubular, and flue boilers, consisting of steam-pipes of small caliber, with their nozzles arranged in the tubes or flues of the same at a point of from one-half to three-fourths of their lengths from the gas or heat entering ends thereof, whereby sparks or coals drawn within the tubes or flues will be ejected therefrom and quenched thereby, substantially as and for the purpose set forth.

2. The method of arresting sparks and producing draft, consisting in the injection of steam from the ends of pipes or nozzles

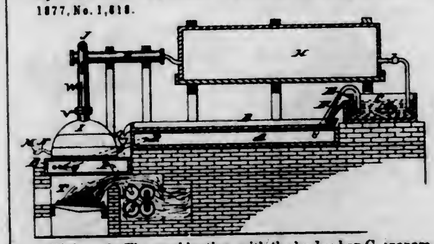
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of small caliber into the flues or tubes of locomotive or stationary tubular boilers at a point within the same of from one-half to three-fourths of their length from the gas or heat entering ends thereof, whereby the soot held in suspension is condensed and driven into the smoke-box or smoke-flue, substantially as specified.

3. In a draft-producer and spark-arrester, as described, with its system of pipes located in the fire-box or fire-chamber of a locomotive or stationary boiler, the bed-pipe of the same connected at one end with the steam-space and at the opposite end with the water-space, whereby the blow-pipes may be operated in advance of pressure within the boiler, substantially as and for the purpose described.

267,221. APPARATUS FOR CONCENTRATING SULPHURIC ACID. FREDERICK W. KALBFLEISCH, Brooklyn, N. Y. Filed Apr. 24, 1882. (No model.) Patented in England Apr. 25, 1877, No. 1,618.



Claim.—1. The combination, with the leaden box C, evaporating-pan B, and the still I of a sulphuric-acid-concentrating apparatus arranged in the order described, of the steam-boxes B' and A and the steam-coil G, the same being arranged and connected to the leaden chamber substantially as described.

2. In a sulphuric-acid-concentrating apparatus in which the evaporation is effected by steam heat, the discharge or waste pipe of the heating apparatus connected to the leaden chamber for utilizing the waste steam of said heating apparatus for supplying the aqueous vapor required in the generating chamber, substantially as described.

3. A platinum still having the bottom flat and its top convex from side to side, but gradually sloping downward from inlet to outlet ends, and having the inlet for the acid and the beak or condensing-pipe for the vapors connected at the highest end, and the escape-pipe for the concentrated acid connected at the lowest end, substantially as described.

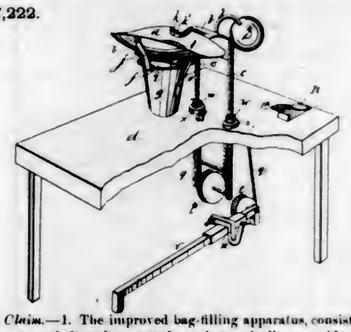
4. The partition-plates, used for regulating the flow of the acid along the bottom of the still, arranged for supporting the bottom of the still by being attached at their ends to the sides of the still, and also being attached to the bottom of the still at intervals along their lower edges, substantially as described.

5. In an apparatus for concentrating sulphuric acid, a condenser placed between the still and the lead chamber, said condenser being located above the bottom of the generating-chamber to enable the condensed vapors from the still to flow into said chamber, and thereby dispense with pumping the same into the chamber, substantially as described.

6. In a sulphuric-acid-concentrating apparatus, a condenser located above the bottom of the generating-chamber, in combination with a still provided with a vertical beak extending above the bottom of said chamber, all substantially as described.

267,222. BAG-FILLING APPARATUS. CHARLES L. KELLEY, New Vienna, Ohio. Filed Sept. 7, 1882. (No model.)

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Claim.—1. The improved bag-filling apparatus, consisting of a hopper and funnel, mounted on the vertically-movable rods c, foot-slide u, and the cord q and pulleys p s t, combined with a counter or table, substantially as described.

2. The combination, with vertical rods c and plate b, attached at one end to the top of said vertical rods, and having at the other end an opening, of the hopper a, having the downwardly-extending funnel-section f and opening e, and a suspended funnel extending at the top over said section f, as shown and described.

3. The combination of the jointed funnel g, pivots h, ring i, and bars j, with the hopper a, substantially as described.

4. The combination of hopper a, jointed funnel g, and springs o, substantially as described.

267,223. THILL-COUPLING. WILLIAM J. KETNER, Lancaster, Wis., assignor of one-half to Reuben Block, same place. Filed Aug. 19, 1882. (No model.)



Claim.—The combination, in a thill-coupling, of the clip A, having thickened part A', cast with the cylindrical sleeve B, and having the rounded recess C, concentric with sleeve B, and thill-iron D, having the rounded flange-head F, trunnion G, concentric with said head, and shoulder f, constructed and combined to operate substantially in the manner and for the purpose herein shown and described.

267,224. COMBINED SASH-FASTENER AND BURGLAR-ALARM. THEODORE E. KING, Westport, Conn. Filed May 10, 1882. (Model.)



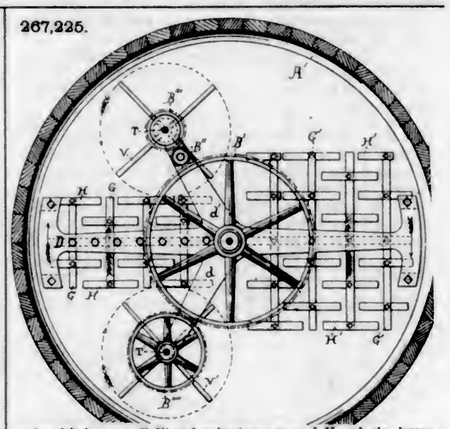
Claim.—1. A hammer hung upon the jamb, with an arm projecting therefrom toward the sash, combined with an inclined cam hung to the sash to pass beneath the said arm in the raising of the sash, and raise the hammer and permit it to escape therefrom, and the stop on the jamb above, with which the cam will engage after the hammer has escaped therefrom, substantially as described.

2. A hammer hung upon the jamb, with an arm projecting therefrom toward the sash, combined with an inclined cam hung to the sash to pass beneath the said arm in the raising of the sash, and raise the hammer and permit it to escape therefrom, and the stop on the jamb above, with which the cam will engage after the hammer has escaped therefrom, and a shoulder upon the under side of the cam to engage the arm of the hammer in the descent of the sash, substantially as described.

267,225. WASHING-TUB MACHINERY. THOMAS P. KINSEY, Reading, Pa., assignor of one-half to John O. Kalbach, same place. Filed Mar. 22, 1882. (No model.)

Claim.—1. The spider D, consisting of two main arms and two auxiliary arms, *d d'*, the former being provided at their outer ends with hangers E E' and agitating-screen J K and the latter being provided at their outer ends with vertical shafts T T', in combination with the shaft C and spur-wheels B' B' B' B', substantially as shown, and for the purpose set forth.

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2. The spider D', consisting of one main arm and two auxiliary arms, *d' d'*, the former provided at its outer end with a flange to connect with the hanger E and at its inner end with a bearing for the shaft F''', and the latter provided at their outer ends with vertical shafts T T' and bearing-boxes D'' D''' for the same, in combination with the spider D, dependent hangers E E, shafts C, F'', and F''', bevel-wheels S R P, and fixed bevel-wheel N, substantially as shown, and for the purpose described.

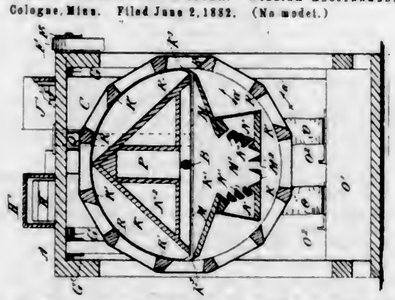
3. The agitator-rack or screen-beater J K, formed of horizontal bars J, tubular distance-pieces K, and rods or bolts L, in combination with the main arms of the spiders D D', whereby, by substituting pieces of greater or shorter length for the tubular pieces K, the screen may be made finer or coarser without disturbing the positions of the spiders D D' upon the shaft C, substantially as shown, described, and for the purpose specified.

4. The spiders D and D', in combination with the shaft C, rack or screen beater J K, pendent hangers E E', shafts T T' and F'' F''', spur-gears B' B' B' B', and bevel-gears S R P N, for the purpose described, and substantially as shown.

5. In a washing-tub apparatus, the suspension of the horizontal beater-shaft F' at its outboard end in a bearing, *f*, attached to hanger E and its inner end in a bearing provided upon the counter-hub D', in combination with the spiders D D', wheels P R S, fixed wheel N, and shaft C, substantially as described, and for the purpose set forth.

6. In a washing-tub apparatus, as described, the suspension of the horizontal beater-shaft F' at its outboard end in a bearing, *f'*, attached to hanger E', and its inner end in a bearing provided for the same upon the hub of the spider D', in combination with the spiders D D', wheels S R P, and fixed wheel N, substantially as shown, and for the purpose set forth.

267,226. MIDDLINGS-PURIFIER. WILLIAM KLOSTERMANN, Cologne, Minn. Filed June 2, 1882. (No model.)



Claim.—1. In a middlings-purifier, the combination of an inclined rotary drum provided with elevator-strips on its inner surface, and a vibrating middlings-distributer arranged therein, as set forth.

2. In a middlings-purifier, the combination, with a vibrating middlings-distributer and an elevator-drum surrounding it, of devices for creating a current of air in the distributer, substantially as herein described, and for the purpose set forth.

3. In a middlings-purifier, the combination, with the elevator-drum C, of the fixed upper middlings-distributer section, K', and the lower vibrating distributer-section, K', and means, substantially as described, for causing an air-current through the distributers, substantially as herein shown and described, and for the purpose set forth.

4. In a middlings-purifier, the combination, with the elevator-drum C, of the fixed middlings-distributer section K', the vibrating section K', the links *b*, and the spring-strips *c*, substantially as herein shown and described, and for the purpose set forth.

5. In a middlings-purifier, the combination, with the inclined elevator-drum C and the middlings-distributer K, of the suction-fan J, the blower H, the feeding-chute Q, and the funnel-shaped receiving-vessel S, substantially as herein shown and described, and for the purpose set forth.

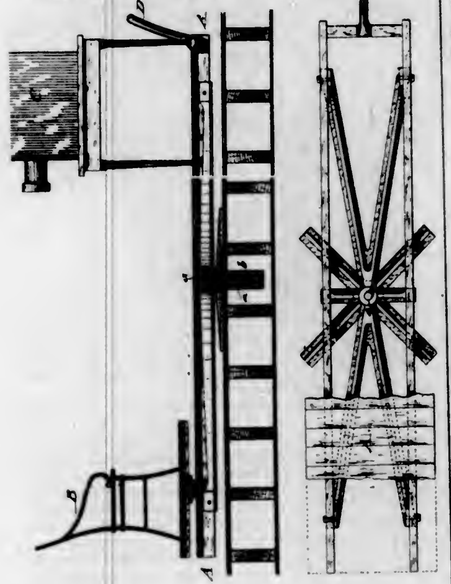
6. In a middlings-purifier, the combination, with the elevator-drum C and the middlings-distributer K, of the blower H, the suction J, the wind-chest O', the tubes or conductors O, and the wind-boxes N in the middlings-distributer, substantially as herein shown and described, and for the purpose set forth.

7. In a middlings-purifier, the combination, with the elevator-drum C, of the upper middlings-distributer section, K', having a peaked top, and of the lower section, K', provided with side flanges, K', substantially as herein shown and described, and for the purpose set forth.

8. In a middlings-purifier, the lower section, K', of the middlings-distributer, constructed with two inclined converging side boards, M, a slotted or apertured bottom, and a series of parallel slats, N, between the inner edges of the boards M and the slotted or apertured bottom, which slats form the inner sides of the longitudinal wind-boxes N and the central space for the middlings, substantially as herein shown and described, and for the purpose set forth.

9. In a middlings-purifier, the combination, with the cylinder C and gable-roofed distributer, of the strips R R', attached to the inner surface of the same, the strips R and the strips R' having an irregular wedge-shaped cross-section, with the smaller end of the wedge resting against the drum, substantially as herein shown and described, and for the purpose set forth.

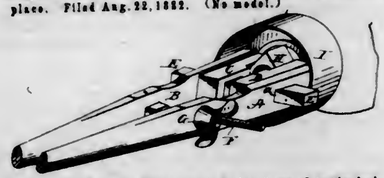
267,227. METHOD OF AND APPARATUS FOR PRODUCING PHOTOGRAPHIC IMAGES. WILLIAM KURTZ, New York, N. Y. Filed June 6, 1882. (No model.)



Claim.—1. That improvement in the art of portrait-photography which consists in moving the camera and sitter, while practically fixed relatively to each other, through arcs of circles in a uniform horizontal plane during exposure, whereby a half-light may be changed to a full light during exposure, and a more artistic distribution of light and shade obtained, substantially as set forth.

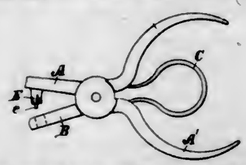
2. A photographic apparatus consisting of a main platform adapted to rotate on a center pivot in a socket of the floor, a rotary platform mounted on one end of the main platform, and a camera at the other end, substantially as described.

267,228. CARRIAGE-WRENCH. BRADFORD F. LANCASTER, Augusta, Me., assignor of one-half to Richard W. Black, same place. Filed Aug. 22, 1882. (No model.)



Claim.—In a carriage-wrench to be clamped to the hub, the combination of the arms A and B, the jaws C and D, the bar E, and screw F and nut G, substantially as shown and set forth.

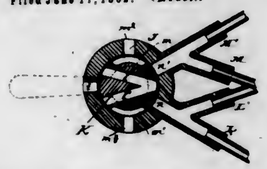
267,229. PUNCH FOR AND METHOD OF CANCELING TICKETS. WILLIAM L. LANGLEY, Baltimore, Md., assignor of one-half to John Lippincott, same place. Filed Mar. 3, 1882. (No model.)



Claim.—1. In a ticket-punch, the combination, with the cutting-jaws, of a mutilating-point to make a ragged-edged hole, and a cutter adapted to cut a smooth-edged hole and to punch out the part embracing the said ragged-edged hole, whereby, while the ticket will preserve a perfect register of the punch, the piece punched out of the ticket will be so mutilated that its reinsertion is impracticable, as set forth.

2. The herein-described method of canceling tickets, consisting in making a mutilated or ragged-edged hole, and then punching out the part which embraces the mutilation, as set forth.

267,230. ROTARY STEAM-ENGINE. PEHR LARSSON, Westby, Wis. Filed June 17, 1882. (Model.)

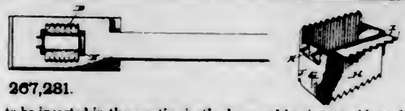


Claim.—1. In a rotary steam-engine, the combination of the valve-chamber I, having inlet *i*, escape-ports *m' m²*, and steam-ports *n n'*, connecting with the bifurcated steam-pipes L L' and M M', and valve K, having handle *k*, and provided with the bifurcated steam-channel *l l'* and channels or recesses *m m'*, substantially as and for the purpose herein shown and set forth.

2. The combination of the bifurcated steam-pipes L L' and M M', steam-chests N N', having ports *s s'* and *t t'*, rotary reciprocating valves O O', having ports *o p* and *o' p'*, cylinder A, having ports *q q'* and *r r'*, and provided with the piston C, cut-offs D and D', and means for operating the valves O O' and cut-offs D D', all combined and arranged to operate substantially in the manner and for the purpose herein shown and described.

267,231. KEY-BOARD FOR PIANOS AND ORGANS. WILLIAM H. LAUGHLIN, Oberlin, Ohio. Filed Feb. 15, 1882. (No model.)

Claim.—1. The combination, with a piano or organ key having a mortise in its lower face, of a metallic mortise-casing adapted



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to be inserted in the mortise in the key, and having an oblong felt-lined chamber, substantially as set forth.

2. The combination, with the guide-pin rail of a piano or organ, of a guide-pin adapted to be adjusted in position in said rail.

3. A guide-pin for the keys of pianos and organs, provided with a foot, said pin and foot being adapted to be movably inserted in the guide-pin rail of a piano or organ.

4. The combination, with the guide-pin rail of a piano or organ, said rail being provided with transverse slots, of guide-pins provided with feet, and adapted to be adjustably mounted in said slots, substantially as set forth.

5. The combination, with the guide-pin rail of a piano or organ, said rail being provided with transverse slots having parallel walls, of guide-pins provided with feet, and adapted to be adjustably inserted in the said slots, substantially as set forth.

6. The combination, with the guide-pin rail of a piano or organ, said rail being provided with transverse slots, of guide-pins, oval in cross-section, provided with feet located in a line with their major axes, and adapted to be adjustably inserted in said slots, substantially as set forth.

7. The combination, with a metallic mortise-casing having an oblong chamber, of a felt lining applied to the longer side walls of said chamber.

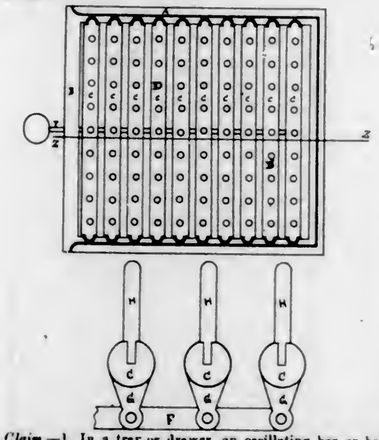
8. A metallic mortise-casing having a felt-lined chamber, the upper and lower edges of said casing being provided with means to engage with and hold the felt lining in place, substantially as set forth.

9. A metallic felt-lined casing for the mortises of piano and organ keys, provided with serrated edges to retain the felt in place.

10. A metallic felt-lined casing for the mortises of piano and organ keys, said casing being provided with devices to hold it in position in the mortises.

11. The combination, with a piano or organ key having a mortise in its lower face, of a felt-lined casing adapted to be inserted in said mortise, said casing being equal in length but narrower than the mortise.

267,232. TRAY OR DRAWER FOR DISPLAYING SPOOLS. GEORGE D. LEONARD, New York, N. Y. Filed Apr. 8, 1882. (Model.)

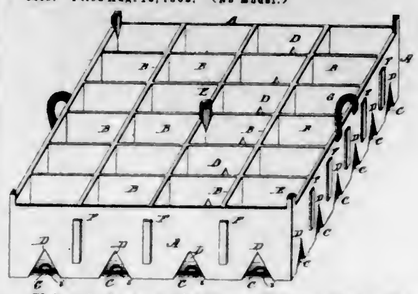


Claim.—1. In a tray or drawer, an oscillating bar or bars provided with upright pins or spindles for holding spools of thread for display in such manner that the angle or position of the spools may be changed at pleasure by oscillating the bar or bars, substantially as set forth.

2. The combination, in a tray or drawer, of the oscillating bar or bars C with the upright pins or spindles E, solid at the bottom or base, and being split or provided with uprights of sufficient dimensions and elasticity to receive the bore of a spool when contracted thereby, causing sufficient friction between the wall of bore and uprights to prevent the spool from falling by its own gravity when the pin is inverted, substantially as described.

3. The combination, in a tray or drawer, of the oscillating bars C, having upright pins or spindles E for holding spools, the said bars being attached to and operated by the rod F to move all of the pins or spindles at the same time, as and for the purpose set forth.

267,233. EGG-CARRIER. CHARLES D. LEWIS, Georgetown, Colo. Filed Aug. 18, 1882. (No model.)

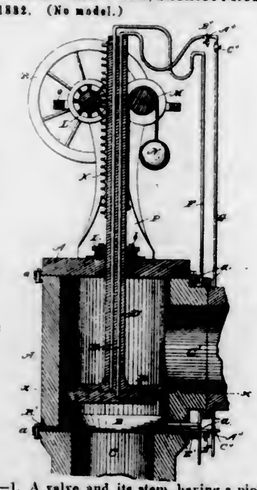


Claim.—1. An egg-carrier constructed with a bottom, sides, and partitions formed into one piece of elastic rubber, constituting a series of stalls, each stall being adapted to carry one egg standing on end.

2. The combination, with the bottom C and sides A, of the partitions B, secured to both bottom and sides, forming one piece of elastic rubber, the stalls so formed being rectangular, and of a size to admit but one egg standing on end in each stall.

3. An egg-carrier consisting of a bottom, sides, and partitions forming one piece of elastic rubber containing many stalls suited to carry one egg in each, having holes through the bottom, sides, and partitions for ventilation, as described.

267,234. VALVE. JOHN C. LONG, Richmond Furnace, Pa. Filed Jan. 19, 1882. (No model.)



Claim.—1. A valve and its stem, having a pipe or pipes for the passage of cooling-currents of air or water, said pipe passed down through the stem, then coiled throughout the valve, near its edges, and passed back through the stem and connected with a supply and waste pipe, substantially as and for the purpose set forth.

2. The combination, with the valve, its stem, and the pipe passing through the stem and coiled spirally throughout the valve, and passed back through the stem and connected with a supply and waste pipe, of the valve-seat B, fixed within the valve-case, and provided with a pipe extending into and through the same for the passage of currents of cool air or water to keep the valve-seat cool, substantially as shown and described.

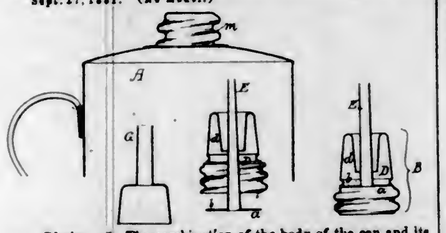
3. The combination, with the valve and its stem D', having the rack K, of the pinion L, having flanges, and the pulley M, also provided with flanges, and having a weighted cord passed over it and connected to the stem, the flanges of the pinion and pulley extending alongside of the stem, substantially as and for the purpose described.

267,235. PLUG-TOBACCO. LAWRENCE LOTTIER, Richmond, Va. Filed Aug. 2, 1882. (No model.)



Claim.—As a new article of manufacture, a plug of tobacco consisting of separate pieces held together by pressure and secured in position by binding-strips B with tacks, substantially as described.

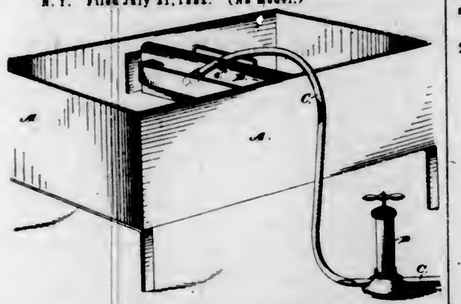
267,236. OIL-CAN. CHARLES W. LYON, Philadelphia, Pa. Filed Sept. 27, 1881. (No model.)



Claim.—1. The combination of the body of the can and its threaded tubular projection *m*, and the threaded casing B, its internal tube and internal shoulder, *d*, with the spout E and the vented partition *a*, adapted to be confined between the said internal shoulder, *d*, and the top of the tubular projection *m* of the can, all as set forth.

2. The combination, in an oil-can, of the casing B, its internal tube, and the spout E, with the detachable cap G, substantially as specified.

267,237. DAIRY APPARATUS. JAMES B. MARQUIS, Norwich N. Y. Filed July 21, 1882. (No model.)



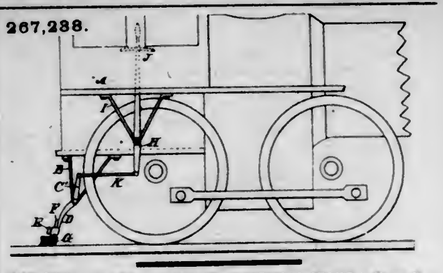
Claim.—Broadly, the method of removing cream from a milk-vat and preparing the same for immediate churning by forcing said cream by atmospheric pressure to pass outward through a pipe, and causing air to enter into and mingle with the same while passing through said pipe, substantially as and for the purpose specified.

267,238. RAIL-SWEEPING DEVICE FOR LOCOMOTIVES. JAMES T. MCCOY, McCoy's Station, Ind. Filed Apr. 24, 1882. (No model.)

Brief.—To the rear of a locomotive is secured a cross-shaft having arms depending over the tracks, to which are secured adjustable brushes, which are raised and lowered by means of a crank and lever.

Claim.—In locomotives, and in combination therewith, the cross-shaft C, having the crank C', depending arms D, over the tracks, having the adjustable brushes G, operating-lever H, and connecting-link K, substantially as and for the purpose herein shown.

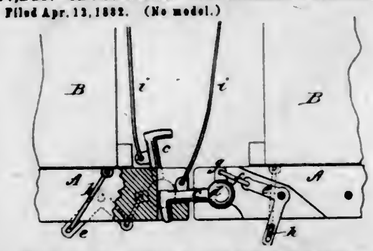
267,238.



267,239. MANUFACTURE OF ARTIFICIAL STONE. HUGH B. MCLEVTAN, Detroit, Mich. Filed Mar. 21, 1882. (No specimens.)

Claim.—An artificial stone composed of hydraulic lime of tiel, slaked in a mixture of equal parts of water and muriatic acid, pulverized red iron ore, pulverized clay, either sand, emery, or corundum, and silicate of soda or silicate of potash, combined substantially as herein set forth.

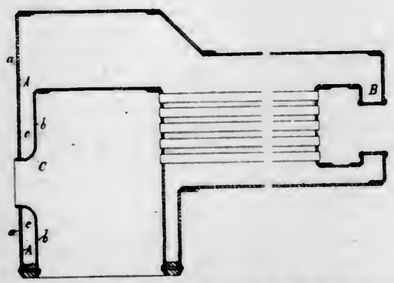
267,240. CAR-COUPLING. JOHN A. MILLER, Wadesville, Ind. Filed Apr. 13, 1882. (No model.)



Claim.—1. The coupling for cars, consisting of hooks *c*, hung by balls *d* in recesses *a* of the draw-heads, that are formed with recesses *b*, for receiving the outer ends of the hooks, as shown and described.

2. The combination, with slotted coupling-hooks *c*, of bent levers *e*, connected by links *f* with lugs *g* on the balls *d*, and levers *h*, passing through slots of said levers *e*, as and for the purpose specified.

267,241. STEAM-BOILER. EDWARD J. MOORE, Baltimore, Md. Filed Apr. 20, 1882. (No model.)



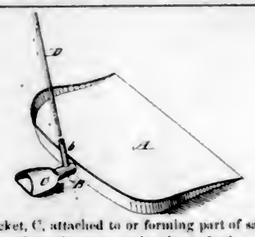
Claim.—In combination with the wall or leg of a boiler, consisting of an inner and outer sheet separated by a water-space, a circular door-frame having an enlargement at one or both ends effected by expansion, whereby the said frame is held within an aperture or apertures in the said sheet or sheets, substantially as and for the purpose specified.

267,242. DUST-PAN. ANNIE MARIA H. MOSS, Monroe, Conn. Filed Sept. 16, 1882. (No model.)

Claim.—1. A dust-pan provided with a toe-socket for insertion of the toe-portion of the shoe of the sweeper, whereby the pan may be held by the foot of the person using it while sweeping, substantially as specified.

2. The combination, with the body A of the pan and its han-

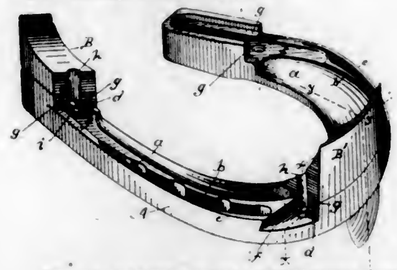
267,242.



dle B, of a toe-socket, C, attached to or forming part of said handle, essentially as and for the purposes herein set forth.

3. The combination, with the handle B of the pan, having a toe-socket, C, of the upper socket, *b*, arranged to receive a supplemental removable handle, D, substantially as and for the purposes specified.

267,243. HORSESHOE. TIMOTHY W. MURPHY, Washington, D.C. Filed Apr. 8, 1882. (No model.)



Claim.—1. A horseshoe having dovetailed recesses *f*, open at one end, and provided with longitudinal offsets *g* at the sides of the dovetailed portion, in combination with the calks B B', having corresponding tenons and shoulders, and the screws *i*, having their heads countersunk in the body of the shoe, substantially as shown and described.

2. The calks B B', having dovetailed tenons *d*, and longitudinal shoulders *e* at the sides of the tenons, and having a concave recess, *h*, at one end, in combination with the body of the shoe A, having recesses, substantially as described, and the screw *i* countersunk in the shoe and abutting against the surface of the said concave recess, as shown and described.

267,244. NAILING-MACHINE. FREDERICK MYERS, New York, N. Y. Filed May 27, 1881. (Model.) Patented in England Sept. 1, 1880, No. 3,555; in France Mar. 1, 1881, No. 141,455; in Belgium Mar. 22, 1881, No. 54,181; in Germany Mar. 29, 1881, No. 17,665; in Austria June 4, 1881, and in Spain Aug. 12, 1881 No. 464.

Claim.—1. The combination, in a nailing-machine, of reciprocating nail-drivers, stationary nail-boxes, a reciprocating back plate, and a work-holding table located on said back plate, and being cushioned thereon by a spring or yielding support that presses the work against the nail-boxes while the nails are driven, substantially as described.

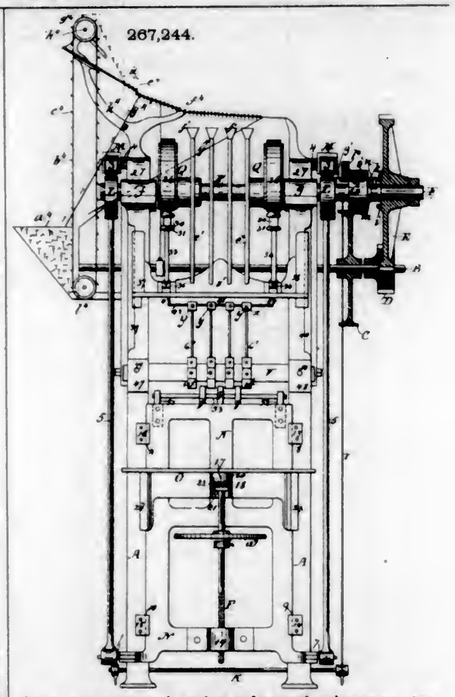
2. The combination, in a box-nailing machine, and with stationary nail-boxes therein, of the driving-shaft F, having clutch-and-stop mechanism, substantially as described, the nail-driver cross-head and its eccentrics and connecting-rods, the reciprocating back plate and work-holding table located thereon, connecting-rods 5, cam-levers M, and cams L, substantially as described.

3. The combination, in a nailing-machine, of a reciprocating back plate, a work-holding table located on said back plate, stationary nail-boxes, and a back stop, substantially as herein shown and described, on said back plate to gage the work to the nail-drivers, as described.

4. The combination, in a nailing-machine, of stationary nail-boxes, a reciprocating back plate and work-holding table, and a back stop to gage the work to the nail-drivers, that is mounted on the reciprocating back plate and continuously pressed against the nail-boxes, substantially as described.

5. The combination, in a nailing-machine, of stationary nail-boxes, a reciprocating back plate, a back stop mounted on said reciprocating back plate to gage the work to the nail-drivers, springs on said back plate to press said stop against the nail-boxes, and a

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clamp-screw to retract the springs and suspend such pressure when required, substantially as described.

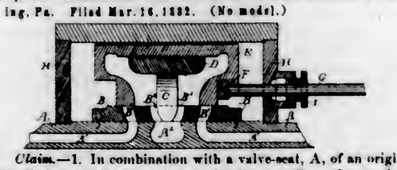
6. The combination, in a nailing-machine, with the reciprocating back plate and the work-holding table, of a support for frame-pieces of made-up box ends, consisting of brackets A'', removable bar B', and adjusting-screws C', substantially as described.

7. The combination, in a nailing-machine, of reciprocating nail-drivers, a reciprocating back plate, and a work-holding table located on said back plate, and having a removable bar to open said table for the escape of the nails, as described.

8. The combination, in a nailing-machine, of stationary nail-boxes, reciprocating back plate, a work-holding table located and arranged adjustably on said back plate, a screw and hand-wheel for adjusting said table, and a cushion interposed between said table and adjusting-screw to press the work against the nail-boxes while the nails are driven, substantially as described.

9. The combination, in a nailing-machine, of a reciprocating back plate, a work-holding table located on said back plate, a screw for adjusting said table, and a hand-wheel for operating said screw, arranged with a screw-threaded gib and set-screw for being adjustable on the screw, substantially as described.

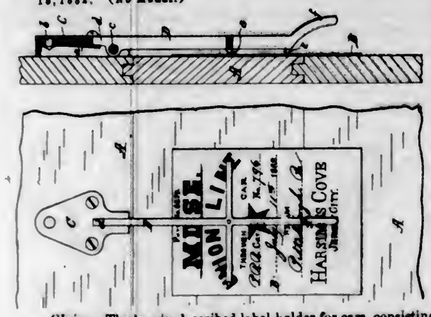
267,245. BALANCED SLIDE-VALVE. JOSEPH PARKER, Reading, Pa. Filed Mar. 16, 1882. (No model.)



Claim.—1. In combination with a valve-seat, A, of an original cylinder, or with a supplemental valve-seat, B, as shown, the secondary valve-seat, D, mounted upon posts C, and having its upper face corrugated as described, and adapted to support the closed valve E, substantially as and for the purpose set forth.

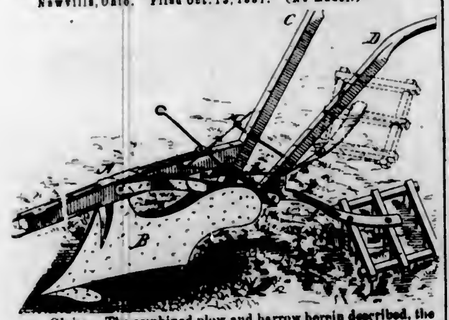
2. A closed-top slide-valve, E, constructed as shown, so arranged with relation to its travel upon the seat A or B and the secondary seat D that when in contact with the seat A or B the internal bearing-face, F', shall also be in contact with the wearing-surface of D, said surface being at all times completely inclosed beneath the top and within the walls of the valve E, substantially as shown, and for the purpose hereinbefore set forth.

267,246. LABEL-HOLDER FOR CARS. THOMAS J. PARKINSON, Pittsburg, Pa., assignor of five-eighths to John B. Berlin, same place, and John S. Nichols, Brighton Station, Pa. Filed July 15, 1882. (No model.)



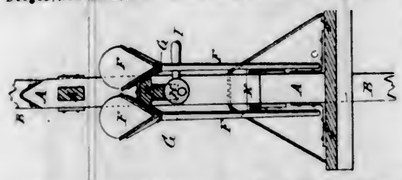
Claim.—The herein-described label-holder for cars, consisting of a fastening-plate, C, adapted for permanent attachment to a car, plate-spring *a* behind, and protected by said plate C, and lever D, having extension *d*, for engagement with said spring, two or more points or prongs, *c*, and a handle, *f*, out of the plane of the lever, and standing away from the car and adapted to be readily grasped for operation, substantially as described and shown.

267,247. AGRICULTURAL IMPLEMENT. PETER E. PAULLIN, Newville, Ohio. Filed Oct. 13, 1881. (No model.)



Claim.—The combined plow and harrow herein described, the harrow being secured to the plow and capable of adjustment with relation thereto and with the soil by the bell-crank lever E, pivoted to one side of the plow, the link A, connected to the short arm of the lever E, and with the lever I at the front end of its bent portion *a*, the lever I being pivoted on the plow-beam, and having its outer end in proper relation to be grasped by the attendant and drawn to the catch M, substantially as set forth.

267,248. HOD-ELEVATOR. FRANKLIN PIERCE, New York, assignor to himself, Thomas Dobbins, Newburg, and Martin E. Deegan, New York, N.Y. Filed Oct. 9, 1882. (No model.)



Claim.—1. A hod-elevator constructed substantially as herein shown and described, and consisting of a frame having a vertically-moving cross-bar, provided with hod-receiving hooks and supported upon eccentrics, and a guard-frame attached to the main frame as a rest for the hod-handles, as set forth.

2. In a hod-elevator, the combination, with the frame A, of the vertically-moving cross-bar E, provided with hod-receiving hooks G and supported upon eccentrics H, substantially as herein shown and described, whereby the hods can be lowered to bring their handles into contact with the elevator-platform and free the hods from their supporting-hooks, as set forth.

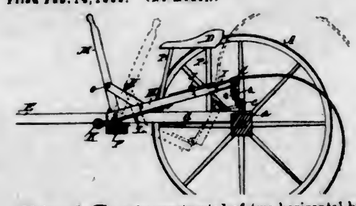
3. In a hod-elevator, the combination, with the main frame A, of the auxiliary frame K, substantially as herein shown and described, whereby the hod-handles are kept in nearly vertical positions while the hods are being elevated, as set forth.

267,249. WHEEL-TIRE. WILLIAM J. PLUMMER and PETERFIELD TORPIN, Olympia, Wash. Filed June 24, 1882. (Model.)



Claim.—The combination, with the felly A, provided with the stepped recess *a*, of a tire having the end *d*, provided with a serrated offset, *b*, and slots *h*, and the end *g*, having its inner face serrated and provided with bolt-holes and sockets *i*, and the bolts *e f*, for clamping the said ends together, substantially as and for the purpose set forth.

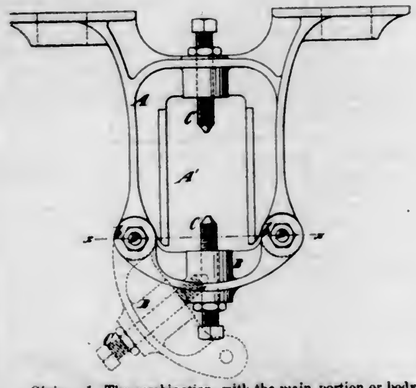
267,250. SULKY HAY-RAKE. WALTER P. PRALL, Colusa, Cal. Filed Feb. 14, 1882. (No model.)



Claim.—1. The rake constructed of two horizontal bars, *c* C, arranged one above the other, in combination with the teeth, which are first attached to lower bar, *c*, by an eye in the teeth, through which the bar *c* passes, thence wound around the upper bar, C, and continued back and down, and the axle jointed to the lower one of said rods or bars, whereby an elevated rake-head is formed, which allows ample room for the collected hay.

2. The combination, with the hand-lever and the rake, of the rule-jointed bar H, having its forward end pivoted to the main frame and its rear end to the rake-head, the single-tree, and the strap connecting the single-tree to the lower side of said bar at a point in the rear of its forward pivot, as and for the purpose described.

267,251. HANGER FOR SHAFTING. RUDOLPH PFYBIL, New York, and EDWARD D. MACKINTOSH, Brooklyn, N.Y.; said Mackintosh assignor to Paul Pfybil, New York, N.Y. Filed Aug. 24, 1882. (No model.)



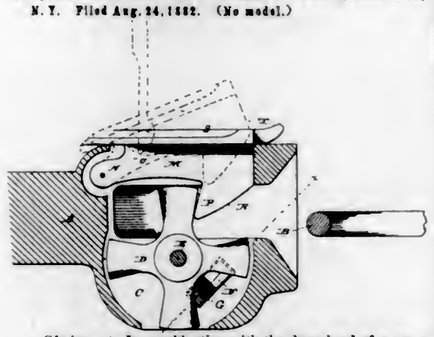
Claim.—1. The combination, with the main portion or body of a hanger adapted to receive within it an adjustable bearing, of a yoke which is to support the bearing, forming the lower part of the hanger and hinged to the main portion or body at the bottom, so that it may be dropped or allowed to swing downward when desired, substantially as and for the purpose described.

2. The combination, with the upper part or body of a hanger and a yoke forming the lower portion of the hanger, both provided

with matching lugs, ears, or bearers, of bolts inserted transversely through the said lugs, ears, or bearers, and either of which may be removed to allow said yoke to swing downward on the other bolt, substantially as and for the purpose specified.

3. The combination of the hanger A and yoke B, provided with the pairs of lugs, ears, or bearers *a b*, having male and female conical faces, which engage with each other, and the bolts D, all substantially as and for the purpose specified.

267,252. CAR-COUPLING. GEORGE W. PUTNAM, Glens Falls, N. Y. Filed Aug. 24, 1882. (No model.)



Claim.—1. In combination with the draw-head of a car, a wheel located in a vertical recess therein and having the arms rounded or beveled at the sides, and a beveled and pointed stop-bolt, whereby the wheel is held to retain the link in position to enter the opposite coupling-head, substantially as and for the purposes specified.

2. The combination, in a draw-head, of the wheel and its stop-bolt and the pawl and its lever, all arranged to operate substantially in the manner specified.

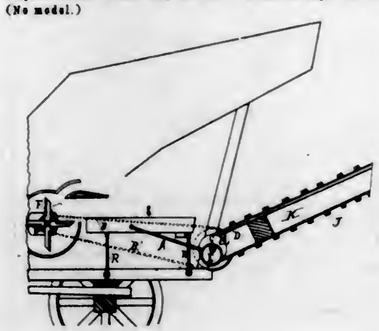
267,253. BARBED FENCE-WIRE. CHARLES D. RAHOEL, New York, N. Y., assignor of one-half to Washington Brockner, same place. Filed May 18, 1882. (No model.)



Claim.—1. In combination with a fence-wire cable, a staple straddling or inclosing said cable in its loop, and a second staple inclosing in its loop the legs of the first staple and also one of the cable-strands, or a number of said strands, the ends of the second staple being bent around, so as to bind together the cable strand or strands and the legs of the first staple, substantially as described.

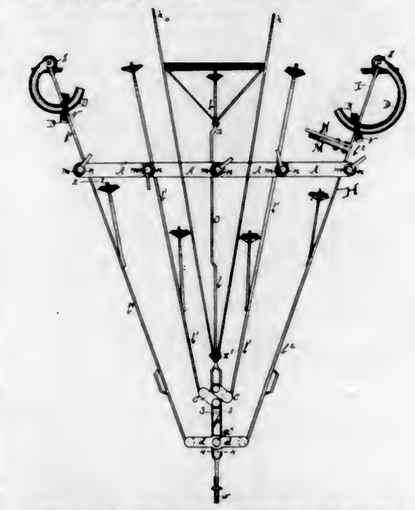
2. In combination with a fence-wire cable, a staple straddling or inclosing said cable in its loop and a second staple inclosing in its loop the legs of the first staple, the ends of the second staple being passed between and interlocked with the cable-strands, substantially as described.

267,254. GRAIN-SEPARATOR. WILL U. RICHMOND, Grand Rapids, Mich. Filed May 4, 1881. Renewed Sept. 14, 1882. (No model.)



Claim.—The combination, in a grain-separator, of the main frame, shaft C, provided with eccentrics E, and located near the bottom of the main frame, the shoe S, the fan F, and pitman-rods A, the stacker-frame K, articulating on shaft C, and pulleys G G on said shaft for giving motion to the straw-carrier of the stacker-frame, substantially as described.

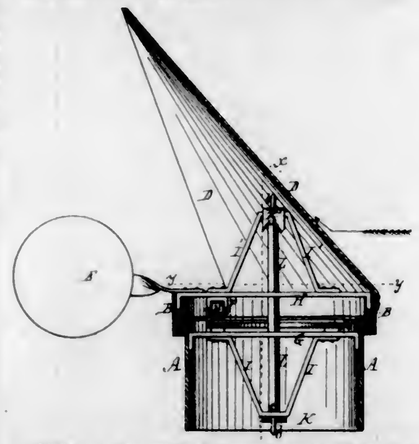
267,255. CULTIVATOR. GEORGE H. ROATH, Marietta, Pa. Filed Sept. 29, 1881. (No model.)



Claim.—1. In a cultivator, the combination, with the central beam, *b*, having the elongated slot *p*, of the shifting clamps *c e*, having center points or teats, *p'*, the beams *b' b'*, and rear connecting or slide bars, substantially as described.

2. A cultivator-beam divided into two sections, H and I, with their respective arms M and N fastened together by bolts *b'*, substantially as and for the purpose specified.

267,256. VENTILATOR. DE GARMO NORDING, Rochester, N. Y. Filed Mar. 1, 1882. (No model.)

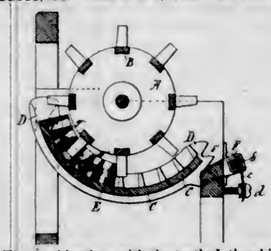


Claim.—1. In a ventilator, the combination, with the rings A B and hood D, of the cross-bars G H, the elbow-shaped bearings I I', the cross-braces K K', at right angles to the bearings, the spindle L, the circular track M, and the friction-roller N, arranged to operate in the manner and for the purpose specified.

2. In a ventilator, the combination with the two rings A B, of the circular track M in the top of the lower stationary ring,

and the friction-roller N in the bottom of the upper movable ring, the roller resting free of the track, but so near that under heavy strain on the ventilator it will come in contact with and roll on the track, as described.

267,257. GRAIN AND SEED THRASHER. FRANCIS W. ROBINSON, Richmond, Ind. Filed Dec. 8, 1881. (No model.)



Claim.—The combination, with the toothed thrashing-cylinder, of the thrashing-concave having its front portion provided with teeth and its rear portion with transverse fluted or corrugated ribs, the pivoted segmental concave plates or holders having their rear ends extending to a point above their front ends, and means for adjusting said plates or holders, substantially in the manner as and for the purpose herein shown and described.

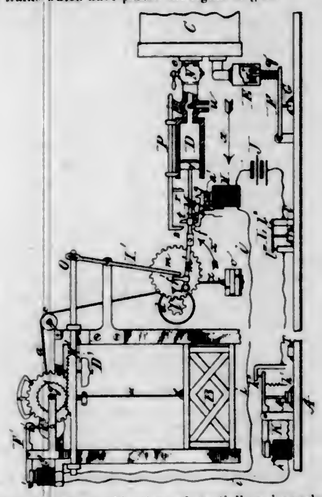
267,258. CHURN-DASHER. HIRAM C. ROBINSON, De Soto, Ill. Filed Aug. 15, 1882. (No model.)



Claim.—The disk C, having beveled slots or openings *c*, as shown, and secured upon the lower end of the dasher-staff, in combination with the rotary sleeve B, having spiral flanges B'.

267,259. ELECTRO-PNEUMATIC GATE AND SIGNAL-OPERATING APPARATUS. WM. ROBINSON, Boston, Mass. Filed Mar. 9, 1882. (No model.) Patented in England Aug. 30, 1871, No. 2,280, and in France Feb. 29, 1872, No. 94,393.

Brief.—Gates or signals are actuated through the agency of compressed air stored by passing trains and controlled by electro-magnets, the circuits of which are opened or closed by the passing train. The circuit-controlling instruments are thrown out of action by trains which have passed the signal or gate.



Claim.—1. The combination, substantially as hereinbefore set forth, of a motor automatically controlled by a moving vehicle and driven by fluid-pressure for actuating or changing the position of a gate or signal, and a weight operating under the force of gravity to reverse at times the action of said motor, and thereby restore said gate or signal to its original position.

2. In a gate or signal operating mechanism, the combination, substantially as hereinbefore set forth, of a piston moved to and fro within a cylinder by fluid-pressure and by the action of a weight, a valve to govern the movements of said piston by controlling the admission and exit of the fluid to and from said cylinder, and means for automatically operating said valve through the movements of a moving vehicle.

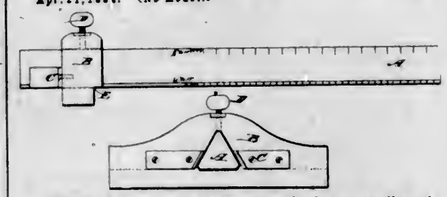
3. The combination, substantially as hereinbefore set forth, of a gate or signal actuating mechanism, a valve by the opening and closing of which the operations of said mechanism may be governed, an electro-magnet and armature, and an escapement device, whereby the alternate opening and closing of said valve is made to depend upon the movements of said armature.

4. The combination, substantially as hereinbefore set forth, of a gate or signal, a piston moved within a cylinder by fluid-pressure for actuating said gate or signal, a valve for controlling by its opening and closing the alternate movements of said piston, a spurred valve-rod by the alternate motion of which in one direction or the other said valve may be opened and closed, mechanism, substantially such as described, tending to move said valve-rod alternately in opposite directions, and a spurred armature-lever actuated by an electro-magnet for regulating and controlling the movements of said device.

5. In a gate or signal operating mechanism, the combination, substantially as hereinbefore set forth, of a piston moved to and fro within a cylinder, either under the action of compressed air or that of a weight, a spurred piston-rod moving with the said piston, and a spurred armature-lever actuated by an electro-magnet to arrest and control the movements of the said piston-rod and piston.

6. The combination, substantially as hereinbefore set forth, of a gate or signal operating mechanism actuated by fluid-pressure, an electro-magnetic escapement device by which the action of said fluid-pressure is controlled, and an electric circuit which includes an electric generator, the coil or coils surrounding the electro-magnet of the said escapement device, and a circuit-closer or circuit-breaker, or both, which are adapted to be actuated by a moving vehicle, whereby the action of the said generator upon the said electro-magnet is determined.

267,260. T-SQUARE. JOSEPH W. ROWE, Austin, Tex. Filed Apr. 21, 1882. (No model.)



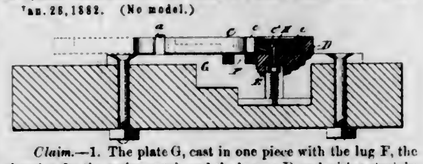
Claim.—1. The improved T-square having an equilateral scale for the tongue, and said tongue fitted adjustably in the head of the square, substantially as described.

2. The combination of the tongue A, constructed in the form of an equilateral scale, the head B, having a mortise corresponding to the form of the tongue, and the binding-screw D, substantially as specified.

3. The combination of the tongue A, constructed in the form of an equilateral scale, the head B, having a mortise corresponding to the form of the tongue, binding-screw D, and the brackets C, substantially as described.

4. The combination of the tongue A, constructed in the form of an equilateral scale, and the head B, having the rabbet E, substantially as specified.

267,261. SEAL-LOCK. EDWARD ROWLAND, Tiffin, Ohio. Filed Jan. 25, 1882. (No model.)

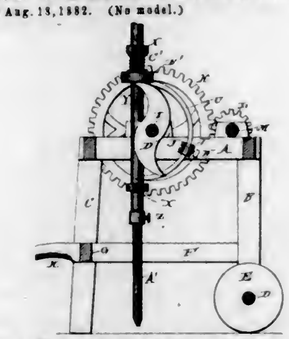


Claim.—1. The plate G, cast in one piece with the lug F, the chamber for the spring-catch, and the keeper D, and with a straight flat face on a level with the top of lug F, forming, with the hasp,

a solid backing for the bolt, in combination with the bolt C, the keeper *a*, the spring-catch, and the frangible seal-plate, as and for the purpose described.

2. The combination, with the keeper D, the perforated bolt, the spring-catch, and the frangible plate H, of an explosive cap, *e*, interposed between the frangible plate and its subjacent bearing, as shown and described.

267,262. KOCK-DRILL. JOHN ROWLAND, Greencastle, Pa. Filed Aug. 18, 1882. (No model.)



Claim.—The combination of the portable barrow-frame having the bails or keepers V, provided with set-screws W, and the swinging frame S, having trunnions T T, and semicircular straps U U, passing through the bails or keepers V, with their ends connecting the upper and lower parts of frame S at equal distances from the trunnions T, which form the center of the circle described by the semicircular straps U, substantially as and for the purpose herein shown and specified.

267,263. DYNAMO-ELECTRIC MACHINE. GUSTAVE A. SCHEEFFER, Evansville, Ind. Filed Aug. 26, 1882. (No model.)

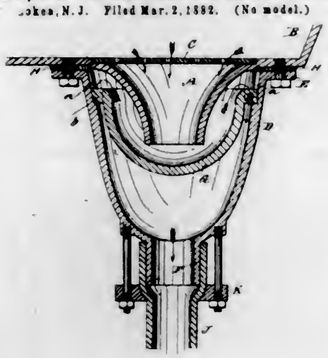


Claim.—1. An annular armature consisting of a ring provided with a series of V-shaped plates of different lengths arranged in sets, so as to leave a peripheral series of spaces for the circulation of air, substantially as described.

2. An armature provided with the different-sized V-shaped soft-iron plates connected by a brass ring, substantially as set forth.

3. The herein-described armature, provided with the V-shaped plates C, of soft iron, made of different sizes and arranged in sets of alternate sizes, the wire being wound around the smaller plates, substantially as specified.

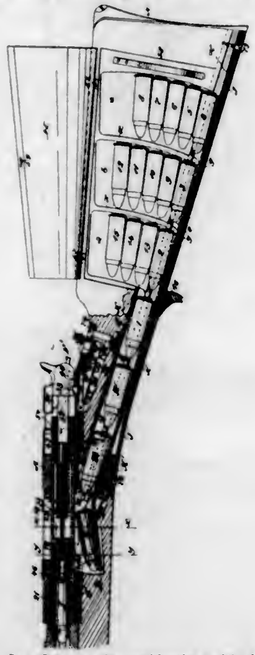
267,264. FUNNEL-TRAP FOR SINKS. JOHN G. SCHILL, Hoboken, N. J. Filed Mar. 2, 1882. (No model.)



Claim.—The combination, with the sink B, of the funnel A, projecting from the bottom of the same, the funnel D, provided at its inner surface with recesses *a*, and the cup O, held within the funnel D and provided with lugs *b*, substantially as herein shown and described, and for the purpose set forth.

267,265. MAGAZINE FIRE-ARM. JOSEF SCHULHOF, Vienna, Austria-Hungary. Filed June 22, 1882. (No model.)

Brief.—The cartridges are fed from the magazine by a positive feed, which is connected with the bolt by a slide-plate, which, when the magazine is to be cut off, may be moved down into a recess in the frame, thus disconnecting the feed from the bolt.



Claim.—1. In a fire-arm, the combination, with the breech-chamber A, provided with the longitudinal slot 24, the vertical slot 27, and the stepped-shaped recess 26, of the breech-block B, provided with the locking-piece 25, and the locking-block O, secured to said breech-block, and provided with the locking-ridge 77, substantially as and for the purpose set forth.

2. In a fire-arm, the combination, with the breech-chamber A, provided with the longitudinal side slot, 24, the vertical slot 27, and the stepped-shaped recess 26, of the breech-block B, provided with the locking-piece 25, the locking-block O, provided with the ridge 77, having recess 44, and the connecting-arm C of the delivery-rod, substantially as and for the purpose set forth

3. In a fire-arm, the combination, with the breech-chamber A, provided with the longitudinal side slot, 24, the vertical slot 27, the stepped-shaped recess 26, and the recess 75, of the breech-block B, the locking-block O, provided with ridge 77, having recess 44, the connecting-bar C of the delivery-rod, and the slide 39, substantially as and for the purpose set forth.

4. In a fire-arm, the combination, with the breech-chamber A, provided with the horizontal side slot, 24, the vertical slot 27, and the recess 26, of the breech-block B, provided with the ridge or projection 47, and the locking-piece 25, and the spring-pressed firing-pin 52, provided with the ridge or projection 51, substantially as and for the purpose set forth.

5. In a fire-arm, the combination, with the firing-pin 52, provided with the recess 50, and the breech-chamber A, of the trigger-lever F, provided with finger-plate F', the arm 32, the block 33, pivoted in said arm, and the spring 35, substantially as and for the purpose set forth.

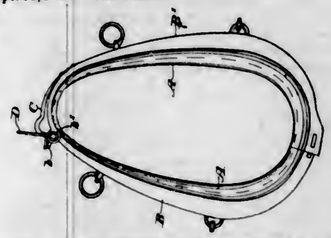
6. In a fire-arm, the combination, with the track J and the slotted delivery-tube K, provided with the spring-catches *i* and the groove 62, of the delivery-rod G, sliding in said groove, and provided with the springs *f*, having teeth *g*, and means for operating said delivery-rod, substantially as and for the purpose set forth.

7. In a fire-arm, the combination, with the breech-chamber A, the breech-block B, provided with the locking-piece 25, the locking-block O, provided with the ridge 77, having recess 44, and the track J, of the slotted delivery-tube K, provided with the spring-catches *i*, the delivery-slide G, provided with the springs *f*, having teeth *g*, and the connecting-arm C, having eye 71, substantially as and for the purpose set forth.

8. The combination, with the connecting-rod C, of the locking-slide 39, which is mounted vertically adjustable between the recess 44 of the ridge 77 of the locking-block O and the recess 75 of the breech-chamber, whereby when this slide is pushed downward the connecting-rod C is pressed out of the recess 44 in the locking-ridge, so that the entire cartridge-feeding device is cut out, and the fire-arm can be used as a single-firing gun, substantially as herein shown and described.

9. In a fire-arm, the combination, with the cartridge-feeder D, provided with the lug 65, of the pin 40 and a spring, 41, substantially as herein shown and described, for the purpose of indicating whether the cartridge-magazine is empty or not, as set forth.

267,266. HAME. CICERO SEIBERT, Indianapolis, Ind. Filed Sept. 12, 1882. (No model.)



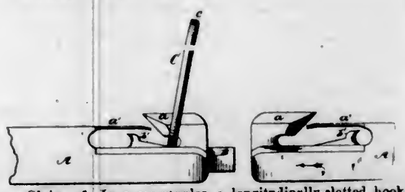
Claim.—1. The combination, with a pair of hames hinged together at the top, of a spring attached to one hame and a projection upon the other, whereby said hames are held open or permitted to close, substantially as set forth.

2. The combination of the hame B, having the projection *b* thereon, and the hame B', having the spring C secured thereto, said hames being hinged together by the hinge-pivot *b'*, substantially as shown and specified.

3. A pair of hames hinged together at the top, and provided with a suitable device for holding the hames distended when not in use, the point of location of the hinge being to one side of the center, substantially as set forth.

4. A pair of hames divided at the bottom and hinged together at the top, the point of location of the hinge-pivot being somewhat to one side of the center, as shown, whereby the extreme top of the collar is left perfectly rigid at all times, while at the same time the sides are adapted to swing from or toward each other at the bottom, substantially as shown and specified.

267,267. CAR-COUPLING. DAVID S. SHROYER, Correct, Ind. Filed Sept. 19, 1882. (No model.)

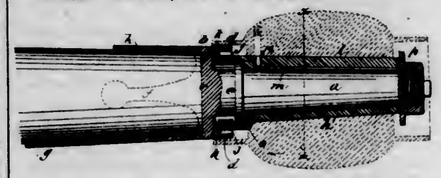


Claim.—1. In a car-coupler, a longitudinally-slotted hook-shaped draw-bar, and a wedge adapted to be projected therefrom and to bind the link in a favorably-inclined position when so projected, substantially as described.

2. In a car-coupler, the draw-bar, A, slotted longitudinally at a^2, formed into a hook, *a*, and provided with a spring, *a'*, in combination with a wedge provided with a projection, *b'*, and with a link, C, substantially as described.

3. The combination of the draw-bar A, provided with a hook, a spring, *a'*, slot a^2, having the seat a^3, the wedge B, having the spring *b* and projection *b'*, and the link C, having the flattened end, substantially as described.

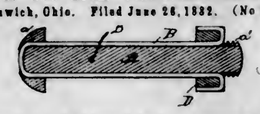
267,268. WAGON-SKEIN. GEORGE WASHINGTON SMITH, Rock Falls, Ill. Filed July 19, 1882. (Model.)



Claim.—1. A thimble-skein having socket *b*, head *c*, sand-band *d*, collar *e*, side arms, *f*, bottom arm, *g*, and top arm, *h*, all constructed and arranged to adapt it to be used in connection with a wooden axle, as described.

2. The combination, with a skein having head *c*, collar *e*, and sand-band *d*, of the box *h'*, having the sand-band *j*, shoulder *o*, and collar *k*, as and for the purpose specified.

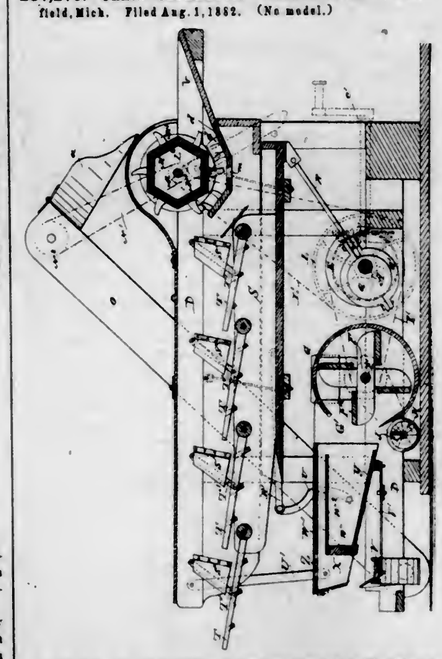
267,269. NUT-LOCK. JOHN B. SMITH and LUKE E. BARKER, Greenwich, Ohio. Filed June 26, 1882. (No model.)



Claim.—1. The bolt A, having grooves a^2 extending along the thread and deeper than it, through and around the head of the bolt, as shown, in combination with the rod B and nut D, having notches *d*, substantially as shown and described.

2. The rods B, having their outer surfaces beveled and adapted to operate in the grooves a^2 of the bolt A, in combination with said bolt, and the nut D, having notches *d* and *d'*, substantially as shown and described.

267,270. GRAIN-SEPARATOR. WILLIAM N. SMITH, Brookfield, Mich. Filed Aug. 1, 1882. (No model.)



Claim.—1. In a separator, the combination, with the supporting-frame, the horizontally-vibrating frame S, of the shakers T, pivoted therein, and the rods T', pivoted to these shakers and to the frame D, substantially as herein shown and described, and for the purpose set forth.

2. In a separator, the combination, with the frame D and the shaft A, of the eccentric disk Q, the sleeve Q', the rod R, the frame S, the pivoted shakers T, and the rods T', substantially as and for the purpose set forth.

3. In a separator, the combination, with the frame S and means, substantially as described, for vibrating the same, of the box W, provided with sieves W' W², Z, the rocking levers U, the connecting-rod R', and the suspension-rod U', substantially as and for the purpose set forth.

4. In a separator, the combination, with the frame S and means, substantially as shown and described, for vibrating the same, of the suspended box W, provided with the screens W' W², Z, the rocking levers U, the connecting-rod R', the chute V, and the angle-lever V', pivoted to the said box and chute, substantially as and for the purpose set forth.

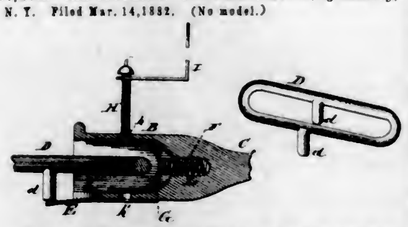
5. In a separator, the combination, with the vibrating frame S, provided with the shakers T, the screen suspended box W, and the reciprocating chute V, of the conveyer J, arranged under the lower end of the said screen-box, the blower Q, and mechanism, substantially as shown and described, for operating the whole from a single shaft, as and for the purpose set forth.

267,271. LABEL-HOLDER FOR BOXES. HENRY H. SNOW, Brooklyn, N.Y. Filed Aug. 10, 1882. (No model.)



Claim.—The herein-described improvement in label-holders for attaching cards to boxes, consisting in a strip of thin ductile non-elastic material attached to the box and card, whereby the card may be held in any desired relative position to the box, substantially as described.

267,272. CAR-COUPLING. DAVID E. SOUTHWICK, Ogdensburg, N. Y. Filed Mar. 14, 1882. (No model.)



Claim.—1. The coupling-link D, having the feet or supports *d d*, as and for the purpose herein shown and set forth.

2. The draw-head B, having spring-plate E and spring-recess L, spring F, curved spring-bar G, and coupling-bolt H, constructed and combined substantially in the manner and for the purpose herein shown and described.

3. The combination, with the draw-head B, having projecting spring-plate E, of the link D, having downward-projecting feet *d d*, substantially as and for the purpose herein shown and specified.

267,273. KNEADING OR BEATING APPARATUS. BENJ. F. SPARROW, Cambridge, Mass. Filed June 19, 1882. (No model.)



Claim.—1. The pair of stirrers described, arranged and connected with a pair of wheels, as described and shown, and for the purpose set forth.

2. A pair of stirrers having the arms *a a'*, as shown and described, and attached, as described, to any revolving apparatus, for the purpose set forth.

3. The elongated pan, as shown and described, in combination with the stirrers described, the arms *a a'*, and any revolving apparatus, arranged as described, for the purpose set forth.

4. The combination, as described, of the bail C or arm D, the cross-bar *h*, and a pair of wheels with stirrers attached, as described.

5. In combination, the driving-wheel *d*, post *p*, cross-bar *h*, bail C or arm D, with the gear-wheels and a pair of stirrers, all as described.

6. In combination, the pan or other receptacle, E, with the fork *e* and latch *y*, for the purpose set forth.

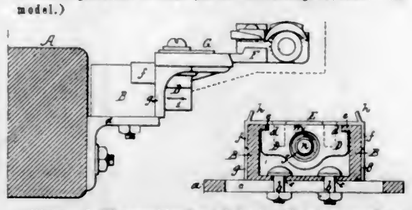
7. In combination, the pan E or other receptacle, and latch *y*, for the purpose set forth.

8. In combination, the pan or other receptacle and the bail and the broad clasped foot *m*, as described, for the purpose set forth.

9. An elongated pan conformed in shape and dimensions to the area swept by a pair of stirrers, arranged, as described, in combination with said stirrers, for the purpose set forth.

10. A stirrup-shaped stirrer with cross-bars, as described, for the purpose set forth and described.

267,274. LOOM-TEMPLE. JOHN B. STANDUN, Philadelphia, Pa., assignor to Thomas Cunningham, Horatio B. Lincoln, Frank P. Pendleton, George Brown, Lucius Brown, and Herman E. Cunningham, all of same place. Filed Aug. 15, 1881. (No model.)



Claim.—1. The combination of the box B and means for securing the same to the inner side of the breast-beam, the roller-carrying plate, the block D, secured to or forming part thereof, and adapted to guides in the box B, and the spring J, bearing at the rear upon the box, and adapted at the front end to a socket in the block D, said block having no portion projecting rearwardly beyond the spring, all substantially as set forth.

2. The combination of the box B and means for securing the same to the inner side of the breast-beam, the roller-carrying plate, the block D, secured to or forming part thereof, and adapted to guides in the box B, and the spring J, bearing at the rear end upon the box, and adapted at the front end to a socket in the block D, said block having a front end, *p*, for receiving the blow of the lay, but having no portion projecting rearwardly beyond the spring, as set forth.

3. The combination of the box B, having internal flanges, *e*, and external shoulders, *g*, the block D, having recesses *d*, and the plate E, secured to the block, and having ears *f* and dovetailed guides *h*, as set forth.

267,275. SECONDARY BATTERY. ELI T. STARR, Philadelphia, Pa. Filed Sept. 30, 1882. (No model.)

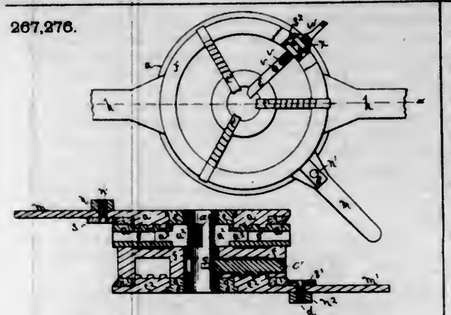


Claim.—1. A secondary-battery element constructed of a mixture of finely-divided active material with a material which sets or hardens after being brought to a plastic or fluid condition, substantially as described.

2. The method of forming secondary-battery elements hereinbefore set forth, which consists in mixing finely-divided active material with a non-active material which sets or hardens after being brought to a plastic or fluid condition without the application of artificial heat, substantially as described.

267,276. DEVICE FOR SCREW-THREADING AND CUTTING OFF PIPES, &c. LEVI W. STOCKWELL, Cleveland, Ohio, assignor to William H. Price, same place. Filed July 13, 1881. (No model.)

267,276.



Claim.—1. The scroll-plate *a*, in combination with nut *n*, screw *n'*, stop *s*, and ring *i*, the latter forming a part of frame *f*, and the stop *s* being attached to the handle of plate *a*, and having a bearing only at its inner end against ring *i*, substantially as described.

2. The scroll-plate *a*, in combination with ring *i*, forming a part of frame *f*, and formed with a beveled circumference, stop *s*, formed with a corresponding bevel at its inner end, screw *n'*, and nut *n*, substantially as described.

3. The die *a²*, formed with a reduced shank, *a²*, in combination with die-holder *a'*, formed with a vertical slot, *o'*, and an opening, *o*, to receive and hold the shank of the die, the opening *o* extending through the outer end of the die-holder, and the die, with its shank, not exceeding in length the diameter of the central opening of the stock or frame *f*, for the purpose of facilitating the removal and replacing of the dies, substantially as described.

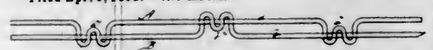
4. The cutting-off tool *e*, in combination with screw *x*, nut *w*, formed with a circumferential groove, *e'*, pin *e'*, frame *f*, and scroll-plate *a*, the pin *e'* being removable from frame *f* and retained therein by the scroll-plate, substantially as described.

267,277. TOY TREE. WILLIAM T. STRASSER, New York, N. Y. Filed Apr. 3, 1882. (No model.)



Claim.—A toy tree composed of an upright stem having a suitable base, and of a series of star-shaped pieces secured to said stem one above the other and gradually decreasing in size in an upward direction, as and for the purpose set forth.

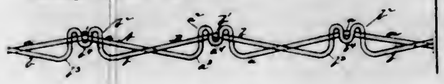
267,278. METALLIC CIRCUIT FOR ELECTRICAL CURRENTS. SAMUEL D. STROUM, Philadelphia, Pa., assignor, by mesne assignments, of one-third to Edward C. Snyder, same place. Filed Apr. 6, 1882. (No model.)



Claim.—1. A metallic circuit composed of the wires A B, straight for a part of their length, and having corrugations at intervals to form rests for the straight portions of other like wires, such straight parts of each wire being in the same line, substantially as shown and described.

2. The combination of two wires, A B, forming a metallic circuit for electrical purposes, each of said wires having straight portions *a b* and corrugations or loops *a' b'*, said wires being combined and arranged, substantially as described, with their straight portions parallel, their corrugations forming crosses and affording means for keeping said wires in a fixed relative position, as set forth.

267,279. METALLIC CIRCUIT FOR ELECTRICAL CURRENTS. SAMUEL D. STROUM, Philadelphia, Pa., assignor, by mesne assignments, of one-third to Edward C. Snyder, same place. Filed Apr. 6, 1882. (No model.)

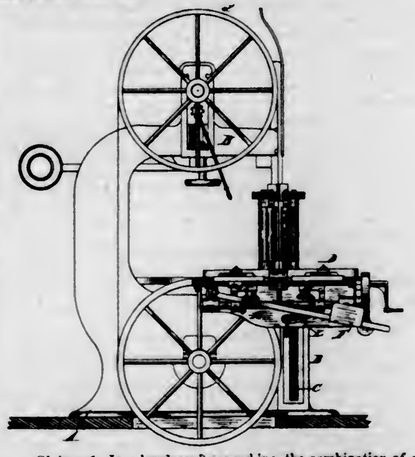


Claim.—1. A metallic circuit for electric currents, composed of the wires A B, bent to form zigzags or inclines *a b*, with angles *a' b'*, and having fastening-loops *a² b²* between alternate inclines, substantially as shown and described.

2. A metallic circuit for electric purposes, composed of zigzag wires A B, constructed with inclines, angles, and fastening-loops, said wires being combined, as described, whereby their inclines cross and recross, the angles of each resting in the fastening-loops of the other, substantially as shown and described.

267,280. RESAWING-MACHINE TABLE. JOHN R. THOMAS, Cincinnati, Ohio. Filed Aug. 17, 1882. (No model.)

Brief.—The resawing feed-rollers can be raised or lowered, the table proper being used with or without them.

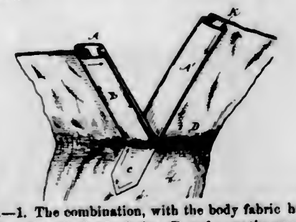


Claim.—1. In a band-sawing machine, the combination of a vertically-adjustable bed or frame, feeding mechanism attached to the upper side thereof for resawing purposes, a work-supporting table, and mechanism for adjusting the bed or frame to raise and lower the feeding mechanism above and below the table, substantially as described.

2. In a band-sawing machine, the combination of the horizontally-adjustable work-supporting table, a support therefor, the vertically-movable feeding mechanism for resawing purposes, and devices engaging the table-support for raising and lowering the feeding mechanism above and below the table, substantially as described.

3. In a band-sawing machine, the combination of a horizontally-adjustable work-supporting table, an upright support therefor, provided with a vertical rack, a bed or frame carrying feeding mechanism for resawing purposes, and a shaft carrying a pinion, which engages the rack on the table-support for adjusting the bed or frame to raise and lower the feeding mechanism above and below the table, substantially as described.

267,281. COMBINED BUTTON LAP AND STAY FOR GARMENTS. DAVID W. THOMPSON, Englewood, Ill., assignor of one-third to Justus Miller, Troy, N. Y. Filed Feb. 24, 1882. (No model.)



Claim.—1. The combination, with the body fabric having a straight slit, as described, of a facing, B, and a continuous button-fly lining, A A', the part A of the said lining and the facing B being united on opposite sides of one of the free edges of the slit in the body fabric by a single line of stitches, forming a blind seam, substantially as described.

2. The combination, with the body fabric having a straight slit, as described, of a facing, B, and a continuous button-fly lining, A A′, the part A of the said lining and the facing B being united on opposite sides of one of the free edges of the slit in the body fabric by a single line of stitching, forming a blind seam, and the button-flaps stayed at the bottom of the slit by a transverse blind anchor-seam, *f p*, substantially as and for the purpose described.

3. The combination, with the body fabric having a straight slit, as described, of a facing, B, and a continuous button-fly lining, A A′, the part A, of said lining and the facing B being united on opposite sides of one of the edges of the body-slit by a single line of stitching removed from the said edge and forming a blind seam, *d f*, and then continued to form the transverse seam *f p*, as and for the purpose described.

4. The button-lap and facing made in one piece with a facing, B, and continuous button-lap lining A A′, creased to form a re-entrant fold and gutter-seam, *b*, combined with the slitted body fabric, and having the sides of said re-entrant fold and gutter-seam united on opposite sides of the edge of the slit in the body fabric by a single line of stitching, forming a blind seam, substantially as described.

5. As a new article of manufacture, the combined button-lap and facing, consisting of the blank cut to form a facing, B, and button-fly linings A A′, creased and folded longitudinally to form the re-entrant fold *b*, substantially as shown and described.

6. As a new article of manufacture, a strip of material made of the width of the button-flap and stay-blank, and divided by marks into symmetrical edges of severance without waste, to indicate the line of cut which forms the blank, the said lines of severance being transverse lines 5, running entirely across the strip, transverse lines 6 and 7, running half the distance across, and a middle longitudinal line, 2–4, with the distances from 1 to 2 and from 3 to 4 exactly equal to half the full length, A A′, of the blank, as shown and described.

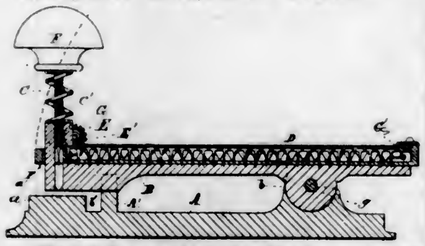
7. In a combined button-fly and stay-piece of a garment, the combination of a seam connecting the said stay-piece to one side of the slit, away from the edge of the fabric in which the latter is formed, and a transverse anchor-seam connecting said seam with the edge of the inner staying-piece and extending between the point of the slit and the adjacent fold-line of said staying-piece, as and for the purposes set forth.

267,282. PUNCH FOR MARKING CATTLE. AUGUST TIGHIZER, Wichita, Kans. Filed Mar. 3, 1882. (Model.)



Claim.—In a punch for marking cattle, the combination of a female die, D, of pyramidal form, with a sharp shear-edge, and a male die, D^2, having shear-edges with intermediate concavity, as shown and described.

267,283. PAPER-FASTENING MACHINE. MORTON TOULMIN, Washington, D. C. Filed Apr. 14, 1882. (No model.)



Claim.—1. In a paper-fastening machine, the combination of a bed-piece provided with a clinching-anvil with an oscillating arm flexibly connected thereto, having a traveling staple-carriage, constructed substantially as described and shown, and means for automatically operating the same, and mechanism for forcing the staples to and through the paper, substantially as described, and herein set forth.

2. In a paper-fastening machine, the combination of a bed-piece provided with a clinching-anvil and guiding-standard with an oscillating arm flexibly connected thereto, having a staple-carriage adapted to slide thereon and to receive and hold separately a quantity of staples, means for automatically operating said carriage, and a staple-passage and forcing-plunger fitting therein, substantially as and for the purposes described.

3. In a paper-fastening machine, the combination of a bed-piece provided with a clinching-anvil and a guiding-standard with an oscillating arm flexibly connected thereto, having a staple-carriage adapted to slide thereon and to receive and hold a quantity of staples, and provided with a rack or racks engaging pinions journaled to said arm, a spring for operating them, and a staple-passage and plunger, substantially as and for the purposes set forth.

4. In a paper-fastening machine, the combination of a bed-piece provided with a clinching-anvil and guiding-standard with an oscillating arm flexibly connected thereto, having a staple-passage, a forcing-plunger fitting therein, a pinion or pinions, and a spring for operating the same journaled thereto, and a traveling carriage adapted to slide thereon and to receive and hold separately a quantity of staples, and provided with a rack or racks engaging said pinions, substantially as and for the purpose described.

5. In a paper-fastening machine, the staple-carriage, consisting of a frame having suitably-spaced grooves or notches for holding the staples separately, whereby a quantity may be fed into the machine at a time and each staple delivered to the clinching mechanism without affecting the others, substantially as herein specified.

267,284. LUMINOUS PICTURE, PRINT, &c. WILLIAM TROTTEN, Jr., Oyster Bay, N. Y. Filed Apr. 14, 1882. (No model.)

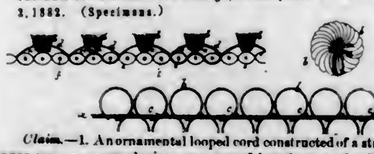


Claim.—1. A sheet or tablet of paper or other material having upon it two different pictures of different colors, one produced with phosphorescent or luminous material, the other with non-luminous material, and one being of a color resembling that of the surrounding ground or surface of the tablet and the other of a different color, substantially as herein described.

2. A sheet or tablet of paper or other material having upon it two different pictures, figures, designs, or letterings of different colors, one produced in phosphorescent or luminous material and the other in non-luminous material, and having the ground or surface surrounding the said pictures, figures, designs, or letterings of a color resembling that of one of the said pictures, figures, designs, or letterings, the said ground or surface and the figure, picture, design, or lettering of resembling color being one luminous and the other non-luminous, substantially as herein described.

3. A sheet or tablet of paper or other material having upon it two partly-superposed pictures, designs, figures, or letterings, one produced in luminous material of one color and the other in non-luminous material of another color, and one of said colors resembling the color of the ground or surrounding surface of the sheet or tablet, substantially as herein described.

267,285. ORNAMENTAL LOOPED CORD AND FABRIC WOVEN THEREFROM. ALWILL URBAHN, Paterson, N. J., assignor of one-half to Abraham G. Jennings, Brooklyn, N. Y. Filed Feb. 2, 1882. (Specimens.)

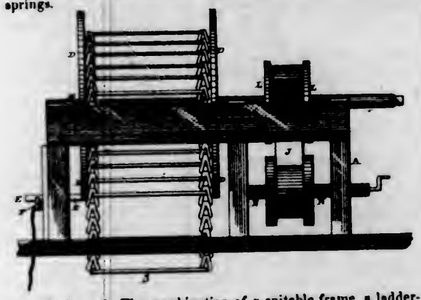


Claim.—1. An ornamental looped cord constructed of a straight inner core, *a*, an enveloping-yarn wound loosely around said core in the form of a series of eccentrically-projecting loops, *b*, arranged in spiral order around said core, and the binding-thread *c*, wound tightly around the core, but not intertwisted therewith, and partly around said enveloping-yarn and holding each loop to the core, substantially as specified.

2. A woven fabric constructed of looped cords *a b c*, having eccentric loops on straight untwisted cores, and of two sets of warp-threads, *d e*, and ordinary shuttle-threads, *f*, the said cords *a b c* being bound to the body of the fabric by the warp-threads *d*, substantially as described.

267,286. FIRE-ESCAPE. ABRAHAM VAN WAGNER, New York, N. Y., assignor of one-fourth to Charles W. Diskel & Co., same place. Filed May 29, 1882. (No model.)

Brief.—The ladder-shaft is held stationary by a latch fitting into a notch in one of the guides thereon. When this is released a spring secured to the frame bears against the guide in such manner as to start the ladder downward. A belt wrapped around one end of the ladder-shaft, and also on a drum on a smaller shaft, winds up the ladder by a crank applied, and also acts as a brake. A friction-roller on sliding bearings is forced against the brake-belt by springs.



Claim.—1. The combination of a suitable frame, a ladder-shaft, and ladder with a spring which is made to exert its power upon an arm or guide secured to the shaft, for the purpose of starting the ladder downward as soon as the shaft is released, substantially as shown.

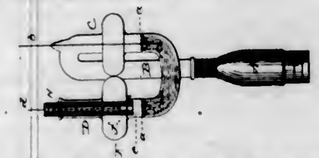
2. The combination of the ladder-shaft and ladder with suitable guides secured to the shaft, between which the ladder is wound, and a spring which is made to catch against the guide, so that when the tripping-lever is operated the spring will exert its power in starting the ladder downward, substantially as described.

3. The combination of the ladder, the shaft around which the ladder is wound, the guides, one of which has a notch in its side, a tripping mechanism, and a spring for starting the ladder into motion, whereby, when the tripping mechanism is released, the ladder will be made to descend, substantially as set forth.

4. The combination of the ladder-shaft, a belt which is wrapped around this shaft, a counter-shaft around which the other end of the belt is wrapped, and a spring-actuated friction device, substantially as shown.

5. The combination of the ladder-shaft, the belt which is wrapped around it, the friction-pulley, the two arms connected to its shaft, the bearings in which the shaft slides back and forth, the springs, and the rod or stop against which the rear ends of the springs bear, substantially as described.

267,287. CIRCUIT-CLOSER. LEONARD WALDO, New Haven, Conn. Filed Aug. 21, 1882. (No model.)



Claim.—1. The herein-described device for automatically breaking and closing an electrical circuit by means of an impulse through gas or similar medium, consisting of a U-shaped tube filled with mercury to a level in each leg above the bend, one leg in connection with the medium through which the impulse is to be received, the circuit-wires arranged relatively to the mercury substantially as described, and whereby the impulse received in one leg of the U will cause the mercury to rise in the other leg until contact is made with both wires through the mercury and the circuit closed, the leg opposite that in which the impulse is received constructed with a bulb or enlargement above the normal level of the mercury, with a small aperture opening from the tube into said enlargement below the end of the wire standing therein, substantially as described.

2. The herein-described device for automatically breaking and closing an electrical circuit by means of an impulse through gas or similar medium, consisting of a U-shaped tube filled with mercury to a level in each leg above the bend, one leg in connection with the medium through which the impulse is to be received, the circuit-wires arranged relatively to the mercury substantially as described, and whereby the impulse received in one leg of the U will cause the mercury to rise in the other leg until contact is made with both wires through the mercury and the circuit closed, the leg opposite that in which the impulse is received constructed with a bulb or enlargement above the normal level of the mercury, a tube in said leg extending down below the end of the wire therein, and having an aperture opening into the bulb, and whereby said aperture may be adjusted as to size, substantially as and for the purpose described.

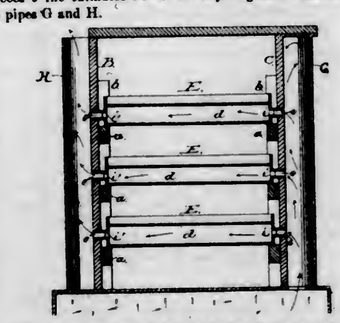
3. The herein-described device for automatically breaking and closing an electrical circuit by means of an impulse through gas or similar medium, consisting of a U-shaped tube filled with mercury to a level in each leg above the bend, one leg in connection with the medium through which the impulse is to be received, the circuit-wires arranged relatively to the mercury substantially as described, and whereby the impulse received in one leg of the U will cause the mercury to rise in the other leg until contact is made with both wires through the mercury and the circuit closed, the leg in which the impulse is received constructed with a bulb or enlargement above the level of the mercury, substantially as and for the purpose described.

4. The herein-described device for automatically breaking and closing an electrical circuit by means of an impulse through gas or similar medium, consisting of a U-shaped tube filled with mercury to a level in each leg above the bend, one leg in connection with the medium through which the impulse is to be received, the circuit-wires arranged relatively to the mercury substantially as described, and whereby the impulse received in one leg of the U will cause the mercury to rise in the other leg until contact is made with both wires through the mercury and the circuit closed, the leg opposite that in which the impulse is received constructed with a bulb or enlargement above the normal level of the mercury, a tube in said leg extending below the end of the wire, with a small aperture opening from the tube into said enlargement below the end of the wire standing therein, the leg in which the impulse is received constructed with a bulb or enlargement above the level of the mercury, substantially as described.

5. The herein-described device for automatically breaking or closing an electrical circuit by means of an impulse through gas or similar medium, consisting of a U-shaped tube filled with mercury to a level in each leg above the bend, one leg in connection with the medium through which the impulse is to be received, the circuit-wires arranged relatively to the mercury, substantially as described, and whereby the impulse received in one leg of the U will cause the mercury to rise in the other leg until contact is made with both wires through the mercury and the circuit closed, the said leg opposite that in which the impulse is received constructed with a bulb or enlargement above the normal level of the mercury, the tube extending up into said enlargement above the end of the wire therein and opening into the said enlargement above the end of the wire, substantially as described.

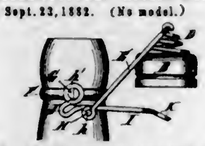
267,288. FRUIT-DRIER. ALBERT W. WALKER, Clemmonsville, N. C. Filed July 22, 1882. (No model.)

Brief.—When the trays are pushed back against the vertical pieces *b* the thimbles *i i′* of the trays register with thimbles *e e′* in pipes G and H.



Claim.—In a fruit-drier, the boiler A, in combination with vertical pipe G, having its upper end closed and provided with thimbles *e*, hollow trays provided with thimbles *i i′*, and vertical pipe H, having its upper end open and provided with thimbles *e′*, all constructed, arranged, and operated as set forth.

267,289. BOTTLE-STOPPER. ANDREW WALKER, Cincinnati, Ohio. Filed Sept. 23, 1882. (No model.)



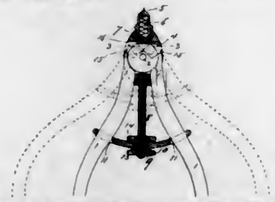
Claim.—1. A bottle-stopper composed of a cork inclosed within a metal cylinder, having a spring arranged above the cork, the outer end of the spring being attached to a swinging bail or yoke operated by a crank-lever, said members being combined for operation substantially as described, whereby the bail or yoke is caused to act directly on the spring, and thereby force the cork upon the mouth of a bottle, substantially as set forth.

2. In a bottle-stopper, the combination of a metal cylinder inclosing a cork, a spring-cushion connected with the cylinder above the cork, a swinging bail or yoke to which the spring forming the cushion is directly attached, and a pivoted crank-lever for operating the bail or yoke to cause the latter to act directly on the spring-cushion, substantially as and for the purpose described.

3. In a bottle-stopper, the combination of a metal cylinder inclosing a cork, a spring connected with the cylinder above the cork, a swinging bail or yoke to which the outer end of the spring is swiveled, and a pivoted crank-lever for operating the bail or yoke to cause the latter to act directly on the spring, substantially as and for the purpose described.

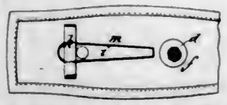
4. In a bottle-stopper, the combination of the metal cylinder having a spiral opening in its upper end, a cork inclosed within the cylinder, a spring connected with the latter through the spiral opening, a bail or yoke connected with the outer end of the spring, and a lever for operating the bail or yoke, substantially as described.

267,290. CALIPERS. OLIVER D. WARFIELD, Springfield, Mass., assignor to himself and Frank J. Warner. Filed July 21, 1882. (No model.)



Claim.—An improved calipers consisting of two legs pivoted together and to a slotted head, and each leg provided with an incline at the top, a disk having a bearing upon said inclines and actuated by a spring to press thereon, a yoke embracing each leg of the calipers, a thumb-nut secured in said yoke, and an adjusting-screw secured to said head and extending through a threaded hole in said nut, whereby the legs may be adjusted to any desired distance apart by turning the nut upon said adjusting-screw, substantially as described.

267,291. HARNESS-PAD. EDWARD P. WATERS, Roseville, Ill. Filed Sept. 6, 1882. (No model.)

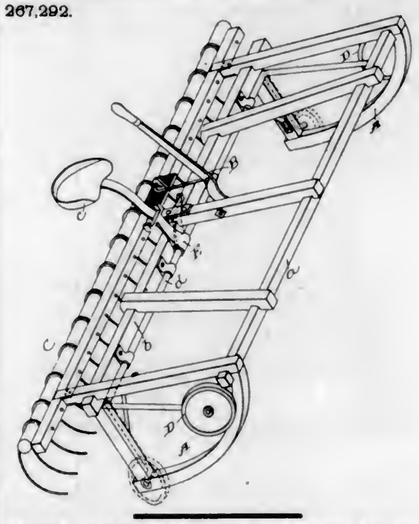


Claim.—The combination, with the pad and loop plate *i*, of the housing *f*, having the slot *m*, whereby the loop is brought across the slot above the housing and prevented from turning by the sides of the slot, as described.

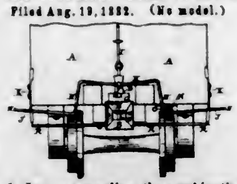
267,292. HORSE-RAKE. AMOS WERTZ and JOSEPH H. FOOSE, Middletown, Iowa. Filed May 13, 1882. (No model.)

Claim.—In a horse-rake, the combination of the runners A A, the pivoted rake-bar C and its operating-lever, and the shaft *d*, journaled in bearings, and having the operating-lever E, said shaft being bent at right angles at both ends, and provided with carrying-wheels, as described.

267,292.



267,293. CAR-COUPLING. FRANK A. WESTBROOK, Port Jervis, N. Y. Filed Aug. 19, 1882. (No model.)



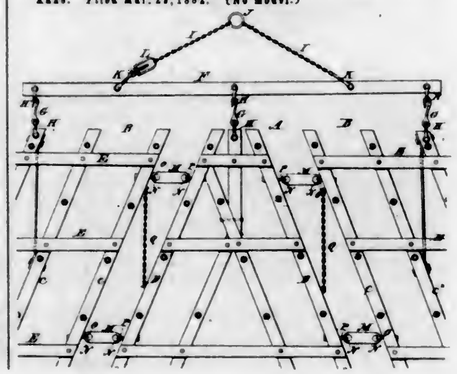
Claim.—1. In a car-coupling, the combination of the operating-rod provided with suitable projections or enlargements on its ends with the slotted guide-plates and the coupling-pin, substantially as shown.

2. In a car-coupling, the combination of the coupling-pin, the operating-rod having suitable projections or enlargements on its ends, and the slotted guide-plates having recesses in their outer sides for the projections or enlargements on the rod to catch in, substantially as described.

3. The combination of the pivoted rod R, the slide O, having a recess in its outer end, the rod H, pin F, and slotted guide-plates, substantially as set forth.

4. The combination of the draw-head B, having an endwise movement and provided with the projection S, the pivoted rod R, recessed slide O, rod H, pin F, and slotted guides, substantially as shown.

267,294. HARROW. LAURENS S. WHEELER, Independence, Kans. Filed Mar. 29, 1882. (No model.)



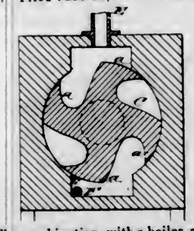
Claim.—1. A harrow consisting of a C-shaped middle section and two diamond-shaped side sections, the three sections being flexibly connected with the same double-tree and with each other, as shown and described.

2. The said middle section, A, and outer sections, B, connected by chains Q, arranged in the line of draft, substantially as specified.

3. The harrow-sections A and B, connected by chains Q, arranged in the line of draft, in combination with the bar-link and eyebolt-connections, substantially as specified.

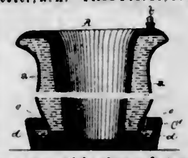
4. The harrow-sections A and B, draft-bar F, chains Q, and bar and eyebolt connections M and O P, all combined and arranged substantially as specified.

267,295. BOILER-FEEDER. GEORGE H. WHITMAN, Eureka Springs, Ark. Filed June 20, 1882. (No model.)



Claim.—The combination, with a boiler, a wheel having buckets *a*, and a superposed tank, B, of a wheel-case having open space at bottom, connected at top by a pipe with the tank and communicating at the bottom by pipes F G, respectively, with the water and steam spaces of the boiler, as and for the purpose specified.

267,296. SELF-IRRIGATING FLOWER POT OR VASE. ELIHU WILDER, Manchester, N. H. Filed Feb. 23, 1881. (No model.)

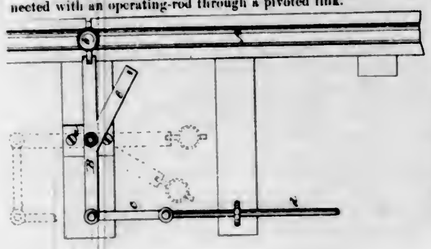


Claim.—1. As a new article of manufacture, a flower-pot provided with a water-reservoir which is connected with or forms part of said pot, the two communicating with each other by means of channels which enter both reservoir and pot at or near the bottom part only, said reservoir being hermetically closed at all other points, whereby the water contained therein is by atmospheric pressure suspended above the escape-openings and at a higher level than the escaped portion in the bottom of the pot, the supply from said reservoir being regulated by the evaporation or absorption of said liquid, substantially as and for the purpose set forth.

2. A reservoir containing water and provided with discharge-openings at its lowest point only, in combination with one or more pot-stands of dish shape, arranged substantially upon the same level with the discharge-openings, and into which said openings empty, and a pot occupying said stand and adapted to be supplied with moisture from the water flowing into it from the reservoir, the water within the latter being suspended above the discharge-openings by atmospheric pressure, substantially as and for the purpose set forth.

267,297. TORPEDO-PLACER. MARTIN D. WILLIAMS, Long Island City, N. Y. Filed Apr. 14, 1882. (No model.)

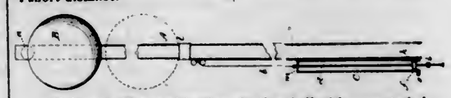
Brief.—A torpedo-placer consisting of a vibrating carrier connected with an operating-rod through a pivoted link.



Claim.—The combination, with a railroad-track, of the carrier B, pivoted on block *a*, apertured at one end to carry the torpedo, and at the other end connected by a pivoted link with a rod, *d*, whereby a torpedo may be placed on the track or removed therefrom, as described.

267,298. TIME-BALL SIGNAL. ROBERT W. WILLSON, New Haven, Conn. Filed Apr. 24, 1882. (No model.)

Brief.—The counterpoise begins to act after the ball has fallen a short distance.



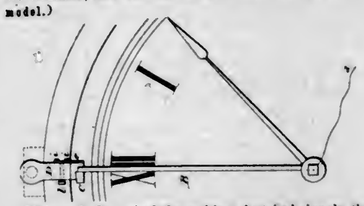
Claim.—1. The combination of a time-ball with a counterbalancing-weight supported independent of the ball when the ball is raised, with an elastic device between said weight and ball whereby the weight is gradually applied to the descending ball, substantially as described.

2. The combination of a time-ball, a cylinder-weight, a piston in said cylinder in connection with the ball, and a support for the cylinder when the ball is raised, the piston and its rod free to move in said cylinder as the ball descends, and arranged to compress the air or other spring within the cylinder, whereby the weight of the cylinder is gradually applied to the descending ball, substantially as described.

3. The combination of a time-ball, a cylinder-weight, a piston in said cylinder in connection with the ball, and a support for the cylinder when the ball is raised, the piston and its rod free to move in said cylinder as the ball descends, and arranged to compress the air or other spring within the cylinder, whereby the weight of the cylinder is gradually applied to the descending ball, the rod through the piston provided with a collar at a distance below the piston, substantially as and for the purpose described.

4. The herein-described device for holding time-balls suspended, consisting of the two U-shaped hinged levers D E, through which the suspending rod or cord passes, the cross-piece F on the rod below the levers, and the latch *n*, to hold said levers engaged, substantially as described.

267,299. CLOCK FOR MAKING ELECTRIC SIGNALS. ROBERT W. WILLSON, New Haven, Conn. Filed June 14, 1882. (No model.)



Claim.—1. In a clock for making electrical signals, the combination of the pointer in connection with one wire of a circuit, and a metal surface in connection with the other wire of the same circuit, and with which surface the pointer is brought into contact to close the circuit, said surface made adjustable as to duration of contact with the said pointer, substantially as described.

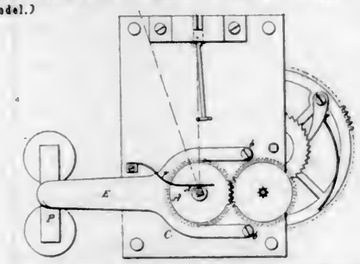
2. In a clock for making electrical signals, the combination of an insulated block presenting a surface inclined to the path of the pointer which is to complete the circuit, and up which incline the pointer will ride, with a metallic surface adjacent to the said insulated block in connection with one wire, the pointer being in connection with the other wire, said metallic surface arranged below the surface of the said insulated block over which the pointer passes, and so that as the pointer escapes from the said insulated block it will fall or be forced upon the said metal surface and complete the circuit, substantially as described.

3. In a clock for making electrical signals, the combination of an insulated block presenting a surface inclined to the path of the pointer which is to complete the circuit, and up which incline the pointer will ride, with a metallic surface adjacent to the said insulated block in connection with one wire, the pointer being in connection with the other wire, said metallic surface arranged below the surface of the said insulated block over which the pointer passes, and so that as the pointer escapes from the said insulated block it will fall or be forced upon the said metal surface and complete the circuit, the said metal surface adjustable with relation to said block, whereby the time of contact between the pointer and said surface may be varied, substantially as described.

4. In a clock for making electrical signals, the combination of an insulated block presenting a surface inclined to the path of the pointer which is to complete the circuit, and up which incline the pointer will ride, with a metallic surface adjacent to the said insulated block in connection with one wire, the pointer being in connection with the other wire, said metallic surface arranged below the surface of the said insulated block over which the pointer passes, and so that as the pointer escapes from the said insulated block it will fall or be forced upon the said metal surface and complete the circuit, the escapement side of the said metal surface inclined or undercut, substantially as described.

5. In a clock for making electrical signals, the combination of an insulated block presenting a surface inclined to the path of the pointer which is to complete the circuit, and up which incline the pointer will ride, with a metallic surface adjacent to the said insulated block in connection with one wire, the pointer being in connection with the other wire, said metallic surface arranged below the surface of the said insulated block over which the pointer passes, and so that as the pointer escapes from the said insulated block it will fall or be forced upon the said metal surface and complete the circuit, the escapement side of the said metal surface inclined or undercut, and the escaping side of the pointer correspondingly inclined, substantially as described.

267,300. DEVICE FOR SYNCHRONIZING CLOCKS. ROBERT W. WILLSON, New Haven, Conn. Filed July 12, 1882. (No model.)

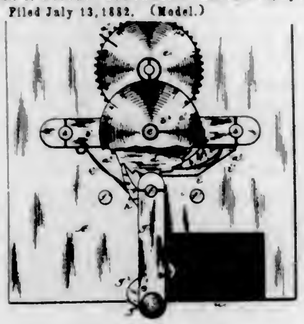


Claim.—1. In a clock-movement, the combination therewith of mechanism, substantially such as described, to engage or disengage the time-wheel with the clock-movement, said mechanism arranged in an electric circuit or with other impulse-giving medium, and a mechanism, substantially such as described, to turn the time-wheel independent of the movement when the said time-wheel is disengaged from the time-movement, substantially as described.

2. In a clock-movement, the combination of a frictional device arranged to operate upon the time-wheel and communicate the power of the movement to said wheel, a lever in connection with said frictional device, and in an electric or other impulse-giving circuit, the said time-wheel constructed with a flat or cam-like surface, and a spring-arm to bear upon said surface, substantially as and for the purpose described.

3. In a clock-movement, the combination of the frictional plate D, spring *a*, lever E, time-wheel A, constructed with the cam-like surface *d*, and a spring-arm, F, the said lever E arranged in an electric or other impulse-giving circuit, substantially as described.

267,301. STAMP CANCELING AND REGISTERING MACHINE. WILLIAM C. WOODROW and JAMES W. HENDERSON, Lynchburg, Ohio. Filed July 13, 1882. (Model.)



Claim.—1. The combination, in a stamp canceling and registering machine, with the base-board A, provided with pad *a* and pawl *i*, of the reciprocating arm *g*, carrying the stamp-canceler, pallet *h*, ratchet-wheel *d*, and the registering mechanism, substantially as and for the purposes set forth.

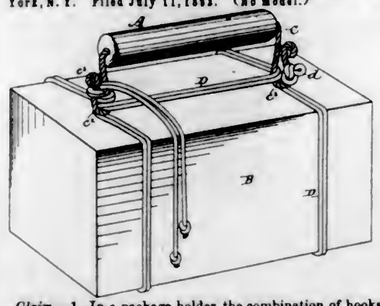
2. In a stamp canceling and registering machine, the combination, substantially as hereinbefore set forth, of the base-board A, the uprights *b b*, extended from top of the base-board, the cross-bar *b'*, connecting the top of the uprights *b*, the dial *b²*, secured on top of cross-bar *b'*, the main shaft *c*, carrying hand *c'*, ratchet-wheel *d*, and pinion *d'*, the wheel *e'*, provided with teeth on its periphery and a dial-face, the pointer *e'*, secured to base-board and extended up over the wheel *e*, and means for revolving the ratchet-wheel *d*, substantially as set forth.

267,302. DRAWER-PULL. CHARLES A. BAILEY, Middletown, Conn., assignor to the Middletown Hardware Company, same place. Filed July 15, 1882. (No model.)



Claim.—The drawer-pull consisting of the vertically-slotted convex-end thimble-socket *g*, the eyebolt *a*, pivoted thereto, and the knob or handle *z*, having its shouldered stem *s* inserted into the open end of the thimble-socket and secured thereto by means of a rivet-pin, *r*, substantially as specified.

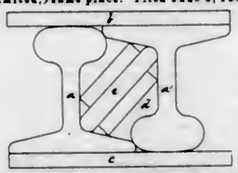
267,303. PACKAGE-HOLDER. GEORGE H. BENEDICT, New York, N. Y. Filed July 11, 1882. (No model.)



Claim.—1. In a package-holder, the combination of hooks C, having screw-threaded shank c and spring end c^2, with a handle, A, substantially as shown and described.

2. The combination of the handle A, hooks C, provided with screw-threaded shanks c and spring ends c^2 with the cord D, substantially as and for the purpose described.

267,304. PILE FOR CHANNEL AND I BEAMS. HENRY W. BORNEMANN, Pittsburg, Pa., assignor to the Carnegie Bros. & Co., (Limited,) same place. Filed June 5, 1882. (No model.)

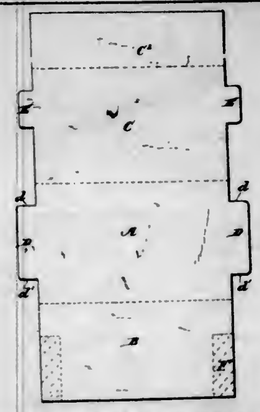


Claim.—1. A pile composed of two or more rails arranged side by side, resting directly upon a plain or rectangular bottom piece, and having a similar top piece placed directly on the rails, substantially as and for the purposes described.

2. A pile composed of two or more rails arranged side by side, resting directly upon a plain or rectangular bottom piece, a similar top piece resting directly upon the rails, and a filling of muck-bar or scrap between the rails, substantially as and for the purposes set forth.

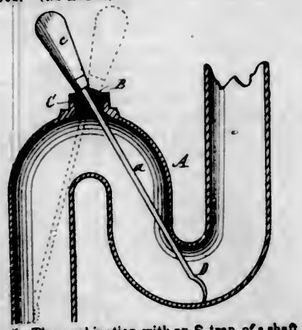
267,305. ENVELOPE LETTER-SHEET. ADDISON C. FLETCHER, New York, N. Y. Filed Oct. 11, 1882. (No model.)

267,305.



Claim.—An envelope letter-sheet combining in its structure a back, A, carrying a wing, D, a sealing-flap, B, and a folding-flap, C, having a narrow wing, E, located on one side or end thereof, said wing E serving both to aid in gaging the line where the sheet is to be folded between the back A and the folding flap C, and to prevent the withdrawal of the latter after the sealing, which secures all the parts, substantially as described.

267,306. WATER-TRAP CLEANER. JOHN S. GALL, Rochester, N. Y., assignor of one-half to John W. Orphy, same place. Filed Apr. 17, 1882. (No model.)



Claim.—1. The combination, with an S-trap, of a shaft, forming a fork or paddle, passing through a rolling or self-adjusting bearing at the top bend of the trap, said shaft having end movement in the bearing and being capable of being inserted in the lower bend of the trap, of being elevated therefrom, and of being thrown over into the discharge end of the trap, as set forth.

2. The combination, with an S-trap, of the ball B and socket C in the top bend of the trap, and the fork or paddle D, provided with a shaft, *a*, which passes through a hole in the ball, the ball being capable of rotary movement in its socket and the shaft capable of end movement in the ball, as herein shown and described.

267,307. CAR-COUPLING. EZRA M. GIFFORD, Cleveland, Ohio, assignor to himself, William H. Gifford, same place, and George W. Taylor and Francis H. Brady, Louisville, Ohio. Filed Sept. 15, 1882. (No model.)



Claim.—1. In a car-coupling device, the combination, with a draw-head provided with a recess, *d*, and a branch recess, *d'*, of the coupling-pin D, having a pin, c, secured to one side thereof, substantially as set forth.

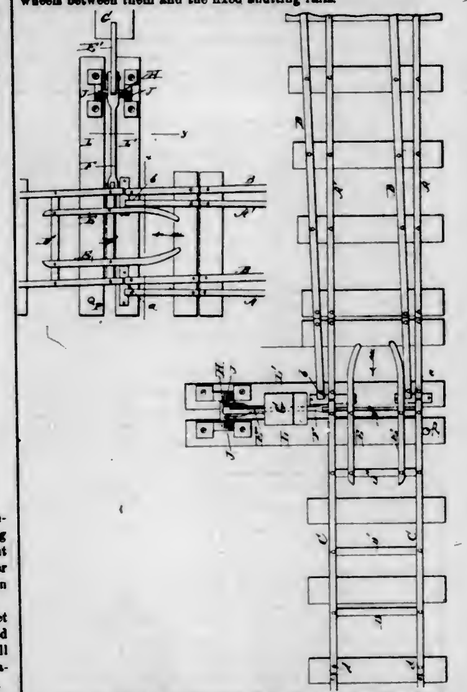
2. In a car-coupling device, the combination, with a draw-head provided with a recess, *d*, branch recess *d'*, and set-screw *e*, of the coupling-pin D, having a pin, c, secured to one side thereof, substantially as set forth.

3. In a car-coupling device, the combination, with a pin, of a recessed cap, said cap adapted to engage with a teat extending upward from the draw-head and support the pin, substantially as and for the purpose shown and described.

4. In a car-coupling device, the combination, with a coupling-pin, said pin being provided with a cap, of a shoulder extending upward from the draw-head, and adapted, by engaging with the said cap, to act as a guide for the pin, substantially as and for the purpose shown and described.

267,308. AUTOMATIC RAILROAD-SWITCH. JOSIAH GRAY, Chicago, Ill., assignor to himself and Westley Hollenbeck, Conrad B. Shaffer, and Jacob R. Reed, all of same place. Filed May 24, 1882. (No model.)

Brief.—An automatic railroad-switch which can be set for the main track or siding from the engine. The improvement consists mainly in the combination of curved switch-horns fastened to the tie-rods and being capable of being moved laterally throughout their entire length by the action of the switch-lever and the switch-rails with them; also, by the action of the flanges of the wheels between them and the fixed abutting rails.



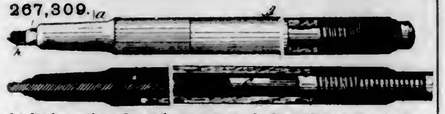
Claim.—1. The combination of the main-track rails and siding-rails rigidly secured to the cross-ties, the laterally-movable switch-rails connected by tie-rods, the switch-horns mounted upon the tie-rods of the movable rails, and a loaded gravitating lever, all arranged and adapted to operate substantially in the manner and for the purposes described.

2. In a railroad-switch, the laterally-movable switch-rails having rigidly secured to their tie-rods two switch-horns, in combination with the stationary main-track and siding or turn-out rails, substantially in the manner and for the purpose described.

267,309. LEAD OR CRAYON HOLDER. JOSEPH HOFFMAN, New York, N. Y., assignor to Joseph Rockendorf, same place. Filed Mar. 14, 1882. (No model.)

Claim.—1. The combination, with the lead-containing case or sheath and lead clamping or grasping and releasing mechanism, of a stop-gage arranged and operating to limit the extent to which the

267,309.



lead when released can drop or protrude from the pencil, substantially as and for the purposes hereinbefore set forth.

2. In a lead or crayon holder, a movable stop-gage adapted to be projected beyond the point or tip of the holder, and when thus projected to extend into or across the path of the lead at a predetermined distance from the end of the holder, so as to limit the extent to which the lead shall protrude therefrom, substantially as and for the purposes hereinbefore set forth.

3. The combination of the lead-containing sheath, lead clamping or grasping and releasing mechanism, and a longitudinally-movable stop-gage contained in said sheath and adapted to be projected therefrom beyond the tip or nozzle and into or across the path of the lead, substantially as and for the purposes hereinbefore set forth.

4. The combination, with the lead-containing sheath and lead clamping or grasping and releasing mechanism, of a longitudinally-movable stop-gage, and a pressure-cap and retracting-spring connected with and adapted to operate said stop-gage, substantially as and for the purposes hereinbefore set forth.

5. The combination, with the lead-containing sheath and lead clamping or grasping and releasing mechanism, of a stop-gage connected to and operated by the pressure-cap that forms part of the lead-releasing mechanism, substantially as and for the purposes hereinbefore set forth.

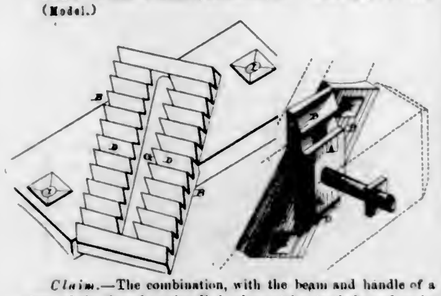
6. The lead-grasping mechanism and the stop-gage, in combination with the lead-containing sheath or case, the pressure-cap and the two retracting-springs, the stiffer one controlling the lead-grasping mechanism and the lighter one controlling the stop-gage, substantially as and for the purposes hereinbefore set forth.

7. The combination, with the case or sheath of the longitudinally-movable stop-gage provided with a cam or projection, which coacts with a bearing-surface in or on the sheath during the longitudinal movement of the stop-gage, substantially as and for the purposes hereinbefore set forth.

267,310. COMPOSITION FOR TREATING SULPHATES OF LIME. RAPHAEL JOSTA, Florence, Italy, assignor to William Roy and C. De Varigny, Paris, France. Filed Aug. 9, 1882. (No specimens.)

Claim.—The two-part composition herein described for treating dehydrated gypsum in separate baths, each part consisting substantially of the following elements: first part, water, by weight, two hundred parts; sulphate of copper, by weight, six parts; second part, water, by weight, two hundred parts; cyanide of potassium, by weight, six parts.

267,311. DEVICE FOR ATTACHING PLOW-BEAMS TO HANDLES. HIRAM O. KERNS, Sutherlin, Va. Filed July 14, 1882. (Model.)

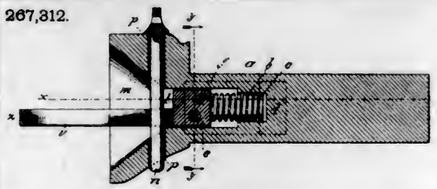


Claim.—The combination, with the beam and handle of a plow, of the slotted casting B, having ratchet-teeth formed on its side at an angle thereto, the ratchet-plate A, and the clamping-bolt, substantially as described.

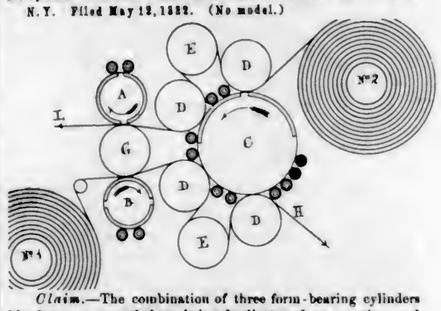
267,312. CAR-COUPLING. JAMES W. SAXON, Gainesville, Tex. Filed Oct. 5, 1882. (No model.)

Claim.—The car-coupling described, having bell-mouthed draw-head *a*, pin *n*, plane-faced link *v*, spring *e*, and slide *e*, having transverse plane face laterally secured in the draw-head by means of side guide-plates, *f*, inlet into rabbets *h* of the ways *d*, substantially as shown and described.

267,312.



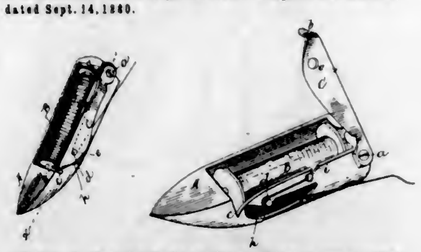
267,313. PRINTING-MACHINE. EDWYN ANTHONY, New York, N. Y. Filed May 12, 1882. (No model.)



Claim.—The combination of three form-bearing cylinders (the forms on two of them being duplicates of one another, and the circumference of the non-duplicate form-bearing cylinder being a multiple of the portion occupied by the forms) with carrier-cylinders and impression-cylinders, all substantially as described, whereby without turning devices two webs are simultaneously printed on both sides, one side of each web being printed from type, all substantially as described.

REISSUES.

10,231. SEWING-MACHINE SHUTTLE. JOHN V. D. ELDREDGE, Detroit, Mich. Filed Sept. 13, 1882. Original No. 232,248, dated Sept. 14, 1880.



Claim.—1. In a shuttle for sewing-machines, a case provided with an open thread-slot in one side and a recess near the forward end, in combination with a tension-spring having its forward end bent and adapted to enter loosely the recess in the case, and a post or projection extending across the space between the tension-spring and case into an opening adapted to receive it, whereby the spring is retained in position when fastened to the case, and the shuttle may be threaded by passing the thread around the forward end of the spring and drawing it back around the post without disturbing the spring, substantially as described.

2. In a shuttle for sewing-machines, a case provided with an open thread-slot in one side, in combination with a removable tension-spring secured to the case at its heel end by a detachable fastening, and at its front end constructed and secured in the case to permit the thread to be passed around it, whereby the shuttle may be threaded without disturbing the spring, substantially as described.

3. In a shuttle for sewing-machines, a case provided with an open thread-slot in one side and a recess near the forward end, in combination with a tension-spring provided with a bend at its forward end, adapted to enter loosely the recess in the case, a tension-screw securing the heel end of the spring to the case, and adapted to regulate the tension, and a post or projection crossing the space between the spring and case, and adapted to retain the spring in position, substantially as and for the purpose set forth.

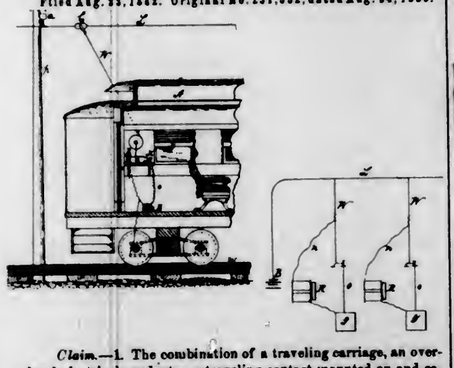
4. A shuttle-case, A, for sewing-machines, provided with an open thread-slot, *i*, in combination with the post *d*, projecting outwardly from the wall of the case, and the tension-spring C, provided with a bent lip, *b*, at its forward end, adapted to enter the recess *e* in the case, and an opening, *c*, adapted to receive the end of the post *d* when the spring is secured to the case, substantially as and for the purpose set forth.

5. The shuttle-case A for sewing-machines, provided with the open thread-slot *i* and the recess *e*, in combination with the tension-spring C, provided with the bent lip *b* and opening *c*, the post *d*, and the tension-screw *a*, substantially as and for the purpose set forth.

6. The tension-spring C, pivotally secured to the shuttle-case, as set forth, in combination with the shuttle-case provided with an elongated opening, *h*, cut in the wall thereof, said opening lying under the path of the bobbin-thread as it passes from between the tension-plate and the shuttle-case, and thence under the outer edge of the tension-plate, substantially as described, and for the purpose set forth.

7. A shuttle-case for sewing-machines, provided with an elongated opening, *h*, in combination with the post *d*, projecting outwardly from the wall of the case, and the tension-spring C, pivotally secured to the heel of the case and partially closing said opening, substantially as described, and for the purpose set forth.

10,232. RAILROAD-CAR TELEGRAPH. JOSEPH R. FINNEY, Pittsburg, assignor to Thomas B. Kerr, Trustee, Allegheny, Pa. Filed Aug. 23, 1882. Original No. 231,552, dated Aug. 24, 1880.



Claim.—1. The combination of a traveling carriage, an overhead electrical conductor, a traveling contact mounted on and capable of traveling along such conductor, and a branch conductor extending from said traveling contact to the carriage, substantially as and for the purposes described.

2. The device for establishing electrical communication between a traveling railway-carriage and a main telegraph-wire, consisting of the combination of a branch wire connected at one extremity with telegraph-instruments in the carriage, and the other extremity connected with an independent device capable of traveling along the main wire, and an interposed device for taking up the slack of the branch wire.

3. The spring arm or bracket *c*, for supporting the main telegraph-wire on the poles, as constructed, substantially as described, as to yield to any sudden or extraordinary strain, and to permit the traveling carrier of the train-wire to pass along the main wire without obstruction to its electrical connection therewith.

4. The traveling carrier C, consisting of one or more pairs of grooved metallic sheaves connected by a frame, and capable of relative spring motion to and from each other for the purpose of yielding to obstructions, substantially as and for the purpose described.

5. The combination of a traveling carriage, an electrical conductor placed along the line of the track, a traveling contact mounted undetachably, in the direction of the pull of the carriage, on such conductor, and a branch conductor extending from the carriage to and pivotally connected with such contact, substantially as and for the purposes described.

6. The combination of a traveling carriage, an electrical conductor placed along the line of the track, a traveling contact mounted undetachably, in the direction of the pull of the carriage, on such conductor, and an extensible branch conductor connected to both carriage and contact, to allow for variations of distance between the main conductor and the carriage, substantially as and for the purposes described.

7. The combination of a traveling carriage, an electrical conductor placed along the line of the track, a traveling contact mounted undetachably, in the direction of the pull of the carriage, on such conductor, and a flexible branch conductor extending between and connected to said carriage and contact, substantially as described.

8. The combination of an electric conductor having insulated lateral sustaining-brackets, with a traveling contact mounted on and capable of traveling along such conductor, substantially as and for the purposes described.

10,233. OIL-CONDUCTOR FOR CAR-AXLE BOXES. JULIUS DE LONG, Allegheny, Pa. Filed Oct. 6, 1882. Original No. 233,490, dated Aug. 29, 1882.

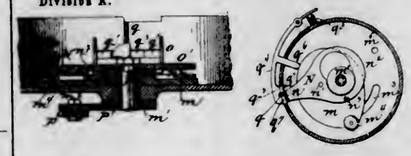
Claim.—1. An oil-conductor for car-axle journal-boxes and similar devices, consisting of animal-hair, substantially as herein shown and described.

2. An oil-conductor for car-axle journal-boxes and similar devices, consisting of animal-hair free from foreign substances and carded, substantially as described.

3. As a new article of manufacture, animal-hair freed from foreign substances and moistened with oil, substantially as described.

4. As a new article of manufacture, animal-hair freed from foreign substances, picked, carded, and oiled, to adapt it for use as an oil-conductor for car-axle boxes, substantially as herein shown and described.

10,234. SEWING-MACHINE. NICHOLAS MEYERS, Buffalo, N. Y., assignor, by mesne assignments, to John M. Fair, same place. Filed Aug. 23, 1882. Original No. 237,990, dated Feb. 22, 1881. Division A.



Claim.—1. In combination with the shuttle-carrier and means for driving it, a hook adapted to operate in conjunction with and at the same side of the needle with which the shuttle of said carrier is adapted to co-operate, and means for adjusting the said carrier and hook relatively, so that either may be made to move in the working-path of motion of the other, as set forth.

2. In combination with the shuttle-carrier, the needle, and a hook mechanism adapted to work at the same side of the needle that the shuttle does, a needle-block which may be varied, substantially as set forth, so as to co-operate either with the needle and shuttle or with the needle and hook.

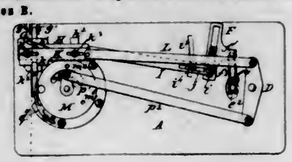
3. The combination, with the circular shuttle-race M, the central rock-shaft, *p*, and suitable mechanism for actuating said shaft, of the adjustable supporting-plate *m*, plate N, provided with hook *n*, plate O', provided with shuttle-carrier O, and devices whereby the plates *m*, N, and O' are connected together, substantially as set forth.

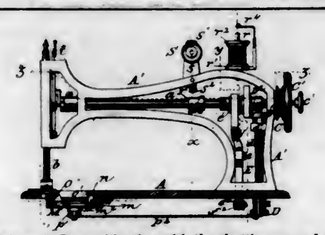
4. The combination, with the shuttle-plate O', provided with groove p^3 p^4, and mechanism whereby an oscillating movement is imparted to the said plate O', of the hook-plate N, provided with pin n^2, substantially as set forth.

5. The combination, with the shuttle-race M, provided with a stationary needle-chamber, *q*, and openings q^3 on both sides thereof, of the movable block q^2 and mechanism for adjusting the same, whereby the openings q^3 can be closed when the shuttle is used and opened when the hook is used, substantially as set forth.

6. The combination, with the shuttle-race M, provided with openings q^3 and the recess q', of the block q^2, lever q^4, having arm q^5, spring q^6, and eccentric plate *m*, substantially as set forth.

10,235. SEWING-MACHINE. NICHOLAS MEYERS, Buffalo, N. Y., assignor, by mesne assignments, to John M. Fair, same place. Filed Aug. 23, 1882. Original No. 237,990, dated Feb. 22, 1881. Division B.





Claim.—1. In combination with the shuttle-race and needle-chamber, an undercut lip or depending tongue, q^3, which performs the function of opening the loop of the needle-thread in the operations for forming a chain-stitch, as set forth.

2. The combination, with the horizontal rotating shaft *a* and vertical shaft *d*, of the spherical eccentric d^3, sliding box d^4, and rock-lever D', provided with open frame D^4, substantially as set forth.

3. The combination of the post *s*, a stationary arbor supported by said post, the tension-wheel S, adapted to turn on said arbor, the brake s', spring s^4, eccentric s^3, and driving-shaft *a*, substantially as set forth.

4. The combination, with the spool-post *r*, provided with a supporting-disk, r', made concave on its upper side, of the loose clamping-disk r^3, provided with tapering hub r^4, and the thread-guide r^4, substantially as set forth.

5. A shuttle having its body U constructed to receive the bobbin or ball of thread, and provided with a notch, u^4, and opening u^3, in combination with the lid u', hinged to the body of the shuttle and provided with a tension-disk, u^2, secured to the hinged lid, a set-screw, and an interposed spring, substantially as set forth.

PHOTO LITH. NORRIS PETERS WASHINGTON D.C.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

DECISIONS OF THE U. S. COURTS.

U. S. Circuit Court---Eastern District of Wisconsin.

NEACY *v.* ALLIS.

Decided August 1, 1882.

1. PATENT NO. 134,653 AND ITS REISSUES CONSTRUED AND HELD NOT TO BE INFRINGED.

Letters patent to Henry W. Dann, No. 134,653, dated January 7, 1873, for an improvement in saw-mill dogs, and reissued September 29, 1874, No. 6,071, and November 9, 1875, No. 6,733, construed, and decided not to be infringed by saw-mill dogs made under letters patent to Beckwith, No. 122,215, dated December 26, 1871, but slightly differing in construction from the dog described in that patent.

2. SAME—REISSUE—ENLARGEMENT OF CLAIM.

The original patent and the first reissue thereof covered the combination, in a saw-mill dog, of bars provided with knives so adjusted as to interlock when entering the wood: The second reissue omitted in one claim the bars and claimed the combination of the knives arranged to move past each other and engage with the log. *Held* that by the second reissue the scope of the original was improperly enlarged.

Messrs. Flanders & Bottum for the complainant.
Mr. W. G. Rainey for the defendant.

DYER, *J.*:

This is a suit in equity to restrain the infringement of Reissue Letters Patent No. 6,733, granted to one Henry D. Dann, November 9, 1875, for an improvement in saw-mill dogs, and for an account of profits, &c.

The original patent was issued January 7, 1873, is numbered 134,653, and was granted to the patentee by the name of Henry D. Donn. The patent was twice reissued. The first reissue was granted September 29, 1874, is numbered 6,071, and the name of the patentee is therein given as H. D. Dann. This suit is brought upon the second reissue.

The specification and claims in the second reissue are as follows:

The nature of my invention consists in the construction and arrangement of a dog for saw-mills, as will be hereinafter more fully set forth.

* * * * * * *

After reference to annexed drawings, the specification proceeds:

A represents the case or box in which the knives constituting the dog move out and in. This box or case may either be bolted to the ordinary standard, or made solid and form the standard, in either case receiving and protecting the knives or spurs which form the dog. It guards the knives from the knots, and also prevents the last board from springing as the knives draw the logs, boards, or scantling firmly to the standard or box. In the case or box are placed two bars, B B, which are held in the same by pins *a a*, passing through the sides of the box and through inclined slots *b b* in the bars. The opposite ends of the bars B B are, by connecting-bars C C, connected with a cross-head, D, which is pivoted between projecting ears on the back of the box, and provided with a lever, E, for operating the same. By the movement of the lever E in one direction, one of the bars B will move up and the other down, and at the same time they will move outward toward the front of the box by the action of the inclined slots *b b* on the pins *a a*. By the movement of the lever in the contrary direction the bars B B will be moved in the opposite direction, and at the same time be moved inwardly from the front of the box. To the front edges of the bars B B are secured the knives *d d*, the points of which are bent outwardly and pointed, as shown. The knives of the two bars point toward each other, so that when the bars are moved outwardly the knives will enter the wood and lock together, preventing the log from slipping down or off from the end of the block, which is often the case when the log is rounded on the under side, when it is to be undogged and turned over.

The pins *a a* may pass through holes in the bars B B, and slide in inclined slots in the bars, as above described, or the same movement of the bars may be effected by means of eccentrics.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent, is—

1. In a saw-mill dog, the combination of the knives *d d*, arranged to move past each other in opposite directions and engage with the log, substantially in the manner set forth.

2. The combination of the box or case A, bars B B, with interlocking knives *d d*, inclined slots *b b*, pins *a a*, connecting-bars C C, cross-head D, and lever E, all constructed and arranged substantially as and for the purposes herein set forth.

The specifications in the original and both of the reissued patents are substantially the same. In the original patent and first reissue the second claim is the same as the second claim in the reissue sued upon; but the first claim in the original and first reissue is for—

1. The bars B B, provided with interlocking knives *d d*, and operating substantially in the manner and for the purposes herein set forth.

The defendant is making a dog under what is known as the Beckwith patent, which is No. 122,215, and was issued December 26, 1871, a date earlier than the issue of Dann's original patent. The Beckwith invention is described in his specifications as consisting—

In constructing the standards with wide bearing-faces for the logs, and in providing each with a central vertical slot or mortise, through which a series of hooks are projected to grasp the log or cant. The lower hook is curved upward to catch into the lower edge of the log next the standard, and the upper hooks are curved downward to catch into the face of the log. The lower hook and the series of upper hooks, therefore, move in opposite directions to grasp the log between them and prevent it from slipping. The hooks are operated simultaneously by a lever from the back of the standard and by a suitable system of connecting-bars. * * * By this arrangement the upper hooks hold the log securely in contact with the lower hook, while the latter holds it firmly against the standard and prevents it from slipping until the last board is sawed. By constructing the standards with a wide face and in arranging the hooks to project through a central slot a broad bearing is formed for the log upon each side of the hooks, so that when the log is reduced to the thickness of two or three boards, the latter are held securely against bending while being sawed.

The specification then proceeds, by reference to accompanying drawings, to designate and point out the different parts of the device. The drawings show several hooks moving downward and but one hook moving upward. The defendant constructs the device which he is manufacturing and selling with several hooks moving upward as well as downward, and herein there is a variation from the form of the device as described in the drawings annexed to the Beckwith patent; but it is plain that the mere addition of hooks, either moving upward or downward, does not constitute invention; and I think that a device made like that invented by Beckwith, with only the variation therefrom of additional hooks moving either way, is protected by the Beckwith patent, if that patent has not been anticipated by inventors claimed to have been

earlier in the field. It is contended by the complainant that although Dann's patent is of a later date than the Beckwith patent, he invented his dog before Beckwith made his invention; hence that the Dann dog must be held to have preceded the Beckwith dog; but I am not satisfied upon the testimony in this case that such is the fact. On the contrary, I am strongly inclined to the opinion, in the light of the testimony here adduced, that Beckwith was in advance of Dann in this line of invention. Then, admitting the Dann dog to be an improvement upon the Beckwith dog, I am not satisfied that the device made and sold by the defendant Allis is an infringement of the Dann mechanism. It is to be noticed that all the several parts constituting these dogs are old. The idea of holding logs or a cant while in the process of sawing by means of hooks or teeth fastened to bars and projected forward into the log or cant was not new when Dann invented his device. It may, I think, be truthfully stated that the prior state of the art was such that the field of invention was circumscribed, and therefore the invention of a new patentee must necessarily be confined strictly to the description of article as set forth in his specifications and claims.

The mechanism of the Dann device and that of the dog made by Allis under the Beckwith patent are in some respects quite similar, but in other material parts are dissimilar. In the Beckwith or Allis dog the teeth are curved into the form of hooks; in the Dann device the teeth have the form of chisels, and are so peculiarly arranged with reference to their connection with the bars that they pass each other or interlock in entering and taking hold of the log or cant. The hooks in the two devices move upon different angles and the manner in which they are fastened to their different attachments is dissimilar. The shape of the hooks in the Dann device and their movement under pressure of the lever is evidently a vital feature of his invention. While in a certain sense the hooks in the Allis dog may pass each other as they are projected into the log or cant, they do not pass each other or exhibit the element of interlocking as do the chisel-teeth in the Dann dog.

While the position was taken on the argument that the defendant's dog is an infringement of the second claim of Dann's second reissue, the court did not understand this to be urged with much confidence, and it seems to me very clear that the Allis dog is not an infringement of that claim. The stress of the case really lies in the first claim of that reissue; and, in view of the fact that in the prior state of the art Dann and claimants under him must be limited to the specific device for which he obtained a patent, and as there are peculiar and marked variations in the construction of the two dogs in question, I am constrained to think that upon the question of infringement the complainant has failed to establish his case. But, apart from the question of infringement, the court is of the opinion that the first claim of Dann's second reissue is void, as showing an unauthorized expansion of the first claim in his original patent and first reissue. In both the original and first reissue the first claim is—

1. The bars B B, provided with interlocking knives *d d*, and operating substantially in the manner and for the purposes herein set forth.

Thus it will be noticed that the invention here claimed consists of the bars provided with interlocking knives and operating as described. The bars described in the specifications, and the knives so adjusted that when they enter the wood they will lock together, are the elements here claimed. Now, in the first claim of the second reissue no reference is made to bars. The word "interlocking" is dropped from the claim, and its language is—

1. In a saw-mill dog, the combination of knives *d d*, arranged to move past each other in opposite directions and engage with the log, substantially in the manner set forth.

Here the claim is made to cover a combination of the knives, that combination being arranged so that the knives will move past each other in opposite directions and engage with the log. Thus it seems to me apparent that in the first claim of the original patent and the first reissue, when considered in connection with the specifications, the means are pointed out by which the interlocking knives are made operative—namely, by means of their connection with bars which are connected with the box or case in the manner set forth in the specifications; but in the first claim of the second reissue bars are dispensed with. What the patentee there claims is merely a combination of knives arranged to move past each other in opposite directions, and this is a claim which certainly covers more ground than the first claim in the original and first reissue.

Under the first claim in the second reissue, so far as its language is concerned, any means may be employed by which there may be such an arrangement of the combination of knives as will enable them to move past each other and engage with the log. It is true, at the end of this claim there are the words "substantially in the manner set forth;" but I do not think these words are equivalent to the words "by the means set forth." The meaning of the claim, as I understand its true construction, is that the combination of knives shall be so arranged as to enable the knives to move past each other and engage with the log in the manner set forth—that is, that they shall pass each other and engage, &c., in the manner set forth. It is not necessary under this claim, as it is under the first claim in the original and first reissue, that the combination of knives shall be arranged, in connection with the bars described, to move past each other in their operation. Any means, under this claim, as I have before stated, for aught that appears in the claim, may be employed in moving the combination of knives so that they shall pass each other, or, as stated in the specifications, "enter the log and lock together;" and I have a strong conviction that this claim was put in this form, not for the mere purpose of avoiding any ambiguity arising from the term "interlocking," which was used in the first claim of the original patent and first reissue, but to broaden, if possible, the scope of Dann's invention and make it cover more than his original patent was intended to cover. It will not be forgotten that the language of the first claim in the first reissue is the same as that of the same claim in the original patent. The original patent was granted in January, 1873, and it was not until November 9, 1875, that the second reissue was obtained, and then the language of the first claim was changed, and thereby, I think, the scope of the patent was extended to an unauthorized degree within the latest rulings of the Supreme Court upon this question.

In the second claim the bars are claimed as part of the combination, and their omission from the first claim and the statement there made, embracing generally and

broadly a combination of the knives arranged to move past each other and engage with the log in the manner set forth, I think, indicate a purpose, by sweeping terms, to make any improvements in the structure of saw-mill dogs occurring after the issue of the original patent subservient to this second reissue, and this the Supreme Court has decisively held cannot be done.

I am of the opinion, therefore, that the first claim of the second reissue, upon which this suit is based, is void, and the bill will be dismissed.

U. S. Circuit Court—Northern District of New York.

PERRY *et al. v.* THE CO-OPERATIVE FOUNDRY COMPANY *et al.*

Decided May 8, 1882.

REISSUES NOS. 6,709, 5,894, 6,206, AND PATENT NO. 183,545 DECLARED INVALID IN PART.

Claim 3 of Reissue No. 6,709 of Letters Patent No. 50,073, to Zebulon Hunt, dated September 19, 1865; claims 4 and 11 of Reissue No. 5,894 of Letters Patent No. 67,283, to Charles H. Frost, dated July 30, 1867; claims 4, 6, 7, 8, and 12 of Reissue No. 6,206, Division A, of Letters Patent No. 100,335, to James Spear, dated January 5, 1875, and claim 2 of Letters Patent No. 183,545, to Andrew Dickey and John S. Perry, dated October 24, 1876, for improvements in stoves, declared invalid.

Mr. Esek Cowen and *Mr. S. A. Duncan* for the complainants.

Mr. B. F. Thurston, Mr. Chas. Howson, and *Mr. Theodore Bacon* for the defendants.

BLATCHFORD, *J.*:

This suit is brought on four patents: (1.) Reissue Letters Patent No. 6,709, granted to Perry & Co., assignees of Zebulon Hunt, October 19, 1875, for an improvement in coal-stoves, the original patent, No. 50,073, having been granted to Zebulon Hunt as inventor September 19, 1865. (2.) Reissue Letters Patent No. 5,894, granted to John S. Perry, assignee, June 2, 1874, for an improvement in stoves, the original patent, No. 67,283, having been granted to Charles H. Frost as inventor July 30, 1867. (3.) Reissue Letters Patent No. 6,206, Division A, for an improvement in base-burning stoves, granted to James Spear, January 5, 1875, the original patent, No. 100,335, having been granted to said Spear as inventor March 1, 1870, and reissued to him in two divisions, Nos. 5,459 and 5,460, June 17, 1873, and again reissued in two divisions January 5, 1875, No. 6,206, Division A, and No. 6,207, Division B. (4.) Letters Patent No. 183,545, for an improvement in heating-stoves, granted to Andrew Dickey and John S. Perry as inventors October 24, 1876.

(1.) As to the Hunt patent, the only claim alleged to have been infringed by the defendants is claim 3. That claim is this:

3. The adjoining flues D and D', situated at the rear of the stove, and having walls built on the casing of the same, in combination with the illuminating doors or windows in the draft-chamber base-section.

It is clear that this is not a patentable combination. The flues operate in the same manner, whether there are illuminating-windows in the place designated or not, and the operation of such windows is the same whether the flues are arranged as described or not. The case is within the principle decided in *Hailes* v. *Van Wormer*, (20 Wall., 353, 368;) *Reckendorfer* v. *Faber*, (92 U. S., 347, 357,) and *Pickering* v. *McCullough*, (Supreme Court U. S., No. 155, October Term, 1881.)

(2.) As to the Frost patent, the original patent contained only one claim, as follows:

So arranging the cylinder *a* and the direct and indirect draft openings and passages that the said cylinder becomes an ascending channel for the escape of the products of combustion when the draft is direct, and a descending channel for the supply of air to the fire when the draft is indirect, substantially as set forth.

The reissue has fifteen claims. A disclaimer of claims 2, 3, and 9 of the reissue has been filed. Infringement is alleged of claims 4 and 11, which are as follows:

4. A grate or fire-bed with its central and outer sections made separately, and placed in a plane below the base of the fire-pot or combustion-chamber proper, within the draft-chamber base-section, and isolated from the walls of the same, substantially as shown and described.

11. The combination of mica or other transparent windows in the walls of the draft-chamber base-section, a grate or fire-bed placed in a plane below the base of the fire-pot or combustion-chamber proper, the free open-space formed between the same, and the said grate or fire-bed isolated from the walls of the said draft-chamber base-section, substantially as shown and described.

It is shown that prior to Frost's invention fire-grates with their central and outer sections made separately existed, and grates made in one part existed, and grates not touching the walls of the chamber in which they were placed existed, and grates arranged with relation to the fire-pot so as to leave an anti-clinker opening above the grate and below the base of the fire-pot existed, and grates of larger area than that of the base of the fire-pot existed, and illuminating-windows in various parts of the walls of a stove existed. Claim 2, so disclaimed, covered the same combination as claim 4, omitting the feature of the separation of the central and outer sections of the grate. There was no invention in substituting in the given combination an old grate made in two parts for another old grate made in one part, preserving the same relation of the grate to the fire-pot and to the ash-pit walls when no distinctive effect in the combination resulted from the substitution. That is this case as to claim 4. As to claim 11, it is for the combination of transparent windows in the walls of the ash-pit with the disclaimed arrangement in claim 2. A window in an ash-pit cannot modify or affect the action or operation of the grate or of the anti-clinker space or the isolation of the grate, nor is the operation or use of the windows affected or modified by the existence or non-existence of any of those features. There was no invention in claim 11.

(3.) As to the Spear patent, the claims alleged to have been infringed are claims 4, 6, 7, 8, and 12, which are as follows:

4. The combination of a fire-chamber having its clinker-discharge end E grated or illuminating and projecting downward within the air-chamber S, a grate-surface or fire-bed projecting beyond the inside diameter of the slate and clinker-discharge end of the fire-chamber, and the clinker-cleaning opening R, substantially as herein described.

6. The combination of the vertical clinker-cleaning opening R and mica lights d^2 in doors opposite the opening, substantially as herein described.

7. The combination of the vertical clinker-cleaning opening R, mica lights d^2, and clinker-cleaning doors C, opposite the opening, substantially as herein described.

8. The combination of a fire-chamber, the clinker-cleaning opening R, between the fire-chamber and grate-surface, clinker-cleaning doors C, opposite the said opening, and mica lights d^1, opposite the illuminating-section E of the fire-chamber, substantially as described.

12. The combination of a fire-chamber having its slate and clinker discharge end contracted and projecting downward, a grate-ring, K, and a clinker-cleaning opening, R, above the ring, substantially as herein described.

There existed in prior structures a fire-chamber having its clinker-discharge end grated or illuminating end projecting downward into an air-chamber, a grate-surface or fire-bed projecting beyond the inside diameter of the clinker-discharge end of the fire-chamber, and a clinker-cleaning opening between the grate-surface and the fire-chamber above it. There also existed be-

fore in combination a fire-chamber with its non-grated clinker-discharge end projecting downward into an air-chamber, a grate-surface or fire-bed projecting beyond the inside diameter of the clinker-discharge end of the fire-chamber, and a clinker-cleaning opening between the grate-surface and the fire-chamber above it. It was no invention to substitute in such combination for a fire-chamber with its clinker-discharge end non-grated a fire-chamber with a grated clinker-discharge end. The substitution worked no change in the operation of the laterally-projecting grate-surface end of the clinker-cleaning opening in unison with a fire-chamber having its clinker-discharge end projecting downward into the air-chamber. This makes claim 4 invalid.

As to claims 6, 7, and 8, there is no patentable combination between the mica lights and the other elements in those several claims.

Claim 12 remains to be considered. The clinker-cleaning opening is made by having a grate-ring and a space above it between it and the lower end of the fire-pot. The main idea embodied in the claim is the inward contraction of the lower end of the fire-pot. The specification says that the inventor, instead of making the lower section of the fire-chamber cylindrical, makes its clinker-discharge end smaller in diameter than the fire-pot above, so that he can use a broad laterally-projecting grate-surface without enlarging the air-chamber below, into which such clinker-discharge end projects downwardly, to the extent that would be necessary were the fire-pot of the same diameter throughout. The proofs show several prior instances of fire pots with their clinker-discharge ends contracted and projecting downwardly, and provided with fire beds or grates of less area than would have been necessary if the area of the base of the fire-pot had been equal to its area above, and of grates larger in area than the fire-chamber above, with a clinker-cleaning opening between the grate and such fire-chamber. Contracting the fire-pot necessarily allows the grate to be contracted and makes more space than there otherwise would be between the outer circumference of the grate and the wall of the chamber. There is no relation or coaction between the contracted lower end of Spear's fire-pot and the laterally-projecting grate and the space outside of the grate which did not exist between the lower ends of the uncontracted fire-pots and the projecting grates and the outside spaces in prior structures. In view of all this there was no patentable invention in the idea that contracting the lower end of the fire-pot, with the consequent lessening of the area of the grate, would enlarge the outside space.

(4.) As to the Dickey and Perry patent, the only claim alleged to have been infringed is claim 2, which is as follows:

2. The combination of ascending and descending flues placed in the rear of a stove, a free open space between the top of the grate and the lower end of the fire-pot sufficiently large to permit the removal of clinkers and other obstructions, illuminating-windows opposite said space, and a grate or fire-bed having an open space between it and the walls of the stove to admit of clinkers and other obstructions being dropped between the grate and said walls of the stove into the ash-pit, substantially as described.

This claim is merely for an aggregation of prior reversible flues with the other three features before existing in unison in the same stove—namely, an anti-clinker opening, mica windows, and an isolated grate, and does not contain any patentable invention. The last-named three features operate together in the same way in a stove without reversible flues and in a stove with them, and no combined patentable result is due to the union.

The bill is dismissed, with costs.

PERRY *et al. v.* THE CO-OPERATIVE FOUNDRY COMPANY *et al.*

Decided May 8, 1882.

CLAIMS 1 AND 4 OF REISSUE NO. 9,247 AND CLAIM 1 OF REISSUE NO. 9,252 DECLARED INVALID.

Claims 1 and 4 of Reissue No. 9,247 of Letters Patent No. 54,938, to George R. Moore, dated May 22, 1866, and claim 1 of Reissue No. 9,252 of Letters Patent No. 89,304, to Calvin Fulton, dated April 27, 1869, for improvements in stoves, declared invalid.

Mr. Esek Cowen and *Mr. S. A. Duncan* for the complainants.

Mr. B. F. Thurston, *Mr. Chas. Howson*, and *Mr. Theodore Bacon* for the defendants.

BLATCHFORD, *J.*:

This suit is brought on two patents: (1.) Reissue Letters Patent No. 9,247, granted to John S. Perry and Grange Sard, Jr., trustees, June 8, 1880, for an improvement in stoves, the original patent, No. 54,938, having been granted to George R. Moore as inventor May 22, 1866, and having been reissued as No. 6,732 November 9, 1875. (2.) Reissue Letters Patent No. 9,252, granted to John S. Perry and Grange Sard, Jr., trustees, June 15, 1880, for an improvement in stoves, the original patent, No. 89,304, having been granted to Calvin Fulton as inventor April 27, 1869, and having been reissued as No. 5,907 June 9, 1874.

(1.) As to the Moore patent, the claims alleged to have been infringed are claims 1 and 4, which are as follows:

1. The combination, with the grate or fire-bed of a stove, of a downwardly-contracted fire-pot, the two being so arranged relatively to each other as to leave an opening between them, substantially as and for the purpose set forth.

4. The combination, in a stove, of a downwardly-contracted fire-pot and a dumping-grate, the two being arranged relatively to each other, so as to leave an opening between them, substantially as and for the purpose set forth.

These claims, in view of what existed before, show no patentable invention. An anti-clinker opening between a dumping-grate and the bottom of the fire-pot above it, with the grate larger in area than such bottom, existed before. Downwardly-contracted fire-pots existed before. There was no invention in combining an old downwardly-contracted fire-pot with an old anti-clinker opening and dumping-grate. The whole idea is in the anti-clinker opening. No new or different effect in the combination which results in such opening exists when the fire-pot above is contracted downwardly from that which exists when the fire-pot above is cylindrical.

(2.) As to the Fulton patent, the only claim insisted on at the hearing as having been infringed is claim 1, which is as follows:

1. A stove-grate so constructed and arranged relatively to the fire-chamber or fuel-receptacle as to leave between the two and around the edge of the grate a free open-space end to permit of the removal of clinkers and other refuse through such space by use of the ordinary poker or slicer, substantially as described.

An anti-clinker opening between a dished grate and a fire-pot existed before, and also a flat grate. All that the patentee did was to substitute a flat grate for a dished grate in the arrangement. The relation between the grate and the bottom of the fire-pot, so as to leave the space between the two and the space around the edge of the grate is the same in the two arrangements. The only difference is one of degree as to the quantity of refuse which the rotation of the grate or the use of the poker will discharge, or one of convenience as to the character of the poker which will be used, and does not involve invention.

The bill is dismissed, with costs.

THE
OFFICIAL GAZETTE
OF THE
United States Patent Office.
[BY AUTHORITY OF CONGRESS.]

VOL. 22—No. 20. TUESDAY, NOVEMBER 14, 1882. PRICE—$5 per year

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Erratum.

OFFICIAL GAZETTE, November 14, 1882, Volume 22, page 1637, Patent No. 267,364, in title, after name and residence of inventor, for "assignor to Moses Harris" read *assignor, by mesne assignments, to The National Automatic Piano and Organ Manufacturing Company.*

Issue of November 14, 1882.

Patents	345	No. 267,314 to No. 267,658, inclusive.
Designs	35	No. 13,403 to No. 13,437, inclusive.
Trade-Marks	14	No. 9,799 to No. 9,812, inclusive.
Labels	14	No. 2,801 to No. 2,814, inclusive.
Reissues of patents	7	No. 10,236 to No. 10,242, inclusive.
Total issue	415	

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks and Labels.	States.	Patents and Designs.	Trade-Marks and Labels.
Alabama	2	.....	Nebraska	.....	.....
Arizona Territory	1	.....	Nevada	.....	.....
Arkansas	.....	.....	New Hampshire	1	.....
California	5	.....	New Jersey	18	.....
Colorado	3	.....	New Mexico Territ'y	.....	.....
Connecticut	10	.....	New York	84	5
Dakota Territory	.....	.....	North Carolina	2	.....
Delaware	1	.....	Ohio	53	4
District of Columbia	1	.....	Oregon	1	.....
Florida	1	.....	Pennsylvania	37	5
Georgia	3	.....	Rhode Island	4	.....
Idaho Territory	.....	.....	South Carolina	.....	1
Illinois	31	6	Tennessee	2	.....
Indiana	10	.....	Texas	3	.....
Indian Territory	.....	.....	Utah Territory	1	.....
Iowa	6	1	Vermont	1	.....
Kansas	.....	1	Virginia	2	.....
Kentucky	3	.....	Washington Territ'y	.....	.....
Louisiana	2	.....	West Virginia	.....	.....
Maine	5	.....	Wisconsin	7	.....
Maryland	3	1	Wyoming Territory	.....	.....
Massachusetts	21	1	United States Army	.....	.....
Michigan	15	.....	United States Navy	.....	.....
Minnesota	4	1			
Mississippi	.....	.....	Total to citizens of the United States	351	26
Missouri	7	.....			
Montana Territory	1	.....			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks and Labels.	Countries.	Patents and Designs.	Trade-Marks and Labels.
Australia	.....	.....	France	2	.....
Austria	4	.....	Germany	3	1
Barbadoes	.....	.....	Hayti	1	.....
Belgium	.....	.....	Italy	.....	.....
Bermuda	.....	.....	New Zealand	1	.....
Brazil	.....	.....	Russia	.....	.....
Canada	7	.....	Spain	.....	.....
Chili	.....	.....	Sweden	.....	.....
Colombia, U. S. of	.....	.....	Switzerland	1	.....
Cuba	1	.....			
Denmark	.....	.....	Total to citizens of foreign countries	29	2
Ecuador	.....	.....			
England	9	1			

DESIGNS.

13,403.—SHAVING-MUG.—*Herman Griebel*, Chicago, Ill., assignor to *Theodore A. Koche*, same place. Application filed October 13, 1882. Term of patent 3½ years.

13,404.—CALENDAR.—*Clarence S. Nathan*, New York, N. Y. Application filed October 2, 1882. Term of patent 7 years.

13,405.—CHAIR.—*Henry H. Paine*, Philadelphia, Pa. Application filed July 3, 1882. Term of patent 14 years.

13,406 and 13,407.—WHIFFLETREE-PLATE.—*John L. Pope*, Cleveland, Ohio. Applications filed August 24, 1882. Term of patents 14 years.

13,408 to 13,414, inclusive.—WEAR-IRON.—*John L. Pope*, Cleveland, Ohio. Applications filed August 2, 1882. Term of patents 14 years.

13,415 to 13,429, inclusive.—CARRIAGE-STEP.—*John L. Pope*, Cleveland, Ohio. Applications filed August 2, 1882. Term of patents 14 years.

13,430 and 13,431.—CARRIAGE-WRENCH.—*John L. Pope*, Cleveland, Ohio. Applications filed August 2, 1882. Term of patents 14 years.

13,432.—SPRING AND AXLE BLOCK.—*John L. Pope*, Cleveland, Ohio. Application filed August 2, 1882. Term of patent 14 years.

13,433.—SPRING AND AXLE BLOCK.—*John L. Pope*, Cleveland, Ohio. Application filed August 24, 1882. Term of patent 14 years.

13,434 and 13,435.—WRENCH.—*John L. Pope*, Cleveland, Ohio. Applications filed August 2, 1882. Term of patents 14 years.

13,436.—DRESSING-COMB.—*John P. Stepp*, College Point, assignor, by mesne assignments, to *The Ansonia Rubber Company*, New York, N. Y. Application filed September 9, 1880. Term of patent 7 years.

13,437.—COFFIN-SCREW.—*Joseph B. Sargent*, New Haven, Conn., assignor to *Sargent & Co.*, same place. Application filed October 14, 1882. Term of patent 14 years.

TRADE-MARKS.

[Certificates of registration of Trade-Marks numbered 8,191 and upward are registered under the act of March 3, 1881.]

9,799.—CERTAIN DRY-GOODS.—*Reuben Z. Cassell*, Dayton, Ohio. Application filed September 21, 1882.
"The picture of a sunflower."

9,800.—BOOTS AND SHOES.—*George C. Courtright*, Scranton, Pa. Application filed September 29, 1882.
"Three (3) rows of diamond-shaped nails driven in the bottom or sole of a boot or shoe, so as to form a circular wreath."

9,801.—DRESS-SILKS.—*Passavant & Co.*, New York, N. Y. Application filed September 14, 1882.
"The pictorial representation of two balloons."

9,802.—DAIRY SUPPLIES.—*The Antitropic Company*, London, England. Application filed October 13, 1882.
"Two cows' heads, one on each side of a circle."

9,803.—PNEUMATIC DOOR-CHECKS.—*Elliott Pneumatic Door Check Company*, Boston, Mass. Application filed October 19, 1882.
"The word 'SILENCE' when accompanied by the symbol of a mailed arm whose hand grasps the hilt of a cimeter."

9,804.—COTTON-DUCK.—*William E. Hooper & Sons*, Baltimore, Md. Application filed September 27, 1882.
"The arbitrary collocation of words 'WOODBERRY U. S. ARMY' in any position or in any style, form, or color of lettering."

9,805.—CANNED GOODS.—*Albert Nelson Lewis*, Philadelphia, Pa. Application filed October 10, 1882.
"A landscape, the representation of a house, and a device encompassed by thirteen stars."

9,806.—FLOUR.—*José Menéndez & Bro.*, New York, N. Y. Application filed October 17, 1882.
"The words 'LA FLORDE LAS ANTILLAS.'"

9,807.—WATCH-MOVEMENTS.—*Elgin National Watch Company*, Chicago, Ill. Application filed April 28, 1881.
"The word and abbreviation 'ELGIN, ILL'S.'"

9,808.—WATCH-MOVEMENTS.—*Elgin National Watch Company*, Chicago, Ill. Application filed April 29, 1881.
"The words and abbreviation 'ELGIN WATCH CO.'"

9,809.—WATCH-MOVEMENTS.—*Elgin National Watch Company*, Chicago, Ill. Application filed April 28, 1881.
"The words and abbreviation 'ELGIN NATIONAL WATCH CO.'"

9,810.—WATCH-MOVEMENTS.—*Elgin National Watch Company*, Chicago, Ill. Application filed April 29, 1881.
"The word 'ELGIN.'"

9,811.—CIGARS.—*Sanchez & Haya*, New York, N. Y. Application filed October 13, 1882.
"The representation of a club, consisting of figures, (having the head of an owl and the body of a man,) gathered together, talking and smoking, and the words 'OWL CLUB' printed above the head of one of the figures, (placed in a circle,) addressing his companions as the orator of the evening."

8,812.—PRINTED PUBLICATION.—*Basil M. Wilkerson*, New York, N. Y. Application filed September 23, 1882.
"The words 'GLOBE BRIEF.'"

LABELS.

2,801.—Title: "WEST END DRUG STORE."—*D. T. Bacot & Co.*, Greenville, S. C. Application filed October 6, 1882.

2,802.—Title: "COOK'S CRYSTAL BITTERS."—*Henry D. Cook*, Philadelphia, Pa. Application filed July 3, 1882.

2,803.—Title: "CALCIUM OIL."—*Isaac Davis*, Dayton, Ohio. Application filed October 14, 1882.

2,804.—Title: "UNCLE SAM'S CONDITION POWDERS."—*Emmert Proprietary Company*, Chicago, Ill. Application filed July 6, 1880.

2,805.—Title: "ENGLE'S NEW ROLLER MILLS."—*Engle & Co.*, Austin, Minn. Application filed August 31, 1882.

2,806.—Title: "NEW PROCESS CIGARS."—*Thaddeus C. Grange*, Philadelphia, Pa. Application filed September 1, 1882.

2,807.—Title: "CHRYSO CORN CURE."—*Norman Lichty*, Des Moines, Iowa. Application filed May 25, 1881.

2,808.—Title: "LEIS DANDELION TONIC."—*Leis Chemical Manufacturing Company*, Lawrence, Kans. Application filed August 29, 1882.

2,809.—Title: "GLUCINUM."—*Leon Isaacs & Co.*, Philadelphia, Pa. Application filed October 18, 1882.

2,810.—Title: "DR. TOPPING'S ALTERATIVE AND CATHARTIC SYRUP."—*J. J. Lord*, Springfield, Ill. Application filed September 7, 1882.

2,811.—Title: "TRANSPARENT CRYSTAL SOAP."—*Wilhelm Rieger*, Frankfort-on-the-Main, Germany. Application filed March 21, 1882.

2,812.—Title: "AUNT KITTY'S CORN KILLER."—*Oscar C. Weinman*, New York, N. Y. Application filed October 3, 1882.

2,813.—Title: "RATAN MOUTH PIECE."—*Ettinger & Wilson*, Cleveland, Ohio. Application filed May 22, 1882.

2,814.—Title: "PATTI CIGARETTES."—*Ettinger & Wilson*, Cleveland, Ohio. Application filed May 22, 1882.

PATENTS

GRANTED NOV. 14, 1882.

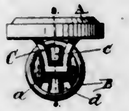
267,314. LEAD OR CRAYON HOLDER. LEWIS ABRAHAM, Washington, D.C. Filed Feb. 1, 1882. (No model.)



Claim.—1. In a lead or crayon holder, the combination of the curved leaf-springs C, provided with clamping-jaws *c*, with the plungers D D', the latter having guiding-grooves *g*, connected together and to cap E by rods *d e*, substantially as described.

2. In a pencil-case, the combination of the tubular sheath A, having open-ended ferrule B, and bowed springs C, provided with clamping-jaws *c*, with the plungers D D', rods *d e*, cap E, and spiral spring *f*, substantially as described.

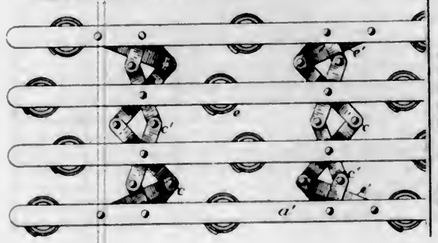
267,315. BUTTON OR STUD. GEORGE E. ADAMS, Providence, R.I. Filed Aug. 10, 1882. (No model.)



Claim.—1. A sleeve-button composed of a top having a post rigidly secured thereto, said post being provided with suitable pivots, a hinged shoe inclosing a spring adapted to bear against the end of said post, and a perforated cap-plate having oppositely-located elevations, with depressions formed in the angles thereof, and vertical edges turned downward from the inner or concave surfaces of such elevation, said edges being provided with notches designed to engage with the pivots of the post, all substantially as shown and described.

2. In a sleeve button or stud, the combination of the top A, slotted post C, having arms *c c*, the hinged shoe B, spring E, and perforated cap-plate D, having oppositely-located elevations *a a* and *c c*, and depressions *d*, located in the angles formed by said elevations, and vertical edges provided with notches *b b*, for engaging with the post, substantially as shown and described.

267,316. MATTRESS. ABRAM Q. ALLIS, New York, N.Y. Filed June 30, 1882. (No model.)

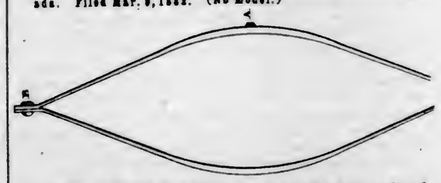


Claim.—1. A spring-mattress composed of a series of parallel slats, *a*, forming the bottom, and a like number of parallel slats, *a'*, forming the top, and having between them the coil-springs *c*, in combination with the jointed arms attached to the top and bottom row of parallel slats, as described and specified.

2. In a spring-mattress, the combination of the parallel slats *a* and *a'* with the long jointed arms *c*, attached to the bottom slats, the short jointed arms *c'*, attached to the top slats, the coil-springs *c*, and the corner-bracing springs *c'*, all as described, and for the purpose set forth.

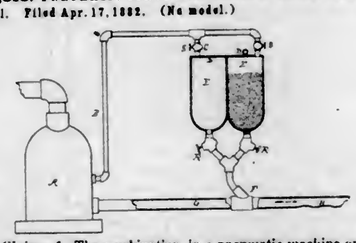
3. The slats *a* and *a'*, in combination with the long jointed arms at the bottom and shorter jointed arms at the top, the coil-springs *c*, and the bracing-springs *c'*, having one end secured to the lower jointed arm and the other end secured to the top outside slat, as described and specified.

267,317. SPRING. JOHN B. ARMSTRONG, Guelph, Ontario, Canada. Filed Mar. 9, 1882. (No model.)



Claim.—A single-plate elliptic spring having holes re-enforced by a boss or thimble to receive the fastening-bolts, said holes being so punched that the grain of the stock at the hole is turned at or about at right angles to the spring, whereby the spring is strengthened at the holes, substantially as described.

267,318. PNEUMATIC CONVEYER. JAMES W. BEACH, Chicago, Ill. Filed Apr. 17, 1882. (No model.)



Claim.—1. The combination, in a pneumatic machine or apparatus, of a tube or pipe, G, through which a current of air is passed toward the receiver K at great velocity, and into which current, in limited quantities, at a point distant from the point of ingress of the air, is introduced or projected the mail-matter, flour, grain, or other article to be transported.

2. In a pneumatic apparatus, the combination of a pneumatic pipe or tube through which a current of air is passing with great velocity in the direction of the receiver K, the bins or hoppers E E, located at a distance from the point of ingress of the air into the tube G, and communicating therewith, the pipe B, Fig. 1, with stop-cocks *s s* and valves or slides D.

3. The uneven wave-like and undulating interior of the pipe, indented or raised and indented between the point F (and at a distance therefrom) and the point L.

4. The causing of an upward or side or both upward and side trend or current of air in the pipe G by means of the uniform unevenness (at any required point) of the interior of the pipe, causing the air in passing at regular intervals to be compressed, giving the article in transit such new impetus and direction in its flight as may be desired.

5. The exhaust-pipes I I, connecting with said tube G and receiver K, respectively, and having their ends protected by screens or bars so arranged as to draw the air from said pipe G and receiver K, respectively, as nearly in the line from which the article in transit arrives as is practicable, the exit of the air being from the direction of the receiver, leaving the article in transit by its momentum to enter and settle into the receiver K.

6. The combination of the receivers K K with the discharge-pipe M and switch N, discharging into the pipe G' into a current of air moving with great velocity through said pipe G' from the point of ingress, (for said air,) and the reservoir A, the renewing of the momentum first imparted by means of the helper or pipe G', through which a current of air is impelled at great velocity.

7. In a pneumatic machine or apparatus, the combination of the reservoirs A A, the pipe B, connecting with the bins or hoppers E E, (with valves D,) and valves R R, connecting (at a point distant from the reservoir A) with the pipe G, through which a continuous current of air is propelled with or moving with exceeding great velocity toward the receiver K, and into which rapidly-moving current in said tube G grain, flour, the mails, or other article to be transported is introduced in limited but continuous quantity through the pipe F, and kept from the sides and bottom of said pipe G through the current of air created by suitable indentations or projections or both in the interior of the tube until the said article reaches the receiver K, and, further, the combination aforesaid, together with the receivers K K, with switch N and discharge-pipe M, connecting with the pneumatic pipe G', connecting with the reservoir A and like exhaust-pipes I I and apparatus and like receivers.

8. A pneumatic pipe with the interior surface thereof lined or coated with paper, wax, or other elastic substance.

9. The transmitting or transporting in suspension through the pipe (pneumatic pipe G) of the article to be transported—grain, flour, &c.—by the inertia of moving air passing through the tube with terrific velocity over its uniform undulating—either raised or indented, or both—interior or part thereof, and causing at any given point or points in said pipe a current of air to move in any desired direction or trend by the same means.

10. The introduction into a continuous current of rapidly-moving air or other elastic fluid (at a point distant from the point of ingress thereof) of a continuous and limited quantity of flour, grain, or other article to be transported, all substantially as set forth.

267,319. GALVANIC BATTERY. ARON BERNSTEIN, Berlin, Germany. Filed Sept. 27, 1882. (No model.)



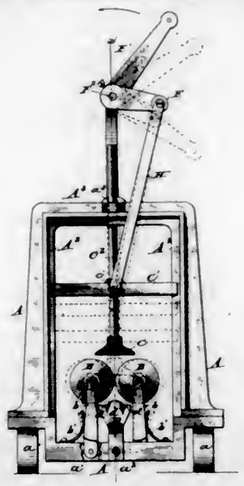
Claim.—1. In a galvanic element, a positive electrode consisting of the amalgam of an alkali metal, in combination with an envelope serving as diaphragm and made of a fabric not affected by the exciting-liquid—such as a fabric of vegetable fibers—and which is impregnated with a caustic alkaline solution, substantially as and for the purpose described.

2. A galvanic element composed of a flat negative electrode, and a positive electrode consisting of a plate of amalgamated alkali metal and inclosed in an envelope having the nature and prepared as described, both electrodes being placed horizontally and so as to be both in contact with the said envelope, substantially as specified.

267,320. PEACH-STONER. ISAAC F. BETTS, Wilmington, Del. Filed Aug. 16, 1882. (No model.)

Claim.—1. In a peach-stoner, the combination of a plunger, pivoted automatically-moving knives supported independently of

267,320.



the plunger, and side-cutting knives arranged below the plunger, for the purpose set forth.

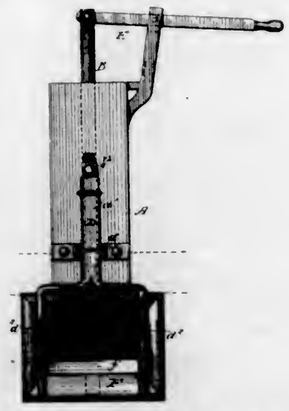
2. In a peach-stoner, the combination, with a plunger having a concave head, of pivoted automatically-moving rotary knives and of side-cutting spring-knives arranged below the plunger, for the purpose set forth.

3. In a peach-stoner, the combination, with a plunger having a concave head and wedge-shaped slots, of pivoted automatically-moving knives and of side-cutting spring-knives arranged below the plunger, for the purpose set forth.

4. In a peach-stoner, a plunger having wedge-shaped slots provided with knife-sharpeners, for the purpose set forth.

5. In a peach-stoner, pivoted knives arranged in pairs, having their cutting-edges facing each other, but on opposite sides of a median longitudinal line, as set forth.

267,321. CAR-COUPLING. GEORGE I. BLACKLEY and JOHN I. NICHOLSON, Greenville, and HARVEY A. HOLLOMAN, White Rock, assignors of one-fourth to Thomas C. Ready and Anderson J. Beesley, Hunt County, Tex. Filed Mar. 12, 1882. (No model.)

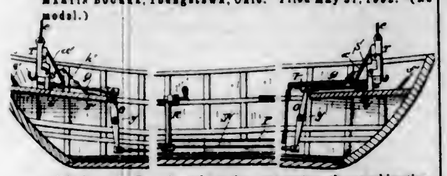


Claim.—1. The combination, with the draw-head F, provided with the slot *e* and slotted frame A, secured to the upper face of the draw-head, of the coupling-pin B, provided with the projection *b* and spring C, substantially as described, and for the purpose set forth.

2. The combination, with the draw-head F and slotted frame A, secured to the upper face of the draw-head, and the coupling-

pin B, provided with the stud *b'* and spring C, of the frame D, pivoted to the frame A by a coiled spring, *d*, and provided at its upper end with the arm *d'* and its lower end with the arms *d''*, substantially as described, and for the purpose set forth.

267,322. BOAT LOWERING AND DETACHING APPARATUS. MARTIN BOURKE, Youngstown, Ohio. Filed May 31, 1882. (No model.)



Claim.—1. In a boat-lowering apparatus, the combination, with the clutches T, constructed substantially as described and shown, of the standards S, having braces *a'*, and the bolts Q, passing through said standards and braces, and having thereon stops *b'*, constructed to operate substantially as and for the purpose set forth.

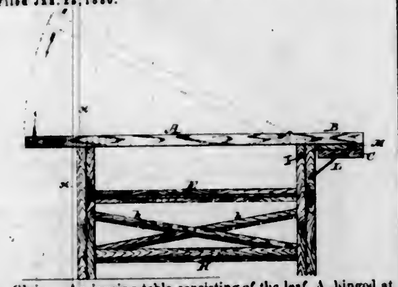
2. The combination, with the standard S, having elbow *i'* upon its front side, of the clutch T, having connected to it, near its lower end, a spring tripping device, U, operating, in connection with the shoulder, to automatically force down the clutch and disengage it from the standard, substantially as and for the purpose specified.

3. In a boat-lowering apparatus, the combination, with the clutches T, constructed, substantially as shown and described, of the standards S, and bolts Q passing through them, and pins *g'*, connected to said standards by suitable cords or chains, and employed to hold the clutch engaged with the standard by passing through holes therein, substantially as and for the purpose specified.

4. In a boat-lowering apparatus, the clutches T, provided with spring tripping devices U, and the standards S, having bolts Q passing through them, with stops *b'* thereon, in combination with the swinging cranes, davits, or arms C, the ropes or falls *e*, and a suitable windlass mechanism, substantially as and for the purpose set forth.

5. In a boat-lowering apparatus, the combination, with the clutches T, provided with spring tripping devices U, and the standards S, arranged at or near each end of the boat, and having bolts Q passing through them, of two swinging cranes, davits, or arms, C, supporting the ropes or falls *e*, and a windlass mechanism having two drums around which the ropes pass, each drum adapted to operate independently of the other, substantially as and for the purpose specified.

267,323. IRONING-BOARD. MYRA BUSHINGHAM, Oradell, N.J. Filed Jan. 23, 1880.

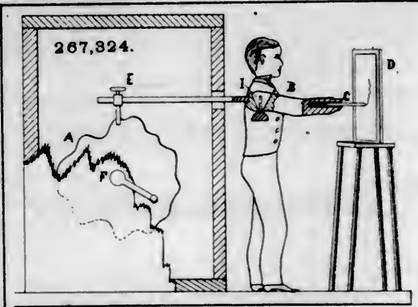


Claim.—An ironing-table consisting of the leaf A, hinged at one end to a stationary platform, B, which supports a drawer, the two pairs of cross-legs D, pivoted to the opposite ends of a horizontal connecting-bar, and having tenons at their top ends which are received in mortises in the hinged leaf and the platform, the bars and braces H *h* connecting the two pairs of legs, the hooked arms for connecting the upper ends of the legs in pairs, and the hooked arm I, for connecting the legs of one pair with the platform that carries the drawer, said members being all constructed and organized substantially as described.

267,324. AUTOMATIC TOY. LEE S. BOSSIDOR, New York, N.Y. Filed Apr. 17, 1882. (No model.)

Claim.—1. As a means for producing drawings automatically, a plate the edge of which is provided with indentations and curvatures, substantially as shown and described.

267,324.

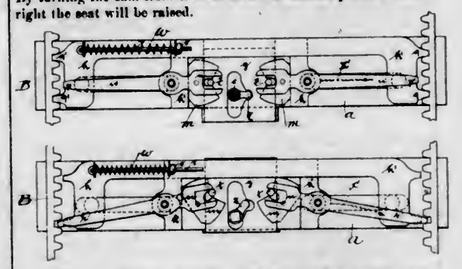


2. As a means for producing drawings mechanically, a plate grooved on the surface, substantially as shown and described.

3. In combination with any of the plates A, an arm or lever provided with a pencil on one end and a fork or point on the other, and hinged, substantially as shown and set forth.

267,325. MUSIC-STOOL. EDOUARD CALIX, Zurich, Switzerland. Filed June 6, 1882. (No model.)

Brief.—Two metal plates are secured to the seat-frame, each being provided with dovetail grooves, perforations, and slots. Two bolts, whose ends overlap each other, are adapted to slide back and forth in these plates, and are provided with studs, which work in the slots in the plates. These bolts have on their inner ends downward projections, on which are pivoted levers, and at their outer ends teeth for engaging with the racks. The racks slide vertically in the dovetail grooves in the fixed plates and carry the seat. The levers are bifurcated at their inner ends, and at their outer ends are shaped to engage with the racks. A central sliding plate, slotted and worked by a cam and key, is provided with studs for engaging with the bifurcated levers and with notched cam-blocks, which are pivoted on the stationary plates. When the key-cam is turned to the left the central plate is raised, its pins first turning the cam-blocks and retracting the bolts against the action of springs, which movement of the bolts thrusts outward the levers, causing them to engage with the racks. A further turn of the key-cam tilts the levers, moving downward the racks, and lowering the seat. A half-turn backward of the key-cam withdraws the levers and allows the bolts to lock the racks. A repetition of this movement of said cam will further lower the seat. The key-cam must always be left in a horizontal position to lock the seat. By turning the cam from the horizontal or normal position to the right the seat will be raised.



Claim.—1. The combination, with the seat-frame, of the plates *a b*, constructed as described, of the slides *g g*, having the pins *t t*, means for raising and lowering said slides, the pivoted blocks *m m*, and the laterally-moving bolts *k k'*, substantially as described.

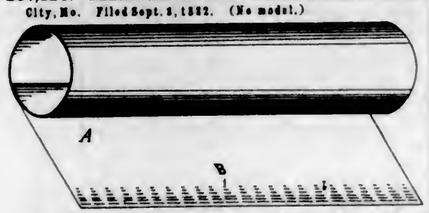
2. The combination, with the seat-frame, of the plates *a b*, constructed as described, of the vertically-moving slides *g g*, having the pins *t t*, the rotatable cross-shaft and the cams upon it for co-operating with said slides, the laterally-moving bolts, the levers *n' n'*, pivoted to the laterally-moving bolts, and the racks depending from the seat proper, the whole constructed and operating substantially as described.

3. The combination, with the racks depending from the seat proper, of the laterally-moving bolts, the oscillating blocks, and means for oscillating the said blocks to retract the bolts, and the springs for projecting the bolts into engagement with the racks, substantially as described.

4. The combination, with the racks depending from the seat proper, of the laterally-moving locking-bolts, the levers pivoted to

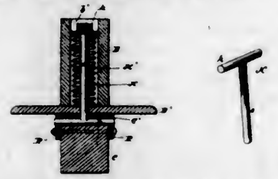
said locking-bolts, the springs for projecting the laterally-sliding bolts, the blocks, and the vertically-moving slide and its pins, for retracting said bolts and operating the levers to raise or lower the racks, substantially as described.

267,326. DRAIN TILE OR PIPE. NEWTON B. CHILDS, Kansas City, Mo. Filed Sept. 5, 1882. (No model.)



Claim.—In the manufacture of cement or asphaltum pipe, the sheet of metal having a portion along its edge provided with slots or perforations, whereby such perforated portion, as compared with the rest, is gradually rendered non-elastic, for the purpose specified.

267,327. KING-BOLT FOR WAGONS. MARTIN CONRAD, Chicago, Ill. Filed Sept. 13, 1882. (No model.)

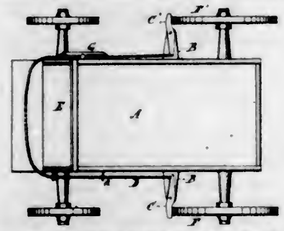


Claim.—1. In combination with the front axle and a rocking bolster resting centrally upon the axle, the king-bolt described, having a straight head formed at right angles with the shank, said head being arranged and connected as a transverse pivot to one or the other of the first-above-named parts beneath its bearing-face, and its shank being arranged as a vertical pivot, substantially as described, and for the purposes set forth.

2. The combination, with the axle and tilting bolster, the latter rocking upon the former on a line exterior to its vertical axis, of a T-headed king-bolt, K, having its head seated transversely beneath the bearing-face of one of these parts and its shank directed through the other part, and a spring, K', together with means for retaining the spring, substantially as and for the purposes set forth.

3. In combination with the axle and bolster, the T-headed bolt K, having its head seated beneath the bearing-surface of one of these parts, and pivot-plate P, arranged and operating substantially as described.

267,328. WAGON-BRAKE. IRA COOPER and LEWIS W. JOHNSON, Thompson, Ohio. Filed Apr. 13, 1882. (No model.)



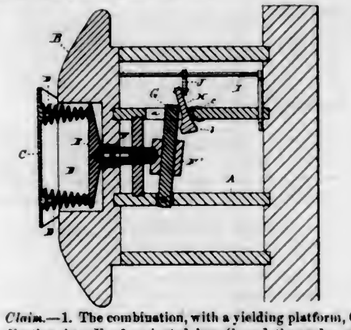
Claim.—A wagon-brake consisting of two levers pivoted to the outer ends of the cross-bar B, in combination with the lever G and cord or rod D, attached to one end of said levers and extending forward therefrom to a convenient point for the driver, whereby the hind-wheels may be jointly or separately acted upon, as and for the purpose set forth.

267,329. NUT-LOCK. WILLIAM COURTENAY, New York, N. Y. Filed Oct. 5, 1882. (No model.)



Claim.—The compound nut-lock having an elastic or yielding body inclosed between two flexible metallic caps whose edges or flanges overlap without being bent around each other.

267,330. CAR-PLATFORM. RENSSELAER A. COWELL, Cleveland, Ohio, assignor to the Cowell Platform and Coupling Company, same place. Filed Apr. 20, 1882. (No model.)

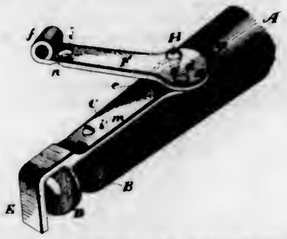


Claim.—1. The combination, with a yielding platform, C, and an adjusting-bar, F, of a pivoted bar, G, and the wedge-shaped piece H, for operating the same, substantially as set forth.

2. The combination, with a yielding platform, C, adjusting-bar F, and pivoted bar G, of the wedge-shaped piece H, provided with flat portions *b*, substantially as and for the purpose shown and described.

3. The combination, with a yielding platform provided with an adjusting-bar, of a wedge and suitable mechanism for operating the same, whereby the tension of the spring is adjusted and controlled, substantially as and for the purpose shown and described.

267,331. HORSE-DETACHER. WILLIAM G. CUMMINS, McMinnville, Tenn. Filed Apr. 12, 1882. (No model.)



Claim.—1. The combination, with a single-tree and its pin, of a slide-bar provided with trace shipping and retaining devices, and a curved slot and a latch-lever pivoted eccentrically to said slide-bar and to the single-tree, and adapted to slide said bar, substantially as set forth.

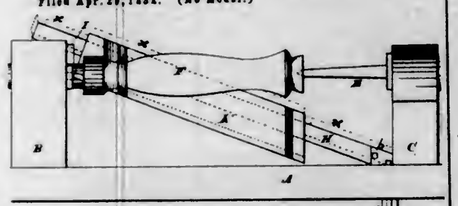
2. The combination, with a single-tree and its pin, of a slide-bar provided with a trace shipper and guard, and a latch-lever pivotally connected to said slide-bar and to the single-tree, the pivot of said lever being adapted to pass through a curved slot in the slide-bar, and said slide-bar and lever being adapted to be locked together by a slot-and-pin engagement, substantially as set forth.

3. The combination, with a single-tree and its pin, of a slide-bar provided at its outer end with a perforated bracket and a guard, and a latch-lever eccentrically pivoted to said slide-bar and to the single-tree, said slide-bar having a curved slot through which the pivot of the latch-lever passes, substantially as set forth.

4. The combination, with the end of a single-tree and its pin, of a slide-bar provided at its outer end with a perforated shipper adapted to slide on said pin to detach the trace, a guard-flange adapted to bear against the outer end of said pin, and a stud or projection to receive a latch-lever, and a latch-lever eccentrically pivoted to the inner end of said slide-bar and to the single-tree, and adapted to engage at its outer end with the stud of the slide-bar, the pivot of said lever passing through a curved slot in the slide-bar, whereby a sliding movement is imparted to said bar when the lever is drawn back, substantially as set forth.

5. The combination, with a single-tree and its pin, of a slide-bar provided with the perforated bracket to receive said pin, the bent end or guard, the beveled bearing-surface, curved slot, and locking-stud, and a latch-lever pivotally connected to said slide-bar and secured to the single-tree by a screw-pivot passing through the curved slot of the slide-bar, the outer end of said lever being provided with an eye to receive a cord or chain and a perforation to engage the locking-stud of the slide-bar, and with a cam-surface to adapt said lever to be forced over the stud of the slide-bar, substantially as set forth.

267,332. WOOD-TURNING LATHE. CYRUS A. CURTIS, Chicago, Ill., assignor of one-half to Marshall Garrison, same place. Filed Apr. 20, 1882. (No model.)



Claim.—The inclined adjustable arm H, provided with a bit, K, whose horizontal cutting-line coincides with the contour of the article to be formed, and provided with a stock, *a b*, which is vertically adjustable in a guide, *d*, and which moves down therein simultaneously with the downward movement of the higher end of the bar H by the left-hand movement of the head B, whereby the bit K is brought to finish the article F as it is being cut in the rough by said head, as specified.

267,333. DRAWERS, &c. WILLIAM DAUB, New York, N. Y. Filed Apr. 10, 1882. (No model.)



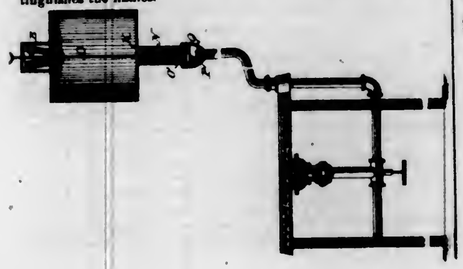
Claim.—1. As a new article of manufacture, a pair of drawers or similar garments provided with a series of two or more permanently stamped or worked eyelets or holes, in combination with a suspender-brace, *e*, applied as and for the purposes set forth.

2. As a new article of manufacture, a pair of drawers or similar garments provided with a series of two or more permanently stamped or worked eyelets or holes, in combination with a suspender-brace, *e*, whereby the suspender-brace may be readily applied and replaced, substantially as and for the purpose set forth.

3. As a new article of manufacture, a pair of drawers or similar garments provided with permanently stamped or worked eyelets or holes, in combination with a suspender-brace, *e*, whereby the material of the brace is free to be drawn from one loop to another with the varying strain, substantially as and for the purposes set forth.

267,334. VAPOR-STOVE. ZENULON DAVIS, Canton, Ohio. Filed July 21, 1882. (No model.)

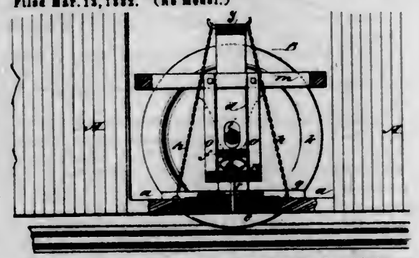
Brief.—The cover of the reservoir is attached to the rod of the piston P. Its removal, therefore, lifts the piston, produces a suction in the cylinder N, draws the oil from the burners, and extinguishes the flames.



Claim.—1. The combination, with a vapor-burner, oil-reservoir, and supply-pipe thereof, of a tightly-fitting piston adapted to operate substantially as and for the purpose specified.

2. The combination, with a vapor-burner and an oil-reservoir, of a supply-pipe, the piston, the piston-rod, and the cover for the reservoir, whereby the removal of the cover of the reservoir will cause the burner or burners to be extinguished, substantially as specified.

267,335. CAR-TRUCK. SPENCER B. DRIGGS, New York, N. Y. Filed Mar. 13, 1882. (No model.)



Claim.—1. A two-wheel truck adapted to be placed between two adjacent cars, and to have the cars suspended therefrom by flexible connections, substantially as herein shown and described.

2. The combination, with two adjacent cars, of the two-wheel truck B and the chains *h*, connected to the platforms of the cars and to the yielding saddle-truck or suspension-frame of the said truck, substantially as and for the purpose set forth.

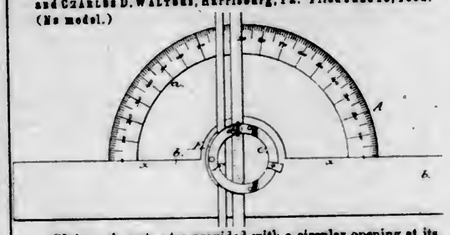
3. The combination of a saddle-truck or suspension-frame consisting of table *c*, standards *d*, and cross-timbers *f g*, the truck-frame *l m n e*, axle *i*, wheels *k*, and springs *p*, substantially as shown and described.

4. The combination, with the recessed platforms *a* of the cars A, of the circular table *c*, the standards *d*, the cross-timbers *f g*, the axle *i*, wheels *k*, and the chains *h*, substantially as and for the purpose set forth.

5. The combination of coupling-plates *g*, table *c*, and bolt *r* with the truck and suspension-frames, substantially as shown and described.

6. The hooks *s*, combined with the turn-table *c* and truck-frame, substantially as and for the purposes set forth.

267,336. PROTRACTOR. ALEXANDER H. EGE, Mechanicsburg, and CHARLES D. WALTERS, Harrisburg, Pa. Filed June 15, 1882. (No model.)



Claim.—A protractor provided with a circular opening at its base, beveled from the under side, in combination with a rotating chair correspondingly beveled, and a radially-movable rule so located with reference to the said protractor that one of its edges will be coincident with the axis of the same, as and for the purpose set forth.

267,337. CAR-AXLE BOX. JOSEPH EISELE, Lafayette, Ind., assignor of two-thirds to Benjamin F. Masters and Charles E. Gove, both of same place. Filed June 20, 1882. (No model.)



Claim.—1. A car-axle box having intersecting grooves in its side walls to receive the arms depending from the lid of said box, substantially as described.

2. The lid of a car-axle box, the depending arms of which are provided with projecting lugs, substantially as set forth.

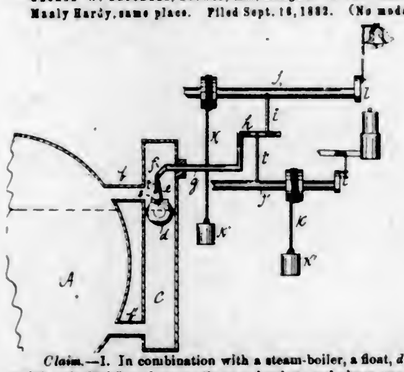
3. The combination, with a car-axle box having grooves in its side walls, of a sliding lid, the depending arms of which are provided with projecting lugs to enter said grooves, substantially as described.

4. The combination, with a car-axle box having intersecting grooves in its side walls, of a sliding lid, the depending arms of which are provided with projecting lugs to enter said grooves, substantially as described.

5. The combination, with a car-axle box having intersecting grooves in its side walls, of a guard-pin and a sliding lid, the depending arms of which project into said grooves, substantially as set forth.

6. The combination, with a car-axle box having intersecting grooves in its side walls of substantially semicircular cross-section, of a removable guard-pin and a sliding lid, the depending arms of which have approximately-hemispherical projections to fit said grooves, substantially as described.

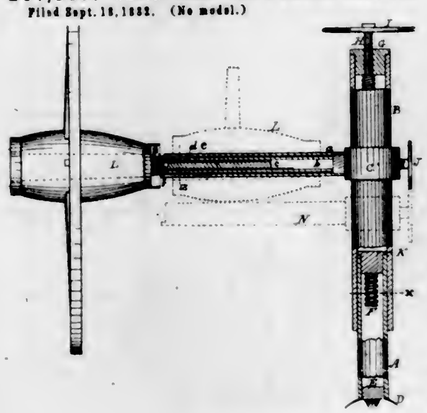
267,338. FEED-WATER ALARM FOR STEAM-BOILERS. GEORGE W. GETCHELL, Brewer, Me., assignor of one-half to Manly Hardy, same place. Filed Sept. 16, 1882. (No model.)



Claim.—1. In combination with a steam-boiler, a float, *d*, revolving shafts *j j'*, and connecting mechanism, and alarm apparatus, substantially as described, whereby the rise and fall of the said float operates to release one or the other of said shafts as the water is high or low, and sounds the alarm, as herein set forth.

2. In combination with a steam-boiler, the connected cylinder *e*, weighted float *d*, attached to the arm *f* of the shaft *g*, and latch *k*, arranged to engage levers *i i'* upon revolving shafts *j j'*, and to release one or the other as the water-level in the boiler varies, allowing them to revolve and operate an alarm-signal, substantially in the manner and for the purposes set forth.

267,339. WAGON-JACK. JOHN T. GILBERT, Mendota, Ill. Filed Sept. 18, 1882. (No model.)

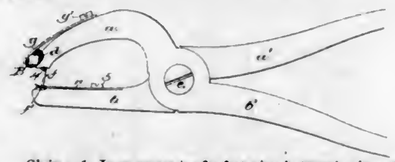


Claim.—1. The lifting-arm *a*, in combination with the elevating-pipe B and pipe or standard A, with the screw F, as and for the purpose specified.

2. The arm *a f*, combined with the arms *b f e f* and thimbles or sleeves *d e*, as and for the purpose specified.

3. The pipes A B, telescoped together, in combination with the stand D E, plugs K G, screw F, sleeve C, set-screw J, and arm *a*, substantially as and for the purpose set forth.

267,340. APPARATUS FOR FASTENING BUTTONS. LOUIS GODDU, Winchester, Mass., assignor to the Belle Patent Button Fastener Company, Kennebunk, Me. Filed Aug. 8, 1882. (No model.)



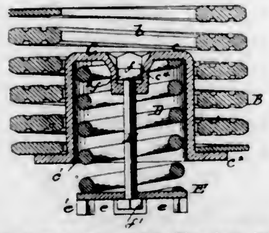
Claim.—1. In an apparatus for fastening buttons in place, the member *a*, having near one end a seat for the button, and having its salient end notched, as at *a'*, and provided with a projection, 2, having a clinching-surface, the latter forming an integral part of the member *a*, substantially as described.

2. In an apparatus for fastening buttons in place, the member *b*, provided with a seat for the head of the tack or fastening, and combined with a clamp connected with member *b*, and adapted to rest upon the under side of the head of the tack or fastening and keep it firmly in position on the said seat in all positions of the jaws, substantially as described.

3. The member *a*, provided with the seat for the button, and the clinching-surface 2 and the button-holder *g*, combined with the member *b*, having the seat for the head of the tack or fastening, and with the clamp connected with member *b*, and adapted to bear against the under side of the head of the tack and hold the tack, as described, while being inserted into and through the material and being clinched on the clinching-surface, substantially as described.

4. The member *b*, having at its front end the seat provided with a wall, 10, to gage the position of the head of the tack or fastening, combined with a forked spring to straddle the central shank of the tack or fastening and bear against the under side of its head, substantially as described.

267,341. CAR-SPRING. GEORGE F. OGDLEY, Philadelphia, Pa. Filed July 31, 1882. (No model.)



Claim.—1. A car-spring provided with a clamp, bolt, or locking device for maintaining said spring or springs in a state of compression, substantially as shown, and for the purpose set forth.

2. A car-spring provided with mechanism for holding it in a compressed condition, said mechanism being designed and adapted to be operated to release said spring and allow it to expand when placed between its bearings, substantially as shown and described.

3. A car-spring composed of spirals arranged in cases or placed between plates connected together by mechanism for locking the spirals in a compressed condition, the exterior bearing-surfaces of said cases or plates being formed with corrugations or series of projections, substantially as shown and described.

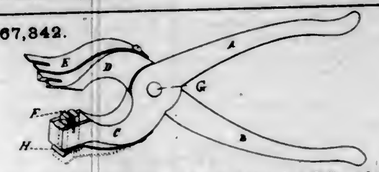
4. The case or follower E, having skeleton or recessed portion *e'*, substantially as shown, and for the purpose set forth.

267,342. MACHINE FOR ATTACHING BUTTONS. ALBERT W. HAM, Troy, N. Y. Filed Sept. 9, 1882. (No model.)

Claim.—1. In a button-attaching machine, a fulcrumed upper jaw constructed to hold a button and staple, in combination with a lower jaw provided with a yielding wedge-shaped die and a regulating-spring to act upon the die to spread the forks of the staple, substantially as described.

2. In a button-attaching machine, the combination of two fulcrumed jaws, one of which is provided with a fork or slot for holding a button and staple and the other with a yielding slotted die adapted to spread the forks of the staple and guide them in their course, the latter jaw acting independently of the die to set the staple firmly upon the fabric, substantially as described.

267,342.

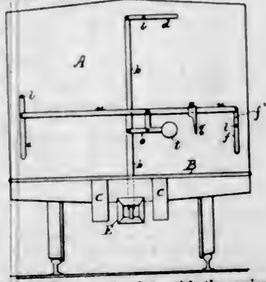


267,343. WIRE TUBING. ANDREW HARRISON, New Castle, Pa., assignor to himself and Wm. C. Harbison, same place. Filed Feb. 27, 1882. (No model.)



Claim.—As an improved article of manufacture, the wire tubing D, herein described, composed of the inner spiral coil, A, having its wires *a* in juxtaposition with each other, and the outer spiral coil, B, having its wires *b* coiled in an opposite direction from the coil A, and provided with intervening spaces between its wires *b*, the coils A B and the wires *a b* of each coil being soldered to each other, substantially as described, and for the purpose set forth.

267,344. CAR-COUPLING. DAVID M. HARRIS, Newark, N. J. Filed Mar. 8, 1882. (No model.)



Claim.—1. The combination, with the spring-lever hook H I K, of the vertical bar *b* and hand-levers *d*, *e*, and *f*, the bar *b* passing directly through the platform, and the whole arranged and operated in the manner shown and described.

2. The combination of the hand-levers *d*, *e*, and *f*, with the foot-plate or treadle *g*, arranged and operating as described, for moving the bar *b* by hand or foot pressure, substantially as shown and described.

3. The combination, with a device for working a car-coupling, of a foot-plate or treadle connected therewith and operating to uncouple the car when making a flying switch, substantially as shown and described.

267,345. VESSEL-COVER. JOHN HAYDEN and JOHN J. ARNOLD, Carbondale, Ill. Filed Aug. 21, 1882. (No model.)

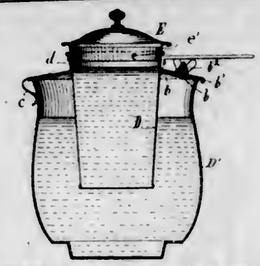
Claim.—1. A vessel-cover provided with a central opening and adapted to be expanded or contracted to fit vessels of differing sizes, in combination with a supplemental lid fitting in said opening, substantially as described.

2. A vessel-cover provided with a central opening and having overlapping ends sliding upon each other to contract or expand said cover, in combination with a supplemental lid or a stewing-vessel fitting in said opening, substantially as described.

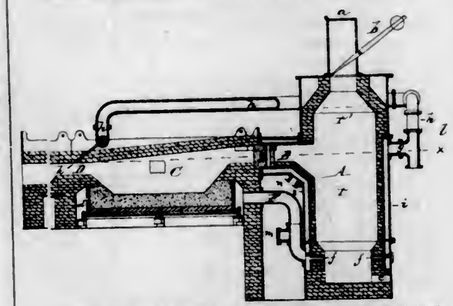
3. The combination, with an expansible vessel-cover having a central opening, and a stewing-vessel fitting in said opening, of a lid interchangeably fitting in said vessel and cover, substantially as described.

4. A vessel-cover having a central opening for the purposes described, and provided with overlapping ends for adapting the cover to varying sizes of vessels, and with spring-clasps to embrace the outer periphery of and clamp the cover to the vessel, substantially as described.

267,345.



267,346. METALLURGIC FURNACE. JAMES HENDERSON, New York, N. Y., assignor, by mesne assignments, to Charles G. Francklyn, same place. Filed Mar. 21, 1878.



Claim.—1. The heating-chamber provided with a neck divided into a series of gas-channels of continuous sectional area, and with air-passages connected by diagonal air-tuyeres with the gas-channels a short distance from the discharge end of the gas-channels, whereby air from the air-passages may be forced into the gas-channels, substantially as specified.

2. The hollow block having an interior passage for gas of continuous sectional area and an external air-groove, and walls perforated from the external air-groove diagonally to the gas-channel at a short distance from the discharge end of the gas-channel, as specified and set forth.

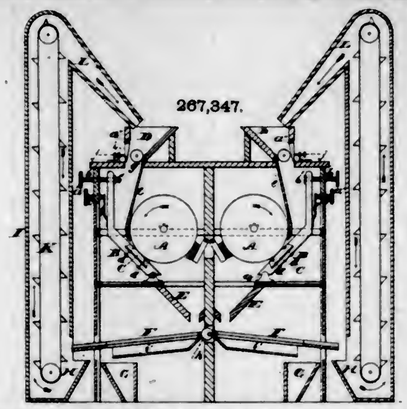
3. The combination of the gas-producer, a blower for supplying air to the producer, a second blower for supplying air to burn the gas produced, and a furnace and adjustable mechanism for driving the two blowers at variable rates, substantially as specified.

4. The combination of gas-producer, a blower for supplying a measured volume of air to the producer, and a second blower for supplying air to burn the gas produced, and a furnace and adjustable mechanism for driving the two blowers, and mechanism for separating the air from the second blower into separate portions, and supplying the separate portions to the gas produced at successive stages of its combustion, as specified and set forth.

267,347. MILL FOR REDUCING GRAIN, &c. JESSE HOLLINGSWORTH, New York, N. Y. Filed July 15, 1881. (No model.)

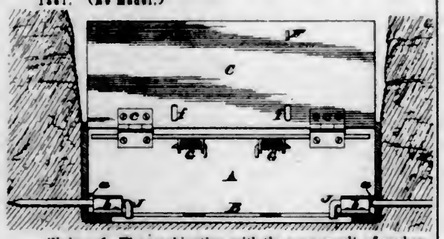
Claim.—1. In an apparatus for comminuting or reducing grain, &c., to meal or flour, the combination of a series of rollers, A A', &c., having suitable grinding-surfaces of different degrees of fineness, and placed side by side upon the same axis with a series of resisting-beds, C C', &c., each arranged substantially tangential to the circumference of its adjacent roller, all substantially as and for the purpose herein set forth.

2. In an apparatus for comminuting or reducing grain, &c., to meal or flour, the combination of a series of rollers, A A', &c., having suitable grinding-surfaces of different degrees of fineness, with a series of grinding-beds, C C', &c., pivoted and separately adjustable beams B, stops *b*, springs F, screws *a*, and mechanism,



substantially as described, for conducting the comminuted material from one roller and its adjacent grinding-bed to another, the whole constructed and arranged substantially as and for the purpose herein set forth.

267,348. BURGLAR-PROOF GRAVE-VAULT. A. OGDEN HUFFMAN and FREDERICK A. BROOKS, Dayton, Ohio. Filed Apr. 18, 1881. (No model.)



Claim.—1. The combination, with the grave-vault, of anchor-bolts passed laterally through the box into the earth, and operating to hold the vault and its bottom down firmly, substantially as described.

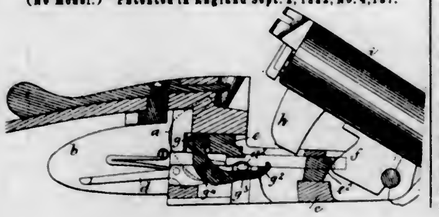
2. In a burglar-proof grave-vault, the removable and preferably perforated bottom or tray B, provided with sockets for the reception and retention of anchor-bolts, substantially as and for the purpose specified.

267,349. PROCESS OF BOTTLING BEER UNDER PRESSURE. JOHN C. G. HUPPEL, New York, N. Y. Filed Apr. 22, 1882. (No model.)



Claim.—A removable stopper-holder for bottles for use during the preserving process, consisting of a cap of rubber, having a plate of metal strengthening its head throughout, to, or beyond the wall of the cap, as shown and described, for the purpose set forth.

267,350. BREECH-LOADING FIRE-ARM. ENOS JAMES, Birmingham, County of Warwick, England. Filed Oct. 5, 1882. (No model.) Patented in England Sept. 2, 1882, No. 4,187.



Claim.—The combination, with the spindle-head C and rotating cutter-head E, having cutters *d* or *e*, of the gage-plate P, adjustably secured to arm *t* of rod Q, having handle *u*, said rod Q sliding in bearings *v* and *v'*, and being provided with coiled spring W and with feather *w*, which latter engages with notches in bearing *v*, all constructed and arranged to operate substantially in the manner and for the purpose set forth.

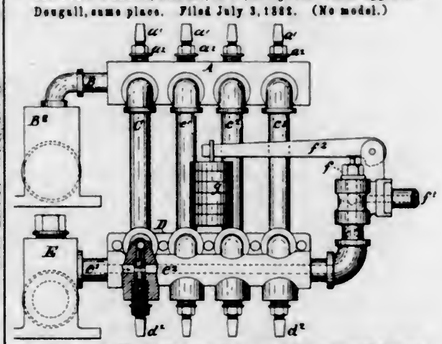
Claim.—The combination of the slide *c c²* with the cranked cocking-lever *g g² g³*, for cocking the hammers on opening the gun, the said slide being forced back on opening the gun and made to operate the cocking-slide by an incline on the front lump on the barrels, the said slide being returned to its place on closing the barrels by the back lump on the barrels striking against the raised cocking-lever, substantially as hereinbefore described, and illustrated in the accompanying drawings.

267,351. PROCESS OF COLLECTING THE FLOATING PRECIOUS METAL FROM QUARTS OR CEMENT-ROCK TAILINGS. ALFRED E. JONES, Newark, N. J., assignor to himself, John T. Rowland, and Robert Gray, Jr., same place. Filed June 25, 1881. (No model.)

Claim.—1. The herein-described process for collecting float-gold from quartz or cement-rock tailings, which consists in, first, passing into such tailings a fibrous pulp; secondly, withdrawing the fibrous material and the matter commingled therewith; and, next, pressing the water from the same.

2. The herein-described process for collecting and obtaining float-gold from quartz or cement-rock tailings, which consists in, first, passing into such tailings a fibrous pulp; secondly, withdrawing the fibrous material and the matter commingled therewith; next, pressing the water from the same; and, finally, destroying the fibrous material.

267,352. HYDRAULIC PRESSURE PUMP. SPENCER KELLOGG and JOHN WELLER, Buffalo, N. Y., assignors to Kellogg & McDougall, same place. Filed July 3, 1882. (No model.)



Claim.—1. The part A, having a pipe, C, connected thereto, and to a portion, D, provided with a passage, c^2, an automatically-acting valve, d', and safety-valve f, in combination with a main and an auxiliary pump, substantially as and for the purpose described.

2. The main pump B^2 and the portion A, provided with the pipes C c' c^2 c^3, in combination with the portion D, provided with the valves d', passage c^2, a suitable safety-valve, and an auxiliary pump, substantially as specified.

3. A main and an auxiliary pump provided with a safety-valve and suitable pipes and passages, substantially as specified, in combination with an automatically-acting valve, for the purposes described.

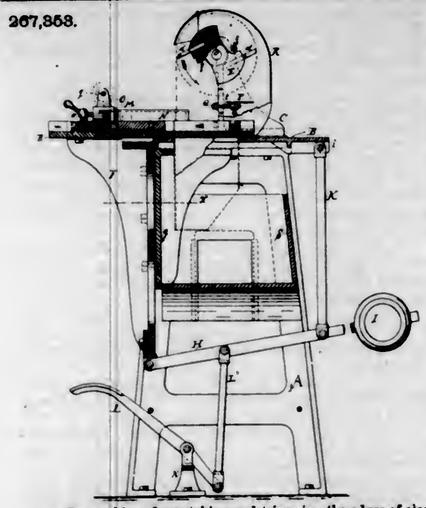
267,353. MACHINE FOR NOTCHING AND TRIMMING ELECTROTYPES. CHARLES M. LUTZ, Chicago, Ill., assignor of one-half to A. Zeese & Co., same place. Filed June 13, 1882. (No model.)

Claim.—1. In machines for notching and trimming the edges of electrotypes, the rotating cutter-head E, provided with slots for holding cutters *d* or *e* by set-screws *f*, in combination with the vertically-sliding table G, having slot *l*, all substantially as and for the purpose set forth.

2. In machines for notching and trimming the edges of electrotypes, the rotating cutter-head E, in combination with the vertically-guided table G, suspended to the top plate, B, of frame A by rod K and lever H, having counter-weight I, and being elevated by a treadle, L, and rod L', all substantially as and for the purpose set forth.

3. In machines for notching and trimming the edges of electrotypes, the rotating cutter-head E, in combination with the vertically-sliding table G, provided with slot *l* and groove *m*, for guiding and holding the longitudinal gage-bar M, having cross-bar *n* and set-screw *o*, all substantially as and for the purpose described and shown.

267,353.



4. In machines for notching and trimming the edges of electrotypes, the rotating cutter-head E, in combination with the vertically-sliding table G, provided with slot *l* and dovetailed groove *m*, for guiding and holding the longitudinal gage-bar M, that has cross-bar *n* and set-screw *o*, and forms the guide for an angle gage-bar, N, all substantially as and for the purpose set forth.

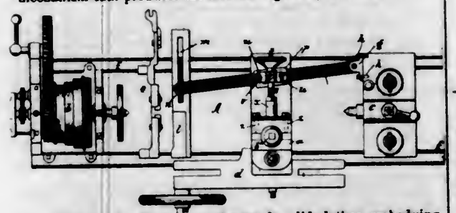
5. The vertically-sliding table G, provided with dovetailed groove *m* for bar *p*, that has adjusting-screw *r* and set-screw *s*, and for bar *n*, secured to longitudinal bar M, and having set-screw *o*, all substantially as and for the purpose set forth.

6. The combination, with the table G and laterally-adjustable gage-bar M, of the angle-bar N and block O, both sliding upon bar M, such block O being provided with a set-screw, *p*, and both bar N and block O being connected by an adjusting-screw, *q*, all substantially as and for the purpose set forth.

7. The combination, with the spindle-head C and rotating cutter-head E, having cutters *d* or *e*, of the gage-plate P, adjustably secured to arm *t* of rod Q, having handle *u*, such rod Q sliding in bearings *v* and *v'*, and being provided with coiled spring W and with feather *w*, which latter engages with notches in bearing *v*, all constructed and arranged to operate substantially in the manner and for the purpose set forth.

267,354. LATHE. JACOB B. LIELL, Springfield, Ohio, assignor to himself and Oliver S. Kelly, same place. Filed June 10, 1882. (No model.)

Brief.—The device is adapted to be attached to an ordinary slide-lathe, and the slide-rest has a cross-feed independent of the mechanism that produces the desired angularity of travel.

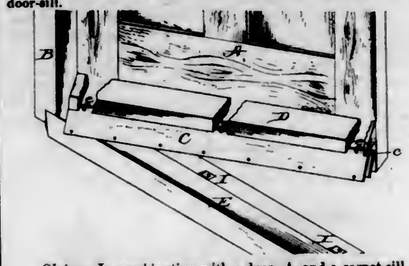


Claim.—1. A taper attachment for slide-lathes, embodying within itself the following elements: a lug, *g*, to be attached to the tail-rest of the lathe, a bar, *i*, pivoted to said lug, a slide, *p*, riding upon bar *i*, and carrying an adjustable bearing for the journal of a threaded shaft, *s*, a metallic piece, *x*, that may be secured to a slide-rest, and a slotted support, *l*, attached to any convenient part of the lathe, for the purpose specified.

2. A taper attachment for slide-lathes, embodying within itself the following elements: a lug, *g*, attached to or forming a part of a slide-rest, a bar, *i*, pivoted to said lug, a slide, *p*, riding upon bar *i*, and carrying an adjustable bearing, *y*, a shaft, *s*, or its equivalent, and a slotted support for the adjustable end of bar *i*, substantially as and for the purpose specified.

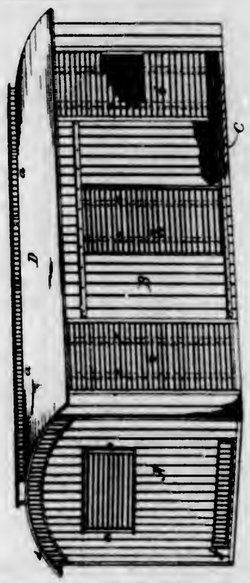
267,355. WEATHER-STRIP. WILLIAM H. LYSCHARD and SPENCER S. SAUNDERS, Mount Pleasant, Iowa. Filed Feb. 10, 1882. (No model.)

Brief.—A spring-actuated hinged strip is provided with closing-hooks, which engage with shouldered catches embedded in the door-sill.



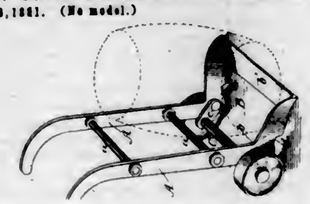
Claim.—In combination with a door, A, and a carpet-sill, E, the weather-strip C, having for its operating mechanism the closing hook or hooks F, catch or catches I, and the spring K, all arranged substantially as herein shown, and for the purposes specified.

267,356. FRUIT AND PRODUCE RAILWAY TRANSPORTATION-CAR. JOHN F. MAXFIELD, Bloomfield, N. J. Filed Aug. 4, 1882. (No model.)



Claim.—The car herein described, having ventilators at the floor and roof, and having upon its sides the slatted doors *h* and slatted sections *i*, and upon its ends the slatted portions *d e f*, all of the slatted parts being supplied within the car with a covering of wire-cloth, substantially as set forth.

267,357. TRUCK. DENNIS D. MCKENNAN, Chicago, Ill. Filed Nov. 16, 1881. (No model.)



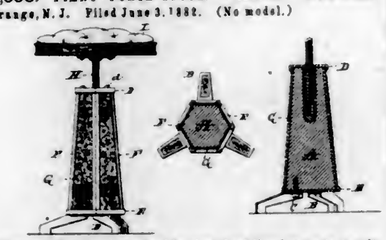
Claim.—1. In a truck, an axle having a shifting bearing, which bearing shifts from the side bars to the toe-piece, and vice versa, substantially as described.

2. In a truck, an axle having a shifting bearing, which bearing shifts from the side bars to a point beyond the ends of the same, substantially as described.

3. In a truck, an axle having a shifting bearing, which bearing shifts beyond the ends of and in a plane above the side bars, substantially as described.

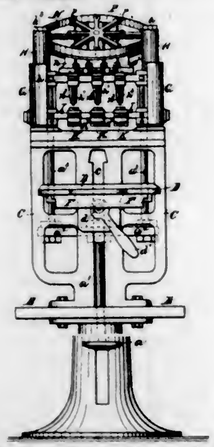
4. The combination, with the side bars and toe-piece of a truck, of a swinging frame pivoted to the side bars, and an axle journaled in said frame, and having a bearing which shifts from the side bars to the toe-piece, and vice versa, substantially as described.

267,358. PIANO-FORTE STOOL. WILLIAM T. MERSEREAU, Orange, N. J. Filed June 3, 1882. (No model.)



Claim.—A piano-forte stool having the following parts, to wit: a base or standard, A, collars D and E, lipped strips F, metal plates G, seat I, and its support H, all arranged as set forth.

267,359. BOX-NAILING MACHINE. HENRY MESSER, Chicago, Ill., assignor to Maggie E. Messer, Emerson, Manitoba, Canada. Filed Aug. 9, 1881. (Model.)



Claim.—1. In a box-nailing machine, a vertically-reciprocating cross-bar provided with nail-drivers, and a vertically-reciprocating cross-bar provided with nail buckets or guides, and movable vertically in relation to the driver-bar, in combination with a spring compressed between the bars or their attachments and constantly tending to force them apart, substantially as described.

2. In a box-nailing machine, the cross-bar *h*, secured to the sliding blocks H, and the cross-bar I, secured to the sliding pieces *i*, in combination with the spring J, all constructed and arranged substantially as and for the purposes described.

3. In a box-nailing machine, the gage S, provided with a groove into which the edge of the piece to be nailed may project, and said groove adapted to be closed by a detachable strip, substantially as described.

4. In a box-nailing machine, the gage S, provided with a groove into which the edge of the piece to be nailed may project, in combination with a detachable strip, which may be secured in the groove, so as to give the gage a plain surface, substantially as described.

5. In a box-nailing machine, the open or grate work table D, in combination with the drawer F, arranged beneath the same, substantially as described.

6. The sliding piece *i*, in combination with the sliding box H H, provided with the screws h^3, to regulate the depression of the driver-bar, substantially as described.

7. In a box-nailing machine, a nail-feeding attachment adjustably pivoted thereto, and provided with the actuating-lever Q, in combination with the connecting-rod a', pivoted to the lever K and to the cross-head of the actuating-rod a' of the nailing-machine, all arranged substantially as and for the purposes described.

8. In a box-nailing machine, the arm M, supporting the nail-feeding attachment, and adjustably pivoted to the nailing mechanism, in combination with a set-screw to adjust and rigidly support the arm, substantially as described.

9. In a box-nailing machine, the bottom piece, *n*, with the ways n' cut in the same, and provided with the plates n^3, in combination with the rim N, all arranged substantially as and for the purposes described.

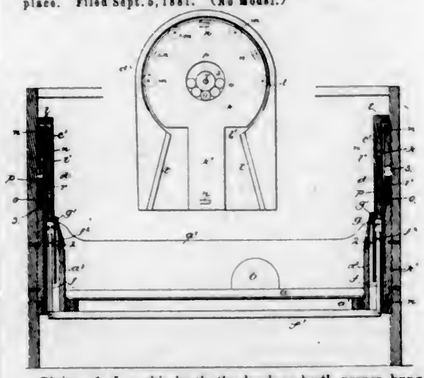
10. In a box-nailing machine, the gage S, having the arms *s*, provided with the legs s', in combination with the screws s^2, the whole constructed and arranged substantially as and for the purpose described.

11. The nail-pan N *n*, provided with the nailways n', in combination with the segmental apron N′ and revolving brushes sweeping the bottom of the pan, substantially as described.

12. In a box-nailing machine, the combination, with the nailways, of the cut-off fingers o' o', constructed as described, arranged in pairs and in different planes, and the finger-bar, to which said fingers are rigidly attached and by which they are simultaneously reciprocated across the line of the nailways, substantially as described.

13. In a box-nailing machine, the nailways n', in combination with the standard o^2 and the pin fitting therein, substantially as described.

267,360. SELF-LEVELING BERTH. JOSEPH H. MILLIGAN, Boston, Mass., assignor of one-half to John F. Crouan, same place. Filed Sept. 5, 1881. (No model.)



Claim.—1. In a ship-berth, the bunk or berth proper, hung upon bearings at its sides, and its supporting-frame, mounted upon bearings at its ends and provided with guideways, combined with the guide arms or levers, pivoted at the ends of the said bunk and working in the said guides to relieve the bunk-bearings of lateral strain, substantially as described.

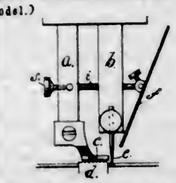
2. The bunk and guide-levers pivoted thereon, and provided with friction-rollers at their ends, combined with the bunk-supporting frame having guideways to receive the said guide-levers, substantially as described.

3. The swinging bunk-supporting frame and bunk pivoted therein, combined with their pivotal bearings, in which the portion connected with the supporting frame-work consists of a disk provided with series of radially and laterally projecting friction-rollers and with a stop-arm, and the co-operating portion of the bearing connected with the supported bunk or frame has cylindrical and plane bearing-surfaces and a chambered portion provided with yielding cushions to receive the said stop-arm and by engagement therewith to limit the movement of the bearing, substantially as and for the purpose described.

4. The combination, with the frame-work or partition-wall of a state-room and bearing-disk mounted thereon, having friction-rollers in its periphery, and a central cylindrical chamber provided with rollers and a nipple or sleeve supported thereon, of the bunk-supporting frame and co-operating portion of the bearing mounted thereon, having a primary bearing on the said rollers in the periphery of the bearing-disk and a pivot-piece entering the said nipple, and thus affording a secondary bearing upon the rollers in the said central chamber, substantially as and for the purpose set forth.

5. The berth-supporting frame and bunk pivoted therein, combined with leaves or boards *g*, hinged at the ends of the said bunk and resting against the ends of its supporting-frame, substantially as and for the purpose described.

267,361. PERFORATING ATTACHMENT FOR SEWING-MACHINES. MARTHA S. MOSS, Indianapolis, Ind. Filed May 6, 1882. (No model.)



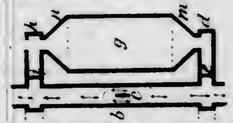
Claim.—1. The combination, with the pressure-bar of a sewing-machine, of a pressure-foot attached to said bar, and having its front end next the needle-bar terminating in a point, for the purpose set forth.

2. The combination, with the pressure-bar of a sewing-machine, a pressure-foot having its front end terminating in a point, and the needle-bar of a sewing-machine, of a short perforating-punch, of substantially the relative length described, attached to said needle-bar, for the purpose set forth.

3. The shield *f*, combined with the needle-bar of a sewing-machine, substantially in the manner and for the purpose set forth.

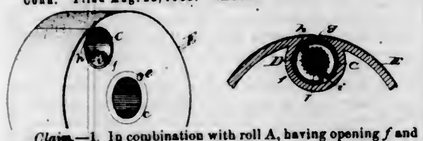
4. A pressure-foot terminating in a point, as described, a short perforating-punch, of substantially the length described, and a shield interposed between the eyes of the operator and the needle-bar, all combined with a sewing-machine, substantially in the manner and for the purpose set forth.

267,362. RADIATING-FLUE. FREDERIC B. NICHOLS, Halifax, Nova Scotia, Canada, assignor of one-half to Cuthbert Thomson, same place. Filed Feb. 21, 1882. (No model.)



Claim.—The door or lid *a*, immediately over the opening into the draft-distributer *n*, surmounting a thin flat flue and door, *k*, in combination with dampers *i* and *e*, arranged as described, so as to completely isolate the draft-distributers *m* and *n* and the thin flat flue *g* from the flue *b* for the purpose of cleaning the thin flat flues and draft-distributers while combustion is going on in the stove or furnace to which the said parts are attached, all in the manner and for the purpose herein specified.

267,363. HAT-POUNCING ROLLS. JOSEPH NUTT, Danbury, Conn. Filed Aug. 22, 1882. (Model.)



Claim.—1. In combination with roll A, having opening *f* and slit *g*, a tubular key or cylinder, C, having a slit or opening in its side, and mounted and free to rotate within the opening *f*, as and for the purpose set forth.

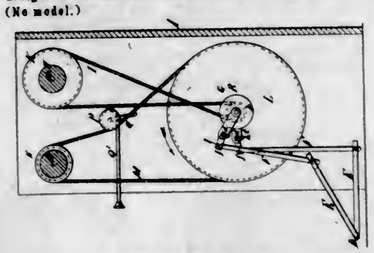
2. In combination with a roll having a hole or socket and a slit or opening extending therefrom through the circumference of the roll, a slotted elastic cylinder or key placed and free to rotate within the socket, whereby it is adapted to receive the ends of a covering material and to wind the same between its outer surface and the interior of the socket, and to adapt itself to the thickness of such material.

3. In combination with roll A, having socket or opening *f* and slit *g*, the tubular cylinder C, having slit *h* and rib or fold *i*, as and for the purpose set forth.

4. The herein-described pouncing-roll, consisting of roll or body A, covering E, and tubular key or binder *c*, all combined and arranged as shown and described.

5. In combination with roll A, having key or binder C, provided with rib *i*, and covering E, extending around the roll and into said tubular binder, the wrench or key D, having its body grooved and serrated, as shown, for the purpose explained.

267,364. FEED AND REWINDING APPARATUS FOR PERFORATED MUSIC-SHEETS. ROBERT W. PAIN, New York, N. Y., assignor to Moses Harris, same place. Filed Mar. 12, 1882. (No model.)



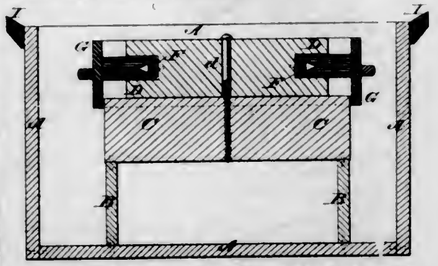
Claim.—1. An improved feed and rewinding apparatus for perforated music-sheets, constructed substantially as herein shown and described, consisting of driving-shaft B, spring-clutches C, pedals E, pitmen F, pulleys G I, rolls H O, belts I M, pulleys K N, and idler P, all arranged and operated as set forth.

2. The combination, with the driving-shaft B, of clutches C, having flat-faced sheaves *b*, forks *d*, and spring-actuated dogs *f*, and alternately-acting pitmen and pedals F E, respectively, all arranged at or on one side of the driving-shaft, substantially as herein shown and described, whereby said shaft may be continuously revolved in one direction, as set forth.

3. As a means for tightening the belts of the feed and rewinding rolls of perforated music-sheets, the combination of the doubly-grooved sheave or idler P, crank Q, and handle Q′, all arranged and operated substantially as herein shown and described.

4. In a mechanical musical instrument, as a means for revolving the driving-shaft always in one direction, two pedal-actuated alternately-acting spring-clutches fixed at different angles on the same side of said shaft, substantially as herein shown and described.

267,365. BRICK-MOLD WASHER. GEORGE PARTRIDGE, Evansville, Minn. Filed Feb. 8, 1882. (No model.)



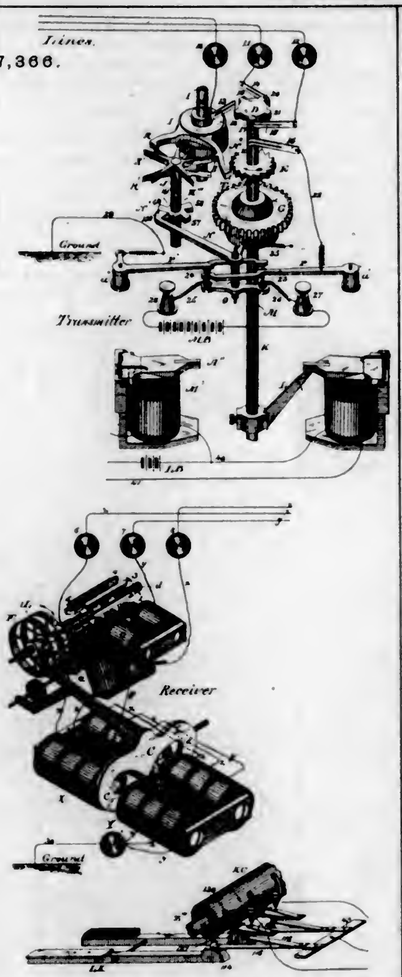
Claim.—The combination, with the water-box A, having the cross-bars B, of the guide-block C, secured to the middle of the upper edges of said cross-bars, and the block D, carrying the brush and secured centrally to said guide-block, as and for the purpose specified.

267,366. PRINTING-TELEGRAPH. GEORGE M. PHELPS, Brooklyn, N. Y. Filed Apr. 1, 1882. (No model.)

Claim.—1. The combination of a series of three or more main lines, a main-line battery, a rotating pulsator for connecting the battery and main lines successively, and a pole-changer for reversing the main-line battery.

2. The combination of a rotating main-line pulsator for connecting a battery successively with a series of three or more main lines, and an automatic pole-changer, which automatically operates to reverse the battery upon arresting the action of the pulsator.

3. The combination of a series of transmitting-keys, a local battery and a series of local branches, a series of stop-magnets, and a rotating pulsator-shaft having a rotating arm, whereby upon de-



pressing any one of the transmitting-keys the poles of the local battery are closed through that one of the stop-magnets which will arrest the pulsator in a position of rotation corresponding with the key depressed.

4. The combination of a constantly-moving motor, a rotating main-line pulsator and a key-cylinder, both of which are separately and frictionally connected with said motor, a series of transmitting-keys, and a series of stops for arresting the pulsator, whereby upon depressing any transmitting-key the key-cylinder and pulsator may both be arrested at positions corresponding with the key depressed, while the motor continues in motion.

5. The combination of a main-line battery, a main-line pulsator, a key-cylinder, a motor for rotating the key-cylinder and pulsator in unison, a series of transmitting-keys and branch conductors of a local battery, and a series of electro-magnetic stops placed in said local branch conductors, the whole being so arranged that when a key is depressed the circuit of that magnetic stop corresponding with the key depressed will be closed and the pulsator will be arrested at the same instant that the depressed finger-key arrests the key-cylinder.

6. A key-cylinder having both a peripheral cavity and a stop-pin corresponding with each key of the key-board.

7. The combination of a key-cylinder having a series of peripheral cavities and corresponding stop-pins, a series of circuit-closing levers and electrical connections, and a series of transmitting-keys, whereby, when a cavity in the key-cylinder is opposite a circuit-closing lever, a circuit may be closed upon a depression of a corresponding transmitting-key, and is broken upon a release of the transmitting-key and a continued rotation of the key-cylinder.

8. The combination of a key-cylinder having a series of peripheral cavities, a series of circuit-closing levers and electrical connections, and a series of transmitting-keys, each of which is provided with a spring which impinges upon its corresponding circuit-closing lever when depressed, whereby a key may be easily depressed whatever the position of rotation of the key-cylinder, and whereby the circuit-closing lever may be subsequently actuated to make an electrical contact when the key-cylinder has rotated to a proper position.

9. The combination of a series of circuit-closing levers, each having an electrical contact, and spring-supports for retaining them in a position of contact after connection is once made, and a key-cylinder provided with a series of cavities or cam-surfaces corresponding with and serving to cause the respective circuit-closers to break their contacts upon the rotation of the key-cylinder.

10. The combination of key-cylinder K C, provided with cavities, a circuit-closing lever, 125, electrical contact 119, and a frictional spring-support, 117, substantially as described.

11. The combination of key-cylinder K C, provided both with stop-pin 128 and cavity 130, key 114, stop device 127, circuit-closing lever 125, and interposed spring 116, for the purpose specified.

12. A series of stop-magnets arranged in a circle around the pulsator-shaft, a local battery, and a series of local branches, each of which branches is connected with a stop-magnet and a key-contact.

13. A series of stop-magnets arranged about the pulsator-shaft, a local battery, and a series of local branches, each of which is connected with a stop-magnet and the contact of two or more keys, whereby each stop-magnet may be made to arrest the pulsator by depressing either of two transmitting-keys.

14. The combination of a key-board, a local battery, and a series of local branch conductors joining the opposite poles of said local battery, which may be opened and closed by the transmitting-keys, and each of which is connected with the contacts of two or more of the transmitting-keys, whereby each local branch may be closed by either of two or more transmitting-keys.

15. The combination of a main-line battery, a rotating motor-driven pulsator for successively connecting the main-line battery upon a series of three or more main lines, a main-line pole-changer for reversing and successively re-reversing the battery upon any one of said main lines, and automatic mechanical means for operating said pole-changer by arresting the rotating pulsator to effect a reversal and re-reversal of the main-line battery.

16. The combination of a main-line pole-changer, an unequal-step escapement, which is released for a long step upon arresting the pulsator, and which is released for a short step upon starting the pulsator in motion, and means for causing the pole-changer to reverse and re-reverse the battery during the long step of the escapement.

17. A pallet-yoke which is frictionally connected with a constantly-rotating motor, in combination with an escapement-wheel mounted upon a shaft which is frictionally geared with the same motor.

18. The combination of an escapement-wheel mounted upon a shaft which is frictionally geared with a driving-motor, and a pallet-yoke which is frictionally mounted upon a constantly-rotating shaft driven by the same motor, having a projecting arm which is held in one position by the rapid rotation of a series of cam-teeth, while said arm and the yoke are carried to an opposite position by the agency of the friction-gearing of the motor, after the cam-wheel is arrested and the end of the arm upon the pallet-yoke falls between said cam-teeth.

19. The combination of the cam-tooth wheel E, mounted upon the pulsator-shaft, pallet-yoke I, having pallets R and S, and an arm, T, which is frictionally mounted with a motor-train, an unequal-step escapement having teeth R′ and S′, frictionally geared with a moving motor, and a disk, H‴, having cam-teeth, which is geared with the escapement-shaft, and which serves to actuate the arm N of the main-line pole-changer.

20. The combination of the constantly-rotating shaft I′, pallet-yoke I, provided with pallets and arm T, and normally-rotating toothed wheel E.

21. The shaft J and a constantly-rotating wheel, N‴, frictionally geared together, said shaft having rigidly fixed thereon escapement devices, and a toothed disk, H‴, all in combination with pole-changer arm N and escapement-pallets, substantially as specified.

22. The combination of escapement-teeth R′ and S′, arranged substantially as specified, cam-tooth wheel H‴, and a pole-changing lever, N, having an arm, N′.

23. A pole-changing lever, N, having an arm, N′, whose surface 150 rests upon the surface of tooth 60 of H‴ at the end of a long step, while at the end of the succeeding short step face 160 will be in contact with tooth 59 and face 150 will be separated from tooth 60.

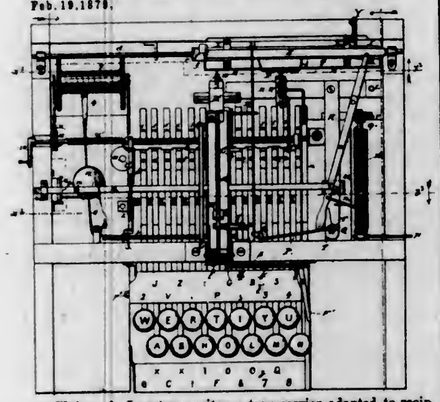
24. In a receiving-instrument, the combination of an electro-magnetic motor having three or more stationary electro-magnets, each of whose magnetizing-coils is placed in an independent main telegraph-line, a rotating armature provided with a series of magnetic bars, and a type-wheel.

25. The combination, substantially as specified, of an electro-motor having three stationary electro-magnets, a type-wheel, a printing-magnet having three sectional coils, and three independent telegraph-lines, in each of which lines are placed the magnetizing-coils of one of the stationary electro-magnets and one section of the magnetizing-coils of the printing electro-magnet.

26. The combination of an electromotor having three stationary electro-magnets whose separate coils, respectively, form parts of independent telegraph-lines, a type-wheel shaft which is rotated thereby, and a polarized printing-magnet having three sectional coils, each of which, respectively, forms a part of one of the three independent main lines.

27. The combination of three main telegraph-lines, a motor having three stationary electro-magnets whose magnetizing-coils, respectively, form parts of said telegraph-lines, a printing electro-magnet having three sectional coils, forming parts, respectively, of said telegraph-lines, a pulsator or commutator for connecting the main lines separately and successively with a battery, and a pole-changer for reversing the battery upon any one of the main lines for the purpose of printing.

267,367. TYPE-WRITER. JOHN PRATT, Centre, Ala., assignor to the Hammond Type Writer Company, New York, N. Y. Filed Feb. 19, 1879.



Claim.—1. In a type-writer, a type-carrier adapted to reciprocate circumferentially and longitudinally on a central shaft, and having a surface curved about the axis of said shaft, with type on said surface in a plurality of rows, said rows being arranged across the line of the shaft, key-levers, and intermediate mechanism, substantially as described, adapted to reciprocate the type-carrier longitudinally and circumferentially, the parts being combined and operating substantially as set forth.

2. In a type-writer, a type-carrier adapted to reciprocate circumferentially and longitudinally on a central shaft, with a plurality of rows of type upon the surface curved about said shaft as a central axis, in combination with key-levers, oscillating bars, and lever-connections between said bars and the type-carrier, whereby said carrier is reciprocated in the directions specified, substantially as described.

3. A double-jointed arm, I, in combination with a shaft, A, link *y*, rocker J, and hinged bar C.

4. Rocker-lever G, screw-nuts F′, and springs E, with their adjusting-screws F, combined with shaft A and variation-keys *z z′*.

5. Variation-keys *z z′*, combined with shaft A and type-segment and rocker G.

6. Frame S, notched to compensate unequal leverage of keys, combined with jacks and key-levers.

7. Spiral spring *w*, notched wheel 29, spring *x*, and crank 28, combined with frame S and type-hammer.

8. Latch L, combined with hinged bar C, shaft A, and double-jointed arm I.

9. Spring 26 and stem *q*, ratchet and pawl *r*, link *n*, and arm *p*, combined with driving-lever *m* and paper-carriage.

10. Bent hinged lever R, in combination with driving-lever *m* and pallets.

11. Arm *p*, link *n*, driving-lever *m*, link l′, adjusting-nuts T, bell-crank lever O, rod M, hinged guide N, frame S, and clutch Y, in combination with the paper-carrier.

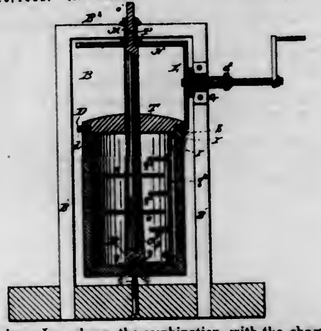
12. A paper-carriage composed of clutch Y, frame S, rollers X Z, rod W, slat *f*, toothed rack *g*, slotted bearings *c* and *b*, spring *c*, and tube *a*.

13. Ratchet-wheel 3, lever 23, pawl 2, and rollers 5 5 with spring, combined with spools 7 8 9 10 11.

14. Stop-clutch 20 and wire *d*, combined with paper-carrier.

15. Slotted rod 13, constructed as shown, combined with stem 15, driving-lever *m*, and bell 17.

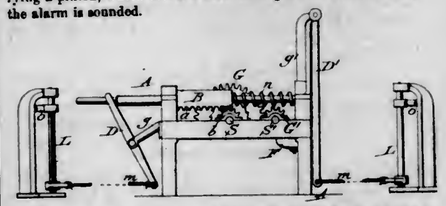
267,368. CHURN. ROSSELL A. PRESTON, Swan, Ind. Filed Mar. 16, 1882. (No model.)



Claim.—In a churn, the combination, with the churn-body and dasher, of the L-shaped bracket Q, adapted to be secured at one end to a pivot within the churn, while its opposite end projects through the churn-body, and is adapted to receive a locking-key, substantially as described.

267,369. RAILWAY-SIGNAL. JOHN W. PUDSLOW, Durango, Colo. Filed May 15, 1882. (No model.)

Brief.—Arms actuated from the approaching train are connected through cables and levers with a spring-held rack-bar carrying a pinion, which drives a shaft having a star-wheel, whereby the alarm is sounded.



Claim.—1. In a railway-signal, a sliding bar, B, having rack *a* and a spring, *n*, in combination with shaft *s*, having pinion *b*, ratchet-wheel R, and gear G, with pawl *p*, substantially as shown and described.

2. In a railway-signal, the sliding bar B and spring *n*, in combination with the levers D D′ and L L′ and means of connecting the same, substantially as described and shown.

3. The combination of the sliding bar B, having rack *a* and spring *n*, shaft *s*, pinion *b*, ratchet-wheel R, pawl *p*, gears G G′, star-wheel *c*, vibrating lever E, and gong F, substantially as shown and described.

4. The combination of the levers L L′ and D D and means of connecting the same with sliding bar B, having rack *a* and spring *n*, pinion *b*, shaft *s*, ratchet-wheel R, pawl *p*, gears G G′, star-wheel *c*, vibrating lever E, and gong F, substantially as described and shown, and for the purpose set forth.

267,370. TEA-KETTLE SPOUT. JOHN B. RAYNOR and DAVID M. SMITH, Manomanie, Wis. Filed Sept. 15, 1882. (No model.)

Claim.—1. The kettle-spout blank A, provided with inclined edges *a a* and *b b*, the corners formed thereby, together with the corners formed by inclined edges *b b* and bottom edge, *d*, being

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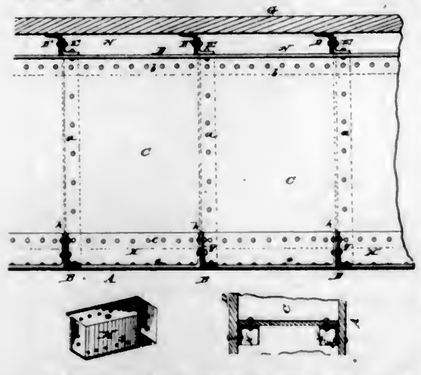


cut off, in combination with top-plate blank B, substantially as and for the purposes set forth.

2. The kettle-spout, as described, provided with inwardly-folded-over double laps or flanges *j*, and the top plate, B, provided with single-flanged edges *i*, in combination with the bottom edge, *o*, swaged to conform in contour to the shape of the kettle-body, substantially as set forth.

3. In a kettle-spout, the combination of the bottom swaged edge and vertical single-flanged parallel edges, to seam into the kettle-body and form a part thereof, substantially in the manner described.

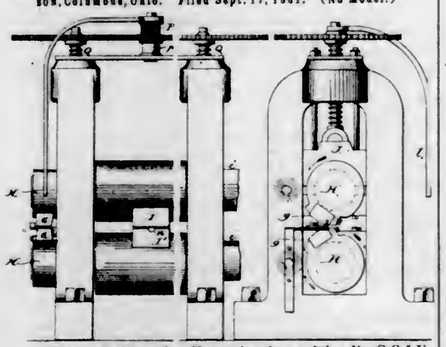
267,371. IRON SHIP. JAMES REES, Pittsburg, Pa. Filed Mar. 22, 1882. (No model.)



Claim.—1. In a vessel constructed of sheet iron or steel, the combination of the flanged attachment pieces H, constructed as shown in Fig. 3, ribs B, and partition or bulk-head C, substantially as herein described, and for the purpose set forth.

2. In a vessel constructed of sheet iron or steel, the combination of the flanged attachment pieces H, constructed as shown in Fig. 3, ribs B, and partition or bulk-head C, beams F, and deck G, substantially as herein described, and for the purpose set forth.

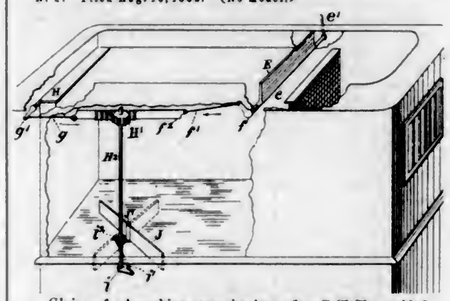
267,372. MACHINE FOR MAKING HOES. JULIUS C. RICHARDSON, Columbus, Ohio. Filed Sept. 17, 1881. (No model.)



Claim.—1. The rollers H, carrying the revolving dies G G I I', and the combination with the same of revolving brushes for cleaning said dies, as set forth.

2. The revolving brushes, in combination with the rollers H and dies I I', and a removable shaft on which said brushes are mounted, substantially as set forth.

267,373. COOKING-RANGE. WILLIAM H. SCOTT, Fredonia, N. Y. Filed Aug. 18, 1882. (No model.)



Claim.—1. A cooking-range having a flue, C C' C', provided with the vertical dividing-plates D D', in combination with the dividing-damper J, arranged below the oven, and its operating mechanism, substantially as specified.

2. In a cooking-range, the combination of the oven B and the flues C C' C' C', with the dampers E H J and their operating mechanism, substantially as specified.

3. The damper E and its arms *e' f*, connecting-rod *f''*, rack *f'''*, connecting-rod *g*, arm *g'*, and damper H, in combination with the pinion H', its supporting vertical shaft and arm *i*, connecting-rod *i'*, arm J', and dividing-damper J, whereby all the dampers may be moved or operated simultaneously by the handle *e'*, for the purposes described.

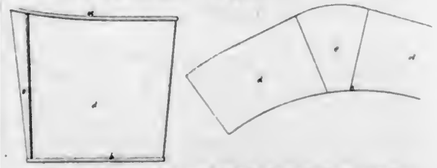
4. A cooking-range in which the flue C C' C' C' surrounds and separates the oven entirely from the fire-box, and is provided with the plates D D', in combination with a series of simultaneously-acting dampers, E H J, and their operating mechanism, substantially as described.

5. A cooking-range in which the flue C C' C' C' surrounds and separates the fire-box from the oven, in combination with the dividing-plates D D', and a suitable means for changing the direction of the products of combustion, for the purposes described.

6. A cooking-range having a flue, C C' C' C', in combination with the dampers E and J and their operating mechanism, substantially as specified.

7. The flue C C' C' C', in combination with the damper J, and a suitable means, substantially as specified, for changing the direction of the heat around the oven.

267,374. SAP-BUCKET. JONATHAN SMEAD, East Wallingford, Vt. Filed June 19, 1882. (No model.)



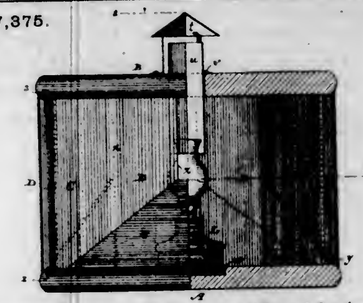
Claim.—A sap-bucket constructed substantially as described, its body portion consisting of the three portions *d e d*, the portion *e* being wider than the others, and these being wider where they join the portion *e* than at their other ends, as set forth.

267,375. TOBACCO-FLY CATCHER. JOHN L. SPEARS, near Danville, Ky. Filed Aug. 3, 1882. (No model.)

Claim.—1. In a tobacco-fly catcher having a central attracting lamp or lantern, the combination, substantially as herein specified, of a floor-piece and a top piece provided with grooves and stops, and rectangular and triangular pieces of glass held in place by said grooves and stops, and forming re-entrant angular transparent sides, having elevated vertical inlet-openings at their innermost points, with external inclines leading to said openings, as shown and described, for the purposes set forth.

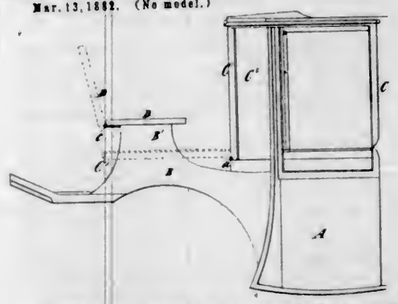
2. In a tobacco-fly catcher having a central attracting lamp or lantern, the combination of a floor-piece and a top piece provided with grooves, as shown and described, rectangular pieces of

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glass occupying said grooves as removable slides and forming re-entrant angular walls of glass, with inlet-openings at their innermost points, and corner-posts arranged within the inclosure formed by said grooves, and serving to close the outer limits of the space within said walls of glass, substantially as herein specified, for the purposes set forth.

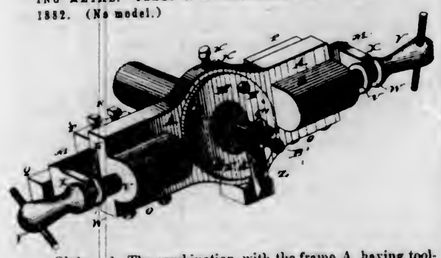
267,376. COACH. HERMAN F. STAMMER, New York, N. Y. Filed Mar. 13, 1882. (No model.)



Claim.—1. In a coach-body, a top and a front so combined that the top is supported independently of the front, and the front is hinged at its lower edge, so that it may be swung forward and downward upon the boot without affecting the top or necessitating any manipulation of the top, substantially as described.

2. In a coach-body, a top and a front so combined that the top is supported independently of the front, and the front is hinged at its lower edge, so that it may be swung forward and downward upon the boot without affecting the top or necessitating any manipulation of the top, and side portions hinged to the side edges of the front and adapted to be folded inward on the inner side of the front and swung downward with it, substantially as described.

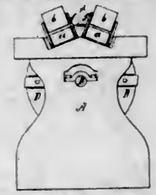
267,377. DEVICE FOR CUTTING, TURNING, AND THREADING METAL. JAMES H. STEEN, Salem, Ohio. Filed May 13, 1882. (No model.)



Claim.—1. The combination, with the frame A, having tool-holding slides M and mechanism for feeding the same, of the bushing C, having recess I, the notched pin H, adjustable transversely in the frame A, and the spring-catch K, substantially as herein set forth.

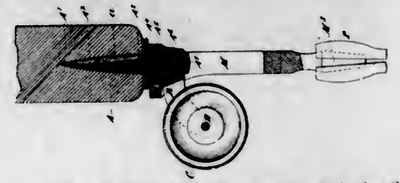
2. The combination of the frame A, having tool-holding slides M and mechanism for feeding the same, the bushing C, the pin H, and the bracket Z, adjustable upon a bracket, Y, on frame A, and having the adjustable gage-pin B', as set forth.

267,378. MACHINE FOR DRESSING HOOPS. NATHAN P. STEVENS, Concord, N. H., assignor, by mesne assignments, to himself and Lorenzo D. Brown, same place. Filed Aug. 7, 1882. (No model.)



Claim.—In combination with one or more sets of guide, pressure, and delivery rollers, arranged as set forth, and with a cutter-wheel arranged therewith to cut in a direction transversely of a hoop while such hoop may be moving between such rollers, an arched rest disposed in front of such wheel and to support the hoop, substantially as set forth.

267,379. TOOL FOR INSERTING CASTERS. ARTHUR THOMPSON, Brooklyn, N. Y. Filed Aug. 10, 1882. (No model.)



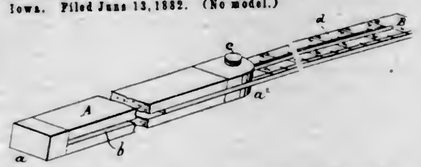
Claim.—The caster-setting device represented, having the shank or body M, arms M' M' in a plane at right angles to the axis thereof, and the tenon N', adapted to serve, in combination with a caster having a collar, A', and squared portion A' on the shank thereof, for inserting the latter by a turning and thrusting force, substantially as herein specified.

267,380. CASTER. ARTHUR THOMPSON, Brooklyn, N. Y. Filed Aug. 9, 1882. (Model.)



Claim.—The caster described, having the shank A, formed with a contraction, A', pod or cavity *a*, and a cutting-edge, A', adapted to serve as and for the purposes herein specified.

267,381. BEVEL AND GAGE. JOHN S. THORNBURG, Clinton, Iowa. Filed June 13, 1882. (No model.)

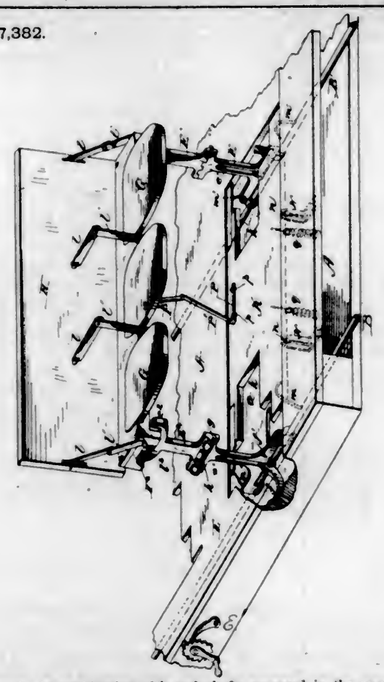


Claim.—The combined bevel and extension rule, consisting of the combination, with the stock A, having the longitudinal slot *b*, of the blade B, adjustable at any angle to the stock, and having the slot *d*, extending nearly the whole length of the blade, and provided with the measuring-scale, the stock and blade being constructed in relation to each other, so that nearly the entire length of the blade may be inserted and extended endwise in and out of the stock, and the scale on the blade being numbered, so as to give the exact combined lengths of the stock and blade closed or partly or wholly extended, substantially as and for the purposes described.

267,382. FOLDING SEAT. EDWARD F. UNDERHILL and VINCENT F. LAKE, New York, N. Y. Filed Feb. 11, 1882. (No model.)

Claim.—1. A floor provided with a recess, and a seat folding

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therein, in combination with rock-shafts arranged in the recess, toggle-levers connecting said seat and rock-shafts, and mechanism, substantially as described, for raising said seat into position for use.

2. A floor provided with a recess, and a seat connected with the floor and folding into said recess, in combination with rock-shafts, toggle-levers mounted loosely thereon, and projections on said shafts for actuating the levers with a positive movement in raising the seat, substantially as described.

3. A floor provided with a recess, a movable false bottom to said recess, and a seat connected with the floor and folding into said recess over the false bottom, in combination with rock-shafts arranged in the recess, toggle-levers connecting said seat and rock-shafts, and cam-projections on the latter for raising the seat and false bottom, substantially as and for the purpose described.

4. A seat, in combination with levers folding into a recess in the floor, and springs applied to said levers, and arranged, as described, to aid by their tension to lift the seats when folded and to aid in folding the jointed supports when the seat is raised.

5. A floor provided with a recess, a seat, and jointed arms or supports adapted to fold into said recess, in combination with rock-shafts for raising said seat and its supports, and springs applied to the rock-shafts to aid in raising the seat, substantially as described.

6. A floor provided with a recess, a movable false bottom to the recess, a seat folding into said recess, and mechanism for raising the seat and false bottom, in combination with a jointed support connecting the seat and false bottom for preventing lateral vibration of the seat, substantially as described.

7. The combination, with a floor provided with a recess, of the movable false bottom to the recess, the seat folding into said recess, toggle-levers connecting the seat with rock-shafts arranged in said recess, a jointed connection between the seat and false bottom, mechanism connected with said shafts for simultaneously raising the seat and false bottom, and springs applied to said rock-shafts and toggle-levers, substantially as and for the purpose described.

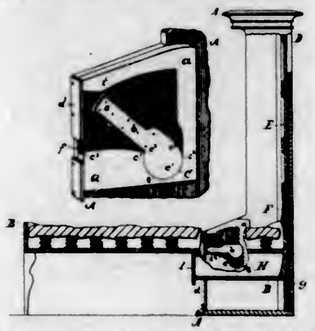
267,383.



267,383. SHEET-METAL CAN. SAMUEL W. VALENTINE, Boston, Mass., assignor of one-half to Rufus S. Morrill, same place. Filed Jan. 23, 1882. (Model.)

Claim.—The combination of the bail, the can, the eyelet-bearings, and the solder filling, as and for the purposes set forth.

267,384. WARDROBE-BEDSTEAD. ISAAC R. VAN SLYKE, Chicago, Ill. Filed July 26, 1882. (No model.)



Claim.—1. The combination, with the case A A and bedstead B B, of the movable bearings C C, composed of the recessed part *a*, having rounded cavity *c*, and the part *b*, having curved end *c'*, whereby the point of oscillation is moved toward or from the center of the bed as the latter is raised or lowered, substantially as described.

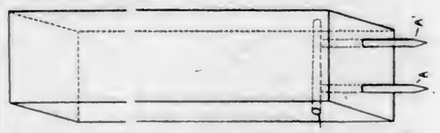
2. In combination with the bed B B and case A A, a bearing, C, composed of parts *a* and *b*, fitted together with tongue *t* and groove *f*, substantially as described and shown.

3. In a folding bed, the combination of a case, A A, bed B, bearing C, composed of parts *a* and *b*, shaped as shown, with strip *d*, substantially as shown and described.

4. The combination, with the bed B B and case A A, of a false or sliding back, E, having socket *k*, and swinging piece F, hinged to the bed B B, substantially as described and shown, and for the purpose set forth.

267,385. BRIDGING FOR JOISTS. HARRY B. WALTER, Cincinnati, Ohio. Filed July 27, 1882. (No model.)

Brief.—The lower end of the bridging is provided with projecting nails, forming spurs.



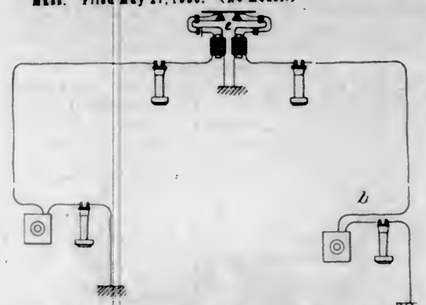
Claim.—An improved bridging for joists, designed to fit the faces of the joists, provided with nail or nails, the head or heads of which are inserted within and embedded in the piece of bridging at one end thereof, substantially as described.

267,386. CARD FOR DISPLAYING NECKSCARFS. RUFUS WATERHOUSE, New York, N. Y. Filed Aug. 3, 1882. (No model.)



Claim.—The plate A, having the upper edge, *a*, shoulders *b*, side edges, *c*, the lower end, *d*, and the angular flange or flap *e*, or equivalent neckband-detaining device, adapting the plate to be detachably mounted upon a scarf and preventing the band from slipping from the plate, as and for the purpose specified.

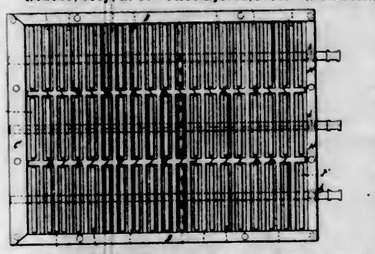
267,387. TELEPHONE SYSTEM. THOMAS A. WATSON, Everett, assignor to the American Bell Telephone Company, Boston, Mass. Filed May 27, 1880. (No model.)



Claim.—1. The combination, with a telephone-line passing through an intermediate station, of telephonic apparatus at said station, comprising a battery-transmitter connected with the branches of the line on both sides of said station and a separate receiver in each branch, substantially as described.

2. The combination, with distinct lines of communication or the contiguous sections of a telephone-line, of transmitting apparatus common to said lines or sections, and independent receiving apparatus for each line or section, substantially as described.

267,388. FIRE-GRATE. FREDRICK W. WEAVER and DANIEL NORTON, Troy, N. Y. Filed Apr. 24, 1882. (No model.)



Claim.—1. In a fire-grate, the main bars cut away on their under sides, as explained, and provided with the short flanges, arranged to abut against each other, the bars of the shaking-sections located between said main bars in the compartments formed by said flanges, and the side and end covering-pieces combined and arranged substantially as shown and described.

2. In combination with the main bars cut away on their under sides, as explained, and having the short flanges arranged to abut against each other, the shaking-sections mounted upon supports at either end, and provided with stop-lugs upon their axes to prevent them from turning too far in either direction, substantially as shown and described.

3. The main bars cut away on their sides, as explained, and the intermediate bars of the shaking-sections moving between the plain parts of the main bars, substantially as and for the purposes set forth.

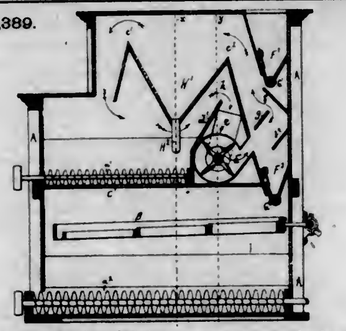
4. In combination with the main parallel bars, the side pieces notched to fit over the ends of said bars, said pieces being connected with the grate-frame by removable bolts and made detachable, substantially in the manner and for the purposes set forth.

267,389. MIDDLINGS-PURIFIER. CLARENCE O. WHITE, Minneapolis, Minn. Filed Mar. 14, 1881. (No model.)

Claim.—1. In a middlings-purifier, the combination of a casing divided into a lower and an upper compartment, communicating at both ends with each other, and the upper compartment having a hopper in its bottom, a fan located in the lower compartment, a feed-hopper and a series of chutes between the fan and upper compartment, and arranged substantially as shown, and an inclined chute in the lower compartment next to the fan, substantially as shown, the several parts being adapted to operate as set forth.

2. In a middlings-purifier, the combination of a casing divided into an upper and a lower compartment, communicating at both

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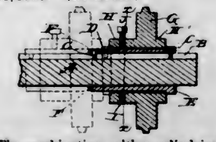
ends with each other, and the upper compartment having a hopper in its bottom, a fan located in the lower compartment, a feed-hopper and series of chutes arranged between the fan and upper compartment, a shaker-frame and a feed-hopper arranged between it and the fan, so that the middlings as they pass onto the shaker-frame will not be affected by the blast, and an inclined chute in the lower compartment next to the fan, the several parts being adapted to operate as set forth.

267,390. CARPET-FASTENER. JAMES A. WILMOT, Riverside, New Brunswick, Canada. Filed Aug. 31, 1882. (No model.)



Claim.—The base A, having upright D, provided with V-shaped notch E, in combination with the top plate, F, having slot G and triangular or beveled cross-bar H and the spring I, as set forth.

267,391. BELT-GEARING. ROBERT WOOLCOT, Brooklyn, N. Y. Filed Aug. 12, 1882. (No model.)



Claim.—The combination, with a cylindrical sleeve or collar shouldered at one end and beveled at the other, and adapted to move with or slide longitudinally on the rotary shaft, of a drive-wheel or pulley having annular projecting flanges on each side around its central opening, in one of which is provided one or more screw-threaded openings for a set-screw adapted to bind against the sleeve, substantially as specified.

267,392. BRICK-MACHINE. WILLIAM ANDRUS, Keokuk, Iowa. Filed July 24, 1882. (No model.)

Claim.—1. The combination of plunger E', having concave face, with the clay-hopper E and the mold-bearing frame C, arranged so that it will press clay into the mold and force a greater proportion into the mold ends than into the center without entering the mold.

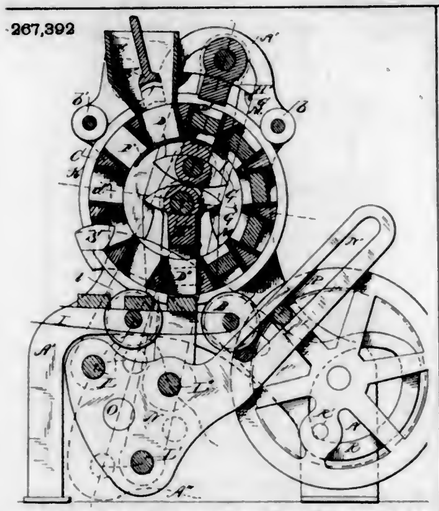
2. The combination of lever N, pivoted at O, with plungers H H', connected directly thereto by link-bars and pivots, and arranged to move in opposite directions at one time by its motion to press a brick upon opposite sides.

3. The combination of annular mold-ring C with lever N, having pivot O and plungers H H' H'', connected to it by link-bars and pivots, and arranged to move in the molds in different directions at one time to compress a brick in one mold and to discharge one from another.

4. The combination, with the annular mold-frame and the drive-wheel, of a sliding lever, R'', having yoke R on one end and projection S on the other end for engagement with a mold-cavity, whereby the mold-frame is driven one step in its revolution.

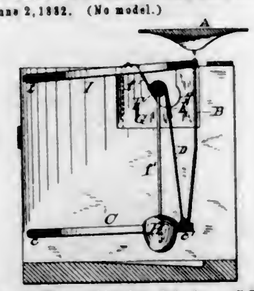
5. The combination of a drive-wheel having crank-pin I' with lever N, having slot N' therefor, and having pivot O and link-bar

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connections, arranged to operate two brick-mold plungers in opposite directions at one time from the motion of the drive-wheel and lever.

267,393. PENDULUM-SCALE. JACOB BALL, Orrenville, Mich. Filed June 2, 1882. (No model.)

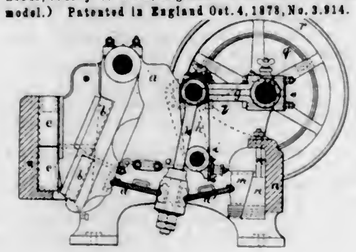


Claim.—1. The combination of the levers C I, the bifurcated rod B, resting upon the lower of said levers and pivotally secured to the upper, the loop D, the strap E, the rolling fulcrum-shaft F, the counter-balance shaft H, the straps *f f*, and the indicator J, substantially as shown and described.

2. The combination, with the frame or sides of the scale, of the blocks G, having curved recesses *g*, the straps E *f f*, and the fulcrum-shaft F, the indicator J, and means for operating the fulcrum-shaft, substantially as shown and described.

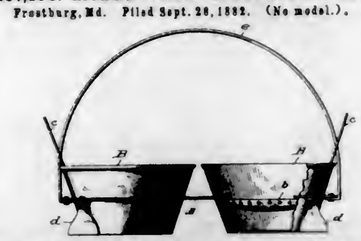
3. In a scale, the combination, with the rolling fulcrum-shaft, of the straps E *f f*, the levers C I, a counter-balance adapted to swing in the slots of one of the levers and limited in its operation in both directions by striking against said levers, substantially as shown and described.

267,394. STONE OR ORE CRUSHER. WILLIAM H. BAXTER, Leeds, County of York, England. Filed June 30, 1882. (No model.) Patented in England Oct. 4, 1878, No. 3,914.



Claim.—In a stone or ore crusher, the combination, with the moving jaws *b*, actuating-toggles *d d'*, and toggle-rods *k*, of the rod *g*, eccentric *e*, and actuating mechanism, the lever-arms *h*, connected at their lower ends to the frame-work of the machine, the joint-pin *l*, connecting the upper ends of the arms to the rod *g*, and toggle-rods *k*, substantially as and for the purposes set forth.

267,395. APPARATUS FOR POACHING EGGS. ANNIE BYALL, Frostburg, Md. Filed Sept. 26, 1882. (No model.)

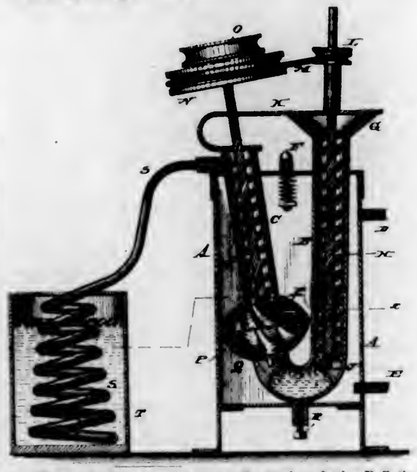


Claim.—1. An egg-poaching apparatus consisting of a cup for holding the water, a concave diaphragm or skimmer provided with a handle and with openings at or near the edge thereof, said diaphragm or skimmer being adapted to rest in the cup, substantially as set forth.

2. The combination of the body or plate A, having openings for the cups, with the cups B, diaphragms or skimmers *b*, provided with openings and handles, substantially as described.

3. The combination of the plate A, supporting-legs *d*, handle *c*, and cups B, with the diaphragms or skimmers *b*, all substantially as described.

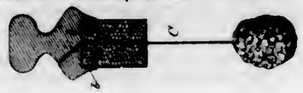
267,396. AMALGAMATOR. RICHARD T. BISHOP, St. Louis, Mo. Filed July 12, 1882. (No model.)



Claim.—1. In an amalgamator, the U-shaped pipe B C, the latter provided with enlargement Q, the screws H I, the latter being provided with the grinding-disk on the lower end of the same, and means for rotating the screws, as described, whereby the screw I is rotated at a lower rate of speed than the screw H, the whole combined and operating substantially as set forth.

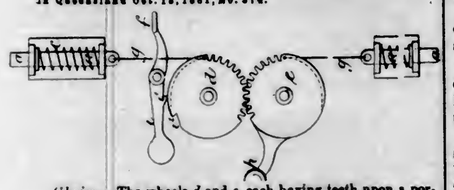
2. The combination of the steam-tight casing A, having pipes D E, the U-shaped pipe B C, the spiral screws H I, and means for operating the same, the hopper G, grinding-disk P, casing Q, plug R, and exit-pipe S, as and for the purpose set forth.

267,397. MUCILAGE-BOTTLE STOPPER. SAMUEL M. BIXBY, New York, N. Y. Filed Apr. 3, 1882. (No model.)



Claim.—In a bottle-stopper, the combination of a cork, a handle provided with a recessed seat, *b*, within which one end of said cork is secured, and a sponge-supporting wire driven centrally through the cork into or through the handle on a line at an angle to the vertical axis of said handle, substantially as and for the purpose specified.

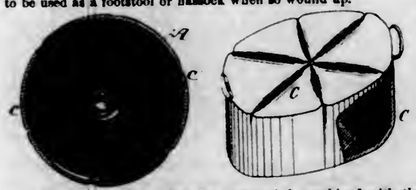
267,398. BOLT. JAMES P. BLACK, Nelson, New Zealand. Filed Dec. 23, 1881. (No model.) Patented in New Zealand Aug. 30, 1880, No. 470; in England July 27, 1881, No. 3,293; in Victoria Aug. 30, 1881, No. 3,067; in Tasmania Sept. 3, 1881, No. 202—11; in New South Wales Oct. 16, 1881, No. 81—3,647, and in Queensland Oct. 18, 1881, No. 374.



Claim.—The wheels *d* and *e*, each having teeth upon a portion of its periphery, and each having a segmental groove in its edge, in combination with the wires *g g*, connected at their ends to the grooved portions of the wheels *d* and *e*, respectively, the spring-bolts *a a*, to which the wires *g g* are connected, the arm *h* upon the wheel *e*, and the pawl-lever *i* and stop-tooth *i'*, passing into a notch, *i*², in the wheel *d* when the bolts are withdrawn, substantially as specified.

267,399. FIRE-ESCAPE. NICHOLAS H. BORGFELDT, New York, N. Y. Filed Aug. 22, 1882. (No model.)

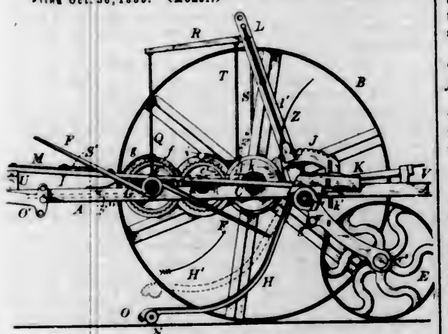
Brief.—The lowering band or tape is coiled in, and held in shape by, a flexible sheathing, which can be readily opened, and to be used as a footstool or hassock when so wound up.



Claim.—1. The coiled fire-escape A *b*, combined with the flexible sheathing C, which is capable of being opened, and which is held in shape by said coiled escape A, all arranged for use substantially as specified.

2. The combination of the central pocket-piece, B, with the coiled fire-escape A and sheathing C, substantially as and for the purpose set forth.

267,400. GLEANER AND BINDER. CORNELIUS R. BRINCKERHOFF, Rochester, N. Y., assignor of one-half to Bayard Richmond, James H. Richmond, and Paris G. Clark, all of same place. Filed Oct. 30, 1880. (Model.)



Claim.—1. In combination with the grain-tooth H, the spur-wheels N and O, substantially as described.

2. In combination with the grain-teeth H, provided with spur-wheels O and N at their points, the intermittingly-rotating gaveler F, reciprocating needle-bar I, and the knot-tying mechanism, substantially as described.

3. The combination, in a grain-gleaning machine, of the main frame A, supported on driving-wheel B, the shaft D, projecting laterally from the frame in rear of the driving-wheel and provided on its outer end with the carrying-wheel E, the independently-movable grain-elevating teeth H, pivoted on the shaft D, the overhanging gaveler-shaft G, and reel F, the reciprocating needle-bar I, tying mechanism secured on the shaft D, and the operating mechanism, substantially as described, for operating the reel, needle-bar, and knot-tyer from the main driving-wheel, substantially as and for the purposes set forth.

4. In combination with the grain-elevating teeth H, pivoted on the rod D, the hand-lever I, rock-shaft D'', lifting-rod *g'*, arm *e*, and ground-wheel E, substantially as described.

5. The combination of the grain-elevating teeth H, pivoted on the rod D, rock-shaft D'', lifting-rod *g'*, arm *e*, ground-wheel E, intermittingly-rotating gaveler F, needle-bar I, and the knot-tying mechanism, substantially as described.

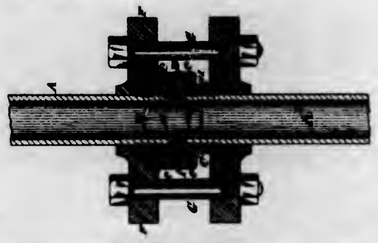
6. The combination of the main frame A, driving-wheel B, grain-elevating teeth H, intermittingly-rotating gaveler F, connected to main shaft by gearing *c c' c''*, reciprocating needle-bar I, driven from main shaft by gearing *b b'*, crank k, pitman P, and lever M, and the knot-tying mechanism operated from the main shaft by mutilated bevel-gears *k s*, crank *k'*, and suitable connecting mechanism, substantially as described.

7. The herein-described cord-holder, consisting of the rotating holding-disk *r'*, having an intermittent rotary motion between suitable holding-jaws, capable of adjustment relatively to each other, in combination with the removable washers *u' u''*, substantially as described.

8. The combination of the pitman Y', provided with the hook M', for operating the holder and cutter, the rod I' and lever *q''*, for operating the upper holder, substantially as described.

9. The combination of the rotating knotting-hook B', hook *r*, and latch *p*, sliding sleeve *i'*, rack E', pinion D', cam-plate W, holder and cutter *v'* and *r'*, and upper holding-jaw, Q', and suitable operating mechanism, substantially as and for the purposes set forth.

267,401. PIPE-JOINT. DAVID A. BRISLIN, St. Louis, Mo. Filed May 9, 1882. (No model.)



Claim.—1. In combination, the pipes A A', the collars C C', the packing-ring D, the flange E, the flange F, having the extension *f*, and the bolts G G, said packing-ring being held between the pipe ends and underneath said flange-extension, substantially as described.

2. In combination, the pipes A A', the nipple B, the collars C C', the ring D, the flange E, the flange F, having the extension *f*, and the bolts G G, substantially as described.

3. In combination, the pipes A A', the collars C C', and the ring D, the latter, when the pipes are drawn together against the ring, being confined externally by the part *f*, and being held between the pipe ends.

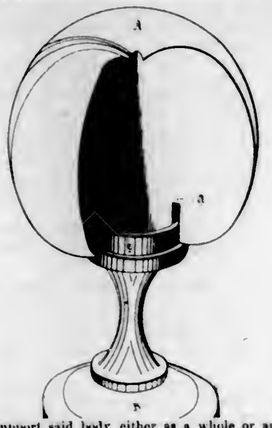
4. In combination, the pipes A A', the collars C C', and the ring D, said ring being held between the pipe ends, and also transversely in the pipe, being confined externally and supported internally.

5. The pipes A A' and the collars C C', having the ends *a c a c*, shaped as described, in combination with the ring D, the flanges E F, and the bolts G G, said pipes and collars, in forming the joint, being drawn together and holding the ring between said ends *a c a c*.

267,402. DEVICE FOR ILLUSTRATING FRACTIONS. ALFRED A. BYSON, Alameda, assignor of one-half to James T. White, San Francisco, Cal. Filed Apr. 18, 1882. (No model.)

Claim.—1. An arithmetical instructor consisting of the combination of a suitable body, divided into fractional portions, with

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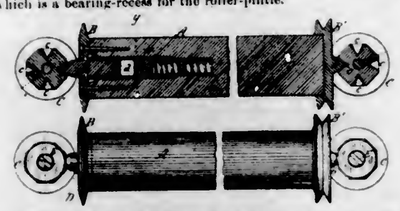
a stand to support said body, either as a whole or any portion thereof, in such manner as to allow the removal of any portion without disturbing the remainder, substantially as herein described.

2. An arithmetical instructor consisting of a suitable body constructed, as shown, to be conveniently supported upon a stand and divided into fractional parts or portions, each being adapted to be removed independently of the others, substantially as herein described.

3. An arithmetical instructor consisting of the body A, having a groove, *a*, cut in one end, and the stand B, having upon its top a flange, *b*, fitting into the groove *a* of the body A and supporting said body, substantially as herein described.

267,403. CURTAIN-ROLLER BRACKET. ALFRED CLEMONS, Buffalo, N. Y. Filed June 8, 1882. (No model.)

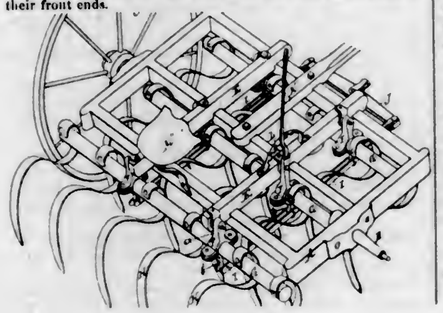
Brief.—The bracket has a number of plain faces, in each of which is a bearing-recess for the roller-pintle.



Claim.—The bracket C, constructed with two or more plain faces, and provided in said faces with bearing-recesses for the curtain-roller pintle, as set forth.

267,404. SPRING-TOOTH HARROW. EBEN C. COMSTOCK, Springport, Mich., assignor to himself and Charles J. Comstock, same place. Filed June 10, 1882. (No model.)

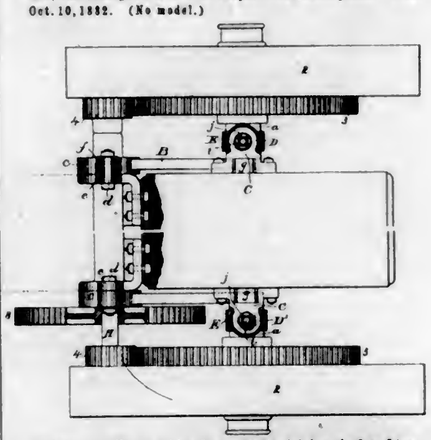
Brief.—The tooth-bars are supported by pendent two-part clips, each of which has an upper arm pivoted to the wheeled frame and a lower arm pivoted to adjusting-bars, the latter being connected with a lever and rack and having the draft-bar attached to their front ends.



Claim.—1. In a pivoted-tooth-bar harrow, and as a means for hanging the tooth-bars thereof, the clip F, made in two parts, adapted to be clamped on the tooth-bars by drawing the halves together, one-half carrying the arm on which the tooth-bars swing and the other half carrying the arm to connect the tooth-bars with adjusting-bars, substantially as specified.

2. In a pivoted-tooth-bar harrow, the clip F, formed in two parts, the upper part being pivoted to the frame and the lower part being connected to the adjusting-bars I, combined with the tooth-bars G, teeth H, lever K, bar J, and frame A E, as and for the purposes set forth.

267,405. TRACTION-ENGINE. JULIUS C. DEERE, Mount Vernon, Ohio, assignor to C. & G. Cooper & Co., same place. Filed Oct. 10, 1882. (No model.)



Claim.—1. The combination, with the driving-shaft and traction or main truck wheel geared thereto, of a wheel-carrying axle capable of vibratory up-and-down movement on the axis of the driving-shaft as a center, and supported against lateral movement or movement in the direction of its length, substantially as hereinbefore set forth.

2. The combination of two independently-driven traction or main traction wheels, and a driving-shaft mounted on the engine or boiler structure, and geared to said wheels, of two independent wheel-supporting axles, each constructed and arranged to have independent vibratory movement upon the axis of the driving-shaft as a center, substantially as hereinbefore set forth.

3. The combination, substantially as hereinbefore set forth, of the driving-shaft, the truck-wheels geared thereto, the axle-links provided with wheel-supporting axles, and hung so as to be capable of vibration upon the axis of the driving-shaft as a center, and means, substantially as described, whereby said links are prevented from lateral movement.

4. The combination, substantially as hereinbefore set forth, of the driving-shaft, the bearing-sleeve inclosing the same, the truck-wheels, and the vibratory axle-links, provided with wheel-supporting axles, and mounted upon said sleeve concentrically with the driving-shaft.

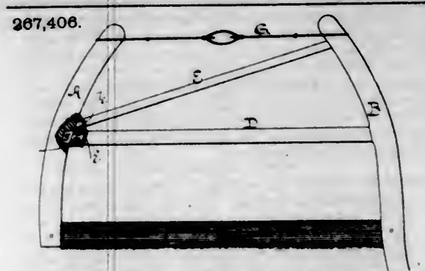
5. The vibratory axle-links mounted so as to move upon the axis of the driving-shaft as a center, and provided above and below their axle-carrying ends with extensions, as described, in combination with guide-brackets attached to the boiler or engine structure, and adapted to receive and support said extensions, substantially as hereinbefore set forth.

6. The combination of the driving-shaft, the truck-wheels, their axles vibrating upon the axis of the driving-shaft as a center and supported against lateral movement, and bearing-springs interposed between the axles and the boiler-structure, substantially as and for the purposes hereinbefore set forth.

7. The combination of the vibratory axle-links, the truck-wheels mounted thereon, the guide-brackets, the bearing-springs carried by the upper brackets, and the connecting rods or bolts mounted on the axle-links and extending through the cases which contain the bearing-springs, substantially as and for the purposes hereinbefore set forth.

267,406. HANDSAW. WALLACE H. DODGE, Mishawaka, Ind. Filed Aug. 30, 1882. (No model.)

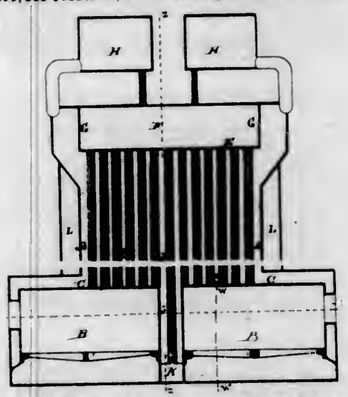
267,406.



Claim.—1. The bars A B, saw C, straining-rod G, stretcher D, and diagonal brace E, combined with the separable socket-plate F, adapted to receive and retain the ends of the braces, substantially as set forth.

2. A saw-frame composed of front and back bars, A B, straining-rod G, and stretcher D, combined with a diagonal brace, E, and a socket-piece, F, common to said diagonal brace and stretcher, whereby their strains are coincidently but separately transmitted to the bar A, as set forth.

267,407. RETURN-FLUE VERTICAL BOILER. PATRICK F. DUNBAR, San Francisco, Cal. Filed Sept. 24, 1881. (Model.)



Claim.—1. In a vertical steam-boiler, the furnace or furnaces B, projecting outside the shell of the boiler, and having that portion within the line of the shell made semicircular, in combination with the flues D, leading up within the shell of the cylinder from the crown-sheet of the furnaces to an upper combustion-chamber at the top of the boiler, substantially as herein described.

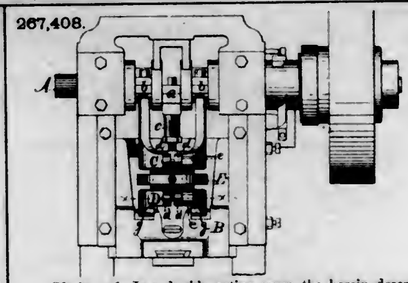
2. In a vertical steam-boiler, the furnace or furnaces B, projecting outside the shell, and having their inner ends within the line of the shell and semicircular in form, the vertical tubes D, leading from the crown-sheets up within the outer shell of the boiler to the upper combustion-chamber, F, in combination with the return-flues J, extending down behind and below the furnaces, and connecting the chamber F and the lower chamber, K, and the chimney, substantially as herein described.

3. The vertical boiler A, having the furnaces B partly exterior to the circumference of the shell, the vertical flues D, leading from the crown-sheets of the furnaces to the upper combustion-chamber, F, and the return-flues J, connecting the upper chamber, F, and the lower chamber, K, arranged below the furnaces, in combination with the exterior casing or shell, L, connecting the chamber K with the chimney, substantially as herein described.

4. The vertical boiler A, having the furnaces B partly exterior to the circumference of the shell, and the vertical tubes D, leading from the crown-sheets of the furnaces to the chamber F above the boiler, in combination with the steam drums or superheaters H, connected with the space within the main shell, and having their bases within the chamber F, and the cap or casing I, together with the tubes J, chamber K, exterior casing, L, and chimney, substantially as herein described.

267,408. PITMAN FOR DOUBLE-ACTING PRESSES. JAMES M. ELLIS, Hilldale, Conn. Filed Oct. 2, 1882. (No model.)

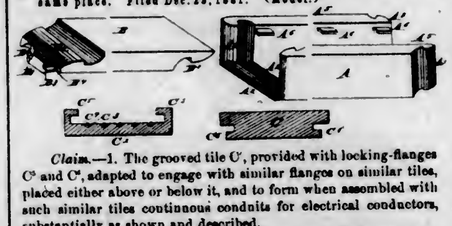
267,408.



Claim.—1. In a double-acting press, the herein-described double pitman having boxes or bearings for the two outside cranks of the press-shaft, knuckles or bearings for the two sides of the slide, and a single mechanism for adjusting both sides of said pitman, substantially as described, and for the purpose specified.

2. In a pitman for presses, the combination of the threaded head and the hollow and the internally-threaded end piece which receives the threaded portion of said head, slit open at the front side only, and provided with the forwardly-projecting lugs and binding-screw, substantially as described, and for the purpose specified.

267,409. CONDUIT FOR UNDERGROUND LINES. WILLIAM B. ELTONHEAD, Philadelphia, Pa., assignor to Ed. Y. Eltonhead, same place. Filed Dec. 28, 1881. (Model.)



Claim.—1. The grooved tile C', provided with locking-flanges C^2 and C^4, adapted to engage with similar flanges on similar tiles, placed either above or below it, and to form when assembled with such similar tiles continuous conduits for electrical conductors, substantially as shown and described.

2. The combination of the trough A and cover B, formed in interlocking sections, and provided with the lugs B^3 and A^4, whereby the two may be securely locked together, with the interlocking grooved tiles C', provided with flanges C^2 and C^4, substantially as and for the purpose set forth.

3. The combination of the grooved tile C, having the locking-flanges C^3, the grooved tile C', having the locking-flanges C^2 and C^4, and the grooved tile C^3, having the flanges C^4, forming, when assembled, continuous insulating-conduits for electrical conductors, substantially as and for the purpose set forth.

4. The combination of an inclosing trough, A, and cover B, respectively provided with lugs A^4 and B^3, whereby the same may be securely locked together with the grooved tiles C, having the locking-flanges C^3, the grooved tile C', having the locking-flanges C^2 and C^4, and the grooved tile C^3, having the grooved locking-flanges C^4, forming, when assembled, a series of continuous insulating-conduits for electrical conductors protected from moisture and external violence, substantially as and for the purpose set forth.

267,410. STEAM-PUMP. WILLIAM M. FARRY, Park City, Utah. Filed Aug. 2, 1882. (No model.)

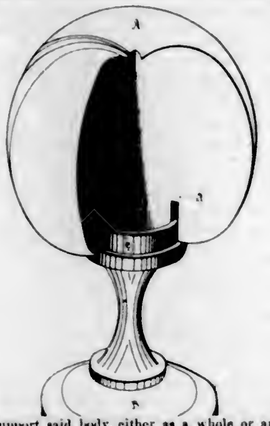
Claim.—1. In a force-pump constructed to be used in a vertical or horizontal position, the combination, with the cylinder thereof, of an induction or eduction chamber provided with a vertical and a horizontal valve-seat and a changeable valve, substantially as described.

2. In a force-pump constructed to be used in a vertical or horizontal position, the combination, with the cylinders thereof, of an eduction or induction valve-chamber provided with a vertical and a horizontal valve-seat, a changeable valve, and an air-chamber constructed to be moved into a vertical or horizontal position, substantially as described.

3. The combination, with a force-pump constructed to be used in a vertical or horizontal position, of an air-chamber adapted to be turned into a position parallel with or at right angles to the supporting-frame, substantially as and for the purpose specified.

4. In a force-pump constructed to be used in a vertical or horizontal position, the combination of induction and eduction chambers O P, having vertical and horizontal valve-seats *d e*, and

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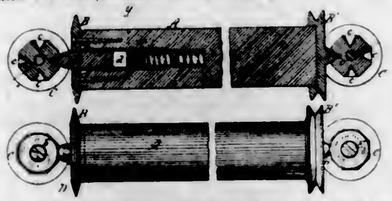
a stand to support said body, either as a whole or any portion thereof, in such manner as to allow the removal of any portion without disturbing the remainder, substantially as herein described.

2. An arithmetical instructor consisting of a suitable body constructed, as shown, to be conveniently supported upon a stand and divided into fractional parts or portions, each being adapted to be removed independently of the others, substantially as herein described.

3. An arithmetical instructor consisting of the body A, having a groove, *a*, cut in one end, and the stand B, having upon its top a flange, *b*, fitting into the groove *a* of the body A and supporting said body, substantially as herein described.

267,403. CURTAIN-ROLLER BRACKET. ALFRED CLEMONS, Buffalo, N. Y. Filed June 5, 1882. (No model.)

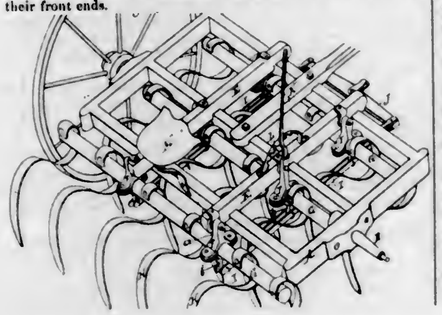
Brief.—The bracket has a number of plain faces, in each of which is a bearing-recess for the roller-pintle.



Claim.—The bracket C, constructed with two or more plain faces, and provided in said faces with bearing-recesses for the curtain-roller pintle, as set forth.

267,404. SPRING-TOOTH HARROW. EBEN C. COMSTOCK, Springport, Mich., assignor to himself and Charles J. Comstock, same place. Filed June 10, 1882. (No model.)

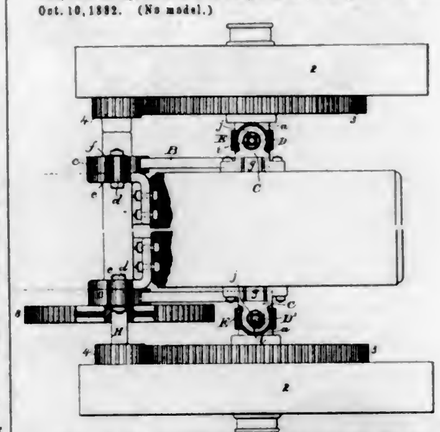
Brief.—The tooth-bars are supported by pendent two-part clips, each of which has an upper arm pivoted to the wheeled frame and a lower arm pivoted to adjusting-bars, the latter being connected with a lever and rack and having the draft-bar attached to their front ends.



Claim.—1. In a pivoted-tooth-bar harrow, and as a means for hanging the tooth-bars thereof, the clip F, made in two parts, adapted to be clamped on the tooth-bars by drawing the halves together, one-half carrying the arm on which the tooth-bars swing and the other half carrying the arm to connect the tooth-bars with adjusting-bars, substantially as specified.

2. In a pivoted-tooth-bar harrow, the clip F, formed in two parts, the upper part being pivoted to the frame and the lower part being connected to the adjusting-bars I, combined with the tooth-bars G, teeth H, lever K, bar J, and frame A E, as and for the purposes set forth.

267,405. TRACTION-ENGINE. JULIUS C. DEBES, Mount Vernon, Ohio, assignor to C. & G. Cooper & Co., same place. Filed Oct. 10, 1882. (No model.)



Claim.—1. The combination, with the driving-shaft and traction or main truck wheel geared thereto, of a wheel-carrying axle capable of vibratory up-and-down movement on the axis of the driving-shaft as a center, and supported against lateral movement or movement in the direction of its length, substantially as hereinbefore set forth.

2. The combination of two independently-driven traction or main traction wheels, and a driving-shaft mounted on the engine or boiler structure, and geared to said wheels, of two independent wheel-supporting axles, each constructed and arranged to have independent vibratory movement upon the axis of the driving-shaft as a center, substantially as hereinbefore set forth.

3. The combination, substantially as hereinbefore set forth, of the driving-shaft, the truck-wheels geared thereto, the axle-links provided with wheel-supporting axles, and hung so as to be capable of vibration upon the axis of the driving-shaft as a center, and means, substantially as described, whereby said links are prevented from lateral movement.

4. The combination, substantially as hereinbefore set forth, of the driving-shaft, the bearing-sleeve inclosing the same, the truck-wheels, and the vibratory axle-links, provided with wheel-supporting axles, and mounted upon said sleeve concentrically with the driving-shaft.

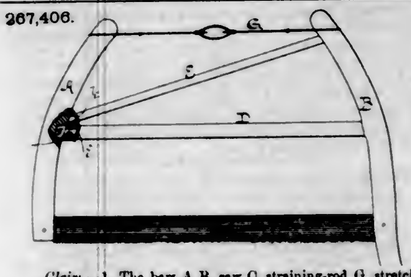
5. The vibratory axle-links mounted so as to move upon the axis of the driving-shaft as a center, and provided above and below their axle-carrying ends with extensions, as described, in combination with guide-brackets attached to the boiler or engine structure, and adapted to receive and support said extensions, substantially as hereinbefore set forth.

6. The combination of the driving-shaft, the truck-wheels, their axles vibrating upon the axis of the driving-shaft as a center and supported against lateral movement, and bearing-springs interposed between the axles and the boiler-structure, substantially as and for the purposes hereinbefore set forth.

7. The combination of the vibratory axle-links, the truck-wheels mounted thereon, the guide-brackets, the bearing-springs carried by the upper brackets, and the connecting rods or bolts mounted on the axle-links and extending through the cases which contain the bearing-springs, substantially as and for the purposes hereinbefore set forth.

267,406. HANDSAW. WALLACE H. DODGE, Mishawaka, Ind. Filed Aug. 30, 1882. (No model.)

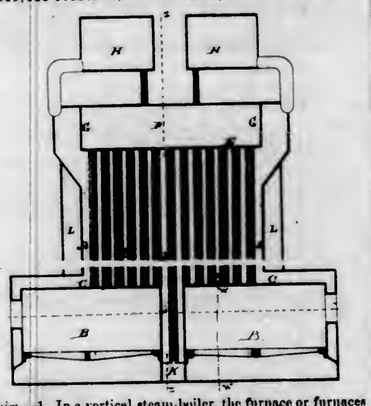
267,406.



Claim.—1. The bars A B, saw C, straining-rod G, stretcher D, and diagonal brace E, combined with the separable socket-plate F, adapted to receive and retain the ends of the braces, substantially as set forth.

2. A saw-frame composed of front and back bars, A B, straining-rod G, and stretcher D, combined with a diagonal brace, E, and a socket-piece, F, common to said diagonal brace and stretcher, whereby their strains are coincidently but separately transmitted to the bar A, as set forth.

267,407. RETURN-FLUE VERTICAL BOILER. PATRICK F. DUNDON, San Francisco, Cal. Filed Sept. 24, 1881. (Model.)



Claim.—1. In a vertical steam-boiler, the furnace or furnaces B, projecting outside the shell of the boiler, and having that portion within the line of the shell made semicircular, in combination with the flues D, leading up within the shell of the cylinder from the crown-sheet of the furnaces to an upper combustion-chamber at the top of the boiler, substantially as herein described.

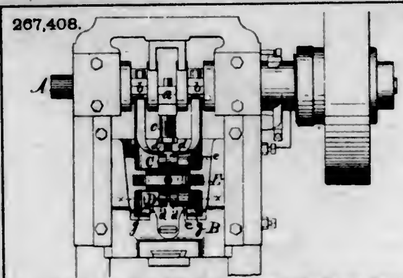
2. In a vertical steam-boiler, the furnace or furnaces B, projecting outside the shell, and having their inner ends within the line of the shell and semicircular in form, the vertical tubes D, leading from the crown-sheets up within the outer shell of the boiler to the upper combustion-chamber, F, in combination with the return-flues J, extending down behind and below the furnaces, and connecting the chamber F and the lower chamber, K, and the chimney, substantially as herein described.

3. The vertical boiler A, having the furnaces B partly exterior to the circumference of the shell, the vertical flues D, leading from the crown-sheets of the furnaces to the upper combustion-chamber, F, and the return-flues J, connecting the upper chamber, F, and the lower chamber, K, arranged below the furnaces, in combination with the exterior casing or shell, L, connecting the chamber K with the chimney, substantially as herein described.

4. The vertical boiler A, having the furnaces B partly exterior to the circumference of the shell, and the vertical tubes D, leading from the crown-sheets of the furnaces to the chamber F above the boiler, in combination with the steam drums or superheaters H, connected with the space within the main shell, and having their bases within the chamber F, and the cap or casing I, together with the tubes J, chamber K, exterior casing, L, and chimney, substantially as herein described.

267,408. PITMAN FOR DOUBLE-ACTING PRESSES. JAMES M. ELLIS, Milldale, Conn. Filed Oct. 2, 1882. (No model.)

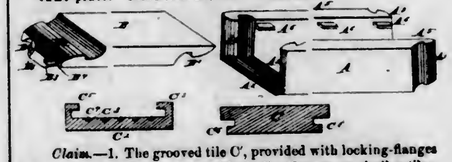
267,408.



Claim.—1. In a double-acting press, the herein-described double pitman having boxes or bearings for the two outside cranks of the press-shaft, knuckles or bearings for the two sides of the slide, and a single mechanism for adjusting both sides of said pitman, substantially as described, and for the purpose specified.

2. In a pitman for presses, the combination of the threaded head and the hollow and the internally-threaded end piece which receives the threaded portion of said head, slit open at the front side only, and provided with the forwardly-projecting lugs and binding-screw, substantially as described, and for the purpose specified.

267,409. CONDUIT FOR UNDERGROUND LINES. WILLIAM B. ELTONHEAD, Philadelphia, Pa., assignor to Ed. Y. Eltonhead, same place. Filed Dec. 29, 1881. (Model.)



Claim.—1. The grooved tile C', provided with locking-flanges C^3 and C^4, adapted to engage with similar flanges on similar tiles, placed either above or below it, and to form when assembled with such similar tiles continuous conduits for electrical conductors, substantially as shown and described.

2. The combination of the trough A and cover B, formed in interlocking sections, and provided with the lugs B^3 and A^4, whereby the two may be securely locked together, with the interlocking grooved tiles C', provided with flanges C^3 and C^4, substantially as and for the purpose set forth.

3. The combination of the grooved tile C, having the locking-flanges C^3, the grooved tile C', having the locking-flanges C^3 and C^4, and the grooved tile C^4, having the flanges C^4, forming, when assembled, continuous insulating-conduits for electrical conductors, substantially as and for the purpose set forth.

4. The combination of an inclosing trough, A, and cover B, respectively provided with lugs A^4 and B^3, whereby the same may be securely locked together with the grooved tiles C, having the locking-flanges C^3, the grooved tile C', having the locking-flanges C^3 and C^4, and the grooved tile C^4, having the grooved locking-flanges C^4, forming, when assembled, a series of continuous insulating-conduits for electrical conductors protected from moisture and external violence, substantially as and for the purpose set forth.

267,410. STEAM-PUMP. WILLIAM M. FERRY, Park City, Utah. Filed Aug. 2, 1882. (No model.)

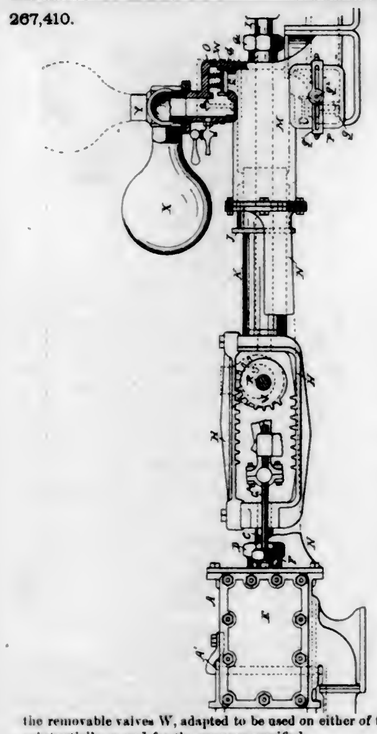
Claim.—1. In a force-pump constructed to be used in a vertical or horizontal position, the combination, with the cylinder thereof, of an induction or eduction chamber provided with a vertical and a horizontal valve-seat and a changeable valve, substantially as described.

2. In a force-pump constructed to be used in a vertical or horizontal position, the combination, with the cylinders thereof, of an eduction or induction valve-chamber provided with a vertical and a horizontal valve-seat, a changeable valve, and an air-chamber constructed to be moved into a vertical or horizontal position, substantially as described.

3. The combination, with a force-pump constructed to be used in a vertical or horizontal position, of an air-chamber adapted to be turned into a position parallel with or at right angles to the supporting-frame, substantially as and for the purpose specified.

4. In a force-pump constructed to be used in a vertical or horizontal position, the combination of induction and eduction chambers O P, having vertical and horizontal valve-seats *d e*, and

267,410.

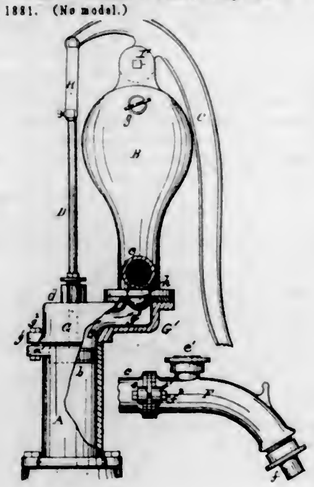


the removable valves W, adapted to be used on either of the seats, substantially as and for the purpose specified.

5. In a pump, the loose valves provided on one side with a recess for holding the valve-face, and on the other side with recesses for holding springs, substantially as described.

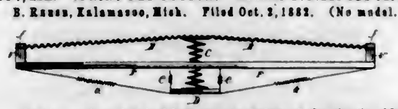
6. In a pump, the metallic frame F, provided on one side with circular recesses *w*, and on the other side with a recess, *w'*, in combination with the facing W, the springs *f*, and means for securing the springs and facing in their proper positions, substantially as described.

267,411. PUMP. WILLIAM P. FIELD, Lockport, N. Y. Filed May 27, 1881. (No model.)



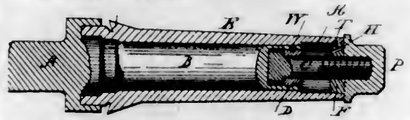
Claim.—A pump constructed with the single pump-cylinder, the casing G, having a stuffing-box for the rod and a hollow laterally-extending arm, G', and detachably secured to the upper end of the cylinder, the air-chamber B, secured on the outer end of the said arm, and provided at its base with a check-valve and a short spout, *e*, and the nozzle F, constructed as described, and detachably secured to the short spout by means of bolts, said members being all constructed and organized substantially as shown and specified, and for the purpose set forth.

267,412. SPRING BED-BOTTOM. EDWARD P. FIELD and OLIN B. RAUEN, Kalamazoo, Mich. Filed Oct. 2, 1882. (No model.)



Claim.—A spring bed-bottom consisting of the elastic side rails, the end pieces supporting the fabric covering, the spring-support beneath the side rails bearing the row of springs, said spring-support being sustained by the corner spring-rods and the side spring-braces, all combined to operate substantially as described.

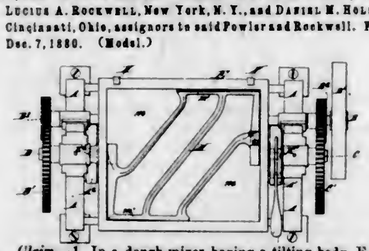
267,413. VEHICLE-AXLE. ROWIS FIRTH, Auburn, N. Y. Filed June 24, 1882. (No model.)



Claim.—1. The herein-described axle-spindle, provided at its outer end with a recess, in combination with the pin or stud C, the sleeve or ring D, and the transverse pin W, securing said sleeve permanently in position, as set forth.

2. The axle-spindle, provided at its end with a revolving screw-threaded pin or stud, in combination with the axle-box E, having recess K, and ring F, secured by a pin, T, and having perforation H, and the revolving cap or lock-nut P, substantially as and for the purpose set forth.

267,414. DOUGH-MIXER. CHARLES S. FOWLER, Brooklyn, and LUCIUS A. ROCKWELL, New York, N. Y., and DANIEL M. HOLMES, Cincinnati, Ohio, assignors to said Fowler and Rockwell. Filed Dec. 7, 1880. (Model.)



Claim.—1. In a dough-mixer having a tilting body, E, and shaft C D, serving the double function of insuring a support for the vessel E and of affording an axis and means of turning the agitator, the combination, with said parts, of the pockets A' A', and projections E' E', for sustaining the weight of the vessel when in an upright position, thus relieving the shafts C D and preventing lateral swaying or movement, as set forth.

2. The tilting vessel E, with its projections E' E' and the receiving-pockets A' A', in combination with the shafts C D, and with the latch or catch H and spring I, the pockets being of right height to sustain the weight of the vessel by means of the projections and the catch and spring insuring retention of the projections, as set forth.

3. In a dough-mixing machine, the mixer M, formed of an open-work plate set on an incline to the axis, with the scrapers *m'* on the opposite edges, which extend from opposite ends to and a little past the middle, and with liberal openings *m*, so that the dough, when in that portion, is temporarily released from the influence of the beater, allowing the opposite side to strike it with increased force, as herein specified.

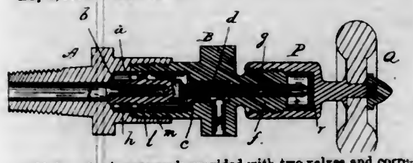
4. In a dough-mixing machine, the mixer M, composed of a set of sharp-edged bars, forming an open-work frame nearly plane, and mounted obliquely to the axis, having scrapers *m'* and liberal apertures *m*, combined and arranged to serve substantially as and for the purposes herein specified.

267,415. MACHINE FOR MANUFACTURING WOOD MOSAICS. LOUIS FRANK, Landsberg, Prussia, Germany. Filed Aug. 25, 1882. (No model.)



Claim.—A die for cutting the ground and inlaid parts of wood mosaics, consisting of a series of knives arranged at different angles and curves relatively to each other corresponding to the design of the mosaic, a slotted socket-plate in which the shanks of the knives rest, a metallic face-plate covering the socket-plate and serving as an abutment for the knives, and a series of clearing-plates having headed guide-pins fixed thereto, which slide in circular slots of the socket-plate, said clearing-plates being arranged in the several spaces between the knives, substantially as described.

267,416. GAGE-COCK. LOUIS B. FULTON, Pittsburg, Pa. Filed May 2, 1882. (No model.)



Claim.—1. A gage-cock provided with two valves and corresponding seats, both said valves being on a single stem, one valve arranged to close positively and the other to close by the boiler-pressure, substantially as described.

2. In a gage-cock, the combination of the sections A B, having the respective valve-seats *b c*, chamber *a*, and outlet *d e*, with loose reciprocating or sliding stem *g*, having the valves *i* and *k*, the former arranged to close positively and open by the boiler-pressure, and the latter arranged to open positively and close by the boiler-pressure, substantially as described.

3. In a gage-cock, the combination of the rotating valve-stem *g*, nipple P, having recess *s*, and hard-metal plate *r*, substantially as described.

267,417. SIGN. ROMEO E. GHEZZI, New York, N. Y., assignor to himself and Lawrence Gulf, same place. Filed Jan. 30, 1882. (Model.)



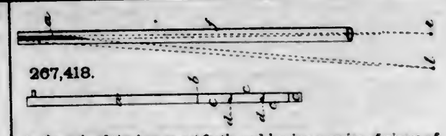
Claim.—1. An improved sign having a stencil of fibrous water-proof material secured upon a suitable base or background, substantially as herein shown and described.

2. In a sign, the combination, with the base or background A, of sheet metal, of the stencil B, of fibrous water-proof material, cemented to the said background, the said stencil and background being ornamented in marked contrast with each other, substantially as herein shown and described.

267,418. SIGHT FOR FIRE-ARMS. THOMAS GILBERT, London, England. Filed June 28, 1882. (No model.)

Claim.—1. A sight for fire-arms, consisting of a bar having receding steps or notches at one side thereof, said steps or notches being substantially at right angles, both vertically and laterally, to the longitudinal axis of the bar.

2. A sight for fire-arms, consisting of a bar having receding steps or notches at one side thereof substantially at right angles



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to the axis of the bar, as set forth, and having a series of pieces of silver or platinum placed severally in some of the side steps or notches, as and for the purposes described.

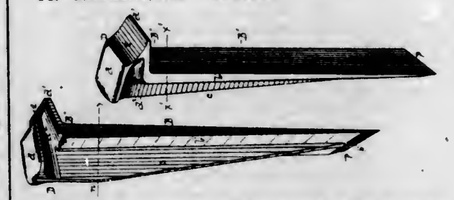
3. A sight for fire-arms, consisting of a bar having receding steps or notches *c*, of a dark color, at one side thereof, the steps being substantially at right angles to the axis of the bar, as set forth, and having pieces *d*, of silver or platinum or the like, applied thereto, as and for the purposes described.

4. A sight for fire-arms, constructed substantially as and for the purposes described—to wit, with the series of graduated receding steps *c* at one side thereof, substantially at right angles to the axis of the bar, with a continuous straight face at its opposite side, and with pieces of silver or platinum or the like in some of the steps, as set forth.

267,419. VARNISH FOR FURNITURE AND OTHER ARTICLES OF WOOD. OWEN GOODENOUGH, Media, Pa. Filed Sept. 4, 1882. (Specimens.)

Claim.—The herein-described composition of matter to be used for renovating and preserving the surface of all kinds of furniture, and all other articles made of wood, whether they have been previously varnished or finished in oil, consisting of hazel-nut oil, sweet-oil, linseed-oil, turpentine, and aqua-ammonia, in the proportions specified.

267,420. RAILROAD-SPIKE. HOWARD GREEN, Chicago, Ill., assignor of one-half to George H. Christy, Trustee, Sewickley, Pa. Filed Mar. 3, 1882. (No model.)



Claim.—1. In a railroad-spike, the grooves *d'*, extending along the opposite sides of the head to a point at or near or beyond the vertical line of greatest resistance in the drawing operation, substantially as and for the purposes set forth.

2. A notch, concave, or recess, *e*, made in the upper face of the projecting part of a side or lap-headed railroad-spike, substantially as set forth.

3. A railroad-spike having a back rib, *c*, which tapers from at or near the wood-line to at or near the spike-point, substantially as set forth.

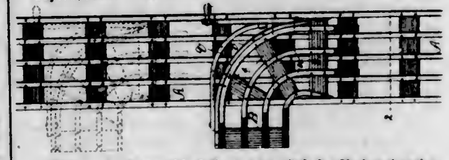
4. The side ribs, *b b'*, of a railroad-spike, tapering in thickness from at or near the wood-line to at or near the spike-point, substantially as set forth.

5. A chisel-pointed railroad-spike substantially of the form shown and described.

6. A railroad-spike having the chisel-point shown and a tapering back rib, substantially as set forth.

7. A railroad-spike having a double head, tapering ribs, and a chisel-point, substantially as set forth.

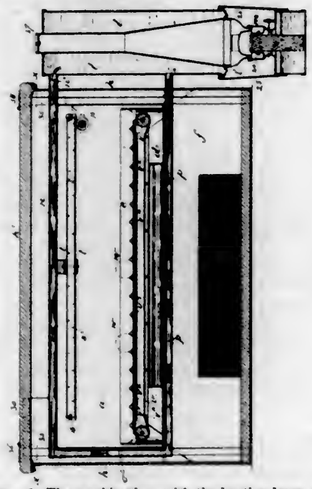
267,421. DEVICE FOR FACILITATING THE STOWING OF ICE IN BUILDINGS, &c. WARDELL GUTHRIE, Chicago, Ill. Filed Sept. 2, 1882. (No model.)



Claim.—1. A movable deflector or switch for discharging the ice laterally from a slide at any desired point thereof, substantially as described.

2. The ice-switch B, comprising a deflecting-guide, in combination with a plate or frame sustaining it, and to receive the block of ice, and a suitable handle for moving the device along the ice-slide, substantially as described.

267,422. INCUBATOR. AUGUSTUS M. HALSTED, Rye, N. Y. Filed Mar. 6, 1882. (No model.)



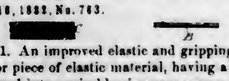
Claim.—1. The combination, with the heating-lamp and incubating-chamber, of two, three, or more pivoted thermostat-bars placed side by side, supports for such bars, link-connections between the alternate ends, an adjusting-screw to one extreme end of the thermostat-bars, and a connection at the other end to the heating-lamp, or a damper, substantially as set forth.

2. The combination, with the thermostat and the incubating-chamber, of an adjusting-screw, a screw-neck soldered to the lining of the incubating-chamber, and a removable screw-cap through which the adjusting-screw passes, substantially as set forth.

3. The combination, with the apron and rollers, of a movable egg-holding frame adapted to be placed over or removed from the apron, substantially as set forth.

4. The combination, with the incubating-chamber and the heating device for the same, of a thermostat within the incubating-chamber composed of two or more bars side by side, pivots for supporting the same, and connections between one bar and the other, and an adjustment for regulating the action of the thermostat on the heating device, substantially as set forth.

267,423. LOCK-NUT. ROLAND HARRINGTON, Wolverhampton, England. Filed Aug. 31, 1882. (No model.) Patented in England Feb. 18, 1882, No. 763.



Claim.—1. An improved elastic and gripping lock-nut made from a strip or piece of elastic material, having a knife-like or V-edge, and shaped into a spiral having one or more coils, the V-edge being on the inner side of the coil or spiral, substantially as shown and described.

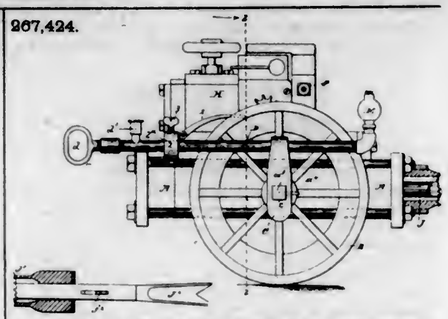
2. The improved lock-nut, composed of a series of pieces of elastic material, each of which is shaped into an open single-thread spiral, having a V or knife edge on its inner edge, substantially as shown and described.

267,424. MINING-MACHINE. JONATHAN W. HARRISON, Ypsilanti, Mich. Filed July 20, 1882. (No model.)

Claim.—1. A mining-machine provided with an auxiliary engine for propelling it from point to point and for feeding it forward during the operation of drilling, so that the drill shall be kept well up to its work, said auxiliary engine being attached directly to the drill-engine casing and receiving its motive fluid directly therefrom, substantially as set forth.

2. A mining-machine the drilling-engine of which is mounted upon two or more carrying-wheels having each a gear disk or rim upon its inner side, in combination with an auxiliary propelling and feeding engine operating in connection with the carrying-wheels, through the medium of two or more pinion-wheels engaging with the gear-disks of said carrying-wheels, substantially as described.

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3. In a propelling and feeding engine for mining-machines, the piston-casing I, having the diaphragm i^2, provided with the opening i^3, in combination with the piston i^5, mounted eccentrically on the shaft i^6, said shaft being provided with the pin i^7, and the piston i^4, mounted eccentrically on the shaft i^8, said shaft being provided with the recess or socket i^{10}, substantially as and for the purposes set forth.

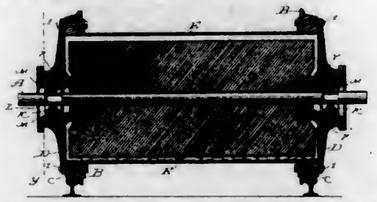
4. In a propelling and feeding engine for mining-machines, the pistons i^5 i^4, mounted eccentrically in piston-chambers i i', and provided with pinions i^9 i^{11}, engaging with the gear-disks of the carrying-wheels B B, in combination with abutments i^{12} i^{13}, working in abutment-channels i^{14} i^{15}, and suitable induction and eduction channels, substantially as described.

5. In a propelling and feeding engine for mining-machines, the induction-passages i^{16}, i^{17}, i^{18}, i^{19}, i^{20}, i^{21}, and i^{22}, in combination with the plug-valve i^{23}, with its angular passages i^{24} and i^{25}, substantially as described.

6. In a mining-machine, the brackets C, mounted at their lower ends on the trunnion-heads a^2, and provided at their upper ends with eyes c^2, and the cross-head 2, with hand-nuts 3, and with eyes in its ends, in combination with the hollow guide-rods and oil-reservoirs D, provided with filling-apertures d', and lamps or burners E, substantially as and for the purposes set forth.

7. In a mining-machine, the guide-rods D, provided with handles d, in combination with the trunnions a, having spindles a' and square heads a^3, the wheels B, and brackets C, as set forth.

267,425. CAR-TRUCK. CALVIN Q. HAYES, Sedalia, Mo. Filed May 3, 1882. (No model.)



Claim.—1. A car-truck consisting of loose wheels, a fixed axle, a float, and a cylinder containing quicksilver.

2. An axle and float rigidly secured together, in combination with a surrounding cylinder containing quicksilver, such cylinder being secured to the wheels.

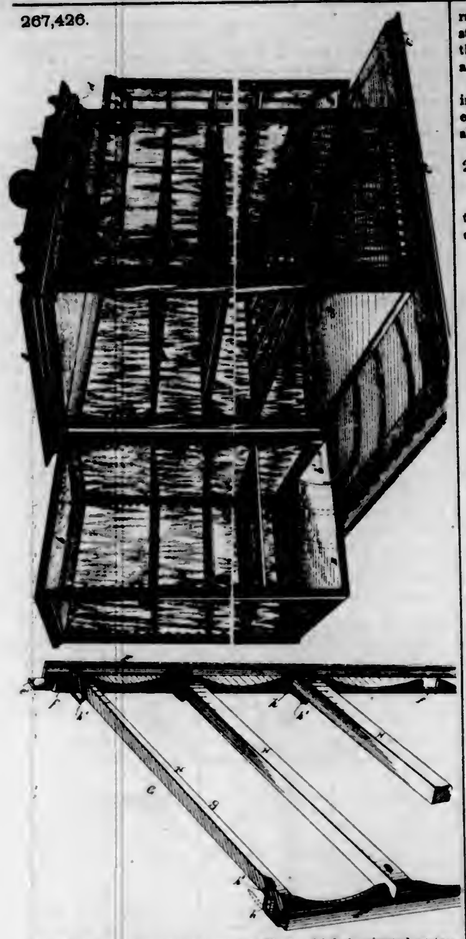
3. The combination of the axle adapted to support the truck-frame and car-body, the float rigidly secured thereto, the wheels slotted to permit vertical movement of the axle, and the cylinder bolted to the wheels and adapted to contain quicksilver, whereby the car-body is supported by the said quicksilver, as described.

267,426. SECTIONAL SHOW-CASE. PETER HENRICUS, Erie, Pa. Filed Nov. 16, 1881. (No model.)

Claim.—1. A show-case having a stationary section, with its base underlapping the swinging section, which is pivoted at the rear of the overlapping and underlapping parts near the stationary sections, as described, so that the movable section will be sustained by the underlapping ledge while being opened and when at rest, either open or closed.

2. A show-case having a stationary section, with its base provided with friction-tracks and underlapping and its top overlapping the movable section, as described, which is pivoted at top and bottom in the overlapping and underlapping parts, and when opened is sustained by the underlapping part, substantially as described, and for the purpose set forth.

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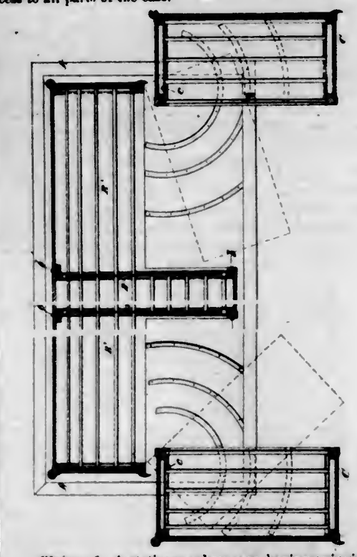


rabbeted longitudinal strips G g, and intermediate longitudinal strips, H, the upper surfaces of which are on the same plane as the lower face of the rabbet, which serves as a lateral support for a plate resting on strips H.

8. In an exhibition-case, a shelf having at its corners projecting tips e', in combination with the corner-pieces E, having sockets e, attached to the corner-posts of said case, substantially as shown.

267,427. SECTIONAL SHOW-CASE. PETER HENRICUS, Erie, Pa. Filed Nov. 16, 1881. (No model.)

Brief.—The sections are placed at each end of the front, so that when opened a person standing near the middle will have access to all parts of the case.



Claim.—1. A stationary show-case having swinging sections on the front ends of the base and a stationary section extending from end to end of the base and back of the swinging sections, which, when opened, admit of access to the stationary part.

2. A stationary show-case having swinging sections on the front ends of the base, and a stationary part having wings extending back of the swinging sections, which, when opened, admit of access to all parts of the case.

3. In a sectional show-case, a stationary part having a base, C, with extension C', and a top, D, with an extension, d, in combination with a swinging section, B, having a glass top, b, mounted on said extensions C and d, substantially as shown.

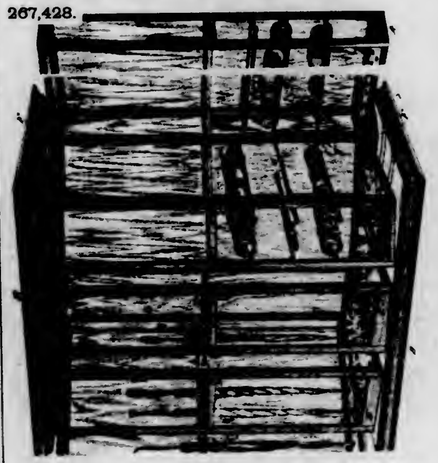
4. A show-case having a stationary section, with its base underlapping the swinging section, which is provided with a segmental molding, that completes the molding upon the case when the section is closed, and is pivoted at the rear of the overlapping and underlapping ledges, near the stationary sections, as described, so that the movable section will be sustained by the underlapping ledge while being opened and when opened or closed, the whole combined and arranged as set forth.

5. In a sectional show-case wherein the swinging section is mounted upon an extension of the base of the stationary section, the combination, with said base and swinging section, of curved frictional tracks, arranged substantially as shown, and having upon one of said tracks, and its companion, catches, substantially as shown, for preventing the swinging section swinging beyond the underlying base.

6. In an exhibition-case, a shelf consisting of a rack formed of metallic end pieces, F, having a rib or flange with notches f, and longitudinal strips H, having notches A and clasps h', substantially as and for the purposes set forth.

7. In an exhibition-case, a shelf consisting of a rack having

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267,428. SECTIONAL SHOW-CASE. PETER HERRICKS, Erie, Pa. Filed Nov. 16, 1881. (No model.)

Claim.—1. In a sectional show-case, two swinging sections, mounted independently between the top and base of the case on common pivots, and supported by the base when opened or closed, and adapted to be opened together or singly, for the purpose set forth.

2. In a sectional show-case, the combination, with a stationary section having a projecting base and top, of two swinging sections pivoted independently upon common pivots fixed in said base and top, and adapted, as shown, to swing together or singly from said stationary section.

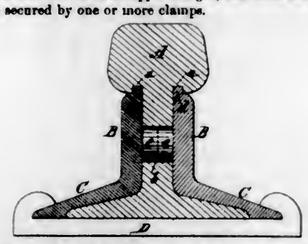
3. In an exhibition-case, a rack for holding ribbon-bolts, consisting of end pieces, *g*, and longitudinal strips 5 5 and 6, arranged in the manner and for the purposes shown.

4. In an exhibition-case, a ribbon-rack consisting of longitudinal strips 5 5 and 6, arranged as shown, and end pieces, *g*, having hooks *g'*, in combination with pins *i i* on the corner-pieces of the case-frame.

5. In an exhibition-case, an umbrella-rack having pins *h*, and rubber pieces *j*, placed transversely upon the ends of the pins, and projecting toward each other upon substantially the same line, for the purpose set forth.

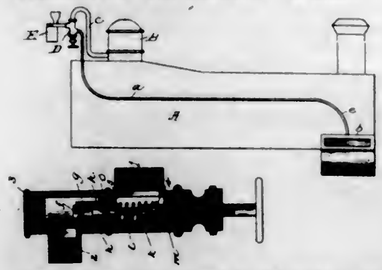
267,429. RAILWAY-RAIL JOINT. DANIEL B. HICKS, Pittsburg, Pa. Filed Aug. 26, 1882. (No model.)

Brief.—Rails are provided with recesses or grooves under the head and apertures in their web, in which are inserted fish-plates provided with ribs on their upper margin, and studs and inclines, and are secured by one or more clamps.



Claim.—In a railway-rail joint, the rails A A, each having one or more recesses or slots, *a*, on both sides, and the apertures *b* in the web, in combination with the angle-bars B C, having studs *e*, lips *d*, and inclines *f*, and one or more clamps, D, substantially as described.

267,430. LUBRICATOR ATTACHMENT. ROSS J. HOFFMAN, Binghamton, N. Y. Filed Sept. 2, 1882. (No model.)



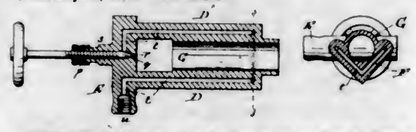
Claim.—1. In connection with the boiler and steam-cylinder of the class described, an automatic lubricator-cup connected to a valve-chamber above the valve thereof, a pipe connecting said valve-chamber above the valve with the interior of the boiler, a valve having parts constantly open, as described, for the passage of a small escape of the steam, means for giving a constant pressure underneath the said valve, and a steam-pipe connecting the valve-chamber below the valve to the interior of the cylinder, substantially as described.

2. The combination of the lubricator-cup E, valve mechanism D, having valve and ports A A constantly open to some extent, variable mechanism for pressing said valve upward, pipe *c*, leading to the interior of the dome or boiler, and pipe *a*, leading to connection with the cylinder, substantially as described.

3. In connection with a boiler and cylinders of a locomotive, a steam-supply pipe leading from the dome and connected with the cylinders, a suitable automatic lubricator, valve-chamber, and valve between the lubricator and the cylinders, ports allowing a constant flow of steam in limited quantity from the valve to the cylinders, and means, substantially as described, whereby the back-pressure of the steam in the cylinders may lift the valve and increase the flow of steam, substantially as described.

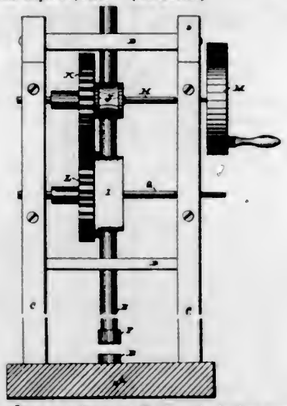
4. In combination with the boiler and cylinder of a locomotive, a lubricator-cup, E, and a valve mechanism, D, consisting of a chamber having pipe-connections 1 2 3, and valve *f*, having telescoping stems *l* and *m*, collars 4 and 5, and spring *k*, and ports *h h*, the said valve mechanism and lubricator being connected to each other, to the steam-cylinder, and to the boiler by pipe-connections, as described, whereby the steam from the boiler is constantly supplied in limited quantity to the cylinder and the supply of steam varied, all as set forth.

267,431. HYDROCARBON-GAS BURNER FOR BLAST-FURNACES AND OTHER PURPOSES. JOHN HOSKINS, Chicago, Ill. Filed May 28, 1881. (No model.)



Claim.—The self-generating hydrocarbon-gas burner herein described, comprising the tube G, parallel bars D and D' on opposite sides of said tube, and extending backward beyond the end thereof, connection F at the forward end of said bars, crossing the tube G, and cross-piece E at the rear of said bars, having the tubular projection *s*, conical aperture *r*, and valve *q*, said bars, cross-piece, and connection being provided with the continuous passage *t*, beginning at one end of the cross-piece E and terminating at the valve *q*, substantially as described.

267,432. STAMP-MILL. FRANK A. HUNTINGTON, San Francisco, Cal. Filed Sept. 27, 1881. (No model.)



Claim.—In an ore-stamp mechanism, the hollow stamp-rod E, in combination with four intermeshing gear-wheels, K L, shafts H and G, equidistant from each other, and two sets of frictional cams, J and I, for raising and forcing down said stem, the cams I, having their impinging faces cut away on opposite sides, as described, to give the stamp-stem a rolling motion, as set forth.

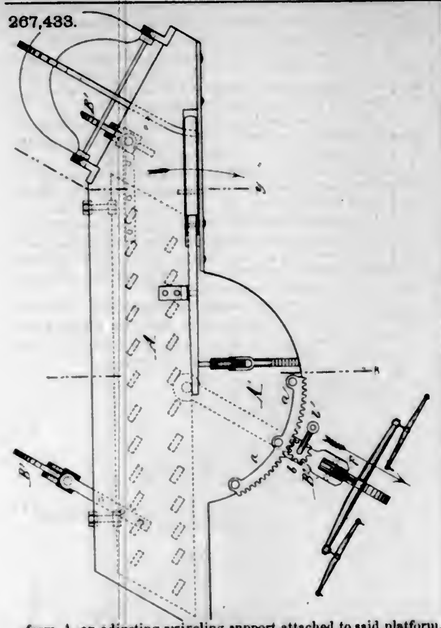
267,433. STREET-SWEEPING MACHINE. JOHN G. A. JACOB, New York, N. Y. Filed Aug. 2, 1882. (No model.)

Claim.—1. In a street-sweeping machine, the combination of a wheeled main platform with a brush-supporting frame arranged parallel to the axis of the same and provided with vertically-sliding brushes, and with mechanism for raising or lowering the brush-frame, substantially as described.

2. In a street-sweeping machine, the combination of a supporting main platform having a segmental front extension with a steering-wheel, the frame of which is pivoted to the center of the extension and adjusted by means of suitable gearing to a varying angle of inclination to the axis of the platform, substantially as and for the purpose set forth.

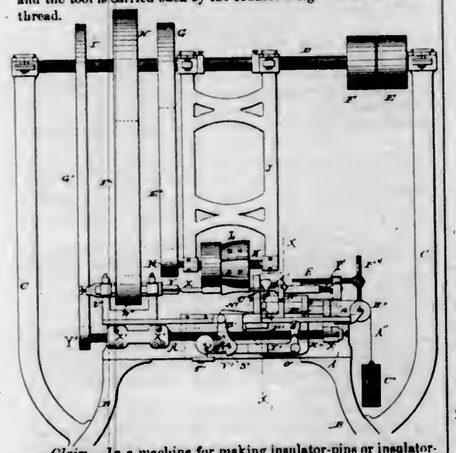
3. In a street-sweeping machine, the combination of the platform A, an adjusting swiveling support attached to said platform, an adjustable front steering-wheel, B, attached to said support, swivel hind wheels, B', a brush-supporting frame suspended below the platform, having vertically-sliding gravity-brushes, and a suitable lever mechanism for raising or lowering the brush-frame, substantially as specified.

267,433.



267,434. LATHE FOR TURNING INSULATOR-PINS, &c. JACOB S. KURTZ, Allegheny, Pa. Filed May 24, 1882. (No model.)

Brief.—The blank is put into the lathe-spindles and formed by the swinging cutter. As the swinging cutter moves back the tool-carrier is moved lengthwise of the lathe by half-nuts closing on the revolving feed-screw. The tool cuts a screw-thread in the work, and when its carrier reaches the end of its movement the half-nuts are thrown apart by a stop, and the cutter at the same time lifted, and the tool is carried back by the counter-weight above the screw-thread.



Claim.—In a machine for making insulator-pins or insulator-brackets, the combination of the pendant J, having cutter-head I, carriage G', having cutter-holder H' and cutter J', and their operating mechanism, substantially as hereinbefore described.

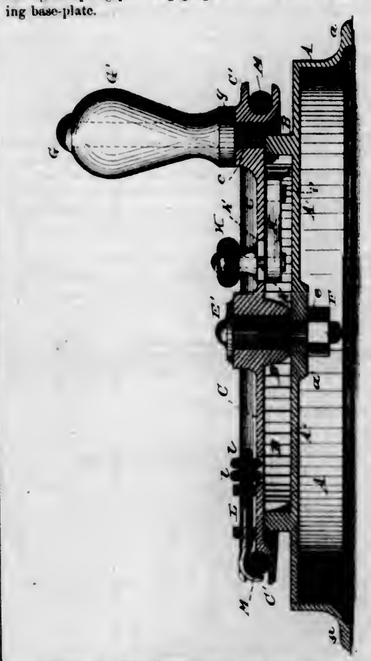
267,435. FEEDING DEVICE FOR PIPES FOR COOLING AND WARMING THE BODY. JOSEF LEITER, Vienna, Austria-Hungary. Filed Jan. 3, 1881. (No model.) Patented in Germany Aug. 7, 1880, No. 12,296; in Austria-Hungary Oct. 9, 1880, No. 32,376 and No. 40,010; in France Nov. 25, 1880, No. 138,842; in England Dec. 18, 1880, No. 5,312; in Belgium Dec. 20, 1880, No. 53,368; in Luxemburg Dec. 22, 1880, No. 98; in Italy Dec. 31, 1880, XV, 12,453, and XXV, 30; in Spain Apr. 2, 1881, No. 1,302, and in Russia May 20, 1882, No. 3,713.



Claim.—The combination, with a flexible tube or pipe, of the feeding device composed of a funnel-shaped casing, *a*, having the contracted neck *c*, and a filling-tube, *d*, arranged at right angles to the axis of the casing, substantially as described, for the purpose specified.

267,436. APPARATUS FOR OPERATING RAILWAY-SIGNALS. DAVID J. LINDSEY, Las Animas, Colo. Filed Feb. 28, 1882. (No model.)

Brief.—The signal-rope is clamped in a groove in the periphery of a hand-wheel, which is secured in any desired position through a spring-pawl engaging a toothed wheel upon a supporting base-plate.

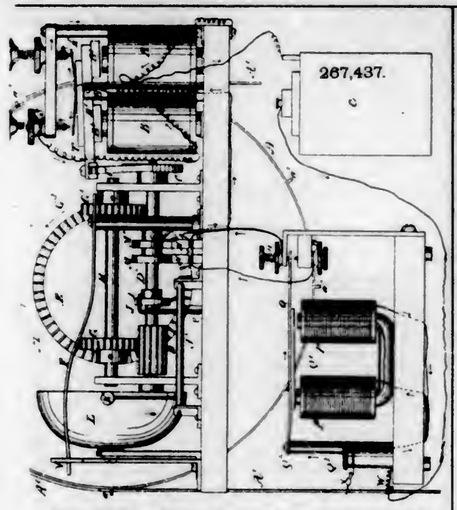


Claim.—1. The combination of the fixed base-plate A, having concentric internal cog-wheel, B, central pivot-bolt, E, disk C, having circumferential groove C', adjustable fastening-hook L, and handle G', and spring-bolt H, having the knob K, substantially as and for the purpose herein shown and set forth.

2. The combination, with the endless cord M, of the rotary circumferentially-grooved disk C, having the adjustable fastening-hook L, and provided with means for interlocking it in a fixed position upon its bed or base plate A, substantially as and for the purpose herein shown and described.

267,437. ELECTRIC STATION-INDICATOR. JOHN F. LOUDON, Hyde Park, Mass. Filed Nov. 16, 1881. (No model.)

Brief.—Revolving cylinders, each carrying a show-bolt that bears the names of the stations in their order, are placed one at each end of every car and caused to rotate in either direction by suitable mechanism.



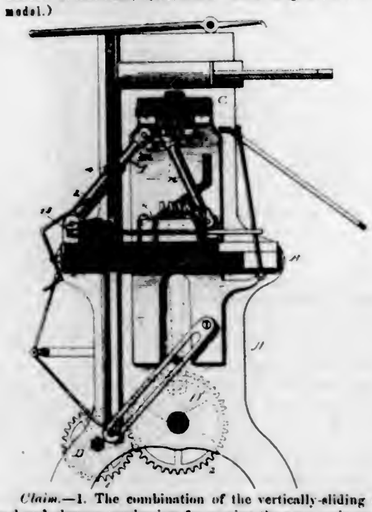
Claim.—1. In an electric-annunciator device, the combination of the pawls C C and their operating-armature B' B' and magnets B B B' B' with the ratchet-wheel C', shaft D', pinion D, sliding gear G G', face-gear driving-wheel E, cylinder A, and slow-belt A', all operating together substantially as described, and for the purpose set forth.

2. In an electric-annunciator device, the combination of the lever F F' and the sliding gears G G' with the face-gear E, operating substantially as described, and for the purpose set forth.

3. In an electric annunciator, the combination of commutator M M' N N' R with the conductor *n n'*, conductor Q, armature Q', and magnet P' P, all operating together substantially as described, and for the purpose set forth.

4. In an electric annunciator, the combination of the notched guide-plate V, having a movable plate, V^1 V^2, and the lever F F', with the vibrator-plate *f'*, armature f^2, and electro-magnets *f f*, all operating together substantially as described, and for the purpose set forth.

267,438. MACHINE FOR FORMING HEEL-STIFFENERS. ELDRIDGE S. MANSELL, Lynn, Mass. Filed Aug. 21, 1882. (No model.)



Claim.—1. The combination of the vertically-sliding cross-head and plunger, mechanism for moving the same reciprocally, a horizontal sliding plate and plunger, a fixed die, and toggles having yielding connections between the cross-head and the plate, whereby the cross-head is made to operate the horizontally-sliding plate, substantially as described.

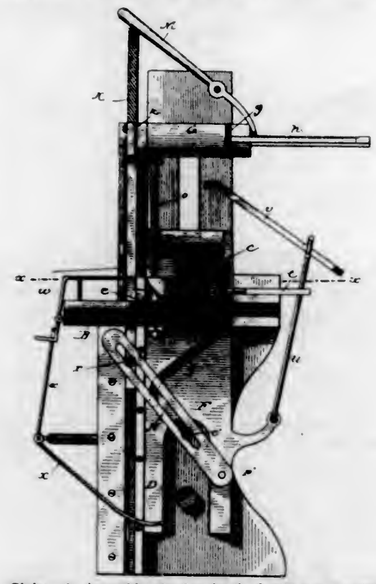
2. The combination of the cross-head with its plungers, the plate, carrying horizontal plunger, the toggles having rods *n' n'*, attached to the plate, and yielding rods *m m*, attached to the table, with operating mechanism, substantially as described.

3. The vertical plunger provided with recesses and spring-pins, in combination with the die and crimping-levers, and with the longitudinal plungers and operating mechanism.

4. The combination of the die, horizontal plunger, cam-rolls and springs, and rear extension of horizontal plunger 13, whereby said plunger holds the rolls open, substantially as described.

5. The fixed die having the hinged jaws *x x*, in combination with the horizontal plunger acting in the described relation to the said fixed die, and with a vertical plunger having mechanism, substantially as described, whereby in its descent it forces the jaws together, all as set forth.

267,439. MACHINE FOR FORMING HEEL-STIFFENERS. ELDRIDGE S. MANSELL, Lynn, Mass., assignor to George O. Tarbox, same place. Filed Apr. 20, 1882. (No model.)



Claim.—1. A machine for forming heel-stiffeners, consisting of a fixed block having a cavity to receive and form the stiffener, a horizontally-moving plunger to bring the blank to the cavity, a vertically-moving feed mechanism acting in connection with the horizontal plunger to bring the blank in front of said horizontal plunger, a vertically-moving plunger adapted to enter the cavity from above after the horizontal plunger has entered, said plunger acting in connection with devices to turn the edge of the blank to form the crimp or flange, all the parts specified being organized in the machine and in connection with operating mechanism, substantially as described.

2. In combination with the block having forming-cavity, having the pivoted crimping-levers, an upper plunger made with grooved face to receive the upper ends of the levers, and a horizontal plunger to push the blank into its place in the cavity, substantially as described.

3. The combination of the fixed block having forming-cavity, a horizontal plunger adapted to push the blank into said cavity, and cam-rollers, operated as described, arranged in front of the cavity to form the stiffener before it passes into the cavity, all substantially as described.

4. The vertically-moving cross-head carrying the upper plunger, the slotted arms H H, pivoted in the fixed frame and upon the vertically-moving frame L, and operated by connection with the cross-head, a vertically-sliding feed-plate connected to said arms, so as to be brought down when the cross-head goes up, and the reverse, and suitable mechanism to bring the blanks to the vertically-sliding feed-plate, substantially as described.

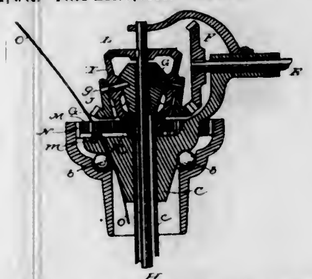
5. In combination with the vertically-sliding feed-plate, the feed-box G, slide *g*, and feed-lever M, operated by the vertically-sliding plate, when said plate rises to the upper limit, all substantially as described.

6. The ejecting devices, consisting of a plunger, *t*, in the block, operating through the same to press the stiffener from its cavity, in combination with the lever *w*, adapted to enter a groove in the horizontal plunger, and to throw the stiffener therefrom, substantially as described.

7. In combination with the ejecting-levers and the grooved plunger, the guard-springs, arranged to operate substantially as described.

8. The combination of the vertically-sliding cross-head, its connecting-frame having inclined slots, as described, the slotted levers operated by said frame, the cross-bar, and the slide carrying the horizontally-moving plunger, substantially as described.

267,440. GEARING FOR WINDMILLS. MYRON R. MARTIN, Brooklyn, Wis. Filed Mar. 8, 1882. (Model.)



Claim.—1. A gearing for windmills, consisting of a gear-wheel fixed to the wind-wheel shaft, a gear-wheel fixed to the vertical shaft, a loose gear central with the vertical shaft, imparting motion to said shaft through an intermediate gearing adapted to react on the turn-table.

2. A gearing for wind-wheels, consisting of a gear-wheel fixed to the wind-wheel shaft, a loose gear concentric with the vertical or driven shaft, said loose gear carrying pinions or gear-wheels meshing with opposite sides of a gear-wheel fixed to the driven shaft, and with other suitable cogged surfaces, whereby motion is communicated to said shaft and the side draft counteracted, as set forth.

3. A gearing for windmills, consisting of a pair of gears driven by the main driver on the wind-wheel shaft through an intermediate gear adapted to revolve around the driven shaft and to turn said pair on their axis, said pair of gears meshing into a fixed rack or gear on one side and into opposite sides of the pinion or gear on the driven shaft, whereby the said shaft is driven and the side draft obviated, substantially as described.

4. The combination, in a windmill, of the gear F, the gear G, carrying the oppositely-arranged gears I I, and the gears K and L, the whole operating on the shaft H, as set forth.

5. The combination, in a windmill, of the gear F, the gear G, carrying the gears I I, the gears K and L, and the pinion M, meshing with the internal rack, N, the whole operating on the shaft H, as set forth.

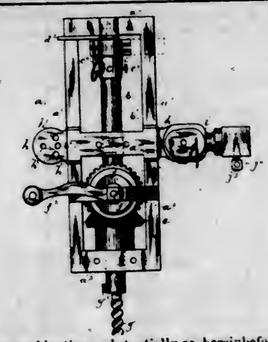
6. The combination of the tower-casting B, turn-table C, with gears, as described, for communication and balancing-power of the gear F, and with the sleeve e, bearing, and collar at lower end thereof, as set forth.

267,441. ROCK-DRILLING MACHINE. JAMES H. MCGLYNN, Wilkes-Barré, Pa. Filed June 23, 1882. (Model.)

Claim.—1. The combination, substantially as hereinbefore set forth, of the revolving tubular drill-shaft having its inner end open, the hinged nut fixed to the open tubular end of and revolving with the drill-shaft, and the stationary feed-screw having one end held in the supporting-frame and its other end extended through the hinged nut and into the tubular drill-shaft, substantially as set forth.

2. The combination, substantially as hereinbefore set forth, of the shaft *b*, carrying the drill and journaled in bearings in the frame *a*, the nut *c*, secured on the end of shaft *b*, and constructed with the hinged wings c^2 c^2, the non-rotating feed-screw *d*, passing into the shaft *b*, and constructed with the tang *d'*, seated in bearings in the end bar of frame *a*, and means for revolving the shaft *b*, as set forth.

267,441.

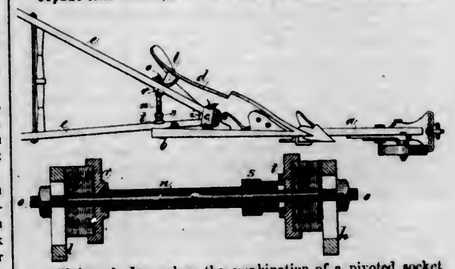


3. The combination, substantially as hereinbefore set forth, of the frame *a*, provided with the lugs *h h*, arranged on the opposite edges thereof, the arch or dome a^3, fixed to the frame *a*, the hollow drill-shaft *b*, provided with a nut, *c*, on its open end, the pinion *e*, sleeved upon the drill-shaft, the gear *f*, journaled in the dome or arch a^3 and meshing with the pinion *e*, the feed-screw having one of its ends held in the frame *a* and its other end working in the drill-shaft, and means for holding the frame and drill at any desired angle, as set forth.

267,442. PREPARATION FOR MASKING THE NAUSEOUS TASTE OF MEDICINES. WILLIAM H. MCLAUGHLIN, San Francisco, Cal. Filed Mar. 10, 1882. (No specimens.)

Claim.—As a vehicle to disguise the taste of quinine and other alkaloids, the elements of *Yerba santa* soluble in cold water.

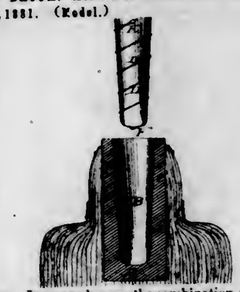
267,443. ATTACHING PLOW-HANDLES. WILLIAM A. MILES, Copake Iron Works, N. Y. Filed Oct. 29, 1881. (No model.)



Claim.—1. In a plow, the combination of a pivoted socket for receiving the lower ends of the handles, with a wedge introduced between the handles and the screw for securing the wedge in place, substantially as set forth.

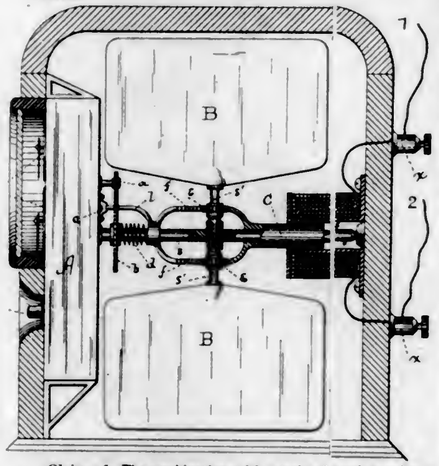
2. The expansion-brace, formed of a tube and nut, in combination with the plow-handles and the clip-plates at the end of the brace and the tie-bolt passing through the handles, substantially as set forth.

267,444. BROOM. MILTON B. MONTGOMERY, Mercer, Pa. Filed May 18, 1881. (Model.)



Claim.—In a corn-broom, the combination, with a socket-piece having a tapering socket, of a tapering handle having a spiral wire attached thereto to form a screw, substantially as described, and for the purpose set forth.

267,445. MEANS FOR MEASURING ELECTRIC CURRENTS. SAMUEL D. MOTT, New York, N. Y. Filed Apr. 24, 1882. (No model.)



Claim.—1. The combination, with a train of gearing and registering devices moved by a weight or spring, of a solenoid-magnet, through which the current to be measured passes, and a resistance to the revolution of the mechanism, the same being controlled by the solenoid-magnet, so that the greater the current the less the resistance to the revolution of the mechanism, substantially as set forth.

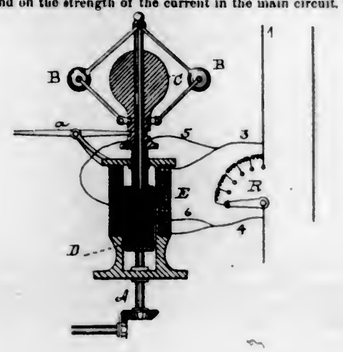
2. The combination, in an electric meter, of mechanism actuated by a weight or spring, indicating hands and dials, a solenoid-magnet through the helix of which the current passes, a fan revolved by the mechanism, and a solenoid-core and connection to such fan, whereby the resistance of said fan is varied in the reverse proportion to the electric current, substantially as set forth.

3. The combination, with a fan or similar resistance and mechanism, substantially as specified, for rotating the same, of a solenoid-magnet to move the fan and vary the resistance in proportion to the electric energy of the solenoid, and a stop that arrests the movement of the fan when the electric current ceases, substantially as set forth.

4. In an electric meter, the combination, with a fan or similar resistance and mechanism for rotating and registering the rotations, of a solenoid-magnet the core of which is upon the shaft of the said fans, and mechanism actuated by such solenoid, substantially as specified, for moving the said fans and varying the resistance in the inverse proportion to the electric current, substantially as set forth.

267,446. ELECTRIC GOVERNOR FOR DRIVING-ENGINES FOR DYNAMO-ELECTRIC MACHINES. SAMUEL D. MOTT, Menlo Park, N. J. Filed Oct. 1, 1881. (No model.)

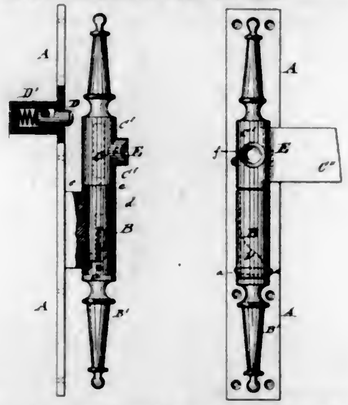
Brief.—The sliding portion of the governor is connected with the core of a solenoid in electrical connection with the main circuit, whereby the effective weight of the sliding portion is made to depend on the strength of the current in the main circuit.



Claim.—1. In combination with governor-balls, means for rotating them by steam-power, and connections for the steam-valve, a solenoid-core connected to the sliding portion of the governor and a helix surrounding such core and circuit-connections, substantially as set forth, whereby the core is caused to act upon the revolving governor-balls in proportion to the electric current in the helix, substantially as set forth.

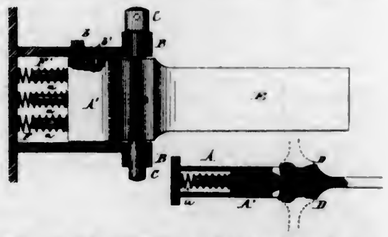
2. In combination with a variable resistance in an electric circuit, a shunt-circuit, a helix in that shunt, a solenoid-core within the helix, governor-balls, means for rotating the same by a steam-engine, connections for the steam-valve, and a connection between the solenoid-core and the moving portion of the governor, whereby the solenoid-magnet is caused to act on the governor, substantially as set forth.

267,447. LOCK-HINGE. AUGUST MÜLLER and JOSEF WOLF, New York, N. Y. Filed Mar. 11, 1882. (No model.)



Claim.—A short socket beveled upon one side, and projecting laterally from the pintle or knuckle of a rising hinge, in combination with a rounded-ended spring-pressed locking-bolt, guided in a casing of the main plate of the hinge, substantially as described.

267,448. LOCK-HINGE FOR SHUTTERS. AUGUST MÜLLER and JOSEF WOLF, New York, N. Y. Filed Mar. 11, 1882. (No model.)

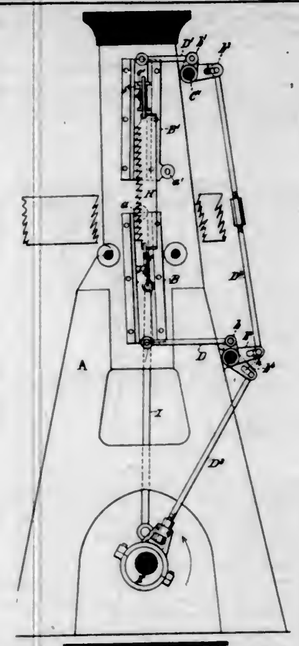


Claim.—As an improvement in lock-hinges, the mechanism consisting of a supporting-casing provided with pintle-sockets, a follower with one end resting on springs, the other end made convex to fit concave grooves of the strap, and having a recess in one side, into which a screw-stop projects, so as to control the outward motion of the follower, and a strap with a pintle-socket and concave grooves at its pintle end, whereby the shutter may be automatically held in as many positions as there are concave grooves, substantially as described.

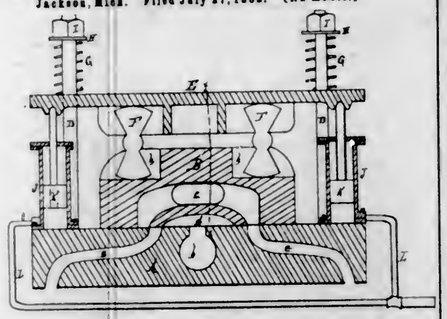
267,449. MECHANISM FOR OPERATING THE OSCILLATING SLIDES OF GANG-SAWS. ROSWAY N. NIXON, Dubuque, Iowa, assignor of one-half to Clarence J. Lessrs, same place. Filed Aug. 16, 1882. (No model.)

Claim.—The combination of the oscillating slides B and B' with the connecting-rods D and D' and rock-shafts C and C', operated by suitable mechanism, the slides being pivoted at their inner ends to avoid the springing of the saws, substantially as described.

267,449.



267,450. BALANCED SLIDE-VALVE. LEVI P. NORMANDIN, Jackson, Mich. Filed July 27, 1882. (No model.)



Claim.—1. In combination with the valve-seat of a steam-engine, the valve B, having recesses A, the plate E, held by spring force in the direction of said valve, and the mutilated rollers F, constructed to give equal bearings upon said valve and plate, as set forth.

2. The guide-plates C, rigidly secured to the seat A, combined with the valve B, having recesses A, the mutilated roller F, plate E, and springs, as set forth.

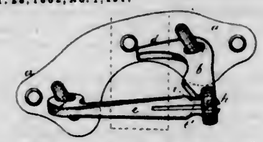
3. In combination with a valve held to its seat by adjustable spring force applied to a plate, auxiliary steam-cylinders having independent steam-inlets, and pistons operating therein to overcome the spring force and relieve the valve of the pressure of the spring, as specified.

4. The auxiliary cylinders J, having pistons K and steam-pipes L, combined with the springs G, plate E, mutilated rolls F, and valve B, as and for the purposes set forth.

267,451. DRY LUBRICANT FOR MACHINERY, &c. JOHN B. NORRIS, Richmond, Va. Filed Oct. 19, 1882. (No specimens.)

Claim.—The new compound of matter composed of reduced or pulverized mica, sal-soda, and charcoal or carbon, in or about in the proportions given, substantially as and for the purposes set forth and described.

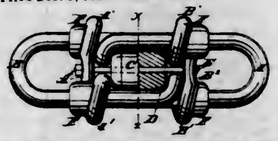
267,452. SADDLE-BAR. JAMES OLDHEALOW, Cheltenham, County of Gloucester, assignor to Thomas Dancer, Malmesbury, England. Filed Sept. 7, 1882. (No model.) Patented in England Mar. 23, 1882, No. 1,491.



Claim.—1. The improved safety saddle-bar, having the cranked or horizontal bar slotted longitudinally at its free end, and constructed substantially as herein described, and shown in the drawings annexed.

2. In saddle-bars, a cranked or horizontal bar slotted longitudinally at its free end to serve as a spring, and provided with the groove *i*, as and for the purposes above described.

267,453. CAR-COUPLING LINK. ALBERT W. PALMER, Orange, N. J. Filed Dec. 9, 1881. (No model.)

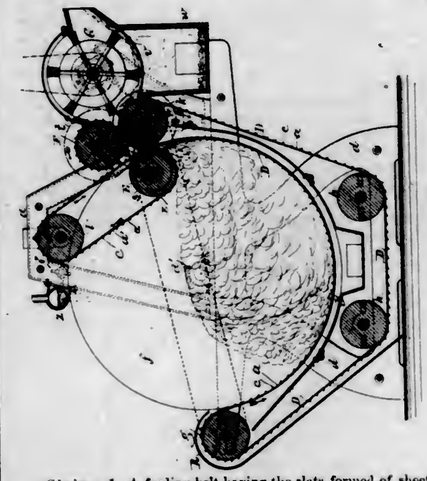


Claim.—1. A car-coupling link consisting of two individual U-shaped parts, A and B, connected together by members of each part being coiled around those of the other, and arranged in one and the same plane, suitably for the purposes of a car-coupling link, also to slide lengthwise on each other, and a spring, C, combined therewith, to cushion the extension of said parts, substantially as described.

2. The combination, in a car-coupling link, of the two parts A and B, having eyes A' and B' and cross-extensions A^2 and B^2, the spring C, pin E, and cups D, substantially as described.

3. The combination, in a car-coupling link, of the two parts A and B thereof, having eyes A' and B', cross-extensions A^2 and B^2, and the collars F, the spring C, and the pin E, substantially as described.

267,454. MACHINE FOR PICKING, OPENING, AND MIXING WOOL. STEPHEN R. PARKHURST, Montclair, N. J., assignor to Emily R. Parkhurst, same place. Filed Aug. 25, 1881. (No model.)



Claim.—1. A feeding-belt having the slats formed of sheet metal, with teeth in the sheet metal, in combination with metal hinges for uniting the slats, substantially as specified.

2. In a feeding-hopper, the combination of disks that are at the ends of the hopper with an endless belt having teeth that passes

beneath the disks, and rollers or cylinders *g k*, for moving such belt, and rollers *h*, for distending such belt into its proper position, substantially as set forth.

3. The combination, with a feeding-belt having teeth, of rollers or cylinders around which such belt passes, an opening-cylinder, F, having teeth, a cylinder, E, combing-belt *a a'*, and delivery-brush G, and means for operating the several parts, substantially as set forth.

4. The combination, with the feeding-belt having teeth and the disks forming the ends of the hopper, of an opening-cylinder, F, cylinders *l* and E, and an endless apron forming a comber, *a'*, and means for operating the several parts, substantially as set forth.

5. A feeding-hopper composed of a belt of slats with teeth and disks, in combination with a dirt-catcher introduced between the upper and lower parts of the endless belt, and means for operating such belt, substantially as set forth

6. The combination, with the feeding and opening cylinders, of a feeding-belt, a belt of toothed slats, *a'*, occupying an inclined position above the feeding-belt and acting as a comber, and the rollers or cylinders around which such belts pass, substantially as set forth.

267,455. DETERGENT COMPOUND AND PROCESS OF MAKING THE SAME. CHARLES C. PARSONS, Brooklyn, N. Y., assignor to the Columbia Chemical Works, same place. Filed Feb. 4, 1882. (No specimens.)

Claim.—1. The process of preparing a permanent mixture of an ammoniacal salt with any caustic or carbonated alkali or alkaline earth, or any mixture of two or more of them, by making all the component parts of the mixture so free from water that no chemical action can take place between them until water is applied, substantially as set forth.

2. The process of preparing a permanent mixture of an ammoniacal salt with any caustic or carbonated alkali or alkaline earth, or any mixture of two or more of them, and any insoluble body, by making all the component parts of the mixture so free from water that no chemical action can take place between them until water is applied, substantially as set forth.

3. The process of preparing a permanent mixture of an ammoniacal salt with any caustic or carbonated alkali or alkaline earth, or any mixture of two or more of them, and a soap or other cleansing body, by making all the component parts of the mixture so free from water that no chemical action can take place between them until water is applied, substantially as set forth.

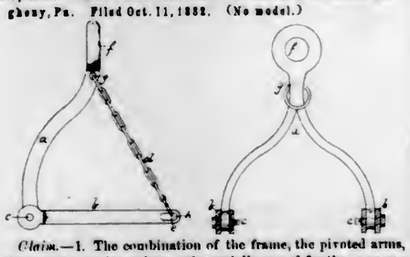
4. The above-described detergent compound, consisting of any carbonate or caustic alkali or alkaline earth, or any mixture of two or more of these, and an ammoniacal salt, the whole being so free from water that no chemical action will take place between the component parts until water is applied, substantially as set forth.

5. The combination of the above-described ammoniacal detergent compound with soap or any other cleansing body, the whole being so free from water that no chemical action will take place between the component parts until water is applied, substantially as set forth.

6. The combination of the above-described ammoniacal detergent compound with an insoluble body, the whole being so free from water that no chemical action will take place between the component parts until water is applied, substantially as set forth.

7. The combination of the above-described ammoniacal detergent compound with soap or other cleansing body and an insoluble body, the whole being so free from water that no chemical action will take place between the component parts until water is applied, substantially as set forth.

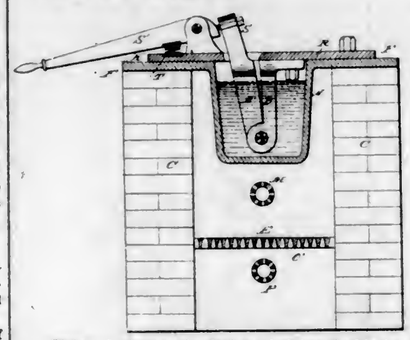
267,456. MUCK-BAR CRADLE. WILLIAM P. PORTER, Allegheny, Pa. Filed Oct. 11, 1882. (No model.)



Claim.—1. The combination of the frame, the pivoted arms, and sustaining chains or bars, substantially as and for the purposes described.

2. A muck-bar cradle having pivoted sustaining-arms, substantially as and for the purposes described.

267,457. DEVICE FOR TEMPERING HOES AND OTHER THIN STEEL ARTICLES. JULIUS C. RICHARDSON, Ilion, N. Y. Filed Mar. 30, 1882. (No model.)

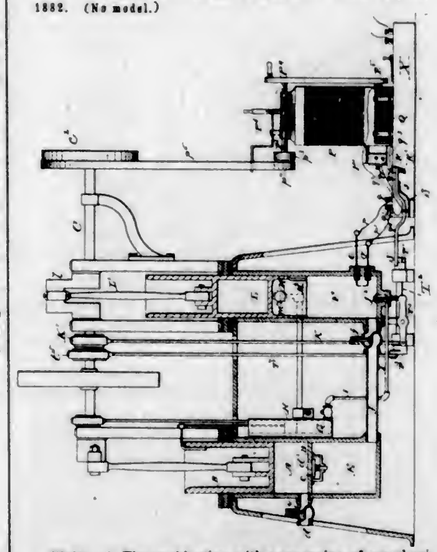


Claim.—1. A tempering device embodying a lead bath, a pair of clamping-jaws immersed in said bath, a set-screw adjustable in one of said jaws, and a cam-lever adapted to bear against set-screw, by adjusting which the maximum pressure may be determined and regulated.

2. A tempering device embodying a lead bath, a cap-plate, R, a pair of clamping-jaws secured detachably to the under side of the same, so as to be immersed in the lead bath, and means for operating said clamping-jaws, as set forth.

3. The combination of the furnace C, flanged vessel A, plate R, clamping-jaws B B', lever S', and spring T, as and for the purpose set forth.

267,458. ELECTRICAL IGNITING DEVICE FOR GAS-ENGINES. ALEXANDER K. RIDER, Walden, N. Y. Filed July 20, 1882. (No model.)



Claim.—1. The combination, with a gas-engine, of a mechanical electrical generator arranged for operation through suitable intermediate connections by power transmitted from the engine, and having suitable conductors terminating inside the motive-cylinder of the engine and suitable devices for causing the current from said generator to produce a spark between the terminals of said conductors, substantially as and for the purpose set forth.

2. In a gas-engine, the combination, with the motive cylinder and piston, of the insulated electrodes projecting into said cylinder, and slightly separated from each other at their tips, a mechanical electrical generator operated by connection with the engine and having opposite conductors connected with said electrodes, respectively, a short or shunt circuit arranged to connect said conductors outside of said motive cylinder, a circuit-breaker and shunting device arranged to break said short circuit, and mechanism deriving motion from the engine for operating said circuit-breaker and shunting device at predetermined intervals, substantially as and for the purpose set forth.

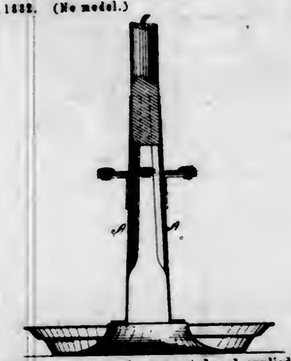
267,459. PICTURE-HOOK. ALBERTA RILEY, Boston, Mass. Filed May 8, 1882. (No model.)



Claim.—1. The improved picture-book B, provided with the hooks *c e* and the intermediate hook *d*, made integral, substantially as set forth.

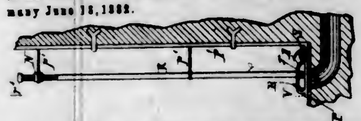
2. The improved picture-book B, provided with the hooks *c e* and the intermediate book *d*, the hook *e* being slotted, substantially as and for the purpose set forth.

267,460. CANDLESTICK. ALFRED RIX, New York, N. Y. Filed Oct. 17, 1882. (No model.)



Claim.—The quadrilateral constructed and applied substantially as and for the purpose set forth.

267,461. GATE OR VALVE FOR RESERVOIRS. EMILE ROCHE, Marseilles, France. Filed July 20, 1882. (No model.) Patented in France Feb. 15, 1882, No. 147,405; in Belgium June 10, 1882; in Spain June 12, 1882; in England June 15, 1882; in Austria June 17, 1882; in Italy June 17, 1882, and in Germany June 18, 1882.



Claim.—1. In a gate or valve, the combination of a seat-plate, a valve-disk hinged thereto, provided with slotted guide-bars with an operating-lever carrying a cross-head arranged to slide within the slots of said guide-bars to actuate the valve, substantially as and for the purposes specified.

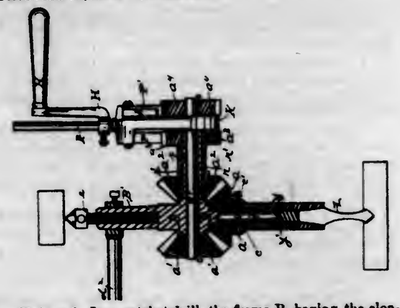
2. In a gate or valve of the class described, the combination of a seat-plate provided with locking-bars having wedge-shaped recesses, a disk-valve hinged upon said seat-plate and carrying slotted guide-bars, with an operating-rod provided with a cross-head that is wedge-shaped in cross-section, and arranged to slide in the slots of the guide-bars and engage the wedge-shaped recesses of the locking-bars, all combined and operating substantially as and for the purposes specified.

3. In a gate or valve of the class described, a valve-seat provided with a tabular casing or extension, having a concave outer periphery, whereby said seat may be embedded and anchored in the walls of the structure to which the gate is applied, substantially as and for the purposes specified.

4. The gate or valve described, composed of a seat-plate, P, carrying the locking-bars B, a disk-valve hinged to said plate and carrying the slotted guide-bars A, and operating-rod R, provided with a cross-head, *r*, that is wedge-shaped in cross-section, and a stop, S, to limit the movement of the disk-valve from its seat, substantially as and for the purposes specified.

5. The combination, with the gate or valve, its seat-plate and its operating-rod, constructed as described, of the supporting-plate P', provided with its standards *p'* and the nut N, substantially as and for the purposes specified.

267,462. RATCHET-DRILL. WILLIAM SANDIFORD, Joliet, Ill. Filed June 17, 1882. (No model.)



Claim.—1. In a ratchet-drill, the frame B, having the elongated sleeve *r* and elongated arm *s*, forming a part thereof, in combination with the shaft *s'*, miter-wheel *a'*, miter-wheel *a²*, miter-wheel *a*, having the elongated hub *y*, forming the drill-spindle, ratchet-wheel *a³*, having the elongated hub or sleeve *r'*, ratchet-wheel *a⁴*, lever R, and pawls P and P', all arranged to operate in the manner set forth.

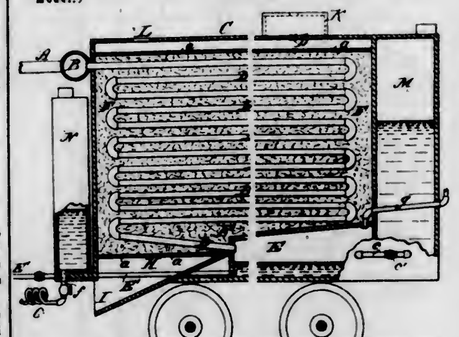
2. In a ratchet-drill, the miter-wheel *a*, arranged, as shown, on the arm *s*, forming a portion of the frame B, and terminating in the elongated hub *y*, to form the drill-spindle, as set forth.

3. In a ratchet-drill, the combination of the ratchet *a³*, having the elongated hub *r'*, elongated sleeve *r* of the frame B, and the miter-wheel *a²*, arranged to operate as set forth.

4. In a ratchet-drill, the frame B, having the elongated sleeve *r* and elongated arm *s*, in combination with the shaft *s'*, and miter-wheels *a*, *a'*, and *a²*, by which said frame B is inclosed, as set forth.

5. In a ratchet-drill, the yoke D, in combination with the frame B', for the purpose set forth.

267,463. COMBINED STEAM-CONDENSER AND TENDER. HERRMAN S. SAHONI, St. Paul, Minn. Filed Jan. 20, 1882. (No model.)



Claim.—1. The process herein described of condensing exhaust-steam for reuse, consisting in passing the same through conductors of successively-increasing capacity and subjecting the portion of said conductors having the greatest capacity to counter-currents of air and water, substantially as herein set forth.

2. In a combined steam-condenser and locomotive-tender, an exhaust-steam pipe, a receiving-drum of greater area and capacity than the exhaust-steam pipe, a series of manifold conducting-pipes of greater capacity than the drum, and a condensing-chamber connecting with the conducting-pipes, as and for the purpose set forth.

3. In a locomotive-tender, the condensing mechanism described, consisting of the exhaust-pipe A, the transverse drum B, the series of manifold conducting-pipes D, and the condensing-chamber E, of successively-increasing capacity, in the order named, combined with connections with an ordinary boiler-pump, as and for the purpose specified.

4. An exhaust-condenser consisting of the pipe A, drum B, and manifold conductors D, as described, combined with a confined fibrous or porous material in which the conductors are embedded, and which is kept moist by gravitating water, and with means for inciting a draft of air through said material, as and for the purposes specified.

5. In an exhaust-steam condenser, a series of manifold conducting-pipes embedded in a fibrous or porous material, and the said material and pipes subjected to currents of moisture and air for the purpose of reducing the temperature, as specified.

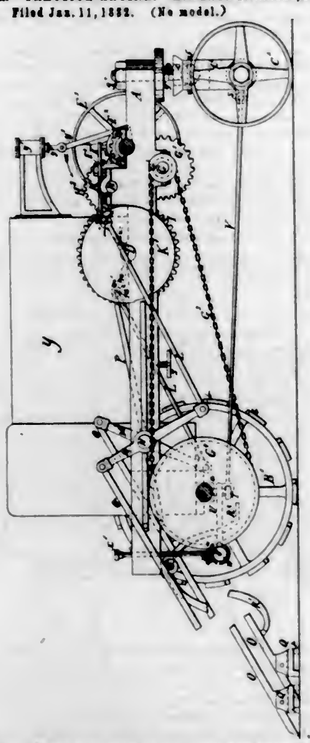
6. The combination, with the condensing-drum B, manifolds D, and porous packing F, of the perforated diaphragms G H, water-tank K, condensed-steam tank E, and air-chamber I, substantially as herein shown and described.

7. In a combined steam-condenser and tender, the combination, with the manifold pipes D, condensed-steam tank E, porous packing F, diaphragms G H, and water-tank K, of the auxiliary water-tank M and pipe *c*, substantially as herein shown and described.

8. In a locomotive-tender having a condensing apparatus and a condensing-chamber, substantially as described, the reservoir M, having valved connections *c c'*, with said condensing-chamber, and connections K' with the boiler-pumps, all arranged and combined to serve as set forth.

9. The combination, with the steam-condensing manifold pipes D, condensed-steam tank E, and water-tank M, of the water-pipes *c* E' and escape-pipe *g*, substantially as set forth.

267,464. TRACTION-ENGINE. HERRMAN S. SABORI, St. Paul, Minn. Filed Jan. 11, 1882. (No model.)



Claim.—1. The combination, in a traction-engine, of the traction-wheels B, the reciprocating pushers O, a motive power provided with a shaft, E, suitable connecting devices between said shaft and the pushers and traction-wheels, and a clutch mechanism for throwing said pushers and traction-wheels into and out of gear at will, all substantially as described.

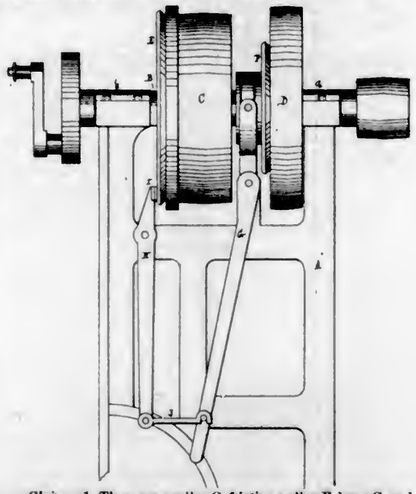
2. As a means for propelling an engine, the combination, with the frame A, of the shafts I' P, eccentrics K' K', connecting-rods L L', levers M M', shafts N N', pushers O O', and lifting-arms P P', arranged and operated substantially as herein shown and described.

3. The combination, with the pivoted pushers O O', of the lifting-arms P P', provided with lateral pins *o*, substantially as and for the purpose described.

4. The combination, with the pushers O O', of the swinging clogs Q, the two being so pivoted together that the clogs will rest under the pushers and the points of the pushers project over and behind the clogs and act on the ground, substantially as herein shown, and for the purposes described.

5. In a traction-engine, as a means for giving freedom of vertical movement to the ends of the front axle, the combination, with the front axle provided with a suitable central socket, of the king-bolt D, passing through and turning in the frame A, provided with ball *d* and collar *g* and pin *f*, substantially as herein shown and described.

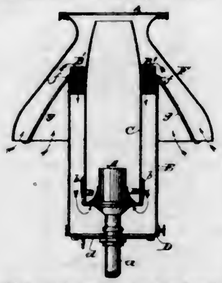
267,465. MORTISING-MACHINE. CHARLES SEYMOUR, Defiance, Ohio, assignor to the Defiance Machine Works, same place. Filed July 12, 1882. (No model.)



Claim.—1. The power-pulley C, friction-pulley F, lever G, and connections, combined with the loose pulley D and connections with the boring mechanism, and with the shaft B, having rigid friction-pulley E, as and for the purposes specified.

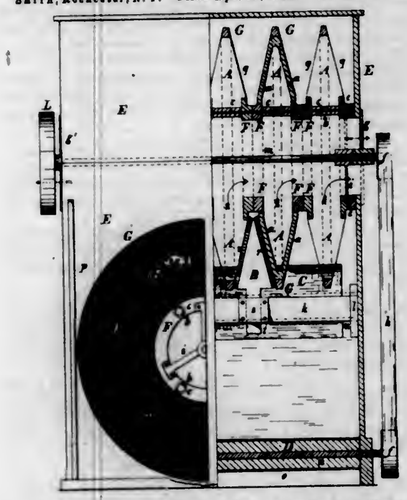
2. The power-pulley C, friction-pulley F, pulley D, and shaft B, having rigid pulley E, combined with the lever G, lever H, brake I, and latch-link J, as and for the purposes specified.

267,466. ATTACHMENT TO BURNERS FOR GAS, &c. IRA W. SEALLS, Brooklyn, N. Y. Filed Apr. 7, 1882. (No model.)



Claim.—The attachment for burners herein described, consisting of an inner chimney, C, and outer chimney, E, with annular screen B, arranged between the inner chimney, C, and burner A, and annular screen B', arranged at the top between the inner and outer chimneys, and the bottom D, provided with a valve, *d*, all constructed and arranged as shown, and for the purpose specified.

267,467. DUST-COLLECTOR FOR FLOUR-MILLS. JOHN R. SMITH, Rochester, N. Y. Filed Apr. 10, 1882. (No model.)



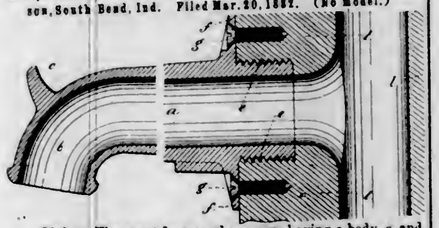
Claim.—1. The combination of a rotating dust-catching balloon, provided with circumferential cloth-covered grooves, with stationary brushes arranged to clean the cloth, substantially as and for the purposes set forth.

2. The combination of a rotating dust-catching balloon, provided with circumferential cloth-covered grooves, with the casing E, inlet-spout C, and brushes B, adapted to clean the cloth at the sides of the grooves, substantially as described.

3. The combination of a rotating dust-catching balloon, provided with circumferential cloth-covered grooves, with the casing E, inlet-spout C, brushes B, and discharge-valve D, substantially as described.

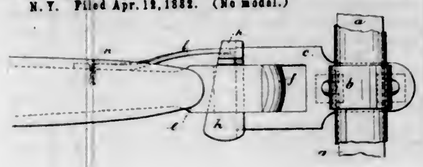
4. The combination of the outer and inner rings, F and G, cloth *g*, thimbles *c*, arms *a a*, and bolts *b*, substantially as described.

267,468. SPOUT FOR WOODEN PUMPS. BURR C. STEPHENSON, South Bend, Ind. Filed Mar. 20, 1882. (No model.)



Claim.—The spout for a wooden pump, having a body, *a*, and a downward curve, *b*, to the tube at one end, and at the other end a screw-thread, *e*, and flange *f*, cast in one piece, with holes through the flange for the attaching-screws *g*, substantially as set forth.

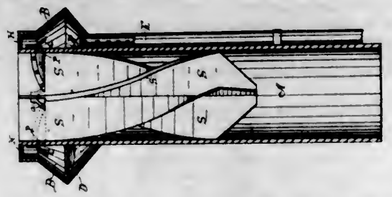
267,469. THILL-COUPLING. VERNON A. TYLER, Jamestown, N. Y. Filed Apr. 12, 1882. (No model.)



Claim.—1. The combination, with the clip *b* and shackle *c*, having a rounded front, of the hook *f*, in the form of a link, open at the bottom, and the wedge *h*, inserted into such open hook, and in front of the round part of the shackle *c*, substantially as set forth.

2. The clip *b* and shackle *c*, in combination with the link-shaped hook *f*, open at the bottom, the wedge *h*, having a concave-grooved side next the shackle, and the spring *l*, acting upon such wedge, substantially as set forth.

267,470. SPARK-ARRESTER. HUGH R. WALKER, Joliet, Ill. Filed Mar. 27, 1882. (No model.)



Claim.—1. In the spark-arrester described, the radial spiral partitions S, having the flanges S', in combination with the chimney A, for the purpose set forth.

2. In the spark-arrester described, the overhanging hoods *c*, to cover the apertures P in the chimney A, in combination with the arresting-hoods *a* on the spiral partitions S, for the purpose specified.

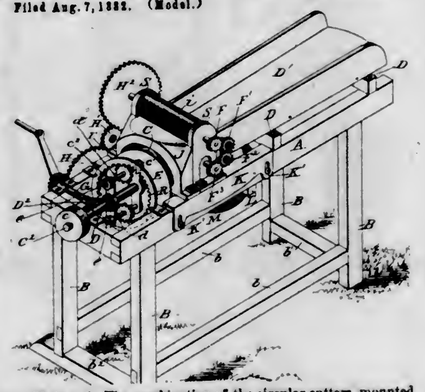
3. The chimney A, having the perforations P, in combination with the radial spiral partitions S, provided with the flanges S' and hoods *a*, hoods *c*, annular perforated plate H, connecting the top of the chimney A with the bonnet, and the bonnet provided with the inclined floor D and discharge-pipe E, all arranged to operate as and for the purpose set forth.

267,471. OILING-CAN. PATRICK WALL, Allegheny City, Pa. Filed Apr. 11, 1882. (No model.)



Claim.—An oiling-can or similar vessel having a sheet-metal body and a steel spring-bottom, the parts being united by a lapped and brazed joint, substantially as and for the purpose specified.

267,472. STRAW-CUTTER. JAMES T. WARNER, Le Roy, N. Y. Filed Aug. 7, 1882. (Model.)



Claim.—1. The combination of the circular cutters, mounted upon the ends of longitudinal shafts, turning in the cross-head bearings, the pinions for imparting motion to the cutters, meshing into the circular rack, and the circular revolving shield, all arranged and operating substantially as described.

2. The combination of the circular cutting-knives, the cross-head bearings, the shafts upon which the cutting-knives are

mounted, and the set-screws resting against the rear ends of the cutter-shafts for taking up the wear upon the cutting apparatus, substantially as described.

3. The combination of the flanged plates K, having the vertically-slotted ears and adjusting-bolts, the metallic throat J, semicircular in form, and the revolving cutter-knives, all arranged and operating substantially as described.

4. The combination of the flanged plates K, having the vertically-slotted ears K', brackets S, feed-rollers i O, and iron throat J, all arranged and operating substantially as described.

5. In a feed-cutting machine, the metallic throat having a semicircular cutting-edge, in combination with the revolving cutter mechanism, consisting of vertical circular cutters mounted upon horizontal shafts, and made to revolve circularly across the face of the cutting-edge, with a revolution reverse from the actuating one, substantially as herein set forth.

267,473. HOSE-PROTECTOR. GEORGE WESTINGHOUSE, Jr., Pittsburg, Pa. Filed Sept. 18, 1882. (No model.)



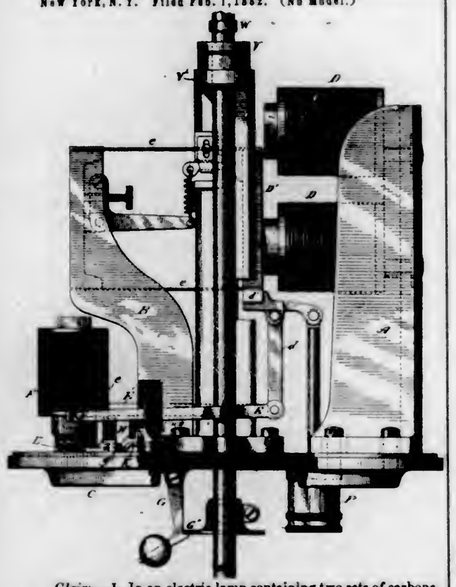
Claim.—1. As a covering for a hose-pipe, a series of unbroken rings, each encircling the hose, and some or all of which have irregularly-shaped ends, substantially as set forth.

2. The combination of a flexible hose and a series of unbroken rings thereon, each encircling the hose, when some or all such rings have an end shape such as to form a pivoting point or points for the turning of one ring on another, substantially as set forth.

3. A hose-protecting ring, *a*, having one or more end projections, *a'*, and depressions *a²* on one or both ends thereof, substantially as set forth.

4. A hose-protecting ring, *a*, having one or more end projections, *a'*, depressions *a²*, and interior rounded or beveled end corners, *c'*, substantially as set forth.

267,474. ELECTRIC-ARC LAMP. EDWARD WESTON, Newark, N. J., assignor to the United States Electric Lighting Company, New York, N. Y. Filed Feb. 1, 1882. (No model.)



Claim.—1. In an electric lamp containing two sets of carbons, the combination, with the electro-magnet, of independent feed mechanisms, one for each set of carbons, a pivoted armature-lever adapted to be shifted to maintain either of said feed mechanisms out of operation, and an electro-magnet independent of the feed magnets, arranged to shift the said lever, for the purpose of bringing into operation the second set of carbons when the first has been consumed, substantially in the manner described.

2. In an electric lamp containing one set of feed-controlling magnets and two sets of carbons, the combination, with the removable armature, of two independently-connected clutch mechanisms, one for each set of carbons, a pivoted armature-lever adapted to be shifted to raise the free end of either of the said clutch mechanisms, and an independent electro-magnet for shifting the lever, substantially in the manner described.

3. In an electric lamp containing two sets of carbons and independent feed mechanisms therefor, the combination, with one of said sets, of mechanism for maintaining the same inactive and out of circuit, an electro-magnet in a normally-open branch circuit for bringing the same into action, and a stop or equivalent on the carrier of the other set, arranged to close the branch circuit through the magnet when the said carrier has descended a predetermined distance, substantially as set forth.

4. In an electric lamp containing two sets of carbons, as described, the combination, with the clamps or clutch mechanisms, of devices for maintaining the free ends in a slightly-elevated position, for the purpose of keeping them out of engagement with the carbon-carriers, as set forth.

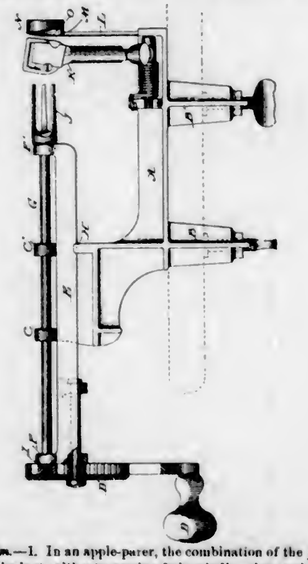
5. The combination, with the armature D', clamps E E', and carbon-carriers controlled thereby, of armature-lever L, having beveled enlargements *h h'*, substantially as and for the purpose set forth.

6. The combination, with a carbon-carrier, as R', in a lamp containing two sets of carbons, of an adjustable collar, *g''*, and a pivoted sustaining hook or catch, G, having an arm, *g*, extending into the path of movement of the shifting mechanism, as and for the purpose set forth.

7. The combination, with the armature D', clamps E E', and carbon-carriers R R', of lever L, having beveled enlargements *h h'*, and arm K, an electro-magnet, F, for shifting the position of the lever, and a weighted catch, G, arranged to be tipped by arm *k*, all substantially as set forth.

267,475. APPLE PARER, CORER, AND SLICER. HENRY C. WILDER, Ashby, Mass., assignor to Joel O. Willard, New York, N. Y. Filed May 7, 1881. (Model.)

Brief.—The apple is fed forward by the action of the screw-thread corer upon the core.



Claim.—1. In an apple-parer, the combination of the yoke E, or its equivalent, with a traversing fork-spindle, when such spindle is used to rotate the apple during any or all of the three operations specified.

2. The combination of a fork-shaft, free to turn and slide longitudinally, with a coring-tube having at the end a flange forming a section of a screw-thread, whereby feeding of the apple is effected, as set forth.

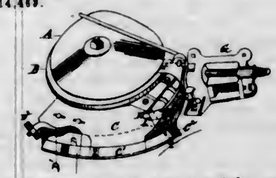
3. In an apple-parer, the combination of the yoke E, or its equivalent, and traversing fork-spindle G with the internal screw-thread O, arranged and operating substantially as specified.

4. In an apple-parer, the combination of the internal screw-thread, O, with a supporting-ring, arranged as and for the purpose set forth.

5. In an apple-parer, the combination of the internal screw-thread, O, or its equivalent, with one or more slicing-blades, arranged substantially as described, and for the purpose set forth.

6. In an apple-parer, the combination of the internal screw-thread, O, with the longitudinal projection M, arranged substantially as and for the purpose set forth.

267,476. HARVESTING-MACHINE. WILLIAM S. WILSON, Ayr, Ontario, Canada, assignor to John Watson, same place. Filed Jan. 16, 1882. (Model.) Patented in Canada Feb. 8, 1882, No. 14,157; extended Mar. 24, 1882, No. 14,468; extended Mar. 23, 1882, No. 14,469.



Claim.—1. In a harvester-rake, a track or ledge constructed with an abrupt incline, C', and the movable unlocking-cam I, in combination with the rake-arm having a locking-notch, *a*, a rake-head provided with a locking-dog pressed inwardly by a spring, and an elbow, *e*, projecting from the side in advance of the rake-head, so that when the rake is in operation the locking-dog in the rake-head will be released from the locking-notch in the rake-arm by the unlocking-cam I, and the projecting elbow *e* coming in contact with the incline C', the rake will be turned over from its raking to its reeling position, as shown and described.

2. In a harvester-rake, a track or ledge constructed and attached as described, and an unlocking-cam, I, in combination with a trip, H, hinged to the cam I, and a tripper, *c*, attached to the rake-arm F, whereby when the rake is in operation the tripper *c* will press down the tripper H and also the unlocking-cam and allow the rake-head to pass in the locked and raking position, as shown and described.

3. In a harvester-rake, the rake-head provided with a sliding locking-dog, a rake-arm provided with the locking-notch *a* in the lower part of the flange thereof, a second notch, *b*, in the same flange and about at right angles to the notch *a*, a sliding dog, *d*, inclosed in a pocket in mid-rake arm, located directly below the second notch, and the elbow *e*, in combination with the unlocking-cam I, the ledge having the incline C', and the descending track K, so constructed that its upper outer edge will, when the rake is in operation, press up the dog *d*, which will push up the locking-dog in the rake-head and release the same, so that it will turn down into the notch *a* and be released by the unlocking-cam I, and the rake, turned by the incline C', and elbow *e*, will be again secured by the notch *a* and carried over and clear of the track, so that the latter can be dispensed with without impairing the efficiency of the machine.

4. The track or ledge of a harvester-rake, constructed with an abrupt incline at the front end thereof, in combination with the elbow *e* on the rake-head and the unlocking-cam D' and pulley D² at the rear end of the track, as and for the purposes set forth.

5. A rake-head having a sliding locking-dog, in combination with the rake-arm having the notch for locking the said dog to hold the rake-head in its position for raking, a second notch at about a right angle to the first notch for holding the rake-head in a position for reeling, a sliding dog carried in a pocket in the second notch, and means for moving said dog for the purpose of releasing the dog in the rake-head from the said second notch while used for reeling, as described.

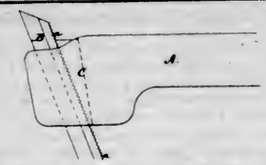
6. A rake-arm having the usual notch for holding the rake-head in position for raking, and a second notch for holding the rake in a position for reeling, in combination with a track with the abrupt incline therein, for the purposes set forth.

7. The rake-arm having the two notches, as described, and the sliding dog *d*, in combination with the rake-head having a sliding dog, and the descending track K, which presses upwardly the said sliding dog *d* and releases the rake-head dog, as set forth.

267,477. CUTTER-HOLDER. JOHN F. ALLEN, Brooklyn, N. Y. Filed June 12, 1882. (No model.)

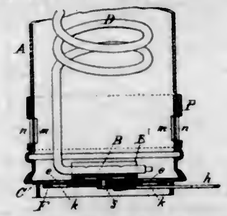
Claim.—A shank or tool-holder, A, fitted to receive the cutting-tool B, in combination with the wedge C, the said wedge C

267,477



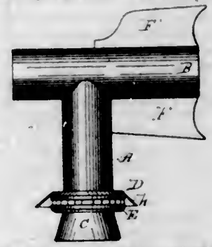
and back of the cutting-tool being provided with corresponding notches or teeth, *a*, so as to interlock, substantially as and for the purpose described.

267,478. PETROLEUM-BURNER. DAVID E. BANGS, Medford, Mass., assignor to the National Heat and Light Company, of Maine. Filed June 17, 1882. (No model.)



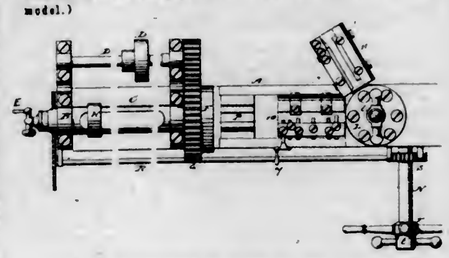
Claim.—In a petroleum-burner, the combination, with a trough-burner consisting of a trough, B', and the horizontal lower perforated end of the feeding-coil D resting therein, of the coil D, arranged directly over the burner, and an incasement having a base under the burner provided with air-passages and adjustable valves, and air-passages and adjustable valves in the side walls of the incasement on a level with or slightly above the burner, substantially as specified.

267,479. CHIMNEY-COWL. WINFIELD S. BEBEE, Middletown, Conn. Filed July 18, 1882. (No model.)



Claim.—In a chimney-cowl, the combination, with the stem-pipe A, having at its lower end the bearing D and extending curtain *h*, of the base C, having the bearing F and the friction-balls *g* between said bearings, substantially as specified.

267,480. MACHINE FOR TURNING CARRIAGE-AXLES. WESLEY BEERS, Bridgeport, Conn. Filed Apr. 14, 1882. (No model.)



Claim.—1. In a machine for turning carriage-axles, the combination of the hollow open mandrel, the chuck, and the main gear G, said gear being arranged on the forward end of the said mandrel and directly behind the chuck, whereby all strain on the man-

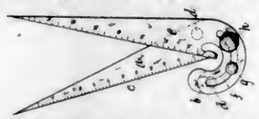
drel and centering-supports is practically removed, substantially as described.

2. In a machine for turning carriage-axles, the chuck F and the jaws K K, each of the said jaws consisting of two parts connected by loosely-turning center-pins, and having respectively the half-circular faces, in combination with suitable mechanism for operating the same, as and for the purpose substantially as described.

3. In a machine for turning carriage-axles, the adjustable roughing and finishing cutter, in combination with the back rest composed of the independently-adjustable parts, and arranged as described, whereby free access to and sight of the back of the axle are obtained, substantially as and for the purpose set forth.

4. The back rest consisting of the two jaws or sections 3 and 4, in combination with the center 8, for turning the collar of the axle, and the adjusting-screw 7, substantially as described.

267,481. CENTERING, BEVEL, AND TRY SQUARE. CHARLES L. BULLARD, Arlington, N.J. Filed July 27, 1881. (No model.)



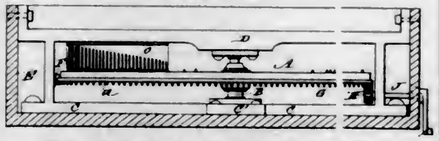
Claim.—1. A bevel or try and centering square consisting of a blade, *a*, and a head, *b*, made in a single piece of equal thickness throughout, and two isolated pins, *d d*, secured to said head on one side and so disposed that a line connecting them shall be at right angles to the straight edge of the blade, and one on either side thereof, substantially as and for the purpose specified.

2. A try and mitering square having its blade *a* and the head *b* made of a single piece of metal and formed on one side with a projection on either side of the straight edge of the blade and at right angles to the latter, said head being provided with a recess between the pins and having the straight edge projecting into but not entirely through said recess, substantially as and for the purpose specified.

3. The sheet-metal try, centering, and mitering square herein described, consisting of straight-edged blade *a* and recessed head *b*, of a single piece of metal and of even thickness throughout, the head being formed with a recess into which a prolongation of the straight edge projects, and provided on one side with two pins so disposed that a line connecting them shall be at right angles to the straight edge, substantially as described.

4. The pointed blade *a* and the head *b*, made in a single piece of metal of even thickness, said head being provided with two isolated pins, one on each side of the straight edge of the blade and so disposed that a line connecting them will be at right angles to the straight edge, in combination with the blade *c* and its head made of the same outline as the blade *a*, and secured to the same in such a manner that the straight edges of both blades, when separated, will radiate from a common center, substantially as described, and for the purpose specified.

267,482. MUSIC-BOX. MIGUEL BOOM, Port-au-Prince, Hayti. Filed July 7, 1882. (No model.)

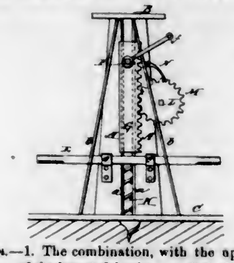


Claim.—1. In a music-box constructed substantially as herein described, the combination, with a rotary disk and a radial stationary musical comb, of radial parallel-sided grooves in the face of said disk, and teeth arranged to fit anywhere in said grooves, so that revolving the disk will bring said teeth against the teeth of the musical comb, and the same teeth may be set to play different tunes, as shown and described.

2. The combination, with the disk A, provided with teeth N, the shaft B, the frame C D, and the musical comb O, secured to cross-bar D, of the notched lug F on the side post of frame C, and the flange *a*, fitted to revolve closely therein for the purpose of preventing the disk from vibrating and to insure exact contact between the comb and disk teeth, as shown and described.

267,483. POST-AUGER. JOHN C. BRANCH and MORTIMER A. BRANCH, Hartford, Mich. Filed Jan. 14, 1882. (No model.)

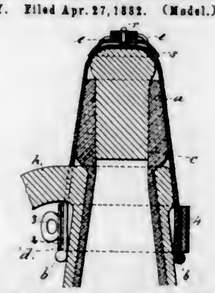
Brief.—Detachable handles engaging inverted hooks on the uprights are prevented from falling off the frame when not in use by stay-rods located just outside the handles and uprights.



Claim.—1. The combination, with the uprights A A of the fixed frame, of the inverted hooks *e e* and the handle-bars E E, for lifting the machine by means of the hooks, substantially as specified.

2. The combination, with the uprights A A of the fixed frame, the inverted hooks *e e*, attached thereto, and the lifting handles or bars E E, of the brace or tie rods *b b*, arranged outside of the hooks and serving to retain the handles on the machine when dropped from the hooks, essentially as described.

267,484. BOTTLE-LOCKING DEVICE. EDWARD P. BRAT, New York, N.Y. Filed Apr. 27, 1882. (Model.)



Claim.—1. The combination, with the rubber cap *a*, having a heavily-corded edge, *b*, of the metallic band *d*, with transverse slots, the tongue 3, and lock, substantially as set forth.

2. The combination, with a neck-band, *d*, with one or more hinges, transverse slots, and tongue, of the straps *e e*, loosely riveted to the neck-band, and the cap *s*, to form an expansible cage adapted to secure the bottle-stopper, substantially as set forth.

3. The combination, with the rubber cap *a*, having a heavily-corded edge, *b*, of the metallic neck-band *d*, with one or more hinges, transverse slots, and a tongue, the straps *e e* and cap *s* forming an expansible cage to secure the cap and bottle-stopper, substantially as set forth.

267,485. BARB FOR FENCES. JOHN J. BRINKERHOFF, Auburn, N.Y. Filed Aug. 23, 1882. (No model.)

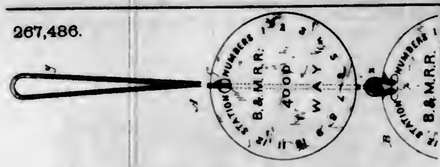


Claim.—1. A blank for a fence-barb, comprising two interior oppositely-disposed barbs and two exterior barbs, one of which is provided with a lip or extension, and all of which are merged to form a central bearing or body portion, substantially as shown and described.

2. The combination of a strand or rail wire with a barb-blank provided with two oppositely-disposed straight barbs and two end barbs bent about the strand or rail and pointing in opposite directions, substantially as shown and described.

267,486. BAGGAGE-CHECK. EDWARD J. BROOKS, East Orange, N.J., assignor to E. J. Brooks & Co., New York, N.Y. Filed June 10, 1882. (No model.)

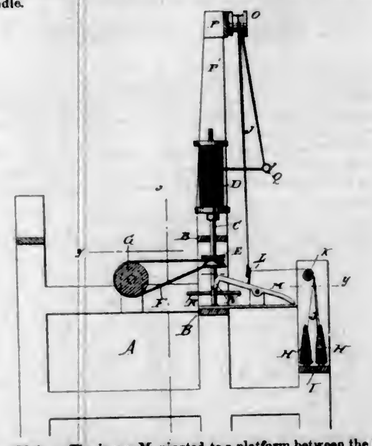
267,486.



Claim.—As a new article of manufacture, a strap for baggage-checks, constructed of soft flexible wire, with one of its ends adapted to be attached to a tag-check and its other end formed into a long permanent loop, *y*, for attaching it to the baggage in customary manner, as herein specified.

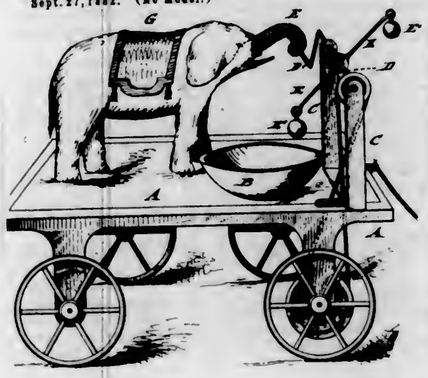
267,487. STOP-MOTION FOR SPOOLERS, TWISTERS, AND DOUBLERS. ALEXANDER G. BROWN, Williamstown, Mass., assignor to himself and Danforth & Co., same place. Filed Jan. 23, 1882. (No model.)

Brief.—For each thread that passes from the group of bobbins a lever is pivoted between the bobbins and the spool, and provided with a thread-loop between its fulcrum and its downwardly-projecting inner end, which end is adapted to fall, upon the breakage of a thread, into the track of the transverse bar of the spool-spindle.



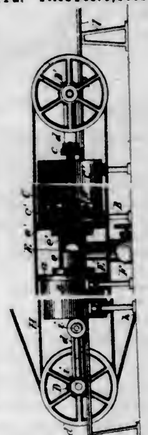
Claim.—The levers M, pivoted to a platform between the bobbins and spindle C, and each provided with a loop, L, between its fulcrum and spindle C, and with a downward projection, N, on its inner end, in combination with the bobbin-spindles, the bar R, rollers K O, loop Q, and spool-spindle C, substantially as and for the purpose set forth.

267,488. BELL TOY. JULIUS BRUNSWIG, New York, N.Y. Filed Sept. 27, 1882. (No model.)



Claim.—As an improvement in bell toys, the combination of the wheeled frame A, carrying a fixed bell, B, upright standards C, and a fixed toy figure, G, with a crank-shaft, D D', supported on the standards and carrying a wheel or radial arms, E, having pendent balls E', one end of the crank-shaft being connected by a suitable transmitting mechanism to one of the axles of the frame, while the crank end of the shaft is connected by a flexible member or members, F, with the toy figure G, so that when the crank-shaft is revolved by the motion of the frame the flexible connecting member or members are moved simultaneously therewith, substantially as set forth.

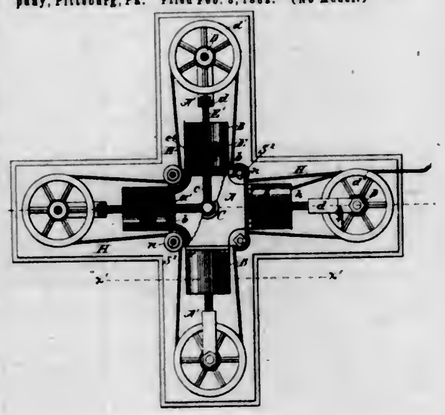
267,489. FLUID-PRESSURE MOTOR. EDWARD M. BUTT, Allegheny City, assignor to the Pennsylvania Construction Company, Pittsburg, Pa. Filed Feb. 8, 1882. (No model.)



Claim.—1. In a fluid-pressure motor, the combination of two fluid-pressure cylinders, arranged in line with fluid supply and discharge for their adjacent ends, two pistons—one in each cylinder, and adapted to move in opposite directions under fluid-pressure therein—two sets of sheaves, connected one to each piston and movable therewith, and a rope passing over such sheaves from set to set, substantially as set forth.

2. The combination of two fluid-pressure cylinders, A A', arranged in line, pipe E, leading to the adjacent ends of the cylinders, pistons C C—one in each cylinder—piston-stems C' C', sheaves D D', connected to and movable with the piston-stems, and suitable means for guiding the motion of such sheaves, substantially as set forth.

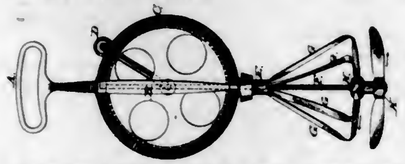
267,490. FLUID-PRESSURE MOTOR. EDWARD M. BUTT, Allegheny City, assignor to the Pennsylvania Construction Company, Pittsburg, Pa. Filed Feb. 8, 1882. (No model.)



Claim.—1. In a fluid-pressure motor, two or more fluid-pressure cylinders, B, arranged radially with pistons E therein movable outward under pressure, as described, in combination with pulley-sheaves D, secured to and movable with such pistons, rope H, and guide-pulleys *n*, substantially as set forth.

2. The combination of central casting, A, fluid-pressure cylinders B, arranged radially around such casting, supply and discharge pipes C C', having branches *c*, opening into all the cylinders, pistons E, stems E', sheaves D, guide-pulleys *n*, and rope H, substantially as set forth.

267,491. EGG-BEATER. JAMES T. CARLEY, Greenport, N. Y. Filed Oct. 6, 1882. (No model.)



Claim.—The combination, in an egg-beater, with the gearing for actuating the same, of a rotating conical beater-frame constructed of the flat strips G G, each bent at an angle to present two surfaces in its length, which said surfaces are inclined in planes diverging in the direction in which the frame rotates, and a propeller-wheel, K, rotating in an opposite direction beneath said frame, and fitted with blades inclined to force upward the fluid egg to be beaten, substantially in the manner and for the purpose herein set forth.

267,492. TREATING PAPER-STOCK. HENRY CARMICHAEL, Brunswick, Me. Filed Mar. 18, 1882. (Specimens.)

Claim.—1. The described process of rendering paper or paper-pulp articles hard, tough, and impervious, consisting in first saturating the said articles in thickened linseed-oil, or oil and gums, at substantially the temperature specified, and then exposing said articles to air and like temperature, substantially as set forth.

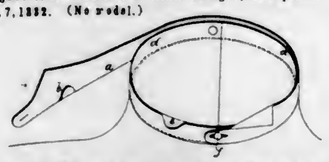
2. The described article of paper or paper-pulp, having its pores filled with hardened linseed-oil, or linseed-oil with a proportion of gum, substantially as set forth.

267,493. MANUFACTURE OF FRAMES FOR EYEGLASSES. ROBERT A. CANTER, Elizabeth, assignor to the Warwick Manufacturing Company, Newark, N. J. Filed May 13, 1882. (No model.)



Claim.—The hereinbefore-described process of manufacturing the metallic connections for spectacles and eyeglasses, which consists in first punching out a piece of metal suitable for a fork, then attaching thereto a shank-piece, and finally shaping the fork and shank by a turning operation, substantially as described.

267,494. COLLAR. WALTER CHRISTOPHER, Philadelphia, Pa., assignor of one-half to William Gulager, same place. Filed Aug. 7, 1882. (No model.)



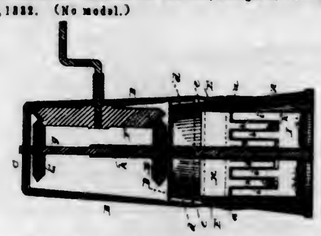
Claim.—1. The combination of the neckband of a shirt, having tabs *e* on each side of the central button, with a collar constructed for engagement with said tabs, whereby the rising of the collar-band above the neckband of the shirt is prevented, as set forth.

2. The combination of the neckband *d* of the shirt, having tabs *e* on each side of the central button, *f*, with a collar, the band *a* of which has tabs *b*, adapted to engage with the tabs *e*, as set forth

267,495. PAINT. GEORGE J. CLINE, Goshen, Ind. Filed June 3, 1882. (No specimens.)

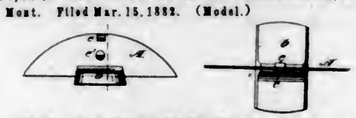
Claim.—The paint composition consisting of the following ingredients: zinc-gray, silicate of soda, ground hematite iron ore or its equivalent, benzine, shellac gum, Burgundy pitch, and coal-tar, compounded in the proportions and in the manner substantially as specified.

267,496. CHURN. ROBERT R. COPPEY, Sturgeon, Mo. Filed Aug. 7, 1882. (No model.)



Claim.—In a churn of the described class, the combination of a tapering churn-body or cream-receptacle, A, provided with an exterior annular flange or shoulder, *a*, and a flanged cover, D, connected to its supporting-ring E by the standards B B, carrying the operating mechanism, so as to leave an annular air-inlet, *c*, and air-space *d* between the top of the churn-body and its flanged cover, substantially as and for the purpose herein shown and described.

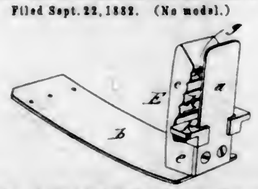
267,497. SIGHT FOR FIRE-ARMS. WALTER COOPER, Bozeman, Mont. Filed Mar. 15, 1882. (Model.)



Claim.—1. A front sight for rifles and other guns composed of a thin rib or fin, having two or more sight points or projections arranged one above the other on the side or sides of said rib, substantially as specified.

2. The combination of the base *b* with the rib or fin A, having any number of sight points or projections, *c c'*, arranged one above the other on its opposite sides, essentially as shown and described.

267,498. BED-CLOTHES FASTENER. ALLYN COX, New York, N. Y. Filed Sept. 22, 1882. (No model.)



Claim.—1. In a bed-clothes fastener, the combination, with a clamp for holding the clothes, of an attached flexible connection for securing the fastener to the bottom of the mattress or to the bedstead beneath the bed or mattress, substantially as specified.

2. The combination, with the bed or mattress B, of the flexible strap or connection *b* and a clamp, E, essentially as shown and described.

3. In a bed-clothes-fastening clamp, E, the jaws or sides *c d*, united at their base, but constructed to form a contracted space or mouth at their opposite ends for reception of the clothes, and a wedging-surface within them for the hold of the clothes, in combination with the movable clip or locking device *k*, essentially as specified.

4. The combination, in the clamp E, of an elastic stand or holder, consisting of the two sides *c* and *d*, united at their base *e* and inclining toward each other as they rise from said base, with a moving clip, *k*, arranged to work upon or against one of the sides, *d*, and having an elastic bearing, as produced by the elastic construction of said holder, substantially as specified.

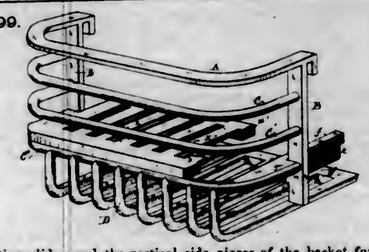
5. The combination of the rigid internally-corrugated side *c* of the clamp, the elastic side or jaw *d*, and the sliding clip *k*, substantially as specified.

267,499. GRATE-BASKET. CHARLES F. W. DANNERS, New Orleans, La. Filed May 17, 1882. (No model.)

Claim.—1. A grate-basket having a detachable bottom provided with rear projecting slides, *f f'*, in combination with the supporting lugs or bars *e e'*, as described, and for the purpose set forth.

2. A grate-basket having two detachable bottoms arranged to operate as herein described, the lower bottom provided with rear

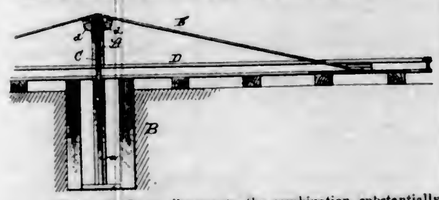
267,499.



projecting slides, and the vertical side pieces of the basket furnished with lugs whereby the aforesaid bottoms are supported substantially as herein specified.

267,500. RAILROAD-GATE. JACOB H. DANNER, Gish's Mills and RUFUS P. KYLE, Pinesville, Va. Filed Aug. 15, 1882. (No model.)

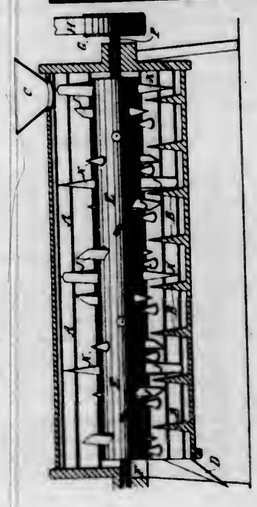
Brief.—A vertically-sliding gate is connected to bars having pivoted lugs, and hinged at their upper ends to the gate and at their lower ends arranged alongside the track, which ends are provided with elongated openings. The gate is held normally in position by means of spiral springs placed under the gate.



Claim.—1. In a railway-gate, the combination, substantially as set forth, of the vertically-sliding gate C, the operating-bars E, having their upper ends hinged to the gate C near the upper side of the latter and their lower ends arranged alongside the track in position to be engaged by the flange of the car-wheel, and provided with the elongated opening *e*, the pin *f*, passed through the opening *e*, and adapted to secure the bars E to the railway-bed, and means for holding the gate C normally in position above the tracks D, as specified.

2. The combination of the gate C, constructed with lugs *d d* and the bars E, provided with lugs *e'*, the said lugs being pivoted to the lugs *d d* on opposite sides of the gate, and arranged below the upper ends of the bars E a distance equal to one-half the thickness of the upper side of the gate, whereby the ends of the bars are abutted against each other above the gate C when depressed to a horizontal line, substantially as and for the purposes set forth.

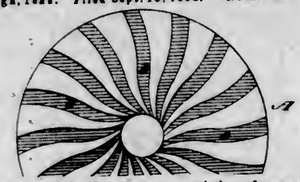
267,501.



267,501. MACHINE FOR CLEANING COTTON. JOHN MERRIT DAVIS, Walkersville, assignor to R. P. Davis, Monroe, N. C. Filed Mar. 13, 1882. (No model.)

Claim.—A rotary cylinder provided with alternating spiral rows of blades J and spikes K, in combination with a surrounding slotted cylinder, A, having a periphery formed of inwardly-spiked slats set at some distance apart, a hopper at the upper part of one end of said cylinder and a discharge-spout at the lower end thereof, as shown and described.

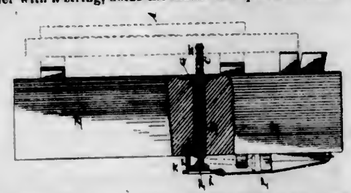
267,502. MILLSTONE-DRESS. FREDRICK W. DOWN, Jamesborough, Texas. Filed Sept. 15, 1882. (No model.)



Claim.—The millstone-dress consisting of reversely-curved furrows *b*, extending from the eye to the rim of the stone, substantially as shown and described.

267,503. BURGLAR-ALARM. RUSSELL O. DUDLEY, Jersey City, N. J. Filed June 17, 1882. (No model.)

Brief.—The movement of the shutter reciprocates the rod, which operates the shutters, and thus releases a device, which, together with a string, holds the alarm in a quiescent state.



Claim.—The combination, with the sliding rod connected by a link or joint with the shutter, of the alarm mechanism provided with a bell or gong and a striking-hammer, a device for holding and releasing the hammer, and a stop connected with said holding and releasing device, and adapted to be engaged with the window-frame and brought into contact, when so engaged, with the knob on the inner end of the sliding rod, whereby when the shutter is swung open the knob will disengage the stop, and the hammer be thereby released, substantially as described.

267,504. FIRE-ESCAPE. J. PARIS DUNN, Brooklyn, N. Y. Filed Mar. 6, 1882. (No model.)

Brief.—Improvement on Letters Patent No. 250,901, dated December 13, 1881. One end of the spring-latch that holds the ladder closed rests in notches in the vertically-sliding bar, by operating which (by the tripping-lever within the building or by the outside wire-connections) the latch is thrown down and the ladder is released. Simultaneously upon releasing the ladder an alarm is sounded within the building, a valve is opened to turn on the water, and an electric circuit is established to sound a fire-alarm at the engine-stations. A spring-cushion arranged in the ground receives the lower end of the outer ladder-rail when it is released.

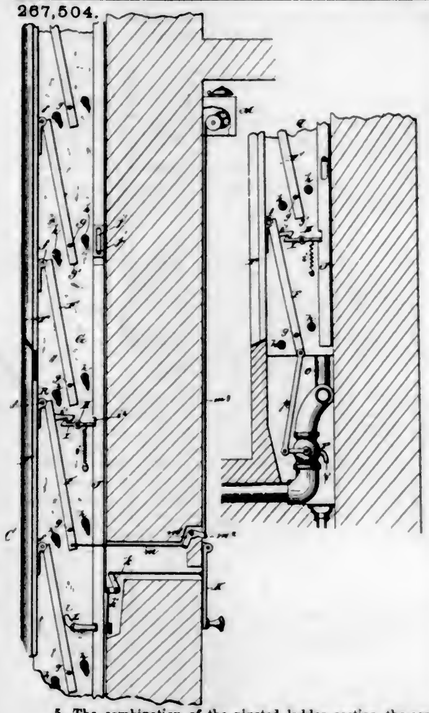
Claim.—1. The combination, in a fire-escape, of the pivoted ladder-section with the vertically-sliding bar J, the spring-latch I, pivoted to the fixed casing, and the catch i', secured to one of the ladder-rounds, as described.

2. The combination of the pivoted ladder-section with the latch I, the vertically-sliding bar J, with slots or notches, in which one end of said latch rests, the cam L, and a spring or weight connected with the latch, substantially as described.

3. The combination of the ladder-section, the vertically-sliding tripping-bar, mechanism operated by the bar to trip the ladder, the operating-lever within the apartment, and the lever-connection with the tripping-bar, substantially as set forth.

4. The combination of the tripping-lever within the apartment, the bell-crank lever, and the connections between it and the tripping-lever, and vertically-sliding tripping-bar, the latch operated by it, and the pivoted ladder, substantially as set forth.

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5. The combination of the pivoted ladder-section, the connecting-rod *m*, extending from the end of the rounds of the ladder to the bell-crank lever, the wire *m'*, the alarm M, and mechanism for tripping the ladder and sounding the alarm, substantially as set forth.

6. The combination of the pivoted ladder-section, the system of water-pipes, the cock in the water-pipe, the lever-connection with the pivoted ladder, and mechanism for tripping the ladder, and thus turning on and off the water, substantially as set forth.

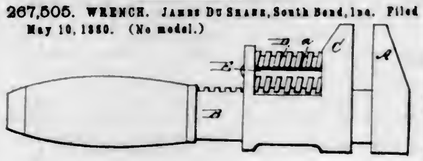
7. The combination of the pivoted ladder-section with the tripping mechanism operated by the sliding bar J to trip the ladder, the alarm-box at the foot of the ladder, and the wire passing from the alarm-box up over a pulley and connecting with the slide-bar of the upper section of the ladder, whereby the ladder can be thrown out by a person controlling the end of the wire at the alarm-box, substantially as described.

8. The combination of the ladder-section with mechanism for tripping the ladder, and the spring-cushion arranged to receive the lower end of the outer ladder-rail when the ladder is tripped, and to thereby take up the shock, substantially as described.

9. The combination, with the ladder capable of being folded and unfolded, substantially as described, of an electric circuit maker and breaker located in an electric circuit and controlled by the movement of the ladder, so as to establish the circuit when the ladder is unfolded, for the purpose of giving an alarm at some remote station.

10. The combination, with the pivoted ladder-section, of the L or angle iron forming the two sides of the casing, through which the bolts pass to secure the same to a building, said sides being thickened near their corners to form a contracted space, in which the ends of the ladder-rounds fit when the ladder is unfolded, substantially as described.

267,505. WRENCH. JAMES DU SHANE, South Bend, Ind. Filed May 10, 1880. (No model.)





Claim.—In a nut-wrench, a cylinder partly about the circumference of which are threads having a pitch greater than any stated pitch of a continuously screw-threaded cylinder of the semi-diameter, in combination with the movable and the stationary jaw and the rack-bar, whereby one revolution of the broken-threaded cylinder will throw the movable jaw as far or farther than the completely-threaded cylinder, substantially in the manner and for the purposes described.

267,506. PROTECTOR FOR BOOT AND SHOE STRAPS. CHARLES W. ELLIOTT, Boston, Mass., assignor of one-half to Rufus S. Merrill, same place. Filed Oct. 7, 1882. (No model.)



Claim.—1. The metallic strap-protecting pocket adapted to receive and inclose on all sides the loop of the strap, and provided with means, substantially as described, for detachably connecting it with said strap.

2. The strap-protector consisting of the parts A, A', *a*, and *b*, formed in one piece of sheet metal, substantially as and for the purposes set forth.

267,507. SHADE-PENDANT. ENGELBERT ESTBERG, Brooklyn, N. Y. Filed May 1, 1882. (No model.)

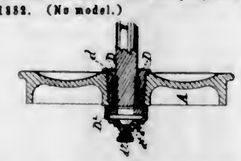
Brief.—A ring covered with fabric and having an ornamental interior drop and a fastening cord or loop.



Claim.—1. A shade-pendant consisting of a rigid core, *a*, of annular shape, or its described equivalents, and having a covering, *b*, of corded, spun, or woven fabric or other flexible material, and a suitable fastening loop or strap, *c*.

2. A shade-pendant, consisting of the ring A, formed of the fabric-covered rigid core *a*, and provided with the exterior fastening loop or strap, *c*, and an ornamental interior drop, C, as herein set forth.

267,508. CAR WHEEL AND AXLE. GIBSON W. FAIRMAN, New York, N. Y., assignor, by direct and mesne assignments, to the Fairman Wheel and Axle Company, of New York. Filed Sept. 9, 1882. (No model.)



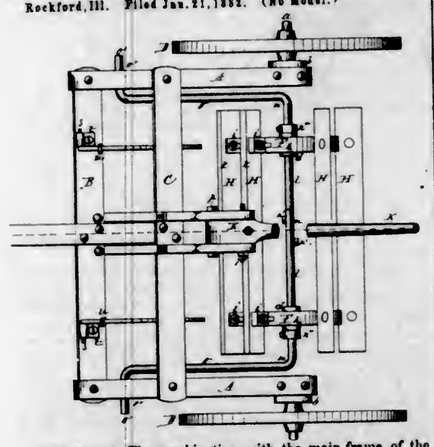
Claim.—1. A car-wheel bearing formed of tapering semi-annular bushing-pieces fitted tightly into the hub of the wheel, and having their concave journal-bearing surfaces grooved to fit corresponding V-shaped circumferential grooves and ridges on the periphery of the axle-journal, substantially as and for the purpose set forth.

2. In combination with a suitably-apertured wheel and grooved axle, the herein-described semi-annular tapering bushing and journal-bearing, provided with internal V-shaped grooves and ridges, and formed with a flange at its widest or inner end and suitable screw-thread at its outer end, a nut or cap internally recessed to form an oil-magazine, and having suitable capped oil-inlet and a retaining-valve, and adapted to be applied to said outer end, substantially as described.

3. In combination with a suitably-apertured wheel and grooved axle, the herein-described semi-annular tapering bushing and journal-bearing, provided with internal bevel-edged or sloping grooves and ridges, and formed with a flange at its widest or inner end and suitable screw-thread at its outer end, and a nut or cap adapted to be screwed thereon, substantially as set forth.

4. The lubricating-magazine d^4 in the outside securing-nut, D^4, provided with an inwardly-opening check-valve, d^5, in combination with the journal-bearing B D D', substantially as described.

267,509. STALK-CUTTING MACHINE. ROBERT FALCONER, Rockford, Ill. Filed Jan. 21, 1882. (No model.)



Claim.—1. The combination, with the main frame, of the bail-formed axle, having its bent ends pivoted in front of the carrying-wheels of the frame and its central portion supporting the cutting-reel in or near the vertical plane of the axial supports of said carrying-wheels, substantially as described.

2. The combination, with the main frame and bail-formed axle, constructed substantially as described, of the cutting-reel supported on the central portion of said axle and secured in place by the adjustable collars, as set forth.

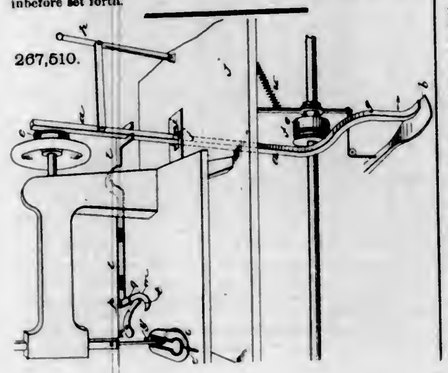
3. In a stalk-cutting machine, a two-part bail-formed axle, connected together substantially as described, and adapted to support the cutting-reel upon its crank portion, substantially in the manner and for the purpose set forth.

4. A two-part bail-formed axle, connected together substantially as described, having a pivotal connection with the main frame at its forward ends and adapted to support the cutting-reel on the crank portion, substantially as and for the purpose set forth.

5. The combination, with the supporting-frame and with the cutting-reel, of a bail-formed axle having a cutting-reel supported and adapted to revolve on its central horizontal portion, and its forward ends having a pivotal connection with the main frame, substantially as and for the purpose hereinbefore set forth.

6. The combination, with a cutting-reel and with the main frame of a stalk-cutting machine, of a two-part bail-formed axle supporting a cutting-reel adapted to revolve on its central portion, and its forward end portions having a pivotal connection with the main frame to support the cutting-reel in or near the vertical plane of the carrying-wheels, substantially as and for the purpose hereinbefore set forth.

267,510.



267,510. STOP-MOTION FOR BUTTON-HOLE SEWING-MACHINES. ARTHUR FELBER, Louisville, Ky. Filed July 6, 1882. (No model.)

Brief.—The invention relates to mechanism for automatically stopping the machine when the button-hole is completed.

Claim.—1. In a button-hole sewing-machine, the combination, with the driving-pulley c and clutch-treadle *b*, of the pivoted lever *a* and tripping mechanism adapted to be actuated by the button-hole cam, substantially as shown and described, whereby the lower end of the said lever is disengaged from the treadle and its upper end thrown in contact with the drive-pulley, as and for the purpose set forth.

2. The combination, with cam e, driving-pulley c, and clutch-actuating treadle *b*, of lever *a*, slide *l*, lever *m*, and dog *n*, substantially as described.

267,511. LAMP-BURNER FOR HEAVY OILS. GEORGE FLOWER, Detroit, Mich. Filed Sept. 5, 1882. (No model.)

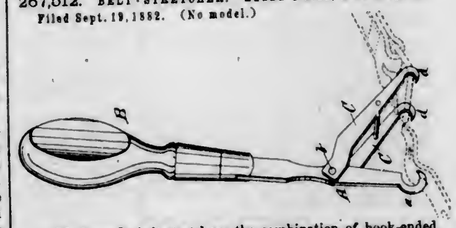


Claim.—1. The combination, with a burner for a lamp or lantern, of a tube located in close proximity to the burner and heated by the flame thereof, said tube and heated air therein passing through the oil for the purpose of heating the same, substantially as and for the purpose described.

2. The combination, with a burner for a lamp or lantern, of a tube located in close proximity to the burner and heated by the flame thereof, said tube being provided with an extension, *b*, projecting above the burner, and the tube and heated air therein passing through the oil for the purpose of heating the same, substantially as and for the purpose described.

3. The combination, with a burner for a lamp or lantern, of a tube for conveying heat to the oil in the oil-chamber, the free ends of said tube embracing the burner while its bend is in the oil-chamber, substantially as described.

267,512. BELT-STRETCHER. ZARDA FROST, Kismandy, Ill. Filed Sept. 19, 1882. (No model.)



Claim.—In belt-stretchers, the combination of hook-ended blade A and pivoted hooks C C, substantially as described, for use in the manner specified.

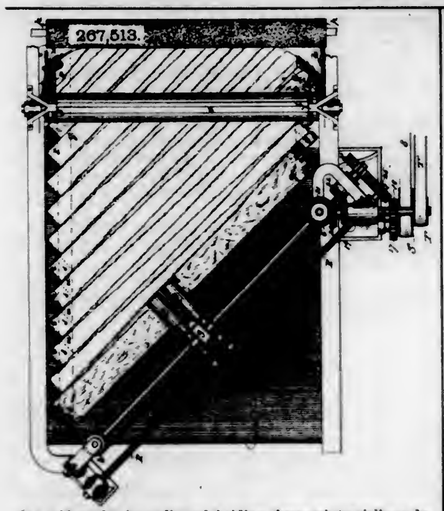
267,513. FEEDING MECHANISM FOR CARDING-MACHINES. ERNST GESSNER, Aue, Saxony, Germany. Filed June 3, 1882. (No model.) Patented in England Apr. 20, 1881, No. 1,791, and June 17, 1881, No. 2,680; in Belgium Aug. 30, 1881, No. 55,592, and in France Sept. 16, 1881, No. 144,371.

Brief.—An even flat sliver of any breadth desired is carried from the first carding-engine and deposited upon the feed-table of the second engine in such manner as to secure an even thickness of the material, and without ragged edges.

Claim.—1. The method herein described of transferring and feeding the woolen fleece from one carding-machine to another, which consists in discharging said fleece from one machine in the form of a flat sliver, then disposing this flat sliver upon the feed-table of the next machine in diagonal lapped layers, then evening the edges to a straight line and uniform thickness before it passes to the feed-rolls of the cards, substantially as described.

2. The method herein described of transferring and feeding the woolen fleece from one carding-machine to another, which consists in discharging said fleece from one machine in the form of a flat sliver, then disposing the flat sliver upon the feed-table of the next machine in diagonal lapped layers to form a quadruple thickness, then turning the projecting triangles *r* of double thickness into the triangles *s* of double thickness, to form a straight edge and uniform thickness, substantially as described.

3. The means for turning and folding the projecting angles *r*, consisting of the combination, with the main feed-apron O, of a creaser for marking the line *t t* and a folding mechanism for turn-



ing said angles inwardly and holding them, substantially as described.

4. The combination, with the main feed-apron, of the roller *o*, having grooves at its end, the creasing-wires *r*, or their equivalent, as described, and the folding-lips *x*, substantially as and for the purpose specified.

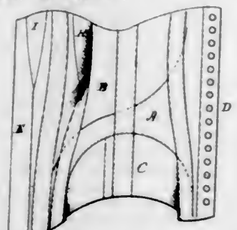
5. The means for carrying the sliver from one machine to the other, consisting of the movable belt-carrier, having at its vertical swinging end a traveling belt-section upon each side of the descending path of the sliver, as described, for the purpose of preventing the sliver from falling away from the belt while being laid, substantially as described.

6. The swinging belt-carrier, having at its delivery end laying-rollers, combined with means for positively and continuously rotating said laying-rollers throughout the travel and at the ends of their range of reciprocation, independently of their progressive motion, substantially as shown and described.

7. The combination, with a carding-machine, of a belt, D, press-roller, E, and a roller, C, the said roller C and belt being set in angular relation to each other and applied to the rear end of said carding-machine, as and for the purpose described.

8. The combination of the belt H, presser-roll E, the belt D, and the roller C, as described.

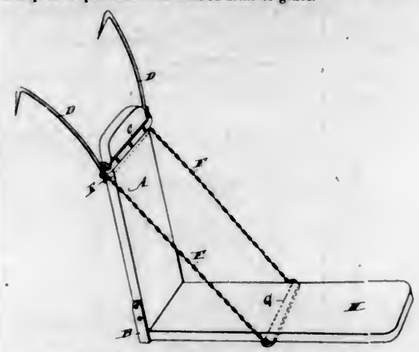
267,514. CORSET. THOMAS S. GILBERT, New Haven, Conn., assignor to Thomson, Langdon & Co., New York, N. Y. Filed Sept. 4, 1882. (No model.)



Claim.—A corset having the side composed of two sections, A B, between the lacing and clasp-strips, the seam between the two parts starting at the top, near the lacing-strip, curving downward and forward under the arm and over the hip to the lower edge, near the front edge, the part A cut out upon its lower edge over the hip and filled by the hip-section C, and the part B slitted from the top downward for the breast-gore, substantially as described.

267,515. SCAFFOLD. ROBERT M. GOODE, Fleming, Ga. Filed Aug. 8, 1882. (No model.)

Brief.—One end of the horizontal piece or platform rests in a stirrup at the foot of the vertical piece, and the pieces are braced by chains secured to cross-iron straps thereon. The top of the vertical piece is provided with hooked arms or grabs.

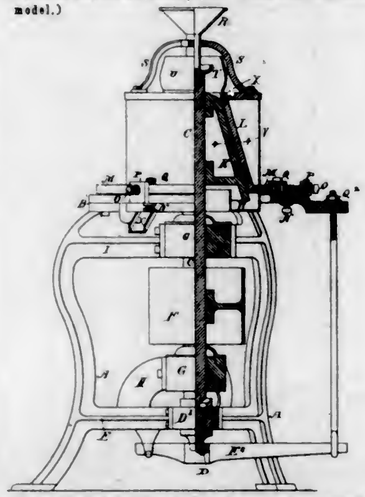


Claim.—1. In a scaffold, the combination, with the vertical board A, provided with a stirrup, B, at its lower end, of the horizontal board H, adapted to be passed between the lower end of the board A and the stirrup B, braces connecting the boards A and H, and devices for securing the board A on a house, post, tree, &c., substantially as herein shown and described, and for the purpose set forth.

2. In a scaffold, the combination, with the upright board A, of the stirrup B at the lower end of the same, the horizontal board H, the grabs or hooks D, and the braces F, substantially as herein shown and described, and for the purpose set forth.

3. In a scaffold, the combination, with the upright board A, of the stirrup B at the lower end of the same, the board H, the cross-bars C, E, and G, the brace-chains F, and the hooks or grabs D, substantially as herein shown and described, and for the purpose set forth.

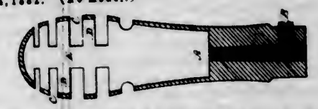
267,516. METHOD OF AND APPARATUS FOR MILLING. CHARLES L. GRATIOT, Chicago, Ill. Filed June 19, 1882. (No model.)



Claim.—1. The herein-described improved method of degerminating, cleaning, and reducing wheat by a continuous operation, consisting in passing it through a series of mills, whereby it is first cracked longitudinally through the creases, the germs, fuzz, and crease-dirt released and again successively cracked, reduced, and the granules rubbed clean of flour and impurities, the granulated parts in each mill being subjected to the influences of gravity and centrifugal force, whereby they are thoroughly agitated, repeatedly turned and rubbed, and gradually fed along, substantially in the manner set forth.

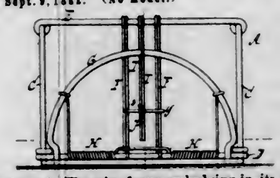
2. The combination of a series of mills having frustum-shaped furrowed rolls and furrowed cases, as set forth, constructed and arranged to successively reduce, agitate, and rub first the natural kernels and then the successive granulated products, as and for the purposes specified.

267,517. TOOL-HOLDER. JOHN C. GRAY, Hartford, Conn. Filed Sept. 4, 1882. (No model.)



Claim.—A hollow metallic tool-handle provided with openings C in the sides, surrounded and separated by the solid portions D E, substantially as described.

267,518. ANIMAL-TRAP. BENNET GREIG, New York, N. Y. Filed Sept. 9, 1882. (No model.)

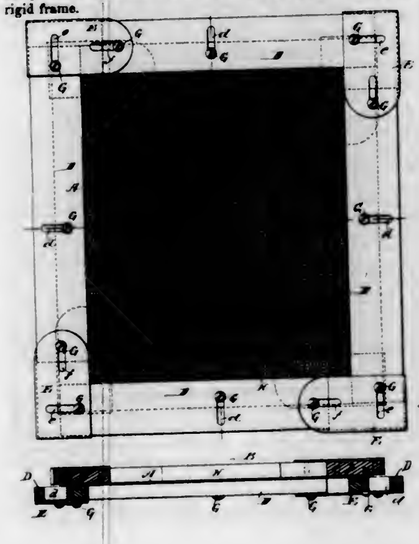


Claim.—1. The wire frame embodying in its structure the bow-shaped base-sections projecting in opposite directions to support the trap on the ground, the double upright limbs forming the junctions between the base-sections, the two traverses at the bottom of the upright limbs, the single traverse at the top thereof, and the stretchers connected to the upper and lower traverses, in combination with the bow-shaped swinging knockers hung to the lower traverses, the springs arranged on such traverses to act on the knockers with a tendency to throw the same in a downward direction, the swinging braces hung to the upper traverse for retaining the knockers in a raised position, and the bait-holding triggers hung to the stretchers for engaging the braces, substantially as and for the purpose described.

2. The combination, with two united stationary base-sections, each provided with a traverse, D, of a bow-shaped knocker loosely hung at its ends on each of said traverses, a spring coiled on each traverse and acting on the knockers, and means for holding the two knockers in an upright position, substantially as described.

267,519. WINDOW-SCREEN. HENRY GRIMSHAW, Elroy, Wis. Filed Mar. 15, 1882. (No model.)

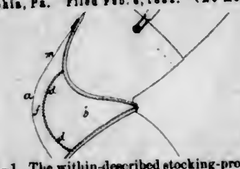
Brief.—Provides a rigid frame carrying the netting, with overlapping bars attached thereto and adjustable by means of corner-plates having transverse slots, which engage screw-pins on the rigid frame.



Claim.—1. In a window-screen, the combination, with a rigid frame carrying a wire-netting, of an auxiliary frame, consisting of bars provided with transverse slots, and corner-plates having slots at right angles to each other, adjustably secured to the said rigid frame by screws, substantially as herein described.

2. In a window-screen, the combination, with a rigid frame, B, carrying a wire-netting, A, of the adjustable bars D and corner-plates E, provided with slots *d e f*, and the screws (), passing through said slots and into said rigid frame, substantially as and for the purpose herein described.

267,520. STOCKING-KNEE PROTECTOR. EMMA E. HALE, Philadelphia, Pa. Filed Feb. 6, 1882. (No model.)



Claim.—1. The within-described stocking-protector, comprising the central piece, *a*, with concave edges *f*, the side pieces, *b b*, having convex edges *d*, united to said concave edges *f*, and a fastening device adapted to unite the free ends of the side pieces, *b*, in the bend of the knee, as set forth.

2. The within-described stocking-knee protector, comprising the central piece, *a*, with concave edges *f* and upwardly-projecting tongue *m*, constructed for direct attachment to the stocking, the side pieces, *b b*, with convex edges *d*, united to the edges *f*, and a fastening adapted to unite the free ends of the side pieces, *b*, in the bend of the knee, as set forth.

267,521. GRAIN-BINDER. WILLIAM P. HALE, Brockport, N. Y. Filed Apr. 13, 1882. (Model.)

Claim.—1. In a combined harvester and grain-binder, the series of rakes connected to flexible carriers, and means by which the rakes are moved forward of the cutter-bar and then downward in a vertical position into the standing grain, substantially as set forth.

2. In a combined harvester and grain-binder, the combination, with the harvester-platform, of harvester-rakes, means by which they are moved in front of the cutter-bar, then downward and rearward, and means for retaining the rakes in a vertical position during their descent, substantially as set forth.

3. The combination, with the harvester-platform, of endless chains having rakes connected therewith, sprocket-wheels arranged to conduct the rakes rearward in a line parallel to the harvester-platform and forward in an upward inclined direction, then downward into the standing grain, and means for retaining the rakes in a vertical position during their descent, substantially as set forth.

4. The combination, with a harvester-platform, of a series of harvester-rakes and means by which the rakes are moved forward of the cutter-bar and then downward in a vertical position, and means for tripping the rakes as they are moved rearward over the platform, substantially as set forth.

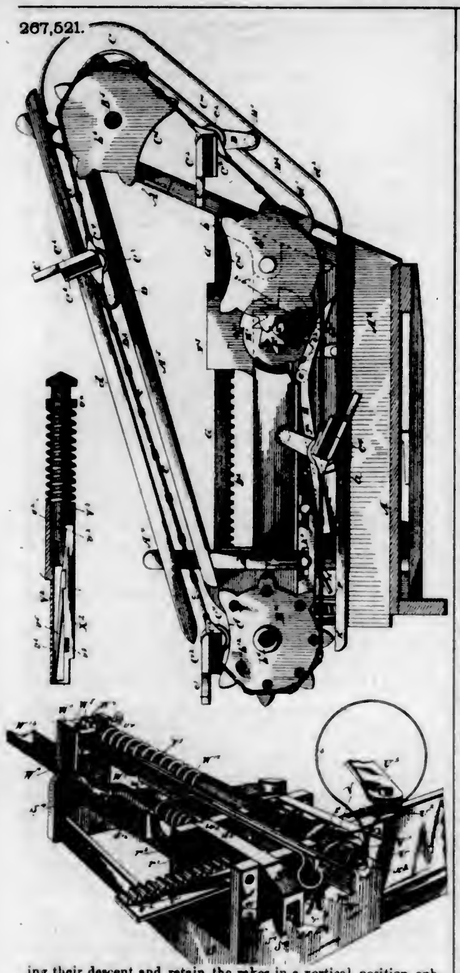
5. In a combined harvester and grain-binder, the combination, with a harvester-platform and binder-platform, of a series of independent rakes journaled in bearing-links attached to endless chains, and devices for automatically tripping the rakes and throwing them out of operative position, and for causing any particular rake of the series to carry the grain rearward to the binding-platform, substantially as set forth.

6. In a combined harvester and grain-binder, the combination, with endless chains and rakes journaled at opposite ends in bearing-links attached to said chains, of a reel located over the rear end of the harvester-platform, the ends of said reel being recessed for the reception of the bearing-links in the endless chains, substantially as set forth.

7. In a combined harvester and grain-binder, the combination, with endless chains and rakes journaled at opposite ends in bearing-links attached to said chains, of a reel located over the rear end of the harvester-platform, said reel having recesses in its ends for the admission of the bearing-links of the endless chains, and having the bar adjacent to said recesses located nearer the center of the reel than the remaining bars, substantially as set forth.

8. In a combined harvester and grain-binder, the combination, with endless chains and rakes journaled at their opposite ends in bearing-links attached to said chains, said rakes being provided with crank-arms, of a guideway extending in front of the cutter-bar and adapted to retain the crank-arms of the rakes therein dur-

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erated by the harvester-rakes, and a device for setting the parts to cause the switch to close at any point in the travel of the rakes, substantially as set forth.

13. The combination, with the switch and spring for holding it open, of a shaft provided at one end with a toothed wheel to be actuated by the rakes and another wheel to be engaged by the switch, a spring actuated drum connected with the opposite end of the shaft, a gear-wheel mounted on a stationary bearing encircling the shaft, said gear-wheel being provided with a stop with which engages a stop on the drum, and a rack-bar for adjusting the position of the gear-wheel, substantially as set forth.

14. The combination, with the switch, ratchet-wheels, and drum, of the gear-wheel, rack-bar, hand-wheel, and spring lever or catch, substantially as set forth.

15. The combination, with the switch, and a spring-bar holding it open, of a sliding bar and connections for operating the same by the foot of the driver and relieve the switch from the action of the spring, substantially as set forth.

16. The combination, with the rakes and endless chains, of link-bearings having rounded bearings on their upper and lower sides and formed with tapered ends, substantially as set forth.

17. In a combined harvester and grain-binder, the combination, with the harvester-rakes and stationary guide-rail, of the adjustable guide-rail section for regulating the travel of the rakes, substantially as set forth.

18. In a combined harvester and grain-binder, the combination, with the harvester-rakes and stationary guide-rail, of the adjustable guide-rail section, a rock-shaft connected therewith, an operating-lever, and a holding-pinte, substantially as set forth.

19. In a combined harvester and grain-binder, the combination, with the harvester platform and rakes, of a binder-platform located in the rear of the harvester-platform, guide-rails supported on the binder-platform, endless chains encircling sprocket-wheels mounted on said guide-rails, rakes journaled in bearing-links attached to said chains and arranged to travel transversely to the travel of the harvester-rakes, and devices for retaining the binder-rakes in a vertical position as they descend and engage the grain and as they rise and are disengaged from the grain, substantially as set forth.

20. The combination, with the driving-shaft of the binding mechanism and a clutch supported on said shaft, of a series of harvester-rakes attached to endless carriers, and tripping devices constructed and arranged substantially as described, whereby the binding mechanism is automatically put in operation at certain intervals of time by the harvester-rakes, substantially as set forth.

21. The combination, with the binding-arm, of a jointed compressor-arm pivoted to the frame, a link pivoted at one end to the compressor-arm and at its other end to the binding-arm, and a yielding rod secured at one end to the compressor-arm and at its other end to the frame, substantially as set forth.

22. The combination, with the driving-shaft and two-armed crank M, provided with the anti-friction rollers m m', of a cam-yoke, M', provided with the irregular interior trackway described, the slide M^3, link M^2, and binder-shaft, substantially as set forth.

23. The combination, with binding-arm and shaft, of a cam-yoke, a two-armed crank engaging therewith, and a crank connected with the yoke and attached to the binding-arm shaft, substantially as set forth.

24. The combination, with the two-armed crank, cam-yoke, and slide, of the binding-arm shaft provided with a groove, and the crank connected therewith, provided with a spline to allow of a longitudinal movement of the binding-arm shaft, substantially as set forth.

25. The combination, with a rotary knot-tyer, of a friction-holder consisting of two reciprocating jaws, one of said jaws being bent outward in the form of a loop, substantially as set forth.

26. The combination, with the rotary knot-tyer, of a friction-holder, one portion of which is formed with a cutting-edge, and a reciprocating cutter arranged to engage therewith and sever the cord, substantially as set forth.

27. The combination, with main cam-gear, a lever actuated thereby, and a bracket connected to a sliding rod pivoted to the cam-actuated lever, of the knot-tyer and cutting device mounted at one end in said bracket and reciprocated thereby, substantially as set forth.

28. The combination, with the reciprocating bracket having an open slot formed in its upper end and flanges at the side of said slot, of the reciprocating cutter constructed with a screw-threaded shank supported in said slot, and adjusting-nuts on said shank and arranged on opposite sides of the bracket and prevented from turning by said flanges, substantially as set forth.

29. The combination, with the rotary head V, provided with the hook V', of the reciprocating cylinder V^2, sliding shaft V^3, and hook X^2, the latter being inserted in a groove in the cylinder V^2 and attached to the shaft V^3, and a spring encircling the shaft, substantially as set forth.

ing their descent and retain the rakes in a vertical position, substantially as set forth.

9. In a combined harvester and grain-binder, the combination, with endless chains and rakes journaled at their opposite ends in bearing-links attached to said chains, of crank-arms connected with the rakes, guideways, and switch mechanism constructed and arranged to cause the rakes to assume a vertical position in their descent and for a short distance rearward over the forward portion of the harvester-platform, and then to turn on their journals and pass over the accumulated cut grain on the harvester-platform, substantially as set forth.

10. In a combined harvester and grain-binder, the combination, with the rakes for transferring the grain from the harvester-platform to the binder-platform, of a switch, a toothed wheel for regulating the position of the switch, and a toothed wheel arranged to be operated by the rakes and close the switch at certain intervals of time, substantially as set forth.

11. In a combined harvester and grain-binder, the combination, with a series of harveste -rakes connected to a flexible carrier, of a switch, devices for actuating the switch by the rakes, and mechanism for setting the parts so that the switch will shift any one of the rakes, substantially as set forth.

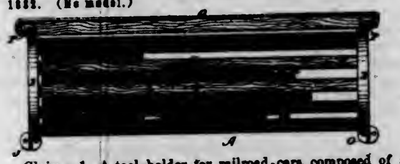
12. In a combined harvester and grain-binder, the combination, with endless chains and harvester-rakes journaled in bearing-links attached to the chains, of a switch-lever, a toothed wheel, with which the switch-lever engages and serves as a pawl to prevent its backward rotation, a toothed wheel constructed to be op-

30. In a rotary knot-tyer, the combination, with the rotary shaft, a sliding cylinder mounted thereon, and a spring encircling the shaft and bearing against the rear end of the sliding cylinder, of a knotting-hook provided with a hooked shank for securing the shaft and cylinder together, substantially as set forth.

31. The combination, with the cylinder provided with a deep slot, of the tying-hook having a spring attached thereto, and provided with bearing-flanges for supporting the shank of the hook in the outer portion of the groove or slot, substantially as set forth.

32. The combination, with the cylinder provided with a recessed end, of the tying-hook made semicircular in form, and adapted to fit in said recess, substantially as set forth.

267,522. TOOL-HOLDER FOR CARS. WILLIAM A. HARRODS, Cambridge, and JOSEPH P. DOYLE, Boston, Mass. Filed July 15, 1882. (No model.)



Claim.—1. A tool-holder for railroad-cars, composed of a closed cylindrical receptacle having means for attachment to a suitable part of the car, and adapted to contain a bucket, ax, saw, and bar, the bucket resting on its side in the receptacle, and partially containing some or all of the other tools, as set forth.

2. A tool-holder for railroad-cars, composed of a closed cylindrical receptacle having means for attachment to a suitable part of the car, and adapted to contain a bucket, and provided with rests or holders for the handles of an ax, saw, and bar.

3. A tool-holder for railroad-cars, consisting of a receptacle adapted to contain a bucket, ax, saw, and bar, and composed of metallic socketed ends or heads, and strips of wood or other fragile material inserted in the sockets of the heads, separated by spaces which permit the contents of the receptacle to be readily seen, and adapted to be broken when it is desired to remove said contents, as set forth.

4. The improved closed cylindrical tool-holder, adapted to contain a bucket, ax, saw, and bar, and provided with a bracket having rests for said tools, and upwardly-projecting pins adapted to enter orifices in the handles of the ax and bar, as set forth.

267,523. FENCE. HUGHEY THOMPSON HARRIS, Phil, Ky. Filed July 18, 1882. (No model.)



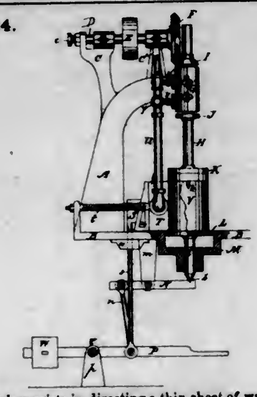
Claim.—1. In a fence, the combination of the triangular braces A, with their base-pieces planted or anchored in the ground, the upper cross bar or rail, A', secured to the braces, the pickets or boards B, resting against the cross bar or rail A' at their upper ends and inserted into the ground, the coincident pickets resting upon the underground base-pieces of the braces, the board B', placed across said brace-pieces and embedded with the same in the ground, and the brush C arranged between the pickets or boards B and the braces A, substantially as and for the purpose described.

2. In a fence, the combination of the triangular braces A, with their base-pieces planted or anchored in the ground, the upper cross bar or rail, A', secured to the braces, the pickets or boards B, resting against the cross bar or rail A' at their upper ends and inserted into the ground, the coincident pickets resting upon the underground base-pieces of the braces, the board B', placed across said base-pieces and embedded with the same in the ground, and the brush C C', the brush C arranged between the pickets or boards and the braces, and the brush C' arranged between the individual pickets and underneath the brush C, substantially as and for the purpose specified.

267,524. CAN-WASHING MACHINE. JAMES O. HAUPHORN, Astoria, Oreg. Filed Mar. 8, 1882. (No model.)

Claim.—1. The hereinbefore-described method of washing

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cans, which consists in directing a thin sheet of water tangentially against the periphery of a can, and at the same time rotating the can in a plane concentric to its longitudinal axis and in a direction opposite to that of the flow of water.

2. In a can-washing machine, the combination of the can-holding disks K L, nozzle T, arranged to discharge a thin sheet or jet of water tangentially with relation to the periphery of the disks, and means, substantially as described, for rotating the disks in a direction opposite to that of the flow of water.

3. In a can-washing machine, the combination of the supply-pipe, the injector, an adjustable nozzle having a converging orifice, and means, substantially as described, for automatically adjusting said nozzle.

4. The combination of the disk K, having a centrally-arranged spar or projection, the disk L, having a shaft, the lever for adjustably supporting said shaft, the shafts D H, gears F I, collar J, and means for operating the lever, all constructed and arranged substantially as described.

5. In a machine for washing cans, the treadle-lever P, weight W, hanging fulcrum m, bed-table B, and their connecting mechanism, in combination with bearing M, disks L l b K, shaft H, with collar J, shaft D, bearings G C C', pulley E, beveled smooth friction-gears F I, main arm A, and set-screw c, operating substantially as and for the purpose set forth.

6. In a machine for washing cans, in combination with treadle-lever P, weight W, bed-table B, and their connecting mechanism, the vertically-adjusting wedge S, having arm s, as herein shown.

7. In a machine for washing cans, the laterally-adjustable nozzle with wedge-piece u, having a converging vertical orifice, in combination with main arm A, bed-table B, wedge S, and spiral spring t, as herein shown.

8. In a machine for washing cans, nozzle T u, attached to supply-pipe U, wedge S, arm s, guide w, main arm A, bed-table B, treadle P, and weight W, with the connecting mechanism, operating substantially as and for the purpose specified.

9. The combination of nozzle T, wedge S, arm s, spiral spring t, bed-table B, and arm A, arranged to be operated automatically by lever P and weight W, as herein shown.

10. The combination of the treadle-lever P, weight W, and lever N, having connecting-rods, lever N being adapted to receive the point b of spindle, with disk L l, as herein shown, and for the purpose set forth.

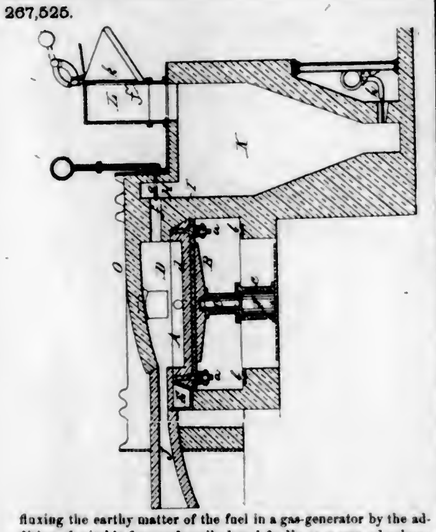
11. In a machine for washing cans, the main arm A, bearings C C' G, all made in one piece, in combination with bed-table B, driving-shaft D, set-screw c, vertically-adjusting shaft H, smooth-faced gears F I, disks K L, spindle l b, bearing M, levers N P, nozzle T u, pipe U, wedge S s, guide w, fulcrum m, spiral spring t, and weight W, with their connecting mechanism, operating as described, and for the purpose set forth.

12. In a machine for washing cans, the combination of main arm A, bed-table B, nozzle T, disks L K, shafts H D, reservoir X, and their connecting mechanism, as herein shown, and operating for the purpose described.

267,525. REGULATING GAS-FURNACES USED IN MANUFACTURING IRON AND STEEL. JAMES HENDERSON, New York, N. Y., assignor, by mesne assignments, to Charles G. Francklyn, same place. Filed Apr. 17, 1880. (No model.) Patented in England Apr. 13, 1874, No. 1,367.

Claim.—1. The process of producing heat which consists in

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fluxing the earthy matter of the fuel in a gas-generator by the addition of suitable flux, as described, and feeding a measured volume of air to incandescent fuel for generating gas, and at the same time supplying the gas thereby produced with a measured volume of air in the proper proportion to produce the flame desired, substantially as specified and set forth.

2. The process of producing heat which consists in feeding a measured volume of air to incandescent fuel for generating gas, and at the same time supplying the gas thereby produced with a measured volume of air in the proper proportion to produce the flame desired, substantially as specified and set forth.

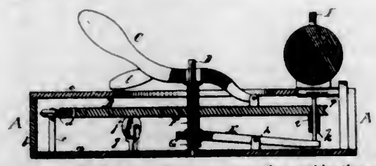
267,526. SLIDE FOR CHAIN-BRACELETS AND OTHER CHAINS. JOSEPH HERRON, New York, N. Y. Filed Aug. 21, 1882. (No model.)



Claim.—1. A slide for chain-bracelets and other chains, constructed substantially as herein shown and described, and consisting of the base provided with a hinged top plate, as set forth.

2. In a slide for chain-bracelets and other chains, the combination, with the base-plate A, having end and side flanges, 1 2 3, and provided with a lip, E, of the hinged top plate, C, provided, with a catch, D, substantially as herein shown and described whereby the said slide can be readily adjusted upon its chain without friction and wear, as set forth.

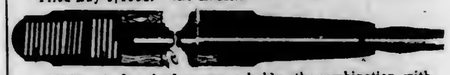
267,527. TYPE-WRITER. CONRAD HILDEBRAND, Chicago, Ill. Filed Nov. 26, 1881. (No model.)



Claim.—In a type-writing apparatus, the combination of the turn-table B, having V-grooved rim and holes *x*, each hole being provided with a tubular casing, *i*, secured to the bottom of the turn-table for guiding the types, the vertically-moving types *j*, each surrounded by a coiled spring, *k*, for retracting the same, the V-shaped rollers *d*, rollers *f*, the hand-lever C, pivotally connected with said turn-table, the lever E, pivoted upon the frame in forked stand-

ard A, the connecting-piece F, and spring G, all constructed and arranged to operate substantially in the manner set forth.

267,528. LEAD OR CRAYON HOLDER. JOSEPH HOFFMAN, New York, N. Y., assignor to Joseph Rockenderfer, same place. Filed May 9, 1882. (No model.)

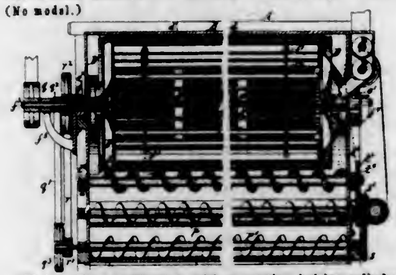


Claim.—1. In a lead or crayon holder, the combination, with a lead-containing case or sheath and a lead clamping or grasping and releasing mechanism, of a movable stop-gage composed of two or more oppositely-placed strips or tongues adapted to be projected beyond the point or tip of the holder, and when thus projected to extend into or across the path of the lead at a predetermined distance from the end of the holder, substantially as and for the purposes hereinbefore set forth.

2. The combination, with the sheath, the grasping-jaws, and the longitudinally-movable tube carrying said jaws, of the independently-movable stop-gage carrier, and the stop-gage consisting of two oppositely-placed bent or hook-like spring strips or tongues located in the spaces or intervals between said jaws, and adapted, when projected from the pencil, to extend into or across the path of the pencil at a predetermined distance in front of the jaws, substantially as and for the purposes hereinbefore set forth.

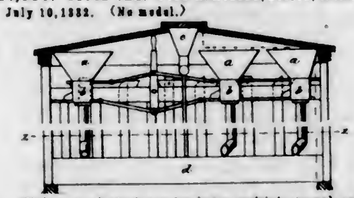
3. In a lead or crayon holder, the combination, with the lead grasping and releasing mechanism, of a longitudinally-movable stop-gage, adapted to be projected from and retracted into the holder, and provided with a cam or swell acted on by the holder, when the stop-gage moves forward, to compel the outer end of said gage to move into or across the path of the lead, substantially as and for the purposes hereinbefore set forth.

267,529. CENTRIFUGAL FLOUR-BOLT. AXEL P. HOLCOMB and AUGUST HEINE, Silver Creek, N. Y. Filed Sept. 7, 1882. (No model.)



Claim.—The combination, with a rotating bolting-cylinder, of a rotating spiral brush running in contact with the outer side of said cylinder, whereby all parts of the cylinder are freed from the material adhering thereto, without at any time materially obstructing any portion of the cylinder, substantially as set forth.

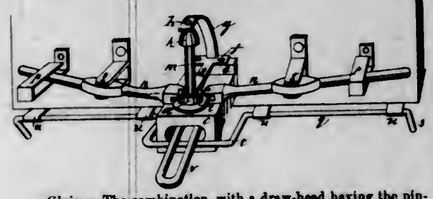
267,530. STOCK-CAR. JOEL M. HOLDEN, Boston, Mass. Filed July 10, 1882. (No model.)



Claim.—1. A stock-car having a multiple trough extending transversely across the car, provided with feed-compartments *a* and a water-compartment, *d*, arranged side by side, each feed-compartment being supplied through a vertical pipe direct from the bottom of a measuring-receptacle connected at its top to a tunnel-mouthed bin, the top of which bin is below the roof of the car, each bin being filled through a separate trap-door directly above it in the roof, the said receptacles and bins being provided with two sets of sliding plates having openings for regulating and measuring the feed, and operated by rods and levers, while the water-compartment is supplied through a vertical pipe leading to a horizontal pipe which connects with a vertical tunnel-mouthed pipe, *e*, extending to the top of the car, substantially as described.

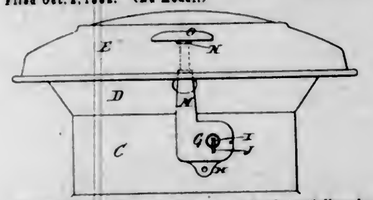
2. A stock-car having a water-trough, a tunnel-mouthed supply-pipe placed beneath the walking-plank of the car, and a pipe connecting the trough and tunnel-mouthed supply-pipe, the top of said tunnel-mouthed pipe being flush with the roof of the car and covered by the walking-plank, which latter is hinged to admit of access to the tunnel, substantially as described.

267,531. CAR-COUPLING. S. LEWIS-HOLMES, Hillsborough, Ohio. Filed Sept. 7, 1882. (No model.)



Claim.—The combination, with a draw-head having the pin-hole *b*, an arm, *d*, carrying a ring registering with the pin-hole, the arm *g*, having eye *h* over the ring, and the tripping-plate *l*, arranged to slide between the ring and draw-head, of the side levers, *n*, whereby the pin may be caused to drop from either side of the car, as described.

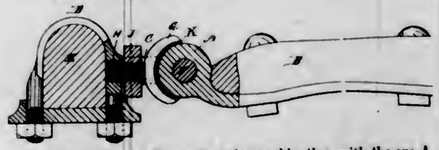
267,532. MILK-CAN LOCK. SEYMOUR HORTON, New York, N. Y. Filed Oct. 2, 1882. (No model.)



Claim.—1. A milk-can lock constructed substantially as herein shown and described, and consisting of the case G, having socket M and spring-pressed bolt K, and the bar N, having ratchet-teeth P, as set forth.

2. The combination, with the neck C and the cover E F of a milk-can, of the case G, having spring-pressed bolt K and socket M, and the bar N, having ratchet-teeth P, substantially as herein shown and described, whereby the said cover can be locked securely in place, and the wear will be taken up, as set forth.

267,533. THILL-COUPLING. ELIAS HOXIE, Red Creek, N. Y. Filed Apr. 19, 1882. (Model.)



Claim.—In a thill-coupling, the combination, with the eye A of the thill-iron and the clip D, provided with an unthreaded orifice, of the curved plate G, having the threaded stem H, integral therewith, and lock-nut J, substantially as shown and described, and for the purpose set forth.

267,534. VALVE-GEAR. RUDOLPH M. HUNTER, Philadelphia, Pa. Filed May 1, 1882. (No model.)



Claim.—1. A valve-gear for steam-engines, which consists of two separated spur-wheels of equal diameter, one of which is secured to the engine crank-shaft and the other supported upon a stationary axis, in combination with two intermediate spur-wheels hung from the respective shafts of the spur-wheels, of equal diameter, meshing with each other and respectively with said spur-wheels of equal diameter, and about which they are adapted to move, and mechanism to move said intermediate wheels and hold them in two or more positions, as set forth.

2. In valve-gear for steam-engines, the combination of shaft B with crank C, spur-wheels D E, of equal diameter, intermediate spur-wheels, L L', arms H I, link J, crank-pin F, and valve-rod P, substantially as shown and described.

3. In valve-gear for steam-engines, the combination of shaft B with crank C, spur-wheels D E, of equal diameter, one of which is secured to shaft B and the other carrying crank-pin F, intermediate spur-wheels, L L', link J, arms H I, valve-rod P, rod K, and means to shift said rod K and lock it in any desired position, substantially as and for the purpose specified.

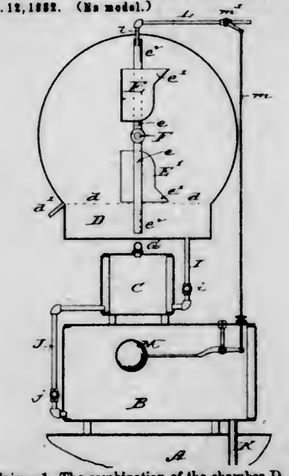
4. In valve-gear for steam-engines, the combination of shaft B with crank C, spur-wheels D E, of equal diameter, one of which is secured to the shaft B and the other carrying crank-pin F, intermediate spur-wheels, L L', link J, arms H I, valve-rod P, rod K, lever M, guide N, and stops *n n*, substantially as and for the purpose specified.

267,535. MEAT-BROILER. CHARLES T. HOBB, Peoria, Ill. Filed Sept. 11, 1882. (No model.)



Claim.—A cooking or broiling device consisting of the hinged dishes A C, having handles *a a'*, and pyramidal teeth on the one half projecting between the teeth on the other half, and provided with an air-tight joint, *c*, as set forth.

267,536. BOILER-FEEDER. JAMES B. HYDE, St. Louis, Mo., assignor of one-half to Alvin S. Ward, same place. Filed Aug. 12, 1882. (No model.)



Claim.—1. The combination of the chamber D, the shaft F, and the oscillating pair of vessels E E', said vessels alternately receiving and discharging water, substantially as and for the purpose described.

2. The combination of the pipe I, the chamber D, the shaft F, and the vessels E E', as and for the purpose described.

3. The combination of the chamber D, the shaft F, the vessels E E', the cranks *f f'*, the valves g^3 h^3, and the pipes G H, substantially as described.

4. The combination of the chamber D, the shaft F, the arms *e e*, the vessels E E', and the strips e^3 e^3, substantially as described.

5. The combination of the chamber D, the shaft F, the arms *e e*, the strips e^3 e^3, and the stop *l*, substantially as described.

6. The chamber D, having the overflow-pipe *d'*, in combination with the oscillating pair of vessels E E', substantially as described.

7. The oscillating pair of vessels E E', having the enlargement *e'*, in combination with the chamber D, as and for the purpose described.

8. The combination of the chamber D, the oscillating shaft F, the cranks *f f'*, the valves g^2 h^2, having the two-part handles *g g'* *h h'*, and the pipes G H, substantially as described.

267,537. STEAM-PACKING. HENRY W. JOHNS, New York, N. Y. Filed June 13, 1882. (Model.)



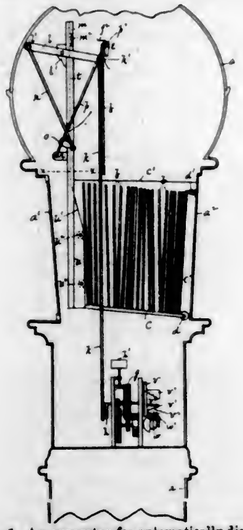
Claim.—1. The process of making asbestus-rope packing, consisting essentially in laying the several strands in the ordinary manner, and then closing the interstices and condensing and solidifying the rope by circumferential or external pressure, substantially as hereinbefore set forth.

2. The process of making asbestus-rope packing having a smooth external finish, consisting in subjecting the formed rope to external or circumferential pressure to close the interstices and condense the strands, and then coating the exterior surface with wax or other suitable material, substantially as hereinbefore set forth.

3. As a new article of manufacture, a steam-packing composed of strands of asbestus associated or gronped together and solidified and hardened by external pressure, substantially as set forth.

4. As a new article of manufacture, a steam-packing composed of strands of asbestus associated or gronped together to form a rope, condensed and hardened by external pressure, and rendered smooth externally by the application of wax or a suitable fluid or paste, substantially as hereinbefore set forth.

267,538. APPARATUS FOR AUTOMATICALLY DISPLAYING SHOW-CARDS, &c. C. WESLEY JOHNSON, Buffalo, N. Y. Filed May 26, 1882. (No model.)



Claim.—1. An apparatus for automatically displaying cards, consisting substantially of the following instrumentalities, namely: an inclined way upon which the cards to be displayed are placed, a grab for catching, lifting, and releasing each card to be transferred from one end to the other of the inclined way, and mechanism for moving the grab in transferring the card, the whole provided with a suitable inclosure having an opening or openings through which the cards are displayed, all combined and operating substantially as shown and described.

2. An apparatus for automatically displaying cards, consisting substantially of the following instrumentalities, namely: an inclined way upon which the cards to be displayed are placed, a grab for catching, lifting, and releasing each card to be transferred from one end to the other of the inclined way, and mechanism for moving the grab in transferring the card and producing a tone or tones at intervals while the cards are being displayed, the whole provided with a suitable opening or openings through which the cards are displayed, all combined and operating substantially as shown and described.

3. A grab for catching, lifting, and releasing cards, having a projection to enter a slot in the card, a spring-arm to hold the card upon the projection, a releasing device for pushing the card away from the projection against the action of the spring-arm, and a socket for hanging the grab upon a carrying-arm, all combined and operating substantially as shown and described.

4. A grab for catching, lifting, and releasing cards, having a projection to enter a slot in the card, a spring-arm to hold the card upon the projection, a guide to direct the grab in catching the card, a releasing device for pushing the card away from the projection against the action of the spring-arm, a socket for hanging the grab upon a carrying-arm, and an auxiliary spring upon the spring-arm for throwing back the releasing device after it has performed its function, all combined and operating substantially as shown and described.

5. In a grab, in combination, the angular projection e^1, the spring-arm e^2, the releasing device *f*, and the cylindrical socket e^3, substantially as shown and described.

6. In a grab, in combination, the angular projection e^1, the spring-arm e^2, the guide e^4, the releasing device *f*, the socket e^3, and the auxiliary spring e^5, substantially as shown and described.

7. The mechanism for operating the grab, consisting of the pitman *k*, reciprocated by any suitable motor, the walking-beam *l*, the connecting-rod *n*, and the carrying-arm *p p'*, having the screw-threaded end p^3, and the adjusting-nut p^4, for holding the grab in position upon the carrying-arm, and the arm p^5, for steadying the grab as it approaches the card, all combined and operating to reciprocate the grab, as and for the purpose stated.

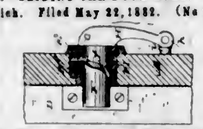
8. The combination of the grab and its operating mechanism, shown and described, with the partition *m*, having the recess *t*, the beveled cleats *u u*, and the friction-rollers u^2 u^3, as and for the purpose stated.

9. The combination of the grab and its operating mechanism with the disk *v*, having the stepped projections *v' v'*, the bells *w*, and the hammers *w'*, all operated by the motor *g* to transfer the cards from the front to the rear of the inclined way, and to simultaneously produce a tone or tones, substantially as shown and described.

10. The partition *m*, provided with recess *t*, and having the cleats *u u* on either side, and the friction-rollers u^1 u^2 u^3 u^3, as and for the purpose stated.

11. The combination of the revolving disk *v*, provided with the stepped projections *v' v'*, with the bells *w*, hammers *w'*, and elastic cushions w^2, the revolving disk being operated by the motor *q*, which moves the grab-operating mechanism, substantially as shown and described.

267,539. SLIDING CAR-DOOR BOLT. WALTER JOHNSON, Jackson, Mich. Filed May 22, 1882. (No model.)



Claim.—1. The combination, with the sliding door, the stationary abutment or stop for the door at one edge, and the rear post at the opposite edge, of the sliding bolt mounted in the body of the door itself, at the rear edge thereof, on a line transverse to the path of the door, and arranged to have its inner end engage directly with said rear door-post, whereby the door abuts directly against said rear post when locked, and to have its outer end project beyond the outer face of the door, whereby it can be utilized to carry the seal or lock, substantially as set forth.

2. The combination, with the stationary eye-piece I, attached to the door, of the bolt, which both rotates and slides in and out relatively to said eye-piece to carry its inner end into and out of engagement with the post, and is provided with a laterally-projecting handle having an eye which, when the bolt is moved in, registers with the eye-piece I, substantially as set forth.

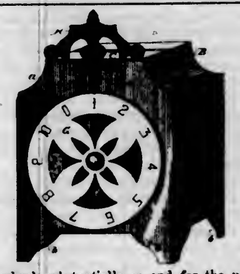
267,540. TOY BANK. JAMES M. KEEP, Montclair, N. J., assignor to JOANNA N. KEEP, same place. Filed Sept. 13, 1882. (No model.)

Claim.—1. The combination, with a toy bank or safe, of a rotary disk or wheel rotating upon a fixed hub or spindle projecting from the front wall of the safe, substantially as and for the purpose shown and set forth.

2. As an article of manufacture, a toy bank or safe having a disk or wheel, suitably inscribed or ornamented, journaled upon a hub or spindle projecting from the front wall of the safe substantially as and for the purpose shown and set forth.

3. The combination of the toy bank, the pointer, and the rotary disk or wheel, substantially as and for the purpose herein shown and set forth.

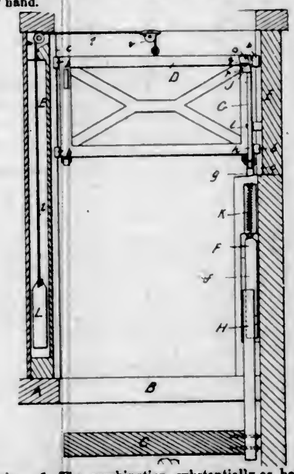
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4. The safe composed of the halves or parts A and B, having slot C in the top, the ornament H, having the pointer I projecting down over the front side of the safe, the connecting-bolt E, having annular shoulder e and headed hub F, and the rotating device G, journaled upon said hub, all constructed and combined substantially as and for the purpose herein shown and described.

267,541. SAFETY-GUARD FOR ELEVATOR-HATCHWAYS. EDWARD O. KENDALL, Boston, Mass. Filed Mar. 21, 1882. (No model.)

Brief.—A spring-actuated bent lever has one end projecting into the well and acted upon by the car, and the other end acting upon a secondary lever, which engages the gate when the latter is raised by hand.



Claim.—1. The combination, substantially as hereinbefore described, of a vertically-sliding gate or guard, D, and a lever pivoted in a vertical plane, with its lower end projecting in the path of the elevator-platform and its upper end provided with means to retain the gate or guard in an elevated position while the lower end of the lever is operated on by the platform in its ascent or descent.

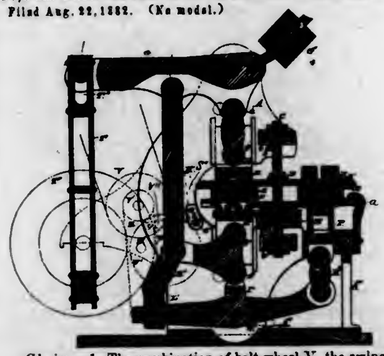
2. The combination, substantially as hereinbefore described, of a vertically-sliding gate or guard and guideways for the edges thereof, with a lever pivoted in a vertical plane, and having its lower end arranged to be directly acted on by the elevator-platform, and its upper end provided with a pivoted secondary lever operated to engage and sustain the gate or guard in an elevated position when the lower end of the main lever is acted on by the elevator-platform.

3. The combination, substantially as hereinbefore described, of a sliding gate or guard, a pivoted lever having a curved end projecting in the path of the elevator-platform, and at its other end provided with a pivoted lever, which is tilted to engage the gate or guard by the direct action of the elevator-platform on the curved end of the main lever.

4. In combination with an elevator-platform, C, a guard, D, adapted to be raised or lowered in suitable guideways, and levers F and G, one, F, of which levers is in the path of the platform, and the other of said levers is arranged to engage with said guard, said lever G being normally out of engagement with the guard and thrown into engagement therewith by the movement of the platform, substantially as and for the purpose specified.

5. In combination with an elevator-platform having an extension, H, a guard adapted to be raised and lowered in suitable guideways, levers F and G, one of which levers is in the path of an extension of said elevator, and the other of said levers is arranged to engage with the guard, said levers being normally out of engagement with the guard and thrown into engagement therewith by the movement of the platform and said extension, substantially as and for the purpose specified.

267,542. BRICK-MACHINE. LEWIS B. KRESSLY, Keokuk, Iowa. Filed Aug. 22, 1882. (No model.)



Claim.—1. The combination of belt-wheel V, the swinging friction-wheel V', and foot-lever W, with friction drive-wheel U' and wheels U and T', arranged so that the machine can be started or stopped by foot-lever W.

2. The combination, with a movable brick-mold, of lever G, pivoted to the main frame at B', and having slide H, bearing plunger M, connected by link I, and lever G, pivoted to the main frame at B' through link I', and having slide H', connecting with plunger N, pivoted to it, all arranged and connected as set forth, so that the mold and series of parts, with their joints, will come into a direct line between pivots B B' at the point of greatest pressure upon the brick.

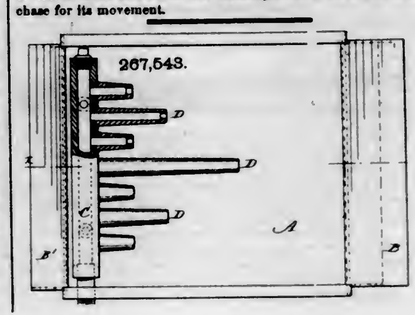
3. The combination of lever L and slide P, connected therewith, bearing plungers P', with the catch-channels in the movable brick-mold bottoms N, arranged, as set forth, to draw down the bottoms into the molds after the brick are discharged.

4. The combination of the revolving table D, bearing brick-molds, with an annular channel-bearing therefor adapted to hold oil for its lubrication.

5. The combination of a movable table, D, bearing brick-molds, and plunger M, adapted to press brick therein, with a friction-wheel, V', hung in a movable frame, so as to be alternatively brought into or out of action to drive said plunger, and with a lock, S, to hold the table in place for the descent of the plunger, having a guard-bar, V'', connecting it with the movable frame, so that the drive-wheel cannot be brought into action until the lock is in place in the table, as set forth.

6. In combination with the discharger-lever L, the slide L', movable thereon toward or from the center pivot, so as to increase or diminish the distance of the discharger-throw and of the purchase for its movement.

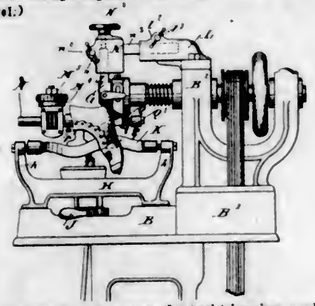
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267,543. CLEANING ASH-PANS OF LOCOMOTIVE-ENGINES. ALDEN D. KILBURN and WILLIAM F. SMITH, Tucson, Ariz. Filed Aug. 11, 1882. (Model.)

Claim.—A distributer for cleaning locomotive ash-pans with water, consisting of the hollow cross-bar C, provided with a front row of straight ejecting pipes or nozzles, D, made of unequal length, to throw the water in a series of streams which strike the bottom, one in advance of another, whereby the cinders are more uniformly acted upon and the pan more thoroughly cleaned, as described.

267,544. HEEL-TRIMMING MACHINE. THOMAS P. KING, Brooklyn, N. Y., and FREDERIC S. STRONG, East Bridgewater, Mass.; said Strong assignor to said King. Filed Dec. 23, 1881. (No model.)



Claim.—1. In a work-carriage for heel-trimming machines, the laterally-adjustable frame carrying the rock-shaft K, having the eccentrically-pivoted work-supporting fork thereon, substantially as shown and described.

2. In a work-carriage for heel-trimming machines, the rock-shaft K, having the arm or extension K^3, provided with the lugs $i i$, supporting the eccentrically-pivoted work-supporting fork, provided with lugs a^3 a^3, as shown and described.

3. In a work-carriage for heel-trimming machines, the rock-shaft K, provided with the arm K^3 and adjusting-screw, for regulating the oscillation of the work-supporting fork, as shown and described.

4. In a jack for heel-trimming machines, the work-supporting fork, having the arm A^3, provided with the universally-adjustable center I^m and adjusting devices, the arm A^3, provided with the longitudinally-adjustable center-pin Q, set-screws q, and adjusting-screw Q^2, and jam-nut, and the arm A, provided with weight-arm a and lugs a^3 a^3, as shown and described.

5. In a work-carriage for heel-trimming machines, the universally-adjustable center I^m, sleeve M, provided with the rack m and set-screw p^3, and the shaft I^3, in combination with the pinion m^2, shaft M^2, lever M^3, pawl m^3, casing M^4, ratchet m^4, cap-wheel M^5, provided with stops s^3, and the work-supporting fork, for operation as shown and described.

6. In a jack for heel-trimming machines, the tightening device consisting of the sleeve M, provided with rack m, the shaft M^2, provided with a pinion, m^2, the lever M^3, provided with the pawls m^3, the box or casing M^4, provided with the interior ratchet, m^4, and the cap or wheel M^5, provided with the abutments m^5, substantially as and for the purpose herein described.

7. In a heel-trimming machine, the horizontal grooved arm L, provided with the flange l^2 and tightening-screw l^3, in combination with the yoke or holder N, provided with a shank or stem, n^3, substantially as herein described.

267,545. PEN-HOLDER. SAMUEL KRAUS, New York, N. Y., assignor to Joseph Rockenderfer, same place. Filed June 3, 1882. (No model.)



Claim.—1. As a new article of manufacture, a pen-holder the barrel of which is made of wood, formed and adapted to receive a handle, substantially as hereinbefore set forth.

2. The wooden pen-holder barrel formed and adapted to receive a handle and re-enforced at the tip and handle ends by a band or ferrule, substantially as hereinbefore set forth.

267,546. MANUFACTURE OF DEXTRINE, GLUCOSE, AND GRAPE-SUGAR. CHARLES LAUDA, New Orleans, La., assignor to himself and Alexander Charles Landry, same place. Filed July 7, 1882. (No specimens.)

Claim.—1. The process of manufacturing glucose and grape-sugar, which consists in attacking the cereal or starchy matter with a weak oxygenated glucose liquor mixed with phosphoric acid, then neutralizing the product with one of the saccharates of the alkaline earths, and then filtering, decolorizing, and concentrating the same, substantially as described.

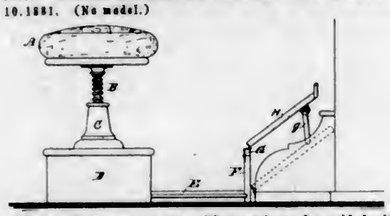
2. The method of converting the starchy substance into glucose, which consists in treating the same with a weak oxygenated glucose liquor with an admixture of phosphoric acid, as and for the purpose described.

3. The method herein described of neutralizing the acids used in converting starch into glucose, consisting in treating the crude glucose with the saccharate of magnesia, as set forth.

4. The method of filtering, decolorizing, deodorizing, and completing the neutralization of the glucose juices in one operation, which consists in passing it under pressure through a composition or layers of animal charcoal, charred blood, and a small quantity of calcined magnesia, as described.

5. The method of preventing the formation of glucose acid when the mash is removed from the converters, which consists in cooling the mash in a closed vessel, as and for the purpose set forth.

267,547. COMBINED MUSIC-STOOL AND PEDAL ATTACHMENT. WILLIAM E. LEIGHTON, West Pembroke, Me. Filed Dec. 10, 1881. (No model.)



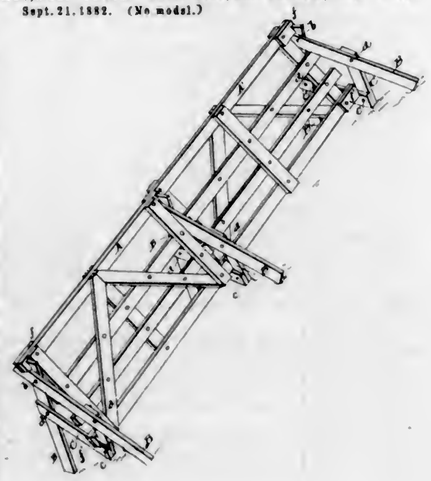
Claim.—1. In combination with a music-stool provided with a hollow base, the sliding board E, having the elevated and hinged pedals H H, as and for the purposes set forth.

2. The music-stool formed with the hollow base or chamber D, in combination with the hinged pedals H H, connected to the said base or chamber, substantially as herein shown and described, whereby the pedals are adapted to be folded and moved into and withdrawn from the chamber, as and for the purposes set forth.

3. In combination with the base-chamber D and sliding board E, provided with the vertical board F, the hinged strip G, hinged pedals H H, and the hinged arms or rods g g, substantially as and for the purposes set forth.

4. The elevated and hinged pedals H H of the stool, provided with the arms or rods g g, in combination with the pedals of the instrument, provided with the sockets i, substantially as and for the purposes set forth.

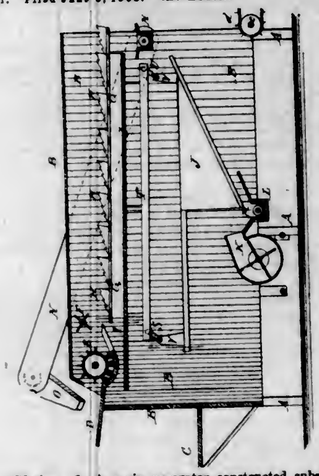
267,548. FENCE. DAVID LONG, East Thetford, Mich. Filed Sept. 21, 1882. (No model.)



Claim.—1. The folding fence-post herein shown and described, consisting of the crossed legs or side pieces, B B, hinged at b, and having their crossed ends notched or rabbeted at e e, and folding arms or cross-bar, C C, hinged together at c and to legs B B at d d, substantially as and for the purpose herein shown and set forth.

2. In a portable fence, the combination of the panels A A' and folding posts, consisting each of the crossed legs or side pieces, B B, hinged at b, and having their crossed ends notched at e e to form bearings for the projecting ends of the top rails of the panels, and folding cross-bar C C, jointed at the middle and to the legs or side pieces at d d, the joint of said cross-bar forming a crotch or support for the projecting ends of the bottom rails of the panels, substantially as and for the purpose herein shown and described.

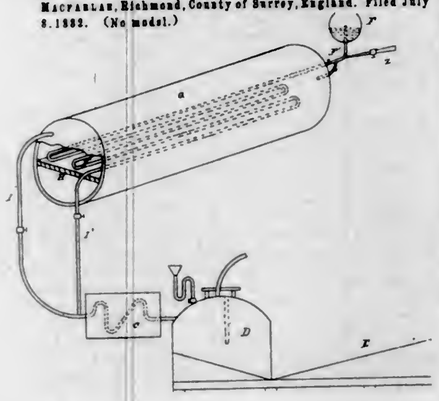
267,549. GRAIN-SEPARATOR. HARRISON C. LOTT, Lexington, Ill. Filed June 3, 1882. (No model.)



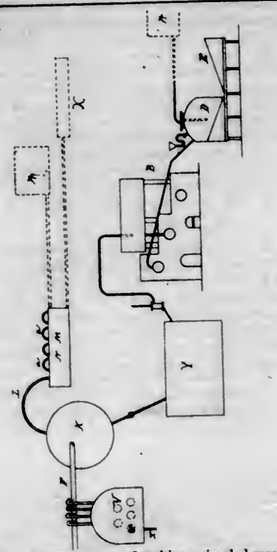
Claim.—1. A grain-separator constructed substantially as herein shown and described, and consisting of the thrashing-cylinder E, the straw-shaker G, and separating-table I, the crank-shafts S U, the shoe J, the fan-blower K, and the driving pulleys and belt, as set forth.

2. In a grain-separator, the combination, with the straw-shaker G and separating-table I and the crank-shafts S U, of the shoe J and mechanism, substantially as herein shown and described, for operating the straw-shaker, shoe, and separating-table, whereby the said shoe will be vibrated at the same time as the straw-shaker and separating-table, by the same mechanism and in the opposite direction, as set forth.

267,550. PROCESS OF AND APPARATUS FOR THE MANUFACTURE OF AMMONIA AND ANIMAL CHARCOAL. JOHN G. MACFARLAN, Richmond, County of Surrey, England. Filed July 8, 1882. (No model.)



267,550.



Claim.—1. The process of making animal charcoal and treating the by-products thereof, which consists in passing superheated steam through carbonaceous matter and then into the bone-retorts, and subsequently mixing steam with the vapors and gases from said retorts, as described.

2. The process of making animal charcoal, which consists in passing superheated steam through carbonaceous matter and then into the bone-retorts, as described.

3. In combination with a bench of retorts and hydraulic main connected therewith, the acid-scrubber divided into compartments provided with steam-pipes to prevent clogging, as shown and described.

4. In a scrubber for purifying gas, divided into compartments, the steam-pipes P, arranged, as shown, to prevent clogging, substantially as described.

5. A decomposing-retort, G, containing a zigzag or pipe coil, F', provided with branches and valves so arranged as to pass the flow of gas through the coil or directly through the body of the retort, substantially as specified.

267,551. MANUFACTURE OF BINOXIDES OF BARIUM AND CALCIUM. CHARLES MARCHAND, New York, N. Y. Filed July 6, 1882. (No model.)



Claim.—1. The method of making barium or calcium binoxide by subjecting baryta or lime to the action of ozonized oxygen or ozonized air, substantially as described.

2. The method of making barium or calcium binoxide by charging the baryta or lime into a receptacle, inserting said receptacle and its contents into a retort, heating the baryta or lime to a red heat, subjecting it to the action of an oxidating agent, and removing the said receptacle and the contained binoxide from the retort, substantially as described.

3. The combination, with a retort having an inlet for admitting an oxidating agent, of the independent receptacle provided with a perforated partition or false bottom, the said retort and re-

ceptacle being constructed and arranged substantially as shown and described, so that the oxidating agent may be admitted through said inlet under the said perforated partition or false bottom of the receptacle inserted in said retort, substantially as described.

4. The retort provided with a removable cover, an interior partition, an inlet, and an outlet, in combination with the vessel adapted for insertion into said retort and provided with a cover and perforated false bottom, substantially as described.

267,552. PRIMER FOR CARTRIDGES. THOMAS R. MARTIN, Waterbury, Conn., assignor to the Waterbury Brass Company, same place. Filed Mar. 8, 1882. (No model.)

Claim.—1. As an improved article of manufacture, the herein-described copper cartridge cap or primer, the shell A of which is of a uniform thickness and density throughout, and provided with fulminate, substantially as and for the purpose specified.

2. The herein-described process of manufacturing cartridge caps or primers from enlarged blanks cut from copper sheets rolled slightly hard and without annealing at any stage of the process, substantially as and for the purpose specified.

267,553. ELECTRIC-ARC LAMP. NORMAN MCCARTY, Brooklyn, N. Y., assignor to the Electrical Supply Company, Ansonia, Conn. Filed July 12, 1882. (No model.)



Claim.—1. The herein-described protector for electric lamps, consisting of the lower or globe section, A, and the upper close section, B, constructed to close the upper opening in and form a continuation of the lower section, combined with the upper and lower carbon holders, the said upper section inclosing the upper-carbon holder, substantially as described.

2. In an electric lamp, the two carbon-holders, one or both adjustable, and the mechanism for adjusting said holder or holders, all arranged in a portion of the lamp below the globe-holder, said portion, with the said carbon-holders and mechanism, made detachable from the globe-holder, combined with mechanism, substantially such as described, whereby the circuit is completely broken in the act of disengaging the said mechanism from the globe-holder, and the circuit closed in replacing the said mechanism, substantially as described.

3. In an electric lamp, the two carbon-holders, one or both adjustable, and the mechanism in connection with the principal magnet for adjusting said holder or holders, all arranged in a portion of the lamp below the globe-holder, said portion, with the said carbon-holders and mechanism, made detachable from the globe-holder, combined with a shunt-magnet the armature of which is in magnetic connection with the armature of the principal magnet, so that the power of one tends to overcome the power of the other, and also arranged in the portion of the lamp below the globe-holder, substantially as described.

4. In an electric lamp, the combination of the bell-crank lever L M, the one arm, M, hung to the armature, and the two jaws *r t* hung to the other arm of the lever, said jaws arranged to grasp the carbon upon opposite sides, substantially as described.

5. In an electric lamp, the combination of the bell-crank lever L M, the one arm, M, hung to the armature, and the two jaws *r t* hung to the other arm of the lever, said jaws arranged to grasp the carbon upon opposite sides, and said jaw *t* made adjustable relatively to the jaw *r*, substantially as described.

6. The combination of the armature N, arranged substantially parallel with the axis of the magnet P, hinged to one pole, R, at one end, and its meeting surface with the pole R′ at the other end on an angle to the axis of the magnet, and the bell-crank lever L M, carrying the clutch *o*, with the rod I, carrying the adjustable carbon of an electric lamp, substantially as described.

267,554. CAR-COUPLING. JAMES H. MCLEARY, San Antonio, Tex. Filed Oct. 7, 1882. (No model.)

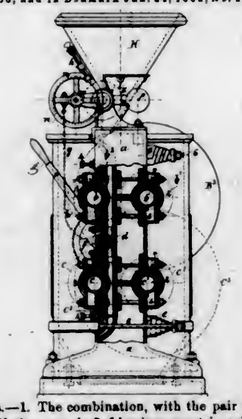


Claim.—1. In a car-coupling, the combination, with the draw-head and coupling-link, of the shaft having the wheel provided with the automatically projecting and retracting pins or arms, substantially as and for the purpose set forth.

2. In a car-coupling, the combination, with the draw-head and coupling-link, of the shaft having a ratchet engaged by a holding-pawl, and the wheel provided with the automatically projecting and retracting pins or arms, substantially as and for the purpose set forth.

3. In a car-coupling, the combination, with the draw-head C′ and coupling-link E, of the shaft A, having the handle A′, the ratchets B′, engaged by holding-pawls *a*, and the wheel C, carrying the automatically projecting and retracting pins D, substantially as and for the purpose specified.

267,555. ROLLER-MILL. ANDREAS MECHWART, Buda-Pesth, Austria-Hungary. Filed Mar. 27, 1882. (No model.) Patented in Austria July 5, 1881, No. 24,544; in Hungary July 5, 1881, No. 23,868, and in Denmark Jan. 24, 1882, No. 2,476.



Claim.—1. The combination, with the pair of rollers *b b′*, of the levers b^3, the cross-shaft *f*, having eccentric ends forming hinge-pins for the levers b^3, and springs to apply yielding pressure to keep the roller *b* toward the roller *b′*, substantially as set forth.

2. The combination, with the pair of rollers in a roller-mill, of the vertical frames *a*, between the journals of the rollers, and the journal-boxes at the opposite and outer edges of such frames *a*, with removable caps, whereby either roller can be taken out after the caps of the journal-boxes have been removed without disturbing any other parts, substantially as set forth.

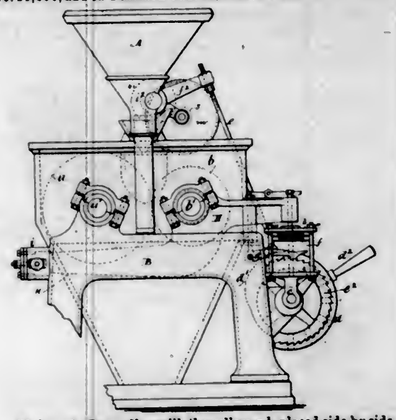
3. The combination, with the pair of rollers in a roller-mill, of levers b^3, stop-screws *h*, draw-bars 6, springs *e*, and frame *a*, the frames being between the respective journals and the draw-bars passing through such frames, substantially as set forth.

4. The combination, with the hopper and feed-roller *i*, of the weighted lever E, gear-wheels *l m*, hand-wheel *n*, belt, pulley *o*, rollers *b b′*, levers b^3 and *g*, eccentric-shaft *f*, and connection between the levers *g* and E, substantially as set forth.

5. The combination, with the pairs of rollers *b b′ c c′*, of the vertical frames *a*, passing up between the journals of the respective pairs of rollers, the levers b^3 c^3, hinged together in pairs, the cross-shaft *f*, with eccentrics ends forming the pins of the lever-

hinges, the journal-boxes of the rollers *b c* upon the levers b^3 c^3, respectively, the stop-screws *h*, draw-bars 6, and springs *e*, substantially as specified.

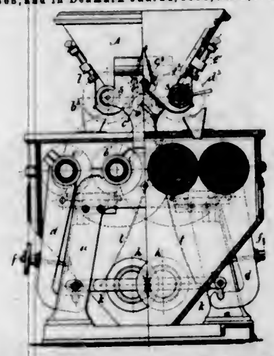
267,556. ROLLER-MILL. ANDREAS MECHWART, Buda-Pesth, Austria-Hungary. Filed Mar. 27, 1882. (No model.) Patented in Austria July 5, 1881, No. 24,544; in Hungary July 5, 1881, No. 23,868, and in Denmark Jan. 24, 1882, No. 2,476.



Claim.—1. In a roller-mill, the rollers *a b*, placed side by side, in combination with the levers H, passing nearly horizontally beneath the journals of the roller *a*, and pivoted at *i*, and having boxes for the journals of the roller *b*, and mechanism, substantially as set forth, for moving and holding the outer ends of said levers and adjusting the axis of the roller *b* in the arc of a circle that is nearly parallel to the surface of the roller *a*, where the grinding takes place, substantially as specified.

2. In a roller-mill, the combination, with the levers for moving one of the rollers of an eccentric-shaft, a cam on the same, the rod *e*, feed-roller *i*, and mechanism between the feed-roller and the rod *e*, moved by said rod *e*, for stopping and starting the roller-feed, substantially as set forth.

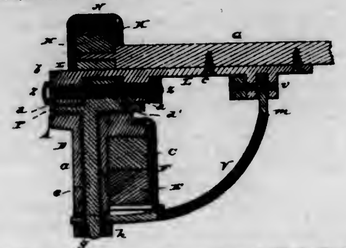
267,557. ROLLER-MILL. ANDREAS MECHWART, Buda-Pesth, Austria-Hungary. Filed Mar. 27, 1882. (No model.) Patented in Austria July 5, 1881, No. 24,544; in Hungary July 5, 1881, No. 23,868, and in Denmark Jan. 24, 1882, No. 2,476.



Claim.—1. The combination, with the pair of rollers in a roller-mill and the levers and weights, of a feeding-hopper and feeding-roller, a gear-wheel for the same, a crank-shaft, *o*, and chains to the weighted levers for relieving the crushing-rollers, an eccentric on the crank-shaft *o*, and a gear-wheel on the same for driving the feed-roller gear, whereby the roller-feed is stopped when the crushing-rollers are separated, and the reverse, substantially as set forth.

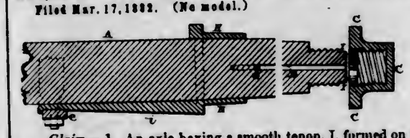
2. The combination, in a hopper having a roller-feed, of the cross-shaft 8, agitators 7, suspended from said cross-shaft, the revolving shaft *c*, and cams 9 within the hopper and acting against the lower part of the agitators 7, substantially as set forth.

267,558. FIFTH-WHEEL. JOHN MERTES, Elizabeth, Ill. Filed Apr. 8, 1882. (No model.)



Claim.—In a fifth-wheel, the combination, with the T-shaped supporting-plate under the head-block and front spring, provided with the barrel-lugs *d d*, and the lower fifth-wheel plate, A, having the vertical socket-bearing *a*, of the upper fifth-wheel plate, P, having barrel-lug *d′*, and stem *e*, the bolt *x*, and pivoted brace *r*, substantially as specified.

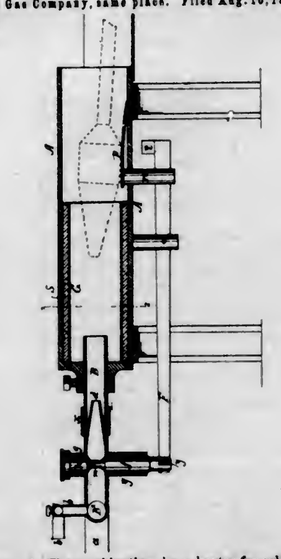
267,559. VEHICLE-AXLE. OSCAR C. NEBURIN, Newark, Ohio. Filed Mar. 17, 1882. (No model.)



Claim.—1. An axle having a smooth tenon, I, formed on the end of its spindle, in combination with a nut that is closed at its outer end and provided with an internal screw-thread to fit upon the outer end of the spindle, substantially as shown.

2. The combination of an axle having the shoulder *a* with a recessed collar to fit over the shoulder and a means for holding the collar in position, substantially as set forth.

267,560. HEATER FOR SOLDERING-IRONS. EDMUND MEREDITH, Philadelphia, Pa., assignor to the Elkins Manufacturing and Gas Company, same place. Filed Aug. 10, 1882. (No model.)



Claim.—1. The combination, in a heater for soldering-irons or other tools, of a tube, A, a pipe, B, a valve, D, controlling the flow through said pipe, a tool-supporting plate in the tube A, and a lever, F, forming a connection between said tool-supporting plate and the valve D, as set forth.

2. The combination of the pipe B with a valve, D, having portions *k* and *m*, presenting passages of different area, said valve be-

ing adjustable in respect to the pipe, whereby either passage may be caused to provide communication through the pipe, as set forth.

3. The combination of the pipe B with a valve, D, having a portion, *m*, constructed as described, so as to present passages at right angles to each other, but of different area, as set forth.

4. The combination of the pipe B with a sliding valve, D, having portions *h* and *m*, reduced in diameter, the portion *m* being reduced to a greater extent than the portion *h*, as set forth.

5. The combination of the pipe B, the lever F, and the valve D, having unequal passages at right angles to each other, and right-angled slots *y*, adapted for the reception of the lever, as set forth.

6. The combination of the tube A and lever F with the slotted pin *n* and its plate *p*, as set forth.

267,561. AUTOMATIC BLOCK-SIGNAL MECHANISM FOR RAILWAYS. JAMES A. MILLHOLLAND, Cumberland, Md. Filed June 5, 1882. (No model.)

Brief.—Signal-operating tread-levers overlap each other so that the signal of the "block" being entered will be "dangered" before the danger-signal of the block just being left is "safetied."

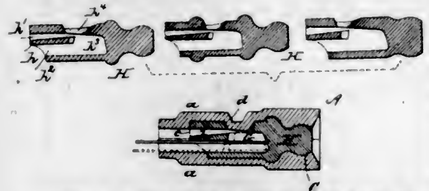


Claim.—1. The combination of each of a series of block-signals on a railway-line with a pair of connected pedals, *a a'*, adapted to be operated by passing trains, the pedals of one signal occupying the relation described to those of adjoining signals, whereby the signal at the commencement of the block which the train is entering is set at "danger" before the restoration to the "safety" position of the signal at the commencement of the block which the train is leaving, as set forth.

2. The combination of the pedals *a a'*, the rock-shafts *e e'*, having arms *d d'* and *g g'* set in respect to each other as described, and mechanism for connecting the arms *g g'* together and to the signal, as set forth.

267,562. CANDY WHISTLE AND MOLD FOR MANUFACTURING THE SAME. OSCAR M. MILLS, Philadelphia, Pa. Filed Oct. 21, 1881. Renewed May 3, 1882. (No model.)

Brief.—Improvement on the invention covered by Letters Patent No. 229,163, dated June 22, 1880.



Claim.—1. A mold for candy-whistles, having a core with a detachable plug at its inner end, substantially as shown and described.

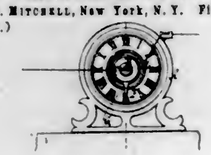
2. A candy-whistle mold-core having its inner end bifurcated or kerfed, and provided with a plug which only partly fills the bifurcation, leaving a slot for the passage of the candy in molding, substantially as shown and set forth.

3. The combination, with the candy-whistle mold-core having its inner end bifurcated and one of its tines grooved, of a detachable sliding plug, G, having a stem, *g*, substantially as shown and described.

4. A candy whistle having two longitudinal air-passages communicating with an internal air-chamber, said passages being divided by a diaphragm, *h*, of substantially even thickness throughout, as shown, and for the purpose specified.

5. A candy-whistle mold having a vent boss inclined on its lower or inner side, in combination with a core having its adjacent side correspondingly beveled, whereby the rear edge of the vent of the whistle formed in such mold is lower than its front edge.

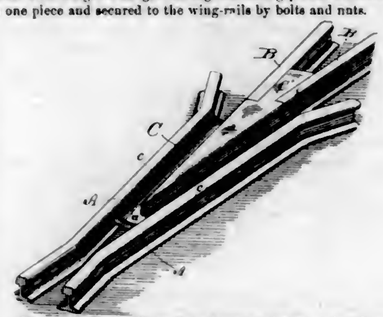
267,563. TENSION-INDICATOR FOR SEWING-MACHINES. ROBERT L. MITCHELL, New York, N. Y. Filed Aug. 30, 1882. (No model.)



Claim.—The combination, substantially as hereinbefore described, of the tension disks or jaws C C, the spindle which supports said jaws and is movable in its bearing in the direction of its axis, suitable means for securing the spindle in its bearing, the spring and nut which serve to adjust the tension, the index, and the dial or scale provided with suitable marks or figures.

267,564. FROG. WILLIAM J. MORDEN, Chicago, Ill. Filed Aug. 4, 1882. (No model.)

Brief.—Consists of a center piece having a shank, and provided with wings or flanges having connecting-pieces, all formed in one piece and secured to the wing-rails by bolts and nuts.



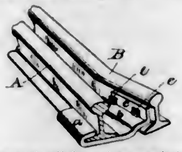
Claim.—1. In a railway-frog, a center piece or point, C, provided with wings or flanges *a a* and connecting-pieces *h* and *h'*, all in one piece, substantially as described and shown.

2. In a railway-frog, a center piece or point, C, provided with wings *a a*, having connecting-pieces *h h'*, all cast or made in one piece, in combination with and secured to the wing-rails, substantially as shown and described.

3. In a railway-frog, the combination, with the wing-rails A A and point-rails B B, of the center piece or point, C, having shank C', and trough-shaped wings or flanges *a a*, substantially as shown and described.

267,565. GUARD-RAIL FOR SWITCH-FROGS. WILLIAM J. MORDEN, Chicago, Ill. Filed May 4, 1882. (No model.)

Brief.—Consists of a plate provided with a hook which engages with the flange of the traffic-rail, and, passing under said rail, curves up and bears on top of the guard-rail flange, whence, by an angle, it fits the rail-web and is secured to said rail, by which means it is held from rolling.



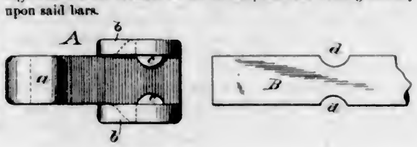
Claim.—1. A guard-rail fastening consisting of a plate provided with a hook or jaw which engages with the flange of the traffic-rail, and, passing under said rail, curves up and bears on the top of the guard-rail flange, and is secured to said guard-rail, whereby the said guard-rail is held from tilting or rolling, substantially as shown and described

2. The fastening-plate D, provided with a hook or jaw, *a*, curved portion *b*, and flange *c*, substantially as and for the purpose described.

3. The combination of a traffic-rail, A, and guard-rail B with a plate, D, having a jaw, *a*, curved portion *b*, and flange *c*, substantially as described and shown.

267,566. TIE-BAR FOR RAILROAD-SWITCHES. WILLIAM J. MORDEN, Chicago, Ill. Filed Apr. 10, 1882. (No model.)

Brief.—The rails are tied together by hooked jaws having lugs which enter recesses in the tie-bar, the rails resting directly upon said bars.

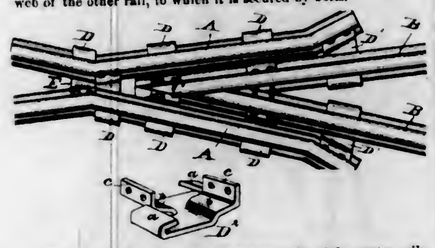


Claim.—1. The combination, with the rail and the tie-bar B, of the jaw A, having the claw *a* and the claws *b b*, disconnected above the tie-bar, and devices to engage said jaw with the said tie-bar, the rail resting directly upon the tie-bar, substantially as and for the purpose described.

2. A tie-bar composed of the removable jaws A A', having claws *a* and *b b*, the latter provided with lugs *c c*, and the connecting-bar B, secured between the claws *b b*, and having notches *d d*, adapted to fit over the lugs *c c*, substantially as shown and described.

267,567. RAILWAY-FROG. WILLIAM J. MORDEN, Chicago, Ill. Filed May 22, 1882. (No model.)

Brief.—Rails are joined together by means of plates provided with hooks having a curved portion and flange, each of which hooks passes over the flange of one rail, and, passing under said rail, curves up and rests on the top of the flange and against the web of the other rail, to which it is secured by bolts.



Claim.—1. A frog composed substantially of the center rails, B B, joined to form the point C, and united to the outer or wing rails, A A, by means of the plates D, which are provided each with a hook, *a*, curved portion *b*, and flange *c*, each of which hooks over the flange of one rail, and, passing under said rail, curves up and rests on the top of the flange of the other, and is secured thereto by bolts or equivalents passing through the flange *c* and the shank of the rail, substantially as shown and described, and for the purpose set forth.

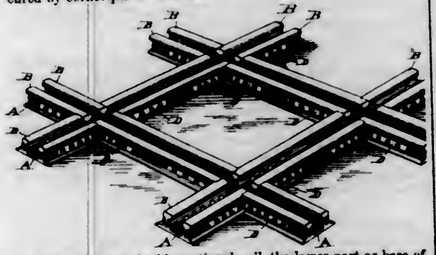
2. In combination with the center rails, B B, joined to form the point C, a plate, D, riveted or bolted to each side thereof, said rivets passing directly through the point C and through the flanges *c* of each plate, the plates extending in opposite directions, passing under and being hooked over the flange of the wing-rails A A, substantially as described and shown.

3. The combination, with the wing-rails A A, of a frog, two or more plates, D, each provided with a hook, *a*, curved part *b*, and flange *c*, placed beyond the point C of the frog, and alternately hooked over the flange of one rail and secured to the shank of the other, substantially as shown and described.

4. A compound clamp for spacing and securing together two adjacent rails, consisting of two interior vertical flanges, *c*, and two exterior hooks, *a*, the hooks and flanges being joined by a base-plate in uniform plane, as set forth.

267,568. RAILWAY-CROSSING. WILLIAM J. MORDEN, Chicago, Ill. Filed May 15, 1882. (No model.)

Brief.—A double sectional rail having its base constructed in a single piece and provided with flanges, forming sockets for the reception of the tongues of detachable heads, is employed in the construction of crossings, the parts meeting at the angles being secured by corner-pieces and bolts.



Claim.—1. A double sectional rail, the lower part or base of which is constructed in a single piece, the upper part or heads being detachable, substantially as shown and described.

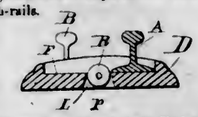
2. A railway-crossing, substantially as described, composed of double sectional rails, said rails consisting of a single base-piece, A, provided with detachable heads B B, substantially as described and shown.

3. In a double sectional rail, the base-piece A, having flanges E E, in combination with the detachable heads B B, provided with tongues *e e*, substantially as shown and described, and for the purpose set forth.

4. In a railway-crossing, the combination of the double base-pieces A, detachable heads B B, and corner-pieces D, substantially as described and shown.

267,569. SAFETY DEVICE FOR SWITCHES. WILLIAM J. MORDEN, Chicago, Ill. Filed Mar. 13, 1882. (No model.)

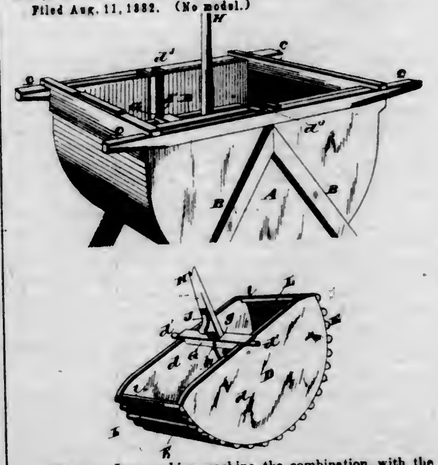
Brief.—Switch-head chairs, each provided with a roller which acts as a lock as against lateral displacement while a passing train is upon the switch-rails.



Claim.—1. In a switch, a head-chair, D, having face F, provided with opening L, in which is journaled a roller, R, substantially as shown and described.

2. In a switch, the combination, with the rails A, A', and B, of the chair D, having a face, F, opening L, and a roller, R, journaled in said opening, substantially as shown and described.

267,570. WASHING-MACHINE. JOHN MORRIS, Bristol, R. I. Filed Aug. 11, 1882. (No model.)



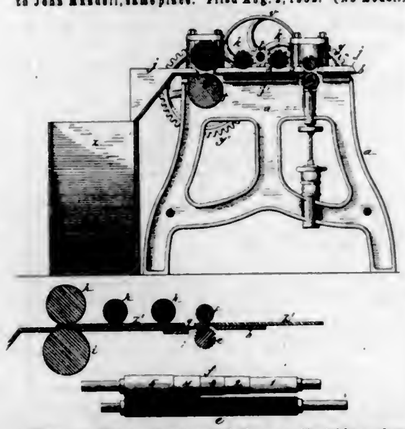
Claim.—In a washing-machine, the combination, with the semicircular tub provided on its interior with transversely-ribbed rubbing-surface, of a removable semicircular oscillating rubber having rubbing-slats secured to its curved periphery and projecting outward therefrom, and a wire-netting secured to the inner surfaces of said bars or slats, substantially as set forth.

267,571. CLOTHES-POUNDER. JOHN MOWRAY, Fremont, Ohio. Filed July 11, 1882. (No model.)



Claim.—The extensible and adjustable clothes-pounder herein described, consisting of the cups A A′, handles B B, the cross-bars D D′ and C C′, the portions C′ D′ telescoping in the portions C D, and the portion C′ having perforations *f*, and the spring-catch *g*, all constructed, arranged, and combined as and for the purposes set forth.

267,572. MACHINE FOR SHAVING, CONDENSING, AND ASSORTING BLANKS FOR SHOE-SOLES. JAMES MUNDELL and WILLIAM J. GORDON, Philadelphia, Pa., assignors of one-third to John Mundell, same place. Filed Aug. 2, 1882. (No model.)



Claim.—1. The combination, with the non-adjustable condensing-rollers *h i*, the top one being graded and the lower one of uniform diameter, of the front feed-rollers, *e f*, the top one being graded and the lower one ribbed, the intermediate adjustable rubber feed-rolls, the knife *g*, and the table having guideways corresponding to the several divisions of the graded rollers, substantially as described, for the purpose specified.

2. The combination, substantially herein described, with the ribbed and graded rollers *e f*, the graded and plain rollers *h i*, a table having guideways corresponding to said graded-roller divisions, and a fixed knife, *g*, of the rubber feed-rolls *k*, arranged upon separate shafts in corresponding relation to the said graded-roller divisions, the main driving-shaft and mechanism for connecting it with the said rubber feed-roll shafts, the said front feeding-rollers, and the rear condensing-rollers, and adapted to operate the several rollers in the same direction, to render the operations of shaving, feeding, and condensing sole-blanks of different thicknesses continuous and simultaneous in one machine.

3. The combination, substantially herein described, of the front ribbed and graded rollers, *e f*, and the fixed knife with the non-adjustable rear graded and plain rollers, *h i*, forming the condensing-rollers, a yielding feed device, arranged between these front and rear sets of rollers, and the table having guideways corresponding with the several divisions of the graded rollers *f h*, and within which the yielding feed-rolls are arranged to receive the shaved graded sole-blanks and deliver them to the condensing-rollers.

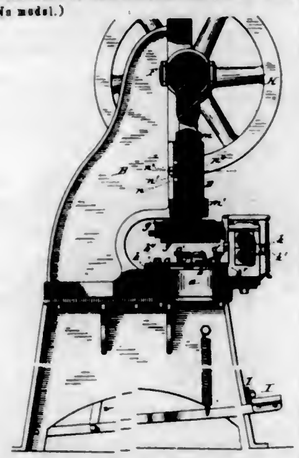
4. The combination, with the front feed-rollers, *e f*, the fixed knife *g*, the rear condensing-rollers, *h i*, and the intermediate elastic feed-rolls, *k*, the said top rollers, *f h*, being graded, of a table divided by partitions *j*, corresponding to the graded divisions of the top rollers, and having hinged sections overlying the said knife, substantially as described, for the purpose specified.

5. A machine for shaving and condensing sole-blanks, consisting of the feed-rollers *e f*, the knife *g*, the non-adjustable condensing-rollers *h i*, the intermediate rubber feed-rolls, *k*, the top feed-roller and the top condensing-roller being graded and the table having guideways corresponding to the gradations thereof, and mechanism for actuating the several rollers from a main driving-shaft, substantially as herein set forth.

6. In combination, in a machine for shaving and condensing sole-blanks for boots and shoes, the top front and rear graded rollers, *f h*, the ribbed roller *e*, the roller *i*, having an unbroken surface, the fixed knife *g*, the partitioned table, the elastic feed-rolls *k*, having their shafts mounted in pivoted arms *s s*, supported by adjusting-hangers *r*, and geared at each end with the main driving-shaft by the gears *t u*, and the gears connecting the said rollers *e f h i* with the main driving-shaft, substantially as herein set forth.

7. That improvement in the art of preparing sole-blanks for use in the manufacture of boots and shoes which consists in shaving the under side of the blank, and feeding and condensing the same under an accelerated movement, and at one continuous operation, as specified.

267,573. MACHINE FOR CUTTING HEEL-LIFTS. JAMES MUNDELL and WILLIAM J. GORDON, Philadelphia, Pa., assignors of one-third to John Mundell, same place. Filed Aug. 7, 1882. (No model.)



Claim.—1. In a machine for cutting out heel-lifts, the combination of the stationary hollow cutting-dies *d d*, the spring-sustained plates *c′ c′*, and the reciprocating stamping or pressing block *g* with the feed-rolls *e f*, operated by an intermittent register-feed, substantially as described, for the purpose specified.

2. The combination of the stationary hollow cutting-dies, the spring-sustained plates *c′ c′*, and the reciprocating stamping or pressing block with feed-rolls and mechanism connecting them with the block-operating shaft, whereby to feed the sole-leather strip to the cutting-dies with an intermittent register-feed, substantially as described, for the purpose specified.

3. The combination of the feed-rolls and the reciprocating stamping or pressing block with mechanism for operating said feed-rolls, consisting of the pinions *h h h′*, the spur-gear *h′*, the bell-crank lever, the pawl, and the rod *j*, connecting said bell-crank lever with a crank-pin, *j′*, on the block-operating shaft, the stationary hollow cutting-dies, and the spring-sustained plates *c′ c′*, constructed and arranged for cutting out heel-lifts by a mechanical register-feed suited to the size of the dies.

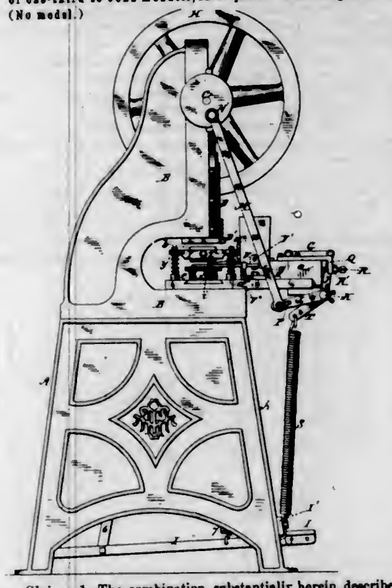
4. The combination of the bed-plate *b*, having the gages *l l*, and the removable plate *c*, having the stationary hollow cutting-dies, and the spring-sustained plates *c′c′*, with the rolls having an intermittent register-feed, the front guide, *k*, having the gages *k′*, the pressing-block and mechanism for operating said feed-rolls during the ascending movement of the reciprocating pressing-block, substantially as described, for the purpose specified.

5. The combination, in a machine for cutting out heel-lifts, of the fixed hollow cutting-dies *d d* and the spring-sustained plates *c′ c′* with a reciprocating pressing-block adapted for vertical and rotary adjustment in relation to said dies, substantially as described, for the purpose specified.

6. In combination, in a machine for cutting out heel-lifts, the fixed hollow cutting-dies, the spring-sustained plates *c′ c′*, the vertical stem g^3, carrying the reciprocating pressing-block, the vertically-adjusting nuts *m m′* therefor, the block-operating slide D, having the opening *n*, the segmental slotted plate *a′*, arranged within said opening *n*, and the screw a^3, for clamping the segmental plate to the vertically-adjustable stem, whereby the pressing-block is adapted for adjustment, both vertically and upon its axis, in relation to the cutting-dies, for the purpose specified.

7. In an organized machine for cutting out two heel-lifts simultaneously from a strip of leather fed by an intermittent mechanical register-feed, the following instrumentalities, viz: the stationary hollow cutting-dies and the spring-sustained plates carried by a removable die-plate, the pressing-block adapted for adjustment vertically and upon its axis, the feed-rolls, mechanism whereby they are connected with and operated by the pressing-block-operating shaft with a register-feed, and gages arranged in front of said intermittently-feeding rolls and in front of said cutting-dies, substantially as described.

267,574. MACHINE FOR CUTTING SHOE-SOLES. JAMES MUNDELL and WILLIAM J. GORDON, Philadelphia, Pa., assignors of one-third to John Mundell, same place. Filed Aug. 7, 1882. (No model.)



Claim.—1. The combination, substantially herein described, of a suitable sole-cutting die and a vertically-operating stamp or press with a horizontal reciprocating stepped feeding-slide, a hopper for containing sole-blanks in stack, detent-spring devices supported upon said slide, a non-moving surface or table to receive the blank from the slide between the hopper and the die, and mechanism for operating the stamp or press and the slide, substantially as described, for the purpose specified.

2. The combination, substantially herein described, in a machine for cutting soles, of a fixed cutting-die, a spring-sustained table, and a vertically-operating pressing block or surface, with a horizontal reciprocating stepped feeding-slide, a hopper for containing sole-blanks in stack upon said slide, and a device for depositing the fed blank or blanks from said slide upon a non-moving surface in such relation to the cutting-die as to be fed thereon intermittently by said slide in the operation of cutting soles from sole-blanks.

3. The combination, substantially herein described, in a sole-cutting machine, of a suitable sole-cutting die and a vertically-operating pressing block or surface, with a horizontal reciprocating stepped feeding-slide, a hopper for containing sole-blanks in stack upon said slide, a yielding device for depositing the fed blank or blanks from said slide upon a non-moving surface, and mechanism for connecting and operating said feeding-slide from the operating-shaft, substantially as described, for the purpose specified.

4. The combination, substantially herein described, in a sole-cutting machine, of a suitable sole-cutting die and a vertically-operating pressing block or surface, with a horizontal reciprocating stepped feeding-slide, a hopper for containing sole-blanks in stack upon said slide, a device for depositing the fed blank or blanks from said slide upon a non-moving surface, the rock-shaft K, having the slide-connecting arm G, the slotted arm G^1, the rod M, and the press-operating shaft, connected by an eccentric pin with said slotted arm, whereby the feeding-slide is operated and controlled by the operations of the press to position the blank over and upon the cutting-die.

5. The combination, substantially herein described, in a sole-cutting machine, of a suitable sole-cutting die and a vertically-operating pressing block or surface, with a horizontal reciprocating stepped feeding-slide, a hopper for containing sole-blanks in stack upon said slide, a detent-spring device for depositing the fed blank or blanks from said slide upon a non-moving surface, with mechanism, substantially described, for connecting and operating said feeding-slide from the operating-shaft, means, substantially as described, for insuring the full rearward movement of the slide and for limiting such movement to position the blank over and upon the cutting-die.

6. In combination, in a sole-cutting machine, a cutting-die, a pressing-block, a horizontal reciprocating feeding-slide having a stepped surface, a hopper for containing sole-blanks in stack, the vertically-operating spring-detents X, the rock-shaft K, having the slide and press connecting arms J L and the arm T, the stop device Q R, and the spring S, connecting said arm T with the frame, all constructed and arranged for operating and controlling the operations of the slide, the delivering of the blank or blanks therefrom and its feed to a register position with the cutting-die, substantially as described, for the purpose specified.

7. In combination, in a sole-cutting machine, a cutting-die, a pressing-block, a reciprocating feeding-slide having a stepped surface, a hopper for containing sole-blanks in stack, a device for depositing the fed blank or blanks from said slide upon a non-moving surface, and the pivoted spring guide-arms U U, all arranged for operation in feeding and delivering the sole blank or blanks from the stack in position upon the cutting-die to be cut into a sole or soles.

8. In combination, in a sole-cutting machine, a fixed cutting-die, a spring-sustained table, a spring-sustained pressing-block, a reciprocating feeding-slide having a stepped surface, a hopper containing sole-blanks in stack upon said hopper, a device for depositing the fed blank or blanks from said slide upon a non-moving surface, and mechanism, substantially described, whereby the slide and the pressing-block are connected with and operated by the operating-shaft to feed and deliver the sole blank or blanks from the stack in position upon the cutter and cut into a sole or soles.

9. In a machine for producing shoe-soles from sole-blanks, the combination, substantially herein described, of a hopper for containing sole-blanks in stack, and a slide having a surface of different levels, *f f′*, with the detent-spring devices arranged to rest upon said slide to deliver the blank or blanks therefrom, and a cutting-die arranged to receive the deposited blank or blanks by the pushing action of the slide.

10. The combination of a fixed cutting-die and a spring-sustained table with a spring-sustained pressing block or surface and means, substantially herein described, for supporting it between said die and the driver or stamp block independent of it and in proper relation to said die.

11. The combination, with the fixed cutting-die, of a sectional spring-sustained table, and means, substantially described, for maintaining the sections in contact with the outer walls of the cutting-die, substantially as described, for the purpose specified.

12. The combination, with the fixed cutting-die, of a spring-sustained table consisting of the rigidly-connected plates *j* k^2, the side plates, *l k*, and heel and toe sections *m m′*, supported by said rigidly-connected plates, and the springs *q q*, attached to each end of the side sections, *l k*, at the under side of the table across the heel and toe sections against projections thereon, whereby the surface-sections joining the cutting-die are maintained in contact therewith, and adapted for both vertical and horizontal movement in relation to the fixed die, substantially as described, for the purpose specified.

13. The combination, with the fixed cutting-die, of a sectional spring-sustained table, means, substantially described, for maintaining the sections in contact with the outer walls of the cutting-die, and a separate interior spring-sustained ejector, substantially as described, for the purpose specified.

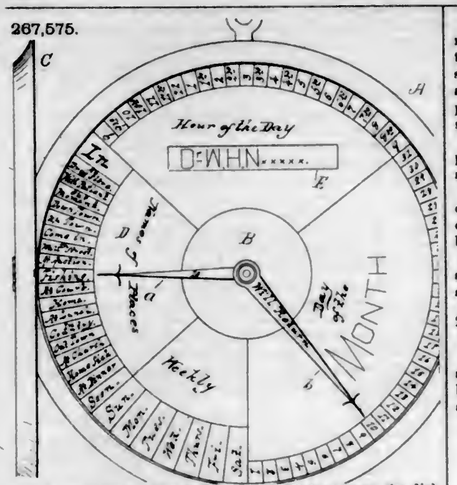
14. The combination, substantially as herein described, in a machine for cutting soles, of a hopper for containing sole-blanks in stack, a reciprocating feeding-slide supporting said blanks in stack, and a device for depositing the fed blank or blanks from said slide upon a non-moving surface, with a cutting-die having a spring-sustained table, means, substantially described, whereby the said die is adjusted laterally in relation to said feeding-die, and a vertically-operating pressing-block, for the purpose specified.

15. In a machine for cutting shoe-soles from sole-blanks, the combination of a cutting-die, a spring-sustained table therefor, a pressing-block, a reciprocating feeding-slide having a stepped surface, a hopper for containing sole-blanks in stack, a device for depositing the fed blank or blanks from said slide upon a non-moving surface, with pivoted guide U U, provided with the edge-lips W, overhanging said slide, and the spring V^3, all constructed and arranged substantially as described, for the purpose specified.

267,575. OFFICE-INDICATOR. WILLIAM H. NUDIVO, Delphos, Ohio. Filed July 12, 1882. (No model.)

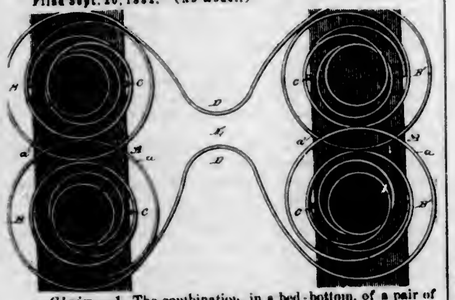
Claim.—The combination, in an office-indicator, consisting of

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the frame A, having the dial B, with slot E for a name, the dial being divided into a weekly and monthly calendar and independent divisions for the reception of names of places and for the hours of the day, and hands having upon their faces indicating-words, and the door C, having glass c, all combined and adapted to operate substantially as specified.

267,576. BED-SPRING. THOMAS O'BRIEN, Malden Rock, Wis. Filed Sept. 20, 1882. (No model.)



Claim.—1. The combination, in a bed-bottom, of a pair of twin springs consisting of the coils B B, connecting-wires D D, and hooks C C, said springs being so arranged on the slats of the bed that their upper coils will overlap each other, while their lower coils will rest upon and project beyond the edge of the slat, to receive the upwardly-bent end of the hook C, substantially as set forth.

2. The combination, in a bed-bottom, of the springs B B', having their lower coils bearing on the slats and projecting therefrom and terminating in angular hooks C C, which embrace the sides and bottoms of the slats, and are passed through the projecting portions of the lower coils of the springs, to hold the ends of the hooks between the coils and the slats, as set forth.

267,577. GALVANIC BATTERY. GEORGE W. O'HARRA, Kalamazoo, Mich., assignor of one-half to John A. Hoodemaker, same place. Filed Apr. 25, 1882. (No model.)



Claim.—1. In a galvanic battery, a cell composed of a cup of zinc or carbon located within a rubber cup, said inner cup being provided with an axis-pole secured in its inclosed end and extending out through the end of the rubber cup, the opposite end of the cell also being provided with an axis-pole secured in the end of the stick of zinc or carbon and extending out through the cover, in combination with a cabinet provided with axial supports, all substantially as set forth, for the objects specified.

2. The combination, with the rubber cup, having the concave recess in the inclosed end, the inner cup, having the pole secured thereto and passing out through the end of the rubber cup into said concave recess, the opposite end of the cell also having a pole serving as an axis, of a cabinet provided with the S-shaped supports at each end of the cell, all substantially as described and shown, for the objects stated.

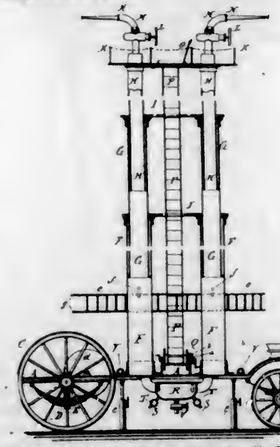
3. The combination, with a cabinet provided with axial supports, of a cell having an axis at each end revolubly located in said axial supports, substantially as described.

4. A cell having an axis at each end, in combination with a cabinet having axial supports, provided with open slots in the upper end, whereby the cell is both detachably and revolubly supported by said axial supports, substantially as set forth.

5. A revoluble cell provided with axial bearings at each end, said cell having a concavity in one end, substantially as described and shown.

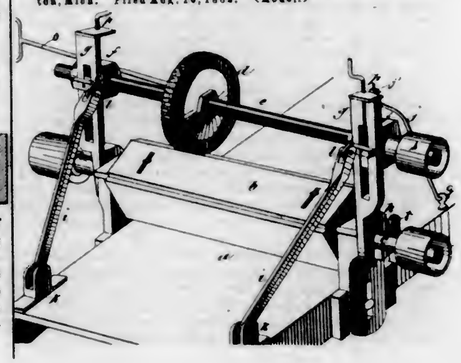
267,578. FIRE-ESCAPE. ROBERT PALLETT and FRANCIS MAHUDY, New York, N. Y. Filed May 25, 1882. (No model.)

Brief.—The telescopic pipes are connected at their joints by spiders, at their tops by a platform, and at their base by a chamber having valved couplings for hose attachment. A flexible ladder and reel are secured thereto.



Claim.—A combined portable hydraulic fire-escape, water-tower, and hose-reel, constructed substantially as herein shown and described, and consisting of the carriage A B C, the telescopic pipes F G H, connected at their joints by spiders I, at the top by the platform J, and at the bottom by the chamber R, having valved couplings S and safety-valve U, the gates L and the flexible pipes M at the upper end of the telescopic pipes, the flexible ladder P, and the ladder-reel Q, provided with ratchet-wheel *a* and pawl *b*, as set forth.

267,579. PLANER-KNIFE GRINDER. MERRITT W. PALMER, Holland, assignor of one-half to Charles R. Brownell, Hamilton, Mich. Filed Aug. 16, 1882. (Model.)



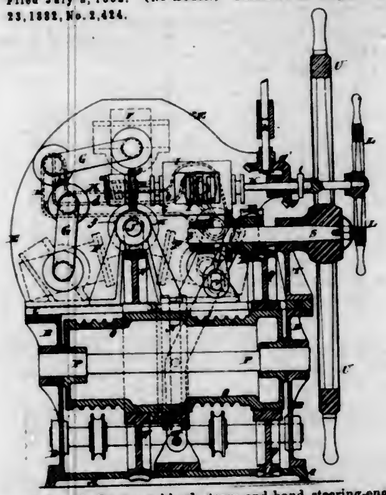
Claim.—1. The combination, with a support, *g*, having a notched seat, *h*, of the arbor *e*, the braces *i*, pivoted at *k* and to a projection from said support, and a rod, *j*, whereby said support may be held in position, as described.

2. The combination of the rod *j* with the upright supports *g*, adjusting-boxes *f*, arbor *e*, grinder *d*, and braces *i*, substantially as described.

3. The upright supports *g*, having notched seats *h*, fitted to arbor *e*, and provided with adjusting-boxes *f*, braces *i*, rod *j*, arbor *e*, and grinder *d*, in combination with the planer-arbor c and cutters *b*, substantially as described.

4. The binding-screws *r*, in combination with arbor e and the upright supports *g*, having notched seats *h*, and supporting the mandrel *e* and grinder *d*, substantially as described.

267,580. STEAM AND HAND STEERING-ENGINE. ALEXANDER W. PATTIE and GEORGE W. ROBERTSON, Glasgow, County of Lanark, Scotland; said Pattie assignor to said Robertson. Filed July 8, 1882. (No model.) Patented in England May 23, 1882, No. 2,424.

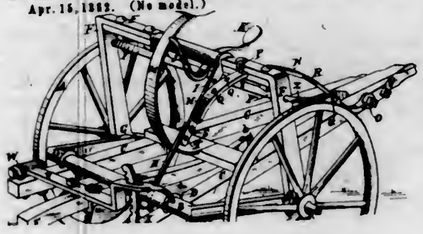


Claim.—1. In a combined steam and hand steering-engine, the combination of three cylinders oscillating on trunnions at their centers and provided with pipes for the induction and exhaust of steam to and from the said cylinders, such pipes being each provided with a web, by which its interior is divided into two channels for the purpose specified, and each of said pipes being provided with a pocket at the point of connection with the cylinder, said pocket being inserted into the hollow trunnion, and the pocket and pipe having valve-openings in their bearing-surfaces, substantially as and for the purposes set forth.

2. In a combined steam and hand steering-engine, the combination of the slide-valve spindle K, having the slide-valve, the wheel L, and screw *x*, all attached to the said spindle, and the crank-shaft J', with the internally-screw-threaded worm-wheel *e*, and worm *f*, whereby steam is alternately admitted to and exhausted from the cylinders, substantially as and for the purposes specified.

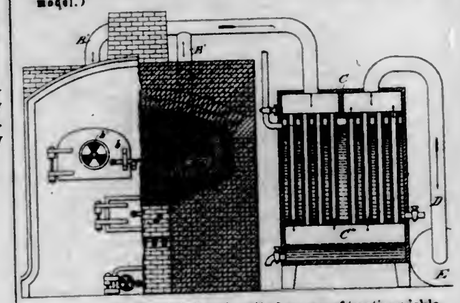
3. In a combined hand and steam steering-engine, the combination of the chain-barrel O, worm M, worm-wheel N, clutch N', and strap or lever V, with the spur-gearing Q, shaft S, wheel R, and hand-wheel U, as and for the purposes shown and described.

267,581. WHEEL-PLOW. EZRA PEAK, Westfield, Ohio. Filed Apr. 15, 1882. (No model.)



Claim.—The combination, in a sulky-plow, of an axle having a crank extending rearwardly, a yoke extending vertically over the axle, a plow-frame adjustably suspended from the axle, and the yoke and plow adjustably suspended from the frame, substantially as described, and for the purpose set forth.

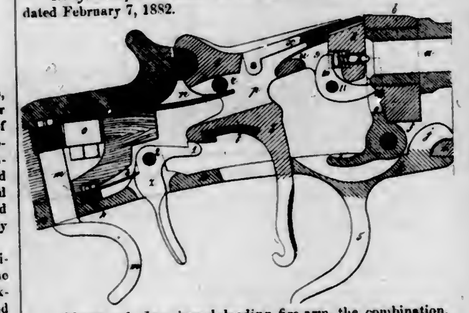
267,582. PROCESS OF TREATING THE WASTE PICKLE-LIQUOR OF IRON-WORKS. RICHARD N. E. PHELPS and WILLIAM A. CLARK, Jr., Trenton, N. J., assignors to the Phœnix Chemical Company, of New Jersey. Filed Mar. 28, 1882. (No model.)



Claim.—The hereinbefore-described process of treating pickle-liquor from the cleaning-tubs of iron-works, which process consists in evaporating the pickle-liquor, drying and pulverizing the resulting crystals of sulphate of iron, heating them to a temperature varying between an incipient and a cherry red in a retort or other chamber, into which air is admitted in regulated quantities, and condensing the escaping vapors, whereby ferric oxide and sulphuric and sulphurous acid gases are simultaneously recovered by a single continuous operation.

267,583. BREECH-LOADING FIRE-ARM. ALEXANDRE PICARD, Montaign, France. Filed Aug. 24, 1882. (No model.) Patented in France Feb. 3, 1879, No. 128,840; in Belgium Jan. 19, 1880, No. 50,318, and in England Jan. 20, 1880, No. 249.

Brief.—Improvement on Picard's Letters Patent No. 253,422, dated February 7, 1882.



Claim.—1. In a breech-loading fire-arm, the combination, with the central percussion-pin, 8, and spring 9, of the oscillating hammer 10, the embossment 12, the oscillating bibranched extractor *g*, and the screw 19, as shown and described.

2. The combination, with the spring-retracted pin 8, of the curved lever-hammer 10, pivoted at 11 in the breech-block, and the breech-box having projection 12, whereby the hammer is made to strike the pin, as described.

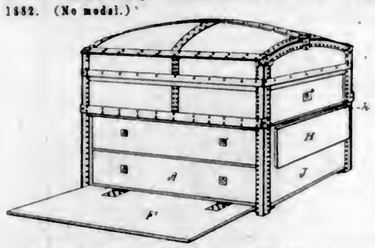
3. The plate *k*, having projection 21, and the spiral spring 20, in combination with lever 14, having extension, as and for the purpose specified.

267,584. OIL-CUP. CHARLES J. PINKNEY, Cleveland, Ohio, assignor of one-half to Thomas Pinkney, same place. Filed Mar. 29, 1882. (No model.)



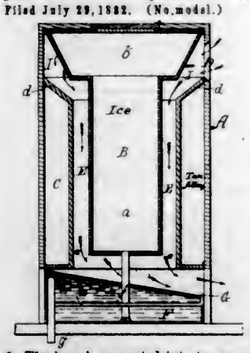
Claim.—As a new article of manufacture, an oil-cup having an inner rounded base, which forms the bottom of the cup proper, a stem formed integral therewith and provided with a feed-tube terminating at the apex of the inner rounded bottom, and a ball-valve contained within the cup, and having the inner rounded base for a seat, and closing the feed-opening when the cup is at rest.

267,585. TRUNK. FRANCIS M. PIPER, Lynn, Mass., assignor of one-half to George L. Drake, same place. Filed Apr. 12, 1882. (No model.)



Claim.—The combination, in a bureau-trunk, of a skeleton drawer-frame arranged to receive and support a series of drawers, with a trunk body or shell secured to said frame and provided with removable drawer-covers which admit of access to the drawers, and which cover them when not in use.

267,586. REFRIGERATOR. WILLIAM SPRAGUE POST, Boston, Mass., assignor to the Post Refrigerator Car Company, Portland, Me. Filed July 29, 1882. (No model.)



Claim.—1. The box A, separated into two or more compartments, having air-tight chambers C around the sides of said compartments, each of said air-tight chambers being filled with non-conducting material, said compartments each receiving a refrigerating-tank, B, arranged so as to leave an air-condensing space or chamber, E, between the air-tight chamber and said tank, the said air-condensing chamber having inlet and outlet openings, substantially as and for the purpose set forth.

2. The box A, separated into two or more compartments, each provided with a flaring mouth, D, in the upper side, and with air-tight chambers C around the sides of said compartments, said chambers being filled with non-conducting material, in combination with refrigerating-tanks B, inclosed within said compartments, the space between the chambers C and the tanks B forming an air-condensing chamber, E, which is provided with an inlet, I, and an outlet, *e*, substantially as and for the purpose set forth.

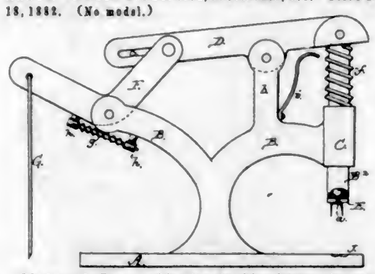
3. The box A, separated into two or more compartments, each provided with a mouth, D, in the upper side, said compartments having around the sides air-tight chambers C, which are filled with non-conducting material, in combination with refrigerating-tanks B, inclosed within said compartments, the space between the air-tight chambers and the tanks forming an air-condensing chamber, E, which is provided with an inlet, I, and an outlet, *e*, the said tanks communicating by pipe *f* with a reservoir, F, for containing melted ice, the reservoir being provided with a sloping top, arranged so that when the cooled current of air is discharged from the outlet *e* said current is directed outward into the center of the car or preserving-chamber, substantially as specified.

4. The box A, formed into two or more compartments, each separated by a chamber filled with non-conducting material, said compartments receiving refrigerating-tanks B, the space between the non-conducting chamber and the tanks forming an air-condensing chamber, E, which is provided with an inlet and an outlet opening, in combination with the melted-ice reservoir having a sloping top provided with an outlet, *g*, at the highest point of said top, and a channel, G, which receives the condensed moisture from the current of air and conducts it by pipe *h* to the outlet-pipe *g*, substantially as and for the purpose set forth.

5. The combination of the refrigerating-tanks B with the melted-ice reservoir F, provided with a sloping top, said tanks communicating with the reservoir by means of pipe *f*, the said reservoir having an outlet-pipe, *g*, placed at the highest point thereof, so as to keep the reservoir always full, and the channel G, connected to the pipe *h*, which is tightly soldered to the outlet-pipe *g*, substantially as set forth.

6. The combination of a refrigerating tank or tanks, B, with the melted-ice reservoir, provided with a sloping face, F, arranged as described, and provided with a channel, G, leading into and connecting with the main outlet-pipe *g*, all as and for purposes described.

267,587. MACHINE FOR ATTACHING BUTTONS TO GARMENTS. GEORGE W. PRENTICK, Providence, R. I. Filed Sept. 18, 1882. (No model.)

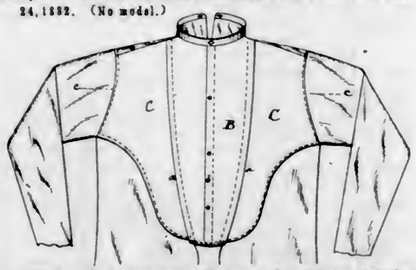


Claim.—1. In a machine for attaching buttons to wearing-apparel, the combination of the frame composed of the base A, double-curved arm B B', and supporting-frame C with the upright slide B', provided with the projection or holding-jaw E, levers D and F, and the foot-treadle H, the several parts being arranged for operation substantially as and for the purpose specified.

2. In a machine for attaching buttons to wearing-apparel, the combination of the rock-shaft D, elbow-crank F, foot-treadle H, and springs *f*, *e*, *g*, and *i* with the upright slide B' and main frame, substantially as and for the purpose specified.

3. The herein-described machine for attaching buttons to wearing-apparel, consisting of the base A, provided with the die J, curved arm B B', upright slide B', rock-shaft D, elbow-lever F, rod G, and foot-treadle H, all substantially as and for the purpose specified.

267,588. SHIRT. MAURICE PRICE, New York, N. Y. Filed Aug. 24, 1882. (No model.)



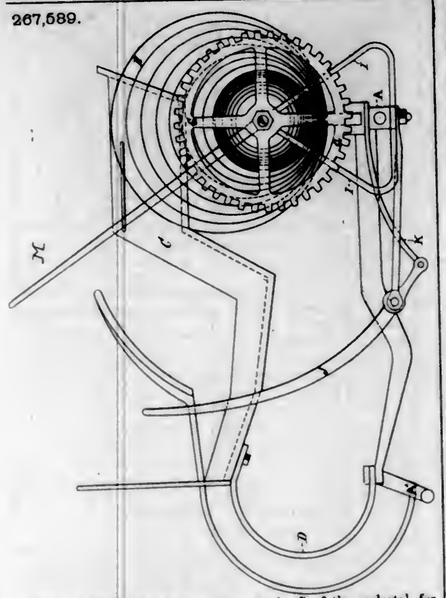
Claim.—1. A shirt having the bosom B and the re-enforcing wings or sides C C, all made of one continuous piece of fabric, substantially as shown and described.

2. The shirt having bosom B and re-enforcing wings or sides C C, all made in one piece, and intervening plaits *a a*, substantially as herein shown and described.

267,589. SPRING-MOTOR FOR CARRIAGES. PHINEAS QUIN, Trenton, N. J. Filed Mar. 3, 1882. (No model.)

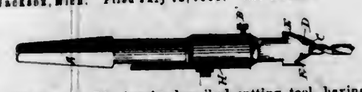
Claim.—The combination of a spring-shaft, F, having a gear-wheel, G, sliding pedestal I', lever J, cam-link K, having grooves

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c and *c*, a pin, *d*, of the axle A, and pin *d'* of the pedestal, for throwing the said wheel in and out of gear with the pinion H on said axle, substantially as described.

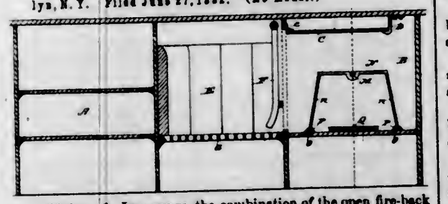
267,590. BIT AND COUNTERSINK. AURELIUS O. REVENAUGH, Jackson, Mich. Filed July 12, 1882. (No model.)



Claim.—1. The herein-described cutting-tool, having the plug-hole cutters E E, a passage-way inside the outer end of said cutters for the chips to escape vertically, the cutter D, for producing a shoulder at the bottom of the plug-hole, the countersink-cutter C, and a longitudinal socket to receive a separately-formed screw-hole cutting-bit, said cutters C, D, and E being arranged, substantially as set forth, to operate simultaneously.

2. A boring-tool having the center smaller bit, B, the countersink-cutter C, the shoulder-cutter D, the plug-hole cutters, E E, passage-ways inside of the outer ends of said plug-hole cutters, and the squared shank, formed integrally with the cutters C, D, and E, substantially as set forth.

267,591. COOKING-RANGE. JEREMIAH J. RICHARDSON, Brooklyn, N. Y. Filed June 27, 1882. (No model.)



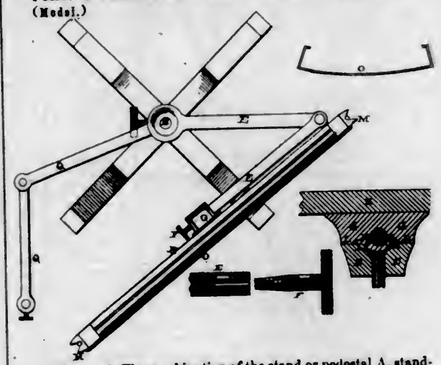
Claim.—1. In a range, the combination of the open fire-back or vertical grate and the falling door C hinged at its upper end, and the double door provided with air-inlet openings at its bottom and air-outlet openings at its top, with the oven-chamber and a suitable catch for retaining the falling door in a raised position, as and for the purpose set forth.

2. In a range, the oven-chamber having bottom ways or rails, P, and the removable spit frame or carriage N, provided with feet O, fitting into or on said ways, as and for the purpose set forth.

3. The combination of the door H, having an opening, the spit-shaft fitted therein, and the key I for holding and turning the spit, adapted to be inserted into said door-opening, with the oven-chamber and the spit-supporting frame located therein, as and for the purpose set forth.

4. The combination of the key I, having the arm K and pin *k*, and the oven-door H, provided with a key-opening and the notched or perforated plate L, surrounding the same, with the oven-chamber and the spit located therein, as and for the purpose set forth.

267,592. MUSIC AND READING STAND AND BOOK-SUPPORT. WILLIAM RICKARDS, Franklin, Pa. Filed Apr. 3, 1882. (Model.)



Claim.—1. The combination of the stand or pedestal A, standard B, jointed arm E, having a slit screw-socket formed in its outer end, the casting G, and the expanding-screw F, substantially as shown.

2. The combination, in a stand, of the pivoted swiveled arm having a recess formed in the top of its inner end, with the casting which is secured to the under side of the table, which casting is made to fit in the recess in the arm and support the table in a horizontal position, substantially as set forth.

3. The combination of the table with the double cams and the spring-clips, substantially as specified.

4. The wire clips having a circular bend at their centers and having the double bends at their ends, in combination with the double cams, substantially as described.

267,593. CAR-UNLOADER. GEORGE W. ROLPH, Toledo, Ohio. Filed Sept. 20, 1882. (Model.)

Claim.—1. The combination of a nose-piece, *a*, with the base-timber *c* and the mold-board *b*, said mold-board and base-timber being connected to the nose-piece, substantially as described.

2. The nose-piece *a*, constructed with a stirrup, *j*, having a socket, *l*, for the connection of the base-timber *c*, substantially as described.

3. The nose-piece *a*, constructed with a stirrup, *j*, having a socket, *l*, for the connection of the base-timber *c*, and a notch or recess, *m*, for the roller-bar *n*, substantially as described.

4. The nose-piece *a*, constructed with a stirrup, *j*, for the connection of the base-piece *c*, and having a chambered extension, *w*, for the roller-box *y*, substantially as described.

5. The nose-piece *a*, in combination with mold-board *b* and base-beam *c*, and having the point *x* undercut or curved at *a'*, substantially as described.

6. The nose-piece *a*, in combination with the mold-board *b* and base-beam *c*, and having the guide-bracket *b'* formed on it, substantially as described.

7. The carrier-rollers *d*, mounted on the stud-pins *t*, fitted in boxes *s*, and said boxes attached to the under side of the base-beam *c*, substantially as described.

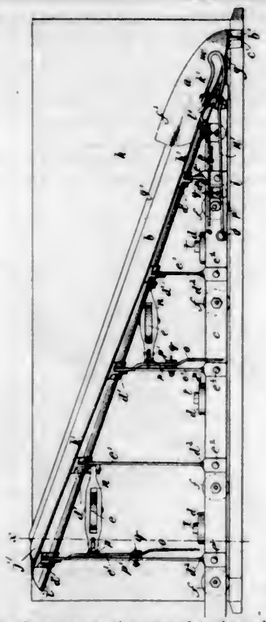
8. The combination, with the nose-piece *a*, of a clevis bent at *a'*, and pivoted in a hollow boss of said nose-piece, as shown and described.

9. The combination, with the mold-board *b* and beam *c*, of front carrying-roller, *d*, and inside carrying-rollers *e*, mounted in adjustable bars *n*, having adjusting-levers *o* and fastening devices, substantially as described.

10. The combination of T-ribs *d'* and braces *c'* with the mold-board *b* and the base-beam *c*, the tongues of said T-ribs being turned or bent into the plane of the braces, substantially as described.

11. The combination of upper and lower braces, *c'*, with the mold-board *b* and the base-beam *c*, said braces being placed one above another and on the sides of beam *c*, and bolted together through said beam, substantially as described.

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12. The lower braces, *e'*, connected to the mold-board level with beam *c*, said beam being located in the plane of greatest resistance to the mold-board, and the upper and lower braces being connected to the mold-board equidistant from the respective edges thereof, substantially as specified.

13. The mold-board having an overhang or front projection of the upper edge, *k'*, increasing from the point rearward, substantially as described.

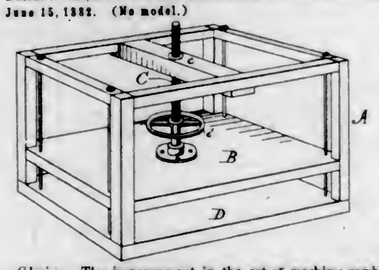
14. The mold-board having the rear extension, *i'*, of the upper rear end beyond the lower point, *j'*, substantially as described.

15. The combination of an attached share-edge, *g'*, with the mold-board *b*, substantially as described.

267,594. COMPOSITION FOR BEARINGS. REUBEN M. ROSE, Brooklyn, N. Y. Filed Sept. 2, 1882. (No specimens.)

Claim.—The composition for bearings composed of india-rubber, graphite, and lamp-black, combined as herein described, and for the purpose set forth.

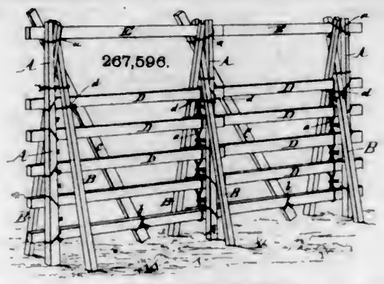
267,595. ART OF WORKING RAWHIDE. JOHN ROWE, Jr., Ballard Vale, and CHARLES F. PERKINS, Brookline, Mass. Filed June 15, 1882. (No model.)



Claim.—The improvement in the art of working rawhide which consists in first moistening the surface of the hide, then by pressure causing the moisture to permeate the hide, and afterward splitting and cutting it while thus moistened.

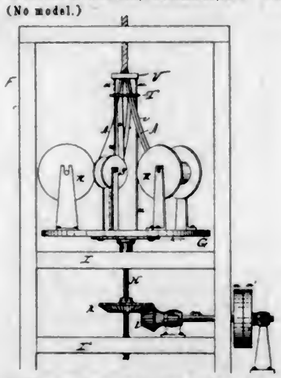
267,596. FENCE. ALONZO RUSSELL and ANDREW J. RUSSELL, Burr Oak, Mich. Filed July 14, 1882. (No model.)

Claim.—The fence consisting of the posts A, the side stakes, B, the longitudinal rails D, and the braces C, the parts being wired together substantially as shown and described.



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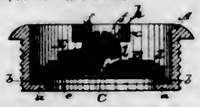
267,597. MACHINE FOR THE MANUFACTURE OF ELECTRIC CABLES. WILLIAM H. SAWYER, Providence, R. I. Filed Feb. 20, 1882. (No model.)



Claim.—1. The combination of the platform provided with reels, as described, the guide-plates having perforations for wires and passages for metallic strips, the folding-plate having passages for the wires and strips, and means for revolving said platform, and the guide and folding plates, substantially as described.

2. The combination of the platform G and means for revolving the same, the reels R and S, mounted on said platform, guide-plate T, provided with slits *t* and apertures *t'*, and the folding-plate V, provided with the flaring folding-passages *v*, said guide and folding plates being connected to and adapted to revolve with the platform, substantially as described.

267,598. VENT-BUNG. ADAM E. SCHATZ, New York, N. Y. Filed June 16, 1882. (No model.)



Claim.—1. A bung-plate, B, provided with a locking cam-bar, D, held in place between the projections *f f*, arranged substantially as set forth.

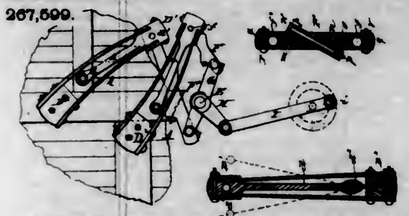
2. The combination of the bung-bush A, having flange *a* and lugs *e e*, with the bung-plate B, provided with locking cam-bar D, held in place by projections *f f*, arranged substantially as specified.

3. The vent-bung herein described, consisting of the bush A, having the flanges *a a* and lugs *e e*, under which the ends of locking cam-bar D are held, which is secured to the bung-plate by means of projections *f f*, said plate being perforated beneath or sidewise through one or both of the projections *f f*, in combination with a perforated disk, C, all constructed and arranged substantially as set forth.

267,599. THRASHING-MACHINE. JOHN C. SCHRIEVER and HANS CHRISTOFFERSON, Hudson, Wis. Filed Sept. 9, 1882. (No model.)

Claim.—1. In a grain-separator for thrashing-machines, the combination of the casing A', side racks, D D, the series of parallel stationary boards L', set on edge, screens L L, alternating with fixed boards L', supporting cross-bars K K', the two pairs of supporting double springs A A and B B, pitmen F F', rock-shaft E, provided with the fixed arms or cross-heads G and crank H, and pitman I, all constructed and combined to operate substantially as and for the purpose herein shown and set forth.

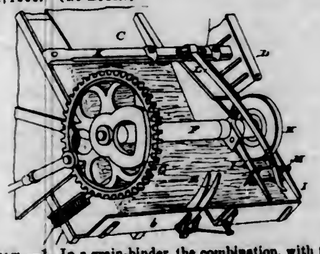
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2. In a grain-separator for thrashing-machines, the combination, with the crank-shaft and screens, of the improved pitman herein shown and described, composed of the recessed parts *m* and *n*, formed with cap-pieces *g g* and oblique extensions *p p*, and the oblique tightening-bolt N, constructed and combined substantially in the manner and for the purpose herein shown and specified.

3. In a grain-separator for thrashing-machines, the combination, with the straw-carriers, of a supporting-frame, blocks D', rigidly secured to said support, springs bolted to the opposite sides of said blocks, oscillating arms *d*, pivoted to the support, and constructed with slotted heads D', in which the springs are adapted to play, substantially as and for the purpose shown and set forth.

267,600. GRAIN-BINDER. GEORGE W. SCOTT, Troy, assignor to Abel Hoover and William Gamble, Miamisburg, Ohio. Filed May 1, 1882. (No model.)



Claim.—1. In a grain-binder, the combination, with the revolving ejecting or discharging arms or fingers, of a stripper which moves relatively along them and parallel to their length to push off entangled sheaves.

2. In a grain-binder, the combination, with the revolving ejector, of a stripper so arranged and controlled as to move with and along the ejector-fingers during a portion of their revolution to strip the sheaf therefrom.

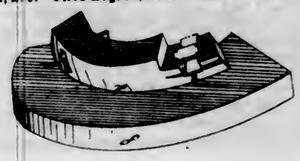
3. In a grain-binder, the combination, with the revolving ejector, of a stripper-arm pivoted eccentrically thereto, and provided with a breast or pronged frame, which moves along the ejecting-fingers toward their points during a portion of their revolution to push off any sheaf which may cling thereto.

4. In a grain-binder, the combination, with the ejector I, of the pivoted stripper-arm L and the breast or prong-frame M, substantially as described.

5. In combination with the ejector and stripper-arm, the adjustable breast or prong-frame upon the latter.

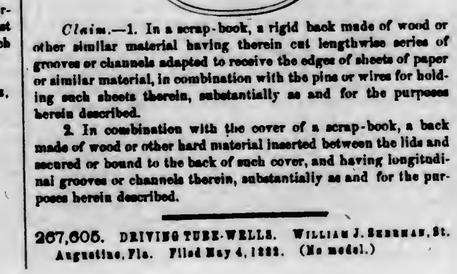
6. In combination with the ejector-fingers and the stripper-arm, the prong-frame formed, as described, with a central breast traversing the space between said fingers, and with prongs which saddle them.

267,601. COMBINED HOWEL AND CROZE. DAVID J. BESSOMS, Blocker's, N. C. Filed Aug. 21, 1882. (No model.)
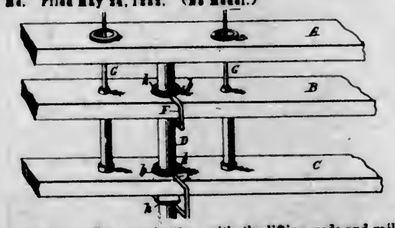


Claim.—The howel-plane *a* and the croze-plane *b*, mounted on one and the same stock, *c*, and said stock *c* having a crook or curve at *d*, or thereabout, greater than in the end portions where the said planes are located, substantially as described

267,602. PLOW-SULKY. DENNIS P. SHARP, Ithaca, N. Y., assignor to Charles M. Sharp and Clarence C. Post, same place. Filed Aug. 23, 1882. (No model.)



Claim.—The combination of the sulky-frame A, provided at its central portion with two or more holes, *b*, and at its forward end with the recess *r*, the plate *c* over said recess, provided with the slot *s*, terminating with enlarged opening *d*, the pole P, pivoted in one of the holes *b*, the bolt *a*, connected to the pole and passing through the slot *c*, and having its head underneath the plate *c*, and the shifting-lever *l*, connected with the pole by adjusting-nuts *n n*, and provided with a suitable clutch for adjustably holding it in position, substantially as shown and described.

267,603. CLEARER FOR LIFTING-RODS OF SPINNING-FRAMES. EDWARD C. SHAW and GEORGE H. FLINN, Lewiston, Me. Filed May 24, 1882. (No model.)

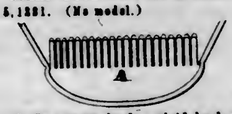


Claim.—1. The combination, with the lifting-rods and rails of spinning-frames, of ring-form clearing devices placed on the rod, above and below the rails, and attached to the rails, substantially as shown and described.

2. The combination, with the lifting-rod and rails of a spinning-frame, of the clearing-rings A A, provided with packing material, and held upon the rails, substantially as shown and described.

3. The clearing devices for lifting-rods, consisting of a wire or rod having its ends bent at right angles, and formed with rings adapted for receiving the lifting-rods and clasping the rail, as shown and described.

267,604. SCRAP-BOOK. GEORGE E. BERRAND, Troy, N. Y. Filed Aug. 5, 1881. (No model.)



Claim.—1. In a scrap-book, a rigid back made of wood or other similar material having therein cut lengthwise series of grooves or channels adapted to receive the edges of sheets of paper or similar material, in combination with the pins or wires for holding such sheets therein, substantially as and for the purposes herein described.

2. In combination with the cover of a scrap-book, a back made of wood or other hard material inserted between the lids and secured or bound to the back of such cover, and having longitudinal grooves or channels therein, substantially as and for the purposes herein described.

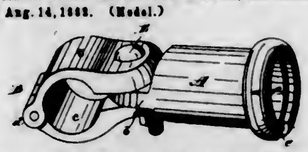
267,605. DRIVING TUBE-WELLS. WILLIAM J. SHERMAN, St. Augustine, Fla. Filed May 4, 1882. (No model.)

267,605.



Claim.—The combination, with the guide-rod *c*, having the swiveled ring *g*, and the cap *a*, of the slide-weight *b*, having the eyes *e*, lateral slot-bearing *f*, and removable transverse pins *h*, substantially as specified.

267,606. COMBINED POLE-TIP AND NECK-YOKE CLAMP. FRANCIS W. SIBERT and STEPHEN P. HUBB, San Antonio, Tex. Filed Aug. 14, 1882. (Model.)

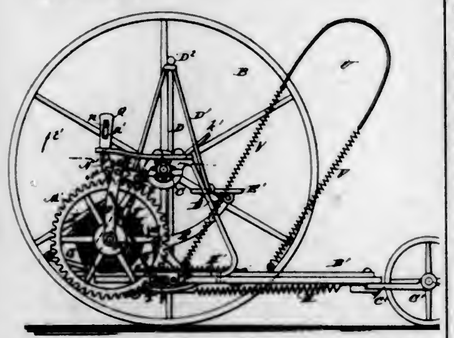


Claim.—1. The tip or socket A, formed with the tongue *b*, in combination with the hinged plates *c c*, pivoted to the tongue *b* by the bolt K, substantially as and for the purposes set forth.

2. The tip or socket A, formed with the groove *f* and slot *e*, in combination with the pole D, provided with the pin or stud *g*, substantially as and for the purposes set forth.

3. The tip A, formed with the groove *f* and slot *e* and perforated tongue *b*, in combination with the hinged semi-cylindrical plates *c c*, bolted to the tongue *b*, substantially as described.

267,607. VELOCIPEDE. SAMUEL M. SILVER, Auburn, Me. Filed Apr. 6, 1882. (Model.)



Claim.—1. In a velocipede, the combination, with the driving-shaft, of clutch-boxes on this shaft, bell-crank levers pivoted on the vehicle-platform, traction-springs attached to these levers and to the platform, and of treadles for stretching these springs, substantially as herein shown and described, and for the purpose set forth.

2. In a velocipede, the combination, with the driving-shaft, of clutch-boxes on the same, bell-crank levers pivoted on the vehicle-platform, which levers are connected with the clutch-boxes, traction-springs attached to these levers and to the platforms, treadles for stretching these springs, and devices for releasing the springs when stretched, substantially as herein shown and described, and for the purpose set forth.

3. In a velocipede, the combination, with the driving-shaft, of clutch-boxes on the same, bell-crank levers pivoted on the vehicle-platform, connecting-rods for connecting them with the clutch-boxes, traction-springs attached to these levers and to the platform, treadles for stretching these springs, devices for releasing the springs when stretched, and springs for raising the treadles, substantially as herein shown and described, and for the purpose set forth.

4. In a velocipede, the combination, with the driving-shaft A, of the clutch-boxes J' on the shaft, the connecting-rods J, the levers G, provided with studs *g*, the treadles E, the longitudinally-slotted link-pieces F, pivoted to the treadles E, and provided with recesses *d'* at the ends of their slots *e*, and the springs H, attached to the levers G and to the platform B', substantially as herein shown and described, and for the purpose set forth.

5. In a velocipede, the combination, with the driving-shaft A, provided with the collar *b* and pinion C, having the clutch-teeth *a'*, of the wheels B, loosely mounted on this shaft, and provided with clutch-teeth *a* at the inner ends of the hubs, substantially as herein shown and described, and for the purpose set forth.

6. The combination, with a velocipede, of the springs V, connected by a belt, substantially as herein shown and described, and for the purpose of increasing the pressure on the treadles, substantially as herein shown and described, and for the purpose set forth.

7. The combination, with the shaft K, provided with the springs L and cog-wheel M and the pinion C on the axle A, of an adjustable frame carrying intermediate gearing, substantially as herein shown and described, whereby provision is made for transmitting power from the cog-wheel to the pinion, or vice versa, as set forth.

8. The combination, with a velocipede, of the shaft K, the power-accumulating springs L, the cog-wheel M, the pinion C on the shaft A, and the pinions R S in the movable frame N, substantially as herein shown and described, and for the purpose set forth.

9. The combination, with a velocipede, of the shaft K, the power-accumulating springs L, the cog-wheel M, the pinion C on the shaft A, and the pinions R S in a frame, N, attached to an arm pivoted on the shaft K, substantially as herein shown and described, and for the purpose set forth.

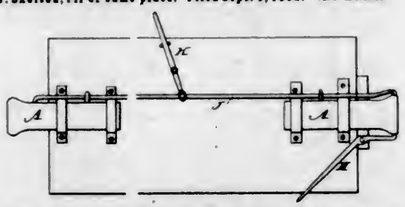
10. The combination, with a velocipede, of the shaft K, the power-accumulating springs L, the cog-wheel M, the pinion C on the shaft A, the pinions R S in the adjustable frame N, and the guide-frame P, substantially as herein shown and described, and for the purpose set forth.

11. The combination, with a velocipede, of the shaft K, the power-accumulating springs L, the cog-wheel M, the pinion C on the shaft A, the pinions R S in the adjustable frame N, the guide-frame P, provided with notches *m*, and the sliding handle Q, provided with lugs *o* at the lower end, substantially as herein shown and described, and for the purpose set forth.

12. The combination, with a velocipede, of the shaft K, the power-accumulating springs L, the pinion C, the pinions R S in the frame N, attached to the swinging arm O, the spring-pawl T, and the rod *r*, pivoted to the arm O, substantially as herein shown and described, and for the purpose set forth.

13. In a velocipede, the combination, with the treadles E, the levers G, provided with studs *g*, the springs H, the rods J, and clutch-boxes J' on the shaft A, of the link-pieces F, pivoted to the treadles E, and provided with longitudinal slots *e* and recesses *e'*, and with cam-projections *f*, substantially as herein shown and described, and for the purpose set forth.

267,608. CAR-COUPLING. WILLIAM L. SKELTON, Jacksonville, Ala., assignor to himself, William A. Skelton, and James J. Skelton, all of same place. Filed Sept. 8, 1882. (No model.)



Claim.—1. In a car-coupling, the approximately triangular-shaped coupling-pin C, having a weighted lower end and an upward extension, D, the forward edge of said lower end resting in a notch or recess, O, in the bottom of the opening of the draw-head A, in combination with the crank-lever L, pivoted to the end of the car, and having one end resting against the upward extension, D, of the pin C and its other end connected to a rod, M, reaching to the top of the car, substantially as and for the purpose set forth.

2. In a car-coupling, the combination, with the approximately triangular-shaped coupling-pin C, having an upward extension, D, and a weighted lower end, with its forward edge resting in a notch or recess in the bottom of the opening of the draw-head A, of the horizontal rod J, held movably upon the bottom of the car, and having its ends entering one of the sides of the draw-heads A at the ends of the car and engaging with the pin C, and the hand-lever K, connected to the rod J, substantially as and for the purpose set forth.

267,609. TELEGRAPH-CABLE. GORDON J. SLAFTER, Grand Junction, Mich. Filed Apr. 7, 1881. (No model.)

Claim.—The fluted box or bead B, having a longitudinal aperture and other apertures, as described, and provided with cleats *c*, in combination with a telegraph-cable consisting of wires and insulating beads and coatings, substantially as described.



267,610. MANUFACTURE OF ALUM. PETER SPENCE and FRANCIS M. SPENCE, Manchester, County of Lancaster, England. Filed July 3, 1882. (No specimens.) Patented in England Dec. 24, 1881, No. 5,850; in Germany May 26, 1882, No. 22,273; in France May 25, 1882, No. 137,644; in Spain May 25, 1882, No. 32,187, and in Belgium May 25, 1882, No. 43,851.

Claim.—The manufacture of soda-alum, substantially as before described, by mixing cold saturated solutions of said alum with stronger solutions of a higher temperature, as set forth, and so preventing the tendency of such solutions to solidify without crystallization, or, if solidified, to change this solid into the crystalline form by said mixture with the cold solution.

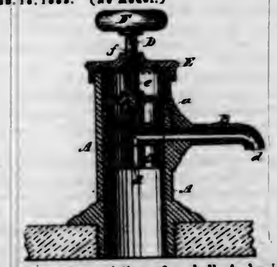
267,611. CREAMER. JAMES P. STABLER, Sandy Spring, Md. Filed July 13, 1882. (No model.)



Claim.—1. A water-tank and a milk-cooling can, combined with means for maintaining said can in a vertical position and means for holding said can in submergence, substantially as set forth.

2. The can A, provided with a guide-tube, E, combined with the cooling-tank F, guide D, and suitable means whereby said can may be held in submergence, substantially as described.

267,612. FAUCET. WILLIAM G. STRIBMETZ, Brooklyn, N. Y. Filed Feb. 16, 1882. (No model.)



Claim.—A faucet consisting of a shell, A, having spout B and cap E, in combination with a piston-valve, C, having openings *d*, and stem D, provided with a spline or feather, *e*, to prevent the valve from turning, all arranged substantially as shown and set forth.

267,613. LOCOMOTIVE HEAD-LIGHT. FRANK H. TALBOT, Rochester, N. Y., assignor to himself and Fernando Brown, Cleveland, Ohio. Filed Sept. 14, 1882. (Model.)

Claim.—1. In a locomotive head-light, the combination, with its burner B, reflector D, and case A, of the advance side transparencies, F G, for indicating the train-section and number of the train, said transparencies being composed of removable stencil-plates and fixed glasses, essentially as and for the purposes herein set forth.

2. In combination with the case A, the inner and outer frames, *d f*, the one of which is made to open, the glass *e*, and the stencil-plate *g* of the transparencies F G, essentially as described.

267,614. APPARATUS FOR TRUING, REDUCING, AND STRAIGHTENING METALLIC TUBES. STEPHEN P. M. TASKER, Philadelphia, Pa., and WALTER F. WOLFKIEL, New Castle, Del. Filed June 10, 1882. (No model.)

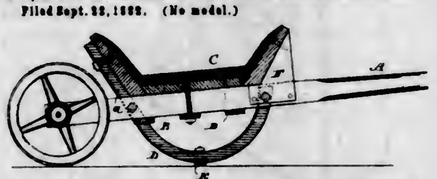


Claim.—1. As a composite device for truing, reducing, and straightening tubes, two rings interlocked, caused to revolve in opposite directions, and adapted to act as to their inner opposite interlocked faces upon said tubes.

2. In an apparatus for truing, reducing, and straightening tubes, the combination of two interlocked rings, idler-pulleys or kindred devices adapted to sustain and ease the revolution of the rings in their interlocked position, and mechanism for imparting an opposite revolution to each ring.

3. The combination, to form an apparatus for truing, reducing and straightening tubes, of two rings interlocked and set in oppositely-inclined planes, oppositely-inclined setting and idler pulleys or kindred ring-sustaining devices, and mechanism adapted to drive the rings in their oppositely-inclined positions.

267,615. WHEELBARROW. GEORGE W. THOMAS, Toledo, Ohio. Filed Sept. 23, 1882. (No model.)



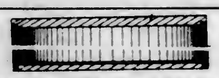
Claim.—1. The combination of the rails, the tray, the curved legs, the extensions of which constitute braces for the front of the tray, and braces which support the rear side of the tray independently of the legs, substantially as set forth.

2. The combination of the rails, the cross-pieces, the tray, the curved legs and braces *a a*, each leg and brace formed in one continuous piece, the cross-piece E, and the independent braces F F, substantially as set forth.

267,616. BUTTER-PACKAGE. JAMES TOMLINSON, Chatham, Ontario, Canada, assignor to Frank G. Smith, Detroit, Mich. Filed Aug. 26, 1882. (No model.)

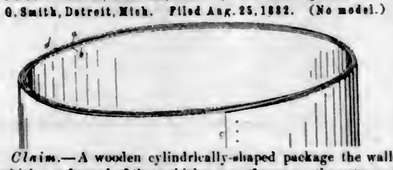
Claim.—The combination of the cylindrical box or package, the movable cylindrical inner casing, made somewhat shorter than

267,616.



the depth of the package, as shown, and the rabbeted head adapted to be supported partly on the walls of the package and partly on the inner casing, whereby an angular bearing is formed for the head that may be tightly closed by a film of plastic material, while retaining the casing and contents in position, substantially as set forth.

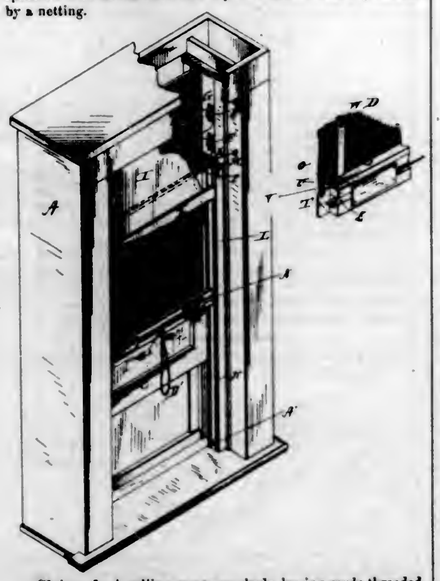
267,617. THREE-PLY CYLINDRICAL WOODEN PACKAGE. JAS. TOMLINSON, Chatham, Ontario, Canada, assignor to Frank G. Smith, Detroit, Mich. Filed Aug. 25, 1882. (No model.)



Claim.—A wooden cylindrically-shaped package the walls of which are formed of three thicknesses of veneers, the outer and inner sections of said walls being composed of one piece inclosing an intermediate section, substantially as specified.

267,618. ROLLING WINDOW-SCREEN. THOMAS TRIBE, Colorado Springs, Colo. Filed Sept. 22, 1882. (No model.)

Brief.—The screen-roller is mounted in brackets on blocks grooved for the sash-cords. The vertical edges of the screen are threaded with cord and located in grooved strips having slits for the netting. The screen is also provided near its vertical edges with elastic bands connected at its ends to the roller, and bottom-slat side spring-bolts in the bottom slat operated by a looped cord engage notches in the grooved strips. Flat projections on the end of the bottom slat move in the slits of the grooved strips. The space between screen-roller and top of window-frame is protected by a netting.



Claim.—1. A rolling screen or shade having cords threaded through the fabric of which it is composed, near the edges, substantially as set forth.

2. The combination, with a rolling screen, of elastic strips arranged near its edges, and attached to the roller and bottom slat, substantially as set forth.

3. The combination, with a rolling screen or shade having cords threaded through the fabric of which it is composed, near the edges, of elastic strips arranged near said cords, and having their upper and lower ends attached to the roller and bottom slat, respectively, as set forth.

4. The combination of the window-frame, the spring-roller E, the screen D, having cords O threaded through its fabric near the edges, and the guide-strips L, having pockets M and slits N, as set forth.

5. The combination of the spring-roller, the rolling screen, the transverse guide-strips P Q, and the wire-netting box R, as and for the purpose set forth.

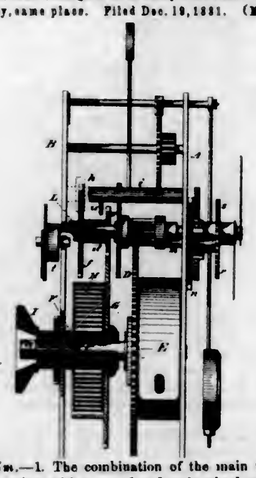
6. The combination, with the window-frame, of the blocks G, having grooves H, the bearings or brackets F, and the screen-roller, substantially as set forth.

7. The combination of the rolling screen, the cords threaded longitudinally through the same, and the bottom slat having laterally-projecting plates to which the lower ends of said cords are secured, as set forth.

8. The combination of a spring-roller, a screen or shade, cords threaded longitudinally through the same near the edges, a bottom slat having laterally-projecting guide-plates, and the vertical guide-strips L, having slits N and pockets M, as set forth.

9. The combination of the window-frame, the rolling screen, having bottom slat, S, provided with spring-bolts Z, the connecting-cord B', having central pendent loop, D', and the guide-strips L, having notches A', as and for the purpose set forth.

267,619. ALARM-CLOCK MOVEMENT. WALDO L. UPSON, Meriden, Conn., assignor to Bradley & Hubbard Manufacturing Company, same place. Filed Dec. 19, 1881. (Model.)



Claim.—1. The combination of the main time-wheel, its shaft and spring, with a second and main wheel and its independent spring, arranged upon the shaft of the main wheel, with a tubular extension or shaft from the said second main wheel, outward and around the shaft of the main time-wheel, by which said tubular extension the spring of the second main wheel may be wound, leaving the main shaft exposed to wind the time-spring, substantially as described.

2. The combination of the verge-wheel of the alarm and its pinion, arranged and loose upon the center shaft of the time part, with mechanism, substantially such as described, to impart revolution to the verge-wheel independent of the center shaft, substantially as described.

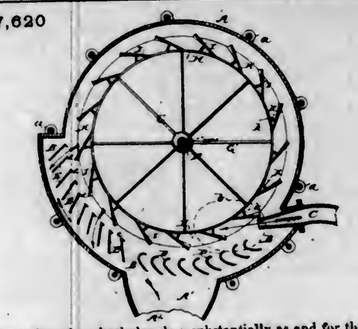
3. In a combined alarm and time movement, the combination of the setting-shaft *m*, arranged concentrically through the pinions *n*, which connects the hour and minute pinions on the center shaft with the pinion *r* on said setting-shaft, in connection with the hour-pinion *s* on the center shaft, substantially as described.

4. In a combined alarm and time movement, the combination of the alarm main wheel and its independent spring, arranged concentric with and loosely upon the main shaft of the time part, the said alarm main wheel constructed with a tubular shaft extending outward and around the main shaft, whereby either spring may be wound independent of the other, with the alarm-verge and its pinion arranged concentric and loosely upon the center shaft of the time-movement, substantially as described.

267,620. HYDRAULIC MOTOR. CHARLES E. VAN DUSEN, Oneonta, N. Y., assignor of one-half to Orson A. Miller, same place. Filed Sept. 11, 1882. (No model.)

Claim.—1. The casing A, having the enlargement or waterway B and induction-nozzle C, and provided in the water-way with a series of chute-plates or deflectors, D and E, spanning the

267,620

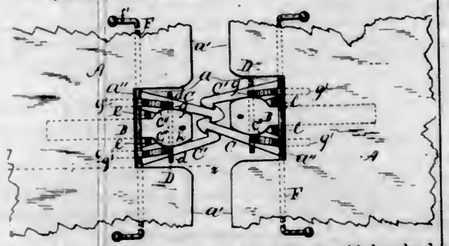


outlet below the wheel-chamber, substantially as and for the purpose herein shown and set forth.

2. The water-wheel or bucket-wheel, having a V-shaped rim, composed of the diverging side plates, H H, the triangular bucket-plates, I, bent to form a central ridge, *i*, and the lozenge-shaped bottom plates, K, all constructed and combined substantially as and for the purpose herein shown and described.

3. In a bucket-wheel adapted for hydraulic motors, the buckets consisting of the triangular plates I, bent to form a central rib or ridge, *i*, and the bottom plates, K, cut at their upper end to fit the bent plates I, upon which they impinge, substantially as and for the purpose herein shown and specified.

267,621. CAR-COUPLING. JAMES A. WALKER, Galesburg, Ill., assignor of one-half to Clark E. Carr, same place. Filed July 31, 1882. (No model.)



Claim.—1. In a car-coupling, in combination with draw head or bar, jaws pivoted to said draw-bar, whereby they may swing both outwardly and upwardly at their forward ends, substantially as and for the purpose specified.

2. In a car-coupling, in combination with the draw-bar, coupling-jaws adapted to couple at their front ends and to swing outwardly and upwardly, substantially as and for the purpose specified.

3. In a car-coupling, in combination with the draw-bar, coupling-jaws adapted to couple at their front ends, substantially as described, and to swing upwardly, for the purpose specified.

4. In a car-coupling, in combination with a draw-head, the jaws C C', constructed at their forward ends as described, and slotted where they are pivoted to the draw-head, substantially as and for the purpose specified.

5. In a car-coupling, in combination with a draw-head having an enlarged front end, with sides constructed substantially as described, slotted jaws C C', adapted to slide forward on their pivot to said draw-head for the purpose of securing them in place, and to slide rearward for releasing them, substantially as and for the purpose specified.

6. In a car-coupling, in combination with the draw-head, slotted jaws pivoted thereto, as described, springs *e*, arranged to operate therewith, substantially as and for the purpose specified.

7. In a car-coupling, in combination with jaws adapted to swing substantially as described, a rocking shaft adapted to swing the jaws in vertical planes, substantially as and for the purpose specified.

8. In a car-coupling, in combination with draw-bar B and swinging jaws C C', a rock-shaft, F, adapted to operate said swinging jaws, substantially as and for the purpose specified.

267,622. VEHICLE-WHEEL. MOSES N. WARREN, Creston, Iowa. Filed Apr. 15, 1882. (No model.)

Claim.—The combination of the wheel-hub having a series of

267,622.



mortises, each adapted to receive a pair of spokes, B C, the dovetailed and bracing spokes B alternating each other, first on the left and then on the right, as shown, whereby the wheel is equally braced on both sides, as specified.

267,623. SUIT-HANGER. GEORGE N. WEBSTER and HENRY L. LUMBERT, Dresden, Ohio. Filed June 30, 1882. (No model.)



Claim.—The combination, with the body part of the suit-hanger A and its neck *b*, having an attached suspension-hook, *c*, of the shoes-hanging hook *f*, the pantaloon-hangers *d d*, and the hat, collar, and necktie bracket *g*, constructed to form double hooks *h i*, essentially as shown and described.

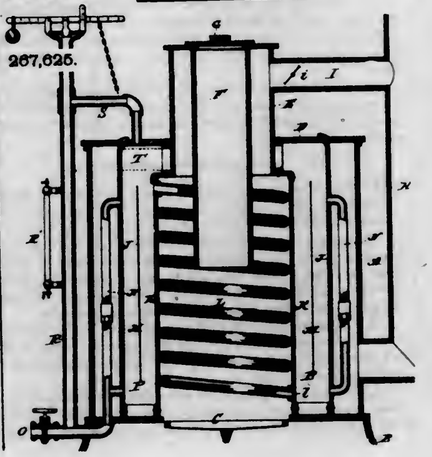
267,624. BUTTER-DISH. EDMUND C. WESTERVELT, South Bend, Ind. Filed Sept. 12, 1882. (Model.)



Claim.—1. The blank for a butter-dish consisting of a body portion formed with slits *a*, transverse scores *b*, flaps D *c c*, notches *d d*, and a cover portion, E, made entire with the body and sides, all constructed and adapted to operate substantially in the manner and for the purpose described.

2. The new article of manufacture consisting of a butter-dish body and its cover, the two being integral, and the body being composed of flaring sides and the ends being formed of the flaps D, lapping portions *c c*, and the wire ties, all constructed and adapted to operate substantially in the manner and for the purpose described.

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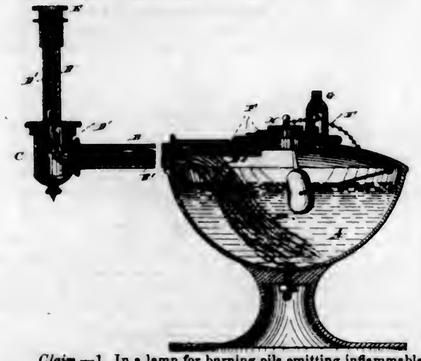


267,625. STEAM-GENERATOR. CORYDON WRIGHT and ALFRED CATCHPOLE, Geneva, N. Y. Filed May 15, 1882. (No model.)

Claim.—1. In a steam-generator, the coil L, the shells J and K, and the diaphragm M, in combination with the circulating-pipes N, as and for the purpose set forth.

2. In a steam-generator, the coil L, shells K, J, and A, diaphragm M, and return-tubes N, in combination with the reservoir F, smoke-stack H, and direct-draft pipe I, provided with damper *i*, substantially as set forth.

267,626. LAMP. S. LLOYD WIEGAND, Philadelphia, Pa. Filed Dec. 19, 1881. (No model.)



Claim.—1. In a lamp for burning oils emitting inflammable vapors, the combination of an oil-reservoir and a remote wick-receptacle, united by a tube located above the level of the oil in the reservoir, adapted to contain a wick or other capillary conductor, substantially as and for the purpose set forth.

2. In a lamp for burning volatile oils, the combination of the wick-receptacle C and oil-receptacles A with the tube B, screwed thereto, and located above the oil-level, substantially as and for the purpose set forth.

3. In a lamp for burning volatile oils, having a burner remote horizontally from and above the oil-receptacle, the combination of the tube B with the guard B^2, for preserving the air and vapor conducting channel, substantially as and for the purpose set forth.

4. In a lamp for burning volatile oils, the combination of a wick-receptacle, C, oil-reservoir A, tube B, and capillary conductor B', as and for the purpose set forth.

5. In a lamp for burning oil emitting inflammable vapors, the combination of the coiled vent-tube F with the oil-reservoir A, arranged to operate substantially as and for the purpose set forth.

6. In a lamp for burning oil emitting inflammable vapors, the combination of the coiled vent-pipe F, having enlargements F', with the oil-reservoir A, substantially as and for the purpose set forth.

7. In a lamp for burning oil emitting inflammable vapors, the combination of the valve-seat G^1, and with the valve G^2, guided therein, and adapted to close automatically when the lamp is inverted or inclined, substantially as and for the purpose set forth.

8. In a lamp for burning oil emitting inflammable vapors, the combination of the valve-seat G', valve G^2, and pendulum G^3, arranged to automatically close said valve, as and for the purpose set forth.

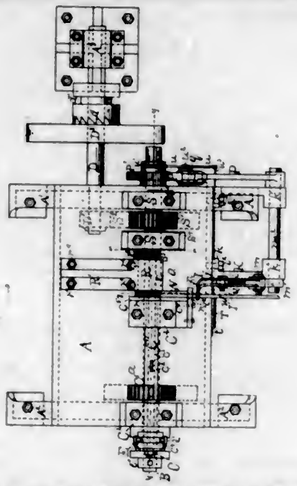
267,627. METAL-BENDING MACHINE. CHARLES D. WILEY, Verona, assignor to the Keystone Nut Lock Company, (Limited,) Pittsburg, Pa. Filed June 5, 1882. (No model.)

Claim.—1. The combination of bending-rolls *r s*, mandrel *c*, face-plate c^2, stationary shear-blade *n*, movable blade N, having groove n^2 across its side face, and the means substantially as described, for giving blade N vertical movement to sever the blank and hold it in position to be fed to the mandrel and rolls.

2. The combination of fixed shear-blade *n*, having feed-hole *n'* therein, movable blade N, having feed-groove n^2 across its side face, face-plate c^2, pivoted lever H, cam H^3, and driving-shaft B, substantially as set forth.

3. The combination of rotary and endwise moving mandrel *c*, rotary bending-rolls *r s*, shafts *r' s'*, pinions r^3, s^3, and s^2, shaft s^4, gears S^1 S^2, and driving-shaft B, substantially as set forth.

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4. The combination of feed-tongs I, swinging bar I', toggle-links *m m*, vibrating arm *m'*, and the means, substantially as described, for giving the arm reciprocating motion in the direction of the length of the tongs.

5. The combination of driving-shaft B, cam P', arm P, spring *q'*, rock-shaft m^3, arm *m'*, toggle-links *m*, tongs I, and swinging bar I', substantially as set forth.

6. The combination of centrally-pivoted levers *i i*, having laterally-extended gripping-jaws *i' i'*, swinging bar I', bracket K, toggle-links *m m*, arm *m'*, and the mechanism, substantially as described, for giving reciprocating motion to arm *m'*.

7. The combination of rotary bending-rolls *r s*, mandrel *c*, face-plate c^2, shear N *n*, tongs I, swinging bar I', links *m m*, arm *m'*, rock-shaft m^3, arm P, spring *q'*, adjustable stop *o*, cam P', and driving-shaft B, substantially as set forth.

8. The combination of feed-tongs I, swinging bar I', toggle-links *m m*, arm *m'*, rock-shaft m^3, arm P, spring *q'*, adjustable stop *o*, cam P', driving-shaft B, pivoted shifting-lever *u*, coupling-rod u^2, and hand-lever T, substantially as and for the purposes set forth.

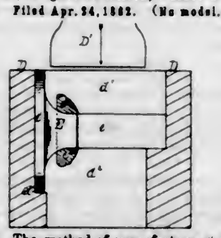
267,628. LOOM-SHUTTLE. DAVID A. WILLIAMS, High Shoals, Ga. Filed Jan. 4, 1882. (No model.)



Claim.—1. The combination of the guide-ring *d* and hooked pin d^2 with the plate D, disk d^1, and tension-pin d^3, all arranged to operate substantially as shown and described.

2. The tension-regulating mechanism, consisting of the ring *d*, pivoted tension-disk d^1, having pin d^3, hooked pin d^2, and the plate D, all combined and arranged as set forth.

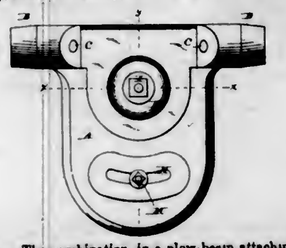
267,629. MANUFACTURE OF DRAW-BARS. JOHN T. WILSON, Pittsburg, Pa., assignor to Wilson, Walker & Co., (Limited,) same place. Filed Apr. 24, 1882. (No model.)



Claim.—1. The method of manufacture of wrought-metal draw-bar blanks R herein described, consisting in first forging and shaping a solid bar or billet of metal to the desired exterior form of the blank; second, punching a link-opening through the center of the head-plate by forcing a quantity of metal out of such center toward the rear end of the blank; and, third, punching a link-opening in the body part by forcing a quantity of metal, including that displaced in the first punching operation, sidewise out of the center of such part, substantially as set forth.

2. The method of manufacture of wrought-metal draw-bars herein described, consisting in first forming a solid metal blank, E, having an enlarged head-plate, *e'*, on one end of its body *e*; second, punching a central body of metal through the head-plate into the body; third, punching a central body of metal, including that carried into the body, sidewise out of the body; and, fourth, shaping and finishing the blank thus made on an anvil, substantially as set forth.

267,630. PLOW ATTACHMENT. WILLIAM H. WITT, Richland Township, Fountain County, Ind. Filed July 13, 1882. (No model.)



Claim.—The combination, in a plow-beam attachment, of a lower plate, A, having apertures E, segmental slot N, a sleeve, P, and lateral trunnions B, which lie in a lower plane than the plate proper, and an upper plate, G, provided with a boss, F, and an aperture, L, the said slot, aperture L, and a bolt, M, permitting of lateral adjustment of the upper plate, whereby the course of the plow is direct and maintained, and the lower plane of the trunnions permitting of the vertical movement of the plow-beam, all substantially as shown and described.

267,631. WIRE MATTRESS. EDWARD T. WOLCOTT, Kenosha, Wis., assignor to himself and Zalmon G. Simmons, same place. Filed Sept. 5, 1882. (No model.)



Claim.—1. As a new article of manufacture, a bed consisting of a rectangular frame having supporting-springs stretched from corner to corner, and covered with a wire mattress, substantially as shown and specified.

2. The combination, with a spring-mattress suspended from end bars, *b*, of frame A, of the diagonal crossing springs C C, formed of spirally-coiled wires, as shown and described.

267,632. RAILROAD-TIME BULLETIN-BOARD. JOHN W. WOLCOTT, Clyde, Ohio. Filed Mar. 4, 1882. (No model.)

Claim.—1. In combination with the bulletin-board A, having the slots *a'*, the frame-plank B, having bearings *b*, and the curved plates C, having the pivoted arms *c*, with knobs *c''*, as described.

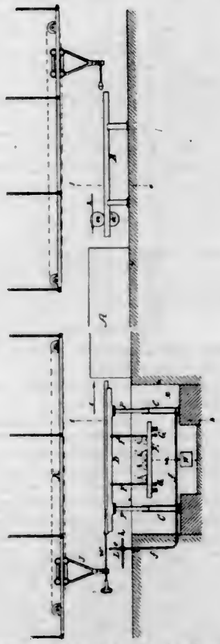
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2. The combination, with the bulletin-board A, having slots *a'*, of the frame-plank B, having slots *e*, curved plate D, provided with notched slots, and oscillating character-plates C, having the handles *c*, with knobs *c''*, substantially as described, and for the purpose set forth.

3. The combination of the slotted bulletin-board A, the frame-plank B, provided with bearings *b*, slots *e*, and braces *d*, and the curved plate D, provided with notched slots, with the oscillating character-plates C, provided with the arms *c*, each having a bearing to receive the shaft *c'*, and a knob, *c''*, at its end, substantially as described, and for the purpose set forth.

267,633. MECHANISM FOR FACILITATING THE INTRODUCTION OF TUBES INTO FURNACES. EDWARD W. WOLFE, Reading, Pa., assignor to the Reading Iron Works, same place. Filed June 8, 1882. (No model.)

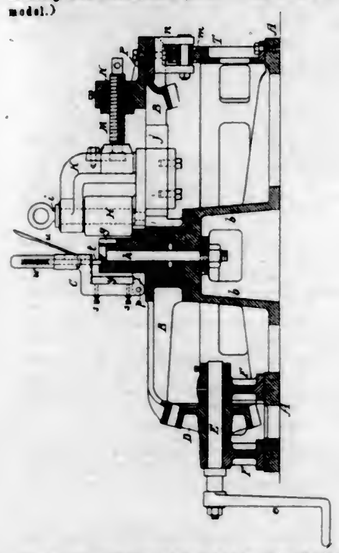


Claim.—1. The combination, with a tube-heating furnace, of a trough or receiver for a tube, mechanism below the trough for raising and lowering the same, and mechanism, substantially as

described, for pushing the tube from the trough into the furnace, as set forth.

2. The combination of the trough, plungers, and hydraulic cylinders with two pairs, F F', of rods, two chains or wire ropes, one connected to each pair of rods, pulleys over which the ropes pass, and a weight, W, to which both ropes are attached, all substantially as set forth.

267,634. MACHINE FOR BENDING SOCKET-BLANKS FOR TUBES. EDWARD W. WOLFE, Reading, Pa., assignor to the Reading Iron Works, same place. Filed June 12, 1882. (No model.)



Claim.—1. The combination, in a machine for bending bars into socket-blanks, of an adjustable roller, H, a mandrel, G, a device for clamping the bar to the mandrel, and mechanism whereby the above-mentioned elements are caused co-operate, substantially as described.

2. The combination of the mandrel G with a clamping-lever, C, and a device whereby the said lever may be locked to or unlocked from the said mandrel, all substantially as specified.

3. The combination of the mandrel G, with the clamping-lever C pivoted to the said mandrel, and the adjustable plate y, carried by the said lever, substantially as specified.

4. The combination of the mandrel G, a device for clamping a bar thereto, a wheel, B, or its equivalent, adapted to a fixed arbor, *a*, and carrying a roller, *m*, adapted to an annular track, with a bracket, K, adapted to guides on the said wheel, and carrying a roller, H, all substantially as set forth.

267,635. MECHANISM FOR EJECTING TUBES FROM FURNACES. EDWARD W. WOLFE and GEORGE SCHUMANN, Reading, Pa., assignors to the Reading Iron Works, same place. Filed June 12, 1882. (No model.)

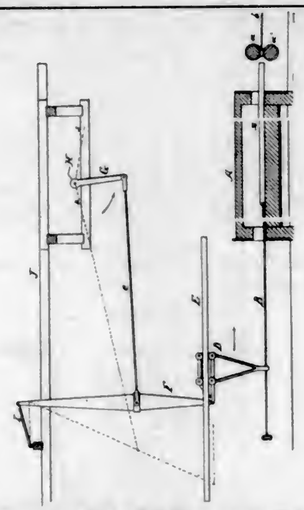
Claim.—1. In appliances for ejecting tube-skelps from furnaces, the combination of the following instrumentalities, namely: a push-rod, a traveling carriage connected to and supporting said rod, a vibrating lever for imparting a gradual and accelerating movement to the carriage, and a driving-shaft for communicating a vibrating motion to the lever, all substantially as set forth.

2. The combination of a carriage, D, constructed for attachment to the push-rod of a tube-furnace, and adapted to horizontal guide-rails, with the lever F, pivoted at its upper end to a radius-rod, I, and connected to the arm G, to which the within-described movement is imparted, substantially as specified.

3. The combination of the arm G, the lever F, connected thereto, and the guided carriage D, with the bevel-wheel L on the same shaft with the arm, bevel-pinions on a driving-shaft, N, a clutch, C, and mechanism for operating the same, substantially as set forth.

4. The combination of the push-rod B, the tube P, provided

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with a clamping device for gripping the said rod, the tube P', the block R, swiveled to the carriage D, and the weighted lever S, swiveled to the block and acting on the said tube P', all substantially as specified.

267,636. MECHANICAL FAN. DARWIN S. WRIGHT, Macon, Ga. Filed Aug. 14, 1882. (No model.)



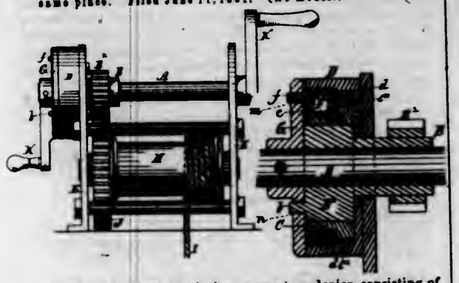
Claim.—The combination of the tubular crane, the extension-rod arranged in the tubular crane, and having a sleeve provided with a thumb-screw, the vertical rod arranged in said sleeve and having a bracket for supporting a spindle and pulley, and the hub having radial arms for receiving the fans, substantially as shown and described, whereby the fans may be adapted to rotate either in a horizontal or a vertical plane, as set forth.

267,637. MANUFACTURE OF ARTIFICIAL BUTTER. HENRY R. WRIGHT, Albany, N.Y. Filed July 25, 1882. (No specimens.)

Claim.—1. The process of making artificial butter or creamine, which consists in mixing together the oils derived from animal fat at low temperatures with sweet cream, the oil of butter, vegetable oil, and coloring-matter, then allowing these ingredients to become sour while together, then removing the whey, and finally churning the mass, substantially as and for the purpose described.

2. In the manufacture of artificial butter, the process of mixing the derived oils which form the base with the dairy products in sweet condition, allowing them to sour together, and then removing the whey and churning, as described.

267,638. MECHANICAL MOVEMENT. JACOB D. WRIGHT, Worcester, Mass., assignor to the Wright Machine Company, same place. Filed June 11, 1881. (No model.)



Claim.—1. A mechanical movement or device consisting of a central shaft, an external cylinder concentric therewith, a sleeve mounted on said shaft and having an eccentric within said cylinder, a ring-piece mounted on said eccentric, a circular or crescent-formed wedge or follower arranged between said ring-piece and cylinder, and a disk fixed on said shaft and engaging said eccentric and follower by lugs and recesses, permitting slight movement between the same, substantially as hereinbefore set forth.

2. In a mechanical movement, the combination of an eccentric revoluble cam, a surrounding stationary cylinder, a follower or cramping device located between said eccentric and cylinder, and adapted to work free when at a position that coincides with the eccentricity of said cam and to cramp or engage the surfaces when deviated or extended to the right or left from said position, and a follower-operating connection or means adapted for moving said follower in unison with said eccentric and preventing its cramping or engagement when the motive power is exerted by either right or left revolution from one end of the mechanical train, while permitting independent action or deviation of said follower or device relatively to said eccentric to effect engagement, cramping, or locking of the mechanism when a force or power is exerted from the opposite end of the mechanical train tending either to right or left revolution.

3. The combination, with the revoluble crank-shaft and stationary cylinder, of the gear-sleeve provided with an eccentric, the follower-wedge, conforming to the space between said eccentric and cylinder, and a slotted disk and connecting devices adapted for moving said follower and eccentric in unison with said shaft when said shaft serves as prime mover, but permitting independent action of said eccentric and non-action of the follower when force is applied to said sleeve, or vice versa, as hereinbefore set forth.

4. The combination of the cylinder D, the eccentric B', the follower F, and the disk G with connecting devices *m f* and *b n*, as and for the purpose set forth.

5. The combination of the operating-shaft A, the sleeve B, with driving-gear B' and eccentric B' mounted thereon, the stationary cylinder D, having internal teeth, *d*, the ring-piece C, differentially geared to said cylinder, the follower F, disk G, and devices for connecting and operating the same, as hereinbefore set forth.

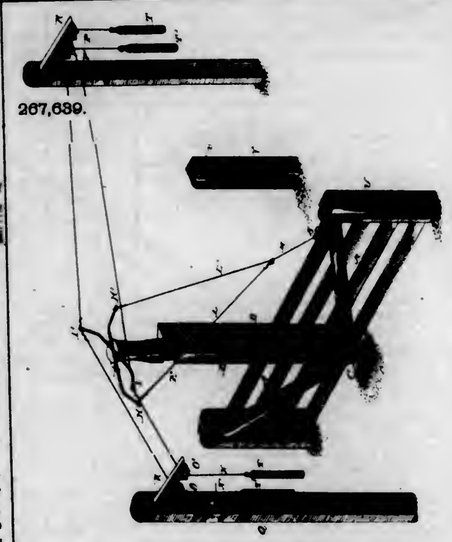
6. The combination, with the driven part B, provided with an eccentric, B', of the ring-piece C, mounted on said eccentric and non-revoluble therewith, the double wedge or wedges mounted on said ring-piece, with or without a spring device, the surrounding cylinder D, and means for moving said wedge and eccentric in unison by the driving devices, and for releasing said wedge when backward-acting strains are exerted in excess of the driving forces, as set forth.

267,639. GATE. DANIEL S. YOUNG, Monroe, Wis. Filed Sept. 16, 1882. (No model.)

Claim.—1. In a swinging gate, the combination of the pivotal post B, having a central bore or socket in the top, and carrying the gate A, the circular disk or lever-plate F, having arms H H' I I' and central bolt, G, inserted into and turning in the socket in post B, latch-wires L L' M, and operating cords or wires N N', all constructed and combined to operate substantially in the manner and for the purpose herein shown and described.

2. The lever-plate F, having central bolt, G, and arms H H' and I I' crossing each other and turned respectively in a downward and upward direction at their outer ends, in combination with the socketed post, its gate, and the cords or wires for operating it, substantially as and for the purpose herein shown and specified.

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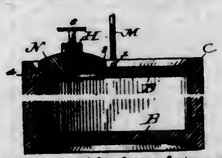


267,640. MANUFACTURE OF METALLIC RAKES. JOHN M. YOUNG, Baldwinsville, N.Y. Filed May 18, 1882. (No model.)



Claim.—The within-described mode of forming a rake-head and its tang of one piece of metal—*i. e.*, by first forming a blank, A, having its central portion, *a*, wider than its end portions, *b b*, then shearing the center of the said enlarged portion, as at *c*, and from said center in opposite directions, as at *d' d'*, part way the length thereof, and then drawing out lengthwise the sheared parts and bending the same into the requisite shape to form the braces and tangs of the rake, substantially as specified and shown.

267,641. JUG. THOMAS L. AMPHLETT, Ionia, Mich., assignor to himself and Wm. O. Amphlett, John B. Amphlett, and Thomas G. Amphlett, all of same place. Filed Mar. 16, 1882. (No model.)



Claim.—1. As a new article of manufacture, an earthenware jug having substantially-cylindrical body and plane top, an annular perforated flange extending evenly above the top, and an opening in the plane top adapted to receive interchangeable mouth pieces and covers, substantially as described.

2. In combination with the plane top of a jar or jug, a removable mouth-piece having a yielding packing-ring surrounding that portion of said mouth-piece which enters the orifice in such plane top, as described.

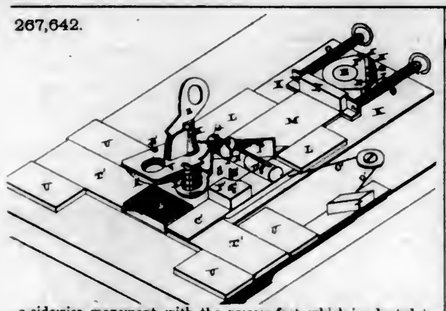
267,642. MACHINE FOR SEWING ON BUTTONS. HENRY A. REED, Union Hill, N.J. Filed Aug. 28, 1882. (Model.)

Claim.—1. In a machine for sewing on buttons, a pivoted presser-foot which can be swung through a portion of a circle for the purpose of picking up a button, and which is provided with means for holding the button, substantially as shown.

2. In a machine for sewing on buttons, a pivoted presser-foot having a perforated piece of rubber secured to the under side of its free end for catching over the edges of a button, substantially as described.

3. The combination of the slide, having both an endwise and

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a sidewise movement, with the presser-foot, which is adapted to hold the button while being sewed on, substantially as specified.

4. The combination of a cam and endwise-moving slide M, retracting-springs, the slide S, carrying the presser-foot, and a latch for locking the two slides M and S together, substantially as described.

5. The combination of the endwise-moving slide M, having a beveled inner edge, with the slide S, having a beveled end, and a means for locking the slide S, and a sidewise-moving plate, whereby the forward movement of the slide M will move the slide S at right angles thereto, substantially as described.

6. In a machine for sewing on buttons, the combination of suitable points for holding the button and a pivoted presser-foot provided with a means for holding the button, substantially as set forth.

7. The combination of the endwise-moving slide M, retracting-springs, and a mechanism for moving the slide, with the slide S, the endwise-moving plate T, the sidewise-moving plate C', the spring for moving the parts back into position, a locking-bolt, and a pivoted presser-foot provided with means for holding the button, substantially as specified.

8. The combination of the cam, the screw G, which passes through it, and the bearing-surface I, provided with projections H, and studs or projections J, substantially as described.

267,643. LEAD OR CRAYON HOLDER. CLARK W. BOMAN, New York, N. Y., assignor to Joseph Rockenderfer, same place. Filed Sept. 27, 1880. (Model.)



Claim.—1. The combination, with the sheath or handle and the longitudinally-movable lead-containing tube, of a lead-grasping jaw inside of and connected with the sheath, extending into the interior of the tube through an opening therein, so as to have contact with the lead, and operated by the tube, according to the direction of its movement, to clamp and release the lead, substantially as hereinbefore set forth.

2. In a lead or crayon holder, the combination of a sheath or handle, a lead tube or receiver within said handle, a lead-grasping jaw longitudinally movable with respect to said tube and adapted to enter an opening therein, a spring for moving said parts to the position in which the jaw clamps the lead, and a pressure-cap by which the parts are moved with respect to one another against the stress of the spring to release the lead, substantially as hereinbefore set forth.

3. The combination, substantially as hereinbefore set forth, of the sheath or handle, the longitudinally-movable lead-containing tube, the pressure-cap, the retracting-spring, and a grasping-jaw inside of and connected with the sheath, arranged to enter an opening in the tube so as to grasp the lead therein when the tube is retracted and to be removed from the opening out of contact with the lead when the tube is moved forward, as described.

4. The combination, with the sheath or handle and the longitudinally-movable lead-containing tube, formed with a jaw-admitting opening, as described, of the grasping-jaw, attached to and carried by a sleeve which encircles the tube and is held between the nozzle or tip and a shoulder on the handle, as shown and described.

5. The combination of the handle or sheath, the longitudinally-moving lead-containing tube, formed with jaw-admitting opening, as described, the grasping jaw, and an intermittently-operating clamp or retaining-jaw carried by the tube, these parts being combined and arranged to operate jointly, substantially as and for the purposes hereinbefore set forth.

6. The combination, with the longitudinally-movable lead-carrying tube, of a lead-grasping jaw carried by the sheath and provided with a projection that alternately passes under and rides over a projection carried by and moving with the said tube, whereby said jaw is caused to release the lead when the tube moves forward, together with the lead, and to grasp and retain the lead in its advanced position when the tube recedes, substantially as and for the purposes hereinbefore set forth.

7. The sheath, the longitudinally-movable lead-carrying tube, the pressure-cap, and the retracting-spring, in combination with a lead-grasping jaw carried by the sheath and provided with a projection that alternately passes under and rides over a projection carried by and moving with said tube, substantially as and for the purposes hereinbefore set forth.

267,644. SPECTACLES AND EYEGLASSES. ROBERT A. CARTER, Elizabeth, assignor to the Warwick Manufacturing Company, Newark, N. J. Filed May 13, 1882. (No model.)



Claim.—1. A clip for spectacles and eyeglasses, provided with a shank attached in a hole formed in the base of the clip, substantially as herein shown and described.

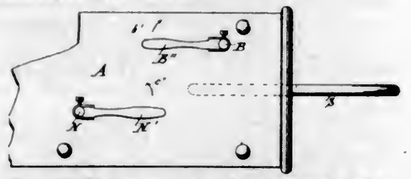
2. A catch for eyeglasses, consisting of a clip having its shank bent to form a hook projecting at right angles to the plane of the glass, in order to engage the handle of the glasses, as set forth.

3. In spectacles and eyeglasses, a clip attached to the glass, with the edge of the glass engaging the bottom of the clip, substantially as herein shown and described.

4. In spectacles and eyeglasses, a spring-clip attached by a screw passing through the glass and bent outward, so that its elasticity acts to draw the glass into the clip, as specified.

5. In spectacles and eyeglasses, the clips formed with elongated blocks d', to which the spring and nose-piece are held by screws or a screw and pin, substantially as described.

267,645. CAR-COUPLING. JAMES P. DAVISON, St. John, Ill. Filed Sept. 22, 1882. (Model.)



Claim.—1. The combination, with the draw-head A, of the transverse shaft B, the latch C, the lever E, and the spring F, substantially as herein shown and described, and for the purpose set forth.

2. The combination, with the draw-head A, of the latch C, extending partially across the draw-head end opening from above, and the hook-latch G, extending partially across the draw-head opening from below, substantially as herein shown and described, and for the purpose set forth.

3. The combination, with the draw-head A, of the shaft B, the latch C, the arm B' on the shaft B, the weight C' on the arm B', and the latch G, substantially as herein shown and described, and for the purpose set forth.

4. The combination, with the draw-head A, of the latch C, the latch G, and the weight H', substantially as herein shown and described, and for the purpose set forth.

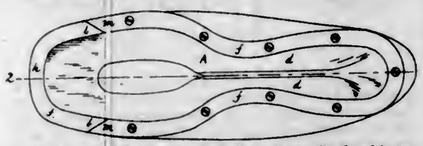
5. The combination, with a draw-head, of the transverse shaft B, the latch C, the handle B'', the hook-latch G, the disk K, the disk M, the transverse shaft N, and the handle N', substantially as herein shown and described, and for the purpose set forth.

6. The combination, with the draw-head A, of the transverse shaft B, the latch C, the hook-latch G, provided at its rear end with a projection, J, the disk K, provided with the notch J', and a segmental recess, K', the disk M, having part cut out and being provided with the notch O, the shaft N, and the handle N', substantially as herein shown and described, and for the purpose set forth.

7. The combination, with the draw-head A, of the shaft B, the latch C, the hook-latch G, the weight H', the disk K, the disk M, the shaft N, and the handle N', substantially as herein shown and described, and for the purpose set forth.

8. The combination, with the draw-head A, of the transverse shaft B, the latch C, the hook-latch G, the weight H', the disk K, the disk M, and the check-stud R, substantially as herein shown and described, and for the purpose set forth.

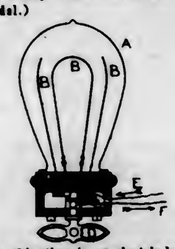
267,646. LAST. GEORGE W. DAY, Haverhill, assignor to the Day Sewed Shoe Company, Boston, Mass. Filed Sept. 19, 1882. (No model.)



Claim.—1. A boot or shoe last, A, having a rib, *f*, and its toe portion *h*, adapted to be loosely attached thereto, substantially as and for the purpose described.

2. A boot or shoe last, A, having a rib, *f*, and its toe portion *h* loosely attached, and adapted to fit its fastened portion by inclined edges, substantially as and for the purpose described.

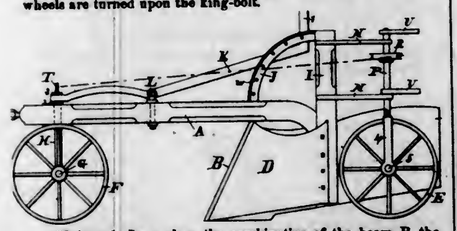
267,647. INCANDESCENT ELECTRIC LAMP. STEPHEN HENRY EMMENS, London, County of Middlesex, England. Filed Sept. 6, 1882. (No model.)



Claim.—The combination, in an electric lamp, of the within-described series of incandescing bridges B, arranged around a circle within and concentric with the bulb of the lamp, metallic connections comprising a corresponding series of anvils uniting said bridges with each other and with a wire leading from a source of electricity, the rotary contact-piece C, connected with a wire leading out of the lamp, and the thumb-piece D, for turning said contact-piece into different positions, substantially as herein specified, for the purposes set forth.

267,648. PLOW. PEDRO A. FONSECA, Havana, Cuba, assignor to Carlos Mares, Baltimore, Md. Filed Aug. 31, 1882. (No model.)

Brief.—A rear guide-wheel is set in a tiller-post, provided with levers or handles for guiding. From a pulley on the post cords extend to a cross-bar upon the forward axle, by which the wheels are turned upon the king-bolt.



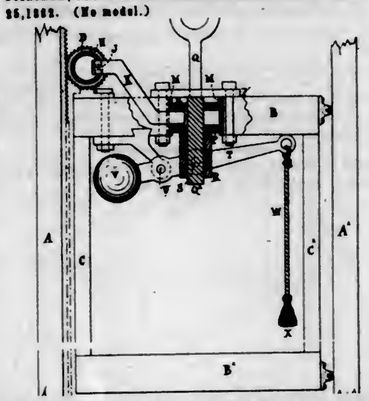
Claim.—1. In a plow, the combination of the beam B, the front wheels and their axle, an upright bolt, H, attached to the axle passing loosely through the beam and having on top a horizontal guide-bar, T, a pivot-pulley, R, at the rear end of the plow, and a chain, S, passed around the pulley and having its ends attached at opposite ends of the guide-bar, as set forth.

2. In a plow, the combination of the front wheels, a bar, T, to guide the front wheels, a rear steering-wheel, E, having a tiller-post, a pivot-pulley on the tiller-post, and a chain passed around the pulley and having its ends attached at opposite ends of the guide-bar, as set forth.

3. In a plow, the combination, with the mold-board and land-side, of a steering-wheel at the rear, a tiller-post directly connected to the steering-wheel, and guide-levers attached to the tiller-post, as set forth.

4. In a plow, the combination of the beam A, an upright post, I, secured to the rear end of the beam, horizontal arms N, rigidly attached to the upright post, a tiller-post having its bearings in the arms, and a steering-wheel adapted to be guided by the tiller-post, as set forth.

267,649. STOP FOR ELEVATORS. LORENZO D. HAWKINS, Stoneham, and JOHN H. WEBSTER, Boston, Mass. Filed Sept. 25, 1882. (No model.)



Claim.—1. The combination of a flanged stop-wheel, whether acting by cogs or by friction, with a broken friction-ring, actuated to produce friction by the contact of its outer surface, expanded by a wedging device placed between the ring ends, with the inner surface of the flange, all substantially as described and shown.

2. In elevators, the combination, with the elevator cage or platform, of one or more racks and flanged cog-wheels, the latter provided with one or more broken rings, and the twisting-block J, or its mechanical equivalent, actuated through the lever K, or its equivalent, by the hanging bolt Q, all substantially as described and shown.

3. In elevators, the combination, with the elevator cage or platform, of one or more racks and flanged cog-wheels, the latter provided with one or more broken rings, and the twisting-block J, or its mechanical equivalent, actuated through the lever K, or its equivalent, by the hanging bolt Q, with the stop-bar T and its fulcrum, all substantially as described and shown.

267,650. BOTTLE-STOPPER. JOHN M. LEWIS, Lockport, N. Y., assignor of one-half to Samuel Sibley Mattos, Toronto, Canada. Filed July 15, 1882. (No model.)



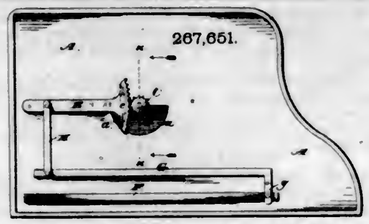
Claim.—1. In an internal bottle-stopper in which the ends of the bail pass through the rubber disk, the washer E, having slot F, and recesses G, combined with said bail and disk, with means, substantially as described, for locking the washer in position or removing it at will, as set forth.

2. In an internal bottle-stopper in which the loop-wire is joined together by a metal washer permanently fixed to it and the ends of the wire are bent at right angles, the combination of a removable washer, E, having a slot, F, cut through it, and indentations made in its surface for the purpose of holding the stopper C in position, substantially as and for the purpose specified.

267,651. HEAT INDICATOR AND REGULATOR FOR STOVE-OVENS. CHARLES MURRAY, Springfield, Ill. Filed May 18, 1882. (No model.)

Claim.—1. In combination with the door A, provided with the opening *a*, the hinged damper B, having the inclined lug *b*, the pivoted bar E, the expansion-bar F, the lever G, having the arm *g*,

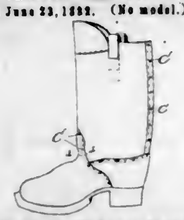
267,651.



and the connecting-bar H, substantially as and for the purpose specified.

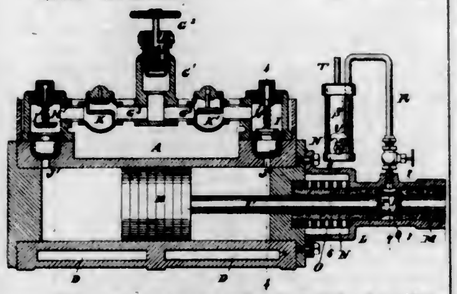
2. In combination with the door A, provided with the opening *a* and graduated dial *a'*, the hinged damper B, having the inclined lug *b*, the pinion C, the pointer D, the pivoted rack-bar E *e*, the expansion-bar F, the lever G *g*, and the connecting-bar H, substantially as and for the purpose shown.

267,652. BOOT OR SHOE. JAMES POPHAM, Montreal, Quebec, Canada. Filed June 23, 1882. (No model.)



Claim.—The herein-described seam for boots and shoes, consisting of the overlapped parts of the leather, the continuous row of rivets passed through the overlapped parts, and the two lines of stitching passed through the overlapped parts on opposite sides of the row of rivets near the edges of the leather, the whole constituting a strong, durable, and tight lapped seam having closely-laid edges, substantially as described.

267,653. GAS-PUMP. JOHN RINO, St. Louis, Mo. Filed Aug. 2, 1882. (No model.)



Claim.—1. In a gas-pump, a chamber formed in the stuffing-box, and communicating by means of a pipe or pipes with the suction-pipe of the pump, for the purpose set forth.

2. In a gas-pump, an annular chamber formed in the stuffing-box to collect gas and oil, and communicating by means of a suitable pipe with a receiving-vessel which retains the oil, and which communicates by means of a pipe with the suction-pipe of the pump for the return of the gas to the pump, as set forth.

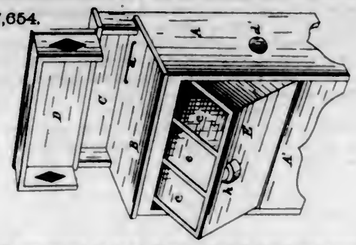
3. In a gas-pump, the check-valves K K', in combination with the discharge-pipe G, having branches G^1 G^2 and valves G', and the chambers H' H^2, having check-valves I' I^2, as set forth.

4. In a gas-pump, an annular chamber, Q, formed in the stuffing-box by means of tapering rings P, surrounding the piston-rod, in combination with a suction-pipe, R, vessel S, and gas suction pipe T, communicating with the main feed-pipe of the pump, all substantially as shown and described, for the purpose set forth.

267,654. KITCHEN-CABINET. JOHN W. ROSS, Santa Clara, Cal. Filed July 12, 1882. (No model.)

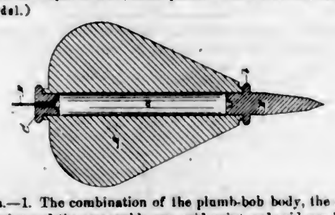
Claim.—The kitchen-cabinet consisting of the case A', provided with the front space, *f*, and the front stay, A', and having its

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top B constructed to form an unobstructed cake-board extending the entire width of the case and length of the top, the open front receptacle, C, provided with the rolling-pin stop *a*, the hinged box-cover D, provided with the ventilation-openings *b*, and the bin E, having the rounded metallic bottom, and adjusted on the disk-pivots *d*, extended through the walls of the case and partly through the walls of the bin, substantially as and for the purposes described.

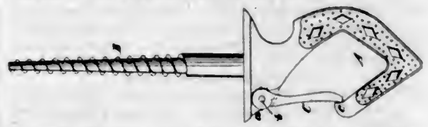
267,655. PLUMB-BOB. WILLIS C. VAJEN, Indianapolis, Ind. assignor to Vajen & New, same place. Filed Nov. 10, 1881. (No model.)



Claim.—1. The combination of the plumb-bob body, the removable point and the removable cap, said point and said cap being interchangeable, substantially as specified.

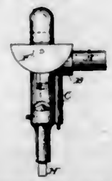
2. The combination, with a plumb-bob body, A, having hole *a* therein, of the removable and reversible point B and the removable cap C, either of which is adapted to be attached to either end of the body A, all substantially as shown and described, and for the purposes specified.

267,656. SUSPENSION-HOOK. GEORGE W. WOODWARD, Brooklyn, N. Y. Filed Apr. 3, 1882. (No model.)



Claim.—In a suspension device, the hook A, having a swinging tongue, C, attached to it above its opening, and provided with the upturned end or lip *c*, whereby the tongue is prevented from swinging past the end of the hook, all substantially as and for the purpose stated.

267,657. VAPOR-BURNER. HENRY S. BALDEN, Canton, Ohio. Filed Apr. 14, 1882. (No model.)



Claim.—1. The combination, with the mixing-chamber and the jet-orifices *e e*, of a heating shield or plate situated away from the mixing-chamber to provide a heating space or chamber between the mixing-chamber and said plate, and furnished with an orifice coinciding with the heating-jet orifice, whereby a cleaning implement can be inserted into the heating-jet orifice after it has been passed through the plate and across the heating-chamber, substantially as set forth.

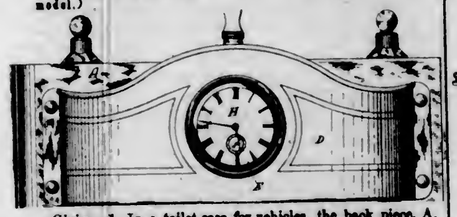
2. The combination, with the pipe-socket B, of the retort-

passage C, extending downward therefrom, the mixing-chamber tube communicating with and extending upward from the bottom of the retort-passage C, the heating-plate forming substantially an extension of the upper part of the pipe-socket B and surrounding the mixing-chamber tube, the downwardly-extending wings F F at the edges of the plate, and the orifices *e e*, arranged to throw lateral jets below the plate F and against the shields F', on substantially the plane of the pipe-socket B, as set forth.

3. In a vapor-burner, the combination, with the mixing-chamber having a heating-jet orifice, of a cleaning implement permanently but loosely mounted in said orifice, substantially as and for the purposes set forth.

4. In a vapor-burner, the combination, with the pipe-socket B, the retort-passage C, extending downward therefrom, the upwardly-turned escape-orifice, and the shield or plate F, secured rigidly to the pipe-socket and projecting directly therefrom, of the removable burner-tube supported in said shield or plate independently of the other parts of the burner, substantially as set forth.

267,658. TOILET-CASE FOR VEHICLES. THOMAS BOURDEN, Bridgeport, Conn., assignor of one-half to the White Manufacturing Company, same place. Filed Oct. 12, 1882. (No model.)

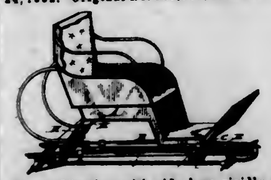


Claim.—1. In a toilet-case for vehicles, the back piece, A, with compartments B C therein, and a detachable front casing, D, extended forward, and having secured thereto the clock-pocket G, and provided with central opening, E, substantially as hereinbefore shown and described.

2. In a toilet-case for vehicles, the front casing, D, provided with a clock-pocket, G, and the back piece, A, provided with compartments B C, the front and back pieces being detachably connected, substantially as and for the purposes set forth.

REISSUES.

10,236. SPRING-VEHICLE. GEORGE DELKER, Henderson, Ky. Filed June 24, 1882. Original No. 248,318, dated Nov. 8, 1881.



Claim.—In combination with side bars rigidly connected with a front head-block and rear-axle and suitable front and rear springs, a phaeton-shaped body having at its rear or raised portion downwardly-projecting rigid brackets H, extending to the rear springs and secured thereto, and provided near its front with bar or support C, secured to the front springs, substantially as and for the purpose set forth.

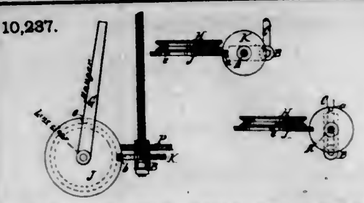
10,237. INTERLOCKING SWITCH AND SIGNAL APPARATUS. MATTHIAS N. FORNEY, New York, N. Y. Filed Mar. 17, 1882. Original No. 247,034, dated Sept. 13, 1881.

Brief.—Interlocking through rotary notched disks or sectors of disks, the peripheries of which intersect or cross each other.

Claim.—1. The combination of a notched disk or sector on a rotary switch-shaft and a notched disk or sector on a rotary signal-shaft, each disks being arranged to interlock by the full part in the periphery of one disk engaging in the notch of the periphery of the other disk, substantially as and for the purposes set forth.

2. Two notched disks or sectors the peripheries of which intersect each other, said disks or sectors having notches or recesses arranged substantially as set forth, whereby either disk or sector may be set to lock the other by the full part of the periphery of

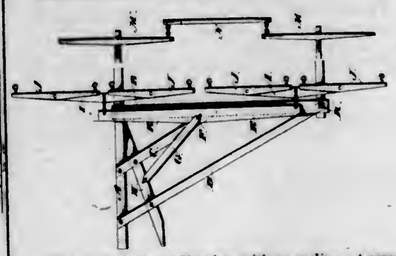
10,237.



one disk or sector entering a notch or recess in the other disk or sector.

3. The combination of a notched disk or sector arranged on the rotary switch-shaft, a notched disk or sector on a rotary signal-shaft, a notched sector-plate on the signal-shaft, and a notched switch-bar, substantially as set forth.

10,238. DOUBLE TONGUE FOR HARVESTERS. JOHN K. KEPNER, Little Valley, Minn. Filed Apr. 26, 1882. Original No. 241,996, dated May 24, 1881.



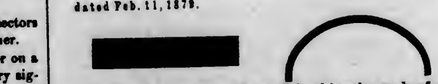
Claim.—1. The combination, with an ordinary tongue constructed to be connected with the machine or vehicle, of a cross-bar secured at one end to said tongue, and a secondary tongue secured at its rear end to the outer end of said cross-bar, the two tongues being equal, or practically equal, in length, substantially as set forth.

2. The combination, with an ordinary tongue constructed to be connected with a machine or vehicle, of a cross-bar secured at one end to said tongue, a secondary tongue secured at its rear end to the outer end of the cross-bar, the two tongues being equal, or practically equal, in length, a four-horse evener pivoted to said cross-bar, two-horse eveners connected with the opposite ends of said four-horse eveners, and single-trees pivoted to the opposite ends of the two-horse eveners, substantially as set forth.

3. The combination, with an ordinary tongue constructed to be connected with the machine or vehicle, of a cross-bar secured at one end to said tongue, a secondary tongue secured at its rear end to the outer end of said cross-bar, the two tongues being equal, or practically equal, in length, and a diagonal brace extending from the rear portion of the ordinary tongue to the cross-bar, substantially as set forth.

4. The combination, with an ordinary tongue constructed to be connected with the machine or vehicle, of a cross-bar secured at one end to said tongue, a secondary tongue secured at its rear end to the outer end of said cross-bar, yokes attached to the outer ends of the tongues, and a jockey-stick for uniting the yokes, substantially as set forth.

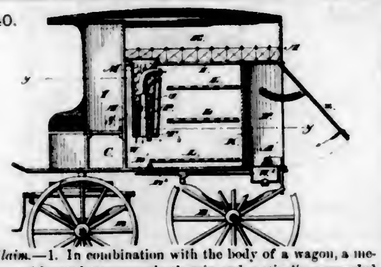
10,239. BRACELET. EDWARD F. PERKBEY, Providence, R. I. assignor, by mesne assignments, to Edward N. Foote, Northampton, Mass., and Robert B. Bannister, John L. Mason, and Royce, Allen & Co., Providence, R. I. Filed Sept. 20, 1882. Original No. 156,853, dated Nov. 17, 1874; Reissue No. 8,577, dated Feb. 11, 1879.



Claim.—A bracelet or other article of jewelry made of metal, provided with a uniform coating of enamel or japan, and having an ornamental design cut or otherwise engraved through the same, so as to expose the bright metal to view, substantially as set forth.

10,240. REFRIGERATOR-WAGON. ANDREW J. CHASE, Boston, Mass., assignor to Albert W. Brown, Trustee, same place. Filed Oct. 23, 1882. Original No. 263,235, dated Aug. 22, 1882.

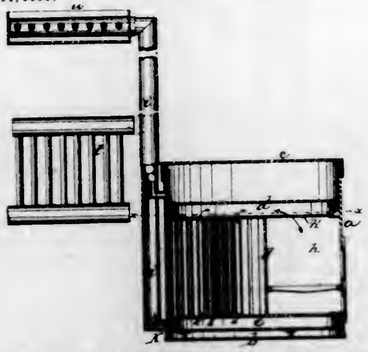
10,240.



Claim.—1. In combination with the body of a wagon, a metallic vessel located transversely therein and vertically suspended from the deck or partition I of the wagon, said vessel being composed of the double walls N, to form vertical ice-receptacles, and a vertical air space or spaces, P, open at each end for effecting a circulation of air through the main compartment of the wagon without the air coming in contact with the refrigerating material, substantially as shown and described.

2. The combination, in a refrigerating-vehicle, of the main or refrigerating compartment and the refrigerating-chamber with the sink or receptacle W, arranged below the body of the vehicle for receiving the drippings from the ice-receptacle, substantially as described.

10,241. STEAM-GENERATOR. JOSEPH E. CULVER, Jersey City, N. J. Filed Aug. 28, 1882. Original No. 236,558, dated Jan. 11, 1881.



Claim.—1. In a boiler, a system of intercommunicating flues and chambers having direct connection with the furnace and discharge-pipe, the flues and chambers being so arranged as to be entirely surrounded by water, and to admit only of the downward passage of the products of combustion, substantially as shown and described.

2. The combination, with a boiler or hot-air furnace, of a system of intercommunicating flues and chambers connected to said furnace by a suitable flue, said chambers and flues being wholly within the shell or jacket *a b c*, and so arranged that the flow of the products of combustion within them shall at all times be downward, substantially as and for the purpose described.

3. The combination, with the furnace, of an upper receiving-chamber and lower discharge-chamber, *e*, connecting pipes or flues *f*, said flues and chambers being so arranged as to be wholly within the water-space and to admit only of the downward passage of the products of combustion, and a mixing-pipe, *i*, substantially as and for the purpose described.

4. The combination, with the upper receiving-chamber, *d*, separated from the furnace, but connected thereto by a suitable delivery-flue, connecting pipes or flues *f*, and lower chamber, *e*, from which a suitable discharge pipe or flue passes laterally through the steam-jacket and externally of the boiler-shell into the mixing-pipe *i*, of the water and steam jacket *a b c*, substantially as and for the purpose set forth.

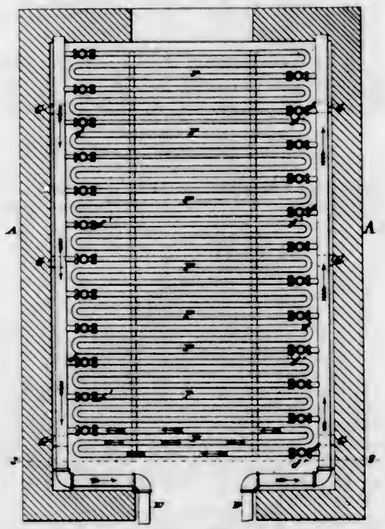
5. The combination, with a furnace, of an upper receiving-chamber, *d*, and lower discharge-chamber, *e*, connecting pipes or flues *f*, said flues and chambers being wholly within the water-space, and a delivery or mixing pipe, *i*, of the water and steam jacket *a b c* and steam-pipe *l*, substantially as and for the purposes set forth.

6. The combination, in a boiler, of the shell *a* and fire-box *b* with an upper and lower smoke-chamber, *d e*, the upper chamber separated from the furnace, but connected thereto by a suitable delivery-flue, said chambers being connected by flues *f* and partition *g*, and arranged within the water-space so as to be surrounded on all sides by water, and to admit only of a downward passage of the products of combustion, substantially as shown, and for the purpose specified.

7. The combination, with a boiler provided with a system of intercommunicating flues and chambers, having direct connection with the furnace, and a discharge-pipe so arranged as to be entirely surrounded by water, and to admit of only a downward passage of the products of combustion, of a mixing-pipe, *i*, and smoke-pipe *k* and steam-pipe *l*, substantially as and for the purpose described.

8. The combination of the boiler and furnace with a system of intercommunicating flues distributed through the water-space from beneath the water-level to near the bottom of the boiler, the uppermost parts of which are connected through one or more openings with the combustion-space of the furnace, and the lowermost parts freely intercommunicate in a lower chamber wholly within the water-space, from which a common escape-flue passes out through the boiler-shell and is continuous with the smoke-stack, substantially as shown and described.

10,242. REFRIGERATING APPARATUS. CHARLES G. MAYER, Nauvoo, Ill., assignor of one-half to Leo Rassieur, St. Louis, Mo. Filed June 24, 1882. Original No. 256,350, dated Apr. 11, 1882.



Claim.—1. The combination of feed and return pipes and removable connecting-sections, arranged substantially as and for the purpose set forth.

2. In combination with main pipes D and E, the sections F, removably connected to the lengths *f* by couplings *f'*, which are provided with cocks *f''*, substantially as and for the purpose set forth.

PHOTO LITH NORRIS PETERS WASH'NGTON D.C.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

DECISIONS OF THE U. S. COURTS.

U. S. Circuit Court—Eastern District of Wisconsin.

ALLIS *v.* BUCKSTAFF *et al.*

Decided October 11, 1882.

1. LETTERS PATENT NO. 122,215 EXAMINED AND SUSTAINED.

Letters Patent No. 122,215, to Nelson F. Beckwith, for an improvement in head-blocks, examined and sustained. Various prior patents and alleged anticipatory devices considered and found not to anticipate the patentee's invention.

2. PRIOR USE—UNSUCCESSFUL AND ABANDONED EXPERIMENT.

A patent is not invalidated by proof that before the patentee's invention a device similar to the patentee's was temporarily in use, but proved a failure and was abandoned under circumstances indicating that it was no more than an unsuccessful and abortive experiment. To defeat a patent on the ground of prior use of the patented invention, it must appear that the anticipatory device was embodied in distinct form, and was so far perfected as to be capable of practical use.

3. SAME—PLEADINGS—NAMES OF WITNESSES UNNECESSARY TO SET OUT.

Where the defense of prior use is relied upon it is necessary to set out in the answer the names of those who have invented or used the anticipatory machine or improvement, but not the names of the witnesses who are to testify touching such prior use.

4. AMENDMENT OF ANSWER—DOES NOT LET IN INADMISSIBLE TESTIMONY ALREADY TAKEN.

Where evidence of anticipations not set up in the answer has been taken, and a motion afterward made to amend the answer, the granting of such motion would not make that evidence admissible which was taken under objection before the amendment.

5. SAME—DISCRETION OF COURT IN SUCH CASES.

But it is discretionary with the court in such a case, especially after the objecting party has fully cross-examined the witnesses and taken rebutting proofs, either to let the testimony stand in the case or to strike it out and permit the defense to take the testimony anew under the amended answer.

6. INFRINGEMENT—GOWEN DEVICE.

The use of the Gowen device with an upward-moving hook added to the head, and arranged to be operated with the downward-moving hook of the patent by a single stroke of the lever, *Held* to be an infringement of the Beckwith patent.

Mr. W. G. Rainey for the complainant.

Mr. C. W. Felker and *Messrs. Finch & Barber* for the defendants.

DYER, *J.*:

This is one of a series of twelve cases heard together, in which the several defendants are charged with the infringement of Letters Patent No. 122,215, granted December 26, 1871, to Nelson F. Beckwith, for an improvement in head-blocks, of which the complainant is assignee, and the several bills contain the usual prayers for an injunction and account. Contest is made on the question of infringement, and, among other defenses set up in the original answers, it is alleged that Beckwith was not the original inventor of the alleged improvement, but that the same was described and represented in a patent, No. 20,660, issued to J. Comly Post, June 22, 1858, for an improved method for clamping and laterally feeding the log in saw-mills; also, in a patent, No. 54,177, issued May 15, 1866, to G. W. Rodebaugh, for head-blocks for saw-mills; also, in a patent, No. 52,904, issued February 27, 1866, to E. H. Stearns, for head-blocks for saw-mills, and also in a patent, No. 99,486, issued February 1, 1870, to Selden and Briggs, for an improvement in head-blocks.

It is further alleged in the original answers that the Beckwith invention was, before a patent was issued therefor, invented by and known to John F. Morse, of the city of Oshkosh, Wisconsin, and was also known to John S. Everett and Charles C. Avery, of the same place. Further, that before Beckwith made application for a patent, or reduced his alleged invention to practice, or put it into practical use, or had any knowledge thereof, the said invention—

Was known to and had been used in public by the following-named persons at the places following, to wit: by the firm of James Jenkins & Co., at the city of Oshkosh, Wisconsin; by John F. Morse, of the city of Oshkosh, Wisconsin; by Lawrence McVicar, at Manistee, Michigan.

There is a further allegation in the original answers that the invention described in the Beckwith patent was known to and had been previously combined by one Pond, of Eau Claire, Wisconsin, and John F. Morse, of Oshkosh, in the same State; that each of these parties at the time Beckwith obtained his patent was using diligence in perfecting his said invention, and that Beckwith surreptitiously and unjustly obtained the patent upon which this suit is based.

In the amended answers it is alleged that the same device or combination described and claimed as new in the Beckwith patent, or substantial and material parts thereof, were before the alleged invention thereof by Beckwith—

invented by H. D. Dann, who lately resided in the city of Oshkosh, but who * * * has moved to Waupun, Wisconsin, and now resides there, in the year 1866, and by Franklin B. Muzzy, who resides in the city of Bangor, State of Maine, in the year 1866, and that said mill-dog or head-block, substantially as described in said patent, * * * was used by the firm of Ruddock & Co., in the years 1869 and 1870, at the village of Winneconne, Winnebago county, Wisconsin, which said firm during said years was composed of one Ruddock, R. R. Wellington, and one Parmeter in the year 1869, and of said Ruddock, Parmeter, Wellington, and one Jones in the year 1870—

and the respective places of residence of said parties are stated.

In the specification forming part of the Beckwith patent the patentee says:

The principal difficulties encountered in sawing logs into boards are as follows, to wit: First, when a log has been reduced to such thickness that only sufficient material remains for one or two boards, it is almost impossible to hold it upright upon its edge against the standards upon the carriage during the operation of sawing. The liability of the log to thus turn or slip upon the head-

blocks is greatly aggravated if its lower edge next to the standard is wany or rounded off from any cause. For this reason it is customary in all saw-mills to leave the last cut in the form of a thick plank, affording sufficient bearing-surface to prevent its turning upon the head-block. Two thicknesses of lumber are therefore sawed from the same log or cant. Secondly, the standards employed for saw-mill carriages are usually so constructed to hold the log that when the latter is to be sawed entirely into narrow boards of the same thickness the last two or three are liable to bend during the operation of sawing, varying thickness of each more or less, and producing thereby imperfect boards.

My invention has for its object to overcome these difficulties; and to this end it consists in constructing the standards with wide bearing-faces for the logs, and in providing each with a central vertical slot or mortise, through which a series of hooks are projected to grasp the log or cant. The lower hook is curved upward to catch into the lower edge of the log next the standard and the upper hooks are curved downward to catch into the face of the log. The lower hook and the series of upper hooks, therefore, move in opposite directions to grasp the log between them and prevent it from slipping. The hooks are operated simultaneously by a lever from the back of the standard and by a suitable system of connecting-bars. * * * By this arrangement the upper hooks hold the log securely in contact with the lower hook, while the latter holds it firmly against the standard and prevents it from slipping until the last board is sawed. By constructing the standards with a wide face and in arranging the hooks to project through a central slot a broad bearing is formed for the log upon each side of the hooks, so that when the log is reduced to the thickness of two or three boards the latter are held securely against bending while being sawed.

In connection with accompanying drawings, the specification proceeds to state in detail the construction and arrangement of the various parts of the device, and the patentee then claims as new—

1. In combination with the standard for saw-mill carriages, the hooks C D, adapted to be simultaneously projected in opposite directions through the central vertical slot in the face of said standard, substantially as described, for the purpose specified.

2. The combination of the hooks C and connecting-bars F I with the operating-lever and the hook D, substantially as described, for the purpose specified.

There is a further and third claim, which, however, it is unnecessary to refer to more fully.

In the case of *Allis* v. *Stowell* (unreported) this court held the Beckwith patent valid, and not anticipated by either the Post patent, the Rodebaugh patent, the Stearns patent, or the Everett and Avery patent. Further consideration of those patents and the inventions they cover has confirmed the conclusions expressed in *Allis* v *Stowell* with reference thereto, and I must hold that they do not invalidate the Beckwith patent. That patent must also be held unaffected by the Selden dog, a patent for which was granted to Selden and Briggs, but which on a rehearing in *Allis* v. *Stowell* was held to be invalid for the reason that the dog therein described was anticipated by what is known as the Duvall device. Both the Stearns and the Selden dogs exhibit only a series of hooks working downward, while the Beckwith dog, as patented, consists not only of hooks moving downward, but also of an upward-working hook, the entire series being operated by a single movement of one lever, which is connected with the hooks by means of suitable connecting-bars. None of the devices referred to, including those covered by the Post patent and the Rodebaugh patent, have the mode of operation of the Beckwith dog, nor are they like it in combination.

The Everett and Avery invention consists of dog-blades attached to a horizontal dog-head and shaft, which have a rotating motion communicated by a lever or crank, and are forced forward by the incline of the face of a journal-box contiguous to the dog-head. The principle upon which this device works is that of the screw; and it is so unlike the Beckwith dog in construction and operation that the court had little doubt in deciding *Allis* v. *Stowell*, and has no doubt now that the Beckwith device was patentable, notwithstanding the earlier patent of Everett and Avery.

I have come to the same conclusion with reference to the Muzzy dog, a model or specimen of which is in evidence. This is a device for dogging shingle-bolts, and is constructed to be used horizontally. In operation the bolt is held between two iron jaws, which are moved by a lever. As described by one of the witnesses—

There is a clamp composed of two jaws having shanks, which are connected and which are operated simultaneously by one lever.

The jaws are so connected to the frame that they project a uniform distance beyond the face of the frame, and cannot be drawn back beyond the face of the frame or knee. They do not move outward and downward or outward and upward, but move directly toward each other in a right line parallel with the face of the frame. They are evidently designed to hold a block by engaging in the ends of the block, as is the case in shingle-machines, and I am unable to see how it could be successfully used in holding logs or cants while being sawed without a radical change of construction. Certainly in its present construction and evident mode of operation it is wholly dissimilar to the Beckwith device, the only trace of similarity being in the fact that in both devices the dogs are operated by the movement of one lever. Otherwise I see nothing in the Muzzy device to suggest the construction or mode of operation of the Beckwith dog.

It is very earnestly insisted on the part of the defense that the Beckwith patent was anticipated by a device for dogging logs alleged to have been made by John F. Morse, of Oshkosh, in 1868, and to have been used in Ruddock & Co.'s mill, at Winneconne, Wisconsin, in 1869. The consideration of this defense has involved a very careful examination of a large mass of testimony, which I shall not here attempt to refer to in detail. Objections were seasonably made by counsel for complainant to all this testimony, on the ground that the defense of prior use at Ruddock & Co.'s mill or elsewhere was not sufficiently stated in the answers or amended answers, and also because the answers contained no notice that the several witnesses sworn on the question of the existence and use of the Morse dog would be examined. I think these objections should be overruled. The allegation of the original answers is that the Beckwith invention—

Was known to and had been used in public by the following-named persons at the places following, to-wit: by the firm of James Jenkins & Co., at the city of Oshkosh, Wisconsin; by John F. Morse, of the city of Oshkosh, Wisconsin; by Lawrence McVicar, at Manistee, Michigan.

It is very evident that the use of the word "of" after the name of John F. Morse was a clerical mistake of the pleader, and that, as was stated by counsel on the argument, he intended to allege that the invention was used by John F. Morse, *at* the city of Oshkosh. This is quite apparent when the whole allegation is considered and all its words are taken in proper connection. Then the amended answers allege that the mill-dog, substantially as described in the Beckwith patent, was used by the firm of Ruddock & Co. in the years 1869 and 1870, at Winneconne. These allegations are sufficient to let in proof of prior use at Oshkosh and Winneconne by the parties named within the requirements of section 4920 of the Revised Statutes.

There are reported cases to the effect that the names of the witnesses by whom it is expected to prove the alleged prior use should be stated in the answer. Such is the intimation, if not the positive ruling, in *Richardson* v. *Lockwood*, (6 Fisher, 454.) But all cases in which

it has been so held are overruled by *Roemer* v. *Simon* (95 U. S., 219) and *Planing Machine Co.* v. *Keith*, (101 U. S., 479,) wherein it is held that only the names of those who had invented or used the anticipating machine or improvement, and not of those who are to testify touching its invention or use, are required to be set forth.

A large part of the testimony tending to show the use of the Morse dog at Ruddock & Co.'s mill was taken before the amended answers alleging such use were filed; and it is insisted in behalf of complainant that this testimony should be disregarded because there was no allegation of such prior use in the original answers.

It was held in *Roberts* v. *Buck* (6 Fisher, 325) that where evidence of anticipations not set up in the answer had been taken, and a motion was afterward made to amend the answer, an amendment would not make that evidence admissible which was taken under objection before the amendment. After all, I suppose it to be discretionary with the court in such a case, especially after the objecting party has fully cross-examined the witnesses and taken rebutting proofs, either to let the testimony stand in the case or to strike it out and permit the defense to take the testimony anew under the amended answer. So far as the state of the case in *Roberts* v. *Buck* is disclosed, in the opinion of the court there is ground for the inference that the objecting party stood on his objection and elected not to cross-examine the witnesses or to offer rebutting proofs. In the cases at bar objection was made to the examination of the witnesses, but there was full cross-examination, and proofs in rebuttal of that particular evidence were offered; and I think it is a proper exercise of discretion to let the testimony which is objected to as irregularly taken stand in the case.

Upon a careful consideration of all the evidence bearing on the question, I am convinced that Morse made a saw-mill dog in 1868 with upward and downward working teeth which could be simultaneously operated by the movement of one lever. I am further satisfied that Morse & Co., in 1869, put the dog in Ruddock & Co.'s mill, and that it was there used, but only for a very limited time, as originally constructed. The device itself is not produced, but a model made by Morse since the commencement of these suits, and said to be similar to the dog put in Ruddock & Co.'s mill, is in evidence.

Some of the witnesses who testify to the use of a dog made by Morse with upward and downward working teeth in Ruddock & Co.'s mill in 1869 also swear that a dog of precisely the same construction was used in McArthur & Trask's mill and in Lake's mill in Winneconne at some time subsequent to its use in Ruddock & Co.'s mill; but I think it is very clearly shown that these witnesses are mistaken by the testimony of Paige, who was Morse's partner, and of McArthur, who was one of the owners of the McArthur & Trask mill. The testimony of these two witnesses satisfactorily establishes the fact that the dogs used in Lake's mill and McArthur & Trask's mill, furnished by Morse & Co., had only downward-working teeth; and upon the whole evidence the conclusion is fairly deducible that the only dog made by Morse & Co. with teeth working both ways which they ever attempted to put in practical use was that which was placed in Ruddock & Co.'s mill in 1869.

Admitting that Morse was in advance of Beckwith in this line of invention, there is reason for grave doubt whether the Morse dog can be held to have anticipated the Beckwith dog, so different are they in mechanical construction. This doubt is fairly sustainable upon the testimony of defendants' experts. Wilcox, one of the experts, testifies in his direct examination as follows:

Question. I wish you would state what, in your judgment, there is in the specifications and claims contained in that patent (the Beckwith) that was new at the time it bears date, if there is anything that was new? Answer. There was new, as I understand the state of the art at that time, the application of the lever, connecting rods, and links with a series of hooked dogs pivoted to a bolt and operated by a single action of the lever.

* * * * * * *

Q. Now, Mr. Wilcox, please examine Exhibit No. 1, (the Morse dog,) and suppose that a dog manufactured upon the same principle as Exhibit No. 1 were in use at the time the Beckwith patent was made, what combination or principle would then be new in the Beckwith dog? A. There would be new precisely what I stated before, the simultaneous movement of a pivoted hook, being acted upon by a lever, and connecting rods and links.

Q. Well, what difference is there in principle between that movement or power and the eccentric in the model No. 1? A. One is an eccentric balance and the other is a lever-balance, so far as the action of the lever is concerned. So far as the dog is concerned, one is a dog operating in rotary action and the other is a dog operating in an inclined plane—the direct action without any rotation.

Q. In the practical use or working of the dog what difference, if any, would there be? A. One would insert the knives or dogs in a direct line, following the line of the slots here, and on entering the log or cant would continue on that same incline until it would pass its full force or extent that the dogs are moved into the log, while the other would strike the log at a certain angle from the pivot from which it worked and then continue in a curved line into the log.

* * * * * * *

Q. After an examination of model called "Exhibit No. 1" and an examination of the Beckwith dog, are there any results that would be accomplished by the Beckwith dog that might not be accomplished by the Morse dog, or a proper construction of the Morse dog, upon the principle upon which it is made? A. There is none.

Q. Then, if the Morse dog was in use or its principle was known at the time of the construction or patent of the Beckwith dog, there would be no difference in principle, but the difference would be merely failure of mechanical construction, as I understand you? A. I think there is no difference in the principle or the object sought in the two. The methods taken to accomplish that object are entirely different, using entirely different mechanical power.

On cross-examination this witness further testifies:

Q. Then, your opinion, even admitting the prior existence of a dog like the model Exhibit No. 1, (the Morse,) yet there would have been invention in constructing a dog like the one shown in the Beckwith patent, would there not? A. There would have been invention in the methods taken to accomplish it, the application of mechanical appliances in different form; and it further takes up an old existing dog known, as the "Spoon dog," and pivots it to a bolt, and operates it with a lever and connecting-rods in place of the chisels.

Q. Now, will you tell us whether, in your opinion, it would not be an exercise of invention to take the single spoon-hook and duplicate it and connect them together by means of connecting-rods, so that by the operation of one lever the hooks may be made to work in opposite directions simultaneously? A. Clearly, it would.

Q. Even if there was a dog in existence and in use like the one called the "Morse" dog? A. Certainly.

The witness Gowen, another of defendants' experts, testified as follows:

Question. State what, if any, principle would be new in the Beckwith patent, provided the Morse dog was in use, as shown by the model Exhibit No. 1, when the Beckwith patent was patented? Answer. There would be no new principle involved; simply difference in mechanical constructions. * * *

Q. Now state if the object and purpose of operating dogs in different directions was not in principle as well set forth in the Morse design as it is in the Beckwith dog, as appears from the model marked "Exhibit No. 5" and from the claims and specifications in the patent? A. The mechanical construction and movements of the dog would be entirely different. While these dogs would move in an oblique line across the face of the jack-head, while the dogs entering the cant or log would travel in a parallel line of the slot in which these bars travel.

Q. You misapprehend my question. I asked you if the principle of operating dogs in opposite directions is not as well shown forth in the Morse design as it is in the Beckwith design? A. So far as the lever is concerned, yes.

* * * * * * *

Q. Well, is the principle as well showed forth in the Morse design as it is in the Beckwith design? A. Well, the principle of connecting these hooks, as represented in this dog, Exhibit No. 5, (the Beckwith,) the links here connected by a pivot, either side the pivot, with the lever, forms the direct leverage, of course increasing the direct leverage as you move the lever up and down.

Q. What mechanical term do you apply to the power used in the Beckwith dog? A. Some would call it a "toggle-joint," and I have always called it a "pivot-lever connected by links." If I could be allowed to answer that question here, I would state that that principle is an old one.

* * * * * * *

Q. In your judgment, then, is there any difference between the Morse designs as shown by Exhibit No. 1 and the design contained in the Beckwith patent but mere mechanical construction? A. Not in the object or result; no, sir.

Q. In your judgment, if the Morse dog was in use or its design was known at the time of the construction of the Beckwith dog, would there be anything new in principle in the construction of the Beckwith dog? A. There would not.

On cross-examination the witness further testified:

Q. In your opinion, would there not be invention in taking the single spoon-hook dog and duplicating it, so as to work two or more of them down by the stroke of one lever, and having them connected together? A. It would be a new mechanical construction, combination of old parts.

Q. And it would require invention to so combine them, would it not? A. To a certain extent, yes.

* * * * * * *

Q. Now, leaving out the question of principle, would it not take invention to make this new combination, conceding all the elements that enter into the combination to be old, as shown in the Beckwith patent? A. It would be new mechanical combination or construction, and of itself would be an invention.

Q. Now, assuming that there was a dog in existence and in public use similar to the dog shown by the Morse model, Exhibit No. 1, when the Beckwith patent was granted, would it not take invention, in your opinion, to have constructed the Beckwith patent and dog? A. To a certain extent, yes; in forming the form and making the connections there it is mechanical construction or invention.

Q. Now, while the result attained may be the same, is not the manner of attaining these results, in your opinion, such as would require invention? A. I think invention of the connections there would be good.

Q. You are speaking of the Beckwith invention? A. Yes, I am speaking of that. It is constructing a patent. I think the claims are good.

Q. Even conceding the Morse dog to have been in prior use? A. Yes; they are constructed different, but the object sought is the same. The object is to hold the log firmly against the jack-head.

The testimony of these witnesses has been thus quoted from at some length to show that, even admitting the Morse dog to have been a successfully working device, and to have been in public use prior to the Beckwith patent, it is by no means clear that the Beckwith dog was not patentable. Although two devices which consist of a combination of old parts may attain in their operation substantially the same results, yet the mechanical construction of the two may be so different and may be so far novel that each may be patentable. Whatever the conclusion may be upon this point with reference to the Morse and the Beckwith devices, I am of the opinion, after a very careful consideration of all the evidence, that the Morse dog, having teeth working both ways, and which was put in Ruddock & Co.'s mill in 1869, was a failure, and was so incapable of practical and successful use that it must be regarded as an abandoned experiment. It seems to me that this is clearly shown by the testimony of the witnesses who testify to its existence and attempted use. The testimony is so voluminous that I shall not attempt to review or analyze it.

Witnesses for the defendants, who were employed in the mills in Winneconne in 1869, testify that as the Morse dog was constructed the upward moving hooks crowded the log off, and that this was a serious objection to the utility of the device. Morse, the inventor, himself says that complaint was made that the dog was not satisfactory; that in operation it crowded the log off on account of the pitch at which the teeth advanced from the face of the knee. When asked how the difficulty was obviated, Morse answered, "By taking off some of the under dogs."

Question. Didn't they push it (the cant) off? Answer. The less you had of them the less it would lift the cant, and the top dogs penetrated the best.

Q. Did you succeed in avoiding that difficulty? A. No, sir.

Q. It always pushed it off? A. I don't think it has ever been a success.

Q. You never succeeded? A. No, sir; the dogs that come out on a slanting line don't do it, and none have ever been made that would do it.

Paige, Morse's partner, testifies:

There was some complaint of their crowding away the cant or log from the jack-head.

Question. Didn't work satisfactorily? Answer. Not entirely.

Q. Is that a serious objection? A. Well, yes; yes, sir.

Q. And you didn't overcome it in the Morse dog? A. Well, we didn't try to, very much.

Q. Give it up? A. It chanced to be just at that time there was no very large amount of sale of anything but a cheap nature of machinery, and the old-fashioned dog that was driven into a log seemed to answer the purpose for most everybody.

Q. And after making these experiments you gave up manufacturing dogs of that kind? A. Well, we manufactured a number of dogs—I think those of the down movement—I won't say how many, and we sold our head-blocks without any dog.

Q. Then the experiment of having dogs work both ways proved abortive, did it? A. Well, pretty nearly so.

Q. Didn't it to such an extent that you quit making them? A. Yes; we quit making them with the double movement.

Q. Because it didn't prove successful? A. We discovered that the upward movement tended to carry off the log and the downward movement didn't.

The same witness further testified that the reason why he knows that the teeth in the dog sold to Ruddock & Co. moved both ways is that they did not work, and that Morse & Co. did not get their pay for the dog, and discontinued the manufacture of dogs with double sets of teeth.

Further testimony of this witness by question and answer is as follows:

Q. Did John Morse know that that set sent to Ruddock & Co. was a failure? A. Well, I don't think he hardly called them a failure. I don't think that he did, because he contended there was no necessity of an up dog. * * * During all the time he and I were in company he claimed that, but was willing to try an up-and-down dog.

Q. Just as an experiment? A. Yes, sir.

Q. And after he made that trial and failed, he did not try any more, did he? A. Well, I don't recollect that he did.

Q. You never heard of any more being made, did you, while you were with him? A. No; I don't think that we ever made only that one set with both movements; that is my recollection.

Other testimony in the case is to the effect that this dog as it was constructed by Morse was used in Ruddock & Co.'s mill but a very short time; that, in order to continue its use, the upward-moving teeth were taken off, and that thereafter and until it was taken out entirely, to give place to the Dann dog, it was used with only the downward-working teeth; and when all the testimony on the subject is considered in connection with the facts, that the only set of dogs with teeth working in opposite directions that Morse sold for public use was that which he put into Ruddock & Co.'s mill; that he never attempted to obtain a patent, but abandoned the manufacture of dogs thus constructed after the trial at Ruddock & Co.'s mill, the conclusion seems unavoidable that his device, now claimed to have anticipated Beckwith, was but an abortive and abandoned experiment. The law on this subject is well settled.

In *Howe* v. *Underwood* (1 Fisher, 166) Judge Sprague said:

A machine, in order to anticipate any subsequent discovery, must be perfected—that is, made so as to be of practical utility, and not to be merely experimental and end in experiment. The terms "being an experiment" and "ending in experiment" are used in contradistinction to the term "being of practical utility." Until of practical utility the public attention is not called to the invention. It does not give to the public that which the public lays hold of as beneficial. If it is an experiment only and ends in experiment, and is laid aside as unsuccessful, however far it may have been advanced, however many ideas may have been combined in it, which, subsequently taken up, might when perfected make a good machine, still, not being perfected, it has not come before the public as a successful thing, and is therefore entirely inoperative as affecting the rights of those coming afterward. This is important to be understood, because the idea has been carried all along that if a prior inventor has gone to a certain extent, although he falls short of making a complete machine practically useful, those who come after him have no right to secure to themselves the advantage of their invention. That is not the law.

In *Coffin* v. *Ogden* (18 Wal., 120) Mr. Justice Swayne, in delivering the opinion of the Court, said:

The invention or discovery relied upon as a defense must have been complete and capable of producing the result sought to be

accomplished, and this must be shown by the defendant. The burden of proof rests upon him, and every reasonable doubt should be resolved against him.

Among the many other cases which support the proposition that, in order to defeat a patent on the ground of prior use of the patented invention, it must appear that the anticipating device was embodied in distinct form, and was so far perfected as to have been capable of practical use, it is sufficient to cite *Union Sugar Refinery* v. *Matthiessen*, (2 Fisher, 625;) *Sayles* v. *C. & N. W. R. R. Co.*, (3 Bissell, 357;) *Washburn and Moen Manufacturing Company* v. *Haish*, (4 Fed. Rep., 904.)

Applying to the facts of this case as they bear on the question under consideration the rule of law laid down in the authorities referred to, there can, I think, be little doubt that the Beckwith patent stands unaffected by the device made by Morse in 1868. It is not an answer to what has been remarked of the Morse dog to say that the Beckwith device was also a failure. The proofs in the case do not show such to be the fact. It was used six years in Webster's mill in Omro. Beckwith obtained a patent. The presumptions of the law are in favor of the patent and of the novelty and utility of his invention. (*Geiar* v. *Goetinger*, 1 Ban. & Ard., 555; *Ricketson* v. *Lockwood*, 6 Fisher, 455.)

On the argument it was claimed by counsel for the complainant that the defendants had no right to show, if they could, that they were not infringing the Beckwith patent. This was claimed on the ground that infringement is not denied in the answers. There may be some doubt whether the answers put in issue in proper form the question of infringement; but by a stipulation on file entered into between counsel when the taking of testimony was begun it was expressly agreed that the defendants should be at liberty to disprove infringement if they could, and in the face of this stipulation the court will not entertain any objection to the right of the defendants to urge that they do not infringe.

The defendants, some or all of them, are using what is known as the "Gowen" dog, of which William Gowen is the patentee, under Letters Patent No. 233,409, issued October 19, 1880. As invented by Gowen and as described in the specifications forming part of the letters patent, this is a device having only downward-working chisel-shaped teeth. And without entering upon a detailed description of the mechanism, it is sufficient to say that, as constructed by the inventor and as described in the patent, it does not infringe the Beckwith dog. But the defendants, or some of them, have added to the Gowen dog a lower upward-moving hook, which is of the form of that in the Beckwith dog, and is placed substantially in the same position as that of the upward-working hook in the Beckwith device. The added hook in the Gowen dog is connected with the lever by an arrangement of movable bars or joints that are very clearly the equivalent of those employed in the Beckwith dog, so that by one stroke of the lever this hook with the upward movement and the series of teeth having a downward movement are thrown out or drawn in, while, therefore, as before remarked, the Gowen dog as constructed by the inventor and as described in the patent does not infringe the Beckwith. I am of the opinion that the addition of the lower upward-moving hook constitutes infringement, and that the defendants, or such of them as use that hook on the Gowen dog, should be restrained from so doing.

There was put in evidence what is known as the "Dann" dog, which is described in Letters Patent No. 134,653, issued January 7, 1873, and in two reissues, one granted September 29, 1874, numbered 6,071, and the other granted November 9, 1875, numbered 6,733. Testimony has been taken on the question of priority of invention as between Beckwith and Dann. I think it is shown by testimony that is competent, within the decision of the Supreme Court in the case of *The Philadelphia and Trenton Railway Company* v. *Stimpson*, (14 Pet., 448,) that as the inventor of a saw-mill dog Beckwith was in advance of Dann. Upon the testimony of Morse I think the date of Beckwith's invention must be fixed as early as 1869, while Dann's invention must, in the light of the evidence, be held to have been perfected in 1870. Counsel for complainant admits in his brief that these suits were brought to restrain the use of the Gowen dog, and hence that no proof was made of any other infringing dog in opening complainant's case; but as the proofs on the part of the defendants developed the fact that some of the defendants were using the Dann dog, and as the complainant claims that the Dann dog infringes the Beckwith, counsel asked on the argument that, should the court find such infringement, a decree might be entered accordingly. As the record stands I am not sure that it is essential or proper for the court now to determine whether the dog constructed by Dann infringes the Beckwith patent. I have given the question of infringement some consideration, and am inclined to the opinion that the mechanical construction of the two devices is so different that the Dann dog should not be regarded as an infringement. My mind tends strongly to that conclusion for reasons stated in the opinion heretofore rendered in *Neacy* v. *Allis*, (unreported,) in which case it was sought by the assignee of the Dann patent to hold the complainant Allis, as assignee of the Beckwith patent and manufacturer of the Beckwith dog, liable as an infringer. But this question, whether the Dann dog infringes the Beckwith, was not argued in the cases at bar as fully as its importance would seem to demand; and if it is deemed a question to be necessarily determined here, I shall reserve it for further argument and consideration, and in that case, as the question may be deemed a close one, and is, in my judgment, of great importance, I shall direct that it be argued before the full bench.

U. S. Circuit Court—Eastern District of Pennsylvania.

DAMON *et al.* v. EASTWICK.

Decided October 23, 1882.

1. BILL IN EQUITY—SECTION 4915 REVISED STATUTES—JUDGMENT OF COMMISSIONER SUSTAINED.

   Bill in equity under section 4915 Revised Statutes to revise the judgment of the Commissioner upon the question of priority of invention between complainant and respondent, in light of evidence before the Commissioner and of evidence since taken dismissed, it appearing from the evidence that the respondent is the prior inventor.

2. SAME—ONLY QUESTION PRIORITY OF INVENTION.

   The only question upon the merits of such a controversy is that of priority of invention. The question as to equitable rights arising out of the relation of the parties will not be entered upon.

3. JURISDICTION.

   The question of jurisdiction was raised in this case, but not decided.

Mr. F. T. Chambers and *Mr. George Harding* for the complainants.

Messrs. Baldwin, Hollingsworth & Fraley for the defendant.

BUTLER, *J.:*

In the year 1880 the complainants and respondent respectively made applications for letters patent for improvements in the manufacture of sulphate of alumina or aluminous cake, involving the same invention. The Commissioner, after the usual hearing and examination, decided in favor of the respondent, to whom letters were accordingly issued. The complainants have filed this bill to obtain the benefit of a review, in the light not only of the evidence before the Commissioner, but also of that taken since. The respondent challenges the jurisdiction as well as the claim to priority of invention. As our judgment is with the respondent on the second point, and the bill must therefore be dismissed, the former may be passed by.

Little need be said in passing on the question of priority. In January, 1878, the respondent discovered that aluminous cake of superior quality may be obtained from halloysite by the process described in his patent. This process consists in mixing ground halloysite, sulphuric acid, and hydrate of alumina in the manner and the proportions stated in the specification, whereby a high degree of heat is generated by chemical action, producing ebullition, the halloysite rapidly decomposed, the fine particles of silica thus liberated infused throughout the entire mass, resulting in a uniform homogeneous cake. It is unnecessary to review the prior state of the art or recount the complainants' experiments in the direction of this discovery.

Mr. Damon was president of the Pennsylvania Salt Company, whose business, in part, was the manufacture of aluminous cake. Having been tendered the purchase of extensive halloysite-beds in Indiana, he was anxious to ascertain how this mineral could be profitably employed. Experiments were accordingly made which satisfied him and his company that it was valuable for the manufacture of aluminous cake, and they bought it in the fall of 1877. It is quite clear, however, that the experiments were incomplete, and the process subsequently patented had not then been discovered. Eastwick and Bihn were the company's chemists, and it was in the further prosecution of the experiments by Mr. Eastwick, at Mr. Damon's request, that the patented process was developed. All previous efforts had fallen short.

That halloysite can be dissolved by sulphuric acid and the resultant cake rendered neutral by the addition of hydrate of alumina had been ascertained; but this was insufficient even to suggest the subsequent discovery, which was not simply that halloysite may be thus dissolved and hydrate of alumina employed as a neutralizing agent, but a process whereby a high degree of heat is generated, the action of sulphuric acid accelerated, and the decomposition and final result greatly improved, mainly by the employment of other properties of the hydrate of alumina. That the respondent was the first discoverer of this process does not seem at first to have been doubted. His proposition to obtain letters patent was, to say the least, not discouraged by Mr. Damon, who was aware of it, and the counter claim of Damon and Bihn does not appear to have been suggested until the respondent declined to transfer his rights to the Salt Company.

As remarked at the outset, the only question requiring our consideration is that of priority. The justice or injustice of the respondent taxing the Salt Company, if he proposes to do so, for the use of a process disclosed by experiments made at its request and expense, with its material, while in its employ, we cannot enter upon.

U. S. Circuit Court—Southern District of New York.

HAYES *v.* BORKEL.

Decided February 27, 1882.

CERTAIN PATENTS EXAMINED AND SUSTAINED.

Reissue Letters Patent Nos. 8,597, 8,674, 8,675, and 8,688 examined and sustained, and held to be infringed by several structures built by the defendant.

Mr. J. H. Whitelegge for the plaintiff.

Mr. J. H. Ketchen for the defendant.

BLATCHFORD, *J.:*

This suit is brought on four patents, Reissues Nos. 8,597, 8,674, 8,675, and 8,688, all granted to the plaintiff. The skylights which the plaintiff saw being made at the defendant's shop in the fall of 1879 were, he says, in all respects similar in construction and operation to the skylight he saw on the Garner building. This was after the reissues were granted and before the suit was brought. The plaintiff describes the Garner structure. That structure contains what is covered by claims 1 and 2 of No. 8,597; by claims 8, 12, and 13 of No. 8,674; by claim 7 of No. 8,675, and by claims 1 and 2 of No. 8,688. The above are all the claims alleged in the case to have been infringed, except claim 4 of No. 8,688. That claim is found in the Pacific Bank structure. That was put on by the defendant in February, 1880, which was after the reissue and before the bill was filed. Such is the evidence. If those structures were not put on by the defendant, or were put on by him before the reissues, it was easy for him to have testified to that effect. It satisfactorily appears that all of the above-named claims have been infringed by the defendant.

The defendant adduces against claims 1 and 2 of No. 8,597 the patents to Shaw, Illingworth, Tomlinson, and Henricksen; against claims 8, 12, and 13 of No. 8,674 the patents to Richards, Dench, Weston, Harrison and Curtis, Flinn, and Paxton; against claim 7 of No. 8,675 the patents to Cornell and Paxton; and against claims 1, 2, and 4 of No. 8,688 the patents to Weston, Dench, and Pecks. The above-named are the patents urged in the brief of the counsel for the defendant. I have examined the testimony in regard to them particularly. I have also read all the testimony. My conclusion is that none of above claims are shown to be void for want of novelty.

I have also considered, in regard to No. 8,597, the objections as to claims 1 and 2, that there was not a sufficiency of invention, and that the description is too vague, and that the combinations are not patentable combinations, but only aggregations; in regard to No. 8,674 the objections as to claims 8, 12, and 13, that there was not a sufficiency of invention, and as to claims 12 and 13 that they show only a duplication of parts; in regard to No. 8,675 the objection as to claim 7, that there is not a sufficiency of invention; and in regard to No. 8,688 the objections as to claims 1 and 2, that there is not a sufficiency of invention, and as to claim 4 that there is not a patentable combination. The objections are none of them regarded as tenable.

The infringing devices of the defendant which I have considered are those represented at the right hand of plaintiff's exhibit No. 5, opposite claims 1 and 2 of No. 8,597; claims 8, 12, and 13 of No. 8,674; claim 7 of No. 8,675, and claims 1, 2, and 4 of No. 8,688. Those and all substantially like them must be regarded as infringing.

The usual decree will be entered for the plaintiff, with costs.

THE

OFFICIAL GAZETTE

OF THE

United States Patent Office.

[BY AUTHORITY OF CONGRESS.]

VOL. 22—No. 21. TUESDAY, NOVEMBER 21, 1882. PRICE—$5 per year.

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Issue of November 21, 1882.

Patents	332	No. 267,659 to No. 267,990,	inclusive.
Designs	16	No. 13,438 to No. 13,453,	inclusive.
Trade-marks	26	No. 9,813 to No. 9,838,	inclusive.
Labels	18	No. 2,815 to No. 2,832,	inclusive.
Reissues of patents	5	No. 10,243 to No. 10,247,	inclusive.
Total issue	397		

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks and Labels.	States.	Patents and Designs.	Trade-Marks and Labels.
Alabama			Nebraska		
Arizona Territory			Nevada		
Arkansas	1		New Hampshire		
California	8		New Jersey	16	2
Colorado	3	1	New Mexico Territ'y		
Connecticut	11		New York	68	14
Dakota Territory			North Carolina	1	
Delaware			Ohio	32	4
District of Columbia	7		Oregon	2	1
Florida	1		Pennsylvania	34	5
Georgia	4		Rhode Island	2	
Idaho Territory			South Carolina		
Illinois	25	1	Tennessee	2	
Indiana	6		Texas	7	
Indian Territory			Utah Territory	1	
Iowa	2		Vermont	2	
Kansas	2		Virginia	4	2
Kentucky			Washington Territ'y		
Louisiana	1		West Virginia	1	
Maine	3		Wisconsin	6	2
Maryland	3	5	Wyoming Territory		
Massachusetts	42	1	United States Army	1	
Michigan	16		United States Navy		
Minnesota	5				
Mississippi	1		Total to citizens of the United States	330	38
Missouri	10				
Montana Territory					

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks and Labels.	Countries.	Patents and Designs.	Trade-Marks and Labels.
Australia			France	4	2
Austria			Germany	4	1
Barbadoes			India	1	
Belgium	1		Italy		
Bermuda			New Zealand		
Brazil			Russia		
Canada	3		Spain		
Chili			Sweden		
Colombia, U. S. of			Switzerland		
Cuba					
Denmark			Total to citizens of foreign countries	18	6
Ecuador					
England	5	3			

DESIGNS.

13,438.—EMBROIDERY.—*Henry Bosshardt*, New York, N. Y., assignor to *The Kursheedt Manufacturing Company*, same place. Application filed September 28, 1882. Term of patent 7 years.

13,439.—WALL ORNAMENT.—*Lie. G. Collins*, Chicago, Ill. Application filed October 3, 1882. Term of patent 3½ years.

13,440.—BILLIARD-TABLE.—*Rudolph Herman*, Cleveland, Ohio. Application filed October 16, 1882. Term of patent 14 years.

13,441.—CORSET.—*Julius Hilborn*, New York, N. Y., assignor to *Moritz Cohn*, same place. Application filed October 14, 1882. Term of patent 7 years.

13,442 and 13,443.—CARPET.—*Henry Horan*, East Orange, N. J., assignor to *The Hartford Carpet Company*, Hartford, Conn. Applications filed August 11, 1882. Term of patents 3½ years.

13,444.—WATCH-CHAIN SWIVEL.—*James J. Horton*, Attleborough, Mass. Application filed September 26, 1882. Term of patent 7 years.

13,445 to 13,451, inclusive.—FIRE-PLACE.—*William C. Peet*, Jersey City, N. J., assignor to *The J. L. Mott Iron Works*, New York, N. Y. Applications filed October 17, 1882. Term of patents 7 years.

13,452.—CARPET.—*Julius Pegel*, New York, N. Y., assignor to *The Hartford Carpet Company*, Hartford, Conn. Application filed August 11, 1882. Term of patent 3½ years.

13,453.—PRINTING-TYPE.—*Henry H. Thorp*, Cleveland, Ohio, assignor to *The H. H. Thorp Manufacturing Company*, same place. Application filed October 18, 1882. Term of patent 14 years.

TRADE-MARKS.

[Certificate of registration of Trade-Marks numbered 8,191 and upward are registered under the act of March 3, 1881.]

9,813.—[Withdrawn.]

9,814.—SUBSTITUTE FOR LARD.—*Washington Butcher's Sons*, Philadelphia, Pa. Application filed October 4, 1882.
"The representation of an olive."

9,815.—SUBSTITUTE FOR LARD AND BUTTER.—*Washington Butcher's Sons*, Philadelphia, Pa. Application filed October 4, 1882.
"The representation of an olive-gatherer in an olive-grove."

9,816.—SUBSTITUTE FOR LARD AND BUTTER.—*Washington Butcher's Sons*, Philadelphia, Pa. Application filed October 4, 1882.
"The representation of an olive-branch."

9,817.—BEVERAGES, SUCH AS LAGER, WEISS-BEER, AND ALL CARBONATED DRINKS.—*Eagle Bottling Works*, Elmira, N. Y. Application filed August 24, 1882.
"The pictorial representation of a bottle provided with wings, so as to represent a winged bottle."

9,818.—CHEWING-TOBACCO, SMOKING-TOBACCO, AND CIGARETTES.—*James Hancock*, Lynchburg, Va. Application filed October 23, 1882.
"The words 'OLD VIRGINIA GENTLEMAN'S.'"

9,819.—[Withdrawn.]

9,820.—PIANO-FORTES AND PARTS THEREOF.—*Steinway & Sons*, New York, N. Y. Application filed October 19, 1882.
"The firm-name 'STEINWAY & SONS.'"

9,821.—PIANO-FORTES AND PARTS THEREOF.—*Steinway & Sons*, New York, N. Y. Application filed October 19, 1882.
"The representation of a lyre."

9,822.—STEEL AND OTHER PENS.—*Turner & Harrison*, Philadelphia, Pa. Application filed October 21, 1882.
"The fanciful word 'CONSTITUTION.'"

9,823.—MEDICATED PREPARATION OF CINNAMON.—*Bernard L. Livingston*, Baltimore, Md. Application filed October 18, 1882.
"The word-symbol 'Star' and the representation of a star, whether used singly or in combination, or in color or otherwise."

9,824.—REVOLVING-CYLINDER PISTOLS.—*Merwin, Hulbert & Co.*, New York, N. Y. Application filed October 28, 1882.
"The arbitrarily-selected word 'RANGER.'"

9,825.—PLAYING-CARDS.—*The New York Consolidated Card Company*, New York, N. Y. Application filed October 20, 1882.
"The word 'GEM.'"

9,826.—SOAP.—*Procter & Gamble*, Cincinnati, Ohio. Application filed October 28, 1882.
"The word-symbol 'TOWN-TALK,' in any form or color of lettering."

9,827.—SOAP.—*Procter & Gamble*, Cincinnati, Ohio. Application filed October 28, 1882.
"The word-symbol 'IVORY.'"

9,828.—SOAP.—*Procter & Gamble*, Cincinnati, Ohio. Application filed October 28, 1882.
"The word-symbol 'JAPAN OLIVE.'"

9,829.—SOAPS, CANDLES, OILS, AND LARD.—*Procter & Gamble*, Cincinnati, Ohio. Application filed April 18, 1881.
"A circular device composed of thirteen five-pronged stars on a dark ground, to the right of which, to one looking at it, is a profile view similar to that of a human face, (a fanciful delineation intended to represent the moon in its first quarter.)"

9,830.—PAINTS AND PAINTERS' SUPPLIES.—*A. W. Strauss & Co.*, Boston, Mass. Application filed October 25, 1882.
"The symbol-word 'HUB.'"

9,831.—[Withdrawn.]

9,832.—CIGARS.—*Wiggenhorn Bros.*, Watertown, Wis. Application filed July 17, 1882.
"The word 'COMMERCIAL' and the representation or picture of a cigar crossed by a quill-pen."

9,833.—NEEDLES.—*Wulf & Knippenberg*, Ichtershausen Germany. Application filed October 24, 1882.
"The representation of a church in connection with a wolf."

9,834.—MEDICAL COMPOUNDS.—*The Kepler Malt Extract Company, (Limited,)* Snow Hill, London, England. Application filed October 25, 1882.
"The word 'KEPLER.'"

9,835.—MALT EXTRACT.—*The Kepler Malt Extract Company, (Limited.)* Snow Hill, London, England. Application filed October 25, 1882.
"The word 'KEPLER.'"

9,836.—BRANDY.—*Martell & Co.*, Cognac, France. Application filed December 27, 1881.
"The words and letters 'J. & F. MARTELL.'"

9,837.—CHAMPAGNE-WINE.—*G. H. Mumm & Co.*, Reims, France. Application filed June 17, 1881.
"A representation of an eagle with head erect and wings extended, encircled by the words 'G. H. Mumm & Co.,' 'G. de Bary.'"

9,838.—CANDY.—*Puck Manufacturing Company*, New York, N. Y. Application filed October 30, 1882.
"The word 'PUCK.'"

LABELS.

2,815.—Title: "SARAH BERNHARDT."—*Bischoff, Schultz & Co.*, New York, N. Y. Application filed October 14, 1880.

2,816.—Title: "NATIONAL GUARD 74TH REGIMENT."—*Dillingham & Wells*, Buffalo, N. Y. Application filed October 9, 1882.

2,817.—Title: "EARL & WILSON'S BEAD EDGE CUFFS PATENTED OCTOBER 30, 1877."—*Earl & Wilson*, New York, N. Y. Application filed December 28, 1881.

2,818.—Title: "LABEL OR TAG FOR CIGARS."—*H. Ellis & Co.*, Baltimore, Md. Application filed October 23, 1882.

2,819.—Title: "CAW'S INK."—*French & Gardner*, New York, N. Y. Application filed November 25, 1878.

2,820.—Title: "DR. GAFF'S RENEWAL OF LIFE OR GREAT RHEUMATIC LINIMENT."—*John V. Gaff*, Denver, Colo. Application filed September 27, 1882.

2,821.—Title: "GOLDEN RULE WASHING POWDER."—*Garrison, Long & Co.*, East Portland, Oreg. Application filed October 31, 1882.

2,822.—Title: "STRAIGHT CUT CIGARETTES."—*Lewis Ginter*, Richmond, Va. Application filed October 30, 1882.

2,823.—Title: "KRAUSER'S LIQUID EXTRACT OF SMOKE."—*E. Krauser & Brother*, Milton, Pa. Application filed October 23, 1882.

2,824.—Title: "DE LUYTIES SPECIAL."—*Luyties Brothers*, New York, N. Y. Application filed October 25, 1882.

2,825.—Title: "GEM PLAYING CARDS."—*New York Consolidated Card Company*, New York, N. Y. Application filed October 28, 1882.

2,826.—Title: "MACARIAN LINIMENT."—*Orkney Chemical Company*, Baltimore, Md. Application filed October 4, 1882.

2,827.—Title: "SIGNAL SERVICE."—*William B. Phillips*, Baltimore, Md. Application filed October 31, 1882.

2,828.—Title: "WINTER FLUID."—*George Ramsey*, Paterson, N. J. Application filed October 30, 1882.

2,829.—Title: "GERBER'S MILK FOOD."—*Roethlisberger & Gerber*, New York, N. Y. Application filed April 4, 1881.

2,830.—Title: "GERBER'S MILK FOOD."—*Roethlisberger & Gerber*, New York, N. Y. Application filed April 4, 1881.

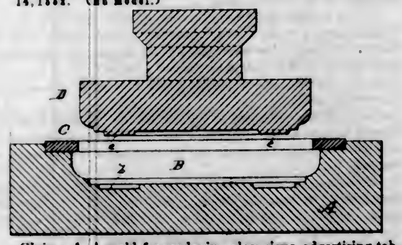
2,831.—Title: "EAST INDIA INSECT POWDER."—*Henry Schroeder*, Chicago, Ill. Application filed June 23, 1882.

2,832.—Title: "BREMER BITTERS."—*John W. Strücen*, Baltimore, Md. Application filed October 26, 1882.

PATENTS

GRANTED NOV. 21, 1882.

267,659. GLASS-MOLD AND MANUFACTURE OF GLASS SIGNS, &c. THOMAS S. ATTERBURY, Pittsburg, Pa. Filed Oct 14, 1882. (No model.)



Claim.—1. A mold for producing glass signs, advertising-tablets, &c., provided with recesses or cavities in the bottom thereof for the reception of letters, figures, designs, &c., which are pressed into the article and become a part thereof, as set forth.

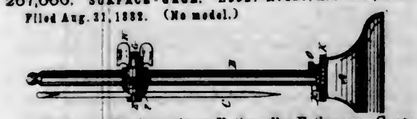
2. A mold for forming articles of glass for signs and advertising purposes, having formed therein letters, figures, or designs in relief or in depression, in combination with a plunger having corresponding letters, figures, &c., on its under or pressing surface, as set forth.

3. A sign or advertising device made of a single piece of glass, pressed or blown, and having the words, letters, figures, designs or characters of any kind formed thereon or therein, and made part thereof, as set forth.

4. As an article of manufacture, a sign or advertising device pressed or blown from a body of glass, with metallic or other letters, figures, designs, or ornaments embedded therein and forming a part thereof, as described.

5. A sign or advertising-tablet pressed or blown from glass, having the letters, figures, or designs pressed or formed therein, said letters, figures, or designs being filled in with cement or other suitable material of a different color from the body of the glass, as set forth.

267,660. SURFACE-GAGE. HUBBY AVERY, Hartford, Conn. Filed Aug. 21, 1882. (No model.)



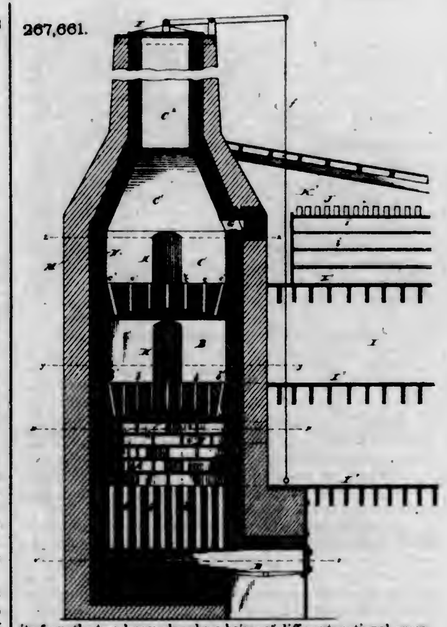
Claim.—1. The loose sleeve E, the collar F, the screw G, provided with a slot and pin, J, and the nut H, in combination with the band D, the standard B, and the pointer C, substantially as described.

2. The combination of the cam K, the standard B, provided with the pin O and the cross-bar L, the base A, provided with the guides M, and the spring N, substantially as described.

267,661. ARTIFICIAL-STONE-BURNING KILN. ADAM BAUMANN, Philadelphia, Pa. Filed May 22, 1882. (No model.)

Claim.—1. A kiln adapted to burn artificial stone, having two or more compartments or chambers, arranged one above the other, and flues to admit heat to and from said chambers, the flues to admit heat to the lowest chamber having the greatest area, and those to admit heat to the upper chamber having the least area, and exits from the two lower chambers being of different sectional areas, the greater being to the lower chamber, substantially as and for the purpose specified.

267,661.



2. A kiln for burning artificial stone, having a chamber provided with inlet-flues for heat, arranged in rows, in combination with fire-brick boxes or cellular structures, in which the artificial stone to be burned is placed, arranged between said rows or flues, substantially as and for the purpose specified.

3. A kiln for burning artificial stone, having a chamber provided with inlet-flues for heat, arranged in rows, in combination with boxes or cellular structures made of fire-brick or porous material, arranged between said flues, and in which the artificial stone is placed, and exit-flues from said chamber, the latter being of less area than the inlet-flues, substantially as and for the purpose specified.

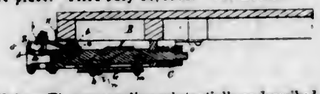
4. The combination of furnaces D, flues D' *d*, chamber A, flues *b b'*, chamber B, flues *c c'*, chamber C, chimney C', and damper F, substantially as and for the purpose specified.

5. The combination of furnaces D, flues D' *d*, chamber A, flues *b b'*, chamber B, flues *c c'*, chamber C, having flue G, chimney C', damper F, and drying-room K', substantially as and for the purpose specified.

6. The combination of furnaces D, flues D' *d*, chamber A, having sight-holes L, and sampling-hole K, roof A', having flues for exit of heat of less area than flues *d*, and fire-brick boxes E, substantially as shown.

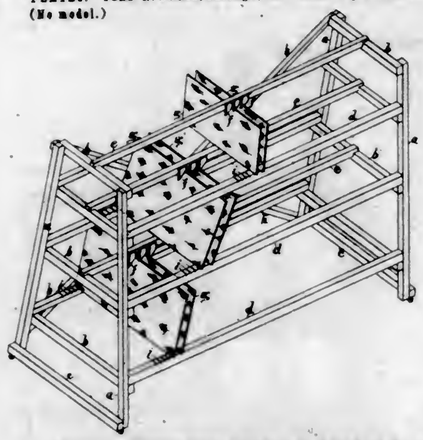
7. In a kiln, the chamber B, having inlet-flues *b b'*, the latter of which are oblique, substantially as shown and described.

267,662. CAR-COUPLING. EZRA F. BEAL, Everett, Mass., assignor, by mesne assignments, to himself and Alonzo Dean, same place. Filed July 31, 1882. (No model.)



Claim.—The car-coupling substantially as described, arranged and combined, essentially as set forth, with the draw-bar and the car-platform, such coupling consisting of the link-catch, its supporting-lever, the sliding beveled sleeve, and the slotted sector, adapted as represented, the sector having means of operating it, as explained.

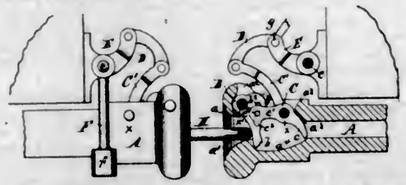
267,663. DRYING-RACK FOR PHOTOGRAPHERS' DRY-PLATES. JOHN E. BEARS, Chicago, Ill. Filed Sept. 15, 1882. (No model.)



Claim.—1. A photographer's drying-rack formed of the upright and inclined posts *a* and cross-bars *b*, and longitudinal bars *d* and *e*, resting upon the bars *b* and holding together the end frames, *a b*, of which the bars *d* are provided with notches *i*, and bars *e* with lugs *f*, constructed as described, and placed midway between and below the bars *d*, substantially as specified.

2. A photographer's drying-rack formed of the upright and inclined posts *a* and cross-bars *b*, and longitudinal bars *d* and *e*, resting upon the bars *b* and holding together the end frames, *a b*, the bars *e*, provided with pins or flat lugs *f*, constructed as described, placed midway between and lower than the bars *d*, braces *h*, and bases *c*, provided with casters, substantially as specified.

267,664. CAR-COUPLING. RICHARD T. BISHOP, St. Louis, Mo. Filed Sept. 5, 1882. (No model.)



Claim.—1. The combination, with the tumbler B, having the lower horn, *b*, upper horn, *b'*, and slot *b²*, pivoted in a draw-head, of the eccentric lever C, having long arm C', short arm *c*, forward arms, *c' c²*, and pin *c³*, substantially as described, and for the purposes set forth.

2. The combination, with the link H, of the eccentric lever C, having arms *c' c²*, provided with small horn *c³*, said lever being pivoted in a draw-head, by means whereof the end of the link can be elevated or depressed, as and for the purposes set forth.

3. The tumbler B, having lower horn, *b*, upper horn, *b'*, slot *b²*, the eccentric lever C, having long arm C', short arm *c*, forward arms, *c' c²*, with horns at *c³*, and pin *c⁴*, said parts arranged within a draw-head provided with a mortise, *a²*, bevel faces at *a³*, and made concave at *a⁴*, the shackle D, upper arm, E, transverse shaft, and pendent lever, all combined to operate in the manner and for the purposes set forth.

267,665. ENDLESS DRIVING-CHAIN. GEORGE B. BRAYTON, Boston, Mass., assignor to the Brayton Petroleum Engine Company, same place. Filed Apr. 10, 1882. (No model.)



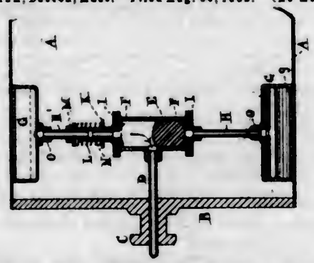
Claim.—1. A chain composed of hollow spheres cast in sections united by screw-threaded or other proper connections, and each sphere connected with the next adjacent one by a double-headed link or stem, one of the heads of which is screwed upon the body of said link or stem.

2. In a chain composed of hollow spheres united by double-headed links or stems, one of the heads of which is secured to the body of the link by screw-threads formed thereon, the said spheres each having an axial elongation near the head of link *d* contained within it, whereby the strain upon said link tends to keep it in the normal position.

3. A chain composed of hollow spheres united by double-headed links or stems, one head of which is made removable from said link, whereby the chain can be lengthened or shortened, as desired.

4. In a chain composed of hollow spheres united by double-headed links or stems, each sphere composed of two hollow semi-spheres united by a screw-thread or other joint.

267,666. CYLINDER FOR DRYING-MACHINES. ARTHUR A. BRIGHAM, Boston, Mass. Filed Aug. 30, 1882. (No model.)



Claim.—1. The combination, with the cylinder A of a drying-machine, of the buckets G, provided with permanently-attached bottoms *g*, as and for the purpose set forth.

2. In a drying-machine, the check-valve E, in combination with the pipes H H' and buckets G, substantially as and for the purpose specified.

3. In a drying-machine, the spring L and coupling N, interposed between the check-valve E and a bucket, G, substantially as and for the purpose set forth.

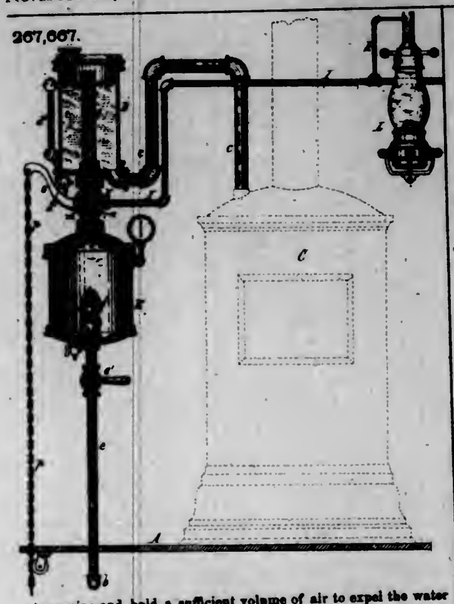
4. In a drying-cylinder, the combination of the buckets G G, pipes H H', check-valve E, and outlet-pipe D, substantially as and for the purpose set forth.

267,667. APPARATUS FOR EXTINGUISHING FIRE IN RAILWAY-CARS. MARCUS BROCKWAY and CHARLES N. WATTS, Jamestown, N. Y., assignors of one-third to Porter Sheldon, same place. Filed June 26, 1882. (No model.)

Claim.—1. The combination, with a car-stove and a pipe or vessel containing compressed air, of a water-reservoir having its discharge-pipe connecting with the car-stove, and means whereby the compressed air can be admitted to the water-reservoir, so as to force the water from the same into the stove for extinguishing the fire, substantially as set forth.

2. The combination, with a car-stove, a water-reservoir having its discharge-pipe connected with said stove, and a pipe or vessel containing air under pressure, of an air-reservoir adapted to receive and hold a sufficient volume of air to expel the water from the water-reservoir, and means whereby the compressed air can be admitted from said air-reservoir to the water-reservoir, substantially as set forth.

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3. The combination, with a car-stove, a water-reservoir having its discharge-pipe connected with said stove, and a pipe or vessel containing air under pressure, of an air-reservoir adapted to hold a sufficient volume of air to expel the water from the water-reservoir, and means whereby the compressed air is automatically admitted to the water-reservoir when the truck or running-gear assumes an abnormal position with reference to the car-body, substantially as set forth.

4. The combination, with a car-lamp, of a vessel containing compressed air, a conduit leading from said vessel to the lamp, a valve whereby the flow of air from the vessel to the lamp is controlled, and means whereby the said valve is connected with the truck or running-gear of the car and whereby the air is automatically admitted to the lamp, so as to extinguish the light when the truck or running-gear assumes an abnormal position with reference to the car-body, substantially as set forth.

5. The combination, with a car-stove and the brake-pipe *b*, of an air-reservoir, E, water-reservoir D, connecting-pipe *g*, provided with a cock, H, water-discharge pipe *c*, and cord or rope *p*, whereby the cock H is connected with the running-gear or truck of the car, substantially as set forth.

6. The combination, with a car-stove and the brake-pipe *b*, of a water-reservoir, D, and an air-reservoir, E, connected with the brake-pipe by a pipe, *e*, having a stop-cock, *e'*, and a valve, *f*, substantially as set forth.

7. The combination, in a railway-car, of the stove and one or more lamps with a pipe or vessel containing air under pressure, a water-reservoir, D, connected with the stove, an air-pipe, I, connecting with a lamp or lamps, and a three-way cock, H, whereby the compressed air can be admitted simultaneously to the water-reservoir and to the air-pipes leading to the lamps, so as to extinguish the fire in the stove and the lights, substantially as set forth.

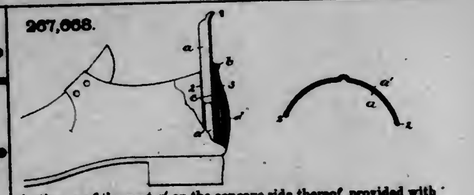
267,668. SHOE-HORN. JESSE M. BROWN, Boston, Mass. Filed Sept. 11, 1882. (No model.)

Claim.—1. In a shoe-horn, the combination of one part adapted to enter the heel of the shoe, and provided with guides at its edges, with another part on the concave side of the former, arranged to slide within the said guides, substantially as and for the purpose set forth.

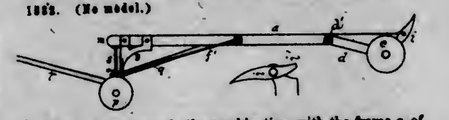
2. In a shoe-horn, the combination of one part provided with a heel-engaging hook with another part arranged to slide telescopically into the first-mentioned part, substantially as described.

3. The combination of the part *a*, provided with a stop-projection, *c*, of the part *a'* on the concave side thereof, provided with guides at its edges for the part *a*, and the groove to receive the said stop-projection, substantially as and for the purpose described.

267,668.



267,669. TRUCK. WILLIAM S. BROWN, Decatur, Ill., assignor of one-half to Elmer B. Culver, same place. Filed June 15, 1882. (No model.)



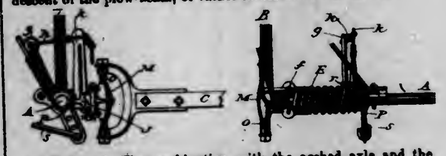
Claim.—1. In a truck, the combination, with the frame *a*, of the attached skids *b*, pivoted to the frame at *m*, the brackets *g g'*, one placed on the frame *a* and the other on the skids *b*, and the braces *f f'*, attached respectively to the skids and the frame, and extended down and united under the brackets *g g'*, substantially as and for the purpose set forth.

2. The secondary detachable wheels, *p*, mounted on an axle provided with king-bolt *s*, which is connected with the frame *a*, and with the upward projections *o o*, which enter rings *n* at the junction of the braces *f f'*, all combined together, as shown, and with the frame *a*, wheels *c*, and braces *f f'*, as set forth.

3. In a truck, the combination of wheels *c*, swinging levers *d*, and truck-frame *a*, as and for the purpose set forth.

267,670. CULTIVATOR. HOWARD E. BUTLER, Zanesville, Ohio, assignor of one-half to Thomas Jenkins, Moline, Ill. Filed May 27, 1882. (Model.)

Brief.—A spring encircles the axle, having one end fixed to it, the other formed into a right-angled arm. From this links connect to a similar arm upon the beam-coupling. A laterally-adjustable plate on this coupling receives the cross-head bolt, by which the line of the plow-beam may be carried inside the arch. The draft compresses the spring and lessens its resistance to the descent of the plow-beam, or rather forces down the shovels.



Claim.—1. The combination, with the arched axle and the plow-beams, of the coiled spring E, placed around the axle and secured one end to the axle, the other end forming a projecting arm, *g*, secured by links to the plow-beam coupling, substantially as shown and described.

2. The yoke or frame J, having perforated arms or brackets *l l* and lever-arm *k*, in combination with the yoke-head M, having perforated extension and set-screw, the plow-beam C, bolt *o*, and staple *n*, substantially as shown and described.

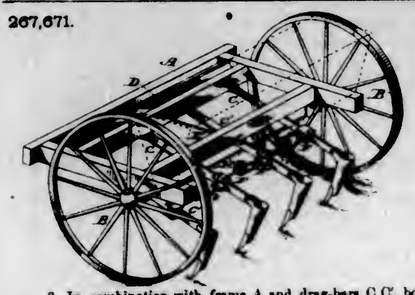
3. The combination of the draft-lever P, having projection *r* and perforations above and below the axle, with the spring E, the yoke J, yoke-head M, plow-beam C, and draft attachment *s*, substantially as shown and described.

267,671. GRAIN-DRILL AND CULTIVATOR. JOHN J. CLAYTON, Dayton, Ohio. Filed July 19, 1882. (Model.)

Claim.—1. In a grain-drill, a series of drag-bars arranged in groups, substantially as shown and described, and adjustable one group in relation to the other, and a series of intermediate connections, all combined substantially as set forth, whereby each drag-bar is caused to assist in holding down the others and the relative adjustment of the two groups of drag-bars is permitted.

2. In a cultivator, the combination of a frame, a series of drag-bars jointed to said frame at their forward ends, and separate intermediate connections, substantially such as shown, each extending from one drag-bar to the next and uniting the drag-bars in rear of their joints.

267,671.



3. In combination with frame A and drag-bars C C', boxes F F' and braces G, applied substantially as shown.

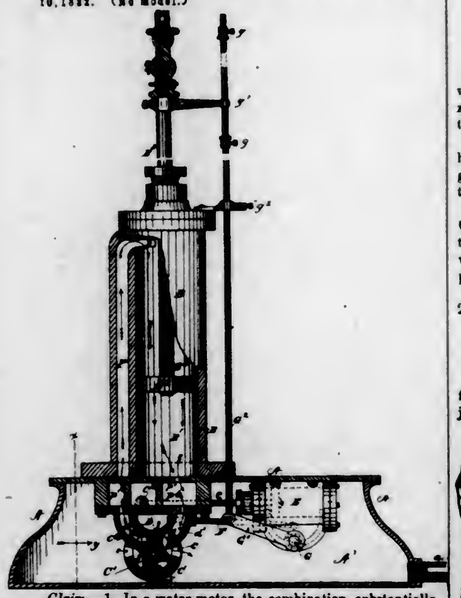
4. In combination with frame A, drag-bars C C', and swinging beam D, boxes F F' and braces G, connecting the boxes F with the drag-bars C.

5. In combination with beams C C', boxes F F' and springs H

6. In combination with beams C C' and boxes F F', braces G and springs H, applied as shown.

7. In a grain-drill, a series of drag-bars united by intermediate flexible connections, whereby each beam is caused to assist in holding the others down to their work, but is permitted to yield independently of the others when a dangerous obstruction is encountered.

267,672. WATER-MOTOR. JOHN COATES, Erie, Pa. Filed Mar. 10, 1882. (No model.)



Claim.—1. In a water-motor, the combination, substantially as shown, of the following elements: a base having therein a chamber, a cylinder mounted upon said base, a valve for supplying water to and exhausting it from said cylinder, arranged within said chamber, a secondary motor for operating said valve, also arranged within said chamber, and, finally, a valve-gear for operating the valve of said secondary motor from the movements of the main motor.

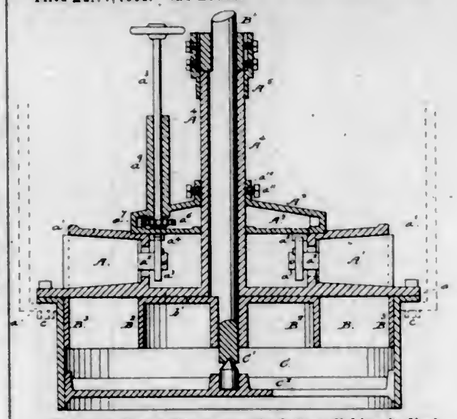
2. In a water-motor, the combination, substantially as shown, of the following elements: the hollow base A, with discharge *a*, the cylinder B, with ports connecting with said hollow base, a valve for supplying water to and exhausting it from said cylinder, placed within said base, a secondary motor arranged within said base and connected with said valve by the rod *e*, and having a valve, G, with arm G', and, finally, the tappet-rod G^2 and tappet-arm *g'*.

3. In a water-motor, the valve C, with D-chambers 1 2 3 4, and vent or passage V, substantially as and for the purposes set forth.

4. The combination, with the supply-pipe of a water-motor, of two throttles or shut-off valves, D' D^2, having cords for the purpose set forth, of mechanism which, when valve D' is opened, opens and closes throttle D^2, for the purpose set forth.

5. The combination, with the supply-pipe of a water-motor, of two throttles or shut-off valves, D' D^2, the first operated by hand and the second by the action of the mechanism to which it is attached, as and for the purpose set forth.

267,673. WATER-WHEEL. JOSHUA COMLY, Philadelphia, Pa. Filed Mar. 7, 1882. (No model.)



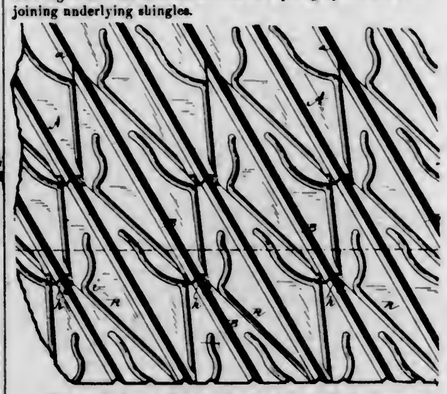
Claim.—1. In a turbine water-wheel, the radial longitudinal valve-plate A, bolted to the frame C, and provided with the horizontal valves A', revolving plate A^3, and pinion-wheel a^4, substantially as and for the purpose specified.

2. In a turbine water-wheel, the plate A, provided with the horizontal cylinder-valves A', revolving plate A^3, cap A^5, and elongated tube A^4, extending above the water-line, in combination with the casing C, substantially as and for the purpose specified.

3. In a turbine water-wheel, the casing D, bolted to the casing C, and extending above the water-line, in combination with the tube A^4, valve-plate A, having horizontal cylinder-valves A', revolving plate A^3, and pinion-wheel a^4, substantially as and for the purpose specified.

267,674. METALLIC ROOFING-SHINGLE. CHESTER COMSTOCK, New Canaan, Conn., assignor to the Anglo-American Roofing Company, New York, N. Y. Filed Jan. 21, 1882. (No model.)

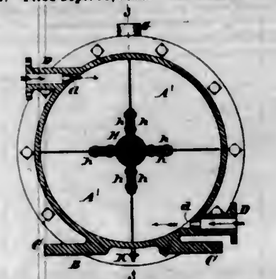
Brief.—Lateral slits are made in the point of the shingle, forming hooks which interlock with the sprung-up corners of adjoining underlying shingles.



Claim.—1. A metallic shingle of substantially the construction shown and described, having lateral slits in the sides of its point, and the adjacent metal below such slits formed into hooks, substantially as and for the purposes specified.

2. A metallic shingle having hooks at its point and sprung-up portions at its obtuse corners, whereby such a shingle is adapted for combination with other like shingles, substantially as shown and described.

267,675. ROTARY ENGINE. CHARLES F. CRAY, South St. Louis, Mo. Filed Sept. 13, 1882. (No model.)



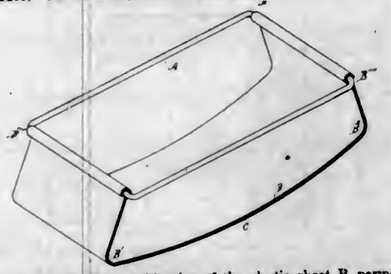
Claim.—1. The combination, in a rotary engine, of the piston with wings running free in the cylinder, fixed cylinder with induction-jet passing tangentially through the circumference of the cylinder, and exhaust-port at the center of the cylinder-chamber, substantially as set forth.

2. In a rotary engine, the piston-wings I, made with aperture *i* in line with the jet *d*, substantially as set forth.

3. In combination with the fixed cylinder with tangential induction-port in the circumference thereof, the loose-fitting piston made with chamber A' in the hub communicating with the cylinder-chamber through holes *h*, and also with exhaust-passage G, substantially as set forth.

4. The combination, in a rotary engine, of the tangential induction pipe and jet D *d*, the piston with wings I, having recesses or apertures *i*, the hub with chamber A', and the exhaust-passage A^3 *a* G, substantially as set forth.

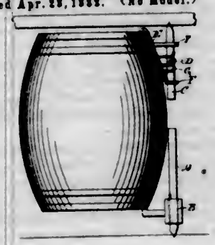
267,676. BLOTTER-HOLDER. WILLIAM J. COUGHLIN, Lowell, Mass. Filed Feb. 27, 1882. (No model.)



Claim.—1. The combination of the elastic sheet B, permanently bent upward near its ends, at B' B'', and provided with hooks B''' B'''', and a handle, A, adapted to enter said hooks and to be held in position by the elasticity of said plate, as and for the purpose specified.

2. A blotter-holder consisting of an elastic sheet, B, permanently bent upward near its ends, at B' B'', and provided with hooks B''' B'''' at its end edges, in combination with a handle, A, formed of wire bent into a quadrangular form, as described, for the purpose specified.

267,677. BARREL-HOLDER. RIDGWAY COURTER, Zanesfield, Ohio. Filed Apr. 28, 1882. (No model.)



Claim.—1. The combination of the rocking frames A B with the fixed seat E, rigidly-secured toy-box D, and swinging back F, all arranged for operation substantially as described.

2. The combination of the rocking frames A B with the fixed seat E, hinged back F, hinged board G, foot-board H, and cross-bars *d d*, that are secured in the rockers of the frames, substantially as specified.

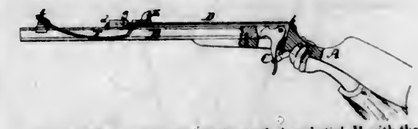
3. The combination of the frames A B with the fixed toy-box D, fixed seat E, hinged back F, hinged board G, hinged foot-board H, fasteners *a c*, and supports *d* for the foot-board, substantially as and for the purpose described.

267,678. ROCKING HORSE AND CRADLE. JESSE A. CRANDALL, Brooklyn, N. Y. Filed Aug. 28, 1882. (No model.)



Claim.—1. The combination of the stock A and stick B with the rod D, secured in said stock and in said stick, and with the cross-piece *e*, straps F, ball-carrying slide E, cushion *g* on rod D, trigger C, and trigger-spring, said cross-piece *e* being at the front of stick B and said trigger beneath the rod D, the slide E being adapted to carry the projectile above said rod D, substantially as specified.

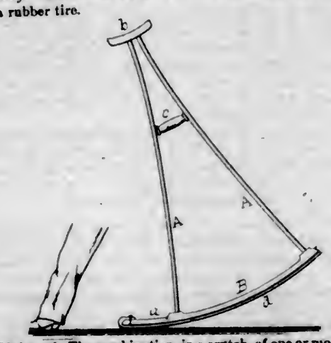
267,679. TOY GUN. JESSE A. CRANDALL, Brooklyn, N. Y. Filed June 29, 1882. (No model.)



Claim.—The combination of the stock A and stick B with the rod D, secured in said stock and in said stick, and with the cross-piece *e*, straps F, ball-carrying slide E, cushion *g* on rod D, trigger C, and trigger-spring, said cross-piece *e* being at the front of stick B and said trigger beneath the rod D, the slide E being adapted to carry the projectile above said rod D, substantially as specified.

267,680. CRUTCH. JESSE A. CRANDALL, Brooklyn, N. Y., assignor of one-half to John A. Nexsen, same place. Filed July 25, 1882. (No model.)

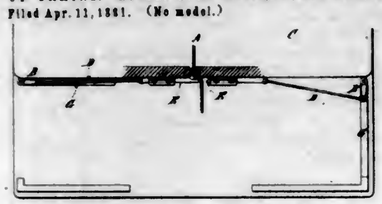
Brief.—The foot of the crutch is rocker-shaped and furnished with a rubber tire.



Claim.—1. The combination, in a crutch, of one or more standards and an arm-rest, with a rocker fixed to the lower end of the standard or standards, as and for the purpose described.

2. In a crutch, the combination of the rockers B with an elastic tire, *b*, substantially as is shown and described.

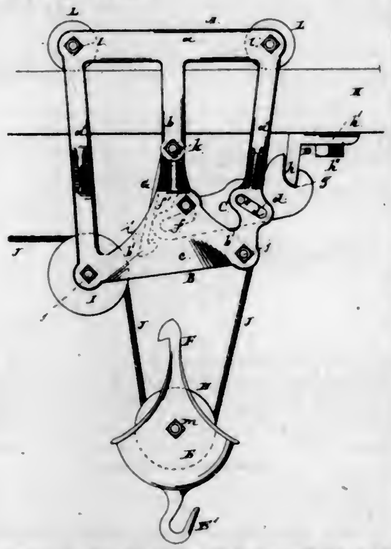
267,681. APPARATUS FOR CONTROLLING THE MOVEMENT OF TRAINS. EDWARD M. DICKERSON, Jr., New York, N. Y. Filed Apr. 11, 1881. (No model.)



Claim.—1. The combination, in a train, of the gates, and means, substantially as described, for communicating from rear to front, and appliances, substantially as set forth, which render said means inoperative whenever one gate is open.

2. The combination, in a train, of two gates located upon opposite sides of the car, means, substantially as described, for communicating from rear to front, and appliances, substantially as set forth, connected to both gates to render said means inoperative whenever either gate is open, as specified.

267,682. HAY-CARRIER. ADAM R. KOLIN, Chicago, Ill. Filed Sept. 2, 1882. (No model.)



Claim.—1. The frame or carriage A, composed of two sections, each constructed of a top piece, *a*, side pieces, *a' a''*, center piece, *b*, having the extensions or bars *b'*, joining the center and side bars, and provided with the laterally-projecting inclined web or wall *c*, joining the extension or bars, and extended beyond the inner face of one of the latter to form the inclined way or frame *b''*, substantially as described.

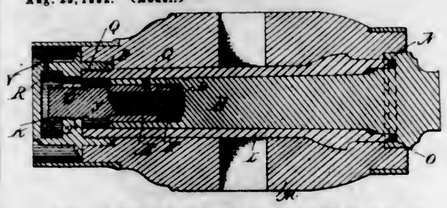
2. The frame or carriage A, having its forward side portions provided with inclined slots *d'*, in combination with the latch C, having at its sides the attached lugs *e*, arranged in the slots of the frame or carriage, and provided at its rear with the slot *f* for suspending it on a bolt, *f'*, substantially as described.

3. The combination, with the frame or carriage A, of the vertically-movable and longitudinally-sliding latch C and the hook G, having its upper end supported at a point above the latch, and adapted to swing on its support, the lower end of the hook normally resting against the rear end of the latch, substantially as described.

4. The combination, with the frame or carriage A, of the vertically-movable and longitudinally-sliding latch C, the gravitating hook G, suspended from its upper end by a support arranged above the latch, on which support the hook can swing, and the elevating-head E, having a hook, F, adapted to lift the latch and permit the gravitating hook to swing forward, substantially as described.

5. The frame or carriage A, composed of two sections, each composed of the top bar, *a*, side bars, *a' a''*, center bar, *b*, bottom bars, *b'*, and the laterally-projecting webs or walls joining the bottom bars and extended inward to form the inclined ways *b''*, in combination with the vertically-movable and longitudinally-sliding latch C and the hook G, suspended at its upper end from a support arranged above the latch, substantially as described.

267,683. VEHICLE-AXLE. EDWIN FIRTH, Auburn, N. Y. Filed Aug. 25, 1882. (Model.)



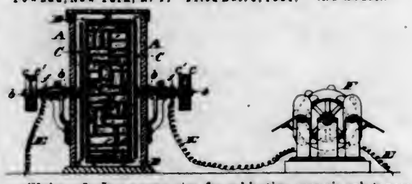
Claim.—1. The combination of the spindle B, the revolving pin C, having threaded end K and square shoulder or enlargement J, the axle-box L, having transverse pin P, bearing against one side of the shoulder J, and a nut or cap, as set forth.

2. The combination, with the spindle B, having revolving pin C, provided with threaded end K and square shoulder or enlargement J, of the axle-box L, having transverse pin P, and the lubricating nut or cap R, having diaphragm S, provided with threaded opening T and grooves or openings U, whereby said cap may be screwed simultaneously upon the projecting end of pin C and upon the axle-box, as and for the purpose set forth.

267,684. METHOD OF CURING AND PRESERVING MEATS. ANDERSON POWLES, New York, N. Y. Filed Oct. 30, 1880. (No specimens.)

Claim.—The within-described process of expediting or hastening the preservation of meats, fats, fish, and like organic substances subjected to the process of curing, which consists in making the foods, while in the presence of preservative agents, a portion of an electrolytic circuit, substantially as set forth.

267,685. APPARATUS FOR PRESERVING MEATS. ANDERSON POWLES, New York, N. Y. Filed Dec. 8, 1881. (No model.)



Claim.—1. In an apparatus for subjecting organic substances to the action of electricity, the combination of the oblong box or tube A, the disks C, connected with suitable means for generating and maintaining a current of electricity, and one or more cases or boxes, B, adapted to pass lengthwise of the box A and between the disks C, and to contain the substance to be treated, all substantially as and for the purpose herein set forth.

2. In an apparatus for subjecting organic substances to the action of electricity, the combination of the disks C, arranged to rotate in opposite directions, the box or tube A, one or more cases or boxes, B, constructed to pass through the box A and between the disks C, and wires or conductors adapted to connect the same with a source of electricity, arranged to pass a current of electricity from one to the other of the disks C, and through the contents of a case or box, B, as the latter is passed through the box or tube A, all substantially as and for the purpose herein set forth.

3. In an apparatus for subjecting organic substances to the action of electricity, the combination of the insulated bearings *a* and insulated pulleys *c c'* with the shafts *b*, the disks C, the box or tube A, and one or more cases or boxes, B, adapted to be passed through the box A and between the disks C, all substantially as and for the purpose herein set forth.

4. In an apparatus for subjecting organic substances to the action of electricity, the combination of one or more cases or boxes, B, having sides capable of conducting electricity, and non-conducting ends, top, and bottom, the box or tube A, the disks C, and wires or conductors adapted to connect the apparatus with a source of electricity in order to maintain a current of electricity

from one of the disks C to the other, the conducting sides of the cases or boxes B, and the contents of said cases or boxes, all substantially as and for the purpose herein set forth.

267,686. PROCESS OF PREPARING BAKERS' YEAST. JOHN H. GOLL and ALEXANDER SPIEGER, San Francisco, Cal. Filed Oct. 13, 1878.

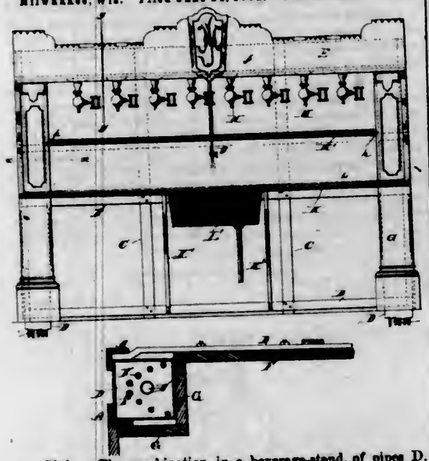
Claim.—The herein-described process of manufacturing bakers' yeast, which consists in the following essential steps, viz: preparing a mixture of boiling water and wheat-flour, cooling the same and adding malt-flour, fermenting and decanting excess of water, then incorporating with the remaining pasty mass an unfermented mixture of hot water, wheat-flour, mashed potatoes, white of eggs, and malt-flour, in about the proportions stated, allowing the mass to stand for two days, then removing surplus moisture and forming into marketable packages, as specified.

267,687. ORE-CRUSHER. WILLIAM P. HAMMER, Napa, Cal. Filed July 25, 1882. (No model.)



Claim.—In an ore-crusher or stamp-mill, the combination, with the stamp-stem, of a tappet, B, secured thereon and provided with a beveled or inclined edge around its lower face, and a beveled cam, C, secured to the cam-shaft D, and adapted to engage with the beveled edge of the tappet, whereby the conjoint action of the cam and tappet will impart a lifting and turning movement to the stamp-stem, which movement is continued after the outer edge of the cam has left the tappet and until they are entirely disengaged, substantially as shown and described.

267,688. STAND FOR DRAWING BEER, &c. JOHN HINKEL, Milwaukee, Wis. Filed June 24, 1882. (No model.)



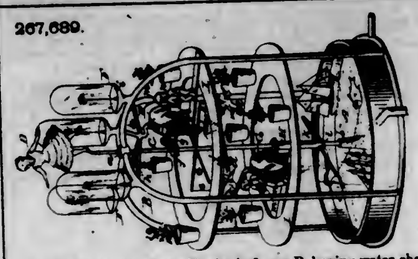
Claim.—The combination, in a beverage-stand, of pipes D, having closed lower ends, and trough E, with the beverage-pipes passing up through the pipes D and into trough E, the said trough E and pipes D being adapted to contain fluid for keeping the beverage cool, as set forth.

267,689. FOUNTAIN. AMOS NOAH, Hannibal, Mo. Filed Aug. 22, 1882. (No model.)

Claim.—1. In a fountain, the combination of an arched frame containing a water passage or channel and a vertical shaft supported in and by said frame, substantially as and for the purpose set forth.

2. In combination with an arched or outside fountain-frame containing a water channel or passage, a shaft mounted in and supported by said frame, and a water-wheel geared with said shaft, and arranged, substantially as shown and described, to be driven by the waste water of the fountain.

267,689.



3. The combination of basin A, frame B, having water channel or passage, shaft C, and water-wheel E, arranged, substantially as shown, to receive the waste water which ascends through the frame.

4. The herein-described fountain, consisting of basin A, tubular frame B, shaft C, water-wheel E, geared to the shaft, substantially as shown and described, and waste-pipe *h*, arranged to deliver the waste water upon wheel G.

5. In combination with the frame B, shaft C, and wheel E, tubular shaft H and wheel G, said wheels being geared respectively to shafts C H, substantially as and for the purpose set forth.

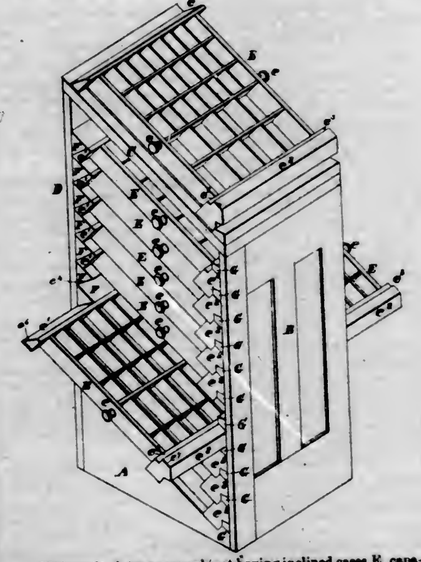
6. The herein-described fountain-frame, consisting of tubes or pipes meeting in a common center at the top and communicating with a common supply-pipe below, substantially as shown and described.

7. The herein-described fountain, consisting of basin A, frame B, having jets F at its top, shaft C, water-wheel E, geared to said shaft, arms *e*, projecting from said shaft, and figures *d*, carried by the arms, as shown.

8. In combination with frame B, constructed substantially as shown and described, shelves I, connecting the legs or uprights of the frame, as and for the purpose explained.

9. In combination with frame B, shaft C, and water-wheel geared with said shaft, figure *n*, driven by a crank on the water-wheel shaft, as shown.

267,690. TYPE-CASE CABINET. JOHN B. HOBBERS, Highland, Ill. Filed Mar. 13, 1882. (No model.)



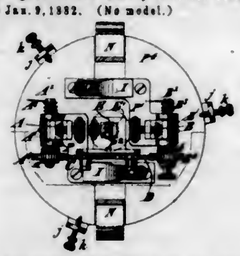
Claim.—1. A type-case cabinet having inclined cases E, capable of being drawn out and being held from tilting by means of side pieces on the cases and strips secured to the back and front of the cabinet, substantially as shown and described.

2. In combination with the cabinet having strips F and G secured thereto, the inclined cases E, having side pieces, *e' e''*, which are longer than the width of the case, for the purpose set forth.

3. The combination of the cabinet, consisting of strips F G having inclined faces e' e^2, and the inclined cases E, having side pieces, e' e^2, provided with inclined faces e^3 e^4, those strips e^3 being rabbeted to form letter-boards, substantially as set forth.

4. The combination of the cabinet A B C D, having strips F G, and inclined cases E, having side pieces, e' e^2, the lower side pieces having rabbets e^3, as set forth.

267,691. ELECTRIC-ARC LAMP. CHARLES A. HUSSEY, New York, N. Y., assignor to the Hussey Electric Company, same place. Filed Jan. 9, 1882. (No model.)



Claim.—1. In a voltaic-arc electric lamp, two carbons or conductors, between which the arc is to be formed, means for impelling them toward each other, means for connecting them so that one cannot be moved without occasioning motion in the other, and a stop against which one of the carbons or conductors bears, all being so combined and organized that when the carbon or conductor which bears against the stop is arrested by the stop the other carbon or conductor will be kept sufficiently away from it to form the voltaic-arc, substantially as specified.

2. In a voltaic-arc electric lamp, two carbons or conductors, means for impelling them toward each other, means for connecting them so that one cannot be moved without occasioning motion in the other, and a stop of non-conducting material against which one of the carbons or conductors bears, all being so combined that when the carbon or conductor which bears against the stop is arrested by the stop the other carbon or conductor will be kept sufficiently away from it to form the voltaic arc, substantially as specified.

3. In a voltaic-arc electric lamp, two carbons or conductors, arranged at an angle to each other and adapted to rock or swing toward and from each other, means for impelling them toward each other, means for connecting them so that one cannot move without occasioning a motion in the other, and a stop against which one of the carbons or conductors bears, all being so combined and organized that when the carbon or conductor which bears against the stop is arrested by the stop the other carbon or conductor will be kept sufficiently away from it to form the voltaic arc, substantially as specified.

4. In a voltaic-arc electric lamp, two carbons or conductors, a spring or springs or the equivalent thereof for impelling them toward each other, means for connecting them so that one cannot be moved without occasioning motion in the other, and a stop against which one of the carbons or conductors bears, all being so combined and organized that when the carbon or conductor which bears against the stop is arrested by the stop the other carbon or conductor will be kept sufficiently away to form the voltaic arc, substantially as specified.

5. In a voltaic-arc electric lamp, two carbons or conductors, means for impelling them toward each other, gear-wheels connecting them so that one cannot move without occasioning motion in the other, and a stop against which one of the carbons or conductors bears, all being so combined and organized that when the carbon or conductor which bears against the stop is arrested by the stop the other carbon or conductor will be kept sufficiently away to form the voltaic arc, substantially as specified.

6. In a voltaic-arc electric lamp, two carbons or conductors, a spring or springs or the equivalent thereof for impelling them toward each other, gear-wheels connecting them so that one cannot move without occasioning motion in the other, and a stop against which one of the carbons or conductors bears, all being so combined and organized that when the carbon or conductor which bears against the stop is arrested by the stop the other carbon or conductor will be kept sufficiently away from it to form the voltaic arc, substantially as specified.

7. In a voltaic-arc electric lamp, two carbons or conductors, means for impelling them toward each other, means for connecting them so that one cannot be moved without occasioning motion in the other, and an adjustable stop against which one of the carbons or conductors bears, all being so combined and organized that when the carbon or conductor which bears against the stop is arrested by the stop the other carbon or conductor will be kept sufficiently away to form the voltaic arc, and so that the stop may be shifted to let the carbons come in contact, substantially as specified.

8. In a voltaic-arc electric lamp, two carbons or conductors, means for impelling them toward each other, means for connecting them so that one cannot be moved without occasioning motion in the other, an adjustable stop against which one of the carbons or conductors bears, and an electro-magnet in the lamp-circuit for actuating said stop, all being so combined and organized that when the carbon or conductor which bears against the stop is arrested by the stop the other carbon or conductor will be kept away sufficiently to form the voltaic arc, and so that the stop is rendered operative and inoperative when the lamp is supplied with an electric current and deprived of it respectively, substantially as specified.

9. In a voltaic-arc electric lamp, two carbons or conductors, means for impelling them toward each other, means capable of adjustment for connecting them in different relations to each other, but so that one cannot be moved without occasioning motion in the other, and a stop against which one of the carbons or conductors bears, all being so combined and organized that when the carbon or conductor which bears against the stop is arrested by the stop the other carbon or conductor will be kept away sufficiently to form the voltaic arc, substantially as specified.

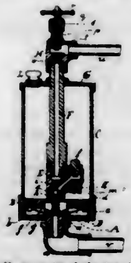
10. In a voltaic-arc electric lamp, two carbons, means for impelling them toward each other, gear-wheels connecting them together, so that one cannot be moved without occasioning motion in the other, an adjustable connection between one of the gear-wheels and its shaft, and a stop against which one of the carbons or conductors bears, all being so combined and organized that when the carbon or conductor which bears against the stop is arrested by the stop the other carbon or conductor is kept away sufficiently to form the voltaic arc, substantially as specified.

11. In an electric lamp, the combination, with a base-plate containing carbons or conductors and their appurtenances, of arms or hangers for supporting the same, contact-pieces attached to the arms or hangers and adapted to connect the circuit-wires through the carbons or conductors, a globe-holder, hooks attached to the arms or hangers and engaging with the globe-holder, and means attached to the base-plate for securing it to the globe-holder, substantially as specified.

12. In an electric lamp, the combination, with a base-plate containing carbons or conductors and their appurtenances, of the arms or hangers H′, for supporting the same, the contact-pieces I, for connecting the circuit-wires through the carbons or conductors, the hooks N, and the globe-holder *h*, substantially as specified.

13. In an electric lamp, the combination, with a base-plate containing carbons or conductors and their appurtenances, of the arms or hangers H′, for supporting the same, the contact-pieces I, for connecting the circuit-wires through the carbons or conductors, the hooks N, the globe-holder *h*, and the lugs *j*, and screws *k* on the base-piece, substantially as specified.

267,692. OIL AND WATER INJECTOR. OMAR H. JEWELL, Chicago, Ill. Filed Sept. 26, 1882. (No model.)

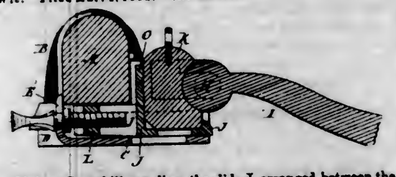


Claim.—1. An oil or water injector having one or more elastic diaphragms that communicate with either end of the cylinder of a steam-engine or air-pump in a manner that such diaphragms are alternately depressed by the pressure of the steam or air and released again with the exhaustion of the same, and having suction and check valves that will draw and direct the course of the oil or water set in motion by the pulsations of such diaphragms, the whole being constructed and arranged to operate substantially in the manner set forth, for the purpose specified.

2. An oil or water injector that is to be connected by a pipe, r, with one end of the cylinder of a reciprocating engine or pump, and is provided with elastic diaphragms D and *g*, suction-valve K, and check-valves i and o, the whole being constructed and arranged to operate substantially as set forth.

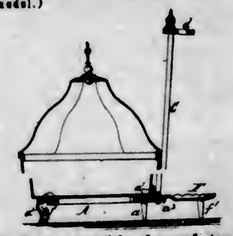
3. An oil-injector that is to be connected by a pipe, r, with one end of a cylinder of a reciprocating engine or pump, has an oil-reservoir, C, and is provided with elastic diaphragms D and *g*, suction-valve K, and check-valves i and o, the whole being constructed and arranged to operate substantially as specified.

267,693. THILL-COUPLING. WILLIAM JOHNSTON, Marinette, Wis. Filed Mar. 4, 1882. (No model.)



Claim.—In a thill-coupling, the slide J, arranged between the base-plate and the axle, and provided with the upwardly-projecting flange O, in combination with means for fastening it at different adjustments in a direction at right angles to the axle, with draw-irons having each a recess closed in front, and with a thill-iron having trunnions arranged to enter the recesses, substantially as and for the purpose described.

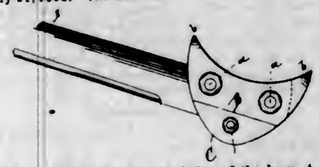
267,694. COMBINED STAND FOR COAL-BOXES AND FIRE-IRONS. FERDINAND KRAUSE, Buffalo, N. Y. Filed Nov. 12, 1881. (No model.)



Claim.—1. As a new article of manufacture, a combined stand for coal-boxes and fire-irons, composed of a stand, A, adapted to support a removable coal-box, an upright standard, C, independent or separate from the coal-box, and provided with curved arms *d*, and the bottom rest, F, adapted to receive and hold the fire-irons, substantially as set forth.

2. The combination, with the stand A, carrying the fire-iron standard C, and provided with sockets *g*, of the removable bottom rest, F, having projections *f*, entering the grooves *g*, substantially as set forth.

267,695. CLAW-BAR. JOHN H. LAKEY, Wabasha, Minn. Filed July 31, 1882. (No model.)

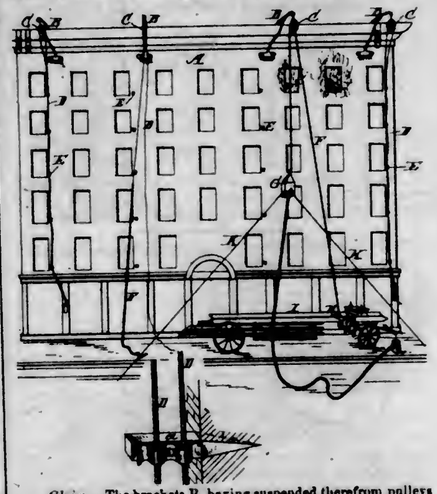


Claim.—1. A claw-bar consisting of the lever A, the heel-piece C, detachably bolted to the rear edge of the lever, and the independent side pieces, B B, arranged longitudinally along the length of the lever and detachably connected therewith, substantially as described.

2. A claw-bar consisting of the lever A, provided with the lip *d* at its rear edge, the heel-piece C, having the recess *e* and detachably bolted to the lip of the lever, and the independent side pieces, B B, bolted to the sides of the lever, substantially as described.

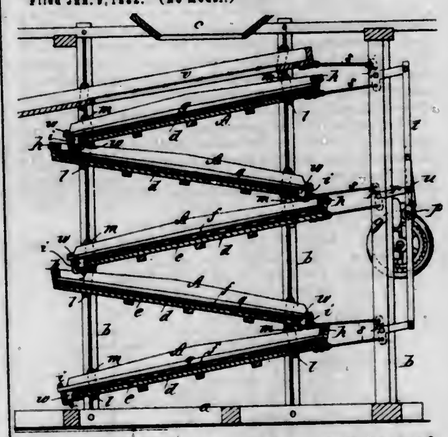
267,696. FIRE-ESCAPE. ISAAC W. LINCOLN, St. Joseph, Mo. Filed June 26, 1882. (No model.)

Brief.—Corrugated spring-plates secured to spikes driven into the walls retain the hoisting-ropes when not in use.



Claim.—The brackets B, having suspended therefrom pulleys C, carrying wire cords D, in combination with the spikes *a*, driven in the building and provided with the corrugated spring-plates E, for retaining the wire cords when not in use against the building, substantially as and for the purpose set forth.

267,697. APPARATUS FOR SEPARATING GOLD AND SILVER FROM GRAVEL AND SAND. JOHN T. LONG, Hussey, N. Y. Filed Jan. 9, 1882. (No model.)



Claim.—1. The combination, with the tray, spring-bars *g*, and the cross-strips *h*, of the pins *i*, passing through said bars and tray, whereby the plates *d e f* may be detachably clamped to the trays.

2. The bottom plate *d*, perforated plate *f*, and interposed perforated sheet *e*, combined with the trays A, substantially as shown and described.

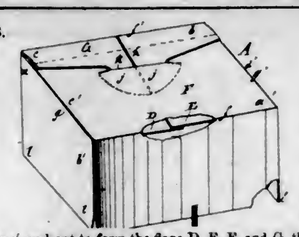
3. The combination of the crank-levers *r*, links *s*, bar *t*, rod *u*, and crank-shaft *p* with the suspended trays A, substantially as shown and described.

267,698. FOLDING BOX. HERBERT LUDLOW, Brooklyn, assignor to William H. H. Rogers, New York, N. Y. Filed Apr 5, 1882. (No model.)

Claim.—1. A folding-box blank formed with the flaps G and F, the flap G being cut to form the locking-heads *j j*, and the flap F being formed with the slot *k*, substantially as described.

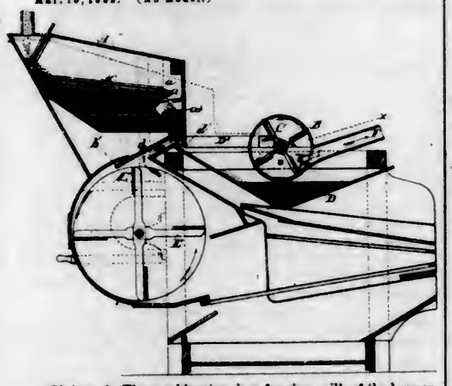
2. A blank for a folding box, bent to form the folds *a a′*, *b b′*,

267,698.



f f', and *g g'*, and cut to form the flaps D, E, F, and G, the flap G being centrally slotted and formed with the locking-heads *j j*, and the flap F cut to form the slot *k*, substantially as described.

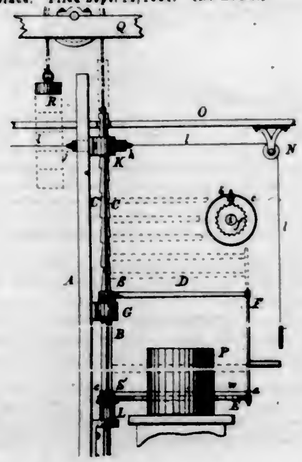
267,699. FANNING-MILL. JACOB LUXEM, Racine, Wis. Filed Mar. 15, 1882. (No model.)



Claim.—1. The combination, in a fanning-mill, of the hopper A, having shaking-shoe A', containing fine and coarse sieves, with the fan-wheel E, drum B, fan-wheel C, spouts D' D' and F, hopper D, and slanting shelf a^3, and the casing having an opening to conduct the air from fan-wheel E through the wheat into drum B substantially as shown and described, and for the purpose set forth.

2. The combination, in a fanning-mill, of the hopper A, having shoe A', provided with fine and coarse sieves, and a dust-chamber beneath them, with the drum B, fan-wheel C, spout F, and a pipe, *e*, extending from the lower corner of the dust-chamber to the drum B, substantially as shown and described, and for the purpose set forth.

267,700. MACHINE FOR CUTTING SEWER-PIPE RINGS. ROBERT W. LYLE, Rochester, N. Y., assignor to Otis & Goodline, same place. Filed Sept. 14, 1881. (No model.)



Claim.—1. A horizontally-vibrating wire-carrying frame arranged to swing over a suitable pipe-supporting platform, in combination with means, substantially as described, whereby the relative positions of the pipe and frame are changed between each vibration.

2. In combination with a suitable supporting-post, A, the swinging frame D F, wire *w*, sliding bar B, rack C, and spring-catch *h*, substantially as described.

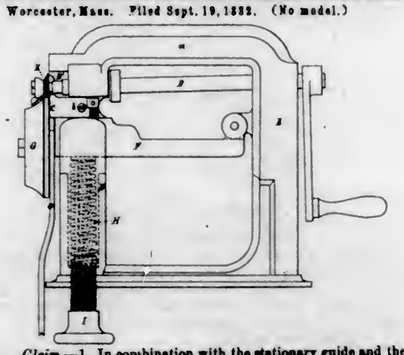
3. In combination with the swinging wire-carrying frame D F, the sliding bar B, provided with two or more racks, C C', having teeth of different sizes, and corresponding spring-catches *h j*, substantially as described.

267,701. FENCE-POST. EDWARD J. MAJOR, Montreal, Quebec, Canada. Filed June 17, 1882. (No model.) Patented in Canada June 5, 1882, No. 14,918.



Claim.—A fence-post the main body of which is formed of a single strip of iron, bent in its cross-section, and having at the point or points desired, at or below the surface of the earth into which it is to be placed, one or more short pieces of iron of similar cross-section fastened or riveted to such post, so as to leave a tubular space between the post and piece, all substantially as shown and described, and for the purposes set forth.

267,702. MACHINE FOR PRODUCING STITCH-IMPRESSIONS ON SOLES FOR BOOTS OR SHOES. LYSANDER O. MAKEPEACE, Worcester, Mass. Filed Sept. 19, 1882. (No model.)



Claim.—1. In combination with the stationary guide and the feed and the marking wheels arranged as set forth, the bending-wheel and the paring-knife arranged with the said feed and marking wheels, and adapted to operate substantially as specified.

2. The combination of the pivoted or adjustable knife-carrier M, its pivoted carrier N, as described, and the knife-slide D', pivoted to the arm F, with the paring-knife, the stationary guide, and the feed, bending, and marking wheels, all being arranged and to operate substantially as and for the purpose or objects set forth.

3. The combination of the two pedals P Q and the connecting-bar O with the arm F, the feed, marking, and bending wheels, and the paring-knife, all being arranged, supported, and adapted to operate substantially as set forth.

267,703. AX. WILLIAM T. MAKEPEACE, Marston's Mills, Mass. Filed Aug. 26, 1882. (No model.)



Claim.—1. The wedge provided with the head and the screw-receiving hole arranged therein, and with a slot to extend through the wedge transversely and down from the head and terminating above the foot of the wedge, as set forth.

2. The combination of a tool or ax head and a handle extending into the eye thereof, with a headed wedge having a slot in it to extend from the head nearly down to the foot of such wedge, and with a screw inserted in the head and slot and screwed into the wood next adjacent to the slot, all being substantially as set forth.

267,704. METHOD OF AND APPARATUS FOR CLEANING THE WIRE WEB OF PAPER-MAKING MACHINES. JOHN J. MANNING, Mill River, Mass. Filed Aug. 18, 1882. (No model.)



Claim.—1. The hereinbefore-described method of cleansing the wire web of paper-machines, which consists in continuously reapplying a solvent thereto by means of one or more shower-pipes.

2. The hereinbefore-described process of cleansing the wire web of paper-machines, which consists in continuously reapplying a solvent thereto, the temperature of which solvent is increased by the application thereto of a jet of steam.

3. The hereinbefore-described method of cleansing the wire web of paper-machines, which consists in applying thereto a solvent composed of approximately equal parts of water and hydrochloric acid.

4. A wire-cleansing device for paper-machines, which consists in the combination, substantially as hereinbefore set forth, of one or more shower-pipes, a reclaiming-pan extending beneath said shower-pipes, and means, substantially such as described, for conveying a solvent from said reclaiming-pan through said shower-pipes.

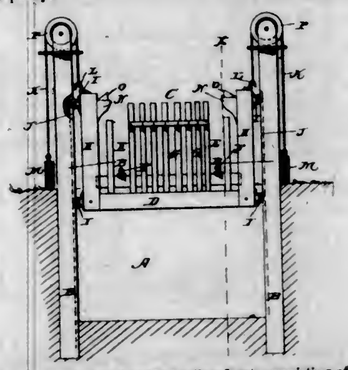
5. The combination, substantially as hereinbefore set forth, of two or more shower-pipes united at one extremity with a common supply-pipe, and each provided with a stop-cock near that extremity, one of which shower-pipes is perforated throughout its length and the other near its respective ends only.

6. The combination, substantially as hereinbefore set forth, of one or more shower-pipes, a reclaiming-pan extending beneath said shower-pipes, an outlet for said reclaiming-pan, consisting of a tube extending along the bottom of the pan, opening at one extremity into the pan, and through the other extremity communicating with said shower-pipes, and a second pipe surrounding said outlet-tube, constructed to convey a supply of water in contact with the surface of said outlet-tube.

7. The combination, substantially as hereinbefore set forth, of one or more shower-pipes for cleansing the wire web of paper-machines, and a revolving brush adjacent to said shower-pipes for cleansing and drying said wire web.

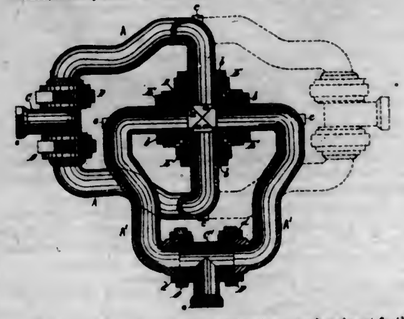
267,705. RAILROAD-GATE. WILLIAM T. MCCLURE, Jos, and WALTER M. MITCHELL, Blue Ridge Springs, Va. Filed Aug. 12, 1882. (No model.)

Brief.—The gate consists of a sill and center panels composed of pickets and end posts having brackets and sheaves, and is lowered by means of a passing train, which depresses pivoted operating-bars, and is raised by weights attached to the gate by cords passing over pulleys.



Claim.—The herein-described railroad-gate, consisting of the sill D, center panel, E, composed of pickets G and end posts, H, having brackets N, the whole adapted to slide vertically in a pit under the track between posts set in said pit, in combination with balance-weights and cords and the pivoted operating-bars O, as set forth.

267,706. UNIVERSAL ANGULAR KNUCKLE-JOINT. HENRY HIGHAULT, Troy, N. Y., assignor of one-half to Mary I. Hignault, same place. Filed Aug. 10, 1882. (No model.)



Claim.—1. In a pipe-coupling of the character herein set forth, the two sections, each composed of two similar hollow branches or arms, the said sections being mounted in a connecting-piece and turning therein about axes at right angles to each other, substantially as and for the purposes set forth.

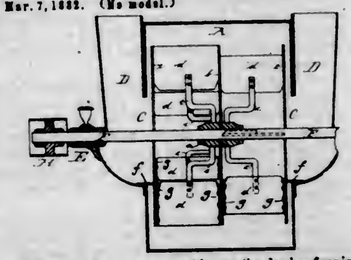
2. In a universal pipe-coupling, the combination, with the connecting-piece having the two bores at right angles to each other, of the four hollow branches or arms packed in the connecting-pipe, substantially as shown, the arms of each section of the coupling being rigidly united by the T-pieces and their adjustable coupling-nuts, substantially as shown and described.

3. In a universal pipe-coupling, the combination of the connecting-piece B, having two bores at right angles to each other, the branches or arms A A A' A', the packing-glands and packing-nuts, the hollow T-pieces C C', and the coupling-huts D D, substantially as shown and described.

4. In a universal pipe-coupling composed of two sections movable independently of each other and at right angles to each other, the connecting-piece bored and reamed, substantially as explained, so as to leave the ledges *a a*, against which the inner ends of the branches or arms are made to abut, substantially as and for the purposes set forth.

5. The combination, with the two similar arms or branches of the universal pipe-coupling, of the connecting hollow T-piece, the tail of which is threaded and strengthened by the enlargement on its exterior, substantially as shown, and for the purposes set forth.

267,707. EXHAUST-FAN. JOHN E. MILLS, Chicago, Ill. Filed Mar. 7, 1882. (No model.)



Claim.—1. In a rotary fan-blower, the duplex fanning-wheel G, having hub *a*, a center disk, *b*, carried by said hub, laterally-bent radial arms *c* and wings *d*, arranged alternately upon either side of the disk *b*, and having flanged edges by means of which they are attached respectively to the disk *b* and plates *c*, said arms *c* being secured upon each end of the hub *a* and riveted to the blades or wings *d*, substantially as and for the purpose set forth.

2. In a rotary fan-blower, the side fines, *d*, provided with feeder-plates *f*, extending from each side of the casing and within the wheel for the purpose of preventing chips and shavings from working between the fanning-wheel and casing, substantially as set forth.

267,708. HAME-FASTENER. FRANCIS O. MINOR and JAMES M. MERRIGGEY, New Orleans, La. Filed Sept. 8, 1882. (No model.)

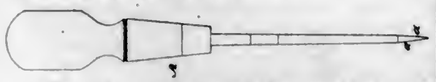
267,708.



Claim.—1. A pair of hames one of which is provided with a permanently-attached snap-hook and the other with a permanently-attached loop, in combination with a flexible and adjustable hame-connection, as described.

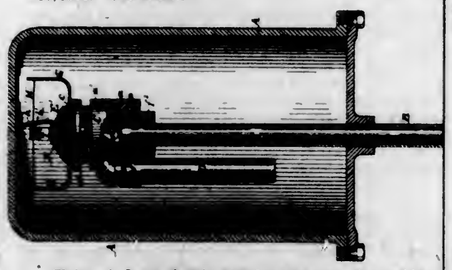
2. In a safety hame-fastener, the combination of the hames B B' with the hook C, provided with the transverse bar *d*, the loop D, and the pivoted lever F with the swiveled connected chain E, substantially as and for the purpose set forth.

267,709. SCREW-DRIVER. PHILLIP NADIS, Allentown, Pa. Filed July 28, 1882. (No model.)



Claim.—A screw-driver provided at the point portion or working end of the shank with file-cuts *a*, forming a biting-surface, substantially as and for the purpose set forth.

267,710. ELECTRIC PUMPING APPARATUS. CHARLES C. PECK and WILLIAM H. CHAPMAN, Middlebury, Vt. Filed Feb. 17, 1882. (No model.)



Claim.—1. In an electric pumping apparatus, the combination of a receiving-chamber composed in part of expansible side walls, an armature secured to said receiving-chamber, an electro-magnet, means of causing the passage of a current of electricity through the coils of said magnet, and suitable inlet and discharge valves for controlling the flow of water to and from said receiving-chamber, substantially as described.

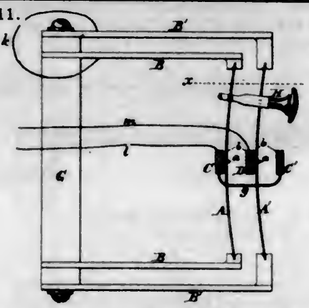
2. The combination, in an electric pumping apparatus, of the casing A, provided with the discharge-pipe L and the inlet-pipe B, a pump located within said casing, near its top, and communicating with said inlet-pipe, an electro-magnet for operating said pump, and a commutator for controlling the current of electricity, both located in said casing, and a battery located outside of said casing and connected by suitable wires with the magnet within said casing, substantially as described.

3. In an electric pumping apparatus, the combination of the chamber C, composed of the castings *a* and *c*, and the double-flanged diaphragm *b*, the armature F, an electro-magnet, the spring-frame G, the commutator-spring H, and the contact-studs *h* and *h'*, all arranged and adapted to operate substantially as and for the purposes described.

4. The combination of the chamber C, composed in part of the double-flanged spring-diaphragm *b*, the armature F, secured to said chamber, the two coils E and E', located upon opposite sides of the chamber C, the cores *f f'* of said coils having their upper portions extending toward each other over the armature, as set forth, the spring-frame G, the commutator-spring H, the plates *h* and *h'*, secured to one of the cores *f* or *f'*, but insulated from each other, and suitable inlet and discharge valves for controlling the flow of water to and from the chamber C, substantially as described.

267,711. COMMUTATOR FOR ELECTRICAL APPARATUS. CHARLES C. PECK and WILLIAM H. CHAPMAN, Middlebury, Vt. Filed Apr. 21, 1882. (No model.)

267,711.

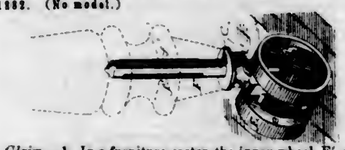


Claim.—1. A commutator composed of one or more leaf-springs held at their ends in supports adapted to press upon the ends of said springs to cause them to assume a curved or elliptic form, two or more contact-surfaces, and means of reversing the curve of said springs to make and break contact with said surfaces, substantially as described.

2. A commutator composed of one or more leaf-springs held at their ends in supports adapted to press upon the ends of said springs to cause them to assume a curved or elliptic form, and two or more contact-surfaces, in combination with an electro-magnet and its armature, all adapted to operate substantially as described.

3. A commutator composed of two leaf-springs held at their ends in supports adapted to press upon the ends of said springs to cause them to assume a curved or elliptic form, two or more contact points or surfaces, and a piece of gutta-percha or other suitable insulating material connecting said springs, substantially as and for the purposes described.

267,712. CASTER. OLE PEDERSEN, Columbus, Ohio, assignor to R. G. Jordan and D. C. Meehan, same place. Filed Sept. 19, 1882. (No model.)



Claim.—1. In a furniture-caster, the inner wheel, E', and the shank A, provided with the axle B, in combination with the large wheels E, all constructed to operate substantially as and for the purpose set forth.

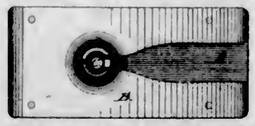
2. The shank A, provided with the axle B and bearings *a a'*, in combination with the wheels E E' and a stem, substantially as and for the purpose set forth.

3. In a furniture-caster, the stem F, provided with spaces or recesses for securing strips of wood, substantially as and for the purpose set forth.

267,713. GLASS FOR DECORATIVE PURPOSES. HERBERT H. D. PRINCE, New York, N. Y. Filed Mar. 6, 1882. (No specimens.)

Claim.—An article of manufacture for mosaic or other decorative work, glass rendered opalescent and silvered upon its inner or under surface so that light is reflected through the glass, substantially as and for the purposes set forth.

267,714. FIRE-ARM HOLDER. JOSEPH C. PETMECKY, Austin, Tex. Filed May 2, 1882. (No model.)

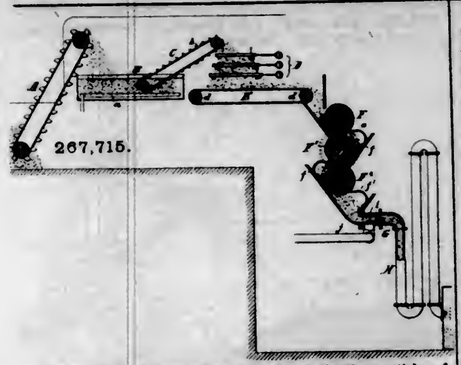


Claim.—1. In a fire-arm holder, the plate A, in combination with the auxiliary slotted plate B and spring D, as and for the purpose specified.

2. The combination, with the plates A B and spring D, of the screw C, as and for the purpose set forth.

267,715. COMMINUTING WOOD PULP, &c. GOLDSBURY H. PEND, New York, N. Y. Filed Apr. 24, 1882. (No model.)

267,715.



Claim.—1. The mode described of comminuting particles of wood or other substances, the same consisting in introducing said particles into a rapid current of steam or other fluid, and directing said current and particles against a series of obstructions, substantially as set forth.

2. The improvement in comminuting wood pulp and other substances, consisting in first pressing the same between rollers revolving in proximity at different speeds, and then throwing the particles violently by a stream of air or other fluid against stationary obstructions, substantially as set forth.

3. The combination, in a comminuting-machine, of appliances for bringing together a blast of air or other fluid and the particles to be disintegrated, and the tube or casing having roughened inner surfaces, substantially as set forth.

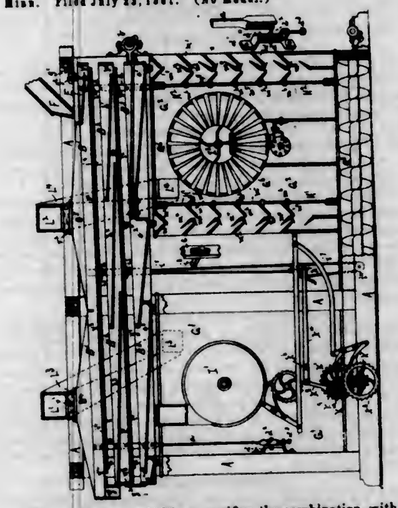
4. The combination, with a tank, B, of a conveyer, E, and the series D of sieves for distributing the material upon the conveyer, substantially as specified.

5. The combination of the tank B, sieves D, and conveyer provided with perforated buckets, as described.

6. The combination of the tank B and conveyers and two or more rolls, and means for revolving the same at different speeds, substantially as set forth.

7. The combination of the rolls, injector, and pipe having roughened inner surfaces, for the purpose described.

267,716. MIDDLINGS-PURIFIER. FRANCIS PRINE, Dundas, Minn. Filed July 23, 1881. (No model.)



Claim.—1. In a middlings-purifier, the combination, with a shaker-frame and a hopper, of an intermediate feed-plate connected at its sides and one end to the shaker-frame, and at its lower end to an adjusting-screw, whereby the plate is adapted to vibrate with the shaker-frame and be adjusted from its center to its sides, substantially as and for the purpose set forth.

2. In a middlings-purifier, the combination of a vibrating bolting-cloth frame and a wiping or brushing device for removing the dust from the cloth, adapted to be reciprocated across the bolting-cloth at right angles to the flow of the middlings thereover, and to be vibrated therewith and drawn out beyond the sides of the shaker-frame, substantially as and for the purpose specified.

3. In a middlings-purifier, the frames B', B², and B³, arranged one above the other, connected together, and provided with chutes and hoppers, so that the middlings may pass from one frame to the next, in combination with the feed-plate E, connected at its sides and one end to the upper shaker-frame and its lower end to an adjusting-screw, and a single shaft and eccentric for vibrating the feed-plate and a series of frames, substantially as set forth.

4. In a middlings-purifier, the combination of a shaker-frame provided with a hood, a casing beneath the shaker-frame, a dust-collecting balloon located therein, a tube or flue having a flexible connection to the hood of the shaking-frame and leading therefrom into the balloon-casing, and a fan, located substantially as described, whereby the several parts will operate as set forth.

5. The combination of the shaker-frame B', trough-shaped strips c', strips c^2, springs c^3, and rods c^5, substantially as set forth.

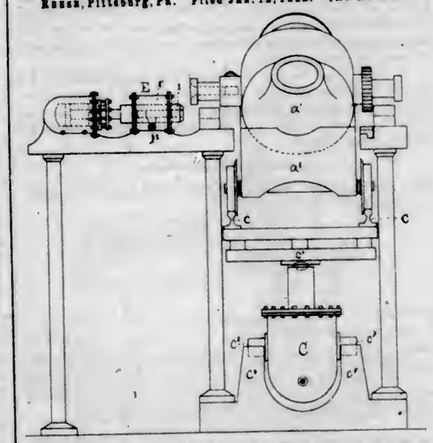
6. The combination with the shaker-frame B' B² and cloth cleaning-strips c' c^2 c^3, of the rods c^5, sheaves c^9 c^8 c^7 c^6, cord c^4, operating-levers k' k^2, and gears k' k^2, substantially as set forth.

7. The combination, with frame *a*, hanger d', formed with a tongue, and shaker-frames B' B², of spring *a*, provided at its lower end with a groove fitted to the tongue on the hanger d', and a screw, d^4, by which said spring is rendered vertically adjustable, substantially as set forth.

8. The combination of chutes m' m^1 m^2 m^4, adjustable frames H' H² m^3, steps m^3, dust-collecting balloons C', and fans I' I², substantially as set forth.

9. The shaker-frame of a middlings-purifier, provided with pins n', in combination with the bolting-cloth provided with eyelets, and a cord passing over the pins and through the eyelets, substantially as and for the purpose set forth.

267,717. MANUFACTURE OF INGOT IRON AND STEEL. JACOB REESE, Pittsburg, Pa. Filed Jan. 12, 1882. (No model.)



Claim.—1. The method herein described for producing Bessemer ingot iron and steel, which consists in charging the molten metal direct from the blast-furnace into a portable converter, running the converter into the converting-house, depositing it on its trunnion-bearings, forming the blast-connections, and then treating the metal in the usual manner, substantially as and for the purpose herein set forth.

2. The method herein set forth, which consists in charging a series of converters at the blast-furnace, removing them to the converting-house, and successively depositing them in the trunnion-bearings of the converter-frames, forming the blast-connections and treating each successive charge in the usual manner, and then conveying the converters, as soon as emptied, from the converting-house, substantially as and for the purpose described.

3. In a Bessemer plant, the combination, with a converter-frame and detachable converter, of a vertically-adjustable track-section arranged below the same, substantially as and for the purpose specified.

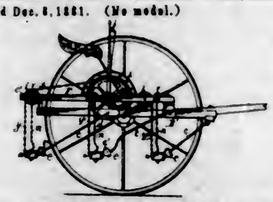
4. In a Bessemer plant, a railway-track having an adjustable section pivoted at the rear of and terminating at the front of the converter-frame, whereby the front end of the section may be raised or lowered by any suitable lifting and lowering device, substantially as and for the purpose specified.

5. The combination of a section of adjustable railway-track, pivoted at the rear of and terminating at the front of the converter-frame, with a hydraulic ram provided with trunnions resting in suitable pillow-blocks, constructed and arranged to operate substantially as and for the purpose herein set forth.

6. The apparatus herein described for connecting and disconnecting the blast-conduit with a converter-trunnion, which consists of a closed sleeve having a lateral opening, and of a hollow blast-nozzle incased within the sleeve, and also having a lateral opening, and capable of longitudinal movement within the sleeve, whereby the blast is automatically let into the trunnion when the connection is made and cut off when the nozzle is withdrawn, substantially as and for the purpose specified.

7. A converter car or truck having a frame of cast or wrought iron to conform with the shape of the back of the converter whereby the converter is held securely and the blast-pipe and tuyere-box are prevented from coming into contact with the frame of the truck during transportation.

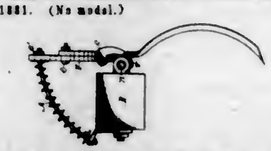
267,718. SULKY-HARROW. BENJAMIN F. RIX, Kalamazoo, Mich. Filed Dec. 8, 1881. (No model.)



Claim.—1. In a wheel-harrow, the combination, with the independent share-beams, the pivoted draft-rods adjustably connected thereto, and the lateral braces, of the lever-wheel and pulleys, the lifting-chains attached to said lever-wheel, and the independent lifting-chains, whereby the share-beams may be raised and lowered independently or in unison.

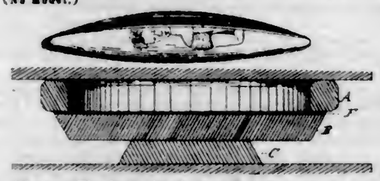
2. In a wheel-harrow, the independent share-beams and the pivoted draft-rods adjustably connected with said beams, in combination with the lever-wheel, the pulleys, the lifting-chains attached to said lever-wheel, and the independent lifting-chains, for the objects specified.

267,719. HARROW. BENJAMIN F. RIX, Kalamazoo, Mich. Filed Dec. 5, 1881. (No model.)



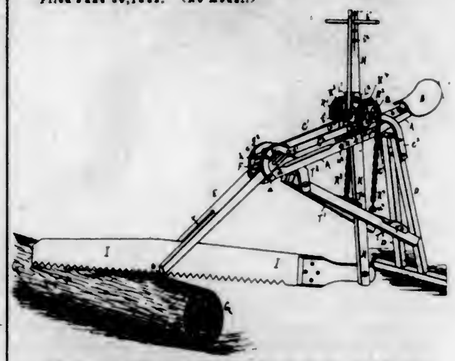
Claim.—The combination, with the tooth-support and tooth, of a clip consisting of the loop which surrounds the support and tooth, provided with the curved extensions catching under the hinging-eye of said support, all substantially as described.

267,720. DEVICE FOR PRODUCING PHOTOGRAPHIC PLAQUES. HENRY ROCHER, Chicago, Ill. Filed Aug. 14, 1882. (No model.)



Claim.—The device herein described for producing photographic plaques, and consisting of the metal frame A, rubber plate B, extended across said frame A, and central rubber block, C, when used in combination with any common press, substantially in the manner set forth.

267,721. DRAG-SAW. JOHN RUSSELL, Jr., Rosemount, Miss. Filed June 30, 1882. (No model.)



Claim.—1. The standard D, straps C' C², having the saw-operating lever H, pivoted therein, and provided with curved ends e and bolts f' f^2, in combination with the brace E, having the toothed plate F, slot d, and slit c, and spurs e, substantially as and for the purpose specified.

2. The straps C' C², a supporting-standard, D, and a saw-brace, E, in combination with a base, A, hinged at one end to straps C' C², a saw-operating lever, H, pivoted between straps C' C², and having a hinged connection with base A, foot-treadles T' T², having a hinged connection with base A, and suspended by elevating-chains, substantially as and for the purpose set forth.

267,722. ICE-BUMPER FOR WATER-COOLERS. JOHN J. SAVAGE, Brooklyn, N. Y. Filed June 3, 1882. (No model.)



Claim.—The combination, substantially as hereinbefore set forth, of the wire rings C C', the radial bars E, the springs G G', and the cross-bars H H', the whole being arranged to constitute an ice-bumper for a water-cooler.

267,723. PROCESS OF EXTRACTING GOLD AND SILVER FROM THEIR ORES. CHARLES A. SCHAEFFER, Ithaca, N. Y. Filed June 26, 1880. (No specimens.)

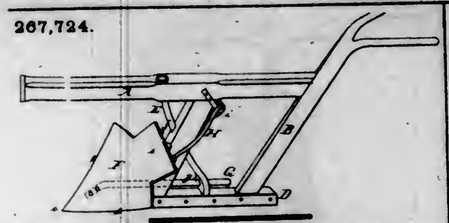
Claim.—1. In obtaining gold from its ores, the process of extracting the gold from the base or earthy matters with which it is associated in the ore, which said process consists in subjecting the ore, whether raw or roasted, to the action of bromine, substantially as set forth, and thereafter separating the gold from the resultant bromide solution by aid of a suitable precipitant, substantially as described.

2. In obtaining the precious metals from their ores, the process of extracting the gold and silver from the base or earthy matters with which they are associated in the ore, which said process consists in subjecting the dampened ore, whether raw or roasted, to the action of bromine, substantially as set forth, separating the gold, by aid of a suitable precipitant, from the resulting bromide solution, and the silver from the resulting pulp by aid of hyposulphite or like salt, which shall dissolve the argentic bromide and remove it from the base pulp for subsequent treatment, substantially as described.

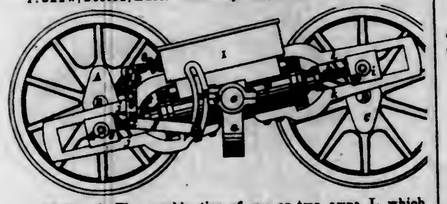
267,724. PLOW. LEOPOLD SCHMIDT, Dameron, Ill. Filed Apr. 13, 1882. (No model.)

Claim.—In a reversible plow, the combination of the triangular share F, having extension e, and plate provided with three or more loops, f, the shaft G, and the hook H on the plow-frame, adapted to engage said loops f and be shifted to either side of the frame, substantially as described and shown.

267,724.



267,725. VALVE-GEAR FOR OSCILLATING ENGINES. HENRY F. SHAW, Boston, Mass. Filed Apr. 24, 1882. (No model.)



Claim.—1. The combination of one or two arms, L, which with the sleeve l form a pivoted rod or bar, a rod, M or N, connecting said bar with a crank-pin, rocking piece P, pivoted on a rocking stand, O, connecting-rod R, and the valve-rod, substantially as and for the purpose specified.

2. The combination of the oscillating cylinder, valve, and valve-rod, fixed stand T, connecting-rod S, rocking stand O, oscillating arm or sleeve l, pivoted to oscillate about the same central line as the cylinder, connecting-rod R, and rocking piece P, substantially as described.

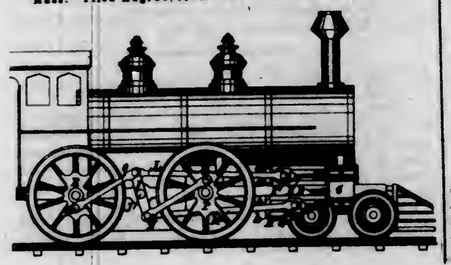
3. The combination of these elements, namely: an oscillating cylinder having a valve-chest fixed thereto, an arm pivoted to oscillate about the same central line as that of the cylinder, but to oscillate independently of the cylinder, and mechanism—as the rocking piece P and connecting-rod R—for obtaining motion of the valve by means of said oscillating arm, substantially as specified.

4. The combination of these elements, namely: an oscillating cylinder having valve-chest connected thereto to oscillate therewith, a fixed stand, the same being a slotted curved guide, whereby a pivot-pin thereon may be slid while the engine is in operation to regulate the travel of the valve in the manner specified, connecting-rod S, and rocking stand O, substantially as and for the purpose specified.

5. In combination, these elements, namely: an oscillating cylinder having a valve-chest to oscillate therewith, a fixed stand, an arm pivoted on the same central line with that of the cylinder, but pivoted to oscillate independently of the cylinder, and mechanism described for connecting said fixed stand and said oscillating arm with valve-rod, to produce the resultant motion specified of the valve.

6. In combination with two driving-wheels on the same side of a locomotive, and arms or a bar to be oscillated by means of rods connecting said arms or bars with the crank-pins on the driving-wheels, a cylinder and chest containing valve located to oscillate on a pivot having the same central line with that of said arms or bars, a fixed stand, and connecting-rods and mechanism, substantially as described, for connecting said oscillating arms, cylinder, and fixed stand with said valve, for the purpose set forth.

267,726. LOCOMOTIVE-ENGINE. HENRY F. SHAW, Boston, Mass. Filed Aug. 18, 1882. (No model.)



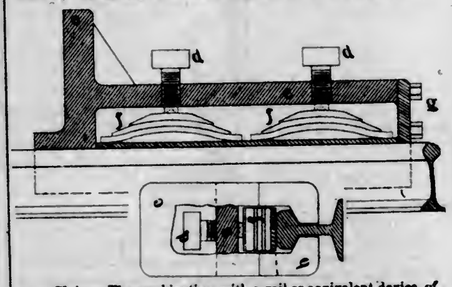
Claim.—1. In a locomotive-engine, two steam-cylinders upon each side, one cylinder located above the other, the pistons in said cylinders being connected to a pivoted bar, by which means said bar is oscillated, substantially as and for the purpose set forth.

2. In a locomotive-engine, the combination of two driving-wheels, P and R, having crank-pins c and d, connecting-rods N and O, and pivoted bar I, substantially as and for the purpose set forth.

3. The combination of cylinders A and B with pistons and piston-rods, connecting-rods L and M, pivoted bar I, connecting-rods N and O, and wheels P and R, having crank-pins c and d, substantially as set forth.

267,727. FRICTION-BUFFER. THOMAS SHAW, Philadelphia, Pa. Filed Aug. 24, 1882. (No model.)

Brief.—A friction-brake shoe is placed upon a rail and located outside and separate from the car and adapted to slide upon the rail, and thereby resist the movement of a car or engine.



Claim.—The combination, with a rail or equivalent device, of a friction-brake shoe located outside and separate from the car, said shoe being adapted to slide upon the rail, resisting the movement of a car or engine, substantially as and for the purpose set forth.

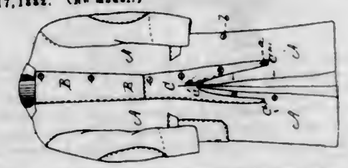
267,728. SADDLE-STIRRUP. SAMUEL L. SHELLENBERGER, Denison, Tex. Filed July 3, 1882. (No model.)



Claim.—1. The improved stirrup, consisting of a plain ring, B, foot-piece A, staple E, and hood C, having side extension, D, the said foot-piece being adapted to rock, vibrate in horizontal plane, or careen in the ring, and the said extension being adapted to guide the foot onto its supporting-piece, as set forth.

2. The combination, in a stirrup, of a foot-piece formed with transverse curved groove a, having flaring entrances a' a', ring B, and staple E, as set forth.

267,729. COAT. ANNAH J. TOWNE, Boston, Mass. Filed July 17, 1882. (No model.)

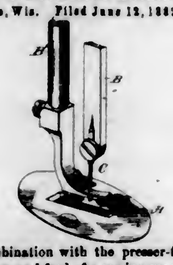


Claim.—1. In a horseman's coat, a storm flap or flaps, C, secured to one or both sides of the coat, extending across the front of the same, of substantially the shape shown, and adapted to cover or lie in front of the pommel of the saddle, and thereby prevent the admission of rain, &c., at that point, substantially as shown.

2. In a horseman's coat, a storm flap or flaps secured to one or both sides of the coat, extending across the front of the same, and cut so that when placed in position for riding the ends C″ C″ extend downward and leave a central space, whereby the flap or flaps fit over the shoulders of the horse in front of the pommel of the saddle and prevent the admission of rain, &c., at that point, substantially as described.

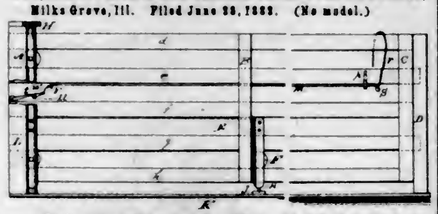
3. In a horseman's coat, the combination of the flap or flaps C and coat-body A, the latter being provided with two buttons or sets of buttons, or other fastening devices, by means of which the free end of the flap or flaps may be secured, one fastening device or set of fastening devices being situated near an edge of the coat for use on horseback and the other being situated farther from the edge for use when walking, substantially as and for the purpose set forth.

267,730. PAPER-PERFORATING MACHINE. WINFRED C. UTLEY, Milwaukee, Wis. Filed June 13, 1882. (No model.)



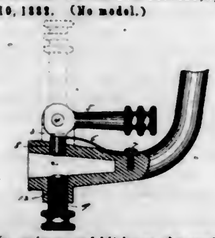
Claim.—In combination with the presser-foot, vertically-reciprocating needle-bar, and feed of a sewing-machine, the plate A, having hole D, and the perforating eyeless needle C, the diameters of the stem of the said needle and the said hole D corresponding exactly to each other, as set forth.

267,731. SWINGING AND SLIDING GATE. JOSEPH WADLEIGH, Milks Grove, Ill. Filed June 28, 1882. (No model.)



Claim.—In half-hangers for sliding and swinging gates, the half-slat E, attached to the gate-hanger A and combined with the half-hanger F, to bring the point a thereof automatically into the step J on the closing of the gate, as specified.

267,732. BIT-STOCK. OLIVER D. WARFIELD, Springfield, Mass. Filed June 10, 1882. (No model.)

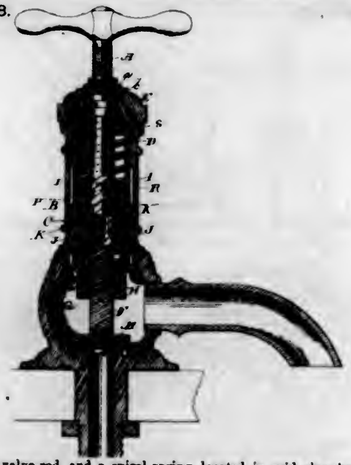


Claim.—In an improved bit-brace, the combination, with the brace, provided with a socket to receive the shank of the bit, of a cam pivoted to the socket end, a spring-detent between said cam and the socket, and adapted to be forced inward into the socket by the cam, and an adjusting-screw adapted to be turned into said socket on the side thereof opposite said spring-detent, substantially as described.

267,733. SELF-CLOSING FAUCET. CHARLES WHITTAKER, Chicago, Ill. Filed May 13, 1882. (No model.)

Claim.—1. In a self-closing faucet, a chamber located above the spout, provided at its lower end with a partition adapted to exclude the water from said chamber, in combination with a screw-

267,733.



sleeve, a valve-rod, and a spiral spring, located in said chamber above said partition, said sleeve being provided with a rod extending through said partition to the lower side or entrance to said water-chamber, substantially as set forth.

2. In a self-closing faucet, a chamber for the reception of the spring, valve-rod, and sleeve, provided at its lower end with a partition located below said spring and sleeve for excluding the water, whereby the packing at the upper end of the valve-rod is dispensed with and the spring and sleeve are protected from the water, as set forth.

3. The chamber I, having cap E, formed in the same piece therewith, provided with groove K, in combination with rod A, provided at its lower end with screw B, spring D, sleeve C, and rod F, valve M, packing or partitions H, and chamber G, substantially as set forth.

4. The device for retaining the valve-rod in place and counteracting the force of the spring when raising the valve, by which the retaining-nut is prevented from turning, consisting in annulus *b*, having a square central opening fitted to and adapted to turn with the valve-rod, conforming in shape thereto, nut *a*, secured to said rod and adapted to rest on said annulus, said annulus being adapted to turn with said rod and nut, whereby the nut is relieved from liability of being unscrewed, as set forth.

5. In a self-closing faucet, the combination of the valve-rod A, provided with screw B, sleeve C, adapted to move upward and downward in said screw, and spring D, said screw being adapted, when turned, to raise said sleeve and compress said spring, whereby the valve is opened, said spring being adapted to press down said sleeve and reverse said screw automatically, whereby said valve is closed, as set forth.

6. In a faucet having a chamber located above the spout and a partition interposed between said chamber and said spout, a sleeve located above said partition, and a rod projecting below said partition, in combination with a detachable valve, whereby said rod may by removing said valve be inserted through said partition, as set forth.

7. The screw-sleeve C, provided with circular flange P for supporting the spring, collar R of less diameter than said flange, in combination with spring D and valve-rod A, said collar being adapted to retain said spring at the periphery of said flange and prevent contact of said spring and screw-rod, as set forth.

8. The combination of cap E, provided with recess S, with spring D, rod A, and sleeve C, as set forth.

267,734. FAUCET. CHARLES WHITTAKER, Chicago, Ill. Filed June 13, 1882. (No model.)

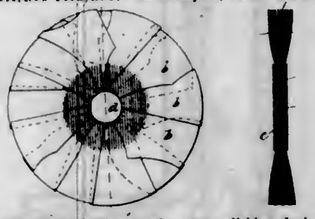
Claim.—1. In a hot-and-cold-water faucet, the combination, in a single water-chamber, of two valves with a single crank-pin adapted by the peculiar relative arrangement of said valves to said crank-pin to be both simultaneously and alternately opened and closed by the rotation of said pin, substantially as and for the purpose specified.

2. The combination of chamber D, provided with ports F and G, stoppers H and I, rods L and M, crank-pin K, valve-stem C, and handle A, substantially as set forth.

267,734.



267,735. ROTARY POLISHING DEVICE. WALTER P. WHITTEMORE, North Attleborough, Mass., assignor to Alexander Lovett, New York, N. Y. Filed July 13, 1881. (No model.)

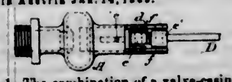


Claim.—1. An improved rotary polishing device having a central arbor-receiving orifice, and having the polishing-surface composed of superposed scraps or fragments of chamois, leather, felt, or other suitable yielding fabric, substantially as described.

2. The improved rotary polishing device composed of layers of yielding or flexible material, such layers being formed of scraps or fragments of such material, the whole being united together and adapted to receive a central arbor, substantially as specified.

3. The improved rotary polishing device consisting of a pile of superposed scraps or fragments of waste yielding material connected together centrally, provided with a central arbor-receiving orifice and with external disks or single pieces of like material covering the opposite sides of the pile and perforated to coincide with the orifice of the latter, as set forth.

267,736. FLOAT-VALVE. DAVID YOUNG, London, England. Filed Dec. 13, 1881. (No model.) Patented in England June 8, 1880, No. 2,466; in France Dec. 17, 1880, No. 140,198; in Belgium Dec. 20, 1880, No. 53,366; in Italy Dec. 31, 1881, No. 13,569, and in Austria Jan. 14, 1883.

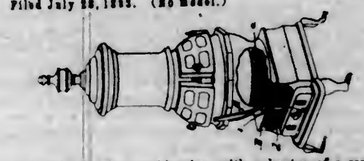


Claim.—1. The combination of a valve-casing containing a seat, a valve or plunger arranged to work against said seat, a float and its lever, and a wedge or its described equivalent, connected to said lever, and adapted to be thrust by a movement thereof between said valve or plunger and a stationary part, and thereby to cause a movement of said valve or plunger proportioned to the movement of said float, substantially as set forth.

2. The combination of casing A, seat *a*, valve or plunger B, wedge or its described equivalent *d*, lever D, and float C, substantially as set forth.

3. The combination of casing A, seat *a*, plunger B, abutment *e'*, float C, lever D, and wedge *d*, arranged to enter between said plunger and abutment upon the rising of the float, and thereby force the plunger against the seat, substantially as set forth.

267,737. GRATE. LEMUEL HARRISTER, Philadelphia, Pa. Filed July 28, 1882. (No model.)



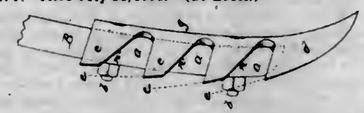
Claim.—1. The combination, with a heater, of a series of rocking grate-bars, *a*, with pendent end arms, all connected to one cross-bar, *d*, and all arranged and connected within the body of the heater, and an external lever, A, whereby all of said arms may be simultaneously vibrated through the medium of the bar *d*, as set forth.

2. The combination, with the rocking bars and their connected arms *c*, of a detachable lever, A, having a socket or projection corresponding to a socket or projection on one of the arms, for the purpose specified.

267,738. COUGH REMEDY. HARMON BRANCH, North San Juan, Cal. Filed Sept. 16, 1882. (No specimens.)

Claim.—The herein-described medical compound for coughs, colds, asthma, and throat and lung affections generally, consisting of tar, honey, egg-yolks, licorice, and port-wine, substantially in the proportions specified.

267,739. CULTIVATOR-TOOTH. ARTHUR S. COBB, Rochester, N. Y. Filed July 24, 1882. (No model.)



Claim.—A cultivator-tooth formed with a point, *d*, and lateral blades *c*, extending obliquely at each side and back of a central ridge, *g*, of the tooth, the lower or cutting edges of said blades being inclined obliquely outward and upward for the purpose of giving a shearing cut to the same, and the plane of either blade passing in rear of the next blade above, substantially as shown and described.

267,740. LANTERN. JAMES P. CHARETON, Springfield, Mass., assignor to himself and Charles Hall, same place. Filed June 5, 1882. (No model.)

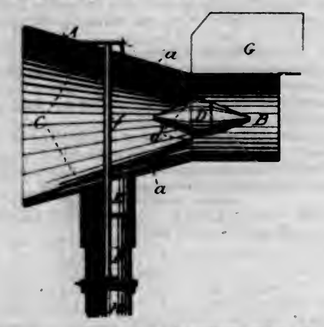


Claim.—1. The combination, in a lantern, of a glass shade or globe provided with a lighting-orifice, a roughened plate provided with slots or openings, and a screw or metallic fastening inserted through the shade or globe to secure said plate to the inside of the shade or globe, substantially as described.

2. The combination, in a lantern, of the glass shade or globe provided with a lighting-orifice, a roughened plate secured inside the globe or shade by a screw or metallic fastening inserted through the shade or globe, and an elastic or flexible packing or cushion placed between said plate and the glass, substantially as described.

3. The combination, in a lantern, of the glass shade or globe provided with a lighting-orifice, a roughened plate provided with slots or openings, a screw or metallic fastening inserted through the shade or globe, an elastic cushion or packing placed between said plate and the glass, and a pivoted bar for closing the lighting-orifice in the shade, substantially as described.

267,741. VENTILATOR. MICHAEL H. DORGAN, San Francisco, Cal. Filed June 5, 1882. (No model.)



Claim.—1. In a ventilator for soil-pipes, flues, &c., the arrangement of the spaced conical casing A C with its frustum-openings, the pipe B, the double conical plug D in the opening of the casing, and an inlet-pipe, E, substantially as herein described.

2. A ventilator for soil-pipes, flues, &c., consisting of the

spaced conical casing A C, with its frustum-openings, the pipe B, with its vane G, the double conical plug D, the inlet-pipe E, and the swivel-pipe F, with its spindle *f*, all arranged and combined substantially as herein described.

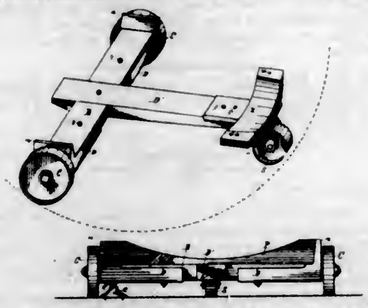
267,742. PROCESS OF MAKING BRONZE ALLOYS. PIERRE DUCHEIN, Paris, France. Filed Apr. 16, 1881. (Specimens.) Patented in France Dec. 6, 1878, No. 137,801.

Claim.—The within-described process of producing a malleable bronze, the same consisting in mixing mercury with the metals while the same are in a molten state at a temperature to distill the mercury as or after the mixture is effected, whereby a malleable alloy is formed of copper and tin substantially free from mercury, as set forth.

267,743. METHOD OF PURIFYING NATURAL WATERS FOR USE IN STEAM-BOILERS. CHARLES B. DUDLEY, Altoona, Pa. Filed Nov. 3, 1881. (No specimens.)

Claim.—In the art of purifying water, the herein-described method, consisting in the following series of steps: first, introducing the water to be purified into a suitable tank; second, placing in the water a proper quantity of caustic soda; third, thoroughly agitating the contents of the tank; fourth, waiting a sufficient time for the precipitation of the mineral impurities, and, fifth, drawing off the now purified water from above the precipitate.

267,744. BARREL SWING AND TRUCK. WILLIAM FARCKNOSON, Schoolcraft, Mich. Filed May 18, 1882. (No model.)



Claim.—1. The device consisting of the axle-beam, provided with the castings and wheels, said castings provided with the guard-supports, the caster-beam provided with the caster at the forward end, and the bolster above said caster, all substantially as set forth.

2. The barrel and box truck, consisting of the axle-beam with castings having the guard-supports, said castings being secured to the axle-beam by the bolts, the caster-beam shown with its caster, said truck provided with transporting-wheels, in combination with the detachable bolster, substantially as described.

3. In a barrel and box truck, the T-shaped frame having the rear end of the caster-beam beveled on the under side, and provided with the spur, for the object specified.

4. The truck-frame provided with the casting, having means for supporting the caster-wheel and bolster, all substantially as set forth.

5. The combination, with the truck-frame having the guard-supports, of the detachable bolster adapted to fit between said guard-supports and provided with the mortises on the under side to receive the projecting means for holding said bolster in place, substantially as described.

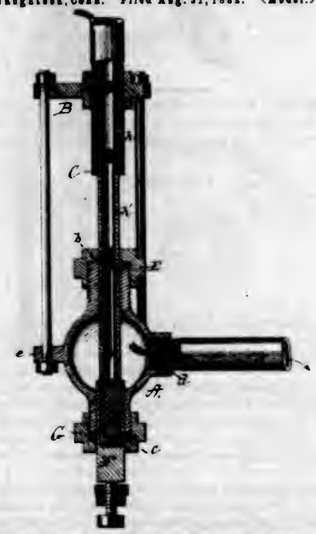
6. The combination, with the truck provided with the wheels and caster, and a projection on the under side of one end of the axle-beam, of a fulcrum-support adapted to receive said projection, for the object stated, all substantially as described.

267,745. BOOT OR SHOE. JOHN B. FARRAR, Bradford, Mass. Filed May 23, 1882. (No model.)



Claim.—That improvement in the manufacture of boots and shoes which consists in splitting a piece of sole-leather to remove entirely from it its grain-face, thus forming an inner sole and a grain-faced covering or lining sole, then uniting the inner sole with the upper and the outer sole, and reapplying upon the face of the inner sole the said grain-faced covering-sole, cementing the same to the inner sole to cover the stitches or fastenings therein, leaving the grain-face of the said covering-sole uppermost, all as shown and described.

267,746. STEAM-TRAP. JEROME B. FULLER and DWIGHT P. MILLS, Naugatuck, Conn. Filed Aug. 31, 1882. (Model.)

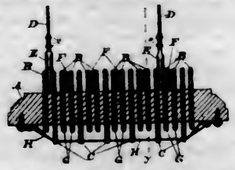


Claim.—1. In a steam-trap, the expansion-pipe composed of two parts connected at their middle or meeting ends, but of different diameters and sensitiveness of heat, substantially as and for the purposes set forth.

2. In a steam-trap, the combination, with an expansion-pipe and a plug with a valve-seat, of a cross-bar or yoke provided with a set-screw and a jam-nut, and constructed at one end with a cross-slot and the other end working on an axis, whereby the cross-bar is capable of swinging to one side to allow the removal of the movable plug and lower end of expansion-pipe, substantially as described.

3. The improved steam-trap, consisting of the globe with the inlet and outlets, and provided with central flange, *e*, plate B, with central screw-threaded opening, connecting-rods, the expansion-pipe C, composed of two sections made of different metals, the plug F, and the cross-bar H, with set-screw and jam-nut, substantially as described.

267,747. ELECTRICAL SWITCH-BOARD. JAMES F. GILLILAND, Indianapolis, Ind. Filed Apr. 17, 1882. (No model.)



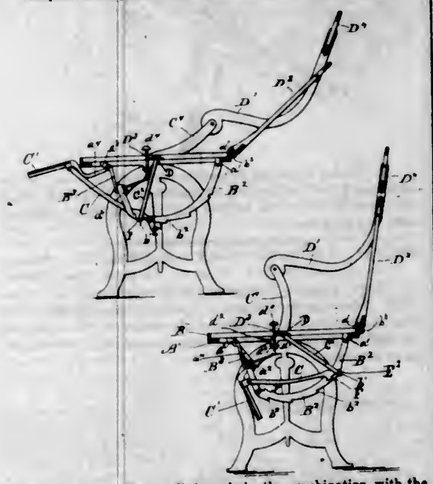
Claim.—1. The combination, in an electrical switch-board, of a base of non-conducting material, pins or rods extending through the same, the lower ends of each row of which are connected by a wire, some of the rows being arranged longitudinally on the base and others transversely, whereby any two of the rows running in one direction are capable of being electrically connected by inserting switch-keys between the rods thereof which are in line with each other and the adjacent rods of the row running in the other direction, substantially as set forth.

2. The combination, in a switch-board, of the base A, rods or pins B and C, wires G and H, and switch-plugs for electrically connecting said rods or pins, substantially as set forth.

3. The combination, in a switch-board, of a base and two sets of pins running through the same, one set of which projects farther than the other, whereby wires for connecting rows of said sets may pass each other without coming in contact, substantially as set forth.

4. A switch-plug for electrical switch-boards, composed of the handle D and springs E E, the latter of which are concave on their faces, so as to fit between pins on the switch-board and be held in proper position thereby, substantially as set forth.

267,748. RECLINING-CHAIR. D. BERT HARTLEY, Chicago, Ill., assignor of one-half to the Union Brass Manufacturing Company, same place. Filed Sept. 19, 1881. (No model.)



Claim.—1. In a reclining-chair, the combination, with the supporting seat-frame A', of the base-plate B, adapted to rotate thereon, the rock-shaft D, provided with the projecting arm C^5, the ratchet-bar B^5, and the foot-rest lever C, substantially as described.

2. In a reclining-chair whereof the revolving base-plate is supported at its edges by the seat-frame proper and is adapted to rotate on said support, and in combination with the adjustable back and foot-rest attached to said base-plate, the rock-shaft D, journaled in boxes C^4, which are also mounted on said revolving base-plate, and radial arms, whereby said back and foot-rest are flexibly united, and connecting-arms, substantially as set forth.

3. A double car-seat composed of a stationary seat-frame supported upon legs exterior to the peripheries of the seats, and two seat-plates fitted to be supported by resting their edges on said seat-frame, and revolving thereon, and mounted upon each of said seat-plates and independent of said frame, an adjustable back and an adjustable foot-rest, whereby two reclining-chairs and foot-rests are mounted together and made separately capable of revolution independent of the stationary support upon the floor.

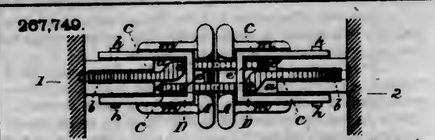
4. The combination, with a stationary frame, of the seat-plate supported at its edges on said stationary frame, the adjustable back and foot-rest pivoted to said plate, and mechanism, substantially as described, for connecting said back and foot-rest, whereby motion is transmitted from one to the other, and whereby said seat, with its back and foot-rest, is supported within and independent of said stationary frame.

5. In a reclining-chair, an adjustable back, an adjustable foot-rest, and connecting mechanism whereby movements of the back are transmitted to said foot-rest, and a circular base-plate or frame whereon said back, foot-rest, and connecting mechanism are mounted, combined with a stationary seat-frame, A', whereon said plate or frame is fitted to rotate as a guide, whereby the adjustable back and foot-rest have connected and simultaneous movements, both as to the horizon and in rotation, independent of said frame A'.

267,749. CAR-COUPLING. ELIJAH M. WEBBS, Santa Rosa, Cal. Filed Sept. 5, 1882. (No model.)

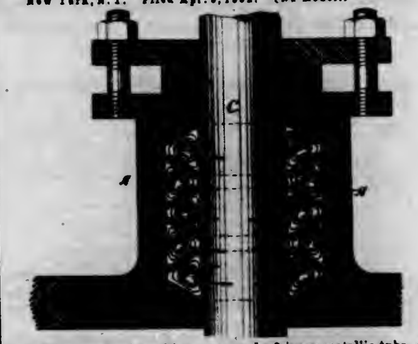
Claim.—An automatic coupling consisting of the open-top draw-head A, provided with the passage *b*, hole *e* in its floor, and

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side walls, *m*, in combination with the coupling-pin, having on its forward end shoulder *c'*, its rear end beveled to correspond with passage *b*, and the middle shoulder, *c*, and the externally-pivoted link-latch D, all constructed, arranged, and operated as set forth.

267,750. METALLIC ROD-PACKING. LEOPOLD KATZENSTEIN, New York, N. Y. Filed Apr. 8, 1882. (No model.)



Claim.—1. A packing composed of inner metallic tube, *a*, metallic covering *b*, applied directly to said tube, and outer fibrous covering, *c*, substantially as herein shown and described.

2. A packing composed of inner tube, *a*, having end flange or flanges, *d*, and of the metallic covering *b* and fibrous covering *c*, substantially as herein shown and described.

3. The hollow packing-rings of substantially the construction described, arranged one above another around the surface to be packed.

4. The hollow packing-rings having fibrous covering and opening or openings in the inner tube to admit steam or water, substantially as specified.

5. In a packing-ring, the inner tube, *a*, made with overlapping edges, substantially as and for the purposes specified.

267,751. METAL-PUNCH. DE LABOY KENNEDY, New York, N. Y. Filed May 11, 1882. (No model.) Patented in Canada Feb. 17, 1880, No. 16,238.



Claim.—1. In the spiral shearing-punch A, the cutting-face, having a part, *e*, removed between the center and first cutting-point of the periphery, substantially as and for the purpose set forth.

2. In the spiral shearing-punch A, two first cutting-points at opposite sides of the periphery, united by spirals, the cutting-face, having parts *e*, removed between the center and first cutting-points, substantially as and for the purpose set forth.

3. In the spiral shearing-punch A, a central bearing or narrow base, *a*, and a center point, *b*, together forming the mechanical center of the tool, combined with a guiding or easing edge, *c*, uniting the first cutting-point *d* of the periphery with the spiral, substantially as and for the purpose set forth.

267,752. SEPARATING WAX FROM PARAFFINE-OIL. SOLOMON W. KIRK, Philadelphia, Pa., assignor of one-fourth to Ross Welsh, same place. Filed Aug. 22, 1882. (No specimens.)

Claim.—The improvement in the art of separating wax from paraffine-oil, which consists in the addition of paraffine-wax to the crude paraffine distillate of petroleum, substantially as set forth.

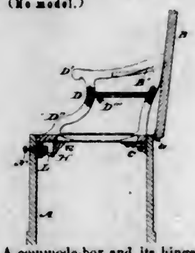
267,753. PROCESS OF EXTRACTING GLYCERINE FROM FATTY MATTER. VICTOR LITZELMANN, New York, N. Y., assignor to MAX AMS, same place. Filed Oct. 23, 1882. (No specimens.)

Claim.—1. The process of extracting glycerine from fatty matter, which consists in adding to said fatty matter water and a zinc preparation, substantially as specified.

2. The process of extracting glycerine from fatty matter, which consists in mixing fatty matter, water, and a zinc preparation, subjecting the mixture to the action of steam under pressure, allowing the resultant mass to settle, drawing off the water containing the glycerine, and finally evaporating the water, substantially as hereinabove specified.

3. In the process of extracting glycerine from fatty matter, the employment of a zinc preparation consisting of seventy to ninety-five per cent. of zinc and five to thirty per cent. of oxide of zinc, substantially as specified.

267,754. COMMODE. FRITZ MINK, Philadelphia, Pa. Filed May 6, 1882. (No model.)



Claim.—1. A commode-box and its hinged lid, in combination with side arms, springs operating on said lid, and adjusting devices, whereby the tension of said springs may be regulated, substantially as set forth.

2. A commode-box and its hinged lid, in combination with side arms connected thereto, each side arm being formed of two parts, which are adjustably connected to each other, substantially as set forth.

3. A commode-box and its lid, in combination with arms D, plates F, frames G, levers H, keepers J, arms L, spring N', and suitable connections between said spring and said arms, substantially as set forth.

4. The commode-box and its lid, in combination with arms D, plates F, frames G, levers H, keepers J, arms L, cross-piece M, button N, and spring N', substantially as set forth.

5. The commode having a lid which is hinged to the box, and also connected therewith by adjustable side arms, whereby the inclination of said lid may be varied, substantially as set forth.

267,755. FIRE-PROOF MATERIAL FOR CEILINGS, WALLS, SAFES, STOVES, FURNACES, BRICKS, &c. JOHN A. HOFFITT, Arlington, Mass. Filed Apr. 14, 1882. (No specimens.)

Claim.—1. A fire-proof material of light weight, composed of infusoria (*Diatomaceæ*) and a cohesive agent, substantially as set forth.

2. A fire-proof material of light weight, composed of infusoria (*Diatomaceæ*) and a cohesive agent, the latter consisting of a mixture of sulphuric acid, fire-clay, and asbestus, substantially as described.

3. A fire-proof material of heavy weight, composed of infusoria, (*Diatomaceæ,*) a cohesive agent, and silica, as specified.

4. A fire-proof material of heavy weight, composed of infusoria (*Diatomaceæ*) and a cohesive agent consisting of a mixture of sulphuric acid, asbestus, and fire-clay, in combination with powdered silica, fluor or feld spar, as set forth.

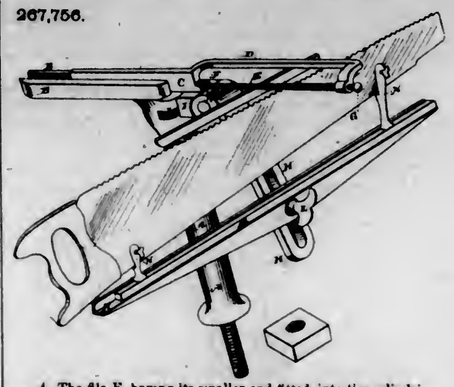
267,756. SAW-FILING MACHINE. JOHN PALM, Monitor, assignor of one-half to James G. McClinton, San Francisco, Cal. Filed Feb. 28, 1882. (No model.)

Claim.—1. In a saw-filing apparatus, the fixed post A, having the block I secured to it so as to be adjusted in a horizontal plane, and the slotted arm H, hinged to the block and adjustable in a vertical plane, in combination with the transverse bar K, adjustable upon the slotted arm, and the saw-support M, with its posts N N, substantially as herein described.

2. In a saw-filing apparatus, the fixed post A, the hinged adjustable arm H, bar K, and saw-support M, in combination with the guides B, slide C, and file-supporting frame D, substantially as and for the purpose herein described.

3. The file-slide C, with its arm D, in combination with the cylinder F, with its triangular socket, and the screw G or an equivalent device to hold the opposite end of the file and adjust it to any angle in its frame, substantially as herein described.

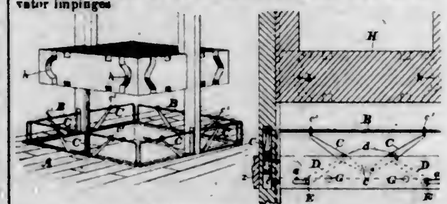
267,756.



4. The file E, having its smaller end fitted into the cylindrical holder F, and its large end cut square and perforated or slotted to receive the end of the holding and adjusting device, substantially as herein described.

267,757. AUTOMATIC GUARD FOR ELEVATORS. ROBERT P. RANKIN, Clayton, Ind. Filed Mar. 14, 1882. (No model.)

Brief.—Guard-rails are raised and lowered in slots at the sides of the hatch-opening by means of pivoted arms carrying cross-pins, which engage curved slots on the elevator. The cross-pins are held by springs having releasing-pins against which the elevator impinges
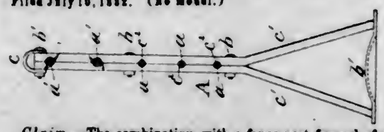


Claim.—1. The combination of the hatchway, a recess in the floor or frame-work surrounding the same, a guard-rail, B, consisting of a horizontal and two vertical bars, as shown, said vertical bars passing through and adapted to move vertically in eyes or similar bearings in or near the ends of said recesses, below the floor-surface, all substantially as shown and specified.

2. The combination of the guard-rail B, arms C and D, cross-bar E, and platform H, having curved slots A, substantially as described, and for the purposes specified.

3. The combination, with guard-rail mechanism for an elevator, of springs F, push-pins G, and the elevator-platform, adapted to operate said push-pins and force a disengagement between catches on said springs and said guard-rail mechanism, substantially as set forth.

267,758. WIRE-FENCE POST. TIMOTHY REGNAR, Springfield, Ohio, assignor to the Rogers Fence Company, same place. Filed July 10, 1882. (No model.)

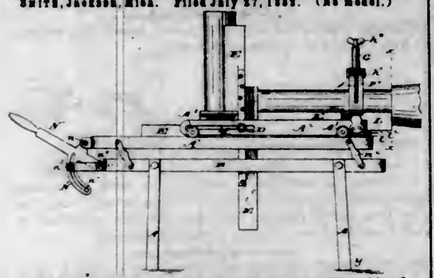


Claim.—The combination, with a fence-post formed of two parallel wrought-iron sections attached to a base and adapted to be sprung apart at the top, and each having semicircular openings which register with corresponding openings upon its mate, of a cap placed over the top of the sections, and bolts passing through both sections, and the upper one clamping the top of the section and the cap, substantially as described.

267,759. COLLYRIUM. WILLIAM SCHAERER, Philadelphia, Pa. Filed Aug. 21, 1882. (No specimens.)

Claim.—The composition of matter forming eye medicine or water, consisting of ginger-root, camphor, hellebore-root, (*Radix helleborus fœtida,*) pellitory-root, rue, (*Radix lepathi,*) of the species *Rumex*, known as "yellow dock-root," euphrasia, cloves, and spirits, in the proportions stated, substantially as and for the purpose set forth.

267,760. REVOLVING TABLE FOR TILE-MILLS. JOHN S SMITH, Jackson, Mich. Filed July 27, 1882. (No model.)



Claim.—1. The combination, with the revolving table of a tile-mill having the plates or troughs E E, of the frame-work which holds said table, a separate main frame, and rollers interposed between the two, whereby as the revolving table is turned upon its axis it may be moved toward or from the tile-mill, substantially as set forth.

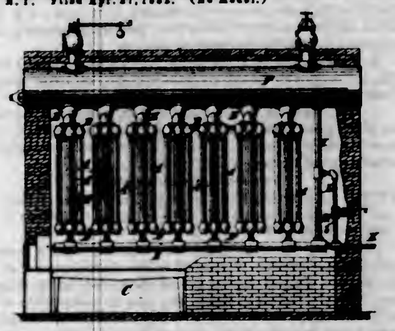
2. The combination, with the revolving table of a tile-mill having the plates or troughs K, of a spring-catch provided with a lower rounded or beveled edge, which permits each table in turn to pass upward, and provided with a flat stopping-edge above the rounded or beveled edge, which prevents the tables from moving downward, substantially as set forth.

3. The herein-described process of forming tiles of a tubular or concave form, it consisting in delivering a tube of clay from the tile-mill to a movable support, placing in the outer end of said tube a shaping and supporting device, then cutting off the tile at the required point, then lifting the tile into such position that the axis thereof shall be vertical, substantially as set forth.

4. The herein-described process of forming tiles of a tubular or concave form, it consisting in first supporting a tube of clay from a tile-mill, inserting into the outer end of said tube a cylinder or drum, receiving said tube of clay upon a horizontal support, then cutting off said tile from said tube at the required point, then lifting the tile into a vertical position, and then drawing the aforesaid drum or cylinder through the tile, substantially as set forth.

5. The herein-described interior supporting and shaping device for the interior of clay tiles, it consisting of the drum or cylinder M, adapted to be inserted into the outer end of the tile as it is received from the mill, and to be drawn through it from the other end, substantially as set forth.

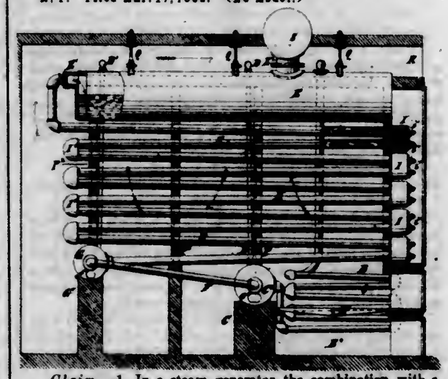
267,761. STEAM-GENERATOR. JAMES C. STEAD, Brooklyn, N.Y. Filed Apr. 27, 1882. (No model.)



Claim.—1. In a steam-generator, the combination, with a group of pipes and a drum arranged above the said group of pipes, and which is partly filled with water when the generator is supplied, of a throat-piece connecting said group of pipes with said drum and having a conduit extending into the drum above the water-line, a pipe or pipes establishing communication between the said drum below the water-line and the lower part of the group of pipes, and a pipe for feeding water into the lower part of said group of pipes before its passage to said drum, substantially as specified.

2. In a steam-generator, the combination, with a group of pipes, headers connecting these pipes at the top and bottom, and a drum which is partly filled with water when the generator is supplied, arranged above said group of pipes, of a throat-piece connecting the upper header of said group of pipes with said drum and having a conduit extending into the drum above the water-line, a pipe or pipes establishing communication between said drum below the water-line and the lower header of the group of pipes, and a pipe for feeding water into said lower header before its passage to said drum, substantially as specified.

267,762. STEAM-GENERATOR. JAMES C. STEAD, Brooklyn, N.Y. Filed Mar. 17, 1882. (No model.)



Claim.—1. In a steam-generator, the combination, with a drum or chamber which is partly filled with water when the generator is supplied, of a header, circulating-pipes leading therefrom and communicating directly with the drum or chamber above the water-line, a pipe leading from the bottom of the drum or chamber to said header, and a pipe for feeding water into the lower part of the generator before its passage to said drum or chamber, substantially as specified.

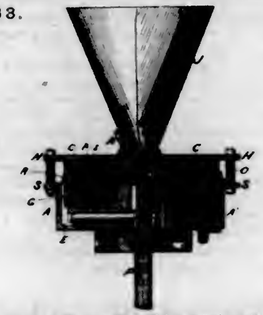
2. In a steam-generator, the combination, with a drum or chamber which is partly filled with water when the generator is supplied, of a header, circulating-pipes leading therefrom and communicating directly with said drum or chamber above the water-line, a pipe leading from the bottom of the drum or chamber to said header, a pipe leading directly from said header to the drum or chamber above the water-line, and a pipe for feeding water into the lower part of the generator before its passage to said drum or chamber, substantially as specified.

3. In a steam-generator, the combination, with a drum or chamber which is partly filled with water when the generator is supplied, of an inclined header and an inclined mud-drum, connected by a pipe communicating with their lower ends, circulating-pipes leading from said header and communicating directly with said drum or chamber above the water-line, a pipe leading from the bottom of said drum or chamber to said header, and a pipe for supplying feed-water to the lower part of the generator before its passage to the drum or chamber, substantially as specified.

4. In a steam-generator, the combination, with a drum or chamber which is partly filled with water when the generator is supplied, of an inclined header and an inclined mud-drum, a pipe connecting said header and mud-drum at their lower ends, pipes connecting said header and mud-drum, near their upper ends, with the drum or chamber above the water-line, circulating-pipes leading from said header and entering said drum or chamber above the water-line, and a pipe for supplying feed-water to the lower part of the generator before its passage to said drum or chamber, substantially as specified.

267,763. GRINDING-MILL. PIERRE TANVET, Guingamp, France. Filed June 13, 1881. (No model.) Patented in France Apr. 28, 1879, No. 130,286; in England May 11, 1880, No. 1,935; in Belgium May 11, 1880, No. 51,458; in Austria May 22, 1880, No. 17,874; in Spain May 24, 1880, No. 838, and in Italy May 24, 1880, No. 457.

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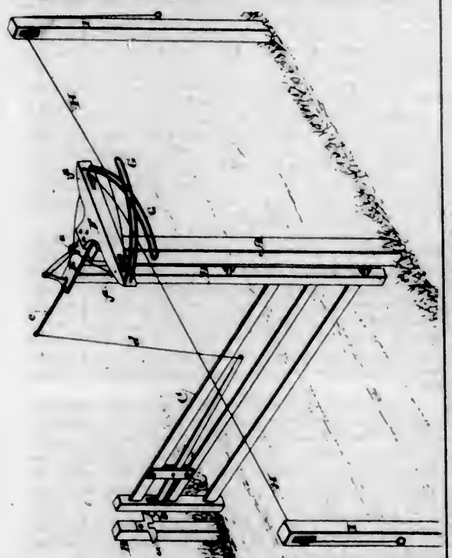
Claim.—A metallic grinding-disk consisting of a bottom plate provided with a nave, vertical ribs attached to said nave and bottom plate, and extending from the interior toward the circumference of the disk, cutting-blades, packing-blades or filling-pieces placed between the cutting-blades, and a wrought-iron ring or rings for holding the cutting-blades and packing-pieces in the requisite position, substantially as described and illustrated.

267,764. MANUFACTURE OF TOBACCO. STEPHEN W. WOOD, Cornwall, N. Y. Filed Jan. 18, 1882. (No specimens.)

Claim.—1. The process, substantially as before set forth, of manufacturing composite tobacco wrappers by pulping the material for the body of the wrapper, collecting the same in a sheet upon a perforated surface, and combining the same with natural tobacco in a finely-prepared state after the sheet is so far formed as to receive it and become incorporated therewith.

2. As a new article of manufacture, composite tobacco wrappers having a body made of pulp, combined with finely-divided natural tobacco applied to the surface of the sheets, substantially as before set forth.

267,765. GATE. CHARLES A. WYMAN, San José, Cal. Filed Sept. 18, 1882. (No model.)



Claim.—1. The stationary gate-post A and swinging gate C, hinged thereto, in combination with the means for swinging said gate, consisting of the horizontal top plate, E, secured to the inner post, D, of the gate, and passing over the top of post A, the horizontal lever F at right angles upon said beam, the slotted curved guides G upon the back of the lever, and cords H, passing through slotted guides G, and attached to the upper arm of the elbow-lever *e*, substantially as herein described.

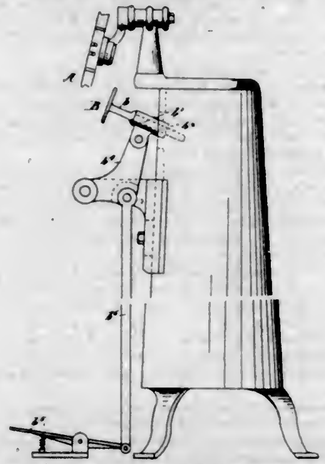
2. The swinging gate C, having a latching device securing it to the gate-post, in combination with the means for unlatching and swinging the gate at the same time, consisting of the top plate, E, cross-lever F, slotted curved guides G, and cords H, and the elbow-lever *e*, hinged to the top plate, E, and connected with the latching device and the operating-cords H, all arranged and operating substantially as herein described.

267,766. POST-HOLE DIGGER. JOHN J. ARMSTRONG, Weimar, Tex. Filed Aug. 3, 1882. (No model.)



Claim.—The combination, with the spade-levers, of the straps having cutting-edges secured to one of the levers and having the other lever pivoted between said straps, the latter projecting beyond from the pivoted lever, as shown and described.

267,767. EDGE SETTING OR BURNISHING MACHINE. ROBERT AGNE, Somerville, assignor to George W Copeland, Malden, Mass. Filed Feb. 23, 1882. (No model.)



Claim.—1. The combination, in an edge setting or burnishing machine, of the reciprocating burnishing-tool and the combined toe support and gage B, consisting of a plate or disk upon the end of the spindle *b*, and means, substantially as specified, for supporting the same, whereby it is adapted to be drawn toward the tool and to be revolved during the edge-setting operation, all substantially as and for the purposes set forth.

2. The combination of the burnishing-tool, the combined toe guide and support B, the spindle *b*, and socket *b'*, all substantially as and for the purposes described.

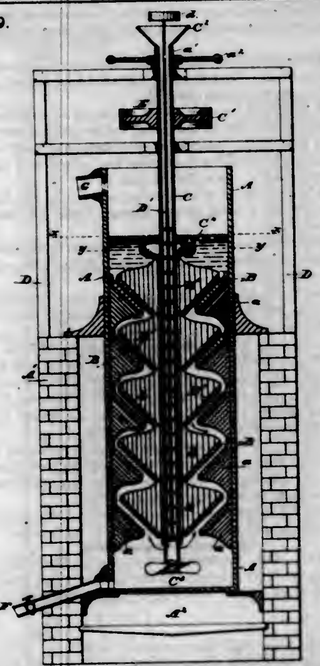
3. The removable toe guide and support B, fastened to the back of the glove of the operator, and provided with a spindle, *b*, adapted to enter the socket *b'* at the will of the operator, all substantially as and for the purposes set forth.

267,768. AMALGAMATOR. JOHN W. BAILEY, Denver, Colo., and ANTOINE DE FIGANIERE, Philadelphia, Pa. Filed May 13, 1882. (No model.)

Claim.—1. The combination of a containing-vessel, a series of fixed annular grinders, a revoluble hollow shaft, a series of annular grinders attached thereto, the spaces between the opposing pairs of grinders decreasing step by step with the ascent of the series, and an independent revoluble shaft within the hollow shaft provided with propeller-blades, substantially as set forth.

2. The combination, with a containing-vessel, a central hollow shaft, and an independent shaft within the hollow shaft having a series of propeller-blades, of a fixed ascending series of grinding-rings and an opposing series of grinding-rings revolving with the hollow shaft, the working-surfaces diverging outward and upward from the vertical center line of the containing-vessel or in

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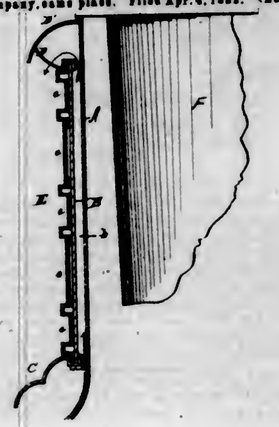


reverse order, and the spaces between them being narrowed with the ascent of the series, substantially as set forth.

3. The combination of a containing-vessel, a series of fixed grinders, a revoluble hollow shaft, a series of grinders attached thereto, a propeller-blade at the lower extremity of the hollow shaft, inlet-tubes at an upper part thereof and leading to the interior of the shaft, and an independent revolving shaft with propeller-blades within the hollow shaft, substantially as set forth.

4. A containing-vessel, a central hollow shaft, an independent shaft within the hollow shaft having a series of propeller-blades, a fixed ascending series of grinding-rings and an opposing series of grinding-rings revolving with the hollow shaft, the working-surfaces diverging outward and upward from the vertical center line of the containing-vessel, combined with mechanism for adjusting the spaces between the respective working or grinding surfaces, substantially as and for the purposes set forth.

267,769. MAGAZINE DRUM-STOVE. DUDLEY H. HARBURN and MERRILL B. MILLS, Detroit, Mich., assignors to the Michigan Stove Company, same place. Filed Apr. 4, 1882. (No model.)



Claim.—1. A stove-shell having an exterior surface-shell of spun or rolled metal, which has its exterior surface plated with a different metal, substantially as described.

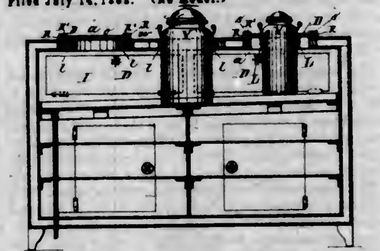
2. A stove-body having a surrounding shell separated therefrom by an air-space, and provided with an exterior surface-shell of spun or rolled metal, plated on the outside with a different metal, substantially as described.

3. A stove-shell having an exterior surface-shell composed of two or more bands of spun or rolled metal, the exterior faces of which are plated with a different metal, substantially as described.

4. The combination, with a stove-body, of two removable projecting rings or flanges, and a separate shell supported between said rings or flanges and provided with an exterior surface-shell of spun or rolled metal, plated on its outside with a different metal, substantially as described.

5. The combination, with a stove-body, of two projecting rings or flanges perforated for the passage of air, and a separate shell supported by said rings or flanges, and separated from the stove-body by an air-space which is in communication with the perforations of said rings or flanges, said separate shell being provided with an exterior surface-shell of spun or rolled metal, plated on its outside with a different metal, substantially as described.

267,770. REFRIGERATOR. JAMES C. BLAKE, Petersburg, Va. Filed July 14, 1882. (No model.)



Claim.—1. A refrigerator having a series of apertures, *a*, in direct communication with the ice-receptacle, said apertures being provided with a lining, substantially such as described, whereby a vessel may be introduced into the ice-receptacle from without and held suspended therein by frictional contact with the said lining, and whereby an air-tight joint is obtained at the same time between the lining and the vessel, substantially as and for the purposes specified.

2. A refrigerator in which are combined an ice-receptacle, one or more refrigerating-chambers below said ice-receptacle, and apertures communicating with the latter and the exterior of the refrigerator, the flexible disks D, applied to said apertures as described, and substantially as and for the purposes specified.

3. A refrigerator in which are combined an ice-receptacle, one or more cooling-chambers below said ice-receptacle, and apertures communicating with the latter, and the exterior of the refrigerator provided with a yielding or flexible lining, the flexible disks D, removably applied to said apertures, whereby vessels of different diameters may be introduced into the ice-receptacle from without, and an air-tight joint obtained between the vessel and aperture, as and for the purposes specified.

267,771. ALBUM-CLASP. ALBERT RUDOLF HOLLM, Berlin, Germany, assignor to Liebesroth, Von Auw & Co., New York, N. Y. Filed Sept. 8, 1882. (No model.)

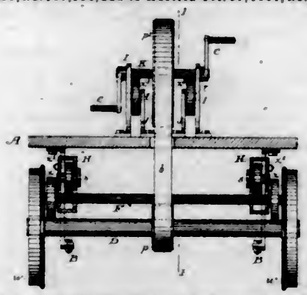


Claim.—1. An extension-clasp for albums, &c., consisting of the disk A, carrying the pin F, the disk C, the slotted hasp B, and the spring S, constructed and operated substantially as described.

2. In an extension-clasp, the combination of the revolving disk A, carrying the pin F, the hasp B, provided with two slots at right angles to each other, and the spring S, substantially as described, and for the purpose set forth.

3. In an extension-clasp, the combination of a revolving disk, A, carrying the pin F, and the hasp B, provided with two slots at right angles to each other, constructed and operating substantially as described.

267,772. RAILWAY HAND-CAR. WILLIAM J. BREWER, Bombay, India. Filed Mar. 22, 1882. (No model.) Patented in India Apr. 10, 1880, No. 27; in England Apr. 17, 1880, No. 1,583; in Belgium Oct. 18, 1880, No. 52,788; in France Oct. 18, 1880, No. 139,214, and in Austria Oct. 29, 1881, No. 26,478.

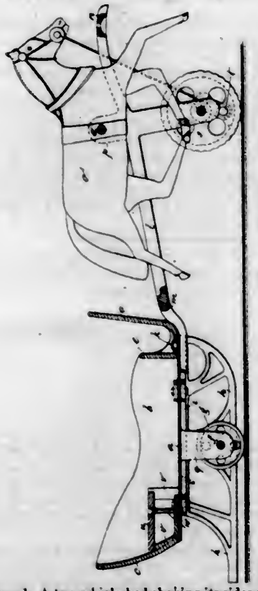


Claim.—1. The combination, substantially as hereinbefore described, of a pair of track-wheels adapted to rotate independently, and constructed with suitable hubs, and a rotary load-sustaining axle above and parallel with the axle of said track-wheels, having at its respective ends loose lever-wheels coacting with said hubs of the track-wheels, for the purposes set forth.

2. The combination, substantially as hereinbefore described, of the rotary track-wheel axle D, the parallel lever-wheel axle F, provided at its respective ends with lever-wheels *x*, the pedestals B, and axle-boxes H, having vertical slots to receive said axles, and lever-wheels *x'*, mounted in said boxes and forming the upper bearings of said lever-wheel axle, the axes of all being in one and the same vertical transverse plane, as shown, for the purposes set forth.

3. The combination, in a self-propelling vehicle, substantially as hereinbefore described, of a rotary driving-shaft, K, mounted in vertically-slotted brackets upon the peripheries of a pair of lever-wheels and carrying a driving-pulley, a rotary track-wheel axle in the same vertical plane, mounted in vertically-slotted pedestals beneath and in contact with the peripheries of a pair of lever-wheels and provided at mid-length with a fast pulley, and a driving band or belt connecting said pulleys, for the purposes set forth.

267,773. TOY SLEIGH. FRANCIS W. CARPENTER, Harrison, N. Y. Filed Oct. 5, 1882. (No model.)



Claim.—1. A toy vehicle-body having its sides and dash-board formed of one piece of cast metal, substantially as specified.

2. In a toy sleigh, the combination of a cast-metal body and cast-metal sleigh-runners fastened to the body, substantially as set forth.

3. The combination of a toy sleigh having a cast-metal body with metal runners fastened to the body, and an axle and a wheel or wheels, substantially as specified.

4. A cast-metal toy vehicle-body having its sides and back for seat formed of one piece of cast metal, substantially as set forth.

5. A toy vehicle-body having cast-metal sides with one or more lugs cast on the sides, in combination with a piece adapted to rest on the lug or lugs to form a seat.

6. A toy vehicle-body having cast-metal sides and back, in combination with a metal bottom fastened to the body, substantially as set forth.

7. The combination, in a toy, of a cast-metal body, cast-metal shafts, and a bar connecting the outer ends of the shafts, substantially as set forth.

8. The toy vehicle-body having sides and back for seat and a dash-board in one piece of cast metal, substantially as set forth.

9. The toy vehicle-body having sides, curved back, and low front *e* in one piece of cast metal, substantially as set forth.

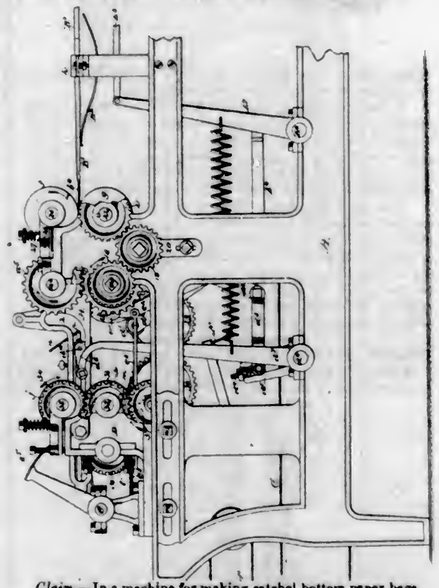
10. The toy having a body and cast-metal runners with flanges at their upper edges and attaching-rivets, substantially as set forth.

11. The combination, in a toy sleigh, of a cast-metal body, cast-metal runners, wheels, and a shaft for said wheels passing through the runners, substantially as set forth.

12. In a toy, a cast-metal body in one piece having sides, rounded back and front, and downward projections, in combination with the axle passing through such downward projections and wheels upon such axle, substantially as set forth.

13. The toy vehicle-body having sides, curved back, and dash-board in one piece of cast metal, substantially as set forth.

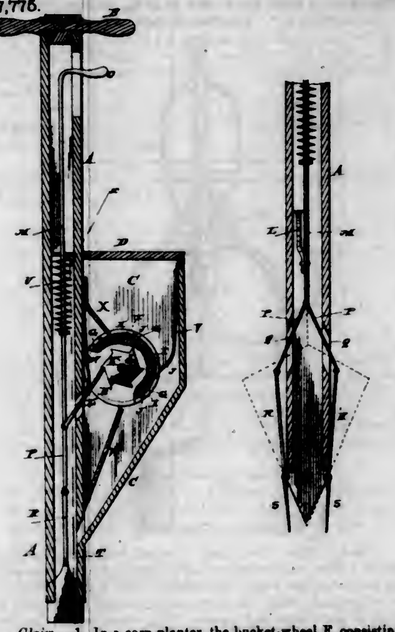
267,774. BAG-MACHINE. CLARENCE A. CHANDLER, East Bridgewater, Mass., assignor to the Eastern Paper Bag Company, Hartford, Conn. Filed Jan. 31, 1881. (No model.)



Claim.—In a machine for making satchel-bottom paper bags, the combination of tube-forming, tube-feeding, tube-cutting, and diamond-fold-laying mechanisms, having bearings in a fixed frame, with another frame adjustable backward and forward relatively on said fixed frame, and fixed thereto during the operation of the machine, and the bottom folding and pasting mechanism borne by said adjustable frame and adapted to cross fold the diamond fold in two places parallel each to the other, whereby the machine may be adjusted to make bags of different sizes from tubes or blanks of different width, substantially as described.

267,775. HAND CORN-PLANTER. LEAVITT B. CHIPMAN, Oleopolis, assignor of one-half to William M. Loots, Oil City, Pa. Filed Apr. 14, 1882. (No model.)

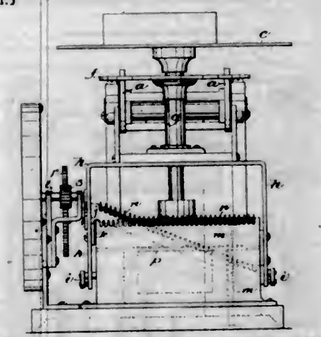
267,775.



Claim.—1. In a corn-planter, the bucket-wheel F, consisting of a solid disk having inclined recesses or buckets, at the upper ends of which are secured springs I, having their lower ends adjustable by set-screws J, substantially as herein described, for the purpose set forth.

2. In a hand corn-planter, the combination, with the bucket-wheel F, having ratchet-wheel K, of the vertically-sliding rod M, having dog or pawl L, spring N, pivoted arms P P, and the pivoted spades or blades S S, having shanks R, substantially as and for the purpose set forth.

267,776. SCALE. MOSES G. COOK, Ashfield, assignor of one-half to Joseph N. Smith, Lynn, Mass. Filed May 24, 1882. (No model.)

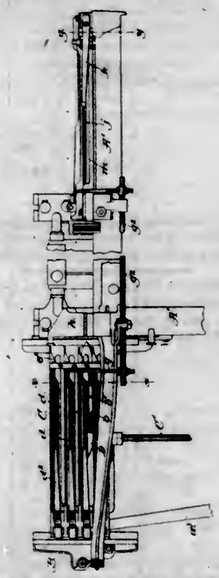


Claim.—1. In a scale or weighing apparatus, the combination, with the scale-beam provided with notched weight-lifting bars, of the corresponding notched weight-supporting plates and series of flat weights provided with projections adapted to be received in the notches of the said bars and plates and to be transferred from one to the other in the movement of the scale-beam, substantially as described.

2. The series of flat weights provided with guiding-notches, combined with the weight-lifting bars and weight-supporting plates, and the guide co-operating with the said notches, whereby the said weights are properly transferred from the former to the latter, substantially as described.

3. The dial having figures to indicate the amount in half-ounces and the number of postage-stamps required to take that number of half-ounces of mailable matter through the mails, a pointer co-operating with the said dial, and a shaft to carry the said pointer, combined with a scale-beam having connected lifting-bars, a series of weights, weight-supporting plates, from which the said weights are taken and upon which they are placed in succession, as described, and with means between the said scale-beam and the pointer-carrying shaft to rotate the said pointer, substantially as and for the purpose described.

267,777. LOOM FOR WEAVING BROAD SILK GOODS. GEORGE CROMPTON and HORACE WYMAN, Worcester, Mass.; said Wyman assignor to said Crompton. Filed Apr. 19, 1882. (No model.)



Claim.—1. The bow-shuttle and the shuttle-box having several cells, each provided with the binder-rest *f*, having an open space below it leading into the shuttle-box, combined with the narrow binders, having their free ends supported by the said rests, each binder and its free end being narrower than the depth of the shuttle-box cell vertically, to permit the free passage of the bow of the shuttle under and past the free end of the binder as the said shuttle enters or leaves a cell of the shuttle-box, substantially as described.

2. The bow-shuttle and means to move it, combined with the shuttle-box, having two or more cells provided each with the projection e^2, extended downwardly across the open front of the cell of the box to keep the shuttle from escaping from the open front or side of the said cells, yet leaving a space below it for the passage of the bow of the shuttle as the latter enters or leaves a cell of the shuttle-box, substantially as described.

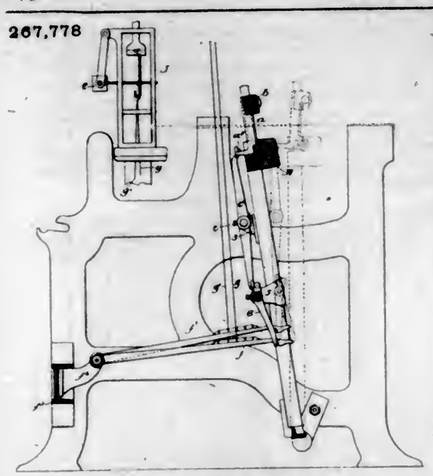
3. The two or more celled shuttle-box having the sides and inner ends of the cells open or unobstructed, as described, and each cell provided with a projection, e^2, and with a projection, 3, near its inner end extended out horizontally beyond the acting portion of the projection e^2, the said projection being adapted to support the weft-thread, substantially as described.

4. The shuttle-box having two or more cells and formed with projections e^2, *f*, and 3, and shoulders 4, and the pivoted binders, having the projections 5 to support the weft or shuttle threads, combined with the protector-finger *g* and the protector-rod g^2, upon which said finger is secured, substantially as described.

267,778. LOOM. GEORGE CROMPTON and HORACE WYMAN, Worcester, Mass.; said Wyman assignor to said Crompton. Filed Dec. 9, 1881. (No model.)

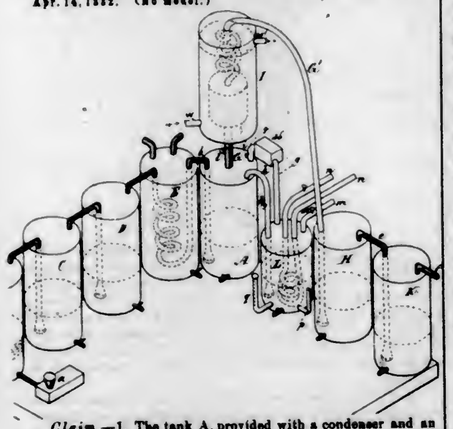
Claim.—The lay, the pivoted or receding reed, the main lever, and means to keep it pressed forward at its upper end, combined

267,778



with one or more independent pressure-augmenting devices, and pawls to operate them at the desired times to change the effective pressure of the reed against the filling, substantially as set forth.

267,779. PROCESS OF AND APPARATUS FOR PURIFYING AND MATURING LIQUORS. IRA B. CUSHING, Brookline, assignor to the Cushing Process Company, Boston, Mass. Filed Apr. 14, 1882. (No model.)

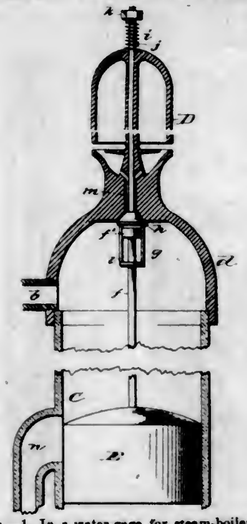


Claim.—1. The tank A, provided with a condenser and an exit-pipe, and means, as shown and described, for temporarily shutting off communication between the tank and condenser, in combination with the auxiliary tank L, with its connecting-pipes *g h* and discharge-pipe *m*, provided with suitable valves, and means, as shown, for heating the contents of the tank, whereby the ethylic alcohol and water carried over into the tank L are caused to return to the tank A, substantially as and for the purpose set forth.

2. The process of separating or eliminating the aldehyde from the spirits being treated and returning to the spirit-tank any ethylic alcohol which may have passed off with the aldehyde, the same consisting in first discharging the alcoholic vapors from the spirit-tank into an auxiliary tank containing water or other liquid and allowing the aldehyde to be forced with the air through the liquid and escape into the air through a suitable discharge-aperture, and then applying heat to the liquid contents of the auxiliary tank without removing it therefrom, and returning the vapors containing the ethylic alcohol to the spirit-tank while the spirits therein are being treated, substantially as described.

3. In an apparatus for purifying and maturing liquors or distilled spirits, the combination, with the auxiliary tank L and the spirit-tank A, of the connecting or return pipe *g*, provided with a condenser, 25 26, and steam-pipe *n*, all constructed and arranged to operate substantially as and for the purpose described.

267,780. WATER GAGE AND ALARM. PATRICK V. DWYER Gloversville, N. Y. Filed Sept. 5, 1882. (No model.)



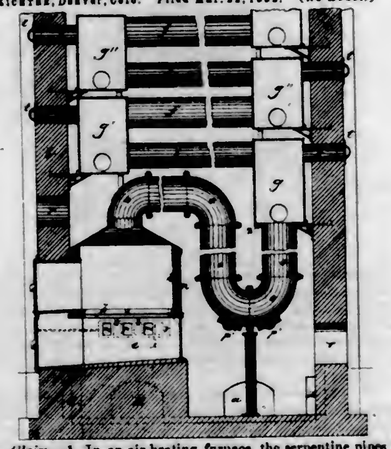
Claim.—1. In a water-gage for steam-boilers, the combination of a tube communicating at its upper and lower ends with the interior of the boiler, and provided with a steam-whistle, a valve arranged within the tube and controlling the delivery of steam to the whistle, and a piston fitting closely within the tube and connected with the valve by a sliding joint, substantially as and for the purpose set forth.

2. In combination with a water-gage and alarm containing a close-fitting piston, substantially as shown and described, within the gage-tube, an outlet or passage opening into said tube above the piston and communicating with the water-inlet or lower part of the gage-tube, whereby the water due to condensation is removed from above the piston.

3. The herein-described gage, consisting of tube C, caps *c d*, whistle D, valve *h*, and close-fitting piston E, connected with the valve by a loose joint, *g*.

4. The herein-described gage and alarm, consisting of tube C, caps *c d*, whistle D, valve *h*, piston E, connected with valve *h* by sliding joint *g*, and the tube or passage *a*, opening from water-inlet pipe *a* into tube C above the piston E.

267,781. CALORIFERE. FRIEDRICH C. EBERLEY and RUDOLPH RICHTER, Denver, Colo. Filed Mar. 22, 1882. (No model.)



Claim.—1. In an air-heating furnace, the serpentine pipes *o* between the fire-pot and a series of straight flues, *f*, and boxes *g g'*,

&c., and having cleaning-holes with caps *p'* at the lower bends, combined and arranged as specified.

2. The separate boxes *g g' g''*, held away from inner face of the wall *b* by the brackets *x*, in combination with the fire-pot and inclosing masonry wall, and with the connecting-pipes *e f*, as herein specified.

3. The combination of the pipes *f*, box or flue-head *g*, having cap-passages *s* and the flue *e*, provided with cleaning-openings having caps *p'*, substantially as set forth.

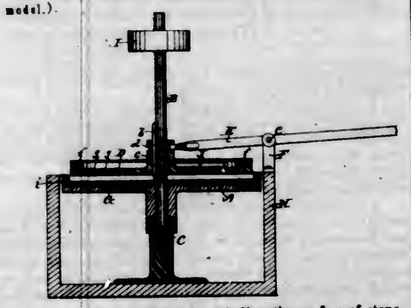
267,782. BRACELET. ALEXANDER EHRLMANN, North Attleborough, Mass. Filed Feb. 27, 1880.



Claim.—1. The central detachable case or cover, *d*, provided with the notched end pieces, *f*, for use in connection with the hinged rings of a bracelet, substantially as shown and described.

2. The combination, in a bracelet, of the central plate, C, having the wings A A pivoted thereto, and the detachable case or cover *d*, provided with the end pieces, *f f*, substantially as shown and described.

267,783. MACHINE FOR GRINDING THE SURFACE OF STONE. ANDREW FOLSOM, Warren, assignor to himself and William D. Rilton, Providence, R. I. Filed July 24, 1882. (No model.)



Claim.—1. In a machine for grinding the surface of stone, the combination of an upper and lower grinding-wheel secured to an upright shaft, so as to revolve in parallel planes in the same direction, with means for raising and lowering the upper grinding-wheel, and an intermediate rest for holding the inserted pieces of stone against the conjoint action of the upper and lower grinding-wheels in the same direction, substantially as described.

2. In a machine for grinding the surface of stone, the combination of the grinding-wheel A, provided with the flange *i*, and the grinding-wheel D, provided with the flange *f* and openings *g*, and moving in the same direction as the wheel A, with the upright shaft B, rest G, and means for raising and lowering the wheel D, substantially as described.

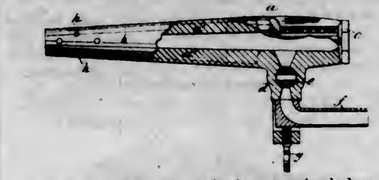
3. In a machine for grinding the surface of stone, the combination of the grinding-wheel A, provided with the flange *i*, and the grinding-wheel D, provided with the flange *f* and openings *g*, and made of less diameter than the wheel A, and moving in the same direction, with the guide K, offset-rest G, upright shaft B, and means for raising and lowering the wheel D, substantially as described.

267,784. SHEATHING AND ROOFING FOR RAILWAY-CARS. ROBERT FULTON and ALEXANDER DELANE, Detroit, Mich. Filed July 27, 1882. (No specimens.)

Claim.—1. As an article of manufacture, fire and weather proof sheathing made from pulp treated with the herein-described solutions of alum, soap, glue, and gum-arabic before the same is finished into sheets, substantially as set forth.

2. The herein-described process of rendering pulp-boards fire and weather proof, which consists in soaking the finished board in the described solutions of alum, soap, glue, and gum-arabic, and in then drying the same in any desired shape for use, substantially as set forth.

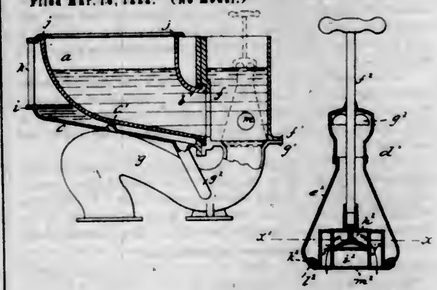
267,785. BARREL-COCK. MATTHEW HOGAN, Hartford, Conn. Filed Aug. 3, 1882. (No model.)



Claim.—1. A barrel-cock having a tapering body provided with internal flanges, all substantially as described.

2. In a barrel-cock, a mortised branch, *d*, provided with clamp-screw *g* or its equivalent, whereby the coupling *f* is held in place while the cock is in use, all substantially as described.

267,786. WATER-CLOSET. MATTHEW HOGAN, Hartford, Conn. Filed Mar. 14, 1882. (No model.)



Claim.—1. In a water-closet, in combination, a plunger-chamber and a tank having a communicating outlet whereby the water is drawn out of the tank when the plunger is raised, and an inlet by means of which water is not returned to the tank until after the bowl and plunger-chamber have become refilled, all substantially as described.

2. In a water-closet, in combination, bowl *a*, plunger-chamber *f*, tank *e*, partition *k*, with appurtenant valve *m*, and overflow, all substantially as described.

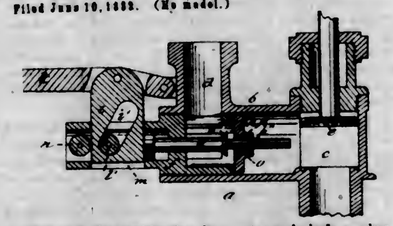
3. In a water-closet, in combination, bowl *a*, plunger-chamber *f*, plunger *d'*, partition *k*, valve *m*, overflow-tank *e*, cock *s*, and operating mechanism, all substantially as described.

4. In a water-closet, in combination, bowl *a*, pan *c*, casting *d*, and trap *g*, all substantially as described.

5. In a water-closet, in combination, bowl *a*, pan *c*, casting *d*, trap *g*, and waste-pipe g^3, all substantially as described.

6. In combination, in a plunger, a handle, f^3, case d^3, having overflow-inlet g^4, and outlet-passages i^3 j^3, interior valve, h^3, exterior groove, h^2, and packing-ring f^2, all substantially as described, and for the purpose set forth.

267,787. WATER-COCK. MATTHEW HOGAN, Hartford, Conn. Filed June 10, 1882. (No model.)



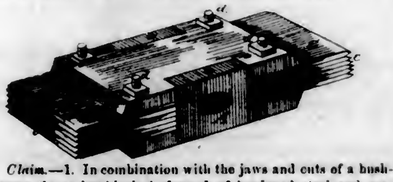
Claim.—1. In combination, in a water-cock, body *a*, plug *f*, stem *g*, valve *h*, cam-block *i*, having a diagonal slot, *i'*, and pivotally connected with lever *k*, whereby the cock is operated, all substantially as described, and for the purpose set forth.

2. In combination, in a water-cock, a body, *a*, plug *f*, and centrally-reciprocating valve-stem *g*, and valve *h*, operated by means of a diagonal slot in a cam-block pivotally connected with a lever, all substantially as described.

3. In a water-cock, a plug adapted to be secured in a body, *a*, and having its inner end faced as a valve-seat and provided with an annular packing, all substantially as described.

4. In a water-cock, a body, *a*, having one or more branches for the reception of valves, in combination with a plug, *f*, with centrally-reciprocating valve-stem *g*, bearing a valve, *h*, operated by a slotted cam-block and lever, all substantially as described.

267,788. BUSH-HAMMER. JOHN HOOD and STEPHEN H. REYNOLDS, Boston, Mass. Filed Aug. 3, 1882. (No model.)

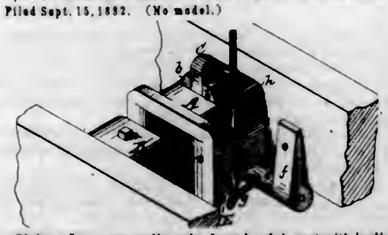


Claim.—1. In combination with the jaws and cuts of a bush-hammer, the socket-block A, formed of hardened steel and provided with a handle-orifice, A', and flanges *a a*, surrounding it at each end to receive the jaws and cuts, substantially as shown and described.

2. In combination with the socket-block and cuts of a bush-hammer, the jaws B, having bolt-holes *c' c'*, recesses B' to receive the sides of the socket-block, and recesses *b b* in their edges to receive the flanges thereof, all arranged in the manner shown and described.

3. The combination, in a bush-hammer, of the socket-block surrounded at each end by flanges *a a*, the recessed jaws embracing said block and its flanges, and the series of cuts C C, placed between the jaws, all the parts being held firmly in position by the clamping-bolts *d d*, substantially as and for the purpose set forth.

267,789. CAR-COUPLING. YOUNG P. HUDSON, Gatewood, Mo. Filed Sept. 15, 1882. (No model.)



Claim.—In a car-coupling, the draw-head A, cast with incline plane D, having beveled seat *d* and the weighted pivoted latch C, in combination with the curved plate E, extending from the pivoted shaft *e*, and the rod *g*, connected to the shaft and to the latch, and constructed to operate substantially as and for the purpose set forth.

267,790. TELEPHONE-SYSTEM. WILLIAM A. JACKSON and WILLIAM E. COLE, Detroit, Mich. Filed Apr. 13, 1882. (No model.)

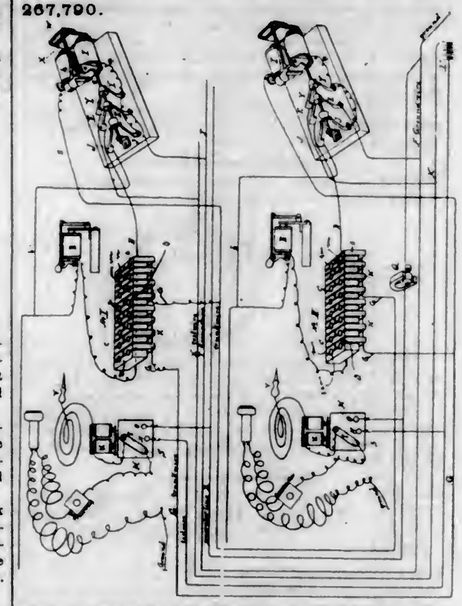
Claim.—1. In a telephone system, a series of trunk-lines corresponding in number to the entering subscribers' lines, and connected to two or more sections of every subdivision of the system within the station, in combination with the local annunciator and switching device actuated thereby, the subscribers' talking-bars alternating with said trunk-line sections, and suitable plugs whereby said trunk lines are connected, substantially as set forth.

2. In a telephone system, and in combination with the trunk and test lines, substantially as described, an electric annunciator-index provided with two tags and local connections, the first adapted to work the local springs or connections and the second to be used for clearing out, substantially as and for the purposes set forth.

3. The annunciator having double shutters, one for switching and one for clearing out, and local connections consisting of the longitudinally-moving rod provided with suitable contact-pieces, and opposing springs adapted to make or break contact with one or more of the said contact-pieces as the rod is actuated by the switching-shutter, substantially as described.

4. The combination, with a switch-board having the line-circuits and test and local-circuit wires centering therein, of the supplemental annunciator I, having switching and clearing-out shutters, and local connections automatically operated by the switching-

267,790.

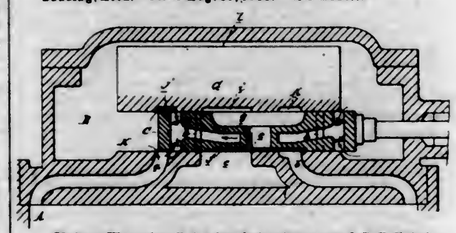


shutter to connect the desired local circuit with the line-circuits, substantially as shown and described.

5. The supplemental annunciator having switching and clearing-out shutters, and the local connections consisting of the horizontally-moving rod provided with conical contact-pieces and opposing fixed contact-springs, said cones being moved between said springs when the rod is actuated by the switching-shutter, substantially as shown and described.

6. The switch-board consisting of the longitudinal bars connected to the subscribers' circuits, and the double set of insulated bars permanently connected to the local or switch-board circuits, alternating therewith, and provided with suitable indentations adapted to receive plugs, whereby any desired pair of the local and outside circuits can be readily connected, substantially as described.

267,791. BALANCED STEAM-VALVE. SAMUEL E. JARVIS, Lansing, Mich. Filed Aug. 21, 1882. (No model.)



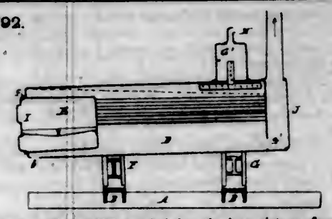
Claim.—The valve C, having induction-ports *d d' d² d³*, balancing-passages *b*, and exhaust-port *e*, combined with the seat having ports *a b c*, and with the plate G, having corresponding spaces, *j i k*, and flanges I, the said plate G embracing the valve upon three sides, and being arranged to form space *l*, as set forth.

267,792. PORTABLE STEAM ENGINE AND BOILER. SAMUEL E. JARVIS, Lansing, Mich. Filed Aug. 10, 1882. (No model.)

Claim.—1. In a portable steam-boiler having rigid supports of different heights and a steam-dome located near its highest end over perforations in the shell of said boiler, and adapted to allow the return thereto of the water of condensation, and a perforated pipe located below and extending into said dome and adapted to convey the steam thereinto, substantially as set forth.

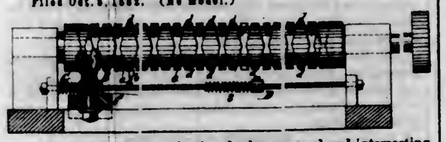
2. In combination with a portable steam-boiler, constructed and operating substantially as described, and provided with rigidly-

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attached saddles of different heights, the iron girts performing the double office of supporting the boiler and the engine, substantially as and for the purposes set forth.

267,793. MECHANISM FOR CONVERTING ROTARY INTO RECIPROCATING MOTION. JOSEPH J. KIMBALL, New York, N. Y. Filed Oct. 6, 1882. (No model.)

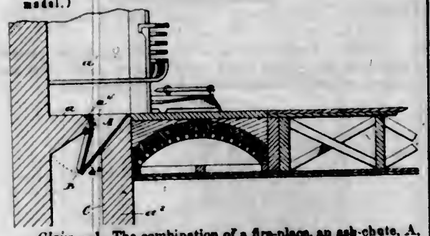


Claim.—1. A screw having duplex reversed and intersecting threads, and comprising segment-pieces which may be detached to vary the traverse produced by the screw, substantially as specified.

2. The combination, with a screw having duplex reverse intersecting threads, of a fork engaging therewith, and having a swiveling connection with a carriage or other device to which reciprocating motion is to be imparted, and spring-stops for effecting the swiveling of the fork, substantially as specified.

3. The combination, with a screw having duplex reverse intersecting threads and comprising detachable segment-pieces, of a fork engaging with said screw, and having a swiveling connection with the device to which reciprocating motion is to be imparted, so that it may be disengaged from one of the screw-threads and engaged with the other and an adjustable spring-stop, substantially as specified.

267,794. ASH-CHUTE FOR FIRE-PLACES. ANDREW H. LOBB and BYRON L. SAWYER, Chicago, Ill. Filed Dec. 9, 1881. (No model.)



Claim.—1. The combination of a fire-place, an ash-chute, A, immediately thereunder, and a damper for said chute at one side of the upper aperture thereof, substantially as and for the purpose set forth.

2. The combination of an ash-flue, an ash-chute tributary thereto, and a damper between said flue and chute, but at one side of the upper aperture of the latter, substantially as and for the purpose set forth.

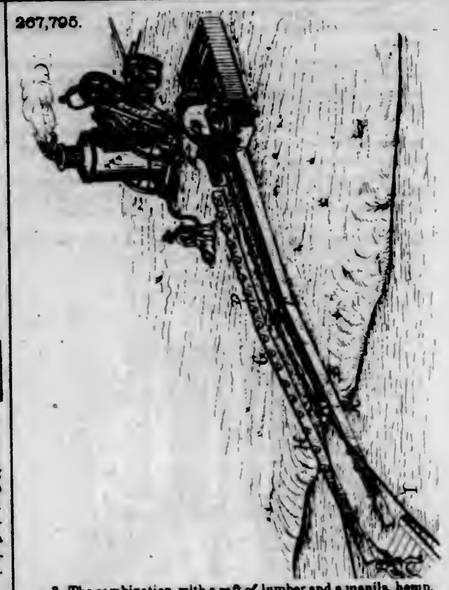
3. The ash-chute A, provided with an inclined back, a^2, in combination with a damper, B, hinged at its upper end to the front side of the chute, and at its lower end resting upon the lower edge of the incline a^2, which is projected somewhat beyond the vertical plane of the damper B, if hanging freely, whereby the latter is rendered self-closing, substantially as and for the purposes set forth.

267,795. MEANS FOR LANDING FLOATING LUMBER-RAFTS. DAVID W. MCELROY, Keokuk, Iowa. Filed Oct. 4, 1882. (No model.)

Claim.—1. In combination with a driving-shaft carrying a sprocket-wheel, an endless chain actuated by said sprocket-wheel and traveling around a turning sheave at the other end and over sheaves and inclined rails provided with anti-friction rollers, substantially as described.

2. In combination with an endless chain and side rails pro-

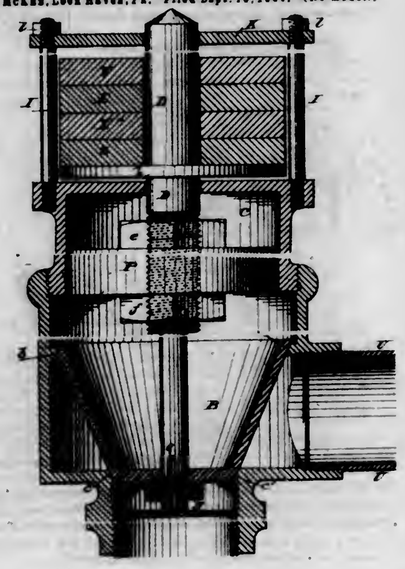
267,795.



3. The combination, with a raft of lumber and a manila, hemp, or wire rope or chain adapted to fit around the raft or a section thereof, and provided with a pulley block and hook at the forward end, of an endless chain and an inclined way and platform formed of rails provided with anti-friction rollers arranged on the sides thereof, substantially as described, and for the purpose set forth.

4. The combination, with a raft of lumber and a manila, hemp, or wire rope or chain adapted to fit around the raft or a section thereof, and provided with a pulley block and hook at the forward end, of an endless chain and an inclined way and platform formed of rails provided with anti-friction rollers arranged on the sides, as described, and for the purpose set forth.

267,796. PROCESS OF PREVENTING THE ESCAPE OF GAS FROM OIL-WELLS BETWEEN THE FLOWS OF OIL. CHARLES M. MCKEE, Lock Haven, Pa. Filed Sept. 15, 1881. (No model.)



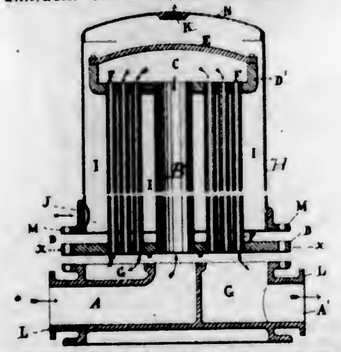
Claim.—1. The combination, with an oil-well tubing, of an automatic check-valve, substantially as and for the purpose described.

2. An oil-well tubing having a valve attached thereto, and in combination therewith, provided with means, substantially as described, for regulating the degree of pressure that must be exerted upon the valve before it will open.

3. The combination of an oil-well tube with a valve having weights or a spring and screw for regulating the degree of pressure that must be exerted upon the valve before it will open.

4. The double-seated relief-valve B, in combination with the piston, piston-rod, weights—such as V, X, Y, and Z—guide K and its supports, nut *g*, and groove *o*, substantially as described.

267,797. FEED-WATER HEATER. GEORGE MILES, Wellesley Hills, Mass. Filed Mar. 4, 1882. (No model.)

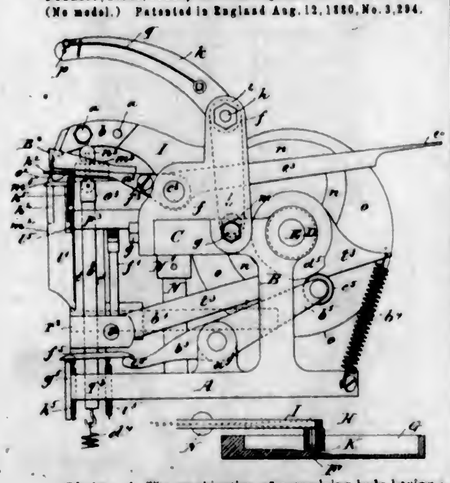


Claim.—1. In a feed-water heater, the combination of a central enlarged pipe, B, the chamber C, pipes F, and casing H, said pipe B connecting chamber C with the inlet A, substantially as shown and described.

2. The combination of the upper tube-sheet, D', the tubes B and F F, attached to the separable tube-sheet D, and the base L, containing the inlet-passage A and outlet G, as and for the purpose specified.

3. The combination of the base M, the shell H, the separable tube-sheet D, the tubes B F, and the base L, as and for the purpose set forth.

267,798. BOOT AND SHOE SEWING MACHINE. MARSHALL H. PEARSON, Leeds, County of York, England. Filed July 17, 1882. (No model.) Patented in England Aug. 12, 1880, No. 3,294.



Claim.—1. The combination of a revolving body having a cam-groove, G, of varying depth and configuration, as shown and described, with a needle-lever provided with a needle, the said groove being thus adapted to impart vertical and lateral movements to said needle-lever, substantially as described.

2. The combination of the cam-disk F, provided with cam-groove G, of varying depth, lever I, provided with roller H and button-head K, pivot-post N, and spring T, substantially as and for the purposes set forth.

3. The lever I, actuated by a cam-goove, G, to give it two motions, as described, with needle *c* and awl *d*, presser-foot A^3, and needle-plate A^4, combined substantially as and for the purposes described.

4. The combination of the lever I, actuated by a cam-groove, G, to give it two motions, as described, with needle *c*, presser-foot A^3, and needle-plate A^4, substantially as and for the purpose set forth.

5. In the construction of revolving shuttles, the combination of a revolving chamber or box, a^3, provided with a hook, d^3, and face-cam f^3, provided with surfaces for alternately drawing the threads toward and pushing them out from the front of the chamber a^3, substantially as described and shown.

6. The combination of the plate A^4, presser-foot A^3, the latter being attached on a pivoted arm, a vertical spindle, c^3, attached to said arm and connected therewith, as described, plate f^3, and levers b^3, and f^3, operating said spindle, as set forth, the whole substantially as shown and described.

7. The combination of a needle-thread take-up lever, operated as described, with a needle having a motion transverse to its stitching motion, as described, and with a shuttle provided with a hook, d^3, and projection f^3, and reciprocating revolving motion, substantially as set forth.

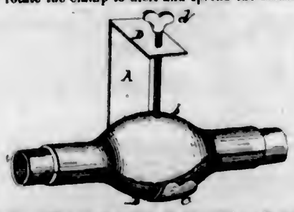
267,799. CORK SWIMMING-SUIT. PASCHAL PLADY, San Francisco, assignor of two-thirds to George Burritt Nichols and Isaac Flood, San Luis Obispo, Cal. Filed June 20, 1881. (No model.)



Claim.—An improved swimming suit or jacket, made to fit and cover the body, composed of combined threads or netting and small pieces or beads of cork, substantially as and for the purpose set forth.

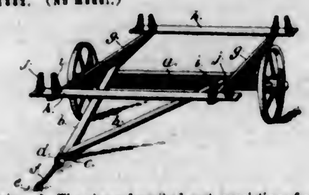
267,800. JOINT-WIPER. ROBERT REACH, Washington, D. C. Filed Mar. 20, 1882. (No model.)

Brief.—Scrape the ends of the pipes. Apply the forms of solder and the sections *b* and clamp them in place. Heat and slightly rotate the clamp to melt and spread the solder.



Claim.—The combination of the sections B and B, for reception of solder-forms B', and clamp A, substantially as shown, and for the purpose described.

267,801. TRUCK. ALFRED B. REEVES, Columbus, Ind., assignor to Reeves & Co. and Joseph I. Irwin, same place. Filed Sept. 25, 1882. (No model.)

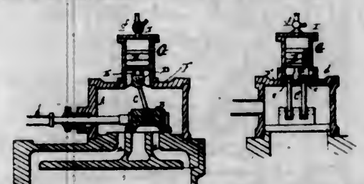


Claim.—1. The above-described cart, consisting of an axle, a pair of wheels, spring side bars, *g g*, cross-bars *h h*, and uprights

i i and *j j*, all combined in the manner shown and described, and for the purpose set forth.

2. In combination with axle *e*, a pair of wheels, spring side bars, *g g*, cross-bars *h*, and uprights *i i* and *j j*, the hounds *b b*, eye *c*, ring *d*, hook *e*, and chain *f*, in the manner shown and described, and for the purpose set forth.

267,802. BALANCED VALVE. MERVIN M. SANDERS, Alpena, Mich. Filed Aug. 19, 1882. (No model.)



Claim.—1. In a balanced valve, and in combination with the valve, steam-chest, and piston, a cylinder formed in the said steam-chest and a piston operating therein, said piston being loosely connected to the valve and having friction-rollers to receive the side-thrusts due to the motion of the valve, as set forth.

2. In combination with the steam-chest A and valve B, the cylinder G, having cock *f*, the piston H, links C, shaft D, and friction-rollers *c*, as and for the purposes set forth.

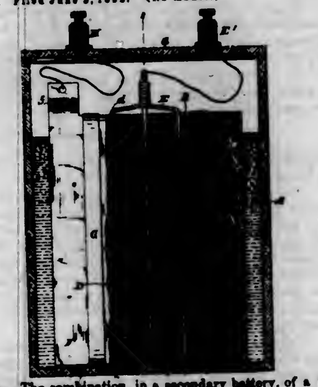
267,803. TRUSSED LADDER. FREDERIC S. SHARRAVE, Rochester, Mich. Filed Apr. 13, 1882. (No model.)

Brief.—Each side of the ladder has a brace-rod attached to its opposite ends, which brace-rods are secured together at their middles and to the center of a cross bar or brace.



Claim.—The combination, with the legs A A' of a ladder, of the central cross-bar, C, and the truss-rods D E, each secured at its ends to opposite ends of the legs, and both secured at their middle to the center of the cross-bar C, substantially as described.

267,804. SECONDARY BATTERY. ELI T. STARR, Philadelphia, Pa. Filed June 9, 1882. (No model.)



Claim.—The combination, in a secondary battery, of a positive electrode constructed of a metal plate or plates, a negative electrode constructed of a porous active conglomerate or mass, and a porous partition between said electrodes, substantially as described.

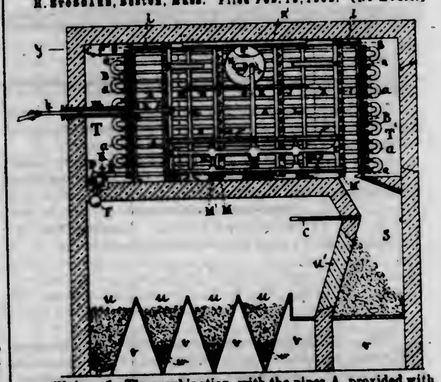
267,805. CHIMNEY TOP AND VENTILATOR. EMIL R. STAECH, Corning, N. Y., assignor of one-half to George R. Brown, same place. Filed July 14, 1882. (No model.)

Claim.—In combination, the pipe A, having its upper end surrounded with a downwardly-projecting flange or deflector, *a*, the hollow deflecting-cone *b*, held above said pipe and flange by bars *b'*, and the truncated-cone-shaped deflector B, open at the top and bottom, and held in place by the extended arms *b'*, as shown and described.

267,806.



267,806. REFRIGERATING AND DRYING MACHINE. GEORGE H. STODDARD, Boston, Mass. Filed Feb. 13, 1882. (No model.)



Claim.—1. The combination, with the pipes A, provided with the bars or partitions E, of the scrapers and brushes, the scrapers being in contact with the partitions but not with the pipes, substantially as set forth.

2. The combination of the cogged wheels and racks, an intermediate wheel provided with teeth actuated by a pawl and a cam, with a sliding frame provided with scrapers and brushes, whereby the said frame is intermittently raised and lowered as it moves forward and back, substantially as set forth.

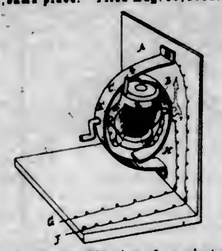
3. The chambers V, in combination with the boxes *u*, containing snow, as and for the purpose set forth.

4. The combination of the manifold D, pipe I, and receptacle F, as and for the purpose set forth.

5. The combination of the supports L, the pipes A, and bars or partitions E, as and for the purpose specified.

6. The combination, with the tubes A, of the adjustable scrapers I, constructed with the semicircular edge and two straight edges, as set forth.

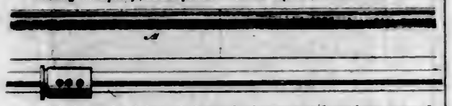
267,807. ELECTRICAL ANNUNCIATOR. FRANCIS TASSER, Detroit, Mich., assignor of one-half to James Allen and Michael McNamara, same place. Filed Aug. 10, 1882. (No model.)



Claim.—1. The combination of an electric magnet having centrally-located trunnions and a suitable indicator attached to an extended portion of one of said trunnions, and centrally pivoted between the extremities of a fixed permanent magnet and a curved bracket inclosing said fixed and pivoted magnets, and secured to a suitable frame or base, and a suitable pin or stop adapted to rest against said bracket and prevent direct opposition of the poles of the magnets, and suitable wires whereby the pivoted magnet is oscillated between the poles of the permanent magnet by the alternate reversal of the current passing therethrough, and the attraction and repulsion of the permanent magnet, substantially as set forth.

2. The combination of the curved fixed bracket C and fixed permanent magnet H, and a suitable frame or base with an electro-magnet provided with trunnions pivoted respectively in the bracket and fixed magnet, the stop *a*, and a suitable indicator, D, secured to the trunnions of the electro-magnet, and operated by the alternate reversal of a single current in the electro-magnet and the normal attraction of the permanent magnet, substantially as shown and described.

267,808. BROACH FOR MAKING KEY-SLOTS. WARREN H. TAYLOR, Stamford, Conn., assignor to the Yale Lock Manufacturing Company, same place. Filed Apr. 1, 1878.



Claim.—1. A broach formed of corrugated sections secured to a holder, and having an inclined cutting-edge, substantially as described.

2. A straight broach having its sides longitudinally corrugated, and having an inclined edge and curved and deviating teeth, substantially as described.

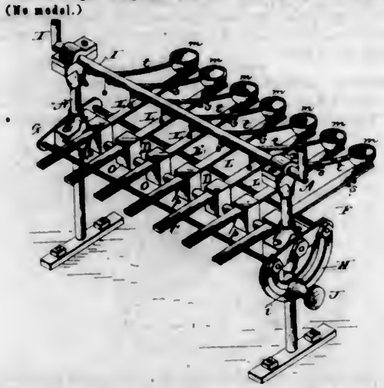
267,809. ART OF MAKING HINGES. GEORGE C. THOMAS, New York, N. Y. Filed Mar. 16, 1880. (No model.)



Claim.—1. The improvement in the art of making hinges of sheet metal—namely, cutting or punching the blanks from sheet metal with the end portions diverging or extending away from each other, bending said blanks to bring the end portions thereof into positions parallel with each other, and bending the extremities to form the ears or sockets and uniting the two parts by a pintle or pin—substantially as set forth.

2. The improvement in the art of making hinges of sheet metal—namely, cutting the blank to the form substantially as shown in Fig. 1 of the drawings, bending said blank to the form substantially as shown in Fig. 2, bending the extremities to form the sockets or ears, and uniting the two parts by a pintle or pin, substantially as set forth.

267,810. DEVICE FOR FEEDING AND WATERING STOCK IN CARS. ALFRED D. TINGLEY, New York, N. Y., assignor to Charles Edgar Tingley, Adrian, Mich. Filed Mar. 25, 1882. (No model.)

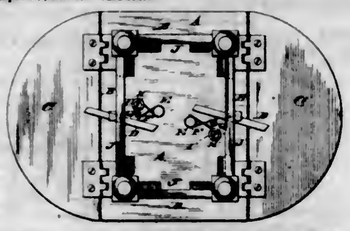


Claim.—1. A frame arranged on one or both sides of a car-track, provided with separate feed or water receptacles attached to bars or rods, in combination with movable blocks and a supporting-rod, whereby the said receptacles can be independently raised or lowered and slid back and forth, or sidewise, or at an angle, substantially as and for the purpose described.

2. The swinging frame composed of the rods C D E and the arms F G, mounted on suitable supports, in combination with the segmental slotted plate and thumb-screw, substantially as described.

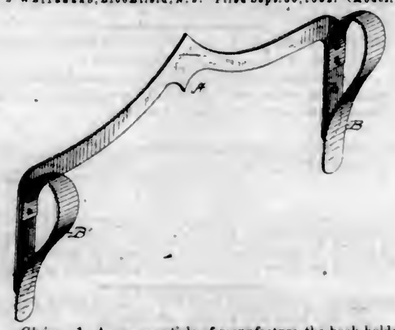
3. The combination of the swinging frame, the independently sliding and tilting boxes or cups and their supports, the main water-conducting pipe, and the flexible connecting-pipes, substantially as described.

267,811. TABLE. GEORGE T. TOWNSEND, Warren, Ohio. Filed Apr. 15, 1881. (Model.)



Claim.—In a table, the combination, with the folding leaf C and centrally-pivoted horizontal leaf-support D, of the coiled spring E, having straight arms F crossing each other and provided with eyes or loops G, attached respectively to studs under the table and the rear end of said leaf-support, as and for the purpose herein shown and described.

267,812. BOOK-HOLDER. CELIA J. B. WHITEHEAD and EMORY J. WHITEHEAD, Bloomfield, N. J. Filed Sept. 30, 1882. (Model.)



Claim.—1. As a new article of manufacture, the book-holder consisting of the bar with the downward-extended ends and the connected spring-fingers having their lower ends free and extending below the ends of the bar, substantially as described.

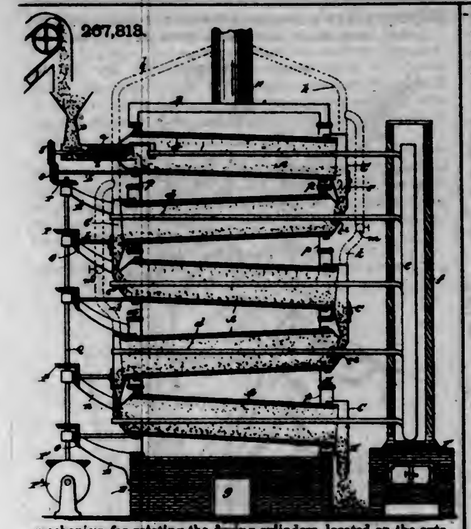
2. A book-holder having two flat spring-fingers arranged on opposite sides and extending below their attached bar, as and for the purpose set forth.

267,813. APPARATUS FOR DRYING GRAIN. FREDERICK W. WISSBROCK, New York, N. Y. Filed Mar. 14, 1882. (No model.)

Claim.—1. The combination, in a grain-drier, of the housing B, with the series of inclined rotary drying-cylinders A, having their ends extended outside of the housing in which the body or main portion of each one of the cylinders is located, the spout-caps C, located outside of the housing and connecting the ends of the cylinders, and each provided with a dampered ventilating pipe or flue, blast-pipes *d*, and mechanism for rotating the cylinders, also located outside of the housing, said members being constructed and organized substantially as described.

2. In a grain-drier, the combination, with a housing inclosing a series of drying-cylinders, of the horizontal adjustable heat-regulating partitions A', arranged between said cylinders, substantially as described.

3. In a grain-drier, the combination of a housing having a suitable chimney, a series of rotary drying-cylinders arranged in said housing and inclined alternately in opposite directions, with their ends projecting beyond the walls of the housing, a series of cap-spouts connecting the ends of said cylinders and provided with suitable doors and openings for giving access to the cylinders, adjustable partitions arranged between said cylinders for regulating the passage of heat on the outer sides thereof, pipes connecting the spout-caps and chimney and provided with dampers for controlling the escape of air and moisture, a furnace having a heating-chamber and a vertical blast-pipe provided with horizontal branch pipes communicating with the interior of the drying-cylinders, and

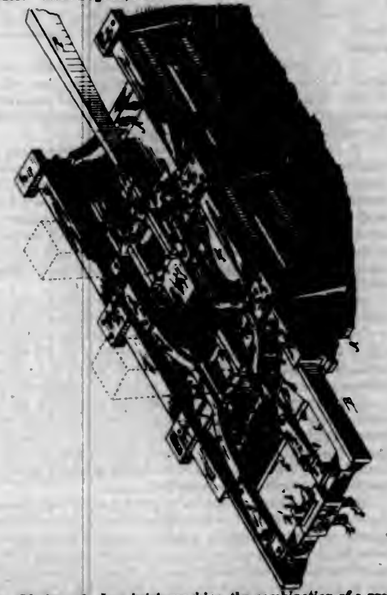


267,813.

mechanism for rotating the drying-cylinders, located on the exterior of the housing, all substantially as shown and described.

4. The combination, with the housing inclosing a series of communicating drying-cylinders, of the fixed partitions A, and the horizontal slidable partitions A', operated by rods *i*, said partitions being located between the drying-cylinders, substantially as and for the purpose set forth.

267,814. BRICK-MACHINE. ROBERT B. WILSON, Cincinnati, Ohio. Filed Aug. 19, 1882. (No model.)



Claim.—1. In a brick-machine, the combination of a pressure-chamber, a sliding cut-off, a pair of plungers of unequal length, and suitable operating mechanism, substantially as described.

2. In a brick-machine, the combination, with two or more pressure chambers or boxes provided with sliding cut-offs, and having opposite plungers of unequal length, of a carriage or frame provided with means for operating the sliding cut-offs, and with cams and retracting cam-bars adapted to advance and retract the plungers, substantially as described.

3. In a brick-machine, the combination, with pressure-chambers having plungers and sliding cut-offs, of a reciprocating carriage adapted to operate said plungers and cut-offs, substantially as described.

4. In a brick-machine, the combination, with a pair of pressure-chambers, each provided with plungers and cut-offs, of a reciprocating carriage adapted to actuate said plungers and cut-offs in such a manner that during a single movement of the carriage in either direction the material in one chamber will be pressed and discharged while the other chamber is being filled, substantially as described.

5. In a brick-machine, the combination, with a pair of pressure-chambers, each provided with a pair of reciprocating plungers and a sliding cut-off, of a sliding carriage provided with devices adapted to actuate the cut-offs and alternately cover and uncover the pressure-chambers, and having means for advancing and retracting the plungers, whereby in alternate chambers both plungers are advanced to press the brick, and one retracted while the other is advanced to discharge the brick, substantially as described.

6. In a brick-machine, the combination of a bed or frame having guides or ways provided with friction-rollers, pressure-chambers supported on said frame and having sliding cut-offs, reciprocating plungers provided with friction-rollers, and a sliding carriage adapted to operate said plungers and cut-offs, substantially as described.

7. In a brick-machine, the combination of pressure-chambers having reciprocating plungers and cut-offs, a reciprocating delivery-slide, and a reciprocating carriage adapted to operate said cut-offs, plungers, and slide, whereby the bricks are pressed and delivered, substantially as described.

8. In a brick-machine, the combination of pressure-chambers arranged in pairs, slotted movable cut-offs adapted to alternately cover and uncover said chambers, plungers of unequal length adapted to press the material in said chambers, a reciprocating delivery-slide, and a carriage having means for actuating said cut-offs, plungers, and slide, whereby one chamber in each pair may be filled with material while a brick is pressed in and delivered from the other chamber, substantially as described.

9. In a brick-machine, two stationary pressing-chambers, each provided with a pair of reciprocating plungers, in combination with a horizontally-sliding carriage adapted first to advance the plungers to press the brick and then retract one plunger in each pair while the other is advanced to discharge the brick, and finally to return the plungers to their normal position, substantially as described and shown.

10. The combination, in a brick-machine, of a stationary pressing-chamber, provided with a sliding cut-off, with a horizontally-reciprocating carriage adapted to be engaged with and disengaged from the cut-off at stated points in its movement, substantially as and for the purpose set forth.

11. In a brick-machine, a reciprocating delivery-slide, in combination with a reciprocating carriage adapted to engage with and operate the slide to deliver the brick, substantially as described and shown.

12. The combination, in a brick-machine, of a reciprocating delivery-slide, an operating lever or arm, and a horizontally-reciprocating carriage provided with a dog for engagement with the said operating-lever, substantially as and for the purpose described.

13. In a brick-machine, a reciprocating delivery-slide provided with spring-actuated dogs, substantially as and for the purpose described.

14. The latch B', having hooked ends *b b* and standards *b' b'*, adapted to slide vertically through the sliding carriage B, in combination with means for raising the latch, substantially as described and shown.

15. The combination, in a brick-machine, of the reciprocating plungers E E', provided with friction-rollers *e e'*, with a horizontally-reciprocating carriage having cam-tracks L M, and retracting devices or bars G G', shaped to correspond with their respective tracks, substantially as and for the purpose set forth.

16. In a brick-machine, the adjustable auxiliary plates *g'*, by means of which the size of the pressing-chambers may be regulated to receive a larger or smaller quantity of material, substantially as shown and described.

17. The retracting bars G G', provided with the adjustable auxiliary plates *g' g'* near their ends, substantially as described and shown.

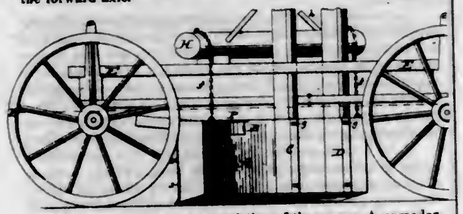
18. In a brick-machine, the plungers E E', moving between guides, in combination with the cross-bar A' and caps F, substantially as described and shown.

19. The combination, in a brick-machine, of the plungers E E', having guides *e'*, with the cross-bar A', and slotted caps F, connected by metal straps *f f*, substantially as and for the purpose set forth.

20. In a brick-machine, the sliding cut-off D', provided with opening d' for the passage of material, in combination with the pressing-chamber D, substantially as shown and described.

267,815. ROAD-SCRAPER. ALANSON WOOLSEY, Adrian, Mich. Filed July 5, 1882. (No model.)

Brief.—The scraper has vertical guide-posts passing through, and is suspended by chains from a windlass on, the wagon-frame. An adjustable spreader-bar on the scraper is loosely connected at one end with one of two chains, which connect the scraper with the forward axle.



Claim.—A road-scraper consisting of the scraper A, spreader-bar B, posts C D, chains *e e'*, and chains *f*, in combination with a wagon provided with proper means for raising and lowering the scraper, substantially as and for the purposes set forth.

267,816. MANUFACTURE OF IMITATION-BULLION CAP-ORNAMENTS. EDMUND L. SALISBURY, U. S. Army. Filed Aug. 15, 1881. (No model.)

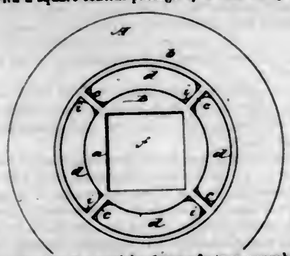


Claim.—1. The method herein described for producing cap-ornaments in imitation of bullion, &c., which consists in making a solid metallic copy from a bullion ornament, as described, perfecting the same by chasing, again making a mold, and electro-depositing a fac-simile thereof in said mold.

2. The method of producing ornaments heretofore described, which consists in making a mold indirectly from a bullion pattern, substantially electro-depositing a film of gold or silver therein, backing the same with an electro-deposit of nickel, and this again with a baser metal.

267,817. WINDING-SHELL FOR CALICO, &c. ABRAM N. ACKERMAN, Passaic, N. J. Filed Apr. 11, 1882. (No model.)

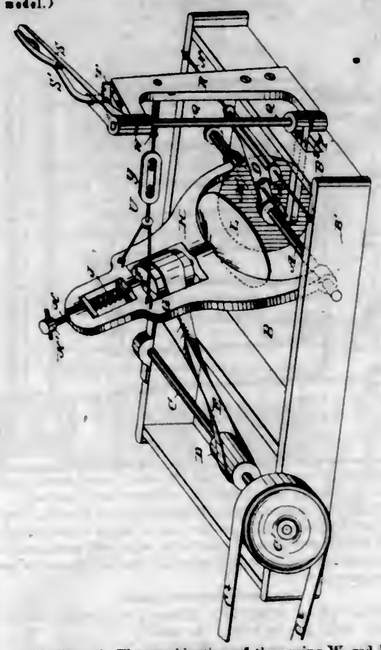
Brief.—The bushing for the winding-shell consists of an external tapering ring, which is connected to a central portion, which is formed with a square central passage by means of tapering fins.



Claim.—1. As a new article of manufacture, a combined bushing and ferrule for winding-shells, consisting of the central portion, *a*, having a square hole, *f*, the tapering rim *b*, and the tapering fins *e*, connecting the rim and central portion together, the said central portion being deeper than the rim, substantially as herein shown and described.

2. The combination, with the shell A, of the casting B, consisting of the apertured central portion *a*, the tapering rim C, and the tapering fins *e*, connecting the central portion and rim together, substantially as herein shown and described, whereby the casting serves the double purpose of a bushing for the shell and means for securing it in a lathe for turning up said shell, as set forth.

267,818. SPEED AND MOTION REGULATOR FOR MACHINES. CHRIST ADLER, Milton Centre, Ohio. Filed Sept. 15, 1882. (No model.)



Claim.—1. The combination of the spring W, rod U, and double nut-frame Y, whereby the belt may be tightened, as described.

2. The combination, with a horizontally-movable friction-wheel, M, of a fixed friction-wheel, L, rotating in contact with and at right angles to it, and provided with a central concavity, *a*, whereby the wheel M will cease to be actuated as soon as it reaches the concavity *a*, as and for the purpose specified.

3. In a speed and motion regulator for machinery, the combination, with the shaft A, of the friction-wheel M, mounted thereon, the friction-wheel L, mounted on a shaft journaled in the frame H, pivoted on the shaft A, the shaft of which wheel L is rotated from the shaft from which the power is to be transmitted, and of devices for holding the frame H at the desired inclination, so that the belt which rotates the shaft therein will always be taut, substantially as herein shown and described, and for the purpose set forth.

4. In a speed and motion regulator for machinery, the combination, with the shaft A, of the friction-wheel M, mounted loosely to slide thereon, the wheel L, provided in the middle of its surface with a concavity, *a*, which wheel L is mounted on the end of a shaft journaled in the frame H, pivoted on the shaft A, substantially as herein shown and described, and for the purpose set forth.

5. In a speed and motion regulator for machinery, the combination, with the shaft A, of the friction-wheel M, mounted loosely thereon, the friction-wheel L, mounted on a shaft journaled in the frame H, pivoted on the shaft A, and of devices for moving the friction-wheel M on the shaft A, substantially as herein shown and described, and for the purpose set forth.

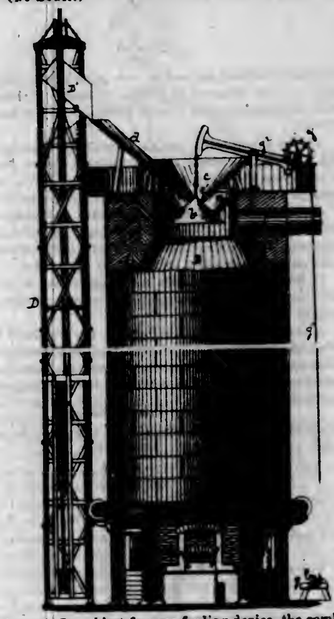
6. In a speed and motion regulator for machinery, the combination, with the shaft A, of the friction-wheel M, mounted loosely thereon, the friction-wheel L, mounted on a shaft journaled in the frame H, pivoted on the shaft A, the fork O, engaging with the hub of the wheel M and sliding on a rod, N, and of a shaft provided with an arm connected with the fork O, for moving it parallel with the length of the shaft A, substantially as herein shown and described, and for the purpose set forth.

7. In a speed and motion regulator for machinery, the combination, with the shaft A, of the friction-wheel M, mounted loosely thereon, the friction-wheel L, mounted on a shaft journaled in the frame H, pivoted on the shaft A, the fork O, engaging with the hub of the wheel M and mounted to slide on a rod, N, the arm P of the vertical shaft Q, the connecting-rod *d*, the handle S, the locking-lever S', and the notched segmental plate T, substantially as herein shown and described, and for the purpose set forth.

8. In a speed and motion regulator for machinery, the combination, with the shaft A, of the friction-wheel M, mounted thereon, the friction-wheel L, mounted on the shaft G, journaled in the frame H, of the spring J, and the adjusting-screw K, substantially as herein shown and described, and for the purpose set forth.

9. In a speed and motion regulator for machinery, the combination, with the shaft A, of the friction-wheel M, mounted thereon, the friction-wheel L, mounted on the shaft G, journaled in the frame H, the rod U, the spring W, the nut-frame Y, and the standard R, substantially as herein shown and described, and for the purpose set forth.

267,819. FEEDING DEVICE FOR BLAST AND OTHER FURNACES. WILLIAM H. ALLEN, Pittsburg, Pa. Filed Oct. 31, 1881. (No model.)



Claim.—1. In a blast-furnace feeding device, the combination of the lower feed-hopper, *a*, and the upper feed-hopper, *c*, with the bell *b* and mechanism for supporting and operating the same, the two hoppers constructed as described, whereby the bell, when raised, closes the bottom of the lower hopper, and has its apex at or about the level of the bottom opening of the upper hopper, substantially as set forth.

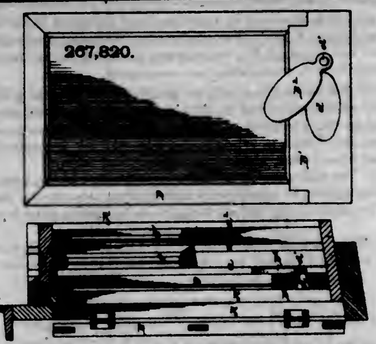
2. A blast-furnace feeding apparatus having in combination a lower feed-hopper, *a*, an upper feed-hopper, *c*, a bell, *b*, mechanism for supporting and operating the bell, the two hoppers being constructed as described, whereby the bell, when raised, closes the bottom of the lower hopper, and has its apex at or about the level of the bottom opening of the upper hopper, and having also an elevator worked from the ground, a self-dumping car, and a chute, *d*, substantially as set forth.

267,820. WINDOW. URIAH H. BALCOM, Downer's Grove, Ill. Filed May 2, 1882. (No model.)

Brief.—Outside the grooves in which the sashes slide is an additional groove provided with an additional sash having a deep lower rail provided with an aperture that may be opened or closed to pass the hand to close or open the blinds.

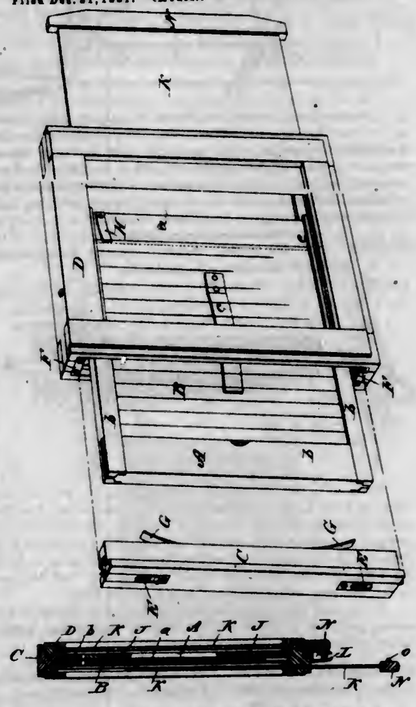
Claim.—1. The window described, consisting of the frame A, provided with the blind-stop A' and the three inner sash stops, *a*, *a'*, and *a²*, combined with the meeting-sash C and C', located in the grooves G and G', and a single sash or frame in the groove F, substantially as described, and for the purposes set forth.

2. In combination with the frame provided with the three grooves F, G, and G', the blinds B, and the meeting-sash C C', the



outer sash, D, having the broad rail D', apertured to give passage to the hand, and provided with a closing slide, D'', substantially as described.

267,821. PHOTOGRAPHIC SHIELD. EDASTUS B. HARKER, New York, N. Y., assignor to E. & H. T. Anthony & Co., same place. Filed Dec. 21, 1881. (Model.)



Claim.—1. A photographic shield, made substantially as herein shown and described, with a removable plate carrying the septum, adapted to be inserted, either side up, within the shield, whereby horizontal or vertical pictures on plates of different sizes may be taken at will by simply changing the position of the septum, as set forth.

2. The removable cover C, provided with fastening devices and springs on its inner edge, in combination with the frame of the shield and the septum A, substantially as herein shown and described, and for the purpose set forth.

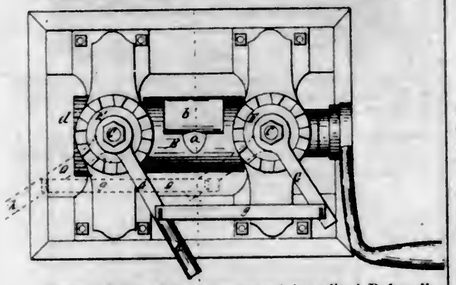
3. The combination, with the cover C and septum A, of the springs G, substantially as herein shown and described, whereby the septum will be held in place when the cover is closed, and the door will be automatically thrown open when unfastened, as set forth.

4. In combination with the cover C and the shield D, the fastening devices E E, or their equivalents, substantially as herein shown and described, for the purpose of holding the cover and septum in place, as set forth.

5. The combination, with the shield and its slide, of a self-acting spring-lock on the shield, having an aperture in its shank to engage with a projecting stud on the slide, substantially as herein shown and described, whereby the slide will be automatically locked when pushed home.

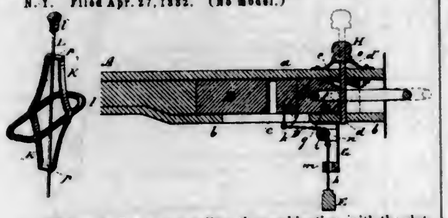
6. The self-acting spring H, in combination with the septum A, substantially as herein shown and described, whereby the plate will be automatically held and locked upon the septum, as set forth.

267,822. ROLLS FOR ROLLING SHOVEL-BLANKS. ELMORE A. BARNES, Pittsburg, Pa. Filed May 15, 1882. (No model.)



Claim.—A pair of continuously-revolving rolls, A B, for rolling and re-enforcing shovel-blanks, one roll being provided with a re-enforcing depression, *a*, and one of the rolls having a depression, *b*, in advance of the depression *a*, and of such depth and peripheral extent as to enable the blanks to be inserted between the rolls from the discharge side thereof while they are revolving, substantially as and for the purpose herein specified.

267,823. CAR-COUPLING. CHARLES BURDEN, Ravenswood, N. Y. Filed Apr. 27, 1882. (No model.)



Claim.—1. In a car-coupling, the combination, with the slotted draw-head A, having the cushion B and beveled stop F, of the block C, sliding between the cushion and stop, provided with the rollers *g g*, link-pocket *f*, and having the bevel *e*, to permit it to project with its front end under the beveled stop F, so as to bring the entrance to the link-pocket flush or in a line with the front end of said stop, substantially as shown and set forth.

2. The link I, having the vertical bail or guide-bracket K and sliding guide-rod L, substantially as and for the purpose hereinbefore set forth.

267,824. WATCH-HANDS. JOHN WETHERED BELL, Catonsville, Md. Filed May 25, 1882. (No model.)

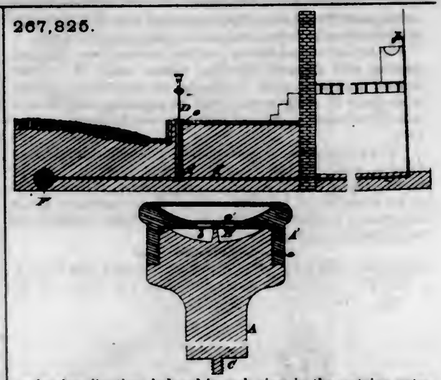


Claim.—The combination of a pair of coupled hands, one of which has a peripheral groove with inclined sides cut around its hub, and the other a split spring-ring sprung into the groove and around the hub for the purpose of preserving a constant frictional contact between the two and maintaining a definite angular relation between the hands for correctly indicating the differences in time, as set forth.

267,825. METHOD OF AND APPARATUS FOR DETECTING LEAKAGE IN CONDUITS. THOMAS J. BELL, Cincinnati, Ohio. Filed Jan. 3, 1882. (No model.)

Claim.—1. The method of ascertaining and locating leaks or improper use of water in service mains and pipes in cities and buildings, consisting in receiving, amplifying, and converting the

267,825.



molecular vibrations induced in such pipes by the escaping water, and conveying the same to the ear by means of suitable microphonic apparatus applied to such mains or pipes, substantially as set forth.

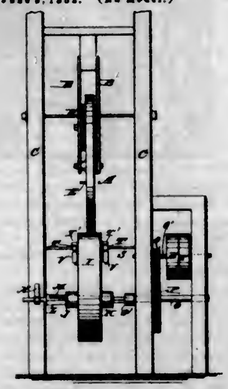
2. The microphonic apparatus consisting essentially of a metallic diaphragm centrally mounted upon a stud or transmitting-rod in a sound-chamber, and adapted to be applied to water or gas mains for the detection of leaks, substantially as set forth.

3. The herein-described leak-detector, consisting of a body-piece, A, provided with a stud, *b'*, and lug C, cap-piece A', having an opening, *a'*, and a diaphragm, B, mounted in the chamber formed by the cap and body-piece, substantially as specified.

4. The combination of the body-piece A, cap A', stud B', and metal diaphragm, B, placed between the cap and the body, substantially as set forth.

5. An apparatus for transmitting the sounds of leakage in fluid-conduits to the ear of an attendant or inspector, consisting of the microphonic leak-detector A and the key D, the latter adapted to be applied to the cock of the service-pipe, substantially as set forth.

267,826. MEASURING-MACHINE. THOMAS A. BELL, Trenton, N. J. Filed June 9, 1882. (No model.)



Claim.—1. In a measuring-machine, the combination, with the frame C and the bolt-roll and receiving-shell, arranged at opposite sides of the frame, of the arms B, pivoted to the said frame, the measuring-wheel A, pivoted between the outer ends of the said arms and provided with the stud E, the toothed register-wheel D, pivoted to one of the said arms between its fulcrum and outer end, and the pointer F, rigidly attached to one of the said arms, substantially as and for the purpose set forth.

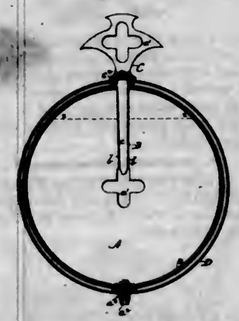
2. In a measuring-machine, the combination, with the measuring and registering wheels and devices for winding and unwinding the material to be measured, of the transverse rods S, the collars T, loosely mounted on the same, the binding-screws T', and the guide-rollers V, mounted loosely on spindles attached to the collars T, substantially as herein shown and described, and for the purpose set forth.

3. In a measuring-machine, the combination, with the measuring and registering wheels, of the shell J, formed of two or more parts, the rubber sleeve K, surrounding them, and the mandrel L, which is passed through this shell, substantially as herein shown and described, and for the purpose set forth.

4. In a measuring-machine, the combination, with the measuring and registering wheels, of the shell J, the rubber sleeve K, surrounding it, the mandrel L, and the spline M, substantially as herein shown and described, and for the purpose set forth.

5. In a measuring-machine, the combination, with the measuring and registering wheels, of the shell J, the mandrel L, the hook N, the shaft O, provided with a socket, O', for receiving the end of the mandrel, and of devices for rotating the shaft, substantially as herein shown and described, and for the purpose set forth.

267,827. STOVE-PIPE DAMPER. LEVI BERGER and WILLIAM H. BERGER, Philadelphia, Pa. Filed Sept. 28, 1882. (No model.)



Claim.—1. A damper comprising a metal disk with a radial slot for the reception of a key, wedge, or handle, said slot being open throughout, whereby its sides may be sprung apart, and which tend to contract upon such key, wedge, or handle, substantially as shown.

2. The combination, in a damper, of a disk, A, having a radial slot, B, and a key or wedge, C, inserted therein and held in place by the contractile tendency of the metal of the disk, substantially as shown and described.

3. The disk A, having radial slot B, with flanges *b b* on each side thereof, substantially as shown and described.

4. The disk A, having radial slot B, with longitudinal ribbed sides, substantially as shown and described.

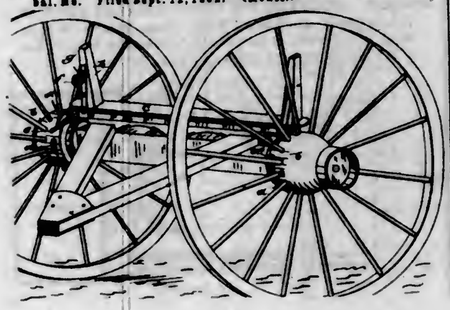
5. The disk A, having a radial slot, B, and projections *b' b'* on either side thereof, projecting beyond the edge of said disk, substantially as shown and described.

6. The key or wedge C, having a shank with longitudinally-grooved sides, and a handle, *c'*, substantially as shown and described.

7. The combination of a radially-slotted disk and a longitudinally-grooved key or wedge, substantially as shown and described.

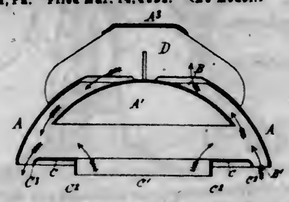
8. The combination, with a slotted disk, A, of a key or wedge radially adjustable therein, so as to vary the pressure or friction between said parts and an interposed stove-pipe.

267,828. WAGON-BRAKE. ALEXANDER D. BERTINE, Marshall, Mo. Filed Sept. 12, 1882. (Model.)



Claim.—The combination of lever *e* and a holder, *f*, with the latch-bar *d*, jointed to the holster, and the ratchet-projections attached to the wheel-hubs, substantially as described.

267,829. VENTILATOR OR CHIMNEY CAP. LEWIS F. BUTTS, Morton, Pa. Filed Mar. 14, 1882. (No model.)



Claim.—1. A ventilator or chimney cap having an outer hemispherical shell, open at top, as set forth, a bottom plate, the outer edge whereof is located upon the same plane as the base of the shell, said plate being provided with an opening therethrough for the passage of products of combustion or air, and an inner hemispherical shell located above said opening, the curve thereof corresponding to the curve of the outer shell, as set forth, the whole being surmounted by wings bearing a top plate, substantially as shown and described.

2. In a ventilator or chimney cap of the character herein specified, the combination, with hemispherical shells A and A', of wings D and plate A^3, substantially as shown and described.

3. In a ventilator or chimney cap of the character herein specified, the combination, with hemispherical shells A and A', of bottom plate, C, wings D, and plate A^3, the whole arranged to operate substantially as shown and described.

4. In a ventilator or chimney cap, hemispherical outer shell, A, bottom plate, C, having inner collar, C^2, and opening C', an annular opening, B', being left between shell A and edge C^2 of plate C, inner shell, A', extending upward within shell A to opening B, as specified, and wings D, surmounted by plate A^3, the whole combined and arranged to operate substantially as shown and described.

267,830. TABLE-CASTER FOR DINING-CARS. J. H. BLACKBURN, Meriden, Conn., assignor of one-half to Charles S. Perkins, same place. Filed Oct. 19, 1882. (No model.)



Claim.—1. A metal case constructed and adapted for introduction into the wall of an apartment provided internally with holders for the bottles required for table use, substantially as described.

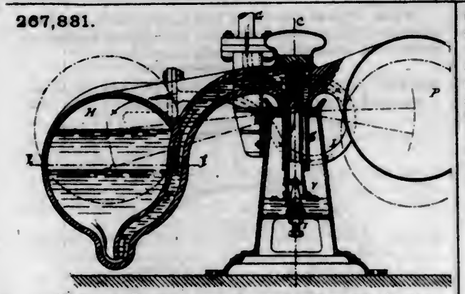
2. A caster for dining-cars, consisting of a recess in the wall of the car provided with holders for bottles required for table use, substantially as described.

3. A caster for dining-cars, consisting of a recess in the wall of the car provided with holders for bottles required for table use, the holders constructed to support the bottles with a yielding grasp or pressure, substantially as described.

4. A caster for dining-cars, consisting of a recess in the wall of the car provided with holders for bottles required for table use, combined with a vertical sliding door to open or close said recess, substantially as described.

267,831. STEAM-TRAP. EMILE BRIART, Jemmont, France. Filed Dec. 15, 1881. (Model.) Patented in Belgium Nov. 17, 1880, No. 53,054.

267,831.



Claim.—1. In steam-traps, the combination of the bent pipe L, the collecting-globe H, the pipes T and S, and the counter-weight P, with the stop-valve J, attached to the stand by means of the double-joint piece *x*, and the adjustable fulcrum I, substantially as described, and for the purpose specified.

2. In steam-traps, the combination of the stop-valve J, with the double-joint piece *x* and the adjustable bolt I, substantially as set forth.

267,832. STAY-ROLLER FOR SLIDING DOORS. WARREN H. BRIESENHOFF, Auburn, N. Y. Filed Oct. 5, 1882. (Model.)

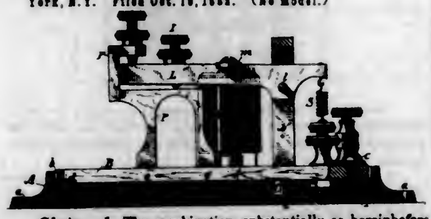


Claim.—1. A shank or support for sliding doors, having at one end a guide or stay wheel or its equivalent to rest against a sliding door, and provided with an angular body for receiving a locking washer or plate having a perforation constructed to act as a stop and prevent the shank or support from turning in its socket when placed in proper position, substantially as described.

2. The combination of a screw-threaded shank or support having at one end a loosely-journaled guide or stay roller or wheel, and constructed angular in cross-section between the screw-thread and the roller, with a washer or plate having an angular perforation and adapted to be secured in a fixed position to prevent the shank or support from turning in its socket, substantially as described.

3. The combination of a shank having at its end an arm on which is journaled a stay roller or wheel, and having its body portion angular in cross-section, with a locking washer or plate having an angular perforation adapted to be secured in a fixed position, and thereby prevent the shank or support from turning in the socket, substantially as shown and described.

267,833. TELEGRAPH-SOUNDER. JESSE H. BURNELL, New York, N. Y. Filed Oct. 19, 1882. (No model.)



Claim.—1. The combination, substantially as hereinbefore set forth, of an electro-magnet, a movable armature-lever, a stationary sounding post or bridge upon which said lever impinges, a resonator or sounding-board to which said sounding post or bridge is rigidly secured, and a stationary base or support to which said resonator or sounding-board is clamped by one of its edges only, thereby leaving its remaining portion free to take up the vibrations of the sounding-post.

2. The combination, substantially as hereinbefore set forth, of an electro-magnet, a movable armature-lever, a stationary sounding post or bridge upon which said lever impinges, a resonator or sounding-board to which said sounding-post and electro-magnet are respectively secured, and a stationary base or support to which said resonator or sounding-board is clamped by one of its edges only.

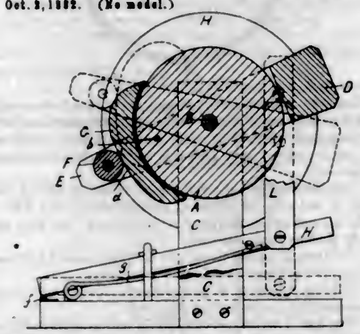
3. The combination, substantially as hereinbefore set forth, of a rigid base or frame surrounding a resonator or sounding-board and clamped thereto by one of its edges only, and a telegraphic sounder mounted upon that portion of said sounding-board which is free to vibrate.

267,834. LINK. WILLIAM BURTON, Terre Haute, Ind. Filed May 25, 1882. (Model.)



Claim.—A chain-link of elliptical form, composed of two halves, each half having flattened surfaces on its opposite sides cut at an angle, and with locking-shoulders, as shown, so that the link, when closed, presents a smooth continuous outer surface on both of its sides, in combination with the pivot R at one end, upon which each half turns, substantially as shown and described, and for the purposes set forth.

267,835. DEVICE FOR CONVERTING RECIPROCATING MOTION INTO ROTARY. J. HERBERT CHASE, Montreal, Quebec, Canada, assignor to Walter F. Abbot, New York, N. Y. Filed Oct. 2, 1882. (No model.)



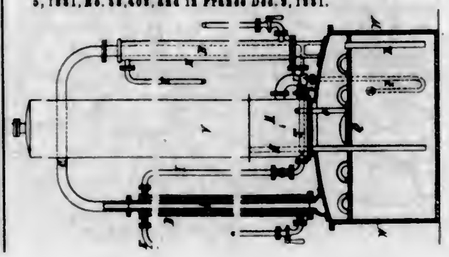
Claim.—1. The combination, with the pulley-wheel A and swinging frame D, of the shoe G, for operation substantially as described.

2. The combination of the pulley-wheel A and swinging frame D, carrying roller F, with shoe G, substantially as described, and for the purpose set forth.

3. The combination of the pulley-wheel A, swinging frame D, roller F, shoe G, and pin *l*, substantially as described.

4. The combination of a pulley-wheel, A, and a shoe, G, having a face, *b*, fitting said pulley, and an eccentric face, *d*, in combination with a frame, D, carrying a roller, F, arranged to bear upon eccentric face *d* of said shoe, substantially as and for the purpose specified.

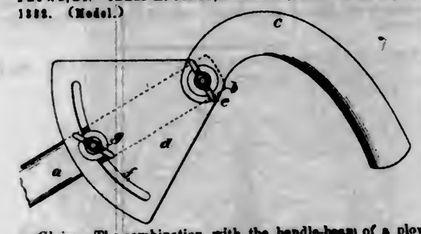
267,836. APPARATUS FOR THE DISTILLATION AND PURIFICATION OF ALCOHOL. PAUL CLARE, Brussels, Belgium. Filed Mar. 6, 1882. (No model.) Patented in Belgium Dec. 5, 1881, No. 53,403, and in France Dec. 9, 1881.



Claim.—1. The combination of a still and a rectifying-column with a tube, A, leading from the still, tube B, communicating with the lower end of the column, and a pipe connecting the two tubes, which are inclosed in water-tubes, the column and tubes A B being mounted on the still, all substantially as described.

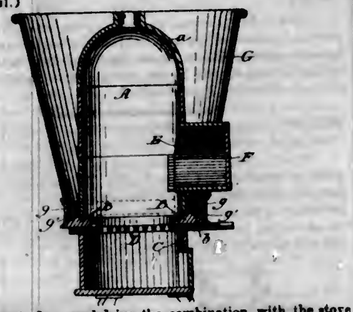
2. The combination of a still and a rectifying-column having a steam-chamber at its lower end with water-envelopes D E and the condensing tubes and pipes I K, forming a communication between the envelopes and the said steam-chamber.

267,837. ADJUSTABLE AND DETACHABLE HANDLE FOR PLOWS, &c. JAMES M. CLARK, Lancaster, Pa. Filed July 1, 1882. (Model.)



Claim.—The combination, with the handle-beam of a plow or other implement, of handle *c*, having slotted attaching and adjusting plate *d*, said handle being pivot-bolted to the handle-beam at *e* and stay-bolted through slot *f*, as described.

267,838. SAND-DRIER. WILLIAM W. CLARK, Chicago, Ill., assignor to Isabel A. Clark, same place. Filed Sept. 21, 1882. (No model.)

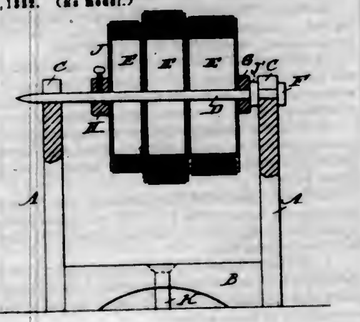


Claim.—1. In a sand-drier, the combination, with the stove or furnace casing and with the hopper, of a feed-box having its upper face transversely inclined, substantially as set forth.

2. The combination, with the fire-pot and the furnace-casing, of an external guide-ring having its upper face inclined, and a hopper the lower end of which is provided with a series of perforations, substantially as set forth.

3. The combination, with the fire-pot and the furnace-casing, of an external guide-ring having its upper face inclined, and a hopper to the lower end of which is attached a perforated rim resting upon said guide-ring, substantially as set forth.

267,839. RIBBON-REEL. ALLEN T. COOK, Mervon, Ga. Filed Aug. 21, 1882. (No model.)



Claim.—In a ribbon-reel, the combination, with the standards A, having notches C in the upper ends, of the rod D, the washers G and H, and the binding-screw J, substantially as herein shown and described, and for the purpose set forth.

267,840. BOOT OR SHOE. GEORGE S. COOK, Sharon, assignor of one-half to Leander S. Britton, Stoughton, Mass. Filed Aug. 14, 1882. (No model.)

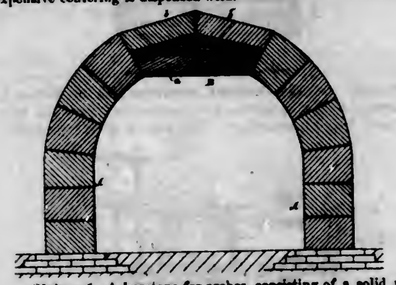


Claim.—1. The upper *a*, insole *b*, and water-proof sole *c*, in combination with the welt *e*, which is secured to the upper and insole and turned under the edge of the water-proof sole and fastened to the latter, whereby the latter is held to the upper, as and for the purpose set forth.

2. The upper *a*, insole *b*, water-proof sole *c*, and the welt *e*, the latter secured to the upper and insole and turned under the water-proof sole and fastened thereto, in combination with the outer sole, *f*, and the through-fastenings *n*, as set forth.

267,841. CONSTRUCTION OF ARCHES, &c. JOHN H. CRUSE, Felicity, Ohio. Filed Mar. 18, 1882. (No model.)

Brief.—The keystone is composed of a base-block, two or more top brace-blocks, and a filling-piece, either of stone or of concrete. It is made broad, so that the walls and haunches may be subject only to so much curvature as will permit their support in building by mere braces till the keystone is put in, whereby expensive centering is dispensed with.



Claim.—1. A keystone for arches, consisting of a solid portion and two or more brace-blocks, substantially as described.

2. In the construction of arches or tunnels, the combination of the walls, as A, and a keystone consisting of a base, *a*, and two or more brace-blocks, *b b'*, and the filling *c*, substantially as and for the purposes specified.

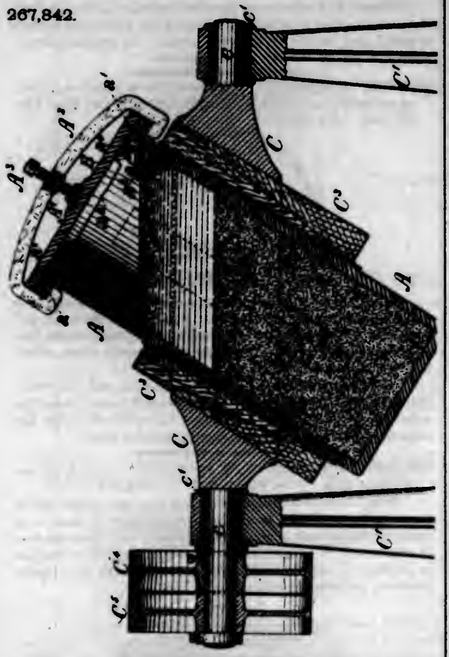
267,842. PROCESS OF AND APPARATUS FOR EXTRACTING GOLD FROM ITS ORES. AUGUSTE DE PIOMBINNE, Philadelphia, Pa. Filed Feb. 9, 1881. (No model.)

Claim.—1. The improvement in the art of treating ores, which consists in the formation of bromide of gold by the agitation of pulverized auriferous material and bromine in a closed vessel, the separation of the bromide of gold by the leaching of the charge, the decomposition of the bromide of gold by percolation through woody fiber in a state of subdivision, and the final recovery of the gold by the combustion of the woody fiber, the several operations constituting the successive steps of a continuous process, substantially as set forth.

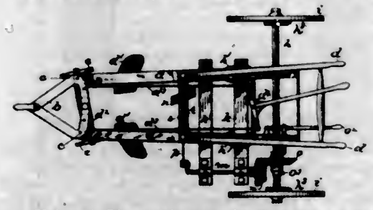
2. In an apparatus for the treatment of ores, the combination of an ore-vessel, a lid or cover, and a yoke suited to receive the ore-vessel, and having journals at an angle to its axial line, through which a compound movement of rotation may be imparted to the ore-vessel, substantially as set forth.

3. In an apparatus for the treatment of ores, the combination, substantially as set forth, of an ore-vessel having a flanged top and an annular recess therein adapted to receive a packing-ring, an internal disk or receptacle, a lid or cover having jaws or projections on its lower side, a crusher fitting therein, and a clamping device, by which the lid is pressed against the packing-ring and the crusher moved toward the internal receptacle.

267,842.



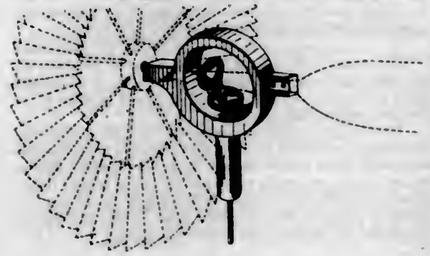
267,843. COTTON CHOPPER, SCRAPER, AND CULTIVATOR. JOHN P. DEVER, Batesville, Ark., assignor to himself and WILLIAM J. POSTROSS, same place. Filed May 24, 1882. (No model.)



Claim.—1. The combination, with the frames *a k*, the axle *h*, and wheels *i*, of the bevel-gears *n o*, crank-shaft *m*, the pitman *p*, the transverse slotted arch *t*, and the chopper *q r*, pivoted in the slot of the said arch, substantially as and for the purpose set forth.

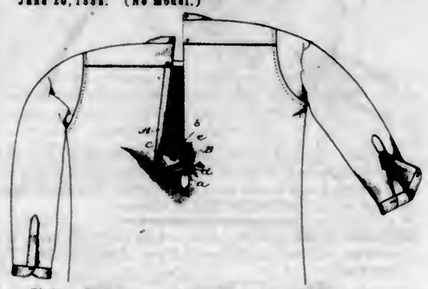
2. The combination, with the axle *h*, the wheels *i*, the frame *a*, and the frame *k*, detachably secured thereto, and projecting from one side thereof, of the bevel-gears *n o*, the crank-shaft *m*, having its bearings in the frame *k*, the pitman *p*, the detachable slotted arch *t*, and the chopper *q r*, pivoted in the slot of the arch, substantially as and for the purpose set forth.

267,844. UNIVERSAL JOINT. CALVIN B. DEVO and ALONZO O. CARMAN, Marengo, Ill. Filed Sept. 23, 1882. (No model.)



Claim.—The combination of the yokes *a a*, having means for attaching the same to the ends of shafts, and projecting members *b*, having on their ends journals *b'* and shoulders *c*, and intermediate member, E, having straight portion *e*, the members projecting at right angles with the portion E, the parts being connected to each other by rings D D', which embrace the ends of the members, substantially as shown and described.

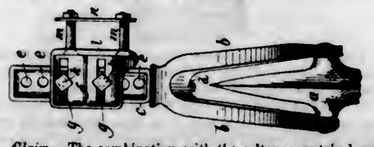
267,845. SHIRT. GEORGE A. DUNBRUIL, Baltimore, Md. Filed June 20, 1882. (No model.)



Claim.—In a garment, the combination, with the overlapping edges or juncture, of the strip B, having its edges turned over and hemmed, so as to form a double thickness of cloth at its edges, said strip being secured to the over and under laps, crossing the juncture, substantially as described.

267,846. COLTER-FASTENER. ENOCH C. EATON, Pinckneyville, Ill. Filed Sept. 2, 1882. (No model.)

Brief.—The colter is swiveled to a vertical perforated bar, which is attached to a plate having two horizontal slots and a flange at right angles thereto for attachment to the plow-beam. By means of the slots in the flanged plate and the perforations in the swivel-bar the colter may be adjusted vertically and laterally and may be set at any desired inclination.



Claim.—The combination, with the colter *a*, crotched arm *b*, and a vertical bar, *c*, having holes in the plane of the colter and parallel to the plow-beam, of the connecting-plate *f*, having the horizontal slots *g* and right-angled flange *l*, the bolts *m*, and the bar *n*, as and for the purpose specified.

267,847. TILE-MACHINE. GEORGE ELBERS, Columbus, Ohio. Filed May 2, 1882. (No model.)

Claim.—1. The oiling-machine composed essentially of traveling belt *a*, carriers a^2, ways a^3, and oiler-roller C, for oiling faces of carrier-plates *c*, substantially as herein set forth.

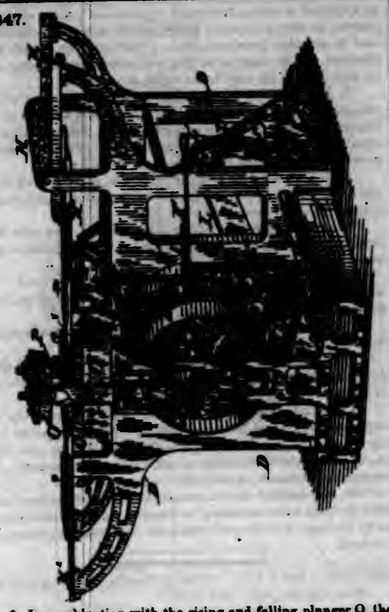
2. A tile-pressing machine composed essentially of the right and left driving-pulleys E E', quadrant E^2, and gear E^3, with reversing and clutch devices for operating the dies by the automatic reversal of quadrant E^2, substantially as herein set forth.

3. In a tile-pressing machine, the automatically-reversing quadrant-shaft S, in combination with the crank *l*, and links *l' L'*, pivoted to and operating reciprocating carrier *m*, substantially as herein set forth.

4. In combination with the oscillating shaft S, cranks I I^2, for automatically operating the link-lever mechanism pivoted to said cranks, for raising, lowering, and compressing the dies, substantially as herein set forth.

5. In combination with the oscillating shaft S, the crank I^2, link-levers L L', and eccentrically-pivoted rocking press-beam K, and inclined plunger Q, for compressing the tile in the die-box, substantially as herein set forth.

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6. In combination with the rising-and-falling plunger Q, the arms N, attached thereto, and the pivoted triggers *s*, for centrally adjusting the carrier-plate *c*, substantially as herein set forth.

7. In combination with the oscillating shaft S and crank-arms I I^2, and the link-lever pressing mechanism, plunger-dies O^2 P and die-box O, adapted to act intermittently and automatically, substantially as herein set forth.

8. The combination of the rising-and-falling plunger Q, with its die O^2, the die-arms P', die P, and die-box O, combined with and operated by means of levers L I, and eccentric I^2, and press-beam K, substantially as herein set forth.

9. In combination with the oscillating shaft S, right and left driving-pulleys E E', and the reversing clutch mechanism *h h'*, substantially as herein set forth.

10. In combination with the oscillating shaft S, right and left driving-pulleys E E', the reversing clutch mechanism *h h'*, frame *f*, and lever F, substantially as herein set forth.

11. In combination with a tile-machine having ways M' M', the elevated ways M and oiler-roll H, substantially as herein set forth.

12. The carrier-plate *c*, provided with hooks or arms *c'*, adapted to hold the tile and move in ways, substantially as herein set forth.

13. In a tile-machine, the presser-die O^2, provided with groove *e*, adapted to receive and hold carrier *c* while the tile is being pressed between the dies in the presser-box, substantially as herein set forth.

14. In combination with the die-pressing machine operated by the oscillating shaft S, the oiling-machine containing the endless beltways, and oiler-roller C, the operative parts of which are intermittently actuated by the said oscillating shaft, substantially as herein set forth.

267,848. PROCESS OF AND MACHINERY FOR MAKING TILE-BLOCKS. GEORGE ELBERS, Columbus, Ohio. Filed May 2, 1882. (No model.)

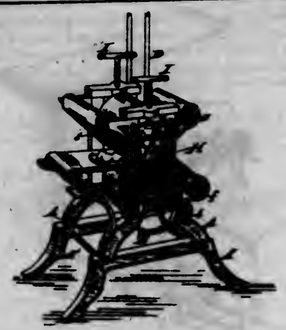
Claim.—1. The herein-described process of forming continuous thin sheets of clay upon sheets of paper by means of pressure-rolls, substantially as herein set forth.

2. The herein-described process of forming a continuous roll of sheet-clay which is united to a roll of paper by means of pressing-rollers and a traveling cloth apron passing between the rolls and clay, substantially as herein set forth.

3. The process of cutting previously-prepared thin sheets of clay into shape of tile-blocks by means of cutting-dies reciprocating under a metal roller, substantially as herein set forth.

4. The process of making tile by means of a thin continuous sheet of clay pressed upon paper and then cut into shape and placed

267,848.



in the bottom of molds and then filled with mastic clay and pressed, dried, and burned, all substantially as herein set forth.

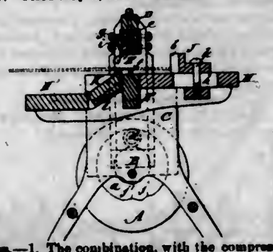
5. A thin continuous sheet of clay pressed and united to a sheet of a paper adapted to be used as the finished surface of ornamental tile, substantially as herein set forth.

6. The process of making the finished-face tile by means of a sheet of paper upon which the clay is spread in a continuous sheet and pressed and afterward burned in the kiln to consume the paper and cure the tile, substantially as herein set forth.

7. In a machine for making sheets of combined clay and paper, the combination of the cloth-carrying roll E, the paper-carrying roll F, and the upper and lower pressure-rolls C *e*, arranged, substantially as described, to receive the clay between the cloth and paper and unite it with the latter, as set forth.

8. The machine for cutting clay-sheets into tile-shaped blocks, consisting of the cylinder N, the reciprocating table S, and dies combined and operated substantially as herein set forth.

267,849. PAPER-SCORING MACHINE. ALBERT E. ELMER, Springfield, Mass., assignor to WILLIAM H. H. ROGERS, Brooklyn, N. Y. Filed May 5, 1882. (Model.)



Claim.—1. The combination, with the compressing-head D, of the cam-wheels A A, having the gutters *a a*, with successively-increasing swells *j j'*, and the bars E E, having end studs or rollers *d d* fitting said gutters, whereby the compressor is made to give successively harder blows, as described.

2. The combination, with the guttered cam-wheels A, having successively-increasing swells, and the bars E, having end studs, of an intermittent compressor, D, having elastic facing-strip G in a recess, *e*, with a cross-piece, F, having rib *f*, whereby the material is scored by two successive blows upon the rib without cut or injury, as described.

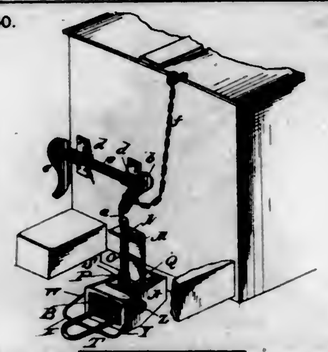
3. The combination, with the compressor and strip F, having rib *f*, of the table H', having the hinged-leaf K, supported on springs to give a yielding support to the material while it is being scored, as described.

267,850. CAR-COUPLING. GEORGE W. ELTZROTH and ISAAC RAYPHOLTZ, Marion, Ind. Filed Aug. 23, 1882. (No model.)

Claim.—1. The combination of the draw-head having perforation D, longitudinal slot F in its top, and intermediate groove, G, the upright standard having bearing N at its top and an elevated front extension at its bottom, provided with bearing R, the right-angular flat spring arranged in rear of the link-recess and having circularly-notched end L, and the coupling-pin having an about midway flange or shoulder, S, as set forth.

2. The herein-described rest or bracket T, having end V, central cross-bar, X, provided with flattened portions B', and end Z, formed by a circular coil, as shown.

267,850.



267,851. BRACELET. ALEXANDER ENGELMANN, North Attleborough, Mass. Filed Feb. 27, 1880.

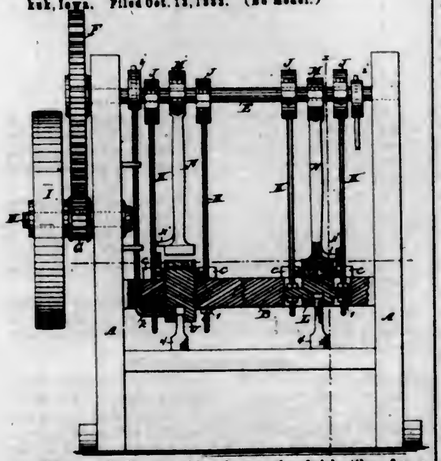


Claim.—1. The combination, in a spring-bracelet, of the central base-plate, C, with the box or case B, provided with the depending or vertically-projecting side plates, *d*, substantially as and for the purpose set forth.

2. In combination with the base-plate C, having its side edges beveled, the box or case B, having its side plates, *d*, extended below the bottom of the box and beveled to fit upon the plate C, substantially as shown and described.

3. As a new article of manufacture, a bracelet consisting of the spring-arms A, hinged to a central plate, C, and a box or case, B, provided with a hinged lid, and applied to the plate C, as shown, whereby it is made to cover and inclose the joints, springs, and base-plate, as set forth.

267,852. BRICK AND TILE MACHINE. EDWARD FALES, Keokuk, Iowa. Filed Oct. 13, 1882. (No model.)



Claim.—1. In a machine for pressing brick, tiles, &c., a plunger adapted to exert a downward pressure and a plunger adapted to exert an upward pressure, both plungers operated by eccentric cams on a common shaft, or shaft common to both sets of plungers, and so timed as to give a simultaneous pressing action on both sides of the article to be formed, as set forth.

2. In a machine for pressing brick, tile, &c., a series of plungers adapted to exert a downward pressure and a series of plungers adapted to exert an upward pressure, both series of plungers operated by eccentric cams secured on a shaft common to both sets of plungers, and so timed as to give a simultaneous pressing action on both sides of the clay in the mold, as set forth.

3. In a machine for pressing brick, tile, &c., one or more plungers adapted to exert a downward pressure and one or more plungers adapted to exert an upward pressure, in combination with open molds adapted to work in ways or guides and be successively presented to the action of the plungers, as set forth.

4. In a machine for pressing brick, tile, &c., the shaft E, provided with the cams i, in combination with the rod T and ejecting-plunger U, as set forth.

5. In a machine for pressing brick, tile, &c., the open molds provided with flanges or tongues adapted to work in guides or ways, as set forth.

6. The guides C, provided with guideways *b b* and D D, whereby the molds are held in position and the plunger guided or directed to the work, as set forth.

7. The hand-lever P, provided with the arm *a*, in combination with the detachable molds, as set forth.

8. In a machine for pressing brick, tiles, &c., the mold-filling device herein described, provided with means for tamping the clay in the molds, as set forth.

9. A machine or device for filling brick or tile molds with clay, consisting of the following elements, viz: a hopper for holding the clay, provided with a spring-actuated valve for controlling the flow of material, and a lever and plunger for compacting the material in the mold, as set forth.

10. The method herein described of manufacturing brick, tiles, &c., the same consisting in tamping the clay into the mold to fill the same and then subjecting the clay to a final pressure, as set forth.

267,853. BALE-TIE. OLIVER P. FARRIS, West Wynnton, Fla. Filed Aug. 26, 1882. (No model.)



Claim.—1. The Z-shaped buckle O, provided with slots *o'* P, spur *o²*, and angled back *o o²*, substantially as and for the purposes described.

2. The combination, with the rack E, provided with shoulder *n* and slotted stud N, of the buckle O, having angled back *o o²*, substantially as described, whereby said buckle is adapted to be held in position while the band is being tightened, as set forth.

3. The combination of the slotted plate A, provided with slotted stud K, post L, and guide M, with the rack E, provided with slotted stud N and shoulder *n*, the semicircular plate F, and lever I, substantially as and for the purposes described.

4. The combination, with the band-tightener A E F I and buckle O, of the slotted studs N K and guide M, substantially as described, whereby the buckle is held in place, guided, and connected with the end of the bale-band, as and for the purposes described.

267,854. TURBINE WATER-WHEEL. WILLIAM B. FARRAR, Greensborough, N. C. Filed Apr. 22, 1882. (Model.) Patented in Canada Mar. 13, 1882, No. 14,495.

Claim.—1. The top of the wheel-case composed of a series of independent hood-sections, B, which are approximately triangular in outline, and made independent and detachable one from another, as shown and described.

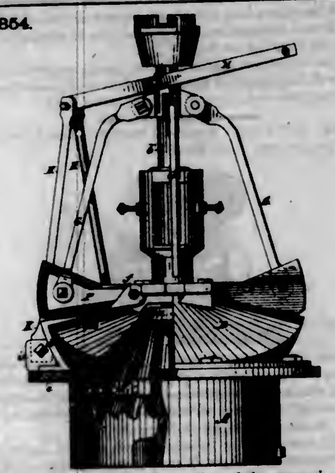
2. In combination with the horizontal rim *a*, the hood-sections B, whose lower sides, *d*, are curved, and, together with the inner edge of said rim, coincide with the arcs of circles described in vertical planes, as described.

3. The combination of the rim *a*, having its inner edge beveled, as shown, with the hood-sections, whose lower sides are inclined and arranged so that their inner surfaces coincide with such beveled edge, as shown and described.

4. The gates F, having cylindrical lugs *g*, cast in one piece with them, and tapped, as shown and described, for attachment of the rods for adjusting said gates, as shown and described.

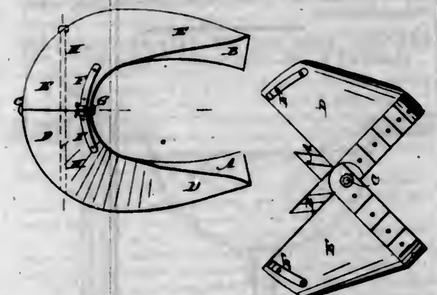
5. The combination, with the sleeve I and lever H, having a

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vertical opening in its middle portion, of the screw-pivots which pass through said sleeve and lever, and have their heads countersunk in the inner side of the sleeve, as shown and described, for the purpose specified.

267,855. HORSESHOE. GEORGE W. FEELEY, Sr., Toledo, Tex. Filed May 9, 1882. (No model.)

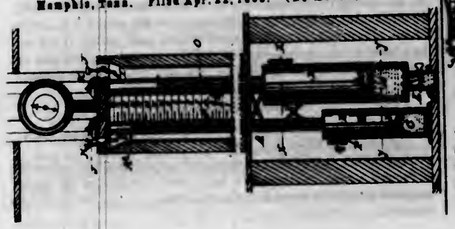


Claim.—1. In a horseshoe, the base A B, made in two parts hinged to each other by parallel arms having beveled ends, and a pintle, C, substantially as herein shown and described, whereby the upward movement of the said parts above a horizontal plane is prevented, as set forth.

2. In a horseshoe, the combination, with the hinged base A B, of the two-part cap D E, having fastening F G, substantially as herein shown and described, whereby the shoe can be readily applied and detached and will be firmly held in place, as set forth.

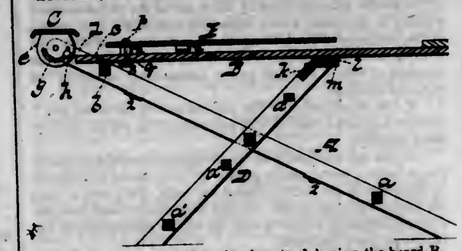
3. In a horseshoe, the combination, with the hinged base A B, having cap D E, of the screw-rod H, substantially as herein shown and described, whereby the said hinged parts are locked in place, as set forth.

267,856. BILGE-WATER INDICATOR. JOHN M. FENNERTY, Memphis, Tenn. Filed Apr. 22, 1882. (No model.)



Claim.—In a bilge-water indicator, the combination of a tube enlarged at its lower end, so as to form a chamber having a hand-hole, a float moving in said chamber, an indicator-rod extending upward from said float and having at its upper end an arm, A^1, and an alarm-bell lever operated by said arm A^1, as set forth.

267,857. IRONING-STAND. WESLEY FIELDS and DANIEL D. HAYFIELD, Robinson, Ill. Filed Feb. 28, 1882. (No model.)



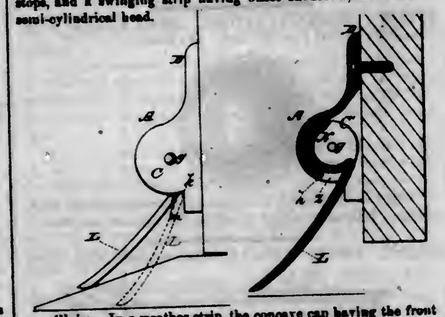
Claim.—1. The folding ironing-stand having the board B, the long legs A, short legs D, steps or rounds *a a'*, buttons *x*, and adjustable head-shelf C, substantially as specified.

2. The combination, with the extensions *d'* of the long legs A, of the adjustable head-shelf C, its arms *c c'*, circular slot *g*, and clamp-screw *h*, substantially as specified.

3. A combined ironing-stand and step-ladder having the adjustable head-shelf C, adapted to be secured in position either parallel to or in angular relation to the ironing-board, as specified.

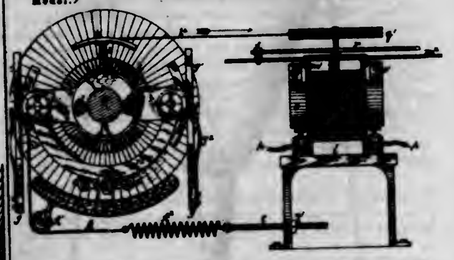
267,858. WEATHER-STRIP. WESLEY FIELDS and DANIEL D. HAYFIELD, Robinson, Ill. Filed Feb. 21, 1882. (No model.)

Brief.—Consists of a concave cap having front stop and rear stops, and a swinging strip having offset-shoulders, and lateral semi-cylindrical head.



Claim.—In a weather-strip, the concave cap having the front stop and the rear stops, and the swinging strip, its offset-shoulders, and lateral semi-cylindrical head, substantially as specified.

267,859. REGULATOR FOR DYNAMO-ELECTRIC MACHINES. JOSEPH R. FINNEY, Pittsburg, Pa. Filed July 13, 1882. (No model.)



Claim.—1. The combination of an electro-magnet arranged in the circuit, a helix, and a deflecting bar or needle mounted rigidly on a shaft and actuated by the electro-magnet and helix, with the movable collecting devices of a machine or other generator of electricity, substantially as and for the purposes described.

2. The combination of an electro-magnet arranged in the cir-

cuit, a helix, and a deflecting bar or needle mounted rigidly on a shaft and actuated by the electro-magnet and helix, with the movable collecting devices of a machine or other generator of electricity for moving the same in one direction, and a spring or weight for moving them in the opposite direction, substantially as and for the purpose described.

3. The combination of an electro-magnet placed in the circuit, a helix, a deflecting bar or needle, a shaft capable of being turned by the needle when deflected by the power of the electro-magnet, a pulley on said shaft, a cord connecting said pulley with an arm on the commutator-brush lever, the commutator-brush lever, and a spring connected to the lever and having a tension in the reverse direction of that of the said pulley, substantially as and for the purposes described.

4. The combination of the commutator-brush lever, arm *i*, grooved segment *i'*, and cord *i²*, substantially as and for the purposes described.

5. The combination of an electro-magnet arranged in the circuit, a helix, a bar or needle capable of being turned or deflected by the power of the electro-magnet and helix, and a stop to limit the movement of the needle, with the commutator-brush lever and devices connecting said lever with the needle, substantially as and for the purposes described.

6. The combination of an electro-magnet having lateral polar extensions with a pivoted deflecting needle arranged to vibrate in a plane parallel to the core of the magnet, substantially as and for the purpose specified.

7. In a regulator for dynamo-electric machines, the combination, with a deflecting needle and its helix, of a spring arranged to resist the deflection of the needle and an electro-magnet arranged to attract the needle, substantially as and for the purpose specified.

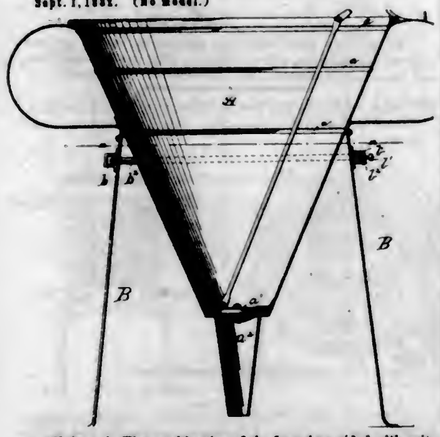
8. The combination of a helix provided with a core and a deflecting needle, whereby the needle is deflected by the current of electricity passing through the helix and attracted by the magnetism of the core, substantially as and for the purpose specified.

267,860. SECONDARY BATTERY. JOSEPH R. FINNEY, Pittsburg, Pa. Filed June 13, 1882. (No model.)



Claim.—A cell having an electrode or electrodes of leafy, flaky, or fibrous lead, substantially as and for the purposes described.

267,861. FUNNEL. HORACE G. FISHBURN, Xenia, Ohio. Filed Sept. 1, 1882. (No model.)



Claim.—1. The combination of the funnel provided with suitable measuring-graduations with the hinged valve, the hinged supports, and means whereby the supports may be adjusted to the sides of a jug or vessel, all arranged to operate substantially as shown and described.

2. A funnel provided with hinged supports and having a band secured around said supports, whereby they can be adjusted at any angle to the funnel, as set forth.

3. The combination, with a funnel having supports hinged thereto, with keepers placed upon them, of the band passed through said keepers, and means to hold the band, as set forth.

267,862. NUT-LOCK. ADDISON C. FLETCHER, New York, N. Y. Filed Oct. 23, 1882. (No model.)

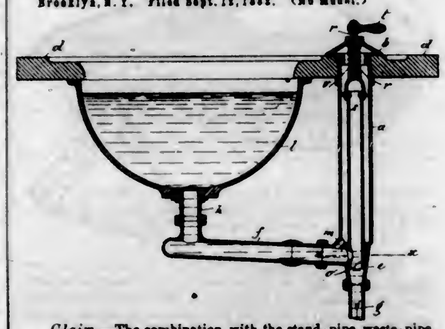


Claim.—1. An elastic block or washer having an orifice through it, the edge of which is provided with a series of inward-projecting ribs or ridges, which constitute independent bearings to come in contact with the threads of a bolt when expanded by the action of the nut, substantially as described.

2. The combination of a threaded bolt, the nut having the rim or flange, and the elastic block or washer having an orifice through it, the edge of which is provided with a series of inward-projecting ribs or ridges, which constitute bearings to come in contact with the threads of the bolt when expanded, substantially as described.

3. The combination of a threaded bolt, a dished disk, a nut having a rim, and an elastic block or washer adapted to seat on the disk, and having an orifice through it, the edge of which is provided with a series of inward-projecting ribs or ridges, substantially as described.

267,863. BASIN COCK AND OVERFLOW. JAMES FOLEY, Brooklyn, N. Y. Filed Sept. 12, 1882. (No model.)



Claim.—The combination, with the stand-pipe, waste-pipe, and lateral connection to the basin or bath, of the cock at the junction of the respective pipes, having a tubular plug, an overflow-pipe, which is a continuation of the tubular plug, the stem and handle by means of which the plug is turned, and the cap at the upper end of the stand-pipe, substantially as set forth.

267,864. PROCESS OF FACILITATING THE CUTTING OF NAILS, TACKS, &c. SETH ROBINSON POSTER, St. John, New Brunswick, Canada. Filed Aug. 12, 1882. (No specimens.) Patented in Canada Apr. 3, 1882.

Claim.—The process of preparing iron and steel for facilitating the cutting of the same into nails, tacks, brads, and shoe-nails, which consists in applying to the surface of the plate a mixture of a finely-divided solid with a liquid vehicle and letting it dry on the plates for the purpose of preventing the scale on the iron or steel from wearing into the knives, dies, and other tools of the machines while cutting, substantially as described.

267,865. CHILD'S SPINNING-TOP. FRANK A. FOOTE, Washington, D. C. Filed Sept. 18, 1882. (No model.)

Claim.—1. A top having a truncated-cone-shaped body adapted to receive a cord by which it is spun, and provided at its lower end with a laterally-extending flange, shank, and peg, in the order specified.

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2. A spinning-cord provided with a hook and button, the button being adapted to slide on the cord, whereby the hook may be placed on one end and the button on the other end of said cord, or the hook and button placed together on the same end, in combination with a top provided with a circumferential groove adapted to receive said hook, substantially as set forth.

3. A top provided with a circumferential groove adapted to receive the end of a spinning-cord, the connecting end of said cord being provided with means whereby the top and cord may be connected or disconnected at the pleasure of the operator.

4. The combination of a top provided with a circumferential groove, a spinning-cord, and connecting means adapted to engage the groove, whereby the top is adapted to revolve in said connecting means or be disengaged therefrom at the pleasure of the operator, substantially as specified.

5. The combination of a top circumferentially grooved and a knotted spinning-cord, said cord being provided with means whereby it can be secured in said groove, said cord being also provided with a recessed button adapted to secrete the connecting means when desired, the button and said connecting means being movable on the cord at pleasure.

6. In a spinning-top, the body A, flange B, shank B', and peg B², in combination with the hook D and cord C, substantially as set forth.

7. In a spinning-top, the combination of the following elements: body A, flange B, shank B', peg B², hook D, cord C, and button E, substantially as specified.

8. A spinning-cord provided on one end with means whereby it can be secured to a top, and also provided with a button, said button and means being adjustable on the cord.

9. A spinning-cord provided on one end with a hook and on the other with a recessed button, the button being adapted to slide on the cord and secrete the hook, substantially as set forth.

10. A spinning-cord provided on one end with means adapted to engage or disengage said cord to the circumferential groove in the top, as set forth.

11. The combination of a cone-shaped top and a spinning-cord and means for revolubly attaching the cord to the small end of the top, whereby the top by a single throw is caused to pass outwardly on the cord and return to the hand of the operator, said cord being first unwound and then rewound on the body of the top, the loose end of the cord remaining in the hand during the operation.

12. A spinning-top having a body adapted to receive a cord by which it is spun, said top being provided on its small end with a laterally-extending circumferential flange and a circumferential groove, in combination with a spinning-cord provided with means adapted to engage the cord in the circumferential groove, substantially as described, and for the purposes set forth.

267,866. SPINNING-TOP. FRANK A. FOOTE, Washington, D. C. Filed Oct. 20, 1882. (No model.)



Claim.—1. A spinning-top having a body adapted to receive a cord by which it is spun, said top being provided with a milled or rough-edged flange, substantially as described, and for the purposes set forth.

2. A spinning-top having a body adapted to receive a cord by which it is spun, said top being provided with a circumferential groove and a milled or rough-edged flange, substantially as herein specified.

3. A spinning-top having a body adapted to receive a cord by which it is spun, said top being provided with a circumferential groove and a milled or rough-edged circumferential flange, in combination with a spinning-cord, substantially as described, and for the purposes set forth.

4. A spinning-top having a body adapted to receive a cord by which it is spun, said top being provided with a circumferential groove, in combination with a spinning-cord provided on one end with a hook and eye, said eye being bent upward from the plane of the base of the hook, substantially as described, and for the purposes set forth.

5. A spinning-top having a body adapted to receive a cord by which it is spun, said top being provided on its peg end with a circumferential groove and a circumferential milled or rough-edged flange, in combination with a spinning-cord provided on one end with a hook reversible and detachable from said cord at pleasure, substantially as specified.

6. A spinning-top having a body adapted to receive a cord by which it is spun, said top being provided with a circumferential groove and a circumferential milled or rough-edged flange, in combination with a spinning-cord provided with means for attaching said cord in the circumferential groove of the top, said means being detachable from or reversible on the cord at pleasure.

7. A spinning-top having a body adapted to receive a cord by which it is spun, said top being provided with a circumferential groove and a circumferential milled or rough-edged flange, in combination with a spinning-cord provided with means whereby it can be attached in or detached from said groove, the cord being provided with a sliding recessed button adapted to secrete the connecting means, as set forth and specified.

8. A spinning-top having a body adapted to receive a cord by which it is spun, said top being provided with a circumferential groove and a rough-edged flange on the peg end or other frictional or cord-engaging means on said end, in combination with a spinning-cord provided with a reversible and detachable hook, whereby the cord and top may be connected and the top thrown outward and returned to the hand of the operator by a single throw, as specified.

9. A spinning-top having a body adapted to receive a cord by which it is spun, and a cord to spin the same, said top being provided with a rough-edged flange on its peg-end or other frictional or cord-engaging means on said end, substantially as set forth.

10. A spinning-top having a body adapted to receive a cord by which it is spun, said top being provided with a rough-edged circumferential flange or other frictional or cord-engaging means, in combination with a spinning-cord provided with means of attachment to the top, whereby the top may be spun outward on the cord and returned to the hand of the operator by a single throw or spun gyroscopically, suspended in the connecting means on the end of the cord, as specified.

11. A spinning-top having a body adapted to receive a cord by which it is spun, said top being provided with a circumferential groove and a rough-edged flange or other frictional or cord-arresting means on the small end of said top, in combination with a spinning-cord provided with means whereby it can be engaged in said circumferential groove, said cord being provided with a sliding recessed button, substantially as described, and for the purposes set forth.

12. A spinning-top having a body adapted to receive a cord by which it is spun, said top being provided with a circumferential groove and a rough-edged flange or other frictional or cord-arresting means on the small end thereof, in combination with a spinning-cord provided with means adapted to engage or disengage said cord and top, said engaging means being adapted to hold the end of the cord against or away from the rough-edged flange or other frictional or cord-arresting means, whereby the top may be thrown outward on the cord and returned to the hand of the operator by a single throw or suspended in the connecting means on the cord and spun gyroscopically, substantially as described, and for the purposes set forth.

13. A spinning-cord provided with a hook having one or more eyes adapted to engage the cord or be removed therefrom at pleasure, in combination with a spinning-top, substantially as set forth.

14. A spinning-top having a circumferential groove and a rough-edged flange on the small end, in combination with a spinning-cord provided with means adapted to engage the circumferential groove of the top, said means having a bent arm or eye adapted to hold the cord against the rough-edged flange or other cord-arresting means or hold the cord away from the said flange or cord-arresting means, whereby the top may be spun gyroscopi-

cally, suspended from the cord or span outward on the cord, and returned to the operator by a single throw, as specified.

267,867. SPINNING-TOP. FRANK A. FOOTE, Washington, D. C. Filed Oct. 30, 1882. (No model.)



Claim.—1. A spinning-top having a body adapted to receive a cord by which it is spun, said top being provided on its small end with a hole or equivalent means for securing the cord and preventing the swivel thereof, whereby the cord may be wound upon the body of the top and the top thrown and returned to the hand of the operator by a single throw, the cord being first wound and then rewound on the body of the top, the loose end of the cord remaining in the hand during the operation, substantially as described, and for the purposes set forth.

2. A spinning-top having a body adapted to receive a cord by which it is spun, and a cord to spin the same, said top being provided on its small end with a hole or equivalent means for securing the cord and preventing the swivel thereof, whereby the cord may be wound upon the body of the top and the top thrown outward and returned to the hand of the operator by a single throw, the cord being first unwound and then rewound on the body of the top, the loose end of the cord remaining in the hand during the operation, substantially as described, and for the purposes set forth.

3. A cone-shaped spinning-top provided with means on its small end adapted to secure an end of the spinning-cord and prevent the swivel thereof, in combination with a spinning-cord, whereby the cord may be wound upon the body of the top, the top thrown outward and returned to the hand of the operator by a single throw, the cord being first unwound and then rewound on the body, the loose end of the cord remaining in the hand during the operation, substantially as described, and for the purposes set forth.

4. A cone-shaped spinning-top provided with a hole or equivalent means on its small end for securing an end of the spinning-cord and preventing the swivel thereof, in combination with a spinning-cord, whereby the cord may be wound upon the body of the top, the top thrown outward and returned to the hand of the operator by a single throw, the cord being unwound in the outward passage of the top and rewound thereon in the ascent, the loose end of the cord remaining in the hand during the operation, substantially as and for the purposes set forth.

5. A spinning-top provided on its small end with a cylindrical shank having cord-securing means thereon, in combination with a spinning-cord, substantially as described, and for the purposes set forth.

6. A cone-shaped spinning-top having a body adapted to receive a cord by which it is spun, and a cord to spin the same, said top being provided on its small end with means for securing an end of the cord to said small end, in combination with a case or cage provided with means adapted to receive the top and revolubly secure the same therein, whereby the cord may be wound upon the top and the top and case thrown outward and returned to the hand of the operator by a single throw, the cord being first unwound and then rewound on the top, the loose end of the cord remaining in the hand during the operation.

7. A cone-shaped spinning-top having a body adapted to receive a cord by which it is spun, and a cord to spin the same, said top being provided on its small end with means for securing an end of the cord to said small end of the top, in combination with a cage or case provided with means adapted to receive the top, the top being provided with top and bottom spindles, by means of which it is revolubly secured in the case or cage, substantially as described, and for the purposes set forth.

8. A cone-shaped spinning-top having a body adapted to receive a cord by which it is spun, and a cord to spin the same, said top being provided with top and bottom spindles and means on its small end for connecting the cord thereto, in combination with a case or cage adapted to receive the spindles, one of said spindles being provided with a crank, by means of which the top is turned and the cord wound on the body thereof, whereby the top and cord may be wound on the top and the top and cage thrown and returned to the hand of the operator by a single throw, the loose end of the cord remaining in the hand during the operation, substantially as set forth.

9. A cone-shaped top having a body adapted to receive a cord by which it is spun, and a cord to spin the same, said top being provided with top and bottom spindles and means on its small end for connecting the cord thereto, in combination with a cage or case provided with bearings adapted to receive the spindles, one of the said spindles being provided with a crank, said case having a side opening adapted to receive the cord, whereby the cord may be wound upon the body of the top and the top and case thrown outward and returned to the hand of the operator by a single throw, the loose end of the cord remaining in the hand during the operation.

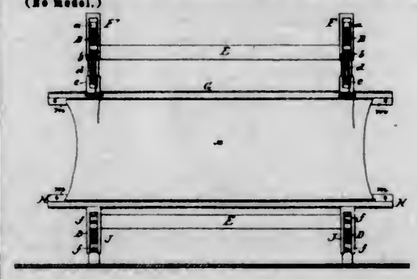
10. The combination of a cone-shaped spinning-top, of a case adapted to receive the same, of a spinning-cord and of means for revolubly securing the top in the case.

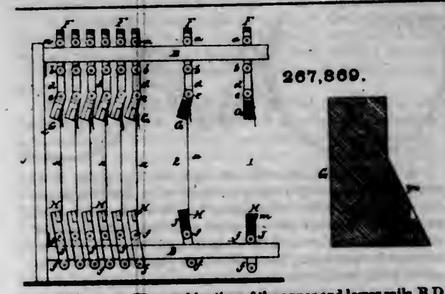
267,868. CAR-COUPLING. JOHN A. FRAZIER, Lilly Chapel, Ohio. Filed June 24, 1882. (No model.)



Claim.—In a car-coupling, the draw-head A, recessed longitudinally from the rear wall or abutment, *b*, forward, and having a spring-bearing, *c*, and spring F in its rear portion, the hooked coupling-cap G, let in between the side walls of the draw-head and pivoted thereto, the stop-shoulder *a* of said cap in rear of its hook, and the transverse bearing and brace R for the front part of the coupling-cap, substantially as specified.

267,869. APPARATUS FOR SIZING AND COLORING FABRICS. MARTIN FAHN, Philadelphia, Pa. Filed Apr. 15, 1882. (No model.)





267,869.

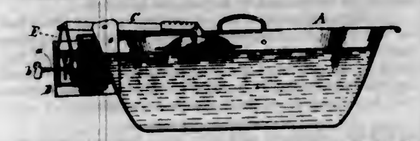
Claim.—1. The combination of the upper and lower rails, B D, with the upper and lower stretching-bars, G H, carried by frames adapted to said upper and lower rails, as set forth.

2. The combination of upper and lower stretching-bars of a sizing apparatus with stretching-tackle connected to the upper bar, all substantially as specified.

3. The combination of the upper and lower rails, B D, the frames F, adapted to the upper rails, the upper stretching-bar, G, the stretching-tackle connecting the frames F and bar G, and the lower bar, H, carried by frames J, adapted to the lower rails, as set forth.

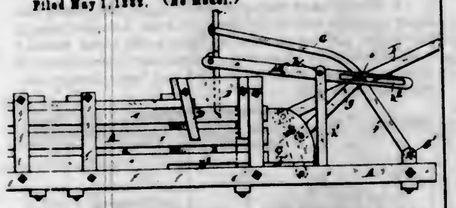
4. The bars G and H of the stretching-frame, provided with detachable strips *m m*, which are fastened directly upon said bars and adapted to secure the fabric upon their outer surfaces, as set forth.

267,870. ALARM GATOR-BASIN FOR ICE-BOXES. HENRY FEHRMANN, Chicago, Ill. Filed July 5, 1882. (No model.)



Claim.—The combination, with the basin A, having bracket *c* secured thereto, the float D, pendent arm E, the arm *a*, and the alarm mechanism, substantially as described, and for the purpose set forth.

267,871. BALING-PRESS. ERAS E. FULLER, Elk River, Minn. Filed May 1, 1882. (No model.)



Claim.—1. In a fuel and hay press, the combination of the follower having a knife, the chamber with the lower end of its hopper provided with a knife, and the folder, adapted to operate as set forth.

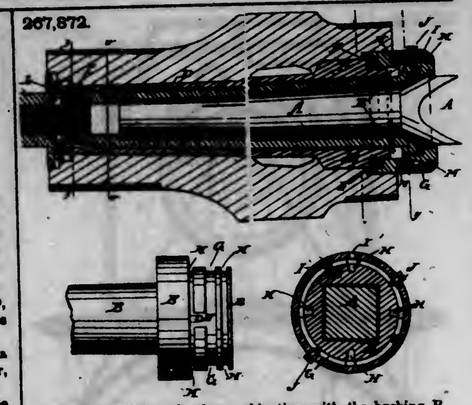
2. The combination of the chamber having its hopper provided with a knife at its lower end, the folder, the follower having a knife, and their operating mechanism, substantially as and for the purpose set forth.

267,872. VEHICLE-AXLE. JEDEDIAH SAMELLES and JOHN F. HARING, Cresskill, N. J. Filed July 26, 1882. (No model.)

Claim.—1. The combination of an end-threaded axle, A, a thimble-skein, D, a bushing, B, an end nut, K, a washer, L, and an oppositely-flattened tubular nut, C, the thimble-skein being shorter than the axle and the bushing being shorter than the thimble-skein, as shown and described.

2. A vehicle-axle constructed substantially as herein shown and described, and consisting of the axle A, adjustable bushing B, having grooves E G and passages H, the adjustable band I, having set-screws J and oil-hole I', and the tubular nut C, as set forth.

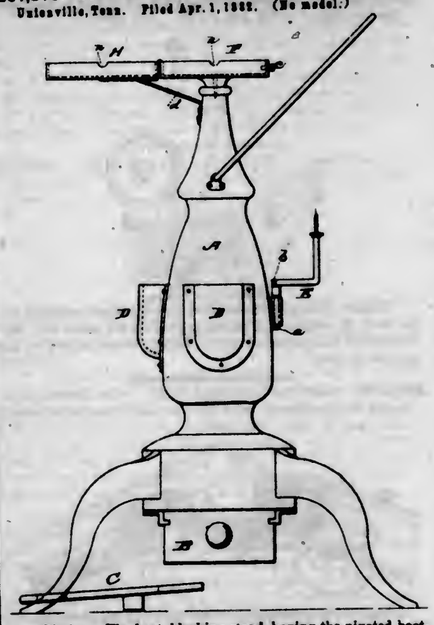
267,872.



3. In a vehicle-axle, the combination, with the bushing B, having groove E, of the thimble-skein D, having rabbeted inner end, substantially as herein shown and described, whereby the said groove is made to serve as an oil-reservoir, as set forth.

4. In a vehicle-axle, the combination, with the bushing B, having grooves E G and passages H, of the adjustable band I, having oil-hole I' and set-screws J, substantially as herein shown and described, whereby the said bushing can be readily supplied with oil, and the escape of oil will be prevented, as set forth.

267,873. BOOT-BLACKING STAND. MOSES R. GARNAWAY, Unionville, Tenn. Filed Apr. 1, 1882. (No model.)

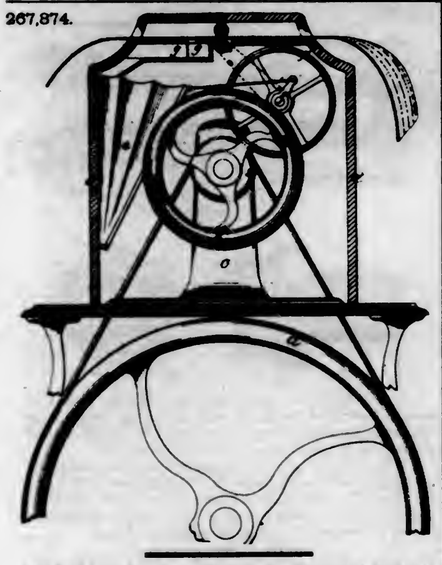


Claim.—The boot-blacking stand having the pivoted boot-jack C, drawer B, side receptacles, D, folding arm E, and box F, having hinged cover H, set-screw *c*, and brace *d*, substantially as specified.

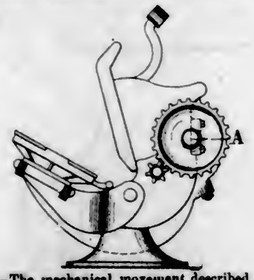
267,874. COMBINED SEWING-MACHINE AND MUSICAL INSTRUMENT. GEORGE D. GARVIN and GEORGE WOOD, New York, N. Y. Filed June 17, 1882. (No model.)

Claim.—A cover for a sewing-machine, provided with a musical instrument and means for transmitting motion from the shaft of the sewing-machine to the operating parts of the musical instrument, substantially as described.

267,874.

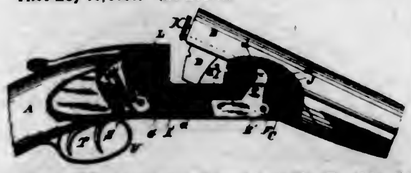


267,875. MECHANICAL MOVEMENT. WILLIAM H. GOLDING, Chelsea, Mass. Filed Apr. 1, 1882. (No model.)



Claim.—The mechanical movement described, consisting of the shaft A, crank *a*, and connecting-rod B, the crank and connecting-rod being equal or nearly equal in length, as and for the purpose set forth.

267,876. CONCEALED-HAMMER GUN. HENRY GOODMAN, St. Louis, Mo., assignor of one-half to Daniel P. Kane, same place. Filed May 18, 1882. (No model.)



Claim.—The combination of barrel having lug D and lug D', the latter having recess *d*, angle-plate E, hinged within the recess, and having arms *e* and *e'*, spring J, extractor K, cocking-slide G, having opening *g*, hammer H, firing-pin L, and breech-frame A', having shoulder I, as set forth.

267,877. HOPPLE. CHARLES J. GUSTAVESON, Salt Lake City, Utah. Filed Mar. 25, 1882. (No model.)

Claim.—1. The combination, with the chain and the leg-bands, of the plates forming swivel-joints with the chain, and having extensions provided with hooks on the inside, which incline toward each other, and a slot in one of the extensions for holding the end of the band, substantially as shown and described.

267,877.



2. The combination, with the chain and leg-bands, of the plates constructed with a cavity or recess on the inside to accommodate the head of the swivel, and a loop for confining the band, which serves to inclose the said cavity to prevent the swivel from being clogged with mud, as shown and described, whereby open-end links for connecting the chain with the leg-bands shall be dispensed with, as set forth.

267,878. TELEGRAPH-KEY. JAMES T. GUTHRIE, Loosburg, Ohio. Filed Sept. 13, 1882. (No model.)



Claim.—1. The combination, with a telegraphic key, of a circuit-closing lever pivoted at its rear end to the fulcrum-rod of said key, the spring H acting on this lever, the button on the front end thereof, the wedge-shaped extension and the bifurcated bearing for receiving said extension, all constructed and operating substantially in the manner and for the purposes described.

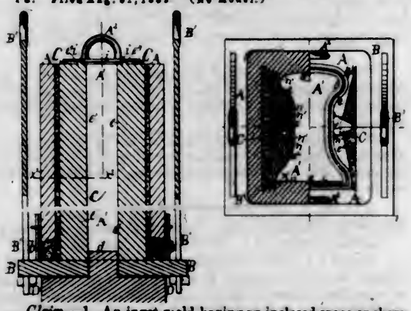
2. The combination of the pivoted key, provided with a button on one arm, the supporting-frame thereof, the adjusting-screw therefor, the spring J, the circuit-closing lever G, the curved button G' on the free end of this lever, the guide for the latter, and the holding-down spring, all adapted to operate in union, substantially in the manner and for the purposes described.

267,879. PLATING METALS. CARL HAGGOLD, Geislingen, Wurtemburg, Germany. Filed July 20, 1882. (No specimens.) Patented in France May 2, 1882, and in Germany May 6, 1882.

Claim.—1. The herein-specified method of uniting brass or similar alloys with copper, iron, or steel articles, the union being effected by placing the plating metal upon the article to be plated, then heating the same to a red heat, and finally exposing the same to a heavy pressure, substantially as described.

2. The process of plating articles of copper, iron, or steel with silver or gold by first plating them with brass or similar alloys in the manner above stated, then applying to the plated surface a paste of chloride of silver, tartar, and salt, and thereon a sheet of silver or gold, and exposing the whole to a heavy pressure, substantially as set forth.

267,880. INGOT-MOLD. WILLIAM HAIGSWORTH, Pittsburg, Pa. Filed Aug. 31, 1882. (No model.)



Claim.—1. An ingot-mold having an inclosed space or chamber separated from the mold-cavity by a movable metallic wall with one or more tap-holes at its lower end, in combination with a body of heated sand or other equivalent heated and yielding packing in such chamber or space, substantially as described, whereby the metallic wall is held in place by a yielding support and heated and expanded by contact therewith.

2. The combination of mold-case A, one or more separate side pieces, forming movable side walls of the mold-cavity, and a body of heated sand or equivalent heated and elastic packing between such movable walls and the sides of the case, substantially as set forth.

3. An ingot-mold having in combination an outer case and separate inclosed pieces, forming one or more inwardly projecting or curved sides of the mold-cavity, such pieces being movable transversely within the case, and a body of sand or equivalent yielding support between the sides of the case and such pieces, substantially as described, whereby the movable pieces are held in place to form convex or inwardly-bent sides of the cavity as against the weight of metal in the ingot, but may yield backward and enlarge the cavity under contracting pressure of the ingot.

4. The combination of an outer mold-case, forming two opposite sides of a mold-cavity, separate inclosed side pieces in any desired number, forming one or more convex or inwardly-projecting sides of the cavity, such pieces being movable transversely within the case, and a body of sand or equivalent packing between the backs of such pieces and the sides of the case, substantially as and for the purposes set forth.

5. In combination with an outer mold-case, separate inclosed side pieces in any desired number, forming one or more of the side walls of the mold-cavity, such pieces being movable transversely within the case, a yielding body of sand or equivalent packing between the backs of such pieces and the case, and one or more tap-holes at the bottom of the case for drawing off such sand or earth, substantially as set forth.

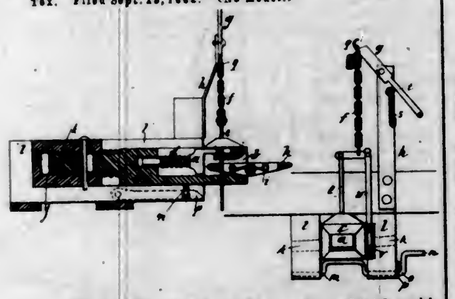
6. The combination of an outer mold-case, separate inclosed side pieces in any desired number, forming one or more of the side walls of the mold-cavity, such pieces being movable transversely within the case, a yielding body of sand or equivalent packing between such pieces and the case, and frangible cores in the joints made by the movable pieces, substantially as set forth.

7. The combination of base D, having raised chill *d* thereon, bed-plate B, case A, side pieces, *c c' c²*, in any desired form and number, rim *i*, and sand back C, substantially as set forth.

8. The mold-case A, having one or more tap-holes, *b*, at its lower edge, in combination with base-plate B, movable pieces *c c' c²*, in any desired form and number, forming one or more sides of the mold-cavity, rim *i*, and sand body C, substantially as set forth.

9. The combination of case A, sand body C, movable pieces *c c' c²*, in any desired form and number, forming one or more sides of the mold-cavity, and frangible cores *a'* in the joints made by such pieces, substantially as set forth.

267,881. CAR-COUPLING. NATHAN M. HAYS, Grand View, Tex. Filed Sept. 25, 1882. (No model.)



Claim.—1. The combination of the crank *m* and latch *p* with the vertically-adjustable draw-bar, substantially as described.

2. The combination, with the vertically-adjustable draw-bar *e*, of a pin-lifting lever, *g*, having a hook, *q*, and an adjustable connecting-chain, substantially as described.

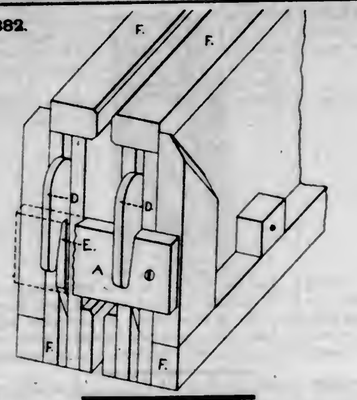
3. The combination of the pin-lifting lever *g* and hook *s* with the coupling-pin *e*, substantially as described.

4. The hook *s*, in combination with the pin-lifting lever *g* and coupling-pin, and pivoted on a stud, *t*, arranged to form a stop to the lever, substantially as described.

267,882. BED-SIDE-RAIL PACKING-BLOCK FOR SHIPMENT OF BED-RAILS. JOHN C. HARBERT, Grand Rapids, Mich. Filed Apr. 27, 1882. (No model.)

Claim.—The combination, with bed-rails provided with hooks having fang D' and rib E, of a holding-block overlapped by fang D' and having grooves B B for rib E, and holes *c c* for the securing device, all arranged substantially as described.

267,882.



267,883. UNDERGROUND TELEGRAPH-LINE. CHRISTIAN H. HARMS, Washington, D. C. Filed Nov. 23, 1881. (No model.)



Claim.—In a conduit for electric wires, the combination, with the covers F, of two or more series of longitudinally-grooved and hollow inverted-trough-shaped supports, arranged one within the other, as described, the supports of the same series being placed at some distance apart, so that the upper series may be slid aside, while still sustaining the wires resting upon them, to uncover the wires, resting on the series below, substantially as set forth.

267,884. THREAD GUARD AND CUTTER. ISABEL HARDING, New York, N. Y., assignor to Moritz Loth, Cincinnati, Ohio. Filed Apr. 20, 1882. (No model.)



Claim.—1. In a thread holder or guard, an elastic band or wire adapted partly or wholly to encircle the thread on the spool and to press inward upon said thread to hold it, substantially as described.

2. A thread holder or guard consisting of a band or wire of elastic material adapted partly or wholly to encircle the thread wound on the spool, and provided with an eye or eyes on one or both ends, substantially as described.

3. A thread holder or guard consisting of a band or wire of elastic material adapted partly or wholly to encircle the thread wound upon the spool, and having an eye at one end and a cutting-edge on the other end, substantially as described.

4. In a thread holder or guard, a band or wire of elastic material adapted wholly or partly to encircle the thread wound on the spool, having eyes at one or both ends and a cutting edge or edges formed in said eyes, substantially as described.

5. In a thread holder or guard, a band or wire of elastic material adapted wholly or partly to encircle the thread wound upon the spool, and having slitted or open eyes at one or both ends, substantially as described.

6. In a thread holder or guard, a band or wire adapted wholly or partly to encircle the thread wound upon the spool, and which may be adjusted to grasp spools of thread of varying diameter, substantially as described.

7. In combination with a spool and the thread or other material wound thereupon, a band or wire detachable and movable encircling or partly encircling the thread or other material wound on the spool, and serving to hold the same from unwinding, substantially as described.

267,885. FIRE-PLACE. JAMES S. HARDING, Ripley, Ohio. Filed Sept. 2, 1882. (No model.)

267,885.



Claim.—As an improvement in open fire-places, the curved back plate A A', recurved to form a dome or hood, H, overlapping the grate, with its downwardly and outwardly projecting front plate, A', provided with an adjustable soot guard or deflector, G, substantially as and for the purpose herein shown and specified.

267,886. BRACELET. JOHN C. HARRINGTON, Providence, R. I. Filed Aug. 7, 1882. (No model.)

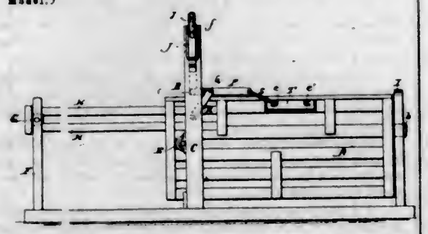


Claim.—In a bracelet, the combination of the laterally-open coil of wire A, made in bracelet form, with laterally-lapped ends, the hook-stud B, attached to one of the lapped ends of the bracelet, and the ornamental catch C, hinged to the opposite arm of the bracelet, and provided with a back plate having a slot, F, adapted for the reception of the hook-stud B, substantially as described.

267,887. SHOE. JOHN HARRINGTON, Vicksburg, Miss. Filed Aug. 17, 1882. (No model.)

Claim.—The shoe-upper having the angular slots *a a* cut through its sides and extending obliquely downward to form the tongue *b*, and having the straps *d d* sewed to the outer edges, *c c*, of the slots, and adapted to cover the said slots when tied across the tongue, substantially as and for the purposes specified.

267,888. AUTOMATIC FARM AND YARD GATE. MOSES L. HAWKS, Ovid, Branch County, Mich. Filed Apr. 10, 1882. (No model.)

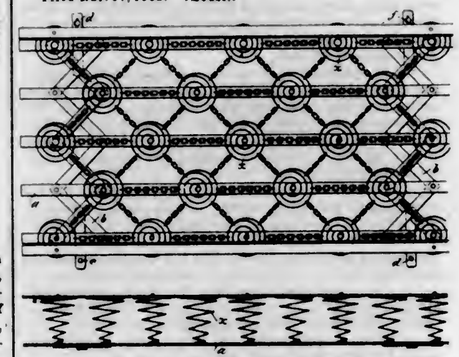


Claim.—1. The combination, with a sliding extension-gate and its operating-levers J J, of a toggle-like shifting device, linked or hinged to the said levers, and consisting of the arms P P, rollers *c' c'*, entering vertical grooves in the standard B, the arms R R, pivoted to the arms P P and to the main or central standard, and of the loop or link S, pivoted to the arms P P and to the gate, all operating together, substantially as and for the purpose specified.

2. The combination of a sliding extension-gate, A, having therein the slot T, a central standard, B, operating-levers J J, the links N N, the arms P P, connected to the links N N, the cross-bar *c*, projecting into vertical grooves in the standards C C, the arms R R, pivoted to the said standards and to the arms P P, and the link S, pivoted to the arms P P, and arranged in the slot T, substantially as and for the purpose specified.

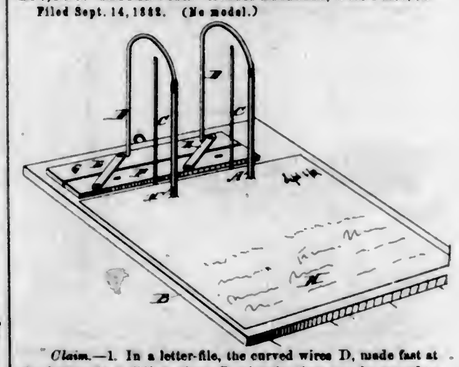
3. The combination of a sliding extension-gate, A, having therein the slot T, and provided with the hooks *e* and *e'*, located in the said slot, a central standard, B, operating-levers J J, the links N N, the arms P P, connected to the links N N, the cross-bar *c*, projecting into vertical grooves in the standards C C, and there provided with rollers *c' c'*, the arms R R, pivoted to the said standards and to the arms P P, and the link S, pivoted to the arms P P, and arranged in the slot T, substantially as and for the purpose specified.

267,889. SPRING BED-BOTTOM. WILLIAM P. HENNION, Brooklyn, N. Y., assignor to Cornelia B. Hennion, same place. Filed Mar. 27, 1882. (Model.)



Claim.—A firmly-braced, flexible, elastic, and rolling-up spring bed-bottom, consisting in the combination of the series of slats *a*, connected together by means of diagonal steel braces *b*, arranged, as shown and described, with fenders *d*, having studs and holders *e f*, or their described equivalents, with the springs *x*, substantially as and for the purpose specified.

267,890. LETTER-FILE. MORRIS HERRMANN, West Point, Ga. Filed Sept. 14, 1882. (No model.)



Claim.—1. In a letter-file, the curved wires D, made fast at the bottom in a sliding piece, G, whereby they may be moved to and from the tubes A, as described.

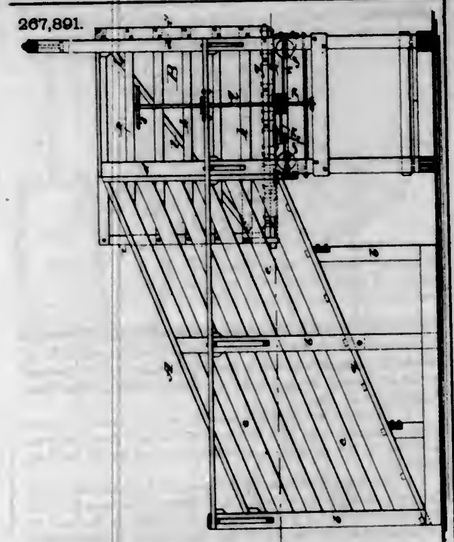
2. In a letter-file, the combination, with the board B, of the tubes or pins A, the strip G, the links E, and the curved locking-wires D on the strip G, substantially as herein shown and described, and for the purpose set forth.

3. In a letter-file, the combination, with the board B, of the tubes or pins A, the fixed strip F, the movable strip G, the links E, and the curved locking-wires D on the strip G, substantially as herein shown and described, and for the purpose set forth.

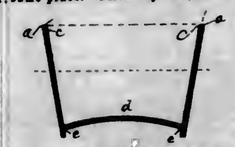
267,891. STOCK-LOADING CHUTE. DANIEL E. MORRIS, Elliswood, Kans. Filed Aug. 15, 1882. (No model.)

Claim.—The combination, with a stationary inclined chute and movable platform, B, having the irons *h*, of the posts *d d*, having guides *m*, the shafts *e*, the platform *c*, having flanged wheels, and the posts *i*, having side bars, K, whereby the local relation of the platform B to the chute A may be changed, as described.

267,891.

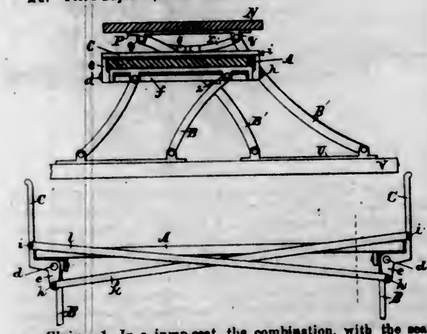


267,892. VESSEL FOR LIQUIDS. THOMAS HOUSTON, Bangor, Me., assignor of one-half to Hannibal H. Crocker and Julius H. Crocker, same place. Filed Sept. 21, 1882. (No Model.)



Claim.—As a new article of manufacture, a vessel for liquids, &c., formed of alternate layers of thin wood or veneer and impervious cement, and provided with the convex bottom *d*, cemented into an annular groove, *c*, the weight of the liquid in the vessel and the spring of the wood serving to increase the tightness of the joint, substantially in the manner and for the purposes set forth.

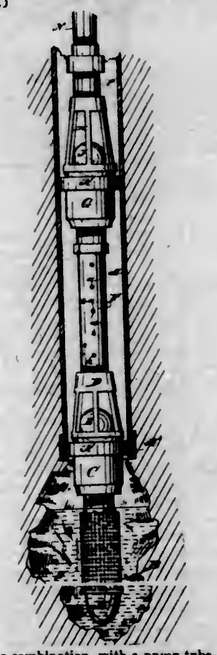
267,893. SHIFTING SEAT. GEORGE H. HUTTON, Baltimore, Md. Filed Sept. 21, 1882. (No model.)



Claim.—1. In a jump-seat, the combination, with the seat and the pivoted standards, of an arm, C, pivoted to the seat, and having at each side an extension, *e*, below the pivot, and a cross-bar, *f*, connecting the two extended parts, and provided with a leg, *g*, as set forth.

2. In a jump-seat, the combination, with the seat and the pivoted standards, of an extension, *e*, below the pivot, a stop device attached to the extended parts, and two straps crossing each other at the center, each strap having one end pivoted to the arm above the arm-pivot *d* and the other pivoted to the extended part below the said arm-pivot, as and for the purpose set forth.

267,894. PUMP. JOSEPH IMLER, Forest, Ohio. Filed July 14, 1882. (No model.)



Claim.—1. The combination, with a pump-tube, of an intermediate check-valve placed between the sucker-valve and the bottom check-valve, and the perforated tube connecting this intermediate valve with the bottom check-valve, substantially as herein shown and described, and for the purpose set forth.

2. The combination, with a pump-tube, of an intermediate check-valve placed between the sucker-valve and the bottom check-valve, which intermediate valve is connected with the bottom check-valve by a perforated tube, and of a strainer attached to the bottom check-valve, substantially as herein shown and described, and for the purpose set forth.

3. The combination, with the pump-tube A, of the rubber collars K K, the cage D, carrying valve E, the side-perforated tube F, the collar G, and the valve J, whereby the water, after passing the valve E, must enter a chamber surrounding tube F, leading to the upper valve, as described.

4. The combination, with a pump-tube, of the valve-basket D and the valve-basket H, provided at its upper end with a left-hand-threaded aperture, I, the perforated tube F, connecting the valve-baskets D and H, and the strainer B, connected with the valve-basket D, substantially as herein shown and described, and for the purpose set forth.

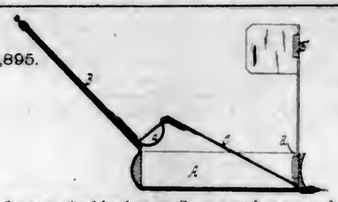
5. The combination, with the pump-tube A, the valve-cages D H, the pipe F, and the collars C G, of the rubber rings K K, whereby the said rings may be so spread by screwing the cages into the collars as to hold both by friction in the tube, as described.

267,895. PICTURE EXHIBITOR AND RECEPTACLE. GUSTAV L. JANSEN, New York, N. Y. Filed Aug. 2, 1882. (No model.)

Claim.—1. A picture-exhibitor consisting of a receptacle, A, the lid B, hinged thereto and provided with the object-supporting flange *a*, and the false bottom C, connected at one end with the bottom of the receptacle and at the other end with the lid, said false bottom being of such length and construction, as set forth, to form a brace for sustaining the lid in an inclined position when thrown open, substantially as described.

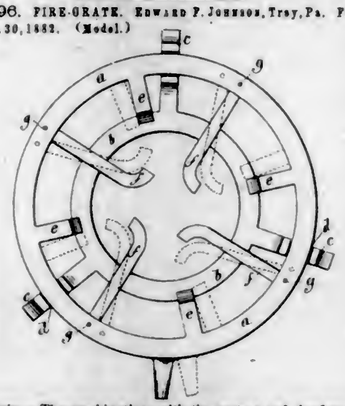
2. The combination, in a picture-exhibitor, of the receptacle A, the lid B, hinged thereto and provided with the object-support-

267,895.



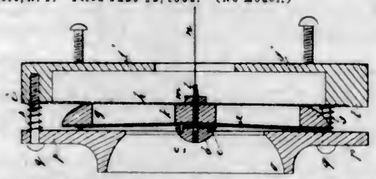
ing flange *a*, the false bottom C, connected at one end with the bottom of the receptacle and at the other end with the lid, and by its length and construction serving as a brace to sustain the lid in an inclined position when thrown open, and a lens connected with the front edge of the receptacle, substantially as described.

267,896. FIRE-GRATE. EDWARD P. JOHNSON, Troy, Pa. Filed Aug. 30, 1882. (Model.)



Claim.—The combination, with the grate *a* and the frame *b*, of the curved radial arms *f*, pivoted to the grate, and having oblique slots or apertures *h*, which receive projections or pivots of the arms, as shown and described, and for the purpose set forth.

267,897. MECHANICAL TELEPHONE. HARRY T. JOHNSON, Scio, N. Y. Filed June 12, 1882. (No model.)



Claim.—1. The combination, with cords or wires *c*, stretched across the diaphragm *a*, of the button *b* and studs *e*, substantially as described.

2. In a telephone, the combination, with the base *i*, provided with the diaphragm *h*, of the diaphragm *a*, of less diameter than the diaphragm *h*, rigidly secured at its center to the said diaphragm, and provided with the ring *g*, secured to its edge and bearing upon the diaphragm *h*, substantially as and for the purpose set forth.

3. The combination, with base *i*, provided with the diaphragm *h*, of the diaphragm *a*, provided with the ring *g*, the mouth-piece *o*, and the adjusting-screws *q*, substantially as and for the purpose set forth.

4. The combination, with the base *i*, provided with the diaphragm *h*, the mouth-piece *o*, the diaphragm *a*, provided with the ring *g*, and interposed between the mouth-piece and the diaphragm of the base, of the adjusting-screws *q*, and the springs *s*, substantially as and for the purpose set forth.

267,898. CHURN-POWER. ISAAC VAN ZANDT JONES, Salado, Tex. Filed Oct. 4, 1882. (No model.)

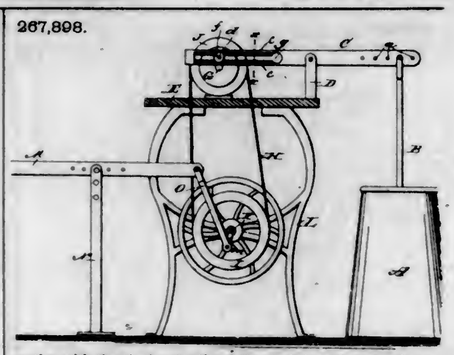
Claim.—1. The lever C, combined and connected by a slot on one side of its fulcrum with the crank-pin of a rotary disk or wheel, whereby it may be oscillated, as and for the purpose specified.

2. The slotted lever C, having the large passage *g*, in combination with the pin *d* and roller *f*, the pin being adapted to be attached to the band-wheel of a sewing-machine, and the free end of the lever being adapted to be attached to a churn-dasher, substantially as set forth.

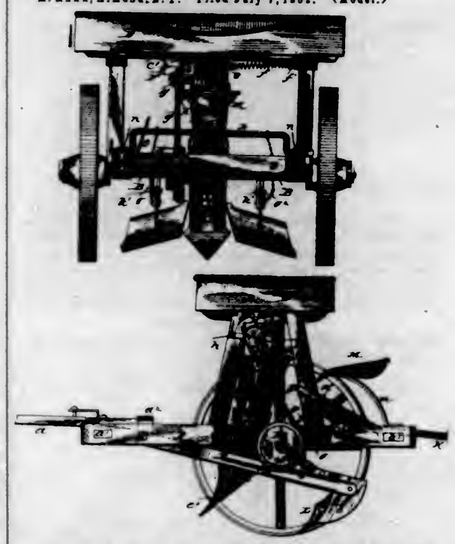
3. The members *c c* of the lever C, rounded upon their inner edges, in combination with the concaved roller *f*, the lever being formed with the passage *g*, substantially as and for the purposes set forth.

4. The lever M, fulcrumed in the post N, in combination with the crank-shaft K, drive-wheel I, connecting-rod O, band H, band-wheel J, crank-pin *d*, slotted lever C, fulcrumed in the post D, and attached at its outer end to the churn-dasher B, substantially as and for the purposes set forth.

267,898.



267,899. POTATO-PLANTER. EDWARD P. KANE and JAMES M. KANE, Almond, N. Y. Filed July 7, 1882. (Model.)



Claim.—1. The combination, in a potato-planter, of the main frame, shaft, drive-wheels, pulley E, mounted on said shaft, stub-axle secured to a small hopper, *d*, and pulley *g*, loosely mounted thereon, connecting cross-belt *d'*, disk H, secured to pulley *g*, and having projecting lugs *h*, double-crank shaft upon which the valve is mounted, adapted to be alternately operated by the lugs on the disk as it revolves, and a spring for automatically opening and closing the hopper *d*, substantially as herein shown and described.

2. The combination of the hopper *d*, valve *b'*, shaft *b*, crank *e*, coiled spring *f*, lug *f'*, and cross-bar *c*, whereby said spring is adapted to close the valve automatically and by torsional resistance, substantially as shown and described.

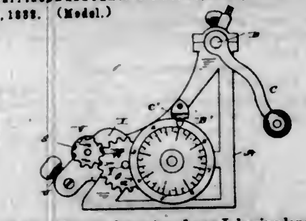
3. The combination of hopper *d*, valve *b'*, shaft *b*, cranks *e*, spring *f*, disk H, having lugs *h*, and means for rotating the disk, substantially as shown and described.

267,900. GIG-TREE. WILLIAM C. KNELLS and RUDOLPH R. DIVEBL, Cincinnati, Ohio. Filed June 18, 1882. (No model.)



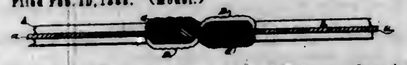
Claim.—As an improved article of manufacture, the gig-tree A, having knuckles *a a'* cast around the ends of pintles E, to which latter the jockeys D D' are hinged in the manner herein described and illustrated.

267,901. MACHINE FOR MEASURING CLOTH. JOSEPH H. KLEPPINGER and JAMES N. MAYLOR, Cherryville, Pa. Filed May 31, 1882. (Model.)



Claim.—The supplementary frame I, having longitudinal slot R, roller S, pivoted slotted tension-bar T, with adjustable guide U, and secured to main frame by bolts M, having sleeves P and thumb-nuts N, the pinion V, cog-wheel W, having projection Z, stud Y, cog-wheel A', graduated disk B', and pointer C', in combination with the frame A, provided with shaft B, crank C, cranks D and G, and adjustable shaft E, as described, and for the purposes set forth.

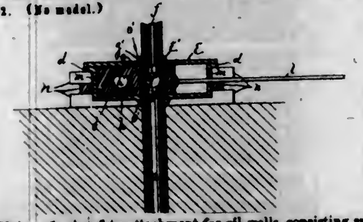
267,902. FOLDING SLATE. JESSE LA RUE, Slatington, Pa. Filed Feb. 10, 1882. (Model.)



Claim.—1. The combination of two slate-frames, slates inserted therein, and flexible hinges, these hinges having their ends secured rigidly in their places in the groove formed in the frame by the edges of the slates, all substantially as and for the purposes set forth.

2. As a new article of manufacture, a folding slate consisting of two single slates and flexible connecting-pieces secured into the slate-frames by means of the slates themselves substantially in the manner described.

267,903. SAFETY ATTACHMENT FOR OIL WELLS AND TANKS. MIKE A. LABAGAN, Knapp's Creek, N. Y., assignor of one-half to Joseph Aylsworth, same place. Filed Aug. 25, 1882. (No model.)



Claim.—1. A safety attachment for oil-wells, consisting substantially of a valve attached to the tubing of the well, and adapted to be operated in a suitable casing or box from a distance, the valve being provided with means not only for allowing a free passage therethrough of the flowing oil and gas while the valve is not in use, but also means for instantly diverting, in case of fire, the flow of oil and gas, without at any time entirely stopping such flow, and also means for preventing contact of the oil and gas with the surrounding flames, substantially as shown and described.

2. A safety attachment for oil-wells, consisting substantially of a valve attached to the tubing of the well at or near its mouth, and adapted to be operated in a suitable casing or box from a distance, the valve being provided with means not only for allowing a free passage therethrough of the flowing oil and gas while the valve is not in use, but also means for instantly diverting, in case of fire, the flow of oil and gas, without at any time entirely stopping such flow, and also means for preventing contact of the oil and gas with the surrounding flames, substantially as shown and described.

3. In a safety attachment for oil-wells, the combination, with the well-tubing and a suitable casing or box, of a valve having at one end thereof an orifice of substantially the diameter of the well-tubing and at the other end a recess closed at the top and provided with side orifices which are adapted to register with pipes leading from the casing or box, substantially as shown and described.

4. In a safety attachment for oil-wells, the combination, with the well-tubing and a suitable casing or box, of a valve having at one end thereof an orifice of substantially the diameter of the well-tubing, and side orifices leading therefrom, and at the other end a recess closed at the top and provided with side orifices, both sets of side orifices being adapted at different times to register with pipes leading from the casing or box, in the manner shown and described, and for the purpose stated.

5. In a safety attachment for oil-wells, the combination, with the well-tubing and a suitable casing or box, of a valve having at one end thereof an orifice of substantially the diameter of the well-tubing and at the other end a recess closed at the top, and having on the inner top wall a wedge-shaped projection, the recess being provided with side orifices which are adapted to register with pipes leading from the casing or box, substantially as shown and described.

6. In a safety attachment for oil-wells, the valve *g*, provided with the orifice *g'*, and the recess *h*, and its side orifices *h' h'*, as and for the purpose stated.

7. In a safety attachment for oil-wells, the valve *g*, provided with the orifice *g'* and its side orifices *g² g²*, and the recess *h*, having the side orifices *h' h'*, as and for the purposes stated.

8. In a safety attachment for oil-wells, the valve *g*, provided with the orifice *g'*, and the recess *h*, having the wedge-shaped projection *k*, and the side orifices *h' h'*, as and for the purpose stated.

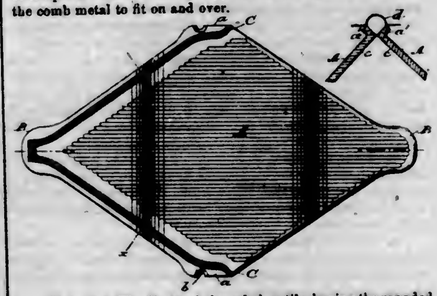
9. In a safety attachment for oil-wells, the valve *g*, provided with the orifice *g'*, with its side orifices *g² g²*, and the recess *h*, having the wedge-shaped projection *k*, and the side orifices *h' h'*, as and for the purpose stated.

10. In a safety attachment for oil-wells, the casing or box *b*, having the flanges *d*, the screw-threaded orifice *b'* in its bottom, the side pipes *c c*, leading to its interior, and the air-holes *m m*, and the cover *e*, having the orifice *e'*, substantially as shown and described.

11. The combination of the casing or box, provided with orifices and pipes, as shown and described, with the valve *g*, provided with the orifice *g'* and its side orifices *g² g²*, the recess *h*, having the side orifices *h' h'* and wedge-shaped projection *k*, and the operating-rod *l*, secured to one end of the valve, and passing through the casing or box, substantially as shown and described, and for the purpose stated.

267,904. ROOFING-TILE. LORENZO LANE and LAURIN D. WOODWORTH, Youngstown, Ohio, assignors to the Lane & Woodworth Patent Glass Roofing Company, same place. Filed Nov. 23, 1881. (No model.)

Brief.—A glass tile having rounded ends. The edge flanges are beveled on the inner edge and prolonged below the central line of the plate. The tiles for the upper tier are flanged outwardly for the comb metal to fit on and over.



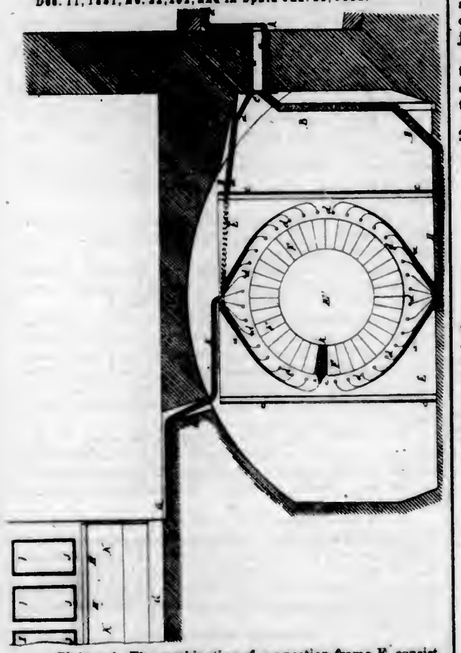
Claim.—1. The diamond-shaped glass tile, having the rounded ends B, with beveled part D to fit over the adjoining tiles, and pro-

vided with semicircular indentations *b*, having a countersink for securing the tiles in place, substantially as described.

2. In roofing-tiles, the flange *a'* at the upper edge of the plates, in combination with the comb of the roof and the comb metal, all arranged substantially as shown and set forth.

3. The combination of a series of glass roofing-tiles, having rounded ends B, with beveled part D, prolongations *a*, and rounded ends C, and provided with semicircular indentations *b*, having recessed head for securing them in place, and forming a smooth surface, not exposing any nail-heads, substantially as shown and specified.

267,905. TELEPHONE-EXCHANGE AND APPARATUS THEREFOR. HENRY LARTIGUE, Paris, France, assignor to the Société Générale des Téléphones, same place. Filed Dec. 31, 1881. (No model.) Patented in France July 30, 1881, No. 144,184; in Belgium Aug. 31, 1881, No. 55,807; in England Sept. 1, 1881, No. 3,909; in Italy Nov. 14, 1881; in Austria Dec. 11, 1881, No. 32,252, and in Spain Jan. 28, 1882.



Claim.—1. The combination of connection-frame E, consisting of an annular panel having a series of radial conducting-connections fixed to its face adjacent to its central opening, with an equal series of wires entering from its back through said opening, and the end of each confined to one of said connections, and with another series of wires carried around its surface outside of said series of connections, and each wire extending inward to and terminating at one of said connections, whereby each wire of the inner series is joined through one of said connections with the corresponding wire of the outer series, substantially as set forth.

2. The connection-frame E, consisting of a board or panel having an opening, E', lined with a series of sectors, F F, and provided with a corresponding number of eyes, *d d*, and each sector having a greater number of perforations or eyes, *e e*, and a number of binding-connections corresponding to the number of eyes *e e*, combined and arranged substantially as set forth.

3. The combination, with double wires leading to the subscriber's telephone, of a double-jack-knife commutator, consisting of two superposed interinsulated jack-knives, the plate of each being connected with one of said wires, combined and arranged substantially as set forth.

4. A commutator consisting of the combination of two jack-knife commutators insulated from each other, arranged one against the other, with their ends reversed, and with communicating sockets, substantially as set forth.

5. A commutator consisting of the combination of two plates, M M', and two bolts, O O', all insulated from each other, springs *m* and *m'*, making contact with bolts O O', plungers *o o'*, and sockets *t t'* and *u u'*, substantially as set forth.

6. The combination, with a commutator consisting of two superposed interinsulated jack-knives having communicating sockets, of a peg, P, consisting of a ferrule, *r*, and pin *s*, insulated from each other and adapted to fit said sockets, and a flexible cord of two insulated wires, one wire connected to said ferrule, the other to said pin, substantially as set forth.

7. The combination, to form a commutator, of two plates, M M', insulated from each other, sockets *t t'* through the front plate, M, a plug, *w*, entering the back plate, M', back of the socket *t*, and insulated from said plate, a socket, *u*, in said plug, forming a continuation of the socket *t*, a socket, *u'*, in the plate M', forming a continuation of the socket *t'*, springs *m m'*, and plungers *o o'*, substantially as set forth.

8. The combination and arrangement of the racks H H with the commutators J J, and conjunctors K K on each rack, said conjunctors consisting each of two plates insulated from each other, and each plate of each conjunctor on one rack being electrically connected with the corresponding plate of the corresponding conjunctor on each other rack, substantially as set forth.

9. The conjunctors K K, consisting of double superposed interinsulated plates having communicating sockets, the like plates of corresponding conjunctors being electrically connected, substantially as set forth.

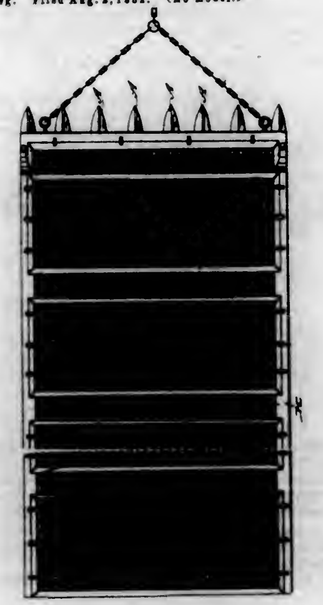
267,906. SPECULUM. LORENZO C. LAW, Toledo, Ohio, assignor of one-half to Cyrenius G. Clark, same place. Filed Apr. 5, 1882. (No model.)



Claim.—1. The herein-described speculum, consisting of the tube A, having fenestra C in its side, extending to the extreme end of said tube, the turned-under point B, recess D, annular groove G, flange F, and handle H, all as herein described, for the purpose set forth.

2. The speculum A, consisting of the part I, having fenestra C, turned-under point B, and recess D, and the part J, adjustable by a screw-thread in part I, and having annular groove G, flange F, and handle H, all as herein described, for the purpose set forth.

267,907. AMALGAMATOR. WILLIAM H. LEISIGOR, Salem, Oreg. Filed Aug. 2, 1882. (No model.)

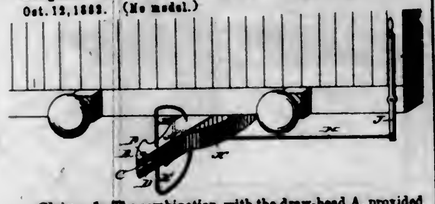


Claim.—1. An amalgamator made substantially as herein shown and described, and consisting of a device provided with a series of amalgamated plates or devices and teeth or agitators, and suitable propelling means, as set forth.

2. In an amalgamator, the combination, with the frame B, of the agitators or teeth A and the amalgamated plates C, attached to the frame B, and suitable propelling means, substantially as herein shown and described, and for the purpose set forth.

3. In an amalgamator, the combination, with the frames B and H, of the agitators or teeth A and the amalgamated plates C, secured on the frames B and H, and suitable propelling means, substantially as herein shown and described, and for the purpose set forth.

267,908. CAR-COUPLING. FRANK C. LYNN, Morristown, Pa., assignor to himself and Amos W. Geiger, same place. Filed Oct. 12, 1882. (No model.)

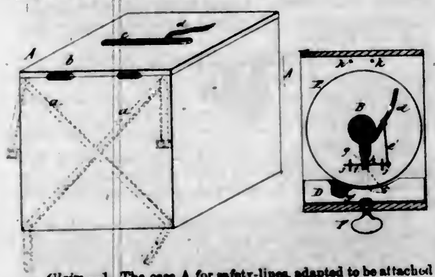


Claim.—1. The combination, with the draw-head A, provided with a hook-head, B, of the spring K and the loop-frames E on the top and bottom of the draw-head, substantially as herein shown and described, and for the purpose set forth.

2. The combination, with the draw-head A, provided with a hook-head, B, of the spring K, the loop-frames E in the top and bottom of the draw-head, the rod H, and the lever J, substantially as herein shown and described, and for the purpose set forth.

267,909. SAFETY-LINE AND REELING ATTACHMENT. WILLIAM HACKNEY, Brooklyn, N.Y. Filed July 25, 1882. (No model.)

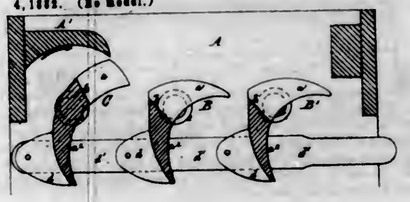
Brief.—When the rope runs nearly out the reel is automatically stopped by the loosening of a spring-bolt on the reel, which projects into a socket in the brake-block.

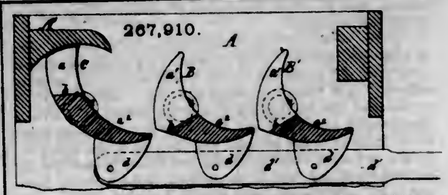


Claim.—1. The case A for safety-lines, adapted to be attached to the person, in combination with the reel B, brake D, and spring-bolt G, arranged to automatically stop the reel and the unwinding of the line, substantially as specified.

2. In a reeling attachment for safety-lines, the brake D, provided with the socket *f*, the wheel E, provided with the spring-bolt G, having a stud, *g*, projecting through a slot in the said wheel, in combination with the pin *i*, connected with the rope *d*, so that when the rope runs out the reel is automatically stopped by the bolt G, in the manner substantially as described.

267,910. GRATE-SECTION AND FIRE-BED FOR STOVES, FURNACES, &c. WILLIAM MCCLAVE, Scranton, Pa. Filed Oct. 4, 1882. (No model.)





Claim.—1. The vibrating grate-sections B, each comprising a grated portion, *a'*, a pendent portion, a^2, and journals, and forming a fire-bed whose sections all vibrate in the same direction, substantially as described.

2. The grate-sections B B', as constructed, with portions *a'* and a^2 and with journals, and applied together, whereby the pendent portion a^2 of a section serves alone for closing the space which exists between a pair of sections, substantially as and for the purpose described.

3. The grated fire-bed formed of sections comprising portions *a'* and a^2 and journals, and all moved in the same direction, substantially as and for the purpose described.

4. The combination of an end grate-section, C, formed with arms *a'*, and a pendent portion, a^2, the end bar of the ash-pit section, beneath which the section C vibrates, and a section, B, having a form resembling an inverted L, and all moved in the same direction, substantially as and for the purpose described.

267,911. MEANS FOR ATTACHING STOVE-LEGS. CHARLES W. MCCUTCHEN, Peekskill, N.Y. Filed June 12, 1882. (Model.)



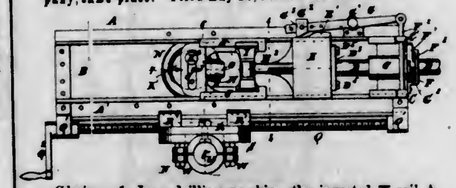
Claim.—1. The leg F, having formed upon it the shank provided with lug E, beveled head-piece *b*, and projections *c c*, in the manner and for the purpose herein shown and described.

2. The combination of a stove-bottom, A, having holes B, whose sides and ends are beveled in opposite directions, with legs F, having shank C, with beveled head *b*, as shown, and for the purpose specified.

3. The combination of a stove-leg, F, having shank C, provided with lug E and beveled head, with the stove-bottom A, having elliptical holes B, with sides and ends beveled in reverse directions, and the curved projection D, all arranged substantially as shown, and for the purpose set forth.

4. The combination of a stove-leg, F, having shank C, provided with lug E, beveled head *b*, and lugs *c c* with the stove-bottom A, having elliptical holes B, with sides and ends beveled in reverse directions, and the curved projection D, all constructed and arranged as shown, and for the purpose herein specified.

267,912. DRILLING-MACHINE. ROBERT M. MCDERMOTT, St. Louis, Mo., assignor to the McDermott Automatic Drill Company, same place. Filed May 16, 1882. (No model.)



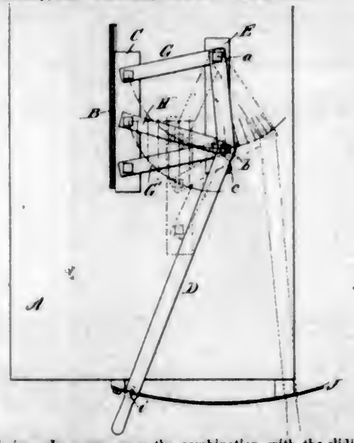
Claim.—1. In a drilling-machine, the inverted-T rail A, double-T rail A', U-shaped frame-piece B, carrying sheaves B', and the block C, provided with a central bore for the drill-rod, in combination with the sliding head E, carrying the drill-rod D, and provided with a stem, E^2, the elliptical sliding frame I, with its bearings I', and carrying the elastic strap H, connected with the stem E^2, the sliding frame J, having extension J', provided with slot J^3, and carrying the elastic bumper O upon its projection P', the frame L, carrying shaft K, disk K', wrist-pin K^2, pulley M, and

balance-wheel N, and the driving-belt B³, substantially as and for the purpose described.

2. The inverted-T rail A, carrying the pivoted lever G, with its adjustable block G³, having an inclined lower face, and hinged at its front end to the bar F², the U-shaped frame B, carrying sheaves B', and block C, provided with lugs C' and strap F³, in combination with the drill-rod D, carrying ratchet-wheel F, and provided with a feather-groove, D', the bar F², hinged at its upper end to the lever G, and provided with the pawl F' and spring G², the sliding head E, carrying the drill-rod D, and formed with the inclined lug E' and stem E², the elliptical frame I, having bearings I', and carrying the elastic strap H, connected with the stem E², the sliding frame J, having extension J', provided with slot J³, the frame L, carrying shaft K, disk K', wrist-pin K², grooved pulley M, and balance-wheel N, and the driving-belt B³, substantially as and for the purpose set forth.

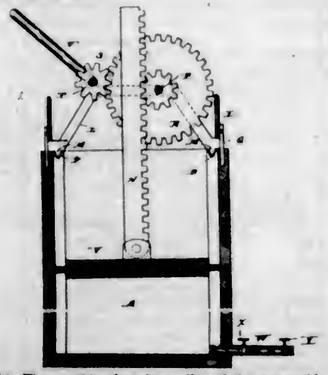
3. In a drilling-machine, the frame A A' B C, provided with lugs Q' Q', in combination with the feed screw-rod Q, disk R, provided with lugs R' R' and curved slots R² R², disk S, provided with bolts T T and two-part box U, with its uniting-bolts W, and the shaft V, substantially as and for the purpose specified.

267,913. GAGE FOR RIP-SAWS. THEODORE A. MCDONALD. New Albany, Ind. Filed Aug. 18, 1881. (No model.)



Claim.—In a saw-gage, the combination, with the sliding gage-bar C, the parallel bars G, and the fixed block E, of the lever D, the link H, connected to the gage-bar C, and directly to the lever D, inward from the pivotal point of the latter, and the rack J, substantially as and for the purpose set forth.

267,914. SILO. JOHN W. MCKNIGHT, Washington, D. C. Filed Oct. 21, 1882. (No model.)



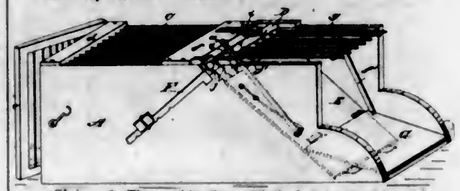
Claim.—1. The combination, in a silo, of the removable frame, the cogged gearing, and the rack-bar adapted to operate a follower to compress the fodder, substantially as specified.

2. The combination, in a silo, of the removable frame and packing-gearing and the covers and their clamping-cams, the silos being provided with angular grooves and packings and the frame with a projection adapted to set in said grooves, substantially as specified.

3. In a silo, the discharge-tube at the lower portion thereof, provided with two cocks or valves, whereby the liquid may escape from the same without the admission of air, substantially as specified.

4. In a silo, the combination, with the packing-rack and its operating-gearing, of the loose beams adapted to be secured in recesses at the sides of the chambers for compressing the fodder, substantially as specified.

267,915. ANIMAL-TRAP. BENJAMIN F. D. MILLER, Wooster, Ohio, assignor to himself and George C. Simmons, same place. Filed July 10, 1882. (Model.)



Claim.—1. The combination, with the bait-hook, of the slide-bar *i*, the detent *i'*, the shaft D, the weighted lever F, the arm *a*, the rod *b*, the hinged board E, the tip-board G, and the swinging wires *g*, whereby the animal's retreat is cut off, as described.

2. The combination, with the hinged platform E, operating as described, of the board G, hinged at one end to said platform and connected by a hinged bar, *f'*, to one side of the box, whereby when the platform drops with the animal the board is thrown up to frighten him, as described.

3. The self-setting trap herein shown and described, consisting of the box A, hinged board E, tip-up board G, shaft D, wires *g*, and weighted arm F attached thereto, and the sliding bar *i*, and weighted bait-hook *h*, the shaft being formed with the segmental detent *i'* and attached to the board E by means of the arm *a* and rod *b*, substantially as described.
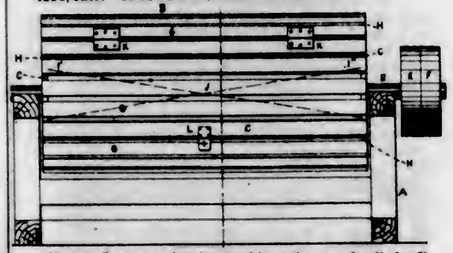
267,916. CAR-WHEEL. GEORGE W. MILTIMORE, Chicago, Ill. Filed Sept. 26, 1882. (No model.) Patented in England Aug. 15, 1882, No. 3,865.



Claim.—1. A spoke, as 4, made of bar metal twisted by a quarter-turn, and provided with a hole, as 10, located so as to cut the longitudinal axis of the spoke at the point of the twisting, substantially as described.

2. The combination, with the rim and the hub-plates, of the series of spokes, made of bar metal twisted by a quarter-turn, and provided with holes, as 10, located so as to cut the longitudinal axes of the spokes at the point of the twisting, substantially as described.

267,917. CARPET-RENOVATOR. CHARLES HOLDSER, Cleveland, Ohio. Filed June 16, 1882. (No model.)



Claim.—In carpet-cleaning machines, the grated cylinder B, having axial journals connected with the heads thereof, for its rotation in suitable frame-work, in combination with a series of wings extending from and diagonally across the entire interior face of the cylinder in opposite directions to each other, and provided with a door opening into said cylinder.

267,918. WELL-AUGER. ERASTUS J. HULBERT, Amsterdam, Ga., assignor of one-half to Allen Fort, same place. Filed June 17, 1882. (No model.)

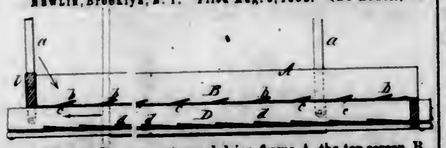
Brief.—The barrel formed in two shells, attached by rigid arms, has rigid semicircular bottom plates secured thereto and also to arms, and has removable dirt-gates and auxiliary plates. Bits with end lips secured to said rigid plates by bolts are adjusted in pitch by set-screws working through the rigid plates. A disk-guard and dirt-shield is secured to the shaft by loop-arms attached to the disk and stem.



Claim.—1. In a well-auger, the combination, with the barrel G and its central stem, B, of the fixed disk A and arms *a a*, bent to form laterally-projecting loops connecting the disk with the stem, substantially as shown and set forth.

2. In a well-auger, the combination, with the barrel G and its fixed bottom plates, C, of the removable dirt-gates E, bits D, having lips *d*, bearing against set-screws O, working through the fixed bottom plates, and auxiliary plates C', interposed between bits D and dirt-gates E, substantially as and for the purpose herein shown and set forth.

267,919. SEPARATING AND DRYING APPARATUS. HOWARD MAWLIN, Brooklyn, N. Y. Filed Aug. 5, 1882. (No model.)

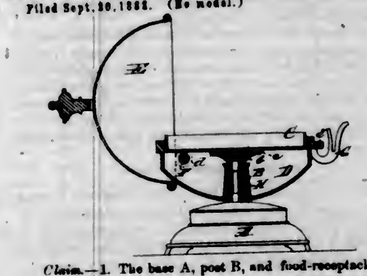


Claim.—In a separator and drier, frame A, the top screen, B, having the openings *c* and the lips *b* on the upper side, said lips and openings extending transversely across the screen, in combination with a bottom, D, consisting of plates lapped to form shoulders in a reverse direction from those of the screen, as described.

267,920. LUBRICANT. JOHN B. HARRIS, Richmond, Va. Filed Aug. 17, 1882. (No specimens.)

Claim.—A lubricating compound composed of mica, charcoal, and sal-soda, in combination with paraffine-oil, black-oil, petroleum-residuum, mutton and beef tallow, concentrated lye, and water, in or about the several proportions given, substantially as set forth and described.

267,921. TABLE-DISH. EDWARD A. PARKER, Meriden, Conn. Filed Sept. 30, 1882. (No model.)



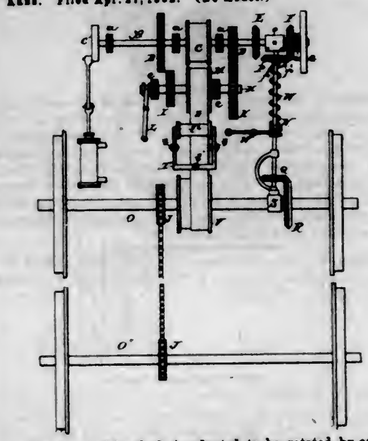
Claim.—1. The base A, post B, and food-receptacle C, combined with a revolving drip-pan or other cover-supporter, substantially as shown and described.

2. The combination of the base A, post B, and food-receptacle C with the revolving and detachable drip-pan or cover-supporter D, substantially as shown and described.

3. The combination of the base A, post B, and food-receptacle C with the revolving and detachable drip-pan or cover-supporter D and the cover E, substantially as shown and described.

4. The combination, in a table-dish, of the drip-pan or cover-supporter D and the cover E, held together by a detachable bolt, F, substantially as shown and described.

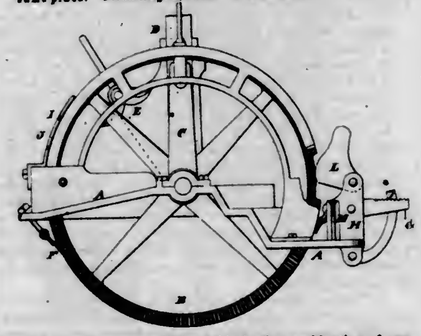
267,922. STREET-CAR MOTOR. LEWIS C. PARKER, Robinson, Kans. Filed Apr. 27, 1882. (No model.)



Claim.—1. The shaft A, adapted to be rotated by any desired engine, and provided with the large wheel B and small wheel D, in combination with the shifting shaft H, having the small wheel I, the pulley M, and large wheel K, the pulley M being provided with a belt, Z, connecting it with a pulley secured to the car-axle, whereby the motion of the car can be accelerated or slackened by shifting the shaft H, substantially as shown.

2. The shaft N, provided with the wheel P, having the pin p^3, said shaft being further provided with the coiled spring W, one end of which is adapted to engage with the pin p^3 of the wheel P and become wound around the shaft N as the car starts, the other end being attached to a suitable sliding box provided with a lever for operating it, whereby the spring can be forced to engage with the pin p^3, in combination with the gearing for connecting the drive-shaft and the axle or axles of the car, substantially as set forth.

267,923. HEAD-BLOCK FOR SAW-MILLS. DARIUS PARKHURST, St. Louis, Mo., assignor of one-half to George H. Knight, same place. Filed Aug. 2, 1882. (No model.)



Claim.—In a saw-mill head-block, the combination of combined index, ratchet, and brake-wheel B, with horizontal frame A, standards H H, formed on said frame, and friction-block L, hinged between said standards, as set forth.

267,924. MANUFACTURE OF COMBINED GLASS AND METALLIC ARTICLES. ARCHIBALD W. PAULL, Wheeling, W. Va., assignor of one-half to John P. Miller, Martin's Ferry, Ohio. Filed June 5, 1882. (No model.)

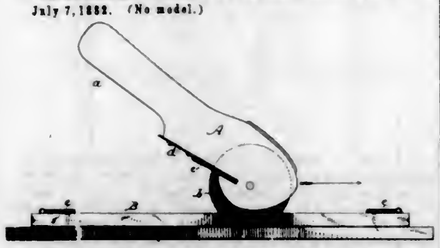
267,925.



Claim.—1. The method of making glass articles with metallic attachments, consisting in blowing or casting the glass article upon or against the hard heated plain surface of the metallic attachment, so as to form a weld therewith, substantially as described.

2. The method of making glass articles with metallic attachments, consisting in blowing or casting the glass article upon a heated metallic attachment placed in a cavity or cavities of the mold, the temperature of said metallic attachment being below the point of fusion, substantially as described.

267,925. PAPER-TRIMMING APPARATUS FOR USE OF PAPER-HANGERS. PETTER C. N. PEDERSON, Neenah, Wis. Filed July 7, 1882. (No model.)



Claim.—1. The improved knife for use of paper-hangers, consisting of a handle, a circular rotatable cutter, and a device attached to said handle for scraping and sharpening the edge of the latter, as shown and described.

2. The combination, with the knife handle and cutter, of the adjustable bar and the spring attached thereto, and the latter having its free ends crossed so as to press on the cutter, as shown and described.

3. The combination of the straight-edge and toothed dogs pivoted thereto with the cutting-board, as shown and described, and for the purpose specified.

267,926. DISINFECTANT. FRIEDRICH PETRI, Berlin, Germany. Filed May 17, 1881. (No specimens.) Patented in Belgium May 27, 1881, No. 54,743; in Germany May 27, 1881, No. 16,978; in France May 27, 1881, No. 143,085; in England May 27, 1881, No. 2,345; in Luxemburg May 27, 1881, No. 143; in Italy June 3, 1881, No. XXVI, 68; in Victoria July 13, 1881, No. 3,042; in Finland July 13, 1881; in Sweden July 22, 1881; in Spain Aug. 25, 1881, No. 1,605; in New South Wales Sept. 3, 1881, No. 884; in Portugal Sept. 7, 1881, No. 681; in India Sept. 12, 1881, No. 744; in Denmark Oct. 7, 1881, No. 1,054, and in Austria-Hungary Oct. 17, 1881, No. 17,023 and No. 36,857.

Claim.—1. The herein-described process of compounding disinfectants, which consists in grinding coke or an analogous substance together with sulphate of iron to obtain an intimate mixture of the two, and mixing the pulverulent compound with carbolic acid and chloroform, and, lastly, adding to this compound a solution of nitro-benzole in alcohol, substantially as described, for the purpose specified.

2. The herein-described composition of matter, which consists of a substance such as pulverized coke or lignite, carbolic acid, chloroform, nitro-benzole, alcohol, and sulphate of iron, in or about in the proportions specified.

267,927. CONVERTIBLE STEP-LADDER. FRANCIS V. PHILLIPS, Chicago, Ill., assignor to Melville E. Dayton, same place, and George E. Dayton, Burlington, Iowa. Filed Nov. 30, 1881. (No model.)

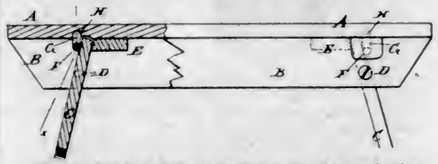
Claim.—1. In a step-ladder, the combination, with the step-standards A and pivoted braces B, of the pivoted bars C, stops *a*, and pivoted legs D, arranged and operating substantially as described, whereby the ladder is convertible into a bench, as set forth.

267,927.



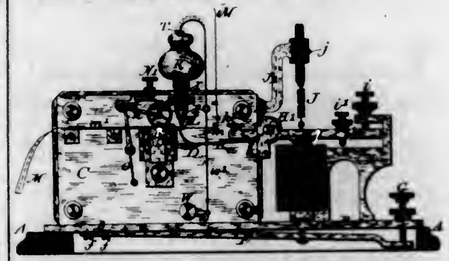
2. The convertible step-ladder and bench described, consisting of the step-standards A, having projecting steps A', the braces B, pivoted at the top of the standards, the bars C, pivoted to the braces, and provided with the connecting-rod *c'*, arranged outside the standards, and the legs D, pivoted to the braces and notched at their lower ends to engage the rear edge of a step, A', substantially as and for the purposes set forth.

267,928. FOLDING BENCH, TABLE, AND SETTEE. ROBERT B. W. PINCKNEY, New York, N. Y. Filed Aug. 4, 1882. (No model.)



Claim.—In a folding bench, table, or settee, the combination, with the grooved top A, the grooved side boards, B, and the hinged legs C, of the loose rods F, substantially as herein shown and described, whereby the said legs can be readily locked in place and released, as set forth.

267,929. TELEGRAPHIC REGISTER. FRANK L. POPE, Elizabeth, N. J. Filed Feb. 17, 1881. (No model.)

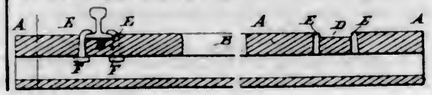


Claim.—1. The combination, substantially as hereinbefore set forth, of an electro-magnet, armature, and armature-lever, a platen or paper-guide, a fillet of paper movable across said platen, a marking-point centrally perforated with an ink-duct, a valve for controlling the flow of ink through said duct, and a needle or spindle secured to said valve and fitting loosely within said duct, to which a to-and-fro movement is communicated in the direction of its length through said platen or paper-guide.

2. The combination, substantially as hereinbefore set forth, of an electro-magnet, armature, and armature-lever, a platen or paper-guide, a fillet of paper movable across said platen, a tubular marking-point, a normally-closed air-tight ink-reservoir, communicating internally with said marking-point, a valve for admitting external air into said reservoir, and a mechanical connection from said valve to the handle for starting and stopping the mechanism whereby said fillet is moved.

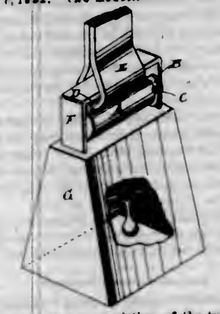
267,930. METALLIC RAILWAY-TIE. GEORGE L. PUTNAM, Mount Vernon, N. Y. Filed July 14, 1882. (No model.)

Brief.—Rails are secured to metallic ties having square tapering holes by spikes tapering upwardly from the bottom and then bent over the flange of the rail.



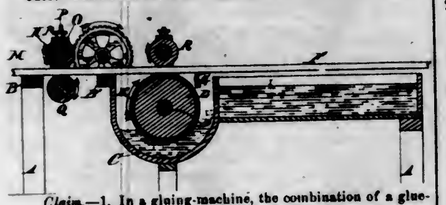
Claim.—The combination, with a railway-tie having square tapering holes E, of the spikes F, tapering upwardly from the bottom, as and for the purpose specified.

267,931. ANIMAL-TAG. ELIAS G. QUEEN, Big Valley, Tex. Filed Sept. 7, 1882. (No model.)



Claim.—A stock-tag consisting of the tube A, constructed with a staple, D, on the side, closed at one end and provided at the other with a hinged cover adapted to be held closed by any suitable fastening, whereby it may be secured to the top of a bell, as shown and described, for the purpose specified.

267,932. GLUING-MACHINE. WILLIAM RADER, Cincinnati Ohio. Filed June 22, 1882. (No model.)



Claim.—1. In a gluing-machine, the combination of a glue-reservoir, C, supported by a table or frame, and a glue-transferring drum, D, having its exterior surface wound spirally with a textile material for uniformly spreading the glue on the material to be glued, substantially as described.

2. In a gluing-machine, the combination of a glue-reservoir, C, supported by a table or frame, and a glue-transferring drum, D, having its exterior surface composed of twine or rope wound in a spiral direction for uniformly spreading the glue on the material to be glued, substantially as described.

3. In a gluing-machine, the combination of a table or frame, a glue-reservoir, C, supported thereby, feed-rollers for carrying the material to be glued over the reservoir, a glue-transferring drum, D, having its exterior surface composed of twine or rope wound in a spiral direction for uniformly spreading the glue on the moving material, and a brush, G, arranged in a plane parallel to the face of the drum to press against the moving material which has been glued, substantially as described.

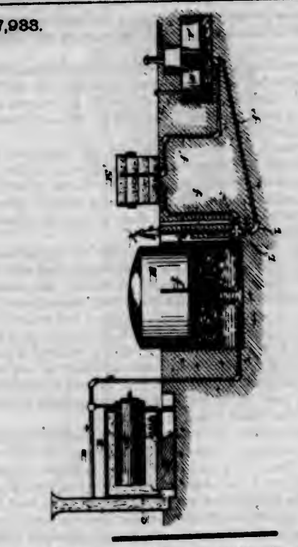
267,933. APPARATUS FOR MANUFACTURING WOOD-GAS. GEORGE RAMSDELL, Oswego, N. Y. Filed Oct. 14, 1881. (No model.)

Claim.—1. A float consisting of an outer cylinder having an open bottom and a removable cover secured to the top of the cylinder, an air-chamber arranged within the outer cylinder and closed at its top and bottom and secured to said outer cylinder by means of lugs, so as to leave an annular space between said chamber and outer cylinder, and a central pipe extending through said air-chamber and communicating with the upper end of the outer cylinder to receive the pipe for conveying gas to the float, substantially as set forth.

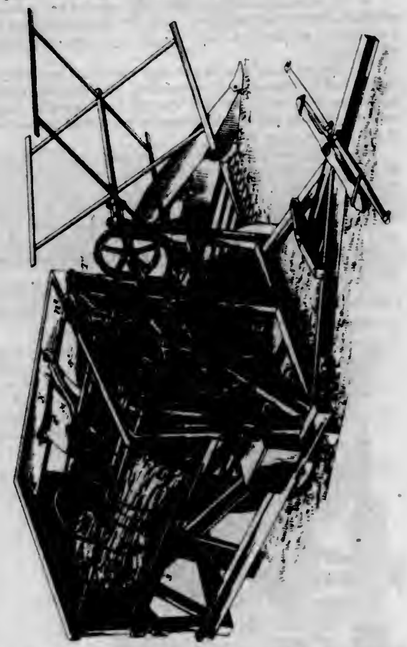
2. The combination, with the pipe *f''*, having the elbow-coupling L, operating as a drip-box, secured thereto, and a pump, N, communicating therewith through the pipe *n*, of the pipe *f*, four-way coupling L', lime-purifier pipe *f'*, and a hydrocarbon-chamber, F, in which the pipe *f'* terminates, substantially as set forth.

3. The combination, with the pipes *f* and *f''*, the latter being provided with the drip-box L, the pipe *n*, and pump N, of the four-way pipe L', interposed between and connecting the said pipes *f*, *n*, and *f''*, substantially as set forth.

267,933.



267,934. AUTOMATIC GRAIN-BINDER. TALLMADGE H. RICH, Springfield, Ohio, assignor to Whiteley, Pasuler & Kelly, same place. Filed Apr. 21, 1880. (Model.)



Claim.—1. The clutch *e*, combined with the fork *k*, movable upon the rod *m*, and abutment *l*, fixed upon said rod, and provided with springs *f* and *n*, whereby the fork is moved backward by force applied to the abutment, but the latter may move farther than the former, for the purpose set forth.

2. The main spur-wheel G, provided with the discontinuous flanges *c*, *d*, and *r''*, trips *q* and *t*, and pin *k'*, combined with three separate groups of devices, all taking their movements from said wheel G in successive order—viz., the devices for separating the

gavel, the devices for compressing, placing the band around, and discharging the bundle, and the devices for making and fastening the knot—as set forth.

3. The spur-wheel G, provided with the discontinuous flange *d* and stop *q*, combined with the pinion J, provided with the long tooth *o* and the crescent-plate *p*, and the pinion K, in mesh with said pinion J, to drive the shaft L and gaveler with an intermittent motion, as set forth.

4. The wheel G, provided with flange *d* and stop *q*, the pinion J, provided with long tooth *o* and crescent-plate *p*, and the pinion K and the cranked shaft L *q'*, combined with the gaveler P, mounted at its middle upon the crank end *q'* of said shaft, and controlled at its rear end by the slot S', so as to have an elliptical orbit at its front end, as set forth.

5. The bell-crank lever *g*, provided with the detent-latch *i* and trip-lever *j*, combined with the wheel G, provided with the stud *h*, and the clutch *e*, provided with abutment *l*, whereby the action of the wheel G withdraws the clutch from engagement, and said engagement is established again by tripping said detent.

6. A main wheel provided with a discontinuous flange, *d*, and trip *q*, combined with a double pinion, J, one part whereof is a segment, and which is provided with a crescent-plate, *p*, and long tooth *o*, and the pinion K in mesh therewith, whereby a continuous rotation of said main wheel will impart an intermittent but uniform motion to the pinion K and crank-shaft L.

7. The main wheel G, provided with a continuous row of spur-teeth and upon its sides with the laterally-projecting discontinuous flanges *c d r''*, trips *q t*, and pin *k'*, combined with pinion J, pinion Q, provided with pin *l'*, and segment W, whereby said wheel successively actuates independent sets of mechanism, as set forth.

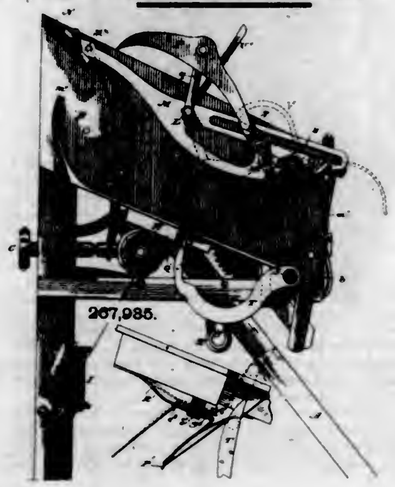
8. A main spur-wheel provided with a discontinuous flange, *c*, and trip *t*, combined with a segment-pinion, Q, provided with a crescent-plate, *u*, and an arm, *r*, and a slotted arm, R, in engagement with said arm *r*, and caused to move thereby with an intermittent vibration.

9. The vibrating arm R, provided with a curved slot, *y*, in one end, and in its opposite end a curved slot, *k'*, transverse to the radial direction of said slot *y*, combined with the crank-wheel Q and the rack-bar U.

10. The vibrating arm R, provided with slot *k'* and offset *c'* therein, and the cross-head *f''*, as described, combined with the reciprocating rack-bar U, provided with the projecting arm *h'* and weight *g'*, whereby said rack-bar is successively pushed into and out of said offset *c'*, as set forth.

11. The aprons S', mounted upon the rock-shaft N', whereby the inflowing grain is received and the bundle sized, combined with an arm, T', mounted loosely upon the end of said rock-shaft, and a shouldered head, *p'*, rigidly mounted upon said shaft to permit a certain range of motion thereof without affecting said arm, and a rod, *q'*, whereby the rocking of said rock-shaft through a certain arc will cause the detent *i* to be tripped and the binding mechanism set in motion.

12. The vibrating arm R, rack-bar U, pinion *c'* in mesh therewith, and shaft O, driven by said pinion, combined with the elastic compressor-fingers *a'* and discharger V, as set forth.



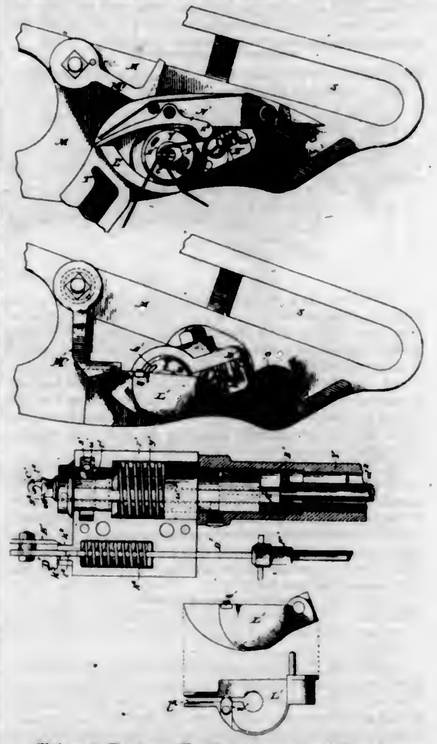
267,985. AUTOMATIC GRAIN-BINDER. TALLMADGE H. RICE, Springfield, Ohio, assignor to Whiteley, Fassler & Kelly, same place. Filed Apr. 21, 1880. (Model.)

Claim.—1. In an automatic binding-machine, a gaveler carried on the wrist of a crank while its rear end traverses a slotted guide, so as to have a circulatory movement at its front end from above the grain, descending into and through the stream of grain, and passing therein by the path of the cord-carrier, to hold the gavel separate from said stream, combined with an independent cord carrying and compressing arm moving upward from below the receptacle in the path guarded by said gaveler, for the purpose set forth.

2. The cord-arm T and take-up spring P', combined with the tension-plate R' and friction-loop *i'*, whereby the cord is compressed between said loop and plate by the action of said plate, modified in one direction by the action of the cord-arm when the cord is being drawn out and at all other times in the opposite direction by the action of the take-up, as set forth.

3. The arm T, provided with the pivoted dog N', combined with the projecting lips of the shield L', whereby said dog is pushed forward to depress the cords between the knotter and cutter, as set forth.

267,986. AUTOMATIC GRAIN-BINDER. TALLMADGE H. RICE, Springfield, Ohio, assignor to Whiteley, Fassler & Kelly, same place. Filed Apr. 21, 1880. (Model.)



Claim.—1. The barrel Y, with grippers A' and C', each provided with a retracting-spring and terminating within said barrel, combined with a piston, B', having a tubular rod, a^2, and a piston, b^2, having its rod d^2 inserted through the tubular rod a^2, and both protruding from the outer end of said barrel, as set forth.

2. The barrel Y, with grippers A' and C', cylinder Z, and pistons B' and b^2, with their respective rods concentric to the axis of said barrel, as set forth, and a pinion, *q'*, on the outer end of said barrel Y, combined with a vibrating segment-rack, W, whereby said barrel is rotated, and automatic levers actuated by a pin carried by said rack, whereby said pistons are actuated at the proper moments.

3. The barrel Y, provided with grippers A' and C', with their respective pistons protruding beyond the outer end of said barrel, as described, combined with a vibrating segment-rack, W, armed with a stud, G', and the levers H' and I', whereby said barrel is rotated and said pistons actuated, as set forth.

4. The gripper C' and its piston and rod b^2 d^2, combined with the lever H', stud G', and latch K', whereby said gripper has its retracting movement divided into two stages and its advance quickly performed in one step, as and for the purposes set forth.

5. The barrel Y, which carries the knotting devices, provided with a pinion, *q'*, and the segment-rack W, provided with the flange *m'*, and notches *p'* and *n'*, combined with the wheels G and Q, in mesh with each other, and armed respectively with the studs *k'* and *l'*, which successively engage with said notches, and thereby actuate said segment in its vibrations, as set forth.

6. The horizontal rotating knotter Y, mounted above the receptacle and bundle to be bound, combined with a cup-shaped cord guide and shield, L', located in front of and in line with said knotter.

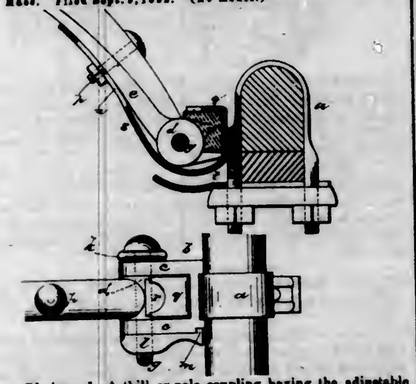
7. A cup-shaped slotted cord guide and shield, L', placed before the knotter, combined with a pivoted gate, M', which swings across the path of the cord-carrier and closes the upper entrance to said guide, except when said gate is raised by the point of the cord-carrying arm, as set forth.

8. The slotted cord-guide L', placed in front of the knotter for the purpose set forth, combined with the hook *n'*, for the purpose of catching a short band and severing the loop of the cord when, from whatever cause, the mechanism is operated without a bundle.

9. The cylinder Z, provided with the cylindrical neck *c'*, an axial concavity or cell, and a longitudinal slot, combined with a looping-hook, C', capable of a longitudinal reciprocation in said cell and slot, and mechanism to actuate the same, whereby the loop of the band material is seized, drawn down into said cell, and gripped against the bottom of the same while the knot is being completed, as set forth.

10. The vibrating segment-rack W, armed with the stud G', combined with the levers I', H', and J', whereby the barrel is rotated and the grippers A' C' and the holder and cutter D' E' are successively actuated at proper intervals by the movement of said stud G'.

267,987. THILL-COUPLING. THEO. H. RICHARDSON, Stockton, Mo., assignor of three-fourths to James H. Russell, Boston, Mass. Filed Sept. 9, 1882. (No model.)



Claim.—1. A thill or pole coupling having the adjustable spring rubber holder *s*, attached to the shaft, and extending around up behind the cylinder-head to receive the rubber cushion, which engages said head, substantially as specified.

2. A thill or pole coupling having the adjustable spring rubber holder *e*, attached to the shaft, and curved upward at its rear end, finally terminating in a horizontal flange or spar projection, *q*, substantially as specified.

3. A thill or pole coupling having the rubber washer *k* under the head of the coupling-bolt *g*, the lever-nut *l* on the end of the same, formed with an end stop or bearing, *m*, and a catch or projection on the shackle or shackle-arm, substantially as specified.

267,988. RING FOR CURTAIN-POLES. JULIUS RINGS, New York, N. Y. Filed Apr. 14, 1882. (No model.)

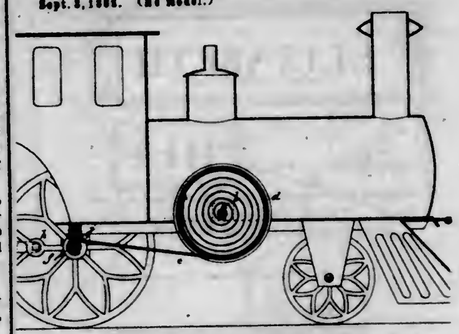
Brief.—Anti-friction balls are held in the recesses of the rings only by the plate fastened to the under side of the ring, so that they are free to move in any direction.

267,988.



Claim.—A ring for curtain-poles, constructed with a socket, in combination with a loose roller having its periphery supported by the walls of the sockets, and a roller-retaining plate secured to the inner side of the ring, and having an opening through which the roller projects to rest on the pole, substantially as shown and described.

267,989. TOY LOCOMOTIVE. CHARLES P. RITCHEL and JEREMIAH STEVER, Bridgeport, Conn., assignors, by direct and mesne assignments, to E. S. and G. D. Tallman, New York, N. Y. Filed Sept. 8, 1882. (No model.)



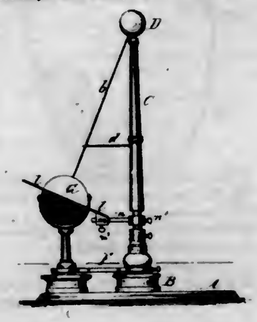
Claim.—1. The combination, with a toy locomotive and other carriage, as herein set forth, of a spring propelling apparatus consisting of the stationary shaft *a*, spring *b*, spring-barrel and winding-drum *d*, and the cord *e*, said cord being connected with the winding-drum *d* and the driving-axle *f*, substantially as described.

2. The spring-barrel *d*, fitted loosely on the stationary shaft and containing the spring *b*, having its ends attached respectively to the stationary shaft and the barrel, and said barrel being a winding-drum and having the driving-cord *e* connected with it and the driving-axle of a toy locomotive or other vehicle such as herein set forth, substantially as described.

3. The combination, in a toy locomotive or other vehicle, as herein set forth, of driving mechanism constructed and arranged substantially as herein described, and spring-brakes arranged with the axle, substantially as described.

4. The combination, with the driving-axle of a toy locomotive or other vehicle, as herein set forth, of coiled-spring brakes *j*, substantially as described.

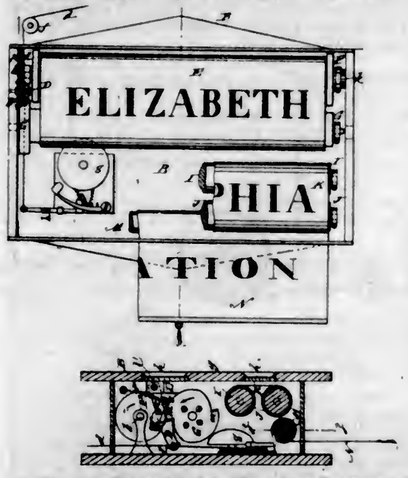
267,940. TELLURIAN. GUSTAV KUHNLENZ, Reichenhall, Bavaria, Germany. Filed July 20, 1882. (No model.)



Claim.—1. The combination, in a tellurian, of a ball designed to represent the sun, a ball designed to represent the earth, adapted to revolve in the basic circle of an imaginary cone the apex of which lies in the sun-ball, and to rotate on an axis parallel with the plane of said basic circle, a main column for supporting the sun-ball, a lower column provided with forked supports for the earth-ball, and a horizontally-swiveling arm which turns on the main column and carries the lower column, substantially as described.

2. The combination, in a tellurian, of a ball designed to represent the sun, a ball designed to represent the earth, adapted to revolve in the basic circle of an imaginary cone the apex of which lies in the sun-ball, also adapted to rotate on an axis parallel with the plane of said basic circle and on an axis at right angles to said plane, a main column for supporting the sun-ball, a lower column provided with forked supports for the earth-ball and adapted to swivel on its vertical axis, and a horizontally-swiveling arm which turns on the main column and carries the lower column, substantially as described.

267,941. STATION-INDICATOR. JOHN VAN FLEET EVERSON, New Brunswick, N.J. Filed June 21, 1882. (No model.)



Claim.—1. The combination of the spring-roller F, the roller G, having teeth *m*, the station-indicating web E, the toothed pivoted holder D, controlled by a pull-rope or device for releasing the same, and the stop H, having a fixed pivot, *n*, and provided with a tripping pin or projection, *o*, for operation by the holder, essentially as described.

2. The pull-rope C, with its attached branches *d*, in combination with the guides *e e*, the pulleys *f*, the pivoted holders D, the lever-stops H, tripped by the holders, and the roll G of the indicator, having teeth *m m*, substantially as specified.

267,942. WATCH-POCKET. ISAAC SAMUELS, Denver, Colo. Filed July 21, 1882. (No model.)

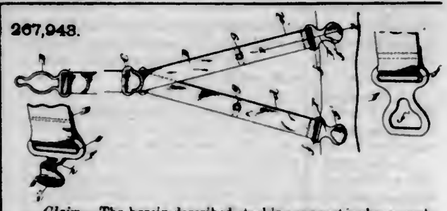


Claim.—1. The combination of a spring, *b*, points *c*, and hook *f* with a pocket, *a*, substantially as described.

2. The combination of a spring, *b*, having points *c*, and eyes *d*, with a pocket, *a*, substantially as described.

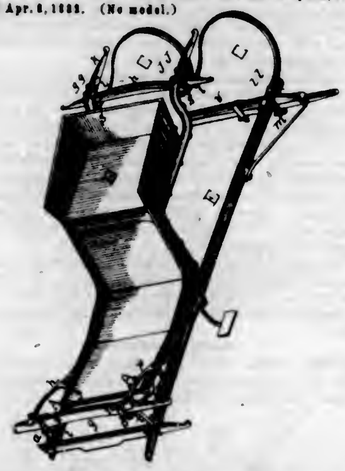
267,943. STOCKING-SUPPORTER. CHRISTOPHER C. SHELBY, New York, N.Y. Filed Aug. 11, 1882. (No model.)

267,948.



Claim.—The herein-described stocking-supporter clasps, each consisting of the outer portion, F, having the triangularly-shaped opening *f'*, widest at its bottom, and the portion E, having the outwardly-bent narrow neck *h* and the backwardly-bent enlarged head *i*, both said parts co-operating to clasp and hold a fabric between them, substantially as described.

267,944. SIDE-BAR VEHICLE. JAMES A. SHELL, Dayton, Ohio. Filed Apr. 8, 1882. (No model.)



Claim.—1. The combination of a buggy-body swung to stationary C-springs, attached to cross-bars behind, with loose swinging bars of equal length, provided with shackle-joints and pins at each end, attached to side-bars by means of an elevated cross-beam in front, substantially as set forth.

2. The combination of a buggy-body swung to stationary C-springs, attached to cross-bars behind, with loose swinging bars of equal length, provided with shackle-joints and pins at each end, attached to side bars by means of an elevated cross-beam the same height as the length of loose swinging bars in front, substantially as set forth.

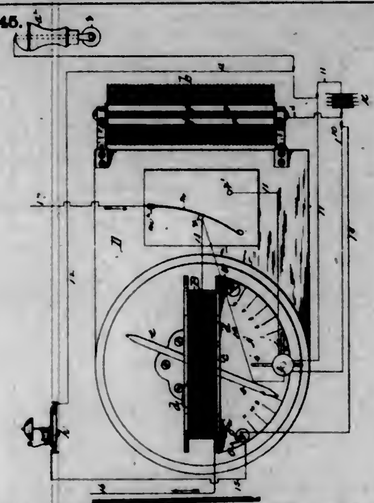
267,945. ELECTRIC SIGNALING APPARATUS. HORATIO W. SOUTHWORTH, Springfield, Mass. Filed June 12, 1882. (No model.)

Claim.—1. The combination of a series of instruments in circuit, each having an electric signaling apparatus, magnetic bar *d*, supporting the arm *e*, to which is suspended the wire e^3, and the separated connection-wires $e\ e^2$, set in different positions in the different instruments, coil B, magnet *c*, and means, substantially as described, for sending an electric current through all of said coils simultaneously, substantially as described.

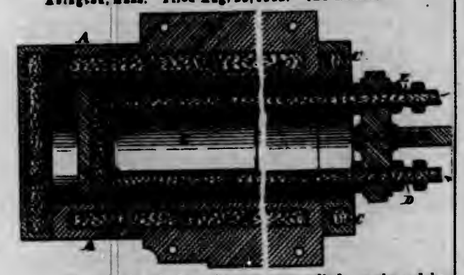
2. The combination of a series of instruments in a circuit, each having an electric signaling apparatus, magnetic bar *d*, supporting arm *e*, to which is suspended the wire e^3, the wires $e\ e^2$, coil B, magnet *c*, a graduator, *b*, and connector a^3, adapted to be attached to one of said instruments, said wires $e\ e^2$ being set at different positions in the different instruments, and means, substantially as described, for sending an electric current through all of said coils simultaneously, substantially as set forth.

3. The combination, in an electric signaling apparatus, of an alarm-bell, of the magnetic bar *d*, supporting the arm *e*, and having the wire e^2 suspended thereto, of the wires $e\ e^2$, connected with said bell and a battery, coil B, magnet *c*, and means, substantially as described, for sending an electric current through said coil, substantially as described.

267,945.

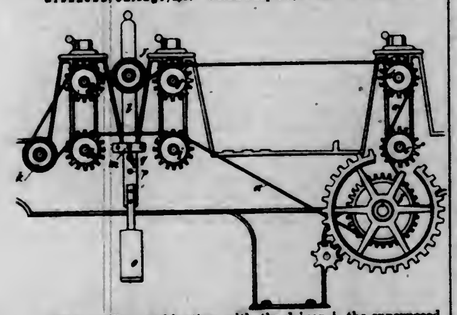


267,946. HYDROCARBON-ENGINE. AMOS S. STETSON, South Abington, Mass. Filed Aug. 26, 1882. (No model.)



Claim.—In a hydrocarbon-motor, a cylinder prolonged beyond the working stroke of the piston sufficiently to prevent the combustion against the working-face of such piston from directly heating that portion of the cylinder beyond such working stroke, in combination with a trunk-piston so extended as to present a designedly large surface to such prolonged and unheated portion of such cylinder, and a water-circulation, substantially as shown and described.

267,947. FEED-ROLLER GEAR FOR WOOD-PLANERS. PAUL BRUNSON, Chicago, Ill. Filed July 27, 1882. (No model.)



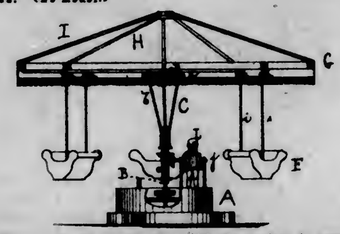
Claim.—The combination, with the driver *b*, the superposed feed-roll pinions *c d*, and the roller-pinions *f i g h*, parallel to the feed-rolls, of the endless chain *a*, passing up from the side pulley of one feed-roll pinion diagonally across and over the other, then straight over the side pulley of the roller-pinion *f*, then under the tightener *j*, then over the side pulley of pinion *g*, then around the tightener *k*, then straight over the side pulleys of pinions *h i*, and then back to the side pulley of driver *b*, as described.

267,948. FENCE-PICKET. WILBER THOMAS, Quincy, Ill. Filed July 24, 1882. (No model.)



Claim.—As a new and improved article of manufacture, a picket-and-wire fence consisting of the pickets having a plurality of successive projecting ridges, the series extending around its entire surface, with two or more of these ridges on each side surface, and having the encircling twists of the securing-wire entering and binding in all of said ridges to lock the picket on all sides firmly in position and obviate its displacement in any direction, as set forth.

267,949. TOY WHIRLIGIG. HERMAN THOMAS, Brooklyn, assignor to Louis Althof, Charles Althof, Gustav Crasemeyer, and William C. L. Rubesamen, New York, N.Y. Filed Oct. 16, 1882. (No model.)

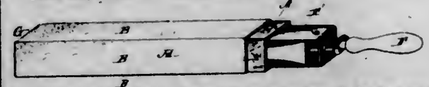


Claim.—1. In combination with the casing A, containing clock-work, and shaft B, the post C, composed of lower tubing, *c*, diverging arms *b*, and upper plate, *d*, substantially as and for the purpose specified.

2. The combination of the case A, containing clock-work, with the rotating shaft B, rotating post C, having upper plate, *d*, and pin *f*, and with the plate D, having aperture *e* and arms E, substantially as described.

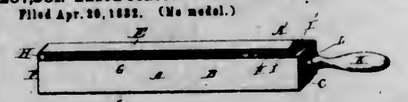
3. In a toy whirligig or carrousel, the vehicle-body F, combined with the rods *i*, and with the rotating arms E, into which said rods are hooked to be capable of independent vibration, substantially as described.

267,950. RAZOR-STROP. JOSEPH R. TORREY, Worcester, Mass. Filed May 15, 1882. (No model.)



Claim.—The combination of a casing or box, A, having one or more hard honing surfaces, B, with removable stropping part E, provided with suitable hard or elastic stropping or honing surfaces, and contained within said casing or box A, substantially as shown and described.

267,951. RAZOR-STROP. JOSEPH R. TORREY, Worcester, Mass. Filed Apr. 20, 1882. (No model.)



Claim.—1. The combination, in a razor-strop, of a box, N, with the body of the strop A having three hard honing and stropping surfaces, B C D, and raised part H, the elastic belt-strap E and its tightening device, consisting of the screw-arbor J, rods M

M, nuts I I', plate L, and handle K, substantially as shown and described, for the purposes stated.

2. The combination of the screw-arbor J and elastic belt-strap E, with double holding-nut I I', substantially as shown and described.

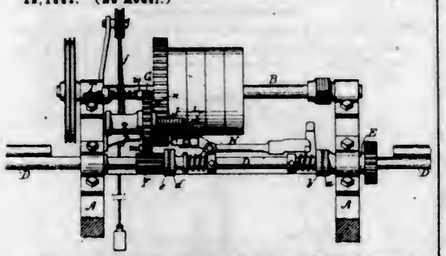
267,952. SYRINGE. WILLIAM A. TURNER, Providence, R. I., assignor to Joseph Davol, same place. Filed Aug. 18, 1882. (No model.)



Claim.—1. The jointless rigid foot-pipe for syringes, provided with a neck for a bulb and a neck for a flexible tube, substantially as described.

2. The improved syringe, substantially as described, consisting of the jointless rigid foot-pipe, the valves therein, the bulb, and the flexible discharge-tube.

267,953. BRAKING MECHANISM FOR MACHINERY. AMOS H. ULMER and FRANK FOWLER, Philadelphia, Pa. Filed Sept. 28, 1882. (No model.)



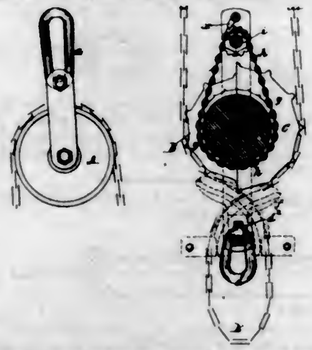
Claim.—1. The combination of the rotating and traversing wheel G with a brake, *w*, adapted to yield in the direction of the traverse of the wheel, whereby a gradually-increasing pressure is brought to bear on the wheel as it nears the end of its movement, as set forth.

2. The combination of the rotating and traversing wheel G, having a lug, *m*, the fixed stop *p*, and the brake *w*, adapted to yield in the direction of the traverse of the wheel, as set forth.

3. The combination of the spur-wheel G, its drum M and lug *m*, the stop *p*, the screw-spindle J, the pinion F, and the brake *w*, as set forth.

4. The combination of the rotating and traversing wheel G, the bearing T, the brake-block *w*, having a stem adapted to slide in the bearing, and a spring, *x*, as set forth.

267,954. PULLEY-BLOCK. THOMAS HENRY WARD, Tipton, County of Stafford, England. Filed July 3, 1882. (No model.) Patented in England Dec. 5, 1881, No. 5,211.

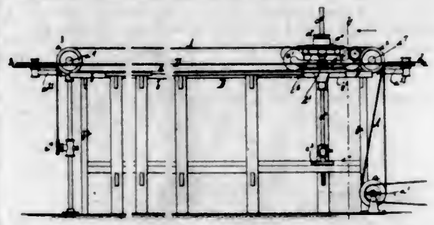


Claim.—1. A pulley-block having the single sheave at the top and the differential sheaves below, with a chain passing over said single sheave and partly around said differential sheaves, and guides for crossing said chain into a loop below the latter, all substantially as described.

2. The combination of the upper sheave and chain and the lower differential sheaves with the crossed-chain guides *f f* below the latter, substantially as set forth.

3. The combination of sheaves having two sets of grooves, one within the other, with two sets of chains and an actuating-shaft having a driving pinion or pinions for the inner chain, substantially as specified.

267,955. MECHANICAL MOVEMENT. ALBIN WARTH, Stapleton, N. Y. Filed Oct. 19, 1882. (No model.)



Claim.—1. The combination, substantially as hereinbefore described, of the carriage C, the traveling belt A, acting on a pulley mounted on the carriage, the rail supporting said carriage, the head H, connected to said carriage, a tool which receives motion from the pulley in the carriage, the table or tables on which the carriage travels, and the belt D, for moving the carriage, together with the head H, over the tables.

2. The combination, substantially as hereinbefore described, of the carriage C, the traveling belt A, acting on a pulley mounted on the carriage, the rail supporting said carriage, the head H, carrying a tool which receives motion from the pulley in the carriage, and the frame G, which swings on a pivot, *f*, connected to the carriage, and forms the connection between said carriage and the head.

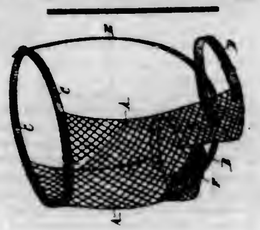
3. The combination, substantially as hereinbefore described, of the carriage C, the traveling belt A, acting on a pulley mounted on the carriage, the rail supporting said carriage, the head H, carrying a tool which receives motion from the pulley in the carriage, the frame G, which forms the connection between the head H and the carriage, the belt D, and the guide-roller *h'*.

4. The combination, substantially as hereinbefore described, of the carriage C, the traveling belt A, acting on a pulley mounted on the carriage, the rail supporting said carriage, the head H, carrying a tool which receives motion from the pulley in the carriage, the frame G, which swings on a pivot connected to the carriage and forms the connection between said carriage and the head, and the balance-weight *f'*.

5. The combination, substantially as hereinbefore described, of the carriage C, the traveling belt A, acting on a pulley mounted on the carriage, the rail supporting said carriage, the shaft *g*, for transmitting motion to the working machine or tool, the frame G, which is connected to the carriage and forms the bearings for the shaft *g*, and suitable mechanism, substantially such as herein described, for regulating the speed of the motion transmitted from the traveling belt to the shaft *g*.

6. The combination, substantially as hereinbefore described, of the carriage C, the traveling belt A, acting on a pulley mounted on the carriage, the rail supporting said carriage, the shaft *g*, for transmitting motion to the working machine or tool, the frame G, which is connected to the carriage and forms the bearings for the shaft *g*, the pulley *g²*, mounted on the shaft *g*, the transverse shaft *g'*, the friction-wheel *g³*, and means for moving said friction-wheel on the shaft *g'* in the direction of its axis and for bringing the same in or out of contact with the flat side of the pulley *g²*.

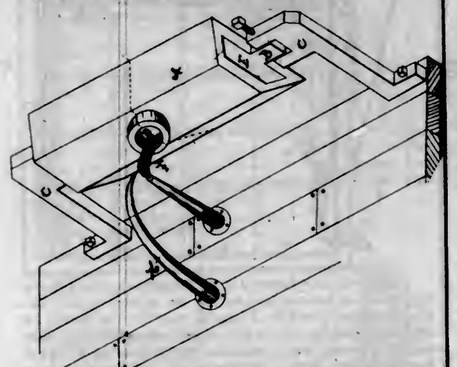
267,956.



267,956. COMBINED CATAMENIAL SACK AND ABDOMINAL SUPPORTER. IGNATIUS WASSERMAN, New York, N. Y. Filed July 27, 1882. (No model.)

Claim.—The combination of an open elastic body, A, composed of netting, a waistband, C, at the top thereof, thigh-bands D at the lower corners, a back-strap, E, and a detachable absorbent-pad, B, substantially as set forth.

267,957. BEVEL-SHAKING DEVICE. JOHN S. WHITE, Portland, Me. Filed May 8, 1882. (No model.)



Claim.—1. The searing device herein shown and described, composed of the metallic prism A, having the angles of its bore E so made as to correspond with the outside angles, the slanting orifice D, for deflecting a gas or other flame toward the lower angle of said bore E for the purpose of more highly heating said angle, and the studs B, which form the connections with the standards or clamps C, all the different elements constructed and arranged substantially as shown and described.

2. In a device for searing brushes, the combination of the following elements, viz: a hollow prism, A, having an opening, D, a gas-pipe, F, and an air-pipe, H, all substantially as and for the purpose set forth.

267,958. CROSSCUT-SAW. GIDEON W. WILLS, East Portland, Oreg. Filed Mar. 13, 1882. (No model.)



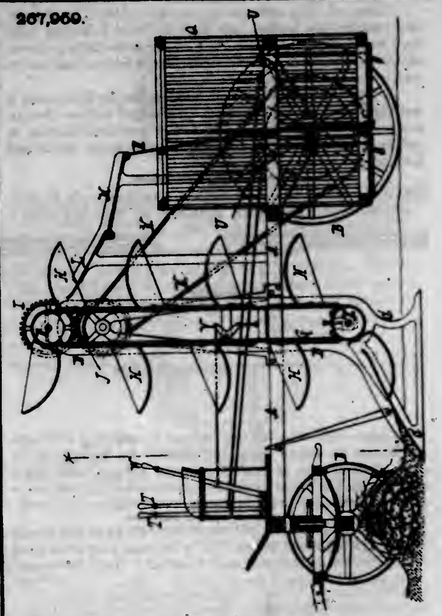
Claim.—As an improvement in crosscut-saws, the blade A, having teeth B B grouped in pairs, with the teeth of each group united at their bases by a web or raised part of the saw-blade *c*, the groups of teeth B B alternating with drags C, and having cutting-edges *a a'* at right angles to the body of the saw, and cutting-edges *c d* sloping from point to base, with the slope or incline in the direction of the middle of the saw-blade, substantially as and for the purpose herein shown and specified.

267,959. POTATO-DIGGER. CHARLES G. WIRTH, New York, N. Y. Filed July 29, 1882. (No model.)

Claim.—1. The combination of a frame, A, mounted on supporting ground-wheels, a standard, D, connected with the frame to project above and below the same, a plow, C, toothed on the rear edge and attached to the lower end of the standard, the wheels E and F, supported by the standard above and below the frame, the elevator having toothed scoops H, the inclined delivery-chute L, toothed at its forward edge, the vibrating grate or sieve M at the lower end of the chute, and a potato-receiving receptacle supported by the frame under the discharge end of the grate or sieve, substantially as described.

2. The combination of the wheeled frame A, the standard D, vertically movable on the frame, and carrying a plow, C, having a toothed rear edge, the elevating mechanism having toothed pockets, means for raising and lowering the standard on the frame and thereby stopping and starting the elevator, and a delivery-chute, L, and vibrating grate or sieve M, both located adjacent to the upper end of the elevator, substantially as described.

267,960.



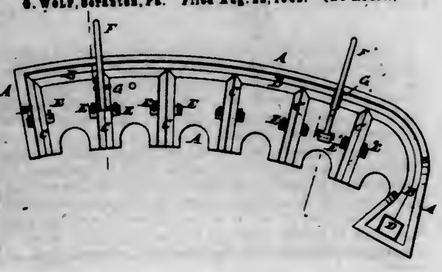
3. The combination of the wheeled frame A, the standard D, movable vertically on the frame, and carrying at its lower end the plow C, having a toothed rear edge, the elevating-buckets having toothed scoops, and carried by the standard, and means for raising and lowering the standard, and thereby stopping and starting the elevator, substantially as described.

4. The combination of the wheeled frame A, the standard D, movable vertically thereon, the plow C, attached to the lower end of the standard, the elevating mechanism carried by the standard, the inclined delivery-chute L, located adjacent to the upper end of the elevator, and means for raising and lowering the standard from the driver's seat, and thereby starting and stopping the elevator, substantially as described.

5. The combination, in a potato-digger, of a standard, D, vertically adjustable on the wheeled frame, and projecting above and below the latter, a plow, C, having a toothed rear edge and attached to the lower end of the standard, toothed elevating-buckets, and means for raising and lowering the standard in a vertical plane, and thereby stopping and starting the elevating-buckets, substantially as described.

6. The combination of the wheeled frame A, the elevator driving-wheel J, mounted in fixed bearings on the frame, the standard D, vertically movable on the wheeled frame, and carrying at its upper end the gear-wheel F, the axis of which is provided with a gear-wheel, I, the elevating mechanism carried by the standard, and means for raising and lowering the standard to engage and disengage the said gear-wheels, and thereby start and stop the elevator, substantially as described.

267,960. RUNNER FOR CASTING STEEL INGOTS. THEODORE G. WOLF, Scranton, Pa. Filed Aug. 22, 1882. (No model.)



Claim.—1. The combination, with the runner A, having lateral branches and hooked lugs E, of the lever F, having cross-head end, and provided with the gate G, substantially as herein shown and described, whereby the stream of molten steel can be readily directed, as set forth.

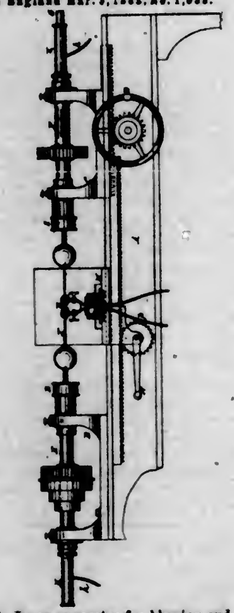
2. The combination, with a runner, A, having the channel B and branches C, of the hooked lug E', arranged between the first and second branches, the lever F', having cross-head working in said lug-hook, and the gate G', attached to the under side of said lever, as and for the purpose set forth.

267,961. WOOD STIRRUP. JAMES WOOLWORTH and WILBER F. COWLES, St. Mary's, Ohio. Filed Sept. 23, 1882. (No model.)



Claim.—The described wood stirrup A, consisting of the slat a, bent into the desired shape, and slitted in the direction of the grain of the wood, as at d, and of the roller or bar b, bolted to the slat, said slat being bent to stand vertically where the cross-bar or roller b is connected or bolted thereto, substantially as set forth.

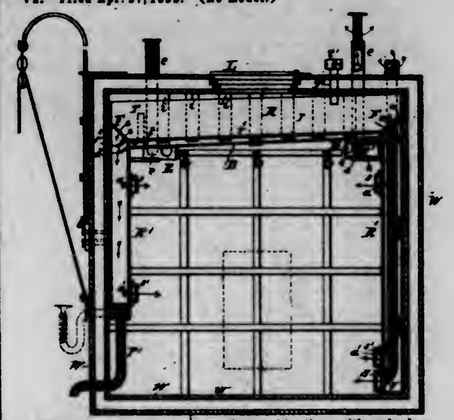
267,962. APPARATUS FOR BLOWING AND SHAPING GLASS. FRANK WRIGHT and MATTHEW W. W. MACKIE, Gray's Inn Road, County of Middlesex, England. Filed Oct. 6, 1882. (No model.) Patented in England Mar. 3, 1882, No. 1,033.



Claim.—1. In an apparatus for blowing and shaping glass, the combination of the bed A, the head-stocks B and C, the tubular mandrels E and F, carried by the head-stocks, the slide M, arranged between the mandrels and adapted to slide longitudinally on the bed, and the blow-pipe P, carried by and moving with the slide, substantially as described.

2. In an apparatus for blowing and shaping glass, the combination of the bed A, the head-stocks B and C, mechanism for sliding one of the latter, the tubular mandrels carried by the head-stocks, the slide M, arranged between the mandrels and adapted to move longitudinally on the bed, and provided with the transverse slide O, and the blow-pipe P, fitted to turn on or with a vertical axis attached to the transverse slide, substantially as described.

267,963. REFRIGERATOR. CHRISTIAN BIENER, Richmond, Va. Filed Apr. 27, 1882. (No model.)



Claim.—1. In a refrigerator, the combination, with an inclosing-case, of an ice-receptacle having one or more cold-air flues formed integral therewith, depending from the floor thereof, and extending across its entire width, means, substantially such as described, to prevent the ice from entering said flues, means for conducting the cold air from the flues into the refrigerating-chamber at or near the lowest point, means for admitting air from the outside of the refrigerator through said flues into the cooling-chamber without bringing such air in direct contact with the cold air in such flues, and means for conducting the warm or foul air away from the chamber through the walls of the refrigerator, all arranged for co-operation substantially as described and shown.

2. In a refrigerator, an ice-receptacle provided with one or more diving-flues, closed at bottom and opening into the ice-receptacle at top, said flue or flues being provided with registers to conduct the cold air from the ice-receptacle to the cooling-chamber, and serving as a receptacle for the waste water, as described.

3. A sheet-metal ice-receptacle for refrigerators, consisting of the vessel R and one or more diving-flues, R', closed at bottom and serving as supports for said ice-receptacle, substantially as and for the purpose specified.

4. An ice-receptacle for refrigerators, having a concave bottom and one or more diving-flues, serving as cold-air passages and as a receptacle for the waste water resulting from the melting of the ice, said flues being provided with cold-air ports and a port for the discharge of the waste water, as described.

5. An ice-receptacle for refrigerators, consisting of the vessel R and one or more diving-flues, R', adapted to serve as supports for said receptacle and as conduits for the cold air, in combination with an inclosing-case, in which said receptacle is removably fitted, and by which said case is divided into an ice-receptacle and cooling-chamber, as described.

6. In a refrigerator, the combination of an inclosing-case, an ice-receptacle provided with one or more diving-flues, closed at bottom and opening into said receptacle at top, said flue or flues being provided with registers to conduct the cold air from the receptacle into the cooling-chamber, and an air-pipe contained in said flue or flues opening into the atmosphere at one end and the cooling-chamber at the other, whereby the atmospheric air conducted to the cooling-chamber is first cooled by and without bringing it in direct contact with the cold air passing through the flues, as described.

7. In a refrigerator, the combination, with the inclosing-case provided with a cradle, of an ice-receptacle removably suspended from said cradle, as and for the purpose specified.

8. In a refrigerator, the combination, with the inclosing-case provided with a cradle, of an ice-receptacle and a drip-pan for collecting the water condensed upon the outside of said receptacle, both suspended from said cradle, as and for the purpose specified.

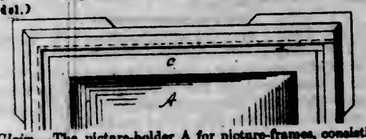
9. In a refrigerator, the combination, with the inclosing-case, of the ice-receptacle R, provided with a diving flue or flues, R', having adjustable ports a, a', and V, of the air pipe or pipes P contained by said flues, and opening into the atmosphere at one end and into the cooling-chamber through said adjustable port V at the other, all arranged for co-operation as described.

10. The combination, with the ventilating-pipes, of the register H, adjustably fitted upon or within said pipes, as described, and

composed of a cylinder of woven-wire fabric and a solid head, substantially as and for the purpose specified.

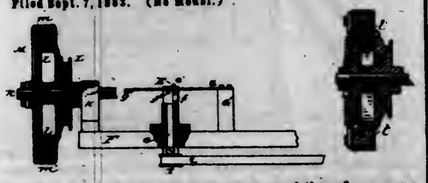
11. The combination, with the ventilating-pipes having a spiral groove, g', of the register H, composed of a cylinder of woven-wire fabric, provided with a solid head and a lug adapted to fit into said groove, substantially as and for the purpose specified.

267,964. PICTURE-HOLDER FOR PICTURE-FRAMES. HARRICK W. ALLEN, Springfield, Mass., assignor to the National Papeterie Company, same place. Filed Aug. 16, 1882. (No model.)



Claim.—The picture-holder A for picture-frames, consisting of a shallow elastic shell of rectangular or analogous form, having a bearing upon its borders in all directions from its center, and adapted to be compressed between the back and the front of a picture-frame, substantially as set forth.

267,965. GOVERNOR. FRANK ANDERSON, Peekskill, N. Y. Filed Sept. 7, 1882. (No model.)

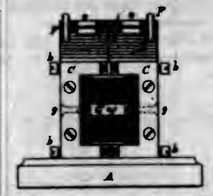


Claim.—1. An improved governor, consisting of a pressure piece or pieces connected by intermediate support to the shaft of the machine, a pulley or like device for communicating motion, loose upon said shaft, adapted to receive the pressure of the pressure-pieces, and suitable springs to cause the pressure-pieces to bear upon the pulley, the parts being constructed and operating in relation to each other as described, whereby increase of speed beyond a certain limit releases the pulley from connection with the shaft, substantially as set forth.

2. The combination, with the main shaft, of a fly-wheel fixed to shaft, pressure-pieces connecting therewith, and a pulley loose on said shaft, the said pressure-pieces being adapted to connect the shaft to the pulley and to be released therefrom by centrifugal force, as set forth.

3. The combination of the fly-wheel M, shaft K, pulley L, flange l, segments m, and their springs, substantially as described.

267,966. POLARIZED RELAY. FRANK ANDERSON, Peekskill, N. Y. Filed Sept. 7, 1882. (No model.)



Claim.—1. In a relay, a soft-iron armature, D, pivoted in its middle and surrounded by a helix, G, and the whole placed between the bifurcated poles $e\,e\,e\,e$ of a magnet, B, substantially as described.

2. A magnet, B, having each of its poles bifurcated, a soft-iron armature pivoted midway between said poles and capable of vibrating between them, and a coil or helix surrounding said armature, substantially as described.

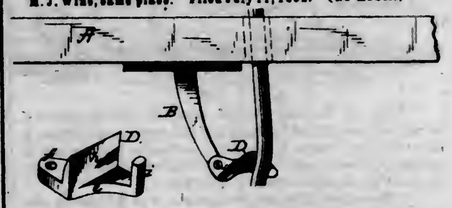
3. In a relay, as described, an armature pivoted within and in combination with the spool G, said spool being formed with a hollow core and having a small collar or flange, G', in which is the pivot f, and by which the spool is supported, substantially as described.

267,967. POLARIZED INK-WRITER. FRANK ANDERSON, Peekskill, N. Y., assignor to the American Rapid Telegraph Company, of Connecticut. Filed Dec. 16, 1881. (No model.)



Claim.—The combination of the levers $f\,f_1$, carrying wheels or pens, spring-arms $e\,e_1$, bar d, and polarized armature, substantially as described.

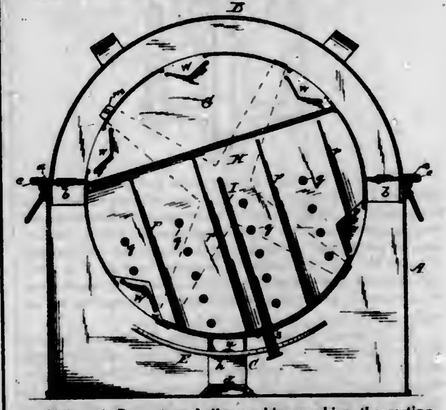
267,968. AUTOMATIC BRAKE FOR SEWING-MACHINES. THOMAS E. HARDY, Washington, D. C., assignor of one-half to M. J. Wine, same place. Filed July 11, 1882. (No model.)



Claim.—1. An automatic belt brake for a sewing-machine, constructed with opposing surfaces and an intermediate space for the passage of the belt, and working on an axis, substantially as described.

2. As an improved article of manufacture, the automatic belt-brake consisting of the curved body e, lug f, and the jaws $h\,i$, made in one piece, substantially as described.

267,969. BOILER WASHING-MACHINE. LEMUEL S. BUTLER, Memphis, Mo., assignor of one-half to Henry Seaman, same place. Filed Aug. 5, 1882. (Model.)



Claim.—1. In a steam-boiler washing-machine, the casting C, having vertical arms c, terminating in journal-bearings f, horizontal piece d, and seats h, in combination with the cams E, substantially as and for the purpose set forth.

2. In a steam-boiler washing-machine, the combination, with the cylinder D, having rods I, extending beyond its periphery and carrying rollers s, of the adjustable cams E, connected to each side of the vessel or tank A, near the bottom thereof, substantially as and for the purpose specified.

3. In a steam-boiler washing-machine, the combination, with the cylinder D, having removable section G, of the castings F and radial arms i upon each side of the cylinder, said arms terminating at their outer ends in a right-angle bend or toe, k, to overlap the cylinder, one of said arms upon each of the castings having connected thereto a removable rod, m, substantially as and for the purpose set forth.

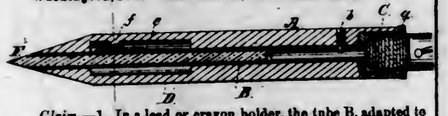
4. In a steam-boiler washing-machine, the rods I, secured to the castings F, and passing through the cylinder D and sudsing-

boards H, and extending down the faces of the said sudsing-boards through a slot, K, in the cylinder, and having rollers *s* upon their ends, in combination with the cams E, against which they operate to give a rolling friction, substantially as shown and described.

5. In a steam-boiler washing-machine, the cylinder D, made in two sections, provided with ports *w*, constructed in the manner described, slot K, and sudsing-boards H, said cylinder being held and braced between the castings F, and rotated on journals secured in sockets upon the said castings revolving in the bearings *f* of the casting C, substantially as specified.

6. In a steam-boiler washing-machine, the boiler A, having secured to its bottom the casting C, in combination with the cylinder D, castings F, sudsing-boards H, rods I, and cams E, all arranged to operate substantially as and for the purpose set forth.

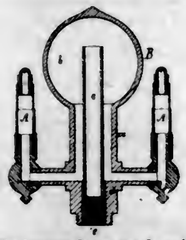
267,970. CRAYON OR LEAD HOLDER. FRANKLIN W. BROOKS, New York, N. Y., assignor of one-fourth to Wm. C. McIntire, Washington, D. C. Filed Oct. 20, 1882. (No model.)



Claim.—1. In a lead or crayon holder, the tube B, adapted to be partially rotated and having in one side only a spring-tongue, *e*, above the tip or end of the tube, in combination with the case A and cam *f*, formed therein, whereby the lead is held at a point above or inside the tip, substantially as described.

2. The combination and arrangement, with the case A, having hollow head, and cam *f*, of the crayon-tube B, provided with tongue *e*, and thimble-head C, having projecting flange *a*, substantially as described.

267,971. APPARATUS FOR BURNING GAS. GEORGE H. BURROWS, Somerville, assignor by mesne assignments, to himself and E. Gilman Colby, Greenwood, Mass. Filed Apr. 3, 1882. (No model.)



Claim.—1. The improved compound gas heater and burner constructed substantially as described—viz., with the heater closed at top and with the gas-induct to extend upward within the heater from its bottom nearly to its top, in combination with a series of separate gas-burners arranged about the heater and with intervals or spaces between them, as shown, to lead or open out of its lower part and having their tips or upper ends placed in or near the central horizontal plane of the globular reflector—all essentially as set forth.

2. The described compound gas heater, burner, and light-reflector, consisting of the gas-heater, having a light-reflecting outer surface, and the induct and series of separate gas-burners arranged with and applied to such heater and having their tips or upper ends placed in or near the central horizontal plane of the globular reflector, substantially as set forth.

3. The combination of the gas-heater globular in its upper part, each part having a light-reflecting outer surface, with the gas-induct arranged to extend upward within such heater, and with a series of separate gas-burners arranged around the heater and apart from each other and leading out of its lower part, and having their tips or upper ends placed in or near the central horizontal plane of the globular reflector, all being substantially as set forth.

267,972. KNOTTER FOR GRAIN-BINDERS. JOHN E. BUXTON, Owatonna, Minn. Filed May 22, 1882. (Model.)

Claim.—1. A cord-knotter for grain-binders, provided with two rigid jaws, in the end of one of which is fixed a knife or cutting device, and pivoted in the other is a compressing or holding jaw having an outwardly-extending heel or tail piece, whereby it is actuated, all substantially as shown and described.

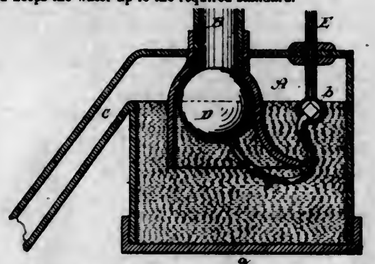
2. In a cord-knotter for grain-binders, the head B, having two



rigid jaws, the blade E, provided with cutting-edge *e*, and the pivoted holding-jaw D, constructed and operating substantially as described.

267,973. TRAP. ROBERT CLARKE, Brooklyn, N. Y. Filed Jan. 26, 1882. Renewed Oct. 11, 1882. (No model.)

Brief.—To prevent the water sinking below pipe B, by evaporation or other causes, and thus rendering the trap inefficient, a ball-float regulating a water-supply pipe, E, is placed in said trap and keeps the water up to the required standard.



Claim.—1. A trap provided with a ball, D, within the casing A, and with an inlet water-supply pipe and cock connected to the ball, whereby the supply of water in the trap is maintained and the sealing of the trap secured, substantially as set forth.

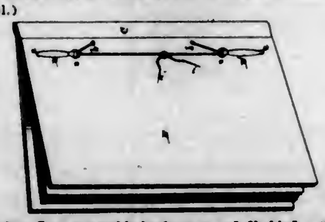
2. The combination, in a trap, of the case A, containing the ball-valve D, the inlet and outlet pipes B C, water-supply pipe E, and cock *b*, connected to the ball D, substantially as set forth.

267,974. FORMING BUTTONS FROM VEGETABLE-IVORY NUTS. JOHN A. COURLEY, Springfield, Mass., assignor to Frank H. Goldthwait, same place. Filed May 23, 1882. (Model.)



Claim.—An improved button formed of vegetable ivory, and consisting of a continuous outer surface inclosing the nut-cavity, and provided with eyes drilled through said surface upon one face of the button, substantially as shown and described.

267,975. NEWSPAPER-FILE HOLDER AND BINDER. ALFRED T. DEWEY, San Francisco, Cal. Filed Oct. 15, 1881. (No model.)



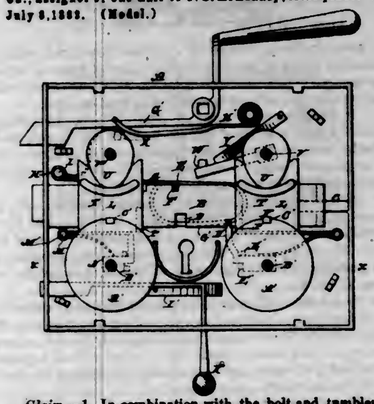
Claim.—In a removable book-cover and file-binder, the lids or covers A and B, provided with holes *a a*, *b b*, and *c c*, in combination with the rubber bands F, D, and D', and strings E E', arranged and used together substantially as herein set forth, and for the purpose described.

267,976. SLEEVE-BUTTON, STUD, &c. WALLACE DURAND, Newark, N. J., assignor to Durand & Co., same place. Filed Aug. 1, 1882. (No model.)



Claim.—An improved button, stud, &c., consisting of the base A, provided with two lugs, E, and spring-acted arms B, hinged or jointed thereto, adapted to open outward for attachment, and to fold inward to close the same, their free ends, when closed, lying in opposite directions, substantially as shown and described.

267,977. PERMUTATION-LOCK. JULIUS FORSTER, Decatur, Ga., assignor of one-half to T. C. McKenney, same place. Filed July 6, 1882. (Model.)

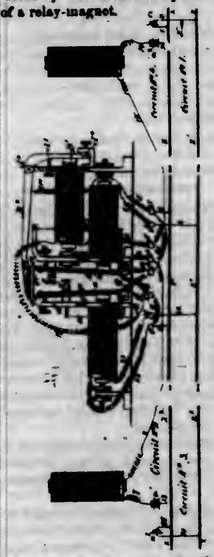


Claim.—1. In combination with the bolt and tumblers, the disks slotted at their peripheries and adapted to engage lugs upon the said tumblers, and the threaded disk shafts and arms, the latter being adapted to take into the recesses at the lower edge of the bolt, substantially as and for the purposes specified.

2. The combination, in a lock, of the lock-bolt recessed as described, the tumblers, the cams and fastening-disks and their connections, and the cogged disks and plain disks, the latter being lettered, as described, and provided with lugs to engage the cog-disks, the whole being arranged to operate substantially as specified.

267,978. RAILWAY ELECTRIC SIGNAL APPARATUS. OSCAR GASSETT, Boston, Mass., assignor to the Union Switch and Signal Company, Pittsburg, Pa. Filed Jan. 3, 1882. (No model.)

Brief.—A normally-closed track-circuit at each end of a block, by the short-circuiting of which by a train a normally-closed signal-circuit at the opposite end of the block is opened, the signals being prevented from returning to safety until the train has entirely left the block by a hook-ended stop device carried on the armature-lever of a relay-magnet.

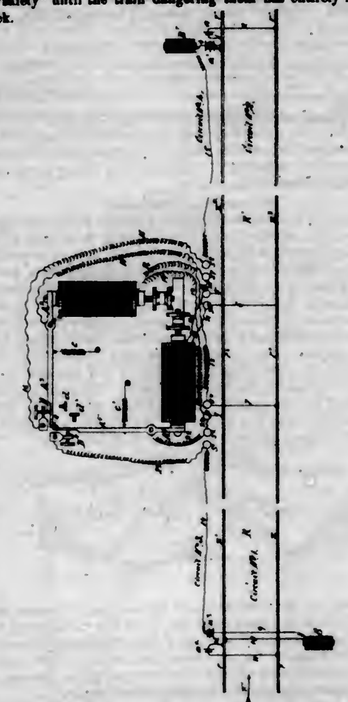


Claim.—1. A block signaling apparatus having in combination a normally-closed track-circuit at each end of the block, a signaling-circuit also at each end of the block, each such signaling-circuit being closed by the track-circuit at the opposite end of the block, and a fifth circuit extending through a relay-magnet for restoring the apparatus to normal condition, substantially as set forth.

2. Two electro-magnets included in the same battery-circuit, one of which operates a stop or escapement by which to throw both said electro-magnets into another circuit, substantially as set forth.

267,979. RAILWAY ELECTRIC SIGNAL APPARATUS. OSCAR GASSETT, Boston, Mass., assignor to the Union Switch and Signal Company, Pittsburg, Pa. Filed Jan. 6, 1882. (No model.)

Brief.—A normally-closed track-circuit at each end of the block includes a magnet, which opens and closes a signal-circuit at the opposite end of the block. The armatures of said magnets have hook ends, whereby to prevent the restoration of the signals to "safety" until the train dangering them has entirely left the block.



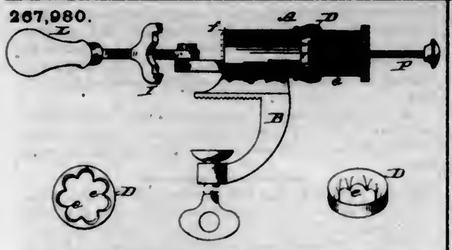
Claim.—An electrical block signaling apparatus adapted to be operated by a train running in either direction, having in combination a normally-closed track-circuit at or near each end of the block, each such track-circuit including an electro-magnet arranged to open and close a circuit extending to the opposite end of the block, a signal-magnet in each such latter circuit, and a locking mechanism adapted to prevent the reclosing of one broken signal-circuit until the proper time for the reclosing of both, substantially as set forth.

267,980. TOOL FOR CRIMPING METALLIC CARTRIDGE-SHELLS. WILLIAM WELLINGTON GREENER, Birmingham, County of Warwick, England. Filed Oct. 7, 1882. (No model.) Patented in England Feb. 8, 1882.

Claim.—1. A tool for securing the charge in shot-shells, consisting of a tube, A, having a die, D, provided with the teeth *e*, or equivalent projections, so located in said tube that the shell can be forced past said teeth or projections to any required extent, substantially as shown and described.

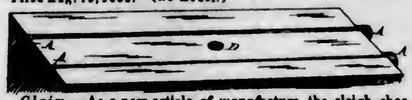
2. A crimping-tool provided with the detachable tubular handles H, having graduations or marks thereon, as set forth, whereby they are adapted to be used as measures for powder and shot, as set forth.

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3. In a crimping-tool, the tube *f*, in combination with the part *e*, provided with the annular recess, and the die D, all arranged to operate substantially as set forth.

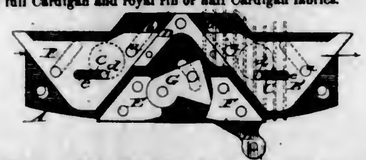
267,981. SLEIGH-SHOE. JOHN A. JOHNSON, Madison, Wis. Filed Aug. 15, 1882. (No model.)



Claim.—As a new article of manufacture, the sleigh-shoe herein described, of cast-iron, having two or more rods or strips of wrought-iron, A, embedded in it longitudinally during the process of casting, substantially as set forth.

267,982. KNITTING-MACHINE. MOSES MARSHALL, Chicopee Falls, Mass., assignor to the Lamb Knitting Machine Manufacturing Company, same place. Filed Oct. 4, 1881. (No model.)

Brief.—The invention embraces two depressing-cams, which are adjustable in height, an intermediate stationary depressing-cam of A form, having its lower ends exposed to serve as stops to limit the ascent of the needles, two elevating-cams which raise the needles a limited distance, and an intermediate elevating-cam having one end exposed and arranged to be lifted by the needles during the passage of the cams in one direction and depressed in the passage of the cams in the opposite direction. Means are provided for locking the intermediate elevating-cam permanently in its raised position when it is so desired. The machine is designed to knit full Cardigan and royal rib or half Cardigan fabrics.



Claim.—1. The combination of the needles, two depressing-cams, B B′, and an intermediate cam, D, of a Λ form, having its lower end constructed and arranged to limit the ascent of the needles in the passage of the cams across the machine in both directions at such point as to prevent them from casting the previously-formed stitches, substantially as described and shown.

2. The two depressing-cams B B′ and means for adjusting them in the manner described, in combination with the depressing-cam D, having the exposed ends C, as described and shown.

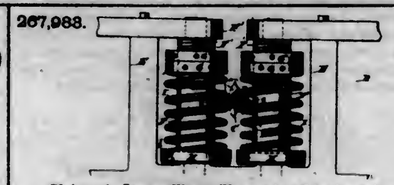
3. The combination of the fixed depressing-cam, recessed in its lower side to admit the needle-shanks, and two adjustable depressing-cams, seated against and forming a downward continuation of the opposite sides of the fixed cam, as described and shown.

4. The combination of the depressing-cams B, B′, and D and the elevating-cams E, F, and G, constructed and arranged for joint operation substantially as shown.

5. In combination with the depressing-cams, the intermediate elevating-cam, G, pivoted at one end and arranged to be elevated by the action of the needle-shanks against its opposite end, and means, substantially as described, whereby said cam may be fixed rigidly in position at will.

6. The combination of the stationary elevating-cams E and F, the intermediate pivoted cam, G, constructed in the manner described and shown, and the pivoted latch or support H, to sustain the pivoted cam, as described and shown.

267,983. ROLLING-MILL. LEVI J. MASTENBROOK, Philadelphia, Pa., assignor to George H. Orcutt, George Harding, and Rudolph H. Hunter, all of same place. Filed June 30, 1882. (No model.)



Claim.—1. In a rolling-mill, a series of horizontal rolls, in combination with a series of feed-roll bodies, said feed-roll bodies being arranged in pairs, and having spring feed-threads about their peripheries, substantially as and for the purpose specified.

2. In a rolling-mill, a series of horizontal reducing-rolls, in combination with a series of oblique feed-roll bodies, said feed-roll bodies being arranged in pairs between every two pairs of reducing-rolls, and having spring feed-threads about their peripheries, substantially as and for the purpose specified.

3. In a rolling-mill, a series of horizontal reducing-rolls, in combination with a series of oblique feed-roll bodies, said feed-roll bodies being arranged in pairs between every two pairs of reducing-rolls, having spring feed-threads about their peripheries, and a gradually-decreasing obliquity, substantially as and for the purpose specified.

4. In a rolling-mill, a series of pairs of horizontal reducing-rolls, in combination with a series of twisting and feeding rolls, said feed-rolls being arranged in pairs between every two pairs of reducing-rolls, and each successive pair having axes of a gradually-decreasing obliquity and approaching the vertical line, substantially as and for the purpose specified.

5. A pair of horizontal reducing-rolls, in combination with a pair of twisting feed-rolls arranged in front of same, and adapted to feed the bar to said reducing-rolls, and at the same time turn the said bar a part of a revolution, said rolls being provided with elastic helical feed flanges or ribs, substantially as and for the purpose specified.

6. A pair of feed-roll bodies provided with devices to feed the bar to a pair of reducing-rolls, and at the same time give said bar a partial rotation, said devices consisting of elastic helical feed flanges or ribs, in combination with means to change the pitch of said helical ribs, substantially as and for the purpose specified.

7. A pair of horizontal reducing-rolls, in combination with a pair of roll-bodies having twisting feed devices arranged in front of same, and adapted through said devices to give the bar a partial revolution as it is being fed to the said reducing-rolls, said devices consisting of elastic helical flanges or ribs, the ribs of both of said helices being either right or left handed, substantially as and for the purpose specified.

8. A pair of feed spirals or helices having elasticity, and arranged to rotate in opposite directions, and between which the bar is fed, whereby the said bar is fed horizontally, and also turned a part of a revolution, substantially as and for the purpose specified.

9. In a rolling-mill, the feed-roller bodies F, provided with shoulders or flanges H, in combination with nuts G G′, or their equivalent, spring threads or ribs I, and frame E, substantially as and for the purpose specified.

10. The frame E, having opening E′ at top, in combination with roller-bodies F and their spring threads or ribs I, substantially as and for the purpose specified.

267,984. DECORATING GLASS GLOBES, SHADES, AND OTHER ARTICLES. JACOB J. NICHOLS and BENJAMIN BRUAS, Brooklyn, N. Y. Filed Aug. 22, 1882. (Specimens.)

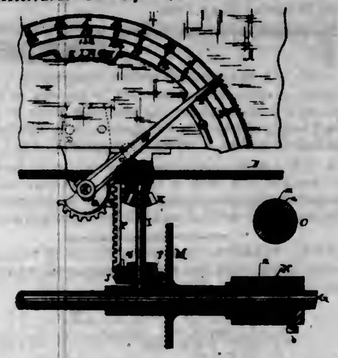
Claim.—1. The method of decorating glass globes, shades, and other articles, consisting in etching or engraving a design upon the articles so as to produce clear or transparent portions, and then applying to the clear or transparent portions transparent colors mixed with a transparent varnish, substantially as specified.

2. The method of decorating glass globes, shades, and other articles, consisting in etching or engraving a design upon the articles so as to produce clear or transparent portions, then applying to the clear or transparent portions transparent colors mixed with a transparent varnish, and then coating the same with soluble glass, substantially as specified.

3. An article of glassware having delineated upon it a design comprising clear or transparent portions, to which are applied transparent colors mixed with a transparent varnish, substantially as specified.

4. An article of glassware having delineated upon it a design comprising clear or transparent portions, to which are applied transparent colors mixed with a transparent varnish and coated over with soluble glass, substantially as specified.

267,985. FORCE-FEED GRAIN-DRILL. CHARLES E. PAURIS, Rochester, N. Y. Filed Apr. 20, 1882. (Model.)



Claim.—1. In a seeding-machine, a driving-shaft, a feed-shaft, and a series of feed-wheels mounted thereon, combined with a train of connecting-gearing, one member of said train being a wheel the pitch-lines of engagement whereof may be varied as to diameter at will, whereby the speed transmitted is correspondingly varied, as set forth.

2. In a seeding-machine, a driving-shaft, a feed-shaft parallel to but independent of said driving-shaft, and a series of force-feed wheels mounted on said shaft, combined with a train of connecting mechanism one member whereof is a disk-wheel, M, provided with concentric rows of teeth of equal pitch and another member whereof is a pinion, J, adjustable to mesh with either row of teeth on said disk-wheel.

3. In a seeding-machine, a driving-shaft, a feed-shaft independent of but parallel thereto, and a series of force-feed wheels mounted on said feed-shaft, combined with a train of connecting mechanism one member whereof is a disk-wheel, M, provided with concentric rows of miter-teeth of equal pitch, and another member whereof is a pinion, J, adjustable to mesh with either row of teeth on said disk-wheel, and means whereby said pinion may be moved at will and retained in adjustment.

4. In a seeding-machine, a driving-shaft, a feed-shaft, and a series of feed-wheels mounted thereon, combined with a train of connecting mechanism one member whereof is a disk-wheel, M, provided with concentric rows of teeth of equal pitch, and another member whereof is a pinion, J, adjustable to mesh with either row of teeth on said disk-wheel, and the rack P, segment Q, and indicator S.

5. In a seeding-machine, a driving-shaft, a feed-shaft, and a series of feed-wheels mounted thereon, combined with a train of connecting mechanism one member whereof is a disk-wheel, M, provided with concentric rows of teeth of equal pitch, and another member whereof is a pinion, J, adjustable to mesh with either row of teeth on said disk-wheels, and a rack, P, with skew-teeth, the segment Q on shaft R, oblique to the axis of motion of said rack, and the indicator T.

6. The wheel C, provided with the ratchet-hub *i*, and the sliding ratchet-clutch H, provided with holes *r* and their inclosed springs *t*, combined with the hub *h*, rigidly secured to the shaft and provided with flange *l*, substantially as set forth.
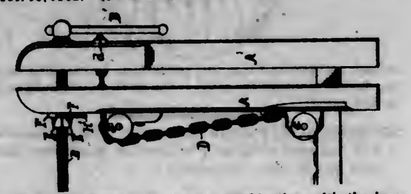
7. The wheel C, provided with the ratchet-hub *i*, and the sliding ratchet-clutch H, provided with the cells *r* and their inclosed springs, combined with the hub *h*, rigidly secured to the shaft G and provided with flange *l*, substantially as set forth.

8. The pinion J, adjustable along its axis of revolution, combined with the disk M, provided with concentric rows of gear-teeth of equal pitch wherewith said pinion may mesh, and a friction-spring, N, behind said disk, whereby it may yield and spring back when said pinion passes from one of said rows of teeth to another.

9. The disk M, mounted upon the shaft G, combined with the hollow hub O, fixed upon said shaft, the inclosed spline and feather, whereby said disk is compelled to turn with said shaft, and the inclosed spring N, whereby said disk may be permitted to move lengthwise of said shaft.

10. A disk-wheel, M, provided with concentric rows of cog-teeth of equal pitch, combined with a pinion, J, adjustable along its axis of rotation, so as to be capable of meshing with either one of said rows of gear-teeth, and an elastic member whereby said disk and pinion may be permitted to recede and approach each other when passing from one concentric series to another.

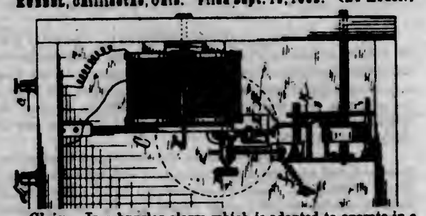
267,986. BENCH-VISE. THOMAS REED, Detroit, Mich. Filed Oct. 19, 1882. (No model.)



Claim.—1. In a bench-vise, the combination, with the jaws and operating-screw, of the pivoted arms F and F′, provided with a divided collar or nut, E E′, adapted to engage said screw, and means for opening and closing said arms, substantially as and for the purpose described.

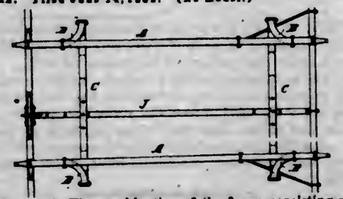
2. The arms F and F′, provided with the divided nut or collar E E′, adapted to engage the operating-screw of a vise, and means for opening and closing said arms, the construction being such that the divided nut or collar may be closed upon or disengaged from said screw, as may be desired, substantially as and for the purpose described.

267,987. ELECTRICAL BURGLAR-ALARM. CHARLES A. E. RUSSELL, Chillicothe, Ohio. Filed Sept. 19, 1882. (No model.)



Claim.—In a burglar-alarm which is adapted to operate in a closed circuit so as to sound an alarm when the circuit is broken, the combination of the electro-magnets B B, armature C, guide-rod F, catch E, attached to the end of the armature by the post D, with retracting-spring *f*, the spring-motor with vibrating bell-sounding lever H, bent so as to engage with the catch E, the parts being arranged and organized substantially as described, and for the purpose set forth.

267,988. VEHICLE-SPRING. CYRUS W. SALADEE, Torrington, Conn. Filed June 14, 1882. (No model.)



Claim.—1. The combination of the frame consisting of side bars and bolsters, and cross-springs and braces extending outward from the side bars, inside of the bolsters, and connecting the projecting ends of the springs to the frame, substantially as set forth.

2. The combination of the frame, cross-springs projecting beyond the sides of the frame, and spring connecting-braces attached to the side bars within the bolsters and extending beyond the side bars, as set forth.

3. In a side-bar road-wagon, the combination of the side bars, A, and springs D, and the connecting-braces B, attached to the springs, the bolsters, and the side bars, substantially as and for the purpose set forth.

267,989. ANTI-CRIBBING ATTACHMENT FOR HORSES. OWEN P. DUNN, Cumru Township, Berks County, assignor to William D. Gross, Kutztown, Pa. Filed May 18, 1882. (No model.)

Claim.—1. An anti-cribbing attachment consisting of a curved plate having means for attaching it to the teeth of a horse, substantially as described.

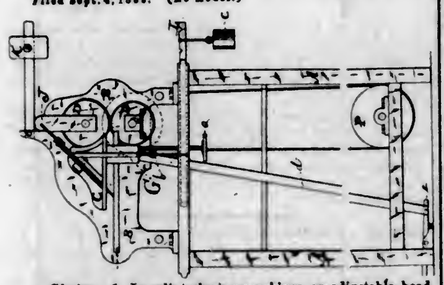
2. An anti-cribbing attachment consisting of a longitudinally-curved plate adapted to rest against the upper front teeth of an

267,989.



animal, and provided with end perforations for receiving fastening devices to attach the plate to the teeth, substantially as described.

267,990. SPLINT-PLANER. BENJAMIN F. PERMAN, Jamestown, N. Y., assignor of one-half to Daniel A. Marsh, same place. Filed Sept. 4, 1882. (No model.)

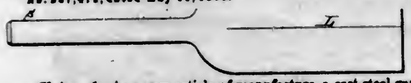


Claim.—1. In splint-planing machines, an adjustable head for holding a stationary knife, provided with set-screw and screws for gaging the depth of cut, having foot-levers to raise the head for inserting the splints, in combination with levers and weights for adjusting the pressure and friction-rollers for drawing the splints through, made to operate substantially as shown, and for the purpose set forth.

2. In splint-planing machines, the knife-head C, adjusting-levers *e d*, and set-screw *n*, in combination with rollers D D, pulleys P P, weights C C and K, and levers J L, all combined and made to operate in the manner shown, and for the purpose set forth.

REISSUES.

10,243. CAST-STEEL GARDEN-RAKE. CALVIN T. BURNS, Jackson, Mich., assignor to the Withington & Cooley Manufacturing Company, same place. Filed Aug. 23, 1882. Original No. 237,672, dated May 11, 1880.



Claim.—1. As a new article of manufacture, a cast-steel garden-rake the projecting shank of which is formed integrally with the head, substantially as and for the purpose set forth.

2. The hereinbefore-described method of making a rake having the shank and head integral, consisting essentially in drawing out one end of the blank to form the shank, slitting and spreading apart that portion of the blank which is to form the head and teeth, and setting down the middle thereof, as shown, and cutting the teeth and turning over the shank portion, all substantially as set forth.

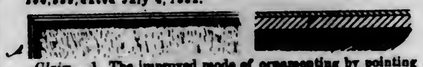
10,244. CORSET. CATHARINE A. GRISWOLD, New York, N. Y. Filed July 26, 1882. Original No. 110,585, dated July 4, 1871; Reissue No. 7,295, dated Sept. 26, 1877.



Claim.—1. As an improved article of manufacture, a corset composed of the parts A, B, C, and D and the shoulder-straps H, carved, as shown, to fit smoothly the slope of the shoulders of the wearer, and permanently attached to the sloping edges *b b'* of the parts C and D, all as and for the purpose described.

2. As an improved article of manufacture, the herein-described corset, provided with the projections E, extending upward from the front upper edges of the parts C, for the attachment of shoulder-straps H, and to serve as side supports of the breasts of the wearer, as shown and described.

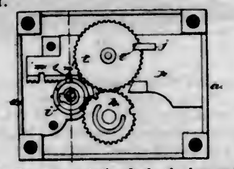
10,245. ORNAMENTING FUR AND OTHER GOODS. AMALIA MAYER, New York, N. Y. Filed Oct. 28, 1882. Original No. 260,539, dated July 4, 1882.



Claim.—1. The improved mode of ornamenting by pointing fur, plush, or other goods or materials by inserting at numerous points in said goods, among the protruding fibers or filaments thereof, hairs or filaments having beads or bugles attached to their outer ends or portions, substantially as specified.

2. A fur, plush, or other fluffy material having hairs or filaments provided with beads or bugles on their outer ends or portions inserted at numerous points throughout the protruding fibers or filaments of the material, essentially as shown and described.

10,246. PERMUTATION-LOCK. OLIVER E. PILLARD, Cambridge, Mass. Filed Sept. 4, 1882. Original No. 238,808, dated Mar. 8, 1881.



Claim.—1. In a permutation-lock, the key and rotating and longitudinally movable key-shaft, combined with the bolt and with means to prevent the endwise or longitudinal movement of the key-shaft into the key when the lock is unlocked and the bolt drawn into the case, substantially as described.

2. In combination, the vertically-moving shaft carrying gears *t*, and the bolt *k*, provided with the horizontal slot *p* and the vertical slot *e* at the rear end of slot *p*, all substantially as described, and for the purposes set forth.

3. The bolt *k*, provided with the vertical slot *e* at the rear end of horizontal slot *p*, and also provided with the single mortise *m*, in combination with the vertically-movable shaft *n*, carrying gears *t*, the gears *h*, the key-shaft *b*, carrying gear *f*, the gear-lock *g*, and the gear-lock *i*, carrying the feather *l*, all substantially as described, and for purposes set forth.

10,247. WATER-WHEEL. HENRY VAN DE WATER, Auburn, N. Y., assignor to Oliver J. Bellinger, York, Pa. Filed Oct. 12, 1881. Original No. 173,567, dated June 13, 1876.



Claim.—1. The horizontally-moving pivoted gate *d*, having a fixed flange, *e*, forming part thereof, and with a vertical lip, *g*, on the edge of said flange, that overlaps the outer edge of the guard *c*, substantially as set forth.

2. The horizontally-moving gates *d*, having flanges *e*, with horizontal lips *g'* at their upper edges for overlapping the edges of the top plate, *h*, and forming water-tight joints, substantially as shown.

3. The horizontally-moving pivoted gates *d*, carved at *x*, near the outer ends, and provided with fixed flanges *e*, in combination with the guards *c*, substantially as set forth.

4. The gates *d*, pivoted to form projecting abutments 1, and provided with flanges *e*, in combination with the guards *c*, arranged substantially as specified.

5. The combination, in a turbine water-wheel, of vertical guards *c*, gates pivoted adjacent to the latter and enlarged and projecting inward in the direction of their length past the pivot-points and past the guards, one being recessed to receive the other, substantially as set forth.

N. Peters Photo-Lithographer, Washington, D.C.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

DECISIONS OF THE U. S. COURTS.

Supreme Court of the United States.

GOSLING *v.* ROBERTS.

Decided October 23, 1882.

REISSUE NO. 5,644—EXPANDED CLAIM—INFRINGEMENT.

Reissue Patent No. 5,644 examined and compared with the original patent, and *Held* that, if the claim of the reissue be construed to cover a structure made in accordance with the description in Letters Patent No. 90,584, it is anticipated by prior structures, and is, moreover, for a different invention from that covered by the original patent.

APPEAL from the Circuit Court of the United States for the Southern District of Ohio.

Mr. C. L. Mitchell and *Mr. D. H. J. Holmes* for the plaintiff.

Mr. Wm. Hubbell Fisher for the defendant.

STATEMENT.

The first claim of Reissue Letters Patent No. 5,644, granted to John W. Gosling, November 4, 1873, for an improvement in step-covers and wheel-fenders for carriages, the original patent having been granted to him February 26, 1867, and the reissue applied for June 24, 1873, namely:

In combination with the step D and the door C, the plate E, attached to the door, to operate as a step-cover when the door is closed, and a wheel-fender when the door is open, substantially as and for the purpose specified—

was alleged to have been infringed by a structure made in accordance with the description contained in Letters Patent No. 90,584, granted to John Roberts, May 25, 1869, for an improvement in step-covers and wheel-fenders for carriages. It was held that said claim, if construed so as to cover the defendant's structure, was void for want of novelty, and also invalid as being for a different invention from any found in the original patent; and that if it was so limited as to be no broader than the single claim of the original patent there had been no infringement of it.

The specification of the original patent described a plate attached at its top to the bottom part of the door of the carriage, and attached at its bottom by a pivotal connection to the step of the carriage, and flexible and yielding, so as by its elasticity to hold the door either closed or open. In the specification of the reissue the connection of the plate to the step was made optional and the flexibility of the plate was made only preferential.

The single claim of the original patent was—

A combined step-cover and wheel-fender for carriages, consisting of the flexible plate E, whose upper end is attached to the carriage-door and whose lower end is connected (*d h*) to the step or other fixed object, the whole being arranged to operate substantially as herein described, and for the purpose set forth.

The specification of the reissue stated that the important feature of the invention was—

The plate E, attached to the door of the carriage, and operating, by reason of such attachment, as a step-cover when the door is closed and as a wheel-fender when the door is open.

This statement was not in the specification of the original patent. The object of the changes in the specification was to arrive at the claim for a plate not held at its bottom to the step. The plate in the defendant's structure was not flexible and was not held at its bottom to the step, and did not infringe the single claim of the original patent. The invention covered by that claim was, so far as appears, new, and the original patent was adequate to secure it.

Mr. Justice BLATCHFORD delivered the opinion of the Court.

In this case the plaintiff appeals from a decree dismissing his bill of complaint. The suit is brought for the infringement of Reissue Letters Patent No. 5,644, granted to John W. Gosling, the appellant, November 4, 1873, for an improvement in step-covers and wheel-fenders for carriages, the original patent having been granted to him February 26, 1867, and the reissue applied for June 24, 1873. As a material question in the case arises on the difference between the specifications and claims of the original and the reissue patents, they are subjoined in parallel columns, the portions in each which are not found in the other being in italics.

Original.

This invention *relates to* a cheap and simple device for preventing the accumulation of mud and dust on the steps of carriages, &c., and also for guarding the clothes of the rider from coming in contact with the wheels on entering or leaving the vehicle.

In the accompanying drawings, Figure 1 shows the position of my fender when the carriage-door is open, *and* Fig. 2 represents it when the door is closed.

A represents the body of *a* carriage; B, the rear wheel; C, the door, and D the step. E is a *yielding* plate, which may be made of sheet *steel* or other suitable material, and the upper end of said plate is hinged or otherwise secured to the door C, *whilst its* lower end *is* connected to *a* bar, H, having an eye, *h*, which engages with a suitable aperture in the flange *d* of the step. This provision of the perforated flange *d* and eye *h enables* the *plate* E to turn in either direction as the door C is opened or closed. The *flexibility of the plate* E *enables it to* bend *up* in the act of opening *or* closing the door, (see dotted lines in Fig. 1,) and its elasticity enables it to hold the door firmly in either closed or wide-open position.

When the door is shut the plate E closes up over the step D, and *this* prevents the wheel from throwing dirt *upon said* step, as clearly shown in Fig. 2, but as soon as the door is opened the *plate* E *turns on the pivot device d h at its lower end, thus uncovering the step and serving* as a fender to prevent the *occupant's* clothes from coming in contact with the

Reissue.

My invention *consists of* a cheap and simple device for preventing the accumulation of mud and dust on the steps of carriages, &c., and also for guarding the clothes of the rider from coming in contact with the wheels on entering or leaving the vehicle.

In the accompanying drawings, Figure 1 shows the position of my fender when the carriage-door is open. Fig. 2 represents it when the door is closed.

A represents the body of *the* carriage; B, the rear wheel; C, the door, and D the step. E is a plate, which may be made of sheet *metal* or other suitable material, and the upper end of said plate is hinged or otherwise secured to the door C. *The* lower end *of the combined cover and fender* E *may be* connected to *the* bar H, having an eye *h*, which engages with a suitable aperture in the flange *d* of the step. This provision of the perforated flange *d* and eye *h*, *by reason of its loose character, permits* the *cover and fender* E to turn *freely* in either direction as the door C is opened or closed. The *cover and fender* E, *I prefer to make of flexible material, so that it may* bend in the act of opening *and* closing the door, (see dotted lines in Fig. 1,) and its elasticity enables it to hold the door firmly in either the closed or wide-open position, *when the cover and fender are connected, as shown, to the step* D.

When the door C is shut the plate E closes up over the step D and prevents the wheel from throwing dirt *over the* step, as clearly shown in Fig. 2; but as soon as the door is opened the *cover and fender* E, *being attached to the door* C, *is, of course, carried with the door, and thus the step is uncovered, and thus plate* E *then occupies such a posi-*

hind wheel of the carriage, as represented in Fig. 1. *The yielding plate E acts as a spring to hold the door either open or shut, and also prevents said door from striking against the wheel when opened.* The said plate E may be covered with leather or painted, or may consist wholly of leather.

I have selected for illustration the preferred form of my invention, but reserve the right to vary the same, it being susceptible of various modifications. For example, instead of being pivoted to the step D, the lower end of the plate E may be hinged or otherwise coupled to a frame projecting from the carriage-body and passing under the step. In some cases, *for example*, when the distance from the wheel to the body is short, I provide slots on both step and fender, or one of them, to partially or wholly relieve the plate of the flexion incident to opening or closing the door.

I claim *herein as new and of my invention*—

A combined step-cover and wheel-fender for carriages, consisting of the flexible plate E, *whose* upper end is attached to the carriage-door, and *whose* lower end *is connected (d h)* to the step *or other fixed object, the whole being arranged to operate* substantially *as herein described and for the purpose* set forth.

Attention is at once arrested by certain marked differences between the two specifications. The drawings are alike. In the original specification the plate E is described as a yielding plate, while in the reissue it is merely a plate. In the original it is said that the lower end of the plate E *is* connected to the step through a bar with an eye in it which engages with an aperture in a flange on the step. In the reissue it is said that the lower end of the plate E *may be* so connected. In the original the plate E is described as being flexible. In the reissue the inventor says that he prefers to make it of flexible material. In the original it is said that the elasticity of the plate E enables it to hold the door firmly either closed or open. In the reissue it is said that such elasticity will produce that effect when the plate E is connected to the step as shown in the drawings. In the original the description is that, as the door is opened the plate E turns on the pivot device at its lower end, which connects it to the step. This is omitted in the reissue. In the original the plate is said to act as a spring to hold the door either open or shut. This is omitted in the reissue. The object of these changes is apparent. Unless the plate E is connected at the bottom with the step the door cannot be kept open or closed by the operation of elasticity in the plate, for no elasticity can be developed unless the plate is held at its bottom. In the original the holding of the plate at its bottom to the step is made the rule; in the reissue it is made the exception. In the original the plate is said to be flexible and is not said to be ever other than flexible. In the reissue only a preference for flexibility is asserted. The object of these changes is to arrive at a claim for a plate not held at its bottom to the step. Accordingly, the reissue makes the statement, not found in the original, that the important feature of the invention is to have the plate attached to the door, and thus operate as a step-cover and a wheel-fender. The first claim of the reissue is not found in the original, and grows out of the changes above mentioned. It is a broad claim to a combination, with the step and the door, of the plate E, attached to the door, to operate as a step-cover and a wheel-fender, substantially as and for the purpose specified. The second claim in the reissue is substantially the same as the single claim of the original. It combines the features of the attachment of the plate at its bottom to the step, and at its top to the door, and of elasticity in the plate to hold the door open or closed.

The defendant's apparatus is a piece of material rigidly attached at its top to the door, and not attached at its bottom to the step, and operating as a combined step-cover and wheel-fender. It is plain that this construction did not infringe the claim of the original patent. It is alleged that it infringes the first claim of the reissue. The defendant obtained a patent, No. 90,584, May 25, 1869, for an improvement in step-covers and wheel-fenders for carriages. It was granted more than four years before the plaintiff applied for his reissue. The defendant's apparatus is constructed substantially in accordance with the description in that patent. That apparatus has on the rear part of the door elastic guards, which come against the wheel when the door is open. The claim of the patent is to the combined arrangement.

It is shown by the evidence that prior to the plaintiff's invention a combined wheel-fender and step-cover was in use in several forms, the step-cover being attached by a vertical arm or vertical arms to the bottom of the door by a rigid connection, and swinging back by the opening of the door, the vertical arm or arms then serving as a wheel-fender. In those structures the step-cover was a horizontal plate projecting from the lower end of the vertical arm and overlapping and covering, when the door was shut, the horizontal step, and being parallel with it. The defendant's structure differs from these old forms solely in having the vertical arm, which is rigidly attached to the lower part of the door, so extended in width as to itself cover the step and permit the horizontal part of the step-cover to be dispensed with. There is no difference in principle or mode of operation between the old structures and the defendant's structure. The difference is merely in form and shape. The plaintiff departed in his original patent from the principle of the old structures by joining his step-cover to the step and having the vertical plate yielding and flexible, so that its elasticity may keep the door open or closed. This, so far as appears, was a new invention, and he was entitled to claim it. He did claim it, and the original patent was adequate to secure it to him. The first claim of the reissue, if construed so as to cover the defendant's structure, must equally cover the old structures referred to. They had combined a step and a door and a plate attached to the door, the plate operating as a step-cover when the door was closed and as a wheel-fender when the door was open. Extending the vertical arm in

tion as to enable it to serve as a fender to prevent the *rider's* clothes, *on entering or leaving the carriage*, from coming in contact with the hind wheel of the carriage, as represented in Fig. 1. The said plate E may be covered with leather or painted, or may consist wholly of leather.

I have selected for illustration the preferred form of my invention, but reserve the right to vary the same, it being susceptible of *being made to assume* various *forms and* modifications. For example, instead of being pivoted to the step D, the lower end of the plate E may be hinged or otherwise coupled to a frame projecting from the carriage-body and passing under the step. In some cases, when the distance from the wheel to the body is short, I provide slots on both step and fender, or one of them, to partially or wholly relieve the plate of the flexion incident to opening or closing the door.

The important feature of my invention is the plate E, *attached to the door of the carriage, and operating, by reason of such attachment, as a step-cover when the door is closed and as a wheel-fender when the door is open.*

I claim—

1. *In combination with the step* D *and the door* C, *the plate* E, *attached to the door, to operate as a step-cover when the door is closed and a wheel-fender when the door is open, substantially as and for the purpose specified.*

2. A combined step-cover and wheel-fender for carriages, consisting of the flexible plate E, *the* upper end *of which* is attached to the carriage door, and *the* lower end to the step, *all being combined to operate as a step-cover, wheel-fender, and a spring-connection to retain the door in the opened and closed positions, all* substantially as set forth.

width, so as to dispense with the horizontal projection from it, and make the vertical arm wide enough to cover the step, or contracting the vertical arm in width and putting on the lower end of it a horizontal piece parallel with the step and overlying it, involved no new principle of structure or operation.

There is no suggestion in the specification of the original patent that the plate E is to be used disconnected at its lower end from the step, or to be any other than a yielding plate, so arranged as to keep the door open and shut, in addition to acting as a step-cover and wheel-fender. The first claim of the reissue, if construed so as to cover the defendant's structure, is void for want of novelty, being anticipated by the old structures referred to. Moreover, if so construed, it is invalid as being for a different invention from any invention found in the original patent. And if it is so limited as to be no broader than the claim of the original patent, there has been no infringement of it.

Under any view, the decree of the court below was correct, and it is affirmed.

U. S. Circuit Court—Southern District of New York.

HART, JR., *v.* THAYER.

Decided February 13, 1882.

REISSUE PATENT NO. 7,909—NECKTIE—INFRINGEMENT.

Reissue Letters Patent No. 7,909, for an improvement in neckties, which consists in attaching the pin to the shield by a rivet or punched-out part of itself, is not infringed by a pin having two right-angled deflections in its length passing through holes in the shield, and thereby held in position.

Mr. F. H. Betts and *Mr. J. Van Santvoord* for the plaintiff.

Mr. J. P. Fitch for the defendant.

BLATCHFORD, *J.*:

This suit is brought on Reissue Letters Patent No. 7,909, granted to the plaintiff, October 9, 1877, for an improvement in neckties, the original patent, No. 159,921, having been granted to him February 16, 1875. The specification of the reissue is as follows, reading what is outside of brackets and what is inside of brackets, omitting what is in italics:

Figure 1 is a face view of the device embodying my invention. Fig. 2 is a side view thereof, partly in section. Fig. 3 is a side view enlarged of a detached part.

Similar letters of reference indicate corresponding parts in the several figures.

In the class of neckties wherein the front bow, which is made long and lies on the chest, is held in position by a band which passes around the neck, it is necessary to secure said band in some manner to prevent displacement of the tie. For this purpose pins have been sewed to the shield or supporting-plates of the ties and the neckbands engaged therewith; but this is objectionable, since the pin soon loosens and is lost. Again, the cost of thus attaching the pins is a matter of considerable moment.

My invention is designed to remedy these defects; and it consists in securing the pins to the shields by metallic fastenings, whereby the pins are firmly retained in place, longer service is rendered thereby, and there is a cheapness in the product.

Referring to the drawings, A represents a shield or supporting-plate for a necktie, which consists of a long bow or knot, *a*, constituting the front portion, and a band, *b*, which passes around the neck, the two parts being shown in dotted lines.

To the bottom portion of the shield or plate I secure a pin, B, which projects downwardly, so that the band *b* may be attached thereto, in order that the band will not disengage from the neck and release the tie. I secure the pin to the shield by metallic rivets [or projections] C, which readily clinch on the shield and firmly connect the two parts.

Those rivets [or projections are attached to the pin in any suitable manner, and they may be parts of the pin itself, or they may be separate pieces of metal fastened to it. Thus they] may be passed through the flattened body of the pin *and the shield* and headed, or [they may be] punched out of the said [body.] *body.*

[The metallic rivet or projection is passed through the shield] and [is] bent over [and] or clinched [upon the opposite side.] *on the shield.*

It will be seen that the connection of the pin and shield is firm and [durable.] *durable.* [Whereas] *I overcome loosening of the pin due to cutting of* the threads [formerly] *which heretofore* in use [passing] *have been passed* through openings in the pin [were cut by their edges, or rotted away from corrosion of the pin through] *or rotting of said thread consequent to* perspiration, [and the pin was soon lost or loosened.] *corroding the pin.*

Again, as the work can be performed by machinery, instead of stitching or sewing by hand, labor is materially reduced, whereby there is [a] great saving in the [cost of production.] *product.*

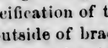
[I do not claim any particular method of attaching the metal fastenings to the pin, since any of the well-known methods of attaching metals together may be employed, either cohesion by welding or soldering or forming both pin and fastenings out of one piece of metal, or adhesion and pressure by making one metal inclose the other.

Reading in the foregoing what is outside of brackets, including what is in italics, and omitting what is inside of brackets, gives the text of the original specification.

The claims of the reissue are as follows:

1. The pin B and necktie-shield A, in combination with the metallic fastening C, substantially as and for the purpose set forth.
2. The pin B, formed with the fastening C, in combination with the necktie-shield A, substantially as and for the purpose set forth.
3. A metallic fastening or metallic fastenings, C, attached to and projecting from the pin B, substantially as and for the purpose set forth.

The original patent had only two claims. The first was the same as claim 1 of the reissue. The second was the same as claim 2 of the reissue, with the words "punched out" inserted between "the" and "fastening."

It is claimed that the defendant has infringed claim 2 of the reissue by making and selling necktie-shields with pins such as are described in Letters Patent No. 206,673, granted to Albert M. Smith and Hiram H. Thayer, April 23, 1878. The pin is of metal, pointed at one end. In its length are two bends, which are nearly at right angles to the length of the body. One bend is farther from the point than the other bend is from the opposite end. Each bend is made by two right-angled deflections of the body of the pin. From the bend near the end farthest from the point the body of the pin proceeds on in a line not continuous with the line of the pin the other side of said bend, but parallel therewith. The other bend is so made as to bring back the line of the pin between said bend and the point to the line of the pin the other side of the first-named bend. The shape of the pin, with the two bends, is this:  . The pin is attached to the shield by passing it through two holes in the shield—one hole at each bend—so that the two ends of the pin are on one side of the shield and the middle part or body is on the other side of it. The bends are abrupt or short, and form shoulders, which bear in the holes and keep the pin from moving or slipping back and forth. The pin, after it is in the shield, is flattened, especially at the unpointed end, so that it will lie more closely and firmly to the shield and not project from its surface. The pin is put into the shield and fastened by springing its ends together sufficiently to put them through the holes made for them in the shield. The claim of the patent is to the combination of the shield with the pin constructed and arranged to operate substantially as and for the purpose thus set forth.

The original patent, No. 159,921, speaks of only two ways of forming the fastening of the pin. One is to have metallic rivets passing through the body of the pin and headed; the other is to have the rivets punched out of the body of the pin and bent over or clinched on the shield. The first claim of that patent is for a combination of three things—the shield, the pin, and the separate rivet-fastening. The second claim is for a com-

bination of the shield and the pin having rivets punched out of its body. But with either form of fastening the entire pin, when in place, is on one side of the shield and the bent-over or clinched or headed ends of the fastenings are on the other side of the shield. The body of the pin is straight and continuous aside from the supplementary fastenings. In the defendant's pin the body is not straight, and there are no supplementary fastenings. The body of the pin, by being bent, fastens itself.

Manifestly the effort in the specification of the reissue is to enlarge the scope of the patent beyond what is warranted by the original. The reissue says that the projections may be "parts of the pin itself." No way is shown in the original of making the projections parts of the pin itself except by punching them out of its body. That means partly detaching part of the body and letting it form a fin or projection to be bent down and clinched on the other side of the shield. The defendant's bends are parts of the pin itself, but they are not projections from the body, as in the plaintiff's pin, but are projections of the whole body in its devious path.

The second claim of the reissue, if construed to mean anything more than the second claim of the original, so as to cover the defendant's pin, covers new matter not found in the original, and is for an invention not shown in the original. That defense is set up in the answer.

The only pin with a fastening forming part of its body described or shown in the original is a pin with a fastening punched out of its body. A pin formed with a fastening which is part of the pin itself is a form of description ingeniously devised to cover a punched-out fastening, and also such bent fastenings as those in the defendant's pin; but the claim cannot be construed to cover any fastening but a punched-out fastening or one that is its equivalent. The defendant's bent fastenings are not equivalents. They are an invention in a new direction, not based on the plaintiff's idea. As against the plaintiff's pin, the defendant's is patentable, and not an infringement of claim 2 of the plaintiff's reissue. The radical difference between the two pins is that the principle of fastening is different in the two, the defendant's pin dispensing with all fastenings that are separate from the pin itself or that are partly-detached parts of the body as fastening devices separate from the whole body. As an incident of the difference in structure, and illustrating it, no two portions of the defendant's pin on opposite sides of the shield are directly opposite to each other. The points do not form the jaws of a clamp as in the plaintiff's. The shield is held by virtue of the strength of the cross-section of the pin and not by the clamping action of two directly-opposite parts.

The bill is dismissed, with costs.

U. S. Circuit Court—District of Minnesota.

GOTTFRIED *v.* STAHLMANN *et al.*

Decided October 23, 1882.

PATENT NO. 42,580 SUSTAINED.

The decision of Judge Gresham (22 O. G., 1447) sustaining Letters Patent No. 42,580, to J. F. T. Holbeck and M. Gottfried, dated May 3, 1864, for an improved method of pitching barrels, concurred in.

Messrs. Banning & Banning for the complainant.
Messrs. J. B. & W. H. Sanborn and *Mr. C. K. Davis* for the defendants.

Before MCCRARY and NELSON, *J. J.*

Per curiam:

At the conclusion of the argument on the final hearing in these cases the court on consultation were convinced that the patent should be sustained, but deferred announcing an opinion until a decision should be reached by Judge Gresham, of the Indiana circuit, who had under consideration the validity of the patent in the case of *Gottfried* v. *The Crescent Brewing Company*, (22 O. G., 1447,) in which, and the cases before this court, substantially the same testimony is presented. Judge Gresham, after a rehearing, sustained the patent. We concur with this decision, and think it unnecessary to give any reasons additional to those announced by him.

Decree will be entered in favor of the complainant, with costs, which are to be divided between all of said cases equally.

THE
OFFICIAL GAZETTE
OF THE
United States Patent Office.
[BY AUTHORITY OF CONGRESS.]

VOL. 22—NO. 22. TUESDAY, NOVEMBER 28, 1882. PRICE—$5 per year

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DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SECRETARY,
Washington, D. C., November 24, 1882.

SIR: I am directed by the Secretary to inform you that he has ordered that B. F. Pritchard, of Washington, D. C., be not recognized from and after this date as an attorney in the prosecution of any claim or other matter before the Department of the Interior or any bureau thereof.

I am, sir, very respectfully, your obedient servant,

R. JOSEPH,
Acting Chief Clerk.

The Commissioner of Patents.

Issue of November 28, 1882.

Patents	384—	No. 267,991 to No. 268,374, inclusive.
Designs	10—	No. 13,454 to No. 13,463, inclusive.
Trade-Marks	11—	No. 9,839 to No. 9,849, inclusive.
Labels	5—	No. 2,833 to No. 2,837, inclusive.
Reissues of patents	3—	No. 10,248 to No. 10,250, inclusive
Total issue	413	

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks and Labels.	States.	Patents and Designs.	Trade-Marks and Labels.
Alabama	2	....	Nebraska	2	....
Arizona Territory	....	....	Nevada	1	....
Arkansas	2	....	New Hampshire	2	....
California	13	....	New Jersey	21	....
Colorado	1	....	New Mexico Territ'y	....	....
Connecticut	10	....	New York	75	4
Dakota Territory	1	....	North Carolina	3	....
Delaware	....	....	Ohio	27	5
District of Columbia	3	....	Oregon	2	....
Florida	....	....	Pennsylvania	34	....
Georgia	4	....	Rhode Island	4	....
Idaho Territory	....	....	South Carolina	2	....
Illinois	31	1	Tennessee	2	....
Indiana	13	....	Texas	3	....
Indian Territory	....	....	Utah Territory	....	....
Iowa	4	1	Vermont	3	....
Kansas	5	....	Virginia	4	....
Kentucky	6	....	Washington Territ'y	....	....
Louisiana	2	....	West Virginia	1	....
Maine	1	....	Wisconsin	4	....
Maryland	7	3	Wyoming Territory	1	....
Massachusetts	31	1	United States Army	....	....
Michigan	18	....	United States Navy	....	....
Minnesota	7	....			
Mississippi	2	....	Total to citizens of the United States	364	15
Missouri	10	....			
Montana Territory	....	....			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks and Labels.	Countries.	Patents and Designs.	Trade-Marks and Labels.
Australia	....	....	France	3	....
Austria	....	....	Germany	8	....
Barbadoes	....	....	Italy	....	....
Belgium	....	....	New Zealand	....	....
Bermuda	....	....	Peru	1	....
Brazil	....	....	Russia	....	....
Canada	2	....	Spain	....	....
Chili	....	....	Sweden	....	....
Colombia, U. S. of	....	....	Switzerland	3	1
Cuba	....	....			
Denmark	1	....	Total to citizens of foreign countries	30	1
Ecuador	....	....			
England	12	....			

DESIGNS.

13,454.—STOVE.—*H. Clay Bascom*, Troy, and *Tobias S. Heister*, Lansingburg, assignors to *N. S. Vedder Pattern Works, Bascom, Galbraith & Co.*, Troy, N. Y. Application filed October 24, 1882. Term of patent 7 years.

13,455.—COOK-STOVE.—*H. Clay Bascom*, Troy, and *Tobias S. Heister*, Lansingburg, assignors to *N. S. Vedder Pattern Works, Bascom, Galbraith & Co.*, Troy, N. Y. Application filed October 24, 1882. Term of patent 7 years.

13,456.—STOVE OR RANGE.—*H. Clay Bascom*, Troy, and *Tobias S. Heister*, Lansingburg, assignors to *N. S. Vedder Pattern Works, Bascom, Galbraith & Co.*, Troy, N. Y. Application filed October 24, 1882. Term of patent 7 years.

13,457.—CURRY-COMB.—*Henry C. Brill*, Southington, Conn., assignor to *The Southington Cutlery Company*, same place. Application filed May 6, 1882. Term of patent 14 years.

13,458.—BRIDLE-BIT.—*August Buermann*, Newark, N. J. Application filed October 17, 1882. Term of patent 7 years.

13,459.—BRIDLE-BIT PATTERN.—*August Buermann*, Newark, N. J. Application filed October 19, 1882. Term of patent 14 years.

13,460.—CARPET.—*Etienne Fajon*, Boston, Mass., assignor to *The Roxbury Carpet Company*, same place. Application filed September 23, 1882. Term of patent 3½ years.

13,461.—CARPET.—*Henry Hunt*, Greenville, N. J., and *John E. Rollings*, Springfield, Mass., assignors to *The Hartford Carpet Company*, Hartford, Conn. Application filed October 18, 1882. Term of patent 3½ years.

13,462.—COMBINED STREET-LAMP AND REFLECTOR.—*Silvanus F. Van Ohoate*, New York, N. Y. Application filed June 1, 1881. Term of patent 14 years.

13,463.—SHOW-CARD.—*Moses H. Wiener*, Philadelphia, Pa., assignor of one-half to *William A. Laverty*, same place. Application filed October 16, 1882. Term of patent 7 years.

TRADE-MARKS.

[Certificates of registration of Trade-Marks numbered 8,191 and upward are registered under the act of March 3, 1881.]

9,839.—TOILET-WASH FOR THE COMPLEXION.—*Flora A. Jones*, Utica, N. Y. Application filed October 30, 1882.

"The words and arbitrary symbols, to wit: words 'BLUSH OF ROSES,' 'TRADE MARK,' a full-blown rose, with a partly-blown rose on the right side and a rosebud on the left side, with a rose-leaf on each rose-stem, forming a bouquet, tied at the stems with a cord."

9,840.—CIGARS, CIGARETTES, AND SMOKING AND CHEWING TOBACCO. *Henry M. Mason*, Boston, Mass. Application filed March 20, 1882.

"The arbitrary words 'STAR EAGLE,' or the representations thereof."

9,841.—LAUNDRY-SOAP.—*Procter & Gamble*, Cincinnati, Ohio. Application filed October 28, 1882.

"The word-symbol 'AMBER.'"

9,842.—LAUNDRY-SOAP.—*Procter & Gamble*, Cincinnati, Ohio. Application filed October 28, 1882.

"The word-symbol 'EXTRA,' in connection with a circular device of stars and a profile."

9,843.—LAUNDRY-SOAP.—*Procter & Gamble*, Cincinnati, Ohio. Application filed October 28, 1882.

"A diagonal red bar or ribbon and the word-symbol 'MOTTLED GERMAN.'"

9,844.—LAUNDRY-SOAP.—*Procter & Gamble*, Cincinnati, Ohio. Application filed October 28, 1882.

"The word-symbol 'WHITE' in fanciful pointed letters."

9,845.—WATCH CASES AND MOVEMENTS.—*Vacheron & Constantin*, Geneva, Switzerland, and New York, N. Y. Application filed October 11, 1882.

"The word 'VACHERON.'"

9,846.—TOILET PREPARATION.—*Arraline Weeden*, New York, N. Y. Application filed October 21, 1882.

"The word-symbol 'NIVALIS.'"

9,847.—CERTAIN ARTICLES OF STATIONERY.—*Eberhard Faber*, Port Richmond, N. Y. Application filed August 23, 1881.

"The letters 'A. W. F.'"

9,848.—LEAD-PENCILS.—*Eberhard Faber*, Port Richmond, N. Y. Application filed August 23, 1881.

"The letters 'A. W. F.'"

9,849.—LAUNDRY-SOAP.—*Procter & Gamble*, Cincinnati, Ohio. Application filed October 28, 1882.

"The word-symbol 'MOTTLED GERMAN.'"

LABELS.

2,833.—Title: "VIENNA CORN REMOVER."—*David Chambers & Co.*, Ottumwa, Iowa. Application filed July 19, 1882.

2,834.—Title: "WHITE STAR LINE" (FOR CIGARS.)—*H. Ellis & Co.*, Baltimore, Md. Application filed October 23, 1882.

2,835.—Title: "WHITE STAR LINE" (FOR CIGARS.)—*H. Ellis & Co.*, Baltimore, Md. Application filed October 23, 1882.

2,836.—Title: "EMSER LEBEUS ELEXIER."—*Ernestine Wienkoop*, Chicago, Ill. Application filed October 18, 1882.

2,837.—Title: "TOODLES."—*G. W. Gail & Ax*, Baltimore, Md. Application filed November 2, 1882.

PATENTS

GRANTED NOV. 28, 1882.

267,991. ANTI-FRICTION BEARING. JOHN G. AVERY, Spencer, Mass. Filed May 5, 1882. (No model.)

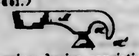


Claim.—1. In an anti-friction bearing, a long-roll shell composed of cylindrical rollers, shouldered rods, and a pair of end rings drilled to receive the tightly-driven reduced ends of said rods, and provided with cells to retain and expose the ends of said rollers, as herein specified, for the purposes set forth.

2. The combination of the cylindrical rollers A, shouldered rods B, end rings, C, hardened sleeve D, packing-rings E, internally-hardened outer shell, F, and cap-rings G, substantially as shown, for providing line-shafting with a long-roll anti-friction bearing at any point, as herein set forth.

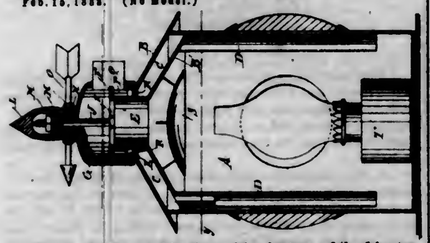
3. The mode of applying a long-roll anti-friction bearing to line-shafting at any point, substantially as hereinbefore specified.

267,992. CLAMPING DEVICE FOR SEWING-MACHINE ATTACHMENTS. RUSSEL S. HARSOM, Chicago, Ill. Filed Sept. 1, 1881. (No model.)



Claim.—A clamping device consisting of an attachable and detachable plate, having at one end a semicircular recess, *a*, forming the engaging-point *a'* at one side thereof, and a set-screw attached to said plate and having its head extending partly over the recess to bind against a rod or other device on which the plate can be adjusted, substantially as described.

267,993. LANTERN. DAVID C. BAUSHMAN, Albion, Ind. Filed Feb. 15, 1882. (No model.)



Claim.—1. The combination, with a lantern, of the false top B' and the tubes D, extending downward in the interior of the lantern from the air-chamber C, formed by the false top B', substantially as herein shown and described, and for the purpose set forth.

2. The combination, with a lantern, of the exterior chimney, E, the interior chimney, E', and the flange F at the upper edge of the interior chimney, E', substantially as herein shown and described, and for the purpose set forth.

3. The combination, with a lantern, of the exterior chimney, E, the interior chimney, E', the flange F, and the cowl G, substantially as herein shown and described, and for the purpose set forth.

4. The combination, with a lantern, of the exterior chimney, E, the interior chimney, E', the pintle J, the cowl G, provided with a threaded tubular projection, H, and the cap I, substantially as herein shown and described, and for the purpose set forth.

5. The combination, with a lantern, of the exterior chimney, E, the interior chimney, E', the pintle J, the cowl G, the cap I, and the weather-vane O, substantially as herein shown and described, and for the purpose set forth.

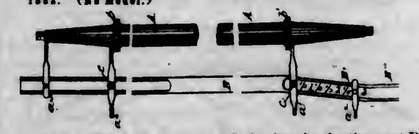
6. The combination, with a lantern, of the exterior chimney, E, the interior chimney, E', the pintle J, the cowl G, and the nut M, substantially as herein shown and described, and for the purpose set forth.

267,994. COMPOSITION AND BURNISHING LUBRICANT. GEORGE S. BOUTWELL, Providence, R. I. Filed May 18, 1882. (No specimens.)

Claim.—1. The burnishing composition herein described, applied for burnishing, or burnishing and coating, other metals with gold, or such metal as may be desired, by drawing, rolling, or pressure in any manner.

2. The combination of any lubricant with metal and the application of the same for the purpose of burnishing, or coating and burnishing, the metals operated upon by friction, rolling, or pressure of any kind, substantially as hereinbefore described.

267,995. AXLE-GAGE. ROBERT BOYCE, Oakfield, N. Y., assignor of one-half to James Boyce, same place. Filed Apr. 8, 1882. (No model.)



Claim.—The long narrow bar B, having the slanting part B' and straight end B'', and with the movable gaging-pegs *a'*, *a²*, *a³*, and *a⁴* thereon, said bar being divided into suitable measuring-spaces, and in connection with said pegs giving the set and gather of axles, substantially as specified.

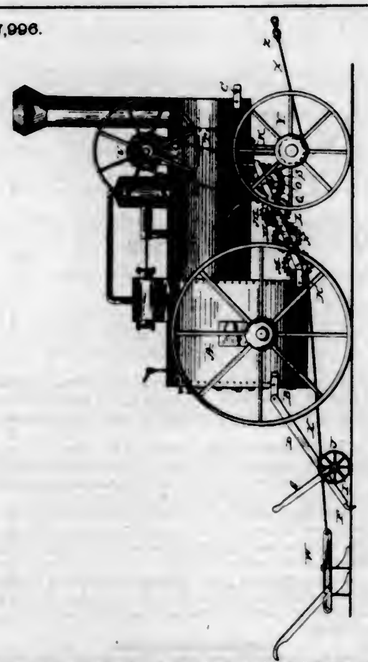
267,996. STEAM PLOWING APPARATUS. NEWTON W. BRADLEY, Ogden, Mich. Filed July 5, 1882. (No model.)

Claim.—1. The combination, with a portable engine adapted to remain stationary during the operation, and provided with a continuous gear-wheel and pulley mechanism, of a drag cable or chain adapted to draw the plows by passing over and through the pulleys, being fed out at the forward end and arranged to be paid out at the rear end by releasing the clutch mechanism when the engine moves forward to take another stand, substantially as set forth.

2. The combination, with the engine having a rack or bracket, in which is journaled a train of gear-wheels carrying grooved pulleys or disks, the end one of which is connected by a suitable clutch mechanism with a drive-wheel, of the cable or drag chain carrying the plows and passed alternately under and over said pulleys and fed out at the end, substantially as set forth.

3. The combination, with the engine having brackets K K,

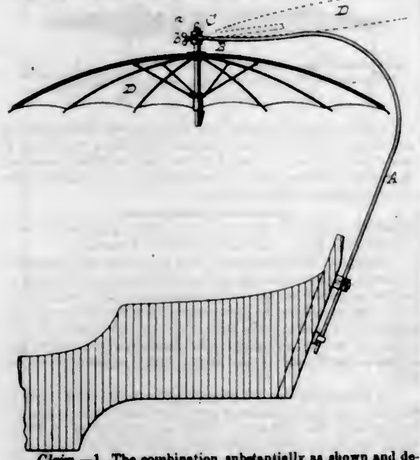
267,996.



supporting an inclined rack, in which are journaled gear-wheels carrying pulleys, and having a pulley, Y, on its front axle under the said train, of the drag cable or chain passing alternately under and over said pulleys and out under pulley Y, substantially as set forth.

4. The combination, with the engine carrying suitable pulleys, through and under and over which passes the drag cable or chain, and having brackets at its end, of the brake or anchor pivoted to the latter, comprising side pieces having a cross-piece at the bottom provided with grab-teeth, and levers pivoted to the side pieces, and having a cross shaft or axle carrying wheels or rollers, substantially as set forth.

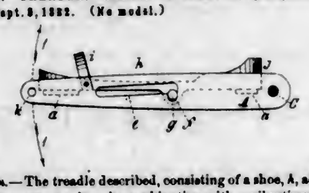
267,997. TOP FOR CARRIAGES. ROBERT G. BUTTON, Springfield, Vt. Filed Jan. 12, 1882. (No model.)



Claim.—1. The combination, substantially as shown and described, of a parasol having a stick, c, and a standard, A, having the jaws B and a ring, C, pivoted therein, in which ring the stick is secured by means of a set-screw, *b*, the construction being such as that the parasol may depend over the body of the carriage or be folded and turned backward over the top of the standard.

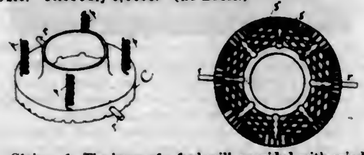
2. In a parasol for children's carriages, a swivel-ring provided with a set-screw, as and for the purpose described.

267,998. TREADLE. FRANCIS H. BURROWS, Springfield, Ill. Filed Sept. 8, 1882. (No model.)



Claim.—The treadle described, consisting of a shoe, A, adapted to oscillate upon an axis, *g*, in combination with a vibrating frame, A, provided with slots *l l*, adapted to receive the ends of the axis *g*, and terminating rearward in notches *f f*, said frame A having cross-bars *a a*, to support the shoe when the axis *g* is drawn back into the notches *f f*, so that when in the latter position the shoe and frame A may vibrate together as if made in one piece, and when in the forward position said shoe shall be clear of the supports *a a* and be free to vibrate upon the axis *g*, all the above parts being constructed and combined for united operation, substantially in the manner and for the purpose herein set forth.

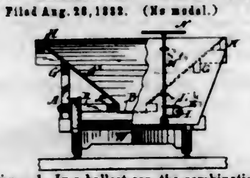
267,999. FEED-MILL. THOMAS C. CARWEAN, Springfield, Ohio. Filed July 5, 1882. (No model.)



Claim.—1. The burrs of a feed-mill, provided with grinding-surfaces consisting of radial tapering grooves extending and gradually increasing in depth from the eye to a point near the skirt, diagonal grooves between the radial grooves, and short grooves extending from the skirt to the diagonal grooves, for the purpose set forth.

2. In a feed-mill, the combination, with a burr-chamber having slots in its wall, of burrs within the burr-chamber, the upper one being provided with pins which fit within the slots in the burr-chamber, and springs upon its upper surface, and a plate which supports the hopper, compresses the springs, and covers the slots in the burr-chamber, for the purpose set forth.

268,000. BALLAST-CAR. THOMAS P. CORDREY, Massillon, Ohio. Filed Aug. 26, 1882. (No model.)



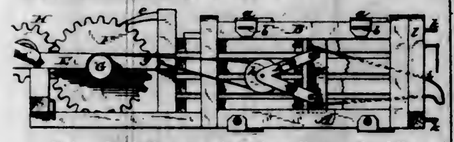
Claim.—1. In a ballast-car, the combination of the bottom frame thereof and a series of transverse rods, D, secured thereto, with a horizontally-movable plate, B, having bearing-wheels resting upon said rods, and mechanism for moving said plate sidewise from either end of the car, substantially as and for the purpose described.

2. The combination of the frame of a car, carrying a hopper-receiver, and a series of transverse rods, D, pendent therefrom, a horizontally-movable plate, B, and its bearing-wheels P, with rod E, extending the length of the car, guide-pulleys K, chains F and F', wound upon said rod E in opposite directions, and mechanism for rotating said rod E from the end of the car, substantially as described.

3. The combination of the frame of a ballast-car, a series of transverse rods, D, pendent therefrom, the plate B, and its bearing-wheels, with rod E, extending the length of the car, chains F and F', wound upon said rod E in opposite directions, and secured on opposite sides of the plate B, pulleys K, sprocket-wheel I, chain L, and rod M, substantially as and for the purpose described.

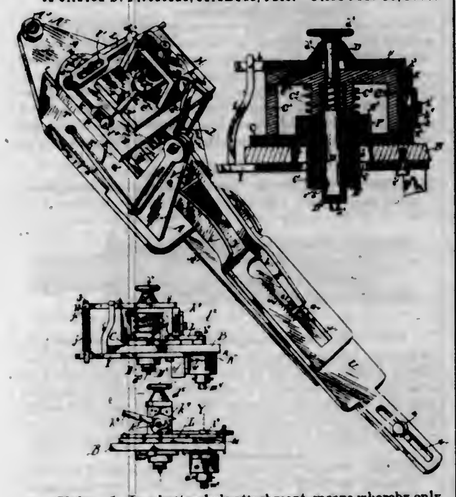
4. The combination of the frame of a ballast-car, having its sides inclined toward the central opening, with the scraper or leveler W, having its sides converging and united to form an acute edge over the center of the track, and its suspension-hooks *w*, whereby said scraper is adapted to swing over the track, substantially as shown and described.

268,001. BALING-PRESS. EPHRAIM B. CUNNINGHAM, Gap Creek, Tenn. Filed Apr. 13, 1882. (Model.)



Claim.—In a baling-press, the horizontally-operating follower M, having connected thereto the sliding and adjustable bars L, in combination with the stirrups K, carrying pulleys A, and the rope *g*, connected to means, substantially as shown, for operating the follower, as set forth.

268,002. BUTTON-HOLE ATTACHMENT FOR SEWING-MACHINES. SPAULDING CUTLER, Cincinnati, assignor of one-half to Clinton D. Firestone, Columbus, Ohio. Filed June 16, 1879.



Claim.—1. In a button-hole attachment, means whereby only the upward travel of the needle-bar shall impart motion to the attachment, while retaining a positive connection between the needle-bar and the attachment, said means consisting of the slide-rack T, gear N n', cylinder O O^2, and ratchet-teeth O^2 P, in combination with convenient means for communicating the movements of the needle-bar to slide T, substantially as and for the purposes specified.

2. The combination of standard Q, levers R S, rod S', slide-rack T, gear N n', cylinder O O^2, and ratchet-teeth O^2 P, substantially as and for the purposes specified.

3. In a button-hole attachment, the combination, with slide-rack T, gear N n', cylinder O O^2, and ratchet-teeth O^2 P, of the levers R S and rod S', substantially as and for the purposes specified.

4. In a button-hole attachment, the combination, with suitable means for transmitting motion to the goods from the upward travel only of the needle-bar of the sewing-machine, of crank plate or disk M, pin P^2, lever L l' b^2, pivoted to plate B, sliding plate C e b^4, adapted to slide on plate B c', stem D d^2, and feed-plate U u^2, substantially as specified.

5. The combination of crank plate or disk M, pin P^2, lever L l' b^2, pivoted to plate B, sliding plate C e b^4, adapted to slide on plate B c', stem D d^2, and feed-plate U u^2, substantially as and for the purposes specified.

6. The combination of disk M, pinion *n*, disk N n', cylinder O, provided with grooves O^2, ratchet-teeth O^2 P, and connecting-shaft m^4, substantially as and for the purposes specified.

7. The combination, with disk M and mechanism intermediate between same and the feed-plate, of the attachment for enabling the disk M to impart a lateral movement to the feed-plate, of means for regulating the amount of motion transmitted by the disk M to the plate C, through the plate C to the feed-plate of the attachment, said means consisting of the slide m^3, dovetailed into the groove m' in the disk M, and the binding-screw P^3, substantially as described.

8. The combination, with the lever L l' b^2 and disk M, of means for regulating the amount of motion transmitted to the plate C, and by the plate C to the feed-plate of the attachment, said means consisting of the slide m^3, dovetailed into the groove m' in the disk M, and the binding-screw P^3, substantially as described.

9. In a button-hole-sewing attachment, means for producing an oblique movement of the feed-plate, consisting essentially of slotted rod L' P^2, dog G *g*, the plate B, its screws *c'*, the plate C, having the oblique slots *e*, reciprocating box F, flanged sleeve E E' *c'*, stem D *d'* d^2, gear D^2, and feed-plate U u' u^2.

10. In combination with reciprocating box F, the retracting-spring C^2, secured by one end to the box and by the other end to the stationary bridge C^2 on plate C, substantially as specified.

11. In combination with slotted rod L' and box F, the dog G, provided with screw-threaded end, and thumb-nut P^3, whereby the amount of motion transmitted to the dog may be modified, so as to regulate the longitudinal movement of the feed-plate, substantially as specified.

12. In combination with slotted rod L' P^2, the dog G, provided with screw-threaded end, and the thumb-nut P^3, stop-pin c^2, whereby the amount of motion transmitted to the dog may be modified, so as to regulate the longitudinal movement of the feed-plate, substantially as specified.

13. In combination with sliding rack T, the guide-flange a' b' and plate A, B, and Q', substantially as and for the purposes specified.

14. In combination with the base-plate A of a button-hole attachment, the hollow adjusting-screw A^3 A^4 and jam-nut A^5, substantially as and for the purposes specified.

15. In combination with the base-plate A of a button-hole attachment, the clamping-jaw Z z z' z^2, substantially as and for the purposes described.

16. The combination of the spindle D and pinion D^2, the lever H h^2, fulcrumed to standard h' upon lever I, and means by which the spindle may be elevated, so as to be disengaged from the feed-plate, substantially as and for the purposes specified.

17. In combination, the sliding plate C C', that carries spindle D, and the slotted lever I i', fulcrumed on plate B at i, with suitable mechanism for connecting the free end of said lever with or disconnecting it from the feed-plate U, substantially as described.

18. In combination with the spindle D and pinion D^2, the lever H h^2, fulcrumed to standard h' upon lever I, slide k^2, cam-lever k', and fulcrum *k*, by means of which the spindle may be elevated, so as to be disengaged from the feed-plate, substantially as and for the purposes specified.

19. In combination, the feed-plate U, with its rack u', spindle D, pinion D^2, spring *d*, secured between the shoulder upon the spindle and the under surface of bridge C^2, and adapted to force the spindle and pinion into contact with the feed-plate, substantially as described.

20. In combination, the feed-plate U, with its rack u', spindle D, pinion D^2, lever H, bridge C^2, and spring *d*, thumb-nut d^3, having a threaded connection with the upper end of the spindle and adapted to receive the pressure of lever H when operated to elevate the spindle, and to furnish a means for regulating the extent of the downward movement of the spindle, substantially as described.

21. In combination, the spindle D, lever I, standard h', lever H and means for elevating it, rod J j' j^2 j^3, spring *j*, feed-plate U, with its rack u', and guide V v', substantially as and for the purposes specified.

22. In combination, the spindle D, sleeve E, lever I, standard h', lever H and means for elevating it, rod J j' j^2 j^3, spring *j*, feed-plate U, with its rack u', and guide V v', substantially as and for the purposes specified.

23. In combination, the spindle D, sleeve E, and sleeve-axis C', lever I, standard h', lever H and means for elevating it, rod J j' j^2 j^3, spring *j*, feed-plate U, with its rack u', and guide V v', substantially as and for the purposes specified.

24. In combination, the feed-plate U, with its rack u', spindle D, pinion D^2, lever H, spring *d*, bridge C^2, thumb-nut d^3, and washer d^4, substantially as shown and described.

25. In combination, with feed-plate U u', accompanying guide-plate V v', spindle D d^2, pinion D^2, and plate C C', bridge C^2, the lever I, standard h', and lever H, spring *d*, nut d^3, slide k^2, cam-

lever h^2, fulcrum k, rod J f^2 f^2 f^2, and spring j, all combined to operate substantially as and for the purposes specified.

26. In combination with lever I, standard h', lever H h^2, and feed-plate U and guide V e', the rod J f^2 f^2 f^2, and spring j, combined to operate substantially as described, and for the purposes specified.

27. In combination with spindle D d^2, adapted to be operated obliquely by plates C C', in the manner shown, and the pinion D^2, adapted to be rotated through the medium of dog G, as shown, the feed-plate U, having slot-and-pin connection u u', with button-hole-shaped rack u', and correspondingly-shaped groove u^2, to operate substantially as and for the purposes specified.

28. The combination of lever R, lever S, rod S', slide-rack T, gear N n', cylinder O O^2, ratchet-teeth O^2 P, crank plate or disk M, pin P^2, lever L l^2 b^2, pivoted to plate B, sliding plate C e b^2, adapted to slide on plate B c', stem D d^2, and feed-plate U u^2, substantially as and for the purposes specified.

29. The combination of lever R, lever S, rod S', slide-rack T, gear N n', cylinder O O^2, ratchet-teeth O^2 P, crank plate or disk M, pin P^2, slotted rod L' l^2, dog G g, reciprocating box F, flanged sleeve E E' E^2, stem D d' d^2, gear D^2, and feed-plate U u^2 u u', substantially as and for the purposes specified.

30. The combination of lever R, lever S, rod S', slide-rack T, gear N n', cylinder O O^2, ratchet-teeth O^2 P, crank plate or disk M, pin P^2, lever L l^2 b^2, pivoted to plate B, sliding plate C e b^2, adapted to slide on plate B c', slotted rod L' l^2, the dog G g, thumb-nut l^3, reciprocating box F, flanged sleeve E E' E^2, stem D d' d^2, gear D^2, and feed-plate U u^2 u u', substantially as and for the purposes specified.

31. The combination of lever R, lever S, rod S', slide-rack T, gear N n', cylinder O O^2, ratchet-teeth O^2 P, crank plate or disk M, pin P^2, lever L l^2 b^2, pivoted to plate B, sliding plate C e b^2, adapted to slide on plate B c', stem D d^2, feed-plate U u^2, lever H h^2, standard h', spring C^2, spring d, nut d', means for elevating rear end of lever H, said means preferably consisting of slide k^2, cam-lever k', fulcrum k, guide V e', rod J f^2 f^2 f^2, and spring j, substantially as and for the purposes specified.

32. The combination of lever R, lever S, rod S', slide-rack T, gear N n', cylinder O O^2, ratchet-teeth O^2 P, crank plate or disk M, pin P^2, lever L l^2 b^2, pivoted to plate B, sliding plate C e b^2, adapted to slide on plate B c', slotted rod L' l^2, dog G g, thumb-nut l^3, reciprocating box F, flanged sleeve E E' E^2, stem D d' d^2, gear D^2, feed-plate U u^2 u u', lever H h^2, standard h', spring d, spring C^2, nut d', means for elevating the rear end of lever H, said means preferably consisting of slide k^2, cam-lever k', fulcrum k, guide V e', rod J f^2 f^2 f^2, and spring j, substantially as and for the purposes specified.

33. The combination of a support, as Q Q', lever R, lever S, rod S', slide-rack T, gear N n', cylinder O O^2, ratchet-teeth O^2 P, crank plate or disk M, and mechanism for communicating to the feed-plate U a transverse reciprocating motion, and the dog G g, reciprocating box F, sleeve E E', stem D d' d^2, gear D^2, and feed-plate U u^2 u u', substantially as and for the purposes specified.

34. The combination of a support, as Q Q', lever R, lever S, rod S', slide-rack T, gear N n', cylinder O O^2, ratchet-teeth O^2 P, crank plate or disk M, and mechanism for communicating to the feed-plate a transverse reciprocating motion, and the dog G g, reciprocating box F, sleeve E E', stem D d' d^2, gear D^2, and feed-plate U u^2 u u', and mechanism for elevating the spindle and causing the latter to be disengaged from the feed-plate and its said rack, substantially as and for the purposes specified.

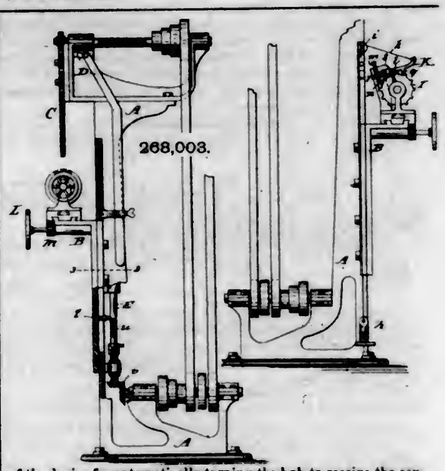
35. In a button-hole sewing attachment, means for producing an oblique motion of the feed-plate, consisting essentially of the plate B, its screws or studs c', the plate C, having the oblique slots c, mechanism by which the plate C is reciprocated, stem D d' d^2, gear D^2, and feed-plate U u^2 u u', and mechanism connecting said stem and feed-plate, substantially as and for the purposes specified.

268,008. ENDLESS-CHAIN MORTISING-MACHINE. TAYLOR E. DANIELS, Chicago, Ill., assignor to the American Chain Mortising Machine Company. Filed Apr. 15, 1882. (No model.)

Brief.—Automatic mechanism is provided for raising and lowering the table and for intermittently rotating the hub-centers.

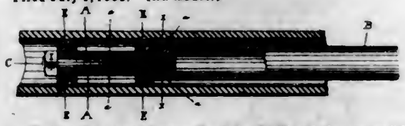
Claim.—1. In a mortising-machine, in combination with the frame, table, endless-chain saw, and mechanism for driving the same, the device for automatically raising and lowering the table, consisting of the vertical rotary shaft E, provided with the right-and-left screw u, in combination with the swiveled and forked arm t, projecting from the table, the whole being constructed and arranged to operate substantially as described.

2. The combination, with the table of a hub-mortising machine and with mechanism for raising and lowering the table, and with mechanism for securing the hub in position upon the table,



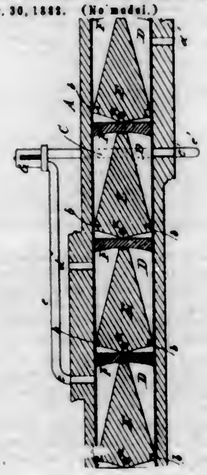
of the device for automatically turning the hub to receive the consecutive mortises, consisting of the ratchet-wheel I, rigidly connected to the chuck, pawl K, fulcrumed to a suitable brace and provided with the vertical arm q and laterally-projecting pin p, bar n, sliding longitudinally in guides and provided with the slot o, into which the pin p enters, cord k, pulley i, weight h, and a suitable spring holding the pawl in opposition to said weight, the whole being constructed and arranged to operate substantially as described.

268,004. GUN-SWAB. JAMES F. DAVIS, Fall River, Mass. Filed July 3, 1882. (No model.)



Claim.—In a gun-cleaner, the disks E' E' and the expansible swabs E E, held between said disks, in combination with the perforated cylinder C, having at one end a fixed head, I, and at the other end a screw-thread, x, together with the sleeve A, engaging with said cylinder C by means of the slot b and pin c, and having perforations e e, to discharge the cleansing-fluid from the duct a between said swabs E E, substantially as and for the purpose specified.

268,005. ROTARY ENGINE. JOHN T. DAVIS, New York, N. Y., assignor to Orrill Davis and Louis J. Pomvort, same place. Filed Mar. 30, 1882. (No model.)



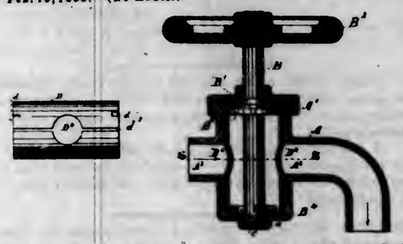
Claim.—1. A rotary engine having laterally-swinging valves pivoted in separate chambers of a piston-wheel turning between the flat sides of a steam-cylinder and receiving steam on opposite sides thereof, whereby said valves are cushioned by the steam after it has been used, as described.

2. The combination, with a case, chambers, and cylinder, of pistons F, controlling the inlet and outlet of the steam and causing it to enter first on one and then on the other sides of the valves, for the purpose specified.

3. The combination, with the steam-cylinder of a rotary engine, of four valves arranged to operate in pairs, as described, whereby the area of two pistons is secured in the same cylinder, for the purpose set forth.

4. In a rotary steam-engine having the cylinder A, chambered wheel C, and swinging valves E, the combination of the safety-valve G with the exhaust-ports e e', for limiting the steam-pressure on the exhaust side of the piston F, and valves E, as herein specified.

268,006. STOP-COCK. JOHN L. DIBBLE, Brooklyn, N. Y. Filed Feb. 16, 1882. (No model.)



Claim.—1. In a stop-cock, the elastic plug-shell D, formed of a single piece of metal, in combination with a turning shaft, B, and connections thereto, which allow the shell to be expanded by the pressure of the fluid, and with the casing A, having the waterway A^3 A^3, as herein specified.

2. In a stop-cock, the elastic plug-shell D, in combination with a soft exterior facing, E, and with the shaft B, arms B^3 B', and inclosing-case, A, as herein specified.

3. In a stop-cock, the compound elastic shell D, composed of two thicknesses of sheet metal, D' D^3, arranged, as shown, so that the joint of one shall come opposite a continuous portion of the other, as herein specified.

4. The casing A, shaft B, elastic shell D, arms B^3 B', thereto, conical surface B', and spring C, arranged to serve relatively to each other and to the casing A of a stop-cock, as herein specified.

5. The elastic shell D, compounded of two layers of tapering thickness, arranged as shown, and provided with the engaging projection d^3 and the aperture d^3, in combination with the operating-shaft B, with its arms B^3 B', conical surface B', spring C, and inclosing-case A, arranged for joint operation, as herein specified.

268,007. COTTON-GIN RIB. THOMAS C. CARLISTON, Dadeville, Ala. Filed May 6, 1882. (No model.)



Claim.—1. A cotton-gin rib having an attachable and detachable wearing or re-enforcing plate secured to the rib by a fusible metal plug or filling, as and for the purpose set forth.

2. The attachable and detachable wearing or re-enforcing plate, having one end forked and the other end turned down or beveled, and provided with a hole in its face, in combination with the gin-rib having side notches and central projection, a transverse undercut groove and hole coinciding with the hole in the plate, for receiving a plug of fusible metal, as and for the purpose set forth.

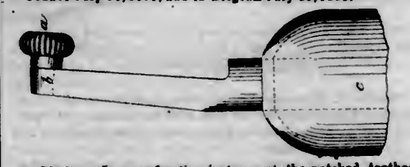
268,008. GIG-SADDLE. JOSIAH B. GATHRIGHT, Louisville, Ky. Filed Apr. 11, 1882. (No model.)



Claim.—1. As an improvement in gig-saddles, the long pad provided with a lining cut practically straight and stuffed throughout of uniform thickness, as shown and described, for the purpose set forth.

2. As an improvement in gig-saddles, the long pad stuffed throughout of uniform thickness and provided with a lining cut practically straight, in combination with a short pad, all as shown and described, and for the purpose set forth.

268,009. PERFORATING-INSTRUMENT FOR PRODUCING STENCILS. DAVID GESTETNER, South Street, Charles Square, County of Middlesex, England. Filed Nov. 21, 1881. (No model.) Patented in England June 3, 1881, No. 2,460; in France July 19, 1881, and in Belgium July 30, 1881.



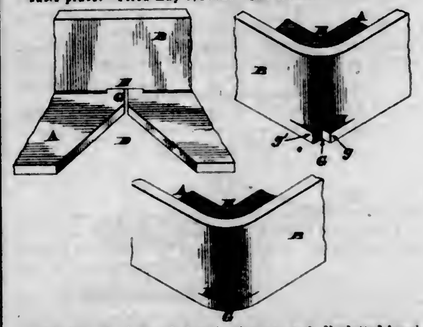
Claim.—In a perforating-instrument, the notched, toothed, or roughened wheel a, having the edge or periphery thereof of a curved or semicircular form, and provided with teeth or notches conforming with the shape of the said periphery, in combination with a suitable handle and an axle supporting said wheel, as and for the purpose set forth.

268,010. BENDING ANGLE-IRONS. GEORGE J. H. GOEBLER, Cincinnati, Ohio, assignor to the Mosler, Bahmann & Company, same place. Filed May 23, 1882. (No model.)



Claim.—An angle-iron having one of its webs, B, curved or notched angularly at C c c', the edge c of said notch being carried into the snout web A, while the opposite edge, c', is joined to said web A by a shoulder, D, as and for the purpose described.

268,011. BENDING ANGLE-IRONS. GEORGE J. H. GOEBLER, Cincinnati, Ohio, assignor to the Mosler, Bahmann & Company, same place. Filed May 5, 1882. (No model.)



Claim.—1. An angle-iron having one web, B, slotted longitudinally at H, while the other web, A, is notched at D, slotted transversely at G, and said iron then bent in the manner herein described.
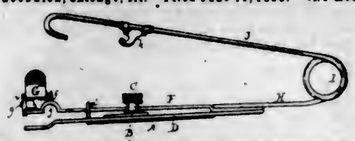
2. An angle-iron having one web, B, slotted longitudinally at H, while the other web, A, is notched at D, slotted transversely at G, and said iron then bent in the manner herein described, the projections g g' being subsequently removed, for the purpose stated.

268,012. THREAD CUTTER AND HOLDER FOR SEWING-MACHINES. HARRY C. GEORGICH, Chicago, Ill. Filed June 19, 1882. (No model.)



Claim.—The thread holder and cutter consisting of the plate A, having the holding portion a and the lip or prong a', and frame or support B, having the portions b b' and the shank b'', substantially as and for the purposes specified.

268,013. TUCK-MARKER FOR SEWING-MACHINES. HARRY O. GOODRICH, Chicago, Ill. Filed June 19, 1882. (No model.)

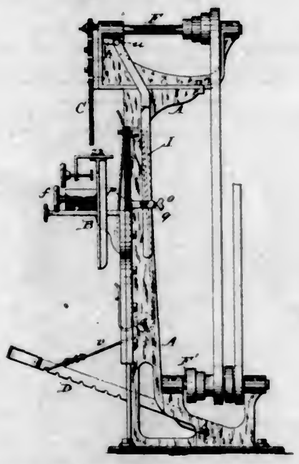


Claim.—1. A creasing device having a notch or recess of variable depth and adapted for use with a blade, and devices for supporting the parts and actuating the creaser, substantially as and for the purposes specified.

2. In a tuck-marker for sewing-machines, the horizontal plate carrying a creasing device which is operated by a vibrating arm and constructed at its forward portion with the bend j, which is capable of being opened or closed to lengthen or shorten the plate, and thereby adjust the creasing devices in proper line, substantially as described.

268,014. ENDLESS-CHAIN MORTISING-MACHINE. WILLIAM W. GREEN, Jr., Chicago, Ill., assignor, by mesne assignments, to the American Chain Mortising Machine Company. Filed Apr. 15, 1882. (No model.)

Brief.—The lower pulley of the cutting-chain is depressed by mechanism operated by the rising table and allowed to rise as the table descends. Thus the tension of the cutter-chain is relieved when the chain is not in use. The upper and lower pulleys are constructed in a peculiar manner.



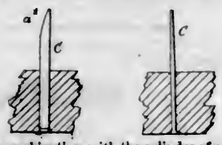
Claim.—1. In a mortising-machine, the combination, with the endless-chain saw C, mechanism for driving the same, table for supporting the object to be mortised, and mechanism for raising and lowering the table at will, of the plate G, terminating in a pulley at its lower end and fitting within the confines of the chain-saws, and mechanism, substantially as described, automatically operated by the movement of the table, for depressing the plate G as the table is raised and elevating it as the table is lowered, as and for the purpose set forth.

2. In a mortising-machine, the combination, with the endless-chain saw C, mechanism for driving the same, table B, for supporting the object to be mortised, and mechanism for raising and lowering the table at will, of the plate G, terminating in a pulley at its lower end and fitting within the confines of the chain-saw, and the bell-crank lever I, fulcrumed to the frame of the machine, and having its short arm connected to the plate G and its long arm hanging freely, and provided with a projecting bar, g, terminating in a roller, r, which extends for a short distance over the table when the latter is at its lowest point, substantially as described.

3. In combination with the endless-chain saw, driving-shaft and frame of a mortising-machine, and with the plate and pulley around which the saw moves, the driver E upon the revolving shaft F, formed of annular plates i and i', secured together, the plates i alternating with the plates i', and being provided with projections k, adapted to enter the interstices between the links of the chain-saw, substantially as described.

4. In combination with the frame, endless-chain saw, and driving mechanism of a mortising-machine, and with the plate G, around which the saw moves, the anti-friction pulley or sheave H, formed of a series of loose concentric rings upon a common axis, substantially as described.

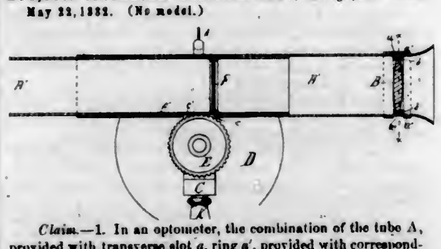
268,015. COVERING FOR THE CYLINDERS OF SHODDY AND RAG PICKERS. T. WALTER HARDING, Leeds, England. Filed Oct. 18, 1882. (No model.) Patented in England May 15, 1882, No. 2,353.



Claim.—1. The combination, with the cylinder of a rag-picker or similar waste-tearing machine, of a covering, D, having projecting pins C, with flattened sides and a thin working-edge, as herein described.

2. The combination, with the cylinder of a rag-picker or similar waste-tearing machine, of a covering with elongated holes C' cut therein, through which project pins with flattened sides, as herein described.

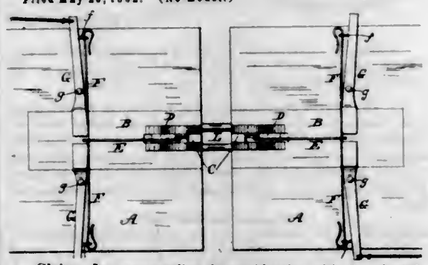
268,016. OPTOMETER. FRANCIS A. HARDY, Chicago, Ill. Filed May 22, 1882. (No model.)



Claim.—1. In an optometer, the combination of the tube A, provided with transverse slot *a*, ring *a'*, provided with corresponding slot, a^3, lens B, secured in said tube by said slotted ring and provided with shade *b'*, telescoping tube A', provided with the object-disk F, and rack *c*, and graduated disk D, and pinion E, mounted on stud C, all arranged and operating substantially as specified.

2. The combination of the lens, the movable object, and a graduated disk for indicating the amount of said movement, substantially as specified.

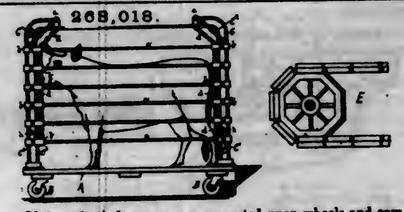
268,017. CAR-COUPLING. SAMUEL A. HAUSER, Winston, N. C. Filed May 20, 1882. (No model.)



Claim.—In a car-coupling, in combination with the pivoted coupling-hook, the spring-plate extending transversely across the bottom of the car, connecting-rod, and pivoted levers, constructed and arranged as hereinbefore described, for the purposes specified.

268,018. APPARATUS FOR TRANSPORTING ANIMALS. HENRY C. HICKS, Minneapolis, Minn. Filed Mar. 28, 1882. (No model.)

268,018.

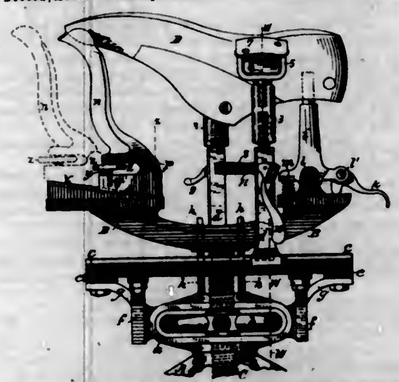


Claim.—1. A frame or cage mounted upon wheels and composed of upright supports, in combination with transverse side and end bars connected to brackets or blocks vertically adjustable on the upright supports, and mechanism for raising and lowering the bars, substantially as and for the purposes set forth.

2. A frame or cage for transporting animals, composed of upright supports and vertically-adjustable side and end pieces or bars, in combination with a removable runway having a traveling floor for carrying animals into the cage through its side or end, substantially as set forth.

3. A platform, A, standards C' C' C' C' C' C' C' C', collars *b*, rods *c*, and chains and cords *d e*, substantially as set forth.

268,019. LASTING AND PEGGING JACK. CALEB W. HODGDON, Boston, Mass. Filed Apr. 14, 1882. (No model.)



Claim.—1. In a shoe-jack, the combination of base A, formed or provided with part *a*, the wheel-nut *b*, seated in part *a*, screw C, actuated by said nut, and the last-supporting bed B, with its attached devices, carried by said screw and provided with means to secure it from rotation, substantially as specified.

2. The combination of base A, the last-supporting bed B, with means for vertically adjusting the same relatively to said base, and the clamp-supporting bars *c*, supported by base A, with the clamps arranged upon and supported by said bars, substantially as specified.

3. In a shoe-jack, the combination of bars *c*, having a head whose transverse or circumferential outline is an arc exceeding a half-circle, and the clamping-standards *d*, having a foot, 2, formed with a correspondingly-curved passage exceeding a half-circle, but of less extent than the curved line of said rails, whereby said standards can only be connected with or disconnected from said rails at the end thereof, but can be moved thereon to any desired point, and can be vibrated toward or from last D, substantially as specified.

4. The combination of standards *d* and clamping-blocks 6, vertically adjustable and pivotally mounted in said standards, substantially as specified.

5. The combination of standards *d*, sleeve 3, threaded thereon, and the clamping-blocks pivoted in said sleeves, substantially as specified.

6. The combination of clamping-blocks 6 and bracket 5, pivotally united, whereby said blocks are rendered self-adjusting relatively to the shoe, substantially as specified.

7. The combination of clamping-block 6, pivotally mounted in and supported by bracket 5, the said bracket provided with its supporting-stem 4, and standard *d*, formed to receive said stem and pivotally support the bracket thereby, substantially as specified.

8. The supporting-standards *d*, formed with an upper and lower section, jointed together and provided with a pivotal clamping-bolt, 12, whereby the upper section of said standards may be vibrated on its pivot parallel with last D, to conform block 6 with the top line of said last, substantially as specified.

9. The pivoted reversible clamping-blocks 6, formed upon one side with a curve conforming to the outer curve of the last-shank, and upon the opposite side with a curve of greater radius, to conform to the inner curve of the last-shank, substantially as specified.

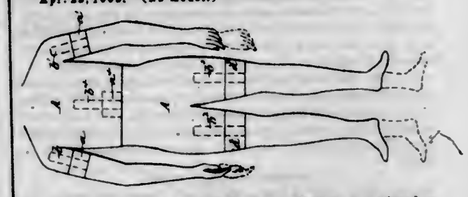
10. In combination with clamping-standards *d d*, the rod 8, its adjusting-nut 9, and pivoted cam-lever 10, all substantially as specified.

11. In combination with standards *d d* and rod 8, with means for actuating the same, the helical spring 11, mounted upon said rod, to force apart said standards by its expansive force when released, substantially as specified.

12. In combination with the standard *a*, the saddle *i*, pivotally united to said standard, and dovetailed or interlocked with and linearly adjustable upon bed B, and adjusting-screw *y*, with means for actuating it, substantially as specified.

13. In combination with bed B, the standard *i*, formed to engage last D, and pivoted to said bed, and the cam-lever *k*, and reacting-spring *m*, all substantially as specified.

268,020. DOLL. GEORGE H. HOWARD, Washington, D. C. Filed Apr. 22, 1882. (No model.)



Claim.—1. As a new article of manufacture, a sectional or extensible doll, substantially as hereinbefore described.

2. A doll having as parts of its trunk and members extensible joints, substantially as hereinbefore set forth.

3. A doll having combined with its trunk and members flexible tubes and pins adapted to fit therein, forming together extensible joints, substantially as hereinbefore set forth.

4. A doll formed in sections and provided with a clock-movement for automatically giving it extension, substantially as hereinbefore set forth.

5. A doll having its trunk formed in two sections united by a screw having a nut in one section and a fixed bearing in the other, said screw being driven by clock-work, substantially as hereinbefore set forth.

268,021. BUTTON. WILLIAM C. HOWARD, Brooklyn, N.Y. Filed June 3, 1882. (No model.)



Claim.—1. The combination, with the button provided with the interior disk having the central aperture, of the fastening-pin having a broad head and a point adapted to clinch or turn down over said disk, substantially as described.

2. The combination, with the button provided with the interior disk having the central aperture, of the fastening-pin having a broad head and a notch in its side at such a distance from its head as to engage with the edge of the aperture in said disk, substantially as described.

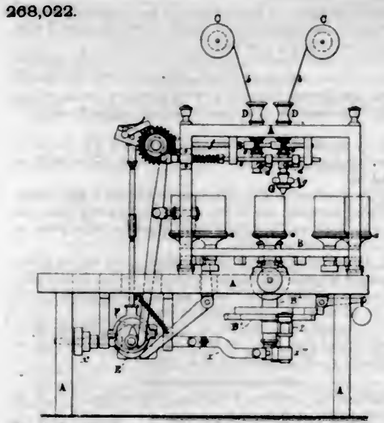
268,022. CAM-SOLDERING MACHINE. JOHN S. HULL, Baltimore, Md. Filed May 1, 1879.

Claim.—1. The combination, in a soldering-machine, of a solder-tube having a longitudinal slot, wheels with their faces confronting each other within the slot, and mechanism to operate one of the wheels, substantially as set forth.

2. The combination of a solder-tube, a solder-feed wheel mounted on a horizontal shaft, a ratchet-wheel adapted to turn the said shaft, a pawl mounted on a pivoted lever in such manner as to engage with the ratchet-wheel, an eccentric wheel, and means to connect the said lever and eccentric wheel, whereby the rotation of the eccentric gives to the solder-feed wheel an intermittent motion, substantially as set forth.

3. In a soldering-machine, the combination of a solder-tube, a horizontal slide-shaft, a solder-cutting knife secured to the slide-shaft, a spring attached to the shaft in such a manner as to keep

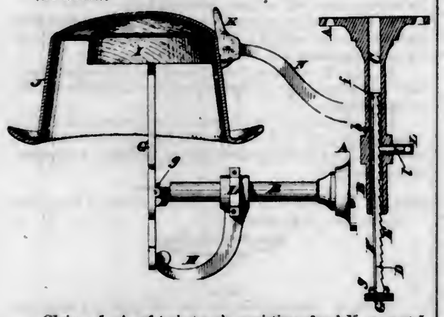
268,022.



the shaft, with the knife, normally retracted from the solder-tubes a pivoted lever attached to the shaft, and a cam in such a position as to move the lever, whereby power applied to rotate the cam causes the knife to cut the solder, substantially as set forth.

4. In a soldering-machine, the combination of a device to feed the solder wire with an intermittent movement, a solder-cutting knife, a movable table provided with can-seats, and mechanism, as described, to operate the said parts, whereby each part is made to perform its function in proper sequence, substantially as set forth.

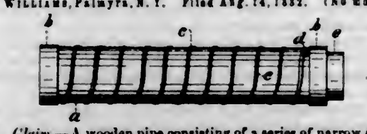
268,023. HAT-RACK. WILLIAM C. HUSS, Cincinnati, Ohio, assignor of three-fourths to Adolph Huss, Charles W. Huss, and Charles J. Steinau, all of same place. Filed Sept. 4, 1882. (No model.)



Claim.—1. A safety hat-rack consisting of pad K, support I, and rod G, which latter has a ratchet-bar, D E, traversing the socket B C, a lock, L *l*, being employed for securing the hat when it is clamped between said pad K and support I, as herein described.

2. The combination of tubular socket B C, sliding ratchet-bar D E, rod G, support I, hook H, pad K, and locking device L *l*, substantially as described.

268,024. WOODEN PIPE. LUMAN F. JOHNSON and IRA E. WILLIAMS, Palmyra, N. Y. Filed Aug. 14, 1882. (No model.)

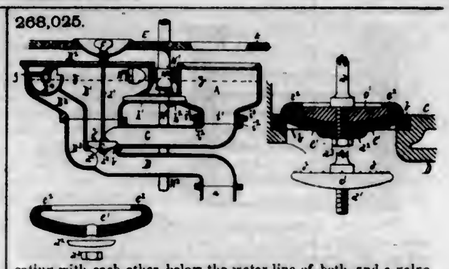


Claim.—A wooden pipe consisting of a series of narrow strips or staves, *a*, secured together by bands *b c*, and immersed in boiling coal-tar, so as to penetrate and coat the outside surface, substantially as and for the purposes specified.

268,025. WATER-CLOSET. FRANCIS W. KELLY, Minneapolis, Minn. Filed July 20, 1882. (No model.)

Claim.—1. In a water-closet, the combination of a deposit-bowl and a water-tank, both adapted to hold water and communi-

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cating with each other below the water-line of both, and a valve which, when opened, permits the contents of the bowl to be discharged and water to pass from the tank through the bowl in quantity sufficient to flush the bowl, substantially as and for the purpose set forth.

2. In a water-closet, the combination of a deposit-bowl and water-tank communicating between their upper and lower ends and having a tubular connection at their lower ends, in combination with a valve serving to cut off the tank from the tube communicating with the bowl, and also as a valve for controlling the discharge of the deposits from the bowl and the influx of water from the tank to the bowl, substantially as and for the purpose set forth.

3. The combination of tank B', provided with an overflow, B³, and having a contracted neck, bowl A, connecting with the tank by a flushing-tube, N' N², tube C, and a valve, *c'*, controlling the opening and closing of tube C, and fitting in the neck of the tank, so as to cut off the tank from tube C and cause the water to flow from the tank into the bowl through the flushing-tube, substantially as and for the purposes set forth.

4. The combination of the bowl A, tank B', connecting-tube N' N², and ventilating-tube N³, substantially as set forth.

5. The combination of bowl A, tank B', tubes G¹ G², ports *n' n²*, a valve for controlling the flow of water from one of said tubes to the other, and a float connected to and adapted to be moved to open and close said valve, substantially as set forth.

6. The tube D, having the valve-seat *b*, in combination with the valve consisting of the disk *c'*, rubber cushion *c'*, adapted to fold over the edge of said disk, and stem *d'*, substantially as set forth.

268,026. BUNG. JOSIAH KIRBY, Cincinnati, Ohio. Filed Sept. 2, 1882. (Model.)

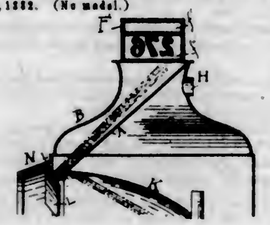


Claim.—1. A bung having a circular recess or incision in its top face and two incisions in its bottom face, said incisions penetrating the bung from opposite sides to one common plane, substantially as and for the purposes specified.

2. A bung having the circular recess or incision in its top face and the semicircular incisions *b* in its bottom face, said last-named incisions penetrating the bungs as far as a plane on a level with the bottom of the recess *a*, substantially as and for the purposes specified.

3. A bung having the circular recess or incision in its top face and the semicircular incisions *b* in its bottom face, said last-named incisions being placed transversely to the length of the grain of the bung, said incisions penetrating the bung from opposite sides to one common plane, substantially as and for the purposes specified.

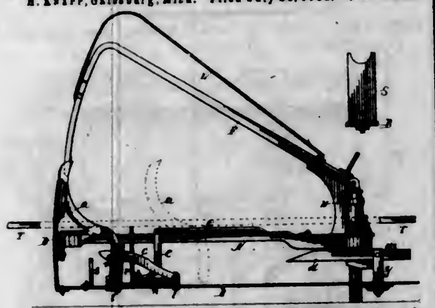
268,027. HEAD-LIGHT FOR LOCOMOTIVES. JOHN KIRBY, Jr., Ludlow, Ky., assignor to Post & Co., Cincinnati, Ohio. Filed Oct. 18, 1882. (No model.)



Claim.—1. A head-light case having a roof, C, divided by a partition to form two chambers, one a signal-light chamber and the other a chamber through which the products of combustion can pass to a suitable exit, as set forth.

2. A head-light case formed with a roof, C, having a signal-box above the partition-plate A, which plate extends from the rear of the box toward the front of the reflector, and an opening in rear of the partition-plate for the passage of the products of combustion.

268,028. BUNDLE-DIVIDER FOR GRAIN-BINDERS. WILLIAM H. KNAPP, Galesburg, Mich. Filed July 24, 1882. (No model.)



Claim.—1. In a grain-binder, a blade adapted to be thrust in the grain which is being supplied for forming the gavels, and to be carried lengthwise through said grain by suitable means to separate the forming gavel from the grain-supply, substantially as set forth.

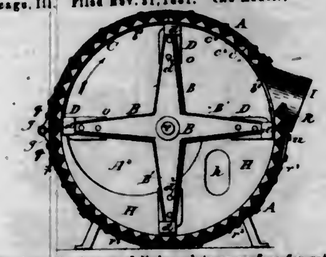
2. The combination, with the binding mechanism of a grain-reaper, of a carriage provided with a dividing-blade, a carriage-way, and means for moving said carriage back and forth, for thrusting the blade through the grain, and for locking and unlocking it, all substantially as specified.

3. In a grain-binder, a dividing-blade, combined with means for carrying it forward in a horizontal position, for thrusting it up through the grain, and for carrying it back in an upright position through said grain, all substantially as described.

4. The needle-bar and the lower bar having the same lateral swing, in combination with the carriage having the dividing-blade, the carriage-way, and the bars pivotally connected with said carriage and lower bar, all substantially as described and shown.

5. In a grain-binder, the carriage-way, the carriage provided with the pivoted blade and locking-lever, having the projections shown, the beveled bar for unlocking the blade, and the standard and guard for throwing the blade to an upright position, all in combination, substantially as set forth.

268,029. PULVERIZING-MACHINE. FREDERICK W. KRAUSE, Chicago, Ill. Filed Nov. 21, 1881. (No model.)



Claim.—1. A curved lining plate or surface for rotary pulverizing-machines, having intersecting ribs which form pyramidal indentations, substantially as described.

2. A lining for the cylindrical casing of a rotary pulverizing-machine, formed of curved segmental plates having diagonal intersecting ribs, substantially as described.

3. A lining or grinding plate for pulverizing-machines, formed of separable plates, said lining being provided with discharge-orifice, a portion of which is cut in each of two adjoining plates, substantially as described.

4. A lining or grinding plate for pulverizing-machines, having a beveled or inclined discharge-orifice, substantially as described.

5. The combination, with the cylindrical casing of a pulverizing-machine, of a protecting-plate having a broad upper portion, provided with an opening corresponding substantially with the delivery-orifice of the casing, and having the curved lower portion of decreasing breadth, substantially as described.

6. A spider for a pulverizing-machine, having tapering radially broad and axially narrow beater-carrying arms, substantially as described.

7. In a pulverizing-machine, the combination, with the driving-shaft, of oval or ellipsoidal beater-carrying arms, substantially as described.

8. The beater of a pulverizing-machine, having upon its side the projecting flanges to form a recess or seat for the beater-carrying arms, substantially as described.

9. A beater for pulverizing-machines, having an enlarged end and recessed sides, substantially as described.

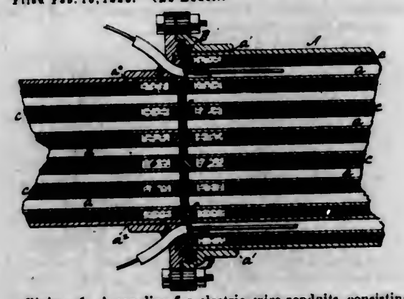
10. A beater for pulverizing-machines, having in one piece with the body of the beater the enlarged portion or head *d*, adapted to fit over the end of the carrying-arm, and a side flange, *e*, adapted to fit over and protect the forward edge of said arm, substantially as described.

11. The combination, with the casing of a pulverizing-machine, having a discharge-orifice located with respect to the revolving beater and the feed-opening, substantially as described, of an obliquely-inclined discharge-nozzle, substantially as set forth.

268,030. COMPOSITION ROOFING. MATTHEW LAFLIN, Chicago, Ill. Filed July 27, 1882. (No specimens.)

Claim.—A roof composed of a layer of clay, spread when wet or plastic upon the sheathing or boards, and covered with a layer of hydraulic-cement composition, substantially as specified.

268,031. INCREASING AND REDUCING JOINT FOR ELECTRIC-WIRE CONDUITS. CHARLES LIPPOLD, Pittsburg, Pa. Filed Feb. 15, 1882. (No model.)



Claim.—1. A coupling for electric-wire conduits, consisting of two inclosing collars or bands, constructed substantially as described, whereby they may be made to engage the ends of two adjacent sections of the conduit, provided with flanges by which they may be bolted together, the said collars being constructed to engage conduits of different sizes, and the lesser provided with an orifice or orifices for the exit or entrance of one or more conductors, substantially as set forth.

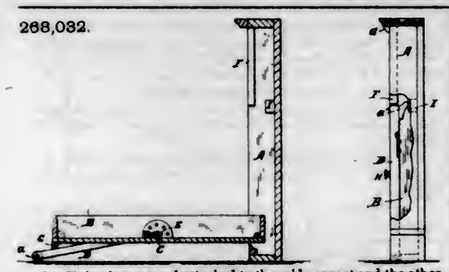
2. A coupling for electric-wire conduits, consisting of two inclosing collars or bands, constructed substantially as described, whereby they may be made to engage the ends of two adjacent sections of a conduit, provided with flanges by which they may be bolted together, the said collars being constructed to engage conduits of different sizes, one of said flanges having a packing-seat and the lesser flange provided with an orifice or orifices for the exit or entrance of one or more conductors, and an interposed flanged compressible or resilient non-conducting packing, substantially as and for the purpose specified.

3. The combination, with the conduits A and D, of unequal cross-sectional area, of the coupling flanged band or collar B, having the seat *b'*, the coupling flanged band or collar B', having the projection *b²* and orifice *a*, and the interposed flanged compressible non-conducting packing C, substantially as and for the purpose specified.

268,032. CABINET-BEDSTEAD. JAMES LOWTH, Chicago, Ill. Filed Mar. 18, 1882. (No model.)

Claim.—1. The combination, in a cabinet-bedstead, of a vertical case or cabinet, a folding mattress-support, the legs D D, pivoted to the said support by means of a rod or pivot, C, rigidly attached to one or both of the said legs, and the coiled neutralizing-

268,032.



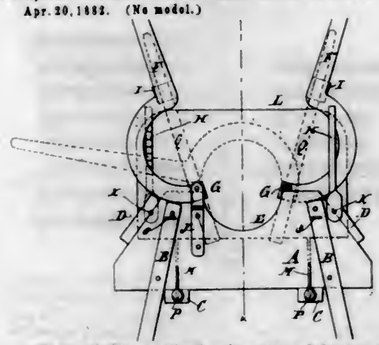
spring K, having one end attached to the said support and the other to the said rod or pivot, substantially as and for the purposes specified.

2. The combination, in a cabinet-bedstead, with the folding support B, of the yielding folding legs D D, pivoted to the central part of the said support and extending to the floor when the part B stands vertically in its case, and one or more neutralizing-springs, E E, operating in conjunction with the said legs and support B for the purpose of counterbalancing the weight of the latter while it is being folded and unfolded, substantially as specified.

3. The combination, in a cabinet-bedstead, of the folding support B, having thereon the laterally-extending bar or molding G, and the folding legs D D, adapted to serve as a rest or support for the ends of the said molding when the part B is arranged horizontally, substantially as and for the purposes specified.

4. The combination, in a cabinet-bedstead, of the folding support B, the folding legs D D, having on their upper ends the extensions a' a', and the ribs or moldings F F, located in the case or cabinet, substantially as and for the purposes specified.

268,033. FODDER-PRESS. JOHN LYNES, Price, Mo. Filed Apr. 20, 1882. (No model.)



Claim.—1. The combination, in a press, of the two notched side pieces, A, arranged and supported as described, and a pair of crooked levers, F, pivoted to each of said side pieces relatively to said notches, substantially as described.

2. The combination, in a press, of a notched side piece, A, having a pair of levers, F, and similarly-notched piece A', having arms Q, substantially as described.

3. The combination, in a press, of two side pieces, A, having levers F and an intermediate piece, A, having arms Q, substantially as described.

4. The combination of notched side pieces, A, levers F, ratchet-bars H, and catches I, substantially as specified.

5. The crooked levers F, in combination with notched side pieces, A, and being detachably pivoted to said side pieces, substantially as specified.

6. The combination of the ratchet-bars H with the crooked levers F and the notched side pieces, A, said ratchet-bars being pivoted to said side pieces, to be folded down along said side pieces, substantially as specified.

7. The combination of cross-pieces C with the notched side pieces, A, and the crooked levers F, said cross-bars having extension-handles P, substantially as specified.

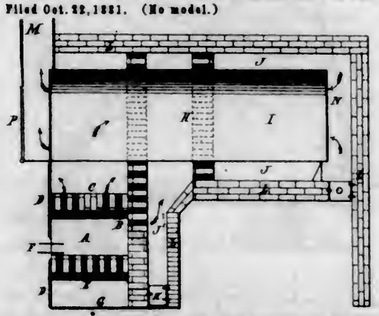
8. The combination of gage L with the notched side pieces, A, and levers F, substantially as specified.

9. The combination of gage L, detachable supports [illegible], hooks N, and eyes O, with the notched side pieces, A, and crooked levers F, substantially as specified.

268,034. MANUFACTURE OF INSULATING COMPOUNDS. HUGHSON MACKAY, London, England, assignor of one-half to Richard Edward Geoldes, same place. Filed Aug. 15, 1882. (No specimens.)

Claim.—The improved insulating compounds described, consisting of a mixture of mineral wax—such as paraffine-wax or ozocerite-wax—vegetable tar, (commonly known as "wood-tar,") shellac, and asbestus or other suitable dry fibrous substance—such as wood, flax, cotton, or paper in a dry powdered state—in substantially the proportions named, ground slate or silica or clay free from iron being sometimes employed in place of wax, substantially as and for the purposes described.

268,035. FURNACE. JOHN G. MCAULEY, New York, N. Y. Filed Oct. 22, 1881. (No model.)



Claim.—1. The combination, with combustion-chamber A and boiler I, of perforated bridge-wall B and perforated wall H, the latter extending from the bottom to the top of the heat-chamber J, and both of said perforated walls surrounding the boiler, substantially as and for the purpose set forth.

2. The combination of combustion-chamber A, provided with injector-tube F, perforated arched wall C in the top of the combustion-chamber, perforated hearth E, perforated bridge-wall B, boiler I, heat-chamber J, and chamber J', having door K, substantially as and for the purpose described.

3. The combination of the fuel and air pipe F with the combustion-chamber A, the perforated arched walls C and E, and the perforated bridge-wall B, substantially as described.

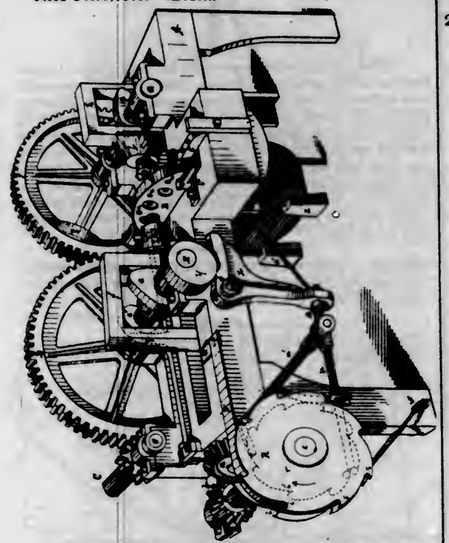
4. In a furnace and boiler, the combination of the following elements: the combustion-chamber A, the perforated bridge-wall B, the perforated arched walls C and E, the pulverized-fuel and air pipe F, the chamber J', the perforated wall H, the furnace L, and the boiler I, substantially as described.

268,036. ROCKING-CHAIR. SARAH A. MCCAFFERY and CATHARINE M. LEONARD, Boston, Mass. Filed June 23, 1882. (No model.)



Claim.—A rocking-chair having a convertible crib or work-box attachment, consisting of a bottom board adapted to slide under the seat of the chair, and provided with a suitable stop at its inner end, a side board rigidly attached to the outer end of said bottom board, a head-board hinged to one side of the bottom board and adapted to fold flat thereon, and provided with suitable hooks for supporting it when in upright position, and a foot-board composed of two strips hinged together, the lower strip being hinged to said bottom board, said foot-board being adapted to form an end piece for the box when in upright position, or a foot-rest for the crib when the lower piece is swung downward and the upper piece partially folded upward thereon, the upper strip being provided with hooks, which take into eyes on the chair-frame and end board when in the former position, and into eyes on the lower strip when in the latter position, substantially as described.

268,037. MACHINE FOR MAKING NUTS AND BOLTS. HUGH MCDONALD, Allegheny, and ROBERT A. CARTER, Pittsburg, Pa. Filed Dec. 3, 1880. (Model.)



Claim.—1. In machines for making bolts or nuts, having a revolving die-holder in which the dies are arranged circumferentially at uniform intervals, the combination of a ratchet-wheel furnished with two sets of ratchet-teeth in reverse directions, a feed-pawl and a locking-pawl pivoted together and attached to a lever, by which the feed-motion is effected, and a weight or weights by which both pawls are held in a locked position in relation to the ratchet-wheel for the purpose of communicating an intermittent motion of rotation to the die-holder and of holding it firmly in the exact desired position during each intermission of rotation, substantially as described.

2. In a machine for making bolts or nuts, having a revolving die-holder, the combination of a pivoted or rocking lever, a cam operating against one arm of such lever, a ratchet-wheel having two series of teeth reversely arranged, a feed and locking device consisting of two pawls pivoted together and connected with said lever, so as to operate in unison therewith, and a weight or weights to retain the pawls in a locked position when the lever is at rest, substantially as described.

3. The combination of the ratchet-wheel R, pawls u u', lever x, cam y, weight z, and brake-strap v, substantially as and for the purpose described.

4. The combination of the revolving die-holder B, having a uniform intermittent partial revolution, with the cam-yokes f and h, cams e, e', and e'', and cams g g', with their shafts, substantially as and for the purpose described.

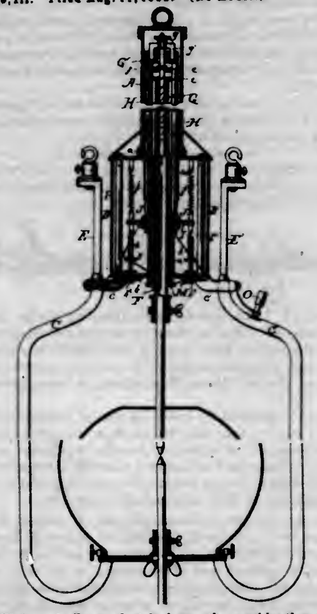
5. The combination of the revolving die-holder B, having an intermittent rotary motion, with the shaft G, wheel F, and its cam f'', with the cutters c' c'', substantially as and for the purpose described.

6. The combination of a die-carrier having a cylindrical threaded die-cavity of greater diameter at the front than at the rear, with a cylindrical threaded die having a flange or shoulder at its front end, corresponding with the anterior diameter of the die-cavity, substantially as and for the purposes described.

7. In combination with a revolving die-holder, a double ratchet-wheel composed of two disks arranged side by side, and having notches upon their peripheries inclined in the same direction, and a corresponding series of notches upon the sides of the disks, said notches inclined in the reverse direction to those on the peripheries of the disks, a brake-band for steadying the ratchet-wheel, and a feed-pawl and locking-pawl for imparting a uniform intermittent motion to the ratchet-wheel, substantially as and for the purpose specified.

8. The machine, comprehending a rotatable die-carrier, having a series of die-cavities adapted to receive the interchangeable nut and bolt dies, cam-yokes provided with heads adapted to receive interchangeable nut and bolt tools, as described, and shafts E and G, jointly with the interchangeable cams and supplemental cam-yoke, all combined and arranged substantially as and for the purpose specified.

268,038. ELECTRIC-ARC LAMP. JAMES MCLAUGHLIN, Chicago, Ill. Filed Aug. 11, 1882. (No model.)



Claim.—1. In an electric lamp, the combination of a screw, a friction-clutch attached to the upper end thereof, a carbon-holder suspended therefrom, and actuating electro-motive devices, as set forth.

2. In an electric lamp, the combination of the armatures fluctuating in the cores of an upper and lower series of helices, and the friction-clutch mounted on the top of a screw regulating the downward movement of the positive carbon, substantially as described.

3. The combination, with a screw, G, and friction-clutch g, of the counterpart box G', rods H, and bracket I, as and for the purpose set forth.

4. The combination, with the upper and more powerful helices, the lower helices, and the armatures fluctuating vertically in the hollow cores of the same, of the counterpart box of the friction-clutch.

5. The combination of the bracket, the armatures, and the counterpart box with the upper and lower series of contraction-springs and the nut and screw device, as hereinbefore shown, for regulating the tension of the same.

6. In an electric lamp, the upright and independent positive and negative posts, both of which are parallel to the vertical sides of the box B, extending upward to near the top of the same, the negative post being a continuation of the hanger C', but said positive post being thoroughly insulated in the bracket p, and connected by an insulated wire with the upper series of helices.

7. The combination, with the carbon-holder and the box B, of a nut, M, arranged on the end of an annular flange projecting downward around the central aperture in the bottom of said box, and adapted to hold in position a washer, r, as and for the purpose set forth.

8. The means of closing the circuit in an electric-arc lamp, consisting of a screw the thread of which terminates a suitable distance from its lower end, a carbon-holder suspended therefrom, and a bushing or head tapped to receive said screw, which is secured

in or on the upper end of said carbon-holder, and is adapted to work off said screw, thus allowing the carbon-holder to drop and close the circuit, substantially as set forth.

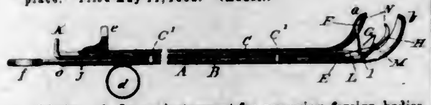
9. Mechanism for automatically regulating the relative position of the carbon points, consisting of an upper and lower series of helices, m' m' and n n, the armatures m, the bracket I, the rods H, the counterpart box G', the friction-clutch g, the screw G, and the carbon-holder.

10. In an electric lamp, a screw having a friction-clutch affixed to its upper end, through the medium of which it is actuated, and having a collar arranged below said clutch, the under surface of which is beveled and rests upon a suitable bearing in a diaphragm, through which said screw passes.

11. The combination of a screw having a clutch on the top end thereof, and the counterpart box of said friction-clutch, which is cup-shaped, and has in it a sufficient quantity of glycerine or other suitable liquid, which acts as a brake to regulate the revolutions of said screw.

12. The combination, with the carbon-holder and box B, of a washer or other suitable packing, arranged as hereinbefore described, for the purpose set forth.

268,039. SHEATHED BLADDER-FORCEPS. JOHN W. MERRILL, Jr., Concord, N. H., assignor to John W. Merrill, same place. Filed May 11, 1882. (Model.)



Claim.—1. In an instrument for removing foreign bodies from the bladder, a protecting-sheath or catheter and an extractor consisting of a shaft or shafts provided with hinged claws adapted to pass through the sheath, to permit the withdrawal of the claws and substance grasped thereby, substantially as hereinbefore described.

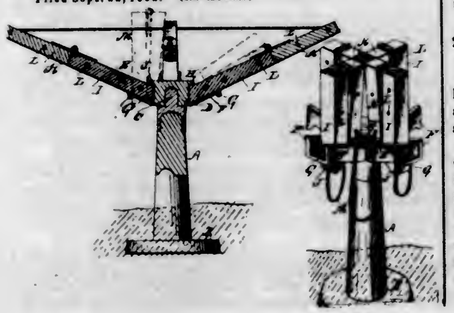
2. In an instrument for removing foreign bodies from the bladder, the combination, with the sheath or catheter, of an extractor consisting of a principal shaft provided with hinged or pivoted claws or grippers and an auxiliary shaft connected with said claws and adapted for closing them together by longitudinal movement of said auxiliary shaft, substantially as set forth.

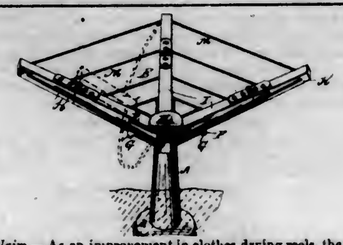
3. The catheter tube or sheath composed of the parts A' B', grooved together for permitting longitudinal movement between said parts, and respectively provided with male and female blades *a* and *b*, curved as shown, and made concave on the inner sides of both blades to a sufficient extent to receive and cover the claws of the extractor, which are adapted to swing back into the cavities of said blades in the manner substantially as set forth.

4. The combination, with the sheath or catheter-tube A, having a slot, O, of the extractor B, provided with claws F H and pin or lug J, for preventing revolution of the extractor when inserted in the sheath, as set forth.

5. The combination of the sheath or tube formed in two parts, A' B', grooved together for longitudinal movement, and respectively provided with curved hollow blades *a b*, the extractor B, extending through said tube, and provided with hinged claws F H, adapted to open into the cavities of said blades, the spring G for separating said claws, the auxiliary shaft C, the link L, connecting said shaft to the claw H, and the thumb-piece or handle for operating said claws when the instrument is inserted within the bladder, as set forth.

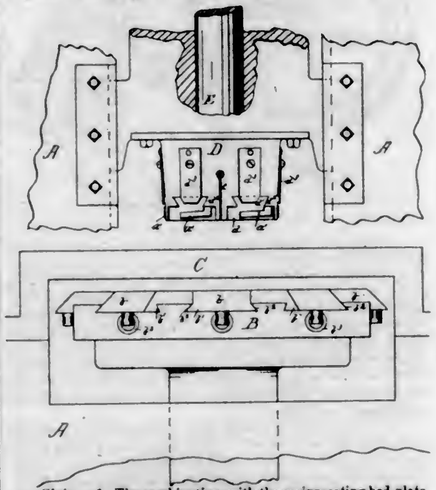
268,040. CLOTHES-DRIER. SAMUEL D. MORTON, Corry, Pa. Filed Sept. 22, 1882. (No model.)





Claim.—As an improvement in clothes-drying reels, the combination of the socket-piece or turn-table comprising the radial arms or flanges F and integral horizontal top plate, H, forming a platform, the radial pivoted line-arms I and the extensions K, hinged to the latter on their upper side, so that they may be turned over and rest on the arms F, and when the latter are turned up have their ends rest on top the flat platform H to relieve the hinges from strain, said extensions K being also adapted to be turned over on arms F to slack the line, so that it may be drawn down to facilitate removal of the clothes without interfering with the other lines, as set forth.

268,041. STAMPING MACHINE AND DIE. EDWIN NORTON, Chicago, Ill., assignor to himself and Oliver W. Norton, same place. Filed Aug. 7, 1882. (No model.)



Claim.—1. The combination, with the reciprocating bed-plate B, of radially-moving die-blocks *b*, mounted thereon, cam-ring C, reciprocating hollow head D, radially-moving punch-blocks *d*, mounted thereon, and reciprocating piston E, for actuating said punch-blocks, substantially as specified.

2. The combination, with movable bed-plate B, provided with dovetail radial grooves *b*', of movable die-blocks *b*, provided with dovetail projections *b*', stationary cam-ring C, and springs *b*', for retracting said die-blocks, substantially as specified.

268,042. CAR-COUPLING. THOMAS H. PROBAM, Winston, N. C. Filed May 4, 1882. (No model.)

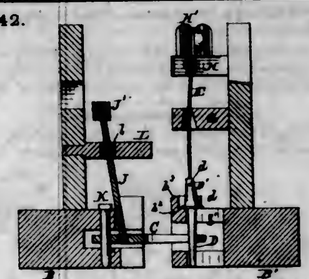
Claim.—1. In a car-coupling, the coupling-pin D, with enlarged shouldered conical head D', combined with a stop, G, and a draw-head having an elongated pin-hole and seat on its top edge, as hereinbefore set forth and shown.

2. In a car-coupling, the combination, with the pin D, with enlarged shouldered conical head D', stop G, and draw-head having a seat on its top edge, of the piece L, for tripping the coupling-pin, as and for the purposes described.

3. In a car-coupling, the coupling-link composed of the usual-shaped loop C, with perforated extension C' *c c'*, secured to the draw-head by a vertical removable pin, K, and having a rod, J, secured vertically thereto, operated by a horizontal arm, J', attached to said rod, as and for the purposes described.

4. In a car-coupling, the combination and arrangement of pin

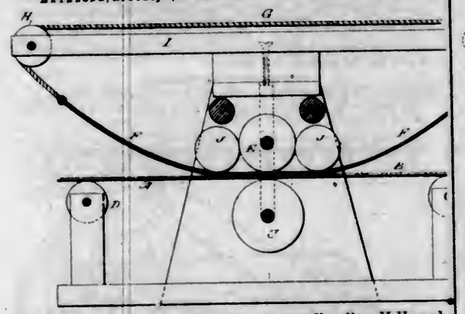
268,042.



D, with enlarged conical head, stop G, with tapered hole therein, draw-head B', with seat at its top front edge, and rope E, passing over pulleys at top and side of the car, for lifting and holding in a suspended vertical position the coupling-pin, as described.

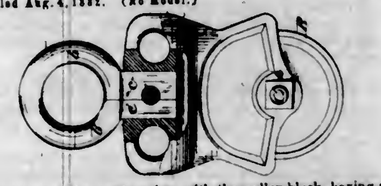
5. The combination and arrangement, in a car-coupling, with a draw-head having a seat on its top front edge, a weighted coupling-pin with enlarged conical head, a stop with conical seat for the pin, arranged on the end of one car, of a coupling-link secured to the draw-head by separate removable vertical pin, and having secured thereto a vertical rod with lever-arm, by which said link is operated, and a projecting piece acting to strike the coupling-pin and trip the same on the opposite car, all substantially as and for the purposes described.

268,043. LITHOGRAPHIC-PRINTING MACHINE. RANSOM RATHBURN, Brooklyn, N. Y. Filed Mar. 20, 1882. (No model.)



Claim.—The combination of the blanket F, pulleys H H, cord G, and loose rollers J J with the rollers E and C, the table A, and frame I, substantially as and for the purpose set forth.

268,044. PULLEY-BLOCK. WILLIAM SCHOLL, Marion, Pa. Filed Aug. 4, 1882. (No model.)



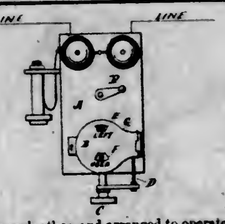
Claim.—The combination, with the pulley-block, having a socketed head, of a split ring having a split tenon and a coupling-bolt passing transversely through the said pulley-block head and through the tenon, constructed and operating substantially in the manner and for the purposes described.

268,045. TELEPHONE TOLL APPARATUS. JAMES W. SEE, Hamilton, Okla., assignor to the Yale Lock Manufacturing Company, Stamford, Conn. Filed Oct. 22, 1881. (No model.)

Claim.—1. In telephone toll systems, the combination, in connection with a counting-machine arranged to be actuated by the call apparatus, of an additive and a subtractive index, arranged to operate substantially as and for the purpose specified.

2. In telephone toll systems, the combination, in connection with a counting-machine arranged to be actuated by the call apparatus, of an additive index and a subtractive index adjustable

268,045.

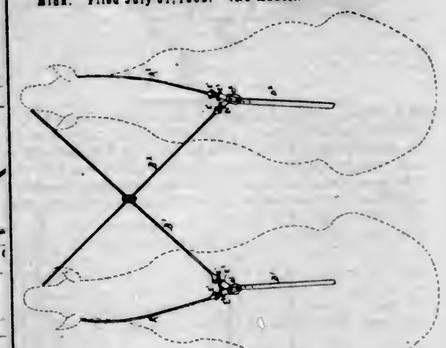


with reference to each other, and arranged to operate substantially as and for the purpose specified.

3. In telephone toll systems, the combination, in connection with a counting-machine arranged to be actuated by the call apparatus, of a progressive adjustable stop-piece and a fixed stop-lug adapted to make contact with each other and prevent improper progression of the counting machinery.

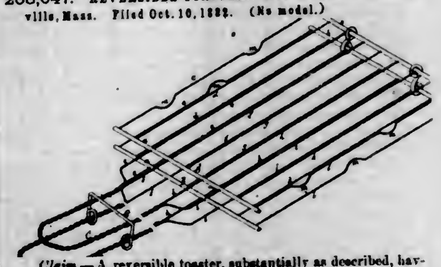
4. In telephone toll systems, the combination, with a movable piece of the calling apparatus, of a fixed stop-lug, a progressive stop-piece adapted to make contact with and be arrested by said stop-lug, and a suitable mechanism for converting and transmitting motion from said movable piece of the calling apparatus to said progressive stop-piece, substantially as and for the purpose specified.

268,046. DRIVING-REIN. WILLIAM S. SHARD, Castle Rock, Minn. Filed July 31, 1882. (No model.)



Claim.—The combination of the leading-reins A' A' B' B', driving-reins D' D', and swivels E' E', arranged and operating substantially as set forth.

268,047. REVERSIBLE TOASTER. ROGER SHERMAN, Somerville, Mass. Filed Oct. 10, 1882. (No model.)

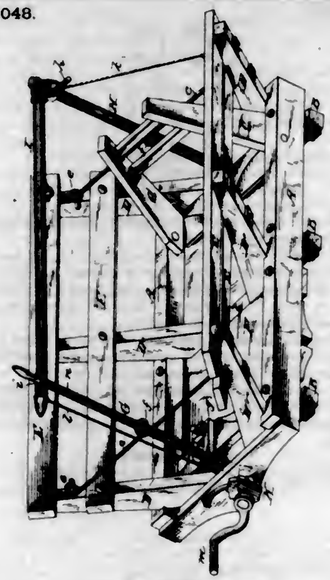


Claim.—A reversible toaster, substantially as described, having to each of its outermost grid-wires one or more projections or bends, *m*, arranged essentially in manner and for the purpose as set forth.

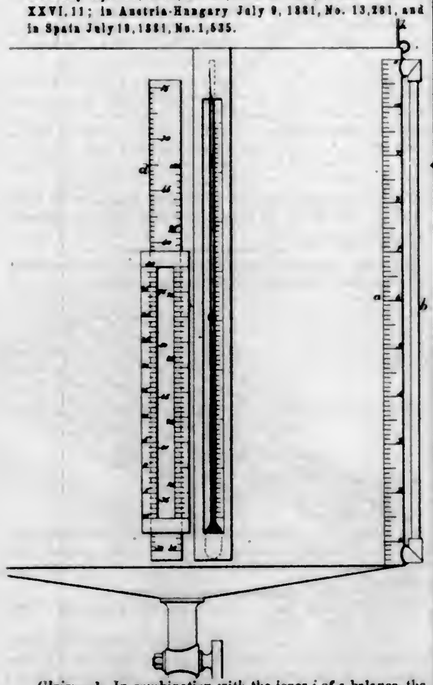
268,048. HAY-RACK. JOHN J. SIBBERT, McGirk, Mo. Filed Sept. 9, 1882. (Model.)

Claim.—In a hay-frame, the pivoted standards D, ratchet mechanism K, and the brace-rods *e*, having loop or eye *f*, in combination with the binder-pole I, cord *l*, and the removable upright G, provided with a series of holes, *n*, and passing through the eye or loop of the brace-rod and through an adjustable plate, *g*, substantially as and for the purpose set forth.

268,048.



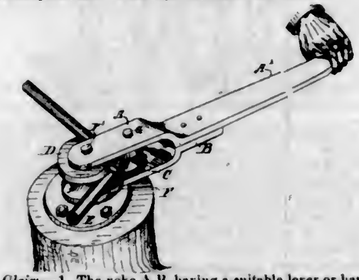
268,049. SPECIFIC-GRAVITY APPARATUS. THÉOPHILE BOGARD, Bordeaux, France. Filed June 22, 1881. (No model.) Patented in France Feb. 1, 1881, No. 140,817; in Belgium Apr. 12, 1881, No. 54,370; in England Apr. 14, 1881, No. 1,854; in Germany Apr. 27, 1881, No. 17,123; in Italy June 30, 1881, XXVI, 11; in Austria-Hungary July 9, 1881, No. 13,281, and in Spain July 19, 1881, No. 1,535.



Claim.—1. In combination with the lever *j* of a balance, the vessel adapted to be suspended therefrom, said vessel having the fixed scale *a*, gage *b*, movable scale *d*, and thermometer *e*, all arranged to constitute a densivolumetric balance, substantially as herein shown and described.

2. The weighing-scale having lever *j*, in combination with the liquid-measure placed on said lever and used as a counterpoise in said scale, substantially in the manner and for the purposes specified.

268,050. TUBE-BENDING MACHINE. SAMUEL STEPHENS, Indianapolis, Ind. Filed Apr. 20, 1882. (No model.)

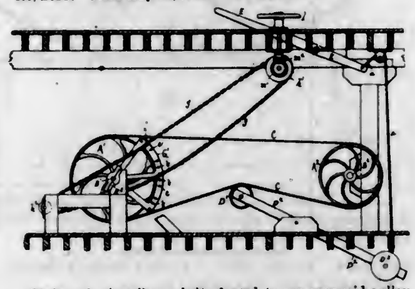


Claim.—1. The yoke A B, having a suitable lever or handle, in combination with the grooved rollers C and D and the staple F, substantially as and for the purpose specified.

2. The yoke A B, in combination with the two grooved rollers C and D, the latter having cogs to engage each other within the yoke, and the staple F, substantially as described.

3. The yoke A B, inclosing grooved rollers, so arranged that the one shall revolve around the periphery of the other with the yoke, the grooves forming a circular opening between the rollers, in combination with the staple F and means for operating the same, as and for the purpose described.

268,051. BELT-SHIFTER. FREDERICK S. STEVENS, Minneapolis, Minn. Filed May 29, 1882. (No model.)



Claim.—1. A pulley, a belt adapted to run over said pulley, and a segmental frame or frames adapted to be oscillated about said pulley to lift said belt up off from said pulley, substantially as set forth.

2. A pulley having inwardly-projecting collars surrounding its shaft upon both sides thereof, a segmental frame or frames swiveled upon said collars, and a belt adapted to run upon said pulley, combined and operating substantially as and for the purpose set forth.

3. The combination of a pulley, B', boxes H' H', collars *d*, segmental frames G' G', cross rods or bars *b*, rollers *c*, and belt C, substantially as set forth.

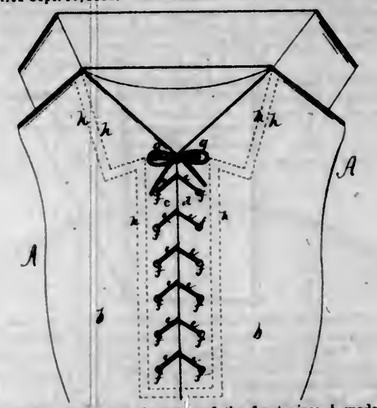
4. The combination of the pulleys A' A', belt C, segmental frame G' G', and tightener D', substantially as set forth.

268,052. BRUSH. LORENZO STORR, Providence, R. I. Filed Nov. 22, 1880. (No model.)



Claim.—The improved toilet-brush herein described, consisting of the wooden back A, the wooden bristle-block B, and the bristles C, said back and block being detachably connected and having a water-proof coating upon both their inner and outer surfaces, substantially as and for the purpose set forth.

268,053. NECKSCARF. JOSEPH L. STRAUSS, New York, N. Y. Filed Sept. 16, 1882. (No model.)

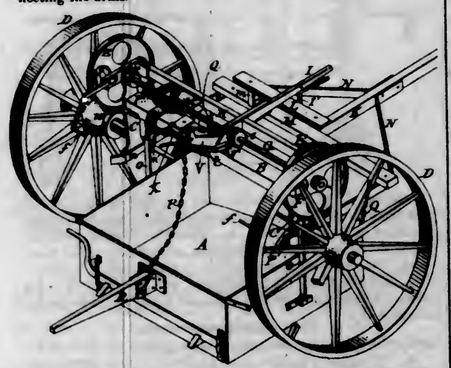


Claim.—1. In a neckwear-scarf, the front piece, *b*, made of two pieces and provided with eyelets *f*, lace-cord *e*, and stitching *h*, so as to give the front piece the appearance of a laced shirt-bosom, as and for the purpose set forth.

2. In a neckwear-scarf, the front piece, *b*, given the appearance of a laced shirt-bosom by stitching or stamping the outlines upon the same, substantially as and for the purpose set forth.

268,054. WHEELED SCRAPER. JESSE STUBBS and FREDERICK JONAS, Mount Pleasant, Iowa. Filed Aug. 18, 1881. (No model.)

Brief.—Supporting-irons carry the wheel-spindles on their lower ends and support the axle near their top. Arms connected by a bar have eccentrics, which rest in bearings in the top of the supporting-irons. A shaft carrying the winding-chains and passing through the eccentrics has friction-wheels on its ends, which are thrown into contact with the hubs by a lever on the bar connecting the arms.



Claim.—1. In combination with the winding-shaft G and the hub-bands w or their equivalents, the friction-wheels E, rigidly fastened to the ends of said shaft G, as its driving mechanism when pressed tightly against said hub-bands or their equivalents by the action of the eccentrics *e*, substantially as shown, and for the purpose specified.

2. In combination with the shaft G and the supporting-irons C, the eccentrics *e*, arms F, coupling-bar H, lever I, and hook I', all substantially as shown, and for the purposes specified.

3. The supporting-irons C, shaped as herein shown, to afford bearings for eccentrics *e*, axle B, and pendants O, arranged respectively on opposite sides of a wheeled scraper, being coupled together by a wooden axle, substantially as shown, and for the purposes specified.

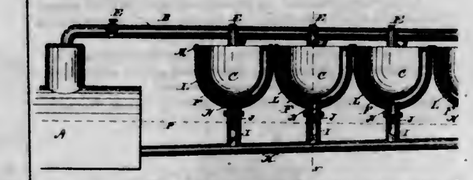
268,055. BALANCED SLIDE-VALVE. JOHN E. SWEET, Syracuse, N. Y. Filed Nov. 8, 1880. (No model.)

Claim.—In a slide-valve for engines, the combination of the passages F and F', channels H and H' in the cover-plate, and the ledges K and E', for deflecting the exhaust-steam, as hereinbefore set forth.

268,055.



268,056. APPARATUS FOR THE MANUFACTURE OF SUGAR, SALT, &c. FRANKLIN P. TABER, Auburn, N. Y. Filed Oct. 6, 1882. (No model.)



Claim.—1. The combination, with the boiler or generator, of the supply-pipe B, with its laterals D D, and throttle-valves E E E, placed above and between the sets of kettles and communicating through the flange or rim of the inner kettle with the steam-space between the jackets of the kettles, substantially as described, and the manner of extending and continuing such supply-pipe and laterals and connections for any number or sets of kettles.

2. In combination with the boiler or generator, the supply B, with its laterals D D, and cocks or throttles E E, the jacketed kettles, C C, provided with the air-valve G, placed in the rim or flange of the inner kettles, substantially as described.

3. In combination with the boiler, supply-pipe B, with its laterals D D, throttles E E, and the jacketed kettles C C, with the air-valve G, the return-pipe K, connected with the boiler A, for the water of condensation, placed at or near the bottom of the kettles and connected with the steam-space between the outer and inner kettles by means of the laterals I I, substantially as set forth.

4. In combination with the boiler, supply-pipe B, with its laterals D D, and throttles E E, the jacketed kettles C C, with the air-valve G, and the return-pipe K, with its laterals I I, the sliding check-valve J J in the laterals I I, for allowing the water of condensation to pass out of the steam-space F F and hold in check any back-pressure from the boiler, and thereby prevent the flooding of the steam-space between the kettles with water from the boiler.

5. In combination with the boiler, supply-pipe B, with its connections, laterals D D, and throttles or cocks E E, the jacketed kettles C C, with the air-valve G, the return-pipe K, with its laterals I I, each supplied with the sliding check-valve J J, the non-conducting covering L L, for the respective pipes, kettles, and exposed heated surfaces of the apparatus.

6. In combination with the boiler, supply-pipe B, with its laterals D D, and throttles or cocks E E, the jacketed kettles C C, with the air-valve G, the return-pipe K, with its laterals I I, each supplied with the sliding check-valve J J, and the non-conducting substance L L, to be placed upon the respective pipes and kettles, the manner and mode of running and laying the supply and return pipes to and from the said kettles and boiler, substantially as shown, so that the water of condensation shall not impede or neutralize the steam to be introduced to the kettles.

7. In combination with the boiler, supply-pipe B, with the laterals D D, and throttles E E, the jacketed kettles C C, with the air-valve G G, the return-pipe K, with its laterals I I, the sliding check-valve J J in the laterals I I, the non-conducting substance L L, and the manner of running and laying the supply and return pipes, the manner and mode of placing the bottom of the kettles above the level of the water-line of the boiler, by means of which the water of condensation is caused to return to the boiler without the use of a steam-trap or other appliance.

268,057. GAME APPARATUS. BENJAMIN B. TOWNSEND, Brookline, Mass. Filed Oct. 11, 1882. (No model.)

Claim.—1. The herein-described game apparatus, comprising a wicket, pockets, a ball-propelling device and bat and its manipulating mechanism, substantially as described.

2. The bat-supporting rod, adapted to be manipulated by the player, combined with the bat pivoted thereon, and its actuating mechanism, substantially as described.

268,057.



3. The ball-propelling device, consisting of a tube bent, as described, to form a ball-receiving portion, substantially as set forth.

4. In a game apparatus, the wicket, composed of three standards fixed upon a base-piece, combined with bails loosely mounted upon the said standards, substantially as described.

5. The combination of the bat-supporting rod and bat pivoted thereon with the bat-actuating cord and the spring connected with the said bat and rod, substantially as described.

6. The combination of the bent ball-propelling tube, ball-stopping pin therein, and gaging foot-piece, substantially as described.

268,058. TRACTION-ENGINE WHEEL. JESSE WALRATH, Racine, Wis. Filed Aug. 1, 1882. (No model.)



Claim.—The combination, substantially as before set forth, of the wheel-hub, the removable bushing, the transverse key, and the set-screw.

268,059. SUBMARINE ELECTRIC CABLE. RICHARD S. WARING, Pittsburg, Pa. Filed Apr. 10, 1882. (No model.)



Claim.—1. An electric cable having insulated electric conducting-wires embedded in and covered by a body of lead, and a series of hard-metal protecting-wires, also embedded in the lead outside of the conducting-wires, substantially as and for the purposes set forth.

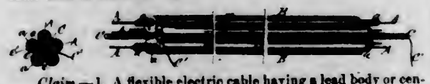
2. An electric cable having a tubular lead body, A, a compound conductor, B, filling its central passage, such conductor being composed of wires of different size, a part being lead-covered, and all being twisted together, as described, insulated conductors *a*, embedded in the body of lead, and strengthening and protecting wires *a'*, embedded in the lead outside of the wires *a*, substantially as set forth.

3. An electric cable having a tubular body of lead, a series of insulated conductors embedded within the lead, near the inner surface of the tubular body, and a series of hard-metal wires alternating in arrangement with the conducting-wires, and embedded within the lead, near the outer surface of the tubular body, substantially as set forth.

4. An electric cable having a tubular lead body, and a compound conductor filling the tubular passage, such conductor being composed of separately-insulated wires, a part of which are also covered exteriorly with an electric conducting material, and all being twisted together, substantially as set forth.

268,060. ELECTRIC CABLE. RICHARD S. WARING, Pittsburg, Pa. Filed Sept. 27, 1881. (No model.)

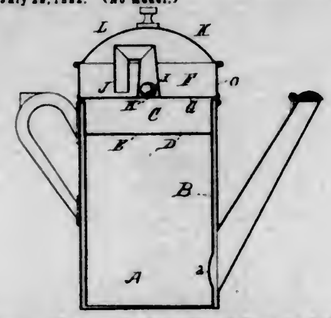
Brief.—Improvement in lead-covered electrical cables of circular form in cross-section.



Claim.—1. A flexible electric cable having a lead body or center of circular form in cross-section, with a series of separate ribs or flutes extending longitudinally on its surface, and having insulated conducting-wires inclosed within and covered by the ribs, substantially as and for the purposes set forth.

2. A flexible electric cable having a central body of soft ductile metal, with a series of separate longitudinal flutes, E, divided from each other by grooves *e*, and connected to the central body along one side, as at *e'*, and having insulated conducting-wires inclosed within such flutes, substantially as and for the purposes set forth.

268,061. COFFEE-POT. JOHN W. WHALLEY, Bond Hill, Ohio. Filed July 25, 1882. (No model.)

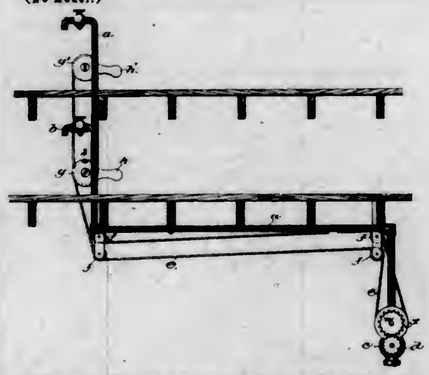


Claim.—1. The combination, substantially as set forth, of main chamber A, air-chamber C, water-chamber F, and valve I.

2. The combination, substantially as set forth, of main vessel A, top section, C, seal-rim B, diaphragms D and G, top K, with hole L, and seal-conduit J.

3. The combination, substantially as set forth, of main vessel A, seal-rim B, diaphragm D and G, top K, with hole L, and valve I.

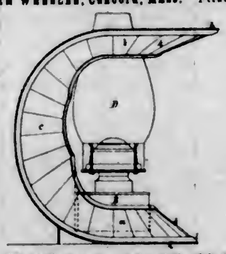
268,062. APPARATUS FOR TURNING OFF WATER IN BUILDINGS. JOSEPH D. WESTCOTT, Manchester, N. H., assignor of one-half to Geo. H. Allen, Lynn, Mass. Filed June 12, 1882. (No model.)



Claim.—1. The combination with the water-supply pipe in a building, of a stop-cock located near the point where the said pipe enters the building, and means to actuate the said stop-cock from various different points in the building, substantially as described.

2. The stop-cock provided with an actuating pulley, combined with a flexible cord or belt connected with an actuating-pulley having a handle, and located at a distance therefrom, substantially as described.

268,063. REFLECTOR FOR STREET LAMPS OR LANTERNS, &c. WILLIAM WEBSTER, Concord, Mass. Filed June 6, 1882. (No model.)

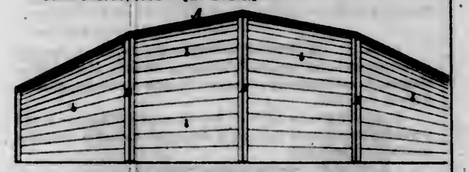


Claim.—1. The reflector as constructed with the two convex conic reflecting-surfaces *a b*, the two concave conic intervening reflecting-surfaces *c d*, the chimney-opening O, and the lamp reservoir-receiving socket A, arranged substantially as set forth.

2. The reflector as constructed with the two convex conic reflecting-surfaces *a b*, the two intervening concave conic reflecting-surfaces *c d*, the chimney-opening O, the chimney-supporting hook or stud *e*, and the lamp reservoir-receiving socket A, as and arranged substantially as set forth.

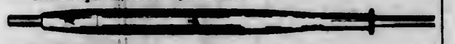
3. The reflector-shell provided with flanges and reflecting-plates arranged between them, and with metallic fillets and beads, or metallic beaded fillets, essentially and arranged with the said flanges and reflecting-plates as set forth.

268,064. REFLECTOR. WILLIAM WEBSTER, Concord, Mass. Filed Feb. 18, 1882. (No model.)



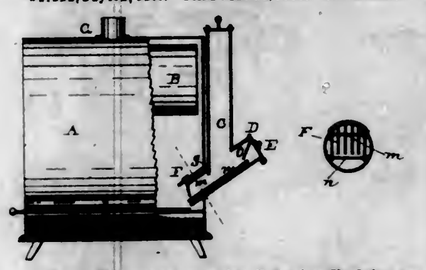
Claim.—As an improved manufacture, a light-reflector having combined with its shell a series of leaden or metallic strips folded lengthwise along their middles, and there secured to the shell by solder, and having their free parts bent over upon glass or other reflecting-plates applied to them and such shell, all being substantially as set forth.

268,065. BILLIARD-CUE. CHARLES J. WILBY, Brooklyn, N. Y. Filed Sept. 14, 1882. (No model.)



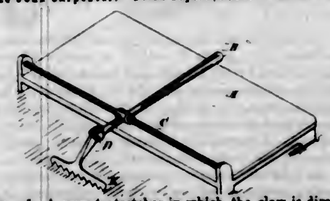
Claim.—A toy cue partially or wholly encircled near its tip by a case or sheath, acting as a fulcrum, such cue having its butt exposed so that it can be operated and controlled by both hands, applied one to the case near the tip and the other at the butt of the cue, in combination with an actuating-spring, substantially as described.

268,066. STOVE. THEODORE WILLI and CHARLES LIBERWILER, Dayton, Ohio. Filed June 21, 1882. (No model.)



Claim.—The external magazine, C, the door D of the same, having projecting plate O and register E, the plates *m* and *n*, providing for air-interspaces, and the grate F, or its equivalent, in combination with a stove, substantially as herein set for.

268,067. CARPET-STRETCHER. JOHN H. WILLIAMS and VOLNEY H. BRAFFETT, Indianapolis, Ind., assignors of one-third to John Carpenter. Filed Sept. 2, 1882. (No model.)



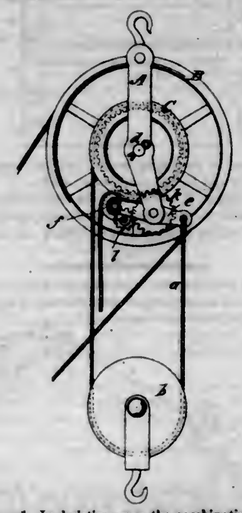
Claim.—1. A carpet-stretcher in which the claw is directly connected with the handle by a joint, the handle moving upon a suitable fulcrum, substantially as described.

2. In a carpet-stretcher, a platform for the operator to rest upon, in combination with the handle and claw of the stretcher, substantially as described.

2. The combination of a claw for stretching carpets, jointed to its handle, with a fulcrum and a platform for the operator to rest upon, substantially as described.

4. The combination of the platform A, rod C, socketed handle B, and claw E, the latter jointed to the handle, substantially as described.

268,068. HOISTING-GEAR. WILLIAM W. WYTHE, Red Bank, N. J. Filed Apr. 22, 1882. (No model.)



Claim.—1. In hoisting-gear, the combination of a friction-pulley carried by a lever, from which the hoisting-rope is suspended, with the grooved pulley of the hoisting-rope in such manner that the free end of the rope is pressed by the friction-pulley into the groove of the main pulley, substantially as shown and described.

2. In hoisting-gear, the combination of the grooved pulley C, the lever *e*, the friction-pulley *f*, and hoisting-rope *a*, one end of the hoisting-rope being connected with the lever and its free end passing between the main pulley C and the friction-pulley *f*, substantially as shown and described, and for the purpose set forth.

3. In hoisting-gear, the combination, with the main pulley C and friction-pulley *f*, of the intermediate gear, substantially as shown, for insuring rotation of the friction-pulley, as specified.

4. In hoisting-gear, the combination of a friction-pulley with the grooved pulley of the hoisting-rope, when arranged to press the rope into the groove of the pulley by a lever acted upon by the weight of the load, substantially as described.

268,069. BROOM-CORN PRESS. ABRAHAM ADDISON, Galesburg, Ill. Filed July 15, 1882. (No model.)

Claim.—1. The lid B, provided with flanged guides *b'*, in combination with the press-box, substantially as and for the purposes set forth.

2. The press-box A, in combination with the door C, the bolts *c'*, the levers c^2, hooks c^3, and lever-brackets c^4, constructed, arranged, and operating substantially as and for the purposes set forth.

3. The lifting-rods attached to the follower, in combination with the levers I and clamps K, one jaw of which is attached to the lever and the other is loosely connected to the first-named jaw, substantially as and for the purposes set forth.

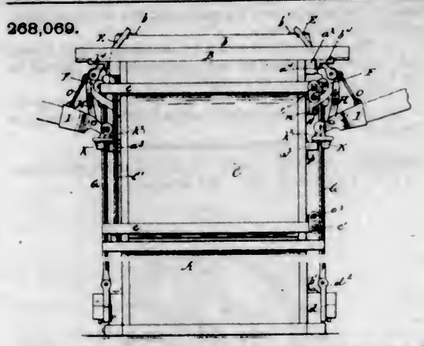
4. The lifting-lever I, in combination with the clamp-jaw *k*, pivoted thereto, the loose clamp-jaw k^2, the link J, and the lifting-rod G, substantially as described.

5. The levers I, in combination with the clamp-jaw *k*, pivoted thereto, loose clamp-jaw k^2, link J, lifting-rod G, and cleat a^2 on the press-box, substantially as and for the purposes set forth.

6. The holding clamp-jaw *l*, pivoted to a stationary support, the loose jaw l^2, the link M, and the lifting-rod G, substantially as and for the purposes set forth.

7. The clamp-jaw *l*, pivoted to a stationary support, the loose

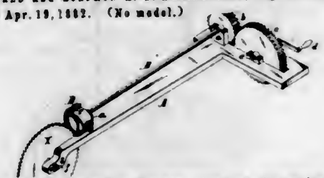
268,069.



jaw P, the link M, the lifting-rod G, and the releasing-lever N, substantially as and for the purposes set forth.

8. The bracket F, attached to the end of the press-box, in combination with the strap H, hinged thereto, the lever I, lifting-clamp K, the holding-clamp L, and the lifting-rod G, substantially as described.

268,070. SAW GUMMER AND SHARPENER. JOHN H. BRIDGFIELD and SOLOMON L. G. BRIDGFIELD, Jug Tavern, Ga. Filed Apr. 19, 1882. (No model.)



Claim.—1. A machine for gumming and sharpening saws, provided with a cutter consisting of a blade bent to a spiral form and having a sharpening-surface, a shaft supporting the said blade, a support for the saw, and appliances for revolving the shaft, substantially as specified.

2. The combination, with the shaft B and saw-support, of a cutter-blade bent to a spiral form, widest at the inner end, and with the inner edge of the spiral coils on the same vertical plane, substantially as set forth.

3. The combination, with the spiral cutter mounted upon the end of a longitudinal shaft, of a device for spreading and contracting the cutter, substantially as set forth.

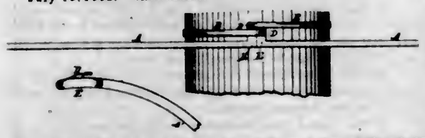
268,071. SPRING BED-BOTTOM. HIRAM BENEDICT, Detroit, Mich. Filed May 24, 1882. (No model.)



Claim.—1. A section of a spring bed-bottom, consisting of the slat A, springs B, cross-riders C, and the elastic bands D, combined and operating substantially as and for the purposes set forth.

2. A spring bed-bottom composed of a series of independent slats, each of said slats supporting a series of springs and riders, and all the riders on each slat being secured together by means of the elastic woven-wire straps, substantially as described.

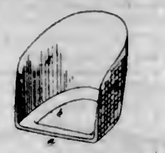
268,072. STOVE-PIPE SHELF. JAMES MADISON BLACK, Lake View, assignor to Wm. S. Lasher, Highland Park, Ill. Filed July 13, 1882. (No model.)



Claim.—1. A stove-pipe single shelf consisting of the shelf A A', ears E, and hooks D, combined with a band, B, attached to the hooks, and at such height, substantially as shown, above the shelf as to hold the shelf in position on the stove-pipe F by leverage, as specified.

2. The two half-shelves, respectively provided with short and long ears E E', and combined with bands B, bearing against opposite sides of the pipe F, and placed one above the other, so as to form a continuous level shelf, as and for the purpose stated.

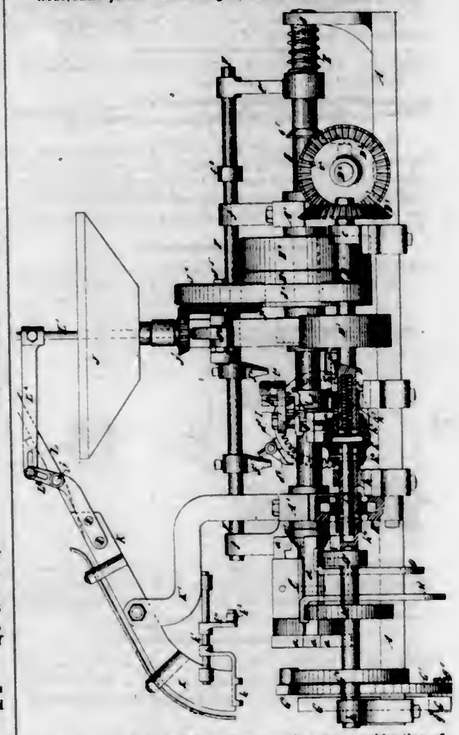
268,078. METALLIC COUNTER-STIFFENER FOR BOOTS OR SHOES. ALFRED W. BLAKESLEE, Locke, Mich. Filed Mar. 23, 1882. (Model.)



Claim.—1. As an improved article of manufacture, the metallic counter herein described, consisting of walls A, connecting cross-bar *a*, and the flange *b*, having a beveled inner edge, substantially as described.

2. A shoe-counter having tapering walls A, cross-bar *a*, and beveled flange *b* made in a single casting of malleable iron, substantially as described.

268,074. MACHINE FOR THREADING BOLTS. HENRY C. BRILL, Southington, Conn., assignor of one-half to Roswell A. Neal, same place. Filed Aug. 9, 1881. (No model.)



Claim.—1. In a bolt-threading machine, the combination of the die-carrying spindle B, adapted to rotate continuously in one direction, and having a quick backward movement, the sectional die C, means for opening said die, the clamping or holding jaws G, the intermittingly-rotating cam-shaft H, for operating said jaws, the continuously-rotating shaft D, and a clutch or device which is adapted to be operated by the backward movement of the spindle to connect said shafts, substantially as herein specified.

2. In a bolt-threading machine, the combination of the die-carrying spindle B, adapted to rotate continuously in one direction, and having a quick backward movement, the sectional die C, means for opening said die, the clamping or holding jaws G and feeder N, the intermittingly-rotating cam-shaft H, for operating said jaws and feeder, the continuously-rotating shaft D, and a clutch or device which is adapted to be operated by the backward movement of the spindle to connect said shafts, substantially as herein specified.

3. The combination of the spindle B, the clamping or holding jaws G, the cam-shaft H and the shaft D, the clutch portions A' A², fitted one upon each shaft and longitudinally movable, the cam H', the catch *i*, and mechanism for tripping said catch, capable of being operated by the backward movement of the spindle, substantially as specified.

4. In a bolt-threading machine, the combination of a die-carrying spindle, mechanism for imparting a backward movement thereto, a spring for imparting a forward movement to said spindle, and a catch for holding said spindle in its backward position against the force of said spring until released by the machine, substantially as specified.

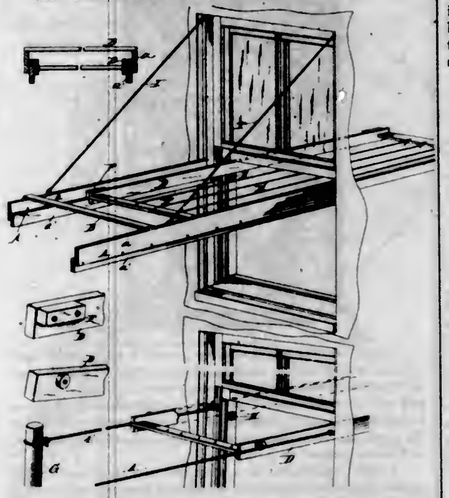
268,075. NOISE-DEADENING INSULATOR. GOUVERNEUR M. BROWN, Woonsocket, R. I. Filed June 26, 1882. (No model.)



Claim.—1. The rubber block C, having recess D, screw-threads G, and vertical webs F, connecting said threads, as and for the purpose set forth.

2. The combination of an insulator, A, having screw-threaded opening B, a supporting-peg, E, and an interposed rubber block or cushion having recess, D, screw-threads G, and webs F, as and for the purpose set forth.

268,076. CLOTHES-DRIER. TIMOTHY D. BROWN, Oakland, Cal. Filed Mar. 7, 1882. (No model.)



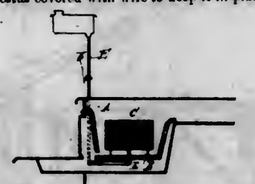
Claim.—1. A frame provided with lines for carrying clothes, in combination with fixed outer supports whose inner end terminates at the window-frame, outside of the sashes, and an inner fixed support secured inside the window frame and sashes, the inner and outer supports being constructed to allow of the sashes being closed between them, whereby the frame carrying the clothes-lines may be supported inside of the house while the clothes are being hung, and then pushed outside of the window on the outer support, all the parts being constructed and arranged substantially as described.

2. The support A, consisting of the overlapping strips a a', terminating at the outside of the window, in combination with a roller, H, inside the window-sash, and the frame D, adapted to slide upon the lower strips, a', of the support A, said frame being provided with lines stretched in the direction of its length to strain it tightly together, substantially as described.

3. The outer support, A, and the roller H, secured permanently to the window-frame, on opposite sides of the sashes, in combination with the frame D, provided with clothes-lines, and constructed to slide entirely outside of the window upon the support A, and to rest upon the roller H when inside of the window, substantially as and for the purpose specified.

268,077. DEVICE FOR BURNING PETROLEUM. RICHARD A. BURT and ROBERT M. BIRELMAN, Adrian, Mich. Filed Sept. 16, 1882. (No model.)

Brief.—The stove has a lining, B, of asbestus. The shield C is made of asbestus covered with wire to keep it in place.

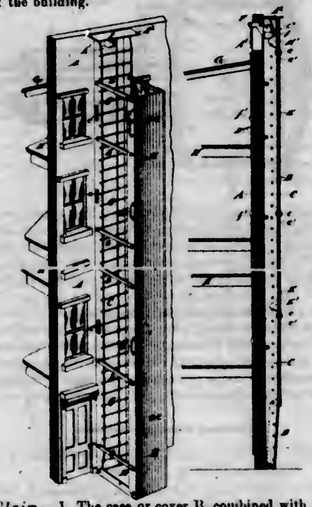


Claim.—1. In combination with an elevated reservoir and a pipe leading therefrom having a regulating-cock and a contracted discharge-orifice, a shield or wick of asbestus held in contact or juxtaposition with such orifice, whereby the body of oil is separated from the wick and the flow of such oil may be regulated at will, as set forth.

2. In combination with the fire-box of a stove or furnace, the elevated reservoir having pipe E, cock *b*, and jet *a*, the shield C of asbestus having wire-cloth covering, and the folding wire D, as and for the purposes set forth.

268,078. FIRE-ESCAPE LADDER. WILLIAM BUSHNELL, Brooklyn, N. Y. Filed June 20, 1882. (No model.)

Brief.—A cover or case is hinged to the stationary vertical ladder, and has a jointed section at its lower end. Hooks on a sliding bar secured to the cover hook over the rungs of the ladder to hold the case closed, and are released by a tilting cam at the top thereof, operated by releasing-cords extending through to the inside of the building.



Claim.—1. The case or cover B, combined with section D, jointed therewith, substantially as and for the uses and purposes herein described.

2. The combination, with the ladder C, of the case or cover B, with its jointed section D, for the safety and protection of persons using the ladder, as herein specified.

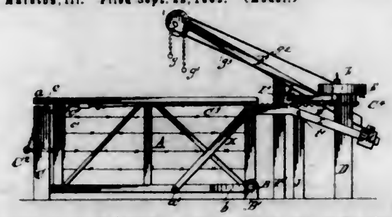
3. The vertical sliding bar E, with the hooks E', attached to the inner side of the case B, for the use and purpose described.

268,079. NUT-LOCK. JAMES R. CARTER, Anderson, S. C., assignor to M. L. Ross, same place. Filed Apr. 4, 1882. (No model.)



Claim.—The nut-lock herein described, consisting of the curved metal plate *a*, of equal thickness and width throughout and having oblong apertures *b* to receive the bolt *c*, and diagonal slit *c* to form a spring-lip, *d*, and the whole being adapted to serve with a nut, *f*, by forcing the nut-bearing ends backward to leave the lip *d* projecting and bearing against the side of the nut, as and for the purposes set forth.

268,080. AUTOMATIC TILTING GATE. WILLIAM S. CASTON, Marston, Ill. Filed Sept. 23, 1882. (Model.)

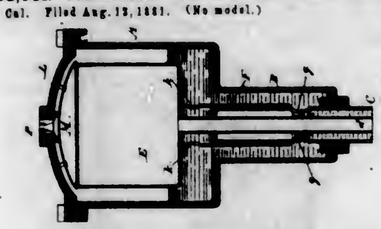


Claim.—1. In a tilting gate, the combination of the short posts B, the posts J and D, the counterbalanced lever I, the arms K, I', and H, the pulley E, and means for operating the same, substantially as shown and described.

2. In a tilting gate, the combination of the post D, provided with the horizontal pulley E, the beams F, provided with the vertical pulleys C, and the cords (or their described equivalents) g g' g^2 g^3, the arms H K, lever I, weight M, and chain C', substantially as shown and described.

3. The combination of the post D, pulley E, and latch L with the gate A, provided with the pin L', substantially as shown and described.

268,081. STEAM-TRAP. GEORGE W. COPPER, San Francisco, Cal. Filed Aug. 13, 1881. (No model.)



Claim.—1. In an upright steam-trap having the body A B and an upright fixed pipe, C, closed at the top, and having the openings *g* near the base of the portion B, the combination, with said parts, of the float E, having the discharge-pipe *d*, moving inside the fixed pipe C, and the telescopic pipe F, moving over the exterior of the fixed pipe C, as set forth.

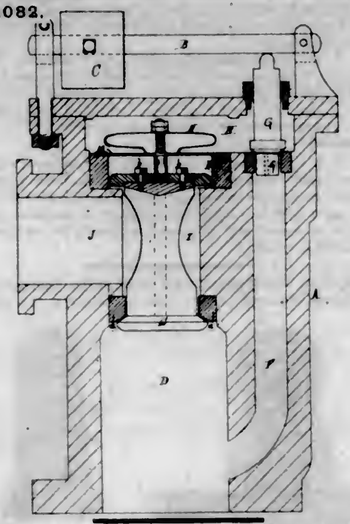
2. In a steam-trap, the float E, provided with the drain-pipe *d*, arranged to move through the center of the discharge-pipe C, and the telescopic tube F, arranged to move on the outside of the discharge-pipe, so as to cover and uncover the discharge-openings, said telescopic tube having one or more openings, K, for admitting steam between the telescopic tube and drain-pipe, substantially as described.

268,082. SAFETY-VALVE. GUSHER E. COLLIER, Bay City, Mich. Filed June 10, 1882. (No model.)

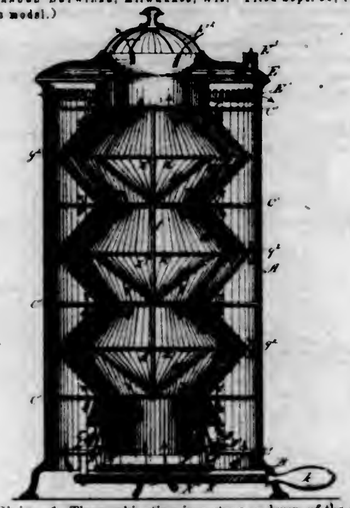
Claim.—1. The casing A, having steam-passage F, chambers D and H, and exhaust-passage J, in combination with the valve G, the valves E and L, the latter having the largest area, and the spring N, as and for the purposes specified.

2. The casing A, having steam-passage F, chambers D and H, and exhaust-passage J, combined with the valves G and L, of different area, the ring-seat *a*, the ring K, having cross-bar M, and the spring connected to the valves E L and pressing against the bar M, as specified.

268,082.



268,083. GAS STOVE AND BURNER AND HEATING-DRUM. EMANUEL DOTWILER, Milwaukee, Wis. Filed Sept. 28, 1882. (No model.)



Claim.—1. The combination, in a stove or drum, of the outer cylinder or shell with an inner double wall or hot-air passage, consisting of the frustums of hollow cones united together as shown, and with a vertical central series of inverted cones supported on horizontal plates and connected by a central vertical rod bolted to the upper and lower plates, substantially as shown and described, and for the purpose set forth.

2. The combination, in a stove or drum, of the shell A and sheet-metal hollow frustums G G', the said frustums being united at their widest diameters by lapping or double-seaming, and supported in place by means of the plates C', composed each of a series of rings or circular flanges having upward and downward circular extensions, around which the smaller ends of the frustums are slipped to form continuous zigzag air-passages from bottom to top, all substantially as shown and described, and for the purpose set forth.

3. The combination, in a stove or drum, of the shell A, continuous hot-air passage composed of the hollow frustums G G', united as described, the plate C', funnels or inverted cones H, rod I, and supporting-wires *h h'*, all substantially as shown and described, and for the purpose set forth.

4. In combination with the burner D, a cleaning device pivoted thereto, consisting of a double ring, the upper section bearing a series of teeth located under the holes of said burner, and the lower section secured to a U-shaped lever attached at its center to an operating-lever, and adapted to clean them by simply raising the operating-lever of the said device, substantially as set forth.

5. In combination with the burner D, the cleaning device described, consisting of levers K and K', ring L, connected to the said levers, and ring L', having teeth *f*, one under each burner-hole, whereby all the burner-holes may be cleaned simultaneously and automatically by simply raising the lever K, substantially as set forth.

268,084. EXTENSION COMPOSING-STICK. CALVIN L. DIVINE, Indianapolis, Ind., assignor to Lyra B. Martindale, same place. Filed July 18, 1882. (No model.)

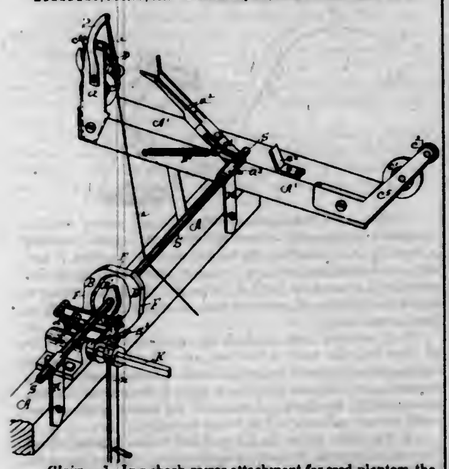


Claim.—1. As a new article of manufacture, a printer's composing-stick provided with an extensible back, sides, and bottom, whereby the width of the type-space may be increased, substantially as set forth.

2. The combination of the bottom A, the non-movable end A', the movable jaw or end B, the non-movable back portion, A', and the movable back portion, C', having the bottom portion, C, and side bars, c' c^2, attached thereto and adapted to move therewith, substantially as set forth.

3. The combination of the bottom A, having guides *a*, the end A', and jaw B, having dovetailed or similarly-formed grooves therein, the non-movable back portion, A', to which the jaw B is secured, and the back portion, C', bottom C, and bars c' c^2, connected together, said bottom and bars being adapted to move in said guides and grooves, substantially as set forth.

268,085. CHECK-ROWER FOR CORN-PLANTERS. LLOYD KENNEDY, Joliet, Ill. Filed July 15, 1882. (Model.)

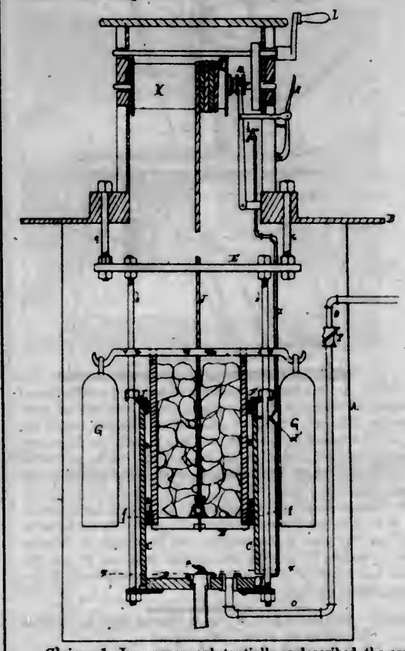


Claim.—1. In a check-rower attachment for seed-planters, the cam-wheel B, attached to the shaft S, as shown, and provided with the face cam channel B', four sections of said channel being curved on a radius from the center of the cam and connected by four intermediate eccentric sections, as shown, to impart a quick motion to the lever m and permit said lever to remain stationary at intervals, as set forth.

2. In a check-rower for seed-planters, the combination of the cam-wheel B, having the face-channel B', constructed as shown, and flattened periphery F, shaft *s*, flat spring *s'*, lever m, friction-roller R, crank m', shaft *k*, and frame A, all arranged to operate in the manner and for the purpose set forth.

3. In a check-rower attachment for seed-planters, the standard P, supported on the cross-head A' on its inner side, and forming a guard to hold the wire w' in the sheave *c*, and hinged at its upper end to the swinging arm D, having the sheave *c*, which carries the cord or wire w', journaled to its lower side, and arranged, as shown, to permit the sheave *c* to be inverted by means of the cord *c* to drop the wire w', as and for the purpose set forth.

268,086. WATER-ELEVATOR. ANDREW J. ENGLISH, Detroit, Mich. Filed Aug. 17, 1882. (No model.)

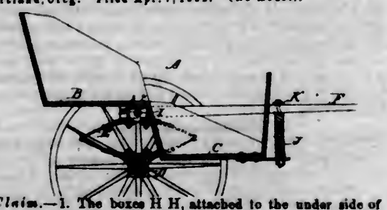


Claim.—1. In a pump, substantially as described, the combination, with a weighted piston packed above and below to form an annular water-space between, with valved air-outlet and water-connection with the well, of a well having inlet-aperture and valve, as set forth.

2. The combination of the weighted piston H, having annular water-space *e*, formed by packing *f*, with the pipe I, valve *h*, and pipe *d'*, and with the well having valve *o* and outlet-pipe O, as set forth.

3. In a water-elevator wherein the water is elevated by the gravity-pressure of the weighted piston, the combination of the barrel, the piston, the suction and delivery pipe, and safety-pipe communicating with the annular space between the barrel and piston, the parts being constructed, arranged, and operating substantially as and for the purposes described.

268,087. TWO-WHEELED VEHICLE. WILLIAM C. EVANS, Portland, Oreg. Filed Apr. 7, 1882. (No model.)

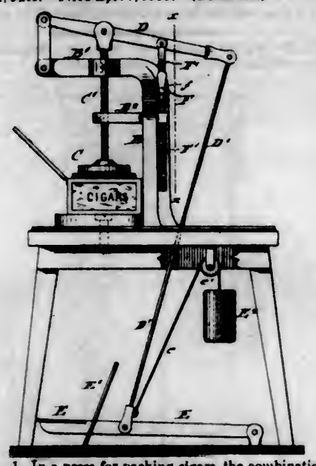


Claim.—1. The boxes H H, attached to the under side of seat B, in combination with the rod I, washers *f h*, nuts *g g*, and shafts F F, as shown, and for the purpose set forth.

2. The freely-suspended coiled springs J J, attached to the body A and cross-bar K, and pliant or yielding in every direction, substantially as and for the purpose set forth.

3. In combination, body A B C, boxes H H, springs J J, rod I, washers *f h*, nuts *g g*, and shafts F F, substantially as herein shown and described.

268,088. PRESS FOR PACKING CIGARS. CHARLES H. EVANS, Cleveland, Ohio. Filed Apr. 7, 1882. (No model.)



Claim.—1. In a press for packing cigars, the combination of a standard, a vertical shaft supported thereby, longitudinal arms for guiding the shaft, a follower attached to the lower end of the shaft, a link connecting the lever and arm, a rack-bar fulcrumed and weighted pawl and stop-pin, a weighted treadle, and a rod connecting the treadle and actuating-lever, substantially as described.

2. The combination of a supporting-standard, B, having guide-arms B' B', follower C, actuating-lever D, pivoted to the follower-rod C' and the arm B', connecting-rod D', treadle E, balance-weight or spring E², pivoted and guided rack-bar F', and fulcrumed and weighted pawl F, all arranged substantially as and for the purpose set forth.

268,089. TRACE-CARRIER. DAVID FRUSH, Blue Earth City, Minn. Filed Aug. 31, 1882. (No model.)



Claim.—1. Incorporated with the arch N, the four-way-extended frame having the central plot, A' B' D' E', the buckle-holds A B D E, provided with the loops *m n o p*, respectively, and with the tongues *l' k' k'*, for holding the four quarter-straps *a b d c* adjustably, without intermediate buckles thereon, and unobstructive to the driving-reins, as and for the purpose set forth.

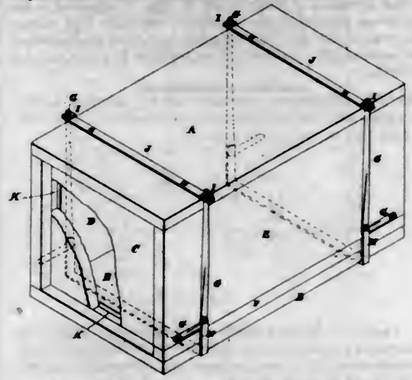
2. The four-way-extended frame of buckle-holds A B D E, cast with loops *m n o p* in their fronts, respectively, and provided with the tongues *l' k' k'*, for holding the straps *a b d c* adjustably and unobstructive, in combination with the protective pad H, and the trace carrier or arch N, having in it the slot P, made narrow at T and wide at its ends G, and riveted on the outer margins of the holds D E by tangs D², or their equivalents, as and for the purposes set forth

268,090. SIGHT FOR FIRE-ARMS. FRANK W. FRESHO, Cheyenne, Wyo. Filed Aug. 19, 1881. (No model.)



Claim.—A rear sight for fire-arms, consisting of a sight-plate provided with a sight-notch and with an opening below said notch, and a sliding plate of a size to cover said opening, and arranged, substantially as shown, to be moved over or partially over or entirely away from said opening, as and for the purpose described.

268,091. KNOCKDOWN PACKING-BOX. NOEL E. GORDON, Sparta, Ill. Filed Oct. 16, 1882. (No model.)



Claim.—1. In a knockdown shipping box or case, the angle-rods pivoted at the sides of the box, the arms being of different lengths for securing the parts together in the different positions, as set forth.

2. In a knockdown shipping box or case, the combination of bottom B, straps H, secured to the bottom, sides D E, the former hinged directly to the bottom and the latter hinged to a strip, F, that is secured to the bottom, angle-rods G, pivoted to the straps H, and having ends of different lengths screw-threaded to receive nuts I, and top A, with straps J secured thereto, with holes in their ends to receive the angle-rods, all substantially as shown and described.

268,092. BRAKE-BLOCK. UPTON M. GORDON, San Rafael, Cal. Filed Sept. 16, 1882. (No model.)



Claim.—1. A two-part brake-block, B, each part of which is so notched or grooved as to form, when brought together, a socket, *a*, tapering on all sides from the back to the front, a rubber, C, having a correspondingly-tapered tongue or shank, *b*, fitting in said socket, and a means for holding the parts of the block together to secure the rubber, all arranged and combined substantially as herein described.

2. A two-part brake-block, B, having a socket, *a*, tapering on all sides from the back to the front, and the rubber C, having a correspondingly-tapered tongue or shank, *b*, fitting in said socket, in combination with the brake bar or shaft A, the journal of which passes through the block and tongue of the rubber, which are secured thereon, substantially as herein described.

3. The brake bar or shaft A and brake-block B, loosely fitted thereon and secured by a nut, in combination with the means for limiting the movement of the block on its journal, consisting of the socket *m* in the side of the block, having notches or grooves *o'*, and the collar *o* on the bar, fitting in said socket *m*, and having tenons *o* narrower than the notches or grooves *o'*, into which they fit, all operating substantially as herein described.

268,093. KNIT SHIRT. THOMAS H. GRANT, San Francisco, Cal. Filed Aug. 24, 1882. (No model.)

Claim.—As a new article of manufacture, a knitted shirt having double sides A and B united at C and D and entirely surrounding the body between those points, substantially as herein described.

268,093.

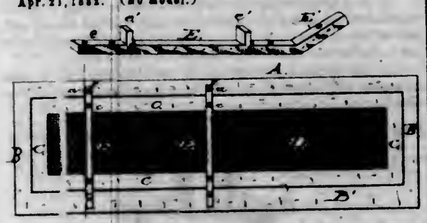


268,094. PRESERVATIVE FOR ORGANIC SUBSTANCES AND PROCESS OF MAKING THE SAME. WILLIAM F. GRIER, London, England. Filed Sept. 6, 1882. (No specimens.)

Claim.—1. The hereinbefore-described process of obtaining a food-preservative, consisting essentially in heating together eleven hundred and sixteen parts, by weight, of boracic acid and three hundred and eighty-two parts of prismatic borax in a finely-divided condition and intimately commingled until the evolution of water has fully taken place, and then drying off the evolved water by means of a current of dry hot air, substantially as set forth.

2. As a preservative for food and organic substances, the product of the hereinbefore-described process of treating boric acid and borax.

268,095. SEAT. HENRY S. HALL, Philadelphia, Pa. Filed Apr. 21, 1882. (No model.)



Claim.—1. In a seat, the combination, with the outer frame having the upwardly-inclined back piece, B', of the inner frame, and the supporting and bracing bar, having the horizontal part E, secured to the inner seat-frame, C C, and to the front rail, A, and having also the upwardly-inclined part E', formed integrally with the horizontal part E and secured to the upwardly-inclined back piece, B', substantially as described.

2. In a seat, the combination, with the outer main frame and the inner seat-frame, of the bracing and supporting bar, formed with the horizontal part E, for supporting the inner seat-frame, and with the bracing parts *e'* extending upward below the bottom of the seat-frame, substantially as set forth.

268,096. GAS-RETORT FURNACE. HENRY C. HARN, Baltimore, Md. Filed Sept. 8, 1882. (No model.)

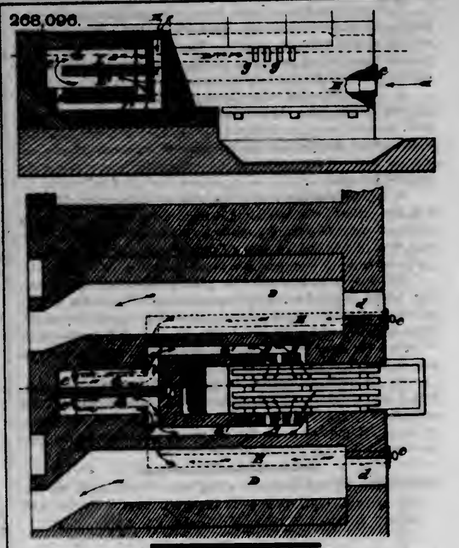
Claim.—1. A gas-retort furnace consisting of a fire-box and retort-chamber having a flue for returning a part of the products of combustion to the fire-box, said flue being connected at one end with the fire-box, at or near the center of the bridge-wall, and at the other end, by proper connecting-passages, with the fire-box above the grate.

2. A gas-retort furnace consisting of a fire-box and retort-chamber, the fire-box having a flue for the escape of the products of combustion on each side of the same, an air-flue under each of said escape-flues, a return gas-flue connected with the fire-chamber back of the bridge-wall, a mixing-flue connected with both of the air-flues and with the return gas-flue, and flues connecting said mixing-flue with the fire-box above the grate.

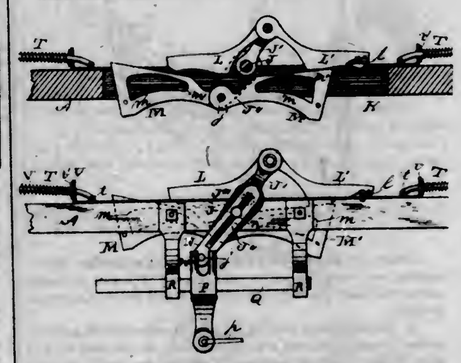
3. A gas-retort furnace provided with flues D, for the escape of waste products, the contiguous air-heating flues E, and connected flue E', the diving gas-flue I, the connected flue I', extending below the air-flue E', and the connecting air and gas mixing flues G G', having passage *g* leading into the fire-box.

4. A gas-retort furnace provided with a regenerative gas and air-flue structure consisting of the foundation brick-work having flues D and E, the transverse vertical partition N, the horizontal partitions L and M, and the intersecting vertical partition K, having suitable connecting-passages, and constructed as described, for the purpose set forth.

268,096.



268,097. CORN-PLANTER CHECK-ROWER. JOSEPH HARVEY, Aledo, Ill. Filed Mar. 2, 1882. (Model.)



Claim.—1. In a corn-planter check-rower, in combination with a sliding rod, T, arms L M, hinged to an oscillating head, J'''', and the arm M having a curved slot, *m*, which slides on a pin, *m'*, and raises said arm as it comes into position for the action of the sliding rod, substantially as and for the purpose specified.

2. In combination with a rocking head, J'''', arms L M, arranged one above the other, and the lower one adapted to slide in a slot in the bar A, and to be raised and lowered by a pin, *m'*, which rests in a slot, *m*, in said arm, substantially as and for the purpose specified.

3. In combination with the rocking head J'''' and arms L M, located one above the other, and adapted to receive movement from the sliding rod T, substantially as described, the adjustable slotted bar N, for regulating the throw of the seed-slides, substantially as and for the purpose specified.

4. In combination with the rocking head J'''', arms L M, located one above the other, and bar N, the slide-bar Q and forked bar P, substantially as and for the purpose specified.

5. In combination with the bent forked lever, spring-retracted sliding rod T, and arms L M, located one above the other, the rocking head J'''', connected with the seed-slides by suitable means for operating them, substantially as and for the purpose specified.

6. In combination with the rocking head J'''' and means for connecting same with the seed-slides, the arm L, hinged thereto and having side lug, *l*, and the arm M, hinged thereto and having curved slot *m*, sliding on pin *m'*, and the sliding rod T, adapted to act alternately on the arms L M, substantially as and for the purpose specified.

7. In combination with the tappet-wire and horizontal guide-pulleys, adapted to allow said tappet-wire to slide off said pulleys without tilting them, the hinged pulleys adapted to be turned upward to permit the tappet-wire sliding off the guide-pulleys, substantially as and for the purpose specified.

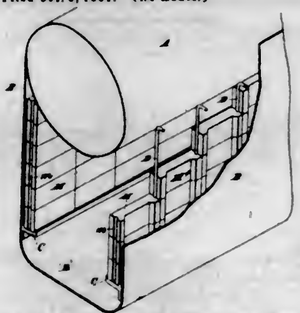
8. In combination with the tappet-wire and guide-pulleys adapted to allow the tappet-wire to slide off said pulleys by side draft on said wire, the pulleys C C', attached to a rock-shaft, E, whereby they may be both turned upwardly to permit the tappet-wire to slide off the guide-pulleys, substantially as and for the purpose specified.

9. In combination with a tappet-wire, horizontal guide-pulleys, and forked lever oscillating in a horizontal plane, the hinged pulleys adapted to swing upwardly to allow the tappet-wire to escape from the forked lever and from the guide-pulleys, substantially as and for the purpose specified.

10. In combination with the guide-pulleys and hinged pulleys, a latch adapted to engage automatically with a catch to hold said hinged pulleys in position to retain the tappet-wire on the guide-pulleys, and further adapted to be released from the catch to permit swinging the hinged pulleys upwardly, substantially as and for the purpose specified.

11. In combination with the guide-pulleys and hinged pulleys, a latch and cord connected with said hinged pulleys, and adapted to be drawn, first, to release the latch, and further drawn to swing the pulleys upwardly, substantially as and for the purpose specified.

268,098. STEAM-BOILER FURNACE. WILLARD T. HATCH, Indianapolis, Ind., assignor to the Atlas Engine Works, same place. Filed Oct. 5, 1881. (No model.)



Claim.—1. The fire-bricks M, each having a chamber, M', extending over its main portion, and grooved ends *m m*, in combination with locking-rods D, furnace-shell B, and boiler A, as herein specified.

2. In combination with the boiler A, furnace-shell B, and fire-bricks M, having grooved ends, substantially as indicated by *m*, a series of metal rods, D, arranged to perform the double function of doweling the bricks to guard against lateral displacement and tying them together in the plane of the wall, as herein specified.

3. In combination with a boiler, a metallic shell riveted thereto, having sides B and bottom B', and a lining of fire-brick or analogous refractory material, the shelf C, adapted to support the lining and leave a wider space below for the ash-pit, as herein specified.

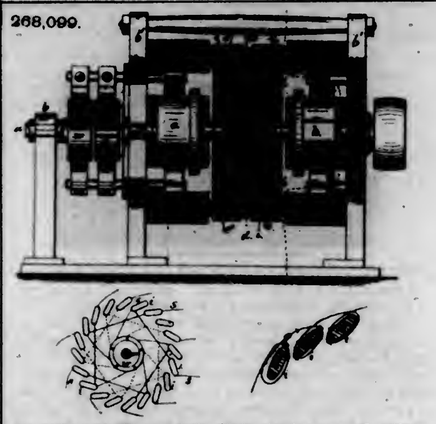
4. The boiler A, furnace-shell B, refractory lining M, composed of separate bricks or sections having broad air-chambers M' and grooves *m*, metal rods D, nuts D', and shelves C, combined and arranged for joint operation as herein specified.

268,099. MAGNETO-ELECTRIC MACHINE. OTTO HEINRICH, Jersey City, N. J., assignor to the National Electric Light and Power Company, New York, N. Y. Filed Nov. 7, 1879.

Claim.—1. The combination, in a magneto-electric machine, of a circular range of elongated cores and helices placed at an inclination to each other, with the portions of the helices where the wires are bent the most suddenly adjacent to each other, so that the retarding effects of the currents traveling in opposite directions may be reduced to a minimum, substantially as specified.

2. In a magneto-electric machine, a circular range of armature-helices connected up uniformly in groups in a continuous circuit and to commutator-plates, the wire from one commutator-plate passing to one helix, then to the second or more distant helix, and directly back to the commutator-plate next to the first

268,099.



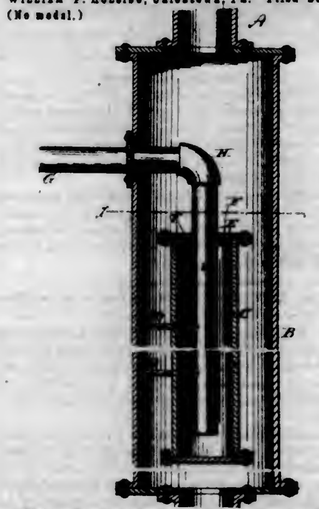
one, and so on all around the whole circular range of uniform groups, substantially as set forth.

3. The combination, in a magneto-electric machine, of field-of-force magnets, armature cores and helices, connections from the armature-helices to commutators, and a shunt-circuit containing a resistance and independent of the circuit passing through the commutators, for the purposes set forth.

4. In a magneto-electric machine, a circular range of armature-helices connected up uniformly in pairs, and one wire of each pair of helices connected to a commutator-plate and the other wire connected in a return-circuit, substantially as set forth.

5. An elliptical core for the electro-magnet, with a plate across the end, extending at each side of the core and tapered, substantially as set forth.

268,100. EXHAUST-STEAM CONDENSER FOR STEAM-PUMPS. WILLIAM P. HOLDING, Uniontown, Pa. Filed Sept. 29, 1882. (No model.)



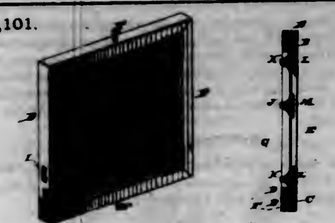
Claim.—The combination of the suction-pipe A, having enlarged section or casing B, the chamber C, arranged within said casing, and having closed bottom and perforated top, and the exhaust-steam pipe G I, passing through the casing B and cover E into and nearly to the bottom of the chamber C, as set forth.

268,101. DOOR OR WINDOW SCREEN. RICHARD H. HOOPER, Lexington, Ky. Filed May 15, 1882. (No model.)

Brief.—Around the conical aperture in the inside are placed rings of opaque material to make brighter by contrast the light shining through the aperture.

Claim.—The combination, with the screen provided with suitable exit-openings, of the dark paper or other substance arranged around the same to bring the light at the opening into greater prominence, as set forth.

268,101.



268,102. ORNAMENTAL CHAIN. JAMES J. HOUTON, Attleborough, Mass. Filed Aug. 11, 1882. (No model.)



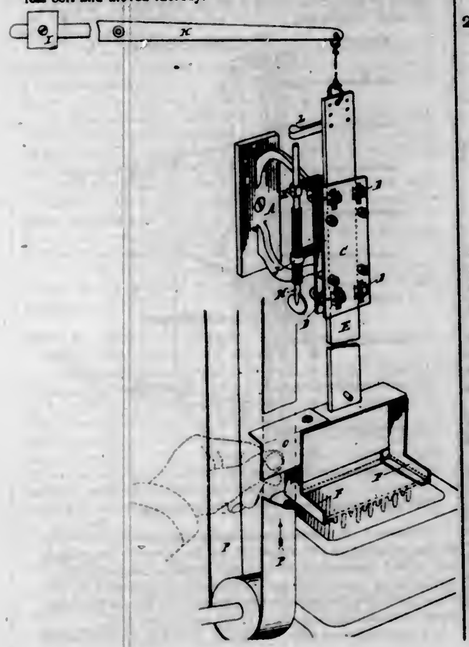
Claim.—1. As an improved article of manufacture, a watch-chain having an ornamental member, D, connecting the main chain and the bar-chain, substantially as set forth.

2. As an improved article of manufacture, a watch-chain having an ornamental member, D, which connects the charm-chain with the main and bar chains, substantially as set forth.

3. The combination, with a watch-chain composed of a main chain, A, a bar-chain, B, and a charm-chain, C, of an ornamental member, D, provided with means, as described, for connecting said chains, substantially as described and shown.

268,103. CAPSULE-MACHINE. FREDERICK A. HUBEL and HARRISON E. TAYLOR, Detroit, Mich., assignors to said Hubel. Filed June 14, 1882. (No model.)

Brief.—The immersing-plate is connected at will to an endless belt and moved thereby.



Claim.—1. In a device for dipping capsule-molds, the combination, with a suitable vessel for containing the fluid gelatine, of a vertically-moved carrier, to which the molds are attached, a bar or frame for suspending the same, and an adjustable stop for limiting the downward movement thereof, and a vertically-moving belt adapted to be temporarily connected to the said carrier-frame for imparting a steady downward movement thereto, substantially as described.

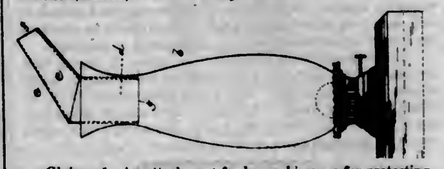
2. In a machine for dipping capsule-molds, the combination, with the carrier F and suitable means for lowering the same, of the traveling belt P and means, substantially as described, for temporarily connecting the carrier to the belt, as set forth.

3. In a machine for dipping capsule-molds, the combination, with the carrier F, having a projecting plate, O, of the belt P, for engaging with said plate for raising the carrier at a uniform speed, and the counterbalanced lever H and connection between the said lever and carrier, substantially as and for the purpose specified.

4. In a device for dipping capsule-molds, the carrier F, in combination with the bar E, having a stop, L, the guide C, the adjusting-screw M, and means for raising and lowering said carrier and bar, substantially as described.

5. In a device for dipping capsule-molds, the combination, with the carrier F, the bracket A, arm J, guide K, screw M, guide C, and rollers D, of the carrier F, having a plate, O, the belt P, the bar E, having stop L, and the lever H, substantially as and for the purpose specified.

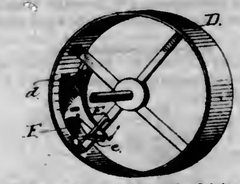
268,104. LAMP-CHIMNEY ATTACHMENT. JAMES O. ILLINGWORTH, Austin, Tex. Filed Aug. 21, 1882. (No model.)



Claim.—1. An attachment for lamp-chimneys for protecting the flame, consisting of a tube extending at an angle from the lamp-chimney, and detachably applied, substantially as specified.

2. An attachment for lamp-chimneys, consisting of a tube open at both ends, having a bent upper portion and a vertical lower portion, and detachable from the chimney, substantially as described.

268,105. ELEVATOR-ALARM. AUGUST C. JACOBI, Sand Creek, Wis. Filed Oct. 21, 1882. (No model.)



Claim.—1. In an elevator-alarm, the driving-pulley C, provided with a slot, *d*, in its rim, in combination with the pivoted rocker-arm E, provided with a rim passing through the slot *d*, and having its inner end, *e*, bent into a crank at right angles to the plane of its motion, substantially as herein described.

2. In an elevator-alarm, the driving-pulley C, provided with the slot *d* in its rim, and carrying the pivoted rocker-arm E, provided with the crank *e*, in combination with the bent lever G, having its bearing in the adjustable plate K, substantially as and for the purpose set forth.

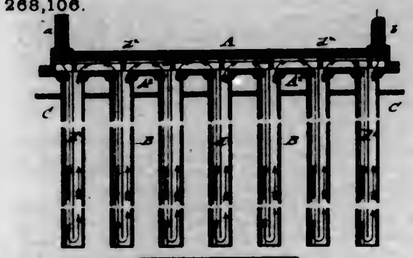
3. The driving-pulley C, carrying the rocker-arm E, in combination with the bent lever G, cord H, and alarm mechanism, substantially as and for the purpose set forth.

268,106. COOLING APPARATUS. HERMANN KRONPP, New York, N. Y. Filed Aug. 21, 1882. (No model.)

Claim.—1. The combination of a supply-chamber, A, having transverse partitions *d*, provided with air-openings *d'*, diaphragms *d'*, extending downwardly in line therewith, and cooling-pipes B, attached to the bottom of the supply-chamber and inclosing said diaphragms, substantially as specified.

2. The combination of a supply-chamber, A, having transverse diaphragm *d*, and centrally-partitioned cooling-pipes B, with an exterior perforated cleaning-plate, C, substantially as set forth.

268,106.



268,107. SPEED-INDICATOR. WILLIAM LAKE, Brooklyn, N. Y. Filed Sept. 11, 1882. (No model.)



Claim.—1. In a speed-indicator, the combination of a supporting-frame, A, having bearings *a a*, a double spindle, B, retained, by suitable means, in the spindle-bearings and pointed at both ends, a detachable socket-handle, C, and means for attaching the same to either spindle-bearing, substantially as specified.

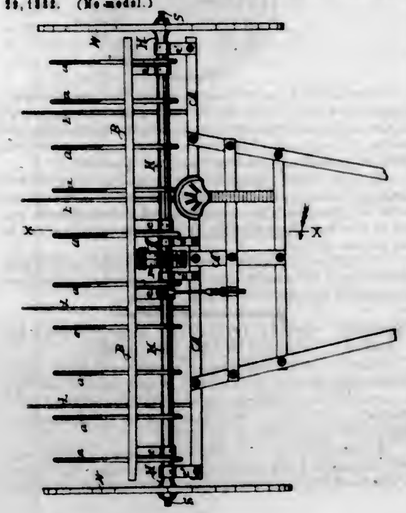
2. The combination of a supporting-frame, A, having spindle-bearings *a a* and means for retaining the spindle, a double spindle, B, pointed at both ends, a registering device, D D', operated by a worm-wheel of the spindle, a detachable socket-handle, C, and means whereby the handle may be secured to either one of the bearings, substantially as specified.

268,108. BOX-FASTENER. WILLIAM LAKE, Brooklyn, N. Y. Filed May 25, 1882. (No model.)



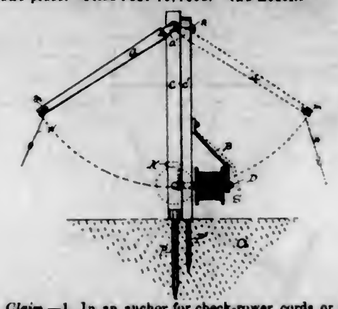
Claim.—The combination, in a box-fastener, of the lower face-plate, A, having a slotted lip or flange, a pivoted handle-casing, C, having an interior spring, *c*, and a fixed hook, D, attached to the inner end of the handle pivot, with an upper plate, B, having a slotted lip or flange for the entrance of the hook, all substantially as set forth.

268,109. HORSE HAY-RAKE. TYLER C. LORD, Joliet, Ill., assignor of one-half to Frank E. Marsh, same place. Filed June 29, 1882. (No model.)



Claim.—In a horse hay-rake, the elongated hubs H, containing the loose axle S, and having the offsets H' and flanges on their ends next the wheels W, for attachment thereto by means of bolts, and having the ratchets R on their inner ends to elevate the tooth-board B, containing the rake-teeth *a*, which inclose the said hubs H loosely, forming the rake-head, all arranged as and for the purpose set forth.

268,110. ANCHOR FOR CHECK-ROW CORD OR WIRE. TYLER C. LORD, Joliet, Ill., assignor of one-half to Frank E. Marsh, same place. Filed June 13, 1882. (No model.)



Claim.—1. In an anchor for check-rower cords or wire, the post *c*, having the pendulum-arm *a* attached thereto, in the manner and for the purpose set forth.

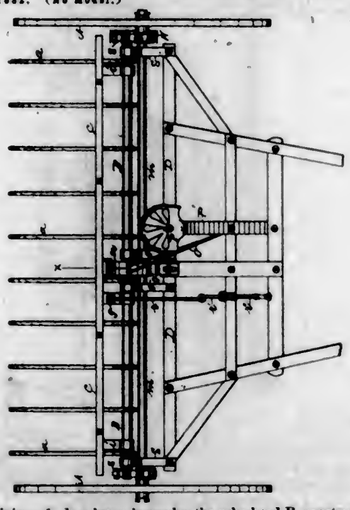
2. In an anchor for check-rower cords or wire, the post *c*, having the point P, and having the brace *c'*, with the pin P', hinged thereto, all arranged to support the pendulum-arm *a*, for the purpose set forth.

3. In an anchor for check-rower cords or wire, the reel *s*, supported by the anchor-frame, for the purpose specified.

4. In an anchor for check-rower cords or wire, the reel *s*, supported by the anchor and arranged to unwind and wind up the cord or wire, in the manner substantially as specified.

5. In an anchor for check-rower cords or wires, the pendulum-arm *a*, for the purpose set forth.

268,111. HORSE HAY-RAKE. TYLER C. LORD, Joliet, Ill., assignor of one-half to Frank E. Marsh, same place. Filed Jan. 13, 1882. (No model.)



Claim.—1. In a horse hay-rake, the rake-head B, constructed in two equal parts and supported on the axle *w* by the arms S' and *o*, and arranged to revolve continuously independently of each other by means of the endless chains S, and provided on their inner ends with the ratchets *r* and pawls *n*, to elevate the tooth-board *c*, containing the teeth *a*, in the manner set forth.

2. In a horse hay-rake, the teeth *a*, hinged in the tooth-board

c, as shown, and arranged to inclose the rake-head B loosely and return through a separate aperture having a diameter coextensive with that of the teeth in the tooth-board, whereby the portion of the teeth inclosing the rake-head B is free to oscillate up and down by reason of such loose inclosure, as set forth.

268,112. OPERA-GLASS HOLDER. WILLIAM MACK, Terre Haute, Ind. Filed Apr. 28, 1882. (Model.)



Claim.—1. The combination of an opera-glass with a detachable handle for holding said glass to the eyes of the holder, substantially as described.

2. The combination of an opera-glass with a detachable handle, the handle being arranged at any suitable angle that will adapt the glass to the position of the eyes when held in either hand, as shown and described.

3. The combination of an opera-glass with an adjustable handle, the said handle being adapted to be elongated at will, substantially as described.

4. The combination, with an opera-glass, A, of the handle B, made in sections, as described, and arranged to close telescopically, the end section thereof being provided with a fastening device or clutch, in the manner shown and set forth.

5. The combination, with an opera-glass, of the handle, made in telescopic sections and adapted to close telescopically, the end section forming a cylinder, in which are placed a spring, piston, and hook, all arranged as set forth.

6. The combination, with an opera-glass, of the handle made in sections and arranged to close telescopically, the end section being provided with clutching devices, and the section itself, at its end, being provided with a bifurcated slot, for the purposes set forth and described.

7. As an article of manufacture, an opera-glass handle made in sections and provided at its end with clutching devices, substantially as described.

268,113. COLORING-MATTER. CARL MARTIUS, Berlin, Germany. Filed Aug. 26, 1882. (Specimens.)

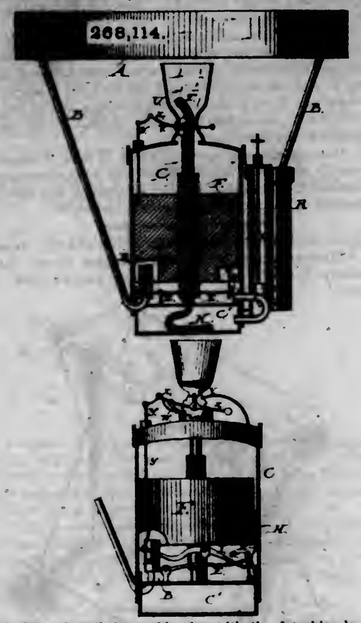
Claim.—The process, substantially as described, for producing the new basis for obtaining coloring-matter, crystallized cumidine, such consisting in heating with methylic alcohol in a digester hydrochlorate of cumidine and hydrochlorate of xylidine, and by a centrifuge or other suitable means separating the resulting nitrate from the mother-liquors, washing it, and subsequently converting it into the base and subjecting it to fractional distillation, and crystallizing the distillate and separating the crystals from the mother-liquors by a centrifuge or other suitable means, all being essentially as explained.

268,114. SELF-REGULATING LAMP. VINCENT DI MARSO, Benicia, Cal. Filed Sept. 18, 1882. (No model.)

Claim.—1. The receiver C, with its supply-pipe B, valve D, lever E, and float F, in combination with the hinged locking-plate G and spring H, substantially as herein described.

2. The receiver C, supply-pipe B, valve D, lever E, float F,

268,114.



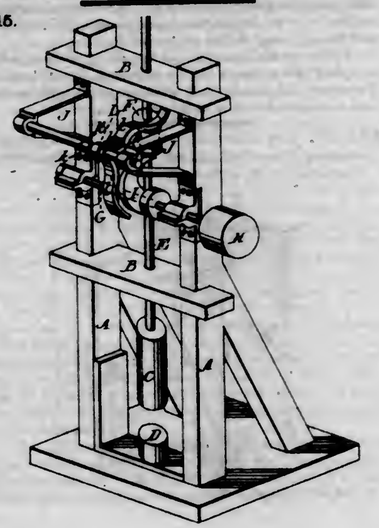
and locking-plate G, in combination with the detaching-lever I, having one end connected with the float and the other acting to force the plate G outward, substantially as herein described.

3. The chambers C and C', with the curved connecting-pipe J, passing through the chamber I, and having the cut-off valve M, in combination with the chamber R, float Q, lever O, and connecting-rods N and P, and the pipe S, leading from the top of the receiver C to the chamber R, substantially as herein described.

4. The wick-tube with its toothed shaft U, in combination with the ratchet V, pawl W, oscillating frame X, and stem Y, connecting with the float F, substantially as herein described.

5. In a lamp, the receiver C C', connected with and suspended from the reservoir A by the pipe or pipes B, the valve D, float F, and connecting-lever E, in combination with the chambers I, R, float Q, pipe J, valve M, and actuating-lever O, substantially as herein described.

268,115.

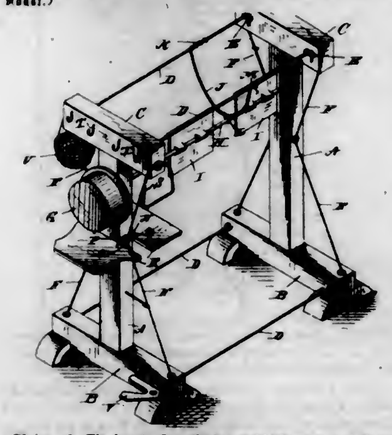


268,115. ORE-STAMP BATTERY. JAMES M. MCFARLAND, Virginia City, Nev. Filed June 23, 1882. (No model.)

Claim.—1. The combination, with the stamp C, stem E, tappet F, operating-cam, and cross-shaft K, of the speeding device, consisting of the swinging journaled arms *l l'*, the former of which extends to and rests upon said tappet and the latter is adapted to be brought into impingement with the revolving cam at the moment when said cam relieves the tappet, substantially as and for the purpose herein described.

2. In an ore-stamp battery, the stamp C, stem E, tappet F, cam-shaft G, and cam I, in combination with brackets or supports J, cross-shaft K, hub L, and arms *l l'*, all arranged and operating substantially as and for the purpose herein described.

268,116. AUTOMATIC-FAN COMBINATION-STAND. CHARLES H. MCKENNAN, Mineral Wells, Tex., assignor of one-half to Madison P. Pruitt, same place. Filed Aug. 26, 1882. (No model.)



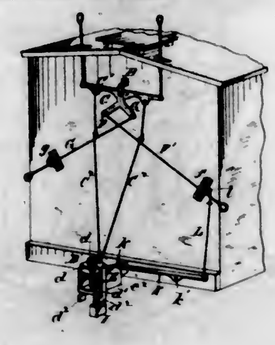
Claim.—1. The herein-described portable frame, consisting of the uprights A, having bases B and cross-pieces C, in combination with the detachably-connected braces or rods D, as set forth.

2. The combination, with the frame consisting of uprights A, having bases B, cross-pieces C, and connecting-rods D, of the spring-bracket, consisting of a wire attached to and coiled upon one of the rods D, and having eye L and hook M, the fan-shaft H, journaled in the eye L and in one of the uprights A, and mechanism for operating said fan-shaft, as set forth.

3. The herein-described portable frame, embodying the fan-shaft, spring-supporting bracket, and operating mechanism, and provided with the shelves, hooks, and brackets N R S T U V, all substantially as and for the purpose set forth.

4. The combination, with the upright A, of the rods N, having eyes P, the screws O, and the shelves R, having perforations Q to receive the ends of rods N, which are joined under the shelves, so as to support the latter, as set forth.

268,117. CAR-COUPLING. THOMAS H. MEDARIS, Mowe Ferry, assignor of one-half to John W. Easley, South Boston, Va. Filed July 7, 1882. (No model.)



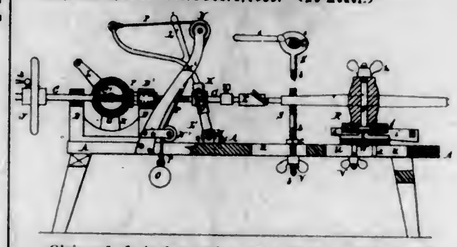
Claim.—1. The draw-head E, having incline *e'*, combined with the trip-lever K, coupling-pin, and operating-lever, as set forth.

2. The tilting lever C, having cross-arms F G', and the operating-rods, combined with the coupling-pin, as set forth.

3. The tilting lever C, having arms F G', the rods F' G, and connections C', combined with the coupling-pin *d*, as specified.

4. The frame D, having arms *d'*, provided with projections *d²*, the said frame carrying the coupling-pin *d*, combined with the draw-head E, having pins *e²*, whereby the frame D is prevented from becoming disengaged from the draw-head by the projections *d²* coming in contact with said pins, and the operating-levers F G C, as and for the purposes set forth.

268,118. BORING AND TENONING MACHINE. HENRY J. MILLER, Goshen, N. Y. Filed Feb. 4, 1882. (No model.)



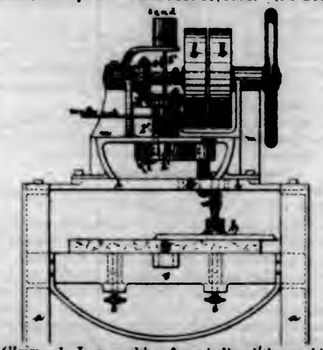
Claim.—1. In boring-machines for carriage and other woodwork, the arrangement of the sliding spindle C, with its fly-wheel and beveled pinion and gear G', the lever L', pulleys N, and weight O, to feed the auger or tenon-cutter automatically, in combination with the adjustable spoke-clamp S and adjustable hub-clamp R, substantially as and for the purpose herein set forth.

2. The combination and arrangement of the sliding spindle C, its fixed bearings, and the feed-lever L, its rope and weight, with the ratchet *k* and the pawl *l*, the tenon-cutter, the hub-clamp and its wedge-slides *i i*, and the spoke-clamp S, substantially as and for the purpose herein set forth.

3. The construction and arrangement of the felly-clamp T, with its base-plate *m* and its holding-down bolt, its vertical guide-posts *o o*, the table *n*, with the coupled wedge-slides *i i*, and the guide-plates *t t*, substantially as and for the purpose herein described and shown.

4. The combination and arrangement of the wedge-slide *i*, the felly-clamping table *n*, with its guide or guides *a a*, and the clamping-screw *r* and base-stock *m* and its thumb-screw nut V, substantially as and for the purpose herein described.

268,119. MACHINE FOR GRINDING LITHOGRAPHIC STONES. PETER C. MÖLLER, Leipsic, Saxony, Germany, assignor to C. G. Röder, same place. Filed June 16, 1882. (No model.)



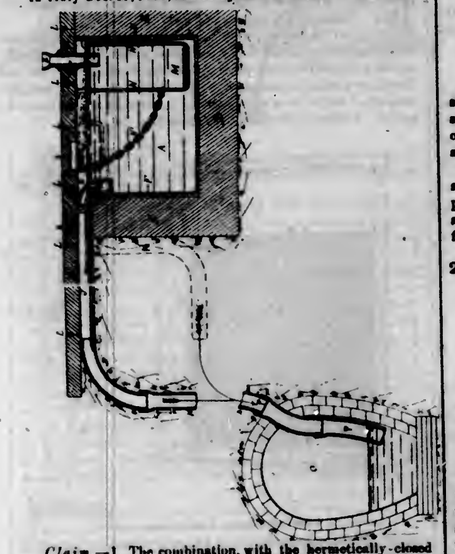
Claim.—1. In a machine for grinding lithographic stones, a fixed bed-plate for supporting the stone, adjusting set-screws and blocks, a main shaft, and a vertical shaft carrying bevel-gears, a crank-disk, an eccentric crank-pin, a pinion turning loosely on a journal of the pin, a circular top plate geared on its inner circumference meshing with the pinion, a spindle secured to the pinion, the grinding-plate turning loosely on the spindle, and devices by which sand and water are automatically supplied to the stone, substantially as described.

2. In a machine for grinding lithographic stones, the combination of the driving-shaft *d*, bevel-gears *e e*, vertical shaft *d'*, crank-disk *f*, having pin *f'*, eccentrically-connected pinion *h*, circular top plate, *i*, having a gear-wheel at its inner circumference, and grinding-plate *k*, turning loosely on the eccentric spindle *w* of pinion *h*, substantially as set forth.

3. In a machine for grinding lithographic stones, the combination of a sand-vessel, *s*, connecting-tube *s'*, funnel *t*, crank-disk *f*, having a circular trough, *r*, adjustable clearing-pins *n*, extending into the groove *r*, discharge-hole *a*, and deflecting-plate *g*, substantially as set forth.

4. In a machine for grinding lithographic stones, the combination of a water-supply pipe, funnel *t*, crank-disk *f*, having a circular trough, *r'*, and a small discharge-pipe, *p*, substantially as specified.

268,120. CESSPOOL. LOUIS MOUNAN, Vesoul, France. Filed Apr. 5, 1882. (No model.) Patented in France Sept. 28, 1881, No. 144,804; in Russia Dec. 3, 1881; in England Dec. 9, 1881, No. 5,291; in Belgium Dec. 10, 1881, No. 56,454; in Germany Dec. 10, 1881, No. 18,341; in Austria Dec. 18, 1881, No. 41,450, in Italy Dec. 19, 1881, and in Spain Dec. 26, 1881, No. 3,395.

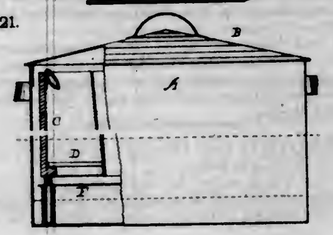


Claim.—1. The combination, with the hermetically-closed cesspool, of the inlet-pipe, the tray to receive the insoluble deposits, suspended below the inlet by links, the said links, and the chain to raise the tray to the discharge-opening, all arranged substantially as set forth.

2. The combination, with the deep hermetically-closed cesspool provided with a sealed inlet-pipe, a hermetically-closed discharge-opening in its cover, and a sealed outlet near its top, of the tray M, suspended below the inlet and provided with means, substantially as shown, for swinging it up to the discharge-opening in the cover of the pool, as set forth.

3. The combination, with the hermetically-closed cesspool provided with a suitable inlet, of the U-shaped discharge-passage J, the covering-flags G, having an aperture for the inspection of passage J, and the sealed plug I, to close said aperture, all arranged substantially as set forth.

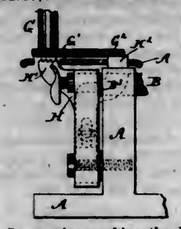
268,121.



268,121. TOBACCO-STEMMING BOX. WILLIAM HOER, Dayton, Ohio, assignor of one-half to Peter Loss, same place. Filed Aug. 18, 1882. (No model.)

Claim.—The boiler A, the open-top wooden box C, centrally arranged within said boiler, the same having a metallic bottom with slats resting on ledges on the sides of the same, and on the bottom of which are fastened slats to support the same, the perforate plate F, which is supported on legs to provide a water-space beneath the same, the whole combined and operated substantially as and for the purpose specified.

268,122. SEWING-MACHINE. CHARLES H. PALMER, New York, N. Y. Filed Jan. 11, 1882. (No model.)



Claim.—1. In a sewing-machine, the device H', rising and sinking with the feed, in combination therewith, and arranged to strike the presser-foot or a part connected thereto, so as to raise it out of contact with the feed at each rise of the latter, substantially as and for the purposes herein specified.

2. In a sewing-machine, the presser-bar G, presser-foot G', and back extension, G², in combination with the feeder H, toothed portion H', and back extension, H², formed in a separate piece and adjusted relatively to the part H' by the screw P, as herein specified.

268,123. PERCH-HEEL FOR VEHICLES. GEORGE M. PETERS, Columbus, Ohio. Filed Feb. 11, 1881. (No model.)



Claim.—1. A perch-heel consisting of the body *a*, provided with the extension *b*, overlying the perch, the body *a* at the end next the perch being extended down across the end of the perch and at the opposite end being cut away beneath and terminating in the narrow extension or portion *f*, all formed in one piece, substantially as and for the purposes specified.

2. A perch-heel consisting of the body *a*, provided with the extension *b*, overlying the perch, and provided with the central ridge or flange, *c*, the body *a* being at the end next the perch extended down across the end of the perch and at the opposite end being cut away and terminating in the narrow extension or portion *f*, all formed in one piece, substantially as and for the purposes specified.

3. In combination, the perch-heel consisting of the body *a*, provided with the extension *b*, overlying the perch, the body *a* being at the end next the perch extended down across the end of the perch and at the opposite end cut away and terminating in the thin narrow portion or branch *f*, formed in one piece, and the perch-plate extending beneath the extension of body *a* and the perch A', and the axle, and clip C, whose branch *d'* passes through the extension *f* and branch *d*, through the downwardly-extended portion of body *a*, substantially as and for the purposes specified.

4. The combination of extension *b*, overlying the perch and the body *a*, the end of which next the perch extends down across the end of the perch and the thin extension or branch *f*, and the perch-plate extending under the downwardly-extending portion of the body *a* and the clip C, the short branch *d'* of which passes through the extension *f* and the long branch *d* through the deep portion of body *a* and through the perch-plate, substantially as and for the purposes specified.

5. The combination of extension *b*, overlying the perch and provided with the central ridge or flange *c*, and the body *a*, the end of which next the perch extends down across the end of the perch and the thin extension or branch *f*, and the perch-plate ex-

tending under the downwardly-extending portion of the body *a* and the clip C, the short branch *d'* of which passes through the extension *f*, and the long branch *d* through the deep portion of body *a* and through the perch-plate, substantially as and for the purposes specified.

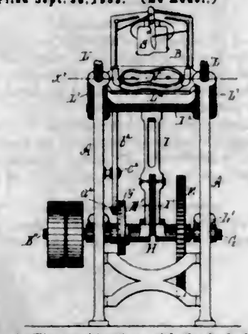
6. The combination of the channeled perch-plate and the perch heel or body *a*, extended down across the end of the perch and provided at bottom with the lug or washer K, fitting into the channeled perch-plate, substantially as and for the purposes specified.

7. A perch-heel provided with channeled extension *b*, the ridges of said channel being adapted to rest on the top of the perch, substantially as and for the purposes specified.

8. A perch-heel provided with channeled extension *b*, the ridges of said channel being adapted to rest on the top of the perch, said extension being further provided with the ridge or flange *c*, adapted to enter a slot in the wood of the perch, substantially as and for the purposes specified.

9. A perch-heel provided with the extension *b*, adapted to rest upon the top of the perch and provided with a flange or ridge, *c*, adapted to enter a slot or depression in the top of the perch, substantially as and for the purposes specified.

268,124. MACHINE FOR MOLDING BOOT AND SHOE SOLES. FREDERICK W. POPE, Lynn, and OSMAN HENRY FOX, Boston, Mass. Filed Sept. 25, 1882. (No model.)



Claim.—1. The combination, with the feed-plate and the two molding-platens of a sole-molding machine, of guides or stops automatically operating to intercept the advanced sole and determine its position over the lower platen and retreat before the two platens meet, substantially as described.

2. The combination, with the feed-plate and the two molding-platens of a sole-molding machine, of guides or stops operating automatically to intercept the advanced sole, and spring-impelled pins contained in pockets in the platens, and operating to clamp the sole before meeting of the platens, substantially as described.

3. The combination, with the feed-plate and the two molding-platens of a sole-molding machine, of yielding pins or bearers applied to both of said platens, and adapted as the platens closely approach each other to clamp the sole between them in position over the lower platen, while as the platens meet such pins recede until their heads are flush with the molding-surfaces of said platens, substantially as described.

4. The bars O P, pivoted to the table B, in combination with the feed-plate S and platen N, such bars being operated by the pitmen *n n*, connecting them with the shipper-bar *i*, and the latter operated in one direction by the spring *k* and in the other by the stud *f'* of the said feed-plate, substantially as described.

5. The bars O P, with their bearers *f f*, in combination with the platen M and feed-plate S, said bars being pivoted at their rear ends to the table B, and opened or closed by suitable means, substantially as described.

6. The combination, with the feed-plate S and bars O P, pivoted at their rear ends to the table B, of the shipper-bar *i*, pivoted to such table and connected with the bars by the pitmen *n*, and forced out of its normal position to open said bars by the stud *f'* from the feed-plate acting upon an inclined plane upon the said bar *i* against the stress of the spring *k*, which serves to restore the said bar to its normal position, substantially as described.

7. The combination of the upper platen having spring-pressed pins *l l*, with the lower platen having spring-pressed pins *m m*, each pin being capable of receding under pressure into the body of its platen, but normally held in a protruding position by its spring, substantially as shown.

8. The self-adjusting gage-plate *r*, with the bevel *t* upon its lower edge, in combination with the table B, frame C, and feed-plate S, substantially as described.

9. The swinging arm *w*, in combination with the shelf Q and yielding ledge *v*, each arm being pivoted at one end to the under side of the shelf, and operated by the rod *x* and the link I of the toggle-joint, substantially as described.

10. The combination, with the table B, feed-plate S, gage-plate *r*, frame C, shelf Q, and ledge *v*, of a device operating automatically to tilt and pack against said ledge the soles precipitated in succession from the lower platen, substantially as described.

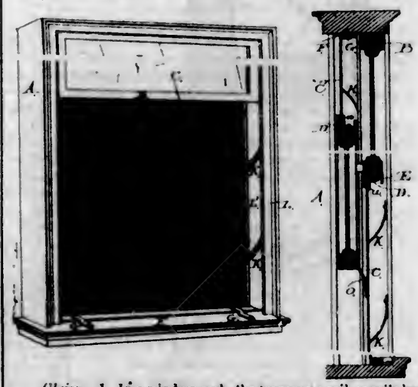
11. In combination with shelf Q, the yielding ledge *v*, attached thereto, substantially as set forth.

12. The table B, provided with inclined slots *e e*, in combination with the bars O P and adjustable pivots *e e*, substantially as and for the purposes stated.

13. In a sole-molding machine, the combination, with the molding-platens, of mechanism, substantially as described, for arresting the molded soles in succession as they are discharged from the platens, and packing the entire set thus discharged into a compact pile, substantially as explained.

268,125. WINDOW-SCREEN. GEORGE L. REYNOLDS, Oakland, Cal. Filed June 3, 1882. (No model.)

Brief.—The free end of the screen is secured by a plate thereon engaging buttons on the top or bottom of window-frame. Elastic curved strips on the beads press against the screens on one side and elastic vertical strips bear against them on the other. The counter-weights of the screens are channeled at one side to pass the cord-pulley. Guides to the screen are located on the sash.



Claim.—1. In a window-sash, the transverse rail or rails having the rollers D journaled to them, with screens or curtains attached, as shown, the free edges of said screens or curtains having plates F fixed to them and adapted to be secured by buttons G, substantially as herein described.

2. In a window, and in combination with the screens or curtains C, the elastic curved strips K, fixed at one end, so that the free end is held back when the window is closed and springs forward to press against the edge of the screen or curtain when the window is opened, substantially as herein described.

3. In a window, and in combination with the screen or curtain C, the elastic strip N fixed in the vertical strips L of the window, so as to press upon the edge of the screen or curtain when the sash is opened, substantially as herein described.

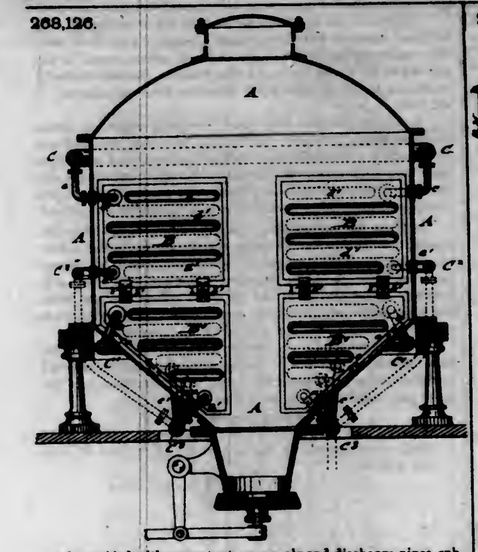
4. In a window, and in combination with a sash having a rolling screen or curtain journaled upon its edge and operated by a balance-weight, the weight H, channeled upon the side next to the pulley, and having the suspending-cord J passing down through the channel and secured at the bottom, substantially as herein described.

5. In a window-sash having a screen or curtain roller journaled on the transverse or meeting rail with the inclosing plates or case E, the spurs or guides *a*, between which and the outer plate, E, the edges of the screen pass and are kept in place, substantially as herein described.

268,126. VACUUM-PAN. EMIL RIESS, Jersey City, N.J. Filed Sept. 1, 1882. (No model.)

Claim.—1. A vacuum-pan having an upper tier of radial evaporators provided with steam supply and discharge pipes, and a lower tier of radial evaporators vertically below the upper tier,

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and provided with separate steam supply and discharge pipes, substantially as set forth.

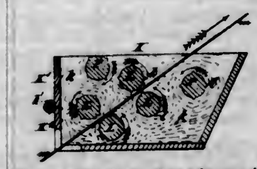
2. A vacuum-pan provided with an upper tier of radial evaporators of oblong shape, extending from the circumference to some distance from the center of the pan, and with a lower tier of evaporators, of triangular shape, vertically below the upper tier, the lower tier of evaporators being made of varying width, so that the same number of evaporators can be arranged at the lower conical part as in the upper part of the pan, substantially as specified.

3. In a vacuum-pan, an evaporator composed of two plates having longitudinal grooves alternating at opposite sides, said plates being riveted together at the lines of contact of the grooves of one plate with the intermediate flat portions of the other plate, and secured to a stiffening exterior rod or frame, substantially as set forth.

4. The combination of a vacuum-pan, an upper tier of evaporators, a lower tier of evaporators, both tiers extending from the circumference toward a central open space of the pan, separate steam supply and discharge pipes for each tier of evaporators, and means whereby both tiers of evaporators are rigidly connected with each other and to the pan, substantially as set forth.

268,127. APPARATUS FOR COATING METALS WITH METAL. HENRY ROBERTS, Johnstown, Pa. Filed Jan. 28, 1881. (No model.)

Brief.—The slag-wool is kept damp with water or tungstate of soda.



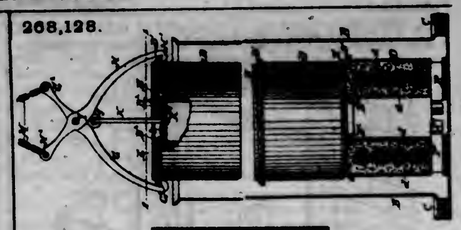
Claim.—In apparatus for coating wire, a wiper, through which the several wires pass to remove the surplus metal, composed of artificial mineral fiber, known as "slag-wool," combined with means for moving and working the said material, substantially as herein specified.

268,128. ANNEALING-POT FOR WIRE. HENRY ROBERTS, Pittsburg, Pa. Filed July 31, 1882. (No model.)

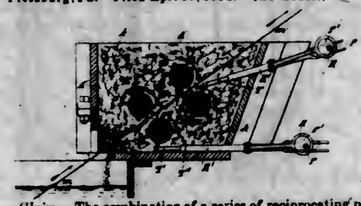
Claim.—1. The annealing-pot described, composed of the annular vessel D, having the external flange, D', and internal lugs, D^2, and adapted to serve as and for the purposes herein specified.

2. The chain M, tongs G H, pivot I, headed rod K K', and plate L, in combination with the annealing-pot D D' D^2, and adapted to serve therewith, as and for the purposes herein specified.

268,128.

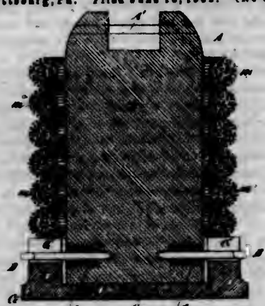


268,129. WIRE-WIPING APPARATUS. HENRY ROBERTS, Pittsburg, Pa. Filed Apr. 27, 1882. (No model.)



Claim.—The combination of a series of reciprocating packers, T, with the box K, containing wiping material *k*, and with the revolving rolls L, as and for the purposes specified.

268,130. APPARATUS FOR PICKLING WIRE. HENRY ROBERTS, Pittsburg, Pa. Filed June 16, 1882. (No model.)



Claim.—1. The reel A, with its removable pins D and lifting-ball A', in combination with the stand G G', adapted to serve relatively to each other and to the series of bundles of wire *m*, as herein specified.

2. The pins D and bushings A^2 in the reel A, arranged to serve relatively to the bundles of wire and to the stand G G', as herein set forth.

268,131. ICE-CREEPER. REINHOLD ROHRBLECHER, Stuttgart, Germany. Filed Sept. 1, 1882. (No model.)

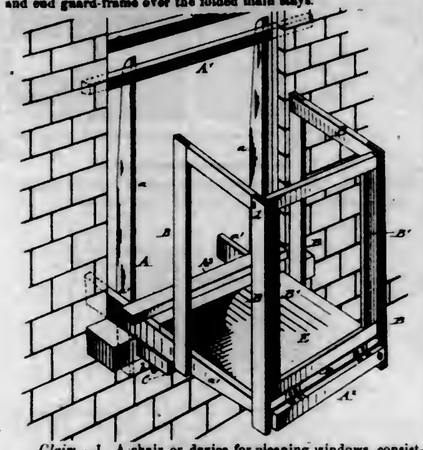


Claim.—The combination of a closed yoke-shaped heel-frame, *a*, having bearings *a' a'* for the spur-shaft, a fixed upwardly-extending and recessed arm, *f''*, and a hole, *f'*, at one side thereof, with a detachable transverse shaft, *b*, having spurs *b' b'* and a handle, *d*, with a set-screw, *f*, the latter being adapted to engage either hole *f'* or the recessed end of the arm *f''*, substantially as specified.

268,132. WINDOW-CLEANING CHAIR. FRIEDRICH SARDYOS, New York, N.Y. Filed Aug. 31, 1882. (No model.)

Brief.—Consists of rectangular main stays provided with fixed side guard-frames and connected by pivoted transverse pieces, and a hinged intermediate piece with an intermediate strip hinged to the end transverse piece; also, of a platform hinged to the intermediate strip and an end guard-frame hinged to the platform.

The side and end guard-frames are secured by locks. The main stays and side guard-frames fold upon each other and the platform and end guard-frame over the folded main stays.

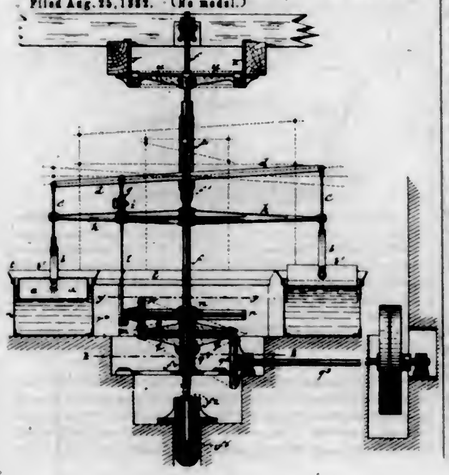


Claim.—1. A chair or device for cleaning windows, consisting of rectangular main stays A A, connected by transverse pieces A' A² A', fixed side guard-frames, B B, hinged platform E, end guard-frame, B', hinged to the platform, locking devices *d d*, for connecting the side and end guard-frames, and means C C, for clamping the main stays to the window-sill, substantially as and for the purpose set forth.

2. A window-cleaning chair composed of rectangular main stays A A, connected by transverse pivoted end pieces, A' A², and hinged intermediate piece, A', fixed side guard-frames, B B, attached to the horizontal arms of the main stays, hinged intermediate strip, D, hinged platform E, hinged end guard-frame, B', means *d d*, for locking the side and end guard-frames, and adjustable clamp-pieces C C of the main stays, substantially as specified.

3. The combination of rectangular main stays A A, provided with fixed side guard-frames, B B, and connected by pivoted transverse pieces A' A², and hinged intermediate piece, A', with intermediate strip, D, hinged to the end strip, A², platform E, hinged to strip D, and end guard-frame, B', hinged to platform E, the main stays and side guard-frames being adapted to fold upon each other, and the platform and end guard-frame over the folded main stays, substantially as set forth.

268,133. APPARATUS FOR WASHING OUT OR SEPARATING SOLUBLE FROM INSOLUBLE SUBSTANCES. HERMANN SCHARDT, Zeitz, Prussia, Germany, assignor to the Zeitzer Eisengiesserei and Maschinenbau Actiengesellschaft, same place. Filed Aug. 25, 1882. (No model.)



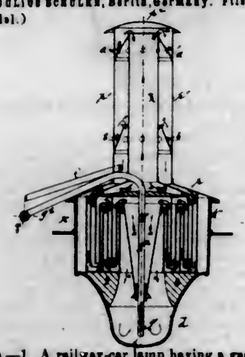
Claim.—1. An apparatus for washing out or separating soluble from insoluble substances, which consists of a series of vertically-suspended screen-boxes, of a series of tanks arranged in battery below the screen-boxes, and of mechanism whereby vertically-oscillating motion is imparted to the screen-boxes, substantially as set forth.

2. The combination of a series of vertically-oscillating screen-boxes, which are arranged equidistantly from each other and concentrically to a vertical center shaft, with a number of washing or separating tanks arranged in battery below the screen-boxes, and provided with intermediate spaces between the batteries for discharging the contents of the screen-boxes, substantially as set forth.

3. In an apparatus for separating soluble from insoluble substances, the combination of a series of vertically-suspended screen-boxes, washing-tanks arranged in battery, mechanism for imparting an oscillating motion to the screen-boxes, and mechanism, substantially as described, whereby the entire system of screen-boxes and their oscillating mechanism may be raised or lowered, so as to be turned around its axis, substantially as specified.

4. In an apparatus for washing out and separating soluble from insoluble substances, a battery of washing-tanks connected by siphon-pipes *s*, and provided with a shedding-frame, *t*, at the upper part, substantially as set forth.

268,134. LAMP FOR RAILROAD-CARS AND OTHER VEHICLES. JULIUS SCHÜLER, Berlin, Germany. Filed June 10, 1882. (No model.)



Claim.—1. A railway-car lamp having a gas-supply tube, F, passing down through its center, an extension-top, *p'*, a central chimney, a series of annular air-channels formed by concentric cylinders and diaphragms, the support L, a glass globe below the burner, circumferentially-arranged induction and eduction openings in the extension-top, the cap *p²*, and the tube *t'*, substantially as described.

2. In gas-lamps for railway-cars, the combination of the lamp-casing K, having a glass bowl, *d*, and reflector *f*, top *p*, cylindrical extension *p'*, having induction-openings E and eduction-openings A, interior gas-chimney, R, tube *t'*, and non-conducting cone *c*, forming an air-channel, C, around the chimney, substantially as described.

3. The combination, in a railway-car lamp, of a tube, *t'*, casing K, having a glass globe, *d*, top *p*, and extension-cylinder *p'*, having circumferentially-arranged induction-openings E and eduction-openings A, which communicate respectively with an interior air-channel, C, and an interior chimney, R, whereby the effect of the exterior air-currents upon the flame is neutralized by the equilibrium of pressure established within the lamp, substantially as described.

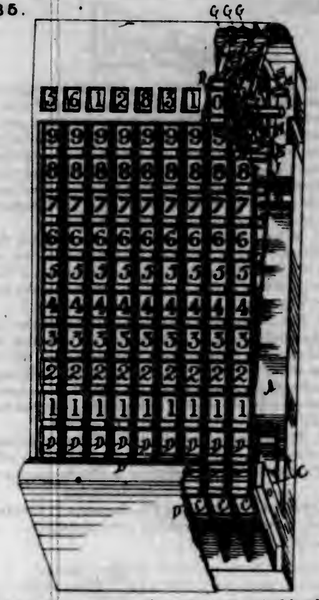
4. In a gas-lamp, the casing K, swivel-joint P, gas-supply pipe *g'*, top *p*, extension-cylinder *p'*, interior recessed case, *r*, burner *g*, and air-channel C, substantially as described.

268,135. ADDING-MACHINE. ARTHUR SHATTUCK and CHARLES THORP, Jr., Santa Rosa, Cal. Filed May 27, 1882. (No model.)

Claim.—1. In an adding-machine, and in combination with the stationary table A, with the rows of figures and the traveling chains, as shown, the rollers B, having the ratchet-wheels E and radial arms I, the levers G and H, connected by spring M, and the curved arms J and the pins K, substantially as and for the purpose herein described.

2. In an adding-machine, the stationary table A, with the parallel rows of figures, the moving open-link chains D, and the series of rollers B, having figures to correspond with those upon

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the table, in combination with the toothed or notched bar P, with its knob N, said notched bar acting to throw the levers G up from their ratchets to release the rollers and allow them to be turned freely, substantially as herein described.

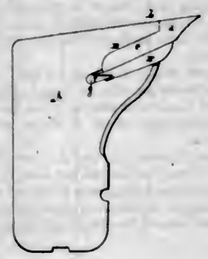
268,136. DEVICE FOR SUPPORTING LOOM-HARNESS. JOSEPH BLADDIN, Lawrence, Mass. Filed May 19, 1882. (No model.)



Claim.—1. The harness-supporting device herein described, consisting of a wire bent into two loops, one forming an eye to receive the supporting-cord, and the other a clasp to surround the heddle-shaft and leave a space for the backing-cord, substantially as described.

2. In combination with the shaft of a leaf of heddles, a wire bent into two loops, one forming an eye for the supporting-cord and the other embracing said shaft while leaving a space for the backing-cord, substantially as described.

268,137. SAW-TOOTH. NATHAN W. SPAULDING, San Francisco, Cal. Filed Sept. 27, 1881. (No model.)



Claim.—1. In combination with a saw-plate, a removable bit-holder having a socket to receive both a removable saw-tooth or bit and a sliding locking wedge or key, which fits against the bit and locks it into the holder, said holder being formed of one piece, all as set forth.

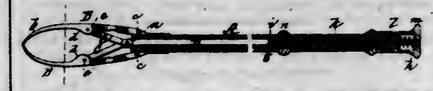
2. The bit *a*, with its shank *c* fitted to the socket in the bit-holder, with the transverse lug *d* and notch, in combination with a sliding key, E, having a spring, *i*, projecting from its rear end, substantially as and for the purpose herein described.

3. In a saw, the bit-holder A, having a socket D, to receive the bit and key, and having serrations *n*, in combination with a removable bit, *a*, and a key, E, having the spring-pawl *i*, substantially as herein described.

4. A bit-holder having the socket D tongued or grooved upon opposite sides to hold the shank of the cutting-bit and its locking key or wedge, in combination with the tooth or bit *a* and the locking sliding key or wedge E, having corresponding tongues and grooves upon their adjacent or meeting faces.

5. The bit *a*, with its shank *c* fitted to the socket in the bit-holder, and with transverse lug *d*, in combination with the bit-holder A, provided with a notch corresponding to the lug *d*, and with a sliding key, *e*, the parts being adapted to each other and operating substantially as described.

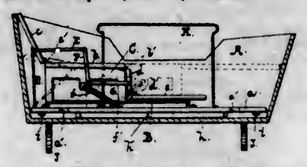
268,138. CULINARY FORK OR DOMESTIC IMPLEMENT. NORMAN W. HENARDS, Washington, D.C., and THOMAS J. HOLMES Boston, Mass., assignors to Roswell W. Turner, Boston, Mass. Filed Aug. 17, 1882. (No model.)



Claim.—1. The tube A, rod D, spiral spring *k*, and a device for compressing the same, in combination with the toggle-arms C C and jaws B B, substantially as and for the purpose described.

2. The tube A, with the jaws B B, pivoted to its lower end, and with the sleeve *l*, made to slide over its upper end, in combination with the rod D, connected with the jaws B B by the toggle-arms C C, the rod being depressed against the resistance of the spiral spring *k*, as and for the purpose set forth.

268,139. CHILD'S CARRIAGE. GEORGE P. STEINBACH, Baltimore, Md. Filed Apr. 11, 1882. (No model.)



Claim.—1. A child's carriage having its back, seat, and foot-rest or front board connected together and adapted to slide bodily forward in the carriage, and in so doing to arrange themselves substantially in line to form a couch.

2. A child's carriage having a body of the usual or conventional form and provided with a back, seat, and foot-rest bodily removable therefrom and adapted to form a couch.

3. A child's carriage having a seat-support adapted to slide forward in the body, and having a back and foot-rest or front board attached to the seat and arranged to form with the seat a couch.

4. A child's carriage having its seat, back, and foot-rest removable and provided with rockers to form a cradle.

5. In combination with the body, having guide-rails or slides, the seat-support mounted thereon and the back and front board hinged to the seat and adapted, as the seat is slid forward, to arrange themselves in line to form a couch.

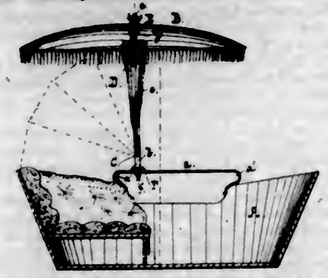
6. In combination with the base *a*, the back *c*, connected therewith and with the seat, whereby when the seat is slid forward the back is lowered.

7. In combination with the base *a*, the convertible seat and couch and the side rails, H.

8. In combination with the base *a*, the sliding seat and back and foot-rest, connected by actuating-levers, as set forth, and the rods D.

9. In a child's carriage, a seat having a back and front board hinged thereto and adapted to slide bodily forward in the carriage, in combination with mechanism, substantially as described, whereby in sliding the seat forward the back and front are brought into line therewith, as set forth.

268,140. CHILD'S CARRIAGE. GREGOR P. STEINBACH, Baltimore, Md. Filed Apr. 11, 1882. (No model.)

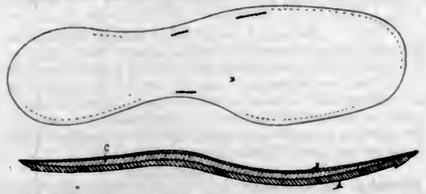


Claim.—1. In combination with the side rails having curved ends, the standards *b* and suitable clamping devices for securing them at any point upon the rails, as set forth.

2. In combination with the side rails, the standards *b*, having arms adapted to rest on the rails, and screws *f*, whereby the canopy is made readily removable, as set forth.

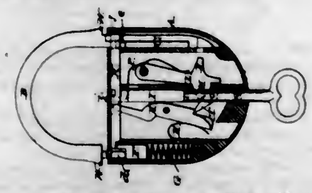
3. In combination with the standards and canopy, a series of bows hinged to the standards and covered by a textile fabric or netting, forming a supplemental shutter or mosquito-bar, arranged to be lowered upon the body of the carriage and to fold and be secured parallel to the standards, as set forth.

268,141. INSOLE FOR BOOTS OR SHOES. JESSUP B. STEVENS, Detroit, Mich. Filed Mar. 23, 1882. (No model.)



Claim.—As an improved article of manufacture, an insole for boots and shoes, consisting of a layer of leather having its edges beveled, and another layer of cork, the latter covered with a sock-lining, and the three permanently stitched together, substantially as described, and for the purpose specified.

268,142. PADLOCK. DANIEL SWEENEY, Paterson, N. J. Filed July 29, 1882. (Model.)



Claim.—1. The combination, in a padlock, with a bolt, H, tumbler I, and throw-lever K, of the swinging tumbler L and its offset M, constructed and adapted to operate substantially in the manner and for the purpose herein set forth.

2. The combination, in a padlock, with its shackle A, bolt H, tumbler I, and throw-lever K, and with the offset M upon the swinging tumbler L, of a dog, N, opposite to said offset, adapted to engage and lock the longer arm of the shackle when the tumbler is forced back from the keyway, substantially in the manner and for the purpose herein set forth.

3. The combination, with the bolt H, throw-lever K, and tumblers I and L of a padlock, of a key-stem, S, carrying a pivoted tumbler, T, adapted to swing out from the stem and engage the throw-lever K, substantially in the manner and for the purpose herein set forth.

268,143. MACHINE FOR ATTACHING BUTTONS TO SHOES. PARKER H. SWEBY, Jr., Washington, D. C. Filed Sept. 19, 1882. (No model.)

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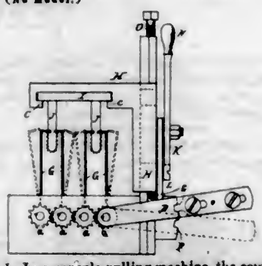
Claim.—1. An automatic machine for attaching buttons to fabrics, consisting of a supporting-frame provided with a plunger, B, having a suitable holding-jaw, and operated by a series of levers connecting with a foot-treadle or other suitable power, and hoppers for distributing the buttons and metallic fasteners to inclined conductors, all substantially as shown and described, whereby the said buttons and fasteners are fed into position from separate conductors, one after the other, for attachment to the desired material, substantially as and for the purpose specified.

2. In a machine for attaching buttons to fabrics, the inclined conductors F and M, provided respectively with the hoppers H and L and their feed mechanisms, in combination with the plunger B, having a holding-jaw, *m*, and the recess *d'* in the base of said frame, substantially as and for the purpose specified.

3. The hopper H, mounted upon the cylindrical casing H', and provided with the distributing-wheel G, having slots *f* and central axle, *d*, a space, *e*, being provided to one side and at the bottom of said wheel and casing, in combination with the inclined conductor F, projections D D', rod A, lever K, connecting-rod *i*, ratchet-wheel *d'*, and pawl *d''*, substantially as and for the purpose specified.

4. The hopper L, provided with the tray *n*, having vertical slots or openings *o*, and partition N, in combination with the inclined conductor M, substantially as and for the purpose specified.

268,144. CAPSULE-REMOVER. HARRISON H. TAYLOR, Detroit, Mich., assignor to Frederick A. Hubel, same place. Filed Apr. 13, 1882. (No model.)



Claim.—1. In a capsule-pulling machine, the combination of the grooved fingers G and mechanism for advancing and retracting opposing series thereof, a removable mold-frame and sliding follower, the levers L and K, and handle N, substantially as shown and described.

2. A capsule-pulling machine consisting of the bed-plate A, guide B, rock-shafts C, levers D, K, and L, fingers G, sliding plate H, block M, and screw O, the parts constructed, arranged, and operating substantially as and for the purposes set forth.

268,145. SOFA-BEDSTEAD. ROBERT W. TAYLOR, San Francisco, Cal. Filed Sept. 12, 1882. (No model.)

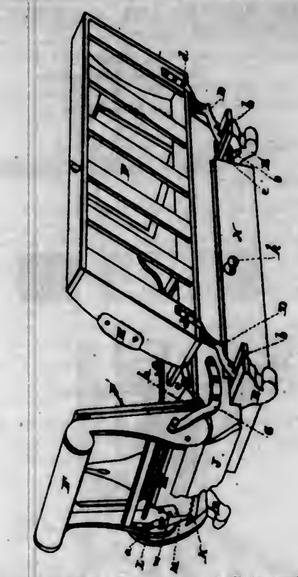
Claim.—1. In a sofa-bedstead, the seat A, in combination with the ends F and the means for hinging them to the seat, consisting of the elbow-supporting irons G upon the back of the seat, and the shafts or rods H, passing through the ends and supported in said irons G and in the front of the seat, all arranged substantially as herein described.

2. In a sofa-bedstead, the seat A, having at each front end a high wide face-plate, *a*, in combination with the ends F and the means for hinging them behind the face-plates, consisting of the shafts or rods H, supported by irons G on the back of the seat and a socket on the inner surface of the face-plates, substantially as herein described.

3. In a sofa-bedstead, the seat A and back C, having end blocks, E, in combination with the hinged ends F and the folding ends F', hinged thereto and adapted, when opened out, to rest in a horizontal position upon blocks E of the back, substantially as herein described.

4. In a sofa-bedstead, the seat A, elbow-supporting irons G, and shafts H, in combination with the swinging ends F, journaled on said shafts, and the folding ends F', hinged to ends F by hinges *h*, placed in position, as shown, to extend behind irons G to limit the upward movement of the swinging ends, substantially as herein described.

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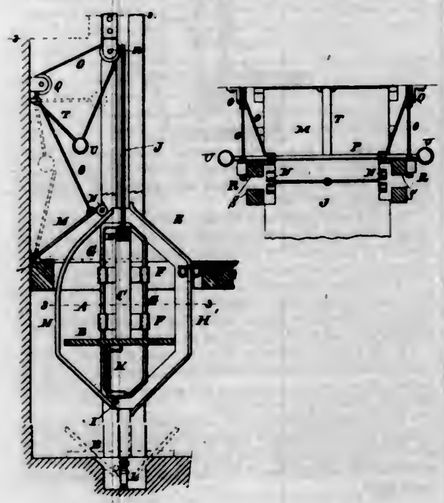


5. In a sofa-bedstead, the swinging ends F, in combination with the folding ends F', hinged thereto and made narrower than the ends F, that their outer edges or faces may not lie flush, but may form an angle, substantially as and for the purpose herein described.

6. In a sofa-bedstead, the seat A, ends F, supporting-irons G, and shafts or rods H, upon which the ends are journaled, arranged and operating as shown, in combination with the curved ratchets K, having points or stops *i*, and the swinging pawls M, limited by pins *n*, and operating to adjust and fix the ends at any inclination, substantially as herein described.

268,146. SELF-CLOSING HATCHWAY. RICHARD D. THACKERAY, St. Louis, Mo., assignor of one-half to HENRY I. COE, same place. Filed June 28, 1882. (No model.)

Brief.—The cage moves vertically in a frame by means of straps on the cage sliding on rods in the frame. The latter has a connecting-rod and a swing-arm acted upon by a cam at the bottom of the wellway. The hatch-door is connected by ropes with a counterbalanced bar swinging on a pivoted arm.



Claim.—1. In a self-closing hatchway, the combination of cage and frame, constructed substantially as described, the former adapted to have vertical movement in the latter, as and for the purposes set forth.

2. The combination of cage A and frame E, movable thereon, connected together by plates F and vertical rods G, secured respectively to the cage and frame, substantially as shown and described, for the purpose set forth.

3. The combination of cage A, frame E, movable thereon, connecting-rod I, arm K, and cam L, all constructed substantially as and for the purpose set forth.

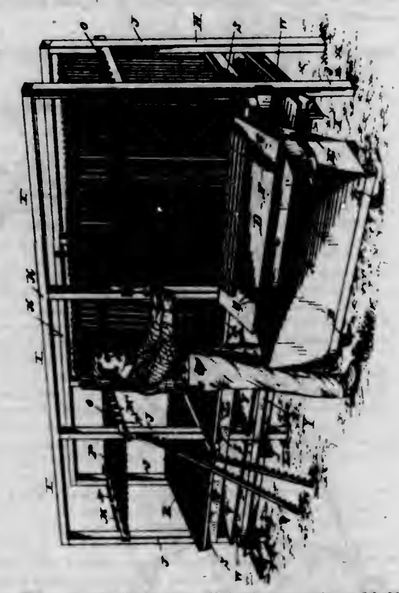
4. The combination of cage A, frame E, door M, connected to the bar or rod P by ropes O, passing over pulleys, and the rod having counterbalance-balls U and connecting-arm T, all constructed and arranged substantially as and for the purpose set forth.

268,147. CHECK-REIN. GORDON THEOBALD, Boston, Mass., assignor of one-half to Adams & Illsley, same place. Filed Sept. 30, 1878.



Claim.—An elastic device for connecting the check-rein and saddle-hook, consisting of a flexible tubular leather sheath, partially closed at one end and provided at the other end with a flexible loop integral with the sheath, a metallic rod which slides in the sheath, provided with a fixed collar at its inner end and a loop at its outer end, a collar loose on said rod within the sheath, and a spiral spring surrounding the rod between the fixed and loose collars, substantially as described.

268,148. APPARATUS FOR PAINTING PENCIL-PICKETS, &c., BY DIPPING. WILBUR THOMAS, Quincy, Ill. Filed Aug. 4, 1882. (No model.)



Claim.—1. The drying-frame H, having separating and holding strips at the top, and under these a false latticed bottom, below which is arranged an inclined drip-platform having under its lower edge an inclined trough, as set forth.

2. The combination, with the end posts of the frame having top cross-pieces, M M', one of which is formed with a series of holes or sockets in its inner face, and the other with a corresponding series of grooves in its upper edge, of the cross separating-strips provided with a lateral series of ∩-shaped loops or pins, as set forth.

3. The combination, with the end posts of the frame, having

longitudinal bottom rails, L L, one above the other, on different sides, of a removable false bottom composed of end pieces supporting two sets of parallel longitudinal strips arranged one set at right angles to the other, said end pieces resting on rails L L, whereby the false bottom is inclined, as and for the purpose specified.

4. The combination, with the end posts of the frame, having longitudinal rails L L, arranged one higher than the other, of the latticed platform or false bottom, inclined by resting on rails L L, the inclined drip-platform arranged under the same, and the inclined trough supported under the lower edge of the drip-platform, as set forth.

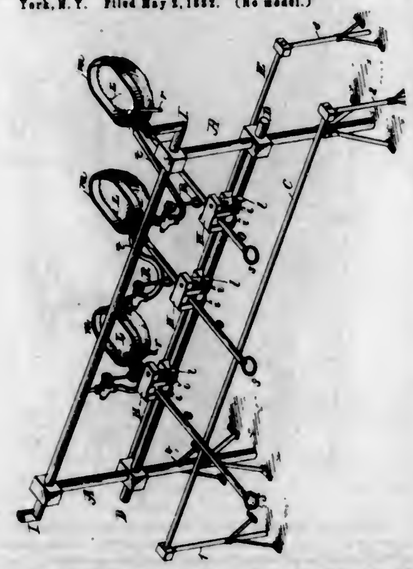
5. The combination, with the frame comprising the end posts braced by longitudinal top rails and unequally elevated bottom longitudinal rails, L L, and having top cross-pieces, M M', one having a series of sockets and the other a corresponding series of grooves, of the top removable separating-strips having a series of loops or pins, the inclined latticed false bottom, inclined drip-platform, and inclined trough, as set forth.

268,149. NEEDLE-WOVEN TAPESTRY. MARY E. TILLINGHAST, West Orange, N. J. Filed July 18, 1881. (Model.)



Claim.—The new article of manufacture consisting of a needle-woven tapestry in which a pictured design is formed by the combination, with a fabric or background having spaces between its woof-threads, of colored or ornamental threads woven or filled only into these spaces and secured therein by being passed under one or more of the warp-threads lying between the woof-threads, so that the design will appear as part of the original fabric, substantially as described.

268,150. FEED-BOX FOR STOCK. ALVARD D. TINGLEY, New York, N. Y. Filed May 2, 1882. (No model.)

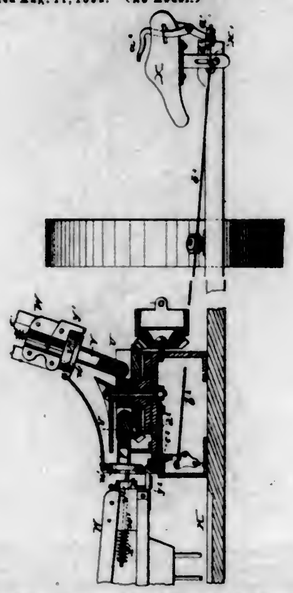


Claim.—1. In a stock-car feeding device, the sliding, flexible, and reversible feed and water box, substantially as described.

2. The combination of said flexible feed-box with sliding block H, provided with lever *l* and block *p*, substantially as described.

3. The combination of flexible feed-box and handles, the lateral independent moving and rolling or tilting support-blocks and their supports, the main water and conducting pipe, and the flexible connecting-pipes, substantially as described.

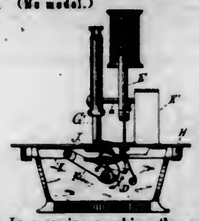
268,151. HARVESTER-RAKE. JOHN D. TRACY, Sterling, Ill. Filed Aug. 11, 1882. (No model.)



Claim.—1. The combination of the spring-catch B', foot-lever a^1, chain b^3, trip c^3, and thimble-plate w', provided with lugs y' and y^2 of different depths, whereby the raking off may be entirely suspended, or may occur at regular or irregular intervals, discretionary with the operator, substantially as herein shown, and for the purpose specified.

2. The combination of the catch B', foot-lever a^3, foot-rest X, screw-hook H', chain b^3, bell-crank plate d^3, and trip c^3, substantially as shown, and for the purpose described.

268,152. SEWING-MACHINE. THOMAS TULLY, Cleveland, Ohio, assignor, by direct and mesne assignments, to John Crowell, Jr., and G. Walter Shumway, both of Olean ville, Ohio. Filed Aug. 10, 1882. (No model.)



Claim.—1. In a sewing-machine, the combination, with a crank-wheel, of a pitman connected thereto, said pitman being provided with devices for engaging and feeding the goods to be sewed, substantially as set forth.

2. In a sewing-machine, the combination, with a looper and crank-wheel and pitman for operating the looper, of a thread-guide adapted to be actuated by the needle and allow the latter to pass through the loop on its down-stroke, substantially as set forth.

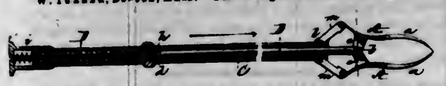
3. In a sewing-machine, a driving-shaft provided on one end with means for operating a vibrating arm and at its other end with means for operating a pitman, said pitman in turn operating both the feed and looper, substantially as set forth.

4. In a sewing-machine, the combination, with a driving-shaft provided with a crank, a sliding bar, and a pitman, of curved arms rigidly secured to the pitman and adapted to engage and feed the cloth, substantially as set forth.

5. In a sewing-machine, the combination, with the needle, of a thread-guide consisting of a spring secured at one end, and constructed with an inclined free end arranged and adapted to be moved by the engagement of the needle therewith, substantially as set forth.

6. In a sewing-machine, the combination, with a crank-wheel, of a feeder and looper, both being operated by one and the same pitman, substantially as and for the purpose shown and described.

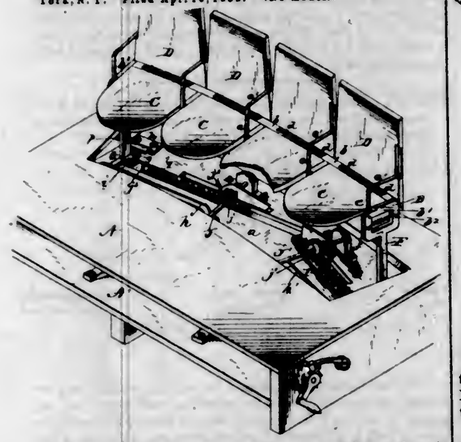
268,153. FORK FOR DOMESTIC AND OTHER USES. ROSWELL W. TURNER, Boston, Mass. Filed Aug. 17, 1882. (No model.)



Claim.—1. The toggle-arms m m, arranged, as described, for connecting the upper ends of the jaws A with the lower end of the tube C, in combination with the central rod, B, having its lower end secured to the fulcrum *b* of the jaws, and with its upper end surrounded by a spiral spring, D, and attached to a tubular sleeve, *i*, made to slide over the upper end of the tube, as and for the purpose described.

2. The collar or projection *s* on the outside of the tube, in combination with the sleeve *i*, rod B, spiral spring D, toggle-arms m m, and jaws A A, constructed to operate substantially as set forth.

268,154. FOLDING SEAT FOR THEATERS AND PUBLIC HALLS. EDWARD F. UNDERHILL and VINCENT P. LAKE, New York, N. Y. Filed Apr. 10, 1882. (No model.)



Claim.—1. The combination, with a recessed floor and a seat connected therewith and folding into a recess in said floor, of supporting-standards hinged to the seat-frame and reciprocating racks for operating said standards, substantially as described.

2. The combination, with a recessed floor and seats arranged in curved rows connected therewith and folding into recesses in said floor, of folding backs arranged to conform to the curvature of the rows of seats, and made tapering to adapt them to fold over said seats and snugly cover the recesses in the floor, substantially as described.

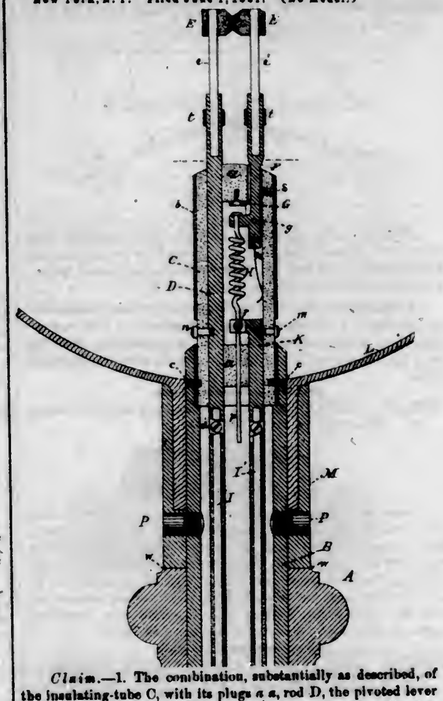
3. The combination, with a recessed floor and seats connected therewith and folding into recesses in said floor, of the hinged backs to said seats connected to their hinge-pins by short arms or levers, adapting the backs, when raised, to overhang the rear walls of the recesses, and the rear walls of the recesses operating, in connection with said arms, to automatically fold the backs when the seats are lowered into the recesses.

4. The combination, with a recessed floor, of seats connected to said floor and folding into recesses therein, folding backs hinged to said seats by lever-arms, adapting said backs, when raised, to overhang the rear walls of the recesses, springs for automatically raising the backs, and the portion of flooring overhung by said raised backs for automatically folding said backs, substantially as described.

5. The combination, with a recessed floor and a seat connected therewith and folding into a recess in said floor, of supporting-standards hinged to said seat, and springs attached at the pivotal connection of the supports with said seat for assisting to start the seat in both raising and lowering the same, substantially as described.

6. The combination, with the recessed floor and a seat connected therewith and folding into a recess therein, of the hinged supports to said seat, and adjustable stops for preventing forward and backward vibration of said supports when the seats are raised into position for use.

268,155. ELECTRIC-ARC LAMP. SILVANUS P. VAN CHOATE, New York, N. Y. Filed June 1, 1881. (No model.)



Claim.—1. The combination, substantially as described, of the insulating-tube C, with its plugs *a a*, rod D, the pivoted lever F, conducting-spring H, and spring A, the two latter for adjusting the electrodes and conveying the current thereto.

2. The combination, with the movable holder, of two springs acting in opposition to one another upon the holder, one of said springs serving to convey the current to the electrodes and when not acted upon by the current to hold them in contact, and the other weaker than the first, but acting when the first spring is elongated by the heating effects of the current to separate the electrodes and form the arc.

3. The combination, substantially as described, of a stationary and a movable electrode of refractory material, a spring acting upon the movable electrode and tending to separate the electrodes to form the arc, a spiral conducting-spring acting upon the same electrode, and tending, when not heated by the current, to force the electrodes into contact, and an adjustable stop for determining the amount of separation of the electrodes.

4. The combination, with the rocking holder G, carrying one of the refractory electrodes, of the conducting spiral spring H, fixed at one end to a stationary support and connected at the other to the rocking holder, said spring being applied, in the manner described, so as to tend, when cold, to pull the electrode toward its opposite electrode, and when heated by the passage of the current through it to relax, so as to allow the electrodes to be separated.

5. The combination, with the movable holder carrying one of the refractory electrodes, of an adjustable spiral actuating-spring, forming a path for the current, and tending, when cold, to hold the electrodes together, and means for separating the electrodes when the spiral spring is relaxed by the heating effects of the current passing through it.

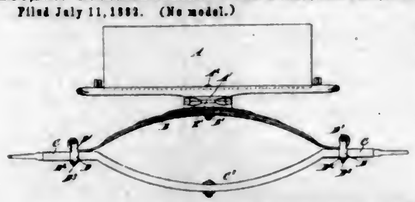
6. The combination of the hollow post, provided with a door or opening, with the tube or plug 13, supporting the light and adapted to slide up and down in said post, and means whereby the tube or plug may be held in a raised position.

7. The combination of the hollow post, provided with a door

or opening, with a carrier or support for the operating parts of the light, and means, substantially as described, whereby said carrier may be raised and lowered or held in a raised position, substantially as described.

8. The combination, with the carrier or support 13 for the operating parts of the lamp, of the tang or rod 15 and the step or support 16, substantially as and for the purpose described.

268,156. CARRIAGE-SPRING. JAMES WALSH, New York, N.Y. Filed July 11, 1882. (No model.)



Claim.—1. The half-elliptic spring B, having each end bent around and engaged with the top of the clip D D', in combination with the axle C and body A, whereby the spring is aided and restrained in yielding by the bent ends, as set forth.

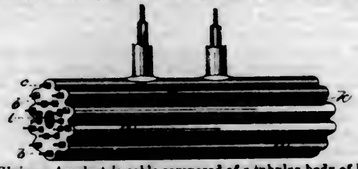
2. The fifth-wheel A' B', provided with the interposed yielding bushing E E', lining the king-pin opening and held in place by the two portions of the fifth-wheel, in combination with the king-pin A³, spring B, axle C, and body A, substantially as set forth.

268,157. ELECTRIC CABLE. RICHARD S. WARING, Pittsburg, Pa. Filed Sept. 14, 1882. (No model.)



Claim.—An electric conductor consisting of a wire or metallic body formed with a series of longitudinal ribs or pins radiating from a central core or body, the space between said ribs being filled with threads or strands of fibrous material laid longitudinally in the grooves, and a sewing of fibrous material, as described, to hold the first-mentioned insulator within the recesses between the ribs, the whole fibrous coating being saturated with insulating material, and an outer covering or casing, as set forth.

268,158. LEAD-ARMORED ELECTRIC CABLE. RICHARD S. WARING, Pittsburg, Pa. Filed Aug. 23, 1882. (No model.)



Claim.—An electric cable composed of a tubular body of lead or other ductile material, having external longitudinal ribs and two or more series of concentrically-grouped insulated wires extending through said body, each wire of the outer series extending through one of the ribs of the cable, substantially as specified.

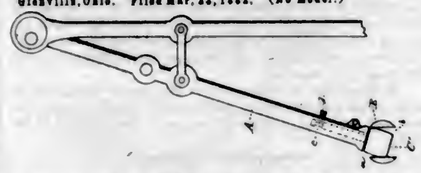
268,159. UNITING AND BRANCHING ELECTRIC CABLES. RICHARD S. WARING, Pittsburg, Pa. Filed Sept. 21, 1882. (No model.)



Claim.—1. The improved method of forming branch connections at any point in a lead-armored cable or section thereof, which consists in cutting through the armor transversely and longitudinally a suitable distance, opening the divided parts out, severing the conductor and bending each of the ends outward, and finally filling the cavity with insulating material and closing the parts of the armor, substantially as specified.

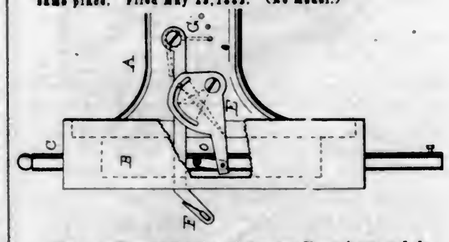
2. The method herein described of connecting two or more sections of a lead-armored cable, which consists in first flattening the ends of the wires to a tapering form, then lapping and soldering them, then wrapping them with wire, then insulating them and inclosing the insulated joint of each wire with a wrapping of thin lead extending from one section of the lead armor to the other, then placing an outer leaden sleeve over the ends of the two cable-sections and soldering the same, and finally filling the space within the joint with insulating material, substantially as described.

268,160. MECHANICAL MOVEMENT. RUEL W. WHITNEY, New York, N. Y., assignor to himself and John Crowell, Jr., Glenville, Ohio. Filed Mar. 23, 1882. (No model.)



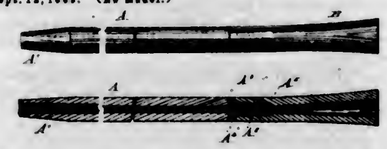
Claim.—The combination, with a vertical oscillating lever formed hollow at its lower end, of a spindle or end piece adapted to fit in the hollow end of said lever, and provided with an annular groove, and a set-screw adapted to enter the groove and retain the spindle in place and allow a revolving movement thereof, and a head to which is secured the bifurcated end of a horizontal lever, substantially as set forth.

268,161. TAKE-UP FOR SEWING-MACHINES. FRANK WILLHELM, Dayton, Ohio, assignor of one-half to Levi Spielman, same place. Filed May 29, 1882. (No model.)



Claim.—The combination of the cam E, as shown and described, the rear end pivoted to the sewing-machine arm and connected by the link O to the needle-bar, the take-up F, operated by a pin moving in said cam and pivoted above and to the rear of said cam-pivot, substantially as set forth.

268,162. TUBE FOR BLOWING GLASS AND MODE OF MANUFACTURING THE SAME. JOS. B. WILCH, Clayton, N. J., assignor of one-half to David Wilson Moore, same place. Filed Sept. 12, 1882. (No model.)



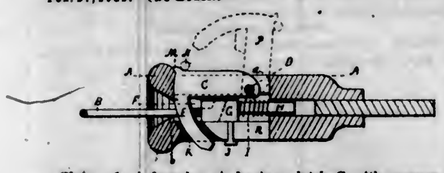
Claim.—1. A glass-blower's tube consisting essentially of a tube, A, having a screw-thread formed thereon, and provided with cylindric or conical bearings A' and A², combined with a metallic head, B, similarly threaded internally, and provided with cylindric or conical bearings B' and B², fitting upon the bearings A' and A², substantially as set forth and described.

2. A glass-blowing pipe or tube consisting of a threaded tube and head having screw-threads, one surface of which threads is at right angles to the said tube and head, substantially as set forth and described.

3. A glass-blower's tube having shoulders and contiguous cylindric bearings A' and A², in combination with a head having corresponding shoulders, B' and B², and united with the tube A by screw-threads, having one or more planes at right angles to the axis thereof, substantially as set forth.

4. As an article of manufacture, metallic tube-heads B, screw-threaded internally and provided with bearings B' and B², adapted to fit upon correspondingly-formed threads and bearings upon a tube, A, as and for the purpose set forth.

268,163. CAR-COUPLING. DANIEL WITT, Templeton, assignor of one-half to Andrew H. Kolman, Baldwinsville, Mass. Filed Feb. 27, 1882. (No model.)

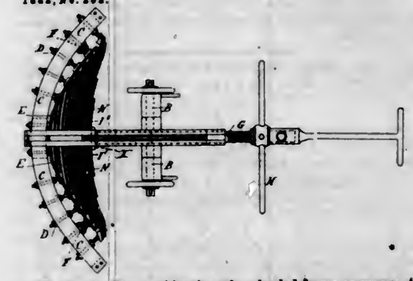


Claim.—1. A draw-bar, A, having a latch, C, with a concentrically-curved hook, E, and pivoted at its rear end within a slot of the draw-bar, so it will rest against the draw-bar at a when raised, and maintain itself in an upright position, capable of being thrown down by the impact of an approaching car, in combination with a sliding thrust-bar, G, actuated by a spring, I, said thrust-bar forming at the end a support for the hook E when the hook is thrown down, as described, and for the purpose specified.

2. The combination, in a draw-bar, of a vertically-swinging latch pivoted at its rear end, and having a projecting plate or blade, F, adapted to rest upon the inner end of the link B, with a horizontally-sliding thrust-bar, G, having a mortised end, L, to receive the plate F, as described, and for the purposes set forth.

3. The combination, in a draw-bar, of the latch C, having the blade F, with the sliding bar G, having the mortise L and guiding-pin J, as described, and for the purposes set forth.

268,164. APPARATUS FOR MAKING SPRINGS. HERBERT WOODRUFF and GEORGE HANSON, Sheffield, England. Filed Aug. 10, 1882. (No model.) Patented in England Jan. 16, 1882, No. 263.

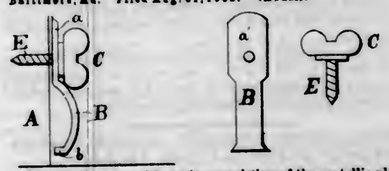


Claim.—1. The combination of a wheeled frame or cramp, A, curved block C, headed screws D, shaping-plate E, follower I, and pressing-plates I', substantially as set forth.

2. The combination, of a wheeled frame or cramp, A, curved block C, having headed screws D, one or more of which at each side of the cramp are provided with springs F, shaping-plate E, follower I, pressing-plates I', and screw-rod G, substantially as described.

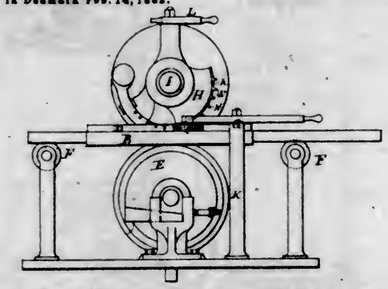
3. The combination of a wheeled frame or cramp, A, curved block C, screws D, shaping-plate E, follower I, pressing-plates I', screw-rod G, and separating-comb L, substantially as set forth.

268,165. STAIR-ROD SECURER. MICHAEL L. WOODWARD, Baltimore, Md. Filed Aug. 31, 1882. (Model.)



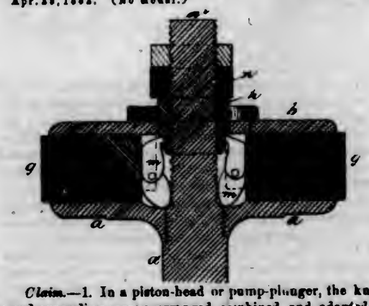
Claim.—A stair-rod fastening consisting of the metallic plate B, formed to correspond with the contour of the stair-rod, and having a perforated flange, *a*, at its upper end, and an inwardly-projecting flange, *b*, at its lower end, in combination with a set-screw, C, as and for the purpose described.

268,166. HORSESHOE-MACHINE. ANDERS ANDERSEN, Copenhagen, Denmark. Filed Sept. 4, 1882. (No model.) Patented in Denmark Feb. 14, 1882.



Claim.—The combination, in a machine for grooving and punching nail-holes in blanks for horseshoes, of the carriage B, supporting and guiding rollers E and F F, movable clamping-bar D, lever G, having roller C at its inner end, sector-shaped die H, having the cutting-edge *h* and punches *h'*, and means for operating said die, all constructed and combined to operate substantially in the manner and for the purpose herein shown and set forth.

268,167. PISTON. SAMUEL ARMSTRONG, Newark, N. J. Filed Apr. 29, 1882. (No model.)



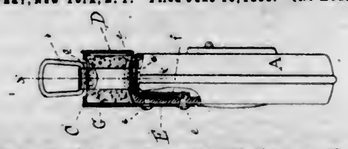
Claim.—1. In a piston-head or pump-plunger, the knuckles *m* and expanding means, arranged, combined, and adapted to operate to expand the packing, substantially as and for the purposes herein set forth.

2. In a piston-head or pump-plunger, the combination, with the series of knuckle-joints *m*, of sliding segments and expanding mechanism, arranged and operating substantially as and for the purposes herein set forth.

3. In combination, in a piston-head, the collar *h*, knuckle-joints *m*, segments *c*, springs *e*, and packing, arranged and combined substantially as herein set forth.

4. In combination, in a piston-head or pump-plunger, the collar *h*, the knuckle-joints engaging therewith, the segments, the springs *e*, the spring-bands *d f*, and the packing, the whole being arranged and combined substantially as herein set forth and shown.

268,168. ATTACHMENT FOR TAPE-MEASURE CASES. JOHN AVERY, New York, N. Y. Filed June 15, 1882. (No model.)

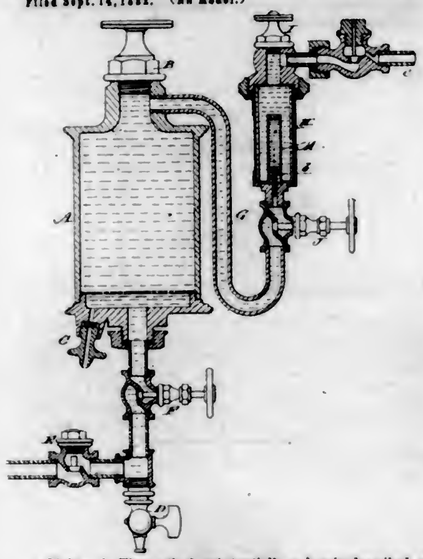


Claim.—1. The casing C, provided with the removable head or cap D and arm or flat bar E, substantially as and for the purpose herein described.

2. The combination of the casing A, provided with friction-rollers *a*, the casing C, provided with slots *c c*, and the packing or filling G, substantially as and for the purpose herein described.

3. The combination of the casing A, the casing C, provided with the arm or flat bar E, the screws *e*, and the fastening-plate *f*, substantially as and for the purpose herein described.

268,169. LUBRICATOR. PETER BARCLAY, East Boston, Mass. Filed Sept. 14, 1882. (No model.)

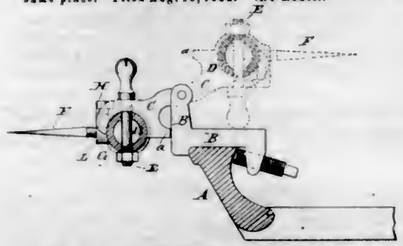


Claim.—1. The method, substantially as herein described, of feeding oil, consisting in passing it through a fluid medium of different specific gravity than said oil, delivering the oil from a cup or reservoir through a body of acidulous or other liquid of greater specific gravity than water within a glass or glazed chamber, and discharging the same through a suitable outlet to the part or parts to be lubricated, essentially as herein set forth.

2. In a lubricator in which the oil is fed by passing it through a fluid medium of greater specific gravity than said oil, the combination, with an outer glass or glazed indicator-tube, forming a receptacle for the water, of an inner transparent tube, arranged to project up within said outer tube, and serving to contain within it the denser fluid medium, also to receive the oil in small or detached quantities up through it, substantially as specified.

3. In a lubricator constructed to operate by drop-feed, substantially as described, the combination of the inner transparent acidulous liquid-tube, M, the oil-discharge pipe *b*, and the outer transparent or glazed tube of the indicator H, essentially as and for the purpose herein described.

268,170. BODKIN-HOLDER FOR SEWING-MACHINES. GEORG BAUM, Arbon, Switzerland, assignor to George Baum & Co., same place. Filed Aug. 18, 1882. (No model.)



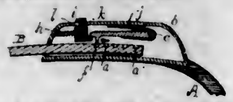
Claim.—1. The combination, with the needle-rail A of an embroidery-machine, of the hinged arms C, the tube or rod D, the rings G, clamped on the same, and the bodkins F, secured to the said rings, substantially as herein shown and described, and for the purpose set forth.

2. The combination, with the needle-rail A of an embroidery-machine, of the standards B on the same, the hinged arms C, provided with lugs *a*, the tube or rod D, and the bodkins F, held on the tube by clamping-rings G, substantially as herein shown and described, and for the purpose set forth.

3. The combination, with the needle-rail A, of the hinged arms C, the tube D, the bodkins F, secured to clamp-rings G on the tube, and the stop-rings J, provided with side arms, L, substantially as herein shown and described, and for the purpose set forth.

4. The combination, with the needle-rail A, of the hinged arms C, the tube D, the bodkins F, secured to clamp-rings G, and the stop-rings J, each provided with a side arm, L, having a recess or notch, *d*, in the upper edge, substantially as herein shown and described, and for the purpose set forth.

268,171. POLICE-HANDCUFF. EDWARD DAVIS BEAN, Chelsea, Mass. Filed Sept. 1, 1882. (No model.)



Claim.—1. In handcuffs or like articles, the two arms pivoted together, one of said arms having a series of pockets and the other arm being provided with a series of spring-pressed latches or bolts arranged in a row corresponding with said pockets, said latches or bolts being adapted to enter and engage said pockets, and provided with adjustable mechanism to hold said latches out of engagement with said pockets, substantially as and for the purposes set forth.

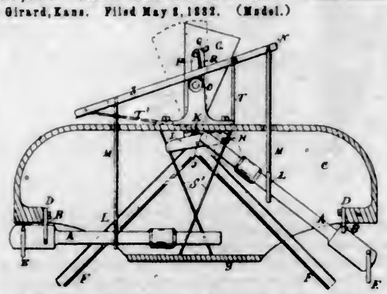
2. The arm or section A, provided at one end with the lock-case *b*, in combination with the arm or hasp B, pivoted to said arm A, and having pockets at the end which enters said lock-case, the swinging latches adapted to enter and engage said pockets, and the adjustable stop-plate *g*, substantially as and for the purpose set forth.

3. In combination with the lock-case *b*, latches *c c*, and stop-plate *g*, the thumb piece or knob *i*, located outside of such case, and connected with the stop-plate by a stud or shank which is adapted to traverse a slot in the cap of said lock-case.

268,172. WATER LAC VARNISH. GEORGE H. BECK, New York, N. Y. Filed Sept. 22, 1882. (No specimens.)

Claim.—The herein-described varnish, consisting of ammonia, shellac, water, gelatine, and glycerine, in about the proportions specified.

268,173. GRAIN WEIGHER AND TALLY. JESSE BEELER, Girard, Kans. Filed May 8, 1882. (Model.)



Claim.—1. The combination of weigh-beams A and tilting beam I, having striking-pins H and lodging-pins J, substantially as specified.

2. The combination of weigh-beams A, rock-lever N, stirrups L, rods M, arm P, shifting-lever Q, hopper G, and spouts F, substantially as specified.

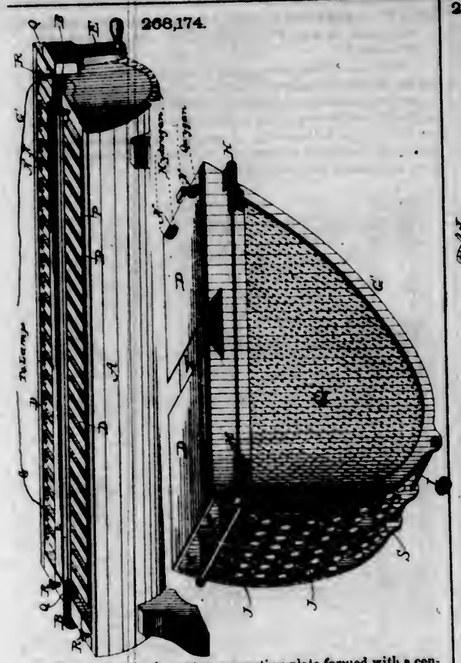
3. The combination, with the weigh-beams A, of the rocker-beam I, having the pins H J, the lever N, suspending by rods M the stirrups L, the rock-shaft O, having arm P, the shifting-lever Q, and the pivoted hopper G, whereby the hopper may be tilted, as described.

4. The combination, in a weighing apparatus, of the tilting weigh-beams A, rock-shafts O, operated by said tilting weigh-beams, and the shifting hopper G, actuated by said rock-shaft and shifted reversely thereto, substantially as specified.

268,174. ELECTRIC GENERATOR. VIRGIL W. BLANCHARD, New York, N. Y. Filed Aug. 31, 1882. (No model.)

Claim.—1. An electric generating device consisting essentially of a series of hollow box-like plates or elements having a removable filling of oxidized and non-oxidized granular metal in separated compartments, an electrolytic bath, and suitable connecting-wires, substantially as described.

268,174.



2. An electric element or generating-plate formed with a central partition having chambers on each side thereof, provided with hinged walls of foraminous material and adapted to contain granular metal, and a passage above each of said chambers, having a series of perforated tubes leading therefrom into and among the granular metal, and adapted to convey gaseous fluid thereto, as specified.

3. A semicircular element formed of two adjacent compartments containing respectively oxidized and non-oxidized granular lead, and provided with hinged side walls and passages connected with one or more reservoirs of gas communicating with said compartments, and a strip or gasket of elastic material arranged to form an edgewise packing for said element, substantially as described.

4. The combination of the revolving semicircular sets of plates, removably secured to an adjustable axis, and a semi-cylindrical containing-vessel, and adapted, when lowered into the said vessel, to form separate cells between each of said plates, substantially as described.

5. The plate D, formed with longitudinal and transverse partitions, the hinged perforated sides G, extending below said transverse partitions, a suitable circumferential elastic strip, and the perforated tubes J, extending downward and adapted to convey gaseous fluid from the compartments M M' to the compartments below the transverse partitions, substantially as set forth.

6. The combination of the plates D, constructed, as described, with the semi-cylindrical vessel and adjustable bearings, a suitable axis and operating devices, and the electrolytic liquid, substantially as described.

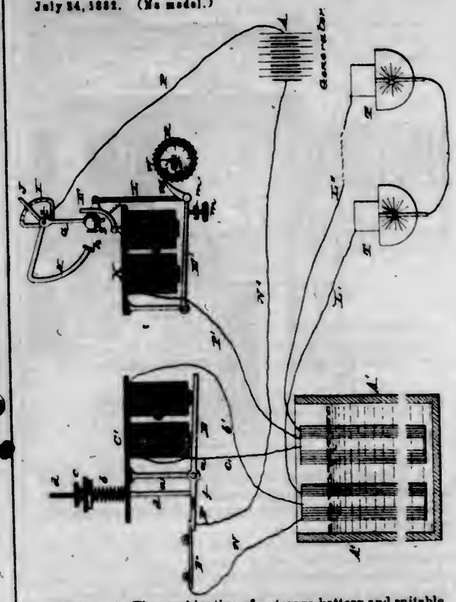
7. The combination of the plates D and two or more gas-reservoirs in connection therewith, a vessel containing electrolytic liquid, and an adjustable supporting-axis, as shown and described.

8. The roasting-ovens T U and connecting-pipes, in combination with the reservoirs L K and plates D, substantially as shown and described.

9. The vessel A, having bearings Q Q, shaft B, and plates D, in combination with gas-reservoirs L K and the ovens T U, substantially as shown and described.

10. The semicircular detachable elements formed with grooves F, and the ribbed shaft B, adapted to carry the same, in combination with the vessel A, having vertically-adjustable bearings Q Q, whereby the said elements may be lowered into peripheral contact with the sides of the vessel A to form electrolytic cells, and also be raised therefrom and removed or immersed by rotation of said axis, substantially as shown and described.

268,175. APPARATUS FOR CHARGING ELECTRIC STORAGE-BATTERIES. VIRGIL W. BLANCHARD, New York, N. Y. Filed July 24, 1882. (No model.)



Claim.—1. The combination of a storage-battery and suitable generator, an electro-magnet having a pivoted armature, a reciprocating and continuously-vibrating and circuit-breaking pendulum included in the main circuit and actuated by the said armature, an adjustable stop-arm, and a registering device operated at each vibration of the pendulum, substantially as described.

2. The combination, with a storage-battery and suitable generator of electricity, of an electro-magnetic cut-off and the herein-described adjustable tension device, the means, substantially as described, for measuring and registering the current, and independent distributing-wires, whereby one or more lamps or other electrical devices may be steadily supplied, substantially as set forth.

3. An electric measuring and recording device consisting essentially of an electro-magnet having its armature pivoted thereto, a reciprocating and circuit-breaking pendulum included in the main circuit and suitably connected to the actuating-armature, an adjustable stop-arm and setting mechanism, and a registering device actuated by each movement of the armature, substantially as described.

4. An electro-magnet having a pivoted armature connected to and actuating a reciprocating and circuit-breaking pendulum forming part of the main circuit, an adjustable pendulum-stop, and a registering device operated at each vibration of the pendulum, in combination with the automatic cut-off and the accumulator and generator, substantially as described.

5. The combination of electro-magnet E, pivoted armature E', provided with pawl M, the reciprocating lever F, and pendulum G, actuated by said armature, the adjustable stop-arm H, pawl J, and notched sector I, the ratchet N, dial R, and suitable wheel-work for operating an indicator at each vibration of the pendulum, substantially as shown and described.

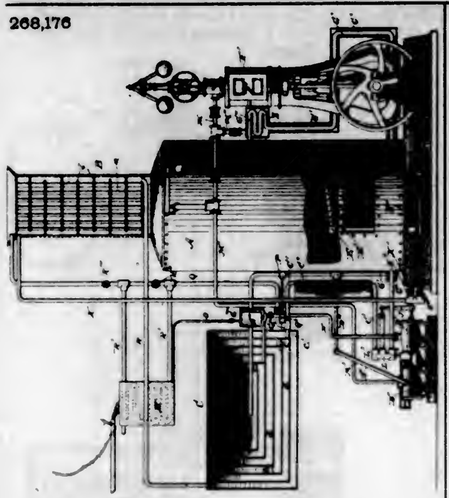
268,176. HYDROCARBON-FURNACE. VIRGIL W. BLANCHARD, New York, N. Y. Filed Dec. 18, 1881. (No model.)

Claim.—1. The combination of the horizontal pipe E, its perpendicular pipe, the perforated distributing-pipes, and the loose joint-connections of these pipes, substantially as described.

2. The combination of the air heating and distributing device, a furnace, the vessel C, and the air-heater B, substantially as described.

3. The combination of the air heating and distributing device, arranged in the furnace above the grate, with the device 4 and 5 above the grate for dispersing liquid and pulverized fuel, substantially as described.

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4. The combination of the vessel C, constructed of concentric tubes with closed extremities, forming spaces between said tubes, and the short connecting-tubes between said spaces, substantially as described.

5. The combination of the outside shell of the air-heater B, the heating-flues therein, and the transverse partitions, the latter being cut away at alternate portions of the diameter of said shell, whereby gaseous elements passing through said vessel under pressure in a zigzag direction will absorb a large amount of heat passing through the said flues, substantially as described.

6. The combination of the air-pump D', for measuring the volume of heated air supplied to the boiler-furnace, the air-heater at the top of the boiler, and the pipe-connections and their cocks between the said pump and heater, substantially as described.

7. The combination of the reservoir C'', the vessel C, the pump L, and the pipe-connections provided with stop-cocks, substantially as described, and for the purposes specified.

8. The combination of the reservoir C'', air-heating vessel C, and the apparatus composed of the float and stem thereof, the notch W, the hinged arm, the spring, and an alarm, substantially as and for the purpose set forth.

9. The combination of the vessel G''', the vessel G'''', the pipe O, its stop-cock, the reservoir H, and the air-heating vessel C, substantially as and for the purpose specified.

10. The combination of the air-heating vessel C, vessel G''', its perforated top, the inclosing vessel G'''', and the outlet-pipe at the bottom, provided with a stop-cock, substantially as described.

11. The combination of the steam-pipe G' with the apparatus consisting of the vessels G''' and G'''', the vessel C, and the pump L, with their pipe-connections and stop-cocks, substantially as described.

12. The combination of the air-heating vessel C, the exhaust-pipe of engine F, the vessel S, the pipe G'', the pipe G', boiler A, and pump L, the interior of pipe G'' being continuous with the boiler, substantially as described.

13. The combination of the air-heating vessel C, the engine-cylinder F, vessel S, pipe G'', pipe G', and boiler A, substantially as described.

14. The water-heating device consisting of the pipes G' G'', (with or without the vessel S,) in combination with the boiler A, pump L, reservoir C'', and vessel C, substantially as described.

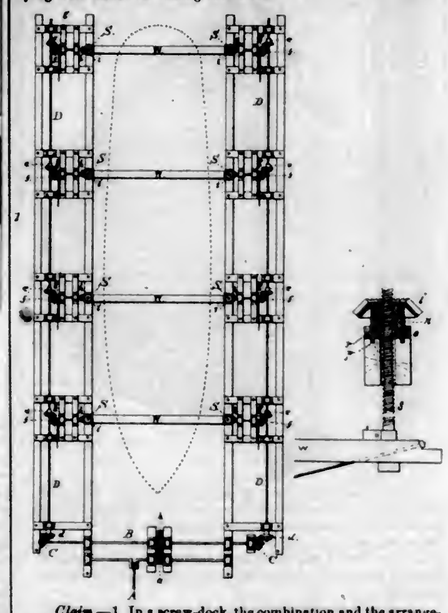
15. The process consisting in heating the air by the exhaust used for carrying on the combustion of fuel and at the same time reheating the water derived from its condensation to a very high degree of temperature before the latter is returned to the boiler, substantially in the manner and for the purposes described.

16. The combination of the vessel C, (as a water-heater,) the vessels G''' and G'''', and pipe O, with the tube G', the air-pump, the pipe N, and reservoir H, substantially as described.

17. The combination, in a low-pressure engine, of the cylinder F, boiler A, vessel C, reservoir C'', water-pump L, air-pump D', reservoir H, pipe R, air-heater B, and the pipes with cocks communicating with said parts, substantially as described.

268,177. SCREW-DOCK. Moses Bows, Toledo, Ohio, assignor of one-half to Alex. Weber, same place. Filed May 29, 1882. (No model.)

Brief.—A driving-shaft pinion gears with a pinion on a shaft driving longitudinal shafts with beveled pinions engaged or disengaged with bevel-pinions sliding on short transverse shafts having at the ends bevel-pinions gearing with horizontal bevel-pinions having angular openings to receive like heads on bearing-plates with downward projections. Said nuts lift screw-rods carrying cross-beams for raising the vessel.



Claim.—1. In a screw-dock, the combination and the arrangement of pinions *a b c d e f h i*, together with their shafts, the clutches *e f g*, nuts *n*, plates *o*, screws *s*, and cross-pieces *w*, substantially as shown and described, for the purposes specified.

2. The combination of the horizontal pinion *i*, provided with a square or polygonal opening designed to receive the head of nut *n*, the nut *n*, having a square or polygonal head, and provided with an annular rib, *r*, on its under side, and plate *o*, provided with annular groove designed to receive rib *r*, plate *o* being also provided at bottom with projections *p*, substantially as shown and described, for the purposes set forth.

3. The combination of pinion *i*, nut *n*, plate *o*, and screw *s*, substantially as shown and described, for the purposes set forth.

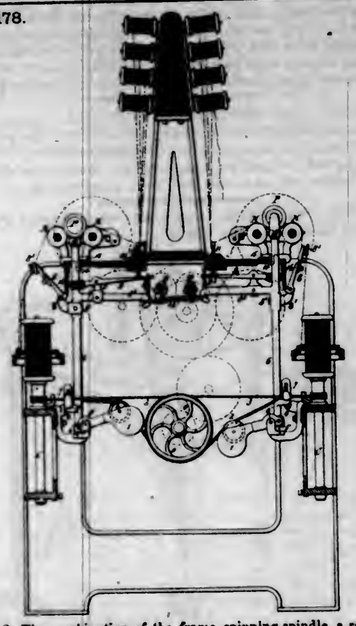
4. The combination of clutch *e f g* with pinions *h* and *i*, nut *n*, plate *o*, and screw *s*, substantially as shown and described, for the purposes specified.

268,178. STOP-MOTION MECHANISM FOR DOUBLING, TWISTING, AND WINDING MACHINES. John Boyd and Thomas A. Boyd, Glasgow, County of Lanark, Scotland. Filed Oct. 27, 1881. (No model.)

Brief.—Improvements upon Letters Patent Nos. 242,501, dated June 7, 1881, and 244,538, dated July 19, 1881. The weighted lever which supports the stop-rod bears on the under side of the driving-cord. Upon the breaking of a thread detectors mounted in a traverse-bar serve to disengage the stop-rod from its retaining-catch, and the said stop-rod is then raised by the action of the weighted lever, thereby stopping the spindle and raising the upper feed-roll from contact with the lower rolls. The lever carrying the front thread-guide is pivoted to the said stop-rod, and by depressing the said lever the parts are returned to their working position.

Claim.—1. The combination of the driving-cord, rod 6, catches for retaining the latter, and devices, substantially as described, for releasing the rod from the said catches, with a weighted lever supporting said rod, and carrying a roller at its weighted end adapted to bear on the under side of the driving-cord, all substantially as set forth.

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2. The combination of the frame, spinning-spindle, a rod, 6, and devices, substantially as described, for stopping said spindle, with a lever, 8, pivoted to said rod, and having an arm bearing on a portion of the frame, whereby the said lever may operate the rod to throw the spindle into operation, all substantially as specified.

3. The combination of the frame, feed-rollers, and rod 6, carrying one of the feed-rollers for the thread, with a lever, 8, pivoted to said rod 6, and having an arm bearing on a portion of the frame, whereby the said lever may operate the rod to bring the feed-rollers into contact, substantially as described.

4. The combination of the frame, a rod, 6, catches for said rod, and devices, substantially as described, for releasing it from said catches, with a lever, 8, pivoted to said rod, and carrying the front thread-guide and bearing on a portion of the frame, as and for the purpose set forth.

5. The combination of the frame, a movable rod, 6, having an arm, 6^3, and detector-levers mounted on said arm, with catches for retaining said rod, and a cam and operating mechanism for releasing the rod from the catches when the detector-lever falls, substantially as set forth.

6. The combination of the frame, a weighted lever, 1, movable rod 6, having an arm, 6^3, and detector-levers pivoted thereto, and retaining-catches for the rod, with a revolving cam, 10, adapted to act on the end of a detector-lever when a thread breaks and release the rod, substantially as set forth.

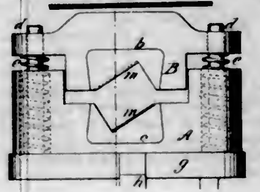
7. The stop-rod 6, having at its upper end a plate, with projections $18'$ and a vertical end, 18^2, substantially as specified.

8. The combination of detector-levers, a traverse-bar, and operating mechanism, with detectors mounted in said traverse-bar, substantially as described.

9. A detector consisting of a strip of metal having a stoneware eye at one end and stop-pins formed on the side, substantially as set forth.

10. The combination of a bar, 12, and slit guide-plates $12'$, with detectors and retaining-strip 12^2, substantially as set forth.

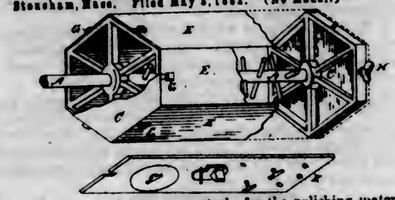
268,179.



268,179. DEVICE FOR TIGHTENING THE BANDS OF ELLIPTICAL SPRINGS. William Wallace Bruce, Western Port, Md. Filed May 29, 1882. (No model.)

Claim.—The combination, with the die A, having a socket on each side, and the die B, having a correspondingly-placed hole on each side, of the guide-points *d* and springs *e*, as and for the purpose specified.

268,180. POLISHING-MACHINE. George F. Butterfield, Stoneham, Mass. Filed May 3, 1882. (No model.)

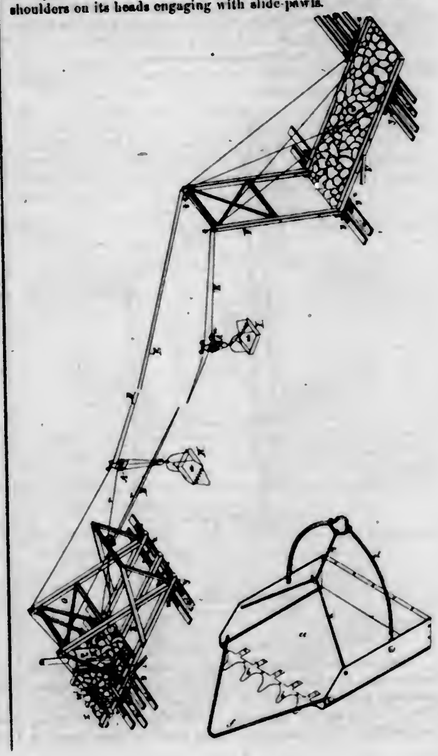


Claim.—1. A rotary receptacle for the polishing material, provided internally with means of securing the articles to be polished by the attrition of said material only, substantially as set forth.

2. A rotary polishing-machine having removable sections, as described, to which the articles to be polished may be secured, for the purpose set forth.

268,181. MEANS FOR EXCAVATING DIRT, &c. Howard A. Carson, Boston, Mass. Filed Apr. 10, 1882. (No model.)

Brief.—Two frames, ballasted to resist stress, are connected by ropes, on which run bicycle-frames, to which are hinged, between the wheels, scoop-travelers carrying pulleys for supporting and enabling the raising of scoops. Each scoop has downwardly-inclined teeth at its front edge, a drag-bail and two supporting-bails connected by a hook permitting the scoop to be dumped by disengaging the hook. The travelers are connected by a tail-rope wound as required on a drum carried by the travelers, and having stop-shoulders on its heads engaging with slide-pawls.



Claim.—1. The open-box scoop having the inclined teeth *b*, and provided with the three bails *f*, *e*, and *d*, and the hook *e*, arranged and adapted substantially as set forth.

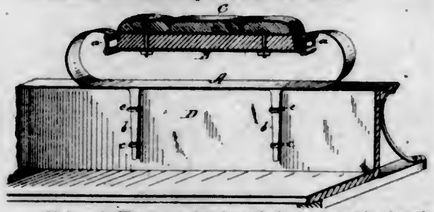
2. The traveler A, provided with the block *h*, rope *r*, wheels *s s*, drum *u*, and rope E, and suspended from the bicycle between its wheels, and jointed to it, so as to be capable of being swung laterally under the bicycle and in the plane thereof.

3. The combination of the rope D, the bicycle C, and the traveler A, provided with the block *h*, rope *r*, wheels *s s*, drum *u*, and rope E, and jointed to the bicycle and arranged with it and the rope, substantially as set forth.

4. The combination of the pawl or slides *w* and the tail-rope drum *u*, having one or each of its heads provided with stop-shoulders *v*, as described, with the scoop-travelers, and also with the tail-rope adapted to such drum, as set forth.

5. The combination of the movable and ballasted frames F G, as described, and their traveler-bicycle supporting-ropes D, extending from one to the other of such frames, with the two travelers A, their bicycles C, scoops H and I, tail-rope E, and scoop lowering and raising ropes *r*, all being arranged and applied essentially in manner and to operate as set forth.

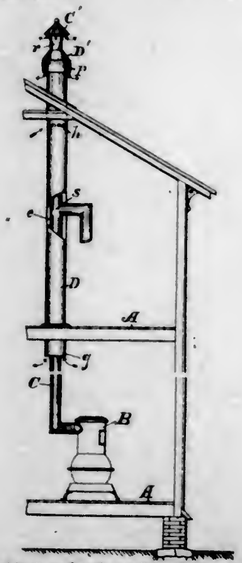
268,182. WAGON-SEAT SPRING. MONTILLION H. CASSIDAY, Wakefield, Va. Filed Aug. 30, 1882. (No model.)



Claim.—1. The seat-spring formed of a narrow strip of steel, having its ends curved as shown and provided with pendent legs for use in attaching it to a wagon-body, as specified.

2. The steel spring having its ends curved and provided with legs, as shown, in combination with the wagon-body, having staples for securing said legs, as and for the purpose specified.

268,183. VENTILATOR. PETTON CASSERN, Gould, Kans. Filed Apr. 4, 1882. (No model.)

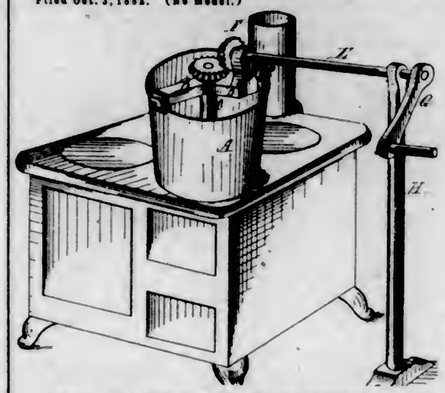


Claim.—A combined smoke-pipe and ventilator consisting of a smoke-pipe, C, a larger pipe, D, around the smoke-pipe, space-equalizing device *f*, attached to the smoke-pipe, a downflaring collar, D', covering the upper end of the large pipe and fitting closely around the smoke-pipe, outlets from the large pipe, just below the collar, a short section of pipe, r, around the upper end of the smoke-pipe and having its lower edge resting upon the flaring collar, and a hood, C', attached to the upper end of the short section, whereby while the pipes may be readily separated all the parts are so tightly fitted together as to exclude rain, as set forth.

268,184. COMPOUND FOR PRESERVING EGGS. BERNARD L. CARTON, Wilber, Nebr. Filed May 25, 1882. (No specimens.)

Claim.—The herein-described composition of matter for preparing a bath or liquid for preserving eggs, consisting of slaked lime, cement, salt, and white glue, in the proportions stated.

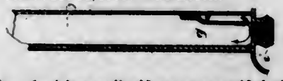
268,185. POT-STIRRER. ABRAHAM CAUFMAN, Winfield, Kans. Filed Oct. 3, 1882. (No model.)



Claim.—1. In a device for stirring the contents of cooking-vessels, the rotary stirrer C, supported within a cooking-vessel by the cross-bar B, having vertical and horizontal shaft-bearings formed thereon and provided at its ends with clamps *d e* and nuts *f*, for embracing the rim of the vessel, in combination with the horizontal shaft E, connecting means, and support H, substantially as described.

2. In a device for stirring the contents of cooking-vessels, the cross-bar B, having vertical and horizontal shaft-bearings and means for attaching the same to the rim of the cooking-vessel, substantially as described and shown.

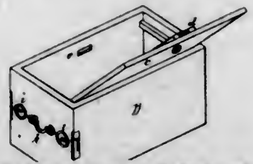
268,186. MEASURING-VESSEL. OSCROR J. CAVE, Elizabeth, N. J. Filed June 14, 1882. (No model.)



Claim.—1. A beer or liquid measure provided with a measuring-tube having perforations near the bottom, and provided with a partition within it and near its lower end, substantially as and for the purposes set forth.

2. In a beer-measure, the combination, with the measuring-tube and the partition arranged therein, as shown and described, of a plug and an intervening packing arranged at the bottom of said tube, as described, for the purpose set forth.

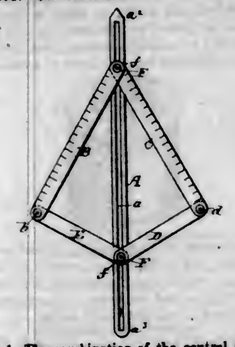
268,187. SAFE. FRANK H. CHARTER, Boston, Mass. Filed Nov. 4, 1881. (No model.)



Claim.—1. A box or receptacle, B, for the safe keeping of valuables, having a cover, *c*, provided with a lock, *d*, and with a handle, *h*, and one or more locks, *i*, at its front or outer end, in combination with an outer shell or casing, A, open at its front or outer end for the reception of the said box when it is to be locked therein, as described.

2. The shell or casing A, open at its front or outer end, and having its bottom, side, or end provided with holes *b*, for the passage of screws or other fastenings accessible only from the inside of the casing, in combination with the box B, adapted to be locked thereto, and provided with a locking-cover, constructed to operate substantially in the manner and for the purpose set forth.

268,188. BEVEL. DONALD A. CLARKE, Medalia, Mo. Filed Sept. 19, 1882. (No model.)



Claim.—1. The combination of the central strip, A, slotted at *a* and having solid ends, the longer arms B C, adjustably pivoted at one end in said slot *a*, and the shorter arms D E, adjustably pivoted at the other end in said slot, said arms being pivotally connected at *b d*, substantially as shown and described.

2. In a bevel or conformator, the binding-plate G, provided with the flanges *g g*, bar *g'*, point *f''*, and rigid threaded pivot *f*, substantially as shown and described.

3. The combination of the arms B C, slotted strip A, plate G, having bar *g'* and rigid pivot *f*, and the nut F, substantially as shown and described.

268,189. TOE-WEIGHT FOR HORSESHOES. FREDERIC A. CLARK, Portland, Me. Filed Dec. 6, 1880. (No model.)



Claim.—The combination, with a horseshoe having a hole or aperture, of a weight, *a*, with the hole *h*, the shank having the slot *c*, and the bolt *c*, adapted to be passed through the shoe, the slot in the shank, and the weight, and curved, as shown, the whole being capable of adjustment in order to carry additional weight, as herein set forth.

268,190. TAPE-LINE CASE. GEORGE CLARK, Brooklyn, N. Y. Filed Oct. 12, 1881. (Model.)



Claim.—In a tape-line case, the combination of the flanged metal disks B B, perforated at D and struck up around the perforations to form bearings for the spindle, and the annular rim C, inclosing the flanges of the disks to hold them together, substantially as shown and described.

268,191. SEED-PLANTER. HENRY COLE, Cedar Hill, Ohio. Filed Apr. 21, 1882. (No model.)

Claim.—1. The combination of the seed-dropping apparatus and drill with the wheel A, swivel-bracket B, and frame-bar C D, substantially as described.

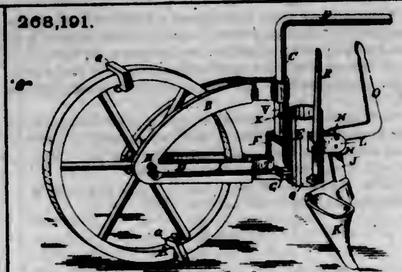
2. The seed-hopper E, detachably connected to swivel-bracket B, and arm C, substantially as herein shown and described.

3. The seed-hopper E, connected to bracket B, and frame-bar C D, substantially as herein shown and described, and having dropper-slide G, connected to crank H of wheel A, substantially as specified.

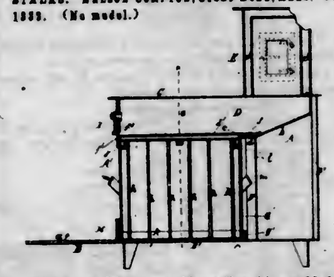
4. The seed-hopper E, having drill K attached, and being connected to swivel-bracket B, and frame-bar C D, and also having dropper-slide G, connected to crank H, substantially as described.

5. The combination of seed-hopper E, block F, washer-tube V, and set-screw X, with swivel-bracket B and vertical arm C, substantially as herein shown and described.

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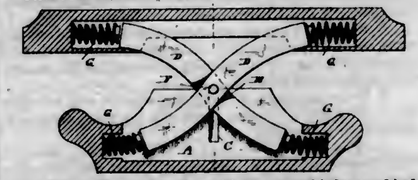
268,192. STOVE FOR BURNING STRAW, HAY, AND CORN-STALKS. NELSON COMPTON, Great Bend, Kans. Filed Apr. 17, 1883. (No model.)



Claim.—1. The removable section A', provided with vertical and horizontal flanges *f f' f'' f'''*, in combination with the stationary section A, provided with flanges and ledges *d d' d'' g g g'* and with a fastening-button, substantially as and for the purpose described.

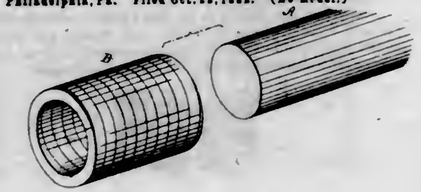
2. The removable fuel-chamber section A', closed at bottom, open at top, provided with a draft-damper, a perforated or grated draft and kindling flue, *h'*, and with vertical bars on its inside, in combination with the stationary section A of the stove, the two sections being of the construction shown, and when united completing of themselves the stove for heating and cooking purposes, substantially in the manner herein described.

268,193. VEHICLE-SPRING. NELSON B. COOPER, Liberty, Ind. Filed June 22, 1882. (Model.)



Claim.—The combination, with the recessed bolster and body-supporting box or recessed bar, of the levers, pivoted together by a fulcrum-pin, adapted to play in vertical guide-grooves, and the springs fitted in the respective recesses and to the shouldered ends of the levers, substantially as specified.

268,194. JOURNAL OF SHAFTS. HERMON E. CUSHINGHAM, Philadelphia, Pa. Filed Oct. 23, 1882. (No model.)

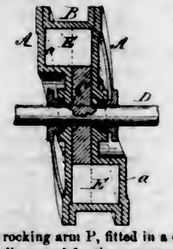


Claim.—1. As a new manufacture, a journal consisting of a bar coiled to form a hollow slightly-elastic cylinder adapted to fit on and cling to a shaft or spindle, substantially as set forth.

2. The combination of a shaft or spindle with an elastic tubular journal adapted to the said shaft or spindle, substantially as set forth.

3. A hardened or tempered elastic journal, consisting of a bar coiled to the form of a hollow cylinder, and adapted to be driven on and to cling to a shaft or spindle, substantially as set forth.

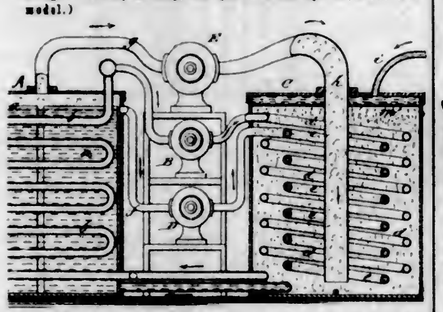
268,195. ROTARY ENGINE. JOHN T. DAVIS, New York, N. Y. Filed May 18, 1882. (No model.)



Claim.—1. The rocking arm P, fitted in a disk and carrying the piston, substantially as and for the purposes set forth.

2. The combination of disk C, arm P, piston K, and inclined sides A, substantially as shown and described.

268,196. ICE-MACHINE. JOHN T. DAVIS, New York, N. Y., assignor to Amy K. King, same place. Filed Apr. 12, 1882. (No model.)



Claim.—1. In ice-machines, the combination, with the freezing-chamber, of the coils *b*, for containing the ammonia, connected to the pump B, and the pump D, connected with the upper part of the freezing-chamber for removing the saline solution, substantially as shown and described.

2. In ice-machines, the combination of the separate coils *d e*, connected with the pumps B D and with the chamber C, that is provided with pipes for maintaining a current of water, substantially as shown and described.

3. In ice-machines, the pump E, connected with the upper part of the freezing-chamber A and with the water-chamber C, substantially as described.

4. In ice-machines, the pump E, connected to the upper part of the freezing-chamber for removing the latent heat, the water-chamber C, and the separate coils *d e*, contained within the chamber and connected to the pumps B D for removal of the ammonia and saline solution from the freezing-chamber, substantially as described, combined for operation as set forth.

268,197. SPOOL. IRA C. DAVIS, Montclair, N. J. Filed July 3, 1882. (No model.)

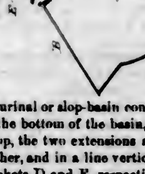
Brief.—A spool having on its head a projection smaller than the head, tapering from a sharp outer edge upward and inward toward the head from which it projects, to prevent the thread from being wound around the spindle if it gets under the spool.



Claim.—A spool having on its head a projection which is smaller than said head, and which tapers from a sharp outer edge upward and inward toward the head, from which it projects, substantially as and for the purpose herein described.

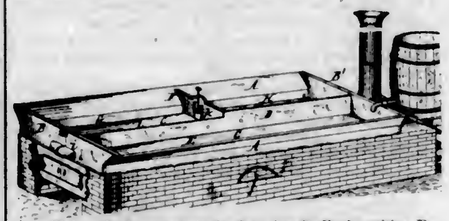
268,198. SPOOL OF THREAD. IRA C. DAVIS, Montclair, N. J. Filed July 24, 1882. (No model.)

Brief.—A spool of thread, the spool having a projection on its head smaller than the head, the thread being fastened in a nick or notch in the head and a nick or notch in the projection, the thread between the nicks or notches being exposed so that the fineness and color may be readily ascertained and the thread grasped in the fingers to release it from the nicks or notches.



Claim.—A spool of thread having its head provided with a central projection, and having a notch or nick in the edge of the head and a notch or nick in said projection, and having the portion of thread between said notches or nicks exposed on the head, substantially as and for the purposes described.

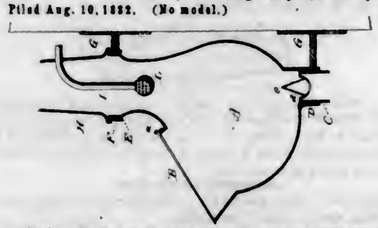
268,199. EVAPORATOR. MATTHIAS DAY, Jr., Oberlin, Ohio, assignor to George L. Squier, Buffalo, N. Y. Filed Sept. 23, 1882. (No model.)



Claim.—1. An evaporator having a longitudinal partition, D, provided with a portion, *l*, of reduced height, over which the scum and other light floating impurities are discharged from one compartment into another, substantially as set forth.

2. An evaporator provided with a compartment, E, receiving the raw juice, a finishing-compartment, H, an intermediate compartment, G, through which the juice passes on its way from the receiving-compartment E to the finishing-compartment H, and a partition, D, reduced in height wholly or in part between the compartments G and E below the level of the scum in the compartment G, substantially as set forth.

268,200. URINAL. ROBERT E. DAY, Hartford, Conn., assignor to the Hartford Sanitary Plumbing Company, same place. Filed Aug. 10, 1882. (No model.)

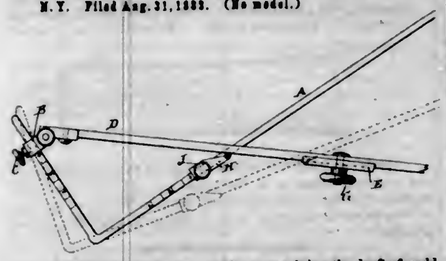


Claim.—1. A urinal or slop-basin constructed with a vertical extension, C, from the bottom of the basin, and with a vertical extension, E, at the top, the two extensions substantially concentric the one with the other, and in a line vertically through the basin, combined with brackets D and F, respectively, holding the lower and upper extensions from the basin, substantially as described.

2. In a urinal or slop-basin, the trap for the discharge-opening, consisting of the concavo-convex disk, constructed with the perforated hollow projection extending up into the basin from said disk, substantially as described.

3. A urinal or slop-basin constructed with an extension, C, at the bottom and with a neck, E, above, combined with brackets D and F, each holding its respective end of the basin, combined with a chimney, H, covering the opening in the neck, substantially as and for the purpose described.

268,201. INSTRUMENT FOR ASCERTAINING THE DRAFT OF MOLDING-CUTTERS. GRANVILLE M. DRUMMOND, New York, N. Y. Filed Aug. 31, 1882. (No model.)

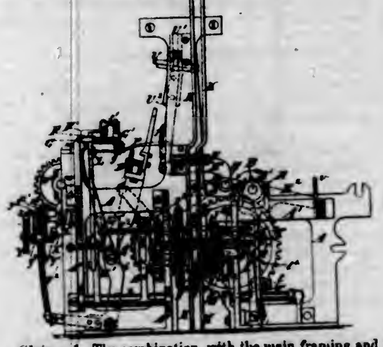


Claim.—1. An instrument for ascertaining the draft of molding-cutters, made substantially as herein shown and described, and consisting of an angle-bar provided with a pointer, combined with a pivoted arm provided with an adjustable pointer, as set forth.

2. In an instrument for ascertaining the draft of molding-cutters, the combination, with an angle-bar, of a slide on one arm, an arm pivoted to the said slide and provided with a slide having a pointer, and of a slide provided with a pointer, mounted on the other arm of the angle-bar, substantially as herein shown and described, and for the purpose set forth.

3. In an instrument for ascertaining the draft of molding-cutters, the combination, with an angle-bar, A, provided with graduated scales on both arms, of the slide B on the short arm, the slotted arm D, pivoted to the slide B, the slide E, provided with a pointer, F, and mounted on the arm D, and of the slide H, mounted on the bar A and provided with a pointer, I, substantially as herein shown and described, and for the purpose set forth.

268,202. LOOM FOR WEAVING PILE FABRICS. JOHN C. DUCKWORTH, New York, N. Y., assignor to E. S. Higgins & Co., same place. Filed Jan. 27, 1880.



Claim.—1. The combination, with the main framing and the carriage or carriages provided with the wire-inserting and wire-withdrawing mechanism, of a lever placed outside the main framing, working transversely thereto, and connected with said carriage or carriages, a rotary shaft occupying a position parallel with and outside of said main framing, nearer thereto than the fulcrum of said lever, a crank upon said rotary shaft, means for imparting rotary motion to said shaft, and a rod connecting said lever with said crank, the whole arranged substantially as herein represented and described.

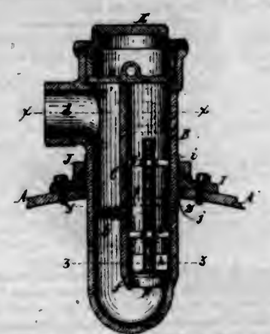
2. The combination, with the carriage or carriages provided with the wire-inserting and wire-withdrawing mechanism, the lay, and the picker-sticks, of the rotary shaft I and its crank I', means for operating said shaft, the rock-shaft h, having an arm, H', connected with said carriage or carriages, and an arm, H², connected with said crank, the said arm H² and the crank had their connections being arranged in ear of the center of motion of the lay and in rear of the picker-sticks, all substantially as and for the purpose herein set forth.

3. The combination, with the lay and breast-beam, of a pile-wire-head-supporting bar, P, having a pivoted connection with the breast-beam, and extended rearward over the lay beyond the rearward position of the latter, and elevated to permit the shuttle to pass under it, substantially as and for the purpose herein described.

4. The combination, with the lay and breast-beam and a pile-wire-head-supporting bar, having a pivoted connection with the breast-beam and extending backward beyond the lay, of a fixed vertically slotted or forked supporting-bracket arranged behind the lay and receiving the rear part of said bar, substantially as herein described.

5. The combination, with the breast-beam, the pile-wire-head-supporting bar, having a pivoted connection therewith, and the flexible or yielding wire slide-bar, on which works the carriage which carries the wire-inserting device, of a supporting-bar which supports the movable end of the said wire slide-bar, and which has a pivoted connection with the breast-beam, substantially as herein described.

268,203. FEED-WATER HEATER FOR STEAM-BOILERS. WILLIAM DUNN, Buffalo, N. Y., assignor to Isaac Baldwin McQuesten, Hamilton, Ontario, Canada. Filed Sept. 27, 1882. (No model.)



Claim.—1. The combination, with the inclosing shell B, of a descending passage, *b*, a valve-chamber, *c*, provided with one or more discharge-orifices, *h*, and a valve, F, substantially as set forth.

2. The combination, with the inclosing shell B, of a descending passage, *b*, and a valve-chamber, *c*, communicating at their lower ends, a valve, F, and a removable cap or cover, E, which permits the removal of the valve, substantially as set forth.

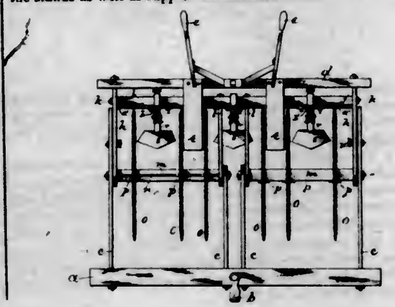
3. The combination, with the inclosing shell B, of a valve, F, and one or more orifices, *h*, arranged to discharge the water in the plane of the axis of the boiler only, substantially as set forth.

4. The combination, with the inclosing shell B, provided with a descending passage, *b*, a valve-chamber, *c*, and a valve, F, of the removable cap E and plate *e*, covering both the descending passage *b* and the valve-chamber *c*, substantially as set forth.

5. The combination, with the inclosing shell B, provided with a descending passage, *b*, and a valve-chamber, *c*, having one or more discharge-orifices, *h*, of a valve, F, provided with a stem, *g*, having projecting guides *g'*, substantially as set forth.

268,204. COTTON-CHOPPER. HENRY C. DYAR, Charleston, Ark. Filed June 8, 1882. (No model.)

Brief.—Adjustable cutting-disks divide the ridge and guard the stands as well as support the machine.



Claim.—1. The combination, with the front beam, *a*, provided with the arms *c*, rear beam, *d*, having the arms *h h*, and hoe-shaft *i*, provided with the arms *l l*, of the independent horizontal shafts *m m*, journaled in the arms and arranged in line with each other, and revolving cutters or disks supporting the frame, whereby the turning of the machine is facilitated, substantially as described.

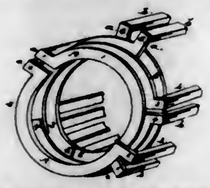
2. The combination, with the separate and independent shafts *m m*, journaled in the frame in line with each other, and each provided with a longitudinal groove, *n*, of the revolving adjustable circular disk *o*, supporting the machine, and adapted to separate the plants to be removed from those left, and protect the latter, hoe-shaft *i*, and longitudinally-adjustable hoes *s*, substantially as described, and for the purpose set forth.

3. The combination, with the front beam, *a*, provided with the arms *c*, extending rearwardly of shafts *m*, and provided with holes *u*, of the rear beam, *d*, having the arms *h h* and bolts *v*, whereby a rest is formed to hold the hoes up in crossing the space between two ridges, substantially as described.

4. The combination of the front beam, *a*, provided with the arms *c*, rear beam, *d*, having the arms *h h*, adjustable hoe-shaft *i*, provided with the arms *l l*, independent shafts *m*, adjustable circular cutters *o*, adjustable hoes *s*, and cleaners *t*, substantially as described, and for the purpose set forth.

268,205. DYNAMO OR MAGNETO ELECTRIC MACHINE.

THOMAS A. EDISON, Menlo Park, N. J. Filed May 17, 1882. (No model.)



Claim.—1. In a dynamo or magneto electric machine, an armature having its ends formed of strips or pieces connecting the inductive portions into pairs or loops, and cut or shaped to pass partially around the axis of the armature, substantially as set forth.

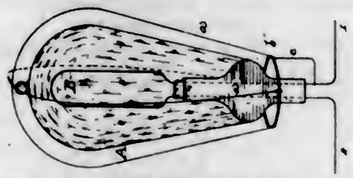
2. In a magneto or dynamo electric machine, an armature having the strips or pieces connecting the inductive portions into pairs or loops piled upon but insulated from each other, each of said strips or pieces partially encircling the armature-shaft, substantially as set forth.

3. In the armature of a dynamo or magneto electric machine, the combination, with each loop or couple of the inductive portion, of a strip or piece formed or shaped to pass partially around the axis upon the end of the armature, substantially as set forth.

4. In the armature of a dynamo or magneto electric machine, the combination, with the inductive portions, of the cross connecting strips or pieces alternately overlapping and not meeting, substantially as set forth.

268,206. INCANDESCING ELECTRIC LAMP.

THOMAS A. EDISON, Menlo Park, N. J. Filed Oct. 12, 1878. (No model.)



Claim.—1. The combination, with the inclosing globe and carbon filament of an incandescing electric lamp, of means for neutralizing the static attraction between the carbon and globe, substantially as set forth.

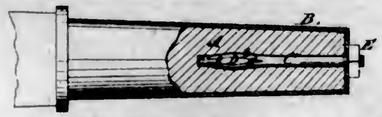
2. The combination, with the inclosing globe and the carbon filament of an incandescing electric lamp, of a body or bodies of metal surrounding said filament, or placed at different points around said filament, and connected to one of the conductors leading to said filament, substantially as and for the purpose set forth.

3. The combination, with the carbon filament of an incandescing electric lamp, of a wire cage placed over and around said filament, and connected with one of the wires leading to said filament, substantially as set forth.

4. The combination, with an incandescing electric lamp, of a metal ring encircling the lower part of said lamp, and connected to one of the conductors leading to the lamp, and two or more wires bent over the top of the lamp, with their ends attached to said ring, substantially as set forth.

268,207. SPLIT-BOLT WEDGE.

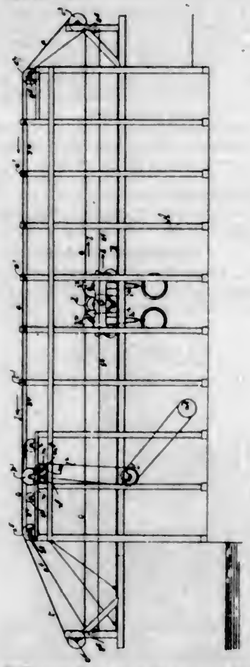
JOHN P. EDMONDS, Jacksborough, Texas., assignor of one-half to Horace M. Cowsed, same place. Filed June 8, 1882. (No model.)



Claim.—A split-bolt wedge having its body flat-pointed at one end and increasing in thickness from each end toward the middle, whereby the greatest spread of the split ends of the bolt will be about the middle of their length, as and for the purpose specified.

268,208. HOISTING AND CONVEYING APPARATUS.

JOSEPH EDWARDS and JAMES R. F. KELLY, Brooklyn, N. Y. Filed Sept. 21, 1882. (No model.)



Claim.—1. The combination, substantially as herein described, of the endless rope, the drums p' q', each provided with a series of grooves to receive the successive coils of the rope as the same passes several times round the two drums, the guide-pulleys for supporting those portions of the rope outside of the drums p' q', the carriage C, connected to the rope, and mechanism for imparting revolving motion to one of the drums.

2. The combination, substantially as hereinbefore described, of the endless rope *c*, the drums p' q', round which said endless rope passes, the guideways q^3, the boxes q^4, which form the bearings for the shaft of the drum q', and are adjustable in the guideways q^2, the slides q^2, which are adjustable in the guideways q^3, and the set-screws q^5, tapped in the slides q^2.

3. The combination, substantially as hereinbefore described, of the endless rope *c*, the drums p' q', round which said endless rope passes, the guideways q^3, the boxes q^4, which form the bearings for the shaft of the drum q', and are adjustable in the guideways q^2, the slides q^2, the projections q^6 on these slides, the recesses q^7 in the guideways, and the set-screws q^5.

4. The combination, substantially as hereinbefore described, of the endless rope *c*, passing round a drum, p', the friction-wheel p^3, mounted on the shaft of the drum p', the friction-wheels m^2 n^2, which are geared together with the driving-power, the eccentric boxes n' n', which form the bearings for the shafts of the friction-wheels m^2 n^2, the levers m^3 n^3, connected to the eccentric boxes, and the hand-lever o', connected to the levers n^3 m^3, whereby either of the friction-wheels m^2 n^2 can be thrown in or out of gear with the friction-wheel p^3.

5. The combination, substantially as hereinbefore described, of the endless rope *c*, passing round a drum, p', the friction-wheel p^3, mounted on the shaft of the drum p', the friction-wheels m^2 n^2, which are geared together with the driving-power, the hand-lever o', for throwing the friction-wheels m^2 n^2 in or out of gear with the friction-wheel p^3, and the brake-lever r^3, connected to the hand-lever o' for the purpose of checking the motion of the endless rope *c* whenever both friction-wheels m^2 n^2 are thrown out of gear with the friction-wheel p^3.

6. The combination, substantially as hereinbefore described, of the endless rope *c*, passing round a drum, p', the friction-wheel p^3, mounted on the shaft of the drum p', the friction-wheels m^2 n^2, which are geared together with the driving-power, the hand-lever o', for throwing the friction-wheels m^2 n^2 in or out of gear with the friction-wheel p^3, the pulley p^4, secured to the drum p', the strap p^5, embracing the pulley p^4, and having its ends fastened to a disk, r', on opposite sides of its center, the weighted lever r^2, mounted on the shaft of the disk r', the cams o' s^2, which are secured to a rock-shaft, *s*, and act upon the weighted lever r^2, and the rope t', which connects the rock-shaft *s* with the hand-lever o', whereby the brake is applied whenever the hand-lever o' is thrown in its central position and taken off when the hand-lever o' is moved in either direction to one of its extreme positions.

7. The combination, substantially as hereinbefore described, of the endless rope *c*, passing round a drum, p', the friction-wheel p^3, mounted on the shaft of the drum p', the friction-wheels m^2 n^2, which are geared together with the driving-power, the hand-lever o', for throwing the friction-wheels m^2 n^2 in or out of gear with the friction-wheel p^3, the brake-lever r^3, the carriage O, hitched to the endless rope *c* and moving on a track, B, and the rope o^4, extending in close proximity to the carriage and connecting with the hand-lever o' and brake-lever r^3.

8. The combination, substantially as hereinbefore described, of the endless rope *c*, mechanism, substantially such as described, for imparting motion to this rope in either direction, the carriage C, moving on the track B, the drum *d*, round which the endless rope passes, and which is mounted on a shaft which has its bearings in the carriage C, the friction-wheels *g g*, mounted on the shaft of the drum *d*, the hoisting-drums h i, mounted on shafts h' i', the friction-wheels h^2 i^2, connected to the hoisting-drums, mechanism, substantially such as herein described, for throwing the friction-wheels h^2 i^2 in or out of gear with the friction-wheels *g g*, the hand-levers h^3 i^3, for operating this mechanism, and the brake-shoes h^{11} i^{11}, connected to the hand-levers h^3 i^3.

9. The combination, substantially as hereinbefore described, of the endless rope *c*, mechanism, substantially such as described, for imparting motion to this rope in either direction, the carriage C, moving on the track B, the drum *d*, round which the endless rope passes, and which is mounted on a shaft which has its bearings in the carriage C, the friction-wheels *g g*, mounted on the shaft of the drum *d*, the hoisting-drums h i, mounted on the shafts h' i', the friction-wheels h^2 i^2, connected to the hoisting-drums, the eccentric boxes h^5 i^5, forming the bearings of the shafts h' i', the levers h^4 i^4, connected to said eccentric boxes, and the hand-levers h^3 i^3, connected to the levers h^4 i^4.

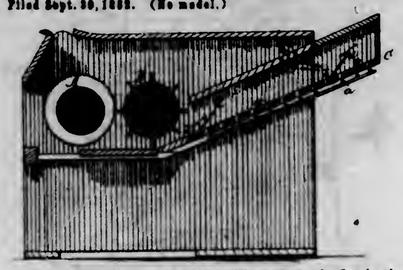
10. The combination, substantially as hereinbefore described, of the endless rope *c*, mechanism, substantially such as herein described, for imparting motion to this rope in either direction, the carriage C, moving on the track B, the drum *d*, round which the endless rope passes, the friction-wheels *g g*, mounted on the shaft of the drum *d*, the hoisting-drums h i, mounted on shafts h' i', the friction-wheels h^2 i^2, connected to the hoisting-drums, the eccentric boxes h^5 i^5, forming the bearings of the shafts h' i', and the hand-lever i^{10}, acting on the eccentric boxes h^5 i^5, so as to throw the friction-wheels h^2 in and the friction-wheels i^2 out of gear with the friction-wheels *g g*, or vice versa.

11. The combination, substantially as hereinbefore described, of the endless rope *c*, mechanism, substantially such as herein described, for imparting motion to this rope in either direction, the carriage C, moving on the track B, the drum *d*, round which the endless rope passes, the brake applied to the drum *d*, the brakes applied to the wheels of the carriage C, and the hand-lever E, for controlling all these brakes.

12. The combination, substantially as hereinbefore described, of the endless rope *c*, mechanism, substantially such as herein described, for imparting motion to this rope in either direction, the carriage C, moving on the track B, the drum *d*, round which the endless rope passes, the strap d^5, embracing a pulley d^7, secured to the drum *d*, the rock-shaft d^3, carrying a bell-crank lever or equivalent device for controlling the action of the strap d^5 upon the pulley d^7, the levers d^4, mounted on the rock-shaft d^3, the rods d^7, extending from these levers to levers b', mounted on the brake-head b^3, the rods b^2, extending from the levers b' to the brake-head a^3, and the rod d^6, extending from one of the levers d^4 to the hand-lever E.

268,209. COTTON-CLEANER.

JOHN E. ENGHAM, Eufaula, Ala. Filed Sept. 30, 1882. (No model.)



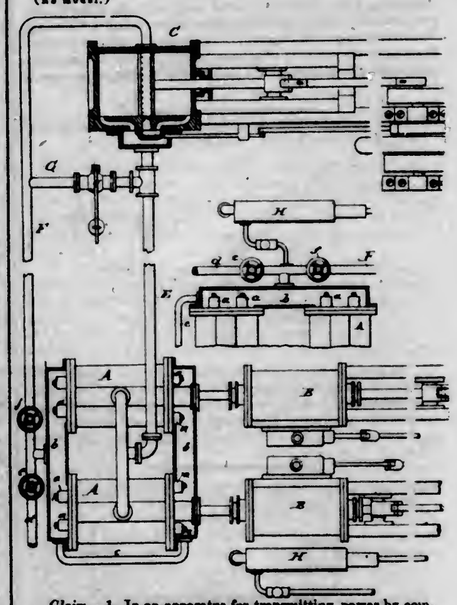
Claim.—1. The combination, with a cotton-gin flue having openings through its bottom, of deflecting-wires secured within the flue, substantially as specified.

2. The combination, with a cotton-gin flue having openings through its bottom, of adjustably-pivoted bars or slats provided with deflecting-wires, substantially as described.

3. The combination, with a cotton-gin flue provided with the deflecting-wires described, of adjustably-pivoted slats in its bottom, having openings between them, substantially as specified.

268,210. TRANSMITTING POWER BY COMPRESSED AIR.

ALFRED D. F. FARLEY, Leavenworth, Kans. Filed Dec. 28, 1881. (No model.)



Claim.—1. In an apparatus for transmitting power by compressed fluids, the combination, with the cylinders of a compressor and the distant engine, of a supply and return pipe connected together between the compressor and engine by a pipe provided with a safety-valve, substantially as and for the purpose set forth.

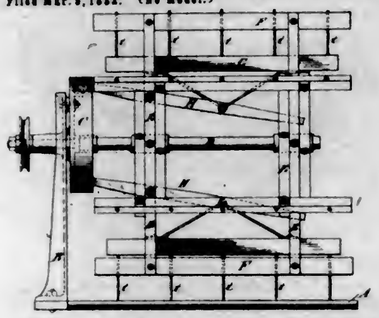
2. In an apparatus for transmitting power by compressed fluids, the combination, with the cylinders A A of a compressor and distant engine C, of the supply-pipe E, the return-pipe F, pro-

vided with the valve *f*, and the connecting-pipe G, provided with the weighted valve *g*, substantially as and for the purpose set forth.

3. The regulating-valve *g*, combined with the supply and return pipes of the air-compressor and engine, substantially as shown and described.

4. The combination, with the return-pipe F, provided with the valve *f*, and the air-inlet pipe *d*, provided with the valve *e*, of the auxiliary air-pump H, connected to the said pipes between the valves, substantially as and for the purpose set forth.

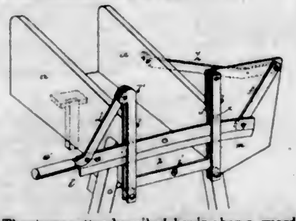
268,211. HARVESTER. ERNST FISCHBECK, West Seneca, Ohio. Filed Mar. 9, 1882. (No model.)



Claim.—1. In a harvester or reaper reel, the combination, with the revolving reel-frame, of reciprocating rake-heads provided with teeth which extend through apertures in the outer wings of the reel, with connecting mechanism whereby the revolution of the wheel causes the teeth to advance or recede through the apertures in the reel-wings, substantially in the manner and for the purpose specified.

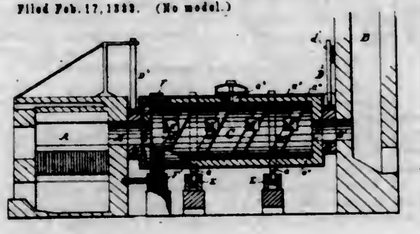
2. In a harvester or reaper reel, the reel-frame composed of parallel sets of radial arms E, provided with perforated wings F, attached between their outer extremities, in combination with reciprocating rake-heads G, arranged parallel to the wings F, and provided with teeth *t*, which pass through apertures in the wings F, and mechanism for causing the reciprocation of the rake-heads G, whereby the arms E constitute guides for the reciprocating rake-heads, substantially in the manner and for the purpose specified.

268,212. STRAW-CUTTER. WILLIAM H. FITZWATER, Louisa, Ky. Filed June 10, 1882. (No model.)



Claim.—The straw-cutter described, having box a, guard-plate m, frame s, and knife c, suspended by hangers *d* and *f*, the hanger *d* terminating in an obtuse angle to form the handle, while its upper portion regulates the downward movement of the knife by engagement with the side wall of frame *s*, substantially as specified

268,213. GLASS-FURNACE. HIRAM FRANK, Detroit, Mich. Filed Feb. 17, 1882. (No model.)

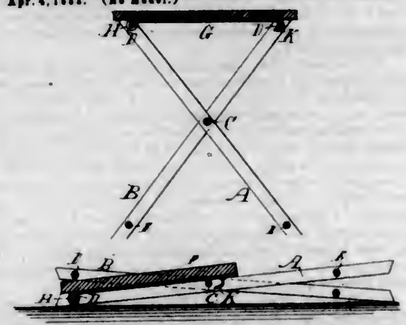


Claim.—1. In apparatus for the manufacture of glass, the revolving melting-chamber consisting of a metallic shell lined with fire-clay or other refractory material, and provided with spiral ribs and one or more working-holes for the introduction of the glass-blower's tools, substantially as described.

2. The combination, with a furnace, a stack, and a revolving melting-chamber, of intermediate detachable collars, D D', suspended between the ends of the chamber, substantially as described.

3. The collar D and means for elevating or depressing the same, whereby it is made to serve the purpose of a damper, substantially as described.

268,214. FOLDING STOOL. BENJAMIN FRASER, Newark, N. J., assignor of one-half to Horace Harris, New York, N. Y. Filed Apr. 4, 1882. (No model.)



Claim.—A folding stool having the seat hung at the top of the frame by the straps G, provided with the eyes H and hooks K, so that when the stool is folded up the seat will hang between the upper ends of the frame-pieces, substantially as and for the purpose specified.

268,215. FIRE-KINDLER. JAMES H. FRENCH, Bridgeport, Conn. Filed Sept. 7, 1882. (No model.)



Claim.—As an article of manufacture, a package of wood or other suitable material saturated with an inflammable oil, and having a wrapper coated with a composition of glue and bichromate of potash, substantially as and for the purposes set forth.

268,216. COMPOUND FOR LINING VESSELS. EDGAR G. FRISBIE, Monroe, Mich. Filed Sept. 13, 1882. (No specimens.)

Claim.—A compound for coating or lining the inside of vessels intended to contain butter, lard, oils, beer, wines, liquors, or mineral waters, and for preparing wrapping-paper to be used for wrapping meat, lard, butter, &c., consisting of shellac, beeswax, whiting, and alcohol, in about the proportions specified.

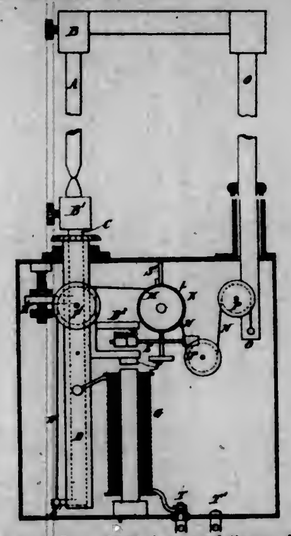
268,217. SASH-HOLDER. WM. ALFRED GAY, Buffalo, N. Y., assignor of one-half to John N. Culbertson, same place. Filed July 31, 1882. (No model.)



Claim.—1. The combination, with a nosh, A, having a screw, stud, or pin secured thereto, of a movable locking-plate, C, provided with inclined bearing-surfaces *d d'*, an opening, I, arranged between said bearing-surfaces, and forming a rest for the plate when not in use, and a straight face, E, adapted to bear against a stationary frame, B, substantially as set forth.

2. The combination, with a movable locking-plate, C, provided with inclined bearing-surfaces *d d'*, an opening, I, arranged between said bearing-surfaces, and a straight face, E, adapted to bear against a stationary frame, B, of a pin, stud, or screw, F, secured to a nosh, A, and a roller, *g*, arranged on the screw F to run in contact with said inclined bearing-surfaces, substantially as set forth.

268,218. ELECTRIC-ARC LAMP. ALFRED GRAHAM, London, England. Filed July 16, 1882. (No model.) Patented in England Mar. 10, 1882, No. 1,171.



Claim.—1. In an electric-lamp regulating mechanism, the combination, with the continuous carbon-feeding chain or cord, having each end attached to a movable carbon-holder and passing over suitable pulleys, of a rotary drum having an intermediate portion of said cord or chain in engagement therewith, a stationary escapement arranged to control the motion of said drum, a detent carried by a carbon-holder and arranged to arrest the motion of said escapement, and an electro-magnet arranged to move said carbon-holder, substantially as described.

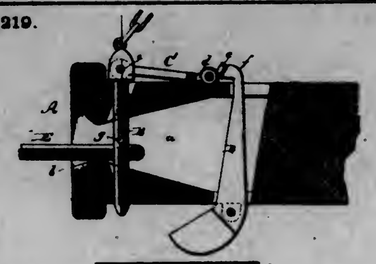
2. The combination, with the stationary escapement, mechanism arranged to regulate the feed of the carbons, and having the escapement E', provided with a cross-arm carrying a comb, R, of the carbon-holder carrying the knife D', arranged to engage with the teeth of said comb, substantially as described.

3. The combination, with a fixed lower carbon-holder and a movable upper carbon-holder, having a pin to which the two ends of a chain or cord are attached, the said chain passing over the pulleys P P', and over the chain wheel or drum M, of an escapement device adapted to regulate the movement of the said chain wheel or drum, and having fixed upon its cross-arm a pin or a series of pins forming a comb, and a pin or knife carried by the guide-tube D, and adapted to be alternately engaged with and released from one of the said pins by means of the electro-magnet G and its armature F and the weight of the upper carbon-holder, all substantially as shown and described, and for the purposes specified.

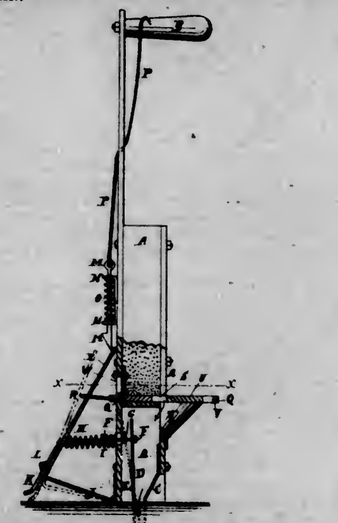
268,219. CAR-COUPLING. EDWARD W. GRANT, Ypsilanti, Mich. Filed Mar. 20, 1882. (No model.)

Claim.—A coupling-pin for a car-coupling, having radial arms *g g*, secured to it, in combination with a draw-head having a slot, h, which will allow the elevation of said pin, and a link, C, to which the pin is pivoted, which will prevent the latter turning about its longitudinal axis, all constructed and adapted to operate substantially in the manner and for the purposes described.

268,219.



268,220. HAND CORN-PLANTER. ORLANDO T. GRATTAN, Ivanhoe P. O., County of Brookings, Dak. Filed July 26, 1882. (No model.)



Claim.—1. A hand corn-planter constructed substantially as herein shown and described, and consisting of the seed-box A, the pivoted handle B, the stationary jaw C, the hinged jaw D, the bolt F, spring I, the hinged bar H, that operates the jaw D and the seed-dropping slide Q, and the spring-catch M O and its cord P, as set forth.

2. In a hand corn-planter, the combination, with the seed-box A, the pivoted handle B, the hinged jaw D, and the seed-dropping slide Q, of the bolt and spring F I, the hinged bar H, the foot K, the spring-catch M O, and the cord P, substantially as herein shown and described, whereby the hinged jaw and the seed-dropping slide will both be operated by the movements of the said hinged bar, as set forth.

3. The combination, with box A, slide Q, spring I, and loop R, of the angled bar H, having the end of its short arm hinged to the bottom of box A, and a spring-held long arm connected with the said slide by the loop R, as shown and described.

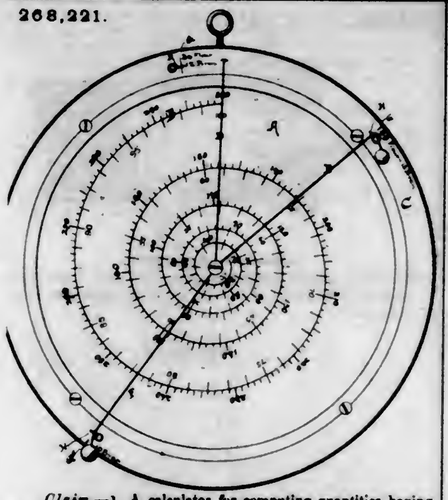
4. In a hand corn-planter, the combination, with the hinged jaw D and the hinged bar H, of the bolt F and spring I, substantially as herein shown and described, whereby the said jaw will be operated by the movement of the said hinged bar, as set forth.

5. In a hand corn-planter, the combination, with the spring-catch M O and the pivoted handle B, of the cord P, substantially as herein shown and described, whereby the spring-catch can be withdrawn to release the hinged bar by turning the said handle, as set forth.

268,221. CALCULATOR FOR MILLERS' USE. JAMES E. HAIGHT and JOSEPH H. SHOUP, Adrian, Mich. Filed May 26, 1882. (Model.)

Brief.—A disk having drawn on it a logarithmic spiral, equally divided and numbered from its inner end, rotates beneath radial wires. At a given angular distance between two radii the numbers on the spiral at the points of intersection have a constant ratio.

268,221.



Claim.—1. A calculator for computing quantities having fixed ratio relations, consisting of a disk having inscribed upon it a logarithmic spiral graduated, and said graduations consecutively numbered, combined with two radial index-lines indicating said ratio relation, said index-lines being relatively movable around the axis of spiral.

2. A rotating disk, A, having inscribed upon it a logarithmic spiral, B, provided with equal graduations, consecutively numbered, combined with an inclosing rim or case, C, and radial index-lines D G, substantially as set forth.

3. A calculator for computations of quantities having fixed ratio relations, consisting of disk A, having inscribed upon it a logarithmic spiral equally divided, and said divisions consecutively numbered to denote quantities of wheat, flour, and offal, combined with an inclosing frame or case, a permanent radial index-line, D, movable index-lines E and F, and clips H, suitably placed on said rim, whereby said movable index-lines may be adjusted at pleasure.

4. A disk or table, A, inscribed with a spiral, B, provided with graduations and figures denoting quantities of wheat and flour, and other graduations and figures designating quantities of bran or offal, an inclosing case or rim, and a permanent radial index-line, D, combined with movable index-lines and clips H, whereby positions of said movable index-lines may be changed at will.

268,222. MANUFACTURE OF STEEL BLOOMS AND BILLETS. WILLIAM HAINSWORTH, Pittsburg, Pa. Filed Nov. 4, 1881. (No model.)

Claim.—1. The method of making ingot-iron or steel ingot-billets by subjecting the metal while still in a fluid or semi-fluid condition, wholly or in part, and while inclosed in an open-topped box or trough, to the action of one or more rolls, some part of the operative face or faces of which operates beneath the otherwise even surface of the metal, at the same time increasing the length of the trough, whereby the metal is reduced in cross-section, elongated and brought to the desired billet shape before complete solidification takes place, substantially as set forth.

2. The combination of a track, one or more ingot-molds arranged in line therewith, and one or more cars, each carrying one or more rolls, substantially as and for the purposes set forth.

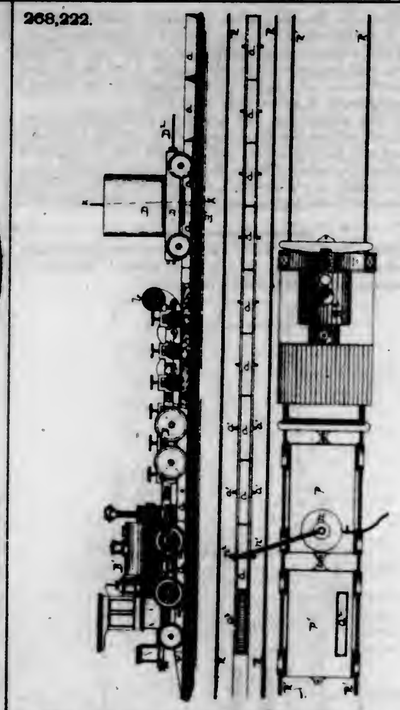
3. A car carrying a series of two or more rolls, the lower operative face of each successive roll being slightly below the corresponding face of the previous roll, in combination with an open-topped ingot-mold adapted to receive the metal and present it to the action of such rolls before complete solidification takes place, substantially as set forth.

4. In combination with two parallel tracks, a series of ingot-molds arranged end to end along one line of tracks, a rolling mechanism operated along the same line of track to compress the metal while cooling, and a hoisting and dumping mechanism operated along the other line of tracks to hoist, empty, and replace such ingot-molds for another filling, substantially as set forth.

5. The combination, on the same car, of rolls *c* and sheet-iron cooling and feed drum *b*, substantially as set forth.

6. In combination with a roll or rolls arranged to operate on

268,222.



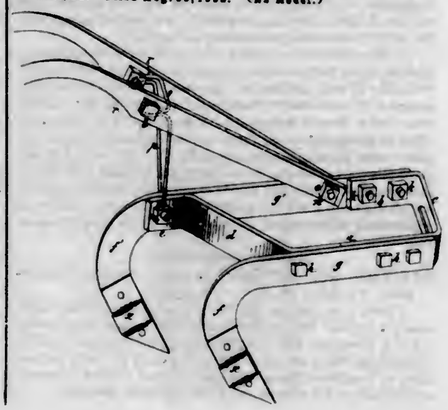
the metal of an ingot-mold before complete solidification, a sheet-metal sheet interposed between the roll or rolls and the metal in the mold, substantially as set forth.

7. In combination with a series of open-topped ingot-molds, *a*, a loam-covering, *r*, at the meeting joints of the molds, substantially as set forth.

8. In combination with an open-topped ingot-mold, a movable dam-block, *s*, substantially as set forth.

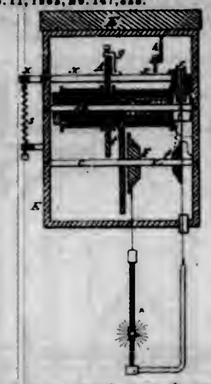
9. In combination with a car or track and a track and one or more molds arranged along the track, a series of two or more rolls arranged on the car or track and adjusted at the proper level for reducing the metal in the molds, substantially as described, with reference to adding the weight of the car to the weight of the rolls, as the resistance to reduction increases in the ingot.

268,223. CULTIVATOR-PLOW. MITCHELL HANCOCK, Hapeville, Ga. Filed Aug. 23, 1882. (No model.)



Claim.—In a cultivator-plow, the combination, with a frame-brace consisting of the main portion *a*, cross part *c*, rearwardly-projecting arm *b*, diagonal brace part *d*, of a curved plow-standard, *f*, provided with a horizontal arm, *g*, adapted to be removably secured to the main portion *a* of the frame-brace, and a second curved standard, *f'*, whose arm *g'* is adapted to be secured to the opposite side, *b*, of the frame and the handles, substantially as described.

268,224. ELECTRIC-ARC LAMP. ERNEST JOHN HARLING and EMIL HARTMANN, London, England. Filed July 16, 1882. (No model.) Patented in England Aug. 11, 1881, No. 3,673, and in France Feb. 11, 1882, No. 147,328.



Claim.—1. In an electric lamp, the combination, with the rotating armature, having no sidewise movement, and carried by a shaft rotated by the weight of the carbons, of the low-resistance electro-magnet in the main circuit, arranged to arrest the rotation of said armature, the high-resistance electro-magnet in a derived circuit, arranged to counteract the influence of said low-resistance magnet upon the said armature, and a separate armature arranged to separate the carbons, substantially as described, and for the purpose set forth.

2. In an electric lamp, the combination, with the shaft carrying the differential fusees and the upper and lower carbons, connected respectively with said fusees by cords or chains, of a rotating armature mounted on a shaft connected by motion-transmitting devices with the shaft carrying said fusees, an electro-magnet in the main circuit, arranged to act upon said rotating armature, and a helix in a derived circuit, arranged to counteract the attraction of said magnet, substantially as described.

3. The combination, with the differential fusees, the carbons connected with the said fusees, respectively, by cords, the rotary armature connected with said fusees by intermediate mechanism, the main-circuit magnet arranged to act upon said rotary armature, and the additional armature controlled by said magnet and loosely engaged with the cord or chain by which one of the carbons is suspended, substantially as and for the purpose set forth.

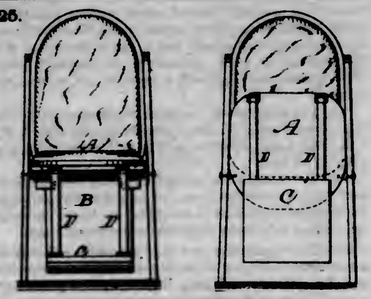
4. The combination, with the differential fusees, the carbons suspended therein respectively and the shaft carrying said fusees, of the rotary armature connected with said shaft, the low-resistance electro-magnet in the main circuit, arranged to act upon said rotary armature, the electro-magnet of higher resistance in a derived circuit, and arranged to counteract the action of said magnet of low resistance upon said rotary armature, and the additional armature, arranged for attraction by said magnet of low resistance, and having a loose or slip engagement with the suspending cord or chain of one of the carbons between the said carbon and the fusee to which the end is connected, substantially as described, and for the purposes set forth.

5. The combination, with the rotary armature and the two electro-magnets, arranged to act oppositely upon the same, of the brake arranged to be attracted into contact by said armature, and suitable means for retracting said brake, substantially as described.

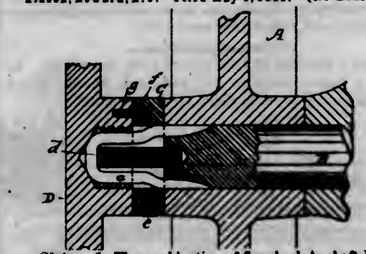
268,225. OPERA-CHAIR. FRANK P. HARRISON and WILLIAM H. AUGUSTEIN, Newark, N.J. Filed Mar. 13, 1882. (No model.)

Claim.—In an opera-chair, the broad back piece, B, and the straps D, hinged to the lower side of the seat A, and the shelf C, hinged to the piece B, and the straps D and the stop E, secured to the seat in front of the piece B, all inside and independent of the chair-supports, substantially as and for the purpose specified.

268,225.



268,226. LOOSE FLY-WHEEL FOR SEWING-MACHINES. JOSEPH E. HENNEY, Brooklyn, N.Y., assignor to Elias A. Wilkinson, Newark, N.J. Filed May 6, 1882. (No model.)



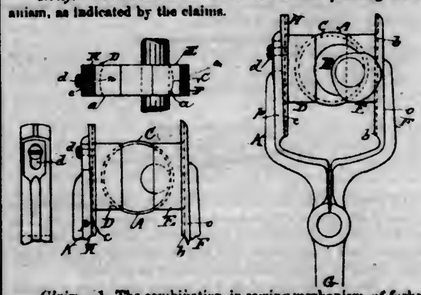
Claim.—1. The combination of fly-wheel A, shaft B, having grooves *a b*, spring-fork c, retracting-spring *d*, washer C, having slot *f*, and adjusting-nut D, having pin *g*, substantially as set forth.

2. The combination of a fly-wheel, a driving-shaft having side slots, a spring-fork in the side slots and in connection with a retracting-spring, a washer having a limiting-slot, and an adjusting-nut over the spring-fork on the end of the shaft and limited in its movement by the limiting-pin in the limiting-slot, substantially as set forth.

3. The combination of a fly-wheel, a driving-shaft, a washer, an adjusting-nut limited in its movement by the washer, a spring-fork operated by the adjusting-nut, and a retracting-spring to lock or unlock the fly-wheel and the driving-shaft, substantially as set forth.

268,227. SEWING-MACHINE. JOSEPH E. HENNEY, Brooklyn, N.Y., assignor to Elias A. Wilkinson, Newark, N.J. Filed May 6, 1882. (No model.)

Brief.—The invention relates to the shuttle-operating mechanism, as indicated by the claims.



Claim.—1. The combination, in sewing mechanism, of forked lever G, having prongs F K, the prong F having groove *b*, and the prong K having slot and set-screw *d*, wearing-shoes D E, having concave faces *a a* and tongues *n n*, adjustable wedge H, having groove *c*, eccentric A, having rounded face C, and driving-shaft B, substantially as set forth.

2. The combination, in sewing mechanism, of a forked lever, wearing-shoes, an adjustable wedge, and a round-faced eccentric on a driving-shaft, the shoes being so connected to the forks of the lever as to prevent their lateral displacement and permit their longitudinal motion, substantially as set forth.

3. The combination, in sewing mechanism, with the fork of a

lever, of an eccentric rounded across the face, concave wearing-shoes adapted thereto, an adjustable wedge connected to one of the shoes by tongue and groove, and to one of the prongs of the fork by a slot and set-screw, adapted to a driving-shaft, whereby the wearing-shoes can be adjusted to the eccentric, substantially as set forth.

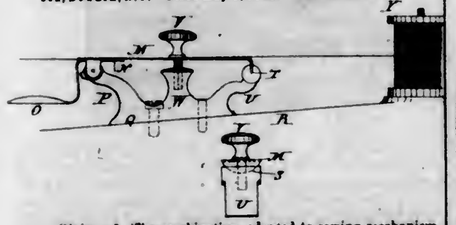
4. The combination, in sewing mechanism, of vertical lever G, horizontal lever W, elbow-joint M, having arms N N, tongue *r*, and fork *s*, and adjustable sockets *f f*, having vents *g g*, substantially as set forth.

5. The combination, adapted to sewing mechanism, of a vertical lever, a horizontal lever, and an elbow-joint having arms entering adjustable sockets in the ends of the levers, the sockets having vents at their inner ends, substantially as set forth.

6. The combination, in a sewing-machine, of a vertical lever, a horizontal lever, and a distinct elbow-joint of two arms connected together in a yielding manner and connected by socket-connections with the adjacent ends of the lever, substantially as set forth.

7. The combination, adapted to sewing mechanism, of a vertical lever, a horizontal lever, and an elbow-joint, the arms of the joint connecting the adjacent ends of the levers by socket-connections having vents, substantially as set forth.

268,228. TENSION DEVICE FOR SEWING-MACHINES. JOSEPH R. HERBST, Brooklyn, N.Y., assignor to Elias A. Wilkinson, Newark, N.J. Filed May 6, 1882. (No model.)



Claim.—1. The combination, adapted to sewing mechanism, of tension-plate M, having thread-slot X and rocker S, releasing-plate N, having projection O, regulating-screw V, and support Q, having groove T, substantially as set forth.

2. The combination, adapted to sewing mechanism, of a tension-plate having a thread-opening and a transverse rocking device, a releasing-plate having a projection by which to operate it, a tension-regulator, and a support adapted thereto, substantially as set forth.

3. The combination, adapted to sewing mechanism, of a tension-plate, a thread-releaser, and a support, the tension-plate and thread-releaser having rocking movements in different directions, substantially as set forth.

4. The combination, adapted to sewing mechanism, of a transverse rocking tension-plate, a tilting thread-releaser, and a tension-regulator, substantially as set forth.

268,229. SEWING-MACHINE SHUTTLE. JOSEPH R. HERBST, Brooklyn, N.Y., assignor to Elias A. Wilkinson, Newark, N.J. Filed May 13, 1882. (No model.)



Claim.—1. The combination of shell B, having slot *b*, recess *c*, hole *g*, depression *e*, thread-slot *m*, and countersink *t*, with the tension-spring A, having body *f*, projection *a*, hole *u*, thread-guide *d*, point *v*, and *x*, thread-tongue *h*, and thread-bend *n*, and the set-screw *c*, having conical point, substantially as set forth.

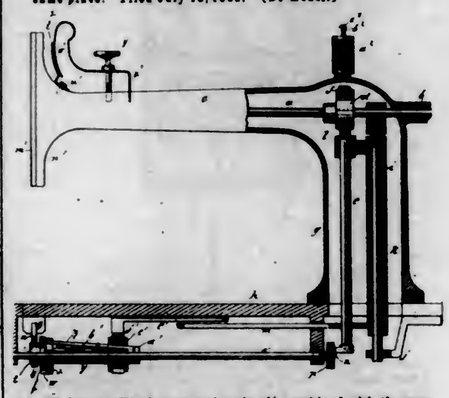
2. The combination of shell B, having slot *b*, hole *g*, depression *e*, thread-slot *m*, and countersink *t*, with the tension-spring A, having body *f*, projection *a*, hole *u*, thread-guide *d*, point *v*, and *x*, thread-tongue *h*, and set-screw *c*, having conical point, substantially as set forth.

3. The combination of shell B, having slot *b*, thread-slot *m*, and hole *t*, with the tension-spring A, having body *f*, projection *a*, hole *u*, thread-guide *d*, and thread-tongue *h*, and set-screw *c*, having a conical point, substantially as set forth.

4. The combination of a shuttle-shell having an open end and an oblique thread-slot with a tension-spring having a body, a thread-guide, and a thread-tongue, the thread-tongue projecting toward the shell, the body having a thread-bend in its shank, and the body and thread-guide separated at their projecting ends, and a set-screw to hold the spring to the shell and regulate the tension, substantially as set forth.

5. The combination, with an open-ended shuttle-shell having a thread-slot, of a tension-spring having a body and a thread-guide separated at their projecting ends, and a thread-tongue projecting toward the shell, and a thread-opening between the shank of the spring and the shell, and a single device for securing the spring to the shell and for regulating the tension, substantially as set forth.

268,230. SEWING-MACHINE. LUTHER E. HIGBY, Brattleborough, Vt., assignor to the Higby Sewing Machine Company, same place. Filed July 10, 1882. (No model.)



Claim.—1. The lever *z* and spring *b'*, combined with the cam *t*, arranged in a groove of disk *x*, as and for the purpose specified.

2. The combination, with the feed-shaft *e*, having an apertured end disk, the horizontal shaft *a*, having the eccentric *d*, the rod *c*, suspended by strap from the eccentric extending below the work-plate, and having the pin *n*, the lever *m*, and the rod *i*, hung from shaft *a*, of the sleeve *k*, loosely surrounding said rod, and connected by the hollow arm *l* with rod *e*, whereby the said rod *e* may operate as described, for the purposes specified.

3. In a sewing-machine, the pivot-rod *i* for the sleeve *k*, suspended from the shaft *a* for a support, and also suspended in a bearing, *j*, substantially as described.

4. The combination, with the presser-foot-carrying bar *h'* and the take-up lever *o'*, of the arm *l'*, having the slot *p'*, whereby said arm is made both to guide the take-up lever and prevent the bar from turning, as described.

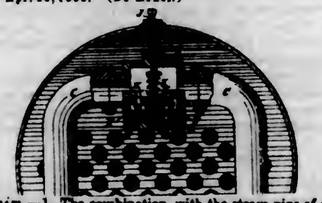
5. The combination of the adjustable cam *t* with the feeder *q* and its bar *u* and studs *s*, substantially as described.

6. The sliding collar *c'*, combined with lever *z*, spring *b'*, disk *x*, and sliding cam *t*, substantially as described.

7. The combination of sliding collar *c'*, sleeve *y*, lever *z*, spring *b*, disk *x*, and sliding cam *t*, substantially as described.

8. The combination, with arm *c*, of the flat curved spring *f*, secured to the top of said arm by a screw, *w'*, and the correspondingly flat curved spring *w'*, having bent shank *x'* and held by an adjusting-screw, *y'*, substantially as and for the purpose specified.

268,231. LOCOMOTIVE. JOHN C. HIGNEY, Kansas City, Mo. Filed Apr. 26, 1882. (No model.)



Claim.—1. The combination, with the steam-pipe of a locomotive-engine, of a cut-off valve, D, automatically closing by excessive flow of steam when the wheels slip, substantially as described.

2. The combination, with a steam-pipe of a locomotive-engine, of a cut-off valve automatically closing by excessive flow of steam when the wheels slip, and also automatically opening when the excessive flow ceases and equilibrium ensues, substantially as described.

3. The combination, with the cut-off valve D, of the table F, adjustable toward and from the seat E, substantially as described.

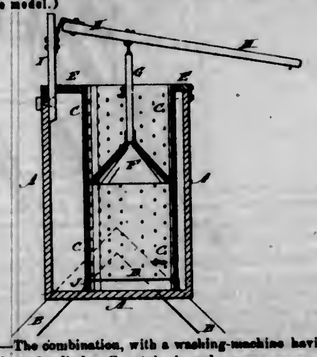
4. The combination of the spring I and an adjusting-screw, J, or equivalent device, with the valve D, arranged to be closed by the flow of steam, substantially as described.

5. The combination of the spring I and an adjusting-screw, J, or equivalent device, with the valve D, arranged to be closed by the flow of steam, and being provided with a table, F, adjustable with respect to seat E, substantially as described.

6. The valve D, apertured as described, in combination with its seat E and adjustable table F, substantially as and for the purpose set forth.

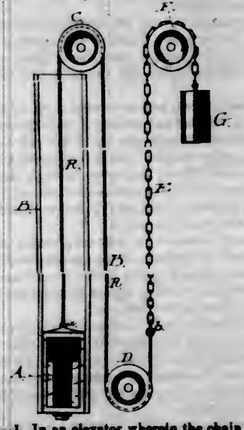
7. The table F, grooved to afford steamways below valve D, resting thereon, substantially as and for the purposes set forth.

268,232. CLOTHES-WASHING MACHINE. LEONARD HILPERT and ROBERT J. BIGGERSTAFF, Blanchard, Iowa. Filed Apr. 19, 1882. (No model.)



Claim.—The combination, with a washing-machine having a hollow perforated cylinder, C, a tab, A, and an open cover, K, of the conical plunger F, connecting-rod G, lever H, the post I, secured to the tab, and the elastic-backed hinge connecting the lever H to said post I, as shown and described.

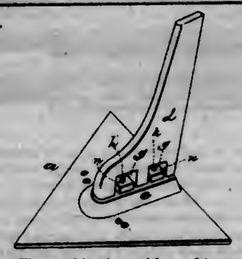
268,233. ELEVATOR. PHILIP HIEBEL, San Francisco, Cal. Filed Nov. 4, 1882. (No model.)



Claim.—1. In an elevator wherein the chain acts as a partial or shifting counterpoise and sustains the counterpoise-weight, the chain E, out of line or to one side of the elevator well or shaft, substantially as set forth.

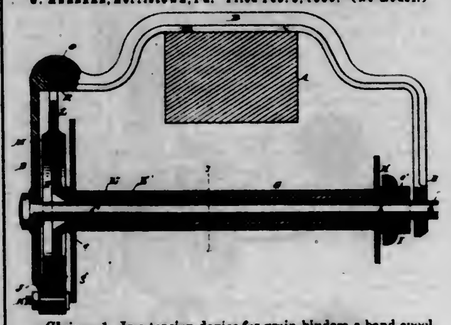
2. The cage or car A, chain E, counterpoise-weight G, and sheave F, in combination with the interposed rope R and sheaves C D, all constructed and arranged as set forth.

268,234. CULTIVATOR. ISAAC HOWE, Lowell, and ELLIOT OAYLEY, Greenville, Mich. Filed July 22, 1882. (No model.)



Claim.—The combination, with a cultivator-standard having a broad bearing or foot, *e*, having perforations *l* and lateral recesses *g*, of the triangular plate or blade *a*, and the bolts *h k*, and nuts *n*, whereby said blade is secured to said foot, substantially as specified.

268,235. TENSION DEVICE FOR GRAIN-BINDERS. MOSES G. HUBBARD, Norristown, Pa. Filed Feb. 3, 1882. (No model.)



Claim.—1. In a tension device for grain-binders, a band-spool provided with a friction-wheel and two friction-surfaces, in combination with mechanism controlled by the tension of the band to clamp said friction-wheel between said clamping-surfaces or free it therefrom to prevent spinning of the spool and keep a uniform tension on the band.

2. In a tension device for grain-binders, a band-spool provided with a friction-wheel on one end, in combination with a pivoted lever provided with a friction surface and controlled by the band, and a spring to press said friction surface upon said friction-wheel, and a stationary friction-surface upon which said friction-wheel rests and against which it is pressed by the friction-surface on the lever, substantially as and for the purpose specified.

3. In a tension device for grain-binders, a band-spool provided with a friction-wheel on one end, in combination with a pivoted lever provided with a friction-surface and controlled by the band, a spring to press said friction-surface upon said friction-wheel, and means to adjust its tension, and a stationary friction-surface upon which said friction-wheel rests and against which it is pressed by the friction-surface on the lever, substantially as and for the purpose specified.

4. In a tension device, the combination of the frame B, pin or rod C, sleeve E, provided on one end with the cone *e* and friction-wheel F and on the other with a slot, *e'*, and screw-thread, spool G, washer H, nut I, lever L, friction-surfaces M and J, bolt O, spring Q, and nut P, substantially as and for the purpose specified.

5. In a tension device, the combination of frame B, pin C, spool G, secured to a friction-wheel, F, pivoted lever L, and friction-surfaces M and J, substantially as and for the purpose specified.

6. In a tension device, the combination of the sleeve E, provided on one end with the slot *e'* and screw-thread and on the other with a cone, *e*, and friction-wheel F, with the spool G, washer H, provided with the lug *h*, and nut I, substantially as and for the purpose specified.

268,236. JOURNAL-BEARING. RICHARD W. HUBBARD and WILLIAM HUBBARD, Ashtabula, Ohio. Filed Aug. 28, 1882. (No model.)

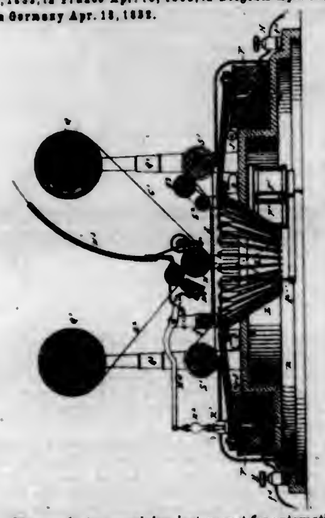
Claim.—The combination, with the spindle B, provided with a shoulder, *a*, having a plain flat bearing-face, the outer end of

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the spindle being screw-threaded, of a series of anti-friction rollers, D, all of the same diameter and length, and formed with square ends, said rollers being supported directly upon the spindle, with their inner ends resting against the spindle-shoulder, a sleeve or box encircling the anti-friction rollers, and a nut C, secured to the outer end of the spindle, and covering the outer end of the sleeve and the outer ends of the rollers, substantially as set forth.

268,237. PRINTING-TELEGRAPH. ALBERT F. JOHNSON and FRANK H. JOHNSON, Brooklyn, N. Y., assignors to the Johnson Manufacturing Company, same place. Filed Feb. 26, 1883. (No model.) Patented in England Mar. 29, 1883, in Austria Apr. 7, 1883, in France Apr. 15, 1882, in Belgium Apr. 17, 1882, and in Germany Apr. 18, 1882.



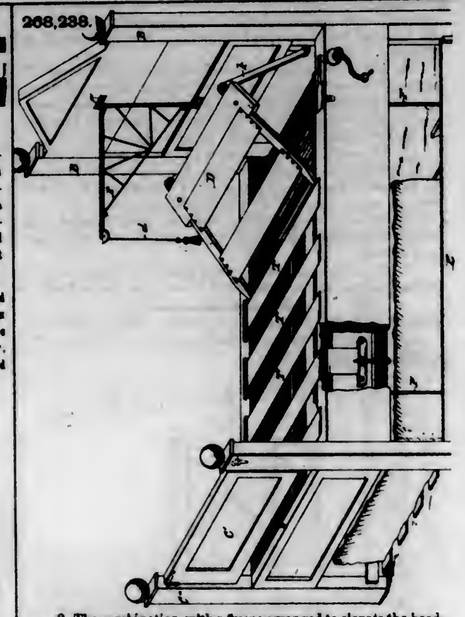
Claim.—1. In a receiving-instrument for automatic printing-telegraphs having a separate magnet for each letter or character employed in sending messages, the combination of the series of U-magnets F, each connected by a separate line-wire, f^4, with the sending-station, and each having a hinged armature provided with a printing-lever, L, constructed to operate as described, the separate U-magnet F', connected by a separate line-wire, f^5, with the sending-station, the feed mechanism consisting of the rollers N and N', ratchet l, and rod l^2, operated, as described, by the armature of said magnet F', the ring J, connecting each of said magnets with a local battery, S', and the strips G' and G^3, to receive and conceal the printing, the whole constructed as described, for the purposes set forth.

2. The combination of the strip G^2, message-strip G', feed-roller N, and friction-roller N', cup N^2, lever N^3, and switch R', provided with the plug R^2, as and for the purpose set forth.

3. In combination with the strips G' and G^3 and the printing-levers L, constructed and operated as described, the inking-ribbon S, inking-roller S^2, rollers S' S^3, and pulley K, all constructed as shown and described, for the purpose set forth.

268,238. INVALID-BEDSTEAD. ISAAC D. JOHNSON, Kennett Square, Pa. Filed Oct. 10, 1882. (No model.)

Claim.—1. The combination, with a crane vertically pivoted to the head-board of a bed to swing from side to side over the bed, supporting a cord over its outer end, which passes over or near its axis through the head-board to connect with a device for raising the head-section of the bed, and a vertical pulley in the head-board over which said cord runs, of two horizontal pulleys pivoted to the head-board—one on each side of said cord—to keep the same on the vertical pulley, substantially as specified.



2. The combination, with a frame arranged to elevate the head-section of a bed by sliding vertically on the head-board thereof, and a cord passing through or over the head-board above said frame, of an elbow-lever pivoted beneath a cross-bar of the frame, to press against the same when fully raised, a horizontal bolt reciprocating longitudinally in said cross-bar, to engage notches in the side of a vertical bar secured to the head-board, a spring for pressing said bolt constantly toward said vertical bar, the vertical arm of said elbow-lever engaging said bolt to withdraw it by the action of raising the horizontal arm thereof, and said horizontal arm having the aforesaid cord attached to it, whereby the pulling of the cord at the front of the head-board will first disengage the locking-bolt and then by continued motion raise the head-section of the bed, substantially as specified.

3. The combination, with the webbing cross-straps of a bed described, of clamping-bars provided with rivets or their equivalent for holding them together upon the webbing, and means for securing said clamps to the side rails of a bed, substantially as specified.

4. The combination, with a webbing strap or straps secured to one rail of a bedstead and crossing to the other rail, of a mortise or slit vertically through the top of the rail to receive said strap, a clamp or bar holding said strap, provided with a screw-threaded hole, and a screw passing up through the inner rib of said side rail and working in said screw-threaded hole, whereby the strap may be drawn tight, and the device therefor concealed from view, as shown and described.

5. The combination, with a bedstead provided with inwardly-projecting ribs on its side rails, of a commode consisting of a box provided with a top board having a cleat secured across the end of its grain at each end, extending beyond the sides and fitted to slide upon said ribs, as shown and described.

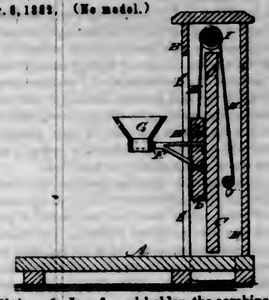
6. The combination, with a bedstead having inwardly-projecting ribs on its side rails, of a commode fitted to slide thereon, provided with notches in each end of its top board, a hand-hole cover fitted to slide into one of said openings, and a cross-strip separating the hand-hole from the main hole in the seat of the commode, as shown and described.

7. The combination, with a bedstead provided with ribs on the inner faces of its side rails, and a mattress-elevating frame, of a commode fitted to slide on said ribs, provided with legs pivoted or hinged to its edges at its four corners to swing to a vertical position to rest upon said mattress-frame, as and for the purpose specified.

8. The combination, with a bedstead having a frame for carrying the mattress supported by cords wound upon a roller, of a ratchet-wheel secured to the shaft of said roller within the side rail of the bedstead, a pawl or ratchet pivoted to swing vertically in the side rail to engage the teeth of the wheel to support the mattress-frame at any point, said pawl being provided with a lever end or handle extending above the rail, by which to disengage it, and a spring beneath said handle to force it upward to keep the pawl in engagement with the teeth of the wheel, as specified.

9. The combination, with a bedstead having rectangular inner corners to each of its four posts below the top of the side rails, of a mattress-supporting frame provided with vertical notches or grooves in each of its four corners to fit and slide freely upon said post-corners, and means for elevating and supporting said mattress-frame, substantially as specified.

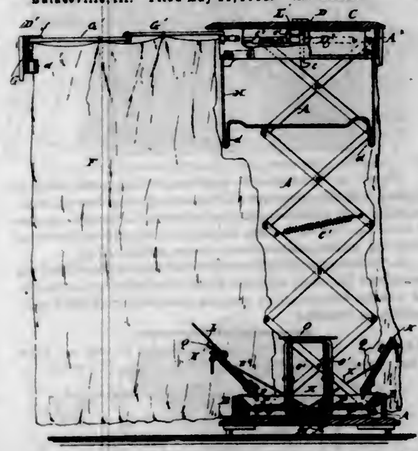
268,239. ADJUSTABLE FUNNEL-HOLDER. JOHN R. JOHNSON, Smyrna, and JAMES S. JOHNSON, Moorefield, Ohio. Filed Apr. 6, 1882. (No model.)



Claim.—1. In a funnel-holder, the combination, with the vertically-slotted casing B, of the block D, sliding in ways in the said casing, the arm E, secured to the said block and projecting through the slot of the casing, and provided with the funnel socket or ring I on its outer end, and means, substantially as herein shown and described, for raising said block, as set forth.

2. In a funnel-holder, the combination, with the casing B, divided into two compartments by the upright bar C, and provided with the vertical slot B', of the sliding block D, the funnel-socket arm E, the rope H, the pulley I, the shaft J, the ratchet L, and pawl M, substantially as and for the purpose set forth.

268,240. FOLDING BATHING-CABINET. WILLIAM K. JONES, Batesville, Ill. Filed May 11, 1882. (No model.)



Claim.—1. A folding bathing-cabinet constructed, substantially as herein shown and described, with a base and a top connected by lazy-tongs, as set forth.

2. In a folding bathing-cabinet, the combination, with the base and the top, of lazy-tongs connecting them, a tank in the top, and a pan in the base, substantially as herein shown and described, and for the purpose set forth.

3. In a folding bathing-cabinet, the combination, with the base and the top, of lazy-tongs connecting them, and a curtain attached to the top and to a folding extension side of the same, substantially as herein shown and described, and for the purpose set forth.

4. In a folding bathing-cabinet, the combination, with the base and top, of lazy-tongs connecting them and springs attached to the joints of the tongs for assisting in raising the top, substantially as herein shown and described, and for the purpose set forth.

5. In a folding bathing-cabinet, the combination, with the top C and base B, of the partitions Z and the lazy-tongs A, folding within the spaces between these partitions Z and the ends of the top and base, substantially as herein shown and described, and for the purpose set forth.

6. In a folding bathing-cabinet, the combination, with the top C, of the movable side G, and the hinged or folding arms G', pivoted to the top C and to the movable side G, substantially as herein shown and described, and for the purpose set forth.

7. In a folding bathing-cabinet, the combination, with the top C, of the movable side G, the folding arms G', the projection f' on the side G, and the clip f'' on the top C, substantially as herein shown and described, and for the purpose set forth.

8. In a folding bathing-cabinet, the combination, with the top C, of the holder H, provided with lugs d, and of the latches d' d', substantially as herein shown and described, and for the purpose set forth.

9. In a folding bathing-cabinet, the combination, with the top C and the base B, of the lazy-tongs A, the studs a^3, projecting from one of the upper ends of each lazy-tongs, the pivoted bar C^2, provided with notches c^3, and the angle or elbow lever D in the top C, and connected with the bar C^2, substantially as herein shown and described, and for the purpose set forth.

10. In a folding bathing-cabinet, the combination, with the top C and bottom B, of the lazy-tongs A, the studs a^3, the pivoted bar C^2, provided with notches c^3, the angle or elbow lever D^2, mounted rigidly on the shaft D, the hook c at the lower end of the lever D^2, the link-piece c', and the studs c^4, substantially as herein shown and described, and for the purpose set forth.

11. In a folding bathing-cabinet, the combination, with the top C and bottom B, of the lazy-tongs A, the studs a^3, the notched bars C^2, the angle or elbow lever D^2, the links c', the studs c^4, and the springs C^3, substantially as herein shown and described, and for the purpose set forth.

12. In a folding bathing-cabinet, the combination, with the base B, of the pan K, the swinging lids K', and the extension-plate L, substantially as herein shown and described, and for the purpose set forth.

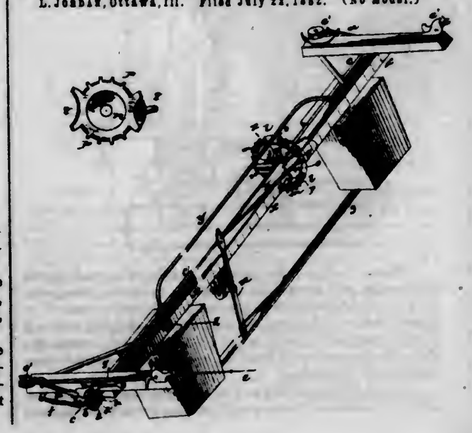
13. In a folding bathing-cabinet, the combination, with the base B, of the pan K, the swinging lids K', and the bails P, substantially as herein shown and described, and for the purpose set forth.

14. In a folding bathing-cabinet, the combination, with the base B, of the pan K, the swinging lids K', the bails P', and the jaws Q, substantially as herein shown and described, and for the purpose set forth.

15. In a folding bathing-cabinet, the combination, with the base B, of the foot-board O and the pivoted legs O' of the same, substantially as herein shown and described, and for the purpose set forth.

16. In a folding bathing-cabinet, the combination, with the base B, of the pan K, provided with horizontal flanges V, substantially as herein shown and described, and for the purpose set forth.

268,241. CHECK-ROWER. RICHARD C. JORDAN and AMBROSE L. JORDAN, Ottawa, Ill. Filed July 22, 1882. (No model.)



Claim.—1. In a check-rower, the crank-pinion *n*, with sections of cogs *p*, separated by long wide-spread cogs or sprockets *q*, in combination with the drive-wheel *l* and yoke *w*, substantially as specified.

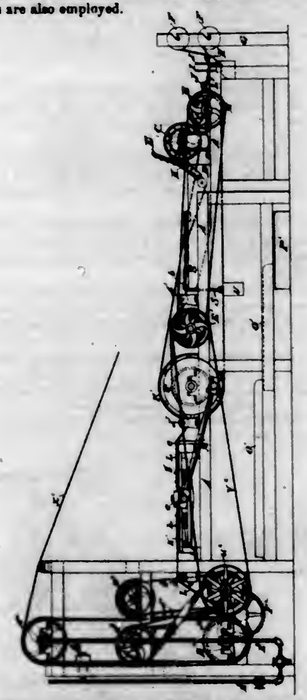
2. In a check-rower, the combination, with the yoke *w*, supporting the driving-gear inside of the ends of the check-rower frame, of the pawl *j* and shaft *e*, substantially as specified.

3. In a check-rower, the combination of the bifurcated lever *a*, having cam-projection *i* at its lower end, the ratchets *d* and *h* on hub *b*, the dog *g*, and spring *f*, substantially as specified.

4. In a check-rower, the combination, with the shaft *e*, lever *a*, ratchets *h* and *d*, and spring *f*, of the drive-wheel *l*, ratchet *k*, pawl *j*, and yoke *w*, substantially as specified.

268,242. TWINE POLISHING AND FINISHING MACHINE. ROBERT A. KELLY, Xenia, Ohio. Filed Mar. 31, 1882. (No model.)

Brief.—The machine embraces grinding, sizing, polishing, and drying devices. The grinding device consists of emery-coated rollers formed with circumferential grooves of different sizes to suit different twines. The sizing device embraces a box adapted to hold the size and provided within with a grooved guide-roller, near the bottom on the outside with a fender to protect the grinding-rollers from size and the size from dust, and with wiping-ropes secured to a cross-bar on the top of the box and kept taut by weights. For polishing there are provided diagonally-grooved smoothing-rollers, smooth covered finishing-rollers, and cloth or buckskin pads, arranged both above and below the twines, mounted in horizontally-reciprocating cross-heads and supplied with guide-pins. The drying devices embrace grooved hollow metal rolls fitted with steam-connections. The grinding and polishing rollers are supplied with mechanism for rotating the same oppositely to the direction of travel of the twines. Spacing-pins and numerous guide-rollers are also employed.



Claim.—1. In a twine polishing and finishing machine, the combination, with mechanism for drawing the twines through the machine, of circumferentially-grooved grinding-rolls arranged on opposite sides of the twine, and means for rotating said rolls in a direction opposite to that in which the twines travel, whereby the fibers are removed evenly from the entire surface of the twines, substantially as described.

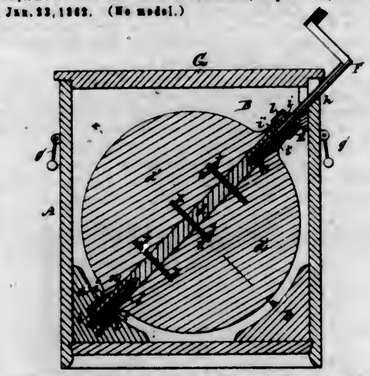
2. In a twine polishing and finishing machine, the combination, with mechanism for drawing the twines through the machine, of grinding-rolls arranged above and below the twines and operating to remove the projecting fibers therefrom, a size-receptacle adjacent to said grinding-rolls, through which receptacle the twines are caused to pass, and a fender interposed between the grinding-rolls and the size-receptacle for the purpose of arresting the dust and fibers removed from the twines and preventing them from entering the size-receptacle, substantially as described.

3. In a twine polishing and finishing machine, the combination, with mechanism for drawing the twines through the same, of the size-receptacle through which the twines are conducted, and a series of wipers consisting of ropes around which the twines pass spirally, a cross-bar to which said ropes are attached, and weights suspended to the free ends of the ropes to keep them under tension, substantially as described.

4. In a twine polishing and finishing machine, the combination, with mechanism for drawing the twines through the machine, of a size-receptacle through which the twines are caused to pass, wipers to which the twines are conducted as they emerge from the size-receptacle, a polisher and mechanism for reciprocating the same, one or more rolls interposed between the wipers and the polisher, said rolls having diagonally-grooved or screw-shaped peripheries against which the twines are held in their passage, and mechanism for revolving said rolls in a direction opposite to that in which the twines travel, substantially as described.

5. In a twine polishing and finishing machine, the combination, with mechanism for drawing the twines through the machine, of a size-receptacle through which the twines are passed, wipers for removing the superfluous size, means for polishing the twines after they leave the wipers, and one or more heated drying-rolls having circumferential grooves to receive the twines, and mechanism for revolving said heated grooved rolls, substantially as described.

268,243. CHURN. JOHN J. KENDALL, Naperville, Ill. Filed Jan. 23, 1882. (No model.)



Claim.—1. The dasher B, consisting of the circular blade *d*, provided with the extensions *i* and passages *n*, and the semicircular blades *d'* *d'*, provided with the extensions *i'*, secured together by dowel-pins and by ferrules placed upon the said extensions of the blades, substantially as herein shown and described.

2. The circular blade *d*, formed with the extensions *i*, and the semicircular blades *d'*, formed with the extensions *i'*, in combination with the ferrules *l l*, the gudgeon *f*, and the crank-rod F, substantially as described

268,244. STOVE-PIPE SHELF. JOSEPH KURTIS and JOHN BRAY, Springfield, Ohio. Filed Oct. 5, 1882. (No model.)



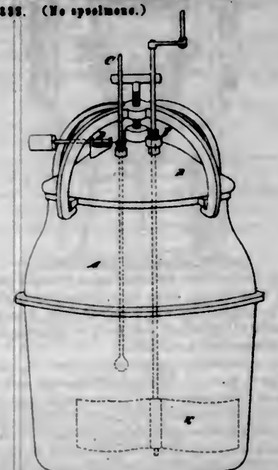
Claim.—1. In a stove-pipe shelf, the combination of the socket *d*, constructed with ledge or stop *d'* and upper and lower cross-bars, d^2 d^3, and the shelf *c*, having the shank *c'* projected therefrom, and constructed with the hook c^2 and means for securing the socket to the stove-pipe, substantially as set forth.

2. The combination, substantially as described and shown, of the socket *d*, constructed with ledge *d'* and lower cross-bar, d^3, and adapted to be secured to a stove-pipe, and the shelf *c*, having shank *c'*, constructed with the hook c^2, as specified.

3. In a supporting-band for stove-pipe shelves, the hinge *b*,

composed of the wing b', having depending pin b^2, and the wing b^3, provided with hole for the pin b^2, and having the arm b^4 extended over and rested on the wing b', substantially as and for the purposes set forth.

268,245. PROCESS OF PREPARING SUBSTITUTES FOR MOTHERS' MILK. OTTO LARSMANN, Altona, Germany. Filed Oct. 17, 1882. (No specimens.)



Claim.—The process hereinbefore described for producing from the milk of cows or other domestic animal milk having the properties of human milk—that is to say, by treating the cow's or other milk by the addition thereto of the following materials, namely: water, sugar, cream, carbonate of potash, phosphoric acid, and a digestive ferment.

268,246. COMBINED WASH-BOARD AND CLOTHES-POUNDER. HARLETON LAKE, Shelburne, Vt. Filed Sept. 11, 1882. (Model.)



Claim.—1. A washing-board provided with a clothes-pounding chamber or cup at one end.

2. A washing-board provided with a clothes-pounding chamber or cup, A, at one end and air-passages *b b c c* and valves *d d*, substantially as and for the purpose described.

268,247. PACKING FOR BOTTLES, JARS, &c. JAMES LAMONT, Brooklyn, assignor to Robert Gair, New York, N.Y. Filed Sept. 27, 1882. (No model.)



Claim.—The combination, with two or more pieces or portions of paper, card, or analogous material severally corrugated transversely to their length, and in such manner that the salient or convex corrugations of each will be opposite the receding or concave corrugations of the other, of flexible material uniting the said pieces or portions together, substantially as specified.

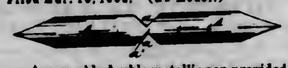
268,248. HALTER. EMMIT G. LATTA, Friendship, N.Y., assignor of two-thirds to Adrian C. Latta, same place, and Harvey D. Blakesley, Buffalo, N.Y. Filed Apr. 27, 1882. (No model.)



Claim.—1. A halter having its straps connected by a rivet, h, and a trimming, E, the latter provided with loops which retain the straps in their proper relative position, and having an open central space, H, within which the rivet is arranged, and whereby the trimming is prevented from being injured in applying or removing the rivet, substantially as set forth.

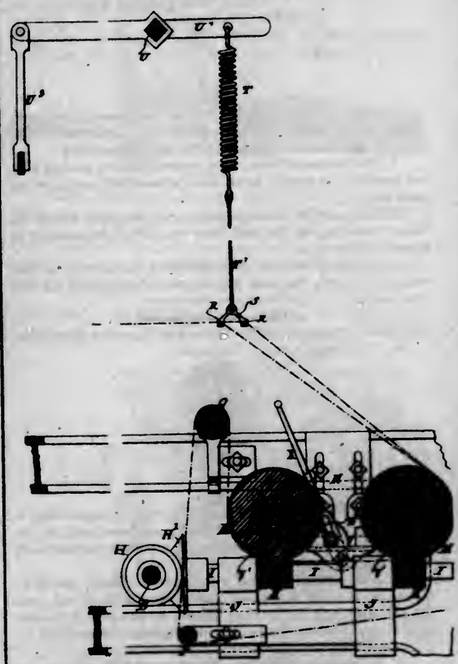
2. A halter-trimming, E, composed of an outer horseshoe-shaped bar, *e*, and an inner similar bar, *f*, connected to form loops for the halter-straps, and having an open central space, H, in which the halter-straps can be secured together by a rivet, substantially as set forth.

268,249. METALLIC PEN. BENJAMIN LAWRENCE, New York, N.Y. Filed Mar. 18, 1882. (No model.)



Claim.—A separable double metallic pen provided with points at each extremity, and having a central portion weakened, substantially as described.

268,250. LOOM FOR WEAVING DOUBLE-PILE FABRICS. SAMUEL C. LISTER and JOSÉ ESHALOG, Manningham, near Bradford, County of York, England. Filed Nov. 28, 1881. (No model.) Patented in England Aug. 28, 1878, No. 3,327; in France Mar. 13, 1879, No. 130,564, and in Germany Mar. 25, 1879, No. 10,163.



Claim.—1. The combination of the covered rollers separated from each other, their worm-wheels, the worms engaging therewith to independently rotate the rollers, the worm-shaft, means by which the worm-shaft is continuously driven, mechanism for supplying pile-warp to the covered rollers, and mechanism for supporting and guiding pile-warp on the way to and from the covered rollers, substantially as and for the purpose hereinbefore set forth.

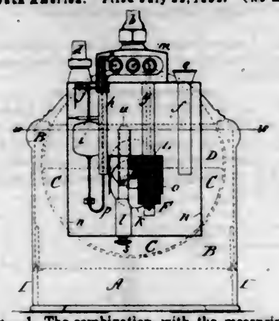
2. The combination of the covered rollers, their worm-wheels, the worms engaging therewith, the worm-shaft, the continuously-driven shaft B, gearing connecting it with the worm-shaft, mechanism for supplying pile-warp to the covered rollers, and mechanism for supporting and guiding pile-warp on the way to and from the covered rollers, substantially as and for the purpose hereinbefore set forth.

3. The combination of the rollers M, their worm-wheels, the worms K, their continuously-driven shaft, means for driving the worm-shaft, mechanism for supplying, guiding, and supporting pile-warp, and mechanism for lifting the rollers to disengage their worm-wheels and the worms of the continuously-driven shaft, substantially as and for the purpose hereinbefore set forth.

4. The combination of the beam O, the roller P, the roller Q, the covered rollers M, means for rotating them, the guide-bars R, means for supporting them, the batten, and means for operating it, substantially as and for the purpose hereinbefore set forth.

5. The combination of the shaft B, the worm-shaft I, the gearing connecting the shafts, the rollers M, their open bearings, the worm-wheels of the rollers, the slide V, having inclines, and mechanism for supplying, guiding, and supporting pile-warp, substantially as and for the purpose hereinbefore set forth.

268,251. WET GAS-METER. WILLIAM MACKINTOSH, Callao, Peru, South America. Filed July 22, 1882. (No model.)



Claim.—1. The combination, with the measuring-drum C, having axis or shaft r, of the float B, having cross-beams D D, whereby the drum is supported by the float, as described.

2. The dip case or trap o, fitted around the worm-gearing F K, and covering the opening to the drum, substantially as shown and described.

3. The screw M, in combination with the guide H and the float, for securing the float and drum in position, substantially as shown and described.

4. The combination of the inlet-cone d, the screw M, and the bridge N, whereby the screw may be operated, as and for the purpose specified.

268,252. SCHOOL-SLATE. FRANCIS W. MALLETT, Slatington, Pa. Filed Mar. 4, 1882. (No model.)



Claim.—1. A slate-frame provided with the metal band a, having securing-points b attached thereto, combined with the filling d outside the band, and inclosed by a covering, substantially as described.

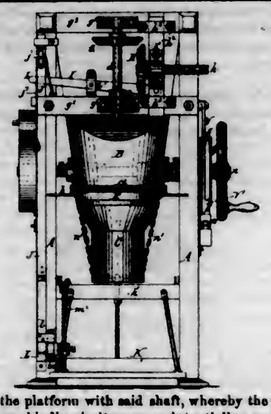
2. A slate-frame provided with the metal band a, having securing-points b attached thereto, combined with the filling d outside the band, and the covering secured by one edge to the said points drawn over the filling, the other edge secured upon the under side of the band, substantially as described.

3. A slate-frame provided with the metal band a, having securing-points b attached thereto, the said band inclosed by a covering, combined with the side cushions, h h, arranged in recesses on the frame, and secured in place by said band, substantially as described.

268,253. FLOUR-PACKER. JOSEPH B. MARTIN, Silver Creek, N. Y., assignor to Howes, Babcock & Ewell, same place. Filed Mar. 27, 1882. (No model.)

Claim.—1. The combination, with the flour-passage B, having an opening, f, adapted to receive a slide, E, of an elastic band or cord, f', adjustably secured to the machine, whereby said opening is closed when the slide is removed, substantially as set forth.

2. In a flour-packer, the combination, with a platform, K, moving in vertical ways, of a shaft, s, and converging chains w', connecting the platform with said shaft, whereby the platform is prevented from binding in its ways, substantially as set forth.



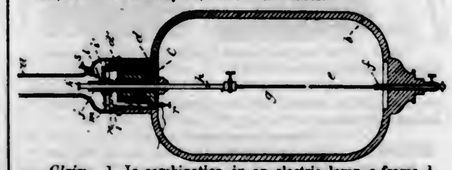
3. The combination, with a pair of posts, A, and the shaft s, of the bearings O, provided with studs O', entering sockets in the posts A, substantially as set forth.

4. The combination, with a pair of posts, A, and shaft s, of the bearings O, provided with studs O', entering sockets in the adjacent sides of the posts, and a connecting-bar, p, secured to the outer sides of both posts, and provided with studs p', entering sockets in the outer sides of the posts, substantially as set forth.

5. In a flour-packer, the combination, with the shaft s, whereby the platform is moved, of a brake-wheel, S, mounted on said shaft, a brake-band, s, a lever, T, attached with its rear end to the brake-band, and a lever, U, having its rear end connected with the front end of the lever T and its front end adapted to receive the pressure by which the brake is applied and released, substantially as set forth.

6. In a flour-packer, the combination, with the shaft s, whereby the platform is moved, of a brake-wheel, S, mounted on said shaft, a brake-band, s, a lever, T, attached with its rear end to the brake-band, a lever, U, having its rear end connected with the front end of the lever T and its front end adapted to receive the pressure by which the brake is applied and released, and the pivoted arm V, adapted to be engaged with the lever U, and to hold the brake-lever in a position in which the brake-band is released, substantially as set forth.

268,254. ELECTRIC-ARC LAMP. RICHARD H. MATHER, Windsor, Conn. Filed July 28, 1881. (No model.)



Claim.—1. In combination, in an electric lamp, a frame, b, shunt-magnet d, switch-magnet d', rod h, having button h' or its equivalent, and sleeve j, whereby the spring-clamp is automatically depressed, the rod released, and the lamp extinguished, all substantially as described.

2. In an electric lamp, the shunt-magnet core c and concentric walls of box n', cast integral with the lamp-frame b, in combination with the centrally-located carbon-holder h and its feeding mechanism, all substantially as described.

3. In an electric lamp, the shunt-magnet core c, cast integral with the lamp-frame b, in combination with the centrally and vertically reciprocating carbon-holder, rod h, armature i, shunt-magnet d, switch-magnet d', spring-clamp l, and electrodes, all substantially as described.

4. In an electric lamp, the combination of frame b, shunt-magnet d, switch-magnet d', armature i, spring-clamp l, sleeve j, rod h, with button h', brushes p, holder f, and carbons g and e, connected with and operated by a single or main battery, all substantially as described.

5. In an electric lamp, the combination of frame b, shunt-magnet d, armature i, spring-clamp l, rod h, holder f, and carbons g and e, all substantially as described.

6. In an electric lamp, a feeding device consisting of a carbon-supporting spring-clamp operated by a shunt-magnet and the recoil of the spring, in combination with an automatic extinguishing device, all substantially as described, and for the purpose set forth.

7. In an electric lamp, a leaf-spring secured at one end to the lamp-frame and perforated at the other and raised end for the passage of a carbon-holder, which holder is supported and operated by the spring and a shunt-magnet in feeding the upper carbon, all substantially as described.

8. In an electric lamp, in combination, a leaf-spring secured at one end to the lamp and perforated at the other and raised end, rod h, and automatic extinguishing device, all substantially as described.

9. In an electric lamp, the combination of spring-clamp l, shunt-magnet d, armature i i', switch-magnet d', and rod h, all substantially as described.

10. In an electric lamp, in combination, a leaf-spring secured at one end to the lamp and perforated at the other and raised end, whereby a clamp is formed, a carbon-supporting rod adapted to reciprocate vertically within the clamp, and a pin or finger retracted by a spring, all substantially as described, and for the purpose set forth.

11. In an electric lamp, in combination, frame b, cover a, pin s, with supporting-spring, spring-clamp l, and rod h, all substantially as described.

268,255. DYNAMO-ELECTRIC MACHINE. RICHARD H. MATHER, Windsor, Conn. Filed Dec. 11, 1880. (No model.)

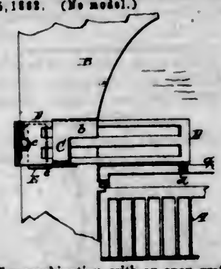


Claim.—1. In a dynamo-electric machine, an armature-core composed of a disk the thickness of which does not exceed one-third its diameter, and having a substantially solid center or interior, and having coils of insulated wire wound laterally thereon, substantially as described.

2. In a dynamo-electric machine, a disk armature-core having peripheral mortises or sockets and coils of insulated wire wound into such sockets, substantially as shown and described.

3. In a dynamo-electric machine, the combination of an armature-core, two or more armature-coils, and a commutator having two peripheral plates for each armature-coil, respectively connected with the respective ends of the appurtenant coil, each of which plates extends substantially around one-third the circumference of the commutator, all substantially as described, and for the purpose set forth.

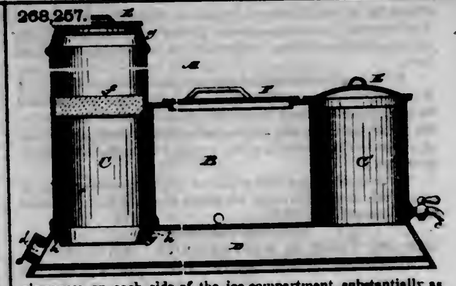
268,256. FIRE-GRATE. GEORGE C. MAXWELL, Allegheny, Pa. Filed Sept. 15, 1882. (No model.)



Claim.—The combination, with an open grate and fire-place having upon its interior side suitable brackets, C, provided with guide-flanges b, and the plates E, of the sliding open guards or fenders D, having feet d, adapted to rest over and upon the upper or top bar of the grate, substantially as and for the purpose set forth.

268,257. WATER COOLER AND FILTER. SAML. L. MCBAIRD, Atlanta, Ga. Filed May 8, 1882. (No model.)

Claim.—1. The water-cooler described, having vertical branches of the water-chamber at each end of the ice-compartment, and a horizontal portion of the water-chamber below said compartment communicating with the vertical branches, and the air-spaces on each side of the ice-compartment, substantially as specified.



2. The water-cooler described, having vertical branches C C' of the water-chamber, of different heights, at each end of the ice-compartment, and a horizontal portion, D, of said chamber below said compartment, substantially as specified.

3. In a water-cooler having an independent middle ice-compartment, and a water-chamber having vertical branches of different heights, and a horizontal portion under said ice-compartment connecting said branches, a filtering-partition, f, substantially as specified.

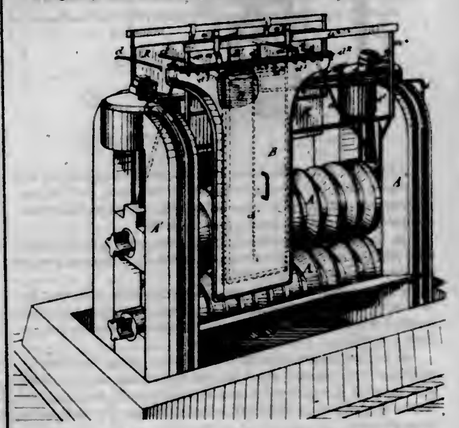
4. In a water-cooler, the detachable and reversible cylinder or chute C, having a filter-partition, f, and open ends g, similarly shouldered, tapered, or finished to engage the seat of the main vessel, substantially as specified.

268,258. CAR-COUPLING. WILLIAM MCCUBBIN, Chatham, Ontario, Canada. Filed Apr. 28, 1881. (No model.)



Claim.—The combination of the draw-head A, having oblong registering side slots, G, slotted weight B, having notched lips b, shoulder d, and shaft F, provided with the handle E, and draw-bolt C, provided with the retaining pins or stops c, constructed and combined to operate substantially as and for the purpose herein shown and specified.

268,259. SHIELD FOR METAL ROLLS. HUGH MCDONALD, Allegheny, Pa. Filed May 23, 1880. (No model.)



Claim.—1. In combination with a pair of metal working or reducing rolls, an apron-shield, R', suspended between the rolls and the ordinary position of the catcher on the delivery side, and free to swing outward in case it is engaged by the through-going bar, substantially as set forth.

2. In combination with a pair of rolls having each a series of operative rolling parts or faces, a roll-shield, B, of known suitable material, made less in width than the length of the rolls and

adjustable in the direction of the length of the rolls, whereby the workman may cover or uncover at pleasure different parts of the operative rolling-surfaces, substantially as and for the purposes set forth.

3. In combination with a pair of rolls, a compound shield, R R′, of suitable known material, of which the upper part, R, fixed in position, shall extend downward to a little above the level of the top of the upper roll, and the other part, R′, shall be movable at pleasure in the direction of the length of the rolls, substantially as set forth.

4. In combination with a pair of rolls, a movable shield, B, on one side of the rolls and a compound shield, R R′, on the other side, substantially as set forth.

268,260. ROOF OR WALL COVERING. DUNCAN MCLEAN, Wallacetown, Ontario, Canada. Filed Apr. 15, 1882. (No specimens.)

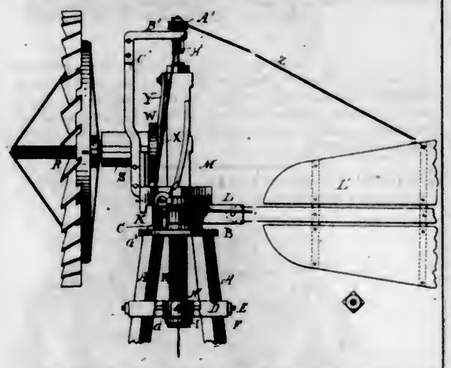
Claim.—A method of forming a roof or wall covering, which consists in first applying a coat of mortar on a slat frame, then covering this with alternate layers of gas or coal tar and sand, and finally oiling as well as smoothing the outer surface, as described.

268,261. ROSETTE FOR HARNESS. ALONZO MCMANUS, New Britain, Conn. Filed May 17, 1882. (No model.)



Claim.—As an improved manufacture, a rosette composed of the body portion A, having edge wings integral therewith, and a loop, B, secured to the body by means of such wings, all substantially as shown and described.

268,262. WINDMILL. JACOB S. MEYER, Bloomville, Ohio. Filed July 8, 1882. (No model.)



Claim.—1. In combination with the supporting-timbers and the cross-pieces, the adjusting screw-bolts and nuts, and the supporting-ring and vertical tube resting upon and secured therein, substantially as and for the purposes specified.

2. In combination with the supporting-plate and its conical seat, the ring and its slotted extension, and the vane-arm pivoted therein, substantially as specified.

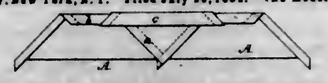
3. In combination with the supporting plate and ring, the turn-table and its standards, the reciprocating hollow slide, and inclosed tube flanged at both ends, substantially as and for the purposes specified.

4. In combination with the vane and supporting-ring, the rope passing over pulleys and down through the tubular sections of the mill, the cord Z, and bracket-arm B′, whereby the vane is raised as the wind-wheel is deflected, substantially as and for the purposes set forth.

5. The wind-wheel skeleton provided with two rings slotted obliquely, and having two vanes secured in said slots by upsetting the metal upon them, substantially as specified.

6. In combination with the wind-wheel shaft, the disk and its wrist-pin, and the pitman connecting with the vertical slide, the whole arranged to operate substantially in the manner specified.

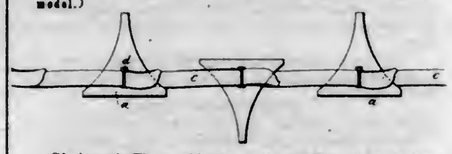
268,263. SCRAP-METAL CABLE. JOHN C. MILLIGAN, Brooklyn, assignor to the Lalance & Grosjean Manufacturing Company, New York, N. Y. Filed July 26, 1882. (No model.)



Claim.—1. The combination, substantially as hereinbefore set forth, of a series of sheet-metal scraps united with each other by transverse folds, and formed into a strip or cable, with or without barbs or points, by longitudinal folding.

2. A cable formed of a series of longitudinally-folded sheet-metal scraps with transverse uniting-connections, substantially as described.

268,264. FENCE-STRAND OF SCRAP METAL. JOHN C. MILLIGAN, Brooklyn, assignor to the Lalance & Grosjean Manufacturing Company, New York, N. Y. Filed July 26, 1882. (No model.)

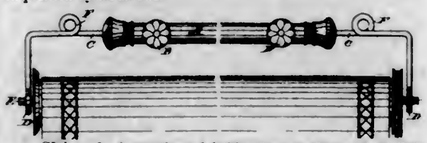


Claim.—1. The combination, substantially as hereinbefore set forth, of a series of scraps formed by cutting spoon-blanks from metal sheets, united with each other by interlocking the same so as to form a continuous chain.

2. The combination of the narrow metal strips and the triangular sections, interlocked with each other alternately, forming a chain with or without barbs, substantially as hereinbefore set forth.

268,265. CURTAIN-ROD HOLDER. WILLIAM J. MULLEN, New York, N. Y. Filed May 18, 1882. (No model.)

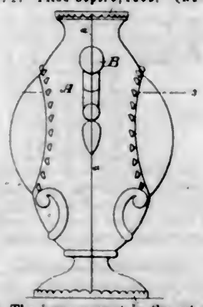
Brief.—Two end wires having loops for the roller-pintle and suspending-loops are connected by an intermediate tube and held in position by set-screws.



Claim.—1. A curtain-rod holder formed of two wires, C C, having loops D F, and connected by an intermediate piece, A, as shown and described.

2. In a curtain-rod holder, the combination, with the rod A, of the binding-screws B and the rods or wires C, held in the ends of the rod A, and each provided with a loop, D, at the end for the curtain-rod pintle, and a loop, F, near the upper end for the hook G, substantially as herein shown and described, and for the purpose set forth.

268,266. GLASS VASE, URN, OR OTHER HOLLOW GLASS-WARE, AND THEIR MANUFACTURE. WILLIAM T. MURPHY, New York, N. Y. Filed Sept. 9, 1882. (No model.)



Claim.—1. The improvement in the art of manufacturing hollow glass vases, urns, and other similar articles having decorations on their interior surfaces, which consists in forming two or more shells of pressed glass, each of which constitutes a half or other segment of the vase or other article divided longitudinally, painting or decorating each such shell on its interior or concave surface, and finally uniting the shells edge to edge, whereby is formed a complete vase or other article decorated on its interior surface, substantially as set forth.

2. The combination, to form a hollow glass vase, urn, or other similar article, of two or more shells of pressed glass, each constituting a half or other segment of the vase or other article divided longitudinally, each shell being decorated on its inner or concave surface, and the shells being fastened together edge to edge to form the complete vase, substantially as set forth.

3. The combination of two shells, A A, made of pressed glass with edges conformed to each other, so that when united edge to edge they will form a complete vase, urn, or other hollow article, and each shell formed with a half or part of a projecting handle or other prominent projection, B B, on each side and integral with it, whereby, when joined together, these halves coincide and form handles or projecting ornaments for the vase or other article, substantially as set forth.

268,267. WHEEL-HARROW. CRAIG MURRAY, Kalamazoo, assignor to Spencer J. Wing, Schoolcraft, Mich. Filed July 3, 1882. (No model.)



Claim.—1. In a harrow, the combination, with the axle, of a crank-arm carrying a spindle, a sector, and a two-part lever having its inner end curved or pronged and adapted to enter curved slots or grooves of the crank-arm, substantially as set forth.

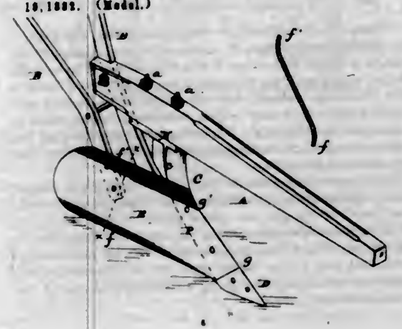
2. In a harrow, the combination, with the tooth-supporting shaft, of a tooth provided with a hole or slot in its rear end, a perforated washer adapted to fit against the tooth-supporting shaft and provided with a lug that enters the hole in the tooth, and a bolt that passes through the washer, and a hole in that portion of the tooth which is on the opposite side of the shaft from the washer, and thus secures the parts in place, substantially as set forth.

3. In a harrow, the combination, with the tooth-supporting shaft, of a tooth provided with a hole at its rear end, a perforated washer provided with a serrated face adapted to fit against the tooth-supporting shaft and provided with a lug that enters the hole in the tooth, and a fastening-bolt that passes through the washer, shaft, and a hole in that portion of the tooth which is on the side of the shaft opposite the washer, substantially as set forth.

4. The combination, with the crank-axle and sector, of a lifting-lever consisting of two parallel bars having curved ends, secured in correspondingly-curved grooves in the crank-arm, and a sliding dog arranged between said bars and provided with a handle, substantially as set forth.

5. The combination, with the tooth-shafts and an operating-lever, of an arm, *l*, a washer provided with a serrated face that fits against the tooth-shaft, and is provided with a lug that enters a hole in one end of said arm, and a fastening-bolt that passes through the washer, tooth-shaft, and said arm, substantially as set forth.

268,268. PLOW. AUSTIN MANLY, Jackson, Miss. Filed June 19, 1882. (Model.)



Claim.—The combination of the mold-board E, having the curved extensions *f f′* and the cutting-edge *g g′*, the standard, the landside, and landside-bar, formed as described, all constructed and adapted to operate substantially as specified.

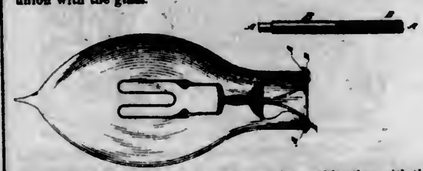
268,269. ELECTRIC INCANDESCENT LAMP. JOSEPH V. NICHOLS, Brooklyn, assignor to the United States Electric Lighting Company, New York, N. Y. Filed Mar. 14, 1882. (No model.)



Claim.—The method or process of manufacturing incandescent lamps, which consists in forming or building up about the conducting-wires one or more masses of vitreous material, mounting upon said wires a carbon conductor, introducing the same into an open globe or receiver, heating and contracting that portion of the receiver around the opening, and welding it to one of the vitreous masses, and then exhausting the globe, all substantially as herein set forth.

268,270. ELECTRIC INCANDESCENT LAMP. JOSEPH V. NICHOLS, Brooklyn, assignor to the United States Electric Lighting Company, New York, N. Y. Filed Feb. 28, 1882. (No model.)

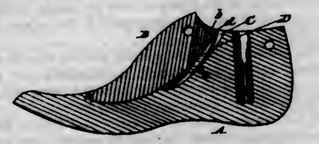
Brief.—The platinum coating is claimed to form a better union with the glass.



Claim.—1. In an incandescent lamp, in combination with the glass receiver, supporting-wires for the carbon composed of copper and platinum, in substantially the manner described.

2. The combination, of an air-exhausted globe, a carbon conductor contained therein, and compound wires consisting of copper cores incased in platinum, sealed into said globe, and connected with the carbon, as and for the purpose specified.

268,271. LAST. GEORGE W. OSGOOD, Boston, assignor of one half to Elipha W. Arnold, Weymouth, Mass. Filed Sept. 14, 1882. (No model.)

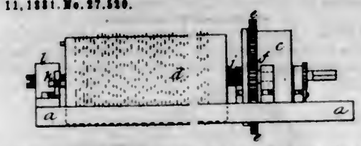


Claim.—1. The combination, with a last and its block, of a longitudinally-arranged strip-spring, secured at one end to one of the opposing faces of the parts and curving or bent away therefrom to its other end, which stands off from said face, and is provided with an outwardly-projecting hook or finger adapted to act upon a catch or shoulder formed behind the other opposing face, all substantially as shown and described.

2. The combination, with a last and its block, of a strip-spring arranged in a longitudinal groove in one of the meeting or opposing faces, and secured at one end to the inner wall of said groove, but curving or bent away therefrom, and provided at its free end with an outwardly-bent hook or finger projecting out of the groove, and a catch or shoulder formed behind the other meeting or opposing face to engage said hook or finger when the block is seated upon the last, substantially as described.

3. The combination, with the last A, having the longitudinal strip-spring D, secured at one end in its block-seat, but curving or bent away therefrom, and provided at its other end with the outwardly-projecting hook or finger *d*, and the block B, having a notch, *b*, provided with a wall arranged to engage said hook or finger, substantially as described.

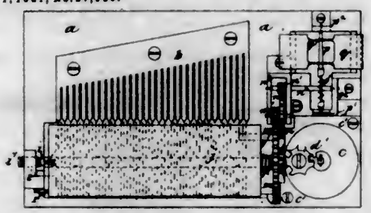
268,272. MUSICAL BOX. ERNEST PAILLARD, Sainte Croix, Switzerland, assignor to H. J. Paillard & Co., New York, N. Y. Filed Aug. 24, 1882. (No model.) Patented in Germany July 11, 1881, No. 27,530.



Claim.—1. In an air-changer for musical boxes, the combination of a variable-toothed cog-plate, fitted on a fixed block, to rotate at right angles to the axis of the pin-barrel, with the pin-barrel, and a stud or pin on its end adapted to turn the cog-plate one tooth at each revolution of the barrel, substantially as and for the purpose set forth.

2. The spring-actuated pin-barrel *d*, provided with the stud or pin *m*, and a depression, *n*, in combination with the cog-plate *k*, pivoted on the bearing-block *l*, at right angles to the axis of the pin-barrel, substantially as and for the purpose set forth.

268,273. MUSICAL BOX. ERNEST PAILLARD, Sainte Croix, Switzerland, assignor to H. J. Paillard & Co., New York, N. Y. Filed May 6, 1882. (No model.) Patented in Germany July 11, 1881, No. 27,530.



Claim.—1. A drawn sheet-metal mainspring-drum having a hook in the interior integral therewith, formed by a part of the side cut, and bent inwardly, substantially as and for the purpose set forth.

2. A retaining-pawl for mainspring-arbors formed from sheet metal and secured to the side of a wheel running free on the arbor, and provided with a projection which bears against the side of a recess in the wheel in line with the catching end of the pawl, in combination with a ratchet or notched disk wheel secured to the arbor, substantially as and for the purpose set forth.

3. As an improvement in fly-fans for regulating the speed of gear-trains, the same cut from sheet metal with the two resisting-planes connected by bars centrally perforated, which are afterward bent at right angles to the planes to form the means by which the fan is secured to its spindle, substantially in the manner hereinbefore set forth.

4. In combination with a high-speed rotating spindle, a metal bearing-frame slotted at right angles to the spindle, and a hardened-steel step inserted in said slot, thereby forming the thrust-bearing for the spindle, substantially as set forth.

5. In combination, the drawn sheet-metal drum *c*, having a flange provided with holes for the holding-screws *c'*, and a spring-hook, c^2, integral therewith, the mainspring *e* and arbor *d*, substantially as set forth.

6. In combination, the arbor *d*, wheel *f*, spring-pawl *h*, provided with projection h^2, fitting in a recess in an opening in the wheel *f*, and the ratchet-wheel or notched disk *g*, substantially as set forth.

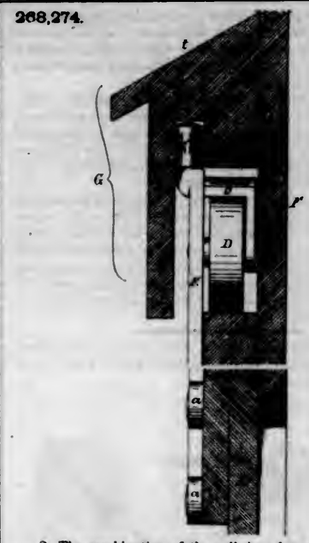
7. In combination, the wheel *m* on the barrel-shaft *i*, pinion *m'*, wheel *n*, pinion *n'*, fly-wheel *o*, screw-spindle *p*, fan *q*, and their bearing-frames and brackets n^2, o^2, and p^2, substantially as set forth.

8. In a musical box, the pin-barrel shaft *i*, provided with a conical end bearing, in combination with the adjustable screw i^2, provided with a conical hole in its end, as and for the purposes set forth.

268,274. DOOR-HANGER. ABRAHAM PARKMAN, Philadelphia, Pa., assignor to William H. Grissom, Matthias Harbster, and William Harbster, all of Reading, Pa. Filed May 25, 1882. (No model.)

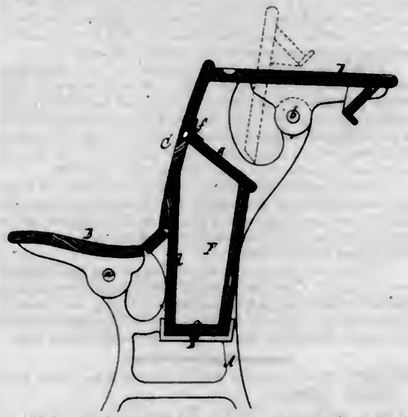
Claim.—1. A barn-door hanger in which are combined a hanger-plate, E, a supporting-wheel, D, and guide-rollers *f f*, the centers of which are in a line at an angle to the course of the wheel D, as set forth.

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2. The combination of the rail A and a cornice comprising the wide strips *p* and *q*, the narrow intervening strip *s*, and the covering-strip *t*, with the hanger-plate E, having a wheel, D, adapted to the rail A, and rollers *f f'*, adapted to the groove formed by the strips *s*, *p*, and *q*, the centers of said rollers being in a line at an angle with the sides of the groove, as set forth.

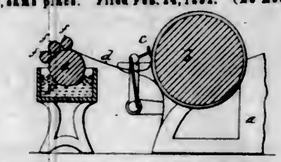
268,275. SCHOOL-DESK. JOHN PEARD, Brooklyn, N. Y. Filed Apr. 15, 1882. (No model.)



Claim.—1. In combination with a pivoted seat, B, a back, C, and a centrally-pivoted desk, D, in rear of the seat, the supporting-standards provided with ledges E at a distance below the seat, the book-box consisting of the bottom *c*, board or wall *e*, and board or wall *d*, extending vertically from the ledges and connected with the back C, whereby a deep vertical book-box is formed, closed on all sides, and the back of the seat strengthened and the desk free to turn on its pivot without injuring books contained in the box, substantially as described.

2. In combination with the back C, seat B, centrally-pivoted desk D, and standards A, the ledges E on the standards below the pivotal point of the seat, the bottom *c*, and vertical boards *d e*, each of the latter being about equal in length and supported by the ledges below the seat, to form a book-box beneath the centrally-pivoted desk, with a cover hinged upon rear of the seat-back, the construction and arrangement being substantially as and for the purpose described.

268,276. MANUFACTURE OF SEAMLESS FELT. RUSSELL W. PERKINS, Hartford, Conn., assignor of two-thirds to Alfred E. Pitkin, same place. Filed Feb. 24, 1882. (No model.)

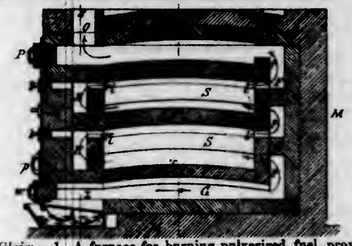


Claim.—1. As a new article of manufacture, a seamless cylinder of felt whose diameter is less than its length, all substantially as described.

2. In combination, in a felting-machine, frame *a*, doffer *b*, comb *c*, lay *d*, longitudinally-reciprocating rolls *e f*, and vat *g*, with contained liquid, all substantially as described.

3. In a drawing or spinning frame, a top roll cloth formed of a cot of seamless felt, all substantially as described.

268,277. OVEN FOR BURNING PULVERULENT FUEL. MICHEL PERRET, Paris, France. Filed Aug. 21, 1882. (No model.) Patented in France Mar. 8, 1882, No. 147,781.



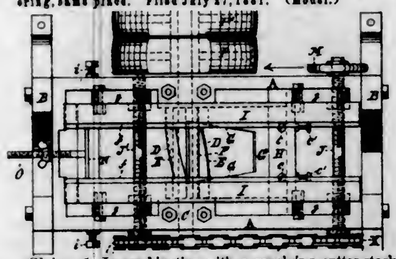
Claim.—1. A furnace for burning pulverized fuel, provided with a fuel-chamber having a number of bars passing through it, and openings at opposite ends in line with the under sides of the bars, so as to form flues through the fuel.

2. A furnace having a fuel-chamber built up of bars with sloping upper surfaces and enlarged ends, substantially as and for the purpose set forth.

3. A furnace having a fuel-chamber built up of bars with sloping upper surfaces, concave under sides, and enlarged polygonally-shaped ends.

4. A furnace having a fuel-chamber built up of bars, with enlarged polygonally-shaped ends fitted together, but leaving openings between them in line with the under sides of the bars, in combination with connecting-flues E F.

268,278. BRUSH-TRIMMING MACHINE. JOSEPH M. PICKERING, Philadelphia, Pa., assignor of one-third to Haylin J. Pickering, same place. Filed July 27, 1881. (Model.)



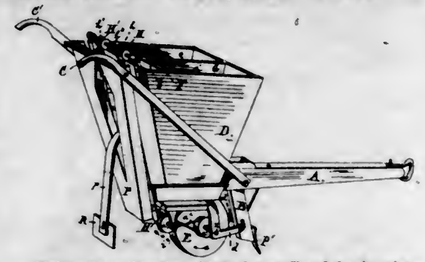
Claim.—1. In combination with a revolving cutter-stock, a pair of twisted knives having the twist of the knives to run in reverse directions, or right and left, whereby to neutralize the tendency of the knives to drag the ends of the bristles toward the opposite side of the machine to that where they commence cutting, and thereby effect a level shearing or trimming of the face of the brush, substantially as described.

2. The combination of the automatically-adjustable knife F with the springs G G and revolving knives E E, substantially in the manner and for the purpose set forth.

3. The combination of the clamps I I with the shafts J and J', having right and left screw-threads and being geared together substantially as described, and the clamps being connected with the shafts by means of the arms *g g g g*, substantially in the manner and for the purpose set forth.

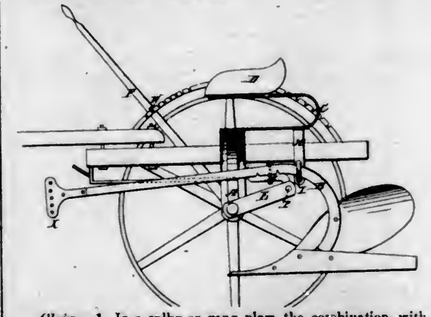
4. The combination of the lever N, having an adjusting screw-rod O, with the clamps I I, for adjusting the height of the latter, substantially as described.

268,279. SEED AND FERTILIZER DISTRIBUTER. GEORGE R. PLATT, Gretna, La. Filed July 25, 1882. (No model.)



Claim.—In combination with the hopper D and the elevating-cup bands, arranged for operation as herein shown and described, the bifurcated tube D', substantially as and for the purpose set forth.

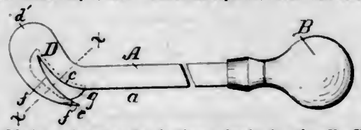
268,280. SULKY-PLOW. CHARLES W. POST, Springfield, Ill. Filed May 31, 1882. (No model.)



Claim.—1. In a sulky or gang plow, the combination, with the plow-beam and the seat support or spring, of the bracket or arm adapted to prevent the lateral and vertical oscillation of the plow-beam while in an elevated position by the pressure thereof either against the seat-support or the plow-beam, as described, and for the purpose set forth.

2. The plate or arm H, in combination with the plow-beam B and seat spring or support C, substantially as and for the purpose set forth.

268,281. CAN-OPENER. ROBERT B. PUMPHREY, Baltimore, Md. Filed July 1, 1881. Renewed Sept. 21, 1882. (No model.)



Claim.—A can-opener having a shank, A, a handle, B, attached to one end of the shank, a curve, *c*, at the other end of the shank to form a fulcrum, and a cutter whose edge *f* confronts the curved fulcrum and sets toward the hand of the operator, whereby the implement cuts the sheet metal when following the movement of the hand, as set forth.

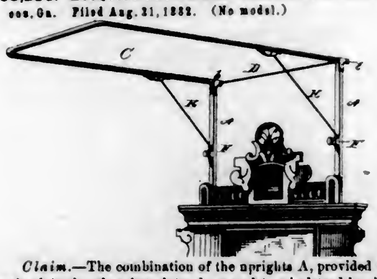
268,282.



268,282. CONNECTING-ROD FOR AUTOMATIC GATES. MARSHAL T. REEVES, Columbus, Ind., assignor to Reeves & Co., same place. Filed Sept. 25, 1882. (No model.)

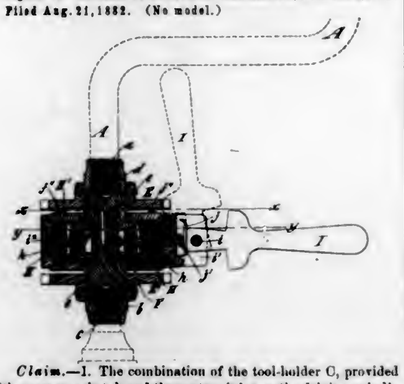
Claim.—The combination, with a recoiling trip-crank, of a wrist-pin and a slotted connecting-rod, the bearings *e f* thereof having inclined sides joined by a depressed portion, substantially as shown and described, for the purpose set forth.

268,283. MOSQUITO-NET FRAME. FREDRICK REICHERT, Macon, Ga. Filed Aug. 21, 1882. (No model.)



Claim.—The combination of the uprights A, provided with angle-plates *b* and socket-plates *d*, secured to a bedstead by clamp B, and held at any desired height by the thumb-screws *a*, with the horizontal or top frame, C, rod D, and pivotal braces E, said braces having feet *c*, provided with countersunk depressions *e* to receive the ends of set-screws F in the socket-plates *d*, all arranged to operate substantially as and for the purpose set forth.

268,284. TOOL-STOCK. JOHN D. RICHARDSON, Brooklyn, assignor of one-half to Francis L. Manchester, New York, N. Y. Filed Aug. 21, 1882. (No model.)



Claim.—1. The combination of the tool-holder C, provided with a screw-socket, *b*, and the center pinion, *g*, the driving-spindle D, provided with a screw-socket, *d*, and having connected with it the planetary pinions *h*, the internal gear, H, the notched disk E, and the locking-lever I, substantially as described.

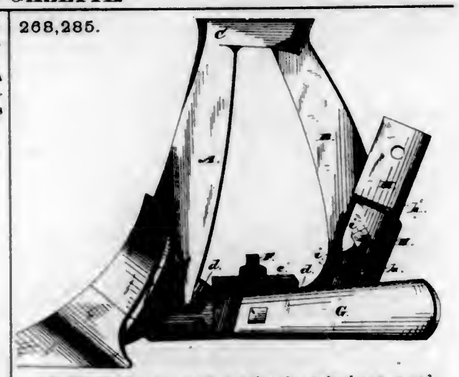
2. The combination of the driving-spindle D and tool-holder C, having attached to them the notched disks E E′, and provided with duplicate screw-sockets *b d*, the central and planetary pinions, *g h*, the internal gear, H, and the locking-lever I, substantially as described.

268,285. PLOW. JONATHAN H. RIGGAN, Raleigh, N. C., assignor to Kearney & Company, same place. Filed Aug. 21, 1882. (No model.)

Brief.—The concave seat adjusts the pitch of the weeder. The handle-plates adjust the pitch of the handles and beam.

Claim.—1. The combination, with the plow-seat, having in its base a plane-faced concaved bearing-surface for the weeder-stock, of the weeder-stock, having its bearing-surface which rests on the base convexed to correspond with the curvature of the seat in the base, substantially as described.

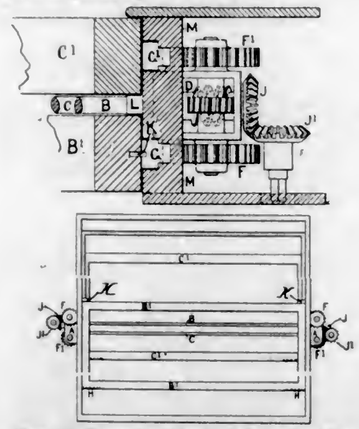
2. The combination, with the plow-frame, of a slotted handle-supporting iron, H, constructed with a laterally-projecting shoulder, L, on its inner face and attached to the brace by means of a bolt and nut, said bolt passing through the brace and the slot in the handle-supporting iron to permit longitudinal adjustment of the latter, substantially as described.



3. The combination, with the plow-brace having a curved rear edge, of the longitudinally-slotted handle-irons, each provided on its inner face with a shoulder corresponding to the curved edge of the brace, said irons being bolted to the said brace, and being capable of the adjustment herein described.

268,286. WINDOW-SASH MECHANISM. WILSON RILEY, Keighley, SAMUEL C. TAYLOR, Morton, and WILLIAM LEGGOTT, Bradford, County of York, England; said Riley and Taylor assignors to said Leggott. Filed Dec. 19, 1881. (No model.) Patented in England Jan. 29, 1880, No. 338, and Aug. 30, 1881, No. 3,778; in France July 29, 1880, No. 138,007; in Germany July 31, 1880, No. 12,963, and in Belgium Aug. 3, 1880, No. 52,204.

Brief.—The sashes are pivoted at their lower corners to sliding racks, which engage a pinion connecting with a worm and worm-wheel. The lower sash is secured to the rack by strips, which set into grooves in the sash and rack-piece.



Claim.—1. The combination of a window sash and frame with racks to which said sash is pivoted, pinions, worm D, and worm-wheel E, substantially as and for the purpose set forth.

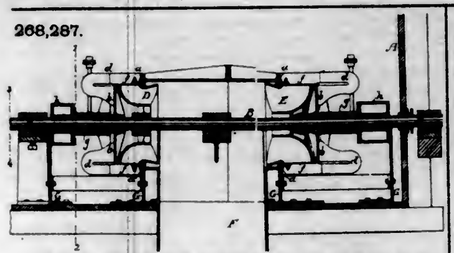
2. The combination of a window sash and frame with racks to which said sash is pivoted, and pinions and gearing for operating the racks.

3. The combination of a sash and frame with racks to which said sash is pivoted, gearing for raising and lowering the racks, and strips K, adapted to grooves in the sash and racks, substantially as described.

268,287. TURBINE WATER-WHEEL. THEODORE H. RISDON and WILLIAM W. TYLER, Mount Holly, N. J. Filed July 24, 1882. (No model.)

Claim.—1. The combination of the crown-plate, guide-rim, and gates with the wheel carried by a horizontal shaft and having vertical bearings *x y* against the said crown-plate and guide-rim, as set forth.

268,287.



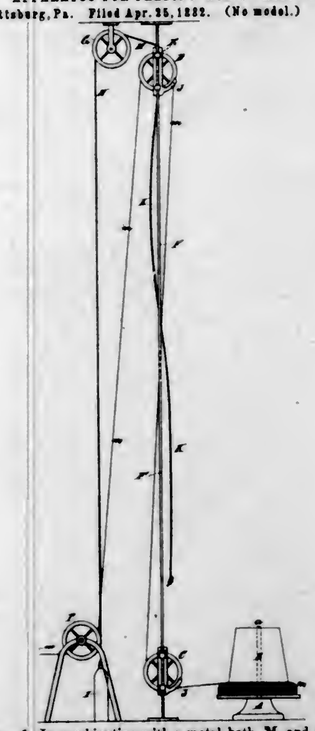
2. The combination of the crown-plate, guide-rim, and gates, the wheel having vertical bearings *x y* against the crown-plate and guide-rim, and the horizontal shaft B, adapted to adjustable bearings, as set forth.

3. The combination of the horizontal wheel, the flume, the draft-tube chest, the crown-plate, and guide-rim, and a structure, G, whereby said crown-plate and guide-rim are supported independently of the said chest on the sides of the flume, as set forth.

4. The combination of a horizontal shaft with two wheels of different capacities having gates which present a smooth regular surface to feed and direct the water upon the wheel at part gate, as set forth.

5. The combination of a horizontal shaft with two water-wheels, one constructed with a longitudinal discharge only and the other having both a longitudinal and a lateral discharge, as set forth.

268,288. APPARATUS FOR FEEDING WIRE. HENRY ROBERTS, Pittsburg, Pa. Filed Apr. 25, 1882. (No model.)

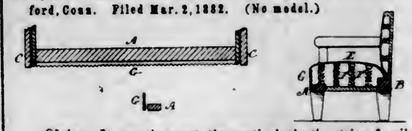


Claim.—1. In combination with a metal bath, M, and take-up mechanism O, a series of wire-delivering reels, B B, and corresponding guide-pulleys C and movable pulleys D, one set for each wire, each with its slotted guide J, arranged to serve as and for the purpose herein specified.

2. In a wire-feeding apparatus, the delivering-drums B, pulleys C P, guides J, and guide-bars F, in combination with each other and with the traversing pulley D, rope H, pulley G, and weight I, all substantially as herein specified.

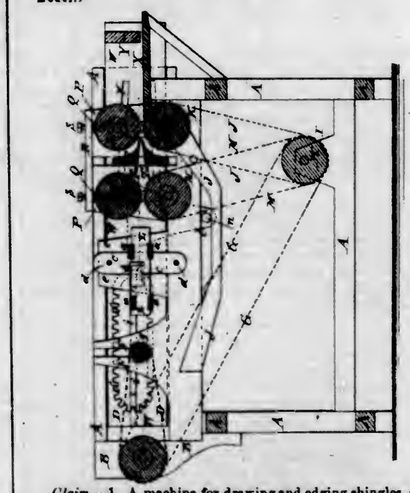
3. In a wire-feeding apparatus, the movable pulleys D, and ropes H, with means for inducing tension on the latter, in combination with the pulleys C P, reels B, and metal bath M, and with a check-rope, K, for each movable pulley, as herein specified.

268,289. SOFA, LOUNGE, SEAT, &c. HENRY ROBERTS, Hartford, Conn. Filed Mar. 2, 1882. (No model.)



Claim.—In a spring-seat, the vertical elastic strip of coiled-wire fabric G, attached by its ends only to the bars C and disconnected from other parts of the frame, extending across the front from end to end of the seat-frame, in combination with the extending bar A and the ends C of the seat-frame, substantially as and for the purpose described.

268,290. MACHINE FOR DRAWING AND EDGING SHINGLES. WILLIAM L. ROBERTS, Ellenton, S. C. Filed Aug. 14, 1882. (No model.)



Claim.—1. A machine for drawing and edging shingles, constructed substantially as herein shown and described, and consisting of the two pairs of feed-rollers L O, the knife-holders and knives U T, the edger Z *a b c*, and its supporting-rods *d*, the sliding plates W, having guide-slots in their forward parts, and oblong toothed openings and guides *i* in their rear parts, the gear-wheels *g*, and the rollers C E H and their driving-belts, as set forth.

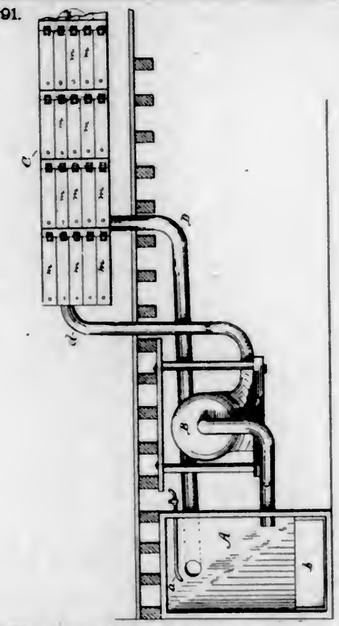
2. In a machine for drawing and edging shingles, the combination, with the frame A and the rear feed-rollers, O, of the knife-holders Z, the knives *b*, the cross-bars *a*, the upright bars *c*, and the supporting-rods *d*, substantially as herein shown and described, whereby the tapered shingles will be edged as they come from the said feed-rollers, as set forth.

3. In a machine for drawing and edging shingles, the combination, with the frame A, the lower forward feed-roller, L, and the sliding plates W, of the levers *j k*, having inclined surfaces extending in opposite directions—one upward and the other downward—and the hangers *l m*, having projections or pins *n o*, substantially as herein shown and described, whereby the said roller is adjusted automatically to take the twist out of the shingles, as set forth.

268,291. PROCESS OF AND APPARATUS FOR MOISTENING LEAF-TOBACCO. GOLDSBOROUGH ROBINSON, Louisville, Ky., assignor to the Louisville Leaf Tobacco Company, same place. Filed June 2, 1882. (No model.)

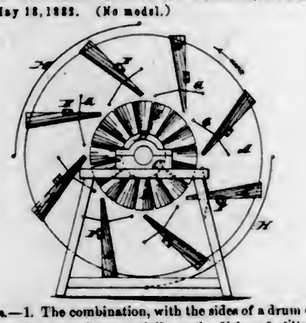
Claim.—1. The process of economically imparting moisture to tobacco or other substances herein described, consisting in subjecting the tobacco in a chamber to a blast of moist air and by the blast returning the air partly deprived of moisture from the tobacco-room to the vapor-room, and so on continuously, as set forth.

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2. The combination, with a vapor-room, A, provided with a steam-pipe, *a*, exhaust-fan B, and pipes *c d* of the tobacco-chamber C, and return-pipe D, connecting the tobacco-chamber with the vapor-room, the whole constructed, arranged, and operated substantially as described.

268,292. WINDMILL. RANDOLPH O. ROBINSON, Glidden, Iowa. Filed May 18, 1882. (No model.)



Claim.—1. The combination, with the sides of a drum or disk, A, of vanes E, arranged tangentially to the disk and obliquely to a circle about equidistant between the shaft and the periphery of the shaft, substantially as described.

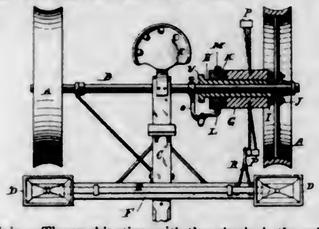
2. The combination, with the sides of a drum or disk, A, of vanes E, arranged tangentially to a circle about equidistant between the shaft and the periphery of the disk and obliquely to the shaft, and being hinged to the side of the disk and provided with stay-braces G, substantially as described.

3. A windmill-wheel consisting of a drum or disk, A, having conical sides, and vanes E, mounted on said sides, said vanes being arranged with the outer ends and also the outer edges pitched or inclined in the same direction with respect to the plane of rotation of the disk, substantially as described.

4. A wind-wheel consisting of a disk or drum, A, having conical sides, and vanes E, mounted on said sides, the vanes of each side being pitched or inclined in the same direction with respect to each other, whereby the wheel turns in the same direction alike, whether the wind acts upon one side or the other, substantially as described.

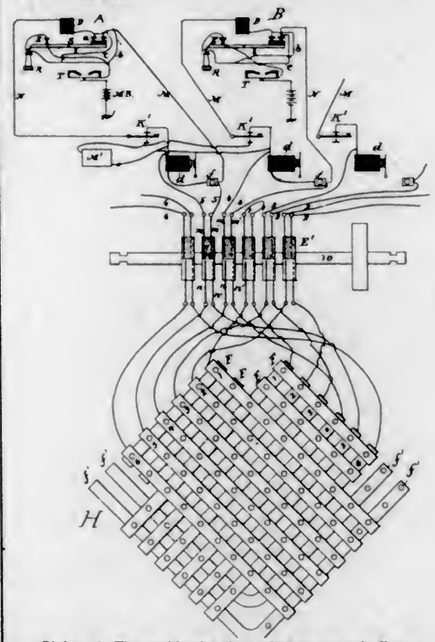
5. The combination of anxiliary vanes I with a wind-wheel consisting of a drum or disk, A, having a conical side, and vanes E, arranged thereon, substantially as described.

268,293. CORN-PLANTER. RANDOLPH O. ROBINSON, Glidden, Iowa. Filed May 11, 1882. (No model.)



Claim.—The combination, with the wheels A, the axle B, the seed-slide E, provided with arm R and hoppers D, of the sleeve H, bolted to one of the wheels, the drum G, the clutch K, radial arms Q Q, provided with cams P P, and the radial arms T T, provided with markers S S, intermediate between them, substantially as and for the purpose set forth.

268,294. TELEPHONE-EXCHANGE SYSTEM AND APPARATUS. JAMES HARRIS ROGERS, New York, N. Y. Filed Sept. 4, 1882. (No model.)



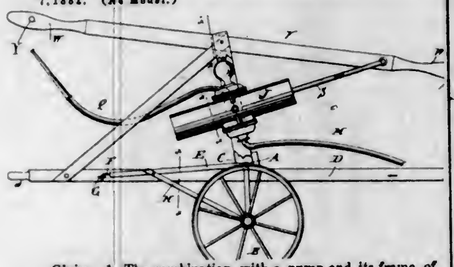
Claim.—1. The combination, for a telephone central-office exchange, of subscribers' stations each connected with a central office by two or more line-wires, means at each subscriber's station for interposing the telephone-transmitter between said line-wires and an earth or return wire, and switch apparatus at the central office for connecting the terminals of the lines coming from any subscriber separately with the terminals of the lines coming from any other subscriber.

2. The combination of a series of subscribers' circuits extending from a central office and each consisting of two or more separate line-wires, as described, means at the subscriber's station for connecting the transmitting apparatus to said lines alike, and switch apparatus at the central office for connecting the terminals of the lines of one circuit separately with the terminals of the lines of any other through an interposed circuit breaker or shifter, constructed, in the manner described, to alternately make and break the connections between the line-wires thus connected.

3. The combination, substantially as described, of a series of telephone-subscribers' stations each connected with a central office by two or more line-wires, telephone communicating apparatus arranged in the manner set forth to be connected on one side to both of said lines and on the other to earth or return wire or wires, annunciators at the central office interposed between said line-wires, and switch apparatus for connecting the line-wires of any circuit separately with the line-wires of any other circuit.

4. The combination, with telephone-subscribers' circuits each consisting of two or more line-wires, of a central-office connecting-switch for electrically connecting the subscribers' stations, and circuit breakers or shifters located at the central office, as and for the purpose described.

268,295. FIRE-ENGINE. LYMAN H. ENGLISH, Redkey, Ind., assignor to himself and Jacob A. Horn, same place. Filed Mar. 7, 1882. (No model.)



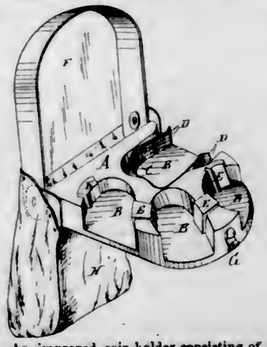
Claim.—1. The combination, with a pump and its frame, of a U-shaped axle for supporting the frame, and wheels for supporting the axle, substantially as herein shown and described, whereby the frame and pump can be raised during transportation, and can be lowered to rest on the ground during operation, as set forth.

2. The combination, with a pump, of the pump-frame C, the pole or tongue D, the U-shaped axle A, the wheels B, and the brace E H, substantially as herein shown and described, and for the purpose set forth.

3. The combination, with a pump, of the pump-frame C, the pole or tongue D, the U-shaped axle A, the wheels B, the brace E H, and the pivoted beam V for operating the pump, substantially as herein shown and described, and for the purpose set forth.

4. In a fire-engine, the combination, with the supporting-frame C, of the cylinder J, pivoted therein, the pistons T, the piston-rod S, the lever V, the valve-boxes K and N, the suction-tube M, and the delivery-tube Q, substantially as herein shown and described, and for the purpose set forth.

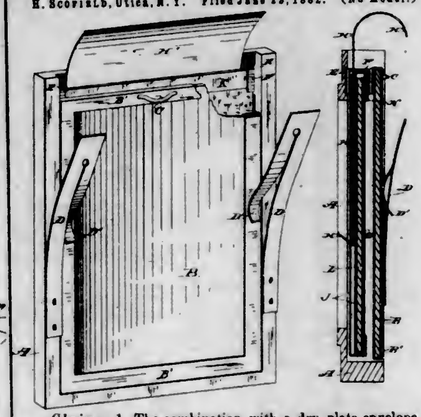
268,296. COIN-HOLDER. GEORGE W. ROWLEY, Caledonia, Wis. Filed Mar. 20, 1882. (No model.)



Claim.—1. An improved coin-holder consisting of a plate having recesses to receive and means for securing the coins therein, a flanged cover hinged to the lower edge of the same, and a pouch attached to the lower ends of the plate and cover, substantially as herein shown and described.

2. In a coin-holder, the combination, with the coin-receiving recesses B, of the spring-strips C, secured in the recesses B, and having the ends cut longitudinally to form spring-tongues D, substantially as herein shown and described, and for the purpose set forth.

268,297. DRY-PLATE HOLDER AND ENVELOPE. CHARLES H. SCOFIELD, Utica, N. Y. Filed June 22, 1882. (No model.)



Claim.—1. The combination, with a dry-plate envelope, of the flap K, for closing the opening through which the plate is admitted, and of the caps F, adapted to be placed on the corners of the envelope for holding this flap closed, substantially as herein shown and described, and for the purpose set forth.

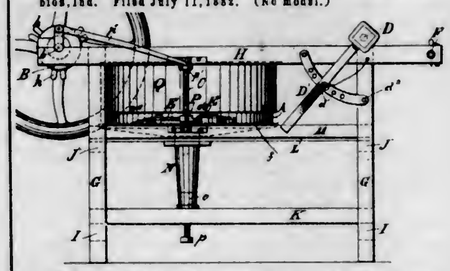
2. The combination, with the dry-plate envelope G, of the sliding cover H, the flap K, and the caps F, adapted to be placed on the corners of the envelope, substantially as herein shown and described, and for the purpose set forth.

3. The frame A, provided with rabbets in the outer surface along the inner edges, combined with the springs D D', for holding the glass plates in the recess formed by these rabbets, substantially as herein shown and described, and for the purpose set forth.

4. The frame A, provided with rabbets in the outer surface along the inner edges, which rabbets have recesses E in their bottoms at the outer end of the frame, substantially as herein shown and described, and for the purpose of receiving the caps F of the envelope G.

5. The combination, with the dry-plate envelope G, provided with an opening in its front side, of the slide H and the tongue H', formed at the lower end of the slide, substantially as herein shown and described, and for the purpose set forth.

268,298. MEAT-CHOPPING MACHINE. HENRY R. SHIRK, Albion, Ind. Filed July 11, 1882. (No model.)



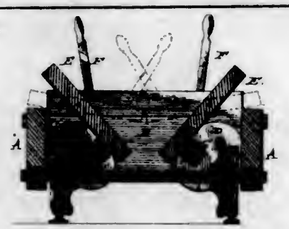
Claim.—1. The combination, with the pivoted springs C, provided with knives *d*, of the eccentric cross-bar or stiffener D, journaled on the side bars of the frame and provided with pins *c*, substantially as and for the purpose set forth.

2. The combination, with the adjustable block A, provided with the ratchet-teeth *f*, and the shaft B, of the vertical shaft O, provided with the arm *p'* on its upper end, the bell-crank P, adjustably secured to the said shaft, the connecting-rod *p''* and the pawls F, attached to the bell-crank, substantially as and for the purpose set forth.

268,299. DUMPING-CAR. ISRAEL SHOUDY, Jr., and CHARLES ATHERTON, Paw Paw Grove, Ill.; said Atherton assignor of one-third to said Shoudy. Filed Sept. 21, 1882. (No model.)

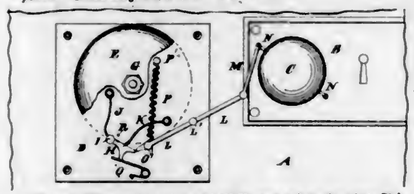
Claim.—The combination, in a drop-bottom dumping-car, of the car body or frame A, having end bearing-beams, B B, bars C C, hung in said beams, and having eccentrics D D and levers F F,

268,299.



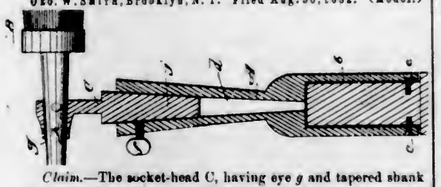
and bottom composed of the hinged halves E E, said eccentrics D arranged and adapted to support the bottom in both its closed and open positions, so as to relieve the tilting bars from strain, substantially in the manner and for the purpose herein shown and specified.

268,300. BURGLAR-ALARM FOR DOORS. CHAS. A. SMITH, St. Louis, Mo., assignor of one-half to William Allen, Jr., same place. Filed Aug. 23, 1882. (No model.)



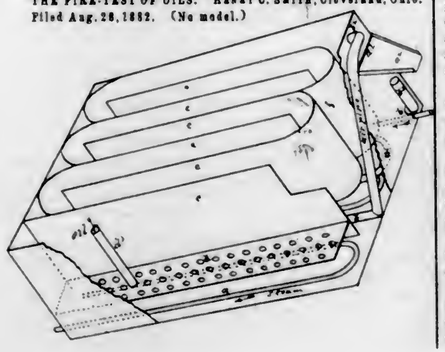
Claim.—The combination of bell E, secured to the plate D by a post, G, the plate being secured to the door A, block H, pivoted to the plate at one end and carrying two hammers, J and K, stop R at the rear of block H, lever L, pivoted at L' to the plate, V-shaped cam O, pivoted to the inner end of the lever, spring P, secured by one end to the cam and by the other to a post, P', on the plate D, and arm M, secured by one end to the lever L and by the other to the bar N, which passes through the shank of the knob, securing it to its spindle, all arranged substantially as shown and described, for the purpose set forth.

268,301. EXTENSION-HANDLE FOR PAINT-BRUSHES. OTTO W. SMITH, Brooklyn, N. Y. Filed Aug. 30, 1882. (Model.)



Claim.—The socket-head C, having eye *g* and tapered shank *j*, in combination with screws *f h*, and the piece A, having sockets *h d*, whereby the brush shank and handle may be so connected as to bring the brush at right angles to the handle, as described.

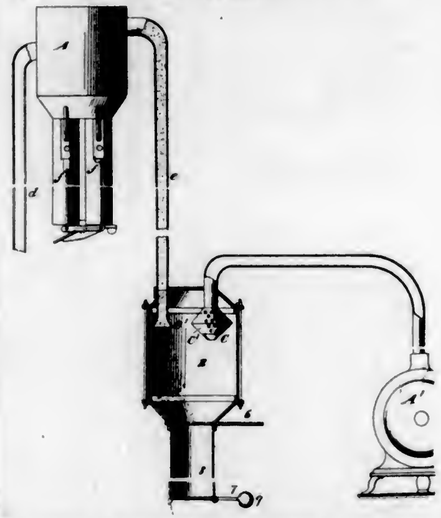
268,302. PROCESS OF AND APPARATUS FOR IMPROVING THE FIRE-TEST OF OILS. HENRY C. SMITH, Cleveland, Ohio. Filed Aug. 28, 1882. (No model.)



Claim.—1. The herein-described process for raising and improving the fire-test of oils, the same consisting in passing the oil in a thin layer over a body of heated water and simultaneously passing a current of air over the layer of oil, whereby the light gases and vapors are eliminated from the oil, substantially as described.

2. In an apparatus for improving the fire-test of oils, the combination and arrangement of a closed tank, A, a coil of steam-pipes, *a*, a coil of air-pipes, *b*, in said tank, partitions *c c*, and false perforated bottom *d*, the said tank being provided with an inlet, *d'*, a vapor-outlet, and outlet *a'*, the air-pipe connecting with the interior of the tank above the outlet *a'*, substantially as set forth.

268,303. PNEUMATIC GRAIN-ELEVATOR. LYMAN SMITH, Kansas City, assignor to Lyman La Rue Smith, Jackson County, Mo. Filed Sept. 19, 1882. (No model.)



Claim.—1. The combination, in a pneumatic grain-elevator, of the vacuum-chamber and a blower with a dust-trap arranged, in connection with the exhaust-pipe, between the vacuum-chamber and blower, the trap being provided with a dust-separating device.

2. The combination, in a pneumatic elevator, of the vacuum-chamber, the blower, the trap arranged between the said blower and chamber, said trap being provided with valves for discharging its contents without interfering with the air-current passing through the trap.

3. The combination, in a pneumatic elevator, of the vacuum-chamber, the blower, and trap interposed between the blower and chamber, and in communication therewith, the said trap being provided with a separating device and discharge-valves.

4. The combination, with the suction feed-pipe of a pneumatic grain-elevator, of the mouth-piece having an outer air-supply pipe closed at its bottom and open at its top, the said outer pipe being sufficiently below the mouth-piece of the grain-pipe to permit the air to be sucked in below the grain, thereby utilizing its power, said pipes having grain-inlet apertures.

5. The combination, in a grain-elevator, of the air-supply pipe, the mouth-piece of the grain-supply pipe with a grain-controlling valve or thimble for graduating the grain-supply to the mouth-piece of the supply or feed pipe.

6. The combination, in a grain-elevator, of the air-inlet pipe, the grain-inlet tubes or apertures, the grain-supply-controlling device, the grain-tube *d*, flexible tube d^3, and non-flexible tube *y*, having a contracted part or parts intermediate its length, for the purpose specified.

7. A pneumatic tube consisting of straight and bent sections, the latter being contracted for the purpose of increasing the velocity of the contents of the tubes passing through them.

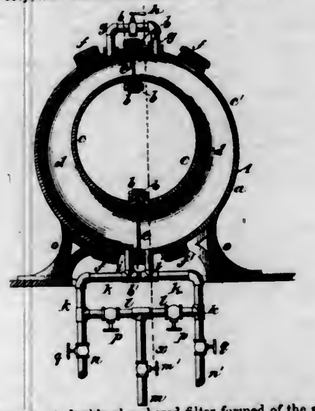
8. The combination, in a grain-elevator, of the air-supply pipe, the mouth-piece of the grain-elevating pipe, the latter being connected to the former by grain-inlet tubes, with a grain-supply-controlling device.

9. The combination, in a grain-elevator, of the air-tube D', the grain-inlet tubes *a*, the mouth-piece *d'*, the grain-supply-controlling device X, a suction feed-pipe, *d*, consisting of a flexible portion and a non-flexible contracted portion, the latter for increasing the velocity of the substance passing through the tubes.

10. The combination, with a vacuum chamber or receiver, of a separating trap or device interposed between the vacuum chamber or receiver and the blower or exhausting mechanism and said mechanism.

11. The method of separating extraneous matter from cereals while being elevated by pneumatic process, the same consisting in conducting the foreign matter from a compartment into which the cereals have been received into a trap or device, thence separating the air from the foreign matter and preventing the latter from entering the blower or exhauster.

268,304. ECCENTRIC-SHAPED FILTER. LYMAN SMITH, Kansas City, Mo. Filed Nov. 4, 1882. (No model.)



Claim.—1. A double-chambered filter formed of the annular casing having the eccentric inner wall and the space within said casing divided into two chambers by the partitions *e* and *e'*, which form respectively common bottom and top plates for the two chambers, substantially as described.

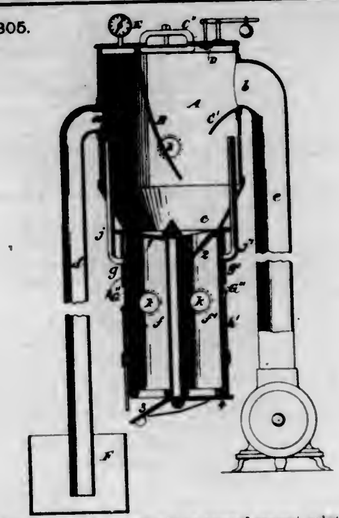
2. A double-chambered filter composed of two curved chambers having their bottoms closed by a common bottom plate, and decreasing in diameter gradually from bottom to top, substantially as described.

3. The double-chambered filter herein described, consisting of the annular casing divided by the partitions *e* and *e'*, to form two chambers, which are connected at top by the arch or pipe *g*, provided with a draw-off cock, and having at their bottoms the inlet-pipes *a*, connecting with a loop-pipe, *k*, said loop-pipe having its ends connected by a cross-pipe into which leads a supply-pipe, and also with exit-pipes, said cross-pipe, supply-pipe, and exit-pipes being provided with suitable cocks, for the purpose set forth.

4. A filter for filtering fluids, consisting of two semicircular sections, each section having a tapering inner chamber and induction and eduction openings for water and filtering material, said sections forming, when combined, an eccentric-shaped vessel with duplex inner tapering chambers, and connected as described.

5. An article of manufacture consisting of two semicircular tapering chambers provided with two partitions and independent induction and eduction passages, the whole cast in one piece, as described.

268,305. PNEUMATIC GRAIN-ELEVATOR. LYMAN LA RUE SMITH, Kansas City, Mo. Filed Aug. 4, 1882. (No model.)



Claim.—1. The combination, in a grain-elevator, of the elevating grain-tube and the exhaust-tube with a combined vacuum-chamber and receptacle, the said tubes being enlarged at their connecting ends with the said chamber, said chamber having a baffle-plate, and the exhaust-pipe having a deflecting-lip, substantially as described.

2. In an elevator for grain or other material, the combination of the exhaust-chamber provided with a baffle-plate, an elevating-tube, an exhaust-tube, the latter being slightly above the former and having a downwardly-projecting lip, by means of which baffle-plate, lip, and position of tubes the heavier material is made to take a downward current, while the lighter particles are separated therefrom and made to take an upward current, substantially as described.

3. In an elevator for grain or other material, the combination, with a vacuum-chamber forming a receptacle for the grain, the elevating and exhausting tubes connected therewith, and the tubes *f f'*, the latter being provided with air induction and eduction valves, substantially as and for the purpose set forth and described.

4. The combination, with a combined vacuum-chamber and grain-receptacle, of the tubes *f f'*, and with air-communicating tubes arranged to be alternately opened and closed for destroying the vacuum in the said tubes, substantially as described.

5. The combination, in an elevator, consisting of the combined vacuum and receptacle chamber, the tubes *f f'*, said tubes being provided with inwardly and outwardly opening valves arranged to open automatically, said tubes communicating with the exhaust-chamber by independent means, as set forth.

6. The combination, in a grain-elevator, consisting of the vacuum and grain-receiving chamber, the tubes *f f'*, the alternating opening and closing valves, and the air-cut-off valves G G', all operating together in the manner set forth.

7. The combination, in a grain-elevator, of the tubes *f f'*, the mechanically-connected opening valves G, G', 3, and 4, and the air-pressure closing valves 1 and 2, substantially as described.

8. The combination, in a grain-elevator, of the tubes *f f'*, and the automatically-operating valves 1, 2, 3, and 4, and the slide-valves G G', arranged to open and close duplex air-ports by the movement of the said valves 3 and 4, as set forth and described.

9. The process herein described of elevating and delivering grain, consisting in first elevating it by pneumatic power, then separating it from the air-current, equalizing the pressure in the induction-tube and vacuum-chamber, then shutting off the vacuum-pressure from said tube, and admitting air above the grain to be delivered.

10. In combination with the vacuum-chamber A, a safety-valve for preventing the collapse of the vacuum-valve, and a vacuum-gage for indicating the pressure within the vacuum-chamber, substantially as described.

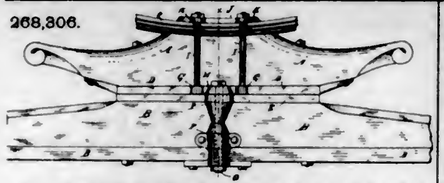
11. In combination with the grain induction and eduction tubes *f f'*, the eye or peep holes K K, by means of which the operation within the tubes may be observed.

268,306. FIFTH-WHEEL. EDWARD SQUIRES, Portland, Oreg. Filed May 2, 1882. (No model.)

Claim.—1. The combination, with the half-circle plate D, having the apertured lug or projection, of the half-circle plate E, having the socketed sleeve P, which receives the lug or projection N, the tubular bracket F, bolted to the axle, and bolt O, substantially as shown and described, and for the purpose set forth.

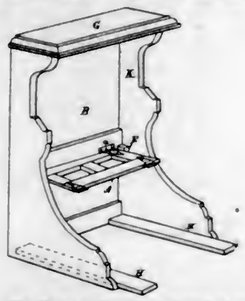
2. The plates D and J, one having apertured lugs K and the other apertured lugs G N, plate E, having the socketed sleeve P, which receives the lug N, the tubular bracket F, fastened to the

268,306.



axle, and the king-bolt O, substantially as shown and described, and for the purpose set forth.

268,307. ATTACHMENT FOR FOLDING AND MOVABLE FURNITURE. JOHN W. STANTON, New York, N. Y., assignor of five-eighths to Alfred J. Wolf, same place. Filed Mar. 31, 1882. (No model.)



Claim.—1. The frame A, hinged or pivoted at one extreme to a folding bedstead and at its opposite extreme to a stationary back or immovable wall, substantially as described.

2. In a folding bedstead, the supporting back or rest E, attached either to the side bracket, K, or to the stationary back B, substantially as described.

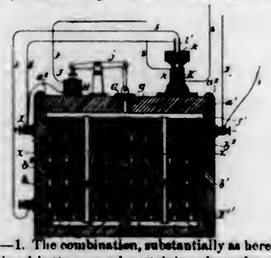
3. In a folding bedstead, the folding locking-flap F, in combination with the molding piece or shelf G, and rear section, D, substantially as described.

4. In a folding bedstead, the combination of the rollers J and the track or way H with the swinging frame A and the supporting-block E, substantially as described.

5. A cabinet folding bedstead composed of two folding sections having folding legs or braces, a stationary head-board and intermediate hinged connection between one of said sections and head-board, substantially as described.

6. The combination, in a folding cabinet-bedstead, of a stationary head-board having a forwardly-projecting track of folding sections, being provided with folding legs or braces, substantially as described.

268,308. SECONDARY BATTERY. ELI T. STARR and E. EUGENE STARR, Philadelphia, Pa., assignors of one-half to William J. Peyton, Washington, D. C. Filed Oct. 6, 1882. (No model.)



Claim.—1. The combination, substantially as hereinbefore set forth, of a closed battery-vessel containing electrodes or elements, a valve closing an opening in said vessel, an electro-magnet to control said valve, and an electric circuit, substantially as described, including said electrodes and said magnet, whereby during the time the battery is giving off gas the said valve will be automatically opened to permit of its escape and at other times will be closed.

2. The combination, substantially as hereinbefore set forth, of an air-tight secondary-battery vessel, electrodes contained in said vessel, a valve closing a valve-opening in said vessel, an electro-magnet mounted on said vessel to control said valve, and a line in which said electro-magnet is situated by which the charging-current is conducted to said battery, whereby while the charging-current is passing to the battery the valve will be raised to permit the escape of surplus gases generated in the battery by said current, and when the charging-current is cut off said valve will be closed.

3. An element or electrode for secondary batteries, consisting of a support or plate with a layer of porous active material applied thereto, composed of oxide of lead or its equivalent, mixed with fiber or filaments, (in contradistinction to pulverized coke or sawdust,) whereby the porous mass is bound together and held more securely to its support or plate.

4. The improved porous active composition for secondary batteries, consisting of a mixture of oxide of lead or its equivalent with fiber or filaments, substantially as described.

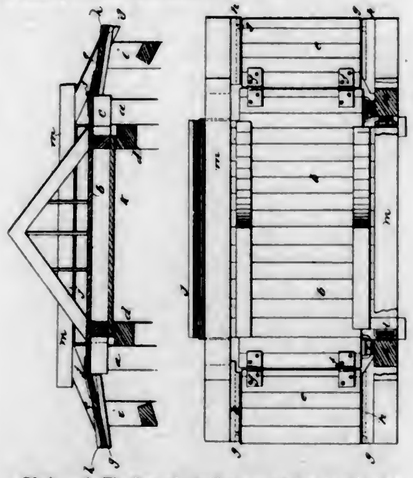
5. The combination, substantially as hereinbefore set forth, in a secondary battery, of the battery-vessel, the positive and negative electrodes thereof, each electrode consisting of a series of plates coated with porous material to be acted upon by the charging-current, and each electrode being provided with a space extending through it for the free escape of the surplus gases, and the porous partition separating said electrodes.

6. The combination, substantially as hereinbefore set forth, in a secondary battery, of the closed battery-vessel having a valve-opening at its top for the escape of the surplus gases generated in charging the battery, the perforated partition forming a space at the bottom of the battery, the electrodes of said battery supported by said partition, and terminating below the top of the battery-vessel to form a space thereat, and tubes or openings affording free communication between said spaces at the top and bottom of the battery.

7. The combination, substantially as hereinbefore set forth, in a secondary battery, of the battery-vessel, the electrodes of the battery terminating at top, so as to leave a space for the collection of the surplus gases generated in the battery, and vertical tubes or spaces extending through the electrodes to facilitate the collection of the gases in the space at the top of the battery.

268,309. BRIDGE. EBENEZER B. STEPHENS, Humboldt, Nebr. Filed Aug. 18, 1882. (No model.)

Brief.—A bridge so constructed that it will be raised off its foundations by high water and float on the surface of the water, and at the same time can be used for crossing. To each end of the bridge aprons are hinged, which connect at one end with the foundations at the road-levels and with the bridge at the other end, and afford practicable ascent to and descent from the bridge while it is floating above the foundations.



Claim.—1. The floor of a bridge, arranged to be raised between piles or other guides and supports by the water of the stream when overflowing the height of the bridge, substantially as described.

2. The floor of a bridge, arranged to be raised between piles or other guides and supports by the water of the stream when overflowing the height of the bridge, and having aprons hinged to the ends and secured to the foundations at about the level of the roadway, substantially as described.

3. The combination of anti-friction rollers *l* with the floor of a bridge and guide-posts, on which the floor rises and falls by the floods, substantially as described.

4. The combination, with the floor of a bridge arranged to rise and fall with the flood, of the chute *j*, substantially as described.

5. The combination of a lining, *k*, with the floor-timbers of a bridge arranged to rise and fall with the flood, substantially as described.

6. The combination of grooved ways *h* with the aprons *e*, hinged to the bridge-floor *b*, and having studs *g*, substantially as described.

7. The combination of a bridge-floor arranged to rise and fall with the flood, posts to guide and hold the same, and caps to limit the rise of the floor, substantially as described.

268,310. EVAPORATOR. HENRY B. STEVENS, Buffalo, N. Y., assignor to George L. Squier, same place. Filed Sept. 29, 1882. (No model.)



Claim.—1. In an evaporator, the combination of a defecating-compartment, D, an evaporating-compartment, E, a scum-passage, *l*, formed in the partition between the two compartments, and a cover, M, applied to the evaporating-compartment E, substantially as set forth.

2. In an evaporator, the combination of a defecating-compartment, D, an evaporating-compartment, E, a scum-passage, *l*, formed in the partition between the two compartments, a cover, M, applied to the evaporating-compartment, and a cover, N, applied to the defecating-compartment, substantially as set forth.

3. The end plates, A A', constructed with the divided passage *b*, substantially as set forth.

4. The combination, with the defecating-compartment D, of the evaporating-compartment E, a passage, *b*, connecting both compartments near their bottoms, a scum-passage, *l*, formed in the top of the partition between the two compartments, and a cover, M, applied to the evaporating-compartment D, substantially as set forth.

5. The combination, in an evaporator, of an opening leading from one compartment into another, a raised flange, *i*, surrounding said opening and having a plane face, and a movable gate provided with a plane block, *k*, fitting against the face of the flange *i*, substantially as set forth.

6. In an evaporator, the combination, with the longitudinal partition A', of the covers M and N, hinged to said partition, substantially as set forth.

7. The combination of the compartments D, E, and F, the passage *b*, connecting the compartments D and E, the passage *b'*, connecting the compartments E and F, and the gates *g* and *h*, applied respectively to the passages *b* and *b'*, substantially as set forth.

8. The combination of the defecating-compartment D, provided with a partial cover, N, the evaporating-compartment E, provided with cover M, and the finishing-compartment F, substantially as set forth.

9. The combination of the defecating-compartment D, provided with a partial cover, N, the evaporating-compartment E, provided with cover M, a bottom passage, *b*, and a scum-passage, *l*, connecting said compartments, a finishing-compartment, F, connected with the evaporating-compartment by a passage, *b'*, and suitable gates whereby the passages *b* and *b'* can be opened and closed, substantially as set forth.

10. An evaporator having a longitudinal central partition provided with a scum-passage, *l*, and having the sides and bottom of each compartment constructed of a continuous plate of metal, substantially as set forth.

11. An evaporator composed of two longitudinal portions, each having its sides and bottom constructed of a continuous plate of metal and secured to flanged metallic end plates, both portions being secured together side by side, and having a depressed scum-passage, *l*, formed in their contiguous side plates, substantially as set forth.

12. In an evaporator, the combination of a defecating-compartment, D, an evaporating-compartment, E, a finishing-compartment, F, a scum-passage, *l*, and flues *p p'*, provided with dampers *q' q''*, substantially as set forth.

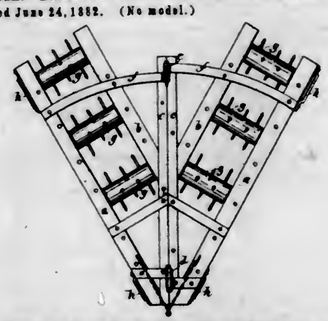
13. The combination, with the defecating-compartment D and evaporating-compartment E, of the scum-passage *l*, covers M and N, and rounded corner-pieces *n*, substantially as set forth.

268,311. CAKE OR CRACKER BOX. HUGH R. STEWART, Allegheny, Pa. Filed Apr. 21, 1882. (No model.)



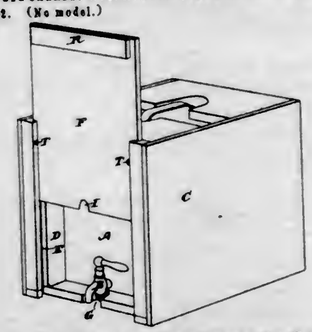
Claim.—The herein-described box for containing and preserving articles of diet, said box being provided with a tin or lead foil lining, and being constructed with the bottom A, the two sides B, the four corner and end portions C, with cover-supports F, the two ends D, and the two cover portions E, said end and corner portions being respectively provided with tongues and slots, and the cover portions being likewise provided with tongues and slots, all relatively arranged substantially as specified.

268,312. HARROW. ANTHONY O. STIVERSON, Pomeroy, Ohio. Filed June 24, 1882. (No model.)



Claim.—A harrow consisting of the median bars, *c c*, hinged together, the parallel bars *a b*, attached at an acute angle thereto, and the two diverging sets of spike-rolls *g*, journaled at right angles to and between said bars *a b*, as shown and described.

268,313. JACKET FOR SHEET-METAL CANS. THOMAS S. STOKES and CHARLES W. S. MCNALLY, Boston, Mass. Filed June 22, 1882. (No model.)



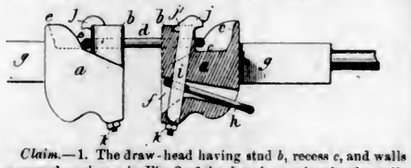
Claim.—1. In a shipping-can, the jacket or casing C, having the notch G in its bottom, the grooved side pieces, D, the button O, and the slide F, having recess P and notch I, combined with the can A, bearing against the side pieces, D, and provided with the faucet B, normally covered by the slide F and projecting partly into the notches G I, as set forth.

2. The combination of the casing A, the jacket having the grooved side pieces, D, holding the can in position, and the slide F, adapted to move in the grooves of the side pieces, as set forth.

268,314. FERTILIZER COMPOUND. WILLIAM D. BYRON, Norfolk, Va., assignor of three-fourths to Obed E. Whitehurst, Geo. A. Hinkle, and Henry B. Nichols, all of same place. Filed May 13, 1882. (No specimens.)

Claim.—The compound herein described, consisting of sulphur, saltpeter, salt, kainit, bone-phosphate, and lime, in or about the proportions specified.

268,315. CAR-COUPLING. EZRA TAYLOR and ASA TAYLOR, Indianapolis, Ind. Filed Sept. 28, 1882. (Model.)



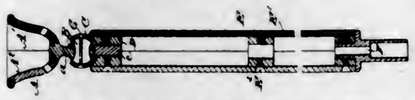
Claim.—1. The draw-head having stud *b*, recess *c*, and walls *e*, arranged as shown in Fig. 2 of the drawings, whereby the walls *e* will surround the end of link and prevent its lateral movement, as described.

2. The combination, with a pin and link, of a draw-head having a link-socket, *f*, extending on a downward slope through it, for the purpose specified.

3. The combination of the pivot-studs *l*, clips *m*, and the crank-shafts *o*, having arms *n*, with loops *u*, whereby a car-body and a link may be connected, as and for the purpose specified.

4. The combination, with a crank-shaft, *o*, having arms *n* connected with the link, of the plate passing around the shaft *o*, resting on the arms *n*, and held by a spring, *x*, as shown and described.

268,316. VAGINAL ELECTRODE. ALBERT W. TIPTON, Jacksonville, Ill. Filed May 10, 1882. (No model.)

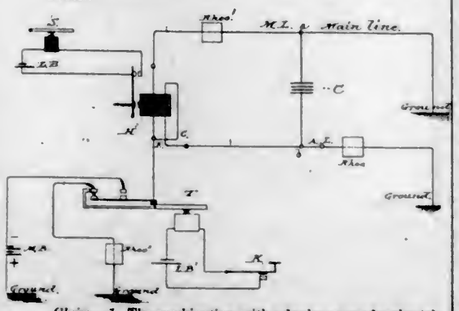


Claim.—1. In a vaginal electrode, the combination, with a tube formed of a metal section and a hard-rubber section placed parallel to each other and united, of a bell or cup pivoted to one end of this tube, substantially as herein shown and described, and for the purpose set forth.

2. In a vaginal electrode, the combination, with a tube formed of a metal section, E^2, and a hard-rubber section, E', placed parallel to each other and united, of the cup A, hinged to one end of this rod and formed of a metal section, A^2, and a hard-rubber section, A', substantially as herein shown and described, and for the purpose set forth.

3. In a vaginal electrode, the combination, with the tube E, of the cup or bell A, hinged to one end of the same, and the tube or receptacle F, for the electrical conductor, substantially as herein shown and described, and for the purpose set forth.

268,317. CONDENSER FOR TELEGRAPHIC CIRCUITS. BENJAMIN THOMPSON, Buffalo, N. Y. Filed May 12, 1882. (No model.)



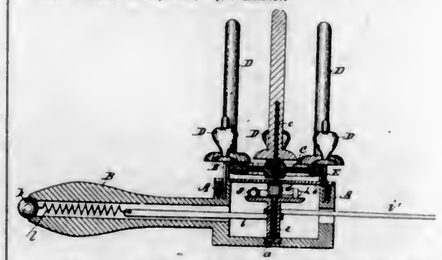
Claim.—1. The combination, with a duplex or quadruplex telegraph receiver, of a condenser whose sides are connected to the main and artificial lines, respectively, at points of different potential.

2. The combination, with a differentially-wound duplex or quadruplex telegraph receiver, of a condenser whose two sides are connected respectively to the main and artificial lines, the point of connection to the latter being of the greater potential.

3. The combination of the main and artificial lines, the condenser interposed between them, and the adjustable resistance Rheo' in the main line between the receiver and the point of connection of the condenser.

4. The combination of the differential relay H, resistance Rheo', and condenser C, one side of which is connected to the main line at a point, *a*, and the other to the artificial line at a point, *b*, of greater potential than the point *a*.

268,318. AUTOMATIC TOP. LOUIS TOWNSEND, Evansville, Ind. Filed Oct. 25, 1882. (No model.)

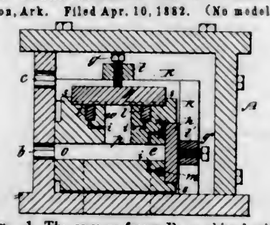


Claim.—1. The hollow handle B and body A, and the cross-bar *b*, secured thereto, in combination with the top C, having a ratchet-wheel, *d*, secured on its spindle *c*, which is journaled in the body A and cross-bar *b*, the flanged sleeve *e* upon the spindle *c*, carrying the pawl *g* and spring *h* to engage the wheel *d*, the cord *i i'*, extending one end out through the box, and the spring *l*, secured at one of its ends to the other end of said cord, and secured to the handle to prevent its being pulled into the box, as described.

2. The combination, with the top C, box A, having a handle, B, the cord *i i'*, the spring *l*, the sleeve *e*, provided with a flange, the pawl *g*, spring *h*, and the ratchet-wheel *d*, of the button *k*, secured to the spring *l*, as shown and described.

3. The combination, with the body A, the handle B, the main top C, journaled therein, and the driving mechanism described, of the spindles E, secured in said body, and the tops D, mounted thereon tangent to the main top, substantially as specified.

268,319. BALANCED SLIDE-VALVE. WILLIAM B. TURMAN, Waldron, Ark. Filed Apr. 10, 1882. (No model.)



Claim.—1. The cage or frame R, combined with slide-valve B, substantially as shown and described.

2. The combination of cage R, provided with cross-strips *f f'* and set-screws *g g'*, the packing-strips *f h*, and valve B, substantially as described.

3. The packings *l m*, combined with valve B and packing-strips *f h*, substantially as shown and described.

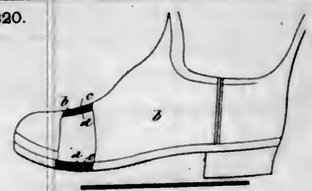
4. The valve B, provided with packing *l m*, set in recesses, in combination with the supporting guide-strips *f h*, all arranged as shown.

5. The valve B, provided with packing-strips *f h* and formed with internal steam-cavity *p* and passages *e w*, substantially as described.

268,320. FABRIC FOR BOOTS AND SHOES. HENRY E. URANN, Providence, R. I., assignor to himself and Frank E. Wetherell, same place. Filed Feb. 23, 1882. (No model.)

Claim.—A fabric for boots and shoes, consisting of an outside layer of suitable material for the construction of boots or shoes, an inside layer of cork cemented thereto, and a bottom layer of fibrous material cemented to the under face of the cork, substantially as herein shown and described.

268,320.

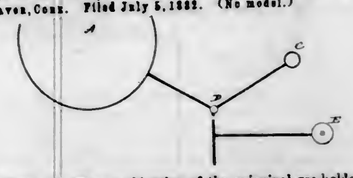


268,321. CAKE OF SOAP. ANTHONY VAN HAAGEN, Philadelphia, Pa., assignor of one-half to Benjamin Brooks and Henry B. Gross, both of same place. Filed Oct. 14, 1882. (No model.)



Claim.—A cake of soap flat, or nearly so, at the top and bottom, and having rounded edges indented or grooved, as set forth.

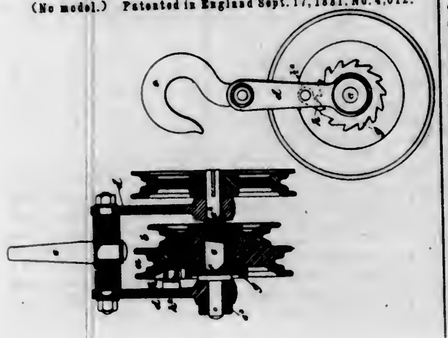
268,322. SYNCHRONIZING CLOCKS. LEONARD WALDO, New Haven, Conn. Filed July 5, 1882. (No model.)



Claim.—1. The combination of the principal gas-holder, its mains and branches, an auxiliary holder charged with a higher pressure than that of the principal holder, mechanism, substantially such as described, to open communication between said high-pressure holder and the gas-mains and to cut off the same, with mechanism, substantially such as described, in communication with the gas from the mains, whereby the impulse imparted to the gas in the mains from said high-pressure holder will be imparted through the gas in the mains to the said receiving mechanism, substantially as described.

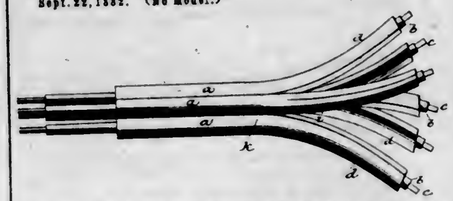
2. The combination of the principal gas-holder, its mains and branches, a second holder the pressure of which is greator than that of the principal holder, and in connection with the mains, and mechanism, substantially such as described, for applying the pressure of the said second holder to the mains, at the same time cutting off the principal holder from the mains, and then to cut off the said second holder and restore the connection between the principal holder and the mains, whereby an impulse will be imparted to the gas in the mains and then the normal pressure restored, substantially as described.

268,323. PULLEY-BLOCK. THOMAS H. WARD and EDMUND HOWL, Tipton, County of Stafford, England. Filed May 26, 1882. (No model.) Patented in England Sept. 17, 1881, No. 4,012.



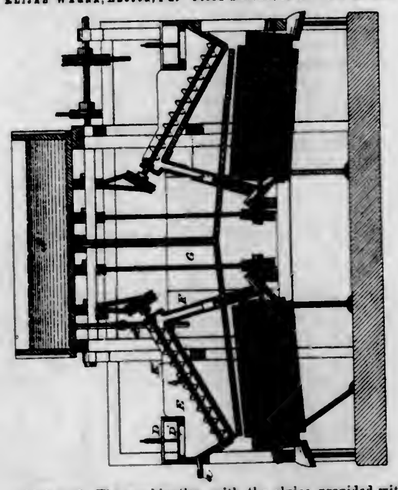
Claim.—The combination of the sheaves of a differential pulley having substantially the relative proportions herein described, for the purpose set forth, with friction devices for arresting or retarding the descent of the load.

268,324. METHOD OF DIVIDING AND BRANCHING ELECTRIC CABLES. RICHARD S. WARING, Pittsburg, Pa. Filed Sept. 22, 1882. (No model.)



Claim.—The method of forming branches in a cable having a series of insulated conductors inclosed in an armor of ductile material, the same consisting in cutting the ductile material longitudinally between the conductors and bending the separated parts laterally, forming a series of independent metal-armed and insulated conductors, substantially as specified.

268,325. CONCENTRATOR AND SEPARATOR FOR ORES, &c. ELIJAH WARNER, Easton, Pa. Filed Dec. 29, 1881. (No model.)



Claim.—1. The combination, with the sluice provided with openings, as described, the receptacle beneath the opening in the same, the conveyer in said receptacle, and the overflow-pipe located at the end of the receptacle farthest from the opening in the sluice, of the independent water-supply pipe entering the receptacle below the water-line therein on the side of the sluice opening opposite to that on which the discharge end of the conveyer is situated.

2. The box F, provided with conduits for loading into and from it the overflow-water containing the suspended solid matter, in combination with one or more valve or cock controlled water-supply pipes whose nozzles enter the box below the water-line and are placed so that water shall be discharged from them in an upward direction into the body of overflow-water contained in the box, substantially as and for the purposes hereinbefore set forth.

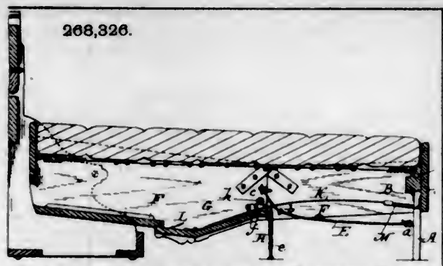
3. The combination of the sluice, the receptacle E, provided with a conveyer, the box F, the overflow-pipes *b c*, and the independent water-discharge pipe *d'*, under the arrangement and for joint operation, substantially as hereinbefore shown and set forth.

4. The combination, substantially as hereinbefore set forth, of the sluice, the adjustable skimmer, and the sieve or filter.

268,326. FOLDING BED. ALBION L. WARNER and CHARLES A. WARNER, New York, N. Y. Filed Aug. 31, 1882. (No model.)

Claim.—1. The combination, in a folding bed, of head-board

268,326.



D, foot-board C, leg A, and spring-hinge B, substantially as set forth.

2. In combination with the head-piece and the foot-piece of a folding bed, a leg fastened to the foot-piece by a spring-hinge to fold in folding the bed, substantially as set forth.

3. The combination, in a folding bed, of leg H, having arms *d e*, and joint *f*, having beveled end *g*, substantially as set forth.

4. In combination, in a folding bed, a leg having two arms, and a joint having a beveled end to guide the leg into position in unfolding and folding the bed, substantially as set forth.

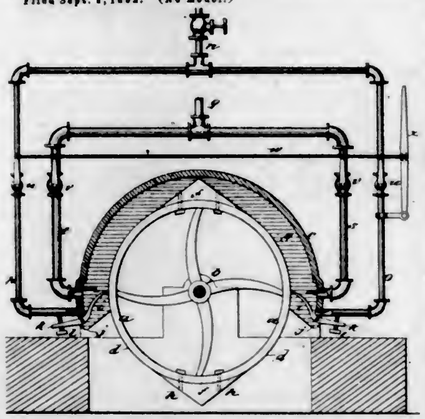
5. The combination, in a folding bed, of spring K and slide M, adapted to assist in unfolding the bed, substantially as set forth.

6. In combination with the folding parts of a folding bed, a spring having a compensating-slide and to fold with the bed, so that the tension of the spring will assist in unfolding the bed, substantially as set forth.

7. The combination, in a folding bed, of cord E and hinged leg A to assist in folding the leg, substantially as set forth.

8. In a folding bed, the combination of a cord connected to a hinged folding leg and adapted by its connections to assist in folding the leg, substantially as set forth.

268,327. STEAM-WHEEL. SAMUEL J. WEBB, Flat Lick, La. Filed Sept. 9, 1882. (No model.)

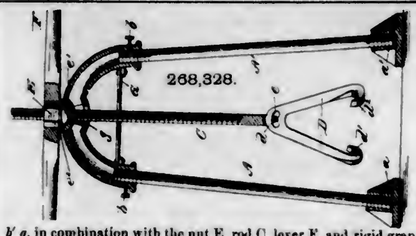


Claim.—1. A rotary engine having on its wheel only two pistons arranged diametrically opposite, and in its steamway opposite inlets as well as outlets for the steam, whereby one piston will take steam a little before it is exhausted from the other, as described

2. The combination, with the inlet and outlet steam pipes and valves *i*, of pistons *f*, having equal tangential faces *h h*, coming to a point at their outer ends and forming a right angle, whereby both the steam supply and exhaust are operated by the pistons, so that the engine may be run in either direction, as described.

3. The combination of the drum *a*, pistons or buckets *f*, case *c*, valves *i*, and adjusting-screws *k*, substantially as described.

268,328. LIFTING-JACK. HENRY A. WEBBER, Rockton, Ill. Filed Nov. 6, 1882. (No model.)



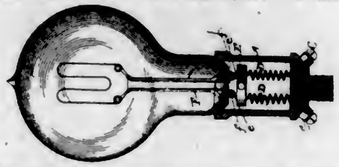
Claim.—1. The standards A A', adjustable yoke B, having brace, and central orifice *b' g*, in combination with the nut E, rod C, and lever F, substantially as set forth.

2. The standards A A', adjustable yoke B, having opening *b' g*, in combination with the nut E, rod C, lever F, and rigid grappling D, substantially as set forth.

3. The standards A A', adjustable yoke B, in combination with the nut E, lever F, rod C, and hook D, having slot *e*, substantially as set forth.

4. The standards A A' and adjustable yoke B, in combination with the nut E, lever F, rod C, and hook D, having the opposite-projecting claws, *d' d²*, as set forth.

268,329. INCANDESCENT-LAMP HOLDER. EDWARD WESTON, Newark, N. J., assignor to the United States Electric Lighting Company, New York, N. Y. Filed Aug. 23, 1882. (No model.)

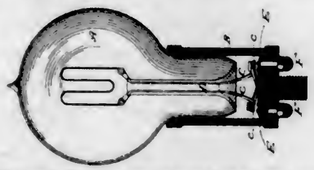


Claim.—1. A holder for incandescent lamps, consisting of a cup or socket, in combination with hooked spiral conducting-wires secured in the bottom of the same, and a piece or plate of insulating material, by which the spirals are held in position for engaging with the conductors of a lamp, as set forth.

2. In a holder for incandescent lamps, the combination, with a vertically-slotted socket or cup, of hooked spiral conductors secured in the bottom of the same, a piece or plate of insulating material, by which the spirals are held in place, and pins or projections from the plate extending through the slot, as and for the purpose set forth.

3. A socket or holder consisting of an insulating socket or cup, spiral conducting-wires secured in the bottom of the same, and a piece or plate of insulating material, through which the free ends of the spirals are passed, in combination with an incandescent lamp having conducting-wires formed or provided with eyes for engagement with the wires of the socket, substantially as described.

268,330. INCANDESCENT ELECTRIC-LAMP HOLDER. EDWARD WESTON, Newark, N. J., assignor to the United States Electric Lighting Company, New York, N. Y. Filed July 17, 1882. (No model.)

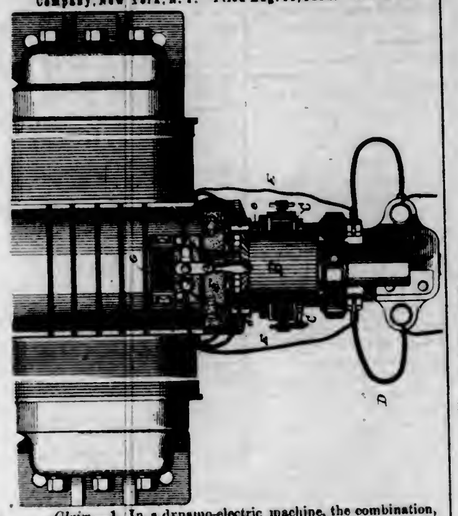


Claim.—1. The combination, with an electric incandescent lamp, having wires sealed in and projecting from the same and bent into hooks, of a socket containing spring-catches, with which the bent or hooked ends of the lamp-wires may be caused to engage, substantially in the manner set forth.

2. The combination, with an electric lamp-globe having its metal conductors bent or hooked at their outer ends, as described, in combination with a cup or socket containing arc-shaped springs or spring-catches, under which the bent ends of the wires may be caused to engage by turning the lamp in the socket, as set forth.

3. The combination, with an incandescent lamp having its wires strengthened and bent or hooked at their outer ends, of a cup-shaped socket of insulating material containing arc-shaped springs or spring-catches secured in the bottom thereof, and connected with the terminals of an electric circuit, as hereinbefore described.

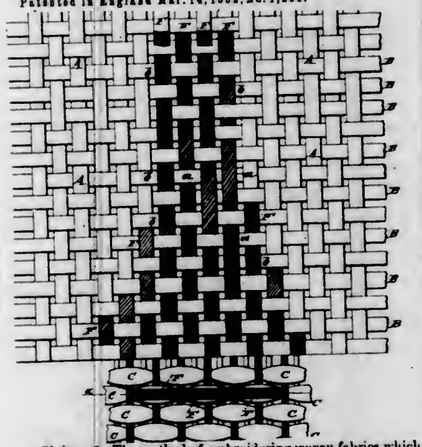
268,331. DYNAMO-ELECTRIC MACHINE. EDWARD WESTON, Newark, N. J., assignor to the United States Electric Lighting Company, New York, N. Y. Filed Aug. 31, 1882. (No model.)



Claim.—1. In a dynamo-electric machine, the combination, with the main circuit, of a derived field-circuit, a manual switch or circuit-breaker connected with said field-circuit, and a resistance-coil or its equivalent bridging the opposite contact-points of the switch, as and for the purpose set forth.

2. In a dynamo-electric machine, the combination, with the main circuit, of a derived field-circuit, a manual switch or circuit-breaker connected with said field-circuit and mounted on the frame or field-magnets of the machine, and a resistance-coil or equivalent bridging the opposite contact-points of the switch, as and for the purpose set forth.

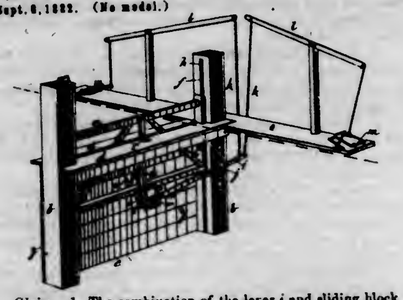
268,332. ART OF EMBROIDERING AND EMBROIDERY. CARDACE WHEELER, Jamaica, N. Y. Filed July 20, 1881. (Model.) Patented in England Mar. 14, 1882, No. 1,233.



Claim.—1. The method of embroidering woven fabrics which consists in carrying with a needle ornamental threads longitudinally over the woof and under some of the crossing threads, but not through the fabric, except at the ends of the threads, where they are fastened, substantially as described.

2. An embroidered fabric having the woof-threads covered longitudinally by ornamental threads, which are held in place by the crossing threads of the fabric and passed through the fabric only at the ends, where they are fastened, substantially as described.

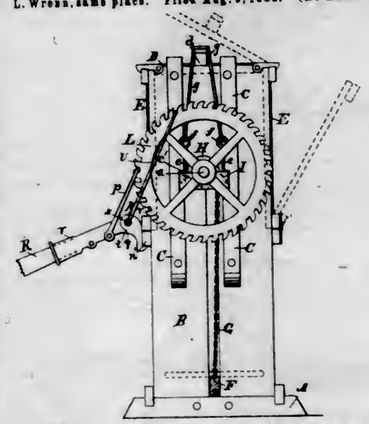
268,333. GATE. FRANKLIN C. WHEELER, St. Joseph, Mo. Filed Sept. 6, 1882. (No model.)



Claim.—1. The combination of the lever *i* and sliding block *o* with the gate *a* and latch *q*, having the incline *u*, arranged in relation to said sliding block, as shown, substantially as described.

2. The combination of the gate *a*, lever *i*, sliding block *o*, latch *q*, having the incline *u*, arranged in relation to said sliding block, as shown, rod *k*, lever *l*, and road-crank *m*, substantially as and for the purpose set forth.

268,334. BALING-PRESS. ROBERT W. WHITEHURST, Norfolk, Va., assignor of two-thirds to Aurelius Wrenn and McDonald L. Wrenn, same place. Filed Aug. 9, 1882. (No model.)



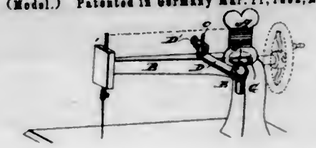
Claim.—1. The hinged link *g*, connected by means of rods *e* directly to the bearings on which the chain-drum is supported, as set forth.

2. The metal box I, having four sides integral—that is, constituting one casting—and having bearings *a'*, in combination with the cone chain-drum H, setting within the said metal box, as set forth.

3. In combination with the ratchet-wheel and link, the bracket N, projecting outward from the press, provided with two ears, *s*, having on their lower edge shoulders *q*, and the lever *r*, having a shank provided on its under side with a shoulder, *t*, as and for the purpose set forth.

4. The herein-described device to prevent the ratchet-wheel from turning back, consisting of the combination of a bracket, N, the stirrup-pawl U, having two arms at its pivoting end, one arm being at each side of the bracket, and a pin or bolt passed through the arms and bracket, as set forth.

268,335. THREAD-CARD HOLDER FOR SEWING-MACHINES. GUSTAV WICKS, Barmen, Prussia, Germany. Filed July 20, 1882. (Model.) Patented in Germany Mar. 11, 1882, No. 1,891.



Claim.—1. The device for holding thread-cards on sewing-machines, made substantially as herein shown and described, and consisting of a clamp for holding the card and adapted to be freely rotated, as set forth.

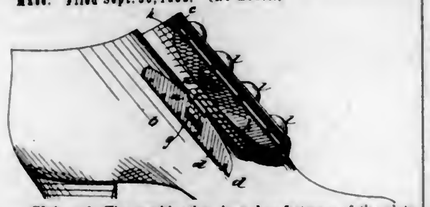
2. The combination, with a sewing-machine, of a clamp for holding a thread-card, which clamp is adapted to be rotated freely on the arm of the sewing-machine, substantially as herein shown and described, and for the purpose set forth.

3. The combination, with a sewing-machine arm, of a bracket-arm held on the same, and a rotary clamp for holding thread-cards held on the end of this bracket-arm, substantially as herein shown and described, and for the purpose set forth.

4. The combination, with a sewing-machine arm, of a bracket-arm held on the same, a binding-screw for holding the bracket-arm in the desired position, and a rotary thread-card-holding device held on the end of the bracket-arm, substantially as herein shown and described, and for the purpose set forth.

5. The combination, with the sewing-machine arm B, provided with the upright pintle C, of the arm D, the binding-screw D′, the socket E at the free end of the arm D, and of a thread-card-holding clamp adapted to rotate in the socket E of the arm D, substantially as herein shown and described, and for the purpose set forth.

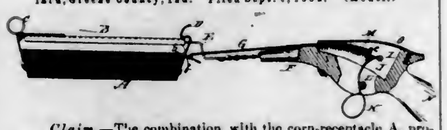
268,336. BUTTON-FASTENING. WILLIAM WIGGINS, Boston, Mass. Filed Sept. 30, 1882. (No model.)



Claim.—1. The combination, in a shoe-fastener, of the plate *a*, having flange *f* and hook *g*, adapted to be attached to the side *b* of the shoe, and the plate *h*, having hole *i*, and adapted to be attached to the fly *c*, substantially as described.

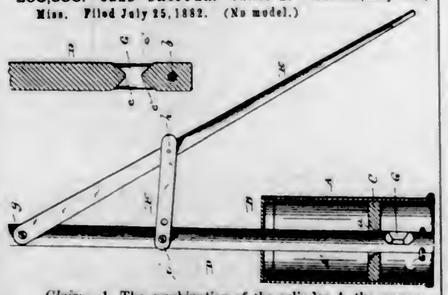
2. The combination, with the fly *c* and plate *h*, of the wire *k* and buttons *l*, forming a joint, *j*, substantially as shown and described.

268,337. CORN-POPPER. JEREMIAH WILKIN, Worthington, assignor, by mesne assignments, of one-half to John L. Ballard, Greene County, Ind. Filed Sept. 1, 1882. (Model.)



Claim.—The combination, with the corn-receptacle A, provided with the hinged cover B and ears or sleeves *a*, and wire forks E, of the pistol-stock handle F N, provided with the recess I, connecting-rod G, trigger J K, and spring M, substantially as shown and described.

268,338. SEED-DROPPER. JAMES L. WILLIAMS, Mayfield, Miss. Filed July 25, 1882. (No model.)

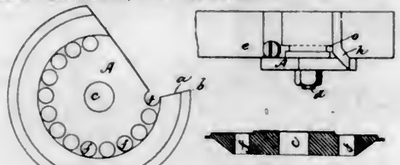


Claim.—1. The combination of the cylinder A, the removable cap B, the diaphragm C, the conical depression *a* therein, the plunger-rod D, the double flaring transverse cell G, and the check-pin *b*, all constructed to operate substantially in the manner and for the purposes described.

2. In combination with a hand-planter constructed substantially as described, the marker E, pivoted to the rod D, and the bar F, provided with apertures and adapted to adjust the rod E at the desired angle, substantially as specified.

3. The combination of the hopper-box A′, the rod D, the seed-distributing cell G through this rod, the marker E, and means for adjusting the same, substantially as described.

268,339. LATHE-CUTTER. CHARLES V. WORRD, Waltham, Mass. Filed Jan. 13, 1882. (No model.)

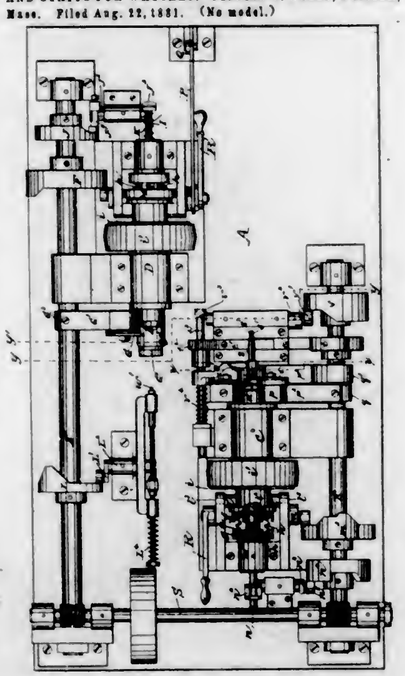


Claim.—1. The improved cutter composed of a circular plate notched to leave a segmental margin and an operative cutting edge or angle, and provided with a concentric series of holes, as and for the purposes set forth.

2. The combination, with the notched circular plate having its cutting-edge formed as described, provided with a concentric series of holes, and adapted to be rotated by its support for adjustment of the adjustable segmental piece *j*, adapted to slide in a segmental slot in the supporting-frame, and provided with a pin adapted to enter one of the holes of the plate, as set forth.

3. The combination of the notched plate having a concentric series of holes, and adapted to be rotated on its support for adjustment, the stop *h*, adapted to prevent the rotation of the plate in one direction, and the slide *j*, pin *p*, and adjustable stop *l*, adapted to prevent the rotation of the plate in the opposite direction, as set forth.

268,340. MACHINE FOR ROUGHING OUT PINIONS, ARBORS, AND STAFFS FOR WATCHES. CHARLES V. WORRD, Waltham, Mass. Filed Aug. 22, 1881. (No model.)



Claim.—1. The combination of two oppositely-facing chucks automatically opened and closed, mechanism for feeding wire to the first chuck, cutters to reduce and sever the wire held by the first chuck into blanks finished at one end, a carrier to move each blank from the first chuck and present its finished end to the second, means for forcing the blank into the second chuck, a cutter to finish the opposite end of the blank, and an ejector to remove the finished blank from the second chuck, all arranged and operating substantially as described.

2. The combination, with the two oppositely-facing chucks, the wire-feeding mechanism, and the cutters pertaining to said chucks, of the carrier composed of a tube of suitable internal diameter to receive the larger part of the blank severed from the wire, and having at one end inclined spring-fingers adapted to fit upon the reduced portion of the blank, and a plunger adapted to enter said tube and force the blank through the same, as set forth.

3. The combination, with a chuck having spring-jaws adapted to open by their own resilience, and a sliding tube adapted to close said jaws, of a series of two or more springs, arranged, as described, to press said tube upon the jaws and prevent an increase of pressure upon any one side of the spindle, as set forth.

268,341. VEHICLE-WHEEL. ARTHUR J. WOLFF and ALONZO E. MILTIMORE, Brownsville, Tex. Filed Mar. 21, 1882. (Model.)



Claim.—1. An expansible nave for wheels, consisting of a nave made up of sections arranged to be forced apart or brought together to enlarge or contract the circles in which the inner and outer ends of the wheel-spokes are located.

2. An expansible nave for wheels, consisting of a nave made of sections which are arranged to be forced apart by the manipulation of wedges interposed between the nave-sections and the axle-box.

3. An expansible nave for wheels, consisting of a nave made of sections which are arranged to be forced apart by the manipulation of wedges interposed between the contiguous edges of the nave-sections and axle-box.

4. The combination, with an axle-box, of wedges grouped around it, and nave-sections grouped around the wedges and arranged to be forced apart by the manipulation of the same.

5. The combination, with an axle-box, of wedges grouped around it, nave-sections grouped around the wedges and arranged to be forced apart by the manipulation of the same, and devices located at each end of the axle-box to hold the nave-sections and wedges in proper place.

6. The combination, with an axle-box, of a sand-box, wedges grouped around the axle-box, and nave-sections grouped around the wedges, the outer ends of the wedges and nave-sections being inserted in the sand-box.

7. The combination, with an axle-box, of wedges grouped around the axle-box, nave-sections grouped around the wedges, lifting-screws projecting from the inner ends of the wedges, a perforated cap to fit over said screws, and nuts to screw onto the projecting ends of the screws.

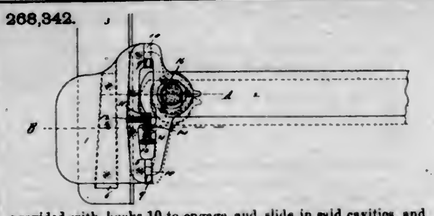
8. The combination, with an axle-box, of wedges grouped around it, said wedges being provided with wedge-shaped ribs on their outer faces, and nave-sections grouped around and located between the ribs of contiguous wedges.

9. The combination, with an axle-box, of wedges grouped around it, nave-sections grouped around the wedges, a sand-box having an annular recess in its inner face to receive the outer ends of the wedges and nave-sections, a perforated cap to fit over the inner end of the axle-box, and the inner ends of the wedges and nave-sections and lifting devices secured to the wedges and projecting through the said cap.

10. The combination, with a tire having depending flanges on each edge, of a sectional felly, wedges located between the contiguous ends of the felly-sections, the upper and broader ends of the said wedges being cut away to adapt them to be received between and to be guided by the flanges of the tire, and devices to operate the said wedges, substantially as set forth.

268,342. PARALLEL RULER. CHARLES H. WOOD, Springfield, Mass. Filed Aug. 25, 1882. (No model.)

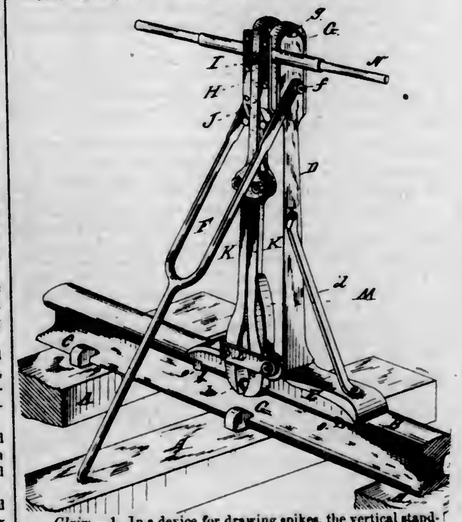
Claim.—1. The combination of the hand-piece provided with hook catches or cavities 9, the adjusting-screw 13, the frame 4, provided with hooks 10 to engage and slide in said cavities, and provided with a finger, 14, the blade 2, plate 17, secured to said blade, and a clamping-screw for clamping said blade to the frame, substantially as described.



2. The combination of a hand-piece provided with cavities 9, a screw-socket, 11, and a socket, as 7, the head 3, provided with a tongue, as 6, to fit and engage in said socket 7 to secure the head and hand-piece firmly together, the adjusting-screw 13, the frame 4, provided with hooks 10 to engage and slide in said cavities, and provided with a locking-finger, 14, the blade 2, and a clamping device for clamping the blade to said frame at any desired angle, substantially as described.

3. In a drafting-instrument, the combination of a stationary piece provided with a beveled hole, a blade having secured thereto a plate, 17, a washer having a beveled rim fitted into said hole in the stationary piece, and a clamping-screw, 22, adapted to be turned into said plate through and against said washer, whereby the said blade may be clamped to said stationary piece, so that said blade may be moved into a position at any desired angle and there held by the friction without turning the screw, or may be immovably clamped into any desired position by turning the screw, substantially as described.

268,343. NAIL-EXTRACTOR. ISAIAH W. WOODS, Ritchie Court-House, W. Va. Filed July 5, 1882. (No model.)



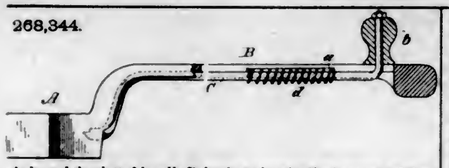
Claim.—1. In a device for drawing spikes, the vertical standard having attached thereto at its upper end straps G, supports H, perforated for the reception of an adjustable fulcrum, in combination with the lever N, connecting-bars J, jaws K K, and clamping means L M, substantially as shown.

2. In a device for removing spikes from railroad-ties, a vertical standard provided with a cross-bar at its base, with downward-projecting lugs, and on its upper part with a vertical adjustable lever having attached thereto means for clamping the spike, and an inclined standard brace bifurcated at its upper portion and embracing the standard, the parts being organized substantially as shown.

268,344. WRENCH. LORING WOOD, Greenfield, Mass. Filed July 24, 1882. (Model.)

Claim.—The combination, with the socket A, having a rear

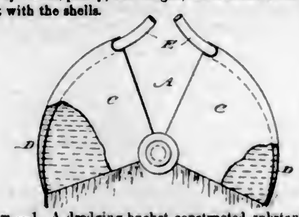
268,344.



hole, and the slotted handle B, having a longitudinal groove, of the spring-actuated rod C, passing with one end into the socket, movable in the handle-groove, and bent up at the outer end to receive a knob, *b*, as and for the purpose specified.

268,345. DREDGING-BUCKET. WILLIAM H. WOOD, New York, N. Y. Filed May 10, 1882. (No model.)

Brief.—A clam-shell bucket with double shells forming water-compartments, with apertures at the cutting-edges and ends, has a force-pump supplying water thereto through a tube self-adjustably supported by a cord, pulley, and weight, and bifurcated at the end to connect with the shells.



Claim.—1. A dredging-bucket constructed substantially as herein shown and described, with devices for forcing jets of water from the cutting-edges of the bucket, as set forth.

2. A dredging-bucket of the character herein set forth, constructed with double walls, forming water-spaces in the sides and ends of the bucket, substantially as herein shown and described, and for the purpose set forth.

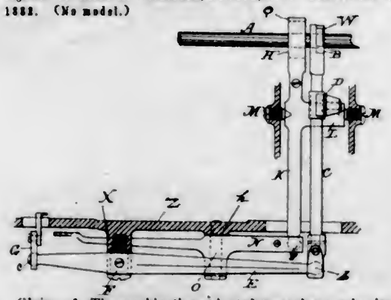
3. The combination, with a dredging-bucket constructed as herein shown, having water-spaces formed in the sides and ends, of a pump and a tube for conducting water from the pump into the water-spaces in the bucket, substantially as herein shown and described, and for the purpose set forth.

4. The combination, with the beam B and the clam-shell dredging-bucket A, having water-spaces in the sides and ends, of the hose E and F and the pump G, substantially as herein shown and described, and for the purpose set forth.

5. The combination, with the beam B and the dredging-bucket A, having water-spaces in the sides and ends, of the hose F, the pulley J, the rope or chain K, the balancing-weight M, and the pump G, substantially as herein shown and described, and for the purpose set forth.

6. The combination, with a clam-shell dredging-bucket having water-spaces formed in the sides and ends, of a pump, a tube for conducting water from the pump into the spaces in the bucket, and devices for closing this bucket, substantially as herein shown and described.

268,346. SEWING-MACHINE. THOMAS C. WOODWARD, New York, N. Y., and CHARLES M. FAIRBANKS, Hartford, Conn., assignors to Elias A. Wilkinson, Newark, N. J. Filed Mar. 30, 1882. (No model.)



Claim.—1. The combination, adapted to sewing mechanism, of a driving-shaft having a shuttle-eccentric and a feed-cam, vertical shuttle and feed levers operated respectively thereby, horizontal shuttle and feed levers operated by the respective vertical levers, and a shuttle-carrier and a feed operated by the respective horizontal levers, the shuttle-carrier having a vibrating lateral motion, and the feed having a compound vertical and lateral motion, constituting a four-motion feed, the compound motion of the feed being produced from the cam alone, substantially as set forth.

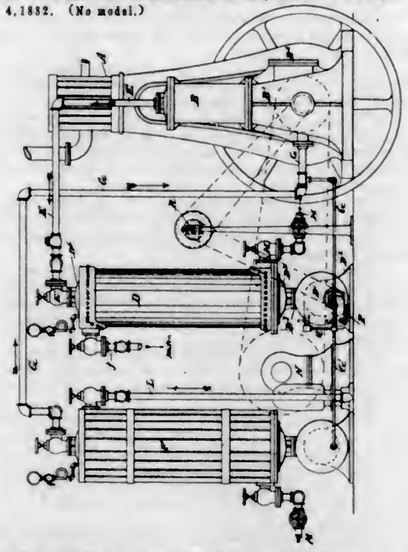
2. The combination, in sewing mechanism, of a driving-shaft having a shuttle-eccentric and a feed-cam, vertical and horizontal shuttle and feed levers, one of the feed-levers having an adjustable fulcrum, a shuttle-carrier, and a feed, the shuttle having a vibrating lateral motion, and the feed having a vertical and lateral four-motion produced from the cam alone, substantially as set forth.

3. The combination, in sewing mechanism, of a driving-shaft having a shuttle-eccentric and a feed-cam, vertical and horizontal shuttle and feed levers, the horizontal levers having separate fulcrums, a shuttle-carrier, and a feed, the shuttle-carrier having a vibrating motion from the eccentric alone, and the feed having up, forward, down, and back motions from the cam alone, substantially as set forth.

4. The combination, in sewing mechanism, of a driving-shaft having a shuttle-eccentric and a double feed cam, vertical and horizontal shuttle and feed levers, one of the feed-levers having an adjustable fulcrum, the horizontal feed and shuttle levers having separate fulcrums, a shuttle-carrier, and feed, the shuttle-carrier having a vibrating motion from the eccentric, and the feed having a substantially rectangular motion from the cam, substantially as set forth.

5. The combination, in a sewing-machine, of a driving-shaft, an eccentric thereon for giving motion to the shuttle, a forked vertical shuttle-lever embracing the eccentric, a horizontal shuttle-lever connected with the forked vertical shuttle-lever, a shuttle-carrier connected to the horizontal shuttle-lever, a double cam on the driving-shaft for giving four motions to the feed, a vertical feed-lever having a yoke embracing the double cam and having an adjustable fulcrum, a horizontal feed-lever connected to the vertical feed-lever, a feed connected to the horizontal feed-lever, the horizontal feed and shuttle levers having separate fulcrums, the shuttle being vibrated from the eccentric, and the feed being operated from the cam alone, substantially as set forth.

268,347. REFRIGERATING AND ICE MACHINE. WILLIAM H. WOOD and GEORGE RICHMOND, Brooklyn, N. Y. Filed Sept. 4, 1882. (No model.)



Claim.—1. In a refrigerating-machine or ice-machine, a set or series of condensers communicating with the gas-pump, and mounted vertically upon a common collecting pipe or reservoir in such a manner that each separate condenser may be isolated from the collecting pipe or reservoir, from the other condensers in the same set or series, and from the feed-pipe by which the gas to be condensed is distributed from the pump to the set or series of condensers, substantially as and for the purpose shown and set forth.

2. In a refrigerating-machine or ice-machine, a set or series of refrigerators communicating with the condensing apparatus and with a gas-pump, and mounted vertically upon a common collecting pipe or reservoir in such a manner that each separate refrigerator may be isolated from the collecting pipe or reservoir, from the other refrigerators in the same set or series, and from the feed-pipe by which the liquefied gas fed to the refrigerator for the purpose of cooling the refrigerating medium contained in the same is distributed from the pump and condensers to the set or series of refrigerators, substantially as and for the purpose shown and set forth.

3. The construction and relative arrangement, in a refrigerating-machine or ice-machine, of the motor, the pump, the feed-pipe E, the set or series of condensers communicating with said feed-pipe and provided with stop-cocks E', the horizontal collecting pipe or reservoir D', connecting said condensers, means for isolating said condensers from the horizontal pipe or reservoir D', a feed-water pipe for supplying condensing-water to the condensers, a discharge-pipe for the same, and a device for automatically equalizing the gas-pressure within the refrigerators, consisting of a valve operated by the motor which works the machine, or an independent motor, said motor being thrown into or out of connection with the valve by a plunger actuated by the gas-pressure, substantially in the manner and for the purpose herein shown and set forth.

4. In a refrigerating-machine or ice-machine, the combination of the casing B, enveloping the pump-cylinders, and having a cap or cover, *c*, forming, with casing B, reservoirs adapted to contain a lubricating-fluid surrounding the top part of the several pump-cylinders, triplicate pump-cylinders *a* and their appropriate followers, crank-shaft T, located horizontally below and in a line with the set or series of pump-cylinders, lower casing, B', forming bearings for the crank-shaft, and adapted to contain a lubricating-liquid into which the cranks will dip at the revolutions of the shaft, and means for maintaining circulation of the lubricating-fluid between the lower casing, B', and the reservoirs in the upper part of the top casing, B, substantially as and for the purpose shown and set forth.

5. A gas-pump for refrigerating-machines and ice-machines, in which the pump-cylinders are contained within a casing forming jackets or chambers which envelop and separate the several cylinders, the upper parts of said jackets forming reservoirs adapted to contain a lubricating-fluid surrounding the top part of the several pump-cylinders, substantially as and for the purpose herein shown and described.

6. In a pump for refrigerating-machines or ice-machines, the combination of the upper casing, B, constructed with a reservoir adapted to contain a lubricating-fluid in its top part, surrounding the top part of the several pump-cylinders which form part of said casing, the lower casing, B', forming a support or bed for the top casing, B, and constituting a tank or reservoir for lubricating-fluid, the pump S, located within and at the bottom of said tank or reservoir, means for operating said pump, and a pipe, *s*, communicating at its lower end with the pump and at its upper end with the reservoir for the lubricant, located in the top part of the upper casing, B, so as to feed the lubricating-fluid from the reservoir at the bottom of the pump to that located in the top part of the same, substantially in the manner and for the purpose herein shown and described.

7. In a pump for refrigerating-machines or ice-machines, the combination of the upper casing, B, and pump-cylinders *a*, open at the top and bottom, with the cover *c*, having the outlet *f*, and provided with the pockets or cylinders *e*, projecting down into the several pump-cylinders *a*, substantially as and for the purpose shown and specified.

8. In a pump for refrigerating-machines or ice-machines, the combination of the following elements: a pump-cylinder open at its top and bottom and having a series of apertures encircling its upper end, a reciprocating piston or plunger having a suitably-constructed valve for feeding gas into the pump-cylinder on its downstroke, a cylindrical valve inserted into and covering the open top of the cylinder, and closing, when on its seat in its down position, the outlets or apertures *i*, a fluid-receptacle located around the top part of the cylinder, below its apertures *i*, and an elastic buffer or cushion projecting centrally down into the cylindrical valve and controlling or limiting its upward throw, all constructed, combined, and arranged to operate substantially as and for the purpose herein shown and described.

9. The combination of the pump-cylinder *a*, having the follower *k*, provided with valve *w*, constructed and arranged substantially as described, cylindrical valve V, having the inside packing-rings, s^3, outside annular recess, *m*, and flange *n*, elastic packing n^4, inserted between the top rim of the pump-cylinder and the bottom of the annulus *m*, cylindrical pocket *o*, and elastic buffer or cushion *p*, inserted into said pocket and extending below the same, substantially as and for the purpose herein shown and specified.

10. The valve V, constructed with the annulus *m*, cylindrical flange *n*, and inside packing-rings, n^3, substantially as shown and described.

11. In a pump for refrigerating-machines or ice-machines, the plunger or follower composed of the following elements: a cylindrical body, *k*, closed at top with a plate having apertures or openings k^2, and provided with a central hollow boss, k^3, exterior packing-rings, w^2, interior packing-rings, a^2, annulus l^2, screws r^2, and valve *w*, having a circumferential series of apertures, r^2, and central stem, k^4, inserted into the tubular boss k^3 of the plunger, and provided with a collar at its lower end to confine the upward motion of the valve, all constructed and combined substantially as and for the purpose herein shown and specified.

12. The combination, with the pump-cylinder *a*, of the piston or follower composed of the cylindrical body *k*, closed at top with a plate having apertures or openings k^2, and provided with a central hollow boss, k^3, having a rubber packing-ring at its upper end, said plunger or follower having the exterior packing-rings, w^2, interior packing-rings, a^2, annulus l^2, screws r^2, and valve *w*, provided with circumferential apertures r^2, and having a central stem inserted into the tubular bushing k^3 of the plunger, the whole constructed and combined substantially in the manner and for the purpose shown and described.

13. In a refrigerating-machine or ice-machine, an injecting device adapted to spray atomized liquid into a jacket or casing enveloping the pump-cylinder, in combination with a relief-valve so constructed as to allow the expanded gas formed in the jacket to escape at a given fixed pressure, corresponding to the degree of temperature which it is desired to maintain in the pump-jacket, substantially as and for the purpose herein shown and set forth.

14. The injecting and atomizing device composed of the barrel 4, having an annular flange at its inner end, the apertured disk 1, the cylindrical plug 2, having a central channel extending longitudinally from end to end and intersected at right angles by the cross-channel 6, and screw-cap 3, the whole constructed and combined as and for the purpose herein shown and specified.

15. The combination, with the water-jacket *b* of pump-cylinder *a*, of the injecting and atomizing device consisting of the barrel 2, having an inlet, 5, at right angles to the bore of the barrel, and an annular flange at its inner end, atomizing-disk 1, plug 2, having a longitudinal central bore, and a channel, 6, intersecting said bore at right angles, and the screw-cap 3, inserted into the rear end of the barrel, all constructed and combined substantially as and for the purpose shown and specified.

16. The combination of the water-jacket *b* of the pump-cylinder *a*, said jacket being provided with an injector, and the relief-valve 9, constructed and arranged substantially as and for the purpose shown and described.

17. A condensing apparatus for refrigerating and ice machines, consisting of a cylindrical casing, D, a series of vertical tubes or flues, T', inserted into the top and bottom plates, D^4 and D^5, of the casing D, and communicating at the top and bottom with gas-chambers formed by the top and bottom covers, D^6 and D^7, said gas-chambers being provided with suitably-arranged inlets and outlets, and the casing being similarly provided with inlets and outlets for the water of condensation at the top and bottom thereof, the lowermost gas-chamber communicating with a reservoir or collecting-pipe for the liquefied vapor, and with a valve regulating the flow of the same from the condenser into the receiver or reservoir, substantially as and for the purpose herein shown and set forth.

18. In a condensing apparatus for refrigerating-machines or ice-machines, the gas-flues composed each of an exterior vertical tube, T', and an interior concentric tube, T", connected to the outer tube by top and bottom collars, t' and t^3, both tubes being open at the top and bottom and connecting the top and bottom plates or heads of the condensing chamber or vessel, substantially as and for the purpose herein shown and specified.

19. The combination, with the cylindrical body or casing D of the condensing apparatus of a refrigerating-machine or ice-machine, of the convex cap or top cover, D^6, having a central flanged inlet, and held in place removably upon the cylindrical body D by nutted bolts D^{10}, and the flanged ring or annulus D^9, seated upon and bearing against the gasket D^8, substantially as and for the purpose herein shown and described.

20. The combination, with the gas-condensing apparatus, consisting essentially of the cylindrical casing D, vertical flues T', top plate, D^4, bottom plate, D^5, convex top cover, D^6, and convex bottom cover, D^7, of the reservoir or collecting-pipe D', having flanged necks D^3, forming seats for the superimposed apparatus, and also seats for the valve which connects the condensing apparatus with

the reservoir or collecting-pipe below, substantially as herein shown and set forth.

21. In a refrigerating-machine or ice-machine, the horizontal reservoir or collecting-pipe D', mounted upon suitable feet or supports, D², and having flanged necks D³, substantially as and for the purpose shown and described.

22. In a refrigerating-machine or ice-machine, the horizontal reservoir or collecting-pipe D', forming seats for and connecting with a set or series of condensers, and provided with valves K', having spindles K², working through stuffing-boxes K³ on the under side of the reservoir, substantially as and for the purpose herein shown and described.

23. The combination of the reservoir or collecting-pipe D', valve K', having central threaded stem or spindle, K², working through the stuffing-box K³, and the removable cap K⁴, closing the lower open end of the stuffing-box and covering the lower end of the valve stem or spindle, substantially as and for the purpose herein shown and described.

24. The combination of the inlet-pipe p' p^2, valve V', having valve-stem P', provided with the worm-wheel W', spindle I'', having the worm I², and beveled wheel I³, sliding sleeve M', provided with the beveled wheels n' n^2 and grooved pulley n^3, adjusting-collars s' and s^2, spindle N', adapted to slide in the direction of its length in its bearings, and provided at its lower end with a plunger, N², cylinder C', coiled spring C², and screw-collar C³, for adjusting the tension of said spring, all constructed and combined to operate substantially in the manner and for the purpose herein shown and set forth.

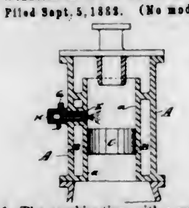
25. The combination, with the cylinder C' and its plunger N², of the rubber tubing R', fastened at its lower end to the walls of the cylinder, and at its upper end to the top part of the plunger, so as to expand or contract with the motions of the same, substantially as and for the purpose herein shown and specified.

26. The combination of the plunger N², having stem N', cylinder C', coiled spring C², and screw-cap C³, encircling the plunger-stem, and bearing with its lower end against the coiled spring C², substantially as and for the purpose herein shown and described.

27. The combination, with the spindle N' and its sliding sleeve M', of the collars s' and s^2, provided with set-screws for fixing them in their adjusted position upon the spindle, substantially as and for the purpose herein shown and described.

268,348. GAS-PUMP FOR REFRIGERATING AND ICE MACHINES.

WILLIAM H. WOOD and GEORGE RICHMOND, Brooklyn, N. Y. Filed Sept. 5, 1882. (No model.)



Claim.—1. The combination, with a cylinder of a gas or compressing pump for refrigerating-machines or ice-machines, of a device or apparatus for injecting atomized liquid into the body or gas-chamber of the cylinder, substantially as set forth.

2. The combination, with the cylinder of a gas or compression pump for refrigerating-machines or ice-machines, of an atomizing and injecting device connecting the body or gas-chamber of the cylinder with the apparatus in which the gas is condensed or liquefied, and adapted to inject the liquefied vapor, in the form of fine spray, into the pump-cylinder, substantially as and for the purpose shown and set forth.

268,349. CONDENSE-WATER COOLER FOR REFRIGERATING AND ICE MACHINES.

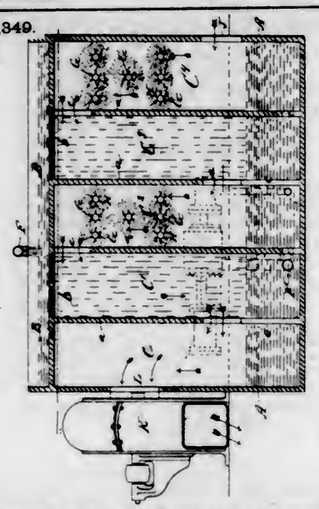
WILLIAM H. WOOD and GEORGE RICHMOND, Brooklyn, N. Y. Filed Sept. 4, 1882. (No model.)

Claim.—1. The tank A, divided by the transverse partitions a into the compartments C C' C² C³ C⁴, communicating with one another, as shown, and provided with a superimposed tank, B, having its bottom foraminated at b, substantially as and for the purpose shown and set forth.

2. The tank A, divided into a set or series of vertical compartments communicating with one another, and every alternate compartment having a foraminated roof, substantially as and for the purpose shown and set forth.

3. The tank A, divided into a set or series of vertical compartments communicating with one another, and every alternate

268,349.



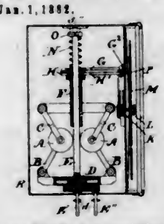
compartment having a series of spraying-pipes or atomizers, G H, substantially as and for the purpose shown and set forth.

4. The tank A, divided into a set or series of vertical compartments communicating with one another, every alternate compartment having a foraminated roof, and the compartments between these having each a series of spraying-pipes or atomizers, G H, substantially as and for the purpose shown and set forth.

5. The combination of the tank A, having the air-inlet J and outlet L, and divided into compartments, as shown, spraying-pipes or atomizers G H, tank B, feed-pipes F and F', and pumps or mechanism suitably constructed and arranged for feeding air through the apparatus, and water from the bottom of tank A into the upper tank, B, and into the atomizers G H, substantially as and for the purpose herein shown and specified

268,350. SPEED INDICATOR AND REGISTER.

DAVID YOUNG, London, England. Filed Nov. 25, 1881. (No model.) Patented in England Oct. 7, 1881, No. 4,359; in Germany Nov. 11, 1881, No. 18,059; in France Nov. 24, 1881, No. 146,012; in Belgium Nov. 26, 1881, No. 56,332; in Italy Dec. 31, 1881, No. 13,565, and in Austria Jan. 1, 1882.



Claim.—1. A speed-indicator consisting of a centrifugal ball-governor the arms of which are jointed to the spindle and sleeve at points farther from the axis of the spindle than the normal position of the balls, whereby as the speed increases the arms approach parallelism, in combination with the dial, an index or pointer, and mechanism for communicating the motion of the sliding sleeve of the governor to the spindle of the index, substantially as shown and described.

2. The combination of spindle E, balls A A, arms B B C C, sliding sleeve F, centripetal spring N, dial P, index M, index-spindle L, and means for converting longitudinal motion of sleeve F into rotary motion of spindle L, substantially as set forth.

3. The combination of spindle E, balls A A, arms B B C C, sleeve F, spring N, dial P, index M, spindle L, mechanism, substantially as shown, for converting longitudinal motion of sleeve F into rotary motion of spindle L, with spindle E', and means, substantially as shown, interposed between said spindle and the spindle E, for avoiding shock to the mechanism when suddenly rotated, substantially as set forth.

4. The combination of spindle E', disk Q, connected therewith, disks c c, confined in recesses in said disk, and wheel D, having a flange inclosing said disks, with a centrifugal ball-governor driven from said wheel D, and indicating mechanism operated thereby, substantially as set forth.

5. The combination of spindle E, balls A A, arms B B C C, sleeve F, spring N, spindle G, arms H H', link I, segment J, pinion K, spindle L, and index M, substantially as set forth.

6. A speed-indicator consisting of a centrifugal ball-governor, with an index operated thereby inclosed in a case, R, in combination with the frame R' of said case, a fixed bed-plate, D', on which frame R' may slide, and a spring, j, arranged to press said frame to one extremity of its movement, whereby it can at will be pressed in the opposite direction and the indicator connected to or disconnected from the shaft whose speed is to be ascertained, substantially as set forth.

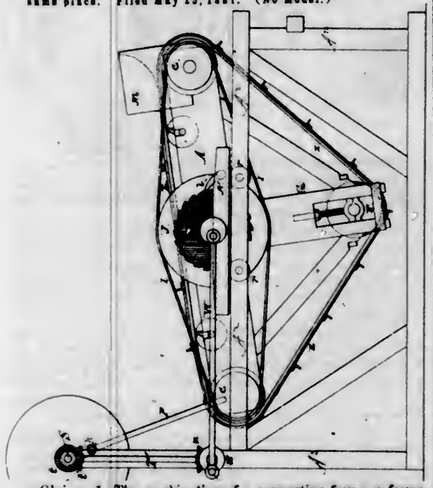
7. The combination of a governor consisting of spindle E, sleeve F thereon, balls A A, arms connecting them to said spindle and sleeve, spring N, coiled around the spindle, with index M, its spindle L, pinion K, segment J, slot J' therein, pin J', adjustably fixed in said slot, and suitable connection between sleeve F and said pin, substantially as set forth.

8. The combination of governor-balls A A, arms B B C C, spindle E, spring N, coiled around said spindle, said spring re-enforced against sleeve O and pressing against sleeve F, spindle L, bearing pinion K, and index or pointer M, toothed segment J, slot J' therein, pin J', adjustable in said slot, and suitable connection between sleeve F and pin J', substantially as set forth.

9. The combination, with a centrifugal ball-governor and index operated thereby, of spindle E', driving said governor and bearing a gear, as shown, and spindle E'', bearing a pinion meshing with said gear, said spindles adapted to receive center-bit K', to facilitate connection with shaft to be tested, substantially as set forth.

268,351. ORE-CONCENTRATOR.

SILAS M. ATKINSON, San Francisco, Cal., assignor of one-half to Willard F. Arnold, same place. Filed May 25, 1881. (No model.)



Claim.—1. The combination of a supporting-frame, a frame pivoted thereto, an endless apron having riffles arranged transversely across its surface, a ratchet and pawl for imparting an intermittent traveling movement to said apron, and a feed-box mounted on the pivoted frame, substantially as described.

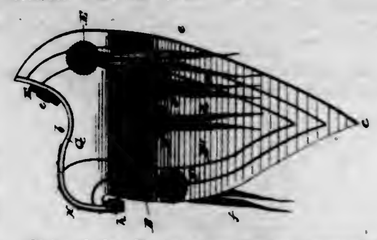
2. The combination of a supporting-frame, a frame pivoted thereto, means for rocking the pivoted frame, and an endless traveling apron which is inclined transversely to the direction of its travel, substantially as described.

3. The combination of a supporting-frame, a frame pivoted thereto, an endless apron having riffles arranged across its surface, a ratchet and pawl for imparting an intermittent traveling movement to said apron, a movable carriage or support on which one end of the shaft B has its bearings, and mechanism for imparting a reciprocatory motion to said carriage, substantially as described.

4. The combination of the supporting-frame, the apron-carrying frame pivoted thereto, the driving-shaft, the crank thereon, the rods connecting the apron-carrying frame with said crank, an intermediate crank and crank-shaft, a rod connecting one trunnion of the apron-carrying frame with said intermediate crank, and mechanism connecting said intermediate crank with the driving-shaft, substantially as described.

268,352. HOOD FOR STIRRUPS.

ALEXANDER AYERS, San José, Cal. Filed June 2, 1882. (Model.)

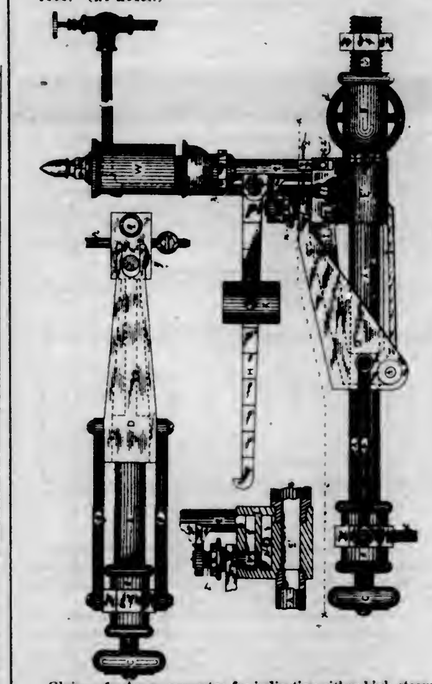


Claim.—1. In a Mexican stirrup, the hood composed of the parts B B', cut in the shape shown in the drawings, with a full curved top, b, and tapering sides terminating in a point, c, as set forth.

2. The combination, with the stirrup A, of the hood composed of the parts B B', of the shape shown and described, and provided with the re-enforcing-piece G and plate H, substantially as and for the purpose herein shown and set forth.

268,353. HIGH-STEAM AND LOW-WATER DETECTOR.

ROBERT D. HANN, Pittsburg, Pa., assignor of two-thirds to William Starkey and Thomas W. Davis, same place. Filed Apr. 10, 1882. (No model.)



Claim.—1. As an apparatus for indicating either high steam or low water in steam-generators, the combination of the expansion-tube A, gage-cock C, lever D, valve t, adjusting-nut s, and weighted lever H, with a steam-whistle, W, and connecting-pipe p, constructed and arranged substantially as described.

2. The arrangement of lever D, parallel with the horizontal expansion-tube, having its fulcrum at a point outside the plane of the axis of the tube and pivotally connected with the tube in or near the plane of its axis and on both sides thereof, whereby the expansion-tube may support the other parts of the apparatus without liability to derangement arising from any straining of the steam-joints, substantially as and for the purpose specified.

3. The combination, with expansion-tube A, of the bracket I, adapted to support the expansion-tube, lever D, arranged parallel with the expansion-tube and fulcrumed at one extremity on the bracket at a point outside the plane of the axis of the tube, links or arms *g g*, pivotally connected with the lever D, and with the expansion-tube at a point in or near the plane of its axis, a valve operated by the free end of lever D, and a whistle, substantially as and for the purpose specified.

268,354. DUST-PROOF WATCH-PLATE. ABRAHAM BITNER, Lancaster, Pa. Filed Sept. 19, 1882. (No model.)

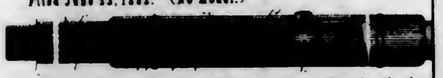


Claim.—1. The combination of the cap-plate with a dust-plate, which is applied thereto so as to cover the recess or opening in the side of the top plate without increasing the thickness of the watch-movement, substantially as shown.

2. The combination of the cap-plate A, having the shoulder C, with the dust-plate D, having the shoulder G at one end and the recesses J P formed in its inner edge, substantially as described.

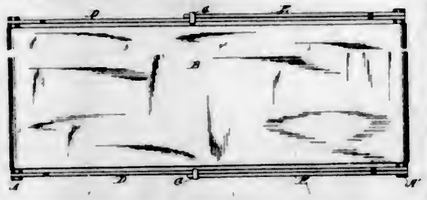
3. The combination of the cap-plate, the dust-plate, and the regulator having the extension formed on its hub, the regulator-pins being made to pass down through an opening left between the edges of the plates, substantially as set forth.

268,355. LEAD OR CRAYON HOLDER. CLARK W. BOMAN, New York, N. Y., assignor to Joseph Rockendorfer, same place. Filed June 23, 1882. (No model.)



Claim.—The combination of the point-protecting sheath, the tip or nozzle longitudinally movable therein, the lead-tube provided with clamping-jaws and connected with the tip, so that, while capable of independent rotary movement for the purpose of opening or closing the lead-clamping jaws, the two can slide bodily and together lengthwise of the sheath, the retracting-spring and spring latching or retaining mechanism, substantially as hereinbefore set forth.

268,356. BED-BOTTOM. FRANCIS M. CASE, Denver, Colo. Filed Oct. 24, 1882. (No model.)



Claim.—1. The knockdown or roll-up bed-bottom herein described, consisting of two bars to which the webbing is attached, the side bar, D, pivoted lever E, and a suitable device for holding the lever in position, substantially as described.

2. The combination, with a web, of two bars to which the web is attached, one bar being fitted to stretching-bars and the other connected to a stretching-lever and constructed to turn with said lever as the latter is moved, and suitable fastening devices to lock the levers in position, substantially as described.

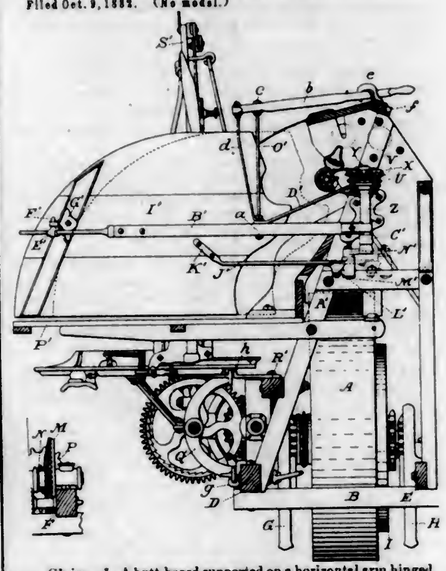
3. The combination, with the web, of the two bars carrying the web, each bar being provided with a polygonal end, the side bars, and stretching-levers, pivoted to each other and the levers fitted to said polygonal ends, substantially as described.

4. The combination, with the divided bars A A′, each having a polygonal end, of the web B, clamped in the division between said clamping-bars, the side bar, D, pivoted lever E, the latter fitted to the polygonal ends, and suitable fastening devices, all substantially as described.

5. The combination, with the web, of the two bars carrying the web, each bar being provided with a thimble having a polygonal exterior, the side bar and lever, pivoted to each other, and the latter fitted to the thimble, and suitable fastening devices, substantially as described.

6. The combination, with the divided bars A A′, each having one end provided with a thimble, F, of the web B, clamped in the division between said clamping-bars, the side bar, D, pivoted lever E, and suitable fastening devices, substantially as described.

268,357. GRAIN-BINDING HARVESTER. HENRY J. CASE, Auburn, N. Y., assignor of one-half to D. M. Osborne, same place. Filed Oct. 9, 1882. (No model.)



Claim.—1. A butt-board supported on a horizontal arm hinged to and adjustable around a vertical axis, in combination with a crank-shaft for operating said board, arranged centrally within said axis, substantially as described.

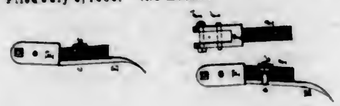
2. The butt-board upheld by and adapted to slide longitudinally on a hinged supporting-arm, in combination with a connecting-rod and crank, the shaft of which is coincident with the axis of the supporting-arm, for imparting a longitudinally-reciprocating and a laterally-oscillating motion to said board, substantially as described.

3. A butt-board supported by and sliding longitudinally on an arm free to swing or be adjusted in a horizontal plane on its axial support, in combination with an adjusting-bar connected with said supporting-bar and extending within reach of the driver in his seat, and means for holding said bar, supporting-arm, and butt-board at any desired adjustment, substantially as described.

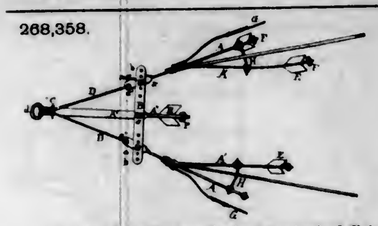
4. The longitudinally-reciprocating and laterally-oscillating butt-board, in combination with its hinged supporting and adjusting arm, and the shaft for actuating said butt-board arranged within the axial center of said supporting-arm and geared to and operated from the upper roller of the lower elevating-canvas, substantially as described.

5. The combination of the butt-board I′, its hinged supporting-arm B′, arranged to vibrate around the crank-shaft actuating the butt-board as a center, the crank-shaft actuating said butt-board, geared to and operated from the upper roller of the lower elevating-canvas, and means for adjusting said supporting-arm and butt-board, substantially as described.

268,358. CULTIVATOR. JOSIAH J. DEAL, Wilmot, Ohio, assignor of two-thirds to William M. Johnston, same place. Filed July 6, 1882. (No model.)

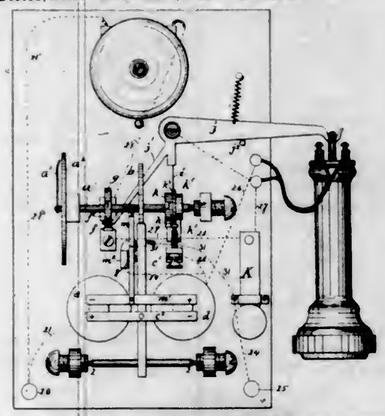


268,358.



Claim.—In cultivators, the boot or standard F, having its lower section, *f*, cylindrical and at an angle to the upper section, and which is made to be reversible upon the beam, so that when reversed the angle of the blade will be changed, substantially as and for the purpose described.

268,359. TELEPHONIC APPARATUS. WALTER J. DUDLEY, Boston, Mass. Filed June 7, 1880. (No model.)



Claim.—1. The combination of the following elements, namely: the signal, the movable controlling device for the said signal, whereby it is rendered inoperative except during a definite portion of the movement of the controlling device, and the movable telephone-support co-operating with the said signal, substantially as and for the purpose set forth.

2. The combination, substantially as hereinbefore set forth, of a circuit-closer, mechanism controlling the condition of the said circuit-closer in connection with others of a series, a telephone-supporting device, and mechanism operated by the said device, whereby the said device when relieved of the weight of the telephone before the mechanism controlling the said circuit-closer is set in motion, removes the said circuit-closer from control of the said mechanism which controls it in connection with others of a series.

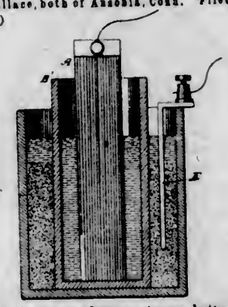
3. In a telephone-signal apparatus, the combination of the telephone-supporting hook and its flexible finger, of the circuit-closer connected with the said flexible finger, substantially as and for the purpose described.

4. The combination, substantially as hereinbefore set forth, of a circuit-closer, a telephone-supporting device operatively connected with the said circuit-closer, a movable device for controlling the condition of the said circuit-closer, and mechanism connected therewith, whereby, when the said movable device is in a certain position, the circuit-closer may be removed from its control by the action of the telephone-supporting device; but when the said movable device is in any other position the circuit-closer is retained in its control.

5. In a telephone-signal apparatus, the telephone-supporting lever and telephone-controlling circuit-closer, combined with the controlling-disk and support for the latter, the said circuit-closer being operated by the controlling-disk to govern the circuit of the telephone, and being operated by the said supporting-lever to remove it from or restore it to the control of the said disk, substantially as described.

6. The combination, substantially as hereinbefore set forth, of a signaling or communicating instrument, an electro-magnet in circuit therewith, an armature actuated by currents of one polarity only when such instrument is not in use, a shunt or short circuit for said instrument and circuit-closer therein controlled by the said magnet, and another armature oppositely polarized to the first.

268,360. SECONDARY BATTERY. ASAHEL K. EATON, Brooklyn, N. Y., assignor of two-thirds to William Wallace and Thomas Wallace, both of Ansonia, Conn. Filed Apr. 15, 1882. (No model.)



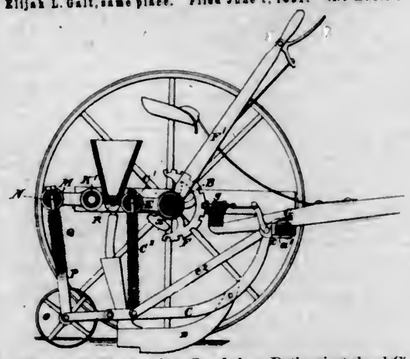
Claim.—1. In a secondary or storage battery, the combination of a metallic element capable of being rendered electro-negative by the passage through it of an electric current in the manner described, an electrolytic solution of metallic salt, and a positive element composed of comminuted or powdered conducting material, as set forth.

2. In a secondary or storage battery, the combination of a metallic element capable of being rendered electro-negative by the passage through it of an electric current in the manner described, an electrolytic solution of metallic salt, and a positive element composed of comminuted or powdered carbon.

3. In a secondary or storage battery, the combination of a negative element of lead, an electrolytic solution of metallic salt, and a positive element composed of comminuted or powdered carbon.

4. In a secondary or storage battery, the combination of a negative element composed of spongy lead, a solution of sulphate of copper, and a positive element of comminuted or finely-divided carbon, or carbon and metal, in a loose state, as set forth.

268,361. GRAIN-DRILL. WILLOUGHBY P. ELAM and WILBUR P. BOGGS, Petersburg, Ill.; said Boggs assignor of one-third to Elijah L. Galt, same place. Filed June 1, 1881. (No model.)



Claim.—1. The drag-bars C and shoes D, the pivoted rod C′, spring C, and elevating means, combined with the covering-wheels O, pivoted to the rear ends of the drag-bars, and means for throwing them in and out of operation at will, as specified.

2. The drag-bars C and shoes D, the pivoted rod C′, spring C², and elevating means, combined with the covering-wheels O, pivoted to the rear ends of the drag-bars, the pivoted rod and spring N Q, and means for throwing them in and out of operation at will, as specified.

3. The axle B, segment F, lever F′, and independently-pivoted drilling and planting mechanism, combined with means, H I *x*, for automatically throwing the operating-gear out of mesh as the planting devices are forced out of operation, as and for the purpose set forth.

4. The combination of the pedal-lever G *g*, drag-bars C, axle

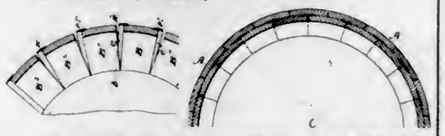
H, segment F, lever F', and drilling devices with the lug and bar H, shaft I, the pivoted spring covering devices O P Q, link *j*, adjusting-arm J, and feeding mechanism, as and for the purposes set forth.

268,362. BARREL. JOHN H. ELWARD, Stillwater, Minn. Filed June 17, 1881. (No model.)



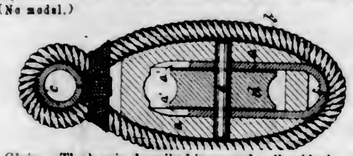
Claim.—The herein-described barrel, having, in combination with the inner set of staves and the outer set arranged to break joints, the narrow strips of thin flexible material secured independently of each other along and over the respective joints of the inner set of staves parallel therewith and on line directly adjacent to said joints, substantially as set forth.

268,363. BARREL. JOHN H. ELWARD, Stillwater, Minn. Filed Oct. 25, 1881. (No model.)



Claim.—In a barrel, the combination, with the inner set of staves and the outer set, of thin flexible strips secured independently of each other to the inner set of staves, and each arranged to cover a joint between said inner staves, being fastened upon one side only of the joint and on a line directly adjacent thereto, whereby the straining, wrinkling, or tearing of the strips is avoided, substantially as set forth.

268,364. PULLEY-BLOCK. THOMAS R. PERRALL, Boston, assignor to Herbert Loud, Everett, Mass. Filed July 3, 1882. (No model.)



Claim.—The herein-described improved pulley-block, consisting essentially of the block *a*, outer strap, *b*, the sheave *d*, pin *e*, and inner metallic strap, *f*, adapted to rest in its lower end upon the outer strap, *b*, as and for the purpose set forth.

268,365. SIDE-DRAWING DEVICE FOR CARDING-MACHINES. MERRILL A. FURBUSH, Philadelphia, Pa., assignor to himself and Charles A. Furbush, same place. Filed June 5, 1882. (No model.)

Brief.—A spring acting upon the yoke carrying the upper roll is so adjusted as that when said yoke is down or in a horizontal position and the rolls in engagement a yielding pressure will be exerted thereon and a uniform draft on the sliver maintained. When the yoke is elevated and the rolls thrown out of engagement with each other said spring serves to maintain the yoke in its vertical position.

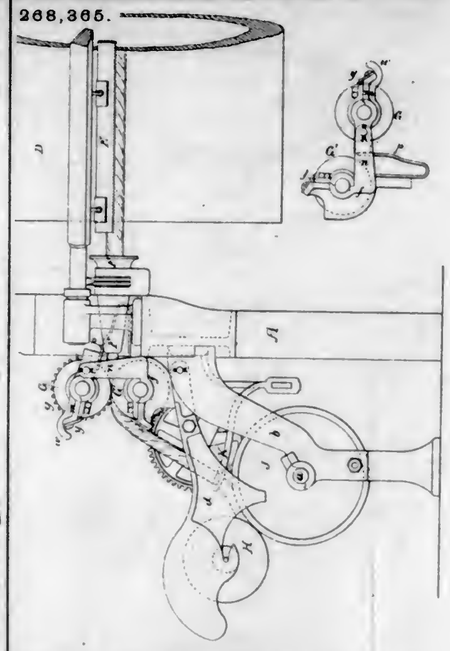
Claim.—1. The combination of the lower roll, G', and the upper roll, G, gearing for connecting the same, and a pivoted yoke, *m*, carrying the journal of the upper roll, and hung to the frame, as described, whereby it can be turned to a vertical position in order to hold the said upper roll out of gear with the lower roll, as set forth.

2. The combination of the lower roll, G', with the upper roll, G, the pivoted yoke *m*, carrying the same, and a spring, *p*, adapted to act upon said yoke, as described, whereby it serves to depress the roller or to maintain the same in an elevated position, as set forth.

3. The combination of the drawing-roller of a side-drawing device with a yoke or frame carrying a scraper adapted to act upon the surface of the roller, as set forth.

4. The combination of the lower roller, G', the upper roller, G, and the pivoted yoke *m*, carrying the latter, and having a projection, *w*, as set forth.

268,365.



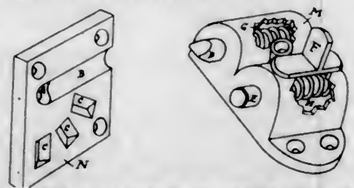
268,366. MULTIPLE-FABRIC HOSE. JAMES E. GILLESPIE, Warwick, N. Y., assignor to the Fabric Fire Hose Company, same place. Filed July 5, 1882. (No model.)



Claim.—1. A two-ply or multiple woven or fabric hose in which the wefts of contiguous plies run in opposite spiral directions, substantially as herein described.

2. A two-ply or multiple woven hose in which the wefts of the contiguous plies run in opposite directions, and certain of the warp-threads are incorporated into two plies, substantially as herein described.

268,367. DEVICE FOR HANGING TRANSOMS. JOHN KIRBY, Jr., Ludlow, Ky. Filed June 12, 1882. (No model.)

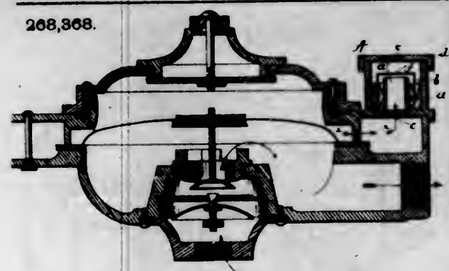


Claim.—The sash-pivoting device consisting of the ratchet-plate N, having bolt-hole A, groove B, and depressions C, and of the bolt-casing M, containing spring-bolt E, furnished with a thumb-piece, F, and spring-bolt D, having a beveled nose, substantially as described.

268,368. GAS-REGULATOR. GRIFFIN S. LACEY, New York, N. Y., assignor, by mesne assignments, to the American Gas Saving Company, same place. Filed Oct. 12, 1882. (No model.)

Claim.—1. An air-tight dry gas-regulator having a flexible diaphragm, the chamber above which is in communication with a

268,368.

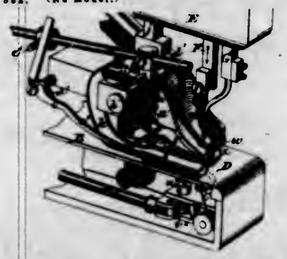


space sealed from the outer air, substantially as described, whereby the diaphragm may have free movement and escape of gaseous or unpleasant odors from the regulator to the apartment be prevented, as set forth.

2. In combination with a diaphragm gas-regulator, an air-chamber having a liquid-space and an inverted cup entering the same, the interior of the cup being in communication with the space between the top of the diaphragm and the cover of the regulator, substantially as set forth.

3. In a diaphragm gas-regulator, a casing having a liquid-space, combined with a perforated lid and an inverted cup, substantially as and for the purpose set forth.

268,369. MACHINE FOR SEWING ON BUTTONS. JOSEPH MAYNIHON, Lynn, Mass., assignor to himself and William D. Allen, same place, and C. B. Lancaster, Boston, Mass. Filed Aug. 1, 1882. (No model.)



Claim.—1. In a machine for attaching buttons, the combination of button-feeding mechanism, and mechanism for first drawing a primary loop of thread through the material and the eye of a button; secondly, drawing a secondary loop through the material and through the primary loop outside of the eye of the button; thirdly, throwing the secondary loop over the head of the button and finally forming said loops into a square-knot, as set forth.

2. In a machine for attaching buttons, the combination of loop-forming mechanism, button-feeding mechanism whereby a button is presented to the needle of the loop-forming mechanism, means for imparting to said needle the primary and secondary feed movements described, whereby first the primary and secondary loops are drawn respectively through and outside of the eye of the button, and, secondly, the material with the partially-attached button is advanced, and devices for spreading and depressing the secondary loop after the material is advanced, to cause said loop to inclose the button and hold it until tightened by the subsequent action of the loop-forming mechanism, as set forth.

3. In a machine for attaching buttons, the combination of button-feeding mechanism, a longitudinally-slotted presser-foot, a loop-forming mechanism, means for imparting to the needle and cast-off of the loop-forming mechanism the primary and secondary lateral movements described, means, substantially as described, for vertically reciprocating the cast-off at different points in its lateral movements, and loop-spreading devices, all arranged and operated substantially as described.

4. The presser-foot composed of two connected arms separated by a longitudinal slot, the sides of which are adapted to support a button and having an enlarged rear opening to permit the passage of an attached button, as set forth.

5. The combination, with the button-feeding and loop-forming mechanism, of the loop-spreaders and mechanism for inserting said spreaders into the secondary loop and depressing and separating them to depress and spread said loop, as set forth.

6. The combination of the rod *b'*, having an enlargement or collar, mechanism for oscillating the same, the spreaders pivoted to said collar and depressed inwardly by springs, the wedge *i'*, journaled on the rod, and drawn backwardly by a spring, *n'*, the shoulders *j' k'*, arranged as described, whereby the spreaders are moved forward and in advance of the wedge, and the latter is subsequently moved with the spreaders, a dog, *b²*, to lock the wedge, and an arm, *d²*, to disengage the dog from the wedge when the spreaders move backwardly, as set forth.

7. The combination, with the loop-spreaders, of the auxiliary loop-holding arm and mechanism for raising and lowering the same, as set forth.

8. The raceway pivoted to a longitudinally-movable support, *r'*, combined with means for oscillating the raceway and moving it longitudinally, as set forth.

9. The combination of the raceway, the section *h'*, supporting the raceway, the longitudinally-movable section *i'*, having a pivotal connection with the section *h'*, mechanism, substantially as described, for reciprocating the section *i'* and the parts supported thereby, and the fixed incline *l'*, the arm or device *k²* on the section *h'*, bearing against said incline, and the spring *m'*, whereby the raceway is oscillated when moved longitudinally, as set forth.

10. The combination, with the needle and cast-off bars, of the carrier H, guiding said bars and horizontally movable in fixed guides, means for giving said carrier first a short and then a longer reciprocating movement, mechanism, substantially as described, for reciprocating the needle-bar vertically, devices on the needle and cast-off bars causing the operation of the latter by the vertical movements of the needle-bar, and an independent device operated by the longer lateral movement of the needle-bar to depress the cast-off bar, as set forth.

11. The combination of the carrier H, reciprocated horizontally, as described, the needle and cast-off bars guided and moved laterally by the carrier, the oscillating lever J, having a slot, l, a slide, M, in said slot engaged with a stud on the needle-bar, the projections *k k* on the cast-off bar, and the interposed stud on the needle-bar, whereby the cast-off is operated during the vertical movements of the needle-bar, and the lever *a'*, pivoted to a fixed support and operated by the longer lateral movement of the needle-bar, to depress the cast-off, as set forth.

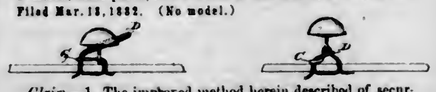
12. The raceway formed to permit the removal of the buttons from its end and adapted to be moved longitudinally and laterally, as described, combined with the spring *w*, projecting partly across the end of the raceway and adapted to hold the lower button with a yielding pressure, as set forth.

13. The combination, with the loop-forming mechanism, of the movable raceway adapted to present the eye of the last button it contains to the needle, and to hold the button while a loop is being drawn through the eye thereof by the needle, and mechanism for moving the raceway backwardly while the said loop is held by the needle, thereby withdrawing the button from the raceway, as set forth.

14. In a machine for securing buttons, the combination, with the loop forming and feeding mechanism, of the narrow elongated work-supporting arm adapted to permit the free lateral and longitudinal movement of a boot or shoe upper, and the presser-foot having a slot adapted to support a button while it is being attached, and an enlarged rear opening to permit the passage of the attached buttons, as set forth.

15. The combination, with the laterally-movable needle, of the cams *e f*, and intermediate devices for moving the needle laterally, said cams being adjustable so as to regulate the feed movements of the needle, as set forth.

268,370. METHOD OF SECURING BUTTONS TO MATERIALS. JOSEPH MAYNIHON, Lynn, Mass., assignor to himself, William D. Allen, same place, and Charles B. Lancaster, Boston, Mass. Filed Mar. 18, 1882. (No model.)

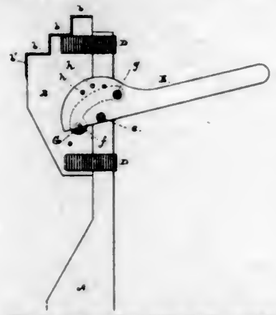


Claim.—1. The improved method herein described of securing buttons to material, the same consisting in drawing a primary loop of thread through the material and through the eye of the button, then drawing a secondary loop through the material and through the primary loop outside of the eye of the button, then tightening the primary loop, and finally passing the secondary loop over the button and tightening said loop, thereby forming a square knot, as set forth.

2. The article or material and the buttons thereon, combined with a single thread having two loops—viz., a primary and secondary—for each button, the primary loop passing through the

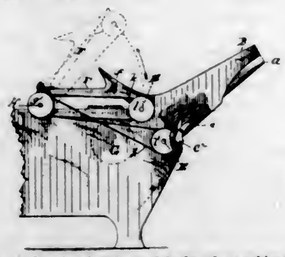
eye of the button and around the secondary loop, and the secondary loop passing around the eye of the button, as set forth.

268,371. LIFTING-JACK. TRUMAN J. PEARCE, Oakland, Cal., assignor of one-half to Lester Bishop, same place. Filed May 15, 1882. (No model.)



Claim.—The herein-described lifting-jack, consisting of the standard with its foot, the stepped lift, the straps connecting said lift to the standard, the pivoted lever having the enlarged head projecting beyond the standard and against the side of the lift, and the curved link attached to the lift at one end, and having adjustable attachment to the lever at points above the fulcrum thereof.

268,372. BAND-CUTTER AND FEEDER FOR THRASHING-MACHINES. MERRICK E. PERKINS, Eau Claire, Mich. Filed Jan. 30, 1882. (Model.)



Claim.—1. In a band-cutter and feeder, the combination, with the feed-rolls, of the hopper affixed to the table, and having concaved or V-shaped troughs provided with cutters, substantially as and for the purpose set forth.

2. In a band-cutter and feeder, the combination, with the feed-rolls, one of which has spiral blades, of the hopper having the shears C C', one blade fixed thereto, and the pivoted blade having an arm, C', struck by one of the feed-rolls, substantially as and for the purpose set forth.

268,373. GAS-LAMP. RICHARD PINTSCH, JULIUS PINTSCH, and OSCAR PINTSCH, Berlin, Germany. Filed Apr. 15, 1882. (No model.)

Claim.—1. The combination of the funnel E, chimney D, and outer cylinder, I, all concentric to one another, substantially as described.

2. The combination of the funnel E, chimney D, gas-pipe G, burner F, and lower cup, M, substantially as specified.

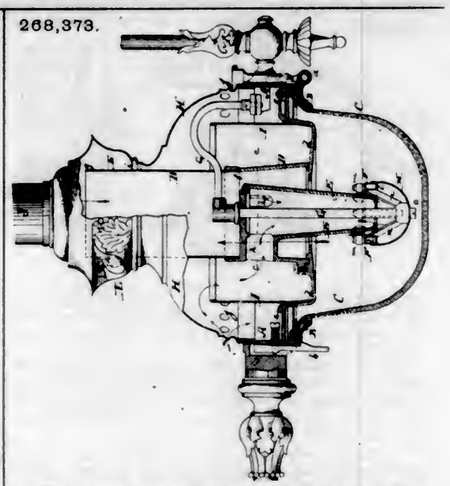
3. The combination of the ring or frame A, globe-supporting ring B, globe C, and perforated cap H with the chimney D, funnel E, ring I, pipe G, and burner F, substantially as and for the purpose specified.

4. The funnel E, having air-supply passages *h*, combined with the chimney D, burner F, ring I, cap H, and globe C, substantially as described.

5. The burner F, placed beneath a funnel, E, and combined with the lower bowl, M, substantially as specified.

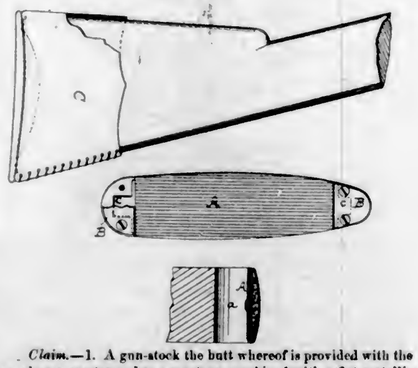
6. The annular diaphragm or plate *d*, having apertures for the admission of air, combined with the ring A, bowl C, cap H, chimney D, funnel E, and burner F, substantially as herein shown and described.

268,373.



7. In a lamp having an annular burner, F, a funnel, E, having open ends and placed above the burner and within the annulars thereof, substantially as herein shown and described.

268,374. GUN-STOCK. JOHN M. SQUIER, Jackson, Mich. Filed July 15, 1882. (No model.)



Claim.—1. A gun-stock the butt whereof is provided with the usual or a greater or less curvature, combined with a flat metallic spring extending across such curvature and held in place by end plates attached to the stock, substantially as and for the purpose described.

2. The combination, with a gun-stock provided with the butt recess or curve *a*, of a flat spring extending across such recess and having end tongues, and held in place by plates secured over such tongues to the stock, substantially as and for the purpose described.

3. The combination of a gun-stock having a butt recess or curve, the flat spring A, provided with tongues *c*, and secured to said stock over or across its recess by plates B with the hood *e*, substantially as and for the purpose described.

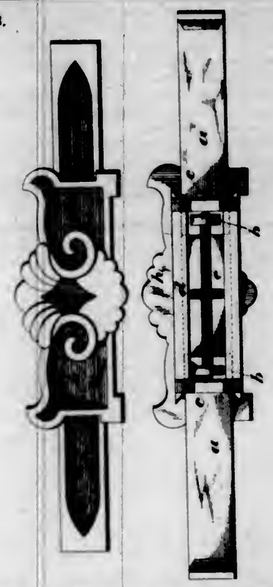
4. The combination, in a gun-stock, of a flat spring, A, secured over a recess or curve in the butt of a stock, and a padded covering for said spring, substantially as and for the purpose described.

REISSUES

10,248. WINDOW-CORNICE. HENRY P. GRAY, Columbus, Ohio, assignor, by mesne assignments, to Levi T. Strader and Albert D. Field, same place. Filed Oct. 6, 1882. Original No. 225,189, dated June 1, 1880.

Brief.—Adjustable arms are simultaneously extended or retracted by a right-and-left-hand screw, and are held and prevented from over-extension by transverse strips at the ends of center-piece.

10,248.



Claim.—1. In a window-cornice, the combination, with a center-piece, of adjustable arms, a device to simultaneously extend or retract them, and transverse strips attached to the center-piece, at or near the ends thereof, to limit the extension of the arms, substantially as set forth.

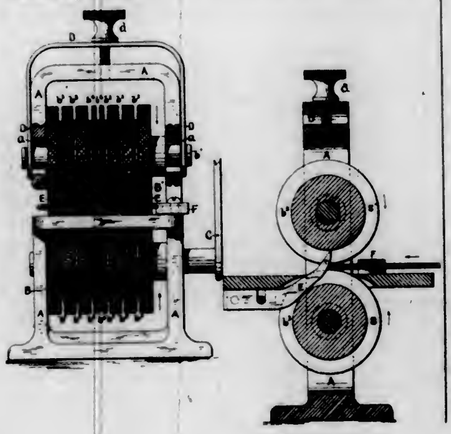
2. In a window-cornice, the combination, with a center-piece, of adjustable arms, a right-and-left-hand screw arranged to simultaneously extend or retract them, and devices to limit their extension, substantially as set forth.

3. In a window-cornice, the combination, with a center-piece, of adjustable arms, and a right-and-left-hand screw to adjust said arms, substantially as set forth.

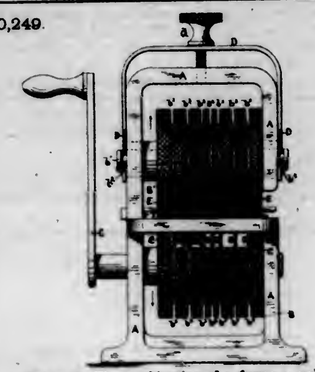
4. In a window-cornice, the combination, with a center-piece, of adjustable arms, nuts secured to the inner ends of the arms, a right-and-left-hand screw, the ends of which enter the said nuts, and devices attached at or near the ends of the center-piece to limit the outward adjustment of the arms, substantially as set forth.

10,249. LEATHER-CUTTING MACHINE. JOHN N. WAKE, Providence, R.I. Filed Oct. 21, 1882. Original No. 261,188, dated July 18, 1882.

Brief.—Reissue to correct error in the original, No. 261,188, dated July 18, 1882.



10,249.



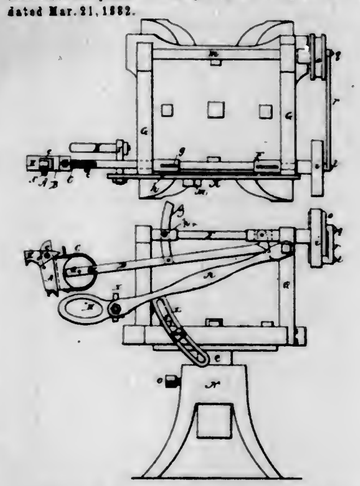
Claim.—1. The combination of a frame, a pair of feed-rolls mounted therein adjustable with relation to each other, and composed of a series of feeding-sections, which are separated at the circumference by annular spaces, and a series of knives secured to the frame and entering said spaces, with their cutting-edges inclined to the plane in which the material is fed, substantially as and for the purposes specified.

2. The combination of a frame having a side opening, as described, a pair of feed-rolls mounted therein, adjustable with relation to each other, and composed of a series of feeding-sections, which are separated at the circumferences by annular spaces, and a series of knives secured to the frame and entering said spaces, substantially as and for the purposes specified.

3. The combination of the frame A, having a side opening, as described, the feed-rolls B B', yoke D, adjusting-screw *d*, and knives E, with their cutting-edges inclined to the plane in which the material is fed, substantially as described and shown.

4. The combination of the frame A, the feed-rolls B B', yoke D, adjusting-screw *d*, knives E, and adjustable gage F, substantially as set forth,

10,250. MACHINERY FOR BURNISHING THE SOLE-EDGES OF BOOTS AND SHOES. MYRICK DUDLEY, Lynn, Mass., assignor, by mesne assignments, to Ira B. Keith and Josiah C. Bennett, same place. Filed Sept. 2, 1882. Original No. 255,152, dated Mar. 21, 1882.



Claim.—1. The rocker-shaft and its connected parallel arm D, and attached fore-part finisher A, combined with the shank-finisher connected therewith, substantially as described.

2. The combination of the carrier B and its spring C with the fore-part finisher A, adapted thereto, as described, and with the shank-finisher E, supported by or fixed to the finisher A, all being substantially as set forth.

3. The rock-shaft F and the pivoted arm D, made adjustable with relation to and actuated by the said rock-shaft, combined with the burnisher or finisher, and with the swiveling finger-rest, substantially as described.

4. In a burnishing-machine, the rocking shaft F, the arm D, parallel with and carried by it, and the connected burnishing-tool, combined with the finger-rest, adapted to turn or swivel about an axis parallel with the shaft F, and made vertically adjustable, substantially as described.

5. The combination of the finisher-carrier B and the rocker-shaft F with the arm D, applied to them, substantially as described, the said shaft and arm D having clamp-screws attached to them, as explained.

6. The combination of the connecting-rod *r* and the driving-pulley *o* and disk *i*, provided with crank-pins *l* and *q*, adjustable in them, as set forth, with the shafts *m* F, and with the finisher-carrier supporting-arm D, applied to the rocker-shaft F, so as to be adjustable therewith, substantially as specified.

7. The combination of the ear I and the radial arm K, its slotted bar L, and clamp-screw M with the finger-rest H, all being arranged substantially as set forth.

8. The horizontal rocker-shaft F, combined with its attached arm D, parallel with the rocker-shaft, the burnisher or finisher carried by the said arm, and the connecting-bar *g*, between the said shaft and arm, to operate substantially as described.

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DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

EX PARTE PFAUDLER.

Decided October 25, 1882.

1. REISSUE—EXPANSION OF CLAIM.

A patent for a machine cannot be reissued to cover a process or method, although such process or method may have been described in the original patent.

2. SAME—SAME.

Under recent decisions a patent cannot be reissued to cover an invention described, but not claimed, in the original patent.

APPEAL from the Board of Examiners-in-Chief.

ART OF MAKING BEER.

Application of J. M. Pfaudler filed June 11, 1881.

Mr. James L. Norris attorney for the applicant.

MARBLE, *Commissioner:*

On July 2, 1878, patent issued to applicant with the following claim:

The combination of one or more section-pipes, A, each having branch pipes B, connecting it with one or more fermentation-vessels, and the check-valve C, and stop-cock D with the main pipe E, connected by branch pipe F and stop-cock G to the intercommunicating cylinders or receivers H, provided or connected with pressure-gage N, safety-valve Q, and blow-off cocks I, substantially as and for the purpose set forth.

On August 26, 1879, applicant surrendered his original patent and filed an application for a reissue, in which "claims for the mechanical apparatus were joined with claims for the process or method embodied in or carried out by said mechanism."

On June 11, 1881, applicant erased the process claim from his reissue application, and filed this application with the following claim:

The process of treating beer or other fermentable liquids in the course of their manufacture, which consists in holding them in closed connected vessels under automatically-controlled pressure of carbonic-acid gas, acting solely on the surface of the liquid for settling the yeast, substantially as described.

I deem it unnecessary to state all the proceedings which have been had in the case, as the only question now to be considered is whether applicant is entitled in his reissue application to said process claim, the same not having been claimed in his original patent. The Primary Examiner and a majority of the Board of Examiners-in-Chief have rejected the application, holding that applicant is not entitled to make the claim, the latter basing their decision on the decision of the Supreme Court in the case of *Heald* v. *Rice*, (21 O. G., 1343.)

Applicant claims that this invention was disclosed in his original patent by the following language:

The invention has for its object to provide an effective apparatus for equalizing the pressure in a series of hogsheads or other vessels containing beer, wines, or other liquids in a state of fermentation, and for regulating the pressure of the gas caused by such fermentation, so that it shall not exceed a certain number of pounds to the square inch previously determined and gaged in the said apparatus.

And again:

By this invention the fermentation can thus be kept operating at a uniform pressure to insure beer of uniform quality, and the hogsheads or other vessels need not be subjected to any more strain than what is necessary to insure the said uniformity.

Granting that the language above quoted from the original patent did disclose the invention now claimed, and, under former decisions of the courts, is a sufficient foundation upon which to base the present claim, the question arises whether, under recent decisions, the claim now made can be allowed. In the case of *Heald* v. *Rice*, above mentioned, the court said:

In cases of reissues of patents, inoperative or invalid by reason of a defective or insufficient specification, or by reason of the patentee claiming as his own invention or discovery more than he had a right to claim as new, it is imperative that the new patent, when issued, shall be for the same invention, and that no new matter shall be introduced into the specification when, as in the present case, there is a drawing with reference to which the invention is described.

And again:

It appears, then, from the mere reading of the two specifications, that the invention described in the first is for the return-flue boiler, while that described in the second, abandoning the claim for the boiler itself, is for a particular mode of using it with straw as a fuel by means of an attachment to the furnace-door for that purpose. It might well be that Rice was entitled to patents for both separately or to one for both inventions; but it is too plain for argument that they are perfectly distinct. A patent consequently originally issued for one cannot lawfully be surrendered as a basis for a reissue for the other. They are as essentially diverse as a patent for a process and one for a compound, as in the case of *Powder Company* v. *Powder Works*, (98 U. S., 134,) where the reissued patent was avoided, although the original application claimed the invention both of the process and the compound. The case comes directly within the principle held in *James* v. *Campbell*, *supra*, that a patent for a machine cannot be reissued for the purpose of claiming the process of operating that class of machines, because if the claim for the process is anything more than for the use of the particular machine patented, it is for a different invention.

In the case of *Campbell* v. *James*, (21 O. G., 337,) referred to in the foregoing case, the court said:

A third addition in the reissued patent to the invention described in the original is that of the process of stamping letters with a postmark and canceling the postage-stamp, at one and the same blow or operation of the instrument, in the manner and by the means described and set forth. Leaving out of view the history of the art prior to the invention claimed by the patentee, what possible pretense can there be for contending that the general process was part of the invention which formed the subject of the original patent? Suppose it to be true that Norton was the first inventor of this process, was that process the invention which he sought to secure in the original patent? A patent for a process and a patent for an implement or a machine are very different things. (*Powder Company* v. *Powder Works*, 98 U. S., 136.) Where a new process produces a new substance the invention of the process is the same as the invention of the substance, and a patent for the one may be reissued so as to include both, as was done in the case of Goodyear's vulcanized rubber patent; but a process and a machine for applying the process are not necessarily one and the same invention. They are generally distinct and different. The process or act of making a postmark and canceling a postage-stamp by a single blow or operation as a subject of invention is a totally different thing in the patent law from a stamp constructed for performing that process. The claim of the process in the present case, however, is not so broad as this. It is for the process or act of stamping letters with a postmark and canceling the postage-stamp, at one and the same operation of the instrument, in the manner and by the means described and set forth. Perhaps this claim amounts to no more than a claim to the exclusive use of the patented instrument or device. If it is anything more it is for a different invention from that described in the original patent. If it is not for anything more, the question is brought back to the instrument or device itself which forms the subject of the patent and which has been already considered.

Again:

Now a mere inspection of the patents referred to above will show that after December, 1862, Norton could not lawfully claim to have a patent for the general process of stamping letters with a postmark and canceling-stamp at the same time, nor for the general combination of a post-stamper and blotter in one instrument, nor for the combination of a post-stamper and blotter connected by a cross-bar, for all these things, in one or other specific form, were exhibited in these prior patents. Any such claim, therefore, in the reissued patent of 1870, must be inoperative and void, as well because the thing claimed was anticipated in former patents as because it would be for a different invention from that contained and described in the original patent. We may therefore dismiss from consideration the third and fourth claims of the reissued patent. If they are to be construed as being broader and claiming more than the original patent, they are void; if to be construed as claiming nothing more, they are simply redundant, because the first and second claims embrace all that was in the original and more.

In the case of *New* v. *Warren*, (22 O. G., 587,) Wheeler judge, the court said:

There is no question but that a patent may be surrendered and reissued in divisions; but the patent cannot be broadened in that way any more than if reissued together. The claim of Division B is entirely new in the reissue. The description on which it was founded was in the original, and the process, if patentable at all, might have been claimed there, but it was not. According to numerous former cases it might be claimed in the reissue as well. As it is, however, it comes within the principle of *Miller* v. *The Bridgeport Brass Company* (21 O. G., 301) and *Campbell* v. *James*. (Ibid., 337,) and cannot be upheld now.

As a further reason for rejecting the patent the court held that the process described was the mere operation of the machine.

This latter case seems to be on all fours with the case under consideration. The application was a division of a reissue application. The original patent described the invention therein claimed, and, as the court said, under former decisions the reissued patent could have been sustained; but under the recent decisions above cited it could not be sustained. It is unnecessary to inquire what the former rulings of the court have been and how patents under such decisions were reissued. Under the recent decisions a patent cannot be reissued to cover an invention described, but not claimed, in the original patent. It can be reissued, if it be inoperative or invalid by reason of a defective or insufficient specification, or if applicant has claimed more than he was entitled to claim, for the purpose of clearly and distinctly describing the invention or restricting it, with such claims as will protect the inventor, but there can be no new matter nor any other invention than that originally described and claimed. If it be admitted that the process claim in this application was described in the original patent, it was not therein claimed, and hence cannot now be claimed by reissue.

I find no error in the decision of the majority of the Board of Examiners-in-Chief, and therefore affirm the same.

MOORE v. BROWN.

Decided November 17, 1882.

1. AMENDMENT OF PRELIMINARY STATEMENT—RULE STATED.

In view of the rulings in *Le Roy* v. *Hopkins* and *Edison* v. *Nicholson*, *Held* that where it is made reasonably certain that a mistake has been made in the preliminary statement, and that the party governed by such statement would not be permitted to introduce testimony which would develop the real facts in his case; that amendments will be allowed permitting the introduction of such testimony at any time before the testimony is closed.

2. SAME—OTHER SIDE TO TAKE FURTHER TESTIMONY.

If such amendment makes it necessary for the opposite party to take further testimony, either on his direct examination or in rebuttal, he must be permitted to do so on a proper motion.

MOTION to amend preliminary statement.

FASTENING FOR METAL LATHS.

Application of Aaron B. Moore filed February 10, 1882. Reissue application of Robert T. Brown filed May 22, 1882.

Messrs. A. H. Evans & Co. for Moore.

Mr. F. C. Somes associate attorney for Brown.

MARBLE, *Commissioner:*

On the 19th ultimo the Examiner of Inteferences denied the motion of Brown to amend his preliminary statement, based on a misconception of the issue, on the ground that his explanation of the reason why he wished to make the amendment was not satisfactory, and was unsupported by the affidavits presented. The motion is brought under Rule 110 of the Rules of Practice, which reads as follows:

In case of material error in the statement, arising through inadvertence or mistake, it may be corrected on motion, (see Rule 149,) upon showing to the satisfaction of the Commissioner that its correction is essential to the ends of justice. The motion to correct the statement must be made, if possible, before the taking of any testimony, and as soon as practicable after the discovery of the error.

Brown alleges that when he filed his preliminary statement in this case he understood that the issue was the same as in the case of *Brown* v. *Brown*, heretofore decided, and that he did not, in fact, understand the issue until after he had filed his preliminary statement and ordered a copy of Moore's specification. The issue in this case is thus defined:

The combination of the furring and lathing and a clamp or fastening consisting of a shank with a T-head, the latter bent down flat upon the lathing and embracing the furring.

In this claim the element about which there is a contest is the T-shaped fastener or hanger. In his former interference with Brown the issue was much broader. In his preliminary statement, filed in this case, he says that—

He first conceived of the invention involved in the said interference—to wit, the subject-matter of the third clause of the claim of his said application—some time prior to November 1, 1880; that he made a drawing of the same and disclosed the invention to others on or about the 1st of March, 1881, and on or before April 11, 1881, he had completed the model of the same.

In his amended preliminary statement he alleges that he made the invention in controversy and had a model of it completed on or about the 17th day of September, 1879. In support of his statement that he had the invention completed in September, 1879, the affidavits of several persons are filed, some of whom state that they saw the model with the T-shaped fastener in the fall of 1879, and others in the early part of the year 1880. If the statements in these affidavits are true—and I have no right to assume otherwise—the invention here in controversy was completed by Brown some time in the latter part of the year 1879. The only question, therefore, for consideration is, whether at this stage of the proceedings he should be allowed to amend his preliminary statement so as to be permitted to show the real date of his invention. Time and opportunity were given him to file a proper preliminary statement. The preliminary statements of both parties to the controversy were received and filed, and on the day fixed for publication were opened and published. Thereupon dates were fixed for taking the testimony of the witnesses of the respective parties. The testimony of the witnesses for Moore has been taken. At this stage of the case Brown comes in and offers to amend his preliminary statement, and alleges that he made a mistake therein because he did not understand what was involved in the issue between himself and Moore.

The rule above cited provides for the amendment of the preliminary statement where the error therein was material and arose from inadvertence or mistake, if such error or mistake is satisfactorily shown to the Commissioner. It also provides that the motion to correct the mistake should be made, if possible, before any testimony is taken and as soon as practicable after the discovery of the error is made.

In the recent cases of *Le Roy* v. *Hopkins* and *Edison* v. *Nicholson*, I understand the honorable Secretary to have held, though it is not so expressed, that amendments of the character here presented should be allowed at any stage of the proceedings, if thereby substantial justice shall be promoted.

I do not think that there is any sufficient excuse for Brown's misunderstanding of the issue, nor of his delay in presentiug his amendment, and if the motion were to be adjudicated on the principles which heretofore governed in like cases, the decision of the Examiner of Interferences should be affirmed. Nevertheless, it appears from the affidavits that the invention in controversy was made by him long prior to the time fixed in his preliminary statement, and although not excusable in not understanding what was embraced in this issue at once, now that he does comprehend the issue he should be permitted to prove when he made the invention.

On the cases above cited I must hold that where it is made reasonably certain that a mistake has been made in the preliminary statement, and that the party governed by such statement would not be permitted to introduce testimony which would develop the real facts in his case, that amendments will be allowed permitting the introduction of such testimony at any time before the testimony is closed. If such amendment makes it necessary for the opposite party to take further testimony, either on his direct examination or in rebuttal, he must be permitted to do so on a proper motion. The testimony here sought to be introduced would be material in determining the controversy between these parties, and, having been brought to the attention of the Office before the closing of the testimony, must be admitted.

The amendment offered, therefore, will be received, and Mr. Brown will be permitted to introduce testimony in support of the statements therein contained. Mr. Moore, on the other hand, if he desires to introduce further testimony in support of his case, will be permitted to do so.

The decision of the Examiner of Interferences is overruled.

DECISIONS OF THE U. S. COURTS.

U. S. Circuit Court—Eastern District of Wisconsin.

HUBBELL *et al.* v. DE LAND.

Decided November 6, 1882.

MOTION TO STRIKE PLEA FROM FILES.

Motion to strike a special plea from the files, or that it be ordered to stand as an answer, denied, it appearing that the plea did not merely deny the bill, but set up new matter that displaced the equity of the bill—viz., that the reissued patent relied on is void, being for a process, while the original patent was for a machine.

Messrs. Duell & Hey for the plaintiffs.

Messrs. Finches, Lynde & Miller for the defendant.

DYER, *J.:*

On the 13th day of April, 1869, Letters Patent No. 88,830, for an improvement in the manufacture of cheese, were issued to J. W. Andrews and N. J. Ogden, of the State of New York. On the 3d day of November, 1874, Reissue Letters Patent No. 6,117 were issued to the plaintiff Hubbell as the assignee, by mesne assignments, of Andrews and Ogden, and the bill in this case is filed to restrain the infringement of said reissue patent and for an account. To this bill the defendant has interposed a plea, which avers that the original patent issued to Andrews and Ogden was not for the same invention as that described in the reissue; that the original patent—

Was for a mechanical device or a combination of certian materials used in the manufacture of cheese, while the reissue, upon which this suit is brought, does not claim to be for said combination, but is for molding the cheese within the bandage-cloth in contradistinction to applying a bandage after the formation of the cheese, substantially as and for the purposes set forth.

The original and reissue patents with their specifications and claims are set out in *haec verba* in the plea. It is also averred in the plea that on the 21st day of March, 1871, a patent, numbered 112,977, was issued to William Sternberg, and that on the 9th day of January, 1872, a patent, numbered 122,520, was issued to Milton B. Fraser, both of which patents were for an improvement in cheese-hoops, and are also set out in full in the plea. The plea concludes with the averment that the original patent to Andrews and Ogden—

Was limited to the particular combination of mechanical devices shown and composing the apparatus described in said specifications; that said reissue patent abandons the claim in the original patent and claims the process of molding the cheese within the bandage, thereby expanding the claim so as to cover all subsequent improvements, and monopolizes a process not covered by the original patent, and which was in general use. Therefore this defendant doth plead, in bar to the said complainants' bill, that said Reissue Patent No. 6,117 was issued in violation of the statute, and is not for the same invention as the original patent; and, if said process is disclosed in the employment of the devices described in the original patent and not claimed therein, the same process being described and made use of by other inventors in subsequent patents before said reissue, said reissue is void.

A motion is now made by counsel for the plaintiffs that the plea be stricken from the files as improperly interposed, or that it be ordered to stand as an answer to the bill. The ground of the motion is that a defense which impeaches the validity of a patent cannot be specially pleaded, but must be set up in the form of an answer. Authorities are cited in support of the motion which it seems necessary to specially notice.

In *Birdsall* v. *Perrigo* (5 Blatchf., 250) the patentee of a machine granted an exclusive right under his patent to make and sell machines in a given territory for a specified fee, to be paid to him, for each machine made and sold, and brought a suit against his grantee to recover fees due and unpaid for machines made and sold. The defendant pleaded specially, first, that the plaintiff had infringed such exclusive right, and, secondly, that the plaintiff was not the first and original inventor of what his patent claimed. The pleas were demurred to, and it was held that they were bad on demurrer. The ground taken in the decision was that the plea that the plaintiff had infringed the defendant's exclusive right was not a defense to an action for the recovery of a sum agreed to be paid as a license-fee for machines which the plea admitted were made and sold by the defendant; and, further, that the defense set up in this plea was in effect recoupment, and that recoupment is a

matter never pleaded in bar, citing *Nichols* v. *Dusenberry*, (2 Const., 283, 286.) As to the plea that the plaintiff was not the first inventor of what his patent claimed, it was held that, as the plea alleged no fraud on the part of the plaintiff, and no express warranty, and did not allege that the defendant had been disturbed in the enjoyment of the exclusive right transferred to him by any paramount title, and did not aver even the existence of any such paramount title nor a retransfer of his alleged right, it constituted no defense to an action to recover license-fees due for machines admitted to have been actually sold by the defendant. This statement of the case shows that it has no application to the question presented in the case at bar, which is one of practice, involving the right of the defendant to file the plea in question.

In *Wilder* v. *Gayler* (1 Blatchf., 597) it was held that where the defendant in a patent suit pleaded the general issue and special pleas, and also gave a notice of special matter, under section 15 of the patent act of July 4, 1836, (5 U. S. Stats. at Large, 123,) and the matters set forth in the special pleas were those of which notice might have been given under said section 15, the special pleas should be stricken out. The pleas are not set forth in the report of the case, but the general ground of the decision seems to have been that a defendant in a patent suit could not plead specially as a defense matters which the act of 1836 required him to specify in a notice in connection with a plea of the general issue. But this ruling appears to have been in conflict with the rule laid down by the Supreme Court in *Evans* v. *Eaton*, (3 Wheat., 454,) where it was held, as stated by Judge Betts in *Day* v. *The New England Car Spring Company*, (3 Blatchf, 181,)—

> That in actions at law for the infringement of patent rights a defendant is not limited in his defense to the plea of the general issue allowed by the statute, even if his defense rests upon matters which the statute authorizes to be given in evidence under the general issue, but that he may, at his option, plead those particulars specially.

In *Evans* v. *Eaton*, *supra*, it was said by the court:

> It has been already observed that the notice is substituted for a special plea. It is further to be observed that it is a substitute to which the defendant is not obliged to resort. The notice is to be given only when it is intended to offer the special matter in evidence on the general issue. The defendant is not obliged to pursue this course. He may still plead specially, and then the plea is the only notice which the plaintiff can claim.

If, then, in actions at law the defendant could plead specially the matters which, under section 15 of the act of 1836, he might give in evidence under a plea of the general issue and notice, it would seem to follow that the same course of procedure can be taken in such actions under section 4920 of the present Revised Statutes.

In *Day* v. *New England Car Spring Company*, *supra*, which was an action on the case for the infringement of a patent brought by the assignee of the patentee, the defendant, with the general issue, without any notice of special matter, pleaded special pleas, setting up a license under the patentee paramount to the right of the plaintiff; and it was held that the special pleas were well pleaded, and could not be stricken out on motion.

As will be observed, all the cases referred to were actions at law; but *Sharp* v. *Reissner et al.* (20 O. G., 1161) was an action in equity, and it was held in that case by Judge Blatchford that a special plea to the bill averring that the defendants had not made, constructed, used, or vended to others to be used the invention described in the patent, and denying infringement of the patent in any manner whatever was not allowable, and that the issue of infringement ought to be tried under an answer and not under a plea. This authority is much relied on in support of the present motion, but I am of the opinion that it is inapplicable. The special plea in that case was little more than a mere denial of infringement. It brought forward no new matter displacing the equity of the bill. Argument can hardly be needed to show that the question of the infringement of a patent is not the proper subject of a special plea. As Judge Blatchford says in his opinion, the question of the infringement of a patent depends very much on the construction of its claims, and that depends very much on prior patents on the same subject; and, if such prior patents are to be put in, they ought to be set up in an answer and be put in once for all. And in that case it appeared by affidavit of the defendants that if their plea should be overruled, they would desire by answer to put in prior patents to limit the scope of the plaintiffs patent, so as to render infringement impossible, thus proposing to litigate the question of infringement first by plea, and, failing in that, then by answer. Undoubtedly this case was well decided, but it does not, in my opinion, rule the case at bar. Here it is proposed under a special plea to litigate the single question of the validity of the reissue patent, its validity being questioned on the ground that it appears by comparison of the original and reissue that the latter patent was for one thing and the former for another; that the claim in the reissue was unlawfully expanded so as to embrace improvements covered by other patents issued after the issuance of the plaintiffs' original patent and before the reissue, and therefore that the reissue is void. Why is not this matter of defense that may be presented by special plea? It was argued that if the plea shall be overruled the defendant will be at liberty, under rules 34 and 39 in equity, to again make the same defense by answer. I do not so construe those rules. The question at issue now will then have been adjudicated. Upon overruling the plea the defendant, it is true, would be assigned to answer the bill; but it does not follow that the matters litigated under the plea could be renewed in a defense made by answer. If the plea shall be sustained, that will be the end of the suit, and—

> Whatever shows that there is no right which can be made the subject of suit, or whatever is a complete and perpetual bar to the right sued for, may constitute the subject of a plea in bar; or, as it is expressed in a work on pleadings at law, whatever destroys the plaintiff's suit and disables him from recovery may be pleaded in bar. (2 Daniels Chy. Practice, 734.)

In *Bailey* v. *Le Roy et al.* (2 Edw. Chy. Rep., 514) it was held that when a bill sets forth a contract in writing, alleged to be signed by the defendant or his authorized agent, a plea of the statute averring that there is no writing subscribed by the party or his authorized agent is inadmissible, because it is merely denying what is alleged in the bill, and brings forward no new fact in opposition, which is the proper office of a plea. If a denial merely be intended, it must be by way of answer. This was the state of the case in *Sharp* v. *Reissner et al.*, *supra*. There the plea merely negatived certain allegations of the bill. It brought forward no new fact in opposition, or, in the language of the court in *Black* v. *Black*, (15 Geo., 448,) it presented no new matter displacing the equity of the bill.

In the case at bar the plea brings forward new matter in opposition to the equity of the bill—matter which, if true, destroys the plaintiffs' suit and disables them from recovery.

The motion to strike the plea from the files is denied, and the plaintiffs have leave to set down the plea for argument or to take issue on the plea, as they may elect, within thirty days.

THE

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[BY AUTHORITY OF CONGRESS.]

VOL. 22—NO. 23. TUESDAY, DECEMBER 5, 1882. PRICE—$5 per year

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ATTORNEYS.

DEPARTMENT OF THE INTERIOR.
Washington, November 27, 1882.

SIR: The order of February 18, 1878, directing that D. W. Glassie, of this city, should not be recognized as an attorney before this Department and its bureaus, is hereby rescinded.

Very respectfully,

H. M. TELLER, *Secretary.*

The Commissioner of Patents.

Issue of December 5, 1882.

Patents	400	No. 268,375 to No. 268,774, inclusive.
Designs	10	No. 13,464 to No. 13,473, inclusive.
Trade-marks	11	No. 9,850 to No. 9,860, inclusive.
Labels	12	No. 2,638 to No. 2,649, inclusive.
Reissues of patents	7	No. 10,251 to No. 10,257, inclusive.
Total issue	440	

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks and Labels.	States.	Patents and Designs.	Trade-Marks and Labels.
Alabama	2	.....	Nebraska	1	.....
Arizona Territory	1	.....	Nevada	.....	.....
Arkansas	1	.....	New Hampshire	.....	.....
California	21	1	New Jersey	15	2
Colorado	2	.....	New Mexico Territ'y	.....	.....
Connecticut	20	.....	New York	84	12
Dakota Territory	.....	.....	North Carolina	1	.....
Delaware	2	.....	Ohio	29	1
District of Columbia	6	.....	Oregon	.....	.....
Florida	.....	1	Pennsylvania	41	2
Georgia	.....	.....	Rhode Island	2	.....
Idaho Territory	.....	.....	South Carolina	3	.....
Illinois	28	.....	Tennessee	6	1
Indiana	10	.....	Texas	3	.....
Indian Territory	.....	.....	Utah Territory	.....	.....
Iowa	7	.....	Vermont	.....	.....
Kansas	1	.....	Virginia	5	.....
Kentucky	4	.....	Washington Territ'y	.....	.....
Louisiana	2	.....	West Virginia	.....	.....
Maine	4	.....	Wisconsin	7	.....
Maryland	9	.....	Wyoming Territory	.....	.....
Massachusetts	33	2	United States Army	.....	.....
Michigan	13	.....	United States Navy	.....	.....
Minnesota	2	.....			
Mississippi	2	.....	Total to citizens of the United States	381	23
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TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks and Labels.	Countries.	Patents and Designs.	Trade-Marks and Labels.
Australia	.....	.....	France	1	.....
Austria	1	.....	Germany	7	1
Barbadoes	.....	.....	India	2	.....
Belgium	.....	.....	Italy	1	.....
Bermuda	.....	.....	New Zealand	.....	.....
Brazil	.....	.....	Russia	.....	.....
Canada	7	.....	Spain	.....	.....
Chili	.....	.....	Sweden	.....	.....
Columbia, U. S. of	.....	.....	Switzerland	1	.....
Cuba	2	.....			
Denmark	.....	.....	Total to citizens of foreign countries	29	1
Ecuador	.....	.....			
England	7	.....			

DESIGNS.

13,464.—CARD OR CIRCULAR.—*Orlando W. Butler* and *Thomas W. Kelley*, Brooklyn, N. Y. Application filed June 10, 1882. Term of patent 14 years.

13,465.—PHOTOGRAPHIC MOUNT OR CARD.—*Frank B. Clench*, Lockport, N. Y. Application filed October 4, 1882. Term of patent 7 years.

13,466 to 13,468, inclusive.—WHISK-BROOM CASE.—*James H. Flynn* and *Jacob A. Snell*, Schenectady, N. Y. Applications filed October 24, 1882. Term of patents 7 years.

13,469.—TABLE AND ENAMELED CLOTH.—*George H. Hughes*, New York, N. Y. Application filed November 4, 1882. Term of patent 3½ years.

13,470.—THERMOMETER.—*Frederick J. Kaldenberg*, New York, N. Y. Application filed October 27, 1882. Term of patent 7 years.

13,471.—TOY PISTOL.—*Henry S. Lockwood*, South Norwalk, Conn., assignor to *The Lockwood Manufacturing Company*, same place. Application filed November 2, 1882. Term of patent 7 years.

13,472.—SHAWL.—*Joseph G. Savage*, Brooklyn, assignor to *Patterson & Greenough*, New York, N. Y. Application filed July 14, 1882. Term of patent 14 years.

13,473.—PLAYING-CARD.—*George G. White*, New York, N. Y., assignor to *The New York Consolidated Card Company*, *of New York*. Application filed October 28, 1882. Term of patent 14 years.

TRADE-MARKS.

[Certificate of registration of Trade-Marks numbered 8,191 and upward are registered under the act of March 3, 1881.]

9,850.—CERTAIN MEDICAL COMPOUND.—*George Bunce*, Buffalo, N. Y. Application filed October 23, 1882.

"The arbitrary and fanciful term 'WIDE AWAKE.'"

9,851.—GLOVES.—*Perrin Frères*, New York, N. Y. Application filed October 23, 1882.

"The figure or representation of a female goat and the rising sun."

9,852.—CIGARS, CIGARETTES, SMOKING AND CHEWING AND MANUFACTURED TOBACCO.—*Jacoby & Fromer*, New York, N. Y. Application filed November 10, 1882.

"The arbitrary words 'BIG BUGS.'"

9,853.—OIL FOR CULINARY PURPOSES.—*J. C. Johnson & Co.*, Memphis, Tenn. Application filed October 19, 1882.

"The words 'COTTON BUTTER.'"

9,854.—GLOVES.—*H. Jordan & Co.*, Gloversville, N. Y. Application filed November 1, 1882.

"The word 'BRAKESMAN'S.'"

9,855.—CIGARS.—*Lozano, Pendas & Co.*, New York, N. Y. Application filed September 30, 1882.

"The pictorial representation of a female figure, with a crown on her head, sitting on a throne and holding in her right hand a laurel-wreath and in her left hand a pair of scales."

9,856.—CORN-STARCH.—*Harm H. Ludeman*, Brooklyn, N. Y. Application filed November 3, 1882.

"The fanciful title 'MAIZHARINA' and the pictorial representation of a man cutting maize."

9,857.—WHISKY.—*Schmidlapp & Co.*, Cincinnati, Ohio. Application filed October 25, 1882.

"A pictorial representation of an Amazon on horseback in the act of thrusting a spear into a tigress, and the word 'AMAZON.'"

9,858.—POLISHING COMPOUND.—*Adalbert Vogt*, Berlin, Germany. Application filed November 6, 1882.

"The representation of a helmet."

9,859.—CORN, WART, AND BUNION CURE.—*Ephraim S. Wells*, Jersey City, N. J. Application filed October 28, 1882.

"A pictorial device—the face of a man laughing heartily."

9,860.—REMEDY FOR MALARIA AND FEVER AND AGUE.—*Isaac C. Monroe*, Brooklyn, N. Y. Application filed November 8, 1882.

"The words 'SURGITE LUMEN ADEST' and the figure of an eagle."

LABELS.

2,838.—Title: "ST. JOSEPHS OIL."—*James T. Bassett*, Jacksonville, Fla. Application filed November 14, 1882.

2,839.—Title: "BROWN MIXTURE LOZENGES."—*James H. Buckingham*, Philadelphia, Pa. Application filed November 13, 1882.

2,840.—Title: "DR. BRACKETT'S IMPROVED FLEXIBLE HIP, (FOR CORSETS.)"—*John H. Culbertson*, Waterville, N. Y. Application filed November 1, 1882.

2,841.—Title: "ARATHENA PILE CURE."—*Arathena B. Drake*, Boston, Mass. Application filed November 6, 1882.

2,842.—Title: "LA FLOR DE SALVINI."—*Arthur W. Foote*, New York, N. Y. Application filed November 9, 1882.

2,843.—Title: "SIMON PURE BAKING POWDER."—*Megargel, Connell & Co.*, Scranton, Pa. Application filed November 9, 1882.

2,844.—"DR. NEER'S KEYSTONE LINIMENT."—*Frank Neer*, Paterson, N. J. Application filed January 11, 1882.

2,845.—Title: "OTIS BROTHERS' NEVER-FAILING CORN CURE."—*Otis Brothers*, Binghamton, N. Y. Application filed November 8, 1882.

2,846.—Title: "THOMPSON'S LINIMENT."—*Thompson & Saxton*, Oneonta, N. Y. Application filed October 25, 1882.

2,847.—Title: "MILES MORGAN CIGARS."—*Leonard Schadt* and *Louis E. Andrade*, Springfield, Mass. Application filed November 8, 1882.

2,848.—Title: "STOWE'S ORIENTAL SEA FOAM HAIR DRESSING."—*Hiram S. Stowe*, Randolph, N. Y. Application filed November 10, 1882.

2,849.—Title: "K. GARRISON'S LAVENDER OF KENSINGTON."—*Kate G. Wakelee*, San Francisco, Cal. Application filed November 9, 1882.

DISCLAIMER.

No. 6,036, (Reissue.)—*Oliver Pearl*, Lawrence, Mass. Patented September 1, 1874. IMPROVEMENT IN BOBBINS AND SPINDLES FOR SPINNING-MACHINES. Disclaimer filed November 24, 1882, by *William Gray*, principal trustee, and *Joseph P. Battles*, associate trustee.

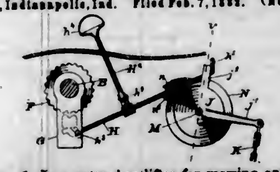
Enter their disclaimer to claim 3, which is in the following words:

"3. The described bobbin, provided with the central adhesive bearing, i, the chambers *g h*, and the adhesive foot-bearing *k*, substantially as described."

PATENTS

GRANTED DEC. 5, 1882.

268,875. HARVESTER-CUTTER-BAR LIFTER. HORACE R. ALLEN, Indianapolis, Ind. Filed Feb. 7, 1882. (No model.)



Claim.—1. In a cutter-bar lifter for mowing and like machines, the combination of a ratchet-wheel on the shaft or axle, a stirrup depending from said shaft or axle, a rock-shaft, H, connected at one end to said stirrup and at the other to a crank-wheel mechanism for lifting the cutter-bar, a slide in said stirrup, means which operate to engage the same with the ratchet-wheel, said crank-wheel mechanism, a connection from the same to the cutter-bar, and said cutter-bar, substantially as set forth.

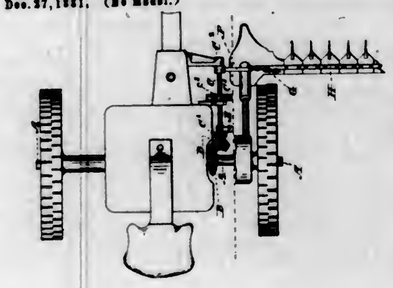
2. In a cutter-bar lifter for mowing and like machines, the combination of the rock-shaft H, having crank portion h, with the stirrup G, slide I, and ratchet-wheel F, whereby when said shaft is rocked said slide will be brought into engagement with said wheel, and thus cause said stirrup to move therewith, substantially as set forth.

3. In a cutter-bar lifter for mowing and like machines, the combination, with the rock-shaft H, having bent end h' and crank-wheel mechanism, of the disk N, having a projection, n, whereby said shaft is first partly rotated and it and said crank-wheel mechanism then fastened, substantially as set forth.

4. The combination of the axle or shaft B, ratchet-wheel F, stirrup G, slide I, shaft H, crank-wheel J, having suitable arms or projections, chain or rod K, and the cutter-bar, substantially as set forth.

5. The combination, in a mowing or like machine, of the cutter-bar, the immediate means for lifting the same, the main shaft or axle, the ratchet-wheel F, mounted thereon, the stirrup G, depending therefrom, the slide I, operating in ways in said stirrup, and means which are adapted to engage said slide with said ratchet-wheel and at the same time connect the mechanism of which said slide forms a part with the said immediate means for raising the cutter-bar, substantially as set forth.

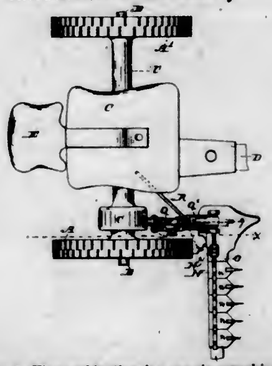
268,876. CUTTER-BAR LIFTER FOR MOWING AND REAPING MACHINES. HORACE R. ALLEN, Indianapolis, Ind. Filed Dec. 27, 1881. (No model.)



Claim.—1. The combination, in a mowing-machine, of a shaft, I, which connects the cutter-bar to the driving-gear on the axle, and which is provided with an eccentric or crank upon its end, a casing, Q', at the lower end of and surrounding said shaft, provided with two bearings, *q q'*, one on each side of said shaft, and the cutter-bar N, mounted and moving in said bearings, and provided with a yoke, N', in which the crank or eccentric revolves, all substantially as set forth.

2. In a mowing-machine, the combination of the shaft I, the arm or tube Q, having attachment Q' mounted and adapted to turn thereon, and also having trunnions on which the shoe is mounted and adapted to turn, and the shoe, all substantially as shown and described, and for the purposes specified.

268,877. MOWING-MACHINE. HORACE R. ALLEN, Indianapolis, Ind. Filed Dec. 27, 1881. (No model.)



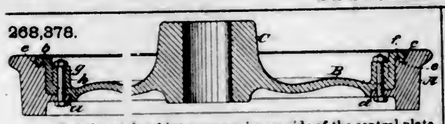
Claim.—1. The combination, in a mowing or like machine, of the axle thereto, a wheel thereon, a shaft running forward from said axle, mounted in a movable bearing at its rear end, and having a wheel on said end, which, by means of said movable bearing, is adapted to become engaged with or disengaged from the wheel on the axle, and provided with an arm on its other end, which is connected with the cutter-bar, a bar or chain connecting said arm and said cutter-bar, and said cutter-bar, whereby when said wheels are engaged and said shaft is thereby rotated said cutter-bar will be lifted, substantially as set forth.

2. The combination of the shaft or axle A and the shaft C, the latter of which runs transversely to the former, and is adapted to be moved, as specified, by means of a sliding bearing at one end, and is connected to the cutter-bar at the other end, both said axle and said shaft being provided with gear-wheels, which are adapted to become engaged with each other, but the one on said shaft being provided with cogs on a portion of its face only, whereby the other is prevented from causing the cutter-bar to be lifted too far, notwithstanding its continued rotation, all substantially as set forth.

268,878. CAR-WHEEL. RICHARD N. ALLEN, Cleveland, Ohio. Filed Aug. 10, 1882. (No model.)

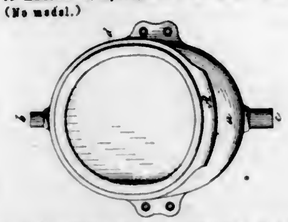
Claim.—A car-wheel composed of a tire, a central plate, and a hub, the tire being provided with an annular inwardly-project-

268,378.



ing web or flange fitted into a recess in one side of the central plate at its periphery, while the opposite side of the central plate is united to the edge of the tire by a tongue-and-groove lock, the tire and the central plate being also firmly secured together by means of bolts passed through the central plate near its periphery and through the web of the tire, substantially as and for the purpose described.

268,379. URINAL. E. FRANCIS BALDWIN, Baltimore, Md., assignor to Andrew G. Myers, New York, N. Y. Filed Mar. 27, 1882. (No model.)



Claim.—1. A urinal having the edge of its bowl provided with an overhanging flange, A, substantially as and for the purpose set forth.

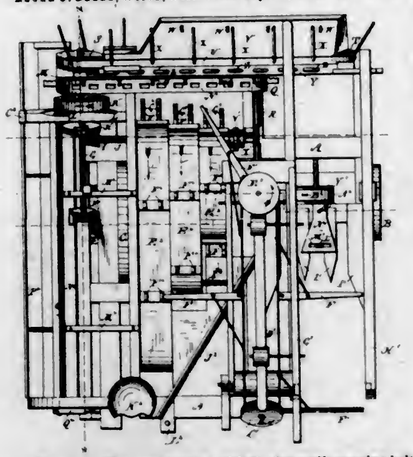
2. A urinal having the edge of its bowl provided with an overhanging flange, A, integral with the bowl, substantially as and for the purpose set forth.

268,380. DEVICE FOR ADJUSTING AND THREADING SEWING-MACHINE NEEDLES. ALBERT BECHTEL and AUGUST BUCHER, Cleveland, Ohio. Filed Apr. 21, 1882. (Model.)



Claim.—For sewing-machines, an attachment consisting of a plate, A, provided with a projecting lip or head and a perforated slitted end rest and flange, *a*, spring E, having on the arm *a'* thereof a point, *b*, and loop, substantially as described, and for the purpose specified.

268,381. SUGAR-CANE CUTTER, STRIPPER, AND HEADER. EDGAR G. BUNDY, Wiota, Wis. Filed Sept. 2, 1882. (No model.)



Claim.—1. The combination, with the forwardly-moving belts K³, having fingers F⁵, of the laterally-moving belt N, having fingers O, with notched edges P, laterally-moving belt U, having long fingers X, and intermediate stationary beam, Y, having inclined fingers Z, as set forth.

2. The combination of forwardly-moving belts E³, having fingers F⁵, vertical angle-board J³, laterally-moving belt N, with serrated fingers O, intermediate stationary beam, Y, with inclined fingers Z, laterally-moving belt U, with long fingers X, inclined platform V, having pins W, rotary cutting-disk K at the side of belt N, and cutting-standard C³, as set forth.

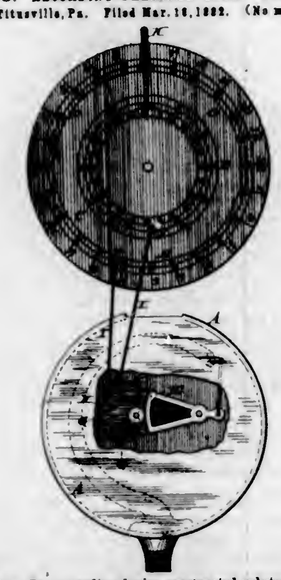
3. The combination of the forwardly-moving belts E³, having fingers F⁵, laterally-moving elevator-belt A³, having pins B³, angle-board J³, fingers I', cutting-block J', oscillated by cam mechanism, and having pin I,' and slotted and pivoted block N', as set forth.

4. The combination of guide-frame H', guides G', belt D', carrying lateral arms F', fingers I', having oscillating cutting-block J', elevator A³, longitudinally and forwardly moving belts E³, angle-board J³, inclined rear platform, V, belts N and U, moving laterally and having pins and stationary central or intermediate beam, Y, having pins Z, as set forth.

268,382. ROOF-PAINT. HENRY H. BURNS, Middlebury, Ind. Filed Aug. 14, 1882. (Specimens.)

Claim.—The herein-described paint compound, consisting of gas-tar, Wisconsin hematitic iron ore, red lead, sulphur, alum, and borax, in about the proportions specified.

268,383. RECORDING PRESSURE-GAGE. HARRIS BURGSTRESS, Titusville, Pa. Filed Mar. 16, 1882. (No model.)



Claim.—In a recording device constructed substantially as described, the segmental plate F, attached to the rack of the gage and having perforations G, in combination with the set-screws H and wires I, carrying markers J, substantially as and for the purpose set forth.

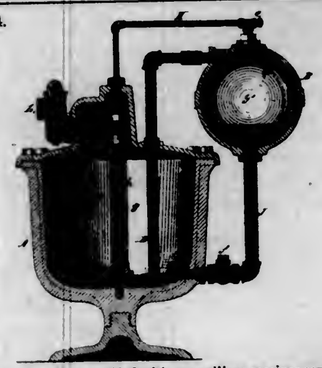
268,384. STEAM-TRAP. JAMES H. BLESSING, Albany, N. Y. Filed Oct. 19, 1882. (No model.)

Claim.—1. The combination, with a closed steam-trap, of an auxiliary water-receiver connected with said steam-trap by two connections, one entering said trap below the lowest water-level in said trap and the other connected with said trap between the highest and lowest level in said trap, thereby allowing the auxiliary vessel to be alternately filled and emptied substantially as described.

2. The combination, with a bucket-trap, of an auxiliary receiver, said auxiliary receiver being connected with the trap by two connections, one outside and the other inside of the rising and falling bucket, substantially as described.

3. A siphon bucket-trap provided with a connecting-pipe between the siphon and an auxiliary receiver connected with said trap, and with a connection from said auxiliary receiver to the water-supply, substantially as described.

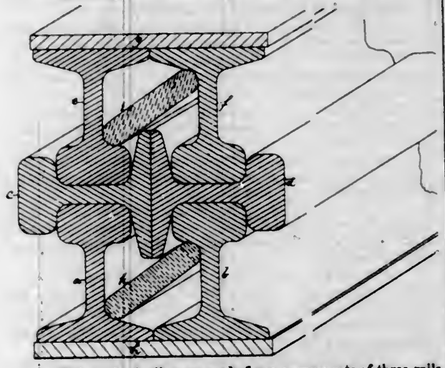
268,384.



4. A steam-trap provided with an auxiliary receiver connected with said trap by two connections entering the trap at different levels, the lower connection being provided with a check-valve opening toward the trap, substantially as described.

5. A steam-trap provided with a rising and falling bucket, a siphon for discharging said bucket, and an auxiliary receiving-vessel located above said trap and adapted to be filled from and to discharge into the said trap, and with the connections shown, whereby said auxiliary vessel discharges into the trap only after the bucket has been substantially emptied, thereby insuring the closing of the equalising steam-valve, substantially as described.

268,385. PILE OF IRON. HENRY W. OESTERLEIN, Pittsburg, Pa., assignor to Carnegie Brothers & Company, (Limited,) same place. Filed May 3, 1882. (No model.)



Claim.—1. A pile composed of one or more sets of three rails each, two of the rails of each set arranged with their heads to the center and abutting against the opposite sides of the web of an interposed rail, substantially as and for the purpose specified.

2. A pile for making I-beams, consisting of two rails placed in their normal position, two rails resting with their webs on the heads of the first two, two rails in an inverted position, and resting by their heads on the webs of second two, and top and bottom pieces, substantially as and for the purposes described.

3. A pile for making I-beams, consisting of six rails arranged as described, and top and bottom and filling pieces, substantially as and for the purposes described.

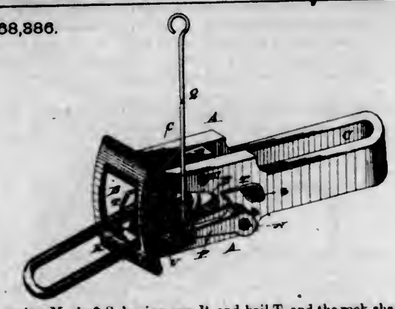
268,386. CAR-COUPLING. GEORGE W. BUTLER, Knoxville, Tenn., assignor of one-half to William B. Shoemaker, same place. Filed July 15, 1882. (No model.)

Claim.—1. The combination, with the draw-head A, having mouth B and slot C, of the pivoted coupling pin or lever D, having curved arm G, provided with notch F, recess H, and plate or body I, having beveled front side, J, and the lever K, having tooth L and spring M, as set forth.

2. The combination, with draw-head A, having mouth B and slot C, of the pivoted coupling-pin D, the lever K, having tooth L, spring M, and the rock-shaft N, having arm O, as set forth.

3. The combination, with the draw-head A, having mouth B and slot C, of the pivoted coupling-pin D, lever K, having tooth

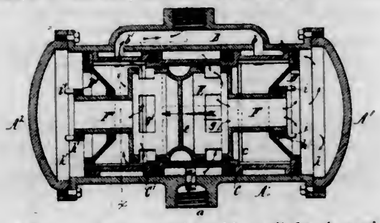
268,386.



L, spring M, shaft S, having arm R, and bail T, and the rock-shaft N, having arm O, as set forth.

4. The combination of the draw-head A, having mouth B and slot C, the pivoted coupling-pin D, lever K, having tooth L, spring M, shaft S, having arm R, and bail T, rock-shaft N, having arm O and crank U', pivoted rod Y, having slot X, hanger V, and lever W, substantially as and for the purpose set forth.

268,387. PISTON WATER-METER. HENRY CHANDLER, Buffalo, N. Y. Filed Aug. 24, 1881. (No model.)



Claim.—1. The combination, with a cylinder, A, provided with an induction-port, *a*, and two eduction-ports, *b b'*, on opposite sides of the center line of the induction-port, of a hollow piston and a divided or double hollow valve arranged within the piston, whereby the liquid is alternately directed into opposite ends of the cylinder and alternately discharged from the eduction-ports, substantially as set forth.

2. The combination, with a cylinder, A, provided with an induction-port, *a*, and eduction-ports *b b'*, of a piston provided with rings C C' and heads D D', and a divided or double valve, E, having ports *g g'* and open ends F F', substantially as set forth.

3. The combination, with a cylinder, A, provided with an induction-port, *a*, and two eduction-ports, *b b'*, of a hollow piston, C C' D D', and a divided or double valve, E, sliding in the piston and provided with tubular ends F F', seated against the heads of the hollow piston, substantially as set forth.

4. The combination, with a cylinder, A, provided with an induction-port, *a*, and two eduction-ports, *b b'*, of a piston provided with rings C C', and heads D D', a valve, E, provided with a central partition, *c*, ports *g g'*, and tubular ends F F', the latter projecting through openings in the heads D D' and provided with collars *h h'*, substantially as set forth.

5. The combination, with the cylinder A and a piston connected at its ends with annular heads D D', of recesses *k k'*, formed at both ends of the cylinder and made wider and deeper than the annular heads D D', whereby when one of said heads projects into one of the recesses *k k'* at the end of the stroke a communication is established around the head between the spaces on the front and rear sides thereof, substantially as set forth.

6. The combination, with a cylinder having an induction-port, *a*, and a piston provided with rings C C', of a divided or double valve, E, provided with ports *g g'* on opposite sides of its partition, the ports being adapted to be opened on one side before they are entirely closed on the other side, substantially as set forth.

7. The combination, with a cylinder, A, provided with an induction-port, *a*, and eduction-ports *b b'*, of a piston provided with rings C C' and dished heads D D', all connected by bars *c*, and a divided or double valve, E, composed of an enlarged middle portion sliding in the rings C C' and provided with ports *g g'*, and contracted tubular end portions F F', sliding in the heads D D', substantially as set forth.

8. The combination, with a cylinder, A, provided with an in-

duction-port, *a*, and eduction-ports *b b'*, of a hollow piston, C C' D D', and a hollow divided or double valve, E, arranged to slide in said piston and adapted to have its movement arrested before the piston closes the eduction-ports, substantially as set forth.

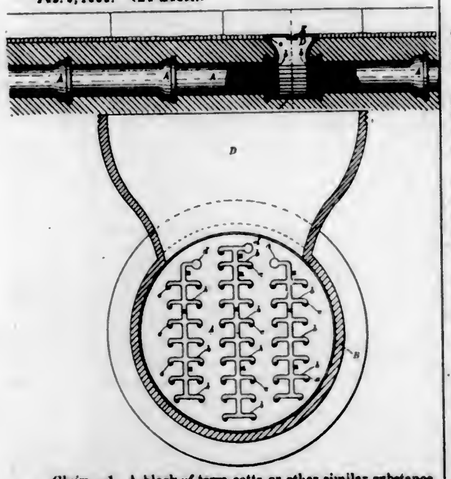
268,388. CRUET FOR POWDERED CONDIMENTS. WILLIAM A. COLLINS, Madison, Ind. Filed July 15, 1882. (No model.)



Claim.—1. As an improved article of manufacture, a table-cruet made wholly from glass or other non-oxidizable material, having its perforated cap formed in one with the body and provided with a filling-aperture in its bottom, substantially as and for the purposes set forth.

2. As an improved article of manufacture, a table-cruet made wholly from glass or other non-oxidizable material, having its perforated cap formed in one with the body, and filling-aperture formed in its bottom, and having its bottom exteriorly hollowed to form a funnel and interiorly rounded to the margin of the filling-aperture, substantially as and for the purposes set forth.

268,389. MEANS FOR CARRYING AND CONDUCTING ELECTRIC WIRES. WILLIAM M. CONWAY, Baltimore, Md. Filed Feb. 8, 1882. (No model.)



Claim.—1. A block of terra-cotta or other similar substance, adapted for attachment to a similar block to form a continuous line having a series of longitudinally-extending channels, which consist of vertical leading slots, both ends of which terminate at points within the cross-sectional area of the block, with lateral branches ending in wire pockets or recesses, substantially as specified.

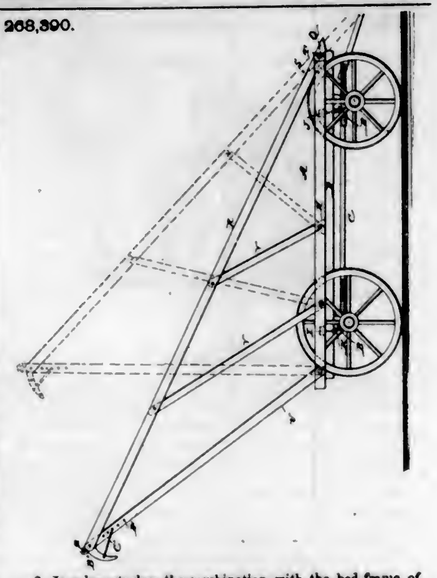
2. A wire conducting and isolating block provided with vertical leaders and lateral branches, and having an enlarged channel connected with said leaders at some suitable point to form a threading or entrance opening, substantially as specified.

268,390. HAY-STACKER. JOSEPH DAIN, Jr., Mendville, Mo. Filed June 20, 1882. (No model.)

Claim.—1. In a hay-stacker, the combination, with the running-gear of a wagon, of the bed-frame consisting of sills supported longitudinally upon the bolsters of said running-gear, cross-pieces mounted upon said sills, and side pieces secured to said cross-pieces outside the wagon-wheels, as set forth.

2. The combination of the running-gear, the bed-frame constructed as described, the cross-pieces resting upon the sills and having hooks catching around the reach and bolster, and nuts for tightening and securing said hooks.

268,390.



3. In a hay-stacker, the combination, with the bed-frame, of an inclined track consisting of rails or beams and braces or uprights to which said rails are pivoted, the lower ends of said braces being pivoted to the bed-frame, as set forth.

4. The combination of the bed-frame, the uprights and braces pivoted thereto, the U-shaped hooks or brackets at the front corners of said bed-frame, and the inclined track-rails pivoted to the upper ends of said uprights and braces, and resting in said hooks or brackets, as set forth.

5. In a hay-stacker, the combination, with the bed-frame having U-shaped hooks or brackets, of the inclined swinging track-rails, arranged substantially as described, and having perforations at their lower ends, and bolts by which said track-rails may be secured in said U-shaped brackets in any position to which they may be adjusted, as set forth.

6. In a hay-stacker, the combination, with the inclined track-rails, of curved extensions hinged to the upper ends of the same, and hinged adjustable rods by which said extensions may be adjusted and supported in any desired position, as set forth.

7. In a hay-stacker, the combination of the inclined track, the bed-frame, beams pivoted to the rear ends of the latter, and the carrier traveling upon the inclined track, and having rearwardly-extending arms sliding longitudinally upon said pivoted beams, as set forth.

8. The combination of the bed-frame, the carrier having rearwardly-extending arms, beams pivoted at the rear corners of the bed-frame, castings on said arms and beams, and friction-rollers mounted in said castings above and below said arms and beams, as set forth.

9. The combination of the inclined track, the bed-frame, the beams pivoted at the rear corners of the latter, the carrier-arms sliding longitudinally upon said beams, the shaft connecting said carrier-arms, the flanged wheels mounted upon said shaft and traveling upon the track, the carrier-frame, and the pitcher-tooth frame hinged between the carrier-arms, and having flanged wheels traveling upon the track, as set forth.

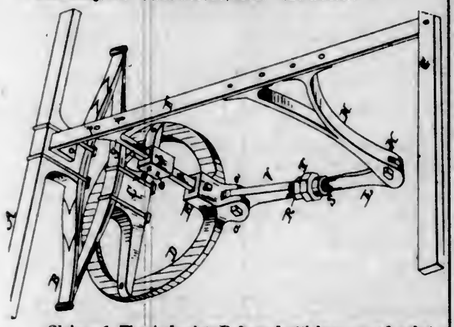
10. The combination of the inclined track-rails, the curved extensions hinged adjustably at the upper ends of the same, the carrier, and the pitcher-tooth frame hinged between the arms of the latter, and having flanged track-wheels, as set forth.

11. In a hay-stacker, the combination, with the running-gear and the bed-frame, of braces hinged under the rear end of said bed-frame, and adapted to be folded up under the same when the machine is being moved, as set forth.

12. The combination of the running-gear, the bed-frame mounted on the same, supports pivoted to said bed-frame, the inclined track pivoted to said supports, the beams hinged at the rear end of the bed-frame, the carrier having arms sliding upon said beams, track-wheels mounted on said arms, a hinged toothed frame, wheels thereon traveling on the track, and curved extensions hinged adjustably at the upper end of said track, as set forth.

13. The herein-described improved hay-stacker, consisting essentially of the running-gear, the bed-frame, sheaves P P at the rear end thereof, the swinging inclined track having adjustable curved extensions, friction-pulleys at the top of said track, beams pivoted at the rear end of the bed-frame, the carrier having rearwardly-extending arms sliding upon said beams, flanged and grooved track-wheels mounted upon said arms, the hinged toothed frame, track-wheels mounted on said frame, and hoisting-ropes secured at the upper corners of the track, passed under the grooved track-wheels of the carrier over the pulleys at the top of the track, and finally over one of the two sheaves at the rear end of the bed-frame, as set forth.

268,391. RUNNING-GEAR FOR VEHICLES. JOHN G. EBERT, Pittsburg, Pa. Filed Feb. 27, 1882. (No model.)

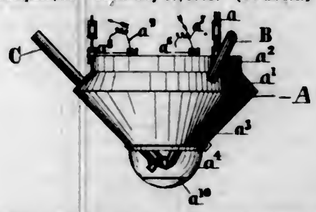


Claim.—1. The circle-plate D, formed with lugs *a a*, and socket E, in combination with sleeve *b*, screws *c*, vertical bars *f* and *g*, reach F, bracket H, hinged rods L V, and right-and-left-hand screw-nut T, as shown and described.

2. The circle-plate D, formed with lugs *a a*, and socket E, sleeve *b*, and adjustable bars *f g*, head-block C, spring B, and bar A, in combination with reach F, provided with bracket H, placed so as to allow the front wheels to turn in behind it, hinged rods L V, and adjusting right-and-left-hand screw-nut T, substantially as shown and described.

3. The reach F and bracket H, provided with a hinge, K, in combination with the rod L, right-and-left-hand screw-nut T, and rod V, pivoted to the circle-plate D, as shown and set forth.

268,392. ELECTRIC-ARC LAMP. NATHAN H. EDGERTON, Philadelphia, Pa. Filed May 15, 1882. (No model.)



Claim.—1. In combination with a proper supporting-frame, three inclined guiding-tubes converging to a central point, and positive and negative carbons contained in the tubes, having suitable electrical connections, as described.

2. An electric lamp, substantially as described, having a supporting-frame with three inclined guiding-tubes containing positive and negative carbons, substantially as described, and mechanism, substantially as described, for separating the point of the negative carbon from the points of the positive carbon, as set forth.

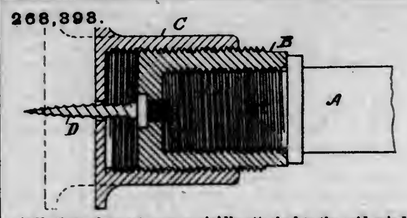
3. In combination with the helices D D, having the cores *d d* and connecting-bar d^3, the pivoted clamping-plate d^2, adapted to inclose the carbon, as and for the purpose described.

4. The electro-magnet E, interposed between the helices D D and the negative terminal *c'*, with its lever F, or equivalent device, and the graphite rod G, connecting with the positive side of the lamp, substantially as shown and described.

268,393. SPINDLE FOR TURNING-LATHES. FRANK W. EVANS, Newburyport, Mass. Filed July 24, 1882. (No model.)

Claim.—1. In a turning-lathe, and in combination with the

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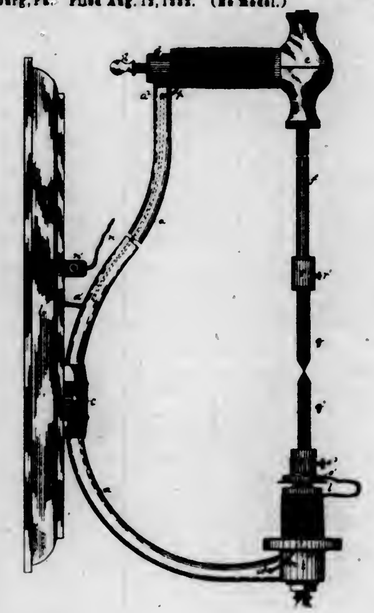
spindle thereof, a center-screw rigidly attached to the said spindle, and an adjusting face-plate centrally perforated for the passage of the center-screw and adapted to screw onto the lathe-spindle or its equivalent and over the central screw, whereby the length of the central screw projecting from the face-plate may be graduated, substantially as described.

2. The combination, in a turning-lathe, of the center-screw D, rigidly attached, either directly or by means of an intermediate sleeve, B, to the lathe-spindle A, but capable of detachment therefrom, with the adjusting centrally-perforated face-plate C, surrounding the said center-screw, and adjustably attached by means of an internal thread to the lathe-spindle A or to the screw-holding sleeve B, substantially as hereinbefore described, and for the purpose set forth.

3. In a turning-lathe, the combination, substantially as hereinbefore set forth, of a center-screw, a holder therefor, consisting of a sleeve adapted by means of an internal screw-thread for rigid attachment to the lathe-spindle, and having also a screw-thread on its external surface, and an adjusting or adjustable face-plate having a hole at its center for the passage of the center-screw, and furnished with an internal thread, whereby it may be screwed to any required extent upon the holder, thus graduating the external length of the center-screw.

4. The combination, in a turning-lathe substantially as hereinbefore described, of the center-screw D and screw-holding sleeve B, rigidly attached to the lathe-spindle, the centrally-perforated face-plate C, threaded for adjustable attachment to the screw-holding sleeve, and adapted to turn thereon and move over the center-screw and to graduate its external length, and the jam or set nut E, also fitting the screw-holding sleeve and provided with an internal thread of opposite direction to that of the face-plate, whereby it is caused to move oppositely thereto, for the purpose set forth.

268,394. ELECTRIC-ARC LAMP. JOSEPH R. FINNEY, Pittsburg, Pa. Filed Aug. 12, 1882. (No model.)

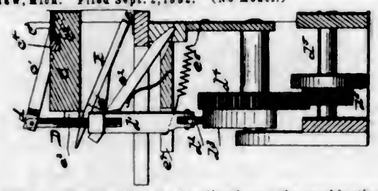


Claim.—1. In an electric-arc lamp, the combination of a carbon-feed rod loosely inserted in a sleeve, with a core of an electro-magnet entering the sleeve in close contiguity to but not in contact with the feed-rod, substantially as and for the purposes described.

2. In an electric-arc lamp, the combination of a carbon-feed rod loosely inserted in a sleeve, with an electro-magnet having an adjustable core, which enters the bore of said sleeve, substantially as and for the purposes described.

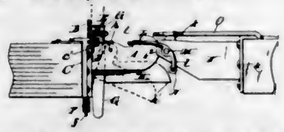
3. In an electric-arc lamp, the combination of a carbon-feed rod loosely inserted in a sleeve, having a bore somewhat larger than the diameter of the rod, with a contact-spring secured in the bore by means of a collar, substantially as and for the purposes described.

268,395. BARREL-HOOP MACHINE. EZRA C. FLINT, Saginaw, Mich. Filed Sept. 2, 1882. (No model.)



Claim.—In a machine for beveling hoops, the combination, with the sliding frame B, carrying the main knife *b* and lapping-knives *b'* *b'*, operated by the pitman *f*⁵, of the bed-timber C, having grooves *c*² *c*², wedge *c'*, and tilting frame *c''*, the adjustable rod *d'*, screw-threaded rod D, foot-lever E, spring-pawl *e*³, spring-catch *e*², cam-gear wheel *d*⁴, meshing with the pinion *d*³, eccentric *f'*, having pitman *f*⁵, by means of which the knife-frame is operated, the whole as described, and for the purpose set forth.

268,396. CAR-COUPLING. THOMAS C. GARLINGTON, Dadeville, Ala. Filed July 14, 1882. (No model.)



Claim.—1. In a car-coupler, the combination of a draw-head having a hook for engaging with a link and a lower projecting face with a draw-head having a link hinged near its center, and constructed with an upper arm which engages with the hook of the opposite draw-head, and a lower arm which strikes the lower projecting face of the said opposite draw-head, as and for the purpose set forth.

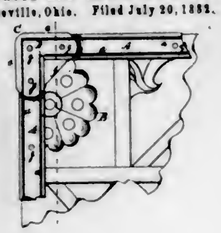
2. In a car-coupler, the combination, with the draw-head A, of the pivoted plate H and key G, as and for the purpose set forth.

3. In a car-coupler, the combination, with the draw-head K, of a link, L, pivoted on a pin, M, and constructed with the coupling end *l* and the lower arm, *l'*, as and for the purpose set forth.

4. In a car-coupler, the combination, with the draw-head K, of a link, L, pivoted on a pin, M, having the coupling end *l* and the lower arm, *l'*, together with the spring-holder O, as and for the purpose set forth.

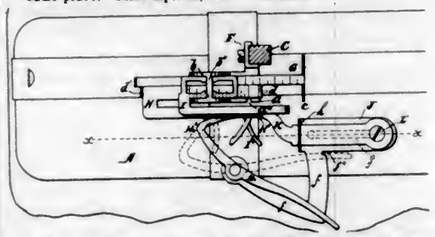
5. In a car-coupler, the draw-head A and plate B, in combination with the back plate C, having flanges *c*, with a locking device for fastening said draw-head plate, and a lever for raising the same, all substantially as and for the purpose set forth.

268,397. OIL-CLOTH AND CARPET FASTENER. JAMES T. GILMORE, Painesville, Ohio. Filed July 20, 1881. (Model.)



Claim.—In combination with the binding-strips A A, a corner cap adapted to fit down upon and cover the corner junction of the said strips, and having its outer edge bent downward, forming a flange, *c*, and a depressed interior edge, *f*, substantially as set forth.

268,398. PLAITER FOR SEWING-MACHINES. JOHN M. GRIMM, Chicago, Ill., assignor of one-half to Walter Seates, same place. Filed Apr. 20, 1881. (Model.)



Claim.—1. The combination, in a tucker or plaiter consisting of two independent groups or parts, one adapted for attachment to the presser-foot bar of a sewing-machine and the other for connection to the cloth-plate, of a fixed horn or folder in the upper group and a horn or folder movably connected to a base-plate in the lower group, and arranged, substantially as described, to permit its working end to be moved to and from the upper folder in or nearly in a line extending across the fold, substantially as and for the purposes specified.

2. The combination, in a tucker or plaiter, of the adjustable scroll H' and the fixed horn or folder I' on the bent plate I, substantially as shown and described, and for the purposes set forth.

3. The combination, in a tucker or plaiter, of the adjustable scroll H' and the horn or folder M M', pivoted to an adjustable base-plate, substantially as and for the purposes specified.

4. The combination, in a tucker or plaiter, of the scroll-plate K, arranged to lie below the goods, the fastening-screw L, passing through the said plate, the fixed horn or holder I', arranged to lie above the goods, and the slotted plate J, having an arm carrying the pivoted horned arm M', substantially as and for the purposes specified.

5. The combination, in a tucker or plaiter, of the fixed horn or folder I' and the scroll K', the said scroll being adapted and arranged to hold the fold against the said folder as the goods pass through the attachment and confine the material in its passage around the folder, substantially as shown and described, and for the purposes set forth.

6. The combination, in a tucker or plaiter, of the fixed horn or folder I', arranged to lie above the goods, the scroll K', arranged to lie below the goods, and the adjustable horn or folder M', lying above the folder I', all adapted and arranged to confine the goods and prevent them from leaving the folders, substantially as and for the purposes specified.

7. The combination, in a tucker or plaiter, of the adjustable horn or folder M', arranged to lie below the goods and in the tuck or fold, the fixed scroll H', arranged to receive the folded edges of the goods, and the fixed horn or folder I', arranged below the scroll H', and arranged to lie over the goods and underneath the folds, substantially as and for the purposes specified.

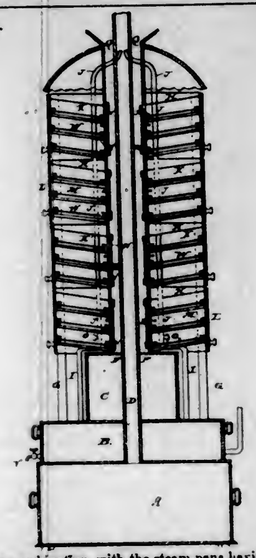
8. The combination, in a tucker or plaiter, of the fixed horn or folder I', the adjustable horn or folder M', the fixed scroll H', and the adjustable scroll K', all arranged substantially as specified with relation to each other, for the purposes set forth.

9. The combination, in a tucker or plaiter, of the fixed horn or folder I', the scroll K', adapted to be made stationary with relation to the said horn by means of a fastening-screw passing through the plate, of which the said scroll is a part, and adapted and arranged to connect the said scroll to the cloth-plate of a sewing-machine, and in the position shown and described with relation to the said horn, the adjustable horn or holder M', and the fixed scroll H', as and for the purposes set forth.

268,399. FRUIT-DRIER. JOHN C. GUNN, Knoxville, Tenn. Filed Sept. 22, 1882. (No model.)

Claim.—1. In a fruit-drier, the combination of the stove A, boiler B, water-heater C, arranged as described, stove-pipe D, extending through said boiler and water-heater, hot-air pipe E, inclosing said stove-pipe, and having registers F N and vents Q, the steam-pans H, and the steam-pipes J I, all arranged and operating substantially as described.

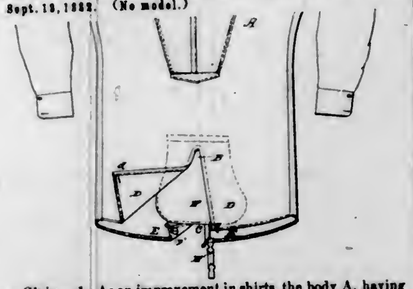
268,399.



2. The combination, with the steam-pans having central vertical partitions, of the steam-pipes J I, arranged as described, the latter having cocks O, and of the boiler, as and for the purpose set forth.

3. The combination of the stove, boiler, water-heater, stove-pipe, and hot-air pipe, all arranged as described, with the steam-pans H, the pipes I, having cocks O, the pipes J, the upper ends of which extend into the stove-pipe, the doors L, and the sieves or screens W, all arranged and operating as and for the purpose set forth.

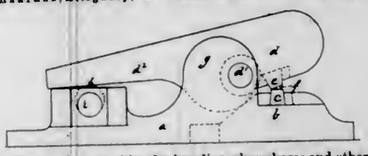
268,400. SHIRT. JOHN C. GUNN, Knoxville, Tenn. Filed Sept. 19, 1882. (No model.)



Claim.—1. As an improvement in shirts, the body A, having vertical slits B C in its front and rear sides, respectively, in combination with suitable means for connecting the edges *d d* and *e e* of the flaps D and E thus formed, as set forth.

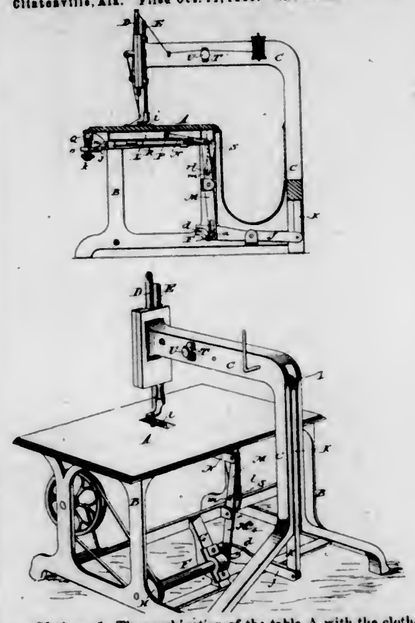
2. As an improvement in shirts, the body A, having slits B C in its front and rear sides, respectively, in combination with the fly or apron F, secured directly over the front slit, B, as set forth.

268,401. MACHINE FOR SHARPENING THE EDGES OF PLOWSHARES AND OTHER PLOW-STEELS. EDWARD S. HARTMAN, Allegheny, Pa. Filed June 5, 1882. (No model.)



Claim.—In a machine for beveling plow-shares and other implements, the combination of a bed or anvil die having a beveled face and a rocking die having a beveled face, the latter carried by a pivoted lever and arranged above the bed-die to coact therewith, substantially as and for the purpose specified.

268,402. SEWING-MACHINE. WASHINGTON J. HATCHER, Clintonville, Ala. Filed Oct. 11, 1880. (No model.)



Claim.—1. The combination of the table A with the cloth-feeding device, an overhanging arm, C, sustained independently of and at a distance from the table, the needle and presser-foot mounted in said arm, the treadle mounted beneath the table, the crank-shaft F, connected with and driven from the treadle, the vertical lever M, communicating with the feed device, and the horizontal lever J, lying adjacent to the floor and communicating through the overhanging arm with the needle-operating devices.

2. The combination of the cloth-supporting table, provided with the feed mechanism, the independently-supported overhanging arm located at a distance from the table and having a needle-bar mounted therein, the treadle, the pitman and wheel connected therewith, the shaft F, belted to said wheel and provided with crank *a*, the vertical feed-operating lever M, the horizontal needle-operating lever J, and the lever K, extending vertically within the overhanging standard to operate the needle.

3. In combination with the crank *a* and lever M, the short lever S, connected with the feed-slide and actuated by the lever M in the manner shown and described.

4. The herein-described feeding device, consisting of the slide P, provided with the lug *h*, having an inclined slot, the slide O, provided with the dog *i*, and connected to slide P by a pin passing transversely through said inclined slot, and means, substantially such as described, for moving the slide P longitudinally.

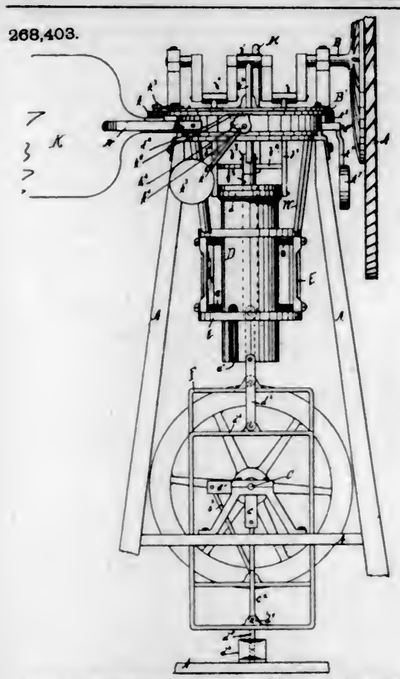
5. The combination of the bar *o*, the reciprocating bar P, provided with the inclined slot *g*, link *j*, rock-shaft Q, threaded sleeve-arm *n*, the actuating-pitman R, lever S, lever N, and crank-shaft F, as described and shown.

268,403. WINDMILL. CHRISTIAN C. HILL and LUDVIG PETTERSEN, Chicago, Ill., assignors to themselves and Samuel K. White, same place. Filed Mar. 28, 1881. (Model.)

Claim.—1. The combination of the upper and lower crank-shafts, with a pitman-rod journaled to each of said crank-shafts, and a swivel-connection connecting the extremities of said pitman-rods, said connection, independent of the pitman-rods, being equal in length to the distance between said crank-shafts, substantially as specified.

2. The combination of shaft B, provided with cranks *b b' b*², pitman-rods *b*³ *b*⁴ *b*⁵, collar *d*, hollow tube D, piston-rod *b*⁵, provided

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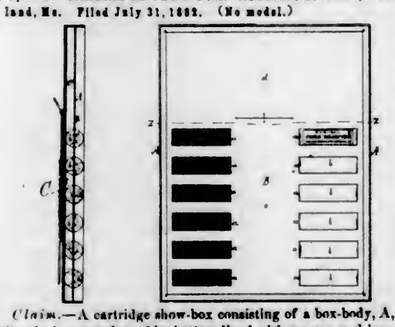
with a swivel-connection with piston-rod b^4, frames d^3 and F, pitman-rods c^3 c^4, and shaft C, provided with cranks c and c', all arranged and combined substantially as described.

3. The combination of the turn-table, provided with an interior ring, H, the tubular casting W, provided with exterior shoulder or track, g', and friction-rollers g, substantially as specified.

4. The combination of the turn-table, provided with an interior ring, H, tubular casting W, provided with exterior shoulder or track, g', casting G, provided with projection h', and friction-rollers g and g^3, all arranged and operating substantially as specified.

5. The combination of the turn-table, movable cogged ring k^2, segment-gears k^3, provided with weighted arms, tail-vane provided with pinion k, and governing-vane, substantially as specified.

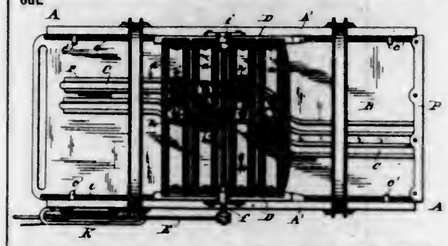
268,404. CARTRIDGE SHOW-BOX. AURELIUS S. HINDS, Portland, Me. Filed July 31, 1882. (No model.)



Claim.—A cartridge show-box consisting of a box-body, A, having the inner surface of its bottom lined with paper e, and having in the box, over the lining and parallel therewith, a partition, B, provided with cartridge-holding openings a and with advertising-spaces c d, the box being adapted to be supported on one end and by the leg C, and all being substantially as shown and described.

268,405. WOOD-SHAPING MACHINE. JOHN W. HUDSON, Wellington, Ill. Filed June 15, 1882. (No model.)

Brief.—The invention consists, first, in a peculiar arrangement of movable revolving spindles carrying the cutting or finishing heads and moved to conform to the shape of the work by camways in a reciprocating table, on which the work is placed, and, second, in a double set of movable spindles, one set of which is provided with cutting and the other with finishing heads, and so arranged that while one is in position for work the other is thrown out.



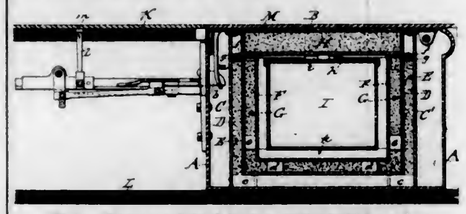
Claim.—1. A double set of movable revolving spindles moved to conform to the shape desired by camways in a reciprocating table, one set provided with cutting-heads and the other with smoothing or finishing heads, in combination with a lever whereby one set is thrown out of and the other into position for work, substantially as described and shown.

2. In combination with the movable revolving spindles S S', a reciprocating table, B, composed of the upper and lower plates, B' B', provided with camways C, and so constructed that it may be reversed for cutting right and left forms, substantially as shown and described.

3. The combination of the frame A, bars a a', sliding bearings d d', spindles S S', journaled in said bearings, hand-lever E, oscillating levers L L, connected by rod f, and the cross-bars e', and links e^2, connecting the sliding bearings and oscillating levers, substantially as and for the purpose described.

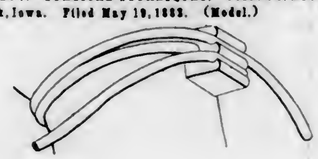
4. The combination of the frame A, having grooved pieces c c and projections c c', the reciprocating table B, composed of the top and bottom plates, B' B', having suitable connections or braces, b b', and V-shaped ways e e, the camways C C, located on the plates B B', and bounded by adjustable steel plates p p, the spindles S S', journaled in bearings adapted to slide on bars extending across the machine above and below the table B, the upper bearings having a vertical adjustment, and said spindles being provided with suitable shaping and finishing cutters, the adjustable pressure-yoke K, spring pressure-rollers R R, and suitable actuating mechanism, substantially as shown and described.

268,406. FIRE AND BURGLAR PROOF SAFE. NICHOLAS HURVUN, Kenosha, Wis. Filed Apr. 6, 1881. (Model.)



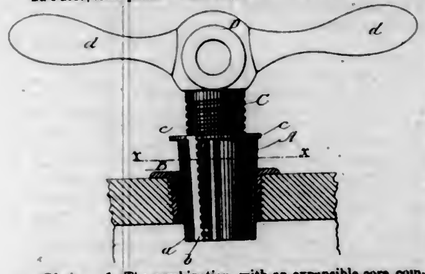
Claim.—In a concealed safe having exterior locking mechanism, the combination of exterior shell, A, having transverse end partitions, C C', box D, having crossed spacing-strips c at its bottom, and box F, having spacing-strips d and e, and open top, with the plate f, secured to box D, and extending across the tops of boxes D and F, and cover B, having box or case H on its under side, all substantially as and for the purpose set forth.

268,407. SURGICAL TOURNIQUET. JOSEPH C. HUGHES, Keokuk, Iowa. Filed May 19, 1882. (Model.)



Claim.—A tourniquet composed of a rubber tube or cord, in combination with a block having a single central perforation, and grooves upon the surface for receiving and retaining said tube or cord when forced therein.

268,408. WRENCH FOR BUNG-BUSHINGS. WILLIAM W. JACKSON, Chicago, Ill., assignor of one-fourth to William B. La Parle, same place. Filed Sept. 29, 1882. (No model.)



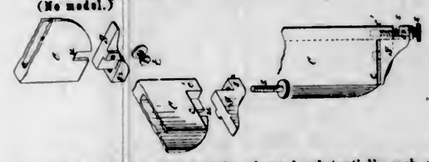
Claim.—1. The combination, with an expansible core composed of a single piece and provided with internal screw-threads, of a correspondingly-screw-threaded tightener fitting in and adapted to expand said core, substantially as described.

2. The combination, with a hollow truncated cone-shaped expansible core provided with internal screw-threads, of a tapering screw-tightener operating in and adapted to expand said core, substantially as and for the purpose described.

3. The combination, with the internally-screw-threaded expansible core, of a tapering screw-threaded tightener operating in said core, and provided with the rigid and short levers d d and with a removable long lever, substantially as described.

4. In a bung-bushing wrench, a hollow truncated cone-shaped core adapted to be fitted in the bushing and provided with a single longitudinal slot extending from end to end, and with a flange on its upper and base end, substantially as and for the purpose described.

268,409. TYPE-CONTAINING CHANNEL. LOUIS K. JOHNSON and A. AUGUSTUS LOW, Brooklyn, N. Y. Filed Mar. 31, 1882. (No model.)



Claim.—1. A type-containing channel substantially such as and for the purpose designated, formed with a type-supporting shoulder, which is adjustable upon and with relation to the lower extremity of the said channel, for the purpose set forth.

2. In a type-containing channel substantially such as herein designated, the adjusting and supporting screw s, engaging with the spine of the containing-channel, in combination with the type-supporting shoulder S, mounted thereon, and the lower edge of the front wall of the containing-channel, substantially in the manner and for the purpose described.

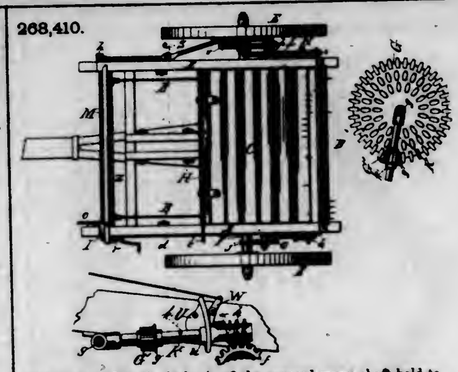
3. In a type-containing channel substantially such as herein designated, the set-screw t, attached to the type-supporting shoulder S, in combination with the latter and the lower edge of the front wall, and the longitudinal slot u, formed in the rear wall of the said channel, substantially in the manner and for the purpose described.

268,410. FERTILIZER-DISTRIBUTER. JOSEPH S. KNIP, Magog, Quebec, Canada. Filed Dec. 24, 1881. (No model.)

Claim.—1. The combination, with the rotating drive-axle of a fertilizer-distributer, provided with a spur-pinion, and a movable bottom and its actuating-shaft, having a worm-gear secured to one end thereof, of a worm-shaft provided with a worm to mesh with the worm-gear, and having a spur-pinion capable of longitudinal adjustment on said shaft, but prevented from revolving thereon, and the wheel G, journaled to the body A and having teeth on its periphery to mesh with the spur-pinion on the drive-axle, and provided with two or more concentric series of cogs on one of its sides, substantially as and for the purpose set forth.

2. The combination, with the wheel G, removably held on the

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stud g, secured to the body A, of the squared worm-shaft held to the stud g and provided with the pin, as shown, and the spur-pinion free to move longitudinally on said squared shaft and having the flange, substantially as described, and for the purpose set forth.

3. The combination, with the rotating drive-axle of a fertilizer-distributer, provided with a pinion, and a movable bottom and its actuating-shaft, having a worm-gear secured to one end thereof, of a squared worm-shaft provided with a worm to mesh with the worm-gear, a pin, as shown, and a spur-pinion free to move longitudinally on said squared shaft and having a collar or flange, g', and the wheel G, removably held on the stud g, secured to the body A, having teeth on its periphery to mesh with the spur-pinion on the drive-axle, and provided with two or more concentric series of cogs on one of its sides, substantially as shown and described, and for the purpose set forth.

4. The combination, with the movable bottom and its actuating-shaft, provided with worm-gear wheel, of the worm-shaft adapted to be moved on its stud in a vertical plane, and provided with the worm and slotted sleeve, the slotted sector, and the bell-crank lever connected to the slotted-sleeve, and having a bar extending to the forward part of the body, as shown and described, and for the purpose set forth.

5. The shaft M, having the crank-arm, the slotted bar provided with the coil-spring, the bell-crank lever, the movable worm-shaft provided with the sleeve, the bottom-actuating shaft provided with the worm-gear wheel, and the movable bottom, in combination, for the purpose set forth.

6. The stop-wheel, the shaft M, provided with the crank-arm, the connecting-rod Y, and lever y, having the projection y', in combination, substantially as shown and described, and for the purpose set forth.

268,411. MOVABLE DAM. ARTHUR KIRK, Sharpsburg, Pa. Filed May 31, 1881. (No model.)

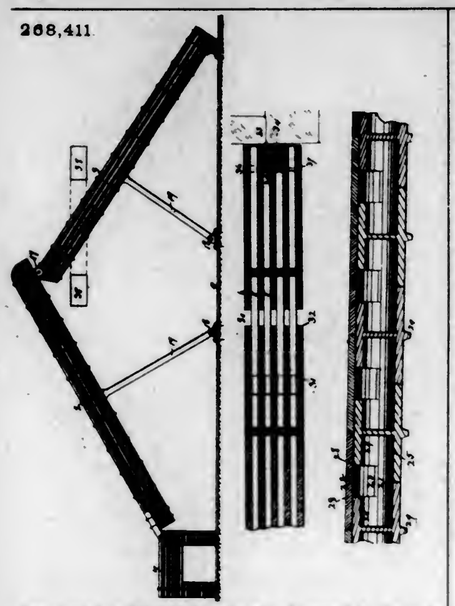
Brief.—The dam-foundation consists of several floors, the intervening spaces being divided into compartments by partitions of boards laid across each other at intervals, cement being placed between said boards, the compartments being loaded. The upper floor extends beyond the substructure to prevent wash. A sluice extends from under the gates to relieve them from undue pressure. The wickets are operated through fluid-pressure acting upon pistons, and all controlled from a common center. Hinged props under the gates support them for repairs. The gates are in sections, having telescopic joints to compensate for settling of the foundation. The hinges consist of double pintles working in the adjacent ends of double-ended sleeves, the sleeves having a central strengthening portion. The position of the wings is indicated by a signal-lantern controlled by their rise or fall. Wooden screw-bolts are employed to secure the timbers together.

Claim.—1. A dam-foundation constructed of several floors having intervening spaces divided into compartments by partitions formed of boards laid to cross each other at intervals and cemented between, and the compartments filled with stone or other suitable substance, substantially as and for the purposes described.

2. A dam-foundation composed of two or more floors, the space between the floors being filled with stone or like material, and the upper floor extending beyond the substructure to prevent the wash and percolation of the water from undercutting the foundation, substantially as specified.

3. A dam-gate hinge consisting of a double journal or pintle bolted to one part, working in the adjacent ends of a double-ended sleeve secured to the other part on each side of it, said sleeve hav-

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ing a central partition to strengthen it and separate the two ends of the adjacent pintles, substantially as and for the purposes described.

4. A rising dam gate or gates provided with a telescoping joint, substantially as and for the purposes described.

5. The combination, with a dam-gate and its abutment, of a movable timber-piece running transversely of the gate, and means, substantially as specified, for exerting a yielding pressure on the movable timber-piece, whereby a tight joint between the abutment and gate is obtained, substantially as and for the purpose specified.

6. A bear-trap dam having a relieving or open sluice extending from under the gates, so as to relieve them from unnecessary pressure, substantially as and for the purposes described.

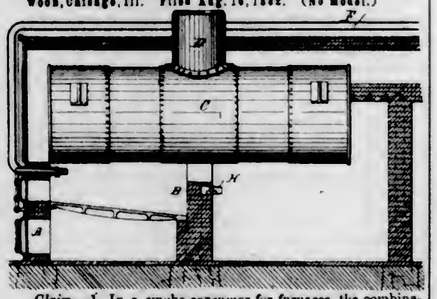
7. A rising dam provided with hinged supports under the gates, substantially as and for the purposes described.

8. The combination of the wicket-stems with pistons connected thereto, cylinders, pipes leading to a common central office, and controlling-valves, whereby all the wickets may be operated by liquid or fluid pressure from a common center, substantially as and for the purposes described.

9. The combination of a rising dam with a signal chain or cord attached thereto, and a lantern or other signal to indicate the condition of the dam by its change of position, substantially as and for the purposes described.

10. A wooden dam or foundation the courses of which are fastened by wooden screw-bolts, substantially as and for the purposes described.

268,412. SMOKE-CONSUMER FOR FURNACES. THOMAS KIRKWOOD, Chicago, Ill. Filed Aug. 16, 1882. (No model.)



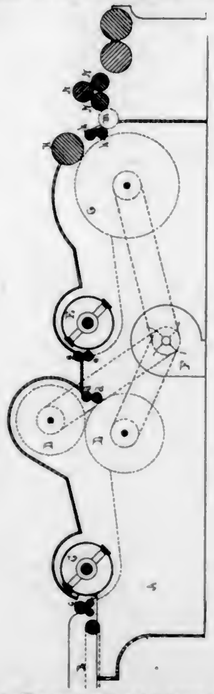
Claim.—1. In a smoke-consumer for furnaces, the combination of the detachable box E, having its front wall provided with openings at intervals, pipe F, leading from the exterior air to the interior of said box, pipe G, leading from the dome of the boiler to the interior of said box, and pipe G′, connected to the pipe G and lying along the front wall of the box, and provided with openings e′ in line with the openings in the front wall of the box, substantially as described.

2. In a smoke-consumer for furnaces, the box E, having its front wall, *f*, provided with openings e, having grooves *h*, in combination with the air-pipe F, steam-pipe G, and perforated steam-pipe G′, having its perforations e′ in line with the openings e, substantially as described.

3. In a smoke-consumer for furnaces, the box E, formed in two parts, *s* and *s′*, keyed together by a bolt, *p*, and having its inner wall, *f*, curved and provided with rifled openings e, and its rear wall provided with a hollow square attachment, *t*, for securing the box to the front wall of the furnace, in combination with the air-pipe F, leading into the said attachment, steam-pipe G, passing from the dome of the boiler and through the attachment *t* nearly to the inner wall, *f*, and steam-pipe G′, connecting with the steam-pipe G, supported in position along the wall *f*, and provided with perforations e′ in line with the openings e, substantially as described.

268,413. COTTON OPENER AND LAPPER. RICHARD KITSON, Lowell, Mass., assignor, by direct and mesne assignments, to the Kitson Machine Company and the Whitehead & Atherton Machine Company, both of same place. Filed May 21, 1881. (No model.)

Brief.—The cotton, as it passes from the beater, is collected upon a pair of lap-forming cages, and from thence passed in the form of a lap to a second beater, by which it is again opened, and from it introduced to a single lap-forming collecting-cage.

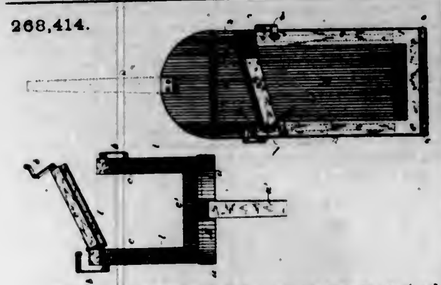


Claim.—1. The combination of a beater and a pair of lap-forming cages and draw-off rolls with a subsequent beater and single final-delivery collecting-cage and draw-off rolls, substantially as described.

2. The combination of the beater C with the collecting-cage G, and the collecting-cages D D, and beater E, which two latter are placed between the two former, substantially as and for the purpose described.

268,414. BOSOM BOARD AND STRETCHER. WILLIAM R. KIZER, Hammond, Ill. Filed Aug. 23, 1882. (No model.)

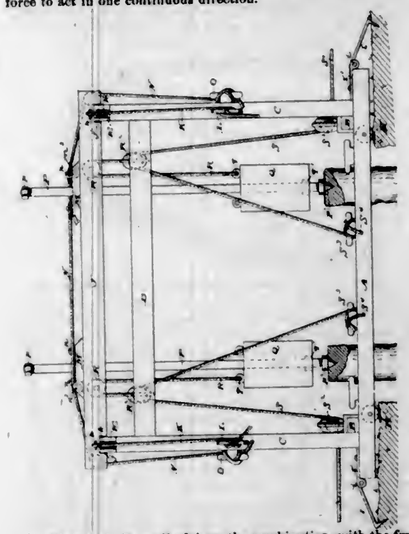
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Claim.—The bosom-board A, formed with grooves *a a a′* and provided with clamp B, and the hinged leg *a″*, in combination with the frame C, hinged thereto and formed with edges *i i i*, adapted to enter the grooves *a*, and the clasps *b b*, adapted to retain the said hinged frame in the desired position on the work, substantially as shown and described.

268,415. PILE-DRIVER. DANIEL KNOWLES, Norfolk, Va. Filed July 10, 1882. (No model.)

Brief.—A suitable frame has a top beam capable of laterally sliding, on which slides one or more blocks, the positions of both blocks and beam being regulated by ropes and securing devices. In each block slides a vertical guide-rod, pointed and flanged, passing through a ram operated by a rope passing over a pulley carried by said block and attached to a movable pulley, which is alternately lowered and let rise by a cord passing thereover and secured at successive points in its length as successive portions are drawn through such pulley in lowering it, thus permitting the motive force to act in one continuous direction.



Claim.—1. In a pile-driver, the combination, with the frame-work, of the laterally and longitudinally adjustable guide P′, the ram surrounding said guide, and the hoisting and dropping mechanism, substantially as described.

2. The combination, with the frame, the hoisting and dropping mechanism, and the ram Q, of the guide P, adapted to be passed centrally through the ram, and provided with the collar p^2 and the point p', substantially as set forth.

3. The combination, with the frame, of the laterally-movable top supporting-beam, J, the ram, and the ram-guide carried by said beam J, and the ropes K, for securing the beam after being laterally adjusted, substantially as set forth.

4. The combination, with the beam J, the ram, and the ram-guide P, of the guide-block M, longitudinally adjustable on said beam, substantially as set forth.

5. The combination, with the frame-work and the ram Q, of the ram-guide passing through the ram and arranged to be adjusted laterally and longitudinally on the frame, substantially as set forth.

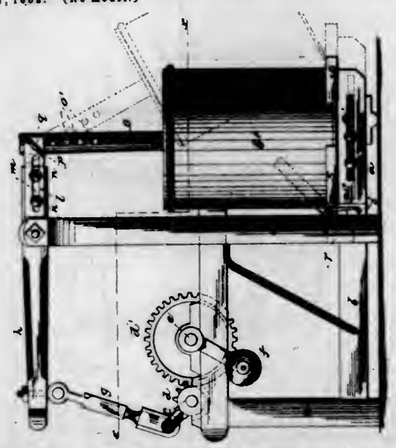
6. The combination of the main frame, the rising and falling ram, the support for the ram, adjustable relatively to the frame, the rope R, the pulley R′, the draft-rope S, loosely and permanently connected to the rope R, and the clamping devices adapted to have the draft-rope detachably secured to them at successive points in its length, substantially as set forth.

7. The combination, with the ram and the rope R, of the hoisting-rope S, and the clamping devices adapted to be directly engaged with each other, said hoisting-rope being permanently but loosely engaged with the rope S, substantially as set forth.

8. In a pile-driving mechanism, the combination, with the frame adapted to be supported upon both sides of the ditch or sewer, of the two sets of driving devices and the laterally-adjustable beam J, which supports both of said sets of driving devices, substantially as set forth.

9. The combination, with the supporting-frame and the two independently-operated sets of driving devices, of the laterally-adjustable beam J, which supports both sets of driving devices, and the blocks M, adjustable longitudinally upon the frame independently of each other, substantially as set forth.

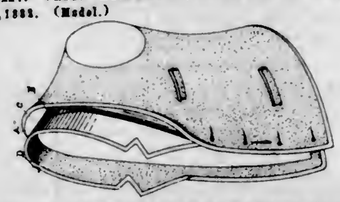
268,416. CHURN. JULIAN LANE, Moss Run, Ohio. Filed Mar. 7, 1882. (No model.)



Claim.—1. The combination, with the base-frame *b*, carrying the operating mechanism of a churn, of a hinged holder, *z*, and adjustable sliding holder *u*, adapted to receive and hold churn-bodies of different diameters, substantially as described.

2. The combination of the base-frame *b*, semicircular hinged holder *z*, having hooks *t*, sliding and adjustable semicircular holder *u*, having slotted arms *w w*, and set-screws *a′ a′*, substantially as described, and for the purpose set forth.

268,417. VEST. MARKS LEVIN, New York, N. Y. Filed Aug. 16, 1882. (Model.)



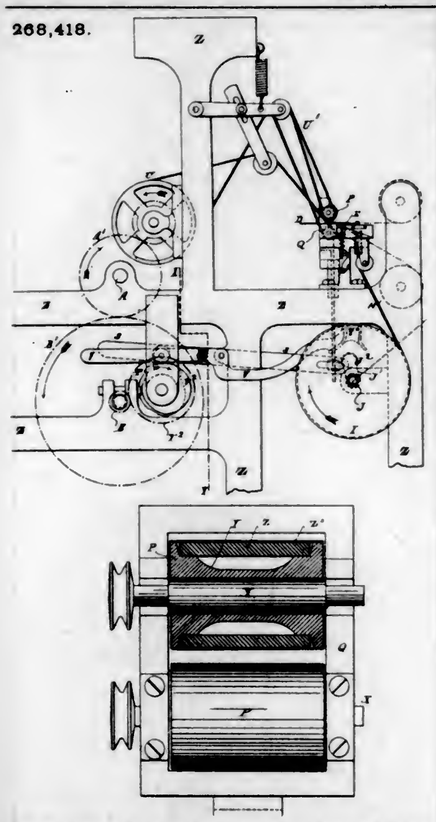
Claim.—1. The combination, in a vest-garment, of a receptacle or recess, C, with a folding lapel, D, substantially as set forth.

2. In a vest-garment, the combination of the lapel D with the receptacle C, substantially as set forth.

268,418. MACHINERY FOR CUTTING DOUBLE-PILE FABRICS. SAMUEL C. LISTER and JOSÉ REIXACH, Manningham, near Bradford, County of York, England. Filed Apr. 29, 1882. (No model.)

Claim.—1. The combination of the knife, mechanism for act-

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Claim.—In an apparatus for utilizing exhaust-steam, the combination of the high-pressure boiler, the low-pressure boiler, and the superheater with a pump, the said pump being adapted to pump water from the said low-pressure boiler into the high-pressure one, and an injector for forcing the exhaust-steam into the low-pressure boiler by means of superheated steam, the whole being adapted to keep up a constant circulation, by which the exhaust is utilized without condensation, in the manner shown and described.

268,420. REVERSIBLE WATER-FILTER. JOSEPH J. LUTHER, East Providence, R. I. Filed Mar. 13, 1882. (No model.)



Claim.—1. The combination, substantially as hereinbefore described, of a supporting-frame, a pivoted filtering-chamber, and a rotative locking-wrench, which eccentrically supports one side of the chamber and by its rotation moves said chamber against and away from the center of said frame.

2. The combination of a reversible filter-case having central induction and eduction apertures, gauze-strainers opposite each aperture, and a perforated diaphragm provided on each side, at its center, with a concave disk surrounded with filtering matter, substantially as described.

3. A reversible globular filter-case composed of two interlocking sections respectively provided with pins and inclined slots, which serve to unite said sections and provide for a water-tight joint between them, substantially as described.

268,421. MANUFACTURE OF IMPRESSION-STITCH SOLES FOR BOOTS AND SHOES. LYSANDER O. MAKEPEACE, Worcester, Mass. Filed Sept. 22, 1882. (No model.)



Claim.—1. The described improvement in the process of treating a boot or shoe sole, such consisting in bending such sole down at its edge in manner as set forth, and embossing or stitch-impressing the upper side of the part bent down, and paring or reducing the lower portion of such part, so as to bring the entire lower sole-face essentially into one plane, as explained.

2. A boot or shoe sole embossed or stitch-impressed on its grain-surface, along the edge thereof, and having the part of such surface so embossed or stitch-impressed at an obtuse angle with the next adjacent part of the said grain-surface.

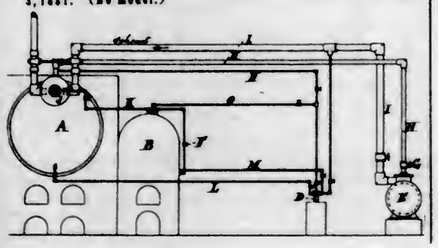
3. A boot or shoe sole embossed or stitch-impressed on its grain-surface, along the edge thereof, and having the part of such surface so embossed or stitch-impressed at an obtuse angle with the next adjacent part of said grain-surface, and also having the opposite or flesh side essentially in one plane, or flush from edge to edge, as represented.

uating it to sever the fabric, the sharpening-rollers, means by which they are actuated to bring them alternately into contact with the opposite sides of the knife, the arm on the rock-shaft of the knife-actuating mechanism, the lever provided with a cam acting on said arm, and the cam acting on the lever, substantially as and for the purpose hereinbefore set forth.

2. The combination of the knife E, the knife-bar H, the cords H', the rock-shaft J, its pulleys, the pinion on the rock-shaft, the rack, means for operating the rack, the revolving sharpening-rollers, the arm on the rock-shaft, the lever provided with the cam acting on the rock-shaft arm, and the revolving cam operating the lever, all acting together substantially as described.

3. The sharpening-rollers, each formed with a concave roller covered with a cylinder of vulcanized india-rubber or like elastic material, over which is an outer covering of leather provided with the grinding material, substantially as described.

268,419. UTILIZING EXHAUST-STEAM. HARVEY T. LITCHFIELD, Hull, and DAVID RENSHAW, Cohasset, Mass. Filed Aug 3, 1881. (No model.)

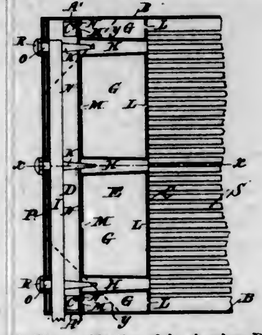


268,422. SHIPPING-CAN. EDWARD T. MASON, Chicago, Ill. Filed Apr. 18, 1882. (No model.)



Claim.—The improved jacket for shipping-cans, consisting of the exterior horizontal fiber-wood bands, B B', and the interior vertical fiber-wood sections, C, secured together by the vertical strips D and fastenings located at the upper edge of the upper band and the lower edge of the under band, substantially as specified.

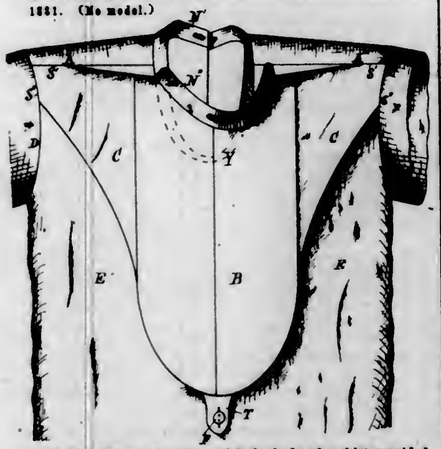
268,423. FEEDING AIR TO FURNACES. CHARLES MCWILLIAM and EMILE LOISEAU, Montreal, Quebec, Canada, assignors to William Alexander Campbell and George Hutton Patterson, both of same place. Filed Sept. 15, 1882. (No model.)



Claim.—1. The combination of the chambers D and G, having openings or ports M and L, as shown and described, damper or valve N, passages H, and nozzles K, provided with a blast, the whole situated in the furnace above the fire, as shown or described, substantially as and for the purposes set forth.

2. The combination of the chambers B', situated as shown and described, with the chambers D and G, having openings or ports M and L, as shown and described, damper or valve N, passages H, and nozzles K, provided with a blast, the whole situated in the furnace above the fire, as shown or described, substantially as and for the purposes set forth.

268,424. SHIRT. HORACE W. MERRIN, Troy, N. Y., assignor of two-thirds to Manville & Clark, same place. Filed Dec. 19, 1881. (No model.)

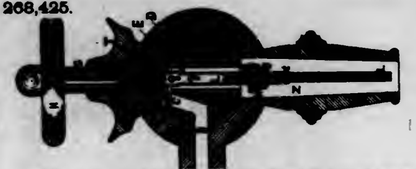


Claim.—The combination, with the body of a shirt provided with a button at F, of the bosom B with the bosom neckband N'', side staying-pieces, C C, and bosom-tab T, attached to the body of the shirt in the manner as described.

268,425. SODA-WATER DRAFT-TUBE. JOSEPH C. MILLER, Chelsea, Mass. Filed May 6, 1882. (No model.)

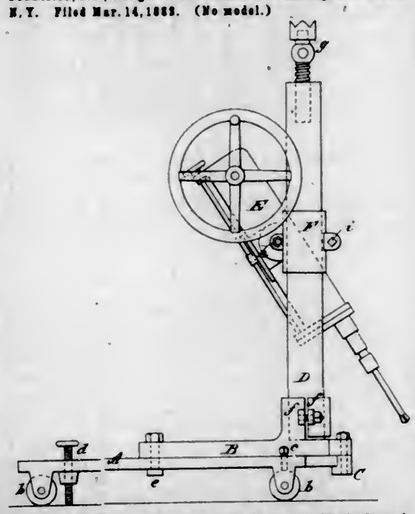
Claim.—1. In a soda-water draft-tube, the combination and arrangement, with the valve-stem having the main upper valve and provided with the small interior tube, of the adjustable annular lower valve adapted to close the main annular outlet-passage by being drawn upward against its seat, and thereby force the discharge through the small tube, substantially as shown and described, as and for the purposes set forth.

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2. In a soda-water draft-tube, the combination, with the valve-stem having the main valve and provided with the small perforated interior tube, of the lower annular valve adapted to close the main outlet-passage, and thereby force the discharge through the said small interior tube, substantially as described, as and for the purposes set forth.

268,426. STAND FOR ROCK-DRILLS. EUGENE MORRAU, San Francisco, Cal., assignor to Theodore W. Sterling, New York, N. Y. Filed Mar. 14, 1882. (No model.)



Claim.—1. The combination, with the rock-drill platform A and the supporting-wheels *b b*, of the blocking-screws *c c*, working through the platform against the wheels, as and for the purpose specified.

2. The combination, with the platform A, of the arm B, pivoted thereto at or near its center, parallel with the upper surface thereof, and adapted to move over the front half of said platform-top, and a screw-clamp, C, attached to said arm, bearing against the front end of the platform at the under side and curved with the pivot *e*, as and for the purpose set forth.

3. The combination, with the column carrying the rock-drill, of the divided clamping foot-rest *f*, the arm or base B, and the jamming-screw *g* at the upper end, whereby the rock-drill may be firmly held in position, as described.

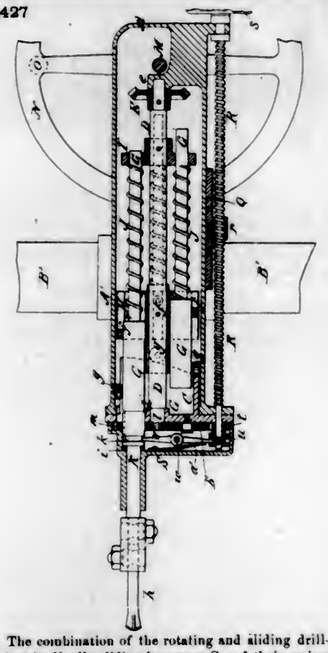
4. The combination of the platform A, mounted on wheels *b*, the swinging arm or base B, the column D, carried by said base, the sleeve F, adjustable along and around said column, and a rock-drill, E, connected with said sleeve on its one side by a swivel-bolt, *h*, substantially as specified.

268,427. HAND ROCK-DRILL. EUGENE MORRAU, San Francisco, Cal., assignor to Theodore W. Sterling, New York, N. Y. Filed Mar. 14, 1882. (No model.)

Brief.—The feed of the drill is automatically regulated by the hardness of the rock and consequent speed of cutting by means of a lever engaging with the drill-spindle at one end and with a clutch at the other end, which clutch at times engages the driving screw-pinion. A spring keeps the drill forced against the rock.

Claim.—1. In a rock-drill, the combination, with a slotted sliding sleeve, u, and slotted spindle K, connected by a middle-pivoted lever, r, of a spring, *a'*, arranged to act upon one arm of the lever and simultaneously force the spindle down and the sleeve up, as and for the purpose specified.

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2. The combination of the rotating and sliding drill-spindle K, the longitudinally-sliding hammers G and their springs J, the rotating shaft D, by which the longitudinally-sliding hammers are made to rotate around the axis of said shaft, the gears *l m b'*, and loose pinion *t*, the screw R, by which the sliding box or frame portion A of the machine is fed forward, and on which the loose pinion *t* is arranged, the longitudinally-sliding sleeve or clutch *u*, fitted to rotate in common with said screw and engaging with the pinion *t*, the lever *v*, and the spring *a'*, essentially as and for the purposes described.

3. The screw R, having end sleeve, *u*, the lever *v*, and the spindle K, having a slight longitudinal play in its bearing, in combination with a pinion, *t*, wheel *b'*, and pinion *l* on shaft D, whereby the machine will be moved forward until the drill comes in contact with the rock, as described.

268,428. SIGN. FRANK E. MUNN, Dallas, Tex. Filed Apr. 5, 1882. (Model.)



Claim.—1. A sign composed of the combination of a frame or bed and a transparent plate set in the same, having the letter-color or gilt on its inner face, and a filling applied upon its front face to form the margins of the letter, as described.

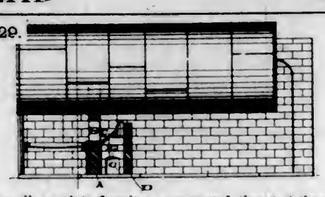
2. In a sign, the combination, with the wooden body *a*, provided with a recess, *b*, in its front face, of the strip of glass *c*, gilded, silvered, or painted on its back face and inlaid in said recess, and a filling on its front face to form the margins of the letters, substantially as described, and for the purpose set forth.

3. In a sign, the combination, with the wooden body *a*, provided with a recess, *b*, in its front face, of the separate pieces or panes of glass *c*, one for each letter of the sign, each gilded or silvered on its back face and inlaid in said recess, and the external filling, *d*, placed on the front face to form the margins of the letters, substantially as described, and for the purpose set forth.

268,429. STEAM BOILER AND OTHER FURNACES. WILLIAM J. O'NEAL, Cincinnati, Ohio, assignor of one-half to Joseph C. Bogan, same place. Filed Apr. 27, 1882. (No model.)

Claim.—1. In a furnace of the character described, the combination, substantially as hereinbefore set forth, of a downwardly-

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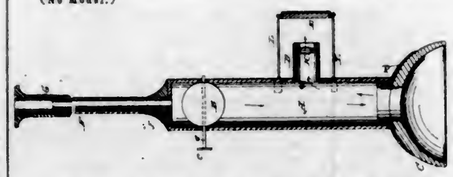


projecting tile or plate forming a contracted throat at the rear of the fire-chamber, with an air-chamber located in rear of the grate-bar supporting-wall, the rear wall of said chamber extending up near the boiler, and with it forming a narrow throat for the gases, and the inclined tile C and perforated plate F, arranged, as described, to close the top of said air-chamber.

2. In a furnace of the character described, the combination of supporting-wall A, arched plate B, inclined plate C, wall D, perforated plate F, and air-chamber E, all arranged substantially as hereinbefore set forth.

3. The combination, substantially as specified, of the furnace, the air-chamber E, located at rear of wall A, and inclined tile C, with the pivoted plate F, closing the top of said air-chamber, and plate B, to deflect the gases in contact with the air passing from said chamber into the furnace, all arranged substantially as described.

268,430. COMBINED STETHOSCOPE AND PNEUMOSCOPE. AUGUST W. E. PIHLGREN, Milwaukee, Wis. Filed May 6, 1882. (No model.)



Claim.—1. A flexible tube, F, having a suitable end piece, in combination with a large tube, A, having a nipple, D, formed on or attached to its under side, which is provided with a removable cap or cover, I, and an oval-shaped bell or cup-piece, C, substantially as and for the purpose set forth.

2. A tube, A, having a detachable bell or cup-piece, C, nipple D, with a whistle, K, arranged therein, arms L, secured to the under side of said tube A, to the ends of which is pivoted a revolving mirror, E, in combination with a damper, B, secured to a rod, *e*, and having a handle, *c*, substantially as and for the purpose specified.

3. A tube, F, provided with a suitable mouth-piece, G, in combination with a large tube, A, provided with a damper or valve, B, and a bell or cup-piece, C, and having a nipple, D, which has a whistle, K, arranged therein, and a removable cap or cover, I, and a revolving mirror, E, attached to the tube A by means of arms *h*, substantially as and for the purpose specified.

4. A tube, F, having a suitable end piece attached at its opposite end to a larger tube, A, by means of a connecting-piece, J, in combination with said tube A, having a bell or cup-piece, C, attached thereto by means of a connecting-piece, *d*, and having on its under side a nipple, D, with a whistle, K, arranged therein, said nipple being provided with a removable cap or cover, I, a damper or valve, B, secured to a rod, *e*, and having a handle, *c*, and a revolving mirror, E, attached to tube A by means of arms L, being so arranged that the face of the mirror is adapted to be brought directly under and opposite the opening in the nipple D, substantially as and for the purpose set forth.

268,431. COMBINED PEN-CLEANER AND PAPER-WEIGHT. RALPH W. POPE, Elizabeth, N. J. Filed Apr. 4, 1882. (No model.)

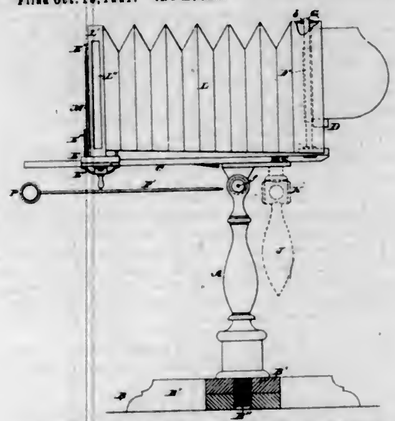


Claim.—1. A pen-cleaner consisting of a coiled strip or ribbon of paper provided with a base or holder, substantially as hereinbefore set forth.

2. The combination, substantially as hereinbefore set forth, of a coiled strip or ribbon of paper and a base having a recess formed therein for receiving or containing said coil.

3. The combination, substantially as hereinbefore set forth, of a coiled strip or ribbon of paper, a base having an annular recess formed therein for receiving or containing said coil, and a removable clamp for confining the paper coil within the recess.

268,432. POLYSCOPE. GEORGE MAY POWELL, Vineland, N. J. Filed Oct. 18, 1881. (No model.)



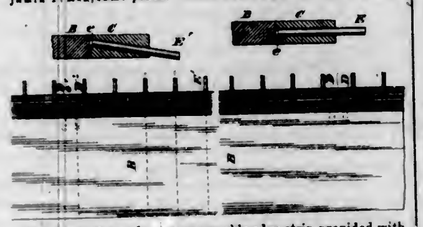
Claim.—1. The hood D, removable frame H H', having an opening in its bottom, and the support C, having means of attachment both for the stand A and handle J, said handle being adapted to be connected with said frame H H', substantially as and for the purpose set forth.

2. The extensible shade or hood L, formed with a vertical passage, L'', and provided with means for attaching it at opposite ends to the hood and picture-holder, substantially as and for the purpose set forth.

3. The removable extensible shade or hood L, formed with openings *b*, for attaching it in front to the standards G, and sleeves M, for attaching it at the rear to the standards E'', substantially as and for the purpose set forth.

4. The handle J, with a connected microscope, formed at one end with an attaching-stem, *a'*, and adapted to be used with either the support C or frame H H', substantially as and for the purpose set forth.

268,433. SAW. HUGH B. REX, St. Louis, Mo., assignor to Benjamin F. Rex, same place. Filed Feb. 10, 1882. (No model.)



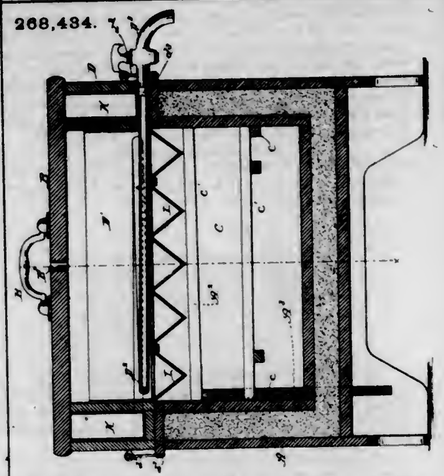
Claim.—1. A saw having removable edge strip provided with teeth extending through the said strip and abutting against the body of the saw.

2. A saw having removable edge strip with oblique teeth extending through the said strip and abutting against the body of the saw, for the purpose set forth.

268,434. REFRIGERATOR. LEVI RUTTER, Newmarketown, Pa. Filed May 18, 1882. (No model.)

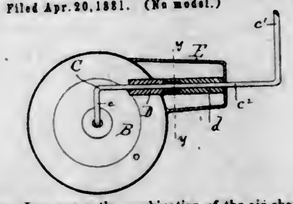
Claim.—An ice-box resting upon and removable from the walls of a refrigerating-chamber, and having a water-chamber open at top in its walls, a single cover for the ice and water chambers, a coil of pipes resting upon the slatted bottom of the ice-box, said slatted bottom and a series of inclined troughs attached to the bottom of the box, in combination with a refrigerating-chamber

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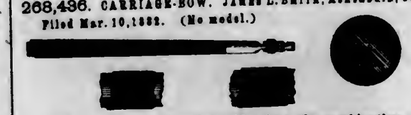
having an inclined trough on the ice-box and provided with a waste-pipe, all substantially as set forth.

268,435. LIQUID-PUMP. HERMAN F. SCHWUCHOW, Chicago, Ill., assignor to Edward T. Mason and Frank A. Bergman, same place. Filed Apr. 20, 1881. (No model.)



Claim.—In a pump, the combination of the air-chamber, the pump-rod, and the lever actuating the rod, said lever being extended through the side of the chamber to a connection with the rod, and fulcrumed in an air-tight bearing consisting of the rubber tubing encircling both the lever and its bearing, substantially as specified.

268,436. CARRIAGE-BOW. JAMES L. SMITH, Ashtabula, Ohio. Filed Mar. 10, 1882. (No model.)



Claim.—In a carriage-bow side piece, the combination, with a tubular sheet-metal body, of a cover consisting of strands of flexible material, the same being wound, woven, plaited, or braided over the outer surface of said body, substantially as and for the purpose set forth.

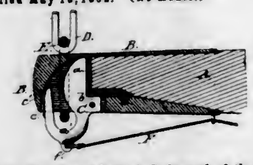
268,437. CARRIAGE-BOW. JAMES L. SMITH, Ashtabula, Ohio. Filed Feb. 25, 1882. (No model.)



Claim.—1. A side piece for carriage-bows, made of a single piece of sheet metal bent in tubular form, the edges of the metal being brought together and extended in contact into or beyond the center of the tube for the purpose of forming a compound strip or structure to strengthen it, said parallel edges being brazed, riveted, or secured together in an equivalent manner, substantially as and for the purpose set forth.

2. A side piece for carriage-bows, made of a single piece of sheet metal bent in tubular form, the edges of the metal being brought together and extended in contact into or beyond the center of the tube for the purpose of forming a compound strip or structure to strengthen it, said parallel edges being permanently secured together, and a wood filler inserted in the tube and provided with a groove to receive the compound strip or strengthening structure, substantially as and for the purpose set forth.

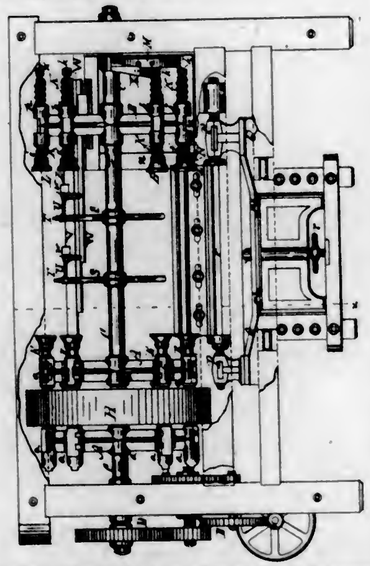
268,438. HORSE-DETACHER. BENJAMIN W. SPARKS, McMinnville, Tenn., assignor of one-half to William T. Murray, same place. Filed May 15, 1882. (No model.)



Claim.—1. The pivoted catch C, formed of the hook *a'* and cam *a*, and provided with the locking-spring *c*, adapted to engage a notch or offset in the ferrule of a whiffletree, said catch being by its peculiar form and application capable of holding or detaching a harness-tug, as and for the purpose set forth.

2. The pivoted catch C, provided with hook *a'*, spring *c*, lug *b*, and cam *a*, adapted to move in a slot in the end of a whiffletree, which is provided with a notch, *c'*, and spring *d*, in combination with the ring E or loop of a tug, substantially as and for the purpose set forth.

268,439. LATHE. CHARLES C. STUART, Hammonton, N. J. Filed May 20, 1882. (No model.)



Claim.—1. In a lathe, the combination, with the series of concentric mandrel-shafts E E, of the ring-driver H, carried and held in place by the pulleys G G of the said shafts, substantially as and for the purpose herein specified.

2. In a lathe, the combination of the pulleys G G of the mandrel-shafts E E, each pulley constructed in two parts, tapering toward the middle of the pulley, and the ring-driver H, formed on its inner surface to fit the peripheries of the said pulleys, substantially as and for the purpose herein specified.

3. In a lathe, the combination of the pulleys G G of the mandrel-shafts E E, each pulley formed in two tapering parts, adjustable toward each other, and having peripheries of a soft material, and the ring-driver H, formed on its inner surface to fit the peripheries of the said pulleys, substantially as and for the purpose herein specified.

4. In a lathe, the combination, with the mandrel-shafts E E on the head or driver, of the foot-spindles K K, having springs to force them outward from the head-shafts, and the cups L L on the said spindles, having springs to force them inward toward the head-shafts, substantially as and for the purpose herein specified.

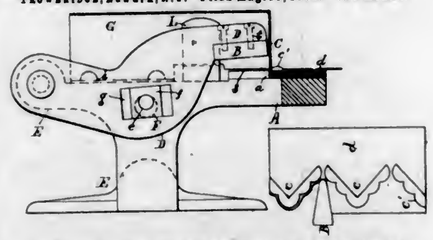
5. The foot-spindles K K, having the separate movable pieces *k k* in their outer ends, and fitting in sockets thereof, with springs *l l* to push the parts outward, in combination with the stationary cam M, substantially as and for the purpose herein specified.

6. In a lathe, the combination, with a head spider or spiders fixed on the central shaft for carrying a series of mandrel-shafts, of a foot-spider carrying a series of foot-spindles, adjustable on the central shaft to different distances from the head spider or spiders, cams for controlling the operation of the foot-spindles, also adjustable to different distances from the said head spider or spiders, and one or more back-rest spiders, T T, adjustable to various positions on the central shaft in relation to the head and foot spiders, and provided with radially-adjustable socket-arms, all substantially as and for the purpose herein specified.

7. The combination of the back-rests T T, bell-crank levers U U, sliding rods W, and cam X, substantially as and for the purpose herein specified.

8. In a planetary lathe, the combination of a head spider or spiders carrying concentric mandrel-shafts, a foot-spider carrying concentric foot-spindles, a roughing cutter or cutters constructed to roughly shape the articles to be turned, and a smoothing-cutter formed to finish the articles roughly shaped by the roughing-cutters, and having its cutting-surfaces all curved to be concentric with the central shaft on which the spiders turn, substantially as and for the purpose herein specified.

268,440. MACHINE FOR TRIMMING EDGINGS. JOHN H. TROWBRIDGE, Newark, N. J. Filed Aug. 19, 1882. (No model.)



Claim.—1. In a machine for trimming edgings having a raised pattern worked at the border, the combination of a die and gage between which the surplus fabric upon the border of the edging is passed and a cutter operating behind the gage, in connection with the die, to trim off such surplus, as described.

2. The method herein shown and described for trimming edgings having a raised pattern worked at the border, consisting in gaging the cutting and trimming device by the contact of a gage with the raised pattern, substantially as herein set forth.

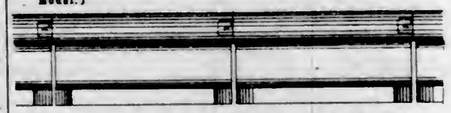
3. The combination, with the die *a* and cutter B, of the gage C, arranged and operating as a guard to protect the operator from injury by the cutter, substantially as described.

4. The combination of the cutter having sides inclined toward one another upon the front side, substantially as shown, with a die operating in contact with the inclined sides and adjustable toward their apex or front end, as and for the purpose set forth.

5. The combination, with table A and die *a*, of a vibrating lever, D, carrying cutter B, and mechanism for vibrating the lever, substantially as shown and described.

6. The combination, with the die *a* and lever D, carrying the cutter B, as described, of the guides L, arranged and operating substantially as set forth.

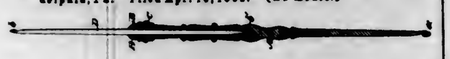
268,441. CONTINUOUS PARK AND GARDEN BORDER TILE. FRANCIS TUNICA, Omaha, Nebr. Filed Aug. 11, 1882. (No model.)



Claim.—1. A park or garden border provided with a flanged base, each section-piece, near its top, having a dowel-pin and dowel-opening, whereby the top of the border is retained in rigid alignment, substantially as and for the purpose set forth.

2. A park or garden border made in sections, the top of the sections being rounded, the bottom having a flange or flanges to receive the ballast, and each section, at or near the top, being provided with a dowel-pin and opening, substantially as and for the purpose set forth.

268,442. CROCHET-NEEDLE HANDLE. EMIL WAHL, Philadelphia, Pa. Filed Apr. 19, 1882. (No model.)

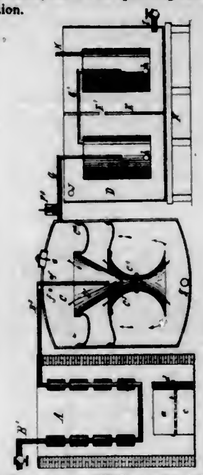


Claim.—1. A crochet-needle handle having a crochet-needle integral therewith at one end and the other end made hollow and compressible, and provided with a band or tightening-sleeve and a double-pointed crochet-needle, either end whereof is adapted to be inserted in the hollow end of the handle and secured thereto.

2. A crochet-needle handle having a crochet-needle integral therewith at one end and the other end made hollow and compressible, in combination with a tightening device, and a crochet-needle adapted to be inserted in the hollow end of the handle and secured thereto by said tightening device.

268,443. METHOD OF AND APPARATUS FOR MAKING SOAP. WILLIAM WEST, Denver, Colo., assignor of one-half to Homer Pennock, New York, N. Y. Filed Apr. 7, 1882. (No model.)

Brief.—The distinguishing features of the invention are an agitator in which is a steam-injector, which, by its reaction, produces a violent agitation, and a still operating on the principle of fractional distillation.



Claim.—1. The retort or still C, constructed of any suitable material, and with a hollow inverted truncated cone, C', and a double hollow cone or circulator C'', inside the retort or still and attached to it, substantially as shown and described.

2. In a soap-making apparatus, the employment of a jet of superheated steam introduced into a hollow inverted truncated cone and circulator in the center of a retort or still, substantially as and for the purpose set forth.

3. The condenser D, constructed with the receivers F and F', inside the water-tank, and arranged to receive its supply of cold water near the bottom of the second or last tank, so as to condense the glycerine and other products of the retort or still at different degrees of temperature, substantially as described.

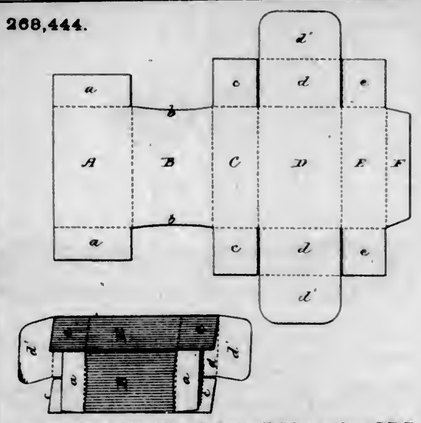
4. In a soap-making apparatus, the combination of the following elements: the superheating-furnace A and superheater B, the retort or still C, with its center cones, and the condenser D, substantially as shown and described.

268,444. BENT BOX. WILLIAM WITTE, New Haven, Conn. Filed Oct. 9, 1882. (No model.)

Claim.—1. The blank herein shown and described, consisting of the sections A, B, C, D, E, and F, the end flaps, *a c d e*, and the tucking-flaps *d'*, the flaps *a c* being separated by a flapless section, and the remaining end flaps being contiguous to each other in the order named.

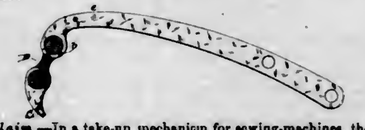
2. A box-blank having six sections arranged in one row, as follows: an end section, A, provided with flaps, a single flapless section adjoining said section A, three adjoining sections, C D E, provided with flaps, and the joining or lap section F, all to constitute a box, substantially as described.

268,444.



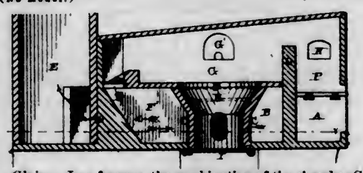
3. The box herein shown and described, consisting of six contiguous sections arranged in one row and having the sides C D E united to the side folds of a lined or double side, A B, by a seam or lap-section, F, and provided with the covering-flaps *a c d e* and tucking-flaps *d'*, whereby both tucking-flaps are equally secured between the sections of the double side, and access to the contents of the box can be obtained from either end without tearing the flaps.

268,445. TAKE-UP FOR SEWING-MACHINES. ALEXANDER V. ABERCROMBIE, Bridgeport, Conn. Filed Apr. 18, 1882. (No model.)



Claim.—In a take-up mechanism for sewing-machines, the roll-eyelet guard A and lever-arm C, made of a single piece and so connected as to form a bridge, D, in front of the roll-eyelet B, the rear end of said guard being left free to operate, substantially as set forth and described.

268,446. FURNACE FOR THE MANUFACTURE OF IRON AND STEEL. CHARLES ADAMS, Cleveland, Ohio. Filed Apr. 22, 1881. (No model.)



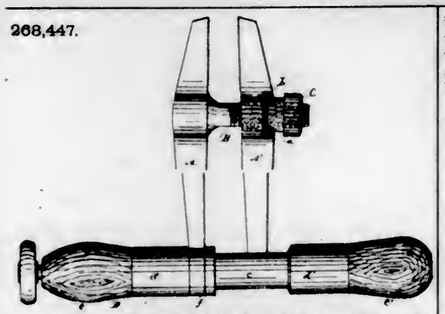
Claim.—In a furnace, the combination of the chamber C, tap-pipe O', removable bottom I, perforated pipe P, and chamber B, the parts being constructed as described, whereby the waste heat is utilized in vaporizing the oil as it flows in through the pipe, substantially as set forth.

268,447. HAND-VISE AND WRENCH. CHARLES E. BAILEY, Benzonia, Mich. Filed Nov. 7, 1882. (No model.)

Claim.—1. In a combined hand-vise and wrench, a transverse threaded bar rigidly attached to the fixed jaw and passing through the lever-jaw, said lever-jaw having a flanged nut swiveled therein and engaged with the threaded bar, whereby the jaws are readily adjusted to the article to be clamped.

2. In a combined hand-vise and wrench, a handle transverse to both jaws, and secured rigidly to the fixed jaw, and engaging the movable jaw, and means located longitudinally within the transverse handle for operating the movable jaw toward and from the fixed jaw, substantially as set forth.

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3. The combination of the fixed jaw A, the movable lever A', and the threaded and slotted cylinder c, of the handle, with the screw-bolt F and spring G, as set forth.

268,448. PORTABLE BELL AND BRACKET SYSTEM. JAMES S. BALDWIN, Newark, N.J. Filed Feb. 3, 1881. Renewed Oct. 2, 1882. (No model.)



Claim.—1. A system of electric call-bells herein described, wherein are employed a series of brackets connected to one another by battery-wires and provided with means for establishing a current between the battery-wires, any two or more brackets, and a portable bell, whereby an alarm can be sounded from any bracket at any other bracket in the circuit, determined by suspending the portable bell from the desired bracket where the alarm is to be sounded, substantially as set forth.

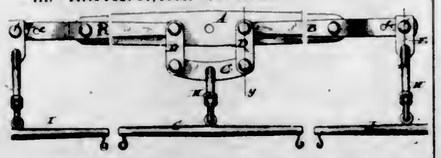
2. The combination of battery-wires I and J, a wire, H, connecting a series of keys, D, adapted to establish a current between wires H and I, a portable bell adapted, when brought in contact with key D, to transmit the current through the bell, whereby an alarm is sounded, and then off through wire J, substantially as set forth.

3. A portable electric bell provided with plates K and L and separating-strip M, and an alarm-gong connected thereto, substantially as set forth.

4. The bracket A, provided with key D, pins C and E, stud B, adapted to receive a bell or its equivalent, and connected wires, substantially as set forth.

5. The portable bell provided with plates K and L and strip M, in combination with bracket A, provided with key D, pins C and E, stud B, and connecting-wires, substantially as set forth.

268,449. DRAFT-EQUALIZER. JOHN W. BARTLETT, Moline, Ill. Filed June 26, 1882. (No model.)

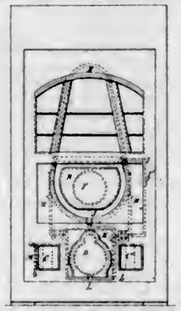


Claim.—1. In a three-horse equalizer, the combination of the double-tree A, levers B B, pivoted thereon and curved downward at their outer ends, the intermediate connection, C, connected to and upheld by means of the levers, as described, and the three single-trees attached to the outer ends of the levers and to the central connection, respectively, by means of hooks, the draft-rods h, adapted to give positive support to the said single-trees, as shown, whereby the draft of the team is applied to prevent the rolling of the levers and their connections, and the single-trees are positively supported against falling.

2. The combination of the double-tree A, the levers B, pivoted thereon, and having their ends curved downward and perforated, as shown, the central connecting-link, C, attached to the levers by links D D, and the adjustable plates E, mounted upon and around the outer ends of the levers, as shown.

3. In combination with the double-tree A, the levers B B, lying at their inner ends on top of the double-tree and curved downward at their outer ends to receive the draft-connections, the intermediate draft-plate, C, and the links D D, connecting the respective ends of the draft-plate with the corresponding ends of the levers.

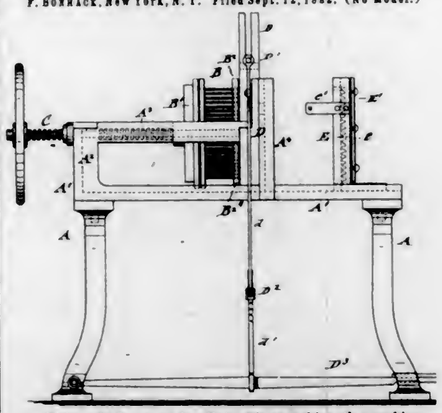
268,450. COMBINED WARDROBE, WASH-STAND, AND BATH-TUB. LEON BONDUEL, Paris, France. Filed July 27, 1881. (No model.) Patented in France May 5, 1880, No. 136,523.



Claim.—1. In a cabinet, the combination of the hinged seat S with the douches V and 5, substantially as set forth.

2. In a cabinet, the combination of the upper reservoir, M, the foot-reservoir 4, and the piping U with the hand-pump 1 and the discharge-cock 2, substantially as and for the purpose specified.

268,451. MACHINE FOR SETTING MATCH-SPLINTS. CHAS. F. BONNACK, New York, N.Y. Filed Sept. 12, 1882. (No model.)



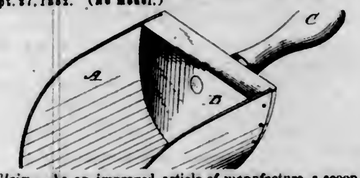
Claim.—1. In a match-splint-setting machine, the combination of a reciprocating setter having a series of fixed equidistant push-pins, a fixed perforated guide-plate, a removable trough for the bunch of match-splints, a reciprocating splint-guiding frame having vertical strips, and a removable splint-clamping frame having horizontal strips, all substantially as and for the purpose set forth.

2. In a match-splint-setting machine, the combination of a reciprocating setter having a series of fixed equidistant push-pins, a fixed perforated guide-plate, a removable trough containing the match-splints in front of the guide-plate, means for clamping the splints in the trough, and a compound splint-holding frame formed of a reciprocating guide-frame having vertical strips and a detachable clamping-frame having horizontal strips, and means for locking the compound frame rigidly in front of the trough, substantially as and for the purpose specified.

3. In a match-splint-setting machine, a compound frame for receiving the splints, consisting of a fixed frame having vertical serrated strips, and of a removable splint-clamping frame having horizontal strips, beveled at the edges and fitting closely to the vertical strips, and means for locking the frames together, substantially as set forth.

4. In a match-splint-setting machine, a splint-clamping frame consisting of horizontal clamping-strips beveled at their inner edges and separated at the ends by intermediate layers of elastic fabric, and of means for clamping the strips or releasing the same, substantially as described.

268,452. SCOOP. GEORGE BORST, Rochester, N.Y. Filed Sept. 27, 1882. (No model.)



Claim.—As an improved article of manufacture, a scoop in which the blade or body is constructed of or formed from vulcanized fiber, substantially as and for the purpose set forth.

268,453. WIRE BARB FOR FENCES. CURTIS B. BRAINARD, Joliet, Ill. Filed July 24, 1882. (Model.)



Claim.—The barb for fence-wires described, made of a single piece of wire having the crimps a^1 a^2 and loop a', in combination with the two strand-wires c c, said barb placed upon one of said strand-wires loosely and held thereon within a single coil of said strand-wires by its fellow strand lying in the crimps a^1 a^2, in the manner set forth.

268,454. SHOW-BOX FOR JEWELRY. LEOPHARDT BEZIDENSTEIN, San Francisco, Cal. Filed Aug. 5, 1882. (No model.)

Brief.—The spring-leaf may be formed as a continuation of one of the sides and made of thin elastic material secured near the bottom so the upper part will yield.



Claim.—In a show box or case for jewelry, the holding sides A B, for the jewel, having attached to one of the sides the hinged leaf D, and actuating-spring E, or equivalent device, for closing the slot between the sides, substantially as herein described.

268,455. PULLEY-BLOCK. WILLIAM J. BREWER, Bombay, India. Filed Mar. 22, 1882. (No model.) Patented in India Apr. 10, 1880, No. 27; in England Apr. 17, 1880, No. 1,583; in France Oct. 18, 1880, No. 138,214; in Belgium Oct. 18, 1880, No. 52,780, and in Austria Oct. 28, 1881, No. 36,478.



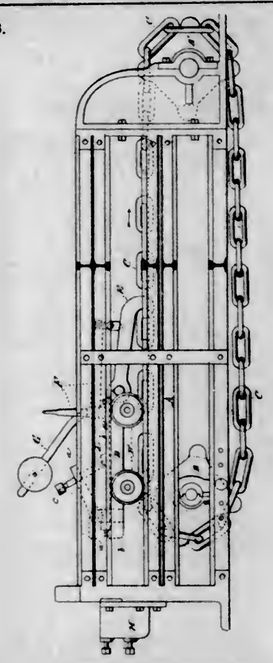
Claim.—In a tackle-block having a pair of rotary lever-wheels to support the spindle or trunnions of its pulley or pulleys in the direction of strain, the combination, as hereinbefore specified, of a pair of slotted cheek-plates and a pair of supplemental strain-bearing straps, united with each other and with the suspension attachment at the upper end of the block, the lower ends of said straps being spread apart and supported by angle-braces, so as to depend parallel to said cheek-plates, substantially as shown, for the purpose set forth.

268,456. MACHINE FOR DRAWING METAL BARS. LATHAM BRIGHTMAN, Cleveland, Ohio. Filed Mar. 17, 1882. (No model.)

Claim.—1. In a machine for drawing metal bars, the combination, with a clamping device, of a hook for engaging with the chain, and a weighted lever attached to said hook for automatically disengaging the hook from the chain when the strain is removed, substantially as and for the purpose shown and described.

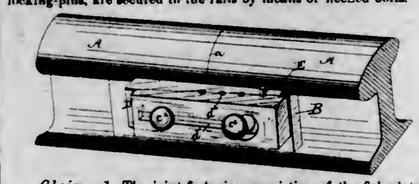
2. The combination, with the chain, the carriage D, and hook E, of the clamping-jaws a b, set-screws c, and weighted lever, substantially as set forth.

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268,457. RAILROAD-TRACK BOLT. WILLIAM C. BROWN, Logan, assignor of one-half to J. F. Wheeler, Monday, Ohio. Filed Aug. 10, 1881. (No model.)

Brief.—Two tapered plates having longitudinal slots enlarged at one end and provided with notches, in which may be inserted locking-pins, are secured to the rails by means of necked bolts.



Claim.—1. The joint-fastening consisting of the fish-plate, necked bolts C, and two tapered and slotted plates, D, having notches or grooves on their face, and the pin E, all substantially in the manner shown and described.

2. As a new article of manufacture, a flat tapered plate provided with longitudinal slots enlarged at one or both ends, and with transverse grooves in one face, substantially as and for the purposes described.

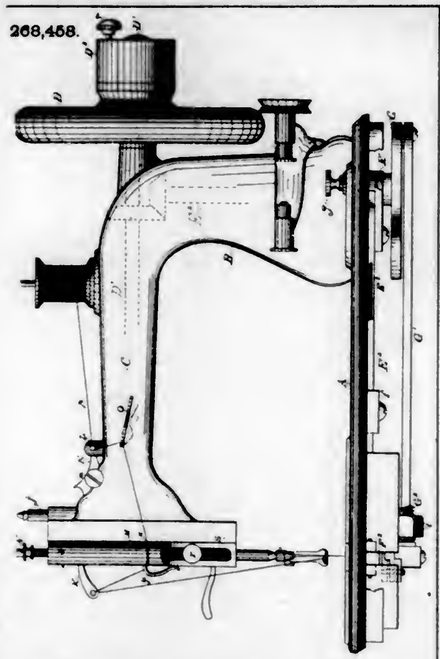
268,458. SEWING-MACHINE. GEORGE BURDICK, Cleveland, Ohio, assignor of one-half to Loren Prentiss, Charles M. Verce, and Seymour C. Prentiss, same place. Filed Mar. 18, 1882. (No model.)

Claim.—1. In a sewing-machine, the combination, with the driving-shaft and driving-wheel loosely journaled thereon, of a collar securely attached to the driving-shaft, a pin journaled in said collar and adapted to be reciprocated therein, said pin being provided with an L-shaped slot, a stud secured to the collar and arranged to extend into said slot, and a spring for forcing the pin in one direction, substantially as set forth.

2. In a sewing-machine, the combination, with a cam secured to the lower end of a vertical shaft, of a feed-operating lever and a spring for retaining it in contact with said cam, and an adjustable arm provided with an inclined plane, against which engages the rear end of the feed-operating lever, substantially as set forth.

3. In a sewing-machine, the combination, with a feed-operating lever constructed with a lateral extension at its rear end pro-

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vided with rounded edges, of an adjustable arm provided with an inclined plane, against which engages the lateral extension of the feed-operating lever and imparts lateral movement thereto, substantially as set forth.

4. In a sewing-machine, the combination, with a feed-operating lever and a cam for reciprocating the same, of an arm formed with a shoulder constituting an inclined plane, against which engages the feed-operating lever, and means for adjusting said arm, substantially as set forth.

5. In a sewing-machine, the combination, with a shuttle-operating pitman or lever and a shuttle-carrier, of a split, hollow, and tapering bolt journaled at one end to the shuttle-carrier and receiving the pitman in its other end, and a nut for clamping the hollow bolt upon the end of the pitman, substantially as set forth.

6. In a sewing-machine, the combination, with a take-up provided with a pull-off arm or extension, of stationary thread eyes or passages located on opposite sides of said pull-off, substantially as set forth.

7. In a sewing-machine, the combination, with an independent take-up provided with a pull-off arm or extension, of a tension-regulating device arranged to engage the thread between the pull-off and the take-up, substantially as set forth.

8. In a sewing-machine, the combination, with the combined take-up and pull-off, of the needle-bar J, curved lifting-finger *l*, and heart-shaped cam I, substantially as set forth.

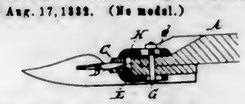
9. In a sewing-machine, the combination, with a take-up provided with a pull-off arm or extension, of a slotted stud provided with thread-passages, substantially as set forth.

10. In a sewing-machine, the combination, with a take-up provided with a pull-off arm or extension, of a pivotal pin, *m'*, provided with a slotted head, a set-screw, *n*, to retain the pivotal pin in any desired rotary adjustment, and a spring, *m*, one end of which is secured to the take-up and its opposite end to the head of the pin *m'*, substantially as set forth.

11. In a sewing-machine, the combination, with the take-up provided with a pull-off arm or extension, of a tension device adjustably secured to the machine and adapted to receive the thread from the pull-off and to be adjusted to regulate the length of thread between the tension device and take-up, substantially as set forth.

12. In a sewing-machine, a tension device consisting in the combination, with the hollow piece M, having a screw-slot, *s*, and a thread-slot, *u*, of the disks *t t'* and suitable means for increasing or diminishing the pressure between said disks, substantially as set forth.

268,459. FINGER-BAR ATTACHMENT FOR MOWING AND HARVESTING MACHINES. SCOTT BURNAP, Belden, Mich. Filed Aug. 17, 1882. (No model.)



Claim.—1. The plate E, having tongue *a* and slot *b*, and the plate H, having slot *c*, combined with a finger-bar, a knife-bar, and means for adjustably securing said plate E in place, as set forth.

2. The combination, with the finger-bar B and knife-bar C, of the plate E, having tongue *a* and slot *b*, the plate H, having slot *c*, the packing *d*, and securing-bolt G, as and for the purposes set forth.

268,460. BRACE-HEAD FOR BITS AND BRACES. FREDERICK J. COLVIN, Hamden, Conn.. Filed Sept. 15, 1882. (No model.)

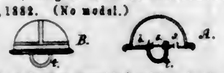


Claim.—The combination, with the brace-head having the sliding bit-socket pressing outwardly, of a bit-securing plate pivoted at the under edge of the head and having a recess extending from the head to receive and retain the bit, as set forth.

268,461. COMPOUND FOR THE PREVENTION AND REMOVAL OF SCALE IN STEAM-BOILERS. CHARLES CYRE and GEORGE H. NORRIS, San Francisco, Cal. Filed June 23, 1882. (No specimens.)

Claim.—The process of making an incrustation-preventive, which consists in first steeping leather or leather scraps in naphtha or other hydrocarbon or volatile oil to remove grease or oil, then boiling the leather scraps thus prepared with hydrate or caustic soda and water, substantially as and for the purpose described.

268,462. BUTTON-FASTENING. CHARLES DE QUILLFELDT, New York, N. Y., assignor to Jacob Waldemann, same place. Filed Jan. 18, 1882. (No model.)



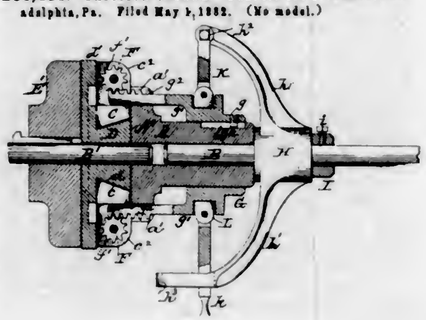
Claim.—1. A button provided with a hook-shank hinged within the bottom plate, adapted to hook into the material for attachment, the pointed end of the hook being detachably secured within the bottom plate, all substantially as set forth.

2. The combination, in a button-fastening, of a hinged shank which passes through the fabric to which the button is to be secured, and a spring which secures the point of the shank to the button, substantially as shown and described.

3. The combination, in a button-fastening, of a hinged shank which passes through the fabric to which the button is secured, and a spring carrying a bolt, which passes into an eye in the point of the shank and secures the fastening, substantially as shown and described.

4. The combination, in a button-fastening, of the hinged shank *t*, having an eye in it, the springs *s* and *o*, bolt *b*, and hole *e*, all combined with cap and bottom disk of the button, substantially as and for the purpose set forth.

268,463. FRICTION-CLUTCH. FRANCIS O. DESCHAMPS, Philadelphia, Pa. Filed May 1, 1882. (No model.)



Claim.—1. In a friction-clutch, a sleeve rigidly secured to the driving-shaft and constructed, substantially as shown and described, to form a bearing or chamber for the clutch-shoes, and a seat for the sliding collar carrying mechanism for operating said shoes, substantially as set forth.

2. In a friction-clutch, the combination, with the clutching-shoes carrying pinions, of a sliding collar provided with racked arms to engage with said pinions, substantially as shown and described.

3. The combination, with a hub, D, of shoes C C, having pinions f' f'', sleeve A, collar G, having racks g^3 g^4, substantially as shown and described.

4. The friction-clutch shoe C, having lugs c^3 c^4, one of which is provided with a plain or smooth opening, c^5, and the other with a threaded opening, c^6, substantially as shown and described.

5. The combination of sleeve A, shoes C C, constructed substantially as shown and described, the pins F, having pinions f', and collar G, with racks g', substantially as set forth.

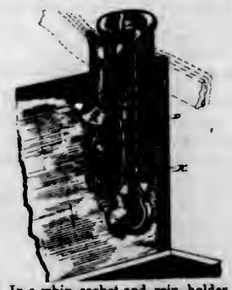
6. In a friction-clutch, the combination of the following elements: a sleeve adapted and designed to receive the friction or clutching shoes and a sliding collar, said shoes being connected by pins carrying pinions, and said collar having racks to engage with said pinions, substantially as shown and described.

7. The friction-clutch shoe C, having lugs c^3 c^4, with smooth and threaded openings c^5 c^6 and flange c^7, substantially as shown and described.

8. In a friction-clutch, the combination, with the clutching-shoes C C, flanged at c^7, the hub D, flanged at d', of a carrier for said shoes, and mechanism for causing said shoes to clutch with said hub, substantially as shown and described.

9. In combination with shoes C C, having lugs c^3 c^4, with opposed plain and threaded openings, the pins F F, having smooth parts f' and threaded ends f'' f'', substantially as shown and described.

268,464. COMBINED WHIP AND REIN HOLDER. FRED. G. DIETERICH, Washington, D. C. Filed July 24, 1882. (No model.)



Claim.—1. In a whip-socket and rein-holder, the pivoted semicircular parts A and B, connected together at their lower ends by a yielding connection, the part B having a series of exterior vertical teeth, I, and the pivoted spring part L having interior vertical teeth, M, the gripping-edges of said teeth I M arranged at right angles in a curved plane to the draft of the reins, substantially as and for the purpose specified.

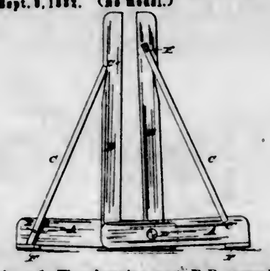
2. In a whip-socket and rein-holder, the pivoted semicircular parts A and B, connected together at their lower ends by a yielding connection, and having a chamber, E, and shoulders P, against which the butt of the whip rests, the part B having a series of exterior vertical teeth, I, and the pivoted spring part L having interior vertical teeth, M, the gripping-edges of said teeth I M arranged at right angles in a curved plane to the draft of the reins, substantially as and for the purpose specified.

268,465. TAILOR'S IRON. JOHN B. DIETZ, Baltimore, Md. Filed Aug. 31, 1882. (No model.)



Claim.—In combination with smooth roll or cylinder *a*, the detachable handle *b*, having hinged arm *g*, rod or bolt *i*, and button *h*, all arranged as shown.

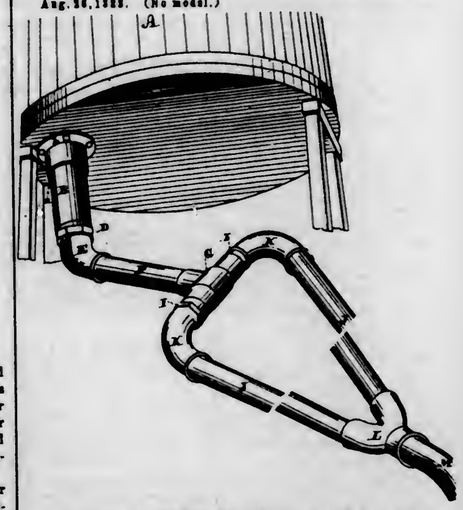
268,466. FARM-FENCE. EDWIN L. DUGHAM, Quincy, Mich. Filed Sept. 9, 1882. (No model.)



Claim.—1. The clamping-posts B B, secured to sills A A, which are pivoted together, in combination with the braces *c c*, adapted to operate substantially in the manner and for the purposes described.

2. The combination, with the sills A, of the posts B, secured thereto, the pivotal connection between the sills, and the inclined braces, notched at their ends and fitted to the posts and sills in the manner specified.

268,467. TANK-SPOUT. JACKSON H. DUNLAP, Turlock, assignor of one-half to William Wilkinson, Los Gatos, Cal. Filed Aug. 26, 1882. (No model.)



Claim.—1. In combination with a water-tank, a spout connected therewith, said spout having a vertical hinge-joint, whereby it may be moved and adjusted laterally, and a horizontal hinge-joint, whereby it may be moved and adjusted vertically, substantially as and for the purpose herein described.

2. In combination with a tank, A, a vertical hinge-joint consisting of the sleeve B, bolted to the tank at its discharge, and having a shoulder, *a*, and a cut-out end, *c*, the inner pipe C, having a flange, *d*, fitting shoulder *a*, and a threaded end, and the packing nut or ring D, screwed upon pipe C, and fitting within and against the cut-out end of sleeve B, the elbows E, screwed to the end of inner pipe C, the pipe F, the horizontal hinge-joint, consisting of the T-shaped coupling G, having cut-out ends *c'*, the inner pipe H, having a side opening, *h*, and threaded ends, and the packing nuts or rings I, screwed upon the ends of pipe H, and fitting within and against the cut-out ends of the T G, the elbows K upon the ends of pipe H, and pipes connected therewith and joining in a single discharge, the whole forming a laterally and vertically adjustable spout for said tank A, substantially as herein described.

268,468. SCHOOL, SONG, AND SIGN ROLL. ALBERT P. EASTMAN, Falls Church, Va. Filed Jan. 30, 1882. (No model.)



Claim.—1. The combination, with a backing provided with keepers of thread, wire, or the like looped through said backing, substantially as set forth, of tags adapted to engage with said keepers.

2. The combination, with a backing provided with keepers of thread, wire, or the like looped through said backing, as described, of tags adapted to engage with said keepers, and having projections, whereby they may be arranged in an orderly relation to each other.

3. The combination, with a head-piece studded with broad-headed tacks or their equivalent in an orderly series, of tags having projections adapted to engage and to be held thereby, substantially as and for the purpose set forth.

4. The combination, with flexible backing provided with keepers of thread or the like looped through said backing, as described, of tags having projections, and adapted to engage and be held by said keepers, as set forth.

5. The combination of a backing of one color and keepers of another color, adapted to receive tags and serve as the lines of the musical staff, as set forth.

6. A tag having a musical character, and having also a line differing in color from that of the backing on which the tag is placed, and representing the added line or lines of the musical staff, as set forth.

7. The combination, with a backing and keepers of one color, of keepers of another color arranged in the five lines of the musical staff, and tags engaging with the last-mentioned keepers, and tags having transverse lines agreeing with the last-named keepers and engaging with those first named, as and for the purpose set forth.

8. The combination, with a backing provided with keepers of thread or the like looped through said backing, as set forth, of a tag having one or more projections, and adapted to engage the keepers thereby, as set forth.

9. A tag of card-board or other suitable material, and inscribed with one or more letters or characters, and having one or more downward projections, whereby shoulders are formed at the sides of the tags and between the projections, in case there be more than one of the latter, as set forth.

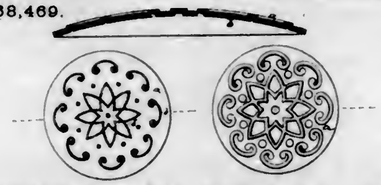
10. The combination of a head-piece, suspending-cords, cross-bars, movable flexible panels, and suitable attaching devices, all forming a school or song roll, as set forth.

11. In a school or song roll, as set forth, the combination of a head-piece and separable attaching devices, whereby a chain of panels may be formed with the head-piece, as set forth.

268,469. INLAID WORK AND PROCESS OF MAKING THE SAME. WILLIAM C. ENOS, Newark, N. J. Filed Sept. 20, 1882. (No model.)

Claim.—1. The method herein described of producing inlaid work, which consists in intimately connecting two or more

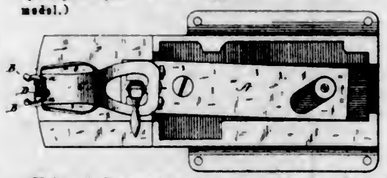
268,469.



slices of metal, in then embossing them so as to bring parts of the lowermost slice into the plane of the uppermost slice, and in then cutting down the embossed parts to show the metal of the lower slice or slices in that of the upper, substantially as described.

2. Inlaid work composed of an upper perforated slice, *a*, of metal and of one or more lower slices, each of which extends beneath the slice *a*, and projects also into the perforations of said slice *a*, substantially as described.

268,470. ATTACHMENT FOR SEWING ON BUTTONS. FREDERICK EGGE and CARL A. J. SJOBERG, Bridgeport, Conn.; said Sjoberg assignor to said Egge. Filed Apr. 4, 1882. (No model.)



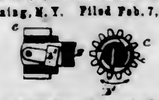
Claim.—1. In a machine for sewing on buttons, the spring-jaws B, fastened at their rear ends to the clamping-plate, the front ends converging, bellied, and inclined, substantially as set forth and described.

2. In a machine for sewing on buttons, the clamping-plate having an opening, D, and indentation or seat *b* at its outer end, in combination with the spring-jaws B, secured to said clamping-plate, substantially as described.

3. In a machine for sewing on buttons, the upper or clamping plate of the clamping mechanism, having its extreme outer ends turned over to form shoulders E, substantially as set forth.

4. In a machine for sewing on buttons, a clamping-plate provided at its outer end with spring-jaws B, opening D, indentation or seat *b*, and shoulders E, substantially as hereinbefore set forth and described.

268,471. ACTUATING-PAWL FOR LAWN-MOWERS. WILLIAM B. ELLIOTT, Corning, N. Y. Filed Feb. 7, 1882. (No model.)



Claim.—In a lawn-mower, the actuating device consisting of the shaft B, having its end slotted parallel with its axis, and having pivoted in the outer ends of said slots the T-shaped pawls *b'*, the free ends of which project out of the slot and are adapted to engage with the ratchets *c* of the pinions C, substantially as shown and described.

268,472. MANUFACTURE OF EAVES-TROUGHS. CHARLES R. EVERSON, Macedon, N. Y. Filed May 15, 1882. (No model.)



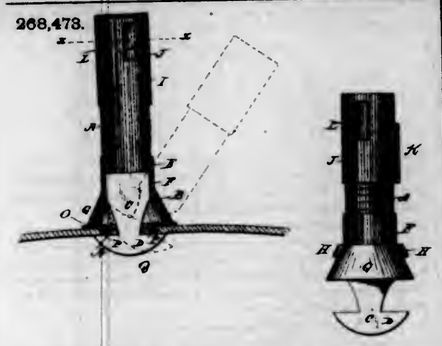
Claim.—A device for facilitating the soldering of plates, consisting of a base, A, provided with pins B B, and having a side groove, *a*, and cross-strips D, perforated and adapted to be retained by the pins, substantially as set forth.

268,473. DEVICE FOR FILLING POWDER FROM KEGS, &c. ROBERT FAGAN and L. SANDIDGE ALLISON, Hazleton, Pa. Filed Sept. 7, 1882. (No model.)

Claim.—1. The combination, with a tube or cylinder, A, having an open lower end in which is secured the tang of a projecting substantially-arrow-shaped head, D, of a movable collar, F, having a flaring bottom flange, G, as set forth.

2. The combination, with a tube, A, having an opening, M, and an open lower end, B, in which is secured the tang C of a projecting arrow-shaped head, D, a movable lower collar, F, having a flaring bottom, G, and a cap-piece, J, having an opening, L, in its side, as set forth.

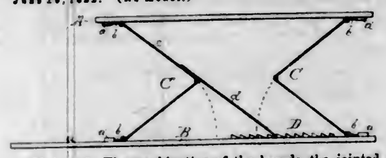
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3. The combination of a tube, A, having screw-threads E I, and opening M in its side at the top, and a projecting substantially-arrow-shaped head, D, having a tang, C, a screw-threaded collar, F, having a flaring bottom, G, and a cap, J, screw-threaded and provided with a corresponding opening, L, in its side, as set forth.

4. The combination, with a vessel, Q, having an opening, N, of a tube, A, having arrow-shaped head D, a collar, F, having a flaring bottom, G, and an annular washer, O, as set forth.

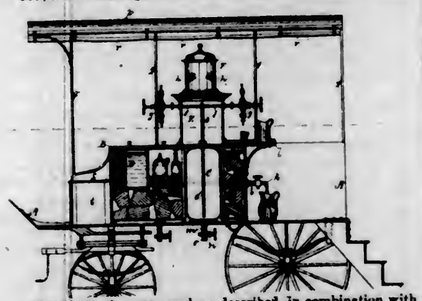
268,474. PENMAN'S ARM-REST. E. WILSON PARNHAM, Chicago, Ill., assignor to Thomas A. Strayer, same place. Filed June 26, 1882. (No model.)



Claim.—1. The combination of the boards, the jointed connecting-links, the extensions, and means, substantially as described, with which said extensions engage, whereby the upper board is adapted to be raised vertically, or be inclined toward either end and be maintained in its adjusted position, as and for the purpose set forth.

2. An arm-rest consisting of boards A and B, straps *b*, jointed links C C, jointed links C C', having extensions *d d*, and racks D D, arranged and connected as hereinbefore set forth, substantially as and for the purpose described.

268,475. BEVERAGE VAN OR WAGON. NATHANIEL W. PERTON, East Cambridge, Mass. Filed Aug. 14, 1882. (No model.)

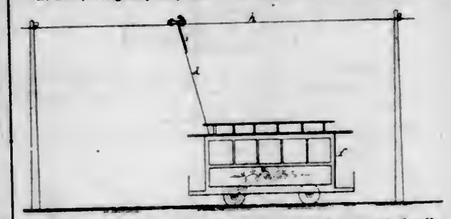


Claim.—1. A wagon such as described, in combination with a contained refrigerator and soda-water apparatus, the latter occupying only a portion of the interior of the wagon, whereby there is room for an attendant within, as set forth.

2. The wagon A, in combination with the refrigerator B, formed integral therewith, the reservoir C, seated within the refrigerator, its pipes *e' e f*, the column E, and syrup-vessel F, constructed and arranged as set forth.

3. The wagon A and refrigerator B, formed integral therewith, in combination with the reservoir C, its pipes *e' e f*, column E, syrup-vessel F, beer-tank D, and its pipe *i*, all constructed and arranged as set forth.

268,476. TRAVELING CONTACT FOR ELECTRIC RAILWAYS. JOSEPH R. FINNEY, Pittsburg, assignor to himself and THOMAS R. KERR, Allegheny City, Pa. Filed Aug. 26, 1882. (No model.)



Claim.—1. A traveling electrical contact for electrical railways and railroad-telegraphs, composed of one or more sheaves having broad radial flanges and a deep peripheral groove formed by the flanges, in combination with an overhead main conductor, a vehicle, and an electrical conductor connecting said contact with the vehicle, substantially as and for the purposes described.

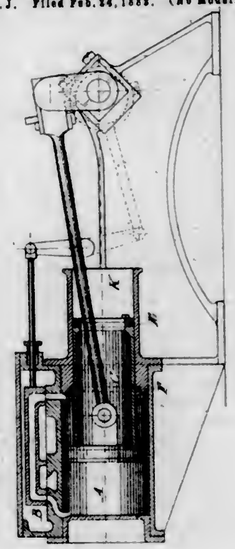
2. The combination of a railroad-car, a main conductor extending along the line of the railway-track, an electrical traveling contact composed of two grooved sheaves mounted upon the top of the main conductor, and connected together by a suitable bar or plate, and a wire extending from said traveler to the car, substantially as and for the purposes described.

3. The combination of an electrical traveling contact composed of one or more grooved sheaves, with a tube or rod pivotally connected thereto, and a wire extending from said traveler and passing through a loop or ring at the lower end of the tube or rod, substantially as and for the purposes described.

4. The combination of an electrical traveling contact, a pivoted guide rod or tube connected therewith, a spring mounted upon said rod or tube, and an electrical conductor connected to said spring, substantially as and for the purposes described.

5. The combination of a main-line wire or electrical conductor, a U-shaped insulated bracket, upon the free end of which the main-line wire is mounted, a traveling contact mounted on the main-line wire, a vehicle, and a branch conductor extending from the traveling contact to the vehicle, substantially as and for the purpose specified.

268,477. SINGLE-TRUNK COMPOUND ENGINE. JOHN FISH, Summit, N. J. Filed Feb. 24, 1882. (No model.)



Claim.—In a compound engine having a single trunk and a trunk-casing extending the length of the stroke of the trunk, the combination of an expansible packing at the outer end of the trunk and a collapsible packing at the inner end of the trunk-casing, substantially as described.

268,478. TELEGRAPH-WIRE. FREDERICK K. FITCH, New York, N. Y., assignor to William H. Ritter, same place. Filed Sept. 23, 1881. (No model.)



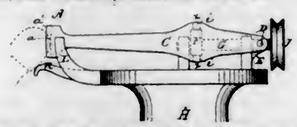
Claim.—A compound wire composed of a phosphor-bronze core and a covering of copper united thereto, substantially as described.

268,479. BOOT. BERNARD GUTLESON, San Francisco, Cal. Filed Dec. 3, 1881. (No model.)



Claim.—A boot having its upper and leg made in one solid piece, and having only a single straight riveted seam at the back, in combination with a riveted counter formed to extend near to the middle of the instep, as described.

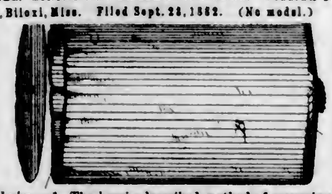
268,480. HEEL-BURNISHING MACHINE. WILLIAM GORDON, Boston, Mass. Filed Apr. 24, 1882. (No model.)



Claim.—1. In a burnishing-machine, the burnishing-tool A, the burnishing-face *a* and lip *a'* of which are in a substantially vertical plane, combined with the tool-carrying frame C, having the horizontal pivots D D and cross-bars I I, and the operating-eccentric F, arranged upon a driver-shaft, G, to impart to said frame a vibratory movement in a vertical plane, substantially as shown and described, and for the purpose specified.

2. In a heel-burnishing machine, the frame supporting the burnishing-tool and the devices for reciprocating it vertically, and provided with a fixed rest, R, extending outward below and beyond the tool, and adapted to afford a bearing beneath for the heel in a line with the path traveled by the tool and beyond the outer face of the latter, as specified.

268,481. LINING FOR PRESERVING-CANS. WILLIAM GORNELO, Biloxi, Miss. Filed Sept. 23, 1882. (No model.)



Claim.—1. The herein-described method of preparing corn-husk linings for cans, consisting in first steaming the husks, then pressing them into leaves or sheets, which are afterward dipped into a bath of paraffine or suet, for purposes specified.

2. The herein-described lining for preserving-cans, consisting of sheets having their ends bent under to form the bottom, and twisted and secured at the center thereof, in combination with the top disk, as set forth.

268,482. SHIRT. ALFRED H. GRAFFTEY, Indianapolis, Ind., assignor of one-half to Frank P. Temple, Chicago, Ill. Filed Aug. 25, 1882. (Model.)

Claim.—1. In a shirt, the two-part facing B C, for the back-opening, the portion B being an ordinary facing extending downwardly from the yoke or neck and along one side of the opening, as shown, and the portion C being cut tapering and extending downwardly from the yoke or neckband along the other side of

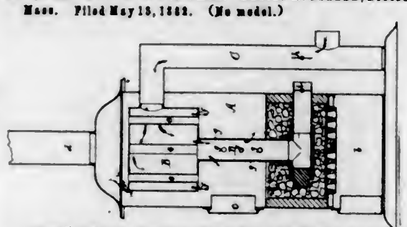
268,482.



the opening and part way up the first side, the points of connection between the two parts B and C being the outer edge of the former and the inner edge of the latter, all substantially as shown and described, and for the purposes specified.

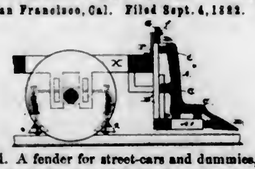
2. The combination of the shirt-body A and the two-part facing B C, one part upon one side of the shirt-opening and the other part upon the other side, and one part being folded back and extending part way up the other, and having its inner edge secured to the outer edge of said other part for the distance which it so extends, substantially as set forth.

268,483. STOVE OR FURNACE. DANIEL M. GRAHAM, Boston, Mass. Filed May 18, 1882. (No model.)



Claim.—The combination of the stove and the drum arranged within it, and provided with flue-pipes and air-educts, disposed as set forth, with the two hot-air induction-pipes having dampers, and arranged with such stove and drum substantially as represented.

268,484. WHEEL-FENDER FOR RAILWAY-CARS. AIKEN HAMAR, San Francisco, Cal. Filed Sept. 4, 1882. (No model.)



Claim.—1. A fender for street-cars and dummies, consisting of a frame-work, A B, extended forward at a low level, so as to form an approximately horizontal step or seat, as described, suitably stuffed or padded, and covered, and adapted to be attached to and covered by the front end of the car or dummy truck, substantially as described.

2. The improved fender consisting of the frame A B, with spring-slats C D, and a suitable stuffing and covering, having the recess H for the draw-head and a means for attaching it to the front of a car or dummy.

3. The guard attachment for car-wheels, consisting of the bracket 3, the rod 1, the shoe secured thereto, and the yielding spring 5, substantially as described.

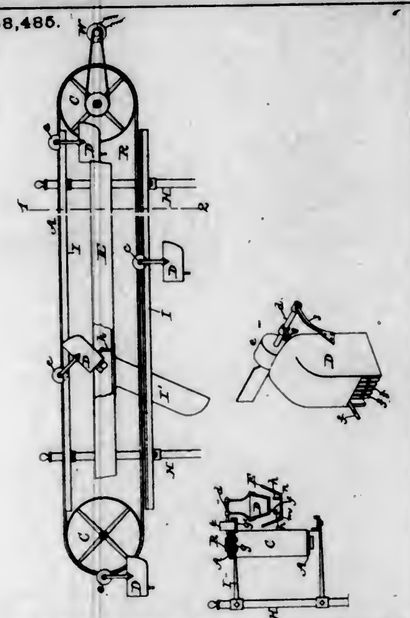
268,485. STORE-SERVICE SYSTEM. HARRIS H. HAYDEN, New York, N. Y., assignor to the Automatic Parcel Delivery Company, same place. Filed Aug. 14, 1882. (No model.)

Brief.—The carriers move by means of a traveling belt resting in a grooved way, the carrier having a guide-roller traveling in an adjacent grooved way. The carriers are detachably connected to the belt and have movable indexed stops, which engage stops at the stations. The carriers are released from the belt by a deflection in the guide-roller grooved way. The carriers, by means of the stops, dump their contents either into a receptacle or into chutes. The cash-receptacle has separated pivoted arms with intervening spring, and one of the arms hooked at its end.

Claim.—1. The combination, in a store-service apparatus, of a desk, ways, counters or stations, carriers, and appliances, substantially as described, whereby the contents of the carriers are discharged at the stations while the carriers are moving, substantially as set forth.

2. The combination, in a store-service apparatus, of a belt and means for propelling it, carriers connected to said belt, and appliances, substantially as described, whereby the contents of the car-

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riers are discharged while the carriers are moving with the belt, substantially as set forth.

3. The combination of desk and counters of a store and the traveling belt, carriers, and unloading appliances adjusted to discharge the contents of each carrier at the station for which they are intended, substantially as set forth.

4. The combination of the traveling belt, stops at the stations, and carriers provided with movable dumping-stops, substantially as set forth.

5. In a store-service system, ways between the desk and stations and carriers provided with movable indexed stops, whereby the clerk at the central desk can determine the station at which each carrier shall deliver its load, substantially as set forth.

6. The combination, with a store-service carrier, of a series of movable stops, *f*, substantially as set forth.

7. The combination of a belt, attachments connecting dumping-carriers detachably thereto, stops for discharging the contents of the carriers while they are moving, guides, and a deflector whereby the carriers are disconnected from the belt at the main desk, substantially as set forth.

8. The combination of a traveling belt, a guide or support, I, and dumping-carriers connected to said belt, and provided with bearings resting upon said support, substantially as specified.

9. The combination, with the traveling belt and its carriers, of the guide I, having recesses *g g'*, substantially as set forth.

10. The combination, with the traveling belt and dumping-carriers, of a receptacle, E, substantially as set forth.

11. The cash-receptacle V, provided with separated arms, one having a hooked end and a spring, as set forth.

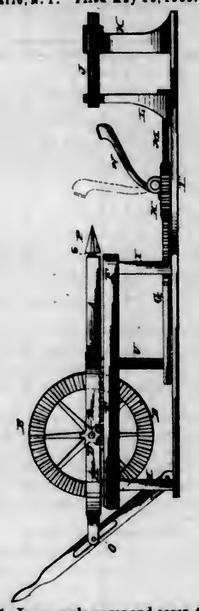
12. The combination of the dumping-carriers moving between the main desk and stations, and chutes arranged to conduct the contents of the carriers to the stations, substantially as set forth.

268,486. PROCESS OF FORMING ORNAMENTAL DESIGNS ON METAL. THOMAS N. HERCHY and EDWARD P. FRICKER, Northampton, Mass., assignors of one-half to E. E. Wood, same place. Filed June 9, 1882. (No specimens.)

Claim.—1. The process of producing "bitten-in" figures and characters upon metals, which consists in applying a ground to the surface thereof, consisting of gum-guiac varnish, and then cutting figure forms through said ground to expose the metal beneath by applying thereto an elastic-faced figure-bearing stamp having applied thereto a ground-removing element consisting of an alkali, then applying acid to said figure-forms, and finally washing off said acid and ground, all substantially as set forth.

2. The improvement in processes for ornamenting metals by the application of acid thereto through figure forms in a ground of gum-guiac varnish applied to the metal, which consists in producing said figure forms by applying a figure-stamp to said ground, having upon its face an alkaline ground-removing element, all substantially as described.

268,487. APPLE PARER, CORER, AND DOFFER. FRANCIS A. HILL, Ontario, N. Y. Filed May 13, 1882. (No model.)



Claim.—1. In an apple parer and corer, the frame I, carrying the guides F and rack E, the reciprocating carriage A, carrying the shafts R and S, with bevel-gears B and C and spur-pinion D, and the rack-bar G, connected with carriage A and provided with means for imparting rotations to the paring-knife N, and also reciprocating the doffer L upon the corer J, mounted upon standard K, all the parts being combined and arranged for joint operation in the manner shown and described.

2. In an apple parer and corer, the combination of the doffer L with the carriage A, the arm U, the rack-bar G, the rod M, and the coring-tube J, substantially as herein shown and described, whereby the apple is knocked off the coring-tube, as set forth.

268,488. WAGON OR LIFTING JACK. LORA B. HOIT, Worcester, Mass. Filed Oct. 14, 1882. (No model.)



Claim.—In a wagon or lifting jack, the combination, with the base A, standard B, and rear plate, D, of the front notched metallic plate, C, having the foot or bracket *b'*, substantially as set forth.

268,489. REVOLVING FIRE-ARM. FREEMAN W. HOOD, Norwich, Conn. Filed Sept. 25, 1882. (No model.)

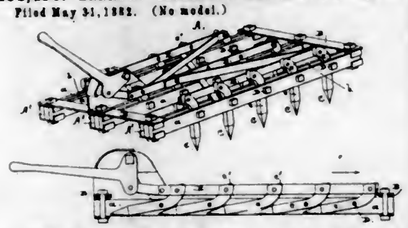
Claim.—In a revolver, pistol, or fire-arm, the stock provided with the screw-threaded hole *c*, and with the latch-chamber *a*, open at bottom and at top, and opening into such hole *c*, substantially as set forth, in combination with the screw *d*, screwed into such hole, and with the charge-cylinder latch C and its spring *e*,

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arranged within such chamber, and with respect to the trigger and the said screw, essentially as represented.

268,490. HARROW. THOMAS J. HUBBELL, Redwood City, Cal. Filed May 31, 1882. (No model.)



Claim.—1. In a pivoted toothed harrow, the combination of the bars *a*, in which the teeth are pivoted, and the connecting-rod E of the pivoted teeth C, having a lower straight portion, *e*, below the pivot-point, and an upper curved portion, *c'*, above said point, extending toward the source of operation, whereby the teeth may be brought to an approximate level on the under side, substantially as herein set forth.

2. In a pivoted toothed harrow, the combination, with the pivoted teeth C, having the top *c'* curved as described, of double frame-pieces *a*, between which the teeth are pivoted, pivot-bars E, to which the curved tops of the teeth are pivoted, connecting-rods and lever for operating the same, whereby the teeth may be made to take a perpendicular, nearly horizontal, or any intermediate inclination, substantially as set forth.

268,491. SIEVE OR SCREEN FOR GRAIN-SEPARATORS. THOMAS J. HUBBELL, Redwood City, Cal. Filed May 1, 1882. (No model.)



Claim.—1. A sieve or screen for grain-separators, having a corrugated perforated surface composed of sections placed at different levels, substantially as set forth.

2. A sieve or screen for grain-separators, having a corrugated perforated surface composed of sections placed at different levels extending across the frame, and the corrugations in one section breaking line with those in the adjacent section.

3. A sieve or screen for grain-separators, having a corrugated perforated surface composed of sections placed at different levels, and the interposed cross-strips B, combined therewith.

4. In combination with the series of corrugated perforated sections placed in successive order, the cross-strips B and inclined deflectors D.

268,492. PROCESS OF AND APPARATUS FOR THE MANUFACTURE OF SACCHARINE COMPOUNDS. THOMAS A. JESS, Buffalo, N. Y. Filed Aug. 30, 1882. (No model.)

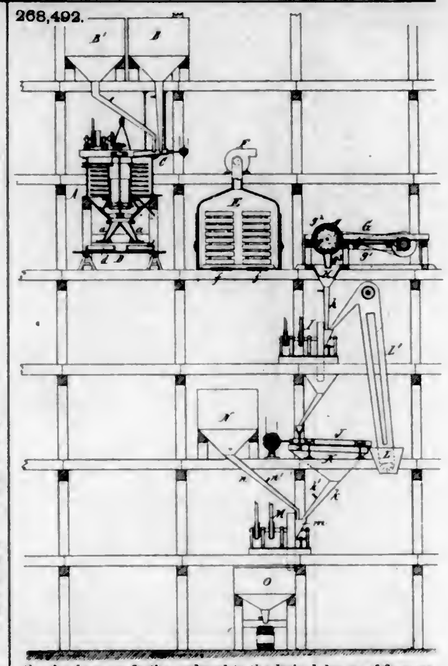
Claim.—1. The herein-described method of manufacturing saccharine compounds, which consists in mixing grape-sugar with cane-sugar or beet-sugar before the grape-sugar has become hard or set, substantially as set forth.

2. The herein-described process of manufacturing saccharine compounds, which consists in mixing grape-sugar with cane-sugar or beet-sugar before the grape-sugar has become hard or set, and then forming the mixture into blocks or other solid forms, substantially as set forth.

3. In an apparatus for manufacturing saccharine compounds, the combination of a reducing-machine whereby the block grape-sugar is reduced to the proper degree of fineness, a receptacle, N, containing cane or beet sugar, and a mixing-machine, M, whereby the cane or beet sugar and the comminuted grape-sugar are intimately mixed, substantially as set forth.

4. In an apparatus for manufacturing saccharine compounds, the combination of a scraping or shaving machine, G, whereby the solid grape-sugar is reduced to shavings, and a mill, I, whereby

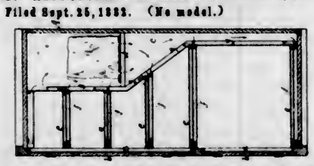
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the shavings are further reduced to the desired degree of fineness, substantially as set forth.

5. In an apparatus for manufacturing saccharine compounds, the combination of a reducing-machine, whereby the block grape-sugar is reduced to the proper degree of fineness, a separating-machine whereby the coarse material which has not been reduced to the proper degree of fineness is separated from the fine material, a receptacle, K, in which the fine material is collected, a receptacle, N, containing cane or beet sugar, and a mixing-machine, M, whereby the cane or beet sugar and the comminuted grape-sugar are intimately mixed, substantially as set forth.

268,493. REFRIGERATOR. RALPH S. JENNINGS, Baltimore, Md. Filed Sept. 25, 1882. (No model.)



Claim.—1. The series of hollow shelves provided with partitions and escape-pipes, as described, in combination with an ice-holding or refrigerating-chamber arranged in rear of and to communicate with them, all being substantially as set forth.

2. The combination of the hollow casing surrounding the hollow shelves, as set forth, with them, their horizontal partitions, escape-pipes, and refrigerating-chamber, arranged substantially as shown and described.

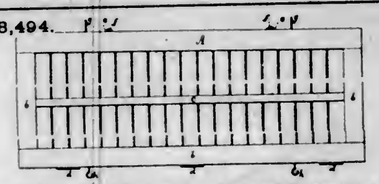
3. The combination of the vertical hollow partition extending upward through the hollow shelves, with them, their horizontal partitions, escape-pipes, and refrigerating-chamber, all being arranged and adapted substantially as set forth.

4. The combination of the hollow casing surrounding the hollow shelves, as set forth, and the hollow partition extending upward through them, with them, their horizontal partitions and escape-pipes, and the refrigerating-chamber arranged in rear of them, all being substantially as shown and described.

268,494. SUPPORTER FOR LEATHER-BOARD. RALPH S. JENNINGS, Baltimore, Md. Filed Sept. 25, 1882. (No model.)

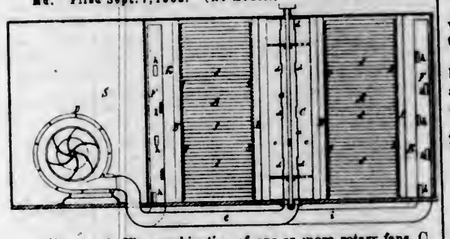
Claim.—The leather or card board supporter, substantially as

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described, consisting of the two slatted frames A B, hinged to each other and provided with hooks and eyes or other proper means of closing them together, and also with hooks applied to one of them and projecting from its opposite bars, and arranged substantially as described.

268,495. APPARATUS OR MEANS OF DESICCATING TEXTILE OR OTHER FABRICS. RALPH S. JENNINGS, Baltimore, Md. Filed Sept. 7, 1882. (No model.)

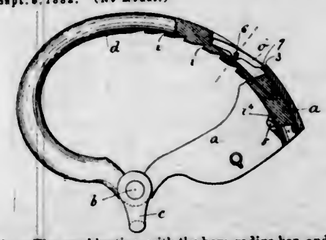


Claim.—1. The combination of one or more rotary fans, C, and stationary perforated pipes F, arranged, essentially as described, in a room, R, with one or more induction air-blowers, D, and one or more eduction air-blowers, G, provided with conduits leading from them to the pipe or pipes and fan or fans, all being for use with frames, racks, or suitable appliances arranged in such room, and for supporting goods to be dried, substantially as set forth.

2. The combination of one or more rotary fans, C, and stationary perforated pipes F, arranged, essentially as described, in a room, R, with one or more induction air-blowers, D, one or more eduction air-blowers, G, and one or more condensers, H, all being substantially and arranged and adapted as and for use as set forth.

3. The combination of partitions E, arranged, substantially as described, with one or more rotary fans, C, in a room, R, with such fans, and with the perforated pipes F and air induction and eduction blowers D G, all being adapted to operate essentially as and for the purpose set forth.

268,496. HANDCUFF AND SHACKLE. HENRY W. KAHLER and JOHN J. TOWER, Brooklyn, N. Y., assignors to said Tower. Filed Sept. 6, 1882. (No model.)



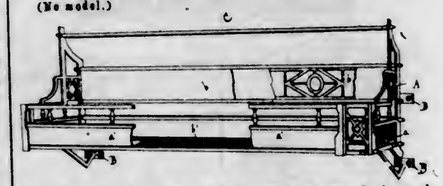
Claim.—The combination, with the bow, radius-bar, and lock in a handcuff or shackle, of a movable stop upon the bow near the end thereof, to arrest the movement of the bow and prevent the shackle locking until the stop is turned aside, substantially as set forth.

268,497. HEEL OR COUNTER SUPPORT FOR BOOTS AND SHOES. SIMON B. KOPPER, Des Moines, Iowa, assignor of one-half to Stacy Johns, same place. Filed Mar. 16, 1882. (No model.)



Claim.—An improved metallic counter-support for boots and shoes, consisting of a metal plate of the form shown and described, and provided with perforations at one end and with a longitudinal slot or slots in its central bent or curved portion, all substantially as and for the purposes stated.

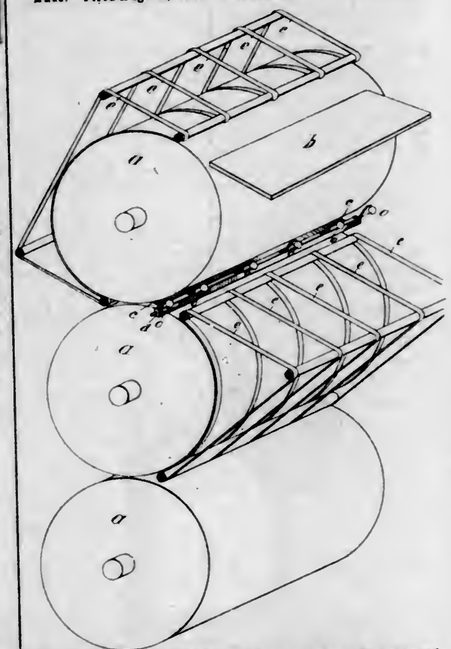
268,498. CAR BASKET-RACK. JOHN KIRBY, Jr., Ludlow, Ky., assignor to Post & Co., Cincinnati, Ohio. Filed July 11, 1882. (No model.)



Claim.—1. As an article of manufacture, a car basket-rack with ends of cast metal having an angled portion, said angled portion forming part of the front of the rack, substantially as described.

2. In a car basket-rack, the combination of cast-metal ends, having an angled portion forming part of the front of the rack, and a perforated sheet-metal front, back, or bottom, substantially as described.

268,499. PAPER-CALENDER. WILLIAM D. KITES, Russell, Mass. Filed Aug. 22, 1882. (No model.)

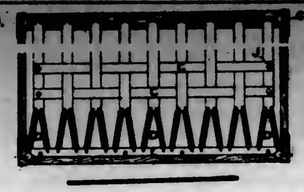


Claim.—The within-described improved doctor for paper-calender rolls, consisting of the plate *c'*, having plain faces free from all obstructions, and a continuous edge secured to the pivoted bar *d*, and adapted to have its edge borne by suitable weight upon the surface of a calender-roll, for the purpose set forth.

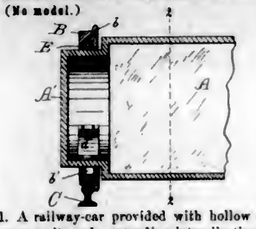
268,500. SPRING BED-BOTTOM. SMITH KNOWLES, Manchester, County of Lancaster, England. Filed Sept. 7, 1881. (No model.) Patented in England Aug. 12, 1881, No. 3,495.

Claim.—In a bed-bottom, a series of longitudinal slats, in combination with a connected series of transverse slats free from the sides of the frame, a series of springs whereby the longitudinal slats are individually attached at one end to the frame, and a bar forming part of said frame, to which the longitudinal slats are attached at the other end thereof, substantially as set forth.

268,500.



268,501. FREIGHT-CAR. PIERRE LACROIX, Chicago, Ill., assignor of one-half to David Bourgeois, same place. Filed Oct. 8, 1883. (No model.)



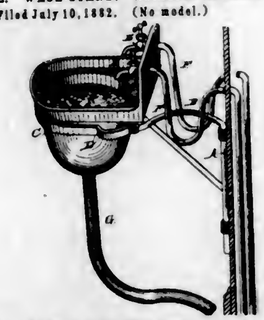
Claim.—1. A railway-car provided with hollow cylindrical projections at or near its ends, extending laterally therefrom, and so mounted upon the inner circumference of annular wheels or tires that the center of gravity of said car may be at the lowest practicable point, substantially as described.

2. A railway-car having hollow cylindrical projections extending laterally therefrom at or near its ends, around which may be adjusted annular wheels or tires revolving upon frictional rollers, substantially as described.

3. A railway-car having hollow cylindrical projections extending laterally therefrom at or near its ends, near the bottom of which are placed two or more friction-rollers having a horizontal axis, and at or near the top of which are placed one or more like rollers having a vertical axis, all so adjusted as to run within a groove upon the inner circumference of an annular wheel or tire, substantially as described.

4. A railway-car having hollow cylindrical projections extending laterally therefrom at or near its ends, near the bottom of which are placed two or more friction-rollers having a horizontal axis, and provided with covers, substantially as and for the purpose set forth.

268,502. WASH-STAND. NAPOLEON LE BLANC, Kansas City, Mo. Filed July 10, 1883. (No model.)



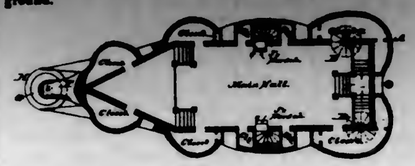
Claim.—1. The combination, with a hinged bracket or crane having curved arm B, of a wash bowl or basin mounted in a ring hinged to said curved arm, as set forth.

2. The combination of the hinged bracket or crane, the wash bowl or basin mounted in a holder hinged to the curved arm B of said crane, and flexible pipes connecting said wash-bowl with a suitable water-supply and waste-pipe, as set forth.

3. The combination and arrangement, as described, of the crane or bracket A, having curved arm B, the hinged ring or holder C, the bowl or basin D, having faucets E, and the flexible pipes F G, as and for the purpose set forth.

268,503. BUILDING. JAMES V. LAFFERTY, Philadelphia, Pa. Filed June 3, 1883. (No model.)

Brief.—Consists of a building in the form of an animal, having apartments with windows, access to which is had through the hollow legs. The building has an inwardly-curved chute formed from a member of the animal and connecting with a box on the ground.



Claim.—1. A building having the form of an animal, the body of which is constructed with floors divided into apartments, provided with windows and stairs, and supported on hollow legs, which afford access to the body, substantially as set forth.

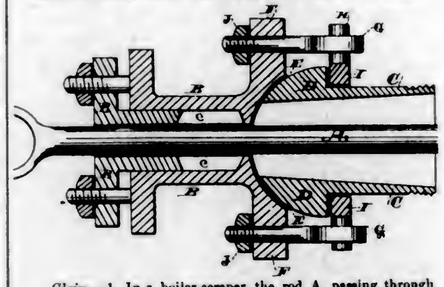
2. A building of the form of an animal, having a body which is supported on hollow legs, one or all of which contain stairs which lead to the body, substantially as and for the purpose set forth.

3. A building for human occupancy, having the form of an animal and having a chute which extends down through a member of said animal and communicates with the interior of the body, substantially as set forth.

4. The chute F, in combination with the trussing *b* and the body B, substantially as and for the purpose set forth.

5. The body B and chute F, in combination with the box G, substantially as and for the purpose set forth.

268,504. BOILER-SCRAPING ATTACHMENT. JAMES M. LARKIN, Grass Valley, Cal. Filed Oct. 2, 1883. (No model.)



Claim.—1. In a boiler-scraper, the rod A, passing through the stuffing-box B into the boiler, in combination with the pipe C and the globular head D, fitting a corresponding socket in the end of B, and retained so that the rod and stuffing-box may have a movement about the head without leakage, substantially as herein described.

2. The pipe C, fitting into the boiler, and the stuffing-box B, with the interposed universal joint D, in combination with the rod A and scraper of a boiler-cleaner, substantially as herein described.

268,505. MANUFACTURE OF COLORING-MATTER. CARL F. L. LIMPACH, Höchst-on-the-Main, Germany, assignor to Farbwerke, vormals Meister, Lucius & Brüning, same place. Filed June 22, 1883. (No specimens.) Patented in France May 27, 1883, No. 137,109, and in England May 30, 1883, No. 2,544.

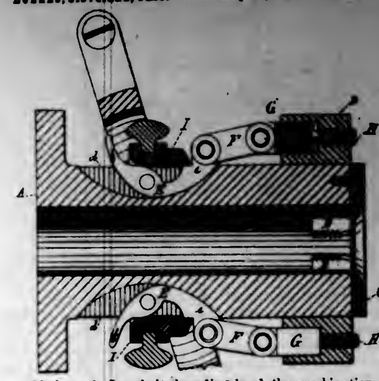
Claim.—As a new manufacture, the bluish-red coloring-matter produced by the action of the sulphonic acid of amidoazo-benzole upon an alkaline solution of the trisulphonic acid of beta-naphthol, or by any other means that will produce a like result.

268,506. MANUFACTURE OF COLORING-MATTER. CARL F. L. LIMPACH, Höchst-on-the-Main, Germany, assignor to Farbwerke, vormals Meister, Lucius & Brüning, same place. Filed June 22, 1883. (Specimens.) Patented in France May 27, 1883, No. 137,109, and in England May 30, 1883, No. 2,544.

Claim.—1. The herein-described process for producing a red coloring-matter, which consists in the reaction, with sodium salt, of the beta-naphthol trisulphonic acid upon the diazo compound derived from alphanaphthylamine sulphonic acid, substantially as set forth.

2. The red coloring-matter described, produced from beta-naphthol trisulphonic acid and the diazo compound of the alpha-naphthylamine sulphonic acid, in the manner substantially as set forth, or by any other means that will produce a like result.

268,506. MACHINE FOR THREADING BOLTS. HENRY D. LUDERS, Cleveland, Ohio. Filed May 26, 1882. (No model.)

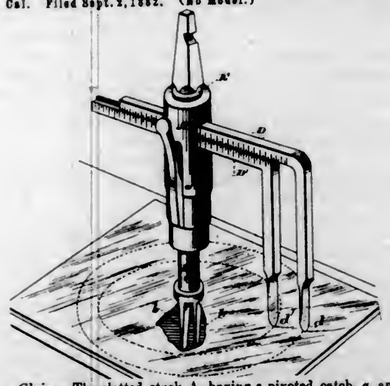


Claim.—1. In a bolt-threading head, the combination, with dies and a longitudinally-sliding ring for imparting radial movement to the dies, of a two-armed lever, pivoted to the head, devices for connecting one arm of said lever to the sliding ring, and devices for engaging the other arm of said lever for rocking it on its pivotal bearing, and thereby moving the sliding ring, substantially as set forth.

2. In a bolt-threading head, the combination, with the lever E, and a means for operating said lever, of a connecting-link and an adjustable stud secured to the die-ring, substantially as shown and described.

3. In a bolt-threading head, the combination, with two levers, E E, and ring I, for operating the same, of the studs G G and die-operating ring D, one of said studs only being connected to the said ring D, substantially as shown and described.

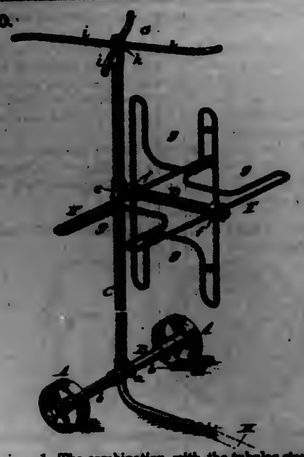
268,509. WASHER-CUTTER. CHRISTOPHER C. MALTBY, Chico, Cal. Filed Sept. 2, 1882. (No model.)



Claim.—The slotted stock A, having a pivoted catch, *a*, and the spring pivot-center B, having a groove, *c*, in which the catch *a* fits, and tines *b*, as shown, in combination with the adjustable bent radial arms D D', passing through the slotted stock, and having cutting-knives *d d'*, and the set-screw E, in the top of the stock, all arranged as shown, and substantially as herein described.

268,510. HOSE-REEL. SAMUEL W. MARTIN, Springfield, Ohio. Filed Aug. 8, 1882. (No model.)

268,510.



Claim.—1. The combination, with the tubular standard and its supporting-wheels, of a reel mounted on said standard, and the radial arms applied to the upper end of the standard and adapted to serve as a handle to propel the apparatus, and also as a spraying device, substantially as set forth.

2. The improved reel, consisting of the hubs and the series of M-shaped arms *g*, having open spaces *h*, to receive and retain the end of the hose.

3. The improved reel, consisting of two separate hubs, *f*, and a series of M-shaped arms having their ends inserted in the respective hubs, as described and shown, whereby the reel is given a direct and separate support at each end.

4. In a hose-reel, the combination of the standard C, the vertically-adjustable coupling encircling the same, and the reel-supporting frame screwed into said coupling and against the standard, as described, whereby the coupling is secured in position and the vertical adjustment of the reel upon the standard permitted.

5. In combination with the supporting-wheels, the tubular reel-supporting standard having its two ends bent at substantially right angles to each other, one end being adapted, as described, to rest upon the ground and sustain the other end in an upright position.

6. The combination of the sustaining-wheels, the L-shaped tubular standard applied thereto and adapted to bear at one end upon the ground, and a spraying device applied to the upper end of said standard, substantially as described and shown.

7. In combination with the tubular bent standard C, the coupling *a*, encircling the same, and the wheel-carrying axle inserted into the coupling, as described and shown, whereby the standard is sustained in proper position in relation to the wheels.

8. In combination with the reel-supporting standard, the coupling, the supporting-wheels, and the axle having each end composed of two sections united by an external collar, *c*, as and for the purpose described.

268,511. CHOCOLATE-PACKAGE. HENRY McCOBB, New York, N. Y. Filed Oct. 13, 1882. (Model.)



Claim.—1. A chocolate-package cover provided with flanges to which the grater is appended, as and for the purpose specified.

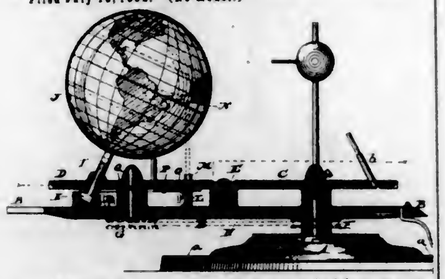
2. In a box or package, the combination, with the removable cover B of the body A, of a grater, C, made shorter than the said cover and attached at its side edges to the side flanges of the said cover, substantially as herein shown and described, whereby the

grater will be kept from contact with extraneous substances, as set forth.

3. In a box or package, the combination, with the cover B of the box A, of the grater C, whose burred surface is below the edges of the flanges of the cover, to provide side guides and end stops to guide and limit the movements of the substance being grated and prevent waste of the grated material, substantially as shown and described.

4. In a box or package, the grater C, arranged in the cover B, with its burred surface below the edges of the flanges of the cover and made shorter than the cover, substantially as herein shown and described.

268,512. TELLURIAN. THOMAS MCDONOUGH, Chicago, Ill. Filed July 13, 1882. (No model.)



Claim.—1. In combination with the central globe representing the sun, the revolving arm B, provided with the rim or flange L, the disk D, mounted upon the outer end of the arm B, means, substantially as shown, for revolving the disk D upon its own axis, and the earth-globe having its spindle sustained by the disk D, and provided with a pulley engaging with the circular rim L, as shown.

2. In combination with the central globe representing the sun, the disk D, the earth-globe J, sustained by an inclined axis upon the disk D, and means, substantially as described, for revolving the disk D upon its own axis, and also revolving the earth-supporting spindle within the disk.

3. In combination with the horizontal revolving arm B and the disk D, arranged to revolve thereon, the earth-globe J and its spindle I, provided with a frictional driving-pulley, K, arranged to co-operate with an annual rim upon the arm B, substantially as shown.

4. In combination with the disk D, revolving upon its axis by means substantially as described, a revolving spindle mounted upon said disk to support the earth-globe, and a frictional pulley and flange, substantially as described, for imparting motion to said spindle.

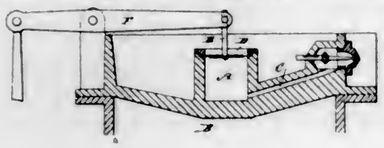
5. In combination with a globe or equivalent device representing the sun, a miniature comet and mechanism, substantially as described, whereby the comet is revolved around the sun and maintained with its tail extended therefrom.

6. In combination with the revolving arm B, the disk D, and means, substantially as described, for revolving said disk upon the arm, the comet-sustaining spindle M and the gear-wheels O P Q, for operating the same, substantially as described and shown.

7. In combination with the sun-globe or its equivalent, the revolving arm B, disk D, the comet-sustaining spindle M, and means, substantially as described, for revolving the disk D upon its own axis, and at the same time revolving the spindle M within the disk.

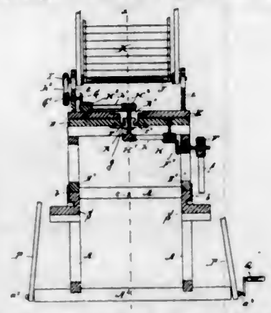
8. In an apparatus for illustrating the movements of the heavenly bodies, a device representing the sun, a device representing the earth arranged to revolve around the sun, and a disk provided with diagrams representing the movements of the planetary bodies in relation to the earth, and means, substantially as described, for revolving said disk upon its own axis beneath the earth while being carried with the latter around the sun.

268,513. INJECTOR FOR TYPE-CASTING MACHINES. THOS. MCKISLEY, New York, N. Y. Filed Mar. 2, 1882. (No model.)



Claim.—In a type-casting machine, the combination, with the pump-cylinder or other formed box serving the same purpose, of a sheet-metal diaphragm closely secured at its edges to said cylinder or box, and admitting of sufficient vibration of its area within said edges to act as a piston to draw in and expel the amount of metal required by means of a suitable handle or piston-rod attached to its center, as shown and described.

268,514. STRAW-STACKING MACHINE. CHARLES E. MORRIFIELD, Indianapolis, Ind. Filed Sept. 22, 1882. (No model.)



Claim.—1. The combination, in a straw-stacking machine, of carriage A, with inclined rails A' A', windlass C, ropes c c, and sliding truck B with guide-plates *b b*, fifth-wheel D and E, spindle *g*, boxing R and R', and pulleys H' and H³, substantially as described.

2. The combination, in a straw-stacking machine, of belt *f*, pulley F, beveled gearings F' and H, belt *h*, pulleys H' and H', spindle *g*, boxing R and R', belt *h'*, pulley H³, gear-wheel G, with pulley G', belt *h'*, with pulley I, standards e e, shaft J, and straw-stacker frame K, substantially as described, and for the purpose set forth.

3. The combination of spindle *g*, boxing R and R', constructed with flanges r and r', and wheels D and E, for the purpose specified.

4. The combination, in a straw-stacking machine, of carriage A, derrick T, cross-rail A³, pins *a³ a³*, windlass Q, shoulders S S, and pins *s s*, for the purpose specified.

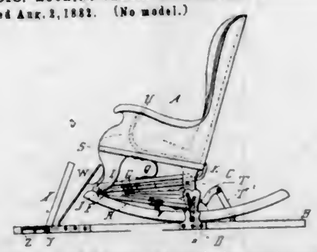
5. The combination of spars I' I', bolts *p³ p³*, and head-block I', formed with eyes *p'* and *p³*, as specified, and for the purpose set forth.

268,515. ARTIFICIAL STONE. JOHN G. MEYERS, Washington, D. C. Filed Oct. 17, 1882. (No specimens.)

Claim.—1. An artificial stone composed of a mixture of sand or similar material, cement or lime, with the addition of alum and concentrated lye or their equivalent, substantially as described.

2. The use or addition in the manufacture of artificial stone of alum and lye or their equivalent, substantially as described, whether the same be incorporated through the entire mass or with the outer layer only, substantially as set forth.

268,516. ROCKING-CHAIR. EMIL MICHAELS, Cincinnati, Ohio. Filed Aug. 2, 1882. (No model.)

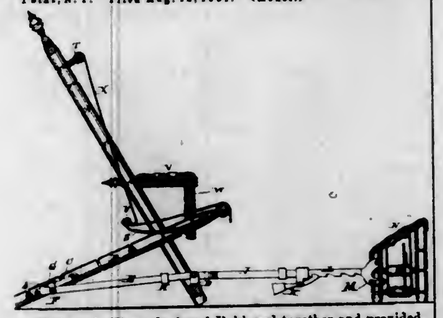


Claim.—1. The fanning and cushioning attachment for rocking-chairs, consisting of double-chambered bellows C, springs Q, shackle-connection T T', and the discharge pipes or nozzles V V', substantially as and for the purpose set forth.

2. The self-fanning rocking-chair consisting of chair proper, A, having gudgeons *a a'* in V-slotted bearings D D', attached respectively to the chair-rocker and base B, and bellows C, connected by board H, toggles T T', and spring Q to platform B and seat S, respectively, and provided with discharge-nozzles V V', substantially as set forth.

3. In combination with rocking-chair proper, A, and socketed platform B Z, the folding and shiftable elastic foot-rest W, and hinged supporting-frame X, having pivots Y, substantially as represented.

268,517. RECLINING-CHAIR. DAVID W. MILLER, Whitney's Point, N. Y. Filed Aug. 12, 1881. (Model.)



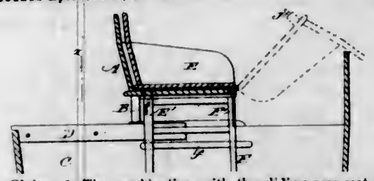
Claim.—1. The rods A and B, hinged together and provided with ratchet-bars C, in combination with bars E, hinged to a cross-round of rods A by means of ear-clips D, and connected at the opposite ends by clasps *b* to ratchet-bars C, and provided at the same end with cross-round F, having toe-plate G connected thereto, whereby the several parts will operate as set forth.

2. The combination, with the chair and foot-rest, of the bar I, provided with slotted ear M, hinged to the foot-rest, and the foot-rest provided with a pin which passes through the slot, whereby the foot-rest is enabled to assume the proper adjustment upon the extending or upon the folding of the hinged legs, substantially as shown and described.

268,518. EXPLOSIVE COMPOUND. CHRISTOPHER F. MONNIG, San Francisco, Cal. Filed Aug. 9, 1881. (No specimens.)

Claim.—As an improvement in chlorate-of-potash explosives, the herein-described compound, consisting of the following ingredients, in about the proportions named, viz: chlorate of potash, sugar, charcoal, black oxide of manganese, metallic zinc, water, and wax in either of the forms of yellow wax, beeswax, or vegetable wax, in about the proportions set forth.

268,519. SEAT FOR VEHICLES. JOHN MOORE, Amherst, Nova Scotia, Canada. Filed July 15, 1882. (Model.) Patented in Canada Apr. 6, 1882, No. 14,580.



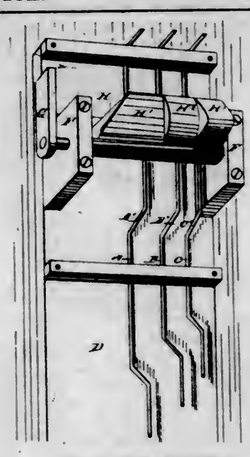
Claim.—1. The combination, with the sliding rear seat, A, having the apertures *g h*, of the front hinged seat, E, blocks G H, and the pins J, adapted to pass into the upper ends of the legs E', as shown and described.

2. The combination, with a vehicle-box, C, of the rear seat, A, provided with grooves *e* in the inner surfaces of its supports, the flanged track-plates D, the hinged front seat, E, under which the rear seat is adapted to pass, the legs E', provided with notches or recesses *d* in the outer sides, and of the guide-ridges *f* in the inner surfaces of the sides of the box, substantially as herein shown and described, and for the purpose set forth.

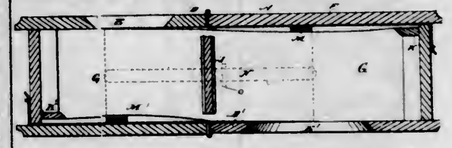
268,520. KNEE-STOP FOR ORGANS. GEORGE S. MORSE, Columbia, Mo. Filed May 22, 1882. (Model.)

Claim.—In a reed-organ stop-action, the combination, with the stop-wires A B C, connecting the stop-draws with the stop-valves, of the knee-stop E H, provided with the cams H' H² H³, arranged substantially as shown, whereby all the stops may be opened successively, or in part, or all simultaneously, as set forth.

268,520.



268,521. PICTURE-EXHIBITOR. EDWIN W. MORTON, White Plains, N. Y. Filed Dec. 28, 1881. (Model.)



Claim.—1. In a picture-holder, the combination, with the box A, provided with top and bottom openings, E E', at opposite ends, of the horizontally-reciprocating frame P, for moving the pictures from one end of the box to the other, substantially as herein shown and described.

2. In a picture-holder, the combination, with the box A, provided with the top and bottom picture-openings, E E', and doors F F', of the sliding frame P, substantially as herein shown and described, and for the purpose set forth.

3. In a picture-holder, the combination, with the box A, provided with partitions G, forming guide-grooves H, of the sliding frame P, substantially as herein shown and described, and for the purpose set forth.

4. In a picture-holder, the combination, with the box A, provided with the partitions G, forming guide-grooves H, of the blocks L L', sliding in these grooves, and the metal strips M M', uniting these strips L at opposite ends on the top and bottom, substantially as herein shown and described, and for the purpose set forth.

5. In a picture-holder, the combination, with the box A, of the partitions G, forming guide-grooves H, the blocks L L', sliding in these grooves, and united by strips M M', and of the beveled transverse projecting pieces K K', substantially as herein shown and described, and for the purpose set forth.

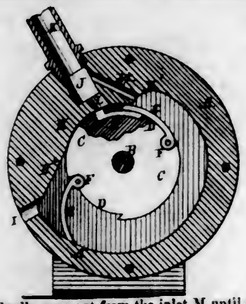
6. The combination, with the box A, provided with the guide-grooves H, and the longitudinal slot N, of the sliding blocks L L', united at their ends by the thin metallic cross-strips M M', and the button O, secured to one of the said sliding blocks and working in the slot of the box, substantially as and for the purpose set forth.

7. In a picture-holder, the combination, with the box A, provided with top and bottom openings, E E', at opposite ends, of the horizontally-reciprocating frame P, adapted to move the picture-holding frames C, having beveled edges cut away at the ends to form short straight edges *a a* to engage with said frame, substantially as and for the purpose set forth.

268,522. ROTARY STEAM-ENGINE. FRIEDRICH MULLER, Elizabeth, N. J., assignor of one-half to Mathew Macdougall, same place. Filed Oct. 5, 1882. (No model.)

Claim.—1. The drum C, having diametrically-opposite and pivoted pistons E E, of the cylinder A, having a steam-inlet, M, an exhaust-port, I, and an intermediate steamway gradually increasing in depth from the inlet M to the outlet I, whereby the

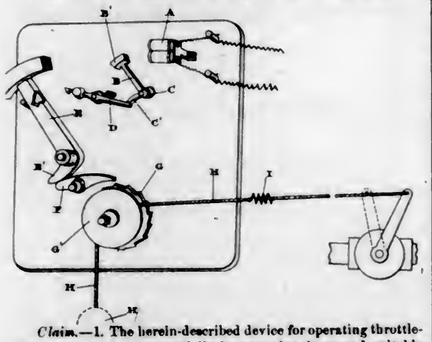
268,522.



pistons will gradually open out from the inlet M until they reach the outlet I, as and for the purpose specified.

2. In a rotary steam-engine, the abutment H, provided with two inlet-ports, substantially as herein shown and described—one, L, in the rear of the forward shoulder of the abutment to admit steam intermittently to open the wings, and be then closed by the wing-carrying drum, and the other, M, in advance of the said forward shoulder of the abutment to admit steam continuously to drive the engine, as set forth.

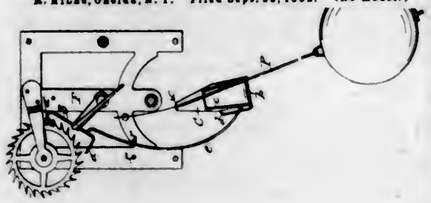
268,523. ELECTRIC DEVICE FOR OPERATING THE THROTTLE-VALVES OF STEAM-ENGINES. JOSIAH NESBITT, Toronto, Ontario, Canada. Filed Aug. 29, 1882. (No model.)



Claim.—1. The herein-described device for operating throttle-valves, which consists essentially in a rotating drum and suitable stop-pawl, a rope or chain connected directly to the throttle-valve and passing around said drum, and provided with suitable actuating-weight at its free end, a tripping-lever, and pivoted retaining-catch, and an electro-magnet having a pivoted armature adapted to engage the free end of the pivoted catch, and thereby release the stop-pawl tripping-lever when said armature is released by the interruption of the current in the electro-magnet, substantially as described.

2. The combination of the rotating drum G and suitable stop-pawl and the rope or chain H, connected directly to the throttle, and provided with suitable draft-spring L and an actuating-weight H', with the stop-pawl tripping-lever E, having extension E', the pivoted catch for retaining said lever in a vertical position, an electro-magnet having a pivoted weighted armature adapted to fall upon and raise the said catch, and thereby release the stop-pawl tripping-lever, when the current through the electro-magnet is interrupted, substantially as shown and described.

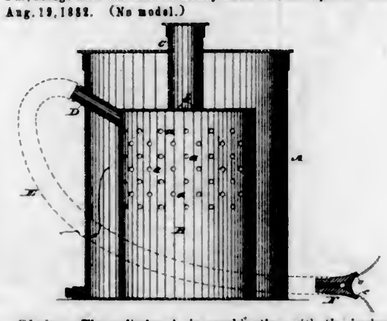
268,524. PENDULUM-ADJUSTMENT FOR CLOCKS. EMAN R. MILNE, Oneida, N. Y. Filed Sept. 22, 1882. (No model.)



Claim.—1. In a pendulum-clock, the combination of a clasp embracing the pendulum-rod between laterally-elongated frictional bearings, a guide-wire extended from the verge and connected with the clasp, and banking-pins arranged to limit the motion of the guide-wire, substantially as set forth.

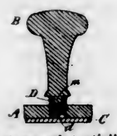
2. The combination, with a pendulum and verge, of the clasp consisting of the plate C, having the slotted projection *a*, broad base *b*, spring-bail *c*, and guide *d*, the guide-wire *e*, engaging the guide *d*, and the banking-pins *r r*, all as described and shown.

268,525. MEDICAL INHALER. ERNST NITZ, Philadelphia, Pa., assignor of one-half to HENRY THOMSEN, same place. Filed Aug. 19, 1882. (No model.)



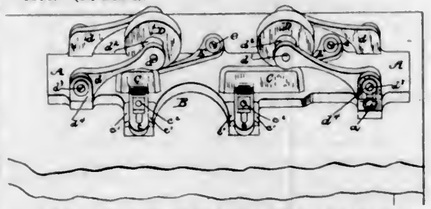
Claim.—The cylinder A, in combination with the inclosed cylinder having its upper part perforated and its lower part imperforate, the medicament-receptacle communicating with said inclosed cylinder, and a discharge-pipe, substantially as and for the purpose set forth.

268,526. HAND-STAMP. CHARLES H. NYE, Cincinnati, Ohio, assignor to Charles J. Belknap, Boston, Mass. Filed May 29, 1882. (No model.)



Claim.—In a hand-stamp substantially such as described, the body A and handle B, connected by the tube or hollow flexible shank D, as shown in Fig. 3, the handle being secured to the shank by the stud *m*, and the shank secured in the body by the conical plug *d*, all substantially as specified.

268,527. SHAPER ATTACHMENT FOR ROUNDING WOODEN POLES. MICHAEL S. O'NEIL, Rock Island, Ill. Filed July 20, 1882. (No model.)

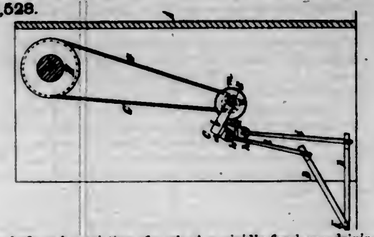


Claim.—A pole-shaving machine with bed-plate having adjustable gages, as C, on the side of the bed toward the cutter-head, spring-arms, as E, on the side opposite the cutter-head, to hold work against the cutter-head, and bearing-rolls, as D, borne on adjustable arms above the bed-plate, substantially as shown and described.

268,528. DEVICE FOR CONVERTING MOTION. ROBERT W. PAIN, New York, N. Y., assignor, by mesne assignments, to the National Automatic Piano and Organ Manufacturing Company, of New York. Filed Apr. 15, 1882. (No model.)

Claim.—1. An improved device for converting reciprocating into rotary motion, composed of two like cinteh elements, C C, each attached by a connecting-rod to a pedal that is rigidly fixed

268,528.



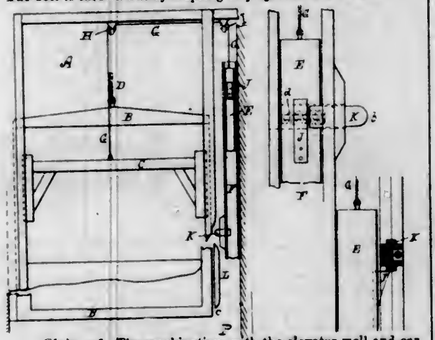
on a shaft, and consisting of a wheel, *a*, rigidly fixed on a driving-shaft, a fork, *b*, and arm *c*, loosely fixed on said shaft, the former provided with cross-bar *d*, and a pawl, *f*, pivoted on the free end of said arm *c*, said elements being made operative by the ascending motions of their respective pedals, as set forth.

2. In a device for converting reciprocating into rotary motion, and operated by the ascending movements of the connected pedals, the combination, with the fixed wheels *a a*, of the swinging arms *c c*, and attached pawls *f f*, said wheels being made to revolve by the ascending movements of said pawls, as set forth.

3. As a means for converting reciprocating into rotary motion, the combination, with a pair of wheels rigidly fixed on a shaft, of two pawls acting alternately and made to operate on the wheel-faces by means of the ascending motion of connected pedals, substantially as herein shown and described.

268,529. SAFETY-GATE FOR ELEVATOR-WELLS. EVERETT W. PECKER, Lynn, assignor of one-half to Arthur Fuller, Boston, Mass. Filed May 19, 1882. (No model.)

Brief.—The gate is raised by hand. The car has a cam, which presses against a bolt moving in a casing of the wellway, and engaging a spring-stop on the counterbalance-weight of the gate. The bolt is thrown out by a spring to project into the well.



Claim.—1. The combination, with the elevator well and car, of the gate, the weight partially equipoising such gate, and the spring-impelled bolt contained within the casing of the well and operating to retain the weight.

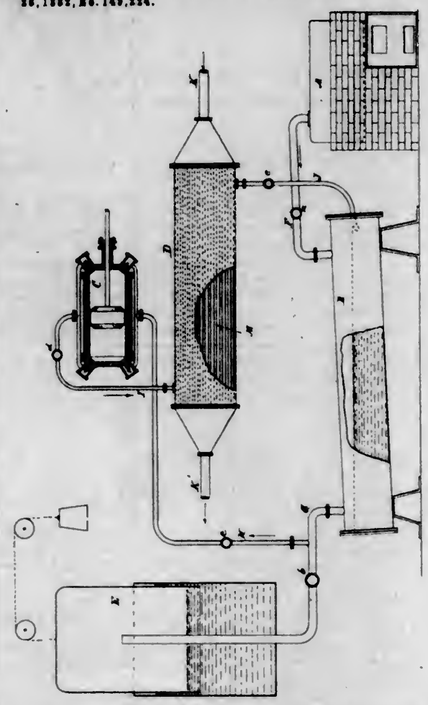
2. The combination, with the elevator well and car, of the gate, the weight partially equipoising the car, the bolt contained within an inclosure in the casing of the well and operating to retain the weight, and a cam-plate secured to the car and operating to advance the bolt beneath the stop upon the weight.

3. In combination with the gate, the weight connected with said gate and the elastic stop or spring carried by the weight and adapted to give way before the bolt as it impinges against the latter.

4. The combination, with the elevator well and car, of the gate, the weight connected to said gate and sliding in an inclosure of the well, the spring-latch secured to said weight, the spring-pressed bolt attached within the well-casing, and the cam carried by the car operating to force the said bolt inward, which impinges against the spring-latch and retains said weight, substantially as and for the purposes set forth.

5. In combination with the elevator-well cord, the gate adapted to be raised and lowered, substantially as described, a weight connected with the gate by a cord or chain passing over suitable pulleys, a spring-impelled bolt contained within a recess of the well-casing, and the elevator-car carrying a device for advancing the bolt to a point to intercept a stop upon the weight.

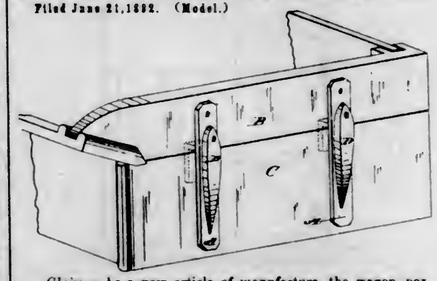
268,530. PRODUCTION AND DEHYDRATION OF SULPHUROUS OXIDES AND APPARATUS THEREFOR. RAOUL PICTET, Geneva, Switzerland, assignor, by mesne assignments, to the Pictet Artificial Ice Company, (Limited,) New York, N. Y. Filed July 27, 1882. (No model.) Patented in France May 26, 1882, No. 149,234.



Claim.—1. The described process or method of dehydrating sulphurous acid, consisting in crystallizing out of it its contained hydrate by passing the acid, in a gaseous state, through a refrigerator in which pure anhydrous sulphurous acid is undergoing vaporization, and thereby producing in the refrigerator the temperature as low as that at which the hydrate of sulphurous acid crystallizes, as specified.

2. The described apparatus, consisting of the retort A, the refrigerator B, the gas-holder E, the pump C, and the condenser D, together with the pipes F, G, H, I, and J, respectively provided with the stop-cocks *a*, *b*, *c*, *d*, and *e*, all constructed and arranged to operate as and for the purpose hereinbefore described.

268,531. WAGON-BOX STAKE. LOUIS RAKOW, Elmhurst, Ill. Filed June 21, 1882. (Model.)



Claim.—As a new article of manufacture, the wagon-box stake consisting of the re-enforced or braced plate A, provided on its inside with a hooked projection, E, all made in one piece, as shown and described.

268,532. ROASTER AND BAKER. JEROME B. REED, Sunbury, Pa. Filed July 1, 1882. (No model.)

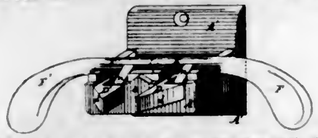


Claim.—1. The roaster and baker consisting of the sheet-metal box having in its upper portion the cold-air conduit, substantially as described, and for the purpose set forth.

2. The combination, with the sheet-metal box having in its upper portion the cold-air conduit open at both ends, of the door having the opening coinciding with said conduit when the door is closed, substantially as described.

3. The sheet-metal box A, supported on suitable legs and having the cold-air conduit D, inclosed partially by the top plate of the box and partially by the converging walls *d d*, which meet at an angle over the bottom of the box, said conduit being open to access of cold air from without the box, substantially as described.

268,533. GATE-LATCH. JOHN L. REED, Canajoharie, N. Y. Filed Feb. 14, 1881. Renewed Oct. 14, 1882. (No model.)

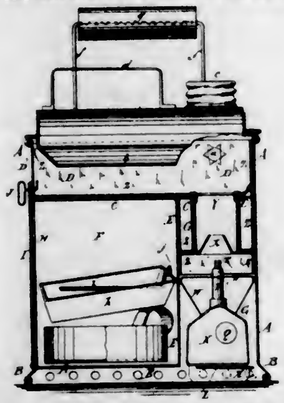


Claim.—1. In a gate-latch, the combination, with the independently-operating catches D D', provided with central recesses, e, of the independently-rotating spindles E and E', each having an arm, a, and a crooked weighted handle, and the keeper G, all for operation with said catches, substantially as set forth.

2. The combination, with case A, provided with half-bearings *f f*, and cover B, having half-bearings *f'*, of catches D D', handles E E', provided with arms *a a*, engaging with said catches, and the keeper G, all constructed and arranged substantially as described, for operation as set forth.

268,534. HOT-DINNER PAIL. FREDRICK REICHWEIN, New York, N. Y. Filed Apr. 10, 1882. (No model.)

Brief.—The oil-reservoir and wick-tube, as well as those walls of the chamber F which are subjected to the heat, are lined with asbestus, felt, or some other non-conducting material, and are thereby prevented from becoming unduly heated. The chamber F can be used to hold those articles of food which it is not desirous to heat.



Claim.—1. A hot-dinner pail constructed substantially as herein shown and described, and consisting of the shell A, divided into three compartments, D F G, by two partitions, C E, the lamp K, provided with spring-latches L and screen W, and the boiler *b*, as set forth.

2. The combination, with the lamp having at the bottom spring-latches L, and a pail having the foot B, of the plates M, attached to the pail and projecting down within the foot, as and for the purpose described.

3. In a hot-dinner pail divided into compartments by partitions, the combination, with the heating-compartment D and the upper part of the lamp-compartment G, of an incombustible and non-conducting lining, Z, substantially as herein shown and described, whereby the provision-chamber F is kept from becoming unduly heated, as set forth.

4. The combination of the chamber G, of a lamp having its sides projected beyond its ends, the wheels, P, having button O, and the cap Q, as and for the purpose set forth.

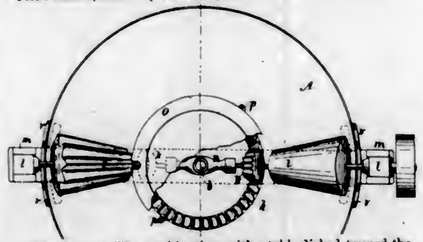
5. In a hot-dinner pail, the combination, with the lamp K, the wick-tube T, and the lamp-chamber G, of the screen W, having its side parts bent inward and downward, substantially as herein shown and described, whereby the flame is prevented from being blown out by the wind, as set forth.

268,535. MANUFACTURE OF ARTIFICIAL STONE AND MARBLE. FREDRICK REIMERS, Ottumwa, Iowa. Filed Sept. 21, 1882. (No specimens.)

Claim.—1. An artificial stone or marble composed of sand or gravel and cement, or of Keene's cement mixed with white sand or marble-dust, united and solidified by mixing therewith a chemical solution formed of water, black-lead, petrified liquid, lime-water, carbonate of soda, and borax, substantially as and for the purpose set forth.

2. The herein-described liquid compound, consisting of water, black-lead, petrified liquid, lime-water, carbonate of soda, and borax, substantially in the proportions named, for the purpose of producing the crystallization and carbonization of the artificial stone or marble, as described.

268,536. BUTTER-WORKER. ELMER C. RIGBY, Dundee, Ill. Filed June 9, 1882. (No model.)

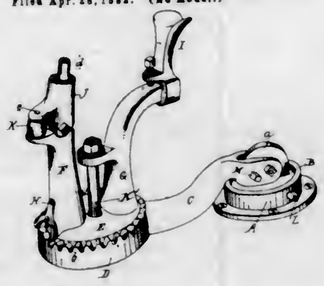


Claim.—1. The combination, with a table dished toward the center and loose upon a fixed vertical shaft, of a smooth conical roll, *i* and a fluted conical roll, *j*, both revolved on their axes while the table is revolved under them, as described.

2. In a butter-worker, the crown-wheels *h e*, clamped respectively to the top and bottom of the table A, to connect the cone-pinion *k* with the drive-wheel *f*, as described.

3. The combination, with the fixed vertical rod *b* and the cone-driving pinions *k k*, of the horizontal bar *n*, arranged at its middle loosely on said rod *b*, and provided at each end with a bearing for the journals of said pinions *k*, as shown and described.

268,537. SHOE-MAKER'S JACK. HENRY P. ROBERTS, Jamestown, N. Y., assignor to himself and Augustus Kibling, same place. Filed Apr. 28, 1882. (No model.)

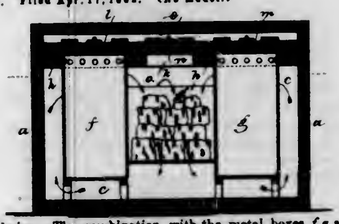


Claim.—1. In a shoe-maker's jack, the combination of the swivel-plate A, swivel B, having perforated ear *a*, and the loose bearing-plate *b* for such swivel, with the arm C, set-screws L M, and last-holding devices, the whole adapted to allow oscillatory adjustment in two directions, as set forth.

2. The adjustable arm C and plate D, having flange and ratchets *b*, the curved arm G, carrying adjustable toe-pad I, and central pivot, K', combined with the arm F, carrying the heel-pin *d*, and with the double pawl H, as and for the purpose set forth.

3. The heel-arm J, pivoted to the arm F, and having a perforated ear, *e*, and heel-pin *d*, combined with the spring K, arm F, arm G, toe-pad I, and the swivel-arm C, substantially as and for the purpose specified.

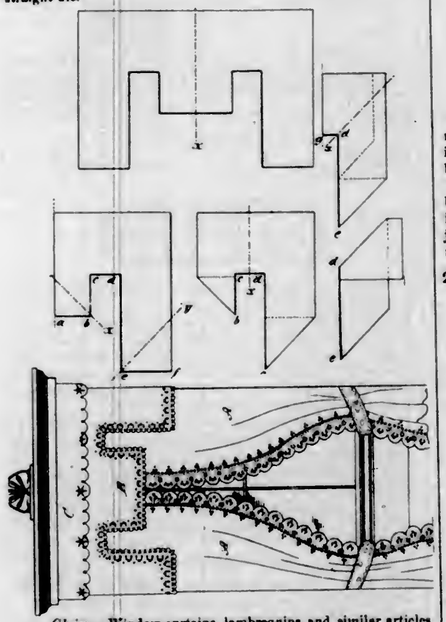
268,538. REFRIGERATOR. DAVID W. ROGERS, Plainfield, N. J. Filed Apr. 17, 1882. (No model.)



Claim.—The combination, with the metal boxes *f g* and a separate cover for each, of the intermediate ice-chambers, a frame around the upper parts of the ice-chamber and boxes *f g*, and an exterior refrigerator-box, there being air-spaces between the boxes *f* and *g* and the exterior box and circulating-openings at *e*, substantially as specified.

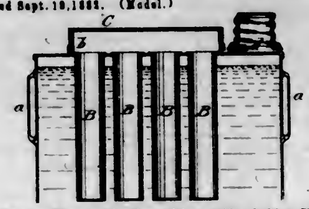
268,539. MANUFACTURE OF WINDOW-CURTAINS, LAMBREQUINS, AND OTHER ARTICLES FROM PAPER. LEBBEUS H. ROGERS, New York, N. Y. Filed Mar. 24, 1882. (No model.)

Brief.—The edges of the window-curtains, lambrequins, &c., of any desired symmetrical but irregular outline, are folded so that the edges will coincide, and are then cut to imitate lace by a single straight die.



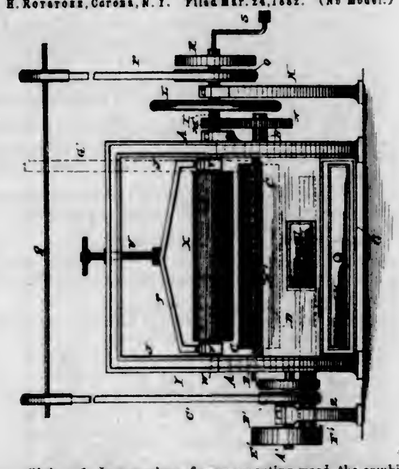
Claim.—Window-curtains, lambrequins, and similar articles having an irregular outline, made from paper perforated and scalloped in imitation of lace, substantially in the manner and by the means set forth.

268,540. APPARATUS FOR THAWING GIANT-POWDER. THOMAS ROSEVEAR and RICHARD BRYANT, Negaunee, Mich. Filed Sept. 19, 1882. (Model.)



Claim.—The combination, with cartridge-holders B and cover C, of a hot-water receptacle whose top plate is provided with a rim, *b*, over which the cover fits and within which are arranged plate-holes to receive the cartridge-holders, as shown and described.

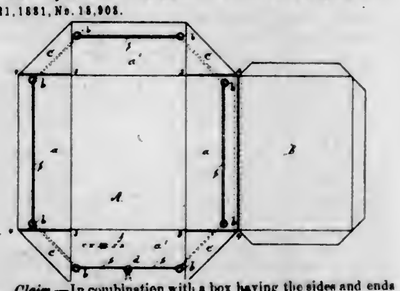
268,541. MACHINE FOR ORNAMENTING WOOD. WILLIAM H. ROTOTOSE, Corona, N. Y. Filed Mar. 24, 1882. (No model.)



Claim.—1. In a machine for ornamenting wood, the combination and arrangement, as described, of the fire-box, the branding-roller, and a perforated spray-pipe arranged in front of said branding-roller, as and for the purpose set forth.

2. In a machine for ornamenting wood, the combination of a branding-roller, means for heating the same, a spray-pipe for cooling the said roller, an adjustable pressure-roller, a table having adjustable guide-strips, and suitable operating mechanism, as and for the purpose set forth.

268,542. FOLDING BOX. BRUNO RUCKERT, Leipsic, Germany. Filed July 1, 1882. (No model.) Patented in Belgium Dec. 21, 1881, No. 58,908.



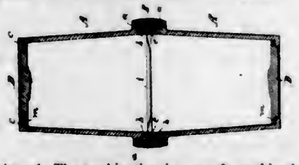
Claim.—In combination with a box having the sides and ends jointed or hinged to the bottom, a cord, *s*, passing along the inner surfaces of the sides and ends, then through suitable slits or holes, *b b*, near the ends of said sides and end pieces, around the outside of the edges or corner of the same, and through a hole, *d*, again to the outside, substantially as described and shown.

268,543. PRODUCTION OF METHYLQUINOLINE. CHRISTIAN RUDOLPH, Höchst-on-the-Main, Germany, assignor to Farbwerke, vormals Meister, Lucius & Brüning, same place. Filed Aug. 9, 1882. (No specimens.)

Claim.—1. The process for producing methylquinoline from orthonitrobenzylidenacetone, which consists in treating the same with reducing agents and obtaining it in a pure state by distillation in a current of steam, substantially as herein described.

2. Methylquinoline produced from orthonitrobenzylidenacetone in a manner substantially as herein set forth.

268,544. CASE FOR PACKING BUTTER. JOSEPH F. RUSLING, Lawrence, Pa. Filed July 10, 1882. (No model.)



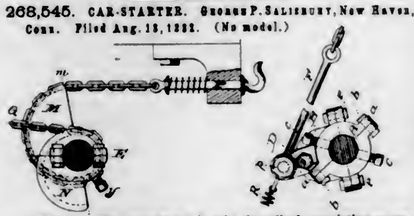
Claim.—1. The combination, in a case for packing butter, &c., of two receptacles, an intermediate connecting device, and two intermediate sheets, *i*, each clamped to one of the receptacles independent of the other by said device, the receptacles being independently connected to and detachable from said connecting device, as set forth.

2. The receptacles A A', a securing device connecting the same mouth to mouth, and detachable from each independently, and having bearings between which and each receptacle to clamp a sheet, *i*, as specified.

3. The combination of the threaded sections A A', threaded ring B, adapted to each section and provided with an internal rib, *c*, substantially as set forth.

4. The combination, in a preserving-vessel, of two open-mouthed receptacles and a device for clamping them together mouth to mouth, and detachable screw-bottoms opening inwardly, as set forth.

268,545. CAR-STARTER. GEORGE P. SALISBURY, New Haven, Conn. Filed Aug. 18, 1882. (No model.)



Claim.—The car-starter herein described, consisting essentially of the collar A, part B, collar C, clutch D, double cam E, connecting-rod F, chain G, draw-bar P, and spring R, all the said parts constructed and combined substantially as shown and set forth.

268,546. LUBRICATING COMPOUND. JOHN E. SAWYER, Napa, Cal. Filed July 25, 1882. (No specimens.)

Claim.—The herein-described composition to be used as a lubricant, consisting of tallow, plumbago, soapstone, fuller's earth, and lard-oil, mixed and compounded in the proportions stated.

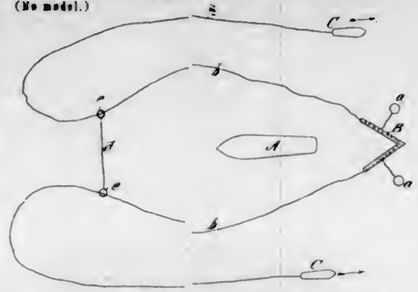
268,547. MATERIAL TO BE USED AS A SUBSTITUTE FOR OIL IN THE PREPARATION OF WOOL FOR CARDING AND SPINNING. JONATHAN SCHARR, Philadelphia, Pa. Filed Aug. 28, 1882. (No specimens.) Patented in England Feb. 22, 1878, No. 738.

Claim.—1. The herein-described composition of matter to be used as a substitute for preparing wool and other fibers for carding, spinning, and manufacturing generally, consisting of water, soap, carbonate of soda or carbonate of potash, borax, pearlash or calcined soda, oil, thao or isinglass, salicylic acid, and glycerine, all substantially as described.

2. The herein-described composition of matter, consisting of water, carbonate of soda or carbonate of potash, borax, pearlash or calcined soda, oil, thao or isinglass, or Irish moss, and salicylic acid, combined and prepared substantially as and for the purpose set forth.

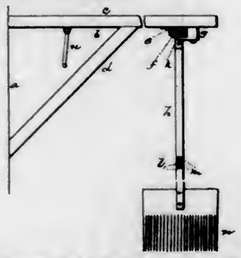
3. The herein-described composition of matter, consisting of water, soap, carbonate of soda or carbonate of potash, borax, oil, thao or isinglass, and salicylic acid, all combined and prepared substantially as and for the purpose set forth.

268,548. APPARATUS FOR RAISING SUNKEN VESSELS. HENRY SCHUFLER, Sturgeon Bay, Wis. Filed May 23, 1882. (No model.)



Claim.—The hoisting gear or mechanism for apparatus for raising sunken vessels, consisting of screws *i*, each having a right and a left handed thread, carrying alternately ascending and descending bridges *k*, adapted to permit the attachment thereto of a hoisting chain, rope, or cable, and the gearing *l m*, all arranged for joint operation substantially as and for the purpose set forth.

268,549. SWINGING FAN. JOHN T. SCOTT, Washington, D. C. Filed July 13, 1882. (No model.)



Claim.—In a swinging fan, the combination, with the brackets *b*, having arms *c*, of the hinged cross-bar *f*, buttons *g*, hinged fan-arms *h*, carrying fans at their lower ends, connecting-bar *m*, pulleys *o p q*, ropes *r* and *s*, and weight *t*, substantially as specified.

268,550. BUCKLE. EDWIN P. SHAWS, Buffalo, N. Y. Filed July 24, 1882. (No model.)



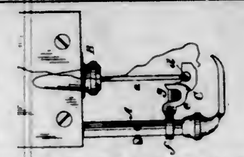
Claim.—1. A buckle composed of side bars, A, having their connected front ends provided with a hook, B, a cross-bar, *d*, provided with a pivoted tongue, *e*, a cross-bar, *f*, arranged between the bar *d* and the hook B, and adapted to support the free end of the tongue, a cross-bar, *g*, arranged in rear of the cross-bar *d* and provided with a pivoted tongue, *h*, and a cross-bar, *i*, connecting the rear ends of the side bars, A, and adapted to support the free end of the pivoted tongue *h*, substantially as set forth.

2. A buckle composed of side bars, A, having their connected front ends provided with a hook, B, a cross-bar, *d*, provided with a pivoted tongue, *e*, a cross-bar, *f*, arranged between the bar *d* and the hook B, and adapted to support the free end of the tongue, a cross-bar, *g*, arranged in rear of the cross-bar *d*, and provided with a pivoted tongue, *h*, and a cross-bar, *i*, connecting the rear ends of the side bars, A, and adapted to support the free end of the pivoted tongue *h* and cross-bars *c* and *l*, substantially as set forth.

268,551. NEEDLE-THREADER FOR SEWING-MACHINES. HENRY F. W. SEELD, Rolla, Mo. Filed July 12, 1882. (Model.)

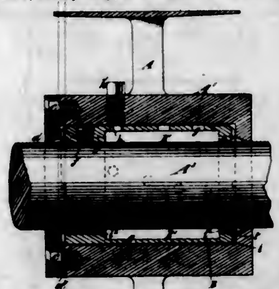
Claim.—1. A circularly-movable threader, C, having the cutter *g* rigidly fixed on the upper side of an arm, *e*, pivoted to and lying between the movable collar *f* and the threader itself, whereby said cutter can be conveniently used, no matter on which side the threader may be turned.

268,551.



2. The combination of the threader C, formed with tapering aperture *d*, the arm *e*, and collar *f*, with the presser-bar A, substantially as shown and described.

268,552. BEARING FOR LOOSE PULLEYS, &c. MARTIN L. SUNDERLIND, Jersey City, N. J. Filed Mar. 20, 1882. (No model.)

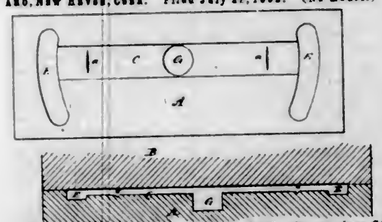


Claim.—1. The combination, with a hub or box for a pulley or wheel, of a sleeve for a shaft or axle on which the hub or box may turn, which is provided with an internal recess or cavity, so that when placed on a shaft or axle an oil-chamber will be formed between said shaft or axle and sleeve, but wholly in the latter, and which is also provided with apertures leading from said chamber to its periphery, substantially as and for the purpose specified.

2. The combination, with the shaft, of the sleeve B, adapted to be slipped along the same, and provided with the internal cavity or recess, B', so that when placed upon the shaft an oil-chamber will be formed between the shaft and sleeve, but wholly in the latter, and which is also provided with the apertures *g*, leading from said chamber to its periphery, means for detachably securing said sleeve upon the shaft, and the pulley-hub A', mounted and adapted to rotate upon said sleeve, substantially as and for the purpose specified.

3. The combination, with the pulley-hub A', provided with fixed flange *a* and the removable flange *a'*, of the sleeve B, containing the chamber or cavity B', and provided with apertures *g*, annular channel *i*, and notches *i'*, substantially as and for the purpose specified.

268,553. DIE FOR FORGING FIFTH-WHEELS. MOSES SEWARD, New Haven, Conn. Filed July 29, 1882. (No model.)



Claim.—The herein-described dies for forging carriage fifth-wheels, consisting of one part, A, having the longitudinal cavity C terminating in the segment-shaped cavity E at each end, and with the central cavity, G, substantially as described.

268,554. HEAD-TELEPHONE. FRANK SHAW, New York, N. Y., assignor of one-half to Wm. A. Childs, same place. Filed Oct. 18, 1882. (No model.)

Claim.—1. A head-telephone consisting of the receiving-telephone A, combined with the flexible band or strap B, adapted to encircle the head of the listener and to hold the telephone firmly against the ear.

2. The combination of the listening-telephone A and the

268,554.

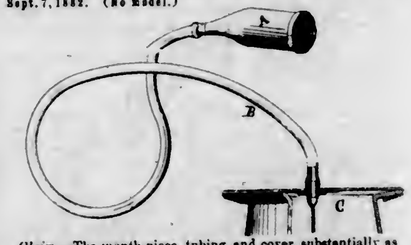


flexible and elastic endless band or strap B, adapted to encircle the head of the user so to hold the telephone against his ear.

3. The combination of the telephone A, the flexible and elastic endless band B, adapted to encircle the head of the user, and means for adjusting the length of said band, as and for purpose described.

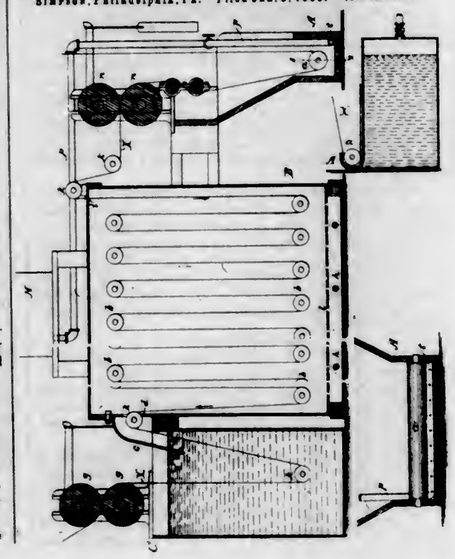
4. The combination of the telephone A, the band B, secured thereto, and the connecting-cord passing beneath said band, as and for the purpose described.

268,555. URINAL. C. PERRIN SIMPSON, New York, N. Y. Filed Sept. 7, 1882. (No model.)



Claim.—The mouth-piece, tubing, and cover, substantially as described, combined together for the purposes herein set forth.

268,556. APPARATUS FOR CHROMING FABRICS. THOMAS SIMPSON, Philadelphia, Pa. Filed Jan. 5, 1882. (No model.)

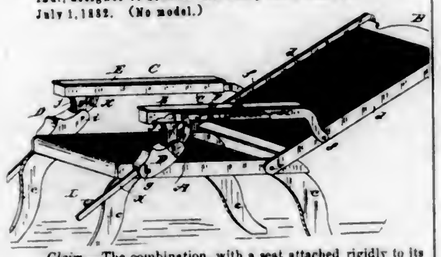


Claim.—1. The combination of the croming-tank A, roller *a*, squeezing-rolls *n n*, independent steam-box B, and carrying-rolls *b*, substantially as set forth.

2. The bath-tank C and squeezing-rolls *g g*, in combination with the steam-box B and independent chroming-tank A, substantially as set forth.

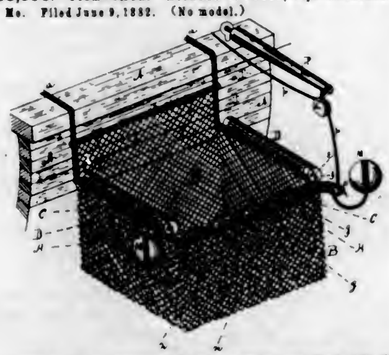
3. The combination, with the chroming-box A and roller *a*, of the perforated pipe placed at the front of the roller, and extending lengthwise of the box for supplying liquor, as set forth.

268,557. RECLINING-CHAIR. DE WITT C. SIVEY, Greenfield, Ind., assignor to himself and HENRY SNOW, same place. Filed July 1, 1882. (No model.)



Claim.—The combination, with a seat attached rigidly to its supporting-legs, a back pivoted to the sides of the seat-frame, and the hollow arms C C, pivoted to said back, and having teeth *m*, of the levers K, pivoted at *g*, and having foot-pieces L, the hollow posts D, inclosing the levers, and pivoted to seat-frame, the links J, and the ratchet-bars H, as and for the purpose described.

268,558. FISH-SACK. MICHAEL S. SMALL, Cape Elizabeth, Me. Filed June 9, 1882. (No model.)



Claim.—1. A floating fish sack or pocket provided with the flexible buoy or float D, consisting of a series of small floats, *d d*, arranged contiguously upon a lace, *f*, and seized to the hanging-line C at intervals, as shown, substantially as and for the purposes set forth.

2. A floating fish pocket or sack consisting of a box-shaped netted receptacle, B, suspended from the hanging-line C, the flexible buoys or floats D, made as described, centrally pierced by the lace-line *f* and securely fastened to said hanging-line C by means of the lace-line *f* and seizings *h h*, the seine-line H, made secure to the hanging-line by seizings *g g* and the stop-lines *n n*, for the purpose of binding a bundle of seine-floats into the loops between said seine-line and said hanging-line, all constructed and arranged substantially as set forth.

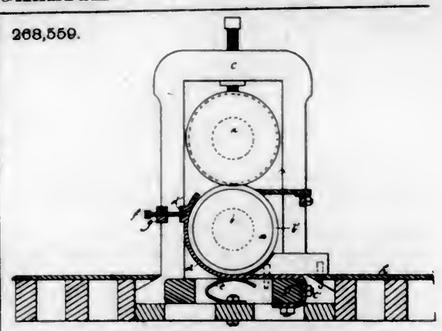
268,559. GUIDE FOR ROLLING-MILLS. WILLIAM SMALL, McKeesport, Pa. Filed Apr. 10, 1882. (No model.)

Claim.—1. In a rolling-mill, the combination of a curved guide, arranged below and on the feed side of said roll so as to coact therewith, and a device for adjusting the guide to and from the roll, substantially as described.

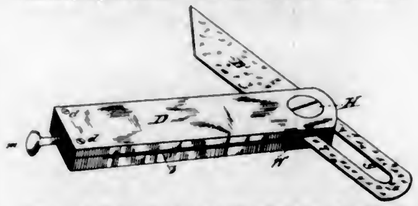
2. In a rolling-mill, the combination, with the lower roll of a curved guide, arranged below and on the feed side thereof, and a spring arranged to force the curved guide up to the roll, substantially as and for the purpose specified.

3. The combination, in a rolling-mill, of the adjustable curved guide with a spring for holding it up against the lower roll, substantially as and for the purposes described.

268,559.



268,560. COMBINATION-TOOL. ELI SMITH and JAMES DUCKWORTH, Springfield, Mass. Filed Apr. 10, 1882. (No model.)



Claim.—1. In combination, the stock D, having the channel *b* between its sides, the blade B, having the slot *g* therein, the stud H, rigidly fixed in said stock and passing through said slot in blade B, the fixed stop W, set across said channel *b* on one edge of said stock, the washer *c*, loose on stud H, and the pointed screw-stem J, substantially as set forth.

2. In combination, the stock D, having the channel *b* between its sides, the blade B, having the slot *g* therein, the stud H, rigidly fixed in said stock and passing through said slot in blade B, the hinged stop V, adapted to swing across said channel *b* on one edge of said stock, the washer *c*, loose on stud H, and the pointed screw-stem I, substantially as set forth.

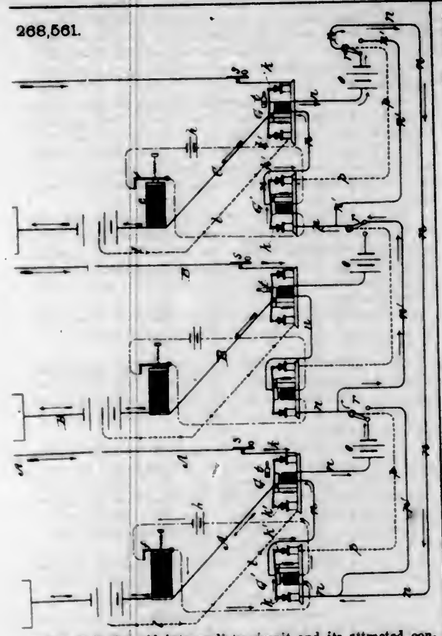
268,561. TELEGRAPHIC REPEATER. JOSEPH P. SMITHERS, Brooklyn, N. Y. Filed June 28, 1882. (No model.)

Claim.—1. In a repeating telegraph system, the combination, with two or more telegraph-lines, of a double-contact-making electro-magnet, having one set of contacts closed by attraction and the other set closed by retraction, and so arranged that the open contacts close before or when the closed contacts open, with the circuit of one line completed through the attracting-contacts of said magnet, and with the coil of said magnet circuited so as to respond to the opening and closing of a second line, together with a short loop-circuit including the retracted contacts of said magnet, a small or supplemental battery, and the coil of a second contact-making magnet having attracted contacts which control the closing of the second line, whereby the breaking of the sending-line at a distant station will first close the said loop-circuit, and thus prevent the sending-line from being itself broken at the repeating-station, but will at the same time break the receiving-line, and thus repeat the message of the sending-line thereon, substantially as herein shown and described.

2. A repeating telegraph system consisting in the combination, with two individual telegraph-lines, each provided with relays and local sounders, of double contacts worked by the sounders, and so arranged that one contact will close before or when the other opens, the circuit of one individual line being completed through the attracted contacts on the sounder of the other line, together with a short loop-circuit which includes a small or supplemental battery, the relay-magnet or its corresponding sounder-magnet, and the retracting-contacts of the sounder on the opposite line, substantially as herein set forth.

3. A multiple repeating telegraph system consisting in the combination, with two or more individual telegraph-lines, of an intermediate local or repeating circuit—such as *n o*—with which the several individual lines are related, and with a double-contact-making instrument, substantially such as G, having its magnet

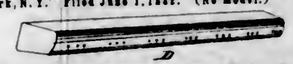
268,561.



arranged in the said intermediate circuit and its attracted contacts in one of the individual lines, together with a second contact-making instrument, substantially such as G', having its magnet circuited to respond to the breaking and closing of the individual line and its attracting-contacts arranged in the intermediate circuit, with a short loop-circuit—such as *n o p*—including the retracting-contacts of the said instrument and the magnet of the instrument G, substantially as herein shown and described.

4. In a multiple telegraph repeating system, the combination, with two or more individual lines, A B C, of the intermediate circuit, *n n*, and the contact-making instruments G G', arranged substantially as shown relatively to the individual lines and to the intermediate circuit, with the intermediate line-batteries, *o o*, sectionally arranged, the sectional loop-circuits *n o p*, and the shunts *n'* in the intermediate circuit around the battery-sections, and the switches *r*, to control the opening and closing of the shunts, substantially as and for the purpose herein shown and described.

268,562. AGRAFFE-BAR FOR PIANOS. HUGO SONNER, New York, N. Y. Filed June 1, 1882. (No model.)



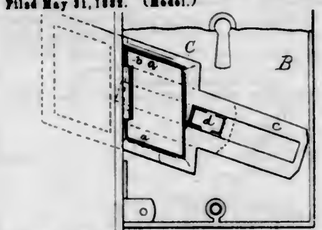
Claim.—As an improvement in agraffe-bars for square and grand pianos, the combination, with a supporting-plate, B, having an upright bar, C, said bar being cast integral with plate B, and provided with a recess or recesses having inclined sides, of a wedge-shaped agraffe bar or bars, D, secured into the recess or recesses of the upright bar, and provided with groups of inclined perforations for the strings, substantially as set forth.

268,563. PIANO-ACTION. HUGO SONNER, New York, N. Y. Filed June 1, 1882. (No model.)



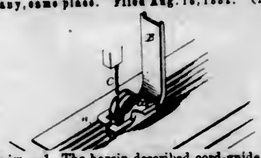
Claim.—In a repeating action for upright pianos, the combination of a jack, D, hammer-butt C, having an elbow-shaped arm, C', and a spring-pressed flange, E, pivoted to the lower end of the arm C' and suspended therefrom by hook *s*, said flange extending forward into close proximity with the butt C and jack D, substantially as set forth.

268,564. SLIDING DOOR-HANDLE. WILLIAM E. SPARKS, New Britain, Conn., assignor to P. & F. Corbin, same place. Filed May 31, 1882. (Model.)



Claim.—The sliding door-lock handle, substantially as hereinbefore described, consisting of the lock-case, the face-plate provided with handle-mortise, and the rhomboidal or rhombic-shaped handle, fitted to slide obliquely through said face-plate into and out of the case.

268,565. CORDER FOR SEWING-MACHINES. CHARLES A. SPRAGUE, Birmingham, Conn., assignor to the Bassett's Corset Company, same place. Filed Aug. 16, 1882. (No model.)

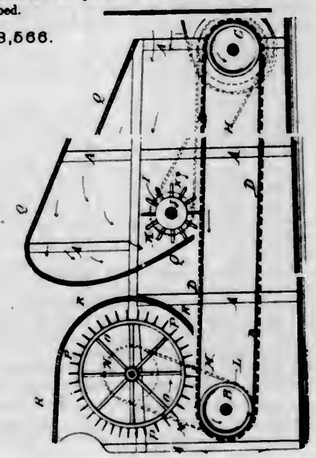


Claim.—1. The herein-described cord-guide for sewing-machines, consisting of the roll C, arranged in a slot in the presser-foot in rear of the needle, a portion of the said roll *a*, over the feed, flat, the adjacent surface annularly grooved corresponding to the cord to be laid, substantially as described.

2. The combination of the roll C, arranged in a slot in the presser-foot in rear of the needle, a portion of the said roll *a*, over the feed, flat, the adjacent surface annularly grooved corresponding to the cord to be laid, with the tongue *h* on the presser-foot forward of the needle and extending down onto the work in line with the line of stitches being run, substantially as described.

3. The combination of the roll C, arranged in a slot in the presser-foot in rear of the needle, a portion of the said roll *a*, over the feed, flat, the adjacent surface annularly grooved corresponding to the cord to be laid, with the tongue *h* on the presser-foot forward of the needle and extending down onto the work in line with line of stitches being run, and the tongue *n* on the presser-foot forward of the roll parallel with the tongue *h*, substantially as described.

268,566.

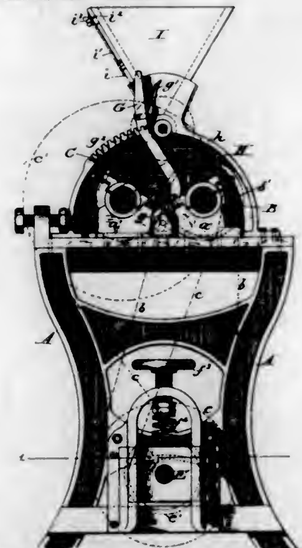


268,566. COTTON-CLEANER. THOMAS W. STEELE, Little Rock, Ark. Filed July 15, 1882. (No model.)

Claim.—1. A cotton-cleaner constructed substantially as herein shown and described, consisting of the endless carrier B C D, the toothed shaft J K, the toothed cylinder O P, and the casings Q R, as set forth.

2. In a cotton-cleaner, the combination, with the endless carrier D, of the toothed shaft J K and its curved casing Q, and the toothed cylinder O P and its casing R, substantially as herein shown and described, whereby any sand, soil, or other dirt that may be in the cotton will be taken out, as set forth.

268,567. GRINDING-MILL. JOHN STEVENS, Neenah, Wis. Filed Dec. 13, 1881. (No model.)



Claim.—1. In combination with the pulleys on the ends of the rolls, one of which latter is driven, a spring-pressed movable carrier located at a distance therefrom and bearing a tightening and transmitting pulley or pulleys, and belts passing from the pulleys on the rolls to the pulley or pulleys on the carrier.

2. In combination with differentially-moving rolls, one of which is driven, a large pulley on the shaft of one, a small pulley on the shaft of the other, a movable spring-pressed yoke, carrying on one spindle a large and a small pulley, a belt connecting the large pulley on the one roll with the small pulley on the yoke, and a belt connecting the small pulley on the other roll with the large pulley on the yoke.

3. In combination with the rolls and their pulleys, the yoke carrying converse pulleys, the spring for pressing it down, and the screw for adjusting the stress of said spring.

4. In combination with the rolls and their end pulleys, the yoke pivoted to the mill-frame and carrying converse pulleys, the spring pressing down the free end of said yoke, and the screw for increasing or decreasing the stress of said spring.

5. In combination with the spring-pressed sliding bearings of the movable roll and the fixed bearings of the stationary roll, a cam between the movable and fixed bearings at each end, against which the former are held by their spring or springs, a lever fast to each cam, and a rack upon the frame, into which said lever is latched by suitable means.

6. In combination with the movable and stationary rolls, a dome-shaped casing covering them, cams against which the movable bearings are pressed by springs, and pivoted substantially concentric with said casing, racks formed upon and partaking of the outline of the metal side frames of the casing, levers fixed to the cams, and means for latching the levers into said racks.

7. The combination of the stationary and movable spring-pressed roll, cams or eccentrics pivoted between the fixed and movable bearings at each end of the rolls, levers fast to said cams, and similarly graduated or numbered racks, into which said levers are latched by suitable means, whereby the adjustment at each end may be visually indicated to insure parallelism of the rolls.

8. In combination with the feed-gate of the hopper, devices at each end to independently open it at such end, and an identically-graduated scale or indicator for each of said devices to insure the gate being instantly and accurately returned to its proper adjustment.

9. In combination with a sliding hopper-gate, elbow-levers, to which it is hung at each end, a segmentally-slotted plate fast to the body of the hopper, underlying the long arm of each lever, a set or clamp screw taking from said arm into the slot in the plate to lock the arm in any determined adjustment, and a scale upon each plate, similarly graduated, to indicate the adjustment at each end.

10. In combination with the sliding feed-gate, the elbow-levers pivoted to the hopper and having their long arms terminating in pointers, the segmentally-slotted plates upon the hopper-casing, the clamp-screws taking from the lever-arms into said slots, and the graduated scales underlying the pointers in the path in which the latter move.

11. In combination with the hopper, a pivoted cut-off plate and a protecting-shield between said hopper and an edge of the cut-off plate.

12. In combination with the hopper and its adjustable gate, a cut-off plate suspended near the bottom of the hopper, above the feed-roll, a shield overlying the rear of said plate, and means whereby the plate may be moved against the side of the hopper above the feed-orifice.

13. In combination with the hopper and its adjustable gate, a cut-off plate suspended near the bottom of the hopper by means of arms depending from overhead pivots, a lever rigid with one of said pivots, and its arm, whereby the cut-off may be swung against the side of the hopper or its gate to close the exit-orifice, and a shield or apron at the other side of the hopper and resting against the rear edge of the cut-off plate.

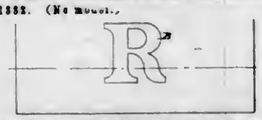
14. The combination of the hopper, its adjustable gate, the cut-off plate K, arms *k*, pivots *k'*, lever *k²*, and its rack *k³*, and the shield, apron, or bridge *k⁴*, substantially as described.

268,568. GAITER-BOOT. EDWIN B. STIMPSON, Brooklyn, N. Y. Filed Oct. 10, 1882. (No model.)



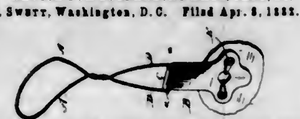
Claim.—A boot or shoe having the upper quarter on the inside of the ankle from the front to the back seam, and the outside quarter from the back seam to or near the front seam, both of elastic material, and having a button-fly attached to the inside ankle-quarter at the front seam and adapted to lap over the outside quarter, substantially as and for the purpose herein described.

268,569. BRICK. CHARLES STOKES, Philadelphia, Pa. Filed June 1, 1882. (No model.)



Claim.—The advertising-brick having a letter or number, which is previously formed of soft clay or earth similar to the brick, but of different color, inserted in the body of the brick and burned with it, substantially as and for the purposes set forth.

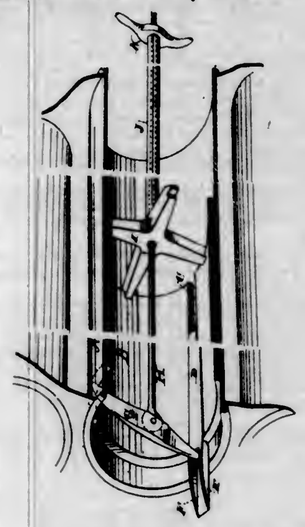
268,570. DEVICE FOR SUSPENDING HATS, CAPS, &c. SULLIVAN C. SWETT, Washington, D. C. Filed Apr. 8, 1882. (No model.)



Claim.—1. A device for suspending hats and caps, consisting of the loop A and plate B, connected by a spring-hinge, all substantially as described, and for the purposes set forth.

2. The loop A, constructed, as described, with spring-arms D, in combination with the plate B, having bearings *a a*, substantially as and for the purposes set forth.

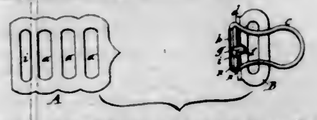
268,571. LEAK-STOPPER FOR BOILER-TUBES. WILLIAM F. THORNTON, San Francisco, Cal. Filed Aug. 15, 1882. (No model.)



Claim.—1. The section B, having the longitudinal tapering slot at one side, and the wedge D, fitted to it, in combination with the transverse lever G, the rod H, yoke I, tube J, and the nut K, substantially as herein described.

2. The section B, with its tapering wedge D, the yoke I, tube J, rod H, and the transverse lever-arm G, hinged or pivoted to the end of the rod and having one side made heavier than the other, so that when released it will turn and lie parallel with the rod to be withdrawn, substantially as herein described.

268,572. CLASP FOR OVERSHOES. JUDSON L. THOMSON, Syracuse, N. Y. Filed Oct. 7, 1882. (No model.)



Claim.—1. In combination with the plate A, provided with slots *a a*, the plate B, provided with the raised sleeve *b* and with notches *n n* in the ends of said sleeve, and the spring-bail *c*, hinged thereon, substantially as shown and set forth.

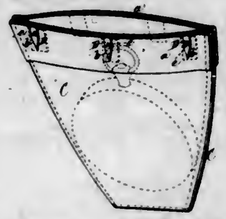
2. In combination with the plate A, provided with slots *a*, the plate B, provided with the offset *d*, having concavity *e*, and abutting against the ends of the slot *a*, the sleeve *b*, having notches *n n*, and the spring-bail *c*, hinged in said sleeve, substantially as set forth and shown.

3. In combination with the plate A, provided with slots *a*, the plate B, having the sleeve *b*, provided with the slot *f*, and the bail *c*, having the cam *g* protruding through said slot, as and for the purpose specified and shown.

268,573.



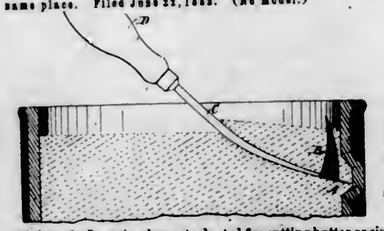
268,574. DETACHABLE LINING FOR WATCH-POCKETS. JOHN H. THURLOW, Boston, Mass. Filed Apr. 12, 1882. (No model.)



Claim.—1. The combination, with the detachable or independent watch-pocket lining C, of the metallic hooks D, secured to its upper edges and provided with inwardly-projecting retaining-barbs, *e*, adapted to enter the cloth forming the pocket for the purpose of holding the lining securely in place, substantially as described.

2. A detachable or independent watch-pocket lining, C, made tapering from the top toward the bottom for the purpose of preventing the watch from turning in the pocket, substantially as set forth.

268,575. BUTTER AND LARD CUTTER. FREDERICK W. TOLLEY, Hudson, N. Y., assignor of one-half to Emanuel Volk, same place. Filed June 22, 1882. (No model.)



Claim.—1. In an implement adapted for cutting butter or similar material from a tub, the combination of horizontal and standing blades, and a handle arranged diagonally to the horizontal blade, substantially as and for the purpose specified.

2. In an implement adapted for cutting butter or similar material from a package, the combination, with a suitable handle, of vertical and horizontal blades, the horizontal blade having a convex edge and connected to the handle, substantially as and for the purpose described.

3. The combination, with the horizontal blade A and a suitable handle, of two standing blades having their cutting and rear edges at different distances apart, substantially as described.

4. The combination, with a horizontal blade, A, and a suitable handle, of two standing blades, having their cutting-edges inclined backward away from a line perpendicular to the plane of the horizontal blade, substantially as described.

5. The cutting implement herein described, consisting of a horizontal blade, A, having a convex edge and two standing blades, B, inclined backward from the edge of the blade A, set wider apart at the top than at bottom, and having their rear edges wider apart than their cutting-edges, the shank C, and the handle D, all constructed and arranged substantially as described, and for the purpose specified.

268,576. OVEN-THERMOMETER. JOSEPH C. WALLS, Plattsburg, N. Y. Filed Aug. 16, 1882. (No model.)

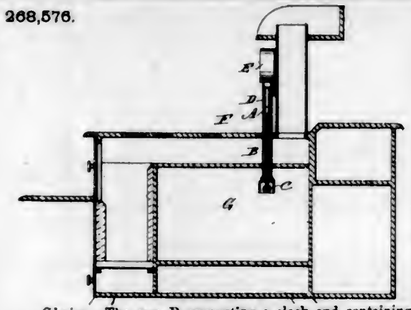
268,577. CURTAIN-HOLDER. MARY J. C. THROOP, Portland, Me. Filed Sept. 19, 1882. (No model.)

Brief.—The shade is held against the wind by chains attached thereto engaging with hooks on the window-sill.

Claim.—1. The combination, with a window-curtain, of chains attached to its lower end and hooks attached to the sill, substantially in the manner described, for securing the curtains against the wind, as set forth.

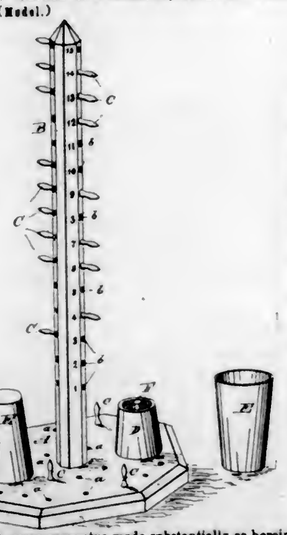
2. The combination of hooks A with a window-curtain having chains *c*, substantially as described.

268,576.



Claim.—The case B, supporting a clock and containing a thermometer-tube, and having a cup, C, at its lower end and a longitudinal slot, D, near its upper end, said tube extending from the oven of a stove upward through the flue or case in such a way that the temperature of the oven may be indicated above the stove, while the tube is protected from the heat of the flue, substantially as set forth.

268,577. GAME. GEORGE O. WARREN, Fryeburg, Me. Filed Oct. 17, 1882. (Model.)



Claim.—1. A game apparatus made substantially as herein shown and described, and consisting of a standard provided with a series of rows of numbered apertures and a series of pegs fitting into the said apertures, as set forth.

2. In a game apparatus, the combination, with the base A, having apertures *a*, of the standard B, having a series of rows of numbered apertures, *b*, and of the pegs C, substantially as herein shown and described, and for the purpose set forth.

3. In a game apparatus, the combination, with the base A, having apertures *a*, of the standard B, having a series of rows of numbered apertures, *b*, the pegs C, the truncated cones or cylinders D, having recesses in the upper ends, and of the dice-cups E, substantially as herein shown and described, and for the purpose set forth.

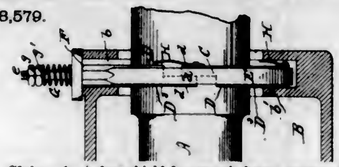
268,578. FINGER-PROTECTOR. SAMUEL A. WEBB, Newark, N.J. Filed July 26, 1882. (No model.)



Claim.—An improved article of manufacture—to wit, the finger-protector, the same being a metallic thimble with its entire outer surface smooth—as set forth.

268,579. CAR-AXLE BOX. ISAAC P. WEBBELL, Philadelphia, Pa. Filed Apr. 3, 1882. (No model.)

268,579.



Claim.—1. A dust-shield for car-axle boxes, composed of two hollow metal sections, in each of which is placed a flexible or absorbent packing, the curved edges of which are flush with or project beyond the curved edges of said sections, a surrounding band, and springs, with retaining nuts or pins secured to each end of said band for causing it to automatically take up the wear of said sections, substantially as shown and described.

2. The combination of cap or cover F, hollow or recessed sections D, having packing D^a, spring or springs H, band E, and springs G, with locking-nuts *g g'*, substantially as shown and described.

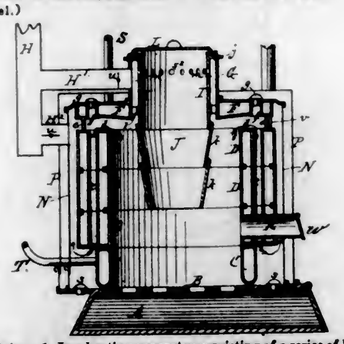
3. The recessed or hollow sections D, lugged at *d*, and provided with packing D^a, and spring or springs H, substantially as shown and described.

4. The recessed or hollow sections D, provided with a packing of asbestus material, substantially as shown and described.

5. The recessed or hollow sections D, provided with a packing, D^a, and springs H, substantially as shown and described.

6. The combination of sections D D, provided with packing D^a, cap F, band E, provided with springs G and nuts *g g'*, and the springs H, substantially as shown and described.

268,580. HEATING APPARATUS. CORYDON WRIGHT and ALFRED CATCHPOLE, Geneva, N.Y. Filed Mar. 15, 1882. (No model.)



Claim.—1. In a heating apparatus consisting of a series of hollow water-sections placed one upon another, the bottom section, C, of less diameter than the upper sections, D, and communicating therewith by ports *a a*, the upper sections offsetting or projecting beyond the bottom section, leaving a space in the bottom of the boiler, into which the flues *c c* of the upper sections open, and in which are located the stoppers *s s*, as herein shown and described.

2. In a heating apparatus, the hollow ring or section D, constructed with the ports or openings *b b* on opposite sides, forming water-ways, the vertical partitions *i i*, dividing said ports, and the flues *c c*, extending vertically through the ring, all in combination, as shown and described, and for the purpose specified.

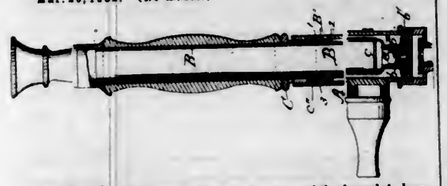
3. In a heating apparatus, the combination of the several water rings or sections D D, placed one on top of another, forming a stack, said rings provided on opposite sides with ports *b b*, divided vertically by partitions *i i*, forming distinct water-channels from bottom to top of the rings, and provided with flues *c c*, forming draft-passages through the rings, as and for the purpose specified.

4. In a heating apparatus, the combination of the dome F, having a central eye or opening, the separate ring G, resting on top of the dome, surrounding the eye or opening, and provided with an exit-pipe, H', which communicates with the main exit-pipe, and a loose cylinder, I, resting on top of the ring G, extending down through the dome, forming an attachment for the magazine, and having in its sides near the top a series of small holes, i^2 i^2, for the escape of gas from the magazine into the space between the cylinder and ring, and thence to the exit-pipe, as herein shown and described.

5. In a steam-heating apparatus consisting of a series of water-sections placed one upon another, the hollow dome F, constructed with the vertical flange or skirting *e*, which elevates it above the water-section below, the series of tubes *f f*, which coincide with the flues *c c*, in the water-sections, and with a bottom plate which inclines slightly downward from the outer to the inner periphery, as shown and described, and for the purpose specified.

6. In a steam-heating boiler, the combination, with the sectional rings D D and the casing N, of the radial flanges or partitions *o o*, resting between the rings and the casing, said flanges extending from bottom to top of the series of rings, and forming flues *p p*, which come opposite the flues *c c* of the rings, as herein shown and described.

268,581. PUMP. JOSIAH A. WHITMAN, Cranston, R.I. Filed Mar. 28, 1882. (No model.)



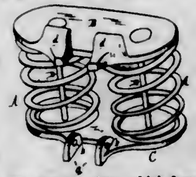
Claim.—1. The combination, in a pump, of the barrel A, having transverse grooves or creases 3, with the insertible packing-ring B', constructed in the manner and for the purposes described.

2. The combination, in a pump, of the insertible packing-ring B', groove or crease 3 in barrel A, with the packing *c''*, and compressing-cap C, as and for the purpose described.

3. In a pump such as above described, the combination of the insertible valve-box and valve-seat *b''*, the hollow plunger B, having a contracted part, *b*, to receive the valve-box, and an enlarged part, *b'*, to act as a guide and a stop to the plunger, and the packing-ring B' of the barrel A, as and for the purposes described.

4. The insertible valve-box *b''*, constructed of metal or other suitable material, in combination with a hollow plunger, B, having the contracted part *b* and the enlarged or expanded part *b'*, as and for the purposes described.

268,582. VEHICLE-SPRING. ALPHEUS O. WILBUR, Davis, Mich. Filed Aug. 2, 1882. (No model.)



Claim.—1. The bottom plate, which forms the bed for the springs, having flanges to embrace the bolster and perforated ears to embrace the wagon-stake, and be secured thereto, combined with the top plate having flanges to embrace the said stake near its upper extremity, the springs, and bolts, as set forth.

2. In combination with a bolster, its stake, and the body of a wagon, the bed-plate C, having lugs *c* and ears *a*, perforated at *b*, the top plate, B, having ears *d*, the bolts D, and the springs A, as and for the purposes set forth.

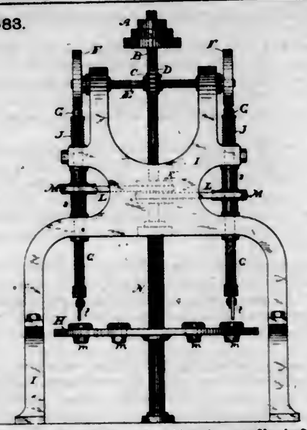
268,583. POTTERY-MACHINE. THOMAS WILLETT, Burslem, County of Stafford, England. Filed July 5, 1882. (No model.) Patented in England Mar. 2, 1881, No. 931; in France Sept. 5, 1881, No. 144,717, and in Belgium Sept. 8, 1881, No. 55,866.

Claim.—1. In a machine for making pottery or earthenware, the combination, substantially as herein described, of a vertical driving-shaft, B, worm-gearing C D, horizontal shaft E, cams F, and perpendicular tool or profile shafts G with means for re-elevating the latter, for the purpose set forth.

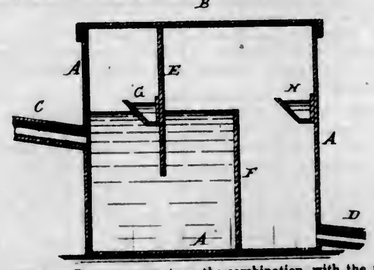
2. The combination of the vertical driving-shaft B, the worm C, worm-wheel D, horizontal shaft E, cams F, and springs J, and the drum K, belts L, and pulleys M with the tool or profile shafts G, substantially as shown on Sheet 1 of the accompanying drawings, as herein specified.

3. The combination of the pair of cams F, set on their shaft E so as to act simultaneously, the pair of rotary tool or profile shafts G, with their springs J and tools or profiles *t* and means for rotating said shafts, and the rotary mold-table H, with non-rotary molds *m*, arranged therein so as to form successive pairs of diametrically-opposite molds beneath said tool or profile shafts, substantially as herein described and illustrated on Sheet 1 of the accompanying drawings.

268,583.

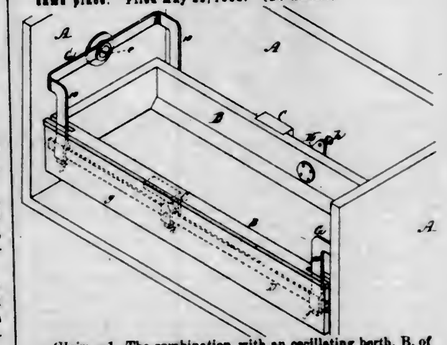


268,584. SEWER-GAS TRAP. MOSES T. WILLIAMS, Riverside, Conn. Filed Sept. 7, 1882. (No model.)



Claim.—In a sewer-gas trap, the combination, with the trap A, provided with a separable cover, B, and divided into three compartments by the upper and lower partitions, E F, of disinfectant-vessels G H, substantially as herein shown and described, whereby sewer-gas passing through or generated in the trap will be prevented from entering the buildings, as set forth.

268,585. SELF-LEVELING BERTH. CHARLES W. WILSON, Boston, Mass., assignor to the Huston Ship's Berth Company, same place. Filed May 23, 1882. (No model.)



Claim.—1. The combination, with an oscillating berth, B, of a supporting-frame composed of the longitudinal side bars, D D, and the transverse bars G G, the latter being pivoted at *o o*, above the upper edge of the berth, and connected with the bars D D at points within the ends of the berth, so that no portion of the supporting-frame is interposed between either end of the berth and

the contiguous bulk-heads of the state-room, substantially as and for the purpose set forth.

2. The combination, with the oscillating berth B, of the longitudinal supporting-bars D D, arranged on opposite sides thereof, and secured by sliding or adjustable connections at their opposite ends to the transverse bars G G, pivoted at *e e* to the walls of the state-room or casing A, substantially as and for the purpose described.

3. The berth B, provided with plates C C, having a series of sockets, *b*, in combination with the sliding bars *c c*, having knife-edges 6, and made adjustable upon the longitudinal bars D D of the supporting-frame in the direction of the length of the berth, whereby the berth can be hung to adapt it to the preponderance of weight in the upper portion of the body of the occupant, substantially as set forth.

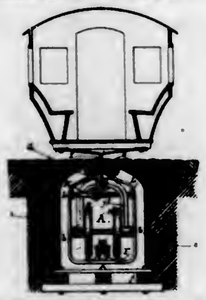
4. The combination, with the oscillating berth B and the longitudinal bars D D of the supporting-frame, of the elastic stops or cushions H H, secured to the side of the berth, and adapted to be brought into contact with one of the bars D to prevent undue oscillation of the berth in the direction of its length, substantially as described.

5. The combination of the berth B, with its socket-plates C C, the longitudinal bars D D, with their adjustable sliding bars *c c*, having knife-edges upon which the socket-plates rest, and the transverse bars G G, secured to the bars D D by means of sliding or adjustable connections at their ends, and pivoted at *e e* to the walls of the state-room or casing A, above the level of the upper edge of the berth, and having their ends bent inward and downward at 10 to allow of their connection with the bars D D in such manner that no portion of the supporting-frame is interposed between either end of the berth and the contiguous wall of the state-room or casing, all constructed to operate substantially in the manner and for the purpose set forth.

6. The combination, with the longitudinal bars D D, of the transverse bars G G, pivoted at *e e*, and made adjustable in length to adapt the supporting-frame for berths of different widths, substantially as described.

268,586. METHOD OF PROPELLING CARS. ADAM WIEGAND, San Francisco, Cal. Filed Oct. 21, 1881. (No model.)

Brief.—In a slotted tube or tunnel are laid tracks, upon which travel running-gear provided with standards, which extend upward through the slot of the tunnel and have their upper portions bent outward horizontally and laterally to support a car, whereby the car-body travels above and its running-gear below the street surface.



Claim.—1. The method of propelling and carrying cars and other vehicles, which consists in connecting the car above the surface of the ground with a truck traveling in a tunnel beneath the surface of the ground by means of narrow standards or supports capable of supporting the body of the car and traveling in a slot in the tube or tunnel, whereby the car or vehicle is carried along over the surface while its running-gear travels within the underground tube or tunnel, substantially as described.

2. An underground tube or tunnel having a roadway or track laid therein to receive the wheels and running-gear of a car or other vehicle, and provided with a continuous slit or aperture in the top over and in line with the roadway or track, in combination with a truck which is adapted to travel in said tube and upon the track thereof, and to support and carry along over and clear of the surface of the ground a car or vehicle body, the propelling-power being either applied to the truck in the tube beneath or to the car-body above the ground, as set forth.

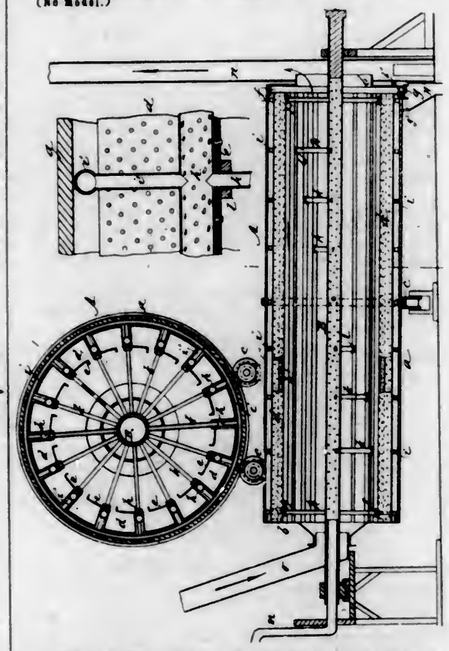
3. In combination with the slotted tube or tunnel A, having the roadway or track laid therein, and the guide-rails L L, the truck having the guide-wheels K K and the standards or supports I, substantially as set forth.

4. A car or other vehicle having its body connected with its truck or running-gear by means of narrow standards or supports, substantially as described, for the purpose set forth.

5. In combination with a truck or running-gear of a car or other vehicle which is adapted to travel within a slotted tube or tunnel, the standards or upright supports having their upper end portions bent outward horizontally and laterally to receive and support the car or vehicle body, substantially as described.

6. The combination, with a tube or tunnel having a roadway or track laid therein, and provided with a continuous slit or aperture in and along its top, of a truck or set of wheels having standards or upright supports capable of moving in and along said slit, and of being connected to and supporting a car or vehicle body upon their upper ends outside of the tube or tunnel, substantially as described.

268,587. MACHINE FOR DRYING, CLEANING, AND CALCINING GRAIN AND OTHER SUBSTANCES. WILLIAM P. WITHERELL and BENNETT H. VARY, Chicago, Ill. Filed Aug. 2, 1882. (No model.)



Claim.—1. The grain-drier cylinder A, having its shell formed with longitudinal depressions or buckets *d*, having perforated sides and adapted to receive steam-pipes between them, substantially as herein shown and described.

2. In a grain-drier, the combination, with the cylinder A, having its shell provided with longitudinal depressions or buckets *d*, of the plates *e*, partially closing the buckets, and provided with inwardly-projecting flanges *e'*, substantially as and for the purpose set forth.

3. In a grain-drier, the combination, with the hollow axle B and the longitudinal buckets *d*, having perforated sides, of the heating-pipes h, arranged in the space between said buckets, and connected to said hollow axle, substantially as and for the purpose set forth.

4. The combination of the pipe *g* and valve *g'* with the hopper H and blocks *h'*, said blocks having inclined faces, substantially as shown and described, and for the purposes set forth.

5. In a grain-drier, the combination, with the jacketed cylinder A, having a series of longitudinal buckets, *d*, and the heating-pipes h, arranged between said buckets, of the pipes *i*, arranged between the jacket and the shell, and connected to the pipes h, substantially as and for the purpose set forth.

6. In grain-driers, the combination and arrangement of the hollow air-pipes B, the exterior pipes, *h i*, and the hollow spokes K, substantially as shown and described.

268,588. DEVICE FOR KEEPING TOBACCO MOIST. EDWARD J. WOODBURY and JOHN LE VOGUE, Rochester, N. Y. Filed Sept. 18, 1882. (No model.)

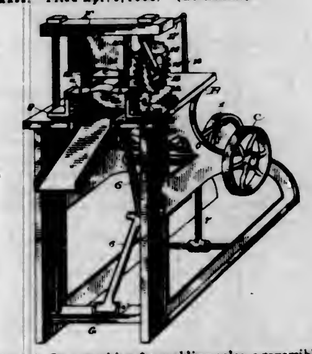


Claim.—1. In combination, the cover B of a receptacle for holding tobacco, provided with an opening, *d*, through the same, and the perforated bowl D, inserted in said opening and made removable therefrom, and resting upon the cover B by means of a shoulder, *a*, said bowl being provided with a tight cover, F, substantially as shown and specified.

2. In combination with the cover B of a receptacle for holding tobacco, provided with an opening, *d*, through the same, the perforated bowl D, inserted in said opening *d* and resting upon the cover B by means of a shoulder, *a*, said bowl being provided with a tight cover, F, and basin *c*, substantially as and for the purpose specified.

3. In combination with the cover B, the bowl D, placed in an opening, *d*, in said cover, and provided with perforations *b* through its side, below the cover B, said openings being inclined downward and inward, and said bowl being provided with a basin, *c*, substantially as shown and described.

268,589. SOLE-MOLDING MACHINE. SETH H. WOODBURY, Lynn, Mass. Filed Apr. 6, 1882. (No model.)



Claim.—1. In a machine for molding soles, a reversible mold having an ejector, in combination with a male mold or follower and mechanism for presenting the opposite sides of the female mold alternately to the male mold.

2. The reversible mold *a*, mounted upon a shaft, and having the longitudinally-movable ejecting bolts or plungers *a'*.

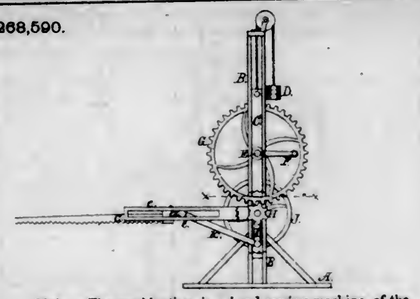
3. In combination, the reciprocating plate *e*, having the fingers *t t*, with the adjustable hopper composed of plates 2 2.

4. In a sole-molding machine, the combination, with the molding-tools and mechanism for holding blanks, of the reciprocating plate *e* and finger-rods *t t*, whereon the blanks are severally transported from the hopper to the molds, substantially as described.

5. The combination of the shaft 8, having the molds *a a* mounted thereon, the pinions 10 and 12, the ratchet-wheel 15, the cam-wheel 2, and intermediate connecting-levers 18 17 14, and the pawl 16, all constructed and combined to operate substantially as set forth.

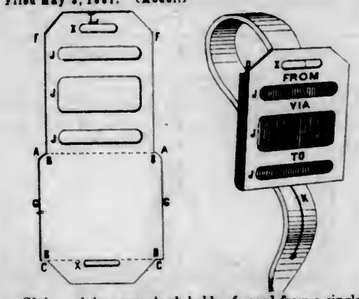
6. A machine for molding soles, consisting essentially of a vertically-reciprocating plunger or die, an intermittently-rotating reversible female mold, a hopper to receive the sole-blanks, a sliding feed-plate, a driving-shaft, and connecting mechanism, substantially as described, for effecting the automatic action of the said parts, all substantially as described.

268,590. HAND SAWING-MACHINE. MARTIN V. YOAK, Sherman, Tex. Filed Sept. 6, 1882. (No model.)



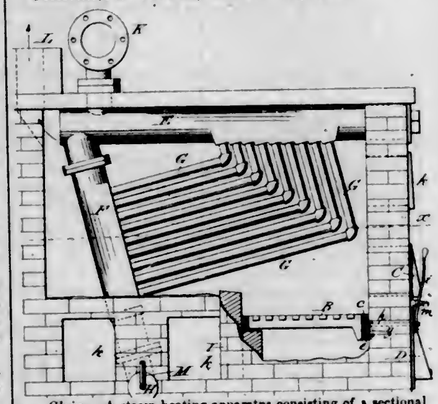
Claim.—The combination, in a hand sawing-machine, of the standards B B and movable frame-work C, balanced as shown, with the gearing G and H, crank-shaft I, and reciprocating cross-head *a*, carrying saw *c*, all substantially as shown and set forth.

268,591. BAGGAGE-CHECK. THOMAS ABBOTT, New York, N. Y. Filed May 3, 1881. (Model.)



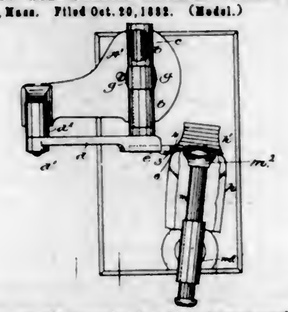
Claim.—A baggage-check holder formed from a single piece of metal, with a slotted side, having a lip to guide the check or card readily into the holder, and a plain side, with flanges bent over, so as to form a rigid and strong holder for the protection of the check or card, with directions as to the route and destination appearing on one side of the holder through the slots, the other side of the holder bearing directions to a place of return, and having also a strap adjacent to its mouth, substantially as set forth.

268,592. SECTIONAL STEAM-BOILER. DANIEL L. ADAMS, Pottsville, Pa. Filed May 15, 1882. (No model.)



Claim.—A steam heating apparatus consisting of a sectional boiler composed of the upper horizontal pipes, E E, rear inclined pipes, F F, and double inclined connecting-tubes G G, the mud-drum H, communicating with the lower ends of the pipes F, the feed-pipe M, entering the mud-drum, and the sectional steam-drum K, connecting with the upper horizontal boiler-pipes, all constructed and combined as and for the purpose described.

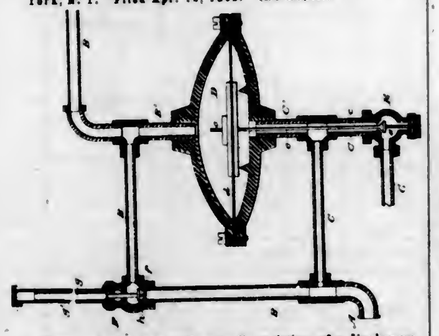
268,593. HEEL-BEADING MACHINE. CHARLES J. ADDY, Malden, Mass. Filed Oct. 20, 1882. (Model.)



Claim.—1. The lever *d* and means to move it, combined with the beading-tool *c*, having the two beaders 3 4, with a surface, 6, between them, to operate substantially as described.

2. The lever *d*, rotating shaft *c*, crank-pin to move it, and attached beading-tool, and the beaders 3 4, the former to bead the top lift and the latter to bead the heel-seat, combined with a movable shoe-support to hold the shoe and enable the heel to be properly presented to the action of the two beaders, substantially as described.

268,594. AUTOMATIC CUT-OFF VALVE. AUGUSTUS H. AIKMAN, Brooklyn, and GEORGE K. OSBORN, New Utrecht, N. Y., assignors to the New York Kerosene Gas Light Company, New York, N. Y. Filed Apr. 13, 1882. (No model.)



Claim.—1. An automatic cut-off consisting of a diaphragm, a fluid-chamber on each side thereof, means for reducing the pressure on one side of the diaphragm, a valve in a supply-pipe adapted to close the passage therethrough, and a connection between said valve and the diaphragm, substantially as and for the purposes set forth.

2. The combination, with a pipe arranged to supply two or more services through two branches, of a chamber divided by a diaphragm into two compartments, means of communication between one of said branch pipes and one of said compartments and between the other branch pipe and the other compartment, a cut-off valve in one of said branch pipes, connected to and operated by said diaphragm, and means, substantially as described, for decreasing the pressure in the other of said branch pipes, arranged therein between its junction with the main supply-pipe and its connection with the diaphragm-chamber.

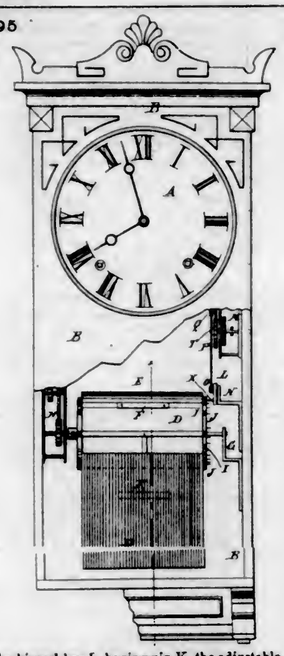
3. The combination of pipes A, B, C, B', and C', valves E and F, diaphragm-chamber D, and diaphragm *d*, arranged and adapted to operate substantially as set forth.

4. The combination of pipes A, B, C, B', and C', valves E and F, diaphragm-chamber D, diaphragm *d*, a hydraulic-engine cylinder, *k*, arranged to be supplied by pipe B, and an air-chamber, *m*, in connection with said pipe, substantially as and for the purposes set forth.

268,595. AUTOMATIC ADVERTISING DEVICE. WILLIAM AXIS, New York, N. Y. Filed July 12, 1882. (No model.)

Claim.—1. An automatic advertising device constructed substantially as herein shown and described, consisting of the case B, the two clock-works H M, the drum E, carrying weighted advertising-sheets D, and provided with a wheel, I, having projecting

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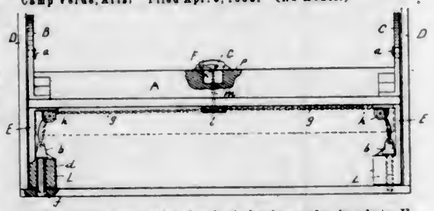


pins J, the hinged bar L, having pin K, the adjustable connecting-rod P, the hinged lever Q, having pawl-tooth S, and the ratchet-wheel T, as set forth.

2. In an automatic advertising device, the combination, with the clock-work M and the clock-work H, operated by drum E, carrying advertising-sheets D, of the wheel I, having a zigzag circular row of projecting pins, J, the hinged bar L, having projecting pin K, the connecting-rod P, the hinged lever Q, having pawl-tooth S, and the ratchet-wheel T, substantially as herein shown and described, whereby the drum E will be automatically stopped to display an advertisement and released to change the advertisements, as set forth.

3. In an automatic advertising device, the combination, with the hinged lever L, having a tooth or pin, K, engaging a zigzag circular row of pins, J, on a wheel, I, of the rod P, hooked into one end of the lever L, the lever Q, having the spring-arm Q', and the tooth S, ratchet-wheel T, and the hub M', having segmental flange X of the large wheel of the clock-work M, substantially as and for the purpose set forth.

268,596. SELF-LEVELING BERTH. EDWARD P. S. ANDREWS, Camp Verde, Ariz. Filed Apr. 6, 1882. (No model.)



Claim.—1. A swinging berth, A, having under brackets, E, one at each end, provided with sockets *d* and bolts *b*, said bolts being arranged to fit in the mortises *f* in the floor, and connected by chains *g m* to a lever, F, pivoted to the side of the berth, for operation substantially as and for the purpose specified.

2. A swinging berth, A, having under brackets, E, one at each end, which brackets are weighted at their lower portion, L, and are provided with sockets *d* and bolts *b*, said bolts being arranged to fit in the mortises *f* in the floor, and connected by chains *g m* to a lever, F, pivoted to the side of the berth, for operation substantially as and for the purpose specified.

268,597. FIRE-ALARM. B. JAY ARTHUR, Philadelphia, Pa. Filed Aug. 3, 1882. (No model.)



Claim.—1. In an automatically-operated fire and burglar alarm, a barrel containing explosive material, in combination with a plunger or piston, also within said barrel, a weight supported in position to be dislodged by the outward movement of said piston, and a cord extending from said weight to a distant signal, which is operated by the falling of said weight, substantially as set forth.

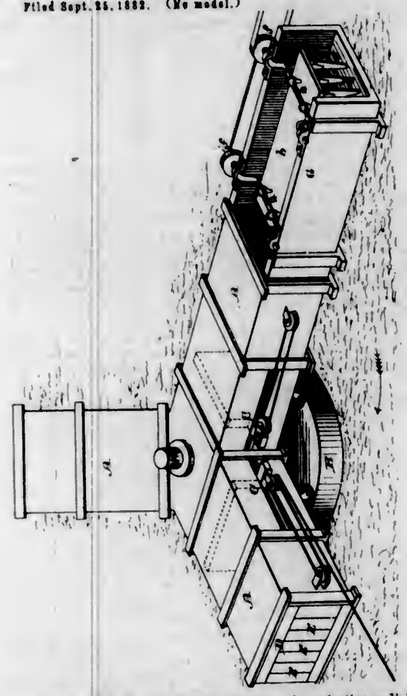
2. In an alarm, a barrel for an explosive, a plunger provided with a vent and a restoring-spring for the plunger, combined and operating substantially as and for the purpose set forth.

3. In an alarm, a barrel for an explosive, in combination with a plunger in said barrel, a weight arranged to be dislodged by the outward movement of said plunger, and a spring whereby said plunger is replaced, substantially as set forth.

4. The holder consisting of the two hinged plates, *a a*, correspondingly channeled to form a series of barrels for explosives, in combination with a series of plungers fitting in said barrels, as set forth.

5. The holder consisting of two correspondingly-grooved hinged sections, clamped together to form a series of barrels for explosives, provided with a common fuse-chamber and communicating ducts, substantially as set forth.

268,598. BALING-PRESS. HENRY C. ARNOLD, Visalia, Cal. Filed Sept. 25, 1882. (No model.)



Claim.—1. In a baling-press, the boxes A, projecting radially and horizontally from a central support and vertical shaft, about which they revolve, substantially as herein described.

2. A baling-press consisting of the horizontally-revolving boxes A, with their outwardly-moving followers C, in combination with a feed-box, G, and a mechanism for moving the followers so placed that when one box is being filled another may have its contents pressed simultaneously, substantially as herein described.

3. In combination with a baling-press, the feed mechanism consisting of the box G, the reciprocating platform *b*, with its hinged or jointed arms *d*, projecting downward into the box, substantially as herein described.

268,599. ORDER-BOOK. WILLIAM H. AUCHINCLOSS, Philadelphia, Pa. Filed July 31, 1882. (No model.)



Claim.—1. An order-book which is composed of a series of stub-sections for recording the orders, and a series of order-sections composed of postal cards for transmitting the orders, each stub-section being provided with an address tag or label, which extends from said stub-section over the face of one of the postal-cards or order-sections, and serves to unite the postal-card or order-section with its stub-section, substantially as shown and described.

2. The combination, with a memorandum-blank having an address-tag, of a postal-card, substantially as hereinbefore shown and described.

268,600. INVALID-BEDSTEAD. JOHN HAGUE, Baltimore, Md., assignor of one-half to Charles Shipley, same place. Filed Oct. 9, 1882. (No model.)



Claim.—1. The combination, with a slat-bedstead divested of some of its slats and provided with holes in its side rails, of a board or head-section fitted to occupy the place of the absent slats and provided with sliding bolts to enter and turn as pivots in said holes in the rails, and means for raising and holding said board at any required angle, substantially as specified.

2. The combination, with a board or head-section hinged to the rails of a bedstead to swing vertically, of two segments of gear-teeth hinged at one end of each segment to opposite edges of said head-section, to fold against the back of said section or to stand out therefrom in arcs of circles whose centers are the pivots upon which said head-section swings, and means for holding the free end of the segment to the circle stated, and means for operating the segment to raise and hold the head-section, all substantially as specified.

3. The combination, with the vertically-swinging head-section of a bed described, and the gear-segments hinged thereto, of braces hinged to stand radially with and support the free ends of said segments or to be folded back under the same, as shown and described.

4. The combination, with the vertically-swinging head-section of a bed and toothed segments secured thereto, of a rod journaled to oscillate in the side rails, carrying two pawls, loosely connected with the rod that they may independently engage and support said toothed segments, and yet be thrown into or out of engagement therewith by turning the rod, as specified.

5. The combination, with a vertically-adjustable head-section of a bed, of an extension-board secured to its upper edge by a cloth hinge, and a button for securing the same in an extended position, substantially as specified.

6. The combination, with the vertically-adjustable head-section of a bed, provided with the hinged extension described, of an L-shaped button pivoted to the head-section to turn across the hinged joint to hold the extension out, said button being provided with a radial adjusting-screw through its L, whereby the hinged extension may be supported in a horizontal position or at any desired angle, as and for the purpose specified.

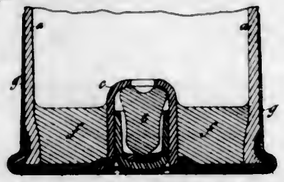
7. A foot-supporter for bedsteads, consisting of a board or frame hinged to a slat secured in a pair of the notches arranged

for the bed-slats in the bedstead to swing vertically thereon, and side braces hinged to said board or frame, arranged to engage their feet in notches in the bedstead to hold said foot-supporter at any desired angle, as shown and described.

8. The combination, with an adjustable head or foot frame, of a mattress divided into sections by joints at the swinging line of the adjustable frame, said joints consisting of the top cloth extending across the joint and the cloth of the two adjoining ends of the mattress folded back on itself in the joint and sewed to the top cloth at the fold, whereby a hinge is formed in the mattress to enable the same to conform to the bend of the bed-bottom when its head-section is raised, as shown and described.

268,601. CENTRAL-FIRE CARTRIDGE. CHARLES S. BAILEY, Waltham Abbey, County of Essex, England. Filed Apr. 11, 1882. (No model.) Patented in England Feb. 1, 1882, No. 498.

Brief.—A central-fire cartridge consisting of a cap-chamber, an anvil, an inner metallic cup sufficiently strong to withstand the blow of a firing-pin, an outer metallic cup, a cap-chamber constructed with a flange interposed and held by and between said metallic cups.



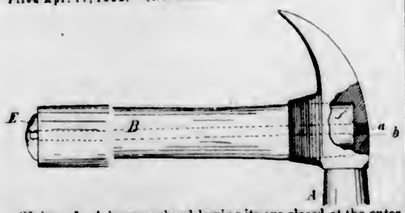
Claim.—1. In a central-fire cartridge, the combination of an inner metallic cup fitting and supporting the bead of an outer metallic cup, and a cap-chamber with flange interposed and held by and between said metallic cups, substantially as described and illustrated.

2. In a central-fire cartridge, the combination of a cap-chamber, an anvil, an inner metallic cup sufficiently strong to withstand the blow of a plunger, striker, or exploding-pin without concaving, a paper packing, and an outer metallic cup, said cap-chamber being constructed with a flange interposed and held by and between said metallic cups, substantially as described, and for the purpose specified.

3. In a central-fire cartridge, the combination of a paper tube, a paper packing, a flanged cap-chamber, with anvil and percussion-cap therein, an inner metallic cup acting in the double capacity of a support to the flanged cap-chamber and as a preventive to burst rims, and a thin outer metallic cup such as to oppose little resistance to the plunger, striker, or exploding-pin, the whole arrangement being such that said outer metallic cup incloses both the inner metallic cup and the crown of the percussion-cap, and also acts as a support to the paper tube, substantially as described, and for the purposes specified.

4. In a central-fire cartridge, the combination, with a paper tube, a cap-chamber with anvil and percussion-cap, a paper packing, and an inner metallic cup, of an outer metallic cup forming a support to said paper tube, inclosing the crown of said percussion-cap and indented around said cup to indicate that same is in its proper position, substantially as described

268,602. HAMMER. THOMAS B. BAILEY, Columbus, Miss. Filed Apr. 17, 1882. (No model.)

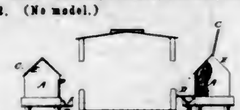


Claim.—1. A hammer-head having its eye closed at the outer end and provided with a threaded hole, *a*, said threaded hole being countersunk at its outer end or at the face of the hammer-head, substantially as and for the purpose herein described.

2. The combination, with a hammer-head, A, having its eye closed at the outer end and a threaded hole formed therein, of a rod, C, passing through the handle, screw-threaded upon both ends and provided with a collar, *f*, upon end below the thread, and a fastening-nut, E, upon the other end, substantially as and for the purpose herein described.

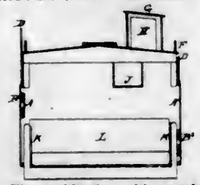
3. The combination, with a hammer-head having its eye closed at the outer end, of a longitudinally-bored wooden handle, B, an iron rod, C, passing through said eye and handle and secured to the head, and a fastening-nut, E, screwed on the rod at the end opposite the head, substantially as and for the purpose herein described.

268,603. DEVICE FOR FEEDING AND WATERING CATTLE IN CARS. HUGH BAIRD, Toronto, Ontario, Canada. Filed Nov. 7, 1882. (No model.)



Claim.—As an improvement in feeding and watering cattle from stock-cars, an elevated box or receiver for containing hay or other coarse food, arranged in a stationary position at the side of a car-track, and having its front side, which faces the cars, provided with an open rack, in combination with a water trough or reservoir supported at the front of the box or receiver, substantially as and for the purpose described.

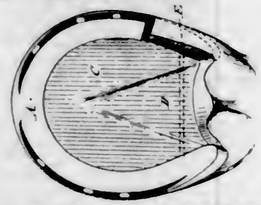
268,604. CATTLE-CAR. HUGH BAIRD, Toronto, Ontario, Canada. Filed Nov. 7, 1882. (No model.)



Claim.—1. The combination, with a stock-car having a series of side openings arranged throughout the length thereof at both sides, and with a door at the inlet and exit opening, of vertical guides extending downward below the side openings, and also arranged at the lower portions of the doorway, and sections of united slats B B, forming portions of the inclosing walls of the car, and arranged along the same and in the doorway thereof, and mechanism for dropping the slats together or in sections below the said side openings to open the same, substantially as shown and described.

2. A stock-car provided with the cope H and the running-board J, located inside the car under the roof in relation to the cope, substantially as and for the purpose described.

268,605. PAD FOR HORSES' FEET. SETH T. BARR, Detroit, Mich. Filed Oct. 12, 1882. (No model.)



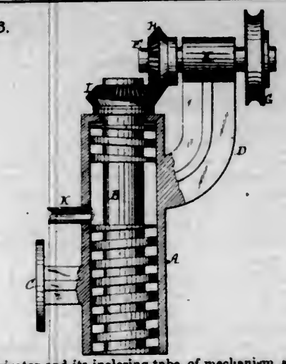
Claim.—1. A frog-pad of elastic material, having beveled edges adapted to fill the whole space inside of a horseshoe, in combination with a horseshoe having its inner surface beveled upwardly, substantially as herein shown and described.

2. In combination with a horseshoe having its inner surface beveled upwardly, a frog-pad of elastic material adapted to fill the whole space within said horseshoe, having its edges beveled to fit within the bevel on the shoe, and having its heel stiffened by a transverse piece of metal embedded in said pad, substantially as herein shown and described.

268,606. AUTOMATIC OILER. CHARLES BARBOUR and ALFRED BARBOUR, Tarentum, Pa. Filed Oct. 16, 1882. (No model.)

Claim.—1. The combination, with a threaded spindle or shaft

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in a lubricator and its inclosing-tube, of mechanism, substantially as described, for automatically operating the lubricator, as set forth.

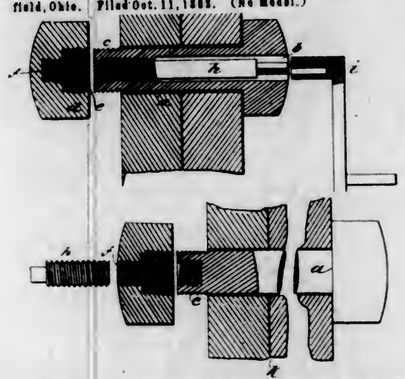
2. In a lubricator, a spindle or shaft having oppositely-running threads at each end and a recess between them, in combination with its inclosing case and means, substantially as described, for operating the device.

3. The combination, in a lubricator, of inclosing-tube A, spindle B, bevel-gears I H, shaft F, and pulley G, substantially as described.

4. The combination, in a lubricator, of inclosing-tube A, spindle B, having oppositely-running threads at each end, bevel-gears I H, shaft F, and pulley G, substantially as set forth.

5. The combination, in a lubricator, of tube A, having outlet-pipe K, leading to the point or points to be oiled, the threaded spindle B, bevel-gears I H, shaft F, and pulley G, substantially as and for the purpose herein specified.

268,607. BOLT AND NUT LOCK. CHARLES E. BALL, Greenfield, Ohio. Filed Oct. 11, 1882. (No model.)



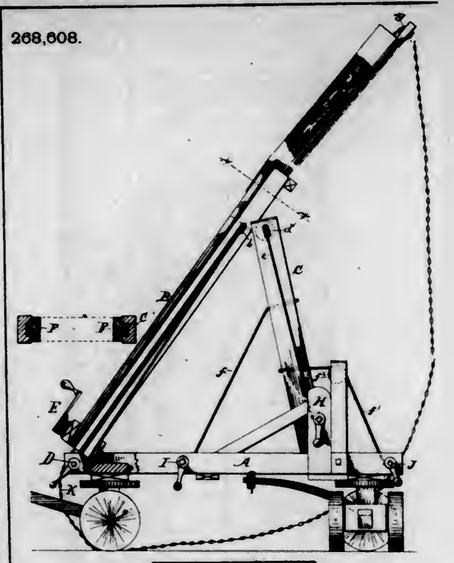
Claim.—The combination of a bolt having a central bore entirely through it, and reverse threads on the inside and outside of its lower end, the nut *d*, having the reversed threads *e f*, and the locking-screw A, having a thread, *g*, corresponding to the internal thread of screw-bolt and the nut-thread *f*, whereby the nut is prevented from turning in either direction until the locking-bolt is withdrawn, as described.

268,608. FIRE-ESCAPE. RICHARD BENTLEY, Corning, Iowa. Filed June 10, 1882. (No model.)

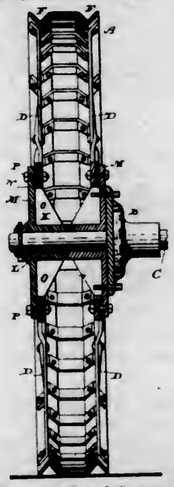
Brief.—An extensible slideway is supported at any angle by an adjustable prop, and is provided with an endless lowering-rope passing under the truck.

Claim.—In a fire-escape, the combination of the folding and extensible slideways having the cord and pulleys arranged as described, the oscillating prop having the sliding roller-supporting frame arranged therein, and means for adjusting the same, and the endless chain passing over the slideways and under the truck, substantially as shown and described, and for the purpose set forth.

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268,609. TRACTION-WHEEL. EDGAR M. BIRDSALL, Auburn, N. Y. Filed Aug. 21, 1882. (No model.)



Claim.—1. The combination of the wrought-metal spider or body of a traction-wheel with an angle-bar rim having an annular groove in its periphery, substantially as set forth.

2. The combination of the angle-bar rims, having annular grooves in their peripheries, with the bands or segments G, substantially as set forth.

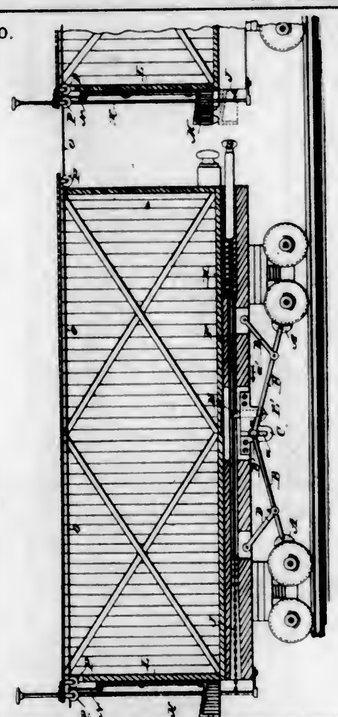
3. The improved hub herein described, composed of castings K, comprising the tubular axle-bearing L, the face-plate M, and webs O, substantially as set forth.

4. The combination of the hub composed of the two castings K, comprising the tubular axle-bearing L, the face-plate M, and webs O, with the wrought-metal spider or body of the wheel, substantially as set forth.

268,610. CAR-BRAKE. GEORGE F. BOND, Troy, N. Y. Filed Sept. 15, 1882. (No model.)

Claim.—1. In a car-brake, the combination of a toggle-lever having brake-shoes and attached to one end of a pivoted elbow-lever, with which the pintle of the toggle-lever is connected, and a

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sliding rod extending longitudially through the car and beyond it, and provided with a buffer-head, said buffer-head adapted to be acted upon by a lowered buffer of the opposite car as the movement of the engine is checked.

2. In a car-brake, the combination, with the toggle-lever B, with its pintle B' moving in the slotted guide C *a*, of the brake-shoes A, attached to the ends of the same, the elbow-lever E, the rod F, and the pivoted rods D, pivoted to the bottom of the car and to the toggle-lever B, substantially as herein shown and described, and for the purpose set forth.

3. In a car-brake, the combination, with the toggle-lever B, with its pintle B', moving in the slotted guide C *a*, of the brake-shoes A, the elbow-lever E, the rod F, the rods D, pivoted to the bottom of the car and to the toggle-lever B, and the spring H, substantially as herein shown and described, and for the purpose set forth.

4. In a car-brake, the combination, with the toggle-lever B, with its pintle B' moving in the slotted guide C *a*, of the brake-shoes A, the elbow-lever E, the rod F, the spring H, the rods D, pivoted to the bottom of the car and to the toggle-lever B, and the buffer-head G, substantially as herein shown and described, and for the purpose set forth.

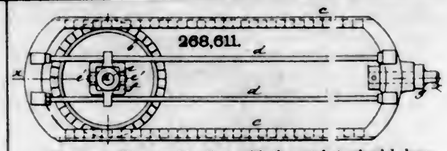
5. In a car-brake, the combination, with the toggle-lever B, of the brake-shoes A, the elbow E, the rod F, the spring H, the rods D, the buffer-head G, the chain J, and the vertical brake-shaft K, substantially as herein shown and described, and for the purpose set forth.

6. In a car-brake, a toggle-lever carrying brake-shoes and connected by an angle-lever with a longitudinally-movable rod on the bottom of the car, combined with a vertically-adjustable buffer-head in the opposite car, substantially as described and set forth.

7. In a car-brake, the combination, with a toggle-lever carrying brake-shoes and connected by an elbow-lever with a longitudinally-movable rod on the bottom of the car, of a vertically-movable buffer-head on the opposite car, and a rope, chain, or rod running along the roofs of the cars and connected with the said vertically-movable buffer-head, substantially as herein shown and described, and for the purpose set forth.

268,611. MECHANISM FOR CONVERTING MOTION. WILLIAM W. BOWERS, San Luis Rey, Cal. Filed June 27, 1882. (No model.)

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Claim.—1. The combination, with the ratchet-wheel *b*, having teeth upon one of its faces, of the two racks *c*, attached to one face of a frame, which oscillates on a pivot which would intersect the axis of the wheel *b*, if extended, as shown and described.

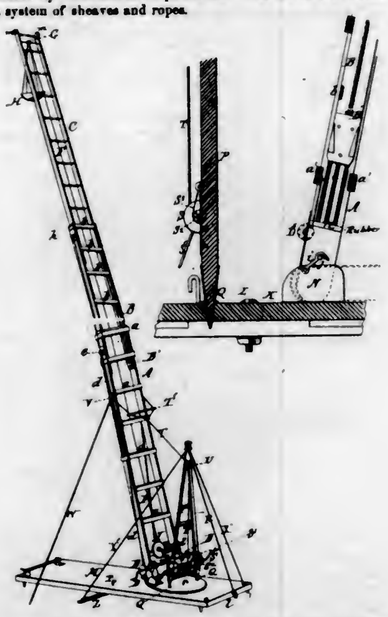
2. The combination of the ratchet-wheel *b*, racks *c c*, the pivoted frame *f*, and hub *e*, substantially as shown and described, for operation as set forth.

3. The combination, with the frame provided with two racks of teeth, *c*, oscillating on an axis lying between said racks parallel to their plane, of two ratchet-wheels, *b*, and their shaft *a*, adjustable endwise, as shown and described.

4. The combination, with two bars connected together, provided with reverse ratchet-teeth, and fitted to oscillate their plane upon an axis parallel thereto, with a single ratchet-wheel and a balance-weight, as shown and described.

268,612. FIREMAN'S EXTENSION-LADDER. BENJAMIN F. BOWEN, Ripley, Ohio. Filed May 18, 1882. (No model.)

Brief.—The lower rounded ends of the lower section of the extensible ladder rest in socket-abutments in the turn-table upon the truck, and are held therein by hooks and pins. Sockets, also in the turn-table, hold the pointed ends of the derrick for raising the ladder by a windlass and rope thereon. The ladder is extended by a system of sheaves and ropes.



Claim.—1. The combination, substantially herein described, of a turn-table provided with the socket-abutments N N and sockets *k k*, with a fireman's extensible ladder, the lower ends of the lower section, A, whereof are adapted for detachable support and connection within said socket-abutments, and a derrick, P, adapted for detachable support and connection within the said turn-table sockets *k k*, for the purpose specified.

2. The turn-table of a fireman's extensible ladder, provided with the socket-abutments N N, each having a curved back and closed at their sides, in combination with the main ladder-section A, the lower ends of the side bars of which are rounded and adapted to fit within said sockets between their closed sides, substantially as described.

3. The turn-table of a fireman's extensible ladder, provided with the socket-abutments N N, each having a curved back and closed at their sides, in combination with the main ladder-section A, the lower ends of the side bars of which are rounded and provided with pins *j*, and the hooks *i*, pivoted to said socket-abutments, substantially as described, for the purpose specified.

4. In a fireman's extension-ladder, the combination of a turn-table provided with socket-abutments N N and sockets *k k*, and a ladder adapted to be supported within said socket-abutments, substantially as described, with a derrick, P, for raising the ladder, having picket-points supported upon said turn-table independent of said ladder, means whereby said derrick is connected with the truck, the windlass, and the ladder-elevating rope T, substantially as described.

5. In combination, in a fireman's ladder, the turn-table having the socket-abutments, the ladder having extensible sections and an elevating-windlass therefor, the derrick having picket-points, its supporting guy rope or ropes, and hoisting-rope connecting said derrick with the ladder, substantially as described, for the purpose specified.

6. The ladder-sections A B C, arranged one within the other, the middle section between the flat guides *a' a'*, and the upper section, C, between the flat guides *b b*, the sections A and B having the grooves *e g*, as described, in combination with the sheaves *h h* in the section B, the ropes *f f*, attached to the lower ends of the upper section, passing over said sheaves and attached to the side bars of the main section A, the sheaves *e e* in the main section, the ropes *d d*, and the double windlass D D, carried by said main section, substantially as described, for the purpose specified.

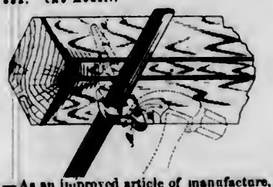
7. The combination, in a fireman's ladder, of the turn-table and the derrick, with the supporting guy-ropes therefor, and one or more slide-bars for said guy-ropes fixed to the platform or truck-frame, substantially as described, for the purpose specified.

8. The turn-table of a fireman's extensible ladder, provided with socket-abutments, in combination with the main ladder-section having rounded ends, and means for securing said ladder ends within said socket-abutments, substantially as described, for the purpose specified.

9. In combination, the truck-platform M, the turn-table K, the extensible ladder, and the derrick and its stay R, the said ladder having a double extension-windlass, D D, connected by suitable ropes with the ladder-sections, and the said derrick having the windlass and rope T for elevating said ladder, the latter and its hoisting-derrick being carried by and detachably supported upon the turn-table, and the derrick connected with said platform, substantially as described.

10. The combination of the truck-platform with the ladder and the derrick, and with means, substantially as described, whereby they are detachably connected with the turn-table, and means, substantially as described, whereby the derrick is detachably connected with the truck.

268,613. WIRE-FENCE NAIL. JACOB BRINKERHOFF and WARREN M. BRINKERHOFF, Auburn, N. Y., assignors to the Washburn & Moen Manufacturing Company, Worcester, Mass. Filed June 27, 1882. (No model.)



Claim.—As an improved article of manufacture, the staple herein shown for supporting and confining metal fencing material to fence-posts, formed with a shank, *a*, and the head *a'*, said head having flat sides with a teat or stud thereon located at a point distant from the extremity of the head, substantially as set forth.

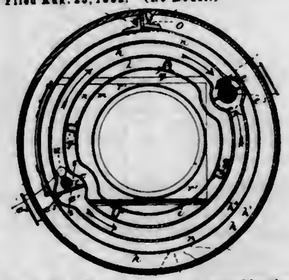
268,614. OPHTHALOMETER. CLARK BROWN, Harbor, N. Y. Filed Apr. 5, 1882. (No model.)



Claim.—1. The combination of the graduated semicircular arc A, scale E, and pivots B, said pivots having hollow bulbous extensible sections C, substantially as specified.

2. The combination of the semicircular graduated arc A, scale E, and pivots B, said pivots having hollow perforated bulbous sections C, substantially as specified.

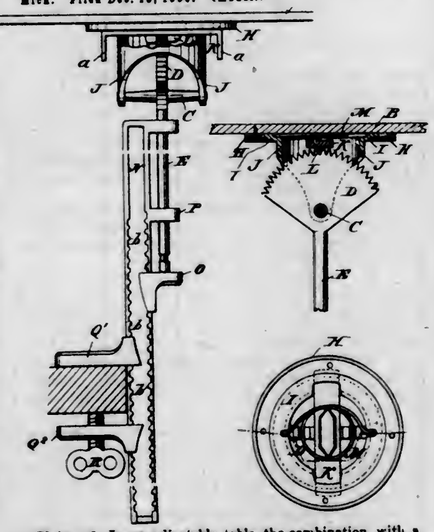
268,615. HEATING-FURNACE. GEORGE R. BROWN, Corning, N. Y. Filed Aug. 23, 1882. (No model.)



Claim.—1. In a hot-air furnace, the combination, with the combustion-chamber and the outer casing, of the auxiliary radiator, circular in form, and having the enlargements, provided with open passages for heat and smoke, disposed one at the side of the feed-entrance and the other at the rear of the furnace, and connecting with the combustion-chamber and with the smoke flue or pipe, substantially as set forth.

2. In combination, the combustion-chamber having smoke-flue connection with the auxiliary radiator, as described, the auxiliary radiator, circular in form, and connected to discharge smoke-flue, said radiator formed with enlargements partially divided by vertical partitions, substantially as shown and specified.

268,616. ADJUSTABLE TABLE. HENRY E. BROWN, Lansing, Mich. Filed Dec. 15, 1880. (Model.)



Claim.—1. In an adjustable table, the combination, with a sliding latch, K, provided with a wedge-shaped tooth, L, on its under side, sector-rack D, spring M, and shaft C, of the flanged top plate, I, provided with the lugs J J, and flanged ring H, secured to the table, whereby the table can be tilted in any direction and firmly secured at any angle, substantially as described.

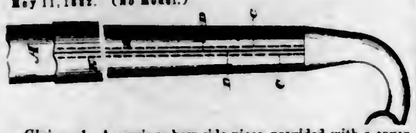
2. In a book-support, the combination, with the flanged bar N, provided with the guides P P, and with teeth on two opposite sides, of the vertically-adjustable pawl-clamps Q' and Q², the screw R, the vertically-adjustable pawl-arm O, the rod E, and the table B, pivoted to the top of the rod E, all substantially as herein shown and described, and for the purpose set forth.

268,617. HARROW-CULTIVATOR. DANIEL H. BULL, Greenville County, S.C. Filed July 6, 1882. (Model.)



Claim.—A cultivator-tooth formed of a flat bar of metal to present a cutting-edge to the sod, the lower point being twisted so as to present a broadside to the soil, as shown and described.

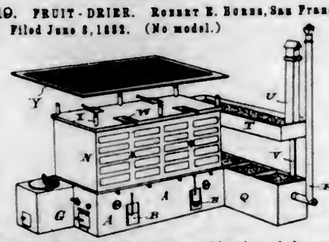
268,618. CARRIAGE-BOW. RUFUS B. BULLOCK, Ashtabula, Ohio, assignor to the Ashtabula Carriage Bow Company. Filed May 11, 1882. (No model.)



Claim.—1. A carriage-bow side piece provided with a cover the edges of which are drawn together to form a flat seam by appropriate stitching, as and for the purpose set forth.

2. A carriage-bow side piece provided with a cover the squared edges of which are drawn together to form a flat seam by appropriate stitching, and united to the side piece by cement, substantially as and for the purpose described.

268,619. FRUIT-DRIER. ROBERT E. BURNS, San Francisco, Cal. Filed June 8, 1882. (No model.)



Claim.—1. In a fruit-drier, the combination of the combustion-chamber C, having a return-flue, D, communicating with a double pipe, E, discharging into an auxiliary fume-chamber, Q, substantially as shown and described.

2. In a fruit-drier, the combination, with the main furnace or combustion chamber C, of the lye-pot furnace G and connecting-pipe H, having damper I, and discharging into the combustion-chamber, substantially as shown and described.

3. In a fruit-drier, the combination of the main chamber A, having combustion-chamber C, communicating with the double pipe E by means of the return-flue D, the connecting-pipe *b*, having damper J, and the auxiliary drying-chamber Q, provided with smoke-stack R, substantially as shown and described.

4. In a fruit-drier, in combination with the main furnace and drying chambers thereof, the secondary or duplicate chamber F, lye-pot furnace G, pipe H, and air-passage Z, substantially as shown and described.

5. In a fruit-drier, the combination of the damp air-passages O, located at the top of the main drying-chamber N, the flue S, situated below and to the rear of the finishing-chamber, and the steam-box T, provided with pipe or chimney U, substantially as specified.

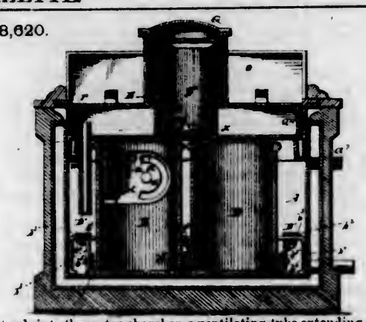
6. In combination with a fruit-drier constructed as shown and described, the overhanging screen or tray Y, placed upon suitable supports above the roof of said drier, substantially as and for the purpose set forth and specified.

7. In a fruit-drier, the combination of the main furnace and drying chambers, the secondary or duplicate furnace and drying chamber, the finishing-chamber, and the overhanging screen or tray, substantially as shown and described.

268,620. MILK-COOLER. [illegible] N. CALKINS, Rochelle, Ill. Filed Mar. 29, 1882. (No model.)

Claim.—1. In a milk-cooler, the combination, with a water-chamber and milk-cans, of a cover having a depending rim which

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extends into the water-chamber, a ventilating-tube extending above the cover and below the top of the cans, and a tube which conducts the waste ice-water from the surface of the cover into the water-chamber.

2. In a milk-cooler, the combination, with the water-chamber and milk-cans, of a cover having an inwardly-extending rim, and provided with a pipe adapted to convey the waste ice-water from the surface of the cover, a rubber plug or stopper adapted to fit said opening, a ventilating-tube passing through said cover to a point below the top of the cans, and an overflow-pipe extending nearly to the bottom of the chamber, substantially as set forth.

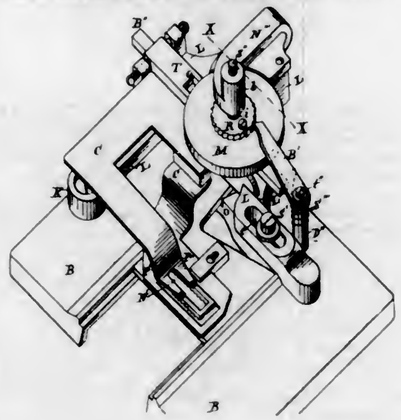
3. In a milk-cooler, the combination, with a water-chamber and a cover provided with ventilating and waste-water tubes, of a supplemental cover provided with a central upright cylinder having an independent bottom on which the ice rests, and perforations for the escape of the ice-water into the main cover when the parts are in position, substantially as set forth.

4. In a milk-cooler, the combination, with the water-chamber, of the rack removably secured to the bottom thereof, and provided with side pieces adapted to prevent the cans from being placed too near the sides and ends of the chamber, so as to interfere with the closing of the top, cross-bars, and cans having lugs adapted to engage said cross-bars, substantially as set forth.

5. The combination, with the water-chamber, of a rack removably secured therein, the said rack being composed of side and end pieces, depending hangers, standards, and cross-bars, and the milk-cans provided with projecting tongues adapted to engage the said cross-bars and hold the cans down in position, all of the above parts constructed and adapted to operate substantially as set forth.

6. The combination, with the main cover having a pipe secured thereto for carrying off the waste ice-water, and a supplemental cover having an opening therein which registers with the waste-pipe in the main cover, of a rubber plug or stopper having an elongated handle by which it can be passed through the supplemental cover and close the waste-pipe without removing either cover, substantially as set forth.

268,621. BUTTON-HOLE ATTACHMENT FOR SEWING-MACHINES. WILLIAM H. CARR, Lansingburg, assignor to Freeland W. Ostrom, Troy, N. Y. Filed Dec. 24, 1881. (Model.)



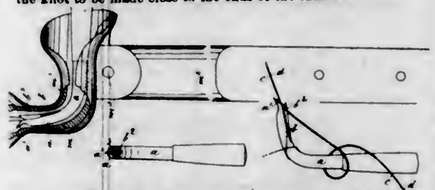
Claim.—1. In a button-hole attachment to a sewing-machine, the combination of the vertical shaft S″, the cam C′, constructed to move on or with said shaft, and the slot O, constructed in the guide-bar T, as and for the purposes described and set forth.

2. In a button-hole attachment to a sewing-machine, the combination of the ratchet-wheel R, cam-grooved disk-wheel M, cam C′, vertical shaft S″, the pin *d*, upon the cloth-carrying mechanism, and the slot O in the bar T, as and for the purposes described and set forth.

3. In a button-hole attachment to a sewing-machine, the combination of the ratchet-wheel R, cam-grooved disk-wheel M, cam C′, vertical shaft S″, the pin *d*, and sliding bar B″ upon the cloth-carrier, and the groove *n* and longitudinal slot O on the bar T, arranged to operate as herein shown and described.

268,622. KNOT-TYING APPARATUS FOR SPOOLING-MACHINES. HORACE P. CHASE, Lowell, assignor of one-half to George Draper & Sons, Hopedale, Mass. Filed July 5, 1882. (No model.)

Brief.—The knot-tying device is composed of a curved metal rod inclosed within a slotted casing, the rod at one end being forked to form a clamp and provided with a prong and a cutter. The free ends of the yarns or threads to be united are first wrapped around the shank of the rod and then slipped between the jaws of the clamp, their extremities being removed by the cutter at the side of the clamp. On drawing the loop or coil of thread which is wrapped around the shank upward it will be carried over the end held by the clamp, and the knot will be thus formed. The prong detains the loop as it passes off the clamp, and thus causes the knot to be made close to the ends of the threads.



Claim.—1. The knot-tying device composed of the body *a* and attached head or part b^3, combined with holding-shells *m m′*, to operate substantially as described.

2. The combination, with the body *a* of the knot-tying device and its attached head or part b^3, provided with a cutter or edge, 3, of holding-shells *m m′*, provided with a thread-guiding slot, to operate substantially as described.

3. The combination, with the body *a* of the knot-tying device, provided with the prong *a′*, of the head or portion b^3, provided with the cutter or edge 3, and the holding-shells *m m′*, all operating substantially as described.

4. The knot-tying device *a*, having the head b^3, and cutter or edge 3, to clamp and cut the thread, combined with the shells *m m′*, to inclose and support the tying device, substantially as described.

5. The combination, with the frame of a spooling-machine, spool-box, and spindle E, to rotate the spool F, of a knot-tying device having thread-clamping surfaces and a cutter or edge, 3, to sever the threads, and means to support the knot-tying device, to operate substantially as described.

6. The combination, with the frame, spool-box, spool-spindle, and bobbin-holder of a spooling-machine, of mechanism for tying knots in or piecing the yarns applied in conjunction with such spool-spindle, substantially as shown and described.

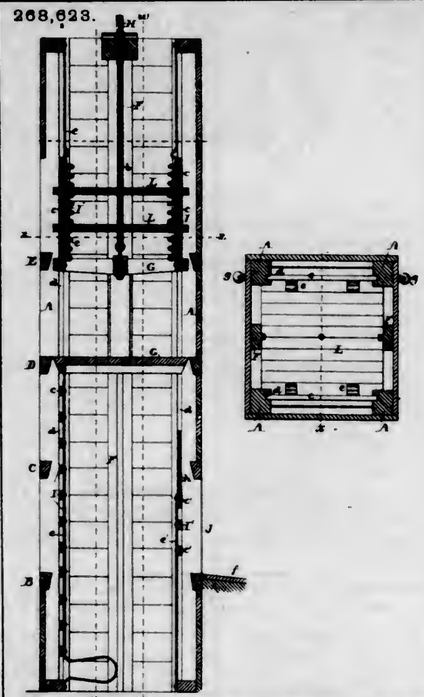
7. The body *a* of the knot-tying device, provided with the prong *a′*, combined with the head or portion b^3, provided with the cutter or edge 3, whereby the two threads to be tied together are held while their free ends are looped about the body of the tying device, and drawn off its prong to form a knot, and the ends of the thread are severed close to the knot when the latter is drawn from the said prong, substantially as described.

268,623. ELEVATOR. OSCAR H. CHILD and LAROE M. COLLINS, Boston, Mass. Filed May 8, 1882. (No model.)

Brief.—Bands provided with slats are located at the sides of the well, one end of the bands being secured at the top or bottom of the well and the other to the elevator. Trap-doors covering the wellway are connected to the bands.

Claim.—1. In combination with an elevator-well and a car arranged to move vertically therein, a flexible apron connected at one end to the car and at the other end to a fixed portion of the

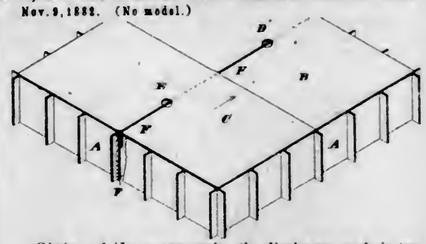
268,623.



framing at the top or bottom of the well, substantially as and for the purposes described.

2. The combination of an elevator-well, a car arranged to be moved vertically therein, flexible aprons arranged upon opposite sides of the well, and each attached by one end to the car and at the other end to some fixed portion of the framing at the top or bottom of the well, and one or more hatch-covers secured to said aprons or guards, and adapted to operate substantially as and for the purposes described.

268,624. EGG-CARRIER. JOHN P. CLARK, St. Louis, Mo. Filed Nov. 9, 1882. (No model.)



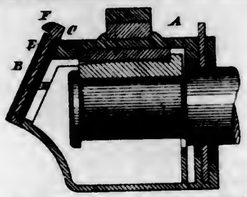
Claim.—1. In an egg-carrier, the diaphragm made in two parts and secured to the cells by a suitable wire or string secured to the sides of the carrier, and passing through holes in the parts to admit of the parts being shifted one over the other, for the purpose set forth.

2. In an egg-carrier, the combination of cells A, two-part diaphragm B C, with holes D E and connecting wire or string F, the wire or string being secured by its opposite ends to the sides of the carrier and passing through the holes in the diaphragm, substantially as shown and described, so that the part C can be slid over the part B, for the purposes set forth.

268,625. LID FOR CAR-AXLE BOXES. CHARLES COLLER, Hannibal, Mo., assignor of two-thirds to Willard T. Block, same place. Filed May 16, 1882. (No model.)

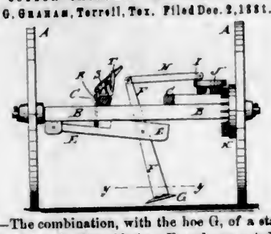
Claim.—In a car journal-box, the lid working in grooves of flanges cast upon the box and provided with notches at its lower

268,625.



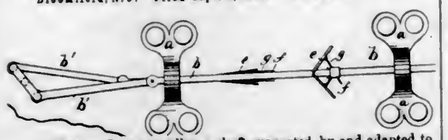
end for engaging with the tops of the flanges, and a groove in its back for receiving the end of a strip or plate secured to the box, all substantially as and for the purpose set forth.

268,626. COTTON-CHOPPER. LAURA A. COLLINS, Elmo, and WILLIAM G. GRAHAM, Terrell, Tex. Filed Dec. 2, 1881. (Model.)



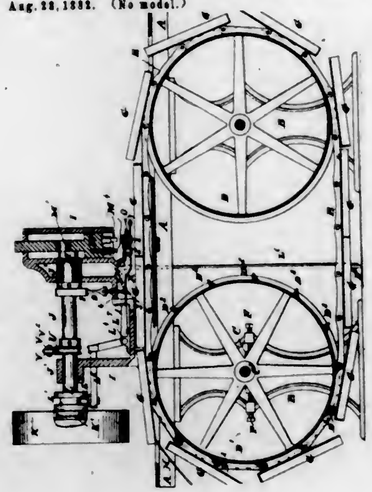
Claim.—The combination, with the hoe G, of a standard, F, fulcrumed to a hinged adjustable bar, E, and connected by mechanism H I J K with the ground-wheel A, as and for the purpose specified.

268,627. VIBRATING PROPELLER. EMMONS B. CORBY, Bloomfield, N.J. Filed Sept. 4, 1880. (No model.)



Claim.—In a propeller, a shaft supported by and adapted to work longitudinally through guides on the side of the vessel, and provided with blades or plates hinged thereto between its ends, and connected by links or braces to a sliding collar limited in its movement by a pin or stop on the shaft, the blades being dependent on the water and movement of said shaft for operation, as described, and for the purpose set forth.

268,628. PLUG-TOBACCO-MARKING MACHINE. LOUIS J. CRECELIUS, St. Louis, Mo., assignor of two-thirds to Sylvanus T. Moulton and Theodore F. Uhlich, both of same place. Filed Aug. 22, 1882. (No model.)



Claim.—1. In a machine for marking plug-tobacco, the endless chain traveling over drums, and having links with side projections, to which the tobacco-receiving buckets are secured, as set forth.

2. In a machine for marking plug-tobacco, the tobacco-receiving buckets secured to the endless chain, and having notched forward ends, in combination with an inclined stationary chute for removing and receiving the plugs from the buckets, as set forth.

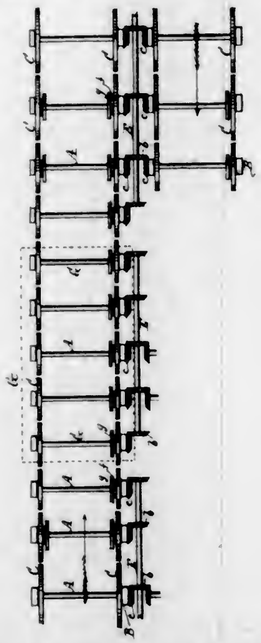
3. In a machine for marking plug-tobacco, the combination of sheet-metal-carrying rack, shaft Q', having pinion Q, rocking arm R, having spring-catch R^2, connecting-rod S, lever T, die-stock M^3, and frame I, as set forth.

4. In a machine for marking plug-tobacco, the combination of endless chain carrying buckets, drums D D', shaft C of drum D', having ratchet-wheel W^2, rocking arm W, having spring-catch W^3, connecting-rod W', arms V V, having roller V^2 and pivoted to the frame, and grooved eccentric U, mounted on the shaft J, as set forth.

5. In a machine for marking plug-tobacco, the presser-foot X, with projections 2, secured by springs to the frame, and having a roller, 5, and opening 6, in combination with cam 4 3 7, connected to the shaft J by eccentric-ring 8 and arm 9, as and for the purpose set forth.

6. In a machine for marking plug-tobacco, the presser-foot located between the dies and buckets, and having projections 2, adapted to press the tags into the tobacco, in combination with suitable operating mechanism, as set forth.

268,629. APPARATUS FOR TRANSPORTING LOADS. JOSIAH CURTIS, Genesee, N.Y. Filed Oct. 27, 1882. (No model.)



Claim.—1. In an apparatus for conveying loads, the combination of two tracks lying alongside, composed of a series of axles resting in standards and provided with wheels, and a shaft resting longitudinally between the two tracks, provided with gears which engage with gears on the axles of both tracks and impart uniform rotary motion to all the axles, as herein shown and described.

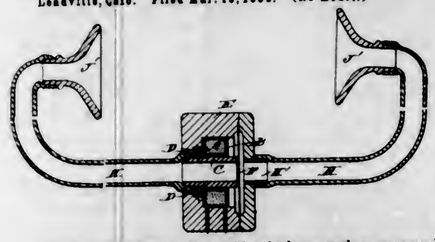
2. In an apparatus for conveying loads, the combination of a main track composed of a series of wheels attached to axles and turned by gearing, and one or more isolated or cut-out sections, also composed of wheels attached to axles and operated by gearing, the gearing of the cut-out section or sections being independent of and disconnected from that of the main track, as shown and described, and for the purpose specified.

3. The combination of a main track composed of a series of axles and wheels attached thereto, and a cut-out section, also composed of a series of axles with wheels attached thereto, interposed in the main track, the wheels of the main track adjoining the cut-out section being of graduated sizes, as herein shown and described.

4. In a track composed of a series of axles, with wheels attached thereto of graduated sizes, the combination, with the wheels turning loosely on the axles, of ratchets attached to the wheels, and disks attached to the axles, and pawls pivoted to the disks, engaging with the ratchets, as shown and described, and for the purpose specified.

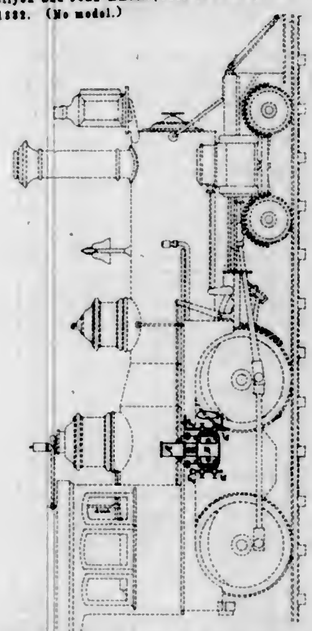
5. In an apparatus for conveying loads, the combination of a track consisting of a series of axles with wheels attached thereto, and a car or cars provided with grooves or slots in the bottom, open at both ends, fitting upon the rims of the wheels, the car or cars receiving forward motion by the frictional contact with the wheels, as herein shown and described.

268,630. RECEIVING-TELEPHONE. GEORGE F. DAILEY, Leadville, Colo. Filed Mar. 13, 1882. (No model.)



Claim.—The improved portable telephone-receiver, composed of the bobbin A, the tubular core C, magnet D, tube H', and diaphragm F, contained in a casing, E, and the rigid sound-conducting tubes H H, curved upward and inward at their outer ends, and provided with the ear-pieces J' J', placed facing each other, all as shown and described, for the purpose specified.

268,631. AIR-BRAKE PUMP FOR LOCOMOTIVES. DAVID J. DAUPHAN, Philadelphia, Pa., assignor of two-thirds to William H. Bilyeu and John Ambler, both of same place. Filed Feb. 13, 1882. (No model.)

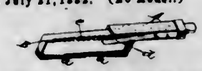


Claim.—1. The combination of the pump-cylinder B, its inlet pipe and valves, with two valved discharge pipes or branches, F and G', one communicating with the air-reservoir and the other adapted for receiving hose, as set forth.

2. The combination of the pump-cylinder B and its valves with inlet and discharge pipes D and E, each having two valved branches, as specified.

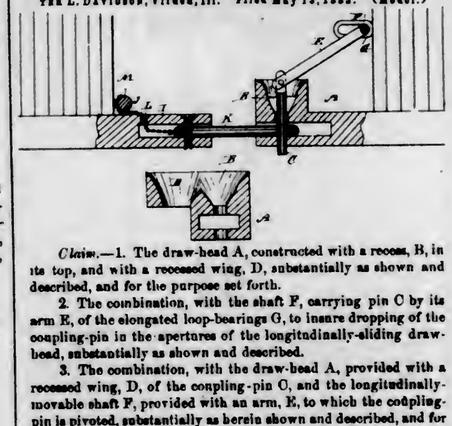
3. The combination of the pump-cylinder B and its supply and discharge pipes, the valves *a* and *b*, with stems *m*, the threaded rods *g*, and the wheels *n*, confined vertically and adapted to the threaded portions of the rods *g*, as set forth.

268,632. SUTURE-CLAMP. ELIJAH H. DANFORTH, Jamestown, N. Y. Filed July 21, 1882. (No model.)



Claim.—A needle-clamp for drawing together and holding cleft palates, gaping wounds, &c., composed of two separate parts, one of which has a ratchet and the other a socket and spring-pawl, each part having a needle or points for entering the flesh, substantially as shown and described, and for the purpose set forth.

268,633. CAR-COUPLING. STEPHEN L. DAVIDSON and CHRISTEN L. DAVIDSON, Virden, Ill. Filed May 13, 1882. (Model.)



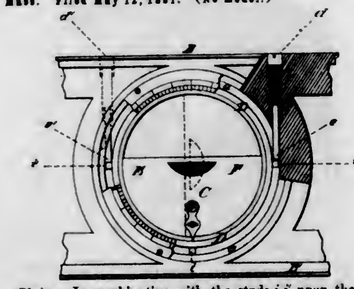
Claim.—1. The draw-head A, constructed with a recess, B, in its top, and with a recessed wing, D, substantially as shown and described, and for the purpose set forth.

2. The combination, with the shaft F, carrying pin C by its arm E, of the elongated loop-bearings G, to insure dropping of the coupling-pin in the apertures of the longitudinally-sliding draw-head, substantially as shown and described.

3. The combination, with the draw-head A, provided with a recessed wing, D, of the coupling-pin C, and the longitudinally-movable shaft F, provided with an arm, E, to which the coupling-pin is pivoted, substantially as herein shown and described, and for the purpose set forth.

4. The combination, with the draw-head I, of the link K, the chain J, and the shaft M on the end of the car, substantially as herein shown and described, and for the purpose set forth.

268,634. SPIRIT-LEVEL. LEONARD L. DAVIS, Springfield, Mass. Filed May 12, 1881. (No model.)

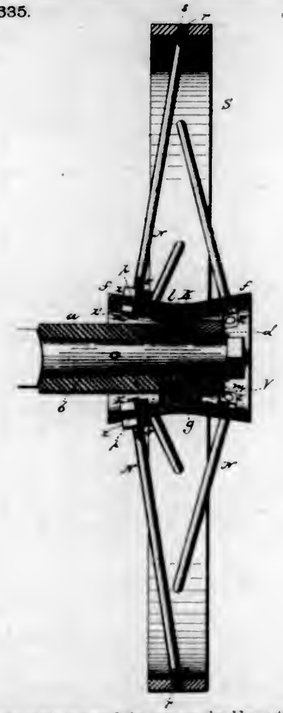


Claim.—In combination with the studs i i' upon the rotary reciprocating ring D, the adjusting-screws *d d*, arranged in the frame tangentially to the bubble-case, to operate substantially as shown and described.

268,635. WAGON-WHEEL. ADOLPH DELKESCAMP, Waterbury, Conn. Filed May 20, 1882. (No model.)

Claim.—An iron or steel wheel having an axle-box formed with a shoulder, *e*, and threaded end *d*, the annular spoke-holder K, having the eye-bearing *h*, and the inclined or flaring rim-flanges *f*, perforated at *p*, the oblique or staggered spokes N, hav-

268,635.



ing threaded ends, and the outer or shoulder nuts, *z*, and inner or tie nuts, *z'*, engaging the rim-flanges and threaded ends of the spokes, and the large nut V, securing the spoke-holder to the axle-box, substantially as specified.

268,636. DUST-PAN. WILSON DE MERA, New York, N. Y., assignor to Donaldson Brothers, same place. Filed Nov. 3, 1882. (No model.)



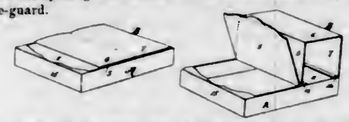
Claim.—1. A dust-pan struck up with its handle from one piece of pasteboard, and having lateral wings or braces integral therewith at the point of connection with the handle and pan, substantially as shown and described.

2. A dust-pan, of pasteboard, struck up in one piece with a handle of convexo-concave form, and having laterally-extended fluted wings or braces at the point of connection of the handle with the pan, substantially as shown and described.

268,637. WITHDRAWN.

268,638. MATCH-CASE. JOSEPH DE SUSINI-RUISECO, Havana, Cuba, assignor to Francis S. Kinney, New York, N. Y. Filed Oct. 21, 1881. Renewed Oct. 6, 1882. (No model.)

Brief.—In the modification of this device represented in Figs. 6 and 7 the opening of the match-box lid effects the opening of the flame-guard.

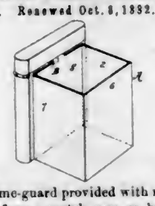


Claim.—1. A match case or box provided with a folding flame-guard, substantially as described.

2. The combination of a folding flame-guard with the lid of a match case or box, said parts being so arranged that in opening the lid the guard is also opened, substantially as described.

3. The combined match-box and folding flame-guard herein described, the same being permanently secured to each other, substantially as described.

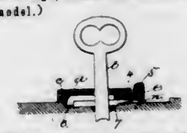
268,639. FLAME-GUARD. JOSEPH DE SUSINI-RUISECO, Havana, Cuba, assignor to Francis S. Kinney, New York, N. Y. Filed Oct. 24, 1881. Renewed Oct. 6, 1882. (No model.)



Claim.—1. A flame-guard provided with means for attaching it to and detaching it from a match case or box, substantially as described.

2. A match case or box provided with a detachable flame-guard, substantially as described.

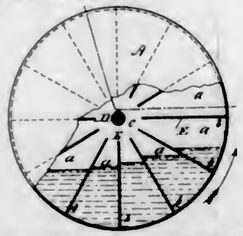
268,640. KEY-FASTENER. LÉON DION, Natick, assignor to George S. Trowbridge, Trustee, Newton, Mass. Filed Aug. 7, 1882. (No model.)



Claim.—1. The escutcheon *c*, provided at its under side with a guide-groove and notched at its edge, and the fastening-fork adapted to slide across the key-hole of the escutcheon and engage the flattened portion of the key, and also provided with a locking-projection, 4, combined with a spring to cause the fastening-fork to engage the notch in the escutcheon, substantially as described.

2. The escutcheon *c*, provided with the guide-groove and notch, combined with the sliding notched or forked key-fastening device provided with a locking-projection, 4, and stop-projections 6, and with the spring, whereby the said locking-projection is thrown into engagement with the notch, the stop-projection preventing the withdrawal of the key-fastening device, all as described.

268,641. REGULATOR FOR MOTORS. OSKAR DITTMAR, Vienna, Austria, and CARL SCHMIDT, Bockenheim, near Frankfort-on-the-Main, Germany, assignors to Constantin Schmidt, New York. Filed Aug. 15, 1882. (No model.) Patented in Germany Dec. 9, 1880, No. 14,013.

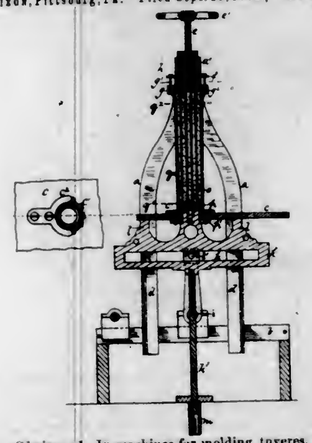


Claim.—1. A regulator for motors, made substantially as herein shown and described, and consisting of a closed drum divided into compartments by radial partitions provided with apertures or slots, which drum is to contain a quantity of liquid or sand or other granular or pulverized material, as set forth.

2. In a regulator for motors, the combination, with the closed drum A, of the radial partitions E, provided with apertures *b* at or near the outer ends, substantially as herein shown and described, and for the purpose set forth.

3. In a regulator for motors, the combination, with the closed drum A, of the radial partitions E, extending from the periphery to within a short distance of the shaft, and provided near the outer ends with apertures *b*, substantially as herein shown and described, and for the purpose set forth.

268,642. MACHINE FOR MOLDING TUYERES. HENRY L. DIXON, Pittsburg, Pa. Filed Sept. 29, 1882. (No model.)



Claim.—1. In machines for molding tuyeres, the combination of a mold with a compressing head or plunger, which enters the mold and compresses the clay therein, provided with perforating-rods, which perforate the clay, substantially as and for the purposes described.

2. In machines for molding tuyeres, the combination of a mold, a plunger or head carrying the perforating-rods, and a compressing-disk carried by the head up into the mold, substantially as and for the purposes described.

3. In machines for molding tuyeres, the combination of a mold, a plunger or head carrying the perforating-rods, and a perforated disk sustained at or near the end of the mold, for guiding and spacing the rods as they enter the clay, substantially as and for the purposes described.

4. In machines for molding tuyeres, the combination of a mold, a plunger or head carrying perforating-rods, and a head tightly closing the end of the mold, having elastic facing, substantially as and for the purposes described.

5. In machines for molding tuyeres, the combination of a mold, a plunger or head provided with perforating-rods, and a head closing the end of the mold and held in position by a spring, substantially as and for the purposes described.

6. The combination of the reciprocating sliding head with adjustable ways, substantially as and for the purposes described.

7. The combination, in a machine for molding tuyeres, of a reciprocating head having perforating-rods, a shaft for operating such head, a power-wheel, and a clutch capable of connecting and disconnecting the shaft with the power-wheel, substantially as and for the purposes described.

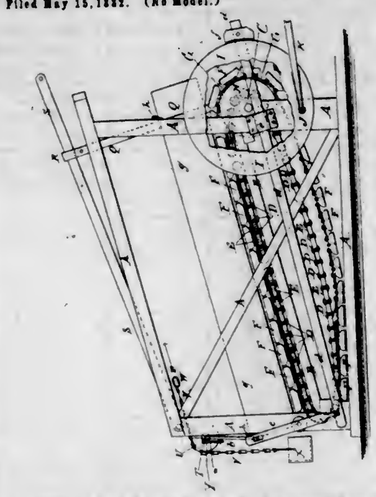
8. The combination of a shaft, a power-wheel having recesses on its side, a stem or catch on said shaft held out into the recesses in the power-wheel by a spring, a pawl connected to the stem and having its tail projecting in the path of a trip device, and a tripping device operated by a lever or handle for tripping the pawl, so as to withdraw the stem and disconnect the shaft from the power-wheel at will, substantially as and for the purposes described.

268,643. KEY. THOMAS DONAHUE and CHARLES W. JUDSON, Terryville, Conn., assignors to the Eagle Lock Company, same place. Filed Apr. 12, 1882. (Model.)



Claim.—A sheet-metal key formed of a blank having the shank *b*, bit *c*, and portion *d*, provided with shoulders 1 3 and point 2, said portion *d* being adapted to form the barrel by folding under the shank and close up behind the bit, as shown and described.

268,644. TREAD-POWER. SAMUEL DOUGLASS, Texas, Mich. Filed May 15, 1882. (No model.)

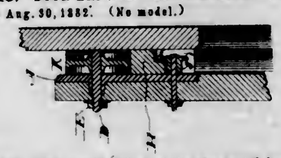


Claim.—1. A tread-power constructed substantially as herein shown and described, and consisting of the frame A, having platform B, cylinder C, and spur-wheels H, the endless chain of rollers D E, and the endless platform F G, the weight-box X, having chain V and whiffletree W, the spur-wheel U, the crank-shaft T *b*, and the lever *c*, the brake-bar *d*, and the brake-shoe *f*, as set forth.

2. In a tread-power, the combination, with the frame A, carrying the movable platform F G, of the shaft T, the roller or spur-wheel U, the weight-box X, the chain V, and the whiffletree W, substantially as herein shown and described, whereby the animal that operates the machine is put under a draft-strain, and thus made to exert a greater power, as set forth.

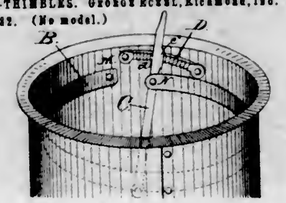
3. In a tread-power, the combination, with the spur-wheel U, carrying the weight-box X, and the shaft T, having crank *b*, and the drive-wheel I, of the lever *c*, the brake-bar *d*, and the brake-shoe *f*, substantially as herein shown and described, whereby the brake will be applied by the gravity of the weight-box, as set forth.

268,645. DOOR-HANGER. EDWIN L. DURHAM, Quincy, Mich. Filed Aug. 30, 1882. (No model.)



Claim.—The combination of the cast-metal hanger-plate A, having the boss B and the wrought-metal upper sheave-journal, C, and screw-shank D and wrought-metal lower sheave-journal, F, and screw-shank G, intimately secured to said hanger-plate, with the top and bottom sheaves, K J, and rail H, as and for the purpose specified.

268,646. ATTACHMENT FOR SECURING STOVE-PIPES IN FLUE-THIMBLES. GEORGE ECKEL, Richmond, Ind. Filed Sept. 23, 1882. (No model.)

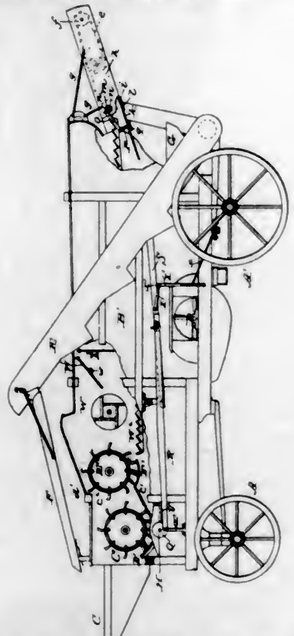


Claim.—1. The combination, with a flue-thimble or stove-pipe, of a metallic strap connected thereto at one end and passing nearly or entirely around the same, as shown, and a pivoted lever connected to its other end, and means for securing it in any position to which it may be moved for adjusting said strap, substantially as and for the purpose specified.

2. The combination, with a flue-thimble or stove-pipe, of a metallic strap, B, connected thereto at one end and passing nearly or entirely around the same, as shown, and a pivoted lever provided with a pawl for engaging ratchet-teeth to secure the strap when adjusted, substantially as and for the purpose specified.

3. The combination, with the flue-thimble or stove-pipe, of a metallic strap having ratchet-teeth thereon, connected at one end thereto, and passing entirely around the same, and a pivoted lever connected to the other end of said strap and having a pawl for engaging said teeth, for securing the strap in its adjusted positions, substantially as and for the purpose specified.

268,647. THRASHING-MACHINE. JOHN H. ELWARD, Stillwater, Minn. Filed Dec. 27, 1881. (No model.)



Claim.—1. In a thrashing and separating machine, the combination, with the thrashing-cylinder C' and concave D', arranged to separate the grain from the straw, and the cutting-cylinder E' and concave F', arranged to cut the straw after the separation of the grain, of the guiding devices c' c^2 d', which conduct the straw to the cutting-cylinder as it is thrown from the thrashing-cylinder, substantially as set forth.

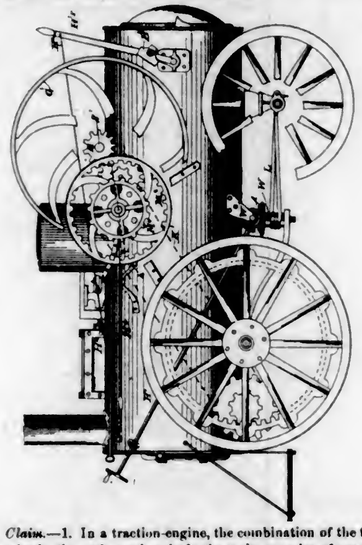
2. In a thrashing and separating machine, the combination, with the straw-carrier, having the swinging bottom *k*, of the shaft *n*, the eccentrics *m* on said shaft, and links connecting said eccentrics with the swinging bottom, substantially as set forth.

3. In a thrashing and separating machine, the combination, with the thrashing-cylinder, the separating-table, and the beater behind the cylinder and above the table, of the cut-off W', hinged at its upper edge behind the beater, the lower edge arranged in proximity to the beater and adapted to yield upwardly, substantially as and for the purposes set forth.

4. The combination, with the beater, the separating-table, and the cut-off W', of the yielding guard X^3, substantially as set forth.

5. The combination, with the thrashing-cylinder, the separating-table, the beater behind the cylinder and above the table, of the cut-off W', situated behind the beater, and stops arranged, substantially as set forth, to hold the cut-off when in a normal position, inclined toward the beater, the cut-off being hinged to yield upwardly at its lower end, substantially as set forth.

268,648. TRACTION-ENGINE. JOHN H. ELWARD, Stillwater, Minn. Filed Aug. 24, 1881. (No model.)



Claim.—1. In a traction-engine, the combination of the traction-wheels, the main engine-shaft, the train or series of gearing-wheels driven by said shaft, the mechanism separable from said train or series of wheels for driving the traction-wheels, and the friction-clutch interposed between said traction driving mechanism, and the train of wheels operated by the shaft, as and for the purposes set forth.

2. In a traction-engine, the combination of the traction-wheels, the main engine-shaft, the train or series of gear-wheels driven by said shaft, the means for reversing the direction of the last wheel of the train or series, and the friction-clutch between the mechanism for driving the traction-wheels, and the reversible wheel, substantially as and for the purposes set forth.

3. In a traction-engine, the combination of the traction-wheels, the engine-shaft, the train or series of gear-wheels driven by said shaft, the chain-wheel M^4, for driving the traction-wheels, the means for reversing said chain-wheel, and the friction-clutch interposed between the reversing mechanism and the chain-wheel, substantially as and for the purposes set forth.

4. The combination with the chain-wheel M^4, the wheel M^3, and the intermediate mechanism for driving the chain-wheel, of the shaft F, situated centrally within said chain-wheel, the journals F', attached to said shaft eccentrically, and the shifting mechanism for rolling the shaft F on said eccentric journals, substantially as set forth.

5. The combination, in a traction-engine, with the chain K' and the shifting gear-wheel M^5 M^5, of the sprocket-wheel M^4, loosely supported by said wheel M^3 M^3, and mechanism, substantially such as described, for forcing the sprocket-wheel into frictional engagement with the said wheel M^3 M^3, as set forth.

268,649. GATE. JOHN A. EMERY, Decatur, Ohio. Filed June 17, 1882. (No model.)

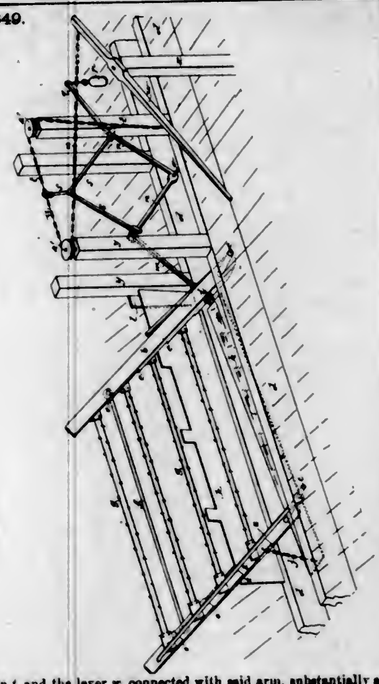
Claim.—1. The combination, with a downfolding gate and sills *d d*, separated by an open space, of a snow-table, *k*, suspended over the space between the sills, to intercept the falling snow and allow it to be cleaned off before the gate is folded down, as described.

2. The combination, with a downfolding gate and sills *d*, separated by an open space, of a bridge, *k*, hinged to one of the sills and folding over the other, whereby the gate, in rising, must lift the bridge and hold its front on an incline, and in closing down allow it to settle down by its own gravity, as described.

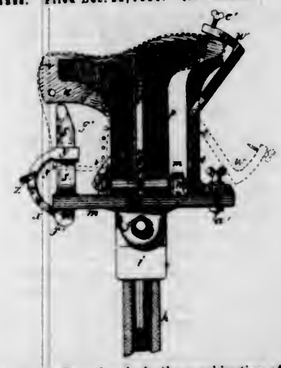
3. The combination of the sills *d*, the bridge *k*, hinged to one of said sills and folding over the other, and the post *y*, having ledge *l*, all arranged with respect to each other and to a gate, as described.

4. The combination, with a gate substantially as described, of the rod *m*, attached to post *b* above its pivot, the counterbalance elbow-lever *n*, pivoted to the sills, and having forked arm *s*, the chain *t*, and the lever *w*, connected with said arm, substantially as shown and described.

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268,650. SHOE-LASTING JACK. MARTIN VAN BUREN EVERSON, Lynn, assignor of one-half to Caleb W. Hodgdon, Boston, Mass. Filed Dec. 29, 1881. (No model.)



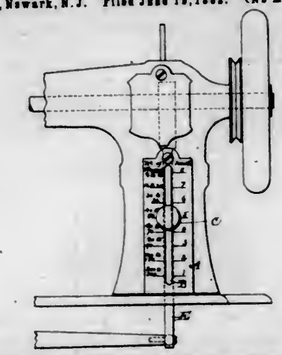
Claim.—1. In a shoe-jack, the combination of bed-plate *k*, formed with ears *s*, the parallel rods *m*, journaled therein, and the shoe-clamping jaws pivotally mounted upon said rods, substantially as specified.

2. In combination with the clamping-jaws, the clamp-compressing rod *b'*, provided with a rocking arm, *r*, and the cam-shaped bolt-head *c'*, and cam *d'*, secured upon the jaw, substantially as specified.

3. In combination with a shoe-jack, a hinged clamp, *w*, provided with an adjustable contact-point, *c'*, to engage the insole upon the last, substantially as specified.

4. In a shoe-jack, an adjustable pair of arms, *y*, and mechanism for compressing the same, in combination with the heel-standard *z*, which enters between the shoe-quarters to receive the compressive force of said arms and secure the quarters from displacement, substantially as specified.

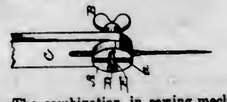
268,651. INDEX-PLATE FOR SEWING-MACHINES. CHARLES M. FAIRBANKS, Hartford, Conn., assignor to Elias A. Wilkinson, Newark, N.J. Filed June 19, 1882. (No model.)



Claim.—1. The combination, in a sewing-machine, of a set-screw, C, connected to an adjustable fulcrum, D, on a vertical feed-lever, E, and an index-plate, A, having numbers 1, 2, &c., to indicate the size of needle, and numbers 8 to 12, &c., to indicate the size of thread, adapted to the length of stitch determined by the movement of the feed in any position of the set-screw and adjustable fulcrum, substantially as set forth.

2. The combination, in a sewing-machine, of an external holding device connected to an adjustable fulcrum on one of the feed-levers, and an index-plate having numbers to indicate the size of needle, and numbers to indicate the size of thread adapted to the feed in any position of the holding device and adjustable fulcrum, substantially as set forth.

268,652. NEEDLE-CLAMP AND THREAD-GUIDE FOR SEWING-MACHINES. CHARLES M. FAIRBANKS and JOSEPH B. McCURD, Hartford, Conn., assignors to Elias A. Wilkinson, Newark, N.J. Filed June 19, 1882. (No model.)



Claim.—1. The combination, in sewing mechanism, of needle-bar C, having hole *g*, needle-clamp A, having groove *a* and nut B, screw D, having smooth point *m*, and spring thread-guide E, held to the needle-clamp by the screw D alone, the smooth point of which prevents the clamp from turning, substantially as set forth.

2. The combination, in sewing mechanism, of a needle-clamp held to a needle-bar by a nut, a spring thread-guide held to the needle-clamp wholly by a screw having a smooth point entering a hole in the needle-bar to prevent the needle-clamp from turning when the nut is loosened to remove or replace a needle, substantially as set forth.

3. The combination of a needle-clamp, a needle-bar, and a thread-guide, the thread-guide held to the needle-clamp wholly by a screw having a smooth point entering the needle-bar to prevent the clamp from turning when it is loosened, substantially as set forth.

268,653. MANUFACTURE OF GLUCOSE. ANDREW G. PELL, New York, N.Y. Filed June 5, 1882. (No model.)

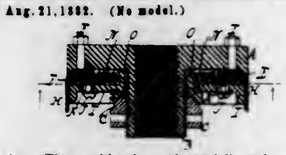
Claim.—1. The method of treating grain or other starch-containing substances, or the starch itself, with acid or other agent capable of converting said starch into glucose, and then treating the saccharine solution thus obtained with sulphurous gas under pressure, substantially as and for the purpose set forth, said sulphurous-acid treatment, in connection with the action of the acid or other converting agent, forming successive steps in the one process for the manufacture of glucose.

2. The improvement in the manufacture of glucose, consisting in treating grain or other starch-containing substance, either whole or ground, by means of heat, with water containing acid or acids, or other agent capable of converting into glucose the starch and other convertible elements, then neutralizing the acids, separating the saccharine solution from the undissolved portions of the grain, and treating the solution thus obtained with sulphurous-acid gas under pressure, substantially as and for the purpose set forth.

3. In the manufacture of glucose, the method of treating the saccharine solution after the conversion of the starch and separation of insoluble elements of the grain by boiling the saccharine solution in a vacuum-pan to concentrate said solution, and then treating it with sulphurous-acid gas under pressure, substantially as and for the purpose set forth.

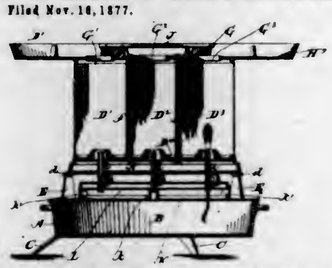
4. The improvement in the manufacture of glucose, consisting in treating grain or other starch-containing substance, or the starch itself, with the compound of sulphuric and nitric acid specified, and subsequently treating with sulphurous-acid gas under pressure to remove matters which impart a bad flavor to the product, substantially as described.

268,654. PISTON. GEORGE P. FENNER, New London, Conn. Filed Aug. 21, 1882. (No model.)



Claim.—The combination, substantially as hereinbefore described, with the piston-head A and its externally-threaded hub B, of the tapering screw-ring C, the attached ring E, the flanged packing-ring H, the radially-adjustable segments I, each having a flange, O, and tapering offset P, and the segment-retracting springs N.

268,655. OIL-LAMP STOVE. GEORGE H. FERRIS, Brooklyn, N. Y. Filed Nov. 16, 1877.



Claim.—1. An oil-stove having a heat-conducting drum, a rigidly-attached top having lateral extensions or vessel-supports, and valves for controlling the admission of heat into the extensions, substantially as described.

2. An oil-stove having a heat-conducting drum, a rigidly-attached top having lateral extensions or vessel-supports, a central heat-deflecting plate or web, and valves for controlling the admission of heat into the extensions, substantially as described.

3. The combination, with the oil-reservoir, of the plate K, having the central tubular support and the angular corner-pieces, and the plate L, carrying the wick-tube, the whole arranged and operating substantially as described.

4. An oil-stove provided with a top having lateral extensions, each adapted to hold a separate vessel, and having valves for controlling the admission of heat into the several extensions, substantially as described.

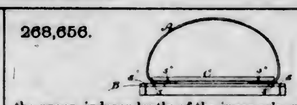
5. In an oil-stove, the combination of the following elements, viz: a body or drum having one or more heat-conducting flues, a top having openings corresponding to the number of flues, and having lateral extensions with open tops for holding and receiving separate vessels, some of said extensions having the heat-flues of the drum opening directly into them, and others of said extensions being removed from said flues and receiving only such heat as is laterally deflected into them after emerging from the flues of the drum, and having rests for supporting a central vessel or deflecting-plate, as described, a base-plate for the body or drum, means for rigidly connecting the extension-top to the base-plate, so as to hold the structure solidly and permanently together, and a base containing a lamp or lamps, upon which the stove-body rests, as set forth.

6. In an oil or gas stove, a top having a lateral extension provided with a valve capable of closing either the entrance to or the exit from said extensions.

268,656. MANUFACTURE OF BOOTS AND SHOES. HANNIBAL FOLSOM, Stoughton, assignor to himself and Adoniram Brown and Frederick A. Folsom, both of Medford, Mass. Filed May 22, 1882. (No model.)

Claim.—1. A welted boot or shoe having the welt secured to

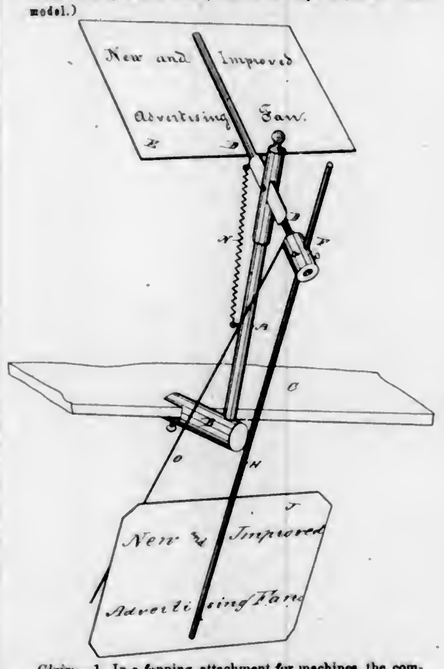
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the upper, independently of the inner sole, upon one line, the upper extended inwardly from said line, and the inner sole fastened to the upper upon another line inside of the fastenings that connect the welt and upper and inside of the inner edge of the welt, whereby a portion of the unconfined upper-leather is left between the connection of the inner sole to the upper and the connection of the upper to the welt, as set forth.

2. In the process of making boots and shoes, the herein-described improvement, consisting in, first, marking or creasing the upper while on the last to indicate the proper position for the welt; secondly, removing the upper from the last; thirdly, securing the welt to the marked or creased upper, and, finally, again lasting the upper, with the welt attached, and securing the outer sole to the welt, as set forth.

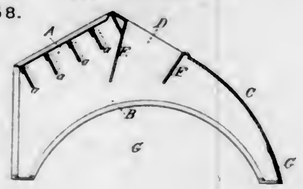
268,657. FANNING ATTACHMENT FOR MACHINES. STANISLAS FOSSIER, New Orleans, La. Filed Apr. 26, 1882. (No model.)



Claim.—1. In a fanning attachment for machines, the combination, with the pivoted rod A, of the pivoted fan-handle D, the fan E, the sleeve F, the fan-handle H, the fan J, the spring N, and the cord O, substantially as herein shown and described, and for the purpose set forth.

2. In a fanning attachment for machines, the combination, with the pivoted rod A, of the pivoted fan-handle D, the fan E, the spring N, the cord O, and the sleeve F, for holding other fan-handles to the fan-handle D, substantially as herein shown and described, and for the purpose set forth.

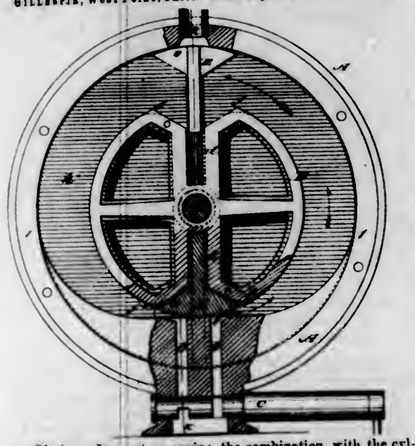
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268,658. FENDER FOR STOVES AND GRATES. ROBERT GILCHRIST, Louisville, Ky. Filed May 20, 1882. (No model.)

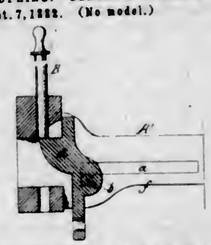
Claim.—In a fender for grates, the combination of the longitudinal bars a, the end supports, B, the flanges E and F, and opening D, and the front C, provided with the openings G, substantially as specified.

268,659. ROTARY ENGINE. JAMES GILLESPIE and MARTIN GILLESPIE, West Point, Ohio. Filed Sept. 26, 1882. (Model.)



Claim.—In a rotary engine, the combination, with the cylinder or case A, having the steam-ports *b b* and exhaust-port *k*, of the eccentric D, having the steam-grooves *f f*, arranged upon the sides of V-shaped sockets therein, said sockets terminating in guiding-grooves *d*, the side-projecting peripheral plates A, fastened to the eccentric D, and provided with radial grooves *i*, and the pistons or gates E, provided with T-heads *e*, and sliding in the grooves *d i*, substantially as and for the purpose set forth.

268,660. CAR COUPLING. GREENBURY V. GUESS, Wilmington, Del. Filed Sept. 7, 1882. (No model.)



Claim.—1. The combination of a draw-head and coupling-pin with a link pivoted to the draw-head, and having a projection serving as a support for the pin, as set forth.

2. The combination of the draw-heads, having right-angled slots *a*, with the links furnished with pin-supporting projections *d* and having pins *b*, adapted to said slots *a*, as set forth.

3. The combination of the draw-head, having slots *a* and *f*, with the links furnished with pin-supporting projections *d* and having pins *b*, adapted to the slots *a*, as set forth.

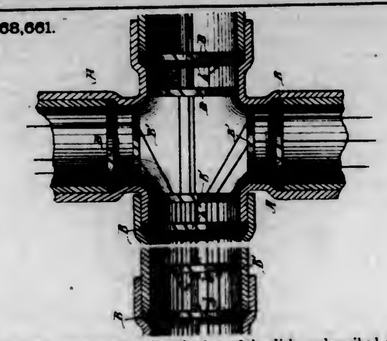
4. The combination of the pin B of the coupling with a lever, F, hung so as to swing in a plane parallel with the end of the car, the chains *m* and *n*, the pulleys *m'* *n'*, and the block *p*, as set forth.

268,661. UNDERGROUND TELEGRAPH. LEVI HAAS, Chester, Pa. Filed July 2, 1882. (No model.)

Claim.—1. In combination with a conduit formed of slotted pipe-sections, each of said sections being provided with a bell-mouth at one end, of disks B', fitted to the inner circumference of the smaller end of the pipe, and the disks B, constructed, as described, to fit over the end, and bolt C, connecting the said disks, as shown and described.

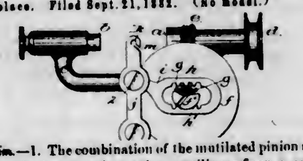
2. In combination, the slotted pipe-sections provided with the stationary disk B and movable disk B', pierced with angular slots or slits to receive the wires, said wires being looped or knotted at

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their ends, which rest against the face of the disk, as described, the screw-threaded bolts passing through the center of said disks, and provided with nuts to draw the disks toward each other to tighten the wires, as shown and described.

268,662. BOBBIN-WINDER. HORACE W. HADLEY, Orange, Mass., assignor to the New Home Sewing Machine Company, same place. Filed Sept. 21, 1882. (No model.)

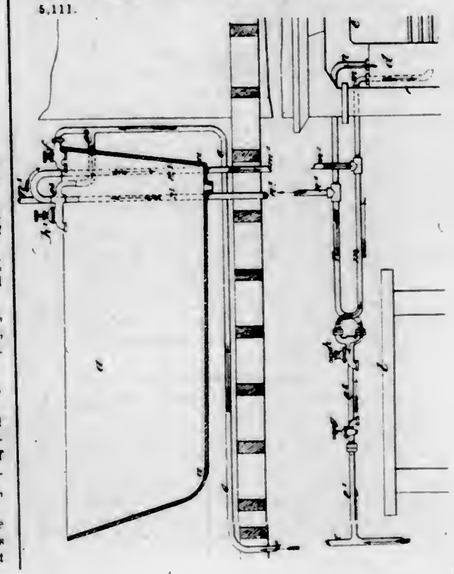


Claim.—1. The combination of the mutilated pinion and rack-bar for producing a reciprocating rectilinear from a continuous rotary motion with the actuating-spindle and thread-guide of a bobbin-winder, substantially as described.

2. The combination of the mutilated pinion, rack-bar, and thread-guide with the bobbin-actuating spindle, worm and worm-gear, substantially as described.

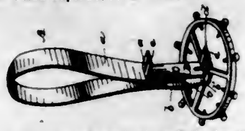
3. The combination of the mutilated pinion and rack-bar with the thread-guiding lever, provided with a thread-holding eye, substantially as described.

268,663. WATER-FITTINGS. JOHN R. HARGREAVES, Haslingden, County of Lancaster, England, assignor to Thomas Duckworth, Waterfoot, near Manchester, England. Filed July 31, 1882. (No model.) Patented in England Nov. 23, 1881, No. 5,111.



Claim.—The combination of a compound valve and a water-boiler with a cold-water-supply pipe leading to the boiler through passages in said valve, and a hot-water-distributing pipe leading from said boiler, and having an outlet through said valve, all substantially as described, whereby on the opening of the valve cold water will be admitted to the boiler as the hot water is withdrawn.

268,664. WATCH-MAKER'S TOOL. GEORGE W. HARRIS, Sturgis, Mich. Filed Sept. 25, 1882. (Model.)



Claim.—1. In a watch-maker's tool, the handle formed of a single band of metal sprung together near its end and at a portion intermediately between the ends, substantially as shown.

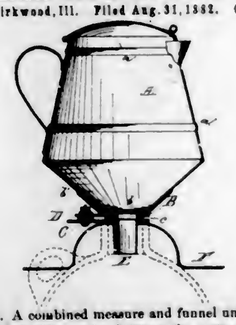
2. The handle A, having members of different lengths and provided with a slotted foot or rest attached to the shorter member, substantially as described.

3. The handle A, consisting of a single band of metal sprung together so as to abut at a portion above the base, and provided with a curved member on one side and a straight member on the other, which is provided with a reversible plate having slotted feet extending outwardly at right angles therewith, for the purpose set forth.

4. In a watch-maker's tool, the tweezers having members of different lengths sprung together, the shorter member being provided with a plate having ends bent at right angles, with slots of different sizes, said plate being pivoted to the shorter member of the handle, substantially as shown.

5. As a new article of manufacture, a tool for watch-makers' use, consisting of a handle made of one piece of metal sprung together at a point above the base, and provided with a plate having recesses *e e*, and slotted end portions bent at right angles with the body of the plate, said plate being pivoted to one end of the handle, substantially as shown and described.

268,665. COMBINED MEASURE AND FUNNEL. DERICK B. HARTWELL, Kirkwood, Ill. Filed Aug. 31, 1882. (No model.)



Claim.—1. A combined measure and funnel united to each other, and provided with a valve between the parts, which valve is opened and closed by the partial rotation upon a pivot of the receptacle or base, for the purpose set forth.

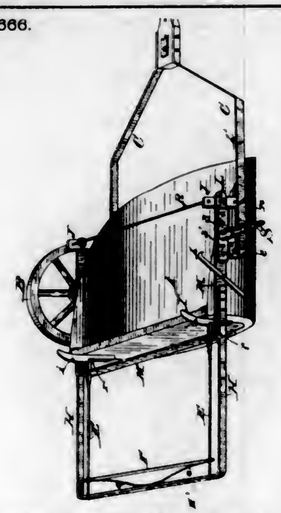
2. In combination with the receptacle A, having valve B, the plate D, having attached thereto spout E, and supporting-arms F, the parts being united to each other, substantially as described.

3. The graduated vessel A, having perforated base-plate B, with washer attached to its end portion, in combination with the plate D, having stops *d d*, spout E, and supporting-arms F, the parts being united by a bolt with washer, substantially as shown, and for the purpose set forth.

268,666. EARTH-SCRAPER. WILLIAM HASLUP, Sidney, Ohio. Filed June 6, 1882. (No model.)

Brief.—The axles are mounted on a swinging frame pivoted to upright posts on the scoop. The bail is pivoted to brackets on the scoop below the posts, its ends bearing against lugs on the scoop. A hook pivoted to the swinging frame engages a pin on the bail. A spring-actuated cross-bar carries lock-rods sliding through cross-bars of the handles and the swinging frame. The lock-rods engage notched and shouldered posts on the rear of the scoop.

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Claim.—1. The combination of the scraper A, the tilting frame M, pivotally connected at its forward end with the scraper, and provided with axles on which the ground-wheels are mounted, the handles H, connected with the tilting frame and connected by a cross-piece, H', the sliding lock-rods E, passing through the tilting frame, and the notched posts secured to the scraper, substantially as described.

2. The combination of the scraper A, mounted on wheels, the pivoted bail C, the lugs *c* on the scraper for resting on the bail, the tilting frame M, pivotally connected at its forward end with the scraper, the handles H H, attached to the tilting frame and united by the cross-piece H', the lock-rods E, passing through the cross-piece of the handle and the tilting frame, the cross-piece F, for sliding the lock-rods, and the notched posts on the scraper, with which the rods engage, substantially as described.

3. The combination of the scraper A, the pivoted bail C, the pivoted tilting frame M, provided with axles S, on which the ground-wheels are mounted, the handles H H, attached to the tilting frame and connected by the cross-piece H', and the sliding locking-rods E, carried by the cross-piece of the handles and the tilting frame, substantially as described.

4. The posts I, attached to the scraper, and having the notches *i* and catches *r*, in combination with the pivoted tilting frame M, carrying the axles on which the ground-wheels are mounted, the handles H H, united by the cross-piece H', and the lock-bars E, carried by said cross-piece and the tilting frame, substantially as described.

5. The combination, with the scraper A and pivoted tilting frame M, of the hook *h*, pivoted to said frame, and adapted to engage a pin, *h'*, on the bail C, to hold the scraper in its dumped position, substantially as described.

6. The scraper A, provided at its forward portion with stationary posts J, the tilting frame M, pivoted to said posts, and provided with axles carrying ground-wheels, and the bail C, pivoted to the scraper, in combination with the handles H H, attached to the tilting frame, and united by a cross-piece, H', the lock-rods E, carried by the cross-piece of the handles and the tilting frame, the cross-piece F, for sliding said rods, and the notched posts I, secured to the rear of the scraper, substantially as described.

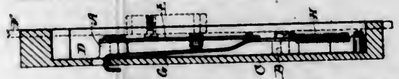
268,667. STEAM-CYLINDER LUBRICATOR. JOHN W. HAYS, Erie, Pa. Filed Oct. 24, 1882. (No model.)



Claim.—1. The combination of the lubricator plunger-extension E, tappet G on a movable part of the engine, and the counter-spring D, substantially as and for the purpose herein specified.

2. In combination with the plunger-extension E and tappet G, the cap K, adjustable upon the said plunger-extension, substantially as and for the purpose herein specified.

268,668. TAKE-UP FOR SEWING-MACHINES. JOSEPH R. HERBST, Brooklyn, N.Y., assignor to Elias A. Wilkinson, Newark, N.J. Filed May 6, 1882. (No model.)



Claim.—1. The combination, in sewing mechanism, of a face-plate, C, having slot *m*, a pendent cam-arm, E, pivoted inside thereof, and having a cam-face, *b*, an upwardly-projecting take-up lever, also pivoted inside the face-plate, and having a take-up finger, *k*, projecting outward through the slot, the cam-arm and take-up lever being loosely connected below the cam-face, a needle-bar, F, having driving-pin *f*, working against the cam-face, and a retracting-spring, H, holding the cam-arm against the driving-pin, substantially as set forth.

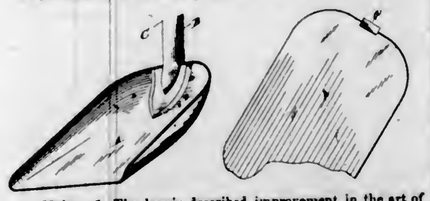
2. The combination, adapted to sewing mechanism, of a face-plate, a pendent cam-arm pivoted inside the face-plate and having a cam-face, an upwardly-projecting take-up lever, also pivoted inside the face-plate, and having a take-up finger projecting outward through a slot therein, the cam-arm and take-up lever being loosely connected below the cam-face, a needle-bar having an anti-friction driving device to work against the cam-face, and a retracting-spring to hold the cam-arm against the driving device, substantially as set forth.

3. The combination, adapted to sewing mechanism, of a face-plate having a slot, a pendent cam-arm pivoted inside the face-plate and having a cam-face, an upwardly-projecting take-up lever, also pivoted inside the face-plate, and having a take-up finger projecting outward through the slot, the cam-arm and take-up lever being loosely connected below the cam-face, a needle-bar adapted to operate the cam-arm in one direction, and a retracting-spring to operate the cam-arm in the opposite direction, substantially as set forth.

4. The combination, in sewing mechanism, of a face-plate having a slot, a pendent cam-arm adapted to vibrate inside the face-plate, an upwardly-projecting take-up lever, also adapted to vibrate inside the face-plate, and having a take-up finger projecting outward through the slot, the cam-arm and take-up lever being loosely connected below the operating part of the cam-arm, and a needle-bar adapted to operate the cam-arm, substantially as set forth.

5. The combination, in sewing mechanism, of the face-plate having a slot, a cam-arm to vibrate inside the face-plate, a projecting take-up lever operated by the cam-arm, and also arranged to vibrate inside the face-plate, and having a take-up finger projecting outward through the slot, and a needle-bar to operate the cam-arm, substantially as set forth.

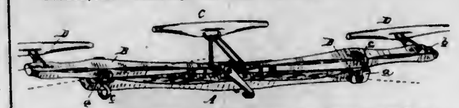
268,669. MANUFACTURE OF SCOOPS. ADOLPH T. HEISER, Wyoming, Pa. Filed Aug. 14, 1882. (No model.)



Claim.—1. The herein-described improvement in the art of manufacturing scoops, which consists in taking a blank of sheet metal of proper size and shape to form the blade and drawing from the metal of the blade a small projection at the top of the blade, welding a narrow strap to said projection, welding the broad strap to the face of the blade, pressing by means of dies and pressure the heated blade into the ultimate scoop shape, and opening up a socket for the handle by inserting a mandrel between the blade and the broad strap, either before or after pressing up the blade to its ultimate shape, substantially as described.

2. The herein-described scoop, consisting of the sheet-steel blade having the small projection drawn out at the top, the narrow strap welded to said projection, and the broad strap welded to the face of the blade and forming with the blade a socket for the handle, substantially as described.

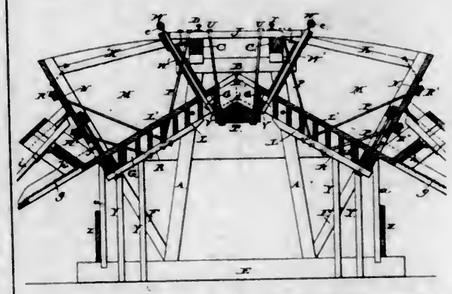
268,670. DRAFT-EQUALIZER. DANIEL P. HUBENDORF, Goshen, Ind. Filed Apr. 13, 1882. (No model.)



Claim.—1. A draft-equalizer wherein the double-trees B are pivotally secured to the upper face of the main evener, and adapted to have a vertical rocking movement, substantially as and for the purposes set forth.

2. In a draft-equalizer, the combination, with the evener A and the double-trees B, of the loops *c* and vertical and horizontal pivot-bolts passing through the evener and double-tree at right angles to each other, substantially as described, and for the purpose specified.

268,671. COAL POCKET AND DUMP. LEVI HETFIELD, Plainfield, N.J. Filed Sept. 6, 1882. (No model.)



Claim.—1. The combination, with an elevated railway-track and its supporting trestle-work, and with inclined coal-pockets M M, formed on each side of the track to extend up to a central point under the same, of openings formed under the track in the crest of the dividing-ridge between the pockets, and gates controlling said openings, whereby the surplus coal delivered from a car after the pockets are filled may, without delaying the car, be passed into the storing-space under the pockets, substantially as and for the purpose herein set forth.

2. The combination, with an elevated railway-track, trestle-work supporting the same, inclined coal-pockets M M, formed on each side of the track to extend up to a central point under the same, and openings formed under the track in the flooring between the pockets, of a plate, T, supported immediately under said openings at a distance from the flooring sufficient to permit lateral openings between the outer edges of the plate and said flooring, and gates V V, adapted to control said openings, substantially in the manner and for the purpose herein set forth.

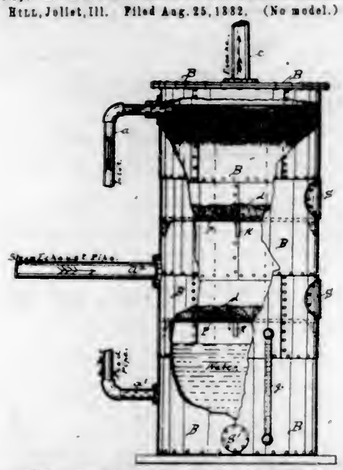
3. The combination, with the rods W, actuating the gates V V of a coal-dump, and passing through a receptacle, M, for the coal, of fixed inclosing-tubes W', adapted to protect the rod from weight and friction of the coal surrounding it, substantially as herein set forth.

4. The combination, with an elevated inclined coal-pocket, M, and with an elevated chute arranged to project therefrom as an extension of its flooring, of a fixed screen, *g*, adapted to constitute a portion of the bottom of the chute, substantially in the manner and for the purpose herein set forth.

5. The combination, with the chute of an elevated coal-pocket, M, and with the gate controlling said chute, of a lever, A, extending outwardly from the chute, hinged at one end to the side of the pocket, and hinged also to the top of the gate, substantially in the manner and for the purpose herein set forth.

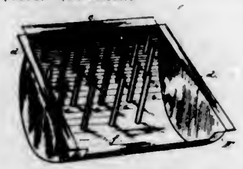
6. The within-described coal dumping, storing, and delivery device, consisting of an elevated railway-track, trestle-work for its support, lateral inclined pockets extending from a central point under the track outward on each side thereof, delivery-chutes and screens at the lower edge of each pocket elevated sufficiently to allow a wagon to pass under the same, gates and levers controlling said chutes, openings in the flooring of the pockets at their intersection under the track, and gates controlling the same, and a storage-space under the track protected and inclosed by the floor of the lateral pockets, all substantially as and for the purpose herein set forth.

268,672. LIME-EXTRACTOR FOR STEAM-BOILERS. HENRY HILL, Joliet, Ill. Filed Aug. 25, 1882. (No model.)



Claim.—In a lime-extractor for steam-boilers, the vessel B, containing the perforated shelves P P, for supporting the coke *d*, and divided into three compartments by said shelves, the upper compartment having the perforated hot-water-inlet pipe *a*, extending aronnd the interior wall of the vessel B, and the escape-pipe *c*, the middle compartment receiving the exhaust-pipe *a'* from the engine, and arranged so the exhaust-steam from the engine must pass up through the upper shelf, P, and coke *d* thereon and meet the spray from the inlet-pipe *a*, and the lower compartment having the feed-outlet pipe *a'* and gage *g*, all arranged to operate in the manner and for the purpose set forth.

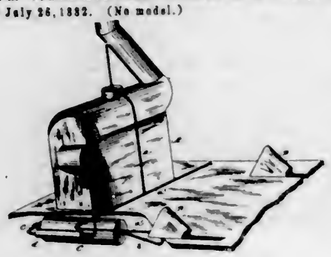
268,673. STEAM-BOILER. JOSEPH HILL, Williamsport, Pa. Filed May 15, 1882. (No model.)



Claim.—1. The combination, in a steam-boiler, of the cap F, composing the rear end of the same, against the inner wall of which the products of combustion strike on their way from the fire-box to the flues, said cap having a chamber provided with an inlet for exhaust-steam from the engine, and outlet-pipes terminating near the boiler-flues and the smoke-stack, all constructed and arranged so that all the steam from the cap F passes directly from such cap into the smoke-stack with the products of combustion, substantially as described.

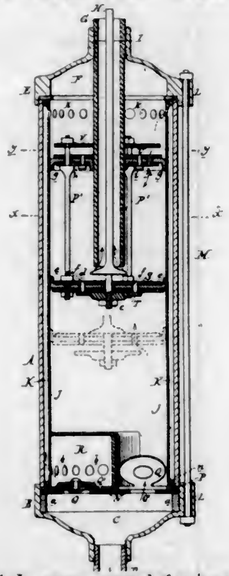
2. In a steam-boiler, the combination of the steam-cap F, provided with inlet and outlet pipes, the fire-box E, the ash-pit provided with the apron i, the flues *b*, and smoke-stack C, all arranged and operating substantially as described.

268,674. STEAM-MUFFLER. JOSEPH HILL, Williamsport, Pa. Filed July 26, 1882. (No model.)



Claim.—A device for deadening the sound of escaping steam, which consists in providing the steam-escape pipe between the engine and the boiler with a large section of flexible pipe, substantially as described.

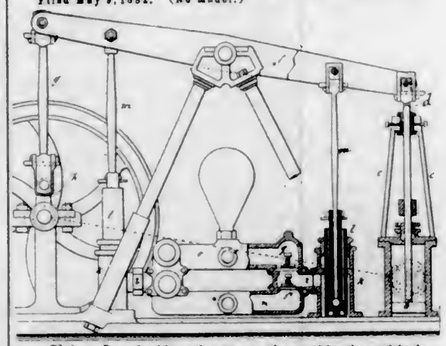
268,675. DOUBLE-ACTING PUMP. JAMES W. HILLIKER, St. John's, Mich. Filed Mar. 15, 1882. (No model.)



Claim.—1. In a pump composed of an inner and outer cylinder, with a uniform space between the two, the inner cylinder being perforated above and below, and provided at the lower portion with valves which alternately admit water to the main chamber and to the annular space, a plunger formed by means of the two valves U S, having water-ways through each, and the disk-valves T V, adapted to open and close such water-ways by the direct action of the pump-rod before the plunger receives motion, all combined and operating as set forth.

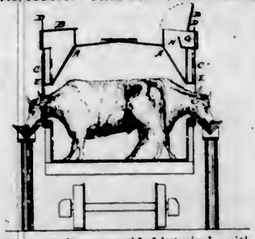
2. The cylinders A J, arranged concentrically, with a water-space between the two, and the latter being perforated above and below, combined with the valves U S and the disk-valves T V, the connecting-rods P', and the water-ways *f h*, as and for the purpose specified.

268,676. STEAM-PUMP. WILLIAM HOPKINS, Dubuque, Iowa. Filed May 9, 1882. (No model.)



Claim.—In a double-acting pump, the combination, with the pump-cylinders *k k*, plungers *l l*, and walking-beam *f*, connected therewith, of the horizontal suction and discharge chambers *n o*, arranged one above the other, and provided with the suction-pipe *n'* and discharge-pipe *o'* and check-valves *p q* at each end, and end pipes, *r*, substantially as shown and described.

268,677. STOCK-CAR. JAMES HOWARD and HUGH BAIRNS, Toronto, Ontario, Canada. Filed Nov. 7, 1882. (No model.)



Claim.—1. A stock-car provided interiorly with a fire-proof rack for holding and feeding hay and other coarse food, said rack extending longitudinally along the entire length of the car, substantially as described.

2. The combination, with a stock-car having inlet and exit doorways in its sides, of a fire-proof rack for holding hay and other coarse food, and extending longitudinally along the car across the doorway-openings, substantially as described.

3. The combination, with a stock-car having in its sides doorways through which the cattle pass in loading and unloading the car, of the open stationary racks extending longitudinally along the car, on both sides thereof, and continuously from end to end across the said inlet and exit doorways, said rack being constructed at the doorways, as shown, to provide the requisite enlargement at that point to permit the cattle to freely pass under the rack.

4. In a stock-car, the combination, with a rack for holding and feeding hay and other coarse food, and extending longitudinally along the car, of mechanism, such substantially as described, for covering and uncovering portions of the rack to expose more or less of the food held by the rack.

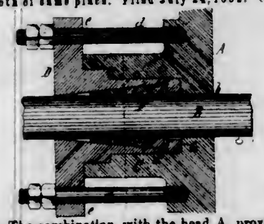
5. In a stock-car, the combination, with a rack for holding and feeding hay and other coarse food, and extending longitudinally along the car, of the longitudinal slide arranged to be adjusted for exposing more or less of the food held by the rack, substantially as described.

6. In a stock-car, the combination, with a rack for holding and feeding hay and other coarse food, of a longitudinal slide arranged to cover and uncover portions of the rack to expose more or less of the food held thereby, and a rod or chain extending to the roof of the car for adjusting the slide, substantially as described.

7. The combination, with a stock-car, of a rack for holding and feeding hay and other coarse food, and extending longitudinally along the car, a partition dividing the rack to divide the food and create a free space, N, and an opening and closing door by which the cattle can be inspected from the roof of the car through the said free space and the rack, substantially as described.

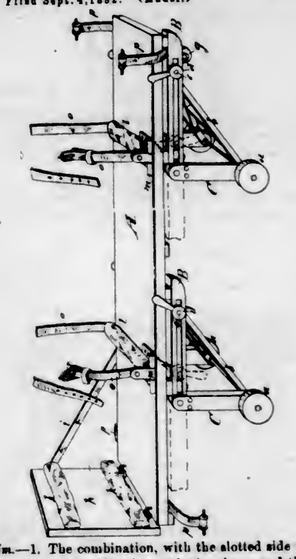
8. In a stock-car, the combination, with a rack for holding and feeding hay and other coarse food, and extending longitudinally along the car, across the inlet and exit doorways in the sides thereof, of a movable bottom for the rack located at the doorways and capable of adjustment to enlarge the door-opening, substantially as described.

268,678. METALLIC ROD-PACKING. LOUIS HOUNON, Buffalo, N. Y., assignor of two-thirds to Emmett B. Cook and Michael Bowles, both of same place. Filed July 24, 1882. (No model.)



Claim.—The combination, with the head A, provided with a socket, C, having a cylindrical bore, *c*, of a gland, D, provided with a bore, *d'*, tapering outwardly, conical packing-rings F, fitted in the bore *d'* and aronnd the rod B, and a loose ring, G, seated in the inner end of the bore *c*, with its periphery against the wall thereof, and provided with an annular steam-passage surrounding the rod B, whereby the steam is directed against the packing-rings near the rod and prevented from first striking the packing-rings near their periphery, substantially as set forth.

268,679. PIANO-TRUCK. LEWIS E. HURLBUT, Fort Dodge, Iowa. Filed Sept. 4, 1882. (Model.)



Claim.—1. The combination, with the slotted side pieces, B, and the hinged legs C, of the braces *b*, the pins *c*, and the clamps *d*, whereby the legs may be adjusted or folded, as described.

2. The foot-board of truck A, hinged at the lower end to truck and provided with the flexible holding-brace *i*, whereby it can be folded down on the bottom of truck without unfastening or detaching either the board or brace, as described.

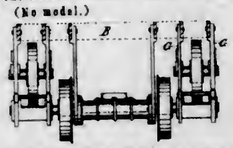
3. The hinged skids *l*, in combination with the truck-bottom A, substantially as and for the purposes set forth.

4. The combination, in a piano-truck, of the hinged skids *l*, the straps *o*, and the bottom A, substantially as and for the purposes set forth.

5. In piano-trucks, the springs *n*, in combination with the hinges *m* and skids *l*, as and for the purposes set forth.

6. In piano-trucks, the combination of the truck-bottom A, side pieces, C, springs *f*, and legs C, substantially as shown and described.

268,680. CAR-TRUCK. JOSEPH HUSON, Rochester, Ky., assignor of one-half to William P. Shrum, same place. Filed Aug. 18, 1882. (No model.)



Claim.—1. In a car-truck, the frame composed of the bars A B, having the parallel longitudinal bars E E', in combination with the downwardly-projecting brackets or hangers G G, vertically slotted, and the inner hangers, N, having at the lower ends the circular apertures N', substantially as and for the purpose herein shown.

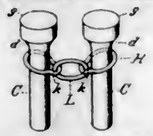
2. In car-trucks, the hangers N, having the circular apertures N' at the lower ends, in combination with the sleeve or tubular arm O, connecting said lower ends of the hangers, provided centrally with the bearing-brasses P and with the axle T, substantially as herein shown.

3. In car-trucks, the frame and hangers, as herein described, having the slots or guideways J and the tubular arm or sleeve O, provided with bearing-brasses P, in combination with the anti-friction wheel L, the axle T, carrying the flange-wheel V, and the axle-bearing W, substantially as and for the purpose herein shown.

268,681. BOOM CHAIN AND PLUG. THOMAS IRVINE, Beef Slough, Wis. Filed July 22, 1882. (No model.)

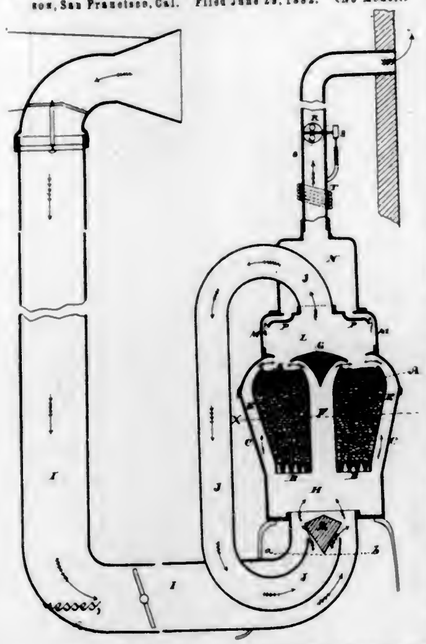
Claim.—The log-coupling consisting of the headed plugs C,

268,681.



having the head *g* and concave *d*, the offset neck-links H, engaging said plugs, and the intermediate connecting-link, L, engaging the offset portions *k* of the neck-links, substantially as shown and described.

268,682. SMOKE-CONSUMING FURNACE. PETER H. JACKSON, San Francisco, Cal. Filed June 29, 1882. (No model.)



Claim.—1. In a heating apparatus, the fuel-chamber A, the exterior casing, and the air-passages E, surrounding the chamber A, and having slots or openings *a*, through which air may be admitted to the fuel from the sides, substantially as herein described.

2. In a heating apparatus, the fuel-chamber A, with its spirally-arranged surrounding air-passages D and E, discharging air above the fuel to mix with the gases arising therefrom, substantially as herein described.

3. In a heating apparatus, the fuel-chamber A, with its central air-passage, F, having side openings, *b*, and the distributing-cone G, substantially as herein described.

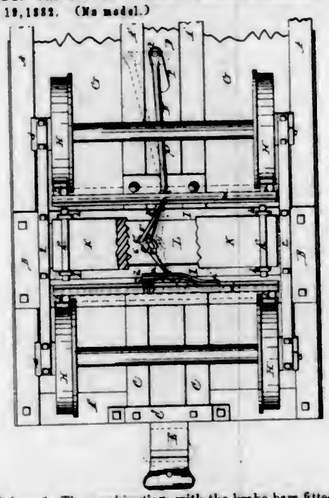
4. In a heating apparatus, the fuel-chamber A, having the central perforated air-passage, F, and the surrounding passages D and E, the alternate ones being perforated, and all discharging air above the fuel, substantially as herein described.

5. In a heating apparatus, the fuel-chamber A, having the central and the surrounding air-passages, with their spirally-arranged discharge-passages opening above the fuel, substantially as and for the purpose herein described.

6. In a heating apparatus, the fuel-chamber A, with its central and surrounding air and draft passages, the chamber H, to receive air and unconsumed gases from the pipes I and J, as shown, the chamber M, and collecting-hood P, in combination with the escape flue or passage O, valve R, and automatic opening and closing device, substantially as herein described.

7. In a heating apparatus, the fuel-chamber A, in combination with the upper chamber, L, and the collecting-hood P, pipe J, leading from the chamber N to the chamber H, and the air-pipe I, surrounding the discharge end of pipe J, substantially as and for the purpose herein described.

268,683. CAR-BRAKE. WILL R. JONES, Rockford, Ill. Filed May 19, 1882. (No model.)



Claim.—1. The combination, with the brake-bars fitted with brake-shoes, and a toggle-jointed lever-connection with the brake-bars, of a pivoted lever connected with the toggle-jointed levers, and a crank-connection with the endwise-moving draft-beam, substantially as and for the purpose hereinbefore set forth.

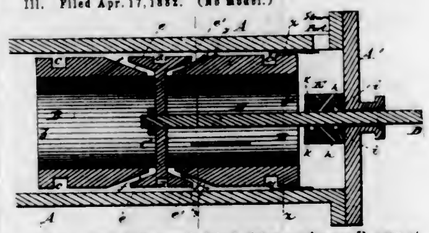
2. The combination, with a draft-bar capable of a limited lengthwise movement independent of the car-body and with a pivoted lever connected with the brakes, of a crank having a pivotal connection with the draft-beam and with the pivoted lever, substantially as and for the purpose hereinbefore set forth.

3. The combination, with the brake-bar and with the toggle-jointed levers, of a spring fixed to the spring-bar, and the toggle-jointed lever having a pivotal connection therewith, and the spring made adjustable, substantially as and for the purpose hereinbefore set forth.

4. The combination, with the toggle-jointed levers, having a pivotal connection with the brake-beams, a pivoted lever having a pivotal connection with the toggle-jointed levers, of a crank having a pivotal connection with the draft-beam and with the said pivoted lever, substantially as and for the purpose hereinbefore set forth.

5. The combination, with the brake-bar of a car-truck, of a spring fixed thereto at one end, and being provided at the other with an adjusting device connected with the brake-bar, substantially as and for the purpose hereinbefore set forth.

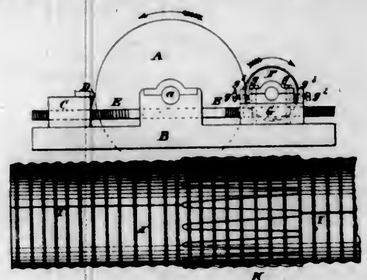
268,684. PISTON FOR ENGINES. HARRY JONES, Sterling, Ill. Filed Apr. 17, 1882. (No model.)



Claim.—The hollow cylindrical piston or plunger B, open at both ends *b b'*, and having a central solid partition or diaphragm, C, a series of ducts or channels, *e e'*, diverging obliquely from opposite sides of said diaphragm from the inside to the outside of the cylinder, and annular channels or recesses *c*, *f*, *d*, *f'*, and *c'*, constructed and arranged substantially as and for the purpose herein shown and described.

268,685. MACHINE FOR MAKING BOTTLE-WRAPPERS. MARTIN V. KACHE and HARRY C. YOCUM, St. Louis, Mo. Filed Feb. 11, 1882. (No model.)

Brief.—The cutting-in knives, the roller to which they are attached, and the cutting-off knives are all corrugated, so as to produce a corrugated veneer of uniform thickness. The journals of the roller are independently adjustable, to take up lost motion, &c.

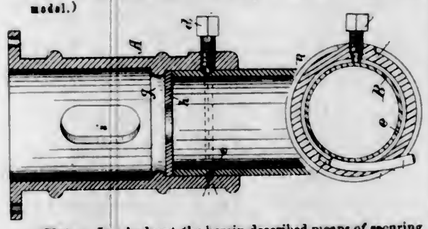


Claim.—1. In a machine for making bottle-wrappers, the combination of corrugated knife D and roller F, provided with corrugated knife H and separating-knives I I', substantially as and for the purpose set forth.

2. The corrugated serpentinely-arranged knife H and wrapper-separating knives I I', in combination with roller F and a suitable knife, D, as set forth.

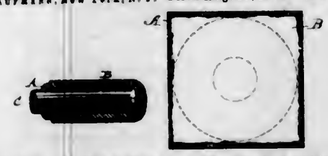
3. The roller F and boxes G G, in combination with knife-blocks C, the upper halves of the boxes being independently adjustable on the lower halves, and the boxes and blocks adjustable away from and toward each other, as set forth.

268,686. MEANS FOR FASTENING HYDRANT-TOPS, &c. WILLIAM KAISER, Wilkes Barre, Pa. Filed Apr. 6, 1882. (No model.)



Claim.—In a hydrant, the herein-described means of securing the top and stock together, consisting of the combination of the top and stock, each having their adjacent surfaces provided with a groove, a key to fit the grooves, a hole through the wall of the one part to enter the said key, and a tightening device on the opposite side, as set forth.

268,687. MANUFACTURE OF PLATED WIRE. KAUFMANN KAUFMANN, New York, N. Y. Filed Aug. 23, 1882. (No model.)



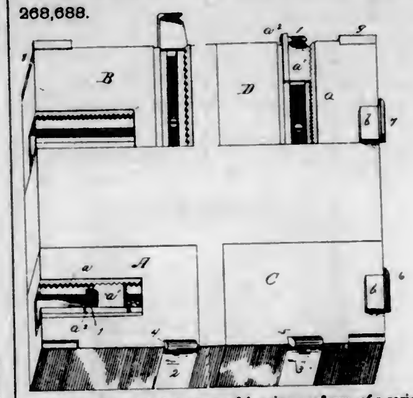
Claim.—1. The method herein described of making seamless drawn or roll-plated wire, which consists of the following steps: first, forming a disk-shaped blank of composition stock and gold plate, or of gold alone, then drawing the same into the shape of a hollow cylinder closed at one end, then filling said cylinder with inferior metal, and finally drawing or rolling the so-formed cylindrical blank to the proper shape and thickness required, substantially as set forth.

2. As a new article of manufacture, seamless drawn or roll-plated wire for jewelry, formed of a filling of composition stock and an exterior seamless layer of fine stock, substantially as set forth.

268,688. SECTIONAL BLOCK FOR STEREOTYPE-PLATES. FRANK KNEPER, Chicago, Ill. Filed Aug. 31, 1881. (No model.)

Claim.—1. In a sectional block for stereotype-plates, the combination, with the block having its four corners cut away to form

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recesses, and having four outward bearing surfaces, of a series of removable sections carrying suitable clamping mechanism and filling said recesses, substantially as and for the purpose set forth.

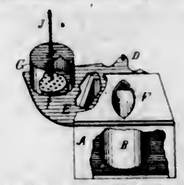
2. In a sectional block, a cross or X shaped block, in combination with sections fitting in the angles of said cross to form a rectangular block, substantially as described and shown.

3. A stereotype-plate block provided with a tightening device consisting of a recessed plate having a ratchet-bar, a lug engaging with said bar, a stud upon said lug adapted to engage with the plate, and a wedge-key, substantially as described and shown.

4. The electrotype-plate block having attached to its outer edges one or more stud-plates adapted to support the edges of the plate, and provided with projections extending outside of the edge of the block, for preventing the furniture, &c., from rising, as described and shown.

5. The combination, with the block having studs supporting the edges of the plate, and perforated as described, of extension-plates entering said perforations, substantially as described and shown.

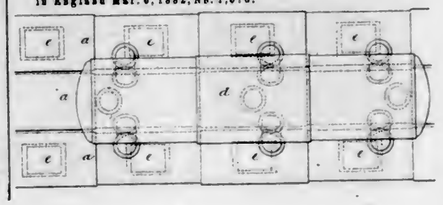
268,689. COMBINED COMMODE AND EARTH-CLOSET. HOSEA KNIGHT, Rose Point, Pa. Filed Aug. 25, 1882. (No model.)



Claim.—1. In earth-closets, the lid having a dirt or earth receptacle, G, perforated within, as shown, in combination with a perforated head, I, having a stem or rod, J, whereby the dirt or other contents of the receptacle may be sifted through, substantially as herein set forth.

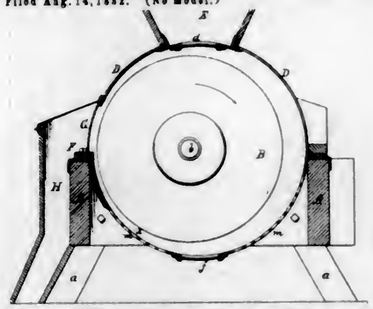
2. In earth-closets, the box A, having the bracket C, containing the lug or pin D, and the vessel B, within the box, in combination with the hinged lid E, having at one side the seat-aperture F and at the other end or side the dirt-receptacle having the perforated bottom, and the perforated head I, having the stem or rod J, substantially as and for the purpose herein shown.

268,690. STEAM-GENERATOR. COURTENAY KINGSFORD, London, England. Filed Oct. 27, 1882. (No model.) Patented in England Mar. 6, 1882, No. 1,078.



Claim.—A steam-generator consisting of the boilers *a*, arranged side by side and connecting with a common steam-chamber, the said boilers each having a flue-pipe passing through it, which in one boiler is open only at its ends for the purpose of finally carrying off the products of combustion, while in the remaining boilers a series of flues lead from the side of the longitudinal flues to and through the boiler-shell, substantially as described.

268,691. HOMINY-MILL. JOHN C. KLAUDER, Philadelphia, Pa. Filed Aug. 14, 1882. (No model.)



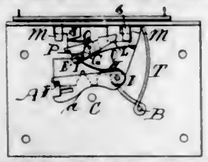
Claim.—1. The combination of the casing D, having an inlet for the corn, and a perforated discharge-plate, G, with a block, F, and a burr-stone, B, arranged eccentrically in the casing D, as set forth.

2. The combination of the casing D, having an inlet for the corn, and a perforated discharge-plate, G, with the adjustable block F and the burr-stone B, arranged eccentrically in the casing, as set forth.

3. The combination of the casing D, having an inlet for the corn, a perforated discharge-plate, G, and perforations *m* with the eccentric burr-stone B and block F, as set forth.

268,692. LOCK. ADOLPH KLAUSIO, Newark, N. J. Filed May 17, 1882. (Model.)

Brief.—After unlocking the key may be removed. The bolt is held retracted by a stop, which is caused to release the bolt by the insertion of the catches when the lid is closed.



Claim.—The bolt H, sliding on the guide-pins D E, lever L, stop P, hung on the pin G, and the springs O and Q, in combination with a key, K, and catches *m*, substantially as and for the purpose specified.

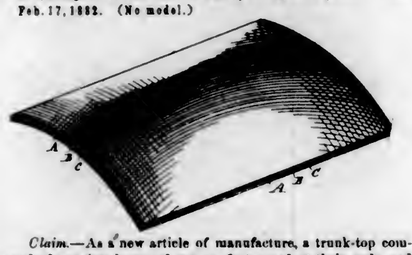
268,693. DEVICE FOR INDICATING LIFE IN BURIED PERSONS. JOHN G. KRICHBAUM, Youngstown, Ohio, assignor of one-third to Nicholas Bixler, same place. Filed Sept. 2, 1882. (No model.)

Brief.—An index and scale above the turf show whether the buried person has moved.



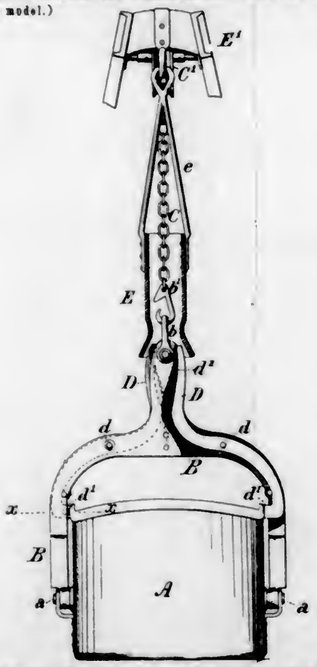
Claim.—In a device for indicating life in buried persons, the T-shaped pipe B, tube C, having sleeve D, provided with a catch, *f'*, box F, having flanged collar *f*, and flanged cover E, having index A, and provided with downward-projecting tube G, constructed and combined substantially as and for the purpose herein shown and described.

268,694. TRUNK-COVER. FREDERICK KERKUCK, St. Louis, Mo., assignor of one-half to Henry Arud, same place. Filed Feb. 17, 1882. (No model.)



Claim.—As a new article of manufacture, a trunk-top composed of crossing layers of veneer, first gored at their ends, and then bent and united at the edges of the gores and one to another, so as to have the greatest arc or swell in cross-section through the center of the cover and arcs of diminished height from the center to the extreme ends, substantially as and for the purpose set forth.

268,695. TILTING MECHANISM FOR HOISTING-BUCKETS. JOHN M. LACHLAN, San Francisco, Cal. Filed Oct. 30, 1882. (No model.)



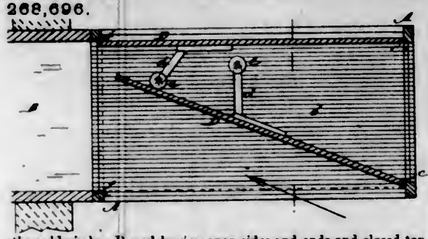
Claim.—1. The combination, substantially as set forth, of a bucket, a bail journaled to trunnions thereon exteriorly to its center of gravity, and a locking-lever pivoted to the bail and adapted to engage a stop on the bucket.

2. The combination, substantially as set forth, of a bucket, a bail journaled thereto, a locking-lever pivoted to said bail, a stop or shoulder located on the bucket and adapted to engage the locking-lever, a hoisting rope or chain, and a suspended tripping-cone.

268,696. AUTOMATIC DAMPER. GEORGE A. LEAVITT, Jr., Newburg, N. Y. Filed Apr. 24, 1882. (No model.)

Claim.—1. The combination, with the box A, leading into

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the cold-air box B, and having open sides and ends and closed top and bottom, of the swinging valves D D, opening inward and pivoted to the frame at *c*, and provided with the arms A, whereby currents of air entering the outer end of the box will close both valves and pass directly into the cold-air box, substantially as described.

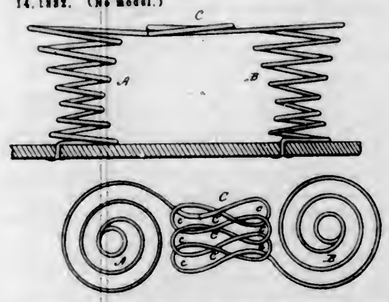
2. The combination, with the box A, leading into the cold-air box B, and having open sides and ends and closed top and bottom, of the swinging valves D D, opening inward, and provided with the arms *d d*, having rollers *e e* on their ends, and the cushions *f f*, substantially as and for the purpose set forth.

268,697. FURNITURE-PAD. GEORGE H. LEWIS, Andover, Mass. Filed Sept. 7, 1882. (No model.)



Claim.—The combination, with the screw having a threaded shank and slotted head, of the slotted rubber cushion inclosing the said head and the non-elastic washer united to the face of the said rubber, substantially as described.

268,698. BED-SPRING. J. READ LITTELL, Washington, D. C., assignor to W. C. L. Pittsburgh, Valley Mills, Tex. Filed Oct. 14, 1882. (No model.)



Claim.—1. The bed-spring connection consisting of a parallel series of double elongated loops, *c*, forming two connected loops in the same line, the said parallel series being disposed longitudinally in relation to the springs, as and for the purpose set forth.

2. As an improved article of manufacture, the herein-described connection C, formed of a strand of wire and consisting of a parallel series of double elongated loops, *c*, forming two connected loops in the same line, and each loop interlaced, as at *c'*, with the adjoining loop, as and for the purpose set forth.

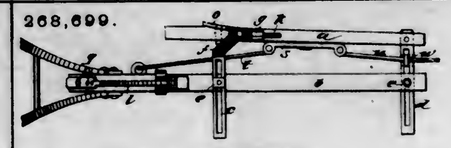
3. The herein-described bed-spring, comprising the twin springs A B and the connection C, consisting of the parallel series of double elongated loops *c*, forming two connected loops in the same line, and each loop interlaced with the adjoining loop, the said parallel series being disposed longitudinally in relation to springs A B, as set forth.

4. A connection for bed-springs formed of interlaced horizontal loops, as set forth.

268,699. PLOW ATTACHMENT. EDWARD L. LITTON and JOHN J. BROWN, Gaffney City, S. C. Filed Sept. 30, 1882. (Model.)

Claim.—The combination of the slotted plate *s* and jointed connecting-rod *t* with the beams *a* and *b*, standard *g*, and the adjustable arms *c d*, substantially as described.

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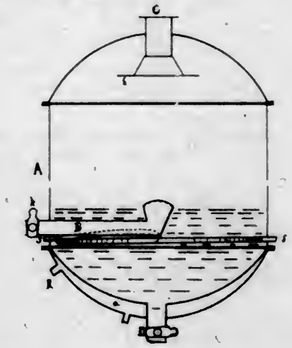


268,700. DOOR-CHECK. JAMES LYTON, Laurinburg, N. C. Filed July 5, 1882. (No model.)



Claim.—The combination, with the plate *a*, constructed with bent extremities and constructed to be fastened in place, of the bar *a'*, constructed with beveled end, and set-screws D, swiveled in the bar *a'* and fitted in screw-threaded openings in plate *a*, substantially as set forth.

268,701. PROCESS OF AND APPARATUS FOR EVAPORATING LIQUIDS. JEAN A. MATHIEU, Port Leyden, N. Y. Filed Mar. 21, 1882. (No model.)



Claim.—1. The kettle A, pipe B, having a rose thereon, steam-pipe S, and exhaust-pipe C, substantially as shown and described.

2. The combination of a tank, E, having steam-pipe G, pipe F, metallic vessel M, and door N, and exhaust-pipe W, all constructed, arranged, and operating substantially as herein shown and described.

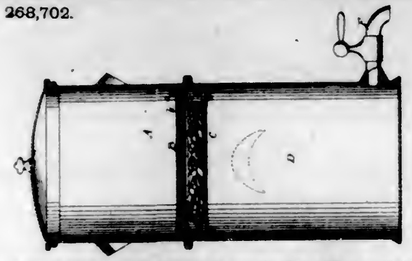
3. The herein-described process of separating solid matters from any fluid holding the same in solution, consisting in subjecting the same in a heated and finely-divided state to the action of a partial or entire vacuum.

268,702. FILTER. SAMUEL L. MCBRIDE, Atlanta, Ga., assignor to McBride & Co., same place. Filed Mar. 23, 1882. (No model.)

Claim.—1. In a water-filter, the upper compartment or vessel, A, provided with the porous-stone base or partition B and the internal annular ledge, *b*, having the depending screw-flange *c*, the threaded raised wall *d*, having handles *e*, and a perforated bottom forming the purifier-chamber C, when connected to the screw-flange *c*, in combination with a lower vessel, D, having an outlet, F, substantially as specified.

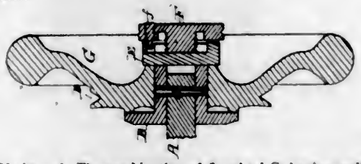
2. A filtering-vessel having a porous-stone partition made of

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a single piece of natural stone, in combination with a purifying-chamber filled with charcoal and placed immediately beneath the partition, and a vessel or compartment for receiving the filtered water, provided with a suitable outlet for the same, substantially as specified.

268,703. FLY-WHEEL AND PULLEY FOR SEWING-MACHINES. JOSEPH B. MCCUNE, Hartford, Conn., assignor to Elias A. Wilkinson, Newark, N. J. Filed June 20, 1882. (No model.)

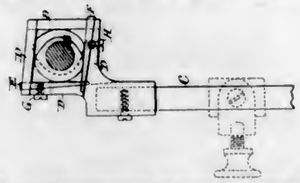


Claim.—1. The combination of fly-wheel G, having pulley D, flanged sleeve B, main shaft A, washer E, having limiting-recess *n*, and clamping-screw F, having limiting-pin *f*, substantially as set forth.

2. The combination, with a main shaft, of a flanged sleeve secured thereto, a fly-wheel having a pulley loose on the flanged sleeve, a washer on the flanged sleeve, and a clamping-screw limited in its movement both ways, substantially as set forth.

3. The combination, in sewing mechanism, of a driving-shaft, a fly-wheel, and pulley loose on the shaft, and a clamping screw or nut limited in movement, substantially as set forth.

268,704. FEEDING MECHANISM FOR SEWING-MACHINES. JOSEPH B. MCCUNE, Hartford, Conn., assignor to Elias A. Wilkinson, Newark, N. J. Filed June 20, 1882. (No model.)



Claim.—1. The combination, in sewing mechanism, of a driving-shaft, A, a cam, B, thereon, having lobes O P, arranged on opposite sides of the driving-shaft, an oblique yoke, D, having bearings U V W X, adjustable wedges E F, and lever C, substantially as set forth.

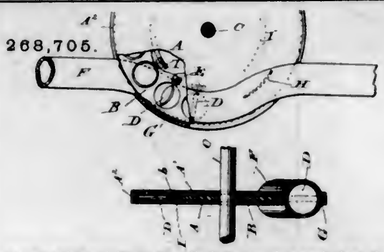
2. The combination, in sewing mechanism, of a driving-shaft, having a double cam, with lobes on opposite sides of the shaft, and a feed-lever having an oblique yoke with opposite offset-bearings for each lobe, the bearings being provided with adjustable wedges, substantially as set forth.

3. The combination, in sewing mechanism, of a driving-shaft, a yoke having opposite adjustable offset-bearings, and a cam having lobes on opposite sides of the driving-shaft to operate against the bearings, substantially as set forth.

268,705. UNDERSHOT FEATHERING WATER-WHEEL. CHARLES MCGOWAN and JOHN L. MARKEL, San Francisco, Cal. Filed Apr. 25, 1882. (No model.)

Claim.—1. The combination, with a shallow internally-grooved casing and a curved pipe, tube, or conduit communicating therewith, of a water-wheel inclosed in said case and conduit, and provided at or near its periphery with rotatable floats, and

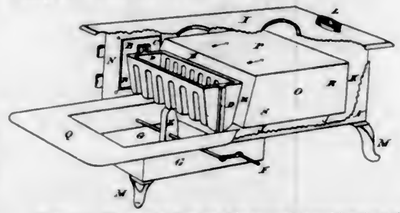
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means, substantially as described, for turning each float flatwise to the current when entering the conduit and edgewise when about to enter the shallow casing, substantially as set forth.

2. The combination of a shallow casing composed of the disks A A′ and rim A², one of said disks being provided internally with a curved slot or groove, I, the curved tube F, communicating with said casing, and having groove G and feather H, the perforated wheel or disk B, inclosed within the casing and provided with shaft C, and the rotatable floats D, journaled in the perforations formed in the wheel and provided with fingers E, all substantially as and for the purpose described.

268,706. COOKING-STOVE. WILLIAM H. MILLER, Brandenburg, Ky. Filed Feb. 18, 1882. (No model.)

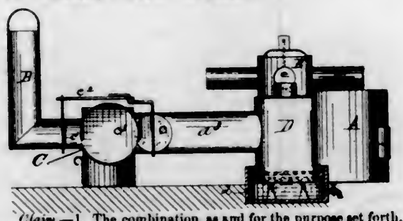


Claim.—1. The vertically-movable grate, in combination with a cook-stove having flues at the front, top, bottom, and rear of the oven, directly connecting with each other, whereby the heat may be directed over the top alone, or simultaneously all around the oven, as may be required, substantially as specified.

2. The vertically-sliding grate having projections at opposite ends, in combination with the side doors or plates at the ends of the fire-box, the said doors or plates being provided with guides, in which said projections are adapted to move, substantially as set forth.

3. The combination of the fire-box of a cook-stove, the guides at the ends thereof, the sliding grate, and the eccentric block mounted on a crank-shaft, whereby the grate may be vertically adjusted, substantially as specified.

268,707. TOBACCO-CURER. JACKSON C. MILLNER, Danville, Va. Filed Aug. 11, 1882. (No model.)



Claim.—1. The combination, as and for the purpose set forth, of two separate furnaces, a cut-off provided with a central transverse partition, a front valve and a rear valve, a smoke-stack, and a central distributer, substantially as shown and described.

2. In a tobacco-drier, the combination of a steam-generator connecting with the furnaces by means of heaters, substantially such as herein described, with a horizontally-revoluble distributer, whereby dry heat, smoke, or steam, separately or together, can be conducted to different portions of the drier.

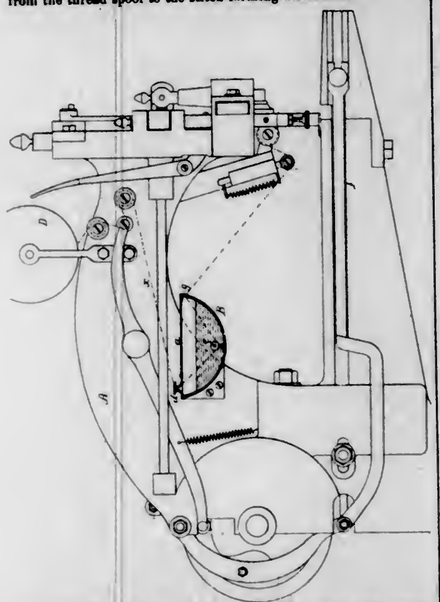
3. In a tobacco-drier, a revoluble perforated distributer of dry heat, steam, and smoke, in combination with a steam-generator, two or more furnaces and heaters which connect said generator with the furnaces, substantially as and for the purpose set forth.

4. The combination of the rear flues, a^3 a^3, and the cut-off C, provided with central transverse partition, c^3, and with collars having dampers e e′, with the link e^3, substantially as shown and described.

5. The combination of the perforated steam-reservoir D, the tank d′, the revoluble distributer E, and arms e e′, substantially as shown and described.

268,708. WAXED-THREAD SEWING. DANIEL MILLS, Philadelphia, Pa. Filed Sept. 22, 1882. (No model.)

Brief.—To render the waxed thread pliable it is passed through benzine or other evaporative liquid solvent of the wax on its way from the thread spool to the stitch-forming mechanism.



Claim.—As an improvement in machine-sewing with waxed thread, the mode, substantially as described, of subjecting the said waxed thread to the action of an evaporative liquid solvent of the wax.

268,709. METALLIC CASE. DANIEL MOORE, Brooklyn, N. Y., assignor to William A. Hulbert, same place. Filed Apr. 5, 1882. (No model.)



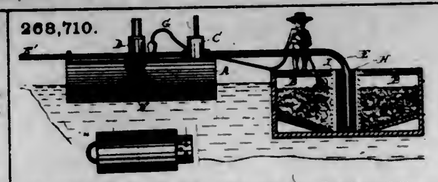
Claim.—A metallic case adapted for use as a postal envelope, consisting of the cylindrical case A and cap B, each spirally corrugated throughout, said cap being provided at its end with a rectangular depression adapted to receive the address, and the recessed stopper C, secured within the cap, all substantially as described.

268,710. MACHINE FOR FILLING MARSH LAND. FRANK MOORE, Washington, D. C. Filed Oct. 12, 1882. (No model.)

Brief.—In a scow with inclined bottom. At the lowest point of such bottom is a perforated tube for the insertion of the nozzle of a suction-pipe supplying a force-pump. The material in the scow is disintegrated and assisted in passing into such tube by a jet of water directed into the scow. The perforated tube, when not in use, is protected by a removable incasing-tube.

Claim.—1. In a mud-scow having its floor inclined at an angle toward a central point, the combination of a suction-pipe, E,

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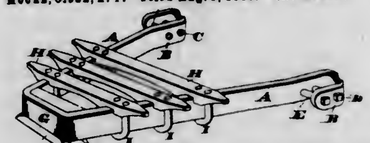


and perforated tube H with a removable tube, I, substantially as described, and for the purposes set forth.

2. In a mud-scow, the combination of a lift and force pump, C, adapted to lift and discharge plastic material, with the suction-pipe E, perforated pipe H, and removable casing I, as shown and described, and for the purposes set forth.

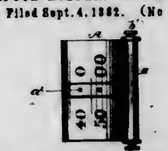
3. In a mud-scow, the combination of outer casing, I, with the perforated tube H, as described, and for the purposes set forth.

268,711. PLATFORM-GEAR FOR VEHICLES. HOLLIS W. MOORE, Olean, N. Y. Filed Aug. 8, 1882. (No model.)



Claim.—In a spring-platform, a futchell consisting of a single piece of bar metal bent in the required shape, the ends of the bar being bent back parallel with the sides, and pins inserted through the sides and rearwardly-bent ends for the attachment of the pole or shaft eyes and the springs, substantially as set forth.

268,712. SPOOL-HOLDER. SCHAMU M. MOSCHCOWITZ, New York, N. Y. Filed Sept. 4, 1882. (No model.)



Claim.—1. A spool-holder comprising independent head or end pieces and elastic walls arranged to clasp the spool and prevent the same from rolling therein, substantially as shown and described.

2. A spool-holder having elastic walls and an adjacent needle-holder, substantially as shown and described.

3. A stopper for a needle-holder, comprising a tube slitted to form projecting spring-tongues, substantially as shown and described.

4. The combination of a spool-holder and a tube having a removable plug and a stopper provided with projecting spring-tongues, substantially as shown and described.

5. A spool-holder comprising elastic walls having a series of perforations and bearing adjacent indicating-marks, substantially as shown and described.

6. A spool-holder having elastic walls and an end disk bearing indicating-marks corresponding with each other, substantially as shown and described.

7. A spool-holder consisting of elastic walls arranged to clasp a spool bodily to cover the same, except at a portion exposed to show the color of the thread thereon, and provided with a suspension-hook and indicating-marks to show the quality of the contained thread, substantially as shown and described.

268,713. WATCH-CROWN. THEODORE MUELLER, Philadelphia, Pa. Filed Dec. 1, 1881. (No model.)



Claim.—1. As an article of manufacture, a push-pin, for watches, having the crown permanently secured thereon by being upset, and having the crown-rim at the bottom project below the head of the push-pin, substantially as shown and described.

2. As an article of manufacture, a push-pin for watches, having the crown permanently upset below the head of the push-pin, the push-pin being annularly grooved on the under side of its head to fit over the pendant of a watch, substantially as and for the purpose specified.

3. As an article of manufacture, a push-pin for watches, having the crown secured thereon by being upset upon the head of the push-pin, substantially as and for the purpose specified.

4. As a new article of manufacture, a push-pin for watches, the shank of which is made square on the bottom, and is provided at the top with a head, in combination with a gold or silver cap, which is forced upon said head and secured thereon by being upset, the outer face of said cap being cylindrical, substantially as shown.

268,714. WATCH-PENDANT. THEODORE MUELLER, Philadelphia, Pa. Filed Dec. 1, 1881. (No model.)



Claim.—1. The herein-described article of manufacture, which consists of a watch-case the pendant of which is provided with ears or sockets to which the ring is pivoted, said ears or sockets being secured in place by having their inner and outer ends expanded in contradistinction to being soldered, substantially as and for the purpose specified.

2. Ears or sockets for the pendant of a watch-case, made of stamped sheet metal, having their closed ends pressed in to form a cup the rim of which is expanded so as to be of larger diameter than the body, substantially as and for the purpose specified.

3. An article of manufacture which consists of a watch-case pendant provided with holes diametrically opposite, or nearly so, in combination with ears or sockets made of stamped sheet metal and secured in said pendant by having their inner edges expanded, substantially as and for the purpose specified.

268,715. PNEUMATIC RAILWAY AND CAR THEREFOR. ELIAS P. NEEDHAM, New York, N. Y. Filed Feb. 24, 1882. (No model.)

Brief.—Two parallel tubes are provided with car-tracks, and have guide-rails upon the sides, and the cars have guide-rollers, which are adapted to run on said guide-rails. The tubes extend between two terminal stations, providing for traffic in opposite directions, and have pairs of gates forming stations between them. Pressure and vacuum equalizing chambers are provided at each station, one communicating with the tube for outgoing traffic outside the gates and the other with the tube for incoming traffic. A pump is placed at each station for exhausting air from the vacuum-chamber and compressing it in the pressure-chamber. A branch air-tube communicates with the main tube behind and in advance of the valves. A tube also connects the pressure-chamber with the station-space between the gates in rear of the standing train to start the same.

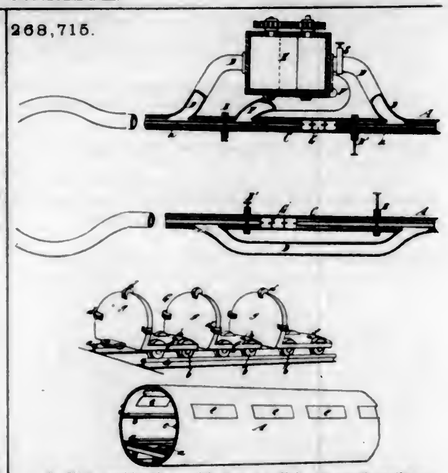
Claim.—1. The combination, with a pneumatic-railway tube, and two gates or valves forming a station between them, of a branch air-tube communicating with said main tube behind and in advance of said gates or valves, a pump in said branch air-tube, and a pipe for conducting air from the discharge of said pump to the main tube between said gates or valves and in rear of a car, substantially as specified.

2. The combination, with a pneumatic-railway tube provided with pairs of gates forming stations between them, and a pump for compressing air in said tube behind the cars, of a pressure-equalizing chamber into which air is forced by said pump, and from which compressed air is conducted to said tube outside the gates, substantially as specified.

3. The combination, with a pneumatic-railway tube provided with pairs of gates forming stations between them, and a pump for exhausting air from the tube in front of the cars, of a vacuum-equalizing chamber, into which air is conducted from said tube outside the gates, and from which air is exhausted by said pump, substantially as specified.

4. The combination, with a pneumatic-railway tube provided with pairs of gates forming stations between them, of pressure and vacuum equalizing chambers, both of which are in communication with said tube outside said gates, and a pump for exhausting air from said vacuum-chamber and compressing air in said pressure-chamber, substantially as specified.

268,715.



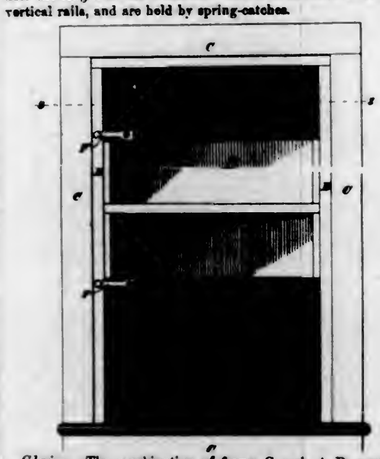
5. The combination, with two parallel pneumatic-railway tubes extending between two terminal stations, providing for traffic in opposite directions, and provided with pairs of gates or valves forming stations between them, of a pump at each station for exhausting air from the tube for incoming traffic outside said pairs of gates, and at the same time compressing the air so exhausted and supplying it under pressure to the tube for outgoing traffic outside said pairs of gates, substantially as specified.

6. The combination, with two pneumatic-railway tubes extending between two terminal stations, providing for traffic in opposite directions, and provided with pairs of gates forming stations between them, of pressure and vacuum equalizing chambers at each station, the former communicating with the tube for outgoing traffic outside said gates and the latter communicating with the tube for incoming traffic outside said gates, and a pump at each station for exhausting air from the vacuum-chamber and compressing it in the pressure-chamber, substantially as specified.

7. The combination, with a pneumatic-railway tube containing a car-track, and having guide-rails upon its sides and upper portion, of cars adapted to run upon said track, and provided with guide rollers or wheels for running upon said guide-rails, substantially as specified.

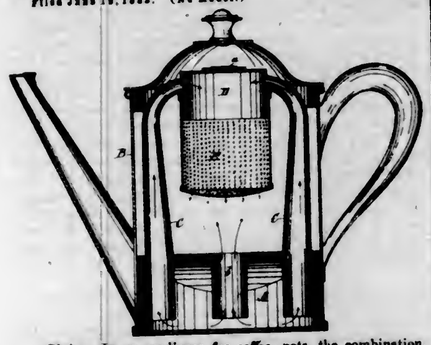
268,716. WINDOW-SCREEN. JAMES K. NELSON, Marissa, Ill. Filed Apr. 14, 1882. (No model.)

Brief.—Consists of two screens whose combined length equals half the length of the windows. The screens slide on the same vertical rails, and are held by spring-catches.



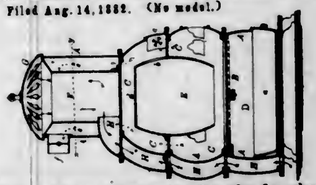
Claim.—The combination of frame C, sash A B, grooved strips D, and screens E E' with ribs *e* and catches F, all substantially as and for the purpose set forth.

268,717. COFFEE-POT. EDWARD H. OSBURN'SAL, Norfolk, Va. Filed June 16, 1882. (No model.)



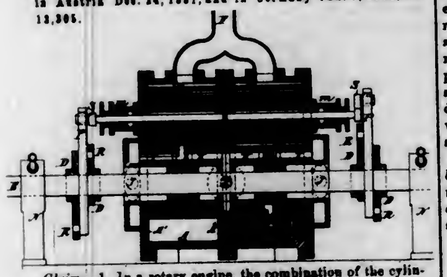
Claim.—In an appliance for coffee-pots, the combination, with the bottomless base or chamber, of the central pipe or tube, and the upright tubes or pipes extending from a plane a little above its lower edge and to a suitable height above it, the bottomless cylinder or chamber affixed to the upper ends of the aforesaid pipe, and the strainer or perforated vessel, substantially as and for the purpose set forth.

268,718. HEATING-STOVE. JOHN B. OLDERSHAW, Baltimore, Md. Filed Aug. 14, 1882. (No model.)



Claim.—In a stove, the combination of a fire-chamber, a magazine situated within the said fire-chamber, with a space around and over it for the exit of gases and other products of combustion, a hot-air chamber or reservoir suspended over the said magazine and separated by a space from it, and having an annular inclosed space around it, into which the said gases are delivered before being discharged to the smoke-pipe, and provided with a perforated cover and a duct or pipe to carry air from near the bottom of the stove to the lower part of the said hot-air chamber, substantially as and for the purpose specified.

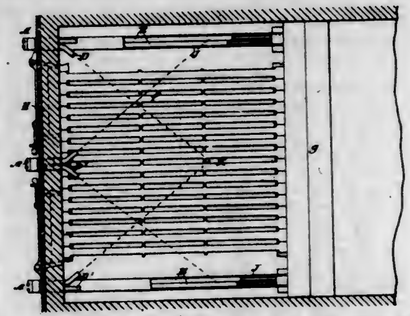
268,719. ROTARY ENGINE. PIETRO DALL'ORTO, Genoa, Italy. Filed June 9, 1882. (No model.) Patented in Italy Oct. 14, 1881, No. 197; in France Dec. 9, 1881, No. 134,346; in Belgium Dec. 16, 1881, No. 40,883; in England Dec. 23, 1881, No. 5,641; in Austria Dec. 24, 1881, and in Germany Jan. 9, 1882, No. 13,805.



Claim.—1. In a rotary engine, the combination of the cylinder A, having two independent working-chambers, provided with curved or elongated inlet-ports J and K and outlet-passages F, and shaft E and disks B, having projections or pistons M, located diagonally opposite to each other, and provided with inlet-passages H H', with movable abutments C, and means, substantially as shown, for operating the same, as and for the purpose set forth.

2. The combination of the curved oscillating abutments C, cranks S, slotted links P, and rollers R with the shaft E, double cams D, disks B, and pistons M, as and for the purpose set forth.

268,720. STEAM-BOILER AND OTHER FURNACES. ORRIN D. ORVIS, New York, N. Y. Filed Aug. 31, 1882. (No model.)



Claim.—1. The combination, with the inlet-pipes D D', the air-supply pipes, and the intermediate vacuum-chamber connecting said pipes, of a casing or pipe projecting into the ash-pit and forming an air-chamber, into which the inlet-pipe projects, substantially as described.

2. The combination, with a furnace, of a vacuum-chamber, two steam-jets projecting into the same, and two inlet-pipes opening into and at different angles to the furnace, and two or more air-supply pipes, all arranged and operated substantially as described.

3. As a means for heating the air to be supplied to a jet apparatus for furnaces, the combination of a metal pipe arranged to lie close to and under the fire-grates, its inner end being closed and its outer end open and arranged to project through the furnace-front, and the air pipe or pipes arranged to extend into said exterior pipe nearly to its closed end and to nearly fill said pipe, as shown, whereby the air passing through the space between the interior and exterior pipes may be the better heated, substantially as set forth.

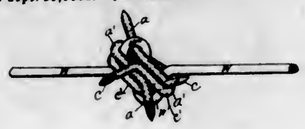
4. The combination, with a furnace, of a jet apparatus comprising a vacuum box or chamber provided with a steam-inlet and nipple, a discharge-nozzle arranged opposite the nipple and opening into the furnace, an air-supply pipe, and a receiving chamber or pipe arranged below the furnace-grate and receiving the air-supply pipe, said receiving-pipe having its inner end closed and its outer open end projecting through the furnace-wall, whereby the induced current of air is heated, all combined and arranged substantially as set forth.

5. The combination, with a furnace, of the two jet apparatus, each comprising two steam-jets, two air-pipes, and two discharge-nozzles opening into the furnace, and said jet apparatus arranged at the sides of the furnace in front, with two of their discharge-nozzles arranged so as to cause the jets to intersect about at the point *x*, and two directed back, as shown, substantially as and for the purposes set forth.

6. The combination, with a furnace, of two jet apparatus, each comprising two steam-jets, two air-pipes, and two discharge-nozzles opening into the furnace, said jet apparatus being arranged at the sides of the furnace in front, with two of their discharge-nozzles arranged so as to cause the jets to intersect about at the point *x*, and two directed back, as shown, and an intermediate jet apparatus comprising also two steam-jets, two air-pipes, and two discharge-nozzles, the latter arranged so as to cause the jets to diverge and cross the converging jets from the other jet apparatus, substantially as shown and specified.

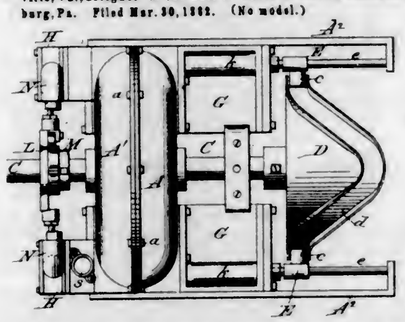
7. The box A, provided with a hinged cover, with nipples *b b*, with screw-plugs *c c*, with apertures to receive the ends of the nozzles D, fixed in the furnace-front, and with set-screws *e*, to secure said box to the protruding ends of said nozzles, all constructed and arranged substantially as set forth.

268,721. BARBED WIRE FOR FENCES. JOHN P. OSTERMAN, Joliet, Ill., assignor of one-half to Peter Adelman, same place. Filed Sept. 23, 1882. (No model.)



Claim.—In a barbed wire for fences, the wire strand *w*, having the S-shaped bend described, on which the twin barbs *a'* and *c'* are placed, so as to lie on a parallel line with each other and on a diagonal line with the wire strand *w*, and having the prods *a* and *c* passed under the bends *w'* and *w''*, to prevent the S-shaped bend from straightening and to assist in holding on the barbs *c'* and *a'*, in the manner set forth.

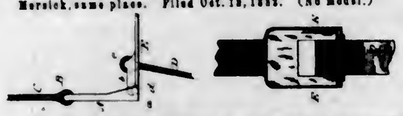
268,722. ROTARY ENGINE. CHARLES L. FAGERHART, Boyceville, Va., assignor of one-half to David E. Clarke, Chambersburg, Pa. Filed Mar. 30, 1882. (No model.)



Claim.—1. In a rotary engine, the combination of a cylinder composed of the parts A A', said cylinder having the horizontally-elongated ports *m m* and slotted seats *i i*, the shallow chambers G G, arranged parallel with each other at one side of the cylinder and communicating therewith, the shaft C, the piston B, and grooved cam D, mounted on said shaft, the frame A^3, having guide-rods *e e*, arranged on each side of the engine, cross-heads E E, adapted to slide on said guides, and having rollers *c* arranged to engage with the grooved cam, the stems or rods *c' c'*, attached to the cross-heads, and the sliding plates F F, having a loose connection with said stems, all substantially as shown and described.

2. In a rotary engine, the combination of the cylinder A A', having horizontally-elongated ports *m m* and slotted seats *i i*, the shaft C, carrying eccentric M, piston B, and grooved cam D, the parallel sliding plates F F, arranged horizontally in shallow chambers G G, communicating with the cylinder, the cross-heads E E, connected to said plates by means of rods *c' c'*, and adapted to be actuated by the cam, so as to project the plates alternately across the interior of the cylinder, the steam-chests H H, having inlet and exhaust passages connected with the ports *m m*, the valves K K, and the link L, connecting the valve-rods to the eccentric, all substantially as and for the purpose described.

268,723. CARRIAGE-BOOT-FLAP FASTENER. WILLIAM K. PARKER, New Haven, Conn., assignor of one-half to English & Morwick, same place. Filed Oct. 19, 1882. (No model.)



Claim.—The herein-described carriage-boot-flap fastener, the one part consisting of the two sides A A, connected at one end by a bar, B, to which one strap is attached, and with the inwardly-projecting trunnions *a a* at the opposite end, combined with the other part, consisting of the two sides E E, constructed with the hooks *d d*, to engage the trunnion of the other part, and with a transverse bar, *e*, inside the line of bearing of the hooks upon the trunnions, and to which the other strap is attached, substantially as described.

268,724. COFFEE-ROASTER. STEPHEN POTTER, Mount Pleasant, Mich. Filed Sept. 14, 1882. (No model.)



Claim.—1. In a coffee-roaster, the cylinder B, having the flange *a'*, formed therein and provided with plate *b*, having upturned ends *b'* and *b'*, substantially as described.

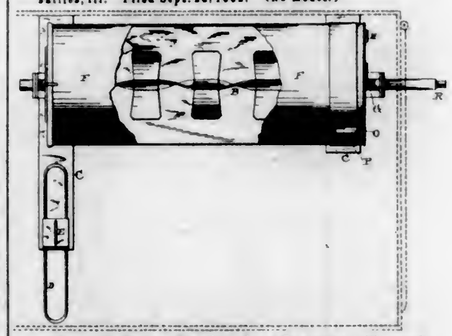
2. In combination with the cylinder B, having inwardly-projecting flanges, the heads C and E, held in place by means of the flanges, and the shaft H, having screw-threaded portion and nuts *h* and *i*, substantially as shown.

3. In a coffee-roaster, the rotary cylinder B, mounted on the frame A, having shaft-bearings and turn-button I, for preventing the rotation of the cylinder, for the purpose set forth.

4. In a coffee-roaster, the frame A, provided with a turn-button which has arms arranged on different planes, in combination with the shaft and cylinder, for the purpose set forth.

5. In a coffee-roaster, the cylinder B, having internal flanges and guide *e'*, in combination with the head C, with opening *c*, tester D, and head E, having opening E' and door F, the whole being mounted upon a shaft and adapted to be rotated on a frame, substantially as shown.

268,725. COFFEE-ROASTER. NAPOLEON B. POWELL, Versailles, Ill. Filed Sept. 23, 1882. (No model.)



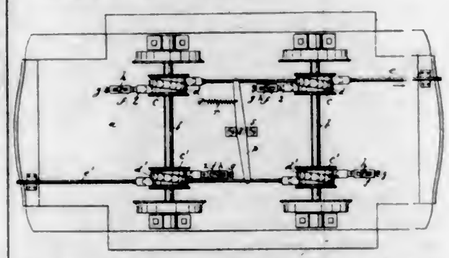
Claim.—1. The combination of a coffee-roaster with an adjustable brace or slide which is made to bear against the side of the oven to hold the roaster in place, substantially as shown.

2. In a coffee-roaster, the combination of the revolving stirrer-shaft, a cylinder placed loosely thereon, and a means for compelling the cylinder to revolve with the shaft when the shaft is turned in one direction only, substantially as described.

3. The combination of a suitable stirrer-shaft, a cylinder placed loosely thereon and provided with a suitable projection at one end, and an arm or lever which is secured to the shaft, so as catch behind the projection when the shaft is turned in one direction, substantially as set forth.

4. The combination of the stirrer-shaft, a cylinder which is placed loosely thereon, and which is provided with a projection on one end, and an arm or lever on the shaft, with a projection or stop which is formed on the side of the cylinder, and a spring to catch against this stop when the shaft is so turned that its arm or lever will not engage with the projection on the end of the cylinder, substantially as specified.

268,726. CAR-BRAKE. WILLIAM B. QUIGLEY, Boston, Mass. Filed Sept. 26, 1882. (No model.)



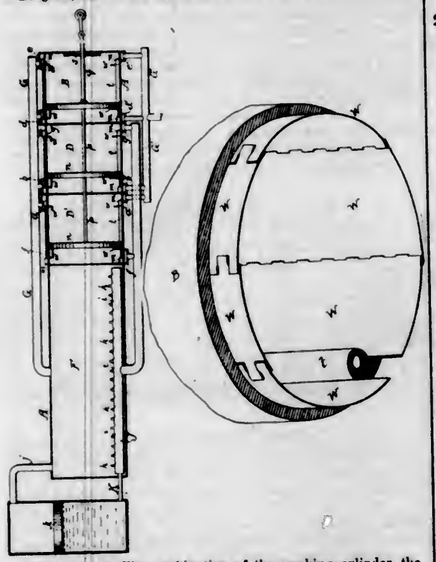
Claim.—1. The combination of the friction device of a car-brake with the actuating-lever, having one arm curved and provided with a foot-piece, and the locking-arm, its shaft and handle co-operating with the said lever, substantially as described.

2. The combination, with two parallel axles provided with friction-drums, of the flexible friction devices wound around the said drums in the same direction, and each independently connected at one end to the car and at the other end with actuating mechanism common to them, substantially as described.

3. The combination, with the axle provided with a friction-drum, of the flexible friction device wound around the said drum, and the actuating-lever having one arm connected with the said friction device and its other arm provided with a foot-piece, substantially as described.

4. The combination, with the axles and drums thereon, of the flexible friction devices wound around the said drums, a rod and actuating mechanism common to both the said devices, and means for adjusting the said devices independently, whereby the actuating force may be properly divided between them, substantially as described.

268,727. HYDROCARBON-ENGINE. WATSON F. QUIMBY, Wilmington, Del. Filed Apr. 20, 1882. (No model.)



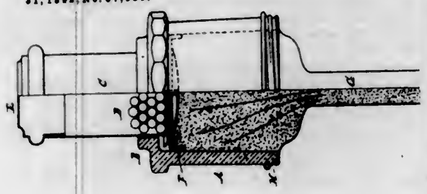
Claim.—1. The combination of the working-cylinder, the pressure-generating chamber, and the two pumps D D', working alternately, as specified.

2. The combination of the cylinders and their ports, the connected valves, the internal casings, *l*, and the pistons adapted to actuate the valves, and recessed for adaptation to the casings, as set forth.

3. The combination of a gas-engine cylinder with a lining composed of sheets of mica having their edges interlocked, as set forth.

4. The combination of the generating-chamber F, the oil-pipe K, the reservoir with its piston *k*, and the pressure-equalizing pipe *j*, as set forth.

268,728. LUBRICATOR. HANS REISERT, Cologne, Germany. Filed Aug. 2, 1882. (No model.) Patented in France Aug. 25, 1881, No. 144,533; in Germany Dec. 6, 1881, No. 19,561; in England Dec. 29, 1881, No. 5,706; in Austria-Hungary Feb. 10, 1882, No. 41,803; in Sweden Feb. 15, 1882, and in Belgium Mar. 31, 1882, No. 57,350.



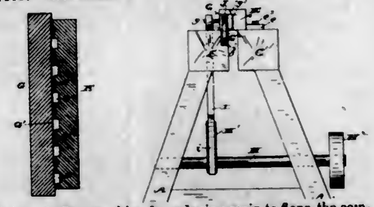
Claim.—1. In a lubricator, the sabot F, consisting of a soft and elastic material, in combination with a plug, C, passing through the neck of the lubricator, substantially as and for the purposes described.

2. In a lubricator, a conically-enlarged reservoir, with the larger section thereof at the bottom, in combination with a piston, the frictional contact of which with the reservoir decreases during its descent, substantially as and for the purposes set forth.

3. In a lubricator, the conically-enlarged reservoir, in combination with the soft and elastic sabot F, attached to the lower end of the hollow plug C, passing through the neck of the reservoir and provided with an inclosed chamber, D, adapted to receive a variable weight, substantially as and for the purposes described.

4. In a lubricator, and in combination with the reservoir adapted to be readily disconnected from the discharge-tube, a plug or piston provided at its under side with a soft and elastic sabot, and, passing through the neck, with or without screw-threading, forming an actuating-head for the discharge of the lubricant, substantially as described.

268,729. MACHINE FOR REDUCING GRAIN TO FLOUR AND MIDDLINGS. CHARLES S. RIDER, Canton, Ohio. Filed Aug. 10, 1882. (No model.)



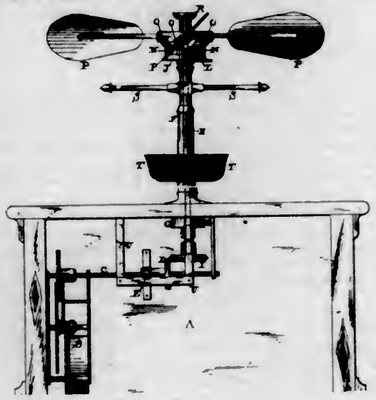
Claim.—1. In a machine for reducing grain to flour, the combination, with the reciprocating grooved, recessed, corrugated, or ribbed plate, of an opposing plate having initial receptacles, pockets, or recesses *e'*, and passage-ways which permit the material to escape after it has been cracked, substantially as set forth.

2. In a machine for reducing grain to flour, the combination, with a reciprocating grinding or cracking plate, of an opposing plate having initial receptacles, pockets, or recesses, and escape passage-ways, each situated between two of said initial receptacles or recesses, substantially as set forth.

3. In a machine for reducing grain to flour, the combination of two opposing grinding-surfaces, of which one reciprocates relatively to the other, and of which one is provided with initial receptacles, pockets, or recesses for holding the berries while being cracked, and passage-ways which permit the cracked material to escape immediately after leaving said initial receptacles or recesses, substantially as set forth.

4. In a machine for reducing grain to flour, the combination, with a cracking or grinding plate, of an opposing reciprocating grinding or cracking plate, and springs arranged, substantially as set forth, to support or partially support flexibly said reciprocating bar or plate.

268,730. FLY-PAN, &c. DANFORTH H. ROYCE, Columbus, Ohio. Filed Oct. 23, 1882. (No model.)



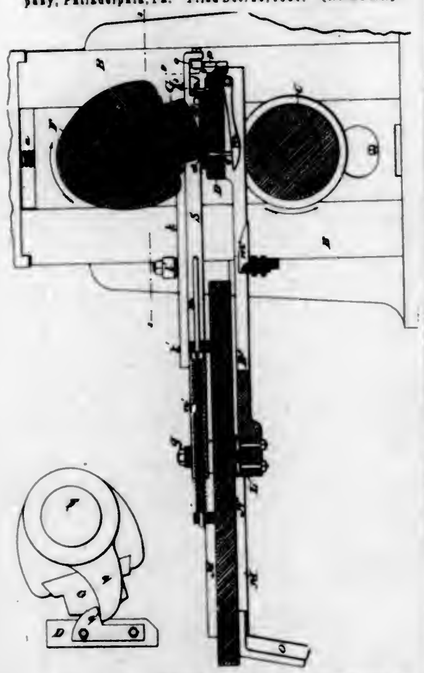
Claim.—1. In a fly-fan and ventilator, the combination of a motor, the shaft C, driven thereby, and provided with the shifting friction-wheel, with the shaft H, having the wheel I on its lower end and a series of fans secured to its upper one, and the standard F, substantially as shown.

2. In a fly brush or fan, the combination of a series of arms or fans, each one of which is provided with a segment, with an adjusting plate or wheel whereby all of the arms can be adjusted at the same time, substantially as described.

3. The combination, with the revolving shaft having a suitable casting provided with sockets secured to its upper end, of a number of fans or arms which are swiveled in these sockets, and each one provided with a segment, and an adjusting-plate, whereby all of the fans or arms can be adjusted at the same time, substantially as set forth.

4. In a fly brush or fan, the combination of the standard through which the vertical operating-shaft passes, and which standard is provided with arms on which fruit and other such things can be hung, and a basket, substantially as specified.

268,731. HORSESHOE-MACHINE. JACOB RUSSELL, Newark, N. J., and CHARLES BALL, Green Point, N. Y., assignors, by direct and mesne assignments, to the Keystone Horseshoe Company, Philadelphia, Pa. Filed Dec. 29, 1881. (No model.)



Claim.—1. The combination, in a horseshoe-machine, of a reciprocating die arranged to receive the shoe, a rolling die arranged to compress the shoe on the reciprocating die as it is borne along, and lateral dies having a vertical as well as horizontal movement, and made to fit and shape the outer contour of the shoe, said lateral dies being mounted on the bed bearing the reciprocating die, all arranged to operate substantially as set forth.

2. The combination, in a horseshoe-machine, of a reciprocating die to receive and support the shoe, provided with recesses to receive the heel and toe calks, a rolling die arranged to compress the shoe on the reciprocating die as it is borne along, two lateral dies having a vertical as well as horizontal movement and constructed to fit and arranged to compress the shoe as it is borne along, said lateral dies being mounted on the reciprocating bed bearing the lower die, a lifting mechanism, substantially as shown, for lifting the calks of the shoe out of their recesses to free the shoe, and a pushing mechanism for pushing the shoe off the die after it is lifted, all arranged to operate substantially as set forth.

3. The combination, in a horseshoe-machine, of a reciprocating die bearing the shoe, a rolling die to compress the shoe on said reciprocating die as it is borne along, and the mechanism for imparting to the reciprocating die a slightly greater speed than that of the periphery of the rolling die, which mechanism comprises a long tooth or projection on the rolling die arranged to engage a shoulder on the reciprocating bed at the proper time, substantially as set forth.

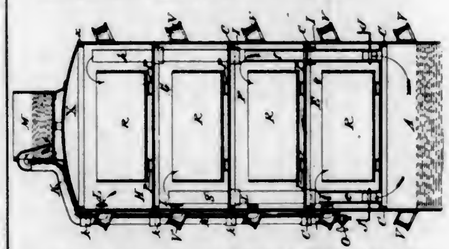
4. The combination, with the reciprocating die, recessed to receive the calks of the shoe, the bed D, the roll C, the lifter *e*, arranged in the toe-calk recess, the lever *m*, hinged at its front end to the front end of the bed D, and the fixed cam *m'*, arranged in the path of the lever *m*, substantially as set forth.

5. The combination, with the reciprocating die and its bed, of the lifter *e*, lever *m*, cam *m'*, rod *n*, and its spring *n'*, all arranged to operate substantially as set forth.

6. The combination of the upper roll provided with a long tooth or teeth, *q*, the reciprocating bed provided with a shoulder, *q'*, the cranks on the upper roll, and the connecting-rods Q, arranged to play endwise for a limited distance on their wrists or wrist-pins, substantially as and for the purposes set forth.

7. The combination, in a machine for truing horseshoes, of the rolling die, the reciprocating die and its bed, the levers S, provided with means, as shown, for imparting to them a limited lateral movement, the dies R, and springs *p*, all arranged substantially as set forth.

268,732. STEAM COOKING APPARATUS. WILLIAM C. SALMON, Cincinnati, Ohio, assignor of one-half to Henry Kassen, Covington, Ky. Filed Apr. 26, 1882. (No model.)



Claim.—1. In a steam cooking device having a series of cooking-compartments, arranged one above the other, and the whole series placed above a boiler, the combination, with each of said compartments, of separate or independent tubes or flues connecting with the boiler and provided with valves or dampers, whereby steam may be admitted into any one of the compartments, and whereby steam in any cooking-compartment is admitted and kept independent of all the others, and a waste-pipe for conveying off the vapors or surplus steam, substantially in the manner and for the purpose described.

2. In combination with the steam cooking device, the pipe K, arranged outside of but so connected with each compartment as to carry off the condensed steam through the cock O and the vapors through the deodorizing-tank M.

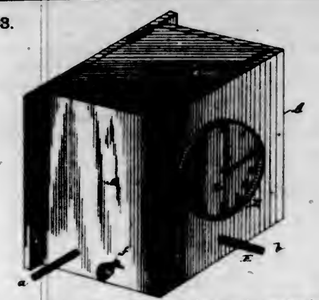
3. In a steam cooking device having a series of removable and independent cooking compartments, arranged one above the other and over a boiler, with steam-connections to each of the compartments, the combination, with said cooking-compartments, of a sectional pipe, K, with openings into each compartment passing up into a water-tank, M, with a water-sealed connection, whereby the odor-laden steam and vapors escaping from the compartments are made to pass through the water in the tank M before they are discharged, substantially as and for the purpose specified.

4. In a steam cooking device having separate and independent cooking-compartments, each connected with the subjacent boiler, the combination, with the floor of each cooking-compartment, provided with raised tracks or ribs, of removable cooking-vessels, each resting upon the tracks or ribs of its compartment, whereby the steam entirely surrounds the cooking-vessels, substantially in the manner described.

268,733. TIME ATTACHMENT TO STOP-COCKS FOR WATER-METERS. CHRISTIAN SCHMIDT, Miamisburg, Ohio, assignor to Ferdinand Swartztrauber, Franz Lissenhoff, John Stocker, and Adam Silberman, all of same place. Filed Apr. 22, 1882. (No model.)

Claim.—In a water-meter, a supply-pipe having a given capacity, and provided with a suitably-constructed valve or stop-

268,733.



cock, so combined with a clock-dial and clock mechanism that said mechanism will be stopped on closing the valve, but set in motion on opening the same, the clock mechanism being otherwise independent of the flow of water through the supply-pipe, substantially as and for the purpose shown and set forth.

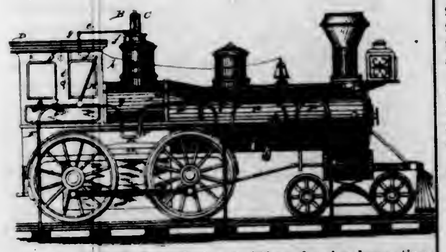
268,734. STOCKING AND THE METHOD OF MAKING THE SAME. ROBERT W. SCOTT, Philadelphia, Pa. Filed Oct. 9, 1882. (No model.)



Claim.—1. The mode herein described of making stockings, said mode consisting in knitting a tube partly plain and partly ribbed, forming a recess in the plain portion of the tube, and fitting a pocket to said recess to form the heel, as set forth.

2. A stocking having the front portion of the leg and top of the foot of ribbed fabric, and the rear portion of the leg, the heel, and the sole of the foot of plain fabric, the leg and foot having no side seams.

268,735. CAR-SIGNAL. LOUIS H. SEEL and JESSE M. SMITH, Anderson Court-House, S. C. Filed May 31, 1882. (No model.)



Claim.—1. A signal device consisting of a signal-operating rail, spool having inclines and flanges, as shown, to engage with said rail, spring-arm *k*, bearing said spool, and connecting mechanism, substantially such as described, to operate the signal, as set forth.

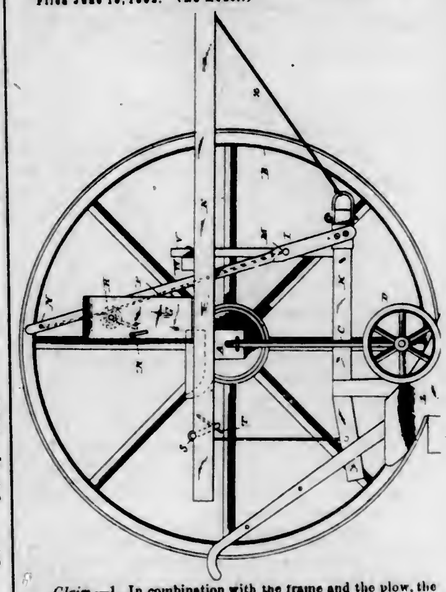
2. The signal-rail located near the railway-track and provided with bearing-surfaces of unequal lengths, adapted to engage with mechanism on a passing train to produce a signal on the principle of the Morsine alphabet, substantially as described.

268,736. MEAT-BROILER. EDGAR F. SHAW, Boston, Mass. Filed Apr. 15, 1882. (No model.)



Claim.—A steak-greith broiler having a series of projections, *e*, of triangular or saw-tooth shape, so arranged as to form a series of inverted triangular-shaped spaces between contiguous projections of the same series or row, a series of openings, *f*, through its bottom on one side of the lines of the rows of said projections, and a series of channels, *i*, between said projections on the other side of the lines of their rows, and an annular channel, *c*, at or near the periphery of the outer edge of the bottom, substantially as described.

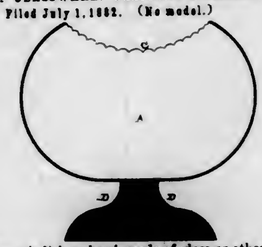
268,737. SULKY-PLOW. JEREMIAH G. SHERMAN, McHenry, Ill., assignor of one-half to Samuel S. Sherman, same place. Filed June 10, 1882. (No model.)



Claim.—1. In combination with the frame and the plow, the forward windlass and the oblique bar, connected directly to the forward end of the plow-beam and having a rope passing around the windlass, and the stop for holding the windlass, substantially as and for the purposes specified.

2. In combination with the frame and the plow, the forward windlass and oblique bar, connected to the plow-beam and the rope and forward windlass, and the rear windlass and rope and stops for holding said windlasses, all arranged substantially as specified.

268,738. GLASSWARE. FREDERICK S. SHIRLEY, New Bedford, Mass. Filed July 1, 1882. (No model.)

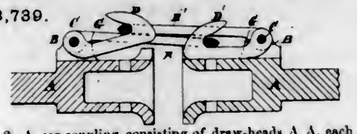


Claim.—A dish or bowl, made of glass or other similar material, having curved inwardly-inclined edges, with depressed portions between the curved parts, substantially as described.

268,739. CAR-COUPLING. JOHN T. SIBLEY, St. Louis, Mo. Filed Aug. 16, 1882. (No model.)

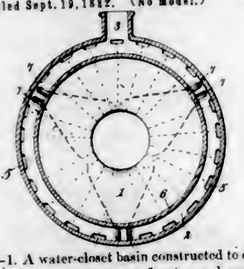
Claim.—1. A car-coupling consisting of draw-head A, formed with ears or lugs B B on top, pintle C, hook D, and link E, the hook and link being hinged to the ears or lugs by said pintle and resting on the draw-head, as set forth.

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2. A car-coupling consisting of draw-heads A A, each provided with ears or lugs B B, pintle C, hook D, and link E, the said hook and link being hinged to the ears or lugs by said pintle, and each link embracing both hooks to permit one link to rest upon the other, as set forth.

268,740. FLUSHING-BASIN FOR WATER-CLOSETS. BENJAMIN C. SMITH, New York, N. Y., assignor to Fred. Adee, same place. Filed Sept. 19, 1882. (No model.)

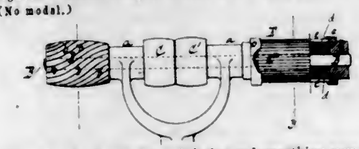


Claim.—1. A water-closet basin constructed to deliver therein a main flushing stream or streams of water, and provided with an oblique passage or passages formed through the bottom wall of an annular channel or rim at the top of the basin to introduce a current or currents of water, and by such oblique arrangement of the passage or passages deflect the water on the main flushing stream or streams to oppose or interrupt the course of the same through the basin, substantially as described.

2. A water-closet basin having at its upper edge an orifice to deliver therein the main flushing-stream of water, and an annular channel or hollow rim, the bottom wall of which is formed with passages which extend through the said bottom wall in an oblique direction, substantially as described.

3. A water-closet basin having at its upper edge an orifice to deliver therein the main flushing-stream of water, and an annular channel or hollow rim, the bottom wall of which is provided with pairs of passages 7, each pair of which extends through said bottom wall in lines which diverge from each other toward the bottom of the basin, substantially as shown and described.

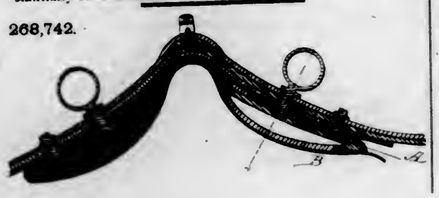
268,741. MACHINE FOR CLOSING THE CHANNELS IN BOOT AND SHOE SOLES. DANIEL S. SMITH, Rockland, Mass., assignor to John K. Krieg, New York, N. Y. Filed Sept. 13, 1882. (No model.)



Claim.—1. A sole-channel closing and smoothing apparatus consisting of a horizontal shaft arranged to revolve in a supporting-frame, and provided with the head D, having the series of spiral ridges *b*, for closing the channel of the sole, and with a head, E, composed of a cushion, *d*, a series of rollers, *e*, and disks *c*, retaining the rollers in place for smoothing the sole, substantially as described.

2. The smoothing-head E, composed of flanged disks *c c*, a cushion, *d*, of india-rubber or equivalent material, and a series of rollers held between the disks and bearing on the cushion, substantially as described.

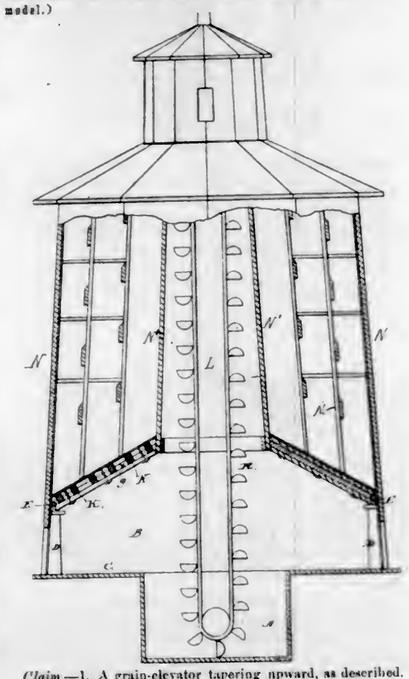
268,742.



268,742. SADDLE-PAD BLOCK. JEREMIAH H. SMITH, Pleasanton, Kans. Filed Oct. 3, 1882. (No model.)

Claim.—As an improved article of manufacture, the pad-block consisting of the plates C and D, provided with central slots, catches, and openings *e* and *f*, substantially as shown and described.

268,743. GRAIN-ELEVATOR. ORLANDO D. SPALDING, Eau Claire, Wis. Filed Apr. 9, 1881. Renewed June 8, 1882. (No model.)



Claim.—1. A grain-elevator tapering upward, as described.

2. The combination of the outer and inner hoops and the connecting-trusses, substantially as described.

3. In a grain-elevator, the bins having the two sets of braces, as described.

268,744. LACING-HOOK. WILLIAM F. SPINNEY, Reading, Mass. Filed Aug. 25, 1882. (No model.)



Claim.—A glove-fastening, having a base, *a*, and a neck, *b*, extended up from the base, and the outer end bent down and in toward the base beneath the body of the fastening, as shown and described.

268,745. METHOD OF SECURING BUTTONS TO MATERIALS. WILLIAM F. SPINNEY, Reading, Mass. Filed Aug. 25, 1882. (No model.)



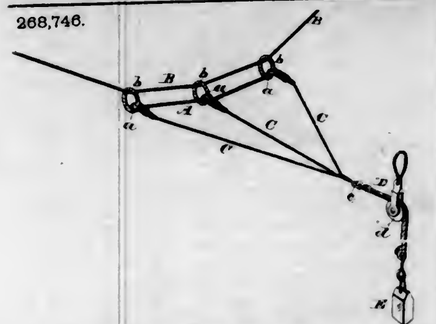
Claim.—1. The improvement in the art of attaching buttons to garments, &c., consisting in inserting a portion of the fabric into the tubular or open part of the button, then placing a suitable compressible substance therein and flattening or expanding the same to force the inclosed fabric against the edge of the button-opening, as set forth.

2. The combination of the button having an opening receiving part of the fabric and an expanded plug between which and the sides of the opening the fabric is gripped, substantially as specified.

268,746. ACOUSTIC TELEPHONE. JAMES K. STRAHINS, Ashtabula, Ohio. Filed Aug. 24, 1882. (No model.)

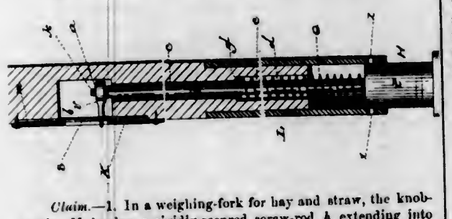
Claim.—1. The combination, with the line-wire, of a bent supporting-rod, loops for receiving the line-wire, guy-cords, and a weight, substantially as set forth.

268,746.



2. The combination, with the supporting-rod and loops for receiving the line-wire, of guy-cords, a pulley, and weighted cord, substantially as set forth.

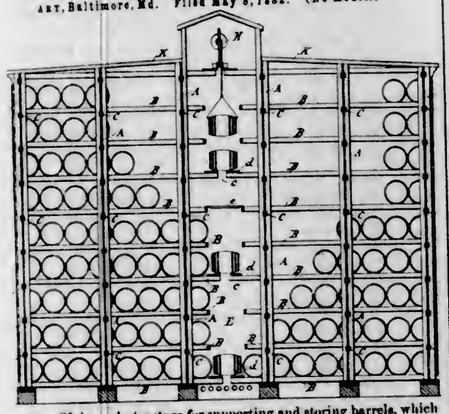
268,747. FORK FOR WEIGHING HAY. GEORGE A. STEWART, Wells' Tannery, Pa. Filed Mar. 25, 1882. (No model.)



Claim.—1. In a weighing-fork for hay and straw, the knob-section H, having a rigidly-secured screw-rod, *h*, extending into the bore of the handle and engaging the threaded aperture *a* of the lug *r* of the index-slide, substantially as specified.

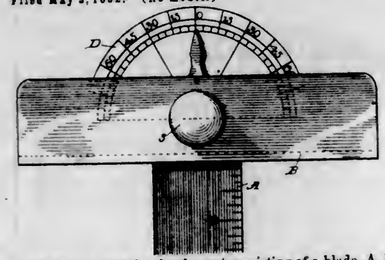
2. A weighing-fork for hay and straw, having the bore *c*, internal shoulder, *g*, slideway *m*, and scale-plate K, the spring *e*, index-slide *s*, and its lug *r*, having the threaded aperture *a*, the coupling-ferrule L, knob-section H, and threaded connecting-rod and regulator *h*, engaging the lug *r*, substantially as specified.

268,748. BARREL-STORING WAREHOUSE. ROBERT STEWART, Baltimore, Md. Filed May 8, 1882. (No model.)



Claim.—A structure for supporting and storing barrels, which consists in a system of barrel-racks connected and tied together to be self-sustaining, the said racks having passage-ways to facilitate inspection of the stored barrels, an alley-way to admit of the transfer of barrels in front of the racks, and an elevator-well through which barrels may be hoisted to any height within the structure, the whole being inclosed by a casing and roof sustained by the supports of the racks, substantially as specified.

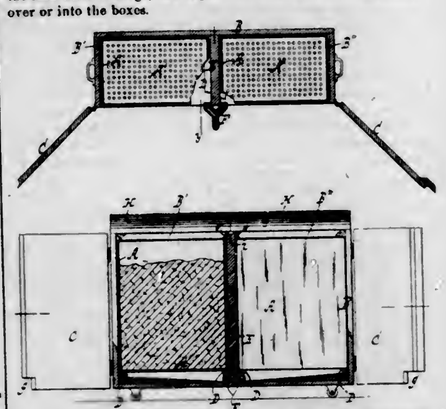
268,749. DRAFTING IMPLEMENT. WILLIAM M. THOM, St. Louis, Mo., assignor of one-half to John F. Mason, same place. Filed May 3, 1882. (No model.)



Claim.—A drawing implement consisting of a blade, A, having a fixed head, B, a pivoted movable blade, C, having a registering-protector, D, a fixed hand on the head B, and a clamping device, consisting of a thumb-nut having the inclined bearing-surface 4, and the plate 6, having an opposing incline, all substantially as described, and as a complete article of manufacture.

268,750. GARBAGE-RECEPTACLE. DAVID D. TOAL, New York, N. Y. Filed Sept. 20, 1882. (No model.)

Brief.—The boxes have perforated bottoms and rest on cleats in the casing, which has its bottom inclined toward the center, and a liquid-discharge pipe common to both sides. The partition between the two sides of the casing is grooved on the top to catch the rain-water leakage, and is provided with deflectors projecting over or into the boxes.



Claim.—1. The combination, substantially as hereinbefore described, of a box having a perforated bottom, and a casing to such a box which is provided with a side door and with cleats for supporting the box, and the bottom of which is inclined toward one side thereof, for the purpose specified.

2. The combination, substantially as hereinbefore set forth, with boxes each having a perforated bottom, of the casing having two compartments, one to each box, and having its bottom inclined toward one side thereof in both compartments, the box-supporting cleats fastened to the casing on opposite sides of the compartments, and the liquid-discharge pipe common to both compartments, for the purpose specified.

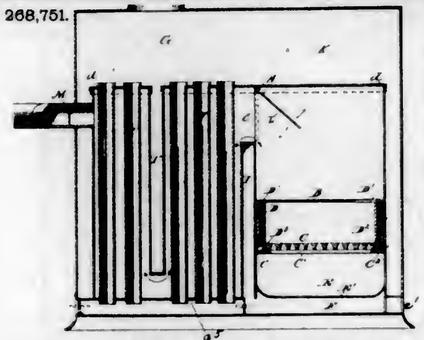
3. The combination, substantially as hereinbefore set forth, of the casing having two compartments, the partition for dividing the compartments having its upper edge provided with a longitudinal groove, and the double lid to the casing, for the purpose specified.

4. The combination, substantially as hereinbefore set forth, with the box or boxes, of the casing having its upper edge provided with deflectors which project inward over the upper edge of the boxes, for the purpose specified.

268,751. HOT-AIR FURNACE. JOSEPH TRAVIS, Philadelphia, Pa. Filed Apr. 28, 1882. (No model.)

Claim.—1. In a furnace or heater, the inner casing, H and H', having the subdividing partition K, the fire-pot B, and the

268,751.



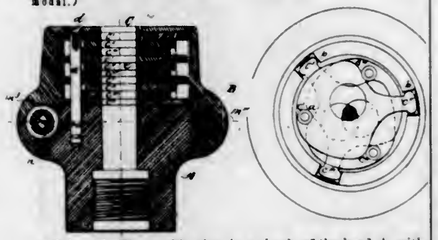
dampers L L' and M M', in combination, substantially as and for the purpose set forth.

2. In a furnace or heater, the combination of the external-air chamber or passage, F, arranged immediately under and having its top wall formed by the bottom of the ash-pit, with the hot-air chamber I, opening at its lower end into the passage E and at its sides into the chamber G, substantially as and for the purpose set forth.

3. In a hot-air furnace or heater, the chamber or passage F, having the subdividing partitions c^3, openings c' at the end, and valved openings c'' on each side of the partition, and the deflectors c^4, disposed at right angles to the partition c^3, substantially as and for the purpose set forth.

4. In a furnace or heater, the combination, with the combustion-chamber B, hot-air chamber G, air-passage F, arranged under the ash-pit, and inner case, H', of the combined heat-deflectors and air-chambers I I', one opening into the air-passage F at its lower end and having its upper end separated from the crown-sheet of the combustion-chamber, and the other, I', separated from the bottom of the casing H', while its upper end opens into the hot-air chamber G, and the air-tubes J J, interposed between the chambers or deflectors I I' and between the deflector I' and the back end of the case H', substantially as and for the purpose set forth.

268,752. CHUCK. KONRAD TROBACH, Berlin, Germany, assignor to Louis Probsen, same place. Filed July 31, 1882. (No model.)



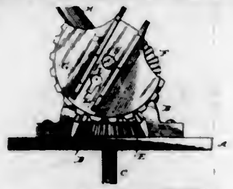
Claim.—1. The combination, in a chuck, of the head A, with a ring, B, fitted to turn upon the said head, and provided with a series of internal longitudinal groves, *b*, the series of lever-plates c' c'' c''', pivoted upon the pins *a*, which are secured in the head and engaging in the grooves, and means, substantially as described, for rotating the said ring, as and for the purpose set forth.

2. The combination, with the head A, of the ring B, fitted to turn upon the head, and provided with internal longitudinal grooves, the series of lever-plates c' c'' c''', pivoted upon pins, and engaging in the said grooves, the worm *m*, located within a recess in the ring, and engaging with teeth upon the head, and the cover-plate C, secured to the outer ends of pins *a*, and extending over the ring, so as to hold the same upon the head during operation, substantially as described.

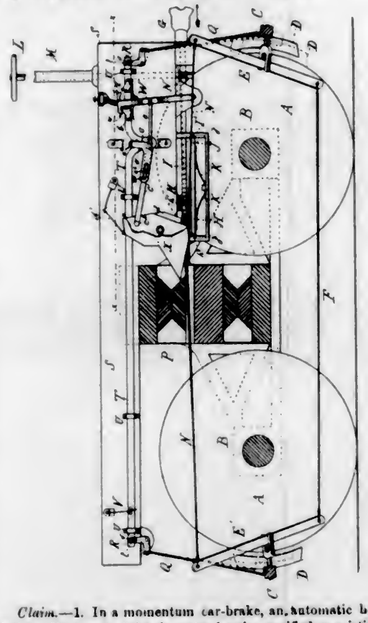
268,753. GEARING FOR WASHING-MACHINES. BARCLAY T. TRUEBLOOD, Salem, Iowa. Filed Aug. 5, 1882. (No model.)

Claim.—In combination with the spindle C and gears D and E, keyed thereon, the large gear, F, meshing with the gear D, and having flanges I, shaft *f*, and eye-slot L, the gear G meshing with the gear E and having similar flanges, shaft, and slot, and the interchangeable handle H, having portion H', with stud K and lip *k*, all constructed, arranged, and operating as set forth.

268,753.



268,754. MOMENTUM CAR-BRAKE. WILLIAM B. TURNER, New York, N. Y. Filed Aug. 2, 1882. (No model.)



Claim.—1. In a momentum car-brake, an automatic brake-relation adjustment of the character herein specified, consisting in the combination of brake mechanism automatically adjusted from an inoperative position to a position operative in the direction in which the car is moving by a tie-rod and an oscillating cam-plate and connecting mechanism, substantially as shown and described.

2. A combined momentum car-brake and automatic brake-relation adjuster of the character herein specified, wherein the brake relation to the direction of the car movement is adjusted by the compression of the draw-bar acting through the agency of mechanism constructed and arranged substantially as shown and described.

3. The combination, with a motor-lever and an operating-lever whereon are located oppositely-inclined planes, of an oscillating cam-plate and draw-bar or its equivalent, substantially as shown and described.

4. In a combined momentum car-brake and brake-relation adjuster, a motor-lever having a horizontal movement and an operating-lever having a vertical as well as a horizontal movement, each of said levers being provided with inclined planes, in combination with an oscillating cam-plate and balanced brake-beams and their connections, substantially as and for the uses and purpose shown and described.

5. In a combined momentum car-brake and automatic brake-relation adjuster of the character herein specified, the combination, with the motor and operating-levers, of bar J and springs K, supporting said levers and arranged relatively to each other, substantially as shown and described.

6. The combination, with levers H and H', bearing inclined planes h' and h^2, of bar J, springs K, cam-plate X, and draw-bar G, substantially as shown and described.

7. The combination, with levers H and H', of eccentric cam-plate X, substantially as shown and described.

8. The combination, with the rod T, bell-cranks R, spring V, and rods Q, of lever W and detents *b*, substantially as set forth.

9. The combination, with tie-rod T, bell-cranks R, and lever W, engaging with detents *b*, of rod *e* and slotted crank c', substantially as shown and described.

10. The combination, with the rod T, rods Q, bell-cranks R, lever W, and detents *b*, of rod *e*, slotted bell-crank c', and arm c', substantially as shown and described.

11. In a combined momentum car-brake and automatic brake-relation adjuster of the character herein specified, tie-rod T, bell-cranks R, rods Q, brake-beams C, bearing shoes D, T-headed lever W, spring-actuated detents *b*, rod *e*, slotted bell-crank c', arm c', and eccentric cam-plate X, the whole combined and arranged to operate substantially as shown and described.

12. In a combined momentum car-brake and automatic brake-relation adjuster as a means for restoring the brake-beams to the centers of their arcs of movement and holding them there until the brakes are applied, the combination, with said beams, of connected cranks, a tie-rod, and springs, arranged to operate substantially as herein shown and described.

13. In a combined momentum car-brake and brake-relation adjuster, provided with a rotating or rocking cam-plate, the combination, with a tie-rod adapted to move horizontally and a T-lever adapted to rock back and forth and their attached mechanism, of the detents *b*, substantially as herein shown and described, said detents being operative for adjusting the brake-relators by engaging with the head of the T-lever, correcting and adjusting the train relation and making the brake operative, as set forth.

14. In a combined momentum car-brake and brake-relation adjuster, the combination, with a rocking cam-plate, of a tie-rod, T, and connecting mechanism, as set forth.

15. In a momentum car-brake and automatic brake-relation adjuster, as specified, an eccentric cam-plate, substantially as herein shown and described, said cam-plate being rotated through suitable mechanism by the movement of a tie-rod, as set forth, said tie-rod being adapted to be operated by the friction of the brake-shoes on the wheel.

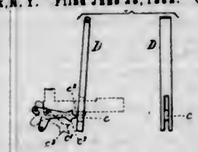
16. In a car-brake, the balanced beams, in combination with a tie-rod and springs, by which they are held in the centers of their arcs of movement and arranged to travel each way therefrom and simultaneously in opposite directions to each other, substantially as shown and described.

17. In a combined momentum car-brake and brake-relation adjuster, the combination, with a suitable rod, of a hollow cam-plate inclosing the end of said rod, and constructed with a front fully open at the upper end but partially open at the lower end, and with a back fully open at the lower end and closed at the upper end, adapted, to move horizontally, substantially as herein shown and described, whereby the brake-relator may be adjusted as set forth.

18. In a combined momentum car-brake and automatic train-relation adjuster from either end, the combination, with balance brake-beams held in the center of their arcs of movement by springs, of mechanism actuated by the friction of the shoes on the wheels for the purpose of disengaging the brakes when the train relation is out of adjustment, substantially as herein shown and described.

19. In a combined momentum car-brake and automatic brake-relation adjuster, the combination, with balanced brake-beams and their attached mechanism, of a horizontally-moving tie-rod, a cam-plate and its connected mechanism of an operating and motor lever, substantially as herein shown and described, the said operating-lever being adapted to be depressed by the partial rotation of the cam-plate for the purpose of permitting the motor-lever to pass and disengage the brakes, as specified.

268,755. MOMENTUM CAR-BRAKE. WILLIAM B. TURNER, New York, N. Y. Filed June 28, 1882. (No model.)



Claim.—1. In a momentum car-brake, the combination, with the brake-beam and wheel-axle, of suitable connecting-levers, and the movable fulcra-block L and its operating mechanism, substantially as herein shown and described, whereby the movement of the brake-beam toward the wheels is made operative to disengage or prevent the application of the brake, as set forth.

2. In a car-brake, the combination, with the brake-beams and attached connected brake-levers and lever-operating chains, of a chain-carrier arranged to move horizontally, and a chain-carrier guide consisting of a channeled block having a vertical movement in a fixed guide-block, substantially as described.

3. In a car-brake, the combination, with the brake-beams provided with shoes and having attached connected brake-levers and lever-operating chain, of a chain-carrier reciprocating in a channeled guide-block adapted to be moved horizontally for applying the brakes and vertically to prevent the application or to release the brakes, substantially as herein shown and described.

4. In a car-brake, the combination, with a chain-carrier having a horizontal motion, a vertically-moving channeled guide-block, and its elevating and depressing mechanism supporting the chain that operates the brake-levers, of a draw-bar provided with a lever for moving said carrier, substantially as set forth.

5. In a car-brake, as a means for vertically moving the chain-carrier to prevent the application of the brake or to release the same, the combination, with the carrier and brake-beam, substantially as herein shown and described, of pitmen H H', levers Q D, rods C' g', and bell-crank C, as set forth.

6. In a momentum car-brake, the combination, with the rocking fulcrum L, of the draw-head and lever A A', movable toothed chain-carrier B', chain B', connected brake-levers E E', brake-beams F F', pitman H, elbow-lever H', and suspension-block I, substantially as herein shown and described, whereby said rocking fulcrum is brought in contact with the car-axle by the movement of the brake-beams toward the car-wheels, as set forth.

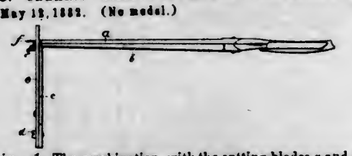
7. In a momentum car-brake, the combination, with the rocking fulcrum L, lever D, provided with stop *e*, and toothed lever P, of the link O, substantially as herein shown and described, whereby the lever P is moved so as to deprive the lever D of a fulcrum, as set forth.

8. In a car-brake, the combination, with the draw-bar, brake-beams, and their connected and connecting mechanisms, of two rocking or movable fulcra linked together, substantially as herein shown and described, whereby the rotation of the car-axle operates, through suitable devices, to set the brake mechanism in operative condition, as set forth.

9. In a car-brake, the combination, with the lever and its attached mechanisms for raising and lowering the chain-carrier, of a movable fulcrum, substantially as herein shown and described, whereby said lever may be rendered operative or inoperative, as set forth.

10. In a momentum car-brake provided with a rocking fulcrum adapted to be thrown out of contact with the car-axle by the rotation thereof, the combination, with said fulcrum, of a supporting suspension-block and suitable devices for moving either end thereof vertically, substantially as herein shown and described.

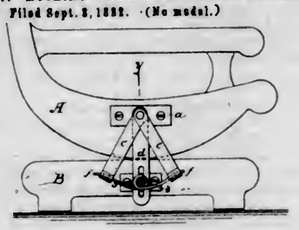
268,756. SHEARS. GILBERT S. VAN PELT, New York, N. Y. Filed May 12, 1882. (No model.)



Claim.—1. The combination, with the cutting-blades *a* and *b*, of the cutters c and *e*, placed and operated at right angles therewith, substantially as described, the cutter *e* being pivoted at *d* and worked through its slot by the pin *f* on the blade *a*.

2. The combination of the cutters *a* and *b*, made widest at the points remote from their fulcrums, and the supplementary cutters c and *e*, with the pivot *d*, the pin *f*, that passes into the slot of *e*, and the guard *g*, substantially in the manner described.

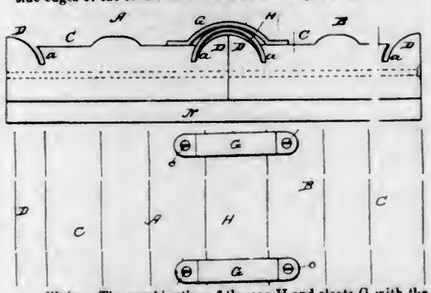
268,757. ROCKING-CHAIR. FRIEDRICH VOGEL, New York, N. Y. Filed Sept. 8, 1882. (No model.)



Claim.—The combination, with the chair A and its base B, of the longitudinally-slotted link *d*, pivoted to the chair and receiving in its slot a pin which is attached to the base, and the arms *e e*, pivoted together at their upper ends to the chair and at their lower ends connected with the ends of a spring which is coiled around the pin *e*, substantially as described.

268,758. CAR-ROOF. JOHN C. WARDE, Nashville, Tenn. Filed Sept. 9, 1882. (No model.)

Brief.—The edges of the caps are placed in saw-kerfs in the side edges of the roof-boards and held down by cleats.



Claim.—The combination of the cap H and cleats G with the boards A B, the latter having saw-kerfs *a*, substantially as specified.

268,759. PLAYING-CARDS. GEORGE D. WARING and DANIEL S. KIDDER, New York, N. Y., and EDWARD W. CARNEY, Washington, D. C. Filed Nov. 13, 1882. (No model.)



Claim.—A playing-card having the emblems or spots arranged in small panels in diagonally-opposite corners, and an intermediate space filled with printed matter, as set forth.

268,760. MATCH-SAFE. WILLIAM N. WHEDEN, New Bedford, Mass. Filed Oct. 25, 1882. (No model.)

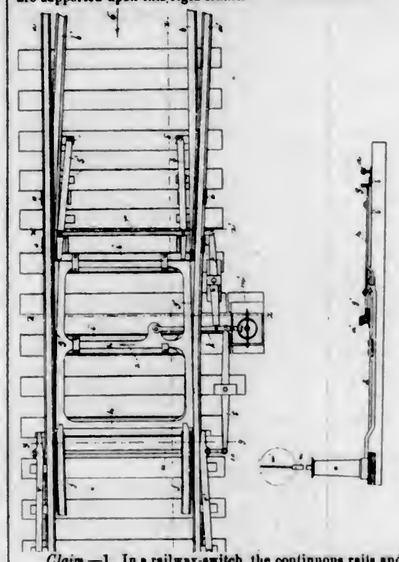


Claim.—1. As a new article of manufacture, the hereinbefore-described match-safe, composed of the plates A, B, and C, constructed and combined in the manner and for the purpose substantially as specified.

2. A match-safe in which are combined a front, sides, and bottom, formed of one piece, a back, and a plate or band, which operates to bind said parts together, substantially as and for the purpose set forth.

268,761. RAILWAY-SWITCH. CHARLES H. WHITE, Boston, Mass. Filed May 24, 1882. (No model.)

Brief.—An automatic switch which can be operated from the locomotive when trains are approaching it in one direction and when trains are coming from the other direction. The switch is properly set by the flanges of the wheels. The main and switch rails are immovably spiked to the cross-ties. The switch is changed by a transversely-moving frog-plate having a sliding movement at both ends and throughout its length. The two points of the frog are supported upon this rigid frame.



Claim.—1. In a railway-switch, the continuous rails and discontinuous rails of the single main track and branches, arranged as described, combined with the two points *g g'*, and their rigid point-supporting frame-work having a sliding movement at both ends and throughout its length transverse to the track, substantially as and for the purpose set forth.

2. The combination, with the single track and tracks branching therefrom, of the points *g g'* and the rigid point-supporting frame-work therefor, having a sliding movement at both ends and throughout its entire length, and the connected point-operating levers *s s'*, actuated by the wheels passing over each branch, and the intermediate lever, *p*, connected with the said levers *s s'* and with the rigid point-supporting frame-work, substantially as and for the purpose described.

3. The combination, with the single track and tracks branching therefrom, of the points *g g'* and the rigid point-supporting frame-work therefor, having a sliding movement at both ends and throughout its entire length, and the connected point-operating levers *v v'*, located at either side of the single portion of the track, and the intermediate lever *t*, connected with the said levers *v v'* and with the point-supporting frame-work, substantially as described.

4. The movable points and their actuating bar and levers adapted to be operated by the passing trains, combined with the target-shaft, lever pivoted thereto, and housing adapted to receive the said shaft and lever when parallel with one another, substantially as described.

5. The movable points and point-supporting frame and the bar *k*, connected therewith, and the intermediate levers *p t*, connected with the said bar and with links transverse to the track, combined with automatic actuating-levers *s s'*, connected with one of the said links and located at the flange-guiding side of a rail of each branch, and the actuating-levers *v v'*, connected with the other of the said links, and located at the outside of each rail of the single portion of the track, all the said levers operating in planes substantially parallel with the road-bed, substantially as described.

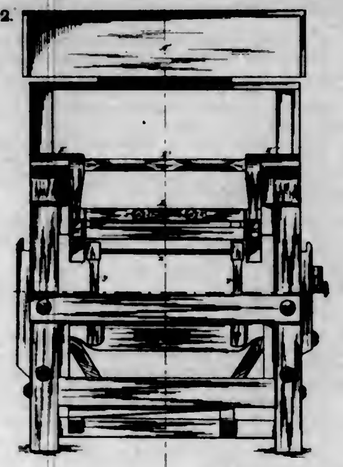
268,762. MIDDLINGS-PURIFIER. ALBERT WILLIAMS, Hannibal, N. Y. Filed Mar. 27, 1882. (No model.)

Claim.—1. In a machine for purifying middlings, the frames G and L, in combination with bolts *s* and rubber buffers *s'*, the parts arranged and operated as shown, and for the purpose set forth.

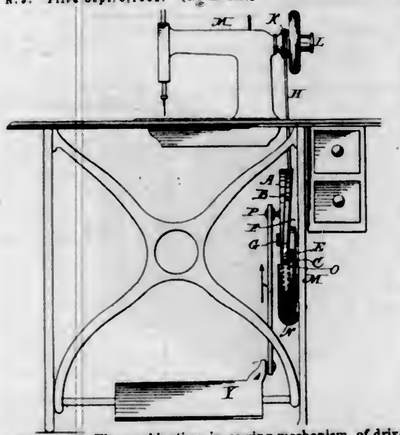
2. In a machine for purifying middlings, the reacting hammers H, suspended as described and in combination with the vibrating frame L, the parts arranged and operated as described.

3. In a machine for purifying middlings, the deflectors *l* and tubes E, in combination with gates F, tapering tubes D, and fans M, substantially as described.

268,762.



268,763. SEWING-MACHINE. THOMAS C. WOODWARD, New York, N. Y., assignor to Elias A. Wilkinson, Trustee, Newark, N. J. Filed Sept. 8, 1882. (No model.)



Claim.—1. The combination, in sewing mechanism, of driving-wheel A, having belt-groove B and switch-groove C, belt-guard N, having belt-groove O, belt H, treadle Y, and driving-shaft L, having belt-pulley K, substantially as set forth.

2. The combination, in sewing mechanism, of a driving-wheel having an oblique belt-groove and a straight switch-groove therefrom, a belt-guard around the lower portion of the same, and having a belt-groove opposite the switch-groove, and a belt from the driving-wheel to a belt-pulley on the driving-shaft, substantially as set forth.

3. The combination, in sewing mechanism, of a driving-wheel having a belt-track and a switch-track therefrom, a belt-guard to keep the belt in proper relation to the tracks, and a belt from the driving-wheel to a belt-pulley on the driving-shaft, substantially as set forth.

4. The combination, in a sewing-machine, of a driving-wheel having an oblique belt-track and a straight switch-track therefrom, and supporting and operating mechanism, substantially as set forth.

5. The combination, in a sewing-machine, of a driving-wheel having a belt-track and a switch-track therefrom, and supporting and operating mechanism, substantially as set forth.

6. The combination of a belt-wheel having an oblique belt-track and a straight switch-track therefrom, with a belt-guard around the lower portion of the same, and having a belt-groove opposite the switch-track to keep the belt in proper relation to the belt-wheel, a belt-pulley, and supporting and operating mechanism, substantially as set forth.

7. The combination of a belt-wheel having a belt-track and a switch-track therefrom, a belt-guard to keep the belt in proper relation to the track, and supporting and operating mechanism, substantially as set forth.

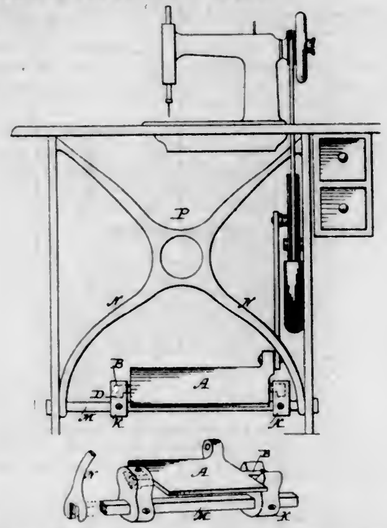
8. A driving-wheel having a continuous oblique belt-track and a segmental straight switch-track therefrom, substantially as set forth.

9. A belt-wheel having a belt-track and a switch-track from the belt-track, substantially as set forth.

10. A belt-wheel having a switch-track to throw a belt on when the wheel is turned in one direction, and to throw the belt off when the wheel is turned in the opposite direction, substantially as set forth.

11. A belt-wheel adapted to throw a belt on and retain it when the wheel is rotated in one direction, and to throw the belt off when the wheel is rotated in the opposite direction, substantially as set forth.

268,764. SEWING-MACHINE. THOMAS C. WOODWARD, New York, N. Y. Filed Nov. 4, 1882. (No model.)



Claim.—1. The combination, in sewing mechanism, of a treadle-plate, A, having V-shaped journals B C, independently-adjustable supports K L, having V-shaped bearings D E, with oil-recesses R, square treadle-rod M, and brace P, having arms N O, adapted to the treadle-rod, substantially as set forth.

2. The combination, in sewing mechanism, of a treadle-plate having V-shaped journals, independently-adjustable supports having V-shaped bearings with lubricant-recesses, and secured on a square treadle-rod held from turning by the stand-brace, substantially as set forth.

3. The combination, in sewing mechanism, of a treadle-plate having V-shaped journals in independently-adjustable supports, having V-shaped bearing with lubricant-recesses, and secured on a treadle-rod, substantially as set forth.

4. The combination, in sewing mechanism, of a treadle-plate having V-shaped journals in independently-adjustable supports, having V-shaped bearings with lubricant-recesses, substantially as set forth.

5. The combination, adapted to sewing mechanism, of a treadle-plate having V-shaped journals in independently-adjustable supports, having V-shaped bearings, substantially as set forth.

6. The combination, adapted to sewing mechanism, of a treadle-plate and independently-adjustable supports connected by V-shaped journals and bearings, substantially as set forth.

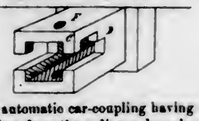
7. The combination, adapted to sewing mechanism, of a treadle-plate, independently-adjustable supports, and intermediate V-shaped journals and bearings, substantially as set forth.

8. A treadle-plate having V-shaped journals adapted to sewing mechanism, substantially as set forth.

9. A treadle-plate support having adjustable V-shaped bearings, adapted to a treadle-plate, having V-shaped journals, and adapted to sewing mechanism, substantially as set forth.

268,765. WITHDRAWN.

268,766. CAR-COUPLING. WILLIAM EARHEISSER, New Orleans, La. Filed Oct. 13, 1882. (No model.)

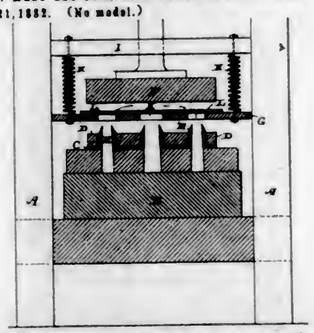


Claim.—1. An automatic car-coupling having a shank, N, to fit into and projecting from the ordinary draw-head, F, at right angles to the same, said shank being supplied with a jaw, *c*, at one end and *d* at the other end, adapted to couple with and uncouple from its opposite mate, in the manner set forth.

2. The combination of the coupling N with lever W, working in guide-bars *g* and *f*, with chain T and rod X at its lower end, substantially as and for the purpose set forth.

3. In combination with coupling N and lever W, pawl G, cord A, extending from ring *n* through eyelet *p*, and secured to said pawl, as and for the purpose set forth.

268,767. MACHINE FOR CUTTING SHEETS OF VENEER. HENRY ARND and FREDERICK KUEKOCK, St. Louis, Mo. Filed Aug. 21, 1882. (No model.)



Claim.—1. In a veneer-blank-cutting machine, the combination of the plate C, having gore-shaped apertures, and the gore-cutting knives and their adjustable supports, arranged substantially as described.

2. In a veneer-blank-cutting machine, the plunger, the plate G, having gore-shaped apertures, and its supporting-springs, in combination with suitable frame-work and a cutting device, substantially as described.

3. In a veneer-blank-cutting machine, the combination of the plunger, the plate G, having gore-shaped apertures, and its springs, with the gored-apertured plate C, the cutters, and their adjustable supports, substantially as described.

268,768. VEHICLE-WHEEL. JOHN BEAN and ROSCOE BEAN, Springfield, Ohio, assignors to the Tricycle Manufacturing Company, same place. Filed Sept. 5, 1882. (Model.)



Claim.—1. A spoke-socket for vehicle-wheels, consisting of a tube having openings on opposite sides, substantially as shown and described.

2. In a vehicle-wheel, a hub constructed with a series of spoke-sockets consisting of tubular radial extensions having lateral openings arranged as described, the whole cast in one piece, substantially as and for the purpose specified.

3. In a vehicle-wheel, the combination, with the tire, of a spoke-socket having openings at opposite sides and a tenon at the end adapted to fit in an aperture in the tire, substantially as specified.

4. In a vehicle-wheel, the combination of the hub constructed in two parts, said parts being provided with spoke-sockets having openings on opposite sides, as described, and the connecting-sleeve having one or both parts riveted or otherwise secured thereto at opposite ends, the whole virtually forming an integral hub ready for the spokes and tire, substantially as described.

5. In a vehicle-wheel, the combination, with the spoke-sockets constructed as described, of the slotted or recessed spokes, adapted to be secured in the sockets by flattening in the sides, substantially as specified.

268,769. DRESS-WEIGHT. EDWARD J. BROOKS, East Orange, N. J., assignor to E. J. Brooks & Co., New York, N. Y. Filed July 15, 1882. (No model.)

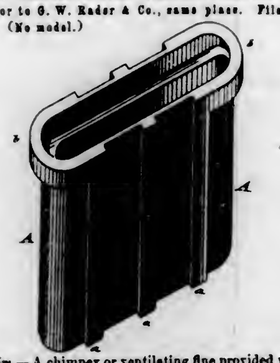


Claim.—1. A dress-weight composed of an attaching strip or stripe and one or more flat disks of lead or other heavy substance strung upon said strip or stripe, said strip or stripe extending from the edges of said disk or disks, substantially as herein set forth.

2. The combination, substantially as herein specified, of an attaching strip or stripe and a series of flat dress-weight disks of lead or other heavy substance secured thereon at fixed distances apart, said strip or stripe extending from the edges of said disks, for the purposes set forth.

3. The combination, substantially as herein specified, of a single flexible attaching-strip and a series of flat dress-weight disks of lead or other heavy substance secured thereon at fixed distances apart, the former extending from the edges of the latter, for the purposes set forth.

268,770. CHIMNEY-FLUE. CHARLES BURR, New York, N. Y., assignor to G. W. Rader & Co., same place. Filed Sept. 22, 1882. (No model.)



Claim.—A chimney or ventilating flue provided with exterior longitudinal ribs, whereby ventilating air-spaces are formed between the wall and flue, substantially as set forth.

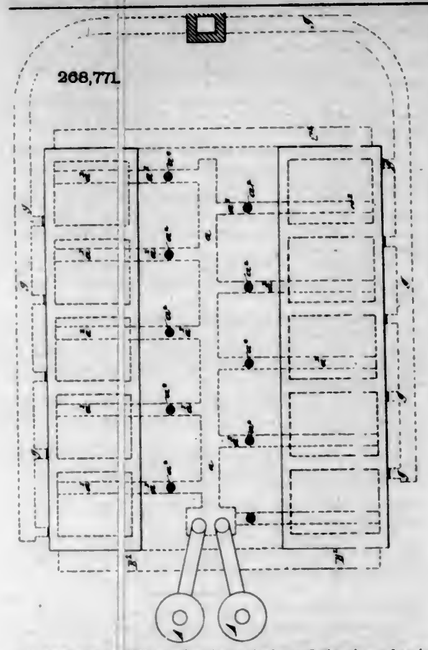
268,771. REGENERATIVE KILN FOR BURNING FIRE-BRICK, &c. JAMES DUNNACHIE, Glenboig Star Fire Clay Works, County of Lanark, Scotland. Filed Dec. 26, 1881. (No model.) Patented in England Sept. 6, 1881, No. 3,882.

Claim.—1. In regenerative kilns for burning fire-bricks, pottery, or other analogous materials, and analogous apparatus, the combination of the gas-generator, the main gas-conducting passage, the passages branching therefrom to the several kilns or chambers, and the flues or passages B C, for passing the heat from one kiln or chamber into another adjacent kiln or chamber, as hereinbefore described.

2. In regenerative kilns and analogous apparatus, the arrangement of flues B C b^2, openings b^1 b^1 b c^3, and dampers c, for giving communication from kiln to kiln or chamber to chamber, as shown and described.

3. In regenerative kilns and analogous apparatus, the arrangement of flues B C, dampers c, and openings b^1, b, and c^3, for giving communication from kiln to kiln or chamber to chamber, as shown and described.

4. In regenerative kilns or chambers and analogous apparatus, the combination of the flues B C, dampers c, and openings b^1, b, and c^3 with a flue or chamber, a^2, in which the air heated by the regenerated heat of a kiln or chamber is mixed with the gas about to enter another kiln or chamber to be burned therein, as hereinbefore shown and described.

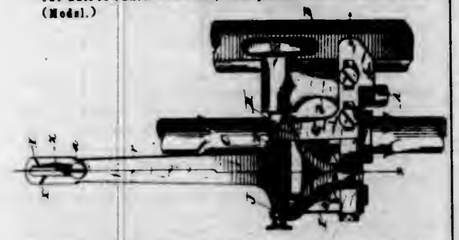


5. In regenerative kilns or chambers for burning brick, and in analogous apparatus, the flues D and E and openings d d^2 e, and dampers c^3 in the upper parts of the communicating walls of the kilns or chambers, Figs. 6 to 9, and also the flue H, openings h h^2, and dampers h^2, whether employed to admit cold or hot air to the upper part of the kiln or chamber or to admit the heat from one kiln to another at the lower part thereof, as described with reference to the upper wall of a kiln.

6. The combination of parts constituting the improved regenerative kilns or chambers or analogous apparatus, consisting of the kilns communicating with each other by regenerative passages B C, (or passages H,) and provided with passages a a' and regulating-valves a^2, for supplying gas to be burned in the said kilns or chambers, in conjunction with the hot air admitted by the passages B C, (or passage H,) as hereinbefore described, and illustrated in the accompanying drawings.

268,772. WITHDRAWN.

268,773. BOBBIN-WINDER FOR SEWING-MACHINES. STANISLAW B. GABRYELSKI, Cleveland, Ohio; Augusta Gabryelski, Executrix of Stanislaw B. Gabryelski, deceased, assignor of one-half to Charles Burdick, same place. Filed Mar. 10, 1882. (Model.)



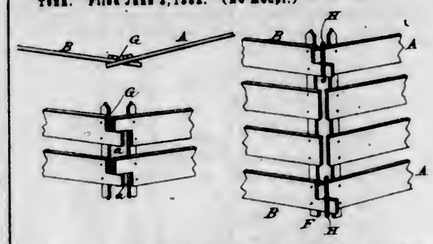
Claim.—1. In a bobbin-winder for a sewing-machine, the combination of the frame, prop, spring-stop, bed-plate, and friction-wheel, substantially as shown and described.

2. In a bobbin-winder for a sewing-machine, the combination of the frame, prop, bed-plate, spring-stop, and bobbin, all arranged and operating to lower the bed-plate at the moment the bobbin is filled, substantially as shown and described.

3. The combination of the frame A, prop Q, spring R, and bed-plate D, whereby the bed-plate is raised and lowered, substantially as shown and described.

4. In a bobbin-winder for a sewing-machine, the thread-carrier V, provided with slots Y and X, and spring Z, with adjusting-screw *s*, whereby a required tension may be obtained, substantially as shown and described.

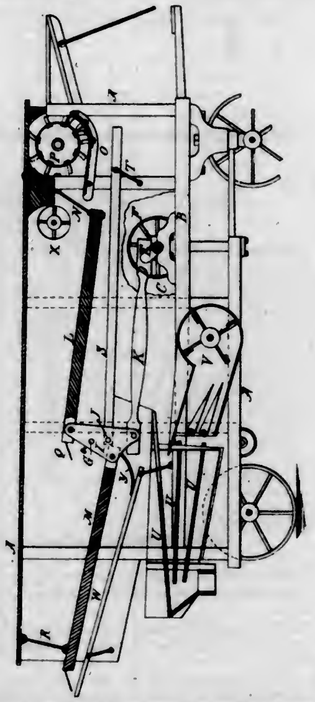
268,774. PORTABLE FENCE. JOHN B. SURPRISE, Memphis, Tenn. Filed June 3, 1882. (No model.)



Claim.—In a fence, the top and bottom rails, A B, rabbeted and beveled, combined with battens F and clamps H, all constructed and arranged as shown and described.

REISSUES.

10,251. THRASHING-MACHINE. RILEY H. COON and WILLIAM H. COON, Oneida Lake, N. Y. Filed Mar. 30, 1882. Original No. 246,781, dated Aug. 16, 1881.

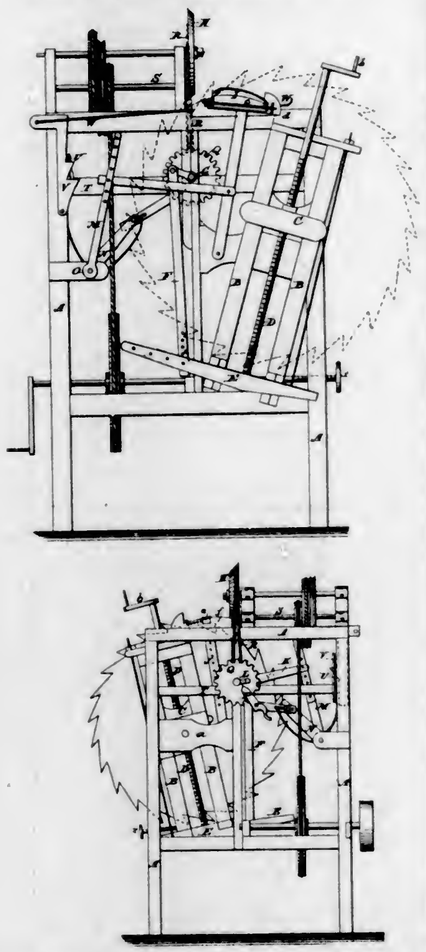


Claim.—1. In a thrashing-machine, the combination of straw-shakers L M, arranged in succession, levers I I, connecting the adjacent ends of said shakers, pivoted supports for said levers between said shakers, pitmen K, and crank-shaft E, constructed and arranged substantially as and for the purposes specified.

2. In a thrashing-machine, the combination of the crank-shaft G, levers I I, the carrier-sections L M, and grain-table W, as and for the purposes specified.

3. The combination of the double-crank shaft D, crank-shaft G, and triangular plates I I, separators L M, grain-conveyers S W, and pitmen or connecting-rods K K Y, all arranged and operating substantially as and for the purposes herein shown and specified.

10,252. SAW-SHARPENING MACHINE. WILLIAM L. COVEL, Stephens' Point, Wis., assignor to William H. Halladay, Clinton Litchfield, and Edwin Benjamin, Chicago, Ill. Filed Oct. 30, 1882. Original No. 172,092, dated Jan. 11, 1876.



Claim.—1. In saw-sharpening machines, the adjustable hangers, in combination with adjustable feed mechanism, substantially as set forth.

2. In saw-sharpening machines, the combination of the adjustable saw-hanger with an emery-wheel, arranged substantially as specified.

3. In saw-sharpening machines, adjustable hangers operated by levers to present the saw to an emery-wheel, substantially as set forth.

4. In saw-sharpening machines, an automatic latch-feed acting against each tooth in succession, substantially as and for the purpose described.

5. In saw-sharpening machines, the combination of adjustable hanger with an automatic latch-feed mechanism, substantially as set forth.

6. In saw-sharpening machines, the combination of adjustable saw-hanger and adjustable feed mechanism with an emery-wheel, substantially as and for the purpose described.

7. An automatic saw-sharpening machine having adjustable saw-hanger, adjustable feed mechanism, and an emery-wheel, substantially as specified.

8. In saw-sharpeners, an adjustable tappet adapted to regulate the feed and give the desired shape to the back of the saw-teeth, substantially as set forth.

9. The combination, with the latch-feed, of a pivoted lever, adjustable pitman, rock-shaft, and mechanism for imparting an intermittent motion to an adjustable tappet to regulate the feed, substantially as specified.

10. In saw-sharpening machines, a pivoted latch-feed having a finger which bears against the saw-teeth in succession, substantially as set forth.

11. The combination of a latch mechanism, I, having a projecting finger which engages with the saw-teeth in succession, and adapted to be adjusted by a screw-threaded bolt, *c*, in a head, *d*, and means for determining the throw of the latch and head, all substantially as specified.

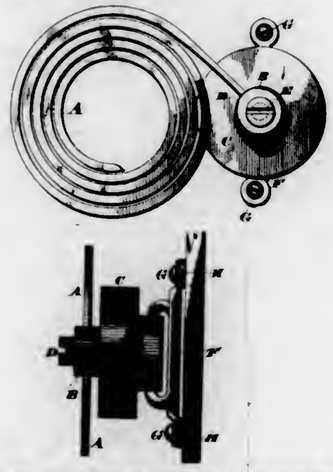
12. The combination of a latch-feed, I, a screw-threaded pivoted bolt, *c*, and a suitable guide and stop, as shown, and for the purpose described.

13. The combination of a sliding block, a screw-rod, D, lever E, pitman F, and crank-shaft G, as and for the purpose set forth.

14. The combination, with a latch-feed, of a pivoted lever, J, pitman K, rock-shaft O, cranks M N, tappet P, and crank L, as and for the purpose described.

15. The combination, with a pinion, Q, and a worm-wheel, of a movable bar, T, lever U, tripping device V, and rod W, substantially as and for the purpose described.

10,253. CLOCK-BELL. GEORGE W. SANFORD and AARON C. SANFORD, New Haven, Conn. Filed Oct. 2, 1882. Original No. 258,809, dated May 30, 1882.



Claim.—1. A clock-bell consisting of a bell-wire fastened to a sounding-disk and a wire fastened to the sounding-disk and crossed beneath the same, the ends of the wire being perforated for the insertion of fastening-screws, substantially as set forth.

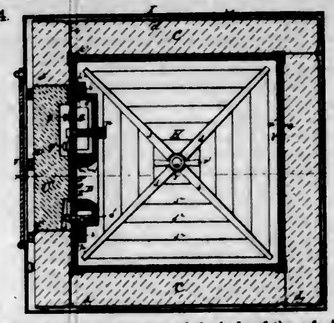
2. A clock-bell consisting of a bell-wire fastened to a sounding-disk and a supporting-wire on which the sounding-disk is cast, substantially as set forth.

3. The combination, with the sounding-disk, bell-wire, and supporting-wire, of the rubber washers interposed between the ends of the supporting-wire and clock-case, substantially as set forth.

4. A flattened bell-wire, the flattened portion coiled in the plane of the vibrations, substantially as set forth.

10,254. SAFE. DAVID W. SMITH, Port Townsend, Wash. Filed Oct. 28, 1882. Original No. 257,094, dated Apr. 25, 1882.

10,254.



Claim.—1. The combination of the body of the safe A, having an opening, *g*, cut in one of its sides, with the door F, hinged on the door-plate D, and fitting said opening, and the apertured door-plate D, secured to the inner surface of the safe over and about said opening, and having a recess, *o*, whereby the door, on being closed, shall meet with no resistance except the contact of the flange E with the rubber *m'*, and whereby space shall be provided for accommodating the locks, bolts, grooved projection *m*, screw-sockets *n*, and parts of hinges *k k*, substantially as shown and described.

2. In combination with the body of a safe, the door-plate D, having recess *o*, with aperture *l* in said recess, to one side of its center, for ingress to the safe, a grooved projection, *m*, surrounding said aperture, and provided with rubber *m'* and projecting screw-sockets *n*, and the door F, having screws *n'*, substantially as shown and described.

3. The combination of the body of the safe A and the door-plate D, having grooved projection *m* and rubber *m'*, with the door F, having flange E, which is adapted to fit against the said rubber, and a bent projection, *o'*, adapted to engage with the inner surface of the safe when the door is closed, substantially as shown and described, and for the purpose set forth.

4. The combination of the safe A with the grooved and notched rod *r*, the binder H, nut *r'*, and the stop *t*, substantially as shown and described.

5. The combination of the safe A and the rod *r*, having groove *t* and notches *t'*, with the binder H, having arms *s*, hub *s'*, and wires *s²* and the stop *t*, substantially as shown and described.

6. The combination of the safe A, provided with straps *c'*, secured to its outer surface, and rods *c*, held at right angles to the safe by the said straps, with the buoyant jacket C, having bands *d* on its outer surface and perforations for receiving the said rods, and nuts *f*, for holding the rods in position, substantially as shown and described.

7. The combination of the safe A, having screw-threaded socket K on top, buoyant jacket C, secured to the outer surface of the safe, and the sheet-metal buoy L, having its staff screwed into said socket, substantially as shown and described.

8. The combination of the safe A, constructed of metal plates *a a' b*, and the buoyant jacket C, secured thereto in sections, with the false safe I, having rollers secured to its inner surface to facilitate the egress of the safe from the said false safe, substantially as shown and described.

9. The safe A, constructed of metal plates *a a' b*, with opening *g*, in combination with the rubber *h*, the recessed door-plate D, secured to the inner surface of the safe against the rubber *h*, and having projecting screw-sockets *n*, and the door F, having screws *n'*, substantially as shown and described.

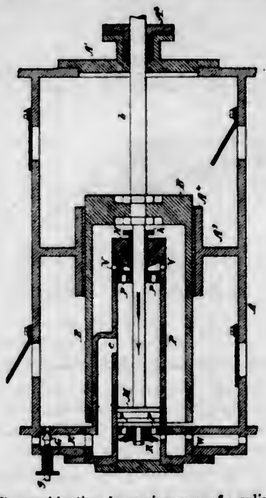
10. The combination of the safe A, the rod *r*, and the binder H, having arms *s*, radiating from a central hub and connected by wires *s²*, substantially as shown and described, and for the purpose set forth.

10,255. STEAM PUMPING MACHINERY. WILLIAM E. WORTHEN, New York, N.Y. Filed Oct. 4, 1882. Original No. 192,042, dated June 19, 1877.

Claim.—1. The air-pump P M, mounted within the main casing A, and the main plunger B, operated by a direct connection, *b*, as herein specified.

2. The main casing exhaust-passage E, central port, *e*, communicating with the condenser, delivery-passages *p*, and air-pump piston M, operated from a steam-piston, all combined and arranged for joint operation in a steam pumping-machine, as herein specified.

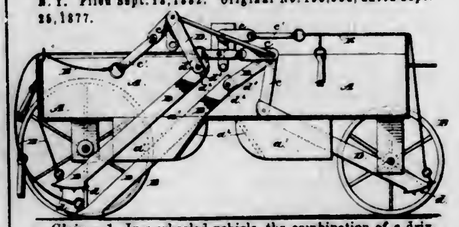
10,255.



3. The combination, in an air-pump, of a cylinder having exhaust-ports and valves, a reciprocating piston, and a central inlet-port communicating with a closed condensing-chamber, all constructed and arranged to maintain a nearly-uniform vacuum in the condensing-chamber without the interposition of a foot-valve, as described.

4. The combination, with a receptacle for exhaust-steam in which a vacuum is maintained, of a pump having outlet-ports and valves, and a port communicating with the condensing-chamber and arranged centrally to be uncovered by the piston to put the condensing chamber and cylinder into direct communication as the piston approaches the end of its stroke, as set forth.

10,256. VEHICLE-PROPELLER. EDWIN G. ADAMS, Cohoes, N.Y. Filed Sept. 18, 1882. Original No. 195,553, dated Sept. 25, 1877.



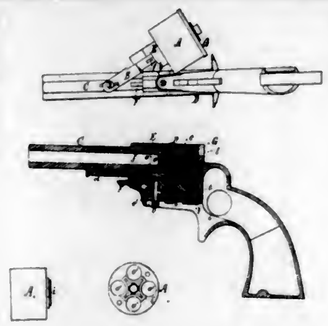
Claim.—1. In a wheeled vehicle, the combination of a driving-axle having a number of cranks with propelling-levers which are journaled at their upper ends upon and are directly driven by said cranks, are provided each with a central joint, and are adapted to have their lower ends impinge upon and engage with the surface of the ground at each revolution of said axle, substantially as and for the purpose specified.

2. In combination with the axle-cranks of a wheeled vehicle, propelling-levers which are journaled thereon at one end and adapted to have their lower ends engage with the ground at each revolution of said axle, and are each provided with a locking-joint, substantially as and for the purpose shown.

3. In combination with the axle-cranks of a vehicle-propeller, and with jointed propelling-levers journaled thereon and adapted to impinge upon and engage with the ground at each revolution of said axle, a cord connected with and extending between the lower end of each lever and one of the cranks of said driving-axle, and adapted to raise said lever from contact with the ground as the same is moved forward, substantially as and for the purpose set forth.

4. The propelling-lever D, provided with the joint *d'*, stop-pin *d³*, and engaging-shoulder *d²*, substantially as and for the purpose specified.

10,257. REVOLVING FIRE-ARM. FREEMAN W. HOOD, Norwich, Conn. Filed Oct. 2, 1882. Original No. 116,592, dated July 4, 1871.



Claim.—1. The stock D, having its rotary-magazine-receiving chamber closed at bottom and open laterally to receive the magazine, in combination with the arm B, for supporting such magazine, pivoted to the stock or barrel so as to swing laterally or horizontally relatively thereof.

2. The magazine provided with the series of charge-chambers and with the retractor guide screw shouldered holes, as described, arranged between such chambers, and also with a cylindrical passage made through it (the said magazine) axially for reception of the swinging arm B, in combination with the stock D, having its rotary-magazine-receiving chamber closed at bottom and open laterally to receive the magazine, and with the said arm pivoted to the barrel so as to swing laterally under it, and with the retractor consisting of the perforated plate G and the headed screws *k*, all being arranged and to operate substantially as set forth.

3. The wedged slide-piece E, arranged in advance of the rotary magazine, and adapted with it to slide on the pivoted arm B lengthwise thereof, in combination with the said arm and magazine, and with the stock provided with the abutment or cam *k* arranged in it, (the said stock,) and for operating the said slide-piece E, all being substantially as set forth.

PHOTO LITH. NORRIS PETERS WASHINGTON D.C.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

EX PARTE SNYDER.

Decided July 25, 1882.

1. AMENDMENTS OF APPLICATION WHEN FILED MUST CONFORM TO RULE 69.

An application cannot be amended at the will of the applicant before it is taken up for examination. Rule 69 attaches upon the filing of the application, which occurs when the applicant has completed his application, as provided in Rule 31.

2. AMENDMENT—RULE 47.

The case of *McDougall* (21 O. G., 1783) was not intended to open the door to the admission into an application once completed of any and all inventions made prior to the date of filing the original application.

3. SAME—SAME—MAY CORRECT BUT NOT CHANGE THE APPLICATION.

The applicant may be permitted, upon proper occasion, to supplement his description or drawing by restoring features of the original invention which were inadvertently omitted or incorrectly shown in the original disclosure through a clerical error of the draftsman or the unfamiliarity of the inventor with official forms. He cannot be permitted, however, to change and alter his application to represent a different invention.

APPEAL from Primary Examiner.

CREAMERS.

Application filed May 11, 1882.

Mr. S. J. Parker attorney.

MARBLE, *Commissioner:*

This appeal is taken from the refusal of the Examiner to consider on the merits a substitute drawing and specification filed in the case on the ground that they present a different invention from that which was shown and described in the original specification and drawing, and are therefore inadmissible under Rule 69. There is no reason to doubt applicant's good faith in the matter, as his amendment was filed before the application was taken up for examination, and before, therefore, there was any adverse action upon his claims.

In his request for the return of the drawings applicant says:

> The drawings are requested to be returned before examination is begun on them, as the drawings are not only informal but do not fully represent the invention.

The applicant excepts to the ruling of the Examiner primarily upon the ground that the practice is universal, as he represents, of allowing amendments at will before the application is taken up for examination. I am not aware of such a practice.

Rule 69 provides that—

> In original applications * * * all amendments of the model, drawings, or specification * * * must conform to at least one of them as they were at the time of the filing of the application. * * *

This rule, then, attaches upon the filing of the application, which occurs when the applicant has completed his application, as provided in Rule 31. The application then receives its serial number, and is placed upon the files for examination. It is then an application in full standing, and thereafter amendments offered must conform with the rules governing the amendment of applications. The time when an application is taken up for examination is a variable and arbitrary date, and depends solely upon the state of business. It is further contended by the applicant that his amendment is admissible under Rule 47, as he has filed a supplemental oath to the effect that the subject-matter of his proposed amendment was a part of his invention, and was invented before he filed his original application.

The case of *McDougall* (21 O. G., 1783) was not intended to open the door to the admission into an application once completed of any and all inventions made prior to the date of filing the original application. It was there expressly stated that the matter sought to be introduced by amendment under rule 47 must be "a part of the original invention." The applicant will not be permitted, under the guise of an amendment, to introduce into his application a wholly different invention, nor to change the construction and operation of an invention which has been fully described and shown, nor to present a different or preferable form of his invention. He may be permitted, upon proper occasion, to supply suitable connections, to add a spring to a pawl, a handle to a crank, a belt to a pulley, teeth to a wheel, an outlet to a closed receptacle, or other manifest defects or omissions in features essential to the operation of the invention or to the completeness of the disclosure, and which were caused by a clerical error of the draftsman or the unfamiliarity of the inventor with official forms. These amendments, supplemental in their nature, may be made as completing the invention imperfectly shown and described. They add to the invention disclosed some part or feature which agrees with the construction and operation already presented. An applicant cannot be permitted, however, to erase the lines of his drawing and delineate anew the construction and operation of a part fully shown and described, *or replace a well-described but inferior arrangement by a preferable form of his invention.*

Within the limits above mentioned, I am of the opinion that it is a just exercise of the discretionary power of the Commissioner to permit an applicant to include and give effect in his patent to the whole invention imperfectly presented in his original application. As said in the decision of McDougall:

> In other words, he ought to be allowed to particularly describe the *whole of his invention*, and to claim it in one application, if it can be done before the case has passed beyond the control of the Office, and within two years from the filing of the first papers in the case.

In this case I find that the applicant has *departed*

materially in his proposed amendment from the invention presented in the original drawings and specification, to such an extent that he has been obliged to substitute an entirely new drawing, every figure of which differs from the corresponding figure of the original drawing. The cans which in the original drawings were represented as having a flat bottom are now represented as having a V-shaped bottom, for a particular purpose. In the new drawing alternate cans are arranged further to the front, and abutting against the side of the vat, thereby dispensing with certain of the gates shown in the original drawing. Figure 2 shows as a new feature two of the cans with contracted sides. Figure 5 of the new drawing shows as an entirely new feature—the projection *b*. Figure 6 is a substitute device for drawing off the water from the vat, and, as the Examiner holds, forms proper subject-matter for a separate application. None of these changes or modified forms were referred to in the original application. In such a case as this it is apparent upon a comparison of the two drawings that the amendment is not for subject-matter which was a "part of the original invention" and "which might have been claimed in the original application." The purpose of the amendment is not to supplement the original application so as to present the whole of the invention, but to alter certain features of the invention as originally described and shown and substitute in place of other features of the invention clearly set forth in the original application different and preferable forms of the invention. These features are not a part of the original invention within the meaning of Rule 47 as construed in *Ex parte McDougall*.

The action of the Examiner is sustained.

DECISIONS OF THE U. S. COURTS.

Supreme Court of the United States.

THE AMERICAN COTTON TIE COMPANY *et al. v.* SIMMONS *et al.*

Decided November 6, 1882.

1. COTTON-BALE TIES—INFRINGEMENT.

The plaintiffs were the owners of patents for improvements in metallic cotton-bale ties, each tie consisting of a buckle and a band. They granted no licenses to make the ties, but themselves made them and supplied the market. They stamped in the metal of the buckle the words "Licensed to use once only." The defendants bought as scrap-iron the buckles and bands at the cotton-mills after the bands had been severed to release the bale, and rolled and straightened the pieces of the bands, and riveted together their ends, and cut them into proper lengths for ties, and sold them, with the buckles, to be used as ties, nothing being done to the buckles: *Held*, that the defendants had infringed the patents.

2. SAME—SAME—OLD BUCKLE WITH NEW BAND.

Whatever right the defendants acquired to the use of the old buckle, they acquired no right to combine it with a substantially new band to make a cotton-bale tie. They so combined it when they combined it with a band made of the pieces of the old band in the way described.

3. SAME—REPAIR—RECONSTRUCTION.

What the defendants did in piecing together the pieces of the old band was not a repair of the band or tie within the principle laid down in *Wilson v. Simpson*, (9 How., 109.) Its capacity for use as a tie was voluntarily destroyed at the cotton-mills as having served its purpose. As a tie it was reconstructed by the defendants, although they used the old buckle without repairing that.

Mr. Samuel A. Duncan for the appellants.

Mr. B. F. Thurston for the appellees.

APPEAL from the Circuit Court of the United States for the District of Rhode Island.

Mr. Justice BLATCHFORD delivered the opinion of the Court.

This is an appeal by the plaintiffs in a suit in equity from a decree dismissing the bill of complaint. The suit was brought for the infringement of three several letters patent: No. 19,490, granted to Frederic Cook, March 2, 1858, for an improvement in metallic ties for cotton-bales, and extended for seven years from March 2, 1872; Reissue Letters Patent No 5,333, granted to James J. McComb, as assignee of George Brodie, March 25, 1873, for an improvement in cotton-bale ties, (the original patent having been granted to Brodie, as inventor, March 22, 1859, and reissued to him April 27, 1869, and extended for seven years from March 22, 1873,) and No. 31,252, granted to J. J. McComb, January 29, 1861, for an improvement in iron ties for cotton-bales, and extended for seven years from January 29, 1875. They are severally known as the "Cook," the "Brodie," and the "McComb" patents. The Cook patent expired March 2, 1879, the Brodie patent March 22, 1880, and the McComb patent January 29, 1882. The plaintiffs are The American Cotton Tie Company, (Limited,) a British corporation; James J. McComb, administrator of Mary F. McComb, deceased, and the said James J. McComb, Charles G. Johnsen, and Emerson Foote, each in his own behalf and as a copartner in a firm called the "American Cotton Tie Company." The defendants are Simeon W. Simmons and two other persons, doing business as the Providence Cotton Tie Company. The Cook patent was assigned to McComb, March 21, 1872. The Brodie reissue of 1869, with all rights to reissue, renewal, and extension, was assigned to McComb, March 19, 1873. On the 22d of June, 1874, McComb assigned to himself, Johnsen, and Foote, who composed the firm called the "American Cotton Tie Company," the Cook patent as extended and the Brodie patent as reissued in 1869 and as extended. Mary F. McComb became in 1861 the owner of the McComb patent. She died in 1874 intestate, and McComb was appointed her administrator. On the 1st of March, 1876, the firm called the "American Cotton Tie Company" assigned to the corporation called "The American Cotton Tie Company," (Limited,) the Cook patent as extended and the Brodie patent as extended and as reissued in 1873. On the same day McComb, individually and as administrator, assigned to the said corporation the McComb patent and its extension.

The bill is in the usual form, and was filed in November, 1876. It alleges that the defendants have made, used, and sold to others, to be used the patented inventions, and also metallic ties for cotton-bales containing the patented inventions. No defense affecting the validity of the patents sued on is set up in the answer. The only defense pleaded or made is as to infringement.

The corporation plaintiff, since it acquired title to the three patents, in March, 1876, has carried on the business of making cotton-bale ties under the patents. The form of tie it has principally made is the form of the McComb patent, which is called the "arrow-tie," from the shape of the five-sided hole cut in the plate of

the buckle. It has not granted any licenses to make the ties, but has itself supplied the demand for them. The tie consists of a buckle and a band, all made of metal. The band goes around the bale and the two ends of it are confined by means of the buckle. On each of the buckles which the corporation has made and put upon the market it has placed the words "Licensed to use once only," stamped into the body of the metal. This practice was also observed by its predecessor, the copartnership firm. The tie, consisting of buckle and band, is purchased by the person who desires to use it to confine the cotton in the bale, and is placed around the bale on the plantation or at the cotton-press. It remains on the bale until the bale reaches the cotton-mill, and the band of the tie, which is of hoop-iron, is then cut. The buckle and the band thus free become scrap-iron, and are sold as such. The hoop is too short for the length required for baling, if it were to be mended by lapping and riveting the two ends at the place of severance, and to bale with it requires that there should be a free end, which may be confined at the buckle in the process of baling. The defendants buy the buckles and severed hoops at the cotton-mills as scrap-iron, the hoops when bought being in bundles, bent, and being pieces of unequal lengths, some cut at one distance from the buckle and some at another. The defendants straighten the old pieces of hoop and roll them by cold rolling, and punch the ends with holes, and rivet the pieces together, and form a band by cutting it to the proper length, which band, with the buckle accompanying it, makes a tie ready for use. In using the tie one end of the band is attached to one end of the buckle by a loop in that end of the band, and then the band is passed around the bale, and its free end is slipped, by a loop made in it, through a slit in the buckle, around the other end of the buckle, while the bale is under pressure. When the pressure is removed the expansive force of the compressed cotton holds the looped ends of the bands in place in the buckle, the looped ends being confined between the bale and the body of the band. The use of the arrow-tie has been very extensive. The defendants sell to others to be used the ties which they so prepare, and do not themselves bale cotton with them. Baled cotton is sold in the United States without tare—that is, the iron of the buckle and the hoop is weighed with the cotton and the bagging, and the whole is sold by weight at the price of the cotton per pound. The scrap-iron, consisting of the buckles and cut hoops, is sold at one and one-fourth cents per pound, while the corporation sells its ties at six cents per pound.

The specification of the Cook patent describes a buckle with a slot cut through one of its end bars, so that the end of the band may be slipped through sidewise instead of being pushed through endwise. The third claim is to—

> 3. The herein-described "slot," cut through one bar of clasp, which enables the end of the tie or hoop to be slipped sidewise underneath the bar in clasp, so as to effect the fastening with greater rapidity than by passing the end of the tie through endwise.

The specification of the Brodie reissue states that his invention—

> Relates to the combination with open slot ties of metallic bands having their ends free, and held in position by the expansion of the bale.

Some of the drawings show an open slotted link or buckle in connection with a band, and the specification states that the ends of the band are "turned under the link and held in position by the pressure exerted by the expansion of the bale." It adds:

> In the latter mode of use the slack may be readily taken up by forming the loop in the iron at the moment of making the fastening, and passing the end thus looped through the opening in the side of the link. The band is thus slipped sidewise through the opening into the slot, instead of thrusting it through endwise.

The third, fourth, and fifth claims of the Brodie reissue are in these words:

> 3. The combination of an open slot for introducing the band sidewise, with a link having a single rectangular opening for holding both ends of a metallic band, and the band.
> 4. An open slotted link, when combined with metallic bands, the ends of which are turned under the link and held in position by the expansion of the bale.
> 5. The method of baling cotton with metallic bands, and taking up the slack of the band by bending the same at any desired point into the form of a loop and passing such loop sidewise through an open slit into the slot intended to receive it and over the bar of the clasp intended to hold it.

The specification of the McComb patent states that the nature of his invention "consists in the use of a peculiarly-shaped buckle as a fastening or tie for the ends of the iron hoops." It says that the "buckle is a piece of wrought-iron or other metallic substance, about the eighth of an inch thick, an inch and three-quarters wide, and two inches long, (the size being modified to suit the width of the hoop used,) with an oblong hole or aperture cut or punched through the center;" that the five sides of the plate of the buckle are equal and parallel, and that the two largest of the five sides of the oblong hole are of equal length, and are equal in length to the width of the hoop. The drawings show the two sides forming the arrow part as of equal length. The slit or slot is cut through one of the sides of the plate opposite one of the two longest sides of the central hole, so that one of the loops of the hoop stretches across and covers the slit. The claim of the patent is this:

> Forming a link or tie with an oblong aperture one end of which is arrow-shaped, or rather presents two sides of an equilateral triangle, the design of this arrow-shaped end being not only to force the loop or bend of the hoop over the slot, which it does with unerring precision when the bale expands after being released from the press, but also to secure an equal bearing upon the separated parts of the slotted side of the tie.

A buckle without a band will not confine a bale of cotton. Although the defendants use a second time buckles originally made by those owning the patents and put by them on the market, they do not use a second time the original bands in the condition in which those bands were originally put forth with such buckles. They use bands made by piecing together severed pieces of the old bands. The band in a condition fit for use with the buckle is an element in the third claim of the Brodie reissue. That claim is for a combination of the open slot arranged to allow of the sidewise introduction of the band, the link or buckle with the single rectangular opening arranged so as to hold both ends of the band, and the band. The old buckle which the defendants sell has the slot of Cook, and the slot and rectangular opening of Brodie, and the slot and arrow-shaped opening of McComb. Whatever right the defendants could acquire to the use of the old buckle, they acquired no right to combine it with a substantially new band, to make a cotton-bale tie. They so combined it when they combined it with a band made of the pieces of the old band in the way described. What the defendants did in piecing together the pieces of the old band was not a repair of the band or the tie in any proper sense. The band was voluntarily severed by the consumer at the cotton-mill because the tie had performed its function of confining the bale of cotton in

its transit from the plantation or the press to the mill. Its capacity for use as a tie was voluntarily destroyed. As it left the bale it could not be used again as a tie. As a tie the defendants reconstructed it, although they used the old buckle without repairing that. The case is not like putting new cutters into a planing-machine, as in *Wilson* v. *Simpson*, (9 How., 109,) in place of cutters worn out by use. The principle of that case was that temporary parts wearing out in a machine might be replaced to preserve the machine, in accordance with the intention of the vender, without amounting to a reconstruction of the machine.

The defendants contend that they do not combine the band with the buckle, and do not infringe the third claim of the Cook patent, or the third, fourth, and fifth claims of the Brodie reissue, or the claim of the McComb patent, because they do not bale cotton with the tie; but they participate in combining the open slot, the buckle, and the band, the whole being so arranged that the ends of the band can be turned under the buckle and held in position by the expansion of the bale, and that the slack of the band can be taken up by bending the band into the form of a loop and passing the loop sidewise through the open slit into the hole and over the holding-bar of the plate. They sell the tie having the capacity of use in the manner described, and intended to be so used. Only the bale of cotton and the press are needed to produce the result set forth in the specifications of the patents, and without the bale of cotton and the press the tie would not be made or sold. The slot through the end bar of the buckle in the Cook patent is of no practical use apart from the band and the bale of cotton, and the same thing is true of the link of the McComb patent with its arrow-shaped aperture; and, although a person who merely makes and sells the buckle or link in each case may be liable for infringing those patents, he is so liable only as he is regarded as doing what he does with the purpose of having the buckle or link combined with a band and used to bale cotton. Because the defendants prepare and sell the arrow-tie, composed of the buckle or link and the band, intending to have it used to bale cotton and to produce the results set forth in the Cook and the McComb patents, they infringe those patents. (*Saxe* v. *Hammond*, 1 Holmes, 456; *Bowker* v. *Dows*, 3 Banning & Arden, 518.) We do not decide that they are liable as infringers of either of the three patents merely because they have sold the buckle considered apart from the band or from the entire structure as a tie.

We are, therefore, of opinion that the defendants have infringed the third claim of the Cook patent, the third, fourth, and fifth claims of the Brodie reissue, and the claim of the McComb patent. The decree of the circuit court is reversed, with costs, with directions to enter a decree for the plaintiffs, in respect to those claims, for an account of profits and damages, as prayed in the bill, and to take such further proceedings in the suit as may be in conformity with the opinion of this court.

U. S. Circuit Court—Eastern District of New York.

THE GAMEWELL FIRE ALARM TELEGRAPH COMPANY v. THE CITY OF BROOKLYN.

Decided November 15, 1882.

1. RIGHT TO SUE—LEGAL AND EQUITABLE TITLE.

Where one person has the legal title to the patent and another an equitable right therein, both must be made parties to the suit in action in equity to restrain infringement.

2. SAME—MERE LICENSEE CANNOT SUE.

Where the transfer to the complainant was of a mere right to use and vend the invention for limited purposes in specified places, *Held* that it was a mere licensee, and that the bill should be amended by bringing in the legal owner as a party.

Mr. B. S. Clark for the complainant.
Messrs. Gifford & Gifford for the defendant.

WALLACE, *J.*:

The complainant, by mesne transfers, is vested with the exclusive right to make, use, and vend the patented invention—

For the following purposes, and no others—that is to say, for the purpose of constructing and operating telegraph wires and instruments within the corporate limits of any of the incorporated cities or villages or other incorporated municipalities analogous to cities and villages in any of the States and Territories of the United States when said telegraph lines and instruments are used solely by the municipal authorities for fire-alarms or the transmission of police or other municipal intelligence.

It appears by the bill that the Western Union Telegraph Company is the owner of all the right and interest in the letters patent which did not pass to the complainant. The bill is demurred to upon the ground that the Western Union Telegraph Company is not made a party to the suit.

The rule is unquestioned that, where one person has the legal title to the patent and another an equitable right therein, both must be made parties to the suit in action in equity to restrain infringement. The legal title to a patent is that, and only that, recognized by the laws of Congress, which make the monopoly property and regulate the mode of its transfer. The statutory power of assignment, as is said in *Littlefield* v. *Perry*, (21 Wall., 205, 219,)—

Has been so construed by the courts as to confine it to the transfer of an entire patent, an undivided part thereof, or the entire interest of the patentee or undivided part thereof, throughout a certain specified portion of the United States.

In that case there was in one instrument a conveyance of the entire patent, and there was also an instrument executed concurrently, called a "supplementary agreement," which contained a reservation of the right of the patentee to apply the invention himself to certain specified purposes. The two instruments were construed as a conveyance of the title to the patent with a license back from the assignees to the patentee; and upon this construction the assignees were held as vested with the legal title. From the reasoning it is evident if there had never been a transfer of the patentee's right to the limited use of the invention, the interest transferred would not have been considered as vesting the statutory title in the assignees. In the present case the transfer was only of a right to use and vend the invention for limited purposes in specified places, the right to use and vend it for general purposes remaining intact until it was conveyed to the Western Union Telegraph Company. The right transferred was not an undivided part of an entire patent, or an undivided part of the entire interest of the patentee in specified territory, but was a segregated right for a particular employment of the invention. The complainant was therefore merely a licensee within the rule established in *Gaylor* v. *Wilder*, (10 How., 477,) the right transferred to him being less than that of the entire and unqualified monopoly.

The case of *Ingalls* v. *Tice* (The Reporter, vol. 13, p. 676) is directly in point. There the transfer to the complainant was of the sole and exclusive right to sell the patented article in certain specified territory, and as the right of the patentee to make and use the invention did not pass by the instrument, it was held that complainant did not acquire the legal estate, and the patentee not having been made a party to the suit, a demurrer for that reason was sustained.

The demurrer is well taken, and judgment is ordered for the defendant, unless complainant within thirty days amends his bill by bringing in the Western Union Telegraph Company as a party.

The defendant is entitled to costs of the demurrer.

THE
OFFICIAL GAZETTE
OF THE
United States Patent Office.
[BY AUTHORITY OF CONGRESS.]

VOL. 22—NO. 24. TUESDAY, DECEMBER 12, 1882. PRICE—$5 per year

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ORDER No. 108.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., December 4, 1882.

The following changes in the classification of subjects of invention are hereby ordered:

A new class is formed, to be entitled "Farriery," and numbered 168, subdivided into the following sub-classes:

1. Calk-Sharpeners; now Sub-class 1, Class 81.
2. Hoof and Shoe Spreaders; now part of Sub-class 4, Class 81.
3. Hoof Cleaners and Trimmers; now Sub-class 3, Class 81.
4. Hoof-Measurers; now part of Sub-class 4, Class 81.
5. Hoof-Pads; now part of Sub-class 16, Class 54.
6. Shoes; now Sub-class 3, Class 59.
7. Shoe-Nail Clinchers; now part of Sub-class 19, Class 81.
8. Shoeing-Stands; now part of Sub-class 4, Class 81.
9. Toe-Weights; now part of Sub-class 16, Class 54.

This class is assigned to Division XIV, Examiner Stocking.

Sub-class 4, Horseshoeing Apparatus, Class 81, is abolished.

The title of Sub-class 19, Class 81, is changed to Smiths' Tongs.

Class 151, Nut and Bolt Locks, is transferred from Division XIII to Division XIV, and divided into the following sub-classes:

1. Base, Key and Ratchet.
2. Base, Washer.
3. Side.
4. Side, Key and Ratchet.
5. Thread.
6. Thread, Key and Ratchet.
7. Top.
8. Top, Key and Ratchet.

V. D. STOCKBRIDGE,
Acting Commissioner.

ATTORNEYS.

DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SECRETARY,
Washington, D. C., December 8, 1882.

SIR: I am directed by the Secretary to inform you that he has ordered that Samuel B. Bancroft, of Buffalo, N. Y., be not recognized from and after this date as an attorney in the prosecution of any claim or other matter before the Department of the Interior or any bureau thereof.

I am, sir, very respectfully, your obedient servant,

GEO. M. LOCKWOOD,
Chief Clerk.

The Commissioner of Patents.

Issue of December 12, 1882.

Patents	390	No. 268,775 to No. 269,164, inclusive.
Designs	5	No. 13,474 to No. 13,478, inclusive.
Trade-Marks	11	No. 9,861 to No. 9,871, inclusive.
Labels	5	No. 2,850 to No. 2,854, inclusive.
Reissues of patents	2	No. 10,258 to No. 10,259, inclusive.
Total issue	413	

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks and Labels.	States.	Patents and Designs.	Trade-Marks and Labels.
Alabama	1	.....	Nebraska	2	.....
Arizona Territory	.....	.....	Nevada	.....	.....
Arkansas	1	.....	New Hampshire	.....	.....
California	13	.....	New Jersey	10	.....
Colorado	2	.....	New Mexico Territ'y	.....	.....
Connecticut	17	.....	New York	89	5
Dakota Territory	.....	.....	North Carolina	.....	.....
Delaware	2	.....	Ohio	36	1
District of Columbia	7	.....	Oregon	1	.....
Florida	2	.....	Pennsylvania	36	1
Georgia	3	.....	Rhode Island	1	.....
Idaho Territory	.....	.....	South Carolina	2	.....
Illinois	39	1	Tennessee	5	.....
Indiana	10	.....	Texas	3	.....
Indian Territory	.....	.....	Utah Territory	.....	.....
Iowa	6	1	Vermont	3	.....
Kansas	4	.....	Virginia	4	.....
Kentucky	3	1	Washington Territ'y	.....	.....
Louisiana	3	.....	West Virginia	3	.....
Maine	3	1	Wisconsin	7	.....
Maryland	3	.....	Wyoming Territory	.....	.....
Massachusetts	30	.....	United States Army	.....	.....
Michigan	11	.....	United States Navy	.....	.....
Minnesota	6	.....			
Mississippi	1	.....	Total to citizens of the United States	379	12
Missouri	10	1			
Montana Territory	.....	.....			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks and Labels.	Countries.	Patents and Designs.	Trade-Marks and Labels.
Australia	.....	.....	England	2	4
Austria	.....	.....	France	5	.....
Barbadoes	.....	.....	Germany	6	.....
Belgium	.....	.....	Italy	.....	.....
Bermuda	.....	.....	New Zealand	.....	.....
Brazil	.....	.....	Russia	.....	.....
Canada	1	.....	Spain	.....	.....
Chili	1	.....	Sweden	1	.....
Colombia, U. S. of	.....	.....	Switzerland	.....	.....
Cuba	.....	.....			
Denmark	.....	.....	Total to citizens of foreign countries	16	4
Ecuador	.....	.....			

DESIGNS.

13,474.—FONT OF PRINTING-TYPE.—*Charles H. Beeler, Jr.*, Philadelphia, Pa., assignor to *MacKellar, Smiths & Jordan*, same place. Application filed October 21, 1882. Term of patent 7 years.

13,475.—FONT OF PRINTING-TYPE.—*John Graham*, Chicago, Ill., assignor to *MacKellar, Smiths & Jordan*, Philadelphia, Pa. Application filed October 21, 1882. Term of patent 7 years.

13,476.—FONT OF PRINTING-TYPE.—*Herman Ihlenburg*, Philadelphia, Pa., assignor to *MacKellar, Smiths & Jordan*, same place. Application filed November 1, 1882. Term of patent 14 years.

13,477.—TABLE-WARE.—*Marcel Redon*, Limoges, France, assignor to *Francis H. Bawo* and *Charles T. Dotter*, New York, N. Y. Application filed November 3, 1882. Term of patent 7 years.

13,478.—CHAIR.—*Henry J. Schmehl*, Boston, Mass., assignor to *Charles G. Pease*, same place. Application filed October 30, 1882. Term of patent 14 years.

TRADE-MARKS.

[Certificates of registration of Trade-Marks numbered 8,191 and upward are registered under the act of March 3, 1881.]

9,861.—PILE-LINIMENT.—*Edward L. Janes* and *Joseph Tibbetts*, Des Moines, Iowa. Application filed October 28, 1882.
"The letters and word 'TELEPHONE.'"

9,862.—HAIR-PINS.—*Kirby, Beard & Co.*, London and Birmingham, England. Application filed November 13, 1882.
"The word 'FLEXOR.'"

9,863.—MALT LIQUORS.—*William McEwan*, Edinburgh, Scotland. Application filed November 10, 1882.
"A crest-bar, upon which is the representation of a hand and portion of an arm supporting a globe."

9,864.—MALT LIQUORS.—*William McEwan*, Edinburgh, Scotland. Application filed November 10, 1882.
"The representation of two flags, one being a Spanish flag and the other the ensign of England. At the crossing point of the flags is a crest-bar, upon which is the representation of a hand and portion of an arm supporting a globe."

9,865.—MALT LIQUORS.—*William McEwan*, Edinburgh, Scotland. Application filed November 10, 1882.
"The representation of two flags, one being the American flag and the other the Union Jack of England. At the crossing point of the flags is a crest-bar, upon which is the representation of a hand and portion of an arm supporting a globe."

9,866.—SALVE.—*Martha M. Smith*, Chicago, Ill. Application filed October 23, 1882.
"The word 'SOVEREIGN.'"

9,867.—CIGARS, SMOKING AND CHEWING TOBACCO, CIGARETTES, AND SNUFF.—*M. Strasser & Co.*, Albany, N. Y. Application filed November 15, 1882.
"The word 'SILK.'"

9,868.—CIGARS.—*M. Strasser & Co.*, Albany, N. Y. Application filed November 15, 1882.
"The word 'ECHO.'"

9,869.—PLUG OR FINE-CUT CHEWING TOBACCO.—*Union Tobacco Works*, Louisville, Ky. Application filed October 6, 1882.
"The word 'PANSY.'"

9,870.—CERTAIN MEDICAL PREPARATION.—*August H. Vordick*, St. Louis, Mo. Application filed October 30, 1882.
"A picture representing a tropical landscape, showing a snow-covered mountain in the background, and some houses or cottages, persons, and cattle in the foreground, and the fac-simile of registrant's signature under the picture."

9,871.—REMEDY FOR BRIGHT'S DISEASE.—*Hulbert H. Warner*, Rochester, N. Y. Application filed November 16, 1882.
"The representation of a four-leaf clover."

LABELS.

2,850.—Title: "THE IMPERIAL BOX."—*J. C. Blair*, Huntingdon, Pa. Application filed November 16, 1882.

2,851.—Title: "PROF. GOULD'S WORM POWDERS."—*Edmond Gould*, Augusta, Me. Application filed November 16, 1882.

2,852.—Title: "HOWES' DAZZELENE."—*Margaret K. Howes*, New York, N. Y. Application filed November 15, 1882.

2,853.—Title: "THE BOHEMIAN HAND MADE CIGAR."—*Marcus Lewin*, Medina N. Y. Application filed June 15, 1882.

2,854.—Title: "CELEBRATED SAINT JACOB'S BITTERS."—*Saint Jacob's Bitters Company*, Cincinnati, Ohio. Application filed November 17, 1882.

DISCLAIMERS.

No. 10,149, (Reissue.)—*Archibald W. Paull*, Wheeling, W. Va., and *John F. Miller*, Martin's Ferry, Ohio. Reissue patent dated July 4, 1882. IMPROVEMENT IN THE MANUFACTURE OF LAMP OR LANTERN GLOBES, CHIMNEYS, &c. Disclaimer filed December 1, 1882.

Enter their disclaimer to so much of the first claim as may be construed as claiming a lens or lenses which have not been first formed separately and then united to the outer surface of the chimney or globe, the object of this disclaimer being to limit the said first specification of claim to a lamp-chimney or globe having a separately-formed lens or lenses united to the outer surface so as to be integral therewith, substantially as described in their said letters patent.

No. 3,096, (Reissue.)—*Emile Martin* and *Pierre E. Martin*, Paris, France. IMPROVED PROCESS FOR REFINING AND CONVERTING CAST-IRON INTO CAST-STEEL AND OTHER COMBINATIONS OF IRON AND CARBON. Letters patent dated August 25, 1868. Disclaimer filed December 4, 1882, by *Abram S. Hewitt* and *Edward Cooper*, assignees, and *Abram S. Hewitt*, administrator of *Emile Martin*, deceased.

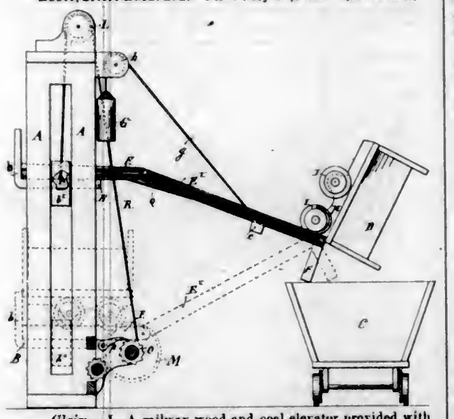
Enter their disclaimer to "the words 'other recarbonizing or deoxygenating material' and words of similar import introduced or interpolated into the description of said reissue in such manner that the specification of claim thereof covers not only pig-iron, specular cast-iron, manganiferous iron, or spiegeleisen as the recarbonizing materials to be used in the process, but also other recarbonizing materials which may not be the equivalents of those specially set forth in the original patent, leaving the description of said reissue substantially the same as the description of the original patent, and thus limiting the claim of said reissue to a combined process, the second part of which consists in recharging the molten metal with carbon by means only of the recarbonizing materials which are described in the original patent, or which are in law the equivalents thereof; intending by this disclaimer to eliminate from the description of the said reissue all words which enlarge the claim thereof in such manner that the claim as construed by the description covers recarbonizing materials not described in the original patent and not equivalents of those materials." Also to "the use of cast-iron as the recarbonizing agent, and claim only the use of specular cast-iron, manganiferous cast-iron, or spiegeleisen as a recarbonizing agent, in the process described and claimed in the said reissued letters patent, so that, by virtue of the disclaimer as a whole, the claim of said reissued letters patent is limited to a combined process, the first part of which consists in producing a bath of refined or decarbonized iron substantially in the mode or by the process described in the said reissued letters patent, and the second part of which consists in the process of recarbonizing such bath by the use of manganiferous pig-iron, specular cast-iron, or spiegeleisen, thus limiting the second part of the process to the use of pig-iron which contains manganese."

"And we use in this disclaimer the word 'recarbonizing' to characterize those materials which are or may be employed for the purpose of recharging the bath with carbon, which operation is called in the original patent 'the return of the bath to the point desired and sought for.'"

PATENTS

GRANTED DEC. 12, 1882.

268,775. RAILWAY WOOD AND COAL LOADER. GEORGE B. ALLIE, Little Rock, Ark. Filed July 19, 1882. (No model.)



Claim.—1. A railway wood and coal elevator provided with a movable platform and adjustable rails for the dumping-car, substantially as shown and described.

2. In a railway wood and coal elevator, the combination of the supporting-frame, a movable platform, and dumping-car, with adjustable rails which are raised and lowered by the raising and lowering of the platform and car, substantially as set forth.

3. In a railway wood and coal elevator provided with a dumping-car and suitable actuating mechanism for same, a track, E E', provided with foot-rests F, and a suitable device for catching and holding the car when the same has been dumped.

4. In a railway wood and coal elevator, the combination of the supporting-frame provided with pulleys and rope for elevating the car and platform, a suitable actuating mechanism, and pivoted rails, which are automatically lowered when the car has been dumped, substantially as and for the purpose set forth.

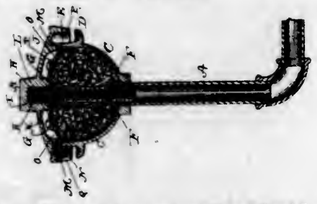
268,776. WATER-FILTER. JOHN W. BAILEY, Boston, Mass., assignor to himself and Almer C. Taber, same place. Filed Aug. 24, 1882. (No model.)



Claim.—1. The improved water-filter described, the same consisting of the body A, disks L M K, duct E, and tubes C D, constructed, combined, and arranged to operate substantially as specified.

2. The tubes C D, formed in the body of the filter, substantially as set forth.

268,777. VAPOR-BURNER. JAMES R. BAKER, Kendallville, Ind. Filed June 30, 1882. (No model.)



Claim.—1. The pipe A, having screw-threaded end I, perforations F G, and grooves H, and the bowl C, in combination with the cap J, having stud K, provided with a threaded recess, L, as and for the purpose set forth.

2. The combination, with the pipe A, having threaded end, and the bowl C, having ground edge E, of the cap J, having threaded recess L, and ground flange M, having grooves N and lugs O, substantially as set forth.

3. In a vapor-burner constructed substantially as described, and having bowl C, the combination therewith of the cap J, having ground flange M, provided with grooves N and lugs O, and rim P, having notches Q, substantially as set forth.

4. As an improvement in vapor-burners, the combination and arrangement, as herein described, of the feed-pipe A, having perforations F G, grooves H, and threaded end I, the bowl C, having flange D, packing S, and diaphragm T, and the cap J, having threaded recess L, ground flange M, provided with grooves N and lugs O, and rim P, provided with notches Q, as and for the purpose set forth.

268,778. SUSPENDER-BUCKLE. SEYMOUR A. BOSTWICK, Chelsea, Mass. Filed Oct. 12, 1882. (No model.)



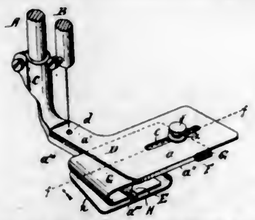
Claim.—1. A suspender-buckle formed with body *a*, the bordering openings *b c*, elastic binding-plate *l*, hook *d*, and cam *f*, having lever *g*, all substantially as specified.

2. In a suspender-buckle, the combination of a body, *a*, yielding plate *l*, and cam *f*, pivoted in ears in said bed, and arranged to act on said plate and depress the same upon the webbing, substantially as specified.

268,779. HEMMER FOR SEWING-MACHINES. GILBERT A. BRADY, Chicago, Ill. Filed Apr. 8, 1882. (No model.)

Claim.—1. An adjustable hemmer for sewing-machines, in

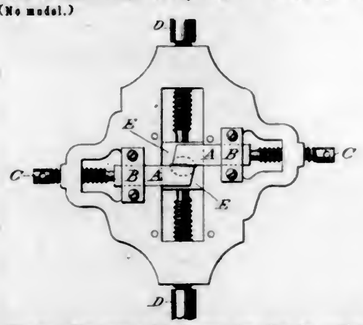
268,779.



which are combined the fixed plate D, consisting of the top part or portion, *a*, and under part, *a''*, having thereon the extensions *a'* and *a''''*, and in which are needle-holes, and the slots *c* and *c'*, respectively, the part *a''* having thereon the scroll E and lip F, the plate G, bent back underneath the scroll E and secured adjustably between the parts *a* and *a''*, and the base-plate H, having a curled-up rear edge and a tongue, H', the latter being rigidly attached to the plate G, all operating together substantially as and for the purposes specified.

2. An adjustable hemmer in which are combined the fixed slotted plate D, consisting of the top part or portion, *a*, and the under part or portion, *a''*, having thereon the scroll E, all made in one blank or piece, the plate G, bent underneath the scroll E, the plate H, having an upturned edge and secured to the plate G, the presser-foot C, and a clamp or fastening for securing the plates G and H adjustably to the plate D, substantially as and for the purposes specified.

268,780. DEVICE FOR CUTTING METALLIC WAGON-AXLES. WARD B. CARPENTER, West Topsham, Vt. Filed Aug. 1, 1882. (No model.)



Claim.—The improved tool herein described for cutting off wagon-axles and other bars, consisting of the flat wheel plate or stock, the cutters, A, applied to one side thereof, and screw C, for adjusting the same, the holders E, applied to the other side of said stock, and the screws integral with the handles D, for clamping said holders to the axle, as set forth.

268,781. HARNESS-BUCKLE. FREDERICK CONWAY, Buffalo, N. Y. Filed Oct. 14, 1882. (No model.)

Brief.—Improvement upon Letters Patent No. 199,266, dated January 15, 1878.

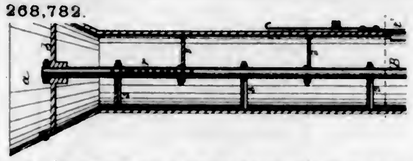


Claim.—The herein-described harness-buckle, consisting of the metal plate A, provided with the vertical pin or tongue *f* in the center thereof, and metal loops at either end of different heights, the loop *a'* being higher than the loop *a*, substantially as shown, and for the purpose set forth.

268,782. PROCESS OF AND APPARATUS FOR HULLING OATS. GEORGE H. CORMACK, Rockford, Ill. Filed May 25, 1880. (No model.)

Claim.—1. The herein-described process in the manufacture of oatmeal or grits, consisting of the following steps in the order named, viz: first, subjecting the oats to a steaming process; second, to a drying process; third, to a hulling and separating process; and, fourth, to a reducing process to produce the meal or grits, substantially as set forth.

268,782.

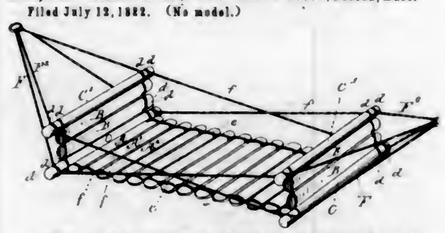


2. The combination, with an upright cylinder having an exit-opening at its lower end, of a perforated tubular shaft having arms secured thereto, and devices for revolving said shaft, substantially as set forth.

3. The combination, with an upright cylinder having a hopper connected with its upper end and a discharge-spout at its lower end, of a revolving tubular shaft provided with perforations and having arms secured thereto, and a steam-supply pipe communicating with one end of said shaft, substantially as set forth.

4. The combination, with an upright cylinder having a discharge-opening at its lower end, a chamber located below the discharge-opening and adapted to receive the water of condensation, and a perforated bottom placed over said chamber, of a rotary steam-induction pipe located within the cylinder and provided with stirrer-arms for stirring the oats, substantially as set forth.

268,783. HAMMOCK AND COT. JOHN C. DODGE, Boston, Mass. Filed July 12, 1882. (No model.)

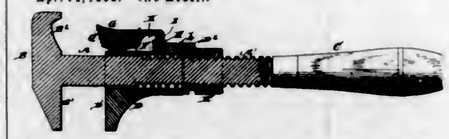


Claim.—1. The combination of ropes *e*, notched slats A A' A², &c., spreaders C, and suspension cords or bridles F, substantially as described.

2. The combination of ropes *e*, notched slats A A' A², &c., spreaders C', bridles F², and side lines, *f*, substantially as described.

3. The combination of ropes *e*, notched slats A A' A², &c., spreaders C C', bridles F F², and side lines, *f*, substantially as described.

268,784. WRENCH. BERNARD DONOGHUE, Yonkers, N. Y. Filed Apr. 14, 1882. (No model.)



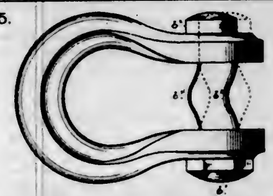
Claim.—1. The combination, in a duplex wrench, with the stationary jaw, of the slide adjustably held upon the wrench-stock, said slide having a recess which is provided at its lower or rear end with a raised seat or abutment located between the side walls of said recess, a jaw pivoted within the latter at a point between said seat and the upper end of the recess, and having its tail end projecting over said raised seat or abutment, substantially as described.

2. The combination, in a duplex wrench, of the stationary jaw, the slide adjustably held upon the wrench-stock, said slide having a recess provided at its rear end with a raised seat or abutment located between the side walls of said recess, a jaw pivoted within said recess at a point about midway of its length, said jaw being recessed or cut away upon its under edge to form a tapered or thin extremity, which projects over the raised seat, and an elastic cushion received by a socket in the raised seat and bearing against the under surface of the rear end of the pivoted jaw, substantially as described.

268,785. CLEVIS. CHARLES F. DULING, Charleston, W. Va. Filed May 20, 1882. (No model.)

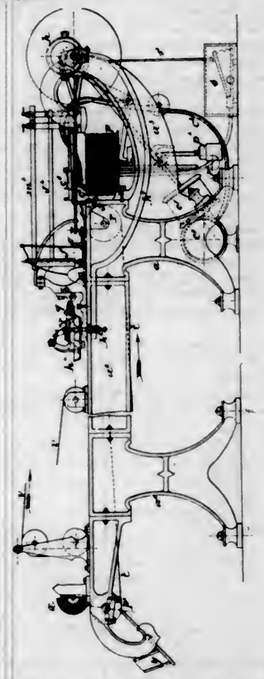
Claim.—The combination, substantially as described, with the link *a*, having its arms formed with the openings *a²*, of the pin *b*, provided with the head *b'* and the end projection, *b²*, constructed

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with the depression *b³* in its rear, and the projection *b⁴* in the front of the same in longitudinal line with the depression *b³*, the said pin being adapted to be inserted and turned within the openings *a²* of the link, and operating substantially as set forth.

268,786. MACHINERY FOR EDGING OR BORDERING LETTER-PAPER, &c. ACHILLE DURET, Vouse, near Angoulême, France. Filed Aug. 24, 1882. (No model.) Patented in France Dec. 24, 1880, No. 140,343; in Belgium Jan. 17, 1881, No. 53,537; in England Jan. 20, 1881, No. 236, and in Germany Jan. 24 1881, No. 14,752.



Claim.—1. The combination of the taps *c'*, suction-tubes *c²c³*, and keys *c⁴* with the head *c⁵*, actuating-bar *c⁶*, friction-pieces *c⁷ c⁸*, pump *c⁹*, and pipe *c¹⁰*, substantially as herein shown and described.

2. The plate *p* and stem *p'*, combined with guide *p²*, roller *p³*, weights on shaft of same, lever *g' g²*, movable piece *g³*, and cam *g*, substantially as herein shown and described.

3. The roller *f⁴*, combined with the elastic rollers *f⁵*, blocks *f⁶*, bar *f⁷*, and cam *f*, substantially as herein shown and described.

4. The triangles *m*, having weights *m²*, combined with band *l*, rod *m'*, having projection *m³*, supports *m⁴*, rods *m⁵*, having grooves *m⁶*, and lever *m⁷ m⁸*, substantially as herein shown and described.

5. The rod *n*, plate *n'*, and raised part *n²*, combined with rod *d⁵*, plate *l*, tenons *l'*, rod *c'*, having head *c⁵*, toucher *o*, and arm *o'*, substantially as herein shown and described.

6. The combination of the plate *n'*, having openings *n²*, with the pressers *f⁵*, supports *f⁷*, and mechanism, substantially as herein described, for moving said supports, as set forth.

7. The combination of the ink-vessel *h⁴* and grating *h⁵* with the sector *h'*, crank *h³*, rod *h²*, crank *h⁴*, and traverse *h⁶*, having tongue *h⁷*, substantially as herein shown and described.

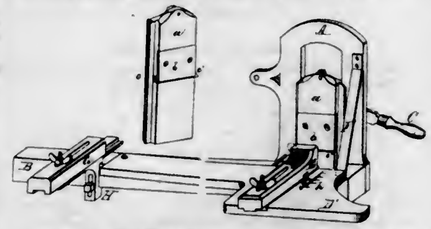
8. The combination of the ink-vessel *h⁴*, grating *h⁵*, and mechanism, substantially as described, for actuating the same, with the movable supports *s*, and traverses *s²*, substantially as specified.

9. The wires *u*, combined with traverses *u'*, and mechanism, substantially as described, for moving the same backward and forward, as specified.

10. The combination of the endless cloth *t* and mechanism, substantially as described, for moving the same, with the endless metal cloth *v*, substantially as specified.

11. The combination of the carrying-cloth *t* and endless metal cloth *v* with the drying-jet applied to said metal cloth, substantially as specified.

268,787. MACHINE FOR TRIMMING SPOKES. ANDREW ECKMAN, Granite Falls, Minn., assignor of one-half to HANS A. MIKKELSEN, same place. Filed May 22, 1882. (Model.)

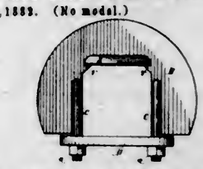


Claim.—1. In a spoke-tenoning machine, the movable table D, provided with an adjustable gage-foot, E, and a raised bed, *d*, with an angular portion, *d'*, in combination with the vertically and laterally adjustable gages H and G, substantially as shown.

2. In an organized machine for forming the tenons of spokes, the combination of the vertical reciprocating cutter, bed-plate, and swinging table, provided with an adjustable gage-foot for holding the end of the spoke upon which it is desired to form the tenon against the cutter, and vertically and laterally adjustable rest for the end of the spoke attached to the bed-plate for holding the end of the spoke in position and give the desired bevel to the shoulder and foot, substantially as described.

3. In a device for tenoning and beveling the ends of spokes, the combination of the following organized instrumentalities: a bed-plate supporting a laterally-swinging spoke-carrying table, and vertical frame, with sash, provided with face and side knives and means for throwing the table away from the knives, and limiting its play both to and from the knives, said table being provided with an adjustable and graduated gage-foot, the bed-plate being provided near the pivoted end of the table with vertically and laterally adjustable rests for the ends of the spokes and means for operating the cutters, substantially as shown and described.

268,788. SAND-BAND. WILLIS M. FARR, Dowagiac, Mich. Filed Oct. 5, 1882. (No model.)



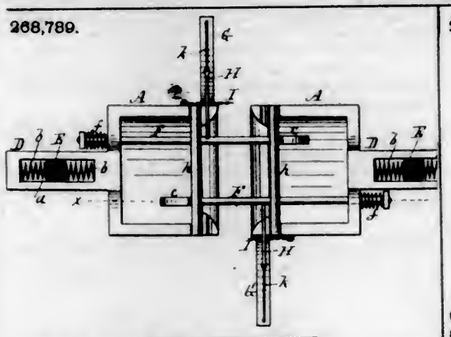
Claim.—1. In a sand-protector for vehicles, the combination of the shell B, having an opening in its vertical part, said opening having obtuse-angling corners *r r*, the horizontal bracket *s*, having a concavous upper surface, cast upon the shell, with the clip-tie and nuts, substantially as shown and described.

2. In a sand-protector for vehicles, the combination of the shell B, having an opening with sloping shoulders *r r*, the axle having recesses *r r*, to receive the sloping shoulders of the shell, and the clip-tie, as and for the purposes specified.

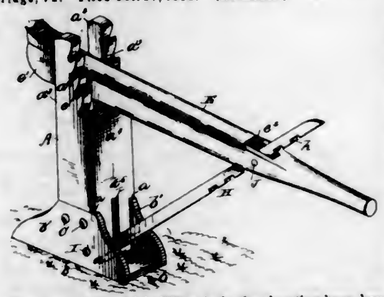
268,789. CAR-COUPLING. JOSEPH GEDDES, Rochester, N. Y. Filed Oct. 27, 1882. (No model.)

Claim.—In a car-coupling, the combination of the shackle F, provided with a flat barbed head, the lever H, attached to the shackle, the spring G, the link *k*, connecting the lever and spring, and the chain I, attached to the opposite draw-head, and provided with a pin, *l*, for securing the lever when under tension, as herein shown and described.

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268,790. LIFTING-JACK. ADOLPHUS D. GOODWIN, near Goshen Bridge, Va. Filed Oct. 27, 1882. (No model.)



Claim.—1. In a vehicle-lifting jack, the elevating-lever having at its front end a concaved plate secured on top the lever by the screw-threaded shank and nut, for purposes specified.

2. The combination, with the base-socket comprising the bottom plate and vertical sides or flanges, of the standard having its lower end secured between the plates, and provided with a shoulder at each side, resting on top the sides, as set forth.

3. The combination of the base-socket comprising the bottom plate and vertical sides or flanges, and adapted to extend some distance both in front and in rear of the standard, the vertical standard resting between said sides and provided with the shoulders resting on the latter, and the transverse bolts and nuts for removably securing the standard to the sides, as set forth.

4. The combination of the base-socket comprising a bottom plate and vertical sides or flanges, the vertical standard secured between the sides and having shoulders resting thereon, and a bifurcated top portion, forming extensions provided with notched edges, the lifting-lever having a fulcrum cross-pin and a slot at its rear end provided with a tranaverse pin, and its front end working over the top of the standard, and the supporting-rod pivoted in a recess in the bottom of the standard and provided with right-angular notches, as set forth.

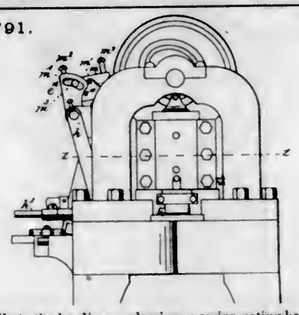
5. The combination of the base-socket having sides or flanges, the vertical lever supported thereon and having a bifurcated upper portion, forming vertical extensions provided with notched edges, the lifting-lever working over the top of the standard and having the slot and transverse pin therein, and the supporting-bar pivoted to the lower end of the standard and having its edge notched, as set forth.

268,791. MACHINE FOR MAKING HORSESHOE-NAILS. HENRY E. GRANDY and EDWARD F. GRANDY, Boston, Mass. Filed July 25, 1881. (Model.)

Claim.—1. In a horseshoe-nail machine, a nail-plate-feeding mechanism consisting of the plate B, the jaw B', and cam *b* and connecting mechanism, substantially as specified, for positively reciprocating said plate B, and for automatically moving said jaw B' to and from said plate B, all substantially as and for the purposes described.

2. The combination, in a horseshoe-nail machine, of the nail-plate-feeding mechanism and blank-severing devices, comprising a punch and die, the series of blank-holders *d* upon the blank-carrier, into which holders the blanks are pressed and straightened by the punch, and which carrier is adapted to transfer the blanks automatically to the heading mechanism, a reciprocating header, and a covering-plate, c^4, for holding the blank in the blank-holder during the heading operation, all substantially as described.

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3. The combination of a blank-carrier having a series of blank-holders, *d*, of the full length of the shank of the blank, adapted to present blanks in successive order to the heading mechanism, with the plate c^4, adapted to be moved vertically upon the blank-holder plate d', over the blank-holder, and the reciprocating header E, all substantially as described.

4. The combination of a revolving blank-carrier, supporting a series of blank-holders, *d*, a plate, c^4, adapted to be shot upon the blank-holder, the reciprocating header E, the carrier and the specified devices for revolving it, whereby the blank is transferred from the heading mechanism to the nail-removing mechanism, the specified mechanism for removing the blank from the blank-holder during said movement of the carrier, and the means described for grasping the blank and drawing it from the holder, all substantially as set forth.

5. The combination of a blank-carrier having a series of blank-holders, *d*, and means for revolving it, a plate, c^4, of a width sufficient to rest upon the carrier on each side of the blank-holder, but not to project into the holder, and means, substantially as specified, for moving the same vertically in relation to the carrier during the revolution thereof, all substantially as and for the purposes set forth.

6. The combination of the reciprocating plate B and its vertical movable jaw B' with the reciprocating punch C and the die C', all substantially as described.

7. As a means for operating the header E, the toggle e' e^2, link e^3, block e^4, lever e^5, and cams e^6, all substantially as and for the purposes described.

8. The combination of the blank-carrier D, having a ratchet, d^3, and bolt-holes d^{11}, with a spring-pawl, d^4, the bolt D' and intermediate connecting mechanism, substantially as specified, and the cam d^5, all substantially as described.

9. The combination of a blank-holder, *d*, the vertical movable plate c^4, adapted to close over the blank-holder, but not extending to the extreme point end thereof, a bed, c^{10}, and reciprocating header E, all substantially as and for the purposes described.

10. The combination of the blank-holder *d*, its covering-plate c^4, and mechanism for providing the said plate with a vertical movement, consisting of the cam e^{10}, the rod e^{11}, and intermediate connecting devices, substantially as specified, for varying the position of the plate and the extent of its movement in relation to the blank-holder, all substantially as and for the purposes set forth.

11. In an organized horseshoe-nail machine, the combination of nail-plate-feeding mechanism adapted to feed the nail-plate to the punch and die, said punch and die, a blank-carrier supporting a series of blank-holders and adapted to bring them successively beneath the die and move them to the heading mechanism, the said heading mechanism, and the specified mechanism for providing the various devices with the movements in relation to each other, all as set forth.

12. The combination of a blank-holder, the covering-plate c^4, and the reciprocating point-forming swage F, all substantially as and for the purposes described.

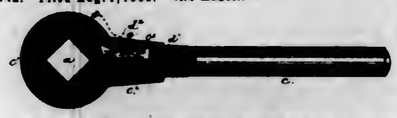
13. The combination of the punch C, the die C', and a series of blank-holders, *d*, adapted to be brought successively beneath the die, all arranged in relation to each other and operated as specified, whereby the blank is punched from the nail-plate and deposited in the blank-holder, and straightened therein by the punch, all as set forth.

14. As a means of adjusting the horizontal position of the punch, the block c^7, triangular in cross-section, the movable gibs c^8, and the adjusting-screws c^9, all as described.

15. In an organized machine for making horseshoe-nails, the combination of devices for feeding the nail-plate automatically to a reciprocating punch and its die, with said reciprocating punch and its die, a series of blank-holders adapted to be brought each successively beneath the die to receive a blank and to hold it while being straightened by the covering-punch, in which holders the blanks are carried in succession to a heading mechanism, and to nail-removing devices, and said heading mechanism and said nail-removing devices, and operative mechanism whereby the various parts are moved in successive order, all substantially as and for the purposes described.

16. The combination of the blank-holder *d*, its covering-plate c^4, and bed c^{10}, with the header E, the reciprocating block e, the toggle e' e^2, link e^3, reciprocating block e^4, and movable block n, and the wedge n', all substantially as and for the purposes described.

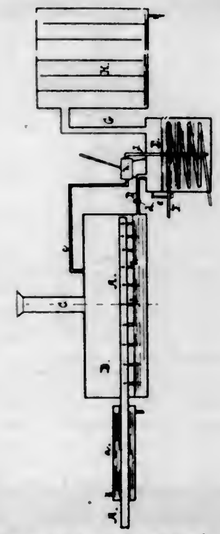
268,792. RATCHET-WRENCH. JOHN B. HALBERT, Maitland, Fla. Filed Aug. 1, 1882. (No model.)



Claim.—1. In a ratchet-wrench, the combination of the rotary head A, having annular ratchet a^3, the handle B, provided with ring c', and constructed with the slot *d* and mortise d', communicating through an opening formed under the bridge c^3, the pawl *f*, and the spring *g*, secured in position within the mortise d' and under the bridge c^3, substantially as and for the purposes set forth.

2. The combination of the rotary head A, provided with annular ratchet a^3, the handle-ring c', placed on the rotary head, and constructed with the slot *d*, opening immediately over the ratchet a^3, with its forward wall inclined inward at an angle, as shown, and the pawl *f*, having a point, f', projected from its inner lower edge below the ring c', whereby when it is raised the said point will engage on the front wall of the slot *d*, substantially as set forth.

268,793. MANUFACTURE OF SULPHURIC ACID. ERASMUS HAWORTH, Galena, Kans. Filed Aug. 16, 1882. (No model.)

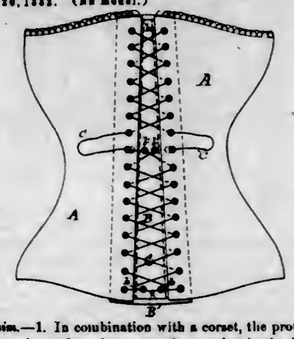


Claim.—1. The method herein described of manufacturing sulphuric acid, consisting in conducting sulphurous-acid gas, prepared from any suitable source or as a waste or by product of burning pyrites or from lead-works, through water, wherein it is dissolved and any metallic fumes are condensed, then conducting the solution intermittently or by constant flow to a heating-tank and back to the chamber in which the solution is formed, and leading the pure sulphurous-acid gas evolved in the heating-tank to a conventional leaden chamber, substantially as set forth.

2. In combination with the solution-chamber and heating-tank, the inlet and outlet pipes, and the leaden chamber H, as set forth.

3. In combination with the pipe A, having lateral branches *b*, the chamber B, exit-pipe D, tank E, return-pipes J c, and pump A, and the leaden chamber H, as set forth.

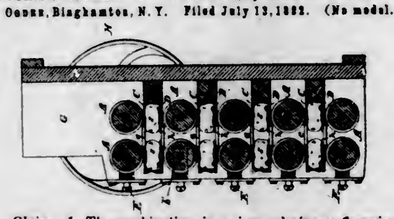
268,794. CORSET. SOLOMON HEILNER, New York, N. Y. Filed Sept. 20, 1882. (No model.)



Claim.—1. In combination with a corset, the protector B, in a separate piece, adapted to cover the opening in the back of the corset, and adapted to be adjusted and to be held in place by the lacing-cord C, passed through the protector, as shown, substantially as set forth.

2. In combination with a corset, the protector B, in a separate piece, made wider at the bottom than at the top, and having the pairs of eyelets *b b b' b'*, the protector being adapted to cover the opening in the back of the corset when the latter is adjusted to form a wider opening at the bottom than at the top, and to be held in place by the lacing-cord C, passed through the eyelet-holes, substantially as set forth.

268,795. MACHINE FOR CLEANSING, COLORING, AND FLAVORING CIGARS. DAVID H. HULL, Syracuse, and JAMES S. OGDEN, Binghamton, N. Y. Filed July 13, 1882. (No model.)



Claim.—1. The combination, in a cigar coloring or flavoring machine, of series of feed-rolls A A, mounted in pairs in a frame, devices for rotating the same, and series of intermediate receptacles, C, containing the coloring or flavoring agent, arranged substantially as set forth.

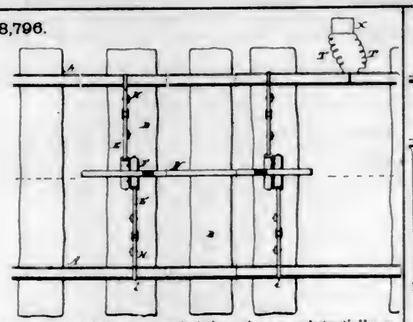
2. The combination, in a cigar coloring, flavoring, and cleansing machine, of a series of pairs of rolls, A A, having the depressions *d*, intermediate chambers, C, carrying sponge or its equivalent containing the coloring or flavoring agent, and a stripper for removing the superfluous agent from the cigars, substantially as set forth.

268,796. TELEGRAPH FOR RAILROADS. WILLIAM L. HUNT, Port Hope, Ontario, Canada. Filed Oct. 3, 1882. (No model.)

Claim.—1. A railroad in which the rails are utilized as an electrical conductor, in combination with circuit-opening devices arranged at equal distances along the track and adapted to make or break the electric circuit through said rails, a car provided with electric or telegraphic apparatus, and automatic means to act upon said circuit-opening devices and cause the current from said rails to pass up through said telegraphic apparatus in the car while the latter is in motion, substantially as and for the purpose specified.

2. A railroad in which the rails are utilized as an electric conductor, in combination with circuit-opening devices arranged at equal distances along the track, and adapted to make or break the electric circuit through said rails, a car provided with means to automatically act upon said circuit-opening devices and break said rail-circuit and keep it open as the car moves over said rails, the

268,796.



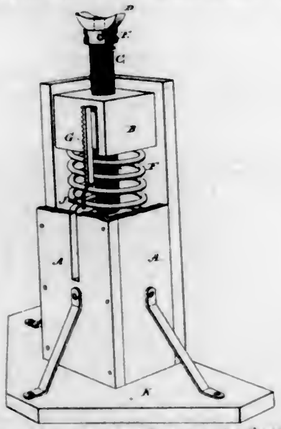
break occurring below, or nearly below, the car, substantially as and for the purpose specified.

3. The combination of rails A, contacts *h*, anti-friction rollers F, mechanism connecting said contacts with said rollers, and a car provided with a shoe, N, to depress said rollers to open the contacts, substantially as and for the purpose specified.

4. The combination of rails A, levers E, the former of which are provided with rollers F, and the latter of which are provided with contacts *h*, links G, and springs K, with car L, provided with shoe N, circuit R, and telegraphic apparatus in said circuit, substantially as and for the purpose specified.

5. The combination of rails A, rollers F, contacts *h*, and mechanism connecting said rollers and contacts, with a car, L, provided with spring-supports O and shoe N, substantially as and for the purpose specified.

268,797. COMBINED JACK AND WEIGHING SCALE. STEPHEN H. HYDE, Alpine, N. J. Filed Mar. 13, 1882. (No model.)



Claim.—1. In a portable weighing apparatus, the combination of a jack-screw with a spring-balance adapted to support the screw and to indicate the weight of the load uplifted thereby, substantially in the manner and for the purpose herein set forth.

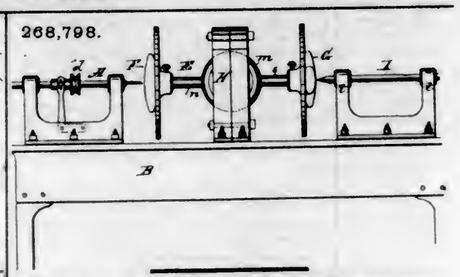
2. The combination, in a weighing device, with an inclosing case, A, and base-plate K, of a spiral spring, F, a follower, B, resting thereon, a jack-screw, C, working through said follower, and one or more pointers adapted to indicate upon a scale or dial the depression of the follower under the weight of a load resting upon the screw, substantially in the manner and for the purpose herein set forth.

268,798. BRUSH-BORING MACHINE. MARTIN G. IMBACH, New York, N. Y., assignor to Richard Christian Fellows, same place. Filed Jan. 20, 1882. (No model.)

Claim.—1. The combination, substantially as before set forth, of the swiveling back-holder, the back-pattern, and the index.

2. The combination, substantially as before set forth, of the mandrel, the swiveling back-holder, the back-pattern, and the index.

268,798.

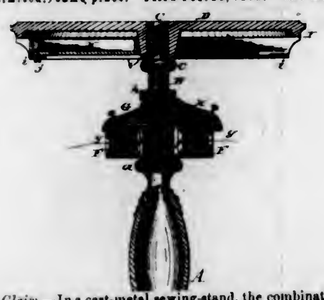


268,799. WRITING-DESK. JAMES J. JOHNSTON, Columbiana, Ohio, assignor to the United States Improvement Company, (Limited,) same place. Filed Feb. 23, 1882. (No model.)



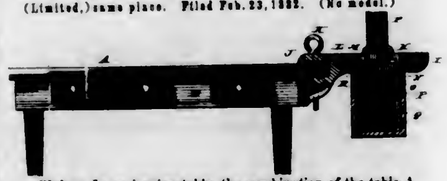
Claim.—In a writing-desk, the body A, having compartments B C D, the compartments B C extending below the floor of compartment D, and receptacle E, said body constructed of cast-iron in a single piece and furnished with hinged wooden lid and shelf H, having a guard, I, and a cast-iron hollow pedestal, F, formed in a single piece for supporting said body A, substantially as and for the purpose set forth.

268,800. SEWING-STAND. JAMES J. JOHNSTON, Columbiana, Ohio, assignor to the United States Improvement Company, (Limited,) same place. Filed Feb. 23, 1882. (No model.)



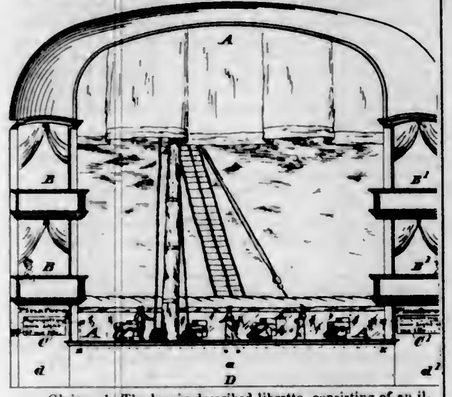
Claim.—In a cast-metal sewing-stand, the combination of the pedestal A, pivoted spool-holder, constructed in two parts and having openings *g* and pins *e*, pivoted lid, consisting of two parts G H, pivoted top D, having flanges I and lugs *i*, and four quadrant-formed drawers, K, each having a spring-catch, L, pivoted at *j*, all constructed, arranged, and operating substantially as herein described, and for the purpose set forth.

268,801. IRONING-TABLE. JAMES J. JOHNSTON, Columbiana, Ohio, assignor to the United States Improvement Company, (Limited,) same place. Filed Feb. 23, 1882. (No model.)



Claim.—In an ironing-table, the combination of the table A polishing-board C, having emery-block E and waxed pad F secured to said board by means of frame D, and the iron-holder H, consisting of frame I, detachable bottom N, chamber Q, and flue P, all constructed, arranged, and operating substantially as herein described, and for the purpose set forth.

268,802. METHOD OF AND MEANS FOR EXHIBITING THE WORDS OR SCORE IN THEATRICAL PERFORMANCES. THOS. L. JONES, St. Louis, Mo. Filed Aug. 3, 1881. (No model.)



Claim.—1. The herein-described libretto, consisting of an illuminated transparency bearing the words or other symbols of the utterances of the singers, players, or speakers, and adapted to move past an opening between the audience and the light.

2. The combination of the stage A, the wall *d*, having the opening C, and the illuminated transparency E, for the purpose described.

3. The combination of the stage A, the walls *d d'*, having respectively the openings C and C', and the illuminated transparencies E E', for the purpose described.

4. The combination of the opening C, the wall *d*, the illuminated transparency E, and the rollers F F', substantially as described.

5. The combination of the opening C, the wall *d*, the illuminated transparency E, and the rollers F F', said transparency being moved upon said rollers by means of a suitable motor, the rate of which can be regulated, for the purpose described.

6. In combination with a stage, A, and a movable illuminated transparency, E, the levers L L', cords L^2 L^2, levers *l l'*, and wall *a*, said levers L L' being connected with and controlling the movement of the motor driving or moving said rollers and transparency, substantially as described.

7. The combination of the opening C, the wall *d*, the movable transparency E, the rollers F F', and the light M, substantially as described.

8. The combination of the stage A, the wall *d*, having the opening C, the movable transparency E, and the light M, substantially as described.

9. The combination of the opening C, the wall *d*, the movable transparency or scroll E, having the columns *e e' e²*, and the sign O, substantially as described.

10. The combination of the stage A, the scroll E, the rollers F F', and the brakes R R', substantially as described, and for the purpose set forth.

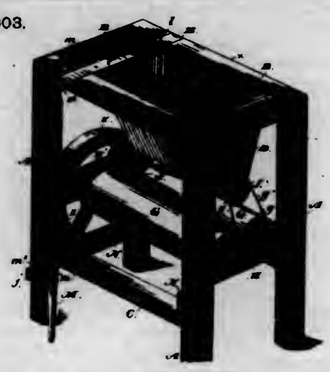
11. In combination with a theater-stage, an illuminated libretto, said libretto being arranged at the side or sides of the stage, for the purpose described.

12. The improvement in theater appliances, consisting in a movable libretto-scroll, said scroll being upon or in the vicinity of the stage and in the general view of the spectators, for the purpose described.

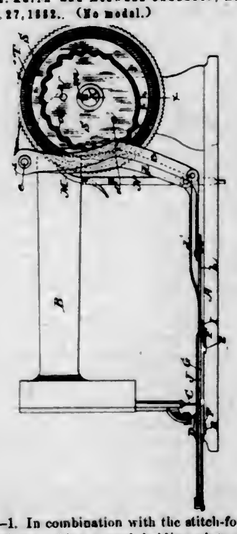
13. The combination of a theater-stage and an illuminated transparent libretto-scroll, for the purpose named.

14. The combination of a theater-stage and an illuminated libretto, said libretto being upon or in the vicinity of the stage and in the general view of the spectators, for the purpose named.

268,803.



268,804. FEED MECHANISM FOR SEWING-MACHINES. THOMAS K. KEITH and ROSWELL CARLETON, Haverhill, Mass. Filed Apr. 27, 1882. (No model.)

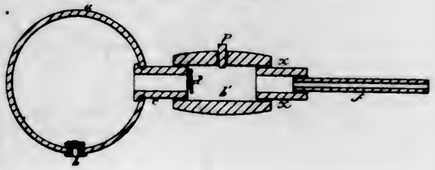


Claim.—1. In combination with the stitch-forming mechanism of a sewing-machine, a work-holding plate, means, substantially as described, whereby said plate is enabled to move horizontally in any direction on the bed of the machine, pattern-cams rotated by the power of the machine, and intermediate devices whereby said cams are caused to operate the work-holding plate, as set forth.

2. The combination of the bed having guide-grooves E, slides F, adapted to move in said grooves, and supporting-guides G, a work-holding plate, I, adapted to slide in the guides G, the pattern-cams *a b*, and intermediate connecting devices, all arranged and operated as set forth.

3. The combination of the arm B, the presser-bar having the pivoted lever *n*, and the needle-bar having the pin, whereby the presser-foot is raised with the needle, as set forth.

268,805. MEDICINE-INJECTOR. JOHN A. KNIGHT, Auburn, Me. Filed Mar. 15, 1882. (No model.)

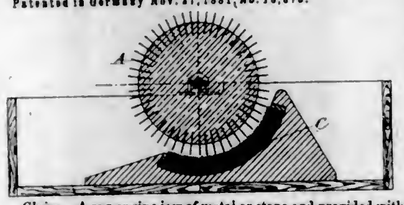


268,808. MACHINE FOR CRUSHING COTTON-SEED. JAMES P. KENTON, Morton, Miss. Filed Aug. 9, 1882. (No model.)

Claim.—In a machine for crushing cotton-seed, the combination, with a crushing-roll journaled in stationary bearings and having a driving-pulley connected therewith, of an adjustable crushing-roll journaled at one end in a stationary bearing, a support pivoted at one end and having one end of the adjustable roll journaled therein, and an operating-lever connected with the free end of said pivoted arm for imparting any desired adjustment to said roll, substantially as set forth.

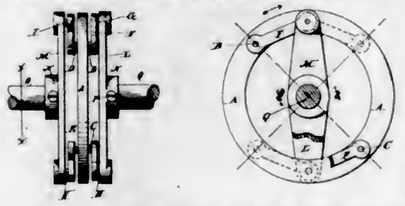
Claim.—The combination of the air-bulb *b*, neck *c*, medicine-chamber *b'*, plug *p*, valve *d*, located on the neck *c*, tube *x*, and nozzle *f*, the said neck *c* and tube *x* entering the medicine-chamber *b'*, all as herein set forth.

268,806. RAG-ENGINE. JOHANN PETER KORSCHILGEN, Borgtsch-Gladbach, Germany. Filed Aug. 23, 1882. (No model.) Patented in Germany Nov. 27, 1881, No. 18,675.



Claim.—A rag-engine jaw of metal or stone and provided with radial knives surrounding from one-tenth to one-third of the circumference of the engine-cylinder, substantially as described and illustrated.

268,807. COUPLING FOR SHAFTS. FRANK F. LANDIS, Waynesborough, Pa. Filed Sept. 13, 1882. (No model.)

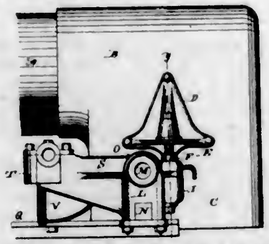


Claim.—1. A ring interposed between the ends of two shafts, disks, or wheels, and connected to each shaft by means permitting of a limited movement of the ring independently of the revolving movement of the shafts, disks, or wheels, substantially as described.

2. A ring interposed between the ends of two shafts, disks, or wheels, whose axes do not form a continuous straight line, and connected to each shaft by means permitting of the revolution of the shafts, disks, or wheels, substantially as shown and described.

3. In a coupling, the combination of the arms, disks, or wheels M and L, ring A, and links and pins for connecting the arms and ring, substantially as shown and described.

268,808. TRACTION-ENGINE. FRANK F. LANDIS, Waynesborough, Pa. Filed June 27, 1882. (No model.)



Claim.—1. A cast-metal frame for a traction-engine, consisting of the flanges R and R', terminating in bodies of metal L and L', substantially as shown and described.

2. A cast-metal frame for a traction-engine, consisting of the flanges R and R' and bodies L and L', provided with tubular spring-seats I and I, substantially as shown and described.

3. The combination, substantially as set forth, of the axle N, bodies L and L', spindles M and M', and suitable straps for holding the axle, all arranged and operating to produce an open space between the bodies L and L' for the reception of the fire-box.

4. The combination, substantially as set forth, of the tubular spring-seat I and spring J with the cap F, tube H, and bolt G.

5. The combination of the frame consisting of the bodies L and L', flanges R and R', with the shaft U, compensation-gear U', pinions V' and V', and driving gear-wheels W and W', substantially as shown and described.

6. The metal plates D, having laterally-extending arms E, in combination with spring-seats I, spring J, cap F, tube H, and bolt G, substantially as and for the purpose shown and described.

7. The hub of the driving-wheel having an annular flange, *g*, and flanges *l*, extending in from the flange *g* and forming pockets for receiving the rubber blocks *e* and pulling-lugs of the driving gear-wheel, in combination with the driving gear-wheel, having pulling-lugs fitting in between the rubber blocks in the pockets of the hub, said driving gear-wheel being secured to the hub by the bolts *h*, working in slots *i*, substantially as and for the purpose shown and described.

8. The box *s*, for supporting the front end of a traction-engine, resting upon the trunnions *r w* of the sleeve *x*, surrounding the axle *z*, substantially as shown and described.

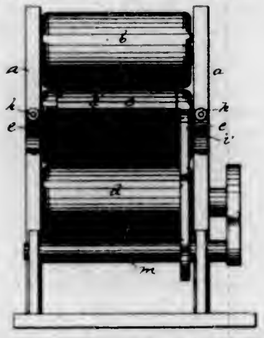
9. A box, *s*, having bearings for trunnions and cap *r*, in combination with sleeve *x*, inclosing the axle *z* and having trunnions *r w* cast on said sleeve, whereby a vertical play of the ends of the axle is allowed, substantially as and for the purpose shown and described.

10. A box, *s*, having the cylindrical spring-case *b'*, spring *j*, flanged saddle *g'*, inclosing the top of spring *j* and depressed in the middle to center the pin *f'*, in combination with the cap *d'* and pin *f'*, set in said cap, substantially as shown and described.

11. A box, *s*, in combination with a sleeve, *x*, provided with trunnions *r w*, a cap, *r*, a bolt, *t*, and the end of the reach, substantially as shown and described.

12. A sleeve or cap, *x*, surrounding the front axle of a traction-engine, fastened to said axle by the screws *a'*, and cast with trunnions *r w*, substantially as shown and described.

268,809. ATTACHMENT FOR CALENDER-ROLLS FOR PAPER. JOHN E. LARKIN, Pequonnock, and JARVIS E. TOWNE, Rainbow, Conn. Filed Oct. 23, 1882. (No model.)



Claim.—1. In combination, in a calender, a paper-roll, *c*, and an adjustable vibrating buffer-roll having a grinding-surface, and actuating mechanism, all substantially as described.

2. In a calender, a laterally-adjustable buffer-roll and operating mechanism, whereby a paper roll may be resurfaced in place in the stack, all substantially as described.

3. In a calender, a stand or bearing for a buffer-roll, having an inclined bed in which the pillow-block is dovetailed and reciprocated, all substantially as described.

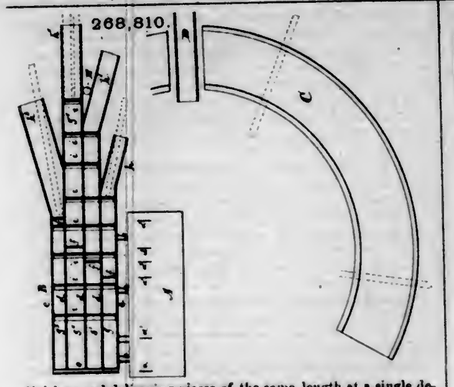
4. In a calender, in combination, buffer-roll *k*, stands *e*, having mortised bed and a guide-socket, pillow-blocks *g*, having guides *g'*, and screw-rod *h*, all substantially as described.

268,810. LUMBER-ASSORTER. FRANK MCDONOUGH, Eau Claire, Wis. Filed June 12, 1882. (No model.)

Claim.—1. The combination, with a lumber-trimming machine, of an apparatus for assorting the different lengths of lumber as delivered from the trimming-machine, said apparatus consisting of a series of sections or divisions of varying lengths for receiving the trimmed lumber, and devices for carrying the respective lengths of lumber along the sections or divisions and causing pieces of the same length to pass to the same delivery-point, substantially as described.

2. The combination, with a lumber-trimming machine, of an apparatus for assorting the different lengths of lumber, consisting essentially of a series of sections or divisions of varying lengths, arranged at one side of the trimming-machine, a carrier for taking the trimmed lumber and delivering it to the sections or divisions, and devices for carrying the pieces along the respective sections or

268,810.



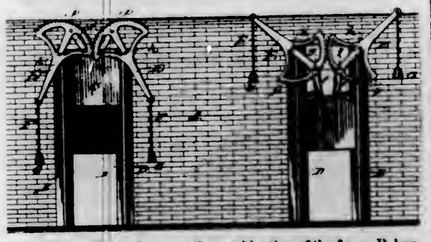
divisions and delivering pieces of the same length at a single delivery-point, substantially as described.

3. The combination, with a lumber-trimming machine, of an assorter, B, having division-strips *d* and cross-pieces *f*, to form spaces of varying length, a delivery chain or device located above the divisions, and delivery-rollers located below the divisions for delivering lumber or pieces of the same length to a common point, substantially as specified.

4. The combination, with a lumber-trimming machine, A, of an assorter, B, divided into spaces of varying lengths by strips *d* and cross-pieces *f*, and having end continuations or extensions at the delivery end of the divisions or sections, and chain or chains located above the divisions, and rollers located below the divisions for separating and delivering different lengths of lumber or pieces, substantially as described.

5. The combination, with a lumber-assorter, B, of a curved platform or receiver, C, for readily assorting lumber into different grades and piling the same in position for ready handling, substantially as described.

268,811. COKE-OVEN DOOR. WILLIAM G. MERRIMAN, Pittsburg, Pa. Filed Apr. 14, 1882. (No model.)



Claim.—In a coke-oven, the combination of the frame B, having ribs or guides D, door C, links *f*, levers E, having gear-teeth *i*, meshing into each other, and weights G, all constructed, arranged, and operating substantially as shown and described.

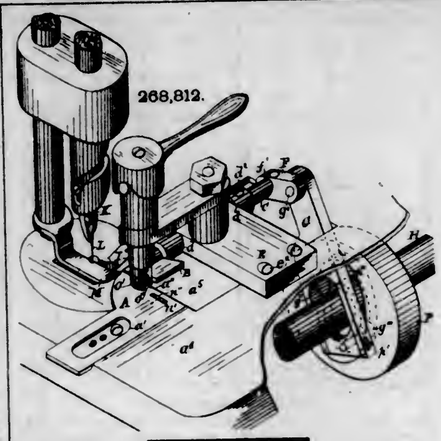
268,812. TRIMMING ATTACHMENT FOR SEWING-MACHINES. GEORGE M. MORRIS, Cohoes, assignor of one-half to W. Irving Bleakley, Lansingburg, N.Y. Filed May 16, 1882. (No model.)

Brief.—Toothed wheels are arranged above and below the passing fabrics to prevent lateral displacement or distortion of the same.

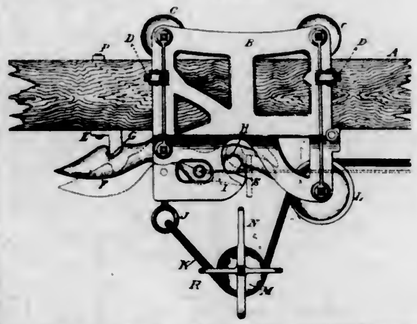
Claim.—1. In an attachment to a sewing-machine, the combination of a vertical slot formed in a pendent foot with a toothed wheel having its shaft-bearings constructed in the sides of the slot, the teeth of the wheel being projected below the lower end of the foot, as and for the purposes described and set forth.

2. In a fabric-trimming attachment to sewing-machines, the combination of a slot formed in the table-plate, a toothed wheel having its shaft-bearings constructed in the sides of said slot, an adjustable cutting-edge upon the table-plate, and a shear-blade having a cutting-edge which is actuated to open and close along the cutting-edge of the table-plate, in the manner and for the purposes herein described and set forth.

268,812.



268,813. HAY-ELEVATOR. WILLIAM M. MOUNTAIN, Canton, Ohio. Filed Oct. 14, 1882. (No model.)



Claim.—1. The frame B, having its two upper horizontal pieces bent or curved so that their concaved sides will face each other, substantially as and for the purpose specified.

2. The frame B, having its corner vertical pieces provided with the smooth-faced wheels D, in combination with the track A, substantially as and for the purpose set forth.

3. The combination, with the elevating-head R, having bail N, of the frame B, carrying pivoted lever F, said lever having notch or recess G to engage with the stop E upon the under side of the track, and the notch or recess H and projection I, for operating in connection with the bail N, substantially as and for the purpose set forth.

4. The frame B, having its two upper horizontal pieces bent or curved so that their concave sides will face each other, as shown, and having connected thereto the wheels C and the horizontal wheels D to bear against the sides of the track, substantially as and for the purpose specified.

5. The frame B, constructed as described, and having connected thereto the wheels C D and the pivoted lever F, formed with notch G, projection I, and notch H, in combination with the track A, having connected to its under side the stop E, and the head R, having the bail N, substantially as and for the purpose specified.

268,814. HAY ELEVATOR AND CONVEYER. WILLIAM M. MOUNTAIN, Canton, Ohio. Filed Oct. 24, 1882. (No model.)

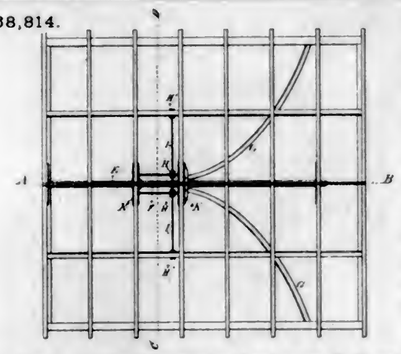
Claim.—1. The support K, provided with notches or recesses J, in combination with the switch or movable piece F, substantially as and for the purpose set forth.

2. The cord I, in combination with the pulleys H and H', substantially as and for the purpose described.

3. The cord I, or its equivalent, in combination with the switch or movable piece F, substantially as and for the purpose set forth.

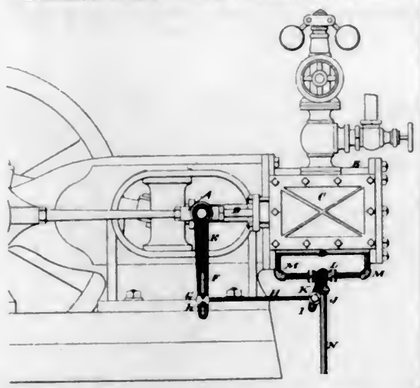
4. In a hay elevator and conveyer track the bent or curved side tracks, G, movable piece or switch F, and main or central

268,814.



track, E, in combination with the cord I and pulleys H H', substantially as and for the purpose set forth.

268,815. CYLINDER-COCK FOR STEAM-ENGINES. ERICH E. MUELLER, St. Louis, Mo. Filed Oct. 13, 1882. (No model.)

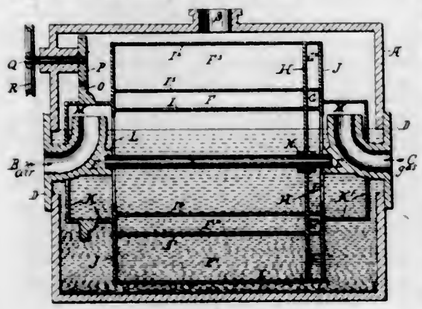


Claim.—1. The combination, in a steam-engine having a single cock to relieve either end of the cylinder of water, of the lever I, rod H, adjustable pin G, slotted arm E, and the valve-rod D, substantially as shown and described.

2. In a steam-engine having a single cock to relieve either end of the cylinder of water, the combination therewith of the slotted lever I, adjustable wrist-pin J, rod H, having the hook *h*, adjustable pin G, slotted arm E, valve-stem, and cross-head A, substantially as shown and described.

268,816. ROTARY DIFFERENTIAL FORCE-PUMP. PETER MUSSINGER, Philadelphia, Pa. Filed Jan. 23, 1882. (No model.)

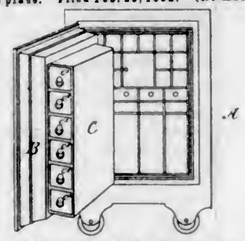
Brief.—An explosive gaseous mixture is produced for supplying a gas-engine by commingling two predetermined proportions of gas and air and forcing to the place of use.



Claim.—1. The combination, to form a rotary differential force-pump, of an inclosing casing containing water, a combined series of revolving gas and air chambers of different but of proportional interior areas formed of curved plates arranged in involute order, inclosed by two end webs having central inlets and divided by a tight diaphragm, two hoods applied on the outer faces of the end webs so as to inclose the central inlets therein, and two inlet-pipes opening respectively within the hoods, substantially as set forth.

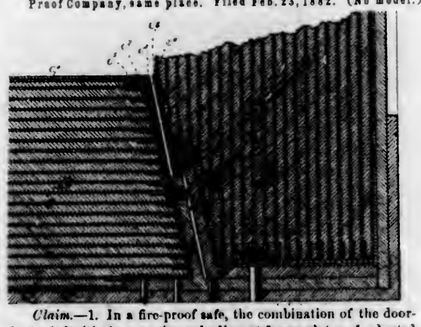
2. In combination with a rotary differential force-pump, consisting of a combined series of revolving gas and air chambers of different but of proportional interior areas, formed of curved plates arranged in involute order, inclosed by two end webs having central inlets and divided by a tight diaphragm, two hoods applied on the outer faces of the end webs, so as to inclose the central inlets therein, and two inlet-pipes opening respectively within the hoods, mechanism for revolving said pump so as to cause it to force the gas and air from out its chambers, and an inclosing casing containing water, all substantially as set forth.

268,817. SAFE. JOHN H. NOLAN, Boston, Mass., assignor, by mesne assignments, to the Magnesc Calcite Fire-Proof Company, same place. Filed Feb. 23, 1882. (No model.)



Claim.—In a fire-proof safe, the drawers *c'*, located between the door B and door-plate C, the said drawers arranged parallel with the inner face of the door, substantially as and for the purposes specified.

268,818. FIRE-PROOF SAFE. JOHN H. NOLAN, Boston, Mass., assignor, by mesne assignments, to the Magnesc Calcite Fire-Proof Company, same place. Filed Feb. 23, 1882. (No model.)



Claim.—1. In a fire-proof safe, the combination of the door-plates c' c^2 with the opposite and adjacent frame-plates, c^4, adapted to be closed upon each other by the expansible fire-proof filling e under heat, all substantially as and for the purposes described.

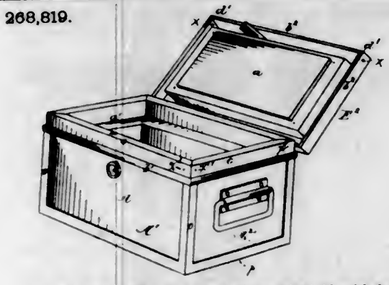
2. In a safe or other fire-proof receptacle lined or filled between the outer and inner plates with expansible fire-proof material, the plates c' c^2, resting upon and separated by and in combination with the expansible fire-proof material e e^2, all arranged substantially as and for the purposes set forth.

3. In a safe or fire-proof receptacle, the door B, having the plates c' c^2, in combination with the plates c^3 c^4 and the angle-irons c^5, adapted to be secured by fusible rivets c^6 c^7, all substantially as and for the purposes set forth.

268,819. FIRE-PROOF CHEST. JOHN H. NOLAN, Boston, Mass., assignor, by mesne assignments, to the Magnesc Calcite Fire-Proof Company, same place. Filed Mar. 27, 1882. (No model.)

Claim.—1. In a fire-proof box, the plates A' A^2 A^3, united by lap-joints, and the plate E, forming the cover E^3, combined with sheets of fire-proof material D F, substantially as and for the purposes set forth.

268,819.

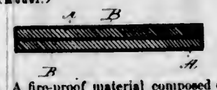


2. A fire-proof box formed of plates A' A^2 A^3, with bead *b'*, a cover, E^3, having an overlapping edge formed of the plate E, with laps *b b* and openings or slits d^3, folded, joined, and secured at the corners of the plate by the pieces d' d' and the rivets X X, all combined with a fire-proof lining, as and for the purposes set forth.

3. In a fire-proof box, the plates A' A^2, with top edges, c c, formed by the folding or lapping of the upper edge of the plates, the bead *b'*, and corner-pieces *o o*, all combined substantially as and for the purposes set forth.

4. In a fire-proof box, a cover formed of the metal plate E, arranged by doubling the edge of the metal sheet by folds *b b* to make the overlapping edge b^3, and secured in position by the insertion of bent pieces d' d' and the rivets X X, all substantially as and for the purposes specified.

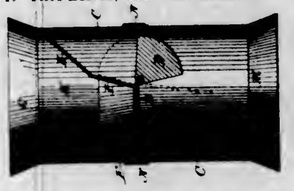
268,820. FIRE-PROOF MATERIAL FOR SAFES. JOHN H. NOLAN, Boston, Mass., assignor, by mesne assignments, to the Magnesc Calcite Fire-Proof Company, same place. Filed Feb. 23, 1882. (Model.)



Claim.—1. A fire-proof material composed of the fire-proof layer or sheet A, covered wholly or in part by the carbonizable layer or sheet B, prepared, arranged, adapted, and combined substantially as and for the purposes specified.

2. In a fire-proof material, a fibrous substance filled with clay and magnesia or other refractory matter, and saturated with any fire-proof solution, combined with and enveloped by a fibrous material prepared as described, and adapted to be carbonized at a high temperature without losing its cohesiveness, substantially as and for the purposes set forth.

268,821. DUST AND SEWER TRAP. HENRY PENNIE, Brooklyn, N. Y. Filed March 10, 1882. (No model.)



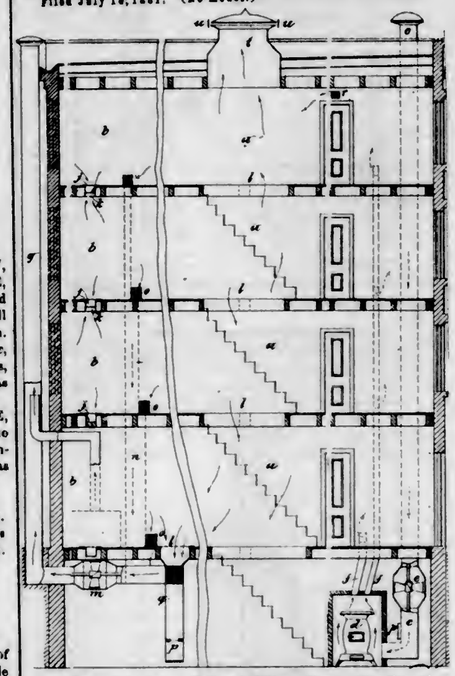
Claim.—1. The combination of the conduit C, the valve E D, constructed substantially as described, the flange F, and the shield or hood H I, extending over the valve-joint, substantially as and for the purposes set forth.

2. The combination of the conduit C, the valve E D, constructed substantially as described, the beveled bearing-flange F, and the hood or shield H I, provided with a beveled or inclined upper surface and extending over the valve-joint, substantially as and for the purposes set forth

3. The combination of the conduit C, flanged at both ends, as shown, the valve E D, the beveled bearing-flange F, and the hood or shield H I, provided with a beveled or inclined upper surface, substantially as and for the purposes set forth.

4. A trap consisting of the pipe or conduit section C, provided with flanged ends, beveled flange F, and inclined hood or shield H I, cast in a single piece, and the valve D E, cast in a single piece, substantially as described, the pipe-section and valve being united by the valve rod or axle running through the strengthening-band N, substantially as and for the purposes set forth.

268,822. VENTILATION. WILLIAM A. PITT, New York, N. Y. Filed July 18, 1881. (No model.)



Claim.—1. In ventilating buildings, the combination of a foul-air shaft, extending into the cellar of the house and communicating therewith by means of an opening in the floor of the lower hall, with an air-passage arranged in the floor of each hall communicating with the adjoining room and with the room below it, and with a propeller arranged within said shaft, whereby the heavy and vitiated air from the several rooms is discharged into the halls at the lowest level, and is drawn down and exhausted at the lowest point in the building, substantially as set forth.

2. In means of ventilating buildings, the combination and arrangement of an air-outlet provided in the floor of the room communicating directly with an opening in the floor of the adjoining hall, and a similar outlet provided in the ceiling of the room similarly communicating with the hall above, whereby the foul and superheated air from the top and bottom of the room may escape into the halls on the lowest level, substantially as set forth.

3. The combination of the shafts *c* and *g*, provided with the doors *p p* and register-opening *i*, with the flues *f f* and connecting-flue *n*, all arranged and operating in the manner and for the purpose set forth.

4. The combination of a fresh-air shaft and foul-air shaft, adapted to exhaust and discharge from the lowest point in the building, with a ventilating-dome provided with one or more valves, whereby a direct current can be induced from the top to the bottom of the house through the halls, substantially as described.

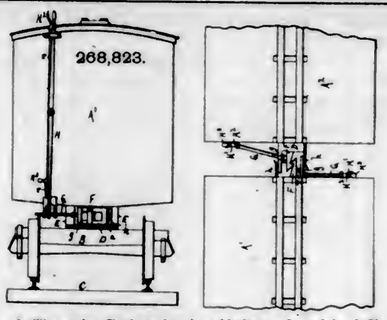
5. The combination of the foul-air shaft *g*, propeller *m*, register-opening *i*, and air-outlets *j k*, all arranged in the manner and for the purposes set forth.

6. In ventilating buildings, the combination of the supply and exhaust shafts *c* and *g*, propellers *e* and *m*, flues *f f*, outlets *j k*, and register-opening *i*, substantially as set forth.

7. The combination of the foul-air shaft *g*, register-opening *i*, outlets *j k*, and pipe *s*, substantially as and for the purpose described.

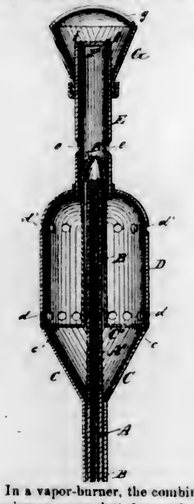
268,823. CAR-COUPLING. ALFRED E. POLAND, Minneapolis, Minn. Filed July 3, 1882. (No model.)

Claim.—1. In a car-coupler, casing D, having cast-iron bar *g* and curved steel-bar *h*, in combination with hook F, pivoted therein, both bar *g* and hook F having slots therein, substantially as and for the purpose set forth.



2. The casing D, draw-bar *b*, guide-bars *g h*, and hook F, in combination with lever G, substantially as and for the purpose set forth.

268,824. HYDROCARBON-BURNER. RANSOM P. RADKIN, Columbus, Ohio. Filed Apr. 29, 1882. (No model.)



Claim.—1. In a vapor-burner, the combination of the inner wick-tube, A, having an upper slotted or perforated part, A′, outer gas-tube, B, having the enlargement or gasometer C, provided with one or more perforations in its top plate, C′, and contracted mouth B′, and cage D, having a double series of top and bottom apertures, *d′* and *d*, substantially as shown and set forth.

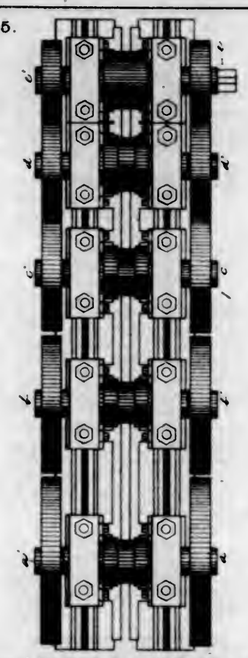
2. In a vapor-burner, the combination of the inner wick-tube, A, having an upper slotted or perforated part, A′, outer gas-tube, B, having the enlargement or gasometer C, provided with one or more perforations in its top plate, C′, and contracted mouth B′, cage D, having a double series of top and bottom apertures, *d′* and *d*, burner-tube E, having air-holes *e e*, and a suitably-constructed burner-cap, G, substantially as and for the purpose herein shown and specified.

268,825. ROLLING-MILL. JACOB REESS, Pittsburg, Pa. Filed May 22, 1882. (No model.)

Claim.—1. A continuous train of rolls mounted in suitable housings, the rolls of each pair having pulleys on opposite ends, and all so arranged as to be driven by two continuous belts, whereby cog-wheels, idlers, and pinions may be dispensed with and a steady and uniform motion secured, substantially as and for the purpose set forth.

2. In a continuous train of rolls wherein box-grooves are used, the rolls having alternately deep and shallow grooves, so that more than one half of the box will be in one roll and less than one half in the other roll, and so arranged that the deep groove or portion of the box shall alternate from the bottom to the top roll of each succeeding pair, whereby the fin formed will be rolled into the edge of the metal at each succeeding pass.

268,825.



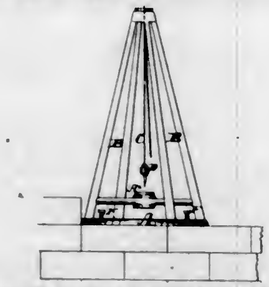
3. A journal-box for the top roll of rolling-mills, said box formed in a single piece and having the housing-cap integral therewith, whereby the rolls may be lined up by inserting liners between the housing-cap and housing, substantially as and for the purpose specified.

4. A continuous train of rolls having its main driving-shaft attached to the rolls which are required to be rotated at the greatest velocity, and having a pulley or pulleys attached to the end or ends of the roll-bearings, substantially as set forth, whereby the greatest strain is concentrated at or near the driving-power.

5. A continuous train provided with a series of pairs of rolls, each pair of which from the first have an increased diameter as compared with the preceding set, and each set having pulleys decreasing in diameter as the rolls increase in diameter, substantially as and for the purpose set forth.

6. A continuous train of a series of pairs of rolls having pulleys mounted on the roll-spindles, and so arranged with relation to each other as to admit of communicating the power alternately from the bottom roll of one pair to the top roll of the succeeding pair, whereby all the rolls may be rotated in the proper direction without the use of idlers.

268,826. LEVEL. JOHN ROBERTSON, Brooklyn, N.Y. Filed Aug. 12, 1882. (Model.)



Claim.—The base-plate A, having flat lower face, combined with the frame B, cord C, weight D, and horizontal gage or index *a b*, all arranged to constitute a level, disclosing inclination in every direction, substantially as herein shown and described.

268,827. VEHICLE-SPRING. LEONHARD ROSENHAUSEN, Philadelphia, Pa. Filed June 28, 1882. (No model.)

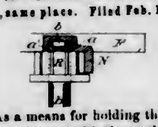


Claim.—1. A vehicle body or frame provided with a downwardly-projecting guide pin or bolt carrying a spiral spring, in combination with a spring or yielding arm pivoted to the vehicle-body at one end and secured to the axle, and provided on its free end with a hole, through which the bolt slides, the said coil-spring being arranged between the said arm and vehicle body or frame, and means to protect said coil-springs from dirt and injury, substantially as and for the purpose specified.

2. In combination with the vehicle-body and its downwardly-projecting bolt and spiral or coil spring, a yielding arm hinged at one end to the body, secured at or about the middle to the axle, and having its free end provided with a hole, through which the said bolt freely moves, and an elliptic spring arranged between the said body and axle, substantially as shown.

3. The combination of the vehicle body or frame A, bolt G, spring I, telescopic guide and dust-cylinders K K′, and a yielding or spring arm secured to the axle, substantially as and for the purpose specified.

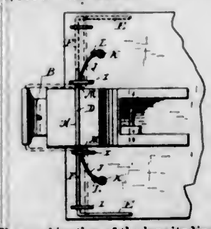
268,828. HARVESTER. JOHN M. ROSEBROOKS, Hoosick Falls, N. Y., assignor to Walter A. Wood Mowing and Reaping Machine Company, same place. Filed Feb. 19, 1881. (No model.)



Claim.—1. As a means for holding the pinions on the main axle in uniform engagement with the teeth of the segment-racks with which they co-operate throughout their path of travel along said racks, the annular groove or necking on each end of the main axle, in combination with the inferior or double-hook back flange turned in on each side and constructed upon the segment-rack plates, substantially as described and set forth.

2. A plate having provisions whereby it may be attached to some suitable part of the main frame, provided with an open guideway, the opposite edges of which are raised ledges or flanges parallel with and turned in toward each other and adapted to take into an annular groove or necking upon or near the end of the main axle and meeting or uniting at the top of such guideway, in combination with the main axle formed independently of the pinion placed thereon, with a head or button which is adapted to enter and slide in said guideway, substantially in the manner described, and for the purposes set forth.

268,829. CAR-COUPLING. WILLIAM J. ROSS, Memphis, Tenn. Filed Oct. 27, 1882. (No model.)



Claim.—The combination of the longitudinally-disposed elongated guide-staples, secured in the same transverse plane under the car, a transverse supporting lever or bracket having bearings in said elongated staples, and provided at its end with an operating-handle that normally bears against the under side of the car to limit downward movement of the bracket, said bracket being adapted to slide back in its elongated longitudinal staples, and the spring-rods secured at their rear ends and having their front ends sliding and protected in one of the longitudinal guide-staples and bearing against the bracket to force it forward, as set forth.

268,830. COMBINED PLOW AND PULVERIZER. CHARLES E. SACKETT, Morristown, N.J. Filed Apr. 6, 1882. (No model.)



Claim.—1. In a plow, the combination of pulverizing devices operating in the furrow beside the plow with a forward plow or similar device to remove the sod or weeds and turn them below or out of the way of the pulverizing devices, substantially as set forth.

2. In a plow, the mold-board having a flat extremity, substantially parallel with the furrow, for the purpose of confining the earth in the furrow, in combination with pulverizing devices, substantially as described and shown.

3. The combination, with a plow, of the pivoted bar carrying upturned teeth and adapted to drag in the furrow last made, whereby the teeth operate below and up through the soil turned upon them by the plow, as set forth.

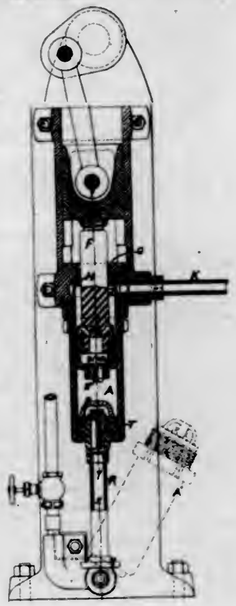
4. In combination with a plow, upturned teeth or points attached to a drag adapted to operate in the furrow last made, for the purpose of pulverizing the earth turned upon them by the plow, said teeth being adapted to move vertically independent of the plow, and to be dragged—not rotated—in the furrow, as set forth.

268,831. PURSE. FRIEDRICH WILHELM SCHWARZ, Offenbach-on-the-Main, Germany. Filed Aug. 18, 1882. (No model.)



Claim.—The purse herein described, consisting of the body composed of the seamless flexible bag and rim B, the lid A, made of metal, wood, or other inflexible material in concave form, and hinged to said body by means of its rim B′, and the hinged metallic plate C, forming a cover to the lid and a partition between it and the body, and having a spring-hinge and locking-bolt, as set forth.

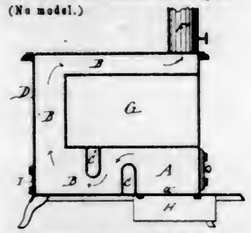
268,832. PUMP. WILLIAM SELLERS, Philadelphia, Pa. Filed Feb. 27, 1882. (No model.)



Claim.—1. The combination of a fixed discharge-chamber, a pump-barrel detachably connected thereto and supported thereby, a valved piston, a piston-rod having half the cross-sectional area of the piston, and a valved inlet-pipe connected by a telescopic joint to the working-barrel, substantially as described.

2. The combination of a fixed discharge-chamber, a pump-barrel detachably connected thereto and supported thereby, a valved piston, a piston-rod having half the cross-sectional area of the piston, and a valved and pivoted inlet-pipe connected by a telescopic joint to the working-barrel, substantially as described.

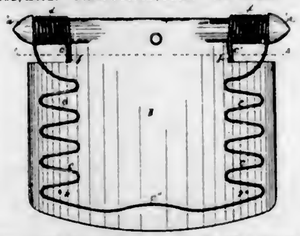
268,833. STOVE. JOHN SIBRAMOR, Oswego, N. Y. Filed Sept. 7, 1882. (No model.)



Claim.—1. The combination, with the fire-box A and flue B, of the hollow bridge C, rising from the bottom of the flue at its junction with the fire-box, and having perforations in its rear side, and the hollow inverted bridge C', pendent from the top of the flue, both of said bridges being extended across the flue to deflect the products of combustion, and having open ends provided with dampers, substantially as described and shown.

2. The combination and arrangement, with the case D, of the oven G, extended from one end of said case part way toward the opposite end thereof, and forming the top of the fire-box, and the flue B around its rear end and over its top, and the hollow bridge C, rising from the bottom of the case, and inverted bridge C', pendent from the bottom of the oven, all substantially as described and shown, for the purpose set forth.

268,834. CAR-LABEL HOLDER. CORODEN J. SLAFTER, Grand Junction, Mich. Filed Feb. 10, 1882. (No model.)



Claim.—1. In a label-holder provided with a clamp and with spurs to receive the label, the clamp formed with the zigzag sides, the lower loops thereof surrounding said spurs, all substantially as set forth.

2. A device for holding labels, provided with a clamp having the zigzag sides, substantially as set forth.

3. A label-holder consisting of the narrow plate provided with the wire retaining-hooks at its lower corner, the arms, helical springs, clamp, spurs to receive the label, and means for securing said spurs directly to the wall, all substantially as described.

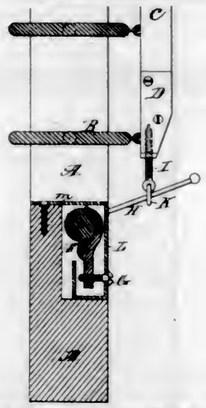
4. In a label-holder, the plate or body provided on its rear face with projections, which serve to keep the wires in place, and also prevent said plate from turning, all substantially as specified.

5. The combination, with the plate or body provided with the arms, and the clamp provided with the helical springs supported by said arms, of a shield provided with the slots to receive the arms of said clamp, and the projecting thin edges adapted to catch under the plate each side of the neck which supports the said arms, all substantially as described and shown.

268,835. BLIND-SLAT ADJUSTER. GEORGE W. SPRINGSTEAD, New York, N. Y. Filed July 17, 1882. (No model.)

Claim.—1. The combination of the slat-rod C, the tip D, the threaded adjusting-rod I, the ring K, the lever H, the wheel E, the friction-bar F, the screw G, and the case L, substantially as and for the purposes set forth.

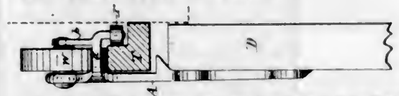
268,835.



2. The combination of the tip D, the adjusting-rod I, the ring K, the lever H, the wheel E, and the spring F, substantially as and for the purposes set forth.

3. The combination of the lever H, the wheel E, the friction-bar F, the set-screw G, the case L, and suitable means for connecting the lever H with the slat-rod, substantially as and for the purposes set forth.

268,836. DOOR-HANGER. EDWARD C. STEARNS, Syracuse, N. Y. Filed Jan. 5, 1882. (No model.)

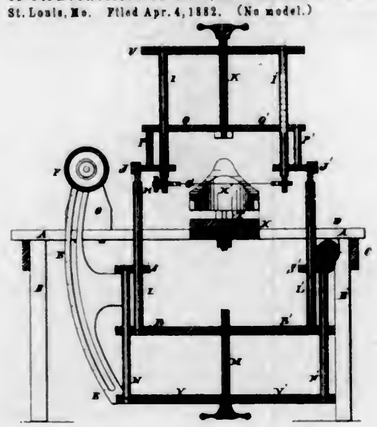


Claim.—1. The combination, with the hanger A and wheel W, of the arms *a a*, extended from opposite sides of the hanger across the tread of the wheel and terminating with bearings against the rear face of the track-rail, as set forth and shown.

2. The combination, with the hanger A and wheel W, of the arms *a a*, extended from opposite sides of the hanger across the tread of the wheel, and the roller *r*, pivoted directly on the extremity of said arms and engaging the rear of the track-rail T, substantially as described and shown.

3. The improved door-hanger consisting of the hanger-strap A, having the arms *a a* reaching across the track-rail T, the rollers *r*, pivoted on the extremities of said arms and engaging the rear of the track-rail, the bridge *b*, rigidly attached to the arms *a a*, and the wheel W, journaled on and between the hanger-strap and bridge, all constructed and combined substantially in the manner described and shown.

268,837. MACHINE FOR CUTTING AND FITTING BRANCHES OF PIPE JUNCTIONS OF CLAY, &c. WILLIAM W. STICKNEY, St. Louis, Mo. Filed Apr. 4, 1882. (No model.)

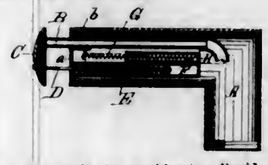


Claim.—1. The combination of a cutting-wire, G, with a screw, K, and two frames, I U U I', P Q Q P', revolving on common axes J J', to produce an annular or cylindrical motion of the wire of any required radius, substantially as herein set forth.

2. The combination of the axis C with its journal S' and the frames N V V N', L R R L', P Q Q P', I U U I', the axes J J', the screws K and M, the cutting-wire G, and the thumb-screw H and the graduated arc E E, to facilitate the adjustment of the cutting-wire G to any required angle, substantially as herein set forth.

3. The combination of a screw, M, with the frames N V V N', L R R L', the axes J J', the frames P Q Q P', I U U I', the cutting-wire G, and the thumb-screw H, to facilitate the adjustment of the cutting-wire G to any required height above the table A A, substantially as herein set forth.

268,838. ATTACHMENT TO CANES, UMBRELLA-HANDLES, &c. FELIX G. STIDGER and BENJAMIN C. STIDGER, Chicago, Ill. Filed Nov. 3, 1882. (No model.)



Claim.—1. A device for attaching to a liquid-receptacle to act as a stopper thereto and also permit the abstraction of the contents by suction, the same comprising in combination a tubular case having its outer end inclosed by a plate provided with an aperture, a suction-tube inclosed within the case in line with said aperture and extending down into the receptacle, a cap upon the outer end of the case of sufficient diameter to cover the same, a rod passing through a hole eccentrically formed in the cap and extending into the interior of the case, a spring tending to force the suction-tube out through the aperture, and a spring tending to hold the cap through the medium of the rod against the end of the tube, substantially as set forth.

2. A hollow case with an auxiliary tube worked with a spring for emptying purposes and a vent, and provided with a cap or covering lined with rubber, worked and held in place by a rod and spring and securely covering the auxiliary emptying-tube and vent when in its normal position.

3. The combination of a hollow case, A, having the vent in the outer end, an auxiliary emptying-tube, B, operated by the spring G, inclosed in the tube H and secured by the cap C with rubber lining, and operated and held in place by the rod D, and spring E in tube F, preventing any leakage of contents when the cap C is in its normal condition, substantially as set forth.

4. The combination of the hollow case A and the auxiliary emptying-tube B, protected by the cap C, together with the springs employed in working the same, substantially as set forth.

5. The combination of the tubular case A, having its outer end inclosed, suction-tube B, in line with an aperture in the inclosed end of the tubular case, fixed tube H, spring G, connected at its outer end to the suction-tube and inclosed within the fixed tube H, whereby it tends to force the suction-tube out through the aperture, cap C, adapted to cover the end of the case A, tube F, fixed to the inner face of the plate *a*, which incloses the end of the case A, rod D, connected to the cap C and extending into the interior of the tube F, and spring E, surrounding said rod and bearing between a stop on the end thereof and the inclosed end of the case, substantially as described, and for the purpose set forth.

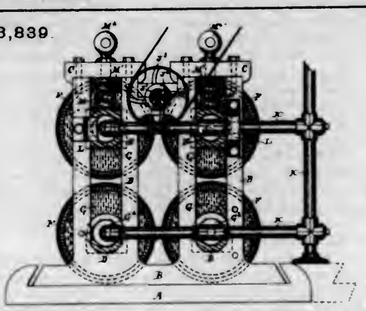
268,839. APPARATUS FOR DRYING LUMBER. ALBERT THALHEIMER, Reading, Pa. Filed July 22, 1882. (No model.)

Claim.—1. A lumber-drying apparatus composed of the following elements: foundation-plate A, twin housings B, caps C, bearings D, E, and J', hollow rolls F, provided with heads G, necks or journals G', glands G', waste-passages G', discharge-scoop G', spur-gears H H, pinion J, shaft J, band-pulley J', springs M, spring-caps M', and housing-screws M', steam and gas pipes K, yokes L, set-screws L' L', and brackets N, all combined, arranged, and adapted to be operated in the manner and for the purpose set forth.

2. The twin housings B, provided with bearings D, E, and J', with caps C, springs M, spring-caps M', and housing-screws M', in combination with hollow drying-rolls F, steam or gas pipes K, yokes L, gearing H H J, pulley J', shaft J', and foundation-plate A, substantially as and for the purpose specified.

3. The hollow rolls F, provided with imperforate disk-heads G, having counterbored or perforated necks G', stuffing-box glands

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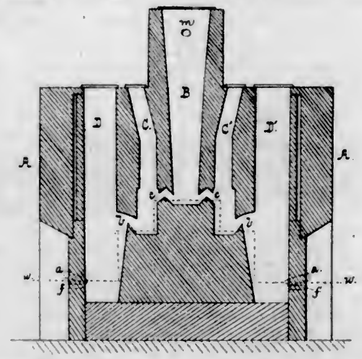


G', and gear-wheels H H, in combination with pinion J, shaft J', pulley J', twin housings B, bearings D E, steam-pipe K, yokes L, screws L' L', and scoop G', when arranged as shown, and adapted to be used for the drying, compressing, and straightening of lumber, substantially as described, and for the purpose herein set forth.

4. The hollow rolls F, as described, provided with perforate disk-heads G, in combination with twin housings B, bearings D, gas-pipe K, and the brackets N, adapted by the perforation of the gas-pipe within the rolls and the ignition of the gas to heat the upper portion of the shell of the roller in immediate contact with the lumber passing through the rolls, whereby the drying process is hastened, as described, substantially as and for the purpose set forth.

5. The combination, in a roller or train drying apparatus, as described, of both steam and gas-flame heated rolls in pairs or as alternates, for the purpose set forth, and substantially as specified.

268,840. PROCESS OF AND APPARATUS FOR THE REDUCTION OF IRON ORE. ERNEST TOURANGIN, Salbris, France, assignor to Louis Durand and Dexter H. Walker, both of New York, N. Y. Filed Nov. 1, 1881. (No model.)



Claim.—1. The method herein described of producing sponge-iron from the ore, consisting in passing a current of atmospheric air through incandescent carbonaceous matter, converting the carbonic acid so produced into carbonic oxide by passage through a stratum of carbon sufficient to that end, and finally conducting the carbonic oxide at the temperature incident upon its production through the mass of ore unheated and unmixed with carbonaceous matter, substantially as described.

2. The method herein described of producing sponge-iron from the ore, consisting in passing through the mass of unheated ore unmixed with carbonaceous matter the gases resulting from the action of carbon upon the products of combustion and upon the hygrometric moisture of the fuel, carbonic oxide, and hydrogen—to wit, the said gases having the temperature incident upon their production—substantially as and for the purpose set forth.

3. The method herein described of producing sponge-iron from the ore, consisting in passing the gases produced by injecting a current of air through incandescent mineral fuel, and thence through a stratum of carbon to produce carbonic oxide, through a mass of scrap-iron and carbon, and finally conducting the said gases at the temperature incident upon their production through the body of unheated ore unmixed with carbonaceous matter, as set forth.

4. The method herein described of preparing steel from the ore, consisting in passing through a mixture of unheated sponge-iron and carbon the gases produced by injecting atmospheric air into a mass of incandescent carbon, and passing it thence through a stratum of carbon sufficient to convert the carbonic acid and steam into carbonic oxide and free hydrogen, the said gases having the temperature incident upon their production, substantially as set forth.

5. The method herein described of preparing at once iron and steel from the ore, consisting in passing a current of carbonic-oxide gas, at the temperature incident upon its production, through a mixture of unheated sponge-iron and carbon, and thence through a mass of unheated ore unmixed with carbonaceous matter, substantially as set forth.

6. The method herein described of preparing at once sponge-iron and steel from the ore, consisting in producing a current of reductive gas from mineral fuel, desulphurizing the same by transit through a mass of scrap-iron and carbon, and conducting it thence through a mass of sponge-iron and carbon, and finally through the mass of ore, substantially as set forth.

7. The apparatus herein described, for the purposes set forth, consisting of a gas-generating chamber provided with tuyeres near its base, and an opening in its side, leading into the base of a second chamber, from which a lateral opening below the top of the chamber leads into the base of the reducing-stack, whereby a space is left in each chamber above the exit-level of the gases which pass through the series, and the contents of each chamber feed progressively downward to the zone of chemical action.

8. The apparatus herein described for the coincident reduction of ore to the state of sponge and the conversion of sponge into steel, consisting of one or more gas-generating chambers having tuyeres near the base and lateral openings *b*, leading into the base or bases of one or more converting-chambers, C C′, the said converting-chambers having lateral openings *c*, leading into the base of the reduction-stack B, each chamber having a central wedge-shaped wall at its base adapted to discharge the contents laterally.

9. In combination with the gas-generating chamber and the chamber C (C′,) having lateral openings below their tops, whereby the gases traverse but a portion of each chamber, the reduction-stack B, having a central wedge-shaped wall at its base adapted to discharge the contents of the stack into extended cooling-tubes F, which terminate in air-excluding tape G, as set forth.

268,841. PUMP. BENJAMIN C. VANDUZEN, Cincinnati, Ohio, Filed Sept. 5, 1881. (No model.)



Claim.—1. In combination with a pump-stock constructed substantially as described, a supporting-plate, L, provided with opening L′ l′, and a suitable clamping device for causing the pump-stock to be securely held in said opening, substantially as described.

2. The herein-described supporting-plate for pumps, consisting of the plate or flange L′, provided with openings L′ L′, the openings L′ being surrounded by the flange *l*, having the ears *l*′ for the attachment of a suitable clamping device, substantially as and for the purposes specified.

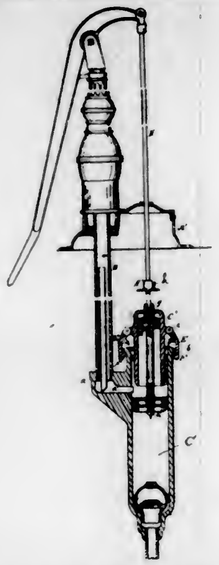
3. A piston-plunger for pumps, consisting of the flexible cup *g*′, secured between the washers or blocks *g g*³, the periphery of the latter being provided with notches *g*′, substantially as and for the purposes specified.

268,842. PUMP. BENJAMIN C. VANDUZEN, Cincinnati, Ohio, assignor to Herbert D. Lafferty, Nashville, Tenn., and Stanley B. Lafferty, Davenport, Iowa. Filed May 26, 1882. (No model.)

Claim.—1. In a double-acting pump, the combination of the lower cylinder, C, provided with a flange, B, having notches *f f*, and the cylinder C′, provided with hooks E, arranged to engage with the flange *b*, and to be disengaged therefrom when the cylinder C′ has been turned till said hooks are opposite to the notches *f f*, substantially as and for the purposes specified.

2. The cylinder C, connected to the discharge-pipe B, and provided with flange *b*, having notches *f f*, in combination with the cylinder C′, having catches E, pivoted to the side thereof, and the pump-rod H, provided with means whereby it is caused to engage with and turn the cylinder C′, substantially as and for the purposes specified

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3. The combination of the cylinder C, having recessed flanges, and the cylinder C′, having hooks E, and the pump-rod H, having attached thereto an angular block, *g*, the upper end of the cylinder C′ having an opening corresponding in shape and size to said angular block, substantially as and for the purposes specified.

4. The combination of the hook, hung and supported substantially as described, and the stationary cylinder having projection for engaging the hook and having space for liberating said hook, and means for turning said hook with that portion of the pump which upholds it, substantially as and for the purposes specified.

5. The combination of the hook hung to that part of the pump-cylinder which is removable, along with the pump rod and piston, and the stationary cylinder having a projection for engaging the hook, and provided with space through which the hook may be liberated, and means for depressing said hook and causing the latter to be turned at will, substantially as and for the purposes specified.

6. The combination of the hook and that part of the pump-cylinder which is removable along with the pump rod and piston, and the stationary cylinder having the projection to engage the hook, and the collar H′, affixed to the pump-rod to cause the hook and its supporting part of the pump to be depressed by the depression of the pump-rod, substantially as and for the purposes specified.

268,843. PUMP. BENJAMIN C. VANDUZEN, Cincinnati, Ohio, assignor to Herbert D. Lafferty, Nashville, Tenn., and Stanley B. Lafferty, Davenport, Iowa. Filed May 26, 1882. (No model.)

Claim.—1. In a pump, the standard A, provided with tapered foot B′, in combination with a base provided with cup or recess *b*, substantially as and for the purposes specified.

2. In combination with a standard, the base C, provided with lug *i*, located within the base C and under the cap *d*, and set-screw I and pipe H, substantially as and for the purposes specified.

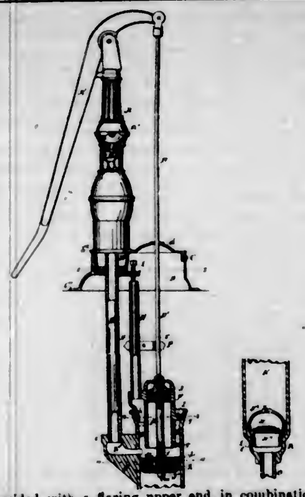
3. In a pump, the standard A, provided with tapered foot B′, and bolt-holes, in combination with a base provided with cup or recess *b*, and the bolts *b*′, located in the bottom of said cup and foot, substantially as and for the purposes specified.

4. The combination of the standard A, provided with foot B′, and the base provided with cup *b* and the opening D, and cap *d*, substantially as and for the purposes specified.

5. The cylinder E, connected to the lower end of the discharge-pipe B, and provided with a flaring upper end, in combination with the cylinder F, having surrounding collar or flange *f*, provided with packing *g*, the said flange being located at some point above the lower end of cylinder F, to permit the latter to extend some distance into the upper end of the cylinder E, substantially as and for the purposes specified.

6. The cylinder E, connected to the lower end of the discharge-

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pipe B, and provided with a flaring upper end, in combination with the cylinder F, having annular collar or flange *f*, provided with packing *g*, the said flange being located at some point above the lower end of said cylinder F, and the studs or flange *g*′, substantially as and for the purposes specified.

7. The cylinder E, connected to the lower end of the discharge-pipe B, in combination with the cylinder F, said cylinders being constructed substantially as described, and held in position with relation to cylinder E by the pipe or rod H and set-bolt I, substantially as and for the purposes specified.

8. The cylinder E, rigidly connected to the lower end of the discharge-pipe by means of the projection *e*, located on said cylinder, in combination with the cylinder F, rigidly connected to the pipe H by means of projection G, said pipe H being at top held in position by a setting device, as bolt I, and the said cylinder F held in position in relation to cylinder E by the pipe or rod H and said setting device, substantially as and for the purposes specified.

9. The combination of a pump-cylinder, F, and the actuating pump-rod with the rod H, rigidly attached to said cylinder, and the clamp P, clamped on the rod H, and serving as a guide for the pump-rod and for enabling all to be together withdrawn from the well, substantially as and for the purposes specified.

10. The combination of the cylinder E and the cylinder F, provided with flange *f*, and suitable packing, as *g*, and the air-chamber S, substantially as and for the purposes specified.

11. A pump-piston having a rod, *j*, its lower end projecting below the bottom of the piston, and provided with a screw-thread, in combination with a valve located in the cylinder, below the piston, said valve being provided with an opening having a female screw-thread for engaging the end of the rod *j*, substantially as and for the purposes specified.

12. The cylinders E F, constructed substantially as described, in combination with pistons J J′, connected to the pump-rod D′, and the valve N, connected to the ring N′, having arch N³, the lower end of the lower piston being provided with the screw-projection *m*, and the arch N³ with the screw-hole *n*, for receiving said projection, substantially as and for the purposes specified.

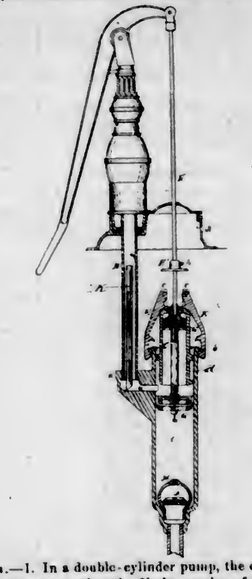
13. The cylinder E, having the contracted lower end, R, and rounded shoulder *t*, in combination with the ring N′ and packing R′, said ring and packing being provided with a rounded lower rim, substantially as and for the purposes specified.

14. A pump-cylinder having the contracted lower end, R, a rounded shoulder, *t*, being interposed between said contracted portion and the remainder of the cylinder, in combination with the valve having packing whose periphery is straight for a portion of it and above said straight portion increased in diameter, substantially as and for the purposes specified.

15. The combination of the standard A, provided with foot B′ and with the flange *b*³, and the base provided with cup *b*, and the opening D, and cap *d*, substantially as and for the purposes specified.

16. In a pump, the standard A, provided with tapered foot B′, and the flange *b*³, in combination with a base provided with cup or recess *b*, substantially as and for the purposes specified.

268,844. PUMP. BENJAMIN C. VANDUZEN, Cincinnati, Ohio, assignor to Herbert D. Lafferty, Nashville, Tenn., and Stanley B. Lafferty, Davenport, Iowa. Filed May 26, 1882. (No model.)



Claim.—1. In a double-cylinder pump, the combination of the cylinder C, connected to the discharge-pipe of the pump, and the upper cylinder, C′, located in the upper end of the cylinder C, and provided with hooks or grappling devices E, for retaining the said cylinders in position with relation to each other, substantially as and for the purposes specified.

2. The cylinder C, connected to the discharge-pipe B, and provided at its upper end with the surrounding flange *b*, in combination with the cylinder C′, provided with appropriate packing, and having pivoted to its upper end the hooks or catches E, for engaging with the flange *b* on the cylinder C, substantially as and for the purposes specified.

3. The combination of the cylinders C C′, formed substantially as described, the hooks or catches E, pivoted to bracket *e* on the upper end of the cylinder C′, and provided with lugs *f*, and the conoidal block *g*′, connected to the pump-rod, substantially as and for the purposes specified.

4. The cylinder C, provided with flange *b*, in combination with the cylinder C′, having surrounding collar *b*′, provided with packing, and the lugs *d*, and having hooks or catches E, pivoted to brackets *e* on the upper end of said cylinder, and means affixed to the pump-rod to facilitate forcing down the cylinder C′, substantially as and for the purposes specified.

5. The cylinder C, provided with flange *b*, in combination with the cylinder C′, having surrounding collar *b*′, provided with packing and the lugs *d*, and having hooks or catches E, pivoted to brackets *e* on the upper end of said cylinder, and the collar H′, located on the pump-rod, substantially as and for the purposes specified.

6. The pump-rod provided with the conoidal block *g*′, and the hooks or catches supported and hung substantially as described, and the stationary cylinder provided with projection for the engagement of said catches, substantially as and for the purposes specified.

7. The hooks or catches hung upon that portion of the pumping device which is to be lifted from the well along with the pump rod and piston, in combination with the stationary cylinder provided with projection for the engagement of said catches, and means for the disengagement of said catches, (when the pump is lifted,) substantially as and for the purposes specified.

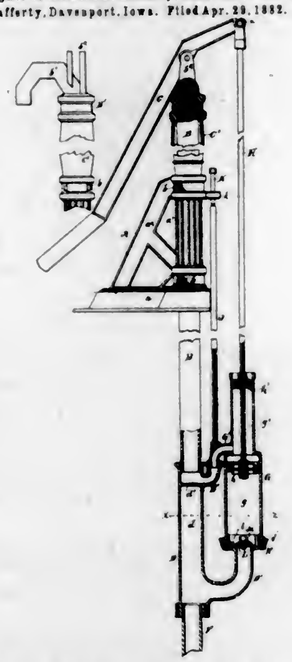
8. The hooks or catches hung upon that portion of the pumping-cylinder which is to be lifted from the well along with the pump-rod, and provided with stop-hooks J, and stationary cylinder, adapted (at its upper edge) to receive the impingement of said stop-hooks, and provided with projection for the engagement of said catches, and means for the disengagement thereof, (when the pump is to be lifted,) substantially as and for the purposes specified.

9. The combination of the fixed cylinder C and the removable cylinder C', the latter being provided with an exterior piston-packing, D, capable of sliding within the cylinder C, substantially as and for the purposes specified.

10. The hooks E, provided with stop-hooks J, in combination with the tube or cylinder C' and the cylinder C, the last-named cylinder being provided with a projection or projections for engaging the said stop-hooks J, substantially as and for the purposes specified.

11. The hooks E, provided with stop-hooks J, in combination with the tube or cylinder C' and a cylinder, and a projection for engaging said first-named hooks, substantially as and for the purposes specified.

268,845. PUMP. BENJAMIN C. VANDUSEN, Cincinnati, Ohio, assignor to Herbert D. Lafferty, Nashville, Tenn., and Stanley B. Lafferty, Davenport, Iowa. Filed Apr. 29, 1882. (No model.)



Claim.—1. In a pump, the combination of a cylinder provided with a flaring mouth or end, and the cylinder-head or valve-seat beveled to fit said flare, and an annular packing interposed between said flaring mouth and the head, substantially as and for the purposes specified.

2. In a pump, the combination of a cylinder provided with a flaring or trumpet-shaped mouth or end, and the beveled or wedge-shaped cylinder-head or valve-seat having an annular groove around its periphery, and an annular packing located in said annular groove, substantially as and for the purposes specified.

3. In a pump, the combination of the wedge-joint with the end of the cylinder, and the edges of the cylinder head or valve-seat, and a packing interposed and wedged between the adjacent opposing portions of said joint, substantially as and for the purposes specified.

4. In a pump, the combination of the wedge-joint with the end of the cylinder, and the edges of the cylinder-head or valve-seat, and a packing interposed and wedged between the adjacent opposing surfaces of said joint and held in an annular groove in one of said opposing surfaces, substantially as and for the purposes specified.

5. In a pump, the combination of the pump-cylinder and the discharge-pipe, the two being connected by a hollow wedge-shaped joint without extrinsic support, a suitable packing being located between the opposing surfaces of said joint, substantially as described.

6. In a pump, the combination of the pumping-chamber G and the discharge-pipe B, connected by the passages E' and G', these two passages being united by a wedge-shaped joint, and a suitable packing interposed between the opposing surfaces of said joint, substantially as and for the purposes specified.

7. In a pump, the combination of the pumping-chamber G, casting D, and the discharge-pipe B, the cylinder G being united to the passages D' and E' of said casting by wedge-shaped joints, substantially as described.

8. In a pump, the combination of two cylindrical or tube sections whose adjacent ends are formed, one with a beveled edge and the other flared to fit over and wedge, forming a joint without extrinsic support, upon the beveled edge, and an annular packing located in a groove near the end of one of the sections and wedged between the adjacent surfaces of said ends, substantially as and for the purposes specified.

9. A pump consisting of a discharge-pipe suitably supported, its lower end having connected thereto the casting D, in combination with the pumping-cylinder placed at one side of said discharge-pipe B, and held firmly in position by the single rod J, for enabling the cylinder to be lifted without disturbing the discharge-pipe, substantially as and for the purposes specified

10. The combination of the pumping-cylinder G, provided with the passage or projection G', and the casting D, provided with the passages D' and E', said pumping-cylinder and casting being held in position with relation to each other by the tube J and set-bolt K, substantially as and for the purposes specified.

11. The combination of the casting D, provided with the vacuum-chamber *d*, separated from the discharge-pipe by the partition *d'*, and the pumping-cylinder G, connected to said casting and retained in position by the tubular air-chamber J and set-bolt K, substantially as and for the purposes specified.

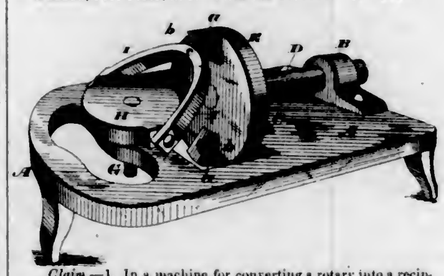
12. In a pump, the body A, consisting of a hollow pillar, *a'*, suitably braced, in combination with the discharge-pipe B, held in position in said body by the keys *b*, and the valve-seat below the ring, substantially as described.

13. The combination of the pumping-cylinder *g* and the valve L, said valve being located within and connected to the lower edge of a ring, M, retained in the lower end of said pumping-cylinder, substantially as and for the purposes specified.

14. The combination of the ring M and the valve L, connected thereto, said ring being provided with the projections or lugs *m*, and the valve being provided with the wings *s*, substantially as and for the purposes specified.

15. In a pump, the combination of two cylindrical or tube sections, the end of one flared to fit over and wedge upon the adjacent end of the other, and an annular packing wedged between the adjacent surfaces of said ends, and a provision located upon one of said adjacent inclined surfaces for holding the packing in position when the sections are separated, substantially as and for the purposes specified.

268,846. DEVICE FOR CONVERTING MOTION. MARVIN E. WELLER, Fort Plain, N. Y. Filed Oct. 27, 1882. (No model.)



Claim.—1. In a machine for converting a rotary into a reciprocating motion, the combination, with a horizontal rotary shaft supported in suitable bearings, and provided on its inner end with a wheel having one or more bearings formed on its inner face, of a vertical shaft supported in suitable bearings, and provided on its upper end with a disk or wheel, and a bifurcated yoke connecting the said wheel on the horizontal shaft to the disk or wheel on the vertical shaft, and adapted to convert the rotary motion of the horizontal shaft to a reciprocating motion of the vertical shaft.

2. In a machine for converting a rotary into a reciprocating motion, the combination, with the frame A, provided with suitable bearings, B C, in which is mounted a horizontal rotary shaft, D, said shaft being provided on its inner end with a wheel, E, having two bearings, *a a*, provided with slanting perforations *b b*,

of a vertical shaft, G, mounted in a vertical bearing, F, and provided on its upper end with a reciprocating wheel, H, and a yoke, I, loosely secured at two opposite points in the periphery of said disk or wheel H, and having an arm or projection, *e*, fitting into a slanting perforation, *b*, in one of the bearings *a* of the wheel E, all of the above parts being adapted to operate substantially in the manner described, and for the purpose set forth.

268,847. BLIND-SLAT. SAMUEL E. ADAMSON, Stapleton, N. Y. Filed Apr. 25, 1882. (No model.)

Brief.—A metallic tenon with notched ends embracing the slat is secured thereto by a metallic clasp passing through the notches and into the slat.



Claim.—1. The combination, with the tenon provided with a pivot and two parallel or approximately-parallel sides, of a metallic clasp constructed as described, and adapted to embrace the ends of the tenon and hold it in position on the slat.

2. The tenon, made of sheet metal and provided with a central struck-up pivot and two ends, the latter adapted to rest and be secured on opposite sides of a blind-slat by a suitable clasp.

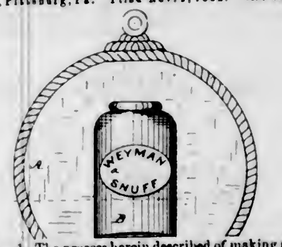
3. A tenon made from sheet metal and provided with a hollow tapering or cylindrical pivot and two notched sides, the latter adapted to rest on opposite sides of one end of the blind-slat and be secured thereon by a metallic clasp, substantially as described.

268,848. PROCESS OF MANUFACTURING FOOT-COVERINGS. SAMUEL G. ALEXANDER, Caro, Mich. Filed July 27, 1882. (No model.)



Claim.—The herein-described covers for the formers for felted boots or shoes, consisting of the rectangular pieces of fabric, each formed with the joint or extension *b*, said extended portions being secured together to form a sack or pocket at one side, said pocket being adapted to receive and hold the end of the former while the two portions of the cover are being folded into position for use, substantially as described.

268,849. MANUFACTURE OF GLASS SIGNS. THOMAS B. ATTERBURY, Pittsburg, Pa. Filed Nov. 9, 1882. (No model.)

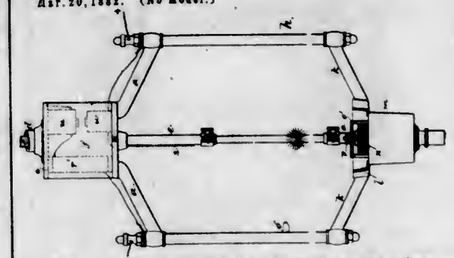


Claim.—1. The process herein described of making glass signs or advertising-tablets, the same consisting in pressing or blowing the article with the proper design therein, pasting on the design or article to be represented the appropriate trade-lable, then painting the design in one color and the other portions of the tablet another color, substantially in the manner set forth.

2. A sign or tablet for advertising purposes, made of one piece of glass, having impressed thereon an imitation of the package or article to be advertised, said imitation article having the trade-label secured thereon, as set forth.

3. A sign for advertising purposes, composed of two tablets of glass having the desired designs thereon, said tablets being secured together, so as to present a single sign with both sides to the observer, as set forth.

268,850. ELECTRIC-ARC LAMP. CLINTON M. BALL, Troy, assignor to himself and John B. Tibbits, Hoosick, N. Y. Filed Mar. 20, 1882. (No model.)



Claim.—1. The combination, in an electric lamp, of a carbon-holder having a rack, a train of gearing and friction-wheel receiving motion from such carbon-holder, a lever and finger to act on such friction-wheel, two electro-magnets—one in the main circuit to the lamp and the other, of high resistance, in the shunt-circuit—an armature upon said lever between the poles of the said electro-magnets, and an adjustable bearing for the fulcrum of the lever, substantially as set forth.

2. In an apparatus for feeding the carbon in an electric lamp, an electro-magnet in the circuit to the lamp, a revolving friction-wheel to regulate the movement of the carbon, a lever to apply friction to such wheel, and an adjustable bearing for the fulcrum of the lever, whereby the friction can be varied by adjusting the armature of the lever in its relation to the electro-magnet, substantially as set forth.

268,851. CARBON-HOLDER FOR ELECTRIC LAMPS. CLINTON M. BALL, Troy, assignor to himself and John B. Tibbits, Hoosick, N. Y. Filed Mar. 20, 1882. (No model.)

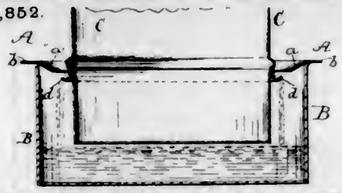


Claim.—1. In combination with the parallel carbons, permanently connected together, and the intervening insulating material, the spring-contacts *m*, the standards or guides *b*, the socket *c*, the cord, pulleys, and weight, and a series of stops, connected with the carbons and liberated successively by the combustion of the carbons, substantially as set forth.

2. The combination, with the carbons and intervening insulating material, of means for moving the carbons endwise between the spring-contacts and limiting cords or wires, and means for connecting the same at intervals to the carbons, so that the said limiting devices will be liberated in succession by the consumption of the carbons, substantially as set forth.

268,852. CULINARY UTENSIL. ELIZA J. BARLOW, Gowes, Mich., assignor to Nathan P. Barlow and Henry Watson, same place. Filed Aug. 31, 1882. (No model.)

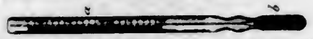
268,852.



Claim.—1. In a vessel for culinary purposes, a steam-rim adapted to rest upon an outer vessel and support an inner vessel, and having a gutter formed thereon to deflect the water of condensation from the walls of said inner vessel, as described.

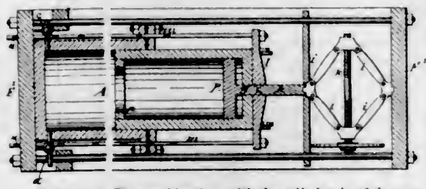
2. The metallic rim *a b c*, formed with gutter *d*, as described, and adapted to deflect the water of condensation, as and for the purpose specified.

268,853. CLINICAL THERMOMETER. JOHN BARRY, New York, N. Y. Filed Oct. 9, 1882. (No model.)



Claim.—The medical thermometer having a rounded back, 3, with rounded edges 6 8, slightly-concave sides 4 and 5, a rounded edge, 7, between the concave sides, with the divisions upon the same, and the figures in the concave sides 4 and 5, as and for the purposes set forth.

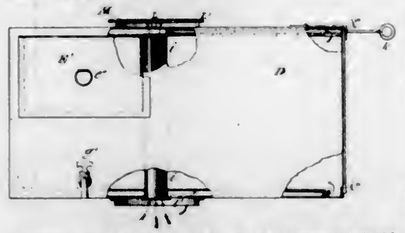
268,854. COMPENSATING-RESERVOIR FOR COMPRESSED AIR. CHARLES L. BERRY, Auburn, assignor of one-half to Norman C. Arnold, Mount Morris, N. Y. Filed Aug. 29, 1882. (No model.)



Claim.—1. The combination, with the cylinder A, of the supplemental telescopic cylinder B', provided with the shoulder *n*, the piston P, provided with the rod *g*, and mechanism for operating said piston, substantially as described and shown.

2. In combination with the cylinder A, the supplemental cylinder B', provided with the shoulder *n*, the piston P, provided with the rod *g*, splice-rods *h*, yoke *l*, rods *m m*, keys *n*, cross-beam F', and mechanism for operating the piston P, all combined and operating substantially in the manner described and shown, for the purpose specified.

268,855. COMBINATION COOKER, BAKER, AND BROILER. WILLIAM B. BILLINGS, Westmoreland, N. Y. Filed July 17, 1882. (No model.)

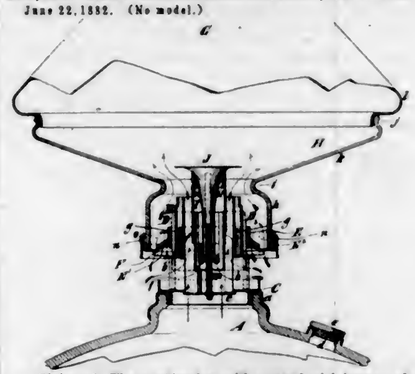


Claim.—1. A baker provided with double top and double bottom, having openings *i'* and *i''* and *i'''*, whereby the air or products of combustion can pass from the burner or any source of heat between the double bottom, then through the oven, and finally through the double top to the opening I, substantially as described.

2. A baker having a central flue, *i*, and damper K, combined with the openings *i' i'' i'''*, the boiler G, and the steamer or box F, fixed or movable, inclosed in the chamber E, substantially as and for the purposes set forth.

3. A baker having a central flue, *i*, and damper K, the oven D, provided with openings *i' i'' i'''*, and the chamber E, provided with the boiler G and the steamer or box F, for the purposes substantially as set forth.

268,856. LAMP. EBENEZER BLACKMAN, Brooklyn, N. Y. Filed June 22, 1882. (No model.)



Claim.—1. The combination, with a round wick-burner, of a translucent shade-holder fitted thereto, and having an indentation above the tip of the wick-tube, a button or spreader supported by the burner and extending some distance above the indentation of the shade-holder, a tube extending above the wick-tube and perforated below the button or spreader, and a shade supported on the said holder, substantially as and for the purpose specified.

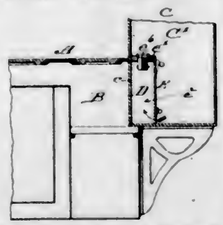
2. The combination, in a lamp-burner, of a round wick-tube having longitudinal slots in its exterior, a plate or plates fitted to the exterior of the said wick-tube, provided with teeth which pass through the slots in the wick-tube, so as to engage with the wick, and having an external screw-thread and an internally-screw-threaded ring, which engages with the said plate or plates and may be turned to elevate or depress the same, and thereby raise or lower the wick, substantially as specified.

3. The combination, in a lamp-burner, of a round wick-tube having longitudinal slots in its exterior, a plate or plates fitted to the exterior of the said wick-tube, provided with teeth, which pass through the slots in the wick-tube, so as to engage with the wick, and having an external screw-thread and an internally-screw-threaded ring engaging with the screw-thread of the plate or plates, and forming part of or constituting an air-distributer and gallery for support for a draft-inducing device, substantially as specified.

4. The combination, in a round wick-burner, of a deflector and a tube extending above the wick-tube of the lamp-burner to the deflector and perforated below the deflector, substantially as specified.

5. The combination, in a round wick-burner, of a deflector, button, or cap above the wick-tube, and a tube arranged within the wick-tube and extending to the deflector, button, or cap, and perforated between the tip of the wick-tube and the deflector, button, or cap, substantially as specified.

268,857. RANGE. CHARLES H. BLANCHARD, Batavia, Ohio. Filed June 16, 1882. (No model.)



Claim.—1. The combination, with a range, A, having the fire-place B, the water-tank C, provided with compartment D, the shell *e* of said tank, which is also the front of said compartment, being the side wall of said fire-place, all substantially as set forth.

2. The combination of the water-tank C and the partition *e*, said partition having the openings *e' e''* at or near the lower edge of the partition, and there being an opening or openings between

the upper edge of the partition and the wall *c*, for the purpose described.

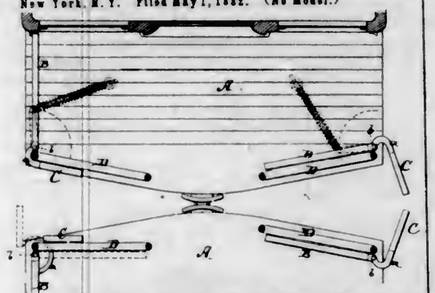
3. The combination of the fire-place B, the tank C, the plate E, and the valves *c' c''*, substantially as described.

268,858. SOLE-EDGE TRIMMER. BENJAMIN D. BOOTHE, Haverhill, Mass. Filed Apr. 13, 1882. (Model.)



Claim.—A sole-edge trimmer constructed with a back guard, C, carrying the reversible guard E, having one straight side, *j*, and one curved side, *k*, and the angle-piece F, and adapted to accommodate a straight or a curved knife, substantially as and for the purpose set forth.

268,859. GATE FOR CAR-PLATFORMS. ARTHUR V. BRIDGEN, New York, N. Y. Filed May 1, 1882. (No model.)

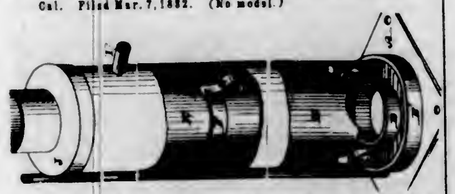


Claim.—1. On a railway-car, the platform-gate B, combined and connected with the extending wing C, so as to move simultaneously therewith, substantially as and for the purpose described.

2. The gate B, connected with the wing C, in combination with the railing D on a car-platform, all arranged so that the gate and its wing are adapted to be folded against the inner and outer sides of said railing alternately, substantially as described.

3. The combination of the gate B and its pivot or hinge *b* with the rigid arm or arms *a* and angular wing C, for operation on the platform of a railway-car, substantially as herein shown and described.

268,860. CHIMNEY. JEREMIAH BROWELL, San Francisco, Cal. Filed Mar. 7, 1882. (No model.)



Claim.—In a double chimney having the inner smoke-flue composed of sections E, as shown, the joint-bands F, surrounding said sections, and having the curved elastic stays G connected with them and pressing against the interior of the outer section, substantially as and for the purpose herein described.

268,861. MIDDLINGS DETACHER AND GRANULATOR. CHARLES BROWN, St. Louis, Mo. Filed Aug. 18, 1882. (No model.)

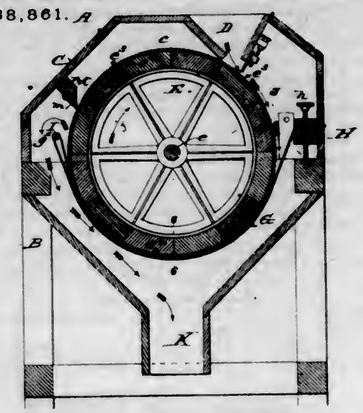
Claim.—1. The combination of the walls *e e*, the rings *e'*, and the concave G, having the frayed edges *g g*, as and for the purpose described.

2. The combination of the concave G, the walls *e e*, and the rings *e' e'*, having the openings *e² e²*, as and for the purpose described.

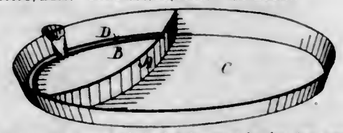
3. In a middlings-detacher, the combination of the cylinder E, the flexible wire-gauze F, and means whereby said wire-gauze is upheld against the cylinder-surface, for the purpose described.

4. The combination of the cylinder E, having the roughened surface E^2, and the concave G, having the flexible wire-gauze F, substantially as described.

268,861. A



268,862. PORTABLE BATHING-TUB. ALEXANDER P. BROWER, Boston, Mass. Filed Oct. 25, 1880. (No model.)

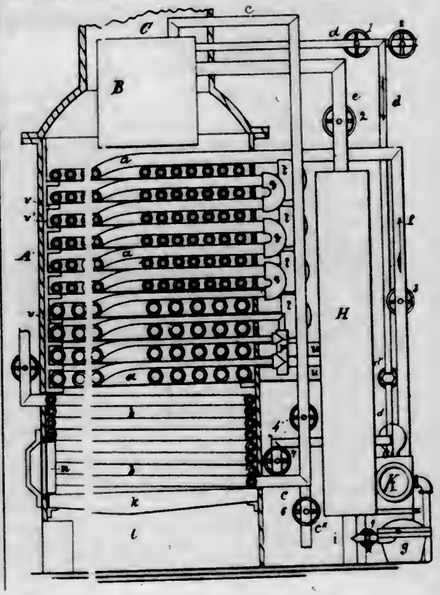


Claim.—1. A portable bath tub or pan having two compartments separated by a permanent partition to form a receptacle for water and another for the bather, substantially as described.

2. A portable bath tub or pan having separate compartments, one for water, the other for the bather, provided with suitable outlets for discharging their contents, substantially as described.

3. A hinged emptying-support attached to and in combination with a liquid-containing vessel, substantially as shown.

268,863. PROCESS OF AND APPARATUS FOR GENERATING GAS. WILLIAM FRANK BROWNE, New York, N. Y. Filed June 30, 1881. (No model.)



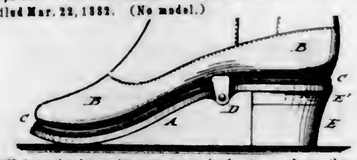
Claim.—1. The process of manufacturing gas or vapor, which consists in forcing a mixture of liquid hydrocarbon and water through a heated coil or conduit and discharging the gas or vapor produced into a suitable receiver.

2. The process of manufacturing gas or vapor, which consists in forcing a mixture of liquid hydrocarbon and water under high pressure through a heated coil or conduit and discharging the resulting gas or vapor into a receiver.

3. The process of manufacturing a fixed gas for illuminating or heating purposes, which consists in forcing a mixture of carbonaceous matter and water under pressure through a heated conduit and discharging the resulting gas or vapor into a receiver, and then decomposing the mixed gas or vapor in a superheater and forming a fixed gas.

4. The combination of the generating-coils, the receiver, the decomposing and fixing coils, and a forcing device for oil and water for the production of a fixed gas.

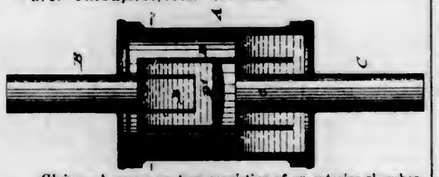
268,864. BOOT OR SHOE. José R. Cancio, New York, N. Y. Filed Mar. 22, 1882. (No model.)



Claim.—1. As an improvement in boots or shoes, the combination, with a sole having a grooved or rabbeted edge, of an upper the lower edge of which is placed into the rabbet, a binding-wire fitted into the rabbet of the sole, and a transverse clamping device for securing the upper and binding-wire tightly to the sole, substantially as set forth.

2. The combination of a sole having a rabbeted edge, an upper the lower edge of which is placed into the rabbet, a binding-wire that is fitted over the sole into the rabbeted edge, and a transverse screw-bolt having screw-eyes with clamping-spurs arranged at the narrowest part of the sole to bind over the retaining-wire, substantially as set forth.

268,865. SEWER-GAS TRAP. Henry R. Cassel, New York, N. Y. Filed Apr. 28, 1882. (No model.)



Claim.—A sewer-gas trap consisting of an exterior chamber, into which the induction and eduction pipes terminate, and of an interior cylinder of less height than the exterior chamber, said cylinder having a transverse diaphragm intermediately between the ends of the induction and eduction pipes, substantially as and for the purpose set forth.

268,866. TEMPORARY BINDER. John L. Cassidy, Minneapolis, Minn. Filed June 13, 1882. (No model.)



Claim.—1. In a temporary binder, the combination, with a suitable back and a series of perforated slats, of a supporting-frame for the slats, constructed of a single piece of wire hinged to one side of the back, and having its ends bent upward and across the same to form raised parts for supporting the slats, substantially as shown and described.

2. In a temporary binder, the combination, with the back and the perforated slats, of the frame formed of a single piece of wire hinged to one side of the back, and having its ends bent across the same and downward and backward to form a foot or support for the frame at the opposite side of the back, and the sliding catches formed with sleeves adapted to receive the ends of the wire and hold the frame in a closed position, substantially as shown and described.

3. In a temporary binder, the combination, with the back and the slats, of the frame formed of a single piece of wire hinged to one side of the back and adapted to fold across the same, and having its central portion bent upward to provide a guard on one side for the papers to be inserted, substantially as shown and described.

4. In a temporary binder, the combination, with the stationary wire guard and the wire frame having the slats supported thereon, of the back formed with a marginal offset for accommodating the said frame and stationary wire guard, substantially as shown and described.

5. In a temporary binder, the combination, with the wire frame, the slats, and the stationary wire guard, of the back formed in two parts secured together, and the catches for holding the ends of the wire frame, which are secured in recesses between the ends of said parts and adapted to slide therein, substantially as shown and described.

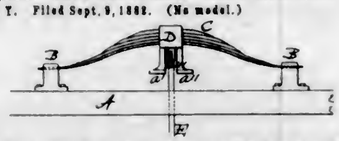
6. In a temporary binder, the combination of the back, the hinged wire frame made nearly equal in length with the back, and having raised parts at the ends, and the slats having a perforation in each extreme end, substantially as shown and described, and for the purpose set forth.

268,867. TRUCK FOR MOVING REAPERS. Henry Clayton, Dayton, Ohio. Filed Sept. 28, 1882. (No model.)



Claim.—The spindle E, with stump-axle, vertical and horizontal projections, in combination with the detachable axle D and frame A, substantially as set forth.

268,868. DRAW-BAR SPRING. John F. Collins, New York, N. Y. Filed Sept. 9, 1882. (No model.)



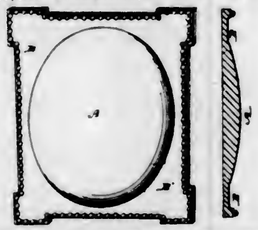
Claim.—The horizontal transverse spring C, supported by the bearings B, attached to the car, and having a draft-band, D, provided with guard-projections a' a'' and a central projection, a''', to which the draw-bar is secured, the whole constructed to operate substantially in the manner and for the purpose specified.

268,869. COFFEE COMPOUND OR SUBSTITUTE. Arthur Conroy and Michael Connor, Liverpool, County of Lancaster, England. Filed Sept. 25, 1882. (No specimens.) Patented in England Oct. 28, 1881, No. 4,719.

Claim.—1. The herein-described compound, consisting of roasted coffee and raw and roasted malt saturated with coffee-extract, the whole combined in substantially the proportions stated, and ground.

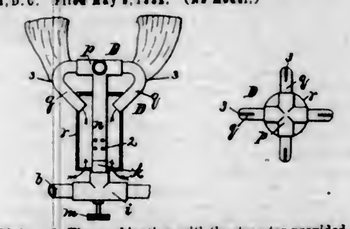
2. The herein-described method of preparing a coffee compound or substitute, which consists in causing water at about 212° Fahrenheit to percolate through roasted coffee, incorporating the extract thus produced with a powdered mixture of raw and roasted malt, spreading the product and drying at a temperature not exceeding 140° Fahrenheit, and finally mixing the dried product with roasted coffee and grinding the whole in a mill.

268,870. COMBINED FRAME AND PLAQUE. Amos Gunnis, San Francisco, Cal. Filed Dec. 13, 1881. (No model.)



Claim.—The method of making plaques for ornamentation herein described, consisting essentially in submerging the blank in melted glue, then applying to the interior portion, A, a series of coats of a composition composed of boiled oil, paris-white, and glue, and smoothing said surface and finishing such surface with a coat of paint, afterward stippling the same and gilding or ornamenting the exterior portion, B, in semblance of a frame, as set forth.

268,871. VAPOR-STOVE. Roderick F. Danforth, Washington, D. C. Filed May 9, 1882. (No model.)



Claim.—1. The combination, with the stove-top provided with a segment-shaped groove, *h*, of a leaf, E, hinged to the top, and a segment-shaped arm, *g*, arranged to slide endwise in the said groove, as set forth.

2. A vapor-stove burner consisting of a nozzle-piece, *k*, a vertical vapor-tube, *n*, secured endwise above the nozzle, an air-supply tube, *r*, closed at its upper end and open at its lower end and surrounding the vertical vapor-tube, and one or more downwardly-curved flame-tubes, *q*, one end of which connects with the vertical vapor-tube and the other end with the air-supply tube, as shown and described.

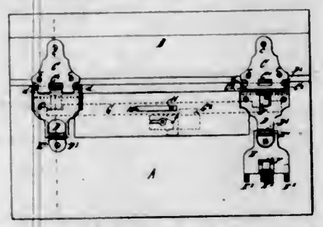
268,872. BOTTLE-STOPPER. John B. Davids, New York, N. Y. Filed Feb. 16, 1882. (No model.)



Claim.—The device for insertion in bottle-stoppers, herein described, consisting of the spiral B, having eye B', the loose ring D, and the sheet-metal plate C, the whole constructed, arranged, combined, and adapted to serve as and for the purposes set forth.

268,873. TRUNK-HINGE. Robert G. Dayton, North Granville, N. Y. Filed Apr. 15, 1882. (Model.)

Brief.—This device is composed of three leaves or plates, two of which are permanently hinged together and fold one upon another, thus making the pintle-socket, while the remaining one has projecting trunnions which form the pintle, the arrangement being such that by unfolding said two plates the hasp or third leaf may be disengaged from the other two. The above construction permits this device to be used as a hinge and also as a hasp-lock, so that the lid of the trunk can be raised from either side.



Claim.—1. A trunk or chest hinge of the character herein set forth, composed essentially of the two plates for attachment to the body and cover, and the hinged hasp mounted upon one of said plates and interlocking with the other plate, the same being arranged to operate substantially as and for the purposes set forth, whereby the raising of the cover or lid is permitted from either side, and also the removal of the cover or lid, substantially as shown and described.

2. In a separable hinge or fastening of the character herein specified, plate C, perforated at C' and having ears C², of plate D and hasp E, substantially as shown and described.

3. In a separable hinge or fastening of the character herein specified, the combination, with plate C, perforated at C' and having ears C², of plate D and hasp E, substantially as shown and described.

4. In a separable hinge or fastening of the character herein specified, plate D, having perforation D', depression D², projections *d*, bent portion D³, and groove *d'*, substantially as shown and described.

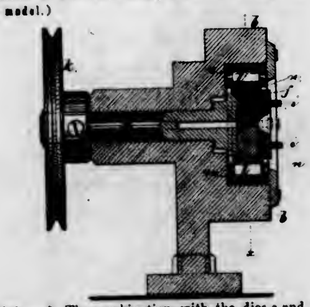
5. In a separable hinge or fastening of the character herein specified, the combination, with plate D, having perforation D' and groove *d'*, of hasp E and spring *a*, substantially as shown and described.

6. In a separable hinge or fastening, hasp E, having bar E', hookr E², and tongue F, substantially as shown and described.

7. In a separable hinge or fastening, the combination, with plates C and D and spring *a*, of hasp E, having tongue F, with groove *d'*, substantially as shown and described.

8. The combination, with plates C and D and hasp E, of a sliding bar, G, and lock I, substantially as shown and described.

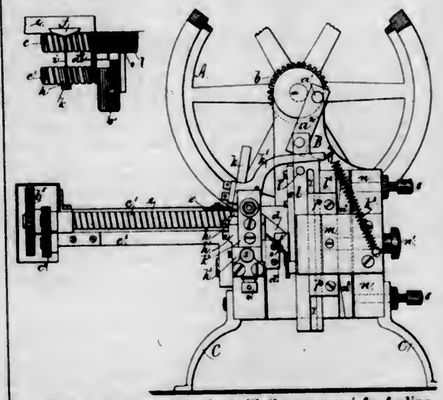
268,874. MACHINE FOR SWAGING NEEDLE-BLANKS. William H. Dayton, Torrington, Conn. Filed Mar. 24, 1882. (No model.)



Claim.—1. The combination, with the dies c and shaft *a*, of the cylindrical shell *b* and circular range of rollers, substantially as set forth.

2. The combination, with the dies c and shaft *a*, of a cylindrical shell, *b*, rollers *l*, and ring-bearings *n* for the axes of the rollers, substantially as set forth.

268,875. MACHINE FOR CUTTING AND STAMPING NEEDLES. William H. Dayton, Torrington, Conn., assignor to Excelsior Needle Company, same place. Filed Mar. 24, 1882. (No model.)



Claim.—1. The combination, with the screws *c c'*, for feeding the needle-blanks and mechanism for actuating the same, of the shears *h k* and means for giving motion thereto, substantially as set forth.

2. The combination, with the screws *c c'*, of the fence *e*, bar *e'*, shears *h k*, and actuating mechanism, substantially as set forth.

3. The combination, with the screws *c c'*, of the fence *e*, incline *f*, and shears *h k*, and actuating mechanism, substantially as set forth.

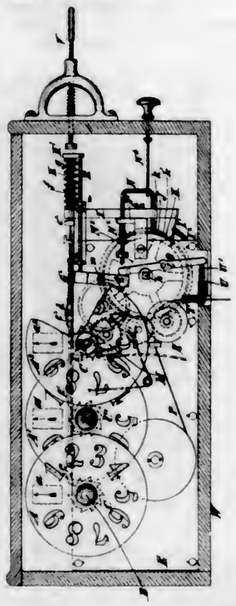
4. The die-holder *d*, having an inclined upper surface, the die or stamp, and the reciprocating stamping-slide, and means for supporting and moving the respective parts, substantially as set forth.

5. The reciprocating stamping-slide *l* and means for supporting and moving the same, in combination with the die-holder *d*, die or stamp, feeding-screws, and cutting mechanism, substantially as set forth.

6. The feeding-incline *s* and gage, in combination with the stamping-slide, the die-holder, the die or stamp, and mechanism for supporting and moving the respective parts, substantially as specified.

7. The combination, with the feeding-screws and fence, of the shears *h k*, and mechanism for supporting and adjusting such shears so as to vary the length of the needle-blank, substantially as set forth.

268,876. RECORDING-INSTRUMENT FOR FIRE-ALARM SIGNALS. ALBERT H. DEAN and STILES H. WHITING, Bridgeport, Conn. Filed May 10, 1882. (No model.)



Claim.—1. In a recording-instrument, the combination of two or more dials, means for rotating them independently of each other, and a hammer supported on an arm which is vibrated to adjust the hammer properly to operate different dials, substantially as specified.

2. In a recording-instrument, the combination of a dial, means for rotating the same, a hammer for operating these means, and a device whereby the hammer is rendered inoperative after an alarm is given until the instrument is reset, substantially as specified.

3. In a recording-instrument, the combination of the dials A A' A², ratchet-wheels C C' C², slider-bars F F' F², the hammer H, and the vibrating arm I, carrying the hammer and presenting it to the slider-bars, substantially as specified.

4. In a recording-instrument, the combination of the dials A A' A², means for operating the same, the hammer H, the arm I, and the cam J, substantially as specified.

5. In a recording-instrument, the combination of the dials A A' A², means for operating the same, the hammer H, arm I, cam J, and a train of gear-wheels connected with the said cam, substantially as specified.

6. In a recording-instrument, the combination of the dials A A' A², means for operating the same, the hammer H, arm I, cam J, with its projection *k*, and the stop N, substantially as specified.

7. In a recording-instrument, the combination of the dials A A' A², means for operating the same, the hammer H, arm I, and cam J, with its projections *i*² and *k*, substantially as specified.

8. In a recording-instrument, the combination of the dials A A' A², means for operating the same, the hammer H, arm I, and cam J, with its projections *k*, *i*², and *k'*, substantially as specified.

9. In a recording-instrument, the combination of a tape, the punch U, the rod R, means for transmitting the motions of the rod to the punch, the vibrating arm I, and the piece H', substantially as specified.

10. In a recording-instrument, the combination of a tape, the punch U, the rod R, means for transmitting the motions of the rod to the punch, the arm I, the cam J, having a projection, *i*², and the piece H', substantially as specified.

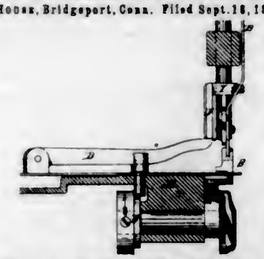
11. In a recording-instrument, the combination of a tape, the punch U, the rod R, means for transmitting the motions of the rod to the punch, the arm I, the cam J, having projections *i*² and *k*, the stop N, and the piece H', substantially as specified.

12. In a recording-instrument, the combination of the rollers S S', the punch U, the rod R, the levers O Q, and the arm I, substantially as specified.

13. In a recording-instrument, the combination of the dials A A' A², means for rotating them, the arm I, hammer H, with its tail-piece H', the rod R, the levers O Q, the train of gear-wheels, the cam J, and the bar N, substantially as specified.

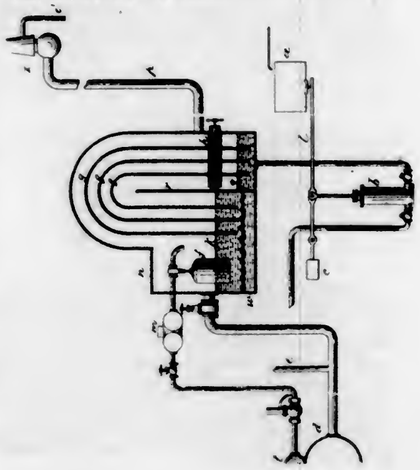
14. In a recording-instrument, the combination of a tape, the rollers S S', the train of wheels, the bar N, the levers O Q, and the punch U, substantially as specified.

268,877. SEWING-MACHINE. GEORGE H. DIMOND and JAMES A. HODGE, Bridgeport, Conn. Filed Sept. 16, 1882. (No model.)



Claim.—The combination of the feed and presser bars of a sewing-machine, with a presser-foot hung forward of its center, vibrating lever D, and cam F, shaped as described, said parts being provided with studs E and J, yoke G, collar I, and spring C, to operate them substantially as and for the purposes set forth.

268,878. PROCESS OF AND APPARATUS FOR DISTRIBUTING LIQUID FUEL IN CITIES. CYPRIEN M. TESSIÉ DU MOTAY, Paris, France, and EDWARD STERN, New York, N. Y., (Benjamin F. Lee, New York, N. Y., Administrator of said Da Motay, deceased;) said Stern assignor to Benjamin F. Lee, New York, N. Y., Ancillary Administrator of said Da Motay, deceased. Filed May 26, 1880. (No model.)

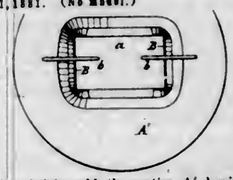


Claim.—1. In combination with a central reservoir and a series of distributing-pipes conveying liquid fuel to the different houses of a city or town, apparatus arranged in the different houses for vaporizing each a portion of said liquid fuel, and a pump and pipes for returning the heavier portions of said fuel to the general circulation, substantially as set forth.

2. The combination, in a town heating and lighting system, of a central reservoir of liquid fuel, a double series of pipes, one of which supplies the liquid fuel to the different consumers of the town, and the other of which supplies compressed air or gas, and carburetors at the different places to be heated or lighted, constructed to carburet the compressed air so delivered by means of the liquid fuel delivered by the fuel-supply pipes, substantially as described.

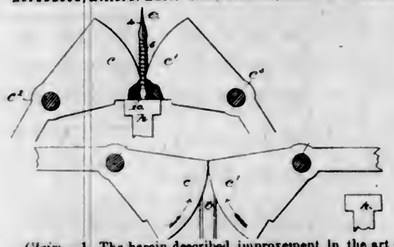
3. The method of supplying heating or illuminating gas to consumers in a city or town, herein described, which consists in supplying to each house the fuel in a liquid condition from a central source, and then carburcting air delivered in each house by said fuel, substantially as described.

268,879. BRICK-DIE. GEORGE F. EARHART, Winterset, Iowa. Filed Aug. 1, 1881. (No model.)



Claim.—In a brick-mold, the section A', having the passage for clay with rounded corners, in combination with the section A, having the passage with rectangular corners to form passages *c*, the shields B, and apertures *d*, the parts being constructed as shown, for the purposes set forth.

268,880. METHOD OF MANUFACTURING NAILS. JOSEPH M. ESTABROOK, Milford, Mass. Filed June 28, 1882. (No model.)



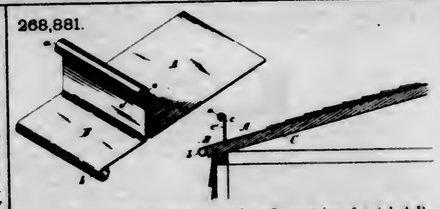
Claim.—1. The herein-described improvement in the art or method of making nails, which consists in flattening a strip of metal, severing the said flattened strip diagonally at intervals of its length, leaving blanks with one inclined edge, severing the said strip at a distance therefrom, as described, to form a head-forming portion for the blank, then pressing the said blank at its edges, or in the direction of its width, between dies shaped to form a point for the nail and to corrugate the shank of the nail above the point, the said pressure for forming the point and body of the nail being exerted from edge to edge of the flattened blank and opposite the thickness of the strip, or the direction in which the strip was pressed to form the blank, substantially as described.

2. That part of the herein-described method of forming nails having an awl-shaped point, such as shown at *e*, which consists in flattening a strip of metal, severing the flattened strip diagonally to form a blank with V-shaped edge at one end, subjecting the metal at the point of the blank to a pressure from edge to edge between grooved dies, in one of which grooves the said V-shaped diagonal edge is entered, the said pressure, in the direction of the width of the blank and at right angles to the pressure which flattened the strip, spreading the point of the blank, making its longest cross-section at right angles to the thickness of the flattened strip, substantially as described.

268,881. EAVES-TROUGH. CHARLES R. EVERSON, Macedon, N. Y. Filed June 2, 1882. (No model.)

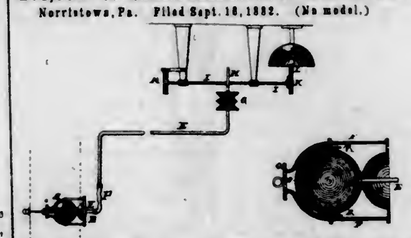
Brief.—The two strips which form the eaves-trough are bent to an L shape and beaded, the bead on the upper strip folding over the flange on the lower one and the bead on the lower strip placed against the edge of the roof-board.

268,881.



Claim.—A roof-trough consisting of two strips of metal, A B, each bent to an L shape and beaded, both secured with their horizontal portions upon the roof-boards, with the vertical flange of one fitting beneath the bead of the other, and the bead of the former turned downward to lie opposite the edge of the roof-board, substantially as set forth.

268,882. PNEUMATIC BELL-RINGING. ROBERT P. GARSED, Norristown, Pa. Filed Sept. 18, 1882. (No model.)



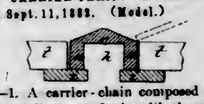
Claim.—1. The combination, in a door-bell pump, of the perforate flexible sphere A, supported by the metal holder C, and with operating-plunger B, said plunger being attached to a pull, and having an orifice in its center for the passage of air, and attachment to the pipe E through the flexible or telescopic tubing P, and said flexible or telescopic tubing P, the whole adapted for ringing a bell, substantially as shown and described.

2. As a means for operating a door-bell, and in combination with a device for pneumatically operating the bellows G, the bellows carrying a staple, H, and the band N, one end of which is attached to said staple, and the other wound around the shaft I to revolve said shaft and to operate the hammer, substantially as shown and described.

3. As a means for collapsing the bellows G, and adapted to be wound up by the expansion of said bellows, the spring M, one end of which is attached to the shaft I and the other to some fixed point, in combination with the tape N and staple H, or their equivalents, all arranged and operating substantially as shown and described.

4. In a pump composed of the holder C, covering A, and plunger B, the latter attached to rods connected to a bell-pull and passing through a flange on said holder, the combination, with said rods and guide-flange, (the latter adapted to receive the bearing of the springs,) the springs S, surrounding said rods, and the fenders R, fastened to the guide-flange, the springs adapted to return the plunger to its position when not actuated by the bell-pull, and the fenders to prevent said springs or rods from rubbing against the rubber sphere, the whole operating substantially as shown and described, as and for the purposes set forth.

268,883. CARRIER-CHAIN. GEORGE GOWAN, Rock Island, Ill. Filed Sept. 11, 1882. (Model.)

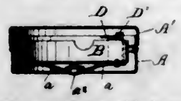


Claim.—1. A carrier-chain composed of links, each constructed, substantially as set forth, with closed top portions, and adapted to be pivoted together to form a chain which will present a continuous bearing-surface on top.

2. A carrier-chain link having an unbroken or continuous surface at *c*, which is also convex or higher near the center line than at the edges of the link's sides, as and for the purposes set forth.

3. A carrier-chain composed of links with covered top portions and arranged to engage with the sprockets of a chain-wheel, and also provided with side bars, the under edges of which are practically continuous, in the made-up chain, and adapted to rest and run on flat ways at either side of and beneath the chain.

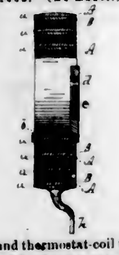
268,884. WATCH-MOVEMENT BOX. WICKTOR A. GUSTAFSSON, Chicago, Ill. Filed Sept. 6, 1882. (No model.)



Claim.—1. The combination, with the outer case, A, of the inner case, B, and the radial arms *a a a a*, provided at the outer ends with the elongated slots *b*, and secured to the case B by means of the pins *d*, adapting these parts to have a lateral adjustment, substantially as and for the purpose set forth.

2. The combination, with the inner case, B, of the retaining-clasps C C', the upper ends thereof being split to form the part D, which is turned downward in a horizontal plane, while the part D' projects upward in a vertical plane, substantially as and for the purpose set forth.

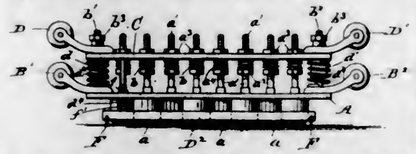
268,885. THERMOSTAT-COIL. HENRY J. HAIGHT, New York, N. Y. Filed Mar. 20, 1882. (No model.)



Claim.—1. A compound thermostat-coil made convex in cross-section, substantially as and for the purpose herein specified.

2. A thermostat-coil having several turns and composed of two strips, A B, having outer surfaces convex in cross-section, and of different metals or alloys, soldered together, the outer-curve metal having a greater rate of expansibility than the inner-curve metal under increasing heat, the said coil having a radial arm, *c*, secured to its inner end for attaching it to a fixed stud or shaft, *d*, and an arm, *h*, secured to its outer end, adapted to be applied to the operative mechanism of a thermostat-valve, substantially as and for the purpose herein specified.

268,886. HAND LOZENGE-CUTTER. CHARLES H. HALL, Chicago, Ill., assignor of one-half to Rufus P. Pattison, same place. Filed Mar. 1, 1882. (No model.)



Claim.—1. In a hand lozenge-cutter, the combination, with the plate A, provided with the handles B' B³, of the series of cutters *a*, the pistons B, having the stems *a'*, and the plate C, provided with the handles D D', substantially as described.

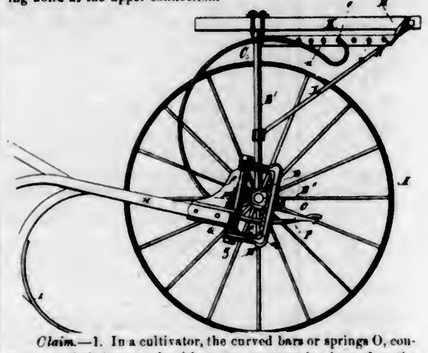
2. The combination, with the cutter and clearing-plate D³, of the gage-points F F', substantially as and for the purpose set forth.

3. The combination, with the cutter-plate A and the series of cutters *a*, of the clearing-plate D³, the gage-points F F', the rods *d⁴ d³*, adjusting-nuts *f*, and the springs *f'*, substantially as and for the purpose set forth.

4. A hand lozenge-cutter consisting essentially of the plates A and C, having suitable operating-handles, of the series of cutters *a*, the embossing and expelling pistons B, provided with the stems *a'*, the adjusting-nuts *a³ a³*, the springs *b*, the connecting-bolts *b' b³*, and the springs *d⁴ d³*, constructed, arranged, and operating substantially as and for the purpose set forth.

268,887. LIFTING DEVICE FOR CULTIVATOR-BEAMS. JAMES T. HAMILTON, Council Bluffs, Iowa, assignor to himself and William K. Hoagland, Peru, Ill. Filed Feb. 20, 1882. (No model.)

Brief.—The coupling-sleeve has a rigid arm extending horizontally to the front. Into this arm the spring is inserted, and, passing under the axle, is curved upward and forward and attached to the upper frame. Its strength is regulated by a series of adjusting-holes at the upper connection.

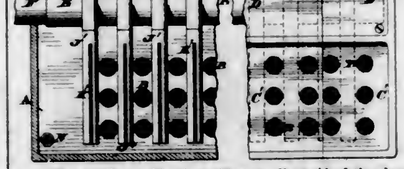


Claim.—1. In a cultivator, the curved bars or springs O, connected at their lower ends with an arm or extension located on the sleeve or collar which carries the plow beams and shovels, and having their upper ends adjustably connected with the frame or arch of the cultivator for adapting the bars or springs to resist the varying strains incident to working light and heavy soil, substantially as described.

2. The combination, with a cultivator-frame and plow-beams or drag-bars, of a spring or curved bar, O, and adjusting-bar N, pipe box or sleeve C, having an arm, P, and the coupling E F, substantially as described.

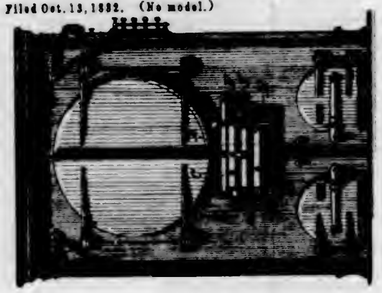
3. In a cultivator, the curved bar or spring O, in combination with the adjusting or tension bar N and arm or extension P, having a fulcrum, *r*, and attached to the beam sleeve or collar, substantially as and for the purposes specified.

268,888. AIR-DISTRIBUTER FOR CANDLE-MOLDS. WILLIAM H. HANBY, Cincinnati, Ohio, assignor to Henry Korf, Jr., same place. Filed Sept. 11, 1882. (No model.)



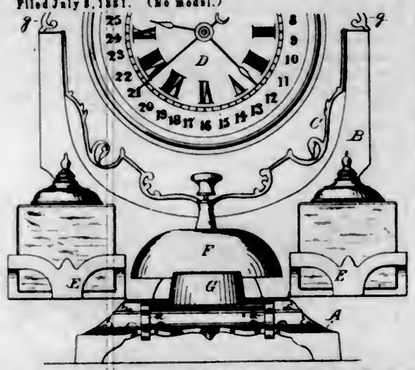
Claim.—In combination with a candle-mold of the class described, an air-distributer consisting of the perforated trunk E H and primary slotted laterals J K, having necks I, fitting in the openings H of said trunk, the secondary slotted laterals J' K' being slipped onto said primaries J K, in the manner described.

268,889. FURNACE-DOOR. HARRIS HIGGINS, Chicago, Ill. Filed Oct. 13, 1882. (No model.)



Claim.—In a furnace-door, the combination, with the slide B and the dash-pot E, of the lever C, having a suitable connection therewith, and the adjustable arm H, whereby the act of closing the door has the effect of automatically raising said slide and uncovering the draft-openings provided for the admission of air into the combustion-chamber, substantially as described.

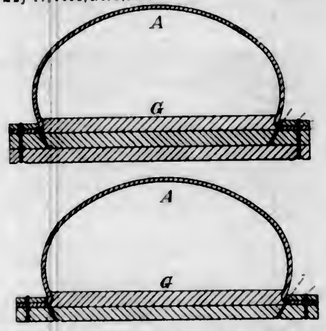
268,890. CLOCK-STAND. GEORGE HILLS, Plainville, Conn. Filed July 8, 1881. (No model.)



Claim.—1. The improved clock-stand, consisting of the base A, call-bell F, mounted on said base, the upright extending upward from the base in rear of the center of said bell, also having an opening opposite the bell, and adapted to receive and support a clock whose hammer extends downwardly in rear of the upright to the bell, substantially as described, and for the purpose specified.

2. The improved clock-stand, consisting of the base A, upright B, swinging frame C, for carrying the clock D, and suitable stops to limit the movement of the frame C and clock D, substantially as described, and for the purpose specified.

268,891. BOOT OR SHOE. SOLOMON K. HINDLEY, Worcester, Mass. Filed Sept. 19, 1882. (No model.) Patented in England May 17, 1882, No. 2,325.



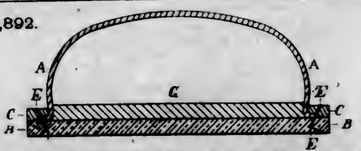
Claim.—1. An improved boot or shoe having its upper turned outward upon a sole, and united thereto by a seam or other row of fastenings outside the body of the upper, a welt resting upon such outwardly-turned portion of the upper, the welt, upper, and sole or soles being united by another seam or row of fastenings outside of the first, all substantially as described.

2. An improved boot or shoe having its upper turned outward upon an upper sole, and united thereto by a seam or row of fastenings, passing through the sole and the outwardly-turned upper only, outside the body of the upper, and having a welt resting upon such outwardly-turned portion of the upper and over the seam, and a bottom sole beneath the upper sole, the welt, the upper, the upper sole, and the bottom sole being united by another seam or row of fastenings outside of the first, all substantially as described.

268,892. BOOT OR SHOE. SOLOMON K. HINDLEY, Worcester, Mass. Filed Sept. 19, 1882. (No model.) Patented in England May 17, 1882, No. 2,325.

Claim.—An improved boot or shoe having its upper turned

268,892.



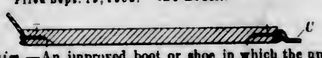
outward upon an upper sole and united thereto by a seam or row of fastenings outside the body of the upper, the outwardly-turned portion of the upper being chamfered off a short distance back of the sole-edge, and having also a welt covering the chamfered surface and edge of the outwardly-turned portion of the upper, substantially as and for the purpose set forth.

268,893. BOOT OR SHOE. SOLOMON K. HINDLEY, Worcester, Mass. Filed Sept. 19, 1882. (No model.)



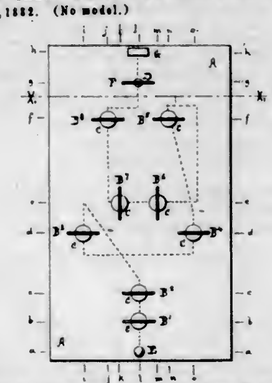
Claim.—A stitch-down boot or shoe having the upper turned outward upon the upper sole and united thereto around the fore part by seams or rows of fastenings outside the body of the upper, and united thereto in the shank by a single seam or row of fastenings outside the body of the upper, the upper sole and the bottom sole, in the shank, being united by a row of fastenings inside the line of contact of the upper with the upper sole and concentric therewith, substantially as and for the purpose set forth.

268,894. BOOT OR SHOE. SOLOMON K. HINDLEY, Worcester, Mass. Filed Sept. 19, 1882. (No model.)



Claim.—An improved boot or shoe in which the upper is turned outward upon a welt and united thereto, the welt being also united to the insole at or beneath the edge thereof, substantially as shown and described.

268,895. GAME. GEORGE W. HOAR, Fall River, Mass. Filed Sept. 22, 1882. (No model.)



Claim.—1. In a game apparatus, the hoop B, having a bell, C, suspended therein, and provided with a standard having a disk, D, substantially as described.

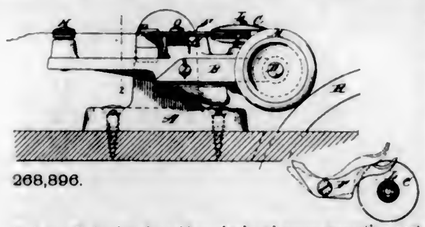
2. In a game apparatus, the goal G, provided with an explosive cap, H, substantially as described.

3. In a game apparatus, a hoop and its standard formed from one piece of wire bent into the required form, substantially as shown and described.

4. A game apparatus, consisting of the field A, a number of hoops, B, having suitable standards, and provided with bells C, the starting-post E, goal G, explosive cap H, hoop F, balls J, and bats I, all substantially as shown and described.

268,896. BOBBIN-WINDER FOR SEWING-MACHINES. CHAS. H. HOPP, Chicago, Ill. Filed Sept. 16, 1882. (No model.)

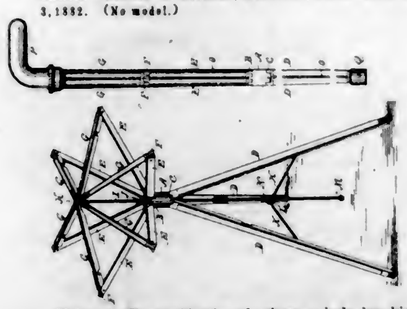
Claim.—The combination of base A, provided with shoulder



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P, frame B, having the rubber wheel and worm-supporting part thereof adapted to rock slightly, bobbin C, latch-lever F, and thread-check H, with worm D and worm-wheel E, operating together by means of the springs and connections shown, substantially as and for the purpose described.

268,897. COMBINATION WALKING-CANE AND PICNIC-CHAIR. HORACE M. HOUSTON, Woodville, Texas. Filed Oct. 3, 1882. (No model.)



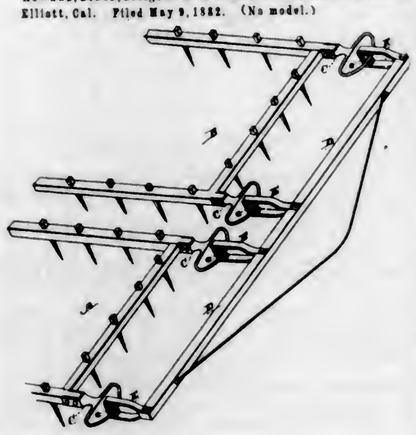
Claim.—1. The combination of a sleeve or body, legs hinged to the lower end of the same, braces hinged to its upper end, and seat-bars hinged between said braces, and a cap-piece having the downwardly-extending supporting-rod I, as set forth.

2. The combination, with the sleeve or body, of the hinged legs, braces, and seat-bars, all having a lining of metal, which extends at the ends, so as to form the hinge parts, as set forth.

3. The combination of the sleeve A, having notches B C, legs D, having braces K, connected by ring L, hinged braces E, and seat-bars G, and cap-piece H, having rod I, provided with the collars J M N, as and for the purpose set forth.

4. The combination, with the sleeve A, having hinged legs D and braces E, and the seat-bars G, cap-piece H, braces K L, and rod I, having collars J M N, of the screw-threaded head P and ferrule Q, as and for the purpose set forth.

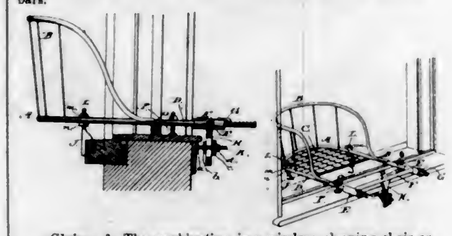
268,898. EVENER-HINGE FOR HARROWS. WILLIAM A. HOWARD, Dixon, assignor of one-half to William M. Bernard, Elliott, Cal. Filed May 9, 1882. (No model.)



Claim.—The harrow-sections and curved semi-elliptical links C, bolted thereto, in combination with the clips E, bolted to the evener-bar and provided with rollers e, against which links C bear, all constructed, arranged, and operated as set forth.

268,899. WINDOW-CLEANING CHAIR. DAVID V. HOWELL, Monroe, N. Y. Filed Apr. 18, 1882. (No model.)

Brief.—A clamping-arm sliding on seat-bars projecting inwardly from the chair is held toward the sill by pivoted catches engaging notches on the bars, and has a stay-bolt passing through a vertical slot in the arm and held thereto by thumb-nuts, and a toothed plate engaging serrations on the arm. The outer end of the chair is held by a shouldered plate resting on the edge of the sill and having a screw-bolt with adjusting-nuts clamping the seat-bars.



Claim.—1. The combination, in a window-cleaning chair or scaffold with a clamp or brace adapted to support and secure its outer end, of an inner clamping-arm, H, traversing upon one or more seat-bars, D, projecting forward from the seat, an automatic retaining device, G, operating to prevent an outward movement of the arm, and a stay-bolt, K, led through the arm at right angles thereto and admitting of both vertical and horizontal adjustment, all substantially as and for the purpose herein set forth.

2. The combination, in a window-cleaning chair or scaffold with clamping devices securing its inner end within the window-casing, of an adjustable plate, J, and screw-bolt L, adapted to engage jointly, as described, both the upper and outer faces of the outer edge of the window-sill, and to support thereby the outer end of the chair, substantially in the manner and for the purpose herein set forth.

268,900. DENTAL PLUGGER. WILLIAM H. H. HUSTER, Cincinnati, Ohio. Filed Apr. 26, 1882. (Model.)



Claim.—1. The combination of a barrel or case, A, mallet D, stem E, hooks *d* and *e*, adjustable guide *g*, and springs F F, arranged for operation substantially as described.

2. The combination of the stem E, swell *e'*, guide *g*, provided with a slot, *g'*, and binding-screw *g²*, and the cap G, substantially as and for the purpose described.

3. The combination of the barrel A, stud *a'*, spring H, arm *e²*, stem E, and tool B, substantially as and for the purpose described.

268,901. COMBINED BOUQUET-HOLDER AND BADGE-PIN. CHARLES P. JACOBS, Indianapolis, Ind. Filed July 21, 1882. (No model.)



Claim.—1. A combined bouquet-holder and badge-pin, wherein a curved recess for holding the bouquet or badge is made in the top bar and integral therewith, substantially as specified.

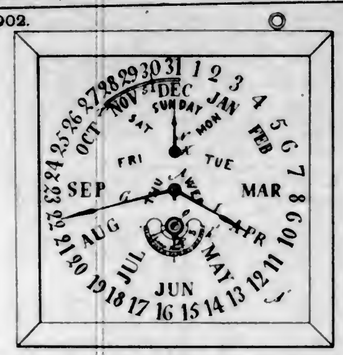
2. A combined bouquet-holder and badge-pin, wherein a circular opening for holding a bouquet or badge is formed in the top bar and integral therewith, substantially as shown.

3. A combined bouquet-holder and badge-pin, having an opening or hollow for holding a bouquet or badge, in connection with the top bar and points for penetrating the stems, with a pin for clasping the same and attaching it to the clothing, substantially as shown.

268,902. CALENDAR-CLOCK. MATHIAS L. JACQUEMIN, Council Bluffs, Iowa. Filed May 8, 1882. (Model.)

Claim.—1. The combination of the month-pinion D and its

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pointer G, week-ratchet M and its pointer N, click-lever 11, and clicks 9 and 10, substantially as specified.

2. The combination, with the month-pinion D and its pointer G, week-ratchet M and its pointer N, click-lever 11, and clicks 9 and 10, of the dial A', having the month-day numbers and the week-day characters arranged substantially as specified.

3. The combination, in a perpetual calendar, of the monthly index, weekly index, and the index-register 8, substantially as specified.

4. The index-register 8, carrying pointer S, and mechanism for actuating the index, substantially in the manner described, in combination with the monthly and weekly index, substantially as specified.

5. The combination of index-register 8, having catch *k*, and studs *p p'* with month-pinion D, cam J, notches *n*, and month and year wheel P, substantially as specified.

6. The combination of rider 7, carrier 6, wheel C, cam J, and index-register 8, substantially as specified.

7. The wheel C, having cam J, curved lip *q*, and gap *c'*, in combination with index-register 8, and carrier 6, substantially as specified.

8. The cam J, having stud *x*, and stud *f'*, in combination with wheel C and carrier 6, said carrier having toe *a'* and click-arm *g'*, substantially as specified.

9. The combination of carrier 6, having pawl *c'* and stud *d'*, with date-wheel C and month-pinion D, substantially as specified.

10. The rider 7, in combination with carrier 6 and register-index 8, substantially as specified.

11. The carrier 6, pivoted to center O, and rider 7, pivoted on carrier 6, in combination with register-index 8, wheel C, and cam J, substantially as specified.

12. The index-register 8, pivoted on center A, and provided with catch *k* and studs *p p'*, in combination with rider 7, having catch *b'*, frame 5, having notch *w*, spring *t*, wheel C, cam J, and wheel P, substantially as specified.

13. The index-register 8, in combination with spring *t*, rider 7, wheels C and P, and a pointer, S, connected with index 8 through a slot in the dial, and relatively arranged with the month-dial, substantially as specified.

14. The combination of register-index 8 with the quadrennial wheel P, substantially as specified.

15. The quadrennial wheel P, constructed substantially as described, with register-index 8, wheel C, cam J, carrier 6, and rider 7, substantially as specified.

16. The quadrennial wheel P, constructed substantially as described, in combination with register-index 8 and month-pinion D, substantially as specified.

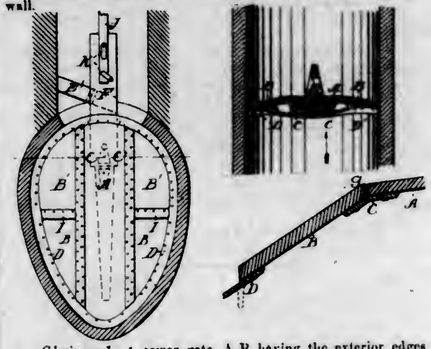
17. The quadrennial wheel P, constructed substantially as specified, in combination with register-pointer 8, month-pinion D, and wheel C, substantially as specified.

18. The combination of quadrennial wheel P, quadrennial calendar Q, and the stationary pointer R, substantially as specified.

19. The quadrennial dial Q and fixed pointer R, in combination with the month, week, and day dial A', the said dial Q being located behind dial A' and seen through an opening in it, substantially as specified.

268,903. WING-GATE FOR FLUSHING SEWERS. SAMUEL JOHNSON, San Francisco, Cal. Filed June 5, 1882. (No model.)

Brief.—A brace bearing on the sewer-wall is hinged to a gate with beveled circumferential edge formed of a center piece and wings (with the inner edges beveled to fit the center piece at a certain angle) secured thereto by flexible strips. A circumferential flexible strip renders the gate water-tight, while an extension-bar on the center piece may be wedged or braced against the sewer-wall.

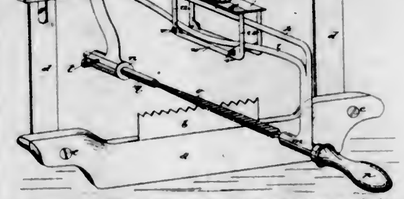


Claim.—1. A sewer-gate, A B, having the exterior edges curved and beveled, so as to fit the sides of the sewer when the gate stands at an angle, and provided with the flexible flaps D around the edges, and the inclined brace E, standing at an angle so as to brace against the side or bottom of the sewer and retain the angularly-placed gate, substantially as herein described.

2. A sewer-gate consisting of the center piece, A, and the wings B, beveled to fit, and having their meeting-edges hinged together by flexible strips C, and their exterior edges provided with flexible flaps D, in combination with the hinged brace E and the standard or bar F, wedged or braced against the top of the sewer, substantially as and for the purpose herein described.

3. A sewer-gate consisting of a vertical central piece, A, having a brace, E, by which it may be fixed within the sewer, in combination with two or more wings, B or B', hinged to the central piece by flexible water-tight strips C, and having exterior projecting flaps, D, so that said gate may be folded for introduction or removal, and when opened will form a tight dam within the sewer, substantially as herein described.

268,904. SAW-FILER. HARVEY P. JONES, Winterset, Iowa, assignor of one-third to William P. Payton, same place. Filed June 26, 1882. (No model.)



Claim.—1. The combination, with a saw-clamp, *a*, of a bar, *c*, supported over the clamps by uprights *d*, substantially as described, for the support of a file-guide.

2. The combination, with a saw-clamp, *a*, of a file-guide, substantially as herein described, supported on a bar, *c*, located over the saw-clamp, substantially as described.

3. The combination, with a saw-clamp, of a file-guide, *j*, *u*, and *v*, supported over the clamp by a keeper, *i*, arranged to slide along bar *c*, also located over the clamp, substantially as described.

4. The combination, with a saw-clamp, of a file, *o*, mounted in a file-frame, substantially as herein described, and a guide, *j*, *u*, and *v*, for said file-frame, substantially as described.

5. The file-frame consisting of bars *k l* and sockets *m* and *n*, in combination with guide *j*, *u*, and *v* and with the saw-clamp, substantially as described.

6. The file-frame, substantially as herein described, in combination with guide *j*, *u*, and *v*, and the adjustable keeper *i*, said guide being pivoted to the keeper and the keeper being arranged on the bar *c*, substantially as described.

7. The adjustable keeper *i*, guide *j*, *u*, and *v*, and the file-frame in combination, said guide and keeper being pivoted together and having the scale *z a'*, substantially as described.

8. The combination of the adjustable keeper *i*, file-frame guide *j*, *u*, and *v*, file and file-frame, and the saw-clamp, substantially as described.

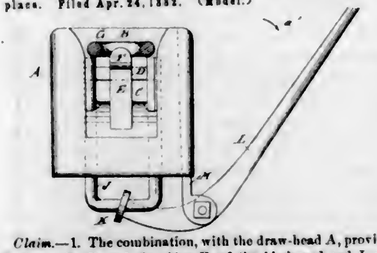
9. The combination, with the saw-clamp, of the file-frame and the guide therefor, the bar *l* of the saw-frame being curved to correspond with the curvature of the file and arranged with relation to rods *v* of the guide, substantially as described.

10. The combination of the file-frame, file-frame guide, guide-holding keeper, and the supporting-bar for the keeper, said bar being marked with scales, substantially as described.

11. The combination of the file-frame, file-frame guide, guide-holding keeper, and the supporting-bar for the keeper, said bar being adjustable toward and from the saw-clamp, substantially as described.

12. The combination of the adjustable socket-tube *q* with the file and file-frame, substantially as described.

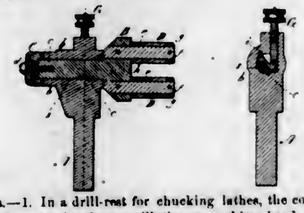
268,905. CAR-COUPLING. FRANKLIN W. KELLY, Vermontville, Mich., assignor to himself and Elvia U. Stiles, same place. Filed Apr. 24, 1882. (Model.)



Claim.—1. The combination, with the draw-head A, provided with the cavity B, and the ridge E, of the U-shaped rod J, projecting through the bottom of the draw-head into the cavity, and adapted to bear directly against the link on opposite sides thereof when raised by a lever, L, to disengage the link from the ridge in uncoupling, substantially as described.

2. The combination, with the draw-head A, constructed with a cavity, B, and a ridge, E, projecting upward from the bottom of the cavity, of the U-shaped rod J, projecting through the bottom of the draw-head into the cavity, the eye K, loosely mounted on the cross-pieces of the rod J, and the lever L, pivoted to this eye K and to the draw-head or a projection of the same, substantially as herein shown and described, and for the purpose set forth.

268,906. DRILL-REST FOR LATHES. JOHN P. KELLY, Saco and LEWIS P. SHERMAN, Biddeford, Me. Filed June 27, 1882. (No model.)



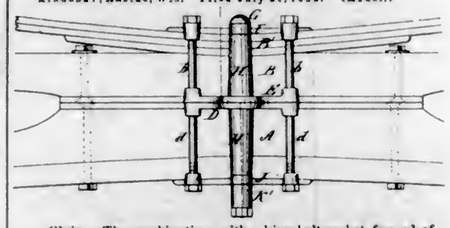
Claim.—1. In a drill-rest for chucking lathes, the combination, with the post A, of an oscillating or rocking head, B, provided with a pair of holding-jaws, D D, arranged at equal distances from the center A, and adapted to be moved with the head around said center to cause them to be brought simultaneously into contact with the opposite sides of the drill placed between them and bear with equal force thereon, and means for holding the jaws immovably upon the drill when adjusted, substantially as and for the purpose set forth.

2. In a drill-rest for chucking lathes, the combination with the oscillating head B, of the drill-holding jaws D D, adapted to be moved around a common center and composed of the friction-rolls *e e*, mounted upon pins *f f*, projecting out horizontally from the face of the head B, substantially as and for the purpose set forth.

3. In a drill-rest for chucking lathes, the combination, with the oscillating head B, and its drill-holding jaws D D, and the shaft *c*, with its recess *i*, of the adjusting-screw G, adapted to move the head and bring the jaws into contact with the opposite sides of the drill and hold the head immovably in place when adjusted, substantially as set forth.

4. In a drill-rest for chucking lathes, the combination of the post A, with its horizontal bearing S, the oscillating head B, with its rock-shaft *c*, held in place by the screw *d* and cap C, and the drill-holding jaws D D, composed of friction-rolls *e e*, mounted upon pins *f f*, projecting out horizontally from the face of the head B, all constructed and arranged to operate substantially in the manner and for the purpose described.

268,907. VEHICLE KING-BOLT CONNECTION. HORACE L. KINGSLEY, Racine, Wis. Filed July 21, 1882. (Model.)



Claim.—The combination, with a king-bolt socket formed of two sections, H H, attached to the friction-plates D E in front of axle, of the plates I J, carrying an eye, respectively, at the top and bottom of said socket, and secured to said friction-plates by outside bolts, *d d*, provided with end nuts, as shown and described.

268,908. FIRE-DAMP INDICATOR. ISIDOR KITSEE, Cincinnati, Ohio. Filed Oct. 7, 1882. (No model.)



Claim.—1. A mine-fire-damp detector and indicator consisting of the following elements: a vessel having perforated surroundings in whole or in part, having therein the line-wire of an electric circuit, an inclosed substance that will become incandescent when an electric spark is produced by a current induced through said line-wires, all arranged so that the generated electric spark will ignite accumulated fire-damp within said perforate inclosure when it reaches the condition of combustibility, substantially as described.

2. In a mine-damp detector and indicator, the combination of a vessel provided with perforated surroundings, having inclosed therein a substance that will become incandescent by an induced electric current, with the line-wire of an electric circuit and a circuit-breaker, as and for the purpose intended, substantially as described.

3. The within-described system for detecting fire-damp within a mine by means of current-wires of an electric circuit led through a vessel having perforated surroundings, whereby an electric spark will be generated within said perforated surroundings and the accumulated fire-damp, when reaching an inflammable condition, will be ignited, and thereby actuate a circuit-breaker, as and for the purpose intended, substantially as described.

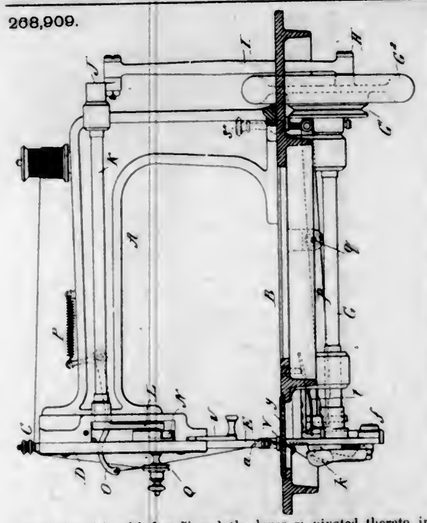
4. The combination, in a fire-damp tester and indicator, of an alarm-annunciator connected to the wire or wires of an electric circuit led to and within a vessel having perforated surroundings, with a circuit-breaker, all so arranged that an electric circuit will be opened or closed when the fire-damp within said perforated surroundings has been ignited by an induced electric current, substantially as described.

5. A route or system of fire-damp testers and indicators, consisting of a number of vessels having perforated inclosures within each of which incandescence will be produced when an electric current is induced through a line-wire connected within said perforated inclosures, in combination with electric line-wires having attached circuit-breakers and station alarm-annunciators, as and for the purpose set forth, substantially as described.

268,909. SEWING-MACHINE. KARL S. KLOOEL, Wärdeberg and Bäckestad, near Linköping, Sweden. Filed June 19, 1882. (No model.)

Claim.—1. A sewing-machine cloth-feeder consisting of the

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head-piece *l l'*, with foot *l'*, and the lever *m*, pivoted thereto, in combination with shaft G, having an eccentric, *u*, which supports the foot, and an eccentric, *o*, which supports one arm of said lever, the lever *p*, supporting the other arm of lever *m*, and passing into a groove between the front bearing of shaft A, the plate-lug *r*, and the screw *r''*, as and for the purpose specified.

2. In a sewing-machine, the combination, with the shuttle path or track *d* of the rotary shuttle-carrier *k*, attached to the end of the shaft G, of the hinged flap *e* and the slide *g*, substantially as herein shown and described, and for the purpose set forth.

268,910. CARBURETOR. AUGUSTUS W. LACY, Attleborough, Mass. Filed July 21, 1882. (No model.)

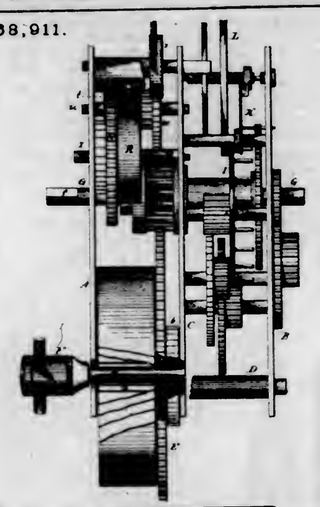


Claim.—As an improvement in carburetors, the combination of outer tank, A, having openings C, inside tank, E, having opening L, and provided at its top with radial transverse strips G, having central openings, H, and carrying depending wicks I, arranged around the interior of tank E, inverted tank O, having elevating means, and escape-pipe J, extending from the top of tank E down through openings H L C to the outside, as set forth.

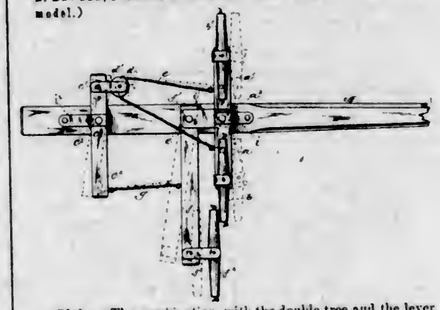
268,911. TIME AND ALARM CLOCK MOVEMENT. FRED. A. LANE, New Haven, Conn. Filed July 17, 1882. (No model.)

Claim.—In a clock-movement consisting of the rear plate, A, the front plate, B, the intermediate plate, C, the actuating mechanism arranged between the rear and intermediate plates, communicating with the train between the front and intermediate plates, and an alarm-movement arranged between the rear and intermediate plates on bearings independent of the bearings or shafts of the time-movement, substantially as described.

268,911.
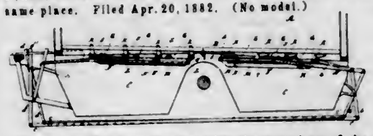


268,912. DRAFT-EQUALIZER. JAMES W. LAWLER and ALBERT B. LAWLER, Fredericksville, Ill. Filed Aug. 14, 1882. (No model.)



Claim.—The combination, with the double-tree and the lever *f*, of the double lever *e*, having its longer arm, *e²*, arranged in rear of the lever *f*, the anti-friction roller *d*, journaled on the end of the shorter arm of the lever *e*, the chain *g*, coupled to the longer arm of lever *e* and to the lever *f*, and the equalizing-chain *e*, having one of its ends made fast to one end of the double-tree and its other end carried around the anti-friction roller *d*, and made fast to the opposite end of said double-tree, substantially as set forth.

268,913. RAKING ATTACHMENT FOR FURNACES. ARTHUR H. LEE, Scranton, Pa., assignor of one-half to Thomas B. Howe, same place. Filed Apr. 20, 1882. (No model.)

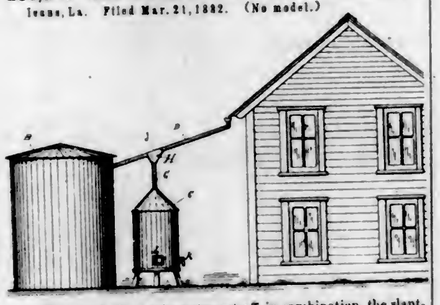


Claim.—1. The combination, with the grate-bars of the furnace, of a reciprocating frame having roller-bearings, and moving longitudinally of the grate-bars in guides below said bars, a series of rows of raking-fingers hinged to said reciprocating frame, and means, substantially as described, for raising and lowering said rows of fingers so as to project them between the grate-bars into the fire or to cause them to lie down below the grate-bars away from the fire, as set forth.

2. The combination, with the grate-bars of a furnace, of a reciprocating frame arranged below the grate-bars and carrying hinged rows of raking-fingers, and vertically-adjustable rollers for guiding and supporting the said reciprocating frame and regulating the extent of the projection of the fingers into the fire, substantially as described, for the purpose specified.

3. The combination, with the reciprocating frame, of the hinged rows of raking-fingers hinged to said frame, the lever *d*, and connecting-rods and levers for reciprocating the frame, the lever *d'*, and connecting-rods and levers for raising and lowering the hinged rows of raking-fingers, and the operating-handle having the two sockets, one of which is adapted to co-operate with the lever *d* and the other with lever *d'*, whereby the hinged rows of raking-fingers are adapted to be raised into the fire, and the reciprocating frame carrying said fingers is given a longitudinal movement with the fingers held in elevated position, all by means of a single operating-handle, substantially as described.

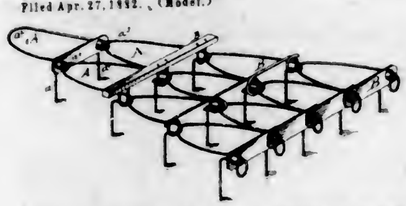
268,914. RAIN-WATER CUT-OFF. GEORGE LEMLE, New Orleans, La. Filed Mar. 21, 1882. (No model.)



Claim.—1. In a rain-water cut-off, in combination, the slanting conducting-pipe D, the cistern B, and the intermediate cut-off tank, C, so arranged under the pipe D that said tank C must be filled with water by said pipe D before the pipe can carry water into the cistern, as shown and described.

2. In a rain-water cut-off, in combination, the cistern B, the cut-off tank C, and the slanting conducting-pipe D, provided with an enlargement or offset, H, as shown and described.

268,915. HARROW. J. FERDINAND LYMBURNER, Chicago, Ill. Filed Apr. 27, 1882. (Model.)



Claim.—1. The section A, consisting of teeth *a' a'*, the open loops a^2 a^2, and the connecting portion a^3, substantially as shown and described.

2. The combination, with the section consisting of the teeth *a' a'*, open loops a^2 a^2, and connecting portion a^3, of the bar B, provided with apertures *b*, placed upon said section, and two sections, A, passed through the open loops a^2 a^2, substantially as shown and described.

268,916. RAILROAD-SIGNAL. GUSTAVE MACQUART, Red Bluff, Cal. Filed Jan. 5, 1882. Renewed Nov. 16, 1882. (No model.)

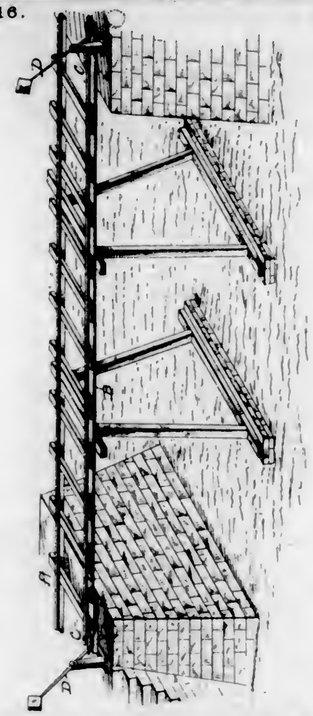
Brief.—Any misplacement or obstruction of the track is indicated through the release of signaling devices, which are normally held at "safety" by a spring-bolt secured to each end of a wire in tubing which is secured to the track-structure.

Claim.—1. In a railroad-signal, a tubing secured to the cross-tie of a railroad-track, and having inserted loosely in the bore of the tubing a metallic rod or wire, in combination with spring bolts or catches attached to the ends of the rod or wire, and a signaling device, substantially as described.

2. In a railroad signaling device, a metallic tubing fixed to the cross-ties of a railroad-track, having a metallic rod or wire inserted through said tube, the ends whereof are fastened to bolts or catches, in combination with a signaling device, substantially as described.

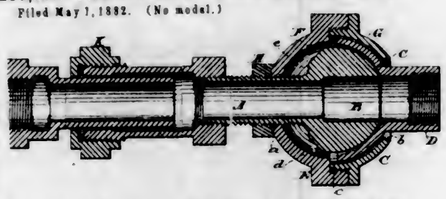
3. In combination, with a railroad-track and metallic tubing running parallel with the rails, of a metallic rod or wire running through said tube, a spring bolt or catch, and a signaling device, substantially as described.

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4. The combination, with a railroad-track, of a metallic tubing running parallel with the track and fixed to the cross-ties thereof, a rod or wire in said tube having the ends attached to bolts or catches, and a signaling device, substantially as described.

268,917. PIPE COUPLING. WILLIAM MARTIN, Tidioute, Pa. Filed May 1, 1882. (No model.)



Claim.—1. In a pipe-coupling, a pipe, A, provided with a ball, B, and a pipe, D, provided with a hemispherical shell, C, combined with an incasing shell and a nut, H.

2. In a pipe-coupling, a screw-threaded pipe, A, having a ball, B, and a pipe, D, having a hemispherical shell, C, combined with a divided incasing shell, F G, and a nut H.

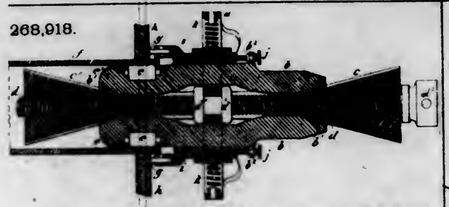
3. A pipe-coupling composed of the pipe A, provided with ball B, the pipe D, provided with hemispherical shell C, and the divided incasing shell F G, the ball being beveled in the rear, whereby an oil-chamber is provided, substantially as set forth.

268,918. ADJUSTABLE TUBE-EXPANDER. NEIL O. MCINTYRE, Brooklyn, N. Y., assignor of seven-eighths to Warren W. Sheppard, Jessie McIntyre, Catharine Herbst, and Robina R. Hedges, all of same place. Filed Mar. 27, 1882. (No model.)

Claim.—1. In combination, the jaws *b b*, provided with the rollers *c c*, the radial slotted plate *a*, wedge-shaped nuts *c c'*, and screw *d*, substantially as set forth.

2. The combination, with the jaws *b b*, provided with the rollers *c c*, and adapted to be forced outwardly by means substantially as described, of the adjustable guide-rollers *g g*, as and for the purpose set forth.

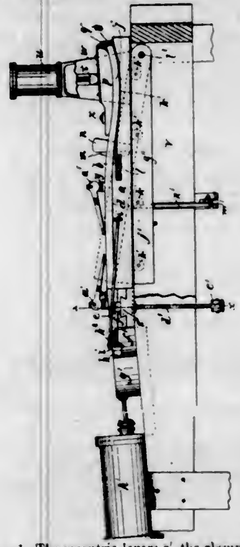
268,918.



3. In combination, the jaws *b b*, the rollers *c c*, radial slotted plate *a*, springs *k k*, wedge-shaped nuts *c c*, and double screw-shaft *d*, substantially as set forth.

4. In combination, the double screw-shaft *d*, wedge-shaped nuts *c c'*, jaws *b b*, provided with the expanding-rollers *c c*, and the guide-rollers *g g*, substantially as and for the purpose set forth.

268,919. BENDING-MACHINE. LINDSAY B. MCNUTT, Ashtabula, Ohio. Filed June 27, 1882. (Model.)



Claim.—1. The eccentric levers *a'*, the clamps *b' b'*, the bench having crossways *c'*, the levers *d*, and the toggles *e'*, combined as and for the purpose specified.

2. The combination, with rabbeted bar *a*, ribbed at *c*, of the sockets k^2, overlapping the rabbets of bar, the cam-levers B, and the hooks *e e'*, engaging shoulders on the bottom arm of said levers, as and for the purpose specified.

3. The combination, with the bar *a*, having the two upper corners rabbeted in a curved form to suit the pieces to be bent, and provided between the rabbets with a rib, *c*, of the steel straps *f*, one arranged on each side of the rib, extending the required length of the heel bend and terminating in hook-pointed shoulders *h*, whereby the heel bend is formed, as described.

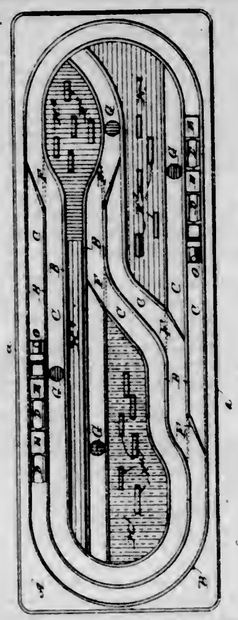
4. The combination, with the straps shouldered at *o*, of the couple-clamps *p p*, hinged at *q* to said shoulders, the ram *t*, and the frame *e*, as shown and described.

5. The combination, with the bench V, of the rest *j'*, pivoted between the beams thereof and provided with rollers *k'*, the lever *m'*, and the pusher *n'*, whereby the former and bent pieces may be raised, as shown in Fig. 1 of the drawings, and for the purpose specified.

6. The combination, with the bar *a*, having a rib, *c*, a slot under the rib and a rabbet on each side of the rib, of the steel straps *k*, lying over each rabbet and extending the length of the top bend, and the cross-head *l*, connected with the straps, arranged in said slot under the rib and shouldered, at *o*, whereby the top bend may be formed, as described.

268,920. TOY RAILWAY. JOHN D. FRED MEIER, Oshkosh, Wis. Filed Oct. 18, 1882. (No model.)

268,920.



Claim.—1. A toy railway made substantially as herein shown and described, consisting of a board on which tracks are formed by strips secured on the board, which tracks are provided with switches, as set forth.

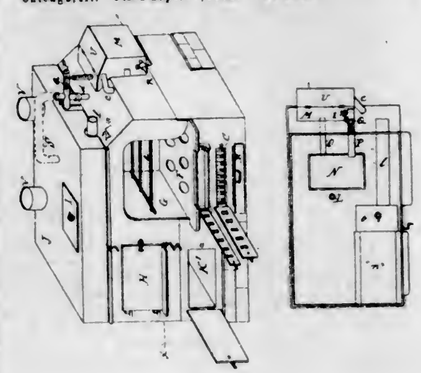
2. In a toy railway, the combination, with a board, of strips secured on the same and forming tracks and depot-spaces, and of switches formed on the board, substantially as herein shown and described, and for the purpose set forth.

3. The combination, with the board A, provided with marks G at the depots, of the strips B, forming tracks and depot-spaces, and of the switches F, substantially as herein shown and described, and for the purpose set forth.

4. The combination, with the board A, subdivided into tracks and depot-spaces by strips B, of the switches F, the locomotives O, the cars D E, and the blocks K, substantially as herein shown and described, and for the purpose set forth.

5. The combination, with the board A, having its surface divided into tracks and into depot-spaces of different colors, of the switches F, the locomotives O, the cars D E, and the blocks K, having different colors, substantially as herein shown and described, and for the purpose set forth.

268,921. COOKING AND HEATING STOVE. FRANK METZNER, Chicago, Ill. Filed Sept. 11, 1882. (No model.)



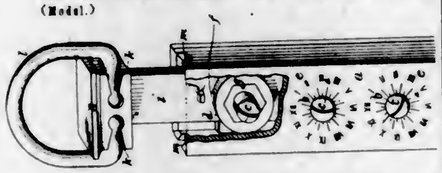
Claim.—1. In a range, the grate A and ash-pit B, in combination with the auxiliary removable grate C, and the removable reflector-plate *f*, arranged above and diagonally across said grate C, and forming a partition between said grate C and the cooking-plate F, substantially as and for the purpose set forth.

2. In a range, the longitudinal partition *g*, transverse partition *i*, and horizontal partition *q*, the top plate, J, with air-nozzles V, grate A, with ash-pit B, cooking-plate F, with auxiliary grate C, and removable reflector-plate *f*, the whole being constructed, combined, and arranged substantially as and for the purpose set forth.

3. In a range, the grate A, cooking-plate F, flues *i*, K, *n*, *n'*, *n*², and *l*, with valves *m* and *m'*, chamber G, bake-oven H, and chamber K', in combination with the auxiliary grate C and removable reflector-plate *f*, all substantially as and for the purpose set forth.

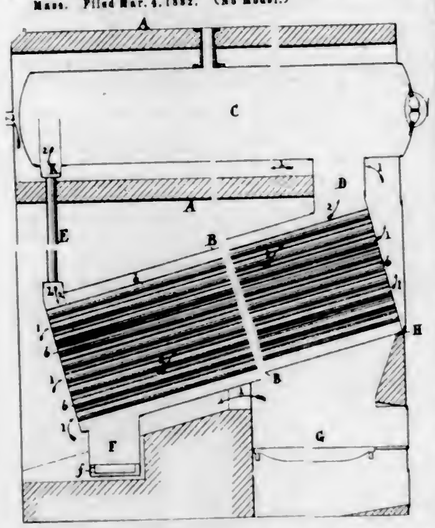
4. In a range, substantially as described, and in combination with the grate C, the water-back D, pipes *c* and *d*, water-vessels M and N, connecting-pipe O, and water-supply pipe P, with float-valves Q, all arranged as set forth.

268,922. PERMUTATION-PADLOCK. FREDERICK MICHAEL and JOHN W. POWELL, Eaton, Ohio. Filed June 29, 1882. (Model.)



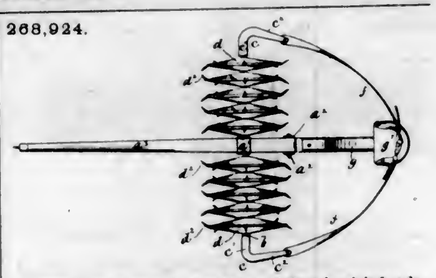
Claim.—In a permutation-padlock, the combination, with a case having the perforations *b* and dials *c*, of the hollow tumblers *d*, having a side slot, *f*, and opening *h*, the projecting nicked heads *e*, having a polygonal part, *g*, to fit the opening *h*, and the slide-bar *i*, having studs *j*, all constructed and arranged with respect to each other as shown and described.

268,923. STEAM-BOILER. GEORGE MILES, Wellesley Hills, Mass. Filed Mar. 4, 1882. (No model.)



Claim.—A steam-boiler composed of the shell B, downwardly inclined from front to rear, and the flue-pipes *b*, in combination with the steam-drum C, the enlarged tube D, and expansion-tubes E, the spaces inclosing the boiler and steam-drum being separated by a portion of the casing A, substantially as and for the purpose set forth.

268,924. HARROW. FRANKLIN A. MORAND, Topeka, Kans. Filed Mar. 17, 1882. (No model.)

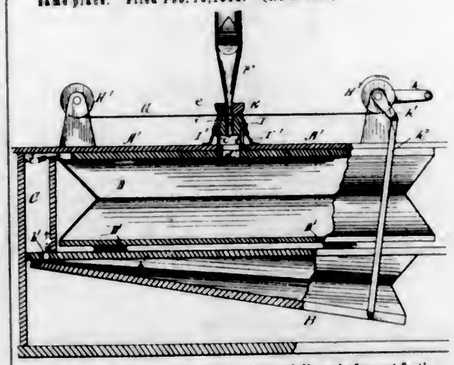


Claim.—1. The combination, substantially as hereinbefore described, of the beam *a*, axle-rods *b*, carrying the disks *d*, L-shaped bars *c*, bars *f*, and mechanism for clamping said bars to beam *a*, as set forth.

2. The combination of the beam *a*, axle-rods *b*, having their inner ends, *b'*, bent upward and working in sockets to under side of beam, disks *d*, L-shaped connecting-bars *c*, bars *f*, set-bolt *a*³, bracket *e*, and caster-wheel *e'*, all constructed and arranged substantially as described, and for the purposes set forth.

3. In a rotary harrow, a disk having its opposite faces convex and terminating at the periphery in a thin or cutting edge, and having teeth extended outward from the periphery at an angle thereto, and bent alternately to the opposite sides, substantially as set forth.

268,925. MECHANICAL MUSICAL INSTRUMENT. HENRY B. MORRIS, Ithaca, N. Y., assignor to the Autophone Company, same place. Filed Feb. 13, 1882. (No model.)



Claim.—1. The combination, substantially as before set forth, of a wind-chest of an automatic wind instrument, and a perforated presser-bar flexibly connected therewith and operated by pneumatic pressure from the bellows of said instrument.

2. The combination, with a wind-chest of a musical instrument, substantially as before set forth, of the presser-bar, the guide-pins, and the flexible connecting-strip.

3. The combination, with a wind-chest of a musical instrument, substantially as before set forth, of the presser-bar, the guide-pins, the flexible connecting-strip, the bar E, and the valve-sheet.

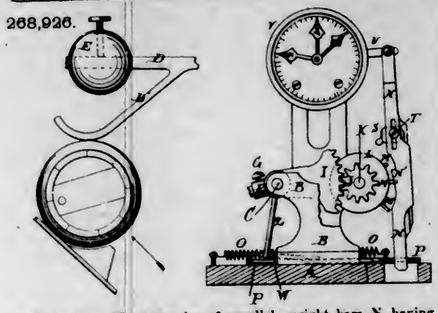
268,926. BARREL-REGISTER. CONRAD MULLER and JOHN MAUSER, Morrisania, N. Y. Filed Sept. 19, 1882. (No model.)

Claim.—1. A barrel-register constructed substantially as herein shown and described, and consisting of a weighted lever connected by a gearing with a cylinder provided with a spiral row of teeth to operate upon a series of bars held forward by a spring and a sliding plate and connected with the pawl-levers of a register, as set forth.

2. In a barrel-register, the combination, with the cylinder I, having spirally-arranged teeth M, of the gear-wheel J, gear-segment I, and weighted lever D, substantially as herein shown and described, whereby the said cylinder will be rocked for different distances by the movement of the said lever through correspondingly-different spaces, as set forth.

3. In a barrel-register, the combination, with the cylinder I, having a spirally-arranged row of teeth, M, and the pawl-levers U

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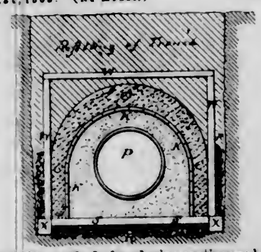
of a register, V, of a series of parallel upright bars, N, having shoulders N', substantially as herein shown and described, whereby the said bars will be forced downward to operate the said lever-pawls by the rearward movement of the said toothed cylinder, as set forth.

4. In a barrel-register, the combination, with the bars N, connected with the lever-pawls of a register, of the sliding plate P and the spring O, substantially as herein shown and described, whereby the said bars will be held forward and kept parallel, so as to always be in position to be operated upon by the teeth of the rocking cylinder, as set forth.

5. In a barrel-register, the combination, with the sliding plate P and the weighted lever D, of the lever-pawl W, the spring V, and the arm Z, substantially as herein shown and described, whereby the said sliding plate will be locked in place, holding the parallel suspended bars back from the tooth-cylinder, and will be tripped by the said arm as the said cylinder completes its rearward movement, as set forth.

6. In a barrel-register, the combination, with the parallel bars N, of the adjustable stops S, substantially as herein shown and described, whereby the shoulders of the said bars will be pushed off the teeth of the cylinder promptly by the contact of the said stops with the face of the cylinder, as set forth.

268,927. METHOD OF PRODUCING CONTINUOUS STRUCTURES OF PLASTIC MATERIAL. JOHN NEWTON, Brooklyn, N. Y. Filed Jan. 31, 1882. (No model.)



Claim.—1. The method of producing continuous hollow structures underground by placing a sufficient depth of artificial stone or other plastic material capable of setting around a center or interior frame-work in a trench, erecting a protecting frame-work above the said material and filling in the earth above, the said protecting frame-work sustaining the weight of the said earth and shielding the structure from injury while the plastic material is setting, substantially as described.

2. A continuous underground structure, of artificial stone or like material, containing one or more mains or pipes for conveying steam or other hot fluid, substantially as described.

3. An underground structure, of artificial stone or like material, containing one or more mains or pipes for conveying steam or other hot fluid, with the space between said mains or pipes and the interior of said structure filled with non-conducting material, substantially as described.

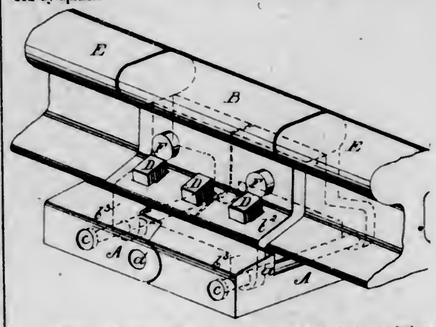
4. The improvement in making continuous hollow structures of plastic material, consisting in forming removable sections in them in process of manufacture, substantially in the manner and by the means described.

5. A hollow structure, of artificial stone or like material, having removable sections of like material, with the cross and longitudinal joints between the removable sections and the body of the material packed, substantially as described.

6. A continuous hollow structure, of artificial stone or like material, provided at intervals with cross-joints extending partly around the structure, substantially as described.

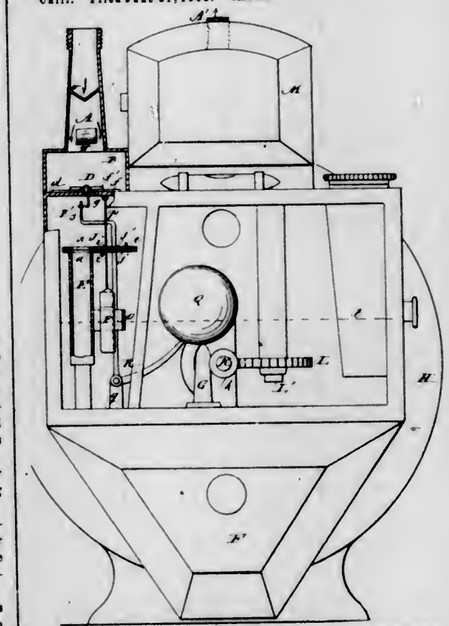
268,928. RAIL-COUPLING AND BED-PLATE. JOHN NAY, Sheridan, Cal. Filed June 12, 1882. (No model.)

Brief.—Consists of a two-part jointed bed-plate having a rolling-surface and a hollow or grooved body with flanges and ears. A cap is secured to the bed-plate by bolts, and the rails fit within said cap and bolted therein, the whole being secured to the road-bed by spikes.



Claim.—A combined rail-coupling and bed-plate consisting of the two-part jointed bed-plate A, the coupling-cap B, having a rolling-surface, *b*, a hollow or grooved body, *b'*, flanges *b*², and ears *b*², said cap being secured to the bed-plate by bolts *c*, and the rails E E, fitting within said cap and bolted therein, as shown, the whole device being secured to the road-bed by spikes D, substantially as herein described.

268,929. GAS-METER. PEDRO ENRIQUE PEREZ, Valparaiso, Chili. Filed June 21, 1882. (Model.)



Claim.—1. The combination, with the inlet-pipe to a gas-meter, of two admission-chambers interposed between said pipe and the meter, said chambers being separated by a partition provided with a valve operated by a float in the water-chamber, to close when the water is too low or out of level, and the inner chamber communicating with the meter by a pipe provided with a valve

operated by a pendulum, to close when the meter is out of level in the direction of the pendulum's oscillation, as shown and described.

2. The combination, with the inlet-pipe to a gas-meter and a valve for closing the same, of a pendulum arranged to close the valve by swinging either way in its plane of motion from a perpendicular to the proper level of the meter, as shown and described.

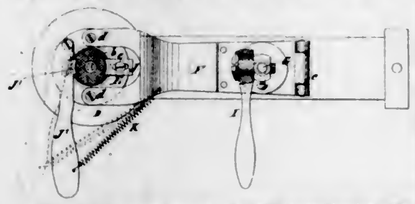
3. The combination, with the inlet-pipe to a gas-meter and a valve for closing the same, of a pendulum arranged to close said valve in proportion as the pendulum swings either way from a given point by the action of tipping the meter out of level either way in the direction of the pendulum's arc of motion, as shown and described.

4. The combination, with the inlet-pipes A E, of the pivoted slide-valve J and the pendulum P, pivoted at *g*, and operating midway of its rod through a hole, *i*, in the valve J, to oscillate said valve upon its pivot and close the pipe E by swinging either way from a given point, as shown and described.

5. The combination, with the oscillating slide-valve D, the partition *d*, and pipe A, of the float Q in the water-chamber of the meter, the bell-crank lever R, pivoted in the posts *q*, and the bent rod attached to valve D, communicating motion from the float Q to the valve D, to slide it across the opening in partition *d* whenever the float rises or falls, as shown and described.

6. In a water-sealed gas-meter, the partition *d*, provided with the double-acting valve D, and the pipe E, provided with the double-acting valve J, in combination with the pendulum-weight or plumb P, float Q, and bell-crank lever R, substantially as and for the purposes described.

268,930. MACHINE FOR SEWING BUTTONS TO FABRICS. HERBERT L. PHELPS, New York, assignor to the National Machine Company, Troy, N. Y. Filed June 19, 1882. (No model.)



Claim.—1. In a button-sewing machine, the combination, with a support for the article to which a button is to be sewed, of a device adapted to be brought down upon the article and to serve as a presser, and also to receive a button subsequently to being brought down upon the article, and to hold the button while it is sewed to the article, substantially as specified.

2. In a button-sewing machine, the combination, with a support for the article to which a button is to be sewed, of a device adapted to be brought down upon the article and to serve as a presser, and also to receive a button subsequently to being brought down upon the article, and to hold the button with a yielding pressure while it is being sewed to the article, substantially as specified.

3. In a button-sewing machine, the combination, with a support for the article to which buttons are to be sewed, of a device adapted to be brought down directly upon the article, so as to serve as a presser, and after being depressed on the article to receive and hold a button, said device being provided with bearings which are capable of adjustment to enable it to receive buttons of different sizes, and one of which may be securely fixed in position when adjusted, substantially as specified.

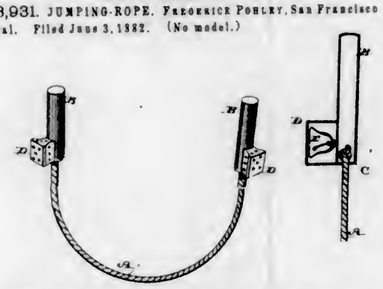
4. In a button-sewing machine, the combination, with a support for the article to which buttons are to be sewed, of a device adapted to be brought down directly upon the article, so as to serve as a presser, and after being depressed on the article to receive and hold a button, said device being provided with bearings which are capable of adjustment to enable it to receive buttons of different sizes, which bearings have inclined inner faces, and one of which may be securely fixed in position when adjusted, substantially as specified.

5. In a button-sewing machine, the combination, with a support for the article to which buttons are to be sewed, of a device adapted to be brought down upon the article and to serve as a presser, and provided with bearings which are capable of adjustment to enable the device to receive buttons of different sizes, and one of which is capable of movement to receive and release a button, substantially as specified.

6. In a button-sewing machine, the combination, with a support for the article to which buttons are to be sewed, of a device adapted to be brought down upon the article and to serve as a presser, and provided with bearings which are capable of adjustment to enable the device to receive buttons of different sizes, and one of which is capable of movement to receive and release a button, and a spring applied to the movable bearing to cause it to retain a button, substantially as specified.

7. In a button-sewing machine, the combination, with a ring-plate adapted to receive and support an article to which a button is to be sewed, of a device adapted to be brought down upon the article and to serve as a presser, and also to receive a button subsequently to being brought down upon the article, and to hold the button while it is being sewed to the article, substantially as specified.

268,931. JUMPING-ROPE. FREDERICK POHLEY, San Francisco Cal. Filed June 3, 1882. (No model.)



Claim.—The skipping-rope A, with the handles B, in combination with a bell or sounder, E, and the inclosing perforated case D, substantially as and for the purpose described.

268,932. PACK-STRAP. CAMILLE POIRIER, Duluth, Minn. Filed Oct. 11, 1882. (Model.)



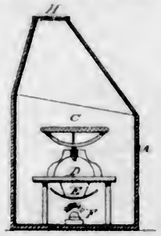
Claim.—1. The combination, with the bag A, of the shoulder-straps F and the head-strap E, substantially as herein shown and described, and for the purpose set forth.

2. The combination, with the bag A, of the straps F and the sliding pads K, substantially as herein shown and described, and for the purpose set forth.

3. The combination, with the bag A, of the straps F, the sliding pads K, the sliding straps I, and the buckle J, substantially as herein shown and described, and for the purpose set forth.

4. The bag A, provided with the flap B, the straps F, and the strap M on the back of the bag, substantially as herein shown and described, and for the purpose set forth.

268,933. APPARATUS FOR VAPOR BATHS. ERASTUS PONO, Portsmouth, Ohio. Filed Sept. 26, 1882. (No model.)



Claim.—1. In a portable vapor bath, a sloping casing, A, provided with the two doors H G, in combination with the movable table D, a chair, C, and deflector E, all substantially as herein fully set forth and described.

2. In a portable vapor bath, the inclosing-casing tapering at its apex, in combination with a movable chair-support and chair and with a movable lamp, the said support and lamp being movable in order to bring the vapor in contact with any desired part of the body, substantially as described.

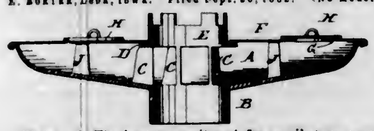
268,934. WIRE-STRETCHER. ORLANDO M. POND, Independence, Iowa. Filed June 13, 1882. (No model.)



Claim.—1. A fence-wire stretcher consisting of the flanged windlass A, the serrations formed on the end or face of one of said flanges, the yoke D, the pivoted spring E, the pawl-tooth *e*, the pivoted spring E of this tooth, the eye-piece K, rigidly fixed to said yoke, the spring hand-lever B^3, pivoted on the shaft of the windlass, a wire-clamping device, L, attached by a shackle to the said yoke, the windlass-rope *a'*, the wire-clamp H, and the auxiliary wire Q, adapted to be attached to a fence-post for taking up the slack of the line-wire, all combined, constructed, and adapted to operate substantially in the manner and for the purposes described.

2. The combination of the auxiliary wire Q and the eye-piece K with the fence-wire tightener, all constructed and adapted to operate substantially in the manner and for the purposes described.

268,935. COOKING ATTACHMENT FOR OIL-STOVES. MARION E. PORTER, Leon, Iowa. Filed Sept. 20, 1882. (No model.)



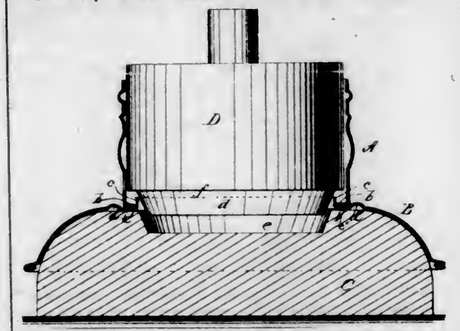
Claim.—1. The heat-transmitter A for an oil-stove, provided with a series of top openings, G, and one central opening and two central collars, B E, projecting respectively in opposite directions and connected by supports C, between which are openings into the body of the transmitter, as shown and described, whereby the heated air and products of combustion will be diffused throughout the transmitter.

2. In an oil-stove heat-transmitter, the cover F, combined centrally with a supporting-flange, D, on the bottom of collar E, and held at the periphery on a rim-flange of the body of the transmitter, as described.

3. The combination, with the cover supported at its center and circumference, of the intermediate supports, J, arranged substantially as shown and described.

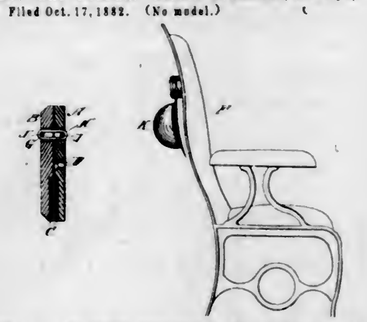
4. In an oil-stove attachment, the combination, with the heat-transmitter A, having a collar, B, of the supports C, the collar E, the supports J, and the top F, substantially as herein shown and described, and for the purpose set forth.

268,936. LANTERN. WILLIAM PORTER, Jr., New York, N. Y. Filed July 13, 1882. (Model.)



Claim.—As an improved article of manufacture, a lantern consisting of the base B, provided with the bead *d'*, seat *e'*, and flange *c*, and ring A, having a right-angled inwardly-projecting lip, *b*, at its bottom, the flange *c* being folded over the lip *b*, substantially as shown and described, whereby the ring and base are firmly secured together and a stiff inwardly-projecting flange, *a*, is formed, adapted to engage with the springs of the lamp.

268,937. HAT-HOLDER. FRANCIS A. REICARD, Brooklyn, N. Y. Filed Oct. 17, 1882. (No model.)



Claim.—1. A hat-holder made, substantially as herein shown and described, of two hinged disks pressed against each other by a spring, and having rubber coverings on their inner sides, substantially as herein shown and described, and for the purpose set forth.

2. The combination, with the disks A B, having rubber coverings on the inner surfaces, of the elastic band H, passed through apertures in the said disks, and of the transverse pieces or pins J, passed through the ends of the elastic band, substantially as herein shown and described, and for the purpose set forth.

268,938. BIT-STOCK. ALBAN H. REID, Philadelphia, Pa. Filed July 24, 1882. (No model.)



Claim.—1. In combination with the spirally-threaded spindle or tool-holder, the external reciprocating sleeve and the two heads, one fast and the other loose upon the sleeve.

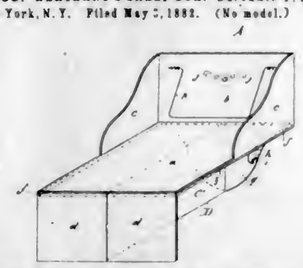
2. In combination with the threaded spindle or tool-carrier, the reciprocating sleeve exposed and adapted to be held against rotation by hand, a loose head or handle applied to said sleeve, as described, whereby the sleeve may be retracted and permitted to revolve meanwhile upon the spindle.

3. The combination of the threaded spindle or tool-carrier, a reciprocating sleeve or body for rotating the same, and the loosely-

rotating collar F, applied to the forward end of the spindle independent of the reciprocating sleeve.

4. The combination of the sleeve or body, the fast and loose handles, the threaded spindle, and the handle or collar loosely applied to the forward end of the spindle.

268,939. MERCHANT'S SHELF-BOX. BENJAMIN F. ROBINSON, New York, N. Y. Filed May 3, 1882. (No model.)



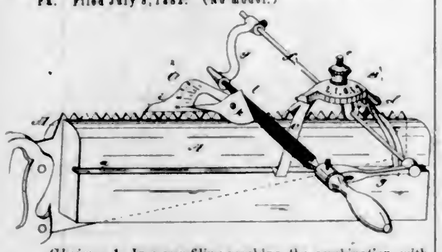
Claim.—1. A merchant's shelf-box for holding hamburgs and similar goods, consisting of the body A, having partial side walls, and the inclosing side wings, D D, hinged to the bottom of the body, substantially as shown and described.

2. The inclosing side wings, D D, hinged to the body A in such manner that they are adapted to be swung over and close the box, and to be swung under the body A, for supporting the same, as and for the purposes set forth.

3. The ends *g g* of the wings D D, formed with the lips *i i*, in combination with the latches *j j*, pivoted to the end piece, *b*, substantially as described.

4. The latches *j j*, pivoted to the end *b* of the body A, under the hand-grasp *k*, in combination with the wings D D, having the lips *i i*, formed in the end pieces, *g g*, thereof, substantially as described.

268,940. SAW-FILING MACHINE. ELIAS ROTH, New Oxford, Pa. Filed July 8, 1882. (No model.)



Claim.—1. In a saw-filing machine, the combination, with the clamping-head B, provided with the legs *c*, of the adjustable file-frame-holding piece *d*, substantially as shown and described.

2. In a saw-filing machine, the combination, with the clamping-head B, having its under surface grooved and provided with the legs *c*, of the ribbed file-holding piece *d*, adjustably secured to said head, substantially as herein shown and described.

3. In saw-filing machines, the combination of the curved piece *d*, the head or plate *b*, and clamping-screw *e*, substantially as shown and described.

4. In a saw-filing machine, the gage C, consisting of the straight-edged and graduated plate *i* and the pointer K, having the straight edge *l* and pivoted to said plate *i*, substantially as herein shown and described.

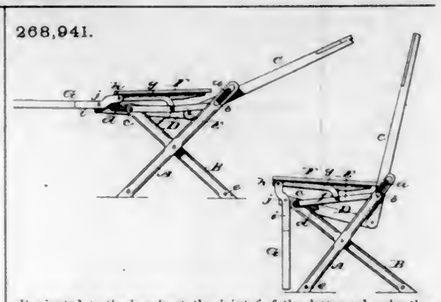
268,941. FOLDING AND RECLINING CHAIR. WERNER G. SANDS, Reading, Pa. Filed Aug. 11, 1882. (Model.)

Claim.—1. In combination with the legs A B, the former having slots *a*, the back C, pivoted in said slots and connected at its lower extremity with the seat, substantially as set forth, whereby the pivots of the back may be raised and the back turned over against the legs, substantially as explained.

2. In combination with the legs A B and a seat supported thereby, jointed braces E, independent of the seat, connecting the legs, as shown, whereby the legs are permitted to fold together, but are prevented from spreading too far apart.

3. In combination with the crossed legs A B, jointed braces E, connecting the legs above the point of crossing, and a seat, arms

268,941.

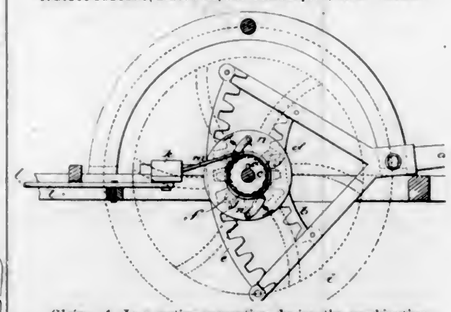


F, pivoted to the braces at the joint *f* of the latter, whereby the arms are caused to fold closely against the chair-frame when the latter is folded.

4. In combination with crossed legs A B, braces E, and arms F, the seat D, jointed to the pivoted back C, and the foot-rest G, suspended from the arms F, and jointed or pivoted to the seat, substantially as shown and described.

5. The herein-described chair, consisting of legs A B, connected by braces E, and the former having slots *a*, arms F, pivoted to the braces E, foot-rest G, suspended from arms F, sliding seat D, jointed or pivoted to foot-rest G, and back C, pivoted in slots *a*, and connected with the seat, substantially as shown and described.

268,942. APPARATUS FOR CONVERTING MOTION. THEOPHILUS SARGENT, Hallowell, Me. Filed Sept. 8, 1882. (Model.)



Claim.—1. In a motion-converting device, the combination, with the pawls and ratchets, of sliding sleeves adapted to disconnect said pawls from the ratchets and hold them off, as described.

2. The combination, with a lever, *l*, of the bar *k*, and the sliding sleeves connected by bars *m*, whereby the ratchets may be shifted, as described.

3. The combination, with the shaft *c*, carrying pinions and ratchets, of the sleeves *j p*, arranged with respect to the ratchets and pawls, as described, whereby both sets of ratchets and pawls will be disconnected when the lever *l* is in a median position and one set when the lever is moved to either side, as described.

268,943. DUMPING-PLATFORM. JOHN T. SAVAGE and JOHN LOVE, Rockford, Ill. Filed Oct. 16, 1882. (No model.)

Claim.—1. The combination, with the track-beams or dumping portion of a platform, of gear-toothed segments having a gear-train connection with an operating mechanism, for the purpose set forth.

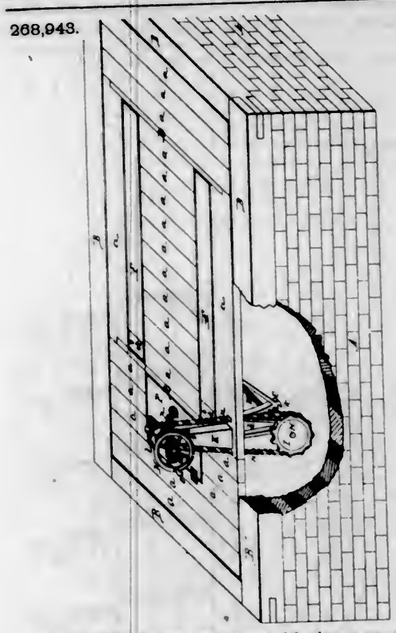
2. The combination, with the gear-toothed segments fixed to the pivoted track-beams or dumping portion of the platforms, of spur-toothed gear-pinions to engage the gear-teeth of the segments, substantially as and for the purpose set forth.

3. The combination, with the spur-toothed gear-pinions having a gear-toothed connection with the gear-toothed segments, of a sprocket-wheel and chain-belt connection therewith, substantially as and for the purpose set forth.

4. The combination, with the sprocket-wheel and chain-belt connecting with the spur-toothed gear-pinions, of a hand-wheel or winch to impart motion to the parts, substantially as and for the purpose set forth.

5. The combination, with the sprocket-wheel and chain-belt connecting with the spur-toothed gear-pinions, of a ratchet-wheel

268,943.



and pawl mechanism, substantially as and for the purpose set forth.

6. The combination, with the pivoted track-beams or dumping portion of the platform, of detents operating to limit the descent of the dump, substantially as set forth.

268,944. MINER'S LAMP. JAMES SAWYER, Freeburg, Ill., assignor of one-half to Washington de Bolt, St. Louis, Mo. Filed Sept. 11, 1882. (No model.)



Claim.—1. A miner's lamp, A, having the hook D and the spring E, as and for the purpose described.

2. The combination of the cap B, the band I, and the lamp A, as and for the purpose described.

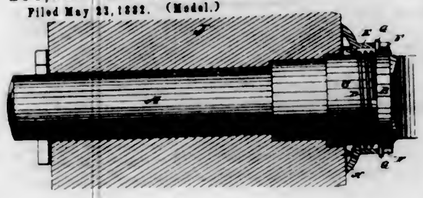
3. The combination of the lamp A, having the tip J, the cap B, and the band I, substantially as described.

4. A lamp, A, having the protection-tip J, said tip standing out from the shell and base of the lamp, for the purpose described.

5. The combination of the lamp A, the hook D, the cap B, and the band I, substantially as described.

6. The miner's lamp A, having the point of the hook C extended beyond the plane of the hooks D E, as described.

268,945. SAND-BAND. JOHN SCHOLLKOPF, Tidioute, Pa. Filed May 22, 1882. (Model.)

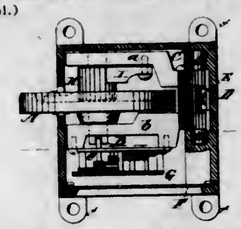


Claim.—1. The combination, with the axle A and the hub J, of the cup-shaped ring K, and the spring D within it, substantially as herein shown and described, and for the purpose set forth.

2. The combination, with the hub J, and the axle A, provided with a collar, B, of the cup-shaped ring K, provided with an annular flange, E, having notches F, the studs G, and the spring D, substantially as herein shown and described, and for the purpose set forth.

3. The combination, with the hub J, and the axle A, provided with a collar, B, of the cup-shaped ring K, provided with an annular internal shoulder, H, and with an annular flange, E, having notches F, the studs G, and the spring D, substantially as herein shown and described, and for the purpose set forth.

268,946. INDICATOR FOR HYDRAULIC ELEVATORS. CARL SCHON and CALVIN S. BROWN, Toledo, Ohio. Filed July 8, 1882. (No model.)

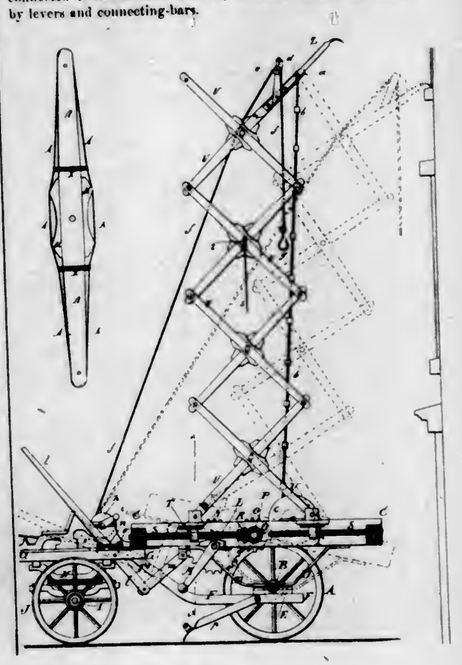


Claim.—1. The combination of the wheel A, pivot B, housings *a b*, pivots *c*, and case D, said case having lugs *f*, for attaching it to the top or bottom of an elevator-carriage, and wheel A, projecting through a slot in the side of the case, substantially as described.

2. The combination of spring E with the housings *a b*, pivoted in case D at *c*, and having wheel A pivoted in them, and arranged to swing to and from guideway *d* on pivots *c*, substantially as described.

268,947. EXTENSION FIRE-ESCAPE. PHILIP SCHUH, Westchester, N. Y. Filed May 27, 1882. (No model.)

Brief.—The bars of the lazy-tongs are provided with truss-wires, which pass around their ends and are held out therefrom by truss-blocks secured to the bars. The rear frame of the truck is connected to the forward frame by inclined reaches, and is tilted by levers and connecting-bars.

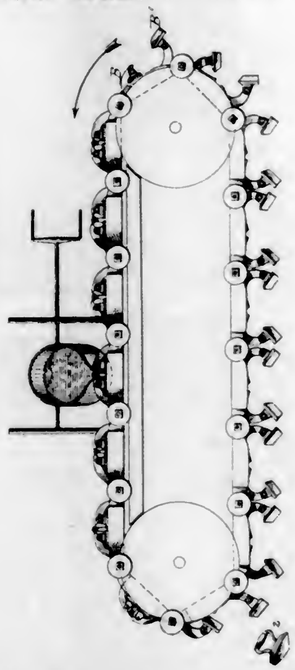


Claim.—1. The combination, with the frames C G, of the rear axle-connecting bars, D, rigidly attached at the middle to said axle, and having their upwardly-inclined ends rigidly attached to rear frame, C, the middle inclined reaches, F, connected by bearings E with said axle, and at the front with the forward frame, G, and the front axle, I, connected by fifth-wheel with said frame G, whereby the carriage can be turned, as described.

2. The combination, with the frames C G, of the two levers *l*, projecting beneath the frame G, and the end-pivoted connecting-bars *m*, whereby the rear frame can be operated to tilt the lazy-tongs, as described.

3. In an extension fire-escape, the combination, with the bars U of the lazy-tongs, of the truss-wires V, the truss-blocks W, and the bands X, substantially as herein shown and described, whereby the said bars are greatly strengthened, as set forth.

268,948. METHOD OF AND MEANS FOR MANUFACTURING SAD-IRONS. MILTON J. SHIMER, Freemansburg, Pa. Filed Oct. 19, 1882. (No model.)



Claim.—1. The improvement in the art of manufacturing sad-irons which consists in arranging in the mold a prepared bottom for the sad-iron, then closing the mold, then inserting the handle, then moving the mold forward and automatically discharging the shaped sad-iron, substantially as described.

2. In the manufacture of sad-irons, a metal mold composed of the drag and the vertically-divided cope hinged on opposite sides of the drag, constructed to open automatically when inverted, substantially as described.

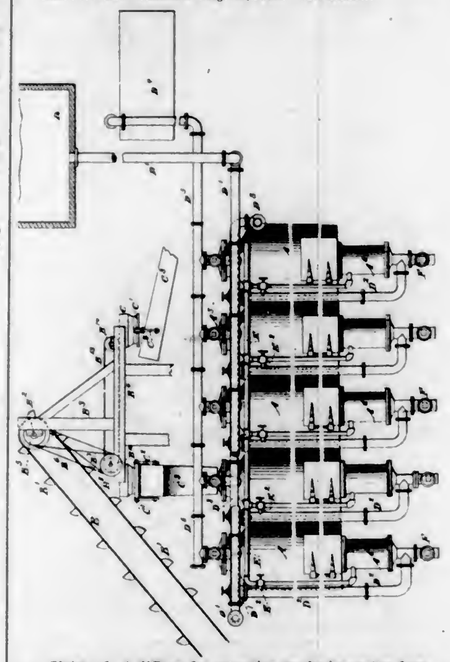
3. A series of traveling molds with hinged copes mounted on wheels and constructed to open automatically when inverted, in combination with a track and end pulleys with suitable driving mechanism, substantially as described.

4. In combination with a drag formed with end lugs, *i*, a vertically-divided cope formed with lugs *n*, and connecting-arms C, substantially as described.

5. The combination, with a mold-drag formed or provided with ends or extensions *d*, forming bearings, of axles *k* and wheels *m*, substantially as and for the purpose set forth.

6. An improved traveling mold for castings, consisting of the drag formed or provided with ends or extensions *d* and lugs *i*, the divided cope B B', with lugs *n*, connecting-arms C, axles *k*, and wheels *m*, substantially as described.

268,949. DIFFUSION APPARATUS. RUDOLF SIEG, New Orleans, La., assignor to EMERSON FOOTE, New York, N. Y. Filed Dec. 15, 1880. Renewed Aug. 30, 1882. (No model.)



Claim.—1. A diffuser for extracting saccharine matter from sugar-cane, sorghum, and other sugar-producing substances, consisting of a closed vessel or series of vessels having an aperture in their upper ends for the admission of the material to be treated, said aperture being closed by a cap or lid, so as to form a tight joint, and a heater or heaters arranged upon its or their lower ends for heating the liquid before it enters the diffuser, where it comes in contact with the body of the material being treated, substantially as set forth.

2. The combination of a diffuser, A, heater A^4, and strainer A^5, the parts being arranged and to operate substantially as described.

3. The combination of the steam-pipe E, branches E' and E', heaters A^4, and vertical pipes D^3, the arrangement of the parts being substantially such as is herein described, whereby steam can be let into the heaters or into the vertical pipes, or into both, at pleasure, for the purpose stated.

4. In an apparatus for extracting saccharine matter, the combination of the diffusers A, heaters A^4, water-pipes D', juice-pipes D^2, general discharge-pipe D^3, reservoir D^4, and steam-pipes E, E', and E', the parts being arranged for joint operation substantially as herein described.

5. In combination with the diffusers of an apparatus for extracting saccharine matter from various substances, the elevator B, suitable mechanism for driving the same, the receptacle B^4, the reversible flexible band or apron B^{10}, the receptacles C C, and the swiveled chutes C^2 C^2, the parts being arranged for joint operation, substantially as set forth, whereby the material to be treated is elevated and conducted to the different vessels or cylinders constituting the diffuser.

268,950. FRUIT-PICKER. LEBBEUS SIMKINS, Marshfield, Oreg. Filed Nov. 8, 1880. (Model.)

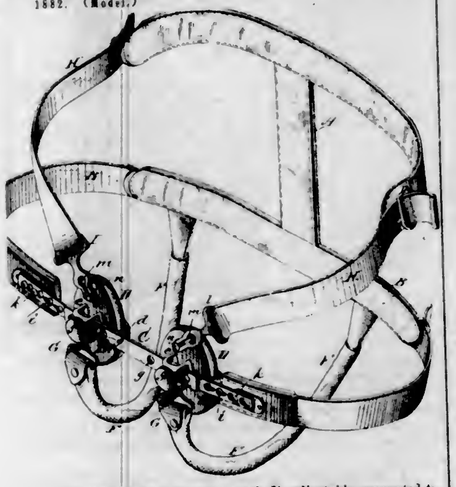


Claim.—1. In a fruit-picker, the combination, with a hollow pole formed of the sections A B C, arm E, provided with the stationary cup F, and movable cup H, both cups having sharp edges,

of the levers G J, connecting-rod I, and spring K, substantially as described, and for the purpose set forth.

2. In a fruit-picker, the combination, with the tubes B C, provided with the holes M I', adapted to receive locking-pins, stationary cup F, and movable cup H, of the levers G J and connecting-rod I, substantially as described, and for the purpose set forth

268,951. TRUSS. THOMAS SIMMONS, Hartford, Conn., assignor of one-third to Hiram J. Wiers, same place. Filed Aug. 15, 1882. (Model.)

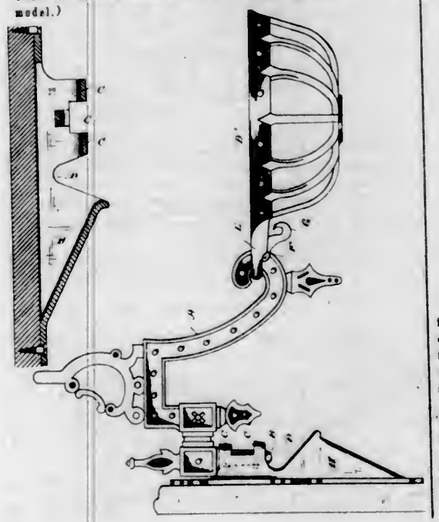


Claim.—1. In a truss, the pads D, adjustably connected to the plate C, which in turn is adjustably connected to the ends of the belt B, in combination with the belt H, straps F, and the support A, substantially as and for the purpose set forth.

2. In a truss, the support A, formed of a vertical piece, *a*, and right-angle pieces *b c*, in combination with the upper belt, H, and lower belt, B, substantially as and for the purpose set forth.

3. In a truss, the support A, belts B H, and straps F, in combination with the plate C and pads D, all arranged to operate in the manner described, and for the purpose specified.

268,952. LAMP-BRACKET AND MATCH-BOX COMBINED. JOSEPH SIMPSON, Columbus, Ohio. Filed Mar. 15, 1882. (No model.)



Claim.—In combination with the support D, provided with pintle-bearings C C C, constructed as described, the bracket A, having a pintle, B, adapted to set in said pintle-bearings, and provided with hooks at the ends and with lugs at each side, adapted to support the rings and baskets, substantially as herein specified.

268,953. GIRTH. ALONZO V. SMITH, Cana, Cal. Filed Oct. 2, 1882. (No model.)



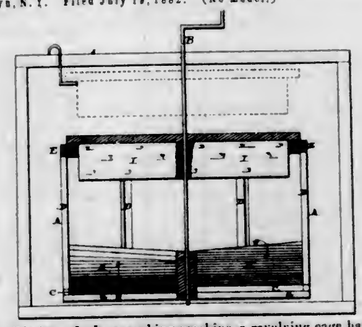
Claim.—1. The girth A, in combination with the hook E, secured to its end, said hook having a friction roller or spool, F, mounted in its end, substantially as herein described.

2. The girth A, having a rope, R, attached to one end, in combination with the hook E, secured to its other end, said hook having a friction roller or spool, F, mounted in its end, substantially as and for the purpose herein described.

3. The girth A, having a leather loop, *b*, at one end, and the rod C, having a central link, *c*, said rod being fitted and secured in the leather loop, with its link extending through an aperture therein, in combination with the hook E, having a small end hook, *m*, engaging with link *c*, and a friction roller or spool, F, mounted in its other end, substantially as and for the purpose herein described.

4. The girth A, having leather loops *b* at each end, the wooden roll D in one loop, and the rod C, having a central link, *c*, in the other loop, in combination with the hook E, engaging with link *c*, and having a friction roller or spool, F, mounted in its end, and the rope R, secured around the wooden roll D, all arranged substantially as and for the purpose herein described.

268,954. WASHING-MACHINE. ZEPHANIAH C. SMITH, Brooklyn, N. Y. Filed July 19, 1882. (No model.)

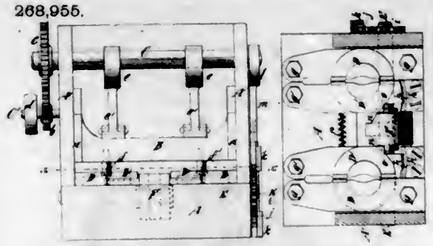


Claim.—1. In a washing-machine, a revolving cage having triangular openings through its bottom extending from near the center outward and having the inclines H formed upon the bottom between the openings, the inclines having their slope all one way and being made to fill the entire space between the openings, substantially as shown.

2. In a washing-machine, the combination of a revolving cage having openings through its bottom with the inclines H and the stops G on their lower front edges, substantially as set forth.

268,955. MACHINERY FOR FORMING THE EYES OF PICKS AND OTHER TOOLS. WILLIAM E. SNEDIKER, Trenton, N. J. Filed July 20, 1882. (No model.)

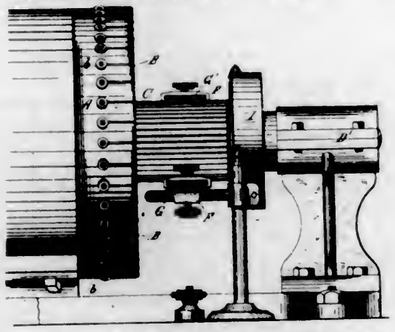
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Claim.—1. The combination, with a plunger and one or more punches carried thereby, of rigid and movable die-sections, a cam or cams adapted to be rotated alternately in reverse directions to hold and release the movable die-sections, a rotary shaft for operating said plunger, and mechanism through which said rotary shaft imparts an alternate rotary motion to said cam or cams, substantially as described.

2. The combination of the bed A, the rigid and pivoted die-sections D D', the plunger B, with punches *f f'*, the rotary shaft C, the eccentrics *e* or cams, and the rods *d'*, the shaft E, the cams *n*, the pinion *i*, the rack *j*, the eccentric *l*, and the rod *m*, substantially as described.

268,956. DYNAMO-ELECTRIC MACHINE. ELMER A. SPERRY, Cortland, N. Y. Filed Apr. 28, 1881. (No model.)



Claim.—1. In a dynamo-electric machine, a commutator mounted loosely on the armature-shaft, its sections retaining their connections with their respective armature-coils, in combination with means for automatically adjusting said commutator, as specified.

2. In a dynamo-electric machine, the combination of the flexible conductors with the sections of an adjustable commutator, whereby the electric connections of the sections are retained in all positions, and means, as described, for automatically adjusting the position of said commutator, as specified.

3. In a dynamo-electric machine, the centrifugal governor, as described, in combination with the movable commutator and connected with the same, whereby its position is automatically controlled in response to variations in the speed of rotation of the machine, substantially as specified.

4. The combination, with the movable commutator of a dynamo-electric machine, of a current-regulating device, substantially as described, whereby the commutator is caused to move automatically on the shaft, relative to its points of maximum and minimum current, in response to variations in an electric current, substantially as described.

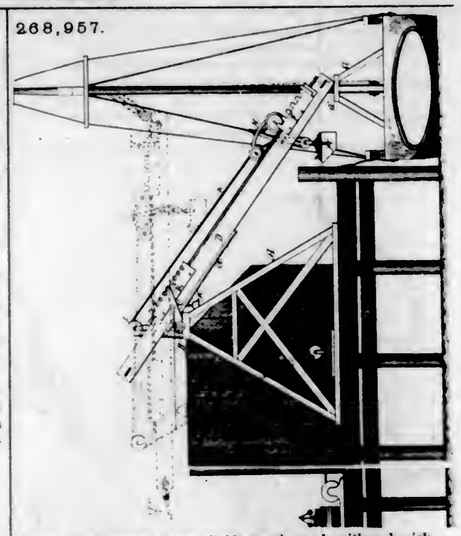
5. In a dynamo-electric machine, the combination, with the commutator-brush clamps, of the supporting-springs *f' f'*, attached thereto, the free ends of which rest in slots provided in rods *f f'*, upon which the clamps are loosely mounted, whereby the pressure of the brushes can be adjusted by rotating said rods, substantially as described.

6. In a current-regulating device, the combination of the pawls F^3 F^4, links L L', lever K, armature M, and spring *m*, with ratchets F^1 F^2, substantially as specified.

268,957. DERRICK. FREDRICK C. STARKE and PETER J. CROWLEY, Milwaukee, Wis. Filed Oct. 11, 1882. (No model.)

Claim.—1. The combination of a shaft carrying rollers or

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pinions and supported on suitable trestle-work with a derrick adapted to slide upon said rollers or pinions, as set forth.

2. The derrick having toothed plates E, in combination with shaft *a*, arms C C C' C', and shaft *c*, as set forth.

3. The combination of trestle-shaft *a*, pinions B B, arms C C C' C', shaft *c*, and the toothed plates for engaging with shaft *c*, as set forth.

4. The permanent trestle and removable or portable horses of the sliding derrick and supporting-shafts, as set forth.

5. The combination, with the derrick, of plates F and stop-bar F', as set forth.

6. The carriage or car having an adjustable depending standard, in combination with the bucket having a step or projection, *i*, the tackle for raising the bucket, and a swinging weight for dumping the bucket, as set forth.

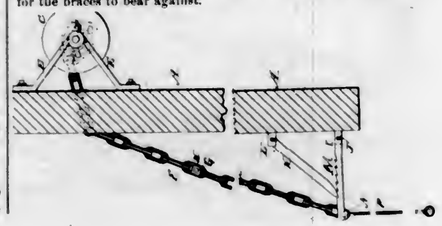
268,958. PULLEY-CRANE FOR CLOTHES-LINES. DANIEL SULLIVAN, New York, N. Y., assignor of one-half to William Slack, same place. Filed June 19, 1882. (No model.)



Claim.—In a clothes-line hanger, the combination, with the crane-frame having the vertical bar B, formed with the shoulder A, serving as a bearing, of the hook F, provided with the brace-arm *f*, and journal-eyes arranged upon the vertical bar B about midway between the pivots of the crane, substantially as described.

268,959. FIRE-ESCAPE. OTHELLO SUTPHEN, Albany, N. Y. Filed Apr. 22, 1882. (No model.)

Brief.—The ladder is held tant and out from the building by struts and braces pivoted to the wall. The struts are notched for the braces to bear against.



Claim.—1. The combination, with a fire-escape ladder, F G, suspended from the upper part of the wall of a building, of struts I, pivoted to the wall at their inner ends and engaging with the ladder at their opposite ends, substantially as described.

2. The combination, with a fire-escape ladder, F G, suspended from the upper part of the wall of a building, of the struts I, pivoted to the wall at their inner ends and engaging with the ladder at their outer ends, and braces K, substantially as described.

3. The combination of struts I, pivoted to the wall A, and provided with notches M and braces K, also pivoted to the wall, with a chain-ladder, F G, suspended from the upper part of the wall of a building, substantially as described.

4. The chain-ladder F G, suspended as described, struts I, and braces K, pivoted to the wall, as described, said ladder and struts being detachably connected by the extensions N of the ladder and the notches in the struts, substantially as set forth.

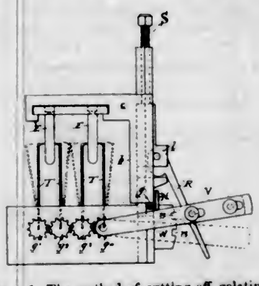
268,960. CIGAR-PERFORATOR. JOHN TALBOT, Sacramento, Cal. Filed Sept. 18, 1882. (No model.)



Claim.—A cigar-perforator consisting of the pivoted semi-conical jaws A, provided on their interior faces with pins *c*, in combination with operating-handles, as set forth.

268,961. CAPSULE-CUTTING MACHINE. HARRISON H. TAYLOR, Detroit, Mich., assignor to Frederick A. Hubel, same place. Filed Apr. 12, 1882. (No model.)

Brief.—The cutting-knives are attached to rollers that are given both a rotating and longitudinal motion by pinion-wheels and levers.



Claim.—1. The method of cutting off gelatine capsules by moving the knife or knives laterally, the former-pins being set loosely in the mold-plate and adapted to be rotated upon their axis by the movement of the knife or knives, substantially as set forth.

2. In a cutting-off machine for gelatine capsules, the cam-lever R, in combination with the sliding blocks O and Q and levers N, for raising the mold-carrying frame, substantially as and for the purposes specified.

3. In a cutting-off machine, a series of parallel shafts provided with intermeshing pinions for simultaneously rotating the same in alternating directions, and, in combination therewith, the knife-blades T, secured thereto and actuated thereby, substantially as set forth.

4. In a capsule-cutting machine, the combination of the devices for laterally moving the shafts F^3 F^4, consisting of the shafts I I', pinions K K', and pinions M' M^4, the latter engaging with the racks H^1 H^4, constructed, arranged, and operating substantially as and for the purposes specified.

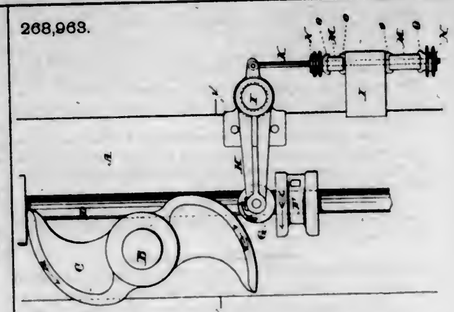
268,962. MEDICINAL COMPOUND. GEORGE ULRICH, Erie, Pa. Filed Oct. 9, 1882. (No specimens.)

Claim.—The medicinal compound composed of sarsaparilla-root, juniper-berries, sassafras-bark, guaiacum-wood, fennel-seed, anise-seed, barberry-leaves, betony-leaves, carrot-seed, gravel-root, quebracho-bark, matico-leaves, fine-leaved water-hemlock seed, pleurisy-root, holly-leaved berberry-root, leaf-cup root, senna-leaves, alum, calomel, and cinnabar, in substantially the proportions herein specified.

268,963. SPEEDING DEVICE FOR STAMP-MILLS. WILLIAM B. UPTON, San Francisco, Cal. Filed Mar. 31, 1882. (No model.)

Claim.—The stamp-stem D, having the two tappets E F, and

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the revolving cam B, in combination with the roller G, the arm H, the shaft I, the rod K, the guide L, the elastic buffers M, and the adjusting-nuts N, substantially as herein described.

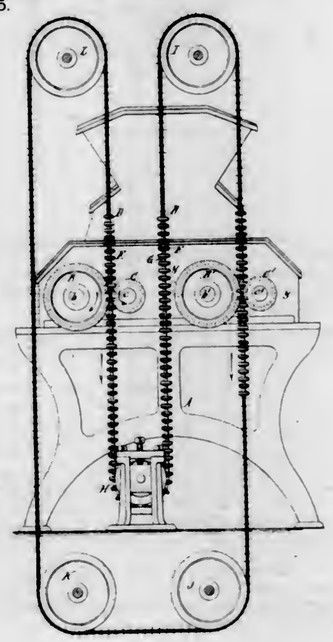
268,964. WALL-PAPER. W. CHARLES WALTER, New York, N. Y. Filed Jan. 24, 1881. (Model.)



Claim.—1. As an article of manufacture, wall-paper ornamented by surface coating or coating in figures of ground glass, sand, and sawdust previously prepared as herein described, and applied in a dry state to the face of the paper previously coated with varnish.

2. The method herein described of ornamenting wall-paper, consisting of the application of ground glass or glass pulverized, sand, and sawdust, prepared and colored as herein described, and applied in a dry state to the face of the paper previously coated with varnish, as and for the purpose described.

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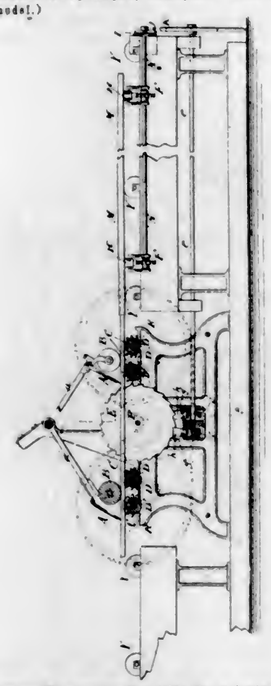
268,965. MECHANICAL MOVEMENT. CHARLES A. WEBBORNE, Buffalo, N. Y. Filed Oct. 17, 1882. (No model.)

Claim.—1. The combination, with two wheels provided with projections or sprockets, of a driving belt, rope, or cable provided with projections which engage between the projections of both wheels, whereby motion is transmitted simultaneously to both wheels, substantially as set forth.

2. The combination, with two wheels provided on their faces with projections *f*, of an endless rope or cable provided with disks E, adapted to engage simultaneously between the projections *f* of both wheels, substantially as set forth.

3. The combination, with a rope or cable, D, of disks E, secured thereto, and sleeves G, arranged on the rope between said disks, substantially as set forth.

268,966. GANG-EDGER. CLARA A. WHITE, Eau Claire, Wis., (Executrix of Samuel White, deceased,) assignor to the Phœnix Manufacturing Company, same place. Filed Aug. 24, 1882. (No model.)



Claim.—The combination, with the swinging frame *a*, provided with a roller, B, or its equivalent, to rest on the lumber, the feeding-rollers D, and the circular saw or saws E, of the safety-brake A, hinged to the swinging frame *a*, substantially as and for the purpose described.

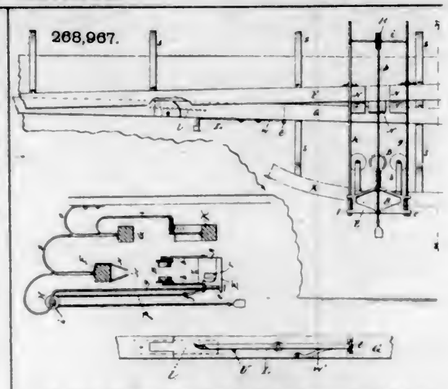
268,967. CASH-RAILWAY. GEORGE WILLETT, Englewood, Ill., assignor of one-half to George Middendorf, same place. Filed June 28, 1882. (No model.)

Brief.—The track has depending guides to direct the carrying-rollers mounted on spring-standards on the carrier-box upon the track. The elevator has a spring to start the carrier on the track, and moves by means of cars on vertical rods and a hoisting-cord and pulley. A trip on the carrier engages the curved end of a spring-actuated lever beneath the drop or switch and releases the lever from a catch. The drop is retracted by a spring.

Claim.—1. The combination of the track F with depending guides N, secured to the track F, and so arranged as to guide the carrying-wheels B onto the conveying-track F, substantially as described and shown.

2. The combination of box A, spring-standards *b*, with the carrying-wheels B, mounted on said standards, all constructed and arranged so as to admit of being placed on the conveying-track F, substantially as described.

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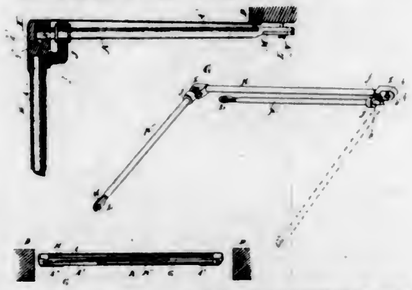
3. In the elevating device, the spring *r*, so arranged in the receptacle E as to give the box A an impetus on the track F toward the cashier's desk when the box is released from the elevating device, substantially as described.

4. The combination, in an elevating device, of the receptacle E, ears *e' f*, guide-rods *g h*, cross-rod *i*, grooved wheel H, cord *p*, ring *j*, spring *r*, and cash-box A, all arranged substantially as and for the purposes set forth.

5. In a cash-railway, the combination of the lever L, catch *t*, spring *w*, and stop *u* with the drop or switch on the return-track G, for the purpose of closing and securing the drop or switch, substantially as set forth.

6. In a cash-railway, the combination of the trip *v* and lever L, so arranged and constructed that the trip *v* will strike the curved end of lever L, and open the drop at the particular place desired.

268,968. WINDOW-AWNING. JOHN WILLIE, Wilmington, Del. Filed Mar. 27, 1882. (No model.)



Claim.—1. In an awning, a front piece provided on its ends with hinged pieces and rotary side bars, the two latter being provided with locking mechanism, and the entire frame thus constructed being adapted to be secured to the awning, substantially as and for the purpose specified.

2. In an awning, a hinged or jointed frame composed of a center and two side pieces, the center piece being secured to the lower part of the awning and provided on its ends with holes or sockets, and the side pieces being hinged to said center piece and provided on their hinged ends with projections which fit into the holes or sockets on the center piece when turned at right angles thereto, substantially as and for the purpose specified.

3. In a window-awning, a hinged or jointed frame adapted to be secured to the bottom of the awning, and having its side arms or rods hinged to a middle piece, in combination with the means located at said hinges to lock said side arms in position when turned at right angles to the middle piece, substantially as and for the purpose specified.

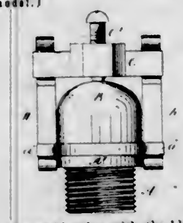
4. The frame G for an awning, which consists of rod H, carrying on its ends pieces I, having holes *i*, provided with keyways *i'*, and enlargements to said holes *i''* in the castings, in combination with hinged pieces J, journaled side rods, K, provided on their ends with feathers or keys *k'*, and locking devices L on the free ends of said side arms, substantially as set forth.

268,969. CHURN. WILLIAM A. WILSON, Fruit Plain, Va. Filed Apr. 12, 1882. (No model.)



Claim.—In a churn, the dasher consisting essentially of the shaft having a series of transverse slots, a series of independently extensible and contractible blades, each composed of two sections lapping each other, and held together by adjusting-screws, as and for the purpose set forth.

268,970. AUTOMATIC FIRE-EXTINGUISHING SPRINKLER. WILLIAM ALEXANDER WILSON, Needham, Mass. Filed Oct. 6, 1882. (No model.)



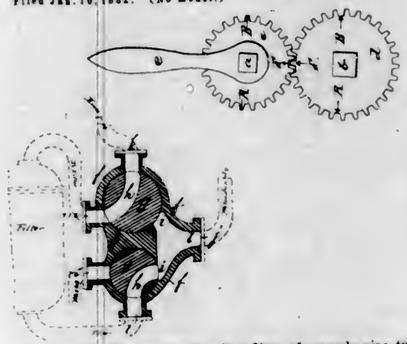
Claim.—1. In combination with the block A A', the cap B, yoke C, and set of straps D D, all operating together substantially as described.

2. In combination with the block A A', the cap B, yoke C, and set of straps D D, having their ends soldered together, as and for the purposes set forth.

3. The combination of block A A', having a deflector, with cap B, yoke C, screw C', and set of straps D D, substantially as described, and for the purpose set forth.

4. In automatic fire-extinguishers, the block A A', having bifurcated ears *a a'*, the water-way of which is provided with a spiral deflector, *a''*, as and for the purpose set forth.

268,971. WATER-FILTER. PHILLIPS ABBOTT, Brooklyn, N. Y. Filed Jan. 10, 1882. (No model.)



Claim.—1. The combination, in a filter, of a supply-pipe, two cocks, a pipe connecting one of the cocks with one end of the filter, another pipe connecting the other end of the filter with the other cock, a pipe leading to the house, a waste-pipe, a gear-wheel fastened to the plug of each of the cocks and gearing into each other, and a handle attached to one of the plugs, all combined and operating substantially as and for the purposes set forth.

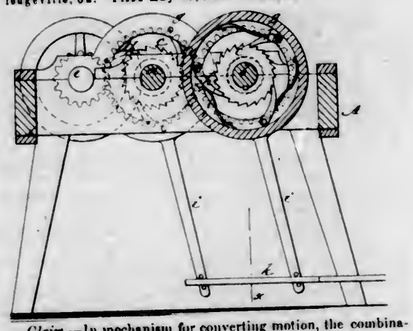
2. The combination, substantially as before set forth, of a supply-pipe, a filter, a house-pipe, a cock adapted to connect the supply-pipe with one end of the filter, or the latter with a waste-pipe, and a second cock adapted to connect the other end of the filter with the house-pipe, or the supply-pipe with this other end of the filter, or the supply-pipe with the house-pipe, the said cocks being both cast in one casting, substantially as and for the purposes set forth.

3. The combination of a supply-pipe, a filter, a house-pipe, a cock adapted to connect the supply-pipe with one end of the filter, or the latter with a waste-pipe, and a second cock adapted to connect the other end of the filter with the house-pipe, or the supply-pipe with this other end of the filter, or the supply-pipe with the house-pipe, the said cocks being both cast in one casting, and a gear-wheel fastened to the plug of each cock and gearing into each other, and a handle attached to one of the plugs, substantially as and for the purposes set forth.

268,972. PRESERVED COMPOUND FOR MINCE-PIES. HERBY JULIAN ALLEN, Port Byron, N. Y. Filed June 3, 1881. (Specimens.)

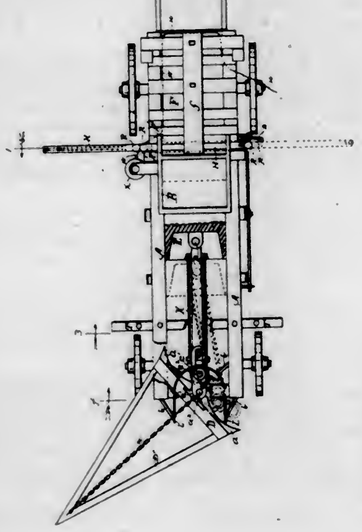
Claim.—As an improved article of manufacture, a dry mince-pie compound composed essentially of cooked meat, dried apples or other fruit, sugar and spices, compounded dry, whereby the meat is desiccated and preserved without being carbonized and a dry stable composition formed, substantially as herein shown and described.

268,973. CONVERTING MOTION. EDWARD T. ALLING, Milledgeville, Ga. Filed May 25, 1882. (Model.)



Claim.—In mechanism for converting motion, the combination, with the shafts *a b*, having engaging pinions or gear-wheels *d d*, and upon which are keyed or fixed the ratchet-wheels *c c*, having oppositely-pointed teeth, of the drums *g*, sleeved loosely upon said shafts and surrounding the said ratchets, and provided with spring-pawls *h*, arranged to engage the oppositely-pointed teeth of the ratchets, said drums having also depending arms *i*, and the operating or reciprocating rod K, substantially as and for the purpose set forth.

268,974. BALING-PRESS. THOMAS W. AMES and CHESTER L. AMES, Cabery, Ill. Filed Feb. 25, 1882. (No model.)



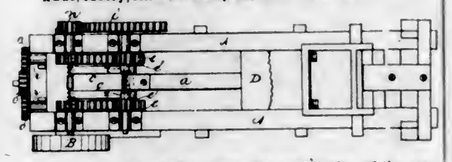
Claim.—1. In a procumbent baling-press, the double cam D, having the concave faces *a* and sweep D', in combination with the double swinging crank a^3, having the slot d^3, pin *c'*, pin a^3, friction-rollers c^3 and P', track-guides L, pitman *k*, and follower K, all arranged to operate in the manner and for the purpose set forth.

2. In a procumbent baling-press, the beams T and T', rods *t t*, and braces T', in combination with the frame A, in the manner and for the purpose set forth.

3. In a procumbent baling-press, the frame H, having the arms *m*, provided with the sheaves R R, in combination with the frame A and slotted follower E, all arranged to operate in the manner substantially as and for the purpose set forth.

4. The combination of the double cam D, slotted lever a^3, slide *r*, and pitman *k*, for the purpose set forth.

268,975. HAY-PRESS. THOMAS W. AMES and CHESTER L. AMES, Cabery, Ill. Filed May 23, 1882. (No model.)



Claim.—1. In a baling-press, the combination of the cog-wheels *e*, having the lugs *z*, double swinging crank *s*, pivoted to the wheels *e*, pitman *a*, follower D, and frame A, all arranged to operate in the manner and for the purpose set forth.

2. In the baling-press described, the two opposite cog-wheels *e*, connected by the double crank *s*, and having the lugs *z*, to operate the pitman *a* in a reciprocating manner, as and for the purpose set forth.

3. In the baling-press described, the combination and arrangement of the frame A, follower D, having the hinged leaf *y*, pitman *a*, swinging double crank *s*, cog-wheels *e*, having the lugs *z*, screws *r'*, shafts *r*, and pinions *o* and *o'*, as and for the purpose set forth.

4. In the baling-press described, the combination and arrangement of the frame A, follower D, having the hinged leaf *y*, pitman *a*, swinging double crank *s*, cog-wheels *e*, having the lugs *z*, pinions *e'*, cog-wheel *i*, pinion *n*, and pulley B, as and for the purpose set forth.

268,976. METHOD OF AND APPARATUS FOR MAKING BRICK. JAMES C. ANDERSON, Highland Park, Ill. Filed Nov. 10, 1882. (No model.)

Claim.—1. The method herein described of making brick, the same consisting in excavating the clay from the clay beds direct into a series of connected molds, and then conveying said molds direct to the pressing mechanism, all in one continuous operation, as set forth, whereby the manual labor of shoveling or handling the clay is obviated.

2. As an improvement in the art of manufacturing brick, the method herein described of mounting the excavating and brick-forming mechanism on a boat or other vehicle, propelling the same into the clay bank or stratum, excavating the clay, and pressing it into bricks or blocks in one and the same operation, as set forth.

3. As an improvement in the art of making brick, the combination of a dredging or excavating machine with a pressing or brick-forming machine constructed on and made part of a boat, vehicle, or other portable structure.

4. As an improvement in the art of making brick, a dredging or excavating device for loosening or digging the clay from the bed, devices for raising the clay from the excavating-machine, and mechanism, substantially such as described, for forming the clay into bricks, all arranged to operate as set forth.

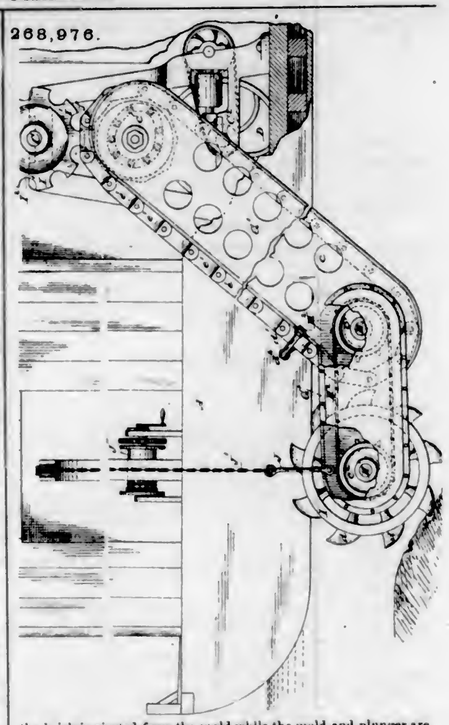
5. In a brick-machine, the combination of a swinging frame, carrying at its outer end an excavating device, with a series or endless chain of molds, and mechanism, substantially such as described, for driving the excavating mechanism and molds, as set forth.

6. In a brick-making machine provided with an excavating device and an endless chain of brick-forming molds, the combination of the drum F', provided with movable plungers, with the pressing wheel or drum I', as set forth.

7. The combination of the endless chain of molds and pressure-wheel I', provided with the pressing-points I', for entering said molds, with the drum F' and brick-ejecting plungers, as set forth.

8. The ejecting-plungers mounted in the drum, as described, in combination with the endless chain or series of molds, whereby

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the brick is ejected from the mold while the mold and plunger are both in motion, as set forth.

9. In a brick or other molding machine, a series of molds for containing the material to be pressed, a supporting-drum, and a pressing-wheel the pressing-points of which enter the molds to compact the material.

10. The drum F', provided with the ejecting-plungers G, constructed substantially as described, in combination with the plates b^5, having formed therein the cam-grooves for the reception of the studs *b* of the plungers, whereby the ejecting-plungers are held flush with the face of the drum during the pressing operation and projected forward to expel the brick after the pressing operation, as set forth.

11. The combination of the excavating-wheel and endless chain of molds with the bail J, chain J', and winding-drum J^3, whereby the excavating-wheel and molds may be raised and lowered, as set forth.

12. The combination of the brackets B B', securely fastened in position with the driving-shafts C C' C^3, with their connected mechanism, with the excavating, carrying, and pressing mechanism, as set forth.

13. The combination of a dredging and brick making machine with a propelling device substantially such as described, whereby the machine is steadied to its work and a uniform cut or kerf is given to the brick-making mechanism, as set forth.

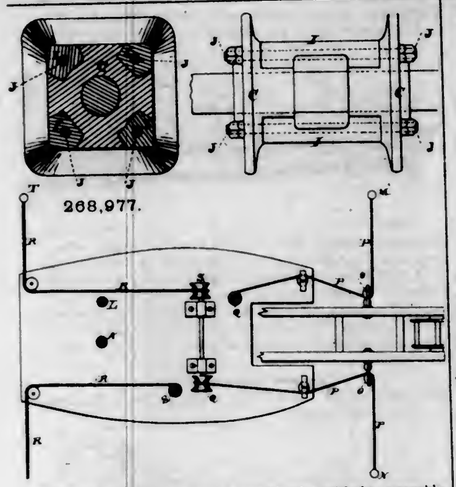
14. The combination of the shaft C', provided with the drum F', the frame G', provided with the drum H', the endless chain of molds, sprocket-wheels c' c^3, and sprocket-chain H^3 with the excavating-wheel I, as set forth.

268,977. DREDGING-MACHINE. HORACE B. ARNELL, San Francisco, assignor of one-half to Thomas H. Williams, Oakland, and David Bixler, San Francisco, Cal. Filed June 19, 1882. (No model.)

Brief.—Two heads or flanges chambered to receive angle-bars connecting them and secured by rods passing through heads and bars form a tumbler. A jet of water is thrown into elevator-buckets at their point of discharge. A scow is propelled by means of chains, anchors, and windlasses, enabling a vibratory movement of the scow alternately on a central and an eccentric spud.

Claim.—1. In a dredging apparatus, the chain-carrying tumbler, consisting of the heads or flanges C, chambered to receive

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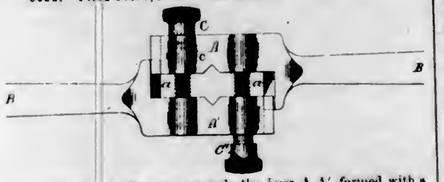
the ends of the transverse bars, in combination with the removable angular bars 1, cored lengthwise, and the rods J, passing through said bars and secured, substantially as and for the purpose herein described.

2. In a dredging apparatus, the means for cleansing and assisting the discharge of the buckets, consisting of the nozzle U, fixed opposite to the point at which the buckets discharge, so as to direct a stream of water into the top and back of the bucket as it begins to discharge, substantially as herein described.

3. In a dredging apparatus, the means for advancing the scow and apparatus and maintaining a straight line, consisting of the central post or spud, K, about which the scow swings in making a cut, the post L, passing down at one side and at such a distance as to determine the amount of advance when the scow swings about it, and mechanism for swinging the scow on said posts, substantially as herein described.

4. In a dredging-machine, and in combination with the scow or float having the central pivot post or spud, K, and the secondary or advancing post L, the blocks O, fixed to the sides of the ladder and having the ropes or chains P passing through them to gipsies from the anchors M, and the ropes R, leading from other anchors, T, through blocks at the opposite end of the scow, and to other operating gipsies or drums, substantially as and for the purpose herein described.

268,978. TAP-WRENCH. FRANK ARMSTRONG, Bridgeport, Conn. Filed Oct. 3, 1882. (No model.)



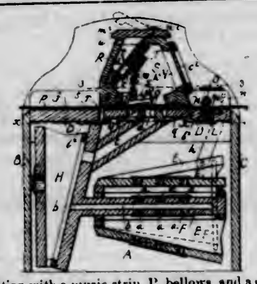
Claim.—1. In a tap-wrench, the jaws A A', formed with a heel and toe, as described, ways *a*, handles B, and adapted to be secured in operative position by a screw, C, substantially as described.

2. In combination with the jaws A A', having guides *a*, and handles B, and secured in operative relation by a screw, C, the auxiliary screw C', substantially as and for the purpose set forth.

268,979. MECHANICAL MUSICAL INSTRUMENT. OLIVER H. ANDO, Wilmington, assignor to the American Automatic Organ Company, Boston, Mass. Filed Mar. 15, 1882. (No model.)

Claim.—1. In a mechanical musical instrument, a cap or case carrying a reed-board having reed-chambers and reeds, valves to the reed-chambers, and mechanism for opening and closing said valves, which is arranged within and carried by said cap or case,

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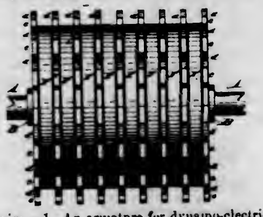


in combination with a music-strip, P, bellows, and a suitable guide or race way for the music-strip, combined and arranged together, all substantially as described.

2. In a mechanical musical instrument, reed-chambers having reeds and valves, and levers U, for operating said valves by a music-strip, P, in combination with bearing-springs between the levers and valves, all substantially as and for the purpose described.

3. In a mechanical musical instrument, a reed-chamber having reeds and valves, and levers U, for operating said valves by a music-strip, in combination with bearing-springs *x* between the levers and valves, and attached to only one of the same, all substantially as described, for the purpose specified.

268,980. ARMATURE FOR DYNAMO-ELECTRIC MACHINES. FORBE BAIN, Union City, Ind., assignor to the Fisher Electric Company, same place. Filed July 26, 1882. (No model.)

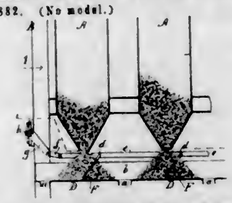


Claim.—1. An armature for dynamo-electric machines, the core of which is formed of iron rings or ribbons wound upon the diamagnetic frame and magnetically insulated one from another, substantially as herein set forth.

2. An armature for dynamo-electric machines, the core of which is composed substantially of a series of iron rings or ribbons wound upon a diamagnetic frame, and arranged between a series of annular rings, C, which are insulated from the rings or ribbons, as herein set forth.

3. An armature for dynamo-electric machines, the core of which is composed substantially of a series of iron rings or ribbons wound upon a diamagnetic frame, and arranged between a series of annular rings, C, which are insulated from the rings or ribbons by intervening washers, which form air-spaces, as herein set forth.

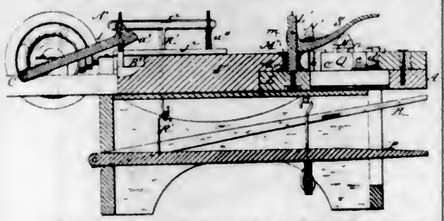
268,981. DISCHARGE APPARATUS FOR COOLERS OF BONE-BLACK KILNS. ROBERT J. BARR, Philadelphia, Pa. Filed Aug. 7, 1882. (No model.)



Claim.—1. The combination of the cooler or other vessel, A, adapted to contain bone-black or other granular material, a fixed plate, D, below the outlet of the vessel, a pivoted blade, F, and mechanism for imparting a vibrating motion to the blade, all substantially as set forth.

2. The combination of the row of coolers A, the plates D, vibrating blades F, the rod *e*, connected to the several blades, and mechanism for imparting a reciprocating motion to the said rod, substantially as set forth.

268,982. MACHINE FOR FORMING PULLEY-BLOCK STRAPS. F. D. BARTLETT, Boston, Mass. Filed Dec. 7, 1881. (Model.)

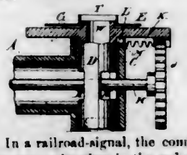


Claim.—1. The combination of the fixed die M^3, the sliding side dies, Q Q, the sliding driver-bar J, having a top rib, and the forming device, with the crank-shaft B, the pitman-rod I, adapted for connection and disconnection with the driver-bar head, the side crank-shafts, E E, their pitman-rods N N, the yielding-guides N' for said pitman-rods, and suitable gearing for connecting the said crank-shafts, substantially as described, for the purpose specified.

2. In combination, the fixed die M^3, the sliding side dies, Q Q, the sliding driver-bar J, having the recessed cross-head B^3, the independent sliding forming device interposed between said fixed die and said driver-bar, the crank-shaft B, the pitman-rod I, having the tenon a', the cross-head A^2, the guides I^2, the springs a', and the treadle I^3, all constructed and arranged for operation as described, for the purpose specified.

268,983. RAILROAD-SIGNAL. DAVID C. BAUGHMAN, Albion, Ind. Filed Feb. 15, 1882. (No model.)

Brief.—The signal is supported upon a carrier having a hollow vertical journal working in a box on the end of a hollow bracket-arm, through which passes the operating-shaft, said journal being notched for the passage of the shaft. A stop on the under side of the carrier engages shoulders on the journal-box to limit the rotation of the carrier.



Claim.—1. In a railroad-signal, the combination of a rotary carrier, a tubular arm or bracket, in the end of which said carrier is journaled, and a shaft for rotating the carrier, passing through said arm, substantially as and for the purpose set forth.

2. In a railroad-signal, the arm A, constructed with a vertical journal-box, C, at the end, substantially as herein shown and described, and for the purpose set forth.

3. In a railroad-signal, the combination, with the tubular arm or bracket A, provided with the journal-box C and the hollow journal D of the carrier E, of the lantern G, provided with the apertore T in bottom, fitting over the upper end of the said hollow journal, substantially as and for the purpose set forth.

4. In a railroad-signal, the combination, with the tubular arm or bracket A and the signal-carrier E, of the journal D, provided with the slots or apertures N, and the shaft H, passing longitudinally through said shaft, substantially as and for the purpose set forth.

5. In a railroad-signal, the combination, with the tubular bracket or arm A, provided with the journal-box C, and operating-shaft H, provided with the cog-wheel J, of the signal-carrier E, provided with the slotted journal D and rack K, substantially as and for the purpose set forth.

6. In a railroad-signal, the combination, with the tubular arm or bracket A, the operating-shaft H, provided with the cog-wheel J and the pulley O, and the overbalancing chains P, of the signal-carrier E, provided with the slotted journal D and the rack K, substantially as and for the purpose set forth.

7. In a railroad-signal, the combination, with the carrier E, provided with the rigid signal-wings F, of the removable signal-lantern G, supported upon the carrier between the said wings, substantially as and for the purpose set forth.

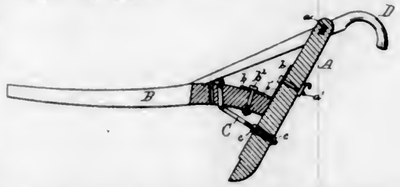
8. In a railroad-signal, the combination, with the tubular arm or bracket A, provided with the journal-box C, having its upper end provided with the recess *m*, of the rotary carrier E, journaled in the said box and provided with the tooth L, substantially as and for the purpose set forth.

268,984. FORCE-PUMP. JOHN BEDFORD, Rossville, Tenn. Filed Apr. 14, 1882. (No model.)



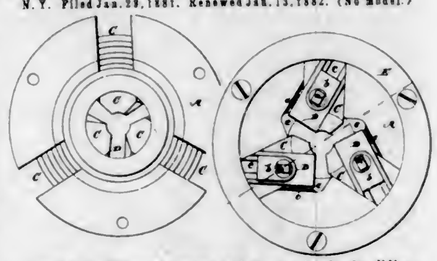
Claim.—In a pump for Artesian or bored wells, the combination of the vertically-sliding bail or stirrup F, having an offset at its top and a horizontal bottom portion, and the hollow plunger A, having a transverse opening for the passage of the horizontal portion of the bail, with the pump-cylinder C, provided with vertical bottom slots, c, for the reception of the sliding bail, the check-valve D', the rod G, the tube E, the stock H, and the lever I, all constructed and relatively arranged as herein set forth, for the purpose specified.

268,985. PLOW. DANIEL BERTS, Clinton, Tenn. Filed Mar. 7, 1882. (No model.)



Claim.—As an improved article of manufacture, the herein-described plow-frame, having its standard and beam connected from above by the adjustable slotted angle-plate *b*, and secured from below by the hinged bolt C, passing through the said beam and standard, and provided with jam-nuts *c e*, and handles loosely secured to said beam, whereby the plow is adapted to be secured in any desired angle with respect to the beam, substantially as shown and described.

268,986. HOLLOW AUGER. HENRY REISHEIM, Crown Point, N. Y. Filed Jan. 29, 1881. Renewed Jan. 13, 1882. (No model.)



Claim.—1. The combination, with a cutter-head, of a sliding knife-carrying jaw, a scroll-ring, a screw-collar, and a flange-collar projecting over the face of the cutter-head, substantially as shown and described.

2. The combination, with a cutter-head, of a sliding jaw having V-threads on its inner face, a knife secured diagonally on said jaw, a screw-ring having V-threads corresponding with the threads on the sliding jaws, a screw-collar centered on said scroll-ring and adapted to hold the same in place, and a flange-collar projecting over the face of the cutter-head, substantially as shown and described.

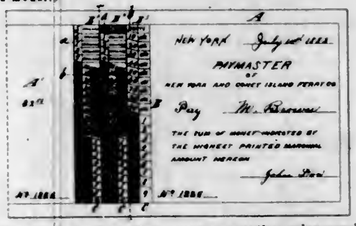
268,987. DEFECATING SACCHARINE LIQUORS. CHRISTIAN RUDOLPH BERGREEN, Roitsch, near Bitterfeld, Prussia, Germany. Filed Apr. 14, 1882. (No specimens.)

Claim.—1. The method of defecating saccharine liquors, which consists in adding to or forming in the liquor basic sulphite of magnesium, and, if required, in subsequently adding caustic magnesia, the process being carried out previous to the aforesaid treatment of the liquor by lime or other strong bases, substantially as and for the purpose described.

2. In combination with the method of defecating saccharine liquors by means of basic sulphite of magnesium and caustic magnesia, as described, the subsequent treatment of the liquor by lime, baryta, or strontia, or the hydrates, the saccharates, or the aluminates thereof, substantially as herein specified.

3. In combination with the method of defecating saccharine liquors, as hereinbefore claimed, the employment of carbonic acid or sulpharous acid or of any other known and suitable precipitating medium for the purpose of partly or entirely precipitating any bases added in excess.

268,988. CHECK OR OTHER PAPER REPRESENTING VALUE. MARCELLUS F. BERRY, Brooklyn, N. Y. Filed Aug. 21, 1882. (No model.)



Claim.—A check or other paper representing value provided with a table comprising one or more compound columns, each composed of two or more simple columns of figures of different denominations, the simple columns in each compound column being arranged out of line with and one below another, substantially as and for the purpose herein described.

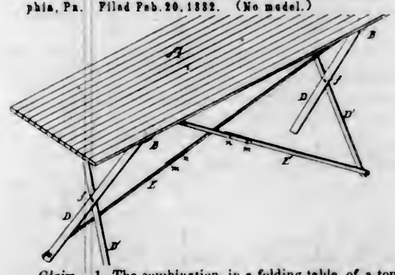
268,989. VEHICLE-SPRING. RICHARD T. BISHOP, St. Louis, Mo., assignor of one-half to Theodore Hunt, same place. Filed Sept. 28, 1882. (No model.)



Claim.—1. The combination, with the vehicle-body A, having downward-projecting brackets B, of the two pairs of elongated S-shaped springs D, having their inner ends secured to said brackets, their outer ends to the side bars or equivalent supports, and crossing each other under the vehicle-body, as set forth.

2. The combination, with the spring D, of the brackets B, having rollers G, as and for the purpose set forth.

268,990. FOLDING TABLE. EDWARD P. BLYTHE, Philadelphia, Pa. Filed Feb. 20, 1882. (No model.)



Claim.—1. The combination, in a folding table, of a top, A, which admits of being rolled up, with two pairs of legs, D D', each pair being centrally pivoted and capable of being spread or contracted, as set forth, and one leg, D, of each pair being hung to the table-top, so as to be folded down in line longitudinally therewith, the other leg, D', being detachable from the top, as set forth.

2. The combination, in a folding table, of a top, A, which admits of being rolled up, a brace, B, pivoted to said top, so as to admit of either transverse or longitudinal adjustment in respect thereto, and centrally-pivoted legs D D', one of which is hung to the brace, so as to be folded in line therewith, the other leg being detachable from the brace, as set forth.

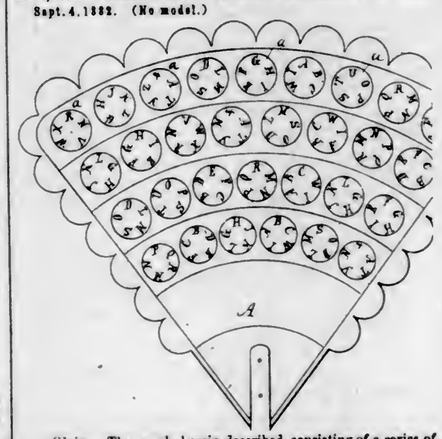
3. The combination of the top A, which admits of being rolled up, with two braces, B, pivoted to the under side of said top, each brace carrying pivoted legs D D' and braces E, which admit of being folded in line with the braces B, as set forth.

4. The combination of the top A, which admits of being rolled up, with the braces B, one hung to the top near one edge and the other hung to said top near the opposite edge, and each carrying pivoted legs D D' and braces E, which admit of being folded in line with the braces, as set forth.

5. The combination of the top A, which admits of being rolled up, the braces B, having mortises *k*, and the centrally-pivoted legs D D', the legs D being hung to the braces, and the legs D' having tenons *i*, adapted to the mortises *k* in said braces, as set forth.

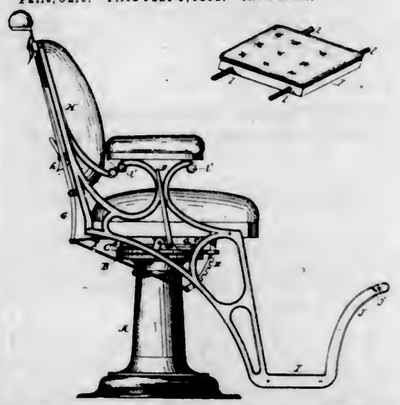
6. The combination of the top A, the braces B, having recesses *d* and shoulders *e*, and the turn-buckles *b*, hung to the top A, as set forth.

268,991. PUZZLE. THOMAS R. BOONE, Rochester, N. Y. Filed Sept. 4, 1882. (No model.)



Claim.—The puzzle herein described, consisting of a series of letters, words, sentences, or parts of sentences printed in separate sections upon a fan or other flat surface in transposed or irregular order and without a key, as herein shown and described.

268,992. BARBER'S CHAIR. LYMAN W. BOYS, Cuyahoga Falls, Ohio. Filed June 5, 1882. (No model.)



Claim.—1. The combination of the column A, having at its upper end the disk B, the disk C, centrally pivoted to and adapted to rotate on the former disk, and having a front projection provided with a perforation, the chair-body pivoted at its edges to the rotating disk, and the notched segment E, pivoted to the chair-body and projecting through the perforation in the front projection of the rotating disk, substantially as described.

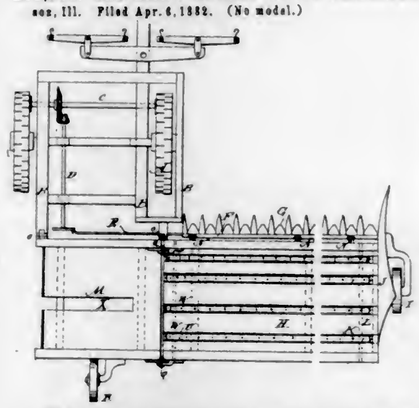
2. The combination of the column A, having at its upper end the disk B, the disk C, centrally pivoted to and adapted to rotate

on the former disk, and having a front projection provided with a perforation, the chair-body pivoted to the rotating disk and adapted to tilt, the segment E, pivoted to the chair-body and projecting through the perforation in the front projection of the rotating disk, and devices carried by the latter for holding it in a fixed position, substantially as described.

3. The combination of the column A, having the disk B at its upper end, the disk C, centrally pivoted to and adapted to rotate on the former disk, the chair-body pivoted to the rotating disk and adapted to tilt, the notched segment secured to the chair-body and adapted to engage and move with the rotating disk, the bar *a*, pivoted to the latter and having a locking-pin, *c*, adapted to engage with perforations in plate B, and the lever D, pivoted to the rotating disk, substantially as described.

4. The combination, with a chair-body having arms provided with interstices *l' l'*, of the auxiliary seat L, having arms *l l* projecting from its ends to enter the interstices in the chair-arms, substantially as described.

268,993. HARVESTING-MACHINE. EDSON L. BRACKEN, DAWSON, Ill. Filed Apr. 6, 1882. (No model.)



Claim.—The combination, with a rear-cut mower having a cutter-bar and pitman-rod jointed at P, of a platform, H, and binder-platform M, hinged together in line with said joint P, and jointed at N to the finger-bar and at Q to the frame B, whereby the mower may be conveniently converted into a reaper and binder, substantially as shown and described.

268,994. BACK-PROTECTOR FOR CORSETS. MORRIS P. BRAY, New Haven, Conn. Filed Nov. 4, 1882. (No model.)



Claim.—The herein-described back-pad for attachment to corsets, consisting of the pad C, constructed with loops on its surface through which the lacings pass, the said pad constructed to extend each side of the loops over the eyelet-sections of the corset, substantially as described.

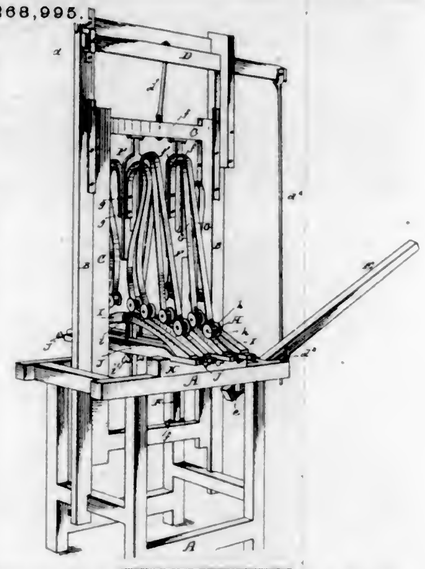
268,995. CARRIAGE-SPRING MACHINE. THEODORE H. BRIGGS and SANFORD J. HESS, Otsego, N. Y. Filed July 5, 1882. (No model.)

Claim.—1. The combination, with the frames A, B, and C, of the arched pieces I, rods F and spring-arms G, flanged rollers H, levers D and E, and rods *d' d''*, substantially as shown and described.

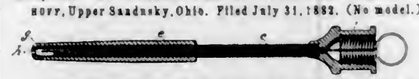
2. The combination of the frame C and the rods F, widened at *f*, and provided with spring-arms G, having flanged rollers H, substantially as shown and described.

3. The combination of the frame C, bars F F, spring-arms G, flanged rollers H, hinged arch-pieces I, and base-pieces J, provided with the screws *i' j*, substantially as shown and described.

268,995.

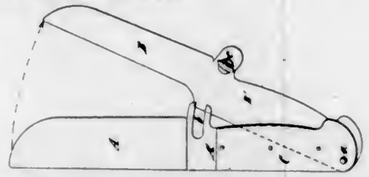


268,996. HYPODERMIC NEEDLE. ALEXANDER W. BRINKERHOFF, Upper Sandusky, Ohio. Filed July 31, 1882. (No model.)



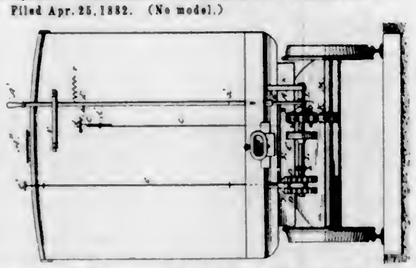
Claim.—In a hypodermic injector, the threaded stem e of the tubular needle, and the interiorly-threaded sleeve-guard *e*, engaging said stem, and having the perforated gage end *g*, through which the needle projects, substantially as specified.

268,997. SKINNING-KNIFE. PAUL BRION, Paris, France. Filed Feb. 15, 1882. (No model.)



Claim.—The combination of the blade A and guard B, having handle-extensions A' B', one of which is provided with the slot *b* and the other with the clamping-screw *c*, and which are pivoted together at *a*, and cheek-pieces C C, secured to said handle-extensions, substantially as and for the purpose described.

268,998. CAR-BRAKE. EDWIN H. BROWN, Washington, D. C. Filed Apr. 25, 1882. (No model.)

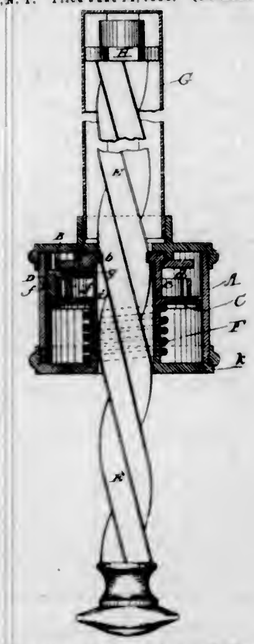


Claim.—1. In a car-brake, the combination of the levers A' A with the movable clutch B, having peripheral pins, a belt, O, a ragwheel, K, on the car-axle, the counter clutch-wheel C, shaft L, cog-wheels D D, spring-pawl F, and wedge E, adapted to elevate the spring-pawl simultaneously with the engagement of the clutch B with the wheel C.

2. An automatic device for limiting and regulating the application of the brakes, consisting of the rod *e*, having a bell-crank and an adjustable extension, *e'*, latch *d d''*, levers A' A, wedge E, spring-pawl F, cog-wheels D D, and shaft L, connected to the brake-applying lever N, substantially as and for the purpose set forth.

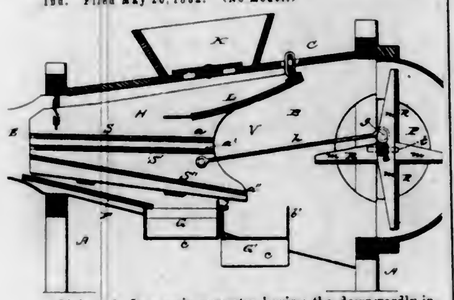
3. The combination of the lever *e*, pedal *e'*, the spring-pawl F, and cog-wheels D D, all constructed, arranged, and operating substantially as set forth.

268,999. EXTENSION GAS-FIXTURE. JOHN F. BROWN, Brooklyn, assignor to Charles F. Orley and Silas M. Giddings, New York, N. Y. Filed June 14, 1882. (No model.)



Claim.—In clamps for drop-lights, the friction-spring F, in combination with the disks B and C, the dog D, the tube *i*, the rod E, the tube G, the nut H, and the case A, with interior collar, substantially as shown and described.

269,000. GRAIN-SEPARATOR. JOHN BRUNNER, Napoleon, Ind. Filed May 20, 1882. (No model.)

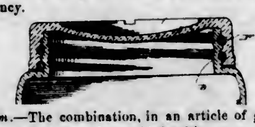


Claim.—1. In a grain-separator having the downwardly-inclined top C and the oppositely-inclined bottom guide, F, the combination therewith of the shoe H, having the downwardly-inclined guide-board L, extending to the lower end of the screen S, the screens S, S', and S'', and the transverse inclined discharge-chutes G G', substantially as specified.

2. In a grain-separator, the combination of the rectangular fan-shaft *e*, having lateral cranks *g*, pitmen A, fan-blades R, notched interlocking arms *m n z*, engaging each other, and the fan-shaft, substantially as specified.

269,001. SCREW-THREAD FOR UNITING ARTICLES OF GLASS AND CROCKERY WARE. WILLIAM H. BRUNT, Pittsburg, Pa., assignor to Voigt, Ward & Co., same place. Filed Oct. 24, 1882. (Model.)

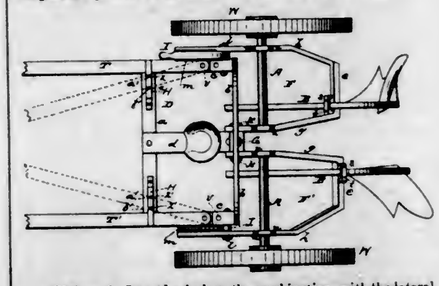
Brief.—The two parts are formed with opposing grooves, and a wire is placed in the groove of one part, where it is held by its own resiliency.



Claim.—The combination, in an article of glassware constructed in two parts and provided, with corresponding screw-grooves, of the loose wire interposed between the parts to interlock the same, substantially as specified.

269,002. WHEEL-PLOW. FRANKLIN C. BRYAN, Winona, Minn. Filed May 20, 1882. (No model.)

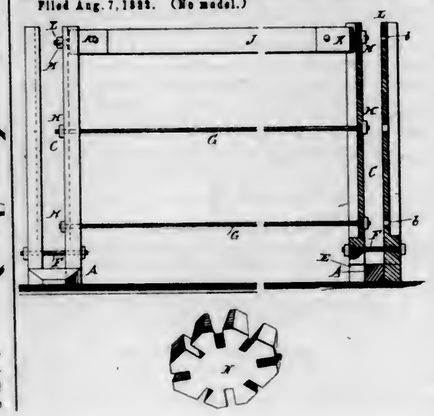
Brief.—Machine composed of three frames pivoted to each other. Each plow has an independent frame and axle, which are pivoted to the tongue-frame and raised by a rigid lever. The tongues are pivoted to the cross-bars, and may be deflected.



Claim.—1. In a wheel-plow, the combination, with the lateral plow-frames F F' and their independent axles A, of the plow-beams B, and the clamps *s*, having the vertical parallel bolts *t*, one on each side of the plow-beam, substantially as specified.

2. The wheel-plow consisting of the front frame, D, its quadrants *m*, and tongues T T', the lateral independent plow-frames F F', pivoted to said front frame, their levers I, axles A, and wheels W, and the plow-beams B and their plows, substantially as specified.

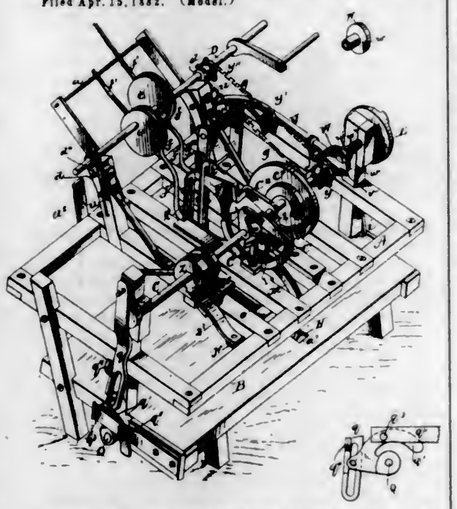
269,003. FENCE. WILLIAM McG. BUTLER, Dyersburg, Tenn. Filed Aug. 7, 1882. (No model.)



Claim.—1. In a fence, the combination, with the posts C, having the vertical longitudinal grooves D, of the rail J and clips K, fastened to said rail, and having screw-pintles L nutted to the posts C, substantially as shown and described, and for the purpose set forth.

2. The polygonal base-block having dovetailed recesses in its sides, in combination with the posts having dovetailed tenons and rods or bars connecting the posts together, substantially as and for the purpose set forth.

269,004. GRAIN-BINDER. JOHN E. BUXTON, Owatonna, Minn. Filed Apr. 15, 1882. (Model.)



Claim.—1. In a grain-binder and in combination with the actuating-shaft D, on which are mounted the eccentrics *e*, the packer-arms F, each having loop *f* and guide ends *f'*, and operating substantially as set forth.

2. In combination with the cord-arm M and the knotter R, constructed and operated as described, the cord-guide P, having fixed jaws *p* on its lower end, and shank *p'*, provided with square side p^2 and spurs p^3 and p^4, arranged to be operated by the arms C', C^2, and C^3, all substantially as shown and described.

3. In a knotter having its projecting end slotted or provided with jaws *r*, a spring cord-retaining piece, r^2, having projecting end r^4 and combined with cam a^6, substantially as and for the purposes set forth.

4. In combination with the arm H, the packers F, and movable shaft D, the arm V, and clutch mechanism on the shaft C substantially as and for the purposes set forth.

5. The combination of cord-arm M, knotter R, guide P, operating as described, guide *x*, and sliding grasper N, having spring-cutter *n'*, all constructed and operated substantially as set forth.

6. In a grain-binder, the combination of the packer-arms F, eccentric *e*, shaft D, bearings *d*, and arm V, with sprocket-wheel *y*, clutch W, and shaft C, substantially as described.

7. In a grain-binder, the packers F, mounted on a swinging or movable shaft, combined with sprocket-chain *g*, operating as described, and tension-wheel *y*, substantially as set forth.

8. In combination with the movable bearings *d* of the shaft D and arm V, the spring *u*, substantially as set forth.

9. The knotter R, having jaws *r*, and provided with tongue r^2, pivoted in the lower jaws and controlled by spring r^3, substantially as described.

269,005. BUTTER-JAR. JOHN J. CAREY and PATRICK CAVANAUGH, La Salle, Ill. Filed Apr. 29, 1882. (No model.)

Claim.—1. The combination, with the jar A, of the inner cover, B, the exterior cover, E, and the hook-ended clamps J and K, substantially as herein shown and described, and for the purpose set forth.

2. The combination, with the jar A, provided with the shoulders *a* and *b*, of the interior cover, B, the exterior cover, E, the clamps J K, and the packing-rings C D, substantially as herein shown and described, and for the purpose set forth.

269,005.

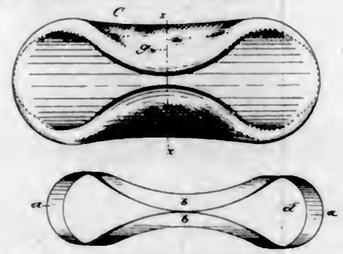


3. The combination, with the jar A, provided with the shoulders *a* and *b*, and the external collar, G, having beveled recesses H, of the interior cover, B, the exterior cover, E, and the clamps J and K, substantially as herein shown and described, and for the purpose set forth.

4. The combination, with the jar A, provided with an exterior collar, G, provided with beveled recesses H, of the interior cover, B, the exterior cover, E, the clamps J and K, and the rubber stripe or blocks L in the lower hooks of the clamps, substantially as herein shown and described, and for the purpose set forth.

5. The combination, with the jar A, provided with an exterior collar, G, having recesses H in its lower edge, of the covers B and E, the clamps J and K, the clamp J, formed of two pivoted hooks, J' J^3, and of the rubber blocks L, substantially as herein shown and described, and for the purpose set forth.

269,006. SAD-IRON HOLDER. SERENA M. CARNES, New York, N. Y. Filed Oct. 14, 1882. (No model.)

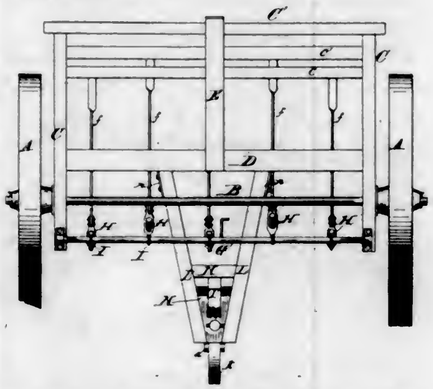


Claim.—1. A sad-iron holder containing a spring adapted to clasp any sad-iron handle and be retained thereon by the elasticity of the spring, as set forth.

2. The spring *d*, formed with the central clasping portions, *b b*, and the oval or loop portions *a a*, in combination with the padding *f* and outer covering, *g*, substantially as described.

3. A spring, *d*, for sad-iron holders, provided with the central clasping portions, *b b*, and end loops, *a a*, substantially as shown and described.

269,007. GRAIN-DRILL. JAMES A. CARR, Richmond, Ind. Filed July 15, 1882. (No model.)



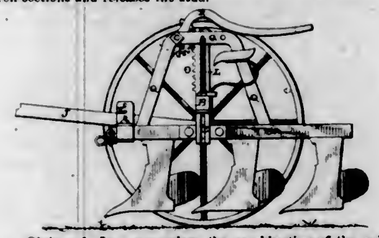
Claim.—1. In combination with the independent hoes of a grain-drill, a riding-frame hinged at its forward end to the main frame of the drill, and supported at its rear end by a swiveling wheel-support, substantially as herein set forth.

2. In combination with a series of independent grain-drill hoes, a riding-frame supporting a driver's seat, located in rear of the lifting-roller and in close proximity thereto, said riding-frame being hinged to and supported by a swiveling wheel-support, substantially as herein set forth.

3. In combination with the series of independent drag-bars, the riding-frame hinged to the main frame of the drill, and the caster-wheel spindle journaled to the rear end of the riding-frame, substantially as herein set forth.

269,008. GANG-PLOW. CHARLES D. CARTER, Grand Rapids, Mich., assignor of one-half to Milo B. Stewart, same place. Filed June 10, 1882. (Model.)

Brief.—Guide-rods upon the plow-frame slide up through sockets in the main frame. The plow-frame is lifted by a segment-lever seated in a double bail or arched frame rising from the former. The lever meshes into a rack-standard upon the axle. The arched frame presses against the standard, and a stud holds at any notch or height. The movement of the lever spreads the arch-sections and releases the stud.



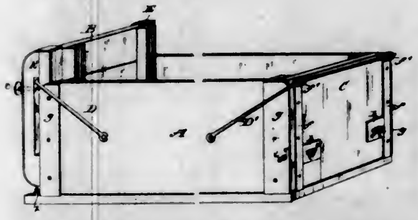
Claim.—1. In a gang-plow, the combination of the axle B, having the slotted castings C, secured to each end, the castings E, having flanges or projections to catch in the slot, and a dust-band, F', upon its outer side, the castings E, having the spindle F formed as a part of it, and being held in any desired position by means of the set-screw D, substantially as shown.

2. The combination of the plow-beam provided with a guiding-rod, L, upon each side, the axle, and suitable guiding-castings, M, secured upon the axle, substantially as described.

3. The combination of the plow-frame, the metallic frame secured thereto, the toothed standard, the quadrant having a lever secured to it, a spring for closing the frame, and a catch to snap into the holes in the side of the standard, substantially as set forth.

4. The combination of the plow-frame, the frame Q, made in two parts, the spring for forcing the parts together, the perforated standard, and elevating-lever, substantially as specified.

269,009. WAGON-BOX. EUGENE F. CHAPMAN, Wilson, Nebr. Filed July 3, 1882. (No model.)



Claim.—1. The bail D', hinged to the sides of the box, in combination with the end-board C, attached thereto by the eye-plates *f f*, and provided with the sliding bolts and catches *i i*, substantially as described.

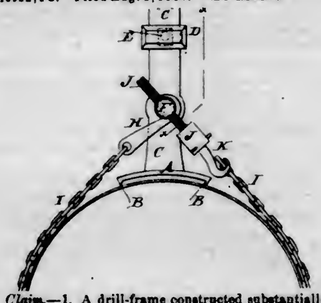
2. The combination, with the box A, having the end-boards C secured thereto by the bail D', of the separate side-boards G G, and the end-gate H, provided with the hooked plates *l l*, substantially as described.

3. The end-gate H, having the hooked plates *l l* and hooks *k k*, in combination with the side-boards G G and bail D', substantially as and for the purposes set forth.

4. The end-gate H, formed with the projections *m m*, in combination with the side-boards G G, provided with the projections *m' m'*, substantially as and for the purposes set forth.

5. The side-boards G G, provided with the standards or cleats *q* and outside cleats, *s*, and having the hooks *t t* at their forward ends, in combination with the end-gate H, provided with the hooked plates *l l* and hooks *k k*, the ends of the said gate being formed with the projections *m m*, and the rear ends of the side-boards being formed with the projections *m' m'*, and having the staples *n n*, substantially as described.

269,010. DRILL-FRAME. DAVID CLARK and JOHN LEE, Hazleton, Pa. Filed Aug. 2, 1882. (No model.)



Claim.—1. A drill-frame constructed substantially as herein shown and described, and consisting of the base A, having points or claws B, the standards C, having adjustable arm D, the arbor F, the chain I, the claw-hook K, and the swiveled screw J, as set forth.

2. In a drill-frame, the combination, with the chain I and arbor F, of the swiveled screw J and the claw-hook K, substantially as herein shown and described, whereby the chain can be readily drawn taut to hold the drill-frame firmly in place, as set forth.

269,011. PIPE-COUPLING. THOMAS B. CLATWORTHY, New York, N. Y., assignor to Abendroth & Root Manufacturing Company, same place. Filed Nov. 3, 1882. (No model.)

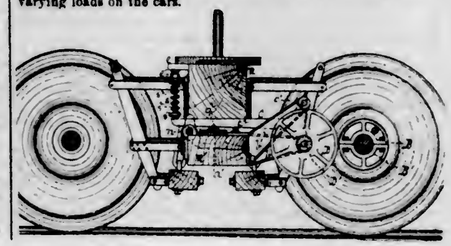


Claim.—1. The pipe-coupling composed of an inner ring of wrought-iron and an outer ring of cast-iron, having an internal flange, which is secured by casting upon the inner ring, thereby forming two annular sockets for the reception of the pipe, substantially as described.

2. The pipe-coupling composed of an inner ring of wrought-iron and an outer ring of cast-iron, coned or tapered internally and having an internal flange, which is secured by casting upon the inner ring, thereby forming two annular dovetailed sockets for the reception of the pipe, substantially as described.

269,012. FLUID-PRESSURE RAILWAY-BRAKE MECHANISM. JOHN W. CLOUD, Altoona, Pa. Filed Oct. 25, 1882. (No model.)

Brief.—The weight of the car is sustained by fluid-pressure. When released the brakes on the several cars composing the train are applied under different degrees of pressure, according to the varying loads on the cars.



Claim.—1. In a fluid-pressure brake apparatus, the combination of a three-armed or bent lever, C, a movable pulley operated by or from one arm, *c*, a fluid-pressure mechanism actuating another arm, c^2, in one direction, a spring arranged between such arm and the load for actuating it in the opposite direction, and a friction-wheel on the car-axle, substantially as set forth.

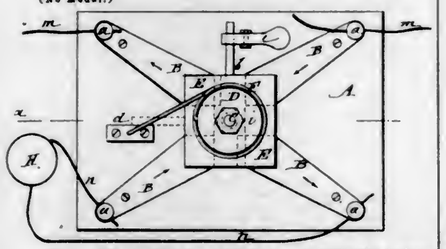
2. The combination of the three-armed or bent lever C, the shaft D', carried at one end by one arm, *c*, of said lever, a bracket, *b'*, carrying said lever by its pivoting point or arm c', a spring, *s*, interposed between the load and the third arm, c^2, and a fluid-pressure mechanism arranged to operate against the weight of the load, substantially as set forth.

3. The combination of a spring arranged between the load and lever-arm c^2, a fluid-pressure mechanism operative in the opposite direction on the same lever-arm, and means for varying such fluid-pressure at pleasure or as the result of accident, or maintaining a constant pressure, substantially as set forth.

4. A spring, *s*, arranged directly between the load and the lever-arm c^2, substantially as set forth.

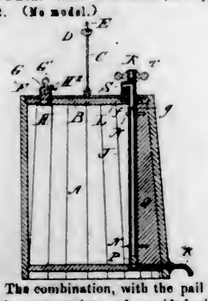
5. In combination with lever-arm c^2 and spring *s*, a cam or eccentric, *n*, on a shaft, P, as a means for throwing and locking the brakes out of action, substantially as set forth.

269,013. CUT-OUT FOR ELECTRIC LAMPS. CHARLES F. COLEMAN and HENRY A. SMITH, Atlanta, Ga. Filed Oct. 5, 1882. (No model.)



Claim.—The combination, with the base A, having fixed piece *d* and catch *e*, of the bars B, radiating from its center, carrying the posts *a*, and unconnected at their inner ends, the central pivot-post, C, the spring-pressed non-conducting block D, arranged loosely on said post, carrying pin *b* and extending over the inner ends of said bars, the parallel plates E, made fast to the under side of said block, and the spring F, connected at one end with stud *d* and at the other with block D, whereby in the cut-out the circuit is rendered continuous without the aid of springs or switches, as described.

269,014. OIL-PAIL. JOHN W. COLLIER, Lockport, N.Y. Filed Sept. 27, 1882. (No model.)



Claim.—1. The combination, with the pail A, of the handle D, semicircular in cross-section, and provided with the longitudinal groove *a'*, and hinged bail C, having the bends *a a*, substantially as shown and described.

2. The combination, with the pail A, of the cover B, the filling-tube F, the strainer H, and the hooked wire H', substantially as herein shown and described, and for the purpose set forth.

3. The combination, with the pail A, of the tube J, the faucet-tube R, the piece of wood O, and the eyes or loops N, through which the tube J passes, and which are secured to the piece of wood O, substantially as herein shown and described, and for the purpose set forth.

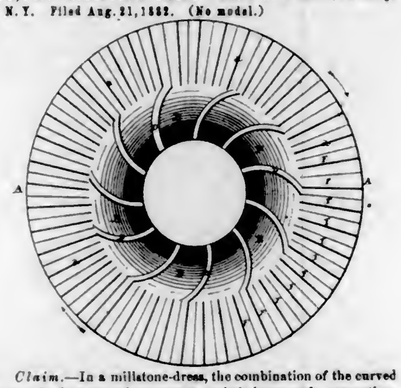
4. The combination, with the pail A, of the tube J, the packing l' in the lower end of the tube J, and the packing Q, surrounding the inner end of the faucet-tube R, substantially as herein shown and described, and for the purpose set forth.

5. The combination, with the pail A, of the tube J, the packings P and Q, the faucet-tube R, and the collar *b*, provided with apertures *c*, substantially as herein shown and described, and for the purpose set forth.

6. The combination, with the pail A, of the tube J, provided with an aperture, *f*, and vents S T, and of the plug *g* in the tube J below the aperture *f*, and faucet-tube R, substantially as herein shown and described, and for the purpose set forth.

7. The combination, with the pail A, of the tube J, provided with the two vents S and T, containing the ball-valves *h* and *j*, respectively, and faucet-tube R, substantially as herein shown and described, and for the purpose set forth.

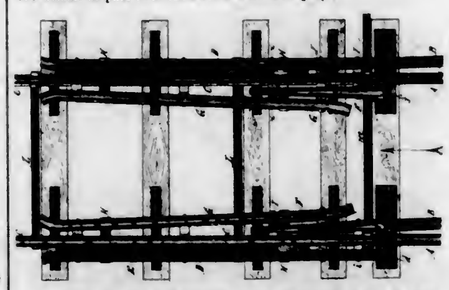
269,015. MILLSTONE-DRESS. ELGIN L. CONKLIN, Corning, N.Y. Filed Aug. 21, 1882. (No model.)



Claim.—In a millstone-dress, the combination of the curved furrows B, deepest and narrowest at their inner ends, separating-flanges D, which rise to the level of the land-surface, and the radial furrows F, substantially as shown and described.

269,016. RAILWAY-SWITCH. CHARLES LEE COOKE, Syracuse, N.Y. Filed June 3, 1882. (No model.)

Brief.—A switch of that class which are so constructed as to prevent the wheels from running from the ends of the rails to the ground when the switch is misplaced. The switch is made of switch-rails, wing-rails, and packing-rails, with their top surfaces on the same level. The packing-rails rest on the base of the switch and wing rails. The wing-rails and filling-rails have their rear ends depressed below the level of the switch-rails to permit defective wheels to pass over the switch without injury.



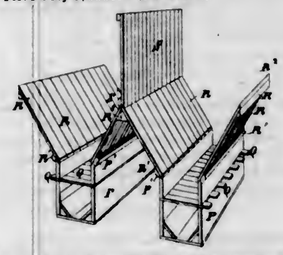
Claim.—1. The combination, with the switch-rails C, of the wing-rails D, arranged on the same level with the switch-rails, and the packing-rails E, secured between the switch-rails and wing-rails, with their threads arranged on a level with said switch-rails and wing-rails and with their bases resting upon the bases of said rails, substantially as set forth.

2. The combination, with the switch-rails C, of the wing-rails D, arranged on the same level with the switch-rails, and the packing-rails E, secured between the switch-rails and the wing-rails, with their treads arranged on a level with said switch-rails and wing-rails, and having inclined front ends depressed below the treads of the switch-rails and wing-rails, substantially as set forth.

3. The combination, with the switch-rails C, of the wing-rails D and filling-rails E, having their treads arranged on a level with the treads of the switch-rails and their rear ends depressed below the level of the switch-rails, substantially as set forth.

4. The combination, with the switch-rails C, wing-rails D, filling-rails E, and guard-rails G, of the pointed rails F, having their inner front corners rounded or chamfered, substantially as set forth.

269,017. BOLTING-CHEST. NICHOLAS CORNELIUS, St. Louis, Mo. Filed July 5, 1882. (No model.)



Claim.—1. A sectional bolting-chest constructed with end sections, A A' A', B B' B', locking-plates O D H, and side bars, F I J, having male fastenings *f*, as set forth.

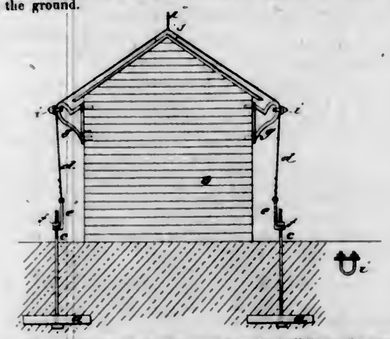
2. In a sectional bolting-chest, the combination of detachable conveyer-boxes, channeled cant-boards R R R R, channeled partition S, and side rails, I I, as set forth.

3. The combination, in a bolting-chest, of the conveyer-boxes and cant-boards, made in detachable sections, and the supporting side rails, I, of the case.

4. The combination of conveyer-box P, detachable cant-boards supported thereon and on the side rails, I, and detachable connections for securing said side rails to the ends of the chest, substantially as set forth.

269,018. PROTECTING APPARATUS FOR BUILDINGS. EZRA CROWELL and ELISHA C. DAWSON, Dawson, Nebr. Filed Sept. 15, 1882. (No model.)

Brief.—Cords secured to peak-saddles carrying a lightning-rod point pass over the roof near its ends, are clamped to eaves-brackets, and are adjustably connected to vertical rods anchored in the ground.



Claim.—1. In anchoring apparatus for buildings, the cords or rods *d*, detachably and adjustably connected to rods *c*, attached to the anchors and extending to the surface of the ground, or thereabout, substantially as described.

2. The combination of anchors *a*, cords or rods *d*, eaves-brackets *g*, and peak-saddle *j* with a building, substantially as described.

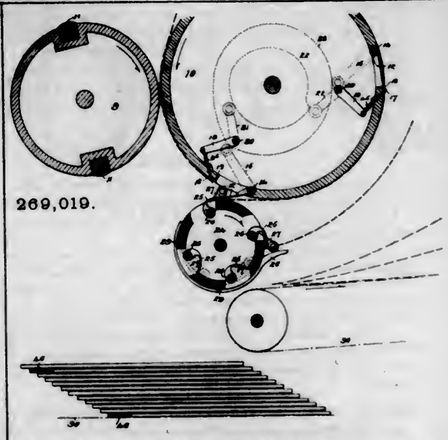
3. The combination of clamps *i* with the cords or rods *d* and eaves-brackets *g*, substantially as described.

4. The combination, in a building-protector, of anchored cords or rods *d* and a lightning-rod point, *k*, substantially as described.

5. The combination, in a building-protector, of anchored cords or rods *d*, peak-saddle *j*, and a lightning-rod point, *k*, substantially as described.

269,019. DELIVERY APPARATUS. LUTHER C. CROWELL, Brooklyn, assignor to R. Hoe & Co., New York, N.Y. Filed May 29, 1882. (No model.)

Claim.—1. The herein-described method of dividing the sheets delivered from a printing mechanism into quires or lots containing predetermined quantities, which consists in marking certain ones of the successively-produced sheets during their passage through the machine, so as to form an index of division by making them readily distinguishable from the others, substantially as described.



269,019.

2. The herein-described method of marking regular divisions in the pile of sheets delivered from a printing mechanism, which consists in printing an indicating-mark upon the blank margin of certain of the successive sheets in such a position that it can be seen, so as to make such sheets readily distinguishable from the others in the pile, substantially as described.

3. The combination, with a mechanism for printing the body of newspapers or other sheets, of a mechanism imparting a distinguishing-mark to certain of the successively-produced sheets, all substantially as described.

4. The combination, with mechanisms for printing the body of newspapers or other sheets and for delivering the same, of a mechanism for printing an indicating-mark upon the blank margin of certain of the sheets in such position that it can be seen, so as to make such sheets readily distinguishable from the others in the pile, all substantially as described.

5. The combination, with a mechanism for folding and delivering newspapers or other printed sheets, of a mechanism for placing an indicating-mark upon or in the fold-line of certain of the sheets in such position that it can be seen, so as to make such sheets readily distinguishable from the others, all substantially as described.

6. The combination, with mechanism for printing the body of the sheets and mechanism for feeding them continuously forward, of a rotary mechanism for printing an indicating-mark upon certain of the sheets, and mechanism for bringing its printing-surface into operative position at proper intervals, all substantially as described.

7. The combination, with the roll, as 31, provided with an ink-receptacle, and the printing-plate, as 35, having openings for the emission of ink, of the spring-seated plunger provided with ribs, as 36, and means for moving said roll into and out of contact with the paper, all substantially as described.

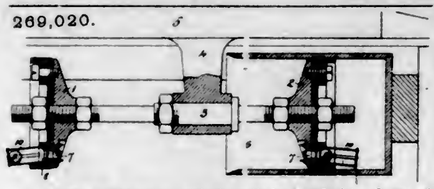
8. The combination, with the cylinder or carrier, as 10, provided with sheet-retaining devices, of the cylinder or carrier, as 24, provided with grippers which operate to seize the rear ends of the sheets upon the first carrier, and the slow-moving carrying-tapes 30, arranged to receive the sheets one upon another, all substantially as described.

9. The combination, with the cylinder or carrier, as 10, provided with sheet-retaining devices and fingers, as 12, for throwing the rear ends of the sheets away from its surface, of the cylinder or carrier, as 24, provided with grippers which operate to seize the rear ends of the sheets upon the first carrier, substantially as described.

269,020. AIR-CUSHIONING APPARATUS FOR PRINTING-MACHINES. LUTHER C. CROWELL, Brooklyn, assignor to R. Hoe & Co., New York, N.Y. Filed Oct. 7, 1882. (No model.)

Claim.—1. An air-cushioning apparatus provided with an escape-passage controlled by a valve which closes by its inertia, substantially as described.

269,020.

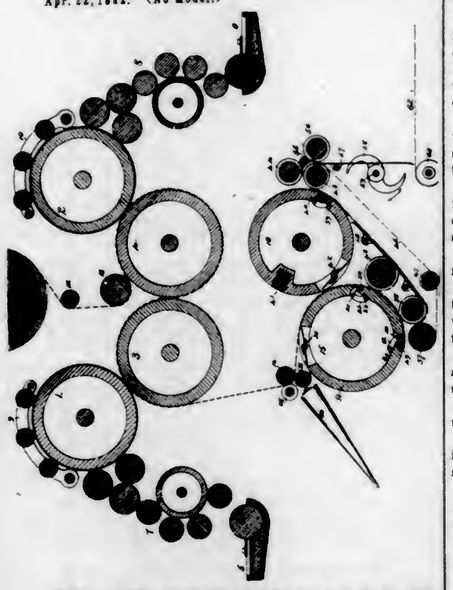


2. The combination, with the cylinder 6 and piston 2, one of which moves and is provided with an escape-passage, of a valve, as 9, which is periodically operated by its inertia to close said escape-passage, substantially as described.

3. The combination, with the piston and cylinder, as 2 6, one of which moves and is provided with an escape-passage, as 7, of the ball-valve 9 and its inclined cage, said cage being so arranged that when the parts attain a given speed the inertia of said valve will cause it to close said escape-passage, substantially as described.

4. The combination, with the piston and cylinder, as 2 6, one of which moves and is provided with an escape-passage, as 7, of a ball-valve, as 9, cage, as 10, and spring, as 11, substantially as described.

269,021. SHEET-DELIVERY APPARATUS. LUTHER C. CROWELL, Brooklyn, assignor to R. Hoe & Co., New York, N. Y. Filed Apr. 22, 1882. (No model.)



Claim.—1. The combination, with the carrier, as 15, provided with sheet-holding devices, folding devices, and one member of a severing mechanism, of a second carrier, as 16, provided with sheet-holding devices, folding devices, and the other member of a severing mechanism, and means for bringing the sheets folded from the first carrier within the range of action of the folding devices of the second carrier, all substantially as described.

2. The combination, with a carrier, as 15, provided with sheet-holding devices, a folding-blade, and one member of a severing mechanism, of folding-rolls, as 37 38, a second carrier, as 16, provided with sheet-holding devices, a folding-blade, and the other member of a severing mechanism, a second pair of folding-rolls, as 43 44, and tapes, as 45, all substantially as described.

3. The combination, with the carriers, as 15 16, each provided with sheet-holding devices and folding devices, of means for so operating said holding devices that alternate sheets will be taken by each carrier, all substantially as described.

4. The combination, with the carriers, as 15 16, each provided with sheet-holding devices, a folding-blade, and one member of a severing mechanism, and devices for so operating the said holding devices that alternate sheets will be taken by each carrier, all substantially as described.

5. The combination, with the carriers, as 15 16, each provided with sheet-holding devices, a folding-blade, and one member of a severing mechanism, of devices for so operating said holding devices that alternate sheets will be taken by each carrier, of folding-rolls, as 37 38 and 43 44, all substantially as described.

6. The combination, with the carriers, as 15 16, each provided with sheet-holding devices, a folding-blade, and one member of a severing mechanism, and means for so operating said holding devices that alternate sheets will be taken by each carrier, of folding-rolls and mechanism for associating the sheets folded from one carrier with those folded from the other, so that they are delivered in pairs, all substantially as described.

7. The combination, with a carrier, as 15, provided with sheet-holding devices and folding mechanism, of a carrier, as 16, provided with like devices, and mechanism and means for conveying the sheets folded from the first carrier to the second carrier in such position that the folding mechanism of the latter will associate the sheets in pairs, all substantially as described.

8. The combination, with the carrier 15, provided with two sets of sheet-holding devices and a folding-blade, of the carrier 16, provided with one set of sheet-holding devices and a folding-blade, and means for shifting the carrier 15 so as to bring either of its sets of holding devices into operative position, all substantially as described.

9. The combination, with the carrier 15, provided with two sets of sheet-holding devices, three cutting-grooves, a folding-blade, and co-operating folding-rolls, of the carrier 16, provided with one set of sheet-holding devices, two severing-blades, a folding-blade, and co-operating folding-rolls, means for shifting the carrier 15 so as to bring either of its sets of sheet-holding devices into operative position, and means for operating the holding devices upon cylinder 16 at either of two points, all substantially as described.

10. A web-turner composed of the bars, as 75 76, one of which is adjustable, so that the two may be used together to form a single turner for a wide web or separately to form independent turners for narrow webs, substantially as described.

11. The combination, with the bar 75, of the bar 76 and means for adjusting the latter so as to form a continuation of the former, or so as to form an independent turner, all substantially as described.

12. The combination, with the bar 75, of the bar 76, screw-rod 81, and supporting-rod 84, substantially as described.

13. A rotating fly, as 58, constructed to receive and support the forward edge of the sheet as it carries it downward, and provided with means for engaging and laying forward the upper portion of the sheet, all substantially as described.

14. A rotary fly, as 58, composed of the series of S-shaped arms arranged to receive the sheets in the curves of their ends, substantially as described.

15. A rotating fly, as 58, in combination with a moving carrier, as 62, substantially as described.

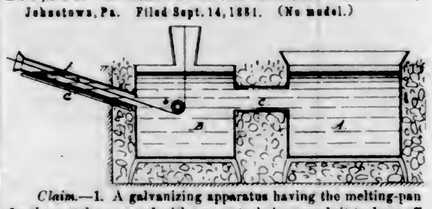
16. A rotating fly, as 58, composed of a series of curved arms, in combination with a moving carrier, as 62, substantially as described.

17. A rotary fly, as 58, provided with means for arresting the lower end of the sheet, in combination with a moving carrier, as 62, all substantially as described.

18. A rotary fly, as 58, composed of a series of curved arms, in combination with the rigid guides 57 and a moving carrier, as 62, substantially as described.

19. The rotary fly, as 58, in combination with the tapes, as 52, and the pawl-and-ratchet mechanism, substantially as described.

269,022. APPLIANCE FOR GALVANIZING. HENRY CULL, Johnstown, Pa. Filed Sept. 14, 1881. (No model.)

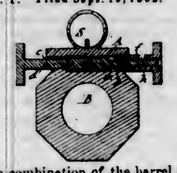


Claim.—1. A galvanizing apparatus having the melting-pan for the metal connected with a receptacle by a conduit to draw off the pure metal for the bath, and having a pipe or series of pipes communicating with the bath-receptacle and inclined slightly from a horizontal plane to extend the bath, and a sinker arranged in the said receptacle, substantially as shown and described.

2. The combination, with the bath-receptacle having a sinker

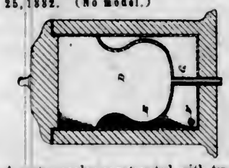
therein, and the inclined pipes communicating with the receptacle, as described, of the perforated gas-pipes arranged longitudinally underneath the inclined bath-pipes, substantially as shown and described.

269,023. SIGHT FOR FIRE-ARMS. FRANK DE LORME, Central Square, N. Y. Filed Sept. 19, 1882. (No model.)



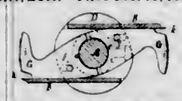
Claim.—The combination of the barrel having the groove or way *a*, provided with the recess *r* and shoulder *b*, the sight-base A, fitted to slide in the way *a*, and provided with the screw-threaded channel *c*, the adjusting-screw *d*, having its threaded portion *e* fitted in the recess *r*, and provided with the threaded extension *f* and intermediate blank-neck, *s*, and the jam-nut *h*, all as shown and described.

269,024. WATER-COOLER. HENRY S. DIMOCK, Phelps, N. Y. Filed Sept. 25, 1882. (No model.)



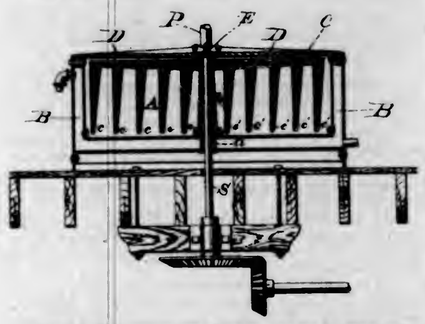
Claim.—A water-cooler constructed with two vertical chambers, one of which is divided into two compartments by means of a curved partition, the upper one adapted to contain ice, and provided with a drip-tube, the lower one being connected with the other chamber by means of a filtering-tube, and with a discharge-aperture for drawing off the water, substantially as and for the purposes specified.

269,025. GAGE FOR CUTTER-HEADS. WILLIAM L. DODGE, East Somerville, Mass. Filed Feb. 13, 1882. (No model.)



Claims.—In combination with the molding-machine cutters, their supporting-heads and driving-shaft, the adjustable gnards, and their sustaining winged hub, adapted to the said shaft and cutters, substantially and for the purposes as set forth.

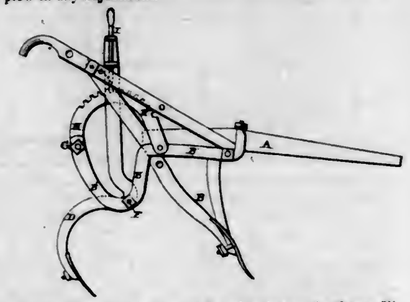
269,026. ASPHALTUM-CONCRETE MIXER. DANIEL H. DORSETT, Clinton, Iowa, and JOSEPH P. ELLACOTT, Chicago, Ill. Filed Feb. 17, 1882. (No model.)



Claim.—The combination of the mixing-pan A, steam-jacket B, vertical shaft S, thimble *a*, and sleeve *b*, forming bearings for said shaft, rake C, secured to the shaft and having teeth *c c'*, the cross-bar E, with lids D D, hinged thereto, and the ventilating-pipe P, all substantially as and for the purpose described.

269,027. SUBSOIL-PLOW. SAMUEL B. DOVER, Subligna, assignor of one-half to JNO. M. WRITE, Calhoun, Ga. Filed May 17, 1882. (No model.)

Brief.—The subsoil-standard is extended into a long shank or handle having a pawl or dog to engage with a ratchet and hold the plow in any adjustment.



Claim.—The combination of the plow-beam, the frame B', secured to its rear end, the subsoil-plow D, pivoted in the frame and provided with a dog, and the ratchet-plate H, substantially as shown.

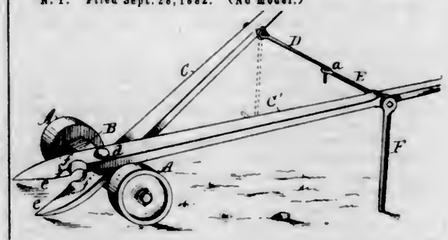
269,028. COFFEE-URN. LOUIS F. DUPARQUET and PIERRE HOOT, New York, N. Y. Filed Sept. 9, 1882. (Model.)



Claim.—1. In a coffee-urn, the combination, with the water-pot and the decoction-receiver, having an annular flange at the upper edge, of a screw-ring for holding the receiver in the water-pot, and forming a close and tight joint, substantially as herein shown and described, and for the purpose set forth.

2. In a coffee-urn, the combination, with the water-tank A, provided with a threaded rim or collar, B, of the decoction-receiver C, provided with a flange, D, and the screw-ring E, provided with a flange, F, substantially as herein shown and described, and for the purpose set forth.

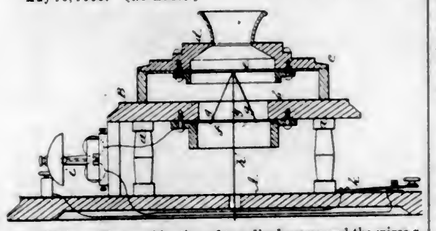
269,029. GRUBBING-SHEARS. PETER DURHAM, Brooklyn, N. Y. Filed Sept. 28, 1882. (No model.)



Claim.—1. In a grubbing device, the wheels A A and axle B, in combination with shears C C', pivoted to the axle, the shears being formed with the cutting-edges *e e* and recesses *f f*, whereby the device is adapted for cutting and uprooting underbrush, &c., as set forth.

2. The combination, with the truck and jaws C C', pivoted thereto, of the hooked and swiveled rod D, screw-rod E, and winch F, substantially as and for the purposes set forth.

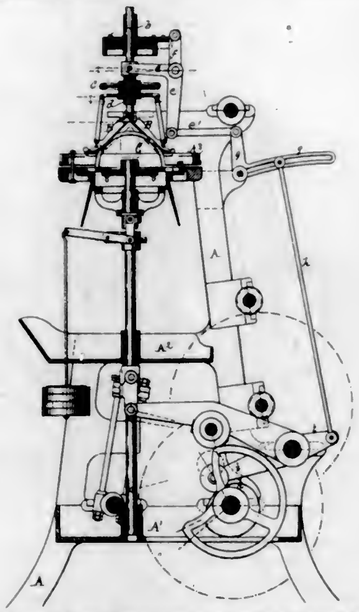
269,030. MECHANICAL TELEPHONE. CHARLES EGAN, Zanesville, Ohio, assignor to George M. Jewett, same place. Filed May 16, 1882. (No model.)



Claim.—The combination of two diaphragms and the wires *g*, which are attached to the outer diaphragm at its center, diverging thence toward the inner one, to which they are connected at points between its center and edge, substantially as described.

269,031. HAT-STRETCHING MACHINE. RUDOLF EICKEMEYER, Yonkers, N. Y. Filed Sept. 23, 1882. (No model.)

Brief.—Improvement on Letters Patent No. 140,903, dated July 15, 1873, No. 256,203, dated April 11, 1882, and No. 256,305, dated April 11, 1882.



Claim.—1. The combination, with the tip-stretching fingers and the spindle, at the lower end of which the inner ends of said fingers are connected, of a sleeve which is loosely fitted to said spindle, and is coupled to the outer ends of said fingers, substantially as described.

2. In a hat-stretching machine, the combination, substantially as hereinbefore described, of a suitable former, tip-stretching fingers, and mechanism for automatically varying the angular position of said fingers during the stretching operation.

3. In a hat-stretching machine, the combination, substantially as hereinbefore described, of a suitable former, vertically-reciprocating tip-stretching fingers, and mechanism for automatically varying the angular position of said fingers during the stretching operation.

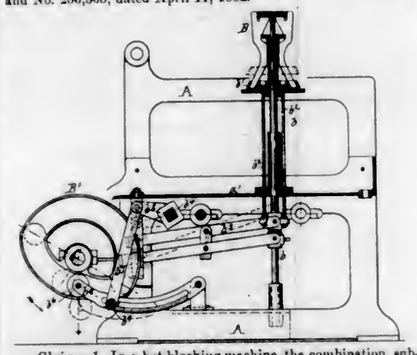
4. In a hat-stretching machine, the combination, substantially as hereinbefore described, of a suitable former, the vertically-reciprocating tip-stretching fingers, mechanism for automatically varying the angular position of said fingers during the stretching operation, and an adjusting device for predetermining and varying the extent of the variation in the position of said fingers.

5. The combination, with the tip-stretching fingers and their sliding sleeve, of the bell-crank levers, links, cam-lever, and rotating cam, substantially as described.

6. The combination, with the tip-stretching fingers, their sliding sleeve, the cam and intermediate levers, and links, of the adjustable link-connection, substantially as described, for varying the extent of movement of the outer ends of the stretching-fingers.

269,032. MACHINE FOR BLOCKING AND SHAPING HATS. RUDOLF EICKEMEYER, Yonkers, N. Y. Filed Sept. 23, 1882. (No model.)

Brief.—Improvement on Letters Patents No. 53,661, dated April 3, 1866; No. 72,726, dated December 31, 1867; No. 141,338, dated July 29, 1873; No. 167,083, dated August 24, 1875; No. 244,041, dated July 12, 1881; No. 256,203, dated April 11, 1882, and No. 256,305, dated April 11, 1882.



Claim.—1. In a hat-blocking machine, the combination, substantially as hereinbefore described, of an expansible hat-block and its automatic expanding mechanism.

2. The combination, substantially as hereinbefore described, of an expansible hat-block, its automatic expanding mechanism, and adjusting mechanism, whereby the degree of expansion of the hat-block may be varied.

3. The combination, substantially as hereinbefore described, of an expansible hat-block and its automatic mechanism for raising and lowering it independently of its expanding mechanism.

4. The combination, substantially as hereinbefore described, of an expansible hat-block, its automatic raising and lowering mechanism, and its adjusting mechanism for varying the height of lift for operating on various heights of hat-crown.

5. The combination, substantially as hereinbefore described, of a hat-block, a series of expansible brim-clamping tongs, and their automatic expanding and contracting mechanism.

6. The combination, substantially as hereinbefore described, of a hat-block, a series of expansible brim-clamping tongs, their automatic expanding mechanism, and the adjusting mechanism whereby the extent of expansion by said tongs is varied.

7. The combination, substantially as hereinbefore described, of a hat-block, a banding-ring, a series of brim-clamping tongs, and automatic mechanism for closing the jaws upon a brim and maintaining them in a closed condition, and opening them for releasing the brim.

8. The combination, substantially as hereinbefore described, of an expansible hat-block, a banding-ring, and automatic mechanism for moving the banding-ring toward and from the hat-block.

9. The combination, substantially as hereinbefore described, of a hat-block, a rapidly-reciprocating banding-ring, and automatic mechanism for vertically reciprocating the banding-ring during the blocking of a hat, and moving said ring into and out of its working position.

10. The combination of the banding-ring, the wave-line cam, and the intermediate connecting mechanism, substantially as described, for lifting and lowering said ring and causing it to be rapidly reciprocated.

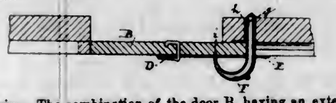
11. In a hat-blocking machine, the combination, with the hat-block, of a swinging or tilting douche, and mechanism for placing said douche into position for the delivery of water therefrom upon a hat when mounted on said block, substantially as described, and for the purposes specified.

12. In a hat-blocking machine, an automatically-operated douche, substantially as described, whereby at proper intervals water is delivered upon a hat, as and for the purposes specified.

13. In a machine for blocking and shaping hats, the combination, substantially as hereinbefore described, of the following co-operative organizations: first, the expansible block, and the automatic mechanism for lifting, lowering, expanding, and contracting said block; second, the annular series of brim-clamping tongs, and the automatic mechanism for closing and opening the jaws of said tongs, and for expanding and contracting them; third, the banding-ring, and the automatic mechanism for lowering, raising, and rapidly reciprocating said ring.

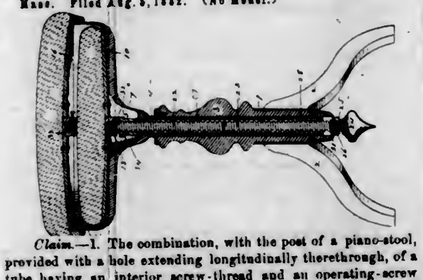
14. In a hat-blocking machine, operated automatically in whole or in part, the combination, substantially as hereinbefore described, of its automatically-operated mechanism and a stop-motion whereby the machine is stopped at the end of each complete automatic operation.

269,033. SEAL-LOCK. GEORGE A. ELLSWORTH, Algiers, La., assignor of two-thirds to Edward Quinn, same place, and Charles Mizzigerode, Jr., New Orleans, La. Filed June 7, 1882. (No model.)



Claim.—The combination of the door B, having an external hook, D, and arc-groove *i*, the car-body A, and label E, with the curved hook F, having notch *g*, and the catch *h*, all arranged to operate as described, and for the purpose set forth.

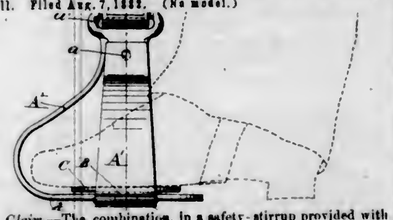
269,034. PIANO-STOOL. JAMES EMERSON, Williamsett, Mass. Filed Aug. 5, 1882. (No model.)



Claim.—1. The combination, with the post of a piano-stool, provided with a hole extending longitudinally therethrough, of a tube having an interior screw-thread and an operating-screw adapted to be turned into one end of said tube, with one end of said screw adapted to be secured in the lower end of said post, and a frame adapted to receive a removable seat secured to the other end of the tube, whereby said tube and screw may be inserted and secured in said post with the frame and its seat uppermost, and the latter raised and lowered by revolving the tube upon the screw while the latter remains fixed in the post, substantially as described.

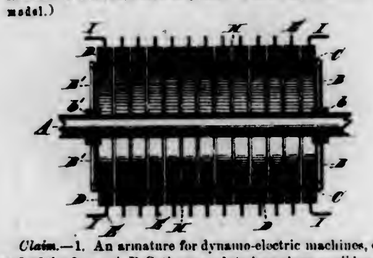
2. The combination, with the post of a piano-stool, having a hole extending longitudinally therethrough, of a tube having an internal screw-thread and an operating-screw adapted to be turned into one end of said tube, with the exposed end of said screw adapted to be secured in the lower end of said post, a frame to contain within itself a removable seat, with its operating-screw provided with a nut and extending down into said tube, and a removable seat adapted to be attached to said frame above the removable seat within the frame, whereby the device may be used as a single stool or two separate stools formed therefrom, substantially as described.

269,035. SAFETY-STIRRUP. SAMUEL F. ENGLISH, Chicago, Ill. Filed Aug. 7, 1882. (No model.)



Claim.—The combination, in a safety-stirrup provided with the toe-guard A^2, of the hinged side guard, A', with the spring-latch B, the latter provided with the foot-plate C, substantially as shown and set forth.

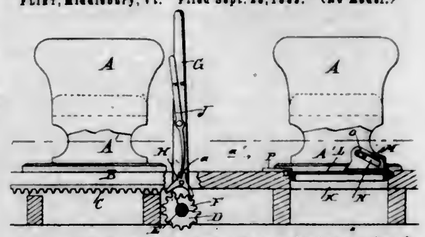
269,036. ARMATURE FOR DYNAMO-ELECTRIC MACHINES. ANDREW B. FISHER, Union City, Ind. Filed July 26, 1882. (No model.)



Claim.—1. An armature for dynamo-electric machines, composed of the frame A B C, the convolute iron rings or ribbons D, and the pins E, said rings or ribbons being separated to provide the air-spaces H, substantially as described.

2. An armature for dynamo-electric machines, composed of the frame A B C, convolute iron rings or ribbons D, and pins E, extending beyond the rings or ribbons to form polar projections, said rings or ribbons being separated to provided the air-spaces H, substantially as described.

269,037. ESCAPE-DOOR FOR RAILWAY-CARS. THOMAS E. FLINT, Middlebury, Vt. Filed Sept. 28, 1882. (No model.)



Claim.—1. The combination, with a car having openings in its bottom, of doors for closing the said openings, and sliding bars supporting the seats, with which seats the doors are connected, substantially as herein shown and described, and for the purpose set forth.

2. The combination, with a car having openings in its bottom, of the doors L_1, the sliding bars B, the racks C, and a shaft provided with pinions engaging with the racks C and with a rocking lever, substantially as herein shown and described, and for the purpose set forth.

3. The combination, with a car having openings in its bottom, of the doors L_1, the sliding bars B, supporting-seats A, connected with the doors L_1, the racks C, the pinions D, the shaft E, and a device for rotating the said shaft E, substantially as herein shown and described, and for the purpose set forth.

4. The combination, with a car having openings in its bottom, of the doors L_1, provided with slotted lugs M, the sliding bars B, the racks C, the pinions D, mounted on a shaft, E, devices for rotating the said shaft, and of the studs O, passing from the inner surfaces of the seat end pieces, A', through the slots N in the lugs M, substantially as herein shown and described, and for the purpose set forth.

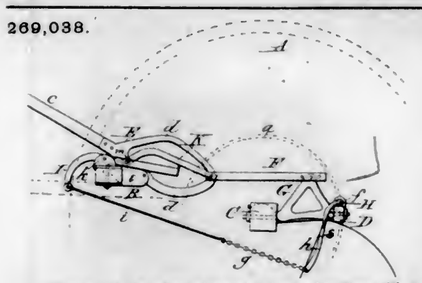
5. The combination, with a car having openings in its bottom, of the doors L, the seats A, the sliding bars B, the racks C, the pinions D, the shaft E, the ratchet-wheel F, the rocking lever G, and the adjustable fork-shaped pawl H, substantially as herein shown and described, and for the purpose set forth.

6. The combination, with a car having openings in its bottom, of the doors L, the seats A, the sliding bars B, the racks C, the pinions D, the shaft E, the ratchet-wheel F, the rocking lever G, the adjustable fork-shaped pawl H, and the locking spring lever J, substantially as herein shown and described, and for the purpose set forth.

7. The combination, with a car having openings K in its bottom, of the removable doors L for closing the said openings, and of the corner-pieces P, substantially as herein shown and described, and for the purpose set forth.

269,038. HORSE HAY-RAKE. ALBERT W. FORCE, Ithaca, N. Y., assignor to the Ithaca Manufacturing Works, same place. Filed Sept. 28, 1882. (No model.)

269,038.



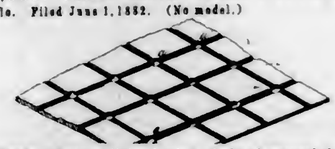
Claim.—1. In a horse hay-rake, the combination, with the levers E I, rake-head C, rider-bar D, and connecting means F G, of the releaser-bar K, attached at one end to the foot-lever I, and at its opposite end to the hand-lever E and connections F, substantially as and for the purpose described.

2. In a horse hay-rake, the combination of the wheels A, having rims *a*, the frame B, rake-head C, rider-bar D, plate G, connecting the rake-head and rider-bar, the levers E I, connecting-bars F F, releaser-bar K, cranked rock-shaft H, having forked ends adapted to engage with the rims *a*, and the chain *g* and rod *i*, connecting said shaft to the foot-lever, all substantially as and for the purpose described.

3. In a horse hay-rake, the combination, with the foot-lever I, of the curved releaser-bar K, loosely pivoted at one end to said foot-lever, and connected at its opposite end to the hand-lever E, and connecting bars or rods F F, substantially as described.

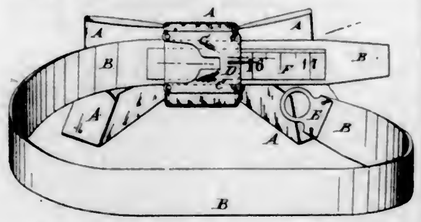
4. In a horse hay-rake, the combination of the cross-bar B, having spring *p*, the levers I and E, pivoted in suitable bearings on said bar, the lever E being provided with lug *o*, the rake-head C, rider-bar D, connecting means F G, curved releaser-bar K, connected with the hand and foot levers, the cranked rock-shaft H, having irons adapted to grasp the rims on the driving-wheels, and the connections *i g* and spring *s*, all substantially as and for the purpose described.

269,039. CARPET-LINING. FRANCIS P. FRENCH, Denver, Colo. Filed June 1, 1882. (No model.)



Claim.—A carpet-lining having a body of unequal thickness and presenting a smooth upper surface, provided with perforations at intervals for the transmission of dust, the thinner portions of the lining forming spaces on the under side for the reception and retention of the dust transmitted through the described perforations, and the thicker portions being solid or integral with the body of the said lining, as set forth.

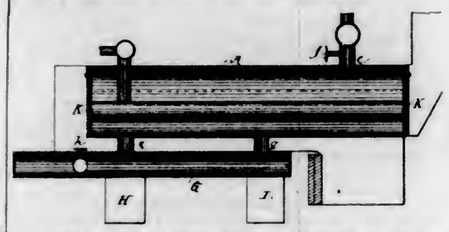
269,040. NECKTIE. ISIDOR FRANCIS and JAMES FRANCIS, New York, N. Y. Filed Sept. 9, 1882. (No model.)



Claim.—1. A band-bow necktie, constructed substantially as herein shown and described, and consisting of the bow provided with a recessed and slotted shield, having a band-fastening pin attached to it, and the band provided with an eye-plate at one end and a scale of size-marks at the other, as set forth.

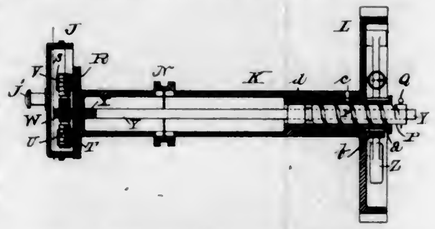
2. In a band-bow necktie, the separate band B, provided with a scale, F, of size-marks, substantially as herein shown and described, to facilitate the adjustment of the said band to the size of the collar upon which it is to be worn, as set forth.

269,041. MARINE STEAM-BOILER. FERDINAND FOHRS, Evansville, Ind. Filed Aug. 18, 1882. (No model.)



Claim.—In marine steam-boilers, the combination of a series of boilers each provided with its separate mud-drum G, having blow-off valve A, and connected with a common steam-drum, E, by pipes *e*, provided with cut-off valves *f*, with the shutters K, adapted to shut off the draft from each boiler separately, substantially as and for the purpose shown and set forth.

269,042. VALVE-GEAR FOR STEAM-ENGINES. CHARLES M. GIDDINGS, Massillon, Ohio. Filed Oct. 26, 1882. (No model.)



Claim.—1. The combination, substantially as set forth, of a shaft, a shifting eccentric, a screw to shift the eccentric, a reciprocating part to rotate the screw, and a hand-lever engaging said reciprocating part.

2. The combination, substantially as set forth, of a shaft, a shifting eccentric, a screw to shift the eccentric, a reciprocating part to rotate the screw, and a centrifugal regulator to actuate the reciprocating part.

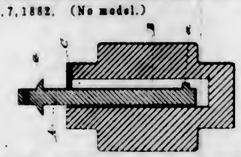
3. The combination, substantially as set forth, of a shaft, a shifting eccentric, a screw to shift the eccentric, a reciprocating part to rotate the screw, a hand-lever to actuate the reciprocating part, a centrifugal regulator to actuate the reciprocating part, and a means for disconnecting said regulator from and connecting it to the reciprocating part.

4. A shaft and a shifting eccentric, combined with a compound screw to shift the eccentric on the shaft.

5. The combination, substantially as set forth, of a main shaft, a counter-shaft, spur-gearing, an eccentric on the counter-shaft, and a connection from the eccentric to the engine-valve.

6. The combination, substantially as set forth, of a reciprocating non-rotary screw, a rotary non-reciprocating nut, and a centrifugal device engaging said nut and adapted to rotate it.

269,043. CAR-COUPLING. EZRA N. GIFFORD, Cleveland, Ohio. Filed Nov. 7, 1882. (No model.)

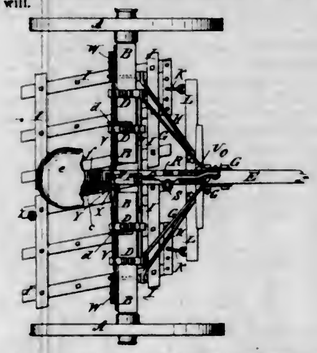


Claim.—1. In a car-coupling device, the combination, with the coupling-pin A and the pin *a*, of the plate C, substantially as and for the purpose shown and described.

2. In a car-coupling device, the combination, with the teat D, the coupling-pin A, and the recessed cap *a'*, of a depression, *d*, in the end of the teat D, substantially as and for the purpose set forth.

269,044. SULKY-HARROW. LEROY M. GILLETT, Lyons, Kans. Filed Aug. 31, 1882. (No model.)

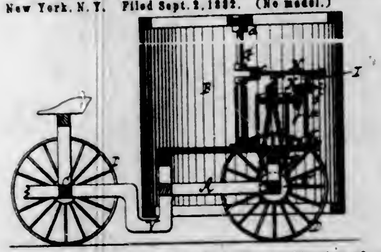
Brief.—Extensible axle and braces, one of which latter is perforated and the other formed with a bent end to engage adjustably the perforations in the former. Lever is pivoted to hinged standard, so as to play laterally in slot thereof and turn forward therewith, and connected by chains and pulleys to central and side portions of harrow, whereby either side or center of harrow may be raised at will.



Claim.—1. The combination, with the axle-sections connected by rods C, and the tongue E, secured between the adjacent ends of said sections and clamped to said rods, of the axle-braces G H, the former provided with holes, into which the bent ends of the latter pass, as shown and described.

2. The combination, with a harrow-frame made in two parts connected by eyebolts, of the two chains V V, the guide-pulleys W, the pivoted lever X, the hinged end-slotted standard Y, the slotted stud Z on the tongue, the chain *b*, hook *a*, and pulley *c*, whereby the lever X will have lateral play and will turn down with the standard, as described.

269,045. ADVERTISING-WAGON. JOHN SIDNEY GOLDSMITH, New York, N. Y. Filed Sept. 2, 1882. (No model.)



Claim.—In an advertising-vehicle, the combination of a revolving frame, formed with an open end to pass down over the vehicle-frame and rear wheels, as described, with front wheels connected to rear wheels by a reach curved to pass round the end of the cylinder, and mechanism for revolving the cylinder, substantially as shown and specified.

269,046. GRAIN-BINDING MACHINE. JAMES F. GORDON, Rochester, N. Y. Filed Oct. 5, 1882. (Model.)

Claim.—1. In a grain-binder, the combination of a traveling knot-tyer and operating mechanism, substantially as described, whereby a forward and reverse rotation is imparted to the tyer during the formation of the knot while it is traveling in one and the same direction.

2. In a grain-binder, the combination of a traveling knot-tying mechanism, a segmental vibrating rack, a stationary cam-track, and a switch in the cam-track, substantially as and for the purpose set forth.

3. In a grain-binder, the combination of traveling rotary knot-tying mechanism, a rotary cord-holder, a vibrating segment, a stationary cam-track, and a switch acting upon the segment, substantially as and for the purpose specified.

4. In a grain-binder, the combination of a rotary knot-tyer and a laterally-moving plate adapted to push and hold the cord away from the axis of rotation during the looping action of the tyer, substantially as described and shown, whereby the binding of the cord against the periphery of the tyer is prevented.

5. The combination of a rotary knot-tyer and a laterally-sliding plate, *w*, operated by the cam T, attached to the rotating knot-tyer spindle, substantially as and for the purpose set forth.

269,046.



6. A knot-tying device consisting of a rotary vibrating hook, M, having the cord-retaining lug on its point, and the rotary vibrating hook N, arranged to permit the hook M to pass thereunder, so that the hook M shall overlap said lug in the manner described and shown.

7. The combination of the rotary vibrating hooks M and N, the point of the former arranged to advance across the cut or opening of the latter while looping the cord, whereby the entrance of the cord beneath the hook a second time is prevented.

8. In combination with the revolving disk O, the cord-holding jaw *b''*, straddling the edge of said disk and pivoted thereto, and the knife *a''*, mounted upon said holding-jaw, as described and shown.

9. In combination with the rotary knot-tyer, the rotary-disk O and the jaw *b''*, pivoted to said disk, and arranged to engage with and retain the spool-cord previous to the severance of the band therefrom.

10. The sliding-stop *p'*, in combination with the rotary disk or holder O, substantially as and for the purposes set forth.

11. The combination, with a knot-tyer, of the rotary disk O, having the cord-holding jaw *b''* pivoted thereto, and the rotary jaw-operating cam Z, substantially as described.

12. The combination of the knot-tyer, the rotary disk O, the cord-holding jaw *b''*, a knife, *a''*, mounted upon the disk, and a cam, Z, arranged to operate upon the jaw, as described and shown.

13. The combination, with the knot-tyer, of the rotary disk O, the cord-holding jaw *b''*, knife *a''*, and cam Z, provided with groove *s'*, adapted to permit the passage of the knife, substantially as described.

14. The combination, with a knot-tyer, of the rotary disk O, the cord-holding jaw *b''*, pivoted thereto, and casing S, as described.

15. The rotary cord-holder O, arranged to receive the unsevered band, in combination with the hollow spindle *e*, pinion *l*, and operating devices, substantially as described, whereby the holder is caused to slacken or yield up the cord during the formation of the knot.

16. A cord-tying device consisting of two concentric independently-rotating discoidal parts, each having one edge cut away or recessed to form a hook therein, and having the remaining portion of its periphery concentric, or substantially concentric, with the axis of rotation, substantially as described, whereby they are adapted to perform the entire operation of looping the cord and passing the end through said loop.

17. The combination of the rotary cord-holder O, the spindle *v*, pinion *l*, pinion *l'*, and rack *c*, as described and shown.

18. The rotary cord-holder O, provided with the holding-jaw

b'', loosely connected to the spindle v, substantially as described, whereby the cord-holder is permitted to remain at rest during the commencement of each forward and reverse rotation of the spindle, substantially as described.

19. The rotary cord-holder O, connected to the notched hollow spindle v by the lug r', bearing in the notch in the inner hollow spindle of the knot-tying head.

20. The combination of the rotary knot-tying hooks M and N, a rotary cord-holder, O, revolving within the casing S, substantially as described.

21. The rotary disk having the cord-holding device bearing upon its edge, in combination with the casing S, inclosing said disk, and provided in one edge with a recess having the projection f on one side to assist in guiding the cord.

22. The combination of the rotary knotting-hooks M and N, the casing S, the plate y', having the cord-opposing projection y''', substantially as and for the purpose set forth.

23. The combination of the concentric knotting-hooks M and N, having a limited independent motion, the cam-track I, provided with incline m, the rack-bar, and intermediate mechanism, substantially as described, for transmitting motion from the track to the rack-bar.

24. The vibrating racks e and e', located in different planes, in combination with the rotary knot-tying device, the rotary cord-holder O, and intermediate operating mechanism, substantially as described.

25. In combination with the concentric knotting-hooks M and N, the friction-piece U', located immediately over the upper surface of the hook N, and acting with a yielding pressure thereon.

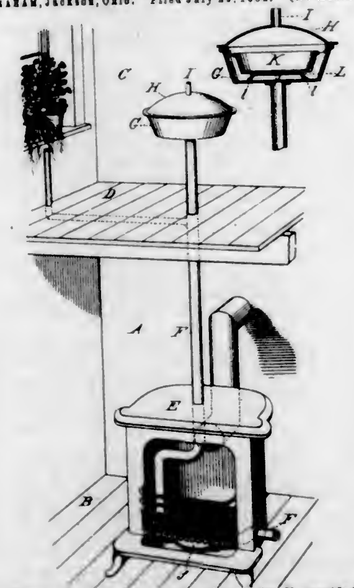
26. The combination of the rotary knotting-hooks M and N and the stationary covering-plate having the friction-piece arranged to bear upon the hook N.

27. In combination with the rotary cord-carrier, the cord-holding jaw b'', pivoted thereto, and provided with the notch e'' in its edge, substantially as shown, whereby the cord is retained upon the outer side of the jaw.

28. The combination of the rotary hooks M and N, the friction-piece U', bearing upon the hook N, and the clearer d^3, and lug Y, for removing the loop from the hooks.

29. The combination of a rotary knot-tyer, an independent rotary device arranged to retain the spool end of the cord, and operating mechanism, substantially as described, whereby the rotary holder is caused to revolve and slacken the cord to the tyer during the formation of the knot.

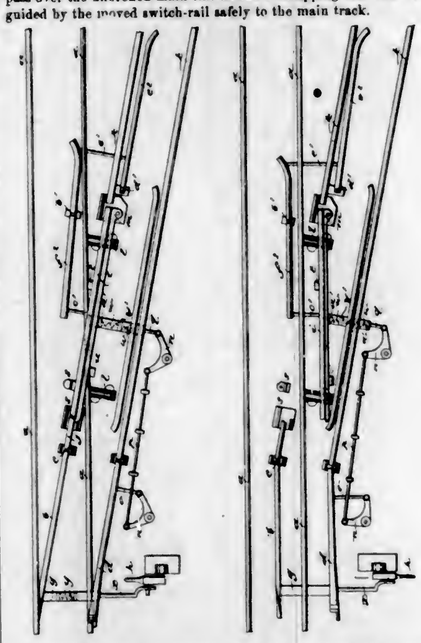
269,047. HEATER ATTACHMENT FOR STOVES. NANCY J. GRAHAM, Jackson, Ohio. Filed July 29, 1882. (No model.)



Claim.—In stoves, the combination of pipe F, provided with enlargement f, and extended from the stove upward through one or more floors of a building, the oven G, having lid H, and escape-pipe I, constructed and arranged substantially as and for the purposes specified.

269,048. RAILROAD-SWITCH. MARTIN A. GERRY, Altoona, Pa. Filed July 17, 1882. (No model.)

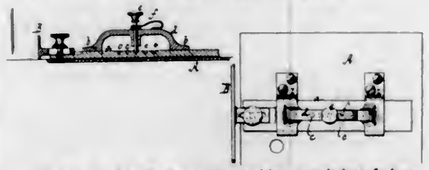
Brief.—A railroad-switch so arranged that the wheels are carried over the main track in such a manner that the main-track rails remain solid and the joint and frog are dispensed with. The switch is also arranged so that a train will automatically shift and pass the switch when running in one direction in case the switch is misplaced, and also so that a train running from the branch onto the main line will shift the rails of the switch automatically and pass over the unbroken main rail on the overlapping rail and be guided by the moved switch-rail safely to the main track.



Claim.—1. The combination, with an unbroken rail, a, and switch-rail b, of the switch-rail i, pivoted at m and placed higher than rail a, the stationary sections j k, the ways l, the rail d, connected with said rail i by the mechanism n o p q, the stops s t u, the springs w y, and the rod x, as and for the purpose specified.

2. The switch-rails b d i, combined and connected with the working-rods q x by the springs w y, as shown and described.
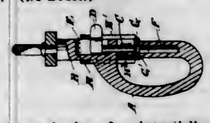
269,049. SEWING-MACHINE GUIDE. AUGUST HARRERT, New York, N. Y. Filed Oct. 2, 1882. (No model.)



Claim.—1. A guide for sewing-machines, consisting of a base-plate, A, provided with staples b, the guide B, adapted to slide in the staples, the series of recesses arranged in the same right line with relation to each other in a longitudinal plane, and a spring, f, carrying a latch which is fixed except as to capability of moving in a vertical plane, substantially as described.

2. The combination, substantially as hereinbefore described, of the guide B, the recesses c, formed in the shank of the guide, the yoke d, connecting the staples in which said shank moves, and the spring-latch e, fitted in said yoke.

269,050. SNAP-HOOK. FRANCIS A. HAAS, Cuero, Tex. Filed Sept. 16, 1882. (No model.)



Claim.—1. A snap-hook made substantially as herein shown and described, and consisting of a hook provided with a sliding latch in the end of the shank and in the end of the hook, whereby the hook will remain closed in whatever position it is, as set forth.

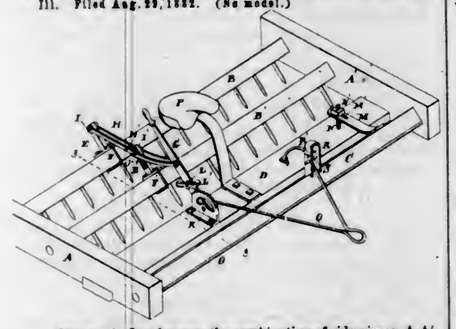
2. The combination, with a snap-hook, of a sliding latch in the shank, and a sliding latch in the hook, and of devices for raising the sliding latch in the shank and in the hook, substantially as herein shown and described, and for the purpose set forth.

3. The combination, with a snap-hook, of sliding bolts in the shank and in the end of the hook, and of sliding sleeves on the shank, and on the end of the hook, substantially as herein shown and described, and for the purpose set forth.

4. The combination, with the snap-hook A, of a sliding bolt, C, in the shank, a lug, D, projecting from this bolt, a slotted sleeve, H, on the shank, a sliding bolt, F', in the end of the hook, and the sliding sleeve J on the end of the hook, substantially as herein shown and described, and for the purpose set forth.

5. The combination, with the hook A, provided with a check-collar, J', of the sliding bolts C and F', the slotted sleeve H, and the sleeve J, substantially as herein shown and described, and for the purpose set forth.

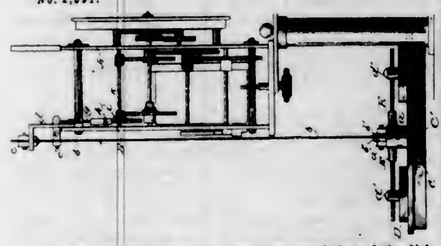
269,051. RIDING-HARROW. GODFREY J. HARNI, St. Jacob's, Ill. Filed Aug. 29, 1882. (No model.)



Claim.—1. In a harrow, the combination of side pieces, A A', rocking tooth-bars B B', and scraper-bar D, the tooth-bars being connected to the scraper-bar by means of arms E E', connecting bar or bars H, lever G, with weighted pawl L, and ratchet-plate K, all substantially as shown and described, and operating as set forth.

2. In a harrow, the combination of side strips, A A', scraper-bar D, and rocking tooth-bar C, the bars D and C being connected by an arm M, bolt N, and nut N', substantially as shown and described, for the purpose set forth.

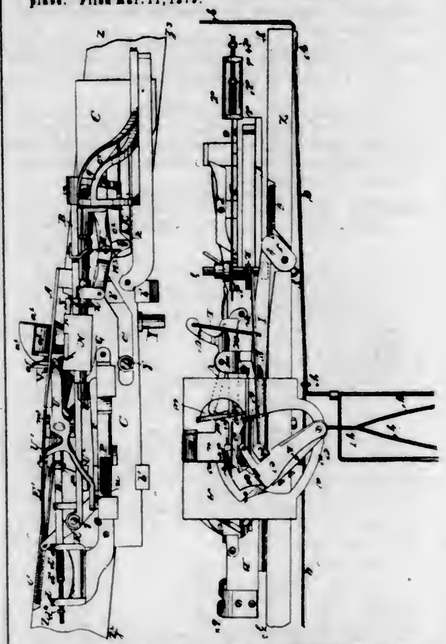
269,052. TORSION-PENDULUM CLOCK. ANTON HARDER, Ranees, Prussia, Germany. Filed July 18, 1882. (No model.) Patented in Austria-Hungary Aug. 17, 1880, No. 16,111 and No. 2,591.



Claim.—1. In a clock, the pendulum consisting of the disk C, the stud a, having the slot a', the clamps b', torsion-spring b, and the lever e, connected to the upper end of said torsion-spring, and also to the stem of the anchor and escapement-wheel, as described.

2. The combination, with the torsion-spring b, of the forked lever e, clamped to the said spring, the stem g of the anchor, secured to the forward end of such lever, and adapted to receive a rocking movement on the pin f by means of a torsional movement of said spring, substantially as described.

269,053. HARVESTER-BINDER. EDWARD HEATH, Brookport, N. Y., Polly Heath, Administratrix of said Edward Heath, deceased, assignor to the Johnston Harvester Company, same place. Filed Mar. 11, 1879.



Claim.—1. In a grain-binder, the combination of the oscillating frame B and reciprocating cam-plate C, both being pivoted at z and guided and controlled by a stud, z', and cam-slot c', substantially as and for the purpose described.

2. In a grain-binder, the combination of the pivoted oscillating frame B, the cam-plate C, pivoted with the frame B and guided by the slot c' and stud z', the looping mechanism, the lower clamping mechanism, and intermediate operating mechanism, substantially as described.

3. In a grain-binder, the upper clamp, E, pivoted at e^4 and provided with the springs e^{10} e^{11}, and with the three arms e^7 e^8 e^9, substantially as described.

4. In a grain-binder, the combination of the pivoted upper clamps, e e' e^4 e^5, and the flanges a^2 a^3, having the space or channel a^1 between them, substantially as described.

5. The combination of the pointed lever I with the looping-head M and lever U, substantially as described.

6. The combination of the looping-head M, the lever U, the tying-hook, the lever I, and the upper and lower clamps, substantially as described.

7. The combination of the looping-head M, having the space or slot t for the passage of the tying-hook, with a tying-hook which draws entirely through the head, so as to be cleaned at each operation, substantially as described.

8. The combination of the looping-head M and lever U, constructed and operating substantially as described.

9. The combination of the oscillating and longitudinally-moving shaft G, the toggle H, the block N, and the slide S, substantially as described.

10. The combination of a stationary upper clamp or clamps, a vertically-oscillating looping and tying head, and a rocking and vertically-oscillating lower clamp, substantially as described.

11. The combination of a stationary upper clamp or clamps, a vertically-oscillating looping and tying head, and a rocking and vertically-oscillating lower clamping and cutting mechanism, substantially as described.

12. The combination of the sliding slotted clamp-plate S with the clamping-bar s s^2, spring s', jaw s^3, the arms of the said slide-plate extending through openings, and means by which said plate is operated to force the cords between the clamps, and by a further movement to sever it, substantially as described.

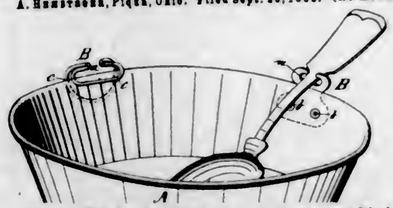
13. In a grain-binder, the rocking compressor q^2, pivoted upon a yielding spring-support, and means by which it is operated, substantially as described.

14. The combination of the supplementary arm q^7 with the rocking arm q^2, supported upon a yielding spring-pivot, substantially as described.

15. A tying-hook secured to an oscillating frame and capable of being reciprocated to and from a looping-head, in combination with a screw for adjusting the same, substantially as described.

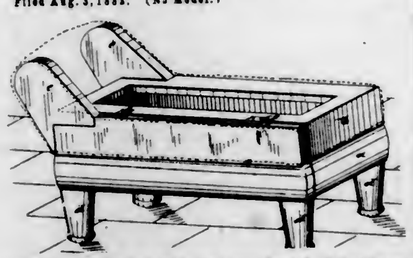
16. In a knot-tying mechanism for grain-binders, the looping-finger fitted for being projected back and forth in front of the looping-head, combined with the vibrating looper-arm, folder, hook, and mechanism to throw the ends of the cord into the hook, substantially as shown and described.

269,054. SPOON-HOLDER FOR COOKING-VESSELS. JOHN A. HENDRICKS, Piqua, Ohio. Filed Sept. 20, 1882. (No model.)



Claim.—The described cooking-vessel A, constructed in its side, near the upper edge, with the slot a, adapted to receive and retain a spoon as against slipping down into the pan when released from the hand, as shown and described.

269,055. BED-LOUNGE. PHILIP HERBOLD, Jr., Galion, Ohio. Filed Aug. 3, 1882. (No model.)



Claim.—1. The top and bottom parts, b and a, of a bed-lounge hinged together by the front board, c, to be separated thereby when open a distance equal to the breadth of said front board, substantially as described.

2. The combination of the jointed extension-braces i, with the top and bottom parts of a bed-lounge hinged together by the front board, c, to be separated thereby when open, substantially as described.

3. The top and bottom parts, b and a, of a bed-lounge jointed at the upper and lower edges, respectively, to the upper and lower edges of the front board, c, substantially as described.

4. In a bed-lounge, the top and bottom parts of the frame hinged together by the front board, c, and thereby separated when opened, and supporting the mattress at points each side of the center, substantially as described.

5. In a bed-lounge having its top and bottom parts, b a, hinged together by the front board, c, substantially as described, the extension-braces i, hinged to one part and working in boxes h of the other part, substantially as and for the purposes set forth.

269,056. PENCIL-HOLDER. CHARLES H. HILLIARD, Chicago, Ill. Filed Jan. 23, 1882. (No model.)

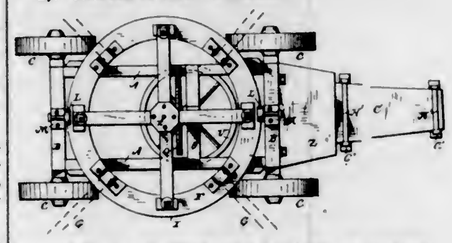
Claim.—A pencil-holder composed of a plate provided with

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an attaching-pin and a hook or catch, and bent to form a transverse pencil-receiving socket open at its rear, adapted to coact with the fabric of a garment to retain a pencil when the holder is attached, substantially as described.

269,057. HORSE-POWER. ALBERT G. HOLBROOK, Livermore, Ky. Filed Oct. 20, 1882. (No model.)



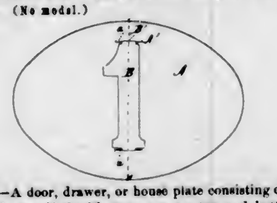
Claim.—1. The combination of the frame, the horizontal master-wheel having cogs upon its under side, a horizontal shaft carrying a pinion engaging said master-wheel and a bevel-gear, a vertical shaft carrying a pinion meshing with said bevel-gear, and a large band-wheel and suitable travelers supporting and guiding the master-wheel, as set forth.

2. The combination, with a horse-power having a band-wheel, and a driving-belt for transmitting motion, of a hinged box having guide-pulleys for said belt, as set forth.

3. The combination, with a horse-power having a band-wheel, and a driving-belt for transmitting motion, of suitable boxes or inverted troughs adapted to cover and protect said driving-belt, and containing pulleys to guide the same, as set forth.

4. The combination, with the horse-power having a band-wheel, and a driving-belt for transmitting motion, of the hinged box containing guide-pulleys for said belt, and a loose box, likewise containing guide-pulleys, and provided on its under side with cross-pieces, forming brackets, by which said box may be secured in position, for operation as set forth.

269,058. DOOR AND DRAWER PLATE. SOLON G. HOWE, Detroit, Mich., assignor, by direct and mesne assignments, to himself, Mrs. J. E. Howe, and William Langley. Filed Sept. 29, 1880. (No model.)



Claim.—A door, drawer, or house plate consisting of a metal base-plate, A, provided with two or more top and bottom apertures or cuts, A', and tongues a a, in combination with a designating sheet-metal letter or number provided with ears B', passed through said apertures or cuts and clinched upon the back of the base-plate, the said tongues a a having their free edges in contact with the bent portions of the ears, which lie upon the inner edge walls of the apertures or cuts, while the main portions of said tongues are flush with the face of the back plate, substantially as described.

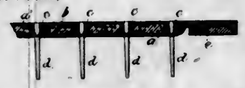
269,059. PACKING-BOX. GUSTAV L. JAEGER, New York, N. Y. Filed Sept. 30, 1882. (No model.)



Claim.—1. In a packing-box for cigarettes or other similar articles, the combination of the open-ended tubular cover or sheath B and the sliding tray A, having its bottom provided near one end with the lifting-flap e, which is formed by means of a slit within or intermediate of the edges of the bottom, leaving such edges entirely attached to the sides and ends of the tray, for the purpose set forth.

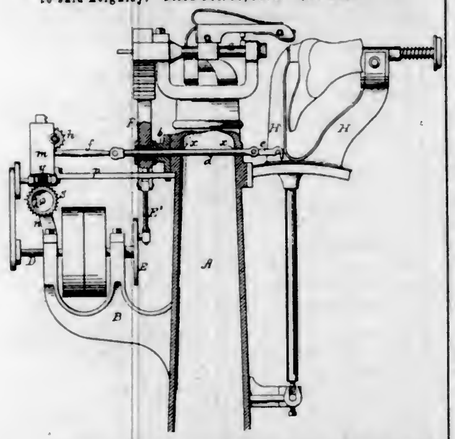
2. The combination, with the open-ended tubular cover B, of a tray fitted into said cover, a lifting-flap formed on the bottom of the tray, and connections between said flap and the cover, substantially as and for the purpose described.

269,060. PICKER-LAG. JOSIAH N. JONES, Worcester, assignor of one-half to P. P. Raymond, 2d, Newton, Mass. Filed Mar. 13, 1882. (No model.)



Claim.—A picker-lag comprising the metal plates provided with perforations a a', the interposed non-metallic layer b, the bushing c, and the teeth d, all combined substantially as and for the purposes described.

269,061. SHOE-HEEL-BURNISHING MACHINE. CHARLES KNIGHLEY and ARLOND H. BLAISDELL, Vineland, N. J., assignors to said Knighley. Filed Oct. 16, 1882. (No model.)



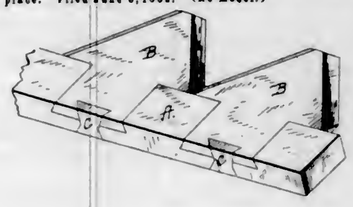
Claim.—1. The combination of the shoe-carrying jack H of the machine, the tool-carrying shaft, and the lever F, for operating the latter, with a rod, d, connected to the jack and passing through the stud on which the lever F vibrates, as set forth.

2. The combination of the jack H, the tool-carrying shaft, and the lever F, with the rod d, passing through the stud on which the lever vibrates, and a frame, m n, secured to the bracket B of the machine and carrying the mechanism for operating the rod, whereby the ready adaptation of the attachment to the machine is effected, as set forth.

3. The combination of the tool-carrying shaft and the jack H with mechanism, substantially as described, for imparting a differential vibrating movement to said jack, as set forth.

4. The within-described jack-operating attachment, comprising the rod d, frame m n, shaft k, with worm-wheel s, and cam-wheel t, rack w, pinion h, arm g, and spindle carrying the worm v and driven from the main shaft D, as set forth.

269,062. MEANS FOR SECURING THE CUTTERS OF HARVESTERS TO THE CUTTER-BARS. DAVID A. KENNEDY, Lexington, Va., assignor of one-half to Joseph Kennedy, same place. Filed June 6, 1882. (No model.)



Claim.—1. A harvester-cutter the shank whereof is formed with beveled edges and a vertically-beveled wedge-shaped recess in the rear of the shank, substantially as described, and for the purpose set forth.

2. A harvester cutter-bar formed with beveled recesses on its face adapted to receive the shanks of the cutters, and formed with vertically-beveled wedge-shaped recesses in the rear face thereof, substantially as described, and for the purpose set forth.

3. The cutters provided with beveled edges and vertically-beveled wedge-shaped recesses in the rear of the shanks, in combination with the cutter-bar having vertically-beveled wedge-shaped recesses on the rear side, and wedge-shaped keys adapted to fit in the vertically-beveled wedge-shaped recesses of the cutter and bar, substantially as described.

269,063. HORSE-TAIL HOLDER. HENRY W. KING, Canaan, N. Y. Filed Oct. 12, 1882. (No model.)



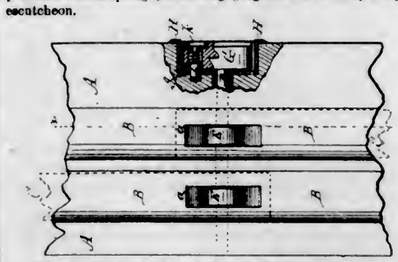
Claim.—1. A horse-tail holder consisting of a strap with free inwardly-projecting or pinching jaws, substantially as described.

2. A horse-tail holder consisting of a strap with a fastening for its ends, having its middle portion made double, with free inwardly-projecting or pinching jaws B B, substantially as and for the purpose described.

3. A horse-tail holder consisting of a strap, A, with a buckle for a fastening, and the pieces B B, riveted to the inside thereof, and having free ends projecting toward each other in the middle, as described.

269,064. SASH-FASTENER. HIRAM T. KING, Rochester, N. Y. Filed May 1, 1882. (No model.)

Brief.—The eccentric-shaped bolts are locked in position by a turn-button on the outer end of the shaft, which turn-button is provided with a spring-pin for engaging holes in the cup-shaped escutcheon.



Claim.—1. In a sash support and lock, the combination of the horizontal shaft D, resting in the jamb behind the runways, the eccentrics E E on the shaft passing through slots into the runways, the corrugations c c in the sash with which the eccentrics engage, the button or thumb-piece G on the end of the shaft by which the shaft is operated, and the spring locking-pin f in the end of the button engaging with holes in a cup or plate beneath for fastening the button in place, as herein shown and described.

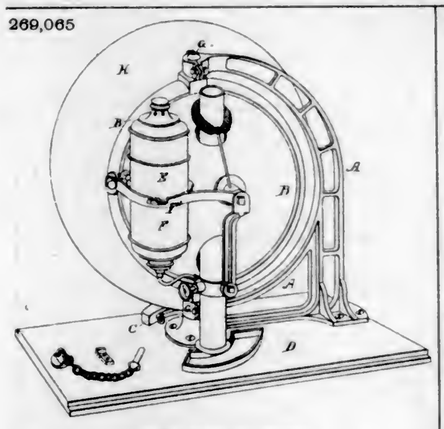
2. In a sash support and lock, the combination of the cup H, provided with holes g g', the button G, attached to the shaft D and resting in the cup flush with its outer surface, and the spring locking-pin f in the end of the button striking through the holes in the bottom of the cup to fasten the button in place, as herein shown and described.

269,065. HEAD-LIGHT FOR LOCOMOTIVES. JOHN KIRBY, Jr., Ludlow, Ky., assignor to Post & Co., Cincinnati, Ohio. Filed July 13, 1882. (No model.)

Claim.—1. In a head-light for locomotives, the combination of a reflector-supporting frame and a reflector pivoted at opposite points on its circumference to said frame, substantially as described.

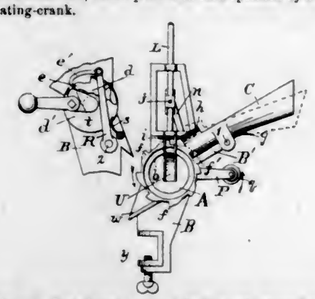
2. In a head-light for locomotives, the combination of an oil-tank and an oil-tank holder of the student-lamp type, secured to the rim and reflector-support in a socketed bar, F', as set forth.

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269,066. CHERRY-SEEDER. GEORGE W. KNAPP, Baltimore, Md. Filed Aug. 31, 1882. (Model.)

Brief.—The feed-trough is capable of a vertically-reciprocating movement by means of ratchet-teeth on the outer end of the cylinder striking a stud on the trough. The lower end of the trough is provided with a discharge-tube, which passes one cherry at a time to the cylinder, and to this tube is attached a forked piece, which holds the cherry in place and strips the cherry from the plunger afterward. The cylinder is operated by a pawl engaging teeth on its inner end, which pawl is in turn operated by a cam on the operating-crank.



Claim.—1. In a cherry-seeder, a feed-trough pivoted to oscillate in a vertical plane, and provided with a tube at its discharge end, as set forth.

2. In a cherry-seeder, a feed-trough pivoted to oscillate in a vertical plane, and provided with a cherry-depressor at its discharge end, as set forth.

3. In a cherry-seeder, the combination of a feed-trough pivoted to oscillate in a vertical plane, and provided at its discharge end with a cherry-depressor and a cylinder adapted to rotate and provided with sockets for the cherries, as set forth.

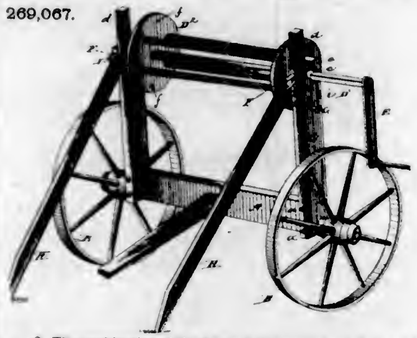
4. In a cherry-seeder, the combination of a cylinder having cherry-sockets and provided with ratchet-teeth *e*, with a supporting-case, *d'*, for the cylinder, having a slot, a punch, a crank-shaft, a pitman-rod connecting the punch and crank-shaft, a pivoted arm carrying a pawl, *e'*, which moves in the aforesaid slot, and a cam adapted to give movement to the said arm, as set forth.

5. In a cherry-seeder, a single standard provided with a slotted case, *d'*, to inclose the end of a cylinder, and also provided with a laterally-projected inclined chute, *w*, all integral, as set forth.

269,067. MACHINE FOR WINDING FENCE-WIRE. WM. B. KNIGHT, Colfax, Ill., assignor of one-half to Winton C. Knight, same place. Filed June 17, 1882. (Model.)

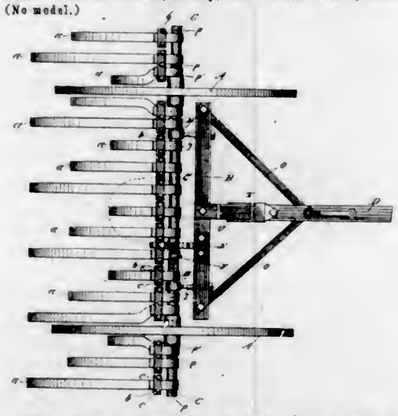
Claim.—1. The combination of the frame A C, mounted on wheels and bifurcated at its upper end to form arms *d* and *e* of uneven height, reel D, having apertures *f* through one of its heads D^2, and stop pin or plug *g*, adapted to be inserted through any one of said apertures and to bear with its projecting outer end against the long arm *d* of the frame-post C next to it, substantially as and for the purpose shown and set forth.

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2. The combination of the frame A C, mounted on wheels and carrying the reel D, having square shaft D' and crank E, spring G, bolt or pin *i*, and detachable braces H H, for maintaining frame A C C in a vertical position when in use, substantially as and for the purpose herein shown and specified.

269,068. SULKY SPRING-TOOTH HARROW AND CULTIVATOR. CHARLES LA DOW, Albany, N. Y. Filed Feb. 11, 1882. (No model.)



Claim.—1. The combination of a draft-frame, a rocking bar connected therewith, ground-wheels supporting the bar and serving as bearings for the rocking movement of the same, a series of spring-teeth of different lengths, adjustable in a direction around the rocking bar relatively to each other to vary the penetration of their points, and having their points arranged in different vertical planes across the line of draft, and means for rocking the bar and teeth, substantially as described.

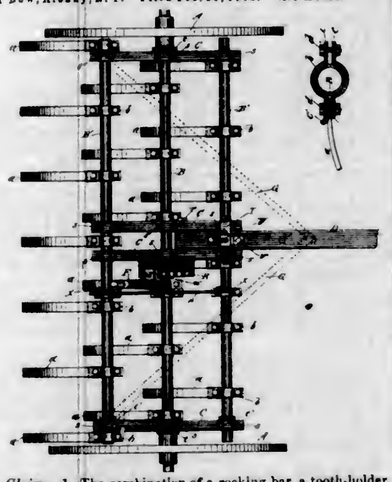
2. The combination of a draft-frame, a rocking bar connected therewith, ground-wheels supporting the bar and serving as center bearings for the rocking movements of the same, spring-teeth attached in series to the rocking bar with their points arranged in different vertical planes, and means whereby the teeth may be varied and held in one series relatively to the teeth in another series by frictional contact between the teeth and their carrying rocking bar, substantially as described.

3. The combination, of a draft-frame supported by wheels, a rocking bar attached to the frame and arranged between the wheels, a series of teeth on the bar, and a section or extension also carrying teeth and capable of being attached to the rocking bar for varying the width of the soil-working parts of the machine, substantially as described.

4. The combination of a draft-frame, a rocking bar attached thereto, mechanism for rocking the bar and holding it as adjusted, teeth adjustably attached to the bar, and mechanism whereby part of the teeth can be reversed without interfering with the rocking of the bar and the work and movement of the other teeth, substantially as described.

5. The combination of a draft-frame supporting a rocking bar, ground-wheels arranged on the bar, and in the hubs of which wheels the bar rocks, and vibratory spring-teeth mounted on said bar, the teeth adjacent to the wheel-hubs being extended or bent laterally to admit the hubs between them, and thereby maintain the proper relative position of the cutting-points of all the teeth, substantially as described.

269,069. SPRING-TOOTH SULKY-CULTIVATOR. CHARLES LA DOW, Albany, N. Y. Filed Feb. 13, 1882. (No model.)



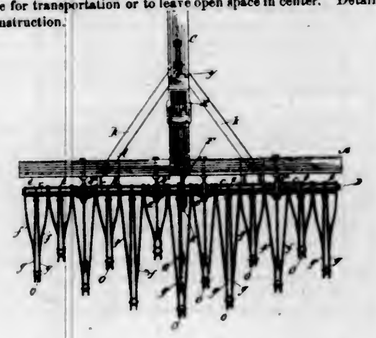
Claim.—1. The combination of a rocking bar, a tooth-holder adapted to be clamped to the bar and held relatively thereto by frictional contact, and a spring-tooth clamped in a recess in the holder, and sustained against upward strain by the upper portion of the holder, substantially as described.

2. The combination of a rocking bar, a spring-tooth, and a tooth-holder consisting of two parts clamped to the supporting-bar and held by frictional contact therewith, the upper part of the holder being provided with a rearward extension, which sustains the spring-tooth against undue upward pressure, substantially as described.

3. The combination of a draft-frame, ground-wheels therefor, an axle rocking in the hubs of the wheels and carrying adjustable vibratory spring-teeth, a second bar carrying vibratory spring-teeth, and lever mechanism connecting the rocking-axle-tooth bar with the second tooth-bar to impart uniform movements thereto, the spring-teeth on both the axle and the bar being capable of adjustment in a direction around the same to vary the penetration of their points, substantially as described.

269,070. CULTIVATOR, HARROW, AND MARKER. CHARLES LA DOW, Albany, N. Y. Filed Feb. 10, 1882. (No model.)

Brief.—Teeth pivoted to independently-hinged arms and provided with mechanism by which their angle may be changed relatively to their supporting-arms, or they may be raised or lowered without stopping the machine or interfering with their free vertical movements. Single lever for varying angle of teeth or swerving course of machine. Teeth capable of being overbalanced on frame for transportation or to leave open space in center. Details of construction.



Claim.—1. The combination of a draft-frame, a toothed arm attached thereto and adapted to rise and fall to conform to the surface traversed, and mechanism for varying the angle of the tooth relatively to its supporting-arm as the implement proceeds.

2. The combination of a draft-frame, a toothed arm attached thereto and adapted to rise and fall to conform to the surface traversed, and mechanism whereby the operator can lift the tooth or vary its angle relatively to the arm without stopping the progress of the machine.

3. The combination of a draft-frame, an arm for connecting a tooth thereto, a pintle to which the arm is hinged, an arm projecting from the pintle, a link connecting the tooth to the arm on the pintle, and mechanism for rocking the pintle.

4. The combination of a draft-frame, an arm for connecting a tooth thereto, a pintle to which the arm is hinged, an arm projecting from the pintle, a link connecting the tooth to the arm on the pintle, and mechanism for rocking the pintle and holding it as adjusted.

5. The combination of a frame, a rod or pintle supported thereon, a toothed arm working freely around said rod or pintle, and a link connected at one end to the tooth on the arm, and at its other end to a movable fulcrum whose center of motion is out of coincidence with the center on which the toothed arm articulates for adjusting the angle of the tooth with respect to its supporting-arm.

6. A draft-frame, a series of tooth-arms hinged thereto and adapted to independently rise and fall, teeth on the arms, and a connection between the frame and tooth, whereby the angle of the teeth with reference to their hinged arms may be varied simultaneously without preventing their vertical movements.

7. In a cultivator, the combination of a draft-frame, toothed arms hinged thereto, caster-wheels, upon which the frame is mounted, and a lever connected with the teeth for varying the angle or pitch relative to their carrying-arms, and for laterally swerving the machine on the caster-wheels.

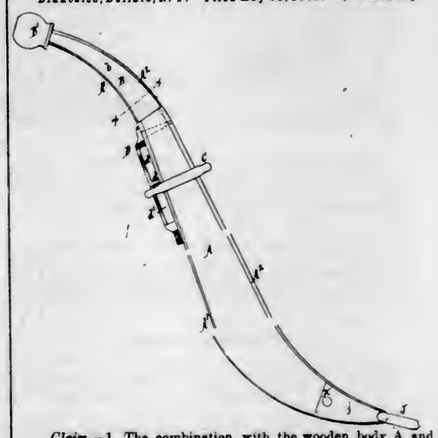
8. The combination of a draft-frame, articulated toothed arms adapted to rise and fall and be overbalanced and supported in a reversed position, and mechanism for adjusting the angle of the teeth with reference to their carrying-arms, whereby some of the toothed arms can be overbalanced without interfering with the angular adjustment of the teeth on the other arms.

9. The combination of the draft-frame, rod D, acting as a center around which the tooth and its draw-bar oscillate, the spool e or equivalent mechanism, and a connection between the tooth and spool for varying the angle of the tooth with respect to its draw-bar at any time during the progress of the machine.

10. The combination of the pole C, cross-bar A, rod D, spools e, arms *f*, teeth O, and link *g*, connected with the tooth and the rod for adjusting the angle of the tooth.

11. The combination of the draft-frame, arm *f*, tooth O, pintle D, armed spool e, and connection *g* between the pintle and the tooth for adjusting the angle of the latter.

269,071. RAKE. EMMIT G. LATTA, Friendship, N. Y., assignor of two-thirds to Adrian C. Latta, same place, and Harvey D. Blakeslee, Buffalo, N. Y. Filed May 31, 1882. (No model.)



Claim.—1. The combination, with the wooden body A and metallic back-strap A' and lining A^4, of the metallic frame B, secured between the back-strap and the lining above the wooden

body, and constructed with side plates, *b b*, fitted between or against the edges of the back-strap and lining, substantially as set forth.

2. The combination, with the body A, back-strap A′, and lining A^3, of the frame B, constructed with side plates, *b b*, provided with offsets or shoulders b^3 for the reception of the edges of the back-strap and lining, substantially as set forth.

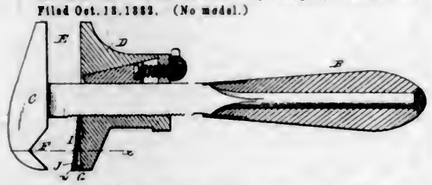
3. The combination, with the body A, back-strap A′, and lining A^3, of the frame B, interposed between the back-strap and lining, and a cap, B′, which incloses the upper ends of the back-strap, lining, and frame, and whereby these parts are secured together, substantially as set forth.

4. The combination, with the back-strap A′ and lining A^3, of the frame B, arranged between the same, and provided at its upper end with a stud, b^4, and a cap, B′, secured to said stud, and confining the upper ends of the back-strap, lining, and frame, substantially as set forth.

5. The combination, with a hame, of a plate, D, provided with contracted portions d^3, and a loop, C, constructed with a contracted portion, *c*, adapted to fit over the contracted portions of the plate D, substantially as set forth.

6. In a hame, the combination, with the body A, back-strap A′, and lining A^3, of a loop, J, provided with side flanges, *j*, fitted between the edges of the back-strap and lining, substantially as set forth.

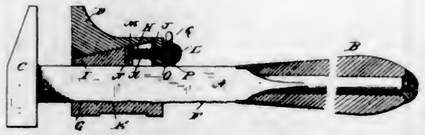
269,072. PIPE-WRENCH. JOHN LEE, Mansfield, assignor to the Russell Wrench and Novelty Company, Russell, Ohio. Filed Oct. 18, 1882. (No model.)



Claim.—1. The combination, in a pipe-wrench, of the shank, the fixed jaw having an angular recess, the sliding jaw having a dovetailed lug at its outer end for a portion of its length, and the toothed wedge having a dovetailed recess extending from its outer toward its inner end, whereby it may be fitted to slide upon and beyond and yet be firmly retained upon the face of the sliding jaw, as set forth.

2. As an improvement in pipe-wrenches, the combination of the shank, the fixed jaw, the sliding jaw, and sliding wedges mounted upon the faces of the fixed and sliding jaws, and provided respectively with a curved or angular recess and with transverse teeth or ratchets, the said wedges being faced in opposite directions, as set forth.

269,073. WRENCH. JOHN LEE, Mansfield, assignor to the Russell Wrench and Novelty Company, Russell, Ohio. Filed Oct. 18, 1882. (No model.)



Claim.—1. In a wrench, the combination, with the stem or shank having a fixed jaw, of the sliding jaw D, having beveled recess H, and screw K, provided with handle L and annular groove M, and the wedge I, having claws N, as and for the purpose set forth.

2. In a wrench, the combination, with the sliding jaw D, having beveled recess H, of the wedge I, having claws N, the screw K, having annular groove M and handle L, provided with thumb-piece Q and recess P, and the spring O, as and for the purpose set forth.

269,074. FRUIT-JAR. EDWARD LIVERMORE, New York, N.Y., assignor to Horace Galpin, same place. Filed Aug. 9, 1882. (No model.)

Claim.—1. The combination, with a fruit-jar provided on the inner side of the mouth with an annular shoulder, of inner packing, H, the inner cover, D, also having a shoulder flush with

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the edge of the mouth of the jar, and packing of duplex material with cover C, substantially as described.

2. The combination, with a jar, of an inner cover provided with a shoulder and an upwardly-projecting rim, the shoulder being flush with the edge of the jar, duplex packing of different material, and an outer cover adapted to fit the rim of the inner cover, the said covers being secured to the neck of the jar or bottle, all combined and arranged as described.

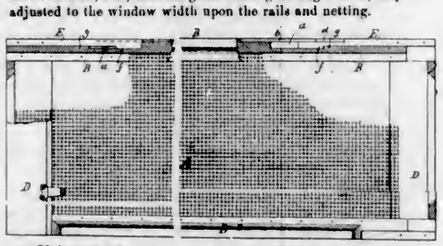
3. The combination, with a jar, of the inner rimmed cover, means for supporting its shoulder flush with the edge of the jar, a duplex annular packing arranged to fit over said shoulder and the edge of the jar, and an outer cover adapted to fit the packing, and having across its top a groove to hold the fastening device, substantially as described.

4. The combination, with a jar, of the inner cover, the outer cover, a packing interposed between said covers, and overlapping the edge of the jar, and the shoulder of the inner cover, as described.

5. The combination, with a jar, of an inner cover resting within the month of the jar, an outer cover, a packing arranged between the covers, and a packing under the inner cover, and having an air-space between them, and a fastening device for compressing the packing and holding the covers to the jar, substantially as set forth and described.

269,075. ADJUSTABLE WINDOW-SCREEN. EDWIN L. LLOYD, Philadelphia, Pa., assignor, by direct and mesne assignments, to Edwin Louderback, same place. Filed Aug. 21, 1882. (No model.)

Brief.—Upper and lower rails receive and hold the netting in kerfs in their inner edges, the outer edges at the ends being recessed to receive guide-bars of the slotted end pieces. The latter slide sidewise, and, admitting the netting through them, may be adjusted to the window width upon the rails and netting.



Claim.—1. The combination of the recessed end bar D, having projecting strips E, the top and bottom bars, B, having slotted inner edges, and having in their outer edges recesses *a*, for the projections E, and the screen A, the upper and lower edges of which are adapted to and confined in the slots of the bars B, from end to end of the same, as set forth.

2. The combination of the end bar D, having strips E, with recesses *d*, and the top and bottom bars, B, having recesses *a*, with overhanging tongues *b*, as set forth.

3. The combination of the screen A and its bars B with the end bar D, recessed to receive the screen, and having in the back strip, *x*, a slot, *y*, as set forth.

269,076. VELOCIPEDE. EDUARD LÜDERS, Gottingen, Hanover, Germany. Filed Aug. 5, 1882. (No model.)

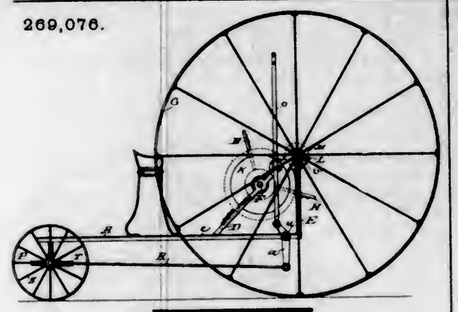
Claim.—1. A velocipede consisting of a pair of driving-wheels, a platform and frame, a transverse shaft journaled in such frame, a wheel, F, mounted on such shaft, and having radial tread-board and gearing adapted to communicate the motion of said transverse shaft to the driving-wheels, as shown.

2. The jointed tread-board having the spring, as described.

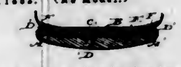
3. The lever *o*, in combination with the bell-crank Q, the spring, the pitman R, and the pivoted rear axle.

4. The shaft I and wheel F, forming a wooden covering for the shaft, in combination with the tread-boards.

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269,077. BOOT OR SHOE. WILLIAM LYON, Newark, N. J. Filed Oct. 6, 1882. (No model.)



Claim.—1. A boot or shoe having two metallic soles with a thin leather sole interposed, and all three layers placed between the inner and outer soles of the shoe or boot, substantially as and for the purpose herein shown and set forth.

2. In a shoe or boot, the metallic sole D, having lips *d* and *d′*, adapted to clasp the inner metallic sole, C, and intermediate leather sole, E, and having the edges D′ of the shank beaded over steel wires F, substantially as and for the purpose herein shown and set forth.

269,078. EAR-TRUMPET. ANGUS MACDONALD, Boston, Mass. Filed Jan. 31, 1882. (No model.)



Claim.—An ear-trumpet having a single central divided sound-receiving chamber formed to rest upon the top of the head, with a conducting-tube leading from said chamber to the ears, and provided with a comb integral therewith for holding the instrument in place.

269,079. FOLDING COT. FRANK S. MARTINY, Cincinnati, Ohio. Filed Oct. 31, 1882. (No model.)



Claim.—1. A folding cot the side rails of which, as A B, are furnished respectively with longitudinally-slotted tubes *a a′ b b′*, within which the tucks N N′ of the canvas M are secured by poles O O′, substantially as described.

2. A folding cot the side rails of which, as A B, have hinged to them two pairs of crossed legs, C *c′*, D *d′* E, H A I *i* J, said legs being maintained in their open positions by the knuckle-jointed braces F G K L, connecting said legs and rails, substantially as described.

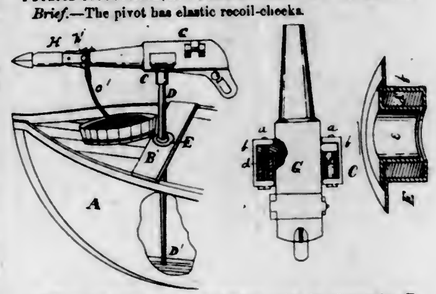
3. In combination with side rails of a folding cot, the knuckle-jointed props P *p* P′ *p′*, and rods R, for supporting a mosquito-net, substantially as described.

4. As an improved article of manufacture, a metallic folding cot consisting of side rails, A B, crossed legs C *c′* D *d′* E, H *h′* I *i′* J, and knuckle-jointed braces F G K L, said side rails being furnished with longitudinally-slotted tubes *a a′ b b′*, for the purpose specified.

5. In combination with the side rails, A B, of a folding cot, supported on hinged cross-legs C *c′* D *d′* E, H A I *i* J, in the manner described, the excavations *k l* in the lower edge of said rails to receive the closed knuckle-jointed braces K L, as set forth.

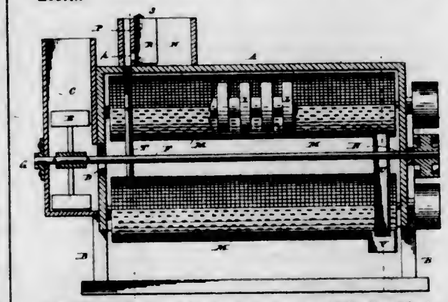
269,080. MOUNTING BOAT-GUNS. HENRY W. MASON and PATRICK CUNNINGHAM, New Bedford, Mass. Filed Jan. 12, 1880.

Brief.—The pivot has elastic recoil-checks.



Claim.—In a boat, the combination, with its clumsy bar B, having the box E, with an elastic cushion or spring, *d′*, arranged between its two parts, and one of said parts adapted to slide at one end upon the other, of the standard D, having the casting or box C, provided with rods *a*, upon which are arranged elastic cushions or springs *d*, and a gun having its trunnions *b* fitted to slide upon the rods *a* in front of the springs *d*, substantially as described.

269,081. GRAIN-DECORTICATOR. PETER N. MCCHESNEY and JOHN W. CRAIG, Washington, D.C. Filed Sept. 28, 1882. (No model.)



Claim.—1. The combination, in an apparatus for decorticating grain, of two or more longitudinal cylinders, constructed of an upper and lower section of woven and perforated material, respectively of steel wire and iron, and the decorticators, consisting of a series of spaced disks secured upon shafts, and the feed, discharge, and exhaust mechanism, substantially as and for the purpose specified.

2. In an apparatus for decorticating grain, the combination, with the cylinders and decorticators, of the feed-tubes and the feed-hopper having a partition provided with openings, through which the grain is fed to the tubes, and with wings, whereby the feed of the grain is regulated, substantially as specified.

3. In combination with the upper and lower pairs of decorticating-cylinders and the decorticators, substantially as described, adapted to rotate therein, the upper and lower discharge-tubes, the one discharging into the other, as specified.

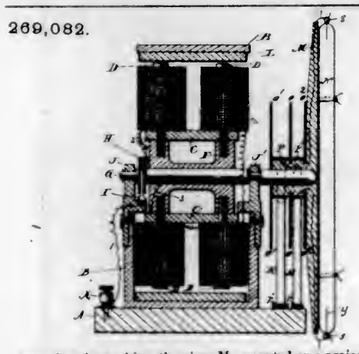
4. The combination, in a decorticating apparatus, of the inclosing casing having an exhaust-aperture between the cylinders, the exhaust mechanism adapted to draw or suck the loose particles through said aperture, the feed-hopper and tubes, a series of decorticating cylinders and disks, and the discharge-tubes, the whole constructed substantially as described, and arranged to operate as specified.

5. The combination, in an apparatus for decorticating grain, of a series of decorticating-disks mounted and secured at intervals on a rotating shaft with a decorticating-cylinder consisting of an upper horizontal section constructed of woven steel wire and a lower horizontal section of perforated sheet-iron, united together, whereby, as herein described, a more durable abrasive surface is obtained where the excess of abrasion occurs, as and for the purpose set forth.

269,082. ELECTRIC MOTOR FOR GEISSLER TUBES. WM. J. MCCOLLOM, Aurora, Ill. Filed Aug. 16, 1882. (No model.)

Claim.—1. In combination with the shaft of a rotary mag-

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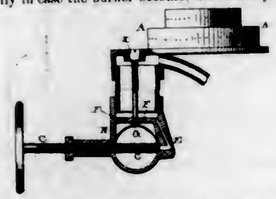


neto-electric machine, the piece M, mounted on a projection of said shaft and carrying the tube N, disks O O' O', the ferrules P P', and appropriate conducting-wires for illuminating the tube, the combination being substantially as shown, and for the purpose described.

2. In combination, the shaft G, the piece M and its glass tube, disks O O' O', ferrules P P', wires x x and s s, and the metallic conducting-springs R R, each bearing upon one of the ferrules, and operating as set forth.

269,083. VAPOR-BURNER. THOMAS D. MCCORMICK, Canton, Ohio. Filed Aug. 14, 1882. (No model.)

Brief.—The tube is made of some more expansible metal than the rod within it, so that the orifice G may be closed automatically in case the burner becomes accidentally extinguished.



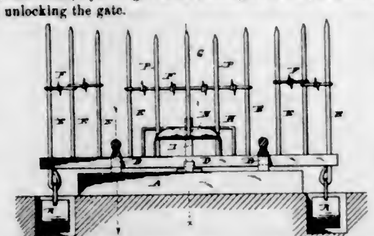
Claim.—1. A vapor-burner, a supply-pipe leading thereto, a a plug or valve, C, located in the supply-pipe, and an automatic cut-off secured to the supply-pipe itself for shutting off the flow of oil after the flames have become extinguished, all combined substantially as shown.

2. The combination of a vapor-burner, a supply-pipe, an automatic cut-off that is attached directly to the pipe, a by-pass valve, and a perforated diaphragm, substantially as described.

3. The combination of a vapor-burner, a supply-pipe, an automatic cut-off which is attached directly to the pipe, and a perforated diaphragm, the upper end of the cut-off being made to extend through the pipe so that it can be adjusted, substantially as set forth.

269,084. RAILROAD-GATE. JUDSON O. MCCUTCHAN, Middlebrook, Va. Filed July 27, 1882. (No model.)

Brief.—A vertically-swinging gate is actuated by contact of train therewith, a yielding lever or striking-bar taking the impact and unlocking the gate.

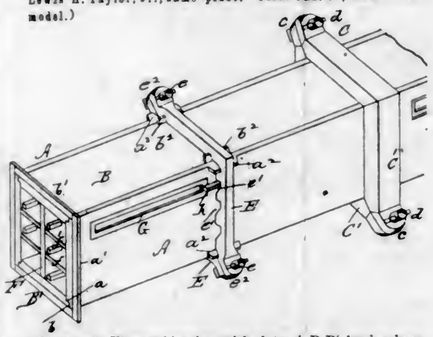


Claim.—1. The combination, in a railroad-gate, of a horizontal oscillating rail having counterbalance-weights, with the vertical pickets attached thereto, and provided with barbs, as shown and described, and for the purpose set forth.

2. In combination with the horizontal rail journaled in suitable bearings, the operating-lever and curved plate, the lock-bolt, and the socketed guide-block, all arranged to operate substantially as specified.

3. The combination, in a railroad-gate, of the horizontal oscillating rail, the pickets and fenders, the barbed wires, the bolt and operating-lever and plate, the socketed guide-block, and the weights, all arranged to operate substantially in the manner specified.

269,085. CONDUIT FOR ELECTRICAL CONDUCTORS. JOHN K. MCLAUGHLIN, Philadelphia, Pa., assignor of one-half to Lewis H. Taylor, Jr., same place. Filed Jan. 27, 1882. (No model.)

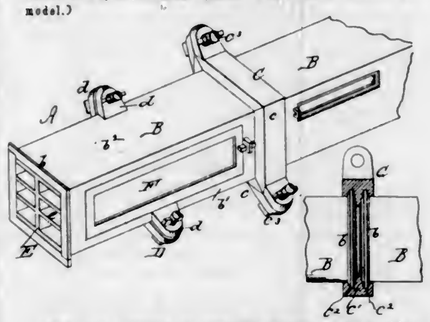


Claim.—1. The combination, with plates A B B', having lugs a^2 b^2 between their ends, of clamping-collars E, fitting between said lugs, substantially as shown and described

2. The combination, with conduit-sections having detachable shutters or gates, of clamping-collars E, and wedges h, fitting in openings in said collars and fastening said shutters, substantially as set forth.

3. The combination, with conduit-sections composed of plates A B, having internal lugs or ribs, a^2 b^2, said sections being open-ended and said partitions and shelves being constructed as described, whereby they may be inserted through such open ends, of vertical partitions F, and shelves fitting between and supported by such lugs or ribs, substantially as shown and described.

269,086. CONDUIT FOR ELECTRICAL CONDUCTORS. JOHN K. MCLAUGHLIN, Philadelphia, Pa., assignor of one-half to Lewis H. Taylor, Jr., same place. Filed Jan. 27, 1882. (No model.)



Claim.—In a conduit for electrical conductors, the combination of sections, each of which is made of two parts or divisions, both the divisions which constitute a section being exactly alike, having two straight sides at right angles to each other, provided with external end ribs, with internally ribbed and grooved clamp-collars, which embrace the ends of said sections and receive the external ribs on the divisions, substantially as shown and described.

269,087. APPARATUS FOR REGULATING THE SUPPLY OF GAS. JOHN MCLAREAN, 84 Finsbury Park Road, and RICHARD OWEN, England Lane, Haverstock Hill, County of Middlesex, England. Filed Dec. 10, 1881. (No model.) Patented in England Mar. 11, 1880, No. 1,055.

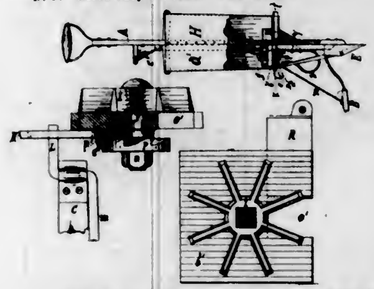
Claim.—The combination of the chamber A, the tube D, con-

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taining the partition L and inlet and outlet openings below and above said partition, the inlet and outlet valves B E, the lever F, and the adjusting-springs I I, substantially as and for the purpose herein described.

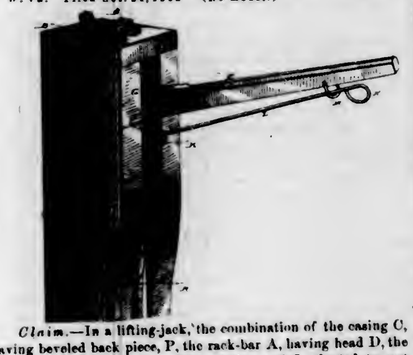
269,088. CORN-PLANTER. FRANK M. MERRITT, Penn Yan, N. Y. Filed July 27, 1882. (No model.)



Claim.—1. In a planter, the combination, with the radially-opened bottom piece, b', the horizontally-armed distributer-wheel I, bolt g, ratchet-wheel P, pawl e', slotted lever K, and slide R.

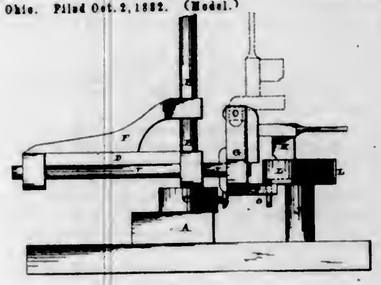
2. The combination, with the slotted lever K, of the wire L, the U-shaped levers C and D, and spring S, all substantially as and for the purpose set forth.

269,089. LIFTING-JACK. JOHN C. MICHAEL, Black Rock, W. Va. Filed Oct. 24, 1882. (No model.)



Claim.—In a lifting-jack, the combination of the casing C, having beveled back piece, P, the rack-bar A, having head D, the slotted lever E, having loop M, and the pawl J, adapted to rest against the beveled end Q of the back piece, P, and having arm K, and rod L, all constructed and combined to operate substantially as set forth.

269,090. POTTER'S LATHE. HENRY MIEHLER, Mogadore, Ohio. Filed Oct. 2, 1882. (Model.)



Claim.—1. In a potter's lathe, the combination of an upright and a head or frame pivoted thereon, which can be adjusted vertically, with the carrier for the forming-tool, substantially as shown.

2. In a potter's lathe, the combination of an upright, a head or frame placed thereon, with the carrier for the forming-tool, the carrier being adapted to be moved horizontally back and forth, substantially as set forth.

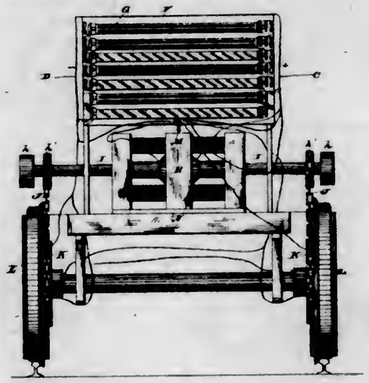
3. In a potter's lathe, the combination of an upright or standard, a head or frame movably placed thereon, a horizontally-moving carrier for the forming-tool, and which carrier is provided with a stud or projection, and a grooved head which catches over the stud or projection, whereby the forming-tool is made to automatically move back and forth when the head is revolved, substantially as specified.

269,091. COTTON-GIN RIB. JORDAN H. MITCHELL, Hatchechubbee, Ala. Filed Apr. 10, 1882. (No model.)



Claim.—The combination, with the recessed gin-rib, of the inlaid plate having a screw to hold it down into the recess, and having both its ends fitted into the walls of the recess, with a joint curved or angular in direction across the face of the rib to resist lateral strain without reliance upon the screw, as set forth.

269,092. ELECTRIC LOCOMOTIVE. EUSEBIUS J. MOLERA, San Francisco, Cal., assignor of one-half to JOHN C. CEBRIAN, same place. Filed Nov. 4, 1880. (No model.)



Claim.—1. In an electric locomotive, the combination, with the wheels thereof and a storage-battery, of an electromotor and suitable connections, whereby the said motor is adapted to be employed to charge the storage-battery and to utilize the stored energy in driving the locomotive, substantially as set forth.

2. In an electric locomotive, the combination, with the drive-wheels thereof, an electromotor provided with a revolving shaft and gearing connecting the said wheels and shaft, of a storage-battery supported on the locomotive and electrically connected with the motor, whereby the same is actuated by the stored energy in driving the locomotive, substantially as set forth.

3. In an electric locomotive, the combination, with an electromotor and a storage-battery electrically connected with each other, of driving-wheels and gearing connecting them with the motor, whereby they are driven when it is actuated by the energy stored in the battery, said gearing being adjustable to disconnect the wheels and motor when the latter is being employed to charge the battery, substantially as set forth.

4. In an electric locomotive, the combination, with the driving-wheels thereof, an electromotor and gearing to transmit the power of the motor to the wheels, of a storage-battery electrically connected with the motor, a switch-board in which the electrodes of the battery elements terminate, electrode-connecting bars to connect the elements together in rows for quantity or for tension, and keys to connect the rows with the conductors leading to the motor either individually or collectively, substantially as set forth.

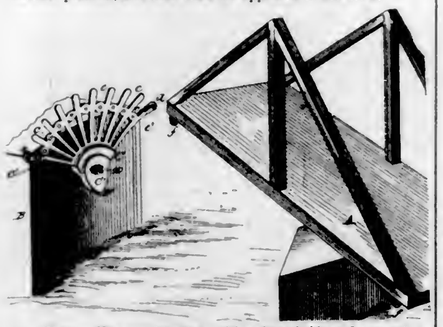
5. In an electric locomotive, drive-wheels composed of electro-magnet spokes and of tires formed in insulated segmental sec-

tions, similar poles of two adjacent magnets being connected to common tire-sections, substantially as shown and described.

6. In an electric locomotive, drive-wheels composed essentially of electro-magnet spokes and of tires formed in insulated segmental sections, similar poles of adjacent magnets being connected to common tire-sections, of insulated contact-plates, in which the wires of the magnets terminate, and brushes connected with the battery and arranged to properly engage with said plates to close circuits through the pairs of magnets having similar poles upon the tire-sections in contact with the rails, substantially as set forth.

269,093. GUARD FOR SWINGING BRIDGES. GULBRAND E. MOSTAD, Chicago, Ill. Filed Aug. 15, 1882. (No model.)

Brief.—An improvement in guard-gates to close the approach to a draw-bridge when the draw is open or swung to be at right angles to the roadway. The guard-gate consists of radial pickets pivoted on the face of the abutment, and so weighted that when released by the draw being swung open they will be placed in a vertical position, and thus close the approach to the draw.



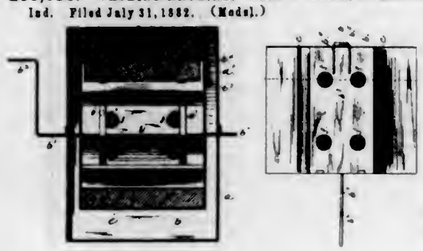
Claim.—The combination, with a draw-bridge of a guard or wicket pivoted to the face of the abutments, and having on one side of its fulcrum or pivotal point a series of radial pickets, and on the other side thereof a counter-weight heavier than the pickets, and adapted to tilt, by its gravity, the pickets, forming the guard or wicket into an upright position across the abutment when the draw is opened, substantially as shown and set forth.

269,094. SHOE-FASTENING. VEGA B. MORTON and SAMUEL P. BENNETT, Cerulvo, Ky. Filed June 17, 1882. (No model.)



Claim.—The metal base-plate B, secured to the loops C D, and both secured to the shoe by the single rivet E, and the flap A′, having eyelets *e*, combined with the lacing-string F, having metal tip upon the free end, and secured to the flap A′ at *d*′, the said lacing-string adapted to be passed through all the loops in one direction, around the upper loop, back through the remaining loops, and the metal tip secured as and for the purposes set forth.

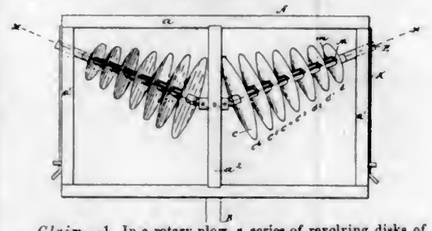
269,095. WASHING-MACHINE. JOHN P. MYERS, Rochester, Ind. Filed July 31, 1882. (Mods.)



Claim.—A washing-machine composed of a case or cylinder of octagonal cross-section, buckets composed of converging plates *d*, arranged in pairs within the said cylinder, peripheral inlet-openings in such case opposite the said buckets, peripheral outlet-openings in the said case between each pair of buckets, and an internal angular guard between the latter openings and supporting-braces, substantially as described.

269,096. REVOLVING PLOW. MILTON C. NILES, Oak Park, Ill. Filed July 17, 1882. (No model.)

Brief.—A series of disks of different sizes mounted loosely and independently on a common axis and arranged at an inclination to the line of draft and to the perpendicular. An arm with scraper attached is secured to the back of each disk, so as to operate upon the face of the adjacent disk, whereby the latter is adapted by its differential speed to be self-cleaning.



Claim.—1. In a rotary plow, a series of revolving disks of different sizes arranged at an angle to the line of draft, and all the disks of the series inclined in the same direction, either right or left from a perpendicular to the ground on which the series rests, substantially as and for the purposes set forth.

2. In a rotary plow, a series of revolving disks of different sizes, arranged in regular succession from the largest to the smallest, and all in the series inclined in the same direction, either right or left from a perpendicular to the horizontal plane on which the graduated series rests when laid upon the ground, substantially as and for the purposes set forth.

3. In a rotary plow, a series of disks of different sizes, mounted loosely and independently of each other on the same shaft, one end of which is adjustable back and forth to set the shaft at an angle to the line of progression, substantially as and for the purposes set forth.

4. In a rotary plow, a frame in which the plows are mounted, in combination with two shafts arranged at an angle to each other, mounted in the frame with their outer ends inclined back of their inner ends, and a series of disks of different sizes, mounted on each shaft and arranged in regular order from the largest to the smallest of the series, beginning at the inner end of each shaft, substantially as and for the purposes set forth.

5. In a rotary plow, the frame, in combination with the two shafts hinged at their inner ends to a stationary support and at their outer ends adjustable back and forth, a series of revolving disks of different sizes, mounted on each shaft and regularly graded down from the inner end of the shaft to the outer end in a substantially conical arrangement, and mechanism for adjusting and securing the outer ends of the shafts in any desired position, substantially as and for the purposes set forth.

6. The frame A, in combination with the shafts E, hinged at their inner ends to a suitable support and held loosely in guideways at their outer ends, the disks mounted on the shaft and arranged in a conical series, and the notched fastening-lever K, substantially as described.

7. The plowing-disks of different sizes, mounted loosely in a series on a supporting-shaft, in combination with the scrapers M, attached to the backs of the disks, substantially as and for the purposes set forth.

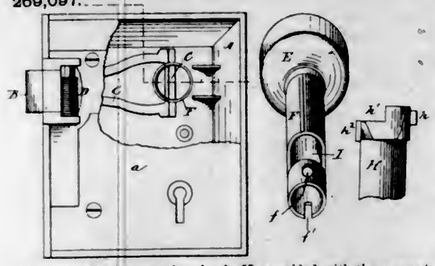
8. The supporting-shaft E, in combination with a series of disks of different sizes, mounted loosely and independently thereon, and the scrapers M, attached to the backs of the respective disks, substantially as and for the purposes set forth.

269,097. LATCH. MILTON C. NILES, Oak Park, Ill. Filed Mar. 25, 1882. (Model.)

Claim.—1. The knob-shank F, in combination with the knob-shank H and devices on the inner ends of said parts, substantially as described, whereby they are connected directly to each other without the intervention of screws or of a separate fastening-piece, substantially as and for the purposes set forth.

2. The knob-shank F, provided with the aperture *f*, in combination with the opposite shank, H, provided with the connecting lug or pin *h*, substantially as and for the purposes set forth.

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3. The knob-shank F, provided with the aperture *f*, in combination with the opposite shank, H, provided with the connecting lug or pin *h*, and reduced to an oval shape or cut away on the sides receding from the lug or pin, substantially as and for the purposes set forth.

4. The knob-shank F, provided with the aperture *f* and the notch *f*′, in combination with the opposite shank, H, provided with the connecting lug or pin *h* and the lug *h*′, substantially as and for the purposes set forth.

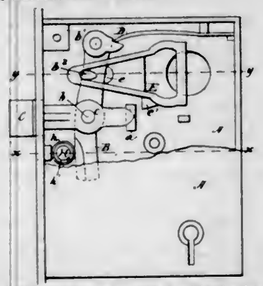
5. The lock-case, in combination with the inside knob-shank, and the bolt-talons connected directly to the shank within the case, and arranged to prevent the shank from sliding in the case, substantially as described.

6. The lock-case, in combination with the bolt-talons C, provided with a yoke end of a width corresponding to the space between the front and back plates of the case, and the inner knob-shank, F, provided with a transverse recess, I, cut in one side thereof, in which is fitted the yoke end of the talons within the case, substantially as and for the purposes set forth.

7. The knob-shank F, provided with the transverse recess I and the aperture *f*, in combination with the bolt-talons C and the knob-shank H, provided with the connecting lug or pin *h*, substantially as described.

8. The knob-shank F, provided with the aperture *f*, in combination with the opposite shank, H, provided with the connecting lug or pin *h*, and the rose K, arranged to hold the shank H in a line with the shank F, and thereby prevent disconnection, substantially as described.

269,098. REVERSIBLE LATCH. MILTON C. NILES, Oak Park, Ill. Filed Mar. 25, 1882. (Model.)



Claim.—1. The lock-case provided with the lugs *a a*′, arranged as specified, in combination with the vibrating bolt-carrier, and the latch-bolt mounted thereon, and with its inner end arranged between the lugs *a a*′, substantially as and for the purposes set forth.

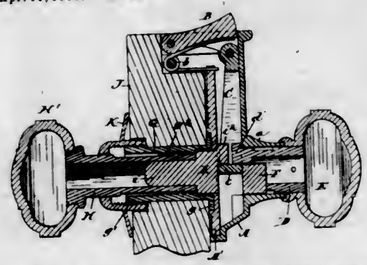
2. A reversible latch-bolt, in combination with a carrier to which it is detachably connected, the lock-case, and an adjustable stop adapted to be inserted in the case between the carrier and the face-plate, and to be adjusted at pleasure to permit the carrier to move forward beyond its ordinary working position, substantially as and for the purposes set forth.

3. The lock-case provided with the apertures *h*′ *h*², in combination with the bolt-carrier B, the latch-bolt C, mounted on the carrier, the stop-pin H, separate from the carrier and arranged to stop the latter, and the spring *h*, arranged to actuate the stop-pin, substantially as described.

4. The reciprocating latch-bolt C, in combination with the actuating-slide E, provided with the lug *e*′, and the case A, provided with the lug *a*′, arranged to form a support for the inner end of the bolt, and a stop for the lug on the slide, substantially as and for the purposes set forth.

5. The lock-case A, in combination with the knob-shanks G, provided with the cam-projections *g*, and the opposite lugs *g*′, substantially as and for the purposes set forth.

269,099. LATCH. MILTON C. NILES, Oak Park, Ill. Filed Apr. 10, 1882. (Model.)



Claim.—1. The main casing provided with an outside tubular projection, in combination with the bolt-talons C and the knob-shank D, provided with the fastening-lug *d*′ on its inner end, and cut away at the side opposite said lug some distance back thereof, whereby the shank may be inclined sufficiently to permit it to be inserted in the projection to engage the lug with the inside of the case, substantially as described.

2. The lock-case provided with the projection *a*, in combination with the knob-shank having a bearing in said projection and cut away on one side for a portion of its length, and an independent and removable chock-piece adapted to fill the space between the bearing and the remaining portion of the knob-shank, substantially as and for the purposes set forth.

3. The case A, provided with the tubular projection *a*, in combination with the knob-shank D, provided with the cam *d* and lug *d*′, and cut away at the side opposite to them, and the independent removable chock-piece F, adapted to fill the bearing at the cut-away end of the knob-shank, substantially as and for the purposes set forth.

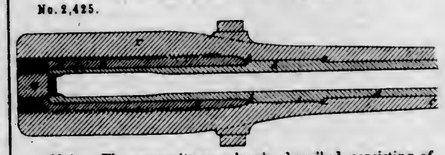
4. The knob-shank D, cut away at one side on its inner end, in combination with the tubular projection *a*, in which it has a bearing, the independent chock-piece F, and the talons C, the yoke of which rests against the end of the chock when in position, substantially as and for the purposes set forth.

5. The tube inserted in the door and provided with an interior screw-thread, in combination with the outside knob-shank, H, provided with a screw-thread on its inner end fitting the interior screw of the tube, and an independent bolt-throwing cam loosely connected to and movable lengthwise on the knob-shank, whereby the latter may be adjusted lengthwise according to the thickness of the door, substantially as described.

6. The knob-shank H, provided with an angular opening or recess at its inner end, in combination with the independent bolt-throwing cam I, provided with an angular shank, *i*, fitted loosely in the recess in the knob-shank, whereby these two parts are free to move upon each other lengthwise, and mechanism for attaching the knob-shank to the door independently of the cam-piece, substantially as and for the purposes set forth.

7. The tube G, in combination with the knob-shank H, independent cam-piece I, and back plate, A′, all constructed and operating substantially as described.

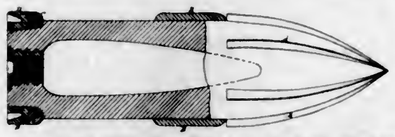
269,100. COMPOSITE GUN. JAMES L. NORRIS, Washington, D. C., Administrator of William Palliser, deceased. Filed July 19, 1882. (No model.) Patented in England June 2, 1881, No. 2,425.



Claim.—The composite gun herein described, consisting of the exterior cast-steel casing, C, having the interior sloping shoulder, the coiled wrought-iron tube A, having an externally-thick-

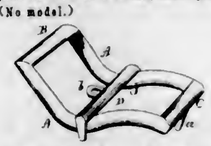
ened portion near the middle of its length, which terminates in the front and rear shoulders, *a* and *b*, and the coiled wrought-iron tube B, covering the breech end of the former tube and bearing against the rear shoulder, *b*, said parts being arranged in the described relation, for the purposes set forth.

269,101. PROJECTILE. JAMES L. NORRIS, Washington, D. C., Administrator of William Palliser, deceased. Filed July 19, 1882. (No model.) Patented in England Aug. 4, 1880, No. 3,191.



Claim.—The improved projectile herein described, consisting of the conoidal head having the ribs A and a cylindrical body, the wrought-iron or steel ring B, shrunk on the cylindrical body at the base of the ribs and conoidal head, the wrought-iron or steel ring C, shrunk on the rear end of the body, and the soft-metal ring D, secured to the latter against the rear ring, substantially as set forth.

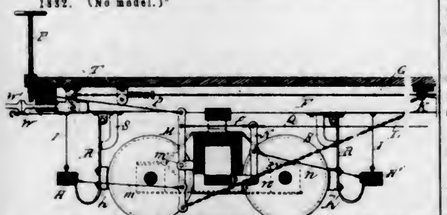
269,102. TRACE-BUCKLE. GEORGE B. NORTHRUP, New Haven, Conn., assignor to W. & E. T. Fitch, same place. Filed Sept. 11, 1882. (No model.)



Claim.—1. The herein-described buckle, consisting of the frame composed of the two sides A A, connected by end bars, B C, outside the trace, the sides curved inward beyond the inside line of the trace, one of the end bars provided with a stud, *a*, combined with the bar D, taking its bearing and so as to slide upon the ontside of the inwardly-curved portions of the side, and the tng attached directly to the said bar, substantially as described, said bar D having its ends turned down outside the side bars of the frame, substantially as described.

2. The herein-described buckle, consisting of the frame composed of the two sides A A, connected by end bars, B C, outside the trace, the sides curved inward beyond the inside line of the trace, one of the end bars provided with a stud, *a*, combined with the bar D, taking its bearing and so as to slide upon the outside of the inwardly-curved portion of the side, and the tug attached directly to the said bar, substantially as described, the said bar D having its ends turned outside the said bars of the frame and constructed with a tongue, *b*, extending forward from the said bar, substantially as described.

269,103. CAR-BRAKE. HARMON F. NOTBORN, Janesville, assignor to Caleb N. Harrison, Milwaukee, Wis. Filed Aug. 31, 1882. (No model.)



Claim.—1. The spring-hanger carrying the brake-shoe and having an elastic extension secured to the brake-beam, substantially as described.

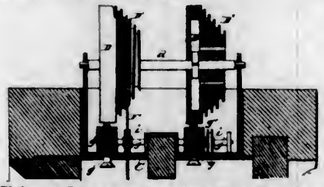
2. The combination, with a spring-hanger, of the shoe and brake-beam attached at different points to said hanger.

3. The combination of a swinging brake-beam, a swinging spring-hanger, a brake-shoe, and a brace or buffer adapted to serve as a fulcrum to said spring-hanger, substantially as set forth.

4. The combination of the brake-rod connections of railroad-cars with an antomatic take-up consisting of a hanger, bearing fixed sheave and sliding blocks bearing another sheave, said blocks being connected with a buffer, substantially as set forth.

5. The automatic take-up described, consisting of hanger T, with ways *t t*, fixed sheave U, and sliding blocks *v v*, bearing sheave V, and connected to buffer W, substantially as set forth.

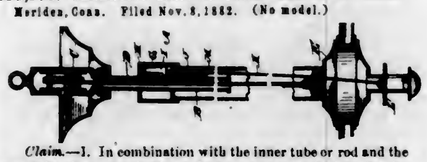
269,104. SASH-BALANCE. HANS O. OPSAL, Racine, Wis. Filed Sept. 16, 1882. (No model.)



Claim.—1. In a sash spring-balance, the hollow screw-threaded sleeve *g'*, having screw *g*, adapted to be brought to bear against the rim of the spring-barrel and hold it, substantially as and for the purpose shown and set forth.

2. In a sash spring-balance, the combination of plate C, slotted at *h*, and having fixed arms or bearings *c c*, axle *d*, spring-barrels D, provided with the conical helical pulleys D', sliding guide-pulleys *i*, and sash cord or wire F, all constructed and arranged to operate substantially in the manner and for the purpose herein shown and set forth.

269,105. EXTENSION LAMP-FIXTURE. DEXTER W. PARKER, Meriden, Conn. Filed Nov. 8, 1882. (No model.)



Claim.—1. In combination with the inner tube or rod and the outer tube of an extension lamp-fixture, an automatic clamping device arranged outside of said inner tube but within a case or extension of said outer tube, substantially as set forth.

2. In combination with the inner tube or rod and the outer tube of an extension lamp-fixture, a clamping device arranged outside of said inner tube and within a detachable case or extension of said outer tube, substantially as set forth.

3. In combination with the inner tube or rod and the outer tube of an extension lamp-fixture, a shoe which bears against said inner tube, a wedge operating against the back of said shoe, an external case or extension of the outer shoe, and a rod attached to said wedge for pulling or pushing the latter, as set forth.

4. In combination with the inner tube or rod and the outer tube of an extension lamp-fixture, a shoe bearing against said inner tube, a wedge operating against said shoe, an inclosing case, and a spring which forces said wedge between said shoe and said case, substantially as set forth.

5. In combination with the inner tube or rod and the outer tube of an extension lamp-fixture, a shoe bearing against said inner tube, a wedge operating against said shoe, an inclined plane which is in contact with the outer face of said wedge, a spring which forces said wedge between said inclined plane and said shoe, and a rod whereby said wedge is withdrawn to release the outer tube from the inner one, substantially as set forth.

6. Wedge I, provided with shoulder *i*, in combination with shoe H, spring J, incline case G, and the outer and inner tubes of an extension lamp-fixture, said shoe being held in position by said shoulder and the top of said case, substantially as set forth.

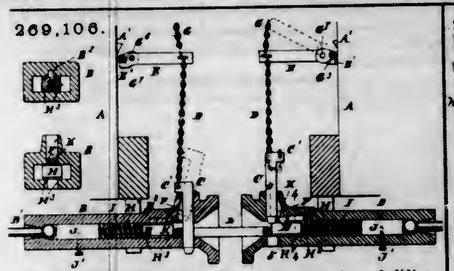
7. A wedge, I, inclined on both faces, in combination with a shoe, H, inclined on its outer face, a case, G, having an inclined inner face, and a spring which forces said wedge between said inclined faces, said shoe being arranged to bear against the inner tube or rod of an extension lamp-fixture, and said case being attached to the outer tube thereof, substantially as set forth.

8. The telescoped outer and inner tubes of an extension lamp-fixture, in combination with a case detachably secured on the top of said outer tube, and a wedge-spring and clamping-shoe loose within said case and operating as set forth, said clamping devices being easily accessible and removable when said case is taken off from said outer tube, as set forth.

269,106. CAR-COUPLING. JOHN G. PEACE and KERN B. SIBLEY, Salem, Mo. Filed Aug. 28, 1882. (No model.)

Claim.—1. In combination with a draw-head having an enlargement, F, at rear of middle part of upper portion of the pin-

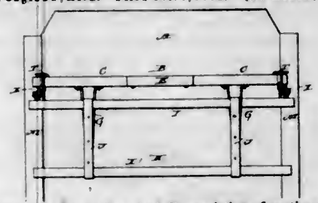
269,106.



hole, forming projection F on each side of the key of sliding block, a coupling-pin, C, having projections C', and lifting chain or rope secured to coupling-pin projection, as set forth.

2. In a car-coupling, the pin-raising arm E, connected with lugs G^4 on the rock-shaft G^3 by pin G', and having a projection, E', which engages beneath the rock-shaft, substantially as shown and described, for the purpose set forth.

269,107. PILLOW-SHAM HOLDER. AUGUSTUS H. PHELPS, East Saginaw, Mich. Filed Oct. 9, 1882. (No model.)



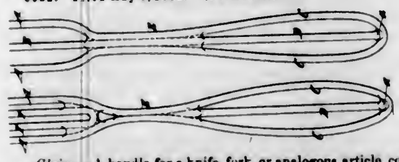
Claim.—1. The rod or shaft B, consisting of sections C, having slots D, in combination with the sleeve E and set-screws F, as set forth.

2. The shaft B, consisting of a sleeve, E, and adjustable or extensible sections C, having bails G, in combination with the frame H, consisting of bars I and adjustable connecting-straps J, having hooks K, substantially as set forth.

3. The spring hinge or holder L, consisting of the arm N, having loops O, hook P, eye Q, spring R, and spring-finger S, all substantially as set forth.

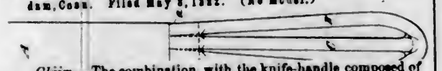
4. The herein-described improved device for holding pillow-shams, consisting essentially of the spring hinges or holders L, a shaft, B, having pins T and bails G, and the swinging frame H, all substantially as and for the purpose set forth.

269,108. HANDLE FOR KNIVES, FORKS, AND ANALOGOUS ARTICLES. JAMES S. RAY and ASHBEL RAY, East Haddam, Conn. Filed May 8, 1882. (No model.)



Claim.—A handle for a knife, fork, or analogous article, composed of a piece of wire bent to form a loop, and a brace extending lengthwise of said loop and secured therein by being soldered or brazed at the spring and bow of the loop only, substantially as herein described.

269,109. KNIFE. JAMES S. RAY and ASHBEL RAY, East Haddam, Conn. Filed May 8, 1882. (No model.)

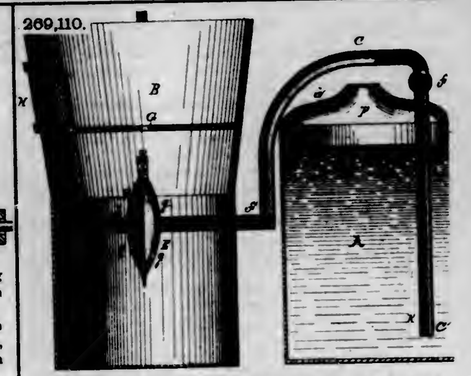


Claim.—The combination, with the knife-handle composed of the wire loop B and brace C, and having in them the slit or kerf *a*, of the blade A, fitted in said slit or kerf and soldered or brazed therein, substantially as specified.

269,110. BLAST-LAMP. ROBERT REACH, Washington, D. C. Filed Apr. 4, 1882. (No model.)

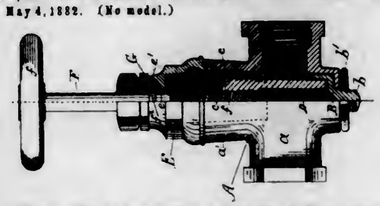
Brief.—The reservoir is adapted to be placed within the burner-case B to economize space when the apparatus is not in use.

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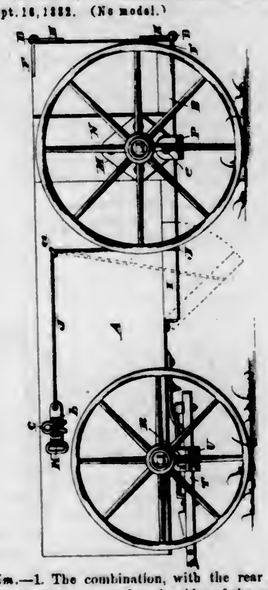
Claim.—The combination of the oil-tank A, having orifice *a*, lamp-kit B, having grate G, door H, and vertical slot I, substantially as shown, and for the purpose described.

269,111. GLOBE-VALVE. GEORGE REIMANN, Quincy, Ill. Filed May 4, 1882. (No model.)



Claim.—The cock described, having the shell or casing A, with the horizontal and vertical portions, as described, the thimble B, the guide-ring C, plug D, cap E, and screw-stem F, all combined and arranged as and for the purpose described.

269,112. ROAD-WAGON. SAMUEL D. REYNOLDS, Rockelle, Ill. Filed Sept. 16, 1882. (No model.)



Claim.—1. The combination, with the rear spindles and plates, the latter being secured to the sides of the wagon-body, of a metallic brace passing transversely under the bottom of the wagon-body and rigidly secured at its opposite extremities to the spindle-plates.

2. The combination, with the rear spindles and spindle-plates, the latter being secured to the sides of the wagon-body, of the transverse bar O, and a flat metallic brace secured to the lower face of the transverse bar, and secured at its opposite ends to the spindle-plates, substantially as set forth.

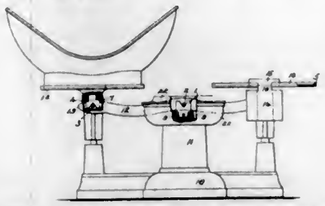
3. The combination, with the rear spindles and spindle-plates, the latter being secured to the side cleats, N, of the wagon-body, of the transverse bar O, brace P, and bolt *e*, all of the above parts combined and adapted to operate as described.

4. The combination, with the front spindles and angular spindle-plates, the latter being braced, as shown, of the front axle, the opposite ends of which are secured to the upper faces of the horizontal portions of the spindle-plates, and the flat metallic truss passing below said axle, and rigidly secured at its outer ends to the lower faces of the said horizontal portions of the spindle-plates, substantially as set forth.

5. The combination, with a wagon-body and king-bolt, of the front spindles and spindle-plates, the wooden axle, and truss, all of the above parts combined and adapted to operate as described.

6. The combination, with the front spindles and spindle-plates, the flat wooden axle, the wagon-hound, and reach-bar, of the flat metallic truss passing below said hound, and secured at its opposite ends to the spindle-plate, all of the above parts combined and adapted to operate as described.

269,113. SCALE. WILLIAM W. REYNOLDS, Rutland, Vt., assignor to the Howe Scale Company, same place. Filed Sept. 28, 1882. (No model.)



Claim.—1. In a single-lever scale, the combination, with the lever and platforms thereof, one of which is provided with a recess, as 17, of a weight, as 14, provided with a head, as 15, and neck, as 16, substantially as described.

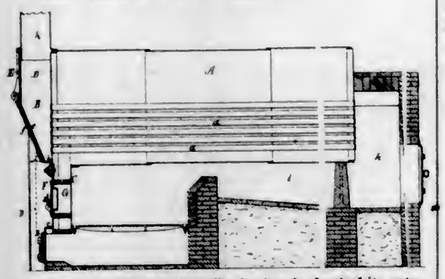
2. The combination, with the weight-platform 13, having flange 5 and recess 17, of the scoop-weight 14, having neck 16 and head 15, the latter being formed to fit over the said flange and hold the weight in position, substantially as described.

3. The combination, with the lever, as 12, and its knife-edges, as 2 3, of adjustable bearings, as 1 4, substantially as described.

4. The combination, with the lever, as 12, and its knife-edges, as 2 3, of adjustable bearings, as 1 4, and casings, as 20 22, for protecting the same, substantially as described.

5. The combination, with an adjustable bearing, as 4, and its knife-edge, of the combined rivet and loop 7, substantially as described.

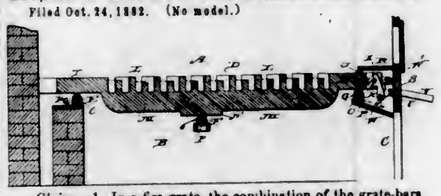
269,114. STEAM-BOILER. GARDIS H. RHEUTAN, Hartford, Conn. Filed June 8, 1882. (Model.)



Claim.—1. The tubular boiler having the front of its water-leg flush with the front head of the boiler-shell, and with such head provided with the arched flanges to project from the shell and the opposite ends of the said water-leg, as set forth.

2. The combination of the front plate, E, provided with the two flanges *b c*, extending from it, as set forth, with the tubular boiler having the front end of its shell even or flush with the front of the water-leg of such boiler, and also having the arched flange to project from such end and from the opposite vertical ends of the water-leg to the said flush plate, all being substantially as shown and specified.

269,115. FIRE-GRATE. PHILIP RICHARDS, Wilkes-Barré, Pa. Filed Oct. 24, 1882. (No model.)

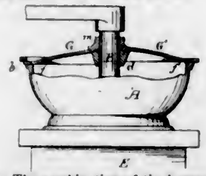


Claim.—1. In a fire-grate, the combination of the grate-bars D, mounted on rollers E, F, and G, and having flat heads H and I, and plate N on the belly-flange M, and provided with V-shaped projections L, of alternate height, projecting over the sides of the belly-flange M, with the shaking device, as set forth.

2. In a fire-grate, the combination of the shaking device, consisting of a shaft, S, journaled in bearings T, and provided in each end with a bell-crank, U and U', the bell-crank U having an actuating-handle, V, and both bell-cranks having rods W W', provided with pitmen X, fastened in their outer ends, with the grate-bars D, as set forth.

3. The grate-bar consisting of the heads H and I and belly-flange M, having upward V-shaped projections, alternating in height and projecting over its sides, substantially as shown and described.

269,116. COVER FOR HOPPERS OF GRINDING-MILLS. ADOLPH RIPPIER, Reading, Pa., assignor to William M. Grisscom, Matthan Harbster, and William Harbster, all of same place. Filed May 15, 1882. (No model.)

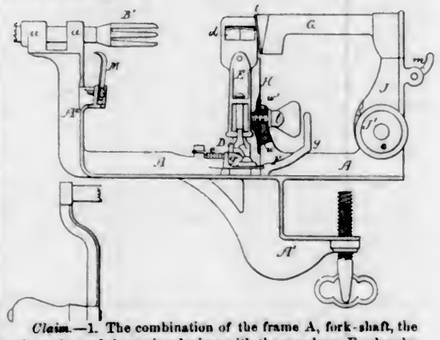


Claim.—1. The combination of the hopper A, having ledges *f f'* at different levels, with the fixed half, G, of the cover, adapted to rest upon the lower ledge, and the movable half, G', resting upon the upper ledge and adapted to swing around over the portion G, as set forth.

2. The combination of the portion G of the cover, having projections *a* and *b*, with a hopper slotted for the reception of said projections, as set forth.

269,117. APPLE-PARER. ADOLPH RIPPIER, Reading, Pa., assignor to William M. Orlscom, Matthan Harbster, and William Harbster, all of same place. Filed Nov. 28, 1881. (Model.)

Brief.—The paring-knife is thrown in and out of position by means of a cam-lever, which engages an arm on the lower part of the knife-carrying arm.



Claim.—1. The combination of the frame A, fork-shaft, the coring-tube, and the paring devices with the cam-lever F, whereby the latter are thrown out of gear, as set forth.

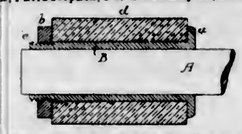
2. The combination of the frame and fork-shaft with the coring-tube G and its arm J, journaled to the frame and acted upon by a spring, as set forth.

3. The combination of the frame and fork-shaft with the coring-tube G, its arm J, journaled to the frame, and the pivoted retaining-catch *m*, as set forth.

4. The combination of the knife H, the frame A, having a projection, *w*, the thumb-screw *t*, and the clamp-plate *w'*, between which and the projection *w* the knife H is confined, as set forth.

5. The within-described paring-knife, having a cutting-edge, comprising two narrow flat portions, *x x'*, arranged at an angle in respect to each other, as set forth.

269,118. FEED-ROLL FOR PLANING-MACHINES. THOMAS H. ROBERSON, Philadelphia, Pa. Filed May 22, 1882. (No model.)



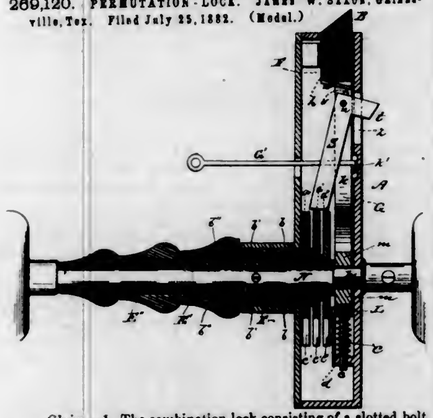
Claim.—The within-described feed-roller, in which the metal sleeve B, having a bore adapted to a feed-shaft made cylindrically true externally, and provided with a collar, *a*, and nut *d*, is combined with a short rubber tube fitted tightly to the sleeve and confined thereto by end pressure imparted by the nut, as set forth.

269,119. COMPOSITE WASHER. CAESAR A. RODNEY, Wilmington, Del. Filed Oct. 16, 1882. (No model.)



Claim.—The improved composite washer, consisting of a compressible ring or body contained within stiff telescoping metal cups, said cups being united together with the compressible ring between them by the frictional contact of interfitting rims, substantially as described, whereby, while the cups are capable of telescoping one within the other under the compression of the nut, there is at the same time a double wall to prevent spreading of the inclosed elastic body.

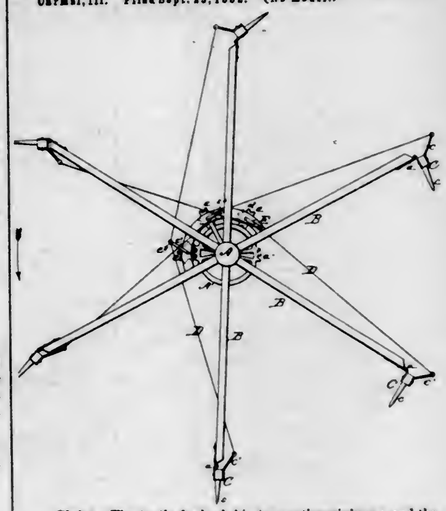
269,120. PERMUTATION-LOCK. JAMES W. SAXON, Gainesville, Tex. Filed July 25, 1882. (Model.)



Claim.—1. The combination-lock consisting of a slotted bolt, follower and follower-shaft, an elongated bolt-stop pivoted in the slot of the bolt, radially-slotted disks having concentric sleeve-stems on the follower-shaft, and lettered or figured and graduated stem-caps engaging the respective stems by means of circular series of teeth, substantially as specified.

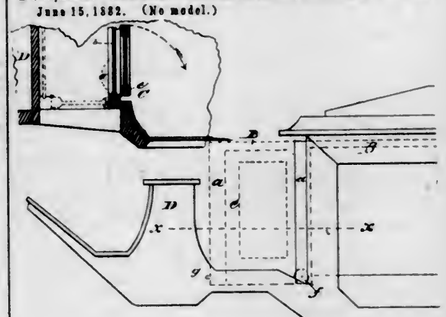
2. The combination, with the radially-slotted disks having concentric sleeve-stems and the follower-shaft on which they are seated, of the slotted bolt, the bolt-stop pivoted in the slot of the bolt, the follower, graduated stem-caps, and the transverse key trip or slide, substantially as specified.

269,121. REEL FOR HARVESTERS. ADAM SCHAFER, Mount Carmel, Ill. Filed Sept. 23, 1882. (No model.)



Claim.—The toothed wheel A', stop-motion pinions *e*, and the connecting-rods D, in combination with the jointed rakes, substantially as set forth.

269,122. HEARSE. DANIEL SCHMITT, Newark, N.J. Filed June 15, 1882. (No model.)



Claim.—1. A hearse provided with an adjustable extension, whereby the body may be lengthened or shortened to receive a long or short coffin, as set forth.

2. A hearse provided with an adjustable extension inclosed upon all the exposed sides, as and for the purpose set forth.

3. In a hearse, the combination, with the body thereof, of an adjustable frame or frames adapted to fit into and inclose the end, and to be moved in and out to increase and diminish the length of the body, as and for the purpose set forth.

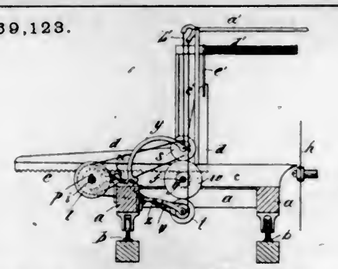
4. In a hearse, the combination, with the body thereof, of a frame, as *a*, top or slide, as B, and frames, as *c*, arranged and operating substantially as and for the purpose set forth.

5. In a hearse, the combination, with the body thereof, of the adjustable top B and frames C, arranged and operating substantially as and for the purposes set forth.

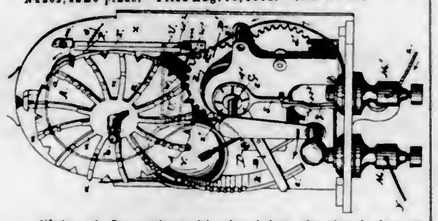
269,123. LOG-SETTING APPARATUS FOR SAW-MILLS. WALTER P. SCOFIELD, Cedar Keys, Fla. Filed Sept. 2, 1882. (No model.)

Claim.—The combination, with the carriage *a* and shaft *f*, of the shaft *i*, carrying the keyed and sliding double pulley *l* and the grooved hub *o*, the carriage-bracket *n*, having fork *m*, the friction-pulleys *s t* on pivoted arms of the carriage, the intermediate pulley, *w*, on shaft *f*, the belts *u v*, and the hand-lever *a'*, connected by rods *b'* with the pulleys *s t*, whereby the logs may be set up to the saw and the knees shifted, as described.

269,123.



269,124. AUTOMATIC TELEGRAPH SIGNAL-BOX. PAUL SEILER, San Francisco, Cal., assignor of one-half to Andres Nunes, same place. Filed Aug. 18, 1882. (No model.)



Claim.—1. In a telegraphic signal-box, the signal plate or wheel A, having the radial ledges *a a*, mounted and capable of rotation upon an axis, a means for rotating the said wheel from the outside of its inclosing box, and the swinging arm B, moving from a center, *c*, a means for rotating the said arm, and a short circuit to cut out the said arm from the circuit in one direction of its movement over the signal-ledges *a*, and to restore it at the reverse movement, all combined to operate as set forth.

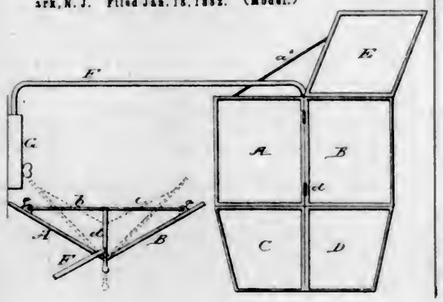
2. The multiple-signal wheel A, having the radial ledges *a a*, which are set on curves of equal radii to spring uniformly from the center to circumference of the wheel to come in line with a fixed bridge on the same curve, in combination with said bridge, all constructed and applied to operate substantially as described and shown.

3. In an automatic signal-box, the combination together of the multiple-signal wheel A, the fixed bridge E, the arm B, carrying the contact-point and operated by the shaft C, the crank and clock-work mechanism, and the short-circuit points *q s*, substantially as described.

4. In an automatic alarm-box, the combination, with the swinging arm B, having movements as described, of the curved bridge E, carrying a fixed signal, and arranged relatively to the center of motion of the arm B, substantially as described.

5. The combination together upon a supporting-base, X, of the automatic transmitting and return signal mechanism, consisting of the multiple-signal wheel A, having radial tracks or ledges *a a*, and the stationary bridge E, placed relatively thereto, as described, the swinging transmitting-arm B, and its operating mechanism C D *d' d'*, insulated from the base, the short-circuit points *q s*, the electro-magnet P, pivoted armature T, and striker, and the short circuit *w w' w*^{3}, all as described, to operate together, as set forth.

269,125. WINDOW-REFLECTOR. WILLIAM H. SHIPMAN, Newark, N. J. Filed Jan. 18, 1882. (Model.)



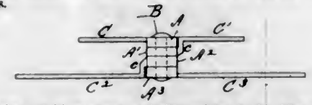
Claim.—1. The combination, with the swinging rod F, of one or more pairs of mirrors, which are hinged together and to said rod, and the adjusting-bar *d* and arms *b c*, hinged thereto and to the mirrors, as shown and described, whereby the mirrors may be adjusted together in any position required and at any desired angle to each other, as specified.

2. The combination, with mirrors A B, hinged together, as specified, of the sliding bar *d* and hinged arms *b c*, as shown and described.

3. The combination of the two pairs of mirrors A C and B D, which are hinged together and to each other in the manner shown and described, and devices for holding them fixed in any adjustment by pairs, as set forth.

269,126. HINGE. DAVID D. SHUPE, Philadelphia, Pa. Filed Dec. 17, 1881. (No model.)

Brief.—The leaves on each side of the center line are in the same plane and parallel with the plane of the leaves on the other side of the center line, adapting this device for hinging boards at the ends.



Claim.—A hinge composed of knuckles A, A', A^2, and A^3, A' and A^3 having right-angled portions *c*, provided with leaves C, C', C^2, and C^3, arranged to form two parallel lines of leaves, between which the said knuckles intervene, and which knuckles have a common pintle or pivotal connection, B, substantially as shown and described.

269,127. CARPET-SWEEPER. ISAAC B. SMITH, Cambridge, Mass. Filed Feb. 17, 1882. (No model.)



Claim.—In a carpet-sweeper, and in combination with brush-cylinder *c* and friction-wheels *e* thereof, the brackets *d*, slotted and provided with the arbor-recess *k*, as shown, and spring *i*, secured to the bracket and provided with a stud, *l*, to engage arbor *n* and press the same into said recess, whereby cylinder *c* is held in contact with wheels *e*, substantially as specified.

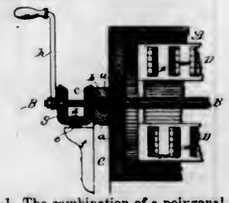
269,128. WAGON-WHEEL TIRE. GEORGE D. SMITH, Glenn Springs, S. C., assignor to himself and J. Hamilton Hunt, New York, N. Y. Filed Apr. 22, 1882. (No model.)



Claim.—1. A divided wagon-tire provided upon its ends with screw-threads, in combination with a section interposed between said ends and adapted to engage with and draw the same together and to complete the bearing-surface or periphery of said tire, substantially as and for the purpose specified.

2. In combination with the divided tire provided with the offset threaded lugs *a*, the intermediate bearing-section, B, having an axial opening, *b*, which is fitted to and adapted to screw over said lugs, substantially as and for the purpose shown.

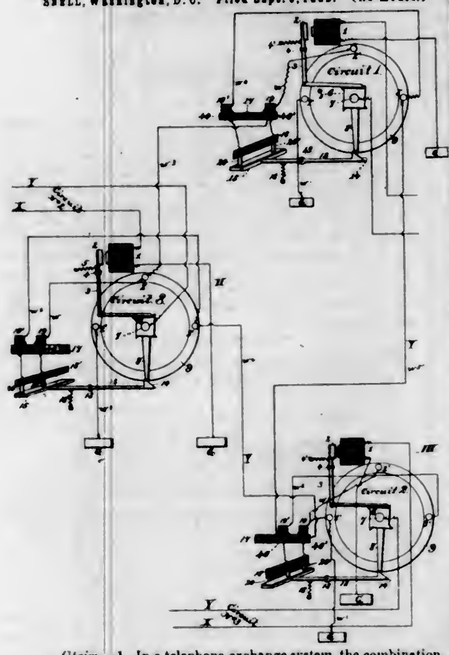
269,129. CHURN. NELSON SMITH, Belleville, N. Y. Filed Sept. 8, 1882. (No model.)



Claim.—1. The combination of a polygonal churn provided with a sleeve, *b*, and miter-wheel *c*, with the shaft B, having the radial agitators D, the miter-wheel *g*, rigid thereto, and with the connecting miter-wheel *d*, mounted on bracket *f*, substantially as shown and described.

2. The agitator for working-body churns, consisting of radial paddles secured at equal distances around a central shaft, said paddles having suitably-arranged recesses cut through them, and having projecting from the sides of said recesses converging perforated slats, said slats being arranged to project alternately from opposite sides of their respective paddles, as shown and described.

269,130. AUTOMATIC TELEPHONE-EXCHANGE. FRANK H. SNELL, Washington, D. C. Filed Sept. 6, 1882. (No model.)



Claim.—1. In a telephone-exchange system, the combination, with a series of automatic line-connecting mechanisms at a central office and intermediate conductors connecting said mechanisms with each other, of a series of subscribers' circuits, each provided with two line-wires, one wire of each circuit being a connecting-wire and connected with a single connecting mechanism for operating the same, and the other wire of each circuit including the telephonic and signaling instruments, and being connected with the same connecting mechanism, and arranged to be connected thereby, through one of said intermediate conductors, with any other line of similar character connected to another of said connecting mechanisms, substantially as described.

2. In a telephone-exchange system, the combination, with two subscribers' circuits, each including two or more subscribers' stations, and automatic mechanism for connecting the said circuits at a central office, of signaling devices at the respective stations in each circuit, arranged to separately operate and be separately operated by a similar signaling device at any particular station on either of the two circuits, substantially as described.

3. In a telephone-exchange system, the combination, with a series of automatic line-connecting mechanisms at a central office, and a series of subscribers' circuits connected with said connecting mechanisms, respectively, and each provided with two line-wires, one of which is a connecting-line, and connected with a single connecting mechanism only for operating the same to form connections, and the other including the telephone-instruments, and adapted to be connected by said mechanism with another line of similar character connected to one of the other connecting mechanisms of an indicating-instrument at a subscriber's station on each circuit, and included in the connecting-line itself, and arranged to indicate to the subscriber the condition of the connecting mechanism with which his circuit is connected at the central office, substantially as described.

4. In a telephone-exchange system, the combination, with a series of subscribers' circuits, each provided with two line-wires, of a series of automatic line-connecting mechanisms at a central station, each of said connecting mechanisms being connected with a separate subscriber's circuit and comprising the following elements, namely: an electro-magnet having one of its terminals connected with one of the line-wires and the other to ground, an armature arranged for operation by said magnet and mounted upon one arm of a lever, the other arm of which carries a pawl, a ratchet-wheel arranged for operation by said pawl and fixed upon a metal axle which is connected with the other line-wire, a revolving conducting-arm projecting from said axle, and a series of conducting contact-points arranged to be struck successively by said arm as the axle is turned, certain of said contact-points of each mechanism being electrically connected respectively with the revolving conducting-arms of other similar mechanisms, substantially as described.

5. The combination, with the revolving conducting-arms of the several mechanisms and means, as described, for revolving the same, the line-wires electrically connected with said arms and the contact-points arranged to be struck by said arms, of the intermediate conductors connecting the contact-points of each mechanism with a common conductor arranged to connect them with the revolving arms of similar mechanisms, and the resistance-coils interposed in said intermediate conductors, substantially as described, and for the purpose set forth.

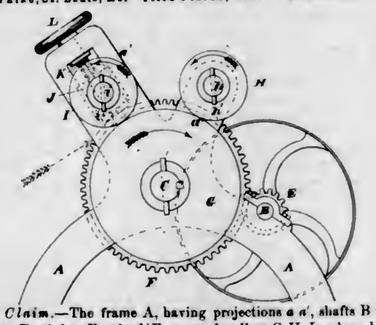
6. The indicating-instrument composed of the electro-magnet, its armature-lever and pawl, the ratchet-wheel arranged to be turned by said pawl, the axle carrying said wheel, the conducting-finger carried by said axle and electrically connected with one coil-terminal of the magnet, the metallic segments separated by intervening spaces and arranged to make contact with said finger, the metallic lugs arranged to fill said spaces and electrically connect the segments, and means for removing and replacing said lugs, substantially as described.

7. The combination, with the axle 30 and impelling devices, of the signal-indicating instrument S' of the ratchet-wheel, insulated from said axle, the conducting-pin projecting from the axle in the path of the pawl, the conducting-post arranged to make contact with said pawl, and the local circuit having its opposite terminals connected with said axle and post, respectively, substantially as and for the purpose set forth.

8. In a switching mechanism, the combination, with the revolving switch-lovers 41 and 41', insulated from each other and arranged for connection with the opposite poles of an electrical generator, of two or more pairs of contact-points arranged to make contact with said levers, means for bringing said levers in line with either pair of said posts, and devices for forcing levers into contact with and withdrawing them from said posts, substantially as described.

9. The combination, with the posts 46 and 46' and 87 and 87', and the contact-posts *s s'* and *s*^{3} *s*^{3}, connected therewith respectively, of the switch-levers arranged to connect said contact-points, as described, and for the purpose set forth.

269,131. MACHINE FOR BENDING GAS-PIPE, &c. JOSIAH C. SPRING, St. Louis, Mo. Filed Feb. 28, 1882. (No model.)

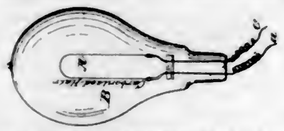


Claim.—The frame A, having projections *a a'*, shafts B C, pulley D, pinion E, wheel F, grooved rollers G H I, arbors *h i*, adjustable block J, screw-rod K, and hand-wheel L, all arranged substantially as and for the purpose set forth.

269,132. ELECTRIC LAMP. WILLIAM STARLEY, Jr., Englewood, N. J., assignor to the Swan Incandescent Electric Light Company, Boston, Mass. Filed June 15, 1882. (No model.)

Brief.—A filament is formed by soaking human hair in an alkaline bath or in dilute sulphuric acid until the greasy surface is removed. It is then carbonized. Chinese hair is preferred by reason of its coarseness.

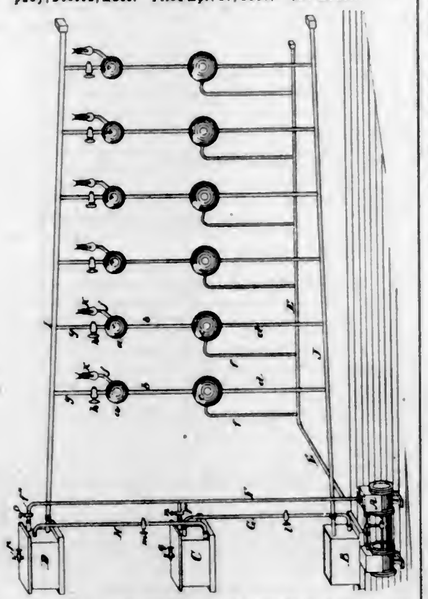
269,132.



Claim.—1. A burner for incandescent electric lamps, composed of carbonized hair.

2. The hereinbefore-described method of producing burners for incandescent electric lamps, which consists in removing the oil or fatty matter from hair and then carbonizing the same.

269,133. AIR-PUMP. WILLIAM STANLEY, Jr., Englewood, N. J., assignor to the SWAN Incandescent Electric Light Company, Boston, Mass. Filed Apr. 27, 1882. (No model.)



Claim.—1. The combination of a series of mercurial air-pumps with single exhaust-pump, substantially as and for the purpose described.

2. In combination with an exhaust-pump, a series of mercury-reservoirs, arranged one above the other and connected by means of tubes, the upper reservoirs of the series being provided with air-tight chambers, constructed to be opened and closed to the air at pleasure, substantially as and for the purpose described.

3. The combination, with a series of mercurial air-pumps and a common exhaust-pump, of a series of mercury-reservoirs, arranged one above the other and connected to each other and to the exhaust-pump and the several mercurial pumps by means of tubes, whereby the mercury is raised in the reservoirs and the air removed from the mercurial pumps simultaneously by the operation of the exhaust-pump, substantially as described.

269,134. PRESERVING FURS, FEATHERS, CLOTHING, CARPETS, &c., FROM MOTHS, MILDEW, &c. GEO. W. STOCKMAN, Indianapolis, Ind., and JOHN R. DUFFIN, Decatur, Ill.; said Duffin assignor to Edward L. Thomas. Filed May 28, 1882. (No model.)

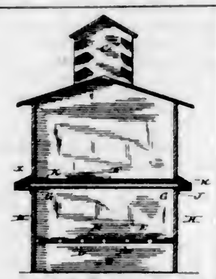
Claim.—1. In the preservation of furs and other goods subject to injury from moths, the process of preventing damage to such goods from moths by the use of refrigerated dry air, as described.

2. The process of preserving the life and color of furs and fabrics by means of cold dry air in a dark storage-room, all substantially as described.

269,135. MEANS FOR VENTILATING GRAIN, &c. JOHN K. STREET, Waco, Tex. Filed Mar. 7, 1882. (No model.)

Claim.—1. The combination, with the tubes, of the protecting end caps, consisting of a base-plate, by which it may be secured to the structure, and provided with a central opening, in which the ends of the tubes are adjusted, and a semi-cone, as set forth.

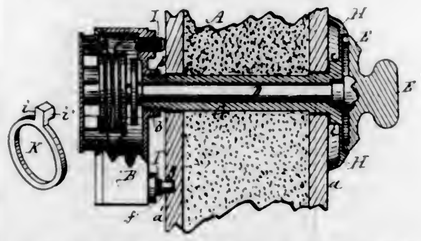
269,135.



2. The combination, with the structure provided with transverse ventilating-tubes projecting on the outside of the structure, of the herein-described protecting-caps, consisting of a base-plate provided with a central opening, by which it is adjusted over the projecting ends of the tubes, and with a semi-cone, as set forth.

3. The combination, with the structure having parallel longitudinal slots in its bottom extending its entire length, of the transverse perforated tubes arranged at right angles thereto, with their ends projecting through the sides and resting in protecting semi conical caps, as set forth.

269,136. PERMUTATION-LOCK. WM. STREETER, Rochester, N. Y., assignor to Sargent & Greenleaf, same place. Filed Aug. 22, 1882. (Model.)



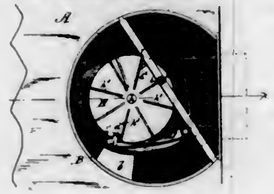
Claim.—1. The combination of the tubular sleeve having the dial-ring attached fast at its outer end and provided with a screw-thread at its inner end, the lock-case attached to the inner end of the sleeve, and the leveling-screws in the back plate of the lock-case bearing against the inner face of the door for tightening and leveling the lock and dial against the door, as herein shown and described.

2. In a combination-lock, the tubular spindle G, constructed with a disk, *c*, at its outer end resting flush with the outer edges of the dial-ring, a dial-ring formed solid with the sleeve and with a screw-thread on the inner end of the sleeve for connecting with the lock, as herein shown and described.

3. The fly K, provided with the tongue *i* and offset-lug *i'*, in combination with the center-piece of the tumbler provided with the slot *m*, the slot lying in the groove *l*, and the lug extending through the slot directly in the track of the driving-pin of the next tumbler, as shown and described, and for the purpose specified.

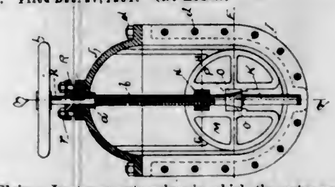
4. In combination with the fly K, provided with the tongue *i* and offset-lug *i'*, the driving-pin *p*, attached to the center-piece of the tumbler diametrically opposite the tongue and on the reverse side of the tumbler, as herein shown and described.

269,137. PERMUTATION-LOCK. WILBUR W. SWATT, Springfield, Ill. Filed Apr. 25, 1882. (Model.)



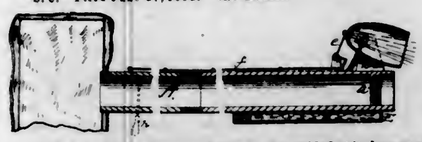
Claim.—In a permutation-lock, the combination of the disk H, having grooves A^3, and a detent-spring, I, with a handle or knob, A^3, for the purpose of arranging the position of the tumbler-disks by feeling said detent-snap into said grooves, as shown and described.

269,138. STOP OR GATE VALVE. FRANCIS H. TERRY, Joliet, Ill. Filed Dec. 27, 1881. (No model.)



Claim.—In stop or gate valves in which the gates consist of disks which move loosely across the pipe-opening, the valve or operating stem provided with cone P, in combination with the disks M, provided with contact or saddle pieces O, the whole operating to force said disks to a tight bearing upon their seats, substantially as set forth.

269,139. HYPOHYDROSCOPE. WM. L. TREENOLM, Charleston, S. C. Filed June 27, 1882. (No model.)



Claim.—1. A submarine instrument provided at its lower end with an electric light or its equivalent and reflector, working on an axis, said light and reflector arranged on a different plane from that of the sight-tube and so adjusted as to cast rays of light upon the object under water, substantially as described.

2. In a submarine instrument, a tubular section with a glass or lens at the bottom, and provided with trunnions capable of supporting a reflector, substantially as described.

3. A submarine instrument composed essentially of one or more tubular sections, with a glass or lens at the bottom, and provided with trunnions, a reflector, and an electric-light or its equivalent, substantially as described.

4. A submarine instrument composed of one or more tubular sections, with a glass or lens at the bottom, and provided with trunnions, a reflector journaled to the trunnions, an electric light or its equivalent, and means for adjusting the inclination of the reflector, substantially as described.

5. A hypohydroscope consisting essentially of a tube, an electric light or its equivalent, a journaled reflector, and means for adjusting the inclination of the reflector, substantially as described.

6. The hypohydroscope consisting of the tube, electric light or its equivalent, journaled reflector, means for adjusting the inclination of the reflector and weight-chamber, substantially as described.

269,140. PITMAN-COUPLING FOR HARVESTERS. THOMAS UREE, Boulder, Colo., assignor of one-third to Frederick S. Hall, same place. Filed Oct. 9, 1882. (No model.)

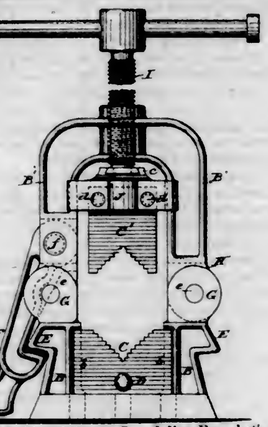


Claim.—The pitman-coupling for harvesting-machines, consisting of the arms A A', having elbows B and B', top plate, C, and cone-shaped projections F and F', in combination with the adjusting-bolt D, having a nut, E, substantially as and for the purpose herein shown and specified.

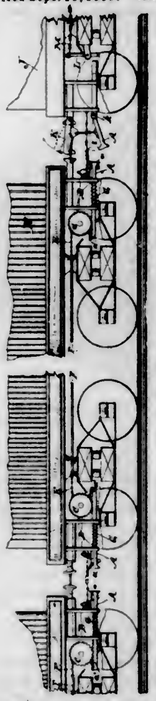
269,141. PIPE-VISE. NATHANIEL W. VANDERGRIFT, Bridgeport, Conn., assignor to Frank Armstrong, same place. Filed Oct. 3, 1882. (No model.)

Claim.—The upper portion, B', of the frame, formed with a hinge-leaf on one side and provided with a pivoted latch, F, on the opposite side, in combination with the lower portion, B, of the frame, formed with hinged leaves G and lips E on both sides, whereby the upper portion may be reversed, substantially as set forth.

269,141.



269,142. AUTOMATIC CAR-BRAKE. CHARLES VAN DUSEN, New Albany, Ind., assignor of one-half to William L. Breyfogle, Louisville, Ky. Filed Sept. 15, 1882. (No model.)



Claim.—1. The combination, with the brake-lever, the brake-rod, and the rack-bar and buffer, of the grooved cog-wheel, mounted on the brake-rod and adapted to be operated by the movement of the rack-bar and buffer, and a chain connected to the rack-bar and passing over the grooved cog-wheel to a brake mechanism at the opposite end of the car, substantially as shown and described.

2. The combination of the brake-lever, the brake-rod having a rigid loop for connecting the lever-chain thereto, the grooved cog-wheels at opposite ends of the car, the rack-bars and buffers, and the connecting-rod having chains at the ends passing over the

grooved cog-wheels and secured to the said bars, respectively, substantially as shown and described.

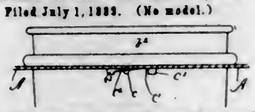
3. The combination of the flexibly-jointed buffer-bar, secured to the tender and connected to a pivoted bumper, K, with the rack-bar and buffer, constructed and arranged as described, and attached to a car in the rear of the tender, substantially as specified.

4. The combination, with the bars A of two coupled cars, of the safety appliance consisting of the chains connected to each other and to the bars A, respectively, and the pulleys carrying the chains, substantially as shown and described.

5. The combination, with the bars A of the tender and its next adjacent car, of the bumper K, pivoted between said tender and car, and adapted to be supported in a horizontal position or moved out of such position at will, substantially as and for the purpose described.

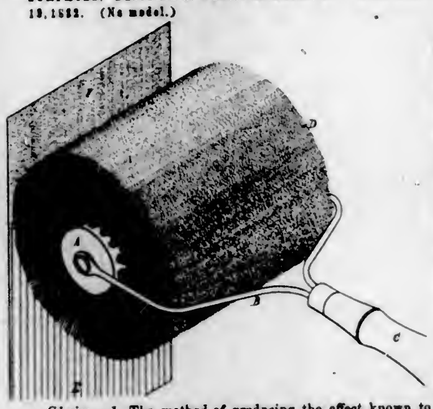
6. The combination, with the bar A on the car N, of the bar A on the tender extending back of the draw-head, and the pivoted bumper K on the tender, whereby the brakes shall be set when the bumper K is removed without any other motive power than the momentum of the train, substantially as specified.

269,143. STEAM COOKING-VESSEL. JAMES R. WALLS, Chicago, Ill. Filed July 1, 1882. (No model.)



Claim.—The combination of the cooking-vessel having the supporting-rim, constructed as described, and the locking-stops, in combination with the steam-table having the notches and clamping-surfaces, substantially as specified.

269,144. METHOD OF AND DEVICE FOR STIPPLING PAINTED SURFACES. BENJAMIN G. WEST, Providence, R. I. Filed June 19, 1882. (No model.)



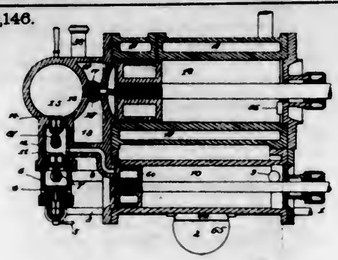
Claim.—1. The method of producing the effect known to house-painters as "stippling," consisting in passing a rotary brush over a painted surface, whereby the ends of the bristles are brought into action upon the paint while in a moist and plastic condition, and whereby said extreme ends of the bristles in rotary movement are slightly bent by the pressure of the operator, and in this position act upon and break up the lines left by the ordinary paint-brush, substantially as set forth.

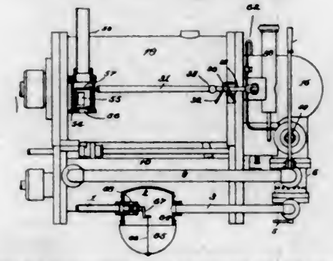
2. A rotary brush having long flexible bristles set on a cylindrical shaft, A, which rests and revolves on bearings formed on rods or wires B, connected with a handle, C, to be operated by hand, substantially as described.

269,145. MEDICAL COMPOUND. JOHN S. H. WEBALTON, Crisfield, Md. Filed Oct. 18, 1882. (No specimens.)

Claim.—The herein-described medical compound for use in consumption and chronic dyspepsia, consisting of rum, light-wood shavings, and common salt, in about the proportions specified.

269,146. GAS-ENGINE. HERMANN WIEDLING, Baltimore, Md. Filed Apr. 13, 1882. (No model.)





Claim.—1. In a gas-engine, and in combination, a working-cylinder, a separate explosion-chamber, port communications, and an igniting-valve between said chamber and cylinder, as set forth.

2. In a gas-engine, a pumping or compression cylinder, an intermediate valve-chamber, pipe connections between said chamber and both ends of the cylinder, and a valve and locking mechanism therefor, adapted to operate either by hand or by the governor, substantially as described.

3. In a gas-engine, an igniting-valve having port connection with mixed gas and air under pressure, whereby said mixed gas and air enter the valve as a jet, a Bunsen or equivalent pressure burner, having also port connection with the interior of the valve, an explosion-chamber, and port connections between said chamber and the interior of the valve, and suitable exhausts for carrying away the burned gases.

4. In combination with a gas-engine, a pressure-regulator in the line of the supply disconnected from the moving parts of the engine and adapted automatically to open the supply-valve when the pressure within by suction of the engine is reduced below atmospheric pressure, and to partially or wholly close the supply-valve when the pressure of the gas is greater than that of the atmosphere.

5. In a gas-engine, an igniting-valve detachably connected with the moving parts of the engine, and a hand-pump connected with the mixed gas and air-supply and with the valve, whereby the engine may be started without moving the main compression-pump, substantially as set forth.

6. In a gas-engine, a working-cylinder closed on the front end, connected with a valve-chamber having a supply and exhaust valve to receive and exhaust air, as set forth.

7. In a gas-engine, a gas-mixing valve, a catch, and regulating devices, whereby the action can be regulated from the outside, as described.

8. In a gas-engine, a compression-pump adapted to draw mixed gas and air on one side of the piston, and pipe and valve connections whereby it is driven to the other side, where it is compressed, as described.

9. A gas-engine, with an igniting-valve which has an inlet-port for the outside burner and an exhaust-port for the burned gas of the inside burner, by which the outside burner is sucked in to ignite the inside burner, caused by a partial vacuum being formed by the compressed gas flowing out of the inside burner.

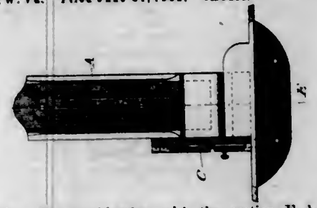
10. In an igniting-valve of substantially the construction described, a fine groove in the valve, and an air-port, whereby some of the burned gas of the inside burner is let out after the valve is shut off from the outside, and the flame of the inside burner maintained.

11. In a gas-engine, a compression-pump connected with the engine and operated thereby, a valve and connection with the governor, whereby the action of the said pump is suspended, as set forth.

12. In an igniting-valve, a pipe having communication with a gas-supply under pressure, in combination with a bundle of wires placed in said pipe, substantially as described.

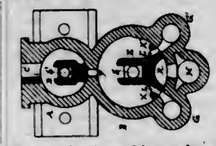
13. The combination, in an igniting-valve, of the pipe 40, perforated plate 41, bundle of wire 42, and suitable gas and port connections, substantially as described.

269,147. LOCK FOR VEHICLE-TOPS. JAMES WILSON, Moundsville, W. Va. Filed June 21, 1882. (Model.)



Claim.—The combination, with the portion E, having a groove, as shown, of the upper piece, A, provided with the bolt C, and adapted to receive the bow, substantially as set forth.

269,148. VALVE FOR ENGINES. WILLIAM WISS, Bay City, Mich. Filed Aug. 12, 1882. (No model.)



Claim.—1. In combination with a valve-chest having two steam-ports, G G', a steam-valve, E, constructed, substantially as described, to admit steam to one steam-port in the valve-chest while exhausting steam from the other steam-port, and to simultaneously open or close both of said steam-ports, as specified.

2. In combination with the valve-chest B, having the two steam-ports G G', and interposed exhaust-port H, the valve E, constructed with the two steam-passages L L', the wings K K', and the opening R, the latter being of sufficient width to cover the exhaust-port and one of the steam-ports in the valve-chest, whereby the valve can be adjusted to admit steam to one port while exhausting from the other, and to simultaneously open or close both steam-ports, substantially as described.

3. A steam-valve which will simultaneously open both steam-ports in the valve-chest, in combination with a cut-off valve connected therewith, so as to cut off steam from the main valve when the latter opens both steam-ports.

4. The combination of valve E, having spindle S, carrying thereon segmental gear W, valve D, having spindle S', carrying segmental gear W', and valve-chests A B, connected by the steam-port F, substantially as herein shown and described.

269,149. VEHICLE-SPRING. LYMAN C. WOOD, Wichita, Kans. Filed May 18, 1882. (No model.)

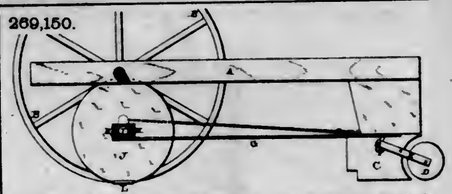


Claim.—1. In a vehicle-spring, the combination, with the spring-sections A, having upwardly-extending portions a^3 at their outer ends, the oblique portions a, and the horizontal portions a', of the plate C, secured to the vehicle-body and having a perforated projection, c', and the plate B, having the flanges b and the upwardly-projecting flanges b', substantially as and for the purpose set forth.

2. In a vehicle-spring, the combination, with the spring-sections A, having the oblique portions a, provided with the horizontal arms a' and upwardly-curved portions a^3, connected to the spring side bars secured to the running-gear, of the plates B, having flanges b and upwardly-projecting flanges b', plate c, having a depending projection, c', and the bolts d, fitted with springs d' and depending from the vehicle-body, substantially as and for the purpose set forth.

269,150. CORN-PLANTER. ANDERSON WOODWARD, Cameron, Ill., assignor of one-half to O. V. Porter, same place. Filed Aug. 5, 1882. (No model.)

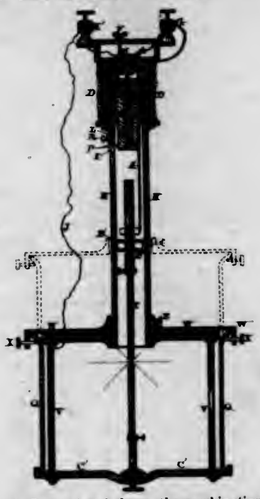
Brief.—The seed-boxes are connected by spring-bars to the shaft of a pair of small wheels, which are independent of the main frame and wheels. The crank moving the seed-slides is upon this shaft.



Claim.—1. In a corn-planter, the combination of a cranked shaft, suitable wheels attached to the cranked shaft, connecting-rods, and seed-slides, the cranked shaft and wheels being independent of the main frame and driving-wheels, substantially as set forth.

2. The combination of a corn-planter mounted upon the usual driving-wheels with suitable supporting-springs, the cranked shaft provided with wheels, the connecting-rods, and seed-slides, substantially as specified.

269,151. ELECTRIC-ARC LAMP. LUCIDAS G. WOOLLEY, Meadon, Mich. Filed Jan. 9, 1882. (No model.)



Claim.—1. In an electric lamp, the combination of a helix of low resistance, a helix of high resistance placed inside of the axial one, an adjusting device for the helix of high resistance, and the core O, provided with a lifting device for the upper-carbon holder, the two helices having their wires secured to the same binding-posts, substantially as described.

2. In an electric lamp, a helix of high resistance placed inside of a helix of low resistance, and provided with a means for vertical adjustment, substantially as set forth.

3. In an electric lamp, the combination of a helix of low resistance, a helix of high resistance, provided with the projections 2 upon its lower end, a core provided with a lifting device, and an inclosing-tube in which the lifting device operates, substantially as specified.

4. In an electric lamp, the combination of a helix of low resistance, a helix of high resistance, provided with means for vertical adjustment, the core provided with a lifting device, and a means for regulating the distance which it shall be moved upward, substantially as shown.

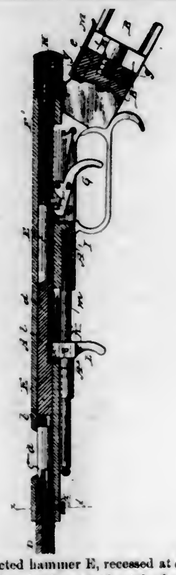
5. The combination of the tube H, provided with the slot K, the adjusting-plate L, and the core O, provided with the pin or stop P, substantially as described.

6. The globe Q, provided with the outwardly-flaring edge at its top, the frame or rods W, the set-screws X E', and tube H, whereby the globe can be raised upward and held in any desired position, substantially as specified.

269,152. PARLOR-RIFLE. JOHN ZUNDORFF, New York, N. Y. Filed May 27, 1882. (No model.)

Claim.—1. In a parlor-rifle, the combination of the main barrel A, slotted at m, and having the supplementary barrel A' and sleeve A^3, spring I, inserted into the supplementary barrel A', plunger K, having finger-piece L, provided with the lip or stud l,

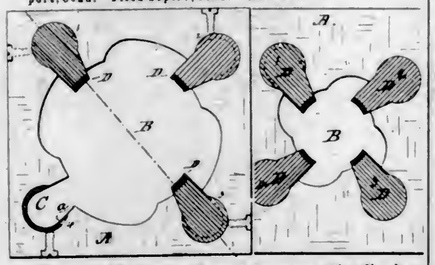
269,152.



and sliding spring-acted hammer E, recessed at *d*, substantially as and for the purpose herein shown and set forth.

2. In a parlor-rifle, the combination of the barrel A, having breech-piece B', provided with the screw *e*, and hinged latch M, with the detachable stock or shoulder-frame B, substantially in the manner and for the purpose herein shown and specified.

269,153. THREAD-CUTTING DIE. FRANK ARMSTRONG, Bridgeport, Conn. Filed Sept. 7, 1881. (No model.)



Claim.—1. The block or frame A for screw-cutting dies, having a central opening for the passage of the pipe or bolt to be cut and vertical channels at points surrounding such central pipe-passage and forming seats therein of the exact size and contour of the holding parts or shanks of the cutting-dies, in combination with the removable dies to be seated therein and means for fastening them firmly in position, substantially as and for the purpose described.

2. A series of plates constructed as described, and adapted to cutting pipes or bolts of different sizes, in combination with a set of dies adapted to be used interchangeably with said die-plates, substantially as set forth and described.

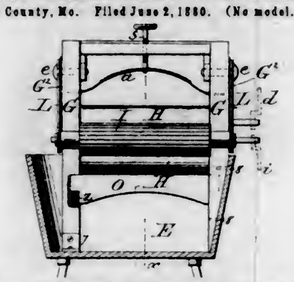
269,154. DRESS-WEIGHT. EDWARD J. BROOKS, East Orange, N. J., assignor to E. J. Brooks & Co., New York, N. Y. Filed July 21, 1882. (No model.)



Claim.—1. An annular-disk dress-weight having in its disk A a large central orifice, *o*, and provided with an attaching-piece, B, of textile fabric, crossing said orifice and secured within the disk, substantially as herein described, for the purpose set forth.

2. An annular-disk dress-weight having in its disk A a large central orifice, *o*, and a transverse stringing-hole, A, and provided with an attaching-piece, B, of textile fabric, within said stringing-hole, said disk being flattened, as described, for the purposes set forth.

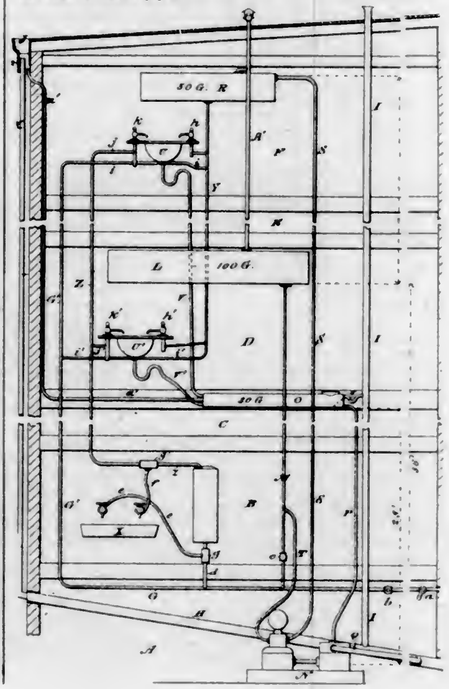
269,155. WASHING-MACHINE. TILMON A. H. CAMERON, Saline County, Mo. Filed June 2, 1880. (No model.)



Claim.—In a washing-machine, the combination of the side pieces, G G, smooth rollers H H, the board O, extending beneath the lower smooth roller, the springs *z z*, placed in recesses formed in the side pieces and adapted to support the ends of the board O, the spiral springs *h h*, placed in recesses formed in the side pieces above the upper smooth roller, the leaf-spring *a*, resting on said spiral springs, and the adjusting thumb-screw *s*, all substantially as and for the purpose described.

269,156. MEANS FOR SUPPLYING WATER TO HOUSES. ANDREW CAMPBELL, Brooklyn, N. Y. Filed Apr. 10, 1882. (No model.)

Brief.—Water rises in reservoir L through pipe G by the pressure in the main. The waste water from the basins is collected in reservoir O, and is used to operate a pump, N. This pump draws water from reservoir L through pipes M and T and forces it into reservoir R through pipe S. When the basin-cock *k* is turned (see Fig. 4) hot water is forced from boiler W by the pressure in reservoir R through pipes *i*, G', *d*, and Z, the channel *w'*, Fig. 4, uniting the two parts of pipe *i*. When basin-cock *k'* is turned the same result is obtained through pipe *s'*. When the cock is turned for hot water the automatic valves *g* and *g'*, Fig. 2, rise and close the pipes *e f*, which admit water into the kitchen, thus allowing the water to rise in pipe Z.



Claim.—1. As a means for raising water to an elevated reservoir or point above the level of the water-supply, a storage-reservoir or fountain-head, a pump arranged to receive water from the storage-reservoir or fountain-head and to force it up to the elevated reservoir, and a motor-engine to drive the pump, arranged to receive and be operated by a head of waste water from above the fountain head, substantially as set forth.

2. As a means for raising water in houses to a higher level than is due to the pressure in the main, the combination of a storage-reservoir, L, connected with the service-pipe, a pump supplied from said reservoir, a supply-reservoir, R, connected with and arranged to be supplied by the pump, a waste-reservoir, O, and a water-motor supplied from reservoir O, and arranged to drive the pump, said reservoir O being arranged at a greater height above the motor than the reservoir R is above the reservoir L, substantially as set forth.

3. The means for supplying hot-water to the upper floors of a building, which consists of an elevated supply-reservoir arranged above the level due to the pressure or head in the main, the service-pipe provided with the check-valve, a pipe connecting said reservoir with the service-pipe beyond the check-valve, a boiler arranged to receive water from the service-pipe beyond the check-valve, a hot-water pipe from the boiler to the cock, and said cock arranged below the supply-reservoir, all combined and arranged substantially as set forth.

4. The means for cutting off the supply of water in the kitchen when hot water is being drawn on the floors above, which consists of an elevated supply-reservoir, the service-pipe provided with a check-valve, a pipe to connect the service-pipe with said reservoir, a boiler arranged to receive water from the service-pipe beyond the check-valve, a hot-water pipe from the boiler to the cock on the upper floor, the said cock, an automatic cut-off, constructed substantially as described, arranged in the hot-water pipe, and arranged to cut off the supply of hot and cold water to the kitchen when communication is established between the supply-reservoir and the main, and means for cutting off and establishing at will such communication, all combined and arranged substantially as set forth.

5. The combination, with the elevated supply-reservoir connected with the service-pipe, of the said service-pipe provided with a check-valve, the boiler connected with the service-pipe beyond the check-valve therein, the hot-water pipe from the boiler to a cock and having fixed in it an automatic cut-off, constructed to operate as described, and the hot-water cock constructed and arranged to open communication between the boiler and the elevated reservoir simultaneously with the turning on of the hot water, substantially as set forth.

6. The hot-water cock comprising stem *u*, nozzle *u'*, and plug *v*, said plug being provided with the hot-water channel *w* and the cross-channel or bore *w'*, in combination with the hot-water branch pipe *j* and the cold-water branch pipe *i*, all constructed and arranged to operate substantially as and for the purposes set forth.

7. The automatic cut-off, comprising the barrel *l*, having a lateral branch, *s*, and an enlargement, *F*, the cylinder *n*, coupled to the piston *p*, and the said piston provided with a guide-stem and spring, all constructed, combined, and arranged to operate substantially as set forth.

269,157. CLEANING ATTACHMENT FOR THRASHING-MACHINES. BLANCHARD CHAMBERLAIN, Bellefontaine, Ohio, assignor of four-fifths to Joseph H. Wilson, Robert Lamb, Harry E. Palmer, and George H. Palmer, all of same place. Filed Sept. 4, 1882. (No model.)

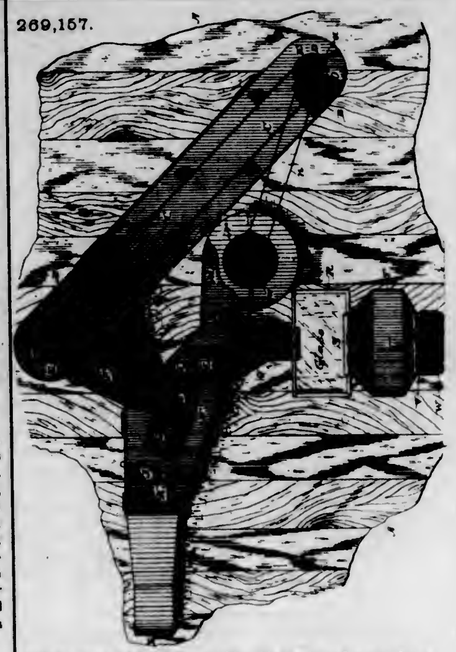
Claim.—1. The combination of trunk B, endless apron C, having buckets *c*, pulleys D D', shafts E E', chute F, depending from the top of trunk B, and having opening *f*, inclined trunk K, shoe G, suspended in said trunk K, and having screens H H', fan M, casing P, having mouth *p* in line with the shoe, chute Q, beneath the inclined trunk K, and exit or tube X, and spout *o*, for connection to the side of the thrasher, as set forth.

2. The combination, with a cleaning attachment, consisting of an elevator, vibrating shoe, and rotary fan, of the receiving-box R, having transparent front, and a measuring-box located beneath the receiving-box, the whole being adapted for application to the side of a thrashing-machine, as set forth.

3. In a cleaning attachment for application to the side of a thrashing-machine, the combination of an elevator, a chute, F, a shoe, G, having upper coarse shorter screen, H, and lower finer screen, H', the said chute and shoe-screens presenting falling-points 1 2 3, the fan M, casing P, having mouth *p* in line with the shoe, and the tube or exit X, as set forth.

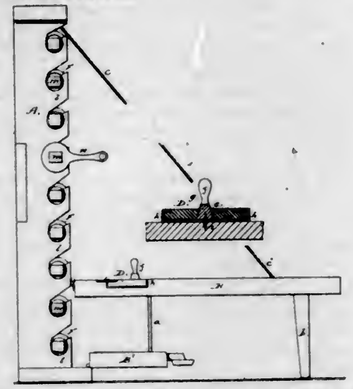
4. The combination of an elevator, rotary fan, vibrating shoe,

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delivery-spout of thrashing-machine, blast-exit, and means for operating the parts, the elevator being connected at bottom with the delivery-spout of the thrashing-machine, its blast-exit in communication with the interior thereof, and its elevator and shoe operated therefrom, as set forth.

269,158. DEVICE FOR EXHIBITING, MEASURING, AND CUTTING WINDOW-SHADES. CRITTENDEN CHROMLE, Delaware, Ohio, assignor of one-half to Edward E. Neff, same place. Filed May 16, 1882. (No model.)

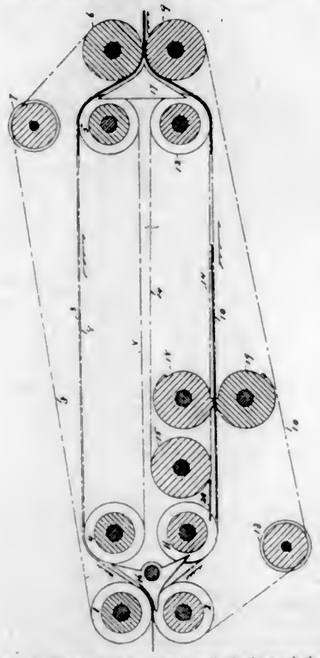


Claim.—1. As an improved article of manufacture, the herein-described device for exhibiting, measuring, and cutting window-shades, &c., consisting of the upright case A, provided with the rollers F, arranged one above the other, and with the tables B B', hinged to the front wall of the said case and having a simultaneous movement through the medium of the arm *a*, the upper table, B, being provided with the hinged cutting-frame D, carrying knife *g*, and arranged at right angles to the sides of said table, all substantially as and for the purpose specified.

2. In a device for exhibiting, measuring, and cutting window-shades, the table B, provided with the hinged legs *b*, measuring-

scale E, cord *e*, weight C, and the hinged cutting-frame D, arranged at right angles to the sides of the table, and provided with the sliding block *f*, carrying the knife *g*, which moves in the dovetailed slot *e*, in combination with the case A, having pulley *d* and rollers F, substantially as and for the purpose specified.

269,159. SHEET-DELIVERING MECHANISM FOR PRINTING-MACHINES. LUTHER C. CROWELL, Brooklyn, assignor to R. Hoe & Co., New York, N. Y. Filed Oct. 12, 1882. (No model.)



Claim.—1. The herein-described method of associating successive sheets in a delivery apparatus, which consists in varying the speed of certain of the series of sheets to be associated until all are abreast, and then causing all to progress at a uniform speed, substantially as described.

2. The herein-described method of associating successive sheets in a delivery apparatus, which consists in retarding the speed of the leading sheet until a following sheet is abreast thereof, and then causing both to progress at a uniform speed, substantially as described.

3. The herein-described method of associating successive sheets in a delivery apparatus, which consists in causing said sheets to enter different pathways of equal length and varying the speed of certain of the sheets of the series to be associated until all are abreast, and then causing all to progress at a uniform speed, substantially as described.

4. The herein-described method of associating successive sheets in a delivery apparatus, which consists in causing said sheets to enter different pathways, and then retarding the speed of the advance sheet until a following sheet is abreast thereof, and then causing both to progress at a uniform speed, substantially as described.

5. The combination, with a series of pathways of equal length, of means for guiding successive sheets into different pathways and means for causing the sheets in the several pathways to travel at different average speeds, whereby the several sheets are brought abreast of each other at a common exit, all substantially as described.

6. The combination, with a series of pathways of equal length, of means for guiding successive sheets into different pathways and means for retarding the speed of the advance sheet until the following sheet is abreast thereof, substantially as described.

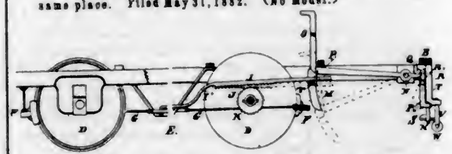
7. The combination, with a series of pathways of equal length, of a switch, as 16, and retarding-rolls, as 18 19, substantially as described.

269,160. FAGOT FOR TUBES. THOMAS J. DRAKIN, Columbia, Pa., assignor of two-thirds to Willard Thomas Block, Hannibal, Mo. Filed July 29, 1880. (No model.)



Claim.—As a new article of manufacture, a fagot or pile-skelp consisting of a series of billets and a wooden core extending entirely through the fagot, as set forth.

269,161. STREET-CAR ATTACHMENT. CONRAD DE STAEBLER, St. Louis, Mo., assignor of one-third to Benjamin R. Bonner, same place. Filed May 31, 1882. (No model.)



Claim.—1. In a safety attachment for street-cars, the combination of brake-beams F, rods G, lever E, bar I, wheel K, rigidly secured to the car-axle, and guard or guards M, all arranged and operated substantially as and for the purpose set forth.

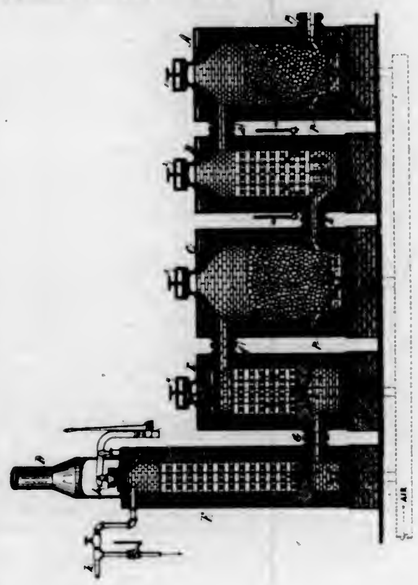
2. The pull-rod O, secured to the guard-bar L and straddling the end of the brake-bar I, substantially as and for the purpose set forth.

3. The guards M, pivoted to the car-body and having upturned ends Q, in combination with notched vertical bars R, arranged to hold the guards in their elevated position and to drop them at the proper time, as set forth.

4. The cross-piece S, connected to the bars R, so as to have a vertical movement, in combination with the hanger T, yoke U V, arms X, and wheel W, substantially as and for the purpose set forth.

5. The combination of brake-beams F, rods G, lever E, bar I, wheel K, guards M, pull-rod O, vertical bars R, connecting-rod S, hanger T, yoke U V, wheel W, and arms X, all made substantially as and for the purpose set forth.

269,162. PROCESS OF AND APPARATUS FOR MANUFACTURING GAS. HENRY M. PIERSON, Brooklyn, N. Y., and JAMES S. PIERSON, Plainfield, N. J. Filed June 28, 1882. (No model.)



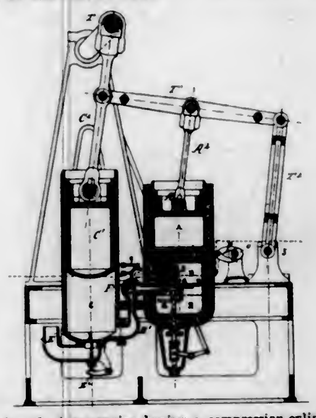
Claim.—1. The method herein specified of making non-luminous gas, consisting in superheating steam by passing it through a superheater, then decomposing the steam into hydrogen, carbonic acid, and carbonic oxide by passing it down through a bed of incandescent fuel, and finally converting the carbonic acid of the gases into carbonic oxide by passing the gases down through a second bed of incandescent fuel, substantially as specified.

2. The method herein specified of making illuminating-gas, consisting in superheating steam by passing it through a superheater, then decomposing the steam into hydrogen, carbonic acid, and carbonic oxide by passing it down through a bed of incandescent fuel, passing such gases into a heated commingler, supplying into such commingler liquid hydrocarbon that is volatilized and commingles with the gases, then fixing the gases and converting any carbonic acid into carbonic oxide by passing the mingled products down through a second bed of incandescent fuel, substantially as set forth.

3. The combination, in a gas-making apparatus, of a vertical decomposer, a vertical commingler containing brick or similar material and a generator, and connecting flues from the bottom of the decomposer and the top of the generator, substantially as and for the purposes set forth.

4. The combination, in a gas-making apparatus, of a generator, a commingler, a decomposer, a superheater, the intermediate connecting-pipes, an escape-chimney and damper at the superheater, and a gas-delivery pipe at the generator, substantially as set forth.

269,163. GAS-ENGINE. KARL TRICHMANN, Stuttgart, Wurtemberg, Germany. Filed Aug. 14, 1882. (No model.) Patented in England Apr. 28, 1882, No. 2,008; in France Apr. 28, 1882, No. 143,644; in Belgium Apr. 28, 1882, No. 57,745; in Italy Apr. 28, 1882, XVI, 14,143 and XXVIII, 188; in Luxemburg May 1, 1882, No. 186, and in Austria-Hungary July 7, 1882, No. 1,200 and No. 1,202.



Claim.—1. A gas-engine having a compression-cylinder, an expansion-cylinder, an intermediate mixing-chamber, and a pipe forming a communication between the mixing-chamber and expansion-cylinder, and provided with an igniting device, all substantially as set forth.

2. In a gas-engine, the combination of a jacketed compression-cylinder and a mixing-chamber with an intervening water-space between the two.

3. The combination of the expansion-cylinder and the mixing-chamber of a gas-engine with a tube or conduit, B', forming the communication between the two, and a pipe or pipes, *g*, heated internally within said tube B', substantially as described.

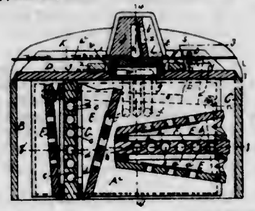
4. A gas-engine having a mixing-chamber containing a perforated distributing-plate, G.

5. The combination of the gas-supply pipe *d* a gas-engine with two valves, *n* and *q*, both controlled by a governor—one to regulate the supply of gas and the other to cut it off.

6. The combination of a gas-engine with an igniting device consisting of a pipe or pipes heated internally, with an adjustable shield, *s*, controlled by the valve-gear, substantially as and for the purpose set forth.

7. The combination of a slide-valve having a water-space, *r*, with a valve-seat having spaces communicating at all times with the space in the valve, substantially as specified.

269,164. MECHANICAL MUSICAL INSTRUMENT. OLIVER H. ARNO, Wilmington, assignor to the American Automatic Organ Company, Boston, Mass. Filed Mar. 14, 1882. (No model.)



Claim.—1. In a mechanical musical instrument, bellows arranged in pairs, those of one pair working at right angles to the working of another pair, and all in communication with a common reservoir-bellows, and arranged for the bellows of one pair to work alternately as to each other and as to the bellows of another pair, all substantially as described.

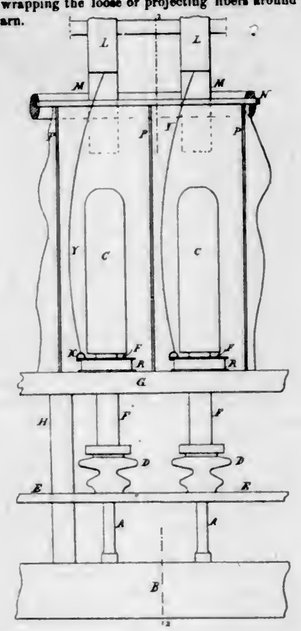
2. In a mechanical musical instrument, bellows arranged in pairs, those of one pair working at right angles to the working of another pair, and all in communication with a common reservoir-bellows, which is arranged at their sides to work in a plane at right angles to the working of the bellows aforesaid, substantially as described.

3. In a mechanical musical instrument, bellows arranged in pairs, those of one pair working at right angles to those of another pair, and all in communication with a common reservoir-bellows, which is arranged at their sides to work in a plane at right angles to the working of the bellows, and connected to and operated from a common revolving crank-arm, *q*, all substantially as and in the relative manner described.

REISSUES.

10,258. DRAWING, SPINNING, AND TWISTING APPARATUS. FREDERICK WILLIAM FOX, Windhill, County of York, England. Filed Nov. 7, 1882. Patented in England Nov. 29, 1881. Original No. 255,012, dated Mar. 28, 1882.

Brief.—Stationary caps are secured to the tops of the spindles. In operation the top of the traveler is slightly above the level of the bottom edge of the cap, so that the yarn as it is wound upon the bobbin is brought in contact with said bottom edge, thereby wrapping the loose or projecting fibers around the body of the yarn.



Claim.—The combination of the spindles, caps, whirls, and operating devices of a cap-spinning machine with a ring-rail, rings, and travelers, all substantially as set forth.

10,259. FASTENER FOR THE MEETING-RAILS OF SASHES. CHARLES E. STELLER, Milwaukee, Wis. Filed Apr. 12, 1882. Original No. 206,636, dated July 30, 1878.

Claim.—1. The combination of a base-plate, provided at its front side with a retaining-recess, with a swinging lever pivoted centrally upon said base-plate and provided at its rear end with a locking-hook and at its front end with a latch, said latch having pivotal bearings at its rear end in said lever, the front end of said latch being adapted to drop automatically in said retaining-recess in the base-plate in front of the retaining-pivot of said lever, substantially as set forth.

2. The combination of base-plate G, provided with recess H



and sleeve J, with lever E, provided with sleeve K, pivot N, latch F, and hook C, formed on the rear end of said lever, adapted to engage in a striking-plate on the lower rail of the upper sash, as set forth.

PHOTO-LITH NORRIS PETERS WASHINGTON D.C.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

DECISIONS OF THE U. S. COURTS.

U. S. Circuit Court—District of New Jersey.

TEAS *v.* ALBRIGHT *et al.*

Decided August 25, 1882.

1. JURISDICTION OF FEDERAL COURT—CONTRACTS INVOLVING PATENTS.

The subject-matter of contracts made in relation to patents, where neither the validity of the patent nor its infringement is concerned in the controversy, does not give the courts of the United States jurisdiction. The rights of the patentee under the patent laws of the United States must be directly, and not collaterally, brought in issue to give jurisdiction.

2. SAME.—SAME.—COURT WILL REMAND ON ITS OWN MOTION.

Where after the removal of a cause wherein the requisite conditions of citizenship and amount in controversy do not exist, and it is found upon the pleadings that the subject-matter is one in which the statute of the United States is only incidentally brought into question, the court will of its own motion remand the case.

Messrs. King & Woodruff for the complainant.

Messrs. A. Q. Keasbey & Sons and *Mr. Joseph C. Clayton* for the defendants.

NIXON, *D. J.:*

The bill of complaint in this case was originally filed in the Court of Chancery of New Jersey, and sets forth that the complainant, being the owner of several valuable patents, did, on the 1st of February, 1876, enter into an agreement with two of the defendants, Cahoone and Albright, to make an assignment of the letters patent to them in consideration of their paying to the complainant certain royalties from the profits derived from the sale of the goods manufactured under the said inventions. It alleged that the complainant had never been able to obtain proper access to the books of account of the said defendants, although the agreement stipulated that during all the time of its continuance their books should be open to his or his agent's inspection for examination; that he had received five several statements from Cahoone and Albright and their agents since the execution of the agreement, from which it appeared that the complainant had been credited with the total sum of nine hundred and twenty-five and three one-hundredths dollars, and charged with the sum of seven hundred and eighty-seven and sixteen one-hundredths dollars, and that the said statements were grossly erroneous and false both as to the credits and charges; that for some time after the execution of the agreement the said Cahoone and Albright carried on the business of manufacturing the goods described in the said patents under the name of the Cahoone Manufacturing Company; that afterward one Samuel E. Tompkins was taken into the business, and it was transacted under the name of "Samuel E. Tompkins, Cahoone & Co.," and that the books of these respective firms contain many items of which it is necessary for the complainant to have information for the purposes of this suit, and in which the said Tompkins has some kind of interest; that the accounts between the complainant and Cahoone and Albright are mutual and complicated, arising from the unsettled differences existing between them as to the amount with which the complainant should be charged by the defendants, and from the way in which goods have been manufactured under the said patents, the defendants applying in some cases the principles of several patents to a single article of manufacture.

The prayer of the bill is that the defendants may make a full and true discovery and disclosure of and concerning all the accounts, transactions, and matters aforesaid, and that an account may be taken under the direction of the court of all dealings and transactions heretofore had between the parties concerning the royalties and percentages claimed by the complainant under and by virtue of the said agreement, and that Cahoone and Albright may be charged with the aggregate amounts of said royalties, with lawful interest thereon from the time that the same became due, and that the said sum may be decreed to be paid by the said Cahoone and Albright to the complainant, no decree being asked for against Tompkins.

To the bill Cahoone and Albright have signed a joint and several answer and Tompkins a several answer. The former admit that the agreement between them and the complainant was duly executed, and is in full force; that the patents were assigned to them by the complainant as alleged; that the patented improvements have been applied by them, in connection with other improvements owned and controlled by them, in the manufacture of harness goods, and that the only consideration for the assignment of the patents was that specified in the agreement. They deny the allegations of the bill that they have refused to the complainant proper access to their books; that they have not rendered true semi-annual statements of the accounts; that they are indebted to complainant in any sum for royalties due on manufactured goods, and that the accounts between them and the complainant are complicated, or that it will be tedious and difficult to ascertain the amounts due from time to time under a fair construction of the agreement, although they admit that in manufacturing the goods for the market they have necessarily made them in such manner as required the application of the principles of several patents to one article, including patents not embraced within the scope of the agreement. They further allege that at the time of the execution of the agreement with the complainant they were engaged in earnest lit-

igation with Tompkins concerning the validity of certain patents for improvements in saddle-trees, owned by the said Tompkins, and concerning alleged infringements of said patents, and that in consequence of said litigation and the rivalry in business between them great injury resulted to the trade of both parties; and that in October, 1877, an agreement was made between them to cease litigation and unite their business, and since that time said business has been carried on in the name of "Samuel E. Tompkins, Cahoone & Co.," which firm has been entitled to use all of the patents owned by the defendants and by said Tompkins, including the improvements embraced in the patents assigned to them by the complainant; and that they, before the said change in their business and the new firm since the change, have applied and used these patents to a greater or less extent in manufacturing certain goods, in connection with other improvements covered by other patents owned by them, and that both before and since said change they have carefully kept account of all the goods which embraced any of the improvements covered by the patents assigned by the complainant, although such improvements have been in a great measure superseded and rendered useless by the control of the various patents of Tompkins, with whom they were in litigation at the time of the agreement, and that such books have been at all reasonable times open to the inspection of the complainant, and full statements and accounts therefrom have been from time to time furnished to him and made the basis of frequent payments under the said agreement. Their answer also sets up that the firm of Samuel E. Tompkins, Cahoone & Co. is largely engaged in the manufacture of saddlery and saddlery hardware; that its business embraces a large variety of goods which have no relation to the improvements covered by any of the patents referred to in the agreement with the complainant, and that many of said goods which do embrace such improvements also embrace improvements covered by patents, being over seventy in number, owned by said Tompkins and others; that Tompkins has always disputed the validity and value of the patents referred to in said agreement, and has claimed that they were all anticipated by his own patents, and that any goods made under them were infringements of his patents, and that so far as he was concerned he was not bound to pay any royalties to the complainant; but that they, (Cahoone and Albright,) desiring to fulfill their agreement fairly, have always caused accounts to be kept of all goods which, on any reasonable construction, could be held to embrace or contain any of the improvements covered by any of the patents assigned by complainant, and both before and since said change in the firm have paid all sums of money due under said agreement in full, and that if complainant demanded any further payment or sought to make further examination of said books, it was only because he claimed without reason that goods made under the patents of Tompkins were infringements of his patents assigned to defendants; and they allege that the question of such infringement could not be tried in this suit, involving a subject over which the court had no jurisdiction, and that if anything remained due to complainant under the agreement he had a full, complete, and adequate remedy at law for the recovery of the same, praying that they might have the same advantage of said defense as if they had demurred upon that ground.

The answer of Tompkins presents substantially the same and no new or different questions.

A replication was duly filed, and the parties proceeded to take their testimony. As this seemed to be turning largely upon the fact of infringement, and matters of construction of different patents, all the defendants joined in a petition to the chancellor for an order to remove the cause into this court on the ground—

That the suit arose under the patent laws of the United States, and that the substantial controversy was one depending upon the construction of said laws, and was exclusively within the cognizance of the courts of the United States, and that the suit was removable under the act of Congress of March 3, 1875.

The record being filed, the complainant gave notice of a motion to remand the cause to the State court; but before it came up for decision, under some arrangement between the parties, it was not urged, the testimony was completed, and the case put on the calendar for final hearing.

Before any argument upon the merits, the counsel for the defendants suggested that the pleadings raised the question of jurisdiction, and insisted that the court could not entertain the suit in equity, because the complainant had a plain, adequate, and complete remedy at law. (Sec. 723 Rev. Stats.) The court was asked to dismiss the case upon that ground.

The counsel for the complainant replied that their motion to remand the suit to the State court had never been disposed of, and had been waived only upon the express understanding that all parties should agree to an adjudication here upon the merits, and that if the court was disposed to listen to the technical objection, that the form of the action should have been legal and not equitable. Then their motion to remand was renewed, and the judgment of the court invoked upon that question.

It is claimed that the removal was made under the act of March 3, 1875. The fifth section of that act provides that—

If, in any suit removed from a State court to the circuit court of the United States, it shall appear to the satisfaction of said circuit court, at any time after the suit has been removed thereto, that such suit does not really and substantially involve a dispute or controversy properly within its jurisdiction * * * the said court shall proceed no further therein, but shall dismiss the suit or remand it to the court from which it was removed, as justice may require.

The court, then, not only has the authority, but is charged with the duty, on its own motion or at the suggestion of the parties, at any time, to dismiss or remand a suit removed here from a State court whenever it may appear that the dispute or controversy does not come within the provisions of the law.

Looking carefully into the second section of the act, which sets forth the causes that are removable from the State to the Federal courts, it is clear that the removal cannot be justified unless the matter in dispute between the parties has arisen "under the laws of the United States." The character of the controversy must be determined by the record. Turning to that, I find that the suit was commenced by filing a bill in the Court of Chancery of New Jersey for an account of business transactions growing out of a written contract between the parties. This contract embraced the transfer or assignment of certain patents from the complainant to the defendants, Cahoone and Albright, and their agreement to pay a specified royalty from the profits of their business on all goods manufactured and sold which embraced the patented improvements. The gravamen of the action was the failure of the defendants to perform their personal covenants, and was not to vindicate

any rights which had been vested in the complainant under a law of the United States. All rights that men have in patents are secured to them by Federal laws, and all controversies which directly involve the validity of patents, or which are for the recovery of damages and profits for their infringements, are exclusively cognizable in the Federal courts. This is elementary knowledge. But when a patentee sells out all his interest in the patent, how can any right remain which is secured to him by an act of Congress? Some confusion on this subject has doubtless arisen from the fact that the courts of the United States have often exercised jurisdiction over contracts for license to use patented inventions, granting relief to licensers where the licensees have failed to perform their covenants; but it will be found in all such cases that not only has the ownership of the patent been retained by the licenser, but the right of the licensee to use the patent has been conditioned on his performing certain acts or paying certain royalties. *Brooks & Morris* v. *Stolley* (3 McLean, 523) affords a good illustration of a case of this kind. The complainants were the assignees of the Woodworth planing patent for Hamilton county, State of Ohio, and as such licensed the defendant to run a machine in that county under a sealed contract, in which the licensee's right to use the machine was expressly conditioned on his paying one dollar and twenty-five cents for every thousand feet of boards planed, to be paid on Monday of each week; and further, that he should render an account, if required, under oath, and also keep books, to which the complainants should have access, and in which all boards planed should be entered. After complying with the contract for some time by paying according to its terms, the licensee refused to make any further payments, although he continued to use the machine. The bill was filed for an injunction restraining its further use. Objection was raised to the jurisdiction of the court, but Mr. Justice McLean overruled the objection on the ground that the suit was not to enforce the contract but to secure to the licenser the rights in the patent which he had reserved on the failure of the licensee to perform his covenants; that his only authority for using the machine grew out of the contract, and that the court could not allow him to repudiate the contract and still use the machine.

If (he added) the object of the bill were merely to enforce a specific execution of the contract, the Circuit Court of the United States could exercise no jurisdiction in the case.

In *Harlell* v. *Tilghman* (99 U. S., 555) an intimation is thrown out that Mr. Justice McLean went too far in this case in maintaining the jurisdiction of the courts of the United States; but we may safely concede all that is claimed and then find ample ground for denying the jurisdiction in the present case.

There is no pretence in the present suit that the complainant reserved any interest, absolute or contingent, in the patents which he assigned. He only retained certain royalties in the profits, and the bill is filed to have an account taken of them.

The case cannot be distinguished in principle from those of *Goodyear* v. *Day* (1 Blatchf., 565) and *Goodyear & Judson* v. *The Union Rubber Company* (4 Blatchf., 63.) The last-named case was very similar to the one under consideration in all its facts and aspects, except that the defendants were licensees and not grantees. The owner of a patent granted a license, with covenants that the licensee should pay certain tariffs and keep correct accounts and permit his books to be examined; but there was no express provision that, if the covenants were broken, the rights granted should revert to the licenser. A bill was filed by the licenser against the licensee, praying for a decree that the covenants should be performed, and for an injunction to prevent the use of the patent under the license until the covenants should be performed. The citizenship of the parties not giving the court jurisdiction, the question was raised and argued whether the action could be maintained.

It was held that the subject-matter did not give a Federal court jurisdiction; that the suit was not one to prevent the violation of any right of the licenser secured by any law of the United States, but to prevent the violation of the rights secured by the covenants of the license, and that the court had no jurisdiction of the case. The reasoning of the learned judge seems quite conclusive.

If, [says he] in the use of the thing granted, the licensee does not perform his covenants, although there is by such non-performance a violation of the rights of the patentee, such violation is not a violation of the rights of the patentee as secured by a law of the United States, but a violation of his rights as secured by the covenants. He has, by the license or grant, parted with a portion of that which was secured to him by the laws of the United States, and has, in lieu thereof, taken a right secured by a covenant. If a patentee parts with the whole right secured by his patent, either for cash or upon the purchaser's entering into a covenant to pay him a certain sum of money, or to do certain other things, the patentee has, after such sale, no right vested in him secured by any act of Congress. A suit to enforce the covenant would not be a case arising under a law of the United States. The use of the whole thing sold cannot be a violation of any rights of the patentee secured by the laws of the United States so long as the deed of sale remains in full force, for he has parted with all such rights; and, when a portion of the right is parted with, the rule must be the same as it respects such portion.

See also *Blanchford* v. *Sprague*, (1 Cliff., 289,) and *Merserole* v. *The Union Paper Collar Company*, (6 Blatchf., 356,) in which the ground is distinctly taken that the subject-matter of contracts made in relation to patent rights does not give the courts of the United States jurisdiction in suits to enforce them. But without dwelling upon these cases, determined in the subordinate courts of the United States, the Supreme Court, in *Wilson* v. *Sanford*, (10 How., 99,) put the question at rest by refusing to entertain jurisdiction of a suit which was brought by the grantor of a license to avoid a license on the ground that the grantee had not complied with the terms of the contract. As neither the citizenship of the parties nor the amount involved in the litigation gave the Court jurisdiction, the only question was whether it was "a case arising under any law of the United States granting or confirming to inventors the exclusive right to their inventions or discoveries." The Court, speaking by Chief Justice Taney, said it was not such a case; that the dispute did not arise under act of Congress, nor did the decision depend upon the construction of any law in relation to patents.

It arises [he continues] out of the contract stated in the bill, and there is no act of Congress providing for or regulating contracts of this kind. The rights of the parties depend altogether upon common law and equity principles.

The ground for the removal alleged in the petition to the chancellor was that—

The suit arose under the patent laws of the United States, and that the substantial controversy was one depending upon the construction of said laws.

This view was doubtless taken because the pleadings and the evidence tend to reveal that the dispute between the parties arose about the manufacture and sale of certain saddle-trees and gig-saddles, the complain-

ant insisting that they embraced the inventions and improvements of the letters patent which he had assigned to the defendants, and they in their turn maintaining that they were not subject to the royalties and percentages of the agreement because they were constructed under other letters patent in which the complainant never had an interest. Questions of infringement and the construction of the claims of patents were thus necessarily involved, and it was assumed that they could only be adjudicated by the courts of the United States. But the decision of the courts do not justify any such assumption. Thus, in *Rich* v. *Atwater*, (16 Conn., 409,) where a bill was filed for a discovery, account, and an injunction, and where the question of the validity of the Woodworth patent was raised by the pleadings, the Supreme Court of Errors of Connecticut held that though the validity of a patent, when directly involved, was within the exclusive jurisdiction of the Federal courts, yet when it came in question collaterally it was the proper subject of inquiry and adjudication in the State courts.

In *Middlebrook* v. *Brodbent* (47 N. Y., 443) the Court of Appeals of New York, after a very full argument, decided that a State court had jurisdiction of an action founded upon a contract although the validity of patent was involved therein. And in *Merserole* v. *The Paper Collar Company, supra*, Judge Blatchford held that a State court had jurisdiction to decree a license under a patent to be void, and if, in the investigation, that court was obliged to inquire collaterally into the novelty and validity of the patent as a consideration for the license, such inquiry would not deprive the State court of jurisdiction or confer it on a court of the United States.

Being, then, clearly of the opinion that the removal here was without the authority of law, I remand the cause to the State court without any expression of judgment on the question whether the complainant has mistaken his remedy by proceeding in equity rather than at law. If that question is presented to the learned chancellor of the State, I have no doubt he will give it a patient hearing and a wise determination.

The case is remanded, with costs.

U. S. Circuit Court—Northern District of New York.

TYLER *v.* GALLOWAY *et al.*

Decided April 1, 1882.

1. REISSUE—NEW MATTER—INFRINGEMENT.

The conclusions announced in *Tyler* v. *Welch* (3 Fed. Rep., 636; 17 O. G., 541) adopted so far as it was held that there is no new matter in the descriptive part of the specification or in the second claim of Tyler's reissued patent, and that the said second claim is infringed by the Frazer hoop.

2. SAME—VOID CLAIM.

As to the first claim, it appearing that if it were construed according to its natural meaning it would include an invention broader than the one which was made, and, on the other hand, that if duly restricted it would be substantially the same as the second, and superfluous: *Held*, in view of late decisions of the Supreme Court, that the claim should be pronounced void.

3. SAME—SAME—ONE VOID CLAIM DOES NOT AFFECT THE OTHERS.

One claim in a reissue may be void without necessarily invalidating the other claims, and may be disclaimed *pendente lite* when there has been no unreasonable neglect or delay.

Mr. George W. Hey for the plaintiff.
Mr. H. P. Durfee for the defendants.

SHIPMAN, *J.*:

This is a bill in equity to prevent the infringement of reissued letters patent granted, August 5, 1879, to the plaintiff as assignee of William Sternberg, for an improvement in cheese-hoops. The original patent was granted to Sternberg, March 21, 1871. The object of the bill is to prevent the use of cheese-hoops known as the "Frazer" hoop, which are made under the patent granted to Milton B. Frazer, January 9, 1872.

The questions which are involved in this case—viz., the validity of the plaintiff's reissued patent and its infringement by the use of the Frazer hoop—were decided in June, 1880, by Judge Wallace, in the case of *Tyler* v. *Welch*, reported in 3d Federal Reporter, 636, (17 O. G., 541.) At the suggestion of Judge Wallace this case was heard by another judge, as it was thought that the recently-decided cases of *Miller* v. *Bridgeport Brass Company* and *Campbell* v. *James et al.* present the question of the validity of the reissue in a new light.

The nature of the Sternberg invention, the differences between the original and the reissued patents in the descriptive part of the respective specifications, and the method of construction of the two hoops are fully described in *Tyler* v. *Welch*, cited *supra*. I entirely concur with Judge Wallace, and for the reasons which he gives, in his conclusions that the Frazer hoop is an infringement of the second claim of the reissued patent, and that there is no new matter either in the descriptive part of the specification or in the second claim of the reissue. This claim is a substantial reproduction, in different phraseology, of the single claim of the original patent.

The original claim was as follows:

The grooved hoop A *a*, in connection with the expansible ring B, substantially as and for the purpose herein specified.

The two claims of the reissue are as follows:

1. An expansible ring or band, in connection with the upper part of a cheese-hoop, to hold the upper edge of the bandage while being filled with curd and during the process of pressing, substantially as specified.

2. The combination of the expansible ring or band and the cheese-hoop grooved or depressed sufficient to receive said ring or band so that it will not interfere with the follower, substantially as specified.

Judge Wallace was of opinion that the first claim of the reissue was capable of a broader construction than Sternberg's invention warranted, but was disposed to limit the claim so that it should only cover the actual invention.

While such limitation is in accordance with the existing rules of construction, yet, in view of the recent decisions of the Supreme Court and of the fact that in this case, with such a construction, both claims of the reissue would be the same, but especially in view of the late decisions, I think that such a course is not advisable and that the claim should be declared void.

The plaintiff in obtaining a reissue introduced an inexact claim, which, if construed according to its natural meaning, would include an invention broader than the one which was made. If such a construction should be adopted, the patent would be improperly enlarged. If, on the other hand, a limited construction should be given, the first claim would be substantially the same as the second, and would be superfluous. One claim in a reissue may be void without necessarily invalidating the other claims. In such case it is proper to disclaim the void claim. (*O'Reilly* v. *Morse*, 15 How., 62; *Schillinger* v. *Gunther*, 17 Blatchf. C. C. R., 66; 14 O. G., 713; 16 O. G., 905.) In this case there has been no unreasonable neglect or delay.

Whenever the plaintiff shall have satisfied the court that a proper disclaimer has been filed in the Patent Office disclaiming the first claim in such manner as to claim only the invention as specified in the second claim of the reissued patent a decree will be entered for an injunction against the infringement of the second claim and for an accounting of profits and damages arising under said infringement, but without costs.

THE
OFFICIAL GAZETTE
OF THE
United States Patent Office.
[BY AUTHORITY OF CONGRESS.]

VOL. 22—No. 25. TUESDAY, DECEMBER 19, 1882. PRICE—$5 per year

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Subscriptions for 1882.

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Issue of December 19, 1882.

Patents	341	No. 269,165 to No. 269,505, inclusive.
Designs	2	No. 13,479 to No. 13,480, inclusive.
Trade-marks	28	No. 9,872 to No. 9,899, inclusive.
Labels	8	No. 2,855 to No. 2,862, inclusive.
Reissues of patents	3	No. 10,260 to No. 10,262, inclusive.
Total issue	382	

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks and Labels.	States.	Patents and Designs.	Trade-Marks and Labels.
Alabama	1	.....	Nebraska	1	.....
Arizona Territory	.....	.....	Nevada	.....	.....
Arkansas	.....	.....	New Hampshire	.....	.....
California	12	2	New Jersey	14	.....
Colorado	2	.....	New Mexico Territ'y	.....	.....
Connecticut	21	.....	New York	49	4
Dakota Territory	.....	.....	North Carolina	.....	.....
Delaware	1	.....	Ohio	40	18
District of Columbia	1	.....	Oregon	1	.....
Florida	.....	.....	Pennsylvania	39	3
Georgia	.....	.....	Rhode Island	17	.....
Idaho Territory	.....	.....	South Carolina	1	.....
Illinois	24	.....	Tennessee	2	.....
Indiana	10	1	Texas	3	.....
Indian Territory	.....	.....	Utah Territory	.....	.....
Iowa	2	.....	Vermont	2	.....
Kansas	4	1	Virginia	1	.....
Kentucky	1	1	Washington Territ'y	.....	.....
Louisiana	4	.....	West Virginia	1	.....
Maine	3	.....	Wisconsin	8	1
Maryland	2	1	Wyoming Territory	.....	.....
Massachusetts	30	3	United States Army	.....	.....
Michigan	13	.....	United States Navy	.....	.....
Minnesota	3	.....	Total to citizens of the United States	326	36
Mississippi	2	.....			
Missouri	11	1			
Montana Territory	.....	.....			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks and Labels.	Countries.	Patents and Designs.	Trade-Marks and Labels.
Australia	.....	.....	England	4	.....
Austria	.....	.....	France	6	.....
Barbadoes	.....	.....	Germany	.....	.....
Belgium	.....	.....	Italy	.....	.....
Bermuda	.....	.....	New Zealand	.....	.....
Brazil	.....	.....	Russia	.....	.....
Canada	5	.....	Spain	.....	.....
Chili	.....	.....	Sweden	.....	.....
Colombia, U. S. of	.....	.....	Switzerland	.....	.....
Cuba	.....	.....	Total to citizens of foreign countries	17	.....
Denmark	.....	.....			
Ecuador	.....	.....			

DESIGNS.

13,479.—CRUMB-PAN.—*Darius Benham* and *Xenophon Stoutenborough*, New York, N. Y. Application filed May 12, 1882. Term of patent 14 years.

13,480.—HAT-RACK.—*Charles C. Isham*, Cincinnati, Ohio. Application filed August 7, 1882. Term of patent 7 years.

TRADE-MARKS.

[Certificate of registration of Trade-Marks numbered 8,191 and upward are registered under the act of March 3, 1881.]

9,872.—COUGH-REMEDY.—*T. L. Brower*, Prairie du Chien, Wis. Application filed September 16, 1882.

"The large letter 'C.'"

9,873.—RIBBONS.—*John I. Garnaus*, Brooklyn, N. Y. Application filed November 20, 1882.

"The number '1000.'"

9,874.—CORN-SALVE.—*Willis T. Hanson*, Schenectady, N. Y. Application filed November 17, 1882.

"The monogram 'W. T. H. & Co.' and the word 'MAGIC.'"

9,875.—SUGAR-CORN.—*Elbert Thomson*, Baltimore, Md. Application filed November 16, 1882.

"All the parts below the lettering 'HOOFMAN & GAMBLE'S' in the following device: Said device consists of two principal parts of about equal dimensions, both headed by 'HOOFMAN & GAMBLE'S,' that on the right in white lettering on a red ground and that on the left in black letters on a yellow ground. The part on the right contains, as its middle portion, a landscape, the most prominent feature of which is a representation of a factory with smoke issuing from its chimneys, with standing corn in the foreground. Above is the word 'BRAND' in light lettering on a blue ground. At the right-hand side is a parallelogram containing the words 'PERRYMAN, HARFORD CO., MARYLAND,' in three lines of yellow lettering on a red ground; and in a corresponding position at the left-hand side is a similar parallelogram containing the words 'PACKED WHERE GROWN,' and in a separate perpendicular parallelogram to the left the word 'EXTRA' in white lettering on a dark ground, and below the said landscape are the words 'SUGAR CORN' in black lettering on a yellow ground. The other principal part contains, as its main feature, the representation of a diagonally-

placed ear of corn partly wrapped in its bronze-green leaves, all on a blue ground. Across the lower part of said ear, and in the arc of a circle, in white letters on a red ground, is the word 'SUGAR.' Below the ear of corn, in a similar style of letters and ground, is the word 'CORN.'"

9,876.—LAUNDRY-SOAP.—*Procter & Gamble*, Cincinnati, Ohio. Application filed November 16, 1882.
"The word-symbol 'SIMON PURE.'"

9,877.—LAUNDRY-SOAP.—*Procter & Gamble*, Cincinnati, Ohio. Application filed November 16, 1882.
"The word-symbol 'DUCHESS OLIVE.'"

9,878.—LAUNDRY-SOAP.—*Procter & Gamble*, Cincinnati, Ohio. Application filed November 16, 1882.
"The word-symbol 'GOLDEN BAR.'"

9,879.—LAUNDRY-SOAP.—*Procter & Gamble*, Cincinnati, Ohio. Application filed November 16, 1882.
"The arbitrary word-symbol 'PERFECT.'"

9,880.—TOILET-SOAP.—*Procter & Gamble*, Cincinnati, Ohio. Application filed November 16, 1882.
"The arbitrary word-symbol 'BLUE' in a peculiar lettering."

9,881.—LAUNDRY-SOAP.—*Procter & Gamble*, Cincinnati, Ohio. Application filed November 16, 1882.
"The word-symbol 'QUEEN OLIVE.'"

9,882.—LAUNDRY-SOAP.—*Procter & Gamble*, Cincinnati, Ohio. Application filed November 16, 1882.
"The fanciful denomination 'VERY GOOD' in connection with a circular device composed of thirteen white stars on a green ground and a profile similar to that of a human face."

9,883.—LAUNDRY-SOAP.—*Procter & Gamble*, Cincinnati, Ohio. Application filed November 16, 1882.
"The word-symbol 'COUNTESS OLIVE.'"

9,884.—LAUNDRY-SOAP.—*Procter & Gamble*, Cincinnati, Ohio. Application filed November 16, 1882.
"The word-symbol 'VELVET.'"

9,885.—LAUNDRY-SOAP.—*Procter & Gamble*, Cincinnati, Ohio. Application filed November 16, 1882.
"The fanciful denomination 'FAMOUS.'"

9,886.—LAUNDRY-SOAP.—*Procter & Gamble*, Cincinnati, Ohio. Application filed November 16, 1882.
"The word-symbol 'ARAB.'"

9,887.—LAUNDRY-SOAP.—*Procter & Gamble*, Cincinnati, Ohio. Application filed November 16, 1882.
"The word-symbol 'OLD TIME.'"

9,888.—LAUNDRY-SOAP.—*Procter & Gamble*, Cincinnati, Ohio. Application filed November 16, 1882.
"The words 'OLD ENGLISH' in connection with an illustrated label."

9,889.—LAUNDRY-SOAP.—*Procter & Gamble*, Cincinnati, Ohio. Application filed November 16, 1882.
"The word-symbol 'TOPAZ.'"

9,890.—TOILET-SOAP.—*Procter & Gamble*, Cincinnati, Ohio. Application filed November 16, 1882.
"The word-symbol 'PRINCESS.'"

9,891.—LAUNDRY-SOAP.—*Procter & Gamble*, Cincinnati, Ohio. Application filed November 16, 1882.
"The fanciful denomination 'EVERY DAY.'"

9,892.—LAUNDRY-SOAP.—*Procter & Gamble*, Cincinnati, Ohio. Application filed November 16, 1882.
"The representation of a horseshoe, a green four-leaved clover, and the word-symbol 'GOOD LUCK.'"

9,893.—TOOTHACHE-DROPS.—*Paul Schultze*, San Francisco, Cal. Application filed October 7, 1882.
"The central design of a cat and the words 'ONE MINUTE.'"

9,894.—TURKISH-PRUNE-JUICE EXTRACT.—*Morris Spiegel*, New York, N. Y. Application filed October 16, 1882.
"A shield displaying a crescent and a star."

9,895.—PLUG-TOBACCO.—*Pfingst, Doerhoefer & Co.*, Louisville, Ky. Application filed November 11, 1882.
"The words 'PIPER HEIDSIECK.'"

9,896.—LAUNDRY-SOAP.—*Procter & Gamble*, Cincinnati, Ohio. Application filed November 16, 1882.
"The fanciful denomination 'HANDY.'"

9,897.—PAINT, VARNISH, AND SASH-TOOL BRUSHES.—*John L. Whiting*, Boston, Mass. Application filed November 24, 1882.
"A sectional view of a brush representing the handle having a head with prongs or projections arranged between the bristles and surrounded by the ferrule."

9,898.—PAINT, VARNISH, AND SASH-TOOL BRUSHES.—*John L. Whiting*, Boston, Mass. Application filed November 24, 1882.
"A sectional view of a brush representing the handle having the head with prongs or projections and tapering ping arranged between the bristles and surrounded by the ferrule."

9,899.—PAINT, VARNISH, AND SASH-TOOL BRUSHES.—*John L. Whiting*, Boston, Mass. Application filed November 24, 1882.
"A sectional view of a brush representing the tapering handle as passing through the head having prongs or projections arranged between the bristles and surrounded by the ferrule."

LABELS.

2,855.—Title: "CHYLOONG'S CHRYSTALLIZED GINGER CANTON."—*Eckstein, Hoffmann & Porr*, New York, N. Y. Application filed November 7, 1882.

2,856.—Title: "XX COUGH DROPS."—*George Lewis* and *Job Smith*, Philadelphia, Pa. Application filed November 3, 1882.

2,857.—Title: "AN OLIVE BUTTER LABEL."—*Washington Butcher's Sons*, Philadelphia, Pa. Application filed November 23, 1882.

2,858.—Title: "AN OLIVE BUTTER LABEL."—*Washington Butcher's Sons*, Philadelphia, Pa. Application filed November 23, 1882.

2,859.—Title: "MAGIC CORN KILLER SURE CURE."—*Nathan W. Teakel*, Lafayette, Ind. Application filed November 23, 1882.

2,860.—Title: "BATES' MARVELOUS LINIMENT."—*Bates & Co.*, San Francisco, Cal. Application filed November 25, 1882.

2,861.—Title: "LA CONFESION."—*Appolonio P. Ghio*, St. Louis, Mo. Application filed November 24, 1882.

2,862.—Title: "EXCELSIOR YEAST."—*Mrs. Bethany Hess*, Junction City, Kans. Application filed November 27, 1882.

DISCLAIMER.

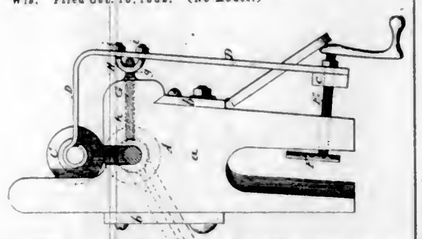
No. 137,495.—*George T. Smith*, Minneapolis, Minn. IMPROVEMENT IN PROCESSES OF MANUFACTURING MIDDLINGS-FLOUR. Patent dated April 1, 1873. Disclaimer filed December 13, 1882, by the *Consolidated Middlings Purifier Company*, owners of the entire interest, except as to the States of Virginia and Maryland and the District of Columbia.

Enters its disclaimer, to the full extent of its interest, to "any process which treats anything but such middlings as are referred to in the body of the specification to said letters patent—viz., which remain as a residuum after the grains have been broken down in the first operation to a meal, from which, on subjection to the bolters, a merchantable flour will be produced, according to the then usual mode of milling in the United States, and substantially as in said specification set forth, and as therein modified; and it is not intended to cover such middlings or particles as are produced in the process known as 'high milling,' in which the grain is only cracked or slightly broken on the first operation of reduction and is broken down by a series of successive operations such as are at this time commonly known and practiced in the United States, and known as the 'gradual reduction system,'"

PATENTS

GRANTED DEC. 19, 1882.

269,165. CLOTHES WRINGER. MILO J. ALTHOUSE, Waupun, Wis. Filed Oct. 16, 1882. (No model.)

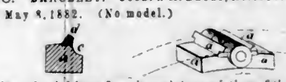


Claim.—1. As an improvement in clothes-wringers, the combination, with the main frame and the roll-carrying lever D, of the eyebolt G and stirrup-bolt H, constructed and applied as described and shown.

2. In a clothes-wringer, the combination of the wooden frame-piece *a*, the eyebolt G, having its end perforated and flattened to serve as a bearing, the elastic lever D, connected with the roll and clamp and seated against the end of the bolt G, and the stirrup-bolt H, inserted through the eyebolt and lever, and secured to the latter, as described and shown.

3. The improved joint for connecting the elastic lever with the main frame of a wringer, consisting of a bolt having its end perforated transversely and provided with a straight rounded edge, and a stirrup-bolt inserted through said end, as described and shown.

269,166. BRACELET. JOSEPH M. BATES, Attleborough, Mass. Filed May 8, 1882. (No model.)



Claim.—1. A hinge for a bracelet, consisting of the two wings *a a*, constructed to enter the bracelet, each provided with the stop *d* and the sleeve *e*, as described.

2. The improved method of constructing the hinges of bracelets, the same consisting in drawing or rolling a piece of inferior metal to nearly the shape of the wings, securing a bar of precious metal or stock-plate to the inferior metal, then drawing or rolling the whole into the desired form, so that the bar secured will form the stop *d* when the bracelet is completed, as described.

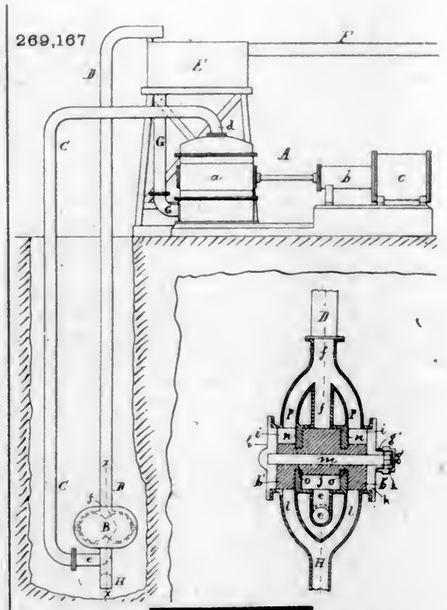
3. A hinge for a bracelet, consisting of the wings *a a*, made of inferior metal, having the stops *d d* and the sleeves *e e*, secured thereto so as to present the precious metal only to view when the bracelet is completed, as described.

269,167. APPARATUS FOR DRAINING MINES. WILLIAM BAXTER, Jersey City, N. J., assignor, by mesne assignments, to the Hydrodynamic Transmitter Company, New York, N. Y. Filed Jan. 12, 1882. (No model.)

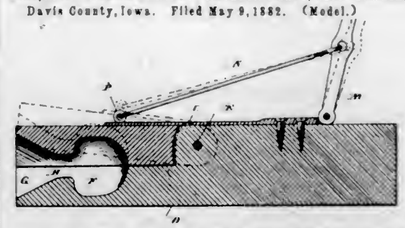
Claim.—1. In combination with the force-pump A, motor B, and inlet and delivery pipes C D, operating as described, a tank or receptacle, E, provided with overflow F and connection to the inlet of the force-pump, substantially as and for the purpose set forth.

2. The transmitter herein described, consisting of three rotary pistons in one cylinder, arranged and operated so as to balance the pressures upon the axis, substantially as shown and described.

269,167



269,168. CAR-COUPLING. ABSALOM BEANS, Rosco Township, Davis County, Iowa. Filed May 9, 1882. (Model.)

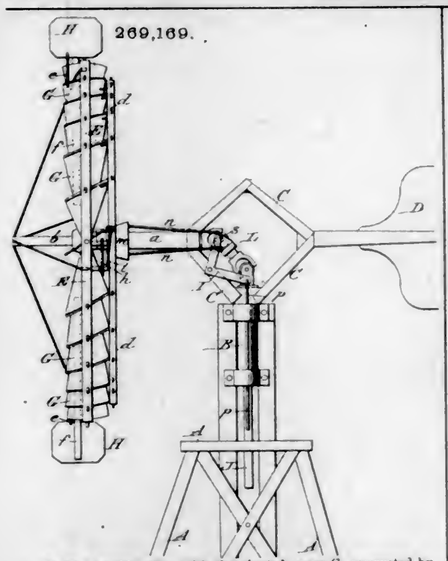


Claim.—In combination with the draw-head D, constructed in two parts, and the spring I, for holding the upper part in normal position, the lever M, pivoted to the upper side of the draw-head, and the link N, connecting the said lever to the spring, substantially as and for the purposes specified.

269,169. WINDMILL. THOMAS P. BENTON, La Crosse, Wis. Filed Apr. 26, 1882. (No model.)

Claim.—1. The combination, with the pivoted vanes G, connected together, as described, of the connecting-rods *e*, springs *f*, and vanes H, for automatically regulating or governing the speed of the wind-wheel, substantially as herein set forth.

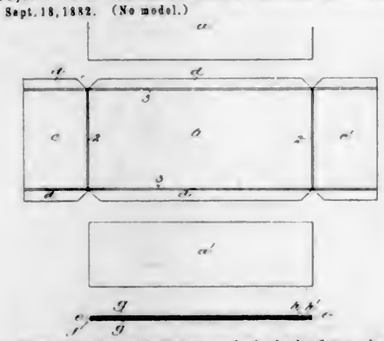
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2. The combination, with the pivoted vanes G, connected by the circle *d*, of the rods *i*, elbow-levers *h*, rods *k*, sliding cone *m*, connecting rods and links *n s*, elbow-lever L, and rod *p*, substantially as and for the purposes herein set forth.

3. The combination of the horizontal tube *a*, wheel-shaft *b*, havings its bearings therein, the vertical rod J, double universal-joint coupling L, and the vertical tube B, and frame C, supporting the tail-vane and bearings of the wheel-shaft, substantially as described.

269,170. BOX. NATHANIEL BRADDON, DANVERS, MASS. Filed Sept. 18, 1882. (No model.)



Claim.—1. A box-blank composed of a basis of straw-board or pasteboard, provided with a layer of Manila paper on one side and with finishing or surfacing paper upon its other side and upon the said Manila paper, substantially as described.

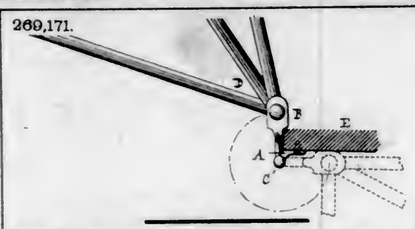
2. A box-blank composed of straw-board having a covering of Manila paper on one side and creased by compression in two parallel lines on its other side, substantially as described.

3. The combination, with a body-sheet of straw-board, pasteboard, or equivalent board having a short brittle fiber, of a strengthening layer of Manila or equivalent tough-fibered paper on one side thereof, and layers of finishing surface-paper on each side of the said board, substantially as and for the purpose described.

269,171. TOWEL-RACK. CHARLES A. BRICKLEY, PROVIDENCE, R. I. Filed Jan. 12, 1882. (No model.)

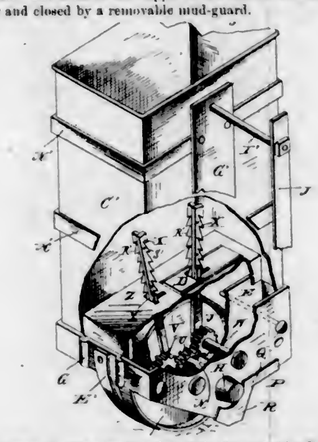
Claim.—A towel-rack consisting of the attaching-plate A, having a projecting arm, B, hinged thereto, and rods D, arranged one above another and pivoted to the arm B at its outer end, as herein shown and described.

269,171.



269,172. SEED-PLANTER. WILLIAM A. BROWN, TERRELL, TEX. Filed Oct. 16, 1882. (No model.)

Brief.—Sectional seed-boxes clamped together by through-bolts, with the bearing-wheel journaled between, in the ends of the axle of which are formed seed-cups. Gear-wheel on the axle gives motion to pinions, to which are attached toothed feeding-bars, moving vertically through slots in the cover, for feeding cotton-seed. The sides of the hopper at the bottom are clamped together and closed by a removable mud-guard.



Claim.—1. The combination of the flanged sides B, the intermediate frame, F, the transverse connecting-bolts, and the mud-guard plates having flanges, which serve to clamp together the sides B and the sides of frame F, as set forth.

2. The combination of the flanged sides B, the intermediate frame, F, the transverse connecting-bolts, the shaft I, having wheel J and seeding-cylinders K, the flanged mud-guard plates, the elastic cut-off plates, and bolts passing through the bottom of the seed-box and serving to secure in position said mud-guards and cut-offs, as set forth.

3. The seed-box constructed, as described, with the intermediate frame, F, and with two compartments, E E, in combination with the upwardly-extending hopper C', and a cover, Z, for said frame F, as set forth.

4. The combination of the seed-box constructed with the frame F, the transverse shaft I, having wheel J and gear-wheel U, the pinions V V, mounted upon shafts journaled transversely in one of the sides of the seed-box and meshing with said gear-wheel U, toothed feed-bars X, pivoted eccentrically to the faces of said pinions, and the cover Z, having slots Y, as set forth.

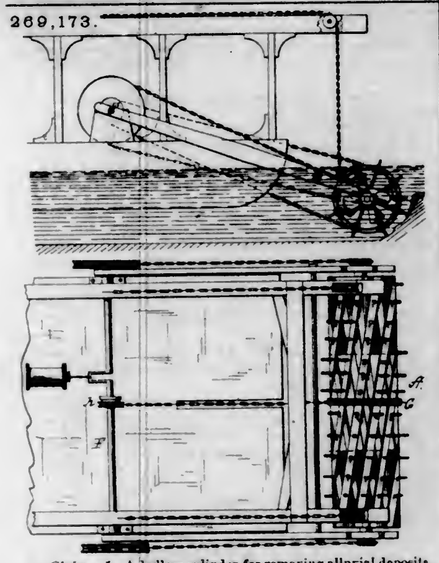
5. The combination of the seed-box, the hopper, the vertically reciprocating and oscillating toothed feed-bars X, having flanges B', the cover Z, having slots Y, and mechanism for operating said feed-bars, as set forth.

6. The combination, with the toothed feed-bars X, of the detachable toothed bars R', as and for the purpose set forth.

269,173. DREDGING-MACHINE. WILLIAM H. BROWN and WILLIAM H. BELL, NEW ORLEANS, LA. Filed May 4, 1882. (No model.)

Brief.—A hollow cylinder (made of spirally-arranged strips) having end lining-sections and peripheral stirring-teeth, and containing propeller-blades on a central shaft, causing currents, discharging at the ends material drawn in at the center, forms a revolving harrow which has a longitudinally-central driving-pulley operated by an endless chain, as is also the propeller-shaft.

269,173.

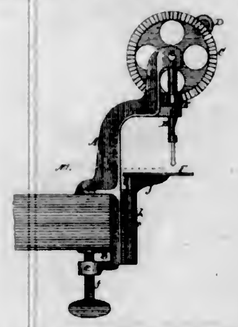


Claim.—1. A hollow cylinder for removing alluvial deposits, composed of the spirally-arranged strips, end lining-sections, and peripheral stirring devices, with internally-arranged means for creating end currents, substantially as described.

2. In an apparatus for removing alluvial deposits, a skeleton cylinder provided with the end lining-section, D, peripheral stirring devices, and a centrally-arranged embracing-pulley, in combination with the shaft, with the propellers mounted thereon, and driving means, substantially as described, and for the purpose set forth.

3. A revolving harrow constructed substantially as described, provided with the centrally-arranged pulley for receiving the endless driving-chain, substantially as described, and for the purpose set forth.

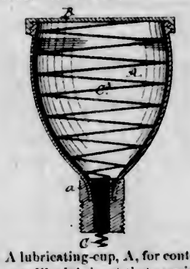
269,174. JEWELER'S DRILLING-MACHINE. WALTER S. BROWER, ALBANY, N. Y. Filed Dec. 3, 1881. (No model.)



Claim.—1. In a bench drilling-machine, as my improvement, the work-supporting table unencumbered with mechanism for adjusting and holding the same at different elevations suited to the work to be drilled, but free to be moved up and down by the hand that clamps the work upon it, at the will of the operator.

2. In a bench drilling-machine, the combination, with bracket-frame A, provided with a clamping mechanism for its attachment to a bench, drill-spindle B, held from being moved vertically, and gear mechanism C and E and crank-handle D for rotating said drill-spindle, of the work-supporting table F, held in connection with said bracket-frame and unencumbered with adjusting and holding mechanism, but free to be moved up and down to different elevations by the hand that clamps the work upon the table, at the will of the workman.

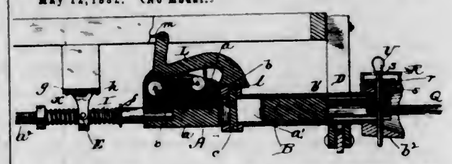
269,175. LUBRICATING-CUP. GEORGE BOXLEY, Troy, N. Y., assignor of one-half to Theodore E. Hazlehurst, same place. Filed Sept. 9, 1882. (No model.)



Claim.—1. A lubricating-cup, A, for containing oleine, heavy oils, or other grease-like lubricant that requires a gentle heat to render it liquid, in combination with a heat-conductor (contained in said cup) composed of spiral spring C, adapted to bear against the moving part of the machinery, and a divergent or expanding spring or springs extending upward into the mass of lubricant contained in the cup A, as and for the purpose herein specified.

2. The combination, with a lubricating-cup, A, of a heat-conductor contained in said cup for the purpose of melting the lubricant, said heat-conductor consisting of one or more springs, either with or without a central stem, D, one of said springs being adapted to bear directly upon the moving part of the machinery, as herein shown and described.

269,176. CAR-COUPLING. JOHN BOYD, La Grange, Ind. Filed May 12, 1882. (No model.)



Claim.—1. The combination, with the draw-bar supported at its rear ends by the oscillating block E, and guided and supported at its forward end by the guide-yoke D, of the bell-crank lever V and the rod W, whereby the outer end of the draw-bar carrying the link is enabled to be raised or lowered, so as to cause the link to enter the draw-heads of cars of different heights, substantially as described.

2. The combination, with the part A of the draw-head, of the part B, sliding thereon, and the bell-crank lever and chain *o*, for effecting the backward movement of the part B, substantially as described.

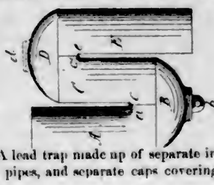
3. The combination of the part A and the part B, sliding thereon, with the bell-crank lever having the block or plate *l*, adapted to lock the parts A and B from longitudinal movement in either direction, substantially as described.

4. The combination, with the stationary part A, having the open end or throat for receiving the link, of the sliding part B and the coupling-pin, whereby upon the rearward movement of the part B the link is drawn within the throat of part A and maintained in horizontal position, substantially as described.

5. The combination, with the rearward extension a^3 of the part A, of the oscillating guide-block E and the springs I and K on opposite sides of said block, substantially as described.

6. The combination with the rearward extension a^3 of the part A, of the guide-block E and the bar *x*, working through a perforation in the block E, and operating to prevent the turning of the draw-bar on its longitudinal axis, substantially as described.

269,177. LEAD TRAP OR CESSPOOL. ALEXANDER CHAPMAN, Montreal, Quebec, Canada. Filed Aug. 9, 1882. (No model.)



Claim.—A lead trap made up of separate inlet, intermediate, and discharge pipes, and separate caps covering the bends, their

meeting edges being joined together edge to edge without overlapping, and joined lead to lead without solder, substantially in the manner and for the purpose set forth.

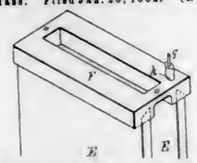
269,178. BANJO. OLIVER R. CHASE, Boston, Mass. Filed Aug. 9, 1882. (No model.)



Claim.—1. A banjo or other musical instrument having its rim formed wholly of metal, with its edge or edges curved inwardly, substantially as and for the purpose set forth.

2. A banjo or other analogous instrument having the rim or ring thereof formed from a single piece of metal, with one or both edges curved inwardly, substantially as shown, and for the purpose specified.

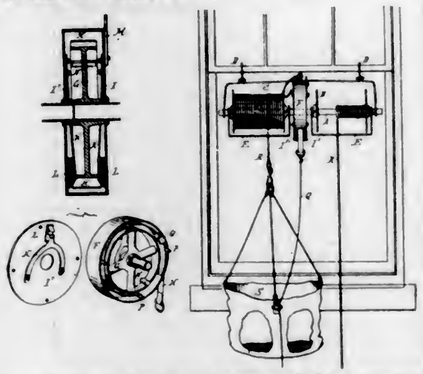
269,179. GALVANIC BATTERY. EDWARD M. COUNTEMAN, Boston, assignor, by mesne assignments, to Charles H. Ward, Cambridge, Mass. Filed Jan. 20, 1882. (No model.)



Claim.—In combination with the acid-jar B, provided with removable cover C, the slab F, secured to the under side of said cover, and the carbon plates E E, beveled at the top, and secured to and depending from the under side of said slab, and pole *g*, which is attached to a boss erected upon said slab, in manner and for the purpose substantially as set forth.

269,180. FIRE-ESCAPE. LEWIS COLLER, Flint, Mich. Filed Sept. 11, 1882. (No model.)

Brief.—The drum-shaft is mounted in an open frame having hooks for engaging with the window sash or sill. A friction-wheel mounted on the drum-shaft is provided with lugs and lateral clutching-blocks engaging therewith. Pulling upon a friction-brake band encircling the wheel pushes the clutch-blocks out from engagement with the lugs on the pulley, allowing its rotation under the tension of the brake-band only



Claim.—1. A fire-escape having a shaft with a rope-drum thereon for carrying a basket or conveyer, combined with a friction-wheel or pulley keyed on said shaft, provided with lateral clutching-blocks to engage lugs on said pulley to hold said pulley against rotation, and with a releasing device and means to operate it to disengage said blocks from the pulley to permit the rotation of the pulley subject to the retarding incident to the degree of tension applied by the said releasing device upon the rim of the pulley, substantially as set forth.

2. The combination, with the shaft, rope-drums, ropes, and conveyers, of a clutching mechanism composed of a wheel keyed to the shaft, and automatically and normally locked by the engagement of clutching-blocks with lugs on its rim to prevent the rotation of the shaft and drums, and a friction-stop to release said wheel to permit the rotation of it and the shaft and drums under the restriction of the frictional contact of said releasing means upon the rim of the wheel, substantially as and for the purpose described.

3. The clutching mechanism herein shown and described, composed of a friction-wheel, G, keyed to the shaft A to be operated, clutch-blocks L L to grasp said wheel to hold it against rotation, a strap, H, to release said wheel from said blocks to permit it to rotate under a frictionally-restrictive action of said strap, and a casing, I I' F, for the whole, substantially as and for the purpose set forth.

4. The shaft A and drums and ropes thereon, conveyers attached to said ropes, friction-wheel G, keyed to said shaft and provided with a lug, N, clutch-blocks L, normally engaging said lug, a friction-strap, H, for releasing said blocks from engagement with the lug, and a rope or cord to operate said strap, and after causing it to release the wheel to impart a retarding effect to the wheel by virtue of frictional contact therewith, substantially as shown and described.

5. The shaft A, drum-heads B B thereon, clutching mechanism, and the framing C E E and suspending-hooks D, substantially as shown and described.

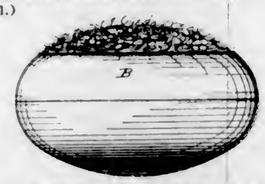
6. The framing C E E, suspending-hooks D D therefor, the shaft A, borne in said frame, the ropes R R on said shaft between the heads B B, the conveyers S, and the clutching mechanism for starting, controlling, and stopping the operation of the shaft, the whole constituting a portable fire-escape, substantially as shown and described.

269,181. STAIR-ROD FASTENER. WILLIAM J. COWING, Washington, D.C. Filed Oct. 5, 1882. (No model.)



Claim.—The herein-described stair-rod holder, consisting of the two sections A and A', hinged at their lower ends, and provided with elliptical openings C C C and lips *b* and *b'*, and sections D and E, all constructed and operating substantially as set forth.

269,182. WASH-PAD. GERARD CRANE, New York, N. Y., assignor to Bradford Willard, same place. Filed Mar. 11, 1882. (No model.)



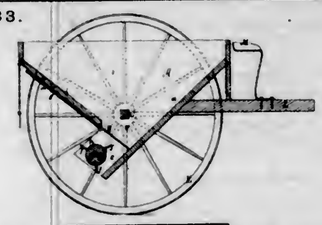
Claim.—1. A washing-pad composed of curled hair the fibers of which are matted or intermingled and combined with an external back or covering having an opening, *a*, at one side, all substantially as and for the purpose herein set forth.

2. The herein-described method of preparing curled hair for use as a washing-pad by first drying the hair and then treating it with a compound of glycerine, commercial ammonia, and borax in about the proportions specified, substantially as and for the purpose herein set forth.

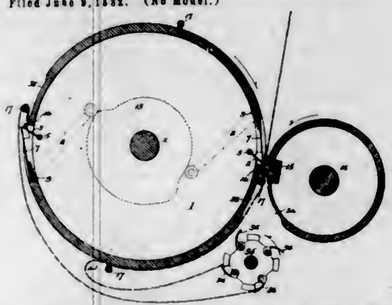
269,183. MANURE-SPREADER. WILLIAM H. CRANDALL, Stowe, Mass. Filed July 31, 1882. (No model.)

Claim.—The hopper having its front and rear sides inclined downward toward each other, and its front inclined side, *a*, extended rearward under and beyond the rear inclined side, *b*, with a discharging space or opening, *c*, between them, as shown, and also having its ends extended in rear of its rear side, as represented, in combination with the axle C, arranged medially in the said hopper and above its chute, and a gate, B, applied to such rear inclined side and space, and with a toothed cylinder, D, arranged in rear thereof and over the extended part *e* of the front side and between the end extensions, and provided with mechanism for operating the said cylinder, all being substantially as set forth.

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269,184. SHEET-DELIVERY APPARATUS. LUTHER C. CROWELL, Brooklyn, assignor to R. Hoe & Co., New York, N. Y. Filed June 9, 1882. (No model.)



Claim.—1. The combination, with a rotating sheet-carrier, of devices for arresting the forward movement of and retaining the leading end of the sheet until the same is reversed and stripped from the carrier, all substantially as described.

2. The combination with a rotating sheet-carrier, of devices for arresting the forward movement of and retaining the leading end of the sheet and for keeping the sheet distended until reversed and stripped from the carrier, all substantially as described.

3. The combination, with the rotating sheet-carrier, of the slowly-rotating cylinder 35, provided with devices for arresting the forward movement of and retaining the leading ends of succeeding sheets until they are reversed and stripped from the carrier, all substantially as described.

4. The combination, with the rotating sheet-carrier, of the rotating cylinder 35, provided with devices for arresting the forward movement of and retaining the leading ends of succeeding sheets, and devices for keeping the sheets distended until reversed and stripped from the carrier, all substantially as described.

5. The combination, with web-severing mechanism, of the rotating sheet-carrier and the rotating cylinder 35, provided with devices for arresting the forward movement of and retaining the leading ends of succeeding sheets, all substantially as described.

6. The combination, with the rotating sheet-carrier provided with one member of a severing mechanism and lifting-fingers, as 7, of the cylinder 16, provided with the other member of the severing mechanism, and the rotating cylinder 35, provided with devices for arresting the forward movement of and retaining the leading ends of succeeding sheets, all substantially as described.

7. The combination, with the rotating sheet-carrier, of the rotating cylinder 35, provided with devices for arresting the forward movement of and retaining the leading ends of succeeding sheets, and the retaining-bars 17, moving at one-half the speed of the carrier, all substantially as described.

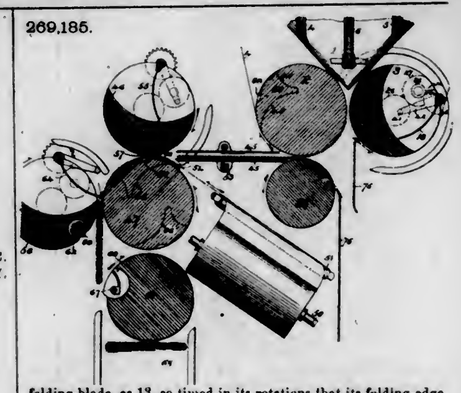
8. The combination, with the rotating sheet-carrier provided with sheet-holding pins, stripping-fingers, and one member of a cutting mechanism, of the frames 21 22, carrying the retaining-bars, as 17, the cylinder 16, provided with the other member of a cutting mechanism, and the rotating cylinder 35, provided with devices for arresting the forward movement of and retaining the leading ends of succeeding sheets, all substantially as described.

269,185. FOLDING AND WRAPPING MACHINE. LUTHER C. CROWELL, Brooklyn, assignor to R. Hoe & Co., New York, N. Y. Filed Feb. 1, 1882. (No model.)

Claim.—1. A pair of folding-rolls, as 2 37, in combination with an irregularly-rotated folding-blade, as 13, curved in cross-section, substantially as described.

2. A roll, as 2, in combination with an irregularly-rotated folding-blade, as 13, so timed in its rotations that its folding-edge presses the sheet upon the fold-line against the surface of said roll, and moves forward with said sheet and surface until the fold is made, substantially as described.

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3. A roll, as 2, in combination with a curved folding-blade, so timed in its movements that its folding-edge presses the sheet upon the fold-line against the surface of said roll, and moves forward with said sheet and surface until the fold is made, substantially as described.

4. The combination, with a pair of folding-rolls, of a curved folding-blade, the edge of which presses the fold-line of the sheet against one of the folding-rolls and then moves onward with the sheet and roll until the fold is made, substantially as described.

5. The combination of a pair of folding-rolls and a rotating blade-roll provided with a curved rotating folding-blade, the edge of which presses the fold-line of the sheet against one of the folding-rolls and then moves onward with the sheet to the bite of the said rolls, substantially as described.

6. The combination of the rotating blade-roll, as 3, the rotating blade provided with the arm, as 42, and the cam 38, carried by one of the folding-rolls, substantially as described.

7. The combination of the rotating blade and its carrying-roll, the arm 42, the cam 38 upon one of the folding-rolls, and the train of gearing for bringing the arm 42 to the position to be caught by the cam, all substantially as described.

8. The combination, with the rotating folding-blade and its shaft, of means for permitting play or lost motion between the blade and its driving-gearing, and means for accelerating the speed of the blade during one part of its revolution, all substantially as described.

9. The combination of the folding-blade, its driving-gearing and carrying-roll, with the sleeves 16 and 17, and devices by which sleeve 17 is locked to the shaft or liberated and locked to sleeve 16, all substantially as described.

10. The combination, substantially as shown, of four rolls, as 46 47 56 61, provided with cutting, pasting, and folding mechanisms, whereby the web of wrapping material and the sheets to be wrapped are associated and the wrappers severed, pasted, and folded around the sheets, all substantially as described.

11. An automatic wrapping apparatus consisting of the roll 47, having the two cams 65 66, the roll 46, having the rotating folding-blade and the severing device, the roll 56, having the rotating folding-blade and the pasting device, and the roll 61, all substantially as described.

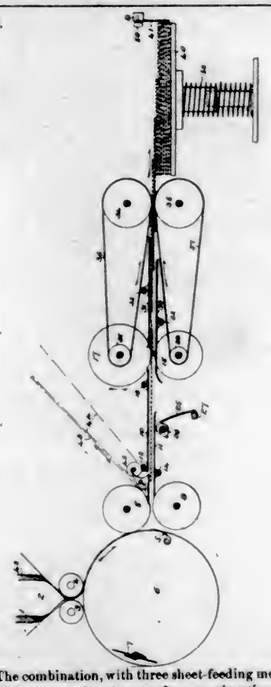
12. The combination, with the rolls 46 and 56, carrying the rotating folding-blades, as 55 64, of the roll 47, provided with the cams 65 66, for operating said blades, substantially as described.

269,186. METHOD OF AND APPARATUS FOR SHEET-DELIVERY. LUTHER C. CROWELL, Brooklyn, assignor to R. Hoe & Co., New York, N. Y. Filed Dec. 19, 1881. (No model.)

Claim.—1. The herein-described method of delivering and piling sheets of material, which consists in overlapping the ends of the sheets, and then, as they are moved forward, retarding or checking the advance sheet or sheets so that the distance overlapped increases, substantially as described.

2. The combination, with a plurality of sheet-feeding mechanisms running at different speeds, so as to retard the sheet as it advances, of means for removing the rear end of the advance sheet from the path of the succeeding sheet to permit the ends to overlap, all substantially as described.

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3. The combination, with three sheet-feeding mechanisms running at different speeds, of means for removing the rear end of the advance sheet from the path of the succeeding sheet to permit the ends to overlap, all substantially as described.

4. The combination, with sheet-feeding mechanism by which the speed of the sheet as it advances is gradually decreased, of means for causing the ends of the successive sheets to overlap, all substantially as described.

5. The combination, with sheet-feeding mechanism by which the speed of the sheet as it advances is gradually decreased, and means for causing the ends of the successive sheets to overlap, of sheet-folding mechanism, all substantially as described.

6. The combination of the two pairs of feed-rolls, as 8 9 and 17 18, running at different speeds, with the rotating guide and knocker, as 25, located between them, substantially as described.

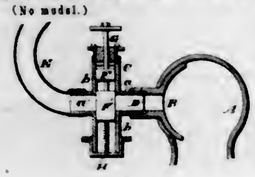
7. The combination of the two pairs of feed-rolls, as 8 9 and 17 18, running at different speeds, the rotating guide and knocker, as 25, and transverse folding mechanism, substantially as described.

8. The combination of the three pairs of feed-rolls, as 8 9, 17 18, and 34 35, running at different speeds, the rotating guide and knocker, as 25, and transverse folding mechanism, substantially as described.

9. The combination, with sheet-conveying mechanism in which the ends of the sheets are caused to overlap each other, of the automatically-lowered piling-table, as 40, having stop, as 41, all substantially as described.

10. The herein-described sheet-delivery apparatus, consisting essentially of the three pairs of feed-rolls, as 8 9, 17 18, and 34 35 driven at different speeds, the rotating guide and knocker, as 25, and the automatically-lowered piling-table, as 40, having stop, as 41, substantially as described.

269,187. SPEAKING-TUBE FOR DIVING-ARMORS. WILLIAM H. DARLING and JOHN S. BUNDICK, New York, N. Y. Filed June 15, 1882. (No model.)

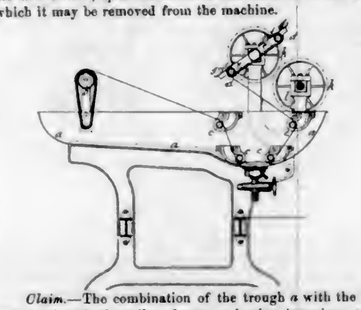


Claim.—1. The combination, with the helmet of a diving-armor, of a mouth-piece within the helmet, a speaking-tube connected with the mouth-piece and extending above the surface of the water, and a flexible diaphragm placed within the mouth-piece, and a self-closing valve for opening and closing the passage between the diaphragm and the speaking-tube, substantially as set forth.

2. The combination, with the helmet of a diving-armor, a mouth-piece located within the helmet, and a speaking-tube, of a valve-box provided with the hollow arms *a a' b b'*, valves F F', valve-stem G, and spring H, substantially as set forth.

269,188. MACHINE FOR DRESSING SILK AND OTHER FABRICS. MAXIME DE GOMBERT, Paris, France, assignor to the Compagnie Générale de Teinturerie et Apprets, (Systeme, André Lyon,) same place. Filed May 26, 1882. (No model.)

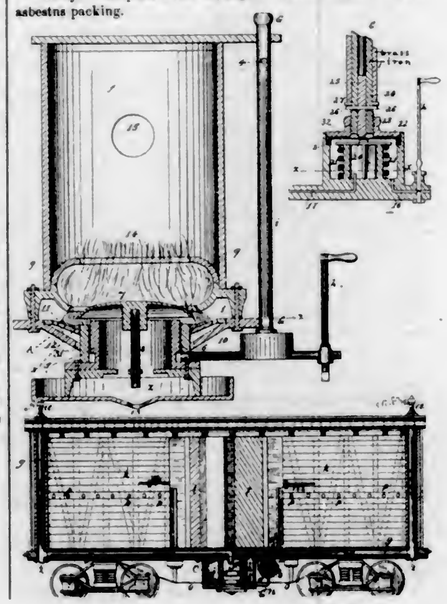
Brief.—The machine consists of a frame carrying a size-trough provided with guide-rollers within for guiding the fabric and with a loose roller above for supplying the fabric. Above the trough is placed a rotary winding-frame, consisting of arms carrying removable rollers, upon which rollers the fabric is wound and with which it may be removed from the machine.



Claim.—The combination of the trough *a* with the rollers *b* and *c* and with the rollers *d*, arms *e*, having trunnions, and with mechanism, substantially as described, for revolving the arms *e*, as set forth.

269,189. APPARATUS FOR HEATING FREIGHT-CARS. WILLIAM E. EASTMAN, Boston, Mass., assignor to the American Freight Car Heater Company, Portland, Me. Filed Aug. 4, 1882. (No model.)

Brief.—The parts 9 and 11, Figure 5, are of copper. N is an asbestus packing.



Claim.—1. A wickless heater, an automatic governor, and a fuel-reservoir, connected with each other by a fuel-supply pipe, the said automatic governor being so located as to be beyond the reach of the fire in the heater, substantially as described.

2. A wickless heater, an automatic governor, and a fuel-reservoir, connected with each other by a fuel-supply pipe, the said automatic governor being so located as to be beyond the reach of the fire in the heater, in combination with the hot-air flues formed by the flooring, the ceiling, and the sills of a car, substantially as described.

3. An automatic governor, consisting essentially of an unequal-expansion pair or combination and a valve inclosed within a hermetically-closed valve-chest, in combination with an elevated reservoir containing liquid fuel, which flows therefrom at a rate determined by the temperature of the aforesaid governor.

4. An automatic governor operating by unequal expansion and contraction of certain of its parts, so located with reference to a heater and a fuel-reservoir (to neither of which it is connected except by a fuel-supply pipe) as to be beyond the reach of the fire in the heater and subject to currents of air at atmospheric temperature, substantially as described.

5. The unequal-expansion pair, the members of which are attached to each other and the whole to the valve-chest, and operating the piston, substantially as described, and for the purpose specified, in combination with an elastic diaphragm, a valve, and a stove or heater for burning liquid fuel.

6. A heater or stove for burning liquid fuel without a wick, in combination with an automatic governor which controls the supply of fuel by the operation of an unequal-expansion pair or combination upon a valve through the medium of an elastic diaphragm, substantially as described.

7. A wickless stove or heater for burning liquid fuel and not vapor, attached to a movable vehicle, the absence of wick preventing derangement by jarring, as specified, in combination with an automatic governor consisting essentially of an unequal-expansion pair or combination operating a valve within a hermetically-closed valve-chest through the medium of an elastic diaphragm, substantially as described.

8. An automatic governor, consisting essentially of an unequal-expansion pair or combination and a valve located within a hermetically-closed valve-chest, motion being communicated from said unequal-expansion pair to said valve through the medium of an intervening elastic diaphragm, which is attached to neither the valve nor the expansion pair, substantially as described.

9. A wickless stove or heater burning liquid fuel and not vapor, attached to a movable vehicle, the absence of wick preventing derangement by jarring, as specified, in combination with an automatic governor consisting essentially of an unequal-expansion pair or combination and a valve within a hermetically-closed valve-chest connected with an elevated reservoir containing liquid fuel, which flows therefrom at a rate determined by the temperature of the aforesaid governor, substantially as shown and described.

10. A heater or stove for burning liquid fuel without a wick, in combination with an automatic governor consisting essentially of an unequal-expansion pair or combination and a valve within a hermetically-closed valve-chest connected with an elevated reservoir containing liquid fuel, which flows therefrom at a rate determined by the temperature of the aforesaid governor, substantially as described.

11. A heater or stove for burning liquid fuel without a wick, in combination with an automatic governor consisting essentially of an unequal-expansion pair or combination and a valve within a hermetically-closed valve-chest connected with an elevated reservoir containing liquid fuel, which flows therefrom at a rate determined by the aforesaid governor, and the hot-air flues formed by the sills, the floor, and the ceiling of a car, substantially as described.

12. The oil-pan from the surface of which the fuel is burned, in combination with a valve within a hermetically-closed valve-chest operated by an unequal-expansion pair or combination, substantially as described.

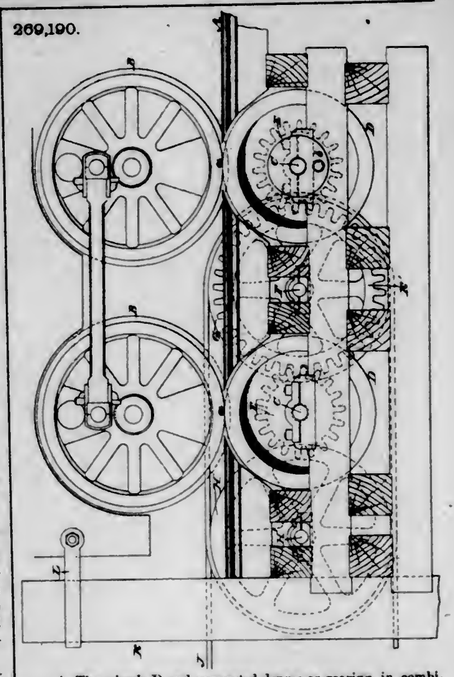
269,190. METHOD OF AND MEANS FOR UTILIZING LOCOMOTIVE-ENGINES FOR STATIONARY PURPOSES. CLEMENT B. FINLEY, Huntingdon, Pa. Filed Oct. 27, 1882. (No model.)

Claim.—1. The method of utilizing locomotive-engines for stationary-engine purposes, substantially as and for the purpose set forth.

2. Railroad-rails with throats, whereby the drivers of a locomotive-engine may engage with wheels of a stationary engine, substantially as and for the purpose set forth.

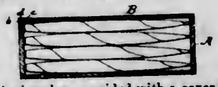
3. Railroad-rails with throats, in combination with the couplings L, substantially as and for the purpose set forth.

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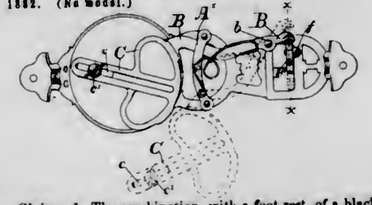
4. The wheels D and connected drums or gearing, in combination with railroad-rails having throats, into which said wheels project, so as to be continuous of the treads of the rails, substantially as and for the purpose set forth.

269,191. CIGAR-BOX. JOHN C. C. FLETCHER, New York, N. Y. Filed May 10, 1882. (No model.)



Claim.—A cigar-box provided with a cover hinged to an attaching-strip, the inner edge of which is flush with the inner surface of the wall of the box to which it is removably attached, whereby the printing-field of the cover is unobstructed, the cover can be removed without injury to the hinge, and complete access is had to the interior of the box, substantially as shown and described.

269,192. COMBINED BLACKING-BOX HOLDER AND FOOT-REST. GEORGE W. GADD, Indianapolis, Ind. Filed Mar. 28, 1882. (No model.)

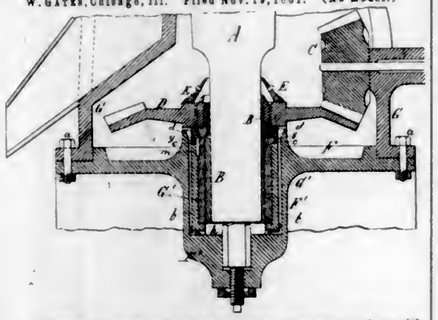


Claim.—1. The combination, with a foot-rest, of a blacking-box holder secured thereto by a pivot, on which it is adapted to move laterally, a spring adapted to hold said holder in position beneath said rest until forced out, and means whereby the pressure of the foot of the user will force said holder from beneath said rest, substantially as set forth.

2. The combination of the rest A, holder B C, spring E, and lever F, substantially as set forth.

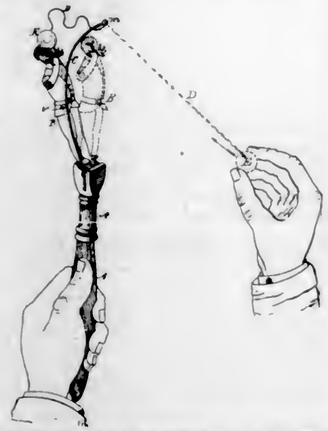
3. A combined blacking-box holder and foot-rest wherein the holder is pivoted beneath the rest, and is adapted, by means substantially as specified, to be forced laterally from its position by the pressure of the foot of the user, substantially as set forth.

269,193. STONE-BREAKER AND ORE-CRUSHER. PHILETUS W. GATES, Chicago, Ill. Filed Nov. 19, 1881. (No model.)



Claim.—In a stone breaker or crusher, the combination, with the upright hollow frame G, gyrating crusher-shaft A, eccentric bearing B, and gear-wheel D, of the detachable base-plate F, having its oil step-box constructed of the parts F' and G', the part F' being internally shouldered and cast with the plate F, and the part G' being provided with a flange and suspended within part F', and made separate from both the plate F and part F', and confined in position by a suitable fastening, all as and for the purpose herein described.

269,194. TOY. JAMES N. GIFFORD, Jr., Fairhaven, Mass. Filed Nov. 15, 1882. (No model.)



Claim.—1. The improved toy described, the same consisting of the handle A, image B, spring C, ball E, and cords D *a*, constructed, combined, and arranged to operate substantially as specified.

2. In a toy substantially such as described, an image attached to the body or handle thereof by an elastic cord or its equivalent in such a manner that when the image is "shot" or struck by a ball it will be caused to assume its normal position again by the action of said cord, substantially as set forth.

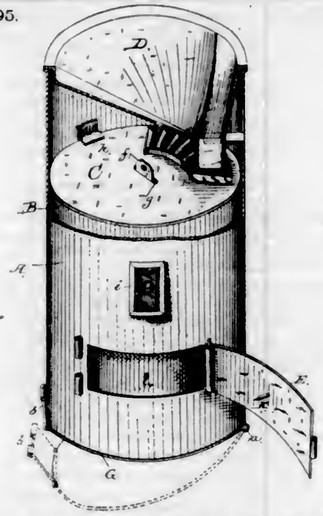
3. In a toy substantially such as described, an image having one of its limbs jointed and provided with an elastic cord and catch or their equivalents, so constructed and arranged that when the image is shot or struck by a ball the limb will be released from its catch, and after being so released assume a new position by the action of the cord, substantially as specified.

269,195. FARE-BOX. WILLIAM GOLDING, New Orleans, La., assignor of one-half to Schuyler B. Stearn, same place. Filed Sept. 9, 1881. (No model.)

Claim.—1. The combination of the fare-receptacle B, provided with radial compartments and the cap C, and the case A, having hinged bottom G, and door E, carrying detent *k*, substantially as and for the purpose set forth.

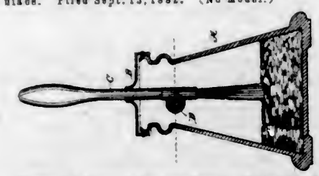
2. The combination of the cylindrical case A, having stops *h*, the fare-receptacle B, having radial and vertical compartments, the

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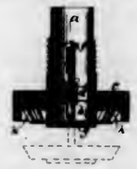
cap C, having tubes *e* and slot *g*, the lip or tongue *f*, and the hopper D, substantially as and for the purpose set forth.

269,196. BLOWN-GLASS MUCILAGE-BOTTLE. JOHN GRAY, Chicago, Ill., assignor of one-half to Nathan B. Hubbard, same place. Filed Sept. 13, 1882. (No model.)



Claim.—A blown-glass mucilage-bottle having the transverse part D integral with the body of the bottle and formed in the act of blowing the latter, substantially as described.

269,197. AUTOMATIC FIRE-EXTINGUISHER. FREDERICK GRINNELL, Providence, R.I. Filed Feb. 20, 1882. (No model.)



Claim.—1. A distributer for fire-extinguishers, consisting, substantially as before set forth, of a valve-disk, *g*, having projections *h h*, said disk being adapted to be seated against an outlet or nipple to close the same, or to be held in front of said outlet when unseated.

2. The combination, substantially as before set forth, of the nipple *a*, the disk *g*, provided with projections *h h*, the fusible solder forming a water-tight joint between said nipple and disk, and the rod *e*, adapted to support the disk in front of the outlet when the joint is broken.

3. The combination, with the nipple *a* and flange *c*, of the disk *g*, provided with the projections *h h*, constructed to be secured by solder to make a water-tight joint and held in front of the outlet when released, as described

269,198. AUTOMATIC FIRE-EXTINGUISHER. FREDERICK GRINNELL, Providence, R.I. Filed June 13, 1881. (No model.)

Claim.—1. An automatic fire-extinguisher provided with a seal arranged to be released by the action of heat, a head provided

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with lateral outlets, and an annular deflector constructed to disperse the water, as and for the purpose described.

2. In an automatic fire-extinguisher, the combination, with the supply-pipe *a*, of the head *b*, provided with lateral openings *c c*, the seal *d*, secured by solder, and the annular finely-perforated deflector *e*, constructed to discharge the water in a divided state over a large area, as described.

269,199. AUTOMATIC FIRE-EXTINGUISHER. FREDERICK GRINNELL, Providence, R.I. Filed May 21, 1880. (No model.)



Claim.—1. In an automatic fire-extinguishing system, the combination, substantially as before set forth, of the distributers arranged in a series of independent subdivisions, the supply-pipe common to all of said subdivisions, the independent automatic valves or cocks, one of which is located at the supply end of each of said subdivisions, and the fusible connections for holding each valve independently in its closed position until the temperature within the space occupied by a subdivision is raised beyond a certain limit.

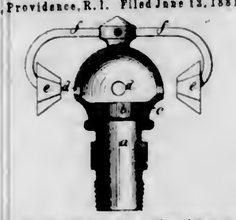
2. The combination, with the supply-pipes *b* and a series of perforated pipes, *d*, communicating therewith, of the valves *c*, constructed and arranged to govern the flow of water from the pipe *b* to the series of pipes *d*, bell-crank levers *e*, weights *f*, wires *g g*, and links *h h*, the latter being secured to the wires by fusible solder, substantially as set forth.

269,200. FIRE-EXTINGUISHER. FREDERICK GRINNELL, Providence, R.I. Filed Feb. 20, 1882. (No model.)



Claim.—The combination, substantially as before set forth, of a pipe-length having a flattened portion, (one or more,) which is provided with a tapped hole and a nozzle or cock, the stem of which is screwed into said tapped hole.

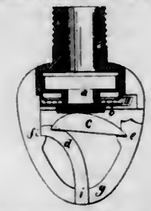
269,201. AUTOMATIC FIRE-EXTINGUISHER. FREDERICK GRINNELL, Providence, R.I. Filed June 13, 1881. (No model.)



Claim.—1. An automatic fire-extinguisher provided with a seal secured by a solder fusible at a low temperature, a head provided with lateral outlets, and deflectors placed in front of each outlet, constructed to distribute the water, as described.

2. In an automatic fire-extinguisher, the combination, with the nipple *a* and seal *b*, of the head *c*, provided with lateral outlets *d d*, and the deflectors *e e*, constructed to deflect the water, as described.

269,202. AUTOMATIC FIRE-EXTINGUISHER. FREDERICK GRINNELL, Providence, R.I. Filed Feb. 20, 1882. (No model.)



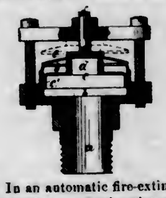
Claim.—1. In an automatic fire-extinguisher, the combination, with the valve-seat and valve, of the compound levers, substantially as described, constructed to be secured by a fusible solder to hold the valve to its seat, as described, and the fusible connection for securing said levers.

2. In an automatic fire-extinguisher, a system of compound levers arranged to hold the valve against the internal pressure, as described, and the fusible connection for securing said levers.

3. A valve constructed to control the fluid-supply to automatic fire-extinguishers, held to its seat by means of compound levers, which are secured by a fusible connection, as described.

4. The combination, with the outlet *a*, surrounded with a valve-seat, of the valve and deflector *b*, held to the seat by means of the levers *c* and *d*, the free end of the lever *d* being secured to the frame *g* by a fusible solder, as described.

269,203. AUTOMATIC FIRE-EXTINGUISHER. FREDERICK GRINNELL, Providence, R.I. Filed Feb. 20, 1882. (No model.)

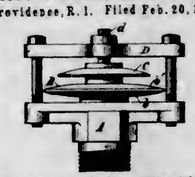


Claim.—1. In an automatic fire-extinguisher, the combination, with a piston having a central outlet and adapted to yield to the pressure of the fluid confined by it, of means or devices, substantially as described, for keeping a valve closed against said outlet until the restraint which said means exerts against the opening of the valve is removed by the action of heat.

2. The combination, substantially as before set forth, of the discharge-valve and a deflector attached to and moving with said valve, with the piston constructed to maintain a water-tight joint between its outlet and the valve.

3. The combination, substantially as before set forth, of a piston capable of yielding to the pressure of the fluid, having a valve-seat surrounding its outlet, and a valve against which the valve-seat is forced by the fluid-pressure on the piston, with means, substantially as described, for retaining the valve in place until released by the action of heat, as described.

269,204. AUTOMATIC FIRE-EXTINGUISHER. FREDERICK GRINNELL, Providence, R.I. Filed Feb. 20, 1882. (No model.)



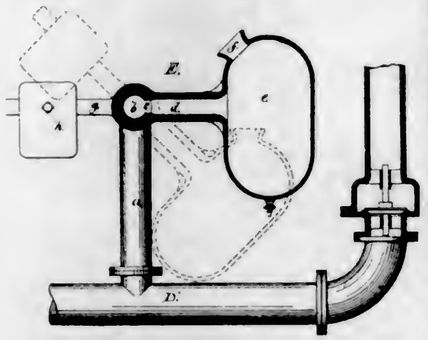
Claim.—1. In an automatic fire-extinguisher, the case B, having at one side an inlet and at the other side an outlet, the position of which with relation to the inlet is adapted to be changed by an increase or decrease of pressure within the case.

2. The combination, with a deflector arranged to be firmly held until released by the action of heat, of an expansible case, B *b b'*, provided at one side with an inlet and at the other side with an outlet, which is held against the deflector by the expansion of the case, substantially as described.

3. The combination, in an automatic fire-extinguisher, with a deflector held in place by fusible solder, of the case B, consist-

ing of the part *b*, provided with an inlet, and the part *b'*, provided with an outlet, the two parts being forced apart by the internal pressure, as described.

269,205. APPARATUS FOR EXTINGUISHING FIRES. FREDERICK GRINNELL, Providence, R. I. Filed Mar. 9, 1881. (No model.)



Claim.—1. In combination with a system of pipes arranged in a building for extinguishing fires, an air-trap constructed to relieve the system, upon the advance of the water, of the bulk of air normally contained therein, substantially as before set forth, whereby but little air requires to be expelled through the opened distributer or distributers.

2. The combination, with a system of pipes and distributers supplied by the pipes, of one or more normally-open air-traps, through which the advancing water discharges the bulk of the air from the pipes, and which close automatically when the water is discharged, as described.

3. The combination, with the pipes B, C, and D, of the air-trap E, constructed to remain open for the discharge of the bulk of the air normally contained in the system, and to close when water is being discharged, as described.

4. An air-trap consisting of a discharge-opening for the air or water, a valve kept open by means of a counterbalance-weight, and a vessel arranged to receive the discharging water, constructed to close the valve when sufficient water has entered the vessel to overbalance the counterbalance-weight, as described

269,206. REVERSIBLE AND VENTILATING POT-HOLE RING FOR STOVES. WILLIAM HAILES, Albany, N. Y., assignor of one-half to Harriet K. Davy, Hydeville, Vt. Filed Oct. 2, 1882. (No model.)



Claim.—1. A pot-hole ring having an external flange and an offsetting internal flange provided with notches or ports, the former extending horizontally from the latter, and the latter projecting vertically from one side of the former, and the whole as a pot-hole ring adapted to be used in reversed positions with a pot-hole of a stove, as a reducing-ring, or as an air-induction ring, in the manner and for the purposes set forth.

2. A pot-hole ring having flanges *c* and *c'*, the flange *c'* being provided with notches or ports *e*, either with or without ports *e'*, and adapted for use substantially as described, for the purposes set forth.

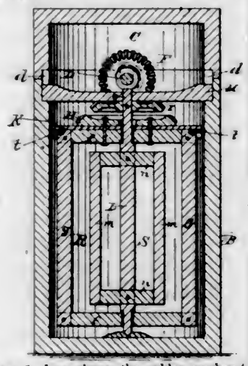
3. The combination, with a stove-top provided with a pot-hole, of a pot-hole ring adapted to have support from the sunken annular flange-seat of the pot-hole, and provided with a vertically-offsetting crenelled flange, which will admit the passage of air or steam, or both, beneath a vessel or cover supported on said ring, substantially as set forth.

4. The combination, with a stove-top provided with a pot-hole, of the crenelled ring C and cover D, substantially as and for the purposes set forth.

5. The combination, with a stove-top provided with a pot-hole, and a hood inclosing a vessel supported over said pot-hole, of the crenelled ring C, arranged between said pot-hole and vessel, with its notched or port side upward, and communicating between the chamber-room between said hood and vessel and the combustion-chamber beneath said stove-top, for operations substantially as set forth.

6. The combination, with a stove-top provided with a pot-hole, of crenelled ring C, cover D, and hood H, inclosing a cooking-vessel supported on said cover, said cover being supported on the notched or port side of said ring, substantially as and for the purpose set forth.

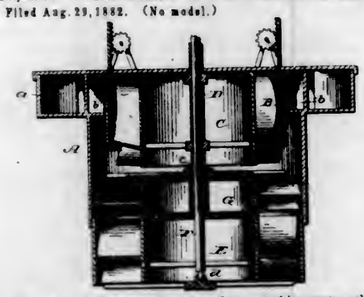
269,207. CHURN. JONATHAN N. HOLEM, Plymouth, Ind. Filed Mar. 10, 1882. (No model.)



Claim.—1. In a churn, the rubber washer *t*, in combination with the plate K and the casing A, substantially as shown and described, and for the purpose specified.

2. The combination, in a churn, of the casing A, composed of parts B and C, provided with bearings *b b*, with the revolving shaft D, provided with journals *c c*, beveled gear F and G, crossbar M, slots *d d*, vertical shaft L, having beveled gear *l*, and dasher-frame S, the dasher-frame R, the revolving plate K, having beveled gear H, and rubber washer *t*, all as arranged and operating substantially as described and shown, and for the purpose set forth.

269,208. WATER-WHEEL. DANIEL M. HOOK, Columbia, S. C. Filed Aug. 29, 1882. (No model.)

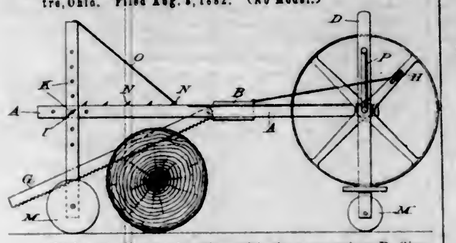


Claim.—1. The combination of two turbine water-wheels, mounted upon independent shafts, one above the other, and an intermediate water-way to give direction to the water escaping from the first wheel and to insure its proper delivery to the second wheel, substantially as explained.

2. The combination of two water-wheels, one placed beneath the other, and mounted upon independent shafts, the upper wheel being smaller than the lower, and an intermediate stationary water-way, arranged to deliver the water at the proper angle from the upper to the lower wheel, substantially as shown and described.

3. In combination with the casing A, having guides or directing-plates *b*, a vertically-moving annular gate, B, arranged within said guides, substantially as shown, whereby they are caused to guide and sustain the gate, as explained.

269,209. FIRE-WOOD DRAG-SAW. PHILIP HOY, Bloom Centre, Ohio. Filed Aug. 8, 1882. (No model.)

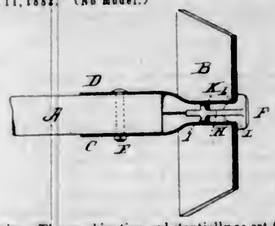


Claim.—1. The combination, with the saw-carriage B, (limited in its stroke by the position of the pivot in slot H on the arms of the fly-wheel,) of the frame A, adjustable in height by means of pins N on the frame and arm O on the hinged upright K.

2. The combination of the saw-frame mounted on wheels, that it may be shifted along the log of the standard E, arm O, and pins N, that the frame may be adjusted to the height of the log, substantially as set forth.

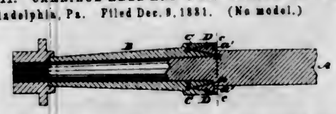
3. The combination of the saw-frame A and upright frame E with the pins N and arm O, by which the hinged frame E is locked at any desired angle to suit the height of log to be sawed.

269,210. HOE. DAVID W. HUGHES, Hamilton, Ohio. Filed Sept. 11, 1882. (No model.)



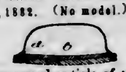
Claim.—The combination, substantially as set forth, of a perforated hoe-blade, a handle, a bolt, a central stud having inclines on its shank, and a pair of clamps having inclines adapted to engage with the inclines on the stud, and having their front ends adapted to engage the hoe-blade on its rear surface and sides of its perforation.

269,211. CARRIAGE AXLE AND BOX. BUSHROD H. KEMBLE, Philadelphia, Pa. Filed Dec. 9, 1881. (No model.)



Claim.—The axle A, with collar D, in combination with the box B, with collar C, the collar D having two inclined faces extending outwardly upward from *a* to *b* and the other face inwardly upward from *b* to *c*, and the box having two inclined faces, one face, *a b*, extending outwardly upward and the other face, *b c*, extending inwardly upward, substantially as and for the purpose set forth.

269,212. BOOT OR SHOE. JOHN M. KIRKBRIDE, Columbus, Ohio. Filed Oct. 20, 1882. (No model.)

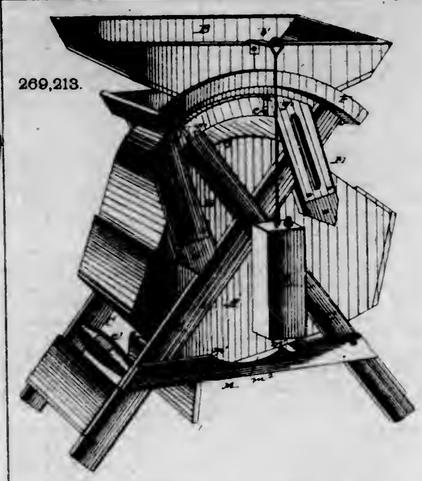


Claim.—As an improved article of manufacture, a boot or shoe in which the outwardly-turned edge of the upper is stitched to the upper side of the inner sole close to its edge, and then stitched only to the outer sole outside and close to the edge of the inner sole, and the row of stitches uniting the upper and inner sole, thus placing the outer row of stitches lower than the inner row, and enabling the upper to bind and keep down the edge of the inner sole, all as shown and described.

269,213. AUTOMATIC GRAIN-MEASURE. JOHN A. KNOWLES, Towanda, Ill., assignor of one-half to Henry E. Sibley, same place. Filed May 23, 1882. (No model.)

Claim.—1. The combination of an oscillating measure divided

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into two vertical compartments, and automatic receiving and discharge valves, a hinged hopper arranged above said measure, and intermediate connecting mechanism, substantially as and for the purpose specified.

2. The combination of an oscillating measure divided into two vertical compartments and provided with automatic receiving and discharging valves, a hinged and weighted receiving-hopper arranged over said measure, and intermediate connecting mechanism, substantially as and for the purpose specified.

3. The combination of an oscillating measure divided into two compartments and provided with automatic receiving and discharging valves, a hinged and weighted receiving-hopper, and an automatic locking mechanism adapted to be operated by the movement of the hopper, substantially as and for the purpose specified.

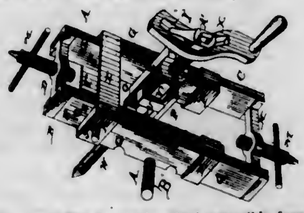
4. The combination, with a hinged and weighted receiving-hopper, of an oscillating measure divided into two compartments and having a receiving-valve, whereby when one of its compartments is filled with grain and is oscillated by the weight of the grain, said measure is adapted to have one of its receiving-openings closed and the other opened, substantially as specified.

5. The combination, with an oscillating measure, having hinged discharge-valves, having beveled blocks *a a'*, secured to their under sides, of the rollers *c c'*, for closing said valves alternately, substantially as specified.

6. The combination, with an oscillating measure having hinged discharge-valves, of the rollers *c c'*, for closing said valves alternately, and automatic mechanism adapted to alternately lock said valves when closed, substantially as and for the purpose herein shown and specified.

7. The combination of a hinged and weighted rocking hopper, an oscillating measure arranged below said hopper and divided into two compartments, provided with a rocking valve and hinged discharge-valves alternately closed and locked by mechanism, substantially as herein shown and described.

269,214. MINING-MACHINE. MICHAEL LALLY, North Lawrence, Ohio. Filed Apr. 29, 1882. (No model.)



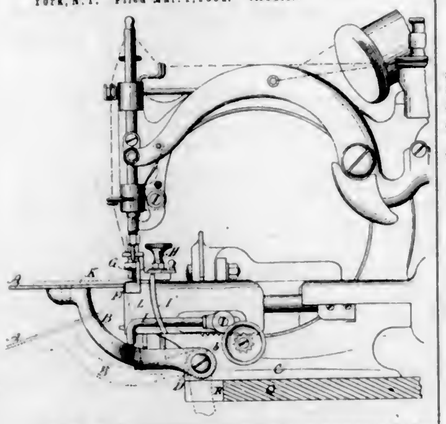
Claim.—1. The herein-described extensible frame, comprising the parts B C, having end cross-pieces, D H, respectively, to which are secured transversely-perforated side pieces, E E and G

G, having semicircular or curved recesses N in their edges, the sides E E of the smaller part fitting between the sides of the larger part C, and provided with collars F, sliding on the sides G G, the latter being provided with a connecting band or collar, I, at their upper end, and the transverse adjusting pin or bolt K, in combination with the drilling mechanism comprising the boxing adjustable in said frame and carrying the drill, as set forth.

2. The herein-described drill-box, comprising the plates P Q, the former being provided with one or more lugs, S S, adapted to enter openings or apertures T T in the latter, and with one or more uprights, U U, provided with openings in which a wedge or securing-key, V', may be inserted to hold the plates together, in combination with the extensible frame and carrying the drill, as set forth.

3. The herein-described improved drilling-machine, consisting of the extensible frame A, the parts B C of which have the end cross-pieces, D H, provided with the transversely-perforated sides E E and G G, having respectively collars F and band or collar I, and adjusting pin or bolt K, the drill-box O, comprising the plates P Q, having respectively lugs S S and uprights U U, provided with openings U' for the reception of a wedge or securing-key, V', and openings or apertures T T, and the screw-threaded drill W, having the adjustable crank X and set-screw A', substantially as herein shown and specified.

269,215. STRAW-HAT-SEWING MACHINE. WILLIAM B. LASSCELL, Bayonne, N. J., and CHARLES H. WILLCOX, New York, assignors to the Willcox & Gibbs Sewing Machine Company, New York, N.Y. Filed Mar. 1, 1882. (Model.)



Claim.—1. The combination, with a sewing-machine, of a table movable into position to form an extension of the work-plate and capable of being thrown out of action by pressure, as of the operator's hand applied to said table, substantially as described.

2. The combination, with a sewing-machine, of a tilting table formed of a plate, a supporting-arm attached to and depending from the bottom of said plate, and means for attaching the arm to the machine-frame below the work-plate of the machine, substantially as described.

3. The combination, with the supporting-arm, the hollow boss provided with notches, the screw, and spring, of the washer roughened on one face and provided on the other with lugs adapted to engage said notches, substantially as described.

4. The combination, with a sewing-machine and the guides for sewing straw-braid into a hat, of a movable tip-table adapted when in action to form an extension of the work-plate, and to be put into and out of action, as required, so that the said machine is adapted to the continuous sewing of the crown of the hat, substantially as described.

5. The combination, with a frame and an arm having a hollow boss fitting within a counterbored recess in said frame, of the stud, spring, and lugs having inclined faces, substantially as described.

6. The combination, with the work-plate and frame of a sewing-machine, of a tilting table comprising a plate, supporting-arm with hollow boss having notches, screw-stud, washer provided with lugs, and spring, substantially as described.

7. The combination, with a sewing-machine having a work-plate raised above the stand on which the machine is placed, of a table supported by an arm attached to the machine-frame, as explained, said table being adapted to be moved up to a level with the work-plate or to be moved down out of action by pressure applied to the table, substantially as described.

269,216. CAN-OPENER. AUGUSTUS J. LEAVITT, North Easton, Mass. Filed Aug. 17, 1882. (No model.)



Claim.—In a can-opener, the blade A, having the prong *a*, sharpened upon its outer edge, and the lip *b*, formed upon the opposite edge of the blade from the sharpened edge of the prong, said lip being turned or twisted from the side upon which the bevel is made, and provided with the depression or fulcrum-point *d*, all arranged and combined substantially as and for the purposes described.

269,217. HOSE-NOZZLE. PEARL C. LEWIS, Catskill, N. Y. Filed July 26, 1882. (No model.)

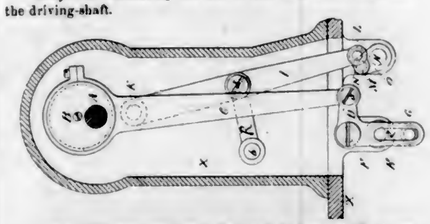


Claim.—1. A hose-nozzle provided with a deflector sliding in suitable guides on the side thereof, adapted to convert the stream flowing therefrom into spray when extended, or to permit the free escape of the water as a solid stream when retracted, substantially as described.

2. The combination of the nozzle A and the slide B moving thereon, substantially as described.

269,218. SEWING-MACHINE. THOMAS A. MACAULAY, New York, N. Y. Filed Nov. 3, 1882. (No model.)

Brief.—For actuating the shuttle and feed mechanism from the driving-shaft.



Claim.—The combination of the shaft A, eccentric B, pitman C, lever D, crank *g*, and shaft E with the pitman-lever I, radius-bar R, link N, crank O, and shaft H, substantially as set forth.

269,219. PLASTERING COMPOUND. MARK W. MARSDEN, Pittsburg, Pa., assignor of one-third to Alex. Matchett, same place. Filed Oct. 13, 1882. (No specimens.)

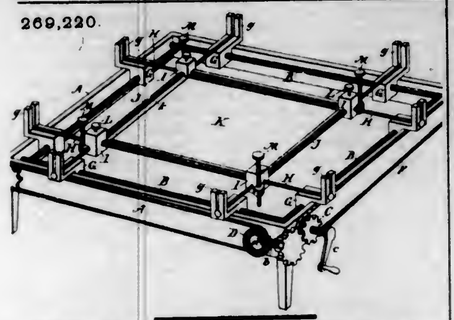
Claim.—1. A plastering compound for the walls and ceilings of houses, composed of vegetable pulp, mineral powder, and sizing, substantially as and for the purposes described.

2. A plaster composed of vegetable pulp, mineral powder, sizing, and salt, substantially as and for the purposes described.

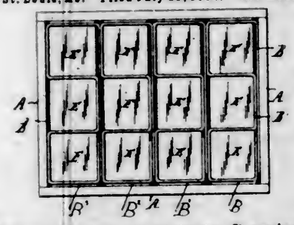
269,220. APPARATUS FOR ENLARGING AND REDUCING TRANSFERS. PETER W. MCDONALD, Cleveland, Ohio. Filed Feb. 10, 1882. (No model.)

Claim.—An apparatus for expanding an elastic sheet for transfer purposes, consisting of frame A, right and left hand screw-threaded rods B B, gears C D *d*, sprocket-wheels C D E, chain-belts F, traversing nuts G, having slotted arms *g*, expanding frame H, with blocks I, having vertical screws L M, and the flexible sleeves J, provided with staples and pins *k*, for securing the elastic sheet K, constructed, combined, and operating substantially as and for the purpose specified.

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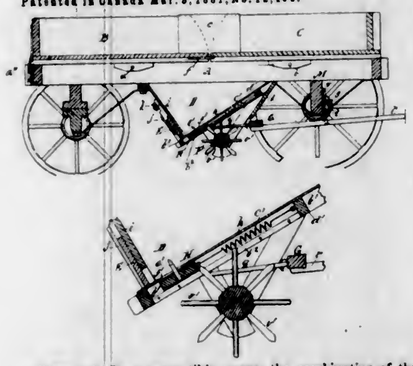
269,221. PACKING-BOX FOR BOTTLES. EDWARD L. MUELLER, St. Louis, Mo. Filed July 28, 1882. (No model.)



Claim.—1. The compartment structure B, consisting of pasteboard or the like material folded into the series of compartments composed of the respective side walls, as shown and described, and having slits *e e'*, and the top and bottom sheets, E E', all constructed as and for the purposes set forth.

2. The combination of two or more compartment structures, B B', each consisting of pasteboard or the like material folded into the series of compartments composed of the respective side walls, as shown and described, said compartment structures placed alongside of each other, by means whereof the open-faced compartment of the one structure is closed by the neighboring compartment structure, as and for the purposes set forth.

269,222. COMBINED AGRICULTURAL WAGON. JOHN O'NEIL, Pakenham, Ontario, Canada. Filed Apr. 25, 1881. (No model.) Patented in Canada Mar. 8, 1881, No. 12,466.



Claim.—1. In a convertible wagon, the combination of the wheeled frame, the box or body consisting of the two sections B C, mounted on horizontal pivots, and the side plates, substantially as described, to close the space between the inner ends of the body-sections.

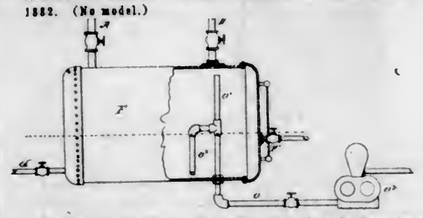
2. The wheeled main frame and the two tilting body-sections thereon, in combination with the hopper D, provided with the adjustable gate and discharging mechanism, substantially as shown.

3. In combination with the hopper, the reciprocating agitator H, provided with studs, and the rotary distributer having its arms arranged to operate in connection with the agitator, substantially as described.

4. The convertible wagon for agricultural purposes, consisting of the wheeled frame, the body-sections hinged thereto, the hopper D, fixed thereunder, and the removable bottom A, with the feeding appliances connected therewith, as described and shown.

5. In combination with the hopper and the rotary feeder F, the rock-shaft G, provided with the fingers *q* and the adjusting-lever *r*, as shown, whereby the relation of the fingers *q* to the arms of the feeder may be changed as required.

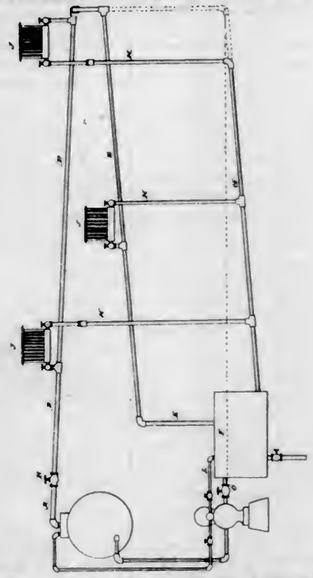
269,223. OUTLET FOR TANKS OF STEAM HEATING APPARATUS. EUGENE F. OSBORNE, St. Paul, Minn. Filed Apr. 3, 1882. (No model.)



Claim.—1. In combination with the seal-tank of a steam heating apparatus, the outlet-pipe thereof, provided with open branches leading therefrom at the desired water-line, and terminating at their open ends one above and the other below such water-line, substantially as and for the purposes stated.

2. In combination with the seal-tank of a steam heating apparatus provided with means for drawing off the water therefrom below its surface, a valved pipe, F', located at or about the water-line for drawing off the oil which may be collected upon the surface of the water, substantially as described.

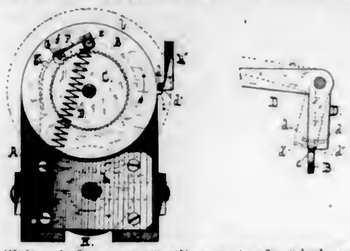
269,224. STEAM-PIPING FOR BUILDINGS. EUGENE F. OSBORNE, St. Paul, Minn. Filed Apr. 3, 1882. (No model.)



Claim.—1. In a steam heating apparatus, a working sealed circuit independent of the boiler except as a source of steam-supply, and embracing a steam-supply main, a condense-water return-main, and a seal-tank or tank-trap receiving the water of condensation from the return-main, said seal-tank or trap being connected with the supply-main at a point following the radiator-connections, substantially as described, and for the purpose specified.

2. In combination with the return-main G and radiator return-pipe H in the sealed circuit described, the seal-box G', extending below the main G, and the extension H' of the pipe H, extending downward into the box G', substantially as described.

269,225. AUTOMATIC MAGNETO-SIGNAL FOR TELEPHONES. WILLIAM PAINTER, Baltimore, Md., assignor of one-half to Lewis R. Keltzer, same place. Filed Mar. 2, 1882. (No model.)



Claim.—1. In a magneto-call apparatus for telephone-lines, the combination, with the telephone-supporting device and the mechanism for generating the magneto impulse, of means, substantially as described, whereby the act of replacing the telephone on its support shall, without volition to that end on the part of the user, cause said mechanism to generate a magneto impulse and notify the central office that the line is no longer in use, as set forth.

2. In combination with a magneto-call apparatus, means, substantially as described, for storing a reserve force by the act of making a call or answering one, which force, upon being brought into action, generates a magneto impulse, as and for the purpose set forth.

3. In combination with the armature of a magneto call, a spring arranged to be brought and held under tension by the act of making a call or answering one, and means, substantially as described, for releasing said spring by the replacing of the telephone, whereby the armature is given the necessary sudden movement and the magneto signaling impulse is generated, as set forth.

4. In a magneto-call apparatus, an armature, mechanism, substantially as described, for revolving the same through the medium of a force which is stored in the act of making or answering a call, and a telephone-supporting device adapted to arrest the movement of the revolving mechanism and to release the same when the instrument is replaced, whereby a magneto-signal is automatically transmitted, as set forth.

5. In a magneto-call apparatus, a crank-shaft for actuating the call, and independent actuating mechanism, substantially as described, normally in engagement with said shaft, which in the act of sending the call is thrown out of engagement with the shaft, but falls into engagement again and revolves the shaft and armature upon replacing the telephone, as set forth.

6. In a magneto-call apparatus, independent mechanism for actuating the armature, substantially as described, whereby in the act of sending a call a reserve force is stored, in combination with a telephone-support adapted to arrest the movement of the parts active in storing said force and to release the same in the act of or incidental to replacing the telephone on its support, as set forth.

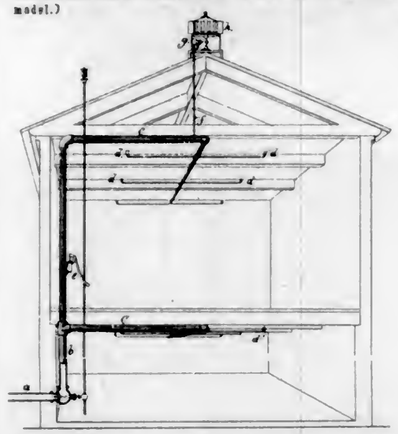
7. In combination with a magneto-call apparatus, a spring-actuated disk normally in engagement with the shaft for revolving the armature, which disk is carried, in the act of sending the call and against the resistance of the spring, to a position in which its motion is arrested and its engagement with the armature-moving mechanism is suspended pending the making of the call, a stop, and releasing mechanism connected with the telephone-supporting device, substantially as described, whereby in the act of replacing the telephone on its support the disk is released, leaving the spring free to actuate the signal, as set forth.

8. In a magneto-call apparatus, a crank-shaft for actuating the call, a toothed wheel secured thereto, and a disk which supports a pawl normally in engagement with said wheel, whereby the shaft and disk are caused to revolve together, in combination with means for arresting the motion of the disk and for disengaging the pawl, and mechanism for automatically moving the stop and releasing the disk, as set forth.

9. In a magneto-call apparatus, a disk normally connected with the armature, in combination with the telephone-supporting device, constructed as described, whereby it is adapted to engage with the disk, the said supporting device being arranged to maintain engagement with said disk pending the removal of the telephone from its support, and only to release it when the instrument is finally replaced, as set forth.

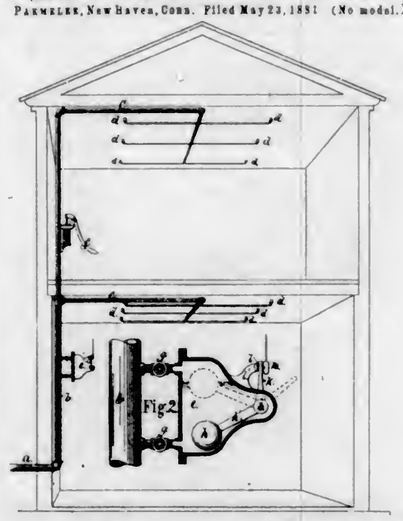
10. In a magneto-call apparatus for telephone-lines, mechanism, substantially as described, for automatically transmitting a signal by the release of a reserve force stored in the act of sending or answering a call, in combination with a shunt device constructed substantially as set forth, and adapted to cut out the armature-coil while the apparatus is in its normal condition, to shunt it into circuit while the call is being made, and to retain the connections in circuit until the automatic signaling-impulse has been transmitted, as and for the purpose set forth.

269,226. SYSTEM FOR EXTINGUISHING FIRE AUTOMATICALLY. HENRY S. PARMELEE, New Haven, Conn., and FREDERICK GRINNELL, Providence, R. I. Filed June 13, 1881. (No model.)



Claim.—The combination, with a fire-extinguishing system in which the pipes normally contain air under pressure, of an automatic air-forcing device arranged to supply air to the system to maintain a uniform pressure therein, substantially as described.

269,227. AUTOMATIC FIRE-EXTINGUISHER. HENRY S. PARMELEE, New Haven, Conn. Filed May 23, 1881. (No model.)



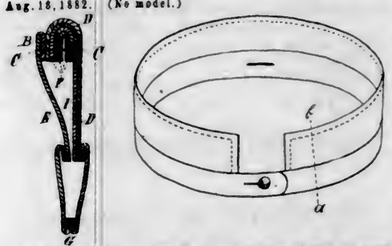
Claim.—1. A fire-extinguisher for buildings in which the water-supply main is connected with the distributing-nozzles by a system of unobstructed or valveless pipes containing air under sufficient pressure normally to exclude water from the system and confine it to the supply-main, substantially as described.

2. A fire-extinguisher for buildings wherein the water-supply main is connected with the distributing-nozzles by a system of unobstructed or valveless pipes which normally contain air under sufficient pressure to exclude water from the system and confine it to the supply-main, in combination with an air-forcing apparatus, substantially as described.

3. The combination, with a system of open, unobstructed mains or pipes connecting the water-supply with the extinguishers, of a pump to supply air to the system, and the device e, constructed to release an alarm, as described.

4. In combination with a system of pipes connecting the water-supply with a number of automatic fire-extinguishers, the device e, consisting of a water and air tight case, a float connected with a rock-shaft on the outer projection of which the arm *k* is secured, constructed to release the button *m* when the float is raised by the water, as described.

269,228. COLLAR. DAVID O. PATTON, Brunswick, N. Y. Filed Aug. 18, 1882. (No model.)



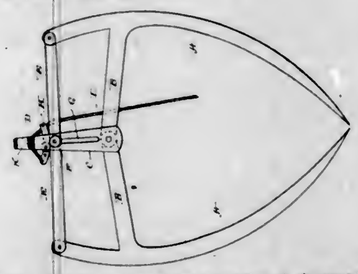
Claim.—In a shirt-collar, the combination of two or more body-plies, D and E, one or more narrow concealed edge-strips, F, the stitching B and C, and a collar-band, G, all arranged for the purposes stated.

269,229. MANUFACTURE OF COLLARS. JAMES K. P. PINE, Lansingburg, and ISAAC P. TURNER and WILLARD W. SEARLE, Troy, N. Y. Filed Mar. 6, 1882. (Model.)



Claim.—The method herein described of attaching collar-bands to collars, consisting in forming upon the outer cut edge of one of the blanks, or on the outer cut edges of two of them when three or more are employed, a sewed and turned or hemmed edge, so that when the inner edges of the band-blanks are laid parallel to the lower edge of the collar-body, which is placed intermediate, and the parts are thus sewed, and then turning over and down the blanks to close the bottom, the blank or blanks having the sewed and turned or hemmed edge serving as a guide for turning in and sewing the other parts of the band.

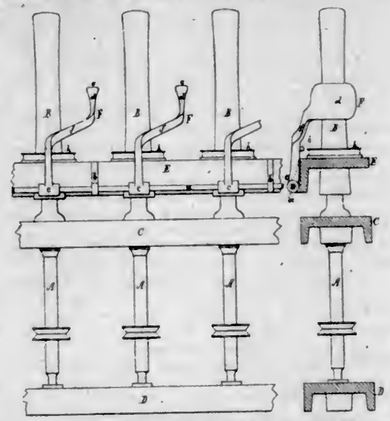
269,230. HAY-FORK. JOSEPH E. PORTER, Ottawa, Ill. Filed Mar. 23, 1882. (Model.)



Claim.—The combination of the curved tines A, the arms B, and extensions above these arms, the cheeks C, having the arms B, pivoted to their lower ends, the central connection, D, toggle-levers E, pivot-bolt F, movable in slots G in said cheeks, the trip-lever H, pivoted to the cheeks, and an eye, K, on the upper part of the latter, all arranged and operating substantially in the manner described.

269,231. THREAD-GUARD AND TRAVELER-CLEANER FOR RING-SPINNING FRAMES. JOHN E. PEEBY, Fall River, Mass. Filed July 17, 1882. (No model.)

Brief.—A wedge-shaped guard is supported by a shank, on which is formed a traveler-cleaner, said shank being so curved or bent that when the guard is between two next adjacent spindles the shank at its foot is in rear of one of such spindles.



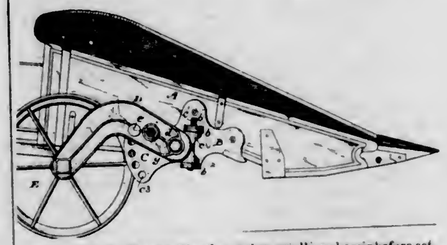
Claim.—1. The combination, with the spindles and the ring-rail, of the thread-guard having a supporting-shank, curved or bent as described, whereby, when the guard is between two next adjacent spindles, the shank at its foot will be in, or about in, rear of one of such spindles, as set forth.

2. The combination, with the spindles and the ring-rail, of a thread-guard flanged at its upper part or wedge-shaped, and having a shank curved or bent as described, whereby when the guard is between two next adjacent spindles the shank at its foot will be in, or about in, rear of one of such spindles, as specified.

3. A thread-guard having a supporting-shank curved or bent as described, in combination with a traveler-cleaner separate from the guard and extending from the said shank, all being substantially as set forth.

4. The combination, with the spindles and the ring-rail, of the thread-guard having a traveler-cleaner extending from its supporting-shank, as set forth, and also having such shank curved or bent as described, whereby when the guard is between two next adjacent spindles the shank at its foot will be in, or about in, rear of one of such spindles.

269,232. MOWING-MACHINE. HENRY E. PRIDMORE, Chicago, Ill., assignor to the McCormick Harvesting Machine Company, same place. Filed Sept. 19, 1882. (No model.)



Claim.—1. The combination, substantially as hereinbefore set forth, of the grain-wheel, its supporting-arm, the segment to which said arm is pivoted, means for locking said arm in any adjusted position upon the segment, and a crank interlying said arm and segment, with its wrist-pin taking into a slot in the one and its spindle having a bearing in the other, and provided as to its spindle with means for the reception of a key or equivalent instrumentality, whereby it may be turned.

2. The combination, substantially as hereinbefore set forth, of the grain-wheel, its supporting-arm, the segment to which the latter is pivoted, the series of holes in said segment, the spring-bolt

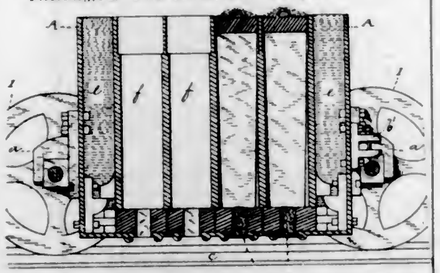
mounted in the supporting-arm, the crank interlying the arm and segment, with its wrist-pin taking into a slot in one and its spindle entering a bearing in the other, and a key or equivalent device adapted to enter a seat in said spindle to turn the crank when the bolt is withdrawn.

3. The combination, substantially as hereinbefore set forth, of the grain-wheel, its supporting-arm, the segment to which the arm is pivoted, the joint between said segment and the divider, means for locking the supporting-arm in any given position upon the segment, the crank interlying the arm and segment, with its wrist-pin taking into an elongated slot in one and its spindle entering a bearing in the other, and the key or equivalent device adapted to turn said spindle and crank to adjust the supporting-arm relatively to the segment when the locking device is withdrawn.

4. The combination, substantially as hereinbefore set forth, of the grain-wheel, its supporting-arm, the segment to which the latter is pivoted, the joint between said segment and the divider, the series of holes in the segment, the spring-bolt on the supporting-arm adapted to take into any one of the said holes, the crank seated in a chamber in the supporting-arm, between it and the segment, with its wrist-pin taking into an elongated slot in one and its spindle entering a bearing in the other, and the polygonal seat in said spindle adapted to receive a key, whereby the arm may be adjusted relatively to the segment when the spring-bolt is withdrawn.

5. The combination of the caster-wheel support, the sleeve and cylindrical ledge cast thereon, the segment with its bore to receive said sleeve and its stub to fit within said ledge, and the bolt uniting the two.

269,233. DEVICE FOR EQUALIZING THE TEMPERATURE OF AND PREPARING INGOTS FOR BLOOMING. JACOB REESE, Pittsburg, Pa. Filed Oct. 25, 1882. (No model.)



Claim.—1. A regenerator-car or equalizing-chamber for conveying ingots from the casting-pit to the rolls, consisting of a shell of non-conducting material, having a lining of iron or like heat-absorbing material, substantially as and for the purpose specified.

2. A regenerator-car or equalizing-chamber for conveying ingots from the casting-pit to the rolls, said car having a shell of non-conducting material, the interior of which is divided into ingot-cells by partitions of steel or like heat-absorbing material, substantially as and for the purpose specified.

3. A regenerator-car or equalizing-chamber for conveying ingots from the casting-pit to the rolls, said car having a shell of non-conducting material, its interior divided into ingot-cells by heat-absorbing partitions, and a series of stoppers for closing the separate ingot-cells, substantially as and for the purpose specified.

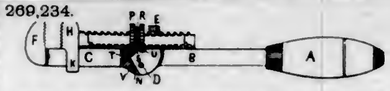
4. A regenerator-car or equalizing-chamber for conveying ingots from the casting-pit to the rolls, having a shell of non-conducting material, the interior of which is divided into cells by a series of partitions, and perforated below opposite the several ingot-cells, substantially as and for the purpose specified.

5. The combination of a movable ingot-regenerator, having an outlet or outlets for the products of combustion, with a fixed hood, B, substantially as and for the purpose specified.

6. An ingot-regenerator provided with an open top and bottom, in order that its initial temperature may be secured by forcing hot gases through it, and having lids or caps for closing the bottom opening previous to placing the ingot or ingots in it, and for closing the top after the ingots are put in or taken out, in order that when once heated by the combustion of fuel its temperature may thereafter be kept up by the heat abstracted from the molten centers of the ingots placed in it.

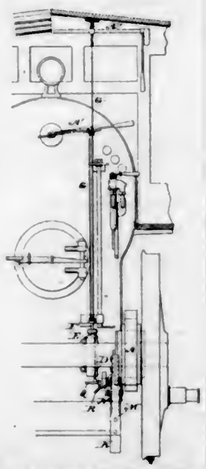
269,234. PIPE-WRENCH. EDWIN A. ROBBINS, Boston, Mass. Filed Oct. 2, 1882. (No model.)

Claim.—1. The combination, with the stationary jaw F, having bar C, adjustable jaw H, having screw-threaded shank L, and adjusting-nut P, of the fulcrumed lever-handle connected with the periphery of the said adjusting-nut, so as to actuate the said adjustable jaw toward and from the stationary jaw by movement of said handle, substantially as described, as and for the purposes set forth.



2. The combination, with the stationary jaw F, bar C, adjustable jaw H, shank L, and adjusting-nut P, of the fulcrumed lever-bar B, provided with the hook S and shoulder U, and stops, substantially as described, as and for the purposes set forth.

269,235. MEANS FOR AUTOMATICALLY STOPPING TRAINS AND SIGNALING. WILLIAM C. SHAFFER and ARTHUR M. WHITE, Philadelphia, Pa., assignors to the Railroad Safety Lock and Signal Company, of New Jersey. Filed Sept. 1, 1882. (No model.)



Claim.—1. A valve attached to a locomotive-engine and communicating with the steam-supply thereof, in combination with the nasal valve or valves and means, substantially as described, whereby in the event of danger along the railroad steam is automatically shut off from the cylinder of the steam-engine, the brakes are applied, the alarm is sounded, and the engine or train is stopped, substantially as set forth.

2. A valve attached to a locomotive-engine, in combination with a cylinder having a piston, with which are connected the throttle-valve and whistle-lever and the brake mechanism, said valve being in communication with the steam-supply and said cylinder, whereby the valve may be operated by means located along the road, and the piston thereby actuated, thus automatically shutting off steam and applying the brakes and stopping the engine or train, substantially as and for the purpose set forth.

3. A valve in communication with the boiler of a locomotive-engine and an attachment to said engine adapted to be engaged by a projection or shoe along a railroad, in combination with a cylinder communicating with the aforenamed valve, and having a piston which is connected with the whistle-lever and brake-operating mechanism, whereby in the event of danger said piston is operated, thus automatically operating the whistle and stopping the train, substantially as and for the purpose set forth.

4. A valve in communication with the boiler of a locomotive-engine and an attachment to said engine adapted to be engaged by a projection or shoe along a railroad, in combination with a pipe communicating with the brake mechanism, and having a valve independent of the usual valves of the engine, whereby in the event of danger said valve is opened, thus automatically applying the brakes, substantially as and for the purpose set forth.

5. In a device for automatically stopping a locomotive-engine or train, a leg attached to the axle-box or box on the axle of the engine, substantially as described, whereby it is carried an unvarying distance from the top of the rail of the road, and adapted to engage positively with an operating projection or shoe along the road, substantially as and for the purpose set forth.

6. The leg K, in combination with the arm J, having a longitudinally-extending slot for the connecting-stud of said leg, whereby said leg is rendered inoperative when the engine is backed, substantially as and for the purpose set forth.

7. The valve and its stem with the two seats and heads, in combination with the elbow-lever and the spring formed with a depression to receive the end of said lever, substantially as and for the purpose set forth.

8. The valve B, in combination with the brake-pipe Q, having a valve, P', and the overhanging lever H, substantially as and for the purpose set forth.

9. The valve B and its stem with the two seats and heads, in combination with the drip or exhaust pipe R, substantially as and for the purpose set forth.

10. The valve B, in combination with elbow-lever H, spring N, and resetting-arm S, substantially as and for the purpose set forth.

269,236. VENTILATING DEVICE. SUMNER SHAW, Boston, Mass. Filed Apr. 15, 1882. (No model.)



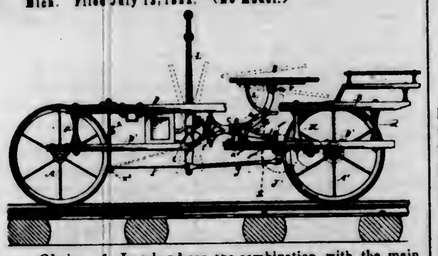
Claim.—1. In a ventilating device, the combination of two pipes, *f f*, having their open ends *f' f'* arranged in opposite directions, closed in their other ends, and provided with perforations *f'* on their upper sides, with the air-chambers A A, and shields or envelopes *g g*, having perforations *g' g'* on their sides, as and for the purpose set forth.

2. In a ventilating device for railway-carriages, the combination of two or more ventilating-pipes, *f f*, closed at opposite ends and provided in their open ends with cone-shaped perforated or netted hoods or screens *s s*, to keep out cinders, smoke, and dust, as herein described.

3. The combination of two or more ventilating-pipes, *f f*, open at opposite ends and closed at their other ends, the downwardly-projecting pipes *t t*, connected in their upper ends near the open mouths of the upper horizontal pipes, *f f*, and made open in their lower ends at or near the floor, as and for the purpose set forth.

4. In combination with two or more ventilating-pipes, *f f*, and the downwardly-projecting pipes *t t*, arranged as described, the valves or cut-offs *f' f'* and *s s*, as and for the purpose set forth.

269,237. HAND-CAR. GEORGE S. SHEFFIELD, Three Rivers, Mich. Filed July 13, 1882. (No model.)



Claim.—1. In a hand-car, the combination, with the main frame, of an operating-lever provided with a toothed segment, and a seat-support provided with a toothed segment adapted to mesh with the lever-segment, whereby the weight of the rider is utilized in propelling the car, substantially as set forth.

2. In a hand-car, the combination, with the main frame and carrying-wheels, of an operating-lever imparting motion to the driving-wheel of the car by means of a pitman and train of gearing, and provided with a toothed segment, and a seat-support whose lower end terminates in a toothed segment, and provided with devices for throwing said segment into and out of gear with the lever-segment, substantially as set forth.

3. In a hand-car, the combination, with the main frame and operating-lever provided with a toothed segment, of brackets provided with longitudinal slots to receive sliding blocks which support a transverse shaft, a curved seat-support secured upon said shaft and provided with a toothed segment, and levers provided with heads having curved slots, into which project pins of said sliding blocks, substantially as set forth.

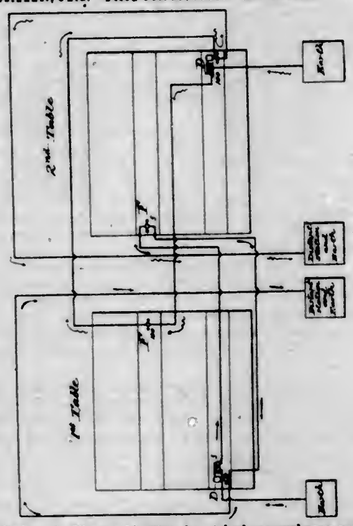
4. The combination, with the seat-support, of the plate *v*, having a depending lug, to which said seat-support is pivoted, and the slots v^2, and suitable bolts and nuts, by means of which a seat may be adjustably attached to said plate, substantially as and for the purpose set forth.

5. The combination, with the operating-lever having the toothed segment, and the seat-supporting lever having a similar segment engaged therewith, of the seat carried by said seat-supporting lever and adjustable toward and from the operating-lever, substantially as and for the purpose set forth.

6. In a hand-car, the combination, with the seat-support and its shaft, of sliding blocks provided with projecting pins, and pivoted levers provided with slotted heads, into which said pins project, substantially as set forth.

7. In a hand-car, the combination, with an operating-lever provided with a toothed segment, of a seat-support having a toothed segment and adapted to be thrown into engagement with the lever to utilize the weight of the rider to assist the propulsion of the car, or to be thrown out of engagement with said lever and be held stationary, substantially as set forth.

269,238. TELEPHONIC EXCHANGE SYSTEM AND APPARATUS THEREFOR. JAMES O. SHIRAS and EDWARD A. ECKERT, Cincinnati, Ohio. Filed Oct. 25, 1881. (No model.)



Claim.—1. The combination, in a telephone-exchange system in which subscribers' drops are divided into groups, each group upon a separate operating-table, of each operating-table with multiple groups of connection devices, each of said devices being in permanent connection with a subscriber's wire, each group being known and designated in the same manner as the group of drops to which its connection devices are connected.

2. The combination, in a telephone-exchange system in which subscribers' drops are divided into groups, each group upon a separate operating-table, of multiple groups of connection devices upon each table, each of said devices being in connection with a subscribers' wire, each group being integrally known and designated in such manner as to identify it with the table bearing the group of subscribers' wires to which it is connected, and each individual connecting device being known and designated by the number, sign, or mark which identifies the individual subscriber with whose wire it is connected.

3. The combination, in a telephone-exchange system, with subscribers' drops, trunk-line drops, and employés' and officers' drops divided into groups, and each group placed upon a separate operating-table under the care of one operator, of multiple groups of connection mechanism on each table, each group being connected with a separate group of drops, so that all the drops in the exchange are thus connected, each group of connection mechanism being integrally known and designated in the same manner as the group of drops to which it is connected is known and designated, connecting plugs and cords, test-battery and call-battery, telephone and transmitter, and disconnecting-drops, whereby each operator

can answer, call up, and talk to every subscriber, trunk-line, and trunk-line operator.

4. The combination, in a telephone-exchange system in which subscribers' drops are divided into groups and each group placed on a separate operating-table under the care of one operator, of each subscriber's wire terminal with a series of connection mechanisms, the first connection mechanism of the series being usually placed beneath the subscriber's drop, the second connection mechanism on the switch-board of the second table in a defined group of connection mechanisms designated in the same manner as the group of drops to which they are connected, the third connection mechanism being placed on the switch-board of the third table in a defined group of connection mechanisms designated in the same manner as the connection mechanisms of the second table and the drops of the first, and so on with all the connection devices of the series until the last is reached, which is disposed of on the switch-board of the last table in the same manner as the previous ones were disposed of, the last connection device being part and forming the electric circuit for the extension of the subscriber's wire back to the first table, where the circuit goes through the subscriber's drop to the ground.

5. The combination, in a telephone-exchange system substantially such as above explained, of each connection device with two rigid test-rods, one rod of each pair being connected to the corresponding rod of each pair on all the other connection devices in that series, and a bridge carried by the connection-plug to close the gap between the rods of a pair, whereby a test-circuit is formed to enable each operator to ascertain if the wire is in use, and also to prevent the operator from using a subscriber's wire if that subscriber has called and is waiting for an answer from the operator in charge of the drop.

6. The combination, in a telephone-exchange system substantially such as hereinbefore stated, of each connection mechanism on each operating-table with one or more circuit-closers on each table, each circuit-closer being in connection with the telephone, transmitter, test-battery, call-generator, and disconnecting-drop, and each of which circuit-closers can be brought into electrical connection with the connection devices by means of telephone-connecting cords and plugs or keys.

7. The combination, in a telephone-exchange system in which subscribers' drops are arranged in groups, as above stated, of each connection device with a plug, a cord, a socket-plug, and a socket, which socket is composed of several terminals insulated from each other, these terminals being connected with a telephone and transmitter, a generator for calling, local battery for testing, and a disconnecting-drop.

8. An improved socket, composed of several parts insulated from each other, which parts form the terminals of several electric circuits—to wit, one part being a terminal of a grounded open circuit, including in its circuit a call or ringing-up battery closed by a key, another part being a terminal of a grounded circuit including the telephone and transmitter, another being a terminal of the circuit leading to one pole of a test or local battery, another being a terminal of the circuit to one side of a disconnecting-drop, another being a terminal of the circuit leading to the other side of the disconnecting-drop.

9. The combination, with a socket substantially such as described, of a plug having cords and terminal pins for connection with the subscribers' and respondents' wires, and having connecting-surfaces insulated from each other and so arranged relative to the parts of the socket that connection may be made and broken or a fresh connection made to bring another circuit into connection by turning said plug upon its axis while resting in the socket.

10. The combination, with a socket and plug, of a plunger normally in contact with one of the conducting-surfaces and connecting-cords of the plug and normally out of contact with the terminal rod of an operator's telephone-circuit in said socket.

11. The combination, with a socket and plug substantially of the character described, and with the plunger, whereby the terminal rod of the operator's telephone-circuit is thrown into electrical contact with a conducting-surface and connecting-cord on said plug, of a wire connecting two opposing conducting-surfaces of the socket and including in its circuit a disconnecting-drop, whereby when both subscriber and respondent have been connected the operator may talk with both by depressing the plunger.

12. The combination, with the series of plug-sockets, of the key and answer-drop, substantially as described.

13. The combination of the plug, the plug-socket, and its call-battery terminal, the call-battery key, and the answer-drop, substantially as described.

14. The combination, with the plug-socket, of the answer drop, call-battery, and disconnecting-drop, substantially as described.

15. The combination, with the plug-socket, of the answer-drop, disconnecting-drop, test bell or drop, call-battery, and telephone, as set forth.

16. The combination of the plug and its two conducting-surfaces, the plug-socket and its two disconnecting-drop terminals, and the disconnecting-drop, substantially as described.

17. The combination of the plug, its plunger, and two conducting-surfaces, and the plug-socket, its telephone terminal, and two opposing terminals connected by permanent wire, whereby the operator may talk to both subscriber and respondent at the same time.

18. The combination of the plug, its plunger, and two conducting-surfaces, the plug-socket, its telephone terminal, and two opposing terminals connected by permanent wire, and the disconnecting-drop through which said wire passes.

19. An operator's table provided with a series of plug-sockets, a disconnecting-drop to each socket, a group of drops and connecting-tubes for the terminals of subscriber's wires, a switch-board having connections for the subscribers' wires of every other table, a telephone and transmitter, a disconnecting-drop and answer-drop, and a test-bell or signal device, all arranged substantially as described.

20. In combination with subscribers' wires having their drops arranged in groups at separate operating-tables, switch-connections for said wires at every other operating-table, a test-circuit including the drop-connection and each switch-connection, and having its contact established at the time the drop-shutter falls or a connection is plugged, a test-battery, and signaling mechanism, whereby a positive signal will be given in answer to a test at any operator's table whenever the drop has fallen or the line has been plugged at another table.

21. A connecting-tube having combined therewith insulated test rods or posts, a subscriber's wire, a circuit-wire leading to switch or subscribers' connections on the remaining tables of the series, then by return-wire to the table from which it starts, and through the drop to the ground, and normally in contact with the subscriber's wire and wires leading from the test-rods to corresponding test-rods on the connecting-tubes of the other tables of the exchange.

22. The combination, with a connecting-tube having insulated test rods or posts separately connected to corresponding test-rods of other connecting-tubes, and also having a subscriber's wire insulated from said test-rods, of a circuit-wire in normal contact with said subscriber's wire and connecting it to a tube upon every other table in the exchange, and a connecting plug or pin adapted upon being inserted to throw said subscriber's wire out of contact with the table-wire and into contact with the connecting-cord, and at the same time to throw the test-posts into contact with each other and partially establish a test-circuit.

23. The combination, with the test-posts of the connecting-tube, of the drop-shutter of the subscriber's terminal, arranged in such manner that when it falls to indicate a call it rests upon and throws the posts into contact one with another to establish a test-circuit, whereby operators at any other table may inform themselves that such a line has called and is for the time being blocked.

24. In combination with the test-posts having upwardly-extending wires, the drop-shutter provided upon its face with a bent spring or bridge, as set forth.

25. In combination with the connecting-tube and its cross-piece, and with the frame-strip of the table bored to receive it, the headed test-posts passing through said frame-strip and cross-piece and binding the tube in position.

26. In combination with the connecting-tube and its cross-piece, the insulated test-posts clamping it to the frame-strip, and the nuts securing the threaded ends of said posts beyond the cross-piece, and provided with binding-screws for the terminals of the test-wires.

27. In combination with the connecting-tube and its cross-piece, the test-posts insulated in such cross-piece, the binding-screw for the line-wire set in one of the wings of the cross-piece, the insulating-block closing the rear end of the tube, the metallic head set in such block and provided with a binding-screw for the terminal of a table or ground wire, and the break-spring riveted to the cross-piece, resting at its free end upon the metallic head, and provided with a lug depending through a slot in the tube, whereby it may be raised out of contact with such head by the insertion of the connecting rod or plug.

28. In combination with a connecting-tube, a spring which normally brings the subscriber's wire into electrical connection with a table or ground wire, a lug upon said spring, and a connecting rod or pin beveled and notched upon one side, which, being inserted, lifts the spring by means of its bevel to break the connection with the table or ground wire and establish a new one with the connecting-rod, and then receives the lug into its notch, whereby it is held from accidental escape and is disengaged by turning upon its axis, substantially as described.

29. In combination with the connecting-tube and its test-posts, a connecting rod or plug carrying upon its shank an insulated conducting-disk to bridge the electrical gap between said posts.

30. In combination with the connecting-tube and its test-posts, a connecting-rod bearing an elastically-seated insulated conducting-disk, which comes in contact with the test-posts and throws them into electrical connection as the rod is inserted into the tube.

31. In combination with the connecting-tube and its test-posts, a connecting-rod bearing an elastically-seated insulated conducting-disk, which forms the contact between the test-posts, and means whereby the length of said rod may be adjusted to compensate for different lengths of tube.

32. In combination with the conducting-tube and its test-posts, a connecting-rod bearing an elastically-seated insulated conducting-disk, which forms the contact between the test-posts, and means whereby the force of said spring may be adjusted to increase the effectiveness of the contact between the disk and posts.

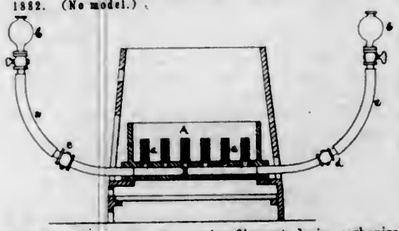
33. The socket-plug constructed, as described, with a body of insulating material, two conducting-surfaces, o' o^2, having binding-posts for the connecting-cords, and a central plunger in electrical contact with one of said binding-posts.

34. The connecting-plug G, constructed, as described, with a plug-rod adjustable lengthwise therein to enable it to be properly fitted to the connecting-tube.

35. The combination, with the connecting plug-rod f, of the disk g, having a metallic annular or conducting surface on its face.

36. The connecting-plug handle composed of the socket part h, double nut h', insulating-surface h^2, and cap-piece i, the latter binding the connecting-cord into electrical contact with the terminal of the plug-rod, as set forth.

269,239. PROCESS OF TREATING INCANDESCENTS. MARMADUKE M. M. SHATTUCK, New York, N. Y., assignor to the Shattuck Incandescent Lamp Company, same place. Filed Mar. 6, 1882. (No model.)



Claim.—The process of preparing filaments during carbonization, which consists in first placing the filaments within a suitable carbonizing-box, then putting the box containing the filaments into a retort, and, when it is slightly heated, charging the same with nitrogen gas, then raising the temperature, and, when a high degree of heat is obtained, allowing a slow feed of non-volatile hydrocarbon oil to pass into a chamber beneath the filaments, where it is converted by the action of the heat into fumes, which arise and surround the filaments, then occasionally diluting these fumes by a charge of nitrogen gas or any suitable agent, and continuing the process from three to six hours, or a sufficient length of time to obtain a uniform deposit throughout the filaments, substantially as described.

269,240. DIE FOR FORMING CARRIAGE-CURTAIN LOOPS. LYMAN T. SMITH, New Haven, Conn. Filed Oct. 15, 1881. Renewed May 10, 1882. (No model.)



Claim.—1. For making leather loops for carriage-curtains, the combination, with the die, the crimping-plate, and the matrix or bed, of a removable cushion having the form of the loop, held in place and used, substantially as described, for the purpose specified.

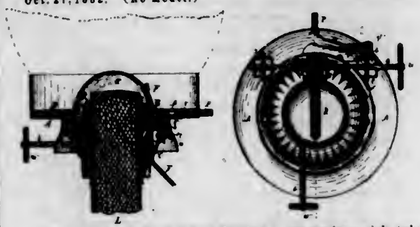
2. The combination of the die *b* and the matrix or bed *a* with a crimping-plate, *c*, having an end opening, *d*, and a removable cushion, *e*, having a hand-hold and adapted for use with the matrix or bed, substantially as described, for the purpose specified.

3. The matrix *a* and its bed-plate having a depressed surface or rabbet, *i*, at the front end, in combination with the crimping-plate *c*, having the end opening, *d*, the die *b*, and the removable cushion *e*, all constructed and adapted for operation substantially as described, for the purpose specified.

4. The combination of the die *b* and the matrix *a* with the crimping-plate *c*, having an end opening, *d*, adapted to receive the matrix in the operation of crimping the loop and the die in the subsequent operation of embossing or ornamenting the surface and finishing the loop, substantially as described.

5. The process of making leather loops for carriage-curtains, consisting in first crimping the leather blank and partially forming the loop portion over a yielding supporting surface, then removing such yielding supporting surface and completing the forward ornamentation of such loop upon a rigid matrix, substantially as set forth.

269,241. LAMP-LIGHTER. EDWARD B. SMITH, Richland, Mich., assignor of one-half to Patrick H. Gilkey, same place. Filed Oct. 27, 1882. (No model.)



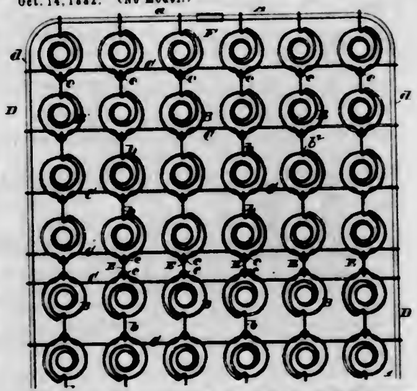
Claim.—1. A lamp-burner having a percussion-wick tube located at the side of the tube containing the wick to be lighted, in combination with a friction-shot, a gate for limiting the consumption of the percussion-wick, and means for raising said wick and for operating the friction shot and gate, substantially as set forth.

2. The percussion-wick and the revoluble shaft for raising it, provided with the arms for operating the friction-shot, in combination with said shot provided with the lugs for engagement with said arms, substantially as specified and shown.

3. In a lamp-lighting device, the combination, with a percussion-wick and means for raising it, provided with the arms, of a friction-shot provided with the arms and lugs, and a gate having a projection for engaging one of said shaft-arms, substantially as described and shown.

4. The shaft having the loop-arms and the gate provided with the extension for engaging one of said arms, in combination with the wick.

269,242. BED-BOTTOM. JOHN G. SMITH, St. Louis, Mo. Filed Oct. 14, 1882. (No model.)



Claim.—1. The combination, in a bed-bottom, of the springs B, the ties C, having the loops c and the hooks *b*, substantially as described.

2. The combination, in a bed-bottom, of the springs B and the ties C, said ties having the loops *c c*, said springs being extended to form the hooks *b b*, and said loops, springs, and hooks engaging substantially as described.

3. The combination of the spring B, having the hooks *b*, the ties C, having the loops *c*, and the frames D D, substantially as described.

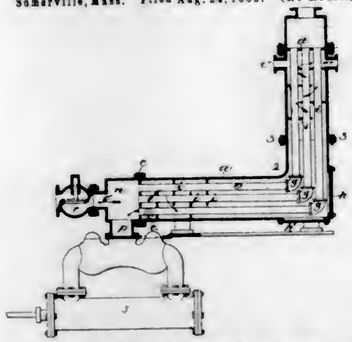
4. The combination, in a bed-bottom, of a row of springs, B, and a tie, C, said tie having loops *c c c*, engaging with said springs, substantially as described.

5. The combination of the parts *d d* and the malleable-pointed clasps F F, substantially as described.

6. A bed-bottom having a series of helical, double-helical, or spiral springs grouped in the form of a bed-bottom, and having ties extending across the bed-bottom at the face or faces thereof, said ties being fastened to the various springs in the directions in which the ties are respectively extended.

7. A bed-bottom having a series of helical, double-helical, or spiral springs grouped in the form of a bed-bottom, and surrounded at the upper and lower surfaces of the bed-bottom with frames D D, which are connected with the outer row of said springs, and having ties extending across the bed-bottom and tying the opposite parts of the frames together.

269,243. FEED-WATER HEATER. DANIEL C. STILLSON, Somerville, Mass. Filed Aug. 24, 1882. (No model.)



Claim.—1. In a feed-water heater, the casing consisting of a straight portion and a portion, *a*, having a bend or angle and provided with removable bonnets at either side thereof, combined with steam-pipes passing through the said portions of the casing and rigidly connected therewith at their ends, the said pipes being connected together by elbow-joints at the angle of the casing, substantially as and for the purpose described.

2. The L-shaped casing, closed at its ends, combined with the steam-pipes having an elbow-joint at the angle of the casing and a rigid joint at the ends thereof, and the braces for the said pipes near their ends, substantially as and for the purpose set forth.

3. The combination, with the pipes threaded at one end, of a fitting having a corresponding thread, and a bearing-sleeve fitted to the outside of the said pipe beyond its threaded portion, whereby the said fitting is securely held from rocking or lateral motion upon the said pipe without strain upon the threads, substantially as and for the purpose set forth.

269,244. TUBULAR WELL. RASSON E. STRAIT, Galesburg Mich. Filed Dec. 5, 1881. (No model.)



Claim.—1. The revoluble brass cylinder-joint provided with a rubber locking-band, in combination with a non-revoluble pipe-coupling, the lower end of which is adapted to press against the lower edge of said band, whereby both the band and joint are revolved in the operation of locking, for the object stated, substantially as set forth.

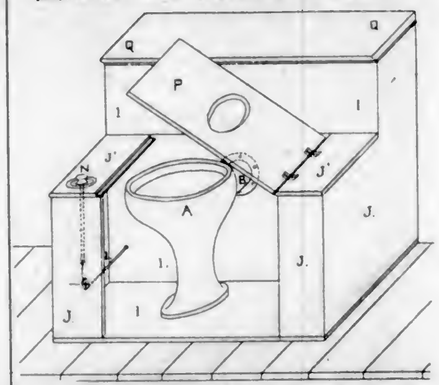
2. In a tubular well having the check-valve joint adapted for being detachably coupled for the purpose stated, the plunger-cylinder provided with the conical seat, in combination with said check-valve joint, having the conical end fitting closely yet detachably in said seat.

269,245. WHIFFLETREE. FRANCIS G. THOMAS, Providence, R.I. Filed Oct. 17, 1881. (No model.)



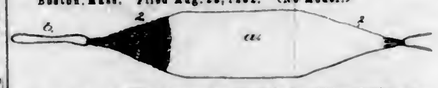
Claim.—A trace-fastening consisting of a whiffletree end provided with a shank having a flattened outer end, a button having ears which embrace and are pivoted to the shank end, and a spring secured in the button and adapted to bear upon the shank and hold the button in either of its two positions, substantially as described.

269,246. PORTABLE WATER-CLOSET. GEORGE E. WARING, Jr., Newport, R.I., assignor to the Drainage Construction Company, Boston, Mass. Filed Apr. 17, 1882. (No model.)



Claim.—As a new article of manufacture, a portable water-closet consisting of a bowl or hopper, a finished floor, seat, and casing, ready to be connected to the water-supply and waste pipes without the aid of a carpenter.

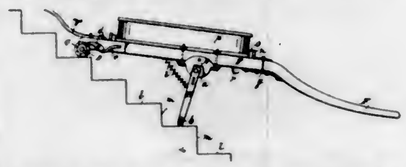
269,247. FLESH-RUBBING APPARATUS. GEORGE F. WATERS, Boston, Mass. Filed Aug. 28, 1882. (No model.)



Claim.—1. The herein-described flesh-rubbing device, consisting of a flexible band composed of knit vegetable fibrous material tapered at its ends and provided with handles, combined with a yarn of animal fibrous material worked into the loops upon one face of the band, as described, whereby one side or rubbing-face of the band is of vegetable and the other of combined animal and vegetable fiber, substantially as and for the purpose set forth.

2. The band *a*, of knit Manila twine, narrowed or tapered at its ends, combined with handles *b*, connected with the said ends, substantially as described.

269,248. STAIRWAY-TRUCK. JEROME W. WETMORE, Erie, Pa. Filed Apr. 17, 1882. (No model.)



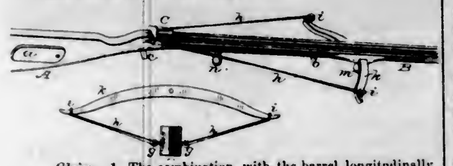
Claim.—1. The pivoted standard B, in combination with the spring *i*, substantially as described.

2. The spring *i*, detached from the frame F and attached to it behind B, for the purposes specified, substantially as described.

3. The hinged or movable arms *e* and the hinged handles F on the truck, substantially as described, for the purpose specified.

4. The stairway-truck, when constructed with the standard, spring, ratchet-wheel, and pawl combined, substantially as described.

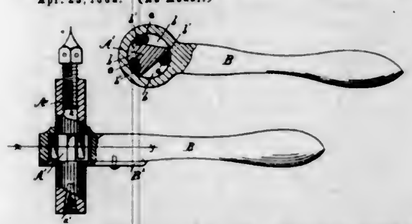
269,249. CROSS-BOW. DANIEL L. WILCOX, Pawtucket, R.I. Filed June 9, 1882. (No model.)



Claim.—1. The combination, with the barrel longitudinally grooved on top and recessed on each side, of a spring-bar detachably connected to the barrel, a projectile-carriage fitted to the side recesses on the barrel, and springs connecting the same to said detachable bar, substantially as described.

2. The combination of a spring-bar, springs, and projectile-carriage connected together, as described, with a barrel having an open mortise for the spring-bar, and splines for the carriage extended to its muzzle or front end of the barrel, substantially as described, whereby said bar, springs, and carriage are, without their separation, readily detached from the barrel.

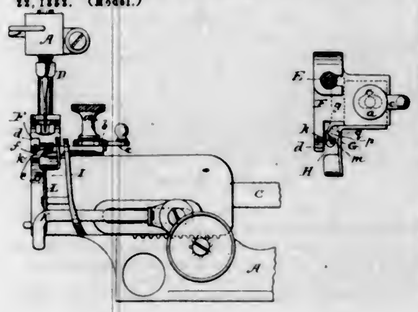
269,250. HAND-DRILL. ARETUS A. WILDER, Detroit, Mich., assignor of one-half to Corydon B. Palmer, same place. Filed Apr. 25, 1882. (No model.)



Claim.—1. The combination, with the tool-shaft having the enlarged angular portion, of the handle having the sleeve inclosing said enlarged angular portion and provided with the flange *d*, fitting against one end of said angular portion, the plate B', having a passage for the cylindrical part of the shaft and fitting against the other end of said angular portion, and the rollers arranged in the spaces between the inner periphery of the sleeve and the sides of the said angular portion of the shaft, substantially as described.

2. The combination, with a tool-shaft angular in cross-section for a portion of its length, a handle provided with a cylindrical sleeve inclosing the angular portion of said shaft, and rollers arranged to hold said rollers in contact with the sleeve and shaft, substantially as and for the purpose set forth.

269,251. MACHINE FOR SEWING STRAW BRAID. CHARLES E. WILKINSON, Fishkill on the Hudson, assignor to the Willcox & Gibbs Sewing Machine Company, New York, N.Y. Filed May 22, 1882. (Model.)



Claim.—1. A turning-up guide adapted to enter between the braids or layers of fabric, and having a guiding or upholding portion in the rear of the needle, substantially as described.

2. A turning-up guide adapted to enter between the braids or layers of fabric, and having guiding or upholding portions both before and behind the needle, substantially as described.

3. A turning-up guide having the bottom cut away or inclined upward from the extreme edge thereof, so as to accommodate different thicknesses between the said edge and the work-plate on the one hand and the body of the guide and the work-plate on the other, substantially as described.

4. A turning-up guide having the guiding or upholding portion which enters between the braids arranged alongside of and in close proximity to the needle, and adapted by means of a groove in said guide or an equivalent construction to clear the shank of the needle when lifted, substantially as described.

5. A turning-up guide having the lateral projection which enters between the braids alongside of the needle, substantially as described.

6. A turning-up guide having the portion behind the needle narrow in front and widening gradually to the rear, substantially as described.

7. A turning-up guide carried by the presser-foot of the sewing-machine, in contradistinction to an auxiliary presser, substantially as described.

8. The turning-up guide, in combination with means for detachably securing the same to the presser-foot proper, in contradistinction to an auxiliary presser, substantially as described.

9. The combination, with the ordinary or proper presser-foot of the sewing-machine, of the turning-up guide and the work-guide attached thereto or carried thereby, substantially as described.

10. The combination, with the presser-foot cut away in front to leave a projecting toe, and the work-guide, of a turning-up guide between the said toe and the work-guide and in close proximity to the needle, substantially as described.

11. The combination, with a turning-up guide, of a presser-foot recessed or cut away on the bottom to receive the upturned edge of the braid or fabric, substantially as described.

12. The combination, with the presser-foot and work-guide attached thereto, of the turning-up guide having the tail-piece thereof clamped between the work-guide and the presser-foot, substantially as described.

13. The combination of the presser-foot, the turning-up guide attached to and carried by said foot, and the independently-adjustable work-guide, substantially as described.

14. The combination, with the presser-foot, of the turning-up guide carried by said foot, and having the edge thereof which enters between the braids projecting below the bottom of the presser-foot, substantially as described.

15. The turning-up guide and the work-guide carried and connected by a common support, so as to be lifted together, said work-guide being adjustable independently of the turning-up guide, substantially as described.

16. The turning-up guide having guiding or upholding portions both in front and rear of the needle, in combination with the work-guide, substantially as described.

269,252. ROPE-CLAMP. JOHN A. WILLIAMS, Verona, Mo. Filed May 31, 1882. (No model.)



Claim.—1. In a rope-clamp, the combination of sleeve B, having internal grooves, and wedges C, having teats D, as set forth.

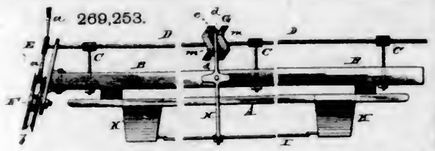
2. The combination of sleeve B, clevis E, secured to the sleeve by pins F, and wedges having teats D, as set forth.

3. The sleeve B, with a tapering opening and grooves, clevis E, secured by means of pins F, and wedges C, fitting in the grooves of the sleeve, and having outturned ends, and teats D, all substantially as and for the purpose set forth.

269,253. CHECK-ROWER. JAMES J. ALLISON, Rock Falls, Ill. Filed Apr. 24, 1882. (No model.)

Brief.—The wheels having cleft or forked arms are mounted upon either end of a transverse shaft, on which is also secured the grooved cam-wheel for operating the seed-slide. The arms of the cleft or rope wheels project into a grooved wheel, thereby preventing the knotted cord from getting out of position.

269,253.



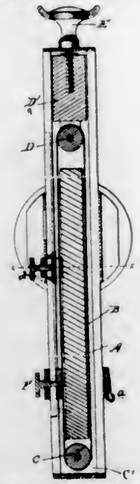
Claim.—1. In a check-rower, the combination of the wheel E, having radial cleft-arms *a*, a knotted rope or wire, and the pulley F, having the groove *b*, when such wheel and pulley are so located in relation to each other that the arms *a* in their revolution project into the groove *d* of the pulley F, substantially as shown, and for the purpose described.

2. The combination of the wheel E, having cleft-arms *a*, the pulley F, rod D, and wheel G, having the groove *d*, all substantially as shown, and for the purpose specified.

3. In a check-rower, the combination of the wheel E, pulley F, rod D, wheel G, and lever H, adapted to be operated by a knotted rope or wire, substantially as shown, and for the purpose mentioned.

4. In a check-rower, in combination with the reciprocating bar I, for actuating the seeding devices, the lever H, wheel G, rod D, pulley F, wheel E, and a knotted rope or wire, substantially as shown, and for the purpose described.

269,254. LEVELING-ROD AND OUT-TAPE. HENRY F. BEAN, Jackson, Mich. Filed June 17, 1881. (Model.)



Claim.—1. The rod A, in combination with the endless tape B and target H, adjustably secured to said tape and rod, substantially as and for the purpose specified.

2. The combination, with the rod A and a hook secured to said rod, of the graduated out-tape J, having two rings, M M', substantially as and for the purpose specified.

3. The combination, with the rod A and traveling endless tape B, of the clamp F, substantially as and for the purpose specified.

4. In a leveling-rod, the combination, with the rod A and the endless tape B, of the pulley C and the adjustable pulley D, substantially as and for the purpose specified.

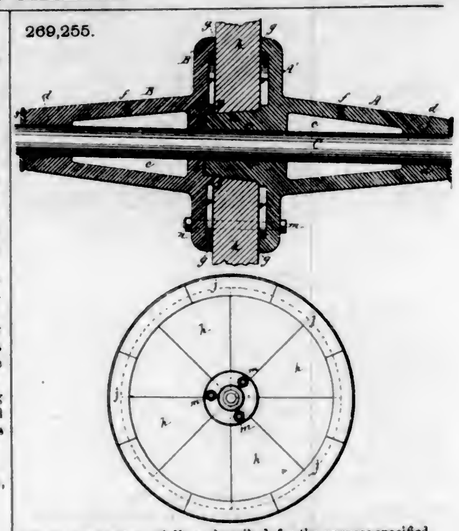
5. The combination, with the rod A and the endless tape B, of the target H, the loop *b*, secured to the target-frame I, and the clamping-screws *d h*, substantially as and for the purpose specified.

6. The combination, with the rod A and the endless tape B, of the adjustable target H, having loop *b* and clamping-screws *d h*, the clamp F, having hook *a*, and the graduated out-tape J, having rings M M', substantially as and for the purpose specified.

269,255. WHEEL. CHARLES N. BIDDLE, Richwood, Ohio. Filed Sept. 6, 1882. (No model.)

Claim.—1. The combination of the wooden sections *h*, joined radially to form a solid wheel-body, having a continuous circumferential tenon, *i*, with fellies *j*, grooved to correspond with said tenon, the hub-sections A B, interlocked at the center by the tubular projection *a*, forming a support for the body-sections, and the

269,255.



screw-bolts *m*, substantially as described, for the purpose specified.

2. A wheel having radially-joined wooden body-sections *h*, formed with a continuous circumferential tenon, *i*, in combination with fellies having corresponding grooves, *i'*, secured upon said tenon in break-joints with the body-sections, the hub-sections having flanges formed with bearing-rings *g*, and interlocking at the center by the tubular projection *a* of one section and a central receiving-recess, *b*, in the other section, and the screw-bolts *m*, the said tubular projection forming a support for the wheel-body sections and a middle bearing for the hub-sections upon the bearing-rod, as herein set forth.

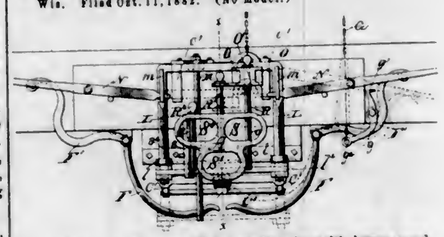
3. In combination, the grooved fellies *j*, the tenoned body-sections *h*, the flanged hub-sections A B, interlocking at the center, the bolts *m*, and bearing-rod C, and the nuts *r*, all constructed and united in a wheel having a solid body of radially-joined sections and a hub having middle and end bearings, *e d d*, and oil-chambers *c c*, substantially as set forth.

269,256. CIGARETTE. EDMOND BOURGNOIS, New Orleans, La. Filed Mar. 28, 1882. (No model.)



Claim.—A cigarette provided with a mouth-piece which is constructed of corrugated paper having perforations therein, said paper rolled into the form of a cylinder, through which a perfect draft is insured by reason of the communicating air-channels which are formed by the corrugations and perforations, substantially as set forth.

269,257. CAR-COUPLING. FREDERICK W. BROOKS, Oak Grove, Wis. Filed Oct. 11, 1882. (No model.)



Claim.—1. The lever F, in combination with levers *g* and counterbalanced lever D, substantially as set forth.

2. In combination with the draw-head, the shank of which is recessed at *a''*, the U-frame E, having beveled cross-piece, the balanced lever D, and a setting-lever, as set forth.

3. The sliding pin-yoke, in combination with levers for lifting

it and brackets O', for limiting its downward movement, as set forth.

4. The combination of the yoke and coupling and guide pins with the draw-head having flared pin-holes, as set forth.

5. The combination of frame E, balanced lever D, levers *g* and F, and cord or chain G with the pin-yoke and frame C, the latter carrying a leg, H, as set forth.

269,258. REIN-HOLDER. CALLENDER I. CALVERT, Philadelphia, Pa. Filed Apr. 24, 1882. (No model.)



Claim.—1. A rein-holder formed of parallel bars connected together so as to leave throats on opposite sides, and provided with a horn or hook on the rear bar thereof to prevent disengagement or slipping of the rein.

2. A rein-holder formed of parallel bars connected together at their ends so as to leave throats on opposite sides, and provided with a horn or hook on the rear bar thereof and lugs B at the sides of the rein-holder, substantially as and for the purpose set forth.

269,259. AUTOMATIC RAILROAD-SWITCH. JOSEPH G. CHANEY, Springfield, Mass., assignor of one-tenth to Benjamin Pageant, same place. Filed Jan. 25, 1882. (No model.)

Brief.—The throw-rails are shifted to the siding through a laterally-adjustable lever and a rope passing therefrom to said rails, said rope passing around pulleys.



Claim.—A lever, *b*, cable *a*, pulleys *f e*, in combination with the rails and an engine provided with means to move the lever *b*, substantially as shown, for the purposes stated.

269,260. WATER AND STEAM METER. AUGUST C. CHRISTENSEN, Brooklyn, N. Y. Filed July 20, 1882. (No model.)



Claim.—1. The combination of an inclosing-casing having a chest at the upper part and diagonal channels at the lower part, reciprocatory plungers or pistons having channels forming slide-valves, and valves resting loosely on said plungers and operated by contact with the casing, substantially as described.

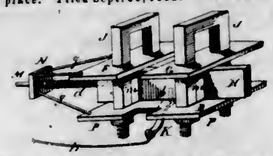
2. In a water and steam meter, the combination of an inclosing-casing having a chest at the upper part and two sets of diagonal channels crossing each other at the lower part, two reciprocatory plungers or pistons having channels which form slide-valves, two double gridiron slide-valves having curved under faces resting on said plungers and communicating with openings therein, one half the openings to each gridiron-valve being closed while the other half is open, substantially as described.

269,261. SIDE-BAR WAGON. PATRICK G. CLANCY, Lexington, Miss. Filed June 3, 1882. (No model.)



Claim.—The semicircular side bars, C C, with interposed filling-block *b*, fastened together in the center by bolts *a a*, combined with the springs, the wagon-body having cross-bars D B, and a bolt, *e*, connecting the joined or middle portion of the side bars to the body with an upward curve, substantially as shown and described.

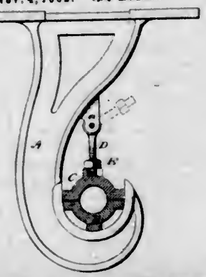
269,262. WHEEL-LOCK FOR VEHICLES. EDWARD C. CLARK, Boston, Mass., assignor to himself and Samuel J. Wilkinson, same place. Filed Sept. 30, 1882. (No model.)



Claim.—1. A carriage-wheel lock consisting of parallel bed and cap plates, interposed lifts between said plates, a spring-pressed bolt which slides horizontally between said plates and is adapted to lock into notches on the wheel-hub, said bolt being provided with a stud which projects through a slot of the base-plate, a lever pivoted to said base-plate and provided with a slot into which said stud projects, means for operating said lever, and U-shaped bolts or hangers passing through said plates, whereby the device may be readily attached to a vehicle-axle, substantially as described.

2. A carriage-wheel lock consisting of parallel bed and cap plates, interposed lifts between said plates, a spring-pressed bolt which slides horizontally between said plates and is adapted to lock into notches on the wheel-hub, a vertical slotted plate in which the extension of said bolt slides, braces connecting said vertical plate with the cap and base plates, a slotted lever pivoted to said base-plate, a stud on said bolt which passes through a slot in the base-plate and into the slot of the lever, and means for attaching the parts to a carriage-axle, substantially as described.

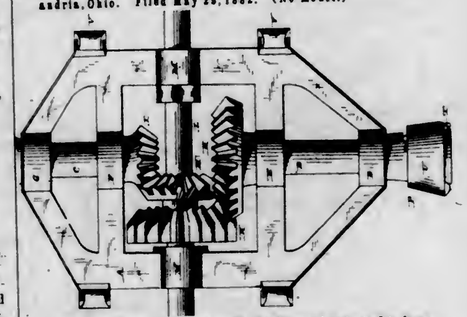
269,263. SHAFT-HANGER. ERNEST V. CLEMENS, Ansonia, Conn. Filed Nov. 4, 1882. (No model.)



Claim.—1. The combination of the hanger, box, and cap, which form a bearing for the shaft, with a screw hinged by its upper end to the hanger above the cap, and a nut on the screw to bear upon the cap or to release the cap, so that the screw may be turned away from over the cap, substantially as described.

2. The combination of the hanger, box, and cap, which form a bearing for the shaft, with a screw hinged by its upper end to the hanger above the cap, the cap constructed with a socket to receive the lower end of the screw, and a nut on the screw to bear on said socket, substantially as described.

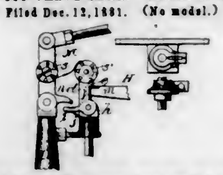
269,264. BORING-MACHINE. HENRY C. CLOYD, West Alexandria, Ohio. Filed May 25, 1882. (No model.)



Claim.—The combination, with the frame A, adapted to be secured in the main frame of the boring apparatus, of the two bor-

ing-tool spindles, having beveled-gear wheels of different diameters intermeshing with beveled-gear wheels on the horizontal shaft, the frame A being adapted to be reversed in the main frame, so as to bring either of the tool-shafts into play, substantially as and for the purpose specified.

269,265. CUT-OFF-VALVE GEAR. GEORGE M. CONWAY, Milwaukee, Wis. Filed Dec. 13, 1881. (No model.)



Claim.—1. The beam H, pivoted between the upper ends of the valve-rods, in combination with trips—one on each valve-rod—adapted each to engage with one end of the beam, and other trips connected with the governor-stem and engaging with the first-named trips, as set forth.

2. The combination of trips *d d'* and M M', connected by chains or cords, and a winding device, with rods E E', connecting them with the governor-stem, as set forth.

3. The valve-rods having enlargements *b''* for receiving the returning impact of the steam, and having caps *g* on their lower ends, in combination with stationary heads, each head having a central cylinder, *h'*, apertured to permit the escape of air through it from between the cap and head into an annulus about it, (the said cylinder,) as set forth.

4. Cap *g*, the wall of which is grooved on its inside vertically, in combination with the head having its wall reduced on its outside, and having a packing-ring about it just above its reduced portion, as set forth.

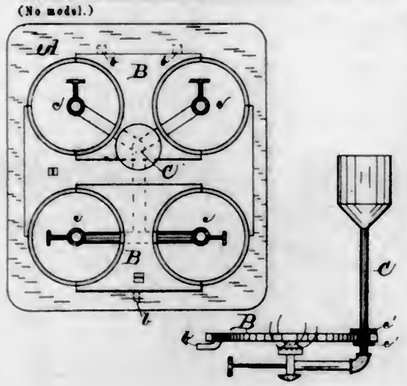
5. The cap *g*, in combination with head *g'*, having a central cylinder, *h*, with apertures leading from between the head and its cap into an annular chamber between the cylinder and the outer wall of the head for deadening the sound occasioned by the expulsion of the air, as set forth.

269,266. TOY TARGET. CHARLES M. CRANDALL, Montrose, Pa., assignor to Fred W. Crandall and Benja. L. Baldwin, both of same place. Filed July 25, 1882. (No model.)



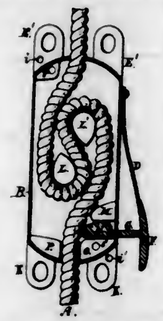
Claim.—A toy target composed of the target proper, A, an elastic cord passing through the bull's eye in said target, a clamping device on the back of said target to engage and hold the cord at any adjustment thereof, and an armed dart attached to and carried by said cord, substantially as shown and described.

269,267. GASOLINE-BURNER ATTACHMENT FOR COOK-STOVES. DUANE T. DAVIS, Paxa, Ill. Filed Oct. 20, 1882. (No model.)



269,268. FIRE-ESCAPE. OSCAR F. DAVIS, Topeka, Kans. Filed Jan. 16, 1882. (No model.)

Brief.—Improvement on Letters Patent No. 209,137, dated October 22, 1878. Additional friction devices are inserted in the box and a spring brake-block is arranged to bear on the fire-proof rope.

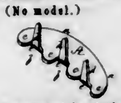


Claim.—1. The combination, in a friction-box, B, of the ears E', by which the said box is readily made reversible, with the friction-shoulder P, by which desirable and addition friction is secured against the rope A, the opposing shoulders M and O, for securing desired firmness to the operation of the brake-block N, and the handle F, for the better manipulation of the brake-block, substantially as described.

2. The combination, with the box B, provided with friction devices, as described, of the fire-proof rope A, substantially as described.

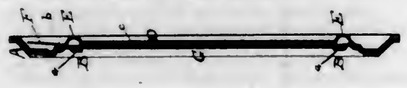
3. The combination, with the box B, provided with friction devices, as described, of the wire *k*, for holding the person descending away from the building or from the flame of a window by which he may be compelled to pass, substantially as described.

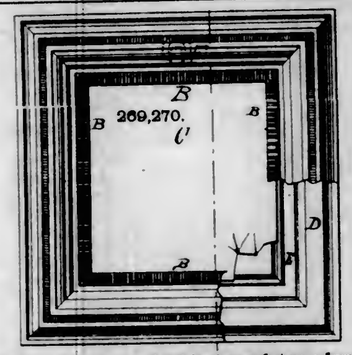
269,269. HEEL-PLATE. FRANCIS DRAPER, Boston, Mass. Filed Oct. 30, 1882. (No model.)



Claim.—As an improvement in stationary heel-plates, a flat sectional heel-protector, A, of metal, having a curved side, *a*, corresponding to the curvature of the outer edge of the heel to which it is to be applied, and an irregular side, *b*, formed by a series of prongs, *d*, at right angles to the flat surface of the plate, and a series of projections, *c*, lying in the same plane with and extending from the said flat surface beyond the prongs, and located on each side thereof, in order to constitute guards therefor, whereby they are protected from being unduly worn and separated from the flat portion of the plate at their points of intersection therewith, the construction and arrangement of the several parts being as described, for the purpose set forth.

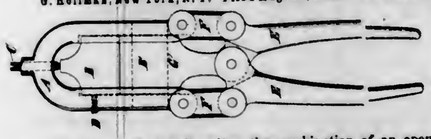
269,270. PASTEBOARD FRAME FOR MIRRORS. BERNARD DREYFUSS, New York, N. Y. Filed Oct. 30, 1882. (No model.)





Claim.—As an improved article of manufacture, a frame for mirrors, formed of pasteboard, with a recessed molding, B *a*, to receive the face of the glass, and backing provided with a molding, E, surrounding and projecting above the back of the glass as a protecting-guard, substantially as shown and described.

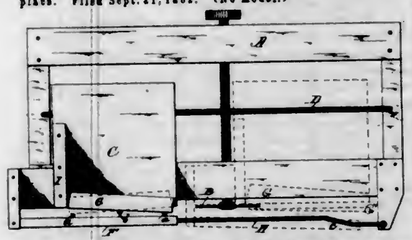
269,271. BOLT-CUTTER. ALEXANDER R. DUFF, Oneida, N. Y., assignor of two-thirds to Peter Lewis, same place, and John G. Hoffman, New York, N. Y. Filed Aug. 21, 1882. (No model.)



Claim.—1. In a bolt-cutter, the combination of an open frame, A, having its two sides rigidly connected together, a stationary cutter, B, secured therein, a movable cutter, B', extending across the frame, and having its opposite edges fitting in guides in the sides of the frame, two levers, E, pivoted together and to the stock of the movable cutter, and links F, connecting said levers with the two sides of the frame, substantially as specified.

2. The combination of the frame A, the cutter B, fitted to guides in the frame, the screws C D, the cutter B', the levers E, and the links F, pivotally connected to the levers and frame, substantially as specified.

269,272. SHINGLE-SAWING MACHINE. AARON EMERICK, Johnsburg, Pa., assignor of one-half to John M. Stief, same place. Filed Sept. 21, 1882. (No model.)



Claim.—1. The combination, with the frame, saw, and carriage, of the gage pivoted to the carriage and connected to a bent guide-rod, whereby a lateral movement shall be given thereto to release the sawed shingle, substantially as specified.

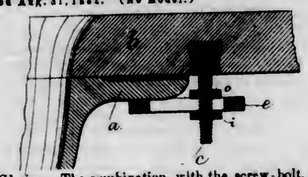
2. The combination, with the frame, saw, and carriage, of the gage having projections, of which the central one is longer than the others, and connected to a bent guide-rod to give it a lateral movement, substantially as specified.

269,273. ELECTRIC FIRE ALARM AND EXTINGUISHER. CLARENCE A. EVANS, Upland, Pa. Filed Sept. 9, 1881. Reissued May 13, 1882. (No model.)

Claim.—1. The combination, with an electric battery, of a thermostatic circuit-maker, an electric bell, and an electrically-actuated valve mechanism, said bell and valve mechanism being in open circuits, each of which said circuits communicates with a thermostat common to both, and which are closed successively by means substantially as described.

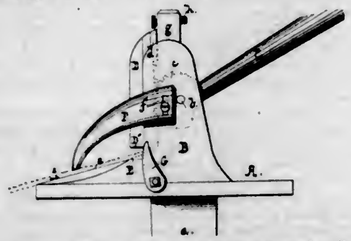
2. The combination of electric battery A, electric bell B, and electro-magnet G, armature G', having lug *c'*, lever *c²*, spring *c'*, and valve C, with double mercury-cup H, having legs *h h'*, of unequal length, and conductors from said battery and in open circuit with said mercury-cup, bell, and valve mechanism, respectively, said parts being arranged substantially as described, whereby a sufficient temperature will close the circuits to and operate said bell and valve mechanism successively, as specified.

269,274. BASIN-CLAMP. PATRICK FOLEY, Brooklyn, N. Y. Filed Aug. 31, 1882. (No model.)



Claim.—The combination, with the screw-bolt, the slotted clamp-bar *e*, and nut *i*, of the nut *o* upon the screw-bolt between the clamp-bar *e* and the slab, for the purposes and as set forth.

269,275. SAW-SET. BRADLEY W. FOSTER, Huntington, W. Va. Filed Apr. 28, 1882. (No model.)



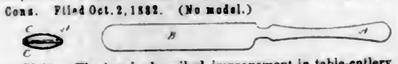
Claim.—1. The combination, substantially as described, of base A, uprights B, lever C, pivoted between said uprights and having segment-rack head, the V-shaped plunger having rack to engage said head, block *g*, set-screw *h*, gage G, curved slotted fin-

ger F and its adjusting-screw, the anvil, and the adjusting-screw S, all as set forth.

2. The combination, with the anvil, of the V-shaped plunger having rack-teeth, the uprights B, the lever C, having segment-rack head to engage said rack-teeth, and the screw A to limit the movement of the plunger, as set forth.

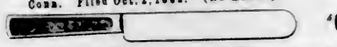
3. In combination with the base having lug *a*, standard B, block *g*, and set-screw, the V-shaped plunger, anvil E, incline *e*, gage G, and finger F, and mechanism for actuating the plunger, as set forth.

269,276. TABLE-CUTLERY. JAMES D. FRARY, Bridgeport, Conn. Filed Oct. 2, 1882. (No model.)



Claim.—The herein-described improvement in table-cutlery, consisting in the sheet-metal tang extending from the blade, the struck-up scales upon each side the tang, and a cast-metal covering surrounding said scales to form the surface of the handle, substantially as described.

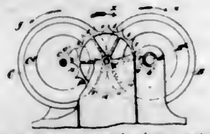
269,277. TABLE-CUTLERY. JAMES D. FRARY, Bridgeport, Conn. Filed Oct. 2, 1882. (No model.)



Claim.—1. The herein-described improvement in table-cutlery, consisting in the handle and tang made in one and the same piece from sheet-steel, the tang extending through the handle portion, with a cast-metal rib around the edge and on opposite sides of the handle, to form a recess on the said opposite sides of the handle, of which the surface of the tang will form the bottom, substantially as described.

2. In table-cutlery, the blade and tang formed in one and the same piece of sheet-steel, the tang in shape and size corresponding to the outline of the handle, with perforations around the edge of the tang, and cast-metal ribs on opposite sides to form the handle, the ribs on one side united to the ribs on the opposite side through the perforations in the tang, and so as to leave the edge of the tang exposed around the handle, substantially as described.

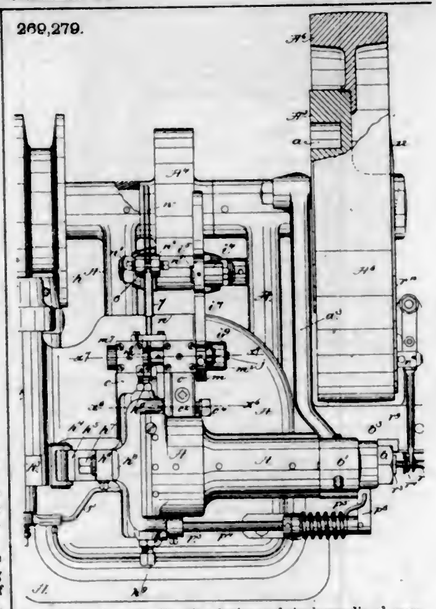
269,278. CLOCK-WORK ESCAPEMENT. GEORGE P. GANSTER, Reading, Pa. Filed Apr. 10, 1882. (No model.)



Claim.—1. An escapement having a notched escapement-wheel, as A, and two balanced members, as B C, geared together and carrying studs *b' c'*, combined and arranged substantially as herein specified.

2. In an escapement, the notched escapement-wheel A and members B C, having pins *b c*, in combination with the adjustable brackets B^2 C^2, carrying the members B C, and with means, as E, for varying the distance between the centers of the members B and C, substantially as and for the purpose herein specified.

269,279. NAIL-MAKING MACHINE. LOUIS GOUDD, Winchester, Mass., assignor to Gordon McKay, Newport, R. I., and James W. Brooks, Cambridge, Mass., Trustees. Filed June 10, 1882. (No model.)



Claim.—1. The followers and their attached dies c^3 c^3, the rock-shafts b^3 b^4, and the connecting-links b^5, combined with the toothed lever B, to operate the said rock-shafts, substantially as described.

2. The block d^4 and shoe or pressure to keep the strip down in its guideway, combined with the reciprocating followers, their attached dies, and the cutter member *d*, to operate substantially as described.

3. The block d^3, constituting the under member of the cutter, the follower, and the attached movable upper cutting member, combined with the directing device having an edge to enter the blank severed from the strip, substantially as described.

4. The cutting mechanism to sever the strip transversely, and the directing device having a thin or sharp edge, upon which the blank is pressed and held, combined with the transferrer to act upon the said blank each side the directing device and move it toward the dies, substantially as described.

5. The cutting mechanism to sever the strip transversely, the directing device having a thin or sharp edge upon which the blank is pressed, the upper die, c^3, the horizontal extension or part 15 at its side and above the directing device, and the lower die, c^3, combined with the transferrer, to act upon the blank and place it in the space of the dies, substantially as described.

6. The cutting mechanism to sever the strip, the dies c^3 c^3, and the tranferrer, to act upon the edge of the blank near its ends and place it in the space of the said dies, combined with the header to head the said blank, substantially as described.

7. The directing device to support the under side of the blank as it is being fed forward, combined with the die c^3, having a notch, into which the front end of the said directing device is entered, substantially as described.

8. The directing device to support the under side of the blank as it is being fed forward, a spring to force the directing device toward the blank, the dies c^3 c^3, and the transferrer, to act upon the blank and move it beyond the end of the directing device into the die-space, combined with the stop to arrest the movement of the blank in line with the space in the said dies which is to receive the blank, substantially as described.

9. The stop *p*, forked at its front end, and the dies c^3 c^3, combined with the transferring device, substantially as described.

10. The stop *p*, forked at its front end, and the dies c^3 c^3, combined with the spring-supported directing device, adapted to rise behind the blank close to the die-space as the blank is to be compressed in the said die-space, substantially as described.

11. The dies c^3 c^3, the stop, and its rod p', combined with the arm p^3, rock-shaft p^4, arm p^5, and means to move them at the proper times, substantially as described.

12. The dies c^3 c^3 and the header to head the blank therein, the rock-shafts b^3 b^4, links b^5, and toothed lever B to operate the rock-shafts, combined with the ejector to throw the headed nail from between the dies, substantially as described.

13. The dies c^3 c^3, the ejector, its actuating-spring, the flanged nut or collar p^4, and the lever r^3, combined with a cam to actuate the said lever and retract the ejector, substantially as described.

14. The ejector, the collar r^4, and the long tubular check-nut, combined with the guide r^2 for the nut, substantially as described.

15. The feed-rollers, their carrying-shafts, the pawl i^3 and ratchet m, and the notched arm i^3, combined with the lever to move the said arm and pawl-carrier when the arm is engaged with the said lever, substantially as described.

16. The lever n^3 and transferrer connected therewith, composed of two rods, combined with the block h^3, which serves as a guide for the said transferrer, as shown and described.

17. The rock-shaft h^4, arm h^5, link h^3, and lever h^2, combined with the header connected therewith, substantially as described.

18. The header and the nipple in which the shank of the header is entered, combined with the removable screw to act against the inner end of the said header, substantially as described.

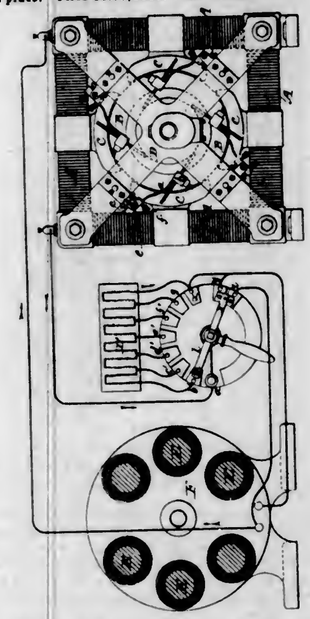
19. The dies c^3 c^3, the header, and the ejector to remove the headed nail from between the dies, combined with the shield or deflector *s*, substantially as and for the purpose described.

269,280. CONCRETE ARCH FOR SIDEWALKS AND OVER AREAS. GEORGE GOODMAN, San Francisco, Cal. Filed Aug. 10, 1882. (No model.)



Claim.—A concrete arch having thickened haunches resting on the upper surfaces and sides of the girder, and provided with the rabbeted joint *c*, substantially as set forth.

269,281. TRANSMISSION OF POWER BY ELECTRICITY. ZENOBE T. GRAMME, Paris, France, assignor to Alfred Mirandet, same place. Filed Oct. 9, 1882. (No model.)



Claim.—1. In an electrical machine, and in combination with the commutator-disk thereof, the collecting-brushes carried by and longitudinally adjustable in clamps, and the elastic arms carrying said clamps, substantially as described.

2. The combination of a collecting-brush, a clamp therefor, an arm carrying the clamp, a tilting block to which the said arm is attached, and the two set-screws on opposite sides of the pivot of the block, for adjusting the position of said block, substantially as described.

3. In a system for transferring power by electricity, a dynamo-electric machine having the cores of the field-magnets and like parts formed of material retaining but little residual magnetism, in combination with a motor or electro-dynamic machine whereof the cores and like parts retain a large supply of magnetism, substantially as described.

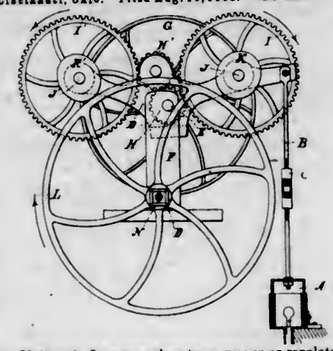
4. The combination, with a dynamo-electric machine, a motor, a rheostat, and a commutator or switch, of an electro-magnet included in the circuit and connected with said commutator or switch, as indicated, so that as the current increases portions of the rheostat are successively cut out, and as the current diminishes the reverse operation takes place, substantially as described.

5. The combination, with an electric motor or electro-dynamic machine and a rheostat, of a commutator or switch having a series of contacts connected with parts of the rheostat, and a pair of contacts connected with the poles of the motor, and movable contacts connected as explained, so that when the whole of the rheostat is included in circuit the motor is cut out, but is connected in when a portion of said rheostat less than the whole is included, substantially as described.

6. The combination, with the series of parallel magnets, of the pole-piece, made thin or cut away on the inside, and the armature or ring revolving within said poles and in front of the axes of said magnets, substantially as described.

7. The combination of the series of parallel magnets, their pole-pieces, the disks at opposite ends of the magnets, the armature-shaft journaled in said disks, and the armature or ring carried at one end of said shaft between the pole-pieces, substantially as described.

269,282. GOVERNOR FOR GAS-EXHAUSTERS. ROBERT P. GARDE, Columbus, assignor of one-half to John Anderson, Cincinnati, Ohio. Filed Aug. 15, 1882. (No model.)



Claim.—1. In a gas-exhauster governor or regulator, the described combination, with a steam-engine throttle controlled by screw-shaft M, of drum L, and with a gas-pressure gage or indicator-float, of the two elliptical wheels K K', journaled at opposite ends of rocking frame D and rotated in opposite directions by suitable connection, I I' H H' G, with the steam-engine which operates the exhaust, one end of said frame being connected by stem B with a float, A, or other gas-pressure indicator, said elliptical wheels being so located as for one or other of them to impinge on the said drum, or to be both held aloof therefrom, according to the (for the time being) gas-pressure, substantially as and for the purpose set forth.

2. In a gas-exhauster governor or regulator, the pair of elliptical friction-wheels K K', oppositely rotated by suitable connection with the same steam-engine which drives the exhaust, and mounted in a rocking frame, D, connected with the indicator-float, and having alternate contact with a drum, L, whose shaft is connected with the steam-engine throttle, substantially as and for the purpose set forth.

269,283. TOY CHANDELIER. EDWARD J. HALL, Philadelphia, Pa. Filed Oct. 20, 1882. (No model.)

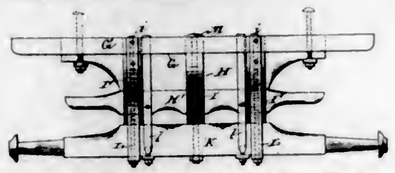


Claim.—1. A toy chandelier formed with a main stem and divergent supporting-arms, composed of strips of tin or other metal twisted and united substantially in the manner set forth.

2. A toy chandelier in which the narrow strips of metal used to form the body thereof are continued separately and bent so as to form the arms, substantially as shown and described.

3. The body A, having arms B B, in combination with socket *d*, substantially as and for the purpose described.

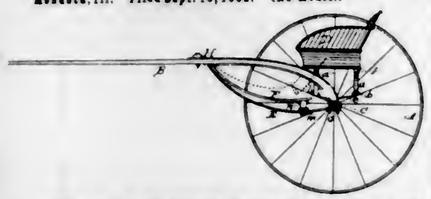
269,284. WAGON. ANDREW HARMAN, Milwaukee, Wis. Filed June 24, 1882. (No model.)



Claim.—1. The combination, with curved braces I', of straps L, as set forth.

2. The combination of braces I I', straps L and *l l*, the truss, and axle, as set forth.

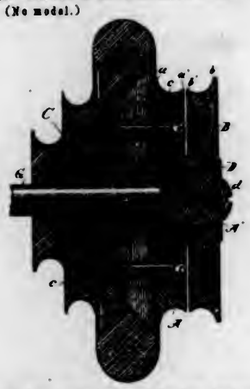
269,285. TWO-WHEELED VEHICLE. THOMAS H. HAWTHORNE, Mendota, Ill. Filed Sept. 18, 1882. (No model.)



Claim.—1. In two-wheeled vehicles, the foot-board F, hung to swing between the braces E and to bear on a spring, *s*, interposed between the foot-board and the braces E, in combination with the stop *p* and bar *m*, as and for the purpose specified.

2. In two-wheeled vehicles where the box and seat have separate supports, the long springs *a a*, lying parallel with the axle-tree C and on opposite sides thereof, in combination with the short springs *e*, axle-tree C, braces E, springs *s*, and foot-board F, as and for the purpose specified.

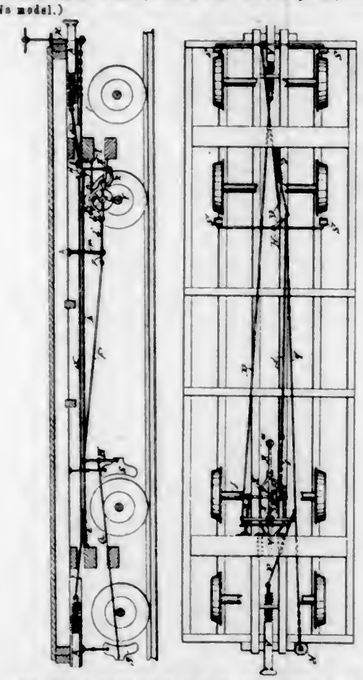
269,286. TIGHT AND LOOSE PULLEY FOR ROUND BELTS OR CABLES. GEORGE A. HENDERSON, Decatur, Ill. Filed May 19, 1882. (No model.)



Claim.—1. The tight pulley A, having grooved face, with high side *a* and low side *a'*, a central turned hub (either solid or having a central hole) adapted to support a loose pulley, B, also having grooved face, with high and low sides *b* and *b'*, their low sides placed together to allow the belt or cable to pass from one to the other, substantially as and for the purpose specified.

2. The tight pulley A, having grooved face, with high side *a* and low side *a'*, a central turned hub (either solid or having a central hole) adapted to support a loose pulley, B, also having high and low sides *b* and *b'*, their low sides placed together when directly attached to the balance-wheel of sewing-machines, or when attached to the extended portion of the shaft of other light machinery, substantially in the manner shown, and for the purpose specified.

269,287. CAR-BRAKE. JOHN W. HERSON, BENJAMIN F. HUDSON, and SYDNEY SMITH, Dallas, Tex. Filed Sept. 27, 1882. (No model.)



Claim.—1. In combination with the draw-heads A and the brake-levers H H G, the friction-wheel C, hinged frame *d*, carrying said rod and chain F F, levers K and B, and rods *a a*, as shown and set forth.

2. In combination with the draw-heads A and brake-levers H H G, the hinged frame *d*, friction-wheel C, pivoted thereon, and having its periphery in contact with the periphery of the car-axle, the spring *m*, the levers K B, rods *a a*, connecting the lever B with the draw-heads, the chain wound upon the axle of the friction-wheel, the rod F', and spring *e*, all combined and constructed as shown.

3. In combination with the hinged frame *d*, friction-wheel C, levers K B, and their connection with the cross-bar, the supplemental friction-wheel D, chain and rod J, lever I, bar N, provided with spring *s*, and the tripping-lever L, all combined and operating as shown and set forth.

269,288. DOUGH-DIVIDING MACHINE. FRIEDRICH HERBST and GUSTAV SEIDEL, Halle-on-the-Saale, Germany, assignors to Wilhelm Schmidt, Chicago, Ill. Filed Oct. 5, 1882. (No model.) Patented in Germany Oct. 18, 1877, No. 640, and Aug. 4, 1880, No. 15,145.

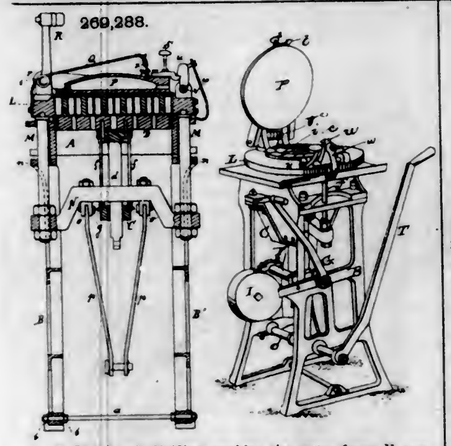
Claim.—1. In a dough-dividing machine, the combination of the stationary cutter-frame E, reciprocating disk D, with followers *i*, and reciprocating ring L, with cover P, and mechanism, as described, for operating the same, substantially as set forth.

2. In a dough-dividing machine, the cylindrical table A, having cutter-frame E, in combination with reciprocating disk D, having followers *i*, and reciprocating ring L, having cover P, and mechanism for operating the same, all constructed and arranged substantially as described and shown.

3. In a dough-dividing machine, the stationary cutter-frame E, in combination with disk D, having followers *i*, and being forced upward by a lever, G H, having a counter-weight, I, all constructed and arranged substantially as described, for the purpose specified.

4. In a dough-dividing machine, the stationary cutter-frame E, the disk D, having followers *i* and rod *d*, that is connected by links *j* with crank *h* of shaft F, and of lever G H, secured to such shaft, and having counter-weight I, all constructed and arranged substantially as set forth, to operate as specified.

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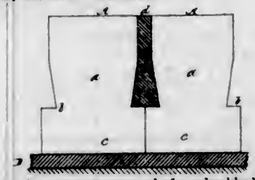
5. In a dough-dividing machine, the cutter-frame E, composed of rings *e e'* and radial plates *e*, and supported by cylindrical table A, and by adjustable rods *f*, resting upon saddle-plate C, all constructed and arranged substantially as set forth.

6. In a dough-dividing machine, the combination, with the stationary cutter-frame E, of ring L, connected by rods M with yoke N, such yoke being connected by rods *p* with crank *q* of shaft O, that has lever T, all constructed and arranged to operate substantially in the manner set forth.

7. In a dough-dividing machine, the reciprocating ring L, having hinged cover P, and being provided with spring Q, combined standards R, and a suitable locking device, all substantially as and for the purpose set forth.

8. In a dough-dividing machine, the combination, with the stationary cutter-frame E, of disk D, having followers *i*, and being connected with lever G H, having counter-weight I, and of the ring L, having cover P, and being connected with lever T, the whole being constructed and arranged to operate substantially as set forth, for the purpose specified.

269,289. PAVEMENT. EDWARD HEYLIN, Brooklyn, N. Y. Filed July 24, 1882. (No model.)



Claim.—A pavement composed of wooden blocks A, each having a rectangular base, *c*, and a triangular groove, *b*, along each side, as shown and described, and a cement filling, *d d'*, composed of strained resin, residuum of petroleum, calcined plaster-of-paris, or its equivalent, sulphuric acid, and sand or gravel, in about the proportions and compounded and applied in the manner hereinbefore specified.

269,290. PEN. JOHN HOLLAND, Cincinnati, Ohio. Filed Dec. 14, 1881. (No model.)



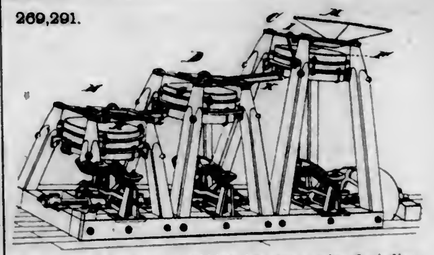
Claim.—1. The pen A, having facing-plates of iridium, as B, said plates forming the writing-points and extending up the nibs to strengthen the same, substantially as specified.

2. The pen A, having two iridium plates, B B, facing the inside of the nibs and forming the writing-points.

269,291. PROCESS OF MAKING PULP. GEORGE L. HUNTABLE, Laurel, Ind., assignor of one-half to Simpson & Oault, Cincinnati, Ohio. Filed Mar. 11, 1881. Renewed Nov. 23, 1882. (No model.)

Claim.—1. The herein-described process of making pulp from wood or other fibrous material by the gradual reduction of said

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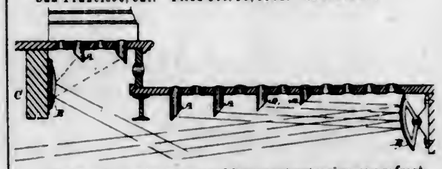
fiber by successive series of rubbings between a series of grinding-mills constructed and arranged substantially as herein set forth.

2. The herein-described mode or process of the gradual reduction of wood or other fibrous material, which consists, first, in reducing the material to a coarse consistency suitable for being fed into a grinding-mill, into which it is admitted with a stream of water to assist in rubbing, and thence carried into another set of millstones, where it is still further reduced, which gradual reduction by grinding-mills is successively continued until the fiber is uniformly reduced to a finished pulp, substantially as herein set forth.

3. In the manufacture of pulp from wood or other fibrous material, a series of instruments consisting essentially of a sawing or cutting mill, A, and a series of grinding-mills, C D E, or their equivalents, arranged in consecutive order, so that the product of the cutting-machine can be introduced into the first mill in connection with a stream of water and pass through the series of mills, by which it is gradually reduced to a finished pulp, substantially as herein set forth.

4. A series of reducers, C D E, each consisting of a pair of mill grinding-stones the furrows of which are dressed to gradually terminate at or near the periphery, and adapted to a gradual reduction of wood or other fibrous material to a finished pulp by the successive operation of the series, substantially as herein set forth.

269,292. ILLUMINATING BASEMENTS. PETER H. JACKSON, San Francisco, Cal. Filed Oct. 10, 1882. (No model.)



Claim.—1. In a basement and basement-extension, the refracting-lenses A, fitted into the step, area, or sidewalk so as to throw the light forward, in combination with the mirror or mirrors B, to receive the refracted light and reflect it backward into the basement, substantially as herein described.

2. In combination with the refracting-lenses A, fixed in an area or sidewalk above a basement-extension, so as to throw light forward, the convex adjustable mirror or mirrors B, substantially as herein described.

3. In an area basement-extension, and in combination with the mirror or mirrors B, fixed or adjustable at the front of the space, the refracting-lenses A, fixed in the surface above and diminishing in length as they approach the mirrors, so that the light from those behind shall not be obstructed by those in front, substantially as herein described.

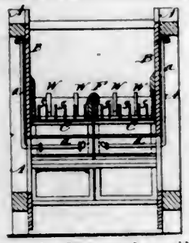
269,293. GRAIN THRASHER AND SEPARATOR. FRANK JOHNSON, Fredericksburg, Mo. Filed Mar. 31, 1881. (No model.)

Claim.—1. In a thrasher and separator, the two hinged pans C, placed side by side, in combination with the hinged hangers D E, casing B, having sides which overlap the side bars of the pans, the rods G, passing down between the edges of said pans, and means for supporting said rods in position, as shown and described.

2. The combination, with the shoes Z, supporting-frame A, and casing, of hangers *a*, made elastic and having the upper ends hinged to frame A, and the lower ends bent to form arms passing through case X, and secured to the ends of the shoes Z, as shown and described.

3. The combination of pans C, formed with side bars, plates K, secured at their ends to the side bars above the plane of the

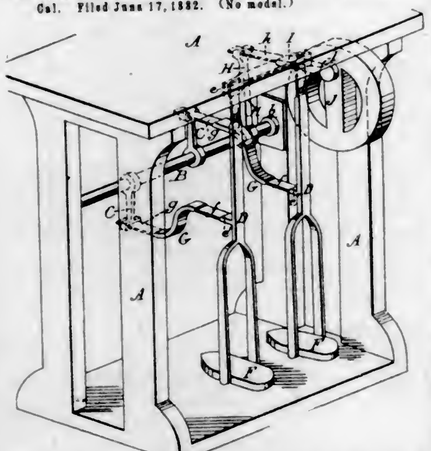
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pans C, and the straw-rakes L, mounted on said plates, substantially as set forth.

4. In a thrashing-machine grain-separator, the combination, with the frame A, the cleaner-shoes Z, and the alternately-vibrating pans C, of the hangers *b* and the connecting-rods c, substantially as herein shown and described, whereby the rear ends of the cleaner-shoes are supported, and the said shoes are vibrated from the separator-pans, as set forth.

269,294. TREADLE-POWER. JOHN B. KERR, Amador City, Cal. Filed June 17, 1882. (No model.)



Claim.—1. A suspended vibrating treadle bar or bars, D, having their upper ends fixed to table A, and provided with foot-rests F, as shown, in combination with a driving mechanism and connecting devices for transmitting power from said treadles to said driving mechanism, substantially as herein described.

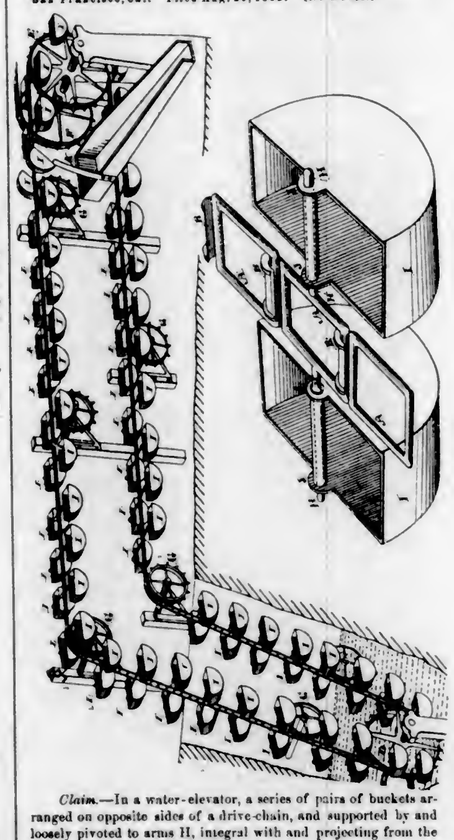
2. The suspended vibrating treadle-bars D D, with their foot-rests F F, the shaft B, journaled, as shown, with its oppositely-extending arms C, and connecting rods or bars joining the treadle-bars with the said arms for transmitting the vibrating or reciprocating motion of the foot-rests to oscillate or rock the shaft, substantially as herein described.

3. The combination and arrangement of the suspended vibrating treadle-bars D D with foot-rests F F, rocking shaft B, with its arms C and H, driving-wheel J, with its pitman I, and connecting devices between the said arms and the treadle-bars and pitman I, substantially as herein described.

4. The vibrating treadle-bars D D, having foot-rests F F and suspended from a frame or table, A, by means of spring-strips *d d*, firmly secured to the table and to said bars, and the rocking shaft B, with its oppositely-extending arms C, connected with the treadle-bars by means of the rods G G and spring-strips *f f g g*, arranged as shown, substantially as and for the purpose herein described.

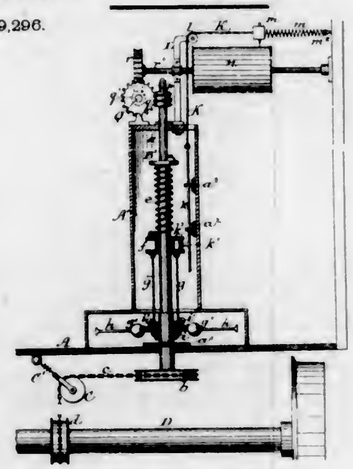
5. The vibrating treadle-bars D D, having foot-rests F F, and suspended from a frame or table, A, by means of spring-strips *d d*, firmly secured to the table and to said bars, the rocking shaft B, with its oppositely-extending arms C, connected with the treadle-bars by means of the rods G G and spring-strips *f f g g*, and the driving-wheel J, connected with the rocking shaft B by means of the arm H, pitman I, and intervening spring-strip *h*, all arranged and combined substantially as and for the purpose herein set forth.

269,295. WATER-RAISING DEVICE. CHARLES K. KIRBY, San Francisco, Cal. Filed Aug. 26, 1882. (No model.)



Claim.—In a water-elevator, a series of pairs of buckets arranged on opposite sides of a drive-chain, and supported by and loosely pivoted to arms H, integral with and projecting from the sides of links within said drive-chain, in combination with sprocket-wheels E G and tipping device K, arranged to operate substantially as set forth.

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269,296. SPEED-RECORDING MACHINE. CHARLES B. KOON, Lincoln, Nebr. Filed Feb. 2, 1882. (No model.)

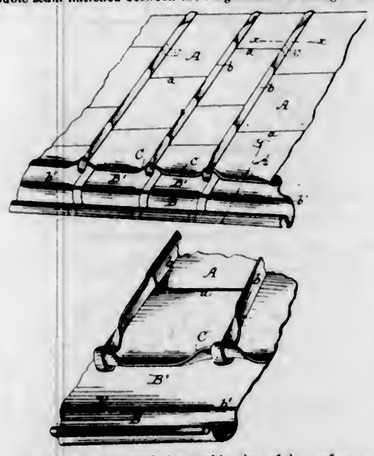
Claim.—1. The combination of a vertical shaft having a coiled spring thereon, and a sleeve united to revolving weights by means of flexible connections passing around pulleys, with a rod connected at one end with the sleeve upon the shaft, and at the other with a flexible connection attached to a pencil-holder or marking device, and a spring or weight secured to the pencil-holder, substantially as and for the purpose described.

2. In a speed-recorder, the combination of a railway-car and its axle with a vertical shaft having a sleeve connected with a marking device, a coiled spring on the shaft, flexible connections and weights adapted to revolve therewith, a pulley upon the lower end of said shaft, and a chain or belt connecting it with the axle, with a pair of pulleys, C, sustained by a spring pivotally secured to the bottom of the car, substantially as and for the purpose described.

3. The combination of a vertical shaft, a coiled spring thereon, guide-rods *h*, and sliding weights flexibly connected with sleeve *f* upon the shaft, with worms *p q'*, worm-wheels *q r*, a marking device connected with the sleeve *f*, and a horizontal shaft carrying a drum, substantially as and for the purposes described.

269,297. METALLIC ROOFING. HARRISON E. KOZER, Waynesburg, Pa. Filed Oct. 13, 1882. (No model.)

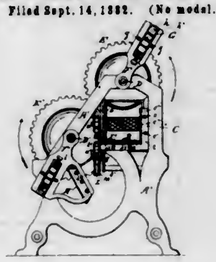
Brief.—The roofing-sheets are united at their sides by standing double seams flattened at the ends and united to the gutter by a double seam flattened between the longitudinal standing seams.



Claim.—1. In a roof, the combination of the roof-covering composed of the sheets A, united by transverse seams *a* and standing double seams *b*, flattened at each end, and the gutter B B', joined to said roof-covering by a double seam, C, flattened between the said longitudinal standing seams, substantially as shown and described.

2. In a roof, the combination of the gutter B and water-shed B', formed in one piece, and the sheets A, formed into a series of standing seams flattened and united to the water-shed by a double folded flattened unsoldered seam, substantially as shown and described.

269,298. FAT-CUTTING MACHINE. ALOIS KWOCZALLA, Pittsburg, Pa. Filed Sept. 14, 1882. (No model.)



Claim.—1. In a fat-cutting machine, the combination of two rotary cutters, consisting each of a series of parallel knives on arms rotating on parallel shafts, a rotary cutting-off knife on one of said shafts, and a slitted resistance plate or plates, substantially as described.

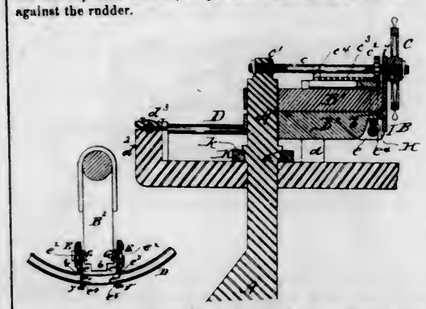
2. In a fat-cutting machine, the combination, with the two series of rotating knives *h* and *h''*, arranged to cut the fat in planes at right angles to one another, and the cutting-off knife H, of a trough, B, and two feed-rolls, I I', adapted to intermittent rotation, substantially as described.

3. In a fat-cutting machine, the combination of two rotary cutters, consisting each of a series of parallel knives on arms rotating on parallel shafts, and so arranged that the planes of motion of one series of knives will intersect the planes of motion of the other series, substantially as described.

4. The combination, with trough B, having the slitted plate C, of the rotating shaft D, having arm F and its knives *h*, and rotating shaft D', having arm F', carrying the slitting-knives *h''* and cutting-off knife H, substantially as set forth.

269,299. STEERING APPARATUS. JESSE S. LAKE, Pleasantville, N. J. Filed Feb. 13, 1882. (No model.)

Brief.—The tiller is made in two parts, one part being rigidly connected to the rudder-post and the other loosely swiveled thereon. The two sections are connected at their outer ends by a loop and tenon, so as to permit a slight movement of one section independently of the other. This independent movement operates a clamp attached to the rigid section and working on a rail, which clamp, when thus released, permits the tiller to be moved in one direction by the steersman, but prevents its movements by pressure against the rudder.



Claim.—1. The combination of hand-wheel B, pinion c^4, rack c^3, and tiller-section B', having staple or mortise H, with rail D, clamp E, and tiller-section B^2, having tenon *b*, the said tenon being loosely fitted in the mortise H, so as to permit of a slight movement of section B' without affecting section B, substantially as described.

2. The combination of tiller B, sliding clamp E, rail D, and friction-clamps d^3, said parts being constructed and arranged substantially as described, whereby undue pressure on the tiller will cause the said rail to move in the friction-clamps, as set forth.

3. In combination with tiller B' and rail D, a clamping device carried by said tiller, and adapted and designed to automatically bind said rail when external pressure is exerted on the rudder, substantially as and for the purpose described.

4. In combination with tiller-section B^2, rail D, and clamps E, the springs F, the said spring being adapted to release the grip of the clamp E on the rail when the tiller is moved, substantially as and for the purpose set forth.

5. In a steering apparatus, the rail D, connected to the tiller B by sliding clamps E, and supported by friction-bearings d^3, substantially as described.

6. The combination, with a rudder, of the following parts: a tiller made in two sections, one swiveled on the rudder-post and the other fast thereon, clamps under control of said tiller-sections, one section operating to release said clamps and the other to cause them to bind, and a rail on which said clamps are moved or caused to bind accordingly as the tiller-sections are moved from the hand-wheel or acted on by the strain of the vessel or water on the rudder, as set forth.

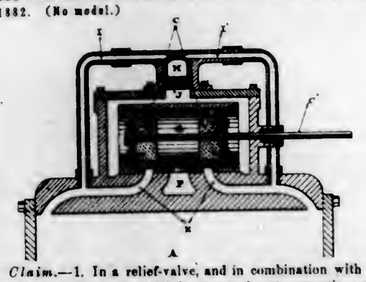
269,300. ROTARY ENGINE. JOHN F. LAKE, Hamilton, Ontario, assignor to William Nicholas Miller, Toronto, Canada. Filed May 9, 1882. (No model.)

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Claim.—The cylinder B, having grooves W, recesses X, and sockets Y, springs Z, flexible ring B', having rigid rings A' E', with perforations H', and the bands C', in combination with the oil-cup F' and channel G', communicating with the recess X, and the revolving drum M, having sides O, between which and the cylinder a self-lubricating steam-tight joint is thus formed, as set forth.

269,301. RELIEF-VALVE FOR ENGINES. JAMES LIVINGSTON and JOHN KENNEDY, Toronto, Ontario, Canada. Filed Aug. 10, 1882. (No model.)



Claim.—1. In a relief-valve, and in combination with the valve-chamber having a relief-chamber and port-connections with the main cylinder, a series of pipes connecting such ports and relief-chamber, and a spring-valve operating in such chamber, as and for the purpose set forth.

2. In a steam-chest having pipe-connections I I' with the ports E, the relief-valve H and spring J, as set forth.

269,302. BUTTON-FASTENING. CHARLES B. MASDEL, Kansas City, Mo. Filed Nov. 3, 1882. (No model.)



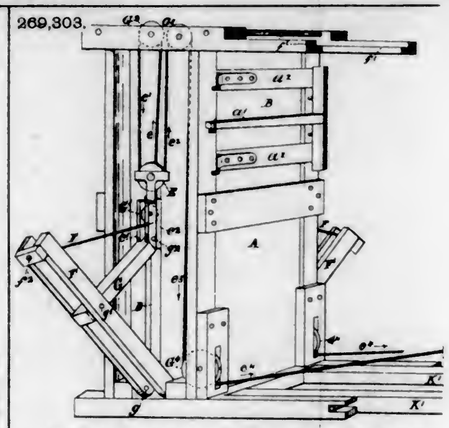
Claim.—1. A button-fastener or button-lock consisting of a disk, A, having a slot, E, and ears L L, and a bolt, B, substantially as set forth.

2. The combination of the button having an eye, e, adapted to extend through the fabric, with a disk, A, having a slot, E, and ears L L, and a bolt, B, pivoted at one end to the disk, and adapted to extend through the eye of the button and be fastened by the ears L L, substantially as set forth.

269,303. HAY-PRESS. JOHN MASON, Eden, N. Y. Filed Apr. 15, 1882. (No model.)

Claim.—1. In a hay-press, the levers or arms F', their lower ends being jointed to the base of the machine by bolts g, so as to act as levers, and the arms G, jointed thereto by bolts g' at their lower ends, and having their upper ends jointed by bolts g^2 to the under sides of the platen C, the ropes or cables F being connected to the lever F' by bolts f', so as to pass under the pulleys G' on each end of the platen C, in combination with the running pulley E, standing pulleys G^3 G^4 G^5, and a suitable capstan, substantially as and for the purposes specified.

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2. In a hay-press, the door B', provided with the rib J', in combination with the swinging or hinged plate or side piece, J, arranged within the compressing-chamber, substantially as and for the purposes specified.

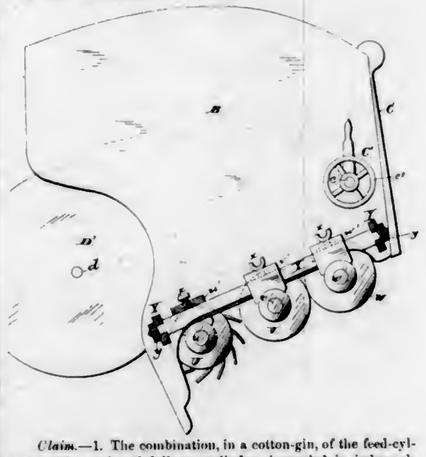
269,304. CHECK-BIT. HENRY C. MAXWELL, Rome, N. Y. Filed Oct. 30, 1882. (No model.)



Claim.—1. The bit A, having flattened ends B, provided with slots C, and cross-pieces D, having studs c, as set forth.

2. The bit A, having flattened ends B, provided with slots C, cross-pieces D, having studs c, and recesses F, as set forth.

269,305. COTTON-GIN. WILLIAM J. MCDERMOTT, GEORGE MASTERMAN, and JOHN D. MILBURN, Memphis, Tenn. Filed June 2, 1882. (No model.)



Claim.—1. The combination, in a cotton-gin, of the feed-cylinder with a series of delivery-cylinders journaled in independently-adjustable bearings, whereby said delivery-cylinders can be adjusted at variable distances apart, substantially as described.

2. The combination of the cylinders U V W, cross-bars, the sliding journal-boxes supported on said bars, and means for securing the boxes in place on the cross-bars, substantially as described.

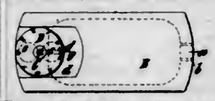
3. The combination, in a cotton-gin, of a semi-cylindrical rocking screen for receiving the discharge refuse from the same, and mechanism which gives a rocking or rotary oscillating motion to the screen, substantially as described.

4. The combination, in a cotton-gin, of a screen, mechanism for operating the screen, a spiral conveyer, and mechanism for operating the spiral conveyer, substantially as described.

5. The combination, in a cotton-gin, of a semi-cylindrical screen open at one end and pivoted thereto, and having a rocking or rotary oscillating movement, and a shaft carrying a knocker for oscillating the screen and mechanism for driving the shaft, substantially as described.

6. The combination of the hopper with the adjustable breast C and mechanism for adjusting said breast, consisting of a cam fixed on a rock-shaft, which is provided with a suitable handle, substantially as described.

269,306. PUZZLE LOCK-BOX. EDGAR W. MERRIMAC, Brooklyn, N. Y. Filed June 28, 1882. (No model.)

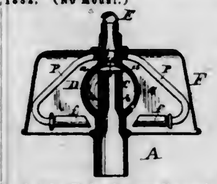


Claim.—1. The combination, in a box, of a body and cover pivoted together and adapted to be unlocked by a longitudinal movement of one part on the other, so that the cover may be turned to open the box, one of said parts having a slot which receives the pivot, and having a recess in its outer side containing said slot, a cap on the pivot having in its inner face a corresponding recess, and a locking-disk adapted to fit wholly in either recess and bear with its edge against said pivot, substantially as described.

2. The combination of the box A, the pivoted and sliding cover B, containing a recess, f, the rotating dial-cap D, having a recess, e, and a locking-piece capable of entering either of said recesses, substantially as herein described.

3. The combination of the box body and cover A B, provided with the tongue and groove a b, and the cover having the recess f and the slot c in said recess, the pivot C, the cap D, applied to the pivot, and having the recess e, and the locking-disk E, all substantially as described.

269,307. GAS-BURNER. JAMES G. MILLER, Green Bay, Wis. Filed May 4, 1882. (No model.)



Claim.—1. A tube, B, having small openings a, cap C, provided with holes b, and shell D, in combination with burners f f, substantially as described and shown.

2. A gas-burner, A, having tube B, cap C, and shell D, in combination with burners f f and cover F, substantially as described and shown.

3. The combination of tube B, having openings a, cap C, with holes b, shell D, mouth E, pipes P, burners f f, and cover F, substantially as shown and described.

269,308. BOILER. JOSEPH R. MITCHELL and FRANK X. FISCHER, San Francisco, Cal. Filed May 22, 1882. (No model.)

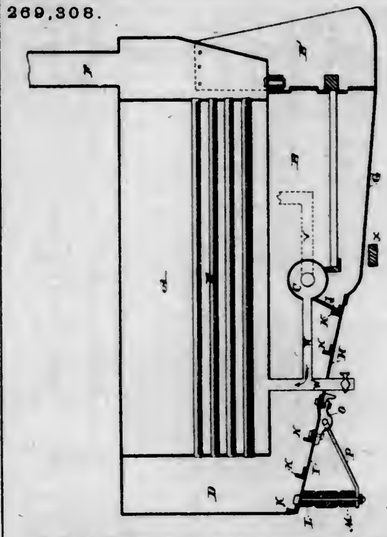
Claim.—1. In a portable boiler having the pendulous water-legs B and wheel-axles, as shown, the inclined braces R, extending upward from the bolster and rear axle, respectively, and secured to the boiler-shell, substantially as and for the purpose herein described.

2. In a portable boiler having the pendulous water-legs and the closed bottom, as shown, the walls B, having the supplemental plates B', extended back from the vertical plane of the boiler-head, in combination with the floor-plate G, extended back to the same point and turned up, substantially as and for the purpose herein described.

3. In a portable boiler having pendulous water-legs, and the axle Q, passing through the plates B' in rear of the furnace, the plates S, notched to fit the axle and bolted to the walls B B', in combination with the caps U and bolts u, substantially as and for the purpose herein described.

4. In a boiler, and in combination with the pendulous water-legs B, the inclined bottom plates, G H I, formed in sections and secured independently of each other, substantially as herein described.

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5. In a boiler having the pendulous water-legs B and sectional bottom G H I, the transverse angle-irons K, bolted to the bottom plates, substantially as and for the purpose herein decribed.

6. In a boiler having the walls B, bottom plates, G H I, and the fixed axle Q and the axle M, with its bolster N and king-bolt brace P, the exterior angle-iron, O, and the corresponding interior angle-iron, K, bolted to the bottom and having an attachment for the brace, substantially as herein described.

7. The boiler A, with the water-legs B and the transverse connecting-drum C, in combination with the horizontal pipe W, extending forward beneath the boiler, and the vertical pipe W', connecting with its front end, and having a cock or valve to discharge or blow off beneath, substantially as herein described.

8. The protecting plates or liners a, extending over the rivet-joints of the water-legs B within the rear combustion-chamber, substantially as herein described.

269,309. MANUFACTURE OF CYANOGEN COMPOUNDS AND AMMONIA. LUDWIG MOND, Winnington Hall, Northwich, County of Chester, England. Filed Jan. 28, 1882. (No model.) Patented in Belgium Jan. 28, 1882, No. 56,919; in England Jan. 28, 1882, No. 432; in France Jan. 28, 1882, No. 147,105; in Austria-Hungary May 25, 1882, No. 20,198 and No. 4,768.

Claim.—1. In the process of manufacture of cyanogen compounds or of ammonia therefrom, forming into blocks an intimate mixture of carbon, carbonate or oxide of barium, and of a refractory basic absorbing material—such as magnesia—and preliminarily calcining the same out of contact of air before exposing them in the heated state to nitrogen for the formation of the cyanogen compounds.

2. In the manufacture of cyanogen compounds of barium or of ammonia therefrom, the preliminary heating of the mixture of barium carbonate or oxide and carbon in a reducing-flame until they form a pasty mass, and the breaking up of the mass after cooling into lumps for the formation of cyanogen compounds by contact with nitrogen at an elevated temperature.

3. The combination of the gas and air flues P and Q, the retorts A, the diaphragm D, and the exit-holes at the bottom of the chamber, by which means the gases have to circulate up among one range of retorts and down among the next set before escaping.

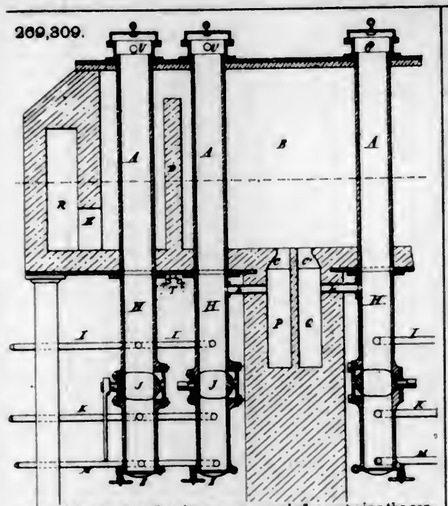
4. The combination, with the iron cooling-chamber H, connected with the clay retort A, of a device, T, for sprinkling the said chamber H with fine spray, for the purposes described.

5. A retort provided with a cooling-chamber, A, the entrance for nitrogen I, the steam-entrance K, and the stop-cock J, placed between.

6. The combination of the pipe I, supplying nitrogen at a pressure above the atmosphere, stop-cock J, not entirely closing the passage, chamber H, and door S, for the purposes described.

7. The improvement in the manufacture of cyanogen compounds by means of barium salts or oxide and carbon, which con-

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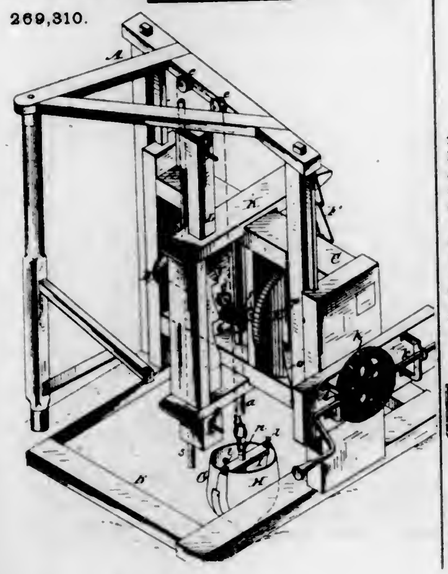
sists in first heating the nitrogenous gases before entering the converting-chamber by passing them through the hot barium salts, said salts being thereby cooled, and immediately passing these gases through fresh layers of barium salts and carbon at the temperature required to form cyanogen compounds.

8. In apparatus for manufacturing ammonia, the combination of a cyanogen-forming retort or chamber, A, a cooling-chamber, H, below that, and an ammonia-forming chamber below the cooling-chamber, separated from the cooling-chamber by a valve or cock and from the outer air by a lid.

9. The improvement in the manufacture of ammonia by means of barium salts and carbon, which consists in using the same nitrogenous gases successively for forming the cyanogen compounds, for heating the barium salts and carbon to the desired temperature, and for cooling the cyanogen compounds after they are formed.

10. The improvement in the manufacture of cyanogen compounds by means of barium salts or oxide and carbon, which consists in cooling the hot cyanogen compounds by passing through them nitrogenous gases as free as possible from oxygen, carbon dioxide, and vapor of water, whereby those gases become heated.

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269,310. WELL-AUGER. JAMES H. MURRAY, Hopkins, Mo. Filed June 22, 1882. (No model.)

Brief.—In the main frame slides a frame carrying a boring-shaft and two horizontal shafts with suitable gearing, a drum, and a catch-wheel for raising such frame by means of an attachable chain hung from main frame. The auger-bucket is formed of a frame with swivel-connection and two shells hinged thereto and detachably connected at top.

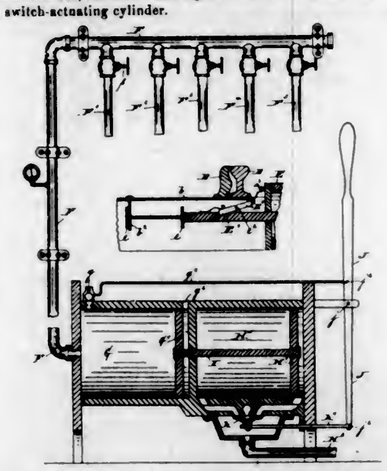
Claim.—1. The frame A and chain F, in combination with the movable frame C and the catch-wheel E, substantially as and for the purpose specified.

2. The frame C, adapted to slide vertically upon the frame A, and carrying rack-bar *p*, catch-wheel E, drum D, and the several gear wheels and shafts by which the catch-wheel and drum are operated, in combination with the frame A, having pivoted pawl *o* and chain F, all constructed to operate substantially as and for the purpose specified.

3. In a well-auger bucket, the combination, with the hinge-sections G H, having eyes *m*, of the frame I, of the form shown, the pins *i*, and swivel-connection *n*, substantially as shown and described.

269,311. RAILROAD-SWITCH. SYLVANUS B. NICKUM, Marion, Ind. Filed Nov. 29, 1881. (No model.)

Brief.—To the piston-rod of a steam or water cylinder is secured an air-cylinder piston, whereby through a cylinder at the switch the throw-rails are moved. The rails are secured in normal position by a pivoted latch, one end of which engages a hook on a switch-bar, the other entering a notch in the piston-rod of the switch-actuating cylinder.



Claim.—1. In a railroad-switch adapted to be operated by fluid-pressure, the combination of the switch-rails, the tie-bar *b*, having rigid perforated lug b^3 and lug b', the piston-rod adapted to slide, to a limited extent, through said lug b^3, the pivoted catch E^3, and the spring resting thereon, the whole adapted to serve as a switch-lock, substantially as set forth.

2. The combination, in a railroad-switch-operating mechanism, of a cylinder adapted for the reception of steam or water, and an air-compressing cylinder operated by the rod of the steam or water cylinder, and a pipe for conducting the compressed air to a series of branch pipes, substantially as set forth.

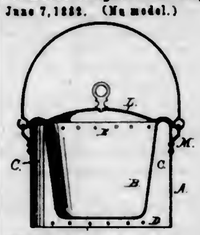
269,312. DEVICE FOR CUTTING FABRIC BLANKS FROM WHICH TO MAKE COLLARS, &c. GEORGE E. NORRIS, Troy, N. Y., assignor of one-half to James K. P. Pine, same place. Filed July 5, 1882. (No model.)



Claim.—1. In a die for cutting blank forms from a series of superimposed thicknesses of fabric, the combination of a die having an open interior and a cutting-edge, a piston-plate within the die, the exterior edge of which plate forms a sliding engagement with the cutting-edge of the die, a sleeved cross-bar secured to the interior of the die, at or near its top, a piston-rod at its lower end attached to the piston, with its upper end constructed to slide in the sleeved cross-bar, and a spring arranged between said cross-bar and the top of the piston, substantially as and for the purposes herein set forth.

2. In a die for cutting blank forms from a series of superimposed thicknesses of fabric, the combination of a die having a hollow interior and a cutting-edge, a piston-plate within the die, the exterior edge of which piston-plate is in sliding contact with the cutting-edge of the die, a series of sleeved cross-bars arranged within the die and secured to its interior, at or near the top, a piston-rod attached to the piston at one end and constructed to slide in each of the sleeved cross-bars, and a spring arranged between the piston and each of the cross-bars, as and for the purposes herein described and set forth.

269,313. CULINARY VESSEL. HARRISON OSBORN, Richmond, Ind., assignor to Rhoda C. Ogborn and Ralph W. Nye, same place. Filed June 7, 1882. (No model.)

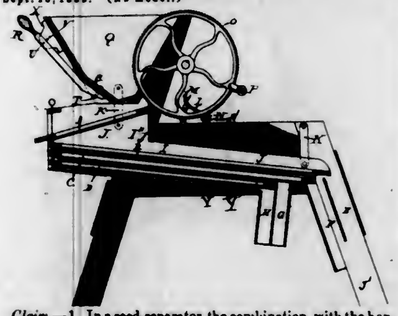


Claim.—1. The herein-described culinary vessel, consisting of the case A, having a convex upper rim and an interior suspended vessel, B, cast or formed integral with said case, and having perforations through it, near the upper end thereof, substantially as specified.

2. The herein-described culinary vessel, consisting of outer casing, A, interior vessel, B, and intermediate upper convex connecting-rim, all cast or formed integral with each other, and an annular grooved cover, substantially as specified.

3. The within-described culinary utensil, composed of a vessel, B, and case A, and having perforations E near the top of vessel B, and perforations D at or near the bottom of case A, for the purposes and uses substantially as herein shown and described.

269,314. SEED-SEPARATOR. HARRISON OSBORN, Richmond, assignor of one-half to Samuel Watson, Dublin, Ind. Filed Sept. 13, 1882. (No model.)



Claim.—1. In a seed-separator, the combination, with the hopper having a hinged bottom, S, of the lever R, pivotally connected at its lower end to said bottom and adapted to be moved sidewise or laterally, and provided with a horizontal pin and a block connected to the outer and front side of hopper, and having a series of holes, into which the pin of the lever may pass when said lever is adjusted, substantially in the manner as and for the purpose specified.

2. In a seed-separator, the combination, with shoe J, rods I I, arms *i i*, rocking shaft M', gear-wheel O, and pinion N, of the intermediate mechanism for connecting said shaft M' and pinion N consisting of revolving shaft N', (upon which said pinion is mounted,) having crank-pin N'', arm or rod L, and upright lever M, mounted upon said rocking shaft, substantially in the manner as and for the purpose herein shown and described.

3. In a seed-separator the combination, with shoe J, rods I I, arms *i i*, rocking shaft M', gear-wheel O, and pinion N, of the intermediate mechanism for connecting said shaft M' and pinion N, consisting of revolving shaft N', (upon which said pinion is mounted,) having crank-pin N'', arm or rod L, and upright lever M, having a series of adjusting-holes and mounted upon said rocking shaft, substantially in the manner as and for the purpose herein shown and described.

4. A seed-separator comprising the hopper Q, having hinged bottom S, the shoe J, provided with a series of screens, A B C D, discharge-spouts E F G H, gear-wheel O, intermediate operating mechanism, substantially as described, for connecting said shoe and wheel, pivoted and rotary adjustable eccentrics W W, and legs J' J', the several parts constructed and arranged to operate substantially in the manner herein shown and described.

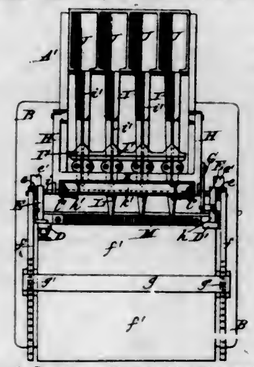
269,315. CUTTER-HEAD. MORRIS L. ORUM, Philadelphia, Pa. Filed Sept. 9, 1882. (No model.)



Claim.—1. The combination, substantially as set forth, of a cutter-head, a recessing-cutter, and a scoring spur-cutter secured to the cutter-head in advance of the leading edge of the recessing-cutter, and between the extremities thereof, so as to divide the shaving which is removed by said cutter.

2. The combination, substantially as set forth, of a cutter-head, a dovetail-cutter, a plain recessing-cutter whose edge is perpendicular to the axis of the cutter-head, and which effects a scoring cut between the extremities of the inclined cut made by the dovetail-cutter and a spur-cutter.

269,316. BOX-NAILING MACHINE. HENRY P. OSBORN, New Haven, Conn. Filed July 28, 1882. (No model.)



Claim.—1. In a box-nailing machine, the combination of the sliding plate I', tube K, slotted points L, and drivers *k*, substantially as shown and described.

2. In a box-nailing machine, the combination of the hoppers J, slotted troughs I, sliding plates *k' l'*, spouts I'', tubes K, slotted points L, and drivers *k*, substantially as shown and described.

3. In a box-nailing machine, the combination of the drivers *k*, mounted on a rod, *j*, supported in suitable bearings, the sliding table *f'*, provided with means, substantially as described, for holding a box, mechanism for conducting the nails to a grooved plate on the sliding table, and means, substantially as described, for operating said table, substantially as set forth.

4. In a box-nailing machine, the combination of the sliding table *f'*, having a grooved plate, M, and provided with devices for holding a box, the hoppers J, slotted troughs I, sliding plates *k' l'*, spouts I'', tubes K, slotted points L, drivers *k*, and suitable operating mechanism, substantially as described.

5. In a box-nailing machine, the combination of the hoppers J, slotted troughs I, cap or cross-plate I', sliding plates *k' l'*, pivoted frame H, having pointed projections H', the spouts I'', tubes

K, slotted points L, drivers *k*, sliding table *f'*, and suitable connecting, supporting, and operating mechanism, substantially as described.

6. In a box-nailing machine, the combination of the drivers *k*, sliding table *f'*, having grooved plate M, and standards D D', provided with lugs E E, the slotted points L L, mounted on a rod, *i*, supported in said lugs, and means for connecting the points with suitable feed devices, substantially as described.

7. In a box-nailing machine, the combination of the drivers *k*, the sliding table *f'*, having grooved plate M, standards D D', and adjustable stop *g*, and feeding and operating mechanism, substantially as described.

269,317. UMBRELLA. JOHN G. PEACH, Salem, Mo. Filed Sept. 2, 1882. (No model.)



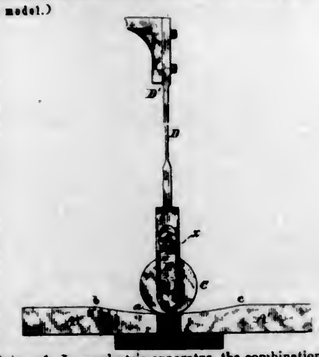
Claim.—1. An umbrella having tubular ribs made of rubber cloth or equivalent flexible material.

2. An umbrella having tubular ribs, substantially as set forth, and a central collapsible air-chamber in communication with the ribs, substantially as set forth.

3. An umbrella having tubular ribs, a central air-chamber in connection therewith, and a tubular staff connected to and in communication with the said air-chamber.

4. In combination with the tubular ribs D, air-chamber C, and staff A, the force-pump A' B, for the purpose set forth.

269,318. ELECTRO-MAGNETIC MOTOR. CHARLES C. PECK and WILLIAM H. CHAPMAN, Middlebury, Vt. Filed Apr. 21, 1882. (No model.)



Claim.—1. In an electric apparatus, the combination of two pairs of magnetic poles arranged in opposition to each other, a soft-iron armature provided with a coil of conducting-wire, and two curved peripheral surfaces, all arranged to rock or roll bodily in the same direction from one magnetic field to another, and come in close contact with said magnetic poles without concussion as it is impelled from one magnetic field to the other, substantially as and for the purposes described.

2. In an electric apparatus, the combination of two pairs of magnetic poles arranged in opposition to each other, a soft-iron armature provided with a coil of conducting-wire, and two curved peripheral surfaces, all arranged to rock or roll bodily in the same direction from one magnetic field to another and come in close contact with said magnetic poles as it is impelled from one magnetic field to another, and a radius-arm connected to said armature and adapted to guide it in its movements, substantially as described.

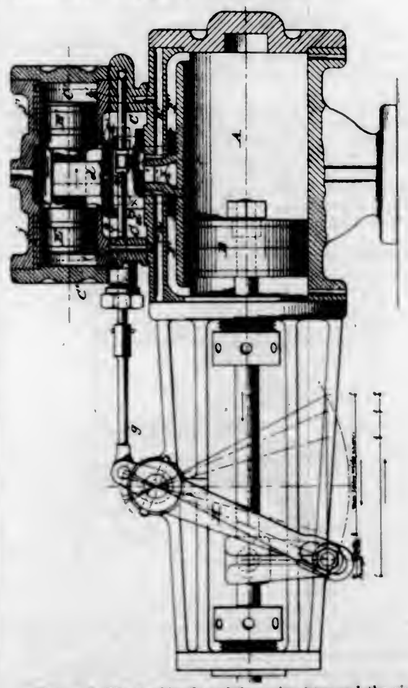
3. The armature C, provided with journals *d* and an electric coil, C', and mounted and adapted to be revolved or oscillated in bearings in a spring radius-arm, substantially as and for the purposes described.

4. The combination of two U-shaped magnets arranged with their poles in opposition and separated by non-magnetic material interposed between them, and having the upper surfaces of their arms curved, as set forth, for the purposes specified.

5. The combination of the armature C, mounted in bearings in the radius-arm D, and adapted to vibrate therewith and to revolve or oscillate therein, and provided with the electric coil C', and the magnets A and A', constructed, arranged, and adapted to operate substantially as described.

6. The combination of the spool-like soft-iron armature C, provided with the journals *d*, the radius-arm D, the electric coil C', and the contact-spring E, all constructed, arranged, and adapted to operate substantially as and for the purposes described.

269,319. STEAM-ACTUATED VALVE. H. LANSING PERKINS, Denver, Colo. Filed Oct. 18, 1882. (No model.)



Claim.—1. The combination of the main piston and the piston-valves with the main slide-valve D, the controlling slide-valve G, and the steam-ports A A', constructed and arranged substantially as shown and specified, whereby steam is first exhausted from one end of the valve-pistons before the main slide-valve and the valve-pistons are mechanically moved and admitting steam to the opposite end of the valve-pistons to complete the throw of the main slide-valve.

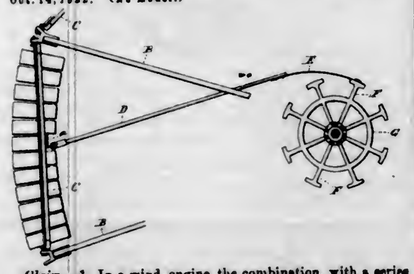
2. The combination of the main piston, the valve-pistons, the main slide-valve D, and the controlling slide-valve G, with the valve-rod *g*, provided with a fixed lug, *g'*, connected with said controlling-valve and the arm H, substantially as described, whereby the main slide-valve is moved to a point nearly closing the main steam-port.

3. The combination of the main piston B, the arm H, the controlling slide-valve G, and its valve-rod *g* with the steam-ports *i i'* and F F', whereby steam is admitted in front of the main piston as a steam-cushion, substantially as and for the purpose specified.

4. The combination, with the valve-pistons E E', of the main slide-valve D, provided with end lugs, *d d'*, the controlling slide-valve G, its operating-lug *g*, arranged to mechanically operate the main slide-valve, and means, substantially such as described, for connecting said controlling slide-valve with the main piston.

5. In combination, in a direct-acting engine, the main piston B, the valve-pistons E E', the main slide-valve D, the controlling slide-valve G, the steam-ports A A', the cushion-ports *i i'*, the valve-rod *g*, and the arm H, all constructed and arranged for operation substantially as herein set forth.

269,320. WIND-ENGINE. CHARLES B. POST, New London, Ohio, assignor of one-half to John D. Olcott, same place. Filed Oct. 14, 1882. (No model.)



Claim.—1. In a wind-engine, the combination, with a series of pivoted vanes, of regulating-rods attached to said vanes at their outer ends and provided with springs at their inner ends, said springs in turn being secured to a brake-wheel, substantially as and for the purpose shown and described.

2. In a wind-engine, the combination, with a brake-wheel, said brake-wheel being provided with ratchet-teeth adapted to engage with ratchet-teeth secured to the wind-wheel, of the springs and rods, the outer ends of said rods being pivotally secured to a series of vanes, substantially as and for the purpose shown and described.

269,321. TELEGRAPH-KEY. CYRUS PRESCH, New York, N. Y., assignor to the Electrical Supply Company, Ansonia, Conn. Filed Sept. 23, 1882. (No model.)



Claim.—1. In a telegraph-key, the combination of the key-lever constructed to form a bearing for the knob, the knob supported in the said bearing in the lever so as to be rotated therein, the upper contact-point attached to said knob, and so as to be rotated with it, and the lower contact, substantially as and for the purpose described.

2. In a telegraph-key, the combination of the key-lever constructed to form a bearing for the knob, the knob supported in the said bearing in the lever so as to be rotated therein, the spiral-shaped contact attached to and so as to be rotated with the knob, and the lower contact, substantially as described.

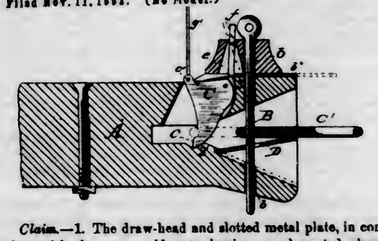
3. In a telegraph-key, the combination of the lower spring-arm, B, carrying the lower contact at its outer end, the key-lever, and upper contact arranged at the outer end of the key, substantially beneath the knob by which the key is worked, substantially as described.

4. The combination of the lever I, screw-threaded into the base and carrying a nut in its hub, the key-lever, and the adjusting-screw H, which extends through the key-lever into said nut, substantially as described.

5. In a telegraph-key, the combination of the two posts D E, each attached directly to the base, the key-lever hung to the said two posts, the one post insulated from the key-lever which carries the upper contact and the other from the base which carries the lower contact, substantially as described.

6. In a telegraph-key, the combination of the two posts D E, each attached directly to the base, the key-lever, a thin metallic plate attached to the said two posts and to the lever to form a spring-hinge between the said lever and posts, the one post insulated from the lever which carries the upper contact and the other from the base which carries the lower contact, substantially as described.

269,322. CAR-COUPLING. JOHN J. PURSLEY, Wetmore, Kans. Filed Nov. 11, 1882. (No model.)

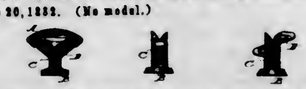


Claim.—1. The draw-head and slotted metal plate, in combination with the cone, said cone having an elongated channel, within which is pivoted a lever which operates the slotted plate, and the guide-tongue and coupling-pin, whereby the cars are automatically coupled, as and in the manner described.

2. The combination of the cone, having the passage for the coupling-pin, and the elongated passage, having pivoted therein the lever, with the draw-head, having the recess *b'*, channel *d*, having working therein the coupling-plate C, and the slotted metal plate *b''*, and pin B, all operating substantially as and in the manner described.

3. The draw-head, in combination with the guide-tongue operated by the handle, coupling-pin, dome, working-lever, and sliding plate, all operating in the manner described.

269,323. BUTTON. CHARLES RADCLIFFE, Newark, N. J. Filed June 20, 1882. (No model.)

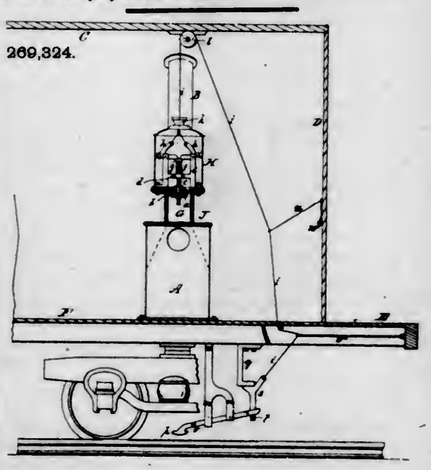


Claim.—1. The combination, with a button-head provided with an opening in its base and a bar across said opening, of a split or slitted barbed shank for uniting said parts, substantially in the manner and for the purpose set forth.

2. The combination, with a button-head provided with an opening and a bar crossing the same, substantially as described, of a split shank-piece adapted to be forced upon said bar and lock itself, substantially as and for the purpose set forth.

3. A self-fastening button consisting of a top or head proper, provided with an open base, a sleeve, and a split shank-piece grasping a cross-bar by which the parts are locked together, substantially as and for the purpose set forth.

269,324.



269,324. CAR-STOVE. ABRAM RUSER, Pittsburg, Pa. Filed July 24, 1882. (No model.)

Claim.—1. In a railway-car, the combination of a stove, a reservoir containing water above the level of the stove, a spring-opened valve closing said reservoir, and a flexible cord connected to said valve at one end and at the other to the platform-timbers of the car, substantially as described, whereby collapse of the platform relaxes the cord and opens the valve.

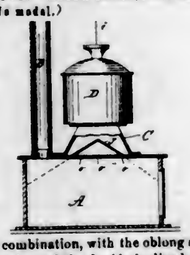
2. In a railway-car, the combination of a stove, a reservoir containing water above the level of the stove, a spring-opened valve closing said reservoir, a flexible cord connected to said valve, and a tripping device under the car connected to said cord, and adapted to be operated to relax the cord by impact of the rail, substantially as described.

3. In a railway-car, the combination of stove A, air-chamber G, reservoir H, spring-closing valve *b*, frame *e*, levers *h*, and flexible cord *i*, substantially as described.

4. In a railway-car, the combination, with stove A, of the reservoir H, chamber G, and plate J, having divergent perforations increasing in size from the center outwardly, substantially as set forth.

5. The combination, with valve *b*, of the cord *i*, bracket *q*, keeper *s*, having pin *t*, trigger *o*, and hanger *m n*, substantially as described.

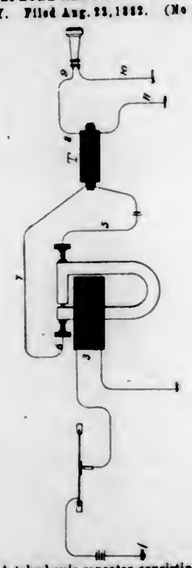
269,325. CAR-STOVE. ABRAM RUSER, Pittsburg, Pa. Filed July 24, 1882. (No model.)



Claim.—1. The combination, with the oblong stove A, water-reservoir, and air-chamber, of the double inclined and perforated deflector J, substantially as set forth.

2. The combination, with the oblong stove A, water-reservoir, and air-chamber, of the double inclined and perforated deflector J and divergently-perforated stove-top, substantially as described.

269,326. TELEPHONE-REPEATER. JAMES HARRIS ROGERS, New York, N. Y. Filed Aug. 23, 1882. (No model.)



Claim.—1. A telephonic repeater consisting of a piece of iron or steel the two opposite polar ends or edges of which are brought into suitable proximity to one another, and a contact-varying electrode or electrodes mounted on said piece in the manner described, so that by the varying attraction of the two polar ends or edges the current is varied.

2. An electro-magnet having its helix in circuit with a transmitter, in combination with contact-varying points or surfaces placed in another circuit and mounted on the two poles of said magnet, as and for the purpose described.

3. The combination, with an electro-magnet having its poles in close proximity to one another, of contact-varying electrodes mounted in spindles passing through said poles and holding said electrodes against one another.

4. The combination, with the pole of the electro-magnet, of a screw, mounted in an insulating-sleeve passing through the pole, and an electrode carried by the screw, as and for the purpose described.

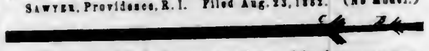
5. The combination, with the piece A and its helix D, of the insulated screws B B', adjustable through openings in the ends of said piece, and electrodes *c c'*.

269,327. SHIRT. MOSES SALBERG, San Francisco, Cal., assignor of one-half to Julius Levy, same place. Filed Sept. 5, 1882. (No model.)



Claim.—The improvement in shirts, consisting of the collar-band D, having the extension E, with button G and hole F, to secure it at one side of the center, and the hole H for the back collar-stud above the inner end of the band, substantially as herein described.

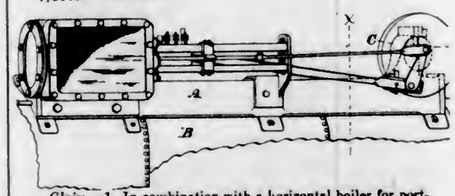
269,328. ELECTRICAL CONNECTING-CORD. WILLIAM H. SAWYER, Providence, R. I. Filed Aug. 23, 1882. (No model.)



Claim.—1. An electrical connecting-cord having a core composed of an assemblage of fine highly-flexible metallic wires inclosed in a tubular braid of tinsel threads, substantially as described.

2. An electrical connecting-cord composed of the following parts, namely: a central core consisting of an assemblage of fine highly-flexible metallic wires, a tubular tinsel braid inclosing said core and in contact with adjacent wires thereof, and an outer braided covering of non-conducting fibrous material, all arranged as shown and described.

269,329. BED-PLATE AND HEATER FOR PORTABLE STEAM-ENGINES. REINHARD SCHNIDLER, Newark, Ohio. Filed Oct. 7, 1882. (No model.)



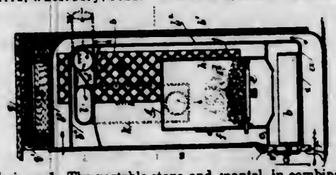
Claim.—1. In combination with a horizontal boiler for portable steam-engines, a combined bed-plate and heater, the pillow-block or support for the bearing of the main shaft of which is cast in a single piece therewith, and having a vertical division through the center of the box-opening, substantially as set forth.

2. In combination with a horizontal boiler for portable steam-engines, a combined bed-plate and heater, the pillow-block or support for the main-shaft bearing of which is cast integral therewith, with a vertical division through the center of the box-opening, and having the bolts which secure the cap to said pillow-block extending horizontally into or through the same, for the purpose set forth.

3. In combination with a horizontal boiler for portable steam-engines, a combined bed-plate and heater extending lengthwise and secured to said boiler, of triangular or nearly triangular cross-section, having the side thereof contacting with the boiler-shell curved or concentric therewith to allow it to lie with its surface on the boiler throughout its whole extent, whereby all the heat possible may be conducted from the boiler to the heater in addition to that produced from the exhaust-steam, as and for the purpose hereinbefore set forth.

4. In a combined bed-plate and heater for portable steam-engines, having its pillow-block cast integral therewith, as described, the seat *b* for the cap of the same, in combination therewith, to support the end of the cap and prevent any movement of said cap from the downward pressure of the main shaft of the engine, as set forth.

269,330. MANTEL AND STOVE COMBINED. WILLIAM SCHMIDT, Waterbury, Conn. Filed Jan. 9, 1882. (No model.)



Claim.—1. The portable stove and mantel, in combination with the open-work front supporting the mantel, a plate below the mantel, non-conducting material between the same and the slab, two or more metal plates with intermediate air-spaces behind the stove to protect a partition or wall, against which the mantel-stove may be placed, from heat, and a metal plate and air-spaces below the stove, substantially as and for the purposes set forth.

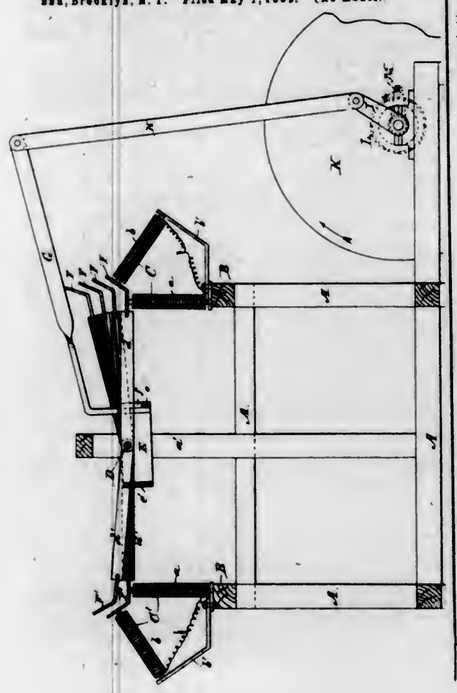
2. The stove having a fire-pot and an opening in the top plate for cooking utensils, in combination with the ascending flue *k*, the connected horizontal flues *l* and *m*, having the opening at *n'* for the escape of fumes from the cooking, and a damper, 3, for the same, substantially as set forth.

3. The combination, with the mantel-slabs *q* and the angle-slabs *r s*, of the open-work metal doors between such angle-slabs, and a stove surrounded and protected by such slabs and iron-work, substantially as set forth.

4. The combination, with the mantel *q*, the angle-slabs and stove, of the mantel-casing r^2 inside the angle-slabs, for the purposes and substantially as set forth.

5. In combination with the mantel, the ornamental open-work inclosure and the stove within the same, a water-box beneath the mantel, and a filling of non-conducting material, substantially as set forth.

269,331. ELECTRO-MAGNETIC ENGINE. ADOLPH E. SCHNEIDER, Brooklyn, N. Y. Filed May 1, 1882. (No model.)



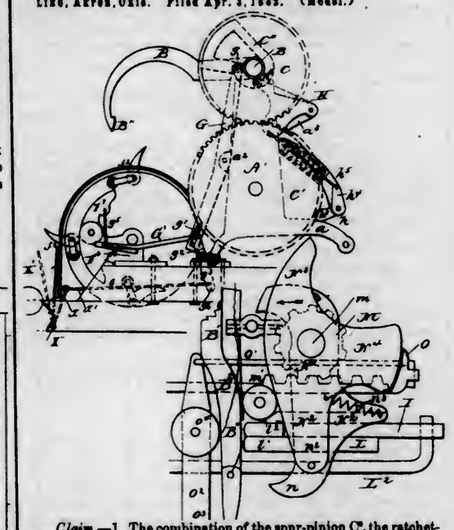
Claim.—1. The combination, substantially as described, in an electro-magnetic engine, of a series of stationary magnets and a corresponding series of armatures attached directly to a rock-shaft and swinging on a common center, and arranged at unequal distances from the poles of their magnets and operating to descend toward such poles simultaneously, but to come in contact with or in near approach thereto successively, whereby the full force of each magnet is exerted upon its corresponding armature, and whereby a greater throw or vibration can be given to the lever or link by which the power is transmitted.

2. The combination, in an electro-magnetic engine, of a rock-frame with a series of armatures overhanging the sides of the frame and loosely connected to the rock-shaft by means of arms, substantially as and for the purpose described.

3. In combination with series of magnets and series of corresponding armatures, a rock-frame whose sides adjacent the magnets are provided with series of notches or slots of unequal depth, whereby the armatures are raised one above the other, and are brought in contact with or near approach to their corresponding magnets successively, substantially as described.

4. In an electro-magnetic engine, a series of magnets, each having one of its arms, *b*, inclined toward its corresponding arm, *a*, in combination with a series of armatures swinging on a common center, each of whose faces are in two different planes, one at substantially right angles to the arm *b* and the other at right angles to the arm *a*, substantially as and for the purpose described.

269,332. GRAIN-BINDING HARVESTER. JOHN F. SEIBRALING, Akron, Ohio. Filed Apr. 3, 1882. (Model.)



Claim.—1. The combination of the spur-pinion C^3, the ratchet-wheel I, the pawl *i*, the spur-wheel C', provided with the cam-projection C^5, the sliding hinged piece I^3, adapted to be interposed between the pawl and cam-projection, and the compressor-shaft A, connected with piece I^3, for automatically stopping and starting the binder, substantially as described.

2. The compressor-arm A' and the cut-off A^2, both rigidly connected with a common shaft, A, in combination with the cam C^4 and intermediate connecting devices for actuating said shaft, substantially as described.

3. The combination, with the adjustable binder-frame, of the slotted binder-table and packer-shield, the compressor-arm, the cut-off, the elevating packer-teeth working up through said table and shield, and the overhanging binder-arm shaft, with its binder-arm arranged and operating substantially as described.

4. The binder-arm shaft provided with holes or grooves in its journal portions only, for adapting the cord to be passed to the needle on the outside of the shaft.

5. The combination, with adjustable binder-frame, of the binder-arm shaft having grooved or perforated journals for the passage of the band to the binder-arm, a binder-arm upon one end and a driving-wheel on the opposite end of said shaft, and a band-carrier and guide, all secured to and adjustable with said binder-frame.

6. The binder-arm, curved at its outer swinging end, in combination with the needle secured to said curved end, whereby the said arm is adapted to pass by the knotter hook or head, and at the same time to carry the needle under said head, substantially as described.

7. The combination of the knot-stripper N' and the incline or wedge on one side of the point of the needle for moving said stripper, substantially as described.

8. The hollow knotter-shaft provided with the fixed jaw, in combination with the slotted sliding rod passing through said shaft, a movable jaw pivoted to said fixed jaw and passing through the slot in and operated by said rod, and mechanism for actuating the latter, substantially as described.

9. The combination of the knotter-hook, the hollow shaft, the sliding rod passing through said shaft, the movable knotter-jaw passing through a slot in said sliding rod, the spring for closing said jaw, and the cam and roller for depressing the jaw, all arranged and operating substantially as described.

10. The combination, in a grain-binding harvester, of the grain table or receptacle located between the platform-carrier and the driving-wheel, the rotating packer located underneath said receptacle and operating to lift the grain from the platform-carrier and into said receptacle, the overhanging binder-arm shaft, and the grain-guard U, provided with the lower yielding compressor-arm U^1, located over the packer-teeth, substantially as described.

11. The packer-shafts provided with crank-arms, in combination with the fixed cam F^3 and the pivoted extension F' of the latter, for holding the packer-teeth up to their work in forming the bundle and allowing them to drop back without packing the grain while the bundle is being bound, substantially as described.

12. The rocking packer-shafts provided with the inwardly-bent crank portions, allowing the point of the needle-arm to pass within the circle in which said shafts move, substantially as described.

13. The hinged cam-piece F^7, in combination with the rod g^1, the slotted standard F^6, the rod G', and the crank-shaft g^3, for operating the same, substantially as described.

14. The crank-shaft g^3, provided with the crank-arms g^4, in combination with lever G, connecting it with the cam-groove C^4, the cam-extension F', and intermediate connecting devices for operating said extension, substantially as described.

15. In combination with a carrying-platform and packers for moving the grain therefrom to the binder-table, a cut-off independent of said packers, arranged to hold the grain on said platform and prevent its reaching the packer-teeth while the binding mechanism is in operation, substantially as described.

16. The combination of the packer, the carrying-platform, the cut-off between the packers and platform, arranged to work automatically simultaneously with the stopping of the platform, substantially as described.

17. The combination of the cut-off shaft, the arm X^3 on the end thereof, the pawl V, and the ratchet-wheel W, for automatically stopping and starting the platform-rake when the cut-off is operated, substantially as described.

18. The combination, with the platform apron or carrier and a packing mechanism located at the inner end thereof for taking the grain from said carrier and delivering it to the binding mechanism, of a cut-off interposed between said carrier and packing mechanism, connected with the binding mechanism, substantially as described, whereby its movements are timed to those of the binding mechanism for preventing the grain from reaching and being acted upon by the packers when the binding mechanism is operated to bind a bundle.

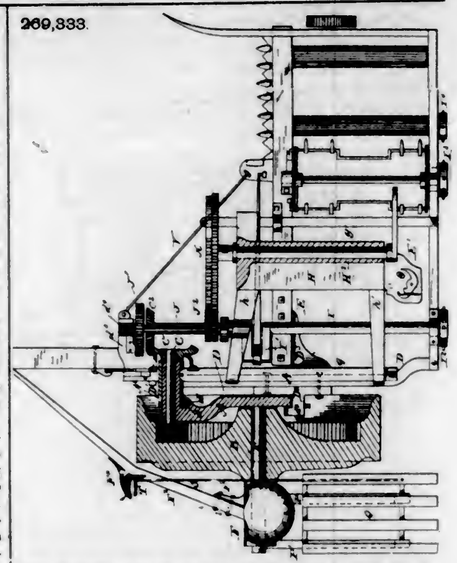
19. The combination of the cut-off shaft, the crank X on the end thereof, the connecting-rod X', and the cam C^4 with connecting devices, substantially as described, for automatically rocking said cut-off shaft at proper intervals.

269,333. SELF-BINDING HARVESTER. JOHN F. SHIBERLING, Akron, Ohio. Filed Apr. 3, 1882. (Model.)

Claim.—1. The combination, in a grain-binding harvester, of the main supporting and driving wheel, the driver's seat, located on the axle on the outer side of said wheel, a dumping bundle-carrier supported upon said axle in rear of the driver's seat, a cutting apparatus located centrally of the driving-wheel, on the opposite side from the driver's seat, and a binding mechanism located on the platform side of said wheel, substantially as and for the purpose described.

2. The combination of the driver's seat with the thimble-support on the outer end of the main axle, the supporting-brace having a sliding connection with the tongue of the machine, and the foot-rest on said brace, substantially as described.

3. The gear-support A, provided with the main drive-wheel



axle, projecting from its side near one end, and a sleeve-bearing for the secondary shaft, projecting on the opposite side near the other end, in combination with the harvester frame-bar D, provided with the sleeve D', and hook-bracket D^2, arranged and operating substantially as described.

4. The combination of the gear-support A, provided with the drive-wheel axle A', and pinion-shaft sleeve A^3, the harvester frame-bar D, provided with the sleeve D', and hook-bracket D^2, and the lifting-lever mounted on the gear-support and connected by chain with the hook-bracket D^2, substantially as described.

5. The rib or flange *d* on the harvester-frame thimble D', in combination with the hook *d'* on the gear-support A, for keeping said thimble in place, substantially as described.

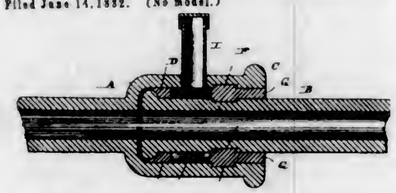
6. The combination of the crank-shaft I, the spur-pinion C^2, the shaft J, and the spur-wheel J', and sliding pinion J^4 thereon, for transmitting motion from the harvester to the binding mechanism, substantially as described.

7. The combination, in a grain-binding harvester, of a binding mechanism located on the platform side of the driving-wheel, a driver's seat located over the axle on the opposite side of said wheel, and a dumping bundle-carrier located behind said driver's seat, on the same side of the driving-wheel therewith, said seat and bundle-carrier being both connected with and supported upon the outer end of the drive-wheel axle, substantially as described.

8. In a grain-binding harvester, the combination of a binding mechanism located on the platform side of the driving-wheel, between the platform and said wheel, a driver's seat supported on the main drive-wheel axle, on the opposite side of said wheel to said binding mechanism, and a tilting bundle-carrier located behind said seat and connected by a transverse pivot with arms attached to the seat-supporting thimble, substantially as described.

9. The tilting bundle-carrier Q, secured to a transverse pivot mounted in arms attached to the seat-supporting thimble, in combination with the treadle P', the connecting-rod R', and the levers or cranks for operating the same, substantially as described.

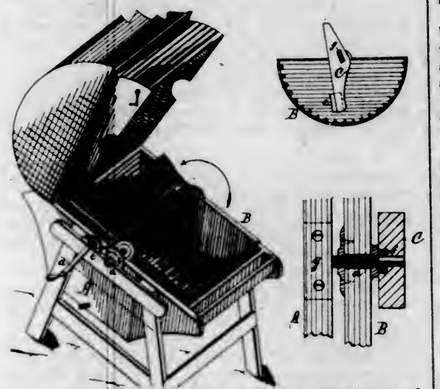
269,334. PIPE-JOINT. ROLAND H. SMITH, Pittsburg, Pa. Filed June 14, 1882. (No model.)



Claim.—1. In combination with the pipe-sections, provided with under-cut recesses, the metallic packing cast, contracted, and tamped therein, substantially as specified.

2. The combination, with the two sections of a gas or water main, constructed, as described, of the metallic gaskets or packings, leaving an interposed space, and the pipe-section leading therefrom, substantially as and for the purposes specified.

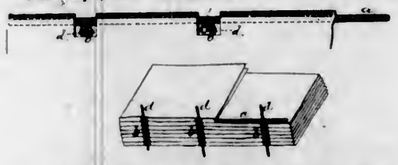
269,335. WASHING-MACHINE. WILLIAM REUBEN SMITH, Clayton, Ill. Filed Oct. 4, 1882. (No model.)



Claim.—1. The combination, with the tub or suds-box A and slatted cylinder B, of the presser and rubber C, which is held in vertical or nearly vertical position within said cylinder as the latter revolves around it in the direction specified, whereby the clothes are constantly rotated with the cylinder and in contact with the rubber without passing beneath it.

2. The combination of the gears, crank, and gudgeons *a a'*, one of which, *a'*, is fixed and has its inner end made polygonal, the socket-plate *f*, the stationary presser C, revolving cylinder B, and tub A, all as shown and described.

269,336. BINDING BOOKS. DAVID M. SMYTH, Hartford, Conn., assignor to the Smith Manufacturing Company, same place. Filed July 5, 1881. (No model.)



Claim.—1. The method herein specified of preparing folded sheets or signatures and binding the same, consisting in introducing a straight adhesive thread into the folds of the signatures, and then passing cords, tapes, or strips across through the back edges of the signatures and beneath the threads, substantially as set forth.

2. The improved binding for books described, in which the straight threads within the folds of the signatures are glued into place and the connecting strings, tapes, or strips pass across beneath all such glued threads, substantially as set forth.

3. The method herein specified of binding books, consisting in forming grooves or saw-cuts across the backs, then introducing straight glued threads into the inside of the folds of the sheets or signatures, then drawing into the saw-cuts and beneath the glued threads cords, strings, or strips of material to connect the sheets or signatures, substantially as set forth.

269,337. CARRIAGE-CURTAIN FASTENING. ADOLPHUS G. SHELL, New Haven, Conn. Filed Oct. 23, 1882. (No model.)



Brief.—The shank of the button passes through the body of the button, which body is attached to the carriage, and has secured to its under side a disk, which is provided with a projection, which fits in indentations in the under side of the button-body to hold the button stationary.

Claim.—1. The base A, constructed with the body B, to receive the curtain, combined with the button C, having its shank *a* through the body, with a disk secured to the shank upon the reverse side, so as to turn with the button, the disk and body provided with corresponding indentations and projections, whereby the button will be held in either of its two positions, substantially as described.

2. The base A, constructed with the body B, the button C, having its shank *a* extending through said body, and so as to be turned in a plane parallel with the base, the base constructed with a recess on its rear surface, and a disk in said recess secured to the shank of the button, and so as to rotate in said recess with the button, the body and disk constructed with corresponding projections and depressions, whereby the button is locked in either of its two positions, substantially as described.

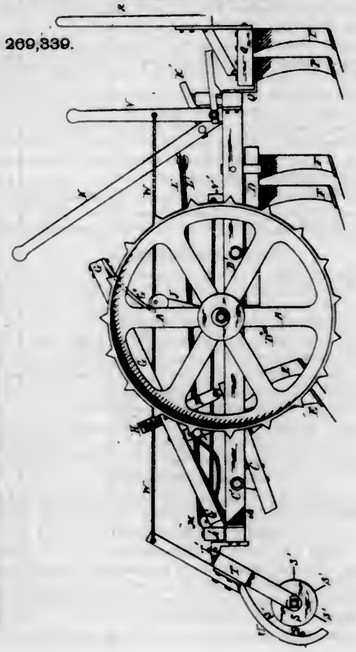
3. The base A, constructed with the body B, combined with the button C, having its shank through the body, and so that the button will turn in a plane parallel with the base, and a disk on the rear surface of the plate secured to the shank of the button, and so as to revolve with the button, the said disk constructed with a tongue, A, the said tongue and the surface of the plate over which it moves provided with corresponding projections and depressions, whereby the button is secured in either of its two positions, substantially as described.

269,338. DIE FOR WELDING AND SWAGING LINKS. PHILANDER H. STANDISH, Cincinnati, Ohio, assignor of one-half to P. Wilson & Sons, same place. Filed July 15, 1882. (No model.)



Claim.—The herein-described die for welding or swaging, consisting of the parts A A' and B C, inclosing a space for the metal blank, and having their contacting faces inside and outside of the curved space parallel, and the lower line of separation on a plane with the base of the projection A', whereby they may be adjusted on the line of separation, as and for the purpose set forth.

269,339.



269,339. CULTIVATING-MACHINE. LUCIUS STEBBINS, Hartford, Conn. Filed Sept. 21, 1882. (No model.)

Brief.—The cultivating-teeth are placed upon two hinged or rocking frames, which are alternately tilted by a cam-projection, which revolves with the axle to clear them, and may be lifted out of action by lever, rope, and pulley. Another hinged frame may be let down at the rear to extend farther onto the land or between trees. A hinged roller extends across the front of the frame, with blades or teeth to cut across the surface. A series of colters are in front of it to cut lengthwise.

Claim.—1. In a cultivating-machine, the combination of the rocking frame C, the bar G, the adjustable link H, and the cam J on the axle of the wheels B, substantially as described.

2. In a cultivating-machine, the combination of the two rocking frames C and D, with the wheels B and intermediate mechanism, whereby said frames are operated alternately, substantially as described.

3. In a cultivating-machine, the combination of the hinged frame T, the roller S, having blades S', the cutters U, the cord W, and the lever V, substantially as described.

4. The pivoted frame O, provided with teeth P and handle R, in combination with the frame A, provided with the hook Q, and adapted to turn upward, substantially as described.

269,340. MANUFACTURE OF COMPOUNDS OF PYROXYLINE OR NITRO-CELLULOSE. JOHN H. STEVENS, Newark, N. J., assignor to the Celluloid Manufacturing Company, New York, N. Y. Filed June 12, 1882. (No specimens.)

Brief.—The new group of active liquid solvents or converting agents comprises oil of spearmint, nitrate of methyl, butyric ether, valeric ether, benzoic ether, formic ether properly dehydrated, salicylate of methyl, formate of amyl, acetate of amyl, butyrate of amyl, valerianate of amyl, sebacylic ether, oxalic ether, amylic ether, (amyl oxide,) oxidized wood-alcohol, oil of cassia, oil of cherry, laurel, heavy cinnamon-oil, oil of melissa, (balm,) oil of birch-tar, (rectified,) and oil of pennyroyal. This new group of active solvents includes only menstrua which are in themselves solvents of pyroxyline at the ordinary temperature.

Claim.—As an improvement in the art of manufacturing compounds of pyroxyline or nitro-cellulose, the use of the hereinbefore-specified new group of active liquid solvents or converting agents, substantially as described.

269,341. MANUFACTURE OF COMPOUNDS OF PYROXYLINE OR NITRO-CELLULOSE. JOHN H. STEVENS, Newark, N. J., assignor to the Celluloid Manufacturing Company, New York, N. Y. Filed June 12, 1882. (No specimens.)

Brief.—The soluble nitro-cellulose should be ground into pulp and dehydrated by hydraulic pressure between absorbent pads, as is well understood. The dried nitro-cellulose is then broken up into small pieces and placed in a vessel which can be tightly closed. To one part, by weight, of this nitro-cellulose add an equal quantity, by weight, of oil of caraway-seed, or oil of hyssop, or oil of sage, or oil of tansy, or oil of cloves, or oil of winter-green, or of mixtures of these oils, each of which is discovered to be a latent solvent of nitro-cellulose.

Claim.—As an improvement in the art of manufacturing compounds of pyroxyline or nitro-cellulose, the use of the hereinbefore-specified oils or latent liquid solvents, substantially as set forth.

269,342. MANUFACTURE OF COMPOUNDS OF PYROXYLINE OR NITRO-CELLULOSE. JOHN H. STEVENS, Newark, N. J., assignor to the Celluloid Manufacturing Company, New York, N. Y. Filed June 12, 1882. (No specimens.)

Brief.—The object of the invention is to manufacture compounds of pyroxyline without necessarily employing camphor and to retain the advantages of a non-volatile solid latent solvent, such as camphor is. To two parts, by weight, of soluble pyroxyline add one to two parts of dinitro-benzine or of coumarine.

Claim.—As an improvement in the art of manufacturing compounds of pyroxyline or nitro-cellulose, the use of the hereinbefore-specified new latent solid solvents, substantially as described.

269,343. MANUFACTURE OF COMPOUNDS OF PYROXYLINE OR NITRO-CELLULOSE. JOHN H. STEVENS, Newark, N. J., assignor to the Celluloid Manufacturing Company, New York, N. Y. Filed June 14, 1882. (No specimens.)

Brief.—The new compounds to be combined with camphor are acetone, acetate of ethyl, acetate of methyl, fusel-oil, (amylic alcohol,) oil of chamomile, oil of fennel-seed, oil of palmarosa, oil of worm-seed, or mixture of any of these.

Claim.—As an improvement in the art of manufacturing compounds of pyroxyline or nitro-cellulose, the use of the hereinbefore-specified new menstrua, in conjunction with camphor, substantially as described.

269,344. MANUFACTURE OF COMPOUNDS OF PYROXYLINE OR NITRO-CELLULOSE. JOHN H. STEVENS, Newark, N. J., assignor to the Celluloid Manufacturing Company, New York, N. Y. Filed June 24, 1882. (No specimens.)

Brief.—The menstrua referred to are oil of hyssop, oil of sage, oil of tansy, oil of worm-seed, oil of fennel-seed, oil of cloves, light oil of cinnamon, oil of anise, oil of sassafras, oil of chamomile, oil of winter-green, oil of caraway-seed, oil of dill, acetal, nitrate of amyl, nitrite of amyl. These menstrua or mixtures of any of them will be found to constitute, with the fusel-oil, active solvents of the nitro-cellulose at ordinary temperatures.

Claim.—1. As an improvement in the art of manufacturing compounds of pyroxyline or nitro-cellulose, the employment of fusel-oil (amylic alcohol) in conjunction with the hereinbefore-specified menstrua, or mixtures of the same, substantially as described.

2. As an improvement in the manufacture of compounds of pyroxyline or nitro-cellulose, the employment of fusel-oil as a solvent or menstruum, substantially as described.

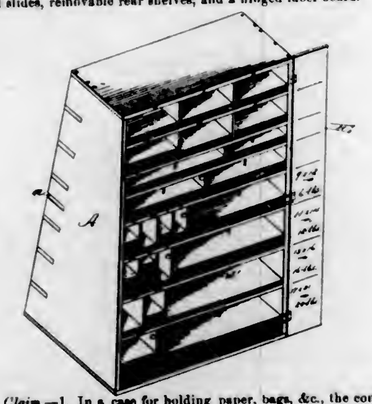
269,345. MANUFACTURE OF COMPOUNDS OF PYROXYLINE OR NITRO-CELLULOSE. JOHN H. STEVENS, Newark, N. J., assignor to the Celluloid Manufacturing Company, New York, N. Y. Filed June 24, 1882. (No specimens.)

Brief.—The new compounds are acetal, nitrate of amyl, nitrite of amyl, oil of chamomile, oil of valerian, oil of golden-rod, oil of sassafras, oil of anise, light oil of cinnamon, oil of cumin, oil of cyanic ether, oil of dill, oil of elecampane, oil of fennel-seed, oil of eucalyptus, oil of fennel-chaff, oil of wine, (heavy,) oil of worm-seed, oil of myrtle, oil of laurel, oil of marjoram, oil of peppermint, oil of rue, oil of cinnamon-leaves, oil of palmarosa, oil of rosemary, (that from French flowers preferred,) oil of erigeron.

Claim.—As an improvement in the manufacture of compounds of pyroxyline, the employment, in conjunction with alcohol, (ethylic or methylic,) of the hereinbefore-specified new menstrua or mixtures of the same, substantially as described.

269,346. PAPER-BAG HOLDER. SIMON STOFFEL, Volo, Ill. Filed Aug. 12, 1882. (No model.)

Brief.—Consists of a series of compartments formed by removable and adjustable shelves provided with toothed spring-actuated slides, removable rear shelves, and a hinged label-board.



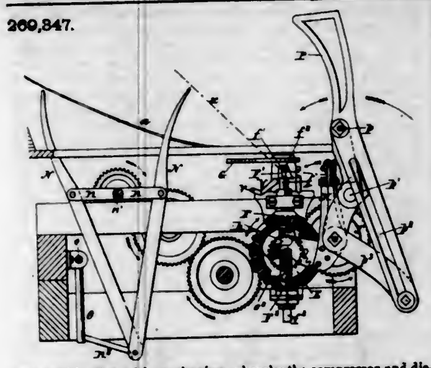
Claim.—1. In a case for holding paper, bags, &c., the combination, with the shelves, of the slide D, having a toothed or serrated end, D', and spring *e*, substantially as and for the purpose set forth.

2. A case for containing wrapping-paper, bags, &c., consisting essentially of a series of compartments formed by removable and adjustable shelves C C, provided with toothed slides D, removable shelves *b*, for holding and exhibiting canned goods, &c., and a hinged label-board, E, all constructed and arranged for use substantially as herein described.

269,347. GRAIN-BINDER. DANIEL STRUNK, Janesville, Wis., assignor to the Minneapolis Harvester Works, of Minnesota. Filed July 7, 1881. (Model.)

Claim.—1. A combined bundle compressor and discharger,

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in combination with mechanism whereby the compressor and discharger is first moved forward to compress the bundle during the operation of tying, and is then carried below and back of and discharges the bundle, substantially as described.

2. The compressor-arm P, in combination with a shaft provided with a crank on which the compressor is mounted, the pinion P', cut out on one side of the shaft, and the pin p^3 on the shaft, substantially as and for the purpose set forth.

3. The crank-shaft p', in combination with the compressor P, pinion P', cut away, as described, arm p^2 on the end of the shaft, and pinion E', provided with a crank-pin, e', substantially as and for the purpose set forth.

4. An elastic gathering and packing arm or arms, in combination with a tripping mechanism connected therewith, and a suitable resistant, against which the bundle is formed by the packers, whereby the yielding of the said gathering and packing mechanism under the accumulation of grain to form the bundle will operate the trip and automatically set the binding mechanism in motion, substantially as described.

5. The packer-arms N, mounted on cranks *n*, in combination with the rock-shaft *o*, to which the lower ends of the packer-arms are connected for operating the trip, substantially as described.

6. The packer arm or arms, in combination with a rock-shaft, a trip mechanism arranged to be operated by the oscillation of the rock-shaft, and a link or links connecting the packer arm or arms to the rock-shaft, whereby the yielding of the packer-arms to the resistance of the grain as it is packed into the receptacle will rock the shaft to operate the trip, substantially as described.

7. The packer-arms N, in combination with the rock-shaft *o*, provided with crank-arms O and *o'*, the clutch on the main pinion-shaft, and the trip-toggle on the clutch, substantially as described.

8. The rock-shaft *o*, provided with the crank-arm *o'*, in combination with the slotted guide R and spring *r'*, and packing-arms connected to the rock-shaft, whereby elasticity is given to the packer-arms and rock-shaft, substantially as described.

9. The packer-arms N, in combination with the crank-shaft *n'*, loose pinion N', provided with a clutch to connect with the shaft, the crank-lever Q, and revolving cam *q'*, substantially as described.

10. The compressor-arm P, in combination with the yielding packer-arms N, and mechanism which holds the compressor in a fixed position while the bundle is gathered and formed, substantially as described.

11. The spring-clutch S, in combination with the sliding holder S', both mounted on the main shaft, the toggle T, mounted on and carried by the said holder, and the cam U on the main gear-wheel, substantially as described.

12. The spring-clutch S, in combination with the toggle T, provided with the pin t^2, cam *u*, hooked crank-arm *s'*, rock-shaft *o*, and packer-arms N, substantially as described.

13. In a grain-binder, a string-holder composed of two plates, notched as described, in combination with a reciprocating plate arranged between the former, and provided with two sets of prongs—one set between the plates and the other set outside of the front plate—the latter being provided with cutting-edges, the whole arranged and operating to seize and cut the string and hold the end on one side of the plate-openings and release the band end on the other side by the reciprocation of the middle plate in one direction only, substantially as described.

14. The front plate, H', in combination with the back plate, H', which are provided with recesses $h' h^2$, respectively, the one in the front plate being wider than that in the back plate, and the sliding plate I, provided with prongs *i i'*, and cutting-edges on the former, substantially as and for the purpose set forth.

15. A string-holder, and the bell-crank lever H, on which it is mounted, in combination with the wheel E, provided with a pin working in a slot in the end of the crank-arm, whereby the holder is moved to and from the tyer, substantially as and for the purpose set forth.

16. The sliding rod connected to the pivoted member of the tyer and provided with pin f^4, in combination with the spring f^3, and adjustable collar f^5, with a series of notches varying in depth, whereby the tension of the spring may be adjusted, substantially as described.

17. A rotating tying-hook, in combination with a reciprocating string-guide arranged to stand with its opening at one side of the hook to receive the string while the hook is at rest, and mechanism whereby the guide is first moved slightly toward and over the hook just before the latter begins to rotate, in which position it is held while the loop is formed, then is moved away from the hook to strip the loop, and then is moved back to its first position of rest, substantially as and for the purposes set forth.

18. The rotary tyer, in combination with the reciprocating forked guide G, lever *g'*, and rotating cam G', substantially as described.

19. The rotating tyer, in combination with the reciprocating forked guide and the vibrating band-placer arranged and operating substantially as described.

20. The rocking band-placer V, bent substantially as specified, and having its shaft inclined horizontally to the plane of movement of the binding-arm, in combination with mechanism whereby the shaft is rocked to place the band, substantially as and for the purposes set forth.

21. The rocking band-placer V, bent substantially as specified, and having its shaft inclined horizontally to the plane of movement of the binding-arm, in combination, with the spring *v'*, lever W, connected to a crank-arm on the placer-shaft, and pin *w'* on a rotating shaft, whereby the placer is operated, substantially as described.

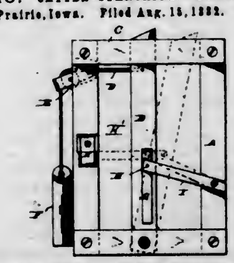
22. The take-up M, in combination with the rock-shaft M', provided with the crank-arm *m'*, pivoted lever m^2, and cam m^3, substantially as described.

23. The spring tension-plates h^2, in combination with a rock-shaft, L, provided with pins *l*, arranged on different sides of the rock-shaft, and mechanism for oscillating said shaft, and arranged to operate to release the tension next the spool first, and then the tension next the binding-arm, substantially as and for the purpose set forth.

24. The spring tension-plates, in combination with the rock-shaft provided with pins, as described, and a slotted crank-arm, *l'*, and take-up arm M and connecting-bar L, substantially as described.

25. The take-up M, in combination with the two separate tension devices $h h^2$, and mechanism arranged to release the tension devices alternately, substantially as and for the purpose set forth.

269,348. CATTLE-STANCHION. GEORGE W. TALMADGE, Golden Prairie, Iowa. Filed Aug. 15, 1882. (Model.)

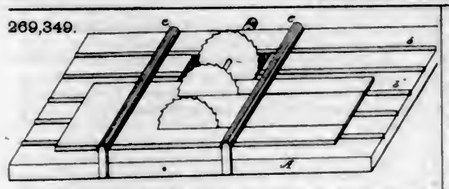


Claim.—The combination, with the timbers and beams of the stall, of the upright movable stanchion-beam B, the lever G, the bar I, the latch K, the rope D, pulley E, and weight F, all arranged to operate substantially as and for the purposes specified.

269,349. SAWING-MACHINE TABLE. ESAU TANNANT, Muskegon, Mich. Filed Aug. 26, 1882. (No model.)

Claim.—1. In a sawing-machine, a saw-table provided with a longitudinal series of angular guide-bars projecting above the surface of the table in lines parallel with the sides of the saws or line of cut, and acting directly on the lower surface of the lumber to

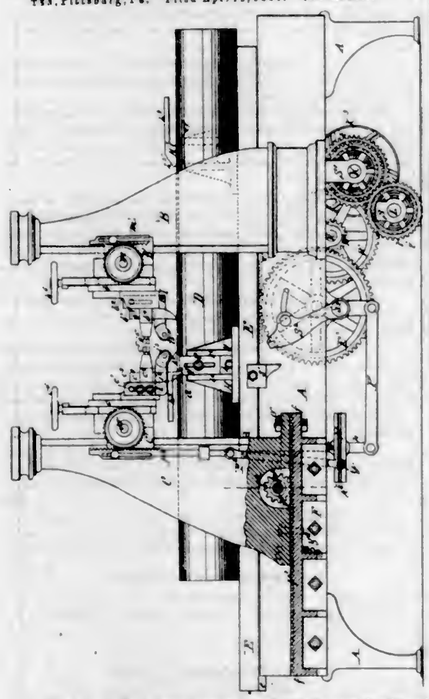
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be cut, for the purpose of keeping the lumber in its proper position with relation to the saws, as set forth.

2. A saw-table provided with a series of angular grooves in its upper surface, in combination with a series of angular bars placed in said grooves projecting above the surface of the table, and secured thereto by screws passing diagonally through the bars and into the table, as shown and described.

269,350. METAL-PLANING MACHINE. WILLIAM H. D. TOTTEN, Pittsburg, Pa. Filed Apr. 11, 1881. (No model.)



Claim.—1. In a metal-planing machine, the combination of a reciprocating table, E, stationary housings B, movable housings C, such housings B and C being adapted to carry cutting-tools which are arranged to cut alternately and in opposite directions, and means for moving housings C toward and from housings B, and for binding such movable housings at the desired distance from B, substantially as set forth.

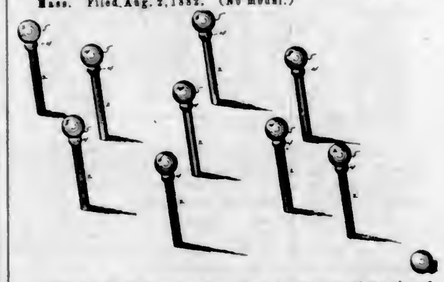
2. The combination of frame or bed A, sliding table E, power mechanism for imparting reciprocating motion to the table, two sets of housings, B and C, erected on the frame, one at least being movable along the frame, tool-holders b^2 c^2, having pivoted adjustable connections with their respective housings, and means for automatically raising such tool-holders on their pivots and holding them above working position through a part of each movement of the table, substantially as and for the purposes set forth.

3. In combination with the reciprocating table, housings, and pivoted tool-holder of a metal-planing machine, an arm, i^2, extending from the tool-holder, and standard or lifting device H H', secured on the table and adjustable both vertically and along the length of the table, substantially as and for the purposes set forth.

4. In combination with the reciprocating table and movable housings C of a metal-planing machine, a way or track, *f*, rack F' pinion F', and means for binding the housings to the track at the desired point in its length, substantially as set forth.

5. In a metal-planing machine having a reciprocating table, E, operated by rack *e'* and gear-wheel E', and in combination therewith a driving-shaft, K, having fixed pulley K' and loose gear-wheels *k k'*, with intermediate clutch, N, adapted to engage either gear-wheel, also loose pulleys K^3 K^3, the latter having a gear-wheel, *s*, affixed thereto, shaft L, carrying pinions *l*, *l'*, and P, and shaft R, carrying gear-wheels R' and R^3, the same being arranged and combined substantially as and for the purposes set forth.

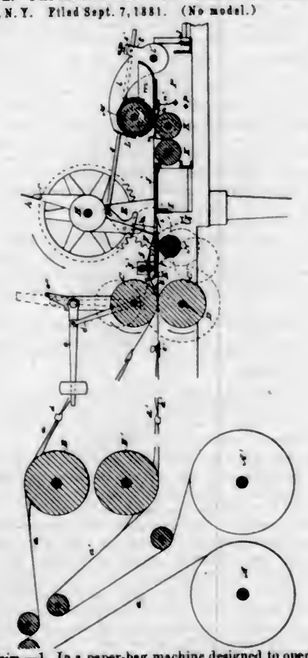
269,351. GAME OF LAWN-POOL. LUCIUS TURNER, Reading, Mass. Filed Aug. 2, 1882. (No model.)



Claim.—1. The combination, for a lawn game, of a series of sockets each provided with a cavity in the top, a series of stakes each having its lower end adapted to be loosely inserted into said cavity in each socket, and with a cavity in its upper end, a series of cups each adapted to be inserted in the cavity in each stake and recessed at the top, and a series of balls, substantially as described.

2. The combination of a series of sockets each provided with a cavity in the top, a series of cups each having a recess in the top and adapted to be inserted into the cavity in said socket, and a series of balls, substantially as described.

269,352. PAPER-BAG MACHINE. CASPER VAN HORSEN, New York, N. Y. Filed Sept. 7, 1881. (No model.)



Claim.—1. In a paper-bag machine designed to operate upon two continuous folded strips of paper, the combination of drawing-rollers between which the folded strips pass, a pasting mechanism, substantially as set forth, arranged between the two strips for pasting the folded laps of one of said strips, a cutting mechanism, substantially as set forth, for severing said strips, and pressure-rollers for uniting the pasted seams thereof, substantially as set forth.

2. In a paper-bag machine designed to operate on two continuous folded strips of paper, the combination of drawing-rolls for propelling said strips, a pasting apparatus, substantially as described, arranged between the two strips and adapted to paste the laps of one strip, a cutter adapted to cut said strips into lengths suitable for forming bags, a pasting mechanism, substantially as described, adapted to paste the end of each such length, a folding device adapted to turn up each such end to form the bottom flap of the bag, and pressing-rollers adapted to press together the pasted seams thereof, substantially as set forth.

3. In a paper-bag machine designed to operate on two continuous folded strips of paper, the combination of drawing-rolls between which both strips pass, means, substantially as described, for separating said strips after they leave said rolls, a pasting mechanism, substantially as described, arranged between the two strips and adapted to paste the laps of one strip, a fixed plate entering the folds of one of said strips, a cutting-blade working from the opposite side of the other strip and impinging upon the edge of said plate at intervals, whereby all the thicknesses of paper between the two are severed, and means, substantially as described, for cutting the remaining thickness beyond the others, substantially as set forth.

4. A cutting mechanism for a paper-bag machine, consisting of the combination of a fixed plate adapted to enter the folds of paper, a second fixed plate arranged beneath the paper, and edgewise thereto, and a moving cutting-knife arranged above the paper and caused to move in the direction in which the paper is propelled, and arranged, in moving, to impinge on the edge of the first-named plate and cut the intervening thicknesses of paper, and thereafter to encounter the last-named plate and impinge upon the edge thereof, thereby cutting the remaining portion of paper, substantially as set forth.

5. In a paper-bag machine designed to operate on two continuous folded strips of paper, the combination of transverse bar F, arranged between the strips, plate G, fixed thereto and entering the folds of the lower strip, plate I, arranged behind the plate G, under the paper strips, and edgewise thereto, and cutting-blade h, arranged to move above and in the same direction as the paper strips, and adapted to impinge successively on the edges of plates G and I, thereby cutting the intervening thicknesses of paper, substantially as set forth.

6. In a paper-bag machine, the combination of means for propelling two folded strips of paper, one on top of the other, paste-vessel *f*, adapted to stand between the two strips, revolving pasting brush or roll *g*, dipping therein, and pressure-roll *g'*, arranged to press one strip of paper against the paste-roll, substantially as set forth.

7. A bottom folding and pasting mechanism for a paper-bag machine, consisting of the combination of drawing and pressure rolls K K, folding-blade L, moving at intervals toward and between said rolls and back therefrom, and means, substantially as described, for applying paste to one side of said blade, pressing-plate *n*, arranged adjacent to said rolls, where the said blade will move against it as it approaches the rolls, and spring *n'*, adapted to press said plate against the blade and admit of the plate being pressed back by the blade in its descent, substantially as set forth.

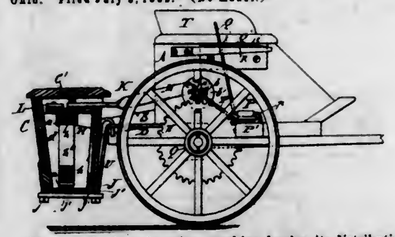
8. In a paper-bag machine, the combination of rolls K K, folding-blade L, levers *l l*, bearing the same, arm *t*, in connection with said levers, spring *j*, connecting-rod *s*, trip-lever R, cutting-blade h, and projection *r*, in connection with said blade, substantially as set forth.

9. In a paper-bag machine designed to operate on two continuous folded strips of paper, the combination of drawing-rolls for propelling said strips, a pasting mechanism, substantially as described, arranged between the two strips and adapted to paste the laps of one strip, a cutting mechanism, substantially as described, adapted to cut said pasted strips into lengths suitable for making bags, and means, substantially as described, for changing the relative speed of said drawing-rolls and cutting mechanism, all mounted on and having bearings in a fixed frame, with another frame adjustable backward and forward relatively to said fixed frame, and fixed thereto during the operation of the machine, and the bottom folding and pasting mechanism, and pressure-rolls for uniting the bottom and side seams, mounted on said adjustable frame, substantially as set forth.

10. In a paper-bag machine, the combination of power-shaft D, roll C', fixed thereon, roll C, arranged above the roll C' in vertically-slotted bearings, weighted levers *e e*, fulcrumed directly above the bearing of the roll C, links *e' e'*, connecting said levers with the journals of the roll C, and stop *e''*, substantially as set forth.

11. In a paper-bag machine, the combination, with rolls C C', arranged to draw the folded paper until it reaches them, and to push the same after it passes them, and with plate G, of a cylindrical brush, N, arranged beneath the portion of the paper that has passed said rolls, with its bristles in light contact therewith, and with means for revolving it at a peripheral speed greater than that of the rolls C C', substantially as set forth.

269,353. SEEDING-MACHINE. MARK VASHBINDER, Warren, Ohio. Filed July 3, 1882. (No model.)



Claim.—1. A seed-sowing machine having its distributing seed-box C supported on the outer ends of rearwardly-extending arms D, substantially as shown and described, whereby it is carried near the surface of the ground, as and for the purpose set forth.

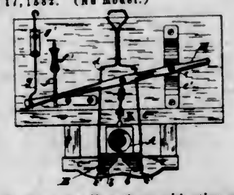
2. In a seed-sowing machine, the combination, with the primary seed-box A and the rearwardly-extending arms D, of the distributing seed-box C, supported on the outer ends of the said arms, and the conduits S, leading from the box A to the box C, substantially as and for the purpose set forth.

3. In a seed-sowing machine, the combination, with the primary seed-box A and the rearwardly-extending arms D, of the distributing seed-box C, having a series of compartments, and the conduits S, provided with valves *g*, substantially as and for the purpose set forth.

4. In a seed-sowing machine, the combination, with the primary seed-box A, the seed-distributing seed-box C, having a series of compartments, the spouts S, connecting said boxes, and the gear-wheel N, of the agitator H, having its lower edge notched, the bell-crank lever K, the connecting-rods L M, the crank *b'*, the shaft *c*, and the pinion *c*, substantially as and for the purpose set forth.

5. In a seed-sowing machine, the combination, with the seed-distributing box C, provided with the partitions *d*, having their upper and lower portions cut away, as at *a*, of the distributer H, consisting of the upper and lower bars, A A', the lower one of which is notched, and the connecting-bars A'', and means, substantially as shown and described, for reciprocating the said distributer, as and for the purpose set forth.

269,354. CAR-COUPLING. JONAH J. VINSON, Wayland, Ind. Filed June 17, 1882. (No model.)



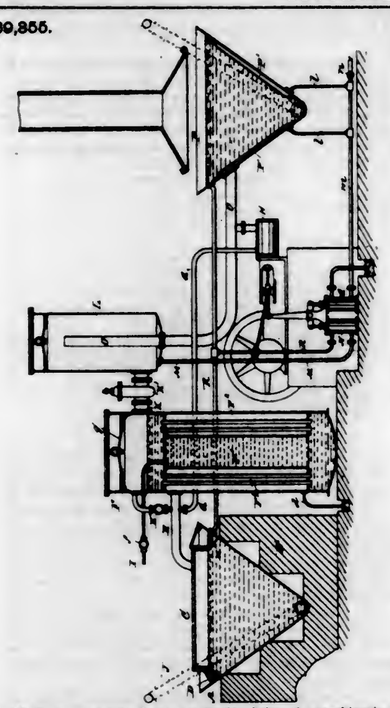
Claim.—In a car-coupling, the combination of the draw-head A, bifurcated curved spring-plate B, working through guides *c c*, and having stops *c'*, and bifurcated arm C, straddling the draw-head and connected at its lower end to the curved spring-plate B, substantially as and for the purpose herein shown and described.

269,355. APPARATUS FOR MAKING SALT. CLEMENS VON BUCHTOLSHEIM, Munich, Germany. Filed Oct. 4, 1882. (No model.)

Claim.—1. In an apparatus for concentrating brine, the combination, with the brine-boiler F, of the dome L and the evaporating-pans A and P, substantially as herein shown and described, and for the purpose set forth.

2. In an apparatus for concentrating brine, the combination, with the brine-boiler F, of the dome L, the evaporating-pans A and P, and the pump N, substantially as herein shown and described, and for the purpose set forth.

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3. In an apparatus for concentrating brine, the combination, with the brine-boiler F, of the evaporating-pan P, provided with steam-jackets P', the dome L, and the steam-pipe O, extending from the dome L to the jackets P', substantially as herein shown and described, and for the purpose set forth.

4. In an apparatus for concentrating brine, the combination, with the brine-boiler F, of the dome L, the evaporating-pans A and P, the pump N, the pipe M, leading from the dome L to the pump, and the pipe R, leading from the the pump to the pans A and P, substantially as herein shown and described, and for the purpose set forth.

5. In an apparatus for concentrating brine, the combination, with the brine-boiler F, of the evaporating-pans A and P, the dome L, the steam-pipe O, the pipes M and R, the pumps N and Q, and the pipes *m* and *l*, substantially as herein shown and described, and for the purpose set forth.

6. In an apparatus for concentrating brine, the combination, with the brine-boiler F, of the evaporating-pan A and the steam-pipe E, leading from the pan to the boiler, substantially as herein shown and described, and for the purpose set forth.

7. The combination, with a V-shaped evaporating-pan, of a cover having side pieces dipping into the brine, and of packing-strips between the side pieces of the cover and the sides of the pan, substantially as herein shown and described, and for the purpose set forth.

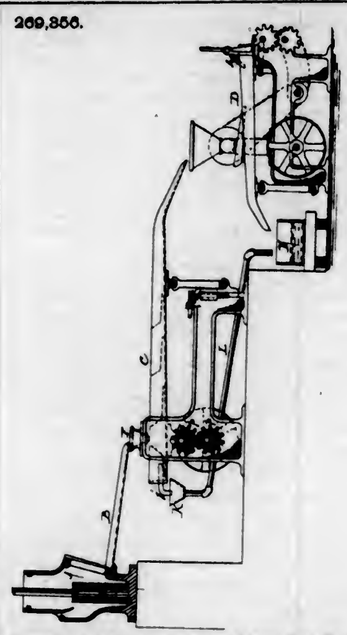
8. In an apparatus for concentrating brine, the combination, with the brine-boiler F, of the evaporating-pan A, the steam-pipe E, leading from the pan to the boiler, and the steam-pipe G, leading to the pumping-engine H, substantially as herein shown and described, and for the purpose set forth.

269,356. METHOD OF AND APPARATUS FOR CONCENTRATING AND AMALGAMATING ORES. GEORGE W. WAITT, Camden, N. J., assignor to the Golden Gate Concentrator Company, Augusta, Me. Filed Jan. 26, 1882. (No model.)

Claim.—1. The method herein described of preparing ore pulp for concentration, the same consisting in simultaneously subjecting the pulp to drainage and agitation while the pulp is moving from the stamp toward the concentrating-table, as set forth.

2. The battery A and concentrator D, in combination with the upwardly-inclined table C, mounted between the battery and concentrator, and provided with means for draining off at the near

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or lower end of the table the excess of water from the pulp before the pulp is delivered upon the concentrating-table, substantially as described.

3. The battery A and concentrator D, in combination with the upwardly-inclined table C, interposed between the battery and concentrator, and provided with the amalgamating-plates *g h* and *g' h'*, and with means for drawing off the excess of water from the pulp before the pulp is delivered upon the concentrating-table, substantially as set forth.

4. The inclined draining-table C, mounted on movable bearings, and mechanism, as described, for operating the same, said table being provided with spouts or drain-pipes *j j*, which are introduced through the lower end of the table, in combination with the battery A and spout B, substantially as herein described.

5. The inclined table C, provided with the drain-pipes *j j*, and the inclined amalgamated partition-plates *g g'*, and horizontal amalgamated plates *h h'*, arranged, as specified, so that the pulp is compelled to pass under the horizontal plates, substantially as described.

6. In a preliminary or supplemental draining-table for withdrawing the excess of water from the ore pulp, the inclined plates *g g'* and the horizontal plates *h' h'*, inclined plate *g*, and horizontal plate *h*, in combination with the drain spouts or tubes *j j*, extending through the sides of said table and having their inner ends projecting over plate *h*, substantially as and for the purpose herein set forth.

269,357. MACHINE FOR BENDING LINKS. JOHN F. WALLACE, Pittsburg, Pa. Filed May 27, 1881. (No model.)

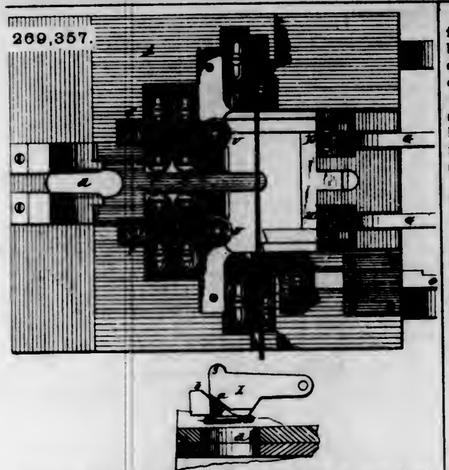
Claim.—1. In the link-bending machine hereinbefore described, the combination of the cutter N, anvil Q, guide-stop M, adjustable bearings R S, provided with rollers T T, form K, adjustable bearings V V, each provided with a beveled roller, U, adjustable bearings W, each furnished with a flanged roller, X, form I, and operating mechanism, as and for the purpose specified.

2. In the link-bending machine hereinbefore described, the combination of the cutter N, anvil Q, guide-stop M, form K, adjustable bearings R S, each provided with a roller, T, and operating mechanism, substantially as and for the purpose specified.

3. In the link-bending machine hereinbefore described, the combination of the cutter N, anvil Q, guide-stop M, form K, adjustable bearings R S, each provided with a roller, T, form I, adjustable bearings V, each provided with a beveled roller, U, and operating mechanism, substantially as and for the purpose specified.

4. In the link-bending machine hereinbefore described, the

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combination of the cutter N, anvil Q, guide-stop M, form K, adjustable bearings R S, each provided with a roller, T, form I, adjustable bearings V, each provided with a beveled roller, U, adjustable bearings, each furnished with a flanged roller, X, incline *b*, having point *l*, and operating mechanism, substantially as and for the purpose specified.

269,358. CAR-COUPLING. JOHN F. WALLACE, Pittsburg, Pa. Filed Mar. 15, 1882. (No model.)



Claim.—1. A coupler for the ends of the draft-bolts of a railroad-car, consisting of a double draft-bolt case or cylinder united or formed together, one draft-bolt being firmly secured to said cylinders and the other draft-bolt being secured movably thereto, substantially as and for the purposes specified.

2. The combination, with the draw-heads of a car, of two draft-bolts, one connected to each draw-head, the free ends of the draft-bolts passing each other at the coupling-point, and a coupler for connecting the passing ends of the draft-bolts, substantially as and for the purpose specified.

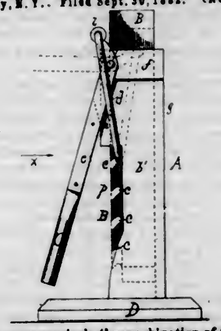
3. The draw-head having two vertical openings formed in the face thereof, separated by two projections, one above the other, having a lateral opening inclining upward between them and a side opening larger than one of the vertical openings in the face of the draw-head, substantially as and for the purpose specified.

4. The draw-head having two vertical openings in its face, separated by two projections, one above the other, with a lateral link-opening inclining upward between the projections, in combination with a draft-bolt pivotally connected to the draw-head, substantially as and for the purpose specified.

269,359. MANUFACTURE OF COLORING-MATTER. OTTO WALLACH, Bonn, Prussia, Germany. Filed Oct. 11, 1881. (Specimens.) Patented in Germany Aug. 9, 1881, No. 18,861.

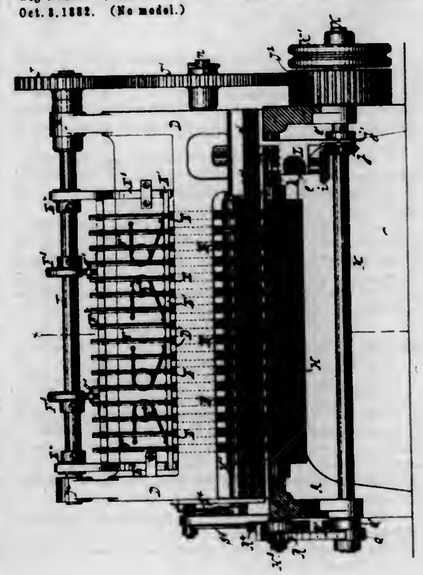
Claim.—The brown coloring-matter obtained by the process substantially as described and herein set forth.

269,360. WAGON-JACK. DANIEL C. WHITE and JOSEPH COOPER, Perry, N. Y. Filed Sept. 30, 1882. (No model.)



Claim.—In a wagon-jack, the combination of the rectangular hollow case A, formed as described and mounted on a single foot-piece, said case surrounded at the top by an angular metal band, *f*, formed with lateral projecting bolts *a a*, and the follower B, formed as described and vertically movable in said case, with the pronged lever C, said prongs pivoted at *a a* and connected at their outer ends to the ends of the loop *d*, substantially as shown and specified.

269,361. QUILTING-MACHINE. CHARLES WIDMER, Brooklyn, N. Y., assignor to himself, Louis Jansen, Frank Albrecht, Hartwig Neumann, and Friedrich Jansen, all of same place. Filed Oct. 3, 1882. (No model.)



Claim.—1. The combination, substantially as hereinbefore set forth, of the bed-plate C, the arm fixed to such plate, the needle-guides and needle-bars arranged on the arm one within the other, the cross-heads carrying the needle guides and bars, respectively, and the shaft I, arranged to act on the connections of the cross-heads for imparting the required motions to the needle guides and bars.

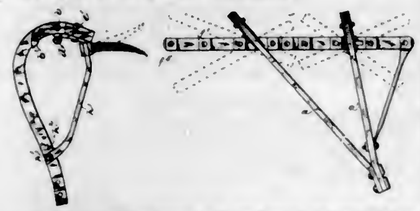
2. The combination, substantially as hereinbefore set forth, with the bed-plate C and hook-pointed needles, of the loopers arranged in such plate and each provided with a pinion, the reciprocating rack engaging the looper-pinions, the bracket L, depending from the bed-plate, the vertical spindle of the bracket having its upper end provided with a crank which is connected to the reciprocating rack, and the lower end provided with the bevel-wheel *i*, and the main shaft having keyed thereon the bevel-wheel *j*, which meshes with the spindle-wheel *i* and connects with the bracket, for the purpose specified.

3. The combination, substantially as hereinbefore set forth, with the feed-rollers H H', of the levers S, forming the bearings for the upper roller, the springs S^2, acting on the levers with a tendency to depress the upper roller, and the rock-shaft S^3, carrying the tappets S^4, which impinge against the levers, and the handle S^5, for the purpose specified.

4. The combination, with the sliding bed-plate C and the arm D, secured thereto, of the tubular reciprocating guide passing through an offset in said arm, the needles F, working through the said tubular guides, the tubular rotary reciprocating loopers located in the bed-plate and the feed-rollers, the needle-bars for the needles and the tubular needle-guides being connected with independent vertically-movable cross-bars both actuated from cams and eccentrics on a common shaft, substantially as described.

269,362. CULTIVATOR. JOHN W. WILSON, Ashmore, Ill. Filed Aug. 3, 1882. (Model.)

Brief.—Tooth-bar in two sections adjustably attached to branched beam and adapted to be set at different angles (as in dotted lines) or connected rigidly together. Sections attached by pivoted loop and angle-iron connections with brake-pin and set-screw, whereby the angle of the teeth may be changed and the bar allowed to give way to unyielding obstructions.



Claim.—1. In a cultivator and corn-harrow, the combination, substantially as described, of the cultivator-beam, the bar *f*, the brace-rod *b*, having one end secured to outer end of bar *f* and its opposite end slotted and connected to the beam, the knee *c*, secured to the bar *f* and to the foot of the standard, and the adjusting set-screw *d*, as set forth.

2. The combination, with the diverging beams *a a'*, secured together at their forward ends, of the sectional toothed carrying-bar *f*, having the sections *f' f'*, secured adjustably to the rear ends of the beams, as and for the purposes set forth.

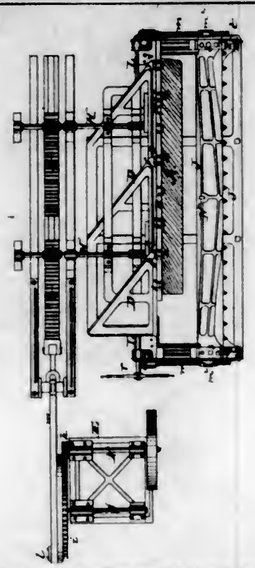
3. In a cultivating-harrow, the combination, substantially as described and shown, of the diverging beams, connected together at their forward ends, the pivoted connection-loops, having their upper ends secured by a fragile pin, the knees, the adjusting set-screw, the adjustable toothed sections, the connection-plate *g*, and the brace *h*, as and for the purposes set forth.

269,363. VENEER MACHINE. WILLIAM H. WILLIAMS, Long Island City, N. Y. Filed Aug. 16, 1882. (No model.)

Brief.—This invention relates to a new machine for cutting veneers or slices of wood off a block or piece of timber, and consists in the new mechanism for holding and adjusting the block, for holding and adjusting the knife, for regulating the thickness of the slice or veneer, and for actuating the parts during the act of cutting the veneer off the block. The machine operates to move the block in an oblique direction downward while the knife is held stationary.

Claim.—1. In a veneer-cutting machine, the sliding frame B, adapted to guide the block A, in combination with the dogs *a b*, and with the right-hand screws *d* and left-hand screws *e*, for allowing the independent adjustment of all and each of said dogs from one end of the machine, substantially as described.

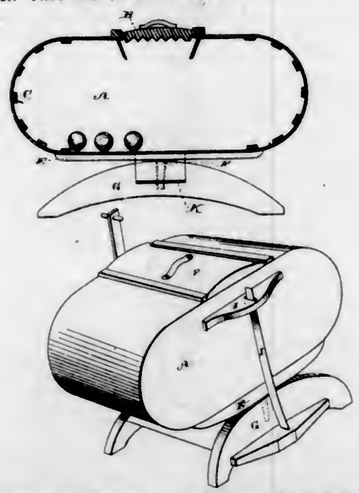
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2. The combination of the sliding framing B, carrying the block to be cut, and having the inclined rack or racks *p*, with the framing D, having inclined guide-posts *f*, and with one or more shafts, H, having pinions *o* and *n*, and with the reciprocating rack G, substantially as herein shown and described.

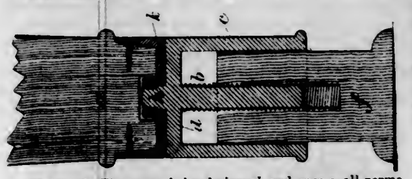
3. The combination of the fixed frame D, having inclined guide-posts *f*, with the sliding framing B, adapted to hold the block to be cut, and with the frame J and knife I, and with mechanism, substantially as described, for adjusting the position of said frame J, as set forth.

269,364. WASHING-MACHINE. JOHN D. WINTERS, Davisville, Cal. Filed June 3, 1882. (No model.)



Claim.—In a washing-machine, the elongated body A, having stripe C and rounded ends, in combination with a supporting-base, G, having convex bearing-surfaces, vertical straight spring I, rigidly secured to the base and projecting through bracket J on the body, and pins F, projecting from the body into openings in the base, all constructed, arranged, and operated as set forth.

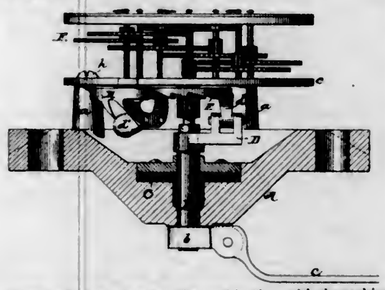
269,365. ADJUSTABLE LEG FOR FURNITURE. FREDERIC WOOD, Morristown, N. J. Filed Aug. 2, 1882. (No model.)



Claim.—1. The screw *b*, head-piece *d*, and case *c*, all permanently connected together, in combination with the foot-block or table-leg passing into the case and receiving the screw, substantially as set forth.

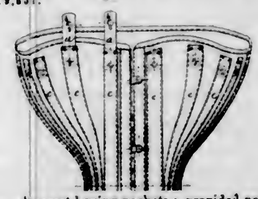
2. The screw *b*, head-piece *d*, and case *c*, all permanently connected together, in combination with the leg and with the caster upon a pivot in the center of the head-piece *d*, substantially as set forth.

269,366. REGISTERING MECHANISM FOR WATER-METERS. CHARLES C. WORTHINGTON, New York, N. Y. Filed Nov. 21, 1881. (No model.)



Claim.—In a water-meter, the combination, with the rocking or vibrating shaft B, extending through the meter-casing and provided with the arm D, carrying the weighted driving-pawl *d*, of the register mechanism and its horizontally-revolving ratchet-wheel E, having its teeth upon its under face, and the weighted holding-pawl *d'*, said pawls being arranged to engage with the teeth upon the under face of said wheel and being so positioned that the axes of their pivots are parallel with the teeth of the ratchet with which they are in engagement at any time, substantially as described.

269,367. CLASP FOR CORSET-STIFFENERS. PETER WILHELM ZIEGLER, Cannstadt, Würtemberg, Germany. Filed Aug. 15, 1882. (No model.) Patented in Germany Sept. 27, 1881, No. 18,164, and in Austria-Hungary Mar. 19, 1882, No. 41,861 and No. 9,657.



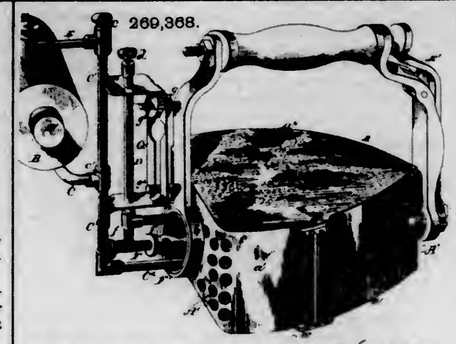
Claim.—A corset having pockets *c*, provided near their upper ends with plates and buttons *d*, in combination with flexible stays *a*, provided with button-holes *b*, substantially as and for the purpose set forth.

269,368. COMBINED SMOOTHING, FLUTING, AND POLISHING IRON. AUGUST F. ZIMMERLING, Milwaukee, Wis. Filed Apr. 3, 1882. (No model.)

Claim.—1. In a heater for combined laundry-irons, the combination of the reservoir B and system of feed-tubes C C' C^3, the feed-valve *c*, and the blow-pipe F F' and regulating-valves, substantially as described, and for the purpose set forth.

2. In a heater for combined laundry-irons, the combination of the fluid-reservoir B and its branch C with the blow-pipe F F',

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bent tube C^3, straight tube C', and gas-escape tube E, whereby the unconsumed gas that is formed in the bent tube C^3 may have passage-way into the reservoir and prevent a vacuum being formed therein above the fluid, as set forth.

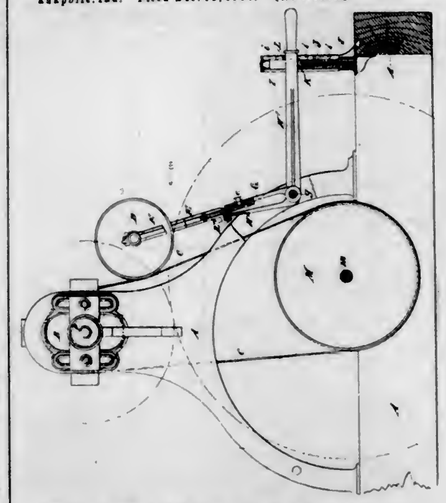
3. In a heater for combined laundry-irons, the combination of the reservoir B, branch C, straight tube C', feed-valve *c*, bent tube C^3, regulating-tube D, regulating-valve *d*, and blow-pipe F F', as shown and described, and for the purpose set forth.

4. In a heater for combined laundry-irons, the combination of the reservoir B, feed-tubes C C' C^3, regulating-tube D, gas-escape tube E, blow-pipe F F', and valves *c d e f*, as shown and described, and for the purpose set forth.

5. In combination with the rear shank of the handle of a hollow reversible laundry-iron provided with the flanged bolt *g* and pin g^3, a heating device provided with the plate G, slotted as described, whereby it may pass over the flanged bolt, and a nut *g'*, to tighten the plate to place, while the pin g^3 prevents any lateral movement or swing to the lower part of the heater, as set forth.

6. In a heater for combined laundry-irons, the blow-pipe described, consisting of the part F, having setting-valve *f*, and screw-threaded on its outer end, in combination with part F', having interior screw-threads at its rear to fit over the part F, and air-holes next to its threaded portion and farthest from its burner, as and for the purpose set forth.

269,369. BELT-TIGHTENER. GUSTAVUS H. ZSCHOCH, Indianapolis, Ind. Filed Dec. 19, 1881. (No model.)



Claim.—1. The belt-tightener described, having the swiveling joint *e* between the parts E and G, in combination with confining means F, as herein described.

2. The tightener-pulley D, supported in a framing turning on the center *g*, which is operated by the lever H', in combination with the slotted standard or casing I, spring J, and adjust-

able pin or stop L, arranged to operate relatively to each other and to a driving-belt, C, as herein specified.

3. In combination with a spring, J, lever H' H², and belt C, running on the pulleys M and B, the tightener-pulley D, and its guiding-frame E G, arranged to traverse the tightening-pulley in a path close to the pulley D, as and for the purposes herein specified.

269,370. FOWL-FETTER. SANFORD J. BAKER, West Waterville, Me. Filed June 28, 1882. (No model.)



Claim.—In a fetter for fowls, the combination, with the spur-wire A, of the metal collar or belt C, having two jaws, D E, of which the jaw D is folded over the end of the jaw E, and of a pintle, F, passing through eyes B in the spur-wire A, and through apertures in the jaws D E, substantially as herein shown and described, and for the purpose set forth.

269,371. FEATHERED HAT. BENJAMIN ABRAHAM, New York, N. Y. Filed Aug. 19, 1882. (Model.)

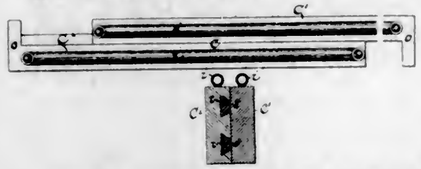


Claim.—1. A hat made from the feathered skin of birds, substantially as herein set forth.

2. A hat made from the feathered skin of birds, having its plumage artificially dyed or colored on the skin, substantially as herein set forth.

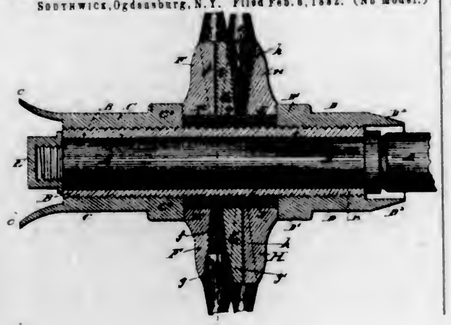
3. A hat having its ornamental exterior formed of the feathered skin of birds, with an inner sustaining web or fabric on which the flesh side of the feathered skin is affixed, substantially as herein set forth.

269,372. WINDOW-GUARD. JONATHAN BADDER, New York, N. Y. Filed Sept. 9, 1882. (No model.)



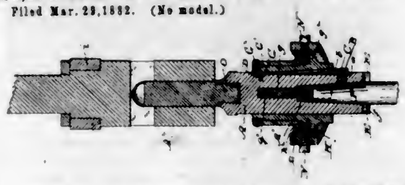
Claim.—The window-guard herein described, combining in its structure the longitudinal adjustable sections C' C'_1, the heads o at the outer ends of the sections, and the packing-strips i on the upper edges of the sections, for the purpose set forth.

269,373. VEHICLE-WHEEL. EDWARD BADLAM and DAVID E. SOUTHWICK, Ogdensburg, N. Y. Filed Feb. 6, 1882. (No model.)



Claim.—In a wheel for vehicles, the combination of the axle-box B, hub-sleeves C C' and D D', elastic or yielding hub-core J K, and two or more concentric hub-disks, F G H, having radial semi-cylindrical or tapering recesses on their contiguous faces registering with one another, said disks being clamped between sleeves C C' and D D', substantially as and for the purpose herein shown and described.

269,374. DRILL-CHUCK. TALCOTT B. BALLARD, Canton, Ohio. Filed Mar. 29, 1882. (No model.)



Claim.—1. The combination, with the spindle A, having the perforation *a*, the socket A', and the recesses E in its outer end, adapted to engage with a drill-stock, provided with a lateral projection, of the spring C and the sleeve G, with a cross-piece, *g*, substantially as set forth.

2. The combination, with the spindle A, having the socket A', adapted to receive the end of the drill-stock, and the sleeve G, with the cross-piece *g*, to bear against the inner end of said stock, of the loose non-rotating collar H, having a flange-bearing, whereby it can be caused, while not rotating, to slide the part G on the spindle while the latter is rotating, substantially as set forth.

3. The combination, with the spindle A, having the perforation *a*, the slot *g'*, the socket A', and the recess E, provided with the square shoulder *e* and the inclined face *e'*, of the sleeve G, having the cross-piece *g* in the slot *g'*, the spring C beneath the sleeve G, and the catch B, substantially as set forth.

4. In a drill-chuck, the combination, with the rotating spindle and the devices sliding thereon for releasing the drill, of the spring-catch B C, substantially as set forth.

5. In a drill-chuck, the combination, with the rotating spindle, the sliding sleeve rotating therewith for releasing the drill, and a non-rotating collar mounted on said rotating sleeve, of the swinging handle supported loosely upon the spindle, substantially as set forth.

6. In a drill-chuck, the combination, with the spindle, the sliding sleeve rotating therewith for releasing the drill, and the non-rotating collar on said rotating sleeve, of the vibrating handle pivotally connected to the non-rotating collar, and supported by a second non-rotating ring around the spindle, substantially as set forth.

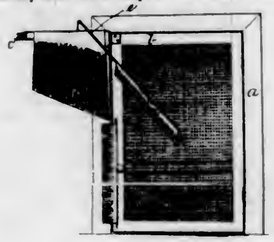
7. The combination, with the spindle, the devices sliding thereon for releasing the drill, the non-rotating handle for sliding said devices, and the loosely-mounted ring *i*, of the connecting-bar K and the spring M, substantially as set forth.

8. In a drill-chuck, the combination, with the sliding devices for releasing the drill, of the spindle formed in two parts, whereby the drill-releasing devices may be removed by sliding them away from the drill, substantially as set forth.

9. The combination, with the sliding devices which release the drill, of the spindle formed in two detachable parts, and the handle which operates said sliding devices, and is provided with a loose bearing on each of the separable parts, substantially as set forth.

269,375. FLY-BRUSH FOR DOORS. HENRY H. BALTELBY, Assumption, Ill. Filed May 10, 1882. (No model.)

Brief.—The fringe brushes along the top of the door as it is opened and knocks off any flies that may be thereon, and will also drive back any flies that attempt to come in over the door.

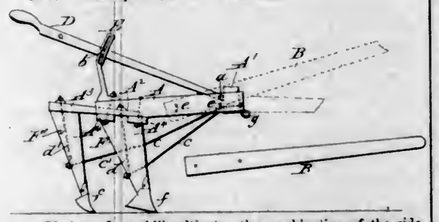


Claim.—1. In combination with a door, a fringe or fly-brush connected to the jamb and to the top of the door, and automatically swinging into the doorway when the door is opened and swinging out of said doorway when the door is closed, substantially as set forth.

2. A brush-carrier, c, having its arms c' c^3 provided with the fringe *d*, and secured respectively to the jamb and the door, near the top of the latter, and connected by the coil-spring c^3, and arranged to operate substantially as and for the purposes set forth.

3. The combination, with the brush-carrier c, having its arms secured to the door and the jamb, of the rod *e*, provided with fringe *e'*, secured to one of the arms of spring c, and extended outward and arranged to brush the top of the door as the latter is opened, substantially as and for the purposes set forth.

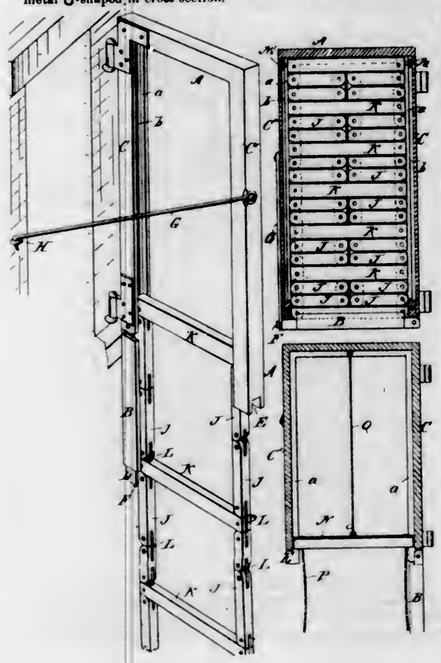
269,376. THILL-CULTIVATOR. DAVID L. BARNUM, Wilson, N. Y. Filed Sept. 21, 1882. (No model.)



Claim.—In a thill-cultivator, the combination of the side pieces A, cross-pieces A' A^3 A^4, adjustable thills B, rearward-projecting piece A^2, adjustable plow-standards F F, stationary plow-standard F', and bolts *d* *d'*, all constructed and combined as and for the purpose described.

269,377. FIRE-ESCAPE. VITAL BESSIER, New York, N. Y. Filed Apr. 28, 1882. (No model.)

Brief.—The ends of the inward-folding side pieces of the ladder slide in grooves in the sides of the shutter-frame, and are held in place when folded by the pivoted lower end piece and a hook-rod. When unfolded the upper rung is prevented from sliding out of the frame by studs on the upper rung moving in grooves which are closed at the lower end. The rungs may be made of metal U-shaped in cross-section.



Claim.—1. A fire-escape made substantially as herein shown and described, and consisting of a shutter-frame containing a folding ladder constructed with inward-folding side pieces, as set forth.

2. The combination, with a shutter-frame, of a folding ladder having flexible side pieces, which ladder, when folded, is adapted to be contained in the shutter-frame, and of a pivoted bottom cross-piece of the shutter-frame, substantially as herein shown and described, and for the purpose set forth.

3. The combination, with a shutter-frame, of a folding ladder, a pivoted bottom cross-piece of the shutter-frame, and a hook-rod pivoted to the outer side bar of the shutter-frame for holding the pivoted bottom cross-piece in place and for bracing the shutter-frame when the ladder is lowered, substantially as herein shown and described, and for the purpose set forth.

4. The combination, with a shutter-frame, of a folding ladder adapted to be folded within this frame, and constructed with flexible side pieces, and devices for preventing the uppermost rung of this folding ladder from sliding out of the shutter-frame at the bottom of the same when the ladder is lowered, substantially as herein shown and described, and for the purpose set forth.

5. The combination, with the shutter-frame, of link-sections pivoted to each other, and of rungs of double the length of a link-section, which rungs are pivoted to the link-sections at every second joint, substantially as herein shown and described, and for the purpose set forth.

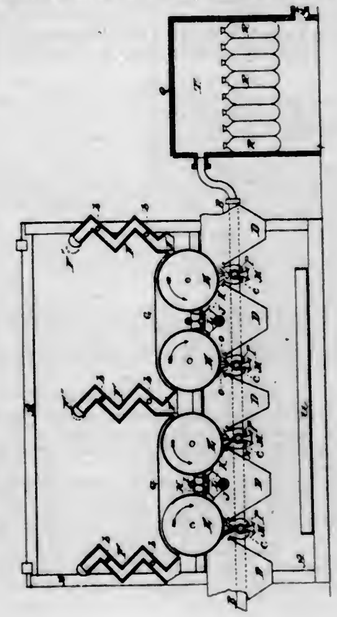
6. The combination, with the shutter-frame A, of the link-sections J, the rungs K, and the joint-plates L, substantially as herein shown and for the purpose set forth.

7. The combination, with a shutter-frame provided with longitudinal grooves in the inner edges of the side bars, of a folding ladder having inward-folding sides, and the ends of its rungs passed into these grooves when the ladder is folded, substantially as herein shown and described, and for the purpose set forth.

8. The combination, with the shutter-frame A, provided with longitudinal grooves *a* and *b* in the inner edges of the side bars, of a folding ladder having studs M projecting from the ends of the uppermost rung into the grooves *b*, substantially as herein shown and described, and for the purpose set forth.

9. The combination, with a shutter-frame, of a folding ladder constructed with flexible side pieces, and with hollow metal rungs having U-shaped cross-sections, substantially as herein shown and described, and for the purpose set forth.

269,378. MACHINE FOR MAKING CARBON OR GAS BLACK. ERASTUS B. BLOOD, Erie, Pa. Filed Nov. 5, 1881. (No model.)



Claim.—1. In a lamp-black machine, a scraper curved to conform more or less to a peripheral section of the cylinders, and attached by its middle to a cross-head adapted to be moved back and forth between the cylinders.

2. In a lamp-black machine, a scraper curved to conform more or less to a peripheral section of the cylinders, and attached by its middle to a cross-head adapted to be moved back and forth between the cylinders, and provided with a trough attached thereto, for the purpose set forth.

3. In a lamp-black machine, a scraper pivoted at its middle to a cross-head, and provided with a counter-balance attached below the pivotal point, for the purpose set forth.

4. In a lamp-black machine, a scraper pivoted at its middle to a cross-head, and having S-shaped levers or rods attached below the pivotal point and a weight suspended from their lower ends, for the purpose set forth.

5. In a lamp-black machine, a scraper pivoted at its middle to a cross-head suspended upon a rod extending from front to rear of the machine, said scraper having a counter-balance attached below the pivotal point, for the purpose set forth.

6. In a lamp-black machine, the combination of the service-pipe and burners with a case having plates N N, arranged parallel to each other on opposite sides of the burner and some distance apart, substantially as shown, to protect the flame from lateral currents of air.

7. In a lamp-black machine, the combination of a service-pipe and burner thereon with plates placed parallel to each other on opposite sides of the burner, some distance apart, forming openings above and below, for the purpose set forth, and having their upper part curved, substantially as shown, and for the purpose described.

8. In a lamp-black machine, the combination of a service-pipe and burners arranged thereon with a case having shields placed parallel to each other on opposite sides of the burners, and some distance apart, forming openings at top and bottom, for the purpose set forth, and an adjustable damper-plate below the lower opening, substantially as and for the purpose described.

9. In a lamp-black machine, the combination, with a depositing-plate and its burners, of an air-duct located at one side of the burner, and inclined, substantially as shown, to cause a jet of air to impinge upon the flame at the point where the flame impinges upon the depositing-plates.

10. In a lamp-black machine, the combination of the burners and depositing-plates with a vertical zigzagged chimney located above the plates, as and for the purpose set forth.

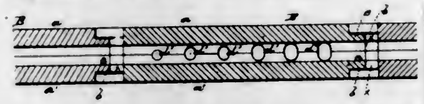
11. In a lamp-black machine, the combination of depositing-plates, arranged in pairs, and having burners located under each surface, with a zigzagged chimney located between each pair, for the purpose set forth.

12. In a lamp-black machine, a vertical zigzagged chimney, having a scraper of the same contour of the chimney in vertical section.

13. In a lamp-black machine, the combination of a case having burners and air-supplying ducts, with an aqueous-vapor-supplying source, substantially as described, for saturating with moisture the air entering the case, for the purpose set forth.

14. In a lamp-black machine, the combination of the depositing-plates with burners mounted upon service-pipes, with a carburetor connected to the service-pipes by a main, and an aqueous-vapor-supplying source for saturating the air entering the case, for the purpose set forth.

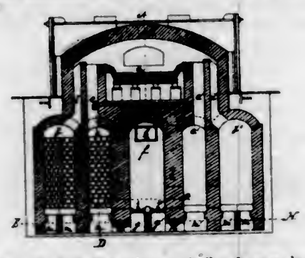
269,379. CONDUIT FOR ELECTRIC WIRES. BASSLER BOYER, Lebanon, Pa. Filed Feb. 16, 1882. (No model.)



Claim.—1. In a conduit for electric wires, a separable block, B, consisting of the parts *a a'*, having the tongues *c*, provided with notches *x*, connecting with the grooves *d*, the other end having the notches *b'*, registering with grooves *d*, substantially as and for the purposes set forth.

2. In a conduit and insulator for electric wires, a separable block, B, consisting of the parts *a a'*, cast of the slag of a blast-furnace and having the longitudinal grooves *d* of varying depths, and the intersecting grooves *d'*, the latter connecting the deeper groove with the edge of the conduit and the groove next to that with the deeper groove, &c., the intersecting grooves being of the same depth as the shallower of the grooves connected, substantially as and for the purposes set forth.

269,380. SKELP-HEATING FURNACE. HIRAM C. BRADEEN and SAMUEL BRIGGS, McKeesport, Pa. Filed Feb. 6, 1882. (No model.)



Claim.—1. A skelp-heating or similar furnace, having, in combination with the gas-regenerators, a gas distributing and equalizing chamber provided with a series of flues controlled by valves leading into the gas-regenerators at different points along and under the entire length of the bed, substantially as and for the purposes described.

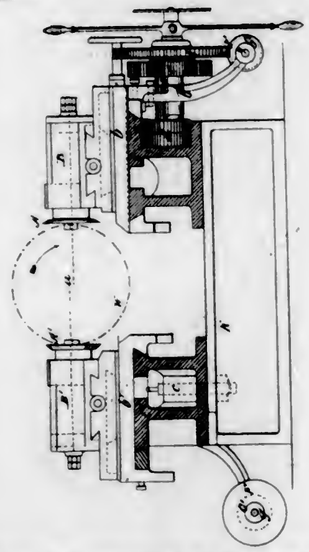
2. The combination, in a skelp-heating furnace, of a gas-distributing chamber, a regenerator, a series of gas-flues leading from the distributing-chamber to the regenerator, a furnace-hearth, and a series of gas-flues leading from the regenerator to the hearth, substantially as and for the purpose specified.

3. The combination, in a regenerator-furnace, of a gas-distributing chamber having a valved flue or flues leading to the gas-regenerator, and exit-flues leading from the air and gas regenerators to the stack, each provided with a valve, the valves of the same side being arranged on and actuated by a stem or shaft common to both valves, substantially as and for the purpose specified.

4. In a regenerator, the combination of a flap-valve with a flue having a recessed bottom for the reception of luting material, substantially as and for the purpose specified.

269,381. MACHINE FOR TURNING STONE. JOHN D. BAUGH and FRANK H. J. TRIBE, No. 18 Great George Street, Westminster, England. Filed Jan. 24, 1882. (No model.)

Brief.—Cutters peculiarly arranged with respect to the work travel on pivoted tracks, which may be set at an incline to each other, the degree of inclination being adjustable by a right-and-left screw.

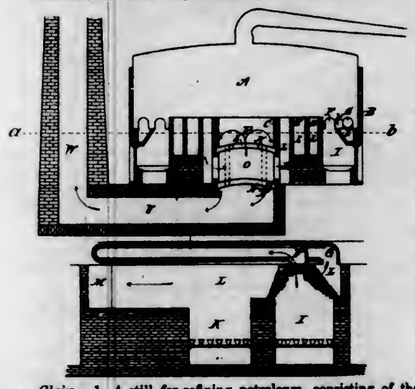


Claim.—1. The combination of the stone holding and rotating mechanism, the two cutters arranged to operate upon the periphery of the stone from opposite sides thereof, the cutter-holders movable lengthwise of the work, and the radially-expanding bed

on which said cutter-holders are supported and move, substantially as and for the purposes hereinbefore set forth.

2. The freely-revolving cutter-disk adapted to be rotated by contact with the work, in combination with the cutter-arbor arranged so that its axis shall pass above or below the longitudinal center of the column or other article being turned, according to the direction of rotation of the latter, as hereinbefore described with reference to Fig. 1 of the accompanying drawings.

269,382. STILL FOR REFINING PETROLEUM. ASA A. BUSH, Titusville, Pa. Filed May 16, 1882. (No model.)



Claim.—1. A still for refining petroleum, consisting of the body A, provided with the annular depressed ring H, said depression being provided with two or more sets of direct and return flues, F and G, constructed substantially as described, and for the purposes herein set forth.

2. The combination, with the still A and its exterior supporting-walls, of two or more fire-boxes, the concentric interior walls, E E E, having openings M M M, forming the series of flues L L L, the fire-box and the flues L L L being connected, as set forth, the wall C forming the chambers O and P, said wall C being provided with openings R, turret, and stack, and connected with flues, as described, whereby the products of combustion are utilized under the still A, substantially as described.

3. The combination, with the still A, constructed as described, and its exterior supporting-walls, of two or more pairs of fire-boxes, I and K, for alternate use, connected with the flues L L L, substantially as described.

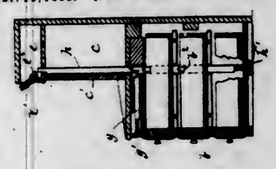
269,383. EAR-KNOB. JOHN CALDWELL, Providence, R. I., assignor to W. B. Bennett & Co., same place. Filed May 8, 1882. (No model.)

Brief.—The two parts of the knob are secured to each other by the engagement of one of the spring-arms in the notch at the side of the pin.



Claim.—In an ear-knob, the combination of the case D, perforated disk F, and spring E, provided with the two spring-arms *e e*, with the pointed pin C, provided with the notch *a*, made at one side of the pin, and adapted for disengagement from either of the spring-arms *e* by the angular movement of the case D and pin C relatively to each other, substantially as described.

269,384. DESK. WILLIAM M. CASTLE, Mechanicsville, Mo. Filed Mar. 10, 1882. (No model.)



Claim.—1. The combination, with the desk having drawers *b'*, and the upper compartment, *c*, and the door *d'*, hinged to close the compartment *c*, of the bar *h*, provided with pins arranged to engage and lock the drawers *b'*, and having its upper end projected into the compartment *c*, and the triggers *d'*, placed on the inner side of the door *d'* and adjustable to engage or clear the projected upper end of bar *h*, substantially as set forth.

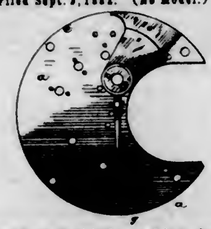
2. The combination, substantially as hereinbefore set forth, of the drawers *b'*, constructed with slots *b²*, bars *h*, provided with pins *h⁴* and bolts *h⁵*, constructed with heads *h³*, doors *c'*, having the mortises *c²* on their inner sides, the lower sides of the opening of said mortises being contracted to secure the head *h³* on bolt *h⁵*, door *c'*, and trigger *c³*, as and for the purposes set forth.

3. The combination, substantially as hereinbefore set forth, of the lid *d'*, provided with staple *d²*, rod *f*, having hook *f'* working in mortise *d³* and connected to bar *g*, bar *g*, supported by spring *g'* and having its rear side beveled, bar *h*, supported on spring *h'* and provided with projection *h³*, arranged to bear on the beveled end of rod *g*, and means for depressing the bar *h*, as and for the purposes described.

4. The combination of the drawers *b'*, having slots *b²*, bars *h*, having bolts *h⁵* and pins *h⁴* and beveled projection *h³*, doors *c'*, having mortises *c²*, doors *c'*, having triggers *c³*, bar *g*, connected to rod *f*, rod *f*, pivoted and provided with hook *f'*, and lid *d'*, provided with staple *d²*, substantially as and for the purposes set forth.

5. The combination, substantially as described, of the doors *c'*, constructed with mortises *c²*, having the lower sides of their opening contracted, as shown, the bar *h*, provided with pin *h⁵*, having head *h³*, and means for operating the bar *h*, as set forth.

269,385. WATCH-REGULATOR. DAVID W. CHALMERS, Springfield, Ill. Filed Sept. 9, 1882. (No model.)



Claim.—The toothed disk *d*, seated in a circular recess, *b*, of the watch-plate, having an offset-recess, *c*, holding the toothed operating-pinion *g*, and the tribranched graduated arc-plate *l*, spanning the disk-recess and extending over the offset-recess, and forming the upper bearings for the disk and pinion, in combination, substantially as specified.

269,386. WATCH-CASE. ALBERT D. COE, Chicago, Ill. Filed July 27, 1882. (No model.)



Claim.—1. In a watch-case, the combination, with the case-center having the back snap or ledge J depressed to allow the setting-lever of the movement to project above the same, of an adjustable bezel contrived to clear the case-springs without being notched for the purpose, and provided with the setting-lever notch M' of the usual width, whereby said bezel may be set in the position called for by either movement present in the case, substantially as described.

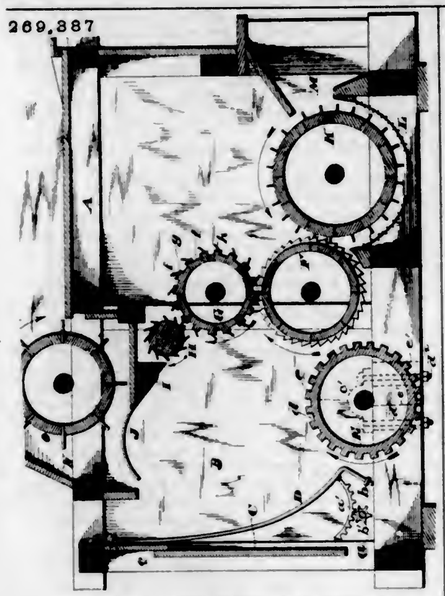
2. In a watch-case interchangeable for the two classes of stem-winding movements mentioned, the combination, with the case-center having the steady-pin L, of an adjustable bezel provided with notches M', L', and L'', and contrived to clear the case-springs, whereby it is adapted to be set in either of the two positions called for by the location of the hand-setting levers of said classes of movements, substantially as described.

3. In an interchangeable watch-case, a center having the ledge J depressed and provided with the broad notch M in the flange I, in combination with an adjustable bezel, substantially as and for the purposes set forth.

4. In combination with the case-center, the adjustable bezel provided with a continuous thumb-notch, and the catch-spring arranged to work within the thumb-notch of the bezel, substantially as described.

269,387. SEED-COTTON SEPARATOR AND CLEANER. WILLIAM O. COLEMAN, Memphis, Tenn. Filed Sept. 14, 1882. (No model.)

269,387



Claim.—1. In a machine for cleaning seed-cotton, the combination, with a receiving-hopper and a feeding-cylinder, of curved grate-bars, the upper ends of which are pivotally secured to the machine-frame, and means for adjusting the said grate-bars, whereby the space between the lower ends thereof and the feeding-cylinder is increased or diminished, substantially as set forth.

2. In a machine for cleaning seed-cotton, the combination, with the receiving hopper and curved adjustable grate-bars, of a feed-cylinder provided throughout its periphery with longitudinal slots to form ribs, substantially as set forth.

3. In a machine for cleaning seed-cotton, the combination, with a suitable hopper, a feeding-cylinder, and a separating-cylinder, the former being supported on movable bearings, of a series of curved grate-bars situated under the hopper and adapted to deliver the seed-cotton to the feeding-cylinder, the said grate-bars being pivoted at their upper ends to the frame of the machine and provided at their lower ends with adjusting devices, whereby the space between the grate-bars and feeding-cylinder is increased or diminished, substantially as set forth.

4. The combination, with the feeding-cylinder, provided with longitudinal slots, and the separating-cylinder, situated in a plane slightly higher than the feeding-cylinder, of the hulling-cylinder, situated above the toothed separating-cylinder and provided with longitudinal slots or grooves and teeth, all of the above parts adapted to operate as described.

5. The combination, with the separating-cylinder and the grooved hulling-cylinder situated above the same, and provided with spikes or teeth, of the clearing-roller situated above and to one side of the hulling-cylinder, and provided with alternately-arranged teeth adapted to work between the teeth of the hulling-cylinder, substantially as and for the purpose set forth.

6. The combination, with the separating and hulling cylinders, of the clearing-roller and beveled brace I, all of the above parts constructed, combined, and adapted to operate as described.

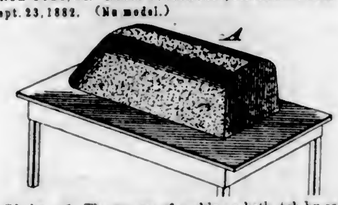
7. The combination, with the grating D, brace I, and grating J, of the mechanism for cleaning and separating the seed-cotton, and the fan O, all said parts being combined and adapted to operate substantially as set forth.

8. The combination, with the grating D, cylinders E, F, and G, roller H, brace I, grating J, fan O, and fine N, of the cylinder K, wire screen L, and spout M, all of the above parts constructed, combined, and adapted to operate as described.

269,388. PREPARATION FOR COVERING WALLS, CEILINGS, &c. PERCY T. COOK, Grand Rapids, Mich., assignor, by direct and mesne assignments, to the Beralumine Company, same place. Filed Oct. 17, 1882. (No specimens.)

Claim.—The herein-described composition to be used in admixture with water as a paint for covering walls, ceilings, &c., consisting of a calcined compound of gypsum, alum, and borax, and pulverized dry glue added to the said calcined compound, the materials specified being mixed in proportions substantially as before set forth.

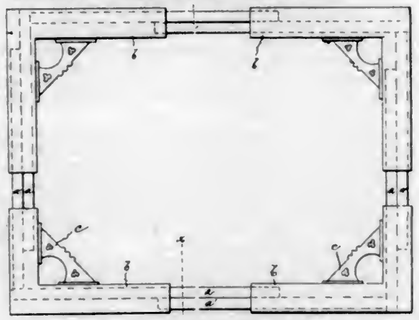
269,389. MANUFACTURE OF ARTIFICIAL MARBLE FOR BATH-TUBS, &c. REESE P. COUGHLIN, Cincinnati, Ohio. Filed Sept. 23, 1882. (No model.)



Claim.—1. The process of making a bath-tub by coating a mold having the contour of the bath-tub with a plastic formed of cement, alum, and water, and when partially set combined with one or more outer coats formed of a plastic made of cement, alum, sand, and water, or their described equivalents.

2. A bath-tub made of two or more coatings of cement, alum, and water and sand, and finished by honing the surfaces in linseed-oil or its described equivalents, substantially as herein set forth.

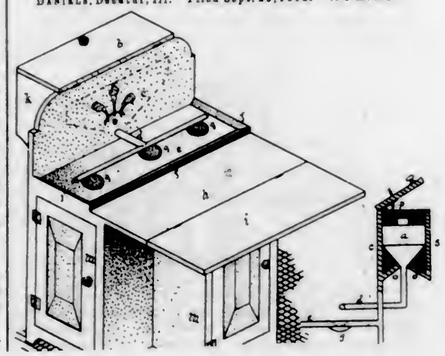
269,390. EXTENSIBLE MOSQUITO-BAR FRAME. HENRY M. CROWELL, Irvington, assignor of one-half to George T. Carter, Elizabeth, N. J. Filed Oct. 9, 1882. (No model.)



Claim.—1. The combination, with the hollow angle-irons, of the bars *a a'*, arranged therein, substantially as and for the purposes set forth and shown.

2. As an improved article of manufacture, an adjustable mosquito-bar frame consisting of the four hollow and slotted angle-plates *b* and the strips of wood arranged therein in pairs, one of each pair being secured to the outer portion of each side and the other to the inner portion, substantially as shown and described.

269,391. STAND AND TANK FOR VAPOR-STOVES. JOHN F. DANIELS, Decatur, Ill. Filed Sept. 29, 1882. (No model.)



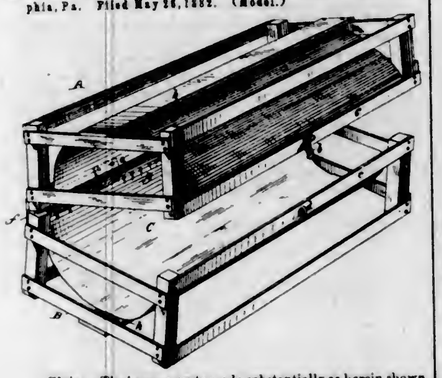
Claim.—1. Box *s o o k k*, located in the rear of back board, *c*, provided with lid *b*, that closes automatically, and inclined bottom *o o*, that prevents the fluid from running down the supply-pipe, as shown and described.

2. The combination, in a stand and tank for vapor-burners, of T-shaped stand *m m*, provided with receptacles, sink *e*, table *h i*, and tank-box *s o k b*, as and for the purpose set forth.

3. The combination, with stand *m m* and tank-box *s o k b*, of folding leaf *i*, forming a table when extended, and permitting free access to the receptacles in the front of the stand when folded, as shown and described.

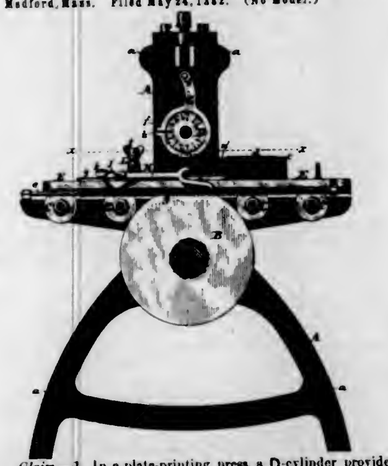
4. The combination, in a stand and tank for vapor-stoves, of stand *m m*, table *h i*, sink *e*, elongated tank *a*, provided with hollow screw *t*, and box *s o o k k*, with its lid *b* on back board, *c*, all as shown and described.

269,392. BANANA-CRATE. WILLIAM DAVENPORT, Philadelphia, Pa. Filed May 26, 1882. (Model.)



Claim.—The banana-crate made substantially as herein shown and described, consisting of the hinged parts A and B, in combination with the strip of canvas C, attached to the inside of the crate in such manner as to hold the fruit out of contact with the frame, as set forth.

269,393. PLATE-PRINTING PRESS. WILLIAM C. DEMAIN, Medford, Mass. Filed May 24, 1882. (No model.)

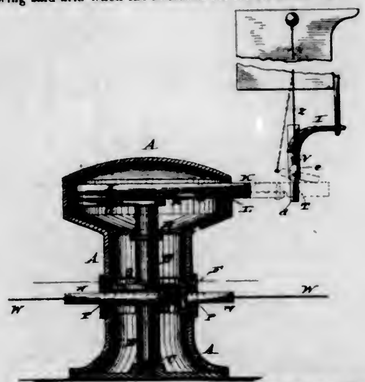


Claim.—1. In a plate-printing press, a D-cylinder provided at one end with a reduced portion, the periphery of which reduced portion is of greater diameter in one part than in another, in combination with a radius arm or lever having a ring or hub fitted to said reduced portion of different diameters and cut apart upon one side, and a screw-bolt extending across said cut, and adapted to clamp the arm to the D-cylinder in any desired position.

2. The clamp L, provided with the slotted foot *q*, in combination with the plank E and the clamping-bolt or thumb-screw *k*, all arranged and adapted to operate substantially as described.

269,394. RAILROAD-SIGNAL. JAMES DOLAN, Sackasunny, N. J. Filed July 1, 1882. (No model.)

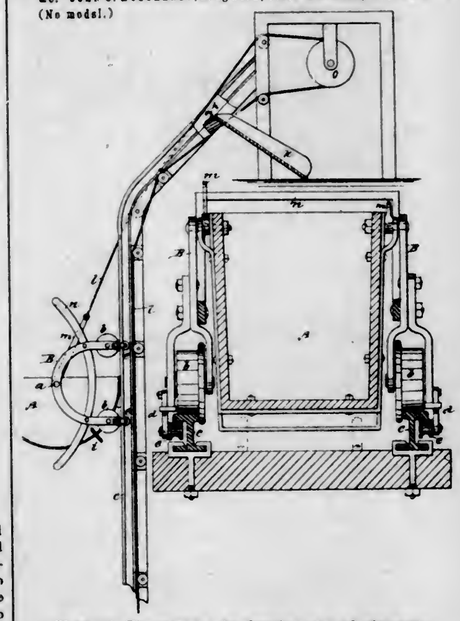
Brief.—The switch-operating device is connected to a rack-slide, which rotates a spring-held shaft, which projects a horizontal arm into the path of an alarm mechanism upon an approaching locomotive, when the switch is set for the siding, the spring withdrawing said arm when the switch is set for the main line.



Claim.—1. The signal-operating device consisting of the case A, pivoted post B, having the arm G, and pinion E, the signal-slide K, and connecting-rod H, the slide-rack N, and replacing-spring S, and the wire W, connecting the slide-rack to a lever or moving part of the switch mechanism, substantially as specified.

2. A signal-operating device having a pivoted post operated by segment-pinion rack-slide, and spring, and having an arm, G, connected to a signal-slide, K, adapted to be projected when the switch is open, to engage the trigger of an alarm device attached to the locomotive, substantially as specified.

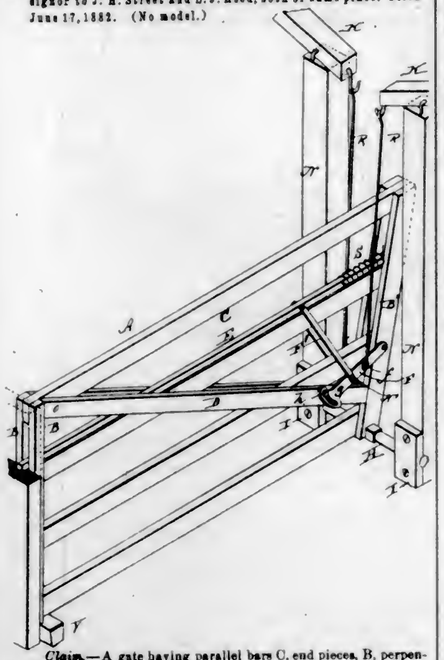
269,395. APPARATUS FOR HOISTING AND DUMPING ORES, &c. JOHN C. DOUGHERTY, Sedgwick, Colo. Filed May 17, 1882. (No model.)



Claim.—1. The apparatus for elevating ores and other materials, consisting of the semi-cylindrical box A, pivoted upon the side frames or arches, B, and supported upon the flanged wheels *b b*, substantially as shown and described.

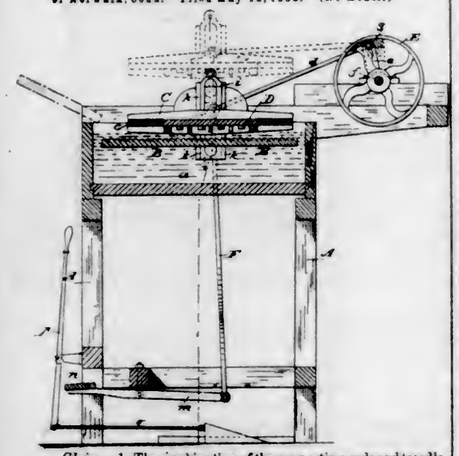
2. The combination of the flanged wheel *b* and the grooved wheel *c*, hung to the same frame, B, and running on a rib of the same rail, *c*, as shown and described.

269,396. GATE. MILTON DURRELL, East Monroe, Ohio, assignor to J. H. Street and L. J. Reed, both of same place. Filed June 17, 1882. (No model.)



Claim.—A gate having parallel bars C, end pieces, B, perpendicular to these bars, end pieces, B', fixed at an angle to the bars, a diagonal brace, an angular lever pivoted to the pieces B', to the brace D, and to a bolt, E, the rods R, and the hand-levers K, all substantially in the manner and for the purposes described.

269,397. MACHINE FOR SIZING, SCALDING, FULLING, AND WASHING HAT-BODIES AND OTHER FELTABLE FABRICS. HENRY E. EARLE, Danbury, assignor of three-fourths to Joseph R. Raymond, William T. Raymond, and Thomas I. Raymond, all of Norwalk, Conn. Filed May 12, 1882. (No model.)



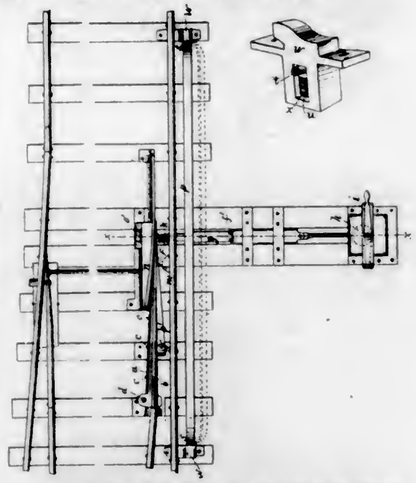
Claim.—1. The combination of the connecting-rods and treadle with an adjustable wedge-piece for limiting and regulating the movement of the connecting-rods and rubber, and thereby the pressure upon the article, substantially as set forth.

2. The combination of felting bed-plate B, having roughened surface, and reciprocating rubber D, provided with cross-heads *i*, movable in guides *k* by means of connecting-rods F and treadle *m n*, and means, substantially as described, for imparting a reciprocating motion to the rubber, substantially as and for the purpose described.

3. A machine for sizing, scalding, fulling, and washing hat-bodies and other fabrics for felting, consisting of a frame, A, bed-plate B, having roughened surface, the reciprocating rubber D, frame-piece C, provided with cross-heads *i*, moving in guides *k* and adjusted by connecting-rods *d*, and treadle *m n*, in combination with links *d*, cranks *e*, shaft *f*, and pulleys E, all arranged substantially as shown, and for the purpose specified.

269,398. RAILROAD-SWITCH. CHARLES F. A. EDDY, Greenfield, Mass. Filed June 22, 1882. (No model.)

Brief.—A railroad-switch consisting of a latch and spring contrivance with the switch-bar and switch-rail, whereby the spring will set the switch for the main line automatically when detached from the latch of the switch-bar. It also consists of a device whereby the latch may be detached by the flange of the pilot-wheel of the locomotive to enable it to be set for the main line by the spring in advance of the wheels when the locomotive is running along the main line from the rear of the switch. It also consists of certain devices in combination with the latch and spring device whereby the attachment on the locomotive will unlatch the switch either way the locomotive may go, at the will of the engineer.



Claim.—1. The combination, with the switch-rail and the main rail *m*, of a latching switch-bar, *f*, and a sliding and spring-pressed block, *d'*, substantially as and for the purpose set forth.

2. The combination of trip-lever *p'* with the latch-bar *f*, spring *k*, and the switch-rail, substantially as described.

3. The guard-rail having cavity *o*, in combination with the switch-rail having latch-block *d'*, substantially as described.

4. The combination, with the rollers *q* on the locomotive, and means, substantially as herein shown and described, for operating the same, of a pivoted tripping-rail, *p*, substantially as and for the purpose set forth.

5. The combination of the tripping-rail *p*, and rollers *q* on the locomotive, with the latch-bar *f* and with the switch-rail and spring *k*, substantially as described.

6. The tripping-rail *p*, pivoted in the slotted blocks *w* and on springs *x*, in combination with the latch-bar *f* and tripping-rollers *q*, substantially as described.

7. The tripping-rail *p*, arranged on pivots *t*, and connected to switch-lever *i* by bar b^3, and eccentric d^3, arranged with respect to eccentric *h* and switch-bar *g*, substantially as described.

8. The combination of prongs a^3 with the switch-rail *b* and the main rail *m*, substantially as described.

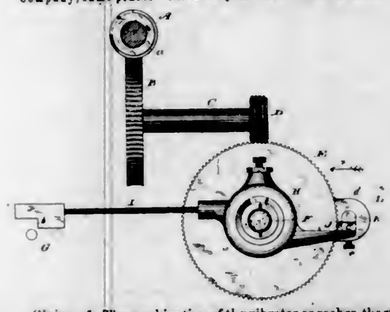
9. The combination of stay-pivot c^3 with tripping-rail *p*, mounted on pivots *t*, supported on springs *x*, substantially as described.

269,399. CLEAT. JOSEPH C. ERSKIN, Portland, Oreg. Filed Mar. 13, 1882. (No model.)



Claim.—The holding-cleat described, consisting of the base-plate, the tubular socket attached to said plate, having a tapering slit at one end of said socket, substantially as described.

269,400. WARPING OR BEAMING MACHINE. THOMAS C. ENTWISTLE, Lowell, Mass., assignor to the Phœnix Machine Company, same place. Filed July 24, 1882. (No model.)



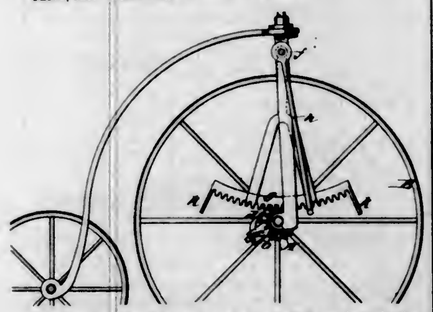
Claim.—1. The combination of the vibrator or rocker, the stop-arm movable into and out of the path of the vibrator, the detent or retaining mechanism, and the carrier actuated by mechanism substantially as described, and operating at a predetermined point in its movement to effect the release of the stop-arm from the control of the detent or retaining mechanism, the combination being and acting substantially as hereinbefore set forth.

2. The combination of the carrier and its actuating mechanism, the oscillatory stop and lifter arms, and the retaining-bar, substantially as and for the purposes hereinbefore set forth.

3. The combination, with the carrier, carrier-actuating mechanism, and stop-arm movable into and out of the path of the stop-motion vibrator or rocker, of the lifter-arm and the retaining-bar adjustable relatively to one another, so as to permit the stop-arm to move into the path of the vibrator sooner or later in the course of movement of the carrier, substantially as hereinbefore set forth.

4. The carrier-nut and its rotating driving-screw, in combination with the stop and lifter-arms attached to said nut and the adjustable retaining-bar, substantially as and for the purposes hereinbefore set forth.

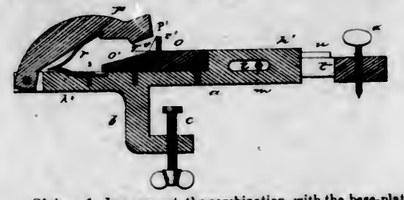
269,401. FOOT-POWER MECHANISM. ARNON F. FISHER, Chico, Cal. Filed Aug. 4, 1882. (No model.)



Claim.—1. The combination of the shaft A, ratchet-wheel *a*, pinion *b*, provided with the arm *e*, the pawl-carrier *c*, and the segment *g*, for operation substantially as described.

2. The combination, with the shaft A, provided with ratchet devices, of the pinion *b*, the cogged segment *g*, the rock-shaft *f*, the treadles *h*, and the spring *f*, substantially as described, for operation as set forth.

269,402. SAW-SET. HENRY PLATER, Findlay, Ohio, assignor of one-half to John Poe. Filed Aug. 22, 1882. (No model.)

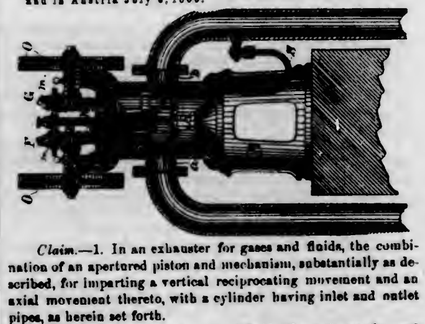


Claim.—1. In a saw-set, the combination, with the base-plate *a*, having the clamping-arm *b*, clamping-screw *c*, and perforated ears *d*, of the anvil *o*, having the bevel *o'*, and the pivoted jaw *p*, having the head *p'*, with under bevel *q'*, and the spring *r*, substantially as and for the purpose specified.

2. In a saw-set, the base-plate *a*, recessed and grooved in its edges and having the lateral slot in its stem portion *h'*, the graduated scale, and pivoted spring-actuated jaw, in combination with the sliding gage carrying the tooth-guards, and the adjusting-bolt and thumb-nut, substantially as and for the purposes specified.

3. In a saw-set, the combination, with the base-plate carrying the beveled anvil, the graduated scale, and pivoted spring-actuated jaw, of the sliding gage carrying the tooth-guards, and the vertical adjusting-screw *x*, substantially as and for the purposes set forth.

269,403. EXHAUSTER FOR GASES AND FLUIDS. JACOB GARRIS, Deutz, near Cologne, Germany. Filed Jan. 30, 1881. (Model.) Patented in Germany Dec. 22, 1879, in France Jan. 18, 1880, in Belgium Feb. 16, 1880, in England June 12, 1880, and in Austria July 9, 1880.



Claim.—1. In an exhauster for gases and fluids, the combination of an apertured piston and mechanism, substantially as described, for imparting a vertical reciprocating movement and an axial movement thereto, with a cylinder having inlet and outlet pipes, as herein set forth.

2. In an exhauster for gases and fluids, the reciprocating and rotating piston consisting of an apertured cylinder having a diagonal partition-plate, as and for the purpose set forth.

3. The combination of the bevel-gear wheels having globular bearings and the transverse arm fitted therein with the piston-rod, piston, and cylinder, as herein set forth.

4. The piston C, having the partition-plate S, extending diagonally from side to side, and the apertures A A, provided with ribs *v*, as and for the purpose specified.

269,404. PULVERIZING-MACHINE. ETHERSON D. GATES, Chicago, Ill. Filed Aug. 7, 1882. (No model.)

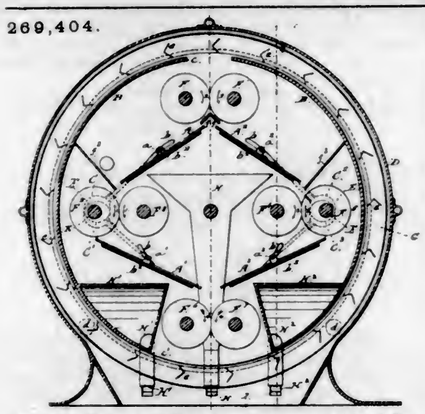
Claim.—1. The combination of an outer case, D, an inner shell, B, a revolving screen, G, and a pair of rollers, F F', substantially as and for the purpose described.

2. The combination, with an outer inclosing-case, D, and a pair of grinding-rollers, F F', within said case, of one or more conducting sleeves or chutes, as A, and eccentrics connected to the sleeves and applied upon the roller-shafts outside the case D, substantially as and for the purpose described.

3. The combination of an outer case, D, an internal shell, B, a pair of grinding-rollers, F F', and a chute, H, substantially as and for the purpose described.

4. The combination of an outer case, D, an internal shell, B, provided with chutes H H', and two pairs of grinding-rollers, F

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F' and F⁸ F⁸, and a conducting sieve or chute, A, substantially as and for the purpose described.

5. The combination of an outer case, D, an internal shell, B, provided with chutes H H', and three pairs of grinding-rollers, F F', F⁸ F⁸, F⁴ F', and conducting sieves or chutes A A', substantially as and for the purpose described.

6. The combination of an outer case, D, an internal shell, B, provided with chutes H H' H², four pairs of rolls, F F', F⁸ F⁸, F⁴ F⁸, and conducting sieves or chutes A A' A' A², substantially as and for the purpose described.

7. In a roller grinding-machine, the combination of an external shell or case, an internal shell, B, guard-plates f^3 f^3, and chutes H H' H², substantially as and for the purpose described.

8. The combination of the outer case, D, internal shell, B, grinding-rolls, and conducting sieves or chutes, substantially as and for the purpose described.

9. The combination, with an external case through which the shafts of the rollers extend, and with said shafts and their bearings, of packing-plates and springs applied upon the shafts between the said case and the bearings, substantially as described.

10. The combination of the flanged sliding adjustable blocks J² and plates J⁴ with the bearings J J' of the rolls and sliding yoke I, substantially as and for the purpose described.

11. The combination of the internally-toothed gear-wheel O, spider N, pinions h h' h^2, and a pair of grinding-rollers, substantially as and for the purpose described.

12. The combination of the internally-toothed gear-wheel O, spider N, pinion h^3, pinion h^4, pinions h^3 h^4, and pair of rollers F⁸ F⁸, substantially as and for the purpose described.

13. The combination of four pairs of rolls inclosed within a case, D, the gearing, and spider N, substantially as and for the purpose described.

14. The combination of one or more pairs of pulverizing-rollers, the long-toothed gearing of the same, the driving-gearing, the spider, and an outside inclosing case, substantially as and for the purpose described.

269,405. PIANO-ACTION. ALBERT GEMUNDER, Columbus, Ohio. Filed Aug. 12, 1882. (No model.)

Claim.—1. In a piano-action, the combination, with the key-lever A, provided with the vertical threaded pin C', having nut and washer, of the bifurcated bearing B and the removable pivot C, substantially as specified.

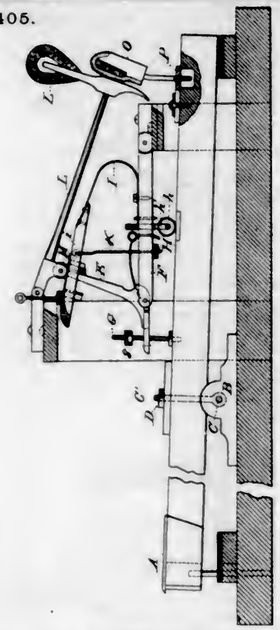
2. In a piano-action, the combination, with the pivoted lever F, bifurcated at its free end, and the pivoted jack E in the forked end thereof, of the spring I, slotted arm i, the hammer-arm L, roller M, and pivoted rod K, substantially as specified.

3. The lifter H, adjustably connected with a lever carrying the jack, and having a roller resting upon the key, substantially as specified.

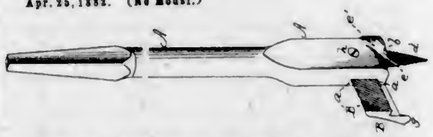
4. In a piano-action, the combination of the pivoted key-lever A, the pivoted bifurcated lever F, the jack E, the lifter H, spring I, and slotted arm i, rod K, pin G, hammer L, and friction-rollers M and h, constructed and operating substantially as specified.

5. The combination, with the pivoted lever F, of the spring I, the slotted bar i, and the jack passing through said bar, which is secured to one end of the spring, substantially as described.

269,405.



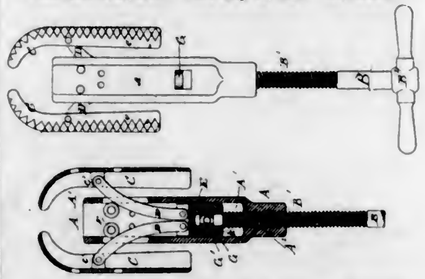
269,406. AUGER. PORTER A. GLADWIN, Boston, Mass. Filed Apr. 25, 1882. (No model.)



Claim.—1. In combination with the shank A of an expansible bit, provided with the groove a, the expansion-cutter B, having its back B' or inner surface serrated or roughened to prevent slipping in the shank, substantially as set forth.

2. The herein-described expansible bit, consisting of the shank A, provided with the grooved point d, extension-groove e', and dovetail groove a, the cutter B, having its back or inner side, B', serrated or roughened, and the screw h, all constructed and arranged substantially as and for the purpose described.

269,407. BOOT AND SHOE STRETCHER. HORACE GLIDDEN, West Stratford, Conn. Filed Aug. 30, 1881. (No model.)



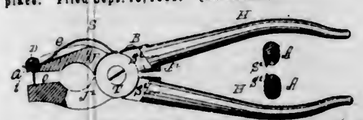
Claim.—1. The combination, with the stretching mechanism, of a transversely-perforated and unthreaded end on the handle, a collar, G, a pin, G', connecting said collar and handle end, and a slide-block, E, recessed to receive the handle and collar at right angles to each other, as shown and described.

2. In a boot-stretching device, the combination, with the slotted stock A and the curved bars D D, of the bearing-rolls F F, forming a rest for the convex side of said bars, as shown and described.

3. In a boot and shoe stretcher, the bearing-plate H, having a spring-catch, I, attached to its inner surface, substantially as herein shown and described, to adapt the said plate to be applied to a bearing-plate of the stretcher, as set forth.

4. In a boot and shoe stretcher, the combination, with the bearing-plates C, operated by the bars D, sliding block E, and swiveled screw-rod B, working in the stock A, of the bearing-plate H, having spring-catch I, substantially as herein shown and described, whereby the stretcher can be used for stretching the insteps of boots and shoes, as set forth.

269,408. TOOL FOR ATTACHING SHOE-BUTTONS. JOHN H. GOODFELLOW, Troy, N. Y., assignor, by direct and mesne assignments, to the Goodfellow Manufacturing Company, same place. Filed Sept. 18, 1882. (No model.)



Claim.—1. In an implement for attaching buttons, which implement has two jaws and handles and an intermediately-arranged tongs-pivot, the combination of the upper jaw, J', constructed with a front vertical slot, and the spring S, attached to the implement back of the tongs-pivot, said spring being constructed with a slot and upturned curve in its free end, as and for the purposes herein described and set forth.

2. In an implement for attaching buttons, which implement has two jaws and handles and an intermediately-arranged tongs-pivot, the combination of the upper jaw, J', constructed with a front vertical slot, the spring S, attached back of the tongs-pivot and its free end slotted and curved upwardly, and the lower jaw, J², constructed with the sinks n n in its upper surface, as and for the purposes described and set forth.

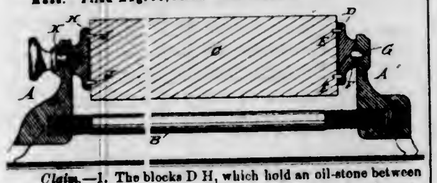
3. In an implement for attaching buttons, which implement has two jaws and handles and an intermediately-arranged tongs-pivot, the combination of the upper jaw, J', constructed with a vertical slot in its front end, and a cross-recess on its under surface, the spring S, attached back of the tongs-pivot, said spring constructed with its free end slotted and curved upwardly, as and for the purposes herein described and set forth.

4. In an implement for attaching buttons, which implement has two jaws and handles and an intermediately-arranged tongs-pivot, the combination of the upper jaw, J', constructed with the recess e, and the spring S, attached back of the tongs-pivot, said spring having its free end slotted and curved upwardly, as and for the purposes described and set forth.

5. In an implement for attaching buttons, the combination of the upper jaw, J', constructed with a vertical slot in its front end, the lower jaw, J², constructed with a raised sink-plate and sink on the upper face of the said jaw J², the spring-plate P, constructed to partly encircle said sink-plate and sink, and attached to the upper surface of the jaw J² near its pivot, and the spring S, attached to the implement back of the tongs-pivot, with the free end of said spring S slotted and curved upwardly, as herein shown and described.

6. In an implement for attaching buttons, the combination of the jaws J' and J², the former constructed with a vertical slot in its front end, and the jaw J², with the sinks n n in its upper face, the handles H H, constructed with the plier-blades S² S², arranged between the handle ends, and the pivot T', and the spring S, attached back of the pivot with the free end of said spring slotted, and curved upwardly, as shown and described.

269,409. OIL-STONE HOLDER. FRANK H. GOWELL, Boston, Mass. Filed Aug. 14, 1882. (No model.)



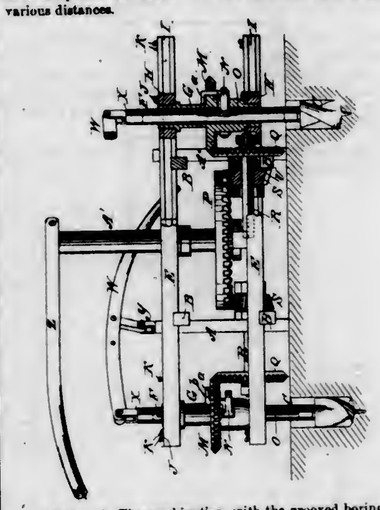
Claim.—1. The blocks D H, which hold an oil-stone between them, combined with the supporting-frame by a pivot and screw, whereby either of the longitudinal surfaces of the oil-stone may be brought on top, as desired.

2. In an oil-stone holder, the combination, with the legs A A', of the screw-rod B, the pivot-block D, the block H, and the screw K, substantially as herein shown and described, and for the purpose set forth.

3. In an oil-stone holder, the combination, with the legs A A', of the screw-rod B, the pivot G, the block D, provided with studs E, the block H, provided with studs J, and the screw K, substantially as herein shown and described, and for the purpose set forth.

269,410. POST-HOLE-BORING MACHINE. WILLIAM GRAHAM and WILLIAM H. STALEY, London, Ohio. Filed Apr. 5, 1882. (No model.)

Brief.—Sleeves carrying bevel-wheels are connected by pawls with boring-shafts passing through them, to permit vertical adjustment. Said shafts are carried by blocks sliding in guides on a suitable frame, each block also carrying a shaft, (with a bevel-wheel gearing with that on one sleeve,) and having a square portion sliding through another bevel-wheel driven by a center gear-wheel, to the shaft of which power is applied. Said shaft also slides through a thimble turning in bearings in the frame. The auger-shafts have swiveled connections at top with levers linked to fulcrums, to adapt them to operate the auger-shafts when the blocks are adjusted at various distances.



Claim.—1. The combination, with the grooved boring-shafts F, of the rotary sleeves G, connected by the pawls N with said shafts, and the slide-blocks H, having stops J K, as and for the purpose specified.

2. The combination of boring-shaft F, sleeve G, wheel M, and pawl N, said boring-shaft having a groove for said pawl, substantially as described.

3. The combination, with boring-shaft F and sleeve G, of the lever W, swiveled to said shaft and being adjustable on its fulcrum, together with the said boring-shaft, arranged adjustably along the frame, substantially as specified.

4. The combination of driving-wheel P, pinion S, sliding shaft R, thimble U, bearing T, wheels Q and M, and the adjustable boring-shaft F, substantially as specified.

269,411. SPRING-HINGE. HENRY C. HART and JAMES W. CROSS, Detroit, Mich., assignors to the Clark Hardware Company, same place. Filed Sept. 29, 1882. (No model.)



Claim.—1. The combination, with the coiled spring and the collar having an interior lug and adapted to engage a locking-stop, of a pintle having a diagonal or oblique groove or recess at the upper portion of its longitudinal groove to form an incline or cam projection, which serves to lift the collar from engagement with the stop when the pintle is rotated in one direction, substantially as described.

2. The combination, with the coiled spring and the collar having an interior lug and adapted to engage a locking-stop, of a pintle having a straight transverse groove or recess and a diagonal or oblique groove or recess at the upper portion of its longitudinal groove to form the pintle-retaining shoulder and the collar-lifting incline or cam, substantially as described.

269,412. NUT-LOCK WASHER. H. L. HEATON, Columbus, Ohio, assignor of three-fourths to Hylas Sabin, George W. Luce, and John M. Tibbetts, same place. Filed Oct. 12, 1882. (Model.)

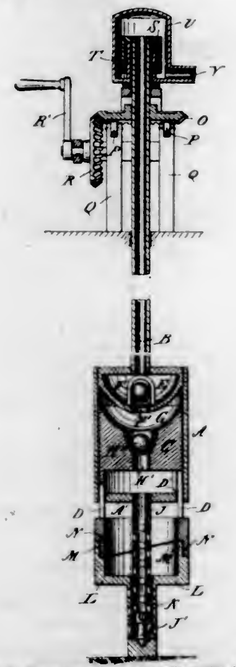


Claim.—As a new article of manufacture, a nut-lock washer having the two tapering springs made in one solid piece with the washer, substantially as shown and described.

269,413. LIQUID SOAP. GEORGE HENKEL and HENRY HENKEL, Logan, Ohio. Filed Oct. 28, 1882. (No specimens.)

Claim.—A liquid soap composed of one hundred gallons of pure water, two hundred and seventy pounds of caustic soda, thirty-five pounds of borax, four pounds of alum, and two gallons of spirits of ammonia.

269,414. PUMP. JESSE A. HEYDRICK, Barnhart's Mills, Pa. Filed July 14, 1882. (No model.)



Claim.—1. In a pump, the combination, with fixed cam-tracks, of rotating cylinder closed at top and bottom and fixed to the lower end of the stand-pipe, and a piston within said cylinder, provided with shanks or prongs projecting downwardly through the bottom of the said cylinder and running on the said cam-tracks, substantially as herein shown and described, whereby the piston will be reciprocated as the cylinder is revolved, as set forth.

2. In a pump, the combination, with the stand-pipe B, the rotating cylinder A, having a slotted bottom and fixed to the lower end of said stand-pipe, and the fixed cam-tracks M, of the reciprocating piston C, revolving with said cylinder, and provided with downwardly-projecting shanks or prongs D, substantially as herein shown and described, and for the purpose set forth.

3. In a pump, the combination, with the vertical rotary cylinder A and the stand-pipe B, to the lower end of which it is attached, of the reciprocating piston C, provided with downwardly-projecting prongs or shanks D, the fixed spiral tracks M, the perforated tube J, projecting from the lower end of the cylinder A, and of the perforated tube K, surrounding the tube J, and connected with tracks M, substantially as herein shown and described, and for the purpose set forth.

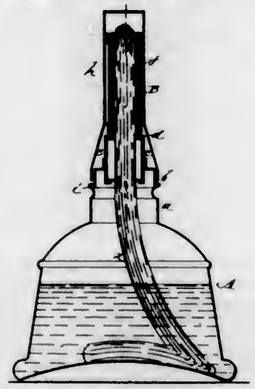
4. In a pump, the combination, with the vertical rotary cylinder A, and the stand-pipe B, to the lower end of which the cylinder A is attached, of the reciprocating piston C, the prongs or shanks D, and the track-pieces N, attached to the lower ends of the same, and the spiral tracks M, secured in the lower part of the well, on which tracks M the track-pieces N rest, substantially as herein shown and described, and for the purpose set forth.

5. In a pump, the combination, with the rotary stand-pipe B and the cylinder A, attached to the lower end of the same, of the reciprocating piston C, located in the cylinder, and provided in its top with a recess, G, containing a ball-valve, H, the cup-shaped valve-box E in the top of the cylinder, and containing a ball-valve, F, the prongs or shanks D, projecting from the lower end of the piston, and the fixed spiral tracks M, substantially as herein shown and described, and for the purpose set forth.

6. In a pump, the combination, with the rotary stand-pipe B, the rotary cylinder A, attached to the lower end of the same, and the reciprocating piston C in the cylinder, of the inverted cup S, attached to the upper end of the stand-pipe, and the vessel U, provided with an internal tubular projection, T, projecting into the cup S, substantially as herein shown and described, and for the purpose set forth.

7. In a pump, the combination, with the rotary stand-pipe B, the rotary cylinder A, attached to the lower end of the same, and the reciprocating piston C in the cylinder A, of the inverted cup S, attached to the upper end of the stand-pipe, the vessel U, provided with an internal tubular projection, T, the bevel cog-wheel O, rigidly mounted on the stand-pipe, and the bevel cog-wheel R, engaging with the bevel cog-wheel O, and provided with a crank-handle, R', substantially as herein shown and described, and for the purpose set forth.

269,415. SOLDERING-LAMP. CHARLES W. HOBBS, Bloomington, Ill. Filed Oct. 18, 1882. (No model.)



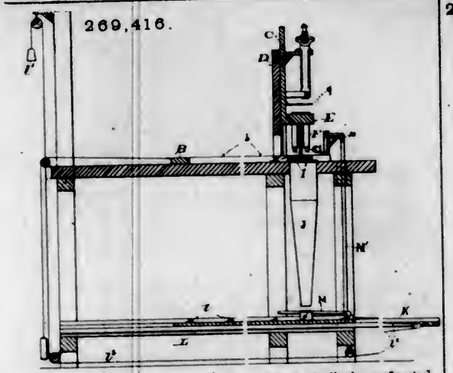
Claim.—1. In soldering-lamps, the laterally-adjustable wick-tube B, substantially as shown and described.

2. In lamps, the combination of the cap *b*, provided with flanges *c c*, and the wick-tube B, formed with the band *d*, combined, substantially as shown and described, to allow adjustment of the wick-tube to either side, as set forth.

269,416. MACHINE FOR CUTTING PAPER PERCUSSION-CAPS. CHARLES HOFF, Cincinnati, Ohio, assignor of one-half to Andrew Jorgens, same place. Filed Mar. 10, 1882. (No model.)

Claim.—1. The combination, substantially as hereinbefore set forth, of the spear-pointed cylindrical cutters F, and plunger C

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with the perforated stationary plate I and similarly-perforated presser-plate H.

2. The spear-pointed cylindrical cutters F, in combination with a perforated plate, as I, and the strippers arranged to encircle the cutters and press yieldingly upon the cap-sheet to retain it in place while it is being severed into caps.

3. The combination, substantially as specified, of the grooved bed-plate A, open sheet-carrying frame B, and stationary perforated plate I for the cutters to strike through, with the spear-pointed cylindrical cutters F, plunger C, and its driving mechanism, and the strippers arranged to press yieldingly upon the cap-sheet to retain it upon the perforated plate while the cutters are withdrawn.

4. The combination, substantially as hereinbefore set forth, of the grooved bed-plate A, open sheet-carrying frame B, adapted to slide within said bed-plate, with the plunger C, shaft N and its connecting-rod or pitman, the spear-pointed cylindrical cutters F, and discharge-tubes J.

5. The combination, substantially as specified, of the grooved bed-plate A, the open sheet-carrying frame B, adapted to slide in said bed-plate, and pins *b*, projecting up from said frame B, with the bed-plate L, rack *l*, detent M, bell-crank *m*, connecting-rod M', rope *l'*, and weight *l'*, the parts being arranged to automatically feed the bed-plate L and its boxes forward when the detent is released from the teeth of rack *l*.

6. The combination, in a cap-cutting machine, of the cap-sheet-feeding devices consisting of grooved bed-plate A, sliding frame B, registering-pins *b'*, and devices for clamping the sheet on the frame, the cap-severing mechanism consisting of the tubular spear-pointed cutters F, follower G, plates H and I, and plunger C, and the box-feeding devices consisting of frame K, sliding bed-plate L, detent M, rod M', bell-crank *m*, rack *l*, cord *l'*, and weight *l'*, as specified.

269,417. ELECTRIC-ARC LAMP. ALFRED G. HOLCOMBE, Danielsonville, Conn., assignor to Daniel K. Colbern, Trustee, New York, N. Y. Filed Feb. 21, 1881. (No model.)

Claim.—1. In an electric-arc lamp adapted to utilize a to-and-fro electric current, in combination, two depending bars adapted to be moved freely to and from one another, two flat metal coils secured to said depending bar, arranged face to face, and two carbon rods secured to the lower ends of the depending bars, the whole being arranged in single circuit, substantially as and for the purpose hereinbefore set forth.

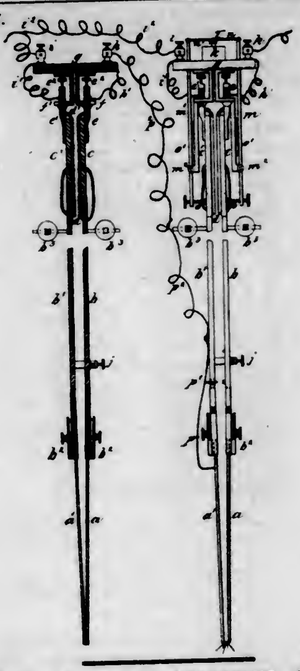
2. In an electric lighting apparatus, the combination of two suspended bars, each provided at its lower end with an adjustable carbon-holding socket, whereby the carbon rods held by them may be arranged in such angular relation to one another that the sum of the resistance of the carbon rods and the arc formed between their ends shall be a constant quantity, as set forth.

3. In combination, the pivoted bars *b* and *b'*, the flat coils of insulated wire *d* and *d'*, the carbon rods *a* and *a'*, and the adjustable stop *j*, substantially as and for the purpose hereinbefore set forth.

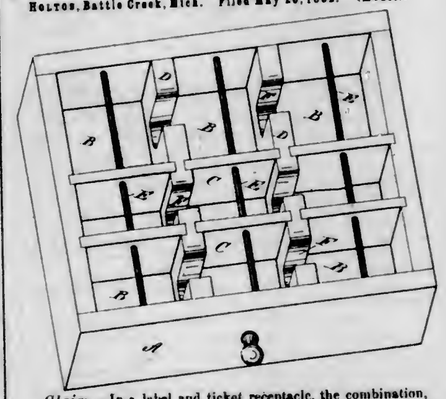
4. In combination, the speed-regulator *k l m n*, the pivoted bars *b* and *b'*, the flat coils of insulated wire *d* and *d'*, and the carbon rods *a* and *a'*, substantially as and for the purpose set forth.

5. In combination, the spring *p*, pin *p'*, carbon rod *a'*, bar *b*, constituting a shunting device of an electric lamp, and the conductor *p²*, connecting the spring *p* to the binding-post of an adjoining lamp, substantially as and for the purpose set forth.

269,417.



269,418. LABEL AND TICKET RECEPTACLE. SAMUEL M. HOLTON, Battle Creek, Mich. Filed May 20, 1882. (Model.)



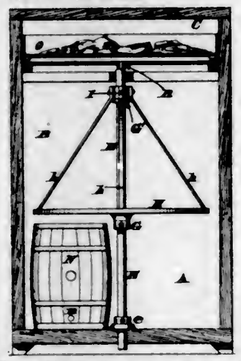
Claim.—In a label and ticket receptacle, the combination, with the box or drawer A, of the longitudinal and transverse partitions C D, the latter provided with recesses F at the ends of the compartments formed in the partitions, and of the wires E, extending transversely across the compartments at or near the middle of the same, substantially as herein shown and described, and for the purpose set forth.

269,419. PULLEY. GOTTLIEB D. HUSSMANN and EMERY A. SAID, St. Louis, Mo. Filed June 14, 1882. (No model.)



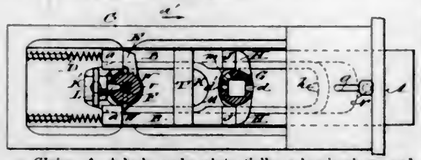
Claim.—The combination of the pulley having its groove provided with a sloping serrated wall on one side, the pulley-block having a flange overlying the groove and its sloping wall, and the cord arranged in the groove, substantially as shown and described, whereby a brake shall be provided to arrest and hold the cord at any desired point, as set forth.

269,420. BEER-COOLER. ADOLPH HUSS, Cincinnati, Ohio. Filed Sept. 18, 1882. (No model.)



Claim.—The combination, in a cooler, of tubular shaft E, fixed collar G, turn-table H, ring I, and tie-rods A, which latter connect said table and ring, as herein described.

269,421. LOCKING-LATCH. JOSHUA B. HUTSON, Richmond, Va. Filed Sept. 23, 1882. (Model.)



Claim.—1. A lock, made substantially as herein shown and described, with a sliding frame for locking the knob-nut and key-nut to prevent them from turning, as and for the purpose set forth

2. The combination, with a sliding lock-bolt, of a sliding frame for locking the knob-nut and the key-nut to prevent them from turning, and of devices for locking the said sliding frame in the desired position, substantially as herein shown and described, and for the purpose set forth.

3. In a lock, the combination, with the bolt, of a sliding frame provided with projecting pins, and of a key-nut and a knob-nut, both provided with apertures for receiving the pins on the sliding frame, substantially as herein shown and described, and for the purpose of locking the said nuts to prevent them from turning, as set forth.

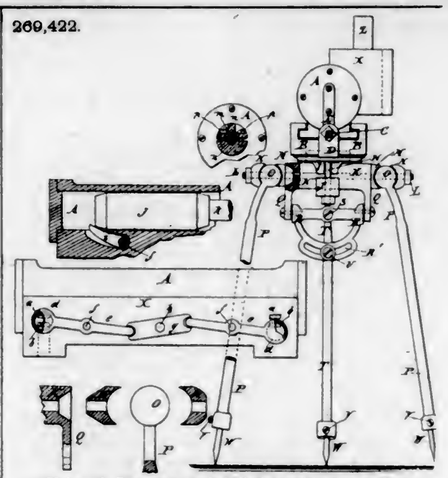
4. In a lock, the combination, with the bolt A, terminating in the shanks B, of the sliding frame K, between the shanks B, the pins *g*, *l*, and *h* on the frame K, the key-nut F, provided with an aperture, *e*, and the knob-nut G, provided with apertures *d*, *d'*, and *m*, substantially as herein shown and described, and for the purpose of holding the bolt withdrawn into the lock-casing, as set forth.

5. In a lock, the combination, with the bolt A, terminating in the shanks B, of the key-nut F, provided with the cam-finger E, the ward *e*, provided with the notches *c*, the guard W in the key-nut, and the spring V, which presses the guard toward the outer end of the key-nut, substantially as herein shown and described, and for the purpose set forth.

6. In a lock, the combination, with the bolt A, of the sliding frame K, provided with pins for locking the knob-nut and the key-nut to prevent them from turning, the key-rod L, projecting from the frame K, the plate Q, provided with the slot P, and the swinging strip R, provided with the notches *s*, substantially as herein shown and described, and for the purpose set forth.

269,422. STEAM ROCK-DRILL. SIMON INGERSOLL, Stamford, Conn.; assignor to the Ingersoll Manufacturing Company, same place. Filed June 14, 1882. (No model.)

269,422.



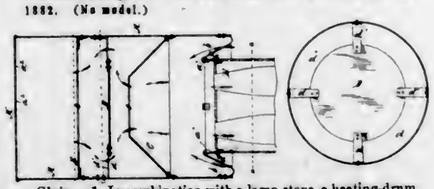
Claim.—1. In a steam rock-drill, the combination, with way-plate B, that carries the steam-cylinder A and is provided with a grooved circular recess, F G, of the L-headed bolts G, the bearing I J, and the sleeve K, substantially as herein shown and described, whereby the said way-plate and cylinder are swiveled and hinged to the said sleeve, as set forth.

2. In a steam rock-drill, the combination, with the recessed ends of the sleeve K, with which the way-plate and steam-cylinder are connected, and the side legs, P, provided with forked upper ends, having disks O upon the ends of their prongs, of the bearings M N and the screw-rod L, substantially as herein shown and described, whereby the said legs can be adjusted in any desired position, as set forth.

3. In a steam rock-drill, the combination, with the sleeve K and the rear leg, T, of the hinged frame R, having curved slot R', and the bolts or screws S U, substantially as herein shown and described, whereby the said rear leg will have a free vertical and lateral adjustment, as set forth.

4. In a steam rock-drill, the combination, with the steam-cylinder A and the steam-chest X, of the valves *d*, levers *e*, pivots *f*, and arms *i*, and the connecting-lever *g*, substantially as herein shown and described, whereby the valves will be operated at the same time by the movements of the pistor, as set forth.

269,423. HEATING-DRUM FOR LAMP-STOVES. SAMUEL W. JACKSON, Chicago, Ill. Filed Nov. 14, 1881. Renewed Oct. 18, 1882. (No model.)



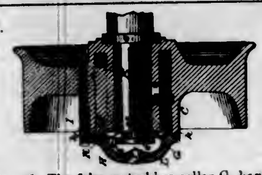
Claim.—1. In combination with a lamp-stove, a heating-drum having at its base, when applied to the stove, a space, *b*, for the admission of air, and provided with the deflecting-flange C and disk D, arranged to intercept heat radiated from the flame and to give off the same to the passing current of induced air, substantially as described.

2. In combination with a lamp-stove, B, a drum, A, provided with suitable means for supporting the same in position, and having an open space about its base for the induction of outer air, and having the flange C, against which the admitted air impinges, the central disk, D, the flange E, and the apertured top A', arranged and operating as and for the purposes specified.

3. In combination with the stove B, the open-bottomed drum A, larger than the stove, and provided with the inwardly-directed hooks *a*, arranged to engage the stove-top, and thus support the drum concentric with the stove, substantially as shown and described.

269,424. WHEEL. REUBEN S. JENNINGS, Nelsonville, Ohio. Filed Oct. 26, 1882. (No model.)

269,424.



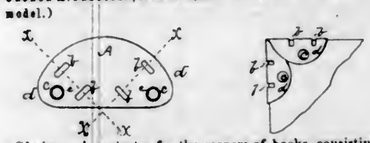
Claim.—1. The false or locking collar G, having the grooves g^2, as set forth.

2. The box B, provided with holes D, in combination with the shell C, having ribs F arranged opposite the holes D, and the ribs *a'* connecting the box and shell, but not running their full length, leaving a space, e^2, at the inner end, whereby the lubricant has free course and is broken up at the holes, as set forth.

3. The combination of the wheel A, axle E, having the groove e^3, the collar G, and the cap H, the latter having an interior rabbet, h^3, in which the collar G rests, as set forth.

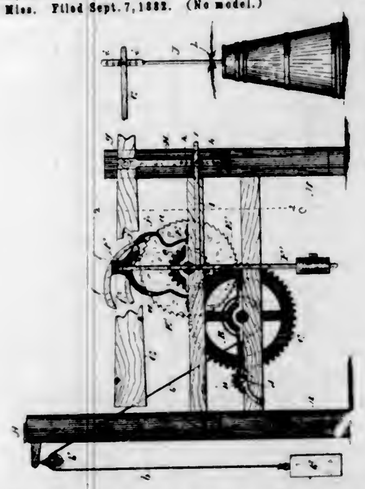
4. The cap H, having the oil-hole h, and the collar G, having the grooves g^3, in combination with the wheel A and axle E, as set forth.

269,425. PROTECTOR FOR THE CORNERS OF BOOK-COVERS. GEORGE H. JEBBISON, Foxcroft, Me. Filed Mar. 11, 1882. (No model.)



Claim.—A protector for the corners of books, consisting of the metallic sheet A, folded on the lines *x x*, smooth on the side in contact with the outside of the book-cover, and provided with the perforations *c c*, burred at *c*, so as to slightly enter the cover on the inside, and with oblong slots *b b*, substantially as and for the purposes set forth.

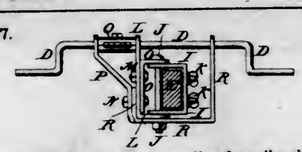
269,426. MOTOR FOR CHURNS, &c. LE VERT KIMBALL, Egypt, Miss. Filed Sept. 7, 1882. (No model.)



Claim.—In a motor for churns, the frame A, provided with the scrolls *a*, and carrying the drum B, with its attached cord *b* and weight *b'*, the gear-wheel C, shaft *c*, carrying pinion E and ratchet-wheel E', and the shaft F, carrying the pendulum F', and link *f*, carrying weighted pawls *f' f²*, in combination with the working-beam G, pivoted to the frame A, the pendent bar H, attached to said working-beam, and the link I, connecting the pendulum with the pendent bar, substantially as and for the purposes set forth.

269,427. SULKY-PLOW. MICHAEL KITH, Prairie Township, Jackson County, Mo. Filed July 17, 1882. (No model.)

269,427.



Claim.—1. A double-hinge coupling for sulky-plows, constructed substantially as herein shown and described, and consisting of the plow-beam clamp I, the bracket O L P, the bent brace-bar R, and the bolt J, as set forth.

2. In a double-hinge coupling for sulky-plows, the combination, with a draw-bail, D, the plow-beam clamp I, the bars O L, and the bolt J, of the bent base-bar R, substantially as herein shown and described, whereby the coupling is strengthened against lateral strain, as set forth.

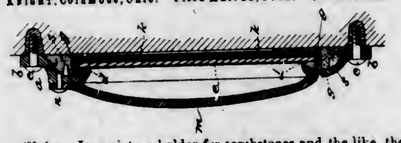
3. In a double-hinge coupling for sulky-plows, the combination, with the draw-bail D, of the plow-beam clamp I, the brackets O L P, the bent brace-bar R, and the bolt J, the clamp turning horizontally on the bolt and the bracket and brace-bar turning vertically on the bail, whereby the plow-beam will firmly control the sulky and prevent side draft, while having a free lateral and vertical movement, as set forth.

269,428. ESCAPEMENT MECHANISM FOR WATCHES. JAMES KEBBE, 2d, Birmingham, and WELLINGTON M. REED, Huntington, Conn. Filed Apr. 11, 1882. (Model.)



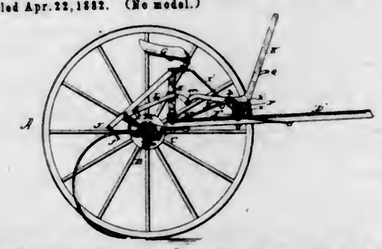
Claim.—In a watch-escapement, the combination, with the ruby-table A, the fixed toothed wheel *e*, and the pawl *f*, of the balance-wheel C and staff *b*, as shown and described.

269,429. PICTURE-FRAME FOR MONUMENTS. CHARLES O. KNIGHT, Columbus, Ohio. Filed Mar. 25, 1882. (No model.)



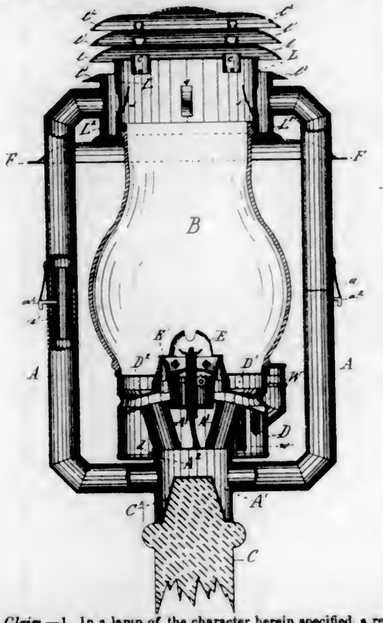
Claim.—In a picture-holder for tombstones and the like, the combination, with the rim *a*, having the perforated projections *b*, the inner ledge or shoulder, *d*, and the inner-projecting edge wall, *g*, forming the recess *h*, of the glass *e*, cemented to the shoulder *d*, and the cap-plate *k*, fitting the edge wall, *g*, substantially as specified.

269,430. HORSE HAY RAKE. FREDERICK E. KOEHLER, Canton, Ohio, assignor of one-half to Isaac Harter, same place. Filed Apr. 22, 1882. (No model.)



Claim.—In a horse hay-rake, the combination, with the head B, link L, pivoted to said head, and bent operating-lever K K', pivoted to said link and forming a toggle therewith, of the supporting-bracket O O' *o*, formed in one piece and provided with the adjustable set-screw P, mounted therein in line with the arm of the operating-lever, whereby a pivotal bearing is formed for the operating-lever and the play of the toggle-levers regulated, substantially as set forth.

269,431. TUBULAR LAMP. JOHN KRUMMENACHER, Brooklyn, assignor to Frederick Dietz, New York, N.Y. Filed Aug. 7, 1882. (No model.)



Claim.—1. In a lamp of the character herein specified, a removable oil-pot having a depression in the bottom adapted and arranged to engage with a supporting-collar, and one or more tubes forming a passage or passages from the air-chamber below the oil-pot to the under side of the burner-cone above the oil-pot, substantially as shown and described.

2. In a lamp of the character herein specified, the combination, with tubes A and air-chamber A', of the removable oil-pot D, having tubes or passages A^2 therethrough, substantially as shown and described.

3. In a tubular lamp of the character herein specified, the combination, with the feed-air supply tubes or conduits, divided as set forth, of a thimble therein, and a spring-catch adapted and arranged to secure the parts in place, substantially as shown and described.

4. The combination, with collar L and globe B, of springs *s*, adapted and arranged to press against the globe below the bead therein and hold the globe suspended, as set forth.

5. The combination, with tubes A, of collar L^1, bearing deflecting-plate l^2, said collar being perforated, as set forth, and collar L, perforated in like manner at the mouth of each of the tubes, substantially as shown and described.

6. The combination, with perforated collars L and L^1, of deflecting-plates l, l', l^2, and l^3, and tubes A, the whole arranged to operate substantially as shown and described.

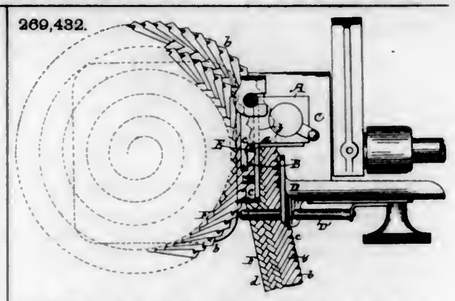
7. The combination, with collars L and L^1, perforated as set forth, of deflecting-plates l, l', l^2, and l^3, tubes A, leading to air-chamber A', and a removable oil-pot, D, provided with passages therethrough leading from the air-chamber to the under side of the burner-cone, substantially as shown and described.

269,432. UNITING STRAW BRAID ON SEWING-MACHINES. WILLIAM B. LASCELL, New York, N.Y. Filed Nov. 27, 1882. (No model.)

Claim.—1. An article composed of straw braids having eyes or depressions along their edges, the several layers making up the article being united by sewing-machine stitches, whereof the thread between the needle-punctures on the right side of the article lies below the upper surface of the overlapping braid along the edge having said eyes or depressions, substantially as described.

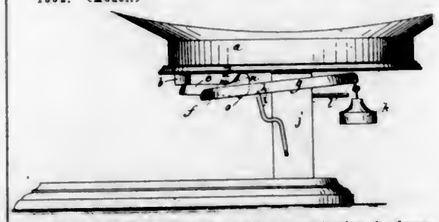
2. In uniting straw braids having eyes or depressions, the method of concealing or rendering less apparent the stitches on the right side of the fabric by running the seam through said eyes or depressions, substantially as described.

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3. The method of uniting straw braid having eyes or depressions on the edge by overlapping the braids, automatically or mechanically guiding the same, and feeding them to the sewing mechanism, and running the seam through the eyes or depressions of the upper overlapping braid and the body of the under braid, substantially as described.

269,433. SCOOP-BALANCE ATTACHMENT FOR WEIGHING-SCALES. ASA LEAS, West Manchester, Ohio. Filed June 17, 1882. (Model.)



Claim.—1. The combination, with a scoop having the downward stud *b*, of a platform having a hole, *c*, and a groove *p*, leading thereto, as and for the purpose specified.

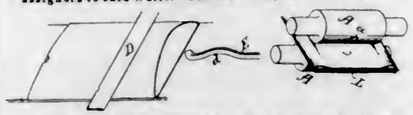
2. The combination of a scoop-balance lever, *e m*, and a counterbalance-yoke, *g*, carrying weight *k*, with the platform *d* and scoop *a* of a weighing-scale, substantially as described.

3. The combination, with the platform *d* of a weighing-scale, of a balance-lever, *e m*, located in relation to the platform for receiving a portion of the weight of the scoop on one of its arms, and bearing against the platform by its other arm to balance the weight of the scoop on the platform, said lever being pivoted on a weighted yoke, *g*, to allow the scoop to rest its whole base on said platform, substantially as specified.

4. In platform-scales, the combination, with a scoop having the downward stud *b*, and the platform *d*, having hole *c*, of a lever having an arm, *m*, to support said stud, and a boss, *n*, to bear against the platform, as shown and described.

5. In platform-scales, the rod *o*, arranged to support the lever *e* when the scoop is removed, as described.

269,434. PAPER-BAG MACHINE. FELIX W. LEIBBACH, CLARENCE A. WOLLE, and EDWARD H. BRUNNER, Bethlehem, Pa., assignors to said Wolle. Filed Nov. 14, 1881. (No model.)



Claim.—1. The combination of rolls for feeding a tube without flattening its edges, a curved cutting-blade for severing the tube on a curved line, a transverse presser-blade, and a longitudinally-reciprocating distending-rod, arched or recessed, as set forth.

2. The combination of the rolls for feeding a tube without flattening the edges, a transverse presser-blade, a longitudinally-reciprocating distending-rod, and an oscillating presser-plate, F, whereby the primary fold is flattened, as set forth.

3. The combination of the rolls for feeding the tube without flattening the edges, a transverse presser-blade, a longitudinally-reciprocating distending-rod, and an oscillating presser-plate, F, having a spring-finger, *g*, as set forth.

4. The combination of the rolls G G, the pulleys G', the belts

h, and the pasting-block *i*, whereby paste is applied to the bag-bottom as the latter is carried round the lower roll G, as set forth.

5. The combination, in a paper-bag machine, of a holder, J, adapted to receive a partly-folded bag-blank, with a presser-plate, *p*, whereby the flap *x* of the bag is folded, as set forth.

6. The combination, in a paper-bag machine, of rolls for feeding a partly-folded bag-blank, a plate, *m*, adapted to act upon the flap *x* of the bag to commence the folding of the latter, a holder, J, and a presser-plate, whereby the folding of the flap *x* is completed, as set forth.

7. The combination, in a paper-bag machine, of a holder, J, adapted to receive a partly-folded bag-blank, with a presser-plate, *p*, and clamping-arms *n*, as set forth.

8. The combination of the holder J with the clamping-arms *n*, having hooked ends, as set forth.

9. The combination, in a paper-bag machine, of a holder, J, adapted to receive a partly-folded bag-blank, and pivoted so as to be capable of reversal, with a presser, *p*, for the fold *x* of the bag-bottom, and a presser, *s*, for the final fold *x'* of the same, as set forth.

10. The combination of the holder J with the clamps *n* and presser *p*, the presser *s*, and the creasing-blade *t*, as set forth.

11. The combination of the holder J with the clamps *n* and presser *p*, the presser *s*, and the creasing-blade *t*, with finger *t'*, as set forth.

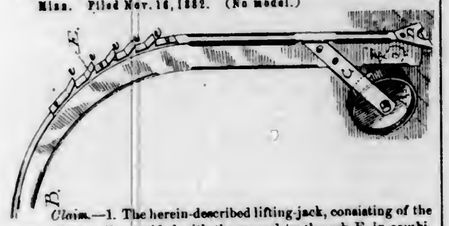
12. The combination, in a paper-bag machine, of a cylinder, N, with a series of bag-holders, J, and a series of clamps and pressers carried by said cylinder N, all substantially as set forth.

13. The combination of the rotating cylinder N, a bag-holder, J, pivoted thereto, and a cam, Q, adapted to actuate said bag-holder, as set forth.

14. The combination of the rotating cylinder, a reversible bag-holder, J, carried thereby, the clamps *n* and their rock-shaft *w*, and a cam, w^3, adapted to actuate said rock-shaft as the holder is reversed, as set forth.

15. The combination of the cylinder N, the reversible bag-holder J, carried thereby, the presser-plate *p* and its arm *p'*, and the cam p^3, adapted to actuate the presser-plate as the holder is reversed, as set forth.

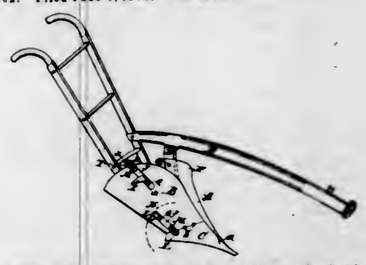
269,435. LIFTING-JACK. FRANK A. LEWIS, Minneapolis, Minn. Filed Nov. 16, 1882. (No model.)



Claim.—1. The herein-described lifting-jack, consisting of the curved lever B, provided with the curved tooth-rack E, in combination with the wheel A, and the bearings or side pieces, C, all constructed to operate substantially as and for the purpose described.

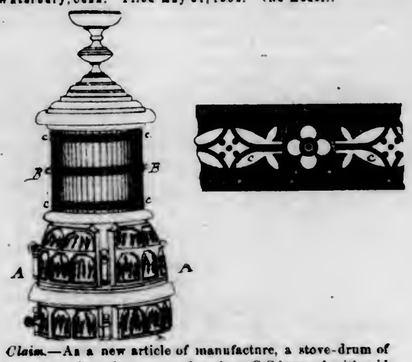
2. The lifting-jack herein described, consisting of the curved tooth-rack E on the curved lever B, in combination with the wheel A, bearings or side pieces, C, and foot D, constructed as herein described, for the purpose specified.

269,436. COLTER ATTACHMENT. JOHN H. MANN, Crafton, Tex. Filed June 6, 1882. (No model.)



Claim.—The combination, with the mold-board having holes S, of the slotted shanks J, nut-bolt L, and the clamp T, as shown and described.

269,437. STOVE DRUM OR CYLINDER. HENRY A. MATTHEWS, Waterbury, Conn. Filed May 31, 1882. (No model.)



Claim.—As a new article of manufacture, a stove-drum of brass having embossed ornamental surfaces C C integral with said drum, substantially as and for the purpose described.

269,438. SPINDLE AND BEARING THEREFOR. GEORGE B. MCCRACKEN and SAMUEL HAMER, Willimantic, Conn. Filed May 13, 1882. (No model.)

Brief.—A short spindle revolves upon a fixed stud, and is surrounded by a bushing held in a supporting-shell, and provided with a downward extension, in which said spindle has its side bearings. The bobbin is held steady at the top by the spindle and revolved through frictional contact with an extension or sleeve upon the whirl. Novel lubricating facilities are provided.



Claim.—1. The combination, with the fixed stud C and the short spindle B, stepped to revolve therein, of the shell K, secured upon said stud, and the bushing L, secured to shell K and adapted to serve as a bearing to spindle B, as shown and described.

2. The combination, with the fixed stud C, provided with head *f*, forming the bottom of reservoir *p*, of the shell K, forming its side walls, and the downward extension L', provided with the collar *l*, forming its top, as shown and described.

3. The combination, with the shell K, of the bushing L, provided with the downward extension L' and collar *l*, as shown and described.

4. The combination, with the stud C, provided with the head *f* and socket *f''*, the shell K, the bushing L, provided with the extension L', passages *e'*, and collar *l*, having passages *g* through it, and the reservoirs *o p*, of the spindle B, provided with the oil-passage *h i*, as shown and described.

5. The combination, with the bushing L and its reduced downward extension L', having passages *e'*, of the spindle B, provided with the passages *h i*, communicating with the said passages *e'*, the latter opening through the shoulder of bushing L, outside of its extension L', as shown and described.

6. The combination, with the stud C, the shell K, secured to the upper end thereof, and the bushing L, provided with the downward extension L', of the spindle B, stepped in stud C and provided with the collar *m*, as shown and described.

7. The stud C and the shell K, secured to the upper end of the same, in combination with the spindle B, the bushing L, provided with downward extension L', and collar *l*, forming the oil-reservoir *p*, as shown and described.

8. The sleeve E, provided with flanges or collars *b b'*, in combination with the tapering upward extension *d*, fitting on said collars, and the whirl G, of which said extension is a part, as shown and described.

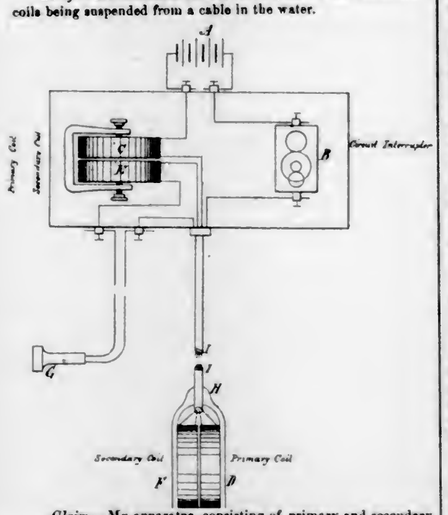
9. The whirl G, provided with extension *d*, sleeve E, stud C, and bushings D A, adapted to rotate thereon, in combination with the shell K, the bushing L, and the spindle B, stepped in the end of stud C, as shown and described.

10. The whirl G, having the upward extension *d*, and the sleeve E, secured therein, in combination with the stud C, spindle B, shell K, the bushing L, having the downward extension L', and the reservoirs *o*, *p*, and F, as shown and described.

11. The bushing D, formed with the gutters *e e*, in combination with the stud C and sleeve E, substantially as described.

269,439. APPARATUS FOR FINDING TORPEDOES, &c. CHARLES AMBROSE MCEVOY, 18 Adam Street, Adelphi, County of Middlesex, England. Filed July 12, 1882. (No model.) Patented in England Dec. 16, 1881, No. 5,518.

Brief.—An induction-balance is used, one of the induction-coils being suspended from a cable in the water.



Claim.—My apparatus, consisting of primary and secondary coils, C and E, a telephone, G, and mechanism A B, yielding pulsating electric currents, and a cable, I, containing insulated conductors passing from these into water to other primary and secondary coils, D and F, at its farther end, substantially as described.

269,440. HYDRANT. WILLIAM MCNAMARA, Cleveland, Ohio. Filed June 24, 1882. (No model.)

Claim.—1. In hydrants, in combination with the shell A and side conduits in open communication with said shell, the tubular core provided with exterior rings of packing and exterior annular recesses, forming, with the sides of the shell, annular chambers having waste-openings, substantially as described, and for the purpose set forth.

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2. In hydrants, the core D, provided with internal packing-rings, *e*, and annular recesses, in combination with the tubular valve-stem and valve, and shell A', having an outlet, B', substantially as described, and for the purposes set forth.

3. In combination with the tubular core, valve-stem E, and shell, the valve-rod H, pipe I, inclosing said rod, water-pipe K, connecting the shell A and shell A' in the manner substantially as and for the purpose specified.

4. In combination with the pipe I and valve-rod, the slotted cylinder, screw-stem E', loosely connected to the block D', shell A', and screw-nut, substantially as described, and for the purpose set forth.

5. The core D, consisting of sections connected to each other by screw-joints, and having interior and exterior packing and interior and exterior recesses, provided with waste-holes, in combination with the shell A and valve-stem, as and for the purpose specified.

269,441. CHLORINATING ORES AND APPARATUS THEREFOR. J. HOWELL MEARS, Philadelphia, Pa. Filed Aug. 8, 1880. (No model.)

Claim.—1. The process of chlorinating ores which consists in exhausting the chlorinator containing the ore, then forcing in chlorine gas, so that such gas shall be under superatmospheric pressure while acting upon the ore, and agitating the contents of the chlorinator during the process, substantially as and for the purpose described.

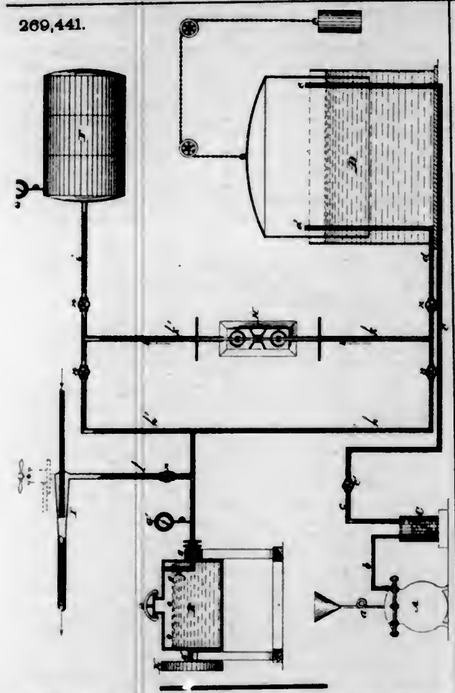
2. The combination, substantially as hereinbefore set forth, of a receptacle constructed as described, whereby it may contain a supply of chlorine under superatmospheric pressure, a chlorinator constructed as described, whereby it may resist pressure and agitate its contents, and connections, as described.

3. The combination, substantially as hereinbefore set forth, of a receptacle constructed as described, whereby it may contain a supply of chlorine under superatmospheric pressure, a chlorinator constructed as described, whereby it may resist pressure and agitate its contents, an apparatus for exhausting the said chlorinator, and connections, as described.

4. The combination, substantially as hereinbefore set forth, of the generator A, the holder D, the pump H, the reservoir F, the exhaust I, the chlorinator E, the goose-neck *f*, and connections, as described.

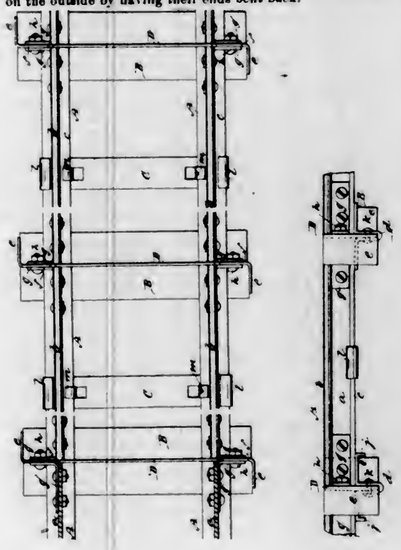
5. The combination, substantially as hereinbefore set forth, of the generator A, the holder D, the pump H, the reservoir F, the chlorinator E, the goose-neck *f*, and connections, as described.

269,441.



269,442. RAILROAD. ROSS B. MUNKER, Sanford's Corners, N. Y. Filed Mar. 28, 1882. (No model.)

Brief.—Grooved and ribbed tie-plates receive vertical cross-plates, with extensions projecting upwardly to the level of the rail-treads, bent at right angles near the ends, and connected by angle-plates with the rail-webs by means of bolts passing through slots, permitting vertical adjustment of the cross-plates. With the ties thus constructed are alternated connecting-plates embracing the bases of rails on the inside by tongues cut out in their metal and on the outside by having their ends bent back.



Claim.—1. The combination of a cross-bar, D, with a railroad-tie consisting of a flat bar or plate having a longitudinal grooved rib, *d*, said cross-bar being set edgewise in said grooved rib and riveted therein, substantially as specified.

2. The combination of the grooved and ribbed plate or bar-tie B *d* and cross-bar D with rails A, said cross-bar having the ends *e* bent, as described.

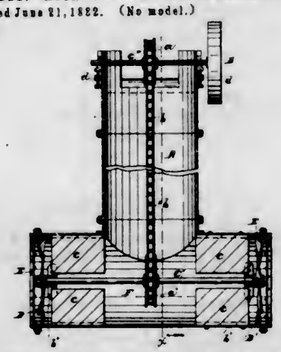
3. The combination of the grooved and ribbed plate or bar-tie B *d* and cross-bar D with the rails, the said cross-bar having the vertical extensions *f* at and between the rail-joints, and the joint-plates *g* bolted thereto, substantially as specified.

4. The combination of joint-plates *g*, rails A, cross-bar D, and vertical extensions *f* of said cross-bar, the latter being provided with slotted holes for the joint-bolts *h*, for adjusting the rails, as described.

5. The combination of alternate grooved and ribbed plate or bar-ties B and stay-braces C with rails A, substantially as specified.

6. The rails connected both lengthwise and crosswise by the cross-bar D, with vertical extensions *f*, joint-plates *g*, and bolts *h*, substantially as specified.

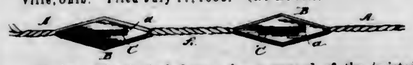
269,443. ROTARY PUMP. JOSEPH MENGE, New Orleans, La. Filed June 21, 1882. (No model.)



Claim.—1. In combination with the induction and eduction cylinders F A, the right and left spirally-bladed disks D D', fixed to a shaft, *c'*, and driven by a suitable actuating mechanism operating within said cylinders, substantially as and for the purpose described.

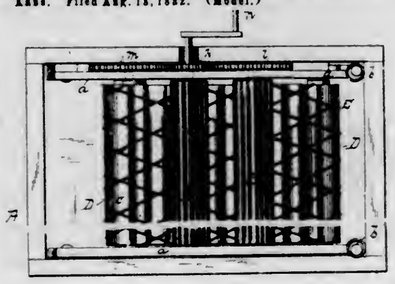
2. The combination of the induction and eduction cylinders F A, shaft *c'*, carrying right and left spirally-bladed disks D D', the whole being operated by a suitable actuating mechanism, with the radial diaphragms *e*, constructed and arranged substantially as and for the purpose described.

269,444. BARBED FENCE. MERRICK A. MIHILLS, Painesville, Ohio. Filed July 17, 1882. (No model.)

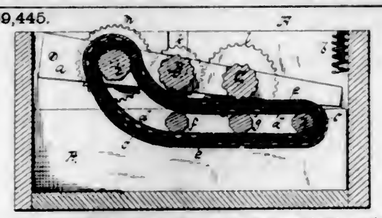


Claim.—The barbed fence-wire composed of the twisted strands A, lozenge-shaped plates B, slotted at *a* and having grooved edges *b*, and spur-wheels or rowels C, journaled in the slotted plates, constructed and combined substantially as and for the purpose herein shown and described.

269,445. WASHING-MACHINE. THOMAS A. MILLER, Grenola, Kans. Filed Aug. 18, 1882. (Model.)



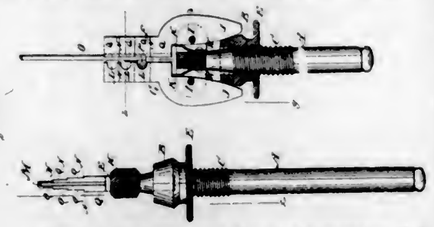
269,445.



Claim.—1. In a washing-machine, the combination, with a corrugated endless apron and one or more corrugated pressure-rollers, of a covering for said apron, consisting of a netting of cord running crosswise of said corrugations and at an angle thereto, substantially as and for the purpose specified.

2. In a washing-machine, the combination, with an endless corrugated belt or apron composed of two strips of canvas or duck, and having secured between the same a filling of rope or other similar fibrous material, of a covering for said apron or belt, consisting of a netting of cord or other like material, substantially as and for the purpose set forth.

269,446. HAND-VISE FOR BROOCH-PINS. MYER MOSS, Yarmouth, Nova Scotia, Canada. Filed May 8, 1882. (Model.)

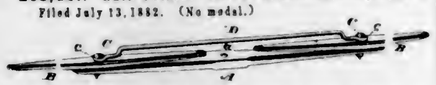


Claim.—1. The combination of a pair of gripping-jaws, F G, with a handle, A, and gripping devices, said jaws being graduated by successive steps N in the breadth of their faces, substantially as described.

2. The combination of a pair of jaws, F G, with a handle, A, and gripping devices, said jaws being graduated in the breadth of their faces by successive steps N, substantially as described, and having transverse grooves in the face of one jaw and a longitudinal groove in the face of the other jaw, substantially as specified.

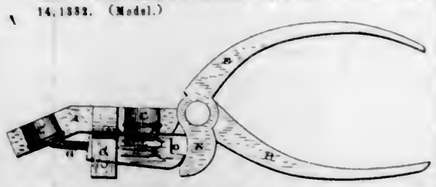
3. The improved jeweler's vise, consisting of handle A, adjusting conical nut B, jaws F G, and springs K, said jaws being graduated in the breadth of the faces, and one having transverse grooves and the other having a longitudinal groove, substantially as described.

269,447. REIN-GUARD. GEORGE H. NESBELL, Allegany, N. Y. Filed July 13, 1882. (No model.)



Claim.—The combination, with the double-tree A and single-trees B B, of the rein-guard D, the ends of which are downwardly bent and provided with loops *c*, and the bolts C, for securing the parts together, substantially as set forth.

269,448. CARTRIDGE CAPPING AND UNCAPPING IMPLEMENT. WILLIAM R. NORTHALL, Bridgeport, Conn. Filed July 14, 1882. (Model.)

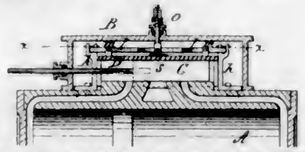


Claim.—1. In an implement for capping and uncapping cartridges, the combination of the body having recesses in its side or edge to receive the cartridges, an operating-lever, and a slide which is provided with means for uncapping one cartridge while it forces a cap upon a second one, substantially as shown.

2. The combination of a body having one end provided with a recess, C, and turned at an angle, with an operating-lever, and a slide having a spur upon its outer end for uncapping the cartridge that is held in the recess, substantially as described.

3. The combination of the body having the recesses in its edge to receive cartridges, an operating-lever, and a spring-actuated slide having a spur upon one end and a stud upon its inner edge, substantially as set forth.

269,449. BALANCED STEAM-VALVE. JAMES O'DONNELL, San Francisco, Cal. Filed Aug. 7, 1882. (No model.)

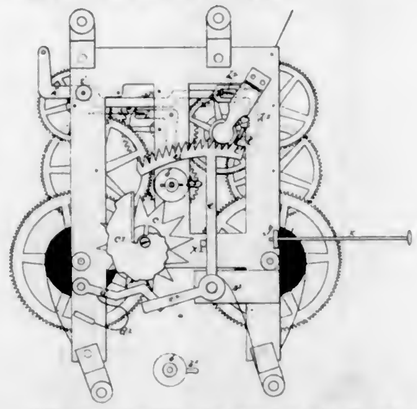


Claim.—1. In a steam-valve, the combination, with the plate or cap D, arranged to rest upon the valve C, of the approximately U-shaped yokes *l*, each being pivoted at one end to a fixed point of the steam-cylinder and connected to the plate or cap D, and the adjusting-screw *o*, having its lower end forked and connected to a pin uniting the meeting ends of the yokes *l*, said screw being passed up through the steam-chest and fitted with a holding-nut and adapted, together with the yokes *l*, to hold the plate D tightly upon the valve, and to regulate the pressure of the said plate upon the valve, substantially as and for the purpose set forth.

2. In a steam-valve, the combination, with the plate or cap D, arranged to rest upon the valve C, and having depending flanges *i* disposed alongside the valve, and an elevation or shoulder upon the steam-cylinder, and the steam-chest B, of the approximately U-shaped yokes *l l*, pivoted to the posts *h* of the steam-cylinder A, and connected to the plate D, and the nutted adjusting-screw *o*, connected to the convergent ends of the yokes *l l*, and passed up through the steam-chest B, substantially as and for the purpose described.

3. In a steam-valve, the combination of the cylinder A, steam-chest B, valve C, cap or plate D, having depending flanges *i* arranged alongside the valve, and an elevation or shoulder of the cylinder A, the strap S, adapted to limit the upward movement of the plate D, the approximately U-shaped yokes *l*, and the nutted adjusting-screw *o*, substantially as and for the purpose set forth.

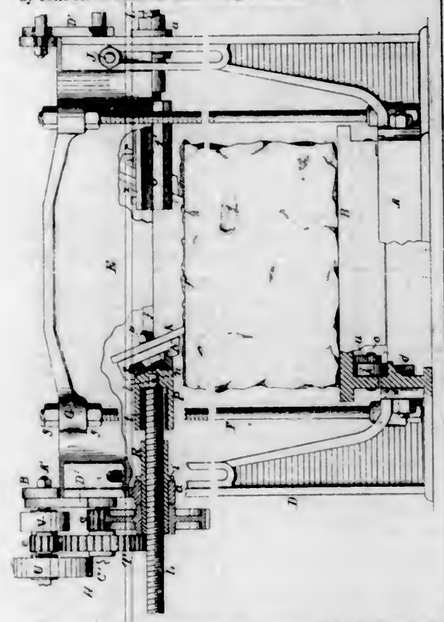
269,450. STRIKING AND REPEATING MECHANISM FOR CLOCKS. CHARLES G. ORTH and HENRY L. BRUGGEMANN, Cleveland, Ohio. Filed June 12, 1882. (Model.)



Claim.—The combination, with movements of a clock, of the disk *b*, having arm *b'*, the star *c*, having the snail *c'*, the lever *d*, with spring *d'*, the lever *e*, with its rack *e'*, arm *e²*, and spring *e'*, the lifting-lever *h*, having arm *h'* and tooth *t*, the lug *h²*, engaging with pin *p* on wheel *w*, and the angle-lever *l*, having spring *s*, all arranged to operate substantially in the manner described, and for the purpose specified.

269,451. STONE-CUTTING MACHINE. MARTIN S. OTIS, Rochester, N. Y. Filed Jan. 30, 1882. (No model.)

Brief.—The top surface of the stone, as the block is fed intermittently upon a carriage, is cut by cutters fed by screw-gearing transversely across it. The cutters are fed by independent gearing toward each other from opposite sides, and the space in the center is cut by one of them, which continues to advance after the other has begun to recede. Wedges are provided (having suitable operating mechanism) for taking the strain off from the wheel-axles when the carriage is at rest and the cutters are operating. The cross-bar, which supports and guides the cutter-holders, is vertically adjustable, and is held against the upward strain of cutting by bolts screw-threaded and having clamping-nuts.



Claim.—1. In combination, the bed-plate A, standards D, and cross-bar E, the latter provided with cross-heads O O and cutters K K, and systems of gearing H H, to drive said respective cross-heads, with supporting-rods F passing through perforations in the cross-bar E, said rods having their lower ends secured in the base of the frame, their upper ends screw-threaded and provided with clamping-nuts *g g'*, formed to clamp said cross-bar E in place, as and for the purpose set forth.

2. A machine for cutting or dressing the surface of stone, having the non-rotating cutters secured in a suitable cross-bar supported on standards, said cross-bar carrying a system of driving-gear adapted to force the cutters across the face of the stone independently of each other, the cross-bar being vertically adjustable by means of rods and standards, as shown and specified.

3. In a stone-cutting machine, the table B, mounted on rollers and formed with apertures or spaces *i'* in the ribs between the bed A and said table B, in which are inserted stiffening-blocks *a'*, substantially as shown and specified.

4. The combination, in a stone-cutting machine, of the cross-bar E, held upon standards D D D D above and away from the stone, said cross-bar being provided with opposing cross-heads O O, carrying cutters and independent sets of parallel non-rotating driving-screws L L L L, connected with the respective cross-heads and sleeve-nuts R R R R for said screws, and means to rotate the sleeve-nuts, by means of which the said cross-heads, with their attached cutters, are moved in the same or in opposite directions over the surface of the stone in the act of cutting the same.

5. The combination, with the cross-bar E, of a cross-head, O, parallel non-rotating screws L L, having their inner ends secured within said cross-head, and means to give said screws endwise motion, substantially as shown and described, and for the purpose set forth.

6. The combination, with the cross-bar E, of a cross-head, O, provided with chambers *t t*, and the screws L L, entering said respective chambers, and the sleeve-nuts R R, substantially as set forth and shown.

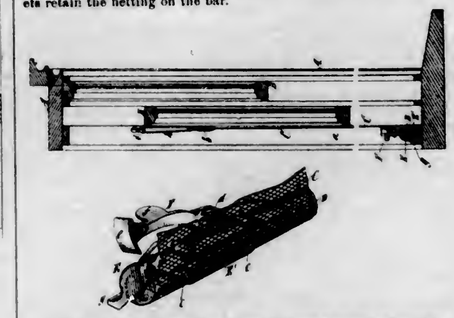
7. In combination, the cross-bar E, sleeve-nuts R R, gears S S, gear T, pinion *c*, pendulum D', studs A' and C', and pinion *e*, with means to rotate the latter, by means of which pendulum the pinion *c* may be caused to directly turn either gear S.

8. The cross-head O of a stone-cutting machine, in combination with the cutter-block N, attached to said cross-head for the purpose of holding the cutter K, and roughing-cutters F F', secured directly to the cross-head on either side of the cutter K for the purpose of removing the higher lumps or projections of the stone to prevent contact between the same and the cross-head as the latter is carried over the face of the stone, substantially as set forth.

9. In combination, the bed A, standards D D D D, and cross-bar E, the latter being provided with cross-heads O O and cutters K K, and systems of gearing H H, to operate said respective cross-heads, and non-rotating supporting-bolts F F F F for the cross-bar, passing through projections from the latter, and having their respective lower ends resting respectively in the bases of the standards, and screw-nuts *g g'*, provided for the supporting-bolts, to secure the same rigidly to the cross-bar, substantially as set forth.

269,452. WINDOW-SCREEN. ISAAC E. PALMER, Middletown, Conn. Filed Dec. 6, 1881. (No model.)

Brief.—The upper end of the screen is attached to the window-casing by means of springs on a cross-bar and at its lower end by wedging-clamps pivoted to end sockets on a roller or bar and bearing against the casing. Spring lips or clasps on the sockets retain the netting on the bar.



Claim.—1. The combination, with a screen or shade, of a roller or bar attached to one end thereof and adapted to enter between the sides of and extend across a window-casing, and a clamp or clamps attached to the end or ends of said roller or bar and adapted to be pushed downward independently of said roller or bar, after the latter is in place, so as to wedge against the side or sides of the window-casing, and so that any upward movement of said roller or bar will serve to tighten said clamp or clamps, substantially as specified.

2. The combination, with a screen or shade, of a roller or bar attached to the end thereof and adapted to enter between the sides of and extend horizontally across a window-casing, and a clamp or clamps for engaging with the side or sides of the casing, and each provided with a spring-clasp whereby it may be secured on said roller or bar, substantially as specified.

3. The combination, with a screen or shade, of a roller or bar attached to the end thereof and adapted to fit between the sides of a window-casing, a socket or sockets fitting said roller or bar, and a clamp or clamps pivoted to said socket or sockets and adapted to engage with the side or sides of a window-casing, substantially as specified.

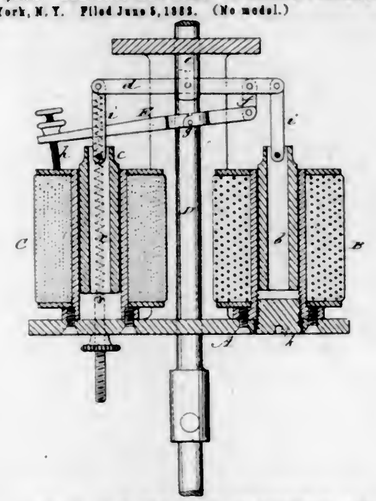
4. The combination, with a screen or shade, of a roller or bar attached to one end thereof and adapted to enter between the sides of a window-casing, and springs for attaching the other end of said screen or shade to the casing, substantially as specified.

5. The combination, with a screen or shade, C, of the strip *b*, attached thereto, the rubber straps *h*, and the roller or bar D, substantially as specified.

6. The combination of the screen or shade C; the roller or bar D, the sockets E, and pivoted clamps F, the strip *b*, and the rubber straps *h*, substantially as specified.

7. The combination of the socket E, comprising the spring-clasp E', and the pivoted clamp F, substantially as and for the purpose specified.

269,453. ELECTRIC-ARC LAMP. WILLIAM S. PARKER, New York, N. Y. Filed June 5, 1882. (No model.)

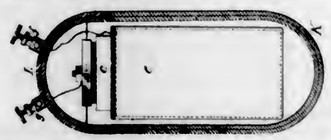


Claim.—1. In an electric lamp, the combination, with the carbon-holder, of one or more repelling electro-magnets and suitable connecting mechanism, substantially as herein shown and described, whereby the carbon will be moved and governed by the repellant action of the magnet or magnets, as set forth.

2. The combination of the magnets B C, formed of soft-iron bobbins, wound respectively with coarse and fine wire, and included in the main and branch circuit, as specified, the soft-iron cores *b c*, vibrating lever *d*, a clutch device, and the carbon-holding rod D, all as shown and described, whereby increase of magnetism of coil B causes the core *b* and its surrounding bobbin to become polarized in the same direction, so that said core is repelled.

3. The combination, with electro-magnet B and its core *b*, adapted to move freely, of the adjustable stop piece or block *h*, inserted in the lower end of said magnet, as shown and described.

269,454. GALVANIC BATTERY. CHARLES D. PARKHURST, Providence, R. I., assignor of one-half to Lewis N. Freeman, Ord, Nebr. Filed May 5, 1882. (No model.)



Claim.—1. In a galvanic battery, a depolarizing medium consisting of a mixture of carbon, black oxide of manganese, and chloride of mercury, as herein specified.

2. In a galvanic battery employing a granulated depolarizing agent and a chloride exciting-solution, the combination of chloride of mercury with the granulated depolarizer, as herein specified.

3. In a galvanic battery, the combination, with the closed case K, provided with the binding-posts *f g*, of the canvas sack *c*, containing the carbon plate and the polarizing mixture, and the zinc plates *d*, wrapped in blotting-paper and arranged on opposite sides of the sack, substantially as described, and for the purpose set forth.

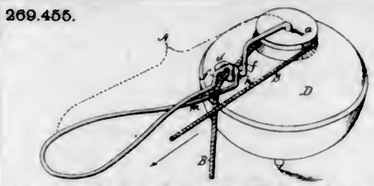
269,455. TOP-SPINNING DEVICE. WILLIAM PEARSON, Lit-wood, Pa. Filed Sept. 7, 1882. (No model.)

Claim.—1. A top-spinning handle in which are combined the following elements, namely: first, a guide for a spinning-cord; second, a device for imparting friction to the said cord; and, third, a pin or bearing on or in which a top can be rotated, substantially as specified.

2. The within-described top, in which a body of any desired form is combined with a grooved pulley, substantially as specified.

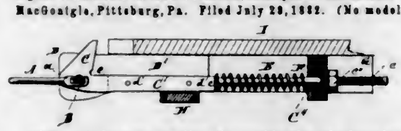
3. The combination of a handle presenting a guide or guides

269,455.



for a cord, and a device for imparting friction to the same, with a top and a grooved pulley, substantially as set forth.

269,456. CAR-COUPLING. LEVI PEATS, Canton, Ohio, assignor of one-half to John P. Rauch, same place, and Robert G. MacGonigle, Pittsburg, Pa. Filed July 28, 1882. (No model.)



Claim.—1. In a car-coupling, the combination of a draw-head, D, a hooked draw-bar, C, and a rocking pin, B, extending transversely through the draw-head and bar, with the coupling-link A, slotted at its rear end and loosely arranged on the transverse pin, substantially as described, whereby it is capable of moving laterally with respect to the draw-head.

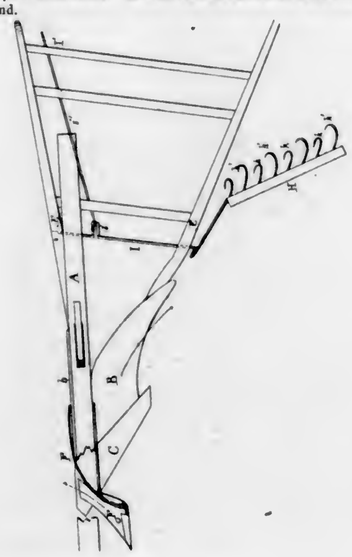
2. The combination of a draw-head, D, a hooked draw-bar, C, arranged therein, and a rocking pin, B, extending transversely through the draw-head and bar and having at one end an enlarged circular portion, B′, to which a chain is attached, with a coupling-link, A, mounted on the transverse pin, substantially as described.

3. The combination of the draw-head D, the central hooked draw-bar, C, and the transverse pin B, with the coupling-link A, having elongated slots *a* at its rear end, through which the transverse pin loosely passes, whereby the link is capable of lateral movements, substantially as described.

4. The combination of the draw-head D, the central hooked draw-bar, C, the transverse square or equivalent shaped pin B, having at one end a circular enlargement, B′, to which a chain is attached, and the coupling-link A, having slots *a* of a length greater than the thickness of the transverse pin, whereby the link can move laterally thereon, substantially as described.

269,457. PLOW. LEROY S. PROUTS, Wilmot, Ohio. Filed Apr. 6, 1882. (Model.)

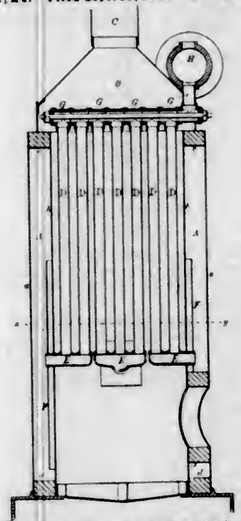
Brief.—The jointer mold-board turns in a reverse direction from the plow mold-board. A crank and handle lift the rake from the ground.



Claim.—1. In combination with a plow, a jointer having its mold-board turned in a contrary direction to the plow mold-board and extended beyond the standard so far that the turf will be dropped in or near the furrow in rear of the plow, substantially as and for the purpose described.

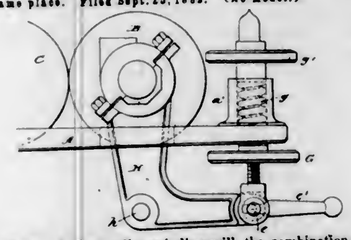
2. The combination, with a plow, of the rake H, having a flexible shank bent to form a vertical section swiveled to the plow, and provided with a crank-shaft and an adjusting rod or handle, substantially as and for the purpose described.

269,458. SAFETY STEAM-BOILER. GEORGE T. PILLINGS, Baltimore, Md. Filed Sept. 11, 1882. (No model.)



Claim.—A practically upright boiler, which consists of a shell composed of two wrought-iron sheets connected at their ends by separating-rings and rivets, inclosing a system of tubes connected at their lower end to the water-space of the boiler, separately or in groups, by means of suitable beaters, and at their upper end to a steam-drum at a point above the water-line, substantially as specified.

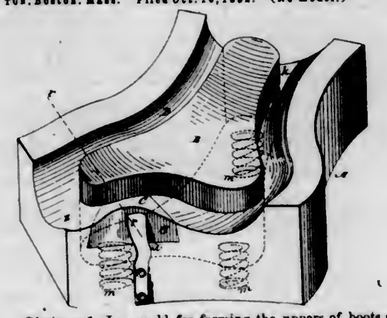
269,459. ROLLER GRINDING-MILL. J. MORTON POOLE, JR., Wilmington, Del., assignor to the J. Morton Poole Company, same place. Filed Sept. 25, 1882. (No model.)



Claim.—1. In a roller grinding-mill, the combination, with the movable roller bearings and the adjusting screws and springs, of the intermediate connecting and operating mechanism, consisting of the transverse shaft E, upon which the inner ends of the adjusting-screws are loosely mounted, and the eccentrics *e e*, mounted on said shaft and working in suitable bearings through the bars or levers connected to the movable roller bearings, constructed and arranged substantially in the manner as and for the purpose herein shown and described.

2. In a roller grinding-mill, the combination of the movable roller bearings, pivoted bell-crank levers having bearings through their free ends, the transverse rock-shaft having eccentrics working in said bearings of the bell-crank levers, the adjusting-screws having bifurcated arms, through which said shaft passes, and the springs, the several parts arranged relatively to each other substantially in manner as and for the purpose herein shown and described.

269,460. MOLD FOR BOOTS AND SHOES. ALBERT F. PERSTON, Boston, Mass. Filed Oct. 14, 1882. (No model.)

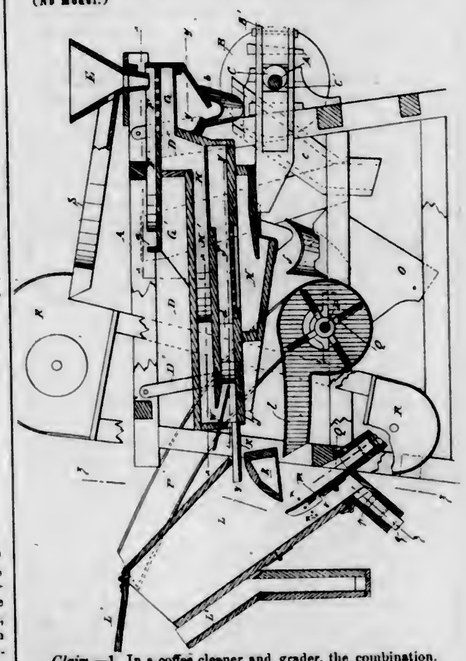


Claim.—1. In a mold for forming the uppers of boots and shoes, the bed-die A, provided with the auxiliary or yielding die B, mounted in a recess or mortise in the die A, substantially as and for the purpose specified.

2. In a mold for forming the uppers of boots and shoes, the bed-die A, provided with the slide C, substantially as and for the purpose set forth.

3. In a mold for forming the uppers of boots and shoes, the bed-die A, auxiliary die B, mounted in a recess or mortise in the die A, and slide C, combined and arranged to operate substantially as described.

269,461. MACHINE FOR CLEANING AND GRADING COFFEE. ELAM RAKESTRAW, Cambridgeport, Mass. Filed Sept. 9, 1882. (No model.)



Claim.—1. In a coffee cleaner and grader, the combination, with the reciprocating screen-shoe D, of the box *k*, having a curved top, the trunk L, the hinged wings *m*, the chute Q′, the chutes *o* and *o′*, the hinged cover L′, the adjustable chute L², and the blower Q, substantially as herein shown and described, and for the purpose set forth.

2. In a coffee cleaner and grader, the combination, with the reciprocating screen-shoe D, of the box *k*, having a curved top, the trunk L, the hinged wings *m*, the chute Q′, the chutes *o* and *o′*, the

chutes *p* and *p'*, provided with the hinged gates *q* and *q'*, and the blower Q, substantially as herein shown and described, and for the purpose set forth.

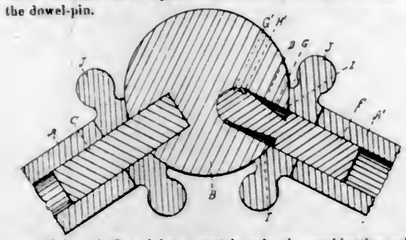
3. In a coffee cleaner and grader, the combination, with the reciprocating screen-shoe D, of the chutes N and *f*, the spout O, the suction-fan P, and the swinging gates *g* and *h* in the spout O, substantially as herein shown and described, and for the purpose set forth.

4. In a coffee cleaner and grader, the combination, with the reciprocating screen-shoe D, of the trunk L, the box *k*, the hinged wings *m*, the chutes *o* and *o'* and *p* and *p'*, the chute Q', and the gate T in the lower end of the chute Q', substantially as herein shown and described, and for the purpose set forth.

269,462. JOINTED CURTAIN-POLE FOR BAY-WINDOWS.

CHARLES B. RAWSON, Worcester, Mass. Filed Apr. 8, 1882. (No model.)

Brief.—The end of one pole is made slightly cup shape to fit the ball, and a dowel-pin with a spherical end fits in a recess in the ball. A rubber band is placed in a recess in the spherical end of the dowel-pin.



Claim.—1. In a jointed curtain-pole, the combination, with the ball B and attached pole end A, of the pole A', having the concave or cupped end I I and the tongue or pin G, as described, and for the purpose set forth.

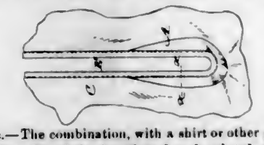
2. In a jointed curtain-pole, the combination, with the ball B and attached pole A, of the movable pole A' and pin or tongue G, having tapering sides G', as described, and for the purposes set forth.

3. In a jointed curtain-pole constructed as described, the pin or tongue G, having a groove, H, and a rubber band, H', as and for the purposes set forth.

4. The combination, with a ball, B, having one or more radial holes, D, of a corresponding number of curtain-pole ends A', each having the concave or cupped end I I, the tapering pin G, with a groove, H, and rubber band H', all arranged and constructed as described, and for the purposes set forth.

269,463. GUSSET FOR WEARING-APPAREL.

CHARLES OWEN REED, Chicago, Ill. Filed July 8, 1882. (No model.)



Claim.—The combination, with a shirt or other garment provided with a slit, of the lengthened and pointed ellipse-shaped gusset adapted to be folded on its longitudinal axis, and to have its round edges only stitched to the edges of the slit of the garment, between the body of the same and the hem, substantially as herein shown and described.

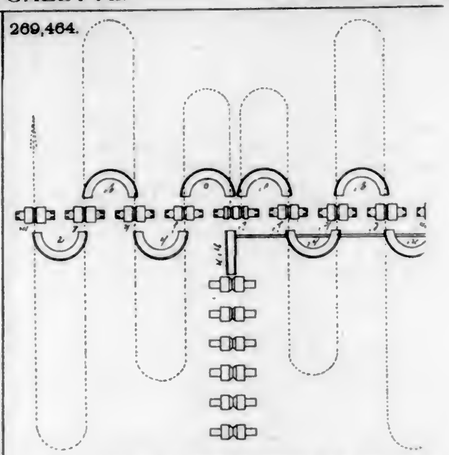
269,464. WIRE-ROLLING MILL.

JACOB REESE, Pittsburg, Pa. Filed June 7, 1882. (No model.)

Claim.—1. A plant for rolling wire-rods, consisting of a continuous train, a rod-finishing train arranged in single passes end to end and in front of the continuous train, and an interposed guide-trough for conducting the blank from the continuous rolls to the finishing-train, substantially as and for the purpose specified.

2. A plant for rolling wire-rods, consisting of a continuous train, a rod-finishing train arranged in single passes end to end and in front of the continuous train, and a series of curved or semi-annular flanged guide-troughs arranged between the several passes of the finishing-train, substantially as and for the purpose specified.

3. A plant for rolling wire rods, consisting of a continuous train, a rod-finishing train arranged in single passes end to end and in front of the continuous train, a guide-trough interposed between the continuous train and the rod-finishing train, and a series of curved or semi-annular flanged guide-troughs arranged between the several passes of the rod-finishing train, substantially as and for the purpose specified.



4. A plant for rolling wire rods, consisting of a continuous train, two rod-finishing trains arranged in front of the continuous train, an interposed guide-trough, and shifting mechanism for moving the guide-trough, whereby the blanks may be guided alternately into one or the other finishing-train, substantially as and for the purpose specified.

269,465. PROCESS OF CONVERTING CAST-IRON INTO INGOT-IRON AND INGOT-STEEL.

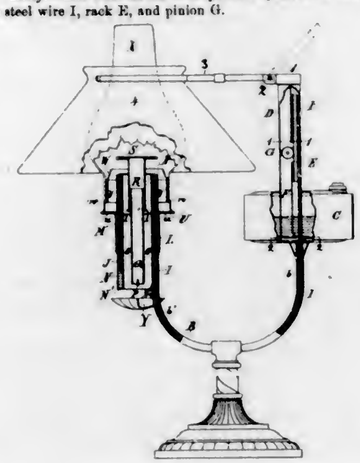
JACOB REESE, Pittsburg, Pa. Filed Mar. 25, 1881. (No specimens.)

Claim.—In the manufacture of pig-iron into cast-steel or ingot-iron, either by the Bessemer or open-hearth process, after the iron has been decarburized and is yet in a fluid condition, the process of deoxidizing the iron and combining with the same a definite amount of manganese, which consists in adding silicious iron, as described, and, after the bath of iron has been thus deoxidized, adding the desired amount of manganese or manganese and carbon, whereby a resulting metal is obtained substantially free from silicon and having the desired definite amount of manganese or manganese and carbon, as set forth.

269,466. LAMP.

WILLIAM B. ROBIES, Cincinnati, Ohio, assignor to the Alba Light Company, same place. Filed June 21, 1882. (No model.)

Brief.—The wick-carrier L is operated by means of the flexible steel wire I, rack E, and pinion G.



Claim.—1. In combination with the inverted siphon-pipe B, connecting the wickway with the oil-font, the flexible rod or needle I, made fast to the wick-carrier and traversing said pipe and font to a point of convenient manipulation, substantially as and for the purpose set forth.

2. The combination, with the inverted siphon-duct B, that connects an elevated font with the wickway, of flexible rod or needle I, which occupies said font, duct, and wickway, and which connects at one extremity with a means for giving it a longitudinal movement, substantially as and for the purpose set forth.

3. In combination with the inverted siphon-duct B, connecting the distant font C with the wickway N N' N'', the font C, provided with the hollow standard D, containing the rack E, carrying needle I, the guide F, pinion G, and operating-handle H, substantially as and for the purposes specified.

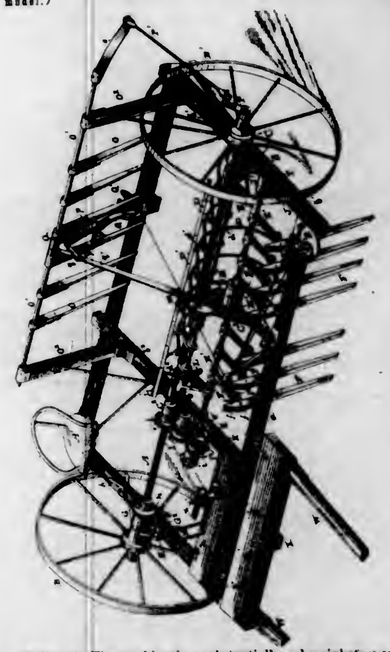
4. In combination with the column or housing D, the needle-operating mechanism and the bracket 1, with attached clasp or holder 3 of lamp-shade, substantially as set forth.

5. The described combination, with elevated font, inverted siphon-duct, and wickway, of the included wick-operating needle I, and attached rack E, and pinion G, substantially as set forth.

6. The wick-tube L, provided with hooks *l* and orifices *l'*, in combination with the wick-carrier J, having flange *j* and notches *j'*, and the attached needle I, substantially as set forth.

269,467. GLEANER AND BINDER.

ALEXANDER ROSS and SAMUEL J. PARKER, Dansville, N. Y. Filed June 23, 1881. (No model.)



Claim.—1. The combination, substantially as hereinbefore set forth, of the axle, the driving-wheel, having clutch-connection therewith, the oscillating gavel-gatherer or gleaner-rake, the swinging lifter, the lifter rock-shaft, and mechanism by which the rock-shaft is actuated to cause the lifter to act with the rake to elevate the gavel in rear of the axle, for the purpose described.

2. The combination, substantially as hereinbefore set forth, of the axle, the driving-wheel, clutch mechanism connecting them, the oscillating gavel-gatherer or gleaner-rake, its clutch-controlled actuating mechanism, the clutch-controlled swinging gavel-lifter, acting with the rake to hold and elevate the gathered grain to the binding-level and there supporting it, and the swinging stripper by which the grain is cleared from the rake.

3. The combination, substantially as hereinbefore set forth, of the axle, the supporting-wheels, the main frame, the oscillating rake, the gavel-lifter, its rock-shaft, supported in the main-frame boxes in advance of the axle, and means by which the lifter is caused to act with the rake to hold the grain, swing upward beneath and in rear of the axle, and elevate the gavel, for the purpose described.

4. The combination of the oscillating gavel-gatherer or gleaner-rake, the swinging jointed lifting-fingers, acting with the rake to hold and elevate the gathered grain to the binding-level and there supporting it, and the swinging stripper by which the grain is cleared from the rake, substantially as and for the purpose hereinbefore set forth.

5. The combination, substantially as hereinbefore set forth, of the gleaner-rake, the series of jointed lifting-fingers, mechanism for rocking the rake, and mechanism for actuating the lifting-fingers, whereby they are swung toward the rake, rendered rigid against downward pressure, projected beneath a gathered gavel and between the rake-teeth, and caused to act at first in connection with the rake to lift the gavel, and then brought to rest to support it in its elevated position while the rocking movement of the rake continues to raise its teeth clear of the gavel.

6. The combination of the axle, the driving-wheel having clutch-connection therewith, the oscillating rake-teeth crossing above the axle, their shaft in advance of the axle, means for actuating the rake-teeth, the jointed lifting-fingers, their rock-shaft in advance of the axle and rake-shaft, and means for actuating said rock-shaft to cause the lifting-fingers to rock backward and upward beneath and in rear of the axle, and act with the rake-teeth to hold and elevate a gavel, substantially as and for the purpose hereinbefore set forth.

7. The combination of the axle, the supporting-wheels, clutch mechanism connecting the axle with one of said wheels, the rocking gleaner-rake, its clutch-controlled actuating mechanism, the swinging stripper-fingers, the rock-shaft upon which they are mounted above and in rear of the rake-shaft, and mechanism by which the rock-shaft is actuated from the axle to cause the stripping-fingers to swing toward the rake-shaft, and then away from it, with their ends projecting between the rake-teeth as the rake is rocked upward, substantially as and for the purpose hereinbefore set forth.

8. The combination of the axle, the driving-wheel having clutch-connection therewith, the series of jointed lifting-fingers, their rock-shaft, mechanism by which said rock-shaft is actuated to cause the lifting-fingers to swing backward and upward beneath and in rear of the axle in elevating the grain, means by which said fingers are held rigid against yielding to downward pressure when acting on the grain, and mechanism by which they are locked to support the gavel in its elevated position, substantially as and for the purpose hereinbefore set forth.

9. The combination of the series of swinging fingers by which the gavel is supported, mechanism by which they are locked to support the gavel in the binding position, and the series of swinging fingers by which the gavel is moved along the supporting-fingers against the binding material and toward the band-securing mechanism, substantially as hereinbefore set forth.

10. The combination of the main axle, the driving-wheel having clutch-connection therewith, mechanism under the control of the driver for actuating this clutch-coupling, the swinging lifting-fingers, their rock-shaft, the clutch-coupling by which the rock-shaft is normally connected with gearing actuated by the main axle, mechanism by which the rock-shaft clutch-coupling is automatically tripped to disconnect the rock-shaft and said gearing, the crank-arm on the rock-shaft, and the segmental plate on the axle on which the crank-arm bears to temporarily sustain the lifting-fingers in the elevated position, substantially as and for the purpose hereinbefore set forth.

11. The combination, substantially as hereinbefore set forth, of the main axle, the lifting-fingers, their rock-shaft, the rocking gleaner-rake, mechanism by which to temporarily sustain the lifting-fingers in their elevated position, and the gearing and clutch-coupling connection between the gleaner-rake and rock-shaft of the lifting-fingers, whereby when the lifting-fingers are released by their sustaining mechanism they and the rake swing into their normal positions, and the gearing by which the lifting-fingers and rake are connected becomes unclutched, for the purpose described.

12. The combination of the gleaner-rake, its rock-bar, means by which said bar is acted upon to elevate the rake-teeth, the mutilated pinion mounted on the rake-shaft and connected with the rock-bar, the rock-shaft of the lifting-fingers, the pinion having clutch-connection with the rock-shaft, and the pinion by which said clutch-connected pinion is geared with the pinion on the rake-shaft, substantially as and for the purpose hereinbefore set forth.

13. The combination of the axle, the drive-wheel having clutch-connection therewith, the lifting-fingers, their rock-shaft, the gearing and its clutch-coupling I', connecting the axle and rock-shaft for raising the fingers, means by which to temporarily

sustain the lifting-fingers in the position to which they are raised, the gleaner-rake, its shaft, the pinion mounted on said shaft and rocked by connection with the rake-teeth, the pinion loosely mounted on the rock-shaft of the lifting-fingers, the clutch-coupling m', by which this pinion is engaged with the rock-shaft after its fingers are raised, and the idle-pinion between the pinions on the rock-shaft and rake-shaft, these members being and operating substantially as hereinbefore set forth.

14. The combination of the jointed lifting-fingers, their rock-shaft, the treadle-shaft, the toe thereon, and the stop-arm on the rock-shaft, substantially as and for the purpose hereinbefore set forth.

15. The combination of the lifting-finger shanks or rigid portions, the jointed sections of the fingers, the rock-shaft to which said rigid portions are connected, and by which the fingers are held above the ground when out of action, means by which said sections are held against yielding to downward pressure when acting on the grain, and means for actuating the rock-shaft to depress the lifting-fingers and cause them to rock backwardly and upwardly, substantially as and for the purpose hereinbefore set forth.

16. The combination, substantially as hereinbefore set forth, of the axle, the driving-wheel having clutch-connection therewith, the oscillating gleaner-rake, means for actuating it, the jointed swinging lifting-fingers, their rock-shaft, means by which said rock-shaft is actuated to swing the lifting-fingers backwardly and upwardly to act with the rake in elevating the grain to the binding-level and there supporting it, means by which the lifting-fingers are held rigid against downward pressure when acting on the grain, and the rocking binder-arm, for the purpose described.

17. The combination of the stripping-fingers, their rock-shaft, the binder-arm, the rock-shaft arms to which the binder-arm is pivoted, and the bar to which the binder-arm is linked at its upper end, substantially as and for the purpose hereinbefore set forth.

18. The combination of the rock-shaft of the lifting-fingers, the gleaner-rake, the gearing and clutch-connection between the rake and said rock-shaft, the crank of the rock-shaft, the rack-bar connected therewith, the pinion driven by the rack-bar, and the shaft by which to actuate the band-securing mechanism, substantially as hereinbefore set forth.

19. The combination of the main frame, the central bracing-casting and box-bracket, the axle, the rake-shaft, and the lifting-finger rock-shaft, substantially as and for the purpose hereinbefore set forth.

20. The combination of the main frame, the stripping-finger rock-shaft, the brace-bar connected with said rock-shaft, and the central box-bracket to which the brace-bar is attached, substantially as and for the purpose hereinbefore set forth.

21. The combination, with the front and rear bars and the cross-bars at the inner end of the main frame, of the truss-bars, the perforated castings, and the tie-rods, substantially as and for the purpose hereinbefore set forth.

269,468. CRAYON AND ERASER HOLDER. WILLIAM ROUNDS, Chester, Vt. Filed Mar. 28, 1882. (Model.)



Claim.—1. A combined crayon and eraser holder consisting of crayon-holding arms or jaws and a clamp for holding the eraser, said jaws and clamp being closed by a single clamping-band.

2. A combined crayon and eraser holder, consisting of crayon-holding jaws united by a curved portion, forming a clamp or holder for the eraser, and a clamping-band that secures both the crayon and eraser holders, substantially as set forth.

3. In a combined crayon and eraser holder, the concaved spring-jaws A A, curved portion B, uniting said jaws and forming a clamp or holder for the eraser D, and the clamping-band C, substantially as described and shown.

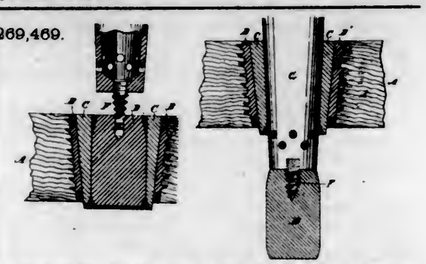
269,469. CLOSING TAP-HOLES IN CASKS. HENRY H. RUNYER, Boston, Mass. Filed Feb. 13, 1882. (No model.)

Claim.—1. A driving-faucet having a spike or screw on its entering end, adapted to enter and retain the plug and to draw the same back into the hole, substantially as described.

2. A driving-faucet having a spike or screw on its entering end, in combination with a plug adapted to be pierced and held by the spike or screw, the whole being adapted to the bung or vent hole of a beer-barrel, substantially as described.

3. In combination with a faucet having a spike or screw on

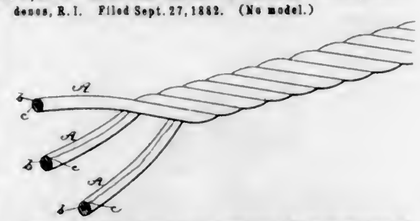
269,469.



its entering end, a plug formed of material adapted to be entered and held by the said spike or screw, and said plug being tapered at its outer end, and the whole adapted to a bung or vent hole, substantially as described.

4. In combination with a faucet having a spike or screw on its entering end, a plug formed of material adapted to be entered and held by the spike or screw, and provided with a hole to enter the faucet, the whole being adapted to a bung or vent hole, substantially as described.

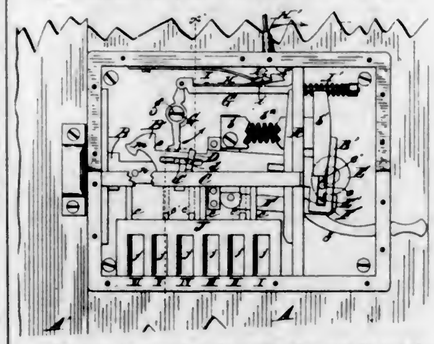
269,470. ELECTRIC CABLE. WILLIAM H. SAWYER, Providence, R. I. Filed Sept. 27, 1882. (No model.)



Claim.—1. An electric cable consisting of an assemblage of insulated wires each of which is provided with a longitudinal wrapper or sheath formed of pliable sheet metal folded around the wire and having its edges meeting on one side thereof, said wires being twisted together with the joints of their metallic sheathing-strips on their inner surfaces and concealed from view, substantially as described.

2. An electric cable composed of an assemblage of insulated wires each provided with a longitudinal sheathing-strip of pliable sheet metal folded around the wire and having its edges meeting on one side thereof, said sheathed wires being twisted or coiled around an unsheathed central wire with their sheathing joints turned inwardly and impinging against said central wire, substantially as described.

269,471. PERMUTATION-LOCK. CHARLES M. SCHWARTS and WILLIAM CARTER, Lexington, Ky., assignors of one-third to Moses Kaufman, same place. Filed July 3, 1882. (No model.)



Claim.—1. In a door-lock, the combination, with the bolt B, of the drop-bar C, operated by the permutation-pins c, and the secondary bolt B', connected to the bar C, substantially as herein set forth.

2. In a door-lock, the combination of the bolt B, the secondary bolt B', and the drop-bar C with the permutation mechanism,

means for connecting and disconnecting the bolts B B', and the alarm mechanism, adapted to be operated by the secondary bolt, substantially as described.

3. In a door-lock, the combination of the permutation mechanism, the bolt B, the drop-bar C, and the secondary bolt B' with the outer knob having the cam E', and means for connecting the permutation mechanism with and disconnecting it from the bolt B, substantially as described.

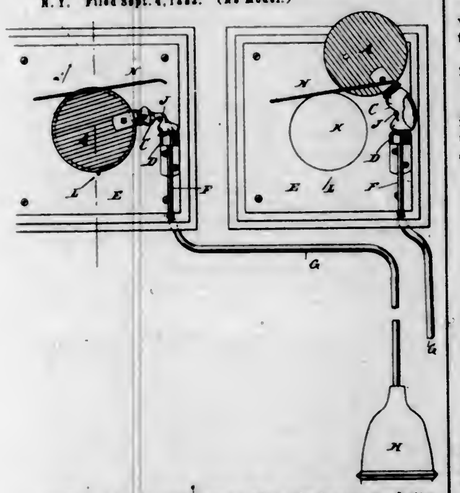
4. The combination of the bolt B, the permutation mechanism, the drop-bar C, the secondary bolt B', and means for connecting and disconnecting the bolt B and permutation mechanism, substantially as described.

5. The combination of the bolt B, the permutation mechanism, the drop-bar C, the secondary bolt B', and the pivoted bar F, for connecting and disconnecting the bolt B and the secondary bolt B' and permutation mechanism, substantially as described.

6. In a door-lock, the combination of a main bolt, B, and permutation mechanism detachably connected together, with the secondary bolt B', the inner knob connected with the latter, and means to permit the drawing of the main bolt by the inner knob independent of the permutation mechanism, substantially as described.

7. The combination of the main bolt B, the secondary bolt B', the drop-bar C, connected with the latter, the vertical pins c c', the inclined blocks j, and means for adjusting the blocks and moving the pins in a vertical plane, substantially as described.

269,472. CAMERA-SHUTTER. CHARLES H. SCOFIELD, Utica, N. Y. Filed Sept. 4, 1882. (No model.)



Claim.—1. The combination, with a swinging camera-shutter, of a piece of flexible tubing bent and attached to the same, and devices for forcing air into the said tube for the purpose of expanding, stiffening, and straightening the same, substantially as herein shown and described, and for the purpose set forth.

2. The combination, with a swinging camera-shutter, of a piece of expansible and contractible tubing connected directly to the shutter and serving as the means for hinging or pivoting the shutter, said tubing being connected with devices for forcing air or gas thereinto, substantially as described, and for the purpose set forth.

3. The combination, with a camera-shutter, A, of a piece of flexible tubing attached to the same, a device for forcing air into the said tubing, and a stud against which the said tubing rests, substantially as herein shown and described, and for the purpose set forth.

4. The combination, with the camera-shutter A, of the flexible tubing C, attached to the same, the stud J, against which the tubing C rests, the cup D, to which the tubing C is attached, and a device for forcing air into the tubing, substantially as herein shown and described, and for the purpose set forth.

5. The combination, with the camera-shutter A, of the flexible tubing C, the stud J, the cup D, the tube G, and the bulb H, substantially as herein shown and described, and for the purpose set forth.

6. The combination, with the camera-shutter A, of the flexible tubing C, the stud J, the cup D, the tube F, extending from the cup D to the front of the plate E, the tube G, connected with the tube F, and the bulb H, attached to the tube G, substantially as herein shown and described, and for the purpose set forth.

7. The combination, with the camera-shutter A, of the flexible tubing C, the stud J, a device for forcing air into the tubing C, and the check-stud L, substantially as herein shown and described, and for the purpose set forth.

8. The combination, with the camera-shutter A, of the flexible tubing C, the stud J, a device for forcing air into the tubing C, and the check and guide-frame N, substantially as herein shown and described, and for the purpose set forth.

269,473. UNIVERSAL JOINT. EPHRAIM SHAY, Boyne, Mich. Filed Mar. 31, 1882. (No model.)



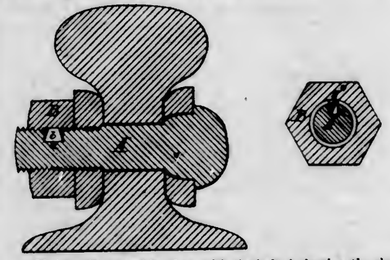
Claim.—1. The spherical cavity a, formed by the walls a^3 and a^4, and the flanges a' and a^2, constructed and arranged as and for the purposes substantially as set forth.

2. The center-piece C, provided with the annual grooves c and c', concentric to a common center, as and for the purposes substantially as set forth.

3. The heads A and A', forming the cavity a, and provided with the flanges a' and a^2, in combination with the common center-piece C, as and for the purposes substantially as set forth.

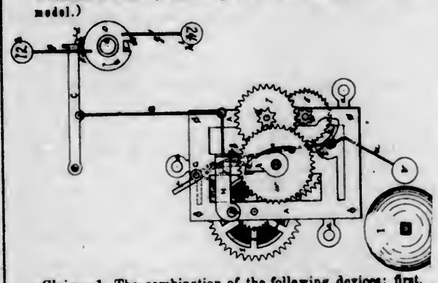
269,474. NUT-LOCK. JOHN SHERMAN, Cleveland, Ohio. Filed May 16, 1882. (No model.)

Brief.—The key is of spring-steel, and the bottom of recess in bolt is curved, so that by using considerable force in unscrewing the nut the key bends and the bottom of it slides to opposite side of recess, thus allowing nut to be easily removed



Claim.—The combination, with the bolt A, having the shouldered recess a, of the taper-sided key b, secured in said recess and operating to lock the nut B, substantially as and for the purpose specified.

269,475. ALARM APPARATUS FOR EIGHT-DAY CLOCKS. WILLIAM D. SMITH, Pittsburg, Pa. Filed Oct. 9, 1882. (No model.)



Claim.—1. The combination of the following devices: first, a clock or equivalent time-movement; second, an alarm apparatus consisting of a train of wheels operated by a spring independently of the time-movement, a starting-wheel geared mediately or immediately with the escapement which operates the alarm, a spring-stop on said wheel to arrest the same at the end of each revolution,

and a locking arm or rod attached to the escapement; and, third, a lever connected with a time-movement, substantially as described, whereby the lever is moved at regular intervals in one direction to engage the locking arm or rod of the alarm and arrest its motion, and in the other direction to release the locking arm or rod and permit of the operation of the alarm, and also to arrest the motion of the starting-wheel and stop the alarm at the end of such revolution of the starting-wheel, substantially as described.

2. In an alarm apparatus having a train of wheels actuated by a mainspring independently of the time-movement of a clock, the starting-wheel *w* and spring-stop *p*, in combination with lever H, with its detent for arresting the motion of the wheel *w* when it has completed one revolution, and pin *j*, for locking the alarm when the lever H is raised, said lever being raised and lowered at regular intervals of time by means of the independent time-movement, substantially as described.

3. The combination of an alarm apparatus, operated by a mainspring or otherwise independently of a time-movement or clock, with a starting-wheel, *w*, gearing with the train of wheels of the alarm apparatus, and a lever, H, or equivalent device operated by the time-movement, for arresting the revolution of the wheel *w* and starting it in operation again, substantially as described.

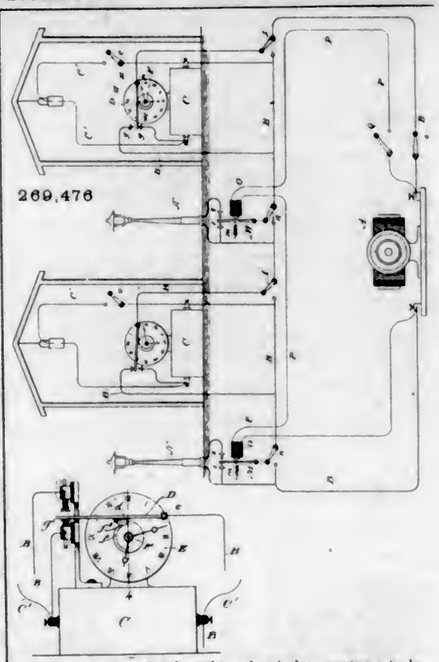
4. The combination of the starting-wheel *w*, having a spring-stop, *p*, with the detent-lever H, said lever and wheel being actuated by different and independent mechanisms, substantially as and for the purposes described.

5. The combination of the circular disk D and cam-disk E in the hour-hand shaft of the time-movement, the disk D having pins *i i'* projecting from diametrically-opposite points of its circumference, and the disk E having a cam-projection equal in height to the pins *i i'*, in combination with a lever, C, connected with the starting device of an alarm apparatus, the free end of the lever resting upon the peripheries of the disks D and E, whereby the disk D is caused to complete one revolution in twenty-four hours, while the disk E, moving with the hour-hand of the time-movement, makes one revolution in twelve hours, substantially as described.

6. In an alarm apparatus, the parallel disks D and E on the main or hour-hand shaft of the time-movement, each disk having a notch in its circumference, one disk revolving with the hour-hand in twelve hours and the other revolving in twenty-four hours, substantially as described, in combination with a lever, C, connected with the starting device of an alarm independently operated by clock-work or otherwise, the free end of which lever rests upon the peripheries of said disks, for the purpose of starting the alarm by the motion of the lever C at intervals of twenty-four hours.

7. In an alarm apparatus, the combination, with the two notched disks D and E, revolving one in twelve and the other in twenty-four hours, of the wires *g g'* and plate *h h'*, or equivalent device, for the purpose of indicating the proper relative position of the disks, so that the notches in the disks may coincide and the alarm be set in operation within either twelve or twenty-four hours, as may be desired, after the alarm has been set, substantially as hereinbefore described.

269,476. SYSTEM FOR UTILIZING TIME-SWITCHES FOR ELECTRIC CIRCUITS. ELI T. STARR, Philadelphia, Pa., assignor of one-half to Wm. J. Peyton, Washington, D. C. Filed Nov. 13, 1882. (No model.)

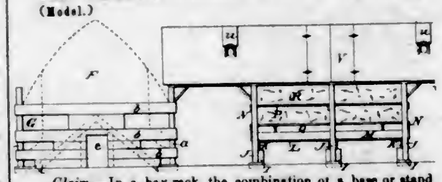


Claim.—1. The combination of a switch forming part of an electric circuit, an apparatus to be acted upon by the electric current, and automatic mechanism acting by direct mechanical action upon said switch so as to direct the current through or around said apparatus, (in contradistinction to acting through an electric circuit,) said automatic mechanism being provided with an adjustable setting device, substantially as described, and with an adjustable connection between said device and the shaft of said automatic mechanism which carries it, the combination being and acting substantially as described, whereby the apparatus to be acted upon by the current is automatically inserted in and withdrawn from the circuit by direct-acting mechanism, while the period at which said apparatus is put into the circuit to be acted upon, as well as the time the apparatus remains subject to the action of the current, may be varied.

2. The combination, substantially as hereinbefore set forth, of a switch forming part of an electric circuit, an electric clock to control said switch, a clock to control said switch-controlling clock, and an independent circuit including said clocks and a generator of electricity.

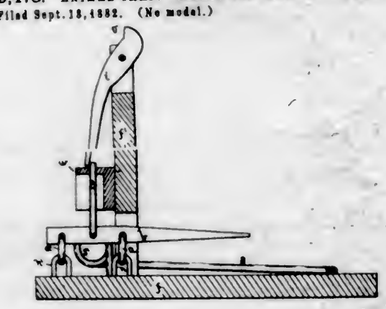
3. The combination, substantially as hereinbefore set forth, of a generator of electricity, a circuit to conduct the current of said generator, a series of independent electrical apparatuses to be worked by said current, a series of switches to control the admission of said apparatuses to said circuit, a series of electric clocks to control said switches, a clock at a central station to control said switch-controlling clocks, and an independent circuit including said clocks and a source of electricity.

269,477. COMBINED HAY-RACK, STOCK FEEDER, AND SHELTER. SAMUEL STONER, Lancaster, Kans. Filed Apr. 14, 1880. (Model.)



Claim.—In a hay-rack, the combination of a base or stand having two sloping sides arranged like a roof, with the lower edge of each side resting upon the ground, and a pen without cover, whose walls surround the stand and rise above the sloping sides, and said walls having an opening leading to the space *e* below the stand, and another opening, G, to give access to hay above the stand, as set forth.

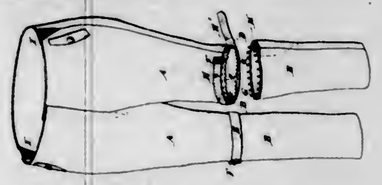
269,478. ANIMAL-TRAP. GEORGE STOWE, Bracesville, Ohio. Filed Sept. 18, 1882. (No model.)



Claim.—1. In an animal-trap, the links *a a'*, in combination with trigger *b*, spring *c*, and pin *e*, substantially as and for the purpose described.

2. The screw *e'*, in combination with spiral spring *c*, adjustably supported by the threads of the screw, pin *e*, and trigger *b*, substantially as and for the purpose described.

269,479. PANTALOONS. JOSEPH T. STRETCH and JAMES G. MCCORMICK, Philadelphia, Pa.; said Stretch assignor to said McCormick. Filed Mar. 27, 1882. (No model.)



Claim.—1. Pants in which the legs of the same from the knees down are detachably connected to legs above the knees, by which the pants may be changed from long pants to knee-breeches, or the reverse, substantially as and for the purpose specified.

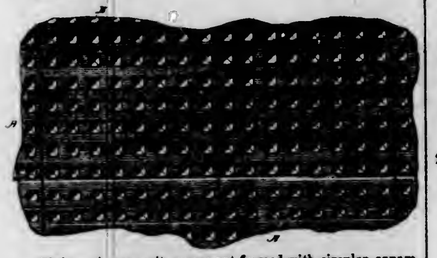
2. Pants having the legs of the same from the knees down made detachable with reference to the legs above the knees, in combination with a band about the seams around the knees, substantially as and for the purpose specified.

3. Pants having the legs of the same from the knees down made detachable with reference to the legs above the knees, and provided with pockets in said detachable pieces, in combination with a band about the seams around the knees to cover said seams and entrance to the pockets, substantially as and for the purpose specified.

4. In pants, the pieces L and M, in combination with hooks *l* and eyes *m*, by which they are hooked together, substantially as shown.

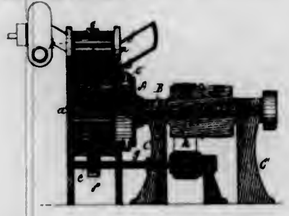
5. In pants, the combination of the upper parts of legs A, joined together at top, with the lower parts of legs B, piece C, hooks G, eyes D, band E, having buckle F, and free end E', substantially as shown and described.

269,480. COMPOSITE PAVEMENT. PETER STUART, Edinburgh, County of Mid-Lothian, Scotland. Filed May 22, 1882. (No model.)



Claim.—A composite pavement formed with circular, square, or analogous depressions of equal or nearly equal diameter in each direction, and with even or level margin on the pavement surface, to adapt them to operate in the manner described.

269,481. ATTRITION-MILL. THOMAS L. STURTEVANT, Framingham, assignor of part of his right to Charlotte J. Bowker, Boston, Mass., and E. Lewis Sturtevant, Geneva, N. Y. Filed Apr. 26, 1882. (No model.)



Claim.—1. In attrition-mills of the class before mentioned, the combination, with the rotary head carrying the moving portion of the unground material and the receiver containing the comparatively stationary unground portion thereof, of a movable part to such receiver for removing the ground portions of the material, substantially as set forth.

2. The combination, with the rotary head and housings, of the rotary receiver provided upon its inner periphery with cells to receive the ground portions of the material, substantially as described.

3. The combination, with the receiver, rotary head, and the adjacent housing or wall of the receiver, of the adjustable tubular lining closely fitting the bore of the rotary head and the opening in the housing opposite such head, substantially as explained.

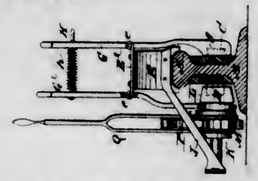
4. The rotary recessed head supported and driven by a suitable shaft, in combination with said shaft and the receiver composed of the housings and the rotary ring-plate, substantially as explained.

5. The combination, with the rotary recessed head, the housings, and ring-plate, of the anti-friction rolls constituting the support of the said elevator, substantially as stated.

6. The combination of the rotary head, the receiver, and a device for stirring or agitating the bulk of unground material in such receiver, substantially as explained.

7. The combination of the receiver D with head A, having removable bushing *c*, whereby the edge of the head nearest said receiver may be removed and replaced as fast as worn.

269,482. WRENCH. LLOYD H. SWAN, Oxford, Ind. Filed Apr. 28, 1882. (No model.)



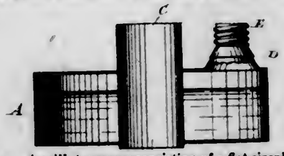
Claim.—1. In a wrench for fastening rail-joints, the combination, with the upright G, having a bolt-head socket, *g*, the upright G', having an opposite bearing for the wrench-shaft K, and the socket L, of the shoe E and the cross-tie E', as shown and described.

2. The combination of the uprights G G' and the sockets *g* L with the shoe E, tie E', and spring A, as shown and described.

3. The combination of the uprights G G', the sockets *g* L, the shoe E, and tie E' with the yoke J and shaft K, as shown and described.

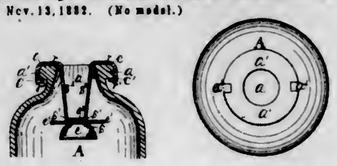
4. The combination of the holding-frame G *g* G' E E' J with the ratchet-wrench consisting of a socket, L, shaft K, lever Q, ratchet P, and wheel M, as shown and described.

269,483. MILK-TEMPERER FOR CHURNS. WILLIAM H. SWINROAD, Cherokee, Ala. Filed June 26, 1882. (No model.)



Claim.—A milk-temperer consisting of a flat circular metallic vessel, A, made water-tight, and having the central sleeve, C, extending above it, whereby the dasher-rod may pass through it loosely and it may rest on the dasher, for the purpose specified.

269,484. BOTTLE-STOPPER. WILLIAM SYLVESTER, Pittsburg, Pa., assignor to himself and Robert Liddell, same place. Filed Nov. 13, 1882. (No model.)

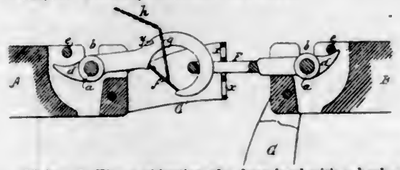


Claim.—1. A bottle, A, having an exterior bead, *a'*, around its mouth, in combination with stopper E and bail S, the latter having two divergent arms, s^2 s^2, unconnected at their upper ends, such ends being bent outward, forming hooks *r'*, adapted to engage the under shoulder of the bead *a'* when the stopper is pushed down, substantially as and for the purposes set forth.

2. The bottle A, having an exterior bead, *a'*, at its mouth, with notches a^2 therein on opposite sides, in combination with stopper E and two divergent bail-arms, s^2 s^2, extending upward from the stopper, unconnected at their upper ends, and having such upper ends bent outward in hooks *r'*, substantially as and for the purposes set forth.

3. The stopper-bail S, having central loop, *s*, with shoulders *s'* on its side arms above the loop, in combination with the packing-disk *e'*, having opening e^2 therein, adapted to receive the loop end *s* of the bail, and the plug *e*, having the fastening-tang e^2 thereon for securing the bail and packing-disk, substantially as set forth.

269,485. CAR-COUPLING. WILLIAM P. TAGGART, Phœnixville, Pa. Filed Sept. 22, 1882. (No model.)



Claim.—1. The combination of a draw-head with a hook or link pivoted thereto by means of a transverse pin, *a*, adapted to open-ended slots *b* in the head, as set forth.

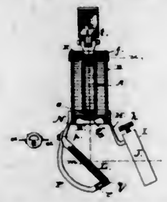
2. The combination of the draw-head having open-ended slots *b* and a transverse pin, *e*, with the hook or link having a pivot-pin, *a*, and projection *d*, as set forth.

3. The combination of the draw-head A with the hook D, pivoted thereto, and having a closing plate, *f*, and means for lifting the same, as set forth.

4. The combination of a draw-head with a yoke, G, adapted to serve as a bumper, as specified.

5. The combination of a draw-head with a yoke, G, adapted to serve as a bumper, and having a series of openings, *x*, as set forth.

269,486. ARTIFICIAL HORIZON. THOMAS TERRETT, San Francisco, Cal. Filed June 28, 1882. (No model.)



Claim.—1. The improved horizon attachment for sextants, octants, or quadrants, consisting of the pendulum suspended in vertical position and free to swing with an inclosing-case, having apertures in top and bottom for the transmission of light through the case, the reflector L, mounted beneath the end of the case and in line with the aperture, and at an angle of forty-five degrees with the face thereof, and a means for attaching said case in vertical position to the frame of the instrument in front of the eye-piece in position as described.

2. In a sextant, octant, or quadrant, the combination of a suspended pendulum inclosed within a case having openings for the transmission of light, an inclined reflector, L, arranged with relation to the opening and the line of sight on the instrument, whereby the reflected image of the end of the pendulum is visible to the observer through the eye-piece and the position of the pendulum is determined therefrom.

3. The case having openings E E', and adapted to hold a body of liquid, and the suspended pendulum held from point of suspension in line with the openings, and a brace for securing said frame to the frame of an instrument.

4. The combination, with the case B, having openings E E' and containing a suspended pendulum, A, in line with said openings, of the inclined reflector L, arranged in relation to the opening substantially as described.

5. The combination, with the case having openings and containing a transparent liquid, of the suspended pendulum having the flanges *a a*, substantially as described, for the purpose set forth.

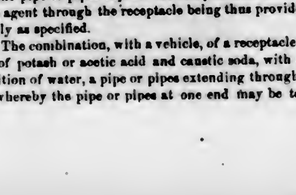
6. The combination, with the case having openings and containing the suspended pendulum, of the upper reflector, S, movable and adjustable, as described.

7. In a sextant, octant, or quadrant, the combination of the inclosed suspended pendulum, the inclined reflector in line with the sight of the instrument, the horizon-glass, and a telescope having a half-lens secured over a portion of its object-glass, whereby a reflection image of the pendulum can be seen through one portion of the object-glass, and the reflection of the sun or a star in the horizon-glass can be seen through the other portion of the object-glass of the same telescope.

269,487. UTILIZING TANK-WATERS OF SLAUGHTER-HOUSES. BRUNO TAUSS, Philadelphia, Pa., assignor of three-fourths to Daniel Baugh and Edwin P. Baugh, both of same place. Filed June 9, 1882. (No model.)

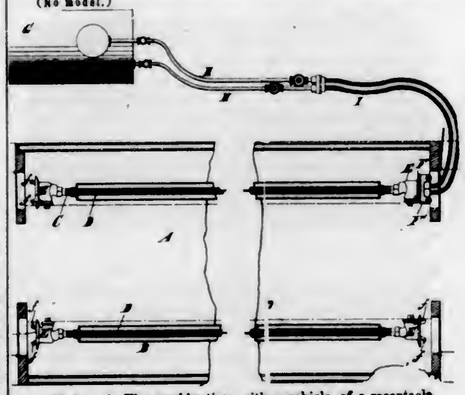
Claim.—The mode herein described of utilizing tank-waters, the said mode consisting in first concentrating the said tank-waters, then mixing the same with animal charcoal, and finally drying the composition, as specified.

269,488. COOKING-UTENSIL. LEWIS R. THOMAS, Biddeford, Me. Filed Aug. 17, 1882. (No model.)



Claim.—The combination of the hereinbefore-described kettle with a pot-hole of less diameter, the relation of the kettle-flange to the stove-hole being such that the kettle is prevented from entering the hole, and at the same time provides a combustion-chamber in the base of the kettle above the top plate of the stove, substantially as set forth.

269,489. APPARATUS FOR HEATING RAILWAY-CARS. MAURICE J. WALSH, New York, N. Y., assignor, by mesne assignments, to Louis Fitzgerald, same place. Filed July 20, 1882. (No model.)



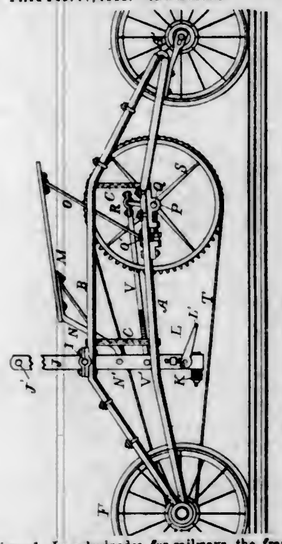
Claim.—1. The combination, with a vehicle, of a receptacle containing acetate of potash or acetic acid and caustic soda, with or without the addition of water, a pipe or pipes extending through the same, means whereby the pipe or pipes at one end may be temporarily connected with the source of a heating agent, and means whereby the heating agent may be allowed to escape from the other end of the pipe or pipes beyond the receptacle, a circulation of the heating agent through the receptacle being thus provided for, substantially as specified.

2. The combination, with a vehicle, of a receptacle containing acetate of potash or acetic acid and caustic soda, with or without the addition of water, a pipe or pipes extending through the same, means whereby the pipe or pipes at one end may be temporarily

connected with the source of a heating agent, means whereby the heating agent may be allowed to escape from the other end of the pipe or pipes beyond the receptacle, and devices for closing said pipe or pipes when disconnected from the source of the heating agent, substantially as specified.

3. The combination, with a vehicle, of a receptacle containing acetate of potash or acetic acid and caustic soda, with or without the addition of water, a pipe or pipes extending through the same, means whereby the pipe or pipes at one end may be temporarily connected with the source of a heating agent, means whereby the heating agent may be allowed to escape from the other end of the pipe or pipes, and a pipe or conduit for conducting away the exhaust or expended heating agent, substantially as specified.

269,490. HAND-CAR FOR RAILWAYS. SAMUEL H. WALE, Three Rivers, Mich., assignor, by direct and mesne assignments, to the Three Rivers Velocipede Car Company, same place. Filed Feb. 17, 1882. (No model.)



Claim.—1. In velocipedes for railways, the frame composed of tubing A B, trussed as shown, united at the forward end to a sleeve, B', and at the rear end by means of a curved bar, A', substantially as and for the purpose set forth.

2. In velocipedes for railways, the tubular trussed frame having at the rear end a spring, h, provided with a horizontal slot, *i*, to receive the journal of the rear shaft, in combination with a slotted arm, *j*, by means of which the angle of the shaft C' may be adjusted and secured, substantially as and for the purpose set forth.

3. In velocipedes for railways, the forward axle composed of two tubular parts, one operating with the other, the wheels on the opposing trucks being rigidly secured to the tubular shafts, as herein shown, so that the wheels and axle revolve together, substantially as herein set forth.

4. In velocipedes for railways, having three wheels, the combination of the forward wheels revolving on the same shaft, in combination with the rear single wheel secured to an adjustable shaft, substantially as herein set forth.

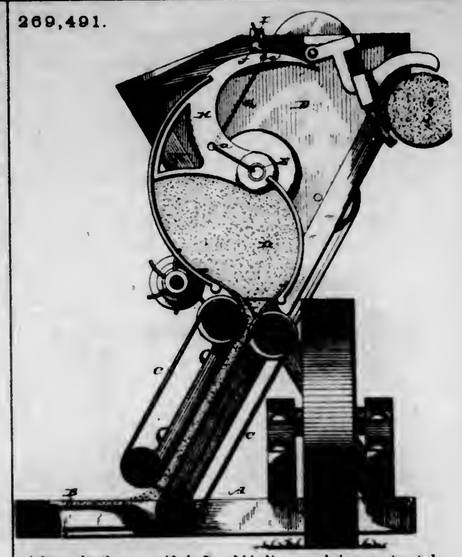
5. In a hand-car or like device for railways, a seat supported at the rear to the frame by rods, on which said seat can have free movement, and also at the front movably attached to and supported by the driving-lever at a point below that at which said lever is pivoted to the frame, substantially as described.

6. In a railway hand-car or like device, a movable seat sustained at its rear part by rods connecting directly to the frame, and at its front by the driving-lever, substantially as set forth.

269,491. SELF-BINDER FOR HARVESTERS. HENRY M. WEAVER, Mansfield, Ohio. Filed Feb. 1, 1882. (No model.)

Claim.—1. In a grain-binder having the grain-receptacle, and a rotating shaft located over the grain-receptacle and extending to its longitudinal center, a binding and cord-carrying arm secured to the end of the rotary shaft and arranged to rotate at

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right angles thereto, said shaft and binding-arm being constructed, substantially as described, to allow the binding-cord to pass from the outer end of the rotating shaft through the same and its bearings and through the eye in the outer end of the binding-arm, and a stationary cord-grasping device and cord-tyer, substantially as and for the purpose set forth.

2. In a grain-binder having the binding-arm located at or near the center of the grain-receptacle, and a rotating shaft extending to the center of the grain-receptacle, and having the heel of the binding-arm secured thereto, said binding-arm being arranged at right angles to the shaft, the shaft and binding-arm constructed, substantially as described, to allow the binding-cord to extend from the outer end of the rotary shaft to the heel of the binding-arm and through an eye in the point of the latter, substantially as and for the purpose set forth.

3. The combination, with the rotary shaft extending to the center of the grain-receptacle and located in the upper portion thereof, of the binding-arm constructed with the curved portion K on the rear edge thereof, to constitute a curved stop or abutment for the grain as it is packed into the grain-receptacle, substantially as set forth.

269,492. TOOTH-HOLDER FOR HORSE HAY-RAKES. ELI M. WHITNEY, Hinsdale, Mass. Filed Sept. 19, 1882. (Model.)



Claim.—1. The combination, with a coiled spring having prolonged end *c* and hooked end *h*, and the rake-tooth E, having its upper end bent at a right angle therewith, of the holder A, cast with ears C, having eyes through which the bent end of the tooth passes to be encircled by the spring and grasped by the hooked end thereof, and formed with groove *d* and projection *l*, substantially as and for the purpose set forth.

2. The holder A, having ears C, groove *d*, and projection *l*, in combination with the rake-tooth E, having its upper end bent at a right angle therewith, and the coiled spring D, formed with hooked end *h* and prolonged end *c*, the latter resting in the groove *d* and held therein by the bolt *a*, which connects the holder to the rake-head, substantially as and for the purpose specified.

269,493. VEHICLE-SPRING. CHARLES B. WILSON, Detroit, Mich. Filed Sept. 30, 1882. (No model.)

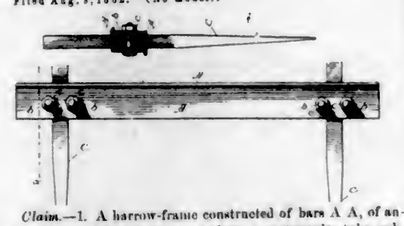
Claim.—As an improvement in springs for side-bar vehicles, the combination, with the spring-leaves A and B, having their ends

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disconnected and adapted to be attached respectively to the vehicle-body and the usual side bars, of two blocks, C C, interposed directly between the leaves at points adjacent to but on opposite sides of the center of the same, to create an intervening space, and devices connecting the leaves together at such points and confining the blocks in proper position between the leaves, substantially as shown and described.

269,494. HARROW-FRAME. JAMES H. WINN, Benicia, Cal. Filed Aug. 9, 1882. (No model.)



Claim.—1. A harrow-frame constructed of bars A A, of angle-iron, clamped together so as to form a rectangular tube, substantially as described.

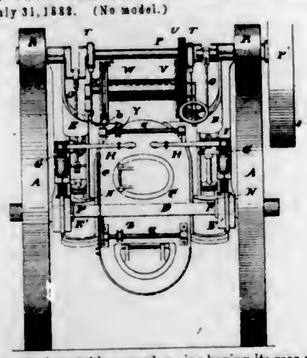
2. The harrow-frame consisting of the reversed right-angle bars A A, in combination with the teeth, and with the clamping-bolts *b b*, placed on each side of said teeth, all substantially as described.

269,495. IRONING-BOARD. HELOISE E. WRIGHT and EMELIE ENGELS, Cincinnati, Ohio. Filed May 10, 1882. (No model.)



Claim.—The non-conducting material *b'*, located beneath the holder or receptacle and in combination therewith and with an ironing-board, as set forth.

269,496. TRACTION-ENGINE. BERNARD YOCH, St. Louis, Mo. Filed July 31, 1882. (No model.)



Claim.—1. A portable or road engine having its rear portion vertically adjustable to adapt it to be supported either on the axle of or on the top of the main wheels, as set forth.

2. In a portable or road engine, the frame E, vertically adjustable on the main wheels to support the rear portion of the engine either on the axle of or on the top of the main wheels, as set forth.

3. The combination, with the wheels R and A, and frame E, and axle D, of the jack-screws G, turning in the frame and bearing upon the sliding axle-bearing F, substantially as and for the purpose set forth.

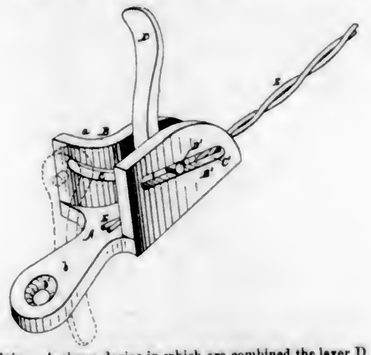
4. The combination, with frame E, main wheels A, and axles D, of the levers H, each having rock-shaft K, provided with pawls I and J, toe L, and spring M, the jack-screw G, and ratchet-collars I' and J', the said levers adapted to raise and lower the jack-screws by the engagement of the pawls with the ratchet-collars, as set forth.

5. The combination, in a portable or road engine, of the engine crank-shaft, spur-wheel U thereon, arbor X, windlass W, having rotary and endwise movement on the arbor, spur-wheel V on the windlass, arbors or rods *a*, and pulleys Y Z on the said arbors or rods, substantially as and for the purpose set forth.

6. The combination, with the shaft P and the friction-wheel R, of the rubber cushion R', and crank S', and link S, substantially as and for the purpose set forth.

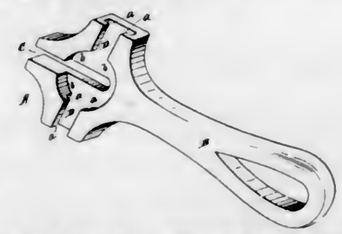
7. The combination of a driving or driven shaft, and a wheel or pulley thereon, a cushion interposed between the shaft and wheel, and a driving-connection between the shaft and wheel, allowing the compression of the cushion.

269,497. CLAMP FOR WIRE-TIGHTENERS. FRANK A. GURNEY, Chicago, Ill. Filed May 10, 1882. (No model.)



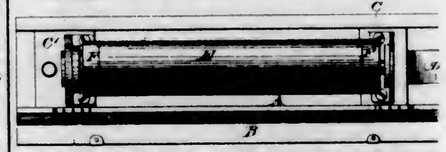
Claim.—A clamp device in which are combined the lever D, the straight wing B', and curved wing B, each having therein an inclined slot, and the pin D', passing through the said lever and entering the said slots and retaining the said lever movably in the wing B', substantially as and for the purpose specified.

269,498. WIRE-SPLICER. FRANK A. GURNEY, Chicago, Ill. Filed May 18, 1882. (No model.)



Claim.—A wire-splicer consisting of the head A, provided with a handle, the said head having therein the notch C, admitting of the splicer being placed astride the wire or wires to be spliced, and the recessed transverse groove D, substantially as and for the purpose specified.

269,499. SHADE-ROLLER GAGE. BENJAMIN R. HAMILTON, Lincoln, Ill. Filed Aug. 21, 1882. (Model.)



Claim.—The platform with its grooves—one on each side of platform A—and shoulders therein, and the stop-spring D, the measuring-strip B, adjustable by the hinges thereto attached, the measuring-scales upon said measuring-strip, and the sliding brack-

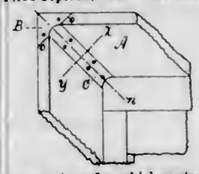
et-pieces C and C', to which to attach brackets, all in connection and combination each with the others, constructed in the manner and for the uses and purposes herein set forth.

269,500. WHIFFLETREE-HOOK. FREDERICK A. HAVENS, South Wethersfield, Conn. Filed Sept. 19, 1882. (Model.)



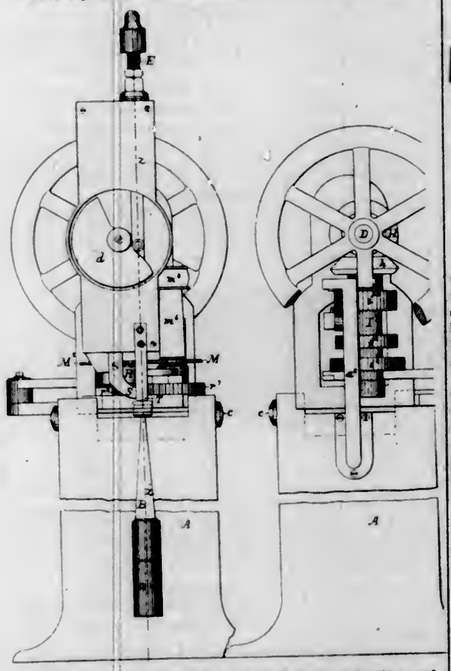
Claim.—The combination of the ferrule A, having the ratchet C formed upon its end, the hook D, having its inner end formed so as to close the outer end of the ferrule and provided with the ratchet F, the rod G, and spring, substantially as shown and described.

269,501. CORNER-IRON FOR CARRIAGE-SEATS. JAMES K. KANE, Freeport, Ill., assignor of one-half to Robert H. Wiles, same place. Filed Sept. 27, 1882. (No model.)



Claim.—In a corner-iron for vehicle-seats, the combination of the oblique angle-iron C and horizontal triangular flange B, formed integrally therewith, substantially as shown, and for the purpose described.

269,502. SOLE-NAILING MACHINE. JOSEPH E. KIMBALL, Milford, assignor to Henry S. Jenkins, Trustee, Boston, Mass. Filed Sept. 16, 1882. (No model.)



Claim.—1. In combination, wire-feeding mechanism and point-milling mechanism, substantially as described, with mechanism for driving the fastenings, substantially as described.

2. The wire-feed lever having a constant stroke in one direction, in combination with one or more stops to determine the length of the feed-stroke of the lever, the length of wire fed being in accordance with the distance between the end of the lever and the arresting-stop, as set forth.

3. In combination, the wire-feed lever, its two stops, and the milling-cutters, the first stop arresting the feeding stroke of the lever when the wire is in the desired relation to the milling-cutters, and the second stop arresting the feeding stroke of the lever when the wire is fully fed, as set forth.

4. In combination, wire-feeding mechanism, point-milling mechanism, holding-jaws adapted to clamp and hold the milled point, and a cutter and carrier, the jaws and cutter and carrier acting to sever the wire at the junction of the milled point of one fastening with the butt of another fastening, as set forth.

5. In combination, the jaws P P' and cutter and carrier R, substantially as described.

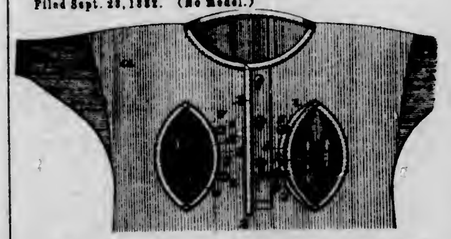
6. In combination, the tilting frame C, feed-lever S, throat T, and horn B, substantially as described.

269,503. FILTER ATTACHMENT FOR COFFEE-POTS. HENRY E. LEA, San Francisco, Cal. Filed May 25, 1881. (No model.)



Claim.—The herein-described percolator for use in coffee and similar pots, consisting of the tapering body A, having the plane bottom, a strainer, C, of woven material, having a turned-up portion to fit around the base of the body, and a ring, B, provided with a broadened top, *b*, and constructed of considerable width and such diameter as to become tight over the body and strainer portion *a* before the bottom of the ring is up as far as the bottom of the body, substantially as shown and described, and for the purpose set forth.

269,504. NURSING-VEST. SIMON LOEWENTHAL, New York, N. Y., assignor of one-half to Abraham B. Levy, same place. Filed Sept. 28, 1882. (No model.)



Claim.—1. A woman's under-vest having the vertical breast-openings *b* made entirely below the neckband, and each provided with an elongated flap or cover-piece, *c*, securely stitched to one side of the opening, and provided in its opposite free margin with button-holes *e*, whereby it may be connected with corresponding buttons, *g*, on the opposite side of the opening, substantially as specified.

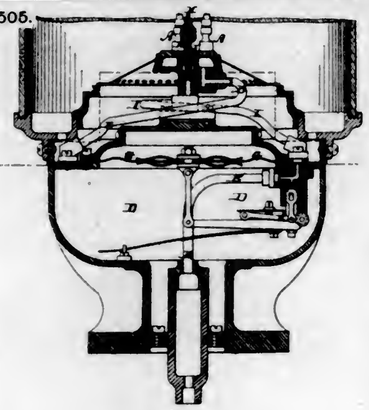
2. A woman's under-vest having the vertical breast-openings *b* made entirely below the neckband, and provided with the flaps or cover-pieces *c*, each fastened by one edge to one side of each opening, and provided with button-holes *e* and elastic loops *l*, for vicarious use in connecting the free edge of said flaps or cover-pieces to the buttons *g* of the opposite edges of the openings, substantially as specified.

269,505. SIGNAL-LIGHT. JULIUS PINTSCH, Jr., Berlin, Germany. Filed Apr. 14, 1882. (No model.)

Claim.—1. The combination, in a lamp, of the burner or burners A with the pipe B and with the burner H, and pipe I, and with a reservoir, D, and single gas-supply pipe E, supplying the gas to both sets of burners H and A, but at all times under greater pressure to the burner H than to the burner or burners A, substantially as herein shown and described.

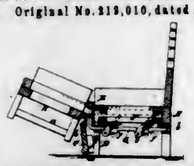
2. The burner or burners A, pipe B, chamber D, diaphragm G, valve F, and pipe E, in combination with the pipe I and burner H, the pipe I receiving gas directly from the pipe E, and the pipe B from the chamber D, which communicates also with the pipe E, substantially as and for the purpose specified.

269,505.



REISSUES.

10,260. BED-LOUNGE. LOUIS W. OTT, Indianapolis, Ind. Filed Oct. 21, 1882. Original No. 219,010, dated Aug. 26, 1879.



Claim.—1. In a bed-lounge, the two halves of the frame hinged together in front, so as to open outward, in combination with a movable frame contained within the rear portion, and so connected with the front or upper half that the movable frame is raised by the opening and lowered by the closing of the lounge, substantially as described.

2. In a bed-lounge, the two halves of the frame hinged together in front, so as to open outward, in combination with a movable front board, which is so hinged to the two parts that the opening of the lounge causes the movable front board to drop down between the two halves of the lounge-frame, and the closing of the lounge lifts the movable front and draws it into place to form a front finish to the two halves of the frame, substantially as described.

3. A bed-lounge having a movable frame contained in the rear portion of the folding frame, and adapted to be raised by opening and lowered by closing the lounge, substantially as described.

4. A bed-lounge having an adjustable finishing front board adapted to be lowered between the folding sections by the opening of the lounge and drawn up again into place by the act of closing the lounge, substantially as described.

5. The movable frame F, sliding bars G, having angle-arm *e*, and cams *c*, in combination with the hinged frame B, as and for the purpose specified.

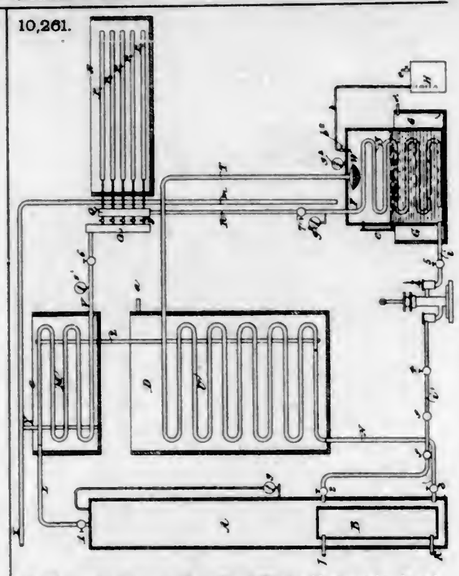
10,261. VAPOR OR GAS ABSORBER FOR AMMONIA REFRIGERATING APPARATUS. GEORGE W. STOCKMAN, Indianapolis, Ind., assignor, by mesne assignments, of part interest to Samuel Stephens, C. Albert Maus, Frank A. Maus, and Mathias A. Maus, all of same place. Filed Apr. 15, 1882. Original No. 245,325, dated Aug. 9, 1881. Patented in England June 14, 1881, No. 2,587; in France Aug. 20, 1881, No. 143,407, and in Germany Mar. 15, 1882, No. 17,267.

Claim.—1. In a vapor-absorber for ammonia refrigerating apparatus, the absorber consisting of the metallic air and water tight case F, surrounded with the water-jacket G, and provided with the coil S, with suitable glass and pressure gages, the sprinkler W, the purge pipe and cock, and suction-pipe for a pump, substantially as shown and described.

2. The combination of the absorber F, the coil S, sprinkler W, pipe R, with its valve and pressure-gage, and the collector Q of the refrigerator, substantially as described.

3. In combination with the absorber F, the coil S, and sprinkler W, the pipe T, cooler D, with coil U, pipe N, stop-valve 3, and retort A, as and for the purpose specified.

10,261.



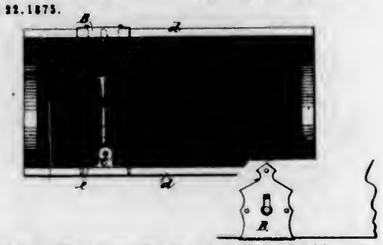
4. In combination with the absorber F, coil S, and sprinkler W, the purge-pipe with stop-valve, and the tank with its discharge-cock, substantially as described.

5. In a vapor-absorber for ammonia refrigerators, the sprinkler W, located over the coil S, and the lower end of the coil discharging the gas in close proximity to the suction-pipe *i*, as and for the purpose specified.

6. The absorber F, with water-jacket G, in combination with the cold-water pipe *m*, substantially as described.

7. In an ammonia refrigerator, an absorbing-chamber so constructed and arranged that the weak liquor which takes up the expanded gas by uniting with it shall be cooled by the expanded vapor itself in its passage through any suitable chamber or coil.

10,262. BOOK-CLASP. KOCH SONS & CO., New York, N. Y., assignees of Woodford D. Harlan, Executor of Newton Harlan, deceased. Filed Dec. 30, 1881. Original No. 164,848, dated June 22, 1875.



Claim.—1. The combination, in a book-clasp, of a hinge attached to one of the covers, and a hasp containing a screw-stem and screw socket or sleeve, whereby the length of the clasp can be varied, and an attaching device for the moving end of the clasp, substantially as set forth.

2. In a book-clasp, the combination of the screw D and its screw-threaded sleeve or socket, whereby the clasp is made adjustable by the screw to suit books of different thicknesses, substantially as set forth.

3. In a book-clasp, the combination, with the swinging hasp, of a hinge the pin of which is at right angles, or nearly so, to the front of the book, so that said hasp may be turned down against the inner edge of the cover, substantially as set forth.

4. In combination with the extensible hasp, the locking device for receiving and holding the moving end of the hasp, substantially as set forth.

N. Peters Photo-Lithographer Washington, D.C.

DECISIONS
OF THE
COMMISSIONER OF PATENTS
AND OF
UNITED STATES COURTS IN PATENT CASES.

DECISIONS OF THE U. S. COURTS.

Supreme Court of the United States.

CLOUGH *v.* THE GILBERT & BARKER MANUFACTURING COMPANY *et al.*

Decided November 27, 1882.

1. LETTERS PATENT NO. 104,271 SUSTAINED.

The claims of letters patent granted to Theodore Clough, July 14, 1870, for an improvement in gas-burners—namely, "1. The bat-wing burner perforated at the base in combination with the surrounding tube, substantially as described; 2. In combination with the bat-wing burner perforated at the base, and surrounding tube, the tubular valve for regulating the supply of external gas to the burner, substantially as described"—are valid.

2. SAME—INFRINGED BY PATENT TO BARKER.

Both of said claims are infringed by a burner constructed in accordance with the description contained in letters patent granted to John F. Barker, July 26, 1870, for an improvement in gas-burners.

3. SAME—ANTICIPATING DEVICE NOT USED IN SAME WAY.

A prior burner was set up as anticipating the invention. It used now in a way in which it was never designed to be used, and was not shown to have ever been used before Clough's invention, it might be made to furnish a supplementary supply of gas; but, as it was not designed for the same purpose as Clough's burner, and no person looking at it or using it would understand that it was to be used in the way Clough's was used, and it was not shown to have been really used and operated in that way, it was *Held* not to have amounted to an invention of what Clough invented.

4. SAME—INFRINGEMENT—EQUIVALENTS.

The combination of the first claim being new, and Clough having been the first person who applied a valve regulation of any kind to such combination, he is entitled to hold as infringements of the second claim all valve regulations applied to such a combination which perform the same office in substantially the same way as and were known equivalents for his form of valve regulation.

Mr. Roger H. Lyon and *Mr. E. N. Dickerson* for the appellant.

Mr. Wm. Stanley for the appellees.

APPEAL from the Circuit Court of the United States for the Southern District of New York.

Mr. Justice BLATCHFORD delivered the opinion of the Court.

This suit was brought by the appellant against the appellees to recover for the infringement of letters patent granted to the appellant July 14, 1870, for an improvement in gas-burners. The circuit court dismissed the bill. The specification of the patent says:

My invention relates more particularly to the burners for burning illuminating-gas made by saturating air with vapors of gasoline, commonly called "air-gas." It has been found that common bat-wing or fish-tail burners are not adapted to burning this gas as ordinarily made, owing to the variable density of the gas coming from the generating apparatus.

The object of my improvement is to adapt the slitted or bat-wing burner to the burning of air-gas.

Said improvements consist—

First, in perforating the base of the burner-tube with small holes or passages for gas to escape at the base of the burner, and surrounding the burner with a tube open at the top but closed at the bottom, and united to the burner below the perforations in the burner-tube. It is more convenient to screw the tube to the burner, but it may be attached in any suitable manner.

Second, in regulating the escape of the gas from the perforations at the base of the burner by a sliding tubular valve or cut-off, introduced into the burner-tube at the base and extending upward within it, the position of the tubular valve being regulated by a screw.

These improvements, by furnishing a regulated supply of gas outside of the burner, but directed to the tip of the burner by the surrounding tube, give steadiness and increased illuminating power to the flame of the bat-wing burner and make it a desirable burner for burning air-gas.

The drawings represent a bat-wing burner as improved by me. Figure 1 represents an elevation of my improved burner attached to a short piece of gas-pipe; Fig. 2, a view showing the surrounding tube in section and the burner therein; Fig. 3, a vertical section through the burner and tube; Fig. 4, a transverse section through the base of the burner-tube.

Letter *a* represents the burner-tip; *b*, the burner-tube; *c*, perforations at the base of the burner-tube; *d*, the surrounding tube screwed to the base of the burner-tube; *e*, the tubular valve extending up in the burner-tube, and operated by an annular screw, *f*, attached to the lower end. Said annular screw, besides having a screw to work in the base of the burner, has an internal screw, by which it and the burner are attached to the gas-pipe, as clearly shown in Fig. 3 and the other drawings, the gasway being through the annular screw and tubular valve to the burner. As the burner is connected to the gas-pipe *g* by means of the annular screw, the adjustment of the gas escaping through the perforations of the burner-tube is easily made by turning the burner upon the annular screw.

I claim as my invention and improvement in air-gas burners—

1. The bat-wing burner perforated at the base in combination with the surrounding tube, substantially as described.

2. Also, in combination with the bat-wing burner perforated at the base, and surrounding tube, the tubular valve for regulating the supply of external gas to the burner, substantially as described.

The defendants in their answer set up that they have not infringed the patent, and that it is void for want of novelty. At the request of both parties a trial at law was had in the court below of two questions:

First, whether or not the complainant is the first and original inventor of the improvement in gas-burners for which the first above-named patent has been granted to him. Second, whether or not the gas-burners manufactured by the defendants are substantially identical with those described in the complainant's patent and schedule thereto annexed in their construction and mode of operation.

The issues were tried before the court and a jury, and the jury answered both of the questions in the affirmative. Afterward, on a case made, the defendants moved before the judge who tried the issues for a new trial on the ground that the verdict was against the weight of the evidence. He denied the motion in a written opinion, in which he stated that the weight of the evidence on the question of infringement was not such as to justify him in granting a new trial, and that he was satisfied with the conclusion of the jury on the question of priority. He afterward signed and filed a certificate that in his opinion the verdict on both questions was sustained by the evidence given.

The burners made by the defendants were made in accordance with the description of the first form of burner described in the specification of letters patent granted to John F. Barker, one of the defendants, July 26, 1870, for an improvement in gas-burners. The draw-

ings of that patent consist of ten figures, which are thus referred to in the specification:

Figure 1 is a side view of one modification of my invention. Fig. 2 is a side view of the shell. Fig. 3 is a side view of the burner. Fig. 4 is a vertical longitudinal section of the shell through line A B of Fig. 2. Fig. 5 is a vertical longitudinal section of the burner through line C D of Fig. 3. Fig. 6 is a side view of another modification of my invention. Fig. 7 is a side view of the shell. Fig. 8 is a side view of the burner. Fig. 9 is a vertical longitudinal section of the shell through line E F of Fig. 7, and Fig. 10 is a vertical section through line G H of Fig. 8.

The specification goes on to say:

My invention relates to a device for regulating the flow of carbureted air or gas from the burner to its point of combustion; and it consists of a burner having a screw-thread made upon its lower part, upon which is fitted, to turn freely thereon, a shell or tube, also having a screw-thread upon its interior lower part, and the bore of said tube or shell is somewhat larger in diameter than the diameter of the upper part of the burner upon which it turns. A series of perforations is made in the lower part of the burner, so that when the burner is made or set for the combustion of carbureted air or gas of any certain quality, the flame may be increased or diminished by turning the shell either up or down, as the case may be, the shell in its movements up or down either closing or opening the holes or perforations and letting out or stopping the flow of the gas through the said holes as it is moved up or down.

In the use of carbureted air for illuminating purposes it is almost always the case that when the gasoline is first placed within the generator it gives off a much greater amount of vapor, and the air in passing through the generator absorbs a greater amount of the carbon, and consequently becomes more thoroughly charged with and is much richer in the illuminating qualities of the gasoline than when the generator has been charged for a greater length of time; and as a result the carbureted air is sometimes too rich to make a desirable light with the same amount passing out of the burner, and at other times, as when the generator has been charged a longer time, the carbureted air flowing through the burner is deficient in illuminating power, and the light or flame produced is not uniform in its power or steadiness, and is sometimes liable to produce a smell or smoke when too rich in carbon. My invention is designed to obviate all difficulty in this respect, as the burner is set or made to let out at the tip the minimum quantity of gas that will produce a good flame; and as the gasoline remains longer in the generator and becomes weaker in its illuminating qualities the outer tube or shell may be turned so as to let out more gas and increase the flame without liability to smoke.

That others skilled in the art may be enabled to make and use my invention, I will now proceed to describe its construction and mode of operation.

In the drawings, L represents the main part of the burner, which is made similar to the common burner, except that the lower part has a screw-thread made upon the outside and inside.

Figs. 1, 2, 3, 4, and 5 represent one modification, in which L is the burner, having the usual screw-thread made upon the lower interior part by which to secure it to the pipe.

At *a'* is a conical shoulder or seat upon the exterior, shown in Figs. 3 and 5, and a screw-thread, *d*, made upon the exterior of the lower end, and the small holes *c* are made either at the seat *a'* or just below it.

I is a shell or tube, the inside diameter of its upper part being somewhat greater than the outside diameter of the part L, and upon the interior of the tube, at *a*, is a conical-shaped seat, made to fit upon the exterior seat, *a'*, upon the burner L. A screw-thread, *d'*, is made upon the interior of the lower part of the tube I, which fits the thread *d* upon the exterior of the burner L.

The operation of this modification is as follows: When the tube I is turned entirely onto the burner L, the inner seat, *a*, fits down upon the shoulder *a'* of the burner L, and the only place of egress for the gas is through the slot at the tip. When the gasoline is fresh or new this slot will be quite sufficient to supply the flame, but as the gasoline becomes more exhausted of carbon the tube or shell I may be turned up a little, so that the seat *a* shall be raised slightly from the shoulder *a'*, and more or less of the gas will pass out through the holes *c*, and pass up between the tube I and the burner L, as the tube I is turned up or down, and when the gas which escapes through the holes *c* and passes up between the tube and burner reaches the top, it unites with that passing out of the slot at the tip, increasing the volume and flame. In this device the gas, after passing out through the holes *c*, is prevented from passing down between the tube and burner by the screw-threads *d'* and *d* upon the inside of the tube and outside of the burner.

In the modification shown in Figs. 6, 7, 8, 9, and 10 both the burners and regulating-tube are similar to that already described, except that the thread *d*, upon the outside of the burner L, is carried up higher and the holes *c* are made below the top of the outer thread, but above the top of the inside thread. The thread upon the inside of the tube I is not so long as the outside thread upon the burner L, but is considerably less, so that when the tube I is turned entirely down on the burner the holes will be above the thread on the inside of the tube, and there is no inside seat in the tube I to operate upon a beveled or conical exterior shoulder upon the burner L, as in the other modification.

The operation of this modification is as follows: If the flame be too weak, the tube I is turned down upon the burner L until the top of the inside thread of the tube begins to pass below the holes *c*, when the gas will escape and pass up between the tube and burner and increase the flame, as before. If it should be desirable to stop the escape of gas through the holes *c*, it is only necessary to turn up the tube upon the burner, and when the thread inside the tube covers the holes *c* then there will be no escape of gas.

It will be seen that the principles of the operation of both modifications are very much alike and are intended to accomplish the same object, although the tube turns up in the first case to let out more gas, while it turns down in the second case, both being equivalent, however, in their operation and accomplishing the same result.

I am aware that gas-burners have been heretofore made to give an additional supply of gas to the flame; but in those that I have seen they consisted of more pieces and were considerably more expensive to manufacture, and in their operation the burner revolved with the tube, thus causing the flame to revolve also. This is very objectionable, as it is often desirable to have the flame stand in one particular direction. In this device the flame does not turn in the least, while the whole burner may consist of only two pieces, and is cheaply made and its operation and effect are perfect.

The claim of that patent is—

An improved gas-burner consisting of the burner or pillar L, having holes *c c* therein, and provided with the movable or adjustable shell or tube I, all constructed and operating substantially as and for the purposes herein described and specified.

After such certificate was signed and filed the Gilbert & Barker Manufacturing Company, one of the defendants in this suit, brought a suit in equity in the court below, as owner of the said patent granted to John F. Barker, for the infringement of the same, against Clough, the plaintiff in this suit, alleging as the infringement the making and selling of burners constructed exactly like the two forms described in the patent to said Barker. The only testimony taken directly in the present suit was that taken on the trial before the jury and embodied in the case made, on which the motion for a new trial was made. But considerable testimony was taken for final hearing in the suit against Clough, and that testimony is contained in the record in this case, and it is understood that such testimony was considered and used, by agreement of parties in the court below, as part of the proofs in this case.

The first claim of the Clough patent is a claim to—

The bat-wing burner perforated at the base in combination with the surrounding tube, substantially as described.

The elements of this claim are, a bat-wing burner, with a burner-tube, the burner-tube perforated at its base with small holes or passages for gas to escape at the base of such burner-tube, and another tube, surrounding the burner-tube, open at the top and closed at the bottom, and united to the burner-tube below the perforations in it. The method of regulating the escape of gas from the perforations is no part of the first claim. The office of the combination in the first claim is, as the specification states, to enable the surrounding tube to direct to the tip of the burner the gas which comes through the perforations, such surrounding tube being open at the top and closed at the bottom, and united to the burner-tube below the perforations.

Two forms of burner are presented as infringements of the first claim. They are both of them substantially like the first form of burner described in the patent of Barker, the outside tube in both of them turning up to let out more gas. Each of these burners contains the combination of the first claim of the Clough patent.

It was held by the court below that the combination covered by the first claim of the Clough patent was found in a burner, called the "Horace R. Barker" burner, the existence of which prior to Clough's invention was held to have been satisfactorily proved. Of the Horace R. Barker burner it was said by the court:

In those burners the burner was a bat-wing burner perforated at the base. The perforations did not consist of small holes, but the stem of the burner was slitted all the way down to the base, allowing the gas to escape through the whole length of the slit. There was a surrounding tube united to the burner below the lower end of the slit. The burner-stem had a cone near its top, and when the surrounding tube was screwed so as to be in a certain position with reference to such cone the effect was to direct to the tip of the burner the supply of gas coming through the slit below, the surrounding tube being open at the top and closed at the bottom, and the flame was thickened and a ring of flame was formed. The structure and mode of operation of the combination

were the same as those of the combination covered by the first claim of the plaintiff's patent. The fact that the perforations in the Horace R. Barker burner existed not only at the base, but were continued in the form of a slit all the way up, makes no difference. Nor does it make any difference that the Horace R. Barker burner had a cone near its top. The first claim of the plaintiff's patent is broad enough to cover the Horace R. Barker burner, and that claim must be held to be invalid for want of novelty.

On the trial before the jury the existence and operation of the Horace R. Barker burners were testified to by Horace R. Barker himself and by John F. Barker, and a copy of the rejected application of Horace R. Barker for a patent was put in evidence. The question was submitted to the jury by the court as to whether the effect produced by Clough's invention had been produced in the Horace R. Barker burner by a combination or mode of operation substantially the same as in the burner of Clough; and the attention of the jury was called by the court in its charge to the contention of Clough that the object of the Horace R. Barker burner was to control the size of the slit in the burner by a clamp; that if some gas escaped through an orifice at the top of the surrounding tube and was projected upon the burner-tip, the escape was accidental and not desired, and that in a well-made burner it was not intended to escape, and did not escape. The jury found for Clough on the question of novelty as against the Horace R. Barker burner. When the motion for a new trial was made before the judge who presided at the jury trial, he said in his opinion denying the motion—

The device mainly relied upon by the defendants upon the question of priority was a burner of Horace R. Barker, for which he made an unsuccessful application for a patent prior to the date of the plaintiff's invention. It consisted of a bat-wing burner slitted nearly to the base and a surrounding tube smaller at the top than at the bottom. There was a screw upon the inside of the lower part of the tube. When the tube was screwed down upon the burner the top of the tube pressed against a conical and enlarged part of the burner near its top and the slit was closed. When the tube was screwed up the slit was enlarged. The defendants claimed that the top of the tube, in connection with the protuberant part of the burner, formed a valve, and that the gas passed to the tip, not only through the burner, but through the ring near the tip at the end of the surrounding tube, in a double current, and that the device was substantially like the burner of the complainant. The complainant claimed that the object and the effect of this invention was to provide a burner in which the bat-wing slit could be enlarged or diminished at pleasure, and to consume but a single current of gas; that the top of the tube, in connection with the conical part of the burner, was not a valve but a clamp; that when the burner was new or well made this clamp prevented the escape of gas, and that there was no appreciable delivery of gas in a well-made burner except through the tip. I am of opinion that the jury upon this question of fact did not misconceive the weight of the evidence.

In the proofs taken in the suit against Clough, and used in this case by agreement, John F. Barker gave further testimony as to the prior use of the Horace R. Barker burners, and such testimony seems to have been understood by the court below as showing that the Horace R. Barker burner was used with the surrounding tube raised to such a height that the horizontal line of its upper end was raised from its seat at the cone on the burner-pillar, and an additional supply of gas passed out of the top of the surrounding tube and mingled with the gas which escaped from the burner-tip; that by screwing down the surrounding tube so that it would impinge sufficiently against the cone the slit would be closed; that the effect of the operation of thus raising or lowering the surrounding tube was to increase or diminish the supply of gas, and that the surrounding tube, considered in connection with the cone on the pillar of the burner, operated as a valve to control the flow of gas. In this view the structure and its mode of operation were held to be such as to anticipate the first claim of the Clough patent. But we are all of opinion that an erroneous view was taken of the purport of the additional testimony of John F. Barker. He was testifying in February, 1875. The question was as to what the Horace R. Barker burner was and as to what was its mode of operation in use. In the specification of the patent of John F. Barker, issued in July, 1870, he said:

I am aware that gas-burners have been heretofore made to give an additional supply of gas to the flame; but in those that I have seen they consisted of more pieces, and were considerably more expensive to manufacture, and in their operation the burner revolved with the tube, thus causing the flame to revolve also.

The expression "more pieces" means more pieces than in the burner he was patenting. His burner consisted of two pieces only. The Clough burner consisted of three pieces, and in it the burner revolved with the tube. In the John F. Barker patent the burner did not revolve with the tube. The Horace R. Barker burner consisted of two pieces only, and the burner did not revolve with the tube. Therefore, the reference by John F. Barker in his patent to the burners which he had seen which would give an additional supply of gas was to the Clough burners, which it is proved he had seen, and it is impossible that he could have then understood that the Horace R. Barker burners, which also he had seen, were burners which had been used to give an additional supply of gas to the flame.

The testimony as to any additional or supplementary supply of gas in the Horace R. Barker burner amounts really to this only: that if that burner is used now in a way in which it was never designed to be used, and is not shown to have ever been used before Clough's invention, it may be made to furnish a supplementary supply of gas. Its structure was such that to give full effect to its mode of operation the surrounding tube did not require ever to be raised so high as not to be in contact with the cone. As it was raised from its lowest position the slit opened, and when the slit was opened to its full extent the tube was still in contact with the cone, and there was no orifice between them. Any further raising of the tube was accidental, and not a part of the law of the structure. The object of raising and lowering the tube was by less or greater pressure on the cone to open or close the slit in the burner. The specification of Horace R. Barker in his rejected application shows that the only object of his burner was to control the flow of gas through the slit in the burner, instead of controlling the flow at the cock or farther back. The spring of the two parts of the burner was intended to carry them away from each other and open the slit when the pressure of the tube against the cone was relieved, while the increased pressure of the tube against the cone closed the slit. Any raising of the tube unnecessarily high, so as to admit of a flow of gas through an orifice between the tube and the cone to the flame cannot be regarded as amounting to an invention of what Clough invented. The structure was not designed for the same purpose as Clough's, no person looking at it or using it would understand that it was to be used in the way Clough's is used, and it is not shown to have been really used and operated in that way.

The foregoing remarks apply equally to the Coolidge burner, which was like the Horace R. Barker burner in structure, except that in the Coolidge burner the raising of the ring against an inverted conical projection closed the slip. The Soliday burner and the Lun-

kenheimer burner did not contain Clough's invention. We are therefore brought to the conclusion that the first claim of the Clough patent is valid.

The second claim of the Clough patent is for a combination of the bat-wing burner perforated at the base, the surrounding tube, and the tubular valve for regulating the supply of external gas to the burner, substantially as described. The specification describes the tubular valve as extending upward into the burner-tube. The view taken by the court below as to this second claim was that there was in the Horace R. Barker burner a regulation of a supplementary flow of gas, and by a valve arrangement the raising of the tube above the cone, allowing the gas to flow out of the tube, and the lowering of the tube to bear against the cone closing the orifice. The court said:

In view of the existence of that burner, which contained the combination of a bat-wing burner, a perforated tube in substance like that of the plaintiff's patent, and a tubular valve for regulating the supply of external gas to the burner, the construction of the second claim of the plaintiff's patent must be such as to limit that claim to the form of tubular valve which he describes, namely: one in the interior of the burner-tube and not forming part of the surrounding tube. Under this construction the second claim of the plaintiff's patent is not infringed.

The defendants' burners had no tubular valve extending up into the burner-tube. In them the tubular valve formed part of the surrounding tube, and reached or left its seat by screwing down or up the surrounding tube. The surrounding tube could not be permanently attached to the burner because it carried the movable valve. In the Clough burner the surrounding tube may be permanently attached to the burner, because the tubular valve is not carried by the surrounding tube, but is a third and separate instrument, carried by an adjustable cylinder inserted within the burner-tube from below.

The combination of the first claim of the Clough patent being new, and consequently there never having been any valve arrangement applied to regulate the flow of gas in such a combination, the premises on which the decision of the court below proceeded fail. Clough is entitled to the benefit of the doctrine of equivalents as applied to the combination of the burner, surrounding tube, and regulating-tube, covered by the second claim of his patent. The regulation in the defendants' burners was by a tubular valve on the outside of the perforations instead of on the inside, and performing its work by being screwed up or down, as in Clough's. Although in the Clough structure the burner and surrounding tube revolve together in adjusting their position in reference to that of the tubular valve, so as to let in or turn off the supply of gas through the perforations, and although in the Clough structure the flame revolves by the revolution of the burner, and although in the defendants' burners the revolution of the surrounding tube regulated the supply of gas through such perforations, and neither the burner nor the flame revolved, the defendants' valve arrangement must be held to have been an equivalent for that of Clough to the full extent to which that of Clough goes, involving, perhaps, patentable improvements, but still tributary or subject to the patent of Clough. It is true that that patent describes the tubular valve as being inside of the burner-tube; but Clough was the first person who applied a valve regulation of any kind to the combination to which he applied it, and the first person who made such combination, and he is entitled, under decisions heretofore made by this Court, to hold as infringements all valve regulations applied to such combination which perform the same office in substantially the same way as and were known equivalents for his form of valve regulation. The record shows that prior to the existence of the appellant's burner it was common in gas-burners to check the flow of gas out of the burner by applying an obstruction operated by a screw indifferently outside or inside of the burner. It follows, from these considerations, that the defendants infringed the second claim of the Clough patent.

The decree of the circuit court is reversed, with costs, and the cause is remanded, with directions to enter a decree for the appellant for an account and an injunction, as prayed in the bill, with costs, and to take such further proceedings therein as shall be in conformity with law and with the opinion of this Court.

U. S. Circuit Court---Southern District of New York.

INGALLS *et al. v.* TICE *et al.*

Decided May 2, 1882.

RIGHT TO SUE—LICENSEE—PATENTEE A PARTY.

An agreement whereby the patentee granted to the complainant the sole and exclusive right to sell the patented articles within certain specified territory was not a transfer of an individual part of the whole patent or of the exclusive right of the whole patent for a particular territory. It is simply a license, and does not entitle the complainant to bring suit in his own name, the patentee not being a party to the suit.

WALLACE, *C. J.:*

The demurrer must be sustained on the ground that the bill does not show the complainants to have such an interest in the patent as is necessary to enable them to maintain suit for an infringement. The allegation of the bill in this behalf is that the patentee, for a valuable consideration, entered into a written agreement with the complainants whereby the patentee granted unto said complainants the sole and exclusive right to sell said patented articles within certain specified territory. The written agreement is not set forth. Its legal effect cannot be extended by inference beyond the fair purport of its terms as alleged. It does not purport to transfer to the complainants the right to manufacture the patented article in the territory described or the sole right to use the article in that territory. Not being a transfer of an undivided part of the whole patent or of the exclusive right to the whole patent for a particular territory, it is simply a license. (*Gaylor* v. *Wilder*, 10 How., 477.) It is a grant or permission for a limited use of the invention within certain territorial limits. The complainants did not acquire any part of the legal estate in the patent. They could only authorize others to make the patented articles. The right of the patentee, not only to make and use, but to authorize others to make and use, the articles within the specified territory, remains intact.

As the patentee is not a party to the suit, the complainants cannot maintain their bill.

The demurrer is sustained, and leave is given to the complainants to amend within thirty days, upon payment of costs.

THE OFFICIAL GAZETTE OF THE United States Patent Office.

[BY AUTHORITY OF CONGRESS.]

VOL. 22—No. 26. TUESDAY, DECEMBER 26, 1882. PRICE—$5 per year

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Subscriptions for 1882.

The OFFICIAL GAZETTE is published every Tuesday, two volumes a year, commencing in January and July. Terms: To all subscribers within the United States and Canada, $5 per annum; to foreign subscribers, $7; single copies, 10 cents; bound volumes, $3.50 per volume. No club rates. *Payment in advance.* All orders should be addressed to "The Commissioner of Patents, Washington, D. C."

Issue of December 26, 1882.

Patents	314—	No. 269,506 to No. 269,819, inclusive.
Designs	27—	No. 13,481 to No. 13,507, inclusive
Trade-Marks	20—	No. 9,900 to No. 9,919, inclusive.
Labels	22—	No. 2,863 to No. 2,884, inclusive.
Reissues of patents	2—	No. 10,263 to No. 10,264, inclusive.
Total issue	385	

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks and Labels.	States.	Patents and Designs.	Trade-Marks and Labels.
Alabama			Nebraska	1	
Arizona Territory			Nevada	1	
Arkansas	1		New Hampshire	5	
California	5	1	New Jersey	17	1
Colorado	1		New Mexico Territ'y		
Connecticut	12		New York	60	14
Dakota Territory	1		North Carolina		
Delaware	1		Ohio	24	2
District of Columbia	2		Oregon	1	
Florida		1	Pennsylvania	27	3
Georgia	2	1	Rhode Island	2	
Idaho Territory			South Carolina	2	
Illinois	23	4	Tennessee	1	
Indiana	15	1	Texas	3	1
Indian Territory			Utah Territory		
Iowa	8		Vermont	1	
Kansas	6		Virginia	1	1
Kentucky			Washington Territ'y		
Louisiana			West Virginia	2	
Maine	5		Wisconsin	6	
Maryland	6	2	Wyoming Territory		
Massachusetts	55	5	United States Army		
Michigan	8		United States Navy		
Minnesota	2	1			
Mississippi			Total to citizens of the United States	322	40
Missouri	10	2			
Montana Territory					

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks and Labels.	Countries.	Patents and Designs.	Trade-Marks and Labels.
Australia			England	9	1
Austria	1		France	2	1
Barbadoes			Germany	2	
Belgium			Italy		
Bermuda			New Zealand		
Brazil			Russia		
Canada	4		Spain		
Chili			Sweden	1	
Colombia, U. S. of			Switzerland		
Cuba					
Denmark			Total to citizens of foreign countries	19	2
Ecuador					

DESIGNS.

13,481 to 13,488, inclusive.—CARPET.—*Eugene A. Crowe*, Boston, assignor to *The Lowell Manufacturing Company*, Lowell, Mass. Applications filed November 9, 1882. Term of patents 3½ years.

13,489.—CARPET.—*Etienne Fajon*, Boston, Mass., assignor to *The Roxbury Carpet Company*, same place. Application filed November 11, 1882. Term of patent 3½ years.

13,490 to 13,495, inclusive.—CARPET.—*Edwin Fisher*, Boston, assignor to *The Lowell Manufacturing Company*, Lowell, Mass. Applications filed November 9, 1882. Term of patents 3½ years.

13,496.—ROASTING AND BAKING DISH.—*John E. Gamble, William Harrison*, and *Allen R. Lee*, East Liverpool, Ohio; said *Lee* assignor to *Flentke, Harrison & Co.*, same place. Application filed November 8, 1882. Term of patent 7 years.

13,497 to 13,507, inclusive.—CARPET.—*Charles W. Seapp*, Boston, assignor to *The Lowell Manufacturing Company*, Lowell, Mass. Applications filed November 9, 1882. Term of patents 3½ years.

TRADE-MARKS.

[Certificates of registration of Trade-Marks numbered 8,191 and upward are registered under the act of March 3, 1881.]

9,900.—SUBSTITUTE FOR HOPS.—*John Bowler*, New York, N. Y. Application filed November 24, 1882.

"The letters and words 'HOP SUPPLEMENT.'"

9,901.—PLAIN AND FIGURED MUSLIN AND WINDOW-CURTAINS.—*John Brown & Son*, Glasgow, Scotland. Application filed November 23, 1882.

"The representation of a boat and the combination of this representation with the representation of a lion."

9,902.—SPOOL-COTTON.—*Kerr & Co.*, New York, N. Y. Application filed November 22, 1882.

"The figure of a spool having a cylindrical projection upon its lower end."

9,903.—BITTERS.—*John R. Ludlow*, Norfolk, Va. Application filed October 23, 1882.
"The fanciful term 'YAUPON.'"

9,904.—PLASTERS.—*William H. Wyckoff*, New Brunswick, N. J. Application filed November 23, 1882.
"The letters 'W. H. W.' and a heart-shaped figure."

9,905.—CIGARETTES AND CUT TOBACCO FOR THE SAME.—*Julian Alvarez*, New York, N. Y. Application filed November 20, 1882.
"The words 'ESPECIALES DE HENRY CLAY' and the pictorial representation of the portrait of that statesman."

9,906.—CIGARS.—*Eduardo H. Gato*, Key West, Fla. Application filed October 30, 1882.
"The word 'ESTRELLA.'"

9,907.—BLASTING-POWDER.—*Granite Powder Company*, San Francisco, Cal. Application filed November 4, 1882.
"The word 'GRANITE.'"

9,908.—STOVE-POLISH.—*Ignatius G. Schwarz*, Chicago, Ill. Application filed November 13, 1882.
"The words 'AMERICAN FAMILY' and the letters 'A. F.' arranged as a monogram."

9,909.—MALT, ALCOHOLIC, FERMENTED, AND UNFERMENTED LIQUORS.—*Charles F. Wildey*, New York, N. Y. Application filed November 20, 1882.
"The word 'CELLARET.'"

9,910.—WHISKY.—*Wood, Pollard & Co.*, Boston, Mass. Application filed November 29, 1882.
"The words 'THE OXFORD.'"

9,911.—REMEDY FOR INDIGESTION.—*William Richard Warner*, Philadelphia, Pa. Application filed November 18, 1882.
"The arbitrarily-selected word 'PANCREOPEPSINE.'"

9,912.—CIGARS.—*T. R. Harris & Co.*, Cohocton, N. Y. Application filed November 23, 1882.
"The words 'KNIGHTS OF LABOR.'"

9,913.—FLOUR.—*Hoadley & Co.*, New York, N. Y., assignors to *S. Oscar Ryder*, same place. Application filed November 27, 1882.
"The words 'LA UNION.'"

9,914.—LINK CUFF-BUTTONS.—*Horton, Angell & Co.*, Attleborough, Mass. Application filed December 4, 1882.
"A card the ends of which are folded over upon or overlie its central portion and are perforated to receive and hold a pair of link cuff-buttons."

9,915.—WATER-PROOF CLOTHING.—*Demetrius Jannopoulo*, St. Louis, Mo. Application filed December 1, 1882.
"The picture of a bear."

9,916.—CUTLERY.—*Allan G. Lamson*, Brooklyn, N. Y. Application filed November 28, 1882.
"A series of crescents abutting together, with the convex curve of one arranged within the concave curve of the other."

9,917.—PILLS.—*Eugène Troncin Leroy*, Paris, France. Application filed December 2, 1882.
"The words 'GRAINS DE SANTÉ DU DOCTEUR FRANCK.'"

9,918.—OINTMENT.—*William Wallace Tooker*, Sag Harbor, N. Y. Application filed November 28, 1882.
"The word 'CASTILIAN.'"

9,919.—PREPARATION FOR THE CURE OR ALLEVIATION OF CUTANEOUS DISEASES.—*Sumner W. Wellman*, Boston, assignor to *James Smith*, Cambridgeport, and *John W. Smith*, Allston, Mass. Application filed November 28, 1882.
"A front view or elevation of the kind of cactus usually termed the 'Turk's head cactus.'"

LABELS.

2,863.—Title: "BAILEY'S POND LILY PUFF."—*Ellene A. Bailey*, St. Charles, Mo. Application filed November 28, 1882.

2,864.—Title: "CACTUS BALM."—*Smith Brothers*, Boston, Mass. Application filed November 28, 1882.

2,865.—Title: "FIRST PREMIUM SHEET WAX."—*William H. Brownell*, Brooklyn, N. Y. Application filed November 27, 1882.

2,866.—Title: "CAPITO HAIR RENEWER AND INVIGORATOR."—*R. E. De Angelis & Co.*, New York, N. Y. Application filed November 29, 1882.

2,867.—Title: "THE PERFECTED LIVER PILLS."—*Theodore W. Ellis*, Macon, Ga. Application filed November 27, 1882.

2,868.—Title: "GOLDEN ROOT COMPOUND." (FOR LINIMENT.)—*Milo M. Geary*, Cincinnati, Ohio. Application filed December 4, 1882.

2,869.—Title: "PERRY & Co's, LONDON, ENGLAND, SUPERIOR SOLUBLE COMPOUND GELATINE CAPSULES."—*Leah H. Gedney*, New York, N. Y. Application filed December 4, 1882.

2,870.—Title: "PERRY & Co's, LONDON, ENGLAND, SUPERIOR SOLUBLE GELATINE CAPSULES."—*Leah H. Gedney*, New York, N. Y. Application filed December 4, 1882.

2,871.—[Withdrawn.]

2,872.—Title: "GOLD DUST" (FOR FLOUR.)—*Tate, Hinrichs & Co.*, Baltimore, Md. Application filed November 16, 1882.

2,873.—Title: "D. A. JOHNSON'S REMEDY FOR CATARRH, PHTHISIC, COUGHS, ASTHMA, CROUP AND COLDS."—*David A. Johnson*, Crawfordsville, Ind. Application filed December 4, 1882.

2,874.—Title: "THE MORSE ASTHMA CURE."—*B. B. Morse & Co.*, Chicago, Ill. Application filed November 28, 1882.

2,875.—Title: "PICKIT'S NEW COUGH REMEDY."—*J. B. Pickit*, Fergus Falls, Minn. Application filed December 4, 1882.

2,876.—Title: "PAT. GENEVA." (FOR WATCH CRYSTALS.)—*J. H. Purdy & Stein*, Chicago, Ill. Application filed December 4, 1882.

2,877.—Title: "WHEAT AND BEEF."—*Charles O. Rano*, Buffalo, N. Y. Application filed November 27, 1882.

2,878.—Title: "DR. RUDD'S VEGETABLE LIVER REGULATOR."—*Joseph F. Rudd*, Jacksonville, Tex. Application filed November 29, 1882.

2,879.—Title: "WATCH FACTORY AT SPRINGFIELD, ILL."—*Seligman Hecht*, Springfield, Ill. Application filed December 1, 1882.

2,880.—Title: "HANBURY SMITH & HAZARD'S CARBONATED BEVERAGES."—*Hanbury Smith & Hazard*, New York, N. Y. Application filed November 29, 1882.

2,881.—Title: "RAINBOW BLEND" (FOR COFFEE.)—*F. Sutton & Co.*, Philadelphia, Pa. Application filed December 1, 1882.

2,882.—Title: "IRON BEER."—*Jackson & Tucker*, Baltimore, Md. Application filed December 4, 1882.

2,883.—Title: "ROUGH ON CORNS, BUNIONS, WARTS, MOLES, &C."—*W. M. L. Weills*, Harrisburg, Pa. Application filed December 4, 1882.

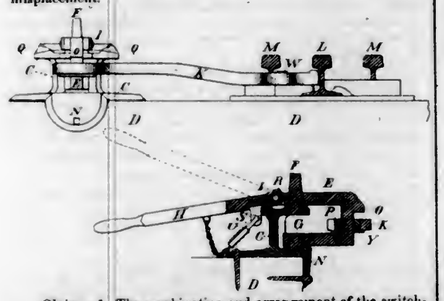
2,884.—[Withdrawn.]

PATENTS

GRANTED DEC. 26, 1882.

269,506. SWITCH. EDWARD J. BEARD and HOWARD V. HINCKLEY, Topeka, Kans. Filed Aug. 14, 1882. (No model.)

Brief.—A railroad-switch in which the stand is made low and simple, the object being, first, to economize track room; second, to secure equal throws of the switch-rail; and, third, attain security by excluding from use all boxes, nuts, and bolts which in the ordinary switch-fixtures are subject to careless or malicious misplacement.



Claim.—1. The combination and arrangement of the switch-stand, its horizontal crank, the rod K, and its connection at W with the switch-rail in such manner that the line of travel of the point W shall bisect a line joining the centers of P and F G when the latter stands parallel to the track, for the purpose of equalizing the throws of the switch.

2. The combination of the crank E with the pins F and G and stand C, for the purpose of economizing room and securing simplicity in construction.

3. The connecting-rod K, in combination with the eye X, slot V, ring P, lug O, pin W, and the projection of the rod K under the head of the switch-rail for the purpose of attaining security and simplicity, as hereinbefore specified.

4. In combination with the switch-rail and the vertical pivot-pin W, formed on the switch-bar, the rod K, having its end extended beyond said pin, and engaging under the head of the rail, for the purposes set forth.

269,507. RESERVOIR FOR BURNING-FLUIDS. WILLIAM A. BEST, Canton, Ohio, assignor of one-half to Martin L. Best and Levi L. Miller, same place. Filed Nov. 10, 1882. (No model.)

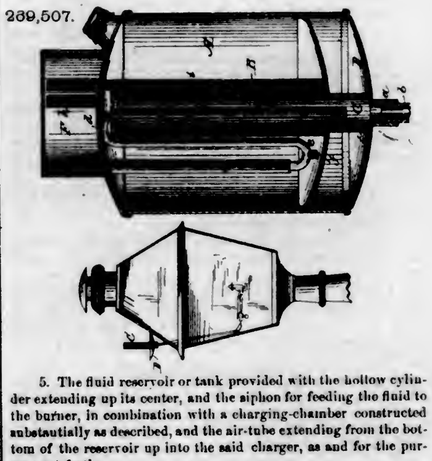
Claim.—1. A fluid reservoir or tank provided with a charging-chamber and a siphonic feeding attachment, operating in connection with each other substantially as and for the purpose set forth.

2. In a fluid reservoir or tank, the combination, with a central tube or cylinder thereof, of a siphon extending down into said tube, substantially as and for the purpose specified.

3. The combination, with a tube provided with a disk or support and means for attachment to a lamp or other heating or illuminating device, of a fluid reservoir or tank provided with a siphonic feeding attachment, said reservoir or tank being removably connected to the disk or support, substantially as and for the purpose described.

4. The combination, with a fluid reservoir or tank having a hollow cylinder extending from its bottom a suitable distance upward, and closed at its top, of a tube permanently attached to the

269,507.

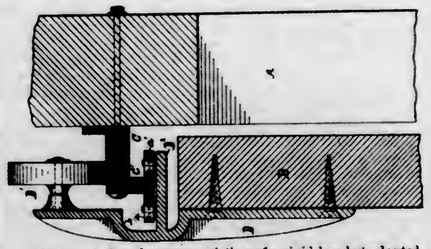


5. The fluid reservoir or tank provided with the hollow cylinder extending up its center, and the siphon for feeding the fluid to the burner, in combination with a charging-chamber constructed substantially as described, and the air-tube extending from the bottom of the reservoir up into the said charger, as and for the purpose set forth.

6. The reservoir A, provided with the hollow cylinder B, charger F, screw-capped opening G, air-tube i, siphon E, and pipe g, constructed as described, in combination with the tube C and disk D, permanently attached to the service-pipe of a lamp, stove, or other like article by a suitable coupling, substantially as and for the purpose set forth.

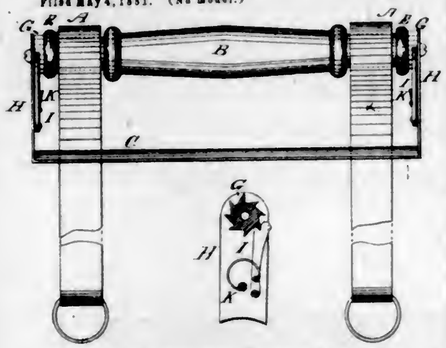
service-pipe of a lamp, stove, or other like article, and adapted to fit in the bore of said cylinder, substantially as and for the purpose set forth.

269,508. DOOR-HANGER. FRANK BIRMINGHAM, Hornellsville, N. Y. Filed Oct. 27, 1882. (No model.)



Claim.—A door-hanger consisting of a rigid bracket adapted to be secured to the side of a door, and provided with a supporting-roller journaled to its upper end to travel on a track, and an arm projecting laterally from the inner side of the rigid bracket and carrying on its upper side two wheels, which are adapted to revolve in a plane at right angles to the supporting-roller and on opposite sides of a flange depending from the track, substantially as shown and described.

269,509. SHAWL-STRAP. WILLIAM E. BRADBURY, Newark, N. J., assignor of one-half to A. Kaufmann, New York, N. Y. Filed May 4, 1881. (No model.)



Claim.—1. In a shawl-strap, the handle B, having the kerfs D, adapted to receive the ends of the web A and feather F of the cap E, substantially as and for the purpose specified.

2. The cap E, having the recess adapting it to cover the split end of the handle B, and having the feather F fitted to enter the end of the kerfs D, and provided with the ratchet G, in combination with the handle B, substantially as and for the purpose set forth.

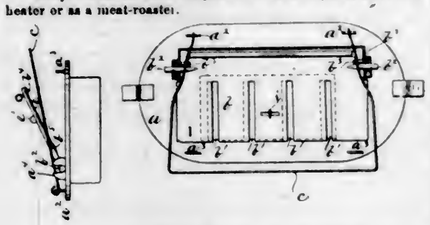
3. The combination of the handle B, having the kerfs D, the cap E, provided with the feathers F and ratchet G, and the pawl I, substantially as and for purpose named.

4. In combination with the handle B, having the kerfs D, the web A, having the ends secured in said kerfs, substantially as and for the purpose set forth.

5. In a shawl-strap, the combination of the handle provided with the ratchet G, and the frame H, carrying the pawl I and provided with the curved spring K, one end of which is secured to the frame and the other to the pawl, substantially as and for the purpose set forth.

269,510. SAD-IRON HEATER. HARRISON H. BROWN, Ladoga, Wis. Filed May 25, 1882. (No model.)

Brief.—This device is adapted to be used either as a flat-iron heater or as a meat-roaster.

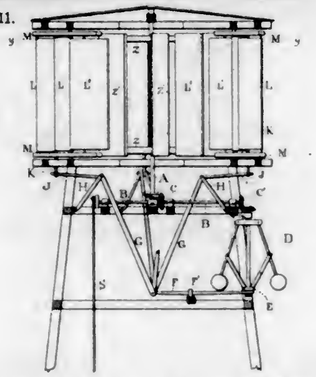


Claim.—1. In a sad-iron heater, the combination, with the lid *b*, having its rear portion extended beyond the points of bearing with the heater, and having the lugs b^3 placed on it in the rear of its bearing with the heater, of the bail-lever *e*, looped in ears on the heater in rear of the lid *b* and extended forward, resting on the lugs b^3, and flared outward, so as to clear the front end of the lid, substantially as set forth.

2. In a sad-iron heater, the combination, substantially as hereinbefore set forth, of the base *a*, having a heating-chamber to receive the irons, a lid or cover hinged to the base and dropping automatically over and covering the heating-chamber, and provided with slots open at their outer ends to receive the handles of the irons, and a slide placed on the under side of the lid, and provided with a series of slots open at their outer ends and coinciding with the slots in the lid, and mechanism whereby the slide may be moved laterally for the purpose of opening or closing the slots in the lid, substantially as set forth.

269,511. HORIZONTAL WIND-WHEEL. RICHARD W. BUSH, Peoria, Ill. Filed Oct. 16, 1882. (No model.)

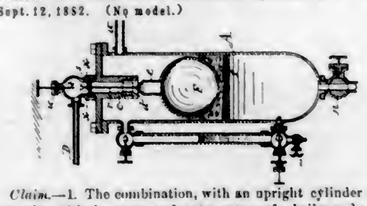
Claim.—1. In enveloping cases for horizontal wind-wheels, the top and bottom strips, M M, having vertical axis O, in combination with one or more leaves, L, pivoted at P to said strips M M, and controlled by a small rod, W', fixed to the said axis O and to the frame-work of the case, and the leaf L^3, pivoted at P' to said strips M M, and controlled by a small rod, W, fixed to the axis O and to the frame-work of the case, substantially as set forth.



2. The horizontal strips M M, having approximately-central axis O, the horizontally-swinging leaves L, L', and L^3, and the rods or wires W W', in combination with suitable frame-work and the wind-wheel Z, having V-shaped fans Z', substantially as and for the purpose specified.

3. The wheel Z, having V-shaped fans Z', and the vertical axis A, a partially-enveloping case, and the horizontally-swinging approximately centrally pivoted screens M L, in combination with the bevel-gear C and C', shaft B, ball-governor D, lever F, having fulcrum F', rods G, rocking braces H, and rods J, secured to said screens M L, substantially as and for the purpose specified.

269,512. AUTOMATIC FEED-WATER REGULATOR FOR STEAM-BOILERS. JOHN CHRISTMAN, Syracuse, N. Y. Filed Sept. 12, 1882. (No model.)



Claim.—1. The combination, with an upright cylinder communicating with the steam and water spaces of a boiler and a float arranged within said cylinder, of a horizontal disk suspended from the float and spanning the cylinder, substantially as and for the purpose specified.

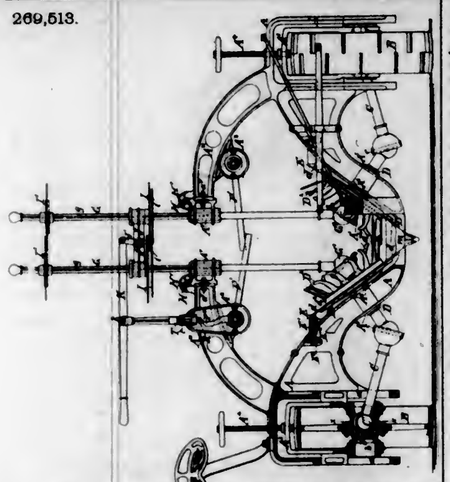
2. An automatic feed-water controller for steam-boilers, consisting of an upright cylindrical chamber communicating with the steam and water spaces of the boiler, and having a steam-eduction port communicating with the actuating-cylinder of the feed-water pump, a float arranged to control the egress of steam from said chamber, and a horizontal disk suspended from the float and spanning the chamber to receive a direct vertical water-pressure, and thereby overcome any suction that may be exerted on the float by the steam-eduction port, substantially as set forth.

3. The combination, with the cylinder A, provided with the steam and water pipes *a* and *b*, of the steam-eduction port *c*, arranged central of the axis of the cylinder and provided with the valve-seat *d*, and the float F, provided with the horizontal disk *f*, and the valve-stem *e*, projecting upward from the center of the float, substantially as shown and set forth.

4. The combination, with the cylinder A, provided with the steam and water pipes *a* and *b*, and with the steam-eduction port *c*, and the float F, provided with the valve-stem *e*, as shown, of the push-rod *i*, substantially in the manner and for the purpose specified.

269,513. MACHINE FOR HARVESTING SUGAR-CANE. WOOD C. DOLLESS and GUSTAVUS H. ZSCHECH, Indianapolis, Ind., assignors to Albert Gall, same place. Filed Apr. 12, 1882. (No model.)

269,513.



Claim.—1. In a harvester, the framings A^3 A^3, inclosing and resting on the wheels B, in combination with said wheels, and with the main framing A, and with the screws A^4, arranged to change the relation of the parts, substantially as herein specified.

2. In a harvester having revolving knives *d*, mounted on shafts D, with connections for rotating them, the adjustable sleeves A^3, forming bearings for said shafts, and adjusting-keys A^4, combined and arranged to serve as herein specified.

3. In a harvester, the wheels B, having hollow hubs *b*, with internal teeth or ribs, *b'*, in combination with the shafts C, having the correspondingly-ribbed spherical heads C', adapted for joint operation, as herein specified.

4. In a harvester having driving-wheels B and knives *d*, with provisions for changing their relative levels, as specified, the separate lengths of shaft C D, connected by universal joints to each other and to the wheels, as herein set forth.

5. In a harvester, the combination of the two inclined rotating knives *d*, the driving connections therefor, the keys A^4, for changing the positions of the knives within certain limits, as shown, a tilting center knife, *m* M, turning on an axis, M', and screw M^3 and key M^3, for adjusting and holding said knife, as herein specified.

6. In a harvester, the combination of a revolving knife, *d*, a sharpening device, E, and a yielding spring, E', arranged to serve as herein specified.

7. In a harvester, the combination of the revolving knife *d*, the reel, mounted on the front of said knife, having a rim, d^3, pressing on the knife, as and for the purposes herein specified.

8. In a harvester, the revolving knives *d* and shafts G, extending upward above the said knives, in combination with the universal joints G', for driving such shafts, the reels I, for seizing and moving the cane or other material treated, and the upper revolving knives, *i*, arranged to cut off the tops of the material, all substantially as herein set forth.

9. In a harvester having revolving knives *d* and shafts D and G, extending up and down, connected thereto, the adjusting-screw H and retaining-bolts *a'*, adapted to set the shafts G at varying inclinations, as herein specified.

10. In a harvester, the combination, with cutters, as *d m*, for cutting off the canes or analogous material, of shafts P, having arms P' and springs for moving and locking, and a tripping device for holding and releasing the shafts, all substantially as herein specified.

11. In a harvester, the arms P' P', arranged to cross each other and the springs N N, so that one shall be certain to bring its arm P' into position later than the other after each discharge of cane, in combination with a locking and tripping device, whereby one tripping device will control both arms, all substantially as herein specified.

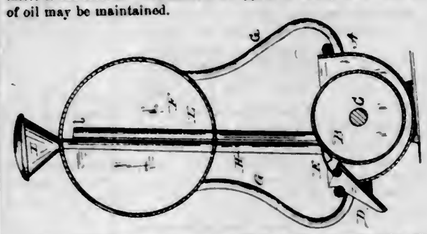
12. The lower cutters, *d*, and their impelling means, the shafts G, extending upward therefrom, the reels I and the upper cutters, *i*, revolved by such shafts, and adapted to be raised and lowered thereon, in combination with the connecting-yoke J and operating-lever K, to adjust the height at which the tops of the canes are cut off, substantially as herein specified.

13. In a harvesting-machine, reels for urging the stalks through the machine composed of a central part or disk, and projecting fingers fixed thereto, in combination with means for imparting motion to the reel-shafts, and with suitable cutters, mounted on the same shaft therewith, for cutting the stalks as the machine advances and the stalks pass through said reels, substantially as and for the purposes herein specified.

14. In a harvesting-machine, the two inclined circular cutters *d* and stationary central knife, *m*, in combination with the sleeves A^3, carrying the shafts for the circular cutters and their supporting-wheels, in combination with the wedge-shaped keys A^4, a suitable casing for the said sleeves, and suitable means for operating the cutter-carrying shafts, substantially as and for the purposes herein specified.

269,514. WOOL-OILING MACHINE. RICHARD DUGGAN, Lawrence, Mass., assignor to Thomas Hall, same place. Filed June 29, 1882. (No model.)

Brief.—Combined with the oiling-cylinder is a corrugated chute for evenly distributing the oil upon the material passing beneath, said chute being provided with pivoted corrugated fingers which rest upon the cylinder, thereby conveying the oil from the latter to the former. Facilities are supplied whereby an even flow of oil may be maintained.



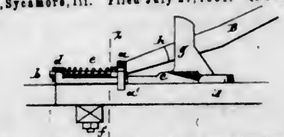
Claim.—1. The combination, with the oiling-chamber A and its cylinder B, of the inclined corrugated chute D and the pivoted corrugated fingers E, for controlling the flow of the oil, substantially as specified.

2. The combination, with the tank F, of the filling-tube H, provided with a funnel and strainer, and the chamber K at the lower end, and an independent tube, L, leading into the upper part of the tank F from said chamber K, substantially as and for the purpose described.

3. The combination, with the tank F and oiling-chamber A, of the connecting-tube M and inclosed double air-pipe N, communicating at one end with the interior of tank F and external air above, and the other end communicating with the interior of the oil-chamber A, substantially as and for the purpose described.

4. The combination, with the tank F and oiling-chamber A, the connecting-tube M and inclosed double air-pipe N, of the tube R, leading from the bottom of the tank F to the oiling-chamber A, substantially as and for the purpose described.

269,515. STOP-BLOCK FOR HORSE-RAKES. REUBEN ELLWOOD, Sycamore, Ill. Filed July 27, 1881. (No model.)

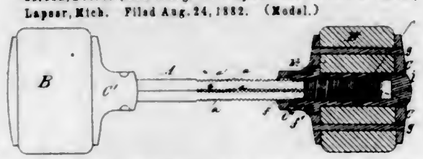


Claim.—1. In a horse hay-rake, the combination of the stationary plate C, the yielding stop-block *a*, arranged to slide on said plate, and the stop-bar B, connected at one end with the rake-head, and having its other end arranged to rest against the yielding stop-block for limiting and controlling the movement of the rake-head, substantially as described.

2. In a horse hay-rake, the combination of the stop-bar B, the plate C, the stop-block *a*, having the ears *a'*, and arranged to rest against the end of the stop-bar, and the springs *c*, sustaining the stop-block, but permitting it to yield with the stop-bar for limiting and controlling the movements of the rake-head, substantially as described.

3. In a horse hay-rake, the combination of the stop-bar B, the spring-impelled stop-block *a*, arranged to bear against the stop-bar and yield with its movements, the movable lock *e*, and the stop *f*, said members being arranged for operation to limit and control the movements of the rake-head, substantially as described.

269,516. KNOB ATTACHMENT. JACOB G. FOX, Bay City, assignor of a part to Isaac M. Henderson and Edmund W. Henderson, Detroit, and George P. Chapman and Horace E. Hatch, Lapeer, Mich. Filed Aug. 24, 1882. (Model.)



Claim.—The combination, with a knob-spindle of prismatic form and screw-threaded at its corners, of a detachable knob having a shank on its confining-plate, with prismatic passage in it, and provided with a center tube, which is screw-threaded internally, made smooth and cylindrical externally, provided with means for holding it, while the knob is in position, from longitudinal movement in either direction, while it is allowed to revolve within the knob, and constructed with a protruding end, by which it is operated from the outside of the knob, substantially as described.

269,517. STEAM-PACKING. WILLIAM A. FRIES, Philadelphia, Pa. Filed Aug. 17, 1882. (No model.)



Claim.—1. A packing or core composed of granulated strips or shavings of cork, asbestus, and dissolved gum, substantially as shown and described.

2. A packing or core composed of granulated strips or shavings of cork, asbestus, and dissolved gum covered with a layer of asbestus, linen, or other suitable material, substantially as shown and described.

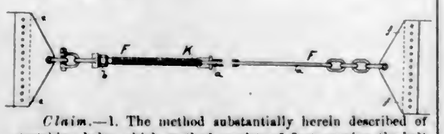
269,518. PREPARATION OF BONED HAMS AND SHOULDERS. LOUIS T. GALSTER, Buffalo, N. Y. Filed Nov. 8, 1882. (No model.)



Claim.—1. A prepared ham or shoulder bound by a compound metallic and twine bandage, the metallic portion resting upon the rind and the twine and wire entirely surrounding the ham or shoulder, as stated.

2. A bandage for prepared hams, shoulders, &c., consisting of a U-shaped strand of wire, E, having eyes *b b* on the ends and other eyes, *b' b'*, at the middle portion, *c*, of said wire, and a twine portion, C, substantially as and for the object specified.

269,519. STRETCHING BELTING AND APPARATUS THEREFOR. MAURICE GANDY, Liverpool, County of Lancaster, England. Filed Nov. 4, 1881. (No model.) Patented in Victoria Oct. 4, 1880, No. 2,904; in India Feb. 26, 1881, No. 585; in New South Wales Mar. 28, 1881, No. 919, and in Norway June 7, 1881, No. 783.

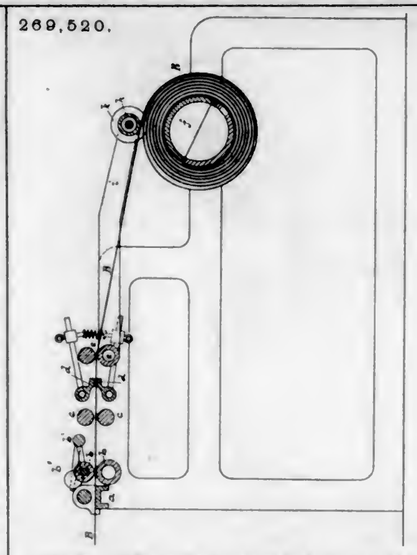


Claim.—1. The method substantially herein described of stretching belts, which method consists of first opening the belt through its entire length, of then stretching it over two or more rollers and connecting the ends by a suitable stretching device, and of then applying tensile strain to its two ends and increasing it from time to time until the elasticity of the belt is exhausted, substantially as described.

2. The means substantially herein described of stretching belts, which means consists of the combination, with the two ends of a belt, B, of a taking-up device, F, and two or more rollers, E, set in a frame, A, the whole coacting, substantially as described, for the purpose specified.

269,520. BELT WINDING AND STRETCHING MACHINE. MAURICE GANDY, Liverpool, County of Lancaster, England. Filed Nov. 4, 1881. (No model.)

269,520.



Claim.—1. The method substantially herein described of winding and maintaining the belts under tension, which method consists of winding the belt directly from the tension-nippers or press-plates, under maximum tension, upon an expanding-barrel for the purpose of nullifying or killing the elasticity, substantially as described.

2. A belt winding and stretching machine having an adjustable guide to gage the width of the belt, and the nipper-plates to hold the belt against the winding of the barrel, substantially as shown and described, for the purposes specified.

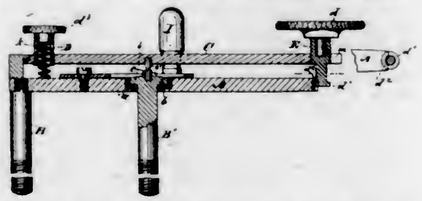
3. In a belt winding and stretching machine, the interchangeable press or nipper plates made of separate pieces of steel or other suitable metal, and combined with the nipper-jaws and levers to hold and force the nippers together, substantially as described.

4. In a belt winding or stretching machine, the press or nipper plates constructed with the lower plate rigid and the upper plate hinged, and provided with pressure-power, substantially as herein described and shown.

5. In a belt winding and stretching machine, the winding-barrel made of segmental pieces, expanded and contracted by cones, substantially as shown and described.

6. In a belt winding and stretching machine, the combination of a winding-barrel, A, with a fixed and swinging bearing, substantially as described, for the purpose specified.

269,521. ELECTRIC TELEGRAPH TRANSMITTER. EMERY M. HAMILTON, New York, N. Y. Filed Mar. 23, 1882. (No model.)



Claim.—1. In a telegraph-transmitter, the lever C, the pivotal joint of which is composed of the upwardly-projecting rib *e* and the corresponding groove or channel, *e'*, in the under side of the ledge or plate *e²*, together with the spring *k*, located underneath the said lever near its pivotal joint, and between the said joint and the break-circuit points *c c'*, the said points being located between the said spring and the button or free end of the lever, all arranged and combined to operate as and for the purpose described.

2. In a telegraph-transmitter, the lever C, the pivotal joint of which is composed of the rib *e* and the corresponding groove, *e'*,

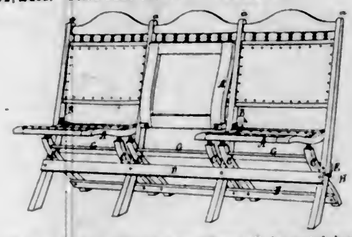
the pivotal line of the said joint being in or nearly in the plane of the longitudinal axis of said lever, together with the spring *k* and break-circuit points *c c'*, all constructed, combined, arranged, and located relatively to one another as described.

3. In a telegraph-transmitter, the combination, with the vibrating lever C and base-plate A, of the recessed set-screw D and spring *k*, the coiled body of which is located in said recess, all combined and arranged substantially as and for the purpose described.

4. The combination, with the lever C and base-plate A, of the adjustable set-screw E, provided at its lower end with a disk, *d'*, constructed and arranged to engage with the under side of the projection *d*, as and for the purpose described.

5. The combination, with the lever C and base-plate A, provided with the projection *d²*, of the adjustable set-screw E, provided with the disk *d'* and the button *d*, as and for the purpose described.

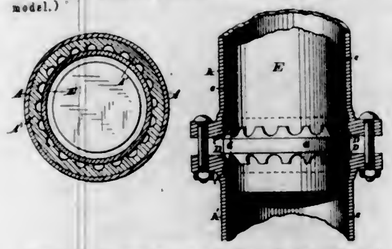
269,522. FOLDING SETTEE. HERBERT J. HARWOOD, Littleton, Mass. Filed June 14, 1882. (No model.)



Claim.—1. In a settee, the back-frame B, its sustaining-posts *a*, and the seats A, pivoted to such posts, in combination with the bars D E, both secured to the posts *a*, the former in front, the latter in the rear, and somewhat above the former, the movable legs C, disconnected from the seats and pivoted to the posts *a*, between the bars D E, and the bar F, all constructed and arranged as set forth.

2. The back-frame B, having the sustaining-posts *a*, and the bars D E, secured to such posts, as set forth, in combination with the seat A, the pivot-rod H, and the legs C, secured to such rod and placed between the bars D and E, all constructed and arranged as described.

269,523. PUMP-CYLINDER. WILLIAM H. HOLCOMBE and CLIFFORD A. HOLCOMBE, Beloit, Wis. Filed Aug. 7, 1882. (No model.)

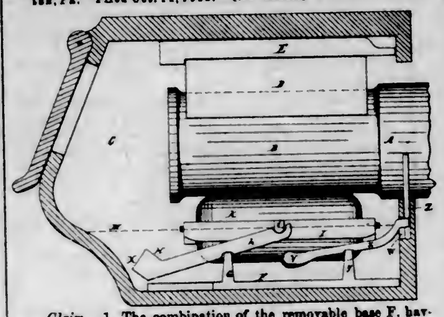


Claim.—1. In combination with the cylinder-sections A A', having beveled mouths, as shown, and the packing-rings D D, the beveled ring G, placed between the packing-rings, and projecting outward between the ends of the cylinder-sections, as shown and described, whereby said beveled ring is clamped and held firmly in place between the sections, and the packing-rings are clamped between the sections and the ring.

2. In combination with the sections A A' and packing-rings D D, extending to and bearing against the piston, the intermediate clamp-ring, G, as and for the purpose set forth.

3. In a pump, the combination of a cylinder having an inwardly-opening valve at its lower end, an elongated piston of materially smaller diameter than the interior of the cylinder, whereby an annular water-space between the piston and cylinder is afforded, a flexible packing extending inward and upward from the cylinder to the piston, whereby it is adapted to permit the passage of water upward between the cylinder and piston, but to prevent its passage downward, and a supporting-ledge beneath the packing, provided with one or more water passages or channels, substantially as shown and described.

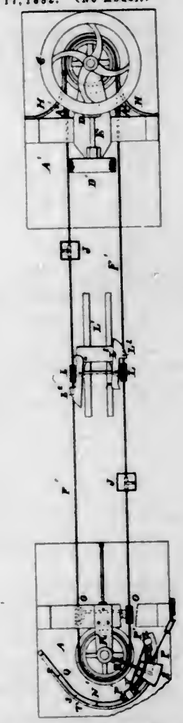
269,524. JOURNAL-LUBRICATOR. THOMAS B. HOWE, Scranton, Pa. Filed Oct. 14, 1882. (No model.)



Claim.—1. The combination of the removable base F, having standards G, the lever H, having arms *h* and weighted outer end, the frame or carrier I, having trunnions *i i*, and the roller K, with the journal of the axle and the axle-box, for containing the lubricant, the whole arranged and adapted to operate substantially as described.

2. The combination, with the slotted walls of the box, of the sliding cut-off Z and the weighted arms X, pivoted on the standards Y, substantially as described.

269,525. CABLE TRAMWAY. CHARLES M. HUDON, St. Louis, Mo. Filed Jan. 17, 1882. (No model.)



Claim.—1. In a tramway, the combination of shaft, rag or sprocket wheel, and buckets, the wheel and buckets adapted to engage with each other, for the purpose set forth.

2. In a tramway, the yoke H, secured to the frame A', in combination with rag-wheel G on shaft B, and cam I, secured to the frame, for engaging with pins on the bottoms of the buckets, substantially as and for the purpose set forth.

3. In a tramway, the combination of bent pendant J', bail J', and bucket J, as set forth.

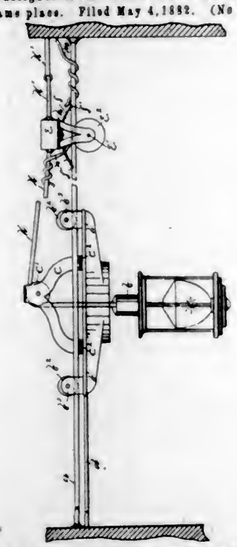
4. In a tramway, the clamp for securing the buckets to the cable, consisting of body K and wedge K', substantially as set forth.

5. In a tramway, the automatic gates L', secured over the pulleys L, substantially as and for the purpose set forth.

6. In a tramway, the rag-wheel N, secured to the shaft M, for the purpose set forth.

7. In a tramway, the car P, supported by wheels P' on track Q, and connected to the shaft M, substantially as set forth, with the hopper S and door T, automatically opened by the cam T' and pin T², pin V, for engaging with the bucket-pendants, and weight W, with connecting-cord W' and pulleys W³ and W², all substantially as and for the purpose set forth.

269,526. APPARATUS FOR SUSPENDING, RAISING, AND LOWERING ELECTRIC LAMPS. CHARLES C. JENNINGS, Buffalo, N. Y., assignor of one-half to James Adams and John F. Moulton, same place. Filed May 4, 1882. (No model.)



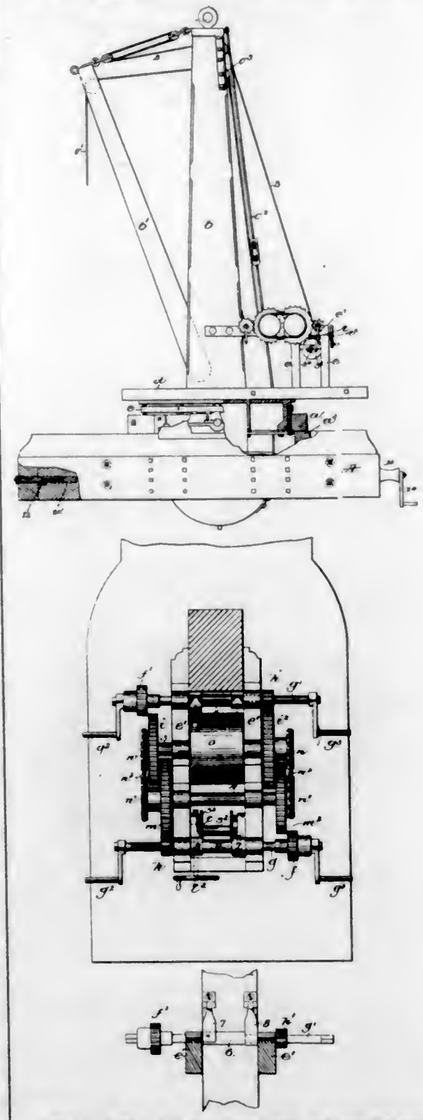
Claim.—1. An apparatus for suspending, raising, and lowering electric lamps, consisting substantially of supporting-cables secured at their ends to the walls of a building or room, a carriage having arms provided with pulleys adapted to travel upon the supporting-cables, and insulated brackets or hangers secured thereto, also provided with pulleys for the reception of the lamp-supporting cables, a cross-arm having at each end thereof a grooved pulley, pivoted to an insulated bracket or hanger to adapt the cross-beam to travel upon the carriage-supporting cables, supporting-cables for the electric lamp, secured rigidly to the cross-beam and passing over the insulated pulleys upon the carriage to the lamp suspended below such carriage, and conducting-wires connecting the positive and negative wires of the circuit with the supporting-cables and the insulated pulleys of the cross-beam with the lamp-suspending cables, all combined and operating substantially as shown and described.

2. In an apparatus for suspending, raising, and lowering electric lamps, the lamp-carriage consisting substantially of the body portion *b*, the radial arms *b'*, having the insulating supporting-pulleys *b*³, pivoted in the outer ends thereof, and arranged substantially in a horizontal plane when the lamp-carriage is in position, and the insulated brackets *c*, having pivoted therein the grooved pulleys *c'*, adapted to receive the lamp-suspending cables, substantially as shown and described.

3. In an apparatus for suspending, raising, and lowering electric lamps, the cross-beam *c*, having secured at each end the insulated hangers or brackets *c'*, in which are pivoted the grooved pulleys *c*², the springs *f*, secured to the brackets or hangers *c'*, and resting at their ends against the supporting-cables *a*, and the slotted posts *g*, for the reception of conducting-wires, substantially as shown and described.

4. In an apparatus for suspending, raising, and lowering electric lamps, in combination, the conducting-wires *m*, connecting the working-circuit with the supporting-cables *a*, the supporting-cables *a*, the insulated pulleys *c*², and their supporting brackets or hangers *c'*, secured to the cross-beam *c*, the springs *f*, secured to the hangers *c'* and resting against the cables *a*, the conducting-wires *n*, the suspending-cables *k*, secured to the cross-beam and connected at their ends with the lamp, and the insulated pulleys *c'* upon the carriage *b*, the whole being arranged to form an uninterrupted circuit through the suspended lamps, substantially as shown and described.

269,527. WRECKING AND CONSTRUCTION CAR FOR RAILWAYS. LUTHER K. JEWETT, Fitchburg, Mass. Filed Oct. 19, 1882. (No model.)



Claim.—1. The car-body, and turn-table, and mast, and boom, combined with the drum-shaft, its gears *i i*², shaft 4, its gears *m m*², the sprocket or chain wheels *n n'* and chain *n*², and shafts *g g'*, provided with gears to operate the shafts 3 and 4, substantially as described.

2. The two shafts *g g'* and their double set of gear *h h' f f'*, of different sizes, combined with the shafts 3 and 4 and their connected gearing *i i² m m²*, and sprocket or chain wheels and chain, whereby either the gears *h h'* or *f f'* may be made operative to turn the drum-shaft 3 at a slow or at a faster speed, substantially as described.

3. The car-body, turn-table, mast, and boom, combined with the drum *a*², rope or chain *a*, and means to turn the said drum, substantially as described.

4. The longitudinally-movable shaft *g* and its collar 6 and gears of different diameter, combined with the two locking devices 7 8, to operate substantially as described.

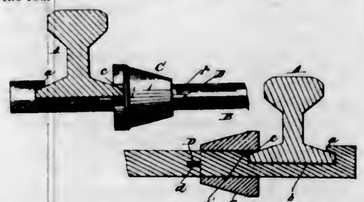
5. The car-body, combined with the shafts *u* and drums 13, to operate substantially as described.

6. The longitudinally-movable shaft *u* and the car-body to which it is applied, combined with the drums 13 and crank 14, substantially as and for the purpose set forth.

269,528. WITHDRAWN.

269,529. RAILWAY SWITCH-ROD AND RAIL-COUPLER. JOHN LOVEJOY, West Lebanon, N. H. Filed Oct. 3, 1882. (No model.)

Brief.—A device for coupling the rails and preserving the gage; also, to provide means of allowing any one of the switch-rods to be removed without interfering with the others; also, to provide for taking up the slack resulting from constant jarring without removing the rod. It consists of a tie-rod with lugs fixed on its ends and with movable lugs made fast in position by keys through the rod.

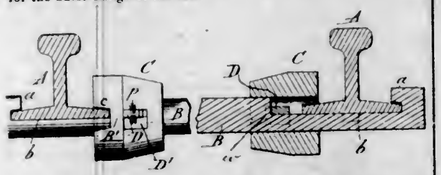


Claim.—1. A switch-rod slotted to form a solid clutch for the outer flange of the rail, and having the inner wall of said slot vertical, except where cut away near the top, as shown, to give the rail a firm bed and allow it to be easily inserted and removed, substantially as set forth.

2. The combination, with the switch-rails, of the slotted switch-rod having wedge-keys and sliding collars, substantially as set forth.

269,530. SWITCH-ROD AND COUPLER. JOHN LOVEJOY, West Lebanon, N. H. Filed Oct. 12, 1882. (No model.)

Brief.—Grooves are cut in the rods, so that their inner walls are vertical, but do not impinge upon the inner flange of the rail, but are some distance to the rear of it, to allow the insertion of the rail and wedge-key, the latter fastening the sliding collars in one groove. The grooves are also so made as to form solid clutches for the outer flange of the rail.



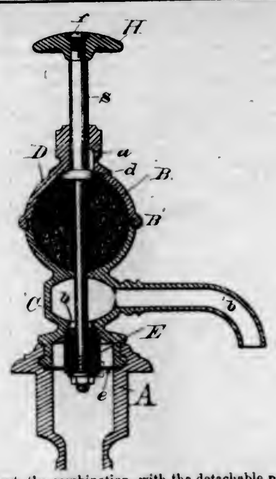
Claim.—1. In a switch-rod and coupler, the collar C, having lips *c*, bridge B', and slot D', substantially as described.

2. The combination of the switch-rod B, grooved to form the solid clutch *a* and removed rear walls, *w*, with the collar C, having lips *c*, bridge B', and slot D', said collar being fastened by a wedge-key passing through it and the groove in the rod, substantially as set forth.

269,531. FAUCET. JAMES MCGINLEY, Chicago, Ill. Filed Feb. 18, 1882. (No model.)

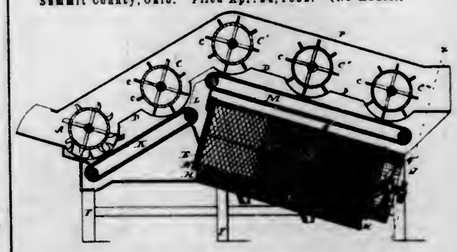
Claim.—1. A faucet provided with a rubber sponge-ball vulcanized on the outside and inside, substantially as and for the purpose specified.

269,531.



2. In a faucet, the combination, with the detachable parts C D, forming chamber B', said part D having a slot, *a'*, of the perforated ball B, inclosed in said chamber, and the spindle S, having valve E, collar *d*, and lug *a*, all substantially as and for the purpose described.

269,532. GRAIN-SEPARATOR. FRANCIS H. MCKNIGHT, GEORGE MCKNIGHT, and JOHN MCKNIGHT, Springfield Township, Summit County, Ohio. Filed Apr. 24, 1882. (No model.)

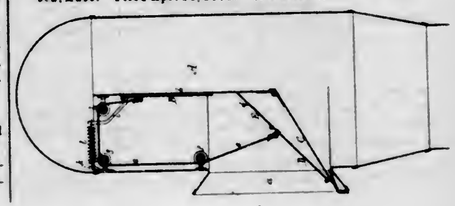


Claim.—1. A winnowing and separating device consisting essentially of an inclined revolving screen, an exhaust-fan at the rear end of said screen, adapted to draw the air through said screen, and a case inclosing said screen and fan, all constructed and arranged substantially as shown, and for the purpose specified.

2. In a grain-separator, the combination of a series of beating-cylinders, a grating arranged below said cylinders, an inclined rotating screen, an exhaust-fan situated at the discharge end of said screen, adapted to draw the air through said screen, and a case inclosing said screen and fan, all constructed and arranged as shown, and for the purpose specified.

3. The herein-described grain-separator, consisting of the thrashing-cylinder A, beating-cylinders C C' C'' C''', grating D, conveying-belts K M, bolt E, and fan J, all constructed and arranged substantially as shown, and for the purpose specified.

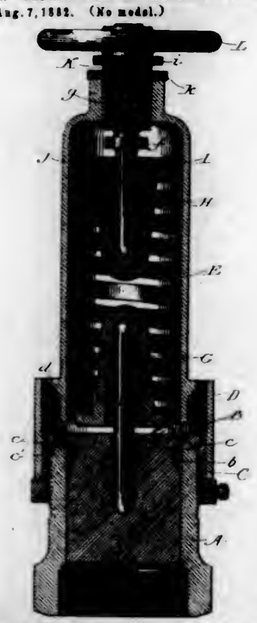
269,533. VENTILATOR FOR SHIPS. PATRICK MIHAN, Chelsea, Mass. Filed Apr. 14, 1882. (No model.)



Claim.—1. The combination of the two plates D and E, hinged to each other and arranged, as described, within the hood A, and connected with the upper deflector, B, by means as explained, with such deflector and its operative spring, and the partition *b*, arranged in the hood, as set forth.

2. The combination of the studs *d*, with the hood A, its partition *b*, and two deflectors, B and C, and the plates D and E, arranged and applied substantially as explained.

269,534. SAFETY-VALVE. ALEXANDER ORNE, Chicago, Ill. Filed Aug. 7, 1882. (No model.)



Claim.—1. The combination, with the valve, the valve-spindle and its socket-piece, of an opposing socket-piece and spindle, and of a helical spring confined between said socket-pieces, and means, substantially as described, for adjusting said spring.

2. The combination, with a spring-case, the spring, the spindle, the spindle-socket, and the valve, of a screw-threaded adjusting-bolt engaging with said spring and projecting upon the outside of the case, substantially as described.

3. The combination, with the spring-case, the spring, and the valve, of the screw-threaded spring-adjusting bolt projecting through the case, and of an adjustable bushing working on said bolt and providing for a donble adjustment of the valve, substantially as described.

4. The combination, in a safety-valve, of a helical actuating-spring chamfered upon its end, and a spindle-socket having a convex flange, forming a seat for the end of said spring, substantially as described.

5. The combination, with the valve, the valve-case, and the adjustable collar, of the spring and spring-case extending above but projecting into the valve-case, said cases being provided with steam-ports, and the collar screw-threaded and adjustable in the valve-case, substantially as described.

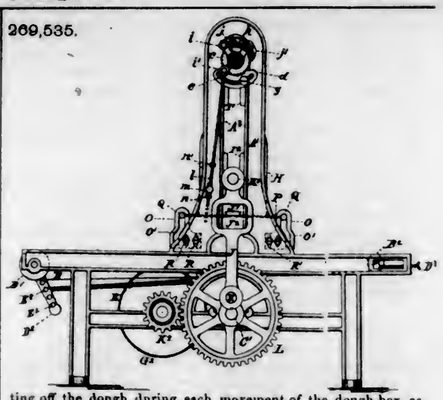
6. The combination, with the valve, of the radial valve-wings notched and chamfered next the valve, substantially as described.

269,535. CAKE-MACHINE. WALTER S. OVENS, Buffalo, N. Y., assignor to Charles E. Benedict and George B. Webster, same place. Filed Aug. 11, 1880. (Model.)

Claim.—1. In a cake-machine, an intermittingly-moving endless apron for carrying the tray along as the cakes are deposited thereon, in combination with a vertically-movable dough-box provided with a follower, I', and a suitable mechanism, substantially as specified, for giving it the necessary movements.

2. In a cake-machine, the combination of a movable dough-box with the cams O and cut-off slides P, for the purpose of cutting off the dough during each movement of the dough-box, as herein set forth.

269,535.



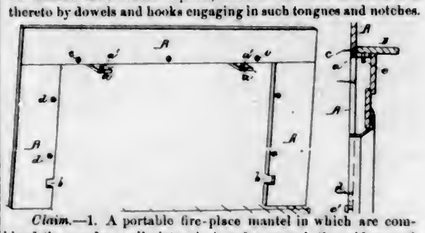
3. In a cake-machine, a movable dough-box provided with a shaft, I, and gearing M' M', in combination with a ratchet-wheel and pawl, a stud, *m*, and arm *l*, having stops *n n'*, for giving the required intermitting movements to the follower, substantially as described.

4. In a cake-machine, the combination, with a material-box, of a pan-supporting table, and mechanism for vertically moving one toward and away from the other, whereby when the machine is in operation the material flows from the nozzle upon the pan, and when the deposit is made the connection between the deposit and the box breaks, substantially as set forth.

5. A movable dough-box provided with one or more slides, P, in combination with one or more cams, O, made adjustable, as and for the purposes described.

269,536. PORTABLE MANTEL FOR FIRE-PLACES. CHARLES L. PAGE, Chicago, Ill. Filed July 24, 1882. (No model.)

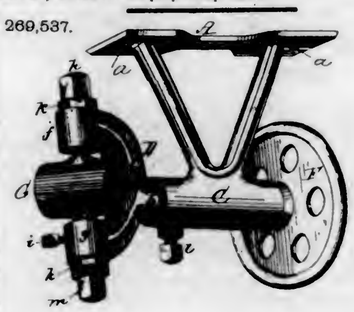
Brief.—Wooden wall-plates with pierced tongues and suitable notches are screwed in place, and the mantel is then attached thereto by dowels and hooks engaging in such tongues and notches.



Claim.—1. A portable fire-place mantel in which are combined the wooden wall-plates A A and a mantel, the said mantel and wall-plates being adapted for a slip-lock connection to each other at or near both the tops and bottoms thereof, substantially as specified.

2. The wooden wall-plates A A, provided with the pierced tongues *a a*, and having therein the notches *b b*, in combination with a mantel provided with the dowels *c c* and hooks *c' c'*, substantially as and for the purposes specified.

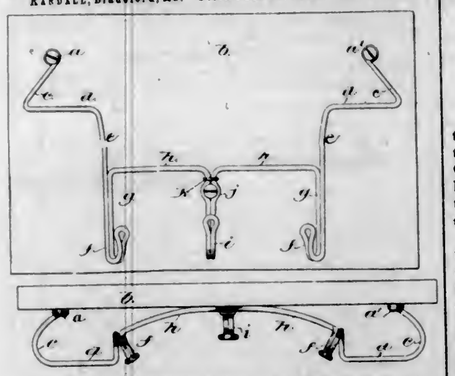
269,537.



269,537. ADJUSTABLE HANGER FOR SHAFTING. NICHOLAS PARENT, Cornwall, Conn. Filed Nov. 3, 1882. (No model.)

Claim.—The base or frame of a hanger, having socket C, and screw-rod E, and set-screw *l*, in combination with the hanger D, cast with screw-threaded sockets *f g*, and shank *b*, fitting within the socket C, said shank being tapped to admit of the screw-threaded end of the rod E engaging therewith, substantially as and for the purpose set forth.

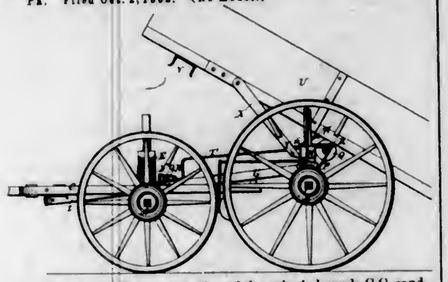
269,538. RACK OR SUPPORT FOR GARMENTS. REUBEN W. RANDALL, Biddeford, Me. Filed June 12, 1882. (No model.)



Claim.—1. As an improved article of manufacture, the herein-described hat and garment support, it consisting of a wire having fastening-eyes at its ends, outwardly-curved and downwardly-extending portions *c c*, hooks formed of loops of the wire at the end of the said downwardly-extended portions, and a transverse portion between the said hooks, also formed into a supporting-hook, and having an eye or socket to receive a fastening, as and for the purpose described.

2. The combination, substantially as shown and described, of the outwardly-curved portions *c c*, the downward extensions *e e*, and the cross portions *h*, with hooks and sockets to receive the fastenings, all formed of a single wire, as specified.

269,539. DUMPING-WAGON. WILLIAM S. REED, Scalp Level, Pa. Filed Oct. 2, 1882. (No model.)



Claim.—1. The combination of the axle A, hounds C C, sand-board D, bolster E, king-bolt F, reach I, heading-slot K, U-shaped plate or bail L, swiveled upon the king-bolt and extending over the end of the reach, and the bolt M, as set forth.

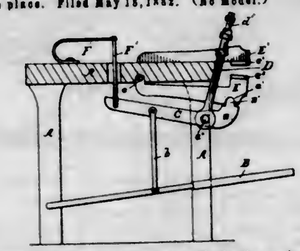
2. The combination of the reach I, having slot K and hinged hook O, of the front running-gear connected to said reach by the king-bolt sliding in slot K, and the beveled catch N, secured to the rear side of the sand-board, so as to be capable of engaging hook O, as set forth.

3. The combination of the running-gear, the brace T, connecting the reach with the rear bolster, and the wagon-box having on its under side a hinged loop encircling said brace T, as set forth.

4. The combination of the running-gear, the lugs S upon the front side of the rear bolster, and the wagon-box having levers X X, connected under said box by a rod, Y, as and for the purpose set forth.

5. The brackets P, secured, as described, to the rear axle and bolster, and having springs R and bearings for the detachable roller Q, as set forth.

269,540. RIVETING-MACHINE. PETER A. REED, Detroit, Mich., assignor of one-half to the Michigan Stove Company, same place. Filed May 15, 1882. (No model.)

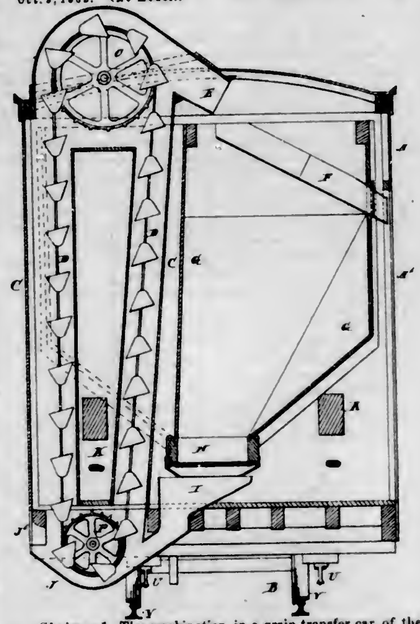


Claim.—1. The combination, with the frame A, of the stationary and movable clamping-jaws, provided with suitable dies, the stirrup or loop suspended upon the stationary jaw, the lever C, fulcrumed in the depending arms of said stirrup or loop, and having its short arm arranged to bear against the under side of the movable jaw, and the treadle connected with the long arm of said lever, substantially as described.

2. The combination, with the stationary and movable jaws, the latter having a recess, *c'*, formed in its under side, of the stirrup or loop D, provided with the adjusting-screw, bearing upon the stationary jaw, and the lever C, fulcrumed in the depending arms of said stirrup, and having its short arm provided with the tip *c'*, engaging in the recess in said movable jaw, substantially as described.

3. The combination, with the stationary and movable clamping-jaws, of the stirrup or loop suspended upon the stationary jaw, and the lever fulcrumed in the arms of said stirrup or loop, and having one of its arms arranged to bear against the movable jaw for forcing it toward the stationary jaw, substantially as described.

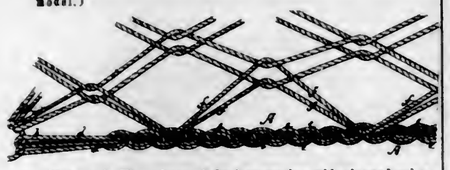
269,541. GRAIN TRANSFER CAR. LLOYD D. RICHARDSON, JOHN R. TRIMMER, and EUGENE E. LOOMIS, Chicago, Ill. Filed Oct. 9, 1882. (No model.)



Claim.—1. The combination, in a grain-transfer car, of the bin G, having the opening H, with the spout I, elevator D, and spouts E F, substantially as described.

2. In a grain-transfer car, the combination of the receiver J, openings or spouts J' and I on opposite sides with the elevator D, bin G, scale-frame K, and delivery-spouts E F, all arranged and operating substantially as specified.

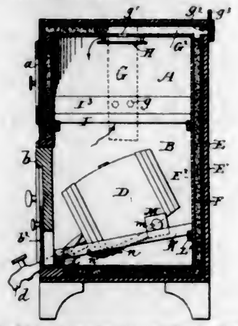
269,542. HAMMOCK. ALBERT O. ROOD, Syracuse, assignor to Vincent P. Travers, New York, N. Y. Filed May 5, 1882. (No model.)



Claim.—1. The selvage A for hammocks, said selvage having closed end loops, *h*, and closely-set eyes *e e* between said end loops, substantially as and for the purpose described.

2. The braided selvage A, made with projecting end loops, *h*, and adapted to support the cords *f* of the hammock-body in some only of the loops *e*, that are formed by the braid, substantially as shown and described.

269,543. REFRIGERATOR. PETER SHAUT, Massillon, Ohio. Filed Nov. 8, 1882. (No model.)



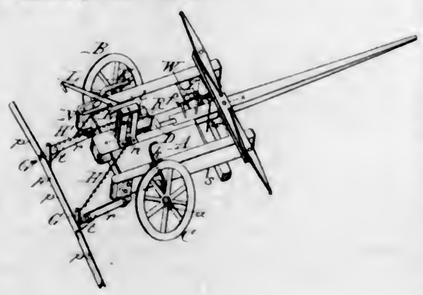
Claim.—1. In a refrigerator having the ice-chamber A above the cooling-chamber B, the walls composed of an outer wood casing, E, a card-board lining, E', a packing of excelsior or fine curly wood shavings, F, and an inner wood lining, E², with the air-flue G², formed within said packing, the ceiling of the upper chamber provided with the opening *g'* and the air-deflecting plate H, pendent therefrom, substantially as and for the purpose described.

2. The combination, in a refrigerator, of an upper chamber, A, a lower chamber, B, the walls thereof packed with fine curly wood shavings F, and having air-flues G and G' therein, with the air-deflecting plate H pendent from the ceiling of the upper chamber, and the hood I' projecting from the ceiling of the lower chamber, substantially as and for the purpose described.

3. The combination of the lower chamber of a refrigerator, and the inclined ways K therein, with the strap *n*, secured to the keg-carriage, and hook *n'*, attached to said strap, substantially as and for the purpose described.

4. The combination of the lower chamber of a refrigerator, the inclined ways therein, and the finger *q*, pivoted to the latter, with the keg-carriage, the strap *n*, secured at one end thereto, and the hook *n'*, attached to said strap, substantially as and for the purpose described.

269,544. STALK-CUTTER. PETER SHIPLEY, Red Oak, Iowa. Filed Aug. 2, 1881. (Model.)



Claim.—1. In a stalk-cutter, the single or double bladed knife or knives F with adjustable sections *p p' p²*, substantially as shown and described.

2. In a stalk-cutter, the brace T, having teeth or hooks *s s*, in combination with the lever W and catch *f*, as shown and described.

3. In a stalk-cutter, the combination of the slotted frames A and E, axle *a*, having wheels B C and cam D, the knife or knives F, having a pivoted connection with the main frame by means of the lugs G G' and arms *r r*, the vertically-sliding bar *n*, arranged in the slotted frame E, and carrying a roller, O, and the chains H H', connecting said bar with the knives, all substantially as and for the purpose described.

269,545. SAP-SPOUT. MICHAEL J. STARK, Buffalo, N. Y., assignor to George J. Record, Canaseat, Ohio. Filed Oct. 16, 1882. (No model.)

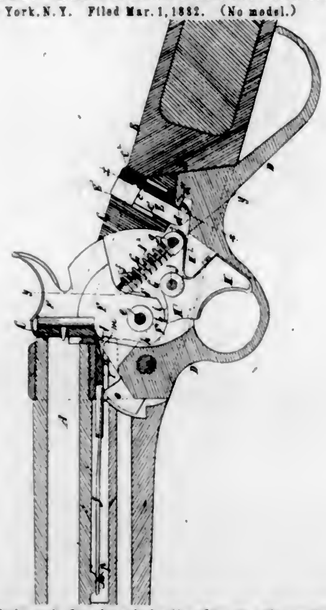


Claim.—1. In sap-spouts, a combined band, stay, and re-enforcing shield, substantially as and for the object stated.

2. In sap-spouts, a band, substantially as described, in combination with a locking and re-enforcing shield, as and for the purpose indicated.

3. The hereinbefore-mentioned combined band, stay, and re-enforcing locking-shield, consisting of a single piece of metal, having the main curved portion B *b*, converging portion *b' b''*, and the shield D, with slotted aperture *d*, the whole being constructed and adapted for application to a tube, A, substantially as and for the purpose specified.

269,546. BREECH-LOADING FIRE-ARM. EBEN T. STARR, New York, N. Y. Filed Mar. 1, 1882. (No model.)



Claim.—1. In a breech-loading fire-arm, the combination, with a breech-block pivoted to swing backward and downward and containing the lock mechanism, a lever for operating said breech-block, pivoted on the same center therewith, and a breech-receiver, the said breech-block and breech-receiver having between them a bore or socket, formed partly in the rear wall of each, of a locking bolt or key which is connected with said lever so as to be operated thereby, and which fits said bore or socket, and thereby holds said breech-block both against backward and lateral movement, substantially as described.

2. The combination of the breech-block C, containing the lock mechanism, and the receiver B, having between them the bore

or socket E', formed partly in each, and the former having the shoulder *c'*, the lever D, fulcrumed on the same center as said breech-block, and the locking bolt or key E, connected with said lever and provided with the shoulder *e*, and fitting said bore-socket, whereby the breech-block is held against both backward and lateral movement, substantially as described.

3. The combination, with the pivoted breech-block and the breech-receiver, having between them the bore or socket, formed partly in the rear walls of each, of the locking bolt or key fitting said bore or socket, so as to hold the breech-block against both backward and lateral movement, and having the notch in its rear side, and the lever fulcrumed on the same center with the breech-block, and provided with the forwardly-projecting hook which enters said notch and forms a direct connection between said locking bolt or key and said lever, substantially as described.

4. In a breech-loading fire-arm, the combination, with the swinging breech-block containing the lock mechanism, of a spiral mainspring fitting between the hammer and a fixed abutment in the breech-block, and an extensible core and guide for the spring, composed of two parts fitting one within the other, substantially as described.

5. In a fire-arm, the combination, with a hammer having a cavity or recess, *f³*, in its back, of a spiral mainspring and an extensible core therefor, the end of which is rounded so as to fit said cavity or recess, and which is composed of two parts adapted to slide one within the other, substantially as described.

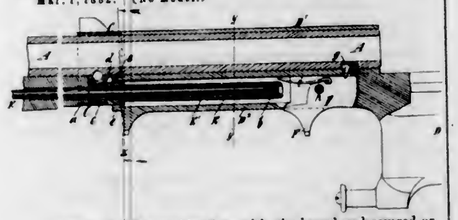
6. In a fire-arm, the combination, with a hammer and a breech-block wherein the same is pivoted, of a spiral mainspring, an extensible core and guide therefor, composed of two parts adapted to slide one within the other, and one of which is provided with an eye fitting snugly between the walls of the breech-block, and a pin inserted through said eye, and upon which the spring is suspended and oscillates, substantially as described.

7. The combination of the breech-block C, the hammer F, having the cavity or recess *f³*, the extensible core, composed of the tubular part *f*, having a rounded end and the shoulder *f'*, and the pin *f²*, provided with the eye *f³*, and the pin *g*, substantially as described.

8. The combination, with a pivoted breech-block and a breech-receiver having in their adjacent rear walls a hole or socket, a locking bolt or key therein, and a lever for operating said breech-block and bolt or key, of a hammer having a projection upon its tumbler, which is brought against the lever in cocking the hammer, and prevents the lever from being swung downward to withdraw the locking bolt or key while the hammer is at full-cock, substantially as described.

9. The combination, with the barrel A and breech-block, C, of the extractor I, bifurcated or forked at its front end, the lever D, provided with a horn, *o*, working in the fork or bifurcation of said extractor, and the spring J, the end of which enters said fork or bifurcation and bears upon said horn, substantially as described.

269,547. BAYONET. EBEN T. STARR, New York, N. Y. Filed Mar. 1, 1882. (No model.)



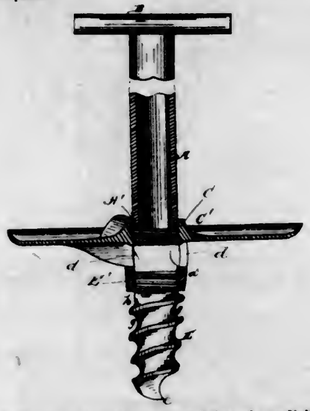
Claim.—1. The combination, with the barrel and ramrod or wiping-rod of a fire-arm, of a bayonet provided with two parallel sockets, one of which is fitted to the barrel and the other of which receives the end of said rod, substantially as herein described.

2. The combination, with the barrel of a fire-arm, and a band forming the tip and having a recess or cavity in its front side, of a bayonet provided with a socket fitting said barrel, and with a hub or projection adapted to enter said recess or cavity, substantially as herein described.

3. The combination of the barrel A, the band C, the rod E, and the tubular portion E', screwed upon the end of the rod and screwed into said band, and the bayonet D, provided with sockets D' D², substantially as herein described.

269,548. POST-HOLE AUGER. WILLIAM STEPHENSON, Hamilton, Ontario, Canada. Filed July 5, 1882. (No model.) Patented in Canada Mar. 12, 1881, No. 12,494.

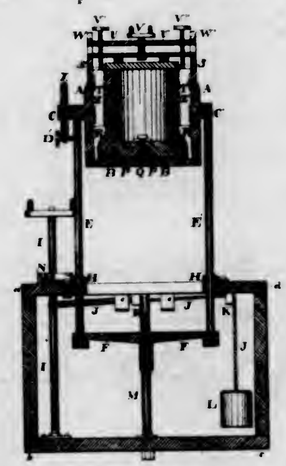
Brief.—A radially-slotted auger cutter-disk, with hub formed integral therewith, has such hub extended above and beneath the disk and internally threaded to receive a hollow handle and a screw-point, such hub being perforated beneath the disk and above the screw-point.



Claim.—1. A ground-auger consisting of a radially-slotted disk formed integral with a hollow hub, which projects from its opposite sides, that part of the hub on the under side of the disk being transversely perforated and receiving the screw-point, and the other part of the hub on the upper side of the disk receiving the hollow stem having the hollow handle, substantially as described.

2. A ground-auger composed of a radially-slotted disk formed integral with a central hollow hub, which projects from its opposite sides, each projecting part of the hub being interiorly screw-threaded, and that part of the hub formed on the under side of the disk being transversely perforated, substantially as and for the purpose described.

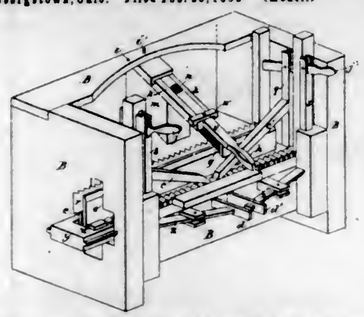
269,549. DRAIN-PIPE TURNER. WILLIAM W. STICKNEY, St. Louis, Mo. Filed Apr. 18, 1882. (No model.)



Claim.—1. The frame E F F E', in combination with the windlass I I, the rope J J J, the pulleys K K, and the counterpoise L, to support and raise and lower the socket-plug P' P', substantially as herein set forth.

2. The frame A B B A', in combination with the socket-plug P' P', the axes C C', the hand-wheel X, the spring-latch D, the clamping-bars U and U', the screws V V' V'', the brace-pins W W', and the frame E F F E', to facilitate turning the pipe R R on the axes C C', substantially as herein set forth.

269,550. SAW-FILING MACHINE. JOSEPH STOFFER, North Georgetown, Ohio. Filed Feb. 20, 1882. (Model.)

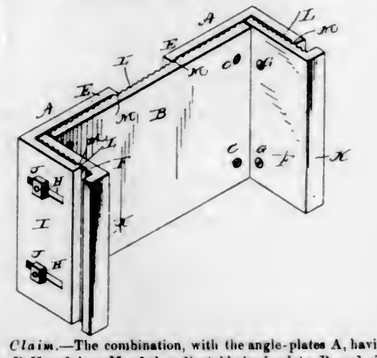


Claim.—1. The file-holding slide e, with its file g, in combination with the upright pieces e e', pawls c c', detents d d', and notched bar x.

2. The combination of the pivoted slide-holding piece m, the hinged slide e, and the file g.

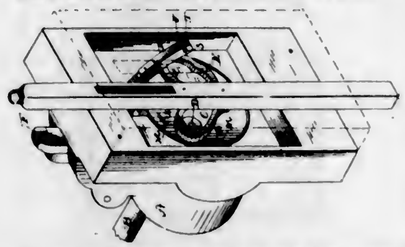
3. The combination of the slide e, the pivoted slide-holding piece m, the pawls c c', the detents d d', and the frame y, with its specified connections.

269,551. FIRE-BACK. NICHOLAS B. TEWBATT, Hickory Plains, Ark. Filed Oct. 7, 1882. (No model.)



Claim.—The combination, with the angle-plates A, having slots D H and lugs M, of the adjustable back plate, B, and side plates, F, having vertical ribs or corrugations L, and nuts J and bolts C G, as and for the purpose set forth.

269,552. TAKE-UP FOR SEWING-MACHINES. ANDREW TRACY, Richland, Iowa. Filed Oct. 3, 1882. (No model.)

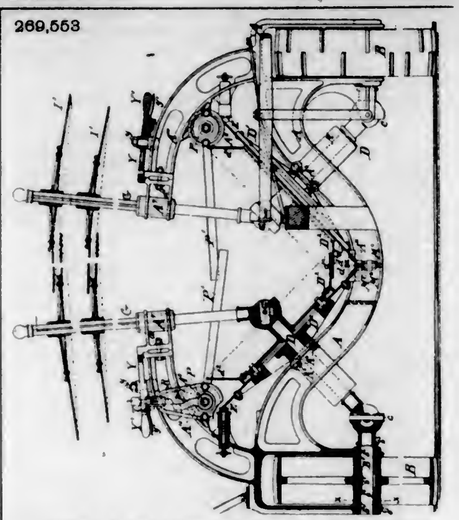


Claim.—1. The combination, with the slide F, of the disk C, having adjustable eccentric flange K, as set forth.

2. The disk C, having adjustable flange K, in combination with the slide F, having adjustable roller I and pin J, as set forth.

269,553. MACHINE FOR HARVESTING CORN. GUSTAVUS H. ZSCHECH, Indianapolis, Ind., assignor to Albert Gall, same place. Filed Apr. 12, 1882. (No model.)

269,553



Claim.—1. In a harvesting-machine, the adjustable center knife, m M, turning in a socket, A'', near the heel, in combination with the eye-bolt M' and nuts M³ M⁴, and with the framing A and revolving shears d and suitable impelling means for the latter, substantially as herein specified.

2. The movable bearing A' and adjustable segment Y, with means, as Y' y', for operating and securing the latter, in combination with each other, and with the shafts G, carrying the reels I' and their impelling means, arranged to serve substantially as herein specified.

3. The bearing composed of two fixed hubs, carrying bearing pieces or bushes b², applied from within, and having means to prevent their turning, in combination with a splined wheel-hub and a shaft, B', the latter carrying a key, b', the whole so arranged that the shaft with its key may be introduced from one end, but is prevented from becoming disengaged by the abutting ends of the key, except in one position of the wheel-hub, substantially as herein specified.

269,554. ARTIFICIAL SLIDING-HILL. THOMAS ALEXANDER, Cambridge, Mass. Filed Mar. 31, 1882. (No model.)

Brief.—An inclined plane is provided with grooved ways and side grooves to guide the sleds. A return-way is provided with an endless chain having hooks which engage with loops on the sleds, whereby they are drawn up the incline. Arranged on top of the incline is a hinged table to start the sleds, the same being operated by a lever, which raises or lowers it. The curved groove-ways at the ends of the course are provided with beveled friction-rollers. The sled or carriage having runners is provided with feathers, which engage with the side grooves, and secured to the sled is a brake composed of clamping-jaws connected by a lever to a rod, which is operated by a hand-wheel. A guide-wheel secured to the under part of the sled is adapted to travel in a center guideway.

Claim.—1. The combination, with the inclined plane B, of the grooved ways C and the side grooves, C'' C'', as and for the purpose specified.

2. The combination, with the grooved ways C, of the center guide, D, as set forth.

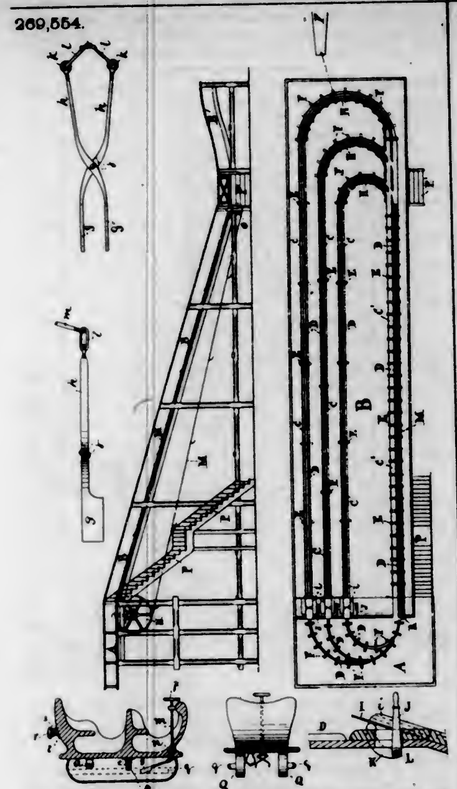
3. The combination, with the grooved ways C and side grooves, C'' C'', of a sled or carriage, Q, having runners Q' Q', provided with feathers q q, which engage with the said side grooves, substantially as shown and described.

4. The brake composed of the clamping-jaws g g, the levers h h, the connecting-links l l, rod m, and hand-wheel p, as and for the purpose set forth.

5. In a sliding-hill, the combination, with the inclined plane B, provided with grooved ways C, of a return-way provided with an endless chain or belt having hooks which engage with loops on the sleds, whereby the sleds, with or without their occupants, are drawn up to the platform A, substantially as specified.

6. The hinged table I, arranged at the top of the incline B, and operated by means of a lever to adjust the said table to the level of the platform A or tilt it to an incline corresponding with the incline plane B, substantially as set forth.

269,554.



7. In a sliding-hill, the combination, with an endless chain or band, M, provided with hooks, of a loop, C, attached to a sled or carriage, as and for the purpose specified.

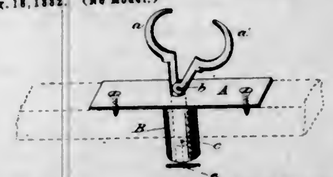
8. The combination, with the curved grooved ways of the track, of the beveled friction-rollers, as and for the purpose set forth.

9. The hook-detacher R, in combination with the jaws c c, as and for the purpose set forth.

10. The wheel or roller a on the under part of the sled, in combination with the grooved guide D, as and for the purpose specified.

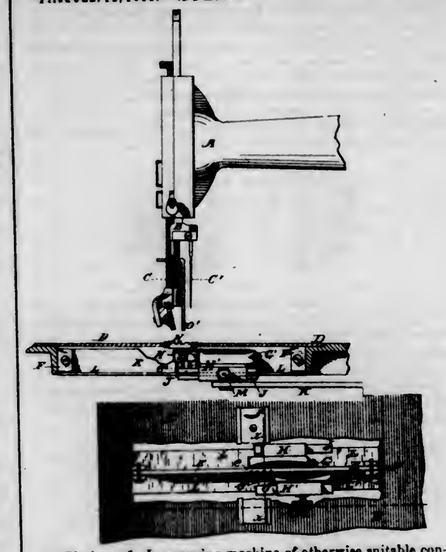
11. The sled provided with an attaching-loop, a brake, a buffer, and projections or feathers at the outer sides of the runners, as and for the purpose specified.

269,555. ROWLOCK. FRANK H. ALLEN, Norwich, Conn. Filed Aug. 18, 1882. (No model.)



Claim.—The combination, with the socket A, fixed rigidly in the gunwale of a rowboat, of the rowlock a, having a round pintle extending through said socket and working loosely in either an axial or vertical direction, and the auxiliary horn a', said horn a' being pivoted to the pintle a at a point below the surface of the rigidly-fixed socket A, the horns of both a and a' forming when closed a complete metallic ring to encircle and hold in place the oar, as hereinbefore described, and for the purpose specified

269,556. SEWING-MACHINE. EDWARD B. BALL, Boston, Mass. Filed Jan. 12, 1882. (No model.)



Claim.—1. In a sewing-machine of otherwise suitable construction, two shuttles reciprocating in a straight course lengthwise of the machine, and a single vertically-grooved plate, E e e', as described, separating said shuttles and forming a race for each, substantially as set forth.

2. In a sewing-machine, the combination of a single needle-bar carrying two needles, with two shuttles reciprocating in a straight course lengthwise of the machine, and a single vertically-grooved race-plate, E e e', as shown, forming a race for each, substantially as set forth.

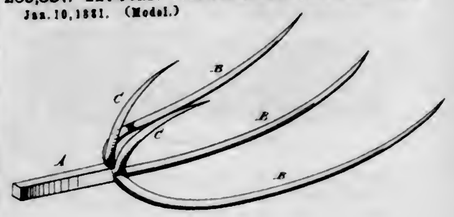
3. In a sewing-machine, the combination of two needles carried by one needle-bar, and two shuttles adapted to be reciprocated in a straight race lengthwise of the machine, and a single vertically-grooved race-plate, E e e', as shown, one of said needles and one of said shuttles being adjustable with relation to the other, for the purpose set forth.

4. In a sewing-machine having two needles and two shuttles, the vertical plate E, forming a race for each of the shuttles, in combination with the sliding block J, the carrier H', adjustable thereon, and suitable operative mechanism, for the purpose set forth.

5. The combination, in a sewing-machine, of a single needle-bar carrying two needles, a single presser-bar carrying two pressers, and a single vertically-grooved race-plate carrying two shuttles, one of said needles, pressers, and shuttles being adjustable with relation to the other, for the purpose set forth.

6. In a sewing-machine adapted to sew two seams simultaneously, the solid vertically-grooved race-plate E e e', extending lengthwise of the machine, between the shuttles, the groove e being on one side of said plate and two or more grooves, e', on the other side, but not opposite to the groove e, whereby variation of the distance of seams to be sewed is effected by adjusting the shuttle G' lengthwise of said plate and the needle C' in the corresponding groove e', substantially as and for the purpose set forth.

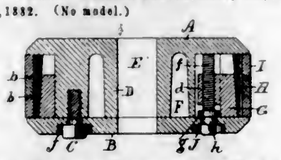
269,557. HAY-FORK. JOHN BABFORTH, Emporia, Kans. Filed Jan. 10, 1881. (Model.)



Claim.—1. A hay-fork having two diverging prongs, C C, branching out from the head thereof, having their concavities opposite to the concavities of the prongs B, and made of less length than said prongs B, as shown and described.

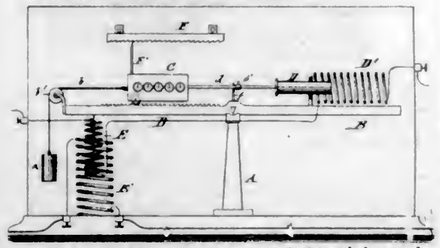
2. A hay-fork having the tines B curved in one direction and the tines C curved, as shown, in the opposite direction over the spaces between the tines B, by which reverse curving the hay is forced between the tines and held, substantially as described.

269,558. PISTON. WILLIAM BAXTER, Jersey City, N.J. Filed Feb. 10, 1882. (No model.)



Claim.—In a piston, the combination, with the follower B and the head A, having a supporting-ring, F, turned to fit the interior of a movable ring, and provided with recesses *e*, for the purpose set forth, of the conical movable ring G, provided with lugs *d*, and operated by the screws *f*, as described, the tapered and cut expanding ring H, and the packing-ring I, formed of annular sections fitted together with tongues and grooves *b*, substantially as shown and described.

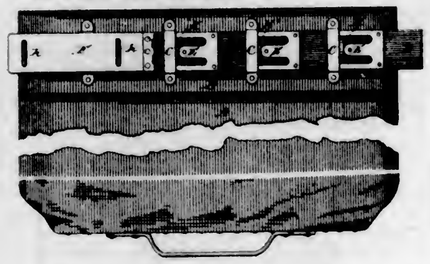
269,559. ELECTRIC-CURRENT METER. ALEX BERNSTEIN, Boston, Mass. Filed Oct. 4, 1882. (No model.)



Claim.—1. A current-meter composed of a scale-beam, of a movable and counterbalanced registering device at one end of the beam and of a fixed coil and a sliding iron core connected to the registering device at the other end of the beam, of a coil suspended below the end of the beam, carrying the register and placed in an auxiliary circuit with the coil at the other end of the beam, and of a fixed coil of larger diameter and surrounding the suspended coil, and being placed into the main circuit, substantially as set forth.

2. The combination of a scale-beam carrying a movable and counterbalanced registering device upon one arm, a coil and sliding core upon the other arm, a coil suspended from the arm carrying the register, a fixed coil surrounding the suspended coil, and a suitable stop mechanism, whereby the register is stopped when the equilibrium of the parts takes place, substantially as and for the purpose set forth.

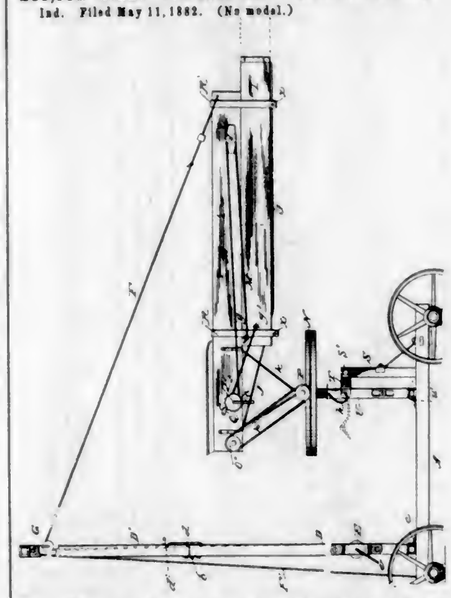
269,560. MAIL-BAG. JOHN A. BLACKBURN, Van Wert, Ohio. Filed May 28, 1882. (No model.)



Claim.—1. In a mail-bag fastening, the flap B, straps C, and flexible strap D, provided with tongues, in combination with staples H and keeper F, substantially as set forth.

2. In a mail-bag fastening, the flap B, straps C, and flexible strap D, provided with the tongues E, and slots *d*, and the keeper F, in combination with the staples H, substantially as set forth.

269,561. STRAW-STACKER. HENRY CORTELYOU, Fairland, Ind. Filed May 11, 1882. (No model.)

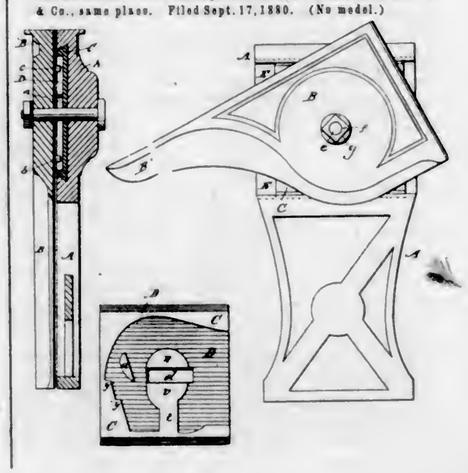


Claim.—1. In a straw-stacker, a hinged foldable derrick provided with an automatic locking-spring, *d*, by means of which the derrick-sections are held together when raised, substantially as and for the purposes set forth.

2. In a straw-stacker, the combination, with a carrier made in two sections, a turn-table, and a foldable supporting-frame, of the fixed frame S, with the inclosing-arms T T', and cord and pin *h*, substantially as and for the purpose set forth.

3. In a straw-stacker, the combination, with a foldable turn-table, of a carrier made in two sections, a drum and pulley mounted on the upper section, and the lower section being adjustable in the direction of its length, and a rope, which passes over said drum and pulley, and has its ends secured to the lower carrier-section, substantially as and for the purpose set forth.

269,562. ADJUSTABLE STOP-HINGE. THOMAS H. COSTELLO and ARTHUR H. HALL, Chicago, Ill., assignors to A. H. Andrews & Co., same place. Filed Sept. 17, 1880. (No model.)



Claim.—1. The combination of the stationary part of the hinge, the movable or swinging part, a pivot-pin connecting them, and an automatic locking-bolt mounted between them around and loosely upon the pivot.

2. The combination of the stationary part of a hinge having a recess therein, a locking-bolt moving within said recess, and the pivoted swinging part of the hinge having shoulders thereon, which operate the reciprocating or moving bolt and automatically lock the movable part of the hinge in an elevated position.

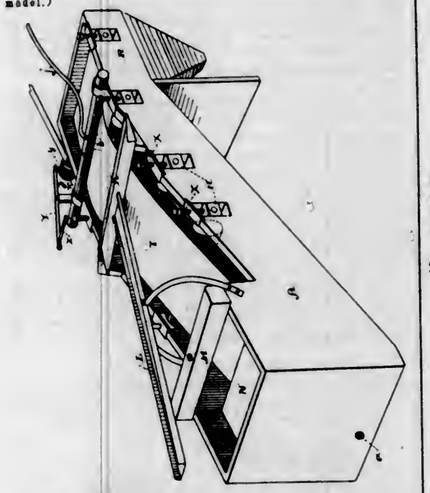
3. The combination of the stationary recessed part of the hinge, a reciprocating locking-bolt moving in the recess, and the shoulders on opposite sides of the bearing of the movable part, which shoulders move the locking-bolt to automatically lock the movable part of the hinge in an elevated position and then restore the said bolt to its normal position.

4. The combination, with the movable or reciprocating bolt mounted in the stationary part of a desk-hinge, of the pivoted lid-arm having a stud to move the bolt from a locked to an unlocked position as the arm rises above its operative position.

5. The combination of the stationary part of the hinge having a recess therein, the shouldered locking-bolt moving in said recess, and having an elongated slot or opening therein, the pivoted lid-arm, having shoulders which operate the locking-bolt, and the pivot-pin which connects the parts.

6. The combination of a desk-standard, a swinging arm, a pivot-pin connecting the standard and arm, and an automatic locking-bolt mounted between the arm and standard around and loosely upon the pivot.

269,563. ORE CONCENTRATOR AND AMALGAMATOR. WILLIAM P. DAVIS, Spring City, Nev. Filed June 5, 1882. (No model.)



Claim.—1. In a concentrating device, the water-tank A and receiving-tank B, filled with water, in combination with the endless upwardly-revolving belt I, passing through and above the water, and a water and ore distributer, arranged substantially as and for the purpose herein described.

2. In a concentrating device, the water-tanks A and B, arranged as shown, in combination with the endless upwardly-revolving belt I, driving-drum C, rollers D E G H, and the cam-roller F, all arranged substantially as and for the purpose herein described.

3. In a concentrating device, the water-tanks A and B and the endless traveling belt I, arranged, as shown, in combination with the driving-drum C, rollers D E G H, and the cam-roller F, said drum, rollers, and eccentric having a vertical adjustment in their bearings by means of the boxes *u* and screws *x*, substantially as and for the purpose herein described.

4. In a concentrating device, the water-tanks A and B, with their discharges, and endless traveling belt I, in combination with the ore-distributer K, water-supply pipe J, with its apertures *b*, and means for laterally reciprocating the same, all arranged substantially as and for the purpose herein described.

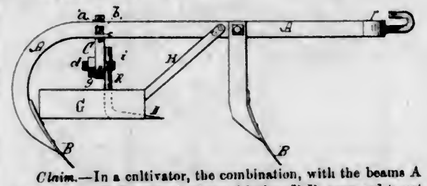
5. In a concentrating device, the water-tanks A and B, with their discharges, and the endless traveling belt I, in combination with the ore-distributer K, water-pipe J, with its apertures *b*, and means for laterally reciprocating the same, and the water-supply pipe M, with its apertures *m*, discharging upon the belt at the water-line, arranged substantially as and for the purpose herein described.

6. In a concentrating and amalgamating device, the water-tanks A and B, with their discharges, endless traveling belt I, ore-distributer K, and water-supply pipes J, with their apertures *b*, all arranged as shown, in combination with the plate N, amalgamated on its lower side and sustained by hangers *n n*, substantially as and for the purpose herein described.

7. In a concentrating and amalgamating device, the water-tank A, with its discharge *a*, water-tank B, with its discharge, endless revolving belt I, and a water and an ore distributer, all as shown, in combination with the plate N, amalgamated on its lower side and sustained by hangers *n n*, and the amalgam-grate O, arranged substantially as and for the purpose herein described.

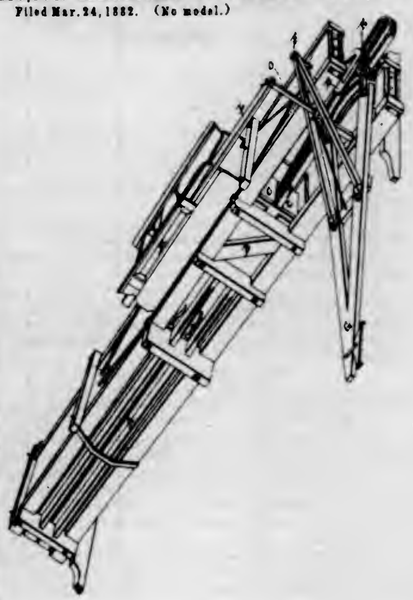
8. In a concentrating and amalgamating device, the water-tank A, with its discharge *a*, water-tank B, with its discharge, endless revolving belt I, with its adjustable drum C, adjustable cam-roller F, water-pipe J, with its apertures *b*, and means for laterally vibrating the same, ore-distributer K, water-supply pipe M, with its aperture *m*, plate N, amalgamated on its lower side and sustained by hangers *n n*, and the amalgam-grate O, all arranged and operating together, substantially as and for the purpose herein described.

269,564. CULTIVATOR. NICHOLAS C. DECKER, Windsor, Mo. Filed Sept. 27, 1882. (No model.)



Claim.—In a cultivator, the combination, with the beams A A and shovels B B, of the horizontal knives D D, arranged to cut beneath the surface of the ground close up to the rows of plants, and made adjustable vertically and laterally outward and inward by means of the slotted angular bars C C and bolts *d d*, substantially as and for the purpose herein specified.

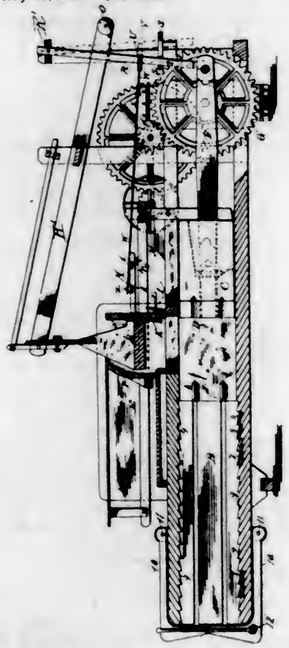
269,565. BALING-PRESS. PETER K. DEDERICK, Albany, N.Y. Filed Mar. 24, 1882. (No model.)



Claim.—1. In a continuously-operating baling-press, the combination, with the traverser, of the pitman and crank forming the toggle, and the vibrating horse-lever or sweep having the projections or rollers for alternately shifting the toggle, substantially as described.

2. In a continuously-operating baling-press, the reciprocating traverser, the toggle, and the vibrating sweep or horse-lever, operating as described, with the feed-hopper and condenser and connections by which the condenser is operated from the horse-lever, and independently of the traverser, substantially as described.

269,566. BALING-PRESS. PETER K. DEDRICK, Albany, N. Y. Filed May 14, 1881. (No model.)



Claim.—1. The combination, with the press-box, of the feeder and the locking devices for automatically locking the feeder when depressed, substantially as described.

2. The combination, with the press-box, of the feeder, the devices for automatically locking the feeder when depressed, and the projection on the traverser for unlocking the locking devices and releasing the feeder, substantially as described.

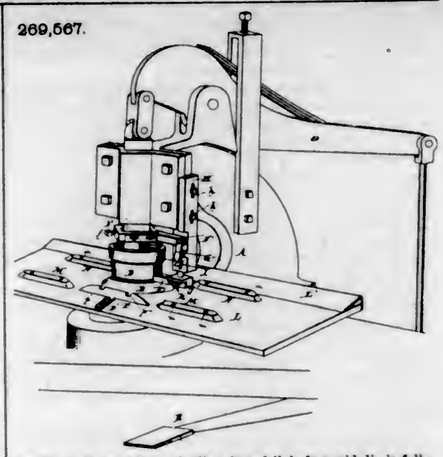
3. The combination of the rod W with the slide-bar R, for the purpose set forth.

4. The clamps or hooks 10 and yoke 12, in combination with the chamber of a baling-press, for the purpose set forth.

5. The sides of the bale-chamber between the tie-slots hinged to the press-box, as set forth.

6. In a baling-press in which the material is forced in sections within a bale-chamber and built up into a bale therein by a reciprocating traverser, the said bale-chamber, having its lining composed in whole or in part of movable belts, substantially as described.

269,567. PRESS FOR STAMPING SHEET METAL. EDWARD J. DOLAN, Philadelphia, Pa. Filed Oct. 30, 1882. (No model.)



Claim.—1. In a sheet-metal-stamping-press for cutting disks, a female die, in combination with a male die, means to reciprocate said male die, an automatic registering device and mechanism to raise it with the said male die and allow it to fall before said die is fully raised, to enable the sheet metal to be passed under said registering device without obstruction, substantially as and for the purpose specified.

2. In a sheet-metal-stamping press for cutting disks, a female die and a male die, in combination with means to reciprocate said male die, an automatic registering device, and mechanism to raise it with said male die and allow it to fall before said die is fully raised, to enable the sheet metal to be passed under said registering device without obstruction, and rigid guides arranged upon the feed-table and adapted to guide the metal to said registering device in a straight line, substantially as and for the purpose specified.

3. In a sheet-metal-stamping press for cutting disks, the combination of female die B, male die C, means to actuate said male die, and guide or register P, provided with notches *p* and means to adjust it upon its support, substantially as and for the purpose specified.

4. In a press for cutting sheet-metal disks, the combination of dies B and C, table L, guides M and N, register-plate K, provided with a catch or arm, I, reciprocating catch-finger G, provided with catch *g*, and cam-block G', support H, provided with cam H', and means to reciprocate said finger G and die C, substantially as and for the purpose specified.

5. In a press for cutting sheet-metal disks, the combination of female die B, male die C, means to reciprocate said male die, table L, guides M and N, register P, provided with notches *p*, and intermittently vertically-reciprocating register-plate K, substantially as and for the purpose specified.

6. In a press for cutting sheet-metal disks, the combination of female die B, male die C, means to reciprocate said male die, clamp D, having slot D', springs E, and vertically intermittently-reciprocating plate K, substantially as and for the purpose specified.

269,568. CONDUIT FOR ELECTRICAL CONDUCTORS. WILLIAM B. ELTONHEAD, Philadelphia, Pa., assignor to Ed. Y. Eltonhead, same place. Filed Aug. 17, 1881. (No model.)

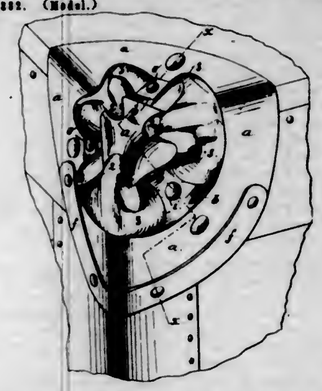


Claim.—1. A conduit for insulating and protecting electrical conductors, consisting essentially of tubes formed in sections and segments of vitrified earthenware, enameled metal, or glass, with transverse grooves or threads adapted to interlock, and combined with the detachable clamping-hangers l, substantially as set forth.

2. In a conduit for electrical conductors, the combination, with a tube made in segments, of segments located within the tube and provided with grooved peripheries for holding the wires, the inner and outer segments being composed of non-conducting material or conducting material coated with a non-conducting substance, substantially as set forth.

3. The combination, in an insulating-conduit for electrical conductors, of tubular wire supports made in segmental sections of a non-conducting material, with a non-conducting inclosing tube, made also in segmental sections and united by clamping-hangers formed of metal and protected by enamel, substantially as and for the purpose set forth.

269,569. TRUNK. HENRY E. GILSON, Somerville, Mass., assignor to Crouch & Fitzgerald, New York, N. Y. Filed Aug. 21, 1882. (Model.)



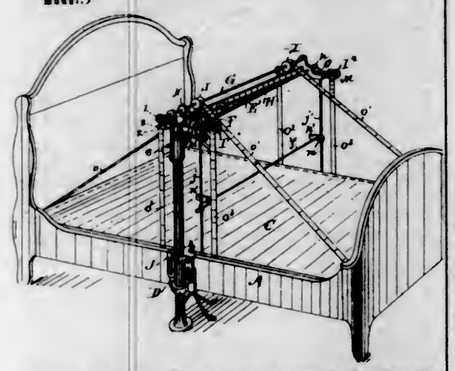
Claim.—1. As an improved article of manufacture, the metal frame *b*, with a central aperture, through which the rawhide corner-piece projects, such frame surrounding the apex of and being attached to the rawhide corner-piece and to the trunk, substantially as set forth.

2. As an improved article of manufacture, the open metal frame *b*, surrounding the corner and having the tongues 2 projecting along the angles toward the corner of the trunk, substantially as set forth.

3. The open metal piece for surrounding the corner of the trunk, having the tongues 2 running toward the corner and the projecting knobs 3, substantially as set forth.

4. As an improved article of manufacture, the corner-piece of rawhide or similar material provided with the open triangular metal frame *b* and the metal strap *f*, substantially as set forth.

269,570. METAMORPHOSIC ATTACHMENT TO BEDSTEADS. JAMES GODWIN, Everett, Mass. Filed Apr. 25, 1881. (No model.)



Claim.—1. The combination of the standard B, the adjustable bracket D J, attached to a bedstead, the socket E, and swinging arm E', as and for the purpose specified.

2. The combination of the standard B, socket E, swinging arm E', the separable shaft F H, the worm-gears *h' h*, worm-pinions *g g*, carrying the shaft that bears the spools I' I', for winding the belts *o' o'*, as and for the purpose substantially set forth.

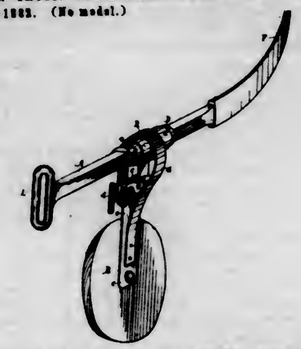
3. The combination of the standard B, socket E, arm E', with the shafts G and L, the spools I I, and belts *o o'*, for operating the head and foot portions of the frame *r r' r''*, substantially as set forth.

4. The adjustable bracket D J, in combination with the standard B and bedstead-frame A, as and for the purpose specified.

5. The combination of the vertical rods *j j'*, the slides *n n*, and adjustable frames *k k*, eyes *s* in frame *r'*, and the frame M, as and for the purpose specified.

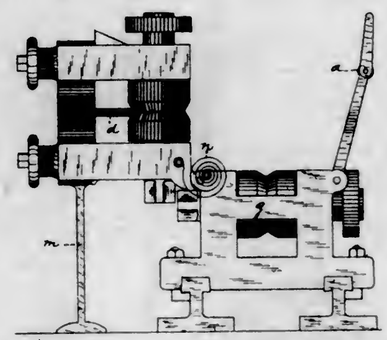
6. The combination of the adjustable bracket J D, the standard B, bedstead-frame A, and the rear supporting-rod, *b d*, as and for the purpose set forth.

269,571. TRUSS. JAMES E. HARSON, Schoolcraft, Mich. Filed May 8, 1882. (No model.)



Claim.—A truss-stock provided with the ratchet, the pad, pad-support, and spring-pawl, in combination with the cam-lever for disengaging the pawl from the ratchet, all substantially as set forth.

269,572. ROLLING-MILL. URI HARRIS, Pittsburg, Pa. Filed Feb. 13, 1882. (No model.)



Claim.—1. In a machine for rolling metals, housings formed in two parts joined at or near a plane passing between the working-faces of the rolls, and having the upper roll so arranged in relation to its housings that the former may participate in any motion which may be imparted to the latter, substantially as and for the purpose specified.

2. Roll-housings formed in two parts, joined at or near a plane which will pass between the working-faces of the rolls when they are inserted within said housings, substantially as and for the purpose specified.

3. Housings for a pair of rolls formed in two parts, joined at or near a plane passing between the working-faces of said rolls, and provided with a spring or springs so arranged as to assist in swinging back the upper from the lower section of the housings, substantially as and for the purpose herein specified.

4. In a machine for rolling metals, housings formed in two parts, joined at or near a plane passing between the working-faces of the rolls, and provided with sectional guides and guide-boxes, the upper sections of which are so arranged in relation to the upper section of the housings that they may participate in any motion which may be imparted to the latter, substantially as and for the purpose herein specified.

5. In a machine for rolling metals, housings formed in two sections, pivoted together at or near a plane passing between the working-faces of the rolls, and provided with a locking device to secure the sections together, substantially as and for the purpose herein set forth.

6. A continuous train of pairs of horizontal rolls having the

rolls of each pair except the last placed obliquely to each other, substantially as and for the purpose specified.

7. A continuous train of pairs of horizontal rolls having the rolls of each pair except the last placed obliquely to each other, and provided with a top and bottom guide between each pair, constructed as specified, whereby the metal may be twisted by the oblique action of the rolls and an excessive twist prevented by the guide, substantially as herein set forth.

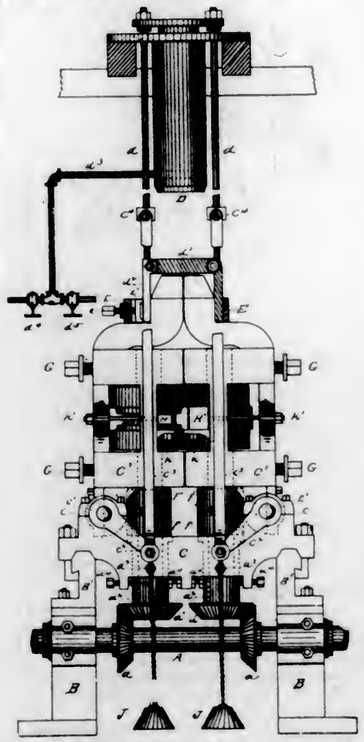
8. A continuous train of pairs of horizontal rolls having the rolls of each pair except the last placed obliquely to each other, and provided with an annular guide-box between each pair, whereby the metal may be twisted by the rolls while being guided in a straight line for each succeeding pass.

9. A continuous train of pairs of horizontal rolls having the upper rolls mounted severally in removable sectional housings provided with tightening-screws having locking-clutches, whereby the screws may be retained in proper position after the housing-sections are unlocked and the pressure on the tightening-screws relieved, substantially as specified.

10. In a machine for rolling metals, housings formed in two sections, joined at or near a plane passing between the working-faces of the rolls, having sectional guides and guide-boxes, arranged as specified, and provided with a spring or springs to aid in removing the upper sections of the housings, substantially as and for the purpose specified.

11. A continuous train of pairs of horizontal rolls mounted in sectional housings, constructed and arranged to operate as specified, whereby the top section of the housings of each or all the pairs of rolls may be readily swung away or removed to permit repairs, replacement of guides, guide-boxes, and rolls, or the removal of cobbles, substantially as and for the purpose specified.

269,573. ROLLING-MILL. URI HASKIN, Pittsburg, Pa. Filed May 22, 1882. (No model.)



Claim.—1. The mode herein described for preventing flanges from cracking during the reduction of the pile, bloom, or billet into the finished bar, which consists in arranging a series of sets of rail-rolls in close proximity to and in line with each other, so that several or all the sets may operate upon the metal at one and the same time, and then adjusting each set so as to throw a back-pressure of the metal upon the delivery side of the groove of the preceding set, substantially as and for the purpose herein set forth.

2. A continuous rail-train composed of a series of sets of rail-rolls journaled in and carried by sectional housings and provided with suitable mechanism for removing the upper sections and replacing them in position upon the lower, constructed and arranged to operate substantially as and for the purpose herein set forth.

3. The method of preventing the metal from cracking along its flanges or edges during its passage through a continuous train, which consists in adjusting the succeeding set or sets of rolls to reduce the metal in a sufficient degree at each pass or any pass to cause each set to deliver the metal a little faster than the succeeding set tends to receive it, whereby the metal is slightly "upset" during its passage from the delivery side of the preceding set to the entrance of the groove in the succeeding set or sets, substantially as and for the purpose herein set forth.

4. The method herein described for preventing the metal from cracking or tearing along its flanges or edges during its passage through a continuous mill, which consists in driving each successive set from the first at a little less rate of surface speed than that of the metal as it emerges from the delivery side of the preceding set of rolls, whereby tearing strains upon it are avoided, substantially as and for the purpose herein set forth.

5. Housings for a set of vertical rolls, composed of two upper and a lower section pivoted together in such a manner as to allow the upper sections to swing separately and in opposite directions into and out of working position by means of their pivotal connection with the lower, constructed and arranged substantially as specified.

6. Housings for a pair of vertical rolls, composed of two upper vertical sections pivoted to a lower section and each carrying a vertical roll so arranged in relation to the upper sections as to participate in any motion imparted to the latter, substantially as and for the purpose herein set forth.

7. Housings for a set of vertical rolls, composed of two upper vertical sections, each pivoted to a lower housing-section, and provided with suitable actuating mechanism to impart a swinging lateral movement to the upper sections upon the lower, constructed and arranged substantially as and for the purpose herein set forth.

8. Housings for a set of vertical rolls, composed of two upper vertical sections, each pivoted to a lower section in order that the upper sections may swing upon the lower section, and provided with counter-balances or weights, which are so arranged in relation to the upper sections as to cause the latter to swing back into position after having been opened, substantially as and for the purpose herein specified.

9. Vertical-roll housings composed of two upper sections, each pivoted to a lower section and provided with an adjustable detachable housing-cap, in combination with suitable mechanism for removing and replacing the cap and swinging the upper sections into and out of working position, constructed and arranged to operate substantially as and for the purpose herein set forth.

10. Vertical-roll housings having two upper vertical sections, each pivoted to and arranged to swing upon a lower section, which is provided with suitable driving-gear to actuate the rolls, the rolls and upper sections of the coupling-clutches being so arranged in relation to the upper sections of the housings as to allow them to participate in any movement imparted to the latter, constructed and arranged to operate substantially as and for the purpose herein set forth.

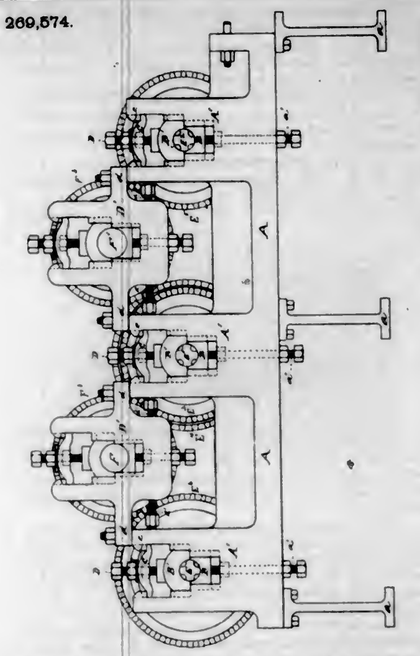
11. The combination of sectional roll-housings comprised of an upper vertical roll carrying sections and a lower housing-section with a hydraulic lift, or its equivalent, and suitable intermediate connecting devices to open or remove the upper sections of the housings, together with the roll journaled therein, by the action of the lift, constructed and arranged to operate substantially as and for the purpose herein set forth.

12. Sectional housings for horizontal rolls, separable at or near a plane passing between the working-faces of the rolls, and provided with locking-clutches, in combination with a hydraulic or equivalent lifting device and intermediate connecting mechanism to adjust the locking-clutches into and out of position and to remove and replace the upper sections of the housings, constructed and arranged substantially as and for the purpose herein specified.

269,574. GEARING FOR TRAINS OF METAL ROLLERS. URI HASKIN, Pittsburg, Pa. Filed Apr. 28, 1882. (No model.)

Claim.—1. A differential driving-gearing for continuous trains, consisting of a series of vertically-adjustable driving shafts and pinions mounted in fixed housings, and provided with a series of vertically-adjustable idler shafts and pinions mounted in laterally-adjustable idler-housings, whereby the driving-shafts may be

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readily adjusted in line with the axes of the rolls, and the idler-shafts adjusted vertically and laterally, to compensate for the wear of the pinions, constructed and arranged to operate substantially as and for the purpose herein set forth.

2. A driving-gearing provided with intermediate laterally-adjustable idler-housings, constructed and arranged to operate substantially as and for the purpose herein set forth.

3. An open-top housing provided with inwardly-projecting lugs at its upper ends, and having a detachable breaking-cap with ribs which engage in grooves made in the upper portion of the housing, and held in position against the lower surface of the lugs by means of the vertical adjusting-screw, substantially as and for the purpose herein set forth.

4. An open-top housing provided with inwardly-projecting lugs at its upper ends, and having grooved inner faces, constructed and arranged substantially as and for the purpose herein set forth.

5. The combination of the open-top housing and its vertical adjusting-screws with the detachable breaking-cap and the vertically-adjustable journal boxes and bearings, substantially as and for the purpose herein set forth.

6. An open-top housing provided with a detachable breaking-cap, constructed and arranged substantially as herein set forth.

7. An idler-housing provided with laterally-projecting slotted arms adapted to rest upon and be bolted to the upper end of the driving-housings, substantially as and for the purpose herein set forth.

8. An idler-housing provided with slotted arms *d d*, vertical adjusting-screws, and with lateral adjusting-screws arranged between the adjacent faces of the fixed and movable housings, substantially as specified.

9. A driving-gearing provided with a series of vertically-adjustable driving shafts and pinions, and intermediate vertically and laterally adjustable idler shafts and pinions mounted in suitable housings or standards having detachable breaking-caps, constructed and arranged substantially as specified.

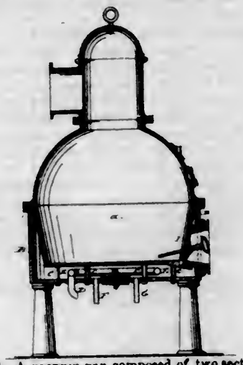
10. An adjustable differential driving-gear having adjustable driving shafts and pinions, vertically and laterally adjustable idler shafts and pinions, and self-adjusting steel spring spreaders, constructed and arranged to operate substantially as specified, whereby the driving-shafts may be quickly brought into line with and connected to or disconnected from the train, and the idler-shafts adjusted to compensate for the adjustment of the driving-shafts and for the wear of the pinions.

11. A coupling-box having a coupling-opening which increases slightly and gradually in diameter from points near the ends to the center of the box, substantially as and for the purpose herein set forth.

12. An adjustable spring-spreader composed of two or more spreading-blocks riveted or secured to a section of steel hoop, substantially as herein set forth.

269,575. VACUUM-PAN. UNO H. HILLMAN, New York, N. Y. Filed Apr. 28, 1882. (No model.)

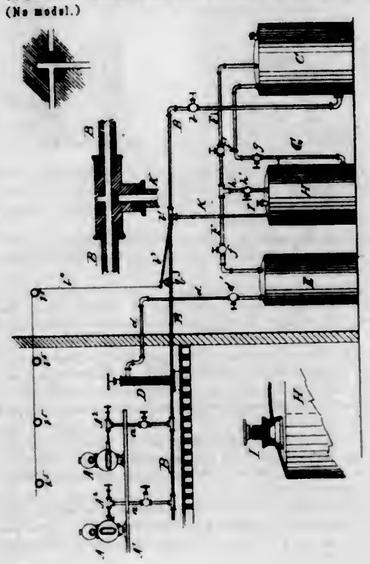
Brief.—The object of the invention is to furnish an improved form of vacuum-pan specially adapted to reducing fluids to a thickened or stiff mass, or even to dryness, as is necessary with some substances which undergo rapid chemical change, and of such a form as will facilitate the removal of the thickened or dry mass from the pan and will present the greatest advantages in cleansing and manipulation.



Claim.—1. A vacuum-pan composed of two sections, the upper one dome-shaped, the lower one slightly conical and flat-bottomed and enveloped by a water-retaining jacket connected by pipes with suitable means for heating, and provided with a low-down door for conveniently discharging its contents, substantially as described.

2. The combination of the vacuum-pan A, composed of two sections, the jacket B, enveloping the lower section, the hot and cold water pipes E and G, and the low-down door, substantially as described.

269,576. CUT-OFF MECHANISM FOR VAPOR HEATING APPARATUS. JOHN S. HULL, Baltimore, Md. Filed Oct. 18, 1882. (No model.)



Claim.—1. The combination, substantially as described, of a series of burners, a branch supply-pipe for each, a main supply-pipe set at an inclination and having branches leading to a supply-tank, a valve, *b'*, and means for operating it, and a tank for receiving the waste oil, as set forth.

2. The combination, substantially as described, of a series of burners, a branch pipe for each, a main supply-pipe set at an inclination, a three-way valve therein, and a pipe leading therefrom to a waste-tank, whereby the supply of oil may be cut and the wasteway opened by one and the same operation, as set forth.

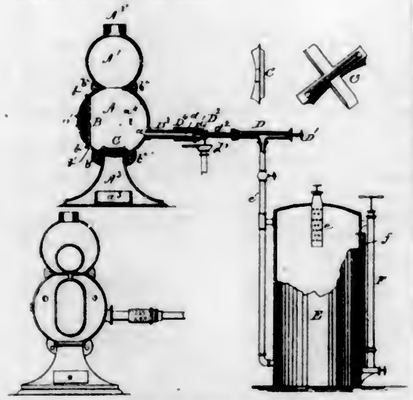
3. The combination of the main supply-pipe, set at an inclination, the pipe to the waste-tank, the three-way valve at their junction, a weighted lever attached to said valve, and means for dropping said lever to cut off the supply and open the waste-way, as set forth.

4. The combination, substantially as described, of the series of burners, a branch pipe for each, an inclined supply-pipe, the waste-tank, the three-way valve, its weighted lever, and the string attached thereto and suspended above the heads of the workmen.

5. The combination of an air-pump, an air-tank, a pipe, F, leading from the air-tank to the supply-tank, a branch, *h*, therefrom to the waste-tank, and a pipe, G, connecting the waste-tank with the supply-tank, the pipes being arranged as shown and supplied with suitable valves, whereby the air is forced directly into the supply-tank or through the waste-tank, forcing the waste oil into the supply-tank, as set forth.

6. The combination of a series of burners, a fluid supply-tank, a main supply-pipe connecting them, a waste-tank, a pipe leading from it to the supply-pipe, a three-way valve at the junction of the two pipes, and means for simultaneously cutting off the supply and opening the wasteway, as set forth.

269,577. TINNER'S FIRE-POT. JOHN S. HULL, Baltimore, Md. Filed Oct. 18, 1882. (No model.)



Claim.—1. The fire-pot composed of two sections, B' B², united in a vertical plane and bolted together, each section being composed of a base and a series of hemispheres opening into each other, as and for the purpose set forth.

2. The combination, with the sections B' B², having semi-cylindrical grooves, of the deflector B, having pins *b* set at an angle, as shown.

3. The fire-pot consisting of base A² and globular chambers A A', having communicating openings and chimney A³, in combination with deflector B and grate-bar C, substantially as set forth.

4. The fire-pot constructed, substantially as described, with globular chambers A A', having openings in their tops and bottoms, the base-chamber A², and the receptacle *a*³, whereby waste solder from all the chambers is collected in said receptacle, as set forth.

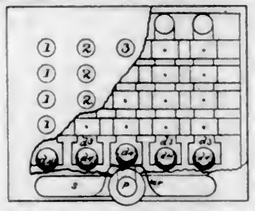
5. The fire-pot having globular chamber A, the walls thereof having openings *a*⁴ and a door or opening of sufficient vertical dimensions to admit a number of soldering-irons one above the other, for the purpose set forth.

6. The combination, with the fire-pot constructed, as described, with communicating chambers of globular form, of the burner and oil-supply and suitable air-compressing apparatus for forcing the oil into the burner.

7. The combination, with the fire-pot having globular chamber A, the walls thereof being provided with openings *a* and *a'*, of the deflector, constructed as described, and the oppositely-located retort-tube, and suitable apparatus for forcing the flame into the chamber against said deflector, as set forth.

8. The combination, with the fire-pot having globular chambers A A' and opening *a*, of the retort-tube inserted in said opening, the burner, a fluid-supply, and suitable air-forcing apparatus, as set forth.

269,578. SPEAKING-TUBE. JOSEPH IRELAND, Cleveland, Ohio. Filed June 3, 1882. (No model.)



Claim.—1. In an annunciator, the combination, with a case provided with valve and speaking-tube openings, of blocks or sections arranged within the case, substantially as described, to form main, secondary, and intermediate passages, which are connected with one another and to the openings in the case, for the purpose set forth.

2. In an annunciator, the combination, with a case provided with valve and speaking-tube openings, of blocks or sections arranged within the case, substantially as described, to form main, secondary, and intermediate passages, which are connected to one another and to the openings in the case, and valves within the intermediate passages, for the purpose set forth.

3. An annunciator having speaking-tubes, secondary tubes connected to the speaking-tubes, valves placed at the intersection of the speaking and secondary tubes, a chamber or passage in which all the speaking-tubes enter, and a mouth-piece arranged in said chamber or passage, and adapted to have its inner opening shifted to the open ends of the speaking-tubes, all combined and arranged substantially as described.

4. An annunciator having speaking-tubes, secondary tubes connected to the speaking-tubes, valves placed at the intersection of the speaking and secondary tubes, a chamber beneath the speaking-tubes, which open therein, and a mouth-piece in said chamber and adapted to be moved beneath the end of the speaking-tubes, substantially as described.

5. In an annunciator, the combination, with the speaking-tubes having a valve in their lower ends, of a passage below the lower ends of the tubes, and a mouth-piece having means, substantially as described, for elevating the valve, when moved beneath the ends of the tubes.

269,579. BELT-FASTENING. ANDRE JOHNSTON, Bainbridge, N. Y. Filed Oct. 27, 1882. (No model.)



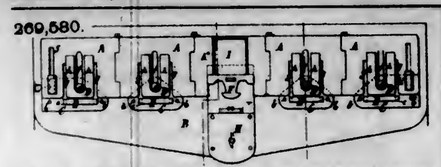
Claim.—1. A belt-fastening plate provided at each of its two sides with two parallel rows of flattened tapering teeth, the inner rows arranged with their broad faces in planes transverse to the plate, and the outer rows arranged with said faces parallel thereto, the said two rows of teeth being adapted to be bent at right angles to each other, substantially as and for the purpose herein set forth.

2. The plate A, provided with series of suitable teeth, whereby it may be attached by clinching to the belt, and with lateral openings *a*, in combination with one or more supplemental plates, D, having series of teeth, whereby they may be attached by clinching to the belt, and prongs *f*, whereby the said supplemental plate or plates may be connected to the plate A through the openings *a* of the latter, all substantially as and for the purpose herein set forth.

269,580. MAIL-BAG. ANDRE JOHNSTON, Bainbridge, assignor to NELSON SECOR, New York, N. Y. Filed Sept. 12, 1882. (No model.)

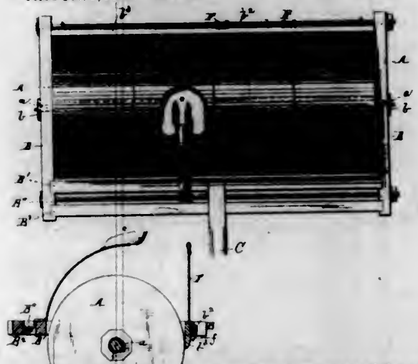
Claim.—A mail-bag fastening composed of the plates A, including the central plate, A², hinged or pivoted together on axes longitudinal with the length of the bag, and constructed with the tongues D, having wedge-like outer surfaces, the slotted plates C, the broad-headed rivets *c*, extended through vertical slots in the

269,580.



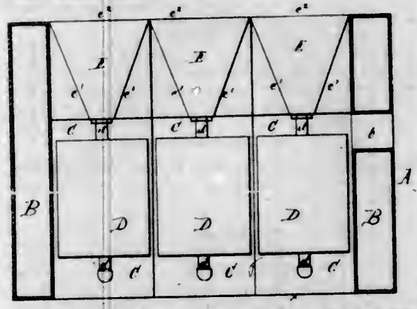
plates A, suitable catch, F, and lock H, all substantially as and for the purpose herein set forth.

269,581. LAND-ROLLER. WILLIAM P. JONES, Arcade, N. Y. Filed Oct. 3, 1882. (Model.)



Claim.—The combination, with the sliding seat *c*, of the rod *b'*, secured to the rear of the roller-frame, pivoted scraper *b*², and movable handle F, capable of being moved along on the rod *b'*, so as to be in reach of the seat as it is moved one way or the other, substantially as set forth.

269,582. STEAM-GENERATOR. THADDEUS C. JOY, Titusville, Pa. Filed July 12, 1882. (No model.)



Claim.—1. In a steam-generator, A, the combination of the heating-sections C, water-chambers D, with steam-drums E, arranged in two parallel opposite rows, and two transverse water-tanks arranged at the ends thereof, substantially as and for the purpose described.

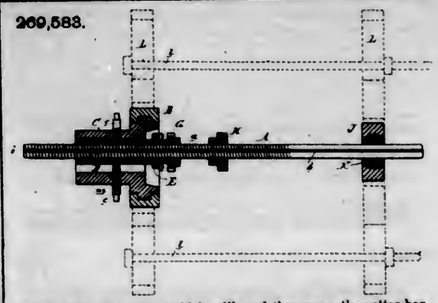
2. In a steam-generator, A, the water-tanks B and heating-sections C, having guttered sides and arranged between them, and having communicating passages *c'*, substantially as described.

3. In a steam-generator, A, the heating-sections C, having guttered sides, and with projecting parts E, arranged in two parallel lines, and having communicating passages *c*, substantially as described.

4. In a steam-generator, A, the heating-sections C, having guttered sides, and water-chambers D, arranged in two parallel lines, and having communicating passages *d*, substantially as described.

269,583. BORING-MACHINE. FRITZ KARR, Sandusky, Ohio. Filed May 24, 1882. (No model.)

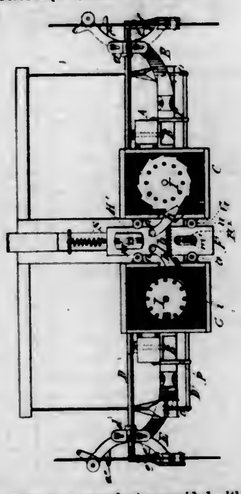
Claim.—1. In a tool for cutting taper holes, a cutter-bar having a feed-screw and a longitudinal groove, a feed-nut, a pawl engaging with said nut to hold it still, and thus cause the cutter-bar to have a longitudinal movement, and a cam for releasing said pawl, combined with an eccentrically-adjustable bearing having internal spline, and a head-stock with a circular interior bearing, as and for the purpose set forth.



2. In a tool for cutting taper holes, the combination of the head-stock B, circular bearing C, provided with devices for rotating it, eccentrically-adjustable bearing D, stationary set-screws *c*, and laterally-adjustable plate or nut *e* and set-screw *d*, all combined substantially as described.

3. In a tool for cutting taper holes, the combination of the cutter-bar A, having feed-screw *a* and groove *b*, with cutter-head H, feed-nut G, pawl F, and cam E, and with the box D, having spline *f*, as and for the purposes set forth.

269,584. CHECK-ROW CORN-PLANTER. JOHN KAYLOR, Decatur, Ill. Filed Sept. 5, 1881. (Model.)



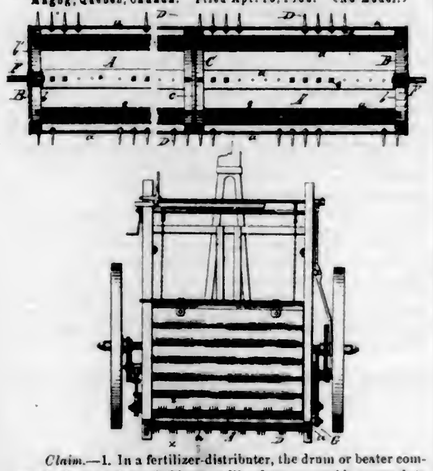
Claim.—1. In a check-row planter provided with a transverse shaft having forked levers at each of its ends to intercept the knots or stops on the wire, the combination therewith of a longitudinal slide, F, supported by rollers pivoted to the base-plates of the seed-boxes, as shown, and bearing pawls *h h*, which engage with the teeth of the seed-disks, substantially as and for the purpose herein set forth.

2. In a check-row planter, the combination, with the transverse shaft D and longitudinal slide F, of the transverse rod D' and dog H², secured to said transverse rod and adapted to engage with the slide F, as shown, through the medium of which an intermittent oscillatory motion is imparted to the transverse rod D', substantially as and for the purpose described.

3. In a check-row planter, the combination, with the transverse shaft and slide F, of the dog H', secured to said shaft and adapted to engage with said slide and to transmit a longitudinal movement thereto by the engagement of the knots or stops on the wire or cord with the forked levers at the outer ends of the transverse shaft, as herein set forth.

4. The combination, with the runners B B, bolted onto the back side of the beam A, of the curved and forked arms E E, secured to the inclined portion of the runners, as shown, said arms being curved upward and forward for the purpose of supporting the transverse shaft D on a line with the slide F, and in front of the seed-boxes, the forked portion of said arms being provided with lugs or stops e' e', and surmounted by guide-pulleys, substantially as shown, and for the purpose set forth.

269,585. FERTILIZER-DISTRIBUTER. JOSEPH S. KEMP, Magog, Quebec, Canada. Filed Apr. 15, 1882. (No model.)



Claim.—1. In a fertilizer-distributer, the drum or beater composed of a number of thin metallic slats removably secured to the end pieces or heads and the central ring, C, and provided with teeth removably attached thereto, the end pieces or heads having the journals F, and the central supporting and retaining ring, C, substantially as shown and described.

2. The combination, with the backward-moving bottom of a fertilizer-distributer, of a rotating drum or beater arranged with relation to said bottom as shown, and composed of the end pieces or heads, the central supporting and retaining ring, and the thin metallic slats secured to the heads and ring and provided with a number of teeth, substantially as described, and for the purpose set forth.

3. The combination, with the backward-moving bottom of a fertilizer-distributer, of a rotating drum or beater composed of thin metallic slats provided with a number of openings, and a less number of teeth removably attached to the slats in part of the openings, the end pieces or heads, and a central supporting and retaining ring, substantially as shown and described.

269,586. FEED-WATER HEATER. EDWARD KENDALL, Cambridgeport, Mass. Filed Aug. 30, 1882. (No model.)

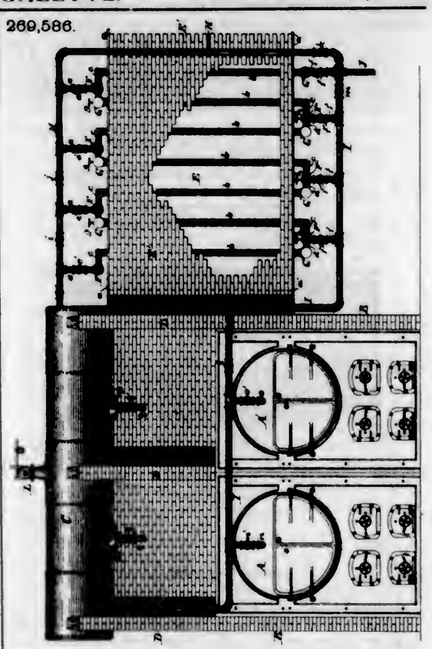
Claim.—1. In a feed-water heater, a series of clusters of small pipes extending across the smoke-flue leading from the boiler to the chimney and having a portion of their length bent at right angles to the main portion, and two series of larger pipes located outside of the flue and each receiving one end of all the small pipes in one of the clusters, substantially as described.

2. The combination, in a feed-water heater, of a series of clusters of small pipes extending across the smoke-flue leading from the boiler to the chimney, two series of larger pipes located outside of said flue and each receiving one end of all the small pipes in one of the clusters, and two series or sets of stop-cocks or gates arranged to regulate the flow of water through the several clusters of small pipes, substantially as described.

3. The combination of the series of clusters of small pipes *b c*, the two series of larger pipes, F G and F' G', the reservoir C, and suitable pipes connecting the opposite ends of said reservoir to the opposite ends of the heater and one end thereof to the boiler, substantially as described.

4. The combination of the series of clusters of small pipes *b c*, the two series of larger pipes, F G and F' G', the reservoir C, provided with one or more sediment-collecting pockets, *p*, and one or more pendent deflectors, *r*, and suitable pipes connecting the opposite ends of the reservoir to the opposite end of the heater and one end thereof to the boiler, substantially as described

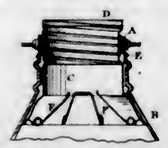
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5. The combination, with a steam-boiler, of the series of clusters of small pipes *b c*, the two series of larger pipes, F G and F' G', the reservoir C, provided with one or more sediment-collecting pockets, *p*, one or more pendent deflectors, *r*, and one or more blow-off cocks, and suitable pipes connecting the opposite ends of said reservoir to the opposite ends of the heater and one end thereof to the boiler, substantially as described.

6. The combination of the series of clusters of small pipes *b c*, the two series of larger pipes, F G and F' G', the reservoir C, provided with one or more sediment-collecting pockets, *p*, one or more pendent deflectors, *r*, one or more bridges, *s*, and one or more blow-off cocks, and pipes connecting said reservoir to the heater and for discharging the water therefrom, substantially as described.

269,587. SHADE AND CHIMNEY HOLDER FOR CAR-LAMPS. JOHN KIRBY, Jr., Cincinnati, Ohio, assignor to Post & Co., same place. Filed July 9, 1880. (No model.)



Claim.—1. The combination of a screw-threaded shade-support holder, made of spun metal, and a screw-threaded shade-supporter, made of spun metal, and an elastic chimney-holder attached thereto.

2. The combination of screw-threaded shade-supporter C, having flaring lower end, provided with loop-springs F, the screw-threaded holder D, having flange E, and a suitable support, A, as set forth.

269,588. WATCH-REGULATOR. JULIUS C. LANDMANN, Dutch Flat, Cal. Filed Aug. 24, 1882. (No model.)

Claim.—1. The regulator-arm D, having the curved rack E at its outer end, in combination with the pinions G and H, fixed to opposite ends of a shaft, the gear-wheel I, and index J, substantially as herein described.

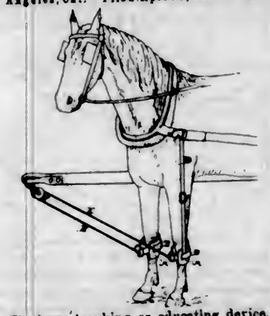
2. The means for regulating a watch without opening or exposing the interior, consisting of the indicator J, movable over a scale upon the watch-face and connected with a curved toothed

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rack, E, upon the regulator-arm by means of the intermediate pinions and shaft, substantially as herein described.

269,589. DEVICE FOR BREAKING BALKY HORSES. JOSEPH LUCAS, Los Angeles, Cal. Filed Apr. 29, 1882. (No model.)



Claim.—The horse breaking or educating device, consisting of the boots or pieces A, adapted to encircle the front legs of a horse from the rear, at or about the knees, in combination with the strap or cord E, having one end connected with each of the boots and its bight passing through a pulley, F, adapted to be attached to the pole in front of the horse, substantially as and for the purpose herein described.

269,590. HARNESS-SADDLE. MATTHEW W. LYNCH, Madison, Wis., assignor of one-half to Dexter Curtis, same place. Filed Feb. 15, 1882. (No model.)



Claim.—The combination of the pad-strap B and its pads with the rigid inflexible metal plate C, bearing the screw-threaded stem D, and secured by rivets *c c* to the upper side of the pad-strap and bridging the backbone of the horse, the pad-covering strap E, the saddle-strap, the upwardly-projecting screw-threaded stem D, the check-hook having its shank between the strap E and the saddle-strap, and the clamping-nut G, the whole constructed and arranged substantially as described.

269,591. PAINT-OIL. JOHN MANNING, New York, N.Y. Filed Feb. 14, 1882. (Specimens.)

Brief.—Resin and naphtha are mixed without the aid of heat and allowed to stand about three weeks, or until thoroughly dissolved, when the other ingredients are added.

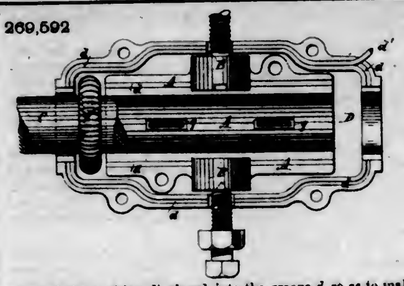
Claim.—The paint-oil as a substitute for linseed-oil, composed of naphtha, one gallon; rosin, eight pounds, mixed in a cold state; linseed-oil, two gallons; and spirits of turpentine, two gills, all combined and mixed in the manner hereinbefore stated.

269,592. JOURNAL-BOX. RICHARD MATTESON and ALFRED M. BROWN, Pawtucket, R.I. Filed Nov. 18, 1882. (No model.)

Claim.—1. In a journal-box, the combination, with the shaft or axle, of the collar F, made of a spirally-wound metal spring constructed to throw surplus oil from the shaft or axle, as described.

2. The combination, with the bearing-bolster A and the oil-reservoir D, provided with the oil-ducts *g g*, of the cover E, extending over the shaft and over the oil-reservoir, and secured by

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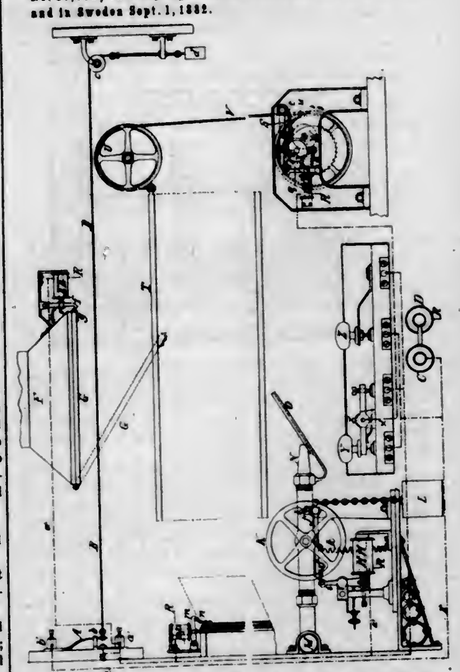


means of the packing *d'*, placed into the groove *d*, so as to make a tight joint, as described.

3. The combination, with the journal-bearing, the oil-reservoir D, and cover E, of the float A, provided with the stem A', extending above the cover, as and for the purpose set forth.

4. In a journal-box, the combination, with the shaft or axle and its bolster, of an oil-reservoir provided with the oil-ducts *g g*, and the collar or collars F, formed of spirally-wound wire, as described, so as to return any excess of oil to the reservoir and prevent waste, as described.

269,593. ELECTRIC SAFETY APPARATUS FOR THEATRES AND OTHER BUILDINGS. CHARLES A. MAYANDRE, Vienna, Austria-Hungary, assignor to Robert I. Langstaff Haviland, same place. Filed June 3, 1882. (No model.) Patented in Austria-Hungary Mar. 13, 1882, No. 1,213 and No. 9,537; in France Apr. 22, 1882, No. 142,640; in Belgium Apr. 22, 1882, No. 57,682; in Italy Apr. 29, 1882, XVI, 14, 131, XXVIII, 149, and in Sweden Sept. 1, 1882.



Claim.—1. The spring A and weighted cord B, in combination with the stud *a*, the circuit-wires connected respectively to said spring and stud, one of said wires leading to the battery and the other to the magnets H, the magnets H, governed by said circuit, a keeper, *h*, supporting one end of a lever, *j*, and a weighted chain-pulley, K, directly operating the cock of a water-pipe, and adapted to hold said cock closed by the other end of said lever *j*, whereby when the circuit is closed by the burning of cord B the electro-magnets are magnetized and attract the keeper *h*, which releases the lever *j*, and then the chain-pulley by its weight is

turned, and the cock of the water-pipe is opened, substantially as set forth.

2. In combination with circuit-wires, a battery, and automatic closing devices, the magnets H, controlled by said circuit, the armature or keeper *h*, the lever *j*, having projection *j'*, chain-pulley K, having peg *l*, the weight L and its chain on said pulley, and a cock in a pipe, operated by said pulley, substantially as set forth.

3. In combination with circuit-wires, a battery, and automatic closing devices, the magnets H, keeper *h*, lever *j*, having projection *j'*, chain-pulley K, having peg *l*, a chain on said pulley, having weight L, pipe M, a cock in said pipe operated by said pulley, and movable guide O, for directing the water flowing from said pipe, as set forth.

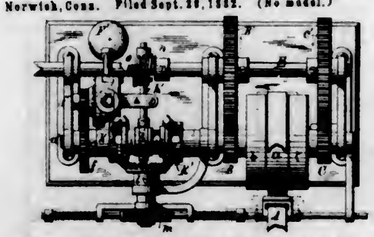
4. The battery and wires of an electric circuit, in combination with cord B, spring A, and stud *a*, whereby the circuit is automatically closed, a tripping device operated by said circuit, a train of wheels set free by said tripping device, a cord, V, attached to said train of wheels, and a curtain, T, suspended by means of said cord, whereby said curtain will be allowed to drop in consequence of the burning of cord B and the closing of the circuit.

5. The key Y, in combination with battery C, the circuit-wires, the electro-magnets Q, a train of clock-work tripped thereby, cord V, and curtain T, whereby said curtain is dropped when said key is depressed, substantially as set forth.

6. A theater-curtain and its suspending-cord, a train of clock-work to which said cord is attached, a detent or tripping device for said clock-work, and a magnet operating said detent, in combination with two independent electric circuits, a key for manually closing one of said circuits, and a spring and combustible cord for automatically closing the other circuit, substantially as set forth.

7. An automatically-closed electric circuit and an independent electric circuit closed at will by a key, in combination with a curtain, a suspending device, and a detent or tripping device therefor, a door, its fastening devices, and a detent or tripping device therefor, a cock governing a water-pipe, a weighted wheel for turning said cock, and a detent or tripping device therefor, all of said detents or tripping devices being operated simultaneously by either of said circuits, substantially as set forth.

269,594. WATER-WHEEL GOVERNOR. James Morton, Norwich, Conn. Filed Sept. 29, 1882. (No model.)



Claim.—1. In a governor for water-wheels, the combination, with a pulley for driving the centrifugal governor constantly, of two adjacent pulleys, each geared to the gate-shaft, so that one will turn the gate-shaft to raise the gate and the other to lower the same, the whole driven by a belt and controlled by the centrifugal governor, as described.

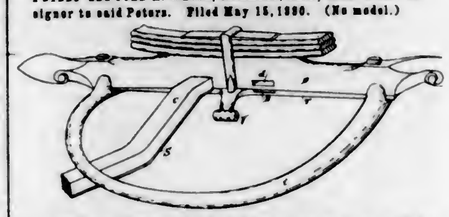
2. The combination, with a centrifugal governor connected with a clutch constructed to connect one of two idle-gears in a compound gear with a driven shaft, of a belt-shipper operated through the compound gear and constructed to lead a belt from a central pulley to either one of two pulleys placed on each side of the central pulley, such side pulleys being connected with the gate-shaft by gears, so as to turn the same in opposite directions to regulate the water-supply, as described.

3. The combination, with the gate-shaft E, provided with the gears B' and C', of the pulleys *a*, *b*, and *c*, placed side by side, the pulley *b* being geared directly to the gear B' and the pulley *c*, through an intermediate gear, with the gear C', while the pulley *a* is connected with the centrifugal governor and a belt-shipper device controlled by the centrifugal governor and constructed to guide the belt to operate the gate on a change of speed taking place, as herein described.

4. The combination, with a constantly-driven shaft and a centrifugal governor, of the compound gears *k*, *k'*, and *l*, a rack and pinion constructed to operate a belt-shipper, and intermediate means by which the motion of the belt-shipper is controlled by the centrifugal governor, the whole constructed to connect and disconnect the belt with pulleys connected by means of gears with the gate-shaft, so that a variation of speed of the water-wheel will be corrected by increasing or diminishing the gate-opening through means substantially as described.

5. The combination, with the pulley *a* and belt A, constructed to drive a centrifugal governor, of the pulley *b*, connected by gears with the gate-shaft, so as to turn the gate-shaft in one direction, the pulley *c*, connected with the gate-shaft, so as to turn the same in the opposite direction, and mechanism, substantially as described, by which the belt is controlled from the governor and moved from one pulley to the other to control the gate on a change in the speed of the wheel, as described.

269,595. RUNNING-GEAR FOR VEHICLES. George M. Peters and John E. White, Columbus, Ohio; said White assignor to said Peters. Filed May 15, 1880. (No model.)



Claim.—1. The combination of the bolster, perches, and bolster-plate, provided with recesses B, and the perch-plates fitting in said recesses, substantially as and for the purposes specified.

2. The combination of the bolster, perches, and bolster-plate, recessed at B, and the perch-plates framed thereto, substantially as and for the purposes specified.

3. The combination of the bolster and the perches mortised therein, and the bolster-plate provided with recesses B, and the perch-plates fitting into said recesses and secured in place by bolts or screws, as *b*, substantially as and for the purposes specified.

4. The bolster-plate provided with the shank-eye or extension, formed in one piece with it, in combination with the longitudinal spring, substantially as and for the purposes specified.

5. The bolster-plate provided with recesses B and formed in one piece with the shank-eye or extension, substantially as and for the purposes specified.

6. The bolster-plate provided with recesses B and formed in one piece with the shank-eye or extension, in combination with the bolster and perch plates and the longitudinal spring, substantially as and for the purposes specified.

7. The bolster-plate provided with shank-eye and recessed at B to receive the ends of the perch-plates, in combination with the longitudinal spring, substantially as and for the purposes specified.

269,596. HARNESS SADDLE AND COLLAR. Charles A. Perrin, Brooklyn, N. Y. Filed Sept. 12, 1882. (No model.)



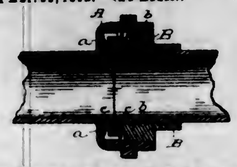
Claim.—1. The combination, with harness collars or saddles, of hollow pads which rest against or upon the animal, adapted to be filled with compressed air to form an elastic or yielding cushion, and which have an unbroken air-passage throughout, for the purpose described, substantially as set forth.

2. The combination, with the frame of a harness-collar, also forming the hames, of an elastic pad or cushion adapted to be filled with compressed air, substantially as and for the purposes set forth.

3. The combination, with the frame or solid part of a harness-collar forming the hames, of an elastic pad or cushion having an unbroken air-passage throughout, made of vulcanized india-rubber, and provided with a valve or tube for inflating the same, substantially as described.

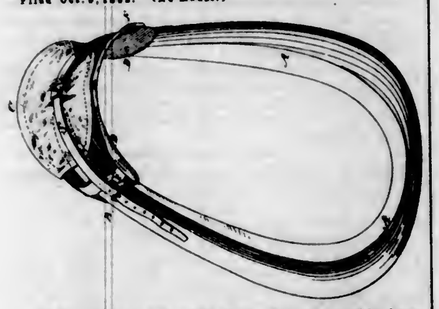
4. The combination of the frame or solid part A of the collar and the metal plate C, for securing the hollow elastic pad thereto, substantially as described.

269,597. PIPE-COUPLING. Charles H. Pope, Thomaston, Me. Filed Mar. 23, 1882. (No model.)



Claim.—The combination, with the pipe ends having upset flanges *c c*, of the connected clamping-pieces A B, having the inclined or beveled edges *a b*, substantially as described.

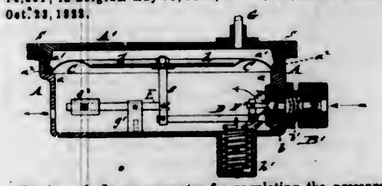
269,598. HORSE-COLLAR. Jeremiah P. W. Roach, Concord, N. H., assignor of one-half to Josiah E. Dwight, same place. Filed Oct. 5, 1882. (No model.)



Claim.—1. As a new article of manufacture, a combined cap and chafe for open horse-collars, the same being united centrally, open at the sides and ends, and together detachable from the collar and adjustable thereon, substantially as set forth.

2. An open horse-collar having its upwardly-projecting sides provided respectively with a strap and buckle, in combination with a united cap and chafe, made the one rigid and the other flexible with open sides, and arranged to receive between them the upper ends of the collar, substantially as set forth.

269,599. REGULATOR FOR COMPRESSED GAS. Julius Schulen, Berlin, Germany. Filed June 30, 1882. (No model.) Patented in France May 3, 1882, No. 147,867; in Austria-Hungary May 10, 1882, No. 8,488; in Italy May 19, 1882, XVI, 14,201; in Belgium May 31, 1882, No. 57,905, and in Germany Oct. 22, 1882.

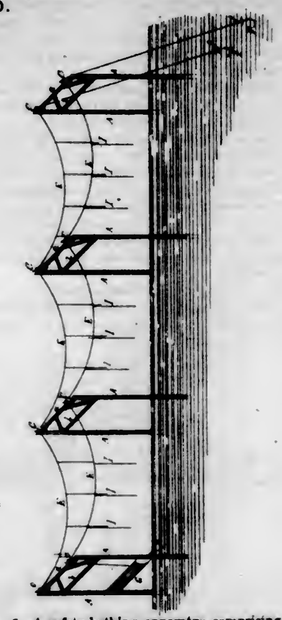


Claim.—1. In an apparatus for regulating the pressure of compressed illuminating-gas, a supply-pipe, a screw-coupling having an interior valve-seat, a screen between the seat and the induction-opening, and a spherical regulating-valve fixed to a rigid stem and fitted to the valve-seat, substantially as described.

2. In an apparatus for regulating the pressure of compressed illuminating-gas, a supply-pipe, a screw-coupling having an interior valve-seat, a spherical regulating-valve, fulcrumed and weighted lever mechanism attached to said valve, a spiral spring acting on the lever D, a flexible diaphragm, and a pipe, G, combined with the air-supply channel of the lamp, substantially as described.

3. In a gas-pressure regulator, the combination of the valve, the valve-seat, the elbow-lever D, pivoted to the valve-stem F, the spiral spring D', the connecting-rod *e*, the diaphragm C, the plate *d*, the fulcrumed lever E, and the counter-weight *g'*, substantially as described.

269,600. SAFETY BATHING APPARATUS. Hermann M. Schnebelk, Rockaway Beach, N. Y. Filed Aug. 9, 1882. (No model.)



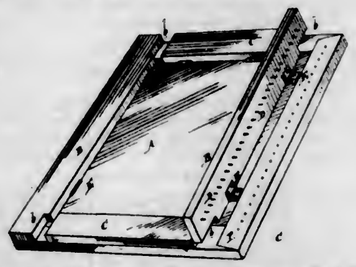
Claim.—1. A safety bathing apparatus comprising as its essential features a series of vertical posts formed of wrought-metal tubes driven into the sand or beach-bottom, a cable or cables, E, extended along the upper ends of said posts, and life-lines I, attached at intervals along the said cable, the whole arranged for use and operation substantially as and for the purpose herein set forth.

2. The sleeves C, provided with the slotted lugs *a'*, clamping-block *c*, and key D, in combination with the cross-bars *a*, posts A, and cable or cables E, all substantially as and for the purpose herein set forth.

3. The combination of an anchor, F, cable E, hollow resilient posts A, and clamping devices for connecting the cable to the post, all substantially as and for the purpose herein set forth.

4. The combination of the drum or roller G, the hollow resilient posts A, cables E, cross-pieces *a*, and sleeves C, having the lugs *a'*, clamping-block *c*, and key D, all substantially as and for the purpose herein set forth.

269,601. DRAWING-BOARD. Annie E. Sinclair, Philadelphia, Pa. Filed Oct. 2, 1882. (No model.)



Claim.—1. A drawing board or frame provided with hinged slats arranged about its edges, the said slats being provided with means to catch and hold the paper or canvas, and recesses upon their hinged edges to allow the paper to be bent over the back of the board and under the said slats, substantially as and for the purpose specified.

2. A drawing board or frame provided with hinged slats arranged about its edges, the said slats being provided with pins

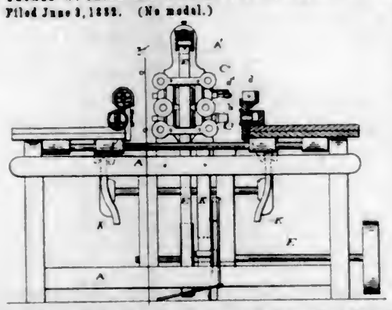
which pass through the paper or canvas when said slats are folded down against the board or frame, two of said slats being the full length of the board and the other two being equal in length to the distance or thereabout between the two long slats, substantially as and for the purpose specified.

3. The combination of board or frame A, slats B, provided with pins D and notches *b*, slats C, provided with pins D and hinges E, as shown and described.

4. The combination of board or frame A, hinges E, and slats B C, provided with pins D, one or more of said slats being extended, as at B', to form a straight edge outside and flush with the stretched paper, substantially as and for the purpose specified.

5. The combination of board or frame A, hinges E, and slats B C, consisting of soft wood covered on the back with a hard-wood veneer, and pins D, the said veneer acting to prevent the pins being pressed back into the soft wood, substantially as and for the purpose specified.

269,602. MACHINE FOR FORMING FURNITURE-JOINTS. THOMAS W. SMITH and CHARLES BIGELY, Connersville, Ind. Filed June 3, 1882. (No model.)



Claim.—1. In a jointing-machine such as described, the combination of the frame having upwardly-projecting standards, the rods *c*, secured at their ends to the standards, the mandrel-frames mounted on said rods and provided with bosses fitted with stationary cutters, the mandrels B D, provided with cutters, and the sliding bed.

2. In a machine of the character described, the combination, substantially as specified, of frame A, standards A', rods *c*, and mandrel-frame C, with a screw rod or rods extending between the standards and screw-collars H, to adjust and hold the said frames C upon their supports.

3. In a machine such as described, the combination, as specified, of a series of mandrels, B D, mounted to rotate one above the other, with sliding bed I, rods J J, cam K, lugs *k*, and suitable mechanism, as shown, to feed the bed to and from the cutters.

4. The combination, substantially as hereinbefore set forth, of the sliding bed I, with clamping devices for holding the rails on the same, consisting of transversely-grooved box O, notched rail P, adapted to slide within said box, and hand-screw Q, to move the rod back and forth to clamp or release the rail ends.

5. In combination with the boring and mortising machine described, the sliding bed, the clamping-boxes N O, secured one above the other upon the inner end of said bed, with suitable devices, such as described, to clamp and hold the stuff to be jointed, substantially as set forth.

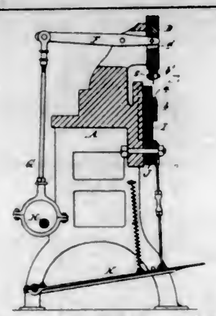
6. The combination, substantially as specified, of the sliding beds I, cams K, treadle M, crank-lever L, and lever m^3, with the connecting-rods m m' to intermittently feed the beds to and from the cutters and readily arrest and stop the movement of the beds.

269,603. PRESS FOR FORMING CREASES IN STOVE-PIPE. EDWARD W. STODDARD, Detroit, Mich. Filed Oct. 25, 1883. (No model.)

Claim.—1. A device for forming a crease around the circumference of a sheet-metal pipe, consisting of a reciprocating punch or die adapted to force the metal exposed to its action into a groove in a semicircular plate or die, a vertically-moving reciprocating bed-plate carrying said die, a pivoted cam supporting said bed-plate, and a suitable treadle connected to and adapted to partially rotate said cam and move the bed-plate and die toward or away from the oppositely-moving punch or die, substantially as described.

2. In a device for the purpose described, the combination of a reciprocating bar carrying a punch with a reciprocating bed-

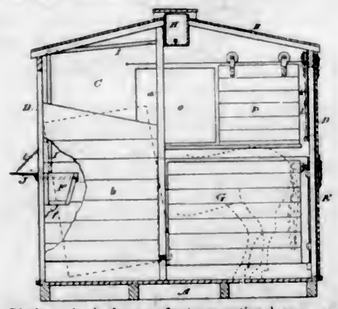
269,603.



plate, and a supporting and operating cam and suitable treadle, whereby the same may be rotated to reciprocate said bed-plate, and thereby sustain the pipe while under the action of the punch, substantially as specified.

3. In a device for the purposes described, a reciprocating bar carrying a punch actuated by an eccentric on a revolving shaft, in combination with a reciprocating bed-plate, and supporting and actuating cam J, treadle K, and suitable return-spring, substantially as set forth.

269,604. STOCK-CAR. STEPHEN P. TALLMAN, Dunellen, N. J. Filed Sept. 22, 1882. (No model.)



Claim.—1. A close car for transporting horses, constructed similar to a box-car, provided with doors at the centers of its sides, and a cross gangway or passage connecting the two doors with shallow stalls and partition-gates, with feed-troughs elevated above the floor, as shown, and with ventilating-apertures arranged in the sides of the car, near the roof only and back of the animals, substantially as and for the purposes set forth.

2. A close car for transporting horses, constructed similar to a box-car, with a door at the middle of each side and a gangway or passage extending across the center of the car, and said car provided with stalls and partition-gates, as shown, with elevated feed-troughs, and with an elongated water-receiver, H, set in the ridge of the car-roof, and arranged to extend across the passage at the center of the car, said receiver being connected at its respective ends with the feed-troughs on opposite sides of the car by means of pipes I I, as set forth, and for the purposes specified.

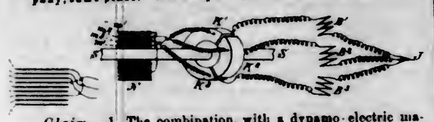
3. A stock-car provided with shallow stalls and hinged partition-gates arranged to turn up into same, as shown, and with elevated feed-troughs F, made shorter than the width of the stalls to leave space for the gates to turn up into, and said troughs connected in a continuous series by means of short sections of pipe *e*, substantially as set forth.

4. A close or tight car for the transportation of horses, provided with stalls and partition-gates arranged in the ends of the car, as shown, with central doors, E, in opposite sides of the car, and a central space in the car between the doors for the attendant of the horses, substantially as set forth.

5. A car for transporting live stock, provided with strips *q* opposite to the stalls, to prevent the animals from rubbing their tails against the side of the car, substantially as set forth.

6. A close car for transporting horses, provided with stalls and partition-gates, as shown, with window-apertures *j*, having sliding covers, arranged in the side of the car opposite to the stalls, and with one or more glazed apertures, *s*, for light, arranged in the side of the car opposite apertures *j*, substantially as set forth.

269,605. DYNAMO-ELECTRIC MACHINE. ELIHU THOMSON, New Britain, Conn., assignor to the American Electric Company, same place. Filed Sept. 12, 1882. (No model.)



Claim.—1. The combination, with a dynamo-electric machine, of a condenser the separate foils or surfaces of which are continuously connected to separate segments of the commutator.

2. The combination, with a dynamo-electric machine, of a condenser mounted upon the armature-shaft and connected to the commutator-segments in the manner described.

3. As a spark-absorber in a dynamo-electric machine, a set of condensing-surfaces in continuous connection with terminals of the armature-coils, and commutator-segments connected to said terminals, respectively.

4. The combination, in a dynamo-electric machine, of an armature having three coils united in a common joint or electrical connection, J, a three-segment commutator, to the segments of which the free ends of the coils are respectively connected, and a condenser connected to the segments in the manner described.

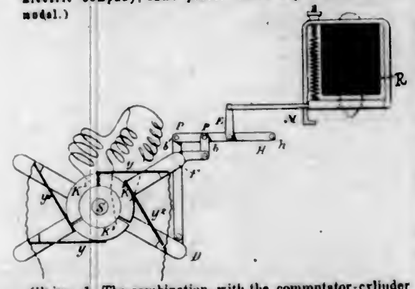
5. The combination, with a dynamo-electric machine, of a condenser consisting of a number of pairs or sets of condensing surfaces or plates, connected in the manner described to the separate segments of the primary or main commutator and to the segments of a secondary or supplemental commutator.

6. The combination, with a three-coil armature, of a primary or main three-segment commutator, a secondary three-segment commutator, a pair of condensing surfaces or plates inductively uniting the corresponding segments of the two commutators, and electrical connections from the brushes of the primary to the brushes of the secondary commutator.

7. In a dynamo-electric machine, the combination, substantially as described, of a primary and a secondary commutator inductively united through the plates or foils of a condenser, and arranged with relation to one another so that their segments shall leave their brushes—the segments of one commutator slightly in advance of those of the other.

8. The combination, with a dynamo-electric machine, of a condenser the separate foils or surfaces of which are in continuous electrical connection with the separate terminals of the armature, as and for the purpose described.

269,606. REGULATOR FOR DYNAMO-ELECTRIC MACHINES. ELIHU THOMSON, New Britain, Conn., assignor to the American Electric Company, same place. Filed Sept. 30, 1882. (No model.)



Claim.—1. The combination, with the commutator-cylinder for a dynamo-electric machine, of an adjustable collecting-brush and means for automatically shortening the collecting extent of said brush simultaneously with its forward adjustment.

2. The combination, with the commutator-cylinder in a dynamo-electric machine, of two differentially-moving sets of springs moving differentially with relation to one another in the manner described, so as to shorten the commutator-space covered by them simultaneously with their forward movement.

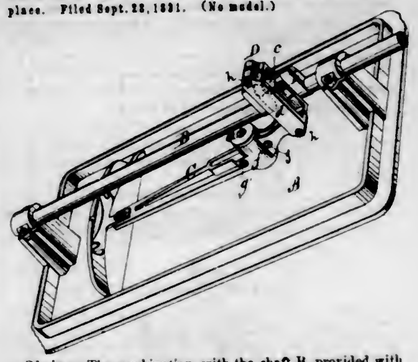
3. The combination, with the three-segment commutator in a three-coil-armature machine of the kind described, of automatically-adjustable commutator-brushes constructed, in the manner described, to shorten the circumferential commutator-space covered simultaneously with their forward movement.

4. The combination, with a three-coil-armature machine and its three-segment commutator, of two pairs of commutator-brushes differentially adjusted in the manner described, so that the space between them is shortened simultaneously with their forward movement.

5. The combination, with the pairs of commutator-brushes mounted on independent supports, of an adjusting-lever, to which the brush-supports are connected at different points, the support for the rear brushes being connected thereto at a point farther from the fulcrum than the support for the forward pair.

6. The combination, with the lever E, of the links *b b'*, attached thereto at different points from the fulcrum, and the yokes D F, each supporting at its opposite ends two commutator-brushes.

269,607. SEWING-MACHINE. CHARLES E. TISDALE, Burlington, Iowa, assignor to the Hawkeye Machine Company, same place. Filed Sept. 22, 1881. (No model.)



Claim.—The combination, with the shaft B, provided with the crank *b*, having a ball, *c*, of the shuttle-lever C, split on both sides of its pivotal point, and having the adjusting-screws *g g'* and the split-yoke D, provided with the adjusting-screws *h* at the ends thereof, and the bearing-plates *e*, substantially as herein shown and described.

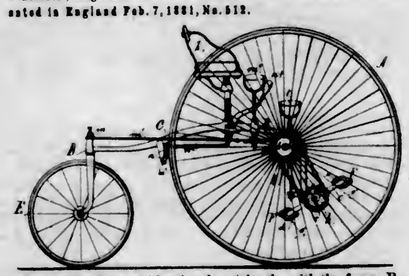
269,608. SHAFT-COUPLING. WILLIAM A. WAIN, Detroit, Mich. Filed Nov. 8, 1882. (No model.)



Claim.—1. In a shaft-coupling, a hub wherein the central hole is formed partially by the inner wall of the hub itself and partially by the inner side of key, which is fitted to place by being bored simultaneously with the hub, substantially as described.

2. In a shaft-coupling, and in combination with abutting ends of sections of shafting which are provided with holes or recesses, as described, a coupling the bore of which is provided with inwardly-projecting pins to engage with said holes in the shafting, and a key secured in place by a set-screw, substantially as specified.

269,609. TRICYCLE. JOSEPH WHITE, Coventry, County of Warwick, England. Filed Feb. 6, 1882. (No model.) Patented in England Feb. 7, 1881, No. 512.



Claim.—1. The combination, in a tricycle, with the frame B, spine C, rear steering-wheel and its guiding mechanism, and the driving-wheels A, of the crank-shaft *c*, chain-wheels *i h*, chains *l*, friction coupling-wheels *o*, having curved teeth, and secured on the ends of the crank-shaft *c* and the short cylinders *o'* within the

chain-wheels *h*, substantially as specified, whereby one or both driving-wheels are connected with the crank-shaft or disconnected automatically, substantially as set forth.

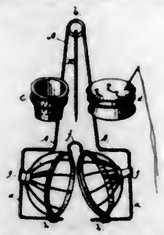
2. The combination, in a tricycle, with the frame B, spine C, rear steering-wheel, its guiding mechanism, and the driving-wheels A, of the crank-shaft e and pedals upon the same, the chain-wheels *i h*, and chains *l*, the friction coupling-wheel *o*, with curved teeth, the short cylinders *o'*, and the clutch *r* and lever *s*, substantially as set forth.

3. The combination, in a tricycle, of two driving-wheels, a steering-wheel, a spine, and open-front bow-frame, the axles for the front wheels, a crank-shaft, chain-wheels, and chains, clutches, and levers for the same, the cam and connections therefrom to the clutch-levers and steering-wheel, respectively, whereby the driving-wheels are coupled automatically in steering the machine, substantially as set forth.

4. In combination with a crank-shaft having collars *c'* upon the cranks, the pedals having heads *d*, with cylindrical openings corresponding in internal diameter to the collars, the screw-rings *g*, and ball-bearings, substantially as set forth.

5. The combination, in a tricycle, of the driving-wheels, the crank-shaft and treadles, the chain-wheels *i h*, chains *l*, clutch *r*, lever *s*, and mechanism for operating said lever, substantially as set forth.

269,610. COMBINED SEWING IMPLEMENT. MARIA A. WILSON, Grayson, Cal. Filed May 5, 1882. (No model.)

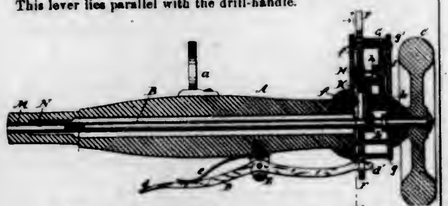


Claim.—1. A device for holding spool-thread and sewing implements for the use of needle-women, consisting of the two jaws A A, connected together by a spring-joint, *b*, the rings or loops C *d*, and the rectangular spool reel or holder on the end, in combination with a fastening for attaching the device to the person, all constructed and combined together substantially as specified.

2. In combination with the jaws A A, the detachable and removable ball-holding cage F, constructed for application and use substantially as specified.

269,611. DENTAL DRILL. NATHAN B. ACHESON, Youngstown, Ohio. Filed May 26, 1882. (No model.)

Brief.—The drill-holder has a rack-bar, which drives the shaft through intermediate multiplying-gearing, said rack-bar being operated by means of a lever worked by the thumb of the operator. This lever lies parallel with the drill-handle.



Claim.—1. In a dental drill, the combination, with a tubular handle or stock and revolving drill-shaft passing through the same, of an actuating-lever arranged on the outside of said stock, and parallel therewith, a power-transmitting bar connected with the actuating-lever, at right angles thereto, and passing through the drill stock or handle, and suitable mechanism for rotating the drill-shaft from the movement of the lever and power-transmitting bar, substantially as herein set forth.

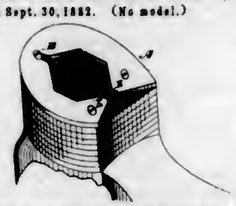
2. In a dental drill, the combination of a tubular handle or stock, a rotary drill-shaft passing through the same, and a balance-wheel mounted on said shaft, outside the handle or stock, with an actuating-lever and suitable mechanism for rotating the drill-shaft from the movement of the lever, substantially as and for the purpose set forth.

3. In a dental drill, the combination of the handle A, lever D, with spring *s*, rack-bar F, pinion H, and ratchet-wheel *h*, gear-wheel I, having pawls *i'* and shaft *i*, and shaft B, having pinion *b*, with or without multiplying-gears, between said gear and shaft-pinion, substantially as and for the purpose set forth.

4. In a dental drill, the combination of the lever D, rack-bar F, pinion H, and ratchet-wheel *h*, gear I, pawls *i'*, and shaft *i*, substantially as and for the purpose set forth.

5. The shaft B, having a drill-socket, M, in the end thereof, in combination with the cam-roller N, substantially as and for the purpose set forth.

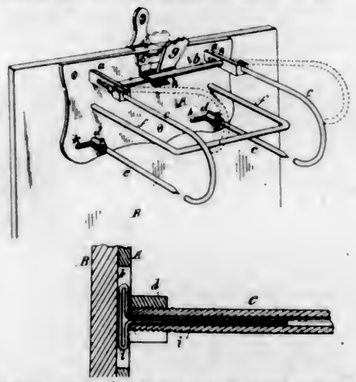
269,612. HEEL-PLATE. NATHAN B. ACHESON, Youngstown, Ohio. Filed Sept. 30, 1882. (No model.)



Claim.—The horseshoe-shaped heel-protecting plate made of malleable or ductile metal, having a slotted perforation at the center of its rear inner portion, and provided with straight parallel faces at the inner sides of its front or open portion, whereby the plate may be expanded by the application of a suitable instrument, substantially as and for the purpose set forth.

269,613. LETTER AND BILL FILE. FRANK D. ADAMS, Auburn, Cal. Filed June 8, 1882. (No model.)

Brief.—The base-plate of the file is provided with two slots, at the ends of which are located slotted studs, into which the tubular perforators of the file are screwed. Within these slots and the bore of the perforators are located ordinary paper-fasteners. When a sufficient number of papers have been pierced by the perforators the latter are removed and the papers with the paper-fasteners lifted out of the slots, when, by turning down the prongs of the paper-fasteners, the papers are permanently secured together.



Claim.—1. The combination, with the slotted posts *a a* and hooks *c*, of the loose cross-bar *b*, whereby the ends of the hooks will take over the perforators and form a continuous wire, as described.

2. The combination, with the base-plate A and perforators *e*, of the slotted posts *a*, bar *b*, and tubular hooks *c*, substantially as described, for operation as set forth.

3. The combination of the perforators *e* and fasteners *i* with the slotted base-plate A, having the tubular slotted studs *d*, substantially as and for the purposes set forth.

269,614. VEHICLE-PROPELLER. ERWIN G. ADAMS, Cohoes, N. Y. Filed Sept. 23, 1882. (No model.)

Claim.—1. As a means for connecting the propelling-lever with its foot, a pivotal bearing secured to the former and adapted to engage with said foot in front of the line of said lever, substantially as and for the purpose specified.

269,614.



2. In combination with the jointed foot described and with the rubber bearing pad, metal points contained within recesses in said pad and adapted to engage with the surface of the ground when said pad is compressed by downward pressure, substantially as and for the purpose shown and described.

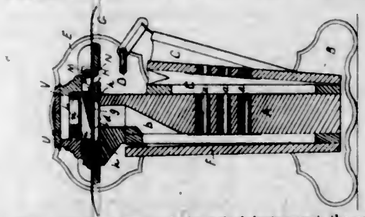
3. The propeller-lever shown, having the ends of its sections A and A' combined by means of the rubber disk H, spur *f*, and straps I and I, substantially as and for the purpose specified.

4. In combination with the sections A and A', jointed together, as set forth, the rubber strap F, rigidly secured at one end to said section A, and having its opposite end, which is provided with an enlargement, *f*, contained within and adapted to slide through a loop, *g'*, that is attached to said lower section, A', substantially as and for the purpose shown.

5. As a means for limiting the motion of the joint of the propelling-lever, the shoulder d^3, formed upon the joint-block D, and the rubber buffer L, contained within the socket g^3 of the joint-block G, substantially as set forth.

6. The combination of the joint-block D, provided with the concave lower end and with the side flanges, *d'*, the joint-block G, having the concave upper end and spur *g*, and the rubber disk H, provided with the recesses *h'*, substantially as and for the purpose shown and described.

269,615. MECHANICAL MUSICAL INSTRUMENT. OLIVER H. ANDO, Wilmington, assignor to the American Automatic Organ Company, Boston, Mass. Filed Sept. 7, 1882. (No model.)



Claim.—1. In a mechanical musical instrument, the combination, with the reed-board having reeds and reed-cells, of the raceway *g*, covered with a sheet of flexible material having openings *l* through it, and supported at intermediate points, substantially as and for the purpose specified.

2. In a mechanical musical instrument, the flat arms P, carrying the presser-roller N, and attached by set-screws *g*, and provided with rest-pins *s*, substantially as and for the purpose specified.

3. In a mechanical musical instrument, the combination, with the raceway *g* for the music-sheet, covered with a sheet of flexible material having openings *l* through it and supported at intermediate points, of the plates S, cut away, as at *u*, substantially as and for the purpose specified.

4. In a mechanical musical instrument, the combination, with the raceway *g* for the music-sheet, of the blocks T, having guiding-edges *w*, and plates S, each having guiding-edges *u* and *v*, substantially as and for the purpose specified.

5. In a mechanical musical instrument, the flat arms P, carrying presser-rollers N, and having conical-shaped recesses *t*, in combination with the round head *r*, and fastening-screws *q*, substantially as and for the purpose specified.

6. In a mechanical musical instrument, the combination, with the reed-board having reeds and reed-cells, of the raceway *g*, covered with a sheet of flexible material, and having openings *l* through it and supported by the partitions *f* in the raceway, substantially as and for the purpose specified.

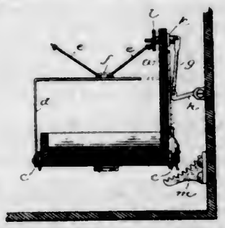
269,616. COMPOSITION FOR REMOVING SCALE IN BOILERS. CHARLES R. BACON and FRANK QUESE, St. James, Minn. Filed May 5, 1882. (No specimens.)

Claim.—A compound for softening lime deposits in steam-boilers, consisting of lime-water, or aqua calcis, and pure sweet-oil, in the proportions herein stated.

269,617. SELF-LEVELING BERTH. LORING J. BAKER, Boston, Mass. Filed May 4, 1882. (No model.)

Brief.—The bracket, to which the upper portion of the berth is attached, is flexible in one direction, but incapable of rotation.





Claim.—1. In combination, a suspended frame adapted to swing longitudinally and laterally, a berth centrally supported on transverse pivots on said frame, and an upper supporting-pivot on a flexible bracket adapted to hold the berth in proper relation to the frame, substantially as described.

2. In combination, a suspended frame adapted to swing longitudinally and laterally, a berth centrally supported on transverse pivot on said frame, a bracket connected by pivot to a central upper extension of the berth, and also to a fixed part, and inflexible in the direction of the length of the berth, but permitting lateral movement, substantially as described.

3. In combination, a suspended frame adapted to swing laterally and longitudinally, a berth supported centrally on transverse pivot, a jointed connecting-bracket, *g k*, and pivot *k*, all substantially as set forth.

4. In combination with the berth supported on a swinging frame, the slotted upper extension, the adjustable pin, and the transversely-flexible bracket, substantially as described.

5. In combination, a berth, side bars, a central transverse pivoting-rod, and yokes suspended from the walls, and an upper transversely-flexible arm carrying a pivot for the upper extension of said berth, substantially as described.

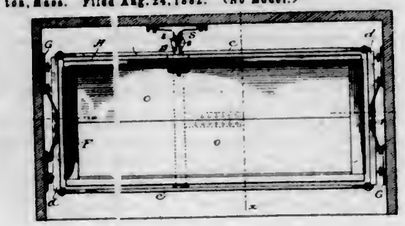
6. In combination, the side bars supporting the pivoted berth, the yokes, and the links *e e*, converging toward their lower ends and separately connected to the links, as set forth.

7. In combination with a swinging berth and supporting mechanism, substantially as described, whereby lateral and longitudinal movement is permitted, a serrated plate fixed to a part outside the berth, a movable serrated plate on the berth at right angles to the fixed, and a lever for operating the movable, plate, substantially as described.

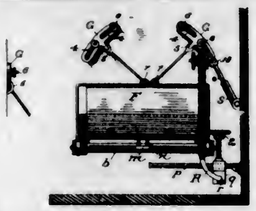
8. In combination with a swinging berth, the plate *m*, fixed to the wall, the plate *n*, movable on the berth, bell-crank lever *o*, and link *p*, all substantially as described.

9. The combination of the side bars, *e e*, yokes *d d*, links *e e*, bracket *g k*, and pin *k*, all constructed as shown in the described relation to the berth.

269,618. SELF-LEVELING BERTH. LORING J. BAKER, Boston, Mass. Filed Aug. 24, 1882. (No model.)



269,618.



Claim.—1. In combination with a berth and a transverse pivoting-rod supported on suitable side bars, an arm, *m*, projecting toward the head of the berth, and provided with suitable supporting devices for the bed-bottom, substantially as described.

2. In combination with the berth, the pivoted rod *p*, adapted to swing in vertical plane, the bracket R, with the rod *r*, the perforated block *q*, and a device for holding the block in any position upon the rod *p*, and the rod *r*, substantially as described.

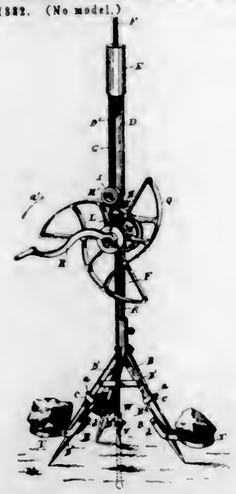
3. The combination of the pivoted rod *p*, adapted to swing in vertical plane, and the bracket R *r*, the block *q*, sliding upon these parts, as described, the set-screw *p'* and the pin 3°, substantially as described.

4. The combination of the berth, the yokes, and suitable intermediate supporting devices, the links and adjustable brackets, whereby the inclination of the links may be varied, substantially as described.

5. The combination of the yokes, supporting-links, the brackets G, having slots and hooks 5, and the side bars, *c*, the parts being connected to the wall and to the berth, substantially as described.

6. The combination of the berth with the notched side bars, *c*, and the yokes having pins 9, such yokes being connected to the wall, substantially as described.

269,619. ROCK-DRILL. WILLIAM J. BARBER, Covington, Ind. Filed June 22, 1882. (No model.)



Claim.—1. In a rock-drill, the combination, with the screw-threaded drill-rod F, the spring G, and the stock H, through which the drill-rod screws, of the casing D, having its upper end externally screw-threaded, and the cylindrical and internally-screw-threaded cap E, substantially as and for the purpose set forth.

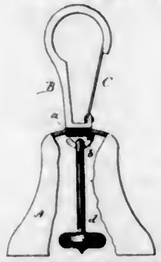
2. In a rock-drill, the combination, with the slotted casing D, the cylindrical cap E, the drill-rod F, and the spring G, of the stock H, secured to the drill-rod and provided with the pintle H', the roller I, and the cam-wheel Q, substantially as and for the purpose set forth.

3. In a rock-drill, the combination, with the drill-rod F, provided with a longitudinal groove, O, of the socket H, provided with a pintle, H', the stock I, externally grooved and provided with a tooth or key, N, projecting into the groove O, and of the cam-wheel Q, provided with one or more teeth, S, substantially as herein shown and described, and for the purpose set forth.

4. In a drill-rod, the combination, with the slotted casing D, the cap E, the threaded drill-rod F, provided with the groove and the spring G, and the internally-threaded stock H, provided with the roller I, of the stock I, externally grooved and provided with the key N, and the cam-wheel Q, provided with teeth S, substantially as and for the purpose set forth.

5. In a rock-drill, the combination, with the legs B, of the wings or baskets T, provided with the angular shanks *d*, pivoted to said legs and adapted to receive weights, substantially as and for the purpose set forth.

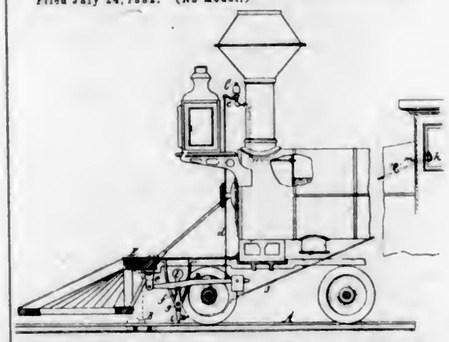
269,620. TEAM-BELL. ASHER W. BARTON and GEORGE N. RICE, East Hampton, Conn., assignors to the Barton Bell Company, same place. Filed Sept. 4, 1882. (No model.)



Claim.—1. The herein-described team-bell, consisting of the bell with a snap-hook rigidly attached to its head end, substantially as described.

2. The combination of the bell A, snap-book B, a device, substantially such as described, to secure the hook to the bell, and a tongue within the bell, hung to said securing device, substantially as described.

269,621. CAR-SIGNAL. JOHN B. BATT, Williamsville, N. Y. Filed July 24, 1882. (No model.)



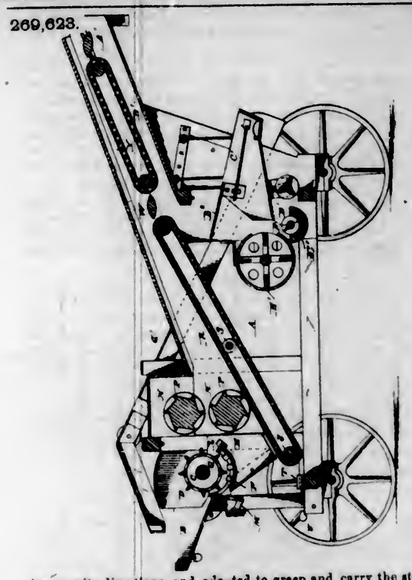
Claim.—1. The combination, with a locomotive-whistle, of a weighted lever, D, a rod, *d*, connecting said lever with the whistle, a horizontal shaft, *g*, provided with an arm, *f*, supporting said lever, and a depending arm, *i*, attached to said shaft and adapted to come in contact with a stop on the track, whereby the arm *f* is withdrawn from the weighted lever and the latter caused to descend, thereby sounding the whistle, substantially as set forth.

2. The combination, with a locomotive-whistle, of a weighted lever, D, a rod, *d*, connecting said lever with the whistle, a horizontal shaft, *g*, provided with an arm, *f*, supporting said lever, a depending arm, *i*, attached to said shaft and adapted to be operated by a stop on the track, and a rod, *j*, extending from one of the arms secured to the shaft *g* to within reach of the attendant, whereby the shaft and arms can be readily returned to their former position after the alarm has been sounded, substantially as set forth.

269,622. THRASHING-MACHINE. CLEMENT BEVELOT, East St. Louis, Ill. Filed July 24, 1882. (Model.)

Claim.—1. In a thrashing-machine, the combination of the thrashing-cylinder and the concave with the carrying-rollers, longitudinally ribbed, as described, and located in close proximity to the thrashing mechanism, the said rollers being geared to rotate

269,623.

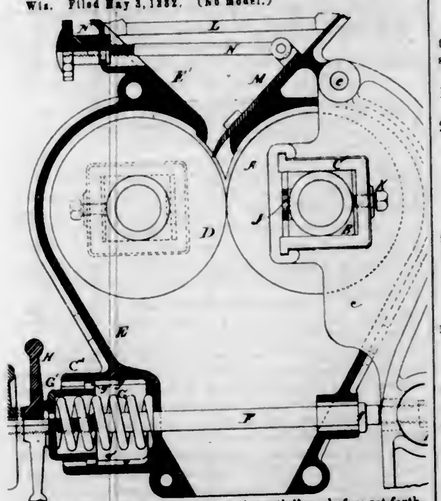


in opposite directions, and adapted to grasp and carry the straw, in the manner substantially as herein shown and set forth.

2. In a thrashing-machine, the combination of the thrashing-cylinder and the concave with the carrying-rollers, constructed and located substantially as shown, and the elevating-belt, the said rollers being adapted to receive the straw from the thrashing mechanism and deliver it upon the belt, as described, and for the purpose set forth.

3. In a thrashing-machine, the combination, with the fan and grain-shoe, of the semicircular heater and propelling-screw, substantially as and for the purposes specified.

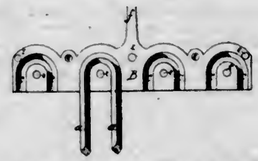
269,623. ROLLER GRINDING-MILL. HANS BIRKHOLZ, Racine, Wis. Filed May 3, 1882. (No model.)



Claim.—1. The combination, substantially as before set forth, of the fixed roller-supporting standard, the movable roller-carrying casing pivoted thereto, the adjustable gage-rod, the nut thereof, held by the standard, and the spring connected with said rod and adjustable in tension independently thereof.

2. The combination, substantially as before set forth, of the fixed roller-supporting standard, the movable roller-carrying casing pivoted thereto, the adjustable gage-rod, the swiveling nut thereof, held by the standard, the spring, the sliding cap, the hand-lever for rotating the gage-rod, detachably locked to the sliding cap, and the nut for adjusting the tension of the spring.

269,624. FORK AND RAKE. THOMAS J. BLAKE, Pittsburg, Pa., Filed Aug. 11, 1882. (No model.)



Claim.—1. A fork or rake composed of the U-shaped tines or teeth *a a*, in pairs, and the matching-heads B B', having the grooves *c*, embracing the tines or teeth between them, and secured together, substantially as described.

2. In a fork or rake, the twin tines or teeth *a a*, in one piece, bent to U shape at their middle, jointly with the heads B B', having on their inner faces grooves *c*, corresponding to the bends of the tines *a*, and held together by rivets or screws *i*, substantially as set forth.

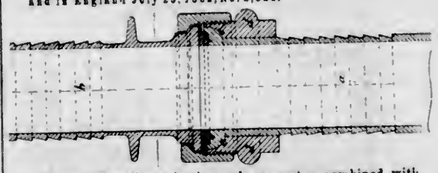
269,625. BAG-HOLDER. JAMES HENRY BLAKE, Ironton, Ohio, assignor of one-half to Albert G. Clark, same place. Filed Oct. 14, 1882. (No model.)



Claim.—1. The bag holder or stand consisting of base A, vertical racks B B' B'' B''', rim D, shiftable shelf C, and hooks E, substantially as set forth.

2. In combination with the bag-holder A B B' B'' B''' C D E, the lid G, arranged and operating as set forth.

269,626. UNION OR COUPLING FOR PIPES AND TUBES. JULES L. B. BOUEL and JOSEPH L. F. BRAUER, Paris, France. Filed Aug. 24, 1882. (No model.) Patented in France May 19, 1882, No. 148,883; in Belgium July 24, 1882, No. 58,552, and in England July 25, 1882, No. 3,536.

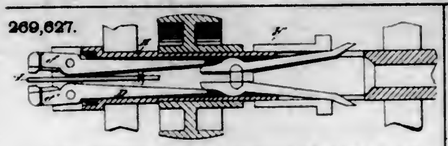


Claim.—The pipe *a*, having enlargement *c*, combined with threaded rings *d* and *g*, and with pipe *b*, having oval enlargement *f*, the ring *g*, having oval aperture *h*, recess *k*, and stop or stops *m*, substantially as herein shown and described.

269,627. ALARM DEVICE FOR SCREW-MACHINES. THOMAS BOURNE, Chicopee, Mass. Filed Apr. 3, 1882. (No model.)

Claim.—1. The combination, with the blank-holding spindle of a screw-machine, of a spring-actuated plunger within said spindle, which moves forward when no blank is in the spindle, an arm connected to said plunger and projecting beyond the surface of said spindle, an alarm-bell, and intermediate devices, substantially as described, to cause said bell to be struck when said plunger is moved forward.

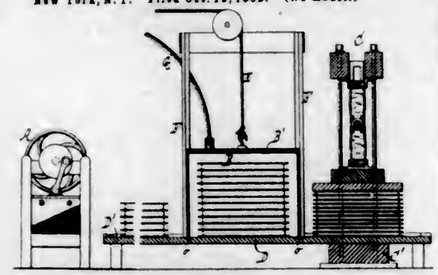
269,627.



2. The combination, with the blank-holding spindle of a screw-machine, of an alarm-bell and striking devices, substantially as described, and of a spring-actuated projection connected with said spindle, to co-operate with said striking devices and cause the bell to be sounded when said spring projection is released by the absence of a blank within the spindle.

3. In a screw-machine, the combination, with projection D, rocker-arm C, and bell W, of rod F, relatively arranged with sleeve *y*, to move with it and prevent the sounding of the alarm at the time of such movement, substantially as shown and described.

269,628. EXTRACTING CANE-JUICE. GEORGE B. BOSMER, New York, N.Y. Filed Oct. 13, 1883. (No model.)

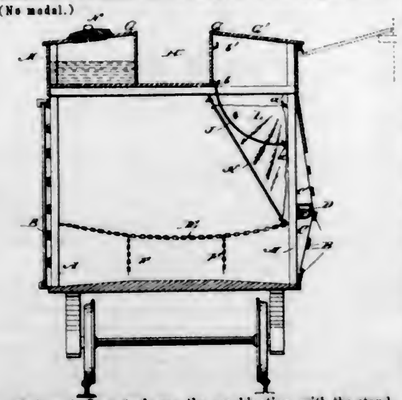


Claim.—1. The process herein described of extracting juice from sugar-cane, which consists in first severing the cane into short lengths, then arranging such severed lengths in a pile or mass within a closed chamber, then subjecting the cane to the action of heat in the closed chamber until the cane is thoroughly heated and the crystals dissolved, then removing the steamed cane from the closed chamber, and finally subjecting it to pressure, substantially in the manner and for the purposes set forth.

2. The process of extracting the juice from sugar-cane, which consists in first reducing the cane to short lengths, then heating it by the direct action of steam in a closed chamber, and finally subjecting it to pressure, for the purpose set forth.

3. In an apparatus for extracting juice from sugar-cane, the combination substantially as hereinbefore set forth, of the press, the elongated platform, and the platform-box fitted to vertical guideways, and provided with a means for raising it.

269,629. STOCK-CAR. HENRY R. BOTHWELL and JAMES H. STRONGILL, Toronto, Ontario, Canada. Filed Aug. 23, 1882. (No model.)



Claim.—1. In a stock-car, the combination, with the standards A, of the transverse chains E and the chains F, attached to the said transverse chains, and adapted to be attached to the adjoining transverse chain, substantially as herein shown and described, whereby stalls are formed and the animals prevented from lying down, as set forth.

2. In a car, the combination, with the sides of the car, of the trough D, attached to the outer sides of the standards A, and the covering of the troughs, provided with the openings D', substantially as herein shown and described, and for the purpose set forth.

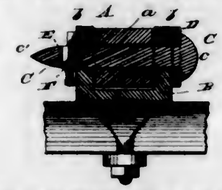
3. In a car, the combination, with the sides of the car, of the troughs D, increasing in width toward the middle, and having the inner sides bulged toward the interior of the car, substantially as herein shown and described, and for the purpose set forth.

4. In a car, the combination, with the sides of the car, of the troughs D, the beveled timbers C C', attached to the outer sides of the standards, and the slats B, attached to the timbers C C', substantially as herein shown and described, and for the purpose set forth.

5. In a car, the combination, with the feed-boxes G, open at the bottom, of the manger-bars J and the hooks *a* and *b*, substantially as herein shown and described, and for the purpose set forth.

6. The combination, with a car, of diagonal bars K, held to the top and sides, and of the canvas sheets L, held to the top and sides of the car and to the said bars K, substantially as herein shown and described, and for the purpose set forth.

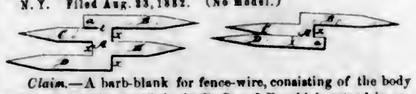
269,630. THILL-COUPLING. NELSON M. BRINKERHOFF, Melmore, Ohio. Filed Sept. 30, 1882. (No model.)



Claim.—1. The combination, with the bolt having a slot at one end, of the elastic washer fitted upon the bolt between its head and one of the shackle-ears, and the key which fits in the slot of the bolt, provided with a projection which, when the bolt is in place, is received in that portion of the slot which lies in the perforation through the remaining shackle-ear, substantially as described.

2. The combination, with the shackle B, having two perforated ears, of the slotted bolt C, which passes through said ears, the key F, provided with a projection having a shoulder, *f'*, and an incline, *f*², and the elastic washer D, fitted upon the bolt between its head and one of the shackle-ears, said members being arranged substantially as and for the purpose specified.

269,631. BARB FOR FENCES. JOHN J. BRICKERHOFF, Auburn, N.Y. Filed Aug. 23, 1882. (No model.)



Claim.—A barb-blank for fence-wire, consisting of the body portion A, provided with barbs B, C, and D, which extend in opposite directions, as described, and with a lip, *a*, opposite one of the barbs, said barbs and lip being separated by slits and a vacant space, *x*, and the blank thus formed being applied to a fence-wire with the lip bent so as to meet the opposite barb and the several remaining barbs respectively bent around the wire and left in a substantially unbent condition, substantially as shown, and for the purpose specified.

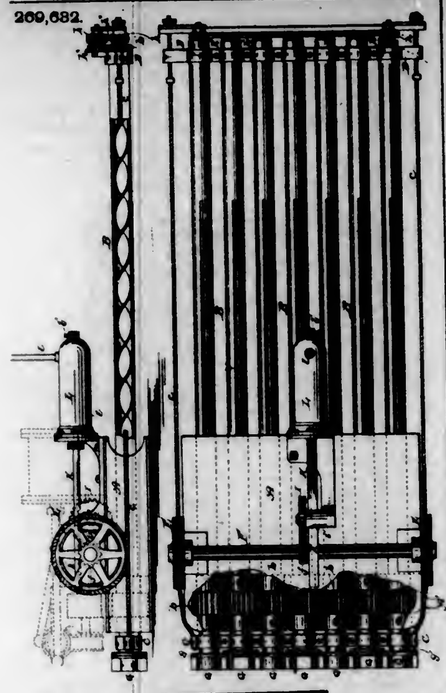
269,632. MINING-MACHINE. RICHARD BROMLEY, Columbus, Ohio. Filed June 8, 1882. (No model.)

Claim.—1. The hollow shafts B, provided with the cutters G, and the cleaning-rods H, the alternate shafts being adapted to be revolved in opposite directions, and the cleaning-rods within them being revolved in opposite directions to the shafts in which they work, in combination with suitable mechanism for operating them, substantially as shown and described.

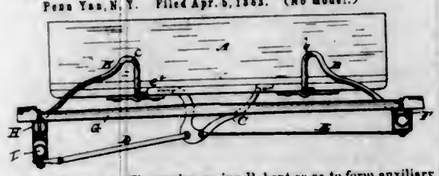
2. The hollow shafts B, provided with the rotating heads G, the transverse heads C D, the shafts being feathered to the spur-wheels *b* and rotated in opposite directions thereby, in combination with the spiral cleaning-rods H, adapted to revolve in opposite directions to the shafts in which they rotate, and the mechanism for operating the said cleaning-rods, as set forth.

3. The cylinder L, provided with the adjustable safety-valve *l'* and the piston K, the piston being connected by suitable mechanism to the cutting-shafts B, and adapted to advance and withdraw them, substantially as and for the purposes set forth.

269,632.



269,633. TORSION-SPRING FOR VEHICLES. DANIEL BUDD, Penn Yan, N.Y. Filed Apr. 5, 1882. (No model.)



Claim.—1. The torsion-spring B, bent so as to form auxiliary side springs, *b*, and having its ends lapping and confined in the brackets *a a'* at opposite sides of the bottom of the body, as set forth.

2. The spring B, bent so as to form auxiliary side springs, *b*, and having its ends secured in the brackets *a a'*, in combination with the bracket C, rods E, E', and D, and the rigid frame F G H, substantially as described.

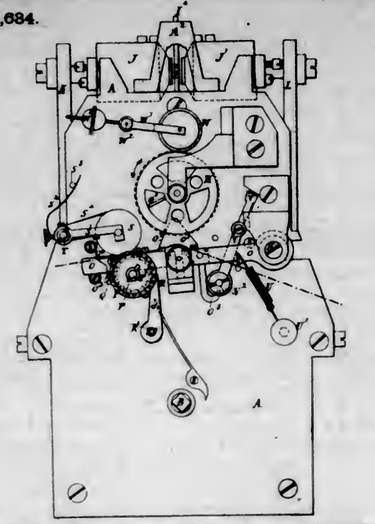
269,634. PRINTING-TELEGRAPH. WILLIAM JOHN BURNSIDE, Elicot Court Road, Lower Norwood, County of Surrey, England. Filed May 31, 1882. (No model.) Patented in England Apr. 18, 1882, No. 1,853.

Claim.—1. The combination of the arm V, having the notched boss, held by friction to the axis E, the radial pin G' on the axis of the type-wheel, and the claw O' on impression-lever O, which claw enters a notch, V', in the boss of the arm V, and so operates as to move the arm V back when the impression-lever O rises, the parts all acting together, substantially as described.

2. The combination of parts for giving a forward travel to the strip of paper after each impression, consisting of impression-lever O, carrying pawl O', pin Q for locking this pawl, the roughened roller P', the roller S and spring S' for pressing the strip of paper against the roughened roller P', and spring-pawl S' for preventing roller S from turning in wrong direction, substantially as described.

3. In combination with the finger-stops A, axis D, radial arm D', contact-wheel E, coupled to one pole of a battery, and brush F, resting against the wheel and coupled to the other pole of the battery, the coiled spring H, secured at one of its ends to the axis

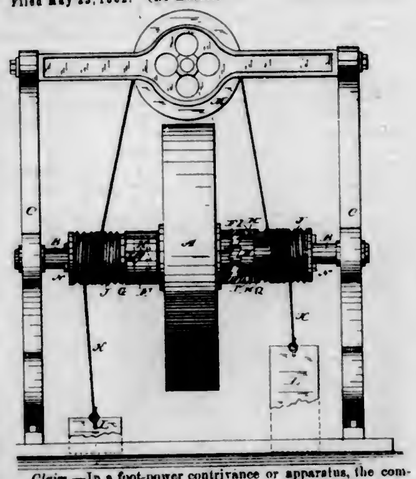
269,634.



D and at its opposite end to an axis which can be rapidly revolved by a weight or spring or otherwise, for the purpose described.

4. The combination, in a printing-telegraph, of the contact-wheel E, mechanism for imparting motion to it when it is set free to rotate, and an interposed coiled spring, one end of which is fast to the shaft of the wheel and the other to the actuating mechanism, substantially as and for the purpose set forth.

269,635. FOOT-POWER. ARTHUR W. BURR, Boulder, Colo. Filed May 23, 1882. (No model.)



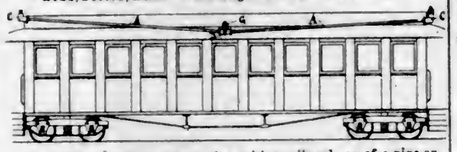
Claim.—In a foot-power contrivance or apparatus, the combination, with the shaft B, having the driving-wheel A, with the ratchet-collar D affixed thereto or to its shaft, and the clutch E, loose on said shaft, and having the stud or projection H, drum G, having a sleeve or hub, F, provided with an oblique slot, I, which receives the stud or projection H of the clutch E, the intermediately coiled rope, K, or its equivalent, treadle L, and carrier-pulley M, substantially as and for the purpose set forth.

269,636. JOURNAL AND OTHER BEARINGS. FERDINAND E. CARPI, New York, N.Y. Filed Aug. 11, 1883. (No specimens.)

Claim.—1. A journal or other bearing composed of mercury and other suitable metals amalgamated therewith, substantially as specified.

2. A journal or other bearing composed of mercury and other suitable metals amalgamated therewith, and a lubricating substance mechanically combined with the amalgam, essentially as set forth.

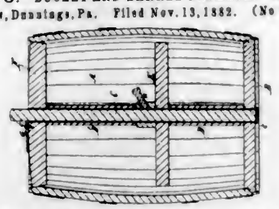
269,637. RAILWAY-CAR RESERVOIR. ROBERT G. S. COLLAMORE, Boston, Mass. Filed Aug. 12, 1882. (No model.)



Claim.—1. The combination, with a railroad-car, of a pipe or reservoir, A A, attached to the roof of the car and inclining from the ends toward the center, and provided at the center with T-joints and faucets, as and for the purpose set forth.

2. The combination, with a railroad-car, of the pipes A A, inclined from the ends of the car toward the center, and provided with elbow-joints C for the attachment of pumps, substantially as set forth.

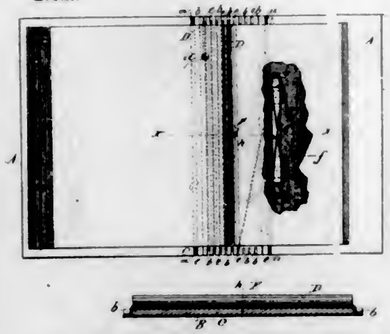
269,638. BUCKET AND BARREL PACKAGE. ROBERT H. COMPTON, Dunnings, Pa. Filed Nov. 13, 1882. (No model.)



Claim.—1. The herein-described transporting and storing package, consisting of the exterior shell or barrel having the fixed perforated head, the rod extending through the barrel, the tubular sections, the partition, the removable perforated head, and the means for securing the rod to the removable head, substantially as set forth.

2. The combination, with the exterior shell or barrel having the perforated fixed head, of the through-rod, the tubular sections, and the adjustable partition, with means for securing it to the rod at the appropriate point of adjustment, the whole arranged substantially as described.

269,639. TEMPORARY BINDER FOR PAMPHLETS, &c. CHARLES S. COOKE, New York, N. Y. Filed Apr. 20, 1882. (No model.)



Claim.—1. In a temporary binder, the hooks *b b*, placed at the top and bottom of the back of the binder, in combination with the continuous cord D, so arranged that each pamphlet is fastened by passing or hitching the cord around a separate hook at the top and bottom, substantially as described.

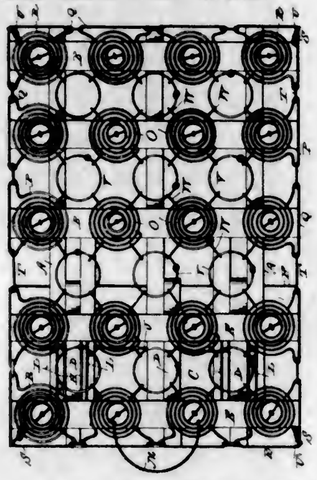
2. In combination with the covers A A and back B, the plate C, provided with a series of hooks, *b b*, and continuous cord D, the said cord arranged to be hitched to separate hooks at top and bottom for every pamphlet inserted in the binder, substantially as described.

3. In combination with the plate C, provided with hooks *b b*, and continuous cord D, the bar F, substantially as described.

269,640. FUEL. JAMES M. COOPER, New York, N. Y. Filed Aug. 21, 1882. (No specimens.)

Claim.—An improved fuel composed of loosely and uniformly mixed graded or uniformly-sized lump coke and coal, substantially as set forth.

269,641. SPRING BED-BOTTOM. ISAAC CRUEAN, Wagoner's Station, Ind. Filed Oct. 20, 1882. (No model.)



Claim.—1. The combination, with the hinged head-rest, of the T-shaped wire loops or supports hinged upon a transverse wire in said head-rest, as set forth.

2. The crimped-wire racks or ratchets L, suitably secured to the longitudinal slats of the main frame, as set forth.

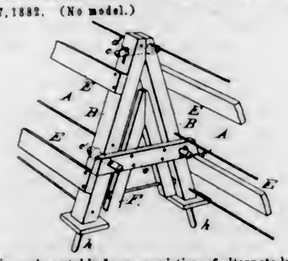
3. In a bed-bottom, the edge springs P, the top coils of which are provided at their outer edges with straight oblong loops Q, as set forth.

4. In a spring bed-bottom, the corner-springs R, the upper coils of which are provided with angular loops S, as and for the purpose set forth.

5. In a spring bed-bottom, the combination, with the corner-springs having their upper coils provided with angular loops S, of the coils U, connecting the corners of the bed-frame with said angular loops, which are thereby supported, as set forth.

6. In a bed-bottom, the combination, with the frame, of the inner springs, O, the edge springs, P, the top coils of which are provided with straight oblong loops Q, the corner-springs R, the top coils of which are provided with angular loops S, and links T, connecting said loops Q and S, as set forth.

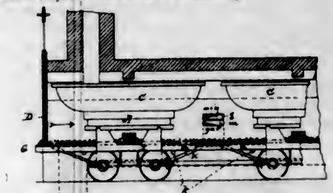
269,642. FENCE. HENRY J. CULP, Wakarusa, Ind. Filed Oct. 17, 1882. (No model.)



Claim.—A portable fence consisting of alternate leaning panels A, having their inclined end posts bolted together by transverse-keyed pins, the transverse A-form panels between the inclined posts and securely fastened thereto, the foot-pins *h* of the inclined posts, and the perforated foot-blocks engaging said pins, substantially as specified.

269,643. OVEN AND CAR FOR HEATING AND TRANSPORTING CONVERTER-BOTTOMS AND OTHER ARTICLES. GRANT CURTIS, New York, N. Y. Filed Nov. 8, 1882. (No model.)

Brief.—Keeps running-gear of the cars cool by sealing their bodies to the furnace by certain removable platforms and by air circulated through the pot and a flue and the chimney, or by blast of air against bottom of each car. Used for ingots, billets, slag, and with basin-bodied cars for melting.

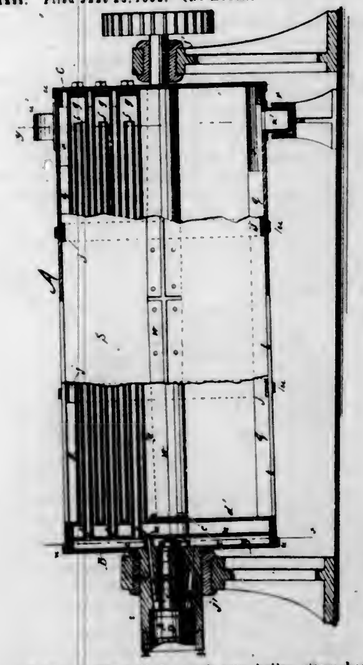


Claim.—1. A car for transporting converter-bottoms or other articles into or through a heating furnace or oven having movable or detachable end or side or both end and side sections or platforms, adapted for bridging the space between adjoining cars and between the cars and the walls and doors of a furnace or oven, substantially as and for the purpose set forth.

2. A car for transporting materials to be annealed, heated, or melted into or through a furnace or oven having a basin-shaped body, and movable or detachable end or side or both end and side sections, adapted for bridging the space between adjoining cars and between the cars and the walls and doors of the furnace or oven, substantially as and for the purpose herein set forth.

3. The combination of the removable section G, having the openings *g* at one end and the ledge *j* at the other end, with the car I, provided with pins *k*, as and for the purpose set forth.

269,644. GRAIN-DRIER. HERBT CUTLER, North Wilbraham, Mass. Filed June 28, 1882. (No model.)



Claim.—1. The cylinder having the hollow steam-head B, with the apertured plates *a a'*, partition-plates *b*, four chambers on each side of plate *a*, the pipes *f g*, and the disk C, as shown and described.

2. The cylinder-head B, having chamber *c c'*, hollow journal *i*, with inclined passages *m*, and bearings *j'*, in combination with a plug, D, having the central steam-passage *k*, lateral water-passage *l*, and openings *k' l'*, as shown and described.

3. The combination, with the head B, having passages *m*, back plate, *a'*, and the plate *a*, of the chambers *c'*, connected at their inner ends to form pockets *n*, and communicating with said passages, as shown and described.

4. The combination, with the packing, of the gland *p'* around the outer end of the plug D, the bail *o'*, and the rod *p'*, passing through the center of plug, as described.

5. In grain-driers, the combination, with the steam-head B, having the hollow journal *i* and passages *m*, of the steam-plug D, provided with the separate passages *k l*, for steam and water, substantially as shown and described.

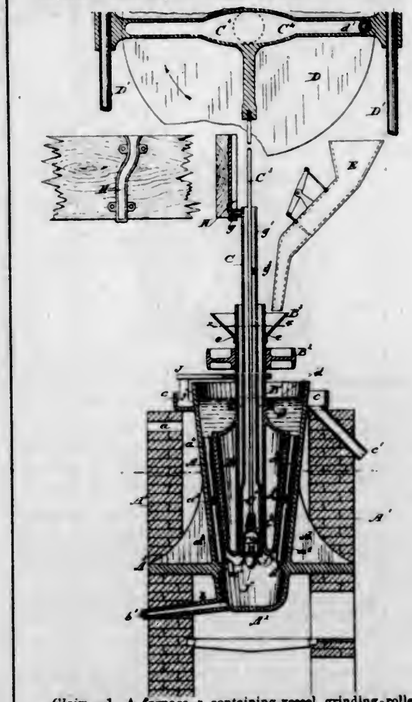
6. In grain-driers, the steam-head B, constructed with the separate steam and water chambers, and the hollow journal *i* in one piece, substantially as shown and described.

7. In grain-driers, the steam-plug D, having the passages *k l*, and provided with the packings *o p*, in combination with the hollow journal *i*, substantially as described.

8. In grain-driers, the combination of the buckets *s'*, plates *s*, and trough *v*, substantially as described, for operation as set forth.

9. In grain-driers, the feed-buckets *w'*, for supplying the cylinder, in combination with the cylinder A and trough *v*, substantially as shown and described.

269,645. DRY AMALGAMATOR. ANTONIO DE FIGANIÈRE, Philadelphia, Pa., assignor of one-half to John W. Bailey, Denver, Colo. Filed May 17, 1882. (No model.)



Claim.—1. A furnace, a containing-vessel, grinding-rollers, and a revoluble grinder provided with a central tube, combined with a forced-feed mechanism and devices for giving it vertical reciprocating movement within the central tube of the grinder, substantially as and for the purposes hereinbefore set forth.

2. A furnace, a containing-vessel, grinding-rollers, a revoluble grinder having a central tube, a valve-bucket, a hollow shaft forming an extension of the bucket, and a valve and rod placed centrally within the bucket and hollow shaft, combined with means for giving an intermittent vertical reciprocating movement to the bucket and hollow shaft and valve and rod jointly and an independent similar movement to the valve and rod separately, substantially as and for the purposes hereinbefore set forth.

3. The containing-vessel, the grinding-rollers, and the grinder having a central tube and orifices leading thereinto from the upper part of the vessel, combined with the valve-bucket and its hollow shaft and valve and rod centrally within the shaft, the valve and bucket having upper corresponding or coincident apertures, and the valve a movable plug for closing and opening the valve, substantially as and for the purposes hereinbefore set forth.

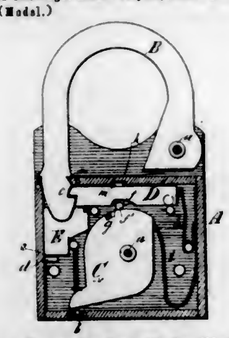
4. The combination of the crank-wheel D, wrist-pin d', yoke C^4, rod C^3, having the bucket C^2, and pin g^3, hollow shaft C, having the slot g' and pin g, and revoluble grinder B, surrounding said hollow shaft, and guide-plate H with the amalgamating-pan A, as and for the purpose set forth.

5. The combination of the crank-wheel D, having wrist-pin d', yoke C^4, provided with a central enlarged space, rod C^3, having the bucket C^2 and pin g^3, hollow shaft C, having the slot g' and pin g, revoluble grinder surrounding said hollow shaft, and guide-plate H with the amalgamating-pan, as and for the purpose set forth.

6. The combination of the upper and lower series of grinding-rollers having respectively rounded lower and upper ends, and ring-bearing having an upper and a lower concave face with the amalgamating-pan and revoluble grinder, substantially as and for the purpose set forth.

7. The stationary amalgamating-pan A, having wings or blades I, projecting in a downward and inward direction from its top rim, in combination with the revoluble grinder B, operating in said amalgamating-pan, as and for the purpose set forth.

269,646. PADLOCK. THOMAS DORANUE, Terryville, Conn., assignor to the Eagle Lock Company, same place. Filed Sept. 2, 1882. (Model.)



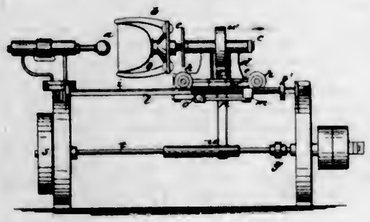
Claim.—1. The combination, with the slide-bolt D and pawl *f*, pivoted thereto, of the spring *h*, arranged to bear upon the heel of pawl, whereby it both forces the front end of pawl down and projects the bolt, as described.

2. The combination, with the bolt D, of the pawl *f*, pivoted thereto, and having a beveled lug, *f'*, the spring *h*, and the spring-pressed tumblers C, having notches *g*, whereby the key may operate throngl. the tumblers and pawl to throw back the bolt, as described.

3. The combination of the case A, having notch *m*, the pivoted spring-pawl *f*, and the tumblers C, pressed by the spring *i*, whereby when the bolt is moved forward to engage the shackle the upper end of the pawl will pass into the notch *m* and lock the bolt, as described.

4. The combination of the pawl *f* and spring *h* with the locking-bolt D, the sliding block E, and swinging shackle B, substantially as shown and described.

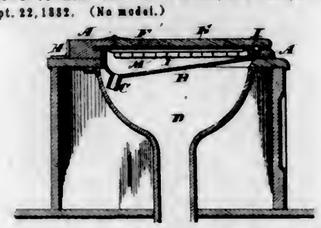
269,647. GRINDING AND POLISHING MACHINE. FISH ECCLES, Auburn, N. Y. Filed June 15, 1882. (No model.)



Claim.—1. In a machine for grinding hollow ware, the combination, with the grioding-ball *a*, longitudinally fixed relative to the ways *i*, the ware-bolding chuck *b*, the spindle *c*, carrying the chuck, and the horizontally-vibrating plate *e*, to which spindle *c* is journaled, of the horizontally-reciprocating plate *f*, the pivot *g*, connecting the plates *e* and *f*, and the spring *p*, fixed at one end to the pivot *g*, the other end being supported by a stud, *q*, in the arm *r*, extending from the plate *f*, as shown and described.

2. The combination, with the plates *f* and *e*, the chuck *b*, and the revolving ball *a*, of the diagonal arm O, secured to plate *f*, the adjustable connecting-rod *n*, the screw-nut *m*, and the feed-screw *l*, as shown and described.

269,648. DEVICE FOR WASHING A COMBINED URINAL AND PRIVY-COVER. SIGMUND KOHORN, New York, N. Y. Filed Sept. 22, 1882. (No model.)



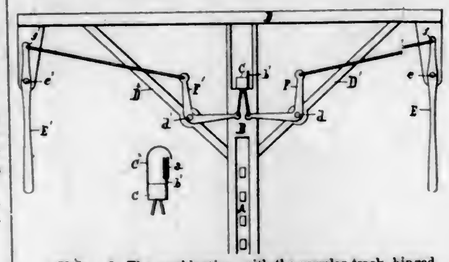
Claim.—1. The combination, with a combined urinal and privy-cover consisting of a pan and an auxiliary cover, of devices to introduce water thereinto for the purpose of washing the same, substantially as set forth.

2. The combination, with a combined urinal and privy-cover consisting of a pan and an auxiliary cover, of devices to spray water into said pan and onto the inner face of its auxiliary cover, substantially as set forth.

3. The combination, with a combined urinal and privy-cover, the same being attached to the seat of a closet, of a water-pipe and a pipe movably connected with the pipe aforesaid, and extending into the urinal and privy-cover, the portions of the pipe located therein being perforated.

4. The combination, with a combined urinal and privy-cover, the same being attached to the seat of a closet, of a closet water-pipe extending above said closet-seat, the end of the pipe being provided with a perforation, and a pipe secured to and extending into the urinal and privy-cover, the outer end of the pipe being movably connected with the pipe aforesaid, and provided with a perforation to register with the perforation thereof.

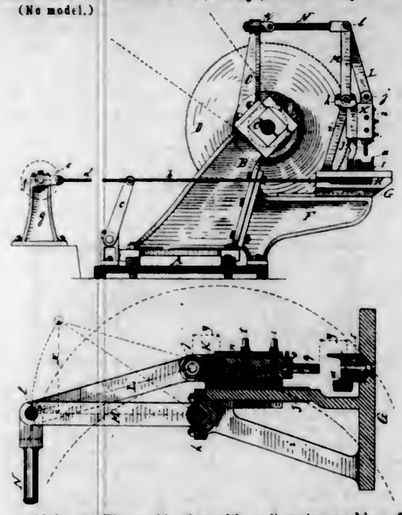
269,649. DRIVE-GATE. JOHN J. ELLSWORTH, Langston, Mich. Filed Sept. 15, 1882. (No model.)



Claim.—1. The combination, with the angular track, hinged or pivoted at or near its center to one of the gate-posts, and the gate suspended from said track by rollers, of the cross-rail D, secured to the other gate-post, the levers E E', pivoted in depending positions at the ends of the cross-bar, and the pivoted levers F and F', connected at one end to the angular track and at the other end to the upper ends of the depending levers on the cross-bar, substantially as described.

2. The combination, with the angular track C C', pivoted at or near its center to one of the gate-posts, and the gate suspended from said track by rollers, of the cross-rail D, secured to the other gate-post, the braces D' D², sustaining the cross-bar, the levers F F', pivoted to the braces and connected with the angular track, and the depending levers E E', pivoted to the ends of the cross-bar, and having their upper portions connected with the levers on the braces, substantially as described.

269,650. AUTOMATIC RAIL-PUNCHING MACHINE. JOHN H. ENGLAND and EDWARD HORTH, Chicago, Ill. Filed July 5, 1882. (No model.)

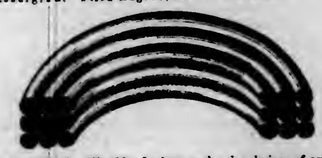


Claim.—1. The combination, with a rail-sawing machine, of a punching-machine consisting of standard-frame J, that is rigid with the rail-carriage, sliding block K, that carries the punches *q* and *r*, and of suitable means for moving such block K vertically simultaneously with shifting the rail-carriage horizontally toward the saw for the purpose of punching the fish-bar-bolt holes simultaneously with cutting the rail to proper length, substantially in the manner set forth.

2. A punching-machine consisting of standard-frame J, that forms part of the rail-carriage G, and has pivotally-connected bars M, and the slide-block K, carrying punches *q* and *r*, and having pivotally-connected bars L, and both bars L and M being connected on top by a bolt, *l*, which again is connected by rods N with a fixed standard, in a manner that the reciprocation of the carriage will operate the punches, all substantially as and for the purpose set forth.

3. The combination, in a rail-sawing machine having pedestal-bearings B, that carry arbors C and saws D, and a carriage, G, that supports dies I, of the punching-machines, each consisting of a standard-frame, J, and slide-block K, that holds the punches *q* and *r*, and is operated by bars L and M and rods N, connected, substantially as described, to operate in the manner set forth.

269,651. MANUFACTURE OF LEAD PIPE. JOHN FARRELL, Pittsburg, Pa. Filed Aug. 26, 1882. (No model.)



Claim.—1. A coil of lead pipe, such pipe being of oval, flattened, or elliptical form in cross-section and wound or coiled in the plane of its greatest diameter, substantially as set forth.

2. The improvement herein described in the art of preparing lead pipe, consisting in giving the pipe an oval, flattened, or elliptical form and coiling or reeling it by bending in the plane of its greatest diameter, substantially as and for the purposes set forth.

269,652. DRESS-MAKER'S CHART. MARY A. FERGUSON, Indianapolis, Ind. Filed July 24, 1882. (No model.)

Claim.—The scale herein shown and described, consisting of a blank of suitable material having the wedge-shape point and semicircular end, the projecting curved point, a straight side, and an opposite slightly-convex side, and bearing parallel marginal lines divided into spaces regularly and proportionally diminishing from an end toward the middle of the scale-edge, and also

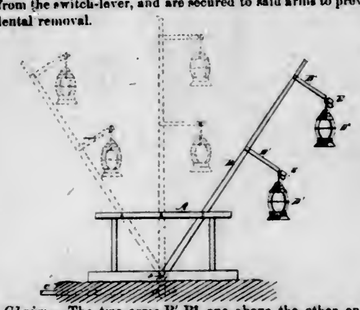
269,652.



bearing a table of the order of measurements and lines of perforations, said marginal lines or divisions bearing the names and adapted in outline for the measurement of front arm, back arm, front shoulder, and dart width and rule, all substantially as shown and described.

269,653. SWITCH-INDICATOR. WILLIAM R. FIELD, Brooklyn, N. Y. Filed Apr. 10, 1882. (No model.)

Brief.—The signal-lanterns swing from arms extending laterally from the switch-lever, and are secured to said arms to prevent accidental removal.



Claim.—The two arms B' B², one above the other on the switch-lever B, in combination with the lanterns D' D² and with means E for securing the said lanterns so that they are free to swing in their respective hooks, substantially as herein specified.

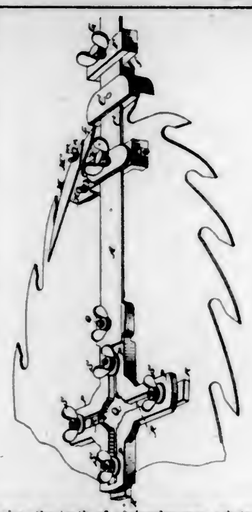
269,654. DEVICE FOR SQUARING, ROUNDING, AND FILING CIRCULAR SAWS. AMOS E. FISHER, Caribou, Me. Filed July 25, 1882. (No model.)

Claim.—1. The combination of the bar A, slotted file-holder C, having the file D, and binding-screw E, adjustable slide F, having a binding-screw, G, and thumb-screw H, and spring I, constructed and combined to operate substantially in the manner and for the purpose herein shown and specified.

2. The combination of the bar A and the adjustable hook-shaped tooth-pattern K, having the binding-screw L, and provided with an adjustable extension or pattern, M, and thumb-screw *n*, substantially as and for the purpose herein shown and described.

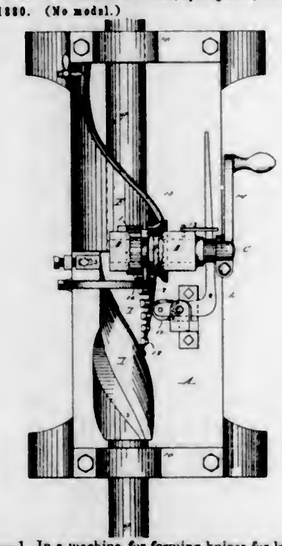
3. The bushing consisting of the slotted arms P, having central aperture, Q, and provided with adjustable slides R, having segmental shoulders *r*, and thumb-nuts S, in combination with the bar A, provided at its outer end with devices for squaring, round-

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ing, and gaging the teeth of a circular saw, substantially as and for the purpose herein shown and set forth.

269,655. MACHINE FOR THE MANUFACTURE OF LAWN-MOWER KNIVES. HENRY G. FISKE, Springfield, Mass. Filed Oct. 31, 1880. (No model.)



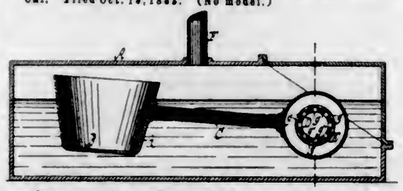
Claim.—1. In a machine for forming knives for lawn-mowers, a former having a spirally-arranged series of teeth and provided with a spiral shoulder, in combination with an operating-pinion engaging with said teeth, and a guide engaging with said shoulder, to give the former a longitudinal and a rotary movement, at the same time, to and fro in a spiral direction, substantially as set forth.

2. In a machine for forming knives for lawn-mowers, a spiral former adapted to give the desired form to the knife, and arranged to move in a direction corresponding to the direction of its forming-bed, in combination with forming-rolls for rolling the blank against the forming-bed, a holder for holding the knife in place on the forming-bed after being formed, and a perforated water-pipe arranged to direct a flow of water upon the formed knife before its removal from the former, substantially as set forth, and for the purpose described.

3. In a machine for forming knives for lawn-mowers, a spiral former adapted to give the desired form to the knife, and arranged to move in a direction corresponding to the direction of its forming-bed, in combination with forming-rolls for rolling the blank against the forming-bed, and a guard for preventing the blank from springing off the forming-bed while being formed, substantially as described.

4. In combination with the spiral former I, a roll for bending the blank down into position to be formed, and a roll for rolling the blank into contact with the forming-bed and giving it the desired form, substantially as described.

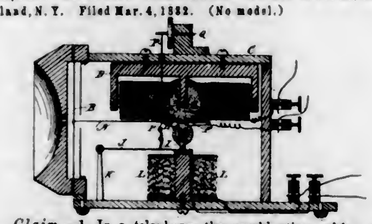
269,656. STEAM-TRAP. ARTHUR L. FISH, San Francisco, Cal. Filed Oct. 19, 1882. (No model.)



Claim.—1. In a steam-trap, the combination of the trap-body A, having an inlet-pipe, F, the float B, having an open mouth at its top for receiving the water in the trap-body when it rises above a proper level, a hollow valve-stem having ports, and a hollow valve-chamber having ports, and connected with the open-mouthed float for receiving the surplus water from the float and discharging it through the valve-stem, substantially as described.

2. In a steam-trap, the combination, with the trap-body A, having an inlet-pipe, F, of the fixed hollow valve-stem D, having ports g', the hollow valve-chamber E, having ports g, the float B, having an open mouth at its top to receive the water from the trap-body when it rises above the proper level, and a hollow float-arm, C, having one end opening into the hollow valve-chamber and the other end into the float for conveying the water received in the latter to the valve-chamber and discharging it through the valve-stem, substantially as described.

269,657. SPEAKING-TELEPHONE. GEORGE A. FITCH, Oakland, N. Y. Filed Mar. 4, 1882. (No model.)



Claim.—1. In a telephone, the combination, with a diaphragm, of a strip of suitable material connected thereto and two rotating rollers, between which the strip is placed, an electro-magnet, and an adjustable armature supporting one of the rollers, substantially as shown and described.

2. In a telephone, the combination of a roller supported in a stationary frame and means for rotating said roller, a second roller supported in an armature, an adjustable spring supporting the armature, an electro-magnet, and a strip of suitable material connected to a diaphragm and arranged between the rollers, substantially as shown and described.

3. In a telephone, the combination, with the rollers, the armature supporting one of the rollers, the electro-magnets, and the strip arranged between the rollers, of a spring supporting the armature and adapted to produce a greater or less tension thereon, whereby the armature shall not respond to induced currents, as specified.

4. In a telephone, the combination, with a cylindrical roller and means for supporting the same, of a grooved or flanged roller and a strip of material of corresponding form arranged between the rollers and connected to a diaphragm, substantially as shown and described.

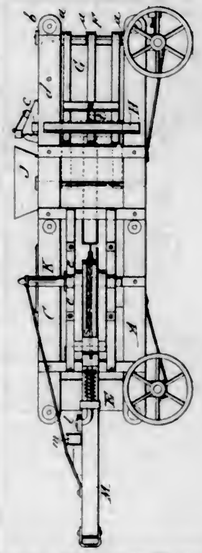
269,658. NECKTIE. LOUIS C. F. FERES, New York, N. Y. Filed May 17, 1882. (No model.)

Claim.—The improved band-bow composed of the neckband B, bow A, loop-band B', slitted at e, pin C, and collar-catch D D', constructed and combined substantially as and for the purpose herein shown and set forth.

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269,659. HAY-PRESS. FRANKLIN FREY, Quincy, Ill., assignor of one-half to Caldwell Ladd, same place. Filed Nov. 15, 1882. (Model.)



Claim.—1. The sweep having a metallic supporting-disk and guiding-groove at the end thereof, as shown, combined with the operating-lever and follower, substantially as set forth.

2. The combination of the sweep and yoke with the operating-lever and follower, as set forth.

3. The combination of the yoke with the sweep provided with a spring-bolt, as set forth.

4. The combination of the spring-bolt with the yoke having a recess in the end thereof for receiving said bolt, as set forth.

5. The combination of the yoke with the sweep having spring-bolt and hinged lever and the fixed arm upon the end of the standard, substantially as set forth.

6. The combination of the sweep having hinged hook with the curved lever engaging the operating-lever, as set forth.

7. The combination of the operating-lever having a curved projection on one of its arms for engaging with the curved lever, with said curved lever, as set forth.

8. The combination of the operating-lever with the curved lever and the sweep, as set forth.

9. The combination of the operating-lever, composed of two arms, as shown, with the follower and sweep, as set forth.

10. The combination of the chain attached to the yoke, as shown, and passing around the side and end of the sweep, with the operating-lever, whereby the power is applied quickly and strongly to the center of said lever, as set forth.

11. The combination of the frame at the side of the press, supporting the vertical axle and curved lever, with said axle, lever, and the sweep, as set forth.

12. The combination of the guide on the standard with the sweep and curved lever, as set forth.

13. In a hay-press, the side doors provided with metallic hay-retaining hooks, as set forth.

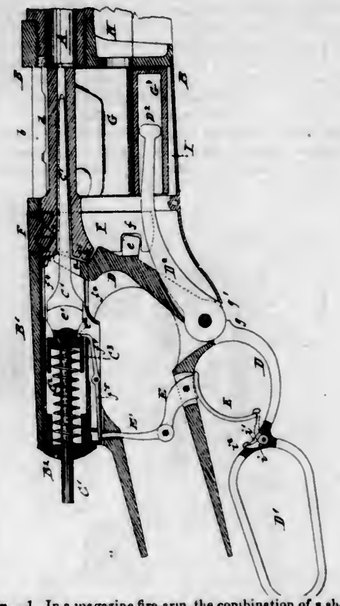
14. In combination with the bale-chamber, the side doors having an inclined bridge and latch and the fastening-bars attached to the sides of the press, as set forth.

15. In combination with the bale-chamber, the top pressure-relief door, as set forth.

16. In combination with the bale-chamber, the top pressure-relief door, hinged as shown, and provided with an inclined bridge and latch, and the fastening-bar attached to the top of the press, as set forth.

269,660. MAGAZINE-GUN. FRANK GAMMA, Elizabeth, N. J. Filed July 20, 1882. (No model.)

Brief.—The breech-bolt is locked by a vertically-reciprocating bolt.



Claim.—1. In a magazine fire-arm, the combination of a shoe or receiver, B, having a tail end, B', a longitudinally sliding and guided breech-bolt, C, an interior spring-pressed firing-pin, C', having convex side cheeks, c', a fulcrumed lever, D, having a forked upper end for engaging the firing-pin, and a fulcrumed and spring-pressed lever, f^3, which engages the shoulder of the firing-pin C' when the same is thrown back by the actuating-lever, substantially as set forth.

2. In a magazine fire-arm, the combination of a shoe or receiver, B, having a tail end, B', a longitudinally sliding and guided breech-bolt, C, an interior spring-pressed firing-pin, C', having convex side cheeks, c', a fulcrumed handle-lever, D, having a forked upper end, a, a fulcrumed and spring-pressed catch-lever, f^3, at the tail end of the receiver, and a trigger, E, and pivoted connecting trigger-arm E', for releasing the catch-lever f^3, substantially as specified.

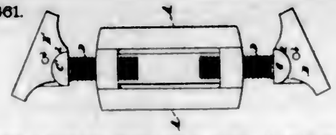
3. In a magazine fire-arm, the combination of a shoe or receiver, B, having a tail end, B', a longitudinally sliding and guided breech-bolt, C, an interior spring-pressed firing-pin, C', a fulcrumed and spring-acted catch-lever, f^3, fulcrumed actuating handle-lever D, having a forked upper end, a, and a pivoted catch, i, near its loop-shaped handle end for engaging the trigger, a trigger, E, and pivoted connecting-arm E', all substantially as and for the purpose set forth.

4. The combination of a tubular breech or receiver, a longitudinally-sliding breech-bolt therein, provided with top recesses the rear sides of which are upwardly curved, while the front sides are vertical, a vertically-movable inverted-U-shaped key for locking said breech-bolt, provided at its top part or bridge with downwardly-projecting teeth adapted to fit said recesses and in its sides with recesses or slots, and an actuating-lever having a forked upper end for retracting and replacing said bolt, and lateral cheeks adapted to enter the side slots of said locking-key for raising and lowering the latter, substantially as described.

269,661. LIFTING-JACK. CLINTON L. GREGWARE, Williamsburg, Ohio. Filed Jan. 14, 1882. (Model.)

Claim.—1. A lifting-jack having its lifting bar or bars terminated by convex bearing-shoulders and a central tongue adapted

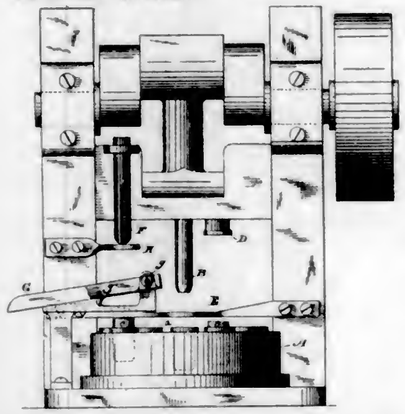
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to engage with and bear upon a correspondingly-formed head having concave bearing-shoulders and a central slot, substantially as and for the purpose specified.

2. The lifting-bars D, terminating in bearing-shoulders *d d'*, and tongue *e*, provided with curved slot *a*, in combination with the block B and retaining-pin *b*, substantially as set forth.

269,662. METHOD OF AND APPARATUS FOR TAPERING THE ENDS OF PAPER TUBES. DAVID O. GILLESPIE, Wilmington, Del., assignor to John M. C. Rodney, same place. Filed Feb. 28, 1882. (No model.)



Claim.—1. The herein-described improvement in the method of tapering or forming the ends of open-ended paper tubes, which consists in forcing the tube into a die open at both ends, to which the exterior of the tube is to be made to conform, and then forcing a punch or former through the tube and die, whereby the bore of the tube is shaped by the punch and its exterior compelled to conform to the die.

2. The combination, substantially as set forth, of a die open at both ends, in which a tube is to be tapered, a plunger for forcing or setting the tube down in the die, and a punch or former which passes through the tube and die, for the purpose set forth.

3. The combination, substantially as set forth, of an intermittently-rotating dial, a series of dies, in which the tubes are to be tapered, carried in the dial, the vertically-reciprocating ram of the press, a plunger carried by the ram, which forces or sets the tubes to be operated upon down in the die, and a plunger, also carried by the ram, which passes through the tube and die, for the purpose set forth.

4. The combination, substantially as set forth, of a rotating dial, a series of dies carried thereby, a punch for setting or forcing the tubes to be operated upon down in the dies, a plunger or former which passes through the tubes and dies, which punch shapes the bores of the tubes and compels their exteriors to conform to the die, a stripper through which the punch works, and which strips the tubes from the punch as it rises, and an extractor which enters the tubes and withdraws them from the dies.

5. The combination, substantially as set forth, of a die, a reciprocating extractor, the discharge-trough, its hinged bottom, and the stripper for the extractor.

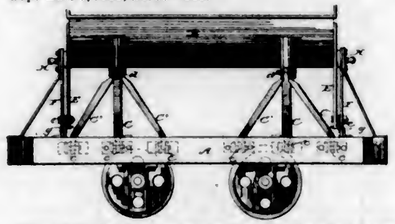
6. The combination, substantially as set forth, of a reciprocating extractor, a discharge-trough having a hinged bottom in the path of the extractor, and a spring which normally holds the bottom closed.

7. The combination, substantially as set forth, of an intermittently-rotating dial, a series of dies carried thereby, in which tubes are to be operated upon, the vertically-reciprocating ram of the press, a plunger carried thereby for setting or forcing the tubes to be operated upon down into the dies, a punch, also carried by the ram, which passes through the tubes and dies to shape the interior of the tubes, an extractor, also carried by the ram, and a stripper for the extractor.

8. The combination, substantially as set forth, of the open-bottomed die having vertical walls which are curved or tapered at the bottom, as described, and a punch which passes through the die.

9. The combination, substantially as set forth, of the die formed with a slightly-flaring mouth and having vertical walls which are curved or tapered at its bottom, as described, and a punch which passes through the die.

269,663. TIPPING-WAGON. HENRY GRAFTON, London, County of Middlesex, England. Filed July 3, 1882. (No model.) Patented in England Dec. 21, 1881, No. 5,582, and in Cape of Good Hope Mar. 3, 1882, No. 11—235.

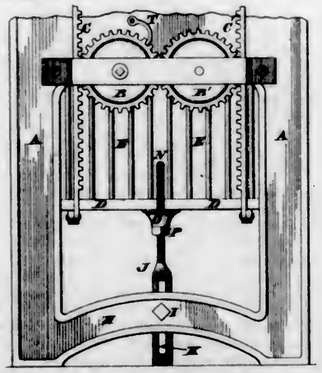


Claim.—1. In a tipping wagon or truck having its body supported on sets of crossed radial rods pivoted to the body and main frame, the combination, in each such set, of a single rod working between a pair of rods splayed apart and acting together as one, for the purpose specified.

2. In a tipping wagon or truck having its body supported on sets of crossed radial rods pivoted to the body and main frame, the combination, with the body and main frame, of two sets of crossed radial rods, each set composed of a single rod working between a pair of rods splayed apart and acting together as one, the said double rods being situated at opposite sides of the truck, as and for the purpose specified.

3. The combination, with a wagon or truck body capable of receiving a combined movement of oscillation and translation, as described, of downward extensions or tail-pieces, each having a stud upon it, and slotted standards fixed on the main frame, in which the studs work, for the purpose of limiting the motion of the body, substantially as described.

269,664. CANDLE-MOLD GAGE. WILLIAM H. HANEY, Cincinnati, Ohio, assignor to Henry Korf, Jr., same place. Filed Sept. 11, 1882. (No model.)



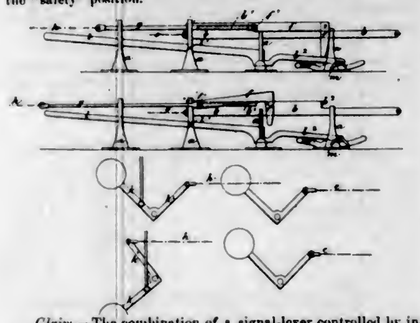
Claim.—1. In combination with a candle-molding machine of the class specified, a pair of vertically-adjustable supplementary gages or stops for limiting the descent of the follower that carries the pistons, which gages are to be operated independently of the racks, pinions, and pawls wherewith said follower is raised and lowered, substantially as described.

2. A candle-mold gage consisting of the slotted plate J K, screw N, and extended nut or stop O, which latter is adapted to support the follower D, that carries the pistons E F of the molds G, in the manner described.

3. The combination of candle-mold frame H, slotted gage J K N, extended nut O, bolt I, and ribs R R', as and for the purpose specified.

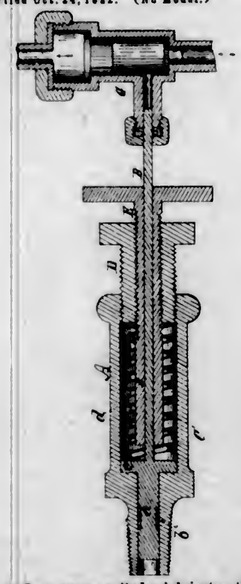
269,665. APPARATUS FOR WORKING RAILWAY-SIGNALS. JOHN HARRISSON, Well Street, Hackney, County of Middlesex, England. Filed July 31, 1882. (No model.) Patented in England Apr. 6, 1852, No. 1,032.

Brief.—The connection between the signal and the operating-lever in an interlocking apparatus is in two sections, and has a latch, which is tripped by a passing train to put the signal to "danger" for a following train, while the signal-lever still remains in the "safety" position.



Claim.—The combination of a signal-lever controlled by interlocking apparatus, a latch interposed between said lever and its signal, means actuated by the passing of a train for disengaging the latch and causing the signal to be automatically put on against a following train while the signal-lever remains in the off position, and means actuated by the signal-lever when moved back by the signalman to the on or "danger" position for re-engaging the latch, substantially as and for the purpose hereinbefore set forth.

269,666. STEAM-CYLINDER LUBRICATOR. JOHN W. HAYS, Erie, Pa. Filed Oct. 24, 1882. (No model.)

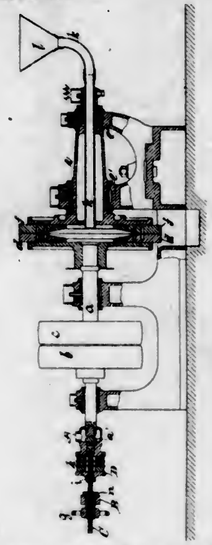


Claim.—1. In a steam-cylinder lubricator, the lubricator plunger B, extended out of the lubricator-pump into a holder, A, attached to and communicating with the interior of the engine-cylinder, and terminating with a piston to work in the said holder, in combination with a spring, C, mounted in the holder and pressing in a direction counter to the pressure of the steam in the cylinder, substantially as and for the purpose herein specified.

2. In combination with the spring C, mounted in the holder A, the bush or head D, screwing into the said holder A to adjust the force of the said spring, substantially as and for the purpose herein specified.

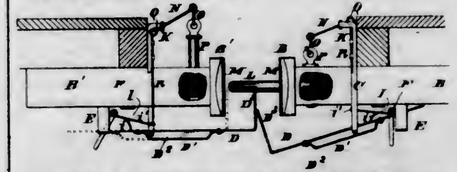
3. In combination with the plunger B, provided with an enlargement, e, the adjusting bush or bolt E, substantially as and for the purpose herein specified.

269,667. ORE-PULVERIZER. AUGUST HERRALE, Sala, Sweden. Filed Sept. 9, 1882. (No model.) Patented in Germany June 27, 1879, No. 8,805, and in Austria-Hungary Oct. 8, 1880, No. 15,814 and No. 30,037.



Claim.—The combination, with the disk *d* and its shaft or spindle *a*, of the disk *f* and its hollow shaft or spindle *c*, and the pipe *k*, through which ore and water may be drawn into the space between said disks by the suction produced by the rotation of said disks, substantially as herein described.

269,668. CAR-COUPLING. GUSTAVUS HEIDEL, St. Louis, Mo. Filed Oct. 18, 1882. (No model.)



Claim.—1. The combination of sliding, lifting, and tilting lever D, transverse rock-bar F, arm I, for tilting the lever secured to said bar, and suitable support C for the lever, as set forth.

2. The combination of tilting-lever D, suitable support C, rock-shaft F, arm I, secured thereto, and stirrup E, as set forth.

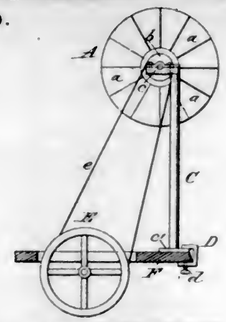
3. The combination of rock-shaft F, arm I, suitable support K, pin P, lever N, cross-bar Q, and link R, connecting the arm to the cross-bar, as set forth.

4. The combination, with the draw-head of a railway-car, of the link-lifting lever D, rod F, with arm I, link R, lever N, and pin P, substantially as and for the purpose set forth.

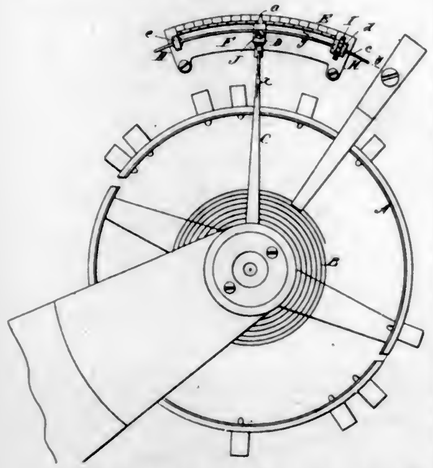
269,669. FAN ATTACHMENT FOR SEWING-MACHINES. ANSON HILGER, Pierre, Dak. Filed July 26, 1882. (No model.)

Claim.—The combination of the standard C, having arms or bearings c c and arm *h*, the tubular shaft B', journaled in the bearings c c and having pulley *b*, bevel-gear *f*, and set-screws *s s*, the shaft B, adapted to enter the tubular shaft and provided with fan-wheel A and bevel-gear *g*, and the adjustable stud *i*, having bevel-gear *k*, all substantially as and for the purpose described.

269,669.



269,670. WATCH-REGULATOR. CHARLES M. HOFFMAN, White River Junction, Vt. Filed Sept. 1, 1882. (No model.)



Claim.—1. In a watch-regulator, the raised, curved, and concentric graduated plate E, in combination with the slotted sliding block D, constructed to receive said plate within it, and the regulating-lever C, attached to said block, substantially as described.

2. In a watch-regulator, the concentrically-curved base-plate F, in combination with the similarly-curved raised graduated plate E, the sliding block D, provided with a slot adapted to receive the plate E, and the lever C, secured to the block D, for operation in relation to said plates E and F, essentially as described.

3. The sliding block D and its binding-screw J, in combination with the attached regulating-lever C, and the curved adjusting screw-rod H and nut I, for operating said rod, substantially as specified.

4. The combination, with the curved adjusting screw-rod H and its operating-nut I, of the base-plate E, having projections *d e*, arranged to support and guide said rod and nut, the sliding block D, with its attached regulating-lever C, the binding or clamping screw J, and the graduated plate F, essentially as specified.

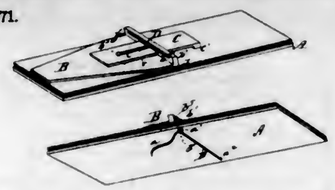
5. A watch-regulator in which the following elements are combined, namely: a sliding regulating-block with attached lever, a graduated plate over which the sliding block is free to move, a sliding concentrically-curved screw-threaded rod, a nut for operating said rod, and a clamp applied to the sliding block for engaging it with and disengaging it from said rod, substantially as described.

269,671. BILL AND LETTER FILE. EDWARD S. HOKE, Chambersburg, Pa. Filed Sept. 29, 1882. (No model.)

Claim.—1. The combination, in a bill or letter file, of a bottom, A, a lever, B, a slide, C, and a hinge-connection between said bottom and lever, substantially as shown and described.

2. The combination, in a bill or letter file, of a base-board or

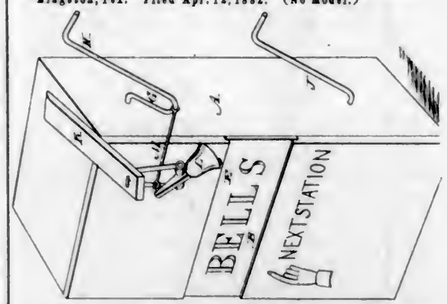
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bottom, A, a lever, B, a slide, C, and a cord, D, forming an adjustable hinge-connection between said bottom lever, substantially as shown and described.

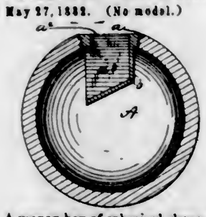
3. The combination of base-board or bottom A, lever B, having cleat or flange b', with slot b^1 and stud b^2, slide C, having slot *e* and cleat c', and cord D, the several parts being constructed and combined for joint operation substantially as shown and described.

269,672. STATION-INDICATOR. HARVEY A. HOLLOMAN, Kingston, Tex. Filed Apr. 12, 1882. (No model.)



Claim.—In a station-indicator, the combination, with the box A, having a viewing-opening, B, of the rollers C D, journaled in the lower and upper portions of the box, the band E, attached to said rollers and bearing the names of the stations, rolls F, disposed one pair at a point near the lower edge of said opening and one pair near the upper edge of said opening, between and by means of which the band E is stretched in line with the viewing-opening of the box, and the crank G, formed upon one of the band-roller axes, and connected by a rod to a bell, L, as shown and described, and for the purpose set forth.

269,673. TOY MONEY-BOX. JAMES F. HOTCHKISS, Plainfield, N. J. Filed May 27, 1882. (No model.)



Claim.—1. A money-box of spherical shape, having an opening, combined with a cap or cover having a slot therein, which cap or cover constitutes a base on which the box may rest or stand when serving as an ornament, substantially as set forth.

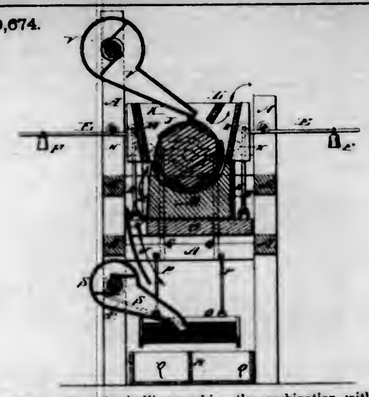
2. A money-box of spherical shape, having an opening, combined with a screw cap or cover provided with a slot and inlet or coin tube having an inclined bottom and open front, substantially as set forth.

3. A coin-box combined with an inlet or coin tube having inclined and closed bottom, closed back, and open front, substantially as set forth.

4. An inlet or coin tube whose entrance-slot is bounded at the sides and back by the walls of the tube and at the bottom closed by an inclined plate leading downward to the open front of the tube, substantially as set forth.

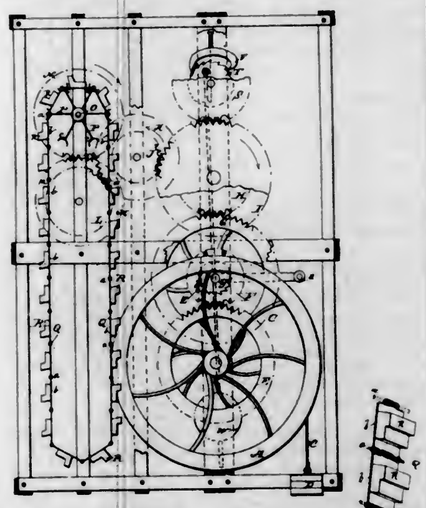
269,674. RICE-HULLING MACHINE. WILLIAM C. HOWARD, Grahamville, S. C. Filed Apr. 14, 1882. (No model.)

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Claim.—In a rice-hulling machine, the combination, with the frame A, the stone B, and its platform C, of the connecting-rods D and the weighted levers E F, substantially as herein shown and described, whereby the stone will be held upward with any desired force, as set forth.

269,675. WATER-ELEVATOR. JOSEPH H. HUSTER, Adair, Ill. Filed May 25, 1882. (No model.)



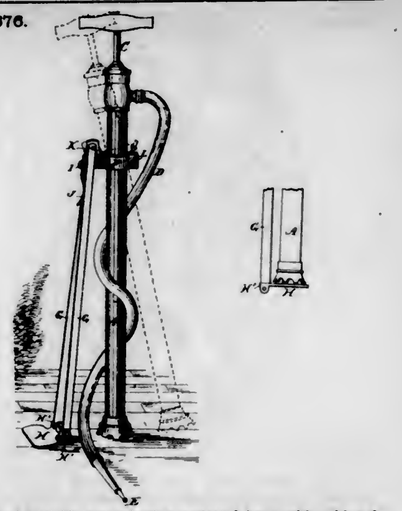
Claim.—The combination, with the angular buckets R, having their side plates, *b*, extended at their upper and lower ends and hinged together by the pintles *a*, of the shaft O, radial arms P, having forked ends *c*, adapted to engage with the pintles of the chain and suspend and rotate the buckets, and mechanism, substantially as described, for rotating said shaft, substantially as set forth.

269,676. PORTABLE PUMP. WILLIAM J. JOHNSON, Newton, and FRANK C. JOHNSON, Boston, Mass.; said Wm. J. Johnson assignor to the National Manufacturing Company, Worcester, Mass. Filed Mar. 23, 1882. (No model.)

Claim.—1. A portable pump provided with a supporting rod or brace pivoted so as to fold compactly with the barrel, and having a hinged foot-piece, whereby the pump is held in place by the foot of the operator, substantially as and for the purpose set forth.

2. A portable pump provided with a pivoted support or brace having a hinged foot-piece, whereby the pump is held in place by the foot of the operator, in combination with a sliding collar or clamp, adjustable up and down upon the barrel, and carrying the pivot for the upper end of the brace, for the purposes set forth.

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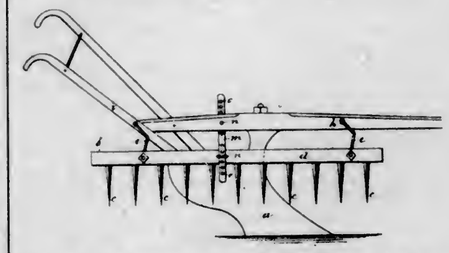


3. A portable pump having a pivoted brace with a hinged foot-piece, in combination with a suitable stop to restrict the movement of the brace, substantially as set forth.

4. The combination, with a portable pump, of a brace made of two diverging metallic bars pivoted at the upper end, so as to fold with the barrel, a stop to prevent too wide a range of movement to the brace, and a spring adapted to press said brace toward the barrel, for the purposes set forth.

269,677. CULTIVATOR. BERNHART KEMPER, Muscatine, Iowa. Filed May 25, 1882. (No model.)

Brief.—The rake is raised or lowered by rotating the crank-arms and held by the perforated angle-plate. Its object is to clear vines, &c., from the track of the plow.



Claim.—The combination, with the plow *a*, provided with the beam A and handles *i*, of the inclined rake *b*, pivotally connected to the beam and one of the handles by the crank-arms *e*, and adjustably held in any desired position parallel with the beam by means of the angular perforated bar *m* and pins *n*, substantially as and for the purpose set forth.

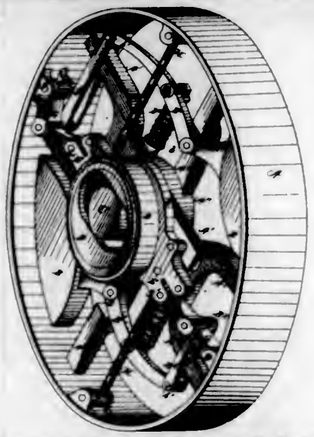
269,678. VALVE-GEAR FOR STEAM-ENGINES. ADONIRAM KENDALL, Erie, Pa. Filed Feb. 23, 1882. (No model.)

Claim.—1. In a steam-engine governor wherein the position of the eccentric is changed by the movement of the weights, the combination, with said eccentric and weights, of the levers B′ B′, rods B² B², and toggles G G, substantially as and for the purposes set forth.

2. In a steam-engine governor wherein the position of the eccentric is changed by the centrifugal movement of weights, the combination, with said eccentric and weights, of the arms B′ B′, rods B² B², toggles G G, and springs F F, substantially as shown.

3. In a steam-engine governor wherein the position of the eccentric is changed nearly diametrically across the shaft, the combination, with said eccentric, of the hanger-rods H H, whereby a reversing motion and the lead is given to the valve, constructed

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substantially as shown, and arranged to operate for the purposes mentioned.

4. In a steam-engine governor wherein the eccentric is moved diametrically across the shaft by the centrifugal movement of weights, the combination, with said eccentric and said weights, of the levers B' B', rods B³ B³, toggles G G, and hanger-rods H H, substantially as and for the purposes mentioned.

5. In a steam-engine governor wherein the eccentric is moved diametrically upon the shaft by the centrifugal movement of weights, the combination, with said eccentric and weights, of the hanger-rods H H, attached by one end to the rim and by the other to the movable eccentric or plate, of the frame A' and rim A, provided with means, substantially as shown, for gibbing the said eccentric and weights, so as to prevent lateral movement of the same.

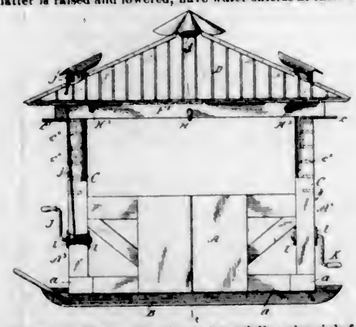
6. In a steam-engine governor wherein the eccentric is moved by the centrifugal action of weights, the combination, with said weights, of spiral springs F, for counteracting the said weights, which springs are mounted on telescoping spools formed of the parts *f f'*, substantially as and for the purposes set forth.

269,679. POLISHING COMPOUND. JOHN KEYS, New York, N. Y. Filed Nov. 14, 1882. (No specimens.)

Claim.—A polishing compound consisting of magnesia or magnesite incorporated with a hard fatty or waxy substance, as and for the purpose described.

269,680. HAY AND GRAIN BIN. JOSEPH KIMBERR, Valparaiso, Ind. Filed May 3, 1882. (No model.)

Brief.—The uprights passing through the roof, upon which the latter is raised and lowered, have water-shields at their tops.



Claim.—1. The combination, substantially as hereinbefore set forth, of the bin-frame, the roof provided with openings at its corners for the passage of uprights rising from said frame, the stationary windlasses secured to said frame to raise and lower said roof, and the water-shields or fenders to prevent the access of water into the bin through said roof-openings when said roof is elevated to constitute a shelter.

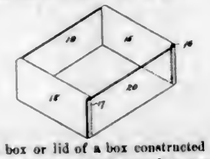
2. The improved portable hay and grain bin, substantially as hereinbefore set forth, the same consisting of the bin-frame, the runners upon which said frame is mounted, the uprights of said frame, the braced and central-timbered roof adjustable vertically upon said uprights, the windlasses for elevating and lowering said roof, and the connection of said roof from which to suspend a turning or swiveling fork to unload from either side of the bin.

269,681. DIRECTION-PLATE AND LABEL-HOLDER FOR CARS. FERDINAND KISO, Atlanta, Ga. Filed Oct. 14, 1882. (No model.)



Claim.—An address-plate consisting of the combination of two flat frame-plates, A A', fastened permanently together, with a card-chamber between them, the front plate, A, being formed with a marginal face for inscription, a central glazed or mica opening, and a door, B, fastened by a spring-catch, *b*, opening into the card-chamber, substantially as shown and described.

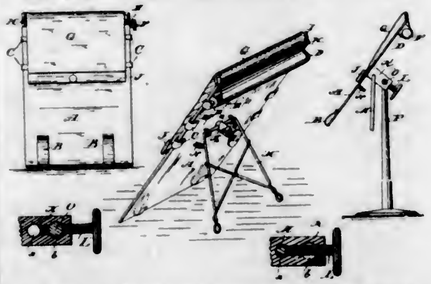
269,682. MANUFACTURE OF PAPER AND CARD-BOARD BOXES. SARAH ANN KNIGHT, Birmingham, County of Warwick, England, Administratrix of John Linnett, deceased, assignor to Harvey S. Munson and Edward B. Munson, both of New Haven, Conn. Filed Jan. 24, 1882. (No model.)



Claim.—1. A box or lid of a box constructed from a single piece of material cut or severed and scored to provide the sides with detached ends and the body with an extension, said material being folded to form the end of the box or lid by disposing the ends of the upturned sides across the body and holding the same by doubling the body-extension to embrace said ends, substantially as described.

2. A box or lid of a box constructed from a single piece of material cut or severed and scored to provide the sides with detached ends and the body with an extension, said material being folded to form the end of the box or lid by disposing the ends of the upturned sides across the body, doubling the body-extension over the ends of the sides, and securing its inner member against the ends of the sides, substantially as described.

269,683. BOOK-REST AND MANUSCRIPT-HOLDER. CHARLES C. KOSEL, Paterson, N. J. Filed June 2, 1882. (No model.)

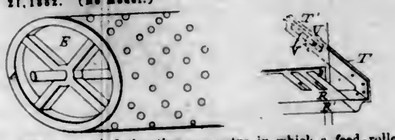


Claim.—1. In a book-rest, the combination, with the plate A, of the shaft or roller E and the curtain G, attached to this shaft or roller, substantially as herein shown and described, and for the purpose set forth.

2. In a book-rest, the combination, with the plate A, of the shaft or roller E F, the curtain G, attached to the same, and the guide-wires H and I at the upper end of the plate A, substantially as herein shown and described, and for the purpose set forth.

3. In a book-rest, the combination, with the plate A, provided with U-shaped spring-catch N and tubular projection K, having transverse apertures *a b*, of the hinged supporting-frame M and binding-screw L, substantially as and for the purpose set forth.

269,684. PROCESS OF AND MACHINERY FOR DESICCATING SUBSTANCES. HERMAN H. KOHLSAAT, Chicago, Ill. Filed Sept. 21, 1882. (No model.)



Claim.—1. A desiccating apparatus in which a feed-roller or its equivalent is employed to deposit the liquid to be desiccated upon the moving drying-surface by contact with such surface, such feed-roller having a circumferential motion at the point or line of contact with such drying-surface in a direction opposite to the motion of the drying-surface at that point or line.

2. In a desiccating apparatus, a feed-roller or its equivalent having for the purpose of feeding the substance to be desiccated to the drying-surface a motion independent of that of such drying-surface.

3 As a drying device in a desiccating apparatus, a heated chamber, in combination with and containing a cylinder open at the ends, and having its curvilinear shell composed of sheet metal or other good conductor of heat, perforated and sheathed in cotton cloth or equivalent woven and porous substance.

4. The method and process of desiccating viscid substance, which consists substantially in continuously passing it from one revolving surface to an adjacent one by forcible contact of the two surfaces moving in opposite directions at their points or surfaces of contact.

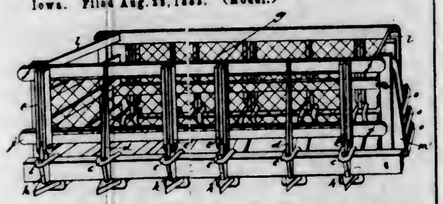
5. The method and process of desiccating substances, which consists substantially in feeding the substance from one moving surface to another by forced contact of such surfaces moving in opposite directions at their points or surfaces of contact within a close chamber or drying-case maintained artificially at a temperature other than normal.

6. As the means of separating the partially-dried substance from the drying-surface of a desiccating apparatus, the blades R and R', or their equivalent, whereby the substance is removed in thin narrow strips or shavings.

7. In a desiccating apparatus comprising a series of drying-cylinders, over which the substance to be treated is passed, substantially as set forth, the combination, with such cylinders, of means for separating them from contact with each other at any point in the series, and for holding them in contact throughout the whole or any part of the series, substantially as set forth.

8. As the drying-surface of a desiccating apparatus, a series—two or more—of cylinders having their curvilinear surfaces in contact successively—*i. e.*, each with the one following—and having each an independent rotary motion.

269,685. WAGON-RACK. ABRAHAM LANDIS, Sr., Elkport, Iowa. Filed Aug. 28, 1882. (Model.)



Claim.—1. The combination, with frame *a b*, having holders *c*, of the joint-stakes *e*, the forked braces *f*, the side racks, *g*, and the pins *i j*, passing through holes in the ends of said stakes to form a hay-rack, as described.

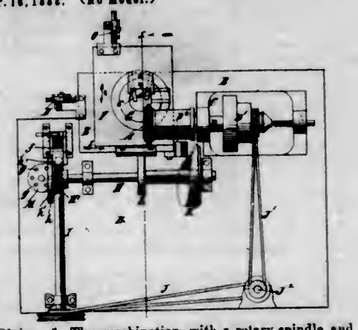
2. The combination, with bed-frame *a b*, having holders *c*, and the side racks, *g*, of the stakes *d*, made straight on one side and tapered on an opposite side, whereby the rack may be adapted to hauling wood or corn, as described.

3. The combination of the boards *p* with the end-gate *l* and pole attachment *m'*, substantially as described.

4. The hay-pole attachment *m'*, hinged to the end-gate at *n*, and provided with hook-ended bars *o*, substantially as shown and described.

5. The pivoted slat attachment *m'*, having board *p* to strengthen it while acting as an extension loading-platform, as set forth.

269,686. LATHE. JACQUES LAURENT, Philadelphia, Pa. Filed Mar. 16, 1882. (No model.)



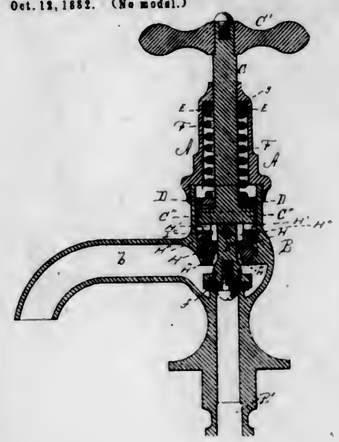
Claim.—1. The combination, with a rotary spindle and the two slides carrying a cutter or cutters, one of which slides has a movement parallel with the axis of said spindle and the other a movement transverse thereto, whereby the cutter or cutters may be moved in both directions, of springs or weights applied one to each slide for moving said slides inward automatically to apply the cutter or cutters, and cams for moving said slides in the opposite directions against said springs or weights, substantially as and for the purpose specified.

2. The combination, with the rotary spindle and two slides carrying a cutter or cutters, one of which slides has a movement parallel with the axis of the spindle and the other a movement transverse thereto, whereby the cutter or cutters may be moved in both said directions, of springs or weights applied one to each slide for moving said slides inward automatically to apply the cutter or cutters, cams for moving said slides in the opposite directions, and gage-wheels having projections of different lengths for controlling and limiting the inward movements of said slides, substantially as and for the purpose specified.

3. The combination of the spindle D, slides E F and their actuating springs or weights, cams K L, gage-wheels N O, and pawls *i j*, all substantially as and for the purpose specified.

4. The combination, with the rotary spindle and two slides, carrying a cutter or cutters, one of which slides has a movement parallel with the axis of the spindle and the other a movement transverse thereto, whereby the cutter or cutters may be moved in both said directions, of springs or weights for moving said slides inward to apply the cutter or cutters, a shaft and cams thereon for moving said slides in the opposite directions, and a device for automatically disengaging said shaft from its driving mechanism, all substantially as and for the purpose specified.

269,687. FAUCET. HENRY B. LEACH, Boston, Mass. Filed Oct. 12, 1882. (No model.)



Claim.—1. In a faucet, the combination of the spindle C, provided with one or more arms, C′, the screw-nut H, provided with the slot H′ and recess H″, and the valve I, provided with the valve-stem I′ and lifting-pin I″, all arranged and constructed substantially as and for the purpose described.

2. In a faucet, the combination of the valve I, provided with the valve-stem I′ and lifting-pin I″, and the screw-nut H, provided with the recess H″, and adapted to be turned by means of the spindle C, substantially as and for the purpose set forth.

3. In a faucet, the combination of the screw-nut H, provided with the perforation or passage H‴, and valve-stem I′, swiveled in said screw-nut, substantially as and for the purpose specified.

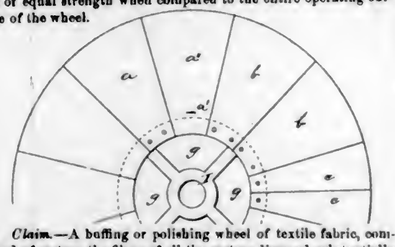
4. In a faucet, the combination, with the spindle C, provided with an enlarged base or lower end, of the swivel-plate D and spring F, substantially as and for the purpose described.

5. The combination, with the spindle C C′ and valve I I′ I″, of the screw-nut H, provided with the stops *h h*, substantially as and for the purpose set forth.

6. The combination, with the spindle C, spring F, and swivel-plate D, of the plate E, substantially as and for the purpose described.

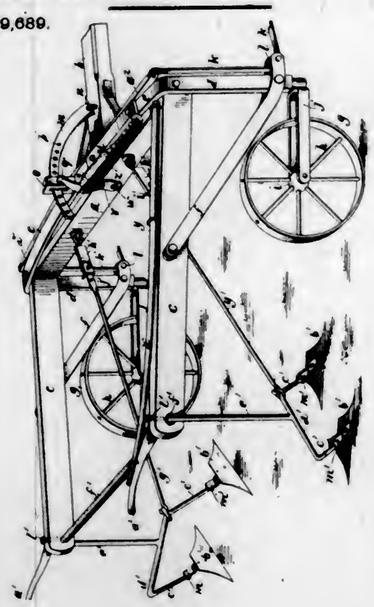
269,688. BUFFING OR POLISHING WHEEL. ALEXANDER LEVETT, New York, N.Y., assignor to the Zucker & Levett Chemical Company, same place. Filed Jan. 20, 1882. (No model.)

Brief.—The sectors are cut from a sheet of textile fabric. The outer edge of each piece is cut on the same line of the material, and the fibers of all the sectors are thus disposed similarly, and present portions of the material belonging to each sector which are of equal strength when compared to the entire operating-surface of the wheel.



Claim.—A buffing or polishing wheel of textile fabric, composed of sectors, the fibers of all the sectors disposed substantially as described, whereby portions of the material which are of substantially equal strength are presented to the entire operating-surface of the wheel.

269,689.



269,689. CULTIVATOR. WILLIAM H. LUCE, Prairie Centre, Ill. Filed Sept. 4, 1882. (No model.)

Brief.—The wheel-yokes are swiveled. The adjustment of the tongue balances the frame, with the scrapers higher or lower. A spring-pin is operated from the rear to release the tongue. The standards are bent at right angles and enter and rock in a tubular cross-bar and are held by extension-braces.

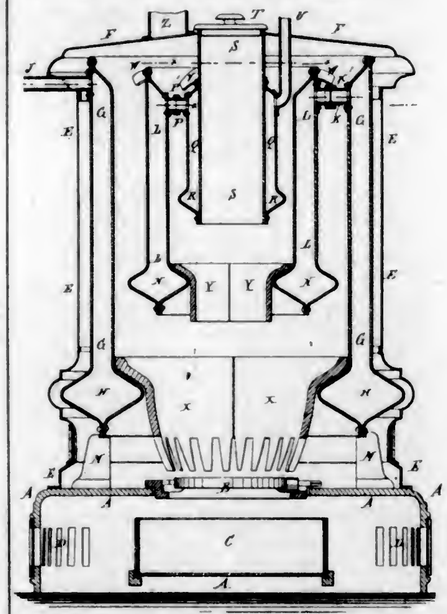
Claim.—1. The combination of tongue *b*, bar *m*, slotted post *o*, spring-pin *q*, and lever *x* with the cultivator-frame mounted on caster-wheels, substantially as described.

2. The plows *b′*, attached to the shanks *c′* of T-heads *d′* of crank-arms *c′* in tubular shaft *f′*, said T-heads being arranged obliquely to the machine and in the line of the plows, substantially as described.

3. The draft-rods *g′*, in combination with plow-shanks *c′*, the crank-arms *c′*, and the tubular shaft *f′*, whereby the plows are adapted to be shifted forward and backward, said rods being adjustably connected to the front beam by sockets *h′* and pins *i*, substantially as described.

4. The combination of the crank-arms *c′*, having the plows attached to them, tubular connecting-shaft *f′*, beams *e*, and the binding-screws *l′*, substantially as described.

269,690. BOILER AND FURNACE. JAMES H. MACKINTOSH, Paterson, N.J. Filed Apr. 28, 1882. (No model.)



Claim.—1. A boiler and furnace constructed substantially as herein shown and described, and consisting of three (more or less) concentric annular water-chambers, G L Q, divided into compartments by partitions I O *b*, having enlargements H N R at their lower ends, and connected by pipes K P, the outer casing, E F, the base A, and the fire-pots X Y, as set forth.

2. In a boiler and furnace, the combination, with the casing E, the top F, and the base A, of the concentric annular water-chamber G L Q, the fire-pot X, and second or upper fire-pot, Y, substantially as shown and described, whereby both sides of the water-chamber will be exposed to the heated products of combustion, as set forth.

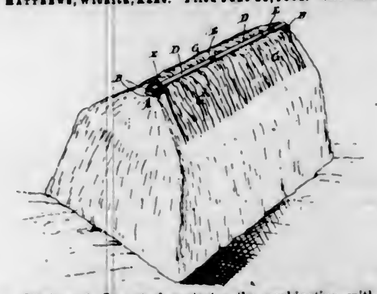
3. In a boiler and furnace, the annular concentric water-chambers G L Q, made with enlargements at their lower ends, substantially as herein shown and described, whereby the walls of the said chambers can expand without lengthening them, as set forth.

4. In a boiler and furnace, the combination, with the enlargement H of the annular water-chamber G, of the fire-pot X, made in two parts, and with a flaring upper part, substantially as herein shown and described, whereby the said fire-pot can be readily put in and taken out, and will be firmly supported, as set forth.

5. In a boiler and furnace, the combination, with the enlargement N of the intermediate annular water-chamber, L, the fire-box X, and the coal-reservoir S, of the second fire-pot, Y, substantially as herein shown and described, whereby the said enlargement is protected from the fire, as set forth.

6. In a boiler and furnace, the combination, with the upper ends of the concentric annular water-chambers G L Q, of the brackets V W, substantially as herein shown and described, whereby each inner water-chamber will be supported by the next outer chamber, as set forth.

269,691. PROTECTOR FOR HAY AND GRAIN STACKS. GEO. G. MATTHEWS, Wichita, Kans. Filed June 28, 1882. (No model.)
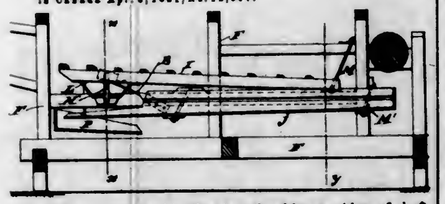


Claim.—1. In a stack-protector, the combination, with the board A, of the tapered stakes H, hinged thereto, and provided with the shoulders I, substantially as described, and for the purpose set forth.

2. In a stack-protector, the combination, with the clamping-boards A D, bolts E, and the fibrous thatching material G, of the tapered stakes H, having shoulders I, and hinged to the board A, substantially as described, and for the purpose set forth.

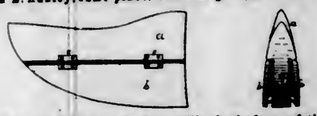
3. In a stack-protector, the combination, with the board A, having grooves C, the top board, D, the fibrous thatching material G, and the bolts E, of the side strips, B, substantially as described, and for the purpose set forth.

269,692. THRASHING-MACHINE. JOHN MCCLOSKEY, London, Ontario, Canada. Filed June 25, 1881. (No model.) Patented in Canada Apr. 3, 1881, No. 12,607.



Claim.—The combination, in a thrashing-machine, of shaft H, having cranks A A and A′ A′, straw-deck I, hangers L L, journaled upon the cranks A A, grain-deck J, pitmen B B connecting it with cranks A′ A′, pulley G, pitman O, the toggle-joint T at its lower end, bell-crank N, rod U, and shoe P, all constructed and combined to operate in the manner and for the purpose shown and set forth.

269,693. CRIMPING-MACHINE. DOMINICK A. MCDONALD, Rockland, Me., assignor of one-half to William P. Hurley and John E. Hanley, same place. Filed Aug. 24, 1882. (No model.)

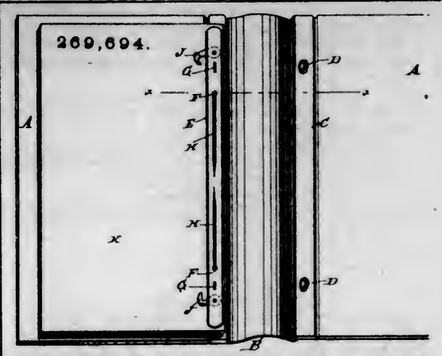


Claim.—1. The combination, with the body *a*, of the leaves *b*, hinged thereto, and provided with the spur-hooks *d*, as and for the purpose specified.

2. The combination, with the body *a* and the leaves *b*, provided with the spur-hooks *d*, of the spring-clamp *e*, adapted to embrace the leaves *b* when folded, as and for the purpose specified.

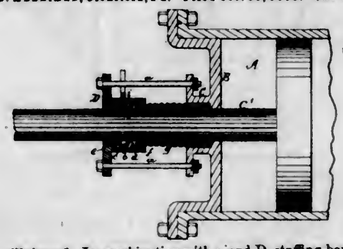
269,694. TEMPORARY BINDER. JOSEPH B. MCENALLY, Clearfield, Pa. Filed Aug. 26, 1882. (Model.)

269,694.



Claim.—In a binder, the combination, with the covers A and the back B, of the fasteners H, the eyes D, and the strip E, provided with slots G and hooks J, substantially as herein shown and described, and for the purpose set forth.

269,695. COOLING DEVICE FOR PISTON-RODS. WILLIAM B. MERRIMAN, Glenfield, Pa. Filed Oct. 21, 1882. (No model.)

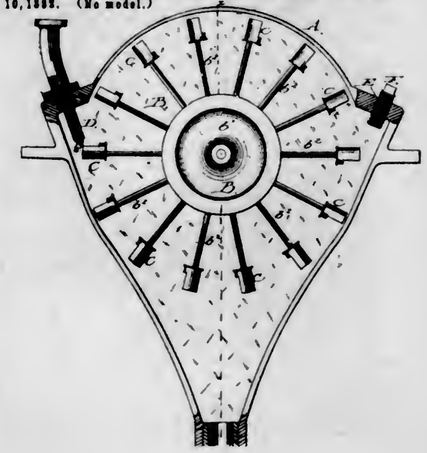


Claim.—1. In combination with gland D, stuffing-box C, and packing *g*, the collar *d*, having an internal groove and suitable supply and waste pipes communicating with said groove, substantially as described.

2. In combination with gland D, having sleeve *b*, the collar *d*, having a projecting portion, *c*, fitting within said sleeve, groove *h*, and supply and waste pipes *i i*, communicating with said groove, substantially as described.

3. In combination with the removable gland D, the collar *d*, attached thereto and provided with the groove *h*, said collar having communication by a flexible supply-pipe with a suitable feeding apparatus, substantially as described.

269,696. WATER-MOTOR. DANIEL P. MORGAN, Fitchburg, Mass., assignor to Charles A. Sawyer, same place. Filed July 10, 1882. (No model.)



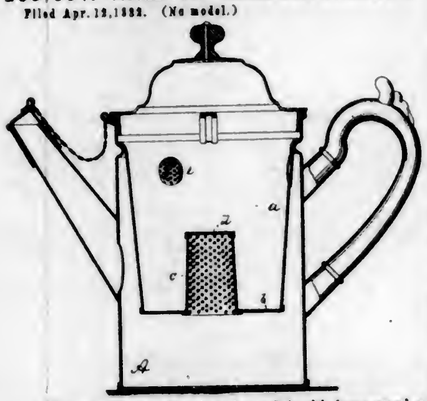
Claim.—1. The bucket C, made of an open-end cylinder having the portion 1 2 3 4 cut away, substantially as set forth.

2. The nozzle consisting of the pipe *e*, in combination with the inserted double conical perforated plug *e'*, substantially as specified.

3. In a water-motor, a casing, A, provided with duplex nozzle-taps, in combination with a reversible motor-wheel, substantially as described.

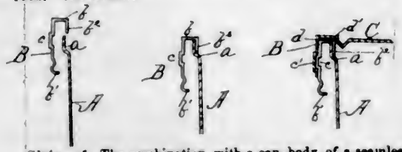
4. The disk H, in combination with and secured to spindle *b* against the end of the journal-box, and adapted to throw off the water from the journal, substantially as set forth.

269,697. COFFEE-POT. WILLIAM MUHR, Brooklyn, N.Y. Filed Apr. 12, 1882. (No model.)



Claim.—The combination of vessel A with inner vessel, *a*, having steam-passages *c c* near its upper end, and a cylindrical strainer, *c*, projecting upward from its bottom, so that a circulation of steam is effected through the strainer *c* upward to vessel *a* and through passages *c c* downward to pot A, substantially as specified.

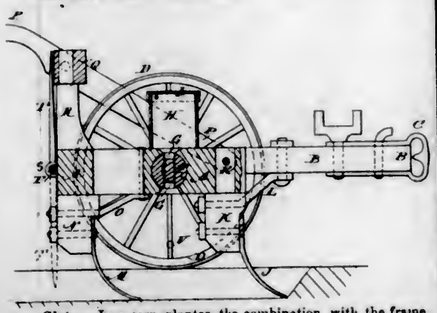
269,698. CAN. EDWIN NORTON, Chicago, Ill. Filed Nov. 23 1882. (No model.)



Claim.—1. The combination, with a can-body, of a seamless ring or breast secured thereto, and provided with an inturned flange at each edge, substantially as specified.

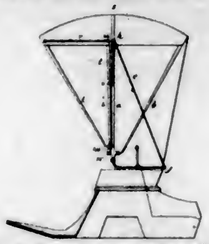
2. The combination, with a can-body, of a depending seamless ring having an inturned flange at the top, joined to the can-body, and a cover, said cover and seamless ring being provided with coupling devices, substantially as specified.

269,699. CORN-PLANTER. JOHN R. OWEN, Pulaski, Tenn. Filed May 17, 1882. (No model.)



Claim.—In a corn-planter, the combination, with the frame A, of the bearings S and the rod T, adapted to be slid in said bearings, and having its end parts bent at right angles in opposite directions, substantially as herein shown and described, whereby the said rod will serve as a gage in guiding the machine parallel with the row of hills last planted, as set forth.

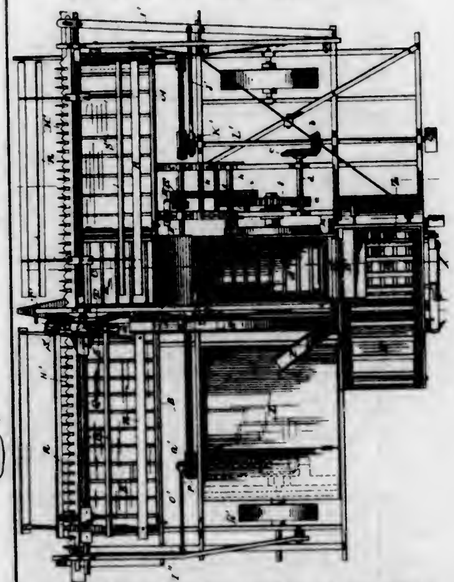
269,700. CARRIAGE-TOP. CHARLES G. PARKER, New Haven, Conn. Filed Oct. 14, 1882. (No model.)



Claim.—1. A carriage-top constructed in two independent and separable parts and sets of bows, the one set hung to the seat-iron of one seat, the second set arranged to be hung to the first set or detached therefrom and hung to the seat-iron of the other seat, the front bow of the rear part and the rear bow of the front part perpendicular, with a jointed brace between the said two parts, which permits the bringing of the said two parts together when the top is contracted to serve as a top for a single seat and to hold them extended when separated for a two-seated top, and a cover for the space between the two tops, substantially as described.

2. A carriage-top constructed in two independent and separable parts and sets of bows, the one set hung to the seat-iron of one seat, the second set arranged to be hung to the first set or detached therefrom and hung to the seat-iron of the other seat, the front bow of the rear part and the rear bow of the front part perpendicular, with a jointed brace between the said two parts, which permits the bringing of the said two parts together when the top is contracted to serve as a top for a single seat, the joint over the top between the two parts provided with an overlapping flap to protect the joint, substantially as described.

269,701. COMBINED HEADER AND THRASHER. WILLIAM H. PARRISH, Salem, Oreg., assignor of one-half to Geo. E. Aiken, same place. Filed July 27, 1880. (Model.)



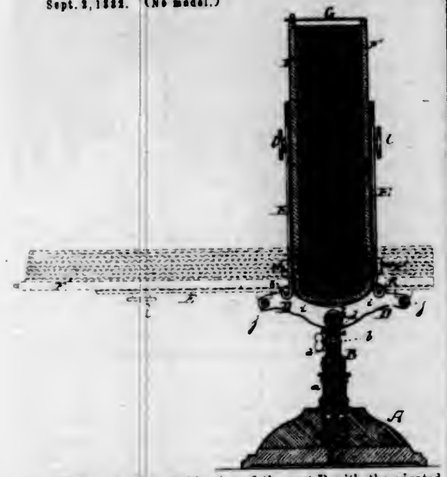
Claim.—1. In a header and thrasher having a conveyer, A', and straw-carrier D', arranged at right angles to each other, a platform, L, located at the angle of the conveyer-trough and supporting-frame of straw-carrier D, whereby the attendant may be within reach and view of the operating parts of the machine, as set forth.

2. The combination, with section A and a rim, T, attached to the reel-stay thereof, of section B, having a sickle and draper, and a laterally-adjustable reel, Q, the sections A and B being hinged together, so that when section B is raised its reel will come in contact with rim T of section A and be thereby adjusted, as set forth.

3. The combination of sections A and B, provided with drapers S', feeder C, and cylinder D, located at the junction of the sections, so as to receive the cut grain from both drapers, substantially as set forth.

4. The laterally-adjustable reel Q, having slats E and arms S, provided with friction-rollers *a*, in combination with circular rim T, attached to the reel-stay F of section A, substantially as set forth.

269,702. ALBUM-STAND. HILARIUS PATTBERG and ADOLPH GIRTNER, Jersey City, N.J., assignors to Lewis Pattberg, Hilarius Pattberg, and Philipp Pattberg, New York, N.Y. Filed Sept. 2, 1882. (No model.)



Claim.—1. The combination of the post B with the pivoted frame D, pivots *k*, book-embracing arms E, and bars *j j*, which are rigidly affixed to frame D and parallel to the pivots *k*, substantially as described.

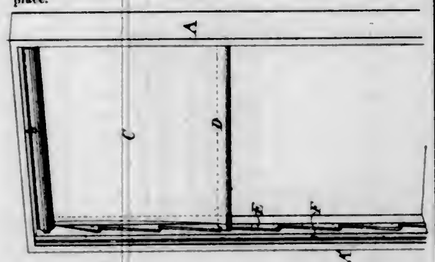
2. The combination of the base A and post B with the pivoted lip *d*, having lugs *f* and *g*, and with the frame D and arms E E, substantially as specified.

3. The frame D, constructed of the bar *h*, cross-bars *i*, bars *j k*, pivoted arms E, and lip *d*, in combination with a supporting-post, and with the fasteners *l*, for connecting it to the covers of a book, substantially as herein shown and described.

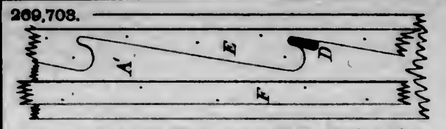
4. The frame D, having the slotted folding arms E E, and carrying rigidly-secured rests *j j* and pivots *k*, in combination with the pins *b* and clasp G, substantially as herein shown and described.

269,703. CURTAIN-FIXTURE. WILLIAM H. PAULDING, Peekskill, N.Y. Filed Mar. 28, 1882. (No model.)

Brief.—Racks fastened to the inside of the window-frame, into which the ends of the curtain-slat fit to hold the curtain in place.



269,708.



Claim.—1. The combination of the stick D, with the ratchets or catches placed on either side of the frame, substantially as described.

2. The ratchets or catches E, constructed and shaped as shown, and attached to the frame of a window or other similar aperture to hold in any required place a shade or curtain, substantially as described.

3. The combination of the spring-roller *b*, the shade C, the stick D, the ratchets or catches E, and the stop F, substantially as described.

269,704. FERTILIZING COMPOUND. DAVID E. PAYNTER, Philadelphia, Pa., assignor to the Granger Fertilizer Company, Camden, N.J. Filed Aug. 25, 1882. (No specimens.)

Claim.—1. The mode herein described of preparing a fertilizing material—that is to say: first making a compound of calcined gypsum, water, and mineral coal-dust; second, burning said compound; third, mixing the resultant ashes with urine, either the ashes or the urine having been previously acidulated, and, fourth, drying the mass so as to evaporate the water, all substantially as set forth.

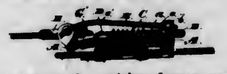
2. The within-described fertilizing compound, consisting of calcined gypsum and the ashes of mineral coal, acidulated and combined with the solid matter of urine, all substantially as specified.

269,705. BUTTON-FASTENING. GEORGE W. PRENTICE, Providence, R.I. Filed Sept. 20, 1882. (No model.)



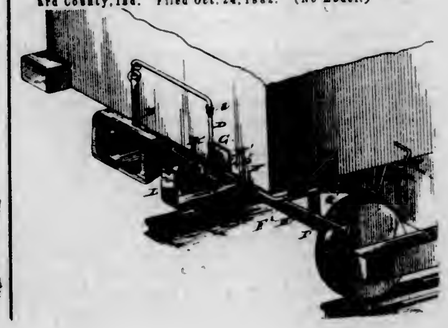
Claim.—As an improved article of manufacture, the herein-described button and fastening, consisting of the solid head A, which is compressed around or upon the enlarged or spread head of the metallic pin B, which is provided with a central plate or shoulder, *b*, substantially as and for the purpose specified.

269,706. FASTENING FOR GLOVES, BOOTS, &c. JOHN WILLIAM PRITCHETT, London, England. Filed June 21, 1882. (No model.) Patented in England Mar. 29, 1882, No. 1,531.



Claim.—A fastener for articles of wear, comprising a bed-plate provided with a hinged tongue and a spring-catch consisting of a slide-bar having a catch for engaging the free end of the tongue, and a spring located within a recess in the bed-plate and adapted to cause the catch to automatically engage the tongue, said bed-plate being applied near one edge of the article to be fastened, and the tongue being adapted to pass through an eye located near the opposite edge of the article, substantially as described.

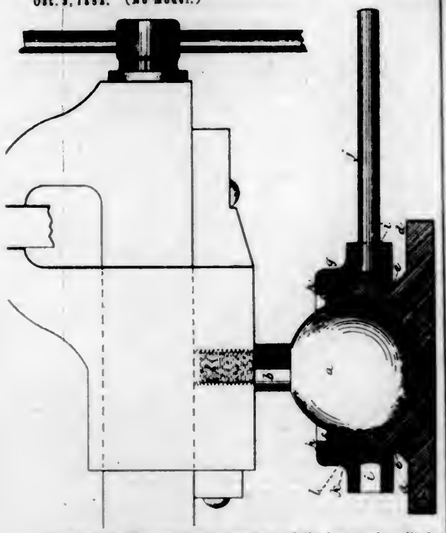
269,707. CAR-COUPLING. JOSEPH P. B. RAREY, Kokomo, assignor of one-third to Stephen P. Lee, Howard Township, Howard County, Ind. Filed Oct. 24, 1882. (No model.)



Claim.—1. In a car-coupling, the combination of the draw-head A, having the coupling-pin B, with the mechanism for operating the same, consisting of the bent rod D, slotted at its lower end, rock-shaft F, having bent end F' inserted through the slotted end of rod D, sliding rod I, and crank J, having bent arm K engaging the bent end F' of rock-shaft F, all constructed and combined to operate substantially as set forth.

2. In a car-coupling, the combination of the mechanism consisting of the bent rod D, slotted at its lower end, rock-shaft F, bent at its free end F', sliding rod I, crank J, having bent arm K, with the sliding bumper L M, pitman Q, crank O, and handle P, substantially as and for the purpose herein shown and set forth.

269,708. BALL-AND-SOCKET JOINT. HENRY F. READ, Brooklyn, N. Y., assignor to Read, Gleason & Read, same place. Filed Oct. 3, 1882. (No model.)



Claim.—1. The combination substantially herein described, in a ball-and-socket joint, of the non-clamping open-top socket with the ball, a clamping-ring seated thereon above its diameter-line free of said socket, and means, substantially such as described, for adjustably connecting said clamping-ring with the body of the socket to effect a vertical clamping force only upon the ball.

2. The combination substantially herein described of the ball provided with means for the attachment of mechanism with a non-clamping socket-casting having a circumferential screw-thread, a clamping-ring seated upon the ball above its diameter-line free of said socket, and means, substantially such as described, for adjustably connecting said clamping-ring with the body of the socket to effect a vertical clamping force only upon the ball.

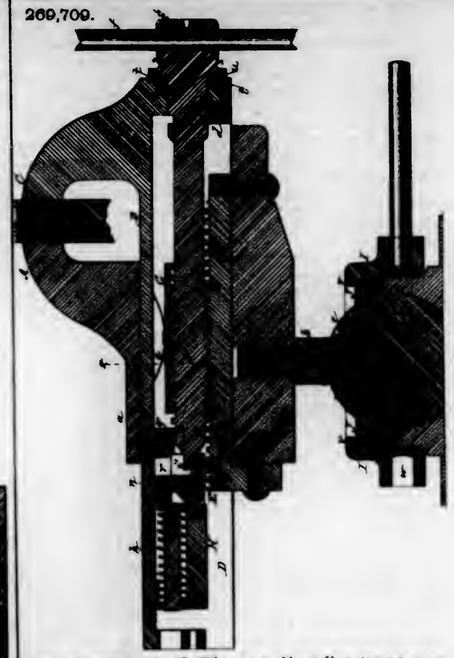
3. In combination, in a ball-and-socket joint, the ball *a*, having the stem *b*, the socket-casting *d*, having a circumferential screw-thread, *e*, a non-revolving clamping-ring, *f*, seated upon the ball above and free of said socket-casting, and an open-top screw-cap, *g*, having an interior screw-thread, an interior top rim, *h*, and circumferential radial holes *i*, all constructed and arranged to operate as described.

4. In combination, in a ball-and-socket joint, the ball *a*, the solid casting *d*, having the hemispherical cavity and the external screw-thread, the top clamping-ring, *f*, seated upon the ball, the screw-clamping cap *g*, and means, substantially such as described, whereby the said clamping-ring is locked with the socket-casting to render it non-revolving.

269,709. VISE. HENRY F. READ, Brooklyn, N. Y., assignor to Read, Gleason & Read, same place. Filed Sept. 8, 1882. (No model.)

Claim.—1. The combination, in a vise, of the screw F, having unthreaded termini parts of unequal diameters, the fixed half-nut E, the movable half-nut G, and a depressing-spring, *e*, therefor, with the sliding locking device *g*, a projecting spring, *h*, and a lever device pivoted to a fixed part of the vise, having one end connected to the sliding locking device and the other in such relation to the

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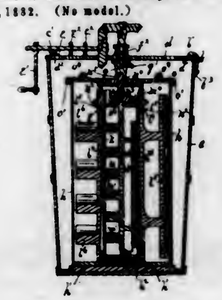
terminal unthreaded end of the screw of least diameter as to operate to lift it by the same movement of the locking device by which it is carried free of the screw.

2. The combination, in a vise, of the screw F, having unthreaded terminal parts of unequal diameters, and the fixed half-nut E, with a sliding locking device, *g*, having the slot *r* and a spring-bearing, the movable half-nut G for driving the locking device back, and the right-angled lever pivoted within the box of the locking-slide, having one end, *s*, extending into the slot thereof, and the other, *s'*, extending beneath the smallest terminal end of the screw, all constructed and adapted for operation substantially as described, for the purpose specified.

3. In combination, the fixed and sliding jaws, the latter formed with the hollow bar D, the screw F, the fixed half-nut E, the movable half-nut G, the fixed box H, the sliding locking device *g*, provided with a slot, *r*, the springs *e* and *h*, and the lever device pivoted to the fixed box, all constructed, arranged, and adapted for operation substantially as herein set forth.

4. The combination, with the fixed and movable jaws of a vise, of a universal swiveling joint, consisting of the base formed of a vertical projection having a concave socket and a circumferential screw-cap, and a non-turning ring-clamp interposed between the screw-cap and the ball and bearing upon the latter, substantially as described, for the purpose specified.

269,710. ICE-CREAM FREEZER. BERNHARD REAHS, Buffalo, N. Y., assignor of one-half to George N. Pierce, same place. Filed Oct 7, 1882. (No model.)



Claim.—1. An ice-cream freezer having a nest of two or more cans or compartments provided with independent agitators, in which more than one kind of cream can be frozen at the same time and by the same operating device, substantially as shown and described.

2. An ice-cream freezer in which the cover for the stationary can or cans holding the cream or creams to be frozen is provided with an adjustable section so arranged as to permit an inspection of the cream during the freezing operation without interrupting such operation, substantially as shown and described.

3. An ice-cream freezer having two cans or compartments, one within the other, the inner one being adapted for the reception of a freezing medium, the space between the inner and outer cans being intended for the cream to be frozen, the outer surface of the larger can being surrounded by a freezing medium, substantially as shown and described.

4. An ice-cream freezer having a cover for the stationary can or cans holding the cream or creams to be frozen, having an adjustable section, as shown and described, and provided with means for catching and retaining any of the freezing medium which may pass through and below such cover, substantially as shown and described.

5. In an ice-cream freezer, the combination, with the cans or compartments *k* and *k*, arranged, as shown, in the pail *a*, and their cover, of the separate agitating devices *l* and *m*, both rotated by the same agitating device, substantially as shown and described.

6. In an ice-cream freezer, in combination, the cans or compartments *k* and *k*, having in common a removable cover, the agitators *l* and *m*, and the circular connecting device *n*, adapted, as shown, to engage with and rotate the agitators *l* and *m*, the connecting device *n* being in turn rotated by suitable power, substantially as shown and described.

7. In an ice-cream freezer, in combination, the cans or compartments *k* and *k*, having in common a removable cover, the agitators *l* and *m*, the circular connecting device *n*, adapted, as shown, to engage with and rotate the agitators *l* and *m*, the double socket-piece *g*, and the removable and adjustable plate *d*, carrying the operating mechanism, all combined and operating substantially as shown and described.

8. In an ice-cream freezer, the agitator *l*, having the top and bottom circular rims, *l' l'*, and the side connecting-bars, *l² l²*, the bar *l²* carrying the scraper *l³* and the bar *l²* carrying the agitators *l⁴ l⁴*, the top rim, *l'*, being adapted for engagement with a rotating medium, substantially as shown and described.

9. In an ice-cream freezer, the circular connecting device *n*, having the recess or cup n^2 and the shaft n^4 in its upper portion, and the circular recess *n'*, with its slots n^3 n^3 and socket n^5, substantially as and for the purpose stated.

10. In an ice-cream freezer, the circular connecting device *n*, having the recess or cup n^2 and the shaft n^4 in its upper portion, and the circular recess *n'* with its slots n^3 n^3, socket n^5, and orifice *r*, passing up into the recess n^2, substantially as and for the purpose stated.

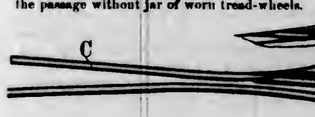
11. In an ice-cream freezer, the cover *o*, having the hinged section o^2, the part *o* being provided with the flange *p*, having the recess or groove p^2 p^2 and the perforations p^4 p^4, substantially as and for the purpose stated.

12. In an ice-cream freezer, the combination, with the pail *a*, provided with the open pivot *b* and swinging rods *c c*, and thumb-nuts *c' c'*, of the plate *d*, having the recess *d'* at one end and the notches d^1 d^1 at the other, the plate *d* carrying the operating mechanism, arranged thereon as shown, the whole operating as and for the purpose stated.

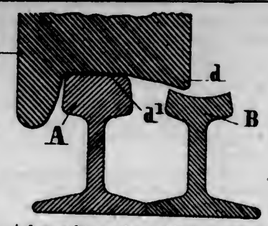
13. An ice-cream freezer consisting of the following instrumentalities, viz: the pail *a*, having upon its top edge the open pivot *b* and the swinging rods *c c*, with their thumb-nuts *c' c'*, the removably-adjustable plate *d*, carrying the actuating mechanism, as shown and described, the double socket-piece *g*, the cover *o o²*, the circular connecting-piece *n*, the stirrers and scrapers *l* and *m*, and the cans or compartments *k* and *k*, all combined and operating in the manner shown and described.

269,711. FROG. JAMES REED, Altoona, Pa. Filed Sept. 20, 1882. (No model.)

Brief.—Consists of having the upper bearing-surfaces of a frog, safety casting or block, or switch-rail cut away to prevent the passage without jar of worn tread-wheels.



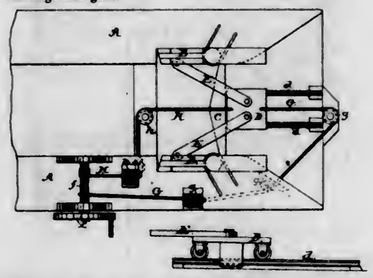
269,712.



Claim.—A frog, safety casting or block, or switch-rail having its upper bearing-surface cut away, substantially as and for the purpose described.

269,712. CANAL-LOCK GATE. JOSEPH E. REED, Albany, N. Y., assignor of one-half to Richard Parr, same place. Filed May 10, 1882. (No model.)

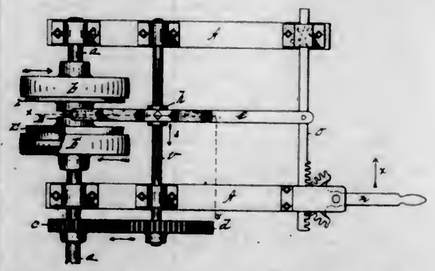
Brief.—The motion imparted to the carriage through ropes reversely wound on the same windlass closes or opens both gates simultaneously through bars having their opposite ends attached to the carriage and gate.



Claim.—1. The combination, with the lock-gates B, of the operating mechanism herein described, and consisting of a traveling carriage, D, connecting-rods E, winch F, and ropes G and H, all constructed and arranged to operate as herein specified, for the purpose of moving both of said gates simultaneously.

2. The combination, with the lock-gates B, traveling carriage D, and the connecting-rods E, the latter having their opposite ends pivoted to the gates B and carriage D, as herein described, of the winch F and ropes G and H, said ropes being connected to the winch F in the manner set forth, so that the rotations of the latter will wind up one of said ropes and reciprocally unwind the other, thereby effecting the movement of the carriage D, for the purpose of opening and closing the gates B, as herein specified.

269,713. APPARATUS FOR COMMUNICATING POWER TO AND CONTROLLING THE MOTION OF MECHANISM. FRANCIS H. RICHARDS, Springfield, Mass. Filed June 12, 1882. (No model.)



Claim.—1. In combination with a reversely-rotating driving mechanism, substantially as described, the shaft *a*, a movable shipper-lever fulcrum whose movements are controlled, by means substantially as described, by those of said shaft, and a shipper-lever pivoted to said movable fulcrum and engaging with said driving mechanism, substantially as set forth.

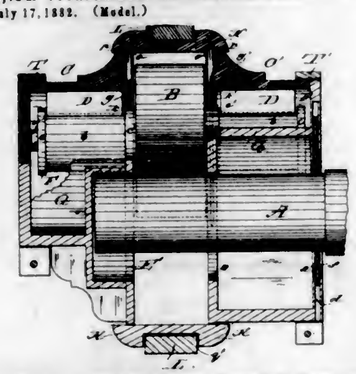
2. The combination, with a reversely-rotating driving mechanism, substantially as described, of the shaft *a*, of a movable

shipper-lever fulcrum whose movements are controlled, by means substantially as described, by those of said shaft, of a shipper-lever pivoted to said movable fulcrum and engaging with said driving mechanism, and of means, substantially as described, for moving and arresting the movement of the long arm of said shipper-lever, substantially as set forth.

3. The shaft *a*, pulleys *b b'*, the friction-clutch D, the screwed shaft *r*, adapted to be rotated by shaft *a*, the nut *h*, and lever *e*, pivoted to said nut and engaging with said clutch, combined and operating substantially as set forth.

4. The combination, with a shipper-lever engaging with mechanism, substantially as described, for starting and stopping machinery, of a fulcrum pivotally supporting said lever, and capable, by means substantially as described, of movement coincident with the starting of said machinery in the plane of the vibratory movements of said lever, substantially as set forth.

269,714. JOURNAL-BOX. LEVI H. ROBERTS, Paris, Ill. Filed July 17, 1882. (Model.)



Claim.—1. The front and rear boxes, C C', in combination with the anti-friction wheels B B, journaled in and between them, the said boxes being coupled together, substantially as and for the purposes set forth.

2. The combination, with the anti-friction wheels B B and front and rear boxes, C C', coupled together, of the journal-blocks D D, substantially as described.

3. The boxes C or C', formed with the diagonal partition-plates G, whereby the oil-boxes F are made triangular in form, substantially as described.

4. The coupling for the boxes, consisting of the guttered plates K and M, in combination with the clamp-plates L and bolts N or N', substantially as and for the purposes set forth.

5. The end plates, M, formed with the claws *q q*, in combination with the U-bolts N, substantially as and for the purposes described.

6. The front and rear boxes, C and C', formed with the lips *p p'*, in combination with the guttered plates K M, clamp-plates L, and bolts N or N', substantially as and for the purposes set forth.

7. The combination, with the boxes C C', the wheel-journals *b*, and the journal-blocks D D, of the covers H, formed with the ribs *l l*, substantially as and for the purposes set forth.

8. In a journal-box, the combination of the box C or C', having the ledges E, the journal-blocks D, supported upon said ledges at their lower ends, and the cover H, adapted to extend inward opposite the upper end of said blocks D, substantially as and for the purpose set forth.

9. The boxes formed with the ledges E, in combination with wheel-journals *b*, the journal-blocks D, and cover H, formed with the ribs *l*, substantially as and for the purposes set forth.

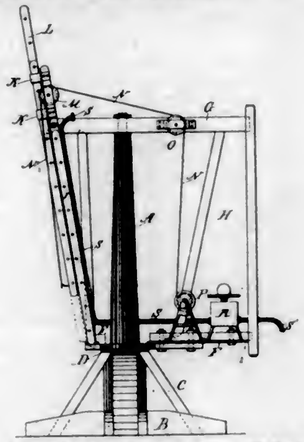
10. The boxes C or C', formed with the triangular oil-cups F, substantially as and for the purposes set forth.

11. The combination, with the box having the upwardly-widening slot or opening, of the approximately triangular apertured plate *g*, as shown and described.

12. The passages *j j'* for the dust-slide, of plates made wider at top than at bottom, in combination with the triangular dust plates or slides *g g'*, substantially as and for the purposes set forth.

269,715. FIRE-ESCAPE. CHARLES ROBERTS, Montgomery City, Mo. Filed Apr. 4, 1882. (No model.)

Brief.—A platform and turn-table are mounted on a standard, and extension-ladders are secured to the platform.



Claim.—1. In a fire-escape, the combination, with the standard A, of the turn-table F, the frame H on this turn-table, and the ladders J L, held to this frame, substantially as herein shown and described, and for the purpose set forth.

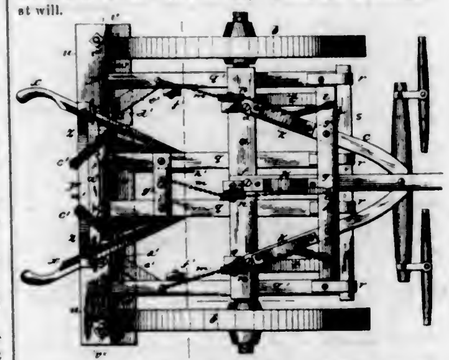
2. In a fire-escape, the combination, with the standard A, of the turn-table F, the frame H, the ladder J, the sliding ladder L, the ropes N, and the windlass P, substantially as herein shown and described, and for the purpose set forth.

3. In a fire-escape, the combination, with the standard A, of the turn-table F, the frame H, the ladders J and L, the guide-loops K, the pulleys M and O, the ropes N, and the windlass P, substantially as herein shown and described, and for the purpose set forth.

4. In a fire-escape, the combination, with the standard A, of the rings D and E, the platform F, the frame H, and the ladders J and L, substantially as herein shown and described, and for the purpose set forth.

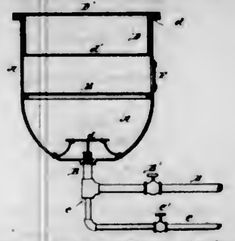
269,716. COTTON CHOPPER AND HARROW. GEORGE W. ROBERTS, Pattonville, Tex., assignor of one-half to Noah M. Rich, same place. Filed June 17, 1882. (No model.)

Brief.—The machine is convertible and adapted to be used as a cotton chopper or harrow. The cotton-chopper consists of three hinged beams or sections carrying chopping-knives, the central section having handles connected by a double rack and provided with levers which are linked to the outer sections, whereby the distance between the knives may be increased or diminished at will.



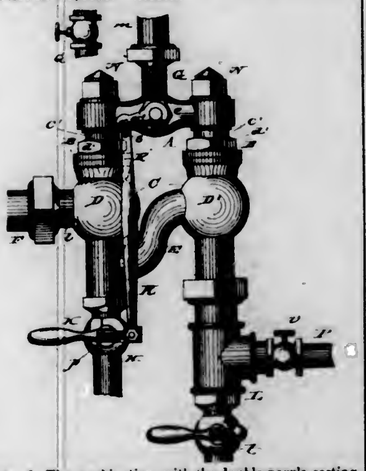
Claim.—In a cotton-chopper, the combination, with the wheeled vehicle, of the side and central section-bars carrying the inclined knives, the handles secured to the central section, the double rack connecting said handles, the adjusting-levers pivoted to the central section, and the pivoted perforated arms connecting the levers and outer section-bars, substantially as described.

269,717. METHOD OF TREATING GRAPE-SUGAR. WILLIAM ROBINSON, Chicago, Ill. Filed June 26, 1882. (No model.)



Claim.—The method of purifying previously-solidified grape-sugar, which consists in first reducing the solid body of sugar to small fragments, then passing through the mass of fragments, by means of a forcible current of heated air, a vapor capable of taking up the impurities to be removed, and thereafter drying the mass, substantially as described.

269,718. STEAM-INSPIRATOR. JOHN H. ROOK, Jonesborough, Ind. Filed Nov. 2, 1882. (Model.)



Claim.—1. The combination, with the double-nozzle casting and a two-way steam-chest having a valve, of the steam-injector caps having upwardly-projecting ends passing through cylindrical ends of the steam-chest, and closed nuts securing the same in position, substantially as specified.

2. An injector having a two-way steam-chest and steam-valve therein, a double-nozzle casting and steam-jet caps connected thereto, a transverse connecting-way and overflow-valve, and a lever secured to said overflow-valve and connected to the crank-arm of said steam-valve, substantially as specified.

3. The combination, with the double-nozzle casting C, and its transverse way E, and the two-way steam-chest A, and its valve *c*, of the steam-caps B, having the jets *g*, the overflow H, its valve *p*, valve-lever K, and connecting-rod R, the union L, and water-cock *t*, substantially as specified.

269,719. DRAFTING-INSTRUMENT. HENRY C. ROOT, San Francisco, Cal. Filed Jan. 23, 1882. (Model.)

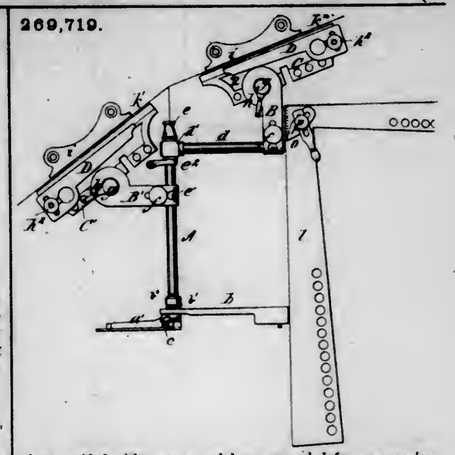
Claim.—1. The twist-bevels D, attached by pivoted screws to the tangent-blades C C', substantially in the manner shown and described, whereby the bevels can be turned parallel to the blades, as set forth.

2. The tangent-blades C C', provided with twist-bevels D and sustained by slides B B' on the standard, substantially in the manner shown and described.

3. The combination, with the blades C C', of the twist-bevels D, pivoted screws *h'*, and nut A^5, substantially as described, for operation as described.

4. The forked clamping-slide B, provided with clamping-screw *f* for securing the slide to either arm *d* or the standard, and

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also provided with screw *g* and lever-wrench h for compressing the forks of the slide, substantially as described.

5. The combination of center post, A, swinging arm *d*, and tangent-blades C C', and clamping-slides B B', substantially as shown and described, for operation as set forth.

6. The base-pieces *a' a*^{3}, screw *a*, and cam-lever *c*, combined with the shouldered post A, substantially as shown and described.

7. The auxiliary base-piece *b*, spring *b'*, and screw-piece *b*^{2}, combined on the center post, A, substantially as shown and described.

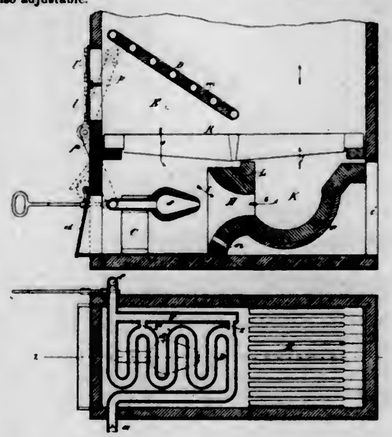
8. The combination, with center post, A, of one or more clamping-slides, B B', carrying tangent-blades, substantially as shown and described.

9. The stop-pieces *i i*, in combination with the instrument provided with tangent-blades C C', substantially as described.

10. A tangentograph made substantially as herein shown and described, and consisting of a center post with base-pieces and auxiliary base and adjustable arm working at one end on the center post and carrying at the other end an adjustable clamping-slide with tangent blade and bevel, and an adjustable clamping-slide working on the center post and carrying a tangent blade and bevel, all operated as described, whereby the proper lines and bevels for the mold and wreath-pieces of helices, twisting-rails, and other analogous forms may be quickly and practically determined, as set forth.

269,720. FURNACE. CLAUS RUSSMANN, Hamburg, Germany. Filed Oct. 5, 1882. (No model.)

Brief.—The spaces between the convolutions of the coil D are filled with a refractory material, *m*. Instead of making the nozzle *s* slidable, the wall L may be made adjustable, so as to vary the distance between said nozzle and wall. The nozzle-support C is also adjustable.



Claim.—1. The combination, with the grate of a furnace, of a gas-generating or heating coil arranged above the grate, a bridge-wall arranged below the grate and having an opening through it, and a nozzle connected with said coil and placed below the grate in front of the opening in the bridge-wall, all substantially as and for the purpose herein specified.

2. The combination of the grate B, the transverse bridge-wall I, having an opening, H, the inclined coil D, the adjustable nozzle *s*, and the joint-tubes *p p*, all substantially as and for the purpose herein described.

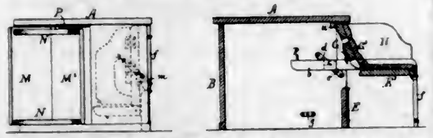
269,721. MANUFACTURE OF ORNAMENTAL METALLIC FOIL. MAYER M. SCHWARTZ, New York, N. Y. Filed Sept. 5, 1882. (No specimens.)

Claim.—The improvement in the art of printing metallic foil, which consists in pressing said foil between a bed which carries the inked impression-plate and a platen which is provided with a reticulate surface, substantially as described, whereby the surface-pattern on the platen is reproduced on the printed surface of the foil by and during the act of printing said foil, substantially as hereinbefore set forth.

269,722. COMPOSITION FOR CLEANING AND POLISHING METALS. BERTRAM G. SUBBACH, Peru, Ill. Filed Nov. 10, 1881. (No specimens.)

Claim.—The herein-described composition of matter to be used for cleaning and polishing metals, consisting of finely-powdered quartz, palm-oil, and kerosene in about the proportions specified.

269,723. CONVERTIBLE FURNITURE. EDGAR EMERICK SELL, Fairmount, S. C. Filed July 15, 1882. (No model.)



Claim.—1. The combination of a desk or like article of furniture having a pivoted and extensible back or end section, E', with a strip, G, hinged to said section E', as set forth, whereby it may form the back of a sofa when the strip is partly extended or part of the bed-bottom when the strip is fully extended, as set forth.

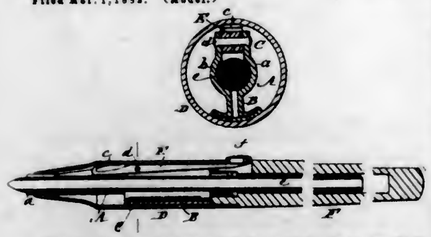
2. The combination of a desk or like article of furniture having a pivoted and extensible back or end section, E', with strips H hinged to the ends of said section E', as set forth, whereby they form the arms of the sofa when the strip is partly extended and head and foot portions of the bed when the strip is fully extended, as specified.

3. The combination of the movable back or end section, E', having projecting end bars, with the internal guiding-pins, *d e*, as set forth.

4. The combination of the desk or like article of furniture, having internal guiding-pins, *d e*, with the movable back or end section, E', having projecting end bars, *a*, with pivoted portions *b*, as set forth.

5. The combination of a desk or other article of furniture with a guided slide comprising two jointed sections, the outer of which is furnished with a mirror, and has a projection, *s*, as set forth.

269,724. LEAD-PENCIL. JACQUES SENN, New York, N. Y. Filed Mar. 1, 1882. (Model.)

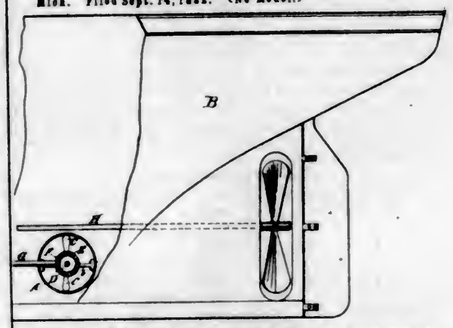


Claim.—1. In a lead-pencil, the tube A, having wings B C, and the serrated spring-lever E, in combination with the casing D, as herein specified.

2. In a lead-pencil, the combination with the tube A and the casing D, of the clamping-lever E, provided with the spring *c*, made integral therewith, and bent back over the outer surface of the same, substantially as herein shown and described, whereby the said spring serves the double purpose of forcing the lever against the lead and retaining the tube in the casing, as set forth.

3. In a lead-pencil, the combination, with the casing D, of the tube A, formed from a single sheet of metal, and provided with the double wings B C and the clamping-lever E, pivoted between the two parts of the wing C, substantially as and for the purpose set forth.

269,725. STEERING-PROPELLER. EPHRAIM SHAY, Haring, Mich. Filed Sept. 14, 1882. (No model.)



Claim.—The combination, with a tube, A, placed transversely within the stern of the hull of a vessel to open at each side, and gearing E E' F, operated by a shaft, G, of the two propellers C C', having oppositely-pitched blades and fixed on separate oppositely-rotating shafts D D', whereby the two propellers will move in opposite directions, but co-operate to always force the water in the same direction, as and for the purpose specified.

269,726. MANUFACTURE OF SPOONS AND FORKS. JOSEPH SHERIDAN, Jersey City, N. J. Filed June 21, 1882. (No model.)

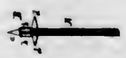


Claim.—1. The method of producing spoon and fork blanks of the required facial curvatures and marginal configurations of the spoons and forks to be made by simultaneously pressing or forming and cutting them by a succession of shear cuts from a flat or plain blank and removing the fin or selvage in such operation, substantially as specified.

2. The combination of the male die or former and cutter A, of the same facial and marginal configuration on its operating-surface and cutting-edges as the curved spoon or fork blank to be produced, and the female die or cutter B, having an aperture through it formed with cutting-edges which are of the same marginal configuration as said blank and cutting-edges of the male die, but which have a different or flat facial configuration, essentially as and for the purposes herein set forth.

3. The marginal holder K, for the bowl or larger portion of the blank, in combination with the male former and cutter A, having a facial and marginal configuration corresponding with that of the curved blank to be produced, and the female die or cutter of like marginal configuration with the cutting-edges of the male die, but of different facial configuration thereto, essentially as described.

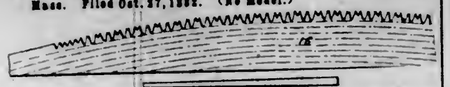
269,727. COAT-HANGER. MORRIS SMITH, New York, N. Y. Filed Mar. 3, 1882. (No model.)



Claim.—1. A coat or apparel hanger composed of the flexible inelastic metallic tape or cord A and the fasteners B, constructed as described, and for the purpose set forth.

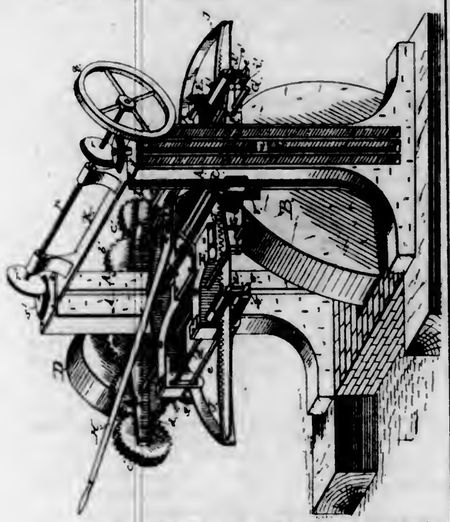
2. The fastener B, provided with two front prongs, *d*, the prong *e*, and the intermediate base, *k*, having on either side of the base the two broad projections *b*, capable of being bent over, substantially as and for the purpose described.

269,728. CROSSCUT-SAW. SPENCER P. SIMONDS, Fitchburg, Mass. Filed Oct. 27, 1882. (No model.)



Claim.—As a new article of manufacture, a crosscut-saw of substantially uniform thickness throughout the length of its curved cutting-edge, and of gradually-diminishing thickness in the direction of its width from cutting-edge to back.

269,729. MACHINE FOR AND METHOD OF GRINDING THIN-BACK CROSSCUT-SAWS. GEORGE F. SIMONDS, Fitchburg, Mass. Filed Dec. 4, 1882. (No model.)



Claim.—1. The method of grinding crosscut-saws having their backs thinner than their cutting-edges, consisting essentially in passing the saw repeatedly endwise through a grinding-machine, so that the stone in any given point in the grinding-line shall come in contact with the saw in a line about parallel to the curvature of the cutting-edge of the saw, as set forth.

2. In a saw-grinding machine for crosscut-saws, the combination of a grindstone and a set of guides, J, for the edge of the saw, with friction feed-rolls arranged to revolve on shafts in about the line of the projected radii of the mean curvature of the path of the cutting-edge of the saw, as set forth.

3. In a machine for grinding straight saws, the yoke-frames E F, having feed-rolls *h i h' i'* and driving-gear, in combination with the bars G G', provided with bearings *k l k' l'*, and the lever H, whereby the feeding mechanism may be moved to or from the grindstone, substantially as set forth.

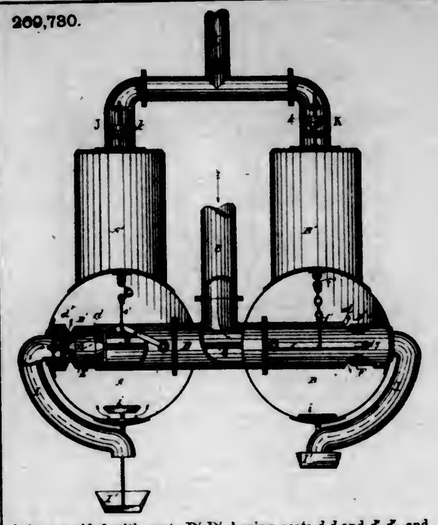
269,730. APPARATUS FOR COMPRESSING AND PUMPING AIR. ELMER S. SMITH, Erie, Pa., assignor of one-half to Ray V. Pierce, Buffalo, N. Y. Filed June 20, 1882. (No model.)

Claim.—1. In an air compressing or pumping apparatus, the combination, substantially as herein set forth, of the following elements: the cylinders A and B, with domes A' and B', the water-supply pipe C, with branch pipe D, having ports D' D' within said cylinders, and containing the valve-rod G, with valves E and F thereon operating upon seats *d d* and *d' d'*, and means for operating the valve-gear.

2. In an air compressing or pumping apparatus, the combination, substantially as herein set forth, of the following elements: the cylinders A and B, with domes A' and B', the air-pipes J and K, with contained valves *k k*, the water-supply pipe C, the pipe D, with ports D' D', the valve-rod G, with valves E and F, having seats *d d d' d'*, and means for operating the valve.

3. In an air compressing or pumping apparatus, the combination, with two cylinders, of a single water-supply pipe, C, having a branch pipe entering each of said cylinders, said branch pipe

269,730.



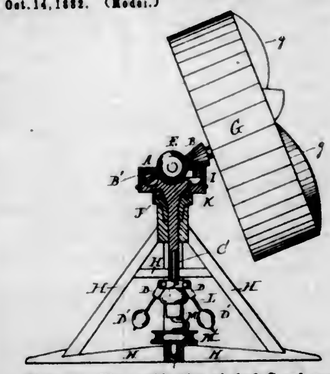
being provided with ports D' D', having seats *d d* and *d' d'*, and contained valves E and F, mounted on a single valve-rod, G, and of means for operating the valves, substantially as set forth.

4. In an air compressing or pumping apparatus, the combination, with the cylinders A and B, supply-pipe C, and branch pipe D, of the valves E and F, toggles *e* and *f*, lever *f''*, and floats N, substantially as and for the purposes mentioned.

5. In an air compressing or pumping apparatus, the combination, with the cylinders A and B, of the dump-valves *i*, *i'*, and *i''*, the levers 1 2 3, pans I' I'' I''', and the waste-pipes I, substantially as and for the purposes set forth.

6. In an air compressing or pumping apparatus, the combination, with the water-supply pipe and the air-conduit, of the reservoir R, pipes c and S, connecting said reservoir with said water-pipe and air-conduit, respectively, said pipe S being provided with a check-valve, *r*, substantially as and for the purposes mentioned.

269,731. WINDMILL. DAVID A. SMITH, Greencastle, Pa. Filed Oct. 14, 1882. (Model.)



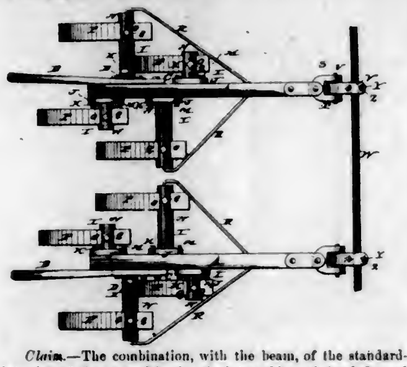
Claim.—1. The combination of shaft C and crank-shaft M with means, as described, for driving the former, and means whereby the power imparted to shaft C may be imparted to shaft M at the will of the operator, substantially as described.

2. The combination of wheel G, cone B B', and shaft C, having arms D D, and crank-shaft M, having cone L, substantially as set forth.

3. The combination of wheel G, cones B B', and ball E, all mounted on the same shaft, plate A, shaft C, having arms D D, and shaft M, having cone L, as and for the purpose set forth.

4. The combination of wheel G, cone B B', ball E, plate A, shaft C M, cone L, and arms D D, with or without springs, as shown and described.

269,732. CULTIVATOR. HENRY S. SMILEY, Meadville, Mo. Filed Aug. 5, 1882. (No model.)



Claim.—The combination, with the beam, of the standard-plate pivoted thereto and having the integral lateral shank formed with a horizontal slot in its outer end, in which is adjustably secured the spring curved cultivator-blade, as set forth.

269,733. CUTTER-HEAD. GOTTLIEB SOMMER, Williamsport, Pa. Filed Sept. 26, 1882. (No model.)



Claim.—1. The combination of the grooved clamping-collars of a reversible rotary cutter-head with an edge-molding cutter having double cutting-edges, straight inner and outer surfaces extending from one cutting-edge to the other, and having a form in the direction crosswise of its length of the outline of the cutting-edges, substantially as described, for the purpose specified.

2. The double-edge molding-cutters having each straight inner and outer surfaces, *e f*, extending from one cutting-edge, *d*, to the other, *c*, formed crosswise to correspond with the outline of said cutting-edges, and having a holding-rib, *n*, on the upper part of its inner surface, in combination with the grooved clamping-collars *h i*, the upper one, *i*, of which being adapted to be clamped upon the ribs *n* of each cutter between the inner surfaces of their upper straight parts, as described, shown, and for the purpose specified.

3. The edge-molding cutter having double cutting-edges, straight inner and outer surfaces extending from one cutting-edge to the other, and having a form in the direction crosswise of its length of the outline of the cutting-edges, as an improved article of manufacture.

269,734. PLOW. THOMAS SPENCER, Atlanta, Ga. Filed Oct. 16, 1882. (Model.)

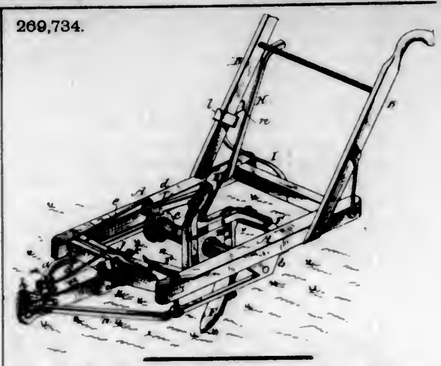
Brief.—A series of shovels secured to a block upon a rotating shaft. It is held in working position for one shovel by a notched collar and catch. The clevis-bolt is in a slot, and a spring holds it against the strain of ordinary work. When the shovel strikes an obstruction the spring yields, and a series of connections lift the catch, when the shaft makes a quarter-rotation and brings the next shovel into working position. A hand-lever may also be used to raise the catch.

Claim.—1. The rod *g*, connected to the clevis *h*, in combination with the spring G, bar or plate *f*, and set-screw *k*, substantially as and for the purpose described.

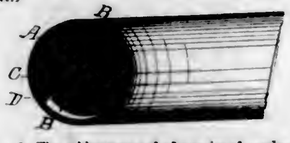
2. The combination, with the ratchet-wheel *e* and pivoted catch *d*, of the lever H and stirrup or trigger I, substantially as and for the purpose set forth.

3. The spring G and pivoted bar or plate *f* and the rods *e g*, in combination with the clevis *h*, bolt *m*, shaft D, carrying plow-points or harrow-teeth, the wheel *c*, and catch *d*, substantially as and for the purpose specified.

269,734.



269,735. TELEGRAPH AND TELEPHONE CABLE. JOHN SPENCER, New York, N. Y., assignor of three-fourths to David W. Fairchild, Brooklyn, N. Y., W. Powell Ware, Jersey City, and Frederick T. Fearey, Newark, N. J. Filed June 21, 1882. (No model.)

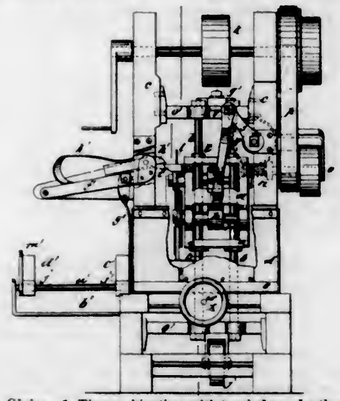


Claim.—1. The cable composed of a series of conductors having the cotton covering, lying close together and bunched, with a layer of insulating-cloth between the layers of wires, and treated with a prepared shellac, substantially as and for the purpose specified.

2. The combination of the conductors A, insulating fabric B, substantially as described, and the cover of copper C and of canvas D, coated with shellac, substantially as set forth.

3. A cable having a series of conductors provided with suitable insulating-layers, and having an external covering of copper and canvas, substantially as and for the purpose specified.

269,736. CIRCULAR SAWING MACHINE. CHRISTIAN J. STEINBACH, St. Louis, Mo. Filed Sept. 15, 1882. (No model.)



Claim.—1. The combination, with two independently-adjustable saw-tables, *e*, of two saws, *l*, and two pulleys, *h i*, mounted on two shafts, *m*, both journaled in a single frame, *a*, adapted to reciprocate between said tables, and means for revolving the saws and reciprocating their frame, substantially as specified.

2. The two independently-adjustable saw-tables *e*, the frame *a*, adapted to slide vertically upon the rods *b*, the two shafts *m*, journaled therein, and the saws *l* and pulleys *h i* on said shafts, in combination with the driving-pulley *k*, idle-pulley *j*, and the belt *g*, as and for the purpose specified.

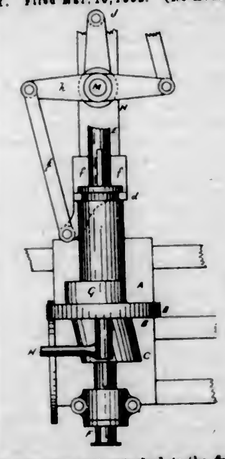
3. The combination, with saws *l*, of saw-benches consisting of table *e* and side *d*, said side having slot *f* and guard *n'*, substantially as described.

4. The saw or saws *l*, journaled in the reciprocating frame *a*, and means for revolving the same, substantially as specified, in combination with the crank *s* and the pitman *t*, connecting it to frame *a*, the gear-wheel *g*, the worm *u*, meshing therein, the shaft *o*, the pulley thereon, and the belt *p* for driving the same, as and for the purpose specified.

5. The saw-bench *e*, provided with a rock-shaft, *a'*, and the discharging-arms *c'* and *d'*, fixed thereto, in combination with the stud *i'*, fixed to the saw-frame *a*, the lever *f'*, provided with the finger *h'*, and spring *k'*, and connecting-rod *g'*, and arm *e'*, as and for the purpose specified.

6. The saw-bench *e*, provided with a rock-shaft, *a'*, having the discharger *c'* secured thereon, in combination with the discharger *d'*, provided with the stop-gage *m'*, and the set-screw *l'*, whereby it may be adjusted along the shaft *a'*, and whereby the discharger *d'*, with its gage-shoulder *m'*, performs a double office, as specified.

269,737. VALVE-GEAR. FRANK M. STEVENS, Concord, N. H., assignor to the Stevens Locomotive and Machine Company, New York, N. Y. Filed Mar. 10, 1882. (No model.)



Claim.—1. The ring-lever D, attached to the frame-work of the engine by a pivot or hinge, and carrying rollers *b*, and the cam G, and clutch *f*, in combination with the bar N, arm *h*, shaft M, and lever J, all arranged to operate substantially as and for the purpose set forth.

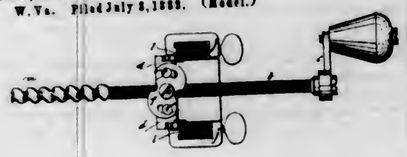
2. The ring-lever D, attached to the frame-work of the engine by a pivot or hinge, and carrying rollers *b*, cam G, shaft E, and the clutch *f*, in combination with the rods K L, and their lever O, arm *h*, shaft M, and lever J, all constructed and arranged as and for the purpose specified.

269,738. BUTTON-FASTENER. PARKER H. SWEET, Jr., Washington, D. C., assignor to the Heaton Button Fastener Company, Providence, R. I. Filed Oct. 20, 1882. (No model.)



Claim.—As an improved article of manufacture, the herein-described button-fastener, composed of the loop or neck portion B and the beveled and sharp ends arranged flatwise, side by side, in such a manner as to form a single split prong, C, substantially as and for the purpose specified.

269,739. MINING-AUGER. WILLIAM M. TALLEY, Hampton, W. Va. Filed July 3, 1882. (Model.)



Claim.—1. The combination, with a screw carrying an auger at one end and a crank at the other, of a nut, *d*, made in two parts, having nicked stud-pins *c c*, a button, *f*, with diagonally-opposite arc-slots, and a pivot-screw, *n*, whereby the parts of the nut may be conveniently operated without detachment to admit of taking out the auger-screw, as described.

2. The combination, with a frame, *g*, having notches *m*, of an auger-screw, *b*, nut having trimmed and recessed clips *k k*, and the clamps *j j*, whereby the nut may be withdrawn and replaced, as described.

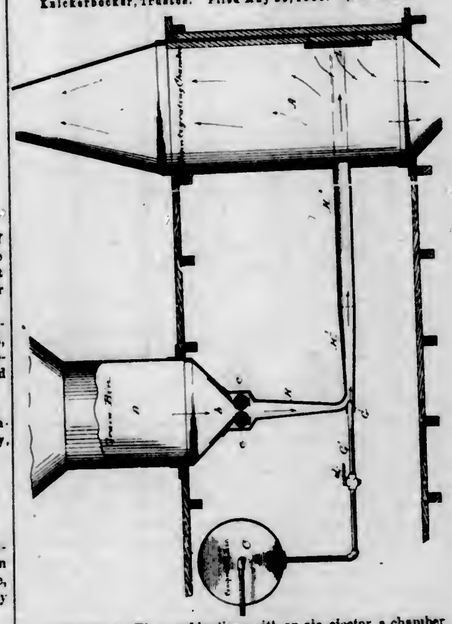
269,740. WINDOW-FRAME. THEOPHILUS TABNER, Osage, Nebr. Filed Mar. 22, 1882. (No model.)

Brief.—The edge of the glass rests in a longitudinal slot in a rubber strip, the slot increasing in width toward its interior. The rubber strip rests in a groove in the sash.



Claim.—The rubber strip A, provided with the longitudinal slot B, increasing in width toward its interior, in combination with a window-sash having its end or cross pieces, C, provided with a groove, D, of a size to receive the said strip, substantially as herein shown and described, whereby the glass is held in the strip and the latter held in the groove of the sash by spring-tension of the strip, as set forth.

269,741. MACHINE FOR DISINTEGRATING WHEAT, &c. FRANCIS TAGGART, Brooklyn, N. Y., assignor to Charles R. Knickerbocker, Trustee. Filed May 25, 1880. (No model.)



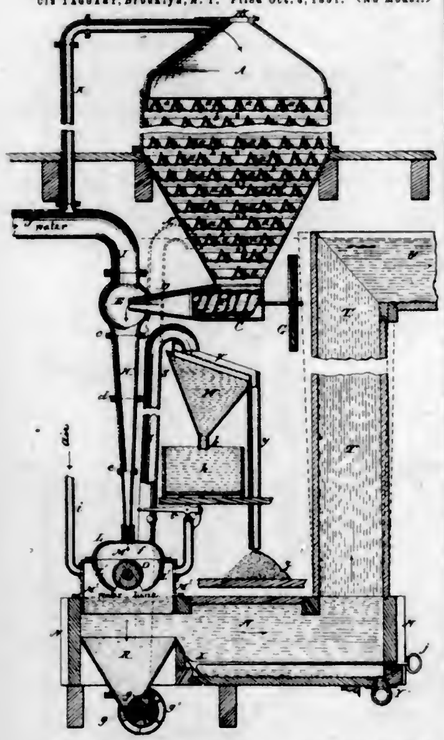
Claim.—1. The combination, with an air-ejector, a chamber for compressed air, an abutment, a chamber inclosing said abutment, and an open supply-bin, of a positively-moving feeder arranged with respect to the ejector substantially described, for the purpose specified.

2. In apparatus for disintegrating grain and other frangible substances, the combination of an air-ejector, a chamber for compressed air, an abutment, and a chamber inclosing said abutment, with an open supply-bin, feed-rolls *e e*, and feed-pipe H, arranged with respect to and having direct communication with said ejector and with the chamber inclosing said abutment, substantially as herein set forth.

3. The combination, with an air-ejector, a chamber for compressed air, an abutment, an inclosing-chamber therefor, a supply-bin, and the feed-rolls, of a feed-pipe and a projecting pipe, both flaring from the ejector-nozzle, substantially as described, for the purpose specified.

4. The combination, in apparatus for disintegrating grain and frangible substances, of an air-ejector, a chamber for compressed air, a hard abutment, an inclosing-chamber therefor, an open supply-bin, and the feed-rolls, with the vertical feed-pipe H and the horizontal projecting-pipe H′ H², both joining the ejector-nozzle G and flaring equally therefrom, substantially as described, for the purpose specified.

269,742. HYDRAULIC PROCESS OF AND APPARATUS FOR REDUCING AND CONCENTRATING METALLIC ORES. FRANCIS TAGGART, Brooklyn, N. Y. Filed Oct. 6, 1881. (No model.)



Claim.—1. The combined process substantially herein described of reducing ores and concentrating the metallic substance thereof, consisting in feeding the substance or granules into an inclosed column of water, projecting them in a jet under hydraulic pressure against a surface by which they are reduced, dropping the reduced substance into a level current of water, separating and concentrating therein the metallic granules according to their specific gravities, and carrying off the lighter non-metallic substance, substantially as herein set forth.

2. The combined process substantially herein described of reducing ores and concentrating the metallic substance thereof, consisting in feeding the substance into an inclosed column of water, projecting it in a jet under hydraulic pressure against a hard surface, by which it is reduced, dropping the reduced ore into a level current of water having a carrying force induced by said jet, concentrating the heaviest metallic particles directly below the point of reduction, collecting the lighter particles subsiding in the current flowing from said point of reduction, and carrying off the non-metallic substance, substantially as herein set forth.

3. The combined process substantially herein described of reducing ores and concentrating the metallic particles thereof, consisting in feeding the substance into an inclosed column of water, projecting it in a jet under hydraulic pressure, reducing it by impact against a hard abutment, dropping the reduced ore into a level current of water having a carrying force induced by said jet, separating and collecting the metallic particles in said level current, and carrying off the non-metallic substance by an ascending overflow-current maintained by the said jet and the balancing-pressure of air under compression within a chamber in which the reducing operation is effected.

4. The combined process substantially hereinbefore set forth of reducing ores and concentrating the metallic substance thereof by hydraulic operation, consisting in feeding the ore from a water-tight chamber into a closed pressure-chamber, ejecting it therefrom under hydraulic pressure, reducing the ore so ejected by impact upon a hard surface within a chamber, dropping the reduced ore upon the surface of a body of water confined in a horizontal trunk, and having a carrying force induced by said jet, and concentrating the metallic substances, the pressure in the feeding and projecting chambers being equal, for the purpose specified.

5. The apparatus substantially hereinbefore set forth, comprising a hydraulic ejector and an abutment of hard substance, against which ore is projected and reduced by hydraulic pressure, an air-tight chamber inclosing said abutment, a horizontal trunk filled with water, into which the reduced substance and the water from the jet are delivered, a vertical trunk having an overflow above and from said horizontal trunk, and means for maintaining air under compression in said chamber, whereby to keep the water-level in said horizontal trunk below the reducing-abutment, and to insure the outflow of a current induced by said jet at a point above the said compressed-air chamber in the operation of separating and concentrating the metallic from the non-metallic substances delivered from said abutment.

6. The apparatus substantially hereinbefore set forth, comprising a hydraulic ejector and an abutment of hard surface, against which ore is projected and reduced by hydraulic pressure, an air-tight chamber inclosing said abutment, a horizontal trunk filled with water, into which the reduced substance and the water from the jet are delivered, a vertical trunk having an overflow above and from said horizontal trunk, means for maintaining air under compression in said chamber upon the surface of the current induced by said jet, and means for regulating the degree of such air-pressure, for the purpose specified.

7. The apparatus substantially herein set forth, comprising a tapering hydraulic ejector-tube, H, having a pressure-chamber, E, connecting with a water-supply, a suitable ore-containing chamber or hopper connected with said pressure-chamber, and means for feeding the ore therein, with a chamber, M, an abutment, O, of hard surface, against which the ore is projected and reduced by impact by hydraulic pressure, a horizontal trunk filled with water below said abutment, and means for concentrating the metallic substance from a flowing current within said trunk induced by said jet, as specified.

8. The apparatus substantially hereinbefore set forth, comprising a hydraulic ejector-tube, H, having a pressure-chamber, E, connecting with a water-supply, a suitable ore-containing chamber or hopper connected with said pressure-chamber, and means for feeding the ore therein, an abutment of hard surface, against which the ore is projected and reduced by impact by hydraulic pressure, a chamber, M, containing air under suitable pressure, and a horizontal trunk, N, filled with water and opening into said compressed-air chamber at one end, and having means for collecting and concentrating the separated metallic substance and terminating at the other end in an elevated overflow, as specified.

9. The combination substantially hereinbefore set forth of the hopper or chamber A, containing the substance to be fed, having its containing space divided by horizontal shallow hoppers or rings arranged in tiers, each tier composing one or more hoppers open at top and bottom, and arranged with the hopper-spaces *a* of one tier centrally over the ridge *a*³ of a hopper in the tier next below, with means for supporting said shallow hoppers, so as to leave horizontal spaces between each tier, and a feed device arranged across the bottom of the lowest dividing shallow hopper in said chamber, for the purpose specified.

10. The combination substantially hereinbefore set forth of the hopper or chamber A, containing the substance to be fed, having its containing space divided by the horizontal shallow hoppers or rings arranged in concentric tiers, each tier composing one or more hoppers open at top and bottom, and arranged with the hopper-spaces *a* of one tier centrally over the ridge *a*³ of a hopper in the tier next below, with the horizontal cross-bars *b b*, arranged edgewise between the tiers of shallow hoppers, a feeding-screw arranged across the discharge of said ore-containing chamber, and a conveyer-box, D, having a length greater than that of said feeding-screw for the purpose of effecting an unvarying feed from said conveyer-box.

11. The combination, in apparatus for reducing ore, of a suitable chamber or hopper containing the substance to be fed, having a bottom horizontal conical conveyer-box, D, and a feed device arranged therein of a length less than that of said conveyer-box, with a hydraulic-pressure chamber, E, a hydraulic ejector-tube, H, gradually decreasing in area of cross-section to the ejecting-nozzle, and an abutment, O, of hard substance, the said conical conveyer extending into said pressure-chamber in position to deliver the substance along the center line of the ejector-tube, substantially as described, for the purpose specified.

12. The combination, in apparatus for pulverizing ores and other substances, of an ejector with a ring-abutment, O, arranged to receive the impact of the substance upon its changing ring-surface, and means for carrying and revolving said ring-abutment with a slow motion, thereby constantly presenting to the projected substance the endless changing surface of a ring, for the purpose specified.

13. In apparatus for reducing ores and other substances, the combination of an ejector and a ring-abutment, O, arranged to receive the impact of the substance upon its endless changing surface, with the rotating shaft P, a shouldered ring-seat fixed thereon, and means for removably clamping said ring-abutment upon said seat, substantially as specified.

14. In combination, an ejector, the ring-abutment O, the rotating shaft P, the shouldered hub Q, the clamping-collar Q′, and clamp-nut Q², substantially as described, for the purpose specified.

15. The combination, in apparatus for reducing substances, of an ejector, an abutment of hard substance, and the shaft P for rotating the said abutment, with the box L L′, open at the bottom and inclosing said abutment, substantially as described, for the purpose specified.

16. The combination, in apparatus for reducing substances, of an ejector, an abutment, and means for carrying and revolving said abutment, with the box parts L M′, and the removable box part having the curved sides L L′, open below said abutment, substantially as described, for the purpose specified.

17. The described apparatus, comprising the closed water-trunk N, having the transverse trough Y and the flow-off cock, the vertical overflow-trunk T, the abutment O, a hydraulic ejector, and a chamber, M M′, for containing compressed air, open at the bottom and having one of its sides formed by the surface of the water below said abutment, substantially as described, for the purpose specified.

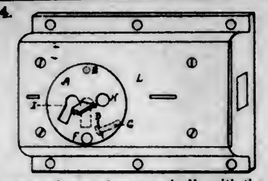
18. The herein-described apparatus for reducing ores and separating the metallic substance thereof by hydraulic operation, comprising an ejector, an abutment, the settling-water trunk N, having the vertical overflow-trunk T at one end and a hopper, R, at the other end, a screw-conveyer, *g*, in the bottom of said hopper, and a pipe connecting with said hopper and screw-conveyer, delivering the metallic substance at a point above the level of the overflow-way, and a chamber containing compressed air, inclosing said abutment, the fluid in said pipe being maintained on a level with the overflow-way by the force of the compressed air upon the water in the settling-trunk, substantially as described, for the purpose specified.

19. The herein-described apparatus for reducing ores, concentrating and washing the metallic substance thereof by continuous operation, comprising the hydraulic ejector H, the abutment O, the trunk N, having a level current and a vertical overflow-way, T, and a bottom trough, Y, at one end, and a hopper, R, at the other end, provided with a screw-conveyer, *g*, and a vertical pipe, S, a chamber of compressed air, and a scraper, X, the several parts constructed and arranged for operation substantially as set forth.

269,743. PREPARED FLOUR. PHILIP THORPE, New York, N. Y. Filed June 28, 1882. (Specimens.)

Claim.—The improved prepared flour herein described, consisting of a mixture of flour, butter deprived of its water, as described, and baking-powder, in which mixture all the particles are intimately and evenly mixed, blended, or incorporated, whereby each particle of the compound is capable of being sifted through an ordinary bread-making sieve, as set forth.

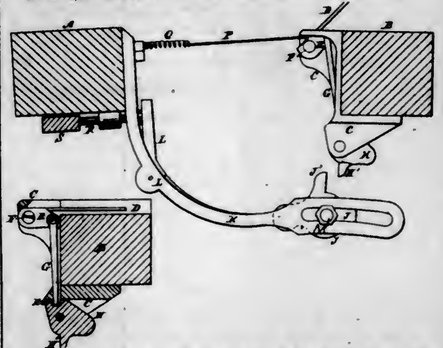
269,744. KEY-FASTENER. EDWARD K. TOLMAN, Worcester, Mass. Filed Aug. 28, 1882. (No model.)



Claim.—1. A lock-escutcheon consisting of two plates, A and A′, pivoted together at B, the plate A′ having a slot, G, curved concentrically with the pivot B and a key-hole, D, and the plate A, having a key-hole, C, straight slot E, and stud F, sliding in the slot G, as described, and for the purpose set forth.

2. A lock-escutcheon consisting of two plates, A and A′, pivoted together loosely at B, so as to allow the plates to be separated slightly at the side opposite the pivot, the plate A′ having a key-hole, D, and slot G curved concentrically with the pivot B, said slot having at one end the notches *f f*, and the plate A having a key-hole, C, straight slot E, and a stud, F, entering the curved slot G, said stud having wings fitting the notches *f f*, and arranged as shown and described, whereby, when the key is held by and in the slot E, pressure against the under side of the plate A will cause the wings to be drawn into the notches *f f*, securely locking the two plates A′ and A together as long as the pressure is applied, as and for the purpose set forth.

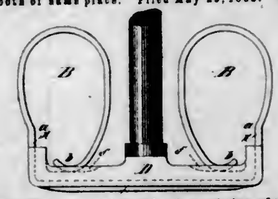
269,745. WEFT STOP-MOTION FOR LOOMS. FREDERICK O. TUCKER, Hartford, Conn. Filed Jan. 16, 1882. (No model.)



Claim.—1. The combination of the feeler-block E and the locking-bar G with the dagger H, having the notch H′ as a locking device for said dagger, substantially as described.

2. The combination of the feelers and block D E, the spring-cord P Q, the locking-bar G, the dagger H, the tumbler J, and the lever L with the frame C, adapted to be attached to the lay, and the arm K, adapted to be attached to the breast-beam of a loom, substantially as described.

269,746. MOP-HEAD. HENRY P. TYLER, Springfield, Mass., assignor of three-fourths to Andrew Titus and Sarah A. Atwood, both of same place. Filed May 25, 1882. (No model.)



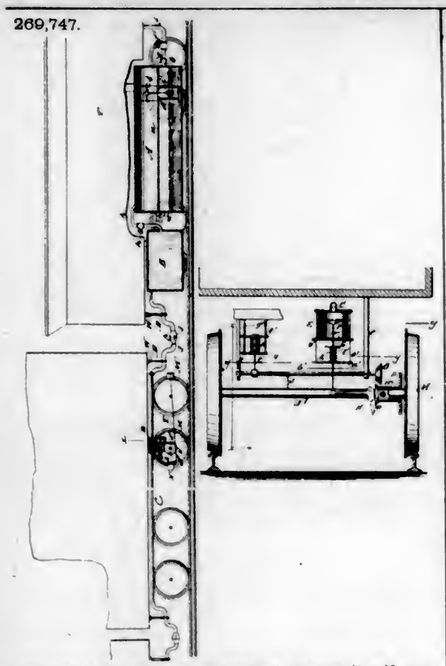
Claim.—The improved mop-head, consisting of the binder B, of one piece of spring-wire, formed to inclose the head D and bear upon all of its sides in the same plane, in combination with the head D, provided with the end guides or channels, *d d*, and sockets *f f*, substantially as and for the purpose shown and described.

269,747. AIR-BRAKE FOR RAILROAD-CARS. CHARLES VAN DUSEN, New Albany, Ind., assignor to himself and WILLIAM L. Broyfogle, Louisville, Ky. Filed May 26, 1882. (No model.)

Claim.—1. In a car-brake, the reservoir A, having the partition *a* dividing the reservoir into upper and lower compartments, and having the pipe communication *d*, in combination with steam-pipe *f*, communicating with the lower compartment, and the pipe *h*, leading from the upper compartment, as and for the purpose specified.

2. The combination, with the lower compartment of the reservoir A, of the steam-pipe *f*, provided with the valve *f′* and the

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drip-cock *g*, for regulating the height of the water in said compartment, substantially as set forth.

3. The reservoir A, having the partition *a*, pipe *d*, float *i*, and valve *i'*, for automatically cutting off the flow of water from the lower to the upper compartment of the reservoir, substantially as described.

4. The piston-head F and the hollow connecting-rod G, in combination with the valve Z, jointed lever Z', and the loop *r'*, substantially as and for the purposes set forth.

5. The sleeve *m*, formed with disk L and flange *o*, in combination with the lever H, cylinder E, piston-head F, and connecting-rod G, substantially as and for the purposes described.

6. The combination, with the sleeve *m*, friction-disk L, and flange *o*, and the lever H, of the wheel O, provided with the arm or axle *b'*, substantially as and for the purposes described.

7. The combination of the wheel O and arm or axle *b'*, adapted to have slight horizontal movement, with the spring R, held in a suitable frame, substantially as and for the purposes set forth.

8. The combination, with the wheel O, arm or axle *b'*, and spring R, of the disk L, flange *o*, and lever H, substantially as described.

9. The combination, with the cylinder E and the piston-head F, of the connecting-rod G, having flange *l'*, and the spring *k'*, held by a suitable frame attached to the cylinder, substantially as set forth.

10. The combination, with the reservior A, divided into compartments, of the pipe C, cylinder E, piston-head F, connecting-rod G, lever H, disk L, flange *o*, wheel O, and arm or axle *b'*, substantially as described.

11. In combination with the reservoir A and pipe C, the intermediate reservoir, B, as and for the purposes set forth.

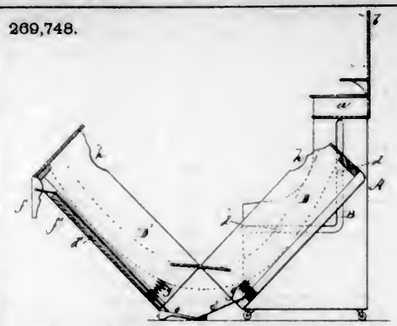
12. The reservoir A, divided into compartments, combined with pipe *h*, having the double-acting cock *h'*, whereby an additional supply of air may be admitted to the reservoir, as and for the purposes set forth.

13. The horizontally-pivoted lever W and spring *w*, in combination with the hose-connections D, substantially as and for the purposes set forth.

269,748. FOLDING BED. ISAAC R. VAN SLYKE, Chicago, Ill., assignor of one-half to Isaac R. Van Slyke, Jr., same place. Filed Aug. 25, 1882. (No model.)

Claim.—1. In a folding bedstead, the combination, with the case A, provided on the interior of each side with an angular groove, B, of the movable head-section D, having rollers *d d*,

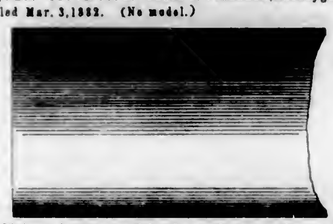
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adapted to move in said groove, and the foot-section D', hinged to the head-section and provided with pivoted legs *e f*, arranged to be automatically operated by means of rods or braces *e' f'* as the sections are folded or unfolded, all substantially as shown and described.

2. In a folding bedstead, the combination, with the hinged sections D D', the latter having folding legs *e e* and *f f*, of the rods or braces *e' e'*, connecting the legs *e* with the head-section, and the jointed rods *f' f'*, connecting the front and rear legs of the foot-section, substantially as shown and described.

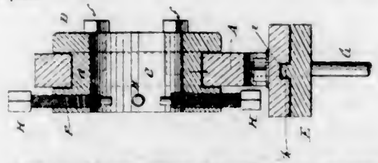
269,749. STOVE-PIPE. JACOB J. VOLLRATH, Sheboygan, Wis. Filed Mar. 3, 1882. (No model.)



Claim.—As a new article of manufacture, a sheet-metal slip-joint stove-pipe made in sections, and having its interior and exterior surfaces coated with a vitreous enamel, as and for the purpose set forth.

269,750. CENTERING REST OR CHUCK FOR LATHES. AUGUSTUS B. WADSWORTH, Contoocook, N. H., assignor of one-third to Walter S. Davis, same place. Filed June 2, 1882. (No model.)

Brief.—The sleeve bearing the centering devices revolves within a lateral adjustable collar and is held therein by an adjustable plate.



Claim.—1. The combination, with collar A, of the annular plate D and the sleeve C, provided with the bearing *d*, and flange F, said flange carrying the centering device, as shown and described.

2. The combination, with the bed-plate carrying collar A, and having groove *i*, the flanged sleeve C, and the plate D, of the plate E, having a tongue, *h*, and slot J, and the screw-bolt G, as and for the purpose specified.

269,751. NOZZLE. MATTHEW WARD, St. Louis, Mo. Filed Sept. 19, 1882. (No model.)

Claim.—1. In a nozzle, the combination, with an apertured tube, of a sleeve provided with tubular side projections, substantially as herein shown and described, and for the purpose set forth.

2. In a nozzle, the combination, with an apertured tube, of a sleeve provided with tubular side projections and a sleeve provided with slots, substantially as herein shown and described, and for the purpose set forth.

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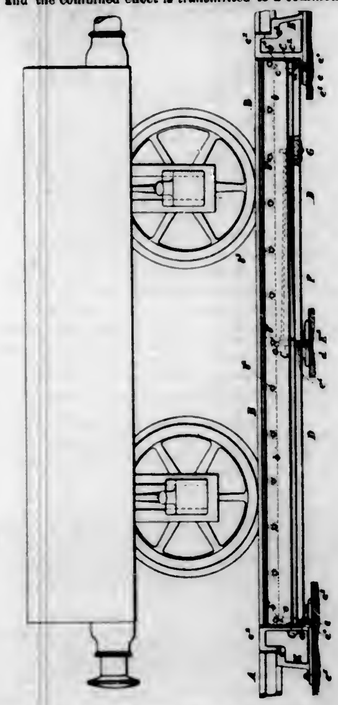
3. The combination, with the tube A, provided with slots B and K, of the sleeve C, provided with tubular projections D, the sleeve L, provided with slots M, and the nozzle G, screwed on the tube A, substantially as herein shown and described, and for the purpose set forth.

4. The combination, with the tube A, provided with slots B and K, of the sleeve C, provided with tubes D, the sleeve L, provided with slots M, and of the ring F, substantially as herein shown and described, and for the purpose set forth.

5. In a nozzle, the combination, with the tube A, provided with slots B, of the sleeve C, provided with tubular projections D, and the plug H, substantially as herein shown and described, and for the purpose set forth.

269,752. RAILWAY-TRACK SCALE. THOMAS H. WARD, Tipton, County of Stafford, England. Filed Apr. 10, 1882. (No model.) Patented in England Aug. 17, 1881, No. 3,520.

Brief.—A track-scale in which the rails constitute the weigh-platform and rest on rockers capable of horizontal deflection. Each rail has an independent action upon a hydraulic diaphragm or plunger, and the combined effect is transmitted to a common indicator.



Claim.—1. The combination of rails or ways of a platform-scale supported on rockers C and chairs, with a lever connected to one of said rockers and acting upon indicating mechanism, substantially as set forth.

2. The combination of two rails supported separately on rockers C and chairs, with a lever, F, connected to a rocker supporting each rail, the two levers operating the same indicating apparatus, substantially as described.

3. The combination of the two rails or ways of a platform weighing apparatus and independent weighing devices, substantially as described, with two tubes containing dense fluids acted on independently by said two weighing devices, and a common indicating-tube with which both said tubes communicate, all substantially as specified.

4. The combination of the rail or support of a platform-scale, rockers C, and lever with a cylinder and a diaphragm acted on by said lever, siphon-tube, and indicator, and a tube connecting the cylinder with the siphon, all substantially as described.

5. The combination of the rail B and girders with rockers, lever F, acting on the indicating apparatus, and a supporting-chair, substantially as set forth.

6. The chair E, having a seat for one end of a fixed rail, an elevated portion, *e*, and a knife-edge bearing for the rocker of a weighing apparatus.

7. The combination of the rail or support of a platform-scale, rockers C, and lever F, having a set-screw, *f*, with cylinder, diaphragm, and plunger *g*, the cylinder on the under side of the diaphragm communicating with an indicating-tube.

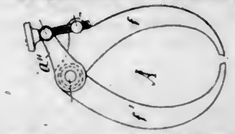
8. The combination of the rail or support of a platform-scale, rockers C, and lever F with a cylinder containing a column of liquid acted on by said lever, indicator, and a contracted communicating passage, *i*, substantially as and for the purpose described.

269,753. TAG. EDMOND A. WARNER, Brooklyn, N. Y., assignor to himself and Thomas J. Moore, same place. Filed Jan. 21, 1882. (No model.)



Claim.—The tag A, composed of two plies or thicknesses, and provided with the strengthening-frame B, composed of a string or wire extending around the tag near the margin and secured between the two plies or thicknesses by pasting or cementing them together both inside and outside the frame, whereby the tag is protected all around the margin against being torn, and is prevented from curling up or becoming rumpled, substantially as herein described.

269,754. ADJUSTING DEVICE FOR TOOLS, &c. JOHN F. WEBSTER, Springfield, Ohio. Filed Nov. 22, 1881. (No model.)



Claim.—1. In calipers, dividers, or like devices, the combination, with the primary parts, of a secondary part having a screw-threaded opening and placed upon the outer side of the primary parts to serve as a nut for the pintle of the device, and an adjusting-screw attached to the secondary and one of the primary parts, for the purpose set forth.

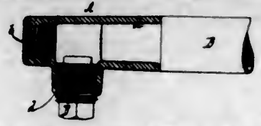
2. In a calipers or like device, the combination, with the primary parts, of a secondary part having a screw-threaded opening and placed upon the outer side of the primary parts to serve as a nut for the screw-threaded pintle of the device, and an adjusting-screw having pivotal bearings attached to the secondary and one of the primary parts, for the purpose set forth.

3. In a calipers, compasses, or like device, the combination, with the primary parts, of a secondary part having a screw-threaded opening and placed upon the outer side of the primary parts to serve as a nut for the screw-threaded pintle of the device, and an adjusting-screw having pivotal bearings attached to the inner side of the secondary and one of the primary parts, for the purpose set forth.

269,755. TOOL-HOLDER. FREDERICK W. WEISS, Mount Vernon, N. Y., assignor, by mesne assignments, to Caroline Weiss, same place. Filed July 6, 1882. (No model.)

Claim.—1. A tool-holder consisting of a hollow head having a socket to receive a handle, a screw-threaded socket to receive the

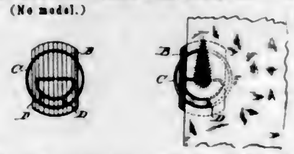
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tool-shank, and an additional screw-threaded socket containing a threaded key, the inner end of which is arranged to engage the tool-shank and hold it in proper position, substantially as described.

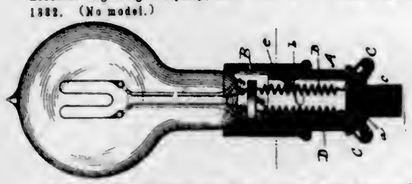
2. The combination, substantially as herein described, of the head A, constructed with the sockets *a*, *b*, and *d*, the handle B, the tool C, having a screw-threaded shank, *c*, and a plane projection in rear thereof, and the adjustable screw-key D, having its inner end arranged to bind against the plane projection on the tool-shank, and thereby retain the tool in a fixed position, substantially as described.

269,756. BUTTON. JULIUS WEIS, Chicago, Ill. Filed Oct. 18, 1882. (No model.)



Claim.—The combination, with a button, B, and its post, of a wire ring, C, attached to or made integral with the post, and provided with curved overlapping tongues D, one of which is curved upward and the other downward at the ends, the downward bent or curved tongue pressing or acting upon the upward-curved tongue, substantially as herein shown and described, and for the purpose set forth.

269,757. INCANDESCENT-ELECTRIC-LAMP HOLDER. EDWARD WESTON, Newark, N. J., assignor to the United States Electric Lighting Company, New York, N. Y. Filed Aug. 23, 1882. (No model.)



Claim.—1. The combination of an incandescent lamp and a holder for the same, spring-connections between the conductors of the lamp and the holder, and a socket adjustable on said holder for raising the lamp therefrom, whereby the springs are distended and the lamp held in place, as set forth.

2. The combination of an incandescent lamp, a socket or holder composed of a cup, A, containing slots *b b*, and a cap having pins *c c*, and spring-conductors connected to the base of cup A and to the wires of the lamp, substantially as above set forth.

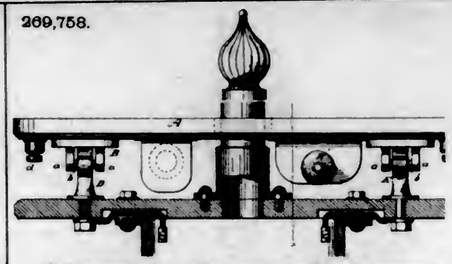
3. In a holder for incandescent lamps, the combination, with a cup or base, of spring-conductors secured to the same, and adapted for connection with the conductors of a lamp, a movable cap containing a seat for a lamp-globe, and means, substantially as described, for retaining the cap in a raised position on the cup, as and for the purpose set forth.

4. In a holder for incandescent lamps, the combination, with a slotted cup, of spiral conductors secured in the base of the same, a piece or plate of insulating material, through which the ends of the spirals are passed, and a cap containing a seat for a lamp-globe and provided with pins arranged to register with the slots in the cup, as and for the purpose set forth,

269,758. SUSPENDING AND CIRCUIT-CONTROLLING MECHANISM FOR ARC-LAMPS. EDWARD WESTON, Newark, N. J., assignor to the United States Electric Lighting Company, New York, N. Y. Filed June 7, 1882. (No model.)

Claim.—1. A device for suspending electric-arc lamps, consisting of an insulating plate or base having attached thereto suspending-hooks forming the terminals of an electric circuit, a manual switch, and electro-magnetic cut-out, and circuit-connections, substantially as hereinbefore described.

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2. The combination, with the cylinder F, having contact-plates and metallic journals, one of which is formed or provided with a toe, *g''*, of plates G G', pins or stops thereon, spring P, spindle H, and pins *k k'*, carried thereby and adapted to suddenly shift the position of the cylinder, substantially as hereinbefore described.

3. The combination, with an electric lamp, of a pivoted armature, an electro-magnet having two coils wound in the same direction, one of said coils being included in the lamp-circuit, the other in a normally-open circuit around the lamp, and circuit-connections to and from said armature, which complete the circuit around the lamp when the armature is retracted from the magnet, as and for the purpose set forth.

269,759. ELECTRIC INCANDESCENT LAMP. EDWARD WESTON, Newark, N. J., assignor to the United States Electric Lighting Company, New York, N. Y. Filed Dec. 13, 1881. Renewed Sept. 13, 1882. (No model.)



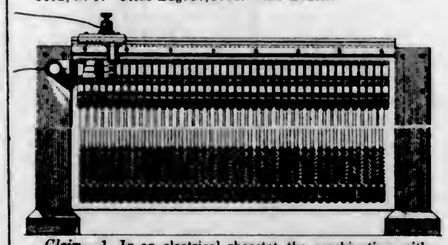
Claim.—1. The method of sealing the wires of an incandescent lamp containing a straight carbon, which consists in applying to one of the wires a vitreous bead or block and uniting them to the carbon, then passing them through sealing-apertures in a globe and securing them by welding the globe to the vitreous bead on one wire and sealing the other wire directly into the glass, as set forth.

2. The combination, with a globe having diametrically-opposite sealing-apertures, of a straight carbon, conducting-wires, and a bead or block of vitreous material attached to one of said wires and welded to the glass, substantially as set forth.

3. An electric incandescent lamp containing a normally-straight strip of carbon, held by the supporting-conductors in a slightly bowed or bent condition, as and for the purpose set forth.

4. The method of sealing the metallic wires in a lamp, consisting in welding the glass forming the globe to the same and reenforcing the joint thus formed by a mass of metallic vitreous cement.

269,760. RHEOSTAT. EDWARD WESTON, Newark, N. J., assignor to the United States Electric Lighting Company, New York, N. Y. Filed Aug. 31, 1882. (No model.)

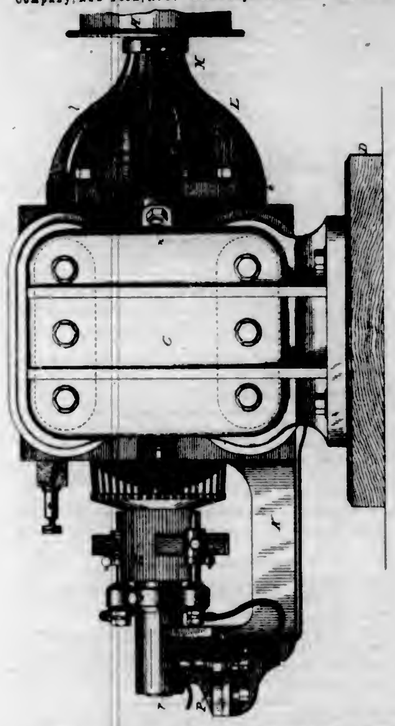


Claim.—1. In an electrical rheostat, the combination, with the conducting strips or ribbons, of springs connected to the said strips in such manner as to prevent contact of adjacent portions of the same when expanded or distorted, as by heat.

2. In an electrical rheostat, the combination, with a conducting strip or ribbon bent or folded upon itself, as described, of brackets for holding the strip and tension-springs connected with the folds of the same, as and for the purpose specified.

3. In an electrical rheostat, the combination, with the brackets or castings C C and conducting strip or ribbon I, of the brackets G G and spiral springs S S, all substantially as herein set forth.

269,761. DYNAMO-ELECTRIC MACHINE. EDWARD WESTON, Newark, N. J., assignor to the United States Electric Lighting Company, New York, N. Y. Filed Sept. 13, 1882. (No model.)



Claim.—1. The combination, in a dynamo-electric machine, with the upper and lower field-magnet cores, of a solid arm or projection extending from the lower core and affording a bearing for the armature-shaft outside the commutator, substantially as set forth.

2. In a dynamo-electric machine, the combination, with field-magnet cores substantially such as described, of a solid arm or projection extending from the lower pole-piece and affording a bearing for the commutator end of the shaft, and a non-magnetic cap or equivalent bolted to the faces of both pole-pieces and affording a bearing for the pulley end of the shaft, as and for the purpose set forth.

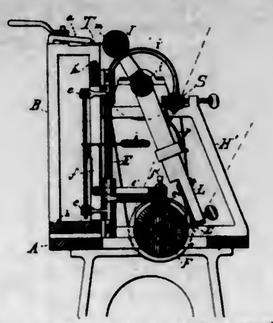
3. The combination, with the field-magnets of a dynamo-electric machine substantially such as herein described, of a non-magnetic cap bolted to the pole-pieces and affording a bearing for the armature-shaft, and brace or tie-rods connected to the said cap and to the field-magnets in substantially the manner herein set forth.

4. The combination, with the lower pole-piece of a dynamo-electric machine of the kind described, of a solid arm, K, extending out from the pole to a point beyond the commutator, and the casting P, constituting a bearing for the shaft, as set forth.

269,762. MACHINE FOR NOTCHING SCALE-BEAMS. PARDON A. WHITNEY, Cleveland, Ohio, assignor to Wilson, Treadway & Co., same place. Filed Mar. 28, 1881. (No model.)

Claim.—1. In a machine for notching scale-beams, a graduating-slide arranged to support the beam to be acted upon and carry the same longitudinally, a milling-tool arranged to be moved to and from the slide and the edge of the beam mounted thereon, and mechanism, substantially as described, for moving the slide and

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milling-tool with proper relation to each other, essentially as set forth.

2. In a machine for notching scale-beams, the combination, with a milling-tool, s, of the graduating-slide B, said slide being provided with an adjustable feed-bar, C, substantially as and for the purpose shown and described.

3. In a machine for notching scale-beams, the combination, with a milling-tool, s, said milling-tool being adapted to be automatically fed to the said scale-beam, of the graduating-slide B, said slide being provided with an adjustable feed-bar, C, substantially as and for the purpose shown and described.

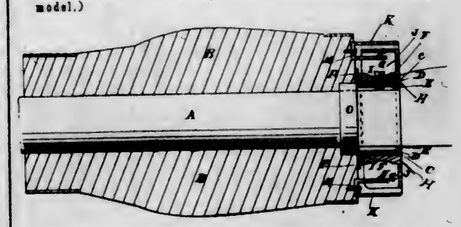
4. The combination, with a graduating-slide, of the adjustable toothed feed-bar, the pivoted feed-frame provided with the knife for engaging said bar, and mechanism for swinging said feed-frame and moving it longitudinally, substantially as described, and for the purpose set forth.

5. The combination, with the graduating-slide and the milling-tool, of the single cam-shaft, the cams fixed thereon for communicating motion to said slide and tool, and intermediate mechanism by which said slide and tool are actuated from the same shaft, substantially as described.

6. The combination, with the graduating-slide, devices for regulating the extent of its feed movement, and the milling-tool, of the single cam-shaft carrying three cams, and intermediate mechanism through which one of the cams transmits motion to the slide, another to the feed-regulating devices, and another to the milling-tool, substantially as described.

7. In a machine for notching scale-beams, the combination, with a milling-tool adapted to be automatically fed, of a graduating-slide, said slide being provided with an adjustable feed-bar, substantially as and for the purposes shown and described.

269,763. SAND-BAND. DELOS M. WHITE, Hudson, Wis., and JONATHAN HITCHCOCK, St. Paul, Minn. Filed June 16, 1882. (No model.)



Claim.—A journal and bearing protector constructed substantially as herein shown and described, and consisting of the collar C, made in two parts, with interior grooved ribs, c, and dust-chambers J, and provided with an outwardly-projecting flange, D, and rearwardly-projecting lugs E, the collar G, having inwardly-projecting flange H, and the double collar K L M, as set forth.

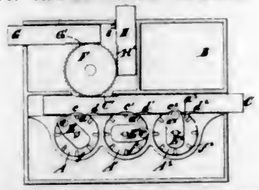
269,764. COMBINED PACKING AND TOY BOX. FRANCIS M. WHITELAW, Hartwell, Ohio. Filed Apr. 26, 1882. (No model.)

Claim.—A combined packing and toy box provided with a pictorial web, E, mounted on rollers and adapted to travel under the opening F in the side of the box, that portion of the latter below the web being in the form of an unobstructed compartment for receiving candy or other articles of merchandise, substantially as herein set forth.

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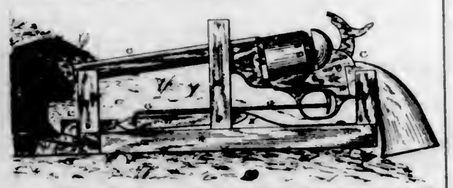


269,765. PERMUTATION-LOCK. GEORGE R. WIGHT, New York, N. Y. Filed Mar. 17, 1882. (No model.)



Claim.—A lock combining in its structure the following elements, to wit: a sliding bolt provided in one edge with a series of pairs of recesses, as described, a series of circular tumblers arranged in line in a longitudinal plane and journaled to rotate at one side of the bolt, and each provided with a flat face, the number of pairs of recesses corresponding to the number of tumblers, and the latter being capable of rotation to bring each of their flat faces opposite the recesses to free the bolt and permit it to be moved inward while the tumblers stand stationary, a stop for arresting the outward movement of the bolt, a stop for arresting the inward movement of the bolt, whereby one of each pair of the bolt-recesses will stand opposite one of the tumblers whether the bolt is moved in or out, and hand-pieces and indices for the tumblers, the arrangement being such that when the bolt is retracted one of each pair of the recesses will stand opposite the tumblers and the latter can be turned to destroy the combination.

269,766. ANIMAL-TRAP. JAMES A. WILLIAMS, Fredonia, Tex. Filed Aug. 21, 1882. (No model.)



Claim.—The combination of a suitable frame provided with standards, a fire-arm, the lever D, having the rod connected to its front end to operate the trigger, a spring, and a treadle which forms a trigger, substantially as shown and described.

269,767. FAMILY UTENSIL. WILLIAM H. WILSON, Fall River, Mass. Filed Nov. 15, 1882. (No model.)



Claim.—1. A family utensil consisting of the metal shank *h*, provided with a tang or other suitable means of securing it to the handle B, with the projections *a a' b d e f f'*, and knife *g*, substantially as and for the purposes set forth.

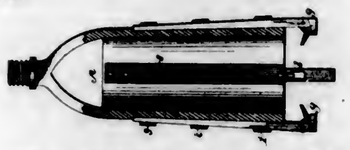
2. In a family utensil, the projections *a'* and *b*, formed in connection with the utensil, the wrench having the sides *b' b² b³*, as and for the purposes specified.

3. In a family utensil, the shank *h* and the projections *d* and *e*, forming the wrench having the sides *e c' c²*, substantially as and for the purposes specified.

4. In a family utensil, the combination of the shank *h*, projection *a'*, and knife *g*, suitably attached to the shank or projection, as and for the purposes specified.

5. The combination, in a family utensil, of a stove-lift and screw-driver, a hose-wrench and kettle-holder, two nut-wrenches, and a can-opener, all located or formed upon one end of the single shank *h*, substantially as and for the purposes described.

269,768. TUBULAR DRILL FOR BORING ARTESIAN WELLS. JAMES P. WIRTH, Charleston, W. Va. Filed Nov. 4, 1882. (No model.)



Claim.—1. The tubular drill-stock, in combination with a series of interchangeable drill-bits and devices for breaking off, gripping, and raising the core, all constructed to operate substantially as described.

2. The combination of the tubular grooved drill-stock and a series of removable drill-bits secured in said grooves by metal bands, substantially as described.

3. In combination with the tubular grooved drill-stock, the wedge *w*, and two or more gripping devices, *g*, substantially as and for the purpose described.

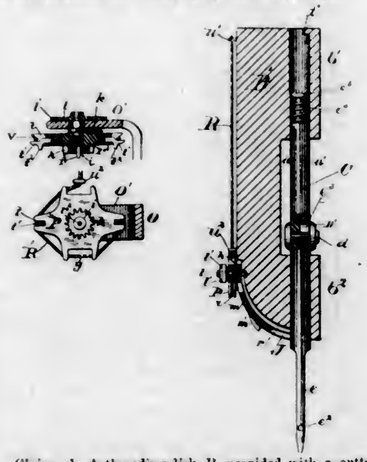
4. In combination with the tubular grooved drill-stock, the wedge *w*, two or more grippers, *g*, spring *s*, and latch *l*, substantially as set forth.

5. In combination with the tubular grooved drill-stock, the wedge *w*, spring *s*, and latch *l*, substantially as and for the purpose described.

269,769. FULMINATE. AMOS WORRER, Cincinnati, Ohio, assignor of one-half to Henry Varwig, same place. Filed July 1, 1882. (Specimens.)

Claim.—A fulminate composed of chlorate of potash, amorphous phosphorus, washed flour-sulphur, and gum-tragacanth, or their described equivalents, substantially in the proportions herein described and set forth.

269,770. MACHINE FOR TURFING FABRICS. CASPER W. WOOD, Bismarck, Ill. Filed Dec. 6, 1881. (No model.)



Claim.—1. A threading-disk, P, provided with a cutter or cutters, *t*, whereby the yarn or equivalent is cut in lengths preparatory to threading, substantially as described and shown.

2. A threading-disk, P, provided with a pinion, A, and a sliding bolt, *h*, in combination with the head B', having teeth *m*, and the stud *i*, provided with a collar, *i²*, having notches *i'*, and means for supporting and reciprocating the disk, whereby said disk is turned a part of a revolution and then held temporarily at rest, substantially as shown and described.

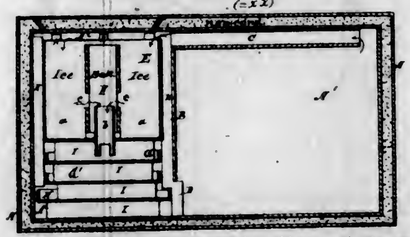
3. The combination of the disk P with the stud *i*, sliding piece *l*, and supporting-lever O, substantially as shown and described.

4. The threading-disk P, provided with the pinion A, cutters *t'*, and sliding bolt *h*, the stud *i*, having collar *i²*, formed with notches *i'*, and provided with a pin, *r²*, and spring *r³*, and the slide *l*, in combination with the frame having the teeth *m*, lug or projection *m'*, and cam-grooves *r* and *r'*, and means for supporting and reciprocating the disk, substantially as shown and described, and for the purpose set forth.

5. The needle C, composed of the two parts *a* and *a'*, and provided with a spring, *c'*, and the block D', connected to said needle, in the manner described, in combination with the head B', having bearings *b'* and *b²*, and stop *f*, substantially as shown and described.

6. The combination of the needle C, made in two parts, *a* and *a'*, and provided with a spring, *c'*, the block D, means for operating the same, connecting-link L, lever O, carrying at one end the threading device, substantially as set forth, and the head B', having bearings *b'* and *b²*, and stop *f*, and rounded off at the lower end, and provided with the teeth *m*, projection *m'*, and cam-grooves *r* and *r'*, substantially as described and set forth.

269,771. REFRIGERATING APPARATUS. LUCIEN B. WOOLPOLE, Tracy, Minn. Filed July 15, 1880. (No model.)



Claim.—1. The combination of the refrigerator A, storage-compartment A', refrigerating-compartment A², partition B, air-inlet C, air-escape D, refrigerating-battery E, ice-compartment *a*, salt-receptacle F, enlarged offset-pipe *b*, chill-pan G, drip-pan H, offset-pipe *d*, timber-supports I and K, and air-passages *e*, substantially as described.

2. The process of cooling the air of a refrigerator by passing the air to be cooled through the ice in a refrigerating-battery having ice and salt in separate compartments with brine as the medium of communication between them, and also through air-passage around and beneath the refrigerating-battery.

3. The salt-receptacle F, in combination with the refrigerator A, refrigerating-battery E, ice-compartment *a*, and enlarged offset *b*, substantially as set forth.

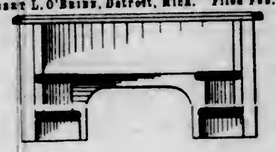
4. The combination of the refrigerating-battery E, salt-receptacle F, ice-compartment *a*, enlarged offset *b*, timber-supports I and K, and air-passages *e*, with the refrigerator A, partition B, air-inlet C, and air-escape D, substantially as and for the purpose set forth.

5. In combination with the refrigerating-battery E, salt-receptacle F, and ice-compartment *a*, the enlarged offset-pipe *b*, substantially as described.

6. The combination of the chill-pan G with the refrigerator A, refrigerating-battery E, salt-receptacle F, ice-compartment *a*, and enlarged offset *b*, in the manner and for the purpose set forth.

7. The combination of the air-inlet C with the refrigerator A, partition B, storage-compartment A', refrigerating-compartment A², refrigerating-battery E, salt-receptacle F, and ice-compartment *a*, substantially as described.

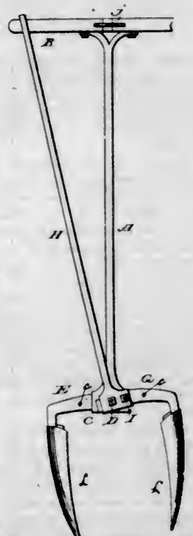
269,772. MANTEL AND FRONT. FREDERICK WOOLFENDEN and HERBERT L. O'BRIEN, Detroit, Mich. Filed Feb. 20, 1882. (Model.)



Claim.—As a new article of manufacture and sale, a mantel and front made of paper or fiber pulp pressed in molds, substantially as described.

269,773. POST-HOLE AUGER. WILLIAM W. ALEXANDER, Winchester, Ind. Filed July 11, 1882. (No model.)

Brief.—The shanks have bolt-holes for detachable connection of shovels and a series of holes for adjustment on main stem to the plate, at lower end of which they are secured by a common bolt, one shank being rigidly attached thereto by additional bolts, while the other is in like manner attached to a lever for oscillating it on the common bolt. Said lever is locked into auger-handle by a spring.



Claim.—1. The arms or shoulders E and G, provided with a series of openings, *c*, for changing the bore of the auger, and another series of openings, *b*, for removably attaching the shovels L, in combination with said shovels L, shank A, and rod H, all as described and shown.

2. The combination of the rod H, locking into the handle B through the spring *j*, with the plate C at the bottom of the shank A, and the shoulder G, pivoted to the plate C by the bolt D, all substantially as described, and for the purposes specified.

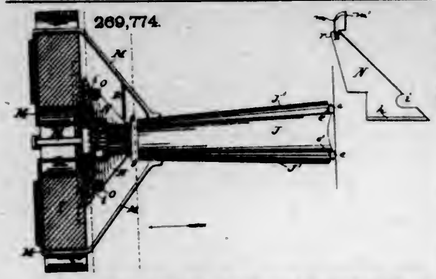
269,774. MACHINE FOR CUTTING GREEN CORN FROM THE COB. JOHN WILSON BROWN, Jr., Baltimore, Md. Filed July 15, 1882. (No model.)

Brief.—The ear of corn is forced by the plunger through a tube provided with brushes, which clean it, and from thence it is forced through a segmental expansible throat to the knives. The knife-carrying plates are rounded off at their corners just behind the knives, which rounded portion serves by bearing against the cob to hold the knives in proper relative position to remove the grain without cutting into the cob. The knife-plates have an endless spring passed around them, which, in connection with the angular arms which extend from the expansible throat, to which they are loosely connected, around to the rear and under the knife-plates, render said knife plates and knives adjustable. An apron is placed above the knives to prevent the severed grain from falling between the knife-plates.

Claim.—1. The combination, with the knives in a corn-cutter, of a bearing or guide for the cob, fixed rigidly to the knife to move with it and projecting closer to the center of the series than the plane of the knife itself, substantially as described.

2. A corn-cutter having a circular expansible series of knives provided with bearings which project inwardly farther than the cutting-edges and rest against the cob, combined with a set of expansible throat sections or gages arranged in front of the knives, and intervening mechanism loosely connecting the gages and the knives, substantially as described, whereby the knives are capable of a further outward adjustment from the pressure of the cob beyond that given by the gages and independent of said connecting mechanism, as set forth.

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3. The combination, with a circular series of adjustable knives, of a tapering throat arranged in front of said knives and formed of longitudinal segments pivoted at their larger ends, and having a loose connection with the knives for regulating the adjustment of the latter without interfering with their independent outward movement, as described.

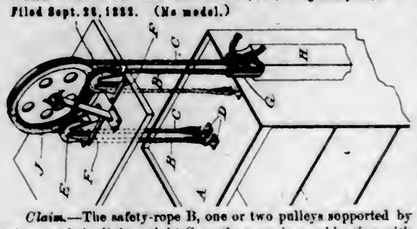
4. The combination, with an expanding circular series of knives, of an expansible tapering feeding-throat for the same and a set of segments, *f*, arranged within the circle of the knife-plates and connected to the sections of the expanding throat, whereby said segments are made to partake of the adjustment of the throat-sections and adjust the knives, as described.

5. The combination of the expansible tapering throat composed of hinged section J J′, and bent arms M, the centrally-perforated frame-plate I, with slots *e*, the segments *f*, and the expanding series of knives interposed between the said segments and the expansible throat, as and for the purpose described.

6. The combination of the corn-cutting devices, a supporting-trough for the ears of corn, a plunger for driving said ears through, and a brush located between the supporting-trough and the cutting devices, whereby the ear of corn is cleaned in transit before being cut, as set forth.

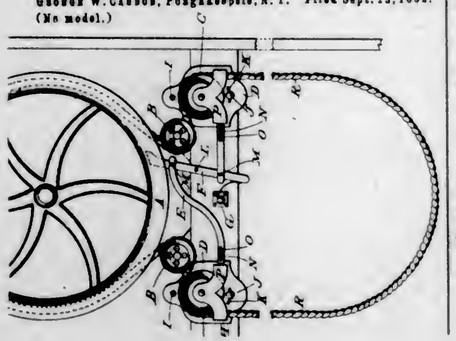
7. A green-corn-cutting machine consisting of a circular series of knives having each an independent bearing for the cob, rigidly connected to the knife, and throat sections or gages arranged in front of the knives to adjust them approximately, as described.

269,775. SAFETY APPLIANCE FOR LIFTS, ELEVATORS, AND DUMB-WAITERS. ARGUST CARSON, Jr., Poughkeepsie, N. Y. Filed Sept. 26, 1882. (No model.)



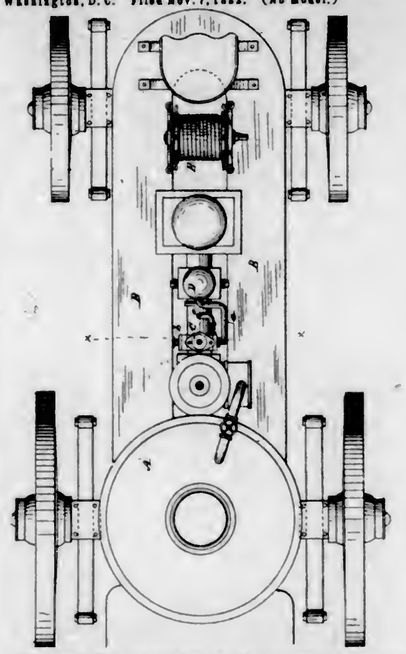
Claim.—The safety-rope B, one or two pulleys supported by springs, and the light weight G on the rope, in combination with the car and balance-weight, substantially as set forth, and for the purposes indicated.

269,776. BRAKE FOR ELEVATORS OR DUMB-WAITERS. GEORGE W. CARSON, Poughkeepsie, N. Y. Filed Sept. 13, 1882. (No model.)



Claim.—The combination and arrangement of the pulleys B B and C C and the levers E E and the brake F, the spring G, with the hoisting-wheel A, and endless rope R, all substantially as set forth.

269,777. FIRE-EXTINGUISHING ENGINE. MARTIN CROWE, Washington, D. C. Filed Nov. 7, 1882. (No model.)

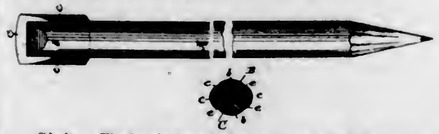


Claim.—1. The combination, in a fire-extinguishing engine provided with a tank for a chemical extinguishing-fluid, of a main water-pump with an auxiliary chemical-pump located on said engine, and constructed to be operated thereby and detached therefrom, substantially as and for the purpose set forth.

2. The combination, in a fire-extinguishing engine provided with a tank for a chemical extinguishing-fluid, of a main water-pump, an auxiliary chemical-pump located on said engine and constructed to be operated thereby, with connections to said tank, the main water-outlet nozzles, an air-vessel, and a separate nozzle for attachment of hose, substantially as specified.

3. The combination, in a fire-extinguishing engine provided with a tank for a chemical extinguishing compound, of a main water-pump, an auxiliary chemical-pump located on said engine and operated thereby, and suitable connections, with an auxiliary portable tank for replenishing the tank on the engine, substantially as and for the purpose set forth.

269,778. LEAD-PENCIL. GEORGE H. DOUGHERTY, Jersey City, N. J., assignor to Edward P. C. Young, Receiver, same place. Filed Nov. 4, 1882. (No model.)



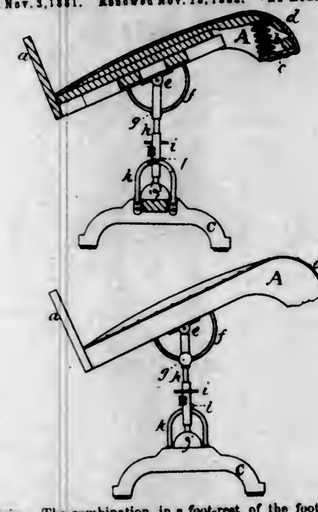
Claim.—The herein-described pencil, consisting of the body A, provided with the slot B, in which is seated the eraser C, having the projecting edges *c* and the lateral projections *e*, substantially as described.

269,779. MANUFACTURE OF GLUCOSE AND GRAPE-SUGAR. HERMANN EUDEMANN, Brooklyn, N. Y. Filed Oct. 17, 1882. (No specimens.)

Claim.—1. The within-described method of producing glucose and grape-sugar by exposing starch to the action of orthophosphoric acid, either already prepared or formed during the progress of conversion.

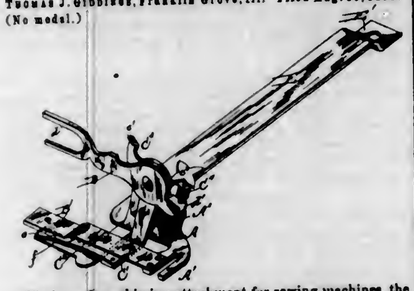
2. The within-described process of producing glucose and grape-sugar by exposing starch to the action of orthophosphoric acid at a temperature above the boiling-point of water, and under pressure higher than the atmospheric pressure.

269,780. FOOT-REST. PATTERSON G. PERRY, Gorham, Me. Filed Nov. 3, 1881. Renewed Nov. 15, 1882. (No model.)



Claim.—The combination, in a foot-rest, of the foot-board *a* on the top A, the wire springs *b* on the inner edge of the said top, the support *c*, the rounded side pieces, *d*, the hinges *e e* of the top A, the curved rods *f f*, and thumb-screws *g g*, to hold said top, the telescopic joints A A and thumb-screws *i i*, and the hinges *j j* of the legs B B, curved rods *k k*, and thumb-screws *l l*, to hold the legs B B at any desired angle on their hinges, all as and for the purposes herein set forth.

269,781. SHIRRING ATTACHMENT FOR SEWING-MACHINES. THOMAS J. GIDDINGS, Franklin Grove, Ill. Filed Aug. 16, 1882. (No model.)



Claim.—In a shirring attachment for sewing-machines, the combination of the plate A, having arms A′ A², the arm E, having offset E′, the spring F, attached thereto and provided with a thin plate, *f*, the stationary spring-plate B, having pressure-plate B′, the levers C D, feeding spring-plate C², and suitable adjusting and operating mechanism, substantially as described.

269,782. POWDER AND SHOT MEASURE. JAMES H. GILL, Philadelphia, Pa., and CHARLES S. LENT, Bridgeport, Conn., assignors to Marcellus Hartley, New York, N. Y. Filed Sept. 27, 1882. (No model.)

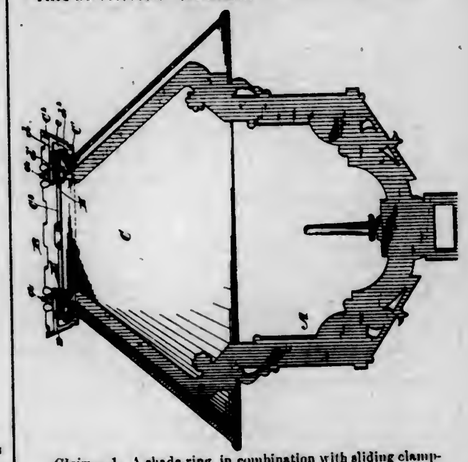


Claim.—1. The combination, in a powder and shot measure, of the tube of the measure *a* and a sliding bottom held in place by friction, substantially as and for the purposes set forth.

2. The combination, in a powder and shot measure, of the tube *a*, the slot *g*, the sliding bottom *d*, the spring *e*, and the pointer *f*, substantially as and for the purposes set forth.

3. The combination, in a powder and shot measure, of the tube *a*, the slot *g*, the sliding bottom *d*, and the spring *e*, substantially as and for the purposes set forth.

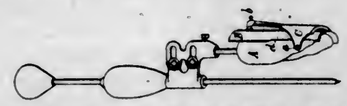
269,783. SHADE-RING CLAMP. LEWIS P. GRISWOLD, Meriden, Conn., assignor to the Chas. Parker Company, same place. Filed Nov. 16, 1882. (No model.)



Claim.—1. A shade-ring, in combination with sliding clamping-plates having a hook at one end and bifurcated or slotted at the other, and bolts which fasten the same together, substantially as set forth.

2. A shade-ring provided with perforated lugs and side openings, in combination with bifurcated clamping-plates having hooks for grasping the neck of a lamp-shade, a harp or lamp-support, and bolts which serve to attach said harp and said clamps to said shade-ring, substantially as set forth.

269,784. SOLDERING-TOOL. MAXIMILIAN F. HABER, Baltimore, Md., assignor to the Scott Manufacturing Company, same place. Filed Sept. 12, 1882. (No model.)



Claim.—1. In combination with the block A, the soldering-plate B, hinged clamp C, and set-screw *b*, substantially as specified.

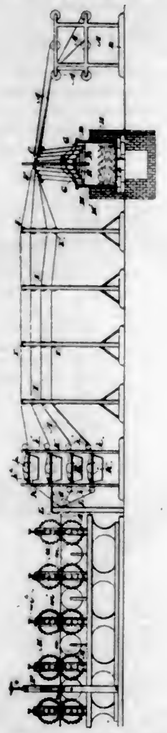
2. The block A, having the projections *d*, combined with the clamp C and the soldering-plate B, substantially as specified.

269,785. MANUFACTURE OF PAPER-BOARD. SILAS H. HAMILTON, Lawrence, Kans., assignor, by mesne assignments, to Marvin A. Parr, Chicago, Ill. Filed Apr. 5, 1881. Renewed Oct. 24, 1881. (Model.)



Claim.—An improved article of manufacture, consisting of a board composed of several sheets of paper saturated with resin and oil, then coated with a solution of milk-curd and lime, and finally passed through heated pressure-rollers, substantially as and for the purpose specified.

269,786. APPARATUS FOR MANUFACTURING BUILDING-BOARD FROM PAPER. SILAS H. HAMILTON, Lawrence, Kans., assignor, by mesne assignments, to Marvin A. Farr, Chicago, Ill. Filed Apr. 5, 1881. Renewed Oct. 24, 1881. (No model.)



Claim.—1. The means employed for saturating sheets of paper with a water-proof mixture, consisting of a frame of rollers, substantially as described, around which said paper passes, made vertically adjustable within a vat, substantially as and for the purpose specified.

2. As a means for applying an adhesive mixture to the strips of paper, the vat K, provided with the brush-roller *k*, guiding-rollers *k'*, and scraper *k²*, combined to operate substantially as and for the purpose shown.

3. As a means for combining the sheets of adhesive coated paper, the pressure-rollers M, arranged in pairs and heated and combined to move simultaneously, substantially as set forth.

4. In combination with the journal-boxes *m'* of the rollers M, the screw *m*, interposed between the same, and the screw *m²*, arranged to impinge upon the upper of said boxes, substantially as and for the purpose shown and described.

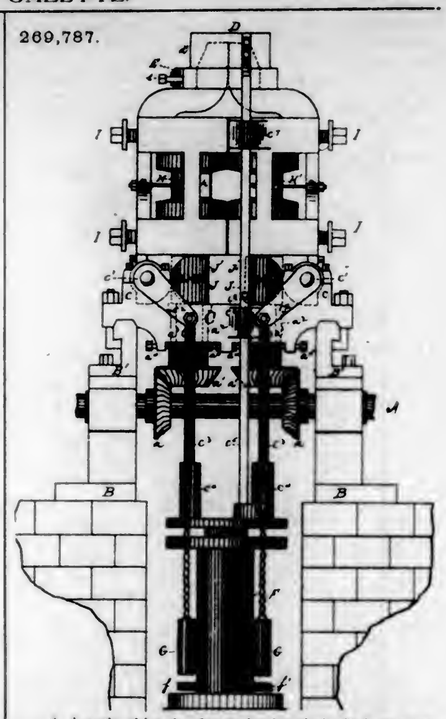
5. As a means for cutting into lengths the completed board, the cutter N, arranged to swing longitudinally in a vertical plane and caused to impinge upon said board with a drawing cut by mechanism substantially as described, substantially as and for the purpose specified.

6. As a means for making board from paper, the roll-supporting frame B, the rollers C, D, E, and F, journaled within the vertically-adjustable frame G over or within the vat H, the supporting-frames I, the adhesive-mixture vats K, provided with the brush-roller *k*, guiding-rollers *k'*, and scraper *k²*, and the pressure-rollers M, said parts being combined to operate in the manner and for the purpose substantially as shown.

269,787. MACHINE FOR ROLLING RAILS. URI HASKIN, Pittsburg, Pa. Filed May 27, 1882. (No model.)

Claim.—1 A machine for rolling rails provided with a series of sets of rolls having rail-forming grooves, the flange forming sections of the several grooves being located in horizontal planes so as to allow the rail or blank to rest upon its flange during its passage through the grooves, substantially as specified.

269,787.

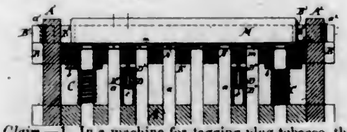


2. A sectional housing for a pair of vertical rolls having two upper vertical sections mounted on a lower section, in combination with a hydraulic ram or its equivalent located below the housings, and connected thereto by means of suitable intermediate mechanism to raise or open the upper sections of the housings.

3. The combination, with a set of horizontal rolls, of housings separable at or near a plane passing between the working-faces of the rolls, locking devices for connecting the housings, a hydraulic ram, and operating-rods connected with the locking devices and movable housing-sections, so as to actuate both the locking devices and movable sections, substantially as and for the purpose specified.

4. A roll-train consisting of a series of rolls forming a continuous mill, wherein the successive rolls of the series are arranged in a line, and provided with grooves in each of the series of the shape and relative arrangement with reference to the reduction of the blank, substantially as specified, for forming the rail while resting on its base, or on the side which in the finished rail forms the base, substantially as and for the purpose specified.

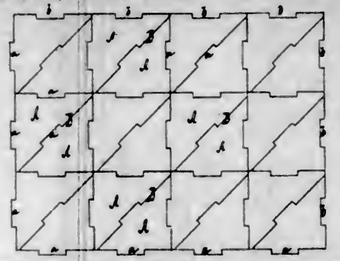
269,788. MACHINE FOR TAGGING PLUG-TOBACCO. NAPOLEON B. HIRATT and EDWIN R. HEARD, Jersey City, N. J. Filed Oct. 21, 1882. (No model.)



Claim.—1. In a machine for tagging plug-tobacco, the movable platform B *b*, ribbon-piece E, and posts *a*, in combination with each other and with the stops D^3, arranged to arrest the descent of the ribbon-piece E before the platform comes to rest and to press the ribbon firmly against the tobacco when the machine is worked, substantially as herein specified.

2. In a machine for tagging plug-tobacco, the movable platform B *b*, ribbon-piece E, and posts *a*, in combination with each other and with the stops D^3 to arrest the descent of the strip E, and with the stops D^4 *c* to arrest the ascent of the strip E, arranged for joint operation, substantially as and for the purposes herein specified.

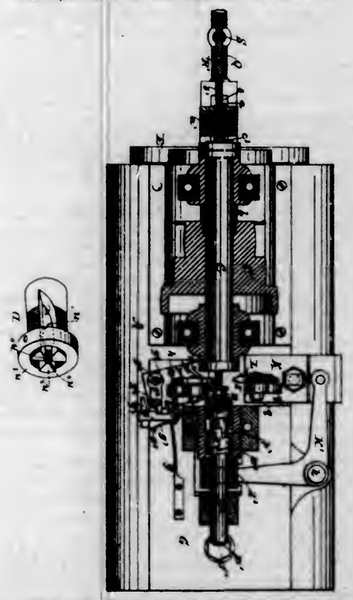
269,789. TOY BLOCK. GUSTAV L. JARDER, New York, N. Y. Filed Nov. 4, 1882. (No model.)



Claim.—1. As a new article of manufacture, a toy composed of a number of flat members of uniform and regular shape, each having three or more sides, and being provided on each side with one or more recesses or projections, at least one projection or one recess on each side being of the same size and shape as one projection or one recess on each of its other sides or on the sides of the remaining members, said projections and recesses being of such a form that the members can be joined in the same plane or at right angles to each other, substantially as and for the purpose shown and described.

2. The combination, in a toy, of a number of flat members having the form of rectangular isosceles triangles, each of the triangles being provided with one or more projections and one or more recesses on its longest side or hypotenuse, and with one or more projections or one or more recesses on each of its other sides, at least one projection or one recess on each side being of the same size and shape as one projection or one recess on each of its other sides or on the sides of the remaining members, substantially as and for the purpose set forth.

269,790. METAL-SCREW MACHINE. ALLEN JOHNSTON, Ottumwa, Iowa. Filed Feb. 15, 1882. (No model.)



Claim.—1. The combination, with the chuck adapted to receive a long rod or screw-stock, the means for relieving and restoring the pressure of the chuck-jaws and for advancing the rod or screw-stock when the pressure of the chuck-jaws is relieved, the cutting-off tool, and the longitudinal slide, of the threading and turning-down tools supported on said slide and adapted for simultaneous action, the said turning-down tool being supported within less than the distance of a screw's length immediately in advance of the threading-tool, substantially as described.

2. The combination, with the chuck, of the screw-cutting die, and the turning-down tool supported within less than a screw's length in front of said die, and adjusted to turn down the screw-stock to the interior diameter of said die, so that the turning down and threading proceed simultaneously, substantially as described.

3. The combination of the chuck, the longitudinal slide, the turning-down tool, the laterally-movable support for said tool, and automatic mechanism—such as the spring, latch, and releasing-projection shown and described—for withdrawing the aforesaid support during the forward movement of said slide, substantially as set forth.

4. The combination of the chuck, the turning-down tool, an additional cutting-tool—such as the threading-tool—supported behind said turning-down tool, the longitudinal slide, the laterally-movable support for the turning-down tool, and the automatic mechanism for withdrawing the aforesaid support during the forward movement of said slide, said tools, together with the laterally-moving support for the turning-down tool, being carried by the longitudinal slide, substantially as described.

5. The combination of the chuck, the longitudinal slide, the turning-down tool, an additional cutting-tool—such as the threading tool—supported behind said turning-down tool, the laterally-movable support for the turning-down tool, and the automatic mechanism for withdrawing and returning the said support, said tools, with the laterally-moving support for the turning-down tool, being carried by the longitudinal slide, substantially as described.

6. The combination, with the chuck, the threading-tool, and the mechanism for revolving the same, of the longitudinal slide, and the turning-down tool supported immediately in front of said threading-tool, the parts being constructed and arranged, substantially as described, so that the said tools act upon the screw-stock in opposite directions and in part, at least, simultaneously.

7. The combination of the chuck, the longitudinal slide, the threading-tool, the turning-down tool supported on said slide in front of said threading-tool, and the cam and connections or equivalent automatic mechanism for reciprocating said slide, substantially as described.

8. The combination of the chuck, the longitudinal slide, the threading-tool, the turning-down tool supported on said slide in front of said threading-tool, the laterally-movable support for the turning-down tool, the cam and connections or equivalent automatic mechanism for reciprocating said slide, and the automatic mechanism for withdrawing and returning the aforesaid support, substantially as described.

9. The combination, with the chuck adapted to receive a long rod or screw-stock and mechanism for feeding the said rod or stock a screw's length at a time, of the longitudinal slide, a cutting-tool—such as the threading-tool—supported on said slide, a second cutting-tool—such as the turning-down tool—supported also on said slide in front of the first-named tool, the cutting-off tool, and the automatic mechanism for operating said cutting-off tool, substantially as described.

10. The combination of the chuck adapted to receive a long rod or screw-stock, mechanism for feeding the said rod or stock through the chuck, the longitudinal slide, a cutting-tool—such as the threading-tool—supported on said slide, a second cutting-tool—such as the turning-down tool—supported also on said slide in front of the first-named tool on a laterally-movable support, the automatic mechanism for withdrawing and returning the said support, the cutting-off tool, and the automatic mechanism for operating the same, substantially as described.

11. The combination of the chuck adapted to receive a long rod or screw-stock, automatic mechanism for feeding the said rod or screw-stock, the longitudinal slide, the cam and connections or equivalent automatic mechanism for reciprocating the said slide, two cutting-tools—such as the threading-tool and the turning-down tool—supported on the aforesaid slide, the one behind the other, the cutting-off tool, and automatic mechanism for operating said cutting-off tool, substantially as described.

12. The combination of the chuck adapted to receive a rod or long screw-stock, automatic feeder for said rod or screw-stock, the longitudinal slide, the cam and connections or equivalent automatic mechanism for reciprocating said slide, the threading-tool supported on said slide, the turning-down tool supported also on said slide in front of said threading-tool, the laterally-movable support for the turning-down tool, the automatic mechanism for withdrawing and returning the same, the cutting-off tool, and the automatic mechanism for operating said cutting-off tool, substantially as described.

13. The combination, with the chuck, the longitudinal slide, and one or more cutting-tools—such as turning-down and threading tools—of the cutting-off tool and the device connecting its support with said slide so that the cutting-off tool is operated by the reciprocation of said slide, substantially as described.

14. In an automatic machine for forming screws from a long rod or screw-stock, the combination, with the chuck, of the automatic mechanism, substantially as described, for turning down and simultaneously threading the end of the rod or screw-stock and for severing the newly-formed screw.

15. The combination, with the threading-tool and the turning-down tool supported in front of said threading-tool, of the rest attached at the rear to the frame supporting the threading-tool and projecting forward to a point opposite the turning-down tool, substantially as described.

16. The combination, with the chuck, the longitudinal slide, and the cam and connections or equivalent automatic mechanism for reciprocating said slide, of the threading-tool, the turning-down tool, and the rest for holding the work to the turning-down tool, said tools and rest being carried by said slide, substantially as described.

17. The combination, with the chuck and cutting-off tool, of the burnisher for removing the burr thrown up by the said tool before the latter has completely severed the article, substantially as described.

18. The combination of the chuck, the threading-tool, the cutting-off tool, the burnisher, and mechanism for operating said devices, substantially as described.

19. The combination of a cutting-tool—such as the cutting-off tool—the burnisher for removing the burr thrown up by aforesaid tool, the common supporting-slide, and mechanism for reciprocating said slide, substantially as described.

20. The combination, with the chuck and the turning-down and threading tools of a screw-machine, of the automatic mechanism, substantially as described, for advancing the turning-down and threading tools, for moving the turning-down tool aside, for backing off the said tools, and for returning the turning-down tool into position for again acting upon the screw-stock, as set forth.

21. The combination, with the revolving chuck, the turning-down tool and threading-tool, and mechanism for bringing said tools successively into action—the threading-tool after the turning-down tool, and while the latter is acting upon the screw-stock—of mechanism for revolving the threading-tool in the same direction as the chuck, but at a different speed, so that the velocity of rotation of said screw-stock is greater with reference to said turning-down tool than to said threading-tool, substantially as described.

22. The combination of the discoidal cutting-off tool and the burnisher supported on a common center, substantially as described.

23. The discoidal turning-down tool provided with the boss adapted to shave the head at the same time that the turning-down operation is performed, substantially as described.

24. The split die having a tapering or conical exterior, screw-threaded as described, in combination with the nut or solid ring engaging said thread and adapted to adjust the position of the cutting-edges, substantially as described.

25. The split die having spring-jaws separated by wedge-shaped notches, whereof one side is parallel, or nearly so, with the longitudinal axis of the die, and the other side is inclined thereto, substantially as described.

26. The combination, with the chuck and mechanism for relieving and restoring the bite of the chuck-jaws, of the feed-bar journaled in the sliding carriage, and provided at its forward end with means for clamping the rod or screw-stock, and of mechanism for advancing said feed-bar and carriage step by step, substantially as described.

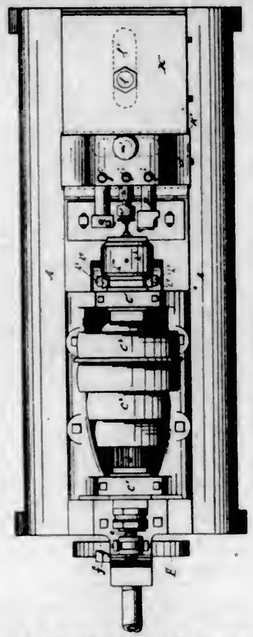
27. In a machine having a chuck and hollow chuck-spindle, the combination, with the sliding carriage, the pawl, the rack-bar, and mechanism for reciprocating the rack-bar, of the feed-bar adapted to enter the said spindle and journaled in the said carriage, substantially as described.

28. The combination, with the chuck, the mechanism for relieving and restoring the bite of the chuck-jaws, the tools for acting on the rod or screw-stock, and the operating mechanism, of the feeder comprising the sliding carriage, the pawl, the rack-bar, the feed-bar, and the cam for reciprocating the rack-bar, substantially as described.

29. The combination, with the longitudinal slide on which the threading-tool is mounted, and the transverse slide carrying the turning-down tool, of the spring attached at one end to the longitudinal slide and at the other engaging the transverse slide, the latch, the locking-bar, and the fixed projection on the machine-frame, substantially as described.

30. The combination, with the chuck, the longitudinal slide, and the threading-tool carried thereby, of the transverse slide for the turning-down tool, arranged slightly oblique to the axis of the threading-tool, substantially as described.

269,791. METAL-SCREW MACHINE. ALLEN JOHNSTON, Ottumwa, Iowa. Filed Oct. 22, 1880. (Model.)



Claim.—1. The combination, with the chuck, the series of tools, the longitudinal and cross slides, and the mechanism for shifting the cross-slide back and forth, of the revolving cam for reciprocating the longitudinal slide and the mechanism for imparting continuous rotation thereto, substantially as described.

2. The combination, with the chuck, the turning-down tool, the threading-tool, the longitudinal slide, the cross-slide, and the automatic means for shifting said cross-slide back and forth, of the automatic mechanism for advancing the longitudinal slide, as well in threading as in turning down, and for returning the said slide, substantially as described.

3. The combination, with the chuck, the turning-tools, the longitudinal slide, and the cross-slide, of the shifting mechanism operated by the reciprocation of said longitudinal slide for shifting the cross-slide back and forth to present the tools successively in line with the axis of the chuck, substantially as described.

4. The combination, with the chuck, the means for opening and closing the jaws of said chuck, the longitudinal slide, the cross-slide, the turning-down or milling tool, the threading-tool, and the length-gage, substantially as described.

5. The combination, with the chuck, the longitudinal slide, the cross-slide, the turning-down or milling tool, the threading-tool, the length-gage, and the cutting-off tool, of automatic mechanism—such as the cams and connections—for opening and closing the chuck-jaws and for bringing said tools into action, substantially as described.

6. The combination, with the machine-frame, the chuck, and the length-gage supported by a stationary part of the machine and movable across the axis of the chuck, of the automatic mechanism for relieving and restoring the bite of the chuck-jaws and for operating said length-gage, substantially as described.

7. The combination, with a tool-holder and mechanism for imparting longitudinal and lateral motion thereto, of a pin and a series of ways or grooves arranged, as indicated, so as to prevent lateral motion of the tool-holder during the operation of the tools mounted thereon, substantially as described.

8. The combination of a revolving chuck, a series of tools mounted on the tool-holder J, slide K, tool-holder J, mounted on said slide, and cams L and *m*, substantially as described.

9. The combination of the tool-holder with the spindle for the thread-cutting die, and clutch a^2 a^1 to hold said spindle for the purpose of unthreading the die from the screw and at the same time permit a free longitudinal motion of the die-spindle independent of the motion of the tool-holder as it is withdrawn without disengagement of said chuck, substantially as described.

10. The recessed cam *m*, arranged and constructed, substantially as described, to permit an alternately advancing and retreating motion to the tool-holder, in combination with the sliding tool-holder, substantially as set forth.

11. The combination of the tool-holder, slide K, pin *m'*, and cams L and *m*, substantially as described.

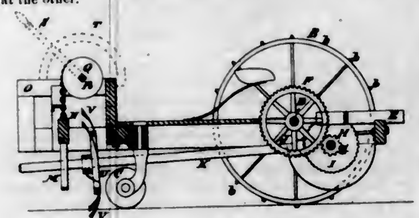
12. The combination of the chuck, tool-holder, cutting-off tool carried by said tool-holder, knife-carrying slide, rod p^3, and cam p^2, substantially as described.

13. The combination of the hollow chuck-spindle, the driving and reversing pulleys, connecting-pins, double cone-slide E, tube *e*, located inside of said spindle, and actuating cam-wheel F, substantially as described.

14. The combination of the conical jaws, made in one tubular piece split back a portion of its length, with the cylindrical exteriorly-conical interiorly-split sleeve, collar h^2, pins h^1, springs h^3, and cam and lever for actuating the chuck, substantially as described.

269,792. ROTARY PLOW AND PULVERIZER. COLUMBUS JOHNSTON, Clarksville, assignor of one-half to Sylvester T. Johnston, St. Louis, Mo. Filed Apr. 21, 1882. (No model.)

Brief.—Rotary knives curved in a form to produce a drawing cut, the center of the blade entering before the point. The twist of the blade throws the earth cut as the blade leaves the ground. The shafts are geared at one end and gravitate in guides at the other.

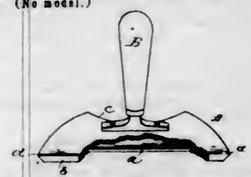


Claim.—1. The combination of shaft K, wheel U, blades V, bar N, hanger M, having slot *m*, upright guide sides O O, shaft K, grooved pulleys Q Q, chains P P, lever S, and stud-bar T *t*, as set forth.

2. In a rotary plow, the blades curved backwardly toward the wheel to adapt the body of each blade to enter the ground before the point, as and for the purpose set forth.

3. A rotary cutter and scatterer consisting of a wheel provided with radially-curved blades, substantially as shown and described, twisted slightly rearwardly at their upper sides and ends, the bodies of the blades adapted to cut and slice the surface, and the ends to follow and throw back and scatter the sliced surface, as set forth.

269,793. CURRY-COMB. GEORGE A. KEEEN, Lynn, Mass., assignor of one-half to Sawyer & Chase, same place. Filed June 24, 1882. (No model.)

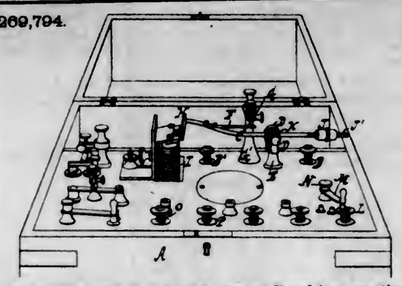


Claim.—A curry-comb composed of the india-rubber plate A, having the straight edge *b*, the opposite concave edge, *c*, and the rounded ends *d d*, and stiffening-plate *a*, secured thereto, and the handle B, all substantially as described.

269,794. ELECTRO-MEDICAL INDUCTION-COIL. FRANCIS M. KIDDER, New York, and EMERSON W. KEYES, Brooklyn, N. Y., Administrators of JEROME KIDDER, deceased. Filed Aug. 9, 1882. (No model.)

Claim.—1. The combination, substantially as hereinbefore set forth, of an oscillating commutator-lever, C, carrying the circuit-closing spring F, the spiral spring or springs K, connected at one end to the pivot-shaft and at the other to the posts E, arranged on the pivot-shaft of the lever for the purpose of preventing oxidation

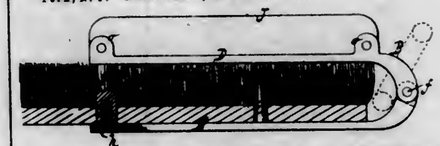
269,794.



of the bearing ends of such shaft, the post E and its connections, the armature H, fixed to one end of the lever, the return-weight J, arranged at the opposite end of the lever, the electrode G, and electro-magnet I, for the purpose specified.

2. The combination, substantially as hereinbefore set forth, of the commutator-lever or its substitute, the spiral springs K, arranged on the pivot-shaft of the lever to act thereon in opposite directions for producing or equalizing the oscillating motion of the lever, the circuit-closing spring F, electrode G, armature H, and electro-magnet I, as specified.

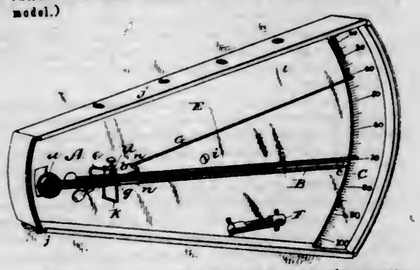
269,795. MAT-LOCK AND SCRAPER. JEREMIAH J. KING, New York, N. Y. Filed June 7, 1882. (No model.)



Claim.—1. The link herein described, having one of its jaws provided with a foot-scraper adapted to take a position for use when the link is applied to a mat.

2. The combination of the link-jaws D E, the post *g*, tooth *i*, and scraper J, substantially as and for the purpose described.

269,796. BALANCED THERMOMETER. HYLAND C. KIRK and JAMES T. BRATTON, Phelps, N. Y. Filed Aug. 25, 1882. (No model.)



Claim.—1. As a new article of manufacture, a thermometer having a balanced fluid tube or bar pivoted or suspended from a point above the center of gravity, one end of said tube or bar indicating on a scale the temperature, substantially as shown and described.

2. In a thermometer, the combination of a fluid-tube provided with an index at one end, which end may be open or closed, and with a bulb at the other end, and pivoted or suspended from a point above its center of gravity, and a fixed graduated scale at the pointed end of the tube.

3. The herein-described method of adjusting a balanced thermometer to scales having different gradnations, which consists in varying the elevation of its pivots above the center of gravity.

4. In combination with a balanced thermometer, substantially such as shown and described, a case in which said thermometer is balanced, containing a fixed scale, and mounted upon a pivot, whereby it may be rotated to adjust the scale to proper position, as explained.

5. In combination with supports *g*, a hanger, *e*, provided with points *b*, and secured to and carrying the pointer tube or bar by means of spiral coil *f*, substantially as shown and described.

6. In combination with the indicator tube or bar and a bracket or support, the bent arm or hanger *e*, provided with arms or points *b* and adjusting-screw *i*, substantially as and for the purpose set forth.

7. In a balanced thermometer, substantially such as shown and described, a graduated thermometer-tube adapted to be removed from its pivots and used independently.

269,797. HAME-TUG. NORMAN E. LASHER, Champaign, Ill. Filed Nov. 24, 1882. (No model.)



Claim.—1. A hame-tug consisting of a series of detachable metal links provided with end attaching devices, all constructed and adapted to operate substantially as set forth.

2. The combination of the detachable hinged sections or links D with the looped buckle B and the hinged plate F, constructed and adapted to operate substantially in the manner and for the purpose described.

3. For a hame-tug, a number of hinged metal links, each link having a perforation, *a*, and recess *e*, a pintle, c, and a hook, *b*, constructed and adapted to operate substantially as described.

4. The combination, with a trace, of the frame J, its hooked lug J', the hinged locking devices G *g'*, and perforated hame-tug sections D, all constructed and adapted to operate substantially in the manner and for the purposes described.

5. The combination, with a hame-tug composed of detachable flexible metal sections, of a hooked trace-fastener and a locking device therefor, substantially in the manner and for the purposes described.

6. The guard *u*, on the frame J, in combination with the hinged lever G, locking-tongue *g*, and hooked lug J', substantially as described.

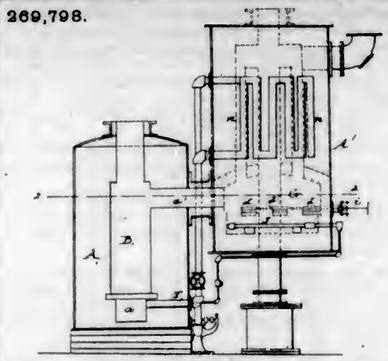
269,798. GAS-GENERATOR. JAMES E. LEADLEY, Camden, N. J., and JOHN HARLOW, New York, N. Y., assignors to the United Gas Improvement Company, Philadelphia, Pa. Filed July 12, 1882. (No model.)

Brief.—Air is heated and steam is superheated in separate coils of pipe placed in the escape-flues of the stack. The heated air and steam are supplied to the ash-pit of the furnace, and are decomposed by passage up through the carbonaceous fuel in the furnace.

Claim.—1. The generator A, provided with the central chamber, B, and the superheater A', provided with a central downward flue, F', and a series of uptake-flues, F F, in combination with air-pipe T, passing around flues F F in a vertical return-coil, and thence into ash-pit *a*, as specified, and for the purpose set forth.

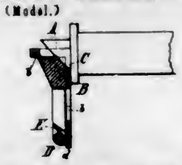
2. The superheater having uptake-flues F F, and return-flue F', and chamber G, in combination with superheating steam-pipe

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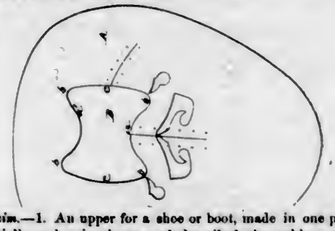
S, having a return-coil near the bottom of said chamber G, and terminating within pit *a*, and shield-damper *d d'*, arranged above said return-coil, all constructed, arranged, and operated as set forth.

269,799. LOCK-STRIKE. ROBERT LEE, Cincinnati, Ohio. Filed Feb. 1, 1882. (Model.)



Claim.—The combination of striker-plate B, formed with return or face-flange *b'*, opening *b b''*, presenting abutment *b'''*, on the side of the face-flange, and the yielding lip C, hinged within the striker-plate, having shoulders *c'' c''*, and adapted to recede inside of the abutment, as set forth.

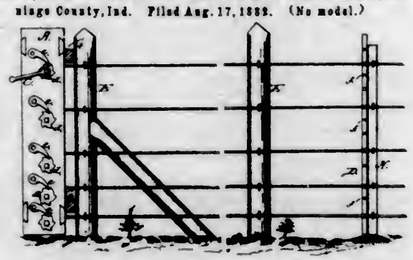
269,800. BOOT OR SHOE. JOHN A. LEMMON, Hill Grove, Va. Filed Oct. 9, 1882. (No model.)



Claim.—1. An upper for a shoe or boot, made in one piece, substantially as herein shown and described, the ankle-opening having an inwardly-projecting end, *a'*, and sides having a slightly-outward curvature, as and for the purpose set forth.

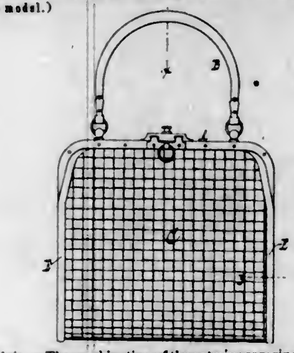
2. The upper A, cut to assume substantially the shape shown, and having the ankle-opening B constructed with inward-projecting curved edges *a a'* at its rear and forward edges, and with slightly outward curved sides c, as shown and described, and for the purpose set forth.

269,801. WIRE-FENCE TIGHTENER. DANIEL LEWIS, Jennings County, Ind. Filed Aug. 17, 1882. (No model.)



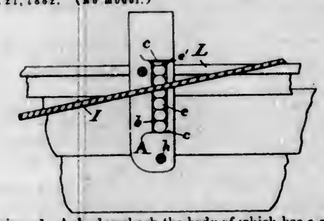
Claim.—As an improved article of manufacture, the herein-described device for stretching wire fences, consisting of the movable frame A, composed of the uprights *a a'*, having cross-pieces *b b'*, and provided with the metallic rollers B, having ratchet-wheels *d*, for engagement with the pawls *e*, substantially as specified.

269,802. SATCHEL. ADOLF LOEB, New York, N. Y., assignor to himself and Simi Nathan, same place. Filed Nov. 4, 1882. (No model.)



Claim.—The combination of the exterior covering, C, of interlaced metal strips, the interior lining, D, of flexible material, the binding-strips E, embracing and clamping the end edges of the covering, and the satchel-frame A, to which the top edges of the covering and lining are secured, said end binding forming the ends of the satchel, and all being otherwise constructed and arranged substantially as shown and described.

269,803. DREDGE-CHOCK. JAMES F. LOSEMAN, Crisfield, Md., assignor of one-half to Thomas H. Bock, same place. Filed Sept. 21, 1882. (No model.)



Claim.—1. A dredge-chock the body of which has a straight half-rounded groove, *b*, a rod, *d*, extending along the groove, and balls *e*, mounted loosely on the rod, as set forth.

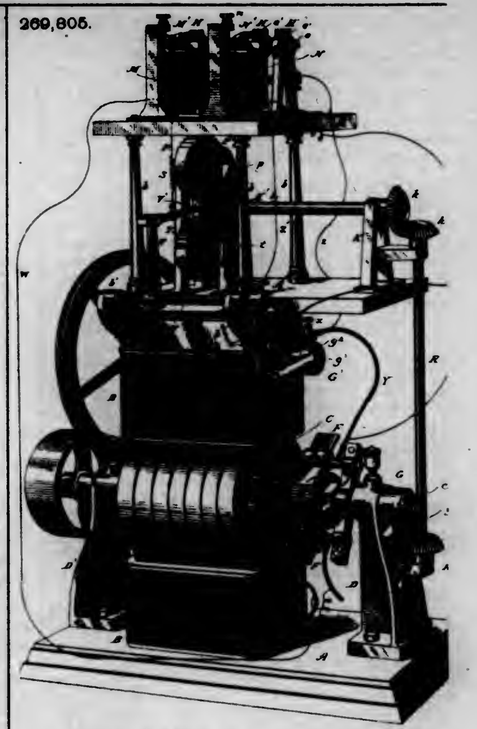
2. In a dredge-chock, the combination of the body A, provided at one end with a socket, *f*, and having a disk pivoted in the socket, a rod, *d*, secured on the body and extending at a right angle with respect to the axis of the disk, a friction-roll mounted loosely on the rod, and provided with a flange, *c'*, the side of which forms a flat circular surface adapted to bear against the periphery of the disk, as set forth.

269,804. DEVICE FOR MEASURING THE THICKNESS OF CREAM. JAMES B. MARQUIS, Norwich, N. Y. Filed Mar. 4, 1882. (Model.)



Claim.—A vessel adapted to float partially submerged in an upright position within milk, and provided at or within one of its sides with an opening that is inclosed by means of a glass, through which may be observed the thickness of cream resting upon said milk, substantially as and for the purpose specified.

269,805. REGULATOR FOR DYNAMO-ELECTRIC MACHINES. HIRAM S. MAXIM, Paris, France. Filed Aug. 31, 1882. (No model.)



Claim.—1. The combination, with a dynamo-electric machine, of brushes arranged to revolve about the commutator, a system of gears for shifting the brushes, a reciprocating lever or pawl arranged to impart movement to the gears in either direction, and an electro-magnet controlling the position of the reciprocating pawl, all substantially as set forth.

2. The combination, with a dynamo-electric machine, of brushes arranged to revolve about the commutator, a system of gears for shifting the brushes, a rock-shaft oscillated by the armature-shaft, a lever or pawl for imparting movement to the system of gears in either direction, connected with and reciprocated by the rock-shaft, and an electro-magnet for controlling the position of the reciprocating pawl, all substantially as herein set forth.

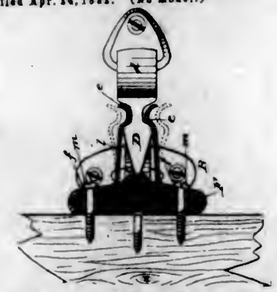
3. The combination, with a dynamo-electric machine, of brushes arranged to revolve around the commutator, a system of gears for shifting the same, a rock-shaft and connecting-gear between the same and the armature-shaft, said gear being constructed to reduce and convert the movement of the armature-shaft, as described, a lever or pawl reciprocated by the rock-shaft and arranged for engagement with the brush-shifting gears, and an electro-magnet for controlling the degree of elevation of the pawl, whereby the brushes may be turned in either direction, as and for the purpose set forth.

4. The combination, with a dynamo-electric machine, of a bed-plate secured to the field-magnets, a brush-shifting mechanism mounted on said plate, gearing with a revolving brush-holder, a second base or plate supported by standards above the first, electro-magnets mounted thereon, and connections from the same to the brush-shifting mechanism, these parts being constructed and combined in substantially the manner described.

5. The combination, with a dynamo-electric machine and regulator, substantially as herein described, of a normally-open shunt-circuit around the field of said machine, and an electro-magnet in a circuit derived from that of the machine, constructed or arranged to close said shunt-circuit, substantially as set forth.

6. In a regulator for dynamo-electric machines, the combination, with a reciprocating pawl and electro-magnet controlling the same, of ratchet wheels formed as described, a revolving brush-holder, and a system of gears between the holder and the ratchets, substantially as set forth.

269,806. DOOR CHECK AND HOLDER. GEORGE A. MCARTHUR, Chicago, assignor, by direct and mesne assignments, to David D. Gerault, Hyde Park, and Charles L. Pullman, Cook County, Ill. Filed Apr. 24, 1882. (No model.)



Claim.—The embracing device B, having jaws *l l*, and provided with slots *f f* to allow the tension of the jaws to be regulated by means of the screws *m m*, substantially as described.

269,807. INSULATING WIRES. LEWIS H. MCCULLOUGH, Richmond, Ind. Filed July 21, 1882. (No model.)



Claim.—A conduit for electric wires, consisting of pipes and coupling-sections, said coupling-sections formed with a perforation in the female-threaded portion, through which semi-fluid insulating material can be poured, and having recessed chambers, as shown, section C screw-threaded to receive the screw-threaded section D, each outer end of said section screw-threaded to screw onto pipe-sections A and B, and each pipe-section having a perforated wooden plug inserted in each end, substantially as set forth.

269,808. TUBULAR LANTERN. FERDINAND MEYROSE, St. Louis, Mo. Filed Sept. 22, 1882. (No model.)



Claim.—1. The combination of an annular air-chamber having inclined top plate, *b*, floor-plate *a*, and vertical ring *c*, and the dome D, fitting the top plate closely and leaving a space, *e*, between the floor-plate and its cylinder, as set forth.

2. An annular air-chamber, A, formed with floor-plate *a*, having radial grooves *a'*, forming ribs *a²*, a top plate, *b*, and vertical ring *c*, located about midway between the outer and inner edges of the top plate, forming inner and outer annular air-chambers, *c' c'*, and resting on the ribs of the floor-plate, as set forth.

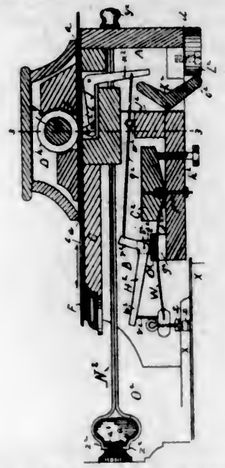
3. The dome D, in combination with the described air-chamber, the dome fitting the top plate closely and leaving a space, *e*, between the cylinder and floor-plate, as set forth.

269,809. EXPANSIVE RUBBER BUCKET FOR CHAIN-PUMPS. CHARLES H. MILLER, Columbus, Ohio. Filed Aug. 21, 1882. (No model.)



Claim.—The combination of the screw-threaded stem *a*, made elliptical in cross-section, with the cone B, and the cap C, having a cavity in its under side, substantially as shown and described.

269,810. KEY-BOARD ATTACHMENT FOR MUSICAL INSTRUMENTS. FRANCIS E. MOORE, Boston, Mass., assignor to Edward L. Rand, same place. Filed Mar. 30, 1882. (No model.)



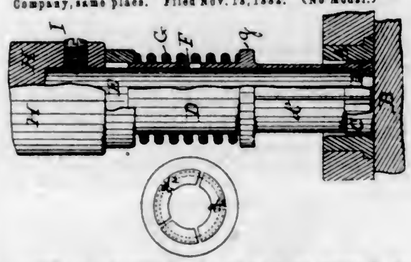
Claim.—1. In a mechanical apparatus constructed to be attached to the key-board of a musical instrument, the combination of jack-levers J, hammer-levers W, connected together by levers H, and cords q^1, with platform C and feed mechanism, all constructed and arranged together, and for operation in connection with a perforated music-sheet and the keys of the instrument, substantially as described, for the purpose specified.

2. Hammer-levers W, having the spring-acting portion of them secured to a rail, which is hinged and adapted to be adjusted in position, all so as to regulate the spring-pressure of the hammer-levers, substantially as described.

3. Hammer-levers W, in combination with a hinged rail, K^3, having two arms, one of which is arranged to act upon the levers W by the operation of a cam-lever, M^3, upon its other arm, substantially as described.

4. The slide draw-rod N^3, having spring-fingers z^3, in combination with the organ-stop O^3, and with an attachment to the key-boards of musical instruments substantially such as herein described, and all substantially as described, for the purpose specified.

269,811. APPARATUS FOR SHAPING OR ORNAMENTING HOLLOW WARE. JEROME ORCUTT and CHARLES R. RICHARDS, Bridgeport, Conn., assignors to the Union Metallic Cartridge Company, same place. Filed Nov. 18, 1882. (No model.)



Claim.—1. The combination of the die A, the plunger D, the plunger E, and the press H, substantially as and for the purposes described and set forth.

2. The combination of the support B for the die, the die A, the plunger D, the plunger E, the pin F, and the press H, substantially as and for the purposes set forth.

3. The combination of the support B for the die, the die A, the plunger D, the plunger E, the pin F, the spring G, and the press H, substantially as and for the purposes set forth.

269,812. BASKET. JOHN M. P. PARETTI, Baltimore, Md. Filed Sept. 27, 1882. (No model.)

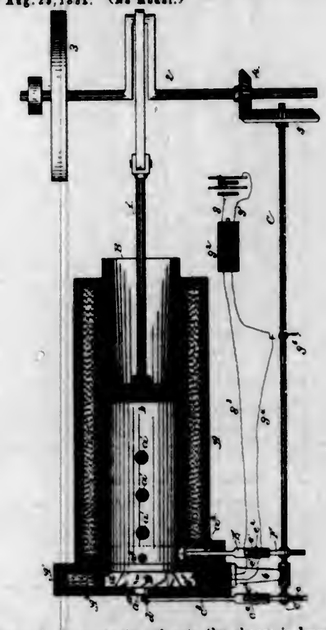
Claim.—1. A basket provided with a partition, B, forming one side of a dark-box, having a top, C, with holes *c* for temporarily holding eggs for inspection, a mirror, *f*, at the bottom D, and an observation-opening, *g*, all arranged as shown, and for the purpose specified.

2. A basket provided with a partition, B, forming one side of a dark-box extending only partly across the basket, and having a side, *d*, a top, C, with holes *c*, bottom D, with mirror *f*, and the opening *g*, all arranged as shown, and for the purpose set forth.

269,812.



269,813. GAS-ENGINE. LEWIS C. PARKER, Robinson, Kans. Filed Aug. 29, 1882. (No model.)



Claim.—1. A gas-engine wherein the charge is drawn into the cylinder, forced into the separate compartments, and exploded in detail behind the piston as it makes the power-stroke, as set forth.

2. A gas-engine cylinder having attached to it a chamber or series of chambers which communicate with the bore thereof through suitable apertures controlled by the piston in its travel, each chamber being adapted to receive a portion of the charge and to permit its successive explosion at stated points in each power-stroke of the piston, as set forth.

3. A gas-engine cylinder having attached to it a series of chambers communicating with the bore thereof through suitable apertures controlled by the piston in its travel and with each other through suitably-protected ports, each chamber being adapted to receive a portion of the charge and to secure an equable pressure in all through the intermediate ports, as set forth.

4. A gas-engine cylinder having attached to it a chamber or series of chambers communicating with the bore thereof through suitable apertures, with each other through intermediate ports, and also communicating with the cylinder through a compression-tube which enters said cylinder below the inmost point reached by the piston, whereby the proper proportion of the charge is forced into the chambers after the piston has closed the chamber-ports, as shown and described.

5. The combination, in a gas-engine, of the cylinder provided with an auxiliary chamber or a series of chambers, each having a port opening into the cylinder, and the inmost chamber having a compression-tube opening into the cylinder below the lowest point reached by the piston, with the piston adapted to force the charge into the chambers, close the ports, and complete the operation through the compression-tube, substantially as shown and described.

6. The method of operating gas-engines which consists in drawing into the cylinder by the outstroke of the piston a properly-proportioned charge of inflammable mixture, forcing it into auxiliary chambers by the return-stroke, and then exploding the charge in succession upon the power-stroke of the piston, substantially as set forth.

7. The method of operating gas-engines which consists in drawing into the working-cylinder upon the outstroke of the piston a charge of air and gas, compressing it in auxiliary explosion-chambers located in the path of the piston and communicating with the cylinder by the return-stroke of the piston, exploding the charges in succession upon the power-stroke of the piston, and finally expelling the consumed charge or charges by the subsequent return-stroke, substantially as set forth.

8. The method of operating gas-engines which consists in first admitting a charge of pure air, which is followed by a charge of air and gas admitted through ports of different areas, the latter being in excess of the former during the remainder of the charge, substantially as set forth.

9. In a gas-engine, the cylinder-head A', having a central opening, suitably-constructed water-spaces, a recess for the reception of the slide-valve, and its ways, said cylinder-head being adapted to be bolted to the end of the cylinder, substantially as shown and described.

10. The face-plate A^2, having ways upon its inner face for the slide-valve to slide between, suitably-arranged air and gas ports, and a slot for the passage of the valve-actuating pin, said plate being adapted to bolt onto the cylinder-head, as shown and described.

11. The combination, in a gas-engine, of the cylinder A, the cylinder-head A', constructed as shown, and the face-plate A^2, arranged substantially as shown and described.

12. The slide-valve D, operating between suitably-arranged ways upon the inner side of the face-plate, and having air and gas ports adapted to register with the ports in the face-plate, in combination with the valve-actuating mechanism, said mechanism being adapted to impart an intermittent motion to the valve, substantially as and for the purposes set forth.

13. The slide-valve D, operating between suitably-arranged ways upon the inner side of the face-plate, and having formed through it an air-port and a gas-port, the said air-port being placed in advance of the gas-port, whereby, in the operation of the valve, air is first admitted into the cylinder, and then a mixture of air and gas, in which the proportion of gas increases to the end of the stroke, said valve being in combination with its actuating mechanism, as set forth.

14. The slide-valve D, operating between suitably-arranged ways upon the inner side of the face-plate, and having formed through it an air-port and a gas-port, the air-port being placed in advance of the gas-port, whereby pure air is first admitted into the cylinder, and then a charge of air and gas, the ports being so arranged that after the entire charge has been admitted the proportions will be such as to produce a rapidly-combustible mixture—say about one part gas to twelve parts air—as set forth.

15. The combination, in a gas-engine, of the cylinder A, its cylinder-head and face-plate, provided with suitably-constructed auxiliary chambers uncovered by the piston in its travel, the slide-valve, and its actuating mechanism, all arranged to operate substantially as set forth.

16. The combination, with a gas-engine having a valve provided with ports of different areas, of the slide-valve-actuating cam secured upon a properly-arranged cam-shaft, said cam being made increasing in height its entire length, whereby an accelerating motion is transmitted to the said valve, and mechanism for connecting the cam and valve, as set forth.

17. The combination, in a gas-engine, of the cam c, the pitman c^3, its roller, rocker-shaft, and spring, and the slide-valve D, all arranged to operate as set forth.

18. The combination, with a gas-engine, of a cam adapted to open the slide-valve to admit a charge, close it, and hold it stationary while the charge is compressed, exploded, and the products are expelled, substantially as set forth.

19. In a gas-engine, the piston having projected from its face a metallic coil, substantially as and for the purpose set forth.

20. The combination, with the piston, the crank-shaft, and cam-shaft having suitably constructed and arranged cams, of the slide and exhaust valves, connected with their respective cams by suitably-constructed mechanism, all arranged to operate substantially as and for the purpose set forth.

21. In a gas-engine, the combination, substantially as specified, of the cylinder A, coil g^2, wires g' g^1, and battery-wires g g', the shaft C, and arm g^4, extended from the shaft and arranged to disengage the wires g' and break the connection, and means for revolving the shaft, as set forth.

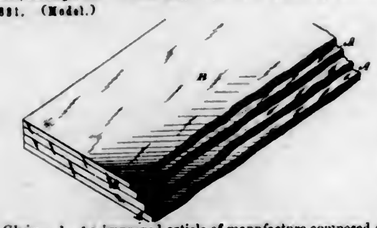
269,814. SHEET-METAL CAN. JOHN S. RICE, Boston, Mass. Filed June 22, 1882. (No model.)



Claim.—1. In a rectangular sheet-metal can or box having the sides rolled inwardly to form a tubular rim, the tubes on the sides B B formed to overlap the tubes on the sides C C, substantially as and for the purpose set forth.

2. The combination of the sides B B and C C, the tubes of the sides B B being made to overlap the tubes of the sides C C, and the tubes of the sides C C being made to abut against the sides B B, as set forth.

269,815. MANUFACTURE OF PAPER-BOARD. SILAS H. HAMILTON, Bushnell, assignor, by mesne assignments, to Marvin A. Parr, Chicago, Ill. Filed Aug. 13, 1878. Renewed Oct. 24, 1881. (Model.)

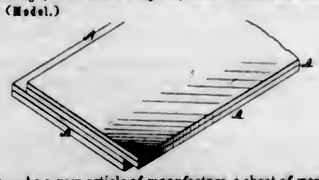


Claim.—1. An improved article of manufacture composed of paper-pulp, glue, and bichromate of potash mixed together, formed into sheets, and subjected to heavy rolling-pressure, substantially as and for the purpose specified.

2. An improved article of manufacture consisting of a board composed of sheets of paper-pulp, glue, and bichromate of potash, which sheets are caused to adhere together by means of pressure, substantially as and for the purpose shown.

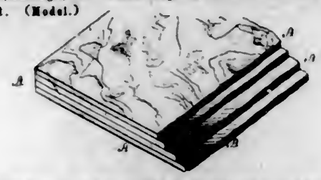
3. An improved article of manufacture consisting of paper-pulp, glue, bichromate of potash, alum, and silica, mixed together and formed into sheets by pressure, substantially as and for the purpose set forth.

269,816. MANUFACTURE OF PAPER-BOARD. SILAS H. HAMILTON, Bushnell, assignor, by mesne assignments, to Marvin A. Parr, Chicago, Ill. Filed Aug. 13, 1878. Renewed Oct. 24 1881. (Model.)



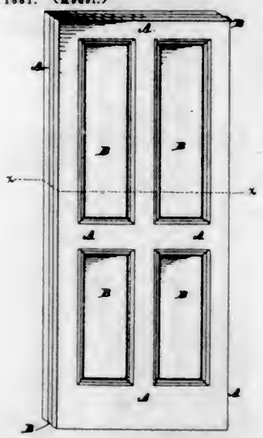
Claim.—As a new article of manufacture, a sheet of weather-board composed of separately-formed sheets or layers of paper secured together by an adhesive mixture and pressure, and corrugated transversely, so as to cause its surface to present the appearance of several strips of ordinary weather-board, substantially as and for the purpose shown.

269,817. IMITATION MARBLE FROM PAPER. SILAS H. HAMILTON, Bushnell, assignor, by mesne assignments, to Marvin A. Parr, Chicago, Ill. Filed Aug. 14, 1878. Renewed Oct. 24, 1881. (Model.)



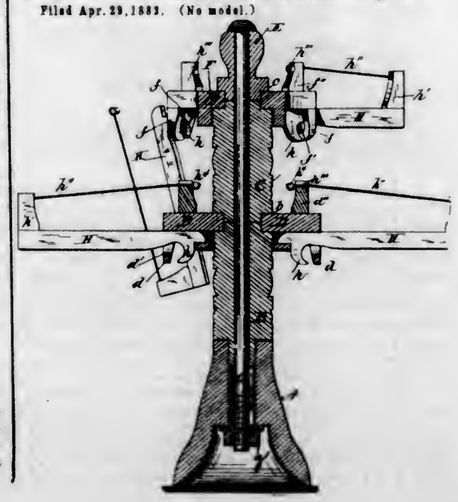
Claim.—As a new article of manufacture, artificial marble composed of a paper base or body having its surface marbleized, substantially as and for the purpose specified.

269,818. MANUFACTURE OF DOORS FROM PAPER. SILAS H. HAMILTON, Bushnell, assignor, by mesne assignments, to Marvin A. Parr, Chicago, Ill. Filed Aug. 13, 1878. Renewed Oct. 24, 1881. (Model.)

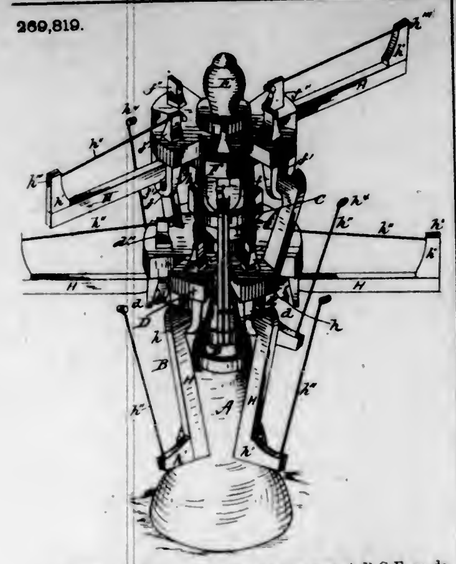


Claim.—As an improved article of manufacture, a door composed of two or more sheets of paper-board secured together and rendered homogeneous in the manner and for the purpose substantially as specified.

269,819. CLOTHES-DRIER. JOHN MCDOUGALL, Lehigh, Iowa. Filed Apr. 29, 1882. (No model.)



269,819.



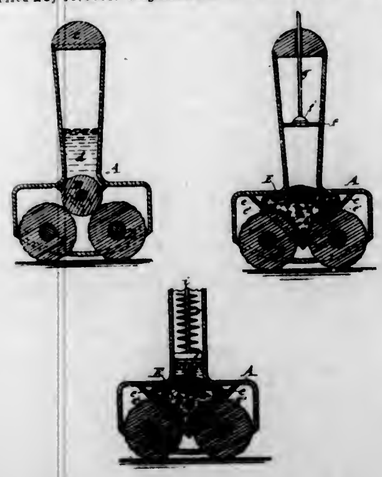
Claim.—1. In combination with the stem A B C E, as described, and revolving clothes-arms, carriers D and F, having depending ears d and f and upwardly-projecting lugs d'' and f'', the adjustable and detachable clothes-arms H, having booked ends h to engage on said ears, and provided with a line or wire to engage upon said lugs d'' f'' and hold the arm extended, substantially as set forth.

2. The stem composed of sections and having grooves b and c, and held together by headed bolt G and nut, combined with annuli D and F, each having ears d f and lugs d'' f'', and detachable and adjustable arms H, having booked ends h and outer curved ends, h', and provided with wire or line h'', all substantially as described.

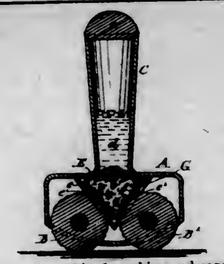
3. The clothes-arm H, having projections h' at its outer end and line or wire h'' attached thereto, and the inner booked end, h, combined with the support having an ear below and an upward projection, whereby said arm can have vertical motion on said support or be secured in position for use, all substantially as set forth.

REISSUES.

10,263. HAND-STAMP. OGDEN H. TAPPAN, Potsdam, N. Y. Filed May 15, 1882. Original No. 247,710, dated Sept. 27, 1881.



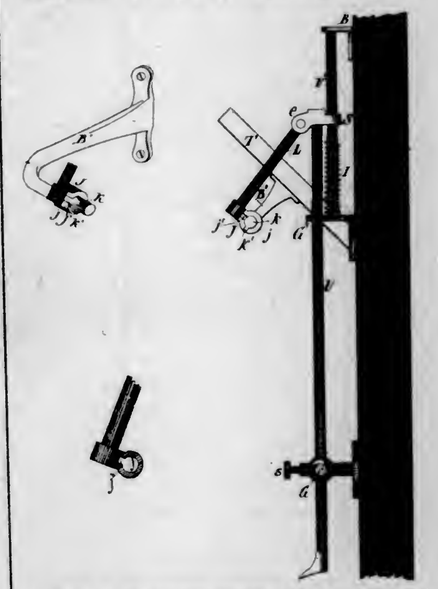
10,263.



Claim.—1. A combined marking and canceling stamp consisting of two rollers—one for marking and the other for canceling—arranged one in front of the other, and pivoted to the same frame, a hollow handle rising from said frame midway between the two rollers, a chamber arranged at the base of the handle and provided with slots for the passage of a portion of the rollers, and absorbent material placed in said chamber and feeding the ink to both rollers, substantially as shown.

2. A hand-stamp carrying two parallel rolls, B B', one to postmark, the other to cancel, and both receiving their supply of ink from the same reservoir in the handle and through the same intermediate feed, as shown and described.

10,264. TRANSOM-LIFTER. JOHN F. WOLLENSAK, Chicago, Ill. Filed May 31, 1882. Original No. 145,538, dated Mar. 10, 1874.



Claim.—1. The stationary upright rod U', supported by brackets G' B, and provided with a spiral spring, I, in combination with the movable upright rod U, having the socket S, arranged at or near the junction of the rod U, and lifting-arm L, substantially as described, for the purpose specified.

2. The lifting-arm L, having the socket j and slot j', in combination with the transverse bracket B', having the pin or bearing k and tongue k', arranged and operating substantially as and for the purpose specified.

3. The combination, with a transom-window, of the bracket B', lifting-arm L, long guide U', and lifting-rod U, having sliding connection with guide-rod U', all substantially as described, and for the purposes set forth.

4. The combination, with a transom-window and its vertical lifting-rod, of a long stationary guide and support for the upper end of the vertical lifting-rod, by which the latter is held to a rectilineal path through suitable connections, substantially as described, and for the purposes set forth.

5. The combination, with a transom-window, of the separate guide U', socket S, and vertical lifting-rod, substantially as described, and for the purposes set forth.

6. The combination, with a transom-window, of the guide U', guide-socket S, vertical lifting-rod U, and connecting rod or arm L, and suitable transom-connections, all substantially as described, and for the purposes set forth.

7. The combination, with the lifting-rod and the means by which it is connected to the transom, of a spring to receive the shock of the window in falling or swinging suddenly, substantially as described, and for the purposes set forth.

8. The stationary upright rod or guide U', supported on the casing and provided with a spiral spring, I, in combination with the movable upright rod U, having the socket S, arranged at or near the junction of said rod with the lifting-arm L, and suitable transom-connections, all substantially as described, and for the purposes set forth.

9. The combination, with a transom lifting-rod and lifting-arm, of a reversible bracket, B', for connecting the transom with the lifting-arm, substantially as described, and for the purposes set forth.

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DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF UNITED STATES COURTS IN PATENT CASES.

DECISIONS OF THE U. S. COURTS.

Supreme Court of the United States.

CLOUGH *v.* THE GILBERT & BARKER MANUFACTURING COMPANY.

Decided November 27, 1882.

1. LETTERS PATENT NO. 105,768, GRANTED TO JOHN F. BARKER, JULY 26, 1870, SUSTAINED.

The claim of letters patent granted to John F. Barker, July 26, 1870, for an improvement in gas-burners—namely, "An improved gas-burner, consisting of the burner or pillar L, having holes c c therein, and provided with the movable or adjustable shell or tube I, all constructed and operating substantially as and for the purposes herein described and specified"—is valid.

2. SAME—COMPARED WITH LETTERS PATENT NO. 104,271, GRANTED TO THEODORE CLOUGH, JULY 14, 1870—MODIFICATIONS PATENTABLE.

Although a gas-burner made according to the description of said patent infringes both of the claims of letters patent granted to Theodore Clough, July 14, 1870, for an improvement in gas-burners, in its method of supplying additional gas and in its valve arrangement for regulating the supply, yet, as it dispenses with the interior tubular valve of Clough, and is made in two pieces instead of three, and is less expensive to make, and the shell alone revolves in regulating the supply, and not the burner with it, and the flame always remains in one position, the modifications are new and useful and patentable.

Mr. Roger H. Lyon and *Mr. E. N. Dickerson* for the appellant.

Mr. William Stanley for the appellee.

Mr. Justice BLATCHFORD delivered the opinion of the Court.

This suit was brought by the appellees against the appellant to recover for the infringement of letters patent granted to John F. Barker, July 26, 1870, for an improvement in gas-burners. The specification of that patent and its claim are set forth at length in the opinion just delivered by the Court in another suit between the same parties. The answer of the defendant admits that he has made and sold gas-burners substantially like those described in the Barker patent. The principal defense set up in the answer is that the defendant invented the improvement patented to Barker, and obtained letters patent therefor from the United States on the 14th of June, 1870, being the same patent on which such other suit was founded, and the specification of which is set forth at length in the opinion therein; that the burners which the defendant has made and sold were made under and according to that patent; that the defendant made and used said improvement in December, 1869, and applied for a patent for it December 4, 1869, which was granted, being the said patent of June 14, 1870; that after he had invented and perfected said improvement, and had filed such application for a patent for it, he showed a sample of it to Barker, in May, 1870, and that Barker thereupon, fraudulently intending to deprive the defendant of the benefits of his invention, obtained a patent for it, being the said patent of July 26, 1870, the gas-burner patented by him being substantially like that previously patented by the defendant in construction, mode of operation, and result, and being a mere mechanical equivalent therefor. No other anticipation of Barker's invention is set up in the answer. The decree of the court below was in favor of the plaintiff.

The claim of the Barker patent covers a gas-burner having these features: a pillar with holes therein around the circumference at its bottom, and an adjustable or movable surrounding shell or tube, such shell, by being moved up or down, either closing or opening the holes, and thus stopping or permitting the flow of gas through the holes. The general principle of the burner, so far as regards supplying additional gas to the burner through the holes and the surrounding tube as the illuminating qualities of the gas become weaker, and as regards having a method of increasing or diminishing such supply by a valve arrangement covering or uncovering the holes as required, is the same as that of the prior patent to Clough, the appellant, and which was the prior invention. It has been held by this Court in the other suit between the same parties that a gas-burner made according to the description in the Barker patent infringes both of the claims of the Clough patent—the claim for the method of supplying the additional gas and the claim for the application of a valve arrangement to regulate the supply. But the point of the invention and patent of Barker is, that the surrounding shell or tube is so arranged that the screwing of such shell up or down causes it to act as a valve on the outside of the pillar to close or open the holes. As a consequence the interior tubular valve of Clough is dispensed with, the burner is made in two pieces instead of three, is less expensive to make, and, moreover, in regulating the supply of gas, the shell alone revolves, and not the burner with it, as in Clough's burner, and so the flame always remains in one position. We think, from the evidence, that these modifications were new and useful, and sufficient in character to sustain a patent. The burner, in the form patented by Barker, appears to have superseded the burner in the form patented by Clough, and after Barker had introduced his burner into use Clough commenced making for market burners in the same form patented by Barker.

As to the claim that Clough made proir to Barker the form of burner covered by Barker's patent, the circuit court held that, the burden of proof being on the de-

fendant to make out that allegation satisfactorily, the evidence fell short of showing clearly that Clough anticipated Barker as to that form of burner. Without discussing the evidence in detail, it is sufficient to say that we concur in that view. The burner of Clough which Barker saw before he made his burner was the Clough burner which had the tubular valve in the inside of the burner-tube.

If the evidence as to the existence prior to the invention of Barker of other burners than that of Clough be considered on the question of the novelty of the arrangement claimed by the Barker patent, it must be held that none of the prior forms of burner introduced in evidence anticipate the arrangement covered by the claim of the Barker patent.

The decree of the circuit court is affirmed, with costs.

U. S. Circuit Court---Northern District of New York.

DELONG v. BICKFORD *et al.*

Decided July 22, 1882.

LETTERS PATENT NO. 216,025 CONSTRUED.

Letters Patent No. 216,025, to Benjamin Delong, dated June 3, 1879, for an improvement in seeding-machines, construed and decided not to be infringed.

Messrs. Duell & Hey and *Mr. George W. Hey* for the complainant.

Mr. F. L. Brown and *Messrs. Wood & Boyd* for the defendants.

COXE, *J.:*

This is an equity action for infringement by the patentee of an alleged improvement in seeding-machines against Lyman Bickford and Helen M. Kirkpatrick, who are copartners, engaged in the manufacture of agricultural implements, at Macedon, New York. The patent was issued to complainant on the 3d day of June, 1879, his claim being described therein in the following words:

In combination with a seed box or hopper provided with a series of discharge-openings, a rock-shaft arranged longitudinally through the seed-box, and provided at each discharge-opening with a segmental sweep, *e*, having in its peripheral face oblique parallel grooves of uniform width, constructed and operating substantially in the manner herein described.

Complainant's Exhibit No. 3 is apparently constructed in exact accordance with the specifications of the patent, the only appreciable difference being that in the patent the thrust of the seed from end to end of the hopper when the machine is on a lateral incline is prevented by the circular sweeps. In the exhibit the same result is attained by partitions placed at regular intervals along the interior of the hopper. This Exhibit No. 3 was made by the defendants, and was made subsequently to the date of the patent.

Complainant's alleged invention first assumed tangible shape and form in the winter of 1878-'9. He insists, however, that the idea which afterward developed into the patented device occurred to him during the previous winter. During both winters he was in the employ of the defendants, as pattern-maker, at their works in Macedon. Defendants were first informed of complainant's patent by a letter from his solicitors in July, 1879. Since that time it is admitted that very few seeders like Exhibit No. 3 have been constructed by them. The proof establishes the further facts that the complainant had made no objection to the use of his device by the defendants until about the time of the formal notification, and that he had not prior to that time as against them asserted any rights as inventor.

In August, 1879, the defendants commenced the manufacture of seeders with straight instead of oblique grooves on the periphery of the sweeps. A model showing their device was introduced in evidence as Bickford seeder, 1880. As no obliquely-grooved sweeps were manufactured by the defendants, except at a time when they had a constructive license to use them, and as the number of seeders so made hardly exceeded twelve in all, it will readily be perceived that the question of infringement has reference alone to the Bickford seeder of 1880.

The defendants introduced a number of prior letters patent to show the state of the art and for the purpose of disputing the novelty of complainant's design.

The Kuhns patents for grain-drills, issued in the years 1876 and 1877, and the Stoner patent in 1861, show seed-wheels revolving instead of oscillating, with oblique parallel grooves or partitions of uniform size, but open at only one end.

The Westcott patent for seeding-machines, 1876, shows a revolving seed-wheel with straight flutes, allowing the free access of the grain both to the periphery and to the ends of the flutes, and an oblique discharge-orifice.

The McSherry patent, 1864, covers a seed-wheel with oblique flutes. In this patent the inventor says of his device, *inter alia:*

I do not claim a spiral-threaded feeder placed at or near the bottom of the seed-hopper, this having been before used.

In the Keeler and Barthel patent, 1862, on seeders having revolving seed-wheels with oblique grooves, the following language of the patentees is suggestive:

We are aware that rollers or cylinders having a flange affixed on one side and diagonal ridges or partitions on their face open on the other side, unprotected by an adjustable outer flange, have been used, as well as others having spiral flanges placed in a reverse position, open and unprotected on both sides, * * * neither of which devices we claim.

All of the devices covered by the foregoing patents are provided with oblique or parallel grooves on the seed-wheels.

The Crowell patent, 1865, the Ingels patent, 1859, and the Keeler patent, 1864, all show a rocking shaft working in a concave trough or hopper.

The Thomas and Mast patent, 1866, for seed-planters covers an invention almost exactly identical in all its essential particulars with the complainant's contrivance. The description, so far as it refers to the rock-shaft and hopper, would hardly seem out of place if found in the complainant's patent as descriptive of his device. It is conceded by his counsel that—

This patent shows all the features of complainant's invention excepting the segmental sweep provided upon its peripheral face with oblique parallel grooves of uniform width, whereby the seed is conveyed in a uniform stream to the discharge-openings from both sides thereof.

Criticism is made that the Thomas and Mast patent was not pleaded by the defendants. It was admitted by stipulation, subject to all objections, one of the objections being that it cannot be used to anticipate complainant's patent for the reason that there is no allegation to that effect in the answer. Doubtless the learned counsel for the complainant is strictly right in this view, and yet it is admitted that the patent is properly in evidence to restrict complainant's claim and to show the state of the art.

The foregoing facts are, it is thought, sufficient to present a clear understanding of the various questions involved.

The defendants interpose five separate defenses, viz: first, that the complainant is not the inventor of the device in controversy; second, that the defendants have acquired constructive license to manufacture under the patent, assuming it to be valid; third, that in view of the state of the art the device in question did not involve invention; fourth, that the patent is not practical, and is worthless; fifth, that the defendants have not used the patented device.

It seems clear that Delong's patent must be restricted to the oblique parallel grooves on the face of the sweep; and, without deciding the somewhat doubtful question of the originality of the alleged invention, I shall confine myself to a consideration of the last of the above-named defenses, viz: assuming the patent to be valid, have the defendants used the patented device?

The discussion of this question, as before stated, must be confined to the Bickford seeder of 1880. It was so treated by counsel both in their oral and printed arguments.

Does the defendants' seeder constitute an infringement? It seems plain that it does not. The only feature of complainant's device that was not known in the art long prior to his patent, whether the component parts are segregated or considered in combination, is the obliquity of the grooves on the face of the sweeps. The complainant has endeavored to show that the Bickford seeder is provided with obliquely-grooved sweeps. The defendants, on the contrary, contend that the grooves are straight. I think counsel are right in so construing the patent, which makes no claim for straight grooves, and the patentee must be confined to the language of his claim. Are the grooves on defendants' sweeps straight? Mr. Gallup and Mr. Bickford both testify that the seeders manufactured by them are constructed with a segment of a wheel with corrugations running squarely and straight across the face of the wheel. They then present a rough model representing a section of the seed-box, rocker, and sweeps manufactured by them, on which the grooves certainly appear straight to the eye. A great part of the evidence of complainant in rebuttal, however, was directed to showing that the grooves in this exhibit were not in fact straight but were in some instances out of true, there being more or less divergence about them all, which, it is insisted, constitutes a colorable evasion of the patent. The test was made by placing a straight-edge in the grooves of the inverted sweeps, and it was thus ascertained that in the first segment there was a very slight divergence from a line drawn parallel with the axis of the shaft; in the second the grooves were nearly straight; in the third the divergence was one thirty-second of an inch, and in the fourth and fifth one sixty-fourth of an inch, on the face of the sweep, which is less than one inch in width. With one exception, the variations might have been occasioned by poor casting, but in any view they are so infinitesimal that I could not regard them as sufficient to constitute an infringement, even if all the seeders manufactured by the defendant were similarly constructed. Complainant, as shown by the drawing attached to his patent, most surely contemplated a very different degree of obliquity than is here found. In my judgment the sweeps in the exhibit do not diverge sufficiently to lose whatever advantages may be derived from having the grooves straight or to gain any of the benefits asserted for those that are oblique. If in the complainant's claim and specifications the word "oblique" were stricken out and the word "straight" substituted in lieu thereof, there would then be foundation for the argument that the Bickford seeder of 1880 was an infringement. As it is, however, defendants are much nearer to the Thomas and Mast design than to the design of the complainant.

It was further argued that because defendants' sweeps were attached to the shaft by a single screw it might in operation become loosened and form a pivot, thus in effect giving a spiral or oblique direction to the flutes; or that the person operating the machine might, by intentionally loosening the screw, produce a similar result. Whether a sweep with straight grooves so vibrating would infringe one with oblique grooves held stationary it is not necessary to decide, for it cannot be said in the absence of evidence that the defendants' machine is improperly or negligently constructed, or that the defendants should be held accountable for something that may be done to their seeders after they have left the manufactory. Their straight sweeps might, in these circumstances, be entirely removed and complainant's oblique sweeps substituted; but the person who so changed the machine, and not the defendants, should be held responsible. It would seem that a single screw was amply sufficient to hold these small sweeps in position. They work slowly in yielding grain, and are not subject to any violent resistance or sudden shock.

Upon this branch of the case, then, my conclusion is that the complainant's patent, assuming it to be valid, covers only the oblique grooves, and these defendants do not use.

It follows that the bill must be dismissed.

U. S. Circuit Court---District of California.

FOYE v. NICHOLS *et al.*

Decided July 24, 1882.

1. INFRINGEMENT—THINGS, NOT WORDS.

The fact that the complainant christens his implement a "plow" and the defendant his a "pulverizer" cannot affect the character or operation of either machine as shown by the models and drawings, which constitute important parts of the description.

2. SAME—UTILITY—USE BY DEFENDANT EVIDENCE OF.

The fact that the defendant is using in his machine the various combinations claimed in the patent and testifies that the machine exhibits a high degree of utility is ample evidence of the utility of the patented invention.

Judge SAWYER delivered an oral decision, as follows:

In the case of Foye v. Nichols I have reached a conclusion. It is a patent case—a patent plow or pulverizer. One party calls his implement a plow, the other calls his a pulverizer. I am satisfied, on an examination, that the first, fourth, and fifth claims are infringed, and that the patent is a valid patent as to those claims. I do not think there is any anticipation. The point most relied upon is as to whether the blades of the complainant's plow are concavo-convex "transversely." The argument is on the word "transversely." I think the argument is hypercritical on the strict mathematical scientific definition of the term "transverse." The

drawings show exactly the form, and the model also, which the defendant himself presents, so that there can be no doubt as to what the party means. The drawing and model give precisely the form in which the blade, when bent on the shaft of defendants' machine, takes, which defendant calls "dishing" and the complainant "concavo-convex." The fact that the complainant christens his implement a "plow" and the defendant his a "pulverizer" cannot affect the character or operation of either machine as shown by the models and drawings, which constitute important parts of the description. So, whether the term "concavo-convex transversely" describes the complainant's blades with strict mathematical or scientific precision and accuracy cannot affect the character or operation of the implement as shown in the models and drawings. The whole, taken together, shows what his meaning is. The defendant does not make his blades quite so wide as the complainant suggests, but the blade performs the same service in substantially, nay, precisely, the same way. I do not think there can be any misunderstanding as to what the complainant means by his description—that is to say, the description of the implement and its operation in the specifications and drawings. There can be no doubt but that the defendant's blade performs the same operation in precisely the same way. There was some criticism on the single shaft of complainant, and on the draft at right angles to the axis of motion. But defendant's two plows or pulverizers—whatever they may be called—are on a single shaft, jointed, it is true, but still a single shaft. There is in his machine a contrivance by which he can set his opposite plows absolutely at right angles, or at any desired inclination, in order to accommodate itself to the different varieties of soil. This may possibly be an improvement, but, if so, he still uses the two plows on opposite ends of the shaft, with their screws running in opposite directions, the one counteracting the strain of the other in the opposite direction. He embraces the complainant's invention, and even if the complainant's plows on the opposite ends of the shaft are set at an angle, the draft would be at right angles to the general line of the axis of revolution of the entire machine.

The other point that was very strennously argued and dwelt upon was as to whether the complainant's invention is useful or not. It was contended that the evidence is insufficient to show its usefulness. If we concede, for the purpose of the argument, that the complainant's own testimony on the question of usefulness left it in doubt, it is still one of those cases which so frequently arise where the defendant uses the precise features of the prior machine and still insists that they are not useful; and in this case his machine manifestly depends on those elements. In fact, it is all there is of the defendant's machine so far as its operation as a plow or pulverizer is concerned, and the several features used are separately claimed in plaintiff's patent. He testified that his machine is useful—by far the most useful machine for the purposes intended in existence. If, then, the several features or inventions separately claimed by the complainant are useful in the defendant's machine, they must be useful in the other. Without those features covered by the several claims sustained there would be no machine of the defendant. Defendant's patent does not cover those features, and for the reason that they are anticipated by Foye. It only covers those features in combination with some other minor features. It certainly embraces the features of the complainant's machine, and they are the operative elements of defendant's machine, without which his machine manifestly would not work well. The complainant claims the several sub-features or combinations separately, and all are used in defendant's machine, which is admitted to be useful. That is ample evidence of their usefulness.

Those are the main points on which the contest arises, and on which the argument was expended.

I think that the patent is a valid one as to these three claims—the first, fourth, and fifth—and the defendant's machine infringes each of those three claims.

There must be a decree for the complainant with reference to those claims, and it must be referred to the standing master to ascertain the profits. It is so ordered.

U. S. Circuit Court—Southern District of New York.

FAULKS *et al.* v. KAMP *et al.*

Decided February 13, 1882.

1. INFRINGEMENT—PROFITS DUE TO PLAINTIFF.

When the claim infringed is for pressing and binding short-cut hay into bales, the profits to which the plaintiff is entitled are those due to selling the short-cut hay pressed and bound in bales over selling it as loose cut hay, or as short-cut hay manipulated for the market in some prior-known way.

2. SAME—PROFITS—MASTER'S REPORT.

It being manifest from the master's report that in fixing the profit per ton he included profits due to cutting the hay and other improper profits, and no evidence having been offered separating the profits properly due to the patented invention, the report is set aside and leave given to apply to the master to be allowed, in his discretion, to give further proof as to profits and for a further report.

Mr. C. N. Judson for the plaintiffs.
Mr. J. C. Clayton for the defendants.

BLATCHFORD, *J.*:

The first claim of the patent, the only one infringed, is for pressing and binding short-cut hay into bales. Short-cut hay was known before. Pressing and binding it into bales made no change in its properties or quality, but enabled it to be more conveniently handled for sale as merchandise and for transportation. The profits to which the plaintiffs are entitled do not include any profits of converting long hay into short-cut hay. They include only the profits of pressing and binding into bales short-cut hay—hay after it is cut short. They do not include, either, any profits on the hay as hay except such profits as resulted from the fact that, as short-cut hay, it was pressed and bound in bales, such last-named profits being the extra profits due to selling the short-cut hay pressed and bound in bales over selling it as loose short-cut hay, or as short-cut hay manipulated for market in some prior-known way. The master appears to have reported profits on cutting the hay and also other profits on the hay as hay than those above specified as allowable. The third exception must therefore be allowed. It was the duty of the plaintiffs to give evidence separating the profits above defined. In the absence of such proof only nominal profits can be allowed. It is also manifest that the master, in fixing one dollar a ton as profit in respect of the matter covered by the second exception, included profits on cutting hay and the other improper profits above mentioned. The second exception is allowed. For the same reasons the fourth exception is allowed, and also the first.

The report is set aside, and the case is referred back to the master, with liberty to the plaintiffs to apply to him for leave, to be granted or refused, in his discretion, to give further proofs as to profits, and for a further report from him based on the principles above laid down.

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*Seeding-machines, Delong v. Bickford *et al* 2242
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[The names of U. S. court cases are designated by an asterisk, (*;) State courts by a double dagger, (‡.)]

ABANDONED EXPERIMENTS.

(See Prior Use, 1.)

ABANDONED INVENTIONS.

(See Prior Use, 1; Reissues, 14.)

ABANDONMENT.

(See Reissues, 14.)

ACCOUNT OF PROFITS.

(See Damages and Profits, 4, 5.)

ACQUIESCENCE.

(See Infringement, 2; Injunction, 7; Reissues, 2; Right to Use, 1.)

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(See Damages, 2.)

ADMISSION OF TESTIMONY.

(See Answer to Bill, 1; Preliminary Statement, 1.)

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(See Injunction, 6.)

AGGREGATION.

(See Non-Invention, 2.)

AGREEMENTS.

(See Contracts, 2; License, 2.)

AMENDMENTS.

(See Reissues, 3.)

AMENDMENT TO ANSWER.

(See Answer to Bill, 1, 2.)

AMENDMENT TO APPLICATIONS.

AMENDMENTS OF APPLICATION WHEN FILED MUST CONFORM TO RULE 69.

An application cannot be amended at the will of the applicant before it is taken up for examination. Rule 69 attaches upon the filing of the application, which occurs when the applicant has completed his application, as provided in Rule 31.

[*Ex parte* Snyder, 1975.

2. AMENDMENT—RULE 47.

The case of *McDougall* (21 O. G., 1783) was not intended to open the door to the admission into an application once completed of any and all inventions made prior to the date of filing the original application.

[Id.

3. SAME—SAME—MAY CORRECT BUT NOT CHANGE THE APPLICATION.

The applicant may be permitted, upon proper occasion, to supplement his description or drawing by restoring features of the original invention which were inadvertently omitted or incorrectly shown in the original disclosure through a clerical error of the draftsman or the unfamiliarity of the inventor with official forms. He cannot be permitted, however, to change and alter his application to represent a different invention.

[Id.

AMENDMENT TO PRELIMINARY STATEMENT.

(See Preliminary Statement, 1, 2.)

ANALOGOUS DEVICES.

(See Designs, 1, 2, 3; Infringement, 1, 3, 4, 5, 6, 7, 8, 11; Injunction, 3; Prior Use, 1.)

ANSWER TO BILL.

(See Motion to Strike Plea from Files, 1; Prior Use, 2; Reissues, 17.)

1. AMENDMENT OF ANSWER—DOES NOT LET IN INADMISSIBLE TESTIMONY ALREADY TAKEN.

Where evidence of anticipations not set up in the answer has been taken, and a motion afterward made to amend the answer, the granting of such motion would not make that evidence admissible which was taken under objection before the amendment.

[*Allis v. Buckstaff *et al.*, 1705.

2. SAME—DISCRETION OF COURT IN SUCH CASES.

But it is discretionary with the court in such a case, especially after the objecting party has fully cross-examined the witnesses and taken rebutting proofs, either to let the testimony stand in the case or to strike it out and permit the defense to take the testimony anew under the amended answer.

[*Id.

ANTICIPATION.

(See Answer to Bill, 1; Infringement, 8; Particular Patents: 22, Gardner; 23, Gosling; 47, Root; Prior Use, 1.)

PITCHING BARRELS—PRIOR PUBLICATION.

The invention is anticipated by the prior German publication, *Der Bierbrauer*, describing a method of drying the interior of casks or vessels by warm or hot air by an apparatus substantially like the plaintiff's in construction, mode of operation, and effect, and differing only in the particular that the hot air is drawn from the furnace through an exhaust-passage by a fan located between the furnace and valve, and thence driven with the products of combustion into the cask. The applicant has merely applied the old devices to a new use.

[*Gottfried v. The Crescent Brewing Co., 497.

APPARATUS AND PROCESS.

(See Reissues, 12, 21.)

APPEALS.

(See Decree, 1; Labels, 6.)

APPLICATION.

(See Amendment to Applications, 1, 2, 3; Design Application, 1.)

ARTICLE OF MANUFACTURE.

(See Patentability, 1.)

ASSIGNEES.

(See Contracts, 2; Damages and Profits, 2, Parties to Suit, 1.)

ASSIGNMENT.

(See Contracts, 1; Damages and Profits, 3; Licensees, 1; Licenses, 1, 2; Right to Use, 1; Title to Patent, 1.)

BAR TO A PATENT.

[Foreign Publications, 1.)

BAR TO REISSUE.

(See Reissues, 1, 2, 7, 14.)

BAR TO SUIT.

(See Motion to Reopen, 1.)

SUIT BARRED BY FORMER SUIT.

This suit barred by the decree in the former suit between the same parties and upon the same issues, in which it was held that the invention claimed by the plaintiff was anticipated, and that his patent was invalid.

[*Barker v. Stowe, 259.

BILL IN EQUITY.

(See Answer to Bill; Bar to Suit; Licensees, 1; Practice in the Courts, 2; Priority of Invention, 1, 2, 3; Proceedings in Equity.)

BREACH OF CONTRACT.

(See Contracts, 1.)

CANADIAN PATENTS.

GRANT OF CANADIAN PATENT.

The grant of a Canadian patent is to be determined by its date of issue, and not by the time of its delivery.

[*Bate Refrigerating Company v. Gillett, 1205.

CASES COMMENTED UPON.

See Amendment to Applications, 2; Decree, 2; Infringement, 8; Limitation of Term of Patent, 1; Particular Patents: 28 Holbeck and Gottfried; 52 Sternberg; Reissues, 19; Reuse of Patented Articles, 3.)

CHANGE OF FORM.

(See Designs, 1, 2, 3; Infringement, 1, 3, 4, 5, 6, 7, 8, 11; Non-Invention, 1; Non-Patentability, 1.)

CHANGE OF ISSUE.

(See Motion to Reopen, 3.)

CHANGE OF MATERIAL.

(See Reissues, 18.)

CHANGE OF MOVEMENT.

(See Construction of Claims, 1; Non-Patentability, 3.)

CHANGE OF PROCESS.

(See Particular Patents: 43, Pelham.)

CHANGE OF STRUCTURE.

(See Combinations, 3; Construction of Claims, 1, 5; Infringement, 3, 4, 5, 7; Non-Patentability, 2; Particular Patents: 3, Barker; 5, Beckwith; 10, Clough; 14, Dann; 22, Gardner; 23, Gosling; 25, Hart; Reissues, 4, 5, 8; Scope of Patent, 1.)

EQUIVALENTS—WEIGHT FOR A SPRING IN A WRITING-PEN.

A weight to project the writing-pin not the equivalent of a spring for the purpose desired, the efficiency of the weight in this connection being impaired by its necessary confinement in a small working space and the necessary inclination of the pen from a perpendicular both when in use and out of use.

[*Cross v. Mackinnon, 586.

CIRCUIT COURTS.

(See Decree, 1.)

JURISDICTION—CITIZENS SAME STATE—SUIT INVOLVING JURISDICTION QUESTIONED—INFRINGEMENT.

Where the pleadings raise not merely the questions arising out of the construction of a contract entered into with reference to a patent, but also the question of infringement, the suit is one arising under the patent laws, and may be prosecuted in a circuit court of the United States by citizens of the same State.

[*Smith v. Standard Laundry Machinery Company *et al.*, 587.

CITIZENS OF SAME STATE.

(See Circuit Courts, 1.)

CLAIMS.

(See Combinations, 1; Reissues, 23.)

COMBINATIONS.

(See Construction of Specifications and Patents, 5; Infringement, 1; Non-Invention, 2; Non-Patentability, 1; Particular Patents: 8, Clough; Reissues, 4.)

1. COMBINATIONS—DIVISION AND RECOMBINATION OF ELEMENTS.

An element of a combination cannot be functionally subdivided so as to make valid claims for other combinations of the same elements.

[*Pattee *et al.* v. Moline Plow Company *et al.*, 173.

2. SAME—OLD ELEMENTS—HOW PATENTABLE.

When the leading ideas are old and devices having the same principle have been used for carrying the idea into effect a patent can only stand on special improvements of the devices or on special combinations.

[*Id.

3. SAME—RECOMBINATION OF PARTS.

The defendants had the same right to recombine the same parts that the complainants had, so long as it does not use the same combinations.

[*Id.

COMMISSIONER OF PATENTS.

(See Labels, 3, 5, 6; Mandamus, 1; Priority of Invention, 1, 2, 3; Rules of Practice, 1.)

COMMISSIONER OF PATENTS REQUIRED TO LIMIT UNITED STATES PATENTS BY FOREIGN PATENTS PREVIOUSLY ISSUED.

REVISED STATUTES, SECTION 4887—PREVIOUS FOREIGN PATENT.

Section 4887 of the Revised Statutes expressly requires the Commissioner of Patents to limit the term of a domestic patent for an invention previously patented in a foreign country to the period of time which the foreign patent has to run, or, if there be more than one such foreign patent, to so limit the domestic patent that it will expire at the same time with the one having the shortest term.

[*Bate Refrigerating Company v. Gillett, 1205.

COMPARISON OF PATENTS.

(See Designs, 2; Infringement, 1, 3, 7, 8, 10, 11.)

COMPOUNDS.

(See Reissues, 8.)

CONCURRENT JURISDICTION.

(See Jurisdiction, 2.)

CONSTRUCTION OF CLAIMS.

(See Construction of Specifications and Patents; Reissues, 15, 23.)

1. CLAIM—CONSTRUCTION—SPECIFIC DEVICES.

A claim drawn up in terms to cover a result, viz: An improved Coes wrench, so constructed that the thrust or back strain of the rosette-screw when the wrench is used shall be borne by the shank, instead of the handle, of the wrench, construed, in view of the state of the art, to be for the specific devices described in the patent, and *Held* not to be infringed by defendant's article, which attained the same result by a different means.

[*Coes v. The Collins Company, 417.

2. REISSUE LETTERS PATENT NO. 7,511—LAMP-BURNERS—INADEQUATE DESCRIPTION.

A patent for an improvement in shade holders for lamps claimed, *inter alia*, a shade or globe so arranged and constructed that the burner performs its required functions without the use of a chimney, the specification affording no further explanation of the principle which is to govern the construction of the shade as to its size and proportions, and it appearing from evidence produced that a shade made of the shape, size, and proportions illustrated in the drawings would not give light when used alone to the same degree as when used with an ordinary chimney, and that the shades actually used by the patentee and the defendants were not the shade of the drawings, but were the result of further adaptation and experiment: *Held*, that the words "whereby the burner performs its functions without the use of a chimney" mean that the arrangement will give as good a light as with the use of a chimney.

[*Schneider v. Lovell *et al.*, 499.

3. CLAIMS TO BE CONSTRUED BY STATE OF ART.

Claims are to be construed by the state of the art, even though the patent contains no acknowledgment of it.

[*Jones v. Barker *et al.*, 771.

4. CONSTRUCTION OF CLAIMS.

A claim to "the so forming of a self-locking shutter-hinge in two pieces as that" certain results may follow, *held* to be a claim to mechanism, the particular mechanism covered being determined by the description in the specification and the statement of the results in the claim.

[*Lull v. Clark *et al.*, 1535.

5. BREECH-LOADING FIRE-ARMS—NON-INFRINGEMENT.

A claim for a projection, locking together the barrels and breech-piece of breech-loading fire-arms, formed with a square shoulder curved on one of its faces: *Held*, in view of the state of the art and the limitations of the patent, not to be infringed by a similar projection not having the curved face.

[*Lefever *et al.* v. E. Remington & Sons, 1537.

CONSTRUCTION OF ISSUE IN INTERFERENCE CASES.

(See Injunction, 3.)

CONSTRUCTION OF RULES.

(See Amendment to Applications, 1, 2; Rules of Practice, 2.)

CONSTRUCTION OF SPECIFICATIONS AND PATENTS.

(See Construction of Claims; Infringement, 3; Inventions, 1, 7; Particular Patents; Prior Use, 1; Reissues, 23.)

1. LETTERS PATENT NO. 139,365 CONSTRUED AND SUSTAINED.

The claim in Letters Patent No. 139,365, for "figures and fractions in printing-type cast upon a block equal to two-thirds the width of the body of the 'em' or standard type," construed in light of the specification to cover the broader figures as well as the broader body of type, and is for a patentable invention.

[*Bruce v. Marder *et al.*, 1039.

2. SAME—PRINTING-TYPE—MECHANICAL SKILL.

The invention described in the patent is not merely increasing the size of the figures alone or increasing the size of the body of the type alone, but in increasing the size of the figures without increasing the size of the type of the letters and the body of the line, and at the same time making the body of the type of the figures exactly two-thirds of the width of the body of the line, so that they can be justified by two of the ordinary three-in-em spaces, whatever the size of the type of the body of the line might be. This required more than mechanical skill, and called for the creative genius of the inventor.

[*Id.

3. LIMITATION OF PATENT—HOW MATERIALLY DETERMINED.

Where, from the language of the specification and claim and the state of the art, the inventor must be considered to have regarded a certain element as material: *Held*, that those claiming under him could not show that it was immaterial, as the question was determined by the claim.

[*Lefever *et al.* v. E. Remington & Sons, 1537.

4. INFRINGEMENT—THINGS, NOT WORDS.

The fact that the complainant christens his implement a "plow" and the defendant his a "pulverizer" cannot affect the character or operation of either machine as shown by the models and drawings, which constitute important parts of the description.

[*Foye v. Nichols *et al.*, 2243.

5. SAME—UTILITY—USE BY DEFENDANT EVIDENCE OF.

The fact that the defendant is using in his machine the various combinations claimed in the patent and testifies that the machine exhibits a high degree of utility is ample evidence of the utility of the patented invention.

[*Id.

CONSTRUCTION OF STATUTES.

(See Commissioner of Patents Required to Limit United States Patents by Foreign Patents Previously Issued; Designs, 3; Foreign Patents, 1; Foreign Publications; Jurisdiction, 2, 3; Reissues, 5.)

MANNER OF CONSTRUING STATUTES.

In the construction of statutes in *pari materia* they are all to be kept alike in view, and construed in the light of each other, and their effect considered under such construction.

[*United States, *ex rel.* Horace Koechlin and Otto N. Witt v. Edgar M. Marble, Commissioner of Patents, 1365.

CONTRACTS.

(See Jurisdiction, 3.)

1. INJUNCTION—BREACH OF CONTRACT.

A person who parts with his interest in a drama and a patented invention by contract with another cannot, upon breach of such contract by the grantee, interfere with his use of them by injunction or use them against his wishes. The proper remedy is by action for damages. Preliminary injunction, however, granted to restrain the first party from exhibiting the play and using the invention.

[*Mallory v. Mackaye. Mackaye v. Mallory, 945.

2. CONTRACTS—STRANGERS TO.

If the agreements between the parties have defined their contracts, it is out of place for an entire stranger to them to seek to circumscribe their scope by a technical limitation of the spirit and sense which the parties have impressed upon them.

[*Nellis v. The Pennock Manufacturing Company, 1131.

CONVEYANCE.

(See Assignments, Contracts, Damages and Profits, Infringement, 9; Licensees, 1; Licenses.)

COPARTNERSHIP.

(See Title to Patent, 1.)

CORPORATIONS.

(See Parties to Suit, 2.)

CORRECTION OF DRAWINGS.

(See Amendment to Applications, 3.)

COURTS OF EQUITY.

(See Decree, 2; Jurisdiction, 2; Proceedings in Equity.)

DAMAGES AND PROFITS.

(See Contracts, 1; Infringement, 9; Parties to Suit, 3.)

1. Suit for Damages after Assignment of Patent.
A suit may be maintained to recover past damages for infringement, although the parties plaintiff have parted with their interest in the patent at the time suit is brought.
[*Spring *et al.* v. Domestic Sewing Machine Company, 1445.

2. Section 4919 Revised Statutes—Action by Assignee for Damages.
Section 4919 of the Revised Statutes permits an assignee of a patent, and of all claims for damages and profits accrued thereunder before the assignment, to maintain an action at law in his own name to recover such damages.
[*Id.

3. Injunction—Suit by Joint Owners for Damages after Assignment of One to Third Party.
In a suit in which parties who had been joint owners of a patent, but one of whom had assigned his interest to a third party, sought to recover damages for infringement during their joint ownership: *Held*, that an injunction could not be granted, as an adequate remedy existed at law, and the court therefore had no equitable jurisdiction.
[*Id.

4. Infringement—Profits Due to Plaintiff.
When the claim infringed is for pressing and binding short-cut hay into bales, the profits to which the plaintiff is entitled are those due to selling the short-cut hay pressed and bound in bales over selling it as loose cut hay, or as short-cut hay manipulated for the market in some prior-known way.
[*Funks *et al. v.* Kump *et al.*, 2244.

5. Same—Profits—Master's Report.
It being manifest from the master's report that in fixing the profit per ton he included profits due to cutting the hay and other improper profits, and no evidence having been offered separating the profits properly due to the patented invention, the report is set aside and leave given to apply to the master to be allowed, in his discretion, to give further proof as to profits and for a further report.
[*Id.

DATE OF A CANADIAN PATENT.

(See Canadian Patents, 1.)

DATE OF FOREIGN PATENTS.

(See Foreign Publications, 1.)

DATE OF INVENTION.

(See Prior Use, 1.)

DECISION OF THE COMMISSIONER.

(See Priority of Invention, 1, 2, 3.)

DECISION OF THE COMMISSIONER CONCLUSIVE.

(See Injunction, 2, 3.)

DECISION OF THE PATENT OFFICE.

(See Injunction, 2, 3.)

DECREE.

(See Motion to Reopen, 1, 2, 3.)

1. Decision as a Decree—Date of Decree.
Where the decision of a circuit court is a simple one—such as affirmance or reversal or the like—it constitutes a decree, from which appeal may be taken to the Supreme Court, and a decree afterward entered will be regarded as having the date of the decision.
[*Barker v. Stowe, 259.

2. Opening of Decree and Rehearing after Interlocutory Decree and Reference.
After interlocutory decree and reference to a master for an account, a rule to show cause why the decree should not be opened and a rehearing ordered granted, it being alleged that a court of equity, in view of *Root* v. *Lake Shore and Michigan Southern Railway Company*, (21 O. G., 1112,) had no jurisdiction, and that the defendants had newly-discovered evidence to prove that the complainants' patent was invalid.
[*Spring *et al. v.* Domestic Sewing Machine Company, 1445.

DEDICATION TO THE PUBLIC.

(See Reissues, 14.)

DEFECTIVE CLAIMS.

(See Reissues, 3.)

DEFECTIVE SPECIFICATIONS.

(See Amendment to Applications, 3.)

DEFENSES.

(See Prior Use, 2.)

DEFINITION OF LEGAL TERMS.

(See Designs, 3.)

DELAY IN APPLYING FOR REISSUE.

(See Particular Patents: 7, Burt and Dunn; Reissues, 1, 2, 3, 7, 14, 18.)

DELAY IN BRINGING SUIT.

(See Infringement, 2.)

DEMURRER.

(See Suits for Infringement, 1.)

DESCRIPTION.

(See Construction of Claims, 4; Construction of Specifications and Patents, 4.)

DESIGN APPLICATION.

Mechanical Function.
Matter descriptive of the mechanical functions of a device should be omitted from a design application.
[*Ex parte* Norton, 1205.)

DESIGNS.

(See Design Application.)

1. Designs—Test of Identity—Ordinary Observer.
The true test of identity of a design is sameness of appearance; in other words, sameness of effect upon the eye of an ordinary observer, bringing to the examination of the article upon which the design has been placed that degree of observation which men of ordinary intelligence give.
[*Jennings *et al.* v. Kibbe *et al.*, 331.

2. Same—Same—Visual Comparisons.
Where the designs are of simple character and no testimony as to infringement is submitted by the defendants, it is not improper for the court to compare the defendants' design with the patents, and determine the question of identity by such comparison.
[*Id.

3. Designs—Utility.
The term "useful" in the patent law is used in contradistinction to "mischievous." A design, if not mischievous, is useful if it is attractive, and the utility consists in such a shape or configuration of a given article that persons needing it will purchase it because of such shape or configuration in preference to other articles for the same purpose, but different in shape and configuration.
[*Ex parte* Norton, 1205.

DIFFERENT INVENTIONS.

(See Combinations, 1, 2, 3; Construction of Claims, 1, 2, 4, 5; Infringement, 1, 5, 6, 11; Reissues, 6, 10, 20.)

DISCLAIMERS.

(See Reissues, 23.)

DISCRETION OF THE COURT.

(See Answer to Bill, 2.)

DIVISION OF INVENTION.

(See Combinations, 1; Reissues, 9, 12.)

DIVISION OF REISSUES.

(See Reissues, 10, 11.)

DOUBLE USE.

(See Infringement, 8.)

DRAWINGS.

(See Amendment to Applications, 3; Construction of Specifications and Patents, 4; Infringement, 5; Reissues, 9.)

DURATION OF A PATENT.

(See Limitation of Term of Patent, 2, 3.)

ELEMENTS.

(See Combinations, 1.)

ELEMENTS REGARDED AS MATERIAL BY INVENTOR CANNOT BE CONSIDERED IMMATERIAL.

(See Construction of Specifications and Patents, 3.)

ENGLISH LETTERS PATENT AS REFERENCES.

(See Foreign Patents, 1; Foreign Publications, 1.)

ENGLISH PROVISIONAL SPECIFICATIONS.

(See Foreign Publications, 1.)

ENLARGEMENT OF CLAIMS.

(See Model, 1; Particular Patents: 7, Burt and Dunn; 49, Searls; 53, Sternberg; Reissues, 1, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13, 15, 17, 20, 21, 22.

EQUITY.

(See Jurisdiction, 2; Parties to Suit, 3; Priority of Invention, 1; Proceedings in Equity.)

EQUIVALENTS.

(See Change of Structure, 1; Particular Patents: 10, Clough; 11, Clough; 43, Coburn and Billings.)

ESTOPPEL.

(See Reissues, 1, 2, 7, 14.)

EVIDENCE.

(See Model, 1; Practice in the Courts, 2; Reissues, 13.)

EVIDENCE OF INVENTION.

(See Invention; Non-Invention; Non-Patentability; Patentability, 1; Prior Use, 1.)

EVIDENCE OF VALIDITY OF A PATENT.

(See Designs, 1, 2; Injunction, 2; Judgment.)

EXPERIMENTAL USE.

(See Prior Use, 1.)

EXPERIMENTS.

(See Prior Use, 1.)

EXTENDED TERM OF PATENT.

(See Limitation of Term of Patent, 2.)

FIRM.

(See Title to Patent, 1.)

FOREIGN PATENTS.

(See Canadian Patents, 1; Commissioner of Patents Required to Limit United States Patents by Foreign Patents Previously Issued, 1; Limitation of Term of Patent, 1, 2, 3.)

English Patent—Date of Filing Completed Specification.
An invention is not patented in England, within the meaning of the third division of section 4920 Revised Statutes, until the completed specification has been filed.
[*Coburn *et al.* v. Schroeder, 419.

FOREIGN PUBLICATIONS.

Provisional Specification Must be Published Before Date of Patentee's Invention.
An English provisional specification is not a bar to the grant of a patent in this country, and when relied on as a printed publication under section 4920 Revised Statutes it seems that the defendant must show that it was actually published before the date of the patentee's invention.
[*Coburn *et al.* v. Schroeder *et al.*, 419.

FORMER DECISIONS AFFIRMED.

(See Infringements, 8; Particular Patents: 12, Coburn and Billings; 28, Holbeck and Gottfried; 52, Sternberg; Reissues, 19.)

FORMER DECISIONS REVERSED.

(See Limitation of Term of Patent, 1; Particular Patents, 30 Holbeck and Gottfried.)

FORMER SUIT.

(See Bar to Suit, 1; Judgment, 1; Motion to Reopen, 1.)

FUNCTIONS.

(See Combinations, 1; Construction of Claims, 2; Design Applications, 1; Non-Patentability, 3; Particular Patents, 43 Pelham; Reissues, 6; Scope of a Patent, 1.)

IDENTITY OF DESIGN.

(See Designs, 1, 2.)

IDENTITY OF INVENTION.

(See Designs; Infringement, 3, 7, 8, 10.)

IDENTITY OF INVENTION IN ORIGINAL AND REISSUED PATENT.

(See Reissues, 3, 6, 8, 9, 10, 11, 12, 13, 14, 15, 18, 20, 21.)

IMMATERIAL VARIATIONS.

(See Designs; Infringement, 3, 4, 7, 8; Non-Invention, 1; Non-Patentability, 1, 2.)

IMPROVEMENT.

(See Infringement, 4.

INFRINGEMENT.

(See Circuit Courts, 1; Construction of Claims, 1, 5; Construction of Specifications and Patents, 4, 5; Damages and Profits, 1, 2; Designs, 2; Injunction, 2, 3; Particular Patents: 5, Beckwith; 9, Clough; 11, Clough; 14, Dann; 15, Day; 26, Hayes; 36, Lull; 52, Sternberg; 58, Wooster; Parties to Suit, 1, 2, 3; Reuse of Patented Articles, 1, 2, 3; Suit for Infringement, 1.)

1. INFRINGEMENT — CULTIVATORS — MOLINE PLOW COMPANY NOT INFRINGERS.
The Schröder, Eichholtz, Norton, Pattee, and Poling patents are all for combinations of old parts, and valid for such special combinations; but none of the patented combinations, so limited, are found in the defendants' machine.
[*Pattee *et al.* v. Moline Plow Company *et al.*, 173.

2. ACQUIESCENCE.
A patentee is not guilty of acquiescence for neglecting to proceed at once against all who infringe.
[*McWilliams Manufacturing Company v. Blundell, 177.

3. LAMPS—INFRINGEMENT BY IMPROVER.
A patent for the application of the power of carbonic-acid gas to extinguishing flames in an ordinary lamp containing inflammable oil by means of a closed receptacle holding such gas is infringed by one who uses the main elements of the combination, but has made certain changes in the gas-holding receptacle—viz., alterations in form and location—whereby the receptacle is less liable to get broken, and at the same time the gas comes into more immediate contact with the flames in case of an explosion.
[*White *et al.* v. Heath, 500.

4. SAME—SAME—CHANGES AND IMPROVEMENTS WILL NOT RELIEVE INFRINGER.
One who uses the combination secured by the patent is none the less an infringer because he has made changes in details of construction which might be patentable as improvements.
[*Id.

5. SAME—INFRINGEMENT.
That as the defendants' shade was different from that shown in the drawings, it did not infringe.
[*Schneider v. Lovell, 499.

6. COMBINATION—INFRINGEMENT—LESS NUMBER OF ELEMENTS.
A combination claim is not infringed by the use of any of the elements less than all.
[*New v. Warren, 587.

7. LETTERS PATENT 199,621—INFRINGEMENT—IMPROVEMENT.
The patent infringed by one who has the spring inside the air-tube instead of outside, whether or not it might be decided that the change is an improvement in the manner of attaching the spring to the tube.
[*Cross v. Mackinnon, 586.

8. REISSUE NO. 6,138—FORMER DECISION.
The decision in *Meyer* v. *Prichard* upon the reissue then before the court to the effect that the alleged invention covered thereby of forming thickened ribs in rubber shoes or sandals by rolling was but a double use of the invention disclosed in the prior patent to Hyatt and Meyer—viz., forming the soles of rubber shoes of different thicknesses by rolling—*Held* to govern this case, the present reissue only differing from the former in being specifically limited to ribs around the mouth of the shoe.
[*Meyer *et al.* v. Goodyear's India Rubber Glove Manufacturing Company, 681.

9. INFRINGEMENT—DRIVEN WELLS.
A decree for injunction and account against several defendants who owned, rented, or occupied premises in which were placed driven wells which were used by them, and against a defendant who purchased and rented out, but never personally occupied, premises containing a driven well.
[*Green v. Gardner *et al.*, 683.

10. INFRINGEMENT—PATENT NO. 190,563 AND REISSUE NO. 8,388.
Defendant (The Detroit City Railway Company) held to infringe Day's Patent No. 190,563, May 8, 1877, and Reissue Patent No. 8,388, August 27, 1878, for railway-track clearers.
[*Day v. The Detroit City Railway Company, 946.

11. REISSUE PATENT NO. 7,909—NECKTIE—INFRINGEMENT.
Reissue Letters Patent No. 7,909, for an improvement in neckties, which consists in attaching the pin to the shield by a rivet or punched-out part of itself, is not infringed by a pin having two right-angled deflections in its length passing through holes in the shield, and thereby held in position.
[*Hart, Jr., *v.* Thayer, 1787.

INJUNCTION.

(See Contracts, 1; Damages and Profits, 3; Practice in the Courts, 1.)

1. INJUNCTION—PARTY IN INTEREST—AGENT.
When the infringing articles bear the name of the defendant and the evidence points to the defendant as the principal person engaged in their manufacture an injunction will not be denied because the defendant holds himself out as the agent for another person.
[*McWilliams Manufacturing Company v. Blundell, 177.

2. PRELIMINARY INJUNCTION—DECISION OF PATENT OFFICE.
On a motion for a preliminary injunction, question being raised whether the patentee's description would make the product claimed by him, and it appearing that this point was decided in favor of the patentee by the Patent Office on a direct issue between him and another patentee whom the defendants represented: *Held*, for the purposes of the motion, that the product claimed could be obtained by following the description of the patent.
[*Holliday *et al.* v. Pickhardt *et al.*, 420.

3. SAME—SAME—INTERFERENCE IN PATENT OFFICE.
The successful party to an interference is entitled to preliminary injunction against the representatives of the defeated party in case the infringement is clear, and the decision of the Patent Office in an interference between the parties as to the identity of the products sufficient proof of infringement.
[*Id.

4. PRELIMINARY INJUNCTION—EXCLUSIVE POSSESSION—VALIDITY OF PATENT—USE.
An injunction is seldom refused where exclusive possession is shown for some time, though not for a long period, where large and numerous sales have taken place without dispute, and where the validity of the patent is not questioned by the defendant.
[*White *et al.* v. Heath, 500.

5. SAME—PROSPECTIVE INFRINGEMENT.
Injunction granted before any sales had actually been made by the defendant where it appeared probable from the circumstances that the defendant is about to engage in the business.
[*Id.

6. SAME—NON-USER DURING SUIT.
The mere assertion of the defendant in the affidavit attached to his answer that he has no intention of making and selling any of the infringed articles during the pendency of the suit is not a good reason for withholding an injunction.
[*Id.

7. DENIAL OF PRELIMINARY INJUNCTION.
Motion for a preliminary injunction denied where patents have not been established, and complainant shows only a limited acquiescence, and defendants for years openly assert their invalidity.
[*Fish v. The Domestic Sewing Machine Company, 1207.

INOPERATIVENESS OF AN INVENTION.

(See Injunction, 2; Prior Use, 1.)

INSUFFICIENT DESCRIPTION.

(See Amendment to Applications, 3.)

INTERFERENCES.

(See Injunction, 2, 3, 6; Preliminary Statement.)

INVALID PATENTS.

(See Reissues, 6, 8, 20, 23; Void Patents.)

INVENTION.

(See Anticipation, 1; Construction of Specifications and Patents, 2; Non-Invention; Non-Patentability, 1, 2, 3; Patentability, 1.)

1. MACHINE, PROCESS, PRODUCT—INVENTION.
Where a person has invented a machine for sewing together the soles and uppers of boots and shoes by a chain-stitch without any welt, the stitch itself and the manner of forming it being well known, and the only new effect being the forming of the well-known seam in the well-known manner in a difficult place, theretofore inaccessible by any means that had then been discovered, and the inventor had taken out separate patents for the machine, the process, and the product: *Held*, that the entire invention lay in the machine, and that the patents for the process and product were invalid for lack of invention.
[*MacKay *et al.* v. Jackman, 85.

2. SAME—SAME.
After knowledge of a machine to make a shoe in a particular manner, there would be no room for an invention of that manner of making a shoe, or of a shoe made in that manner, and there would be no more room for the inventor of the machine than for any one else. It may be doubtful whether such a process or product as this is by itself patentable.
[*Id.

3. SAME—MERE MECHANICAL OPERATION.
Mere mechanical operations like the looping and drawing threads to form stitches in sewing either by machinery or by hand do not amount to arts or processes, and such operations, apart from the means of performing them, do not appear to be within the reach of protection by the patent laws.
[*Id.

4. NEW USE OF OLD DEVICES.
Merely applying old and well-known mechanical contrivances to a new purpose will not support a claim for a patentable invention or process.
[*Gottfried v. The Crescent Brewing Company, 497.

5. INVENTION.
Merely giving the well-known concave or dishing shape by an old process to a chair-seat formed of the materials covered by the Mayo patent is not invention. It is merely applying a process that is old to a material that is old to obtain an old form.
[*Gardner *et al.* v. Herz *et al.*, 683.

6. GREAT UTILITY OF INVENTION—NOVELTY.
The fact that an invention is of great utility and has gone largely into use goes far to show that the inventor discovered and put to use what others skilled in the art had overlooked, and it would probably have been found out before if ordinary skill in that art could have discovered it.
[*Bruce v. Marder *et al.*, 1039.

7. INVENTION.
An invention consists primarily in finding out what mechanical operation is necessary to produce the practical result arrived at.
[*Wooster v. Blake *et al.*, 1132.

INVENTION DESCRIBED BUT NOT CLAIMED IN ORIGINAL PATENT.

(See Reissues, 12, 14, 21.)

REISSUE CANNOT COVER INVENTION DESCRIBED BUT NOT CLAIMED IN ORIGINAL.

Under recent decisions a patent cannot be reissued to cover an invention described, but not claimed, in the original patent.
[*Ex parte* Pfaudler, 1881.

INVENTION KNOWN OR USED.

(See Prior Use, 2.)

ISSUE OF PATENTS.

(See Rules of Practice, 2.)

JOINDER OF ASSIGNOR.

(See Licensees, 1; Parties to Suit, 3.)

JOINDER OF SEVERAL PATENTS IN SUIT FOR INFRINGEMENT.

(See Suit for Infringement, 1.)

JOINT OWNERS.

(See Damages and Profits, 3.)

JOINT STOCK ASSOCIATIONS.

(See Parties to Suit, 2.)

JUDGMENT.

VALIDITY OF THE PATENT—FORMER SUIT.
The fact that the judgment in a former suit was obtained without resistance does not, in the absence of collusion, make it less stronger evidence of the validity of the patent.
[*McWilliams Manufacturing Company v. Blundell, 177.

JUDGMENT OF THE COMMISSIONER.

(See Priority of Invention.)

JURISDICTION.

(See Circuit Courts, 1; Damages and Profits, 3; Decree, 2; Labels, 3, 5.)

1. JURISDICTION—WHEN COURT MAY CONSIDER.
A court may consider the question of its jurisdiction at any time during the pendency of the proceedings, especially the Federal courts, where it has long been the practice of the judges, *sponte sua*, to decline jurisdiction and dismiss the case where the want of authority to act becomes apparent.
[*Spring *et al.* v. The Domestic Sewing Machine Company, 1445.

2. SAME—CONCURRENT LEGAL AND EQUITABLE.
Notwithstanding section 723 of the Revised Statutes, there remains a limited range of cases in which legal and equitable jurisdiction are concurrently exercised.
[*Id.

3. JURISDICTION OF FEDERAL COURT—CONTRACTS INVOLVING PATENTS.
The subject-matter of contracts made in relation to patents, where neither the validity of the patent nor its infringement is concerned in the controversy, does not give the courts of the United States jurisdiction. The rights of the patentee under the patent laws of the United States must be directly, and not collaterally, brought in issue to give jurisdiction.
[*Teas v. Albright *et al.*, 2069.

4. SAME—SAME—COURT WILL REMAND ON ITS OWN MOTION.
Where after the removal of a cause wherein the requisite conditions of citizenship and amount in controversy do not exist, and it is found upon the pleadings that the subject-matter is one in which the statute of the United States is only incidentally brought into question, the court will of its own motion remand the case.
[*Id.

JURISDICTION IN EQUITY.

(See Damages and Profits, 3; Decree, 2; Jurisdiction, 1, 2, 3.)

LABELS.

1. IMITATION.
A bottle and label with the words "Clayton & Russell's Celebrated Stomach Bitters" *Held* to be a mere imitation of those used for Hostetter's Bitters.
[*Hostetter *et al.* v. Adams *et al.*, 943.

2. SINGLE LETTER.
A single letter having been decided not to be a label, *Held* that the same rule applies to a horseshoe.
[*P. Lorillard & Co. v. The Drummond Tobacco Company, *et al.*, 1208.

3. REGISTRY OF LABELS—POWER OF COMMISSIONER.
The statute which charges the Commissioner of Patents with the supervision and control of the entry or registry of prints and labels confers upon him the right to determine whether the subject-matter of an application is properly registrable as a label.
[*Ex parte* Schumacher & Ettlinger, 1291.

4. SAME—MERELY FANCIFUL DESIGNS.
A fanciful and arbitrarily-selected design which is not descriptive of the contents or ownership of the articles to which it is to be applied is not entitled to registry as a label. *Ex parte Schumacher & Ettlinger* (19 O. G., 791) approved.
[Id.

5. That which Constitutes a Trade-Mark may be Registered in the United States Patent Office as a Label—Proprietor may Elect.
The several acts of Congress regarding the registration of prints designed to be used as labels do not exclude from registration a label containing matter which might be registered as a trade-mark; nor does the fact that a label bears such distinguishing marks as entitle it to registration as a trade-mark, exclude it from registration as a label, if the owner desires it to be registered as such. Whether the Commissioner of Patents is to regard it as the one or the other depends wholly upon the will of its proprietor.
[*The United States, *ex rel.* The Willcox & Gibbs Sewing Machine Company *v.* E. M. Marble, 1366.

6. Supreme Court of the District of Columbia will Issue Mandamus to Register—When.
The owner of a label entitled to registration under the law made application to the Commissioner of Patents for its registration. Applicant had complied with all the requirements of the law; but the examiner in charge of that department of the Patent Office rejected the application on the ground that the label was not of the class entitled to registration, whereupon applicant, instead of appealing to the Commissioner of Patents, as he might have done, petitioned this court for a *mandamus* to compel the Commissioner to register the label. The Commissioner, in his answer to the rule to show cause, recited the facts of the failure of the applicant to appeal to the Commissioner from the examiner's decision, but at the same time approved of and indorsed the reasons of the examiner for refusing to register the label: *Held*, that a peremptory *mandamus* to register the label should issue, and so ordered.
[*Id.

LACHES.

(See Infringement, 2; Particular Patents, 7 Burt and Dunn; Reissues, 1, 2, 3, 7, 14, 18.)

LAW AND EQUITY.

(See Damages and Profits, 3; Decree, 2; Jurisdiction, 2.)

LIABILITY.

(See Injunction, 1; Parties to Suit, 2.)

LICENSEES.

Mere Licensee Cannot Sue.
Where the transfer to the complainant was of a mere right to use and vend the invention for limited purposes in specified places, *Held* that it was a mere licensee, and that the bill should be amended by bringing in the legal owner as a party.
[*The Gamewell Fire Alarm Telegraph Company *v.* The City of Brooklyn, 1978.

LICENSES.

(See Right to Use, 1.)

1. Licenses—Parties to Suits.
A grant of "the exclusive right under said recited letters patent to manufacture and sell a certain hay-elevator" *Held* not to be an assignment of an exclusive interest in the entire monopoly for the whole or any portion of the United States. It is a license only to manufacture and sell exclusively a specified form of hay-elevator, and the representatives of such an interest are not indispensable parties to a suit upon the patent.
[*Nellis *v.* The Pennock Manufacturing Company, 1131.

2. Right to Sue—Licensee—Patentee a Party.
An agreement whereby the patentee granted to the complainant the sole and exclusive right to sell the patented articles within certain specified territory was not a transfer of an individual part of the whole patent or of the exclusive right of the whole patent for a particular territory. It is simply a license, and does not entitle the complainant to bring suit in his own name, the patentee not being a party to the suit.
[*Ingalls *et al. v.* Tice *et al.*, 2160.

LIMITATION OF TERM OF PATENT.

(See Commissioner of Patents Required to Limit United States Patents by Foreign Patents Previously Issued.)

1. Section 4887 Revised States—Previous Foreign Patent—Filing of Application.
The limitation is the same, even if the domestic application was filed before the application for, or the grant of, the foreign patent, the word "previously" in the last clause of section 4887 referring to time prior to the grant of the domestic patent rather than to time prior to the application therefor. *Ex parte Mann* (17 O. G., 330) disapproved.
[*Bate Refrigerating Company *v.* Gillett, 1205.

2. Previous Foreign Patent—Extension.
The term of the domestic patent is limited to the term of the foreign patent in force when the domestic patent was granted, and is not prolonged by any subsequent extension of the foreign patent.
[*Id.

3. Duration of Patent.
An inventor receiving a patent in the first instance in this country is entitled to seventeen years' protection of his invention; but if he has previously obtained letters patent in one or more foreign countries, then, while not deprived of his right to a patent here, the term to which the law in such case limits his protection is a period not extending beyond the date of the expiration of that one of the foreign patents first expiring.
[*United States, *ex rel.* Horace Koechlin and Otto N. Witt *v.* Edgar M. Marble, Commissioner of Patents, 1365.

LIMITATION OF UNITED STATES PATENTS BY A FOREIGN PATENT PREVIOUSLY OBTAINED.

(See Commissioner of Patents Required to Limit United States Patents by Foreign Patents Previously Issued.)

LOST MODEL.

(See Model, 1.)

MACHINE.

(See Non-Patentability, 3; Reissues, 12.)

MACHINE AND ITS PRODUCT.

(See Invention, 1, 2.)

MACHINE AND PROCESS.

(See Motion to Strike Plea from Files, 1; Reissues, 21.)

MANDAMUS.

(See Labels, 6; Rules of Practice, 2.)

Patent Office—Party Respondent to a Mandamus.
Whether, in an application for a mandamus to compel the issuance of letters patent for an invention, the Secretary of the Interior, and not the Commissioner of Patents, should be made the party respondent, *quære*.
[*United States, *ex rel.* Horace Koechlin and Otto N. Witt *v.* Edgar M. Marble, Commissioner of Patents, 1365.

MASTER'S REPORT.

(See Damages and Profits, 5.)

MEASURE OF DAMAGES.

(See Damages and Profits, 4, 5.)

MECHANICAL CHANGE.

(See Change of Structure; Construction of Claims, 5; Infringement, 11; Particular Patents, 25 Hart.)

MECHANICAL CONSTRUCTION.

(See Infringement, 3, 4, 7, 8, 11; Invention, 3, 4, 5, 7; Non-Invention; Non-Patentability, 1, 2; Reissues, 4, 6.)

MECHANICAL OPERATIONS.

(See Invention, 3.)

MECHANICAL SKILL.

(See Construction of Specifications and Patents, 2; Invention, 6; Non-Invention, 1.)

MECHANICAL SUBSTITUTE.

(See Change of Structure, 1; Construction of Claims, 2; Infringement, 3, 7, 11; Non-Invention, 1; Non-Patentability, 1.)

MECHANICAL TERMS.

(See Construction of Specifications and Patents, 4.)

MECHANISM.

(See Construction of Claims, 4.)

MISTAKES.

(See Preliminary Statement, 1; Reissues, 7.)

MODEL.

(See Construction of Specifications and Patents, 4; Reissues, 9.)

Reissue—New Matter—Lost Model.
A reissue may include matter shown in the model which was not described or indicated in the original specification or drawing; and it seems that the character of a lost or destroyed model may be established by oral testimony.
[*Meyer *et al. v.* Goodyear's India Rubber Glove Manufacturing Company, 681.

MODE OF OPERATION.

(See Particular Patents, 43 Pelham.)

MODIFICATIONS.

(See Construction of Claims, 1; Designs; Infringement, 3, 4, 5, 6, 7, 8, 11; Non-Invention, 1; Non-Patentability, 2; Reissues, 1, 3, 4, 5, 6, 8, 9, 10, 13, 17, 19, 20, 21, 22.)

MOTION FOR PRELIMINARY INJUNCTION DENIED.

(See Injunction, 7.)

MOTION FOR REHEARING.

(See Decree, 2.)

MOTION TO AMEND ANSWER.

(See Answer to Bill, 1.)

MOTION TO AMEND PRELIMINARY STATEMENT.

(See Preliminary Statement.)

MOTION TO REOPEN.

(See New Trial, 1.)

1. Motion to Reopen—Former Suit—No Decree Entered.
Where a former suit between the same parties and upon the same issues had been decided before the pending suit was instituted, but by an oversight no decree had been entered, and upon discovery of the defect the prevailing party had obtained leave to enter and had entered said decree: *Held*, that the pending case should be opened to permit the party to file in the case a certified copy of the decree.
[*Barker *v.* Stowe, 259.

2. New Trial—New Evidence Must Affect the Result.
Motion to have a decree opened and leave granted to put further defenses to the patent denied where it appeared that the new evidence would not affect the result.
[*Coburn *et al. v.* Schroeder *et al.*, 419.

3. New Trial—Change of Issue—No New Questions.
Motion for opening a decree on account of an alleged change of issue made by the filing of a disclaimer by the patentee, denied where it appeared that the effect of the disclaimer was merely to limit the claim of the patent and the issue, and where the parties had full opportunity to try, and diligently availed themselves of the opportunity to try, the question which would be open if the case should be again opened.
[*Id.

MOTION TO SET ASIDE SERVICE.

Motion to Set Aside Service.
A motion to set aside service in a suit in New York made upon a defendant in the city of New York granted, it appearing that he had come there to attend an examination of witnesses, held by stipulation, in a suit then pending in Massachusetts between the same parties upon the same letters patent.
[*Plimpton *v.* Winslow, 1907.

MOTION TO STRIKE PLEA FROM FILES.

Motion to Strike Plea from Files.
Motion to strike a special plea from the files, or that it be ordered to stand as an answer, denied, it appearing that the plea did not merely deny the bill, but set up new matter that displaced the equity of the bill—viz., that the reissued patent relied on is void, being for a process, while the original patent was for a machine.
[*Hubbell *et al. v.* De Laud, 1883.

NEW CLAIMS.

(See Reissues.)

NEW EVIDENCE.

(See Motion to Reopen, 2; Preliminary Statement.)

NEWLY-DISCOVERED EVIDENCE.

(See New Trial, 1.)

NEW MATTER.

(See Model, 1; Motion to Strike Plea from Files; Particular Patents: 33, Johnson; 49, Searls; 53, Sternberg; Reissues, 1, 9, 10, 13.)

NEW MECHANISM.

(See Construction of Claims, 4; Infringement, 1, 7, 11; Reissues, 6.)

NEW TRIAL.

(See Motion to Reopen, 2, 3.)

New Trial—Newly-Discovered Evidence—Material to the Result.
In applications for a new trial on newly-discovered evidence the evidence offered should of itself be such as to make it probable that its introduction would change the result. Application denied when there was a doubt as to the materiality of the evidence offered.
[*Munson *v.* City of New York, 586.

NEW USE.

(See Anticipation, 1; Particular Patents: 10, Clough; 27, Holbeck and Gottfried.)

NON-ADJUDICATED PATENTS.

(See Injunction, 7.)

NON-INVENTION.

(See Anticipation, 1; Invention, 5; Non-Patentability; Particular Patents, 54 Underwood.)

1. Oil-Wells—Want of Invention.
No invention was required to run a steam-pipe into an oil-well between the eduction-tube and the casing instead of through the packing between the casing and the sides of the well.
[*Doubleday v. Roess, 861.

2. Same—Aggregation.
A claim for the combination, in an oil-well, of a steam-pipe, a stop-cock in a gas-pipe, and a packing-tube, held to be for a mere aggregation.
[*Id.

NON-PATENTABILITY.

(See Anticipation, 1; Invention, 2, 3, 4, 5; Non-Invention.)

1. Invention—Fire-Place Heater—Aggregation—Commination.
Combining with one form of machine a device or element well known in other forms of machines of the same class—as arranging in a fire-place heater of a well-known type a fuel-receptacle common in ordinary cook-stoves—is not broadly patentable. It is a mere aggregation of old devices, each performing its ordinary function in the ordinary way and not co-operating to produce any new result.
[*The Thatcher Heating Company *et al.* v. Burtis *et al.*, 262.

2. Same—Same—Changes in Adjustment.
The invention, if any, resides in the means employed to adjust the parts into efficient relations with each other in the new organization.
[*Id.

3. Process—Mere Operation of Machine.
The mere operation of a machine does not constitute a patentable process. It is not a chemical process nor any other for transforming the subject of it into another state.
[*New v. Warren, 587.

NON-RESIDENTS.

(See Practice in the Courts, 1.)

NOVELTY.

(See Invention, 6.)

OATH WITH REGARD TO FOREIGN PATENTS.

(See Limitation of Term of Patent.)

OATH WITH REGARD TO PUBLIC USE.

(See Public Use.)

OFFICERS OF AN ASSOCIATION.

(See Parties to Suit, 2.)

OLD DEVICES.

(See Anticipation, 1; Combinations, 2, 3.)

OLD ELEMENTS.

(See Anticipation, 1; Combinations, 2, 3; Inventions, 4, 5; Non-Invention, 2; Non-Patentability, 1.)

OLD PROCESS.

(See Invention.)

OMISSION IN REISSUE OF CERTAIN PARTS OF ORIGINAL PATENT.

(See Reissues, 4, 5, 7.)

OPERATION OF A MACHINE.

(See Invention, 3; Non-Patentability, 3.)

ORIGINAL INVENTOR.

(See Prior Use, 1.)

OWNERSHIP.

(See Damages and Profits, 1, 3; Injunction, 1; Parties to Suit, 1, 3; Title to Patent, 1.)

PARTICULAR PATENTS.

(See Construction of Claims, 1; Construction of Specifications and Patents, 1, 2; Infringement, 1, 7, 8, 10, 11; Non-Invention; Non-Patentability, 1.)

1. Barker—Bucket.
Reissue Letters Patent, granted to W. C. Barker, No. 6,531, dated July 6, 1875, of original Letters Patent No. 116,138, June 20, 1871, for an improved bucket for chain-pumps, construed and sustained.
[*Barker v. Todd, 1448.

2. Barker—Gas-Burners.
The claim of Letters Patent No. 105,768, granted to John F. Barker, July 26, 1870, for an improvement in gas-burners—namely, "An improved gas-burner, consisting of the burner or pillar L, having holes *c c* therein, and provided with the movable or adjustable shell or tube I, all constructed and operating substantially as and for the purposes herein described, and specified"—is valid.
[*Clough v. The Gilbert & Barker Manufacturing Company, 2241.

3. Same—Compared with Letters Patent No. 104,271, Granted to Theodore Clough, July 14, 1870—Modifications Patentable.
Although a gas-burner made according to the description of said patent infringes both of the claims of letters patent granted to Theodore Clough, July 14, 1870, for an improvement in gas-burners, in its method of supplying additional gas and in its valve arrangement for regulating the supply, yet, as it dispenses with the interior tubular valve of Clough, and is made in two pieces instead of three, and is less expensive to make, and the shell alone revolves in regulating the supply, and not the burner with it, and the flame always remains in one position, the modifications are new and useful and patentable.
[*Id.

4. Barker—Knife.
Letters Patent No. 159,749, granted to Volney Barker February 16, 1875, for an improvement in green-corn knives, sustained.
[*Jones v. Barker *et al.*, 771.

5. Beckwith.—Head-Blocks.
Letters Patent No. 122,215, granted to Nelson F. Beckwith, December 26, 1871, for an improvement in head-blocks, examined and sustained. Various prior patents and alleged anticipatory devices considered and found not to anticipate the patentee's invention; but the use of the Gowen device with an upward-moving hook added to the head, and arranged to be operated with the downward-moving hook of the patent by a single stroke of the lever: *Held* to be an infringement.
[*Allis v. Buckstaff *et al.*, 1705.

6. Brainard—Shavings.
Reissue Letters Patent No. 8,099, granted to Edwin D. Brainard, for washing shavings in breweries, February 26, 1878, sustained.
[*Brainard v. Cramme, 709.

7. Burt and Dunn—Knife.
Reissue Letters Patent No. 8,854, granted to J. Burt and L. F. Dunn August 19, 1879, for an improvement in green-corn knives, upon enlarged claims, thirteen years after the grant of the original, declared invalid.
[*Jones v. Barker *et al.*, 771.

8. Clough—Gas-Burner.
The claims of Letters Patent No. 104,271, granted to Theodore Clough, July 14, 1870, for an improvement in gas-burners—namely, "1. The bat-wing burner perforated at the base in combination with the surrounding tube, substantially as described; 2. In combination with the bat-wing burner perforated at the base, and surrounding tube, the tubular valve for regulating the supply of external gas to the burner, substantially as described"—are valid.
[*Clough v. The Gilbert & Barker Manufacturing Company *et al.*, 2157.

9. Same—Infringed by Patent to Barker.
Both of said claims are infringed by a burner constructed in accordance with the description contained in letters patent granted to John F. Barker, July 26, 1870, for an improvement in gas-burners.
[*Id.

10. Same—Anticipating Device not Used in Same Way.
A prior burner was set up as anticipating the invention. It used now in a way in which it was never designed to be used, and was not shown to have ever been used before Clough's invention, it might be made to furnish a supplementary supply of gas; but, as it was not designed for the same purpose as Clough's burner, and no person looking at it or using it would understand that it was to be used in the way Clough's was used, and it was not shown to have been really used and operated in that way, it was: *Held*, not to have amounted to an invention of what Clough invented.
[*Id.

11. Same—Infringement—Equivalents.
The combination of the first claim being new, and Clough having been the first person who applied a valve regulation of any kind to such combination, he is entitled to hold as infringements of the second claim all valve regulations applied to such a combination which perform the same office in substantially the same way as and were known equivalents for his form of valve regulation.
[*Id.

12. Coburn and Billings—Case for Transporting Eggs.
Former decision, (see 20 O. G., 1524,) declaring Reissue Letters Patent No. 8,091, granted February 19, 1878, to Charles E. Coburn and Harriet F. Billings, assignees of John L. and George W. Stevens, for an improvement in cases for transporting eggs, valid, affirmed.
[*Coburn *et al.* v. Schroeder *et al.*, 1538.

13. Cross—Fountain-Pens.
Letters Patent No. 199,621, granted to A. T. Cross, January 29, 1878, for an improvement in fountain-pens, the principal distinctive feature of which is a spring working between the vibrating writing-pin and the air-tube to project the pin and restrain the flow of ink, examined and found to be valid.
[*Cross v. Mackinnon, 586.

14. Dann—Saw-Mill Dogs.
Letters Patent No. 134,653, granted to Henry W. Dann, January 7, 1873, for an improvement in saw-mill dogs, and reissued September 29, 1874, No. 6,071, and November 9, 1875, No. 6,733, construed, and decided not to be infringed by saw-mill dogs made under letters patent to Beckwith, No. 122,215, dated December 26, 1871, but slightly differing in construction from the dog described in that patent.
[*Neacy v. Allis, 1621.

15. Day—Track-Cleaners.
Reissue Letters Patent No. 8,388, granted to Augustus Day August 27, 1878, for an improvement in railway track-cleaners: *Held* to be infringed by the Detroit City Railway Company.
[*Day v. The Detroit City Railway Company, 946.

16. Delong—Seeding-Machines.
Letters Patent No. 216,025, granted to Benjamin Delong, June 3, 1879, for an improvement in seeding-machines, construed and decided not to be infringed.
[*Delong v. Bickford *et al.*, 2242.

17. Dickey and Perry—Stoves.
Claim 2 of Letters Patent No. 183,545, granted to Andrew Dickey and John S. Perry, October 24, 1876, for an improvement in stoves, declared invalid.
[*Perry *et al.* v. The Co-operative Foundry Company *et al.*, 1623.

18. Eichholtz—Cultivator.
Reissue Letters Patent No. 7,738, granted to M. Eichholtz, June 12, 1877, for an improvement in cultivators: *Held*, to be valid and not infringed by the Moline Plow Company.
[*Pattee *et al.* v. Moline Plow Company *et al.*, 173.

19. Eichholtz—Cultivator.
Letters Patent No. 88,537, granted to M. Eichholtz, April 6, 1869, for an improvement in cultivators: *Held*, to be valid and not infringed by the Moline Plow Company.
[*Id.

20. Frost—Stoves.
Claims 4 and 11 of Reissue Letters Patent No. 5,894, granted to Charles H. Frost, July 30, 1867, for an improvement in stoves, declared invalid.
[*Perry *et al.* v. The Co-operative Foundry Company *et al.*, 1623.

21. Fulton—Stoves.
Claim 1 of Reissue Letters Patent No. 9,352, granted to Calvin Fulton, April 27, 1869, for an improvement in stoves, declared invalid.
[*Id.

22. Gardner—Chair-Seat.
Reissue Letters Patent No. 9,094, granted to George Gardner, February 24, 1880, for an improvement in chair-seats, made of laminæ of wood glued together, with the grains in one layer crossing those of the next, concave on the upper surface, convex on the lower surface, and perforated, examined and found to present no patentable novelty over the patent to Mayo, granted December 26, 1865.
[*Gardner *et al.* v. Herz *et al.*, 683.

23. Gosling—Step-Covers.
Reissue Letters Patent No. 5,644, granted to John W. Gosling, November 4, 1873, for an improvement in step-covers and wheel-fenders for carriages, examined and compared with the original patent, and: *Held*, that, if the claim of the reissue be construed to cover a structure made in accordance with the description in Letters Patent No. 90,584, it is anticipated by prior structures, and is, moreover, for a different invention from that covered by the original patent.
[*Gosling v. Roberts, 1785.

24. Gray—Head-Covering.
Letters Patent No. 219,462, granted to Robert Gray, September 9, 1879, for an improvement in head-coverings, sustained.
[*Bernard *et al.* v. Heimann *et al.*, 1134.

25. Hart—Necktie.
Reissue Letters Patent No. 7,909, granted to Wm. H. Hart, Jr., October 9, 1877, for an improvement in necktles, which consists in attaching the pin to the shield by a rivet or punched-out part of itself, is not infringed by a pin having two right-angled deflections in its length passing through holes in the shield, and thereby held in position.
[*Hart, Jr., v. Thayer, 1787.

26. Hayes—Skylight.
Reissue Letters Patent No. 8,579, dated February 25, 1879; Nos. 8,674 and 8,675, dated April 15, 1879, and No. 8,688, dated April 29, 1879, all granted to George Hayes, for improvement in skylights, examined and sustained, and held to be infringed by several structures built by the defendant.
[*Hayes v. Borkel, 1710.

27. Holbeck and Gottfried—Barrels, Method of Pitching—
Letters Patent No. 42,580, granted to J. F. T. Holbeck and M. Gottfried, May 3, 1864, for a method of preparing casks for receiving pitch or other melted substance, to render them impervious, by forcing an air-blast through a grate-fire, the heated air and products of combustion being thence driven into the cask through a pipe leading from the top, examined and held to be invalid, whether construed to be for the use of a hot blast generally or for the use of a deoxygenated and non-combustible blast.
[*Gottfried v. The Crescent Brewing Company, 497.

28. Same—Former Decisions.
The decisions in *Gottfried* v. *Fortune* and *Gottfried* v. *Best Brewing Company* followed as to the questions there raised.
[*Id.

29. Same—No New Principle or Result.
The patent in this case was not even for the application of an old machine to a new use, it appearing that the interior of molds and casks had been previously heated by a hot blast for the same purpose, but by different means.
[*Id.

30. Holbeck and Gottfried—Barrels, Method of Pitching.
Upon rehearing, Letters Patent No. 42,580, granted to J. F. T. Holbeck and M. Gottfried, May 3, 1864, for an improved method of pitching barrels, which were declared invalid, (9 Fed. Rep., 702; 22 O. G., 497,) *Held*, to be valid, and decree entered for complainant.
[*Gottfried v. The Crescent Brewing Company, 1447.

31. Hunt—Stoves.
Claim 3 of Reissue Letters Patent No. 6,709, granted to Zebulon Hunt, September 18, 1865, for an improvement in stoves, declared invalid.
[*Perry *et al.* v. The Co-operative Foundry Company *et al.*, 1623.

32. Ives—Carriage-Axles.
Carriage-axles manufactured under letters patent to Ellsworth D. Ives, No. 216,276 and No. 233,932, dated June 10, 1879, and November 2, 1880, respectively: *Held*, not to infringe letters patent to Willis E. Miller, No. 200,214, dated February 12, 1878, and Reissue No. 8,719, May 20, 1879, of original Letters Patent No. 68,808, dated September 10, 1867.
[*Ives *et al.* v. Hartford Spring and Axle Company, 1037.

33. Johnson—Fastening Sheet Metal to Roofs.
Reissue Letters Patent No. 4,870, granted Asa Johnson, April 16, 1872, for an improvement in fastening sheet metal to roofs, examined and found to be invalid by reason of new matter and want of novelty in the invention.
[*Johnson *et al.* v. The Flushing and North Side Railroad Company, 329.

34. Jones—Knife.
Letters Patent No. 54,170, granted to John W. Jones, April 24, 1866, for an improvement in green-corn knives, declared invalid.
[*Jones v. Barker *et al.*, 771.

35. Loercher—Harness-Buckles.
Claim 4 of the Reissue Letters Patent No. 8,829, granted to R. Loercher, July 29, 1879, for an improvement in harness-buckles, construed, in view of the patent to Douglas, July 14, 1863, to be limited to the particular manner of pivoting the buckle-frame shown and described, and a device in which the part is pivoted in a different manner does not infringe.
[*Walters *et al.* v. Crandal, 261.

36. LULL—SHUTTER-HINGES.
Letters Patent No. 10,477, granted to Harvey Lull, July 31, 1854, for an improvement in shutter-hinges, and twice extended, construed and sustained, and *Held* to be infringed by hinges manufactured under Letters Patent No. 156,277, dated October 27, 1874, to Charles B. Clark.
[*Lull v. Clark *et al.*, 1535.

37. MILLER—CARRIAGE-AXLES.
Carriage-axles manufactured under letters patent to Ellsworth D. Ives, No. 216,266 and No. 233,932, dated June 10, 1879, and November 2, 1880, respectively: *Held*, not to infringe letters patent to Willis E. Miller, No. 200,214, dated February 12, 1878, and Reissue No. 8,719, May 20, 1879, of original Letters Patent No. 68,808, dated September 10, 1863.
[*Ives *et al. v.* Hartford Spring and Axle Company, 1037.

38. MOORE—STOVES.
Claims 1 and 4 of Reissue Letters Patent No. 9,247, granted to George R. Moore, May 22, 1866, for an improvement in stoves, declared invalid
[*Perry *et al. v.* The Co-operative Foundry Company *et al.*, 1624.

39. NORTON—CULTIVATOR.
Letters Patent No. 108,384, granted to C. P. Norton, October 18, 1870, for an improvement in cultivators: *Held*, to be valid and not infringed by the Moline Plow Company.
[*Pattee *et al. v.* Moline Plow Company *et al.*, 173.

40. PATTEE—CULTIVATOR.
Letters Patent No. 124,218, granted to J. H. Pattee, March 5, 1872, for an improvement in cultivators: *Held*, to be valid and not infringed by the Moline Plow Company.
[*Id.

41. PATTEE—CULTIVATOR.
Reissue Letters Patent No. 6,080, granted to J. H. Pattee, October 6, 1874, for an improvement in cultivators, *Held* to be valid and not infringed by the Moline Plow Company.
[*Id.

42. PATTEE—CULTIVATOR.
Reissue Letters Patent No. 7,496 and No. 7,497, granted to H. H. Pattee, February 6, 1877, for an improvement in cultivators: *Held*, to be valid and not infringed by the Moline Plow Company.
[*Id.

43. PELHAM—HOD-ELEVATOR.
Letters Patent No. 95,262, granted to T. M. Pelham, September 28, 1869, for an improvement in hod-elevators, construed, in view of French patent to Johnson of 1860, to embrace only the particular devices described, and the devices of the defendant, not being equivalent in function and operation, *Held* not to be an infringement.
[*Pelham *v.* Demarest, 772.

44. PILLSBURY—CULTIVATOR.
Reissue Letters Patent No. 5,557, granted to I. P. Pillsbury, August 26, 1873, for an improvement in cultivators: *Held*, to be valid and not infringed by the Moline Plow Company.
[*Pattee *et al. v.* Moline Plow Company *et al.*, 173.

45. PIPO—RUFFLES, MACHINE FOR MAKING.
Reissue Letters Patent No. 6,565, granted to John A. Pipo, June 27, 1875, for an improvement in machines for making ruffles, sustained.
[*Wooster *v.* Blake *et al.*, 1132.

46. POLING—CULTIVATOR.
Letters Patent No. 130,440, granted to T. Poling, August 13, 1872, for an improvement in cultivators: *Held*, to be valid and not infringed by the Moline Plow Company.
[*Pattee *et al. v.* Moline Plow Company *et al.*, 173.

47. ROOT—OIL-WELL PUMP.
Claim 1 of Letters Patent No. 47,133, granted April 4, 1865, to John B. Root for an improvement in oil-well pumps: *Held*, to be anticipated, and claim 2 not to bear the construction sought to be placed upon it by the plaintiff.
[*Doubleday *v.* Beatty, 859.

48. SCHRÖDER—CULTIVATOR.
Letters Patent No. 69,255, granted J. Schröder, September 24, 1867, for an improvement in cultivators: *Held*, to be valid and not infringed by the Moline Plow Company.
[*Pattee *et al. v.* Moline Plow Company *et al.*, 173.

49. SEARLS—WHIP-SOCKET.
Reissue Letters Patent No. 9,297, granted to Anson Searls, July 13, 1880, for an improvement in whip-sockets, declared invalid because of an unauthorized enlargement of the original.
[*Searls *v.* Bouton *et al.*, 946.

50. SPEAR—STOVES.
Claims 4, 6, 7, 8, and 12 of Reissue Letters Patent No. 6,206, granted to James Spear, January 5, 1875, for an improvement in stoves, declared invalid.
[*Perry *et al. v.* The Co-operative Foundry Company *et al.*, 1623.

51. STERNBERG—CHEESE-HOOP.
Reissue Letters Patent No. 8,832, granted to David Sternberg, August 5, 1879, for an improvement in cheese-hoop, construed.
[*Tyler *v.* Galloway *et al.*, 2072.

52. REISSUE—NEW MATTER—INFRINGEMENT.
The conclusions announced in *Tyler* v. *Welch* (3 Fed. Rep., 636; 17 O. G., 541) adopted so far as it was held that there is no new matter in the descriptive part of the specification or in the second claim of Tyler's reissued patent, and that the said second claim is infringed by the Frazer hoop.
[*Id.

53. SAME—VOID CLAIM.
As to the first claim, it appearing that if it were construed according to its natural meaning it would include an invention broader than the one which was made, and, on the other hand, that if duly restricted it would be substantially the same as the second, and superfluous: *Held*, in view of late decisions of the Supreme Court, that the claim should be pronounced void.
[*Id.

54. UNDERWOOD—WHIP-SOCKET.
Letters Patent No. 221,482, granted to J. M. Underwood, November 11, 1879, for an improvement in whip-sockets, *Held* to be invalid for want of invention.
[*Searls *v.* Merriam *et al.*, 1040.

55. VOTTI—LAMP-BURNERS.
Reissue Letters Patent No. 7,511, granted to Carl Votti, February 13, 1877, for an improvement in shade-holders for lamps, construed and held that the most favorable view that can be taken of the patent is that it is for a shade of the size, height, and proportion shown in the drawings.
[*Schneider *v.* Lovell *et al.*, 499.

56. VOTTI—SHADE-HOLDERS.
No defense having been made, Reissue No. 10,087 of Letters Patent No. 182,973, granted to Carl Votti, October 3, 1876, for an improvement in shade-holders for lamps, declared *prima facie* valid and injunction granted.
[*Schneider *v.* Bassett & Co., 1447.

57. WINSLOW—KNIFE.
Letters Patent No. 51,379, granted to Isaac Winslow, December 5, 1865, for an improvement in green-corn knives, declared invalid.
[*Jones *v.* Barker *et al.*, 771.

58. WOOSTER—RUFFLING, MACHINES FOR MAKING.
Reissue letters patent to George H. Wooster, for improvements in machines for making ruffles, No. 6,565, dated July 27, 1875, of original letters patent to John A. Pipo, No. 37,550, dated January 27, 1863, and No. 6,566, dated July 27, 1875, of original letters patent to Thomas Rohjohn, No. 46,424, dated February 14, 1865, *Held* to be infringed by the "Johnson" and "Toof" rufflers, Claims 8 and 9 of Reissue No. 6,566 are not anticipated by letters patent to George B. Arnold, No. 28,139, dated May 8, 1860.
[*Wooster *v.* Blake *et al.*, 1132.

PARTIES TO SUIT.

(See Damages and Profits, 1, 2, 3; Infringement, 9; Injunction, 1; Licensees, 1; Licenses, 1, 2.)

1. ASSIGNEES—RIGHT TO SELL AND USE.
An assignee of the exclusive right to manufacture and sell a patented invention throughout the United States is the proper party to maintain a suit for the violation of this right. The right to manufacture and sell carries with it the right to use the devices sold, and nothing short of an express qualification will change this result.
[*Nellis *v.* The Pennock Manufacturing Company, 1131.

2. JOINT STOCK ASSOCIATION—SUIT AGAINST INDIVIDUAL MEMBERS.
The defendants were members of a joint stock association capable of being sued without making all its shareholders parties. The infringing device was owned by the association and used by its agents for the benefit of its stockholders. *Held* that a suit in which several of the shareholders were individually joined was properly brought, and that each defendant was liable to be enjoined. Bill, however, dismissed against a party who was an officer of the association, but not a shareholder.
[*Tyler *v.* Galloway *et al.*, 1294.

3. RIGHT TO SUE—LEGAL AND EQUITABLE TITLE.
Where one person has the legal title to the patent and another an equitable right therein, both must be made parties to the suit in action in equity to restrain infringement.
[*The Gamewell Fire Alarm Telegraph Company *v.* The City of Brooklyn, 1978.

PATENTABILITY.

(See Combinations, 2, 3; Construction of Specifications and Patents, 5; Scope of a Patent, 1.)

ARTICLE OF MANUFACTURE—INVENTION.
An article of manufacture, to be the subject of a patent, must be new as such in the sense of the patent laws, and must be the result of invention.
[*MacKay *et al. v.* Jackman, 85.

PATENT OFFICE.

(See Rules of Practice, 2.)

PATENTS.

(See Commissioner of Patents Required to Limit United States Patents by Foreign Patents Previously Issued; Limitation of Term of Patent; Prior Use, 1.)

PATENTS NOT LITIGATED.

(See Injunction, 7.)

PENDING SUIT.

(See Reissues, 16.)

PLEA.

(See Motion to Strike Plea from Files.)

PLEADINGS IN EQUITY.

(See Circuit Courts, 1; Jurisdiction, 4; Motion to Strike Plea from Files.)

POSSESSION.

(See Injunction, 4.)

POWER OF THE COURTS.

(See Jurisdiction, 1, 4.)

PRACTICE IN THE COURTS.

(See Answer to Bill, 1, 2; Bar to Suit, 1; Circuit Courts, 1; Decree, 1, 2; Designs, 2; Injunction, 5, 7; Judgment, 1; Jurisdiction, 3, 4; Motion to Reopen, 1, 2, 3; Motion to Strike Plea from File; New Trial, 1; Prior Use, 2; Subpœnas, 1; Suit for Infringement 1.)

1. PRACTICE—SUBPŒNA—PRIVILEGED ATTENDANCE.
Where on a motion to set aside the service of a subpœna on the ground of privilege of attendance within the district, and the point had been raised that the defendant was not a non-resident, and the motion had been denied on the ground that the defendant had failed to show that he was a non-resident of the State: *Held*, on the renewal of such motion, that the defendant had lost his right to show that he was a non-resident. It is not a newly-discovered fact.
[*Matthews *v.* Puffer *et al.*, 332.

2. EVIDENCE AFTER FILING OF BILL.
Evidence as to transactions after the filing of the bill is admissible to characterize the practical use of the subject-matter of the suit.
[*Hostetter *et al. v.* Adams *et al.*, 943.

PRACTICE IN THE PATENT OFFICE.

(See Amendment to Applications, 1, 2; Preliminary Statement, 1.)

PRELIMINARY STATEMENT.

1. AMENDMENT OF PRELIMINARY STATEMENT—RULE STATED.
In view of the rulings in *Le Roy* v. *Hopkins* and *Edison* v. *Nicholson: Held*, that where it is made reasonably certain that a mistake has been made in the preliminary statement, and that the party governed by such statement would not be permitted to introduce testimony which would develop the real facts in his case, that amendments will be allowed permitting the introduction of such testimony at any time before the testimony is closed.
[*Moore *v.* Brown, 1882.

2. SAME—OTHER SIDE TO TAKE FURTHER TESTIMONY.
If such amendment makes it necessary for the opposite party to take further testimony, either on his direct examination or in rebuttal, he must be permitted to do so on a proper motion.
[*Id.

PRINTED PUBLICATIONS.

(See Anticipation, 1; Foreign Publications, 1.)

PRIOR DECISIONS.

(See Amendment to Applications, 2; Decree, 2; Judgment, 1; Motion to Reopen, 1; Particular Patents: 12, Coburn and Billings; 28, Holbeck and Gottfried; 30, Holbeck and Gottfried; 52, Sternberg; Reuse of Patented Articles, 3.)

PRIORITY OF INVENTION.

(See Particular Patents: 23, Gosling; 58, Wooster.)

1. BILL IN EQUITY—SECTION 4915 REVISED STATUTES—JUDGMENT OF COMMISSIONER SUSTAINED.
Bill in equity under section 4915 Revised Statutes to revise the judgment of the Commissioner upon the question of priority of invention between complainant and respondent, in light of evidence before the Commissioner and of evidence since taken dismissed, it appearing from the evidence that the respondent is the prior inventor.
[*Damon *et al. v.* Eastwick, 1709.

2. SAME—ONLY QUESTION PRIORITY OF INVENTION.
The only question upon the merits of such a controversy is that of priority of invention. The question as to equitable rights arising out of the relation of the parties will not be entered upon.
[*Id.

3. JURISDICTION.
The question of jurisdiction was raised in this case, but not decided.
[*Id.

PRIOR PUBLICATIONS.

(See Anticipation, 1.)

PRIOR USE.

1. PRIOR USE—UNSUCCESSFUL AND ABANDONED EXPERIMENT.
A patent is not invalidated by proof that before the patentee's invention a device similar to the patentee's was temporarily in use, but proved a failure and was abandoned under circumstances indicating that it was no more than an unsuccessful and abortive experiment. To defeat a patent on the ground of prior use of the patented invention, it must appear that the anticipatory device was embodied in distinct form, and was so far perfected as to be capable of practical use.
[*Allis *v.* Buckstaff *et al.*, 1705.

2. SAME—PLEADINGS—NAMES OF WITNESSES UNNECESSARY TO SET OUT.
Where the defense of prior use is relied upon it is necessary to set out in the answer the names of those who have invented or used the anticipatory machine or improvement, but not the names of the witnesses who are to testify touching such prior use.
[*Id.

PRIVILEGED ATTENDANCE.

(See Practice in the Courts, 1.)

PROCEEDINGS IN EQUITY.

(See Parties to Suit; Practice in the Courts; Prior Use, 2; Injunction; Jurisdiction, 1; Suits for Infringement, 1.)

PROCEEDINGS IN THE PATENT OFFICE.

(See Foreign Patents, 1; Foreign Publications, 1; Preliminary Statement; Reissues, 10.)

PROCESS.

(See Invention, 3, 4, 5; Non-Patentability, 3; Reissues, 12, 14.)

PROCESS AND MACHINE.

(See Motion to Strike Plea from File; Reissues, 21.)

PROCESS AND PRODUCT.

(See Invention, 1, 2.)

PRODUCTS.

(See Patentability.)

PROFITS.

(See Damages and Profits.)

PROOF OF INFRINGEMENT.

(See Designs, 2; Infringement; Injunction, 2, 3, 4, 5, 6, 7.)

PROPERTY RIGHTS.

(See Title to Patent, 1.)

PUBLIC USE.

(See Prior Use, 1, 2.)

1. APPLICATION FOR PATENT—OATH.
An applicant for a patent should make oath that his invention has not been in public use or on sale in this country for more than two years prior to the filing of his application.
[*Ex parte* Rowan, 1037.

2. SAME—SAME.
An applicant for a patent should make oath that he does not believe the subject-matter of his application was ever known or used prior to his invention; but not that it was not so known prior to his application.
[Id.

RECOMBINATIONS.

(See Combinations, 3.)

REDUCTION TO PRACTICE.

(See Prior Use, 1.)

REFERENCES.

(See Foreign Applications, 1; Foreign Patents, 1; Reissues, 19.)

REHEARING.

(See Decree, 2; Motion to Reopen.)

REISSUES.

(See Labels, 2; Particular Patents: 7, Burt and Dunn; 23, Gosling; 51, Sternberg; Right to Use, 1.)

1. LACHES—ENLARGED CLAIMS.
An inventor, having in his original patent limited his claim of invention to a specified detail of construction, cannot, after a lapse of nine years, procure a valid reissue embodying the enlarged and comprehensive claims that might have been allowed in the original patent.
[*Sheriff *et al. v.* Fulton *et al.*, 87.

2. SAME—EQUITABLE ESTOPPEL.
An acquiescence by the patentee and his assignees for a period of nine years in the terms of the patent as originally granted creates an equitable estoppel in favor of the public.
[*Id.

3. SAME—AMENDING CLAIM.
Doubted whether, after a delay of nine years, the claim of a patent can be materially enlarged upon the suggestion that the original claim was defective in form and required amendment.
[*Id.

4. AMENDING CLAIM BY DROPPING USELESS ELEMENT.
A patentee is not bound to include in the claim of his reissued patent an element of the original claim—a pin connecting a clamp-piece and a screw—which was not necessary or material to the combination, and which was found to be practically useless.
[*McWilliams Manufacturing Company *v.* Blundell, 177.

5. OMISSION OF PART OF ORIGINAL INVENTION.
And, further, there is nothing in the policy or terms of the patent act which forbids the omission of part of the original invention from the reissued patent.
[*Id.

6. METALLIC ROOFING—NEW MATTER.
Where the original patent was for a complicated contrivance consisting of a number of old devices combined and specially adapted to the fastening of metallic coverings to buildings, and all the parts of the device were described as absolutely essential to the purposes set forth, and, after a delay of fifteen years, the patent was reissued to cover the fish-plate joint used by the defendant by omitting several of the devices essential to the combination described in the original patent, and by making separate claim for the parts which remain, giving to those parts a new and essential function, which they could not perform under the original patent: *Held*, that the reissued patent describes another device operating in a different way and for a different purpose from that described in the original patent, and is therefore void.
[*Johnson *et al. v.* The Flushing and North Side Railroad Company, 329.

7. SAME—LACHES.
It appearing that the fish-plate joint in question was in general use throughout the entire life of the original patent, *Held* that there was no error in the original patent caused by inadvertence, accident, or mistake which could have escaped the notice of the patentee and his associates for fifteen years, and even if the patentee had the right to a reissue, if applied for in seasonable time, he had lost it by his laches and unreasonable delay.
[*Id.

8. LIQUID MIXED PAINTS—NEW MATTER.
A patent for a particular kind of liquid mixed paint expanded in reissue to cover all kinds of liquid mixed paints when packed in tight vessels, the invention of packing in vessels not being at all described or even alluded to in the original patent: *Held*, to be invalid for new matter.
[*The Averill Chemical Paint Company *v.* The National Mixed Paint Company *et al.*, 585.

9. SAME—THE DRAWINGS OR MODELS—ADDITIONS UPON PROOF.
The Commissioner of Patents is not authorized to grant a reissue of a patent for an invention in addition to that shown in the original in cases where there are no drawings nor models, upon proof that the addition was really a part of the same invention sought to be patented in the original.
[*Id.

10. SAME—SECTION 4916 REVISED STATUTES.
A reissue patent must in all cases be for the same invention as that contained in the original patent, and the last clause of section 4916 Revised Statutes merely governs the manner of proof, but does not authorize the Commissioner to grant a reissue for a different invention, or to determine that one invention is the same as another or different one, or that two inventions essentially distinct constitute but one.
[*Id.

11. DIVISIONS—BROADENED CLAIM.
A patent may be reissued in divisions, but the patent cannot be broadened in that way any more than if reissued together.
[*New *v.* Warren, 587.

12. MACHINE—PROCESS.
A patent for a machine cannot be broadened on reissue to cover a process described in the original patent. If the process was patentable, it should have been included in the original patent.
[*Id.

13. NEW MATTER—LOST MODEL.
A reissue may include matter shown in the model which was not described or indicated in the original specification or drawing; and it seems that the character of a lost or destroyed model may be established by oral testimony.
[*Meyer *et al. v.* Goodyear's India Rubber Glove Manufacturing Company, 681.

14. PROCESS.
When a process claimed in a reissue granted nine years after the original, which was for the apparatus, is merely the employment of the devices described in such original, and is therefore fully disclosed, and other inventors have in the meantime occupied the ground, such process must be held to be abandoned to the public.
[*Brainard *v.* Cramme, 769.

15. CONSTRUCTION OF CLAIMS.
Claims in a reissue are to be construed, if the language will reasonably bear such an interpretation, so as not to embrace any invention broader in its scope than that in the original.
[*Id.

16. PENDING SUIT.
A suit begun upon one patent cannot be sustained upon a reissue of that patent; hence a suspension of proceedings cannot be had for the purpose of obtaining such reissue.
[*Id.

17. ANSWER IN SUIT UPON.
In a suit upon a reissued patent it seems to be sufficient, in order to put in issue the lawfulness of the enlargement of claims and the scope of the original, to allege in the answer to the bill of complaint that the original patent was not surrendered because inoperative or invalid by reason of claiming too much, and that in the reissue the claims have been broadened, so as to cover more than the patentee had a right to claim as new.
[*Searls *v.* Bouton *et al.*, 946.

18. LAPSE OF TIME.
The original patent claiming a type-wheel provided with yielding flanges to permit the types to be impressed upon the surface to be marked, a claim in a reissue granted after the manufacture of non-infringing devices, and nine years after the issue of the original: *Held*, not to be sustainable to cover rigid flanges. If there were any error in restricting the original to elastic flanges, it was a plain one, apparent at once to the patentee, and as capable of prompt correction then as after a lapse of more than nine years.
[*Holt *et al. v.* Keeler *et al.*, 1291.

19. ORIGINAL SPECIFICATION MAY BE REFERRED TO TO CORRECT CLAIM.
The decision of United States Supreme Court in *Lehigh Valley Railroad Company v. Mellon*, (20 O. G., 1891,) while it limits the effect of the specification to the claim does not exclude reference to the original specification to correct the claim, upon a reissue.
[*Coburn *et al. v.* Schroeder *et al.*, 1538.

20. ENLARGEMENT OF CLAIM.
The original patent and the first reissue thereof covered the combination, in a saw-mill dog, of bars provided with knives so adjusted as to interlock when entering the wood. The second reissue omitted in one claim the bars and claimed the combination of the knives arranged to move past each other and engage with the log. *Held* that by the second reissue the scope of the original was improperly enlarged.
[*Neacy *v.* Allis, 1621.

21. EXPANSION OF CLAIM.
A patent for a machine cannot be reissued to cover a process or method, although such process or method may have been described in the original patent.
[*Ex parte* Ffandler, 1881.

22. SAME.
Under recent decisions a patent cannot be reissued to cover an invention described, but not claimed, in the original patent.
[*Id.

23. SAME—ONE VOID CLAIM DOES NOT AFFECT THE OTHERS.
One claim in a reissue may be void without necessarily invalidating the other claims, and may be disclaimed *pendente lite* when there has been no unreasonable neglect or delay.
[*Tyler *v.* Galloway *et al.*, 2072.

REMEDY AT LAW.

(See Damages and Profits, 3.)

RESULTS.

(See Construction of Claims, 1, 4.)

*REUSE OF PATENTED ARTICLES.

1. COTTON-BALE TIES—INFRINGEMENT.
The plaintiffs were the owners of patents for improvements in metallic cotton-bale ties, each tie consisting of a buckle and a band. They granted no licenses to make the ties, but themselves made them and supplied the market. They stamped in the metal of the buckle the words "Licensed to use once only." The defendants bought as scrap-iron the buckles and bands at the cotton-mills after the bands had been severed to release the bale, and rolled and straightened the pieces of the bands, and riveted together their ends, and cut them into proper lengths for ties, and sold them, with the buckles, to be used as ties, nothing being done to the buckles: *Held*, that the defendants had infringed the patents.
[*The American Cotton Tie Company *et al. v.* Simmons *et al.*, 1976.

2. SAME—SAME—OLD BUCKLE WITH NEW BAND.
Whatever right the defendants acquired to the use of the old buckle, they acquired no right to combine it with a substantially new band to make a cotton-bale tie. They so combined it when they combined it with a band made of the pieces of the old band in the way described.
[*Id.

3. SAME—REPAIR—RECONSTRUCTION.
What the defendants did in piecing together the pieces of the old band was not a repair of the band or tie within the principle laid down in *Wilson v. Simpson*, (9 How., 109.) Its capacity for use as a tie was voluntarily destroyed at the cotton-mills as having served its purpose. As a tie it was reconstructed by the defendants, although they used the old buckle without repairing that.
[*Id.

REVIEW OF FORMER DECISIONS.

(See Amendment to Applications, 2; Decree, 2; Infringement, 8; Judgment, 1; Limitation of Term of Patents, 1; Motion to Reopen, 1; Particular Patents: 28, Holbeck and Gottfried; 30, Holbeck and Gottfried; 52, Sternberg; Reissues, 19.)

RIGHT TO SUE.

(See Licensees, 1; Parties to Suit, 3.)

RIGHT TO USE.

(See Licensees, 1, 2; Parties to Suit, 1.)

ACQUIESCENCE IN USE UNDER ORIGINAL PATENT.
Acquiescence by the patentee in the use by the defendant of the original defective patent does not authorize the use of the invention after the issuing of the reissued patent.
[*McWilliams Manufacturing Company *v.* Blundell, 177.

ROYALTY.

(See Damages and Profits, 4, 5.)

RULES OF PRACTICE.

(See Public Use, 1.)

1. PATENT OFFICE—POWER TO MAKE RULES.
Congress in creating the Patent Office has by express legislation given that Office the power to enact rules for its conduct. Those rules, if within the powers of the Office and reasonable, are just as authoritative as the laws of Congress itself.
[*United States, *ex rel.* Horace Koechlin and Otto N. Witt *v.* Edgar M. Marble, Commissioner of Patents, 1365.

2. RULE 39 SUSTAINED.
There is nothing unreasonable in the requirements of Rule 39 of the Patent Office, and where it has not been complied with this court will not issue a mandamus to compel the issue of a patent, although the invention be new and useful.
[*Id.

RULES OF THE OFFICE.

(See Preliminary Statement.)

SALE OF MANUFACTURED ARTICLES.

(See Injunction, 4, 5, 6.)

SCOPE OF AN INVENTION.

(See Reissues, 6, 8, 10, 12.)

SCOPE OF A PATENT.

(See Construction of Specifications and Patents, 1, 2.)

PATENT FOR DEVICE CANNOT MONOPOLIZE FUNCTION.
Where a result similar to that of the patent has been once obtained by one kind of a joint the invention of a special joint for producing the same result does not make the patent cover a function. The field is still open for others to make other joints, to be used in the same place, for accomplishing the same result.
[*Pattee *et al. v.* Moline Plow Company *et al.*, 173.

SCOPE OF PATENT LIMITED TO CLAIM.

(See Reissues, 22.)

SECOND INVENTOR.

(See Prior Use, 1.)

SECRETARY OF THE INTERIOR.

(See Mandamus, 1.)

SEPARATE INVENTIONS.

(See Infringement, 1, 5, 6, 11; Reissues, 6, 8, 12.)

SERVICE.

(See Motion to Set Aside Service; Practice in the Courts, 1; Subpœna, 1.)

SHAREHOLDERS IN ASSOCIATIONS.

(See Parties to Suit, 2.)

SIMILAR DEVICES.

(See Anticipation, 1; Construction of Claims, 1, 5; Construction of Specifications and Patents, 4; Infringement, 1, 5, 7, 11; Particular Patents: 3, Barker; 5, Beckwith; 10, Clough; 11, Clough; 14, Dann; 22, Gardner; 23, Gosling; 25, Hart; 29, Holbeck and Gottfried; 35, Loercher; 36, Lull; 43, Pelham; 52, Sternberg; 58, Wooster; Scope of a Patent, 1.)

SPECIAL DEVICES.

(See Scope of a Patent.)

SPECIFICATION OF ORIGINAL PATENT MAY BE REFERRED TO TO CORRECT CLAIMS IN REISSUE.

(See Reissues, 19.)

STATE COURTS.

(See Jurisdiction, 3, 4.)

STATE OF THE ART.

(See Construction of Claims, 3, 5.)

STATUTES.

(See Construction of Statutes.)

SIMILARITY OF SHAPE.

(See Construction of Claims, 1, 2; Designs, 1, 2; Infringement.)

STATUTORY BAR.

(See Foreign Publications.)

STRANGERS TO CONTRACT SHOULD NOT SEEK TO CIRCUMSCRIBE THEIR SCOPE.

(See Contracts, 2.)

SUBJECT-MATTER.

(See Practice in the Courts, 2.)

SUBPŒNAS.

(See Practice in the Courts, 1.)

WAIVER OF PRIVILEGE.

The objection to the service of a subpœna as made while defendant was protected by a privilege may be waived as well by not making it when he ought to make it, or by not making it in a proper way, as well as by not making it at all. It is one of those irregularities which must be promptly availed of.

[*Matthews v. Puffer *et al.*, 332.

SUBSTITUTION OF MATERIAL.

(See Reissues, 18.)

SUBSTITUTION OF MECHANICAL CONTRIVANCES.

(See Construction of Claims, 1, 2; Reissues, 4, 6, 20.)

SUBSTITUTION OF PARTS.

(See Combinations, 3.)

SUFFICIENCY OF AFFIDAVITS.

(See Injunction, 6.)

SUITS AT LAW.

(See Damages and Profits, 3; Jurisdiction, 2.)

SUIT BEGUN UPON AN ORIGINAL PATENT CANNOT BE SUSTAINED UPON A REISSUE.

(See Reissues, 16.)

SUITS FOR DAMAGES.

(See Contracts, 1; Damages and Profits, 1, 2.)

SUITS FOR INFRINGEMENT.

(See Licenses, 1.)

INCLUSION OF SEVERAL PATENTS.

Several patents may be included in the same suit when their subjects are correlative and the inventions claimed are embodied in the same infringing machine. Demurrer for this cause overruled.

[*Nellis v. The Pennock Manufacturing Company, 1131.

SUITS IN EQUITY.

(See Parties to Suit, 3.)

TECHNICAL TERMS.

(See Construction of Specifications and Patents, 4.)

TERM OF PATENT.

(See Limitation of Term of Patent, 1, 2, 3.)

TESTIMONY.

(See Preliminary Statement, 1, 2.)

TITLE TO PATENT.

(See Licensees, 1; Parties to Suit, 3.)

FIRM—TITLE—ASSIGNMENT.

The title to a patent taken out in the name of one of the members of a firm and never assigned to the firm will not pass by sale of partnership property, although expenses incident to the issue of the patent were paid by the firm and the patent was used for the benefit of the firm while the partnership lasted.

[*McWilliams Manufacturing Company v. Blundell, 177.

TRADE-MARKS.

(See Labels, 5.)

1. TRADE-MARK, "STRAIGHT-CUT" FOR CIGARETTES—DESCRIPTIVE TERM.

It appearing that the term "straight-cut" has a well-defined meaning in the trade as indicating a product prepared in a certain manner, and that as applied to cigarettes it fairly carries the implication that they are made of straight-cut tobacco: *Held*, that the term is descriptive of the ingredients and characteristics of the article and cannot be appropriated as a trade-mark.

[*Ginter v. Kinney Tobacco Company *et al.*, 770.

2. SAME—TENDENCY TO MISLEAD.

Nor can it be appropriated as an arbitrary designation by a dealer whose cigarettes are not made of straight-cut tobacco, since he merely misuses the term in a manner calculated to deceive the public.

[*Id.

3. SAME.

No principles are better settled in the law of trade-marks than that a generic term, or a name merely descriptive of the ingredients, quality, or characteristics of an article of trade, cannot be the subject of a trade-mark, and that the use of a name or term which is likely to deceive the public in reference to the components or nature of the article to which it is applied will not be tolerated.

[*Id.

TWO YEARS PUBLIC USE.

(See Public Use, 1.)

USE.

(See Injunction, 4; Public Use, 1.)

USE OF ELEMENTS.

(See Infringement, 6.)

UTILITY.

(See Construction of Specifications and Patents, 5; Designs, 3.)

UTILITY OF INVENTION.

(See Invention, 6.)

VALIDITY OF PATENTS.

(See Judgment, 1; Prior Use, 1.)

VALID PATENTS.

(See Non-Patentability; Particular Patents: 1, Barker; 2, Barker; 4, Barker; 5, Beckwith; 6, Brainard; 8, Clough; 12, Coburn and Billings; 13, Cross; 14, Dann; 24, Gray; 26, Hayes; 30, Holbeck and Gottfried; 36, Lull; 39, Norton; 40, Pattee; 41, Pattee; 42, Pattee; 44, Pillsbury; 45, Pipo; 46, Poling; 48, Schroeder; 51, Sternberg; 55, Votti; 58, Wooster; Reissues, 6.)

VOID PATENTS.

(See Non-Invention, 2; Non-Patentability, 1; Particular Patents: 7, Burt and Dunn; 17, Dickey and Posey; 20, Frost; 21, Fullon; 22, Gardner; 23, Gosling; 31, Hunt; 33, Johnson; 34, Jones; 38, Moore; 49, Searls; 50, Spear; 54, Underwood; 57, Winslow; Reissues, 8, 20.)

WAIVER OF PRIVILEGE.

(See Subpœnas, 1.)

WITNESSES.

(See Answer to Bill, 1, 2; Prior Use, 2.)

ALPHABETICAL LIST OF PATENTEES

FOR

THE HALF YEAR, JULY TO DECEMBER, 1882, INCLUSIVE.

[Claims and drawings of Designs do not appear in the Monthly Volumes or the Gazette. Separate indexes for Designs, Trade-Marks, Labels, and Disclaimers follow this.]

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Specification.	Drawing.	Volume.	Page.
Abbot, Walter F. (See Chase, J. Herbert, assignor.)						
Abbott, Arthur A., Chicago, Ill. Two-wheeled vehicle	260,631	July 4	355	96	22	60
Abbott, Edson A., Marshalltown, Iowa. Grain drier and cooler	265,552	Oct. 10	401	111	22	1211
Abbott, Phillips, Brooklyn, N. Y. Water-filter	268,971	Dec. 12	692	203	22	2025
Abbott, Phillips, and C. C. Parsons, Brooklyn, assignors to J. Reckendorfer, New York, N. Y. Lead and crayon holder	265,730	Oct. 10	629	178	22	1247
Abbott, Thomas, New York, N. Y. Baggage-check	268,591	Dec. 5	238	67	22	1931
Abeel, Frederick H., Englewood, N. J. Operating doors of elevator-shafts	265,231	Oct. 3	1	1	22	1137
Abel, Frederick. (See Weber and Abel.)						
Abel, William H., Laconia, N. H. Yarn-tension device and take-up for knitting-machines	261,415	July 18	1339	374	22	237
Abel, William H., Bridgewater, N. H., assignor of one-half to H. W. Boardman, Lowell, Mass. Stocking	265,553	Oct. 10	403	111	22	1211
Abele, Charles. (See Simon and Abele.)						
Abendroth & Root Manufacturing Company. (See Clatworthy, Thomas B., assignor.)						
Abercrombie, Alexander V., Bridgeport, Conn. Take-up for sewing-machines	268,445	Dec. 5	88	27	22	1903
Aberle, Fredrick, Bridgeport, Conn. Mechanical toy	264,426	Sept. 19	899	253	22	949
Abernathy, Sidney. (See Purefoy, Addison F., assignor.)						
Abraham, Benjamin, New York, N. Y. Feathered hat	269,371	Dec. 19	1215	354	22	2124
Abraham, Lewis, Washington, D. C. Stay for garments	266,743	Oct. 31	1844	536	22	1483
Abraham, Lewis, Washington, D. C. Lead or crayon holder	267,314	Nov. 14	453	131	22	1627
Absterdam, John, assignor of two-thirds to L. G. Dreyfus, New York, N. Y. Automatic telegraph	261,975	Aug. 1	183	54, 55	22	367
Acheson, Nathan B., Youngstown, Ohio. Dental drill	269,611	Dec. 26	1525	438	22	2190
Acheson, Nathan B., Youngstown, Ohio. Heel-plate	269,612	Dec. 26	1526	438	22	2190
Ackerman, Abram N., Passaic, N. J. Winding-shell for calicoes, &c.	267,817	Nov. 21	1061	303	22	1746
Ackerman, Charles E., assignor of one-half to H. Wolfe, Atlanta, Ga. Sheave-pulley for gates	260,632	July 4	356	96	22	60
Ackerman, Lyman, Dexter, N. Y. Hay and grain unloader	266,597	Oct. 31	1673	483	22	1451
Ackerman, Philip M., Rochester, N. Y. Machine for slicing apples	265,650	Oct. 10	529	143	22	1230
Acme Bullion Furnace Company. (See Hendrickson, David W., assignor.)						
Adam, William, Kidderminster, county of Worcester, England. Loom for weaving chenille or Axminster carpets and rugs	263,085	Aug. 22	1570	443, 444	22	630
Adams, Adolphus A. (See Vogeley and Adams.)						
Adams, Alfred. (See Stockwell, Levi W., assignor.)						
Adams, C. Powell. (See Roland and Adams.)						
Adams, Catharine A., Milford, Conn. Corset busk and clasp	264,427	Sept. 19	900	253	22	949
Adams, Charles, Cleveland, Ohio. Furnace for the manufacture of iron and steel	268,446	Dec. 5	89	27	22	1903
Adams & Co. (See Bonshire, Jacob, assignor.)						
Adams & Co., F. F. (See Adams, Franklin F., assignor.)						
Adams & Co., F. F. (See Miller, Charles H., assignor.)						
Adams, Daniel L., Pottsville, Pa. Sectional steam-boiler	268,592	Dec. 5	239	67	22	1931
Adams, Edwin G., Cohoes, N. Y. Vehicle-propeller. (Reissue)	10,256	Dec. 5	450	132	22	1973
Adams, Edwin G., Cohoes, N. Y. Vehicle-propeller	269,614	Dec. 26	1528	439	22	2190
Adams, Frank D., Auburn, Cal. Book-mark and paper-cutter	261,976	Aug. 1	186	55	22	367
Adams, Frank D., Auburn, Cal. Letter and bill die	269,613	Dec. 26	1527	439	22	2190
Adams, Franklin F., assignor to F. F. Adams & Co., (limited,) Erie, Pa. Crank and crank-fastening	264,815	Sept. 19	1332	377	22	1029
Adams, Fred. D. (See Johnson, William O., assignor.)						
Adams, George E., Providence, R. I. Button or stud	267,315	Nov. 14	454	131	22	1627
Adams, George W., assignor to Boston Electric Protective Association, Boston, Mass. Watchman's electric register	265,912	Oct. 10	892	234, 235	22	1282
Adams, Hawley, New York, N. Y. Grate-bar	267,125	Nov. 7	213	62	22	1578
Adams, Henry A., *et al.* (See Shufelt, Calvin P., assignor.)						
Adams, Hiram R., Boston, Mass. Manufacture of boots or shoes	262,552	Aug. 15	901	255	22	503
Adams, Hiram R., Boston, assignor to D. W. Gooch, trustee, Melrose, Mass. Staple	262,635	Aug. 15	1012	283	22	520
Adams & Ilsley. (See Theobald, George, assignor.)						
Adams, James, *et al.* (See Jennings, Charles C., assignor.)						
Adams, J. Hunt. (See Smith and Hall, assignors.)						
Adams, J. Phelps. (See Low, Charles H., assignor.)						
Adams, J. Phelps, *et al.* (See Shufelt, Calvin P., assignor.)						
Adams, John Q., Sacramento, Cal. Stopper for bottles	263,744	Sept. 5	88	26	22	791
Adams, John Q., Marseilles, Ill. Cultivator	266,066	Oct. 17	1025	290	22	1323

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Adams, John R., Oakland, Cal. Inhaler for powders	263,451	Aug. 29	2068	592	22	721
Adams, Orrin O., Lowell, Mich. Wire twisting, cutting, and splicing tool	261,646	July 25	1626	457	22	292
Adams, Samuel, Milwaukee, Wis. Water-filter	261,119	July 18	991	279	22	181
Adams, Sanford and Sanford, Jr., Rome, N. Y. Circular sawing machine	261,800	July 25	1608	510	22	323
Adams, William D. (See Vogt and Adams.)						
Adams, William Q. (See Brase, Adolph, assignor.)						
Adamson, J. Arthur, Philadelphia, Pa. Price-tag	262,719	Aug. 15	1112	315	22	538
Adamson, Samuel E., Stapleton, N. Y. Blind-slat	263,847	Dec. 12	552	161	22	1999
Addicks, William H., *et al.* (See Scott, Alexander L., assignor.)						
Addoms, Samuel K., Brooklyn, N. Y. Ventilator for windows	261,291	July 18	1194	333	22	212
Addy, Charles J., Malden, Mass. Heel-beading machine	263,593	Dec. 5	240	67	22	1932
Adee, Fred. (See Smith, Benjamin C., assignor.)						
Adee, Frederick, Brooklyn, N. Y. Drip-tray for water-closets	260,816	July 11	607	164	22	108
Adelman, Peter. (See Osterman, John P., assignor.)						
Adgate, Joseph J., New York, N. Y. Wardrobe-bedstead	264,596	Sept. 19	1077	305	22	983
Adgate, Joseph J., New York, N. Y. Weft-thread knitting-loom	265,296	Oct. 3	79	24, 25, 26	22	1150
Adgate, Joseph J., and F. Hickman, assignors to M. G. Stephen, New York, N. Y. Folding bedstead	262,882	Aug. 15	1322	371	22	575
Adler, Christ, Milton Centre, Ohio. Speed and motion regulator for machines	267,818	Nov. 21	1082	303	22	1746
Adriance, Benjamin, Brooklyn, assignor to E. W. Bliss, New York, N. Y. Screw-cutting lathe	264,597	Sept. 19	1078	305, 306	22	983
Adt, John, New Haven, Conn. Stock for spring-keys	260,919	July 11	718	196	22	126
Adt, John, New Haven, Conn. Machine for making split keys	261,977	Aug. 1	187	56	22	367
Agan, Hiram C., assignor of one-half to Collin, Arnold & Sisson, Fayetteville, N. Y. Saw-sharpening machine	264,021	Sept. 5	436	120	22	849
Agan, Hiram C., assignor of one-half to Collin, Arnold & Sisson, Fayetteville, N. Y. Saw-sharpening machine	264,022	Sept. 5	437	120	22	850
Aggergaard, Peter N., Danville, Dak. Ter. Well-boring machine	263,086	Aug. 22	1573	444	22	630
Ahrens, Frederick, Big Rapids, Mich. Pump	263,452	Aug. 29	2069	592	22	721
Aiken, George E. (See Parrish, William H., assignor.)						
Aikman, Augustus H., Brooklyn, and G. K. Osborn, New Utrecht, assignors to New York Kerosene Gas Light Company, New York, N. Y. Automatic cut-off valve	263,594	Dec. 5	241	67	22	1932
Ainslie, James, and R., Brooklyn, N. Y. Spring-bed	264,212	Sept. 12	652	180	22	896
Ainslie, Robert. (See Ainslie, James and R.)						
Akin, William, New York, N. Y. Automatic advertising device	263,595	Dec. 5	243	68	22	1932
Akron Iron Company. (See Kellogg, Henry, assignor.)						
Alba Light Company. (See Robins, William B., assignor.)						
Albany Aniline and Chemical Works. (See Gibson, Thomas H., assignor.)						
Albers, Henry, New Bremen, Ohio. Manure-fork	261,894	Aug. 1	85	24	22	350
Albert, Chris. J., *et al.* (See Henkel, George H., assignor.)						
Albert, William L., Red Oak, assignor of one-half to L. F. Racine, Ottumwa, Iowa. Trace-loop attachment	260,443	July 4	118	34	22	21
Albrecht, Franz, *et al.* (See Widmer, Charles, assignor.)						
Albrecht, Otto. (See Cook and Albrecht.)						
Albro, Charles E., Philadelphia, Pa. Gear-cutting machine	263,298	Aug. 22	1832	519, 520	22	679
Albro, Charles E., Philadelphia, Pa. Cutter for cutting teeth on worm-wheels	263,299	Aug. 22	1833	520	22	679
Albro, Charles E., Philadelphia, Pa. Gearing	264,428	Sept. 19	901	253	22	949
Alden, George C., *et al.* (See Benner, Lorenzo D., assignor.)						
Alden, George C., *et al.* (See Benner and Stafford, assignors.)						
Alderman, Frank R., assignor of one-half to O. F. Hall, Detroit, Mich. Recording ticket-punch	261,195	July 18	1084	302, 303	22	195
Aldrich, Wales, assignor to A. Hoover and W. Gamble, Miamisburg, Ohio. Grain-binder	265,232	Oct. 3	3	1	22	1137
Aldridge, Benjamin F., Hill Springs, Ky. Churn	264,598	Sept. 19	1080	306	22	983
Alexander, Alexander G., Detroit, Mich. Ball-valve	265,357	Oct. 3	157	47	22	1163
Alexander, Eliza H., New York, N. Y. Lawn-tennis apparatus	266,598	Oct. 31	1674	483	22	1451
Alexander, Robert B. (See Christopher and Alexander.)						
Alexander, Samuel, and F. Boyle, Galveston, Tex. Fare-box	262,267	Aug. 8	562	157	22	436
Alexander, Samuel G., Caro, Mich. Manufacturing foot-coverings	268,848	Dec. 12	553	162	22	1999
Alexander, Thomas, Cambridge, Mass. Artificial sliding-hill	269,554	Dec. 26	1446	417	22	2174
Alexander, William L., Cisco, Ill. Corn-planter	263,433	Aug. 29	2070	593	22	721
Alexander, William W., Winchester, Ind. Post-hole auger	269,773	Dec. 26	1723	497	22	2227
All, John, *et al.* (See Deal, Daniel W., assignor.)						
Allee, Seth R., Lynnville, Iowa. Check-rower for corn-planters	266,067	Oct. 17	1027	291	22	1323
Allen, Azro B., Farmington, Iowa. Railway-car	260,920	July 11	719	196	22	126
Allen, Chauncey F., Waterbury, Conn. Corset	261,647	July 25	1627	457	22	292
Allen, Cotton H. (See Hayden and Allen.)						
Allen, Cotton H., St. Louis, Mo. Strap-loop for hames	267,126	Nov. 7	214	62	22	1578
Allen, Frank A., Cambridge, assignor to Oriental Tea Company, Boston, Mass. Coffee-steamer	261,575	July 25	1543	433	22	277
Allen, Frank H., Norwich, Conn. Rowlock	269,555	Dec. 26	1450	418	22	2175
Allen, Frederick E., Grafton, Mass. Car-starter	264,119	Sept. 12	557	152	22	879
Allen, Frederick W. (See Royce, Allen, and Fuller.)						
Allen, George H. (See Westgate, Joseph D., assignor.)						
Allen, George H., Ayer, Mass. Spindle-bearing	262,268	Aug. 8	564	157	22	436
Allen, George H., Ayer, Mass. Spindle	263,300	Aug. 29	1839	523	22	687
Allen, George H., Ayer, Mass. Spindle-bearing	264,054	Sept. 12	483	131	22	867
Allen, George H., Boston, Mass. Support for electric lights and conductors	264,599	Sept. 19	1082	306	22	984
Allen, Henry J., Port Byron, N. Y. Preserved compound for mince-pies	268,972	Dec. 12	694	.....	22	2025
Allen, Horace R., Indianapolis, Ind. Pulley	260,350	July 4	1	1	22	3
Allen, Horace R., Indianapolis, Ind. Cutter-bar lifter for mowing-machines	260,351	July 4	2	1	22	3
Allen, Horace R., Indianapolis, Ind. Clutch	262,553	Aug. 15	903	255	22	503
Allen, Horace R., Indianapolis, Ind. Harvester-cutter-bar lifter	268,375	Dec. 5	1	1	22	1887
Allen, Horace R., Indianapolis, Ind. Cutter-bar lifter for mowing and reaping machines	268,376	Dec. 5	3	1	22	1887
Allen, Horace R., Indianapolis, Ind. Mowing-machine	268,377	Dec. 5	4	1	22	1887
Allen, Hubert R. (See Burton, Allen, and Moore.)						
Allen, James, *et al.* (See Tanner, Francis, assignor.)						
Allen, John B., Nashville, Tenn. Bale-tie	260,515	July 4	215	60	22	36
Allen, John F., Brooklyn, N. Y. Rock-drill	266,668	Oct. 31	1752	505	22	1465
Allen, John F., Brooklyn, N. Y. Rock-drill	267,127	Nov. 7	215	62	22	1578
Allen, John F., Brooklyn, N. Y. Cutter-holder	267,477	Nov. 14	661	190	22	1663
Allen, John H., Brooklyn, N. Y. Piston-valve	262,554	Aug. 15	904	255	22	503

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Allen, Marshall J., New York, N. Y., and W. E. Bradley, Frankfort, Ky. Making whisky	263,087	Aug. 22	1574	445	22	631
Allen, Merrick W., assignor to National Papeterie Company, Springfield, Mass. Picture-holder for picture-frames	267,964	Nov. 21	1252	352	22	1779
Allen, Norman, Rockaway Beach, N. Y. Elevated-railway construction	263,088	Aug. 22	1576	445	22	631
Allen, Norman, Rockaway Beach, N. Y. Elevated railway	263,454	Aug. 29	2070	593	22	721
Allen, O. M., Jr. (See Kellogg, Kirk, assignor.)						
Allen, Richard N., Cleveland, Ohio. Car-wheel	268,378	Dec. 5	6	1	22	1887
Allen, Robert S., assignor to C. E. Morrill, Deering, Me. Machine for cutting leather	266,004	Oct. 17	956	271	22	1310
Allen, Walter S., Attleborough, Mass. Cow-tail holder	263,831	Sept. 5	201	58	22	808
Allen, William, *et al.* (See Anderson, Samuel, assignor.)						
Allen, William, Jr. (See Smith, Charles A., assignor.)						
Allen, William, assignor of one-third to G. H. Fry, Dubuque, Iowa. Stove-back lining	266,005	Oct. 17	957	271	22	1310
Allen, William B., Orleans, N. Y. Fertilizer-distributer	260,444	July 4	119	35	22	21
Allen, William C., West Union, Ohio. Drag-saw	261,292	July 18	1196	334	22	213
Allen, William D., *et al.* (See Mathison, Joseph, assignor.)						
Allen, William H., Pittsburg, Pa. Feeding device for blast or other furnaces	267,819	Nov. 21	1063	303	22	1747
Allen, William Y., East Abington, Mass. Sewing-machine	262,720	Aug. 15	1112	315	22	538
Allgire, James R., assignor to Allgire Manufacturing Company, Indianapolis, Ind. Veneer-dish-blank machine	261,120	July 18	992	279	22	181
Allgire Manufacturing Company. (See Allgire, James R., assignor.)						
Allinder, Samuel. (See Latshaw and Allinder.)						
Alling, Edward T., Milledgeville, Ga. Converting motion	268,973	Dec. 12	695	203	22	2025
Alling, Eugene N. (See Mink and Alling.)						
Alling, Stephen Y. (See Whiting, Albert, assignor.)						
Allis, Abram Q., New York, N. Y. Mattress	267,316	Nov. 14	454	131	22	1627
Allis, Edward P. (See Gray, William D., assignor.)						
Allis, George B., Little Rock, Ark. Railway wood and coal loader	268,775	Dec. 12	455	133	22	1981
Allis Manufacturing Company, T. V. (See Allis, Thomas V., assignor.)						
Allis, Thomas V., New York, N. Y., assignor to T. V. Allis Manufacturing Company, Trenton, N. J. Metallic barbed fencing	266,336	Oct. 24	1376	388	22	1390
Allison, George S., *et al.* (See Watson, John E., assignor.)						
Allison, James J., Rock Falls, Ill. Check-rower	269,253	Dec. 19	1059	309	22	2095
Allison, John A. (See Allison, Oscar W., assignor.)						
Allison, L. Sandidge. (See Fagan and Allison.)						
Allison, Oscar W., assignor to himself and J. A. Allison, Rochester, N. Y. Cigarette	261,576	July 25	1544	433	22	277
Allison, Robert, Port Carbon, Pa. Rotary drill	261,978	Aug. 1	189	56	22	367
Alpuche, Nestor R., Merida, Yucatan, Mexico. Pump	260,921	July 11	721	196	22	126
Alsing, John R., Hoboken, N. J. Triturating-cylinder	264,213	Sept. 12	653	180	22	897
Alsing, John R., Hoboken, N. J. Pigment for distemper-painting	264,214	Sept. 12	655	.....	22	897
Alter, William S., and M. H. Irvin, Freeport, Pa. Balanced valve	266,068	Oct. 17	1028	291	22	1324
Alters, Joseph K., assignor to J. H. Brasington, Maiden Rock, Wis. Mop-head	261,801	July 25	1809	510	22	323
Althof, Charles, *et al.* (See Thomass, Herman, assignor.)						
Althof, Louis, *et al.* (See Thomass, Herman, assignor.)						
Althouse, Milo J., Waupun, Wis. Clothes-wringer	269,165	Dec. 19	941	275	22	2075
Althouse, Samuel H. (See Kenton, Hiram, assignor.)						
Altmaier, Peter A., Harrisburg, Pa. Breech-loading fire-arm	261,648	July 25	1627	457, 510	22	292
Altmaier, Peter A., Harrisburg, Pa. Lock for fire-arms	261,802	July 25	1809	510, 511	22	323
Altman, William H. (See Hollett, Ira W., assignor.)						
Altmeyer, Jacob, Benwood, W. Va. Device for cooling rolls of rolling-mills	265,731	Oct. 10	631	179	22	1248
Amaden, John, assignor of one-half to S. M. Gleason, Bryan, Ohio. Combined ruffler and scallop plaiter	260,633	July 4	356	96	22	60
Ambler, James A., Natick, Mass. Sewing-machine	263,648	Aug. 29	2295	655, 656	22	762
Ambler, John, *et al.* (See Dampman, David J., assignor.)						
Ambrose, William H., and T. Cole, Polk, Ohio. Fence-post	264,504	Sept. 19	986	277	22	965
Ament, William D., Muscatine, Iowa. Buggy-spring	261,293	July 18	1196	334	22	213
American Automatic Organ Company. (See Arno, Oliver H., assignor.)						
American Automatic Organ Company. (See Turner, George W., assignor.)						
American Bell Telephone Company. (See Brown, Charles W., assignor.)						
American Bell Telephone Company. (See Jacques, William W., assignor.)						
American Bell Telephone Company. (See Watson, Thomas A., assignor.)						
American Buttonhole, Overseaming and Sewing Machine Company. (See Foell, Franklin, assignor.)						
American Chain Mortising Machine Company. (See Daniels, Taylor E., assignor.)						
American Chain Mortising Machine Company. (See Green, William W., Jr., assignor.)						
American Electric Company. (See Thomson, Elihu, assignor.)						
American Electrophorn Company. (See Maloney and Koyl, assignors.)						
American Fire Hose Manufacturing Company. (See Callahan, Cornelius, assignor.)						
American Freight Car Heater Company. (See Eastman, William E., assignor.)						
American Gas Saving Company. (See Lacey, Griffin S., assignor.)						
American Grate Bar Company. (See Bannister, Lemuel, assignor.)						
American Grate Bar Company. (See Mershon, George B., assignor.)						
American Heating and Power Company. (See Eberts and Lee, assignors.)						
American Machine Shot Company of the United States. (See Guild, Henry M., assignor.)						
American Non Explosive Boiler Attachment Company. (See Salisbury, Silas C., assignor.)						
American Pressed Tan Bark Company. (See Sherman, Jonathan, Jr., assignor.) (Reissue.)						
American Rapid Telegraph Company. (See Anderson, Frank, assignor.)						
American Screw Company. (See Rogers, Charles D., assignor.)						
American Vapor Stove Manufacturing Company. (See Falkenrath, Rudolph, assignor.)						
Ames, Chester L. (See Ames, Thomas W. and C. L.)						
Ames, Elijah M., Pepperell, Mass. Warming-pan	266,069	Oct. 17	1029	291	22	1324
Ames, La Mott, *et al.* (See Sullivan, John, assignor.)						
Ames, Thomas W. and C. L., Cabery, Ill. Baling-press	268,974	Dec. 12	695	204	22	2025
Ames, Thomas W. and C. L., Cabery, Ill. Hay-press	268,975	Dec. 12	697	204	22	2026
Amesbury, George W., Philadelphia, Pa. Adjustable cutter-head	260,817	July 11	608	165	22	108
Amey, Jackson, Lehighton, assignor to Lehigh Stove and Manufacturing Company, Bethlehem, Pa. Stove-shelf	260,516	July 4	215	60	22	37
Amidon, Charles H., Buffalo, N. Y. Bit-stock	263,455	Aug. 29	2072	593	22	722
Ammarell, Christian, Brooklyn, N. Y. Whiffletree	264,600	Sept. 19	1083	307	22	984
Ammel, Martin, Belleville, Ill. Road scraper and leveler	260,445	July 4	121	35	22	22
Ammon, Daniel, Beltsville, Md. Sea-going vessel	267,051	Nov. 7	111	32	22	1550
Amphlett, John B., *et al.* (See Amphlett, Thomas L., assignor.)						
Amphlett, Thomas G., *et al.* (See Amphlett, Thomas L., assignor.)						

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Amphlett, Thomas L., assignor to himself, W. O., J. B., and T. G. Amphlett, Ionia, Mich. Jug.	267,641	Nov. 14	864	247	22	1699
Amphlett, William O., *et al.* (See Amphlett, Thomas L., assignor.)						
Ams, Max. (See Litzelmann, Victor, assignor.)						
Andersen, Anders, Copenhagen, Denmark. Horseshoe-machine	268,166	Nov. 28	1501	419	22	1829
Anderson, Abraham, Galesburg, Ill. Broom-corn press	268,069	Nov. 28	1383	387	22	1807
Anderson, Andrew, Moline, Ill. Organ-case	264,601	Sept. 19	1084	307	22	984
Anderson, Charles G., Columbus, assignor to N. Joseph, Zanesville, and J. McVay, Columbus, Ohio. Station-indicator	261,071	July 11	918	255	22	158
Anderson, David, Fairview, Stawell, Victoria. Device for changing gage of railway-cars	264,991	Sept. 26	1565	439, 440	22	1076
Anderson, Frank, Peekskill, N. Y. Governor	267,965	Nov. 21	1252	353	22	1779
Anderson, Frank, Peekskill, N. Y. Polarized relay	267,966	Nov. 21	1254	353	22	1779
Anderson, Frank, Peekskill, N. Y., assignor to American Rapid Telegraph Company, of Connecticut. Automatic feeder for perforators	265,209	Sept. 26	1816	511	22	1121
Anderson, Frank, Peekskill, N. Y., assignor to American Rapid Telegraph Company, of Connecticut. Chemical telegraph-recorder	265,210	Sept. 26	1818	511	22	1121
Anderson, Frank, Peekskill, N. Y., assignor to American Rapid Telegraph Company, of Connecticut. Telegraphic perforator	265,211	Sept. 26	1819	511, 512	22	1121
Anderson, Frank, Peekskill, N. Y., assignor to American Rapid Telegraph Company, of Connecticut. Transmitter for automatic telegraphs	265,212	Sept. 26	1822	512	22	1122
Anderson, Frank, Peekskill, N. Y., assignor to American Rapid Telegraph Company, of Connecticut. Telegraphic perforator	265,213	Sept. 26	1824	512	22	1122
Anderson, Frank, Peekskill, N. Y., assignor to American Rapid Telegraph Company, of Connecticut. Automatic telegraph	265,297	Oct. 3	87	26	22	1150
Anderson, Frank, Peekskill, N. Y., assignor to American Rapid Telegraph Company, of Connecticut. Automatic telegraph	265,358	Oct. 3	158	47	22	1163
Anderson, Frank, Peekskill, N. Y., assignor to American Rapid Telegraph Company, of Connecticut. Polarized ink-writer	267,967	Nov. 21	1255	353	22	1779
Anderson, Frank S., and C. Saner, Easton, Md. Feed-water apparatus	262,721	Aug. 15	1116	315	22	538
Anderson, Henry B., St. Louis, Mo. Bottling-machine	262,911	Aug. 22	1361	385	22	593
Anderson, Henry B., St. Louis, Mo. Bottle-stopper	262,912	Aug. 22	1362	385	22	593
Anderson, Henry L., New York, N. Y. Stove-grate	264,992	Sept. 26	1566	440	22	1076
Anderson, Jacob J., Rochester, Pa. Smoke-consuming attachment for furnaces	263,456	Aug. 29	2073	594	22	722
Anderson, James, 66 Old Broad Street, London, and B. Smith, Princes Street, Hanover Square, county of Middlesex, England. Electric telegraph	261,895	Aug. 1	86	24	22	350
Anderson, James, Jr., Anderson, Ohio. Harrow	263,089	Aug. 22	1577	445	22	631
Anderson, James C., Highland Park, Ill. Coloring clay for bricks, tiles, &c	262,339	Aug. 8	648	.....	22	451
Anderson, James C., Highland Park, Ill. Clay and clay-shale pulverizer or disintegrator	262,340	Aug. 8	649	182	22	452
Anderson, James C., Highland Park, Ill. Ornamentation of bricks and tiles	264,505	Sept. 19	986	.....	22	965
Anderson, James C., Highland Park, Ill. Method of and apparatus for making brick	268,976	Dec. 12	698	205	22	2026
Anderson, John. (See Green, Robert P., assignor.)						
Anderson, John W., South Bend, Ind. Tongue-support	264,429	Sept. 19	902	253	22	949
Anderson, John W., South Bend, Ind. Wagon end-gate	265,554	Oct. 10	403	111	22	1211
Anderson, John W., South Bend, Ind. Back for vehicle-seats	265,555	Oct. 10	404	112	22	1211
Anderson, John W., assignor to A. B. Groff, Lancaster, Pa. Meat and vegetable slicing machine	266,263	Oct. 24	1273	361	22	1371
Anderson, Joseph. (See Lyon and Anderson.)						
Anderson Manufacturing Company. (See Weaver, Theophilus, assignor.) (Reissue.)						
Anderson, Robert, West New Annan, Nova Scotia. Car-coupling	263,090	Aug. 22	1578	445	22	631
Anderson, Robert C., Bayonne, N. J. Apparatus for filling cans	264,993	Sept. 26	1567	440	22	1076
Anderson, Robert H., Richmond, Va. Drawers	265,733	Oct. 10	633	179	22	1248
Anderson, Samuel, assignor of seventeen thirty-seconds to W. Allen and A. C. McCurdy, Philadelphia, Pa. Underground conduit for electric wires	261,979	Aug. 1	190	56	22	368
Anderson, William W., New York, N. Y. Garment-clasp	266,948	Oct. 31	2083	600	22	1527
Andrée, Franz W., Chicago, Ill. Flour-dressing machine	266,264	Oct. 24	1274	361, 362	22	1371
Andrews, Charles E. (See Myers and Andrews.)						
Andrews & Co., A. H. (See Costello and Hall, assignors.)						
Andrews, Edward P. S., Camp Verde, Ariz. Ter. Self-leveling berth	268,596	Dec. 5	244	68	22	1932
Andrews, Edward W., assignor to Detroit Rocker Company, Detroit, Mich. Adjustable rocker for chairs	264,917	Sept. 26	1474	415	22	1059
Andrews, Emanuel, Williamsport, Pa. Apparatus for tempering and flattening sheet-metal plates	260,517	July 4	216	61	22	37
Andrews, Emanuel, Williamsport, Pa. Saw-handle	262,341	Aug. 8	650	182	22	452
Andrews, Emanuel, Williamsport, Pa. Board-rule	265,732	Oct. 10	632	179	22	1248
Andrews, Frank. (See Beyer, George W., assignor.)						
Andrews, Joseph D. F., Charlton, county of Kent, England. Electric-arc lamp	266,337	Oct. 24	1377	388	22	1391
Andrews, Samuel S., Knoxville, Iowa. Pump	266,070	Oct. 17	1030	291	22	1324
Andrews, Samuel W., and L. Godfrey, assignors, by mesne assignments, of one-half to S. A. Vanderhoof; said Godfrey, in his own right and as administrator of said Andrews, deceased, assignor to O. G. Vanderhoof, Knoxville, Tenn. Blast-governor for grain-cleaners	264,023	Sept. 5	438	120, 121	22	850
Andrus, William, Keokuk, Iowa. Brick-machine	267,392	Nov. 14	558	159	22	1643
A'Neals, Francis A., assignor of one-half to G. M. Stearns, Topeka, Kans. Fire-escape	261,121	July 18	993	279	22	181
Angell, Albert, East Orange, assignor to D. A. Burr, Montclair, N. J. Machine for cleaning the leaves of fibrous plants	260,518	July 4	219	61	22	37
Angell, Albert, East Orange, assignor to D. A. Burr, Montclair, N. J. Machine for dressing and stripping the leaves of fibrous plants	264,055	Sept. 12	484	131	22	867
Angell, Horace B., San Francisco, assignor of one-half to T. H. Williams, Oakland, and D. Bixler, San Francisco, Cal. Dredging-machine	268,977	Dec. 12	701	206	22	2026
Angeroth, Charles G., Philadelphia, Pa. Sofa-bed	260,818	July 11	609	165	22	108
Anglo-American Roofing Company. (See Comstock, Chester, assignor.)						
Anglo-American Roofing Company. (See Repp, Ephraim B., assignor.)						
Angst, Adolf, Schaffhausen, Switzerland. Lock for knitting-machines	265,359	Oct. 3	161	48	22	1164
Ansorge, Wenzel R., Texarkana, Ark. Bung for beer-barrels	265,360	Oct. 3	162	48	22	1164
Anthony & Co., E. & H. T. (See Barker, Erastus B., assignor.)						
Anthony & Co., E. & H. T. (See Lewis, William H., assignor.)						
Anthony, Edgar W., Boston, Mass. Stove	265,361	Oct. 3	163	48	22	1164
Anthony, Edgar W., Boston, Mass. Heating-stove	265,362	Oct. 3	164	49	22	1164
Anthony, Edgar W., Boston, Mass. Heating-stove	265,363	Oct. 3	165	49, 50	22	1165
Anthony, Edwyn, New York, N. Y. Printing-machine	263,745	Sept. 5	89	27, 28	22	791
Anthony, Edwyn, New York, N. Y. Delivery apparatus for printing-machines	263,746	Sept. 5	92	28, 29	22	791
Anthony, Edwyn, New York, N. Y. Printing-machine	263,747	Sept. 5	93	29, 30	22	791
Anthony, Edwyn, New York, N. Y. Printing-machine	267,313	Nov. 7	437	126, 127	22	1618

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Anthony, Edwyn, and J. E. Harvey, New York, N. Y. Printing-machine	263,748	Sept. 5	97	30, 31, 32	22	791
Anthony, Edwyn, and J. E. Harvey, New York, N. Y. Folding apparatus	263,749	Sept. 5	103	32	22	792
Anthony, Edwyn, and J. E. Harvey, New York, N. Y. Web-reversing apparatus for printing-machines	263,750	Sept. 5	104	33	22	792
Anthony, Edwyn, and J. E. Harvey, New York, N. Y. Printing-machine	265,233	Oct. 3	5	1, 2, 3	22	1138
Anthony, Edwyn, Hereford, county of Hereford, and W. W. Taylor, Ripon, county of York, England, assignors to R. Hoe & Co., New York, N. Y. Printing-machine	265,208	Oct. 3	89	26, 27	22	1150
Anthony, Edwyn, Hereford, county of Hereford, and W. W. Taylor, Ripon, county of York, England, assignors to R. Hoe & Co., New York, N. Y. Printing-machine	265,556	Oct. 10	405	112	22	1211
Anthony, Edwyn, Hereford, county of Hereford, and W. W. Taylor, Ripon, county of York, England, assignors to R. Hoe & Co., New York, N. Y. Printing-machine	265,557	Oct. 10	407	112, 113	22	1212
Anthony, Edwyn, Hereford, county of Hereford, and W. W. Taylor, Ripon, county of York, England, assignors to R. Hoe & Co., New York, N. Y. Printing-machine	265,651	Oct. 10	530	143, 144	22	1231
Antrim, B. Jay, Philadelphia, Pa. Fire-alarm	268,597	Dec. 5	245	68	22	1933
Appelquist, Frederick. (See Hanson, Charles, assignor.)						
Apple, J. Bernard, assignor of one-half to W. S. Hassall, Philadelphia, Pa. Underground conduit for telegraph, telephone, and other wires	261,649	July 25	1029	458	22	293
Appleby, John F. (See Bullock and Appleby.)						
Appleby, John F., Minneapolis, Minn., assignor to Minneapolis Harvester Works, of Minnesota. Grain-binder	260,634	July 4	357	97, 98	22	66
Appleby, John F., Minneapolis, Minn., assignor to Minneapolis Harvester Works, of Minnesota. Grain-binder	261,072	July 11	919	256	22	158
Appleby, John F., assignor to Minneapolis Harvester Works, Minneapolis, Minn. Grain-binder	262,883	Aug. 15	1323	372, 373, 374	22	576
Appleby, John F., Minneapolis, Minn., assignor to Minneapolis Harvester Works, of Minnesota. Grain-binder	264,602	Sept. 19	1085	307, 308	22	984
Appleton, Clara, Bristol, Pa. Stocking	260,922	July 11	721	197	22	127
Appleton, Julius H. (See Buell, Charles E., assignor.)						
Appleton Manufacturing Company. (See Rowell, Guilford D., assignor.)						
Arbogast, Philip, Pittsburg, Pa. Manufacture of glassware	260,819	July 11	610	166	22	108
Arbuckle, John, Brooklyn, N. Y. Safety-signal for railway-trains	262,722	Aug. 15	1117	316	22	539
Arkell, James. Canajoharie N. Y. Cloth bag	260,820	July 11	612	166	22	108
Armandy, François, Saint Fons, France. Distillation of glycerine and apparatus connected therewith	262,913	Aug. 22	1363	385	22	593
Armant, Edmond. (See Bartholomew, George E., assignor.)						
Armant, Edmond. (See Gibson, Alexander C., assignor.)						
Armant, Edmond. (See Lajeunesse, Jules, assignor.)						
Armant, Edmond. (See Salomon, Etienne, assignor.)						
Armington, Pardon, Providence, R. I. Cranked axle for steam-engines	263,832	Sept. 5	202	58	22	808
Armour, Michael C., Chicago, Ill. Stove	264,994	Sept. 26	1569	440, 441	22	1076
Armstrong, Frank. (See Vandegrift, Nathaniel W., assignor.)						
Armstrong, Frank. (See Vinton, John H., assignor.)						
Armstrong, Frank, Bridgeport, Conn. Tap-wrench	268,978	Dec. 12	703	206	22	2027
Armstrong, Frank, Bridgeport, Conn. Thread-cutting die	269,153	Dec. 12	920	268	22	2064
Armstrong, Frank L., Philadelphia, Pa. Printer's shooting-stick	260,821	July 11	612	166	22	108
Armstrong, John B., Guelph, Ontario, Canada. Spring	267,317	Nov. 14	455	131	22	1627
Armstrong, John J., Jr., Brooklyn, N. Y. Book-holder and arm-rest combined	264,995	Sept. 26	1571	441	22	1077
Armstrong, John J., Weimar, Tex. Post-hole digger	267,766	Nov. 21	1015	285	22	1734
Armstrong, Osmon S., Cambridge, Mass. Electric gas-lighting apparatus	263,457	Aug. 29	2075	594	22	722
Armstrong, Ransom H., assignor of one-fourth to L. R. Peirson, Hudson, Mich. Turbine water-wheel	262,342	Aug. 8	652	183	22	452
Armstrong, Robert, Neodesha, Kans. Cattle-guard	263,458	Aug. 29	2076	594	22	722
Armstrong, Samuel, Newark, N. J. Piston	268,167	Nov. 28	1502	419	22	1829
Arnd, Henry. (See Knkknck and Arnd.)						
Arnd, Henry. (See Kukknck, Frederick, assignor.)						
Arnd, Henry, and F. Kukkuck, St. Louis, Mo. Machine for cutting sheets of veneer	268,767	Dec. 5	434	127	22	1970
Arno, Oliver H., Wilmington, Mass. Attachment for mechanical musical instruments	266,411	Oct. 24	1465	416	22	1407
Arno, Oliver H., Wilmington, assignor to American Automatic Organ Company, Boston, Mass. Mechanical musical instrument	266,071	Oct. 17	1031	292	22	1324
Arno, Oliver H., Wilmington, assignor to American Automatic Organ Company, Boston, Mass. Mechanical musical instrument	268,979	Dec. 12	704	207	22	2027
Arno, Oliver H., Wilmington, assignor to American Automatic Organ Company, Boston, Mass. Mechanical musical instrument	269,164	Dec. 12	936	272	22	2067
Arno, Oliver H., Wilmington, assignor to American Automatic Organ Company, Boston, Mass. Mechanical musical instrument	269,615	Dec. 26	1530	440	22	2191
Arnold, Elijhaz W. (See Osgood, George W., assignor.)						
Arnold, Henry C., Visalia, Cal. Baling-press	268,598	Dec. 5	246	69	22	1933
Arnold, Hudson H. C., assignor of one-half to G. Frey, St. Louis, Mo. Cover for pitchers	261,416	July 18	1340	375	22	237
Arnold, John J. (See Hayden and Arnold.)						
Arnold, Llewellyn W., assignor of two-fifths to J. L. Hutchinson, Chicago, Ill. Watch-movement box	266,265	Oct. 24	1276	362	22	1371
Arnold, Norman C. (See Beers, Charles L., assignor.)						
Arnold, Willard F. (See Atchison, Silas M., assignor.)						
Arnold, William E., Rochester, N. Y. Boiler for cooking grain	264,215	Sept. 12	655	181	22	897
Aron, Joseph. (See Rosenfield, William W., assignor.)						
Arrington, John G., Hilliardston, N. C. Amalgamator	262,884	Aug. 15	1326	374	22	576
Arrouquier, William, and T. Barrett, Worcester, Mass. Mortar and plaster	262,343	Aug. 8	652	.....	22	452
Arter, Alpheus, New Lisbon, Ohio. Harness-saddle	261,577	July 25	1545	433	22	277
Arthur, George W. (See Hoffmaster and Arthur.)						
Ash, Joseph, assignor of four-fifths to E. E. Manson, S. C. Pitney, J. M. Harrup, and M. Robertson, Quincy, Ill. Wire-fence machine	266,072	Oct. 17	1033	292, 293	22	1324
Ash, Joseph V., Newark, N. J. Bridle-bit machine	264,430	Sept. 19	903	254, 255	22	949
Ashcroft, Edward H., Lynn, Mass. Hollow support for steam-boilers	262,914	Aug. 22	1365	385, 386	22	593
Ashcroft, Edward H., Lynn, Mass. Electrical low-water detector	265,364	Oct. 3	168	50	22	1165
Ashcroft, Edward H., Lynn, Mass. Electrical alarm for steam-boiler cleaners	265,365	Oct. 3	170	50	22	1165
Ashcroft, John, *et al.* (See Overton, Daniel B., assignor.)						
Ashe, Mathew, Paterson, N. J. Reed for looms	262,197	Aug. 8	485	135	22	423
Ashe, Robert, Somerville, assignor to G. W. Copeland, Malden, Mass. Edge setting or burnishing machine	267,767	Nov. 21	1015	285	22	1734

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Ashenfelter, Joseph, Blue Springs, Nebr. Road-scraper	260,635	July 4	359	98	22	61
Ashtabula Carriage Bow Company. (See Bullock, Rufus B., assignor.)						
Ashton, David R., Clapton, county of Middlesex, and J. N. Sperryn, Brixton Hill, county of Surrey, England. Cock or valve	263,091	Aug. 22	1579	446	22	632
Ashworth, Elijah. (See Ashworth, George and E.)						
Ashworth, George and E., Manchester, county of Lancaster, England. Method of and apparatus for grinding the teeth of cards	261,650	July 25	1631	458	22	293
Aspinwall, Lewis A., Loudonville, N. Y. Potato-digger	264,603	Sept. 19	1088	308	22	984
Assmann, Oswald, Zwolle, Holland. Self-acting cork-stopping machine	263,833	Sept. 5	203	58, 59	22	808
Atchison, Silas M., assignor of one-half to W. F. Arnold, San Francisco, Cal. Ore-concentrator	268,351	Nov. 28	1739	482 483	22	1873
Atherton, Abel T., assignor to Whitehead & Atherton Machine Company, Lowell, Mass. Condenser for roving-machines	261,294	July 18	1197	334	22	213
Atherton, Charles. (See Shoudy and Atherton.)						
Atherton, Gilles. (See Yule and Atherton.)						
Athey, William C., Fayette City, Pa. Pump	263,834	Sept. 5	206	60	22	809
Atkins, Elias C. (See Emerson, Charles M., assignor.)						
Atkins, Elias C., Indianapolis, Ind. Saw-tooth	260,519	July 4	221	62	22	37
Atkins, Elias C., Indianapolis, Ind. Saw	266,006	Oct. 17	958	271	22	1311
Atkins, Elias C., G. S. Black, and C. M. Emerson, Indianapolis, Ind., assignors to said Atkins. Saw-tooth	260,636	July 4	360	98	22	61
Atkinson, Charles, assignor to C. G. Trusdell, Chicago, Ill. Audiphone	261,822	Aug. 1	1	1	22	335
Atkinson, Francis F., assignor to H. W. Gwinner, New York, N. Y. Folding table	266,669	Oct. 31	1753	505	22	1465
Atkinson, George W., Petersburg, Tenn. Apparatus for changing car-trucks	265,366	Oct. 3	171	51	22	1165
Atkinson, Thomas, assignor to himself and C. W. Sears, Galena, Kans. Provision-safe	261,417	July 18	1341	375	22	237
Atlantic Refining Company. (See Warden, Henry, assignor.)						
Atlas Engine Works. (See Hatch, Willard T., assignor.)						
Atlas Works. (See Haskin, Uri, assignor.)						
Atterbury, Thomas B., Pittsburg, Pa. Roofing tile or plate	263,835	Sept. 5	206	60	22	809
Atterbury, Thomas B., Pittsburg, Pa. Glass-mold and manufacture of glass boxes	265,299	Oct. 3	91	27	22	1151
Atterbury, Thomas B., Pittsburg, Pa. Glass-mold and manufacture of glass clock-cases	265,300	Oct. 3	92	28	22	1151
Atterbury, Thomas B., Pittsburg, Pa. Glass-mold and manufacture of glass signs, &c.	267,659	Nov. 21	897	255	22	1713
Atterbury, Thomas B., Pittsburg, Pa. Manufacture of glass signs	268,849	Dec. 12	554	162	22	1999
Atterbury, Thomas B., Pittsburg, Pa. Manufacture of glass signs	264,431	Sept. 19	904	255	22	950
Atwater, John B., Chicago, Ill. Counterfeit-coin detector	264,432	Sept. 19	906	255	22	950
Atwater, John B., Chicago, Ill. Weighing-machine	261,295	July 18	1198	334	22	213
Atwood, Orlo, New London, Conn. Tension-evener for silk-doubling machines	263,295	July 18	1198	334	22	213
Atwood, Sarah A., *et al.* (See Tyler, Henry P., assignor.)						
Auchincloss, William S., Philadelphia, Pa. Order-book	268,599	Dec. 5	247	69	22	1933
Augerstein, William H. (See Harrison and Augerstein.)						
Augspurger, John, Trenton, Ohio. Sawing-machine	262,915	Aug. 22	1366	386	22	594
Aultman, Cornelius, Canton, Ohio. Valve-gear	263,301	Aug. 29	1540	523	22	687
Austin, Aaron M., Rockland, Me. Combination toilet implement	266,073	Oct. 17	1034	293	22	1324
Austin, Alonzo D., assignor of one-half to B. Porter, Jackson, Mich. Pump	264,024	Sept. 5	440	122	22	820
Austin, Charles, Lowell, Mass. Combined piano and reed-organ	262,916	Aug. 22	1367	386	22	594
Austin, George. (See Gregory and Austin.)						
Austin, Henry C., assignor to himself and W. H. Moore, Louisa, Ky. Seed-planter	260,923	July 11	722	197	22	127
Austin, Josiah, and R. C. Chamberlain, East Liberty, Ohio. Car-coupling	263,092	Aug. 22	1580	446	22	632
Austin, William, Philadelphia, Pa. Machine for making sheet-metal pipe	262,723	Aug. 15	1118	316	22	539
Austin, William H., Jeffersonville, Ind. Car-coupling	266,731	July 11	499	137	22	91
Authors, James, Toronto, Ontario, Canada. Sewing-machine	263,009	Aug. 22	1483	418	22	615
Automatic Parcel Delivery Company. (See Hayden, Harris H., assignor.)						
Autophone Company. (See Morris, Henry B., assignor.)						
Avery, Andrew J., Lynn, Mass. Car-coupling	263,836	Sept. 5	208	60	22	809
Avery, Charles A., Schenectady, N. Y. Whisk-broom	263,093	Aug. 22	1581	446	22	632
Avery, Ezra W., Plymouth, N. H. Making leather	261,073	July 11	921	.....	22	159
Avery, Henry, Hartford, Conn. Surface-gage	267,660	Nov. 21	899	255	22	1713
Avery, John, New York, N. Y. Attachment for tape-measure cases	268,168	Nov. 28	1503	419	22	1829
Avery, John G., Spencer, Mass. Corset	263,379	Aug. 29	1979	565	22	705
Avery, John G., Spencer, Mass. Anti-friction bearing	267,991	Nov. 28	1289	363	22	1791
Avery, Nicholas, Boston, Mass. Coating metallic articles with vulcanized rubber	264,121	Sept. 12	558	.....	22	879
Awalt, John A. (See Swank, Thornley, and Awalt.)						
Axell, Charles, Chicago, Ill. Shirt	264,506	Sept. 19	987	277	22	966
Ayer, J. Cullen, *et al.* (See Shaw, Loring D., assignor.)						
Ayers, Alexander, San José, Cal. Hood for stirrups	268,352	Nov. 28	1740	483	22	1873
Ayers, James R., Petersburg, Va. Peanut-planter	261,418	July 18	1341	375	22	237
Aylesbury, Hector, assignor of one-half to J. Watts, Bristol, county of Bristol, England. Band sawing-machine	265,652	Oct. 10	534	145	22	1231
Aylsworth, Joseph. (See Lanagan, Mike A., assignor.)						
Aylsworth, Thomas D., Oswego, Kans. Hay-press	263,837	Sept. 5	209	60, 61	22	809
Ayres, Franklin C., Deadwood, Dak. Ter. Snap-hook	260,637	July 4	361	98	22	61
Ayres, L. S. (See Shoemaker, David M., assignor.)						
Ayres, Samuel, assignor to S. Ayres & Son, Worcester, Mass. Muzzle	262,917	Aug. 22	1368	386	22	594
Ayres & Son, Samuel. (See Ayres, Samuel, assignor.)						
Baaser, Heinrich. (See Schulte, Friedrich, assignor.)						
Babbit, Joseph W., Aroma, Ind. Machine for shearing metal	262,724	Aug. 15	1120	316	22	539
Babbitt, Benjamin T., New York, N. Y. Manufacture of bicarbonate of soda	265,367	Oct. 3	172	51	22	1166
Babbitt, Benjamin T., New York, N. Y. Manufacture of bicarbonate of soda	265,368	Oct. 3	173	51	22	1166
Babcock, George H., Plainfield, N. J., S. Wilcox and N. W. Pratt, Brooklyn, assignors to Babcock & Wilcox Company, New York, N. Y. Steam-boiler	261,122	July 18	994	279 280	22	181
Babcock, George H., Plainfield, N. J., S. Wilcox and N. W. Pratt, Brooklyn, N. Y., and E. H. Bennett, Bayonne, N. J., assignors to Babcock & Wilcox Company, New York, N. Y. Steam-boiler	262,555	Aug. 15	906	255 256	22	503
Babcock, George H., Plainfield, N. J., S. Wilcox and N. W. Pratt, Brooklyn, assignors to Babcock & Wilcox Company, New York, N. Y. Apparatus for heating water for boilers, &c.	265,234	Oct. 3	7	3, 4	22	1138
Babcock, Henry D., Leonardsville, N. Y. Spring-tooth harrow and cultivator	262,918	Aug. 22	1369	387	22	594
Babcock, Holland C., assignor to P. Jewell & Sons, Hartford, Conn. Leather-cutting gage	264,056	Sept. 12	485	131	22	867
Babcock, Holland C., assignor to P. Jewell & Sons, Hartford, Conn. Clip for coiled fabrics	265,558	Oct. 10	409	113	22	1212
Babcock, Jabez K., Phelps, N. Y. Reamer	262,885	Aug. 15	1327	375	22	576
Babcock, Paul, Jr., Jersey City, N. J. Packing cans	266,577	Oct. 24	1637	466	22	1439
Babcock & Wilcox Company. (See Babcock, Wilcox, and Pratt, assignors.)						
Babcock & Wilcox Company. (See Babcock, Wilcox, Pratt, and Bennett, assignors.)						
Bacci, Giampaolo, Philadelphia, Pa. Device for loading and unloading vessels	260,924	July 11	724	197 198	22	127
Bach, John J., Philadelphia, Pa. Forming and drying cigar-bunches	260,638	July 4	361	99	22	61

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Bacheller, William H., Lynn, Mass. Edge-setting machine	262,919	Aug. 22	1370	387	22	594
Bachman, Jonas L. (See Snyder and Bachman.)						
Back, Anders, Kopparberg, Great Kopparberg, Sweden. Governor for steam-engines	261,980	Aug. 1	191	57	22	368
Bacon, Charles R., and F. Queen, St. James, Minn. Composition for removing scale in boilers	269,616	Dec. 26	1531	.....	22	2191
Bacon, Francis W., Boston, Mass. Adjustable stand for operating steam-indicators	261,519	July 25	1469	411	22	265
Bacon, George W., Robinson, Ill. Kitchen-cabinet	264,996	Sept. 26	1572	441	22	1077
Bacon, Joseph S., *et al.* (See Baker, Peter H., assignor.)						
Bacon, Steuben T., Boston, Mass. Ballot-box	261,509	July 18	1443	403	22	254
Bacon, Steuben T., Boston, Mass. Ballot-box	266,744	Oct. 31	1846	536	22	1483
Baden, Thomas E., assignor of one-half to M. J. Wine, Washington, D. C. Automatic brake for sewing-machines	267,968	Nov. 21	1256	353	22	1779
Badger, Jonathan, New York, N. Y. Smokers' implement	266,007	Oct. 17	959	272	22	1311
Badger, Jonathan, New York, N. Y. Window-guard	269,372	Dec. 19	1216	354	22	2124
Badlam, Edward, and D. E. Southwick, Ogdensburg, N. Y. Vehicle-wheel	269,373	Dec. 19	1217	354	22	2124
Baeder, Charles, Jenkintown, Pa. Manufacture of sand-paper	265,940	Oct. 17	869	249	22	1297
Bagge, John, assignor of one-half to C. Shipley, Baltimore, Md. Invalid-bedstead	268,600	Dec. 5	248	69	22	1933
Bagley, William R., assignor of one-half to C. H. Harmening, Indianapolis, Ind. Car-coupling	266,961	Nov. 7	1	1	22	1541
Bahnsann & Schmedinghoff. (See Schmedinghoff, Joseph, assignor.)						
Bailey, Charles A., Cobalt, Conn. Toy bank	261,419	July 18	1343	375	22	237
Bailey, Charles A., assignor to Middletown Hardware Company, Middletown, Conn. Drawer-pull	267,302	Nov. 7	425	123	22	1616
Bailey, Charles E. (See Meabon, Peter S., assignor.)						
Bailey, Charles E., Benzonia, Mich. Hand vise and wrench	268,447	Dec. 5	90	27	22	1903
Bailey, Charles E., and W. R. Talbot, Providence, R. I. Ornamental nail	260,732	July 11	500	137	22	91
Bailey, Charles S., Waltham Abbey, county of Essex, England. Central-fire cartridge	268,601	Dec. 5	250	70	22	1934
Bailey, Daniel H., Sr., *et al.* (See Owen, William J., assignor.)						
Bailey, Ellene A., St. Charles, Mo. Powder-puff	265,559	Oct. 10	409	113	22	1212
Bailey, Frank M., and E. A. Schade; said Bailey assignor to S. D. Sargent, New Britain, Conn. Opera-chair	264,216	Sept. 12	657	181	22	897
Bailey, Henry A. (See Harris, Frank M., assignor.)						
Bailey, Isaac W., Fairport, Va. Rotary engine	264,507	Sept. 19	988	277 278	22	966
Bailey, James S., Brooklyn, N. Y. Hot-air register	267,128	Nov. 7	216	62	22	1578
Bailey, John W. (See De Figanière, Affonso, assignor.)						
Bailey, John W., Denver, Colo., and A. De Figaniere, Philadelphia, Pa. Amalgamator	267,768	Nov. 21	1016	285	22	1734
Bailey, John W., assignor to himself and A. C. Taber, Boston, Mass. Water-filter	268,776	Dec. 12	456	133	22	1981
Bailey, Joshua, Columbus, Ohio. Wire rack	262,556	Aug. 15	908	256	22	504
Bailey, Leonard, Hartford, Conn. Copying-press	260,733	July 11	500	137	22	91
Bailey, Thomas B., Columbus, Miss. Hammer	268,602	Dec. 5	250	70	22	1934
Bailey, William H., Minneapolis, Minn. Spike	262,344	Aug. 8	653	183	22	452
Bain, Forée, assignor to Fisher Electric Company, Union City, Ind. Armature for dynamo-electric machines	268,980	Dec. 12	706	207	22	2027
Bainbridge, George W., *et al.* (See Sturgeon, John, assignor.)						
Baines, Hugh. (See Howard and Baines.)						
Baines, Hugh, Toronto, Ontario, Canada. Device for feeding and watering cattle in cars	268,603	Dec. 5	251	70	22	1934
Baines, Hugh, Toronto, Ontario, Canada. Cattle-car	268,604	Dec. 5	252	70	22	1934
Baird, Milton I., Allegheny, Pa. Hemmer for sewing-machines	264,845	Sept. 26	1377	389	22	1043
Baken, Thomas, Dun, Kans. Scissors and shears	261,896	Aug. 1	88	25	22	350
Baker, Augustus H., Hartford, assignor one-half to H. L. Pinney, South Windsor, Conn. Railway-switch signal. (Reissue)	10,217	Oct. 17	1270	359	22	1363
Baker, Charles J., Topeka, Kans. Aligner for type-writers	263,459	Aug. 29	2077	595	22	723
Baker, Cyrus M. and L., Bingham, Me. Cattle-tie	262,345	Aug. 8	654	183	22	452
Baker, Elbridge, Malden, Mass. Apparatus for burning hydrocarbons	267,052	Nov. 7	112	33	22	1560
Baker, George C., Des Moines, Iowa. Wire-barbing machine	261,123	July 18	996	280	22	182
Baker, George W., Cleveland, Ohio. Bobbin-winder	260,734	July 11	502	137 138	22	91
Baker, George W., Cleveland, Ohio. Hem-stitch attachment for sewing-machines	261,420	July 18	1343	376	22	238
Baker, George W., Cleveland, Ohio. Hem-stitch attachment for sewing-machines	261,421	July 18	1344	376	22	238
Baker, George W., Cleveland, Ohio. Sewing-machine	261,981	Aug. 1	192	57	22	368
Baker, George W., Chicago, Ill. Lubricator	263,460	Aug. 29	2078	595	22	723
Baker, George W., St. Louis, Mo. Railway-rail crossing	265,479	Oct. 3	296	88	22	1188
Baker & Hamilton. (See Lanfenburg, Michael N., assignor.)						
Baker, James H. (See Moon and Baker.)						
Baker, James M., Aurora, Ill. Milk-skimming apparatus	261,124	July 18	997	280	22	182
Baker, James R., Kendallville, Ind. Vapor-burner	268,777	Dec. 12	456	133	22	1981
Baker, John G., assignor to Enterprise Manufacturing Company, Philadelphia, Pa. Cherry-stoner	264,217	Sept. 12	658	181 182	22	897
Baker, John M., Allentown, Pa. Machine for making spikes	264,604	Sept. 19	1089	309	22	985
Baker, Lincoln. (See Baker, Cyrus M. and L.)						
Baker, Loring J., Boston, Mass. Self-leveling berth	269,617	Dec. 26	1532	440	22	2191
Baker, Loring J., Boston, Mass. Self-leveling berth	269,618	Dec. 26	1534	440	22	2191
Baker Manufacturing Company. (See Martin, Myron R., assignor.)						
Baker, Noah A., Covington, Ky. Motor	260,352	July 4	3	1	22	3
Baker, Peter H., assignor of one-half to G. W. Waitt and J. S. Bacon, San Francisco, Cal. Fastening for tappets of stamp-stems, &c.	266,338	Oct. 24	1379	389	22	1391
Baker, Rezin F., Coshocton, Ohio. Draft-hame	264,218	Sept. 12	660	182	22	898
Baker, Robert D., Buffalo, N. Y. Device for carrying and exhibiting finger-rings	261,651	July 25	1633	458	22	293
Baker, Samuel, Buffalo, N. Y. Whip-holder	266,412	Oct. 24	1467	416	22	1407
Baker, Sanford J., West Waterville, Me. Fowl-fetter	269,370	Dec. 19	1214	354	22	2124
Baker, Thomas. (See Scott and Baker.)						
Baker, William H., *et al.* (See Scott, Alexander L., assignor.)						
Baker, William J., Denver, Colo. Box-fastener	264,605	Sept. 19	1091	310	22	985
Balch, William R., Philadelphia, Pa. Speaking-tube attachment	261,196	July 18	1086	303	22	196
Balcom, Uriah H., Downer's Grove, Ill. Window	267,820	Nov. 21	1085	304	22	1747
Baldridge, Herman, assignor of one-half to W. H. Souther, San Bernardino, Cal. Lubricator	263,751	Sept. 5	106	33	22	792
Baldwin, A. C. (See Trier, Frank, assignor.)						
Baldwin, Augustus W. (See Cullinan and Baldwin.)						
Baldwin, Benjamin L., *et al.* (See Crandall, Charles M., assignor.)						
Baldwin, Cyrus W., Chicago, Ill. Governor for elevators	261,652	July 25	1631	458	22	293
Baldwin, Cyrus W., Chicago, Ill. Electric safety apparatus for elevators	263,380	Aug. 29	1980	565	22	705
Baldwin, Cyrus W., assignor to Hydraulic Elevator Company, Chicago, Ill. Hydraulic elevator. (Reissue)	10,224	Oct. 31	2118	606 609	22	1533

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Baldwin, E. Francis, Baltimore, Md., assignor to A. G. Myers, New York, N. Y. Urinal	268,379	Dec. 5	6	2	22	1888
Baldwin, James S., Newark, N. J. Portable bell and bracket system	268,448	Dec. 5	91	28	22	1904
Baldwin, Judson A., Shelburne, Vt. Evaporator	264,122	Sept. 12	559	152, 153	22	880
Baldwin, Stephen H., Chelsea, assignor of one-half to Boston Elastic Fabric Company, Boston, Mass. Fabric	266,266	Oct. 24	1277	362	22	1372
Baldwin, William, Marion, Ind. Plashed fence	263,094	Aug. 22	1582	446	22	632
Baldwin, William C., Salisbury, Conn. Bottle-cleaner	264,123	Sept. 12	560	153	22	880
Ball, Albert. (See Essex and Ball.)						
Ball, Charles. (See Russell and Ball.)						
Ball, Charles E., Philadelphia, Pa. Electric-arc lamp	260,925	July 11	726	198, 199	22	127
Ball, Charles E., Philadelphia, Pa. Lightning-rod joint or coupling	266,075	Oct. 17	1037	294	22	1325
Ball, Charles W., and T. Davis, Macon, Ill. Hay-stacker	265,560	Oct. 10	410	113, 114	22	1212
Ball, Clinton M., Troy, assignor to himself and J. B. Tibbits, Hoosick, N. Y. Electric-arc lamp	268,850	Dec. 12	555	162	22	1999
Ball, Clinton M., Troy, assignor to himself and J. B. Tibbits, Hoosick, N. Y. Carbon-holder for electric lamps	268,851	Dec. 12	556	163	22	1999
Ball, Edward B., Boston, Mass. Sewing-machine	269,556	Dec. 26	1451	418	22	2175
Ball, Frank H., Erie, Pa. Steam-engine governor	261,074	July 11	922	257	22	159
Ball, Franklin, Palmyra, Nebr. Wagon end-gate	266,076	Oct. 17	1038	294	22	1325
Ball, George W., *et al.* (See Gold, Joseph S., assignor.)						
Ball, Jacob, Greenville, Mich. Pendulum-scale	267,393	Nov. 14	559	159	22	1644
Ball, James, Holyoke, Mass. Envelope-machine	263,838	Sept. 5	210	61	22	810
Ball, Prenzlauer & Co. (See Ball, Thomas H., assignor.)						
Ball, R. Edward, New York, N. Y. Commutator for dynamo-electric machines	261,520	July 25	1471	412	22	265
Ball, Thomas H., *et al.* (See Schmidt, Hugo, assignor.)						
Ball, Thomas H., assignor to Ball, Prenzlauer & Co., Chicago, Ill. Nursing-corset	260,926	July 11	728	199	22	127
Ball, Thomas H., assignor to Chicago Corset Company, Chicago, Ill. Machine for crimping and preparing elastic fabric	266,074	Oct. 17	1035	293, 294	22	1325
Ballard, John L. (See Wilkie, Jeremiah, assignor.)						
Ballard, Talcott B., Canton, Ohio. Drill-chuck	269,374	Dec. 19	1218	355	22	2124
Ballin & Liebler. (See De Quillfeldt, Charles, assignor.)						
Ballou, Walter, North Attleborough, Mass. Ornamental chain	263,095	Aug. 22	1583	447	22	632
Balmain, William H., deceased, (H. Fox, executrix,) Eversley, Ventnor, county of Hants, Isle of Wight, England. Self-luminous paint	264,918	Sept. 26	1475	.....	22	1059
Baltzley, Henry H., Assumption, Ill. Fly-brush for doors	269,375	Dec. 19	1220	355	22	2124
Bancroft, George, Evanston, Ill. Variable friction-gear for spindles	267,053	Nov. 7	114	33	22	1560
Bancroft, James. (See Wyke and Bancroft.)						
Bancroft, William, Hopedale, Mass. Warping-machine	265,941	Oct. 17	871	249	22	1297
Bane, Seth T., Detroit, Mich. Pad for horses' feet	268,605	Dec. 5	253	71	22	1934
Banfield, Julia D., Boston, Mass. Corset	266,008	Oct. 17	959	272	22	1311
Banghart, Andrew B., and C. H. Treat, Frankford, Del. Table-caster	260,333	July 4	4	1	22	3
Bangs, Algernon S., Augusta, Me. Mortising-machine	263,752	Sept. 5	107	33	22	792
Bangs, David E., Medford, Mass., assignor to National Heat and Light Company, of Maine. Petroleum-burner	267,478	Nov. 14	662	190	22	1663
Banister, Robert B., *et al.* (See Presbrey, Edward F., assignor.) (Reissue.)						
Bankmann, Josef, Vienna, Austria-Hungary. Soap	261,897	Aug. 1	89	.....	22	350
Banks, Frank H. (See Vanderslice and Banks.)						
Bankston, Hiram, Fort Smith, Ark. Hay or cotton press	264,219	Sept. 12	661	182	22	898
Bannihr, Cæsar R., West Cheshire, Conn. Drop-press belt-protector	260,822	July 11	613	167	22	108
Bannister, Lemuel, Philadelphia, Pa. Grate	267,737	Nov. 21	984	277	22	1729
Bannister, Lemuel, assignor to American Grate Bar Company, Philadelphia, Pa. Grate	261,898	Aug. 1	89	25	22	350
Banvoetz, John, Emporia, Kans. Hay-fork	269,557	Dec. 26	1453	418	22	2175
Bapple, James W., Sedalia, assignor of one-half to J. Englaender, St. Louis, Mo. Combined self-dropping corn-planter and check-rower	266,413	Oct. 24	1468	417	22	1407
Barbeau, Joseph W., New Orleans, La. Machine for beating bran	266,599	Oct. 31	1675	483	22	1451
Barber, Charles, assignor of one-half to T. Harris, Meaford, Ontario, Canada. Shaft-coupling	264,401	Sept. 12	864	242	22	935
Barber, Coleman, Woodburn, Iowa. Washing-machine	265,734	Oct. 10	634	179	22	1248
Barber, Joshua W., Lenox Station, Ill. Windmill	260,927	July 11	729	199	22	128
Barber, William J., Covington, Ind. Rock-drill	269,619	Dec. 26	1536	441	22	2192
Barbour, Alfred. (See Barbour, Charles and A.)						
Barbour, Charles and A., Tarentum, Pa. Automatic oiler	268,606	Dec. 5	254	71	22	1934
Barbour, George H., and M. B. Mills, assignors to Michigan Stove Company, Detroit, Mich. Magazine drum-stove	267,769	Nov. 21	1018	285	22	1735
Barbour, James L., *et al.* (See Bond, Nathan O., assignor.)						
Barbour, Mary G., Haverhill, Mass. Ironing-table	264,057	Sept. 12	486	131	22	867
Barclay, Peter, East Boston, Mass. Lubricator	268,169	Nov. 28	1504	420	22	1830
Bard, John C., Albany, assignor of one-half to J. G. Hoffman, New York, N. Y. Grate	267,129	Nov. 7	217	63	22	1578
Bard, William W., Elizabethtown, Ky. Hay and cotton press	262,725	Aug. 15	1120	317	22	539
Barden, Merritt C., West Pawlet, Vt. Apparatus for automatically supplying sap to evaporating-pans	263,839	Sept. 5	212	62	22	810
Barger, Nathaniel S., assignor to one-half to N. V. Taylor and W. D. Evans, Hampton, Iowa. Sulky-plow	264,846	Sept. 26	1380	389	22	1043
Barker, Erastus B., assignor to E. & H. T. Anthony & Co., New York, N. Y. Photographic shield	267,821	Nov. 21	1086	304	22	1747
Barker, Frank W., Chelsea, Mass. Cradle	260,823	July 11	614	167	22	109
Barker, Henry C., Sedalia, Mo. Coin-separator	262,886	Aug. 15	1328	375	22	576
Barker, Irving, Joliet, Ill. Car-truck	265,561	Oct 10	412	114	22	1213
Barker, James, Philadelphia, Pa. Reciprocating shaft and driver therefor	264,997	Sept. 26	1573	442	22	1077
Barker, James, Philadelphia, Pa. Rubbing mechanism for carding-machines	266,414	Oct. 24	1470	417	22	1408
Barker, Luke E. (See Smith and Barker.)						
Barker, Robert F., *et al.* (See Melladew, George B., assignor.)						
Barker, Volney, Portland, Me. Can-filling machine	263,096	Aug. 22	1583	447	22	632
Barker, Volney, Portland, Me. Can-filling machine	266,077	Oct. 17	1038	294, 295	22	1325
Barker, William T. (See Stedman and Barker.)						
Barland, Thomas, Eau Claire, Wis. Bridge	264,220	Sept. 12	662	183	22	898
Barlow, Eliza J., assignor to N. P. Barlow and H. Watson, Gowen, Mich. Culinary utensil	268,852	Dec. 12	557	163	22	1999
Barlow, John H., assignor to Winchester Repeating Arms Company, New Haven, Conn. Cartridge-reloading tool	267,130	Nov. 7	219	63	22	1579
Barlow, Nathan P., *et al.* (See Barlow, Eliza J., assignor.)						
Barnard, Charles S., assignor to S. A. Burns & Co., New York, N. Y. Drop-handle	260,520	July 4	222	62	22	38

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Barnard, Charles S., assignor to S. A. Burns & Co., New York, N. Y. Handle	265,913	Oct. 10	824	235	22	1282
Barnard, George D. (See Knapp, Edward, assignor.)						
Barnard, George E., *et al.* (See Dudley, Myrick, assignor.)						
Barnard, Reuel, Tuskeega, Iowa. End-gate for wagons	260,521	July 4	223	62	22	38
Barnard, Richard H., Chicago, Ill. Door-check	262,557	Aug. 15	908	257	22	504
Barnard, Theodore C., Meriden, Conn. Drawer-pull	261,982	Aug. 1	193	57	22	368
Barnes, Arthur O., Moore Park, Mich. Anti-friction bearing	263,097	Aug. 22	1585	448	22	633
Barnes, Arthur O., Moore Park, Mich. Fence and gate post	264,998	Sept. 26	1574	442	22	1077
Barnes, Demas. (See Roberts, Isaiah L., assignor.)						
Barnes, Elmore A., Pittsburg, Pa. Mold-bottom for casting steel ingots	264,847	Sept. 26	1382	389	22	1044
Barnes, Elmore A., Pittsburg, Pa. Roll for rolling shovel-blanks	267,822	Nov. 21	1088	305	22	1748
Barnes, John. (See Barnes, William F. and J.)						
Barnes, John T., Rushville, Ind. Road-cart	264,999	Sept. 26	1575	442	22	1078
Barnes, Merrick M., Boston, Mass. Car-starter	264,124	Sept. 12	561	153	22	880
Barnes, N. A., *et al.* (See Pearce, William, assignor.)						
Barnes, Norman A., *et al.* (See Pearce, William, assignor.)						
Barnes, Raymond F., assignor to United States Electric Lighting Company, New York, N. Y. Socket for incandescent electric lamps	264,919	Sept. 26	1476	415	22	1059
Barnes, Samuel M. (See Calais and Barnes.)						
Barnes, Wesley W., assignor to McLoughlin Brothers, New York, N. Y. Toy shooting-gallery	264,125	Sept. 12	562	153, 154	22	880
Barnes, William F. and J., Rockford, Ill. Groove-cutter	261,197	July 18	1087	303	22	196
Barnes, William H., assignor of one-half to J. F. Gainty, Chicago, Ill. Car-starter	264,221	Sept. 12	664	183	22	898
Barnett, William, Mansfield, Ohio. Steam-whistle	264,606	Sept. 19	1092	310	22	985
Barney, Everett H., Springfield, Mass. Roller-skate	265,371	Oct. 3	175	52	22	1167
Barnhart, Harley A., assignor to himself and F. D. Bochard, Hallsville, Ohio. Table	265,369	Oct. 3	174	51, 52	22	1166
Barnhart, John H. (See Furey, Cyrus R., assignor.)						
Barnhurst, Henry R., Erie, Pa. Device for keeping crank-pins cool	262,920	Aug. 22	1371	387	22	595
Barnum, David L., Wilson, N. Y. Combined wheel cultivator and gang-plow	262,726	Aug. 15	1121	317	22	539
Barnum, David L., Wilson, N. Y. Thill-cultivator	269,376	Dec. 19	1221	355	22	2125
Barnum, Edmund B., *et al.* (See Overton, Daniel B., assignor.)						
Barnum, Eugene T. (See Thomson, John L., assignor.)						
Barnum, John R. (See Tannenberg and Barnum.)						
Barnum, Russel S. (See Goodrich and Barnum.)						
Barnum, Russel S., Chicago, Ill. Clamping device for sewing-machine attachments	267,992	Nov. 28	1290	363	22	1791
Barnum, William H., Reno, Nev. Log-chute	264,607	Sept. 19	1092	310	22	986
Barr, Daniel W., assignor of one-half to J. Keppleman, Reading, Pa. Gate-hinge	260,354	July 4	4	2	22	4
Barr, Daniel W., assignor of one-half to J. Keppleman, Reading, Pa. Gate-latch	260,355	July 4	5	2	22	4
Barr, Eli J., Lititz, Pa. Grain-ventilator	265,370	Oct. 3	175	52	22	1166
Barr, Robert D., assignor of two-thirds to W. Starkey and T. W. Davis, Pittsburg, Pa. High-steam and low-water detector	268,353	Nov. 28	1741	483	22	1873
Barr, Robert J., Philadelphia, Pa. Discharge apparatus for coolers of bone-black kilns	268,981	Dec. 12	707	207	22	2027
Barr, Samuel W., Mansfield, Ohio. Sulky-plow	263,753	Sept. 5	108	34	22	792
Barr, Sarah T., Washington, D. C. Fire-escape	261,075	July 11	925	257	22	159
Barratt, Henry, assignor of one-third to J. D. Miller, York, Pa. Car-brake	266,260	Oct. 17	1265	358	22	1363
Barrett, Abel, assignor of one-half to J. Buel, Woburn, Mass., and C. E. Buell, New Haven, Conn. Hydraulic motor	263,010	Aug. 22	1485	418	22	615
Barrett, Antonio M., Ione City, Cal. Combined spool and thimble holder and thread-cutter	266,009	Oct. 17	960	272	22	1311
Barrett, James, Boston, Mass. Soil and waste pipe	263,461	Aug. 29	2079	595	22	723
Barrett, James H., assignor to himself and J. Shaver, Eldorado, Ill. Horse-detacher	265,000	Sept. 26	1575	442	22	1078
Barrett, Josiah, Pittsburg, Pa. Valve-gear	260,522	July 4	224	62, 63	22	38
Barrett, Oliver W. (See Winslow, Robert G., assignor.)						
Barrett, Robert, assignor of one-half to P. A. Fusz, St. Louis, Mo. Crane	261,899	Aug. 1	90	25	22	351
Barrett, Thomas. (See Arrouquier and Barrett.)						
Barrett, Timothy, and T. A. Ross, Boston, Mass. Car-coupling tool	262,346	Aug. 8	654	184	22	452
Barrie, Robert C., assignor of one-half to J. H. W. Chestnut, Philadelphia, Pa. Water meter and filter	265,562	Oct. 10	413	114	22	1213
Barrie, Samuel S., Brooklyn, assignor, by mesne assignments, to H. E. Shaffer, Rochester, N. Y. Lamp-bracket. (Reissue.)	10,167	July 25	1838	518	22	328
Barron, Henry, and H. Raimes, Kilburn, county of Middlesex, England. Water-closet attachment	262,531	Aug. 8	867	245	22	490
Barrow, Joseph, Headingley, near Leeds, county of York, England. Screw-cutting machine	266,339	Oct. 24	1380	389, 390	22	1391
Barrows, William E., *et al.* (See Hill, De Witt C., assignor.)						
Barry, Alvin W., Corry, Pa. Apparatus for drying lumber, &c	262,558	Aug. 15	909	257	22	504
Barry, Henry H., Council Bluffs, Iowa, assignor of one-half to S. Tate, Topeka, Kans. Burial-casket	266,578	Oct. 24	1639	466	22	1439
Barry, James R., Brooklyn, N. Y. Combined warbler and cage	266,415	Oct. 24	1470	417	22	1408
Barry, John, New York, N. Y. Clinical thermometer	268,853	Dec. 12	558	163	22	2000
Barry, John J. (See McAnliffe, John, assignor.)						
Barry, Nicholas, Jr., Muscatine, Iowa. Trap for waste-pipes	265,372	Oct. 3	176	52	22	1167
Barry, Peter, assignor of one-half to J. W. Britton, H. Brewster, and C. M. Britton, New York, N. Y. Spring-connection for vehicles	265,914	Oct. 10	825	235	22	1283
Barry, Thomas P., Stillwater, N. Y. Automatic wire-guide for paper-machines	260,356	July 4	6	2, 3	22	4
Barry, William, Syracuse, assignor to W. Fegley, Ovid, N. Y. Machine for cutting strings	266,670	Oct. 31	1754	506	22	1465
Barsaloux, Joseph, Griswold's Mills, N. Y. Wagon-brake	264,433	Sept. 19	907	255	22	950
Barson, George. (See Woodruff and Barson.)						
Barstow, Amos C., Jr., Providence, R. I. Stove-urn	262,559	Aug. 15	910	257	22	504
Barstow, Benjamin. (See Barstow, Vinal B. and B.)						
Barstow, Vinal B. and B., Westfield, Mass. Whip	263,098	Aug. 22	1586	448	22	633
Barth, Gustav A., St. Louis, Mo. Smoke-consuming furnace	260,824	July 11	615	167	22	109
Barth, Gustave A., St. Louis, Mo. Smoke-consuming furnace	261,422	July 18	1345	376	22	238
Barth, Henry. (See Barth, Johann F. and H.)						
Barth, Johann F. and H., Cincinnati, Ohio. Composition for preserving sausages	261,983	Aug. 1	194	.....	22	368
Barthels, Otto, New York, N. Y. Ornamenting buttons	262,347	Aug. 8	656	184	22	453
Bartholomew, Chester G. (See Henson, Marvin T., assignor.)						
Bartholomew, George B., assignor of one-half to E. Armant, Montreal, Quebec, Canada. Carriage-gear	265,001	Sept. 26	1576	443	22	1078
Bartholomew, Samuel B. (See McIntire and Bartholomew.)						
Bartholomew, Samuel B., Springfield, Mass. Sewing-machine shuttle	266,745	Oct. 31	1847	537	22	1483
Bartlett, Charles F., *et al.* (See McIlvain, John H., assignor.)						
Bartlett, Frank D., Boston, Mass. Machine for forming pulley-block straps	268,982	Dec. 12	708	208	22	2028
Bartlett, Henry P., La Grange, Mo. Reflector for lamps	260,735	July 11	502	138	22	91
Bartlett, Jason T., and E. E. Butman, Boston, Mass. Truss	265,235	Oct. 3	10	4	22	1136

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Bartlett, John W., Moline, Ill. Draft-equalizer	268,449	Dec. 5	93	28	22	1904
Bartlett, Joseph B., *et al.* (See McIlvain, John H., assignor.)						
Bartlett, Samuel H. (See Lockwood and Bartlett.) (Reissue.)						
Bartlett, Samuel H., and H. E. Waite, assignors to C. F. Livermore, New York, N. Y. Switch for telephones	262,532	Aug. 8	868	245	22	490
Bartlett, Sylvanus, Keene, N. H. Saw-set	261,900	Aug. 1	91	25	22	351
Bartol, Henry W., Philadelphia, Pa. Manufacture of glucose or grape-sugar	264,222	Sept. 12	665	.....	22	898
Barton, Abner W., and G. N. Rich, assignors to Barton Bell Company, East Hampton, Conn. Team-bell	269,630	Dec. 26	1537	441	22	2192
Barton Bell Company. (See Barton and Rich, assignors.)						
Barton, George W., Thorntown, Ind. Carpet-stretcher	262,560	Aug. 15	911	257	22	504
Barton, Richard, Rockford, Ill. Dental grinding-tool	261,198	July 18	1088	303	22	196
Bartram, Charles E., Fredonia, N. Y. Knockdown folding fruit-crate and packing-box	260,357	July 4	9	3	22	4
Bascom, H. Clay, Troy, N. Y., assignor to Florence Machine Company, Florence, Mass. Oil-stove	260,825	July 11	616	167	22	109
Bashaw, John N. (See Tecktonius and Bashaw.)						
Basinger, James M., assignor of two-thirds to W. C. and O. P. Letchworth, Buffalo, N. Y. Trace-carrier	260,523	July 4	228	64	22	38
Basom, Ransford W., Longview, Tex. Cotton-gin	263,099	Aug. 22	1587	448	22	633
Bassett, Charles W. (See Stinson, Charles K., assignor.)						
Bassett's Corset Company. (See Sprague, Charles A., assignor.)						
Bates, Charles L., New York, N. Y. Bell-pull	264,223	Sept. 12	666	183	22	899
Bates, Edward C., Boston, Mass. Skeleton structure	265,301	Oct. 3	94	28	22	1151
Bates, George A., assignor to himself and O. B. Purinton, Hartford, Conn. Adjustable reamer	262,348	Aug. 8	656	184	22	453
Bates, John O. (See Cooley, Duane B., assignor.)						
Bates, Joseph M., Attleborough, Mass. Bracelet	269,166	Dec. 19	942	275	22	2075
Bates, William M., assignor of one-half to S. Potter, Poughkeepsie, N. Y. Rack for pool-balls	265,214	Sept. 26	1827	513	22	1122
Batley, John, Philadelphia, Pa. Electric motor	264,848	Sept. 26	1383	389	22	1044
Batt, John B., Williamsville, N. Y. Car-signal	269,621	Dec. 26	1538	441	22	2192
Batterson, James G., Hartford, Conn. Picture-frame	264,224	Sept. 12	667	183	22	899
Battey, Frederick A. (See Ehle, John H., assignor.)						
Bauch, Robert, assignor to Central Furniture Company, Rockford, Ill. Sliding door	263,670	Sept. 5	1	1	22	775
Bauer, Hermann, New York, N. Y. Eyeglass	264,225	Sept. 12	668	184	22	899
Baugh, Daniel, *et al.* (See Terne, Bruno, assignor.)						
Baugh, Edwin P., *et al.* (See Terne, Bruno, assignor.)						
Baughman, David C., Albion, Ind. Lantern	267,993	Nov. 28	1291	363	22	1791
Baughman, David C., Albion, Ind. Railway-signal	268,983	Dec. 12	711	208	22	2028
Baum & Co., George. (See Baum, Georg, assignor.)						
Baum, Georg, assignor to G. Baum & Co., Arbon, Switzerland. Bodkin-holder for sewing-machines	268,170	Nov. 28	1505	420	22	1830
Baumann, Adam, Philadelphia, Pa. Artificial-stone-burning kiln	267,661	Nov. 21	900	235	22	1713
Baumeister, Hermann E. (See Simon, John, assignor.)						
Baumgartel, Henry. (See Camp and Baumgartel.)						
Baumgarten, Wilhelm, Hamburg, Germany. Covering sticks for umbrellas	263,462	Aug. 29	2080	596	22	723
Bausch, George, Syracuse, N. Y. Eyeglass and spectacles combined	260,928	July 11	730	199	22	128
Baxter, Berry A., Salem, Ohio. Stove-lid	260,826	July 11	617	168	22	109
Baxter, James H., assignor to himself, C. A. Dyer, and D. L. Fernald, Portland, Me. Apparatus for packing dried fish	261,984	Aug. 1	194	57	22	368
Baxter, James H., assignor to himself, C. A. Dyer, and D. L. Fernald, Portland, Me. Putting up dried fish	265,735	Oct. 10	635	180	22	1248
Baxter, Samuel, London, England. Windlass	264,924	Sept. 26	1482	417	22	1061
Baxter, William, Jersey City, N. J. Piston	269,558	Dec. 26	1453	418	22	2176
Baxter, William, Jersey City, N. J., assignor, by mesne assignments, to Hydrodynamic Transmitter Company, New York, N. Y. Apparatus for draining mines	269,167	Dec. 19	942	275	22	2075
Baxter, William H., Leeds, county of York, England. Stone or ore crusher	267,394	Nov. 14	560	160	22	1644
Bayer, Adolph, New York, N. Y. Thermometer	263,649	Aug. 29	2297	656	22	762
Bayer, Charles J., Grinnell, Iowa. Street-crossing	263,754	Sept. 5	108	34	22	792
Bayer, George. (See Loch, Joseph, assignor.)						
Bayley, Charles H., assignor of one-half to G. W. Brown, Boston, Mass. Sewing-machine	262,269	Aug. 8	565	158	22	436
Bayley, Charles H., assignor of one-half to G. W. Brown, Boston, Mass. Presser-foot for sewing-machines	262,270	Aug. 8	566	158	22	436
Bayley, Samuel K., Boston, Mass. Walking-cane	264,058	Sept. 12	487	132	22	868
Bayley, Thomas S., Chico, Cal. Grain-cleaning apparatus	261,653	July 25	1635	459	22	293
Bayley, William. (See Whiteley and Bayley.)						
Bayley, William, assignor to Whiteley, Fassler & Kelly, Springfield, Ohio. Automatic binder	265,215	Sept. 26	1828	513, 514, 515	22	1123
Beach, Henry H., Rome, N. Y. Roasted pea-grits	261,803	July 25	1810	.....	22	323
Beach, James W., Chicago, Ill. Pneumatic conveyer	267,318	Nov. 14	456	132	22	1627
Beach, Joseph B., Meriden, assignor to Simpson, Hall, Miller & Co., Wallingford, Conn. Spoon-holder	264,226	Sept. 12	668	184	22	899
Beach, Joseph B., assignor to Meriden Britannia Company, Meriden, Conn. Holder for table-bells	267,131	Nov. 7	220	63	22	1579
Beach & Son, Henry B. (See Rheutan, Garrie H., assignor.)						
Beal, Ezra F., assignor, by mesne assignments, to himself and A. Dean, Everett, Mass. Car-coupling	267,662	Nov. 21	901	256	22	1714
Beal, Thomas W., assignor to Sandwich Enterprise Company, Sandwich, Ill. Grinding-mill	266,340	Oct. 24	1381	390	22	1391
Beal, William R., New York, N. Y. Hydraulic main	265,736	Oct. 10	635	180	22	1248
Beall, Annie, Frostburg, Md. Apparatus for poaching eggs	267,395	Nov. 14	561	160	22	1644
Beals, Isaiah A., Brockton, Mass. Shoe	264,608	Sept. 19	1093	310	22	986
Bean, Charles E., assignor of two-thirds to S. H. Wetherbee and M. C. Yarwood, Fall River, Mass. Bobbin-builder for yarn-winding machines, &c.	262,349	Aug. 8	657	184	22	453
Bean, Charles E., assignor of two-thirds to S. H. Wetherbee and M. C. Yarwood, Fall River, Mass. Yarn-guide for spooling-machines	263,463	Aug. 29	2080	596	22	723
Bean, Charles E., assignor of two-thirds to S. H. Wetherbee and M. C. Yarwood, Fall River, Mass. Presser attachment for knitting-machines	264,059	Sept. 12	488	132	22	868
Bean, Edward D., Chelsea, Mass. Police-handcuff	268,171	Nov. 28	1506	420	22	1830
Bean, Frank, assignor to Improved Sole Sewing Machine Company, Boston, Mass. Throat-plate for boot and shoe sewing machines	262,198	Aug. 8	485	135	22	423
Bean, Henry F., Jackson, Mich. Leveling-rod and out-tape	269,254	Dec. 19	1060	309, 310	22	2096

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Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Bean, Jacob H., Macon, Ill. Hay-stacker	263,464	Aug. 29	2081	596	22	723
Bean, Jacob H., Macon, Ill. Portable roof for hay or straw stacks	265,003	Sept. 26	1578	443	22	1078
Bean, John, assignor to Tricycle Manufacturing Company, Springfield, Ohio. Wheelbarrow	262,171	Aug. 1	438	122	22	409
Bean, John and R., assignors to Tricycle Manufacturing Company, Springfield, Ohio. Wagon-wheel	265,480	Oct. 3	297	88	22	1189
Bean, John and R., assignors to Tricycle Manufacturing Company, Springfield, Ohio. Vehicle-wheel	268,768	Dec. 5	436	127	22	1970
Bean, Joseph H., Cincinnati, Ohio. Gas-stove	263,671	Sept. 5	2	1	22	775
Bean, Joseph H., Cincinnati, Ohio. Kerosene-gas burner	263,672	Sept. 5	4	2	22	775
Bean, Joseph H., Cincinnati, Ohio. Coffee-pot	264,025	Sept. 5	441	122	22	850
Bean, Roscoe. (See Bean, John and R.)						
Bean, Samuel L., Washington, D. C. Roller grinding-mill	265,002	Sept. 26	1577	443	22	1078
Beans, Absalom, Roscoe township, Davis county, Iowa. Car-coupling	269,168	Dec. 19	945	275	22	2075
Beans, Absalom, Roscoe township, Davis county, Iowa. Switch	269,506	Dec. 26	1389	401	22	2163
Beard, Edward J., and H. V. Hinckley, Topeka, Kans. Switch	264,060	Sept. 12	490	132	22	868
Beard, Isham B., Villa Vista, La. Cultivator	264,227	Sept. 12	669	184	22	899
Beardslee, George W., Brooklyn, N. Y., assignor to W. F. Jobbins, East Orange, N. J. Dynamo-electric machine	264,228	Sept. 12	670	185	22	899
Beardslee, George W., Brooklyn, N. Y., assignor to W. F. Jobbins, East Orange, N. J. Dynamo-electric machine	264,229	Sept. 12	671	185, 186	22	900
Beardslee, George W., Brooklyn, N. Y., assignor to W. F. Jobbins, East Orange, N. J. Commutator for dynamo-electric machines	264,230	Sept. 12	673	186	22	900
Beardslee, George W., Brooklyn, N. Y., assignor to W. F. Jobbins, East Orange, N. J. Dynamo-electric machine	265,004	Sept. 26	1579	443, 444	22	1078
Beardslee, George W., Brooklyn, N. Y., assignor to W. F. Jobbins, East Orange, N. J. Electric lamp	265,737	Oct. 10	636	180	22	1248
Beardsley, Udney N., Bloomingdale, Mich. Wind-engine	261,985	Aug. 1	195	58	22	368
Beatty, Dempster, Mishawaka, Ind., assignor to Grand Rapids Felt Boot Company, Grand Rapids, Mich. Manufacture of felted goods	261,521	July 25	1472	412	22	265
Beaty, Daniel C., Olympia, Wash. Ter. Combined sulky-plow, harrow, seeder, and roller	265,005	Sept. 26	1580	444	22	1079
Beaudry, Alexander, Boston, assignor to A. Beaudry, East Boston, Mass. Power-hammer	264,816	Sept. 19	1333	377	22	1029
Beaudry, Augustine. (See Beaudry, Alexander, assignor.)						
Beaumont, Lucien B., Alexandria, Ohio. Fender	265,006	Sept. 26	1581	444	22	1079
Bechtel, Albert, and A. Bucher, Cleveland, Ohio. Device for adjusting and threading sewing-machine needles	268,380	Dec. 5	7	2	22	1888
Beck, George H., New York, N. Y. Water lac varnish	268,172	Nov. 28	1507	.....	22	1830
Beck, Robert M., Westminster, Md. Head-block for saw-mills	260,524	July 4	229	64	22	39
Beck, Robert M., Westminster, Md. Roller-gage for saw-mills	260,929	July 11	731	200	22	122
Becker, Henry C., Chicago, Ill. Separating caustic alkali from gluten	260,736	July 11	503	.....	22	91
Beckfeld, William J., *et al.* (See Marchand, Henry E., assignor.)						
Beckwith, Samuel H. (See Prentice and Beckwith.)						
Bedbury, George W., assignor to A. E. Borthwick, Portland, Oreg. Car-coupling	265,938	Oct. 10	863	246	22	1288
Bedell, Otis T., New York, N. Y. Detachable pitcher-spout cover or guard	262,350	Aug. 8	650	185	22	453
Bedford, John, Rossville, Tenn. Force-pump	268,984	Dec. 12	712	209	22	2028
Bedingfield, John H. and S. L. G., Jug Tavern, Ga. Saw gummer and sharpener	268,070	Nov. 28	1385	387	22	1808
Bedingfield, Solomon L. G. (See Bedingfield, John H. and S. L. G.)						
Beebe, Calvin T., assignor to Withington & Cooley Manufacturing Company, Jackson, Mich. Cast-steel garden-rake. (Reissue)	10,243	Nov. 21	1283	360	22	1784
Beebe, Edgar G., Wiota, Wis. Sugar-cane cutter, stripper, and header	268,381	Dec. 5	9	2, 3	22	1888
Beebe, Henry C., Canton, Ill. Portable fence	261,522	July 25	1472	412	22	265
Beebe, John E., Chicago, Ill. Photographer's cooling-slab	265,563	Oct. 10	414	114	22	1213
Beebe, John E., Chicago, Ill. Drying-rack for photographers' dry-plates	267,663	Nov. 21	902	256	22	1714
Beebe, Winfield S., Middletown, Conn. Fire-escape	263,100	Aug. 22	1588	448	22	683
Beebe, Winfield S., Middletown, Conn. Chimney-cowl	267,479	Nov. 14	663	190	22	1663
Beebee, Charles, Ravenswood, N. Y. Car-coupling	267,823	Nov. 21	1089	305	22	1748
Beecher, Lina, Medina, N. Y. Acoustic telephone	260,737	July 11	504	138	22	91
Beechey, Charles G., assignor to W. T. Mann, J. G. and A. Chapman, H. Shield, and A. Speirs, Liverpool, England. Gas-engine	264,126	Sept. 12	564	154, 155	22	881
Beedy, Seth E., assignor of one-half to J. J. Linscott, Farmington, Me. Telephonic receiver	266,746	Oct. 31	1848	537	22	1483
Beedy, Seth E., assignor of one-half to J. J. Linscott, Farmington, Me. Telephonic transmitter	266,747	Oct. 31	1849	537	22	1484
Beeler, Jesse, Girard, Kans. Grain weigher and tally	268,173	Nov. 28	1508	420	22	1830
Beers, Charles L., Auburn, assignor of one-half to N. C. Arnold, Mount Morris, N. Y. Compensating-reservoir for compressed air	268,854	Dec. 12	552	163	22	2000
Beers, George T. (See Kimball, John J., assignor.)						
Beers, George W., Bridgeport, Conn. Carriage-curtain-roller bracket	265,564	Oct. 10	415	115	22	1213
Beers, Henry H., Middlebury, Ind. Roof-paint	268,382	Dec. 5	10	.....	22	1888
Beers, Wheeler, Bridgeport, Conn. Machine for turning carriage-axles	267,480	Nov. 14	664	190, 191	22	1663
Beery, Samuel M., Omaha, Nebr. Safety-step for cars	260,525	July 4	229	64	22	39
Beesley, James. (See Beesley, William and J.)						
Beesley, William and J., Barrow-in-Furness, county of Lancaster, England. Steam-generator	266,078	Oct. 17	1042	295	22	1326
Beeson, Thomas B., Wilmington, Del. Roofing-tongs	263,381	Aug. 29	1981	565, 566	22	705
Beets, Daniel, Clinton, Tenn. Plow	268,985	Dec. 12	713	209	22	2028
Beezley, Anderson J., *et al.* (See Blackley, Nicholson, and Holloman, assignors.)						
Behn, Henry A., Union Hill, N. J. Machine for sewing on buttons	267,642	Nov. 14	865	247, 248	22	1699
Behning, Henry, New York, N. Y. Sounding-board for upright pianos	261,523	July 25	1473	412, 413	22	265
Behning, Henry, New York, N. Y. Music-rack for pianos	262,351	Aug. 8	661	185	22	453
Behringer, Henry, Cincinnati, Ohio. Cording attachment for sewing-machines	264,817	Sept. 19	1334	377	22	1030
Beidler, Charles, assignor of one-half to E. Harvey, Allentown, Pa. Plow	261,986	Aug. 1	197	58	22	369
Beisheim, Henry, Crown Point, N. Y. Hollow anger	268,986	Dec. 12	714	209	22	2028
Beitmiller, Martin, assignor to Mayer, Langfelder & Hammerschlag, Vienna, Austria-Hungary. Carpet-cleaner	262,352	Aug. 8	662	185, 186	22	454
Belcher, Alexander S., *et al.* (See Brown, James F., assignor.)						
Belcher, Frank S. (See Belcher, John B., assignor.) (Reissue.)						
Belcher, Frank S. (See Hooker and Belcher.)						
Belcher, Frank S., and F. A. Hooker, Charlotte, Mich. Fruit-drier	263,101	Aug. 22	1589	449	22	633

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention	No.	Date.	Monthly volume.		Official Gazette.	
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Belcher, George D., Chicopee, Mass. Metal-screw machine	264,609	Sept. 19	1093	311	22	986
Belcher, John B., Charlotte, Mich. Boot-strap	261,125	July 18	999	280	22	182
Belcher, John B., Charlotte, Mich. Boot-strap	263,465	Aug. 29	2092	597	22	724
Belcher, John B., assignor of one-half to F. S. Belcher, Charlotte, Mich. Boot-strap. (Reissue)	10,151	July 11	980	275	22	170
Belden, Alvin J. (See Sperry, Elmer A., assignor.)						
Belden, Henry S., Canton, Ohio. Vapor-burner	263,840	Sept. 5	214	62	22	810
Belden, Henry S., Canton, Ohio. Vapor-burner	267,657	Nov. 14	883	252	22	1702
Belding, Thomas C., Waynesburg, Ohio. Polishing and grinding wheel	267,132	Nov. 7	220	63	22	1579
Belknap, Charles J. (See Nye, Charles H., assignor.)						
Belknap, David P., San Francisco, Cal. Shirt	266,748	Oct. 31	1850	538	22	1484
Bell, Agrippa N., Garden City, N. Y. Domestic garbage-burner	264,920	Sept. 26	1478	415	22	1060
Bell, Charles E., Greenfield, Ohio. Bolt and nut lock	268,607	Dec. 5	255	71	22	1935
Bell, Henry, Baltimore, Md. Bottle-envelope	262,353	Aug. 8	666	186	22	454
Bell, Henry, Baltimore, Md. Filtering-funnel	267,133	Nov. 7	222	64	22	1579
Bell, John W., Conowingo, Md. Watch-hands	267,824	Nov. 21	1090	306	22	1748
Bell, Stephen B. (See Denson and Bell.)						
Bell, Thomas A., Trenton, N. J. Measuring-machine	267,826	Nov. 21	1092	306	22	1748
Bell, Thomas J., Cincinnati, Ohio. Method of and apparatus for detecting leakage in conduits	267,825	Nov. 21	1091	306	22	1748
Bell, William G., Allegheny city, Pa. Brick for building arches and furnace-roofs	266,010	Oct. 17	961	272	22	1311
Bell, William H. (See Brown and Bell.)						
Bellah, William N., Saint Jo, Tex. Combined whip-socket and rein-holder	261,987	Aug. 1	198	58	22	369
Bellamy, Charles L., Arlington, N. J. Centering, bevel, and try square	267,481	Nov. 14	665	191	22	1664
Belle Patent Button Fastener Company. (See Goddu, Louis, assignor.)						
Bellinger, Robert M., Blissfield, Mich. Evaporator for fruits, vegetables, &c.	263,673	Sept. 5	6	2	22	775
Belt, Alfred C., assignor to himself and J. P. Herr, Aullville, Mo. Gate-latch	265,738	Oct. 10	637	180	22	1249
Bemis, John E., Waupun, Wis. Dumping-car	266,749	Oct. 31	1851	538	22	1484
Bemis, Sumner A., Springfield, Mass. Car-spring	264,921	Sept. 26	1479	415	22	1060
Benas, Benjamin. (See Nichols and Benas.)						
Benedict & Burnham Manufacturing Company. (See Blackham, Eli J., assignor.)						
Benedict, Charles E., *et al.* (See Orens, Walter S., assignor.)						
Benedict, George H., New York, N. Y. Package-holder	267,303	Nov. 7	496	123	22	1616
Benedict, Hiram, Detroit, Mich. Spring bed-bottom	268,071	Nov. 28	1386	388	22	1808
Benedict, Washington G., Orange Park, Fla. Upholstering material and method of making the same	264,231	Sept. 12	674	.....	22	900
Beneke, John O., New Orleans, La. Spinning-top	262,354	Aug. 8	667	186	22	455
Benjamin, Edmund B., New York, N. Y. Statical electrical apparatus	261,118	July 11	979	{274 {275	22	170
Benjamin, Edwin, *et al.* (See Covel, William L., assignor.) (Reissue.)						
Benjamin, Leopold. (See Horowitz, Adolph, assignor.)						
Benkert, George F., Philadelphia, Pa., and L. G. Marini, Washington, D. C. Remedy for corns, bunions, &c.	266,079	Oct. 17	1042	.....	22	1326
Benner, Abraham S., Perkasie, Pa. Milk-cooler	261,823	Aug. 1	1	1	22	335
Benner, Abraham S., Perkasie, Pa. Milk-cooler	261,824	Aug. 1	2	1	22	335
Benner, A. Penrose, Philadelphia, Pa. Hot-air house-heating furnace	262,199	Aug. 8	486	{135 {136	22	423
Benner, Lorenzo D., assignor to G. C. Alden and A. C. Clay, Galesburg, Ill. Check-row attachment to corn-planters	266,342	Oct. 24	1384	391	22	1392
Benner, Lorenzo D., and J. Stafford, assignors to G. C. Alden and A. C. Clay, Galesburg, Ill. Check-row attachment for corn-planters	266,341	Oct. 24	1383	391	22	1391
Benner, Lorenzo D., assignor to G. C. Alden and A. C. Clay, Galesburg, Ill. Check-row attachment for corn-planters	267,054	Nov. 7	115	33, 34	22	1560
Bennett, Charles H., Cheltenham, Pa. Cork for bottles	265,007	Sept. 26	1582	445	22	1079
Bennett & Co., W. B. (See Caldwell, John, assignor.)						
Bennett, Edwin H. (See Babcock, Wilcox, Pratt, and Bennett.)						
Bennett, Erastus S., Denver, Col. Feeder for revolving cylinders	266,080	Oct. 17	1043	296	22	1326
Bennett, George H., Leavenworth, Kans., assignor of two-thirds to J. H. Foote, Cincinnati, Ohio. Oil-cabinet	262,561	Aug. 15	912	258	22	504
Bennett, George W., Chelsea, Mass. Speaking-tube mouth-piece	260,358	July 4	10	3	22	4
Bennett, James T. (See Huntley, Rollin D., assignor.)						
Bennett, James W. (See Libby, Oliver A., assignor.)						
Bennett, Josiah C., *et al.* (See Dudley, Myrick, assignor.)						
Bennett, Josiah C., *et al.* (See Dudley, Myrick, assignor.) (Reissue.)						
Bennett, Samuel P. (See Morton and Bennett.)						
Benninger, William M. (See Snyder and Bachman, assignors.)						
Bennitt, Joel, Palo, Mich. Thrashing-machine	261,126	July 18	999	281	22	182
Benoit, Antoine, Dunham, Quebec, Canada. Car-coupling	265,565	Oct. 10	416	115	22	1213
Bensel, Ludwig, Iserlohn, Prussia, Germany. Ice-creeper	266,902	Nov. 7	2	1	22	1541
Benson, Benjamin S., Baltimore, Md. Plow	264,434	Sept. 19	908	256	22	950
Benson, I. Lloyd, Waterford, Pa. Extensible nut for vehicles	263,302	Aug. 29	1841	523	22	687
Benson, Oliver, Derrick City, Pa. Device for connecting rails	260,446	July 4	122	36	22	22
Benson, Willis A. (See Norman and Benson.)						
Bentley, Jesse P., Sabina, Ohio. Washing-machine	263,102	Aug. 22	1500	449	22	634
Bentley, Richard, Corning, Iowa. Fire-escape	268,608	Dec. 5	255	71	22	1935
Benton, John B., New York, assignor to Railway Register Manufacturing Company, Buffalo, N. Y. Fare-register	260,526	July 4	230	64, 65	22	39
Benton, Thomas P., La Crosse, Wis. Windmill	269,169	Dec. 19	945	276	22	2075
Bereuter, Charles J. M., Flannigan, Ill. Grain weigher and register	262,355	Aug. 8	668	186	22	455
Berg, August J., Chicago, Ill. Automatic car-brake	262,636	Aug. 15	1012	284	22	520
Bergen, Louis, New York, N. Y. Apparatus for drawing and dispensing liquids	264,127	Sept. 12	567	155	22	882
Bergen, William L., Batavia, Ill. Plumb-bob	266,671	Oct. 31	1756	506	22	1466
Berger, Ambrose J. B., Easton, Pa. Elevated rope carrying system or endless railway	261,296	July 18	1199	335	22	213
Berger, Andrew. (See Zerfas, Joseph, assignor.)						
Berger, Levi and W. H., Philadelphia, Pa. Stove-pipe damper	267,827	Nov. 21	1094	306	22	1749
Berger, William H. (See Berger, Levi and W. H.)						
Bergman, Frank A., *et al.* (See Schwuchow, Herman F., assignor.)						
Bergmann, Sigmund. (See Greenfield, Edwin T., assignor.)						
Bergmann, Sigmund. (See Greenfield and Bradley, assignors.)						
Bergmann, Sigmund. (See Johnson, Edward H., assignor.)						
Bergmann, Sigmund, assignor of one-half to E. H. Johnson, New York, N. Y. Combined gas and electric-light fixture	262,271	Aug. 8	567	158	22	437
Bergmann, Sigmund, assignor of one-half to E. H. Johnson, New York, N. Y. Electrical extension-chandelier	262,272	Aug. 8	568	159	22	437

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Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
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Bergmann, Sigmund, assignor of one-half to E. H. Johnson, New York, N. Y. Electrical chandelier	263,103	Aug. 22	1590	449	22	634
Bergmann, Sigmund, assignor of one-half to E. H. Johnson, New York, N. Y. Telephone-switch	266,750	Oct. 31	1852	538	22	1484
Bergqvist, Axel F., Fairfield, Iowa. Sulky-plow	264,610	Sept. 19	1096	312	22	986
Bergreen, Christian R., Roitsch, near Bitterfeld, Prussia, Germany. Defecating saccharine liquors	268,987	Dec. 12	715	.....	22	2028
Bering, James E., assignor to Chambers, Bering & Quinlan, Decatur, Ill. Anchor for check-row lines	266,250	Oct. 17	1245	353	22	1360
Berkly, Lewis B., Waterloo, Iowa. Wagon	265,739	Oct. 10	638	181	22	1249
Berlew, Daniel, and M. L. Kissell, assignors to P. P. Mast & Co., Springfield, Ohio. Cultivator	260,447	July 4	124	36	22	22
Berlier, Jean B., assignor to Compagnie Générale de Salubrité, Paris, France. Pneumatic apparatus for removing night-soil from cesspools	266,416	Oct. 24	1471	418	22	1408
Berlin, John B., *et al.* (See Parkinson, Thomas J., assignor.)						
Berliner, Emile, Boston, Mass. Operator's receiving-telephone	262,921	Aug. 22	1372	387	22	595
Berliner, Emile, Boston, Mass. Telephone system	262,922	Aug. 22	1373	388	22	595
Berliner, Emile, Boston, Mass. Telephone system						
Bernard, William M. (See Howard, William A., assignor.)						
Bernstein, Alex., Boston, Mass. Electric lamp	263,011	Aug. 22	1485	418	22	615
Bernstein, Alex., Boston, Mass. Electric-current meter	269,559	Dec. 26	1454	419	22	2176
Bernstein, Alex, Boston, Mass. Electric-current meter	267,319	Nov. 14	458	132	22	1628
Bernstein, Aron, Berlin, Germany. Galvanic battery	268,363	Dec. 5	11	3	22	1888
Bernstein, Harris, Titusville, Pa. Recording pressure-gage	262,356	Aug. 8	669	187	22	455
Berrian, Cornelius, assignor to S. W. Berrian, Clinton, Iowa. Fire-proof shutter						
Berrian, Sarah W. (See Berrian, Cornelius, assignor.)						
Berry, Henry. (See Miller and Berry.)						
Berry, John, Biddeford, Me. Percolator	266,081	Oct. 17	1044	296	22	1326
Berry, Joseph, Fall River, Mass. Warp-shed divider	263,303	Aug. 29	1841	523	22	687
Berry, Lucien H. (See Orton and Berry.)						
Berry, Marcellus F., Brooklyn, N. Y. Check or other paper representing value	268,988	Dec. 12	716	210	22	2029
Berteling, Louis A., San Francisco, Cal. Compound optometer	263,674	Sept. 5	7	2, 3	22	776
Berteling, Theodore, New York, N. Y. Plate	264,611	Sept. 19	1097	312	22	986
Bertholl, Hugo, New York, N. Y. Coloring compound for artificial butter	266,417	Oct. 24	1473	.....	22	1408
Bertier, Alexander D., Hannibal, Mo. Wagon-brake	267,828	Nov. 21	1095	307	22	1749
Bésnier, Vital, New York, N. Y. Fire-escape	269,377	Dec. 19	1221	355	22	2125
Best, Daniel, Albany, Oreg. Grain-cleaning apparatus	264,508	Sept. 19	989	278	22	966
Best, Daniel, Albany, Oreg. Grain separator and cleaner	264,509	Sept. 19	989	{278 {279	22	966
Best, Martin L., *et al.* (See Best, William A., assignor.)						
Best, Martin L., assignor of one-half to L. L. Miller, Canton, Ohio. Vapor-burner	261,423	July 18	1345	376	22	238
Best, Martin L., assignor of one-half to L. L. Miller, Canton, Ohio. Vapor-burner for stoves	262,172	Aug. 1	439	122	22	409
Best, Martin L., assignor of one-half to L. L. Miller, Canton, Ohio. Vapor-burner for stoves	265,566	Oct. 10	417	115	22	1213
Best, Roland J., Lancaster, S. C. Iron-foot plow						
Best, William A., assignor of one-half to M. L. Best and L. L. Miller, Canton, Ohio. Reservoir for burning-fluids	269,507	Dec. 26	1390	401	22	2163
Betteley, Joseph H., London, England. Machine for issuing and recording tickets	262,357	Aug. 8	669	187	22	455
Betts, Elisha, Lombardy Grove, Va. Adjustable guard for fire-places	265,740	Oct. 10	640	181	22	1249
Betts, Isaac F., Wilmington, Del. Peach-stoner	267,320	Nov. 14	459	132	22	1628
Betts, Lewis F., Morton, Pa. Manufacturing incandescent electric lamps	263,304	Aug. 29	1842	524	22	687
Betts, Lewis F., Morton, Pa. Ventilator or chimney cap	267,829	Nov. 21	1096	307	22	1749
Betts, Lewis F., assignor to J. H. Irwin, Morton, Pa., and R. E. Dietz, New York, N. Y. Gas-burner for stoves	266,418	Oct. 24	1473	419	22	1408
Betzer, Lemuel S., assignor of one-half to H. Seaman, Memphis, Mo. Boiler washing-machine	267,969	Nov. 21	1257	354	22	1779
Bevelot, Clement, East St. Louis, Ill. Thrashing-machine	269,622	Dec. 26	1539	{441 {442	22	2192
Bevin, Abner A., assignor to Bevin Brothers Manufacturing Company, East Hampton, Conn. Team-bell	262,338	Aug. 8	671	187	22	455
Bevin Brothers Manufacturing Company. (See Bevin, Abner A., assignor.)						
Bevin Brothers Manufacturing Company. (See Kirby, Samuel, assignor.)						
Beyer, George W., assignor of one-half to F. Andrews, Brooklyn, N. Y. Manufacture of balls	263,466	Aug. 29	2083	597	22	724
Beyer, William J. (See Goodrich, Alfred B., assignor.)						
Beverly, William G., Portsmouth, Ohio. Road-scraper	262,359	Aug. 8	672	187	22	456
Beverly, William G., Portsmouth, Ohio. Fire-brick	262,727	Aug. 15	1122	317	22	540
Bickel, Edward A., Cincinnati, Ohio. Tool	263,104	Aug. 22	1592	450	22	634
Bickel, Jacob N., Terre Haute, Ind. Horse-collar	260,827	July 11	618	168	22	109
Bickerman, Theodore. (See Schrock, Emanuel M., assignor.)						
Bickmore, Albion P., assignor of one-half to E. B. Pendleton, Hyde Park, Mass. Ship's berth	264,128	Sept. 12	568	{155 {156	22	882
	10,184	Aug. 22	1834	520	22	680
Bicknell, Henry O., Chicago, Ill. Wardrobe-bedstead. (Reissue)	264,612	Sept. 19	1098	312	22	987
Biddison, Clarence E., Rock Island, Ill. Balanced slide-valve	269,255	Dec. 19	1062	310	22	2096
Biddle, Charles N., Richwood, Ohio. Wheel						
Bidelman, Robert M. (See Bury and Bidelman.)						
Bidwell, Jane A., Plain City, Ohio. Carpet-stretcher	265,741	Oct. 10	641	181	22	1249
Bieder, Jacob, Ashtabula, Ohio. Railway-crossing alarm and signal	264,129	Sept. 12	569	156	22	882
Bigelow, John, Philadelphia, Pa. Trimming device for over-edge sewing-machines	263,467	Aug. 29	2084	597	22	724
Bigelow, John, Philadelphia, Pa. Welting or hemming fabrics	266,751	Oct. 31	1853	539	22	1484
Biggerstaff, Robert J. (See Hilpert and Biggerstaff.)						
Bigham, James H. (See McGonigle and Bigham.)						
Bilhorn, Christian F., Chicago, Ill. Wagon-reach	263,105	Aug. 22	1592	450	22	634
Bill, Edward L. (See Ewing and Bill.)						
Billings, Charles E., Hartford, Conn. Ratchet-drill	260,359	July 4	10	3	22	4
Billings, Charles E., Hartford, Conn. Surface-gage	261,901	Aug. 1	92	26	22	351
Billings, Charles E., Hartford, Conn. Surface-gage	265,567	Oct. 10	417	115	22	1213
Billings, John D., New York, N. Y. Horseshoe	266,419	Oct. 24	1474	419	22	1408
Billings, Louis C., Milford, N. H. Machine for spooling yarn	268,855	Dec. 12	559	164	22	2000
Billings, William B., Westmoreland, N. Y. Combination cooker, baker, and broiler	265,373	Oct. 3	177	53	22	1167
Billington, Theophilus, Dallas, Tex. Kitchen-cabinet						
Billmeyer, Hamlin F. (See Bogle, Charles E., assignor.)						
Bills, James, Sherman, Tex. Buckle	264,613	Sept. 19	1099	312	22	987
Bilyeu, William H., *et al.* (See Dampman, David J., assignor.)						
Biltz, John A., Pleasanton, Cal. Two-wheeled vehicle	262,273	Aug. 8	569	159	22	437
Bingham, Tracy F., Abronia, Mich. Bee-smoking apparatus	264,614	Sept. 19	1100	313	22	987
Binkley, James E., Columbus, Tex. Insect-destroyer	261,127	July 18	1000	281	22	182
Birch, John S., New York, N. Y. Lead and crayon holder	267,134	Nov. 7	222	64	22	1579
Birch, William, Salford, county of Lancaster, England. Apparatus for washing, dyeing, &c.	261,654	July 25	1636	459	22	293

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Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Bird, James B., Hyde Park, Mass. Device for holding and adjusting reels for rolling paper, &c	263,012	Aug. 22	1466	410	22	615
Bird, Peter E., Jenkintown, Pa. Machine for making pitchforks	262,562	Aug. 15	913	258, 259	22	505
Birdsall Company, E. M. (See Stringer, George, assignor.)						
Birdsall, Edgar M., Auburn, N. Y. Traction-engine	266,343	Oct. 24	1385	391, 392	22	1892
Birdsall, Edgar M., Auburn, N. Y. Traction-wheel	268,609	Dec. 5	256	72	22	1935
Birdsall, Henry L., Bedford Station, N. Y. Buckboard-wagon	267,135	Nov. 7	223	64	22	1579
Birely, Charles. (See Smith and Birely.)						
Birkenhead, John, Mansfield, Mass. Yarn-guide support for ring-spinning frames	260,360	July 4	11	4	22	4
Birkery, Cornelius. (See Lord and Birkery.)						
Birkett, James W., Brooklyn, N. Y. Receiver for disinfectants	263,841	Sept. 5	217	62	22	810
Birkholz, Hans, Racine, Wis. Roller grinding-mill	269,623	Dec. 26	1540	442	22	2193
Birmingham, Frank, Hornellsville, N. Y. Door-hanger	269,508	Dec. 26	1301	401	22	2163
Bishop, Fredrick W., West Haven, Conn. Adjustable vehicle-pole	261,988	Aug. 1	198	59	22	369
Bishop, John F. (See Bishop, John W., assignor.)						
Bishop, John W., assignor to J. F. Bishop, New Haven, Conn. Fire-extinguisher	260,639	July 4	362	99	22	61
Bishop, John W., assignor to J. F. Bishop, New Haven, Conn. Automatic fire-extinguisher	260,640	July 4	365	99, 100	22	62
Bishop, John W., assignor to J. F. Bishop, New Haven, Conn. Fire-extinguishing apparatus	260,641	July 4	367	100	22	62
Bishop, Lester. (See Pearce, Truman J., assignor.)						
Bishop, Richard T., St. Louis, Mo. Amalgamator	267,396	Nov. 14	562	160	22	1644
Bishop, Richard T., St. Louis, Mo. Car-coupling	267,664	Nov. 21	903	256	22	1714
Bishop, Richard T., assignor of one-half to T. Hunt, St. Louis, Mo. Vehicle-spring	268,989	Dec. 12	717	210	22	2029
Bissell, Frank S. (See Geissenhainer, George W., assignor.)						
Bissell, Henri E., Hartford, Conn. Station-indicator	261,825	Aug. 1	4	1, 2	22	335
Bissell, Isaac F., Brooklyn, N. Y. Car-axle box	265,374	Oct. 3	178	53	22	1167
Bissell, Nathaniel W., Stroudsburg, Pa. Automatic brake	261,424	July 18	1346	377	22	238
Bissell, Sylvester, Hartford, Conn. Street-railway car	264,849	Sept. 26	1385	390	22	1044
Bissell, Thelus M., South Bend, Ind. Plow-handle	260,642	July 4	369	100	22	62
Bitner, Abraham, Lancaster, Pa. Stem hand-setting and winding mechanism for watches	261,655	July 25	1637	459	22	293
Bitner, Abraham, Lancaster, Pa. Regulator for watches	265,508	Oct. 10	418	116	22	1214
Bitner, Abraham, Lancaster, Pa. Dust-proof watch-plate	268,354	Nov. 28	1743	484	22	1874
Bittenbender, Elias. (See Snyder, Howells, and Bittenbender.)						
Bixby, John L., Arlington, Mass. Lock-hinge	260,361	July 4	12	4	22	5
Bixby, Samuel M., New York, N. Y. Mucilage-bottle stopper	267,397	Nov. 14	563	161	22	1644
Bixler, David, *et al.* (See Angell, Horace B., assignor.)						
Bixler, Nicholas. (See Krichbaum, John G., assignor.)						
Black, George S. (See Atkins, Black, and Emerson.)						
Black, James M., Lake View, assignor to W. S. Lasher, Highland Park, Ill. Stove-pipe shelf	268,072	Nov. 28	1387	388	22	1808
Black, James P., Nelson, New Zealand. Belt	267,398	Nov. 14	564	161	22	1645
Black, John Q., Lone Rock, Wis. Horse-collar	263,842	Sept. 5	218	63	22	811
Black, Reuben. (See Ketner, William J., assignor.)						
Black, Richard W. (See Lancaster, Bradford F., assignor.)						
Blackburn, Jacob E., Fredericktown, Ohio. Gate	260,643	July 4	370	100, 101	22	62
Blackburn, John A., Van Wert, Ohio. Mail-bag	269,560	Dec. 26	1456	419	22	2176
Blackburn, John M., assignor of one-half to C. S. Perkins, Meriden, Conn. Table-caster for dining-cars	267,830	Nov. 21	1097	307	22	1749
Blackham, Eli J., Bridgeport, assignor to Benedict & Burnham Manufacturing Company, Waterbury, Conn. Drawer-pull	265,008	Sept. 26	1583	445	22	1079
Blackham, Job W., Brooklyn, N. Y. Machine for cutting felt, &c., into strips	260,930	July 11	732	200	22	128
Blackler, Frank. (See Brown, Jonathan T., assignor.)						
Blackley, George L., J. I. Nicholson, Greenville, and H. A. Holloman, White Rock, assignors of one-fourth to T. C. Reedy and A. J. Beezley, Hunt County, Tex. Car-coupling	267,321	Nov. 14	461	132	22	1628
Blackman, Andrew J., Meridian, Miss. Churn-dasher	266,011	Oct. 17	963	273	22	1311
Blackman, Ebenezer, Brooklyn, N. Y. Lamp	268,856	Dec. 12	560	164	22	2000
Blackman, G. V. (See Parmenter, Charles H., assignor.)						
Blackman, George V., Oakland, Cal. Clamp for adjusting door-knob roses	267,055	Nov. 7	117	34	22	1561
Blackman, James M., Chicago, Ill. Ventilator wheel or fan	261,128	July 18	1001	281	22	182
Blackmore, James H., Defiance, Ohio. Sulky	262,923	Aug. 22	1374	388	22	595
Blackwood, William, Jr., Detroit, Mich. Stationary wash-bowl	265,653	Oct. 10	535	145	22	1231
Blair, Alfred A., and E. R. Horton, Boston, Mass. Metallic packing-case	266,420	Oct. 24	1476	419	22	1409
Blair, Andrew, Philadelphia, Pa. Indicator or advertiser of the contents of packages	261,656	July 25	1638	459	22	294
Blair, John B., assignor of three-fourths to A. P. M. Jeffers, W. S. Coffman, and C. W. Lasher, Chicago, Ill. Magneto-electric machine	261,129	July 18	1002	282	22	183
Blair, Thomas H., Cambridge, Mass. Photographic camera	261,130	July 18	1003	282	22	183
Blair, Thomas H., Franklin, assignor to Blair Tourograph and Dry Plate Company, Boston, Mass. Photographic apparatus	261,425	July 18	1347	377	22	238
Blair Tourograph and Dry Plate Company. (See Blair, Thomas H., assignor.)						
Blair, William H., Janesville, Wis. Weather-strip	263,305	Aug. 29	1843	524	22	687
Blaisdell, Arlond H. (See Keighley and Blaisdell.)						
Blake, Andrew, Peru, Ind. Spark-arrester	261,657	July 25	1638	460	22	294
Blake, George W., Port Townsend, Wash. Ter. Snap-hook	266,421	Oct. 24	1476	419	22	1409
Blake, Henry H., Chico, Cal. Paper-file	267,056	Nov. 7	118	34	22	1561
Blake, Hiram, Keene, N. H. Force-pump	263,382	Aug. 29	1982	566	22	706
Blake, James C., Petersburg, Va. Refrigerator	267,770	Nov. 21	1019	286	22	1735
Blake, James H., assignor of one-half to A. G. Clark, Ironton, Ohio. Bag-holder	269,025	Dec. 26	1542	443	22	2193
Blake, Thomas J., Pittsburg, Pa. Fork and rake	269,024	Dec. 26	1541	442	22	2193
Blake, William, Chester, S. C. Cultivator	265,009	Sept. 26	1584	445	22	1079
Blakely, Caleb J., assignor of two-thirds to L. N. Williamson and W. S. Webber, Janesville, Wis. Burnishing-machine for boots and shoes	260,898	July 11	618	168	22	109
Blaker, John D., Newtown, Pa. Harness	264,850	Sept. 26	1386	390	22	1044
Blakeslee, Alfred W., Locke, Mich. Metallic counter-stiffener for boots or shoes	268,073	Nov. 28	1387	388	22	1808
Blakeslee, Charles D., assignor to himself and E. J. Horton, Grand Rapids, Mich. Folding table	265,010	Sept. 26	1585	445	22	1079
Blakeslee, Harvey D., *et al.* (See Latta, Emmit G., assignor.)						
Blakesley, Gilbert H., Bristol, Conn. Trunk-catch	266,752	Oct. 31	1854	539	22	1484
Blampey, George S., New York, N. Y. Wall-pocket	261,902	Aug. 1	93	26	22	351
Blanchard, Charles H., Batavia, Ohio. Range	268,857	Dec. 12	562	164	22	2000
Blanchard, Kirk S., Clarendon, N. Y. Car-coupling	265,011	Sept. 26	1586	446	22	1080
Blanchard, Loren, Munson, Mich. Mowing-machine	262,637	Aug. 15	1014	284, 285	22	520

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Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Blanchard, Virgil W., New York, N. Y. Dynamo-electric machine	267,136	Nov. 7	224	64	22	1580
Blanchard, Virgil W., New York, N. Y. Secondary battery	267,137	Nov. 7	225	65	22	1580
Blanchard, Virgil W., New York, N. Y. Electro-magnet	267,138	Nov. 7	226	65	22	1580
Blanchard, Virgil W., New York, N. Y. Electric generator	268,174	Nov. 28	1509	421	22	1830
Blanchard, Virgil W., New York, N. Y. Apparatus for charging electric storage-batteries	268,175	Nov. 28	1513	421	22	1831
Blanchard, Virgil W., New York, N. Y. Hydrocarbon-furnace	268,176	Nov. 28	1514	421, 422	22	1831
Blank, Bernard H., New York, N. Y. Opera-glass	264,150	Sept. 12	571	156	22	882
Blankley, James A. (See Tallman and Blankley.)						
Blatt, John B., Reading, Pa. Hub for vehicle-wheels	260,644	July 4	371	101	22	63
Blattner, Henry, St. Louis, Mo. Surveyor's transit	264,061	Sept. 12	491	132	22	808
Blayney, Arthur C., Chicago, Ill. Door-bolt	266,600	Oct. 31	1675	464	22	1451
Blayney, Arthur C., Chicago, Ill. Door-bolt	266,601	Oct. 31	1676	464	22	1451
Bleakley, W. Irving. (See Morris, George M., assignor.)						
Blessing, James H., Albany, N. Y. Steam-trap	268,384	Dec. 5	11	4	22	1888
Blevins, Christopher D., Richmond, Ky. Boring-machine	260,362	July 4	13	4	22	5
Bliss, Abel H. (See Trippe, Sylvanus L., assignor.)						
Bliss, Donald M., Westmoreland Point, New Brunswick, Canada. Flue-fan	262,360	Aug. 8	673	188	22	456
Bliss, Eliphalet W. (See Adriance, Benjamin, assignor.)						
Block, Williard T. (See Coller, Charles, assignor.)						
Block, Williard T. (See Deakin, Thomas J., assignor.)						
Blodgett, Aaron D. (See Blodgett, George W. and A. D.)						
Blodgett, Aaron D. and G. W., and J. P. Tirrell, assignors to said Aaron D. and G. W. Blodgett, G. O. Carpenter, Boston, and J. F. Emerson, Wakefield, Mass. Electric signaling apparatus	263,281	Aug. 22	1795	510, 511	22	673
Blodgett, Gardner S., assignor of one-half to E. P. Manor, Burlington, Vt. Oven for baking, cooking, or drying	263,013	Aug. 22	1487	419	22	615
Blodgett, George W. (See Blodgett and Tirrell.)						
Blodgett, George W., Boston, and A. D. Blodgett, Newton, assignors to themselves, J. F. Emerson, Wakefield, and G. H. Woodruff, Boston, Mass. Electric signal	261,989	Aug. 1	199	59	22	369
Blodgett, John W., and B. F. Felix, Chicago, Ill. Cheese-cutter	266,753	Oct. 31	1855	539	22	1485
Blood, Erastus R., Erie, Pa. Machine for making carbon or gas black	269,378	Dec. 19	1223	356	22	2125
Bloom, John B., near Dixon, Cal. Thrashing-machine separator	263,675	Sept. 5	10	3	22	776
Bloomer, Anson R., Yorkville, Ohio. Nut-lock	260,931	July 11	733	200	22	129
Bloomer, Jacob, Boise City, Idaho Ter. Fire-escape	263,468	Aug. 29	2085	597	22	724
Bloss, Josiah, Leadville, Colo., and E. J. White, Wilkes-Barré, Pa. Mining apparatus. (Reissue)	10,212	Oct. 10	864	246	22	1288
Blum, Joseph, Chicago, Ill. Brick-mold	266,602	Oct. 31	1677	464	22	1451
Blunck, Gustav, New York, N. Y. Parallel ruler	266,754	Oct. 31	1857	540	22	1485
Blythe, Edward F., Philadelphia, Pa. Folding table	268,990	Dec. 12	718	210	22	2029
Boardman, Frederick, *et al.* (See Stokes, William, assignor.)						
Boardman, H. W. (See Abel, William H., assignor.)						
Boardman, James, Hayward, Dak. Ter. Bucket-elevator	266,062	Oct. 17	1045	296	22	1326
Bobzien, John C., Chicago, Ill. Brick-elevator	265,012	Sept. 26	1387	446	22	1080
Bochard, Ferdinand D. (See Barnhart, Harley A., assignor.)						
Bock, Thomas H. (See Loreman, James F., assignor.)						
Bodel, Jules L. B., and J. L. F. Braner, Paris, France. Union or coupling for pipes and tubes	269,626	Dec. 26	1543	443	22	2193
Bodell, John R., assignor of one-half to M. Sperry, New Salem, Ohio. Tire-tightener	262,173	Aug. 1	440	122	22	409
Bodley, Charles E. (See Burtner and Bodley.)						
Bodman, Charles G., De Kalb, Ill. Barbed fence-wire	262,200	Aug. 8	487	136	22	423
Bodurtha, Charles H., Delaware, Ohio. Reversible molding for frames	266,755	Oct. 31	1858	540	22	1485
Boe, John, Mount Vernon, N. Y. Box for holding and transporting bottles	266,422	Oct. 24	1477	420	22	1409
Boegh, Jacob. (See Eberhard, Rudolph, assignor.)						
Boeklen, Reinhold, assignor of two-thirds to B. Van Steenbergh, Goshen, N. Y. Gate-valve	261,896	Aug. 1	6	2	22	336
Boericke, Francis E., and G. Goll, assignors to said Boericke and A. J. Tafel, Philadelphia, Pa. Triturating-machine	266,756	Oct. 31	1859	540	22	1485
Boessler, Martin, St. Louis, Mo. Implement for laying bricks in baking-ovens	264,232	Sept. 12	675	186	22	900
Boggs, Joseph O., Harrisburg, Pa. Scale	265,375	Oct. 3	179	53	22	1167
Boggs, Wilbur F. (See Elsm and Boggs.)						
Bogle, Charles E., assignor of one-half to H. F. Billmeyer, Milton, Pa. Sash-balance	261,510	July 18	1447	403	22	255
Boies, Noble A., East Palestine, Ohio. Safety device for horses	261,990	Aug. 1	202	59	22	370
Bolds, Daniel P. (See King, Jacob, assignor.)						
Boldt, Friederich W., and H. E. Schrader, assignors to Boldt & Vogel, Hamburg, Germany. Machine for corking bottles	263,676	Sept. 5	10	3	22	776
Boldt & Vogel. (See Boldt and Schrader, assignors.)						
Bole, George, Chester, Conn. Die for upsetting gimlet bit-shanks	264,233	Sept. 12	676	187	22	901
Bolin, Nathan C., Red Oak, Iowa. Apparatus for setting out or taking up barb fence-wire, check-row wire for corn-planters, &c	261,658	July 25	1639	460	22	294
Bolle, Albert R., Berlin, Germany, assignor to Liebenroth, Von Auw & Co., New York, N. Y. Album-clasp	267,771	Nov. 21	1021	286	22	1735
Bollinger, Cornelius, Harrisburg, Pa. Horse-rake. (Reissue)	10,168	July 25	1839	519	22	328
Bollinger, Cornelius, Harrisburg, Pa. Horse-rake	263,469	Aug. 29	2086	598	22	724
Bollinger, Oliver J. (See Van De Water, Henry, assignor.) (Reissue.)						
Bollman, John B. (See Huewe, Theodor H., assignor.)						
Bollman, John B., assignor of one-half to T. H. Huewe, Dayton, Ohio. Method of and solution for tanning	262,924	Aug. 22	1375		22	596
Bollmann, Louis, Penzing, near Vienna, Austria-Hungary, assignor to G. W. Richardson and A. Storer, Linwood, near Paisley, Great Britain. Sewing-machine	260,645	July 4	372	101, 102, 103, 104	22	63
Bolthoff, Henry, Central City, assignor to himself and C. F. Hendrie, Denver, Colo. Camshaft box for stamp-mills	260,527	July 4	233	65	22	39
Bolthoff, Henry, Central City, assignor to himself and C. F. Hendrie, Denver, Colo. Mortar for stamp-mills	261,297	July 18	1202	335	22	214
Bolton, Ogden, Canton, Ohio. Signaling and registering attachment for reversing furnaces	264,510	Sept. 19	991	279	22	966
Boman, Claes W., assignor to J. Reckendorfer, New York, N. Y. Lead and crayon holder	261,659	July 25	1641	460	22	294
Boman, Claes W., assignor to J. Reckendorfer, New York, N. Y. Lead or crayon holder	264,131	Sept. 12	572	156	22	882
Boman, Claes W., assignor to J. Reckendorfer, New York, N. Y. Lead or crayon holder	267,643	Nov. 14	868	248	22	1700
Boman, Claes W., assignor to J. Reckendorfer, New York, N. Y. Lead or crayon holder	268,355	Nov. 28	1744	484	22	1874
Bond, F. W., *et al.* (See Fife, James M., assignor.)						
Bond, George P., Troy, N. Y. Car-brake	268,610	Dec. 5	257	73	22	1935
Bond, Joseph. (See Pierce and Bond.)						
Bond, Joseph N. B., assignor to Joseph N. B. Bond, Jr., New York, N. Y. Apparatus for treating offal, &c	261,298	July 18	1203	335	22	214

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Bond, Nathan O., Fairfax Court-House, Va., assigner of one-half to T. J. Mayer, E. K. Johnson, F. W. Pratt, J. L. Barbour, and F. Tenney, Washington, D. C. Wash-stand	261,991	Aug. 1	203	60	22	370
Bond, Nathan O., Fairfax Court-House, Va., assignor of one-half to T. J. Mayer, E. K. Johnson, F. W. Pratt, J. L. Barbour, and F. Tenney, Washington, D. C. Wash-stand	265,481	Oct. 3	298	88, 89	22	1189
Bonduel, Leon, Paris, France. Combined wardrobe, wash-stand, and bath-tub	268,450	Dec. 5	94	28	22	1904
Bonett, Edwin J., T. Gilfillan, and A. W. Flanders, Barnet, Vt. Book-rest	264,234	Sept. 12	677	187	22	901
Bonhack, Charles F., New York, N. Y. Machine for setting match-splints	268,451	Dec. 5	94	28, 29	22	1904
Bonnell, John P., Green Village, N. J. Ditching-machine	264,062	Sept. 12	492	133	22	868
Bonner, Benjamin R (See De Staebler, Conrad, assignor.)						
Bonner, John J., *et al.* (See Pond, Charles L., assignor.)						
Bonner, Thomas, Chicopee, Mass. Alarm device for screw-machines	269,627	Dec. 26	1543	443	22	2193
Bonshire, Jacob, Sharpsburg, assignor to Adams & Co., Pittsburg, Pa. Jelly-glass	261,131	July 18	1006	282	22	183
Boom, Miguel, Port-au-Prince, Hayti. Music-box	267,482	Nov. 14	667	191	22	1664
Boomer, George B., New York, N. Y. Power-press	260,528	July 4	234	65, 66	22	39
Boomer, George B., New York, N. Y. Extracting cane-juice	269,628	Dec. 26	1544	443	22	2194
Boomer, George B., Mexico, and R. E. Boschert, Syracuse, N. Y. Press	265,013	Sept. 26	1589	447	22	1080
Boone, Joseph C. (See O'Neal, William J., assignor.)						
Boone, Thomas R. (See Reiff, William H., assignor.)						
Boone, Thomas R., Rochester, N. Y. Cuff and dress supporter	262,563	Aug. 15	915	259	22	505
Boone, Thomas R., Rochester, N. Y. Puzzle	268,991	Dec. 12	719	211	22	2029
Boorsem, John V. V. (See Donner and Booraem.)						
Booth, Henry P., trustee. (See Monsanto, Manricio M., assignor.)						
Boover, Benjamin D., Haverhill, Mass. Sole-edge trimmer	268,858	Dec. 12	563	164	22	2001
Boralumine Company. (See Cook, Percy T., assignor.)						
Borden, Spencer, Fall River, Mass., assignor of one-half to W. C. Wood, Washington, D. C. Electric condenser	260,646	July 4	376	104	22	63
Borden, Spencer, Fall River, Mass., assignor to W. C. Wood, Washington, D. C. Electric-arc lamp	260,647	July 4	379	104	22	63
Borden, William W., San Luis Rey, Cal. Mechanism for converting motion	268,611	Dec. 5	258	73	22	1936
Borgfeldt, Nicholas H., New York, N. Y. Fire-escape	267,399	Nov. 14	565	161	22	1645
Borntraeger, Henry W., assignor to Carnegie Bros. & Co., (limited,) Pittsburg, Pa. Pile for channel and I-beams	267,304	Nov. 7	427	124	22	1616
Borntraeger, Henry W., assignor to Carnegie Brothers & Company, (limited,) Pittsburg, Pa. Pile of iron	268,385	Dec. 5	13	4, 5	22	1889
Borst, George, Rochester, N. Y. Scoop	268,452	Dec. 5	96	29	22	1905
Borthwick, A. E. (See Bedbury, George W., assignor.)						
Borton, Job, and P. L. Dawson, Barnesville, Ohio. Mining-tool	262,728	Aug. 15	1123	318	22	540
Borton, Stockton, Philadelphia, Pa., assignor to Willcox & Gibbs Sewing Machine Company, New York, N. Y. Trimming and sewing machine	263,650	Aug. 29	2297	657	22	762
Boschert, Rufus E. (See Boomer and Boschert.)						
Boschert, Rufus E., Syracuse, N. Y. Power-indicator for presses	264,435	Sept. 19	910	256	22	951
Bossé, Charles L., *et al.* (See Craig, Joseph A. L., assignor.)						
Boston Elastic Fabric Company. (See Baldwin, Stephen H., assignor.)						
Boston Electric Protective Association. (See Adams, George W., assignor.)						
Bostwick, Seymour A., Chelsea, Mass. Suspender-buckle	268,778	Dec. 12	457	134	22	1981
Boteler, John W., Washington, D. C. Lunch-basket	265,742	Oct. 10	641	182	22	1249
Both, Adolf C., Portland, Me. Dredging machinery	264,851	Sept. 26	1387	390	22	1044
Bothwell, Henry R., and J. H. Strugnell, Toronto, Ontario, Canada. Stock-car	269,629	Dec. 26	1545	444	22	2194
Bottomley, Seth, Nashville Centre, Minn. Automatic straw-stacker	265,376	Oct. 3	179	54	22	1168
Boudren, Thomas, assignor of one-half to White Manufacturing Company, Bridgeport, Conn. Toilet-case for vehicles	267,658	Nov. 14	885	252	22	1703
Boulton, James B. D., Jersey City, N. J., assignor to W. and T. B. Mills, New York, N. Y. Fishing reel	260,932	July 11	734	200	22	129
Bourgeois, Albert, and P. Jacky, Bienne, Switzerland. Watch-key	267,057	Nov. 7	119	34	22	1561
Bourgeois, David. (See Lacroix, Pierre, assignor.)						
Bourgeois, Edmond, New Orleans, La. Cigarette	269,256	Dec. 19	1063	310	22	2096
Bourke, Joseph A. (See Kehoe and Bourke.)						
Bourke, Martin, Youngstown, Ohio. Boat lowering and detaching apparatus	267,322	Nov. 14	402	133 134	22	1629
Bourne, Edward, Allegheny, Pa. Kitchen-range hot-water reservoir	260,738	July 11	505	138	22	92
Bourquin, Eugene, St. Louis, Mo. Combined lock and latch	267,139	Nov. 7	227	65	22	1580
Bouscay, Eloi, Norwalk, Ohio. Sewing-machine	261,578	July 25	1545	433	22	277
Bouton, N. S. (See Lane, John, assignor.)						
Boutwell, George S., Providence, R. I. Composition and burnishing lubricant	267,994	Nov. 28	1292	.....	22	1791
Bow, Lafayette T., Burksville, Ky. Entrance-tube for grain-ventilators	266,083	Oct. 17	1046	297	22	1327
Bowdle, Jesse A., McComb, Ohio. Bridle-blinder stay	266,423	Oct. 24	1478	420	22	1409
Bowe, Moses, assignor of one-half to A. Weber, Toledo, Ohio. Screw-dock	268,177	Nov. 28	1521	422	22	1832
Bowe, Patrick E., Chicopee, Mass. Knockdown paper box	262,201	Aug. 8	488	136	22	423
Bowen, James H., Philadelphia, Pa. Toy savings-bank	262,361	Aug. 8	673	188	22	456
Bower, Benjamin F., Ripley, Ohio. Firemen's extension-ladder	268,612	Dec. 5	259	73, 74	22	1936
Bower, Isaac G., assignor of one-half to B. R. Dudrow, Fremont, Ohio. Knife-coupling for mowing-machines	261,299	July 18	1204	335	22	214
Bowers, William, Carbondale, Pa. Boiler-furnace grate	261,992	Aug. 1	204	60	22	370
Bowers, William, Carbondale, Pa. Grate for boiler-furnaces	263,470	Aug. 29	2088	598	22	725
Bowker, Charlotte J., *et al.* (See Sturtevant, Thomas L., assignor.)						
Bowles, Michael, *et al.* (See Hugron, Louis, assignor.)						
Bowman, Edward, Santa Cruz, Cal. Dog-cart	265,014	Sept. 26	1589	447	22	1080
Boxley, George, assignor of one-half to G. P. Ide, Troy, N. Y. Plaiting-machine	263,014	Aug. 22	1488	419 420	22	615
Boxley, George, assignor of one-half to T. E. Haslehurst, Troy, N. Y. Lubricating-cup	269,175	Dec. 19	953	278	22	2077
Boyce, James. (See Boyce, Robert, assignor.)						
Boyce, Robert, assignor of one-half to J. Boyce, Oakfield, N. Y. Axle-gage	267,995	Nov. 28	1293	363	22	1791
Boyce, Thomas E., Westbourne Park, assignor of one-half to J. Sinclair, London, England. Money-till	264,235	Sept. 12	677	187	22	901
Boyd, Jesse C., Rushville, Ind. Sulky	264,615	Sept. 19	1100	313	22	987
Boyd, John, La Grange, Ind. Car-coupling	269,176	Dec. 19	954	278	22	2077
Boyd, John, and T. A. Glasgow, county of Lanark, Scotland. Stop-motion mechanism for doubling, twisting, and winding machines	268,178	Nov. 28	1523	422 423	22	1832
Boyd, Thomas A. (See Boyd, John and T. A.)						
Boyd, William M., Rushville, Ind. Sulky	267,140	Nov. 7	227	66	22	1580
Boyden, William A., Jersey City, N. J., assignor to McNab & Harlin Manufacturing Company, New York, N. Y. Dust-protector for railway-cars	262,274	Aug. 8	570	160	22	437
Boyer, Bassler, Lebanon, Pa. Conduit for electric wires	269,379	Dec. 19	1226	356	22	2126
Boyington, Levi C. (See Morrison, Willard A., assignor.)						
Boyle, Frank. (See Alexander and Boyle.)						

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Boyle, James E., Brooklyn, assignor to H. Huber, New York, N. Y. Operating tank-valves	266,963	Nov. 7	3	1, 2	22	1541
Boyle, Thaddeus W., Augusta, Ga. Hoe	260,363	July 4	14	4	22	5
Boyle, Thaddeus W., Augusta, Ga. Wrench	265,236	Oct. 3	11	4	22	1138
Boynton, John F., New York, N. Y. Process of and apparatus for generating dioxide of carbon for extinguishing fire	263,015	Aug. 22	1490	420	22	616
Boys, Lyman W., Cuyahoga Falls, Ohio. Barber's chair	268,992	Dec. 12	720	211	22	2029
Bozzalla, Terasile L., St Louis, Mo. Centrifugal hydro-wringer	261,827	Aug. 1	8	3	22	336
Braastad, John G., St. Paul, Minn. Pantograph	265,744	Oct. 10	643	182	22	1250
Brabets, Albert. (See House and Brabets.)						
Bracken, Edson L., Dawson, Ill. Harvesting-machine	268,993	Dec. 12	721	211	22	2030
Brackett, Cephas W., Jordan, N. Y. Grain-separator for thrashing-machines	266,424	Oct. 24	1479	420	22	1409
Bradbury, Benjamin, Brooklyn, N. Y. Banjo	262,564	Aug. 15	916	259	22	505
Bradeen, Hiram C., and S. Briggs, McKeesport, Pa. Skelp-heating furnace	269,380	Dec. 19	1227	357	22	2126
Bradford, William A., Goshen, Ind. Wrench	263,471	Aug. 29	2089	598	22	725
Bradish, Nelson P., Jerseyville, Ill. Kitchen-cabinet	260,739	July 11	506	139	22	92
Bradley, Charles S. (See Greenfield and Bradley.)						
Bradley, Charles W. (See Sloan, Benjamin F., assignor.)						
Bradley, Christopher C., Syracuse, N. Y. Vehicle-pole	262,362	Aug. 8	676	188	22	456
Bradley, Gilbert L., New Bedford, Mass. Straight-way valve and casing	260,829	July 11	621	169	22	110
Bradley & Hubbard Manufacturing Company. (See Bradley and Patitz, assignors.)						
Bradley & Hubbard Manufacturing Company. (See Ewarts, Charles A., assignor.)						
Bradley & Hubbard Manufacturing Company. (See Ewarts, John A., assignor.)						
Bradley & Hubbard Manufacturing Company. (See Upson, Waldo L., assignor.)						
Bradley, John H., assignor to B., C. and A. M. Thackara, Philadelphia, Pa., and J. H. Southworth, Springfield, Mass. Belt-tightener	263,106	Aug. 22	1593	450	22	634
Bradley, Nathaniel L., and A. Patitz, assignors to Bradley & Hubbard Manufacturing Company, Meriden, Conn. Lamp-fount	267,141	Nov. 7	228	66	22	1580
Bradley, Newton W., Ogden, Mich. Steam plowing apparatus	267,996	Nov. 28	1293	364	22	1791
Bradley, William E. (See Allen and Bradley.)						
Bradley, William H., New York, N. Y. Process of and apparatus for manufacturing hydrogen gas	265,915	Oct. 10	826	235 236	22	1983
Bradner, William E., Newark, N. J., assignor of one-half to A. Kaufmann, New York, N. Y. Shawl-strap	269,509	Dec. 26	1392	401	22	2164
Brady, Charles N., Wellsburg, W. Va. Ornamental glassware	265,237	Oct. 3	13	5	22	1138
Brady, Francis A., Leavittsburg, Ohio. Car-coupling	267,142	Nov. 7	229	66	22	1580
Brady, Francis H., *et al.* (See Gifford, Ezra N., assignor.)						
Brady, Gilbert A., Chicago, Ill. Hemmer for sewing-machines	268,779	Dec. 12	458	134	22	1981
Braffett, Volney M. (See Williams and Braffett.)						
Bragdon, Nathaniel, Danvers, Mass. Box	269,170	Dec. 19	946	276	22	2076
Brahm, John A., *et al.* (See Morphew and Withrow, assignors.)						
Brainard, Curtis B., Joliet, Ill. Wire barb for fences	268,453	Dec. 5	97	29	22	1905
Brainard, Sherman E. (See Roberts, William S., assignor.)						
Brainerd, Frank W., Freeport, Ill. Wire-fence barb	264,436	Sept. 19	911	256	22	951
Bramer, Frank, and G. G. Crowley, Little Falls, N. Y. Harvester	263,383	Aug. 29	1983	566 567	22	706
Bramley, James, Springfield, Mass. Stop-motion device for knitting-machines	262,202	Aug. 8	489	137	22	424
Branch, Hanneh, North San Juan, Cal. Cough remedy	267,738	Nov. 21	985	.....	22	1729
Branch, John C. and M. A., Hartford, Mich. Post-auger	267,483	Nov. 14	668	192	22	1664
Branch, Mortimer A. (See Branch, John C. and M. A.)						
Brandon, Calvin K. (See Rivard, Maxim J., assignor.)						
Brannan, John. (See Maffitt and Brannan.)						
Brannon, James C., Independence, Kans. Coupling for connecting-rods	260,448	July 4	126	36	22	23
Brase, Adolph, Scioto ville, assignor of one-half to W. Q. Adams, Portsmouth, Ohio. Fire-brick	265,654	Oct. 10	536	.....	22	1231
Brassington, John H. (See Alters, Joseph K., assignor.)						
Brassill, Michael, Hartford, Conn. Signal-light	260,933	July 11	736	201	22	129
Brassill, Michael, assignor to J. P. Smith, Hartford, Conn. Candle-holder	260,830	July 11	621	169	22	110
Brauer, Joseph L. F. (See Bodel and Brauer.)						
Braner, Justus, Philadelphia, Pa. Ice-pitcher	261,199	July 18	1089	304	22	196
Braun, Mathias, Philadelphia, Pa. Pawl-and-ratchet mechanism	265,745	Oct. 10	644	182	22	1250
Braverman, Sigmund L., San Francisco, Cal. Ear-ring	263,755	Sept. 5	109	34	22	793
Bray, Edward P., New York, N. Y. Bottle-locking device	267,484	Nov. 14	669	192	22	1664
Bray, George, Leeds, county of York, England. Lantern for street-lamps	265,377	Oct. 3	181	54	22	1168
Bray, Horace W., Pana, Ill. Photographic burnisher	261,200	July 18	1089	304	22	196
Bray, James B., Waverly, N. Y. Paper-perforator	265,743	Oct. 10	642	182	22	1249
Bray, John. (See Kurtis and Bray.)						
Bray, Mellen, Newton, Mass. Machine for shaping and dressing reeds and reed-plates	261,524	July 25	1474	413 414	22	266
Bray, Mellen, Newton, Mass. Lacing-hook	261,525	July 25	1477	414	22	266
Bray, Morris P., assignor to Mayer, Strouse & Co., New Haven, Conn. Corset	266,757	Oct. 31	1860	540	22	1485
Bray, Morris P., New Haven, Conn. Back-protector for corsets	268,994	Dec. 12	722	212	22	2030
Bray, William C., Newton, Mass. Machine for setting lacing-studs	261,526	July 25	1478	414 415	22	266
Bray, William C., Newton, Mass. Machine for setting lacing-studs	261,527	July 25	1479	415	22	266
Brayman, John W., Canisteo, N. Y. Milking-stool	261,903	Aug. 1	93	26	22	351
Brayton, George B., Boston, Mass., assignor to Brayton Petroleum Engine Company, Hartford, Conn. Journal-bearing	262,565	Aug. 15	918	259	22	505
Brayton, George B., assignor to Brayton Petroleum Engine Company, Boston, Mass. Endless driving-chain	267,665	Nov. 21	904	256	22	1714
Brayton, James T. (See Kirk and Brayton.)						
Brayton Petroleum Engine Company. (See Brayton, George B., assignor.)						
Brear, Abel, Saugatuck, Conn. Manufacturing sugar	260,740	July 11	507	.....	22	92
Brecht, Theodore C. (See Hemje and Brecht.)						
Breckenridge, Henry W., and J. W. Duxbury, Providence, R. I. System and apparatus for telephone central offices	266,344	Oct. 24	1386	392 393	22	1392
Breed, William J. (See Chace, Charles B., assignor.)						
Breen, Peter, Cincinnati, Ohio. Air-purifier	266,267	Oct. 24	1277	362	22	1372
Breidenstein, Leonhardt, San Francisco, Cal. Show-box for jewelry	268,454	Dec. 5	97	29	22	1905
Bremerman, Fredrick, Indianapolis, Ind. Turning-gear for wagons	263,016	Aug. 22	1492	420	22	616
Brennan, James W., Chicago, Ill. Electric circuit for telephone systems	267,058	Nov. 7	119	35	22	1561
Brennan, James W., Chicago, Ill. Electric switch and circuit for telephone systems	267,059	Nov. 7	120	35	22	1562
Brenzel, Jacob, Chicago, Ill. Grain-door	266,084	Oct. 17	1046	297	22	1327
Brereton, Richard. (See Crump and Brereton.)						
Brewer, William J., Bombay, India. Railway hand-car	267,772	Nov. 21	1022	286	22	1736
Brewer, William J., Bombay, India. Pulley-block	268,455	Dec. 5	98	30	22	1905

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Brewster, Henry, *et al.* (See Barry, Peter, assignor.)						
Brewtnall, Arthur W., London, county of Middlesex, England. Cable-coupling	265,746	Oct. 10	645	183	22	1250
Breyfogle, William L. See Van Dusen, Charles, assignor.)						
Briart, Emile, Jeumont, France. Steam-trap	267,831	Nov. 21	1098	307, 308	22	1749
Brice, William S., and W. P. Thompson, Liverpool, county of Lancaster, England. Grain-trimmer	261,660	July 25	1642	461	22	294
Brickley, Charles A., Providence, R. I. Towel-rack	209,171	Dec. 19	948	276	22	2076
Bridewell, Richard F., San Francisco, Cal. Propulsion of street-cars	260,648	July 4	380	105	22	64
Bridewell, Richard F., San Francisco, Cal. Brake and starter for street-cars	261,426	July 18	1348	377	22	238
Bridewell, Richard F., San Francisco, Cal. Combined lock and latch	266,758	Oct. 31	1861	541	22	1486
Bridge, John, Detroit, Mich. Car-coupling link	260,831	July 11	622	169	22	110
Bridge, John, Detroit, Mich. Machine for making links	264,132	Sept. 12	573	157	22	883
Bridge, Lewis. (See Gormly and Bridge.)						
Bridgman, Almon, and J. L. Perry, assignors, by mesne assignments, to said J. L. Perry and C. A. Mather, Berlin, Wis. Wood-polishing machine. (Reissue)	10,152	July 11	981	275	22	170
Briesen, Arthur v., New York, N. Y. Gate for car-platforms	268,859	Dec. 12	564	165	22	2001
Briggs, Charles H. (See Kenaga and Briggs, assignors.)						
Briggs, Charles H., *et al.* (See Kenaga, Samuel C., assignor.)						
Briggs, George S., Rockford, Ill. Sulky-plow	262,729	Aug. 15	1124	318	22	540
Briggs, George W., Denver, Colo. Stop-motion for steam-engines	265,747	Oct. 10	646	183	22	1250
Briggs, J. Smith. (See Kenaga and Briggs.)						
Briggs, J. Smith, *et al.* (See Kenaga, Samuel C., assignor.)						
Briggs, Orlando P., assignor to C. Stigleman, Chicago, Ill. Furniture escutcheon	263,017	Aug. 22	1493	420	22	616
Briggs, Robert, Brooklyn, N. Y. Fire-extinguisher	262,730	Aug. 15	1126	318	22	540
Briggs, Samuel. (See Bradeen and Briggs.)						
Briggs, Theodore H., and S. J. Hess, Otsego, N. Y. Carriage-spring machine	268,995	Dec. 12	723	212	22	2030
Briggs, Thomas, Lynn, Mass. Trimming mechanism for sewing-machines	266,012	Oct. 17	963	273	22	1312
Briggs, Thomas A., Providence, R. I., assignor to himself, J. B. Perkins, Taunton, Mass., and F. Talcott, Rockville, Conn. Label-machine	262,566	Aug. 15	919	260, 261	22	505
Briggs, Thomas A., Providence, R. I., assignor of two-thirds to J. B. Perkins, Taunton, Mass., and F. Talcott, Rockville, Conn. Cutter for label-machines	262,731	Aug. 15	1128	319, 320	22	541
Brigham, Arthur A., Boston, Mass. Cylinder for drying-machines	267,666	Nov. 21	906	257	22	1714
Brigham, Martin E., Philadelphia, Pa. Mold for alkali balls	260,832	July 11	623	169	22	110
Brigham, Silas O., New York, N. Y. Bolting and sieve fabric and making the same	265,302	Oct. 3	95	28	22	1151
Bright, Joseph S., San Bernardino, Cal. Carriage-bolt cutter	262,638	Aug. 15	1015	285	22	520
Brightman, Latham, Cleveland, Ohio. Machine for drawing metal bars	268,456	Dec. 5	99	30	22	1905
Brill, Henry C., assignor of one-half to R. A. Neal, Southington, Conn. Machine for threading bolts	268,074	Nov. 28	1388	388, 389	22	1808
Brinckerhoff, Cornelius R., assignor of one-half to B. and J. H. Richmond and P. G. Clark, Rochester, N. Y. Gleaner and binder	267,400	Nov. 14	566	161, 162, 163	22	1645
Brinkerhoff, Alexander W., Upper Sandusky, Ohio. Hypodermic needle	268,996	Dec. 12	724	212	22	2030
Brinkerhoff, Jacob and W. M., Auburn, N. Y., assignors to Washburn & Moen Manufacturing Company, Worcester, Mass. Wire-fence nail	268,613	Dec. 5	263	74	22	1937
Brinkerhoff, John J., Auburn, N. Y. Barb for fences	267,485	Nov. 14	669	192	22	1664
Brinkerhoff, John J., Auburn, N. Y. Barb for fences	269,031	Dec. 26	1548	444, 445	22	2194
Brinkerhoff, Nelson M., Melmore, Ohio. Thill-coupling	269,630	Dec. 26	1547	444	22	2194
Brinkerhoff, Warren M. (See Brinkerhoff, Jacob and W. M.)						
Brinkerhoff, Warren M., Auburn, N. Y. Lubricator	261,661	July 25	1644	461	22	295
Brinkerhoff, Warren M., Auburn, N. Y. Stay-roller for sliding doors	267,832	Nov. 21	1098	308	22	1750
Brion, Paul, Paris, France. Skinning-knife	268,997	Dec. 12	725	212	22	2030
Briscoe, Madison P., Bairdstown, Ga. Rein-holder	263,107	Aug. 22	1594	450	22	634
Brislin, David A., St. Louis, Mo. Pipe-joint	267,401	Nov. 14	571	163	22	1645
Bristol, Benjamin H., Naugatuck, Conn. Hand-truck	260,833	July 11	624	170	22	110
Bristol, Benjamin H., Naugatuck, Conn. Micrometer-gage	261,201	July 18	1090	304	22	196
Brittingham, William B., New York, N. Y. Manufacture of glucose from cactus	266,268	Oct. 24	1278	.....	22	1372
Britton, Channing M., *et al.* (See Barry, Peter, assignor.)						
Britton, John W., *et al.* (See Barry, Peter, assignor.)						
Britton, Leander G. (See Cook, George S., assignor.)						
Britton, Rodney G., Springfield, Vt. Top for carriages	267,997	Nov. 28	1205	364	22	1702
Brix, Dominicus, Geneseo, Ill. Stove	267,143	Nov. 7	230	66	22	1581
Broadbent, John J., and E. Mitchell, Bradford, county of York, England. Apparatus for spinning and twisting fibrous material	261,300	July 18	1205	336	22	214
Broadfield, John H., Philadelphia, Pa. Saw-swage	262,925	Aug. 22	1376	388	22	506
Brochon, Edmond L. M., Milan, Italy. Extraction of glycerine from the residuary waters resulting from the manufacture of soaps	264,616	Sept. 19	1101	.....	22	987
Brock, William E., Dunellen, N. J. Combined parer and corer	265,746	Oct. 10	647	183	22	1250
Brock, William E., Elizabeth, assignor to M. L. Trimmer, Dunellen, N. J. Can-opener	264,818	Sept. 19	1335	378	22	1030
Brockner, Washington. (See Randel, Charles D., assignor.)						
Brockway, H. Duane. (See Roberts and Brockway.)						
Brockway, Marcus, C. N. Watts, and P. Sheldon, Jamestown, N. Y. Air-brake for railway-cars	264,617	Sept. 19	1103	313	22	987
Brockway, Marcus, and C. N. Watts, assignors of one-third to P. Sheldon, Jamestown, N. Y. Apparatus for extinguishing fire in railway-cars	267,667	Nov. 21	907	257	22	1714
Broderick, Thomas, Pittsburg, Pa. Combined collar and hames	264,922	Sept. 26	1480	416	22	1060
Brodhag, Eduard, Jersey City, N. J., assignor to L. Pattberg & Bros., New York, N. Y. Picture-frame	261,132	July 18	1006	282	22	183
Bromley, Richard, Columbus, Ohio. Mining-machine	269,632	Dec. 26	1549	445	22	2194
Brooke, Benjamin. (See Gross, Henry B., assignor.)						
Brooke, Benjamin, *et al.* (See Van Haagen, Anthony, assignor.)						
Brooke, Isaac, Royer's Ford, Pa. Shutter-fastener and alarm	260,649	July 4	382	105	22	64
Brooks, Chapin C., Lancaster, N. H. Log-setting apparatus for saw-mills	261,804	July 25	1611	511	22	323
Brooks & Co., E. J. (See Brooks, Edward J., assignor.)						
Brooks, Edward J., East Orange, N. J. Electric-light carbon	261,904	Aug. 1	94	26	22	351
Brooks, Edward J., East Orange, N. J., assignor to E. J. Brooks & Co., New York, N. Y. Baggage-check	267,486	Nov. 14	670	192, 193	22	1664
Brooks, Edward J., East Orange, N. J., assignor to E. J. Brooks & Co., New York, N. Y. Dress-weight	268,769	Dec. 5	437	128	22	1970
Brooks, Edward J., East Orange, N. J., assignor to E. J. Brooks & Co., New York, N. Y. Dress-weight	269,154	Dec. 12	921	268	22	2064
Brooks, Franklin W., New York, N. Y., assignor of one-fourth to W. C. McIntire, Washington, D. C. Crayon or lead holder	267,970	Nov. 21	1259	354	22	1780

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Brooks, Frederick A. (See Huffman and Brooks.)						
Brooks, Frederick W., Oak Grove, Wis. Car-coupling	261,301	July 18	1206	336	22	214
Brooks, Frederick W., Oak Grove, Wis. Car-coupling	269,257	Dec. 19	1064	311	22	2096
Brooks, James W., trustee. (See Fifield, Moses, assignor.)						
Brooks, James W., trustee. (See McMullett, James F., assignor.)						
Brooks, James W., *et al.*, trustees. (See Goddu, Louis, assignor.)						
Brooks, John, Plainfield, N. J., assignor to himself and C. Potter, Jr., & Co., New York, N. Y. Printing-press	266,759	Oct. 31	1863	541	22	1486
Brooks, John, Plainfield, N. J., assignor to himself and C. Potter, Jr., & Co., New York, N. Y. Printing-press	266,760	Oct. 31	1864	541	22	1486
Brooks, Mott B., North Hammond, N. Y. Barrel-pump	263,384	Aug. 29	1990	568	22	707
Brooks, Thomas J., *et al.* (See Corder, Stephen C., assignor.)						
Brooks, William D., Homer, N. Y. Bob-sleigh	265,303	Oct. 3	96	29	22	1152
Broomell, Henry, Christiana, Pa. Cut-off-valve gear	266,425	Oct. 24	1480	420	22	1409
Brophy, James A., Chelsea, county of Middlesex, England. Band sawing-machine	261,579	July 25	1547	434	22	278
Brotherhood, Peter, Lambeth, county of Surrey, England. Submarine torpedo-gun	261,662	July 25	1645	461, 462	22	295
Brotherhood, Peter, Lambeth, county of Surrey, England. Apparatus for launching torpedoes	261,805	July 25	1812	512	22	323
Brott, George F., Washington, D. C. Machine for pressing plastic or other conditioned material into blocks	266,013	Oct. 17	964	273, 274	22	1312
Brott, George F., Washington, D. C. Artificial fuel	266,088	Oct. 17	1054	.....	22	1328
Brough, Thomas J., assignor of one-half to C. D. Forsyth, Baltimore, Md. Hydrocarbon-gas apparatus	262,363	Aug. 8	677	188, 189	22	456
Brougham, Reginald, Heddon Street, Regent Street, county of Middlesex, England. Telegraph-switch	267,144	Nov. 7	231	67	22	1581
Browder, David P., *et al.* (See Corder, Stephen C., assignor.)						
Browell, Jeremiah, San Francisco, Cal. Chimney	268,860	Dec. 12	564	165	22	2001
Brower, Walter S., Albany, N. Y. Jeweler's drilling-machine	269,174	Dec. 19	951	278	22	2077
Brown, Adoniram, *et al.* (See Folsom, Hannibal, assignor.)						
Brown, Albert W., trustee. (See Chase, Andrew J., assignor.)						
Brown, Albert W., trustee. (See Chase, Andrew J., assignor.) (Reissue.)						
Brown, Alexander, Brooklyn, N. Y. Voltaic-battery plate	264,618	Sept. 19	1104	313	22	987
Brown, Alexander G., assignor to himself and Danforth & Co., Williamstown, Mass. Stop-motion for spoolers, twisters, and doublers	267,487	Nov. 14	672	193	22	1665
Brown, Alexander T., assignor of one-half to H. H. Lincoln, Syracuse, N. Y. Breech-loading fire-arm	261,663	July 25	1646	462	22	295
Brown, Alfred, assignor of one-half to W. E. Brown, Ottawa, Ontario, Canada. Waistband attachment	261,664	July 25	1647	462	22	295
Brown, Alfred M. (See Matteson and Brown.)						
Brown, Alson L., *et al.* (See Whedon, Charles T., assignor.)						
Brown, Annie J. (See Brown, William J., Jr., assignor.)						
Brown, Calvin M., Newport, N. H. Carriage-spring	262,567	Aug. 15	925	262	22	506
Brown, Calvin S. (See Schon and Brown.)						
Brown, Charles, St. Louis, Mo. Middlings detacher and granulator	268,861	Dec. 12	565	166	22	2001
Brown, Charles T., Chicago, Ill. Street-car gong	266,964	Nov. 7	5	2	22	1541
Brown, Charles W. (See Whitmore, William R., assignor.)						
Brown, Charles W., Wakefield, assignor to American Bell Telephone Company, Boston, Mass. Smoothing and polishing the surfaces of carbon electrodes	261,511	July 18	1448	404	22	255
Brown, Clark, Harbor, N. Y. Cephalometer	268,614	Dec. 5	264	74	22	1937
Brown & Co. (See French, Charles M., assignor.)						
Brown & Co., S. N. (See Brown, Thomas and S. N., assignors.)						
Brown, Cyrus J., Meadow Gap, Pa. Churn	262,732	Aug. 15	1130	320	22	541
Brown, Daniel, South Otselic, N. Y. Milk-cooler	261,665	July 25	1648	462, 463	22	295
Brown, David F., Sr., assignor of one-half to S. Engleman, Walnut, Iowa. Water-elevator	266,269	Oct. 24	1279	363	22	1372
Brown, Edman, Bowmanville, Ontario, Canada. Organ-action	261,302	July 18	1209	336	22	215
Brown, Edward, Philadelphia, Pa. Pyrometer	261,905	Aug. 1	95	27	22	352
Brown, Edwin H., Washington, D. C. Car-brake	268,998	Dec. 12	725	213	22	2030
Brown, Edwin H., Brooklyn, N. Y., assignor to Tournaphone Music Company, Worcester, Mass. Mechanical musical instrument	263,282	Aug. 22	1799	511	22	674
Brown, F. Barton, assignor, by mesne assignments, to C. A. Burditt and F. O. North, Boston, Mass. Hinge for awning-blinds	264,852	Sept. 26	1388	391	22	1045
Brown, F. Barton, assignor, by mesne assignments, to C. A. Burditt and F. O. North, Boston, Mass. Shutter-fastener	264,853	Sept. 26	1389	391	22	1045
Brown, Felix, New York, N. Y. Friction-clutch	266,761	Oct. 31	1865	542	22	1486
Brown, Fernando. (See Talbot, Frank H., assignor.)						
Brown, Francis C. (See Sutherland and Brown.)						
Brown, Francis C., New York, N. Y. Stylographic fountain-pen	264,854	Sept. 26	1389	391	22	1045
Brown, Francis M., Union City, Tenn. Machine for purifying middlings	263,472	Aug. 29	2090	599	22	725
Brown, Frederick M., Warren, R. I., assignor of one-half to J. A. Harris, Boston, Mass. Steam-generator	264,819	Sept. 19	1336	378	22	1030
Brown, George, *et al.* (See Stanour, John B., assignor.)						
Brown, George R. (See Staach, Emil R., assignor.)						
Brown, George R., Corning, N. Y. Heating-furnace	268,615	Dec. 5	264	75	22	1937
Brown, George W. (See Bayley, Charles H., assignor.)						
Brown, George W., Galesburg, Ill. Corn-planter. (Reissue)	10,180	Aug. 15	1356	383	22	582
Brown, George W., New York, N. Y. Endless package-elevator	265,238	Oct. 3	14	5	22	1139
Brown, Gilman W., West Newbury, Mass. Automatic air-cock for steam-heat radiators	265,239	Oct. 3	17	5, 6	22	1139
Brown, Gilman W., West Newbury, assignor to Crosby Steam Gage and Valve Company, Boston, Mass. Steam-engine recorder	263,843	Sept. 5	219	63	22	811
Brown, Gilman W., West Newbury, assignor to Crosby Steam Gage and Valve Company, Boston, Mass. Engine-register connection	263,844	Sept. 5	221	63	22	811
Brown, Gilman W., West Newbury, assignor to Crosby Steam Gage and Valve Company, Boston, Mass. Piston for pressure-indicators	263,845	Sept. 5	221	63	22	811
Brown, Gouverneur M., Woonsocket, R. I. Noise-deadening insulator	268,075	Nov. 28	1391	389	22	1809
Brown, Harrison H., Ladoga, Wis. Sad-iron heater	269,510	Dec. 26	1593	402	22	2164
Brown, Henry E., Lansing, Mich. Adjustable table	268,616	Dec. 5	266	75	22	1937
Brown, Isaac F., *et al.* (See Ogle and Turnure, assignors.)						
Brown, James B., assignor of one-half to C. Hall, Washington, D. C. Hay-press	261,828	Aug. 1	9	3	22	336
Brown, James F., assignor of two-thirds to F. P. Whiteside, Custer City, and A. S. Belcher, Gainesville, Tex. Device for converting motion	264,511	Sept. 19	992	279	22	967
Brown, James, G. Rodger, and W. J. Cordner, Barrow-in-Furness, county of Lancaster, England. Ratchet	260,834	July 11	625	170	22	111

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Brown, James K., Lewiston, Me. Driving-cylinder for yarn-spooling machines	262,203	Aug. 8	490	137	22	424
Brown, James O., Bangor, Me. Tire for bicycles	264,133	Sept. 12	574	157	22	883
Brown, James W., *et al.* (See Milliken, George F., assignor.)						
Brown, Jesse M., Boston, Mass. Gage-cock	263,018	Aug. 22	1494	421	22	616
Brown, Jesse M., Boston, Mass. Shoe-horn	267,668	Nov. 21	909	257	22	1715
Brown, John, Memphis, Tenn. Baling-press	263,108	Aug. 22	1595	451	22	635
Brown, John A., Everett, Mass. Ash-barrel and coal-hod cover	260,364	July 4	14	5	22	5
Brown, John D., New York, N. Y. Steam-engine	266,672	Oct. 31	1756	506, 507	22	1466
Brown, John E. (See O'Bryon, Charles H., assignor.)						
Brown, John E., Westford, assignor of one-half to F. G. and A. C. Sargent, Graniteville, Mass. Card lathe and grinder	260,835	July 11	626	170	22	111
Brown, John F. (See Brown, Robert A. and J. F.)						
Brown, John F., Indianapolis, Ind. Governor for steam-engines	265,569	Oct. 10	419	116	22	1214
Brown, John F., Brooklyn, assignor to C. F. Oxley and S. M. Giddings, New York, N. Y. Extension gas-fixture	268,999	Dec. 12	726	213	22	2031
Brown, John J. (See Litton and Brown.)						
Brown, John J., *et al.* (See Tilton, Edward L., assignor.)						
Brown, John T., Providence, R. I. Trundle-wheel	262,364	Aug. 8	679	189	22	457
Brown, John W., Utica, Miss. Pivot cotton-tie	266,085	Oct. 17	1047	297	22	1327
Brown, John W., Jr., Baltimore, Md. Machine for cutting green corn from the cob	269,774	Dec. 26	1724	497, 498	22	2227
Brown, John W., and John W., Jr., Baltimore, Md. Apparatus for loading and unloading vessels	263,846	Sept. 5	222	64	22	811
Brown, John W., and John W., Jr., Baltimore, Md. Apparatus for loading and unloading vessels	263,847	Sept. 5	224	65	22	812
Brown, John W., and John W., Jr., Baltimore, Md. Apparatus for loading and unloading vessels	263,848	Sept. 5	225	66	22	812
Brown, Jonathan T., assignor to F. Blackler, Marblehead, Mass. Sewing-machine attachment for unwinding thread from spools	263,306	Aug. 29	1844	524, 525	22	688
Brown, Lorenzo D. (See Stevens, Nathan P., assignor.)						
Brown, Lucian, *et al.* (See Stamour, John B., assignor.)						
Brown, Maxwell & Company. (See Maxwell, William H., assignor.)						
Brown, Patrick, T. Parfery, and A. Healy, Scranton, Pa. Steam-pump	264,134	Sept. 12	575	157	22	883
Brown, Robert, Springfield, Ohio. Grain-binder	266,087	Oct. 17	1050	298, 299	22	1327
Brown, Robert, Springfield, Ohio. Grain-binder	266,426	Oct. 24	1481	421	22	1410
Brown, Robert A. and J. F., Washington, Ind. Brick and tile kiln	263,473	Aug. 29	2091	599	22	725
Brown, Samuel, Manton, Mich. Car-coupling	263,849	Sept. 5	227	67	22	813
Brown, Samuel, Philadelphia, Pa., assignor to C. G. Emery, Brooklyn, N. Y. Cigarette-cutting machine	260,836	July 11	627	170, 171	22	111
Brown, Samuel N. (See Brown, Thomas and S. N.)						
Brown, Stephen C. (See McDonald, Marshall, assignor.)						
Brown, Thomas and S. N., assignors to S. N. Brown & Co., Dayton, Ohio. Hub for vehicle-wheels	266,251	Oct. 17	1246	354	22	1360
Brown, Thomas H. (See Chase, Albert O., assignor.)						
Brown, Timothy D., Oakland, Cal. Clothes-drier	268,076	Nov. 28	1391	389	22	1809
Brown, Warren G., *et al.* (See Whedon, Charles T., assignor.)						
Brown, William A., Terrell, Tex. Seed-planter	269,172	Dec. 19	948	277	22	2076
Brown, William B., West Union, Ohio. Book-holder	261,993	Aug. 1	266	61	22	371
Brown, William C., Logan, assignor of one-half to J. F. Wheeler, Monday, Ohio. Railway-track bolt	268,457	Dec. 5	100	30	22	1905
Brown, William E. (See Brown, Alfred, assignor.)						
Brown, William H., and W. H. Bell, New Orleans, La. Dredging-machine	269,173	Dec. 19	950	277	22	2076
Brown, William J., Jr., assignor to A. J. Brown, Philadelphia, Pa. Device for inserting and clinching metallic staples	260,365	July 4	15	5	22	5
Brown, William P., Zanesville, Ohio. Railway-joint and nut-lock	261,666	July 25	1649	463	22	296
Brown, William P., Zanesville, Ohio. Wheeled cultivator	266,086	Oct. 17	1048	297, 298	22	1327
Brown, William W., Jr., Providence, R. I. Rubber boot or shoe	266,965	Nov. 7	6	2	22	1541
Brown, William Z., assignor of one-half to E. R. Culver, Decatur, Ill. Truck	267,669	Nov. 21	909	258	22	1715
Browne, Alexander P., Boston, Mass. Portable bathing-tub	268,862	Dec. 12	566	166	22	2001
Browne, Oliver L. F., assignor of one-half to D. H. Gowing, Syracuse, N. Y. Device for economizing heat from the products of combustion	261,994	Aug. 1	206	61, 62	22	371
Browne, William F., New York, N. Y. Process of and apparatus for generating high-pressure gas	263,307	Aug. 29	1845	525, 526	22	688
Browne, William F., New York, N. Y. Process of and apparatus for manufacturing heating, illuminating, and motive-power gas	263,308	Aug. 29	1850	527, 528	22	688
Browne, William F., New York, N. Y. Apparatus for supplying gaseous fuel to metallurgical furnaces	263,309	Aug. 29	1858	528, 529	22	689
Browne, William F., New York, N. Y. Manufacturing a heating-fuel for burning lime, &c.	263,310	Aug. 29	1862	529, 530, 531	22	689
Browne, William F., New York, N. Y. Motive-power generator	263,311	Aug. 29	1866	531, 532, 533, 534	22	689
Browne, William F., New York, N. Y. Evaporating saccharine juices, &c	263,312	Aug. 29	1873	534	22	690
Browne, William F., New York, N. Y. Generating gaseous vapors	263,313	Aug. 29	1874	534, 535, 536	22	690
Browne, William F., New York, N. Y. Process of and apparatus for the manufacture of sirup and sugar	263,314	Aug. 29	1878	536, 537, 538, 539	22	690
Browne, William F., New York, N. Y. Apparatus for generating and distributing high-pressure gas	263,315	Aug. 29	1888	540, 541	22	691
Browne, William F., New York, N. Y. Process of and apparatus for evaporating liquids	263,316	Aug. 29	1893	541, 542, 543, 544, 545	22	692
Browne, William F., New York, N. Y. Process of and apparatus for generating gas	268,863	Dec. 12	567	166, 167	22	2001
Browne, William T., Stockton, Cal. Rotary hammer	265,655	Oct. 10	536	146	22	1231

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Brownell, Anna J., *et al.* (See Brownell, Willis L., assignor.)						
Brownell, Anna J., *et al.* (See Brownell, Willis L., assignor.) (Reissue.)						
Brownell, Charles R. (See Palmer, Merritt W., assignor.)						
Brownell, Elijah H., Dayton, Ohio. Boiler-furnace	264,437	Sept. 19	911	256	22	951
Brownell, Frank. (See Spear and Wight, assignors.)						
Brownell, Willis L., assignor to A. Smith and A. J. Brownell, Brooklyn, N. Y. Boiler and water heater	261,076	July 11	925	257	22	159
Brownell, Willis L., assignor, by mesne assignments, to A. J. Brownell and A. Smith, Brooklyn, N. Y. Copper-lined boiler. (Reissue)	10,185	Aug. 22	1835	520	22	680
Browning, Charles O. (See Pugh, Jesse B., assignor.)						
Browning, Edward L., St. Louis, Mo. Water-elevator cup	265,378	Oct. 3	182	54	22	1168
Browning, John M. and M. S., Ogden City, Utah Ter. Magazine fire-arm	261,667	July 25	1650	463	22	296
Browning, Manford A., Attica, Ind. Trace-bearer for harness	266,603	Oct. 31	1678	484	22	1452
Browning, Matthew S. (See Browning, John M. and M. S.)						
Brownlee, John, Evansville, Ind. Latch	260,934	July 11	737	201	22	129
Brownley, Patrick, assignor to himself and R. W. Lowe, St. John, New Brunswick, Canada. Roller-bush	264,619	Sept. 19	1105	314	22	988
Bruce, James H. (See McCook, Joshua P., assignor.)						
Bruce, Lucien F., Springfield, Mass. Cartridge-feeder for machine-guns	265,240	Oct. 3	18	6	22	1139
Bruce, Lucien F., Springfield, Mass. Charger for cartridge feed-cases	265,241	Oct. 3	20	7	22	1139
Bruce, Norman H., West Troy, N. Y. Machine for folding and cutting fabrics	265,015	Sept. 26	1590	447, 448	22	1080
Bruce, Robert and S. T., Marshall, Mo.; said S. T. Bruce assignor to said Robert Bruce. Corn-planter	262,174	Aug. 1	440	123	22	409
Bruce, Robert E., Lancaster, Pa. Roof-paint	263,317	Aug. 29	1901	.....	22	692
Bruce, Sidney T. (See Bruce, Robert and S. T.)						
Bruce, William W., Western Port, Md. Device for tightening the bands of elliptical springs	265,179	Nov. 28	1525	423	22	1833
Bruggemann, Henry L. (See Orth and Bruggemann.)						
Brulé, Emeri, Neillsville, Wis. Vehicle-axle	262,733	Aug. 15	1132	320	22	541
Brunacci, Richard E., assignor of one-half to A. W. Tucker, Attleborough, Mass. Sleeve-button	263,850	Sept. 5	227	67	22	813
Brundred, Benjamin F. (See Hall, William C., assignor.)						
Brunell, Mincheart, Allegany, N. Y. Draft-equalizer	265,379	Oct. 3	182	55	22	1168
Brüning, Hermann, St. Helena, Nebr. Horseshoe-nail clincher	260,837	July 11	629	171	22	112
Brunner, Edward H. (See Leinbach, Wolle, and Brunner.)						
Branner, John, Napoleon, Ind. Grain-separator	269,000	Dec. 12	727	214	22	2031
Brunner, Julius, New York, N. Y. Bell toy	267,488	Nov. 14	673	193	22	1665
Brunswick Berth Company. (See Mainland, John Y., assignor.)						
Brunt, William H., assignor to Voigt, Ward & Co., Pittsburg, Pa. Screw-thread for uniting articles of glass and crockery ware	269,001	Dec. 12	728	214	22	2031
Brunton, Gabriel L. and J., Centralia, Ill. Plow	265,749	Oct. 10	647	183	22	1250
Brunton, John D., and F. H. J. Trier, 19 Great George Street, Westminster, England. Machine for turning stone	269,381	Dec. 19	1228	357	22	2126
Brunton, Julius. (See Brunton, Gabriel L. and J.)						
Brush, Charles F., Cleveland, Ohio. Current-governor for dynamo-electric machines	260,650	July 4	383	106	22	64
Brush, Charles F., Cleveland, Ohio. Thermic regulator for electric-current generators	260,651	July 4	386	106, 107	22	64
Brush, Charles F., Cleveland, Ohio. Dynamo-electric machine	260,652	July 4	388	107	22	65
Brush, Charles F., Cleveland, Ohio. Secondary battery	260,653	July 4	389	108	22	65
Brush, Charles F., Cleveland, Ohio. Secondary battery	260,654	July 4	390	108	22	65
Brush, Charles F., Cleveland, Ohio. Electric-circuit system	261,077	July 11	927	258	22	160
Brush, Charles F., Cleveland, Ohio. Secondary battery	261,512	July 18	1449	404	22	255
Brush, Charles F., Cleveland, Ohio. Secondary battery	261,995	Aug. 1	207	62	22	371
Brush, Charles F., Cleveland, Ohio. Making elements for secondary batteries	262,533	Aug. 8	870	246	22	491
Brush, Charles F., Cleveland, Ohio. Secondary-battery element	263,756	Sept. 5	110	34	22	793
Brush, Charles F., Cleveland, Ohio. Process of and apparatus for straightening carbon rods	263,757	Sept. 5	111	35	22	793
Brush, Charles F., Cleveland, Ohio. Baking carbon rods	263,758	Sept. 5	113	35	22	793
Brush, Charles F., Cleveland, Ohio. Secondary battery	264,211	Sept. 12	648	180	22	896
Brush, Charles F., Cleveland, Ohio. Secondary or storage battery element	266,089	Oct. 17	1054	299	22	1328
Brush, Charles F., Cleveland, Ohio. Secondary battery	266,090	Oct. 17	1055	299, 300	22	1328
Brush, Charles F., Cleveland, Ohio. Making electrodes for secondary batteries	266,702	Oct. 31	1867	542	22	1487
Brush, Jarvis C., Newburg, N. Y. Machine for felting and scalding hat-bodies	261,668	July 25	1652	463	22	296
Brustlein, Snry & Co. (See Mertz, Emile, assignor.)						
Bruton, Daniel W., Harrisville, N. C. Axle-box for vehicle-wheels	260,838	July 11	630	171	22	112
Bryan, Alexander L., Edgewood, Ga. Mole-trap	263,109	Aug. 22	1596	451	22	635
Bryan, Dempsey T., Rocky Mount, N. C. Lard and butter cutter	265,380	Oct. 3	183	55	22	1168
Bryan, Franklin C., Winona, Minn. Wheel-plow	269,002	Dec. 12	729	214	22	2031
Bryant, Edson L., assignor of one-half to Wallace & Sons, Ansonia, Conn. Lamp-fonnt	263,474	Aug. 29	2092	599	22	725
Bryant, Orrin, Westfield, assignor to E. R. Hyde, Springfield, Mass. Knife-grinding machine	265,482	Oct. 3	300	89, 90	22	1189
Bryant, Richard. (See Rosevear and Bryant.)						
Buchanan, C. Gordon, Brooklyn, N. Y. Electro-magnetic ore-separator	264,620	Sept. 19	1106	314	22	988
Buchanan, James M., Indianapolis, Ind. Plow	261,528	July 25	1481	415	22	267
Bucher, August. (See Bechtel and Bucher.)						
Buchholz, Wilhelm, Cleveland, Ohio. Belt-hook	261,580	July 25	1548	434	22	278
Buck, Charles W., *et al* (See Stamm, Anton, assignor.)						
Buck, Leffert L., New York, N. Y. Water-motor, pump, &c	265,381	Oct. 3	184	55	22	1168
Buck, Robert H., *et al.* (See Stamm, Anton, assignor.)						
Bucker, Joseph. (See Tod and Bucker.)						
Buckeye Engine Company. (See Thompson, Joseph W., assignor.)						
Buckeye Iron and Brass Works. (See Krutzsch, William, assignor.)						
Buckingham & Hecht. (See Buckingham, Thomas H., assignor.)						
Buckingham, Robert, assignor to himself and W. Porter, Chicago, Ill. Printer's tool	262,639	Aug. 15	1016	285	22	521
Buckingham, Thomas H., assignor to Buckingham & Hecht, San Francisco, Cal. Boot	263,385	Aug. 29	1990	568	22	707
Buckley, Chauncey. (See Sawyer, Buckley, and Perkins.)						
Buckley, Edward H., Philadelphia, assignor of two-thirds to J. S. Smith, Colmar, and J. H. Radey, Philadelphia, Pa. Manufacture of boots and shoes	260,935	July 11	738	201	22	129
Buckley, Robert C., Peoria, Ill. Combined plow and seeder	263,475	Aug. 29	2093	600	22	725
Buckley, William N., Meriden, Conn. Machine for turning concaves	262,734	Aug. 15	1133	320	22	541
Bucyrus Foundry and Manufacturing Company. (See Thompson, John, assignor.)						
Budd, Daniel, Penn Yan, N. Y. Torsion-spring for vehicles	269,633	Dec. 26	1550	445	22	2195

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Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Budd, James, Boston, Mass. Ceiling	261,202	July 18	1091	304	22	196
Budd, James, Boston, Mass., assignor to Glass Veneer Company, of Maine. Machine for transferring the grain of wood upon glass	261,203	July 18	1092	305	22	197
Budd, Joseph W., New York, N. Y. Spark-arrester	266,427	Oct. 24	1482	421	22	1410
Buddenberg, Henry C., Cincinnati, Ohio. Velocipede	265,751	Oct. 10	648	184	22	1251
Buecker, Henry F. W., Newport, Ky. Bung-hole reamer	266,091	Oct. 17	1057	300	22	1328
Buek, Charles, assignor to G. W. Ealer & Co., New York, N. Y. Chimney-flue	268,770	Dec. 5	438	128	22	1970
Buel, James, *et al.* (See Barrett, Abel, assignor.)						
Buell, Andrew L. (See Buell, Edgar, assignor.)						
Buell, Charles E., *et al.* (See Barrett, Abel, assignor.)						
Buell, Charles E., *et al.* (See Coy, George W., assignor.)						
Buell, Charles E., New Haven, Conn. Apparatus for charging and discharging secondary batteries	261,303	July 18	1210	337	22	215
Buell, Charles E., New Haven, Conn. Mode and device for charging and discharging secondary batteries	261,513	July 18	1451	{404 405}	22	255
Buell, Charles E., New Haven, Conn. Combined fire-alarm and fire-extinguisher	262,887	Aug. 15	1329	375	22	576
Buell, Charles E., New Haven, Conn. Automatic fire extinguisher and alarm	266,579	Oct. 24	1639	467	22	1439
Buell, Charles E., New Haven, Conn., assignor of one-half to J. H. Appleton, Springfield, Mass. Galvanic battery	263,651	Aug. 29	2299	657	22	762
Buell, Charles E., New Haven, Conn., assignor of two-thirds to J. G. Smith, Hackensack, N. J., and G. W. Coy, Milford, Conn. District-telegraph system	263,759	Sept. 5	114	35	22	793
Buell, Edgar, assignor of one-half to A. L. Buell, Clinton, Conn. Tool-handle	267,060	Nov. 7	122	35	22	1502
Buell, William P., and J. Wright, Gallipolis; said Buell assignor to H. Koehler, Pomeroy, Ohio. Stove-top	261,669	July 25	1653	464	22	296
Buettner, Louis C., Boston, Mass. Lacing-stud set or punch	263,110	Aug. 22	1597	451	22	635
Buffham, William S. (See Hindley and Buffham.)						
Buffon, Hugh P., Fort D. A. Russell, Wyo. Ter. Coffee-roaster	266,428	Oct. 24	1484	421	22	1410
Bulkeley, John S., Ballston Spa, assignor of one-half to C. E. Lucas, Saratoga Springs, N. Y. Shoe horn and buttoner	267,145	Nov. 7	232	67	22	1581
Bulkeley, Worthington, Cleveland, Ohio. Spring mattress or bed-bottom	262,365	Aug. 8	680	189	22	457
Bulkeley, Worthington, Cleveland, Ohio. Spring mattress or bed-bottom	262,366	Aug. 8	681	190	22	457
Bulkley, Justus L. (See Sprague, Ward, assignor.)						
Bull, Daniel H., Greenville County, S. C. Harrow-cultivator	268,617	Dec. 5	267	76	22	1938
Bull, Thomas J., Hot Springs, Ark. Hoisting apparatus	263,476	Aug. 29	2094	600	22	736
Bullard, James H., Springfield, Mass. Machine for swaging needle-blanks	260,655	July 4	391	108	22	65
Bullock, Joseph P., and J. F. Appleby, Beloit, Wis. Grain-adjuster for harvester-binders	266,949	Oct. 31	2084	600	22	1527
Bullock, Milan C. (See Waring, John B., assignor.)						
Bullock, Rufus B., Ashtabula, Ohio, assignor to Ashtabula Carriage Bow Company. Carriage-bow	268,618	Dec. 5	267	76	22	1938
Bulinss, James, Jr., Birmingham, Conn. Molasses-pitcher	261,427	July 18	1350	378	22	239
Bundick, John S. (See Darling and Bundick.)						
Bunnell, Jesse H., New York, N. Y. Telegraph-sounder	267,833	Nov. 21	1100	308	22	1750
Burcey, Charles J. T., Binghamton, N. Y. Wood-distilling apparatus	263,851	Sept. 5	228	67, 68	22	813
Burcey, Charles J. T., Binghamton, N. Y. Alcohol-still	263,852	Sept. 5	231	68	22	813
Burcey, Charles J. T., Binghamton, N. Y. Alcohol-still	265,304	Oct. 3	96	29	22	1152
Burdick, Charles. (See Gabryelski, Stanislaw B., assignor.)						
Burdick, Chester W. (See Howell and Burdick.)						
Burdick, George, assignor of one-half to L. Prentiss, C. M. Vorce, and S. C. Prentiss, Cleveland, Ohio. Sewing-machine	268,458	Dec. 5	101	30, 31	22	1905
Burdick, Welcome J., Hubbleton, Wis. Grass-land scarifier	260,529	July 4	236	66	22	40
Burdict, Orrin C., assignor to Plumb, Burdict & Barnard, Buffalo, N. Y. Bolt-heading machine	264,820	Sept. 19	1338	378	22	1030
Burditt, Charles A., *et al.* (See Brown, F. Barton, assignor.)						
Burditt, Charles A., *et al.* (See Frost, Stiles, assignor.)						
Burgess, Hubert, Berkeley, Cal. Pencil-sharpener	264,236	Sept. 12	679	188	22	901
Burgess, Hugh, Royer's Ford, Pa. Steam-boiler	264,621	Sept. 19	1108	314	22	988
Burgess, Luther C., Chicago, Ill. Seal-lock	260,741	July 11	508	139	22	92
Burgess, William H., Rich Square, N. C. Cotton or hay press	263,111	Aug. 22	1598	452	22	635
Burgett, Isaiah C., South Elgin, Ill. Fence-wire stretcher	264,923	Sept. 26	1481	416	22	1060
Burgin, Walter S., Washington, Vt. Lifting-jack	262,204	Aug. 8	490	137	22	424
Burgland, Andrew, South Bay City, Mich. Pail-fastener	261,304	July 18	1212	337	22	215
Burgland, Andrew, Bay City, Mich. Cover-fastener for tobacco-pails	261,581	July 25	1549	435	22	278
Burgland, Andrew, Bay City, Mich. Cover-fastener for tobacco-pails	262,926	Aug. 22	1377	389	22	596
Burk, Calvin J., Arcanum, and R. H. Burk, West Manchester, Ohio. Harrow	266,763	Oct. 31	1868	542	22	1487
Burk, John J., assignor to E. M. Jewett, Buffalo, N. Y. Corrugating wood	262,367	Aug. 8	681	190	22	457
Burk, Marshall B., Dayton, Wash. Ter. Window	10,157	July 11	987	277	22	171
Burk, Richard H. (See Burk, Calvin J. and R. H.)						
Burke, Peter N., Brooklyn, N. Y. Stationary wash-stand and fixture. (Reissue)						
Burkhard, John P. (See Dieter, Henry J., assignor.)						
Burleigh, Charles F., Pawtucket, R. I. Absorbent cushion for hydrocarbon-burners	264,402	Sept. 12	865	243	22	935
Burley, Franklin G., Boston, Mass. Velocipede	264,855	Sept. 26	1391	391	22	1045
Burlingham, Myra, Oradell, N. J. Ironing-board	267,323	Nov. 14	463	134	22	1629
Burn, Thomas, Chicago, Ill. Telegraph-key	260,449	July 4	127	37	22	21
Burnap, Scott, Belden, Mich. Finger-bar attachment for mowing and harvesting machines	268,459	Dec. 5	103	31	22	1906
Burner, Allen C., Green Bank, W. Va. Cider-mill	265,382	Oct. 3	185	56	22	1169
Burnet, William H., Chicago, Ill. Artificial butter and making the same	266,580	Oct. 24	1641	.....	22	1439
Burnett, James A. (See Burnett, Robert A., assignor.)						
Burnett, Josiah, Phelps, N. Y. Portable steam-boiler	262,568	Aug. 15	927	262	22	506
Burnett, Robert A., assignor of one-half to J. A. Burnett, Washington Court-House, Ohio. Tobacco-cutter	266,345	Oct. 24	1390	393	22	1393
Burnham, Oliver G. (See Sears and Burnham.)						
Burns & Co., S. A. (See Barnard, Charles S., assignor.)						
Burns & Co., Samuel A. (See Cook, Charles A., assignor.)						
Burns, Edward J., Dayton, Ohio. Car-coupling	266,966	Nov. 7	7	2	22	1542
Burns, Henry S., assignor to Winchester Repeating Arms Company, New Haven, Conn. Apparatus for greasing bullets	264,237	Sept. 12	680	188	22	901
Burns, James, Joliet, Ill. Club-foot apparatus	265,942	Oct. 17	872	{249 250}	22	1297
Burns, Robert E., San Francisco, Cal. Fruit-drier	268,619	Dec. 5	268	76	22	1938
Burns, William. (See Duburn, Anthony M., assignor.)						
Burnside, William J., Hilcot Court Road, Lower Norwood, county of Surrey, England. Printing-telegraph	269,634	Dec. 26	1550	{446 447}	22	2195
Burr, David A. (See Angell, Albert, assignor.)						
Burr, Frank W., and O. A. Smith, Lafox, Ill. Corn cutter and shocker	266,764	Oct. 31	1869	543	22	1487
Burr, John T., Stamford, Conn. Differential screw	260,366	July 4	16	5	22	6

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Burr, Sanford S., Winnetka, Ill. Folding bedstead	261,305	July 18	1213	337	22	215
Burr, Sanford S., Winnetka, Ill. Folding bedstead. (Reissue)	10,225	Oct. 31	2120	609	22	1533
Burrell, David H. (See Cooley and Burrell.)						
Burridge, Lee S., New York, N. Y. Harpsichord	264,856	Sept. 26	1391	392	22	1045
Burridge, Lee S., New York N. Y. Automatic toy	267,324	Nov. 14	464	134	22	1629
Burrier, George W., Lyon County, Nev. Horse-rake	264,135	Sept. 12	576	157	22	883
Burrill, Horace H., Washington, Ind. Elastic door-check	264,438	Sept. 19	912	257	22	951
Burritt, Orrin W., Weedsport, N. Y. Double-seaming machine	266,604	Oct. 31	1678	485	22	1452
Burrows, Francis H., Springfield, Ill. Treadle	267,998	Nov. 28	1295	364	22	1792
Burrows, George H., Somerville, assignor, by mesne assignments, to himself and E. G. Colby, Greenwood, Mass. Apparatus for burning gas	267,971	Nov. 21	1260	354	22	1780
Burrows, William T., East Dubuque, Ill. Cotton-planter	260,656	July 4	392	108	22	65
Burrows, William T., East Dubuque, Ill. Machine for applying barbs to fence-wires	263,283	Aug. 22	1803	512	22	674
Bürstenbinder, Rudolph G., Hamburg, assignor to P. J. F. Röper, Pinneberg, Germany. Preservation of wood	266,092	Oct. 17	1058	.....	22	1328
Burt, Eugene G., Sidney, Kans. Wire chain	265,943	Oct. 17	873	250	22	1297
Burt, Lydia A., administratrix. (See Burt, Zebulon W.)						
Burt, Richard W., Peoria, Ill. Horizontal wind-wheel	269,511	Dec. 26	1394	402	22	2164
Burt, Zebulon W., deceased, Rome, Ohio, L. A. Burt, administratrix. Corn-planting machine	266,765	Oct. 31	1871	543	22	1487
Burtner, Benjamin F., and C. E. Bodley, Chrisman, Ill. Washing-machine	265,570	Oct. 10	421	116	22	1214
Burton, Charles M., H. R. Allen, and J. Moore, New Haven, Conn. Bullet-casting machine	261,582	July 25	1549	435	22	278
Burton, George D., New Ipswich, N. H., assignor to Frances Registering Machine Company, Boston, Mass. Registering apparatus	264,238	Sept. 12	681	188	22	902
Burton, James N., Warnerville, Ga. Hoe	266,673	Oct. 31	1750	508	22	1467
Burton, John S., Paris, Ill. Folding cot	262,275	Aug. 8	571	160	22	438
Burton, John S., Paris, Ill. Folding joint	266,766	Oct. 31	1872	544	22	1487
Burton, Oscar F., Brooklyn, N. Y. Steam-generator	261,996	Aug. 1	208	62, 63	22	371
Burton, William, Terre Haute, Ind. Link	267,834	Nov. 21	1101	309	22	1750
Bury, Richard A., and R. M. Bidelman, Adrian, Mich. Device for burning petroleum	268,077	Nov. 28	1393	390	22	1800
Buser, William E., Chillicothe, Ohio. Upholstered chair, sofa, &c	266,767	Oct. 31	1872	544	22	1487
Bush, Arthur W., Boulder, Colo. Foot-power	269,635	Dec. 26	1554	447	22	2195
Bush, Asa A., Titusville, Pa. Still for refining petroleum	269,382	Dec. 19	1230	358	22	2127
Bush, Laura E., Jug Tavern, Ga. Medical compound for burns, scalds, &c	264,857	Sept. 26	1394	.....	22	1046
Bush, Thomas J., Lexington, Ky. Interlocking bolt	264,622	Sept. 19	1109	315	22	988
Bushley, Charles E. (See Cody, Frederick A., assignor.)						
Bushnell, Allen R., Lancaster, Wis. Treadle	262,368	Aug. 8	683	190	22	457
Bushnell, Oscar P., Worcester, Mass. Knuckle-joint press	266,967	Nov. 7	8	3	22	1542
Bushnell, William, Brooklyn, N. Y. Tubular smoking-pipe	265,571	Oct. 10	422	116	22	1214
Bushnell, William, Brooklyn, N. Y. Fire-escape ladder	268,078	Nov. 28	1393	390	22	1809
Bussard, Joseph H., Harmony, Md. Animal-trap	266,605	Oct. 31	1679	485	22	1452
Bussey, Esek, Troy, N. Y. Stove-grate	264,858	Sept. 26	1394	392	22	1046
Butler, Beauman, assignor of one-third to O. W. Orcutt, St. Johnsbury, Vt. Hydraulic engineering	263,652	Aug. 29	2299	657	22	762
Butler, George W., assignor of one-half to W. B. Shoemaker, Knoxville, Tenn. Car-coupling	268,386	Dec. 5	14	5	22	1880
Butler, H. S., *et al.* (See Miller, Charles D., assignor.)						
Butler, Henry J., Independence, Oreg. Trace-buckle	266,093	Oct. 17	1059	300	22	1328
Butler, Howard H., Zanesville, Ohio, assignor of one-half to T. Jenkins, Moline, Ill. Cultivator	267,670	Nov. 21	910	258	22	1715
Butler, James M., and J. A. Smithhisler, Danville, Ohio. Ointment	267,146	Nov. 7	233	.....	22	1581
Butler, Jay F., Brooklyn, and U. McClinchie, New York, N. Y. Canopy-support for children's carriages	260,530	July 4	237	66	22	40
Butler, John P., Montgomery, Ala. Gin-saw-filing machine	265,216	Sept. 26	1834	516	22	1124
Butler, Theodore H., G. W. Earhart, and W. M. Crawford, Columbus, Ohio. Preparing dough	262,888	Aug. 15	1331	376	22	577
Butler, William M., Dyersburg, Tenn. Fence	269,003	Dec. 12	730	214	22	2031
Butman, Edward E. (See Bartlett and Butman.)						
Butron, Manuel N., Havana, Cuba. Comb device for dyeing hair	260,367	July 4	17	5	22	6
Butterfield, George F., Stoneham, Mass. Polishing-machine	268,180	Nov. 28	1525	424	22	1833
Butterfield, John C., Chicago, Ill. Atmospheric hammer	264,859	Sept. 26	1395	{392 393}	22	1046
Butterfield, John C., Chicago, Ill. Pneumatic cylinder for machinery	264,860	Sept. 26	1397	394	22	1046
Butters, Aaron F., Marshall, Ohio. Sheep-rack	261,997	Aug. 1	211	63	22	372
Button, Anson T. (See Widdifield and Button.)						
Button, Conyers. (See Diebel, William, assignor.)						
Butz, Edward M., Allegheny city, assignor to Pennsylvania Construction Company, Pittsburg, Pa. Fluid-pressure motor	267,489	Nov. 14	673	193	22	1665
Butz, Edward M., Allegheny city, assignor to Pennsylvania Construction Company, Pittsburg, Pa. Fluid-pressure motor	267,490	Nov. 14	674	194	22	1665
Butz, Michael, *et al.* (See Hogan, Hugh F., assignor.)						
Buxton, John E., Owatonna, Minn. Knotter for grain-binders	267,972	Nov. 21	1261	355	22	1780
Buxton, John E., Owatonna, Minn. Grain-binder	269,004	Dec. 12	731	215	22	2032
Buzzell, John G., Lynn, Mass. Machine for molding sand-paper disks	260,368	July 4	17	6	22	6
Buzzell, John G., Lynn, Mass. Buffing-roll	261,906	Aug. 1	95	27	22	352
Buzzell, John G., Lynn, assignor to T. A. Dodge, trustee, Cambridge, Mass. Burnishing machine for boots and shoes	263,284	Aug. 22	1807	{512 513}	22	675
Byers, Joseph, Newton, and G. Taylor, Everett, Mass. Elevator-hatchway guard	261,133	July 18	1007	288	22	183
Bynon, Alfred A., Alameda, assignor of one-half to J. T. White, San Francisco, Cal. Device for illustrating fractions	267,402	Nov. 14	572	164	22	1645
Bynon, Charles P., Yonkers, N. Y. Music-holder	264,623	Sept. 19	1111	315	22	988
Byrne, George P., trustee. (See Shedlock, Alfred, assignor.)						
Byrne, Peter J., Phœnixville, Pa. Tool-holder for metal-planing machines	267,147	Nov. 7	233	68	22	1581
Cadbury, Joel, assignor to Green, Cadbury & Richards, Birmingham, county of Warwick, England. Button and method of attachment	261,204	July 18	1092	305	22	197
Cadugan, Albert H., Wales Centre, N. Y. Wagon-spring	263,853	Sept. 5	233	68	22	814
Cadwell, James F., Waterford, Wis. Gate	265,572	Oct. 10	423	117	22	1214
Cadwgan, Thomas C., Springfield, Ohio. Feed-mill	267,999	Nov. 28	1296	365	22	1792
Cady, Henry G., and C. L. Culver, Pine Bluff, Ark. Cotton-press	267,148	Nov. 7	234	68	22	1581
Cahill, Mortimer, Jacksonville, Ill. Wagon-jack	265,752	Oct. 10	649	184	22	1251
Cahoone, Charles E. (See Cahoone, Edwin R. and C. E.)						
Cahoone, Edwin R., Newark, N. J. Buckle-holder	260,450	July 4	128	37	22	23
Cahoone, Edwin R. and C. E., Newark, N. J. Bridle-bit	264,925	Sept. 26	1484	417	22	1061
Cairns, Irving, Jersey City, N. J. Waist-belt fastening	264,239	Sept. 12	682	188	22	902

Alphabetical list of patentees, July to December, inclusive—Continued.

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Calais, Frank W., Lincoln, and S. M. Barnes, Fairbury, Ill. Truck for moving harvesters	265,574	Oct. 10	424	117	22	1215
Caldwell, Edward G., assignor to G. D. Caldwell, Newton Centre, Mass. Window-ventilator	265,217	Sept. 26	1837	516	22	1124
Caldwell, Georgianna D. (See Caldwell, Edward G., assignor.)						
Caldwell, Henry W., Chicago, Ill. Machine for mixing mortar or concrete	264,861	Sept. 26	1398	394	22	1046
Caldwell, John, assignor to W. B. Bennett & Co., Providence, R. I. Ear-knob	269,383	Dec. 19	1231	358	22	2127
Caldwell, William L., Chicago, Ill. Combined calendar and letter-box	260,531	July 4	218	66	22	40
Callx, Edouard, Zurich, Switzerland. Music-stool	267,325	Nov. 14	465	135	22	1629
Calkins, Alton J., Omro, Wis. Carriage-body	261,829	Aug. 1	10	3	22	336
Calkins, David N., Rochelle, Ill. Milk-cooler	268,620	Dec. 5	270	77	22	1938
Calkins, Thomas L., Newark, N. J., assignor to United States Water Meter Company, New York, N. Y. Piston-meter	262,735	Aug. 15	1134	321	22	541
Call, Edward B., Peoria, Ill. Abrading-disk	266,346	Oct. 24	1390	393	22	1393
Call, George W. (See Lewis and Call.)						
Callahan, Cornelius, Chelsea, Mass. Water-gate	260,936	July 11	739	201	22	129
Callahan, Cornelius, assignor to American Fire Hose Manufacturing Company, Chelsea, Mass. Discharge-pipe for hose	265,573	Oct. 10	423	117	22	1214
Callan, James B., Quincy, Ill. Road-cart	262,736	Aug. 15	1136	321	22	542
Callan, John P., Aurora, Ill. Two-wheeled vehicle	260,742	July 11	509	139	22	92
Callanen, Frank J. (See Prentice and Beckwith, assignors.)						
Callaway, James F., *et al.* (See Watson, John E., assignor.)						
Callaway, William, Walnut, assignor of three-fourths to R. Kaley and H. B. Pershing, Marshall County, Ind. Machine for repairing vehicle-wheels	262,737	Aug. 15	1137	321 322	22	542
Callaway, William, Walnut, assignor of one-half to H. B. Pershing, Plymouth, Ind. Dashboard	264,240	Sept. 12	683	189	22	902
Callender, William O., London, England. Composition of matter for insulating telegraph-wires and for other purposes	264,821	Sept. 19	1338	.....	22	1030
Callihan, Willie H., Galveston, Tex. Carpenter's square	265,383	Oct. 3	186	56	22	1169
Calver, William, Washington, D. C. Utilizing the rays of the sun	260,657	July 4	393	109	22	66
Calvert, Callender L., Philadelphia, Pa. Rein-holder	269,258	Dec. 19	1065	311	22	2097
Calvert, Charles B., *et al.* (See Candler and Whitehead, assignors.)						
Calvert, Thomas, *et al.* (See Candler and Whitehead, assignors.)						
Calvert, William H. (See Heaverin, William H., assignor.)						
Cameron, Daniel A., assignor of one-half to F. Whipple, Port Huron, Mich. Adjustable fulcrum	260,839	July 11	631	171	22	112
Cameron, Edward D., and F. Long, Newark, N. J. Easel	262,205	Aug. 8	491	137 138	22	424
Cameron, James W., Providence, R. I. Machine for ornamenting jeweler's stock	262,369	Aug. 8	684	190	22	458
Cameron, Lewis O., Bellevue, Pa. Washing-machine	261,806	July 25	1814	512	22	324
Cameron, Tilman A. H., Saline County, Mo. Washing-machine	269,155	Dec. 12	922	268	22	2064
Cameron, Wilmot F., Deering, assignor of two-thirds to T. G. Loring, Portland, Me. Plow-point	262,927	Aug. 22	1378	389	22	596
Camp, Charles B., and H. Baumgartel; said Baumgartel assignor to T. J. Collins, Sturgis, Mich. Combined wash-bench and wringer	264,026	Sept. 5	442	122	22	851
Camp, Hiram, assignor to New Haven Clock Company, New Haven, Conn. Clock-movement	262,738	Aug. 15	1138	322	22	542
Camp, Lyman C., Philadelphia, Pa. Machine for trimming and crimping the edges of pie-crust	260,369	July 4	18	6	22	6
Campbell, A. Hamilton, Waynesborough, Pa. Automatic oiler for locomotive-engines	266,768	Oct. 31	1873	544	22	1488
Campbell, Alexander, Brooklyn, N. Y. Punching and shearing machine	265,016	Sept. 26	1592	446	22	1081
Campbell, Amanda E. (See Chambers, John W., assignor.)						
Campbell, Andrew, Brooklyn, N. Y. Supplying water to houses	269,156	Dec. 12	923	268 269	22	2064
Campbell, Charles B., Buffalo, N. Y. Friction-gearing for roller-mills, &c	260,532	July 4	239	67	22	40
Campbell, Frank M., St. Louis, Mo. Vapor-burner	266,014	Oct. 17	965	274	22	1312
Campbell, Gardiner, Milwaukee, Wis. Furnace-grate	261,830	Aug. 1	11	4	22	337
Campbell, Henry J., Altoona, Pa. Wine and cider press	261,807	July 25	1814	513	22	324
Campbell, Hugh, Sandy Hook, Conn. Hat-shaving machine	262,175	Aug. 1	442	123	22	409
Campbell, John H., New York, N. Y. Coating walls with flock	262,276	Aug. 8	572	160	22	438
Campbell, James V., Jr. (See Cloud, William H., assignor.)						
Campbell, John, Bay View, Wis. Locomotive-boiler	264,136	Sept. 12	577	158	22	883
Campbell, London. (See Finney and Campbell.)						
Campbell, Malcolm, assignor of one-half to E. S. Packard, Holyoke, Mass. Tap-wrench	260,743	July 11	511	139	22	92
Campbell, Malcolm, assignor of one-half to E. S. Packard, Holyoke, Mass. Door-spring	261,670	July 25	1654	464	22	296
Campbell, Marvin. (See Eastburn, David B., assignor.)						
Campbell, Marvin, South Bend, Ind. Bale-tie	263,677	Sept. 5	11	3	22	776
Campbell, Marvin, South Bend, Ind. Wire bale-tie	263,678	Sept. 5	12	4	22	776
Campbell, Marvin, South Bend, Ind. Wire bale-tie	263,679	Sept. 5	13	4	22	777
Campbell, Marvin, South Bend, Ind. Bale-tie	263,680	Sept. 5	14	4	22	777
Campbell, Marvin, South Bend, Ind. Bale-tie	263,760	Sept. 5	116	36	22	794
Campbell, Marvin, South Bend, Ind. Bale-tie	263,761	Sept. 5	117	36	22	794
Campbell, Marvin, South Bend, Ind. Bale-tie	264,512	Sept. 19	993	280	22	967
Campbell, Milton. (See Redmond, Charles C., assignor.)						
Campbell, Robert, Wooster, Ohio. Churn	260,451	July 4	129	37	22	23
Campbell, Solon O., Van Wert, Iowa. Device for converting motion	260,452	July 4	130	38	22	23
Campbell, William A., *et al.* (See McWilliam and Loiseau, assignors.)						
Campbell, William M., Mount Clemens, Mich., assignor of one-half to C. Detrick, Philadelphia, Pa. Apparatus for forming underground drains, &c., in cement	260,533	July 4	240	67	22	41
Campbell, William R., and W. J. Chambers, Kirkwood, Ill. Corn-planter check-rower	263,854	Sept. 5	233	68	22	814
Campbell, William S., New Orleans, La. Lock-faucet	264,241	Sept. 12	684	189	22	902
Cancio, José R., New York, N. Y. Boot or shoe	268,864	Dec. 12	568	167	22	2002
Canda, Ferdinand E. (See Decker, William A., assignor.)						
Canda, Ferdinand E., New York, N. Y. Journal and other bearings	269,636	Dec. 26	1555	.....	22	2195
Candee, Willard L. (See Cheever and Candee.)						
Candee, Willard L., Brooklyn, N. Y. Switch for electric-light systems	260,937	July 11	739	202	22	129
Candler, Claude H., and J. Whitehead, Detroit, Mich. Velocipede	260,840	July 11	632	172	22	112
Candler, Claude H., and J. Whitehead, assignors of one-third to T. and C. B. Calvert, Detroit, Mich. Steam-generator and furnace	263,478	Aug. 29	2095	600	22	726
Canedy, William E., Rochester, Minn. Pad for horses' hoofs	266,347	Oct. 24	1391	393	22	1393
Cannon, Arnont, Jr., Poughkeepsie, N. Y. Safety appliance for lifts, elevators, and dumb-waiters	269,775	Dec. 26	1727	498	22	2228
Cannon, George W., Poughkeepsie, N. Y. Portable adjustable window-balcony	266,606	Oct. 31	1680	485	22	1452
Cannon, George W., Poughkeepsie, N. Y. Brake for elevators or dumb-waiters	269,776	Dec. 26	1727	498	22	2228
Capehart, Thomas F., Water Valley, Miss. Colter	263,112	Aug. 22	1600	452	22	635

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Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Capen, Thomas W., assignor to Yale Lock Manufacturing Company, Stamford, Conn. Traveling crane	263,479	Aug. 29	2097	600 601	22	726
Capen, Thomas W., assignor to Yale Lock Manufacturing Company, Stamford, Conn. Truck for the bridge of a traveling crane	267,149	Nov. 7	236	68	22	1582
Capron, Franklin S., Taunton, Mass. Attachment for nursery-chairs	262,739	Aug. 15	1140	322	22	542
Capron, Lorie G., *et al.* (See Wiser, David, assignor.)						
Caps, John E., assignor to M. Caps, Cincinnati, Ohio. Printing-block	265,017	Sept. 26	1593	448	22	1081
Caps, Marie. (See Caps, John E., assignor.)						
Carey, Arthur. (See Crosby and Carey.)						
Carey, Augustus C., Boston, Mass. Voting-machine	266,950	Oct. 31	2086	600 601	22	1527
Carey, John J., and P. Cavanaugh, La Salle, Ill. Butter-jar	269,005	Dec. 12	733	210	22	2032
Carleton, Roswell. (See Keith and Carleton.)						
Carley, James T., Greenport, N. Y. Egg-beater	267,491	Nov. 14	676	194	22	1666
Carlough, Daniel, Paterson, N. J. Car-coupling	264,926	Sept. 26	1486	418	22	1061
Carlton, John C. C., assignor of one-half to McBride & Co., Atlanta, Ga. Jar-cover fastener	261,808	July 25	1815	513	22	324
Carman, Alonzo G. (See Deyo and Carman.)						
Carman, Alvin O., Potterville, Mich. Harvester-reel	265,575	Oct. 10	426	117 118	22	1215
Carmichael, Henry, Brunswick, Me. Treating paper-stock	267,492	Nov. 14	677	.....	22	1666
Carnegie Bros. & Co. (See Borntraeger, Henry W., assignor.)						
Carnegie Brothers & Company. (See Borntraeger, Henry W., assignor.)						
Carnes, Serena M., New York, N. Y. Sad-iron holder	269,006	Dec. 12	734	216	22	2032
Carney, Francis J., Brooklyn, N. Y. Steam-valve	261,671	July 25	1655	464	22	296
Carney, George J., and J. V. Meige, Lowell, Mass. Electrical transmitter	265,576	Oct. 10	428	118	22	1215
Carpenter, E. G. (See Fuller, Myron H., assignor.)						
Carpenter, Francis W., Harrison, N. Y. Toy sleigh	267,773	Nov. 21	1023	286	22	1730
Carpenter, George O., *et al.* (See Blodgett and Tirrell, assignors.)						
Carpenter, Horace N., assignor to Southbridge Optical Company, Southbridge, Mass. Spectacles	265,916	Oct. 10	827	236	22	1283
Carpenter, John. (See Williams and Braffett, assignors.)						
Carpenter, Ward B., West Topsham, Vt. Device for cutting metallic wagon-axles	268,780	Dec. 12	459	134	22	1982
Carr, Clark E. (See Walker, James A., assignor.)						
Carr, Dallas, Chandlerville, Ill. Draft-equalizer	265,018	Sept. 26	1593	449	22	1081
Carr & Hobson. (See Gibson, Charles J., assignor.)						
Carr, James A., Richmond, Ind. Grain-drill	269,007	Dec. 12	735	216	22	2032
Carr, R. W. (See Wheeler, John H., assignor.)						
Carr, William B. (See Lighthall, Almerin H., assignor.)						
Carr, William H., Columbus, Ind. Folding table	262,206	Aug. 8	492	138	22	424
Carr, William H., Lansingburg, assignor to F. W. Ostrom, Troy, N. Y. Button-hole attachment for sewing-machines	268,621	Dec. 5	272	77, 78	22	1938
Carr, William S., deceased, C. E. Hooke and G. D. Scott, New York, N. Y., executors. Swinging urinal	262,671	Aug. 15	1055	296	22	529
Carreer, John, Reynolds Bridge, Conn. Knife polisher and grinder	265,577	Oct. 10	430	119	22	1215
Carroll, John. (See Frazer, Joseph B., assignor.)						
Carson, Charles E., *et al.* (See Wickstead, Edwin, assignor.)						
Carson, Howard A., Boston, Mass. Excavating dirt, &c	268,181	Nov. 28	1526	424	22	1833
Carson, Samuel H., *et al.* (See Wickstead, Edwin, assignor.)						
Carson, William C., Denton, Tex. Sash-holder	261,998	Aug. 1	211	63	22	372
Carswell, Edwin T. (See Schubert and Carswell.)						
Carter, Charles D., assignor of one-half to M. B. Stewart, Grand Rapids, Mich. Gang-plow	269,008	Dec. 12	736	216 217	22	2033
Carter, Egbert P., Arcade, N. Y. Fifth-wheel	265,578	Oct. 10	430	119	22	1215
Carter, Eleazer D. (See Harris and Carter.)						
Carter, Eleazer D., Terre Haute, Ind. Running-gear for cars	266,607	Oct. 31	1681	485	22	1452
Carter, George T. (See Crowell, Henry M., assignor.)						
Carter, George W., assignor to C. W. Higby, Jackson, Mich. Corset	263,019	Aug. 22	1494	421	22	616
Carter, James R., assignor to M. L. Rose, Anderson, S. C. Nut-lock	268,079	Nov. 28	1395	390	22	1810
Carter, Robert A. (See McDonald and Carter.)						
Carter, Robert A., New York, N. Y., assignor to Warwick Manufacturing Company, Newark, N. J. Making temple-wires for spectacles	260,658	July 4	397	109 110	22	66
Carter, Robert A., New York, N. Y., assignor to Warwick Manufacturing Company, Newark, N. J. Temple-wire blank	260,659	July 4	399	110	22	67
Carter, Robert A., Elizabeth, assignor to Warwick Manufacturing Company, Newark, N. J. Manufacture of frames for eyeglasses	267,493	Nov. 14	678	194	22	1666
Carter, Robert A., Elizabeth, assignor to Warwick Manufacturing Company, Newark, N. J. Spectacles and eyeglasses	267,644	Nov. 14	870	249	22	1700
Carter, William. (See Schwartz and Carter.)						
Carter, William J., Louisville, Ky. Beer-pump	262,740	Aug. 15	1141	322	22	543
Cartwright, Henry, Portland, Oreg. Sanitary steaming-stove	261,672	July 25	1656	464	22	297
Cartwright, James, Cambridge, Mass. Sheet-metal can or box	261,306	July 18	1214	338	22	216
Carver, Joseph E., assignor of one-half to Eagle Cotton Gin Company, Bridgewater, Mass. Cotton-gin	260,660	July 4	400	110	22	67
Carver, Joseph E., assignor to Eagle Cotton Gin Company, Bridgewater, Mass. Combined feeder and breaker for cotton-gins	260,661	July 4	400	110	22	67
Cary, James H., Boston, Mass. Electric signaling apparatus	265,753	Oct. 10	650	184	22	1251
Casaday, William L., New Carlisle, Ind. Sulky-plow	260,534	July 4	241	67, 68	22	41
Case, Asahel B., assignor of two-thirds to G. C. Case and W. R. Dutemple, Providence, R. I. Initial letter, &c	263,681	Sept. 5	14	4	22	777
Case, Francis M., Denver, Colo. Cot-bedstead	264,137	Sept. 12	578	158	22	883
Case, Francis M., Denver, Colo. Bed-bottom	268,356	Nov. 28	1746	484	22	1874
Case, George C., *et al.* (See Case, Asahel B., assignor.)						
Case, Henry, Brooklyn, N. Y. Pile	262,569	Aug. 15	928	262	22	506
Case, Henry J., assignor of one-half to D. M. Osborne, Auburn, N. Y. Grain-binding harvester	268,357	Nov. 28	1747	484 485	22	1874
Case, Jarvis, Troy, Ohio. Corn-planting machine	263,318	Aug. 29	1902	545	22	692
Case, John M., assignor to Case Manufacturing Company, Columbus, Ohio. Apparatus for casting chilled rolls	261,999	Aug. 1	212	63	22	372
Case Manufacturing Company. (See Case, John M., assignor.)						
Casebolt, Henry, San Francisco, Cal. Grip apparatus for cable-ways	262,640	Aug. 15	1017	285 286	22	521
Casey, Jeremiah, New York, N. Y., and J. M. Stevens, Allentown, Pa. Box-trimming machine	262,370	Aug. 8	685	191	22	458

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Casper, Edward, Collomsville, Pa. Car-coupling	263,653	Aug. 29	2301	657	22	762
Cass, Eugene M., Ithaca, Wis. Gate	266,094	Oct. 17	1060	300	22	1329
Cassedy, William F., assignor of one-half to E. R. Williams, Cape May, N. J. Pipe or hose coupling	263,855	Sept. 5	235	69	22	814
Cassel, Henry R., New York, N. Y. Sewer-gas trap	268,865	Dec. 12	569	167	22	2002
Cassel, Henry R., assignor to United States Bullion Refining Company, New York, N. Y. Apparatus for separating metals by electrolysis	264,927	Sept. 26	1487	418	22	1061
Cassel, Henry R., assignor to United States Bullion Refining Company, New York, N. Y. Process of and apparatus for separating metals	264,928	Sept. 26	1488	418	22	1062
Cassiday, Montillion H., Wakefield, Va. Wagon-seat spring	268,182	Nov. 28	1528	424	22	1834
Cassidy, John L., Minneapolis, Minn. Temporary binder	268,866	Dec. 12	569	167 / 168	22	2002
Cassie, George R., Newark, N. J. Air-tight paint-stirring can	266,674	Oct. 31	1760	508	22	1467
Cassner, Peyton, Gould, Kans. Ventilator	268,183	Nov. 28	1529	425	22	1834
Castle, Orlando L., Upper Alton, assignor of one-sixth to McCormick Harvesting Machine Company, Chicago, Ill. Grain-harvester	265,579	Oct. 10	431	119	22	1216
Castlio, William M., Mechanicsville, Mo. Desk	269,384	Dec. 19	1232	358 / 359	22	2127
Castner, Edwin B. (See Castner, Hamilton Y. and E. B.)						
Castner, Hamilton Y. and E. B., New York, N.Y. Manufacture of ammonia and bone-black	263,856	Sept. 5	236	69	22	814
Castor, Bernard L., Wilber, Nebr. Compound for preserving eggs	268,184	Nov. 28	1530	.....	22	1834
Castor, William S., Marston, Ill. Automatic tilting gate	268,080	Nov. 28	1396	390	22	1810
Caswell, John W. (See Tolman, Walker, and Caswell.)						
Catchpole, Alfred. (See Wheat and Catchpole.)						
Caterson, James H., Philadelphia, Pa. Photographic-picture case	260,535	July 4	245	69	22	42
Caufman, Abraham, Winfield, Kans. Pot-stirrer	268,185	Nov. 28	1530	425	22	1834
Caughey, Edgar H., Erie, Pa. Chromatic-printing apparatus	263,702	Sept. 5	118	36	22	794
Cavanaugh, Patrick. (See Carey and Cavanaugh.)						
Cave, George J., Elizabeth, N. J. Trace-fastener	264,439	Sept. 19	913	257	22	951
Cave, George J., Elizabeth, N. J. Measuring-vessel	268,186	Nov. 28	1531	425	22	1834
Cawood, Horace M. (See Edmonds, John P., assignor.)						
Cebrian, John C. (See Molera, Eusebius J., assignor.)						
Celluloid Manufacturing Company. (See Hyatt, John W., assignor.)						
Celluloid Manufacturing Company. (See Stevens, John H., assignor.)						
Central Furniture Company. (See Banch, Robert, assignor.)						
Chace, Charles B., assignor to W. J. Breell, Cincinnati, Ohio. Fire-extinguisher	264,242	Sept. 12	684	189	22	902
Chace, William A. (See Emerson, James, assignor.)						
Chadwick, Charles, assignor of one-half to P. B. Groat, Hannibal, Mo., and A. McNally, Chicago, Ill. Hose-coupling	265,218	Sept. 26	1837	516	22	1124
Chadwick, Charles N., Brooklyn, N. Y. Nursing-corset	262,371	Aug. 8	686	191	22	458
Chafee, Vasco M., Clay City, Ill. Wheel for harvesters	264,513	Sept. 19	994	280	22	967
Chafer, John E., Cleveland, Ohio. Exhaust-steam pipe	265,242	Oct. 3	22	7	22	1140
Chaffey, W. T., *et al.* (See Jenkins, David, assignor.)						
Chaffin, Tyre J., Crystal Springs, Ga. Hoisting-machine	265,384	Oct. 3	186	56	22	1169
Chall, Hermann. (See Opper and Chall.)						
Chalmers, David W., Springfield, Ill. Watch-regulator	269,385	Dec. 19	1233	359	22	2127
Chambard, Peter F., Fayette, Ohio. Hay elevator and stacker	265,944	Oct. 17	874	250	22	1298
Chamberlain, Blanchard, Bellefontaine, Ohio. Grain-measure	265,019	Sept. 26	1595	449	22	1081
Chamberlain, Blanchard, assignor of three-fourths to J. H. Wilson, R. Lamb, H. E. and G. H. Palmer, Bellefontaine, Ohio. Windmill-governor	260,841	July 11	633	172	22	112
Chamberlain, Blanchard, assignor of three-fourths to J. H. Wilson, R. Lamb, H. E. and G. H. Palmer, Bellefontaine, Ohio. Windmill-governor	262,000	Aug. 1	213	64	22	372
Chamberlain, Blanchard, assignor of four-fifths to J. H. Wilson, R. Lamb, H. E. and G. H. Palmer, Bellefontaine, Ohio. Cleaning attachment for thrashing-machines	269,157	Dec. 12	925	269	22	2065
Chamberlain, Orville T., and S. D. Straw, Elkhart, Ind. Windmill	263,113	Aug. 22	1601	453	22	636
Chamberlain, Roasco, East Liberty, Ohio. Car-coupling	263,114	Aug. 22	1603	453	22	636
Chamberlain, Roasco C. (See Austin and Chamberlain.)						
Chamberlain, William C., Dubuque, Iowa. Plow-beam	267,001	Nov. 7	123	35	22	1562
Chamberlin, Charles, Lowell, Mass. Horseshoe	265,580	Oct. 10	432	119	22	1216
Chamberlin, Charles W., Lanark, Ill. Match box and safe	262,372	Aug. 8	687	191	22	458
Chambers, Bering & Quinlan. (See Bering, James E., assignor.)						
Chambers, Cyrus, Jr., Philadelphia, Pa. Machine for cutting and centering shafting	263,654	Aug. 29	2302	658	22	762
Chambers, John W., assignor of one-half to A. E. Campbell, Boulder, Colo. Bale-tie	261,078	July 11	928	258	22	160
Chambers, William J. (See Campbell and Chambers.)						
Champie, Joseph, Indianapolis, Ind. Reclining-chair	261,205	July 18	1094	305	22	197
Champlin, Alexander G., Grand Rapids, Mich. Carpet-sweeper	261,514	July 18	1454	406	22	256
Champlin, William L., Whitestown, N. Y. Vignetting attachment for photographic-printing frames	262,001	Aug. 1	214	64	22	372
Chandler, Clarence A., East Bridgewater, Mass., assignor to Eastern Paper Bag Company, Hartford, Conn. Bag-machine	267,774	Nov. 21	1024	287	22	1736
Chandler, George H. (See Vibbard and Chandler.)						
Chandler, Henry, Buffalo, N. Y. Piston water-meter	268,387	Dec. 5	15	5	22	1880
Chandler, Henry G. (See Chandler, Jacob F. and H. G.)						
Chandler, Jacob F. and H. G., Concord, N. H. Saw-guide	266,968	Nov. 7	9	3	22	1542
Chandler, James. (See Silvens, Michael, assignor.)						
Chandler, John, Brooklyn, N. Y. Safety block and signal system for railways	265,754	Oct. 10	652	185	22	1251
Chaney, Edward T., Hermon, N. Y. Sand-band for vehicle-wheels	262,928	Aug. 22	1379	389	22	596
Chantrell, Felix, Bridgeport, Conn. Adjustable socket-wrench. (Reissue)	10,145	July 4	489	133	22	83
Chapin, Frank B., Detroit, and J. W. Mercer, Candor, Minn. Creamer	266,769	Oct. 31	1874	545	22	1488
Chapin, G. L. (See Willsey, Anna A., assignor.)						
Chaplin, William G., Brooklyn, N. Y. Mechanism for holding and guiding circular saws	261,831	Aug. 1	11	4	22	337
Chaplin, Orril R., assignor of two-thirds to D. C. Knowlton and W. A. Macleod, Boston, Mass. Machinery for manufacturing bottling-wires	261,907	Aug. 1	96	27 / 28 / 29	22	352
Chaplin, Orril R., assignor to Flexible Shoe Nail Company, Boston, Mass. Spool for holding wire	263,682	Sept. 5	15	5	22	777
Chaplin, Wm. Francis, Jr. (See Smith, John O., assignor.)						
Chapman, Alexander, Montreal, Quebec, Canada. Lead trap or cesspool	269,177	Dec. 19	955	279	22	2077
Chapman, Alfred, *et al.* (See Beechey, Charles G., assignor.)						
Chapman, Bennet. (See Wiae, Stevens, and Chapman.)						
Chapman, Eli H., Wetmore, Kans. Washing-machine	263,480	Aug. 29	2099	601	22	727
Chapman, Eugene F., Wilson, Nebr. Wagon-box	269,009	Dec. 12	737	217	22	2033
Chapman, George P., *et al.* (See Fox, Jacob G., assignor.)						
Chapman, Isaac, Horseheads, N. Y. Milk-can	264,403	Sept. 12	866	243	22	935

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Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Chapman, James G., *et al.* (See Beechey, Charles G., assignor.)						
Chapman, John A., Milwaukee, Wis. Road-cart	263,386	Aug. 29	1901	568	22	707
Chapman, John E. H., Harrisburg, Tex. Car-coupling	264,929	Sept. 26	1489	419	22	1062
Chapman, Joseph, *et al.* (See Drauly, Charles, assignor.)						
Chapman, Joseph L. Philadelphia, Pa. Rolling-mill	261,134	July 18	1008	283	22	184
Chapman, William H. (See Peck and Chapman.)						
Charbonneau, Alphonse. (See Johnston, Robert A., assignor.)						
Chard, Granville, Chelsea, and D. S. Littlefield, Cambridgeport, assignors to Mason & Hamlin Organ and Piano Company, Boston, Mass. Stringing piano-fortes	267,150	Nov. 7	236	69	22	1582
Charlton, James, Houston, Tex. Machine for welding tubes	263,481	Aug. 29	2099	602	22	727
Charter, Frank H., Boston, Mass. Safe	268,187	Nov. 28	1532	425	22	1834
Chase, Albert. (See Wellington and Chase.)						
Chase, Albert O., assignor of one-half to T. H. Brown, Milwaukee, Wis. Wagon-jack	264,822	Sept. 19	1340	378	22	1030
Chase, Andrew J., assignor to A. W. Brown, trustee, Boston, Mass. Refrigerator-wagon. (Reissue)	10,240	Nov. 14	890	254	22	1703
Chase, Andrew J., assignor to A. W. Brown, trustee, Boston, Mass. Refrigerator-wagon	263,285	Aug. 22	1809	513	22	675
Chase, C. Sumner. (See Hammond, William H., assignor.)						
Chase, Daniel L. F., Somerville, Mass. Steam-governor	260,842	July 11	634	172	22	112
Chase, Horace P., Lowell, assignor of one-half to G. Draper & Sons, Hopedale, Mass. Knotting apparatus for spooling-machines	268,622	Dec. 5	274	79	22	1939
Chase, J. Herbert, Montreal, Quebec, Canada, assignor to W. F. Abbot, New York, N. Y. Mechanical musical instrument	264,027	Sept. 5	444	123	22	851
Chase, J. Herbert, Montreal, Quebec, Canada, assignor to W. F. Abbot, New York, N. Y. Device for converting reciprocating motion into rotary	267,835	Nov. 21	1102	309	22	1750
Chase, John, Paterson, N. J. Press	263,020	Aug. 22	1495	421	22	617
Chase, John S. (See Powers, Daniel E., assignor.)						
Chase, Moses, Boston, Mass. Oar and oar-lock	260,370	July 4	20	6	22	6
Chase, Oliver R., Boston, Mass. Banjo	269,178	Dec. 19	956	279	22	2078
Chassé, Joseph G., assignor of one-tenth to B. Fagnant, Springfield, Mass. Automatic railway-switch	269,259	Dec. 19	1066	311	22	2097
Chataigne, John H., Richmond, Va. Scale for printed matter	261,673	July 25	1657	465	22	297
Chatterton, William E. (See Sackett, Joseph S., assignor.)						
Chavannes, Emile, Altoona, Iowa. Wire fence	263,482	Aug. 29	2100	602	22	727
Cheeseman, Sherwood E., Kansas City, Mo. Wad for cartridge-shells	263,763	Sept. 5	119	36	22	794
Cheeseman, George R., Atwater, N. Y. Tray for fruit-driers	261,307	July 18	1214	338	22	216
Cheever, Charles A., New York, and W. L. Candee, Brooklyn, N. Y. Chandelier for electric candles	266,969	Nov. 7	10	3, 4	22	1542
Chegwin, William, Fond du Lac, Wis. Road-cart	262,570	Aug. 15	929	202	22	506
Cheney, Ethan R., Chelsea, Mass. Stone-lathe	265,581	Oct. 10	433	119 / 120	22	1216
Cheney, Flavius, Seneca Falls, N. Y. Eraser	263,387	Aug. 29	1992	569	22	708
Cherry, John G., Cedar Rapids, Iowa. Can for transporting milk	266,770	Oct. 31	1875	545	22	1488
Cheshire, Thomas. (See Edwards, Edward R., assignor.)						
Chesley, Lorenzo, Mount Vernon, Me. Shearing and punching machine	263,483	Aug. 29	2101	602	22	727
Chester, Richard, Chicago, Ill. Fog-horn	266,270	Oct. 24	1281	363	22	1372
Chesterman, Edwin, Philadelphia, Pa. Fare-register	264,440	Sept. 19	914	257 / 258	22	952
Chestnut, John H. W. (See Barrie, Robert C., assignor.)						
Chevallier, Louis, Brooklyn, N. Y. Tooth-brush	264,624	Sept. 19	1112	315	22	989
Chewning, John W., Philadelphia, Pa. Bottling-machine	266,095	Oct. 17	1061	301	22	1329
Chicago Corset Company. (See Ball, Thomas H., assignor.)						
Chicago Stamping Company. (See Ellsworth, Charles W., assignor.)						
Chichester, Lemuel A., Phœnicia, N. Y. Convertible child's chair	260,843	July 11	635	173	22	112
Chichester, Lewis S., assignor to F. M. Hayes, Jersey City, N. J. Pulverizer	262,571	Aug. 15	930	263	22	506
Chilcote, William E. (See McCutcheon and Chilcote.)						
Child, Brainard W. (See Wemple, George W., assignor.)						
Child & Oliver. (See Remer, Samuel W., assignor.)						
Child, Oscar H., and L. M. Collins, Boston, Mass. Elevator	268,623	Dec. 5	276	79, 80	22	1939
Childs, J. Wallace, Kansas City, Mo. Table-hinge	262,641	Aug. 15	1019	286	22	521
Childs, James B., Rock Falls, Ill. Window-blind	262,929	Aug. 22	1380	390	22	596
Childs, Newton B., Kansas City, Mo. Drain tile or pipe	267,326	Nov. 14	466	135	22	1630
Childs, Theodore F., *et al.* (See Crecelius, Louis J., assignor.)						
Childs, William A. (See Shaw, Frank, assignor.)						
Chiles, John B., Kernstown, Va. Machine for bending stirrups	260,938	July 11	743	202	22	130
Chilton, Franklin H., assignor to Empress Embroiderer Company, New York, N. Y. Embroidering attachment	262,002	Aug. 1	215	64	22	373
Chilton, Franklin H., assignor to Empress Embroiderer Company, New York, N. Y. Embroidering attachment for sewing-machines	262,003	Aug. 1	217	64	22	373
Chinnock, Charles E., Brooklyn, N. Y. Electric burglar-alarm	266,536	July 4	245	69	22	42
Chinnock, Charles E., Brooklyn, N. Y. Telephone system and apparatus	260,939	July 11	744	202 / 203	22	130
Chipman, Leavitt B., Oleopolis, assignor of one-half to W. H. Loots, Oil City, Pa. Hand corn-planter	267,775	Nov. 21	1028	288	22	1736
Chipman, William W., assignor to S. D. Schuyler, New York, and Graphite Steel and Iron Company, New Hamburg, N. Y. Making steel	265,656	Oct. 10	537	.....	22	1232
Chisholm, Samuel S. (See Cook, Joseph T., assignor.)						
Chisholm, William, Cleveland, Ohio. Die for making shovels	260,662	July 4	402	111	22	67
Chisholm, William, Cleveland, Ohio. Die for forming shovel-straps	261,674	July 25	1658	465	22	297
Chisholm, William, Cleveland, Ohio. Die for forming shovel-straps	266,096	Oct. 17	1063	301	22	1329
Choquette, Alfred E., and L. E. Wallerman, Milwaukee, Wis. Sewing-machine shuttle	261,908	Aug. 1	103	29, 30	22	353
Chormann, Ernest G., Philadelphia, Pa. Parlor-easel	261,428	July 18	1351	378	22	239
Christensen, Albert H., and G. Lund. Crös-Kjobing, Denmark. Heel for boots or shoes	269,260	Dec. 19	1067	311 / 312	22	2097
Christensen, August C., Brooklyn, N. Y. Water and steam meter	265,755	Oct. 10	654	185 / 186	22	1252
Christian, Charles, Knoxville, Tenn. Feed-cutter	266,771	Oct. 31	1876	.....	22	1488
Christiansen, Jens H., Mones Island, N. J., (P. O., Chester, Pa.) Manufacture of vegetable fiber	261,429	July 18	1352	378	22	239
Christiansen, John, assignor to Union Foundry and Pullman Car Wheel Works, Chicago, Ill. Bending-machine	269,512	Dec. 26	1395	402	22	2164
Christman, John, Syracuse, N. Y. Automatic feed-water regulator for steam-boilers						
Christofferson, Hans. (See Schneider and Christofferson.)						
Christopher, Calvin P., and R. B. Alexander, Spartanburg, S. C., assignors to said Alexander. Tether	263,388	Aug. 29	1992	569	22	708
Christopher, Walter, assignor of one-half to W. Gulager, Philadelphia, Pa. Collar	267,494	Nov. 14	679	194	22	1666

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Christy, George H., trustee. (See Greer, Howard, assignor.)						
Chubb, Thomas H., Post Mills, Vt. Tie-guide for fishing-rods	263,484	Aug. 29	2102	602	22	727
Chubb, Thomas H., Post Mills, Vt. Ferrule for fishing-rods	264,243	Sept. 12	686	189	22	902
Church, Henry A. (See Field and Halkyard, assignors.)						
Church, Henry W., Graniteville, Mass. Machine for drying wool and other fiber	263,683	Sept. 5	16	5	22	777
Church, James, St. Louis, Mo. Velocipede	263,857	Sept. 5	238	69	22	815
Church, John A., Nevada City, Cal. Saw-jointer	260,663	July 4	403	111	22	67
Church, Thomas T., Fort Hamilton, N. Y. Device for revenue protection in cigar-boxes	262,572	Aug. 15	931	263	22	507
Church, Titus S., Boston, and J. E. Dow, Cambridge, Mass. Carpet-beating machine	262,004	Aug. 1	218	65	22	373
Churchill, George W., *et al.* (See Solis, John H., assignor.)						
Churchill, Samuel A., *et al.* (See Solis, John H., assignor.)						
Cilley, George W., Norwich, Conn. Lock for fire-arms	263,684	Sept. 5	17	5	22	777
Claes, Paul, Brussells, Belgium. Apparatus for the distillation and purification of alcohol	267,836	Nov. 21	1103	309	22	1750
Clairmont, Louis, assignor of one-third to J. McManus, Ottawa, Ill. Hay-fork	266,429	Oct. 24	1484	421	22	1410
Clamond, Charles, Paris, France. Means and apparatus for producing intense white light	261,529	July 25	1482	415, 416	22	267
Clancy, Patrick G., Lexington, Miss. Side-bar wagon	269,261	Dec. 19	1068	312	22	2097
Clap, Harvey, *et al.* (See Hodges, Francis G., assignor.)						
Clapp, Charles, assignor to Gregg & Co., Trumansburg, N. Y. Pitman-head	260,940	July 11	748	203	22	131
Clapp, Charles F. and E. R., Hyde Park, Mass. Car-coupling	263,764	Sept. 5	120	37	22	794
Clapp, Eugene R. (See Clapp, Charles F. and E. R.)						
Clapp, William J., Nantyglo, and T. Griffiths, Blaenavon, county of Monmouth, England. Compound for use in the manufacture of linings, plugs, and tuyeres for furnaces and converters, &c	261,430	July 18	1353	.....	22	239
Clark, Albert A. (See Raughtigan and Clark.)						
Clark, Albert A., Lynn, Mass. Skid for supporting barrels	262,277	Aug. 8	573	160	22	438
Clark, Albert G. (See Blake, James H., assignor.)						
Clark, Alfred L., Dubuque, Iowa. Protector for the edges of book-covers	266,098	Oct. 17	1064	302	22	1329
Clark, Alvin B., Richmond, Ind. Corn-planter	267,151	Nov. 7	238	69	22	1582
Clark, Chester C., Brownwood, Tex. Paper-file	263,685	Sept. 5	18	6	22	777
Clark, Chester C., Brownwood, Tex. Bed-frame brace	264,625	Sept. 19	1112	315	22	989
Clark, Cyrenius G. (See Law, Lorenzo C., assignor.)						
Clark, David, and J. Lee, Hazleton, Pa. Steam-brake for locomotives and tenders	261,675	July 25	1659	465	22	297
Clark, David, and J. Lee, Hazleton, Pa. Drill-frame	269,010	Dec. 12	738	217	22	2033
Clark, Edward C., assignor to himself and S. J. Wilkinson, Boston, Mass. Wheel-lock for vehicles	269,262	Dec. 19	1069	312	22	2097
Clark, Elbert J., Winnebago, Ill. Paper-cutting machine	261,676	July 25	1660	465	22	297
Clark, Frederic A., Portland, Me. Toe-weight for horseshoes	268,189	Nov. 28	1534	426	22	1835
Clark, George, Brooklyn, N. Y. Tape-line case	268,190	Nov. 28	1535	426	22	1835
Clark, George G. (See Myers, Reuben, assignor.)						
Clark, George H., Boston, assignor of one-half to G. H. Cushman, Lynn, Mass. Boot or shoe	265,483	Oct. 3	302	90	22	1190
Clark, George M., Higganum, Conn. Cider-mill	263,686	Sept. 5	19	6	22	778
Clark Hardware Company. (See Hart and Cross, assignors.)						
Clark, Henry A., Boston, Mass. Treatment of india-rubber and gutta-percha	263,021	Aug. 22	1497	.....	22	617
Clark, Isabel A. (See Clark, William W., assignor.)						
Clark, James M., Lancaster, Pa. Adjustable and detachable handle for plows, &c	267,837	Nov. 21	1104	309	22	1751
Clark, James T., Milwaukee, Wis., assignor to Tuttle & Whittemore, Naugatuck, Conn. Nut-lock	264,626	Sept. 19	1113	316	22	989
Clark, Jedediah P., Philadelphia, Pa. Electric signal for railway-trains	265,756	Oct. 10	655	186	22	1252
Clark, Jedediah P., Philadelphia, Pa. Electric signal for railway-trains	265,757	Oct. 10	657	186	22	1252
Clark, John F., St. Louis, Mo. Egg-carrier	268,624	Dec. 5	277	80	22	1930
Clark, John R., and H. Tindell, Harrison, N. J. Machine for picking and burring wool	263,485	Aug. 29	2103	603	22	727
Clark, Josiah L. (See Hill and Clark.)						
Clark, Josie A., Locust Grove, Ohio. Flood fence and gate	260,430	Oct. 24	1485	422	22	1410
Clark, Lewis C., assignor to A. H. Hammond, Worcester, Mass. Pedal	263,858	Sept. 5	239	69	22	815
Clark, Moses M., New Haven, Conn. Dumping-wagon	261,308	July 18	1215	338	22	216
Clark, Norman, Sterling, Ill., assignor of one-half to I. A. Upham, Springfield, Mass. Barbed fence-wire	260,844	July 11	636	173	22	113
Clark, P. J. (See Horne, William L., assignor.)						
Clark, Paris G., *et al.* (See Brinckerhoff, Cornelius R., assignor.)						
Clark, Peter E., Beverly, Mass. Shoe	262,573	Aug. 15	932	263	22	507
Clark, Robert J., Chestnut Level, assignor of one-third to J. C. Rutter, Summit Hill, Pa. Grain-binder	261,431	July 18	1353	378, 379	22	239
Clark, Stewart B. (See Winchester, Ebenezer, assignor.)						
Clark, Walter C., Auburndale, and E. W. Gillon, Boston, Mass., assignors to P. H. Drake, New York, N. Y. Door-spring and pneumatic door-check	262,005	Aug. 1	219	65	22	373
Clark, Willard A., assignor to North Western Manufacturing and Car Company, Stillwater, Minn. Governor for shifting eccentrics	261,432	July 18	1355	379	22	240
Clark, William A., Jr. (See Phelps and Clark.)						
Clark, William P. (See Taylor and Clark.)						
Clark, William H., assignor to himself and J. K. Lake, Chicago, Ill. Track-clearer	261,909	Aug. 1	104	30, 31	22	353
Clark, William H., Chicago, Ill. Variable self-adjusting engine	264,063	Sept. 12	494	133, 134	22	869
Clark, William P., Belmont, N. Y. Pipe-vise	261,832	Aug. 1	13	4	22	337
Clark, William W., assignor to I. A. Clark, Chicago, Ill. Sand-drier	267,838	Nov. 21	1105	310	22	1751
Clarke, Alexander D., Omaha, Nebr. Centrifugal ore-concentrator	260,453	July 4	131	38	22	23
Clarke, Alfred, *et al.* (See Gilman, Hiram C., assignor.)						
Clarke, Charles L., and J. Leigh, Manchester, county of Lancaster, England. Apparatus for lighting gas by electricity	261,677	July 25	1661	466	22	297
Clarke, David E. (See Pagenhart, Charles L., assignor.)						
Clarke, Donald A., Sedalia, Mo. Bevel	268,188	Nov. 28	1533	426	22	1835
Clarke, Jerome D. (See Krenz, Conrad F., assignor.)						
Clarke, John N., assignor of one-half to H. McNicoll, Cincinnati, Ohio. Horseshoe-blank bar	260,454	July 4	132	38	22	24
Clarke, Robert, Brooklyn, N. Y. Trap	267,973	Nov. 21	1262	355	22	1780
Clarke, Tillie J., Philadelphia, Pa. Cop-supporter for loom-shuttles	266,675	Oct. 31	1761	508	22	1467
Clarkson, William H. (See Walsh, Thaddeus H., assignor.)						
Clary, Thomas E. (See Elliott, Gilbert R., assignor.)						
Clatworthy, Thomas B., assignor to Abendroth & Root Manufacturing Company, New York, N. Y. Pipe-coupling	269,011	Dec. 12	739	218	22	2033
Claudon, Joseph A. L., Titusville, Pa. Railway-signal	266,097	Oct. 17	1063	301	22	1329
Claus, Carl F. (See Wallace and Claus.)						
Claussen, Peter H. (See Herberg and Claussen.)						
Clawson, Clement C., Raleigh, N. C., assignor of one-half to H. K. & F. B. Thurber & Co., New York, N. Y. Automatic weighing and package-filling machine	266,951	Oct. 31	2089	601	22	1528

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Clay, Alonzo C., *et al.* (See Benner, Lorenzo D., assignor.)						
Clay, Alonzo C., *et al.* (See Benner and Stafford, assignors.)						
Clay, Cyrus C., Dunnings, Pa. Clothes-drier	263,115	Aug. 22	1604	453	22	636
Claypool, Phillip W., Denver, Colo. Catapult for throwing life-lines	266,772	Oct. 31	1877	545	22	1488
Clayton, Henry, Dayton, Ohio. Truck for moving reapers	268,867	Dec. 12	571	168	22	2002
Clayton, John J., Dayton, Ohio. Grain-drill and cultivator	267,671	Nov. 21	912	258	22	1715
Cleaves, Edwin C., Cortland, N. Y. Drawing-table	266,099	Oct. 17	1065	302	22	1329
Clemens, Ernest V., Ansonia, Conn. Shaft-hanger	269,263	Dec. 19	1070	312	22	2097
Clement & Dunbar. (See Dunbar, John H., assignor.)						
Clement, James, Grand Forks, Dak. Ter. Carrier-belt for ditching-machines	265,385	Oct. 3	187	57	22	1169
Clement, John E., Peabody, Mass. Machine for whitening leather	261,309	July 18	1217	338, 339	22	216
Clements, Lorenzo D., Tallmadge, Ohio. Fence-post	265,758	Oct. 10	658	186	22	1252
Clemons, Alfred, Buffalo, N. Y. Curtain-roller bracket	267,403	Nov. 14	573	164	22	1646
Clendenin, Edward P., *et al.* (See Davis, Edwin S., assignor.)						
Clendenin, William P., *et al.* (See Davis, Edwin S., assignor.)						
Clerk, Dugald. (See Sterne and Clerk.)						
Clerque, Frank H. (See Close, Walter R., assignor.)						
Clifford, Walter, Fort Buford, Dak. Ter. Field-stove and kit	264,627	Sept. 19	1114	316	22	989
Clifton, Edward, Lowell, Mass. Apparatus for tempering and hardening wire	263,859	Sept. 5	240	70	22	815
Cline, George J., Goshen, Ind. Clothes-wringer	263,860	Sept. 5	242	70	22	816
Cline, George J., Goshen, Ind. Paint	267,495	Nov. 14	680	.....	22	1666
Clinton, Henry E., Augusta, Ga. Fly and household fan	264,064	Sept. 12	499	135	22	869
Clinton, Henry E., Augusta, Ga. Bottle-washer	266,773	Oct. 31	1878	545	22	1488
Close, Jeremiah, Brooklyn, N. Y. Case for bottles	263,116	Aug. 22	1605	454	22	636
Close, John W., Buffalo, N. Y. Railway-frog and rail-coupling. (Reissue)	10,170	Aug. 1	475	133	22	414
Close, Walter R., assignor of one-half to F. H. Clerque, Bangor, Me. Fog-signal	261,135	July 18	1009	283	22	184
Closson, Jean B. M. P., Paris, France, assignor to S. G. Thomas, London, England. Manufacture of magnesia	266,970	Nov. 7	14	.....	22	1543
Clotworthy, William P., Baltimore, Md. Baking-powder	265,243	Oct. 3	23	.....	22	1140
Clotworthy, William P., Baltimore, Md. Baking-powder	265,244	Oct. 3	23	.....	22	1140
Cloud, John W., Altoona, Pa. Fluid-pressure railway-brake mechanism	269,012	Dec. 12	740	218	22	2033
Cloud, William H., assignor of one-half to J. V. Campbell, Jr., Detroit, Mich. Clamp	267,152	Nov. 7	241	69	22	1583
Clough, W. Rockwell, Newark, N. J. Bill-file	260,537	July 4	248	69	22	42
Clouse, Joseph N. (See Seely, Samuel F., assignor.)						
Clow, George S., Seymour, Ind. Grain-cradle fastener	265,305	Oct. 3	99	29	22	1152
Clow, John H., assignor of one-half to D. C. Coleman, Sheridan, Oreg. Horse-detacher	261,079	July 11	929	258	22	160
Cloyd, Henry C., West Alexandria, Ohio. Boring-machine	269,264	Dec. 19	1071	313	22	2097
Cluett, J. W. Alfred, Troy, N. Y. Collar	261,433	July 18	1356	379	22	240
Clute, Isaac, Cohoes, N. Y. Ornamentation of paper boxes	262,006	Aug. 1	220	65	22	373
Coan, Santford P., Medicine Lodge, Kans. Car-coupling	260,941	July 11	748	203, 204	22	131
Coates, John, Erie, Pa. Water-motor	267,672	Nov. 21	913	258, 259	22	1716
Coates, Thomas, Waterville, N. Y. Checking vibrations in elevated railways, &c	261,678	July 25	1662	466	22	297
Coats, Arthur W., Yuba City, Cal. Car-coupling	263,765	Sept. 5	121	37	22	795
Cobb, Alphonso H., Rockland, Me. Stool	262,176	Aug. 1	443	123	22	409
Cobb, Hiram, Kalamazoo, Mich. Spring-tooth harrow	266,348	Oct. 24	1392	394	22	1393
Cochel, Charles T., Uniontown, Md. Decoy	261,910	Aug. 1	108	31	22	353
Cochran, Andrew J., Indianapolis, Ind. Soil-pulverizer	265,917	Oct. 10	828	236	22	1283
Cochran, Reuben F., Jefferson, assignor of one-third to D. H. Hargate, Frederick, Md. Plow	265,484	Oct. 3	302	90	22	1190
Cochran, Samuel H., Everett, Mass. Compound to be used in place of butter for cooking purposes. (Reissue)	10,171	Aug. 1	476	.....	22	415
Cochran, Samuel H., Everett, Mass. Preparing animal fats for culinary uses	262,207	Aug. 8	492	.....	22	424
Cochran, Thomas, Brooklyn, N. Y. Electro-magnet	265,485	Oct. 3	303	90	22	1190
Cochrane, James L. (See Parker, John, assignor.)						
Cockayne, Edward, *et al.* (See Stunte, Samuel E., assignor.)						
Cockfield, Ernest, and J. Howe, St. Joseph, Mo. Radius-link planer	264,628	Sept. 19	1116	316	22	989
Codd, Arthur, Bowmanville, Ontario, Canada. Car-brake	260,942	July 11	750	204	22	131
Codd, Hiram, London, England. Registering-stamp	265,245	Oct. 3	24	7	22	1140
Cody, Charles P., Bradford, Pa. Temporary binder	261,310	July 18	1218	339	22	216
Cody, Frederick A., assignor of one-half to C. H. Bushley, Lakeview, Mich. Perforated bottle-packing	261,679	July 25	1663	466	22	298
Coe, Almer D., Chicago, Ill. Watch-case	269,386	Dec. 19	1234	359	22	2127
Coe, Henry I. (See Thackston, Richard D., assignor.)						
Cofer, Thomas W., Portsmouth, Va. Automatic fly-fan	266,774	Oct. 31	1879	546	22	1489
Coffee, George W., San Francisco, Cal. Steam-trap	268,081	Nov. 28	1397	391	22	1810
Coffey, Robert R., Sturgeon, Mo. Churn	267,496	Nov. 14	680	195	22	1666
Coffield, Peter T., assignor of one-half to C. H. Paxson, Springfield, Ohio. Wind-engine	264,862	Sept. 26	1399	394	22	1047
Coffin, David N. B., Newton, Mass. Capstan	261,530	July 25	1485	416, 417	22	267
Coffin, David N. B., Newton, Mass. Pump	262,208	Aug. 8	493	138	22	424
Coffin, Edmund, Jr., New York, N. Y. Fountain-pen	263,389	Aug. 29	1993	569	22	708
Coffman, William S., *et al.* (See Blair, John B., assignor.)						
Coggeshall, Carol H., St. Louis, Mo. Artificial fuel	266,971	Nov. 7	15	.....	22	1543
Coggin, Richard R., and J. A. Scollay, Brooklyn, N. Y. Pressure-reservoir for supplying flush-water to water-closets	261,583	July 25	1550	435	22	278
Cointepas, Edward M., Boston, assignor, by mesne assignments, to C. H. Ward, Cambridge, Mass. Galvanic battery	269,179	Dec. 19	957	279	22	2078
Coke, J. Guthrie, *et al.* (See Corder, Stephen C., assignor.)						
Coker, Henry, Indianapolis, Ind. Grain-conveyer	265,020	Sept. 26	1506	449	22	1081
Colborn, Daniel K., trustee. (See Holcombe, Alfred G., assignor.)						
Colby, E. Gilman. (See Burrows, George H., assignor.)						
Colcord, Otis B., Greenville, Ill. Chimney	265,386	Oct. 3	188	57	22	1169
Coldiz, William, Rochelle, Ill. Milk-cooler	264,244	Sept. 12	687	190	22	902
Cole, Aaron, Fillmore, Mo. Shelf-support	260,538	July 4	249	69	22	42
Cole, Edward D., Macon, Ill. Hame-clip	261,311	July 18	1219	339	22	216
Cole, Henry, Cedar Hill, Ohio. Seed-planter	268,191	Nov. 28	1535	426	22	1835
Cole, Henry C., Wallingford, Vt. Snow-shovel	265,021	Sept. 26	1598	450	22	1082
Cole, Henry C., Wallingford, Vt. Snow-shovel	265,387	Oct. 3	189	57	22	1170
Cole, Henry C., Wallingford, Vt. Malt-shovel	266,775	Oct. 31	1880	546	22	1489
Cole, John H. (See Webster, Henry, assignor.)						
Cole, Robert W., Sioux City, Iowa. Hog-sorting apparatus	262,373	Aug. 8	688	191	22	458

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Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Cole, Thomas. (See Ambrose and Cole.)						
Cole, William R. (See Jackson and Cole.)						
Coleman, Charles F., and H. A. Smith, Atlanta, Ga. Cut-out for electric lamps	269,013	Dec. 12	743	218	22	2034
Coleman Dewitt C. (See Clow, John H., assignor.)						
Coleman, Edward J. F., Providence, R. I. Snatch-block	267,153	Nov. 7	242	70	22	1583
Coleman, Ezra, New York, N. Y. Locomotive	265,388	Oct. 3	190	58	22	1170
Coleman, William O., Memphis, Tenn. Seed-cotton-cleaning machine	266,972	Nov. 7	16	4, 5	22	1543
Coleman, William O., Memphis, Tenn. Seed-cotton separator and cleaner	269,387	Dec. 19	1237	359 / 360	22	2127
Coles, Andrew S., Mamaroneck, N. Y. Ladder	264,245	Sept. 12	688	190	22	903
Coll, Hugh, Black Hawk, assignor to J. B. & W. J. Sherriff, Pittsburg, Pa. Ejector. (Reissue)	10,169	July 25	1840	519	22	328
Colladay & Brother, Joseph O. (See Herschel, William D., assignor.)						
Collamore, Peter. (See Prouty, William H., assignor.)						
Collamore, Peter. (See Power, Francis J., assignor.)						
Collamore, Robert G. S., Boston, Mass. Railway-car reservoir	269,637	Dec. 26	1555	447	22	2196
Collender, Hugh W., New York, N. Y. Pocket for billiard-tables	260,845	July 11	637	173	22	113
Collender, Hugh W., Noroton, Conn. Pocket-iron attachment for billiard-tables	265,658	Oct. 10	539	146	22	1232
Coller, Charles, assignor of two-thirds to W. T. Block, Hannibal, Mo. Lid for car-axle boxes	268,625	Dec. 5	278	80	22	1939
Coller, Lewis, Flint, Mich. Fire-escape	261,584	July 25	1552	436	22	279
Coller, Lewis, Flint, Mich. Fire-escape	269,180	Dec. 19	968	279	22	2078
Colley, George H., assignor of one-half to C. W. Higby, Jackson, Mich. Corset-clasp	261,585	July 25	1553	436	22	279
Colley, George H., assignor to C. W. Higby, Jackson, Mich. Corset	263,022	Aug. 22	1497	421	22	617
Collie, Wesley F., Barren Fork, Ark. Water-carrier	263,117	Aug. 22	1606	454	22	637
Collier, George E., Bay City, Mich. Safety-valve	268,082	Nov. 28	1398	391	22	1810
Collier, John W., Lockport, N. Y. Oil-pail	269,014	Dec. 12	743	219	22	2034
Colligan, Adam, Westwood, N. J. Reclining-chair. (Reissue)	10,165	July 18	1465	409	22	258
Collin, Arnold & Sisson. (See Agan, Hiram C., assignor.)						
Collinge, Samuel, and A. Serfass, Easton, Pa. Brick-machine	266,100	Oct. 17	1067	303	22	1330
Collins, John F., New York, N. Y. Draw-bar spring	268,868	Dec. 12	571	168	22	2002
Collins, John M., St. Louis, Mo. Thill-coupling	262,741	Aug. 15	1142	323	22	543
Collins, John W., Chicago, Ill. Fan-blower	262,642	Aug. 15	1020	286	22	521
Collins, Lavoe M. (See Child and Collins.)						
Collins, Laura A., Elmo, and W. G. Graham, Terrell, Tex. Cotton-chopper	268,626	Dec. 5	278	80	22	1940
Collins, Richard, Chicago, Ill. Inclined-plane railway	262,643	Aug. 15	1020	287	22	521
Collins, Thomas J. (See Camp and Baumgartel, assignors.)						
Collins, William A., Madison, Ind. Cruet for powdered condiments	268,388	Dec. 5	17	6	22	1890
Collis, John, Des Moines, Iowa. Boiler-furnace	265,945	Oct. 17	875	251	22	1298
Collyer, E. Merrith, *et al.* (See Williams and Richey, assignors.)						
Colton, William L., and H. A. Schermerhorn, Waterman, Ill. Cultivator	266,664	July 4	403	111	22	68
Colts Patent Fire-Arms Manufacturing Company. (See Mason, William, assignor.)						
Colts Patent Fire-Arms Manufacturing Company. (See Whitmore, Andrew E., assignor.)						
Columbia Chemical Works. (See Parsons, Charles C., assignor.)						
Colvin, Frederick J., Hamden, Conn. Brace-head for bits and braces	268,460	Dec. 5	104	32	22	1906
Colvin, Renoni, Freeport, Ill. Rotary hand-cultivator	234,138	Sept. 12	579	158	22	884
Colwell, William S., Pittsburg, Pa. Utilization of latent heat for generating a motor	266,952	Oct. 31	2095	602	22	1529
Combes, Frank A., assignor to C. E. Shattuck, Cleveland, Ohio. Roller-skate	260,455	July 4	133	38	22	24
Comee, George W., Waseca, Minn. Burial-case corner	265,022	Sept. 26	1599	450	22	1082
Comly, Joshua, Philadelphia, Pa. Water-wheel	267,673	Nov. 21	915	259 / 260	22	1716
Comp, Alfred H., and G. E. Marsh, Mount Joy, Pa. Land-roller	264,514	Sept. 19	995	280	22	967
Compagnie Générale de Salubrité. (See Berlier, Jean B., assignor.)						
Compagnie Générale de Teinturerie et Appreta, (Systeme, André Lyon.) (See De Gombert, Maxime, assignor.)						
Compton, Nelson, Great Bend, Kans. Stove for burning straw, hay, and cornstalks	268,192	Nov. 28	1537	427	22	1835
Compton, Richard J., and J. T. Drummond, St. Louis, Mo. Marking plug-tobacco	260,456	July 4	133	39	22	24
Compton, Robert H., Dunnings, Pa. Bucket and barrel package	269,638	Dec. 26	1556	448	22	2196
Comstock, Charles J. (See Comstock, Eben C., assignor.)						
Comstock, Charles W., *et al.* (See Peterson and Wilcox, assignors.)						
Comstock, Chester, New Canaan, Conn., assignor to Anglo-American Roofing Company, New York, N. Y. Metallic roofing-shingle	267,674	Nov. 21	916	260	22	1716
Comstock, Eben C., assignor to himself and C. J. Comstock, Springport, Mich. Spring-tooth harrow	267,404	Nov. 14	573	164	22	1646
Comstock, John, Hudson, Wis., and T. E. Jefferson, Boston, Mass. Sewer and means for facilitating the discharge of sewage	261,080	July 11	930	258 / 259 / 260	22	160
Comstock, John, Hudson, Wis., and T. E. Jefferson, Boston, Mass. Process of and apparatus for the utilization of products of combustion	261,081	July 11	936	261 / 262 / 263	22	161
Conant, Hamilton S., Brooklyn, assignor to Libby & Spier, New York, N. Y. Shirt	261,809	July 25	1816	513	22	324
Condit, Israel D., Jr., Millburn, N. J. Furnace for deoxidizing iron ores	266,539	July 4	250	70	22	43
Condon, Thomas, Delphi, Ind. Corpse-supporting table	260,665	July 4	404	111	22	68
Condon, William F., East Saginaw, Mich. Self-extinguishing stove and ventilator	263,118	Aug. 22	1607	454	22	637
Condra, Isaac N., Seymour, Iowa. Hay-stacker	264,515	Sept. 19	996	280	22	967
Cone, William W. (See Donahue and Cone.)						
Congdon, Joseph W., Paterson, N. J. Combination-garment	265,759	Oct. 10	659	187	22	1252
Conklin, Elgin L., Corning, N. Y. Millstone-dress	269,015	Dec. 12	745	219	22	2034
Conklin, John E., Seneca Falls, N. Y. Toy velocipede. (Reissue)	10,213	Oct. 10	865	246	22	1289
Conklin, Lewis P., Green Point, N. Y. Apparatus for feeding shavings to steam-boiler and other furnaces	266,973	Nov. 7	18	5	22	1543
Conley, John A., assignor to F. H. Goldthwait, Springfield, Mass. Forming buttons from vegetable-ivory nuts	267,974	Nov. 21	1202	355	22	1780
Conley, Robert G., Richmond, Ind. Pump	263,861	Sept. 5	242	70, 71	22	816
Conn, Charles G., Elkhart, Ind. Cornet	261,082	July 11	943	263	22	165
Connable, John L., Xenia, Ohio. Subterranean dumb-waiter	262,007	Aug. 1	221	66	22	374
Connelly, James F., Newark, N. J. Toy marble-shooter	262,644	Aug. 15	1021	287	22	522
Connelly, Robert, *et al.* (See Haase and Recker, assignors.)						
Conner, Albert C. (See Westcott and Conner.)						
Connolly, Edward, Hoboken, N. J. Machine for bottoming vials	263,023	Aug. 22	1498	422	22	617
Connolly, Julia. (See Connolly, Patrick, assignor.)						
Connolly, M. Daniel, Philadelphia, Pa., T. A. Connolly, Washington, D. C., and T. J. McTighe, Pittsburg, Pa., assignors to S. D. Schuyler, New York, N. Y. Automatic telephone-exchange	262,645	Aug. 15	1022	287 / 288	22	522

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Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Connolly, M. Daniel, Philadelphia, Pa., assignor to S. D. Schuyler, New York, N. Y. Electric switch	262,646	Aug. 15	1628	289	22	523
Connolly, M. Daniel, Philadelphia, Pa., assignor to S. D. Schuyler, New York, N. Y. Automatic telephone exchange	262,647	Aug. 15	1631	289	22	524
Connolly, M. Daniel, Philadelphia, Pa., assignor to S. D. Schuyler, New York, N. Y. Automatic telephone exchange	263,862	Sept. 5	243	71	22	816
Connolly, Patrick, assignor, by mesne assignments, to J. Connolly, Brooklyn, N. Y. Stationary wash-stand	260,371	July 4	21	7	22	6
Connolly, Patrick, assignor, by mesne assignments, to J. Connolly, Brooklyn, N. Y. Plumber's trap	260,666	July 4	405	112	22	68
Connolly, Thomas A. (See Connolly and McTighe.)						
Connor, John. (See McLachlan and Connor.)						
Connors, Maggie J., New York, N. Y. Shirt	261,833	Aug. 1	14	4	22	337
Conolly, William, New York, assignor to himself and J. Seton, Brooklyn, N. Y. Skylight and ventilator	266,015	Oct. 17	966	274	22	1312
Conord, Leon A., Elizabeth, N. J. Ejector for raising liquids	265,246	Oct. 3	25	8	22	1140
Conover, Philip V., Uvalde, Tex. Electric car-brake	265,023	Sept. 26	1600	450	22	1082
Conrad, John B., Portland, Oreg. Balanced slide-valve	261,206	July 18	1095	305	22	197
Conrad, Martin, Chicago, Ill. Wagon running-gear	266,101	Oct. 17	1069	303	22	1330
Conrad, Martin, Chicago, Ill. Wagon-tongue support	266,431	Oct. 24	1486	422	22	1411
Conrad, Martin, Chicago, Ill. King-bolt for wagons	267,327	Nov. 14	467	135 / 136	22	1630
Conradson, Conrad M., Madison, Wis. Wind-wheel	264,930	Sept. 26	1491	419	22	1062
Conroy, Arthur and M., Liverpool, county of Lancaster, England. Coffee compound or substitute	268,869	Dec. 12	572	.....	22	2002
Conroy, Charles C., Bolivar, N. Y. Adapting oil-wells to flow without tubing above the packer	265,582	Oct. 10	434	120	22	1216
Conroy, James C., Allegheny, and H. D. Kilgore, Pittsburg, Pa. Brick-machine	261,911	Aug. 1	109	31, 32	22	354
Conroy, Michael. (See Conroy, Arthur and M.)						
Constantine, George W., Washington, D. C. Metal-punch	264,629	Sept. 19	1118	317	22	990
Converse, Edmund C., Pittsburg, Pa. Coupling for tubing	263,863	Sept. 5	247	71	22	817
Converse, Morton E., Winchendon, Mass. Box or receptacle for containing hair-pins, tooth-picks, &c	261,586	July 25	1554	436	22	279
Conway, Frederick, Buffalo, N. Y. Harness-buckle	268,781	Dec. 12	460	135	22	1982
Conway, George M., Milwaukee, Wis. Steam pumping-engine	265,657	Oct. 10	538	146	22	1232
Conway, George M., Milwaukee, Wis. Cut-off valve gear	269,265	Dec. 19	1072	313	22	2098
Conway, Jesse, assignor of one-half to J. N. Conway, Baltimore, Md. Pipe-cutter	262,534	Aug. 8	871	246	22	491
Conway, John N. (See Conway, Jesse, assignor.)						
Conway, William M., Baltimore, Md. Carrying and conducting electric wires	268,389	Dec. 5	18	6	22	1890
Cook, Allen T., Morven, Ga. Ribbon-reel	267,839	Nov. 21	1106	310	22	1751
Cook, Charles A., assignor to S. A. Burns & Co., New York, N. Y. Drawer-pull	267,154	Nov. 7	243	70	22	1583
Cook, Clairessa B., San Francisco, Cal. Sheep-holding device	266,016	Oct. 17	968	275	22	1312
Cook, Clifford A., Milford, Mass. Shoe-lacing fastening	261,531	July 25	1498	417	22	268
Cook, Edward O., Worcester, Mass. Potato-digger	261,312	July 18	1219	339	22	216
Cook, Egbert C., Chicago, Ill. Tent-pole	260,846	July 11	638	173	22	113
Cook, Emmett B., *et al.* (See Hugron, Louis, assignor.)						
Cook, Frank, Clemmonsville, N. C. Apparatus for drying fruit, vegetables, grain, and analogous articles	264,246	Sept. 12	689	190 / 191	22	903
Cook, Frederic, New Orleans, La. Open evaporating train and furnace for cane-juice, &c	265,024	Sept. 26	1601	450 / 451	22	1082
Cook, George S., Sharon, assignor of one-half to L. G. Britton, Stoughton, Mass. Boot or shoe	267,840	Nov. 21	1106	310	22	1751
Cook, Hiram B., San Francisco, Cal. Exercising-ball for athletes or gymnasts	264,931	Sept. 26	1493	420	22	1062
Cook, Joseph S., Whitinsville, Mass. Saw-mandrel	261,680	July 25	1664	466	22	298
Cook, Joseph T., assignor to S. S. Chisholm, Chicago, Ill. Barbed fence-wire	265,025	Sept. 26	1604	451	22	1083
Cook, Moses G., Ashfield, assignor of one-half to J. N. Smith, Lynn, Mass. Scale	267,776	Nov. 21	1029	288	22	1737
Cook, Norman, New York, N. Y. Umbrella-cloth	261,681	July 25	1665	467	22	298
Cook, Percy T., assignor to Boralumine Company, Grand Rapids, Mich. Preparation for covering walls, ceilings, &c	269,388	Dec. 19	1239	.....	22	2128
Cook, Roswell F., and E. R. Hinman, Binc, N. Y.; said Cook assignor to said Hinman. Bosom-ironing board	261,083	July 11	944	264	22	163
Cook, Sidney, and J. H. Piper, Boston, Mass. Gas-burner	266,676	Oct. 31	1702	508	22	1467
Cook, Smith, Titusville, Pa. Bed-bottom spring	264,630	Sept. 19	1119	317	22	990
Cook, Thomas, and O. Albrecht, Philadelphia, Pa. Ice-making machine	261,810	July 25	1816	513	22	324
Cook, William D., Harvard, Nebr. Rotary engine	261,313	July 18	1221	340	22	217
Cook, William G. (See Rarey, Joseph P. B., assignor.)						
Cooke, Charles L., Syracuse, N. Y. Railway-switch	269,016	Dec. 12	746	219	22	2034
Cooke, Charles S., New York, N. Y. Temporary binder for pamphlets, &c	269,639	Dec. 26	1557	448	22	2196
Cooke, Daniel S., Providence, R. I. Bottle-stopper	262,574	Aug. 15	932	264	22	507
Cooke, Theodore W., Chicago, Ill. Car-door fastening	263,655	Aug. 29	2303	658	22	763
Cookson, Richard S., Philadelphia, Pa. Bobbin-frame for looms	263,319	Aug. 29	1904	545	22	693
Coolbangh, Frank W., Hoboken, N. J. Step attachment for railway-cars	266,610	Oct. 31	1684	486	22	1453
Cooley, B. Frank, Brockport, N. Y. Bicycle	261,136	July 18	1009	283 / 284	22	184
Cooley, Charles A., New Britain, Conn. Electric-arc lamp	267,155	Nov. 7	244	70	22	1583
Cooley, Charles H. (See Trude and Gray, assignors.)						
Cooley, Dnane B., assignor of one-half to J. O. Bates, Yankton, Dakota Ter. Trace-carrier	266,432	Oct. 24	1488	422	22	1411
Cooler, William, Waterbury, Vt., and D. H. Burrell, assignors to Whitman & Burrell, Little Falls, N. Y. Artificial cream	264,516	Sept. 19	997	.....	22	967
Coolidge, Walter G. (See McDowell, Malcolm, assignor.)						
Coomba, John, *et al.* (See Dain, Joseph, Jr., assignor.)						
Coon, Riley H. and W. H., Oneida Lake, N. Y. Thrashing-machine. (Reissue)	10,251	Dec. 5	442	130	22	1971
Coon, William H. (See Coon, Riley H. and W. H.) (Reissue.)						
Coop, William L., Providence, R. I. Book-stapling machine	263,390	Aug. 29	1995	570 / 571	22	708
Coop, William L., Providence, R. I., and S. E. Mower, Milford, assignors to H. G. Thompson & Son, New Haven, Conn. Book-stapling machine	263,391	Aug. 29	1997	571	22	708
Cooper, Abram F., Tuscola, Ill. Steam-wheel	260,944	July 11	751	204	22	131
Cooper, Ashley R., Mooresville, Ind. Automatic weigher for grain, &c	266,608	Oct. 31	1682	486	22	1453
Cooper, Charles A., Danby, N. Y. Hand-planter for seed and fertilizers	261,834	Aug. 1	14	5	22	337
Cooper & Co., C. & G. (See Debes, Julius C., assignor.)						
Cooper, David T., Clinton, La. Bale-tie	263,864	Sept. 5	249	71	22	817
Cooper, Ira, and L. W. Johnson, Thompson, Ohio. Wagon-brake	267,328	Nov. 14	468	136	22	1630
Cooper, James A. (See Scofield and Cooper.)						
Cooper, James M., New York, N. Y. Fuel	269,640	Dec. 26	1559	.....	22	2196

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Cooper, John, Boston, Mass. Ventilating pipe and cowl	266,433	Oct. 24	1488	423	22	1411
Cooper, John, Boston, Mass. Supply-tank for water-closets	266,434	Oct. 24	1489	423	22	1411
Cooper, John T., Somerville, Ala. Fertilizer-distributer	261,682	July 25	1665	467	22	298
Cooper, John Y., Nashville, Tenn. Sheet-metal-pipe joint	266,017	Oct. 17	969	275	22	1312
Cooper, John Y., Nashville, Tenn. Spoke-socket	266,609	Oct. 31	1683	486	22	1453
Cooper, John Z., Athens, Ga. Veterinary drencher	260,457	July 4	134	39	22	24
Cooper, Joseph. (See White and Cooper.)						
Cooper, Nelson B., Liberty, Ind. Vehicle-spring	268,193	Nov. 28	1538	427	22	1835
Cooper, Walter, Bozeman, Mont. Ter. Sight for fire-arms	267,497	Nov. 14	681	195	22	1666
Cooper, William S., Philadelphia, Pa. Overflow-valve for wash-basins	267,156	Nov. 7	245	70, 71	22	1583
Copeland, David W., Lowville, N. Y. Fence-post	266,261	Oct. 17	1266	358	22	1363
Copeland, George W. (See Ashe, Robert, assignor.)						
Copeland Tacking and Lasting Company. (See Crisp, Joseph E., assignor.)						
Copeman, Edward S., Downham Market, England. Life-raft	266,349	Oct. 24	1393	394	22	1393
Copp, Monroe M., Rochester, N. Y. Foot-rest for chairs	262,278	Aug. 8	573	161	22	438
Copp, Monroe M., Rochester, N. Y. Whip	262,374	Aug. 8	689	192	22	458
Corban, Jeremiah S., and T. G. Wright, Plainville, Conn. Lantern	263,766	Sept. 5	192	37	22	795
Corbett, Robert H., New York, N. Y. Conduit for electric lines	266,677	Oct. 31	1764	509	22	1467
Corbin, P. & F. (See Sparks, William E., assignor.)						
Corby, Emmons B., Bloomfield, N. J. Vibrating propeller	268,627	Dec. 5	279	81	22	1940
Corcoran, Patrick, York, Nebr. Horse and cattle liniment	265,219	Sept. 26	1838	.....	22	1125
Corder, Stephen C., Olmstead, assignor of one-half to J. G. Coke, Logan County, Ky. Car-coupling	263,286	Aug. 22	1810	513	22	676
Corder, Stephen C., Olmstead, assignor of three-fourths to J. G. Coke, D. P. Browder, and T. J. Brooks, Logan County, Ky. Band cutter and feeder	263,687	Sept. 5	20	6, 7	22	778
Cordes, Henry, Hoboken, N. J. Bilge-water valve for ships	266,102	Oct. 17	1070	303	22	1330
Cordesman, Henry J., Jr., Cincinnati, Ohio. Circular-sawing machine	267,157	Nov. 7	246	71	22	1584
Cordner, William J. (See Brown, Rodger, and Cordner.)						
Cordrey, Francis, Fort Wayne, Ind. Car-coupling	261,683	July 25	1667	467	22	298
Cordrey, Thomas P., Massillon, Ohio. Ballast-car	268,000	Nov. 28	1297	365	22	1792
Cords, Alfred. (See Trobach and Cords.)						
Core, Arthur S., Rochester, N. Y. Cultivator-tooth	267,739	Nov. 21	985	277	22	1729
Corey, Charles H., San José, Cal. Leather-creaser	260,847	July 11	639	174	22	113
Corliss, Charles, *et al.* (See Park, James, assignor.)						
Corliss, George H., Providence, R. I. Governor for steam-engines	262,209	Aug. 8	495	138	22	425
Corliss, William, Providence, R. I. Safe bolt-work	261,532	July 25	1488	417, 418	22	268
Corliss, William, Providence, R. I. Burglar-proof safe	261,533	July 25	1492	418	22	268
Cormack, George H., Rockford, Ill. Process of and apparatus for hulling oats	268,782	Dec. 12	461	135	22	1982
Cornelius, Nicholas, St. Louis, Mo. Bolting-chest	269,017	Dec. 12	747	220	22	2035
Cornell, Byron N. (See Cornell, Zook, and Cornell.)						
Cornell, David D., *et al.* (See McArthur, George A., assignor.)						
Cornell, Frank G., Grand Rapids, Mich., assignor to Cornell Manufacturing Company, of Michigan. Wind-wheel	261,684	July 25	1667	467, 468	22	298
Cornell, Frank G., Grand Rapids, Mich., assignor to Cornell Manufacturing Company, of Michigan. Pump	261,685	July 25	1669	468	22	299
Cornell, Frank G., Grand Rapids, Mich., assignor to Cornell Manufacturing Company, of Michigan. Wind-engine	261,686	July 25	1670	468, 469	22	299
Cornell, Jacob B., J. B. Zook, and B. N. Cornell, Goshen, Ind. Paint	265,380	Oct. 3	191	.....	22	1170
Cornell Manufacturing Company. (See Cornell, Frank G., assignor.)						
Cornell, William N., Pulaski, N. Y. Machine for reducing wood to stock for paper-pulp	263,119	Aug. 22	1610	455	22	637
Cornely, Emil, Paris, France. Embroidering-machine	262,742	Aug. 15	1142	323	22	543
Cornely, Emil, Paris, France. Embroidering-machine	262,743	Aug. 15	1144	323, 324	22	543
Cornwell, Jacob, Cadillac, Mich. Grain-decorticating machine	262,648	Aug. 15	1033	289	22	524
Cornwell, Theodore, Cortland, N. Y. Medicinal compound	262,744	Aug. 15	1145	.....	22	544
Cortelyow, Henry, Fairland, Ind. Straw-stacker	269,561	Dec. 26	1457	419, 420	22	2176
Cortis, Frank A., Meriden, Conn. Flexible shafting	261,534	July 25	1494	419	22	269
Cortright, Moses L., assignor of one-half to J. H. Wethey, Port Byron, N. Y. Railway-tie	265,760	Oct. 10	660	187	22	1252
Corttiss, George H. N., Wilsonville, Conn., assignor to himself and J. Riley, Nashua, N. H. Wheel for vehicles	260,744	July 11	511	140	22	92
Corwin, Charles A., Racine, Wis. Rowing-gear for boats	263,024	Aug. 22	1501	422	22	618
Corwin, Charles A., Racine, Wis. Rowing-gear for boats	263,025	Aug. 22	1503	422, 421	22	618
Corwin, William S. (See Peteler, William, assignor.)						
Cory, Charles F., St. Louis, Mo. Rotary engine	267,675	Nov. 21	947	260	22	1717
Cosbey, Thomas, St. Louis, Mo. Medicine-spoon	265,390	Oct. 3	191	58	22	1170
Cosgrove, William N., Faribault, Minn. Machine for surfacing rolls	262,375	Aug. 8	689	192	22	458
Cosgrove, William N., Faribault, Minn., assignor to R. Morrell, Passaic, N. J. Pump	262,279	Aug. 8	574	161	22	438
Costello, John, assignor to himself and Watson & Newell, Attleborough, Mass. Button	262,930	Aug. 22	1381	390	22	596
Costello, John, assignor to Watson & Newell, Attleborough, Mass. Button	266,611	Oct. 31	1686	487	22	1453
Costello, Thomas H., and A. H. Hall, assignors to A. H. Andrews & Co., Chicago, Ill. Adjustable stop-hinge	269,502	Dec. 26	1458	420	22	2176
Costigan, Edward A., Boston, Mass. Fire-escape	264,065	Sept. 12	500	135	22	869
Cott, Charles M., Columbus, Ohio. Writing-tablet	265,247	Oct. 3	26	8	22	1140
Cotter, John A., Saginaw, Mich. Spark arrester and conductor	267,158	Nov. 7	247	71	22	1584
Cottingham, Gideon W., Marianna, Ark. Gridiron	265,391	Oct. 3	192	58	22	1170
Cottle, Shubael, New York, N. Y. Bracelet	260,540	July 4	251	70	22	43
Cottrau, Alfredo, Naples, Italy. Car-wheel	266,776	Oct. 31	1681	546	22	1489
Cottrell, Calvert B., Westerly, R. I. Delivery apparatus for printing-presses	260,945	July 11	752	205	22	132
Cottrell, Jesse D., Central Falls, R. I. Loom	265,486	Oct. 3	305	91	22	1190
Cones, Samuel F., Brooklyn, assignor of one-half to J. J. Walton, New York, N. Y. Caterer's dish	261,811	July 25	1819	514	22	324
Coughlan, William, New Haven, Conn. Car-coupling	265,248	Oct. 3	27	9	22	1140
Coughlin, Reese P., Cincinnati, Ohio. Manufacture of artificial marble for bath-tubs, &c.	269,389	Dec. 19	1210	360	22	2128
Coughlin, William J., Lowell, Mass. Blotter-holder	267,676	Nov. 21	918	260	22	1717
Coultaus, Joseph A., Brooklyn, N. Y. Wire-coiling machine	265,026	Sept. 26	1604	451	22	1083
Coumbe, Oscar H., Washington, D. C., and R. R. Roberts, New Orleans, La., assignors of one-half to M. J. Wine, Washington, D. C. Substitute for butter	266,777	Oct. 31	1681	.....	22	1489
Coumbe, Oscar H., Washington, D. C., and R. R. Roberts, New Orleans, La., assignors of one-half to M. J. Wine, Washington, D. C. Substitute for lard	266,778	Oct. 31	1682	.....	22	1489
Coup, John, Cleveland, Ohio. Car-coupling	264,441	Sept. 19	916	258	22	952
Coursen, H. B., *et al.* (See Williams, James L., assignor.)						
Courtenay, William, New York, N. Y. Nut-lock	267,329	Nov. 14	469	136	22	1630

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Courter, Henry F., Gilroy, Cal. Apparatus for teaching music	264,932	Sept. 26	1493	420	22	1063
Courter, Ridgeway, Zanesfield, Ohio. Barrel-holder	267,677	Nov. 21	919	261	22	1717
Courville, Joseph, and G. T. Davis, Detroit, Mich. Reed-organ	266,455	Oct. 24	1490	423	22	1411
Cousino, Tanis L., Montevideo, assignor to C. M. Palmer, Minneapolis, Minn. Trace-carrier	260,943	July 11	751	204	22	131
Covel, William L., Stevens' Point, Wis., assignor to W. H. Halladay, C. Litchfield, and E. Benjamin, Chicago, Ill. Saw-sharpening machine. (Reissue)	10,252	Dec. 5	443	130, 131	22	1972
Covington, Benjamin G., Fort Mill, S. C. Blower for fire-places	264,863	Sept. 26	1400	394	22	1047
Cowell, Edward R. E., Detroit, Mich. Electric distance-register	267,062	Nov. 7	125	36	22	1562
Cowell, John J., Newark, N. J. Caster for trunks	260,728	July 4	487	132	22	83
Cowell Platform and Coupling Company. (See Cowell, Rensselaer A., assignor.)						
Cowell, Rensselaer A., assignor to Cowell Platform and Coupling Company, Cleveland, Ohio. Car-platform	267,330	Nov. 14	469	136	22	1630
Cowing, William J., Washington, D. C. Stair-rod fastener	269,181	Dec. 19	960	280	22	2078
Cowles, Wilber F. (See Woolworth and Cowles.)						
Cowman, John, New York, N. Y., W. E. Dickinson and T. J. Lumis, Hartford, Conn., assignors to Cowman Manufacturing Company, New York, N. Y. Cigarette-machine	262,177	Aug. 1	444	123, 124, 125, 126	22	410
Cowman Manufacturing Company. (See Cowman, Dickinson, and Lumis, assignors.)						
Cox, Allan, Chelsea, Mass. Lunch-box	266,974	Nov. 7	20	5	22	1543
Cox, Allyn, New York, N. Y. Bed-clothes fastener	267,498	Nov. 14	682	195	22	1666
Cox, Henry F., Altoona, Pa. Interlocking levers	261,207	July 18	1096	306	22	197
Cox, Henry F., Altoona, Pa. Railway-crossing	262,931	Aug. 22	1382	390	22	597
Cox, Henry F., Altoona, Pa. Semaphore-signal	266,350	Oct. 24	1394	395	22	1394
Cox, L. M., *et al.* (See Williams, James L., assignor.)						
Cox, Robert H., Plymouth, Ind. Thrashing-machine	263,865	Sept. 5	249	72	22	817
Cox, Stephen, Keeseville, N. Y. Wash-boiler	265,027	Sept. 26	1606	452	22	1083
Coxen, John, San Francisco, Cal. Station-indicator	262,932	Aug. 22	1383	391	22	597
Coxhead, John F., Poughkeepsie, N. Y. Saw-set	261,687	July 25	1671	469	22	299
Coy, George W., *et al.* (See Buell, Charles E., assignor.)						
Coy, George W., Milford, Conn. Signaling mechanism for telephone-exchange systems	265,028	Sept. 26	1606	452	22	1083
Coy, George W., Milford, Conn., assignor of two-thirds to J. G. Smith, Hackensack, N. J., and C. E. Buell, Washington, D. C. Telephone exchange switch apparatus	260,667	July 4	407	112	22	68
Coy, George W., Milford, Conn., assignor of two-thirds to J. G. Smith, Hackensack, N. J., and C. E. Buell, Washington, D. C. Telephone-exchange system	274,631	Sept. 19	1119	317	22	990
Craft, Alfred, Norristown, Pa. Lubricating device for steam-engines. (Reissue)	10,153	July 11	983	276	22	170
Craig, John W. (See McChesney and Craig.)						
Craig, Joseph A. I., assignor of two-thirds to E. R. Whitney and C. L. Bossé, Montreal, Quebec, Canada. Dynamo-electric machine	260,541	July 4	251	70	22	43
Craig, Lee D., San Francisco, Cal. Device for removing snow as it falls upon and contiguous to railway-tracks	261,434	July 18	1357	380	22	240
Craig, Samuel, North Benton, Ohio. Excavating machinery	262,535	Aug. 8	872	246	22	491
Cram, A. B. (See Cram, Roys J., assignor.)						
Cram, Roys J., assignor of one-half to A. B. Cram, Detroit, Mich. Device for controlling the spuds of dredges	261,587	July 25	1554	436	22	279
Crandall, Charles M., assignor to F. W. Crandall and B. L. Baldwin, Montrose, Pa. Toy target	269,266	Dec. 19	1074	313	22	2098
Crandall, Fred W., *et al.* (See Crandall, Charles M., assignor.)						
Crandall, Jesse A., Brooklyn, N. Y. Child's carriage	263,026	Aug. 22	1504	423	22	618
Crandall, Jesse A., Brooklyn, N. Y. Rocking horse and cradle	267,678	Nov. 21	919	261	22	1717
Crandall, Jesse A., Brooklyn, N. Y. Toy gun	267,679	Nov. 21	920	261	22	1717
Crandall, Jesse A., assignor of one-half to J. A. Nexsen, Brooklyn, N. Y. Crutch	267,680	Nov. 21	921	261	22	1717
Crandall, Louis S. (See Read, Luther, assignor.)						
Crandall, William E., New York, N. Y. Toy building-blocks	261,912	Aug. 1	111	33	22	354
Crandall, William E., New York, N. Y. Toy	264,066	Sept. 12	501	136	22	870
Crandall, William E., New York, assignor, by mesne assignments, to C. W. F. Dare, Brooklyn, N. Y. Child's carriage. (Reissue)	10,158	July 18	1458	407	22	256
Crandall, William H., Stowe, Mass. Manure-spreader	269,183	Dec. 19	962	280	22	2078
Crane, Gerard, assignor to B. Willard, New York, N. Y. Wash-pad	269,182	Dec. 19	961	280	22	2078
Crane, Lauren E., assignor of one-half to J. M. Williams, Rochester, Minn. Horse-collar pad	263,027	Aug. 22	1506	424	22	619
Cranston, James F., assignor to himself and C. Hall, Springfield, Mass. Lantern	267,740	Nov. 21	986	278	22	1729
Cranston, John H., Norwich, Conn. Printing-machine	265,029	Sept. 26	1608	452	22	1084
Craus, Henry S., Brooklyn, N. Y. Hand-bag frame	260,946	July 11	754	205	22	132
Crawford, James G., Boston, Mass. Washing-machine	266,975	Nov. 7	21	6	22	1544
Crawford, Jethro B., Rochester, N. Y. Bottle-stopper	262,008	Aug. 1	223	66	22	374
Crawford, John, Perth Amboy, N. J. Device for leveling tables	260,947	July 11	755	206	22	132
Crawford, John K., Philadelphia, Pa. Knitting-machine	267,063	Nov. 7	126	36	22	1563
Crawford, John M., Philadelphia, Pa. Eyeglasses and spectacles	266,436	Oct. 24	1491	423	22	1411
Crawford, William M. (See Butler, Earhart, and Crawford.)						
Cray, William H., *et al.* (See Jewett, Nathan, assignor.)						
Crecelius, Louis J., assignor of two-thirds to S. T. Moulton and T. F. Childs, St. Louis, Mo. Plug-tobacco-marking machine	268,628	Dec. 5	280	81, 82	22	1940
Creecy, Edward W. (See Waring, Kidder, and Creecy.)						
Cregmile, Crittenden, assignor of one-half to E. E. Neff, Delaware, Ohio. Device for exhibiting, measuring, and cutting window-shades	269,158	Dec. 12	927	269	22	2065
Crehore, George, St. Louis, Mo. Device for conveying grain, &c.	262,376	Aug. 8	690	192	22	459
Creque, Allen P., New York, N. Y. Stand-boiler and connection	263,767	Sept. 5	122	38	22	795
Cribbs, John J., St. Louis, Mo. Horse hay-fork	266,271	Oct. 24	1282	363	22	1372
Crikelair, Gustave J., New York, N. Y. Fire-escape	261,137	July 18	1012	284	22	184
Crippen, Martin. (See Fahringer and Crippen.)						
Crippen, William, Cadillac, Mich. Locomotive driving-gear	266,103	Oct. 17	1071	304	22	1330
Crisp, Joseph E., Boston, Mass., assignor to Copeland Tacking and Lasting Company, Paterson, N. J. Lasting and fastening machine	264,247	Sept. 12	690	191	22	903
Crispin, Thomas, Detroit, Mich. Saw-clamp	265,761	Oct. 10	660	187	22	1253
Crist, William E. (See Hawkins, Thomas, assignor.)						
Crittenden, Rufus. (See Loomis, Henry W., assignor.)						
Crocker, Hannibal H., *et al.* (See Houston, Thomas, assignor.)						
Crocker, Julius H., *et al.* (See Houston, Thomas, assignor.)						
Crocker, Luther O., East Braintree, Mass. Ticket-punch	261,138	July 18	1013	285	22	185
Crocker, Walter E., assignor to R. F. Simmons, E. L. Hixon, and J. L. Sweet, Attleborough, Mass. Apparatus for drawing tubes	263,028	Aug. 22	1507	424	22	619
Crockett, James D., Ripley, Miss. Muzzle	260,948	July 11	756	206	22	132
Croft, Henry, Jr., Springfield, Ohio. Wind-engine	261,535	July 25	1494	419	22	269
Croft, Henry, Jr., Springfield, Ohio. Wind-engine	266,612	Oct. 31	1686	487	22	1453

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Crompton, George, and H. Wyman, Worcester, Mass., assignors to said Crompton. Loom.	264,864	Sept. 26	1401	395, 396	22	1047
Crompton, George, and H. Wyman, Worcester, Mass.; said Wyman assignor to said Crompton. Loom	265,659	Oct. 10	540	146, 147	22	1232
Crompton, George, and H. Wyman, Worcester, Mass., assignors to said Crompton. Let-off mechanism for looms	266,351	Oct. 24	1396	395	22	1394
Crompton, George, and H. Wyman, Worcester, Mass.; said Wyman assignor to said Crompton. Loom for weaving broad silk goods	267,777	Nov. 21	1031	288	22	1737
Crompton, George, and H. Wyman, Worcester, Mass.; said Wyman assignor to said Crompton. Loom	267,778	Nov. 21	1033	289	22	1737
Cronan, John F. (See Milligan, Joseph H., assignor.)						
Cronemeyer, Gustav, *et al.* (See Thomass, Herman, assignor.)						
Cronin, Martin, Washington, D. C. Fire-extinguishing engine	269,777	Dec. 26	1728	498, 499	22	2228
Crooke, Henry S., New York, N. Y. Art of and machinery for the manufacturing of ornamental metallic-foil wrappers	263,320	Aug. 29	1005	546	22	693
Crooke, Henry S., New York, N. Y. Ornamental metallic-foil wrapper	263,321	Aug. 29	1007	.....	22	693
Crooke, Henry S., New York, N. Y. Rolled-foil wrapper. (Reissue)	10,202	Sept. 19	1372	.....	22	1036
Crookes, William, London, England. Incandescent electric lamp	264,517	Sept. 19	998	281	22	968
Crosby, Augustine, Benton, Me. Machine for reducing wood to pulp for paper	261,536	July 25	1495	419	22	269
Crosby, Augustine, Benton, Me. Machine for filling cans with meat, fish, &c.	262,575	Aug. 15	933	264	22	507
Crosby, George S., assignor of one-half to J. Watson, Bridgeport, Conn. Toy vehicle	265,392	Oct. 3	193	58	22	1170
Crosby Steam Gage and Valve Company. (See Brown, Gilman W., assignor.)						
Crosman, Charles C., North Easton, Mass. Tidy-pin	261,208	July 18	1097	306	22	197
Cross, Alonzo T., Providence, R. I. Lead and crayon holder	263,392	Aug. 29	1009	572	22	709
Cross, James W. (See Hart and Cross.)						
Cross, Joseph, and W. Harty, Newark, N. J. Bobbin-winder for sewing-machines	264,442	Sept. 19	917	258	22	952
Crossby, William E., Chelmsford, and A. Carey, Rochford, county of Essex, England. Machine for digging land	262,377	Aug. 8	692	193, 194	22	459
Crouch & Fitzgerald. (See Gilson, Henry E., assignor.)						
Crowe, William, Boston, Mass. Step for vertical shafts	261,139	July 18	1014	285	22	185
Crowell, Azariah F., Wood's Hole, Mass. Manufacture of fertilizers	263,322	Aug. 29	1008	.....	22	693
Crowell, Ezra, and E. C. Dawson, Dawson, Nebr. Protecting apparatus for buildings	269,018	Dec. 12	748	221	22	2035
Crowell, Henry M., Irvington, assignor of one-half to G. T. Carter, Elizabeth, N. J. Extensible mosquito-bar frame	269,390	Dec. 19	1241	360	22	2128
Crowell, John, Jr. (See Whitney, Rnel W., assignor.)						
Crowell, John, Jr., *et al.* (See Tully, Thomas, assignor.)						
Crowell, Luther C., Brooklyn, N. Y. Sheet-delivery apparatus for printing-machines	261,084	July 11	945	264	22	163
Crowell, Luther C., Brooklyn, assignor to R. Hoe & Co., New York, N. Y. Delivery apparatus	269,019	Dec. 12	749	221	22	2035
Crowell, Luther C., Brooklyn, assignor to R. Hoe & Co., New York, N. Y. Air-cushioning apparatus for printing-machines	269,020	Dec. 12	752	222	22	2035
Crowell, Luther C., Brooklyn, assignor to R. Hoe & Co., New York, N. Y. Sheet-delivery apparatus	269,021	Dec. 12	754	222, 223, 224	22	2036
Crowell, Luther C., Brooklyn, assignor to R. Hoe & Co., New York, N. Y. Sheet-delivering mechanism for printing-machines	269,159	Dec. 12	928	270	22	2066
Crowell, Luther C., Brooklyn, assignor to R. Hoe & Co., New York, N. Y. Sheet-delivery apparatus	269,184	Dec. 19	963	280, 281	22	2079
Crowell, Luther C., Brooklyn, assignor to R. Hoe & Co., New York, N. Y. Folding and wrapping machine	269,185	Dec. 19	966	281, 282, 283	22	2079
Crowell, Luther C., Brooklyn, assignor to R. Hoe & Co., New York, N. Y. Method of and apparatus for sheet-delivery	269,186	Dec. 19	971	283, 284	22	2079
Crowell, William F., Las Vegas, N. Mex. Ter. Wheel for vehicles	261,314	July 18	1222	340	22	217
Crowley, Francis J., Gloucester City, N. J. Machine for drying calico	266,104	Oct. 17	1072	304	22	1331
Crowley, George G. (See Bramer and Crowley.)						
Crowley, John H., Philadelphia, Pa. Machine for winding bobbins for loom-shuttles	263,287	Aug. 22	1811	514, 515	22	676
Crowley, Peter J. (See Starke and Crowley.)						
Crump, John, and R. Brereton, Philadelphia, Pa. Rotary quarrier and stone-shaper	265,946	Oct. 17	877	251	22	1298
Crump, Samuel, Montclair, N. J. Manufacture of soap	262,745	Aug. 15	1146	.....	22	544
Crump, Samuel, Montclair, N. J. Manufacture of soap	267,841	Nov. 21	1107	310	22	1751
Cruse, John H., Felicity, Ohio. Construction of arches, &c.	261,568	July 25	1555	437	22	279
Cruttenden, George, Jr., assignor to M. L. Cruttenden, Montclair, N. J. Bolt	263,120	Aug. 22	1611	455	22	638
Cruttenden, Herbert A., Smeltzer, Pa. Speed-regulator for machinery						
Cruttenden, Mary L. (See Cruttenden, George, Jr., assignor.)						
Cruzan, Isaac, Wagoner's Station, Ind. Spring bed-bottom	269,641	Dec. 26	1560	448	22	2196
Cryer, Charles, and G. H. Norris, San Francisco, Cal. Compound for the prevention and removal of scale in steam-boilers	268,461	Dec. 5	104	.....	22	1906
Culbertson, John N. (See Gay, William A., assignor.)						
Cull, Henry, Johnstown, Pa. Appliance for galvanizing	269,022	Dec. 12	759	224	22	2036
Cullinan, Thomas A., and A. W. Baldwin, Junction City, Kans. Car-coupling	265,393	Oct. 3	194	59	22	1170
Culp, Henry J., Wakarusa, Ind. Fence	269,642	Dec. 26	1561	448	22	2196
Culver, Charlie L. (See Cady and Culver.)						
Culver, Elmer R. (See Brown, William Z., assignor.)						
Culver, John M. (See Hoyt, Lewis S., assignor.)						
Culver, John P., Tucson, Ariz. Ter. Water, gas, sewer, or drain pipe	265,306	Oct. 3	99	29	22	1152
Culver, Joseph E., Jersey City, N. J. Steam-generator. (Reissue)	10,241	Nov. 14	891	254	22	1704
Culver, Moses A., Dayton, Ohio. Plow and drag attachment	263,768	Sept. 5	124	38	22	795
Culver, Stephen, deceased, assignor of one-half to H. P. Van Dusen, administrator, Newark, N. Y. Apparatus for drying fruit	265,394	Oct. 3	195	59	22	1171
Cummings, Albion P. (See Rose, Henry, assignor.)						
Cummings, Samuel A., Madison, Wis. Adjustable desk	263,866	Sept. 5	250	72	22	817
Cummins, William G., McMinnville, Tenn. Horse-detacher	267,331	Nov. 14	470	137	22	1630
Cummiskey, Michael N., Paterson, N. J. Cut-off valve	262,649	Aug. 15	1034	290	22	524
Cunningham, Ephraim B., Gap Creek, Tenn. Baling-press	268,001	Nov. 28	1299	365	22	1793
Cunningham, Herman E., *et al.* (See Stamour, John B., assignor.)						
Cunningham, Hermon E., Philadelphia, Pa. Journal of shafts	268,194	Nov. 28	1539	427	22	1835
Cunningham, James F., Sr., South Fork, Ark. Cotton-cleaning machine	266,106	Oct. 17	1074	305	22	1331
Cunningham, Patrick. (See Mason and Cunningham.)						
Cunningham, Patrick, New Bedford, Mass. Rocket	266,437	Oct. 24	1492	424	22	1412
Cunningham, Sarah A., New York, N. Y. Muff	266,105	Oct. 17	1073	304	22	1331
Cunningham, Thomas, *et al.* (See Stamour, John B., assignor.)						
Cureton, Charles, Chicago, Ill. Return-ball	265,487	Oct. 3	309	91	22	1190

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Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Curpen, Ferdinand A., Upper Sandusky, Ohio. Index for watch-regulators	264,632	Sept. 19	1121	317	22	990
Curran, Phillip, Caliente, Cal. Nut-lock	260,848	July 11	640	174	22	113
Currier, Amos, San Francisco, Cal. Combined frame and plaque	268,870	Dec. 12	573	169	22	2002
Curry, Burwell J., Huntsville, Ala. Cotton-chopper	260,458	July 4	135	39	22	24
Curry, John J., Plains, Pa. Hame-fastener	266,433	Oct. 24	1402	404	22	1412
Curry, Joseph P., assignor of one-half to W. Tomlinson, Vincennes, Ind. Fire-escape	264,404	Sept. 12	867	243	22	935
Curry, Thomas, Philadelphia, Pa. Nut-lock	260,940	July 11	757	206	22	132
Curtice, John F., assignor to Standard Brake Shoe Company, Fort Wayne, Ind. Brake-shoe	263,769	Sept. 5	125	38	22	795
Curtis, Benjamin F., assignor of one-half to R. C. Fitzgerald, Cincinnati, Ohio. Printer's locking-up device	265,762	Oct. 10	661	187, 188	22	1253
Curtis, Charles G., and S. S. Wheeler, New York, N. Y. Hydraulic elevator	266,108	Oct. 17	1078	305, 306	22	1331
Curtis, Cyrus A., assignor of one-half to M. Garrison, Chicago, Ill. Wood-turning lathe	267,332	Nov. 14	472	137	22	1631
Curtis, Dexter. (See Lynch, Matthew W., assignor.)						
Curtis, Francis, West Brattleborough, Vt. Metal-screw machine	265,395	Oct. 3	197	60	22	1171
Curtis, George H. W., Brooklyn, N. Y., assignor to Wheeler & Wilson Manufacturing Company, Bridgeport, Conn. Snapenders	261,140	July 18	1014	285	22	185
Curtis, George H. W., Brooklyn, N. Y., assignor to Wheeler & Wilson Manufacturing Company, Bridgeport, Conn. Sewing-machine	261,913	Aug. 1	112	33, 34	22	354
Curtis, Gram, New York, N. Y. Oven and car for heating and transporting converter-bottoms and other articles	269,643	Dec. 26	1561	449	22	2197
Curtis, Josiah, Genesco, N. Y. Appatatus for transporting loads	268,629	Dec. 5	282	82	22	1940
Curtis, Leslie L. (See Fiske, Henry P., assignor.)						
Curtis, Thomas J., *et al.* (See Harrison, Renben N., assignor.) (Reissue.)						
Curtis, Thomas V., St. Paul, Minn. Combined water filter and cooler	264,443	Sept. 19	918	258	22	952
Curtiss, Charles E., Brooklyn, N. Y. Stereotype-plate holder	265,660	Oct. 10	542	147	22	1232
Curtiss, Robert M., Brooklyn, N. Y. Electric safety device for elevators	266,107	Oct. 17	1074	305	22	1331
Cushing, Ira B., Brookline, assignor to Cushing Process Company, Boston, Mass. Process of and apparatus for purifying and maturing liquors	267,779	Nov. 21	1034	289	22	1738
Cushing Process Company. (See Cushing, Ira B., assignor.)						
Cushman, G. Herbert. (See Clark, George H., assignor.)						
Cutler, Abner, Buffalo, N. Y. Desk	260,950	July 11	757	206, 207	22	132
Cutler, Abner, Buffalo, N. Y. Combined pen or pencil holder and drawer-pull	260,951	July 11	758	207	22	133
Cutler, Abner, Buffalo, N. Y. Bracket for inkstands	262,009	Aug. 1	223	66	22	374
Cutler, Charles. (See Pratt, James H., assignor.)						
Cutler, Henry, North Wilbraham, Mass. Grain-drier	269,644	Dec. 26	1563	449	22	2197
Cutler, Spaulding, Cincinnati, assignor of one-half to C. D. Firestone, Columbus, Ohio. Button-hole attachment for sewing-machines	268,002	Nov. 28	1300	366, 367	22	1793
Cuttriss, Charles, Leeds, county of York, England. Secondary battery	261,435	July 18	1358	380	22	240
Cypert, Jessee B., Waynesborough, Tenn. Tire-tightener	262,010	Aug. 1	224	66	22	374
Dabney, William C., Princeton, Ky. Dinner-pail	264,248	Sept. 12	699	181	22	903
Daelen, Vital B., Berlin, Germany. Corrugating-machine	266,976	Nov. 7	22	6, 7	22	1544
Daffin, Philip D., and H. B. Dresser, Savannah, Ga. Cotton-cleaner	263,121	Aug. 22	1611	455	22	638
Daggett, Homer M., Jr., *et al.* (See Hodges, Francis G., assignor.)						
Dahency, Thomas L., Boston, Mass. Handle	261,589	July 25	1556	437	22	280
Dahlman, Carl O., Willis, Tex. Plow mold-board	263,122	Aug. 22	1612	456	22	638
Dähn, Albert, Dittmer's Store, Mo. Belt-fastener	262,576	Aug. 15	937	264	22	507
Dailey, George F., Leadville, Colo. Receiving-telephone	268,630	Dec. 5	284	82	22	1941
Daily, Josiah, Madison, Ind. Flavoring-extract for sirup and sugar	261,315	July 18	1223	.....	22	217
Dain, Joseph, Jr., Meadville, Mo. Hay-stacker	268,390	Dec. 5	19	6, 7	22	1890
Dain, Joseph, Jr., Meadville, assignor to J. H. Onstott and J. Coombs, Springfield, Mo. Horse hay-rake	262,011	Aug. 1	225	67	22	374
Dain, Joseph, Jr., Meadville, assignor to J. H. Onstott and J. Coombs, Springfield, Mo. Hay-stacker	262,012	Aug. 1	225	67	22	374
Dalbey, Joseph L., Frankfort, Ind. Washing-machine	261,515	July 18	1454	406	22	256
Dale Tile Manufacturing Company. (See Dale, William, assignor.) (Reissue.)						
Dale, William, deceased, assignor to Dale Tile Manufacturing Company, (limited,) New York, N. Y. Cover for openings in sidewalks. (Reissue)	10,146	July 4	491	133	22	84
Dall' Orto, Pietro, Genoa, Italy. Rotary engine	268,719	Dec. 5	375	110	22	1959
Damborg, Thorwald, C., Philadelphia, Pa. Sheet-music	260,372	July 4	22	7	22	6
Dampman, David J., assignor to W. H. Bilyeu and J. Ambler, Philadelphia, Pa. Air-brake pump for locomotives	263,867	Sept. 5	251	72	22	818
Dampman, David J., assignor of two-thirds to W. H. Bilyeu and J. Ambler, Philadelphia, Pa. Air-brake pump for locomotives	268,631	Dec. 5	284	83	22	1941
Dancer, Thomas. (See Oldmeadow, James, assignor.)						
Danford, Ebenezer, Geneva, Ill. Felly for vehicle-wheels	262,650	Aug. 15	1035	290	22	525
Danforth & Co. (See Brown, Alexander G., assignor.)						
Danforth, Elijah H., Jamestown, N. Y. Suture-clamp	268,632	Dec. 5	285	83	22	1941
Danforth, Roderick F., Washington, D. C. Vapor-stove	268,871	Dec. 12	573	169	22	2003
Dangler, David A. (See Kells, Edward, assignor.)						
Daniels, John F., Decatur, Ill. Stand and tank for vapor-stoves	269,391	Dec. 19	1241	360	22	2128
Daniels, Taylor E., Chicago, Ill. Coffin	261,537	July 25	1496	419	22	269
Daniels, Taylor E., Chicago, Ill., assignor to American Chain Mortising Machine Company. Endless-chain mortising-machine	268,003	Nov. 28	1306	367	22	1794
Daniels, Thomas, Jr., Brooklyn, N. Y. Cigarette-former	266,439	Oct. 24	1493	424	22	1412
Dankers, Charles F. W., New Orleans, La. Grate-basket	267,499	Nov. 14	684	195, 196	22	1666
Dann, Jesse W. (See Montgomery, James M., Jr., assignor.)						
Dannecker, George J., Cincinnati, Ohio. Device for expressing stearic acid, &c	260,542	July 4	252	71	22	43
Danner, Jacob H., Gish's Mills, and R. P. Kyle, Fincastle, Va. Railway-gate	267,500	Nov. 14	684	196	22	1667
Dare, Charles W. F. (See Crandall, William E., assignor.) (Reissue.)						
Darling, George S., Chicago, Ill. Sewing-machine	266,977	Nov. 7	25	7, 8	22	1544
Darling, Samuel, Providence, R. I. Building and apparatus for keeping and comparing standard measures	267,159	Nov. 7	248	72, 73	22	1584
Darling, William H., and J. S. Bundick, New York, N. Y. Speaking-tube for diving-armors	269,187	Dec. 19	974	224	22	2080
Darragh, John H., San Francisco, Cal. Rotary engine	267,160	Nov. 7	252	73	22	1584
Darrow, Norman W., Kansas City, Mo. Wheel-skate	266,978	Nov. 7	27	8	22	1544
Daub, William, New York, N. Y. Drawers, &c	267,333	Nov. 14	472	137	22	1631
Daubner, Andrew, Sr., Madison, Wis. Car-coupling	260,849	July 11	641	174	22	113
Davenport, William, Philadelphia, Pa. Banana-crate	269,392	Dec. 19	1242	361	22	2129
David, Albert A., New York, N. Y. Overalls	264,249	Sept. 12	692	191	22	903

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Davids, John B., New York, N. Y. Bottle-stopper	268,872	Dec. 12	575	169	22	2003
Davidson Brothers. (See Heeley, James L., assignor.)						
Davidson, Chester L. (See Davidson, Stephen L. and C. L.)						
Davidson, Stephen L. and C. L., Virden, Ill. Car-coupling	268,633	Dec. 5	286	83	22	1941
Davidson, William J., Big Spring, Va. Plow	265,763	Oct. 10	661	188	22	1253
Davies & Company, Robert K. (See Lynch, Howard, assignor.)						
Davies, Henry, Newport, Ky. Traveling crane	264,444	Sept. 19	919	259	32	952
Davies, Henry J. (See Davies, Walter D., assignor.)						
Davies, Henry J., Brooklyn, N. Y. Clock-case	260,544	July 4	254	71	22	43
Davies, Richard J., Cambridge, Mass. Animal-slinging railway	261,316	July 18	1224	340	22	217
Davies, Walter D., assignor to himself and H. J. Davies, Brooklyn, N. Y. Regulating attachment to clock-pendulums	267,161	Nov. 7	252	74	22	1585
Davies, William E., Derringer, Pa. Tamping-car	262,746	Aug. 15	1146	324	22	544
Davis, A. B., *et al.* (See Davis, Nathan H., assignor.)						
Davis, Abraham, New York, N. Y. Tip for insoles	263,486	Aug. 29	2103	603	22	728
Davis, David B. (See Young, Charles A., assignor.)						
Davis, Dewitt, Chicago, Ill. Washing-machine	261,538	July 25	1497	420	22	269
Davis, Duane T., Pana, Ill. Gasoline-burner attachment for cook-stoves	269,207	Dec. 19	1075	313	22	2098
Davis, Edwin S., assignor of one-half to W. P. and E. P. Clendenin, Kelseyville, Cal. Carriage-brake	260,543	July 4	253	71	22	43
Davis, Eugene H. (See Wilson, Thomas L., assignor.)						
Davis, Evin E., Tama City, Iowa. Water-fountain for stock	263,323	Aug. 29	1909	546	22	693
Davis, Francis A., New York, N. Y. Automatic valve for waste-pipes	264,250	Sept. 12	693	192	22	904
Davis, George, Milford, Mich. Grain-binder	265,661	Oct. 10	543	147 148	22	1233
Davis, George T. (See Conrville and Davis.)						
Davis, Gilbert, Zanesville, Ohio. Brick-machine	265,030	Sept. 26	1609	453	22	1084
Davis, Henry M. (See Tower, Oscar, assignor.)						
Davis, Henry T., St. Louis, Mo. Quilting-frame for sewing-machines	263,487	Aug. 29	2104	603	22	728
Davis, Henry T., St. Louis, Mo., assignor to W. J. Walsh, Scottsborough, Ala. Quilting-frame	266,581	Oct. 24	1642	467	22	1439
Davis, Horace B., Lexington, Mass. Horse-racket	266,779	Oct. 31	1882	546	22	1489
Davis, Ina C., Montclair, N. J. Spool	268,197	Nov. 28	1542	428	22	1836
Davis, Ina C., Montclair, N. J. Spool of thread	268,198	Nov. 28	1542	428	22	1836
Davis, Isaac F., Greensborough, N. C. Turbine water-wheel	267,162	Nov. 7	253	74	22	1585
Davis, James F., Fall River, Mass. Gun-swab	268,004	Nov. 28	1307	367	22	1794
Davis, James H., Ypsilanti, Mich. Fire-kindler	260,729	July 4	488	132	22	83
Davis, John B., and W. Walker, Glenwood, Pa. Air-injector for furnaces	266,109	Oct. 17	1082	306	22	1332
Davis, John L., Jeffersonville, Ind. Car-coupling	261,835	Aug. 1	16	5	22	338
Davis, John N., Walkersville, assignor to R. P. Davis, Monroe, N. C. Machine for cleaning cotton	267,501	Nov. 14	686	196	22	1667
Davis, John S., assignor to Toledo Mower and Reaper Company, Toledo, Ohio. Grain-binding mechanism	260,668	July 4	409	112 113	22	69
Davis, John S., assignor to Toledo Mower and Reaper Company, Toledo, Ohio. Grain-binder	261,590	July 25	1557	437 438	22	280
Davis, John S., assignor to Toledo Mower and Reaper Company, Toledo, Ohio. Grain-binder	261,591	July 25	1562	438	22	280
Davis, John S., assignor to Toledo Mower and Reaper Company, Toledo, Ohio. Clutch	267,064	Nov. 7	127	36	22	1563
Davis, John T., New York, N. Y. Rotary engine	268,195	Nov. 28	1540	428	22	1836
Davis, John T., assignor to O. Davis and L. J. Pomvort, New York, N. Y. Rotary engine	268,605	Nov. 28	1308	368	22	1794
Davis, John T., assignor to A. K. King, New York, N. Y. Ice-machine	268,196	Nov. 28	1541	428	22	1836
Davis, Joseph W. (See Hallock, Edgar M., assignor.)						
Davis, Lafayette, Busti, N. Y. Sap-pail cover and holder	261,539	July 25	1498	420	22	269
Davis, Leonard L., Springfield, Mass. Spirit-level	268,634	Dec. 5	287	84	22	1941
Davis, Levi, Windsor, Vt. Churn	265,764	Oct. 10	662	188	22	1253
Davis, Levis H., West Chester, Pa. Sewing-machine	262,536	Aug. 8	873	246 247 248	22	491
Davis, Levis H., West Chester, Pa. Nut-lock	266,780	Oct. 31	1883	547	22	1489
Davis, Mary E., White Clond, Kans. Thread-cutter	263,868	Sept. 5	252	73	22	818
Davis, Micajah R., Pink Hill, Tex. Shaft-coupling	263,488	Aug. 29	2105	603	22	728
Davis, Nathan H., assignor of two-thirds to L. C. Gratz and A. B. Davis, Philadelphia, Pa. Axle-lubricator	264,251	Sept. 12	694	192	22	904
Davis, Orrill, *et al.* (See Davis, John T., assignor.)						
Davis, Oscar F., Topeka, Kans. Fire-escape	269,208	Dec. 19	1075	314	22	2098
Davis, R. P. (See Davis, John N., assignor.)						
Davis, Samuel, Mount Vernon, Ohio. Harrow	262,280	Aug. 8	575	161	22	438
Davis, Samuel, Mount Vernon, Ohio. Evaporating-pan	264,252	Sept. 12	695	192	22	904
Davis, Samuel, New York, N. Y. Tip for insoles	263,489	Aug. 29	2106	604	22	728
Davis, Solomon S., Douglass, Mass. Ax-making machine	262,933	Aug. 22	1384	391	22	597
Davis, Thomas. (See Ball and Davis.)						
Davis, Thomas, St. Paul, Minn. Radiator	266,979	Nov. 7	28	8	22	1545
Davis, Thomas B., New York, N. Y. Scoop. (Reisane)	10,226	Oct. 31	2122	609	22	1533
Davis, Thomas E. Range, Ohio. Millstone paint-staff	264,253	Sept. 12	695	192	22	904
Davis, Thomas W., *et al.* (See Barr, Robert D., assignor.)						
Davis, Walter S. (See Wadsworth, Augustus B., assignor.)						
Davis, William P., Spring City, Nev. Ore concentrator and amalgamator	269,563	Dec. 26	1459	420	22	2177
Davis, William T., Philadelphia, Pa. Fire-escape	264,254	Sept. 12	696	193	22	904
Davis, Zebulon, Canton, Ohio. Vapor-stove	267,334	Nov. 14	473	138	22	1631
Davison, James P., St. John, Ill. Car-coupling	267,645	Nov. 14	871	249	22	1700
Davol, Joseph. (See Turner, William A., assignor.)						
Davy, Harriet K. (See Hailes, William, assignor.)						
Dawley, Lafayette D., Ada, and A. R. Spaulding, Lake City, Minn. Car-brake	262,378	Aug. 8	694	194	22	459
Dawson, Artemas L., assignor of one-half to C. H. Freeman, Elk Point, Dak. Ter. Lamp	264,633	Sept. 19	1122	318	22	990
Dawson, Elisha C. (See Crowell and Dawson.)						
Dawson, James, Clear Grit, Minn., assignor of one-half to R. L. Downton, St. Louis, Mo. Roller grinding-mill	260,669	July 4	419	114	22	71
Dawson, Palmer L. (See Borton and Dawson.)						
Dawson, William J., Lawrence, Kans. Car-coupling	264,634	Sept. 19	1122	318	22	990
Day, George W., Haverhill, Mass., assignor to Day Sewed Shoe Company, Portland, Me. Device for holding back the channel-lip of a boot or shoe sole	266,018	Oct. 17	969	275	22	1313
Day, George W., Haverhill, assignor to Day Sewed Shoe Company, Boston, Mass. Last	267,646	Nov. 14	872	249	22	1701
Day, Matthias, Jr., Oberlin, Ohio, assignor to G. L. Squier, Buffalo, N. Y. Evaporator	268,199	Nov. 28	1543	429	22	1836
Day, Robert E., assignor to Hartford Sanitary Plumbing Company, Hartford, Conn. Urinal	268,200	Nov. 28	1544	429	22	1836

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Day, Selden A., Bowling Green, Ohio. Cartridge-carrying jacket	262,577	Aug. 15	937	265	22	508
Day Sewed Shoe Company. (See Day, George W., assignor.)						
Day, Sherwood W., Ottawa, Kans. Rein-holder	265,307	Oct. 3	100	30	22	1152
Dayton, George E., *et al.* (See Phillips, Francis V., assignor.)						
Dayton, Melville E., *et al.* (See Phillips, Francis V., assignor.)						
Dayton, Robert G., North Granville, N. Y. Trunk-hinge	268,873	Dec. 12	575	169 170	22	2003
Dayton, William H., Torrington, Conn. Machine for swaging needle-blanks	268,874	Dec. 12	577	170	22	2003
Dayton, William H., assignor to Excelsior Needle Company, Torrington, Conn. Machine for cutting and stamping needles	268,875	Dec. 12	578	170	22	2003
De Bolt, Washington. (See Sawyer, James, assignor.)						
De Figaniere, Affonso. (See Bailey and De Figaniere.)						
De Figaniere, Affonso, Philadelphia, Pa. Process of and apparatus for extracting gold from its ores	267,842	Nov. 21	1108	311	22	1751
De Figanière, Affonso, Philadelphia, Pa., assignor of one-half to J. W. Bailey, Denver, Colo. Dry amalgamator	269,645	Dec. 26	1565	449 450	22	2197
De Forest, Frank, De Soto, Mo. Fish-hook	264,256	Sept. 12	698	193	22	905
De Gaetano, Stephen, New York, assignor of one-half to W. H. Wiggins, Brooklyn, N. Y. Billiard-cushion	261,812	July 25	1819	514	22	325
De Gombert, Maxime, assignor to Compagnie Générale de Teinturerie et Apprets, (Syateme, André Lyon,) Paris, France. Machine for dressing silk and other fabrics	269,188	Dec. 19	975	284 285	22	2080
De Graffenried, Marshall, Atlanta, Ga. Lamp and oil-stove burner	263,770	Sept. 5	126	39	22	795
De Groat, William N., assignor of one-half to A. L. Maxwell, Knoxville, Tenn. Rotary pump	266,019	Oct. 17	970	276	22	1313
De Kabath, Nicolas, Paris, France. Secondary battery	263,124	Aug. 22	1615	456	22	638
De Khotinsky, Achille, St. Petersburg, Russia. Regulator for dynamo-electric machines	263,870	Sept. 5	254	73	22	818
De la Cerda, Alonzo M., Madrid, Spain. Ore-washer	265,766	Oct. 10	663	189	22	1253
De la Roche, Charles F., Paris, France. Electric-arc light	262,015	Aug. 1	228	68	22	375
De La Roche, Charles F., Paris, France. Voltaic-arc electric lamp	264,257	Sept. 12	699	194	22	905
De la Tour du Breuil, Alexandre M. A. (See De la Tour du Breuil, Henry M. F. J. and A. M. A.)						
De la Tour du Breuil, Henry M. F. J. and A. M. A., Pellevoisin, France. Vulcanizing india-rubber	266,110	Oct. 17	1083	.....	22	1332
De Lancey, John J., Binghamton, N. Y. Balanced slide-valve	261,688	July 25	1672	469	22	299
De Lano, Alexander. (See Fulton and De Lano.)						
De Lime, Louis A., Frankfort, Ky. Apparatus for refining, purifying, and aging alcoholic liquors	267,065	Nov. 7	128	37	22	1563
De Locht-Labye, Léon, Liege, Belgium. Telephone-transmitter	264,028	Sept. 5	448	123	22	851
De Long, Julius, Allegheny, Pa. Oil-conductor for car-axle boxes	263,490	Aug. 29	2107	.....	22	728
De Long, Julius, Allegheny, Pa. Oil conductor for car-axle boxes. (Reisane)	10,233	Nov. 7	443	.....	22	1619
De Lorme, Frank, Central Square, N. Y. Sight for fire-arms	269,023	Dec. 12	760	224	22	2037
De Meza, Wilson, assignor to Donaldson Brothers, New York, N. Y. Dust-pan	268,636	Dec. 5	289	84	22	1942
De Quillfeldt, Charles, assignor to H. W. Putnam, New York, N. Y. Bottle-stopper	260,850	July 11	641	174	22	114
De Quillfeldt, Charles, assignor to H. W. Putnam, New York, N. Y. Bottle-stopper	260,851	July 11	643	175	22	114
De Quillfeldt, Charles, assignor to Ballin & Liebler, New York, N. Y. Whisk-broom holder	261,085	July 11	948	264	22	164
De Quillfeldt, Charles, assignor to J. Weidenmann, New York, N. Y. Button-fastening	268,462	Dec. 5	105	32	22	1906
De Roberts, Charles, Albion, Nebr., assignor to himself and T. P. Stephens, Red Oak, Iowa. Inkstand	266,111	Oct. 17	1084	307	22	1332
De Romilly, Henry F. L. W., Paris, France. Water-elevator	261,436	July 18	1360	380	22	240
De Smedt, Edward J., Washington, D. C. Manufacture of hydraulic lime and hydraulic cement	260,546	July 4	256	.....	22	44
De Smedt, Edward J., Washington, D. C. Manufacture of hydraulic cement	263,873	Sept. 5	258	.....	22	819
De Staebler, Conrad, assignor of one-third to B. R. Bonner, St. Louis, Mo. Street-car attachment	269,161	Dec. 12	930	270	22	2066
De Susini-Ruisecco, Joseph, Havana, Cuba, assignor to F. S. Kinney, New York, N. Y. Match-case	268,638	Dec. 5	289	84	22	1942
De Susini-Ruisecco, Joseph, Havana, Cuba, assignor to F. S. Kinney, New York, N. Y. Flame-guard	268,639	Dec. 5	291	85	22	1942
De Trez, Jean G., Geneva, Switzerland. Heel for boots and shoes	264,029	Sept. 5	450	123	22	852
De Valin, William H., San Rafael, Cal. Grate-bar and furnace	265,032	Sept. 26	1611	453	22	1084
De Varigny, C., *et al.* (See Josia, Raphael, assignor.)						
De Vananey, Thomas H., Jr., Newark, N. J. Ear-ring	265,662	Oct. 10	545	148	22	1233
De Villiers, Peter, St. Leonard-on-Sea, England. Applying alloys to steel	265,221	Sept. 26	1640	.....	22	1125
De Voe, Louis F., Kentland, Ind. Refrigerator	264,865	Sept. 26	1404	396	22	1047
De Wesse, Francis M., Chillicothe, Ohio. Operating pawls used in lifting-jacks, &c	265,034	Sept. 26	1613	454	22	1085
De Witt, Henry C., assignor of one-half to Excelsior Gas Light and Manufacturing Company, Chicago, Ill. Carburetor	262,651	Aug. 15	1036	290	22	525
Deakin, Thomas J., Columbia, Pa., assignor of two-thirds to W. T. Block, Hannibal, Mo. Fagot for tubes	269,160	Dec. 12	930	270	22	2066
Deal, Daniel W., assignor to himself, J. Vowels, and J. All, Toddville, Iowa. Car-coupling	265,031	Sept. 26	1610	453	22	1084
Deal, Josiah J., assignor of two-thirds to W. M. Johnston, Wilmot, Ohio. Cultivator	268,358	Nov. 28	1749	485	22	1874
Dean, Albert H., and S. H. Whiting, Bridgeport, Conn. Recording instrument for fire-alarm signals	268,876	Dec. 12	579	171	22	2004
Dean, Alonzo. (See Beal, Ezra F., assignor.)						
Dean, Charles D., *et al.* (See McDonnell and Sherwood, assignors.)						
Dean, Charles W., Auburndale, Wis. Blow-pipe	263,869	Sept. 5	253	73	22	818
Dean, Ephraim K., Bangor, Me. Automatic watering device for pot-plants	262,379	Aug. 8	695	194	22	460
Dean, Francis W., Cambridge, Mass. Guide for engine cross-heads	266,272	Oct. 24	1283	363	22	1373
Dean, George A., Boston, Mass. Pad for hoofs of horses	264,255	Sept. 12	697	193	22	904
Dean, James, Detroit, Mich. Boat	260,459	July 4	138	40	22	24
Dean, John A., Worcester, Mass. Windmill	266,352	Oct. 24	1397	396	22	1394
Dean, John C. (See Smith, George W., assignor.)						
Dean, William. (See Onstead, Sidney R., assignor.)						
Dearstorff, Jesse S., Canal Dover, Ohio. Hot-air generator for fire-places	266,613	Oct. 31	1689	487	22	1454
Dearing, John S., Pulaski, Tenn. Draft-equalizer	262,747	Aug. 15	1148	325	22	544
Deats, Tom, *et al.* (See Dranly, Charles, assignor.)						
Debarnot, Leon, and J. Jacquot, Buenos Ayres, Argentine Republic. Locomotive	262,013	Aug. 1	227	67, 68	22	375
Debes, Julius C., assignor to C. & G. Cooper & Co., Mount Vernon, Ohio. Traction-engine	267,405	Nov. 14	574	164 165	22	1646
Decker, John M., Kingston, Ohio. Gate	264,635	Sept. 19	1124	318	22	991
Decker, Marcellus, and J. K. Deming, Chicago, Ill. Burglar-alarm	266,252	Oct. 17	1248	354	22	1360
Decker, Nicholas C., Windsor, Mo. Cultivator	269,564	Dec. 26	1460	420	22	2177
Decker, Wilhelm. (See Etty, George, assignor.)						
Decker, Wilhelm, Mittweida, Saxony, Germany. Grinding and sharpening fine wire cards	263,123	Aug. 22	1613	456	22	638

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Decker, William A., Huntington, W. Va., assignor to himself and F. E. Canda, New York, N. Y. Rotary cutter for mortising-machines	266,440	Oct. 24	1494	424	22	1412
Déclat, Gilbert, Paris, France. Medicinal preparation	265,583	Oct. 10	436	.....	22	1216
Dederick, Peter K., Albany, N. Y. Baling-press	269,565	Dec. 26	1461	421	22	2177
Dederick, Peter K., Albany, N. Y. Baling-press	269,566	Dec. 26	1462	421	22	2178
Deeds, John B., assignor of one-half to W. Mack, Terre Haute, Ind. Torch	262,178	Aug. 1	452	126	22	411
Deeds, John B., assignor of one-half to W. Mack, Terre Haute, Ind. Nut-lock	264,933	Sept. 26	1495	420	22	1063
Deeds, Owen P., Cumru township, Berks county, assignor to W. D. Gross, Kutztown, Pa. Anti-cribbing attachment for horses	267,989	Nov. 21	1281	360	22	1783
Deegan, Mathew F., assignor of one-half to H. Hooper, Chicago, Ill. Apparatus for preventing the escape of sewer-gas into houses	262,934	Aug. 22	1385	391	22	597
Deegen, Martin E., *et al.* (See Pierce, Franklin, assignor.)						
Deering, Mark L., Cleveland, Ohio. Apparatus for cooling the glue lining of barrels	260,745	July 11	513	140	22	93
Deering, William, *et al.* (See Hodges, Pliny F., assignor.)						
Deering, William, *et al.* (See Steward, John F., assignor.)						
Deering, William. (See Symonds, Daniel R., assignor.)						
Deering, William. (See Webster, John W., assignor.)						
Deetz, William, Spafford, Wis. Machine for removing snow from railway-cuts	262,537	Aug. 8	879	248	22	492
Deetz, William, Spafford, Wis. Car-coupling	262,538	Aug. 8	881	249	22	492
Deeves, Richard, New York, N. Y. Scaffold-support	264,934	Sept. 26	1496	421	22	1063
Defiance Machine Works. (See Seymour, Charles, assignor.)						
Deininger, W. H. August, Berlin, Germany. Production of spirits of great purity directly from the mash	266,441	Oct. 24	1495	425	22	1412
Deltz, William H., Bingen, Pa. Nail-clincher for horseshoes	264,067	Sept. 12	502	136	22	870
Delamater, Cornelius H., *et al.* (See Reynolds, George H., assignor.)						
Delany, Patrick B., New York, N. Y. Electric cable	266,353	Oct. 24	1399	396	22	1394
Delany, Patrick B., New York, N. Y. Electric cable	262,016	Aug. 1	229	68	22	375
Delker, George, Henderson, Ky. Spring-vehicle	10,236	Nov. 14	886	253	22	1703
Delker, George, Henderson, Ky. Spring-vehicle. (Reissue)	268,635	Dec. 5	288	84	22	1941
Delkescamp, Adolph, Waterbury, Conn. Wagon-wheel	266,781	Oct. 31	1884	547	22	1490
Dell, William B., West Croydon, county of Surrey, England, assignor to G. T. Smith Middlings Purifier Company, Jackson, Mich. Centrifugal flour-dressing reel	263,688	Sept. 5	21	7	22	778
Delmage, William A., Lowell, Mass. Spindle-step for spinning-machines	265,220	Sept. 26	1839	517	22	1125
Deline, George V., assignor to himself and E. J. Lloyd, Boston, Mass. Automatic gate for elevators	269,393	Dec. 19	1243	361	22	2129
Demain, William C., Medford, Mass. Plate-printing press	260,952	July 11	759	207	22	133
Demarest, John, New York, N. Y. Flushing-valve	260,953	July 11	760	207	22	133
Demarest, John, New York, N. Y. Water-closet	261,592	July 25	1565	439	22	281
Demarsh, Augustus V., Leslie, Mich. Wagon-axle	265,918	Oct. 10	829	236	22	1283
Demeurs, Auguste, Huysssinghen, Belgium. Bleaching paper-stock	266,782	Oct. 31	1886	.....	22	1490
Deming, James K. (See Decker and Deming.)						
Demorest, Ellen L., New York, N. Y. Puff for head-dresses	264,935	Sept. 26	1497	421	22	1063
Demuth, William, New York, N. Y. Celluloid mouth-piece or bit for cigar and cigarette holders and pipes	266,582	Oct. 24	1642	467	22	1440
Dengler, James G., Sellersville, Pa. Windlass water-elevator bucket	263,871	Sept. 5	256	74	22	818
Denham, Edward, *et al.* (See Miller, Elizabeth P., assignor.)						
Denham, Thomas M., *et al.* (See Miller, Elizabeth P., assignor.)						
Denmead, John W., assignor of three-fourths to J. S. Lane, Akron, Ohio. Machine for turning earthenware vessels	262,281	Aug. 8	576	162	22	439
Dennert, Johann C., and G. G. Lind, Altona, Prussia, Germany. Water-meter	266,273	Oct. 24	1284	364	22	1373
Dennett, Fred A., Milwaukee, Wis. Attachment for grain-binders	261,594	July 25	1566	439	22	281
Dennett, Fred A., Milwaukee, Wis. Grain-binder	261,593	July 25	1565	439	22	281
Denning, John, assignor of one-half to F. Wey, Terre Haute, Ind. Fence	264,259	Sept. 12	702	194	22	905
Denning, John B., Miami, assignor of one-half to G. Wabnitz, Jr., Sater, Ohio. Tongue for vehicles	260,545	July 4	235	71	22	43
Dennis, John, Lowell, Mass. Vise	263,872	Sept. 5	257	74	22	818
Dennis, Peter H., and J. A. Stanton, Sauk Rapids, Minn., assignors to said Dennis. Car-coupling	261,540	July 25	1499	420	22	969
Dennis, Robert H., Seymour, Iowa. Toe-calk swage	265,767	Oct. 10	664	189	22	1253
Dennison, William E. (See Edwards, Granville M., assignor.)						
Denny, Clinton, Wye Mills, Md. Collar-fastener	262,017	Aug. 1	230	69	22	375
Denny, Edward B., Newark, N. J. Gas-burner	260,746	July 11	513	140	22	93
Denson, Jessie C., and S. B. Bell, Iamonia, Fla. Plow	266,274	Oct. 24	1285	364	22	1373
Dent, William, Utica, N. Y. Alarm for telephones	263,491	Aug. 29	2108	604	22	728
Denton, James, assignor of one-fourth to J. K. Warnick, Amsterdam, N. Y. Knitting-machine for knitting double-threaded striped fabrics	263,125	Aug. 22	1616	456	22	638
Derby Bit Company. (See Parmelee, William L., assignor.)						
Derby Silver Company. (See Miller and Berry, assignors.)						
Derr, Clarence V., Cumberland Md. Door-operator	263,771	Sept. 5	127	39	22	796
Derrick, Charlie M., Howland Flat, Cal. Hame-clip	266,678	Oct. 31	1706	509	22	1468
Deschamps, Francis O., Philadelphia, Pa. Friction-clutch	260,460	July 4	140	40	22	25
Deschamps, Francis O., Philadelphia, Pa. Friction-clutch	266,275	Oct. 24	1286	364	22	1373
Deschamps, Francis O., Philadelphia, Pa. Friction-clutch	268,463	Dec. 5	106	32	22	1906
Deschamps, Francis O., Philadelphia, Pa. Friction-clutch	262,578	Aug. 15	938	265	22	508
Dealoovere, Louis C., Salem, Mass. Spray-nozzle for fire-extinguishers	264,636	Sept. 19	1125	318	22	991
Des Moineaux, Charles P., Leadville, Colo. Combined miner's candlestick and loading-tool	262,018	Aug. 1	231	69	22	376
Desmond, John, Jonesville, Mich. Stump-extractor	262,380	Aug. 8	696	195	22	460
Detert, Henry O., St. Louis, Mo. Carpet-stretcher						
Detrick, Calvin. (See Campbell, William M., assignor.)						
Detroit Rocker Company. (See Andrews, Edward W., assignor.)						
Detroit Stamping Company. (See Puddefoot, Charles, assignor.)						
Detroit Tool Company. (See Reno, Thomas, assignor.)						
Detroit Tool Company *et al.* (See Taylor, Harrison H., assignor.)						
Detwiler, Emannel, Milwaukee, Wis. Gas stove and burner and heating-drum	268,083	Nov. 28	1339	391; 392	22	1810
Denel, Joseph M., *et al.* (See Horton, Jacob C., assignor.)						
Dever, John P., assignor to himself and W. J. Pearson, Batesville, Ark. Cotton chopper, scraper, and cultivator	267,843	Nov. 21	1109	311	22	1752
Devey, John, Alpine City, Utah Ter. Wheelbarrow	264,637	Sept. 19	1126	319	22	991
Devening, Philip, Ray's Crossing, Ind. Grain-drill gage	265,033	Sept. 26	1613	454	22	1085
Devoe, Benjamin G., Kenton, assignor to Lima Iron Fence Company, Lima, Ohio. Iron fence	263,324	Aug. 29	1909	547	22	693
Devore, William W., Lawrenceburg, Ind. Long center for stoves	262,889	Aug. 15	1331	376	22	577
Dewees, John W., Philadelphia, Pa. Trimming attachment for sewing-machines	266,783	Oct. 31	1886	548	22	1490
Dewey, Alfred T., San Francisco, Cal. Newspaper-file holder and binder	267,975	Nov. 21	1963	355	22	1780

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Dexter, Charles M., Sacramento, Cal. Tuck-folder for sewing-machines	267,163	Nov. 7	254	74	22	1585
Deyo, Calvin B., and A. G. Carman, Marengo, Ill. Universal joint	267,844	Nov. 21	1110	311	22	1752
Di Mariano, Antonio, New York, N. Y. Bracelet	267,164	Nov. 7	256	75	22	1585
Di Marzo, Vincent, Benicia, Cal. Self-regulating lamp	268,114	Nov. 28	1433	401	22	1817
Diamond, H. A. (See Stapf, Joseph G., assignor.)						
Dibble, John L., Brooklyn, N. Y. Pipe-joint	261,141	July 18	1015	285; 286	22	185
Dibble, John L., Brooklyn, N. Y. Stop-cock	262,935	Aug. 22	1386	392	22	597
Dibble, John L., Brooklyn, N. Y. Stop-cock	268,006	Nov. 28	1309	368	22	1795
Dicer, William, Marengo, assignor of one-half to P. A. Spicer, Marshall, Mich. Plow share and point	261,836	Aug. 1	16	5	22	338
Dick & Craveson. (See Heinig, Frederick E., assignor.)						
Dick, Joseph C. F., Belvidere, Ill. Button-fastener	261,317	July 18	1225	340	22	217
Dickel & Co., Charles W. (See Van Wagner, Abraham, assignor.)						
Dickerman, Charles C., Boston, Mass. Padlock	264,445	Sept. 19	920	259	22	952
Dickerman, Charles C., Boston, and D. Powers, Shelburne, Mass.; said Powers assignor to said Dickerman. Registering-lock	265,584	Oct. 10	437	126	22	1216
Dickerson, Edward N., Jr., New York, N. Y. Apparatus for controlling the movement of trains	267,681	Nov. 21	922	262	22	1718
Dickhaut, Caspar, New York, assignor of one-half to W. Hellmann, Brooklyn, N. Y. Combined satchel and muff	266,354	Oct. 24	1400	397	22	1395
Dickinson, Emanuel, assignor to W. H. and J. J. Horn, Philadelphia, Pa. Peg-float	262,019	Aug. 1	231	69	22	376
Dickinson, John A., and W. H. Martin, Mobile, Ala. Car-coupling	262,936	Aug. 22	1388	392	22	598
Dickinson, John C. (See Newhall, Allen, assignor.)						
Dickinson, William E. (See Cowman, Dickinson, and Lumis.)						
Dicks, William. (See Rodwell, George J. B., assignor.)						
Dickson, Gilbert J., Albany, N. Y. Sash-fastener	262,937	Aug. 22	1390	393	22	598
Dickson, William D., Peoria, Ill. Grain-spout	261,837	Aug. 1	17	5	22	338
Diebel, William, Philadelphia, assignor of one-half to C. Button, Germantown, Pa. Power-shears for cutting knit or woven fabrics, &c	262,748	Aug. 15	1148	325	22	544
Diedel, George A., assignor to E. Faber, New York, N. Y. Anti-nervous attachment for pen-holders or pencils	266,442	Oct. 24	1497	425	22	1412
Dieter, Henry J., assignor of one-half to J. P. Burkhard, St. Paul, Minn. Shoe-fastener	220,852	July 11	644	175	22	114
Dieterich, Fred. G., Washington, D. C. Combined whip and rein holder	268,464	Dec. 5	107	32	22	1907
Dieterichs, Emil F., Cleveland, Ohio. Compound oil	260,670	July 4	420	.....	22	71
Dieterle, Henry E., assignor to Eldredge Sewing Machine Company, Chicago, Ill. Sewing-machine	263,325	Aug. 29	1911	547	22	694
Dietz, Frederick. (See Krummenauer, John, assignor.)						
Dietz, John B., Baltimore, Md. Tailor's iron	268,465	Dec. 5	108	33	22	1907
Dietz, Robert E., *et al.* (See Betts, Lewis F., assignor.)						
Dietzel, George, New York, N. Y. Chenille-machine	263,492	Aug. 29	2108	604	22	729
Dilger, Anton, Rockville, Wis. Mechanical movement	262,020	Aug. 1	232	70	22	376
Dilks, Joseph W., Brooklyn, N. Y. Adjustable screw-propeller	264,446	Sept. 19	921	259; 260	22	953
Dill, Sanford B., Sterling, Ill. Jointing	264,638	Sept. 19	1127	319	22	991
Dille, Jasper L. (See Perry, John D., assignor.)						
Diller, Jacob W., Decatur, Ill. Road-cart	265,768	Oct. 10	665	189	22	1254
Dilley, Martin A., Wasepi, Mich. Feed mechanism for sewing-machines	265,699	Sept. 5	23	7	22	778
Dillman, Marshall C., Orland, Cal. Feeder for thrashing-machines	265,769	Oct. 10	666	189	22	1254
Dillon, James J., Brooklyn, N. Y. Chimney and shade	266,443	Oct. 24	1498	425	22	1413
Dillon, William S. F., Madeira, Ohio. Lock-nut	262,579	Aug. 15	939	265	22	508
Dimmick, Othello J., Fairbury, assignor of one-half to C. L. Jenks, Jr., North Evanston, Ill. Magnetic toy	264,258	Sept. 12	700	194	22	905
Dimock, Henry S., Phelps, N. Y. Water-cooler	269,024	Dec. 12	761	225	22	2037
Dimond, George H., and J. A. House, Bridgeport, Conn. Sewing-machine	268,877	Dec. 12	583	171	22	2004
D'Infreville, Georges, assignor to Western Union Telegraph Company, New York, N. Y. Duplex telegraph. (Reissue)	10,193	Sept. 5	478	130	22	857
D'Infreville, Georges, assignor to Western Union Telegraph Company, New York, N. Y. Dynamo-telegraphy	265,488	Oct. 3	310	92	22	1190
D'Infreville, Georges, assignor to Western Union Telegraph Company, New York, N. Y. Dynamo-telegraphy	265,489	Oct. 3	311	92	22	1191
Dinsmore, Alfred S., Boston, Mass. Oil-stove	260,461	July 4	142	40	22	25
Dinsmore, Alfred S., Boston, Mass. Oil-stove	264,866	Sept. 26	1406	396	22	1048
Dion, Léon O., Natick, assignor to G. S. Trowbridge, trustee, Newton, Mass. Shutter-worker	265,308	Oct. 3	101	30	22	1152
Dion, Léon, Natick, assignor to G. S. Trowbridge, trustee, Newton, Mass. Key-fastener	268,640	Dec. 5	292	85	22	1942
Disston, Hamilton. (See Linderman, Albert B., assignor.)						
Ditson, Allen, assignor to himself and J. Lund, Larned, Kans. Mechanism for converting motion	266,784	Oct. 31	1888	548	22	1491
Dittmar, Oskar, Vienna, Austria, and C. Schmidt, Bockenheim, near Frankfort-on-the-Main, Germany, assignors to C. Schmidt, New York. Regulator for motors	268,641	Dec. 5	293	85	22	1942
Ditzel, Rudolph E. (See Kellar and Ditzel.)						
Divine, Calvin L., assignor to L. B. Martindale, Indianapolis, Ind. Extension composing-stick	268,084	Nov. 28	1402	392	22	1811
Divoras, Joseph, Peru, Ind. Harrow	263,690	Sept. 5	25	7, 8	22	779
Dixon, Henry L., Pittsburg, Pa. Machine for molding tuyeres	268,642	Dec. 5	294	86	22	1943
Dixon, John, Richmond, Victoria. Process of and apparatus for manufacturing gas	260,954	July 11	761	208; 209	22	133
Dixon, Riley. (See Wood, Edward G., assignor.)						
Dixon, Robert H. (See Steward and Dixon.)						
D'Lamatter, James H., Earlville, Ill. Cultivator	265,765	Oct. 10	663	188	22	1253
Doane, Stephen W., Hornellsville, N. Y. Apparatus for cooling car-axles	261,689	July 25	1073	469	22	300
Doane, Truman P. (See Pitt, Joseph, assignor.)						
Dobbas, Bernard, Greenwood, Cal. Miner's lamp	263,493	Aug. 29	2110	605	22	729
Dobbie, Archibald, Thorold, Ontario, Canada. Hoisting-machine	263,126	Aug. 22	1617	457	22	639
Dobbin, George H. (See Stafford, Rinaldo R., assignor.)						
Dobbins, Thomas, *et al.* (See Pierce, Franklin, assignor.)						
Dobbs, Charles G., New York, N. Y. Shirt	261,318	July 18	1225	341	22	217
Dobson, Isaac F. (See Laskey, John H., assignor.)						
Dodds, Conrodine M., Troy, N. Y. Handle for dish-pans	262,580	Aug. 15	940	265	22	508
Dodge, Horace N., Brooklyn, N. Y. Machine for stretching leather belting	267,165	Nov. 7	256	75	22	1585
Dodge, James H. (See Snow, Fred P., assignor.)						
Dodge, James M., Chicago, Ill. Chain cable	264,139	Sept. 12	580	159	22	884
Dodge, John C., Boston, Mass. Hammock and cot	268,783	Dec. 12	462	135	22	1982

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Dodge, Miles B., San Francisco, Cal. Apparatus for crushing and pulverizing ore, cement, &c	262,652	Aug. 15	1037	291	22	525
Dodge, Theodore A., trustee. (See Buzzell, John G., assignor.)						
Dodge, Wallace H., Mishawaka, Ind. Handsaw	267,406	Nov. 14	576	165	22	1646
Dodge, Wallace H., and G. Phillon, Mishawaka, Ind. Separable pulley	260,462	July 4	143	41	22	25
Dodge, William L., East Somerville, Mass. Gage for cutter-heads	269,025	Dec. 12	761	225	22	2037
Doerr, John H. (See Wigmore, William H., assignor.)						
Doherty, Fisher, Crawfordsville, Ind. Sulky	265,035	Sept. 26	1614	454	22	1085
Doherty, Fisher and M. D., Crawfordsville, Ind. Buggy	262,381	Aug. 8	697	195	22	460
Doherty, Marshall D. (See Doherty, Fisher and M. D.)						
Doherty, Patrick W., Boston, Mass. Soil or drain pipe	263,494	Aug. 29	2111	605	22	729
Dohoney, John E., *et al.* (See Sullivan, John, assignor.)						
Doig, William S. (See Smith and Doig.)						
Dolan, Edward J., Philadelphia, Pa. Press for stamping sheet metal	269,567	Dec. 26	1464	421, 422	22	2178
Dolan, James, Suckasunny, N. J. Railway-signal	269,394	Dec. 19	1244	361	22	2120
Dolen, John M., Wiconisco, Pa. Automatic heat-regulator and alarm	263,127	Aug. 22	1619	457	22	639
Doll, Arnold, Cleveland, Ohio. Egg and flour mixer	266,679	Oct. 31	1767	510	22	1468
Dollens, Wood C., Covington, Ky., assignor to A. Gall, Indianapolis, Ind. Sugar-cane and maize harvester	266,020	Oct. 17	972	276	22	1313
Dollens, Wood C., and G. H. Zachech, assignors to A. Gall, Indianapolis, Ind. Machine for harvesting sugar-cane	269,513	Dec. 26	1397	402, 403	22	2164
Don, William, New York, N. Y. Car-axle lubricator	260,955	July 11	764	209	22	134
Donahue, Thomas, assignor to Eagle Lock Company, Terryville, Conn. Padlock	264,639	Sept. 19	1128	319	22	901
Donahue, Thomas, and C. W. Judson, assignors to Eagle Lock Company, Terryville, Conn. Key	268,643	Dec. 5	296	86	22	1942
Donahue, Thomas, and W. W. Cone, assignors to Eagle Lock Company, Terryville, Conn. Machine for bending lock-plates	265,396	Oct. 3	199	69	22	1171
Donahue, Thomas, assignor to Eagle Lock Company, Terryville, Conn. Padlock	269,646	Dec. 26	1567	450	22	2198
Donaldson Brothers. (See De Meza, Wilson, assignor.)						
Donaldson, Fanny T., Cranford, N. J. Waist-belt	265,663	Oct. 10	546	148, 149	22	1233
Donaldson, James A., Greenville, Pa. Inhaler	263,128	Aug. 22	1620	457	22	639
Donaldson, James A., Greenville, Pa. Dental jaw-brace	264,260	Sept. 12	703	194	22	905
Donigan, Thomas J., *et al.* (See Hall, Harvey C., assignor.)						
Donnell, Edward P., Chicago, Ill. Gage for book-makers' table-shears	265,036	Sept. 26	1615	454	22	1085
Donnell, Edward P., Chicago, Ill. Device for hanging saws	265,037	Sept. 26	1615	455	22	1085
Donner, John O., New York, and J. V. V. Boorsem, Brooklyn, N. Y. Bone-black drier	263,874	Sept. 5	259	74, 75	22	819
Donohue, Bernard, Yonkers, N. Y. Wrench	268,784	Dec. 12	463	135	22	1982
Donovan, George L. (See Rogers and Donovan.)						
Donovan, John T. (See Lenard, William R., assignor.)						
Donovan, Joseph A., Toronto, Ontario, Canada. Cinder-sifter	265,038	Sept. 26	1616	455	22	1085
Donovan, Richard F., *et al.* (See Gates, Robert D., assignor.)						
Doolittle, William W., assignor to himself and J. W. Shinkle, Chicago, Ill. Pipe-joint	262,581	Aug. 15	941	266	22	508
Doolittle, William W., Chicago, Ill. Manifold pipe-joint	264,936	Sept. 26	1498	421	22	1063
Doolittle, William W., Chicago, Ill. Gas-compressing pump	265,585	Oct. 10	440	121	22	1216
Doolittle, William W., Chicago, Ill. Liquid-distributer for refrigerating-machines	266,680	Oct. 31	1768	510	22	1468
Doremus, Willard D., assignor, by mesne assignments, to National Shelf and File Company, Washington, D. C. Paper-file holder	262,890	Aug. 15	1322	376	22	577
Dorgan, Joseph H., Plattsburg, N. Y. Ale and beer faucet	262,021	Aug. 1	233	70	22	376
Dorgan, Michael H., San Francisco, Cal. Ventilator	267,741	Nov. 21	987	278	22	1729
Dorn, August. (See Kaufmann and Dorn.)						
Dorn, Rudolf, Omaha, Nebr. Hog-cholera remedy	265,779	Oct. 10	666	.....	22	1254
Dorsch, John, and G. Lindner, Canandaigua, N. Y. Food strainer and steamer	261,143	July 18	1017	286	22	185
Dorsett, Daniel H., Clinton, Iowa, and J. P. Ellacott, Chicago, Ill. Asphaltum-concrete mixer	269,026	Dec. 12	762	225	22	2037
Doscy, Daniel J., Will's Point, Tex. Whiffletree-hook	264,140	Sept. 12	581	159	22	884
Doty, William M., Biggs' Station, Cal. Fruit-jar-filling attachment	263,772	Sept. 5	198	39	22	796
Donarin, Jean M., Paris, France. Jewel-case	262,749	Aug. 15	1150	325, 326	22	545
Doubleday, Alfred, New York, N. Y. Hat cigar-holder	265,771	Oct. 10	667	190	22	1254
Doubleday, Ellen M. (See Doubleday, William E., assignor.)						
Doubleday, William E., New York, N. Y. Manufacture of fur-faced hats	261,437	July 18	1360	380	22	240
Doubleday, William E., assignor to E. M. Doubleday, Bay Ridge, N. Y. Manufacturing fur-faced hats	263,656	Aug. 29	2304	658	22	763
Doubleday, William E., assignor to E. M. Doubleday, Bay Ridge, N. Y. Making fur hats	264,823	Sept. 19	1340	379	22	1031
Dougherty, George H., assignor to E. F. C. Young, receiver, Jersey City, N. J. Lead-pencil	269,778	Dec. 26	1730	499	22	2228
Dougherty, John C., Sedgwick, Colo. Apparatus for hoisting and dumping ores, &c	269,395	Dec. 19	1245	362	22	2129
Douglass, Elizabeth N., Washington, D. C. Bathing-stocking	266,614	Oct. 31	1690	488	22	1454
Douglass, Samuel, Texas, Mich. Tread-power	268,644	Dec. 5	296	86	22	1943
Dove, Fredrick W., Jonesborough, Tenn. Millstone-dress	267,502	Nov. 14	686	196	22	1667
Dover, Samuel R., Dayton, Ohio. Rapidly-adjustable nut for calipers	267,166	Nov. 7	259	75	22	1586
Dover, Samuel R., Subligna, assignor of one-half to J. M. Write, Calhoun, Ga. Subsoil-plow	269,027	Dec. 12	763	225	22	2037
Dow, John E. (See Church and Dow.)						
Dowdall, John T. (See Sursa and Dowdall.)						
Dowling, Robert H., assignor of one-half to C. H. Follett, Newark, Ohio. Car-coupling	261,438	July 18	1363	381	22	240
Dowling, Robert H., assignor of one-half to C. H. Follett, Newark, Ohio. Device for rolling barrels	262,539	Aug. 8	881	249	22	492
Downer, Murillo, and J. Mohr, Chicago, Ill. Grate for boiler-furnaces	265,039	Sept. 26	1618	455	22	1085
Downey, James E., L. A. Willemin, and G. F. Glauner, Providence, R. I. Button	263,393	Aug. 29	2001	572	22	709
Downing, Burton J., Seely, Kans. Hay-stacker	263,875	Sept. 5	261	75	22	819
Downing, Leander. (See Stewart and Downing.)						
Downing, Walter, Van Orin, Ill. Trace-carrier	260,547	July 4	257	72	22	44
Downton, Robert L. (See Dawson, James, assignor.)						
Downton, Robert L., St. Louis, Mo. Aerial ship	264,261	Sept. 12	703	195	22	905
Doyle, Charles E., Philadelphia, Pa. Tobacco-curing apparatus	264,141	Sept. 12	582	160	22	884
Doyle, Colum W., Lincoln, Nebr. Machine for pasting and hanging wall-paper	262,382	Aug. 8	697	195	22	460
Doyle, John, Hoboken, N. J., assignor to L. Schlesinger, New York, N. Y. Skating toy	260,671	July 4	421	114	22	71
Doyle, Joseph P. (See Harnden and Doyle.)						
Dozier, James C., Jr., Louisville, Ky. Swinging can	266,785	Oct. 31	1889	548	22	1491
Drainage Construction Company. (See Waring, George E., Jr., assignor.)						
Drake, Charles R. (See Young and Drake.)						
Drake, Franklin J., Gasport, assignor to J. F. Secor, Jr., New York, N. Y. Compass-alidade	260,956	July 11	765	209	22	134

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Drake, George L. (See Piper, Francis M., assignor.)						
Drake, P. H. (See Clark and Gillon, assignors.)						
Dranly, Charles, assignor to Dranly, Davis & Co., La Salle, Tex. Heel for boots and shoes	267,167	Nov. 7	260	76	22	1586
Dranly, Davis & Co. (See Dranly, Charles, assignor.)						
Draper, Francis, Boston, Mass. Heel-plate	269,269	Dec. 19	1076	314	22	2098
Draper, Joshua, Jr., Oxford, Ala. Eaves-trough hanger	264,262	Sept. 12	705	195	22	906
Draper, Oscar M. (See Kenney, Charles A., assignor.)						
Draper, Oscar M., North Attleborough, Mass. Locket	264,447	Sept. 19	925	260	22	953
Draper & Sons, George. (See Chase, Horace P., assignor.)						
Dranly, Charles, Carrizo Springs, assignor to himself, T. Deats, J. Chapman, and F. Vandervoort, Dimmit County, Tex. Vehicle-wheel	265,040	Sept. 26	1619	455	22	1086
Drawbaugh, Daniel, Eberly's Mill, Pa. Telephone-transmitter	266,615	Oct. 31	1691	488	22	1454
Dresser, Henry B. (See Duffin and Dresser.)						
Drew, John A. (See Hoag and Drew.)						
Dreyfus, Edward, *et al.* (See Lee, James, assignor.)						
Dreyfus, Louis G. (See Abterdam, John, assignor.)						
Dreyfuss, Bernard, New York, N. Y. Playing-card	266,444	Oct. 24	1499	426	22	1413
Dreyfuss, Bernard, New York, N. Y. Pasteboard frame for mirrors	269,270	Dec. 19	1078	314	22	2098
Dreyfuss, Bernard, New York, N. Y. Car-truck	267,335	Nov. 14	475	138	22	1631
Driggs, Spencer B., New York, N. Y. Guard for car-platforms	266,786	Oct. 31	1890	548, 549	22	1491
Driscole, John B., New York, N. Y. Guard for car-platforms	267,742	Nov. 21	988	.....	22	1730
Dronier, Pierre, Paris, France. Making bronze alloys	10,214	Oct. 10	865	247	22	1289
Druecker, John, Chicago, Ill. Limekiln. (Reissue)						
Drummond, Granville M., New York, N. Y. Instrument for ascertaining the draft of molding-cutters	268,201	Nov. 28	1545	429	22	1837
Drummond, James T. (See Compton and Drummond.)						
Drummond, John W., assignor to F. Stevens, Philadelphia, Pa. Roasting coffee	260,672	July 4	422	114	22	71
Drummond, John W., assignor to F. Stevens, Philadelphia, Pa. Roasting coffee	265,309	Oct. 3	102	30	22	1153
Drury, Oliver P., Girard, Pa. Connecting-rod for mowers or reapers	260,548	July 4	258	72	22	44
Du Bois, Josiah S., Haddonfield, N. J. Underground conduit for electric wires	262,022	Aug. 1	234	70	22	376
Du Brul, Napoleon, Cincinnati, Ohio. Cigar-coloring machine						
Du Motay, Cyprien M. T., deceased, Paris, France, (B. F. Lee, New York, N. Y., administrator,) and E. Stern, New York, N. Y.; said Stern assignor to said Lee. Process of and apparatus for distributing liquid fuel in cities	268,878	Dec. 12	584	172	22	2004
Du Shane, James, South Bend, Ind. Wrench	267,505	Nov. 14	691	198	22	1668
Dubelman, John, assignor of one-half to G. W. Kuehn, Detroit, Mich. Machine for making coiled springs	261,319	July 18	1226	341	22	217
Dubey, Charles A., Brooklyn, N. Y. Railway-car chimney	266,787	Oct. 31	1891	549	22	1491
Dubey, Edward A. (See Townsend and Dubey.)						
Dubreuil, George A., Baltimore, Md. Shirt	267,845	Nov. 21	1111	312	22	1752
Dubreuil, Paul E., Baltimore, Md. Shirt	266,112	Oct. 17	1085	307	22	1332
Dubreuil, Paul E., Baltimore, Md. Shirt	266,113	Oct. 17	1085	307	22	1333
Dubreuil, Paul E., Baltimore, Md. Shirt	264,263	Sept. 12	706	195, 196	22	906
Dubrul, Ferdinand, Cincinnati, Ohio. Metal-drilling machine	263,029	Aug. 22	1508	424	22	619
Duburn, Anthony M., assignor to himself and W. Burns, Chicago, Ill. Lantern-guard	266,445	Oct. 24	1500	426	22	1413
Duck, Francis R., Chicago, Ill. Paper box	262,053	Aug. 15	1038	291	22	525
Ducker, Henry W., New York, N. Y. Glove or boot fastening	267,066	Nov. 7	130	37	22	1563
Ducker, John, Santa Rosa, Cal. Feeder for thrashing-machines						
Duckworth, James. (See Smith and Duckworth.)						
Duckworth, John C., assignor to E. S. Higgins & Co., New York, N. Y. Loom for weaving pile fabrics	268,202	Nov. 28	1546	429, 430	22	1837
Duckworth, Thomas. (See Hargreaves, John R., assignor.)						
Ducolin, Stephen, Norwood, N. Y. Heater	261,838	Aug. 1	19	6	22	338
Dudley, Charles B., Altoona, Pa. Purifying natural waters for use in steam-boilers	267,743	Nov. 21	989	.....	22	1730
Dudley, George D., assignor to Woods, Sherwood & Co., Lowell, Mass. Wire stand	261,541	July 25	1499	420	22	270
Dudley, Myrick, assignor, by mesne assignments, to I. B. Keith, Lynn, Mass. Sole-edge finisher. (Reissue)	10,204	Sept. 19	1374	388	22	1036
Dudley, Myrick, assignor, by mesne assignments, to I. B. Keith and J. C. Bennett, Lynn, Mass. Machinery for burnishing the sole-edges of boots and shoes. (Reissue)	10,250	Nov. 28	1774	492	22	1879
Dudley, Myrick, assignor to I. B. Keith, J. C. Bennett, and G. E. Barnard, Lynn, Mass. Burnishing-machine	263,190	Aug. 22	1621	458	22	639
Dudley, Myrick, assignor to I. B. Keith, J. C. Bennett, and G. E. Barnard, Lynn, Mass. Sole-burnishing machine	265,947	Oct. 17	879	252	22	1298
Dudley, Russell G., Jersey City, N. J. Shutter-worker	265,772	Oct. 10	668	190	22	1254
Dudley, Russell G., Jersey City, N. J. Shutter-fastener	267,168	Nov. 7	261	76	22	1586
Dudley, Russell G., Jersey City, N. J. Burglar-alarm	267,503	Nov. 14	687	197	22	1667
Dudley, Walter J., Boston, Mass. Electrical signaling apparatus	264,264	Sept. 12	707	196	22	906
Dudley, Walter J., Boston, Mass. Telephonic apparatus	268,350	Nov. 28	1750	485	22	1875
Dudley, Walter J., Boston, Mass. Telephonic apparatus						
Dudrow, Byron R. (See Bower, Isaac G., assignor.)	260,747	July 11	515	140	22	93
Dueber, John C., Newport, Ky. Manufacture of watch-cases	269,271	Dec. 19	1078	314	22	2099
Duff, Alexander R., assignor of two-thirds to P. Lewis, Oneida, and J. G. Hoffman, New York, N. Y. Bolt-cutter	260,853	July 11	646	.....	22	114
Duff, James, Oswego, N. Y. Obtaining dextrine and saccharine matter from grains	262,654	Aug. 15	1039	291	22	525
Duff, Samuel K. (See Yakel, Levi, assignor.)						
Duffey, Hugh, and J. Vandenburgh, Cortland, N. Y. Crank-pin automatic oiler	261,320	July 18	1228	341	22	218
Duffield, Silas, Willenhall, county of Stafford, England. Manufacture of gas and water fittings	261,321	July 18	1229	341	22	218
Duffield, Silas, Willenhall, county of Stafford, England. Manufacture of hoes						
Duffin, John R. (See Stockman and Duffin.)						
Duffy, Thomas W., assignor to A. M. B. Fraser, Liverpool, county of Lancaster, England. Heater or condenser	264,448	Sept. 19	926	260	22	953
Duggan, Richard, assignor to T. Hall, Lawrence, Mass. Wool-oiling machine	269,514	Dec. 26	1400	403, 404	22	2165
Dugger, Greene W., Greensborough, Ala. Cotton-chopper	266,788	Oct. 31	1892	549	22	1491
Duke, John C., Ottumwa, Iowa. Insect-screen	266,789	Oct. 31	1893	549	22	1492
Duling, Charles F., Charleston, W. Va. Clevis	268,785	Dec. 12	465	136	22	1982
Dummer, Paul, and P. Malmström, assignors to C. H. Schultz, New York, N. Y. Mineral-water fountain	261,086	July 11	949	265	22	164
Dunaway, Elijah F., Covington, Ky. Water-elevator	262,750	Aug. 15	1151	326	22	545
Dunbar, Henry D., North Hartland, Vt. Compound engine	264,937	Sept. 26	1499	421, 422	22	1064
Dunbar, John H., assignor to Clement & Dunbar, Philadelphia, Pa. Churn	266,253	Oct. 17	1250	354, 355	22	1360
Dunbar, Robert, Buffalo, N. Y. Portable elevator	264,938	Sept. 26	1502	422	22	1064
Dundon, Patrick F., San Francisco, Cal. Return-flue vertical boiler	267,407	Nov. 14	577	166	22	1647

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Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Dunham, Edwin L., Quincy, Mich. Farm-fence	268,466	Dec. 5	109	33	22	1907
Dunham, Edwin L., Quincy, Mich. Door-hanger	268,645	Dec. 5	298	87	22	1943
Dunham, George B. (See Hanson and Dunham.)						
Dunham, Henry, Abington, Mass. Screw-nail	266,276	Oct. 24	1287	365	22	1373
Dunklee, Benjamin W., Boston, Mass. Gas-refining and steam-power apparatus	264,640	Sept. 19	1129	319	22	992
Dunks, Charles H. (See Glody, Thomas P., assignor.)						
Dunks, Charles H., and T. P. Glody, New York, N. Y. Bed-bottom	233,130	Aug. 22	1623	458	22	640
Dunks, Charles H., and T. P. Glody, New York, N. Y. Bed-bottom	264,641	Sept. 19	1131	320	22	992
Dunlap, Jackson H., Turloch, assignor of one-half to W. Wilkinson, Los Gatos, Cal. Tank-spout	268,467	Dec. 5	110	33	22	1907
Dunn, John H. (See Griffis and Dunn.)						
Dunn, J. Paris, Brooklyn, N. Y. Fire-escape	267,504	Nov. 14	687	{197 198	22	1667
Dunn, Patrick, and T. Harris, Côte Saint Paul, Quebec, Canada. Wire staple. (Reissue)	10,181	Aug. 15	1357	384	22	583
Dunn, Robert B., Union, Mo. Feed-rack	263,876	Sept. 5	262	75	22	819
Dunn, William, Buffalo, N. Y., assignor to I. B. McQuesten, Hamilton, Ontario, Canada. Feed-water heater for steam-boilers	268,203	Nov. 28	1548	430	22	1837
Dunn, William W., Fort Worth, Tex. Coffee-roaster	266,790	Oct. 31	1894	550	22	1402
Dunnachie, James, Glenboig Star Fire Clay Works, county of Lanark, Scotland. Regenerative kiln for burning fire-brick, &c	268,771	Dec. 5	438	{128 129	22	1970
Duparquet, Louis F., and P. Huot, New York, N. Y. Broiling and roasting attachment for ranges	264,265	Sept. 12	710	196	22	906
Duparquet, Louis F., and P. Huot, New York, N. Y. Coffee-urn	269,028	Dec. 12	764	226	22	2037
Dupee, John C., Decatur, Ill. Calf-weaner	260,748	July 11	516	141	22	93
Durand & Co. (See Durand, Wallace, assignor.)						
Durand, Louis. (See Walker and Durand.)						
Durand, Louis, *et al.* (See Tourangin, Ernest, assignor.)						
Durand, Wallace, assignor to Durand & Co., Newark, N. J. Sleeve-button, stud, &c	267,976	Nov. 21	1264	356	22	1780
Durbin, Henry. (See Freeman, Kasson, assignor.)						
Durborow, Henry C., assignor of one-half to W. B. Moorhead, Chrisman, Ill. Washing-machine	264,030	Sept. 5	450	124	22	852
Duret, Achille, Veuze, near Angoulême, France. Machinery for edging or bordering letter-paper	268,786	Dec. 12	466	{136 137 138	22	1983
Durfee, William F., assignor to Wheeler & Wilson Manufacturing Company, Bridgeport, Conn. Machine for separating and heading horseshoe-nail blanks	266,583	Oct. 24	1643	{468 469 470	22	1440
Durfee, William F., assignor to Wheeler & Wilson Manufacturing Company, Bridgeport, Conn. Machine for trimming and stamping horseshoe-nail blanks	266,584	Oct. 24	1647	{470 471 472	22	1440
Durfee, William F., assignor to Wheeler & Wilson Manufacturing Company, Bridgeport, Conn. Machine for beveling and trimming horseshoe-nail blanks	266,585	Oct. 24	1649	{473 474	22	1441
Durfee, William F., Bridgeport, and H. P. Fowler, deceased. T. Fowler, Seymour, administrator, assignors to Wheeler & Wilson Manufacturing Company, Bridgeport, Conn. Mechanism for reducing and tapering horseshoe-nail blanks	266,586	Oct. 24	1651	{474 475 476	22	1441
Durgin, Henry J., Rochester, N. Y. Table-leaf support	264,518	Sept. 19	999	281	22	968
Durham, Peter, Brooklyn, N. Y. Grubbing-shears	269,029	Dec. 12	764	226	22	2037
Durnell, Milton, assignor to J. H. Street and L. J. Reed, East Monroe, Ohio. Gate	269,396	Dec. 19	1246	362	22	2130
Durozad, Gabriel. (See Gondet and Durozad.)						
Duryea, Wright, Brooklyn, N. Y. Apparatus for manufacture of starch	263,030	Aug. 22	1509	424	22	619
Dusenbury, C. Coles, *et al.* (See Sheffield, George V., assignor.)						
Dutemple, William R., *et al.* (See Case, Asahel B., assignor.)						
Dutton, Rufus, Yonkers, N. Y., assignor to Whiteley, Fassler & Kelly, Springfield, Ohio. Mowing-machine	266,791	Oct. 31	1895	550	22	1492
Duxbury, John W. (See Breckenridge and Duxbury.)						
Dwight, Edward E. (See Yaryan, Homer T., assignor.)						
Dwight, Edward E., Toledo, Ohio. Railway-crossing	262,751	Aug. 15	1152	326	22	545
Dwight, Josiah E. (See Roach, Jeremiah P. W., assignor.)						
Dwinel, Warren S., Providence, R. I. Car-starter	261,209	July 18	1098	306	22	197
Dwyer, Patrick V., Gloversville, N. Y. Water gage and alarm	267,780	Nov. 21	1036	289	22	1738
Dyas, Webster M. (See Walter and Dyas.)						
Dyer, Aaron G. and J. M., assignors of one-third to A. A. Van Wormer, San Francisco, Cal. Rock-crusher	265,490	Oct. 3	313	92	22	1191
Dyer, Charles A., *et al.* (See Baxter, James H., assignor.)						
Dyer, Frederick, Camden Town, county of Middlesex, England. Flood-valve for drains	265,310	Oct. 3	102	30	22	1153
Dyer, Henry C., Charleston, Ark. Cotton-chopper	268,204	Nov. 28	1549	430	22	1837
Dyer, James M. (See Dyer, Aaron G. and J. M.)						
Dyer, John, and C. O. Malmgren, Chicago, Ill.; said Malmgren assignor to said Dyer. Printing-press	262,938	Aug. 22	1391	393	22	508
Dyer, Richard N., *et al.* (See Stieringer, Luther, assignor.)						
Dysart, John T., Saline ville, Ohio, assignor to himself and J. Fox, Philadelphia, Pa. Apparatus for manufacturing carbon-black	266,953	Oct. 31	2099	{602 603	22	1530
Eades, J. Alvin, Middletown, Conn. Attachment for raising and lowering desks	266,792	Oct. 31	1896	551	22	1492
Eager, John H., New Orleans, La. Adjustable bracket for heating purposes	266,446	Oct. 24	1501	426	22	1413
Eagle Cotton Gin Company. (See Carver, Joseph E., assignor.)						
Eagle Lock Company. (See Donahue, Thomas, assignor.)						
Eagle Lock Company. (See Donahue and Cone, assignors.)						
Eagle Lock Company. (See Donahue and Judson, assignors.)						
Eagle Lock Company. (See Mix, Frank W., assignor.)						
Eagle Shade Roller Company. (See Osgood, Pelatiah, assignor.)						
Eames, Albert W. (See Frail, Aaron W., assignor.)	268,879	Dec. 12	586	173	22	2005
Earhart, George F., Winterset, Iowa. Brick-die						
Earhart, George W. (See Butler, Earhart, and Crawford.)	260,854	July 11	647	175	22	114
Earle, Anthony I., Valley Falls, R. I. Shoe-tongue						
Earle, Henry E., Danbury, assignor of three-fourths to J. R., W. T., and T. I. Raymond, Norwalk, Conn. Machine for sizing, scalding, fulling, and washing hat-bodies and other feltable fabrics	269,397	Dec. 19	1246	362	22	2130
Earle, John, Darby, Pa. Engraving-machine	260,463	July 4	144	41	22	25
Earle, John, Darby, Pa. Engraving script	260,464	July 4	146	42	22	26
Easley, John W. (See Mebane, Thomas H., assignor.)						
Eastburn, David B., assignor of one-half to M. Campbell, South Bend, Ind. Bale-tie	264,031	Sept. 5	452	124	22	852
Eastburn, David B., assignor of one-half to M. Campbell, South Bend, Ind. Bale-tie	266,587	Oct. 24	1654	476	22	1441
Eastern Paper Bag Company. (See Chandler, Clarence A., assignor.)						
Eastman, Albert P., Falls Church, Va. School, song, and sign roll	268,468	Dec. 5	111	33, 34	22	1908

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Eastman, William E., Boston, Mass., assignor to American Freight Car Heater Company, Portland, Me. Apparatus for heating freight-cars	269,189	Dec. 19	976	285	22	2080
Easton, Archibald G., Sedalia, Mo. Bail-trap	266,980	Nov. 7	28	9	22	1545
Eaton, Asahel K., Brooklyn, N. Y. Secondary battery	266,114	Oct. 17	1086	{307 308	22	1333
Eaton, Asahel K., Brooklyn, N. Y. Preparing peroxide of lead	266,115	Oct. 17	1088	.....	22	1333
Eaton, Asahel K., Brooklyn, N. Y., assignor of two-thirds to W. and T. Wallace, Ansonia, Conn. Secondary battery	268,360	Nov. 28	1753	486	22	1875
Eaton, Benjamin D., Johnstown, N. Y. Fastening for gloves, &c	261,690	July 25	1674	470	22	300
Eaton, Enoch C., Pinckneyville, Ill. Colter-fastener	267,846	Nov. 21	1112	312	22	1752
Eaton, George H., *et al.* (See Jackson, William W., assignor.)						
Eaton, George S., Brooklyn, N. Y. Conduit for electrical conductors	266,681	Oct. 31	1769	510	22	1468
Eberhard, John G., Akron, Ohio. Hame	260,549	July 4	239	72	22	44
Eberhard, John G., Akron, Ohio. Hame	264,519	Sept. 19	1000	{281 282	22	908
Eberhard, Rudolph, assignor of one-half to J. Boegli, San Francisco, Cal. Beer-faucet	261,914	Aug. 1	112	34	22	354
Eberhart, Lloyd, Joliet, Ill. Check-rower for corn-planters	268,085	Nov. 28	1403	392	22	1811
Eberley, Friderich C., and R. Richter, Denver, Colo. Calorifere	267,781	Nov. 21	1037	290	22	1738
Eberts, Robert J., and J. L. Lee; said Eberts assignor to American Heating and Power Company, New York, N. Y. Non-absorbing and heat-insulating material	266,954	Oct. 31	2101	603	22	1530
Ebi, Edward, Cedar Rapids, Iowa. Car-brake	265,773	Oct. 10	668	190	22	1254
Ebken, John G., Pittsburg, Pa. Running-gear for vehicles	268,391	Dec. 5	21	7	22	1891
Ebneter, James, St. Galle, Switzerland. Embroidering-machine	262,383	Aug. 8	698	{195 196 197	22	460
Eccles, Fish, Auburn, N. Y. Grinding and polishing machine	269,647	Dec. 26	1568	450	22	2198
Eckel, George, Richmond, Ind. Attachment for securing stove-pipes in flue-thimbles	268,646	Dec. 5	299	87	22	1943
Eckert, Edward A. (See Eckert and Seely.)						
Eckert, Edward A. (See Eckert, Seely, and Eckert.)						
Eckert, Edward A. (See Shiras and Eckert.)						
Eckert, William H. and E. A., and J. A. Seely, Cincinnati, Ohio. Combined insulator, lightning-arrester, and connector	262,210	Aug. 8	497	139	22	425
Eckert, William H., J. A. Seely, and E. A. Eckert, Cincinnati, Ohio. Combined telephonic receiver and automatic circuit-breaker	266,277	Oct. 24	1288	365	22	1373
Eckman, Andrew, assignor of one-half to H. A. Mikkelson, Granite Falls, Minn. Machine for trimming spokes	268,787	Dec. 12	469	138	22	1983
Eclipse Improved Wheat Cleaning Machine Company. (See Teter, William L., assignor.)						
Eclipse Wind Engine Company. (See Wheeler, William H., assignor.)						
Eddlemon, John F., and W. L. Walker, Witcherville, Ark. Shoe and leather polish	265,041	Sept. 26	1030	.....	22	1086
Eddy, Charles F. A., Greenfield, Mass. Railway-switch	269,398	Dec. 19	1247	363	22	2130
Eddy, Daniel B., Somerset, Mass. Life-boat	261,143	July 18	1018	{286 287	22	185
Eddy, Walton A., Randolph, N. Y. Thill-coupling	261,144	July 18	1018	287	22	185
Edge, William, Newark, N. J. Making ornamental chains	266,278	Oct. 24	1289	365	22	1374
Edge, William C., Newark, N. J. Watch-chain	263,691	Sept. 5	26	8	22	779
Edge, William C., Newark, N. J. Inlaid work and process of making the same	268,469	Dec. 5	113	34	22	1908
Edgerton, Henry H., Danbury, Conn. Registering gas consumption and manufacturing to a standard	265,222	Sept. 26	1842	517	22	1125
Edgerton, Nathan H., Philadelphia, Pa. Electric-arc lamp	268,392	Dec. 5	22	7, 8	22	1891
Edgington, Warren R., Waterloo, Iowa. Machine for measuring grain	261,210	July 18	1099	307	22	198
Edinger, Sigmund, New York, N. Y. Water-closet attachment	263,877	Sept. 5	263	76	22	819
Edinger, Sigmund, New York, N. Y. Device for washing a combined urinal and privy cover	269,648	Dec. 26	1569	{450 451	22	2198
Edison Electric Light Company. (See Edison, Thomas A., assignor.)						
Edison Electric Light Company. (See Holzer, William, assignor.)						
Edison Electric Light Company. (See Mott, Samuel D., assignor.)						
Edison Electric Light Company. (See Ott, John F., assignor.)						
Edison, Thomas A., Menlo Park, N. J. Magnetic ore-separator	263,131	Aug. 22	1624	459	22	640
Edison, Thomas A., Menlo Park, N. J. Electro-magnetic railway	263,132	Aug. 22	1625	459	22	640
Edison, Thomas A., Menlo Park, N. J. Manufacture of incandescing electric lamps	264,650	Sept. 19	1143	323	22	994
Edison, Thomas A., Menlo Park, N. J. Incandescent electric lamp	264,651	Sept. 19	1144	323	22	994
Edison, Thomas A., Menlo Park, N. J. Incandescent electric lamp	264,652	Sept. 19	1144	324	22	994
Edison, Thomas A., Menlo Park, N. J. Incandescent electric lamp	264,653	Sept. 19	1145	324	22	995
Edison, Thomas A., Menlo Park, N. J. Incandescent electric lamp	264,654	Sept. 19	1145	324	22	995
Edison, Thomas A., Menlo Park, N. J. Incandescing electric lamp	264,655	Sept. 19	1146	324	22	995
Edison, Thomas A., Menlo Park, N. J. Incandescent electric lamp	264,656	Sept. 19	1147	325	22	995
Edison, Thomas A., Menlo Park, N. J. Regulator for dynamo-electric machines	264,658	Sept. 19	1149	325	22	996
Edison, Thomas A., Menlo Park, N. J. Regulator for dynamo-electric machines	264,659	Sept. 19	1150	325	22	996
Edison, Thomas A., Menlo Park, N. J. Regulator for dynamo-electric machines	264,660	Sept. 19	1151	326	22	996
Edison, Thomas A., Menlo Park, N. J. Regulator for dynamo-electric machines	264,661	Sept. 19	1153	326	22	997
Edison, Thomas A., Menlo Park, N. J. Regulator for dynamo-electric machines	264,662	Sept. 19	1155	327	22	997
Edison, Thomas A., Menlo Park, N. J. Regulator for dynamo-electric machines	264,663	Sept. 19	1156	327	22	997
Edison, Thomas A., Menlo Park, N. J. Regulator for dynamo-electric machines	264,664	Sept. 19	1157	327	22	998
Edison, Thomas A., Menlo Park, N. J. Regulator for dynamo-electric machines	264,665	Sept. 19	1158	327	22	998
Edison, Thomas A., Menlo Park, N. J. Regulator for dynamo-electric machines	264,666	Sept. 19	1159	328	22	998
Edison, Thomas A., Menlo Park, N. J. Regulator for dynamo-electric machines	264,667	Sept. 19	1160	328	22	999
Edison, Thomas A., Menlo Park, N. J. Regulator for dynamo-electric machines	264,668	Sept. 19	1161	328	22	999
Edison, Thomas A., Menlo Park, N. J. Regulator for dynamo-electric machines	264,669	Sept. 19	1162	{328 329	22	999
Edison, Thomas A., Menlo Park, N. J. Regulator for dynamo-electric machines	264,670	Sept. 19	1163	329	22	1000
Edison, Thomas A., Menlo Park, N. J. Regulator for dynamo-electric machines	264,671	Sept. 19	1164	329	22	1000
Edison, Thomas A., Menlo Park, N. J. Regulator for dynamo-electric machines	264,672	Sept. 19	1165	{329 330	22	1000
Edison, Thomas A., Menlo Park, N. J. Electro-magnetic railway-engine	265,778	Oct. 10	673	191	22	1256
Edison, Thomas A., Menlo Park, N. J. Regulator for dynamo-electric machines	265,779	Oct. 10	675	192	22	1256
Edison, Thomas A., Menlo Park, N. J. Regulator for dynamo-electric machines	265,780	Oct. 10	677	192	22	1256
Edison, Thomas A., Menlo Park, N. J. Regulator for dynamo-electric machines	265,781	Oct. 10	678	192	22	1257
Edison, Thomas A., Menlo Park, N. J. Regulator for dynamo-electric machines	265,782	Oct. 10	679	193	22	1257
Edison, Thomas A., Menlo Park, N. J. Regulator for dynamo-electric machines	265,783	Oct. 10	681	193	22	1257
Edison, Thomas A., Menlo Park, N. J. Regulator for dynamo-electric machines	265,784	Oct. 10	682	193	22	1258
Edison, Thomas A., Menlo Park, N. J. Dynamo-electric machine	265,785	Oct. 10	683	193	22	1258
Edison, Thomas A., Menlo Park, N. J. Apparatus for the electrical transmission of power	265,786	Oct. 10	685	194	22	1258
Edison, Thomas A., Menlo Park, N. J. Telephone	266,021	Oct. 17	974	276	22	1313
Edison, Thomas A., Menlo Park, N. J. Telephone	266,022	Oct. 17	975	276	22	1313

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Edison, Thomas A., Menlo Park, N. J. Dynamo or magneto electric machine	263,205	Nov. 28	1551	430	22	1838
Edison, Thomas A., Menlo Park, N. J. Incandescing electric lamp	263,206	Nov. 28	1552	431	22	1838
Edison, Thomas A., Menlo Park, N. J., assignor to Edison Electric Light Company, New York, N. Y. Dynamo or magneto electric machine	263,133	Aug. 22	1626	460	22	640
Edison, Thomas A., Menlo Park, N. J., assignor to Edison Electric Light Company, New York, N. Y. Regulator for dynamo or magneto electric machines	263,134	Aug. 22	1628	460	22	641
Edison, Thomas A., Menlo Park, N. J., assignor to Edison Electric Light Company, New York, N. Y. Electric lamp	263,135	Aug. 22	1629	460	22	641
Edison, Thomas A., Menlo Park, N. J., assignor to Edison Electric Light Company, New York, N. Y. Regulator for dynamo or magneto electric machines	263,136	Aug. 22	1630	460 461	22	641
Edison, Thomas A., Menlo Park, N. J., assignor to Edison Electric Light Company, New York, N. Y. Electric chandelier	263,137	Aug. 22	1632	461	22	642
Edison, Thomas A., Menlo Park, N. J., assignor to Edison Electric Light Company, New York, N. Y. Electric-arc light	263,138	Aug. 22	1632	461	22	642
Edison, Thomas A., Menlo Park, N. J., assignor to Edison Electric Light Company, New York, N. Y. Manufacture of carbons for electric lamps	263,139	Aug. 22	1633	462	22	642
Edison, Thomas A., Menlo Park, N. J., assignor to Edison Electric Light Company, New York, N. Y. Dynamo-electric machine	263,140	Aug. 22	1634	462	22	642
Edison, Thomas A., Menlo Park, N. J., assignor to Edison Electric Light Company, New York, N. Y. Straightening carbons of electric incandescent lamps	263,141	Aug. 22	1636	462	22	643
Edison, Thomas A., Menlo Park, N. J., assignor to Edison Electric Light Company, New York, N. Y. Electrical distribution system	263,142	Aug. 22	1636	462	22	643
Edison, Thomas A., Menlo Park, N. J., assignor to Edison Electric Light Company, New York, N. Y. Magneto or dynamo electric machine	263,143	Aug. 22	1638	463	22	643
Edison, Thomas A., Menlo Park, N. J., assignor to Edison Electric Light Company, New York, N. Y. Mold for carbonizing incandescents	263,144	Aug. 22	1639	463	22	643
Edison, Thomas A., Menlo Park, N. J., assignor to Edison Electric Light Company, New York, N. Y. Making incandescents	263,145	Aug. 22	1640	.....	22	643
Edison, Thomas A., Menlo Park, N. J., assignor to Edison Electric Light Company, New York, N. Y. Dynamo or magneto electric machine	263,146	Aug. 22	1641	463	22	643
Edison, Thomas A., Menlo Park, N. J., assignor to Edison Electric Light Company, New York, N. Y. Vacuum apparatus	263,147	Aug. 22	1642	464	22	644
Edison, Thomas A., Menlo Park, N. J., assignor to Edison Electric Light Company, New York, N. Y. Dynamo or magneto electric machine	263,148	Aug. 22	1643	464	22	644
Edison, Thomas A., Menlo Park, N. J., assignor to Edison Electric Light Company, New York, N. Y. Commutator for dynamo or magneto electric machines	263,149	Aug. 22	1644	464	22	644
Edison, Thomas A., Menlo Park, N. J., assignor to Edison Electric Light Company, New York, N. Y. Magneto or dynamo electric machine	263,150	Aug. 22	1645	465	22	644
Edison, Thomas A., Menlo Park, N. J., assignor to Edison Electric Light Company, New York, N. Y. Electric lamp	263,878	Sept. 5	264	76	22	819
Edison, Thomas A., Menlo Park, N. J., assignor to Edison Electric Light Company, New York, N. Y. Electric distribution and translation system	264,642	Sept. 19	1133	320 321	22	992
Edison, Thomas A., Menlo Park, N. J., assignor to Edison Electric Light Company, New York, N. Y. Magneto-electric machine	264,643	Sept. 19	1135	321	22	993
Edison, Thomas A., Menlo Park, N. J., assignor to Edison Electric Light Company, New York, N. Y. System of conductors for the distribution of electricity	264,645	Sept. 19	1136	322	22	993
Edison, Thomas A., Menlo Park, N. J., assignor to Edison Electric Light Company, New York, N. Y. Dynamo or magneto electric machine	264,646	Sept. 19	1137	322	22	993
Edison, Thomas A., Menlo Park, N. J., assignor to Edison Electric Light Company, New York, N. Y. Dynamo or magneto electric machine	264,647	Sept. 19	1138	322	22	993
Edison, Thomas A., Menlo Park, N. J., assignor to Edison Electric Light Company, New York, N. Y. Dynamo or magneto electric machine	264,648	Sept. 19	1140	323	22	994
Edison, Thomas A., Menlo Park, N. J., assignor to Edison Electric Light Company, New York, N. Y. Dynamo or magneto electric machine	264,649	Sept. 19	1140	323	22	994
Edison, Thomas A., Menlo Park, N. J., assignor to Edison Electric Light Company, New York, N. Y. Incandescent electric lamp	264,657	Sept. 19	1148	325	22	995
Edison, Thomas A., Menlo Park, N. J., assignor to Edison Electric Light Company, New York, N. Y. Regulator for dynamo-electric machines	264,673	Sept. 19	1166	330	22	1001
Edison, Thomas A., Menlo Park, N. J., assignor to Edison Electric Light Company, New York, N. Y. Electric lamp and holder for the same	265,311	Oct. 3	104	31	22	1153
Edison, Thomas A., Menlo Park, N. J., assignor to Edison Electric Light Company, New York, N. Y. Maintaining temperature in webermeters	265,774	Oct. 10	669	190	22	1255
Edison, Thomas A., Menlo Park, N. J., assignor to Edison Electric Light Company, New York, N. Y. Electric-arc light	265,775	Oct. 10	670	191	22	1255
Edison, Thomas A., Menlo Park, N. J., assignor to Edison Electric Light Company, New York, N. Y. Electric lighting system	265,776	Oct. 10	671	191	22	1255
Edison, Thomas A., Menlo Park, N. J., assignor to Edison Electric Light Company, New York, N. Y. Treating carbons for electric lamps	265,777	Oct. 10	672	.....	22	1256
Edison, Thomas A., Menlo Park, N. J., assignor to Edison Electric Light Company, New York, N. Y. Electric incandescent lamp	266,447	Oct. 24	1302	426	22	1413
Edison, Thomas A., Menlo Park, N. J., assignor to Edison Electric Light Company, New York, N. Y. Vacuum apparatus	266,588	Oct. 24	1655	476	22	1441
Edison, Thomas A., Menlo Park, N. J., assignor to Edison Electric Light Company, New York, N. Y. Electric distribution system	266,793	Oct. 31	1897	551	22	1492
Edleblute, Lucius S., Cincinnati, Ohio. Saw	266,682	Oct. 31	1770	511	22	1469
Edleblute, Lucius S., assignor of one-half to R. P. White and H. W. Smith, Cincinnati, Ohio. Sawing-machine	261,669	July 25	1675	470	22	300
Edmiston, Robert H., Americus, Kans. Grain-meter	261,511	July 18	1455	406	22	236
Edmonds, John A., Camden, Del. Tricycle	264,674	Sept. 19	1167	330	22	1001
Edmonds, John P., assignor of one-half to W. C. Hall and A. Loyd, Jacksborough, Tenn. Derrick	263,151	Aug. 22	1647	465	22	645
Edmonds, John P., assignor of one-half to H. M. Cawood, Jacksborough, Tenn. Split-bolt wedge	263,207	Nov. 28	1553	431	22	1838
Edmondson, George, New Haven, Conn. Steam-heated boiler	264,266	Sept. 12	711	197	22	907
Edney, Govan P., Edneyville, N. C. Buckle	266,023	Oct. 17	976	277	22	1314
Edson, William, and N. M. Lowe, Boston, Mass. Safety attachment for elevators	263,773	Sept. 5	128	30, 40	22	796
Edwards, Charles J., Fairville, Mo. Car-coupling	263,879	Sept. 5	264	76	22	820
Edwards, Edward R., assignor of one-half to T. Cheshire, Cincinnati, Ohio. Book-sewing	262,891	Aug. 15	1333	376	22	577
Edwards, Granville M., Gray, assignor to himself and W. E. Dennison, Portland, Me. Stove	266,794	Oct. 31	1899	551	22	1493
Edwards, Joseph, and J. R. F. Kelly, Brooklyn, N. Y. Hoisting and conveying apparatus	263,208	Nov. 28	1553	431 462	22	1838
Egan, Charles, assignor to G. M. Jewett, Zanesville, Ohio. Mechanical telephone	269,030	Dec. 12	765	220	22	2038
Ege, Alexander H. (See Walters, Charles D., assignor.)						
Ege, Alexander H., Mechanicsburg, Pa. Broiler	264,867	Sept. 26	1407	377	22	1048

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Ege, Alexander H., Mechanicsburg, and C. D. Walters, Harrisburg, Pa. Protractor	267,336	Nov. 14	476	138	22	1631
Ege, Joseph A., *et al.* (See Hershey, Benjamin, assignor.)						
Egelhoff, John H. (See Weinedel, Charles, assignor.)						
Egerton, C. Calvert, Baltimore, Md. Carriage-top standard	264,675	Sept. 19	1169	330	22	1001
Egerton, C. Calvert, Baltimore, Md. Seal-lock for mail-bags	264,676	Sept. 19	1169	331	22	1001
Egge, Frederick, and C. A. J. Sjoberg, Bridgeport, Conn.; said Sjoberg assignor to said Egge. Attachment for sewing on buttons	268,470	Dec. 5	114	34, 35	22	1908
Eggers, Anton, New York, N. Y. Mixing and shaking cup	263,364	Aug. 29	2001	572	22	709
Eggleston, Charles H., Marshall, Mich. Cultivator	261,595	July 25	1567	440	22	282
Eggleston, Charles H., Marshall, Mich. Cultivator	267,682	Nov. 21	922	262	22	1718
Eglin, Adam R., Chicago, Ill. Hay-carrier	266,116	Oct. 17	1089	308	22	1333
Ehle, John H., assignor of one-half to F. A. Battey, Chicago, Ill. Grinding-mill	264,939	Sept. 26	1503	422	22	1064
Ehlers, Peter, Albany, N. Y. Elevator-bucket	269,031	Dec. 12	766	226	22	2038
Eickemeyer, Rudolf, Yonkers, N. Y. Hat-stretching machine	269,032	Dec. 12	768	227 228	22	2038
Eickemeyer, Rudolf, Yonkers, N. Y. Machine for blocking and shaping hats						
Einsfield, John. (See Maxwell and Einsfield.)						
Eisele, Joseph, assignor of two-thirds to B. F. Masters and C. E. Gove, Lafayette, Ind. Car-axle box	267,337	Nov. 14	478	139	22	1631
Ekman, Carl D., London, England. Treating fibrous vegetable substances to obtain fiber suitable for paper-making and for textile and other purposes	260,749	July 11	517	.....	22	93
Ela, Jonathan C., Boston, Mass. Device for making interest and other computations	262,939	Aug. 22	1393	393 394	22	598
Elam, William E. (See Elam, Willoughby P., assignor.)						
Elam, Willoughby P., assignor of one-half to W. E. Elam, Petersburg, Ill. Feed-box for seed-drills	263,152	Aug. 22	1648	465	22	645
Elam, Willoughby P., and W. F. Boggs; said Boggs assignor of one-third to E. L. Galt, Petersburg, Ill. Grain-drill	268,361	Nov. 28	1755	486	22	1875
Elbreg, George, Columbus, Ohio. Tile-machine	267,847	Nov. 21	1113	312 313	22	1752
Elbreg, George, Columbus, Ohio. Process of and machinery for making tile-blocks	267,848	Nov. 21	1115	313	22	1753
Elbreg, Henry H., Indianapolis, Ind. Reclining-chair	263,395	Aug. 29	2002	572	22	709
Eldredge, George D., assignor to Eldredge Sewing Machine Company, Chicago, Ill. Sewing-machine shuttle	261,839	Aug. 1	19	6	22	338
Eldredge, John V. D., Detroit, Mich. Sewing-machine shuttle. (Reissue)	10,231	Nov. 7	439	128	22	1618
Eldredge Sewing Machine Company. (See Dieterle, Henry E., assignor.)						
Eldredge Sewing Machine Company. (See Eldredge, George D., assignor.)						
Eldridge, James W., Hartford, Conn. Fastening device for horses	262,582	Aug. 15	942	266	22	508
Electric Gas Lighting Company. (See Tirrell, Jacob P., assignor.)						
Electrical Supply Company. (See McCarty, Norman, assignor.)						
Electrical Supply Company. (See Prosch, Cyrus, assignor.)						
Elges, Gottlieb D., Clinton, Mo. Cigar-machine	266,024	Oct. 17	976	277	22	1314
Elkins, Charles M., Matteawan, and W. H. Weston, Newburg, N. Y. Saw-sharpening machine	263,495	Aug. 29	2113	605	22	729
Elkins Manufacturing and Gas Company. (See Meredith, Edmund, assignor.)						
Ellacott, Joseph P. (See Dorsett and Ellacott.)						
Ellacott, Joseph P., assignor to Union Brass Manufacturing Company, Chicago, Ill. Pump	266,117	Oct. 17	1091	308	22	1333
Elliot, William H., New York, N. Y. Magazine fire-arm	262,023	Aug. 1	236	70	22	377
Elliott, Charles J. (See Fruen, Potts, and Elliott.)						
Elliott, Charles W., assignor of one-half to R. S. Merrill, Boston, Mass. Oiler	265,787	Oct. 10	686	194	22	1259
Elliott, Charles W., assignor of one-half to R. S. Merrill, Boston, Mass. Protector for boot and shoe straps	267,506	Nov. 14	692	198	22	1668
Elliott, Francis M., Sanmum, Ill. Drag-saw	261,322	July 18	1230	342	22	218
Elliott, Gilbert R., Moncton, New Brunswick, Canada, assignor of five-eighths to T. E. Clary, Norwood, Mass. Lifting-jack	265,042	Sept. 26	1020	456	22	1086
Elliott, Gilbert R., Boston, Mass., assignor to Elliott Pneumatic Door Check Company, Nashua, N. H. Pneumatic door check and closer	265,919	Oct. 10	830	237	22	1283
Elliott, Gilbert R., Boston, Mass., assignor to Elliott Pneumatic Door Check Company, Nashua, N. H. Pneumatic door check and closer	265,920	Oct. 10	832	237	22	1284
Elliott, Gilbert R., Boston, Mass., assignor to Elliott Pneumatic Door Check Company, Nashua, N. H. Pneumatic door-check	265,921	Oct. 10	834	238	22	1284
Elliott, Gilbert R., assignor to Elliott Pneumatic Door Check Company, Boston, Mass., Pneumatic door-check	266,795	Oct. 31	1901	551 552	22	1493
Elliott, James, Jefferson, Wis. Machine for forming and sharpening horseshoe-calks	263,880	Sept. 5	265	77	22	820
Elliott, James M., Columbus, Ohio. Cleaning ice from car-tracks	260,550	July 4	260	72	22	44
Elliott Machine Company. (See Elliott Sterling, assignor.)						
Elliott Pneumatic Door Check Company. (See Elliott, Gilbert R., assignor.)						
Elliott, R. T., *et al.* (See Springer, Lewis C., assignor.)						
Elliott, Sterling, assignor to Elliott Machine Company, Boston, Mass. Pamphlet-stitching machine	263,031	Aug. 22	1510	425	22	619
Elliott, William B., Corning, N. Y. Actuating-pawl for lawn-mowers	268,471	Dec. 5	115	35	22	1908
Elliott, William F. (See Lance and Elliott.)						
Ellis, Aldridge C., Birmingham, assignor of one-half to J. Stanley, Detroit, Mich. Car-coupling	260,855	July 11	649	175	22	114
Ellis, Edgar E. (See Ely and Ellis.)						
Ellis, Edward S., Trenton, N. J. Foot-mat	263,774	Sept. 5	129	40	22	796
Ellis, Edwin J., Washington, Wood county, Ohio. Fire-wood drag-saw	263,153	Aug. 22	1648	466	22	645
Ellis, Frederick L. and J. M., Millsdale, assignors to J. B. Savage, Southington, Conn. Wagon-axle cutter	261,692	July 25	1676	470	22	300
Ellis, George H., assignor to F. W. Marshall, London, England. Apparatus for cleaning and polishing boots and shoes	261,211	July 18	1160	307	22	198
Ellis, James M. (See Ellis, Frederick L. and J. M.)						
Ellis, James M., Millsdale, Conn. Pitman for double-acting presses	267,408	Nov. 14	578	166	22	1647
Ellis, John T. (See Mullen, James F., assignor.)						
Ellis, Joseph L., Millington, Mich. Lifting-jack	267,169	Nov. 7	262	76	22	1586
Ellis, Samuel, St. Louis, Mo. Heater and cooker	260,856	July 11	649	176	22	115
Ells, George F., Deposit, N. Y. Hair-brush	260,857	July 11	650	176	22	115
Ellsworth, Charles W., assignor to Chicago Stamping Company, Chicago, Ill. Sheet-metal-can top	263,326	Aug. 29	1912	548	22	694
Ellsworth, George, Bowling Green, Ohio. Bee-hive	263,154	Aug. 22	1649	466	22	645
Ellsworth, George A., assignor of two-thirds to E. Quinn, Algiers, and C. Minnigerode, Jr., New Orleans, La. Seal-lock	269,033	Dec. 12	773	228	22	2039
Ellsworth, John J., Langston, Mich. Drive-gate	269,649	Dec. 26	1570	451	22	2198
Ellwood, Abram. (See Ellwood, Renben and A.)						
Ellwood, Isaac L., *et al.* (See Upham, Andrew J., assignor.)						
Ellwood, Renben, Sycamore, Ill. Stop-block for horse-rakes	269,515	Dec. 26	1402	404	22	2165

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Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
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Ellwood, Reuben and A., Sycamore, Ill. Wire-stretcher	260,957	July 11	766	210	22	134
Elmer, Albert E., Springfield, Mass., assignor to W. H. H. Rogers, Brooklyn, N. Y. Paper-scoring machine	267,849	Nov. 21	1117	314	22	1753
Elmer, Jacob, Biloxi, Miss. Tubular railway-rail	262,384	Aug. 8	702	197, 198	22	461
Elsey, George, Springfield, Mass. Blackboard and support	266,118	Oct. 17	1092	309	22	1334
Elsey, George, assignor to I. A. Upham, Springfield, Mass. Barbed fencing	261,212	July 18	1101	307	22	198
Elsey, George, assignor to I. A. Upham, Springfield, Mass. Barbed fencing	265,223	Sept. 26	1845	518	22	1125
Elsey, George, Springfield, assignor to Worcester Barb Fence Company, Worcester, Mass. Wire-stretcher	260,551	July 4	260	73	22	44
Elson, Julius. (See Jonson, Julius, assignor.)						
Elster, Siegmar. (See Trobach, Konrad, assignor.)						
Eltonhead, Ed. Y. (See Eltonhead, William B., assignor.)						
Eltonhead, William B., assignor to E. Y. Eltonhead, Philadelphia, Pa. Conduit for underground lines	267,409	Nov. 14	579	166	22	1647
Eltonhead, William B., assignor to E. Y. Eltonhead, Philadelphia, Pa. Conduit for electrical conductors	269,568	Dec. 26	1466	422	22	2178
Eltzner, Robert W., New York, N. Y. Manufacturing mosaic plates	266,025	Oct. 17	977	277	22	1314
Eltzroth, George W., and I. Raypholtz, Marion, Ind. Car-coupling	267,850	Nov. 21	1119	314	22	1753
Elward, John H., Stillwater, Minn. Barrel	268,362	Nov. 28	1756	486	22	1876
Elward, John H., Stillwater, Minn. Barrel	268,363	Nov. 28	1757	486	22	1876
Elward, John H., Stillwater, Minn. Thrashing-machine	268,647	Dec. 5	300	87, 88	22	1944
Elward, John H., Stillwater, Minn. Traction-engine	268,648	Dec. 5	302	88	22	1944
Elwell, Sandford B. (See Rovce, James W., assignor.)						
Ely, George E., and E. E. Ellis, Rochester, N. Y. Whip	260,465	July 4	147	42	22	26
Emanuel, Henry, New York, N. Y. Overcoat	265,043	Sept. 26	1622	456	22	1086
Emeis, Charles M., Mount Joy, Iowa. Traction-wheel	262,752	Aug. 15	1154	326	22	545
Emerick, Aaron, assignor of one-half to J. M. Stief, Johnsburg, Pa. Shingle-sawing machine	269,272	Dec. 19	1079	315	22	2099
Emerson, Charles M. (See Atkins, Black, and Emerson.)						
Emerson, Charles M., assignor to E. C. Atkins, Indianapolis, Ind. Saw-tooth	260,552	July 4	262	73	22	44
Emerson, Charles M., assignor to E. C. Atkins, Indianapolis, Ind. Detachable saw-tooth	262,024	Aug. 1	239	71	22	377
Emerson, Charles W., New York, N. Y., and C. H. Lindholm, Jersey City, N. J. Friction device for transmitting power	263,032	Aug. 22	1514	426	22	620
Emerson, Edward. (See French, Franklin F., assignor.)						
Emerson, James, Willimansett, Mass. Chuck for centering and securing pulleys to shafts	262,211	Aug. 8	498	139	22	425
Emerson, James, Willimansett, Mass. Piano-stool	269,034	Dec. 12	774	229	22	2039
Emerson, James, Willimansett, assignor of one-half to W. A. Chace, Holyoke, Mass. Power-scale	266,119	Oct. 17	1093	309	22	1334
Emerson, James, Willimansett, assignor of one-half to W. A. Chace, Holyoke, Mass. Power-scale for shafting	266,120	Oct. 17	1095	309, 310	22	1334
Emerson, James E., Beaver Falls, Pa. Tool for truing emery-wheels	262,655	Aug. 15	1040	291	22	526
Emerson, James F., *et al.* (See Blodgett, George W. and A. D., assignors.)						
Emerson, James F., *et al.* (See Blodgett and Tirrell, assignors.)						
Emerson, Ralph, *et al.* (See Stroud, William D., assignor.) (Reissue.)						
Emerson, Talcott & Co. (See Jones, James H., assignor.)						
Emerson, William B. (See Van Dyke, John W., assignor.)						
Emery, Charles G. (See Brown, Samuel, assignor.)						
Emery, Charles G., Brooklyn, N. Y. Machine for dressing fine-cut tobacco	260,958	July 11	767	210, 211	22	134
Emery, Charles G. and W. H., Brooklyn, N. Y., assignors to said Charles G. Emery. Cigarette-machine	260,959	July 11	772	211, 212, 213, 214	22	135
Emery, John A., Decatur, Ohio. Gate	268,649	Dec. 5	303	88	22	1944
Emery, John A., Boston, assignor of one-fourth to T. E. Stuart, West Newton, Mass. Railway signaling apparatus	261,813	July 25	1820	514	22	325
Emery, Lowell M., Louisville, Ky. Apparatus for bath purposes	266,981	Nov. 7	29	9	22	1545
Emery, William H. (See Emery, Charles G. and W. H.)						
Emmens, Stephen H., London, county of Middlesex, England. Incandescent electric lamp	267,647	Nov. 14	873	249	22	1701
Emmert, Ezra, Dixon, Ill. Fire-escape	263,775	Sept. 5	130	40	22	796
Empire Refrigerating Company. (See Mayer and Jungenfeld, assignors.)						
Empress Embroiderer Company. (See Chilton, Franklin H., assignor.)						
Endemann, Hermann, Brooklyn, N. Y. Manufacture of glucose and grape-sugar	269,779	Dec. 26	1730	.....	22	2228
Enders, Joseph, assignor of one-half to S. Severson, Louisville, Ky. Carriage-spring	265,397	Oct. 3	200	61	22	1172
Endicott, Israel O., Manchester, N. H. Vehicle	262,385	Aug. 8	703	198	22	461
Engelmann, Alexander, North Attleborough, Mass. Bracelet	265,044	Sept. 26	1623	456	22	1087
Engelmann, Alexander, North Attleborough, Mass. Bracelet	267,782	Nov. 21	1039	290	22	1739
Engelmann, Alexander, North Attleborough, Mass. Bracelet	267,851	Nov. 21	1119	314	22	1754
Engeln, Emelie. (See Wright and Engeln.)						
Englaender, Joseph. (See Bapple, James W., assignor.)						
England, Bodo, Philadelphia, Pa. Lubricator	262,025	Aug. 1	240	71	22	377
England, Henry J., Falls Church, Va. Croquet-wicket	266,355	Oct. 24	1401	397	22	1395
England, John H., and E. Horth, Chicago, Ill. Automatic rail-punching machine	269,650	Dec. 26	1571	451	22	2199
England, L. W. (See England, Paren, assignor.)						
England, Paren, assignor to L. W. England, Silver Cliff, Colo. Hoop	265,224	Sept. 26	1845	518	22	1125
Engleman, Solomon. (See Brown, David F., Sr., assignor.)						
English, Andrew J., Detroit, Mich. Water-elevator	268,086	Nov. 28	1404	393	22	1811
English, James. (See Reynolds and English.)						
English & Mersick. (See Parker, William K., assignor.)						
English, Robert, Austin, Tex. Grain-heater	265,664	Oct. 10	546	149	22	1233
English, Samuel F., Chicago, Ill. Safety-stirrup	269,035	Dec. 12	775	229	22	2039
Engram, John E., Eufaula, Ala. Cotton-cleaner	268,209	Nov. 28	1558	432	22	1839
Enoch, Benjamin F. (See Wheeler, Marshal, assignor.)						
Enos, Silvanna F. (See Enos, Solomon and S. F.)						
Enos, Solomon and S. F., Etna, Ill. Portable fence	263,033	Aug. 22	1516	426	22	620
Ensign, Joseph C., Portland, Oreg. Cleat	269,399	Dec. 19	1249	363	22	2131
Enterprise Manufacturing Company. (See Baker, John G., assignor.)						
Entwistle, Thomas C., assignor to Phenix Machine Company, Lowell, Mass. Warping or beaming machine	269,400	Dec. 19	1249	363	22	2131
Erlanger, Charles, Baltimore, Md. Button-fastener	264,520	Sept. 19	1001	282	22	968
Erling, Peter R., Chicago, Ill. Pencil-sharpener	263,776	Sept. 5	130	40	22	796
Ersland, Amos K., Sheldahl, Iowa. Platform wagon-dump	265,251	Oct. 3	30	9	22	1141
Ertel, George, Quincy, Ill. Hay-press	261,323	July 18	1230	342	22	218

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Erwin, Robert, Savannah, Ga. Hand-distributer for seed and fertilizers	260,373	July 4	24	7	22	7
Eshbaugh, Daniel O., Des Moines, Iowa. Picture-hanging device	266,356	Oct. 24	1402	397	22	1395
Eshenbaugh, Lorenzo D., Rock View, N. Y. Drill-jar	265,788	Oct. 10	687	194	22	1259
Esmond, Isaac, and A. H. Ford, Capron, Ill. Grain-screen	265,398	Oct. 3	201	61	22	1172
Essex Horse Nail Company. (See Woodford, Charles W., assignor.)						
Essex, Jeremiah, North Bennington, Vt., and A. Ball, Claremont, N. H. Metallic cop-tube	263,881	Sept. 5	267	77	22	820
Essick, Samuel V., Alliance, Ohio. Telegraphic recording-instrument	265,789	Oct. 10	688	194	22	1259
Essick, William S. (See Straub, Edward F., assignor.)						
Estabrook, Alanson C., assignor to Florence Manufacturing Company, Florence, Mass. Working bone into blanks for tooth-brush handles	260,374	July 4	25	8, 9	22	7
Estabrook, Alanson C., assignor to Florence Manufacturing Company, Florence, Mass. Bone-sawing machine	260,375	July 4	30	9, 10	22	7
Estabrook, Alanson C., assignor to Florence Manufacturing Company, Florence, Mass. Machine for milling bone blanks for tooth-brushes	260,376	July 4	32	10	22	7
Estabrook, Alanson C., assignor to Florence Manufacturing Company, Florence, Mass. Machine for boring brush-handles	260,377	July 4	37	11	22	8
Estabrook, Alanson C., assignor to Florence Manufacturing Company, Florence, Mass. Machine for graving brush-handles	260,378	July 4	41	12	22	8
Estabrook, Joseph M., *et al.* (See Maynadier, James E., assignor.)						
Estabrook, Joseph M., Milford, Mass. Sole-fastening	261,213	July 18	1103	308	22	198
Estabrook, Joseph M., Milford, Mass. Manufacturing nails	268,880	Dec. 12	586	173	22	2005
Estberg, Engelbert, Brooklyn, N. Y. Shade-pendant	267,507	Nov. 14	692	198	22	1668
Esterly, George, Whitewater, Wis. Grain-harvesting machine	262,026	Aug. 1	241	71	22	377
Esterly, George, Whitewater, Wis. Grain-harvesting machine	262,753	Aug. 15	1155	327	22	545
Esterly, George, Whitewater, Wis. Grain-binding machine	266,254	Oct. 17	1251	355, 356	22	1361
Esterly & Son. (See Nelsen, Samuel, assignor.)						
Esterly & Son, George. (See Harrison, Job, assignor.)						
Estes, John W., Keytesville, Mo. Bag-fastener	264,068	Sept. 12	502	136	22	870
Estes, Simeon A., and M. R. Shorey, North Vassalborough, Me. Weft stop-motion for looms	265,948	Oct. 17	880	252	22	1299
Ethridge, Frank N. (See Ethridge, Martin V. B. and F. N.)						
Ethridge, Martin V. B. and F. N., Lynn, Mass. Shoe-heeling machine	261,145	July 18	1019	287	22	185
Ethridge, Martin V., Lynn, assignor of one-half to C. W. Hodgdon, Boston, Mass. Shoe-lasting jack	268,650	Dec. 5	304	89	22	1945
Etty, George, Manchester, England, assignor to W. Decker, Mittweida, Saxony. Card-tooth	260,466	July 4	148	42	22	26
Etz, William H., Marietta, Ohio. Dinner-bucket	266,122	Oct. 17	1100	310	22	1335
Etz, William H., and H. P. Theis, Marietta, Ohio. Dinner-bucket	262,282	Aug. 8	577	162	22	439
Etzler, Edwin J., Tyrone, Pa. Plow	266,121	Oct. 17	1099	310	22	1335
Eureka Co-Operative Foundry Association. (See Lebean and Shannon, assignors.)						
Euright, John, Cleveland, Ohio. Refrigerating apparatus	265,250	Oct. 3	28	9	22	1140
Evans, Austin C., Springfield, Ohio. Corn-planter	265,949	Oct. 17	881	252, 253	22	1299
Evans, Clarence A., Upland, Pa. Electric fire alarm and extinguisher	269,273	Dec. 19	1060	315	22	2099
Evans, Frank W., Newburyport, Mass. Spindle for turning-lathes	262,393	Dec. 5	23	8	22	1891
Evans, George A., Kingsey, and H. T. Evans, Parish of Notre Dame de Toute Grace, Quebec, Canada. Car-starter	261,324	July 18	1232	342	22	219
Evans, George W., Baltimore, Md. Milk-can	265,399	Oct. 3	202	61	22	1172
Evans, Harriet B., trustee. (See Evans, Lemuel E., assignor.) (Reissue.)						
Evans, Henry T. (See Evans, George A. and H. T.)						
Evans, James, Philadelphia, Pa. Pug-mill for tempering clay	261,840	Aug. 1	21	6	22	339
Evans, James B. B., Junction City, Mo. Band-cutter and feeder for thrashing-machines	266,796	Oct. 31	1903	552	22	1493
Evans, K. S. (See Young, Frank W., assignor.) (Reissue.)						
Evans, Lemuel E., East Orange, N. J. Barbed fence-wire	267,067	Nov. 7	131	37	22	1563
Evans, Lemuel E., New York, N. Y., assignor to H. B. Evans, trustee. Wire bale-tie. (Reissue)	10,176	Aug. 8	896	253	22	495
Evans, Seth R., Chicago, Ill. Gate and railing	267,170	Nov. 7	262	76	22	1586
Evans, Silvanus P., Georgetown, Ohio. Grading-machine	261,693	July 25	1677	470, 471	22	300
Evans, Owen F., Columbus, Ohio. Stove-top	263,882	Sept. 5	267	77	22	820
Evans, W. D., *et al.* (See Barger, Nathaniel S., assignor.)						
Evans, William, assignor to Moline Plow Company, Moline, Ill. Cultivator	266,123	Oct. 17	1100	311	22	1335
Evants, William C., Portland, Oreg. Two-wheeled vehicle	268,087	Nov. 28	1406	393	22	1811
Evarts, Charles A., assignor to Bradley & Hubbard Manufacturing Company, Meriden, Conn. Hanging lamp	264,677	Sept. 19	1170	331	22	1001
Evarts, John A., assignor to Bradley & Hubbard Manufacturing Company, Meriden, Conn. Extension lamp-fixture	263,155	Aug. 22	1650	466	22	646
Evenden, James W., Rome, N. Y. Condenser for ale and beer	261,694	July 25	1679	471	22	301
Evereth, Edward H. (See Klee, John, assignor.)						
Evers, Charles H., Cleveland, Ohio. Press for packing cigars	268,088	Nov. 28	1406	393	22	1812
Everson, Charles R., Macedon, N. Y. Manufacture of eaves-troughs	268,472	Dec. 5	116	35	22	1908
Everson, Charles R., Macedon, N. Y. Eaves-trough	268,881	Dec. 12	588	173	22	2005
Everson, George H., Scottdale, Pa. Compound railway-rail	262,940	Aug. 22	1396	395	22	599
Ewaldt, Wilhelm, Hamburg, Germany. Desiccated and powdered food	261,214	July 18	1104	.....	22	198
Ewart Manufacturing Company. (See Gray, Henry M., assignor.)						
Ewing & Bill Lantern Company. (See Ewing, John H., assignor.)						
Ewing, John H., assignor to Ewing & Bill Lantern Company, Wheeling, W. Va. Signal-lantern	263,396	Aug. 29	2003	573	22	709
Ewing, John H., and E. L. Bill, Wheeling, W. Va. Lamp or lantern	261,915	Aug. 1	114	34	22	355
Ewins, Philo S., West Berkshire, Vt. Sap-evaporator	261,325	July 18	1233	343	22	219
Excelsior Gas Light and Manufacturing Company. (See De Witt, Henry C., assignor.)						
Excelsior Needle Company. (See Dayton, William H., assignor.)						
Ezell, Francis L., Nashville, Tenn. Spring-equalizer for vehicles	260,960	July 11	779	214	22	136
Ezell, Francis L., Nashville, Tenn. Fifth-wheel	262,386	Aug. 8	704	198	22	461
Faber, Eberhard. (See Diedel, George A., assignor.)						
Faber, Eberhard. (See Schrag, Philip, assignor.)						
Fabric Fire Hose Company. (See Gillespie, James E., assignor.)						
Fackner, Edward, Brooklyn, N. Y. Machine for impressing designs on tubes and rods	266,616	Oct. 31	1693	488	22	1455
Fagan, Robert, and L. S. Allison, Hazleton, Pa. Device for filling powder from kegs, &c.	268,473	Dec. 5	116	35	22	1908
Fagnant, Benjamin. (See Chassé, Joseph G., assignor.)						
Fahringer, Jeremiah S., and M. Crippen, Dickson Borough, Pa. Slate-separator for coal-chutes	266,448	Oct. 24	1503	427	22	1413
Fahs, Joseph F., Akron, Ohio. Oatmeal-cutter	264,449	Sept. 19	927	260	22	954

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Fair, John M. (See Meyers, Nicholas, assignor.) (Reissue.)						
Fairbanks, Charles M. (See Woodward and Fairbanks.)						
Fairbanks, Charles M., Hartford, Conn., assignor to E. A. Wilkinson, Newark, N. J. Index-plate for sewing-machines	268,651	Dec. 5	305	89	22	1945
Fairbanks, Charles M., and J. B. McCune, Hartford, Conn., assignors to E. A. Wilkinson, Newark, N. J. Needle-clamp and thread-guide for sewing-machines	268,652	Dec. 5	306	89	22	1945
Fairchild, David W., *et al.* (See Speicher, John, assignor.)						
Fairchild, Frank J. (See Fairchild, Newell N. and F. J.)						
Fairchild, Le Roy W., New York, N. Y. Combined watch-chain bar and pencil. (Reissue)	10,147	July 4	491	133	22	84
Fairchild, Le Roy W., New York, N. Y. Combined match-box and knife	263,777	Sept. 5	131	41	22	797
Fairchild, Newell N. and F. J., Trenton, Mich. Machine for reducing the height of cheese-boxes	262,387	Aug. 8	705	199	22	461
Fairfield, Hadley P. (See McKay and Fairfield.)						
Fairman, Gibson W., assignor to Fairman Wheel and Axle Company, New York, N. Y. Car wheel and axle	267,508	Nov. 14	693	199	22	1668
Fairman, J. Yale, Middletown, Conn. Call-bell	265,045	Sept. 26	1624	457	22	1087
Fairman Wheel and Axle Company. (See Fairman, Gibson W., assignor.)						
Faith, Joseph H., Mason City, Ill. Bed-spring	263,883	Sept. 5	268	77	22	820
Falconer, Robert, Rockford, Ill. Stalk-cutting machine	267,509	Nov. 14	695	199	22	1669
Fale, John, Hawkinsville, Ga. Collyrium	266,797	Oct. 31	1904	.....	22	1494
Fales, Amos, Denver, Colo. Carpenter's vise	264,868	Sept. 26	1409	397	22	1048
Fales, Edward, Keokuk, Iowa. Brick-press	263,156	Aug. 22	1651	{466 / 467}	{22}	646
Fales, Edward, Keokuk, Iowa. Brick and tile machine	267,852	Nov. 21	1120	{314 / 315}	{22}	1754
Fales, Edward, assignor of one-half to F. T. Hughes, Keokuk, Iowa. Brick-machine	262,583	Aug. 15	943	266	22	508
Falkenrath, Rudolph, assignor to American Vapor Stove Manufacturing Company, Decatur, Ill. Vapor-burner	265,586	Oct. 10	442	121	22	1217
Fanckboner, William, Schoolcraft, Mich. Barrel swing and truck	267,744	Nov. 21	990	278	22	1730
Fannin, Oliver P., West Wynnton, Fla. Bale-tie	267,853	Nov. 21	1122	315	22	1754
Farbwerke, vormals Meister, Lucius & Brüning. (See Gürke, Johannes H. H. O., assignor.)						
Farbwerke, vormals Meister, Lucius & Brüning. (See Limpach, Carl F. L., assignor.)						
Farbwerke, vormals Meister, Lucius & Brüning. (See Rose, Heinrich, assignor.)						
Farbwerke, vormals Meister, Lucius & Brüning. (See Rudolph, Christian, assignor.)						
Farel, James H., and A. Stumm; said Stumm assignor to C. Lankler, Buffalo, N. Y. Tray support and lifter for trunks	264,405	Sept. 12	867	{243 / 244}	{22}	935
Fargo, Corydon A., Walkerville, Mont. Ter. Guide for stamp-mills	263,034	Aug. 22	1516	426	22	620
Faries, Robert, Decatur, Ill. Knot or stop for check-row wires	264,069	Sept. 12	503	136	22	870
Faries, Robert, Decatur, Ill. Fastening for sections of wire	265,665	Oct. 10	547	149	22	1233
Farley, Alfred D. F., Leavenworth, Kans. Transmitting power by compressed air	268,210	Nov. 28	1558	432	22	1839
Farmer, George P. (See Fest, Charles P., assignor.)						
Farmer, Moses G., Newport, R. I., assignor to United States Electric Lighting Company, New York, N. Y. Electric lamp	265,790	Oct. 10	690	195	22	1259
Farmer, Theodore P. (See Hartshorn, Calvin L., assignor.)						
Farmers Friend Manufacturing Company. (See Mead, Edwin D., assignor.)						
Farmers Friend Manufacturing Company. (See Runstetler, Andrew and M., assignors.)						
Farmers Friend Manufacturing Company. (See Runstetler, Andrew, assignor.) (Reissue.)						
Farmers Friend Manufacturing Company. (See Runstetler, Michael, assignor.) (Reissue.)						
Farnham, E. Wilson, assignor to T. A. Strayer, Chicago, Ill. Penman's arm-rest	268,474	Dec. 5	117	36	22	1909
Farr, Hiram G., Boston, Mass. Surcingle-pad for horses	263,327	Aug. 29	1913	548	22	694
Farr, Hiram G., Boston, Mass. Halter for horses	265,252	Oct. 3	31	9	22	1141
Farr, Marvin A. (See Hamilton, Silas H., assignor.)						
Farr, Willis M., Dowagiac, Mich. Sand-band	268,788	Dec. 12	471	138	22	1983
Farra, Walter H., assignor of one-half to L. Triplett, Jr., Mount Jackson, Va. Nut-lock	264,142	Sept. 12	583	160	22	884
Farrall, Theophilus D., New York, N. Y. Manufacture of ornamental glass and glassware	262,388	Aug. 8	706	.....	22	461
Farrar, Henry W., *et al.* (See Hurlbutt, Albert G., assignor.)						
Farrar, John B., Bradford, Mass. Boot or shoe	267,745	Nov. 21	991	278	22	1730
Farrar, John J., Aurelia, Iowa. Hand-lever and device for the marking-guides of planters	260,553	July 4	263	74	22	45
Farrar, William B., Greensborough, N. C. Brace to prevent rolling in beds or berths	264,678	Sept. 19	1171	331	22	1002
Farrar, William B., Greensborough, N. C. Turbine water-wheel	267,854	Nov. 21	1123	315	22	1754
Farrar, William B., Greensborough, N. C.	262,027	Aug. 1	243	72	22	378
Farrell, John, Pittsburg, Pa. Machine for making electric cables	262,028	Aug. 1	247	72	22	378
Farrell, John, Pittsburg, Pa. Manufacture of lead-covered electric conductors	262,029	Aug. 1	250	73	22	378
Farrell, John, Pittsburg, Pa. Manufacture of lead-covered electric conductors	265,046	Sept. 26	1625	457	22	1087
Farrell, John, Pittsburg, Pa. Lead-shot-drying machine	269,651	Dec. 26	1573	452	22	2199
Farrell, John, Pittsburg, Pa. Manufacture of lead pipe	262,030	Aug. 1	253	73	22	379
Farrell, Ralph D., Geneseo, Ill. Wash-stand	261,326	July 18	1235	343	22	219
Farrington, George K., assignor of two-thirds to H. C. Farrington, Kirksville, Mo., and B. S. Potter, Shippensburg, Pa. Hub-attaching device						
Farrington, Hosmer C., *et al.* (See Farrington, George K., assignor.)						
Farrington, Thomas B. (See Oberst, Peter J., assignor.)						
Farthing, John, Chicago, Ill. Gas cut-off	265,587	Oct. 10	442	121	22	1217
Fassler, Jerome, *et al.* (See Green, George F., assignor.)						
Faught, Luther R., Philadelphia, Pa. Shaft-coupling	260,467	July 4	149	43	22	26
Faught, Luther R., Philadelphia, Pa. Shaft-coupling	260,468	July 4	151	43	22	26
Faught, Luther R., Philadelphia, Pa. Device for lubricating loose wheels and pulleys	262,212	Aug. 8	499	139	22	425
Faught, Luther R., Philadelphia, Pa.	262,031	Aug. 1	254	73	22	379
Faulkner, Daniel, Paris Crossing, Ind. Combined fish-plate and nut-lock	266,798	Oct. 31	1904	552	22	1494
Faure, Camille A., Paris, France. Containing-vessel for galvanic batteries	266,124	Oct. 17	1102	311	22	1335
Favier, Pierre A., Villefranche, France. Machinery for preparing fibers of plants						
Fawcett, William J. (See Smith, Goldthorp, and Fawcett.)						
Fearey, Frederick T., *et al.* (See Speicher, John, assignor.)						
Fearnaught, Albert, Indianapolis, Ind. Grave-signal	260,379	July 4	44	12	22	9
Fee, William R., assignor to Planters Oil Machinery Company, Cincinnati, Ohio. Oil-press	261,440	July 18	1364	381	22	241
Feeley, Thomas W., Providence, R. I. Manufacturing gem-settings	261,542	July 25	1500	421	22	270
Fegley, Willoughby. (See Barry, William, assignor.)						
Feick, Joseph K., Reed City, assignor to E. G. Studley, Grand Rapids, Mich. Manufacturing felt boots and shoes	260,554	July 4	265	.....	22	45
Feicker, Edward P. (See Henchy and Feicker.)						
Feierabend, Jacob, New York, N. Y. Plowing and tilling apparatus	260,673	July 4	423	115	22	72
Feister, Henry P., assignor of two-thirds to I. Fine and I. S. Sharp, Philadelphia, Pa. Printing-machine	267,171	Nov. 7	263	77	22	1587
Feister, Henry P., assignor of two-thirds to I. Fine and I. S. Sharp, Philadelphia, Pa. Printing-press	267,172	Nov. 7	264	77, 78	22	1587
Felber, Arthur, Louisville, Ky. Stop-motion for button-hole sewing-machines	267,510	Nov. 14	697	199	22	1669
Feldmann, Hermann B., assignor to S. P. M. Tasker, Philadelphia, Pa. Pulverizing-machine	265,791	Oct. 10	690	{195 / 196}	{22}	1259

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Felix, Benjamin F. (See Blodgett and Felix.)						
Felker, Hermann. (See Owens, Mathew, assignor.)						
Fell, Ambrose G., New York, N. Y. Manufacture of leather from artificial skin	262,584	Aug. 15	944	.....	22	509
Fell, Ambrose G., New York, N. Y. Manufacture of glucose	268,653	Dec. 5	307	.....	22	1945
Fellinger, Frederick, Dunkirk, N. Y. Tinsmith's tool-holder	263,035	Aug. 22	1517	427	22	620
Fellows, Richard C. (See Imbach, Martin G., assignor.)						
Felsburg, Louis, New Haven, Conn. Sash-fastener	266,799	Oct. 31	1905	552	22	1494
Felsenthal, Gabe, Brownsville, Tenn. Button	262,213	Aug. 8	501	139	22	425
Felt, John A., Kent, Ohio. Valve	260,858	July 11	651	176	22	115
Felt, John A., Kent, Ohio. Paint-burner	265,253	Oct. 3	31	10	22	1141
Felt, Vanderlyn, Kendall, N. Y. Rotary engine	261,215	July 18	1104	308	22	198
Felthousen, Barrent W., Milwaukee, Wis. Steam-trap	264,522	Sept. 19	1002	{282 / 283}	{22}	968
Felthousen, Edward G., Buffalo, N. Y. Oil-pump	262,389	Aug. 8	707	199	22	462
Felthousen, William H., Baltimore, Md. Machine for cleaning and grading peas	265,491	Oct. 3	314	92, 93	22	1192
Fenimore, John, Orleans, Ind. Hay and cotton press	262,656	Aug. 15	1041	292	22	526
Fenimore, John, Orleans, Ind. Car-coupling	267,173	Nov. 7	266	78	22	1587
Fenley, George W., Sr., Tolosa, Tex. Horseshoe	267,855	Nov 21	1124	316	22	1755
Fenner, George P., New London, Conn. Journal-bearing	265,047	Sept. 26	1627	457	22	1087
Fenner, George P., New London, Conn. Piston	268,654	Dec. 5	308	89	22	1946
Fenner, William, Battle Creek, Mich. Clothes-drier	266,800	Oct. 31	1907	553	22	1494
Fennerty, John M., Memphis, Tenn. Bilge-water indicator	267,856	Nov. 21	1125	316	22	1755
Fenning, James, Danbury, Conn. Pole-strap attachment	266,683	Oct. 31	1771	511	22	1469
Fenny, Patterson G., Gorham, Me. Foot-rest	269,780	Dec. 26	1731	500	22	2229
Fenton, Nathaniel W., East Cambridge, Mass. Beverage van or wagon	268,475	Dec. 5	118	36	22	1909
Ferguson, Albert W. (See Pike and Ferguson.)						
Ferguson, Charles L., Toronto, Ontario, Canada. Thill-coupling	266,449	Oct. 24	1564	427	22	1414
Ferguson, George A. and R. W., Decatur, Ill. Coffin	265,492	Oct. 3	315	93	22	1192
Ferguson, John H., Dayton, Tenn. Dumping-cart	264,679	Sept. 19	1172	331	22	1002
Ferguson, Mary A., Indianapolis, Ind. Dress-maker's chart	269,652	Dec. 26	1575	452	22	2199
Ferguson, Robert W. (See Ferguson, George A. and R. W.)						
Ferguson, Robert W., Decatur, Ill. Joint-fastener	262,032	Aug. 1	255	73	22	379
Ferguson, Zachariah J., Jackson, Tenn. Boiler-tube expander	260,555	July 4	265	74	22	45
Fernald, David L., *et al.* (See Baxter, James H., assignor.)						
Ferrall, Thomas R., Boston, Mass. Snatch-block	264,143	Sept. 12	584	160	22	884
Ferrall, Thomas R., Boston, Mass. Snatch-block	265,588	Oct. 10	443	121	22	1217
Ferrall, Thomas R., Boston, assignor to H. Loud, Everett, Mass. Pulley-block	268,364	Nov. 28	1758	487	22	1876
Ferree, John C., Marysville, Iowa. Combined marker, harrow, seeder, and roller	261,327	July 18	1236	343	22	219
Ferrell, Joseph F. (See Grannan, Louis, assignor.)						
Ferris, George H., Brooklyn, N. Y. Oil-lamp stove	268,655	Dec. 5	310	90	22	1946
Ferris, Hiram R., Cleveland, Ohio. Lifting-jack	261,506	July 25	1508	440	22	282
Ferry, George S., *et al.* (See Paul and Kampfe, assignors.)						
Ferry, William M., Park City, Utah Ter. Apparatus for pumping water from mines	262,754	Aug. 15	1159	328	22	546
Ferry, William M., Park City, Utah Ter. Steam pumping-engine	266,096	Oct. 17	979	{277 / 278}	{22}	1314
Ferry, William M., Park City, Utah Ter. Steam-pump	267,410	Nov. 14	580	167	22	1647
Fest, Charles P., Philadelphia, Pa. Air-ship	263,397	Aug. 29	2004	573	22	709
Fest, Charles P., Philadelphia, Pa., assignor to G. P. Farmer, Montclair, N. J. Mounting mother-of-pearl and similar substances on metal	261,216	July 18	1106	308	22	198
Fetty, Arnold H., assignor to himself, F. K. and J. Robeson, Champaign, Ill. Horse-collar pad	266,255	Oct. 17	1257	356	22	1361
Ficks, Charles D. (See Frick, Charles E., assignor.)						
Fiechter, Louis B., Minneapolis, Minn. Flour bolt or dresser	264,680	Sept. 19	1172	332	22	1002
Field, Albert D., *et al.* (See Gray, Henry F., assignor.) (Reissue.)						
Field, Edward P., and O. B. Reese, Kalamazoo, Mich. Spring bed-bottom	267,412	Nov. 14	582	168	22	1648
Field, George B., New York, N. Y. Furnace	267,068	Nov. 7	132	32	22	1564
Field, James A., St. Louis, Mo. Corn-mill	266,450	Oct. 24	1504	427	22	1414
Field, Silas M., and W. Halkyard, assignors to H. A. Church, Providence, R. I. Machine for making roller-chain units	266,982	Nov. 7	30	9, 10	22	1546
Field, Stephen D., New York, N. Y. Duplex telegraph	261,916	Aug. 1	115	34	22	355
Field, Stephen D., New York, N. Y. Duplex telegraph	262,755	Aug. 15	1160	328	22	546
Field, William P., Lockport, N. Y. Pump	267,411	Nov. 14	582	167	22	1648
Field, William R., Brooklyn, N. Y. Switch-indicator	269,653	Dec. 26	1576	452	22	2199
Fields, Wesley, and D. D. Mayfield, Robinson, Ill. Ironing-stand	267,857	Nov. 21	1126	316	22	1755
Fields, Wesley, and D. D. Mayfield, Robinson, Ill. Weather-strip	267,858	Nov. 21	1127	316	22	1755
Fife, Harry, *et al.* (See Ohliger, Louis B., assignor.)						
Fife, James M., assignor of one-half to F. W. Bond and W. J. Piero, Canton, Ohio. Lamp-burner	260,469	July 4	152	43	22	26
Fifield, Albert F., Farmington, N. H. Pipe-wrench	261,217	July 18	1107	308	22	198
Fifield, George E., Danforth, Me. Lantern	261,695	July 25	1680	471	22	301
Fifield, John W. D., North Brookfield, Mass., assignor to Stoddard Crimping Machine Company. Crimping-machine for boots or shoes	261,917	Aug. 1	119	35	22	355
Fifield, Moses, Natick, assignor to J. W. Brooks, trustee, Cambridge, Mass. Heel-trimming machine	261,696	July 25	1681	471	22	301
Filcer, John H., and J. Gilduff, Mattoon, Ill. Spark-arrester	263,486	Aug. 29	2114	605	22	729
Finaz, Charles and W. Genera, Switzerland. Crushing and shelling machine	264,869	Sept. 26	1410	398	22	1048
Finaz, William. (See Finaz, Charles and W.)						
Finch, Isaac D., Memphis, Tenn. Wagon-axle	263,328	Aug. 29	1914	548	22	694
Finch, John M., Jackson, Mich. Roller-mill	261,697	July 25	1682	472	22	301
Finch, John M., Jackson, Mich. Journal-box	266,983	Nov. 7	32	10	22	1546
Finch, John M., assignor to G. T. Smith Middlings Purifier Company, Jackson, Mich. Conveyer for flour-bolts	263,036	Aug. 22	1518	427	22	620
Finch, John M., assignor to G. T. Smith Middlings Purifier Company, Jackson, Mich. Bolting-reel	264,824	Sept. 19	1341	379	22	1031
Fine, Isaac, *et al.* (See Feister, Henry P., assignor.)						
Finley, Clement B., Huntingdon, Pa. Utilizing locomotive-engines for stationary purposes	269,190	Dec. 19	979	286	22	2081
Finn, Henry H., Elkdale, Pa. Milk-cooler	263,692	Sept. 5	26	8	22	779
Finn, Henry H., Elkdale, Pa. Lifting-jack	265,048	Sept. 26	1626	458	22	1087
Finney, Joseph R., Pittsburg, Pa. Electric-arc lamp	265,049	Sept. 26	1629	458	22	1088
Finney, Joseph R., Pittsburg, Pa. Regulator for dynamo-electric machines	267,859	Nov. 21	1128	317	22	1755
Finney, Joseph R., Pittsburg, Pa. Secondary battery	267,860	Nov. 21	1130	317	22	1756
Finney, Joseph R., Pittsburg, Pa. Electric-arc lamp	268,394	Dec. 5	25	8	22	1891
Finney, Joseph R., Pittsburg, assignor to T. B. Kerr, trustee, Allegheny, Pa. Railway-car telegraph. (Reissue)	10,232	Nov. 7	440	128	22	1619

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Finney, Joseph R., Pittsburg, assignor to himself and T. B. Kerr, Allegheny city, Pa. Traveling contact for electric railways	268,476	Dec. 5	119	36	22	1909
Finney, Joseph R., and L. Campbell, Pittsburg, Pa., assignors to T. B. Kerr, trustee. Electric-arc lamp	265,050	Sept. 26	1631	458	22	1088
Firestone, Clinton D. (See Cutler, Spaulding, assignor.)						
Firman, Benjamin F., assignor of one-half to D. A. Marsh, Jamestown, N. Y. Splint-planer	267,990	Nov. 21	1282	360	22	1784
Firmenich, Frank. (See Firmenich, Joseph and F.)						
Firmenich, Frank. Buffalo, N. Y. Sugar-pan	266,279	Oct. 24	1290	365	22	1374
Firmenich, Joseph and F., Buffalo, N. Y. Starch-washer	260,380	July 4	46	13	22	9
Firmenich, Joseph and F., Buffalo, N. Y. Sugar cooler and granulator	261,819	July 25	1833	518	22	327
Firth, Edwin, Auburn, N. Y. Vehicle-axle	267,413	Nov. 14	583	168	22	1648
Firth, Edwin, Auburn, N. Y. Vehicle-axle	267,683	Nov. 21	925	262	22	1718
Fischer, Frank X. (See Mitchell and Fischer.)						
Fischer, Therese R., Baltimore, Md. Dress-form	260,556	July 4	266	74	22	45
Fischesser, Zeno, West Sonora, Ohio. Harvester	268,211	Nov. 28	1560	433	22	1840
Fish, Arthur L., San Francisco, Cal. Steam-trap	269,656	Dec. 26	1579	453	22	2200
Fish, Frank P., New York, N. Y. Controlling the opening of gates of car-platforms	263,884	Sept. 5	269	78	22	821
Fish, John, Summit, N. J. Single-trunk compound engine	268,477	Dec. 5	120	36	22	1909
Fish, John R., Grand Rapids, Mich. Furnace-grate	266,601	Oct. 31	1907	553	22	1494
Fish, Samuel H., assignor of one-half to H. C. Middaugh, Hinsdale, Ill. Potato-planter	265,225	Sept. 26	1846	518, 519	22	1125
Fisher, Alfred A., and A. Hart, assignors to Pacific Tucking and Manufacturing Company, San Francisco, Cal. Tucking attachment for sewing-machines	263,778	Sept. 5	132	41	22	797
Fisher, Amos B., Caribou, Me. Device for squaring, rounding, and filing circular saws	269,654	Dec. 26	1577	452, 453	22	2199
Fisher, Andrew B., Union City, Ind. Armature for dynamo-electric machines	269,036	Dec. 12	776	229	22	2039
Fisher, Andrew M., Linden, Mich. Spoke-setting machine	262,283	Aug. 8	578	162	22	439
Fisher, Anson F., Chico, Cal. Foot-power mechanism	269,401	Dec. 19	1251	364	22	2131
Fisher Electric Company. (See Bain, Forée, assignor.)						
Fisher, George, Toledo, Ohio. Coffee-roaster	262,390	Aug. 8	708	199	22	462
Fisher, Hendrick V., Geneseo, Ill. Parlor cooking-stove	264,949	Sept. 26	1503	423	22	1064
Fisher, J. Hyde, Deerfield, Ill. Car-door lock	262,585	Aug. 15	949	267	22	509
Fisher, John W., New York, assignor of one-half to M. W. Hamma, Brooklyn, N. Y. Culinary vessel	260,470	July 4	152	43	22	27
Fisher, Lewis H., Walpole, Mass. Self-oiling axle for vehicles	265,254	Oct. 3	32	10	22	1141
Fisher, Robert A., assignor of one-half to G. T. Lewis, Philadelphia, Pa. Sizing for paper-makers	266,451	Oct. 24	1505	.....	22	1414
Fisher, Robert A., assignor of one-half to G. T. Lewis, Philadelphia, Pa. Sizing for paper-makers' use	266,452	Oct. 24	1506	.....	22	1414
Fisher, Robert A., Philadelphia, Pa. Rib-tip retainer for umbrellas, &c	266,589	Oct. 24	1655	476	22	1442
Fisher, William A., Philadelphia, Pa. Buckle	266,125	Oct. 17	1104	311	22	1336
Fisher, William L., Bay City, Mich. Car-coupling	261,328	July 18	1237	343	22	219
Fishering, Horace G., Xenia, Ohio. Funnel	267,861	Nov. 21	1131	318	22	1756
Fisk, Asa B., Lyndonville, N. Y. Egg-carrier	266,617	Oct. 31	1695	489	22	1455
Fisk, Septimus L. (See Fiske, Allen, assignor.)						
Fiske, Allen, Portland, Me., assignor of one-fourth to S. L. Fisk, Boston, Mass. Filtering apparatus	264,870	Sept. 26	1412	398, 399	22	1049
Fiske, Henry G., Springfield, Mass. Apparatus for hanging and unhanging electric lamps	262,941	Aug. 22	1397	395	22	599
Fiske, Henry G., Springfield, Mass. Machine for the manufacture of lawn-mower knives	269,655	Dec. 26	1578	453	22	2200
Fiske, Henry P., Portland, Me., assignor to Maine Box Company, of Maine. Paper box	261,597	July 25	1569	440	22	282
Fiske, Henry P., Portland, assignor to L. L. Curtis, Cape Elizabeth, Me. Box	265,589	Oct. 10	444	122	22	1217
Fiske, Henry P., Portland, assignor to L. L. Curtis, Cape Elizabeth, Me. Box	265,590	Oct. 10	445	122	22	1217
Fitch, Eugene L., Des Moines, Iowa. Thread-case	265,400	Oct. 3	303	61	22	1172
Fitch, Frederick K., New York, N. Y. Regulator for electric lights	263,885	Sept. 5	271	78	22	821
Fitch, Frederick K., New York, N. Y. Electric-arc lamp	264,267	Sept. 12	712	197	22	907
Fitch, Frederick K., assignor to W. H. Ritter, New York, N. Y. Telegraph-wire	268,478	Dec. 5	121	37	22	1910
Fitch, George A., Oakland, N. Y. Speaking-telephone	269,657	Dec. 26	1580	453	22	2200
Fitch, Lauren M., assignor to Rome Spring Wagon Company, Rome, N. Y. End-gate fastening	261,146	July 18	1020	287	22	186
Fitch, W. & E. T. (See Northrup, George B., assignor.)						
Fite, Joseph, assignor to Knickerbocker Ice Company, Philadelphia, Pa. Scales	260,471	July 4	154	44	22	27
Fithian, Lemuel S., Montclair, N. J. Mechanical movement	263,497	Aug. 29	2115	606	22	729
Fitts, Benaiah, Worcester, Mass. Dental plugger	265,950	Oct. 17	885	233, 254	22	1300
Fitts, Benaiah, and J. F. Wilson, Worcester, Mass. Rotary water-meter	267,174	Nov. 7	268	78	22	1588
Fitts, Leverett E. (See Foster, William G., assignor.)						
Fitz, Ellen E., Somerville, Mass. Globe	263,886	Sept. 5	272	78	22	821
Fitzgerald, Louis. (See Walsh, Maurice, J., assignor.)						
Fitzgerald, Robert C. (See Curtis, Benjamin F., assignor.)						
Fitzhugh, W. C. L. (See Littell, J. Reed, assignor.)						
Fitzwater, William M., Louisa, Ky. Straw-cutter	268,212	Nov. 28	1560	433	22	1840
Fizer, James H., Millersburg, Ky. Tobacco-drier	265,051	Sept. 26	1633	459	22	1088
Flach, Arthur B., New York, N. Y. Safety-gate	263,037	Aug. 22	1519	427, 428	22	621
Flagg, Joseph W., Worcester, Mass. Hinged back for piano-stools	263,329	Aug. 29	1914	548	22	694
Flammang, Mathias, Newark, N. J. Photographic camera	260,557	July 4	267	74	22	45
Flanagan, James T., St. Mary's, Ky. Straw and stalk cutter	261,329	July 18	1238	344	22	220
Flanagan, James W. (See Tatum, Paul, assignor.)						
Flanders, Albert W. (See Bonett, Gilfillan, and Flanders.)						
Flannery, Joseph, Philadelphia, Pa. Stove	263,498	Aug. 29	2116	606	22	730
Flannery, Joseph, Philadelphia, Pa. Hydrocarbon-gas generator	263,499	Aug. 29	2118	606	22	730
Flannery, Joseph, Philadelphia, Pa. Furnace	263,500	Aug. 29	2119	607	22	730
Flater, Henry, Findlay, Ohio, assignor of one-half to J. Poe. Saw-set	269,402	Dec. 19	1252	364	22	2131
Flatow, Simon J., New Orleans, La., assignor of one-eighth to R. Llorens, New York, N. Y. Curing tobacco	264,523	Sept. 19	1005	283	22	968
Fleck, Emanuel, La Grange, Ind. Carriage-top	262,033	Aug. 1	256	74	22	379
Fleck, Emanuel, La Grange, Ind. Hay-rack	263,501	Aug. 29	2120	607	22	730
Fleet, Lindley M., Boston, Mass. Gage-tube	265,312	Oct. 3	105	31	22	1153
Fleharty, William F., Elyria, Ohio. Carriage-bow	266,280	Oct. 24	1291	366	22	1374
Fleischman, Simon, Americus, Ga. Spring bed-bottom	262,942	Aug. 22	1399	395	22	599
Fleming, Augustus F., Rich Hill, Mo. Shot-cabinet	262,214	Aug. 8	502	140	22	426
Fleming, Charles, Ypsilanti, Mich. Car-coupling	267,175	Nov. 7	269	79	22	1588
Fleming, Henry W., Denver, Colo. Tubular rock-drill	261,841	Aug. 1	92	7	22	339
Fleming, James A., Denver, Colo. Post-hole digger	263,038	Aug. 22	1520	428	22	621

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Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Fletcher, Addison C., New York, N. Y. Envelope letter-sheet	267,305	Nov. 7	428	124	22	1616
Fletcher, Addison C., New York, N. Y. Nut-lock	267,862	Nov. 21	1131	318	22	1756
Fletcher, Dandy, Sandwich, Ontario, Canada. Implement for weeding, pruning, and singling	265,591	Oct. 10	446	122	22	1217
Fletcher, Edward, Cape Elizabeth, Me. Machine for making straps for tackle-blocks	264,268	Sept. 12	713	197, 198, 199	22	907
Fletcher, Henry, assignor to Sweet, Fletcher & Co., Providence, R. I. Jewelry	264,450	Sept. 19	929	261	22	954
Fletcher, John C. C., New York, N. Y. Cigar-box	269,191	Dec. 19	980	286	22	2081
Fletcher, Sherman. (See Rice, Thomas C., assignor.)						
Fletcher, Walter. (See Silver and Fletcher.)						
Flexible Shoe Nail Company. (See Chaplin, Orril R., assignor.)						
Flexible Wood Package Company. (See Jennings, Ralph S., assignor.) (Reissue.)						
Flickinger, Herschel V., Bucyrus, Ohio. Fence-post	260,961	July 11	780	214	22	136
Flindall, John, Chicago, Ill. Snow-plow	263,502	Aug. 29	2121	608	22	731
Flinn, George H. (See Shaw and Flinn.)						
Flinn & Jackson. (See Kearns, Patrick, assignor.)						
Flint, Alvah S., Crete, Nebr. Broom-socket	265,052	Sept. 26	1633	459	22	1088
Flint, Eber C., Saginaw, Mich. Barrel-hoop machine	268,395	Dec. 5	96	9	22	1892
Flint, Thomas E., Middlebury, Vt. Escape-door for railway-cars	269,037	Dec. 12	776	230	22	2039
Flood, Isaac, *et al.* (See Plant, Paschal, assignor.)						
Florence Machine Company. (See Bascom, H. Clay, assignor.)						
Florence Manufacturing Company. (See Estabrook, Alanson C., assignor.)						
Florsheim, Simon, *et al.* (See Schmidt, Hugo, assignor.)						
Florsheim, Simon, Chicago, Ill. Fastening for gloves, shoes, &c	262,215	Aug. 8	503	140	22	426
Flower, George, Detroit, Mich. Lamp-burner for heavy oils	267,511	Nov. 14	697	200	22	1669
Flower, James, Detroit, Mich. Hydrant-valve	262,216	Aug. 8	504	140	22	426
Foell, Franklin, assignor to American Buttonhole, Overseaming and Sewing Machine Company, Philadelphia, Pa. Sewing-machine	262,756	Aug. 15	1162	328	22	546
Fogarty, Thomas B., Brooklyn, N. Y. Manufacturing gas	261,698	July 25	1684	472, 473	22	301
Fogarty, Thomas B., Brooklyn, N. Y. Process of and apparatus for manufacturing gas	265,792	Oct. 10	693	196	22	1260
Fogarty, Thomas B., Brooklyn, N. Y. Manufacturing gas	265,793	Oct. 10	699	196, 197	22	1260
Fogel, Joseph H. (See Wertz and Fogel.)						
Foglesong, Washington, Dayton, Ohio. Leather-punching machine	260,381	July 4	47	13	22	9
Fogus, Frederick, Butler, Ill. Gate-post	266,453	Oct. 24	1507	428	22	1414
Foley, James, Brooklyn, N. Y. Basin cock and overflow	267,863	Nov. 21	1133	318	22	1756
Foley, Patrick, Brooklyn, N. Y. Basin-clamp	269,274	Dec. 19	1081	315	22	2099
Folk, Edgar M., Brooklyn, N. Y. Knob for exercising or Indian clubs	263,887	Sept. 5	274	78	22	821
Follett, Charles H. (See Dowling, Robert H., assignor.)						
Follett, Joseph L., New York, N. Y. Buckle	264,032	Sept. 5	453	124	22	852
Folsom, Andrew, Warren, assignor to himself and W. D. Hilton, Providence, R. I. Machine for grinding the surface of stone	267,783	Nov. 21	1039	290	22	1739
Folsom, Frederick A., *et al.* (See Folsom, Hannibal, assignor.)						
Folsom, Hannibal, Stoughton, assignor to himself, A. Brown, and F. A. Folsom, Medford, Mass. Manufacture of boots and shoes	268,656	Dec. 5	312	90	22	1946
Fominaya, Pedro A., Havana, Cuba, assignor to C. Marcs, Baltimore, Md. Plow	267,648	Nov. 14	874	250	22	1701
Foot, James D., *et al.* (See Inslee, William H., assignor.)						
Foote, Edward N., *et al.* (See Presbrey, Edward F., assignor.) (Reissue.)						
Foote, Emerson. (See Sieg, Rudolf, assignor.)						
Foote, James H. (See Bennett, George H., assignor.)						
Foote, James H., New York, N. Y. Thread-cutting attachment for sewing-machines	265,313	Oct. 3	106	31, 32	22	1154
Foote, Mark S., Burlington, Iowa. Boiler-furnace	264,871	Sept. 26	1413	399	22	1049
Forbes, Daniel, Meriden, Conn. Powder for polishing glass	262,034	Aug. 1	257	.....	22	379
Force, Albert W., assignor to Ithaca Manufacturing Works, Ithaca, N. Y. Horse hay-rake	269,038	Dec. 12	778	230	22	2039
Ford, Albert, Atlanta, Ga. Compound for cleaning painted and varnished surfaces	267,176	Nov. 7	270	.....	22	1588
Ford, Alvin H. (See Esmond and Ford.)						
Ford, Collin. (See Kinnear, William E., assignor.)						
Ford, Ellen M., Port Richmond, N. Y. Portable furnace to facilitate the means of firing decorated china, glass, &c	262,391	Aug. 8	709	199	22	462
Ford, John B., Fern Creek, Ky. Lard-press	262,284	Aug. 8	579	163	22	439
Ford, Solomon. (See Staples, Edmund L., assignor.)						
Ford, Walter J., Concord, Tenn. Automatic air-brake for railway-cars	266,684	Oct. 31	1771	511, 512	22	1469
Ford, William. (See Quast, Ernest, assignor.)						
Forney, Matthias N., New York, N. Y. Locomotive-engine	266,685	Oct. 31	1776	512, 513	22	1470
Forney, Matthias N., New York, N. Y. Railway tell-tale	266,802	Oct. 31	1908	553	22	1494
Forney, Matthias N., New York, N. Y. Interlocking switch and signal apparatus. (Reissue)	10,237	Nov. 14	887	253	22	1703
Forrester, Abraham M., Racine, Wis. Harrow-tooth	267,069	Nov. 7	135	38	22	1564
Forschner, Charles, New York, N. Y. Spring-scale	264,070	Sept. 12	503	137	22	870
Forster, Julius, assignor of one-half to T. G. McKenney, Decatur, Ga. Permutation-lock	267,977	Nov. 21	1265	356	22	1781
Forsyth, Clark D. (See Brough, Thomas J., assignor.)						
Fort, Allen. (See Mulkey, Erastus J., assignor.)						
Fort Wayne Electric Light Company. (See Jenney, James A., assignor.)						
Fort Wayne Electric Light Company. (See Jenney, James A. and C. D., assignors.)						
Foss, Jacob K., Reading, Mass. Sash-fastener	265,951	Oct. 17	888	254	22	1300
Foss, John W. (See Hutchins, George W., assignor.)						
Fossier, Stanislas, New Orleans, La. Fanning attachment for machines	268,657	Dec. 5	313	90	22	1946
Foster, Bradley W., Huntington, W. Va. Saw-set	269,275	Dec. 19	1081	315	22	2099
Foster, Frank W., Malden, Mass. Steam-generator	262,392	Aug. 8	710	200	22	462
Foster, John M., Philadelphia, Pa. Fog-alarm and beacon	260,962	July 11	780	214, 215	22	136
Foster, John M., Philadelphia, Pa. Signal-buoy	260,963	July 11	782	215	22	137
Foster, John T., Arlington, N. J. Drill-chuck	266,803	Oct. 31	1909	553	22	1495
Foster, Merriam & Co. (See Merriman, Julius E., assignor.)						
Foster, Michael A., St. Louis, Mo. Steam-boiler furnace	265,794	Oct. 10	705	197	22	1261
Foster, Oscar S. and W. S., Utica, N. Y. Machine for coiling springs	264,071	Sept. 12	504	137	22	870
Foster, Seth R., St. John, New Brunswick, Canada. Facilitating the cutting of nails, tacks, &c	267,864	Nov. 21	1133	.....	22	1756
Foster, Theodore W., Providence, R. I. Manufacture of plated jewelry	262,657	Aug. 15	1042	292	22	526
Foster, Thomas J., Granger, Ind. Absorbent last	262,217	Aug. 8	505	140	22	426

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Foster, William G., assignor of one-half to L. E. Fitts, Chicago, Ill. Pillow-sham holder	261,218	July 18	1107	309	22	199
Foster, William S. (See Foster, Oscar S. and W. S.)						
Foulds, Albion, *et al.* (See Witsil, George L., assignor.)						
Foulds, Robert. (See Keep, James M., assignor.)						
Fournie, Jacob, Belleville, Ill. Grain-drill	265,666	Oct. 10	548	150	22	1233
Fonts, Frank A., Washington, D. C. Child's spinning-top	267,865	Nov. 21	1134	318 / 319	22	1756
Fonts, Frank A., Washington, D. C. Spinning-top	267,866	Nov. 21	1137	319 / 320	22	1757
Fonts, Frank A., Washington, D. C. Spinning-top	267,867	Nov. 21	1140	320	22	1758
Fowble, John W. (See Michael and Fowble.)						
Fowler, Anderson, New York, N. Y. Curing and preserving meats	267,684	Nov. 21	926	.....	22	1718
Fowler, Anderson, New York, N. Y. Apparatus for preserving meats	267,685	Nov. 21	927	263	22	1718
Fowler, Charles S., Brooklyn, L. A. Rockwell, New York, N. Y., and D. M. Holmes, Cincinnati, Ohio, assignors to said Fowler and Rockwell. Dough-mixer	267,414	Nov. 14	584	168	22	1648
Fowler, Edwin P., Brooklyn, N. Y. Spring-bed	262,658	Aug. 15	1043	292	22	526
Fowler, Frank. (See Ulmer and Fowler.)						
Fowler, George A., Mount Vernon, N. Y. Mechanical musical instrument	263,503	Aug. 29	2122	608 / 609	22	731
Fowler, Heber P., deceased. (See Durfee and Fowler.)						
Fowler, Herbert E., New Haven, Conn. Buffing-wheel	260,558	July 4	268	75	22	46
Fowler, John, Louisville, Ky. Slate attachment	262,757	Aug. 15	1163	328	22	546
Fowler, John, Louisville, Ky. Beer-pump	266,126	Oct. 17	1105	312	22	1336
Fowler, Jonathan O., Jr., New York, N. Y. Artificial stained glass	260,559	July 4	269	75	22	46
Fowler, Nathaniel D., assignor of one-half to G. N. Osgood, Marysville, Cal. Hame-tug clip	266,357	Oct. 24	1402	397	22	1395
Fowler, Thaddeus, administrator. (See Durfee and Fowler.)						
Fowler, Thaddeus, Seymour, Conn. Sharpening clippers and device for holding the same	263,398	Aug. 29	2006	574	22	710
Fowler, Walter S., Sherwood, N. Y. Ash-sifter	264,681	Sept. 19	1174	332	22	1002
Fox, Alfred D., New York, N. Y. Elevator for loading and unloading vessels, &c.	265,592	Oct. 10	446	123	22	1217
Fox, Cyrus D., Roscoe township, Winnebago county, Ill. Machine for binding and shocking grain	261,543	July 25	1501	421	22	270
Fox, Edward, Brooklyn, N. Y. Surface-agitator for steam-boilers	266,686	Oct. 31	1781	514	22	1470
Fox, Frederick W., Windhill, county of York, England. Drawing, spinning, and twisting apparatus. (Reissue)	10,258	Dec. 12	938	273	22	2067
Fox, George H. (See Pope and Fox.)						
Fox, Harriet, executrix. (See Balmain, William H.)						
Fox, Henry C. (See Relyea, Henry J., assignor.)						
Fox, Henry C., Evansville, Ind. Reversible sad-iron	265,401	Oct. 3	204	62	22	1172
Fox, Jacob. (See Dysart, John T., assignor.)						
Fox, Jacob G., Bay City, assignor of part to I. M. and E. W. Henderson, Detroit, G. P. Chapman and H. E. Hatch, Lapeer, Mich. Knob attachment	269,516	Dec. 26	1403	404	22	2166
Fox, Norman L., Ceylon, Ohio. Carriage-top joint	265,952	Oct. 17	889	254	22	1300
Fox, Samson, Leeds, county of York, England. Machine for cutting fine holes in boiler-heads	263,039	Aug. 22	1521	428 / 429	22	621
Fox, Samson, Leeds, county of York, England. Machine for cutting off the ends of tubes	263,157	Aug. 22	1652	467	22	646
Frail, Aaron W., assignor to himself and A. W. Eames, Ashland, Mass. Carbureting apparatus	264,406	Sept. 12	868	244	22	936
Fraley, Alexander, assignor to himself and L. Prichard, Grayson, Ky. Bee-hive	267,177	Nov. 7	271	79	22	1588
Frances Registering Machine Company. (See Burton, George D., assignor.)						
Franciscus, William C., Lock Haven, Pa. Pill, plaster, and lozenge machine	266,127	Oct. 17	1106	312	22	1336
Francklyn, Charles G. (See Henderson, James, assignor.)						
Frank, George W. (See Polster, Ernst E., assignor.)						
Frank, Himan, Detroit, Mich. Glass-furnace	268,213	Nov. 28	1562	433	22	1840
Frank, Louis, Landsberg, Prussia, Germany. Machine for manufacturing wood mosaics	267,415	Nov. 14	585	169	22	1649
Franke, Friedrich W., Finsterwalde, Prussia, Germany. Cigar-holder	267,070	Nov. 7	135	38	22	1564
Franklin, Benjamin, Bradford, Pa. Device for controlling and regulating the flow of oil-wells	263,330	Aug. 29	1916	549	22	694
Franklin, Edward, assignor to himself and W. Reynolds, Thomasville, Ga. Combined cotton-press and gin-power	265,402	Oct. 3	205	62	22	1172
Franklin, J. Fred., New York, N. Y. Fountain-pen	265,795	Oct. 10	706	197	22	1261
Frantz, Ezra E., North Manchester, Ind. Car-coupling	262,659	Aug. 15	1045	293	22	527
Franz, J. B., *et al.* (See Lapham, Valentine, assignor.)						
Franz, John S., *et al.* (See Lapham, Valentine, assignor.)						
Frary, James D. (See North, Albert H., assignor.)						
Frary, James D., Bridgeport, Conn. Pocket-knife	266,454	Oct. 24	1508	428	22	1414
Frary, James D., Bridgeport, Conn. Table-cutlery	269,276	Dec. 19	1082	316	22	2100
Frary, James D., Bridgeport, Conn. Table-cutlery	269,277	Dec. 19	1083	316	22	2100
Fraser, Alexander M. B. (See Duffy, Thomas W., assignor.)						
Fraser, David R., Chicago, Ill. Rock or ore crusher	266,804	Oct. 31	1911	554	22	1495
Frazee, Benjamin, Newark, N. J., assignor of one-half to H. Harris, New York, N. Y. Folding stool	268,214	Nov. 28	1563	433	22	1840
Frazer, Joseph B., assignor to himself and J. Carroll, Rushville, Ind. Sulky	263,158	Aug. 22	1653	467	22	646
Frazier, John A., Lilly Chapel, Ohio. Car-coupling	267,868	Nov. 21	1143	320	22	1758
Free, Martin, Philadelphia, Pa. Apparatus for sizing and coloring fabrics	267,869	Nov. 21	1144	321	22	1758
Freeman, Albert A. (See Scott and Freeman.)						
Freeman, Charles H. (See Dawson, Artemas L., assignor.)						
Freeman, George H., New Bedford, Mass. Pouring and dropping attachment for bottles	261,330	July 18	1239	344	22	220
Freeman, George T., Whippany, N. J. Faucet	265,053	Sept. 26	1634	459	22	1069
Freeman, James P., New York, N. Y. Electric burglar-alarm and door-bell	262,393	Aug. 8	711	200	22	462
Freeman, James P., Chicago, Ill., assignor to Home Telephone Company, of Illinois. Electric telephone	262,285	Aug. 8	580	163	22	440
Freeman, Kasson, Grand Rapids, Mich., assignor of one-fourth to H. Durbin, Oak Creek, Wis. Surveying-instrument	267,178	Nov. 7	272	80	22	1588
Freeman, Kasson, Grand Rapids, Mich., assignor of one-fourth to H. Durbin, Oak Creek, Wis. Fire-escape	267,179	Nov. 7	274	80	22	1589
Freeman, Lewis N. (See Parkhurst, Charles D., assignor.)						
Freeman, Walter K., Brooklyn, N. Y., assignor to W. F. Jobbins, East Orange, N. J. Electric-arc lamp	264,269	Sept. 12	719	200	22	908
Freeman, Walter K., Brooklyn, N. Y., assignor to W. F. Jobbins, East Orange, N. J. Electric-arc lamp	264,270	Sept. 12	720	200	22	908
Freeman, Walter K., Brooklyn, N. Y., assignor to W. F. Jobbins, East Orange, N. J. Commutator-brush holder	264,271	Sept. 12	721	200	22	908
Freeman, Walter K., Brooklyn, N. Y., assignor to W. F. Jobbins, East Orange, N. J. Electric motor	264,272	Sept. 12	722	201	22	908

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Freeman, Warren P., New York, N. Y., assignor to W. F. Jobbins, East Orange, N. J. Electric-arc lamp	266,455	Oct. 24	1508	428	22	1415
Freer, Charles H. and M. M., Blue Earth City, Minn. Snap-hook	263,693	Sept. 5	27	8	22	719
Freer, David, Blue Earth City, Minn. Trace-carrier	268,089	Nov. 28	1407	393	22	1812
Freer, Maynard M. (See Freer, Charles H. and M. M.)						
Frees, Louis C. F., New York, N. Y. Necktie	269,658	Dec. 26	1581	454	22	2200
French, Alvah S., New York, N. Y. Mechanism for applying power to ropes for hoisting	260,964	July 11	783	215	22	137
French, Charles M., assignor to Brown & Co., Pittsburg, Pa. Machine for grinding circular knives and plow-colters	260,560	July 4	271	75	22	46
French, David M., Alexandria, Va. Vaccination vesicle and pustule shield	260,561	July 4	273	75	22	46
French, Francis P., Denver, Colo. Carpet-lining	269,039	Dec. 12	779	230	22	2040
French, Franklin F., assignor of one-half to E. Emerson, Humboldt, Iowa. Twine-holder	264,682	Sept. 19	1175	332	22	1002
French, Frederick F. (See Peavy, Hiram, assignor.)						
French, Gilbert B., Lynn, Mass. Pillow-sham holder	265,054	Sept. 26	1635	459	22	1089
French, Isidor and J., New York, N. Y. Necktie	269,040	Dec. 12	780	230	22	2040
French, James. (See French, Isidor and J.)						
French, James H., Willimantic, Conn. Fire-kindler	266,687	Oct. 31	1782	514	22	1471
French, James H., Bridgeport, Conn. Fire-kindler	268,215	Nov. 28	1564	434	22	1840
French, John A., Cambridge, Mass. Scoop	264,072	Sept. 12	506	137	22	871
French, Lyman E., Grafton, Vt. Hammock-frame	264,033	Sept. 5	453	124	22	899
French, Marshall F., Kennard, Nebr. Combined hog-trough and fence	261,842	Aug. 1	23	7	22	339
French, Samuel L., and R. B. Mellon, Ligonier, Pa. Spark-arrester	265,055	Sept. 26	1636	460	22	1089
Freund, Frank W., Cheyenne, Wyo. Ter. Sight for fire-arms	268,090	Nov. 28	1408	394	22	1812
Frey, Franklin, assignor of one-half to C. Ladd, Quincy, Ill. Hay-press	269,659	Dec. 26	1582	454	22	2201
Frey, George J. (See Richards and Frey.)						
Frey, Gustav. (See Arnold, Hudson H. C., assignor.)						
Frey, James H. (See Frey, William H. and J. H.)						
Frey, John, Big River, Wis. Harrow	264,872	Sept. 26	1414	399	22	1049
Frey, Joseph J. B., New York, N. Y. Water-closet	260,965	July 11	784	215	22	137
Frey, Joseph J. B., New York, N. Y. Plumber's coupling for the bowls of water-closets	260,966	July 11	786	216	22	137
Frey, Joseph J. B., New York, N. Y. Slop-safe for water-closets	260,967	July 11	787	216	22	138
Frey, Joseph J. B., New York, N. Y. Pipe-coupling	260,968	July 11	788	216	22	138
Frey, William H. and J. H., Erie, Pa. Device for heating tires	266,984	Nov. 7	33	10	22	1546
Frick, Abraham O., Waynesborough, Pa. Traction-wheel	262,758	Aug. 15	1163	329	22	546
Frick, Abraham O., Waynesborough, Pa. Traction-engine	263,159	Aug. 22	1653	468	22	646
Frick, Abraham O., Waynesborough, Pa. Traction-engine	266,456	Oct. 24	1509	429	22	1415
Frick, Charles E, assignor of one-half to C. D. Ficks, Cincinnati, Ohio. Machine for turning rings	264,825	Sept. 19	1342	379 / 380	22	1031
Friedel, Charles, Madison, Wis. Galvanic battery	260,859	July 11	652	177	22	115
Friedheim, David, New York, N. Y. Fire-ladder	261,843	Aug. 1	25	7	22	339
Friedmann, Joseph, Seymour, Conn. Fountain-pen	267,180	Nov. 7	275	80	22	1589
Friel, Charles E., Fredericton, New Brunswick, Canada. Horse hay-fork	261,699	July 25	1669	473	22	302
Fries, William A., Philadelphia, Pa. Steam-packing	269,517	Dec. 26	1404	405	22	2166
Frings, Charles H., Denver, Colo., assignor of one-half to O. Zwietusch, Milwaukee, Wis. Aerated tonic beverage	264,941	Sept. 26	1504	.....	22	1064
Frink, William B., *et al.* (See Morse, Henry T., assignor.)						
Frisbie, Dennis, New Haven, Conn. Friction-clutch	265,953	Oct. 17	890	254	22	1300
Frisbie, Dennis, Philadelphia, Pa. Safety attachment for elevators	265,954	Oct. 17	892	255	22	1301
Frisbie, Edgar G., Monroe, Mich. Compound for lining vessels	268,216	Nov. 28	1564	.....	22	1840
Frisbie, Mark, Orland, Ind. Draft-equalizer	263,888	Sept. 5	275	79	22	821
Fritz, George J., St. Louis, Mo. Force-pump	262,394	Aug. 8	713	200	22	463
Fritzsche, Charles O. H., New York, N. Y. Turn-table	266,955	Oct. 31	2102	603 / 604	22	1530
Frobeen, Louis. (See Trobach, Konrad, assignor.)						
Fröhlich, Max, Freeport, Ill. Mechanical movement	267,181	Nov. 7	275	81	22	1589
Frost, Abel H., Chicago, Ill. Cot-bed	261,331	July 18	1241	344	22	220
Frost, Charles H., Chelsea, Mass. Horse-blanket	260,472	July 4	155	44	22	27
Frost, Edwin S., Watkins, N. Y. Grain-binding attachment for reapers	263,160	Aug. 22	1655	468 / 469	22	647
Frost, George G. (See Ricker, Reuben H., assignor.)						
Frost, Stiles. (See Roulstone, Edward A. G., assignor.)						
Frost, Stiles, assignor to C. A. Burditt and F. O. North, Boston, Mass. Shutter-bower	264,873	Sept. 26	1415	399	22	1049
Frost, Zards, Kinmundy, Ill. Belt-stretcher	267,512	Nov. 14	698	200	22	1669
Fruen, William H., Minneapolis township, Hennepin county, S. Potts, and C. J. Elliott, Minneapolis, Minn. Dust-collector for flour-mills, &c	267,071	Nov. 7	136	39	22	1564
Fruen, William H., Minneapolis township, Hennepin county, Minn. Dust-collector for flour-mills, &c	267,182	Nov. 7	277	81	22	1589
Fry, George H. (See Allen, William, assignor.)						
Frye, Charles O., Carthage, Mo. Pump	261,918	Aug. 1	119	35	22	356
Frye, William H. H., Kansas City, Mo. Machine for manufacturing fences	264,683	Sept. 19	1176	332 / 333	22	1002
Frye, William H. H., Kansas City, Mo. Machine for barbing fence-palings	264,684	Sept. 19	1177	333	22	1003
Fuhrmann, Henry, Chicago, Ill. Alarm catch-basin for ice-boxes	267,870	Nov. 21	1145	321	22	1759
Fulgham, Jesse P., assignor of one-half to Wayne Agricultural Company, Richmond, Ind. Grain-drill	262,943	Aug. 22	1399	396	22	600
Fuller, Alexander G., Grand Rapids, Mich. Combined rocking and reclining chair	265,593	Oct. 10	449	123	22	1218
Fuller, Arthur. (See Pecker, Everett W., assignor.)						
Fuller, Eben E., Elk River, Minn. Baling-press	267,871	Nov. 21	1146	321	22	1759
Fuller Electrical Company. (See Wood, James J., assignor.)						
Fuller, Harrie E. (See Jones and Fuller.)						
Fuller, Jerome B., Naugatuck, Conn. Carpet-stretcher	264,144	Sept. 12	585	160	22	884
Fuller, Jerome B., and D. P. Mills, Naugatuck, Conn. Steam-trap	267,746	Nov. 21	991	279	22	1730
Fuller, Mark L. (See Fuller, William H., assignor.)						
Fuller, Myron H. (See Royce, Allen, and Fuller.)						
Fuller, Myron H., assignor of one-half to E. G. Carpenter, Phelps, N. Y. Weeding-machine	266,956	Oct. 31	2104	604	22	1531
Fuller, Stephen E. (See Hazard, Frederick J., assignor.)						
Fuller, William H., Cincinnati, assignor to M. L. Fuller, Milford, Ohio. Combined cane and fan	265,955	Oct. 17	894	255	22	1301
Fullerton, George A., Boston, Mass. Device for converting rotary into reciprocating motion	266,590	Oct. 24	1656	477	22	1442
Fulton, Louis B., *et al.* (See McAuley, Robert G., assignor.)						
Fulton, Louis B., Pittsburg, Pa. Gage-cock	267,416	Nov. 14	586	169	22	1649
Fulton, Robert, and A. De Lano, Detroit, Mich. Sheathing and roofing for railway-cars	267,784	Nov. 21	1041	.....	22	1739
Funck, Joseph, Tompkinsville, N. Y. Argand lamp	266,457	Oct. 24	1510	429	22	1415

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Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Funke, Ferdinand, Evansville, Ind. Marine steam-boiler	269,041	Dec. 12	780	231	22	2040
Furbush, Charles A. (See Furbush, Merrill A., assignor.)						
Furbush, Merrill A., assignor to himself and C. A. Furbush, Philadelphia, Pa. Side-drawing device for carding-machines	268,365	Nov. 28	1759	487	22	1876
Furey, Cyrus R., assignor to himself and J. H. Barnhart, Logansport, Ind. Breast-strap slide and hook	264,685	Sept. 19	1178	334	22	1003
Furgerson, William L., *et al.* (See Woodward, T. Trask, assignor.)						
Fusz, Paul A. (See Barrett, Robert, assignor.)						
Gable, William, and C. H. Pelton, Springfield, Ohio; said Gable assignor to said Pelton. Velocipede	265,056	Sept. 26	1637	460	22	1089
Gabryelski, Auguste, executrix. (See Gabryelski, Stanislaw B.)						
Gabryelski, Stanislaw B., deceased, A. Gabryelski, executrix, and assignor of one-half to C. Burdick, Cleveland, Ohio. Bobbin-winder for sewing-machines	268,773	Dec. 5	440	129, 130	22	1971
Gadd, George W., Indianapolis, Ind. Combined blacking-box holder and foot-rest	269,192	Dec. 19	981	286	22	2081
Gaff, Gent & Thomas. (See Gent, Joseph F., assignor.)						
Gaffney, Dennis B., Utica, N. Y. Broom	260,969	July 11	789	216	22	138
Gage, Charles, Boston, assignor to himself and L. B. Russell, Lynn, Mass. Drill-chuck. (Reissue)	10,205	Sept. 26	1858	522	22	1128
Gage, George A., Chicago, Ill. Insulating electrical wires	265,594	Oct. 10	449	124	22	1218
Gage, James P., Villisca, Iowa. Washing-machine	264,407	Sept. 12	870	244	22	936
Gainty, John F. (See Barnes, William H., assignor.)						
Gair, Robert. (See Lamont, James, assignor.)						
Gair, Robert. (See Liddell, William, assignor.)						
Galbreath, Thomas M. (See Wheeler, William F., assignor.)						
Gall, Albert. (See Dollens, Wood C., assignor.)						
Gall, Albert. (See Dollens and Zachech, assignors.)						
Gall, Albert. (See Zachech, Gustavus H., assignor.)						
Gall, John S., assignor of one half to J. W. Orphy, Rochester, N. Y. Water-trap cleaner	267,306	Nov. 7	429	124	22	1617
Gallagher, John A., Chinese Camp, Cal. Chair-brace	261,332	July 18	1242	344	22	220
Galloway, Walter L. (See Wood and Galloway.)						
Gallup, Henry C., Wilmington, Ohio. Tricycle	264,073	Sept. 12	507	138	22	871
Galpen, Horace. (See Livermore, Edward, assignor.)						
Galster, Louis T., Buffalo, N. Y. Preparation of boned hams and shoulders	269,518	Dec. 26	1404	405	22	2166
Galt, Elijah L. (See Elam and Boggs, assignors.)						
Galt, Thomas A., *et al.* (See Goedler, William F., assignor.)						
Galwey, John W. D., *et al.* (See Sturgeon, John, assignor.)						
Gamble, James H., Nebo, Ill. Railway safety-switch	262,759	Aug. 15	1165	329	22	547
Gamble, William, *et al.* (See Aldrich, Wales, assignor.)						
Gamble, William, *et al.* (See Scott, George W., assignor.)						
Gamblee, Jeulsos, and J. F. Haring, Crosskill, N. J. Vehicle-axle	267,872	Nov. 21	1147	322	22	1759
Gamgee, John, London, England. System of producing and controlling currents of air for cooling, warming, ventilating, &c	265,256	Oct. 3	33	10, 11	22	1141
	269,660	Dec. 26	1584	454, 455	22	2201
Gamma, Franz, Elizabeth, N. J. Magazine-gun						
Gammon, Elijah H., *et al.* (See Hodges, Pliny F., assignor.)						
Gammon, Elijah H., *et al.* (See Steward, John F., assignor.)						
Gandy, Maurice, Liverpool, county of Lancaster, England. Belt-sewing machine	262,395	Aug. 8	714	200, 201, 202	22	463
Gandy, Maurice, Liverpool, county of Lancaster, England. Stretching belting and apparatus therefor	269,519	Dec. 26	1405	405, 406	22	2166
Gandy, Maurice, Liverpool, county of Lancaster, England. Belt winding and stretching machine	269,520	Dec. 26	1406	406, 407	22	2166
Gannaway, Moning R., Unionville, Tenn. Boot-blacking stand	267,873	Nov. 21	1149	322	22	1759
Gannon, Thomas, Jersey City, N. J. Condenser or cooler	263,504	Aug. 29	2123	609	22	731
Ganster, George P., Reading, Pa. Clock-work escapement	269,278	Dec. 19	1084	316	22	2100
Ganzhorn, William, Boston, Mass. Dress-maker's measure	263,779	Sept. 5	134	42	22	797
Gard, Emery R., Baltimore, Md. Brick-press	265,667	Oct. 10	549	150, 151	22	1234
Gard, Emory R., administrator. (See Gard, Walter E.)						
Gard, Walter E., Baltimore, Md., deceased, E. R. Gard, administrator. Brick-truck	263,331	Aug. 29	1917	549	22	695
Gard, William E., Baltimore, Md. Fountain-pen	264,451	Sept. 19	930	261	22	954
Gardner, William P., Parsons, Kans. Seed-planter	264,686	Sept. 19	1179	334	22	1003
Gardam, Joseph, Brooklyn, N. Y. Surveying-instrument	260,473	July 4	156	44	22	27
Gardner, Charles, Leon, N. Y. Whiffletree-iron	261,219	July 18	1109	309	22	199
Gardner, Frederick N. (See Woodbridge, James E., assignor.)						
Gardner, Frederick N., Hartford, Conn. Belt-tightening machine	262,760	Aug. 15	1166	329	22	547
Gardner, James M., Ramsey, Ill. Steam-plow running-gear	265,956	Oct. 17	895	255	22	1301
Gardner, Rufus, assignor of one-half to W. R. Walston, Scotland Neck, N. C. Churn	266,128	Oct. 17	1107	312	22	1336
Gardner, William L., New York, N. Y. Adjustable belt-tightener	263,399	Aug. 29	2007	574	22	710
Gareis, Jacob, Dentz, near Cologne, Germany. Exhauster for gases and fluids	269,403	Dec. 19	1253	364	22	2131
Garland, Benjamin F., *et al.* (See Mason, David D., assignor.)						
Garlington, Thomas C., Dadeville, Ala. Cotton-gin rib	268,007	Nov. 28	1311	368	22	1795
Garlington, Thomas C., Dadeville, Ala. Car-coupling	268,396	Dec. 5	27	9	22	1802
Garnar, George W., Flushing, N. Y. Embossing-machine	265,057	Sept. 26	1638	460, 461	22	1089
Garretson, Eli K., Darlington, Ind. Band-cutting and feeding attachment for thrashing-machines	260,382	July 4	49	13	22	10
Garretson Ruffler Company. (See Garretson, Thomas B., assignor.)						
Garretson, Thomas B., assignor to Garretson Ruffler Company, Oskaloosa, Iowa. Ruffling and shirring attachment for sewing-machines	263,332	Aug. 29	1918	549	22	695
Garrison, Marshall. (See Curtis, Cyrus A., assignor.)						
Garrison, William F., assignor to Guild & Garrison, Brooklyn, N. Y. Steam-actuated valve	265,226	Sept. 26	1847	519	22	1126
Garsed, Robert P., Norristown, Pa. Pneumatic bell-ringing apparatus	264,273	Sept. 12	723	201	22	909
Garsed, Robert P., Norristown, Pa. Buffer	266,458	Oct. 24	1511	429	22	1415
Garsed, Robert P., Norristown, Pa. Automatic railway-switch	267,183	Nov. 7	279	81	22	1589
Garsed, Robert P., Norristown, Pa. Mechanical movement for operating railway-signals	267,184	Nov. 7	279	81	22	1589
Garsed, Robert P., Norristown, Pa. Pneumatic bell-ringing	268,482	Dec. 12	589	173	22	2005
Garside, George, Kalamazoo, Mich. Wind-engine	260,970	July 11	789	217	22	138
Garside, George, Kalamazoo, Mich. Wind-engine	264,274	Sept. 12	724	201	22	909
Garside, George, Kalamazoo, Mich. Windmill	266,281	Oct. 24	1293	366	22	1574
Gärtner, Adolph. (See Pattberg and Gärtner.)						
Gärtner, Adolph. (See Ritz and Gärtner.)						
Garvie, George D., and G. Wood, New York, N. Y. Combined sewing machine and musical instrument	267,874	Nov. 21	1149	322	22	1759

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Garwood, Edward L. (See Palmer, Harvey D., assignor.)						
Gary, Wesley W., Boston, Mass. Magneto-generator for railway-signals	262,396	Aug. 8	715	202	22	463
Gary, Wesley W., Boston, Mass. Magneto-electric railway-signal	266,027	Oct. 17	981	278	22	1315
Gaskill, Harvey F., Lockport, N. Y. Vertical pumping-engine	262,286	Aug. 8	581	163	22	440
Gaskill, Harvey F., Lockport, N. Y. Cut-off-valve gear	262,944	Aug. 22	1400	396	22	600
Gaskill, Harvey F., Lockport, N. Y. Pumping-engine	263,694	Sept. 5	28	9	22	779
Gaskins, George H., Pantego, N. C., assignor of one-half to E. A. Roderick, Washington, D. C. Attachment for pumps	261,087	July 11	949	265	22	164
Gassett, Oscar, Boston, Mass., assignor to Union Switch and Signal Company, Pittsburg, Pa. Hydraulic and electric interlocking apparatus	266,957	Oct. 31	2104	604, 605	22	1531
Gassett, Oscar, Boston, Mass., assignor to Union Switch and Signal Company, Pittsburg, Pa. Railway electric signal apparatus	267,978	Nov. 21	1266	356	22	1781
Gassett, Oscar, Boston, Mass., assignor to Union Switch and Signal Company, Pittsburg, Pa. Railway electric signal apparatus	267,979	Nov. 21	1269	357	22	1781
Gateau, Antoine, Chicago, Ill. Liquid carbonic acid gas motor	265,493	Oct. 3	316	93, 94	22	1192
Gates, John, Portland, Oreg. Direct-acting steam-pump	261,700	July 25	1690	473, 474	22	302
Gates, Laborious A., Centreville, Ind. Wrench for axle-taps	264,942	Sept. 26	1506	423	22	1064
Gates, Philemon T., New York, N. Y. Wash-board	264,074	Sept. 12	508	138	22	871
Gates, Philetus W., Chicago, Ill. Stone breaker and crusher	265,957	Oct. 17	896	255	22	1301
Gates, Philetus W., Chicago, Ill. Screening and assorting machine for stone breakers and crushers	266,282	Oct. 24	1294	366, 367	22	1374
Gates, Philetus W., Chicago, Ill. Stone-breaker and ore-crusher	269,193	Dec. 19	982	287	22	2082
Gates, Robert D., *et al.* (See Gates, Robert D., assignor.)						
Gates, Robert D., assignor, by mesne assignments, to himself, S. Sternberger, J. Hirshfeld, and R. F. Donovan, Philadelphia, Pa. Needle for attaching buttons	263,890	Sept. 5	275	79	22	922
Gates, Ryerson D., Chicago, Ill. Pulverizing-machine	269,404	Dec. 19	1254	365	22	2131
Gathmann, Louis, Chicago, Ill. Middlings-purifier	266,985	Nov. 7	34	11	22	1546
Gathmann, Louis, Chicago, Ill. Grain-cleaner	267,072	Nov. 7	138	39	22	1565
Gathright, Josiah B., Louisville, Ky. Gig-saddle	268,009	Nov. 28	1312	368	22	1795
Gauchet, Edward A., Fair Haven, Conn. Lock for sliding doors	262,397	Aug. 8	717	203	22	463
Gay, Joshua G., Ottawa, Ill. Two-wheeled vehicle	260,474	July 4	157	44	22	27
Gay, William A., assignor of one-half to J. N. Culbertson, Buffalo, N. Y. Sash-holder	268,217	Nov. 28	1565	434	22	1840
Gayhart, Alonzo R., Chicago, Ill. Fruit-drier	261,220	July 18	1110	309	22	199
Gaylord, Charles, assignor of one-half to S. P. Hedges, Chicago, Ill. Vessel-cover	265,403	Oct. 3	206	62	22	1173
Gebhart, John F., New Albany, Ind. Feeding device for carding-engines	263,161	Aug. 22	1657	469	22	647
Gebott, Robert H. (See Simons and Gebott.)						
Geddes, Joseph, Rochester, N. Y. Car-coupling	268,789	Dec. 12	472	139	22	1983
Gee, George P., Rochester, N. Y. Window-blind	264,275	Sept. 12	725	201	22	909
Geer, Adelbert L., Superior, Mich. Farm-gate	263,891	Sept. 5	276	79	22	822
Gehnrich, Hermann, New York, N. Y. Glass-tube joint for spouts of flour-mills, &c	261,088	July 11	950	265	22	164
Gehrt, Albert A. (See Wickey and Gehrt.)						
Geiger, Amon W. (See Lynn, Frank C., assignor.)						
Geiger, Anton, Buffalo, N. Y. Pin-turning tool	262,218	Aug. 8	505	141	22	426
Geiser, Daniel and N. D., Waynesborough, Pa. Machine for thrashing and cleaning grain	266,688	Oct. 31	1782	514, 515	22	1471
Geiser, Norris D. (See Geiser, Daniel and N. D.)						
Geissenhainer, George W., assignor to F. S. Bissell, Pittsburg, Pa. Adjustable blower for fire-places and stoves	261,221	July 18	1111	309	22	199
Gemünder, Albert, Columbus, Ohio. Piano-action	269,405	Dec. 19	1256	366	22	2132
Gendron, Peter, Toledo, Ohio. Vehicle-wheel	261,222	July 18	1112	310	22	199
Geneste, Engène, Paris, France. Bake-oven	265,404	Oct. 3	207	62, 63	22	1173
Genoways, Clinton L., Williamsburg, Ohio. Lifting-jack	269,661	Dec. 26	1586	455	22	2201
Gent, Joseph F., assignor to himself and Gaff, Gent & Thomas, Columbus, Ind. Brewing malt liquors	262,761	Aug. 15	1168	.....	22	547
Gerald, Amos F., Fairfield, Me. Scythe-blade	263,162	Aug. 22	1659	470	22	647
Gérard, Isidore, Newton, Kans. Car brake and starter	263,163	Aug. 22	1660	470	22	647
Gérard, John, New Britain, Conn., assignor to Nashua Lock Company, Nashua, N. H. Latch	262,219	Aug. 8	506	141	22	426
Gérard, Paul E., New York, N. Y. Curtain-fixture	262,398	Aug. 8	717	203	22	463
Gerhard, William. (See Howell, William G., assignor.)						
Gerhard, William, Philadelphia, Pa. Chain-link	261,544	July 25	1502	421	22	270
Gerig, Eduard, Berlin, Germany. Car-starter	267,185	Nov. 7	280	82	22	1590
Gerike, Hugo F. E., Berlin, Germany. Pendulum-scale	267,073	Nov. 7	140	39, 40	22	1565
Gerlach, J. Conrad, *et al.* (See Melladew, George B., assignor.)						
Gerlach, J. Conrad. (See Whitworth, Charles E., assignor.)						
German, Francis M., Bonham, Tex. Quilting attachment for sewing-machines	264,943	Sept. 26	1506	423	22	1065
Germeyer, John C., Carlisle, Pa. Releasing device for cattle-stalls	265,797	Oct. 10	708	198	22	1261
Germond, Walter M., Baltimore, Md. Lubricator	267,074	Nov. 7	142	40	22	1565
Gernand, Edward L., Baltimore, Md. Lunch-box	265,796	Oct. 10	707	197	22	1261
Gernert, Charles, assignor of one-half to F. Pfab, Philadelphia, Pa. Lemon-squeezer	261,844	Aug. 1	25	7, 8	22	340
Geasner, Ernest, Saxony, Germany. Feeding mechanism for carding-machines	267,513	Nov. 14	699	200, 201, 202	22	1669
Gesswein, Frederick W. (See Kinder, Julius, assignor.)						
Gestetner, David, South Street, Tinsloe Square, county of Middlesex, England. Perforating instrument for producing stencils	268,009	Nov. 28	1313	369	22	1795
Getchell, George N. (See Getchell, John S. and G. N.)						
Getchell, George W., assignor of one-half to M. Hardy, Brewer, Me. Feed-water alarm for steam-boilers	267,338	Nov. 14	480	139	22	1632
Getchell, John S. and G. N., Houlton, Me. Hoe-cultivator	265,608	Oct. 10	550	151	22	1234
Getleson, Bernard, San Francisco, Cal. Boot	268,479	Dec. 5	122	37	22	1910
Getz, Franklin, Tonawanda, N. Y. Seed-drill	266,805	Oct. 31	1012	554	22	1495
Ghezzi, Romeo E., assignor to himself and L. Guli, New York, N. Y. Sign	267,417	Nov. 14	587	169	22	1649
Gholson, William C., La Grange, Ga. Wire block-binding portable fence	262,035	Aug. 1	257	74	22	379
Gibbons, Dennis E., Lake Forest, Ill. Corner-iron for buggies	261,919	Aug. 1	120	35	22	356
Gibbs, Charles, New York, N. Y. Portable galvanic battery	266,129	Oct. 17	1108	313	22	1336
Gibbs, George W., Salem, Ohio. Rein-holder	264,145	Sept. 12	586	164	22	865
Gibbs, Samuel, Blue Mound, Mo. Movable fence-post	266,459	Oct. 24	1512	420	22	1415
Gibson, Alexander C. and W. W., Toronto, Ontario, Canada. Inside window-blind	262,399	Aug. 8	718	203	22	463
Gibson, Alexander C., assignor of one-half to E. Armant, Toronto, Ontario, Canada. Rotary engine	263,505	Aug. 29	2125	609	22	732
Gibson, Charles J., Bergen Point, N. J., assignor to Carr & Hobson, (limited,) New York, N. Y. Lawn-mower	263,506	Aug. 29	2127	609	22	732
Gibson, Henry A., Otterville, Mo. Car-coupling	265,405	Oct. 3	208	63	22	1173

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Gibson, Thomas H., assignor to Albany Aniline and Chemical Works, Albany, N. Y. Mordant	263,040	Aug. 22	1522	.....	22	621
Gibson, William P., Brushton, N. Y. Holdback-iron for carriages	261,223	July 18	1113	310	22	199
Gibson, William W. (See Gibson, Alexander C. and W. W.)						
Giddings, Charles M., Massillon, Ohio. Valve-gear for steam-engines	269,042	Dec. 12	781	231	22	2040
Giddings, Silas M., *et al.* (See Brown, John F., assignor.)						
Giddings, Thomas J., Franklin Grove, Ill. Shirring attachment for sewing-machines	269,781	Dec. 26	1732	500	22	2229
Giebel, Charles E., Fremont, Ohio. Brace for carriage-tops	264,452	Sept. 19	931	261	22	954
Gifford, Clarence T., *et al.* (See Green, Robert D., assignor.)						
Gifford, Ezra N., Cleveland, Ohio. Car-coupling	269,043	Dec. 12	782	231	22	2040
Gifford, Ezra N., assignor to himself, W. H. Gifford, Cleveland, G. W. Taylor, and F. H. Brady, Leavittsburg, Ohio. Car-coupling	267,307	Nov. 7	430	125	22	1617
Gifford, George L., San Antonio, Tex. Combined seed-planter and cultivator	262,762	Aug. 15	1168	329	22	547
Gifford, James N., Jr., Fairhaven, Mass. Toy	260,194	Dec. 19	983	287	22	2082
Gifford, William H., *et al.* (See Gifford, Ezra N., assignor.)						
Gilbert, Charles H., Andover, Mass. Dental bracket	267,186	Nov. 7	281	82	22	1590
Gilbert, Edward F., assignor of one-half to A. G. Lucas, Lyons, N. Y. Hose-connection	262,045	Aug. 22	1401	396	22	600
Gilbert, Emerson A., Meadeville, Pa. Automatic retoucher for photographic negatives	264,146	Sept. 12	587	161	22	885
Gilbert, George A. (See Gilbert, Henry J. and G. A.)						
Gilbert, Henry, Fremont, Ohio. Hedge-fence	264,276	Sept. 12	726	202	22	909
Gilbert, Henry J. and G. A., Racine, Wis. Roller-mill	263,164	Aug. 22	1660	470 471	22	648
Gilbert, James R., Leesburg, Ga. Combined garden-hoe and seed-planter	261,147	July 18	1021	288	22	186
Gilbert, John T., Mendota, Ill. Wagon-jack	267,339	Nov. 14	480	139	22	1632
Gilbert, Sylvester P., *et al.* (See Horton, Jacob C., assignor.)						
Gilbert, Thomas, London, England. Sight for fire-arms	267,418	Nov. 14	588	169	22	1649
Gilbert, Thomas S., New Haven, Conn., assignor to L. Schiele & Co., New York, N. Y. Corset	267,187	Nov. 7	283	83	22	1590
Gilbert, Thomas S., New Haven, Conn., assignor to Thomson, Langdon & Co., New York, N. Y. Corset	267,514	Nov. 14	702	202	22	1670
Gilchriest, Robert, Louisville, Ky. Fender for stoves and grates	268,658	Dec. 5	314	91	22	1947
Gilduff, James. (See Fileer and Gilduff.)						
Gilfillan, Thomas. (See Bonett, Gilfillan, and Flanders.)						
Gilfillan, William, assignor to Sargent & Co., New Haven, Conn. Spring-hinge	262,400	Aug. 8	719	203	22	464
Gilkey, Patrick H. (See Smith, Edward B., assignor.)						
Gill, Fearing, New York, N. Y. Running-gear for vehicles	264,277	Sept. 12	726	202	22	909
Gill, Ira, Walpole, Mass. Machine for working, felting, napping, and sizing fur, &c	260,475	July 4	158	45	22	27
Gill, Jabez H., Philadelphia, Pa., and C. S. Lee, Bridgeport, Conn., assignors to M. Hartley, New York, N. Y. Powder and shot measure	269,782	Dec. 26	1733	500	22	2229
Gillespie, David O., assignor to J. M. C. Rodney, Wilmington, Del. Method of and apparatus for tapering the ends of paper tubes	269,662	Dec. 26	1587	455	22	2202
Gillespie, James and M., West Point, Ohio. Rotary engine	268,659	Dec. 5	314	91	22	1947
Gillespie, James E., assignor to Fabric Fire Hose Company, Warwick, N. Y. Multiple-fabric hose	268,366	Nov. 28	1760	487	22	1876
Gillespie Martin. (See Gillespie, James and M.)						
Gillett, Leroy M., Lyons, Kans. Sulky-harrow	269,044	Dec 12	783	232	22	2040
Gilliland, Ezra T., Indianapolis, Ind. Railway-train electric signaling apparatus	266,806	Oct. 31	1923	554	22	1495
Gilliland, James F., Indianapolis, Ind. Electrical circuit for watchmen's time-recorders	262,660	Aug. 15	1046	293	22	527
Gilliland, James F., Indianapolis, Ind. Gearing	265,595	Oct. 10	450	124	22	1218
Gilliland, James F., Indianapolis, Ind. Electrical switch-board	267,747	Nov. 21	992	279	22	1730
Gillilland, George W. (See Potter and Gillilland.)						
Gillon, Edward W. (See Clark and Gillon.)						
Gilman, Hiram C., assignor to A. Clarke and H. C. Perham, Lowell, Mass. Sectional roll for cotton-openers	266,926	Nov. 7	36	11	22	1546
Gilman, Julius S., New York, N. Y. Heating-drum attachment for oil and gas stoves	261,845	Aug. 1	26	8	22	340
Gilmore, James T., Painesville, Ohio. Oil-cloth and carpet fastener	268,397	Dec. 5	28	9	22	1892
Gilmore, Othniel, East Bridgewater, Mass. Sole-leveling machine	266,283	Oct. 24	1296	367	22	1375
Gilsinger, Valentine, Charleston, Ark. Wagon-brake	261,333	July 18	1242	345	22	220
Gilson, Henry E., Somerville, Mass., assignor to Crouch & Fitzgerald, New York, N. Y. Trunk	269,569	Dec. 26	1467	422	22	2179
Gilzinger, Sebastian, Rondout, N. Y. Lock for wagon-seats	260,860	July 11	653	177	22	115
Gingras, Timothy. (See Leirmann, George W., assignor.)						
Ginter, William P., assignor of one-half to J. Kahler, Hughesville, Pa. Car-coupling	263,165	Aug. 22	1663	471	22	648
Gisborne, John S., Charing Cross, county of Middlesex, England. Ship-telegraph	266,987	Nov. 7	37	12	22	1546
Githens, Joseph C., New York, assignor to Rand Drill Company, of New Jersey. Clamping mechanism for steam rock-drills	264,524	Sept. 19	1005	283	22	969
Given, Philonzo F., Cedar Rapids, Iowa. Safety-guard for railways	265,958	Oct. 17	897	256	22	1301
Gladding, George S., Chester, assignor to C. B. Rogers, Deep River, Conn. Gun-brush	264,826	Sept. 19	1343	380	22	1031
Gladwin, Porter A., Boston, Mass. Auger	269,406	Dec. 19	1257	366	22	2132
Glass, John C., Verona, Pa. Brake mechanism	262,401	Aug. 8	721	204	22	464
Glass Veneer Company. (See Budd, James, assignor.)						
Glauner, G. Franklin. (See Downey, Willemin, and Glauner.)						
Glazier, George W., Salem, and A. G. Potter, Lynn, Mass. Paper-box machine	261,846	Aug. 1	27	8	22	340
Gleason, Elliott P., Brooklyn, assignor to E. P. Gleason Manufacturing Company, New York, N. Y. Gas-lighting torch. (Reissue)	10,159	July 18	1459	407	22	257
Gleason, Elliott P., Brooklyn, assignor to E. P. Gleason Manufacturing Company, New York, N. Y. Gas-lighting torch. (Reissue)	10,160	July 18	1460	408	22	257
Gleason Manufacturing Company, E. P. (See Gleason, Elliott P., assignor.) (Reissue.)						
Gleason, Sidney M. (See Amaden, John, assignor.)						
Gleason, William, Milwaukee, Wis. Fence	266,988	Nov. 7	39	12	22	1547
Glen Cove Manufacturing Company. (See Grimm, Paul H., assignor.)						
Glenn, Harry. (See Morgan and Glenn.)						
Glenn, John S., Chicago, Ill. Balanced rotary valve	264,525	Sept. 19	1006	283	22	969
Glenn, William B. (See White, Benjamin F., assignor.)						
Gleubler, John. (See Kupka, Clemens, assignor.)						
Glidden, David W., Montrose, Pa. Car-coupling	265,058	Sept. 26	1639	461	22	1090
Glines, Horace, West Stratford, Conn. Boot and shoe stretcher	269,407	Dec. 19	1258	366	22	2132
Globe Nail Company. (See Miner, William W., assignor.)						
Glody, Thomas P. (See Dunks and Glody.)						
Glody, Thomas P., assignor of one-half to C. H. Dunks, New York, N. Y. Bed-bottom	261,148	July 18	1022	288	22	186
Glover, Alexander. (See Tucker, Henry S., assignor.)						
Glover, Carlos W., Boston, Mass. Hatter's kettle	265,798	Oct. 10	709	198	22	1261
Glover, Wilson, assignor of one-half to J. L. Roxburgh, Charleston, S. C. Rest for cotton-bales	263,695	Sept. 5	28	9	22	779
Glover, Winslow B., Boston, Mass. Coal-tub	262,946	Aug. 22	1402	396	22	600

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Gluchowsky, Jacob, Cincinnati, Ohio. Trap for throwing balls	267,188	Nov. 7	284	83	22	1590
Gminder, George F., New York, N. Y. Plush trimming	262,179	Aug. 1	453	126	22	411
Gnadinger, John, Jr., Paris, Ky. Indicator for spirit-cisterns	266,460	Oct. 24	1513	430	22	1415
Goddard, Ezra G., East Saginaw, Mich. Adjustable rotary sulky-plow	266,689	Oct. 31	1784	515	22	1471
Goddu, Louis, Winchester, Mass. Machine for driving sole-fastenings	265,227	Sept. 26	1849	530 531	22	1126
Goddu, Louis, Winchester, Mass., assignor to Belle Patent Button Fastener Company, Kennebunk, Me. Apparatus for fastening buttons	267,340	Nov. 14	481	139	22	1632
Goddu, Louis, Winchester, Mass., assignor to G. McKay, Newport, R. I., and J. W. Brooks, Cambridge, Mass., trustees. Sole-fastening wire	262,287	Aug. 8	582	164	22	440
Goddu, Louis, Winchester, assignor to G. McKay and J. W. Brooks, trustees, Cambridge, Mass. Sole-fastening wire	263,657	Aug. 29	2306	659	22	763
Goddu, Louis, Winchester, Mass., assignor to G. McKay, Newport, R. I., and J. W. Brooks, Cambridge, Mass., trustees. Nail-making machine	269,279	Dec. 19	1086	316 317 318	22	2100
Godfrey, Lewis. (See Andrews and Godfrey.)						
Godfrey, Nicholas W., Bayville, N. Y. Screen	266,130	Oct. 17	1109	313	22	1337
Godley, George F., Philadelphia, Pa. Car-spring	267,341	Nov. 14	483	140	22	1632
Godman, Solomon H., Indianapolis, Ind. Bridge	263,333	Aug. 29	1920	549	22	695
Godman, Solomon H., Indianapolis, Ind. Bridge	267,189	Nov. 7	285	83	22	1591
Godwin, Edward C., Norfolk, Va. Stove-oven	260,971	July 11	791	217	22	138
Goebel, Heury, assignor of one-half to J. W. Kulenkamp, New York, N. Y. Electric incandescent lamp	266,358	Oct. 24	1403	398	22	1395
Goehler, George J. H., assignor to Mosler, Bahmann & Company, Cincinnati, Ohio. Bending angle-irons	268,010	Nov. 28	1314	369	22	1795
Goehler, George J. H., assignor to Mosler, Bahmann & Company, Cincinnati, Ohio. Bending angle-irons	268,011	Nov. 28	1314	369	22	1795
Goeller, William F., Rock Falls, assignor to T. A. Galt and G. S. Tracy, Sterling, Ill. Horse hay-rake	261,545	July 25	1502	421 422	22	270
Goergen, Peter, Buffalo, N. Y. Coal-box	261,701	July 25	1691	474	22	302
Goetchius, George H., and J. C. Shults, Little Falls, N. Y. Refrigerator	265,494	Oct. 3	319	94	22	1193
Goforth, William, Windsor, Mo. Sash-cord fastener	262,220	Aug. 8	507	141	22	426
Gohrman, Henry, Redwood Falls, Minn. Hay and straw burning stove	266,131	Oct. 17	1110	313	22	1337
Gold, Joseph S., assignor of two-thirds to G. W. Ball and R. C. Hoffman, Columbus, Ohio. Bulletin-board	261,089	July 11	951	265	22	164
Goldberg, Max, Milwaukee, Wis. Apparatus for administering medicated baths	261,598	July 25	1569	440 441	22	282
Golden Gate Concentrator Company. (See Waltt, George W., assignor.)						
Golding, William, assignor of one-half to S. B. Steers, New Orleans, La. Fare-box	269,195	Dec. 19	984	287	22	2082
Golding, William H., Chelsea, Mass. Mechanical movement	267,875	Nov. 21	1150	322 323	22	1760
Goldman, Cimon S., Syracuse, N. Y. Plaiting attachment for sewing-machines	264,147	Sept. 12	587	161	22	885
Goldner, Stephen, Baden, Germany. Water-closet	267,190	Nov. 7	286	83	22	1591
Goldsmith, Abram A., Charleston, S. C. Mushroom-anchor	261,334	July 18	1243	345	22	220
Goldsmith, Daniel, New York, N. Y. Locket	263,893	Sept. 5	277	79	22	822
Goldsmith, J. Mortimer, Boston, Mass. Hydrocarbon-gas generator	261,546	July 25	1504	422 423	22	270
Goldsmith, J. Mortimer, Boston, Mass. Valve	261,547	July 25	1507	423	22	271
Goldsmith, John S., New York, N. Y. Advertising-wagon	269,045	Dec. 12	784	232	22	2041
Goldstine, Joseph. (See Simmons, Jacob, assignor.)						
Goldthorp, Joshua. (See Smith, Goldthorp, and Fawcett.)						
Goldthwait, Frank H. (See Conley, John A., assignor.)						
Goll, George. (See Boericke and Goll.)						
Goll, John H., and A. Spinner, San Francisco, Cal. Preparing bakers' yeast	267,686	Nov. 21	928	.....	22	1719
Gooch, Daniel W., trustee. (See Adams, Hiram R., assignor.)						
Goode, Thomas, Rogersville, Ala. Quilting-frame	266,461	Oct. 24	1514	430	22	1416
Goodenough, Owen, Media, Pa. Varnish for furniture and other articles of wood	267,419	Nov. 14	589	.....	22	1649
Goodfellow, John H., assignor to Goodfellow Manufacturing Company, Troy, N. Y. Tool for attaching shoe-buttons	269,408	Dec. 19	1259	366	22	2133
Goodfellow Manufacturing Company. (See Goodfellow, John H., assignor.)						
Goodhue, Seth, Wilmot, N. H. Railway-switch	265,257	Oct. 3	36	12	22	1142
Gooding, Charles S. (See Lewis, George L., assignor.)						
Gooding, George E., and E. H. Taylor, Lynn, Mass., assignors to Hutchinson Edge Setter Company, Portland, Me. Jack for boots and shoes	263,894	Sept. 5	278	80	22	822
Goodison, William, Heuvelton, N. Y. Trunk-handle	264,087	Sept. 19	1181	334	22	1003
Goodman, George, San Francisco, Cal. Concrete arch for sidewalks and over areas	269,280	Dec. 19	1089	318	22	2101
Goodman, Henry, assignor of one-half to D. P. Kane, St. Louis, Mo. Concealed-hammer gun	267,876	Nov. 21	1150	323	22	1760
Goodman, Joseph S., Columbus, Ohio. Overalls	261,509	July 25	1570	441	22	282
Goodman, Samuel A. (See Perry and Goodman.)						
Goodpasture, Levi D., Weldon, assignor to himself and L. G. Spencer, Chicago, Ill. Measuring device or apparatus	261,441	July 18	1366	382	22	241
Goodrich, Alfred B., assignor of one-half to W. J. Beyer, Buffalo, N. Y. Watchman's time-recorder	261,149	July 18	1023	288	22	186
Goodrich, Charles H., Boston, Mass. Gas bracket and cock	260,972	July 11	792	217	22	138
Goodrich, Charles H., Stoneham, Mass. Cock	266,132	Oct. 17	1111	314	22	1337
Goodrich, Harry C., Chicago, Ill. Slate-frame. (Reissue)	10,207	Sept. 26	1861	523	22	1128
Goodrich, Harry C., Chicago, Ill. Thread cutter and holder for sewing-machines	268,012	Nov. 28	1315	369	22	1795
Goodrich, Harry C., Chicago, Ill. Tuck-marker for sewing-machines	268,013	Nov. 28	1310	370	22	1796
Goodrich, Harry C., and R. S. Barnum, Chicago, Ill., assignors to said Goodrich. Noiseless slate	263,041	Aug. 22	1522	429	22	621
Goodrich, R. Elmer, New Haven, Conn. Prop for carriage-lanterns	263,400	Aug. 29	2008	574	22	710
Goodridge, James F., Boston, Mass. Nut-lock	260,861	July 11	654	177	22	115
Goodridge, John C., Jr., New York, N. Y. Construction and repair of tunnels, culverts, &c	262,402	Aug. 8	721	204	22	464
Goodridge, John C., Jr., New York, N. Y. Constructing underground tunnels and arches	262,403	Aug. 8	722	204	22	464
Goodridge, John M., Baltimore, Md., assignor of one-half to D. Humphreys, Norfolk, Va. Wood-screw	262,892	Aug. 15	1334	377	22	578
Goodwillie, David, Chicago, Ill. Egg-carrier	266,618	Oct. 31	1695	489	22	1455
Goodwillie, David, Lake View, Ill. Egg-carrier	266,619	Oct. 31	1696	489	22	1455
Goodwin, Adolphus D., near Goshen Bridge, Va. Lifting-jack	268,790	Dec. 12	473	139	22	1964
Goodwin, Ell H., Antone, Kans. Car-coupling	265,406	Oct. 3	209	63	22	1173
Goodwin, Hannibal, Newark, N. J. Phototypography	265,669	Oct. 10	552	.....	22	1234
Goodwin, James, Everett, Mass. Metamorphosic attachment to bedsteads	269,570	Dec. 26	1468	423	22	2179
Goodwin, Joseph B., Lowell, Mass. Car-coupling	264,075	Sept. 12	509	138	22	871

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Goodwin, William F., Stelton, N. J. Steam-engine	260,383	July 4	50	14	22	10
Goodwin, William H. J., Raleigh, N. C. Motor	262,947	Aug. 22	1403	397	22	547
Goodwin, William W., Philadelphia, Pa. Gas-heating stove	263,507	Aug. 29	2128	610	22	732
Goodwin, William W., Philadelphia, Pa. Gas cooking stove or range	265,407	Oct. 3	210	64	22	1173
Goodwin, William W., Philadelphia, Pa. Burner for gas-stoves	265,408	Oct. 3	211	64	22	1174
Goodyear, Albert, Akron, Ohio. Grain-binder	266,284	Oct. 24	1298	{367 {368	22	1375
Goodyear Rubber Company. (See Studley, Theodore E., assignor.)						
Googe, Robert M., Fleming, Ga. Scaffold	267,515	Nov. 14	703	202	22	1670
Goold, Frank C., assignor of one-third to J. P. Lowell, Boston, Mass. Watch-regulator	266,256	Oct. 17	1258	356	22	1361
Goold, Oliver A., assignor to United States Indelible Ink Company, Boston, Mass. Writing-ink	263,508	Aug. 29	2129	.....	22	732
Goolden, Richard E. (See Mackay, Murdoch, assignor.)						
Gordon, Alexander, Cincinnati, and J. W. See, assignors to Niles Tool Works, Hamilton, Ohio. Lathe-rest	263,334	Aug. 29	1921	550	22	695
Gordon, Charles, Cleveland, Ohio. Lamp-fixture	263,166	Aug. 22	1664	{471 {472	22	648
Gordon, Charles, Cleveland, Ohio. Lamp-burner	267,075	Nov. 7	143	41	22	1565
Gordon, Edward F., and H. Hobbs, Concord, N. H. Vent-valve	266,462	Oct. 24	1515	430	22	1416
Gordon, Elliot H., Ferndale, Cal. Clothes-drier	262,661	Aug. 15	1047	293	22	527
Gordon, Fredrick W., assignor, by mesne assignments, to himself and J. P. Witherow, Pittsburg, Pa. Gas-burning device	264,453	Sept. 19	932	261	22	955
Gordon, James F., Rochester, N. Y. Grain-binder	266,958	Oct. 31	2108	{605 {606	22	1531
Gordon, James F., Rochester, N. Y. Grain-binding machine	269,046	Dec. 12	785	{232 {233 {234	22	2041
Gordon, Noel R., Sparta, Ill. Knockdown packing-box	268,091	Nov. 28	1409	394	22	1812
Gordon, Upton M., San Rafael, Cal. Brake-block	268,092	Nov. 28	1410	394	22	1812
Gordon, William, Boston, Mass. Heel-burnishing machine	268,480	Dec. 5	123	37	22	1910
Gordon, William B. (See Lyon and Gordon.)						
Gordon, William J. (See Mundell and Gordon.)						
Gore, Edgar N., Elkhart, Ind. Panel-raiser	264,278	Sept. 12	727	203	22	910
Gorenflo, William, Biloxi, Miss. Lining for preserving-cans	268,481	Dec. 5	124	38	22	1910
Gormly, Patrick, and L. Bridge, Philadelphia, Pa. Steam-radiator	263,167	Aug. 22	1666	472	22	648
Gorrell, John B., La Otto, and G. H. Post, New Era, Ind. Windmill	261,442	July 18	1368	382	22	241
Gott, Erastus, Newton, Mass. Leather-skiving machine	264,874	Sept. 26	1415	400	22	1049
Götzel, Theodor, New York, N. Y. Hose-coupling	266,359	Oct. 24	1404	398	22	1395
Goucher, Mancinus C., Milwaukee, Wis. Wire-stretcher	263,509	Aug. 29	2130	610	22	732
Goudet, Jacques, and G. Durozad, Lyons, France. Device for stopping runaway horses	265,059	Sept. 26	1641	461	22	1090
Gouge Heating and Ventilating Company. (See Gouge, Henry A., assignor.)						
Gouge, Henry A., New Rochelle, assignor to Gouge Heating and Ventilating Company, New York, N. Y. Stock-car	261,920	Aug. 1	121	35	22	356
Gouge, Henry A., New Rochelle, assignor to Gouge Heating and Ventilating Company, New York, N. Y. Car-ventilator	262,602	Aug. 15	1048	293	22	527
Gough, George, assignor to E. G. and A. A. Webster, New York, N. Y. Pitcher	267,191	Nov. 7	227	84	22	1501
Gould, Alexander and F., and T. Harris, Alexandria, Ohio. Shifting-rail for vehicles	261,443	July 18	1370	383	22	242
Gould, Clarence P., Newark, N. J. Trunk-catch	266,285	Oct. 24	1300	368	22	1375
Gould, Frank. (See Gould and Harris.)						
Gould, John, Chatham, N. J. Arithmetical frame	262,221	Aug. 8	508	{141 {142	22	426
Gould, Robert S., New York, N. Y. Curtain-rod holder	266,028	Oct. 17	983	278	22	1345
Gove, Charles E., *et al.* (See Eisele, Joseph, assignor.)						
Gowan, George, Rock Island, Ill. Carrier-chain	268,883	Dec. 12	590	174	22	2005
Gowans, James A., and J. MacMillan, Paris, Ontario, Canada. Car-coupling	261,444	July 18	1371	383	22	242
Gowell, Frank H., Boston, Mass. Oil-stone holder	269,409	Dec. 19	1261	367	22	2133
Gowen, James E., assignor of one-half to C. A. Haulenbeck, Peabody, Kans. Hinge	261,150	July 18	1024	288	22	186
Gowing, David H. (See Browne, Oliver L. F., assignor.)						
Gowing, George, Oakland, Cal. Sewing-machine	262,586	Aug. 15	950	267	22	510
Grace, Patrick H., Sedalia, Mo. Railway-joint	261,335	July 18	1244	345	22	221
Grady, Andrew J., Pecatonica, Ill. Manure-distributer	264,279	Sept. 12	728	203	22	910
Grady, James B., Philadelphia, Pa. Fish-cutter	266,134	Oct. 17	1113	{314 {315	22	1337
Graff, John, assignor of one-half to A. Mills, New York, N. Y. Fire-escape	261,847	Aug. 1	29	9	22	340
Graffley, Alfred H., Indianapolis, Ind., assignor of one-half to F. F. Temple, Chicago, Ill. Shirt	268,482	Dec. 5	124	38	22	1910
Gratton, Henry, London, county of Middlesex, England. Tipping-wagon	269,663	Dec. 26	1589	456	22	2202
Graham, Alden, Boston, Mass. Reclining-chair	261,336	July 18	1245	345	22	221
Graham, Alfred, London, England. Electric-arc lamp	268,218	Nov. 28	1566	{434 {435	22	1841
Graham, Daniel M., Boston, Mass. Apparatus for vaporizing and burning petroleum or other hydrocarbon	260,476	July 4	160	45	22	98
Graham, Daniel M., Boston, Mass. Stove or furnace	268,483	Dec. 5	125	38	22	1910
Graham, Nancy J., Jackson, Ohio. Heater attachment for stoves	269,047	Dec. 12	792	234	22	2042
Graham, William, and W. H. Staley, London, Ohio. Post-hole-boring machine	269,410	Dec. 19	1262	367	22	2133
Graham, William G. (See Collins and Graham.)						
Grahner, Charles, New York, N. Y. Candle-holder	266,463	Oct. 24	1515	430	22	1416
Gramme, Zénobe T., assigner to A. Nlaudet, Paris, France. Transmission of power by electricity	269,281	Dec. 19	1090	318	22	2101
Grand Rapids Felt Boot Company. (See Beatty, Dempster, assignor.)						
Grandy, Edward F. (See Grandy, Henry E. and E. F.)						
Grandy, Henry E. and E. F., Boston, Mass. Machine for making horseshoe-nails	268,791	Dec. 12	474	{139 {140 {141	22	1984
Granger, Albert, administrator. (See Granger, Henry R.)						
Granger, Almon M., Medford, Mass. Extinguishing fires on railway-trains	262,288	Aug. 8	583	164	22	440
Granger, Almon M., Boston, Mass. Extinguishing fire in railway-trains	263,401	Aug. 29	2009	{574 {575	22	710
Granger Fertilizer Company. (See Paynter, David E., assignor.)						
Granger, Henry R., deceased, New York, N. Y., (A. Granger, administrator.) Breech-loading fire-arm	266,133	Oct. 17	1111	314	22	1337
Granlees, William J., Philadelphia, Pa. Water-sink	263,696	Sept. 5	29	9	22	780
Grannan, Louis, assignor of one-half to J. F. Ferrell, Philadelphia, Pa. Car-coupling	262,289	Aug. 8	585	165	22	440
Grant, Edward W., Ypsilanti, Mich. Car-coupling	268,219	Nov. 28	1568	435	22	1841

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Grant, Emory A., Louisville, Ky. Folding and swinging support and repository for books, &c.	263,168	Aug. 22	1667	472	22	648
Grant, James M., Hartford, Conn. Reeling and winding silk and other thread	267,192	Nov. 7	288	84	22	1591
Grant, Thomas M., San Francisco, Cal. Knit shirt	268,093	Nov. 28	1411	394	22	1812
Granville, Arthur, New York, N. Y. Cylinder for hoisting apparatus	260,384	July 4	52	14,15	22	10
Granville, Arthur, New York, N. Y. Hydraulic elevator	262,290	Aug. 8	587	165	22	440
Graphite Steel and Iron Company *et al.* (See Chipman, William W., assignor.)						
Grataloup, Claudius, and J. B. Leymarie, Paris, France. Umbrella-slide	261,151	July 18	1025	289	22	186
Gratiot, Charles L., Chicago, Ill. Method of and apparatus for milling	267,516	Nov. 14	704	{202 {203	22	1670
Gratiot, Charles L., St. Louis, Mo., assignor to Gratiot Manufacturing Company, Chicago, Ill. Method of and apparatus for degerminating wheat	260,750	July 11	518	141	22	93
Gratiot Manufacturing Company. (See Gratiot, Charles L., assignor.)						
Grattan, Orlando T., Tranhoe P. O., Brookings county, Dak. Ter. Hand corn-planter	268,220	Nov. 28	1569	435	22	1841
Gratz, Louis C., *et al.* (See Davis, Nathan H., assignor.)						
Grauwiler, John E., New York, N. Y. Woven bag	264,526	Sept. 19	1007	284	22	969
Graves, Ephraim H., assignor of one-half to O. F. Woodruff, Morrison, Ill. Heating apparatus	264,408	Sept. 12	871	245	22	936
Graves, Hiram, Syracuse, N. Y. Elevator	262,291	Aug. 8	588	165	22	441
Graves, Willis N., assignor of one-half to Hydraulic Press Brick Company, St. Louis, Mo., Brick-kiln	266,959	Oct. 31	2114	{606 {607	22	1532
Gray, Gorham, Boston, Mass. Fastening or chair for rails	262,404	Aug. 8	723	204	22	464
Gray, Gorham, Boston, Mass. Smoke-stack	264,076	Sept. 12	510	138	22	871
Gray, Gorham, Boston, Mass. Pegging-machine	264,077	Sept. 12	511	139	22	871
Gray, Henry F., assignor, by mesne assignments, to L. T. Strader and A. D. Field, Columbus, Ohio. Window-cornice. (Reissue)	10,248	Nov. 28	1773	491	22	1878
Gray, Henry M., London, county of Surrey, England, assignor to Ewart Manufacturing Company, Chicago, Ill. Drive-chain	264,280	Sept. 12	729	203	22	910
Gray, John, Osage City, Kans. Mining-machine	266,807	Oct. 31	1917	554	22	1496
Gray, John, assignor of one-half to N. B. Hubbard, Chicago, Ill. Blown-glass mucilage-bottle	269,196	Dec. 19	984	288	22	2082
Gray, John C., Hartford, Conn. Tool-holder	267,517	Nov. 14	707	203	22	1671
Gray, Josiah, assignor to himself, W. Hollenbeck, C. B. Shefler, and J. R. Reed, Chicago, Ill. Railway-switch	260,674	July 4	425	115	22	72
Gray, Josiah, assignor to himself, W. Hollenbeck, C. B. Shefler, and J. R. Reed, Chicago, Ill. Automatic railway-switch	267,308	Nov. 7	431	125	22	1617
Gray, Richard E., Williamsport, Pa. Car-coupling	261,702	July 25	1092	{474 {475	22	302
Gray, Robert, Jr., *et al.* (See Jones, Alfred E., assignor.)						
Gray, Samuel J., assignor of one-half to J. Tucker, Fort Gratiot, Mich. Railway-guard	264,078	Sept. 12	512	139	22	872
Gray, William. (See Trude and Gray.)						
Gray, William D., Milwaukee, Wis. Flour-dressing machine	260,477	July 4	161	45	22	98
Gray, William D., Milwaukee, Wis. Test-plate for roller grinding-mills	264,454	Sept. 19	933	262	22	955
Gray, William D., assignor to E. P. Allis, Milwaukee, Wis. Feeding device for grinding-mills	261,837	July 18	1246	346	22	221
Green, Cadbury & Richards. (See Cadbury, Joel, assignor.)						
Green, Elmer, North East, Pa. Painting-machine	261,548	July 25	1509	421	22	271
Green, George, Toyah, Tex. Spark-arrester	263,169	Aug. 22	1668	472	22	648
Green, George F., Kalamazoo, Mich., assignor to W. N. Whiteley, J. Fassler, and O. S. Kelly, Springfield, Ohio. Automatic binder	265,060	Sept. 26	1641	{461 {462	22	1090
Green, Henry M., Lowell, Wis. Separator-shoe for thrashing-machines	262,405	Aug. 8	724	205	22	465
Green, John C. (See Marsellis, George, assignor.)						
Green, Joshua J., Jackson, Miss. Oil-press envelope	260,802	July 11	655	177	22	115
Green, Martin A., Altoona, Pa. Railway-switch	269,048	Dec. 12	792	234	22	2042
Green, Robert D., Columbus, assignor to himself, C. T. Gifford, Aberdeen, Miss., and R. S. Rickey, New Orleans, La. Permutation-padlock	262,406	Aug. 8	725	205	22	465
Green, Robert P., Columbus, assignor of one-half to J. Anderson, Cincinnati, Ohio. Governor for gas-exhausters	269,282	Dec. 19	1092	319	22	2101
Green, Salmon T. (See Heald, Richard K., assignor.)						
Green, William W., Jr., Chicago, Ill., assignor, by mesne assignments, to American Chain Mortising Machine Company. Endless-chain mortising-machine	268,014	Nov. 28	1318	370	22	1796
Greene, James G., Rochester, N. Y. Button-hole sewing-machine	266,690	Oct. 31	1785	{515 {516	22	1471
Greene, Oliver, Buffalo, N. Y. Towing canal-boats	266,360	Oct. 24	1404	398	22	1395
Greenebaum, Moses, San Francisco, Cal. Overalls	264,944	Sept. 26	1507	{423 {424	22	1065
Greener, William W., Birmingham, county of Warwick, England. Tool for crimping metallic cartridge-shells	267,980	Nov. 21	1271	357	22	1781
Greenfield, Edwin T., assignor of one-half to S. Bergmann, New York, N. Y. Safety or cut-off switch	266,808	Oct. 31	1918	555	22	1496
Greenfield, Edwin T., Brooklyn, and C. S. Bradley, assignors of one-third to S. Bergmann, New York, N. Y. Switch and indicator for electric lamps	260,562	July 4	273	76	22	46
Greenhalgh, John B. (See Wiggins and Greenhalgh.)						
Greenhalgh, William, Yonkers, N. Y. Tuft frame or carriage for looms for weaving tufted fabrics	264,281	Sept. 12	730	203	22	910
Greenleaf, Henry B., Boston, Mass. Sewer-trap	260,563	July 4	275	76	22	47
Greenleaf, Henry B., Boston, Mass. Drain and sewer	266,809	Oct. 31	1919	555	22	1497
Greenlee, Andrew M. (See Houck and Greenlee.)						
Greenough, William P. (See Roche, James J., assignor.)						
Greenway, John, Paterson, N. J. Loom-shuttle motion	266,361	Oct. 24	1405	399	22	1396
Greenwood, Albert M., Phillips, Me. Treadle	265,596	Oct. 10	451	124	22	1218
Greenwood, Alvin M., *et al.* (See Heywood and Taft, assignors.)						
Greenwood, Chester, Farmington, Me. Advertising match-box	264,148	Sept. 12	589	161	22	885
Greenwood, Edward. (See Parker, John W., assignor.)						
Greenwood, John T., Jr., Beloit, Wis. Compound for graining wood	260,973	July 11	793	.....	22	139
Greer, Grexshon V., Wilmington, Del. Car-coupling	268,660	Dec. 5	315	91	22	1947
Greer, Howard, Chicago, Ill., assignor of one-half to G. H. Christy, trustee, Sewickley, Pa. Railway-spike	266,464	Oct. 24	1516	431	22	1416
Greer, Howard, Chicago, Ill., assignor of one-half to G. H. Christy, trustee, Sewickley, Pa. Railway-spike	267,420	Nov. 14	589	170	22	1649
Gregerson, George J., Millburn, N. J. Treating animal hair for textile purposes	265,597	Oct. 10	452	.....	22	1218
Gregg & Co. (See Clapp, Charles, assignor.)						
Gregg, James E. (See Page, Thomas S., assignor.)						
Gregory, George, and G. Austin, Skaneateles, N. Y. Road-scraper	263,170	Aug. 22	1669	473	22	649
Greig, Bennet, New York, N. Y. Animal-trap	267,518	Nov. 14	708	203	22	1671

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Grellner, Christopher J., St. Louis, Mo. Hammer	261,338	July 18	1247	346	22	221
Gridley, Junius, Brooklyn, N. Y. Process of and apparatus for concentrating sulphuric acid	265,495	Oct. 3	320	95	22	1193
Grier, William F., London, England. Preservative for organic substances and process of making the same	268,094	Nov. 28	1411	.....	22	1813
Griest, John M., assignor of one-half to W. Scates, Chicago, Ill. Plaiter for sewing-machines	268,398	Dec. 5	29	9, 10	22	1892
Griffin, Francis, Greenville, Miss. Car-coupling	267,193	Nov. 7	289	84	22	1592
Griffin, John S., Cleveland, Ohio. Machine for rolling harrow-teeth	266,465	Oct. 24	1516	431	22	1416
Griffis, Silas L., and J. H. Dunn, Excelsior Springs, Mo. Clothes-hook	264,079	Sept. 12	513	139	22	872
Griffiths, Phillip, Philadelphia, Pa., assignor to F. Hardcastle, Chicago, Ill. Paper box	262,663	Aug. 15	1048	294	22	527
Griffiths, Thomas. (See Clapp and Griffiths.)						
Grill, Gottfried, Baltimore, Md. Circular-saw guard	261,090	July 11	952	266	22	165
Grill, Gottfried, Baltimore, Md. Guard for variety molders	260,974	July 11	794	218	22	139
Grim, Abraham K. (See Low and Grim.)						
Grimm, Paul H., assignor to Glen Cove Manufacturing Company, Glen Cove, N. Y. Starch-separator	261,445	July 18	1372	383	22	242
Grimm, Paul H., assignor to Glen Cove Manufacturing Company, Glen Cove, N. Y. Starch-separator	264,688	Sept. 19	1181	334	22	1003
Grimm, Paul H., assignor to Glen Cove Manufacturing Company, Glen Cove, N. Y. Starch-separator	266,136	Oct. 17	1115	315	22	1338
Grimshaw, Henry, Elroy, Wis. Window-screen	267,519	Nov. 14	709	704	22	1671
Grinnell, Frederick, Providence, R. I. Automatic fire-extinguisher	266,989	Nov. 7	40	13	22	1547
Grinnell, Frederick. (See Parmelee and Grinnell.)						
Grinnell, Frederick, Providence, R. I. Automatic fire-extinguisher	269,197	Dec. 19	985	288	22	2082
Grinnell, Frederick, Providence, R. I. Automatic fire-extinguisher	269,198	Dec. 19	986	288	22	2082
Grinnell, Frederick, Providence, R. I. Automatic fire-extinguisher	269,199	Dec. 19	987	288	22	2083
Grinnell, Frederick, Providence, R. I. Fire-extinguisher	269,200	Dec. 19	988	289	22	2083
Grinnell, Frederick, Providence, R. I. Automatic fire-extinguisher	269,201	Dec. 19	989	289	22	2083
Grinnell, Frederick, Providence, R. I. Automatic fire-extinguisher	269,202	Dec. 19	990	289	22	2083
Grinnell, Frederick, Providence, R. I. Automatic fire-extinguisher	269,203	Dec. 19	991	289	22	2083
Grinnell, Frederick, Providence, R. I. Automatic fire-extinguisher	269,204	Dec. 19	992	290	22	2083
Grinnell, Frederick, Providence, R. I. Apparatus for extinguishing fires	269,205	Dec. 19	993	290	22	2084
Griscom, William M., *et al.* (See Parkman, Abraham, assignor.)						
Griscom, William M., *et al.* (See Rippien, Adolph, assignor.)						
Grisel, George, San Francisco, Cal. Sewing-machine for making bottle-covers	260,863	July 11	655	178 179	22	115
Grisham, William E., Selma, Ark. Car-coupling	262,222	Aug. 8	509	142	22	427
Grisham, William E., Selma, Ark. Whiffletree-hook	262,223	Aug. 8	510	142	22	427
Griswold, Catharine A., New York, N. Y. Corset. (Reissue)	10,244	Nov. 21	1284	360	22	1784
Griswold, Frank W. (See Phillips and Griswold.)						
Griswold, George W., Pottersville, N. Y. Corkscrew	266,135	Oct. 17	1114	315	22	1337
Griswold, Lewis F., assignor to C. Parker Company, Meriden, Conn. Shade-ring clamp	269,783	Dec. 26	1734	501	22	2229
Gritzner, Max C., Baden, Germany. Sewing-machine	260,478	July 4	163	46	22	28
Groat, Peter B., *et al.* (See Chadwick, Charles, assignor.)						
Groff, Adam B. (See Anderson, John W., assignor.)						
Groff, Joseph G., Connersville, Ind. Saw-guard	263,171	Aug. 22	1670	473	22	649
Groff, Joseph G., Connersville, Ind. Guard for circular saws	264,149	Sept. 12	590	162	22	885
Groff, Joseph G., Connersville, Ind. Saw-guard	266,466	Oct. 24	1518	431	22	1416
Grom, Henry, Newark, N. J. Spinning sheet metal	264,150	Sept. 12	591	162	22	886
Grom, Sigmund, Newark, N. J. Curtain-pole ring	267,194	Nov. 7	289	84	22	1592
Gros-Desormeaux, Marius, Vaucliu, Martinique, West Indies. Furnace for burning cane-thrash, peat, or similar fuel	264,080	Sept. 12	513	139 140	22	872
Groshon, John A., assignor to McNab & Harlin Manufacturing Company, New York, N. Y. Three-way valve	261,224	July 18	1113	310	22	199
Gross, Henry B., *et al.* (See Van Haagen, Anthony, assignor.)						
Gross, Henry B., assignor of one-half to B. Brooke, Philadelphia, Pa. Safety-pocket	265,228	Sept. 26	1855	521	22	1127
Gross, William D. (See Deeds, Owen P., assignor.)						
Grossman, George. (See Neider, Fred. A., assignor.)						
Grout, William L., assignor to New Home Sewing Machine Company, Orange, Mass. Sewing-machine treadle	261,446	July 18	1373	383	22	242
Grove, David E., Dallas, Tex. Snow-plow	261,339	July 18	1248	346	22	221
Grove, David E., Dallas, Tex. Railway-ditching machine	264,282	Sept. 12	731	204	32	910
Grove, Edwin W., Paris, Tenn. Forming commercial packages of gums, &c.	266,810	Oct. 31	1919	555	22	1497
Groves, John L., Elizabeth, N. J. Pattern-draft	266,137	Oct. 17	1116	315	22	1338
Groves, Thomas H. (See Retnour, Oliver P., assignor.)						
Grubbs, Thomas S., North Lewisburg, Ohio. Horse-collar	263,335	Aug. 29	1922	550	22	695
Grube, John H. (See Kuhlmann, Henry F., assignor.)						
Grütter, Albert, assignor to A. S. Hallidie, San Francisco, Cal. Device for operating cable-railway grips	266,029	Oct. 17	983	279	22	1315
Grzybowski, Julian, Detroit, Mich. Balanced valve	265,314	Oct. 3	107	32	22	1154
Gryzmish, Samuel. (See Wax, Newman S., assignor.)						
Gubbins, John F., Chicago, Ill. Drying and pulverizing apparatus	263,172	Aug. 22	1671	473	22	649
Guerin, Emile, Paris, France, assignor to G. A. Smith, Boston, Mass. Electrical machine	266,467	Oct. 24	1519	432	22	1416
Guerrant, John C., Danville, Va. Tobacco-plug machine	265,409	Oct. 3	211	64	22	1174
Guest, John H., Brooklyn, N. Y. Circuit-closing key for electric lamps	260,864	July 11	659	179	22	116
Guest, John H., Brooklyn, N. Y. Electric-arc lamp	260,975	July 11	794	218	22	139
Guest, John H., Brooklyn, N. Y. Electric lamp	265,315	Oct. 3	108	32	22	1154
Guest, John H., Brooklyn, N. Y. Electric incandescent lamp	265,410	Oct. 3	213	64	22	1174
Guest, John H., Brooklyn, N. Y. Electric-arc lamp	265,670	Oct. 10	553	151 152	22	1234
Guild, Alonzo J., Lowell, Mass. Hose-reel	263,697	Sept. 5	30	9	22	780
Guild & Garrison. (See Garrison, William F., assignor.)						
Guild, Henry M., Woodbury, N. J., assignor to American Machine Shot Company of the United States, Philadelphia, Pa. Shot-making machine	260,976	July 11	796	219	22	139
Gulager, William. (See Christopher, Walter, assignor.)						
Gulden, Jacob, New York, N. Y. Mustard-filler	260,385	July 4	53	15	22	10
Gull, Lawrence. (See Ghezzi, Romeo E., assignor.)						
Gullberg, Carl, Jersey City, N. J. Electric clock	260,751	July 11	521	141	22	94
Gundelfinger, Daniel. (See Vane and Gundelfinger.)						
Gundorph, Ferdinand, Portland, Oreg. Watch oiler and holder	261,340	July 18	1250	346	22	222
Gunn, George P. (See Haviland and Gunn.) (Reissue.)						
Gunn, John C., Knoxville, Tenn. Evaporator	261,447	July 18	1374	384	22	242
Gunn, John C., Knoxville, Tenn. Fruit-drier	268,399	Dec. 5	32	10	22	1892
Gunn, John C., Knoxville, Tenn. Shirt	268,400	Dec. 5	33	10	22	1893

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Gunning, John, assignor of one-half to A. M. Ingersoll, New York, N. Y. Letter and figure	265,061	Sept. 26	1645	.....	22	1090
Gurd, William J., Sarnia, Ontario, Canada. Rotary motor	263,510	Aug. 29	2131	610	22	732
Gürke, Johannes H. O., assignor to Farbwerke, vormals Meister, Lucius & Brüning, Höchst-on-the-Main, Germany. Production of soluble alizarine-blue color	261,600	July 25	1571	.....	22	282
Gurney, Frank A., Chicago, Ill. Clamp for wire-tighteners	269,497	Dec. 19	1375	395	22	2154
Gurney, Frank A., Chicago, Ill. Wire-splicer	269,498	Dec. 19	1376	396	22	2154
Gustafsson, Wicktor A., Chicago, Ill. Watch-movement box	268,284	Dec. 12	591	174	22	2006
Gustaveson, Charles J., Salt Lake City, Utah Ter. Hopple	267,677	Nov. 21	1151	323	22	1760
Guthrie, James T., Leesburg, Ohio. Fence	265,598	Oct. 10	453	124	22	1219
Guthrie, James T., Leesburg, Ohio. Telegraph-key	267,678	Nov. 21	1152	323	22	1760
Guthrie, Ossian and W., Chicago, Ill. Ice-slide	264,455	Sept. 19	934	262	22	955
Guthrie, Wardell. (See Guthrie, Ossian and W.)						
Guthrie, Wardell, Chicago, Ill. Device for facilitating the stowing of ice in buildings, &c.	267,421	Nov. 14	592	170	22	1649
Gwinner, Henry W. (See Atkinson, Francis F., assignor.)						
Haag, John C., Lansing, Mich. Portable arch for steam-boilers	264,151	Sept. 12	591	162	22	886
Haas, Levi, Chester, Pa. Meat and vegetable chopper	266,030	Oct. 17	984	279	22	1316
Haas, Levi, Chester, Pa. Underground telegraph	268,661	Dec. 5	316	92	22	1947
Haas, William, New York, N. Y. Rod-packing	266,031	Oct. 17	985	279	22	1316
Haase, Robert, and J. P. Recker, assignors to themselves, T. C. and J. A. Moore, and R. Connelly, Indianapolis, Ind. Machine for winding armatures for magneto-electric machines	263,780	Sept. 5	138	42	22	797
Habbert, August, New York, N. Y. Sewing-machine guide	269,049	Dec. 12	793	235	22	2042
Haber, Maximilian F., assignor to Scott Manufacturing Company, Baltimore, Md. Soldering-tool	269,784	Dec. 26	1735	501	22	2229
Hack, Henry S., Taunton, Mass. Calendar	261,225	July 18	1114	310	22	200
Hackett, Edward M., New York, N. Y. Automatic hatchway-door	260,675	July 4	425	115 116	22	72
Hackney, Joseph C., Philadelphia, Pa. Washing-machine	264,689	Sept. 19	1182	335	22	1004
Hadden, Theodore, assignor of one-half to M. A. Robinson, Matteawan, N. Y. Hat-pouncing machine	266,811	Oct. 31	1921	555	22	1497
Hadley, Amos, Washington, D. C. Support for telephones	262,180	Aug. 1	453	126 127	22	411
Hadley, Benjamin H., Providence, R. I. Emery-grinder	261,848	Aug. 1	29	9	22	341
Hadley, Horace W., assignor to New Home Sewing Machine Company, Orange, Mass. Bobbin-winder	268,602	Dec. 5	317	92	22	1947
Haegele, Carl, Geislingen, Würtemberg, Germany. Plating metals	267,879	Nov. 21	1153	.....	22	1760
Haeussermann, Liebhardt G., Philadelphia, Pa. Apparatus for resweating tobacco	262,948	Aug. 22	1404	397	22	601
Hafner, Henry. (See Royce and Hafner.)						
Hafner, John A., Pittsburg, Pa. Friction-clutch	260,386	July 4	55	16	22	10
Hafner, John A., Pittsburg, Pa. Mechanical movement	260,387	July 4	56	16	22	11
Hafner, John A., Pittsburg, Pa. Mechanical movement. (Reissue)	10,206	Sept. 26	1860	523	22	1128
Hafner, John A., Pittsburg, Pa. Mechanical movement	264,152	Sept. 12	592	162	22	886
Hagerty, John C., Santa Cruz, Cal. Bark-cutting machine	266,812	Oct. 31	1922	556	22	1497
Haggerty, Charles, and W. H. King, Webster, Mass. Tongue of boots or shoes	260,564	July 4	276	76	22	47
Hahn, Hermann, Schönberg, Mecklenburg, Strelitz, Germany. Chimney-ventilator	263,895	Sept. 5	279	80	22	822
Haight, Abner S., Brooklyn, N. Y. Corset-busk	268,285	Dec. 12	592	174	22	2006
Haight, E. J., *et al.* (See Williams, James L., assignor.)						
Haight, Henry J., New York, N. Y. Thermostat-coil	268,221	Nov. 28	1570	436	22	1841
Haight, James R., and J. M. Segur, Adrian, Mich. Calculator for miller's use						
Hailes, William, Albany, N. Y., assignor of one-half to H. K. Davy, Hydeville, Vt. Reversible and ventilating pot-hole ring for stoves	269,206	Dec. 19	994	291	22	2084
Hain, Isaiah. (See Hain, John B., assignor.)						
Hain, John B., Newark, Ohio, assignor of one-half to I. Hain, New York, N. Y. Muffling the sound of sewing-machines	266,591	Oct. 24	1657	477	22	1442
Hainsworth, William, Pittsburg, Pa. Casting apparatus	260,388	July 4	57	16	22	11
Hainsworth, William, Pittsburg, Pa. Apparatus for handling and heating cast-steel	266,468	Oct. 24	1520	432	22	1417
Hainsworth, William, Pittsburg, Pa. Ingot-mold	267,880	Nov. 21	1155	324	22	1760
Hainsworth, William, Pittsburg, Pa. Manufacture of steel blooms and billets	268,222	Nov. 28	1572	436	22	1842
Haish, Jacob, De Kalb, Ill. Barbed fence-wire	261,703	July 25	1694	475	22	302
Haish, Jacob, De Kalb, Ill. Barbed fence-wire	261,704	July 25	1695	475	22	302
Haish, Jacob, De Kalb, Ill. Barbed fence-wire	262,587	Aug. 15	952	268	22	510
Haish, Jacob, De Kalb, Ill. Wire-stretcher	261,341	July 18	1251	347	22	222
Hake, Francis A., Cuero, Tex. Combined safety-hook and buckle	263,050	Dec. 12	794	235	22	2043
Hake, Francis A., Cuero, Tex. Snap-hook	268,792	Dec. 12	479	141	22	1985
Halbert, John B., Maitland, Fla. Ratchet-wrench	265,062	Sept. 26	1645	402	22	1090
Haldeman, Robert A., Cincinnati, Ohio. Sled						
Hale & Co., S. W. (See Lambert, Alonzo, assignor.)						
Hale, Emma E., Philadelphia, Pa. Stocking-knee protector	267,520	Nov. 14	709	204	22	1671
Hale, George, Aurora, Ill. Road-cart	262,036	Aug. 1	258	74	22	379
Hale, Henry S., Philadelphia, Pa. Folding bed	262,181	Aug. 1	454	127 128	22	411
Hale, Henry S., Philadelphia, Pa. Seat	268,095	Nov. 28	1412	395	22	1813
Hale, Nathan M., Grand View, Tex. Car-coupling	266,138	Oct. 17	1117	316	22	1338
Hale, Nathan M., Grand View, Tex. Car-coupling	267,881	Nov. 21	1157	324	22	1761
Hale, William P., Brockport, N. Y. Grain-binder	267,521	Nov. 14	710	204 205 206 207	22	1671
Haley, John J., Newton, Mass. Rubber handle	264,527	Sept. 19	1008	284	22	969
Haley, Samuel, Moline, Ill. Two-wheeled vehicle	263,511	Aug. 29	2132	610	22	733
Halkyard, William. (See Field and Halkyard.)						
Halkyard, William, Providence, R. I. Panoramic sign for cars	263,698	Sept. 5	31	10	22	780
Hall, Albert F., Newark, N. J. Top-prop for carriages	261,601	July 25	1572	441	22	282
Hall, Alfred, Perth Amboy, N. J. Pug-mill	264,875	Sept. 26	1417	400	22	1049
Hall, Arthur H. (See Costello and Hall.)						
Hall, Charles. (See Cranston, James F., assignor.)						
Hall, Charles H., Chicago, Ill. Lozenge-machine	264,528	Sept. 19	1009	284 285	22	969
Hall, Charles H., assignor of one-half to R. P. Pattison, Chicago, Ill. Hand lozenge-cutter	268,896	Dec. 12	593	174	22	2006
Hall, Charles R. (See Smith and Hall.)						
Hall, Clarence. (See Brown, James B., assignor.)						
Hall, David S., Stoughton, Mass. Method of and apparatus for making leather washers	263,896	Sept. 5	280	80	22	822
Hall, David S., Stoughton, Mass. Method of and apparatus for making leather washers	262,763	Aug. 15	1170	320	22	548
Hall, Davis K., Unity, Wis. Power-machine	269,263	Dec. 19	1094	319	22	2061
Hall, Edward J., Philadelphia, Pa. Toy chandelier						

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Hall, Frederick S.* (See Urie, James M., assignor.)						
Hall, Frederick S. (See Urie, Thomas, assignor.)						
Hall, Harvey B., Homer, Ill. Excavator	260,865	July 11	659	179	22	116
Hall, Harvey C., Brooklyn, assignor of one-half to H. A. Stoothoff and T. J. Donigan, New York, N. Y. Tobacco-cutter	265,799	Oct. 10	711	198	22	1261
Hall, Hiram S., Jamestown, N. Y. Machine for coiling wire	260,752	July 11	524	142	22	94
Hall, Hiram S., Jamestown, N. Y. Extension-table	265,800	Oct. 10	712	198	22	1262
Hall, Isaac, Boston, Mass. Lasting-jack	267,076	Nov. 7	144	41	22	1566
Hall, Jacob L., Falmouth, Ky. Rein-holder	263,897	Sept. 5	281	81	22	823
Hall, O. F. (See Alderman, Frank R., assignor.)						
Hall, R. R. (See Ufford, Stephen R. S., assignor.)						
Hall, Thomas. (See Duggan, Richard, assignor.)						
Hall, W. C., *et al.* (See Edmonds, John P., assignor.)						
Hall, William B., Lancaster, Pa. Lock for breech-loading fire-arms	264,827	Sept. 19	1344	380	22	1031
Hall, William C., assignor of one-half to B. F. Brundred, Oil City, Pa. Apparatus for separating petroleum vapors	266,990	Nov. 7	41	13	22	1547
Hall, William H., Tiffin, Ohio. Horse hay-rake	266,288	Oct. 24	1304	369	22	1376
Halladay, William H., *et al.* (See Covel, William L., assignor.) (Reissue.)						
Hallahan, Daniel F., Philadelphia, Pa. Edge trimmer and burnisher	262,224	Aug. 8	510	142	22	427
Hallarn, William J. (See Wilson and Hallarn.)						
Hallidie, A. S. (See Grütter, Albert, assignor.)						
Hallidie, Andrew S., San Francisco, Cal. Machine for making wire rope	264,529	Sept. 19	1011	285, 286	22	970
Hallock, Edgar M., Huntington, assignor to himself and J. W. Davis, Port Jefferson, N. Y. Smoke-stack for marine vessels	263,898	Sept. 5	282	81	22	823
Hallock, L. C., *et al.* (See Lewis, Daniel L., assignor.)						
Hallum, David, East Liverpool, Ohio. Spittoon	261,342	July 18	1251	347	22	222
Halsted, Augustus M., Rye, N. Y. Incubator	267,422	Nov. 14	592	170	22	1650
Halsted, James M., assignor to K. K. Halsted, Oakland, Cal. Incubator	262,407	Aug. 8	727	205, 206	22	465
Halsted, Kate K. (See Halsted, James M., assignor.)						
Halteman, Jacob L., Milton, assignor to Hoosier Drill Company, Richmond, Ind. Fertilizer-sower	261,517	July 18	1456	406, 407	22	256
Ham, Albert W., Troy, N. Y. Machine for attaching buttons	267,342	Nov. 14	485	140	22	1632
Haman, Aiken, San Francisco, Cal. Wheel-fender for railway-cars	268,484	Dec. 5	126	38	22	1910
Hambujer, Ephraim, Detroit, Mich. Corset	264,153	Sept. 12	593	163	22	886
Hamer, Samuel. (See McCracken and Hamer.)						
Hamilton, Benjamin R., Lincoln, Ill. Shade-roller gage	269,499	Dec. 19	1377	396	22	2154
Hamilton, Cassius M., assignor of one-half to J. W. Thompson, Chicago, Ill. Ruffling and gathering attachment for sewing-machines	264,456	Sept. 19	934	262	22	955
Hamilton, Charles F., assignor to Standard Rubber Company, Boston, Mass. Cloak	260,565	July 4	277	76	22	47
Hamilton, Emery M., New York, N. Y. Electric telegraph transmitter	269,521	Dec. 26	1407	407	22	2166
Hamilton, Erastus H., Community, N. Y. Animal-trap	263,512	Aug. 29	2132	611	22	733
Hamilton, James B., Down Street, Piccadilly, county of Middlesex, England. Reed for musical instruments	263,899	Sept. 5	283	81, 82	22	823
Hamilton, James H. (See Sangster, Charles, assignor.)						
Hamilton, James J., New Castle, Ind. Water-elevator	265,923	Oct. 10	835	238	22	1284
Hamilton, James T., Council Bluffs, Iowa, assignor to himself and W. K. Hoagland, Peru, Ill. Lifting device for cultivator-beams	268,887	Dec. 12	594	175	22	2006
Hamilton, John, State College, Pa. Seed-drill	264,876	Sept. 26	1418	400	22	1050
Hamilton, Nicholas J., Chatham, Ky. Overalls	264,690	Sept. 19	1184	335	22	1004
Hamilton, Robert, Franklin, Ind. Harrow and seed-sower. (Reissue)	10,188	Aug. 29	2320	663	22	766
Hamilton, Silas H., Bushnell, assignor, by mesne assignments, to M. A. Farr, Chicago, Ill. Manufacture of paper-board	269,815	Dec. 26	1782	512	22	2238
Hamilton, Silas H., Bushnell, assignor, by mesne assignments, to M. A. Farr, Chicago, Ill. Manufacture of paper-board	269,816	Dec. 26	1783	513	22	2238
Hamilton, Silas H., Bushnell, assignor, by mesne assignments, to M. A. Farr, Chicago, Ill. Imitation marble from paper	269,817	Dec. 26	1784	513	22	2238
Hamilton, Silas H., Bushnell, assignor, by mesne assignments, to M. A. Farr, Chicago, Ill. Manufacture of doors from paper	269,818	Dec. 26	1785	513	22	2238
Hamilton, Silas H., Lawrence, Kans., assignor, by mesne assignments, to M. A. Farr, Chicago, Ill. Manufacture of paper-board	269,785	Dec. 26	1736	501	22	2229
Hamilton, Silas H., Lawrence, Kans., assignor, by mesne assignments, to M. A. Farr, Chicago, Ill. Apparatus for manufacturing building-board from paper	269,786	Dec. 26	1736	502	22	2230
Hamilton, Walter, New York, N. Y. Apparatus for amalgamating gold and silver ores	260,389	July 4	58	16, 17	22	11
Hamilton, Walter, New York, N. Y. Apparatus for amalgamating gold and silver ores	260,390	July 4	60	17	22	11
Hamilton, Walter W., Boston, Mass. Horse-detacher	265,316	Oct. 3	109	33	22	1154
Hamilton, William, Erie, Pa. Flue-cleaner	263,173	Aug. 22	1672	473	22	649
Hamlin, Arthur D., Portland, Me. Mowing-machine	260,391	July 4	61	17	22	12
Hamlin, Charles A., Greenbush, assignor to C. Rathbone, Albany, N. Y. Coal-stove	263,513	Aug. 29	2133	611	22	733
Hamma, M. W. (See Fisher, John W., assignor.)						
Hammer, Carl A., Sr., assignor of one-half to H. Perschmann, Brunswick, Germany. Meat-mincing apparatus	262,893	Aug. 15	1335	377	22	578
Hammerl, Joseph, Long Island City, N. Y. Refrigerator	261,705	July 25	1696	475, 476	22	303
Hammerstein, Malvine. (See Hammerstein, Oscar, assignor.)						
Hammerstein, Oscar, assignor to M. Hammerstein, New York, N. Y. Cigar-machine	261,849	Aug. 1	31	9	22	341
Hammond, Andrew H. (See Clark, Lewis C., assignor.)						
Hammond, Erasmus L., Gaines, Mich. Swinging and lifting gate	265,258	Oct. 3	38	12	22	1142
Hammond, George M., Geddes, assignor of one-half to T. W. Meachem, Onondaga Valley, N. Y. Billiard-cue tip	261,448	July 18	1374	384	22	243
Hammond, John F., Omaha, Nebr. Nail-plate feeder	265,599	Oct. 10	454	125	22	1219
Hammond Type Writer Company. (See Pratt, John, assignor.)						
Hammond, William H., New Bedford, assignor of one-half to C. S. Chase, East Freetown, Mass. Mousing-hook	264,530	Sept. 19	1012	286	22	970
Hammond, William P., Napa, Cal. Ore-crusher	267,687	Nov. 21	929	263	22	1719
Hancock, George, North Adams, Mass. Ice-creeper	266,032	Oct. 17	985	279	22	1316
Hancock & Hancock. (See Tumey, Charles H., assignor.)						
Hancock, John, and L. Richards, Providence, R. I. Swivel for watch-chains	266,620	Oct. 31	1696	489	22	1455
Hancock, John L., Thomasville, Ga. Cultivator	265,801	Oct. 10	713	199	22	1262
Hancock, Mitchell, Hopewell, Ga. Cultivator-plow	268,223	Nov. 28	1576	437	22	1842
Hand, Edward P., Newark, N. J. Wrench	260,479	July 4	165	46	22	29
Hand, Frank, Elizabeth, N. J. Corder for sewing-machines	261,549	July 25	1510	423	22	271

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Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Hand, John T. (See Jenks, M. Woodburn, assignor.)						
Handley, Edwin. (See James and Handley.)						
Handschy, Henry, Union City, Ind. Flood-gate	264,283	Sept. 12	734	204	22	911
Haney, William H., assignor to H. Korf, Jr., Cincinnati, Ohio. Air-distributer for candle-molds	268,888	Dec. 12	597	175	22	2006
Haney, William H., assignor to H. Korf, Jr., Cincinnati, Ohio. Candle-mold gage	269,664	Dec. 26	1590	456	22	2202
Hanford, William H. (See Williamson, S. Stuart, assignor.)						
Hanley, John E., *et al.* (See McDonald, Dominick A., assignor.)						
Hanlon, George O., J. P. A., and J. F., Cambridge, Mass. Railway-signal	267,195	Nov. 7	290	85	22	1592
Hanlon, John. (See Leadley and Hanlon.)						
Hanlon, John F. (See Hanlon, George O., J. P. A., and J. F.)						
Hanlon, Joseph P. A. (See Hanlon, George O., J. P. A., and J. F.)						
Hanlon, William, New York, N. Y. Theatrical scenery and appliance	268,096	Nov. 28	1413	395	22	1813
Hann, Henry C., Baltimore, Md. Gas-retort furnace	260,676	July 4	429	116	22	73
Hanna, David, Ogdensburg, N. Y. Sediment-collector for boilers	269,264	Dec. 19	1094	319	22	2102
Hannan, Andrew, Milwaukee, Wis. Wagon						
Hannett, John C., Grand Rapids, Mich. Bed-side-rail packing-block for shipment of bed-rails	267,882	Nov. 21	1158	324	22	1761
Hanni, Godfrey J., St. Jacob's, Ill. Riding-harrow	269,051	Dec. 12	795	235	22	2043
Hannum, James W., Ludlow, Mass. Incubator	264,284	Sept. 12	735	205	22	911
Hanscom, William W., San Francisco, Cal. Air-brake for cars of cable railways	265,671	Oct. 10	554	152	22	1235
Hansen, Christian H., Washington, D. C. Underground telegraph-line	267,883	Nov. 21	1158	325	22	1761
Hansen, Ole C., Skudesness, Norway. Fog-horn	261,343	July 18	1252	347	22	222
Hanson, Charles, assignor of one-half to F. Appelquist, Rock Island, Ill. Plow	264,928	Sept. 19	1345	380, 381	22	1031
Hanson, Charles C., and G. B. Dunham, Lynn, Mass.; said Dunham assignor to said Hanson. Sole-edge trimmer	266,257	Oct. 17	1259	357	22	1362
Hanson, Christian, and O. M. Phelps, Madison, Wis. Wagon-gear	262,664	Aug. 15	1049	294	22	527
Hanson, Henry, Boston, Mass. Railway-signal	264,829	Sept. 19	1345	381	22	1031
Hanson, James E., Schoolcraft, Mich. Truss	269,571	Dec. 26	1469	423	22	2179
Harbison, Andrew, assignor to himself and W. C. Harbison, New Castle, Pa. Wire tubing	267,343	Nov. 14	486	140	22	1633
Harbison, William C. (See Harbison, Andrew, assignor.)						
Harbster, Matthau, *et al.* (See Parkman, Abraham, assignor.)						
Harbster, Matthau, *et al.* (See Rippien, Adolph, assignor.)						
Harbster, William, *et al.* (See Parkman, Abraham, assignor.)						
Harbster, William, *et al.* (See Rippien, Adolph, assignor.)						
Hard, Henry D., Oneida, N. Y. Head-rest for cot-beds	260,677	July 4	430	117	22	73
Hardcastle, Frank. (See Griffiths, Phillip, assignor.)						
Hardenbergh, Charles M., Minneapolis, Minn. Dust-arrester	261,449	July 18	1375	384	22	243
Harder, Anton, Ransen, Prussia, Germany. Torsion-pendulum clock	269,052	Dec. 12	796	235, 236	22	2043
Harding, George, *et al.* (See Masterson, Levi J., assignor.)						
Harding, Harry T., Maitland, Nova Scotia, Canada. Check-rein	263,901	Sept. 5	286	83	22	824
Harding, Isabel, New York, N. Y., assignor to M. Loth, Cincinnati, Ohio. Thread guard and cutter	267,884	Nov. 21	1160	325	22	1761
Harding, James S., Ripley, Ohio. Fire-place	267,885	Nov. 21	1161	325	22	1761
Harding, Thomas, Lafayette, Ind. Draft-equalizer	264,285	Sept. 12	736	205	22	911
Harding, T. Walter, Leeds, England. Covering for the cylinders of shoddy and rag pickers	268,015	Nov. 28	1319	370	22	1796
Hardy, Dabney, MacFarland's, Va. Combined scraper and cultivator	262,408	Aug. 8	729	206	22	465
Hardy, Dexter D., Havana, assignor to Hardy Rotary Engine Company, Chicago, Ill. Rotary engine	260,678	July 4	430	117	22	73
Hardy, Francis A., Chicago, Ill. Optometer	268,016	Nov. 28	1320	371	22	1796
Hardy, Manly. (See Getchell, George W., assignor.)						
Hardy Rotary Engine Company. (See Hardy, Dexter D., assignor.)						
Hargate, Douglass H. (See Cochran, Reuben F., assignor.)						
Hargreaves, John R., Haslingden, county of Lancaster, assignor to T. Duckworth, Waterfoot, near Manchester, England. Water-fittings	268,663	Dec. 5	318	92, 93	22	1947
Hargrove, Nathan D. (See Traylor, Robert W., assignor.)						
Haring, John F. (See Gambilee and Haring.)						
Harkrader, David M., Pittsfield, Ill. Draft-equalizer	264,691	Sept. 19	1184	335	22	1004
Harlan, Newton, deceased, W. D. Harlan, executor, and assignor to Koch, Sons & Co., New York, N. Y. Book-clasp. (Reissue.)	10,262	Dec. 19	1387	399	22	2156
Harlan, Woodford D., executor. (See Harlan, Newton.) (Reissue.)						
Harley, Archibald, Topeka, Kans. Railway-switch stand	261,814	July 25	1822	515	22	325
Harley, Olin, Bluffton, Ind. Screen	260,679	July 4	432	117	22	73
Harling, Ernest J., and E. Hartmann, London, England. Dynamo-electric machine	267,196	Nov. 7	291	85	22	1592
Harling, Ernest J., and E. Hartmann, London, England. Electric-arc lamp	268,224	Nov. 28	1576	437	22	1843
Harlow, Joseph W., Portsmouth, N. H. Violin-case	261,450	July 18	1376	384	22	243
Harman, Charles P., Cincinnati, Ohio. Toy cap-exploder	266,813	Oct. 31	1922	556	22	1407
Harman, Christian B., Lanark, Ill. Windmill	260,566	July 4	278	77	22	47
Harmening, Chris. H. (See Bagley, William R., assignor.)						
Harmon, Milford, Jackson, Mich. Pitman	261,820	July 25	1835	518	22	327
Harmon, Milford, Jackson, Mich. Device for tightening bolting-cloth	262,037	Aug. 1	259	75	22	380
Harmon, Orville S., Brooklyn, N. Y., assignor to P. Lorillard & Co., Jersey City, N. J. Machine for making bags	267,197	Nov. 7	294	86, 87, 88	22	1592
Harnden, William A., Cambridge, and J. P. Doyle, Boston, Mass. Tool-holder for cars	267,522	Nov. 14	720	207	22	1673
Harper, Charles H. (See Kelley and Harper.)						
Harper, Francis J., Norwich, Conn. Knob and rosette attachment	266,033	Oct. 17	986	280	22	1316
Harper, Thomas, Redditch, county of Worcester, England. Needle-cabinet	263,902	Sept. 5	287	83	22	824
Harral, Edward W. (See Hawley, Theodore, assignor.)						
Harrell, William K., Clarinda, Iowa. Device for forming calks on horseshoes	266,139	Oct. 17	1118	316	22	1338
Harrigan, Dennis, Somerville, Mass. Vacuum exhaust-pipe	263,514	Aug. 29	2135	612	22	733
Harrington, Charles F., *et al.* (See Stleringer, Luther, assignor.)						
Harrington, Frank W. (See Lane and Harrington.)						
Harrington, John C., Providence, R. I. Bracelet	267,886	Nov. 21	1161	325	22	1762
Harrington, John D., Auburn, N. Y. Device for ventilating soil-pipes	261,451	July 18	1378	385	22	243
Harrington, Roland, Wolverhampton, England. Lock-nut	267,423	Nov. 14	594	171	22	1650
Harris, Alphonso S., Chelsea, Mass. Fire-extinguisher	263,903	Sept. 5	288	83	22	824
Harris, Charles R., Attleborough, Mass. Charm for watch-chains	260,392	July 4	62	17	22	12
Harris, Daniel L., and E. D. Carter, Terre Haute, Ind. Railway scraper and leveler	266,621	Oct. 31	1697	490	22	1455
Harris, David M., Newark, N. J. Car-coupling	267,344	Nov. 14	487	141	22	1633
Harris, Frank M., St. Charles, Mo. Wire-splicer	261,706	July 25	1697	477	22	303
Harris, Frank M., assignor to himself and H. A. Bailey, St. Charles, Mo. Barbed-wire fence	264,286	Sept. 12	737	205	22	911

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Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Harris, George W., Sturgis, Mich. Watch-maker's tool	268,664	Dec. 5	319	93	22	1948
Harris, Horace. (See Frazee, Benjamin, assignor.)						
Harris, Horace, New York, N. Y. Picture-frame	266,814	Oct. 31	1923	556	22	1497
Harris, Horace, New York, N. Y. Easel	266,815	Oct. 31	1923	556	22	1497
Harris, Hughey T., Phil, Ky. Fence	267,523	Nov. 14	721	208	22	1673
Harris, James B., Jr., Genesco, N. Y. Heater for dwelling-houses	266,816	Oct. 31	1924	557	22	1497
Harris, Joseph A. (See Brown, Frederick M., assignor.)						
Harris, Thomas. (See Barber, Charles, assignor.)						
Harris, Thomas. (See Dunn and Harris.) (Reissue.)						
Harris, Thomas. (See Gould and Harris.)						
Harris, William E., New York, N. Y. Apparatus for desulphurizing gold and silver ores	267,198	Nov. 7	300	88	22	1593
Harrison, Caleb N. (See Nothohm, Harmon F., assignor.)						
Harrison, Frank F., and W. H. Angerstein, Newark, N. J. Opera-chair	268,225	Nov. 28	1580	438	22	1843
Harrison, George L., Jr., *et al.* (See Semper, Conrad, assignor.)						
Harrison, Job, assignor to G. Esterly & Son, Whitewater, Wis. Harvesting-machine	262,182	Aug. 1	459	128	22	412
Harrison, John, *et al.* (See Semper, Conrad, assignor.)						
Harrison, Jonathan W., Ypsilanti, Mich. Mining-machine	267,424	Nov. 14	595	171	22	1650
Harrison, Jonathan W., Richmond, Mich., assignor to G. D. Whitcomb, Chicago, Ill. Coal-mining machine	262,225	Aug. 8	512	143	22	427
Harrison, Reuben N., Fairbault, assignor to A. W. Henkle, Minneapolis, C. T. Palmer, Fairbault, Minn., and T. J. Curtis, Lincoln, Nebr. Egg-beater. (Reissue)	10,228	Oct. 31	2123	610	22	1534
Harrison, Thomas S., *et al.* (See Semper, Conrad, assignor.)						
Harrison, Thomas T., Aubrey, Kans. Sulky-plow	264,692	Sept. 19	1185	336	22	704
Harrisson, John, Well Street, Hackney, County of Middlesex, England. Apparatus for working railway-signals	269,665	Dec. 26	1591	456	22	2103
Harrup, J. M., *et al.* (See Ash, Joseph, assignor.)						
Hart Albert. (See Fisher and Hart.)						
Hart, Albert J., Ligonier, Ind. Vehicle-wheel	264,287	Sept. 12	737	205	22	911
Hart, Charles, Cleveland, Ohio. Die-stock for cutting screw-threads	263,402	Aug. 29	2011	575	22	710
Hart, Charles W., assignor to H. A. Hart, Troy, N. Y. Blacking-box	261,226	July 18	1115	311	22	200
Hart, Edward H., New York, N. Y. Supporting-bandage	265,672	Oct. 10	555	152	22	1235
Hart, Francis P., Litiz, Pa. Carpet-stretcher	267,077	Nov. 7	146	41	22	1566
Hart, George L., assignor of one-half to H. C. Hart, Unionville, Conn. Manufacture of cutlery	265,959	Oct. 17	899	256	22	1301
Hart, H. C. (See Hart, George L., assignor.)						
Hart, Harriet A. (See Hart, Charles W., assignor.)						
Hart, Henry C., and J. W. Cross, assignors to Clark Hardware Company, Detroit, Mich. Spring-hinge	269,411	Dec. 19	1263	367	22	2133
Hart, Herman, assignor to S. Hart, Muncie, Ind. Ventilating windows	261,921	Aug. 1	121	36	22	356
Hart, Robert M., New York, N. Y. Animal hitching and releasing device	262,764	Aug. 15	1171	330	22	548
Hart, Sarah. (See Hart, Herman, assignor.)						
Hart, William, Kirksville, Mo. Watch hand and roller remover	264,531	Sept. 19	1013	286	22	970
Hart, William, Kirksville, Mo. Second-hand holder and screw-end finisher	264,532	Sept. 19	1013	286	22	970
Hart, William, Kirksville, Mo. Ruby-pin and pallet setter	264,533	Sept. 19	1014	287	22	970
Harter, Isaac. (See Kohler, Frederick E., assignor.)						
Hartford Hammer Company. (See Stannard, Carlton J., assignor.)						
Hartford Sanitary Plumbing Company. (See Day, Robert E., assignor.)						
Hartford Sanitary Plumbing Company. (See Lord and Birkery, assignors.)						
Hartford Silver Plate Company. (See Valentine, Nowell S., assignor.)						
Harthon, Conrad. (See Martin and Harthon.)						
Hartley, D. Bert, assignor of one-half to Union Brass Manufacturing Company, Chicago, Ill. Reclining-chair	263,174	Aug. 22	1673	474	22	650
Hartley, D. Bert, assignor of one-half to Union Brass Manufacturing Company, Chicago, Ill. Reclining-chair	267,748	Nov. 21	993	279, 280	22	1731
Hartley, James M. (See Hartley, Marquis D. L. and J. M.)						
Hartley, Marcellus. (See Gill and Lect, assignors.)						
Hartley, Marquis D. L. and J. M., San Diego, Cal. Single-tree	266,469	Oct. 24	1522	432	22	1417
Hartman, Edward S., Allegheny, Pa. Machine for sharpening the edges of plowshares and other plow-steels	268,401	Dec. 5	33	10	22	1893
Hartmann, Emil. (See Harling and Hartmann.)						
Hartmann, William C., Toughkenamon, assignor of one-half to P. W. Lownes, Avondale, Pa. Mechanical movement	265,411	Oct. 3	215	65	22	1174
Hartshorn, Calvin L., Worcester, assignor to T. P. Farmer, Boston, Mass. Twist-drill	262,588	Aug. 15	953	268	22	510
Hartung, Daniel C., Blairstown, Iowa. Harrow-tooth fastening	265,960	Oct. 17	900	256	22	1302
Hartwell, Oscar D., Nashua, N. H. Telephone-case	263,336	Aug. 29	1922	550	22	696
Hartwell, Samuel A. V., Valley Centre, Kans. Car-coupling	264,288	Sept. 12	738	206	22	912
Harty, William. (See Cross and Harty.)						
Harvey, Edward. (See Beidler, Charles, assignor.)						
Harvey, Jacob E. (See Anthony and Harvey.)						
Harvey, James M., assignor to himself and T. J. Laird, Palmyra, Tenn. Shingle-shaving machine	262,765	Aug. 15	1171	330, 331	22	548
Harvey, Joseph, Aledo, Ill. Corn-planter check-rower	268,097	Nov. 28	1415	395, 396	22	1813
Hartwell, Derick B., Kirkwood, Ill. Combined measure and funnel	268,665	Dec. 5	320	93	22	1948
Harwood, Herbert J., Littleton, Mass. Folding settee	269,592	Dec. 26	1409	407	22	2167
Hasdenteufel, Friedrich, Iserlohn, Prusaia, Germany. Locking-latch	264,081	Sept. 12	515	140	22	872
Haseltine, Spurzheim L., Dorchester, Mo. Hand weeder and scraper	261,707	July 25	1698	477	22	303
Hasenzahl, William, Cincinnati, Ohio. Rock-boring machine	266,140	Oct. 17	1119	316	22	1358
Haskin, Uri, Pittsburg, Pa. Rolling-mill	269,572	Dec. 26	1470	423, 424	22	2179
Haskin, Uri, Pittsburg, Pa. Rolling-mill	269,573	Dec. 26	1472	424, 425, 426	22	2180
Haskin, Uri, Pittsburg, Pa. Gearing for trains of metal rollers	269,574	Dec. 26	1478	426, 427	22	2180
Haskin, Uri, Pittsburg, Pa. Machine for rolling rails	269,787	Dec. 26	1738	504	22	2230
Haskin, Uri, assignor of one-half to Atlas Works, (limited,) Pittsburg, Pa. Friction-clutch	265,496	Oct. 3	322	95	22	1193
Haskins, Charles D., and C. M. Lungren, New York, N. Y. Dynamo-electric machine	260,866	July 11	661	180	22	117
Haskins, Charles D., assignor to Union Electric Manufacturing Company, New York, N. Y. Electric-arc lamp	261,091	July 11	953	266	22	165
Haskins, Charles D., New York, N. Y., assignor, by mesne assignments, to Western Electric Company, Chicago, Ill. Microphone	266,286	Oct. 24	1301	368	22	1376
Haskins, Clark C., and C. H. Wilson, assignors, by mesne assignments, to Western Electric Company, Chicago, Ill. Multiple switch-board for telephone exchanges	266,287	Oct. 24	1302	368	22	1376

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Haslam, Alfred S., Derby, county of Derby, England. Refrigerator for cooling air	261,708	July 25	1698	477, 478	22	303
Haslehurst, Theodore E. (See Boxley, George, assignor.)						
Haslup, William, Sidney, Ohio. Earth-scraper	268,666	Dec. 5	321	93, 94	22	1948
Hassall, William S. (See Apple, J. Bernard, assignor.)						
Hastings, George E., Antrim, N. H. Swinging chair	266,622	Oct. 31	1698	490	22	1456
Hastings, Louis E. (See Welles, Richard J., assignor.)						
Haszinger, John, Vicksburg, Miss. Shoe	267,887	Nov. 21	1162	326	22	1762
Hatch, Horace E., *et al.* (See Fox, Jacob G., assignor.)						
Hatch, Walter P. (See Rawson and Hatch.)						
Hatch, Willard T., assignor to Atlas Engine Works, Indianapolis, Ind. Steam-boiler furnace	268,098	Nov. 28	1417	396	22	1814
Hatcher, Washington J., Clintonville, Ala. Sewing-machine	268,402	Dec. 5	34	11	22	1893
Hathaway, John, Boston, Mass. Portable drill and forge rest	266,991	Nov. 7	42	13, 14	22	1547
Hathaway, William A., North Kingstown, assignor to J. S. Lees, Pawtuxet, R. I. Steam-trap	263,175	Aug. 22	1675	474	22	650
Hathaway, William E., and W. B. Johnston, Hornellsville, N. Y. Mechanical telephone	265,412	Oct. 3	216	65	22	1174
Hathorn, George H., Chester, Me. Driving-calk	266,362	Oct. 24	1406	399	22	1396
Hattersley, John. (See Tennant and Hattersley.)						
Hatton, Robert J. (See Young and Hatton.)						
Hauck, John, and G. Lantenschlager, Cincinnati, Ohio. Bottle-washing machine	267,199	Nov. 7	301	88	22	1593
Haug, John, Philadelphia, Pa. Valve-gear	266,141	Oct. 17	1120	316	22	1339
Hank, Charles D. (See Martin and Hauk.)						
Hanlenbeck, Charles A. (See Gowen, James E., assignor.)						
Hauseman, Peter, Speedwell, assignor of one-third to W. A. Richmond, Rural Retreat, Va. Railway-gate	262,292	Aug. 8	590	166	22	441
Hauser, Samuel A., Winston, N. C. Car-coupling	268,017	Nov. 28	1321	371	22	1796
Hauthorn, James O., Astoria, Oreg. Can-washing machine	267,524	Nov. 14	722	208	22	1673
Haven, Norman A., Lime Spring, Iowa. Fence-post	266,817	Oct. 31	1926	557	22	1498
Havens, Fred A., Wethersfield, Conn. Whiffletree-coupling	262,540	Aug. 8	882	249	22	492
Havens, Fred A., Wethersfield, Conn. Seat-lock	262,541	Aug. 8	882	249	22	493
Havens, Frederick A., South Wethersfield, Conn. Whiffletree-hook	269,500	Dec. 19	1378	396	22	2155
Haviland, Benjamin, and G. P. Gunn, assignors, by mesne assignments, to H. M. Quackenbush, Herkimer, N. Y. Toy pistol. (Reissue)	10,210	Sept. 26	1865	524	22	1129
Haviland, Robert L. L. (See Mayrhofer, Charles A., assignor.)						
Hawes, Frederick W., Algona, Iowa. Rope-coupling and snap-hook	263,176	Aug. 22	1676	475	22	650
Hawes, James M., Great Falls, N. H. Device for turning shafting	261,344	July 18	1253	347, 348	22	222
Hawes, Loring P., New York, N. Y. Sediment-trap	265,600	Oct. 10	456	125	22	1219
Hawk, Hale E., Kansas City, Mo. Car-coupling	265,063	Sept. 26	1646	463	22	1090
Hawkenson, Nels W., Litchfield, Minn. Apparatus for drying grain	260,567	July 4	279	77	22	48
Hawkes, Gilbert, Lynn, Mass. Lasting boots and shoes	261,602	July 25	1572	442	22	283
Hawkeye Machine Company. (See Tibbles, Charles E., assignor.)						
Hawkins, Lorenzo D., Stoneham, and J. H. Webster, Boston, Mass. Stop for elevators	267,649	Nov. 14	875	250	22	1701
Hawkins, Thomas, assignor of one-eighth to W. E. Criat, San Francisco, Cal. Rotary engine	262,665	Aug. 15	1050	294	22	528
Hawkins, William A., Hawkinstown, Va. Gate-latch	262,409	Aug. 8	731	206	22	466
Hawks, Moses L., Ovid, Branch county, Mich. Automatic farm and yard gate	267,888	Nov. 21	1162	326	22	1762
Hawley, Agnes. (See Hawley, Benjamin R., assignor.)						
Hawley, Benjamin R., assignor to A. Hawley, Chicago, Ill. Dwelling	261,227	July 18	1115	311	22	200
Hawley, James, Liverpool, England, assignor to F. Myers, New York, N. Y. Automatic water-heater	267,200	Nov. 7	303	88, 89	22	1594
Hawley, Samuel R., Odin, Ill. Sash-fastener	264,945	Sept. 26	1508	424	22	1065
Hawley, Theodore, assignor of one-half to E. W. Harral, Fairfield, Conn. Ventilated shoe	264,409	Sept. 12	872	245	22	936
Hawley, Theodore, assignor of one-half to E. W. Harral, Fairfield, Conn. Manufacture of rubber goods	265,497	Oct. 3	323	95	22	1193
Haworth, Erasmus, Galena, Kans. Manufacture of sulphuric acid	268,793	Dec. 12	480	141	22	1985
Haworth, George D., Decatur, Ill. Reeling and unreeling corn-planter check-lines	262,226	Aug. 8	513	144	22	428
Haworth, George D., Decatur, Ill. Corn-planter	263,403	Aug. 29	2013	575, 576	22	711
Hawthorne, Thomas H., Mendota, Ill. Two-wheeled vehicle	269,285	Dec. 19	1095	319	22	2102
Haxtnn, William E., Kewanee, Ill. Furnace-grate	262,589	Aug. 15	954	268	22	510
Haxton, William E., Kewanee, Ill. Apparatus for steam-heating	265,601	Oct. 10	457	126	22	1219
Hay, James, and R. H. Lecky, Allegheny, Pa. Water-closet	264,693	Sept. 19	1186	336	22	1004
Hayden, Charles T., Whitesborough, Tex. Tanning compound	262,766	Aug. 15	1174	.....	22	548
Hayden, Harria H., assignor to Automatic Parcel Delivery Company, New York, N. Y. Store-service apparatus and appliance	260,568	July 4	280	77, 78	22	48
Hayden, Harria H., assignor to Automatic Parcel Delivery Company, New York, N. Y. Store-service system	268,485	Dec. 5	127	39	22	1910
Hayden, Hiram W., assignor to Holmes, Booth & Haydens, Waterbury, Conn. Lamp-burner	262,666	Aug. 15	1051	294	22	528
Hayden, Hiram W., assignor to Holmes, Booth & Haydens, Waterbury, Conn. Globe-holder for Argand lamps	266,470	Oct. 24	1522	433	22	1417
Hayden, John, and J. J. Arnold, Carbondale, Ill. Vessel-cover	267,345	Nov. 14	488	141	22	1633
Hayden, Peter, New York, N. Y. Metallic gate and hinge	261,345	July 18	1254	348	22	222
Hayden, Peter, New York, N. Y. Metallic fence-post	261,346	July 18	1256	348, 349	22	222
Hayden, William B., Columbus, Ohio, and C. H. Allen, St. Louis, Mo. Attachment for neck-yoke straps and chains	264,830	Sept. 19	1347	381	22	1032
Hayes, Calvin Q., Sedalia, Mo. Car-truck	267,425	Nov. 14	597	171	22	1650
Hayes, Frank M. (See Chichester, Lewis S., assignor.)						
Hayes, George, New York, N. Y. Metallic shutter. (Reissue)	10,223	Oct. 24	1670	481	22	1444
Hayes, George P., Rochester, N. H. Pegging-jack	261,152	July 18	1026	289	22	186
Hayhurst, William P., Argentine, Kans. Sash-fastener	262,038	Aug. 1	260	75	22	380
Haynes, Clinton C., Wilmington, Vt. Apparatus used in evaporating saccharine juices	264,694	Sept. 19	1188	336	22	1005
Haynes, Gideon, Jr., Boston, Mass. Breech-loading fire-arm	262,039	Aug. 1	261	75	22	380
Haya, Henry, Bridgeport, Cal. Churn	265,064	Sept. 26	1647	463	22	1091
Haya, John W., Erie, Pa. Steam-cylinder lubricator	268,667	Dec. 5	322	94	22	1948
Haya, John W., Erie, Pa. Steam-cylinder lubricator	269,666	Dec. 26	1592	457	22	2203
Hayward, Francis D., Malden, Mass. Rubber heel for boots or shoes	263,781	Sept. 5	140	42	22	798
Hayward, Henry S., Jersey City, N. J. Dash-pot	262,040	Aug. 1	261	75, 76	22	380
Hazard, Frederick J., Belleville, Ontario, assignor of three-fourths to S. E. Fuller, Colborne, Canada. Reaping and mowing machine	263,288	Aug. 22	1815	515	22	676

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Hazelrigg, Charles W., *et al.* (See Hazelrigg, John W., assignor.)						
Hazelrigg, John W., assignor to himself, W. T. Hazelrigg, V. P. Hustead, and C. W. Hazelrigg, El Dara, Ill. Grain-separator	263,177	Aug. 22	1677	475	22	650
Hazelrigg, Wesley T., *et al.* (See Hazelrigg, John W., assignor.)						
Hazelrigg, William A., Napoleon, Ind. Fertilizer and planter	266,818	Oct. 31	1926	557	22	1498
Hazleton, Francis M., Red Bluff, Cal. Car-coupling	265,065	Sept. 26	1648	463	22	1001
Headington, Legrand N., Mount Vernon, Ohio. Jointed packing-box	266,471	Oct. 24	1523	433	22	1417
Heady, John F., Ghent, Ky. Seed-sower	262,041	Aug. 1	263	76	22	380
Heald, John, assignor to C. W. Hutchins, Springfield, Mass. Water-key for brass musical instruments	265,498	Oct. 3	324	95	22	1193
Heald, Lucinda M., administratrix. (See Heald, Richard K.)						
Heald, Richard K., Holland, deceased, L. M. Heald, administratrix, and assignor of one-half to S. T. Green, Charlotte, Mich. Plow	263,289	Aug. 22	1816	515	22	676
Healy, Anthony. (See Brown, Parfery, and Healy.)						
Heape, William, Walden, N. Y. Window-sash	267,201	Nov. 7	304	89	22	1594
Hearn, Edwin R. (See Heatt and Hearn.)						
Heath, Edward, deceased, P. Heath, administratrix, and assignor to Johnston Harvester Company, Brockport, N. Y. Harvester-binder	269,053	Dec. 12	798	236 237	22	2043
Heath, Elroy N., Boston, Mass. Calendar	266,289	Oct. 24	1306	369	22	1377
Heath, Francis E., Waterville, assignor to Kennebec Fiber Company, Benton, Me. Manufacture of paper-board composed of wood pulp	260,680	July 4	433	.....	22	73
Heath, Ozro C., Providence, R. I. Automatic fire-extinguisher	261,709	July 25	1703	479	22	304
Heath, Ozro C., Providence, R. I. Automatic fire-extinguisher	266,142	Oct. 17	1121	317	22	1339
Heath, Polly, administratrix. (See Heath, Edward.)						
Heath, Watson A., Binghamton, N. Y. Fifth-wheel	266,819	Oct. 31	1927	558	22	1498
Heath, Watson A., Binghamton, N. Y. Velocipede	266,820	Oct. 31	1928	558	22	1498
Heath, Wilbur F., and M. Nirdlinger, Fort Wayne, Ind. Car-coupling	266,992	Nov. 7	43	14	22	1547
Heaton Button Fastener Company. (See Prentice, George W., assignor.)						
Heaton Button Fastener Company. (See Sweet, Parker H., Jr., assignor.)						
Heaton, Horace L., Columbus, Ohio. Sash-holder	260,681	July 4	434	117	22	73
Heaton, Horace L., assignor of three-fourths to H. Sabin, G. W. Luce, and J. M. Tibbetts, Columbus, Ohio. Nut-lock washer	269,412	Dec. 19	1264	367	22	2134
Heaverin, William H., assignor of one-half to W. H. Calvert, St. Louis, Mo. Car-coupling	266,472	Oct. 24	1524	433	22	1417
Hebbard, Alonzo, New York, assignor to S. S. Newton & Co., Binghamton, N. Y. Stopper for volatile-salts bottles. (Reissue)	10,172	Aug. 1	477	133	22	415
Heberer, Edward, St. Louis, Mo. Razor	266,034	Oct. 17	987	280	22	1316
Heberle, August, Sala, Sweden. Ore-pulverizer	269,667	Dec. 26	1593	457	22	2203
Hebert, Joseph R., Brooklyn, N. Y., assignor to E. A. Wilkinson, Newark, N. J. Loose fly-wheel for sewing-machines	268,226	Nov. 28	1580	438	22	1843
Hebert, Joseph R., Brooklyn, N. Y., assignor to E. A. Wilkinson, Newark, N. J. Sewing-machine	268,227	Nov. 28	1581	438	22	1843
Hebert, Joseph R., Brooklyn, N. Y., assignor to E. A. Wilkinson, Newark, N. J. Tension device for sewing-machines	268,228	Nov. 28	1582	439	22	1844
Hebert, Joseph R., Brooklyn, N. Y., assignor to E. A. Wilkinson, Newark, N. J. Sewing-machine shuttle	268,229	Nov. 28	1583	439	22	1844
Hebert, Joseph R., Brooklyn, N. Y., assignor to E. A. Wilkinson, Newark, N. J. Take-up for sewing-machines	268,668	Dec. 5	323	94	22	1949
Hecht, Leopold, New York, N. Y. Hat or other head-covering	264,831	Sept. 19	1348	381	22	1032
Hecht, Phillip, *et al.* (See Lee, James, assignor.)						
Heckel, Mathias, St. Louis, Mo. Combined heater and ventilator	265,802	Oct. 10	714	199	22	1262
Hecker, Charles F., Litchfield, Ill. Egg-tester	265,413	Oct. 3	216	65	22	1175
Heckman, Louis C., Cleveland, Ohio. Oil-stove	264,154	Sept. 12	593	163	22	886
Heckman, Louis C., Cleveland, Ohio. Oil-stove	264,155	Sept. 12	595	163	22	887
Hedges, Robina R., *et al.* (See McIntyre, Neil G., assignor.)						
Hedges, S. P. (See Gaylord, Charles, assignor.)						
Heebner, David S., *et al.* (See Heebner, Josiah D., assignor.)						
Heebner, Isaac D., *et al.* (See Heebner, Josiah D., assignor.)						
Heebner, Josiah D., Lansdale, Pa., assignor of one-half to D. S., I. D., and W. D. Heebner. Raking attachment for harvester-binders	263,699	Sept. 5	32	10	22	780
Heebner, William D., *et al.* (See Heebner, Josiah D., assignor.)						
Heeley, James L., Attleborough Falls, Mass., assignor to Davidson Brothers, New York, N. Y. Ornamental chain-link	264,034	Sept. 5	454	125	22	852
Hegeman, John. (See Hirschman, George, assignor.)						
Heidel, Gustavos, St. Louis, Mo. Car-coupling	269,608	Dec. 26	1594	457	22	2203
Heikel, Otto, Jersey City, N. J., assignor to National Electric Light and Power Company, New York, N. Y. Magneto-electric machine	261,850	Aug. 1	32	9, 10	22	341
Heikel, Otto, Jersey City, N. J., assignor to National Electric Light and Power Company, New York, N. Y. Magneto-electric machine	268,099	Nov. 28	1418	396	22	1814
Hellner, Solomon, New York, N. Y. Corset	268,794	Dec. 12	481	141	22	1985
Heimann, Julius, *et al.* (See Pennock, Zalmon S., assignor.)						
Heimseth, Frank H., Chicago, Ill. Window-platform and fire-escape	266,691	Oct. 31	1787	516	22	1472
Heine, August. (See Holcomb and Heine.)						
Heinig, Frederick E., Louisville, Ky. Sleeping attachment for car-seats	260,867	Jnly 11	663	180	22	117
Heinig, Frederick E., assignor to Dick & Craveson, Louisville, Ky. Machine for punching and forming metal tags	262,667	Aug. 15	1051	295	22	528
Heinig, Frederick E., assignor to Dick & Craveson, Louisville, Ky. Combined tobacco-marking strip and tag	264,156	Sept. 12	595	164	22	887
Heinke, Friedrik W., Nebraska City, Nebr. Windmill	263,515	Aug. 29	2136	612	22	733
Heinrichs, Charles F., London, England. Electric lamp	266,363	Oct. 24	1406	399	22	1396
Heiser, Adolph T., Wyoming, Pa. Manufacture of scoops	269,609	Dec. 5	324	94	22	1949
Heiser, Frederick, Baltimore, Md. Polishing compound	261,922	Aug. 1	123	.....	22	356
Heisler, Charles, St. Louis, Mo. Dynamo-electric machine	260,480	July 4	166	47	22	29
Heisler, Charles, St. Louis, Mo. Magneto-electric machine	262,590	Aug. 15	956	269	22	510
Heisler, Charles, St. Louis, Mo. Electric-arc lamp	263,404	Aug. 29	2015	576	22	711
Held, Charles W., Jr., Brooklyn, N. Y. Life-guard and track-clearer	266,692	Oct. 31	1788	516	22	1472
Helfgott, Samuel, New York, N. Y. Combined cane and opera-glass	266,473	Oct. 24	1525	433	22	1418
Hellmann, William. (See Dickhant, Caspar, assignor.)						
Helsley, J. Ham. (See Peay and Helsley.)						
Helvey, George H., assignor to Hooven, Owens & Rentschler Company, Hamilton, Ohio. Traction-engine	262,894	Aug. 15	1336	377	22	578
Helvey, George H., assignor to Hooven, Owens & Rentschler Company, Hamilton, Ohio. Traction-engine	265,499	Oct. 3	325	96	22	1194
Hemje, Charles, and T. C. Brecht, Washington, D. C. Process of and apparatus for compressing plastic and other materials	261,228	July 18	1116	311	22	200

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Hempstead, Edward, *et al.* (See Stevens, John L., assignor.)						
Hemsteger, John A., Piqua, Ohio. Spoon-holder for cooking-vessels	269,054	Dec. 12	803	238	22	2044
Henchy, Thomas N., and P. Feicker, assignors of one-half to E. E. Wood, Northampton, Mass. Forming ornamental designs on metal	268,486	Dec. 5	129	.....	22	1911
Henderson, Edmund W., *et al.* (See Fox, Jacob G., assignor.)						
Henderson, Frederick, New Richmond, Ohio. Lasting-tool	265,803	Oct. 10	715	199	22	1262
Henderson, George A., Decatur, Ill. Tellurian	261,603	July 25	1573	442	22	283
Henderson, George A., Decatur, Ill. Tight and loose pulley for round belts or cables	269,286	Dec. 19	1096	320	22	2102
Henderson, Isaac M., *et al.* (See Fox, Jacob G., assignor.)						
Henderson, James, Bellefonte, Pa., assignor to C. G. Francklyn, New York, N. Y. Manufacture of refractory furnace-linings	265,066	Sept. 26	1649	.....	22	1091
Henderson, James, Bellefonte, Pa., assignor to C. G. Francklyn, New York, N. Y. Lining furnaces, &c	265,067	Sept. 26	1650	.....	22	1091
Henderson, James, Bellefonte, Pa., assignor to C. G. Francklyn, New York, N. Y. Compound for furnace-linings	265,068	Sept. 26	1651	.....	22	1091
Henderson, James, Bellefonte, Pa., assignor to C. G. Francklyn, New York, N. Y. Compound for furnace-linings and fire-brick	265,069	Sept. 26	1652	.....	22	1091
Henderson, James, Bellefonte, Pa., assignor to C. G. Francklyn, New York, N. Y. Compound for furnace-linings and fire-brick	265,070	Sept. 26	1652	.....	22	1091
Henderson, James, Bellefonte, Pa., assignor to C. G. Francklyn, New York, N. Y. Compound for furnace-linings and fire-brick	265,071	Sept. 26	1653	.....	22	1091
Henderson, James, Bellefonte, Pa., assignor to C. G. Francklyn, New York, N. Y. Compound for furnace-linings and fire-brick	265,072	Sept. 26	1654	.....	22	1091
Henderson, James, Bellefonte, Pa., assignor to C. G. Francklyn, New York, N. Y. Compound for furnace-linings and fire-brick	265,073	Sept. 26	1655	.....	22	1091
Henderson, James, Bellefonte, Pa., assignor to C. G. Francklyn, New York, N. Y. Compound for furnace-linings and fire-brick	265,074	Sept. 26	1656	.....	22	1091
Henderson, James, Bellefonte, Pa., assignor to C. G. Francklyn, New York, N. Y. Compound for furnace-linings and fire-brick	265,075	Sept. 26	1657	.....	22	1092
Henderson, James, Bellefonte, Pa., assignor to C. G. Francklyn, New York, N. Y. Manufacture of refractory furnace-linings and fire-brick	265,076	Sept. 26	1658	.....	22	1092
Henderson, James, Bellefonte, Pa., assignor to C. G. Francklyn, New York, N. Y. Manufacture of refractory furnace-linings and fire-brick	265,077	Sept. 26	1658	.....	22	1092
Henderson, James, Bellefonte, Pa., assignor to C. G. Francklyn, New York, N. Y. Compound for fire-brick, furnace-linings, &c	265,961	Oct. 17	900	.....	22	1302
Henderson, James, Bellefonte, Pa., assignor to C. G. Francklyn, New York, N. Y. Compound for furnace-linings and fire-brick	266,143	Oct. 17	1122	.....	22	1339
Henderson, James, Bellefonte, Pa., assignor to C. G. Francklyn, New York, N. Y. Manufacture of compounds for furnace-linings and fire-brick	266,144	Oct. 17	1123	.....	22	1339
Henderson, James, Bellefonte, Pa., assignor to C. G. Francklyn, New York, N. Y. Manufacture of compounds for furnace-linings and fire-brick	266,145	Oct. 17	1124	.....	22	1339
Henderson, James, Bellefonte, Pa., assignor to C. G. Francklyn, New York, N. Y. Compound for furnace-linings and fire-brick	266,146	Oct. 17	1125	.....	22	1339
Henderson, James, assignor to C. G. Francklyn, New York, N. Y. Furnace-lining	265,962	Oct. 17	901	.....	22	1302
Henderson, James, assignor, by mesne assignments, to C. G. Francklyn, New York, N. Y. Metallurgic furnace	267,346	Nov. 14	489	141	22	1633
Henderson, James, assignor, by mesne assignments, to C. G. Francklyn, New York, N. Y. Regulating gas-furnaces used in manufacturing iron and steel	267,525	Nov. 14	724	208 209	22	1673
Henderson, James W. (See Woodrow and Henderson.)						
Henderson, Joseph C., Troy, N. Y. Evaporator	266,148	Oct. 17	1126	317 318	22	1339
Hendey, Arthur, Denver, Colo. Hoisting-machine	266,149	Oct. 17	1128	318 319	22	1340
Hendricks, Clarke, assignor of one-third to E. B. McKinney, Modesto, Cal. Car-coupling	262,668	Aug. 15	1052	295	22	528
Hendrickson, David W., Red Bank, N. J., assignor to Acme Bullion Furnace Company, New York, N. Y. Blast cupola-furnace	263,405	Aug. 29	2016	576	22	711
Hendrie, Charles F. (See Bolthoff, Henry, assignor.)						
Hendrie, Robert G. (See Unz and Hendrie.)						
Henkel, Anna C., *et al.* (See Henkel, George H., assignor.)						
Henkel, George H., Middletown, assignor of two-thirds to A. C. Henkel and C. J. Albert, Germantown, Ohio. Inkstand	264,695	Sept. 19	1189	336	22	1005
Henkel, George and H., Logan, Ohio. Liquid soap	269,413	Dec. 19	1264	.....	22	2134
Henkel, Henry. (See Henkel, George and H.)						
Henkle, Adolph W., *et al.* (See Harrison, Reuben N., assignor.) (Reissue.)						
Henn, Eduard, Jersey City, N. J. Safety attachment for railway-cars	261,923	Aug. 1	124	36	22	356
Hennebutte, Henri J. E., Anglet, assignor to Société Anonyme des Produits Chimiques du Sud-Ouest, Paris, France. Apparatus for manufacturing soda by the ammonia process	262,767	Aug. 15	1174	331	22	548
Hennessey, James M. (See Minor and Hennessey.)						
Hennion, Cornelia B. (See Hennion, William P., assignor.)						
Hennion, William P., assignor to C. B. Hennion, Brooklyn, N. Y. Spring bed-bottom	267,889	Nov. 21	1164	326	22	1762
Henrichs, Peter, Fargo, Dak. Ter. Bottle-stopper and draft-nozzle	266,364	Oct. 24	1407	400	22	1396
Henrichs, Peter, Erie, Pa. Sectional show-case	267,426	Nov. 14	598	171 172	22	1650
Henrichs, Peter, Erie, Pa. Sectional show-case	267,427	Nov. 14	601	172	22	1651
Henrichs, Peter, Erie, Pa. Sectional show-case	267,428	Nov. 14	602	172 173	22	1652
Henry, John, Chicago, Ill. Stock-car	262,042	Aug. 1	264	76	22	381
Henry, Martin M., Ladoga, Ind. Catch for latch-bolts	265,924	Oct. 10	836	239	22	1284
Henry, Martin M., Ladoga, Ind. Catch for latch-bolts	265,925	Oct. 10	837	240	22	1285
Henry, Victor, Chicago, Ill. Grain-binder	265,317	Oct. 3	110	33	22	1154
Hensel, George F., Philadelphia, Pa. Manufacturing chenille	266,147	Oct. 17	1126	317	22	1339
Henshall, Isabella A., administratrix. (See Henshall, James.)						
Henshall, James, Philadelphia, Pa., deceased, I. A. Henshall, administratrix, assignor to J. E. Henshall. Steam-pump	262,293	Aug. 8	591	166 167	22	441
Henshall, John E. (See Henshall, James, assignor.)						
Henson, John W., B. F. Hudson, and S. Smith, Dallas, Tex. Car-brake	269,287	Dec. 19	1097	320	22	2102
Henson, Marvin T., Pratt, Ohio, assignor of one-half to C. G. Bartholomew, Union City, Ind. Vise	266,474	Oct. 24	1526	434	22	1418
Henson, William, Hallsville, Mo. Barbed-wire stretcher	262,768	Aug. 15	1176	331	22	549
Hentz, Thaddeus W., Marianna, Fla. Fruit-gatherer	261,153	July 18	1027	289	22	186
Hepburn, Ward A., San Francisco, Cal. Child's carriage	264,157	Sept. 12	596	164	22	887
Herberg, Paul P., and P. H. Claussen, Gale, Trempealeau county, Wis. Feeding apparatus for grain-separators, &c	265,804	Oct. 10	715	200	22	1262
Herbert, Louis, Hicksville, Cal. Submerged pump	263,406	Aug. 29	2017	577	22	711

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Herbert, Louis, Hicksville, Cal. Adjustable piston-packing	266,365	Oct. 24	1409	400	22	1396
Herbold, Philip, Jr., Galion, Ohio. Bed-lounge	269,055	Dec. 12	804	238	22	2044
Herbst, Catharina, *et al.* (See McIntyre, Neil G., assignor.)						
Herbst, Friedrich, and G. Seidel, Halle-on-the-Saale, Germany, assignors to W. Schmidt, Chicago, Ill. Dough-dividing machine	269,288	Dec. 19	1098	320 321	22	2102
Herbst, Louis F. (See Morehead, John, assignor.)						
Hergenroeder, Christian W., Baltimore, Md. Adding-machine	263,904	Sept. 5	989	83, 84	22	824
Hergenroeder, Christian W., Baltimore, Md. Music-leaf turner	265,602	Oct. 10	459	126	22	1220
Herman, Rudolph, Cleveland, Ohio. Billiard-table	262,410	Aug. 8	732	206	22	466
Hermann, Adolph E., Ravenna, Ohio. Fifth-wheel for vehicles	262,669	Aug. 15	1053	295	22	528
Herndon, Emmett H., Sanford, Fla. Feed-roller for wood-planers	260,569	July 4	282	78	22	48
Herr, August W., Chicago, Ill. Safety-case for heating-stoves	261,924	Aug. 1	124	36	22	357
Herr, Jacob W., Blanchester, Ohio. Bolting-sieve	261,347	July 18	1257	349	22	223
Herr, John P. (See Belt, Alfred C., assignor.)						
Herring, Nathan W., Millport, Pa., assignor of one-half to F. B. Keeney, Warsaw, N. Y. Baling-press	262,543	Aug. 1	265	76, 77	22	381
Herron, James P., Washington, D. C. Apparatus for dredging harbors, ditching swamps, &c	265,500	Oct. 3	326	96, 97	22	1194
Herschel, William D., assignor to J. O. Colladay & Brother, Philadelphia, Pa. Tenoning-machine	266,023	Oct. 31	1700	490	22	1456
Hersee, Thompson, Buffalo, N. Y. Running-gear for cars	263,516	Aug. 29	2137	613	22	733
Hersee, Thompson, Buffalo, N. Y. Railway-car	267,078	Nov. 7	147	41, 42	22	1566
Hersee, Thompson, Buffalo, N. Y. Car-brake	267,079	Nov. 7	148	42	22	1566
Hersey, Charles H., assignor of one-half to F. C. Hersey, Boston, Mass. Drying apparatus	263,517	Aug. 29	2138	613	22	734
Hersey, Charles H., assignor of one-half to F. C. Hersey, Boston, Mass. Drier	263,518	Aug. 29	2139	613	22	734
Hersey, Francis C. (See Hersey, Charles H., assignor.)						
Hershberger, Daniel P., Goshen, Ind. Draft-equalizer	268,670	Dec. 5	325	95	22	1949
Hershek, Joseph, Joliet, Ill. Die for pointing or sharpening harrow-teeth	262,294	Aug. 8	592	167	22	441
Hershey, Benjamin, Erie, assignor of three-fourths to C. Hitchcock, J. A. Ege, and B. Thornton, Bradford, Pa. Ore-amalgamator	260,682	July 4	435	118	22	74
Hervey, Nelson B. (See Hoag and Hervey.)						
Hervey, Sarah E., Taunton, Mass. Dress-waist protector	267,202	Nov. 7	305	89	22	1594
Herzberg, Morris, West Point, Ga. Letter-file	267,890	Nov. 21	1164	326	22	1702
Herzig, Eduard, Jersey City, N. J. Screw-driver	261,925	Aug. 1	126	36	22	357
Herzog, Joseph, New York, N. Y. Slide for chain-bracelets and other chains	267,526	Nov. 14	726	209	22	1674
Hess, Henry A., assignor of one-half to J. A. Ogle, Nira, Iowa. Staple-extractor	262,542	Aug. 8	883	250	22	493
Hess, M. E., *et al.* (See Sacket, Orsemus M., assignor.)						
Hess, Sandford J. (See Briggs and Hess.)						
Hesselbom, Eric M., Rushford, Minn. Snow-plow	263,178	Aug. 22	1678	475	22	651
Hesser, Benjamin F. (See Van Meter and Hesser.)						
Hessler, George W., Scranton, assignor of one-half to T. D. Sax, Wilkes-Barré, Pa. Book-holder	263,290	Aug. 22	1816	516	22	677
Heston, William, Mount Union, Ohio. Vapor-stove	264,946	Sept. 26	1509	425	22	1065
Heston, William, Mount Union, and J. T. Mead, Cleveland, assignors to T. Sharp, Salem, Ohio. Feed-water purifier	262,895	Aug. 15	1336	378	22	578
Hetfield, Levi, Plainfield, N. J. Coal pocket and dump	268,671	Dec. 5	325	95	22	1949
Heussler, Wilhelm, New York, N. Y. Candy	265,805	Oct. 10	716	.....	22	1262
Hewitt, Samuel A., assignor to L. White, Buffalo, N. Y. Shaping and welding rolls	263,519	Aug. 29	2140	614	22	734
Hewitt, William W., Swanscombe, county of Kent, England. Screw-conveyer	265,078	Sept. 26	1659	463	22	1092
Hewlett, Henry N., Oscoda, Mich. Salt-pan	265,806	Oct. 10	717	200	22	1262
Hewson, Edward M., Stillwater, N. Y. Wool-oiling machine	261,452	July 18	1379	385	22	243
Heydrick, Jesse A., Barnhart's Mills, Pa. Pump	269,414	Dec. 19	1265	368	22	2134
Heyer, John W., assignor to Pratt & Whitney Company, Hartford, Conn. Mechanism for squaring or plane-dressing the end of bars or rods	264,877	Sept. 26	1419	400	22	1050
Heyl, Henry R., Philadelphia, Pa. Suspension device	264,947	Sept. 26	1510	425	22	1065
Heylyn, Edward, Brooklyn, N. Y. Pavement	269,289	Dec. 19	1100	321	22	2103
Heysinger, Isaac W., Philadelphia, Pa. Meat-tenderer	260,393	July 4	63	18	22	12
Heywood, Charles, *et al.* (See Heywood and Taft, assignors.)						
Heywood, George, *et al.* (See Heywood and Taft, assignors.)						
Heywood, Henry, *et al.* (See Heywood and Taft, assignors.)						
Heywood, Levi, and E. L. Taft, assignors to said Heywood, S. H., and G. Heywood, A. M. Greenwood, A. Morrell, and C. Heywood, Gardner, Mass. Chair	262,543	Aug. 8	884	250	22	493
Heywood, Seth, *et al.* (See Heywood and Taft, assignors.)						
Hibbard, Jerome, South Butler, N. Y. Basket-making machine	265,079	Sept. 26	1660	464	22	1092
Hickey, Thomas J., Rondout, N. Y. Ventilator	260,683	July 4	437	118	22	74
Hickman, Francis. (See Adgate and Hickman.)						
Hickok, Alonzo D., Columbus City, Iowa. Whiffletree-hook	261,710	July 25	1704	479	22	304
Hickok, Benedict, Buffalo, N. Y., and J. H. Putnam, Tioga, Pa., assignors of one-third to R. C. Hickok, Buffalo, N. Y. Car-coupling	265,318	Oct. 3	111	33	22	1154
Hickok, Robert C. (See Hickok and Putnam, assignors.)						
Hicks, Benjamin I., assignor of one-third to S. R. Scottron, Brooklyn, N. Y. Spring curtain-roller. (Reissue)	10,163	July 18	1463	408	22	257
Hicks, Daniel B., Pittsburg, Pa. Railway-rail joint	267,429	Nov. 14	604	173	22	1652
Hicks, Henry C., Minneapolis, Minn. Apparatus for transporting animals	268,018	Nov. 28	1322	371	22	1796
Hicks, Horatio F., Minneapolis, Minn. Submarine torpedo	263,407	Aug. 29	2019	577	22	712
Hicks, Horatio F., Minneapolis, Minn. Submarine gun for projecting torpedoes	263,408	Aug. 29	2020	577	22	712
Hicks, Horatio F., Minneapolis, Minn. Harvester-cutter	263,409	Aug. 29	2020	577 578	22	712
Hicks, James J. (See Peroni, Luigi, assignor.)						
Hicks, Thomas H., London, Ontario, Canada. Electro-medical induction-coil	263,700	Sept. 5	34	10	22	781
Hicks, William S., New York, N. Y. Combined chain-bar and pencil	260,868	July 11	664	181	22	117
Hidden, Oliver M., assignor to Union Door Knob Company, Detroit, Mich. Knob attachment	261,604	July 25	1574	442	22	283
Hieatt, Napoleon B., and E. R. Hearn, Jersey City, N. J. Machine for tagging plug-tobacco	269,788	Dec. 26	1741	503	22	2230
Hiekisch, Paul, Decatur, Ill. Gasoline-stove	264,082	Sept. 12	516	141	22	873
Higby, Charles W. (See Carter, George W., assignor.)						
Higby, Charles W. (See Colley, George H., assignor.)						
Higby, Charles W. (See Moulton, Henry W., assignor.)						
Higby, Luther E., assignor to Higby Sewing Machine Company, Brattleborough, Vt. Sewing-machine	268,230	Nov. 28	1584	439	22	1844
Higby Sewing Machine Company. (See Higby, Luther E., assignor.)						
Higdon, John C., Kansas City, Mo. Locomotive	268,231	Nov. 28	1585	439	22	1844
Higgin, Henry, Newport, Ky. Vehicle-bow trimming	265,807	Oct. 10	717	200	22	1263

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Higgins, Charles J., Hallowell, Me. Lantern attachment	265,673	Oct. 10	556	152	22	1235
Higgins & Co., E. S. (See Duckworth, John C., assignor.)						
Higgins, Egerton R., San Francisco, Cal. Camera attachment	266,035	Oct. 17	988	280	22	1316
Higgins, Harris, Chicago, Ill. Furnace-door	268,899	Dec. 12	598	176	22	2006
Higgins, Sylvester W., St. Louis, Mo. Fountain-pen	266,475	Oct. 24	1527	434	22	1418
Hight, George W., *et al.* (See Owen, William J., assignor.)						
Hildebrand, Ernest C., New Haven, Conn. Buggy	262,417	Aug. 8	732	207	22	466
Hildebrand, Ernest C., New Haven, Conn. Shifting seat for vehicles	267,060	Nov. 7	150	43	22	1567
Hildesheimer & Co., S. (See Lueckel, August, assignor.) (Reissue.)						
Hildreth, Edwin A. and S. B., Harvard, Mass. Wood-splitting machine	262,591	Aug. 15	957	269	22	511
Hildreth, Stanley B. (See Hildreth, Edwin A. and S. B.)						
Hilgenberg, Conrad, Chicago, Ill. Type-writer	267,527	Nov. 14	727	209	22	1674
Hilger, Anson, Pierre, Dak. Ter. Fan attachment for sewing-machines	269,669	Dec. 26	1595	457	22	2203
Hill, Andrew L., Decatur, Ill. Hame-tug loop	264,534	Sept. 19	1014	287	22	970
Hill, Andrew L., Decatur, Ill. Strap-shield	265,259	Oct. 3	39	12	22	1142
Hill, Benjamin B., Springfield, Mass. Hand-stamp	261,229	July 18	1117	312	22	200
Hill, Benjamin B., Springfield, Mass. Chronometric stamp	266,366	Oct. 24	1410	400	22	1396
Hill, Benjamin B., Springfield, Mass. Hand-stamp	266,624	Oct. 31	1701	490 491	22	1456
Hill, Christian C., and L. Pettersen, assignors to themselves and S. K. White, Chicago, Ill. Windmill	268,403	Dec. 5	36	11, 12	22	1893
Hill, De Witt C., assignor of two-thirds to J. Scott, Willimantic, and W. E. Barrows, Hartford, Conn. Boiler	263,701	Sept. 5	35	11	22	781
Hill, De Witt C., assignor of two-thirds to J. Scott, Willimantic, and W. E. Barrows, Hartford, Conn. Smoke and gas consuming furnace	264,158	Sept. 12	597	164	22	887
Hill, Ebenezer, South Norwalk, Conn. Air-compressing apparatus	261,605	July 25	1575	442	22	283
Hill, Ebenezer, South Norwalk, Conn. Compound air-compressor	261,606	July 25	1577	443	22	284
Hill, Ebenezer, South Norwalk, Conn. Reservoir for storing and supplying compressed air	261,607	July 25	1579	443	22	284
Hill, Ebenezer, South Norwalk, Conn. Mining-machine	261,608	July 25	1580	443	22	284
Hill, Edward J., and J. L. Clark, Westminster, England. Boat-detaching apparatus	266,150	Oct. 17	1130	319	22	1340
Hill, Edwin H., assignor to Washburn & Moen Manufacturing Company, Worcester, Mass. Process of and apparatus for coating barbed fence-wire with metal	264,535	Sept. 19	1015	287	22	971
Hill, Francis A., Ontario, N. Y. Apple parer, corer, and doffer	268,487	Dec. 5	130	39	22	1911
Hill, Henry, Joliet, Ill. Lime-extractor for steam-boilers	268,672	Dec. 5	327	95	22	1950
Hill, Joseph, Williamsport, Pa. Street-car motor	262,044	Aug. 1	267	77	22	381
Hill, Joseph, Williamsport, Pa. Steam-muffler	264,289	Sept. 12	739	206	22	912
Hill, Joseph, Williamsport, Pa. Steam-boiler	268,673	Dec. 5	328	95	22	1950
Hill, Joseph, Williamsport, Pa. Steam-muffler	268,674	Dec. 5	330	96	22	1950
Hill, Lysander S., Grand Rapids, Mich. Spoon-bait	267,203	Nov. 7	305	89	22	1594
Hill, Rufus, Camden, N. J. Spark-arrester	260,753	July 11	527	143	22	94
Hill, Samuel L., Brooklyn, N. Y. Steam-boiler	261,348	July 18	1258	340	22	223
Hill, Walter N., Newport, R. I. Process of and apparatus for the production of nitro-glycerine	262,769	Aug. 15	1177	332	22	549
Hillard, James P., Fall River, Mass. Cotton-bale opener	264,696	Sept. 19	1190	337	22	1005
Hilliard, Charles H., Chicago, Ill. Pencil-holder	269,056	Dec. 12	605	238	22	2044
Hilliker, James W., St. John's, Mich. Double-acting pump	268,675	Dec. 5	331	96	22	1950
Hillman, Albert F., Stockton, Cal. Hay-sling	263,782	Sept. 5	141	43	22	798
Hillman, Charles M., Pierson, Mich. Stump-puller	266,821	Oct. 31	1929	558	22	1498
Hillman, Uno H., New York, N. Y. Vacuum-pan	269,575	Dec. 26	1486	427	22	2181
Hills, George, Plainville, Conn. Clock-stand	268,890	Dec. 12	599	176	22	2007
Hilpert, Leonard, and R. J. Biggerstaff, Blanchard, Iowa. Clothes-washing machine	268,232	Nov. 28	1580	440	22	1845
Hilton, William D. (See Folsom, Andrew, assignor.)						
Hinchey, Warren E., Evanswood, Wis. Basket-stave jointer	262,770	Aug. 15	1180	332	22	549
Hinchman, John C., Summit, N. J. Time-stamp	265,808	Oct. 10	718	200 201	22	1263
Hinckley, Howard V. (See Beard and Hinckley.)						
Hind, Thomas F., and R. Lund, Preston, county of Lancaster, England. Apparatus for dressing flour, middlings, &c	264,159	Sept. 12	598	165	22	887
Hindley, Robert C., and W. S. Buffham, Racine, Wis. Dynamo-electric generator	266,290	Oct. 24	1307	370	22	1377
Hindley, Solomon K., Worcester, Mass. Boot or shoe	262,592	Aug. 15	959	270	22	511
Hindley, Solomon K., Worcester, Mass. Boot or shoe	268,891	Dec. 12	600	177	22	2007
Hindley, Solomon K., Worcester, Mass. Boot or shoe	268,892	Dec. 12	601	177	22	2007
Hindley, Solomon K., Worcester, Mass. Boot or shoe	268,893	Dec. 12	602	177	22	2007
Hindley, Solomon K., Worcester, Mass. Boot or shoe	268,894	Dec. 12	602	177	22	2007
Hinds, Alfred A., Lexington, Ind. Pump	265,080	Sept. 26	1661	464	22	1092
Hinds, Aurelius S., Portland, Me. Cartridge shot-box	268,404	Dec. 5	38	12	22	1894
Hinds, Carlos W., assignor of one-third to J. J. A. Zeller, L. E. Phelps, and R. K. Swift, Waterman, Ill. Cultivator	261,092	July 11	955	266	22	165
Hinds, Carlos W., assignor of one-third to J. J. A. Zeller, L. E. Phelps, and R. K. Swift, Waterman, Ill. Cultivator	261,093	July 11	956	267	22	165
Hinkel, John, Milwaukee, Wis. Stand for drawing beer, &c	267,688	Nov. 21	929	263	22	1719
Hinkle, George A., *et al.* (See Styron, William D., assignor.)						
Hinkle, Lewis L., Piedmont, Mo. Car-coupling	266,822	Oct. 31	1930	558	22	1499
Hinkle, Philip, San Francisco, Cal. Elevator	267,204	Nov. 7	306	90	22	1594
Hinkle, Philip, San Francisco, Cal. Elevator	268,233	Nov. 28	1587	440	22	1845
Hinman, Edgar R. (See Cook and Hinman.)						
Hinsdale, Samuel J., Fayetteville, N. C. Percolator	266,625	Oct. 31	1702	491	22	1456
Hird, Enoch, Bolton, county of Lancaster, England. Spinning and doubling machine	261,711	July 25	1705	479	22	304
Hirsch, Philipp. (See Pentlarge and Hirsch.) (Reissue.)						
Hirschman, George, assignor of one-half to J. Hegeman, Morristown, N. J. Beer faucet and tap	264,457	Sept. 19	936	262	22	955
Hirshfeld, Julius, *et al.* (See Gates, Robert D., assignor.)						
Hirst, Frank, Pittsfield, assignor to J. Mason, Dalton, Mass. Butter-cutting machine	267,205	Nov. 7	307	90	22	1594
Hirt, Louis J., Brooklyn, assignor to McLaughlin & Loyd, New York, N. Y. Twine-balling machine	262,412	Aug. 8	734	207	22	466
Hitchcock, Charles, *et al.* (See Hershey, Benjamin, assignor.)						
Hitchcock, Jonathan. (See White and Hitchcock.)						
Hitchcock, P. A. (See Wakeman, Charles E., assignor.) (Reissue.)						
Hitchcock, Robert, Springfield, Mass. Railway wrecking-car	264,832	Sept. 19	1349	382	22	1032
Hixon, Edgar L., *et al.* (See Crocker, Walter E., assignor.)						
Hoag, Albert, Grand Isle, Vt. Hand corn and bean planter	265,414	Oct. 3	218	65	22	1175
Hoag, Andrew J., and J. A. Drew, assignors to Nichols, Shepard & Co., Battle Creek, Mich. Traction-engine	265,809	Oct. 10	720	201	22	1263
Hoag, Obadiah H., and N. B. Hervey, Santa Rosa, Cal. Lifting-jack	267,081	Nov. 7	151	43	22	1567

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Hoag, Seth W., Grand Isle, Vt. Hand corn-planter	230,367	Oct. 24	1412	401	22	1397
Hoagne, John H., Chicopee, Mass. Drill-chuck	262,771	Aug. 15	1183	332	22	550
Hoak, Amos, Hannibal, Mo. Fountain	267,689	Nov. 21	940	263	22	1719
Hoar, George W., Fall River, Mass. Game	268,895	Dec. 12	603	178	22	2007
Hobbs, Elijah M., Santa Rosa, Cal. Car-coupling	267,749	Nov. 21	905	281	22	1731
Hobbs, Horatio. (See Gordon and Hobbs.)						
Hobbs, James, Reading, Mass. Lawn-mower	262,593	Aug. 15	960	270	22	511
Hobbs, John, Boston, Mass. Manufactore of artificial butter	263,042	Aug. 22	1523	.....	22	621
Hobby, Jonathan E., Omio, Kans. Washing-machine	266,151	Oct. 17	1131	319	22	1340
Hochhausen, William, New York, N. Y. Commutator for dynamo-electric machines	261,712	July 25	1705	479	22	304
Hocker, John B., Lariat, Colo. Baling-press	260,977	July 11	798	219	22	139
Hodgdon, Caleb W. (See Ethridge, Martin V., assignor.)						
Hodgdon, Caleb W. (See Moses, Edwin A. P., assignor.)						
Hodgdon, Caleb W., Boston, Mass. Lasting and pegging jack	268,019	Nov. 28	1324	{371 372}	22	1797
Hodgdon, George C., Allegheny, Pa. Liquid-cooling apparatus	261,453	July 18	1379	385	22	243
Hodgdon, George N., Nashua, N. H. Rail-joint	266,626	Oct. 31	1703	491	22	1456
Hodgdon, William H., *et al.* (See Vincent, Charles H., assignor.)						
Hodge, Chester A., Beloit, Wis. Boring and tenoning machine	263,702	Sept. 5	36	11	22	781
Hodge, George E. (See Weber, August, assignor.)						
Hodges, Charles C., *et al.* (See McCoy, Elijah, assignor.)						
Hodges, Francis G., Mansfield, assignor to himself, H. M. Daggett, Jr., and H. Clap, Attleborough, Mass. Bracelet	265,603	Oct. 10	461	127	22	1220
Hodges, Henry C., *et al.* (See McCoy, Elijah, assignor.)						
Hodges, Pliny F., Massillon, Ohio, assignor to E. H. Gammon and W. Deering, Chicago, Ill. Grain-binder	264,160	Sept. 12	599	165	22	887
Hodges, Pliny F., Chicago Ill. Carrier-chain	264,833	Sept. 19	1350	382	22	1032
Hodgson, James. (See Lee, Robert B., assignor.)						
Hodson, Richard, Abbey Road, St. John's Wood, county of Middlesex, England. Rotary engine	260,978	July 11	799	{220 221}	22	140
Hoe & Co., R. (See Anthony and Taylor, assignors.)						
Hoe & Co., R. (See Crowell, Luther C., assignor.)						
Hoe & Co., R. (See Weckerlin, Dominick, assignor.)						
Hoedemaker, John A. (See O'Harra, George W., assignor.)						
Hoehl, Valentine. (See Streicher, Hoehl, and Holz.)						
Hoehn, Charles W., Bloomington, Ill. Soldering-lamp	269,415	Dec. 19	1266	368	22	2134
Hoerner, John S., Highland, Ill. Type-case cabinet	267,690	Nov. 21	932	264	22	1719
Hoff, Charles, assignor of one-half to A. Jergens, Cincinnati, Ohio. Machine for cutting paper percussion-caps	269,416	Dec. 19	1267	368	22	2134
Hoff, George K., Philadelphia, Pa. Car-coupling	266,823	Oct. 31	1931	559	22	1499
Hoff, Joseph E., assignor to J. R. Weeks, Jr., Newark, N. J. Fruit-parer	262,896	Aug. 15	1337	378	22	578
Hoffecker, John S., Wilmington, Del. Composite washer	264,536	Sept. 19	1016	288	22	971
Hoffecker, John S., Wilmington, Del. Composite washer	264,537	Sept. 19	1017	288	22	971
Hoffman, Charles M., White River Junction, Vt. Watch-regulator	269,670	Dec. 26	1596	458	22	2204
Hoffman, John G. (See Bard, John C., assignor.)						
Hoffman, John G., *et al.* (See Duff, Alexander R., assignor.)						
Hoffman, Joseph, assignor to J. Reckendorfer, New York, N. Y. Lead and crayon holder	261,454	July 18	1380	386	22	244
Hoffman, Joseph, assignor to J. Reckendorfer, New York, N. Y. Lead and crayon holder	261,455	July 18	1381	386	22	244
Hoffman, Joseph, assignor to J. Reckendorfer, New York, N. Y. Lead and crayon holder	261,456	July 18	1382	386	22	244
Hoffman, Joseph, assignor to J. Reckendorfer, New York, N. Y. Lead and crayon holder	261,457	July 18	1384	386	22	244
Hoffman, Joseph, assignor to J. Reckendorfer, New York, N. Y. Lead or crayon holder	267,309	Nov. 7	432	125	22	1617
Hoffman, Joseph, assignor to J. Reckendorfer, New York, N. Y. Lead or crayon holder	267,528	Nov. 14	728	209	22	1674
Hoffman, Ripley C., *et al.* (See Gold, Joseph S., assignor.)						
Hoffman, Ross J., Binghamton, N. Y. Lubricator attachment	267,430	Nov. 14	605	173	22	1652
Hoffmann, Herman H., Chicago, Ill. Book-binding	264,878	Sept. 26	1420	401	22	1050
Hoffmann, William. (See Schatz, Adam E., assignor.)						
Hoffmaster, Solomon, Harrisburg, and G. W. Arthur, Altoona, Pa. Lubricator for piston-rods	263,905	Sept. 5	290	84	22	824
Hogan, Benjamin, Saginaw, Mich. Belt-fastener	264,290	Sept. 12	740	206	22	912
Hogan, Hugh F., Albion, Ind., assignor of three-fourths to G. Reif, C. Kurtz, and M. Butz, Cincinnati, Ohio. Hose-nozzle	262,183	Aug. 1	461	128	22	412
Hogan, Matthew, Hartford, Conn. Barrel-cock	267,785	Nov. 21	1042	291	22	1739
Hogan, Matthew, Hartford, Conn. Water-closet	267,786	Nov. 21	1042	291	22	1739
Hogan, Matthew, Hartford, Conn. Water-cock	267,787	Nov. 21	1044	292	22	1739
Hogbin, Daniel E., Ellinwood, Kans. Stock-loading chute	267,891	Nov. 21	1165	327	22	1762
Hogeboom, Levi S. (See Miller and Hogeboom.)						
Hoggson, Samuel J., and G. C. Pettis, New Haven, Conn. Organ-stop knob	262,772	Aug. 15	1183	333	22	550
Hogland, William K. (See Hamilton, James T., assignor.)						
Hogue, Lovren E., Sandy Lake, Pa. Injector	263,410	Aug. 29	2021	578	22	712
Hogwood, John H., Norfolk, Va. Refrigerator-box	265,415	Oct. 3	219	66	22	1175
Hohl, Heinrich, Emmishofen, Switzerland. Apparatus for drawing liquor from kegs	262,773	Aug. 15	1184	333	22	550
Hohl, Theodore. (See Walsh, Anthony, assignor.)						
Hoit, Lora B., Worcester, Mass. Wagon or lifting jack	268,488	Dec. 5	131	39	22	1911
Hoke, Edward S., Chambersburg, Pa. Bill and letter file	269,671	Dec. 26	1597	458	22	2204
Hoke, Fontain P., Sullivan, Ill. Plow	262,413	Aug. 8	738	207	22	466
Holbrook, Albert G., Livermore, Ky. Horse-power	269,057	Dec. 12	805	{238 239}	22	2044
Holbrook, Elliot, *et al.* (See Shute, Samuel E., assignor.)						
Holcomb, Abel P., and A. Heine, Silver Creek, N. Y. Centrifugal flour-bolt	267,529	Nov. 14	730	210	22	1674
Holcombe, Alfred G., Danielsonville, Conn., assignor to D. K. Colborn, trustee, New York, N. Y. Electric-arc lamp	269,417	Dec. 19	1269	369	22	2135
Holcombe, Clifford A. (See Holcombe, William H. and C. A.)						
Holcombe, William H. and C. A., Beloit, Wis. Machine for transmitting rotary motion	265,960	Oct. 3	40	13	22	1143
Holcombe, William H. and C. A., Beloit, Wis. Pump-cylinder	269,523	Dec. 26	1410	407	22	2167
Holden, John G. P., *et al.* (See Le Count, Thomas J., assignor.)						
Holden, Joel M., Boston, Mass. Stock-car	267,530	Nov. 14	731	210	22	1674
Holder, Henry S., Macon, Ga. Water-wheel	265,416	Oct. 3	220	66	22	1175
Holekamp, Julius, Comfort, Tex. Bag-holder	261,458	July 18	1385	387	22	244
Holem, Jonathan N., Plymouth, Ind. Churn	269,207	Dec. 19	996	291	22	2084
Holland, Anderson D., Jacksonport, Ark. Spring-washer for nut-locks	260,684	July 4	438	118	22	74
Holland, Anderson D., Newport, Ark. Nut-lock	266,476	Oct. 24	1598	435	22	1418
Holland, John, Cincinnati, Ohio. Pen	269,290	Dec. 19	1101	321	22	2103
Holland, Timothy, Troy, N. Y. Lubricator	262,774	Aug. 15	1186	333	22	550
Holland, Timothy, Troy, N. Y. Oil-cup	262,775	Aug. 15	1188	{333 334}	22	551

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Hollenbeck, Westley, *et al.* (See Gray, Josiah, assignor.)						
Hollett, Ira W., assignor of one-half to W. H. Altman, Chicago, Ill. Metal-seamed paper sack	261,851	Aug. 1	33	10	22	341
Hollingsworth, Amos B., Wilna, Md. Device for detaching stock	266,291	Oct. 24	1309	370	22	1378
Hollingsworth, Jehu, New York, N. Y. Mill for reducing grain, &c	267,347	Nov. 14	493	142	22	1633
Hollister, James D., Savannah, Ga., assignor of one-half to Hooks Smelting Company, Philadelphia, Pa. Combined seal and alarm for car-doors	263,658	Aug. 29	2306	659	22	763
Holloman, Harvey A. (See Blackley, Nicholson, and Holloman.)						
Holloman, Harvey A., Kingston, Tex. Station-indicator	269,672	Dec. 26	1598	458	22	2204
Holloway, Charles T., Baltimore, Md. Fire-extinguisher	263,043	Aug. 22	1524	429	22	621
Holloway, Richard G. (See Pangle and Holloway.)						
Holly, Birdsill, Lockport, N. Y. Tunnel for undergrounds street-mains	262,670	Aug. 15	1054	{295 296}	22	528
Holly, Solomon T., Rockford, Ill. Mowing-machine	264,291	Sept. 12	741	{306 307}	22	912
Holman, Andrew M. (See Witt, Daniel, assignor.)						
Holmes, Booth & Haydens. (See Hayden, Hiram W., assignor.)						
Holmes, Charles. (See Maver, John C., assignor.)						
Holmes, Daniel M. (See Fowler, Rockwell, and Holmes.)						
Holmes, Joseph E., Washington, D. C. Grinding-mill	264,697	Sept. 19	1191	337	22	1005
Holmes, Marshall H., assignor to himself and J. R. Steiner, St. Paul, Minn. Life-preserving mattress	261,713	July 25	1707	480	22	304
Holmes, S. Lewis, Hillsborough, Ohio. Car-coupling	267,531	Nov. 14	732	210	22	1675
Holmes, Thomas J. (See Stearns and Holmes.)						
Holsing, William F., Uniontown, Pa. Exhaust-steam condenser for steam-pumps	268,100	Nov. 28	1421	397	22	1814
Holston, David F., Defiance, Ohio. Machine for cutting wooden hoops	263,044	Aug. 22	1525	{429 430}	22	622
Holt, Henry A., Wilton, N. H. Cutter-carrier for wood-working machines	265,604	Oct. 10	462	{127 128}	22	1220
Holt, Noah W., Buffalo, N. Y. Roller-mill	263,906	Sept. 5	291	84	22	824
Holt, Noah W., Buffalo, N. Y. Roller-mill	260,979	July 11	802	221	22	140
Holt, Noah W., assignor to R. K. Noye, Buffalo, N. Y. Roller-mill	265,081	Sept. 26	1662	{464 465}	22	1092
Holt, Noah W., assignor to R. K. and E. H. Noye, Buffalo, N. Y. Feed mechanism for roller-mills	266,152	Oct. 17	1132	319	22	1341
Holt, Noah W., assignor of one-third to R. K. Noye, Buffalo, N. Y. Roller-mill						
Holt, William. (See Matthews and Holt.)						
Holton, Samuel M., Battle Creek, Mich. Label and ticket receptacle	269,418	Dec. 19	1271	369	22	2135
Holtzman, John W. (See Lawrie, John, assignor.)						
Holyoke Machine Company. (See McCormick, John B., assignor.)						
Holz, Bernard. (See Streicher, Hoehl, and Holz.)						
Holzer, William, Menlo Park, N. J., assignor, by mesne assignments, to Edison Electric Light Company, New York, N. Y. Electric lamp	264,698	Sept. 19	1192	337	22	1005
Home Telephone Company. (See Freeman, James P., assignor.)						
Hood, Freeman W., Norwich, Conn. Revolving fire-arm. (Reissue)	10,257	Dec. 5	452	132	22	1973
Hood, Freeman W., Norwich, Conn. Revolving fire-arm	268,489	Dec. 5	131	39	22	1911
Hood, John, and S. H. Reynolds, Boston, Mass. Bush-hammer	267,788	Nov. 21	1045	292	22	1740
Hood, Joseph R., Philadelphia, Pa. Hoe, rake, &c	265,605	Oct. 10	464	128	22	1220
Hood, Joseph R., Philadelphia, Pa. Hoe, rake, and other agricultural implements	266,368	Oct. 24	1413	401	22	1397
Hood, Joseph S., Stahlstown, Pa. Lifting-jack and spike-puller	263,783	Sept. 5	142	43	22	798
Hook, Daniel M., Columbia, S. C. Water-wheel	269,208	Dec. 19	997	291	22	2084
Hooke, Clara E., *et al.*, executors. (See Carr, William S.)						
Hooker, Frank A. (See Belcher and Hooker.)						
Hooker, Frank A., and F. S. Belcher, Charlotte, Mich. Fruit-evaporator	262,045	Aug. 1	267	77	22	381
Hooker, William D., Oakland, Cal. Steam-actuated valve	262,227	Aug. 8	515	144	22	428
Hooker, William D., Oakland, Cal. Pumping-engine	262,228	Aug. 8	516	{144 145}	22	428
Hooker, William D., St. Louis, Mo. Pump	265,261	Oct. 3	40	13	22	1143
Hooks Smelting Company. (See Hollister, James D., assignor.)						
Hoole Manufacturing and Baggage Check Company. (See Jones, Ellis T., assignor.)						
Hooper, Henry. (See Deegan, Mathew F., assignor.)						
Hooper, Richard H., Lexington, Ky. Door or window screen	268,101	Nov. 28	1421	397	22	1814
Hooper, William. (See Wells, Edgar J., assignor.)						
Hoopes Artificial Stone, Cement and Paint Company. (See Hoopes, William H., assignor.)						
Hoopes, William H., assignor to Hoopes Artificial Stone, Cement and Paint Company, Baltimore, Md. Manufacture of tombstones, &c., from plastic material	267,206	Nov. 7	308	90	22	1595
Hoosier Drill Company. (See Halteman, Jacob L., assignor.)						
Hoosier Drill Company. (See Westcott and Conner, assignors.)						
Hooton, Marsena M., Centralia, Ill. Wire-twister for grain-binders	266,153	Oct. 17	1131	320	22	1341
Hooven, Owens & Rentachler Company. (See Helvey, George H., assignor.)						
Hoover, Abel, *et al.* (See Aldrich, Wales, assignor.)						
Hoover, Abel, *et al.* (See Scott, George W., assignor.)						
Hoover, James, Gratis, Ohio. Lock-strike	265,417	Oct. 3	221	66	22	1175
Hope, John V., Wednesbury, county of Stafford, England. Elevator	261,714	July 25	1708	480	22	304
Hopedale Machine Company. (See Walmsley, James, assignor.)						
Hopkin, George E., Philadelphia, Pa. Stove	261,609	July 25	1581	443	22	284
Hopkins, Clarence, Milford, Del. Fruit-drier	261,715	July 25	1709	{480 481}	22	305
Hopkins, George, Glen Allen, Va. Rotary steam-engine	265,082	Sept. 26	1664	465	22	1093
Hopkins, William, Dubuque, Iowa. Steam-pump	268,676	Dec. 5	332	96	22	1950
Hopp, Charles H., Chicago, Ill. Bobbin-winder for sewing-machines	268,896	Dec. 12	605	178	22	2007
Hopper, Thomas P., Sherman, Tex. Cotton-seed planter	266,154	Oct. 17	1134	320	22	1341
Horsck, Charles L., Brooklyn, N. Y. Automatic fire-extinguisher	262,776	Aug. 15	1189	334	22	551
Horsck, Charles L., Brooklyn, N. Y. Automatic fire-extinguisher	262,777	Aug. 15	1191	334	22	551
Horn, Jacob A. (See Zeigler, Lyman H., assignor.)						
Horn, John J., *et al.* (See Dickinson, Emanuel, assignor.)						
Horn, Sidney H., St. Louis, Mo. Earth-auger	261,154	July 18	1027	289	22	187
Horn, William H., *et al.* (See Dickinson, Emanuel, assignor.)						
Horne, William L., assignor of four-tenths to P. J. Clark, Meriden, Conn. Stop-cock injector for water-closets, &c	261,155	July 18	1028	290	22	187
Horner, William H., and F. Hyde, Baltimore, Md. Bag for holding phosphates, &c	263,907	Sept. 5	292	84	22	825
Horning, Robert A., Brookville, assignor of one-half to G. D. and J. L. Reynolds, Lanark, Ill. Land-roller	266,155	Oct. 17	1136	320	22	1341
Horowitz, Adolph, assignor of one-half to L. Benjamin, Cincinnati, Ohio. Pantaloons-supporter	260,754	July 11	529	143	22	95
Horsey, Andrew J., Laurel, Del. Crate	265,083	Sept. 26	1665	465	22	1098

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Horsnell, Augustus H., and W. Murphy, Montreal, Quebec, Canada. Water-filtering device.	266,693	Oct. 31	1790	516	22	1472
Horth, Edward. (See England and Horth.)						
Horton, Erastus J. (See Blakeslee, Charles D., assignor.)						
Horton, Ervin R. (See Blair and Horton.)						
Horton, Jacob C., assignor to J. M. Deuel and G. W. Olney, New York, N. Y. Liquid-elevating apparatus	261,716	July 25	1711	481	22	305
Horton, Jacob C., assignor of one-half to S. P. Gilbert, F. W. Upham, and S. R. Kendall, New York, N. Y. Fire-escape	264,234	Sept. 19	1352	382	22	1032
Horton, James A., Boston, Mass. Friction-movement	260,394	July 4	63	18	22	12
Horton, James A., New Castle, Pa. Lid for stoves	263,703	Sept. 5	37	11	22	781
Horton, James A., New Castle, Pa. Safety expanding stove-barrel	264,161	Sept. 12	602	166	22	888
Horton, James J., Attleborough, Mass. Ornamental chain	268,102	Nov. 28	1422	397	22	1815
Horton, Seymour, New York, N. Y. Milk-can lock	267,532	Nov. 14	732	211	22	1675
Horton, William N., San Francisco, Cal. Pile for use with protecting and preserving material	263,784	Sept. 5	142	43	22	798
Hortop, Henry, Rutherford, Cal. Two-wheeled vehicle	260,980	July 11	802	222	22	140
Hosford, Charles L., Haydenville, Mass. Suspender-buckle	262,672	Aug. 15	1056	296	22	529
Hoskins, John, Chicago, Ill. Hydrocarbon-gas burner for blast-furnaces and other purposes	267,431	Nov. 14	606	173	22	1652
Hotchkiss, Benjamin B., New York, N. Y. Shell	266,694	Oct. 31	1791	517	22	1472
Hotchkiss, James F., Plainfield, N. J. Toy money-box	269,673	Dec. 26	1599	458	22	2204
Hotchkiss, Timothy D., Higganum, Conn. Cutting-pliers	260,395	July 4	65	18	22	12
Houchin, Thomas W., Morrisania, N. Y. Insect-powder gun	263,337	Aug. 29	1923	550	22	606
Houck, Austin S. and E., and A. M. Greenlee, Bedford, Iowa. Check-row planter	264,699	Sept. 19	1193	337, 338	22	1005
Houck, Edwin. (See Houck and Greenlee.)						
Houghton, Moses H., New Haven, Conn. Toe-weight	263,704	Sept. 5	37	12	22	781
Houpt, John, Springtown, Pa. Feed-pump for steam-boilers. (Reissue)	10,177	Aug. 8	896	254	22	495
Houpt, Samuel D., *et al.* (See Niccum, Henry T., assignor.)						
House, James A. (See Dimond and House.)						
House, James A., Bridgeport, Conn. Machine for cutting the edges of corsets, &c.	260,869	July 11	664	181	22	117
House, James A., Bridgeport, Conn. Apparatus for forming and shaping corsets. (Reissue)	10,173	Aug. 1	478	133, 134	22	415
House, James A., Bridgeport, Conn. Apparatus for shaping corsets	264,292	Sept. 12	745	207	22	912
House, James A., Bridgeport, Conn. Apparatus for forming and shaping corsets	265,963	Oct. 17	902	256	22	1302
House, James A., Bridgeport, Conn., assignor to Warner Brothers, Bridgeport, Conn., and New York, N. Y. Art of and machine for manufacturing stiffening ribs and blades	261,717	July 25	1712	481, 482	22	305
House, Joseph L., Hutchinson, Minn. Ditching-plow	262,239	Aug. 8	518	145	22	429
House, Lemuel S., and A. Brabets, Chicago, Ill. Combined sofa and folding bed	263,179	Aug. 22	1679	476	22	651
Householder, John M., Winfield, Kans. Coop for fowls	264,293	Sept. 12	745	207	22	912
Houston, Horace M., Woodville, Tenn. Combination walking-cane and picnic-chair	268,897	Dec. 12	605	178	22	2008
Houston, Levi, Montgomery, Pa. Mortising-machine	266,156	Oct. 17	1136	321	22	1341
Houston, Thomas, assignor of one-half to H. H. and J. H. Crocker, Bangor, Me. Vessel for liquids	267,892	Nov. 21	1166	327	22	1763
Houston, William J., San Francisco, Cal. Soap tablet	261,156	July 18	1029	290	22	187
Hovey, A. N. (See Howell, Jacob, assignor.)						
Hovis, Charles W., assignor of one-half to L. A. Hovis, Clintonville, Pa. Adjustable pitch-board for squares	260,755	July 11	529	143	22	95
Hovis, Lester A. (See Hovis, Charles W., assignor.)						
How, George C., Haverhill, Mass. Button-boot	262,594	Aug. 15	902	270	22	511
How, James, assignor of one-half to B. F. Sherman, Buffalo, N. Y. Car-brake	263,045	Aug. 22	1526	430	22	622
Howard, Arthur L., New Haven, Conn. Cartridge-loading implement	260,981	July 11	804	222	22	140
Howard, Charles A., Pontiac, Mich. Bolster-spring for vehicles	261,349	July 18	1259	349	22	223
Howard, Charles T., Brockton, Mass. Oil-stone holder	262,414	Aug. 8	739	208	22	466
Howard, Charles T., Providence, R. I. Cut-out for telegraph-instruments	262,949	Aug. 22	1404	397	22	601
Howard, George H., Washington, D. C. Doll	268,020	Nov. 28	1325	372	22	1797
Howard, Harlan S., Charles City, Iowa. Harrow	263,520	Aug. 29	2142	614	22	735
Howard, Harlan S., Charles City, Iowa. Harrow-tooth	265,024	Sept. 26	1666	465	22	1093
Howard, James, and H. Baines, Toronto, Ontario, Canada. Stock-car	268,677	Dec. 5	333	90, 97	22	1951
Howard, John R., Somerville, Mass. Car-coupling	267,082	Nov. 7	152	43	22	1567
Howard, William A., Dixon, assignor of one-half to W. M. Bernard, Elliott, Cal. Evener-hinge for harrows	268,898	Dec. 12	606	179	22	2008
Howard, William C., Brooklyn, N. Y. Button	268,021	Nov. 28	1326	372	22	1797
Howard, William C., Grahamville, S. C. Rice-hulling machine	269,674	Dec. 26	1600	459	22	2204
Howard, William H. (See Varney and Howard.)						
Howarth, Carrie C. (See McKinley, Frederick E., assignor.)						
Howatson, Andrew, Paris, France, assignor to J. W. Tucker. Furnace-door	262,595	Aug. 15	902	271	22	511
Howe, Benjamin J. C., Syracuse, assignor to Remington Agricultural Company, Ilion, N. Y. Fire-engine	262,195	Aug. 1	471	132	22	414
Howe, Benjamin J. C., Syracuse, assignor to Remington Agricultural Company, Ilion, N. Y. Fire-engine	262,196	Aug. 1	474	132, 133	22	414
Howe, Charles A., Philadelphia, Pa. Archery-bow	261,610	July 25	1582	444	22	284
Howe, Esther W., administratrix. (See Howe, James A.)						
Howe, Isaac P. (See Wilcox, Darius, assignor.)						
Howe, J. E., *et al.* (See Howe, Solon G., assignor.)						
Howe, James A., deceased, (E. W. Howe, administratrix,) Ayer, Mass. Swivel-plow	266,627	Oct. 31	1704	492	22	1457
Howe, John. (See Cockfield and Howe.)						
Howe, Oscar F. (See Keene, George A., assignor.)						
Howe, Samuel, Oakland, Cal. Street-car	264,948	Sept. 26	1510	425	22	1065
Howe Scale Company. (See Reynolds, William W., assignor.)						
Howe, Solon G., Detroit, Mich., assignor to himself, J. E. Howe, and W. Langley. Door and drawer plate	269,058	Dec. 12	806	239	22	2044
Howe, Thomas B. (See Lee, Arthur H., assignor.)						
Howe, Thomas B., Scranton, Pa. Car-wheel	265,262	Oct. 3	41	13	22	1143
Howe, Thomas B., Scranton, Pa. Journal-lubricator	269,524	Dec. 26	1411	408	22	2167
Howe, Timothy, Foxborough, Mass. Fire-escape ladder	265,263	Oct. 3	42	13	22	1143
Howe, Zadok, Lowell, and E. Oatley, Greenville, Mich. Cultivator	268,204	Nov. 28	1587	440	22	1845
Howell, Carson M., and C. W. Burdick, Lansing, Mich. Rein-holder	263,908	Sept. 5	293	85	22	825
Howell, David V., Monroe, N. Y. Window-cleaning chair	268,899	Dec. 12	607	179	22	2008
Howell, Frederick W., Buffalo, N. Y. Grain-separator	266,258	Oct. 17	1261	357	22	1362
Howell, Jacob, assignor of one-half to A. N. Hovey, Jackson, Mich. Two-wheeled vehicle.	262,897	Aug. 15	1338	378, 379	22	579
Howell, Lewis O., Jr., Philadelphia, Pa. Implement for cleaning water-closet bowls	265,319	Oct. 3	112	33	22	1155
Howell, Lewis O., Jr., Philadelphia, Pa. Implement for cleaning the bowls of water-closets.	265,320	Oct. 3	113	34	22	1155

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Howell, William G., assignor to W. Gerhard, Philadelphia, Pa. Horseshoe	265,418	Oct. 3	222	67	22	1175
Howells, John R. (See Snyder, Howells, and Bittenbender.)						
Howells, John R., Plymouth, Pa. Support for rock-drills	262,673	Aug. 15	1057	296, 297	22	529
Howenstine, John, Chattanooga, Tenn. Making boxes and baskets	265,419	Oct. 3	223	67	22	1176
Howes, Babcock & Ewell. (See Martin, Joseph B., assignor.)						
Howl, Edmund. (See Ward and Howl.)						
Howser, George W., Chicago, Ill. Electric call	260,982	July 11	804	222, 223	22	140
Hoxie, Elias, Red Creek, N. Y. Thill-coupling	267,533	Nov. 14	733	211	22	1675
Hoy, Philip, Bloom Centre, Ohio. Fire-wood drag-saw	269,209	Dec. 19	998	292	22	2085
Hoyt, Augustus F. (See Johnson, Joseph W., assignor.)						
Hoyt, Lewis S., Stamford, Conn., assignor to himself and J. M. Culver, North Abington, Mass. Air-pump	262,674	Aug. 15	1058	297	22	529
Hubbard, Bakewell & Co. (See Jope, William P. T., assignor.)						
Hubbard, David B., Williamsport, Pa. Hydrocarbon-furnace	260,983	July 11	808	223	22	141
Hubbard, Edward R., assignor to F. C. Wells, Chicago, Ill. Steam pumping-engine	263,785	Sept. 5	143	43, 44	22	798
Hubbard, Moses G., Norristown, Pa. Tension device for grain-binders	268,235	Nov. 28	1588	440	22	1845
Hubbard, Nathan B. (See Gray, John, assignor.)						
Hubbard, Richard W. and W., Ashtabula, Ohio. Journal-bearing	268,236	Nov. 28	1589	441	22	1845
Hubbard, William. (See Hubbard, Richard W. and W.)						
Hubbell, Thomas J., Redwood City, Cal. Harrow	268,490	Dec. 5	132	40	22	1912
Hubbell, Thomas J., Redwood City, Cal. Sieve or screen for grain-separators	268,491	Dec. 5	133	40	22	1912
Hubel, Frederick A. (See Taylor, Harrison H., assignor.)						
Hubel, Frederick A., and H. H. Taylor, Detroit, Mich., assignors to said Hubel. Capsule-machine	268,103	Nov. 28	1423	397	22	1815
Huber, Berthold, Taunton, Mass. Delivery apparatus for printing-machines	262,778	Aug. 15	1193	334, 335	22	532
Huber, Henry. (See Boyle, James E., assignor.)						
Hubert, Philip G., New York, N. Y. Fire-proof building	262,415	Aug. 8	739	208	22	467
Hudson, Benjamin F. (See Henson, Hudson, and Smith.)						
Hudson, Charles E., Leominster, Mass. Apple parer, corer, and slicer	260,756	July 11	530	143	22	95
Hudson, Charles H., Hinsdale, Ill., and E. Smedley, Dubuque, Iowa. Valve for steam pumping-engines	263,338	Aug. 29	1925	551	22	696
Hudson, John W., Wellington, Ill. Wood-shaping machine	263,405	Dec. 5	39	12, 13	22	1894
Hudson, Samuel W., Hudsondale, Pa. Railway-track	264,162	Sept. 12	602	166	22	888
Hudson, William C., Yellville, Ark. Cotton-seed planter	263,521	Aug. 29	2142	614	22	735
Hudson, Young P., Gatewood, Mo. Car-coupling	267,789	Nov. 21	1046	292	22	1740
Huestis, Harvey, assignor to Hutchison & Huestis, Providence, R. I. Setting for jewels	261,350	July 18	1260	350	22	223
Huetter, Nicholas, Kenosha, Wis. Fire and burglar proof safe	268,406	Dec. 5	41	13	22	1894
Huewe, Theodor H. (See Bollman, John B., assignor.)						
Huewe, Theodor H., assignor of one-half to J. B. Bollman, Dayton, Ohio. Apparatus for placing torpedoes upon tracks	262,950	Aug. 22	1405	397, 398	22	601
Huewe, Theodor H., assignor of one-half to J. B. Bollman, Dayton, Ohio. Paper vessel	262,951	Aug. 22	1407	398	22	601
Huff, Sylvester, Wabash, Ind. Car-coupling	260,984	July 11	809	224	22	141
Huffman, A. Ogden, and F. A. Brooks, Dayton, Ohio. Burglar-proof grave-vault	267,348	Nov. 14	496	142	22	1634
Hughes, Andrew S., Eldora, Iowa. Ditching and tile-laying machine	265,085	Sept. 26	1666	466	22	1093
Hughes, Charles, New York, N. Y. Hair-restorative	260,570	July 4	283		22	48
Hughes, David W., Hamilton, Ohio. Hoe	269,210	Dec. 19	999	292	22	2085
Hughes, F. T. (See Fales, Edward, assignor.)						
Hughes, Jacob. (See Lippy and Hughes.)						
Hughes, John, Mansfield, Ohio. Thrashing-machine	264,294	Sept. 12	746	207, 208	22	913
Hughes, Joseph C., Keokuk, Iowa. Surgical tourniquet	268,407	Dec. 5	42	13	22	1894
Hughes, William H., Philadelphia, Pa. Drying-floor for malt-kilns	264,700	Sept. 19	1194	338	22	1005
Hughes, William S., Long Island City, N. Y. Steam piston-valve	260,985	July 11	810	224	22	141
Hugill, James, Woodbridge, Cal. Napkin-holder	264,879	Sept. 26	1421	401	22	1050
Hugill, Jonathan, and A. G. Smyth, Hamilton, Ontario, Canada. Metal fence-post	261,230	July 18	1119	312	22	200
Hugron, Louis, assignor of two-thirds to E. B. Cook and M. Bowles, Buffalo, N. Y. Metallic rod-packing	268,678	Dec. 5	335	97	22	1951
Huguenin, Williams E., Locle, Switzerland. Chronograph	263,411	Aug. 29	2023	578	22	713
Hulbert, William A. (See Moore, Daniel, assignor.)						
Hulett, William H., Jr. (See Whitaker, William W., assignor.)						
Hulin, Benjamin I., Cambridge, Ill. End-gate for wagons	263,522	Aug. 29	2144	614	22	735
Hull, David C., Westfield, Mass. Whip	261,550	July 25	1511	424	22	272
Hull, David H., Syracuse, and J. S. Ogden, Binghamton, N. Y. Machine for cleansing, coloring, and flavoring cigars	268,795	Dec. 12	482	142	22	1985
Hull, John S., Baltimore, Md. Can-soldering machine	268,022	Nov. 28	1327	372, 373	22	1797
Hull, John S., Baltimore, Md. Cut-off mechanism for vapor heating apparatus	269,576	Dec. 26	1481	427	22	2181
Hull, John S., Baltimore, Md. Tinner's fire-pot	269,577	Dec. 26	1482	428	22	2182
Hull, Maurice C., West Orange, N. J. Heating stove or furnace	263,705	Sept. 5	38	12	22	781
Hull, Nicholas A., Peru, Ind. Double-acting lock-support for table-leaves	260,986	July 11	811	224	22	142
Hume, Robert D., San Francisco, Cal. Truck	264,949	Sept. 26	1512	426	22	1066
Hume, Robert D., San Francisco, Cal. Dredging apparatus for bars	264,950	Sept. 26	1512	426	22	1066
Humphrey, Adelbert E. (See Humphrey, Rolla L., S., and A. E.)						
Humphrey, Chancey D., *et al.* (See Niccum, Henry T., assignor.)						
Humphrey, Nelson F., Weymouth, Mass. Broiler	263,339	Aug. 29	1926	551	22	696
Humphrey, Rolla L., S., and A. E., Portageville, N. Y. Fruit-crate	263,909	Sept. 5	293	85	22	825
Humphrey, Stephen. (See Humphrey, Rolla L., S., and A. E.)						
Humphreys, David. (See Goodridge, John M., assignor.)						
Humphreys, David, Norfolk, Va. Separable button. (Reissue)	10,237	Oct. 31	2122	610	22	1533
Humphreys, Eugene W., Salisbury, Md. Fruit-basket	267,207	Nov. 7	308	90	22	1595
Hunger, Friedrich, assignor of one-half to S. Schmuck, Cleveland, Ohio. Foot-rest for rocking-chairs	261,718	July 25	1714	482	22	306
Hungerford, George S. (See Hungerford, George W. and G. S.)						
Hungerford, George W. and G. S., New York, N. Y. Machine for renovating coffee, &c.	263,521	Aug. 29	2145	615	22	735
Hungerford, Isaiah W. (See Wilson, Francis M., assignor.)						
Hunsberger, Abram C., Portland, Pa. Tube cutter or expander	265,086	Sept. 26	1667	466	22	1093
Hunt, Andrew J., Albany, Oreg. Hand-lever fruit-press	260,571	July 4	283	78	22	48
Hunt, Augustus, assignor to Knickerbocker Ice Company, Philadelphia, Pa. Ice-conveyer	261,231	July 18	1120	312	22	200
Hunt, Edgar O., Melrose, Mass. Vise	260,396	July 4	66	19	22	12
Hunt, George W., Philadelphia, Pa. Device for lighting the steps of cars or carriages	263,706	Sept. 5	39	12	22	782
Hunt, Moses T., Titusville, Pa. Sand-pump reel	264,083	Sept. 12	517	141	22	873

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Hunt, J. Hamilton. (See Smith, George D., assignor.)						
Hunt, Theodore. (See Bishop, Richard T., assignor.)						
Hunt, William L., Port Hope, Ontario, Canada. Telegraph for railways	268,796	Dec. 12	483	142	22	1985
Hunter, Charles O. (See Vetter, Charles F., assignor.)						
Hunter, Joseph H., Adair, Ill. Water-elevator	269,675	Dec. 26	1601	459	22	2205
Hunter, Rudolph M., *et al.* (See Masterson, Levi J., assignor.)						
Hunter, Rudolph M., Philadelphia, Pa. Hydrant	260,397	July 4	67	19	22	13
Hunter, Rudolph M., Philadelphia, Pa. Valve-gear	267,534	Nov. 14	734	211	22	1675
Hunter, William H. H., Cincinnati, Ohio. Dental plugger	268,900	Dec. 12	698	179	22	2008
Huntington, Frank A., San Francisco, Cal. Stamp-mill	267,432	Nov. 14	607	174	22	1652
Huntington, George F., assignor of one-half to G. G. Lennig, Philadelphia, Pa. Sand-box for street-cars	260,572	July 4	284	78	22	49
Huntley, Rollin D., assignor of one-half to J. T. Bennett, Havana, N. Y. Match-safe	264,538	Sept. 19	1018	288	22	971
Hunton, Charles E., Waltham, Mass. Friction mechanism for the warp-beams of slashers	262,596	Aug. 15	964	271	22	512
Hunzinger, George, New York, N. Y. Spring rocking-chair	264,880	Sept. 26	1422	401	22	1050
Huot, Peter. (See Duparquet and Huot.)						
Huot, Pierre. (See Duparquet and Huot.)						
Hüpfel, John C. G., New York, N. Y. Bottling beer under pressure	267,349	Nov. 14	496	142	22	1634
Hupp, Thomas J., *et al.* (See Wiser, David, assignor.)						
Hurd, Charles T., Peoria, Ill. Meat-broiler	267,535	Nov. 14	735	211	22	1675
Hurd, Judson B., Sour Lake, Tex. Revolving plow	266,824	Oct. 31	1932	559	22	1499
Hurd, Stephen P. (See Sibert and Hurd.)						
Hurlbut, Daniel N., Chicago, Ill. Electric-lamp fixture	261,157	July 18	1030	290	22	187
Hurlbut, Daniel N., Chicago, Ill. Electric lamp	265,810	Oct. 10	721	201	22	1263
Hurlbut, Lewis E., Fort Dodge, Iowa. Piano-truck	268,679	Dec. 5	336	97	22	1951
Hurlbut, Seth E., Chicago, Ill. Tray for drinking goblets and glasses	264,163	Sept. 12	603	166	22	888
Hurlbut, Sidney S., Racine, Wis. Wagon-brake lock	260,573	July 4	285	79	22	49
Hurlbutt, Albert G., Troy, assignor to himself, G. A. Whittemore, Keene, and H. W. Farrar, Troy, N. H. Absorbent compound for the manufacture of torches, fire-kindlers, &c.	266,477	Oct. 24	1529	.....	22	1418
Hurley, William P., *et al.* (See McDonald, Dominick A., assignor.)						
Hurst, John D., Salem, Oreg. Middlings-purifier	265,087	Sept. 26	1668	466	22	1093
Hurst, Samuel, St. Louis, Mo. Car-ventilator	263,786	Sept. 5	145	44	22	799
Hurt, John, and A. M. Strathern, Glasgow, Scotland, assignors to said Hurt. Feeding apparatus for grain-mills, &c	266,157	Oct. 17	1137	321	22	1341
Huse, James L., *et al.* (See Porter, John A., assignor.)						
Huse, Washington, Boston, Mass. Pillow	260,870	July 11	665	181	22	117
Huse, William L., *et al.* (See Porter, John A., assignor.)						
Husemann, Gottlieb D., and E. A. Said, St. Louis, Mo. Pulley	269,419	Dec. 19	1272	369	22	2135
Huson, Charles M., St. Louis, Mo. Cable tramway	269,525	Dec. 26	1412	408	22	2167
Huson, Joseph, assignor of one-half to W. F. Shrum, Rochester, Ky. Car-truck	268,680	Dec. 5	337	97	22	1951
Huss, Adolph, *et al.* (See Huss, William C., assignor.)						
Huss, Adolph, Cincinnati, Ohio. Beer-cooler	269,420	Dec. 19	1272	370	22	2136
Huss, Charles W., *et al.* (See Huss, William C., assignor.)						
Huss, William C., assignor of three-fourths to A. and C. W. Huss and C. J. Steinau, Cincinnati, Ohio. Hat-rack	268,023	Nov. 28	1329	373	22	1798
Hussey, Charles A., assignor to Hussey Electric Company, New York, N. Y. Electric-arc lamp	267,691	Nov. 21	932	264	22	1720
Hussey Electric Company. (See Hussey, Charles A., assignor.)						
Hustead, Ves P., *et al.* (See Hazelrigg, John W., assignor.)						
Huston, Harvey E., Monticello, Ill. Mechanical telephone	267,208	Nov. 7	309	91	22	1595
Huston Ship's Berth Company. (See Wilson Charles W., assignor.)						
Huston, Thomas, Kokomo, Ind. Fence	265,088	Sept. 26	1670	467	22	1093
Hutchins, Charles W. (See Heald, John, assignor.)						
Hutchins, George W., assignor to J. W. Foss, Dover, N. H. Clothes-drier	262,779	Aug. 15	1196	335	22	552
Hutchins, John R., Okolona, Miss. Churn-power	262,046	Aug. 1	269	77, 78	22	382
Hutchins, Joseph, Middlebury, Ind. Vehicle-spring	265,812	Oct. 10	723	202	22	1263
Hutchinson Edge Setter Company. (See Gooding and Taylor, assignors.)						
Hutchinson, John L. (See Arnold, Llewellyn W., assignor.)						
Hutchinson, William F. (See Paine, Hollis C., assignor.)						
Hutchison, David, *et al.* (See Roberts, Thomas B., assignor.)						
Hutchison & Huestis. (See Huestis, Harvey, assignor.)						
Hutchison, James, Newark, N. J. Inking apparatus for block-printing	262,416	Aug. 8	740	208	22	467
Huth, George, Delta, Ohio. Machine for making eaves-troughs	260,481	July 4	168	47	22	29
Huth, George, Delta, Ohio. Eaves-trough	263,046	Aug. 22	1526	430	22	622
Huth, George, Delta, Ohio. Roofing	265,811	Oct. 10	722	201	22	1263
Hutson, Joshua B., Richmond, Va. Locking-latch	269,421	Dec. 19	1273	370	22	2136
Hutton, George H., Baltimore, Md. Jump-seat	263,910	Sept. 5	294	85	22	825
Hutton, George H., Baltimore, Md. Shifting seat	267,893	Nov. 21	1167	328	22	1763
Huxtable, George L., Laurel, Ind., assignor of one-half to Simpson & Gault, Cincinnati, Ohio. Making pulp	269,291	Dec. 19	1102	321	22	2103
Hyatt, John W., Newark, N. J., assignor to Celluloid Manufacturing Company, New York, N. Y. Accumulator for hydraulic presses	265,229	Sept. 26	1855	522	22	1127
Hyde, Edward L., Centreville, R. I. Chart	266,628	Oct. 31	1705	492	22	1457
Hyde, Elwin R. (See Bryant, Orrin, assignor.)						
Hyde, Francis. (See Horner and Hyde.)						
Hyde, Henry D., *et al.* (See Milliken, George F., assignor.)						
Hyde, J. Burrows. (See Waring and Hyde.)						
Hyde, James B., assignor of one-half to A. S. Ward, St. Louis, Mo. Boiler-feeder	267,536	Nov. 14	735	212	22	1675
Hyde, James F. (See Potchalt, Bernard, assignor.)						
Hyde, James P., New York, N. Y. Basin-clamp	260,871	July 11	666	181	22	117
Hyde, James P., New York, N. Y. Urinal	262,295	Aug. 8	592	167	22	442
Hyde, Leslie R., Montague, Tex. Rein-holder	261,719	July 25	1714	482	22	306
Hyde, Stephen H., Alpine, N. J. Combined jack and weighing scale	268,797	Dec. 12	484	142	22	1986
Hydraulic Elevator Company. (See Baldwin, Cyrus W., assignor.) (Reissue.)						
Hydraulic Press Brick Company. (See Graves, Willis N., assignor.)						
Hydrodynamic Transmitter Company. (See Baxter, William, assignor.)						
Hyslop, John, Jr., Abington, Mass. Nail	262,780	Aug. 15	1197	335	22	553
Iddings, Frank A., Warren, Ohio. Machine for rolling coupling-pins	265,813	Oct. 10	724	202	22	1263
Ide, George P. (See Boxley, George, assignor.)						
Ide, Samuel, Medina, N. Y. Bolster-spring	261,611	July 25	1583	444	22	284
Iler & Co. (See Kunz, Frederick O., assignor.)						
Illingworth, James O., Austin, Tex. Lamp-chimney attachment	262,104	Nov. 28	1424	398	22	1815
Imbach, Martin G., assignor to R. C. Fellows, New York, N. Y. Brush-boring machine	268,798	Dec. 12	485	143	22	1986
Imler, Joseph, Forest, Ohio. Pump	267,894	Nov. 21	1168	328	22	1763

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Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
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Improved Sole Sewing Machine Company. (See Bean, Frank, assignor.)						
Improved Sole Sewing Machine Company. (See Littlefield, Augustus F., assignor.)						
Indianapolis Patent and Copy Right Company. (See Logan, John B., assignor.)						
Ingalls, Gustavus W., Worcester, Mass. Mechanical musical instrument	263,787	Sept. 5	146	44	22	799
Ingalls, Gustavus W., Worcester, Mass. Mechanical musical instrument	266,036	Oct. 17	989	281	22	1317
Ingalls, Gustavus W., and A. E. Phelps, Worcester, Mass., assignors to said Ingalls. Bellows	263,788	Sept. 5	150	45	22	799
Ingalls, Joshua K., Glenora, N. Y. Illuminating-tile	261,720	July 25	1715	482, 483	22	306
Ingels, Samuel, Hemlock, Ind. Tile-scoop	264,295	Sept. 12	747	208	22	913
Ingersoll, A. M. (See Gunning, John, assignor.)						
Ingersoll Manufacturing Company. (See Ingersoll, Simon, assignor.)						
Ingersoll, Simon, assignor to Ingersoll Manufacturing Company, Stamford, Conn. Steam rock-drill	269,422	Dec. 19	1275	370	22	2136
Ingledue, Harvey R., Carroll, Iowa. Grain-binder	262,781	Aug. 15	1197	335, 336	22	553
Inman, Charles H. (See Jackson and Inman.)						
Inman, Charles J., Eureka, Cal. Lubricant	263,911	Sept. 5	295	.....	22	825
Inslee, William H., Newark, N. J., assignor to J. Kearney and J. D. Foot, New York, N. Y. File-block holder	260,685	July 4	439	119	22	74
Ireland, Joseph, Cleveland, Ohio. Speaking-tube	269,578	Dec. 26	1484	428, 429	22	2182
Irons, Joseph F., Bradford, Pa. Device for burning crude oil in stoves and furnaces	266,478	Oct. 24	1529	435	22	1418
Irvin, Matthew H. (See Alter and Irvin.)						
Irvine, Thomas, Beef Slough, Wis. Boom chain and plug	268,681	Dec. 5	338	98	22	1951
Irving, Joseph, Rochester, N. Y. Carriage-trimming	266,158	Oct. 17	1138	321	22	1342
Irwin, Breckenridge, Decatur, Ill. Post-office-box label	265,420	Oct. 3	225	67	22	1176
Irwin, Charles, assignor of one-fourth to G. G. Pierce, Chicago, Ill. Combined coal-scuttle and ash-sifter	265,230	Sept. 26	1857	522	22	1127
Irwin, James, West Bellevue, Pa. Vapor-burner	263,047	Aug. 22	1527	430	22	622
Irwin, John H., *et al.* (See Betts, Lewis F., assignor.)						
Irwin, John H., trustee. (See Voelker, William L., assignor.)						
Irwin, John H., Morton, Pa. Electromotor	260,574	July 4	286	79	22	49
Irwin, John H., Morton, Pa. Regulator for dynamo-electric machines	260,575	July 4	287	79	22	49
Irwin, John H., Morton, Pa. Incandescent electrical illumination	261,351	July 18	1301	350	22	223
Irwin, John H., Morton, Pa. Electric lantern	261,352	July 18	1302	350	22	223
Irwin, John H., Morton, Pa. Electrical sign	262,417	Aug. 8	741	208	22	467
Irwin, John H., Morton, Pa. Incandescent electric illuminator	262,418	Aug. 8	742	209	22	467
Irwin, John H., Morton, Pa. Visual telegraphy	262,419	Aug. 8	743	209	22	467
Irwin, John H., Morton, Pa. Incandescent electric lamp	262,420	Aug. 8	744	209	22	467
Irwin, John H., Morton, Pa. Dynamo-electric machine	262,421	Aug. 8	745	209	22	468
Irwin, John H., Morton, Pa. Cooling device for electrical generators	262,422	Aug. 8	746	210	22	468
Irwin, John H., Morton, Pa. Safety device for electric lamps	262,423	Aug. 8	747	210	22	468
Irwin, John H., Morton, Pa. Incandescent electric-lamp support	262,424	Aug. 8	748	210	22	469
Irwin, John H., Norton, Pa. Dynamo-electric machine	262,782	Aug. 15	1200	337	22	553
Irwin, John H., Morton, Pa. Ventilator or chimney-cap	265,814	Oct. 10	724	202	22	1264
Irwin, Joseph L., *et al.* (See Reeves, Alfred B., assignor.)						
Irwin, Joseph I. (See Reeves, Marshal T., assignor.) (Reissue.)	261,551	July 25	1512	424	22	272
Isbell, Charles W., New York, N. Y. Rotary gas scrubber or washer	261,926	Aug. 1	127	37	22	357
Isham, Frederick A., Plattsburg, N. Y. Buggy-spring	265,264	Oct. 3	43	14	22	1143
Isherwood, Alfred, New Bedford, Mass. Loom-temple	261,232	July 18	1121	312, 313	22	201
Isherwood, Thomas, Westerly, R. I. Weft-stop mechanism for looms						
Iske, Albert. (See Iske, Anthony and A.)						
Iske, Anthony and A., assignors of one-third to R. M. Slaymaker, Lancaster, Pa. Farm-gate	262,425	Aug. 8	750	211	22	469
Iske, Anthony and A., assignors of one-half to R. M. Slaymaker, Lancaster, Pa. Meat-slicing machine	267,083	Nov. 7	153	44	22	1567
Iske, Anthony, and A. Wetter, Lancaster, Pa. Machinery for treating leather with hot air	266,695	Oct. 31	1792	517	22	1473
Ismond, Robert E., New York, N. Y. Car-truck	262,426	Aug. 8	751	211	22	469
Ithaca Manufacturing Works. (See Force, Albert W., assignor.)						
Ives, Blakeslee & Co. (See Ives, Edward R., assignor.)						
Ives, Edward R., assignor to Ives, Blakeslee & Co., Bridgeport, Conn., and New York, N. Y. Mechanical toy	260,967	July 11	811	224	22	142
Ives, Frederic E., Philadelphia, Pa. Producing the oxyhydrogen blow-pipe flame	261,852	Aug. 1	34	10	22	341
Ives, Hobart B., Fair Haven, Conn. Bolt-casing	261,233	July 18	1124	313	22	201
Ives, Joseph S., New York, N. Y. Plate-printing machine	261,927	Aug. 1	128	37, 38	22	357
Jablochkoff, Paul, Paris, France. Dynamo-electric machine	266,993	Nov. 7	45	14	22	1548
Jack, Thomas, Auburn, N. Y. Guard for circular saws	261,928	Aug. 1	131	38	22	358
Jack, William F., *et al.* (See Wallace and Claus, assignors.)						
Jackson, Edwin A., New York, N. Y. Combined trap and overflow	263,180	Aug. 22	1680	476	22	651
Jackson, George H., Natick, and C. H. Inman, Stoneham, Mass. Power pegging-machine	262,952	Aug. 22	1408	398, 399	22	601
Jackson, James, New York, N. Y. Refrigerator	261,552	July 25	1515	424	22	272
Jackson, Johiel, assignor to Northwestern Manufacturing Company, Fort Atkinson, Wis. Jump-seat carriage	265,606	Oct. 10	466	128, 129	22	1221
Jackson, Peter H., San Francisco, Cal. Illuminating basements	263,412	Aug. 29	2025	579	22	713
Jackson, Peter H., San Francisco, Cal. Wind-wheel	264,164	Sept. 12	604	166, 167	22	888
Jackson, Peter H., San Francisco, Cal. Arched girder	265,321	Oct. 3	114	34	22	1155
Jackson, Peter H., San Francisco, Cal. Ventilator	265,322	Oct. 3	115	34, 35	22	1155
Jackson, Peter H., San Francisco, Cal. Smoke-consuming furnace	268,682	Dec. 5	339	98, 99	22	1952
Jackson, Peter H., San Francisco, Cal. Illuminating basements	269,292	Dec. 19	1103	322	22	2103
Jackson, Samuel W., Chicago, Ill. Heating-drum for lamp-stoves	269,423	Dec. 19	1277	370	22	2136
Jackson, Walter M., Providence, R. I. Gas-proof cement	262,427	Aug. 8	752	.....	22	470
Jackson, William A., and W. R. Cole, Detroit, Mich. Telephone system	267,790	Nov. 21	1047	292, 293	22	1740
Jackson, William P. (See Overbey, Hugh L. T., assignor.)						
Jackson, William W., assignor of two-thirds to G. H. Eaton and C. W. Webster, Chicago, Ill. Faucet attachment or cask-stopper	266,629	Oct. 31	1706	492, 493	22	1457
Jackson, William W., assignor of one-fourth to W. B. La Parle, Chicago, Ill. Wrench for bung-bushings	268,408	Dec. 5	42	13	22	1895
Jacky, Pani. (See Bourgeois and Jacky.)						
Jacob, Fredrick, Newark, N. J. Combined cigar perforator and cutter	262,675	Aug. 15	1059	297	22	539

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Jacob, John G. A., New York, N. Y. Street-sweeping machine	267,433	Nov. 14	603	174, 175	22	1652
Jacob, William C., Knoxville, Iowa. Windmill	267,209	Nov. 7	310	91	22	1595
Jacobi, August C., Sand Creek, Wis. Elevator-alarm	268,105	Nov. 28	1424	398	22	1815
Jacobi, William O., Butler, N. J. Paper-machine	260,988	July 11	813	225	22	142
Jacobs, Armand M., Moscow, Russia, assignor to O. Winckler, Bronxville, N. Y. Preparing fabrics for dyeing Turkey red	266,825	Oct. 31	1933	.....	22	1499
Jacobs, Charles P., Indianapolis, Ind. Combined bouquet-holder and badge-pin	268,901	Dec. 12	610	180	22	2008
Jacobs, Irvin M., East Greenville, Pa. Car-coupling	267,210	Nov. 7	310	91	22	1595
Jacobs, Jacob, New York, N. Y. Illuminating-grating	265,000	Sept. 26	1672	467	22	1094
Jacobs, Ernst A., Chicago, Ill. Hatchway-door-operating mechanism	262,783	Aug. 15	1201	337	22	553
Jacobsen, Jacob, New York, N. Y. Upright-piano action	262,047	Aug. 1	269	78	22	382
Jacobson, Louis, Berlin, Germany. Battery-telephone	266,292	Oct. 24	1309	370	22	1378
Jacquemin, Mathias L., Council Bluffs, Iowa. Calendar-clock	268,902	Dec. 12	610	180	22	2008
Jacques, William W., assignor to American Bell Telephone Company, Boston, Mass. Telephone-transmitter	262,784	Aug. 15	1202	337	22	554
Jacques, William W., assignor to American Bell Telephone Company, Boston, Mass. Telephone-exchange system	263,524	Aug. 29	2146	615	22	736
Jacquot, Jules. (See Debarnot and Jacquot.)						
Jadwin, Orlando H., Brooklyn, N. Y. Cable-traction	265,091	Sept. 26	1673	468	22	1094
Jaeger, Gustav L., New York, N. Y. Picture exhibitor and receptacle	267,895	Nov. 21	1169	328	22	1763
Jaeger, Gustav L., New York, N. Y. Packing-box	269,059	Dec. 12	807	239	22	2044
Jaeger, Gustav L., New York, N. Y. Toy block	269,789	Dec. 26	1743	503	22	2231
Jambers, Pierre J. M., assignor to A. Tam, Nevada City, Cal. Leg and foot rest	266,630	Oct. 31	1707	493	22	1457
James, Edward, Tipton, near Birmingham, county of Stafford, and E. Handley, Birmingham, county of Warwick, England. Annealing-furnace	264,296	Sept. 12	748	208, 209	22	913
James, Eli, Pickering, Mo. Uterine supporter	266,994	Nov. 7	46	14	22	1548
James, Enos, Birmingham, county of Warwick, England. Breech-loading fire-arm	267,350	Nov. 14	497	143	22	1634
James, Henry, Hudson, N. Y. Friction-clutch	266,159	Oct. 17	1139	321, 322	22	1342
James, Henry, Memphis, Tenn. Wagon-axle	267,084	Nov. 7	156	44	22	1568
James, Thomas, Braddock, Pa. High and low water alarm for steam-boilers	261,721	July 25	1718	483	22	307
Jameson, John, Newcastle-upon-Tyne, England. Device for cleaning electric-lamp globes	261,234	July 18	1124	313, 314	22	201
Jansen, Friedrich, *et al.* (See Widmer, Charles, assignor.)						
Jansen, Louis, *et al.* (See Widmer, Charles, assignor.)						
January & Wood. (See Jaquith, Gilman, assignor.)						
Jaques, David L., Cleveland, Ohio. Door-hanger	261,553	July 25	1515	424	22	272
Jaques, Luther C., Rock Rapids, Iowa. Shingling-bracket	260,872	July 11	667	182	22	118
Jaquet, Julius, Milwaukee, Wis. Heel-shave holder	261,353	July 18	1263	350	22	224
Jaquith, Gilman, assignor to himself and January & Wood, Maysville, Ky. Spindle for spinning-machines	264,297	Sept. 12	749	209	22	913
Jarboe, Vernon C., Wyandotte, Kans. Hoisting-machine	262,048	Aug. 1	270	78	22	382
Jarecki, Albert H., Erie, Pa. Pump-piston packing	262,953	Aug. 22	1411	399	22	602
Jarecki Manufacturing Company. (See Spaulding, Elijah F., assignor.)						
Jarvis, Edward A., Hamilton, Ontario, Canada. Car-starter	262,230	Aug. 8	520	145	22	429
Jarvis, Samuel E., Lansing, Mich. Balanced steam-valve	267,791	Nov. 21	1049	293	22	1740
Jarvis, Samuel B., Lansing, Mich. Portable steam engine and boiler	267,792	Nov. 21	1050	293	22	1740
Jay, Pierre E., New York, N. Y. Pump	265,607	Oct. 10	408	129	22	1221
Jeanne, Leon P., New York, N. Y. Diamond-setting for ear-rings, &c	262,785	Aug. 15	1203	337	22	554
Jeanrenaud, Albert, St. Croix, Switzerland, assignor to M. J. Paillard & Co., New York, N. Y. Musical box	266,826	Oct. 31	1934	539	22	1499
Jebb, Thomas A., Buffalo, N. Y. Process of and apparatus for the manufacture of saccharine compounds	264,035	Sept. 5	455	125	22	852
Jebb, Thomas A., Buffalo, N. Y. Grape-sugar compound	264,036	Sept. 5	457	125	22	853
Jebb, Thomas A., Buffalo, N. Y. Manufacturing grape-sugar	264,037	Sept. 5	459	125	22	853
Jebb, Thomas A., Buffalo, N. Y. Process of and apparatus for the manufacture of saccharine compounds	268,492	Dec. 5	134	40	22	1912
Jebb, William T., Buffalo, N. Y. Process of and apparatus for treating the refuse of starch, &c	263,525	Aug. 29	2151	615, 616	22	736
Jeffers, Aaron P. M., *et al.* (See Blair, John B., assignor.)						
Jefferson, Thomas E. (See Comstock and Jefferson.)						
Jefferson, Thomas E., Boston, Mass. Combined plow, harrow, seeder, &c	260,482	July 4	169	48, 49, 50	22	30
Jeffery, Edwin A., *et al.* (See Martin, Morris, assignor.)						
Jeffery, Frederick O., *et al.* (See Martin, Morris, assignor.)						
Jellison, Joshua C., and W. Smith, Portsmouth, N. H. Seam-presser	261,459	July 18	1386	387	22	244
Jenkins, David, Pittsburg, assignor of three-fourths to W. E. Young, Allegheny city, and W. T. Chaffey, Pittsburg, Pa. Fire-escape	263,181	Aug. 22	1681	476	22	651
Jenkins, Frank W., Brooklyn, N. Y. Apparatus for operating the valves of steam and other engines	260,398	July 4	68	19	22	13
Jenkins, Henry S., trustee. (See Kimball, J. E., assignor.)						
Jenkins, John S., Lima, Ohio. Chalk-line holder	265,815	Oct. 10	725	202	22	1264
Jenkins, Philip O., Washington, D. C. Lime-heating foot-stove	266,369	Oct. 24	1414	401, 402	22	1397
Jenkins, Thomas. (See Butler, Howard H., assignor.)						
Jenkinson, Richard C. (See Reichenbach, Oscar, assignor.)						
Jenks, Chancellor L., Jr. (See Dimmick, Othello J., assignor.)						
Jenks, Lemuel P., *et al.* (See Robinson, Thomas C., assignor.)						
Jenks, M. Woodburn, assignor to J. T. Hand, Decatur, Ill. Ironing-board	266,995	Nov. 7	47	15	22	1548
Jenks, Scott, Cheshire, Mass., assignor of one-half to C. and H. W. Millar, Utica, N. Y. Cheese-making apparatus	267,211	Nov. 7	311	91, 92	22	1595
Jenney, Charles D. (See Jenney, James A. and C. D.)						
Jenney, James A., assignor to Fort Wayne Electric Light Company, Fort Wayne, Ind. Dynamo-electric machine	262,544	Aug. 8	885	250, 251	22	493
Jenney, James A. and C. D., assignors to Fort Wayne Electric Light Company, Fort Wayne, Ind. Electric-arc lamp	261,815	July 25	1824	515, 516	22	325
Jennings, Abraham G. (See Urbahn, Alwill, assignor.)						
Jennings, Charles C., assignor of one-half to J. Adams and J. F. Moulton, Buffalo, N. Y. Apparatus for suspending, raising, and lowering electric lamps	269,526	Dec. 26	1414	408	22	2168
Jennings, Ebenezer S., Nelsonville, Ohio. Wheel	269,424	Dec. 19	1278	371	22	2136
Jennings, Ralph S., Baltimore, Md. Refrigerator	268,493	Dec. 5	137	40	22	1912
Jennings, Ralph S., Baltimore, Md. Supporter for leather-board	268,494	Dec. 5	137	41	22	1912

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Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Jennings, Ralph S., Baltimore, Md. Apparatus or means of desiccating textile or other fabrics	268,495	Dec. 5	138	41	22	1913
Jennings, Ralph S., assignor, by mesne assignments, to Flexible Wood Package Company, Baltimore, Md. Packing-case. (Reissue)	10,182	Aug. 15	1358	384	22	583
Jennison, Charles R., assignor of two-thirds to W. A. Macleod and W. F. Stevens, Boston, Mass. Telephone-dummy	263,526	Aug. 29	2153	616	22	737
Jennison, George H., Foxcroft Me. Protector for the corners of book-covers	269,425	Dec. 19	1279	371	22	2137
Jensen, Jens, Racine, Wis. Brake-lever	262,676	Aug. 15	1061	298	22	530
Jensen, Jens L., Copenhagen, Denmark. Cultivator	260,686	July 4	440	119	22	74
Jensen, Rasmus, Rosvang, near Thisted, Denmark, assignor, by mesne assignments, to Thorburn & Titus, New York, N. Y. Seed-germinating apparatus	262,786	Aug. 15	1204	338	22	554
Jepson, John, and G. H. Wilcox, assignors to Meriden Britannia Company, Meriden, Conn. Ice-pitcher	263,527	Aug. 29	2154	616	22	737
Jepson, Joseph, Westfield, Mass. Switch-board for telephone systems	225,092	Sept. 26	1674	468	22	1094
Jergens, Andrew. (See Hoff, Charles, assignor.)						
Jerome, Charles C., Chicago, Ill. Piston-rod packing	266,293	Oct. 24	1310	371	22	1378
Jerome, Henry, Cleveland, Ohio. Smoke-consuming furnace	262,428	Aug. 8	752	211	22	470
Jesse, William G., Georgetown, Ky. Insect-trap	266,827	Oct. 31	1936	559	22	1500
Jewell, Omar H., Chicago, Ill. Oil and water injector	267,092	Nov. 21	935	264	22	1720
Jewell & Sons, P. (See Babcock, Holland C., assignor.)						
Jewett, Edward M. (See Burk, John J., assignor.)						
Jewett, George M. (See Egan, Charles, assignor.)						
Jewett, Lather K., Fitchburg, Mass. Wrecking and construction car for railways	269,527	Dec. 26	1416	409	22	2168
Jewett, Nathan, assignor of one-half to W. H. Cray and A. E. Rood, Toledo, Ohio. Knotting device for grain-binders	266,996	Nov. 7	47	15	22	1548
Jobbins, W. F. (See Freeman, Walter K., assignor.)						
Jobbins, William F. (See Beardslee, George W., assignor.)						
Jobbins, William F. (See Freeman, Warren P., assignor.)						
Joergens, Clemens, assignor of one-half to N. Underwood, Jr., Chicago, Ill. Billiard-table	264,165	Sept. 12	605	167	22	888
John, Abraham H., assignor of one-half to S. M. Pickler, Kirksville, Mo. Distilling apparatus	265,323	Oct. 3	117	35	22	1155
Johns, Henry W., New York, N. Y. Boiler-covering	262,429	Aug. 8	753	212	22	470
Johns, Henry W., New York, N. Y. Steam-packing	267,537	Nov. 14	737	212	22	1676
Johns, Stacy. (See Keffer, Simon B., assignor.)						
Johns, Will R., Rockford, Ill. Car-brake	268,683	Dec. 5	340	99	22	1952
Johnsen, Charles G., New Orleans, La. Centrifugal machine for making sugar	262,787	Aug. 15	1205	338, 339	22	554
Johnsen, Charles G., New Orleans, La. Work-supporting frame	265,093	Sept. 26	1677	468	22	1094
Johnson, Abijah, Ringgold, Ga. Churn-motor	265,094	Sept. 26	1678	468	22	1095
Johnson, Albert F. and F. B., assignors to Johnson Manufacturing Company, Brooklyn, N. Y. Perforator for automatic printing-telegraphs	266,592	Oct. 24	1658	477	22	1442
Johnson, Albert F. and F. B., assignors to Johnson Manufacturing Company, Brooklyn, N. Y. Perforator for automatic printing-telegraphs	266,593	Oct. 24	1660	478	22	1442
Johnson, Albert F. and F. B., assignors to Johnson Manufacturing Company, Brooklyn, N. Y. Printing-telegraph	268,237	Nov. 28	1590	441	22	1846
Johnson, Almeron J., Rochester, N. Y. Heel-trimming machine	261,094	July 11	957	267	22	165
Johnson, Amos, Jefferson, Iowa. Self-dropping and check-rowing attachment to corn-planters	265,964	Oct. 17	903	257	22	1302
Johnson, Andrew, Saginaw, Mich. Salt-evaporator	264,701	Sept. 19	1195	338	22	1006
Johnson, Andrew, Saginaw, assignor of one-half to J. W. Perrin, East Saginaw, Mich. Manufacturing salt	267,085	Nov. 7	156	44, 45	22	1568
Johnson, Arthur H., Woodland, Cal. Grain-spreader for thrashing-machines	262,184	Aug. 1	461	129	22	412
Johnson, C. Wesley, Buffalo, N. Y. Apparatus for automatically displaying show-cards, &c	267,538	Nov. 14	738	212	22	1676
Johnson, Charles A. (See Lilliendahl, Gustavus A., assignor.)						
Johnson, Charles C., Springfield, Vt. Doll's head	267,212	Nov. 7	313	92	22	1596
Johnson, David. (See Reid and Johnson.)						
Johnson, David D., New York, N. Y. Refrigerating apparatus	266,160	Oct. 17	1141	322	22	1342
Johnson, David M., assignor to himself and D. M. Payne, Trinity College, N. C. Rotary engine	260,989	July 11	814	225	22	142
Johnson, E. Kurtz, *et al.* (See Bond, Nathan O., assignor.)						
Johnson, Edward F., Troy, Pa. Fire-grate	267,896	Nov. 21	1170	328	22	1764
Johnson, Edward H. (See Bergmann, Sigmund, assignor.)						
Johnson, Edward H., assignor of one-half to S. Bergmann, New York, N. Y. Coupling device for electrical conductors	264,298	Sept. 12	751	209	22	913
Johnson, Edward H., assignor of one-half to S. Bergmann, New York, N. Y. Connection for electric circuits	264,299	Sept. 12	751	210	22	914
Johnson, Edward J., Twinsburg, Ohio. Folding spring-bedstead	262,431	Aug. 8	755	212	22	470
Johnson, Ferdinand, Toledo, Ohio. Stop-cock	261,354	July 18	1263	351	22	224
Johnson, Frank, Fredericksburg, Mo. Grain thrasher and separator	269,293	Dec. 19	1104	322	22	2103
Johnson, Frank B. (See Johnson, Albert F. and F. B.)						
Johnson, Frank C. (See Johnson, William J. and F. C.)						
Johnson, Frank G., Brooklyn, N. Y. Fire-escape ladder	261,158	July 18	1031	290	22	187
Johnson, George H., Bridgeport, Conn. Sash	260,873	July 11	668	182	22	118
Johnson, George H., Fincastle, Va. Harrow	264,300	Sept. 12	753	210	22	914
Johnson, Gurdon D. (See Murphy, Daniel R., assignor.)						
Johnson, Gurdon D., *et al.* (See Symons, James, assignor.)						
Johnson, Harry T., Scio, N. Y. Mechanical telephone	267,897	Nov. 21	1171	329	22	1764
Johnson, Henry, Washington, D. C. Commercial or packing box	261,929	Aug. 1	152	38	22	358
Johnson, Henry C., *et al.* (See Lucas, Robert H., assignor.) (Reissue.)						
Johnson, Henry C., and F. M. McMillan, Washington, D. C. Refrigerating and drying grain, &c	261,460	July 18	1387	387	22	245
Johnson, Henry C., and F. M. McMillan, Washington, D. C. Fire-proof safe	261,461	July 18	1388	387	22	245
Johnson, Henry C., and F. M. McMillan, Washington, D. C. Cooling and ventilating cars	261,462	July 18	1389	388	22	245
Johnson, Henry C., and F. M. McMillan, Washington, D. C. Refrigeration of buildings	262,185	Aug. 1	462	129	22	412
Johnson, Henry C., Washington, D. C., and F. M. McMillan, New York, N. Y. Corpse-cooler	266,294	Oct. 24	1312	371	22	1378
Johnson, Henry J., Philadelphia, Pa. Revolving heel for boots and shoes	262,430	Aug. 8	754	212	22	470
Johnson, Isaac D., Kennett Square, Pa. Invalid-bedstead	268,238	Nov. 28	1592	441, 442	22	1846
Johnson, Isaiah, Alliance, Ohio. Fence-post	265,816	Oct. 10	726	203	22	1264
Johnson, J. Harrison, Washington, D. C. Hoisting and lowering apparatus	261,732	July 25	1720	483	22	307
Johnson, James F., Dayton, Ohio. Drawer-pull	264,166	Sept. 12	606	167	22	889
Johnson, James S. (See Johnson, John R. and J. S.)						
Johnson, John A., Madison, Wis. Plow-beam	263,528	Aug. 29	2155	616	22	738

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Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Johnson, John A., Madison, Wis. Sleigh-shoe	267,981	Nov. 21	1272	357	22	1782
Johnson, John M., Raritan, Ill. Harrow	260,687	July 4	441	119	22	74
Johnson, John R., Smyrna, and J. S. Johnson, Moorefield, Ohio. Adjustable funnel-holder	268,239	Nov. 28	1594	442	22	1847
Johnson, Jonathan, Lowell, Mass. Rotary water-meter	264,702	Sept. 19	1196	338	22	1006
Johnson, Jonathan, Lowell, Mass. Heating apparatus	264,835	Sept. 19	1353	383	22	1032
Johnson, Joseph W., assignor of one-half to H. C. Williams, New Britain, Conn. Bottle-stopper	261,095	July 11	958	267	22	166
Johnson, Joseph W., assignor to himself and A. F. Hoyt, Lathrop, Mo. Harness-pad press	266,928	Oct. 31	1937	560	22	1500
Johnson, Louis K., Brooklyn, N. Y. Type and space holder	263,707	Sept. 5	40	12	22	782
Johnson, Louis K., Brooklyn, N. Y. Type-setting apparatus	264,084	Sept. 12	519	141; 142	22	873
Johnson, Louis K., New York, and A. A. Low, Brooklyn, N. Y. Type-distributing apparatus	264,085	Sept. 12	520	142	22	873
Johnson, Louis K., and A. A. Low, Brooklyn, N. Y. Type-containing channel	268,409	Dec. 5	44	14	22	1895
Johnson, Lewis W. (See Cooper and Johnson.)						
Johnson, Luman F., and I. E. Williams, Palmyra, N. Y. Wooden pipe	268,024	Nov. 28	1330	373	22	1798
Johnson Manufacturing Company. (See Johnson, Albert F. and F. B., assignors.)						
Johnson, Samuel, San Francisco, Cal. Wing-gate for flushing sewers	268,903	Dec. 12	614	181	22	2009
Johnson, Samuel C., Kenosha, Wis. Piano-stool	264,458	Sept. 19	937	263	22	956
Johnson, Tom L., Indianapolis, Ind. Car-brake	263,529	Aug. 29	2156	617	22	738
Johnson, Walter, Jackson, Mich. Sliding car-door bolt	267,539	Nov. 14	740	213	22	1676
Johnson, Wilberforce, Liverpool, county of Lancaster, England. Variable valve-gear	264,301	Sept. 12	754	210; 211	22	914
Johnson, William H., Industry, Me. Shovel-handle	262,788	Aug. 15	1207	339	22	555
Johnson, William J., Newton, and F. C. Johnson, Boston; said William J. Johnson assignor to National Manufacturing Company, Worcester, Mass. Portable pump	269,676	Dec. 26	1601	459	22	2205
Johnson, William O., assignor one-half to F. D. Adams, Alma, Mich. Shovel-plow	265,324	Oct. 3	118	35	22	1156
Johnston, Abner, Bainbridge, N. Y. Belt-fastening	269,579	Dec. 26	1486	429	22	2182
Johnston, Abner, Bainbridge, assignor to N. Secor, New York, N. Y. Mail-bag	269,580	Dec. 26	1487	429	22	2182
Johnston, Allen, Ottumwa, Iowa. Metal-screw machine	261,816	July 25	1826	516; 517	22	326
Johnston, Allen, Ottumwa, Iowa. Ruffling attachment for sewing-machines	264,038	Sept. 5	460	126	22	853
Johnston, Allen, Ottumwa, Iowa. Metal-screw machine	267,213	Nov. 7	314	92, 93	22	1596
Johnston, Allen, Ottumwa, Iowa. Metal-screw machine	267,214	Nov. 7	317	93, 94	22	1597
Johnston, Allen, Ottumwa, Iowa. Metal-screw machine	267,215	Nov. 7	321	94, 95	22	1598
Johnston, Allen, Ottumwa, Iowa. Metal-screw machine	269,790	Dec. 26	1744	503; 504	22	2231
Johnston, Allen, Ottumwa, Iowa. Metal-screw machine	269,791	Dec. 26	1749	504; 505	22	2232
Johnston, Columbus, Clarksville, assignor of one-half to S. T. Johnston, St. Louis, Mo. Rotary plow and pulverizer	269,792	Dec. 26	1753	505	22	2233
Johnston, Corwin, *et al.* (See Ogle and Turmure, assignors.)						
Johnston Harvester Company. (See Heath, Edward, assignor.)						
Johnston, James, North La Crosse, Wis. Smoke-burner for furnaces	261,723	July 25	1720	483	22	307
Johnston, James J., Columbiana, Ohio. Farm-stove	264,410	Sept. 12	873	245	22	936
Johnston, James J., assignor to United States Improvement Company, (limited,) Columbiana, Ohio. Lamp-filling stand	264,836	Sept. 19	1356	383; 384	22	1033
Johnston, James J., assignor to United States Improvement Company, (limited,) Columbiana, Ohio. Gate-weight	264,881	Sept. 26	1423	401	22	1050
Johnston, James J., assignor to United States Improvement Company, (limited,) Columbiana, Ohio. Combined iron and wood gate	264,882	Sept. 26	1424	402	22	1050
Johnston, James J., assignor to United States Improvement Company, (limited,) Columbiana, Ohio. Iron fence-post	264,883	Sept. 26	1424	402	22	1051
Johnston, James J., assignor to United States Improvement Company, (limited,) Columbiana, Ohio. Door-bell	264,884	Sept. 26	1425	402	22	1051
Johnston, James J., assignor to United States Improvement Company, (limited,) Columbiana, Ohio. Apparatus for the manufacture of soap	265,095	Sept. 26	1679	469	22	1095
Johnston, James J., assignor to United States Improvement Company, (limited,) Columbiana, Ohio. Fruit-drier	265,096	Sept. 26	1680	469	22	1095
Johnston, James J., assignor to United States Improvement Company, (limited,) Columbiana, Ohio. Garden-vase	265,097	Sept. 26	1681	470	22	1096
Johnston, James J., assignor to United States Improvement Company, (limited,) Columbiana, Ohio. Flower-vase	265,098	Sept. 26	1682	470	22	1096
Johnston, James J., assignor to United States Improvement Company, (limited,) Columbiana, Ohio. Gridiron	265,608	Oct. 10	469	129	22	1221
Johnston, James J., assignor to United States Improvement Company, (limited,) Columbiana, Ohio. Meat-vessel	265,609	Oct. 10	470	129	22	1221
Johnston, James J., assignor to United States Improvement Company, (limited,) Columbiana, Ohio. Dinner-pot	265,610	Oct. 10	470	130	22	1222
Johnston, James J., assignor to United States Improvement Company, (limited,) Columbiana, Ohio. Skillet	265,611	Oct. 10	471	130	22	1222
Johnston, James J., assignor to United States Improvement Company, (limited,) Columbiana, Ohio. Butter-vessel	265,612	Oct. 10	472	130	22	1222
Johnston, James J., assignor to United States Improvement Company, (limited,) Columbiana, Ohio. Iron fence	265,817	Oct. 10	726	203	22	1264
Johnston, James J., assignor to United States Improvement Company, (limited,) Columbiana, Ohio. Washing-machine	265,818	Oct. 10	727	203	22	1264
Johnston, James J., assignor to United States Improvement Company, (limited,) Columbiana, Ohio. Spice-mill	265,819	Oct. 10	728	204	22	1264
Johnston, James J., assignor to United States Improvement Company, (limited,) Columbiana, Ohio. Garden-rake	265,820	Oct. 10	729	204	22	1264
Johnston, James J., assignor to United States Improvement Company, (limited,) Columbiana, Ohio. Ironing-stove	265,821	Oct. 10	730	204; 205	22	1265
Johnston, James J., assignor to United States Improvement Company, (limited,) Columbiana, Ohio. Iron gate	265,822	Oct. 10	730	205	22	1265
Johnston, James J., assignor to United States Improvement Company, (limited,) Columbiana, Ohio. Lamp	265,823	Oct. 10	731	205	22	1265
Johnston, James J., assignor to United States Improvement Company, (limited,) Columbiana, Ohio. Door-scraper	265,824	Oct. 10	732	206	22	1265
Johnston, James J., assignor to United States Improvement Company, (limited,) Columbiana, Ohio. Post-hole digger	265,825	Oct. 10	733	206	22	1265
Johnston, James J., assignor to United States Improvement Company, (limited,) Columbiana, Ohio. Combined iron and wood fence	265,826	Oct. 10	734	206	22	1265
Johnston, James J., assignor to United States Improvement Company, (limited,) Columbiana, Ohio. Barn-door	266,829	Oct. 31	1939	560	22	1500

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Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Johnston, James J., assignor to United States Improvement Company, (limited,) Columbiana, Ohio. Potato-digger	266,830	Oct. 31	1940	560; 561	22	1500
Johnston, James J., assignor to United States Improvement Company, (limited,) Columbiana, Ohio. Halter	266,831	Oct. 31	1941	561	22	1501
Johnston, James J., assignor to United States Improvement Company, (limited,) Columbiana, Ohio. Brick-mold	266,832	Oct. 31	1941	561	22	1501
Johnston, James J., assignor to United States Improvement Company, (limited,) Columbiana, Ohio. Garden-hoe	266,833	Oct. 31	1942	561	22	1501
Johnston, James J., assignor to United States Improvement Company, (limited,) Columbiana, Ohio. Nail-set	266,834	Oct. 31	1943	562	22	1501
Johnston, James J., assignor to United States Improvement Company, (limited,) Columbiana, Ohio. Wash-boiler	266,835	Oct. 31	1944	562	22	1501
Johnston, James J., assignor to United States Improvement Company, (limited,) Columbiana, Ohio. Feed-trough	266,836	Oct. 31	1945	562	22	1501
Johnston, James J., assignor to United States Improvement Company, (limited,) Columbiana, Ohio. Wheelbarrow	266,837	Oct. 31	1946	563	22	1501
Johnston, James J., assignor to United States Improvement Company, (limited,) Columbiana, Ohio. Writing-desk	268,799	Dec. 12	486	143	22	1986
Johnston, James J., assignor to United States Improvement Company, (limited,) Columbiana, Ohio. Sewing-stand	268,800	Dec. 12	487	143	22	1986
Johnston, James J., assignor to United States Improvement Company, (limited,) Columbiana, Ohio. Ironing-table	268,801	Dec. 12	488	144	22	1986
Johnston, John, New York, N. Y. Safety-stop for elevators	266,479	Oct. 24	1532	436	22	1419
Johnston, Sylvester T. (See Johnston, Columbus, assignor.)						
Johnston, Robert A., assignor of one-half to A. Charbonneau, Cleveland, Ohio. Electric-arc lamp	262,296	Aug. 8	593	167; 168	22	442
Johnston, Will B. (See Hathaway and Johnston.)						
Johnston, William, Marinette, Wis. Thill-coupling	267,693	Nov. 21	937	265	22	1721
Johnston, William K., Marshalltown, Iowa. Lock for wagon-brakes	264,086	Sept. 12	522	142	22	874
Johnston, William M. (See Deal, Josiah J., assignor.)						
Johnstone, William H., Philadelphia, Pa. Making surgical jackets	262,597	Aug. 15	964	.....	22	512
Jonas, Fredrick. (See Stubbs and Jonas.)						
Jonas, Fredrick, assignor of one-half to J. Stubbs, Mount Pleasant, Iowa. Excavating-machine	265,325	Oct. 3	119	35, 36	22	1156
Jones, Alfred E., assignor to himself, J. T. Rowland, and R. Gray, Jr., Newark, N. J. Collecting the floating precious metal from quartz or cement-rock tailings	267,351	Nov. 14	498	.....	22	1634
Jones, Augustus H., Meriden, Conn. Extension lamp-fixture	262,598	Aug. 15	965	271; 272	22	512
Jones, Charles W., Lowell, Mass. Carpet-stretcher	267,216	Nov. 7	323	95	22	1598
Jones, Dudley E. (See Wallace, Marshal, assignor.)						
Jones, Edgar A., Sturgis, Mich. Bench clothes-wringer. (Reissue)	10,148	July 4	493	134; 135	22	84
Jones, Ellis T., assignor to Hoole Manufacturing and Baggage Check Company, New York, N. Y. Machine for making baggage-checks	266,370	Oct. 24	1415	402; 403	22	1307
Jones, Harry, Sterling, Ill. Piston for engines	268,684	Dec. 5	343	100	22	1952
Jones, Harvey L., and H. E. Fuller, Fredonia, Kans.; said Jones assignor to said Fuller. Calf-weaner	261,096	July 11	958	268	22	166
Jones, Harvey P., assignor of one-third to W. F. Payton, Winterset, Iowa. Saw-filer	268,904	Dec. 12	615	181	22	2009
Jones, Isaac V., Salado, Tex. Churn-power	267,898	Nov. 21	1171	329	22	1764
Jones, Jacob G., Baltimore, Md., assignor of one-half to H. K. Thurber, New York, N. Y. Can-soldering machine	263,659	Aug. 29	2308	659	22	763
Jones, James, St. Louis, Mo. Valve	264,087	Sept. 12	523	143	22	874
Jones, James E., Abilene, Kans. Wind-engine	263,530	Aug. 29	2158	617	22	738
Jones, James H., assignor to Emerson, Talcott & Co., Rockford, Ill. Corn-planting machinery	261,724	July 25	1721	484	22	307
Jones, James H., assignor to Emerson, Talcott & Co., Rockford, Ill. Corn-planting machine	265,326	Oct. 3	122	36	22	1156
Jones, Jeremiah C., Whitt, assignor of one-half to A. W. Robertson, Denton County, Tex. Draft-equalizer	261,355	July 18	1264	351	22	224
Jones, Jordan F., Laurel, N. C. Cotton-elevator	264,703	Sept. 19	1197	339	22	1006
Jones, Josiah N., Worcester, assignor of one-half to F. F. Raymond, 2d, Newton, Mass. Picker-lag	269,060	Dec. 12	808	239	22	2045
Jones, Mathew J., Martinsburg, W. Va. Washing-machine	266,696	Oct. 31	1794	518	22	1473
Jones, N. A. T., Plymouth, Mass. Feed-water heater and filter	261,612	July 25	1584	444	22	285
Jones, N. A. T., Plymouth, Mass. Feed-water heater and filter	261,613	July 25	1586	445	22	285
Jones, Richard B., assignor of two-thirds to R. Richards and G. F. Wetherell, Chicago, Ill. Resawing-machine	266,997	Nov. 7	48	15	22	1548
Jones, Salmon, and G. B. Marshall, Cincinnati, Ohio. Smoke-consumer	263,708	Sept. 5	41	13	22	782
Jones, Samuel S., and C. M. Rittenhouse, Norristown, Pa. Coupling for pipes	260,674	July 11	669	182	22	118
Jones, Thomas E., Cincinnati, Ohio. Boiler-furnace	263,182	Aug. 22	1692	477	22	652
Jones, Thomas L., St. Louis, Mo. Exhibiting the words or score in theatrical performances	268,802	Dec. 12	489	144	22	1987
Jones, Walter, Niagara Falls, N. Y. Refining paper-pulp and apparatus therefor	264,167	Sept. 12	607	168	22	889
Jones, William K., Hainesville, Ill. Folding bathing-cabinet	268,240	Nov. 28	1595	442	22	1847
Jones, William P., Arcade, N. Y. Land-roller	269,581	Dec. 26	1488	429	22	2183
Jonson, Julius, assignor of one-half to J. Elson, New York, N. Y. Water-meter connection	265,327	Oct. 3	125	37	22	1157
Jonte, Pierre F., Cincinnati, Ohio. Treadle-movement for sewing-machines	265,099	Sept. 26	1683	470; 471	22	1096
Jope, William P. T., Pittsburg, Pa. Scoop	261,614	July 25	1587	445	22	285
Jope, William P. T., Pittsburg, Pa. Scoop	261,615	July 25	1588	445	22	285
Jope, William P. T., assignor to Hubbard, Bakewell & Co., Pittsburg, Pa. Die for tapering shovel-molds	263,709	Sept. 5	42	13	22	782
Jordan, Ambrose L. (See Jordan, Richard C. and A. L.)						
Jordan, Edmund, Brooklyn, assignor to H. Miller, New York, N. Y. Can-seaming machinery	264,704	Sept. 19	1198	339	22	1006
Jordan, Joseph, Bridgeport, Pa. Manufacture of paper-pulp and paper	264,168	Sept. 12	608	.....	22	889
Jordan, Josiah G., Thomasville, Ga. Cultivator	260,576	July 4	288	79	22	49
Jordan, R. G., *et al.* (See Pederson, Ole, assignor.)						
Jordan, Richard C. and A. L., Ottawa, Ill. Check-rower	268,241	Nov. 28	1597	443	22	1847
Jordan, Robert G., *et al.* (See Pederson, Ole, assignor.)						
Jory, Hugh S., Salem, Oreg. Drier for fruits and other substances	263,912	Sept. 5	296	86	22	825
Jory, James W., Marysville, Cal. Plow	263,789	Sept. 5	152	45	22	800
Josef, Edward E., Buffalo, N. Y. Car-wheel	265,965	Oct. 17	904	257	22	1302
Joseph, Nathan, *et al.* (See Anderson, Charles G., assignor.)						
Josia, Raphael, Florence, Italy, assignor to W. Rey and C. De Varigny, Paris, France. Composition for treating sulphates of lime for the manufacture of artificial marble	265,501	Oct. 3	332	.....	22	1195

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Josia, Raphael, Florence, Italy, assignor to W. Rey and C. De Varigny, Paris, France. Composition for treating sulphates of lime for the manufacture of artificial marble	265,502	Oct. 3	333	.....	22	1195
Josia, Raphael, Florence, Italy, assignor to W. Rey and C. De Varigny, Paris, France. Composition for treating sulphates of lime for the manufacture of artificial marble	265,503	Oct. 3	335	.....	22	1195
Josia, Raphael, Florence, Italy, assignor to W. Rey and C. De Varigny, Paris, France. Composition for treating sulphates of lime for the manufacture of artificial marble	265,504	Oct. 3	336	.....	22	1195
Josia, Raphael, Florence, Italy, assignor to W. Rey and C. De Varigny, Paris, France. Composition for treating sulphates of lime for the manufacture of artificial marble	265,505	Oct. 3	338	.....	22	1195
Josia, Raphael, Florence, Italy, assignor to W. Rey and C. De Varigny, Paris, France. Composition for treating sulphates of lime for the manufacture of artificial marble	265,506	Oct. 3	340	.....	22	1195
Josia, Raphael, Florence, Italy, assignor to W. Rey and C. De Varigny, Paris, France. Composition for treating sulphates of lime for the manufacture of artificial marble	265,507	Oct. 3	341	.....	22	1195
Josia, Raphael, Florence, Italy, assignor to W. Rey and C. De Varigny, Paris, France. Composition for treating sulphates of lime for the manufacture of artificial marble	265,508	Oct. 3	343	.....	22	1195
Josia, Raphael, Florence, Italy, assignor to W. Rey and C. De Varigny, Paris, France. Composition for treating sulphates of lime for the manufacture of artificial marble	265,509	Oct. 3	344	.....	22	1196
Josia, Raphael, Florence, Italy, assignor to W. Rey and C. De Varigny, Paris, France. Composition for treating sulphates of lime for the manufacture of artificial marble	265,510	Oct. 3	346	.....	22	1196
Josia, Raphael, Florence, Italy, assignor to W. Rey and C. De Varigny, Paris, France. Composition for treating sulphates of lime for the manufacture of artificial marble	265,511	Oct. 3	347	.....	22	1196
Josia, Raphael, Florence, Italy, assignor to W. Rey and C. De Varigny, Paris, France. Composition for treating sulphates of lime for the manufacture of artificial marble	265,512	Oct. 3	349	.....	22	1196
Josia, Raphael, Florence, Italy, assignor to W. Rey and C. De Varigny, Paris, France. Composition for treating sulphates of lime for the manufacture of artificial marble	265,513	Oct. 3	350	.....	22	1196
Josia, Raphael, Florence, Italy, assignor to W. Rey and C. De Varigny, Paris, France. Composition for treating sulphates of lime for the manufacture of artificial marble	265,514	Oct. 3	352	.....	22	1196
Josia, Raphael, Florence, Italy, assignor to W. Rey and C. De Varigny, Paris, France. Composition for treating sulphates of lime for the manufacture of artificial marble	265,515	Oct. 3	353	.....	22	1196
Josia, Raphael, Florence, Italy, assignor to La Société Anonyme de Certaldo, Paris, France. Artificial stone, marble, &c	267,217	Nov. 7	325	.....	22	1598
Josia, Raphael, Florence, Italy, assignor to W. Rey and C. De Varigny, Paris, France. Composition for treating sulphates of lime	267,310	Nov. 7	434	.....	22	1618
Joy, Thaddeus C., Titusville, Pa. Steam-generator	269,582	Dec. 26	1489	430	22	2183
Joyce, Joseph L., New Haven, Conn. Fastening for shoe-lacings	264,302	Sept. 12	755	211	22	914
Joyce, Joseph L., New Haven, Conn. Shoe-fastener	267,218	Nov. 7	329	95	22	1599
Joyner, Isaac, Jonesborough, Miss. Gate-latch	261,356	July 18	1265	351	22	224
Judd, John R., New York, N. Y. Fire-escape	266,998	Nov. 7	50	16	22	1549
Judson, Charles W. (See Donahue and Judson.)						
Jungenfeld, Edmund. (See Mayer and Jungenfeld.)						
Justi, Henry D. (See Schmitz, Theodore H., assignor.)	267,219	Nov. 7	330	95	22	1598
Justi, J. August W., Charleston, S. C. Machine for mixing grain of different sizes	264,169	Sept. 12	610	168	22	889
Justin, Joel G., Syracuse, N. Y. Atomizer	263,531	Aug. 29	2159	617	22	738
Kaeer, Martin V., St. Louis, Mo. Carpet-lining	265,421	Oct. 3	225	67	22	1176
Kaeer, Martin V., St. Louis, Mo. Machine for making bottle-wrappers	268,685	Dec 5	344	100	22	1952
Kaeer, Martin V., and H. C. Yocum, St. Louis, Mo. Machine for making bottle-wrappers	269,583	Dec. 26	1490	430	22	2183
Kade, Fritz, Sandusky, Ohio. Boring-machine						
Kahler, John. (See Ginter, William P., assignor.)						
Kahlke, Henry W., and J. J. Tower, Brooklyn, N. Y., assignors to said Tower. Haudcuff and shackle	268,496	Dec. 5	139	41	22	1913
Kaiser, William, Wilkes-Barré, Pa. Fastening hydrant tops, &c	268,686	Dec. 5	345	100	22	1953
Kalbach, John G. (See Kinsey, Thomas P., assignor.)						
Kalbach, John G., and T. P. Kinsey, Reading, Pa. Spark-arrester and draft-producer for locomotives	267,220	Nov. 7	330	96	22	1599
Kalbfleisch, Frederick W., Brooklyn, N. Y. Apparatus for concentrating sulphuric acid	267,221	Nov. 7	332	96	22	1599
Kaldenberg, Frederick J., New York, N. Y. Mouth-piece	265,613	Oct. 10	473	130	22	1222
Kaley, Reuben, *et al.* (See Callaway, William, assignor.)						
Kampfe Bros., *et al.* (See Paul and Kampfe, assignors.)	264,170	Sept. 12	611	168	22	889
Kampfe, Frederick and O., Brooklyn, N. Y. Die and stamping press						
Kampfe, Frederick A. (See Paul and Kampfe.)						
Kampfe, Otto. (See Kampfe, Frederick and O.)						
Kane, Daniel P. (See Goodman, Henry, assignor.)	265,827	Oct. 10	735	206	22	1266
Kane, John and W., Philadelphia, Pa. Automatic fire-extinguisher	265,966	Oct. 17	905	257	22	1302
Kane, Samuel M., Rochester, Pa. Glass-pot and fore-plate for same	265,967	Oct. 17	906	257	22	1302
Kane, Samuel M., Rochester, Pa. Water-jacketed eye-plate for glass-furnaces	260,688	July 4	442	119	22	75
Kane, Thomas, Chicago, Ill. Slate-frame						
Kane, William. (See Kane, John and W.)						
Kantner, Washington C., Reading, Pa. Organ-action	264,705	Sept. 19	1201	340	22	1007
Kanzler, August, Princeton, Ky. Neck-yoke	262,432	Aug. 8	756	212	22	470
Karr, Edward P. and J. M., Almond, N. Y. Potato-planter	267,899	Nov. 21	1173	329 330	22	1764
Karr, Jacob, Washington, D. C. Chronograph	263,183	Aug. 22	1683	477	22	652
Karr, Jacob, Washington, D. C. Chronograph	263,184	Aug. 22	1686	478	22	652
Karr, Jacob, Washington, D. C. Chronograph	266,162	Oct. 17	1144	323	22	1342
Karr, James K., assignor of one-half to R. H. Wiles, Freeport, Ill. Corner-iron for carriage-seats	269,501	Dec. 19	1379	396	22	2155
Karr, James M. (See Karr, Edward P. and J. M.)						
Karshner, William W., Washington, D. C. Electric bath	261,235	July 18	1125	314	22	201
Kartzmark, Otto, New York, N. Y. Electric-arc lamp	266,161	Oct. 17	1142	322 323	22	1342
Kase, Matthew W., Danville, Pa. Wash-board	265,422	Oct. 3	226	68	22	1176
Kasson, Amasa C., Milwaukee, Wis. Wagon-axle bearing	260,875	July 11	670	182	22	118
Kasson, Amasa C., Milwaukee, Wis. Thill-coupling	260,876	July 11	670	183	22	118
Kasson, Henry. (See Salmon, William C., assignor.)						
Katzenstein, Leopold, New York, N. Y. Metallic rod-packing	267,750	Nov. 21	996	281	22	1731
Kaufman, Moses. (See Schwartz and Carter, assignors.)						
Kaufman, William, New York, N. Y. Shutter-worker	262,789	Aug. 15	1208	339	22	555
Kaufmann, A. (See Bradner, William E., assignor.)						
Kaufmann, Kaufmann, New York, N. Y. Manufacture of plated wire	268,687	Dec. 5	346	101	22	1953
Kaufmann, Michael, London, England. Revolving fire-arm	261,554	July 25	1516	425	22	272
Kaufmann, Michael, London, England. Lock for fire-arms	261,555	July 25	1519	425	22	273
Kaufmann, Peter, Normal, McLean county, Ill. Thrashing and separating machine	266,371	Oct. 24	1418	403 404	22	1398
Kaufmann, William, New York, N. Y., and A. Dorn, Newark, N. J. Name-plate or sign	265,614	Oct. 10	474	131	22	1222
Kaye, John, Cardington, Pa. Oil-can	261,357	July 18	1265	351	22	224

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Kaylor, John, Decatur, Ill. Check-row corn-planter	269,584	Dec. 26	1491	430	22	2183
Keane, Michael J. A., New York, N. Y. Combined soap-holder and brush	262,077	Aug. 15	1062	298	22	530
Kearney & Company. (See Riggan, Jonathan H., assignor.)						
Kearney, Frank, Cincinnati, Ohio. Manufacture of shoes	264,459	Sept. 19	938	263	22	956
Kearney, James, *et al.* (See Inslee, William H., assignor.)						
Kearney, Joseph. (See Mather and Kearney.)						
Kearns, Patrick, assignor to Flinn & Jackson, Wilmington, Del. Elbow for pipes	262,049	Aug. 1	271	78, 79	22	382
Keats, Alphonse, Newcastle-under-Lyne, county of Stafford, England. Machine for sewing boots and shoes	260,990	July 11	814	225 226 227	22	143
Keefer, Frank, Chicago, Ill. Printer's galley	261,616	July 25	1589	445	22	286
Keefer, Frank, Chicago, Ill. Sectional block for stereotype-plates	268,688	Dec. 5	347	101	22	1953
Keeler, Charles F. (See Wiggin, John L., assignor.)						
Keeler, Ezra W., New York, N. Y. Bed-bottom	266,999	Nov. 7	51	16	22	1549
Keeler, Henry C., Council Bluffs, Iowa. Lifting-jack	262,050	Aug. 1	272	79	22	383
Keenan, Hugh, assignor of three-fourths to M. H. Murphy and P. Magone, Worcester, Mass. Fire-escape	262,297	Aug. 8	595	168	22	442
Keene, George A., assignor of one-half to Sawyer & Chase, Lynn, Mass. Horse-hoof moistener	262,186	Aug. 1	464	129	22	413
Keene, George A., Lynn, assignor of one-half to O. F. Howe, Boston, Mass. Window-washer	262,231	Aug. 8	521	146	22	429
Keene, George A., assignor of one-half to Sawyer & Chase, Lynn, Mass. Curry-comb	269,793	Dec. 26	1754	505	22	2233
Keeney, Fred B. (See Herring, Nathan W., assignor.)						
Keep, James M., New York, N. Y., assignor to R. Foulds, Passaic, N. J. Toy pistol	263,048	Aug. 22	1528	431	22	632
Keep, James M., assignor to J. N. Keep, Montclair, N. J. Toy bank	267,540	Nov. 14	743	213	22	1676
Keep, Joanna N. (See Keep, James M., assignor.)						
Keeton, James P., Morton, Miss. Machine for crushing cotton-seed	268,803	Dec. 12	491	145	22	1987
Keffer, Simon B., assignor of one-half to S. Johns, Des Moines, Iowa. Heel or counter support for boots and shoes	268,497	Dec. 5	140	41	22	1913
Kehoe, Timothy, and J. A. Bourke, New York, N. Y. Pool-bottle	265,100	Sept. 26	1684	471	22	1096
Keighley, Charles, Vineland, N. J. Heel-burnishing machine	266,838	Oct. 31	1946	563	22	1501
Keighley, Charles, and A. H. Blaisdell, Vineland, N. J., assignors to said Keighley. Shoe-heel-burnishing machine	269,061	Dec. 12	809	240	22	2045
Keilt, Patrick, Brooklyn, N. Y. Pipe-connection	264,706	Sept. 19	1203	340	22	1007
Keith, David S., Toronto, Ontario, Canada. Water-closet mechanism	261,358	July 18	1266	352	22	224
Keith, Ira B. (See Dudley, Myrick, assignor.) (Reissue.)						
Keith, Ira B., *et al.* (See Dudley, Myrick, assignor.)						
Keith, Thomas K., and R. Carleton, Haverhill, Mass. Feed mechanism for sewing-machines	268,804	Dec. 12	492	145	22	1987
Keizer, Lewis R. (See Painter, William, assignor.)						
Kelk, James, Hamilton, Ontario, Canada. Bird-insect catcher and trap	261,853	Aug. 1	35	10	22	341
Kellar, William C., and R. R. Ditzel, Cincinnati, Ohio. Gig-tree	267,900	Nov. 21	1174	330	22	1765
Keller, Henry M., Newark, Ohio. Vehicle-axle	261,463	July 18	1391	388	22	245
Keller, Henry M., Newark, Ohio. Hay-loader	261,725	July 25	1725	485	22	308
Keller, Isaac B., assignor of one-half to C. G. Rauch, Lebanon, Pa. Shirt	261,726	July 25	1726	485	22	308
Keller, John, New York, N. Y. Garment tag or ticket. (Reissue)	10,186	Aug. 22	1836	521	22	680
Keller, John, New York, N. Y. Tag or ticket number printing press	265,101	Sept. 26	1685	471	22	1097
Keller, John F., Martinsburg, W. Va. Fertilizer-distributer	265,674	Oct. 10	557	153	22	1235
Kelley, Austin, assignor to J. Stuart, Brooklyn, N. Y. Corset	260,991	July 11	819	228	22	143
Kelley, Charles L., New Vienna, Ohio. Bag-filling machine	267,322	Nov. 7	334	96	22	1599
Kelley, Daniel E., Gaylord, Kans. Car-coupling	266,839	Oct. 31	1948	563	22	1502
Kelley, Thomas, and C. H. Harper, Philadelphia, Pa. Machine for cutting grain	262,051	Aug. 1	273	79	22	383
Kellogg, Augustus B., Buffalo, N. Y. Machine for cleaning grain	263,913	Sept. 5	297	86	22	826
Kellogg, Edward W., Hartford, Conn. Operating gas-engines in torpedo-boats	265,423	Oct. 3	227	68	22	1176
Kellogg, Henry, New Haven, Conn., assignor to Akron Iron Company, Akron, Ohio. Machine for cooling and straightening metallic piping, bars, or shafting	265,265	Oct. 3	44	14, 15	22	1143
Kellogg, John, Amsterdam, N. Y. Hydraulic press	261,097	July 11	959	268	22	166
Kellogg, Kirk, Kalamazoo, Mich. Plow	264,885	Sept. 26	1426	402	22	1051
Kellogg, Kirk, assignor to himself and O. M. Allen, Jr., Kalamazoo, Mich. Plow	266,164	Oct. 17	1148	324	22	1343
Kellogg, Martha E., Flint, Mich. Tracing-wheel	261,359	July 18	1268	352	22	224
Kellogg & McDougall. (See Kellogg and Weller, assignors.)						
Kellogg, Spencer, and J. Weller, assignors to Kellogg & McDougall, Buffalo, N. Y. Hydraulic pressure pump	267,352	Nov. 14	499	143	22	1634
Kells, Edward, assignor of one-half to D. A. Dangler, Cleveland, Ohio. Process of and apparatus for freezing paraffine and other petroleum products	261,236	July 18	1127	315	22	201
Kelly, Alexander W., Philadelphia, Pa. Glass-grinding machine	266,840	Oct. 31	1949	564	22	1502
Kelly, Francis W., Minneapolis, Minn. Water-closet	268,025	Nov. 28	1330	373	22	1798
Kelly, Franklin W., assignor to himself and E. U. Stiles, Vermontville, Mich. Car-coupling	268,905	Dec. 12	616	181	22	2010
Kelly, George B., Boston, Mass. Key-board attachment for musical instruments	261,360	July 18	1268	353	22	225
Kelly, George B., assignor to Mason & Hamlin Organ Company, Boston, Mass. Reed-organ stop-action	260,577	July 4	289	80	22	49
Kelly, George B., assignor to Mason & Hamlin Organ Company, Boston, Mass. Reed-organ stop-action	260,689	July 4	443	120	22	75
Kelly, J. Miller, Rochester, N. Y. Railway-signal	266,163	Oct. 17	1147	324	22	1343
Kelly, James R. F. (See Edwards and Kelly.)						
Kelly, John P., Saco, and L. P. Sherman, Biddeford, Me. Drill-rest for lathes	268,906	Dec. 12	617	182	22	2010
Kelly, Joseph, Goshen, Ind. Wheelbarrow	263,790	Sept. 5	152	45	22	800
Kelly, Oliver S., *et al.* (See Green, George F., assignor.)						
Kelly, Oliver S. (See Lisle, Jacob B., assignor.)						
Kelly, Robert A., Xenia, Ohio. Twine polishing and finishing machine	268,242	Nov. 28	1599	443 444	22	1848
Kelly, Wallace C., Hastings, Mich. Curtain-fixture	264,303	Sept. 12	756	211	22	914
Kelly, Wallace C., assignor to himself and W. W. Kelly, Hastings, Mich. Reversible barrow-cultivator	266,697	Oct. 31	1794	518	22	1473
Kelly, Walter W. (See Kelly, Wallace C., assignor.)						
Kemble, Bushrod H., Philadelphia, Pa. Carriage axle and box	269,211	Dec. 19	999	292	22	2085
Kemmler, Hermann, Ebingen, Würtemberg, Germany. Nut-lock for screws, &c	260,690	July 4	445	120	22	75
Kemp, James, near Kempton, Livingston county, Ill. Hay-press	260,757	July 11	533	144	22	95
Kemp, Joseph S., Magog, Quebec, Canada. Fertilizer-distributer	268,410	Dec. 5	45	14	22	1895
Kemp, Joseph S., Magog, Quebec, Canada. Fertilizer-distributer	269,585	Dec. 26	1493	431	22	2184
Kemp, Joseph S., Magog, Quebec, Canada. Fertilizer-distributer	264,707	Sept. 19	1204	340	22	1007
Kemp, Lewis G., and P. Ross, Frederick, Md. Grain-binder attachment	269,677	Dec. 26	1603	459	22	2205
Kemper, Bernhart, Muscatine, Iowa. Cultivator	263,340	Aug. 29	1927	552	22	696
Kempshall, Eleazer, New Britain, Conn. Snap-hook	264,539	Sept. 19	1018	288	22	971
Kempshall, Eleazer, New Britain, Conn. Sash-fastener						

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Kempshall Manufacturing Company. (See Scott, William W., assignor.)						
Kempster, Daniel E., Boston, Mass. Spring shade-roller	261,159	July 18	1034	291	22	188
Kenaga, Samuel C., assignor of one-half to J. S. and C. H. Briggs, Kankakee, Ill. Corn-harvester	264,708	Sept. 19	1205	341	22	1007
Kenaga, Samuel C., and J. S. Briggs, assignors of one-fourth to C. H. Briggs, Kankakee, Ill. Corn-harvester	264,709	Sept. 19	1206	341	22	1008
Kendall, Adoniram, Erie, Pa. Valve-gear for steam-engines	269,678	Dec. 26	1603	460	22	2205
Kendall, Edward, Cambridgeport, Mass. Feed-water heater	269,586	Dec. 26	1494	431	22	2184
Kendall, Edward G., Boston, Mass. Safety-guard for elevator-hatchways	267,541	Nov. 14	744	213	22	1677
Kendall, Susan R., *et al.* (See Horton, Jacob C., assignor.)						
Kendrick, Andrew W. (See Ogborn and Kendrick.) (Reissue.)						
Kennard, Richard, Clearfield, Pa. Iron fence and post	261,464	July 18	1392	388	22	245
Kennebec Fiber Company. (See Heath, Francis E., assignor.)						
Kennedy, David A., assignor of one-half to J. Kennedy, Lexington, Va. Securing the cutters of harvesters to the cutter-bars	269,002	Dec. 12	810	240	22	2045
Kennedy, De Lancy, New York, N. Y. Metal-punch	267,751	Nov. 21	997	281	22	1731
Kennedy, George W., Garnavillo, Iowa. Milk-house	264,460	Sept. 19	939	263; 264	22	956
Kennedy, Hosea, Rose Point, Pa. Combined commode and earth-closet	268,689	Dec. 5	348	101	22	1953
Kennedy, Jackson J., Cleveland, Tenn. Car-coupling	262,433	Aug. 8	757	213	22	471
Kennedy, John. (See Livingston and Kennedy.)						
Kennedy, Joseph. (See Kennedy, David A., assignor.)						
Kennedy, Julian, Braddock, Pa. Cinder-car for blast-furnaces	266,480	Oct. 24	1533	436; 437	22	1419
Kennedy, Lewis B., Keokuk, Iowa. Brick-machine	267,542	Nov. 14	745	213	22	1677
Kennedy, Thomas I., Wallingford, Vt. Mop	265,828	Oct. 10	736	207	22	1266
Kennedy, William M., Dixon, Ill. Paste-distributer	267,000	Nov. 7	53	16	22	1549
Kennerly, Florida, Washington, D. C. Sewing and cutting table	264,886	Sept. 26	1427	403	22	1051
Kenney, Charles A., assignor to O. M. Draper, North Attleborough, Mass. Card for chain-swivels	261,237	July 18	1198	315	22	202
Kenton, Hiram, assignor to himself and S. H. Althouse, Albany, Oreg. Magnetic gold-separator	266,841	Oct. 31	1951	564	22	1503
Kepner, John K., Little Valley, Minn. Double tongue for harvesters. (Reissue)	10,238	Nov. 14	889	253	22	1703
Keppleman, John. (See Barr, Daniel W., assignor.)						
Kern, Edwin A., Girard, Ohio. Brick	263,914	Sept. 5	299	86	22	826
Kerns, Hiram O., Sutherlin, Va. Device for attaching plow-beams to handles	267,311	Nov. 7	436	126	22	1618
Kerr, John B., Amador City, Cal. Treadle-power	269,294	Dec. 19	1106	322; 323	22	2104
Kerr, T. B., trustee. (See Finney and Campbell, assignors.)						
Kerr, Thomas B. (See Finney, Joseph R., assignor.)						
Kerr, Thomas B., trustee. (See Finney, Joseph R., assignor.) (Reissue.)						
Kerr, William J., White Oak Grove, Mo. Wagon-brake	260,992	July 11	820	228	22	143
Kershaw, John. (See Worrall and Kershaw.)						
Kersten, Ferdinand, Buffalo, N. Y. Combined stand for coal-box and fire-irons	267,694	Nov. 21	938	265	22	1721
Kessler, Johann K., assignor of one-half to M. Roth, Milwaukee, Wis. Obtaining and purifying glycerine from soap-boiler's mother-lye	263,915	Sept. 5	300	.....	22	826
Ketner, William J., assignor of one-half to R. Black, Lancaster, Wis. Thill-coupling	267,223	Nov. 7	335	96	22	1600
Keyes, Alvin C., Livonia, N. Y. Washing-machine	261,930	Aug. 1	134	39	22	358
Keyes, Emerson W., *et al.*, administrators. (See Kidder, Jerome.)						
Keyes, Stephen F. (See Porter, Daniel R., assignor.)						
Keye, John, New York, N. Y. Polishing compound	269,679	Dec. 26	1605	.....	22	2206
Keys, Mathew H., Oxford, Miss. Cultivator and cotton-chopper	265,968	Oct. 17	908	258	22	1303
Keystone Horseshoe Company. (See Russell and Ball, assignors.)						
Keystone Nut Lock Company. (See Wiley, Charles D., assignor.)						
Kibling, Augustus. (See Roberts, Henry P., assignor.)						
Kidder, Daniel S. (See Waring, Kidder, and Creecy.)						
Kidder, Francis M., *et al.*, administrators. (See Kidder, Jerome.)						
Kidder, James H., Lawrence, Mass. Combined gas and oil burner	266,631	Oct. 31	1708	493	22	1457
Kidder, Jerome, deceased, F. M. Kidder, New York, and E. W. Keyes, Brooklyn, N. Y., administrators. Electro-medical induction-coil	269,794	Dec. 26	1755	506	22	2233
Kiefer, Georg, Stuttgart, Würtemburg, Germany. Dust-catcher for millstones	260,877	July 11	671	183	22	118
Kiefer, Peter, Cincinnati, Ohio. Steam-boiler furnace	263,532	Aug. 29	2160	617	22	738
Kieferle, Joseph J., New York, N. Y. Mechanism for converting rotary into reciprocating motion	267,703	Nov. 21	1051	293	22	1741
Kieser, Charles, Baltimore, Md. Meat-cutting machine	260,758	July 11	534	144	22	95
Kilbon, George B. (See Tapley and Kilbon.)						
Kilborn, Alden D., and W. F. Smith, Tucson, Ariz. Ter. Cleaning ash-pans of locomotive-engines	267,543	Nov. 14	747	214	22	1678
Kilgore, Henry D. (See Conroy and Kilgore.)						
Killgore, Charles, assignor to I. W. Killgore, Utica, N. Y. Machine for compressing dry and plastic materials	260,578	July 4	290	80	22	50
Killgore, Ida W. (See Killgore, Charles, assignor.)						
Killingsworth, Elijah R., Cord, Ark. Water-carrier	267,086	Nov. 7	158	45	22	1568
Kimball, James M., Woodstock, Ill. Dumping-wagon	265,829	Oct. 10	736	207	22	1266
Kimball, John J., Naperville, Ill. Churn	268,243	Nov. 28	1601	445	22	1848
Kimball, John J., Naperville, assignor to himself and G. T. Beers, Chicago, Ill. Iron fence-post	261,727	July 25	1727	485	22	308
Kimball, Joseph E., Abington, Mass. Nailing-machine for boots or shoes	261,931	Aug. 1	135	39, 40	22	358
Kimball, Joseph E., Milford, assignor to H. S. Jenkins, trustee, Boston, Mass. Sole-nailing machine	269,502	Dec. 19	1379	397	22	2155
Kimball, Le Vert, Egypt, Miss. Motor for churns, &c	269,426	Dec. 19	1280	371	22	2137
Kimball, William H., Boston, Mass. Automatic lamp-extinguisher	262,678	Aug. 15	1062	298	22	530
Kimerer, Joseph, Valparaiso, Ind. Hay and grain bin	269,680	Dec. 26	1606	460	22	2206
Kinder, Julius, assignor of one-half to F. W. Geaswein, Brooklyn, N. Y. Machine for making ornamental chains	263,533	Aug. 29	2161	618	22	738
Kindregan, John M., Columbus, Ohio. Boot or shoe	269,212	Dec. 19	1000	292	22	2085
King, Amy K. (See Davis, John T., assignor.)						
King, Antoinette L., *et al.* (See King, Sidney D., assignor.) (Reissue.)						
King, Charles S., Houtzdale, Pa. Gang sawing machine	261,728	July 25	1728	486	22	309
King, Ferdinand, Atlanta, Ga. Direction-plate and label-holder for cars	269,681	Dec. 26	1607	461	22	2206
King, Henry W., Canaan, N. Y. Horse-tail holder	269,063	Dec. 12	811	240	22	2045
King, Hiram T., Rochester, N. Y. Sash-fastener	269,064	Dec. 12	812	241	22	2045
King, Jacob, assignor to himself and D. P. Bolds, Geneva, Ind. Car-coupling	263,185	Aug. 22	1688	478	22	652
King, Jeremiah J., New York, N. Y. Mat-lock and scraper	269,795	Dec. 26	1756	506	22	2233

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
King, John, Carrizal Bajo, Chili. Magnetic separator	262,790	Aug. 15	1209	340	22	555
King, Martin V., Bedford, Iowa. Car-coupling	263,916	Sept. 5	301	87	22	826
King, Nathan L., Catskill, assignor to King Wool Clipper Company, Barrytown, N. Y. Horse-brushing apparatus	261,160	July 18	1035	291	22	188
King, Quincy, Colorado Springs, Colo. Barrel-hoop	262,052	Aug. 1	274	80	22	383
King, Quincy, Colorado Springs, Colo. Saddle-girth	262,053	Aug. 1	275	80	22	383
King, Robert T., Columbus, Ohio. Machine for making split keys	262,898	Aug. 15	1340	379	22	579
King, Sidney B., Buffalo, N. Y. Bottle-stopper	265,424	Oct. 3	228	68	22	1176
King, Sidney D., Pittston, assignor, by mesne assignments, to J. B. Smith, Dunmore, and A. L. King, West Pittston, Pa. Car-truck. (Reissue)	10,194	Sept. 12	891	250	22	940
King, Sidney D., Pittston, assignor, by mesne assignments, to J. B. Smith, Dunmore, and A. L. King, West Pittston, Pa. Dumping-car. (Reissue)	10,215	Oct. 10	866	247	22	1289
King, Sidney D., Pittston, assignor, by mesne assignments, to J. B. Smith, Dunmore, and A. L. King, West Pittston, Pa. Car-truck. (Reissue)	10,216	Oct. 10	867	247; 248	22	1289
King, Theodore E., Westport, Conn. Combined sash-fastener and burglar-alarm	267,224	Nov. 7	336	97	22	1600
King, Thomas P., Brooklyn, N. Y., and F. S. Strong, East Bridgewater, Mass.; said Strong assignor to said King. Heel-trimming machine	267,544	Nov. 14	748	214	22	1678
King, William H. (See Haggerty and King.)						
King, William H. K., Mount Sterling, Ill. Rotary valve and gear	262,899	Aug. 15	1341	379	22	579
King Wool Clipper Company. (See King, Nathan L., assignor.)						
Kingsbury, Ira S., and G. W. Peck, Monticello, Ind. Combined iron and concrete fence-post	261,854	Aug. 1	35	11	22	341
Kingsbury, Joseph A., *et al.* (See Le Count, Thomas J., assignor.)						
Kingsford, Courtenay, London, England. Steam-generator	268,690	Dec. 5	349	102	22	1953
Kingsford, Herbert. (See Trott and Kingsford.)						
Kingsley, Horace L., Racine, Wis. Vehicle king-bolt connection	268,907	Dec. 12	619	182	22	2010
Kinnear, William E., Fremont, assignor of one-half to C. Ford, Cincinnati, Ohio. Clothes-pounder	263,917	Sept. 5	302	87	22	827
Kinney, Arthur E., *et al.* (See Woodward, T. Trask, assignor.)						
Kinney, Charles A., assignor to E. Miller & Co., Meriden, Conn. Lamp-burner	263,534	Aug. 29	2166	618	22	739
Kinney, Francis S. (See De Susini-Ruisoco, Joseph, assignor.)						
Kinney, Horace B., West Winfield, N. Y. Power-press	264,837	Sept. 19	1357	384	22	1033
Kinney Tobacco Company. (See Munson, Albert L., assignor.)						
Kinsey, John L., South Easton, Pa. Power-brake	262,599	Aug. 15	967	272	22	512
Kinsey, Thomas P. (See Kalbach and Kinsey.)						
Kinsey, Thomas P., assignor of one-half to J. G. Kalbach, Reading, Pa. Mashing-tub machinery	267,225	Nov. 7	337	97, 98	22	1600
Kinsman, Frank E., New York, N. Y. Galvanic battery	264,304	Sept. 12	757	211	22	915
Kipling, Francis J. (See Sprague and Kipling.)						
Kirby, Charles K., San Francisco, Cal. Water-raising device	269,295	Dec. 19	1107	323	22	2104
Kirby, John, Jr., Ludlow, Ky. Device for hanging transoms	268,367	Nov. 28	1761	488	22	1876
Kirby, John, Jr., Ludlow, Ky., assignor to Post & Co., Cincinnati, Ohio. Head-light for locomotives	268,027	Nov. 28	1334	374	22	1798
Kirby, John, Jr., Ludlow, Ky., assignor to Post & Co., Cincinnati, Ohio. Car basket-rack	268,458	Dec. 5	141	42	22	1913
Kirby, John, Jr., Ludlow, Ky., assignor to Post & Co., Cincinnati, Ohio. Head-light for locomotives	269,065	Dec. 12	813	241; 242	22	2045
Kirby, John, Jr., assignor to Post & Co., Cincinnati, Ohio. Shade and chimney holder for car-lamps	269,587	Dec. 26	1496	431	22	2184
Kirby, Josiah, Cincinnati, Ohio. Bung	268,026	Nov. 28	1332	374	22	1798
Kirby, Samuel, assignor to Bevin Brothers Manufacturing Company, East Hampton, Conn. Strap for bells, &c	264,411	Sept. 12	873	246	22	937
Kirchner, Albert, assignor of one-half to J. Mnek and M. Kirchner, Chicago, Ill. Bush and bung for barrels and kegs	262,900	Aug. 15	1342	380	22	579
Kirchner, Max, *et al.* (See Kirchner, Albert, assignor.)						
Kirk, Arthur, Sharpsburg, Pa. Movable dam	268,411	Dec. 5	47	14, 15	22	1895
Kirk, Hyland C., and J. T. Brayten, Phelps, N. Y. Balanced thermometer	269,796	Dec. 26	1756	506	22	2233
Kirk, John, Cincinnati, Ohio. Saw-table gage	267,001	Nov. 7	53	17	22	1549
Kirk, Solomon W., assignor of one-fourth to R. Welsh, Philadelphia, Pa. Separating wax from paraffine-oil	267,752	Nov. 21	999	.....	22	1731
Kirkpatrick, Abraham. (See Kirkpatrick, George O. and A.)						
Kirkpatrick, David M., Kansas City, Mo. Sleigh	261,556	July 25	1520	426	22	273
Kirkpatrick, George O. and A., Bridgeport, Cal. Ditching-plow	265,102	Sept. 26	1686	472	22	1097
Kirkpatrick, John, Lincoln, Ill. Gate	260,579	July 4	291	80	22	50
Kirkwood, Peter, J. Wear, Butte City, Mont. Ter., and J. Murdock, Park City, Utah Ter. Ore-battery	264,305	Sept. 12	759	212	22	915
Kirkwood, Thomas, Chicago, Ill. Smoke-consumer for furnaces	268,412	Dec. 5	50	15	22	1896
Kissell, Emanuel M., Springfield, Ohio. Fertilizer attachment for seeding-machines	264,461	Sept. 19	940	264	22	956
Kissell, Martin L. (See Berlew and Kissell.)						
Kitchens, John W., Skullyville County, Ind. Ter. Baling-press	261,855	Aug. 1	36	11	22	341
Kitchens, John W., Skullyville County, Ind. Ter. Baling-press	261,856	Aug. 1	37	11	22	342
Kitching, John B. (See Ritchie, Matthew L., assignor.)						
Kite, Michael, Prairie township, Jackson county, Mo. Sulky-plow	260,427	Dec. 19	1281	372	22	2137
Kites, William D., Russell, Mass. Paper-calender	268,499	Dec. 5	142	42	22	1913
Kitsee, Isidor, Cincinnati, Ohio. Fire-annihilator	260,878	July 11	673	183	22	118
Kitsee, Isidor, Cincinnati, Ohio. Fire-annihilator	260,879	July 11	674	184	22	119
Kitsee, Isidor, Cincinnati, Ohio. Fire-extinguisher	260,993	July 11	821	228	22	143
Kitsee, Isidor, Cincinnati, Ohio. Fire-annihilator	261,238	July 18	1128	315	22	202
Kitsee, Isidor, Cincinnati, Ohio. Fire-damp indicator	262,054	Aug. 1	275	80	22	383
Kitsee, Isidor, Cincinnati, Ohio. Fire-damp indicator	262,055	Aug. 1	277	81	22	384
Kitsee, Isidor, Cincinnati, Ohio. Fire-damp indicator	262,056	Aug. 1	278	81	22	384
Kitsee, Isidor, Cincinnati, Ohio. Fire-damp annunciator	262,057	Aug. 1	280	81, 82	22	384
Kitsee, Isidor, Cincinnati, Ohio. Fire-extinguisher	265,675	Oct. 10	558	153	22	1235
Kitsee, Isidor, Cincinnati, Ohio. Fire-extinguisher	265,676	Oct. 10	559	153	22	1235
Kitsee, Isidor, Cincinnati, Ohio. Electric signal	265,677	Oct. 10	560	154	22	1236
Kitsee, Isidor, Cincinnati, Ohio. Fire-damp indicator	268,908	Dec. 12	619	182	22	2010
Kitson Machine Company, *et al.* (See Kitson, Richard, assignor.)						
Kitson, Richard, assignor to Kitson Machine Company and Whitehead & Atherton Machine Company, Lowell, Mass. Cotton opener and lapper	268,413	Dec. 5	51	15, 16	22	1896
Kitterman, George M., San Rafael, Cal. Egg-beater	261,857	Aug. 1	38	11	22	342
Kitzmiller, Josiah, Keedysville, Md. Vehicle-spring	266,842	Oct. 31	1952	564	22	1503
Kizer, William R., Hammond, Ill. Bosom board and stretcher	268,414	Dec. 5	53	16	22	1896
Klauder, Charles L., Philadelphia, Pa. Enriching dye-baths with dyeing solutions	266,481	Oct. 24	1534	437	22	1419
Klauder, John C., Philadelphia, Pa. Hominy-mill	268,691	Dec. 5	350	102	22	1954
Klaunig, Adolph, Newark, N. J. Lock	268,692	Dec. 5	351	102	22	1954

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Klee, John, Dayton, assignor to E. H. Everett, Newark, Ohio. Bottling-machine	264,039	Sept. 5	462	126	22	854
Kleinert, Isaac B., New York, N. Y. Dress-shield	264,462	Sept. 19	941	265	22	956
Kleppinger, Joseph H., and J. N. Naylor, Cherryville, Pa. Machine for measuring cloth	267,901	Nov. 21	1175	330	22	1765
Kline, Leonard K., Brockport, Pa. Pressure or weight equalizer for bed-bottoms, &c	264,540	Sept. 19	1019	289	22	971
Kline, William, Piqua, Ohio. Table-leaf support	264,306	Sept. 12	760	212	22	915
Klogel, Karl S., Wärdsberg and Bäckestad, near Linköping, Sweden. Sewing-machine	268,909	Dec. 12	622	183	22	2010
Kloss, Robert, Shabonier, Ill. Rolling colter	264,307	Sept. 12	761	212	22	915
Klostermann, William, Cologne, Minn. Middlings-purifier	267,226	Nov. 7	338	98	22	1660
Knapp, Carey W., Geneva, Ohio. Saw-handle	261,932	Aug. 1	137	40	22	359
Knapp, Edward, assignor of two-thirds to G. D. Barnard, St. Louis, Mo. Device for changing speed	261,933	Aug. 1	138	40	22	359
Knapp, George W., Baltimore, Md. Cherry-seeder	269,066	Dec. 12	814	242	22	2046
Knapp, George W., and N. G. Numsen, Baltimore, Md. Soldering-iron	263,413	Aug. 29	2026	579	22	713
Knapp, Milton H., Adrian, Mich. Jeweler's work-bench	260,880	July 11	675	184	22	119
Knapp, Robert L., Halfmoon Bay, Cal. Side-hill plow	265,398	Oct. 3	127	37	22	1157
Knapp, William H., Galesburg, Mich. Bundle-divider for grain-binders	268,028	Nov. 28	1335	374	22	1799
Kneen, James, 2d, Birmingham, and W. M. Reed, Huntington, Conn. Escapement mechanism for watches	269,428	Dec. 19	1282	372	22	2137
Knickerbacker, Thomas A. (See Stone, Jabez, assignor.)						
Knickerbocker, Charles R. (See Taggart, Francis, assignor.)						
Knickerbocker Ice Company. (See Fite, Joseph, assignor.)						
Knickerbocker Ice Company. (See Hunt, Augustus, assignor.)						
Knickerbocker Ice Company. (See Vernier, William F., assignor.)						
Knight, Bradford A., Beatrice, Nebr. Cultivator	265,830	Oct. 10	737	207	22	1266
Knight, Charles B., Lakeville, N. Y. Gate	261,858	Aug. 1	39	12	22	342
Knight, Charles G., Columbus, Ohio. Picture-frame for monuments	269,429	Dec. 19	1282	372	22	2137
Knight, George H. (See Parkhurst, Darius, assignor.)						
Knight, J. Lee, and H. K. Rowley, Topeka, Kans. Display-rack	266,843	Oct. 31	1053	565	22	1503
Knight, John A., Auburn, Me. Medicine-injector	268,805	Dec. 12	493	145	22	1987
Knight, Josiah. (See McDowell, Samuel J., assignor.)						
Knight, Samuel N., Sutter Creek, Cal. Gate and nozzle for water-wheels	267,087	Nov. 7	159	45	22	1569
Knight, Sarah A., administratrix. (See Linnett, John.)						
Knight, Thomas G., Brooklyn, N. Y. Pipe-coupling	260,580	July 4	291	80	22	50
Knight, William B., assignor of one-half to W. C. Knight, Colfax, Ill. Machine for winding fence-wire	269,067	Dec. 12	815	242	22	2046
Knight, Winton C. (See Knight, William B., assignor.)						
Knoop, Josiah, Lost Creek, Ohio. Sheaf-discharger for grain-binders	261,557	July 25	1521	426	22	273
Knopp, Charles and J., Winona, Minn. Curry-comb	265,831	Oct. 10	739	208	22	1266
Knopp, Joseph. (See Knopp, Charles and J.)						
Knorr, Ernst R., Washington, D. C. Projection of charts	264,710	Sept. 19	1209	342	22	1008
Knowles, Daniel, Norfolk, Va. Pile-driver	268,415	Dec. 5	53	16	22	1897
Knowles, John A., assignor of one-half to H. E. Sibley, Towanda, Ill. Automatic grain-measure	269,213	Dec. 19	1001	293	22	2085
Knowles, John H., Johnson, Vt. Draft-equalizer	261,361	July 18	1271	353	22	225
Knowles, Smith, Manchester, county of Lancaster, England. Spring bed-bottom	268,500	Dec. 5	142	42	22	1913
Knowlton, Daniel C., *et al.* (See Chaplin, Orril R., assignor.)						
Knowlton, William A., *et al.* (See Spaulding, George H., assignor.)						
Knowlton, William A., Rockford, Ill. Cultivator	266,482	Oct. 24	1535	437	22	1419
Knox, George L., Jersey City, N. J. Ruler	261,729	July 25	1729	486	22	309
Knox, William C., Groesbeck, Tex. Animal-power	266,844	Oct. 31	1954	565	22	1503
Koch, Sons & Co. (See Harlan, Newton, assignor.) (Reissue.)						
Koch, William, New York, N. Y. Quilting-machine	260,994	July 11	822	229	22	144
Koch, William, New York, N. Y. Sewing-machine	262,298	Aug. 8	597	168 / 169	22	442
Koechlin, Horace, Lorrach, Baden, and O. N. Witt, Mulhausen, Alsace, Germany. Manufacture of blue and violet coloring-matter	261,518	July 18	1457	.....	22	256
Koechlin, Horace, Lorrach, and O. N. Witt, Mulhausen, Germany. Manufacture of blue coloring-matters called "indophenols"	263,341	Aug. 29	1928	.....	22	696
Koechling, Bernhard H., New York, N. Y. Opera-chair	265,108	Sept. 26	1687	472	22	1097
Koehl, Charles C., Paterson, N. J. Book-rest and manuscript-holder	269,683	Dec. 26	1699	461	22	2206
Koehler, Carl F. A., Toronto, Ontario, Canada. Glove	262,434	Aug. 8	758	213	22	471
Koehler, Henry. (See Buell and Wright, assignors.)						
Koehler, Henry F. W., St. Joseph, Mo. Dumping-wagon	261,362	July 18	1272	353	22	225
Koeppel, George, Alma, Wis. Filtering and purifying water in wells	264,463	Sept. 19	942	265	22	956
Kohler, Frederick E., assignor of one-half to I. Harter, Canton, Ohio. Horse hay-rake	269,430	Dec. 19	1283	372	22	2137
Kohlsaat, Herman H., Chicago, Ill. Process of and machinery for desiccating substances	269,684	Dec. 26	1610	461	22	2207
Komp, Albert, New York, N. Y. Machine for staining and drying paper	265,892	Oct. 10	739	208	22	1266
Koon, Charles B., Lincoln, Nebr. Speed-recording machine	269,296	Dec. 19	1108	323	22	2105
Koons, Elmer E. (See Koons, Joseph and E. E.)						
Koons, Joseph and E. E., New Auburn, Minn. Thrashing-machine	260,691	July 4	446	120 / 121	22	75
Korf, Henry, Jr. (See Haney, William H., assignor.)						
Korschilgen, Johann P., Bergisch Gladbach, Germany. Rag-engine	268,806	Dec. 12	494	146	22	1988
Korup, Otto, and J. McGill, Chicago, Ill. Feed mechanism for sewing-machines	261,161	July 18	1037	291	22	188
Kosmak, Gustav, New York, N. Y. Fire-escape	265,678	Oct. 10	561	154	22	1236
Kowalevsky, Woldemar, Moscow, Russia. Receptacle for storing and transporting substances	262,232	Aug. 8	521	146	22	429
Koyl, Charles H. (See Maloney and Koyl.)						
Kozer, Harrison E., Waynesburg, Pa. Metallic roofing	269,297	Dec. 19	1109	323 / 324	22	2105
Kraft, Benjamin F. (See Westley and Kraft.)						
Kraiss, Andrew, New Milford, Ohio. Clamp	262,233	Aug. 8	523	146 / 147	22	429
Kraus, Samuel, assignor to J. Reckendorfer, New York, N. Y. Pen-holder	267,545	Nov. 14	750	214	22	1678
Krause, Frederick W., Chicago, Ill. Pulverizing-machine	268,029	Nov. 28	1336	375	22	1799
Krauser, John L., Tylersburg, Pa. Feed-water heater	265,425	Oct. 3	229	68	22	1177
Krehbiel, John, assignor to S. N. Krehbiel, Lockport, N. Y. Culinary steamer	263,049	Aug. 22	1529	431	22	623
Krehbiel, Sarah N. (See Krehbiel, John, assignor.)						
Kreiter, Samuel, Lake township, Kosciusko county, Ind. Hog scalding and elevating apparatus	263,918	Sept. 5	303	87	22	827
Krementz, George, Newark, N. J. Ear-ring	260,692	July 4	447	121	22	75
Kreuz, Conrad F., Milwaukee, assignor of one-half to J. D. Clarke, Madison, Wis. Railway-tie	263,919	Sept. 5	301	87	22	827

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Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Krichbaum, John G., assignor of one-third to N. Bixler, Youngstown, Ohio. Device for indicating life in buried persons	263,693	Dec. 5	351	102	22	1954
Krickl, Philip M., Chicago, Ill. Folding lounge	263,535	Aug. 29	2167	618	22	739
Krieg, John K. (See Smith, Daniel S., assignor.)						
Kriéger, Alphonse, Paris, France. Machinery for beveling glass	262,954	Aug. 22	1413	399	22	602
Krippendorff, Emile, Wood Haven, assignor to Lalance & Grosjean Manufacturing Company, New York, N. Y. Tea or coffee pot	260,995	July 11	824	229	22	144
Krone, Henry, *et al.* (See Summers, Alexander B., assignor.)						
Kropff, Hermann, New York, N. Y. Cooling apparatus	268,106	Nov. 28	1426	398	22	1815
Krueger, John W., Cincinnati, Ohio. Child's carriage	260,399	July 4	70	19	22	13
Kruesi, John, Menlo Park, N. J. Junction for conductors of systems of electrical distribution	266,483	Oct. 24	1536	437	22	1420
Krüger, Wilhelm, Kalk, near Cologne, Germany. Grain cleaning and assorting machine	260,996	July 11	825	230	22	144
Krumm, John E., Turbotville, Pa. Crown-sheet protector for steam-boilers	261,730	July 25	1729	486	22	309
Krummenauer, John, Brooklyn, assignor to F. Dietz, New York, N. Y. Tubular lamp	269,431	Dec. 19	1284	373	22	2138
Krupp, Alfred, Essen, Germany. Floating battery	265,680	Oct. 10	564	155 / 156	22	1236
Krutzsch, William, assignor to Buckeye Iron and Brass Works, Dayton, Ohio. Band-compressing machine	265,679	Oct. 10	562	154 / 155	22	1236
Krutzsch, William, assignor to Buckeye Iron and Brass Works, Dayton, Ohio. Oil-press mat	266,372	Oct. 24	1424	404	22	1399
Krutzsch, William, assignor to Buckeye Iron and Brass Works, Dayton, Ohio. Oil-press and oil-press box	266,373	Oct. 24	1425	404 / 405	22	1399
Kuehn, George W. (See Dubelman, John, assignor.)						
Kuentz, Henry J. (See Kuentz, Herman H. and H. J.)						
Kuentz, Herman H. and H. J., Sheboygan Falls, Wis. Follower for cheese-hoops	262,955	Aug. 22	1414	399	22	602
Kuhlman, Solomon, Canton, Ohio. Auger	260,997	July 11	827	230	22	144
Kuhlmann, Henry F., assignor of one-half to J. H. Grube, Indianapolis, Ind. Saw-guard	264,412	Sept. 12	874	246	22	937
Kuhne, Theodor, Schwelm, Prussia, Germany. Machine for rolling and reeling wire	261,934	Aug. 1	139	40, 41	22	359
Kuhns, Benjamin, Dayton, Ohio. Anchor for check-rowers	260,881	July 11	676	184	22	119
Kuhns, Benjamin, Dayton, Ohio. Combined seeder and fertilizer-distributer	262,435	Aug. 8	759	213 / 214	22	471
Kuhns, Edward, Indianapolis, Ind. Sash-fastener	263,536	Aug. 29	2168	619	22	739
Kukkuck, Frederick. (See Arnd and Kukkuck.)						
Kukkuck, Frederick, assignor one-half to H. Arnd, St. Louis, Mo. Trunk-cover	268,694	Dec. 5	352	103	22	1954
Kukkuck, Frederick, and H. Arnd, St. Louis, Mo. Making trunk-covers	262,956	Aug. 22	1415	400	22	602
Kulenkamp, John W. (See Goebel, Henry, assignor.)						
Kulich, Anton, Brooklyn, N. Y. Sofa-bed	262,901	Aug. 15	1343	380	22	580
Kunkel, Cornelius, Oregon, Mo. Windmill	262,058	Aug. 1	281	82	22	384
Kunz, Frederick O., assignor to Iler & Co., Omaha, Nebr. Mash-cooler	261,098	July 11	962	268	22	166
Kupka, Clemens, Phillipsburg, N. J., assignor to himself and J. Gleubler, Easton, Pa. Automatic fire extinguisher and alarm	260,998	July 11	828	231	22	144
Kurtis, Joseph, and J. Bray, Springfield, Ohio. Stove-pipe shelf	268,244	Nov. 28	1602	445	22	1848
Kurtz, Charles, *et al.* (See Hogan, Hugh F., assignor.)						
Kurtz, Jacob S., Allegheny, Pa. Lathe for turning insulator-pins, &c	267,434	Nov. 14	609	175	22	1653
Kurtz, William, New York, N. Y. Method of and apparatus for producing photographic images	267,227	Nov. 7	340	98	22	1601
Kurtz, William W. (See McCausland, William J., assignor.)						
Kwoczalla, Alois, Pittsburg, Pa. Fat-cutting machine	269,298	Dec. 19	1100	324	22	2105
Kyle, Rufus P. (See Danner and Kyle.)						
La Bar, Jesse, Slatington, Pa. Folding slate	267,902	Nov. 21	1175	330	22	1765
La Dow, Charles. (See Vose, Albert, assignor.)						
La Dow, Charles, Albany, N. Y. Sulky spring-tooth harrow and cultivator	269,068	Dec. 12	816	242 / 243	22	2046
La Dow, Charles, Albany, N. Y. Spring-tooth sulky-cultivator	269,069	Dec. 12	818	243	22	2047
La Dow, Charles, Albany, N. Y. Cultivator, harrow, and marker	269,070	Dec. 12	820	243 / 244	22	2047
La Dow, John, Albany, N. Y. Baling-press	265,516	Oct. 3	355	97	22	1196
La Grange, Robert J., Philadelphia, Pa. Jewelry-ring	263,920	Sept. 5	305	88	22	827
La Mothe, Bernard J., New York, N. Y. Metallic bedstead or lounge	264,711	Sept. 19	1210	342	22	1008
La Parle, William B. (See Jackson, William W., assignor.)						
La Société Anonyme de Certaldo. (See Josia, Raphael, assignor.)						
Labelle, Charles H., Hoosick Falls, assignor of one-half to C. E. Stroud and D. E. Whitcomb, Hoosick, N. Y. Drive-chain	260,400	July 4	71	20	22	14
Lacey, Griffin S., assignor, by mesne assignments, to American Gas Saving Company, New York, N. Y. Gas-regulator	268,368	Nov. 28	1761	488	22	1876
Lachlan, John M., San Francisco, Cal. Tilting mechanism for hoisting-buckets	268,695	Dec. 5	353	103	22	1954
Lacroix, Pierre, assignor of one-half to D. Bourgeois, Chicago, Ill. Freight-car	268,501	Dec. 5	144	42	22	1914
Lacy, Augustus W., Attleborough, Mass. Carburetor	268,910	Dec. 12	623	183	22	2011
Ladd, Caldwell. (See Frey, Franklin, assignor.)						
Ladd, William C., Kingsley, Fla. Nut-lock	266,165	Oct. 17	1149	324	22	1343
Lafferty, Herbert D., *et al.* (See Vanduzen, Benjamin C., assignor.)						
Lafferty, James V., Philadelphia, Pa. Building	268,503	Dec. 5	146	43	22	1914
Lafferty, Stanley B., *et al.* (See Vanduzen, Benjamin C., assignor.)						
Laflin, John M., New York, N. Y. Apparatus for taking vapor and hot-air baths	267,002	Nov. 7	55	17	22	1550
Laflin, Matthew, Chicago, Ill. Composition roofing	268,030	Nov. 28	1338	.....	22	1799
Lahrmann, Otto, Altona, Germany. Preparing substitutes for mothers' milk	268,245	Nov. 28	1604	445	22	1849
Lahue, Spencer W., Jonesburg, Mo. Combination post-and-rail fence	264,171	Sept. 12	612	168	22	890
Laib, John, King's Station, Ind. Sickle-bar for mowing-machines	263,537	Aug. 29	2170	619	22	739
Laimbeer, Richard H. (See Sanford, Charles E., assignor.)						
Laird, Thomas J. (See Harvey, James M., assignor.)						
Lairdieson, John L., Lowell, Mass. Heddle and means for mounting the same	262,436	Aug. 8	761	214	22	471
Lajeunesse, Jules, assignor of one-half to E. Armant, Montreal, Quebec, Canada. Vehicle-wheel hub	260,999	July 11	830	231	22	145
Lake, Hazleton, Shelburne, Vt. Combined wash-board and clothes-pounder	268,246	Nov. 28	1605	445	22	1849
Lake, James K. (See Clark, William H., assignor.)						
Lake, Jesse S., Pleasantville, N. J. Steering apparatus	269,299	Dec. 19	1112	324	22	2105
Lake, Vincent F. (See Underhill and Lake.)						
Lakenan, James M., Grass Valley, Cal. Boiler-scraping attachment	262,504	Dec. 5	147	43	22	1914
Lakey, John H., Wabasha, Minn. Claw-bar	267,695	Nov. 21	939	265	22	1721
Lalance & Grosjean Manufacturing Company. (See Krippendorff, Emile, assignor.)						
Lalance & Grosjean Manufacturing Company. (See Milligan, John C., assignor.)						
Lally, Michael, North Lawrence, Ohio. Mining-machine	269,214	Dec. 19	1003	293	22	2085
Lamb, Isaac W., Parshallville, assignor of one-half to C. E. Wakeman & Co., Pontiac, Mich. Knitting-machine	262,299	Aug. 8	600	169	22	443

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Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Lamb Knitting Machine Manufacturing Company. (See Marshall, Moses, assignor.)						
Lamb, Robert, *et al.* (See Chamberlain, Blanchard, assignor.)						
Lamb, Watson F., Brooklyn, N. Y. Adjustable easel	261,000	July 11	831	231	22	145
Lambert, Alonzo, Corona, assignor to S. W. Hale & Co., New York, N. Y. Manufacturing bracelets	264,541	Sept. 19	1019	289	22	971
Lambert, Auguste, Fosses-Namur, Belgium. Sewing-machine	262,437	Aug. 8	762	{214 215}	22	472
Lambert, Jules, New York, N. Y. Artificial flower	264,308	Sept. 12	761	212	22	915
Lambert, Paul, assignor to Society "La Reconstitution Viticole," Paris, France. Method of and apparatus for the destruction of phylloxera	261,558	July 25	1522	496	22	273
Lamont, James, Brooklyn, assignor to R. Gair, New York, N. Y. Packing for bottles, jars, &c.	268,247	Nov. 28	1606	446	22	1840
Lamont, Louise. (See Mets, Elisha, assignor.)						
Lanagan, Mike A., assignor of one-half to J. Aylsworth, Knapp's Creek, N. Y. Safety attachment for oil wells and tanks	267,903	Nov. 21	1176	331	22	1765
Lancaster, Bradford F., assignor of one-half to R. W. Black, Augusta, Me. Carriage-wrench	267,228	Nov. 7	341	99	22	1601
Lancaster, Charles B., *et al.* (See Mathison, Joseph, assignor.)						
Lancaster, John P., Goshen, Ind. Grinding-mill	266,845	Oct. 31	1955	565	22	1503
Lancaster, Morris, Richmond, Ind. Apparatus for extracting oil by means of a solvent	265,517	Oct. 3	357	98	22	1196
Lance, Shields D., and W. F. Elliott, Columbus, Ohio. Vehicle-dash fastening	263,538	Aug. 29	2171	619	22	740
Landenberger, Martin, Jr., Philadelphia, Pa. Manufacture of dyed fabrics	262,791	Aug. 15	1210	.....	22	555
Landenberger, Martin, Jr., Philadelphia, Pa. Hosiery and method of cutting the same	262,792	Aug. 15	1211	340	22	555
Landenberger, Martin, Jr., Philadelphia, Pa. Stocking	263,539	Aug. 29	2172	619	22	740
Landenberger, Martin, Jr., Philadelphia, Pa. Fence-post	261,559	July 25	1523	426	22	273
Landers, John F., Auburn, Mass. Wagon-rack	269,685	Dec. 26	1613	462	22	2207
Landis, Abraham, Sr., Elkport, Iowa. Traction-wheel	263,342	Aug. 29	1929	552	22	696
Landis, Frank F., Waynesborough, Pa. Traction-engine	266,698	Oct. 31	1795	{518 519}	22	1473
Landis, Frank F., Waynesborough, Pa. Conpling for shafts	268,807	Dec. 12	494	146	22	1988
Landis, Frank F., Waynesborough, Pa. Traction-engine	268,808	Dec. 12	496	{146 147 148}	22	1988
Landis, Israel L., Lancaster, Pa. Fence	265,518	Oct. 3	360	98	22	1197
Landmann, Julius C., Dutch Flat, Cal. Watch-regulator	269,588	Dec. 26	1497	432	22	2184
Landon, Henry, Massillon, Ohio. Belt-gearing	266,699	Oct. 31	1797	519	22	1474
Landry, Alexander C. (See Lauga, Charles, assignor.)						
Landry, Alexander C., assignor to himself and C. Lauga, New Orleans, La. Filter-press	265,104	Sept. 26	1689	472	22	1097
Landry, Etienne, San Francisco, Cal. Calendering-machine	263,540	Aug. 29	2173	620	22	740
Lane, Ambrose N., Rochester, N. Y. Tube-well	260,401	July 4	72	20	22	14
Lane, Fred. A., New Haven, Conn. Time and alarm clock movement	268,911	Dec. 12	624	184	22	2011
Lane, Jacob C., Elkhart, Ind. Envelope-case	261,731	July 25	1730	486	22	309
Lane, John, assignor of one-half to N. S. Bonton, Hyde Park, Ill. Tunnel-frame for the construction of cable-ways	265,329	Oct. 3	128	37	22	1157
Lane, Julian, Moss Run, Ohio. Churn	268,416	Dec. 5	55	17	22	1897
Lane, Julius S. (See Denmead, John W., assignor.)						
Lane, Lorenzo, and L. D. Woodworth, assignors to Lane & Woodworth Patent Glass Roofing Company, Youngstown, Ohio. Roofing-tile	267,904	Nov. 21	1178	331	22	1765
Lane, Milton L., assignor of one-half to A. Scott, Marengo, Iowa. Fertilizer attachment and insect-exterminator for corn-planters	266,037	Oct. 17	991	281	22	1317
Lane, Thomas W., and F. W. Harrington, Boston, assignors to C. Williams, Jr., Somerville, Mass. Electrical switch-board and signaling apparatus	262,059	Aug. 1	282	82	22	385
Lane & Woodworth Patent Glass Roofing Company. (See Lane and Woodworth, assignors.)						
Lang, John C., assignor to National Shelf and File Company, Washington, D. C. Metallic bill-file	262,793	Aug. 15	1211	340	22	555
Lang, William, New York, N. Y. Rocker-base for chairs	265,266	Oct. 3	48	16	22	1144
Lang, William, Brooklyn, N. Y. Speed-indicator	268,107	Nov. 28	1427	399	22	1816
Lang, William, Brooklyn, N. Y. Box-fastener	268,108	Nov. 28	1428	399	22	1816
Langdon, Nelson M., Chester, N. J. Apparatus for generating gas	263,921	Sept. 5	306	88	22	827
Lange, Jacob C., Sr., *et al.* (See Marchand, Henry E., assignor.)						
Langenbach, Charles J., Dorchester, Iowa. Alarm speed-indicator	261,732	July 25	1731	487	22	309
Langewald, Ferdinand A., Chicopee, Mass. Burglar-alarm	263,922	Sept. 5	309	88, 89	22	828
Langfitt, John W., Redfield, Iowa. Car-coupling	260,759	July 11	535	144	22	96
Langley, John W. Ann Arbor, Mich. Regulator for dynamo-electric machines	265,519	Oct. 3	361	98	22	1197
Langley, William, *et al.* (See Howe, Solon G., assignor.)						
Langley, William L., assignor of one-half to J. Lippincott, Baltimore, Md. Punch for and method of canceling tickets	267,229	Nov. 7	342	99	22	1601
Langlois, John H., Cincinnati, Ohio. Flour feeder and mixer	266,700	Oct. 31	1798	519	22	1474
Lanham, John A., Robertson, Miss. Hay or cotton press	264,712	Sept. 19	1211	342	22	1009
Lankler, Charles. (See Farel and Stumm, assignors.)						
Lanston, Tolbert, Washington, D. C. Faucet	266,484	Oct. 24	1537	438	22	1420
Lapé, George T., Brooklyn, N. Y. Step-ladder	261,239	July 18	1129	{315 316}	22	202
Lapham, Valentine, assignor of two-thirds to J. S. Franz, Marion, and J. B. Franz, Mansfield, Ohio. Reaping or mowing machine knife	265,105	Sept. 26	1690	472	22	1097
Lapyre, Leopold, St. Louis, Mo. Device for transmitting motion and power	262,794	Aug. 15	1212	341	22	556
Larchar, Lewis, Marble Rock, Iowa. Snow-plow	264,542	Sept. 19	1021	289	22	972
Larcom, Rufus E., Beverly, Mass. Stirrup toe-guard	261,733	July 25	1732	487	22	309
Larkin, John E., Poquonock, and J. E. Tower, Rainbow, Conn. Attachment for calender-rolls for paper	268,809	Dec. 12	498	148	22	1988
Laroche, Joseph, New York, N. Y. Machine for cleaning wool on skins	264,309	Sept. 12	762	213	22	915
Larson, Erick, Rothsay, Minn. Rotary swing	261,734	July 25	1732	487	22	309
Larsson, Pehr, Westby, Wis. Rotary steam-engine	267,230	Nov. 7	343	{99 100}	22	1601
Lartigue, Henry, assignor to Société Générale des Téléphonés, Paris, France. Telephone-exchange and apparatus therefor	267,905	Nov. 21	1180	332	22	1766
Lash, John F., Hamilton, Ontario, assignor to W. N. Miller, Toronto, Canada. Rotary engine	269,300	Dec. 19	1113	325	22	2105
Lasher, Charles W., *et al.* (See Blair, John B., assignor.)						
Lasher, Morgan E., Champaign, Ill. Hame-tug	269,797	Dec. 26	1759	507	22	2234
Lasher, William S. (See Black, James M., assignor.)						
Laskey, John H., assignor of one-half to I. F. Dobson, Boston, Mass. Wall-safe for cars	264,172	Sept. 12	612	169	22	890
Laskey, John H., assignor of one-half to I. F. Dobson, Boston, Mass. Sleeping-car	265,615	Oct. 10	475	131	22	1222
Lasscell, William B., New York, N. Y. Uniting straw braid on sewing-machines	269,432	Dec. 19	1286	373	22	2138

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Lasscell, William B., Bayonne, N. J., and C. H. Willcox, assignors to Willcox & Gibbs Sewing Machine Company, New York, N. Y. Straw-hat-sewing machine	269,215	Dec. 19	1004	294	22	2086
Latham, Edward F., Bridgeport, Conn. Feed device for milling-machines	260,760	July 11	536	144	22	96
Lathrop, Katharine S., San Francisco, Cal. Skirt-protecting coat	263,541	Aug. 29	2174	620	22	740
Latshaw, John, and S. Allinder, Indianapolis, Ind. Sand-molding machine	262,795	Aug. 15	1214	341	22	556
Latta, Adrian C., *et al.* (See Latta, Emmit G., assignor.)						
Latta, Emmit G., assignor of two-thirds to A. C. Latta, Friendship, and H. D. Blakeslee, Buffalo, N. Y. Neck-strap buckle and rein-ring	264,713	Sept. 19	1212	343	22	1009
Latta, Emmit G., assignor of two-thirds to A. C. Latta, Friendship, and H. D. Blakeslee, Buffalo, N. Y. Halter	268,248	Nov. 28	1607	446	22	1849
Latta, Emmit G., assignor of two-thirds to A. C. Latta, Friendship, and H. D. Blakeslee, Buffalo, N. Y. Hame	269,071	Dec. 12	823	244	22	2047
Laufenburg, Michael N., assignor to Baker & Hamilton, San Francisco, Cal. Header	260,882	July 11	676	184	22	119
Lauferty, Henry, New York, N. Y. Manufacturing oleomargarine butter	264,714	Sept. 19	1213	.....	22	1009
Lauferty, Henry, New York, N. Y. Manufacture of artificial butter or oleomargarine	265,833	Oct. 10	741	.....	22	1267
Langa, Charles. (See Landry, Alexander C., assignor.)						
Langa, Charles, assignor to himself and A. C. Landry, New Orleans, La. Manufacture of dextrine, glucose, and grape-sugar	267,546	Nov. 14	750	.....	22	1678
Langhlin, William H., Oberlin, Ohio. Key-board for pianos and organs	267,231	Nov. 7	345	100	22	1601
Lauman, Charles A. (See Ray, John S., assignor.)						
Laundray, Adolphus J., Turner's Falls, Mass. Loom-shuttle	265,330	Oct. 3	129	37	22	1158
Laurent, Jacques, Philadelphia, Pa. Lathe	269,686	Dec. 26	1614	462	22	2207
Lautenschlager, Gustave. (See Hauck and Lautenschlager.)						
Laverty, William A. (See Merrill, William E. T., assignor.)						
Law, Lorenzo C., assignor of one-half to C. G. Clark, Toledo, Ohio. Speculum	267,906	Nov. 21	1182	332	22	1766
Lawhead, Thomas R., Paola, Kans. Combined whip and cane	266,166	Oct. 17	1149	324	22	1343
Lawler, Albert B. (See Lawler, James W. and A. B.)						
Lawler, James W. and A. B., Fredericksville, Ill. Draft-equalizer	268,912	Dec. 12	626	184	22	2011
Lawrence, Benjamin, New York, N. Y. Metallic pen	268,249	Nov. 28	1608	446	22	1849
Lawrence, Hiram A. and Z. S., West Shefford, Quebec, Canada; said Z. S. Lawrence assignor to said Hiram A. Lawrence. Sap-spout	262,060	Aug. 1	284	82	22	385
Lawrence, John H. (See Upham, Andrew J., assignor.)						
Lawrence, Zephaniah S. (See Lawrence, Hiram A. and Z. S.)						
Lawrie, John, assignor of one-half to J. W. Holtzman, Brookston, Ind. Shovel-plow	261,001	July 11	832	{231 232}	22	145
Laws, Albert D., Bridgeport, Conn. Cartridge-loading implement	262,061	Aug. 1	285	83	22	385
Lawton, Hiram, Rochester, N. Y. Draft attachment	261,735	July 25	1733	487	22	310
Lay, Edwin R., *et al.* (See Morgan, Hubert W., assignor.)						
Le Blanc, Napoleon, Kansas City, Mo. Wash-stand	268,502	Dec. 5	145	43	22	1914
Le Count, Thomas J., New York, assignor of six-eighths to J. A. Kingsbury and J. G. P. Holden, Yonkers, N. Y. Sewing-machine	264,887	Sept. 26	1428	{403 404}	22	1051
Le Grande, William W., Louisville, Ky. Telegraph and telephone signal	262,063	Aug. 1	286	83, 84	22	385
Le Veque, John. (See Woodbury and Le Veque.)						
Le Vin, George W., Chicago, Ill. Perforating hand-stamp	266,168	Oct. 17	1152	325	22	1344
Lea, Henry E., San Francisco, Cal. Filter attachment for coffee-pots	269,503	Dec. 19	1382	398	22	2155
Leach, Charles H., assignor of one-half to A. P. Sharp, Baltimore, Md. Excavating earth for sinking tubing	260,483	July 4	177	50	22	31
Leach, Henry B., Boston, Mass. Faucet	269,687	Dec. 26	1616	462	22	2207
Leader Publishing Company. (See Weber, John R., assignor.)						
Leadley, James E., Camden, N. J., and J. Hanlon, New York, N. Y., assignors to United Gas Improvement Company, Philadelphia, Pa. Gas-generator	269,798	Dec. 26	1760	507	22	2234
Lean, Asa, West Manchester, Ohio. Scoop-balance attachment for weighing-scales	269,433	Dec. 19	1287	373	22	2138
Leavitt, Augustus J., North Easton, Mass. Can-opener	269,216	Dec. 19	1006	294	22	2086
Leavitt, Charles, Cleveland, Ohio. Elevated cable railway	264,464	Sept. 19	943	265	22	957
Leavitt, George A., Jr., Newburg, N. Y. Automatic damper	268,696	Dec. 5	354	103	22	1954
Lebean, John J., and C. L. Shannon, assignors to Eureka Co-Operative Foundry Association, Cincinnati, Ohio. Fire-place frame	265,834	Oct. 10	742	208	22	1267
Leber, Julius, Minneapolis, Minn. Binding for wire-cloth	261,859	Aug. 1	40	12	22	342
Lechner, Francis M. (See Lechner, Samuel C., assignor.)						
Lechner, Francis M., assignor to Lechner Mining Machine Company, Columbus, Ohio. Chain	261,821	July 25	1836	518	22	327
Lechner Mining Machine Company. (See Lechner, Francis M., assignor.)						
Lechner, Samuel C., assignor of two-thirds to F. M. Lechner, Columbus, Ohio. Chain	267,003	Nov. 7	55	17	22	1550
Lecky, Robert H. (See Hay and Lecky.)						
Lecky, Robert H., Allegheny, Pa. Compression-cock	264,715	Sept. 19	1214	343	22	1009
Leclère, Francis, Philadelphia, Pa. Toothed gear-wheel	263,791	Sept. 5	153	45, 46	22	800
Lederer, Benedict B., Providence, R. I. Charm for watch-chains	264,888	Sept. 26	1431	404	22	1052
Ledig & Herrlein. (See Nacke, Arnold, assignor.)						
Lee, Arthur H., assignor of one-half to T. B. Howe, Scranton, Pa. Raking attachment for furnaces	268,913	Dec. 12	627	184	22	2011
Lee, Benjamin F., administrator. (See Du Motay and Stern.)						
Lee, Benjamin F., *et al.* (See Reeves, Albert S., assignor.)						
Lee, Everett D., *et al.* (See Morse, Henry T., assignor.)						
Lee, Francis, *et al.* (See Reeves, Albert S., assignor.)						
Lee, Frederick J., Oswego, Kans. Latch	260,693	July 4	448	121	22	76
Lee, George M., *et al.* (See Morse, Henry T., assignor.)						
Lee, Henry A., New York, N. Y. Fire-escape	261,002	July 11	833	232	22	145
Lee, J. Lawrence. (See Eberts and Lee.)						
Lee, James, Jr., Stonersville, Pa. Tread for horse-powers	263,343	Aug. 29	1930	{552 553}	22	697
Lee, James, New Brighton, assignor to L. W. Levy, E. Dreyfus, and P. Hecht, New York, N. Y. Optometer	267,088	Nov. 7	160	46	22	1569
Lee, James L., *et al.* (See Marvin, Rial A., assignor.)						
Lee, John. (See Clark and Lee.)						
Lee, John, Mansfield, assignor to Russell Wrench and Novelty Company, Russell, Ohio. Pipe-wrench	269,072	Dec. 12	824	245	22	2048
Lee, John, Mansfield, assignor to Russell Wrench and Novelty Company, Russell, Ohio. Wrench	269,073	Dec. 12	825	245	22	2048
Lee, Robert, Cincinnati, Ohio. Lock-strike	269,799	Dec. 26	1761	508	22	2234
Lee, Robert B., Manchester, county of Lancaster, assignor to J. Hodgson, Ulverstone, England. Device for forming lattice-pillars	265,106	Sept. 26	1691	473	22	1097
Lee, Stephen P. (See Rarey, Joseph P. B., assignor.)						
Lee, William A., Winfield, Kans. Plow	262,062	Aug. 1	285	83	22	385
Lees, John S. (See Hathaway, William A., assignor.)						
Leese, William, Seward, Nebr. Animal-trap	267,004	Nov. 7	56	17	22	1550

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Leet, Charles S. (See Gill and Leet.)						
Lefever, Daniel M., and F. R. Smith, Syracuse, N. Y. Breech loading fire-arm	264,173	Sept. 12	613	169	22	890
Leggett, William. (See Riley, Taylor, and Leggett.)						
Lehigh Stove and Manufacturing Company. (See Amey, Jackson, assignor.)						
Lehmann, William, Milwaukee, Wis. Grinding-disk	261,099	July 11	963	269	22	166
Lehmann, William, Milwaukee, Wis. Bosom-staff for millstones	265,267	Oct. 3	48	16	22	1144
Leibe, Hugo, assignor of one-half to W. M. Lerch, Baltimore, Md. Harness-loop	261,240	July 18	1130	316	22	202
Leigh, John. (See Clarke and Leigh.)						
Leighton, William E., West Pembroke, Me. Combined music-stool and pedal attachment	265,107	Sept. 26	1692	473	22	1678
Leikvol, Sander H., Appleton, Minn. Permutation-padlock	267,547	Nov. 14	752	214	22	1098
Leinbach, Felix W., C. A. Wolle, and E. H. Brunner, assignors to said Wolle, Bethlehem, Pa. Paper-bag machine	269,434	Dec. 19	1288	373, 374, 375	22	2138
Leininger, William H., Salem, Oreg. Amalgamator	267,089	Nov. 7	102	46	22	1766
Leirmann, George W., assignor of one-half to T. Gingras, Buffalo, N. Y. Swivel-hook	267,907	Nov. 21	1183	333	22	1569
Leishman, John G. A., assignor to himself, W. P. Snyder, Pittsburg, and J. M. Lippincott, Kilbuck township, Allegheny county, Pa. Casting pig metal	265,926	Oct. 10	838	239	22	1285
Leiter, Josef, Vienna, Austria-Hungary. Feeding device for pipes for cooling and warming the body	267,435	Nov. 14	611	176	22	1653
Leith, Ernest. (See Rappold and Leith.)						
Leland, Laurin, Holliston, Mass. Machine for assorting cranberries	263,542	Aug. 29	2175	620	22	740
Lemle, George, New Orleans, La. Rain-water cut-off	268,914	Dec. 12	628	184	22	2012
Lemmon, John A., Hill Grove, Va. Boot or shoe	269,800	Dec. 26	1761	508	22	2234
Lemert, Henry L. (See Wurntz and Lemert.)						
Lemon, Walter W., Collegeville, Cal. Ironing-board	263,414	Aug. 29	2028	579	22	713
Lenard, William R., assignor of one-half to J. T. Donovan, Waco, Tex. Bale-band replacer and tightener	260,402	July 4	73	20	22	14
Lennig, George G. (See Huntington, George F., assignor.)						
Lenox, Edwin S., Worcester, Mass. Apparatus for the manufacture of barbed fencing	264,174	Sept. 12	615	169	22	890
Lenox, Edwin S., assignor to Washburn & Moen Manufacturing Company, Worcester, Mass. Machine for forming blank hooks for wire bale-ties	262,796	Aug. 15	1214	341	22	556
Lenox, Edwin S., assignor to Washburn & Moen Manufacturing Company, Worcester, Mass. Machine for finishing the blanks of wire bale-ties	262,797	Aug. 15	1216	341	22	556
Lensing, Bernard, Evansville, Ind. Weighing attachment to carts	266,846	Oct. 31	1956	565	22	1504
Lentz, John G., Hiawatha, Kans. Tug-slide	267,005	Nov. 7	57	18	22	1550
Lenz, Peter. (See Nohr, William, assignor.)						
Leonard, Catherine M. (See McCaffrey and Leonard.)						
Leonard, Charles H., Grand Rapids, Mich. Refrigerator	261,736	July 25	1734	488	22	310
Leonard, Charles N., Indianapolis, Ind. Reversing-valve for engines	263,711	Sept. 5	46	14	22	783
Leonard, Edmund T., Baltimore, Md. Car-coupling	263,543	Aug. 29	2176	621	22	741
Leonard, George D., New York, N. Y. Tray or drawer for displaying spools	267,232	Nov. 7	347	100	22	1602
Leonard, Henry P., Boston, Mass. Wig	260,484	July 4	178	50	22	21
Leonard, Thomas P. S., Highlandtown, Baltimore county, Md. Street-railway track	261,737	July 25	1736	488	22	310
Lerch, William M. (See Leibe, Hugo, assignor.)						
Leslie, Andrew, St. Louis, Mo. Invalid-hammock	266,167	Oct. 17	1150	325	22	1343
Leslie, Arthur M., Chicago, Ill. Sewing-machine	261,363	July 18	1273	354, 355	22	225
Leslie, Arthur M., Cleveland, Ohio. Sewing-machine stand	262,300	Aug. 8	602	169, 170	22	443
Leusre, Clarence J. (See Nixon, Robert N., assignor.)						
Letchworth, Ogden P., *et al.* (See Basinger, James M., assignor.)						
Letchworth, Ogden P., Buffalo, N. Y. Flame	266,847	Oct. 31	1957	566	22	1504
Letchworth, William C., *et al.* (See Basinger, James M., assignor.)						
Letmate, Frederick W., Washington, D. C. Winding attachment for clocks	261,003	July 11	834	232, 233	22	146
Letz, Charles M., assignor of one-half to A. Zeese & Co., Chicago, Ill. Machine for notching and trimming electrotypes	267,353	Nov. 14	501	144	22	1634
Levalley, Christopher W., St. Paul, Minn. Mowing-machine	263,291	Aug. 22	1817	516, 517	22	677
Levalley, Christopher W., St. Paul, Minn., assignor of one-half to S. D. Locke, Hoosick Falls, N. Y. Cord-holder for grain-binders	260,485	July 4	179	50	22	31
Levett, Alexander. (See Levett, Morris H., assignor.)						
Levett, Alexander. (See Müller, Hans J., assignor.)						
Levett, Alexander. (See Whittemore, Walter P., assignor.)						
Levett, Alexander, assignor to Zucker & Levett Chemical Company, New York, N. Y. Buffing or polishing wheel	269,688	Dec. 26	1617	462	22	2208
Levett, Morris H., assignor of one-half to A. Levett, New York, N. Y. Machinery for buffing and polishing	261,860	Aug. 1	40	12	22	342
Levin, Marks, New York, N. Y. Vest	268,417	Dec. 5	56	17	22	1897
Levy, Abraham B. (See Loewenthal, Simon, assignor.)						
Levy, Jacob, St. Louis, Mo. Cooking utensil	261,465	July 18	1393	388	22	245
Levy, Julius. (See Sallberg, Moses, assignor.)						
Levy, Louis W., *et al.* (See Lee, James, assignor.)						
Levy, Sally M., Milwaukee, Wis. Looping attachment for knitting-machines	263,923	Sept. 5	310	89	22	828
Lewin, John M., Lockport, N. Y., assignor of one-half to S. S. Mutton, Toronto, Canada. Bottle-stopper	267,650	Nov. 14	877	250	22	1701
Lewis, Albert F. and J. B., Urbana, Ohio. Car-coupling	263,544	Aug. 29	2177	621	22	741
Lewis, Charles D., Georgetown, Colo. Egg-carrier	267,233	Nov. 7	348	101	22	1602
Lewis, Charles W., assignor, by mesne assignments, to Western Electric Company, Chicago, Ill. Telephone-switch	266,295	Oct. 24	1313	371	22	1379
Lewis, Charles W., assignor, by mesne assignments, to Western Electric Company, Chicago, Ill. Telephone-switch	266,374	Oct. 24	1427	405	22	1460
Lewis, Daniel, Jennings County, Ind. Wire-fence tightener	269,801	Dec. 26	1762	508	22	2234
Lewis, Daniel L. Bradford, assignor to Oil Well Supply Company, (limited,) Oil City, Pa. Pump-rod adjuster for oil-wells	265,835	Oct. 10	743	209	22	1267
Lewis, Daniel L., Bradford, Pa., assignor to I. Lewis, Johnsonsburg, N. Y., and L. C. Hallock, Erie, Pa. Oil-well packer	266,848	Oct. 31	1958	566	22	1504
Lewis, Frank A., Minneapolis, Minn. Lifting-jack	269,435	Dec. 19	1291	375	22	2139
Lewis, G. T. (See Fisher, Robert A., assignor.)						
Lewis, George E., Seneca Falls, N. Y. Lawn-mower	263,344	Aug. 29	1931	553	22	697
Lewis, George H., Andover, Mass. Furniture-pad	268,697	Dec. 5	355	104	22	1955
Lewis, George L., Boston, Mass. Reversible necktie	265,109	Sept. 26	1694	473	22	1098
Lewis, George L., Boston, assignor, by mesne assignments, of one-half to C. S. Gooding, Brookline, Mass. Necktie-holder	265,108	Sept. 26	1693	473	22	1098

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Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Lewis, Isaac, *et al.* (See Lewis, Daniel L., assignor.)						
Lewis, John B. (See Lewis, Albert F. and J. B.)						
Lewis, John L., Pittsburg, Pa. Machine for punching and shearing metal	262,600	Aug. 15	968	272	22	512
Lewis, Ladd J., Grand Rapids, Mich. Wash-bench	262,234	Aug. 8	523	147	22	429
Lewis & Macdougall. (See Lewis, William C., assignor.)						
Lewis, O. E. (See Robinson, Stillman W., assignor.)						
Lewis, Pearl C., Catskill, N. Y. Hose-nozzle	269,217	Dec. 19	1006	294	22	2086
Lewis, Peter, *et al.* (See Duff, Alexander R., assignor.)						
Lewis, Thomas A., and G. W. Call, Urbana, Ill. Cultivator	261,738	July 25	1737	488	22	310
Lewis, William C., assignor to Lewis & Macdougall, New York, N. Y. Child's carriage	262,545	Aug. 8	888	251	22	493
Lewis, William H., Brooklyn, assignor to E. & H. T. Anthony & Co., New York, N. Y. Combined stereoscope and graphoscope	265,110	Sept. 26	1694	474	22	1098
Lewkowitz, Benjamin, New York, N. Y. Tray for finger-rings	267,090	Nov. 7	163	46	22	1569
Leymarie, Jean B. (See Grataloup and Leymarie.)						
Libby, Oliver A., assignor of one-half to J. W. Bennett, Lowell, Mass. Barrel-head strengthening device	267,091	Nov. 7	164	47	22	1570
Libby & Spier. (See Conant, Hamilton S., assignor.)						
Liddell, Mark J., East Saginaw, Mich. Scoop	266,849	Oct. 31	1959	566	22	1504
Liddell, Robert. (See Sylvester, William, assignor.)						
Liddell, William, assignor of one-half to R. Gair, New York, N. Y. Music-leaf turner	264,716	Sept. 19	1215	343	22	1009
Liebenroth, Von Auw & Co. (See Bolle, Albert R., assignor.)						
Liebreich, Oskar, Berlin, Germany. Manufacturing soap	265,520	Oct. 3	362	.....	22	1197
Liernur, Charles T., Haarlem, Holland. Automatic gear for pneumatic sewerage-conduits	264,717	Sept. 19	1217	344	22	1010
Liezenhoff, Franz, *et al.* (See Schmidt, Christian, assignor.)						
Lightbody, Colin, Brooklyn, N. Y. Waste or sewer trap	266,485	Oct. 24	1539	438	22	1420
Lightburne, Stafford, Jr., San Francisco, Cal. Coupling	263,415	Aug. 29	2028	579	22	714
Lightcap, William H., Hazel Green, Wis. Feeding apparatus for thrashing-machines	262,064	Aug. 1	291	84	22	386
Lightfoot, Benjamin H., *et al.* (See Lightfoot, Francis, assignor.)						
Lightfoot, Francis, Media, assignor of one-half to B. H. Lightfoot, Allegheny, and J. M. Price, Lansdowne, Pa. Railway-rail joint	262,438	Aug. 8	764	215	22	472
Lightfoot, Francis, Media, assignor of one-half to J. M. Price, Lansdowne, and B. H. Lightfoot, Allegheny, Pa. Clip for vehicles	262,546	Aug. 8	889	252	22	494
Lightfoot, William, Jr., Toronto, Ontario, Canada. Inking apparatus	264,088	Sept. 12	524	143	22	874
Lighthall, Almerin H., assignor to W. B. Carr, San Francisco, Cal. Combined header and thrashing-machine	266,701	Oct. 31	1799	520, 521, 522	22	1474
Lighthall, Almerin H., assignor to W. B. Carr, San Francisco, Cal. Grain-separator	266,702	Oct. 31	1801	522	22	1474
Lillie, S. Morris, Philadelphia, Pa. Treating new bone-black and revivifying old bone-black	260,486	July 4	180	51	22	31
Lillie, S. Morris, Philadelphia, Pa. Washing bone-black in sugar-refineries and apparatus for carrying on the same	263,710	Sept. 5	43	13	22	782
Lilliendahl, Gustavus A., Jersey City, N. J., assignor to C. A. Johnson, Brooklyn, N. Y. Fire-balloon	262,235	Aug. 8	524	147	22	430
Lilloe, Christian J., Byron, assignor of one-half to L. G. Nelson, Kasson, Minn. Corn-planter	261,162	July 18	1037	292	22	188
Lima Iron Fence Company. (See Devoe, Benjamin G., assignor.)						
Limpach, Carl F. L., assignor to Farbwerke, vormals Meister, Lucius & Brüning, Höchst-on-the-Main, Germany. Manufacture of coloring-matter	268,505	Dec. 5	147	.....	22	1914
Limpach, Carl F. L., assignor to Farbwerke, vormals Meister, Lucius & Brüning, Höchst-on-the-Main, Germany. Manufacture of coloring-matter	268,506	Dec. 5	148	.....	22	1914
Limpach, Carl F. L., assignor to Farbwerke, vormals Meister, Lucius & Brüning, Höchst-on-the-Main, Germany. Manufacture of coloring-matter	268,507	Dec. 5	149	.....	22	1915
Lincoln, Horatio B., *et al.* (See Stamour, John B., assignor.)						
Lincoln, Howard H. (See Brown, Alexander T., assignor.)						
Lincoln, Isaac W., St. Joseph, Mo. Fire-escape	267,096	Nov. 21	939	265	22	1721
Lincoln, Samuel E., Fulton, N. Y. Device for holding embroidery-hoops	265,521	Oct. 3	363	99	22	1197
Lincoln, Tifft & Co. (See Pollak, Morris, assignor.)						
Lincoln, William E., Warren, Mass. Milk-skimmer	261,241	July 18	1131	316	22	202
Lincoln, William E., Warren, Mass. Apparatus for obtaining cream from milk	262,065	Aug. 1	292	85	22	386
Lincoln, William E. (See Dennett and Lind.)						
Lind, George G. (See Dennett and Lind.)						
Lindale, August. (See Murphy, Walter A. S., assignor.)						
Lindauer, Joseph, assignor to Tiffany & Co., New York, N. Y. Chime-clock	267,092	Nov. 7	166	47	22	1570
Lindemann, Albert J. and C., Milwaukee, Wis. Stove-pipe	261,004	July 11	837	233	22	146
Lindemann, Charles. (See Lindemann, Albert J. and C.)						
Lindemann, John G., New York, N. Y. Apparatus for stretching fabrics	263,792	Sept. 5	155	46	22	800
Lindemann, John G., New York, N. Y. Chimney-top	263,793	Sept. 5	156	46	22	801
Linderman, Albert B., assignor of one-half to H. Disston, Philadelphia, Pa. Railway-tie	262,798	Aug. 15	1217	342	22	556
Lindholm, Charles H. (See Emerson and Lindholm.)						
Lindner, Frank H., Brooklyn, N. Y. Advertising device	265,836	Oct. 10	744	209	22	1267
Lindner, George. (See Dorsch and Lindner.)						
Lindsay, Thomas J., and W. J. Miner, Windfall, Ind. Corn-planter	262,439	Aug. 8	765	215	22	472
Lindsey, David J., Las Animas, Colo. Apparatus for operating railway-signals	267,436	Nov. 14	612	176	22	1653
Linenschmidt, Henry E. (See Thiele, Edward, assignor.)						
Linford, Charles, Pittsburg, Pa. Increasing and reducing joint for electric-wire conduits	268,031	Nov. 28	1338	375	22	1799
Link Belt Machinery Company. (See Rinehart, William D., assignor.)						
Linnett, John, deceased, S. A. Knight, Birmingham, county of Warwick, England, administratrix, and assignor to H. S. and E. B. Munson, New Haven, Conn. Manufacture of paper and card-board boxes	269,682	Dec. 26	1608	461	22	2206
Linney, John H., San Francisco, Cal. Combined paper-file and file-holder	264,175	Sept. 12	615	170	22	890
Linscott, John J. (See Beedy, Seth E., assignor.)						
Linscott, John M., assignor, by mesne assignments, to himself and L. C. Peck, Lewiston, Me. Stop-motion for looms	263,292	Aug. 22	1823	517	22	678
Linton, Edward F. (See Linton, Hobart, assignor.)						
Linton, Edward F., East New York, N. Y., assignor to Unexcelled Fireworks Company, of New York. Pyrotechnic signal	262,440	Aug. 8	766	215	22	472
Linton, Edward F., East New York, N. Y., assignor to Unexcelled Fireworks Company, of New York. Toy balloon	262,441	Aug. 8	767	216	22	472
Linton, Edward F., East New York, N. Y., assignor to Unexcelled Fireworks Company, of New York. Pyrotechnic trail	262,442	Aug. 8	768	216	22	472
Linton, Hobart, Boston, Mass., assignor to E. F. Linton, East New York, N. Y. Game	262,066	Aug. 1	293	85	22	386
Linxweiler, Charles. (See Willi and Linxweiler.)						
Lipe, Charles E. (See Sweet and Lipe.)						
Lipman, George C., Brooklyn, N. Y. Letter-copying book	266,169	Oct. 17	1154	325	22	1344
Lippincott, John. (See Langley, William L., assignor.)						
Lippincott, John, Baltimore, Md. Ticket-punch	264,465	Sept. 19	944	266	22	957

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Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Lippincott, Joseph M., *et al.* (See Leishman, John G. A., assignor.)						
Lippy, David, Mansfield, Ohio. Clover-huller	265,111	Sept. 26	1696	474	22	1098
Lippy, David, and J. Hughes, Mansfield, Ohio. Traction-engine	261,005	July 11	838	230	22	146
Lisle, Jacob B., assignor to himself and O. S. Kelly, Springfield, Ohio. Lathe	267,354	Nov. 14	502	144	22	1635
Lisle, William, Jr., *et al.* (See Paul and Kampfe, assignors.)						
Lister, Samuel C., and J. Reixach, Manningham, county of York, England. Machine for finishing pile fabrics	263,416	Aug. 29	2029	580 / 581	22	714
Lister, Samuel C., and J. Reixach, Manningham, county of York, England. Loom for weaving double-pile fabrics	263,417	Aug. 29	2031	581 / 582	22	714
Lister, Samuel C., and J. Reixach, Manningham, near Bradford, county of York, England. Loom for weaving double-pile fabrics	268,250	Nov. 28	1609	446 / 447	22	1849
Lister, Samuel C., and J. Reixach, Manningham, near Bradford, county of York, England. Machinery for cutting double-pile fabrics	268,418	Dec. 5	57	17, 18	22	1897
Litchfield, Clinton, *et al.* (See Covel, William L., assignor.) (Reissue.)						
Litchfield, Harvey T., Hull, assignor of one-half to D. Renshaw, Cohasset, Mass. Utilizing exhaust-steam	261,163	July 18	1039	292	22	189
Litchfield, Harvey T., Hull, and D. Renshaw, Cohasset, Mass. Burning and carbureting air	261,861	Aug. 1	42	12	22	342
Litchfield, Harvey T., Hull, and D. Renshaw, Cohasset, Mass. Hydrocarbon-furnace	262,236	Aug. 8	525	147	22	430
Litchfield, Harvey T., Hull, and D. Renshaw, Cohasset, Mass. Hydrocarbon-furnace	262,957	Aug. 22	1416	400	22	602
Litchfield, Harvey T., Hull, and D. Renshaw, Cohasset, Mass. Utilizing exhaust-steam	262,958	Aug. 22	1418	400	22	603
Litchfield, Harvey T., Hull, and D. Renshaw, Cohasset, Mass. Utilizing exhaust-steam	262,959	Aug. 22	1419	400	22	603
Litchfield, Harvey T., Hull, and D. Renshaw, Cohasset, Mass. Hydrocarbon-furnace	262,960	Aug. 22	1420	401	22	603
Litchfield, Harvey T., Hull, and D. Renshaw, Cohasset, Mass. Utilizing the exhaust of engines	263,050	Aug. 22	1531	431	22	623
Litchfield, Harvey T., Hull, and D. Renshaw, Cohasset, Mass. Utilizing exhaust-steam	264,466	Sept. 19	945	266	22	957
Litchfield, Harvey T., Hull, and D. Renshaw, Cohasset, Mass. Utilizing exhaust-steam	268,419	Dec. 5	59	18	22	1898
Litell, William, Boise City, Idaho Ter. Truss-bridge	265,331	Oct. 3	130	38	22	1158
Littell, J. Reed, Washington, D. C., assignor to W. C. L. Fitzhugh, Valley Mills, Tex. Bed-spring	268,698	Dec. 5	356	104	22	1955
Little, James, assignor to S. W. Little, Evansville, Ind. Saw-mill dog	264,089	Sept. 12	525	143	22	874
Little, John E., Princeton, Ind. Gate	264,718	Sept. 19	1220	345	22	1010
Little, S. W. (See Little, James, assignor.)						
Littlefield, Augustus F., Lynn, assignor to Improved Sole Sewing Machine Company, Boston, Mass. Sole-channeling machine	261,862	Aug. 1	43	13	22	343
Littlefield, Dependence S. (See Chard and Littlefield.)						
Littlefield, Nahum, Portland, Me. Extension fire-ladder	262,799	Aug. 15	1218	342	22	557
Litton, Edward L., and J. J. Brown, Gaffney City, S. C. Plow attachment	268,699	Dec. 5	356	104	22	1955
Litzelmann, Victor, assignor to M. Ams, New York, N. Y. Extracting glycerine from fatty matter	267,753	Nov. 21	999	.....	22	1731
Litzenberg, Charles S., Indianola, Iowa. Ventilator for mining-shafts	261,466	July 18	1394	389	22	246
Livergood, Hiram J., Brantford, Ontario, Canada. Middlings-purifying machine	266,296	Oct. 24	1314	371 / 372	22	1379
Livermore, Charles F. (See Bartlett and Waite, assignors.)						
Livermore, Edward, assignor to H. Galpen, New York, N. Y. Fruit-jar	269,074	Dec. 12	826	245	22	2048
Livermore, Joseph P., Boston, Mass. Railway-signal apparatus	266,297	Oct. 24	1316	372	22	1379
Livingston, George, Oskaloosa, Iowa. Rein-holder	267,093	Nov. 7	168	48	22	1570
Livingston, James, and J. Kennedy, Toronto, Ontario, Canada. Relief-valve for engines	269,301	Dec. 19	1115	325	22	2106
Livingston, Lewis H., Jr. (See Vonderlinden, Charles, assignor.)						
Ljokel, Johan C., Chicago, Ill. Awning	267,006	Nov. 7	58	18	22	1550
Llorens, Richard. (See Flatow, Simon J., assignor.)						
Lloyd, Clement E. (See Wheeler, William F., assignor.)						
Lloyd, Clinton, Williamsport, Pa. Railway alarm-signal	264,719	Sept. 19	1221	345	22	1010
Lloyd, Edwin J. (See Delne, George V., assignor.)						
Lloyd, Edwin L., assignor to E. Louderback, Philadelphia, Pa. Adjustable window-screen	269,075	Dec. 12	828	245	22	2048
Loch, Joseph, assignor to himself and G. Baxer, New York, N. Y. Locking-latch	266,170	Oct. 17	1154	326	22	1344
Locke, Bradford H., Central City, Colo. Drill-carriage	261,935	Aug. 1	141	41	22	360
Locke, Putnam W., Paris, Me. Carpet-lining	264,889	Sept. 26	1432	.....	22	1050
Locke, Sylvanus D. (See Levalley, Christopher W., assignor.)						
Locke, Sylvanus D., Hoosick Falls, N. Y. Grain-binder	260,487	July 4	183	51	22	32
Locke, Sylvanus D., Hoosick Falls, N. Y. Harvester	263,545	Aug. 29	2178	621 / 622	22	741
Lockwood, Henry S. (See Lyon and Lockwood.)						
Lockwood, John W. (See Smith and Lockwood.)						
Lockwood, Joseph E., Paris, France, assignor to United States Electric Lighting Company, New York, N. Y. Apparatus for treating carbon conductors	266,703	Oct. 31	1802	523	22	1474
Lockwood Manufacturing Company *et al.* (See Lyon and Lockwood, assignors.)						
Lockwood, Robert M., and S. H. Bartlett, assignors, by mesne assignments, to Molecular Telephone Company, New York, N. Y. Transmitter for telephones. (Reissue)	10,183	Aug. 15	1359	384	22	583
Lockwood, Thomas D., Malden, Mass. Telephone system	260,683	July 11	677	185	22	119
Lockwood, Thomas D., Malden, Mass. Electrical signaling apparatus for telephone-lines	260,884	July 11	679	185	22	120
Loeb, Adolf, assignor to himself and S. Nathan, New York, N. Y. Satchel	269,802	Dec. 26	1763	508	22	2235
Loewenthal, Simon, assignor of one-half to A. B. Levy, New York, N. Y. Nursing-vest	269,504	Dec. 19	1383	398	22	2155
Logan, James, Waterloo, N. Y. Portable mold for cisterns	265,522	Oct. 3	364	99	22	1197
Logan, John B., Indianapolis, assignor of one-half to Indianapolis Patent and Copy Right Company, Marion County, Ind. Combined dressing-bureau and bedstead	261,006	July 11	839	234	22	146
Logan, Samuel, Clinton, Ill. Metallic loop for halters	261,242	July 18	1132	316	22	202
Logan, Thomas W., La Fontaine, Ind. Cultivator-tooth	263,546	Aug. 29	2180	622	22	742
Loisean, Emile. (See McWilliam and Loisean.)						
Lojda, Ignatz, New York, N. Y. Rotary engine	265,332	Oct. 3	131	38	22	1158
Lomont, Francis A. (See Lomont, Francois T. and F. A.)						
Lomont, Francois T. and F. A., Cedar Rapids, Iowa. Grain-binder	261,007	July 11	840	234 / 235	22	146
Long, David, East Thetford, Mich. Fence	267,548	Nov. 14	753	215	22	1678
Long, Edwin. (See Long, Richard and E.)						
Long, Frank. (See Cameron and Long.)						
Long, John C., Richmond Furnace, Pa. Valve	267,234	Nov. 7	348	101	22	1602
Long, John T., Monsey, N. Y. Apparatus for separating gold and silver from gravel and sand	267,697	Nov. 21	940	266	22	1721
Long, Leonard, Richford, Wis. Water-wheel	264,890	Sept. 26	1432	404 / 405	22	1052
Long, Richard and E., Iowa City, Iowa. Pile-driver	262,067	Aug. 1	295	85	22	387
Long, Uriah, and J. J. Quinn, Denver, Colo. Car-coupling	265,426	Oct. 3	231	69	22	1177

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Longley, William L., Westbrook, Me., assignor to S. D. Warren, Boston, Mass. Apparatus for reclaiming soda from the spent liquors of pulp-mill digesters	262,443	Aug. 8	769	216	22	473
Loo Chew Fan, San Francisco, Cal. Shoe	261,439	July 18	1363	381	22	241
Loo Chew Fan, San Francisco, Cal. Forming button-holes	264,521	Sept. 19	1002	282	22	968
Look, John C., Yuba City, Cal. Car-coupling	263,186	Aug. 22	1689	479	22	652
Loomis, Eugene E. (See Richardson, Trimmer, and Loomis.)						
Loomis, Henry M., Hartland Centre, Conn. Wheelbarrow	264,720	Sept. 19	1222	345	22	1010
Loomis, Henry W., Holyoke, assignor of one-half to R. Crittenden, Northampton, Mass. Screw-blank feeder	264,040	Sept. 5	463	126	22	854
Loomis, William H., Alameda, Cal. Stove-grate	264,090	Sept. 12	526	144	22	874
Loots, William H. (See Chipman, Leavitt B., assignor.)						
Lord, Andrew H., and B. L. Sawyer, Chicago, Ill. Ash-chute for fire-places	267,794	Nov. 21	1052	294	22	1741
Lord, George L., Waupaca, Wis. Elevator-bucket attachment	263,924	Sept. 5	312	89	22	828
Lord, Henry S., and C. Birkery, assignors to Hartford Sanitary Plumbing Company, Hartford, Conn. Water-closet valve	265,112	Sept. 26	1697	474	22	1099
Lord, Peter, assignor of two-thirds to J. B. and A. S. Vinet, Montreal, Quebec, Canada. Car-brake	262,800	Aug. 15	1220	342	22	557
Lord, Tyler C., assignor of one-half to F. E. Marsh, Joliet, Ill. Horse hay-rake	268,109	Nov. 28	1428	399	22	1816
Lord, Tyler C., assignor of one-half to F. E. Marsh, Joliet, Ill. Anchor for check-row cord or wire	268,110	Nov. 28	1429	400	22	1816
Lord, Tyler C., assignor of one-half to F. E. Marsh, Joliet, Ill. Horse hay-rake	268,111	Nov. 28	1430	400	22	1816
Loree, John W., Fenwick, Mich. Animal-catcher	265,113	Sept. 26	1699	475	22	1099
Loreman, James F., assignor of one-half to T. H. Bock, Crisfield, Md. Dredge-chock	269,803	Dec. 26	1764	509	22	2245
Loretz, Charles A., Brooklyn, N. Y. Connecting the waste-pipes of buildings with sewers	262,801	Aug. 15	1221	343	22	557
Lorillard & Co., P. (See Harmon, Orville S., assignor.)						
Loring, Sanford E., Castleton, Vt. Brick or tile and mold for its manufacture	261,364	July 18	1277	355	22	226
Loring, Thomas G. (See Cameron, Wilmot F., assignor.)						
Loth, Moritz. (See Harding, Isabel, assignor.)						
Lott, Arthur, Brooklyn, N. Y. Screen	267,007	Nov. 7	59	18	22	1550
Lott, Harrison C., Lexington, Ill. Grain-separator	267,549	Nov. 14	754	215	22	1679
Lottier, Lawrence, Richmond, Va. Plug-tobacco	267,235	Nov. 7	350	101	22	1603
Lotz, William H. (See Roberts and Lotz.)						
Lond, Herbert. (See Ferrall, Thomas R., assignor.)						
Louderback, Edwin. (See Lloyd, Edwin L., assignor.)						
Loughlin, John F., Hyde Park, Mass. Electric station-indicator	267,437	Nov. 14	613	177	22	1653
Louisville Leaf Tobacco Company. (See Robinson, Goldsborough, assignor.)						
Lovatt, James W., Paterson, N. J. Tension device for silk-spinning machines	261,936	Aug. 1	143	41	22	360
Love, Charles W., Fairpoint, Ohio. Track-clearer for mowing-machines	260,581	July 4	293	81	22	50
Love, John. (See Savage and Love.)						
Lovejoy, John, West Lebanon, N. H. Railway switch-rod and rail-coupler	269,529	Dec. 26	1417	409	22	2169
Lovejoy, John, West Lebanon, N. H. Switch-rod and coupler	269,530	Dec. 26	1418	410	22	2169
Lovelace, Walter A., West De Pere, Wis. Charcoal-kiln	266,850	Oct. 31	1960	566 / 567	22	1504
Lovell Manufacturing Company. (See Lovell, Melvin N., assignor.)						
Lovell, Melvin N., assignor to Lovell Manufacturing Company, (limited,) Erie, Pa. Spring bed-bottom	265,114	Sept. 26	1700	475	22	1099
Lovell, Melvin N., assignor to Lovell Manufacturing Company, (limited,) Erie, Pa. Spring bed-bottom	265,115	Sept. 26	1700	475	22	1099
Lovell, Melvin N., assignor to Lovell Manufacturing Company, (limited,) Erie, Pa. Adjustable spring bed-bottom	265,116	Sept. 26	1701	475 / 476	22	1100
Lovell, William W., Racine, Wis. Valve-gear	265,682	Oct. 10	566	157	22	1237
Loveridge, Orange M., Weaverville, Cal. Packing for pipe-joints	265,681	Oct. 10	565	156	22	1237
Low, A. Augustus. (See Johnson and Low.)						
Low, Charles H., assignor of one-half to J. P. Adams, Sandwich, Ill. Drive-chain	261,243	July 18	1133	317	22	202
Low, Edgar M. and T. S., Pulaski, Ill. Hay-press	266,486	Oct. 24	1541	438	22	1421
Low, Joel B., San Francisco, Cal. Rope railway	264,041	Sept. 5	464	127	22	854
Low, Joel B., and A. K. Grim, San Francisco, Cal. Rope railway	264,413	Sept. 12	873	246	22	937
Low, John B., Falls Village, Conn. Lubricator	264,176	Sept. 12	616	170	22	890
Low, Truman S. (See Low, Edgar M. and T. S.)						
Lowe, Frank W. (See Wilbur, Henry A., assignor.)						
Lowe, Joseph A., Gainesville, Tex. Flour-sieve	263,547	Aug. 29	2180	622	22	742
Lowe, Nathaniel M. (See Edson and Lowe.)						
Lowe, Robert W. (See Brownley, Patrick, assignor.)						
Lowell, John P. (See Goold, Frank C., assignor.)						
Lownes, Phineas W. (See Hartmann, William C., assignor.)						
Lowry, Lucien P., Aurora, Tex. Ribbon and lace show-cabinet	264,543	Sept. 19	1021	289	22	972
Lowry, Thomas, St. Louis, Mo. Grinding apparatus	263,548	Aug. 29	2181	622	22	742
Lowth, James, Chicago, Ill. Cabinet-bedstead	268,032	Nov. 28	1340	375	22	1709
Loyd, A., *et al.* (See Edmonds, John P., assignor.)						
Lozier, Abraham W., New York, N. Y. Swinging bedstead	261,617	July 25	1590	446	22	286
Lubin, David, assignor of one-half to H. Weinstock, Sacramento, Cal. Shirt	260,694	July 4	449	122	22	76
Lubin, David, assignor of one-half to H. Weinstock, Sacramento, Cal. Thimble	260,695	July 4	450	122	22	76
Lubin, David, assignor of one-half to H. Weinstock, Sacramento City, Cal. Cuff-button	264,838	Sept. 19	1359	384	22	1034
Lubin, David, assignor of one-half to H. Weinstock, Sacramento City, Cal. Bottle	264,839	Sept. 19	1360	385	22	1034
Lucas, Albert G. (See Gilbert, Edward F., assignor.)						
Lucas, Cora E. (See Bulkeley, John S., assignor.)						
Lucas, Joseph, Los Angeles, Cal. Device for breaking balky horses	269,589	Dec. 26	1498	432	22	2185
Lucas, Robert H., San Francisco, Cal., assignor to F. M. McMillan and H. C. Johnson, Washington, D. C. Refrigerating by means of ammonia. (Reissue)	10,161	July 18	1461	408	22	257
Luce, George W., *et al.* (See Heaton, Horace L., assignor.)						
Luce, William H., Prairie Centre, Ill. Cultivator	269,689	Dec. 26	1618	463	22	2208
Lüdeke, Edward, Gottingen, Hanover, Germany. Velocipede	269,076	Dec. 12	828	246	22	2048
Ludlow, Herbert, Brooklyn, assignor to W. H. H. Rogers, New York, N. Y. Folding box	267,698	Nov. 21	941	266	22	1721
Lueckel, August, Brooklyn, assignor to S. Hildesheimer & Co., New York, N. Y. Picture-exhibitor. (Reissue)	10,178	Aug. 8	897	254	22	495
Luehrs, Michel D., Cleveland, Ohio. Machine for threading bolts	268,508	Dec. 5	149	44	22	1915
Lufkin, Edwin, assignor of one-half to E. H. Nealley, Monroe, Me. Lantern-holder	261,618	July 25	1593	446	22	286
Lufkin, Edwin, assignor of one-half to E. H. Nealley, Monroe, Me. Lantern-holder	266,704	Oct. 31	1803	523	22	1475
Lufkin, John W., Chelsea, Mass. Button-hole cutter	262,961	Aug. 22	1422	401	22	603
Luft, Franz, New Orleans, La. Machine for disintegrating fibrous material	265,117	Sept. 26	1703	476	22	1100
Luft, Franz, New Orleans, La. Disintegrating-machine for jute, &c	266,038	Oct. 17	992	281	22	1317
Luger, Anton, Vienna, Austria-Hungary. Jar	266,375	Oct. 24	1429	405	22	1400
Lührs, Adolph, New York, N. Y. Vent-faucet	264,177	Sept. 12	617	170	22	891

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Lumis, Thomas J. (See Cowman, Dickinson, and Lumis.)						
Lummus, Elijah E. (See Matthews, Elbridge G., assignor.)						
Lummus, Franklin H., Brooklyn, N. Y. Cotton-gin	266,376	Oct. 24	1430	405	22	1400
Lund, Gustav. (See Christensen and Lund.)						
Lund, Henry O., Bridgeport, Conn. Mechanical toy	261,244	July 18	1134	317	22	203
Lund, John. (See Ditson, Allen, assignor.)						
Lund, Robert. (See Hind and Lund.)						
Lundqvist, Alexius T., New York, N. Y. Flower-stand	260,696	July 4	451	122	22	76
Lunger, James E., Litchfield, Pa. Wagon-brake	265,268	Oct. 3	49	16	22	1144
Lungren, Charles M. (See Haskins and Lungren.)						
Luppen, Luppe, Pekin, Ill. Sulky-plow	261,365	July 18	1279	355	22	226
Luppen, Luppe, Pekin, Ill. Cultivator	261,863	Aug. 1	41	13	22	343
Luppert, George, Williamsport, Pa. Machine for preparing rail-pieces of bureaus, &c	265,523	Oct. 3	365	99	22	1198
Lupton, George, Brooklyn, N. Y. Candlestick	261,100	July 11	964	269	22	166
Lusk, Albert, San Francisco, Cal. Soldering-machine	261,366	July 18	1280	356	22	226
Luther, Joseph J., East Providence, R. I. Reversible water-filter	268,420	Dec. 5	60	19	22	1898
Luthy, Adolph, assignor to himself and G. W. Royce, New York, N. Y. Safety-catch for breastpins	261,008	July 11	846	235	22	147
Lutz, George W., Indianapolis, Ind. Compressible piston	262,962	Aug. 22	1423	401	22	604
Lux, John H. and P., Earlville, Iowa. Hay elevator and carrier	260,697	July 4	451	122 123	22	76
Lux, Philip. (See Lux, John H. and P.)						
Luxem, Jacob, Racine, Wis. Fanning-mill	267,699	Nov. 21	942	266	22	1722
Luyties, Gerhard and H. E. G., New York, N. Y. Bottle-stopper	265,118	Sept. 26	1704	476	22	1100
Luyties, Henry E. G. (See Luyties, Gerhard and H. E. G.)						
Lykke, Svend, Omaha, Nebr. Car-brake	263,925	Sept. 5	313	90	22	828
Lyle, Robert W., assignor to Otis & Goosline, Rochester, N. Y. Machine for cutting sewer-pipe rings	267,700	Nov. 21	943	266 267	22	1722
Lymburner, J. Ferdinand, Chicago, Ill. Harrow	268,015	Dec. 12	628	185	22	2012
Lynch, Edward P., Davenport, Iowa. Cultivator	263,187	Aug. 22	1690	479	22	653
Lynch, Garry G., Illawara, La. Plant-sprinkler	260,761	July 11	538	145	22	96
Lynch, Howard, assignor to R. K. Davies & Company, New York, N. Y. Boy's jacket	265,119	Sept. 26	1705	476 477	22	1100
Lynch, John, *et al.* (See Titzel, James C., assignor.)						
Lynch, John, *et al.* (See Titzel, John A., assignor.)						
Lynch, John H., Baltimore, Md. Bread-cutter	266,851	Oct. 31	1961	567	22	1504
Lynch, Matthew W., assignor of one-half to D. Curtis, Madison, Wis. Harness-saddle	269,590	Dec. 26	1498	432	22	2185
Lynch, Timothy, Dundee, N. Y. Door-hanger	262,068	Aug. 1	295	85	22	387
Lynchard, William H., and G. S. Saunders, Mount Pleasant, Iowa. Weather-strip	267,355	Nov. 14	503	144	22	1635
Lynde, Charles H., Marlborough, assignor of one-half to W. W. Whitacre, Cleveland, Ohio. Grain-binder and corn-husker combined	265,269	Oct. 3	50	16	22	1144
Lynes, John, Price, Mo. Fodder-press	268,033	Nov. 28	1341	376	22	1800
Lynk, Charles O., Peru, Ind. Baggage-check	261,164	July 18	1040	292	22	189
Lynn, Frank C., assignor to himself and A. W. Geiger, Norristown, Pa. Car-coupling	267,908	Nov. 21	1184	333	22	1767
Lyon, Ames M., New York, N. Y., and H. S. Lockwood, South Norwalk, Conn., assignors to Stein & Lyon, New York, N. Y., and Lockwood Manufacturing Company, South Norwalk, Conn. Toy box for exploding fulminate wafers	265,616	Oct. 10	476	131	22	1222
Lyon, Charles W., Philadelphia, Pa. Oil-can	267,236	Nov. 7	351	102	22	1603
Lyon, Henrietta J., Newark, N. J. Attachment for pants	265,524	Oct. 3	367	100	22	1198
Lyon, James B., and J. Anderson, assignors to O'Hara Glass Company, (limited,) Pittsburg, Pa. Machine for finishing and fire-polishing glassware	263,051	Aug. 22	1532	431	22	623
Lyon, Marcus W., and W. B. Gordon, U. S. Army. Line-throwing projectile	265,969	Oct. 17	909	258	22	1303
Lyon, Reuben C., Centralia, Wis. Running-gear for wagons	260,582	July 4	294	81	22	50
Lyon, William, Newark, N. J. Boot or shoe	269,077	Dec. 12	830	246	22	2049
Lyons, Evert D., New Orleans, La. Gas cooking apparatus	262,444	Aug. 8	770	216	22	473
Lytch, James, Laurinburg, N. C. Door-check	268,700	Dec. 5	357	104	22	1955
Lytle, Henry B., Boston, Mass. Telephone-transmitter	260,488	July 4	184	51	22	32
Lytle, Henry B., Boston, Mass. Telephone-signaling apparatus	263,926	Sept. 5	314	90	22	829
Mabury, James B., Chillicothe, Ohio. Coffee or tea pot	264,721	Sept. 19	1223	346	22	1011
MacDonald, Robert. (See Van Hillmayer, Niklas, assignor.)						
MacGonigle, Robert G., *et al.* (See Pentz, Levi, assignor.)						
MacKellar, Alexander D., deceased, (J. MacKellar, administrator,) Brooklyn, N. Y. Siphon-pump	266,377	Oct. 24	1430	406	22	1401
MacKellar, John, administrator. (See MacKellar, Alexander D.)						
MacMillan, John. (See Gowans and MacMillan.)						
MacNaughton, James, Edinburg, Scotland. Breech-loading fire-arm	264,723	Sept. 19	1225	346	22	1011
Macarthy, Charles E., Forsyth, Ga. Car-coupling	263,549	Aug. 29	2182	623	22	742
Macaulay, Thomas A., New York, N. Y. Sewing-machine	265,683	Oct. 10	567	157	22	1237
Macaulay, Thomas A., New York, N. Y. Sewing-machine	265,684	Oct. 10	568	157	22	1237
Macaulay, Thomas A., New York, N. Y. Sewing-machine	265,685	Oct. 10	569	157 158	22	1237
Macaulay, Thomas A., New York, N. Y. Sewing-machine	265,686	Oct. 10	570	158 159	22	1237
Macaulay, Thomas A., New York, N. Y. Sewing-machine	265,687	Oct. 10	571	159	22	1238
Macaulay, Thomas A., New York, N. Y. Sewing-machine	269,218	Dec. 19	1007	294	22	2086
Macdonald, Angus, Boston, Mass. Ear-trumpet	269,078	Dec. 12	830	246	22	2049
Macdougall, Mathew. (See Muller, Friederich, assignor.)						
Macfarlan, John G., Richmond, county of Surrey, England. Process of and apparatus for the manufacture of ammonia and animal charcoal	267,550	Nov. 14	754	215 216	22	1679
Machette, Edwin Y. (See Pearson, Robert P., assignor.)						
Macholdt, Francis, New York, N. Y. Apparatus for fumigating and preserving food	260,489	July 4	185	52	22	32
Mack, John D. (See Mack, William B. and J. D.)						
Mack, William. (See Deeds, John B., assignor.)						
Mack, William, Terre Haute, Ind. Opera-glass holder	268,112	Nov. 28	1431	400 401	22	1817
Mack, William B., Boston, Mass. Injector	262,069	Aug. 1	297	86	22	387
Mack, William B. and J. D., Boston, Mass.; said J. D. Mack assignor to said William B. Mack. Injector	262,070	Aug. 1	298	86	22	387
Mackay, Murdoch, assignor of one-half to R. E. Goolden, London, England. Manufacture of insulating compounds	268,034	Nov. 28	1342	.....	22	1800
Mackey, William, Brooklyn, N. Y. Safety-line and reeling attachment	267,909	Nov. 21	1184	333	22	1767
Mackie, Matthew W. W. (See Wright and Mackie.)						
Mackinnon Pen Company. (See Sutherland and Brown, assignors.)						
Mackintosh, Edward D. (See Pryibil and Mackintosh.)						
Mackintosh, James, Philadelphia, Pa. Conduit for underground electric wire cables	264,722	Sept. 19	1224	346	22	1011

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Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Mackintosh, James H., Paterson, N. J. Boiler and furnace	269,690	Dec. 26	1619	463	22	2208
Mackintosh, William, Providence, R. I. Conduit for underground electric conductors	266,171	Oct. 17	1155	326	22	1344
Mackintosh, William, Callao, Peru, South America. Wet gas-meter	268,251	Nov. 28	1611	448	22	1850
Maclagan, James, Toronto, Ontario, Canada. Mechanical contrivance for computing time	262,679	Aug. 15	1063	298 299	22	530
Macleod, William A., *et al.* (See Chaplin, Orril R., assignor.)						
Macleod, William A., *et al.* (See Jennison, Charles R., assignor.)						
Macomber, Samuel M., Grand Isle, Vt. Hand corn-planter	266,487	Oct. 24	1542	439	22	1421
Macquart, Gustave, Red Bluff, Cal. Railway-signal	268,916	Dec. 12	629	185	22	2012
Madden, John, Cleveland, Ohio. Vapor-burner	260,762	July 11	539	145	22	96
Maddin, Samuel D., St. Paul, Minn. Harvester	261,367	July 18	1281	356 357	22	226
Maddin, Samuel D., St. Paul, Minn. Harvester	262,963	Aug. 22	1424	402	22	604
Maddox, Thomas P., St. Louis, Mo. Trestle	264,310	Sept. 12	763	213	22	916
Maedel, Charles B., Kansas City, Mo. Button-fastening	269,302	Dec. 19	1115	325	22	2106
Maffitt, Richard W., and J. Brannan, Philadelphia, Pa. Railway-gate	262,502	Aug. 15	1222	343	22	557
Magne, Jean J., Les Lilas, near Paris, France. Fluid ink	260,583	July 4	295	.....	22	50
Magne, Jean J., Les Lilas, near Paris, France. Isographic process	260,584	July 4	295	81	22	50
Magneso Calcito Fire-Proof Company. (See Nolan, John H., assignor.)						
Magone, Peter, *et al.* (See Keenan, Hugh, assignor.)						
Maguire, Patritius F., New York, N. Y. Folding umbrella	264,544	Sept. 19	1022	290	22	972
Mahaffy, William A., Rushford, Minn. Roller flour-mill	263,927	Sept. 5	318	90	22	829
Mahaffy, William A., Rushford, Minn. Roller-mill	266,488	Oct. 24	1543	439	22	1421
Mahedy, Francis. (See Pallett and Mahedy.)						
Mahon, John F., London, Ontario, Canada. Gleaning and binding machine	266,489	Oct. 24	1545	439 440	22	1421
Maillard, Henry, New York, N. Y. Machine for making candy	265,970	Oct. 17	910	259	22	1303
Maine Box Company. (See Fiske, Henry P., assignor.)						
Mainland, John Y., Boston, Mass., assignor to Brunswick Berth Company. Self-leveling berth	262,964	Aug. 22	1425	402	22	604
Maish, Joseph, Iowa City, Iowa. Bridge	264,724	Sept. 19	1226	346	22	1011
Major, Edward J., Montreal, Quebec, Canada. Fence-post	267,701	Nov. 21	944	267	22	1722
Makepeace, Lysander O., Worcester, Mass. Machine for producing stitch-impressions on soles for boots or shoes	267,702	Nov. 21	945	267	22	1722
Makepeace, Lysander O., Worcester, Mass. Manufacture of impression-stitch soles for boots and shoes	268,421	Dec. 5	62	19	22	1898
Makepeace, William T., Marston's Mills, Mass. Ax	267,703	Nov. 21	947	276	22	1722
Malotte, George R., Watkins, N. Y. Screw-plate	263,550	Aug. 29	2183	623	22	742
Malette, John F., Watkins, N. Y. Writing-tablet. (Reissue)	10,198	Sept. 19	1308	387	22	1035
Malkoff, Andrew A. and V. Paskin, St. Petersburg, Russia. Magazine fire-arm	262,803	Aug. 15	1224	344	22	558
Mallen, James, Wellsville, Ohio. Pulley	262,445	Aug. 8	771	217	22	473
Mallett, Edward J., Jr., New York, N. Y. Locomotive-furnace	262,071	Aug. 1	299	86	22	388
Mallett, Edward J., Jr., New York, N. Y. Boiler or other furnace	262,072	Aug. 1	301	86, 87	22	388
Mallett, Edward J., Jr., New York, N. Y. Apparatus for condensing exhaust-steam and heating air and water	262,073	Aug. 1	303	87	22	388
Mallett, Francis W., Slatington, Pa. School-slate	268,252	Nov. 28	1612	448	22	1850
Mallon, Francis T., Pawcatuck, Conn. Machine for shelling peas and beans and cutting vegetables	261,009	July 11	847	235	22	147
Mallon, Francis T., Pawcatuck, Conn. Screen	264,725	Sept. 19	1227	347	22	1011
Mallory, James H., La Porte, Ind. Towel-rack	261,817	July 25	1831	517	22	326
Malmgren, Charles O. (See Dyer and Malmgren.)						
Malmström, Peter. (See Dummer and Malmström.)						
Maloy, William R., Wayland, Mo. Adjustable straw-stacker	264,311	Sept. 12	763	213	22	916
Malo, Huzeb, Wellington, Ill. Trace-carrier	266,852	Oct. 31	1961	567	22	1505
Maloney, James A., Washington, D. C., and C. H. Koyl, Cobourg, Ontario, Canada, assignors to American Electrophore Company, Washington, D. C. Plate for secondary batteries	266,172	Oct. 17	1157	326	22	1344
Maltby, Christopher C., Chico, Cal. Washer-cutter	268,509	Dec. 5	150	44	22	1915
Maltby, Philo, Cleveland, Ohio. Machine for grinding drills	262,074	Aug. 1	305	87, 88	22	389
Maltby, Philo, Cleveland, Ohio. Tool-holding device	264,726	Sept. 19	1228	347	22	1012
Man, Buel A. (See Wilson, George W., assignor.)						
Man, William, *et al.* (See Platt, Thomas A., assignor.)						
Manchester, Benjamin B., Providence, R. I. Tool for holding the frames and backs of jewelry together for burnishing	267,094	Nov. 7	169	48	22	1570
Manchester, Francis L. (See Richardson, John D., assignor.)						
Manchester, Francis L. (See Richardson and Manchester.)						
Mancy, Lenard, Sedalia, Mo. Grain-car door	265,838	Oct. 10	746	210	22	1268
Manhattan Brass Company. (See White, James H., assignor.)						
Mann, Charles A., Buffalo, N. Y. Wire fence	266,705	Oct. 31	1804	523	22	1475
Mann, Charles H., Philadelphia, Pa. Drop-shutter for instantaneous photography	267,095	Nov. 7	170	48	22	1571
Mann, Friedrich, assignor to J. F. Schoellkopf, Jr., Buffalo, N. Y. Manufacture of rosaniline color	262,680	Aug. 15	1064	.....	22	530
Mann, James W., Brockville, Ontario, Canada. Seeding-machine	263,188	Aug. 22	1692	480	22	653
Mann, John H., Crafton, Tex. Colter attachment	269,436	Dec. 19	1291	375	22	2139
Mann, Lewis, Detroit, Mich. Transferring and calling implement for telephone exchanges	262,301	Aug. 8	604	170	22	443
Mann, Lewis, Detroit, Mich. Connecting device for operators' telephones	266,853	Oct. 31	1962	567	22	1505
Mann, Lewis, Detroit, Mich. Implement for closing and testing electric circuits	266,854	Oct. 31	1963	568	22	1505
Mann, William B., Baltimore, Md. Process of and apparatus for testing cans	265,837	Oct. 10	745	209	22	1268
Mann, William T., *et al.* (See Beechey, Charles G., assignor.)						
Manning, George O., Baltimore, Md. Head for packing-cases	265,839	Oct. 10	747	210	22	1268
Manning, John, New York, N. Y. Paint-oil	269,591	Dec. 26	1499	.....	22	2185
Manning, John J., Mill River, Mass. Method of and apparatus for cleaning the wire web of paper-making machines	267,704	Nov. 21	947	268	22	1723
Manny, Abraham J., St. Louis, Mo. Rotary colter	262,446	Aug. 8	772	217	22	473
Manor, Edward P. (See Blodgett, Gardner S., assignor.)						
Mansell, Elbridge S., Lynn, Mass. Machine for forming heel-stiffeners	267,438	Nov. 14	615	178	22	1654
Mansell, Elbridge S., assignor to G. O. Tarbox, Lynn, Mass. Heel-machine	262,902	Aug. 15	1344	380 381	22	580
Mansell, Elbridge S., assignor to G. O. Tarbox, Lynn, Mass. Heel-machine	263,203	Aug. 22	1825	517 518	22	678
Mansell, Elbridge S., assignor to G. O. Tarbox, Lynn, Mass. Machine for forming heel-stiffeners	267,439	Nov. 14	617	178 179	22	1654
Manson, Edward E., *et al.* (See Ash, Joseph, assignor.)						
Manuel, Victor, London, England. Vessel for food and other articles	263,928	Sept. 5	319	90	22	829

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Manville & Clark. (See Messer, Horace W., assignor.)						
March, John, Eden, N. Y. Hay-press	269,303	Dec. 19	1116	326	22	2106
Marchand, Charles, New York, N. Y. Manufacture of binoxides of barium and calcium	267,551	Nov. 14	756	217	22	1679
Marchand, Henry E., Allegheny, Pa. Machine for making shingles	266,173	Oct. 17	1158	327	22	1344
Marchand, Henry E., Pittsburg, assignor of two-thirds to W. J. Beckfeld and J. C. Lange, Sr., Allegheny, Pa. Liquid-measuring pump	264,312	Sept. 12	765	{213 / 214}	22	916
Marcy, Frederick I. (See Walcott, Jabez E., assignor.)						
Marden, Aldis H., Cambridge, Mass. Car-brake	263,052	Aug. 22	1533	432	22	623
Marea, Carlos. (See Fominaya, Pedro A., assignor.)						
Marichenski, Moska, London, England. Lamp	262,804	Aug. 15	1226	344	22	558
Maringer, Fritz, Dusseldorf, Prussia, Germany. Screw-propeller	262,681	Aug. 15	1065	300	22	531
Marini, Luigi G. (See Benkert and Marini.)						
Mark, Jacob, New York, N. Y. Vault-light	262,965	Aug. 22	1427	402	22	604
Markel, John L. (See Megow and Markel.)						
Marker, Stephen A., Newark, N. J. Bridle and halter	264,178	Sept. 12	618	171	22	891
Markham, Dewitt C., Collinsville, N. Y. Mower	265,525	Oct. 3	367	101	22	1198
Markley, Philemon, Lewistown, Ill. Car-coupling	260,763	July 11	540	146	22	97
Marks, Walter, Chapinville, N. Y. Fertilizer-distributer	260,764	July 11	541	146	22	97
Marmon, Daniel W., and J. Warrington, assignors to Nordyke & Marmon Company, Indianapolis, Ind. Roller-mill	265,927	Oct. 10	840	{239 / 240 / 241}	22	1285
Marmon, Daniel W., and J. Warrington, assignors to Nordyke & Marmon Company, Indianapolis, Ind. Roller-mill	266,490	Oct. 24	1546	440	22	1422
Marple, George, Osage City, Kans. Automatic check-row and drill attachment for corn-planters	265,840	Oct. 10	748	210	22	1268
Marquis, James B., Norwich, N. Y. Dairy apparatus	265,843	Oct. 10	751	211	22	1269
Marquis, James B., Norwich, N. Y. Dairy apparatus	265,844	Oct. 10	752	211	22	1269
Marquis, James B., Norwich, N. Y. Dairy apparatus	267,237	Nov. 7	351	102	22	1603
Marquis, James B., Norwich, N. Y. Device for measuring the thickness of cream	269,804	Dec. 26	1765	509	22	2235
Marsden, Mark W., assignor of one-third to Alex. Matchett, Pittsburg, Pa. Plastering compound	269,219	Dec. 19	1008	.....	22	2086
Marsden, Samuel L., New Haven, Conn. Stone and ore crusher	264,179	Sept. 12	619	171	22	891
Marsellis, George, assignor of one-fourth to J. C. Green, Mechanicsville, N. Y. Car-coupling	267,008	Nov. 7	60	18	22	1550
Marsh, Cyrus, Vicksburg, Miss. Fence-post	265,526	Oct. 3	370	101	22	1198
Marsh, Daniel A. (See Firman, Benjamin F., assignor.)						
Marsh, Frank E. (See Lord, Tyler C., assignor.)						
Marsh, George A., Brunswick, Me. Machine for heading cans	265,617	Oct. 10	477	{131 / 132}	22	1223
Marsh, George E. (See Comp and Marsh.)						
Marsh, John W., Oxford, Mass. Attaching window-shades to rollers	265,688	Oct. 10	572	160	22	1238
Marshall, Charles E., Lockport, N. Y. Fruit-washer	265,120	Sept. 26	1706	477	22	1101
Marshall, Frank W. (See Ellis, George H., assignor.)						
Marshall, George B. (See Jones and Marshall.)						
Marshall, George S., Everett, Mass. Compound for culinary use	264,545	Sept. 19	1023	.....	22	972
Marshall, Howard, and C. S. Reinhart, Goldendale, Wash. Ter. Trace-carrier	263,929	Sept. 5	320	91	22	830
Marshall, Moses, assignor to Lamb Knitting Machine Manufacturing Company, Chicopee Falls, Mass. Knitting-machine	267,982	Nov. 21	1272	357	22	1782
Marshall, Thomas, East Greenwich, London, England. Nursing-bottle-tube cleaner	265,842	Oct. 10	749	211	22	1269
Marshall, William H., Oxford, Miss. Gate-latch	261,010	July 11	849	236	22	148
Marshman, Newman R., New York, N. Y. Flute-organ	264,891	Sept. 26	1433	405	22	1052
Marston, Frank W., Boston, Mass. Rolling-bearing	260,585	July 4	296	81	22	51
Marteeny, Tillman A., Peoria, Ill. Revolving sign	265,841	Oct. 10	749	210	22	1268
Martin, Herman H., and C. Harthon, Millington, Ill. Apparatus for operating pumps	265,527	Oct. 3	371	101	22	1198
Martin, John B., Cincinnati, Ohio. Pendulum-scales	262,966	Aug. 22	1427	403	22	604
Martin, John S., Cherry Fork, Ohio. Type-writer	264,091	Sept. 12	527	144	22	875
Martin, Joseph B., assignor to Howes, Babcock & Ewell, Silver Creek, N. Y. Flour-packer	268,253	Nov. 28	1613	448	22	1850
Martin, Morris, Malden, assignor of one-half to E. A. and F. O. Jeffery, Boston, Mass. Automatic fire-alarm	266,706	Oct. 31	1805	524	22	1475
Martin, Myron R., Brooklyn, N. Y. Gearing for windmills	267,440	Nov. 14	619	179	22	1655
Martin, Myron R., Rutland, assignor of one-half to Baker Manufacturing Company, Evansville, Wis. Gearing for windmills	261,739	July 25	1739	489	22	310
Martin, Orin D. D., Augusta, Ga. Car-coupling	263,189	Aug. 22	1693	480	22	653
Martin, Samuel W., Springfield, Ohio. Hose-reel	268,510	Dec. 5	151	44	22	1915
Martin, Samuel W., and C. D. Hank, Springdeld, Ohio. Stop-valve	260,490	July 4	186	52	22	32
Martin, Thomas R., assignor to Waterbury Brass Company, Waterbury, Conn. Primer for cartridges	267,552	Nov. 14	757	217	22	1680
Martin, William, Tidioute, Pa. Device for heating railway-cars	267,009	Nov. 7	61	19	22	1551
Martin, William, Tidioute, Pa. Pipe-coupling	268,917	Dec. 12	630	185	22	2012
Martin, William H. (See Dickinson and Martin.)						
Martindale, Elijah B., Indianapolis, Ind. Wheel or pulley	266,707	Oct. 31	1806	524	22	1475
Martindale, Elijah B., Indianapolis, Ind. Wheel or pulley	266,708	Oct. 31	1806	524	22	1475
Martindale, Elijah B., Indianapolis, Ind. Pulley	266,709	Oct. 31	1807	524	22	1475
Martindale, Lynn B. (See Divine, Calvin L., assignor.)						
Martinez, Dionysius M. (See Pagan, Orestes, assignor.)						
Martius, Carl, Berlin, Germany. Coloring-matter	268,113	Nov. 28	1432	.....	22	1817
Martyny, Frank S., Cincinnati, Ohio. Folding cot	269,079	Dec. 12	831	247	22	2049
Maruchean, Elizabeth L., San Antonio, Tex. Plaque and picture hanger	261,740	July 25	1740	490	22	311
Marvin, Rial A., Reading, Mich., assignor to P. Schneidewend and J. L. Lee, Chicago, Ill. Galley-bracket	261,368	July 18	1283	357	22	227
Marvin, Willis B., New York, N. Y. Fire-proof safe	263,930	Sept. 5	321	91	22	830
Masek, Wenzel, Philadelphia, Pa. Tanning apparatus	266,174	Oct. 17	1160	327	22	1345
Mason, Charles T., Sumter, S. C. Escapement for fly-fans, &c.	263,190	Aug. 22	1694	480	22	654
Mason, David D., assignor of two-thirds to B. F. Garland and G. P. Whitman, Manchester, N. H. Adjustable jack-strap for looms	266,491	Oct. 24	1548	{440 / 441}	22	1422
Mason, Edward T., *et al.* (See Schwuchow, Herman F., assignor.)						
Mason, Edward T., Chicago, Ill. Shipping-can	268,422	Dec. 5	62	19	22	1898
Mason, George W., Washington, D. C. Swing	262,447	Aug. 8	772	{217 / 218}	22	473
Mason, George W., Washington, D. C. Convertible swing and chair	266,492	Oct. 24	1549	441	22	1422
Mason & Hamlin Organ Company. (See Kelly, George B., assignor.)						
Mason & Hamlin Organ and Piano Company. (See Chard and Littlefield, assignors.)						
Mason, Henry, Chicago, Ill. Feeding light fuel	261,864	Aug. 1	46	13	22	343

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
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Mason, Henry T., Foxburg, Pa. Bearing for mill-spindles, &c	262,805	Aug. 15	1227	345	22	558
Mason, Henry W., and P. Cunningham, New Bedford, Mass. Mounting boat-guns	269,080	Dec. 12	833	247	22	2049
Mason, James. (See Hirst, Frank, assignor.)						
Mason, James P., assignor of one-half to F. T. Weed, Philadelphia, Pa. Vacuum-blower for furnaces	266,378	Oct. 24	1431	406	22	1401
Mason, John F. (See Thom, William M., assignor.)						
Mason, John L., *et al.* (See Presbrey, Edward F., assignor.) (Reissue.)						
Mason, William, assignor to Colts Patent Fire-Arms Manufacturing Company, Hartford, Conn. Lock for fire-arms	260,586	July 4	299	82	22	51
Mason, William, assignor to Colts Patent Fire-Arms Manufacturing Company, Hartford, Conn. Breech-loading fire-arm	263,191	Aug. 22	1695	480	22	654
Mason, William, assignor to Colts Patent Fire-Arms Manufacturing Company, Hartford, Conn. Revolving fire-arm	263,551	Aug. 29	2184	{623 / 624}	22	742
Mason, William, assignor to Colts Patent Fire-Arms Manufacturing Company, Hartford, Conn. Breech-loading fire-arm	264,727	Sept. 19	1230	348	22	1012
Mason, William B., assignor of one-half to R. S. Merrill, Boston, Mass. Commutator-brush for dynamo-electric machines	266,855	Oct. 31	1964	568	22	1505
Massey, Albert P., Cleveland, Ohio. Gas-engine	260,587	July 4	300	82	22	51
Massey, Ward E., Dubuque, Iowa. Metallic strip for fences	261,619	July 25	1594	446	22	286
Massie, James, Toronto, Ontario, Canada. Barrel-making machine	265,121	Sept. 26	1707	477	22	1101
Massow, Louis G., St. Louis, Mo. Glass lamp	262,806	Aug. 15	1227	345	22	558
Mast & Co., P. P. (See Berlew and Kissell, assignors.)						
Masterman, George. (See McDermott, Masterman, and Milburn.)						
Masters, Benjamin F., *et al.* (See Eisele, Joseph, assignor.)						
Masters, David L., Braddock, Pa. Plaiting attachment for sewing-machines	262,601	Aug. 15	969	{272 / 273}	22	513
Masters, Frank A., Troy, N. Y. Paper-bag holder	266,379	Oct. 24	1432	406	22	1401
Masters, William, Kansas City, Mo. Stove or furnace	263,552	Aug. 29	2186	624	22	743
Masterson, Carson A., Decatur, Ill. Check-rower for corn-planters	264,313	Sept. 12	766	214	22	917
Masterson, Levi J., assignor to G. H. Orcutt, G. Harding, and R. M. Hunter, Philadelphia, Pa. Rolling-mill	267,989	Nov. 21	1275	358	22	1782
Matchett, Alex. (See Marsden, Mark W., assignor.)						
Matheny, James M., Woodstock, Ill. Street-car gong	260,588	July 4	301	82	22	52
Mather, Charles A. (See Bridgman and Perry, assignors.) (Reissue.)						
Mather, Henry W., Bloomingdale, and J. Kearney, Millburn, N. J., assignors to said Mather. Fabric for carpet-lining	261,865	Aug. 1	47	14	22	343
Mather, Richard H., Windsor, Conn. Electric-arc lamp	268,254	Nov. 28	1616	449	22	1850
Mather, Richard H., Windsor, Conn. Dynamo-electric machine	268,255	Nov. 28	1618	449	22	1851
Mathers, James H., Orangeville, Ind. Evaporating-pan	262,075	Aug. 1	306	88	22	369
Mathews, John L., West Troy, N. Y. Feeding mechanism for carding-engines	265,528	Oct. 3	372	101	22	1199
Mathias, Henry R., Athens, Ohio. Excelsior-machine	267,010	Nov. 7	63	19, 20	22	1551
Mathiesen, Carl A., Brooklyn, N. Y. Sail-hank	261,620	July 25	1595	447	22	286
Mathieu, Jean A., Port Leyden, N. Y. Cuspidor	265,122	Sept. 26	1708	478	22	1101
Mathieu, Jean A., Port Leyden, N. Y. Process of and apparatus for evaporating liquids	268,701	Dec. 5	358	105	22	1955
Mathison, Joseph, assignor to himself, W. D. Allen, Lynn, and C. B. Lancaster, Boston, Mass. Machine for sewing on buttons	268,369	Nov. 28	1762	{488 / 489}	22	1877
Mathison, Joseph, assignor to himself, W. D. Allen, Lynn, and C. B. Lancaster, Boston, Mass. Securing buttons to materials	268,370	Nov. 28	1767	490	22	1877
Matt, Wilhelm, New York, N. Y. Artificial stone for veneers, &c	266,493	Oct. 24	1550	.....	22	1423
Matter, Martin, Chicago, Ill. Inhaler for ether, &c	260,403	July 4	74	20	22	14
Matteson, Don Carlos, Stockton, Cal. Harrow	264,546	Sept. 19	1024	290	22	972
Matteson, Richard, and A. M. Brown, Pawtucket, R. I. Journal-box	269,592	Dec. 26	1499	432	22	2185
Matthews, Charles, and W. Holt, Chicago, Ill. Gas-machine	261,011	July 11	849	{236 / 237}	22	148
Matthews, Elbridge G., Oakham, assignor to E. E. Lummus, Beverly, Mass. Seed-drill	266,960	Oct. 31	2116	{607 / 608}	22	1532
Matthews, George G., Wichita, Kans. Protector for hay and grain stacks	269,691	Dec. 26	1621	{463 / 464}	22	2209
Matthews, George H., and J. T. Ostell, Montreal, Quebec, Canada. Fishing-reel	264,092	Sept. 12	529	144	22	875
Matthews, Henry A., Waterbury, Conn. Stove drum or cylinder	269,437	Dec. 19	1292	375	22	2139
Matthews, John, New York, N. Y. Bottling-machine	260,765	July 11	543	147	22	97
Matthews, John, New York, N. Y. Charging fountains with aerated beverages	260,766	July 11	545	147	22	97
Matthews, John, New York, N. Y. Agitator for soda-water receivers and generators	266,039	Oct. 17	993	282	22	1318
Matthiessen, Frans O., *et al.* (See Quimby, Edward E., assignor.)						
Matteson, Morris, New York, N. Y. Atomizer	263,553	Aug. 29	2187	624	22	743
Maunder, Joseph, Little Britain, Ontario, Canada. Harrow	262,448	Aug. 8	774	218	22	474
Mauran, William A., Providence, R. I. Carpet-lining	261,012	July 11	853	237	22	148
Maurand, A. W. (See Shane, Oscar G., assignor.)						
Maus, C. Albert, *et al.* (See Stockman, George W., assignor.) (Reissue.)						
Maus, Frank A., *et al.* (See Stockman, George W., assignor.) (Reissue.)						
Maus, Mathias A., *et al.* (See Stockman, George W., assignor.) (Reissue.)						
Mauser, John. (See Müller and Mauser.)						
Mawhinney, Samuel, Worcester, Mass. Metal last and jack	261,165	July 18	1041	{292 / 293}	22	189
Maxfield, John F., Bloomfield, N. J. Fruit and produce railway-transportation car	267,356	Nov. 14	505	145	22	1635
Maxheimer, John, Brooklyn, N. Y. Fender for bird-cages	260,767	July 11	545	147	22	98
Maxheimer, John, Brooklyn, N. Y. Bird-cage	260,768	July 11	546	148	22	98
Maxheimer, Theodore L., Brooklyn, N. Y. Fish-bone holder for bird-cages	260,769	July 11	547	148	22	98
Maxim, Hiram S., Paris, France. Apparatus for treating carbon conductors	264,042	Sept. 5	405	127	22	854
Maxim, Hiram S., Paris, France. Regulator for dynamo-electric machines	269,805	Dec. 26	1765	509	22	2235
Maxim, Hiram S., London, England. Method of and apparatus for "forming" storage-batteries	264,952	Sept. 26	1515	427	22	1066
Maxim, Hiram S., Brooklyn, N. Y. Apparatus for making incandescent lamps of equal resistance	264,951	Sept. 26	1513	426	22	1066
Maxim, Hiram S., Brooklyn, assignor to United States Electric Lighting Company, New York, N. Y. Making electric lamps and carbons for the same	261,741	July 25	1741	490	22	311
Maxson, Milton R., Hornellsville, N. Y. Carriage-gear	261,937	Aug. 1	144	42	22	360
Maxwell, A. L. (See De Groat, William N., assignor.)						
Maxwell, George C., Allenport, Pa. Fire-grate	268,256	Nov. 28	1621	450	22	1851
Maxwell, Henry C., Rome, N. Y. Check-bit	269,304	Dec. 19	1117	326	22	2106
Maxwell, John, and J. Einsfield, Oneida, N. Y. Molding	261,938	Aug. 1	145	42	22	360
Maxwell, William H., assignor to Brown, Maxwell & Company, (limited,) Rochester, Pa. Manufacture of glass paper-weights	263,931	Sept. 5	322	91	22	830
May, Benjamin C., Pottsville, Tex. Churn-motor	265,333	Oct. 3	132	38	22	1158

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May, Daniel, Washington, N. C. Vehicle-hub	266,175	Oct. 17	1161	327	22	1345
May, John M., May's Island, Iowa. Adjustable table	262,076	Aug. 1	309	89	22	389
May, John M., Cedar Rapids, Iowa. Barbed-wire fence	264,728	Sept. 19	1231	348	22	1012
May, Leopold, Ungarisch Ostra, Austria-Hungary. Vehicle-wheel	260,491	July 4	188	52	22	32
May, William N., Pittsburg, Pa. Nut-lock	261,939	Aug. 1	145	42	22	360
Maybury, William, Garnerville, N. Y. Apparatus for dyeing, bleaching, washing, and drying yarn, &c	266,494	Oct. 24	1551	442	22	1423
Mayer, Amalia, New York, N. Y. Ornamenting fur and other goods	260,589	July 4	302	82	22	52
Mayer, Amalia, New York, N. Y. Ornamenting fur and other goods. (Reissue)	10,245	Nov. 21	1285	361	22	1784
Mayer, Charles G., Nauvoo, Ill., and E. Jungenfeld, assignors to Empire Refrigerating Company, St. Louis, Mo. Apparatus for cooling beer, &c	265,123	Sept. 26	1709	478	22	1102
Mayer, Charles G., Nauvoo, Ill., assignor of one-half to L. Rassieur, St. Louis, Mo. Refrigerating apparatus. (Reissue)	10,242	Nov. 14	894	254	22	1704
Mayer, John C., Somerville, assignor, by mesne assignments, to C. Holmes, Boston, Mass. Leather scouring, setting, and hide-working machine	260,492	July 4	189	52, 53	22	32
Mayer, Langfelder & Hammerschlag. (See Beltmiller, Martin, assignor.)						
Mayer, Stronse & Co. (See Bray, Morris P., assignor.)						
Mayer, Stronse & Co. (See Stronse, Abraham, assignor.)						
Mayer, Theodore J., *et al.* (See Bond, Nathan O., assignor.)						
Mayfield, Daniel D. (See Fields and Mayfield.)						
Maynadier, James E., Taunton, assignor to E. L. Wires and J. M. Estabrook, Milford, Mass. Shoe-nail	264,953	Sept. 26	1517	427	22	1067
Maynard, Dolphus S., Auburn, N. Y. Wrench	263,794	Sept. 5	156	46	22	801
Maynard, Edward, Brooklyn, N. Y. Life-preserver	261,940	Aug. 1	146	42	22	360
Maynard, William, New York, N. Y. Filter	264,314	Sept. 12	767	214	22	917
Maypole, John J. (See Maypole, William T. and J. J.)						
Maypole, William T. and J. J., Chicago, Ill. Drain for condensers for escape-pipes	264,093	Sept. 12	530	145	22	875
Mayrhofer, Carl A., Paris, Franco. Hydraulic air-compressor	261,560	July 25	1523	427	22	273
Mayrhofer, Charles A., assignor to R. I. L. Haviland, Vienna, Austria-Hungary. Electric safety apparatus for theaters and other buildings	269,593	Dec. 26	1500	433	22	2185
Mayo, Goodrich A., assignor to G. H. Noble, Erie, Pa. Crank-shaft support for sewing-machines	265,334	Oct. 3	132	39	22	1159
Mayo, Goodrich A. and V. J., assignors to G. H. Noble, Erie, Pa. Sewing-machine shuttle	265,335	Oct. 3	133	39	22	1159
Mayo, Virginia J. (See Mayo, Goodrich A. and V. J.)						
McAdams, John, Boston, Mass. Automatic drag for ships	261,369	July 18	1284	358	22	227
McAdams, William A., Brooklyn, N. Y. Pen-holder for ruling-machines	260,590	July 4	302	83	22	52
McAfee, William, Independence, Mo. Yarn-scouring machine	261,742	July 25	1743	490	22	311
McAllister, Richard, Washington, D. C. Hydrocarbon-burner for illuminating purposes	265,928	Oct. 10	845	242	22	1286
McArthur, David, Oswego, Kans. Ironing-board	261,743	July 25	1744	490	22	311
McArthur, George A., Chicago, assignor to D. D. Cornell, Hyde Park, and C. L. Pullman, Cook County, Ill. Door check and holder	269,806	Dec. 26	1768	510	22	2236
McAuley, John G., New York, N. Y. Furnace	268,035	Nov. 28	1343	376	22	1800
McAuley, Robert G., Detroit, Mich., assignor of three-fourths to L. B. Fulton, T. J. McTighe, and F. A. Pollock, Pittsburg, Pa. Force-feed lubricator	262,682	Aug. 15	1066	300	22	531
McAuliffe, John, assignor to himself and J. J. Barry, Portland, Conn. Portable water-closet	264,315	Sept. 12	768	214	22	917
McBride & Co. (See Carlton, John C. C., assignor.)						
McBride & Co. (See McBride, Samuel L., assignor.)						
McBride, Samuel L., Atlanta, Ga. Water cooler and filter	263,257	Nov. 28	1622	450	22	1851
McBride, Samuel L., assignor to McBride & Co., Atlanta, Ga. Filter	268,702	Dec. 5	359	105	22	1955
McCabe, Benjamin, C. R. Swain, and J. T. Sutton, Peekskill, N. Y. Switch for grounding telephone or telegraph lines	263,554	Aug. 29	2189	625	22	743
McCaffrey, Sarah A., and C. M. Leonard, Boston, Mass. Rocking-chair	268,036	Nov. 28	1344	376	22	1800
McCaine, Helen J. (See McCaine, William, assignor.)						
McCaine, William, assignor to H. J. McCaine, St. Paul, Minn. Pyroxyline compound	262,077	Aug. 1	310	.....	22	390
McCandless, Jesse H., Oxford, Iowa. Boiler and feed steamer	266,495	Oct. 24	1552	442	22	1423
McCanna, James H., Fresno City, Cal. Clothes-drier	266,040	Oct. 17	904	292	22	1318
McCarty, Norman, Brooklyn, N. Y., assignor to Electrical Supply Company, Ansonia, Conn. Clutch for electric-arc lamps	263,192	Aug. 22	1697	481	22	654
McCarty, Norman, Brooklyn, N. Y., assignor to Electrical Supply Company, Ansonia, Conn. Electric-arc lamp	267,553	Nov. 14	758	217	22	1680
McCaughtry, Samuel, Bradford, Pa. Sand-pump	266,856	Oct. 31	1965	568	22	1505
McCausland, David, Marshalltown, Iowa. Self-dropping check-rower and marking attachment for corn-planters	264,729	Sept. 19	1232	348	22	1012
McCausland, William J., assignor to W. W. Kurtz, Philadelphia, Pa. Printing-telegraph	266,176	Oct. 17	1162	328	22	1345
McChesney, Peter N., and J. W. Craig, Washington, D. C. Grain-decorticator	262,078	Aug. 1	311	89	22	390
McChesney, Peter N., and J. W. Craig, Washington, D. C. Grain-decorticator	269,081	Dec. 12	834	247	22	2049
McClain, Edward L., Greenfield, Ohio. Pad for horse-collars	267,011	Nov. 7	64	20	22	1551
McClave, William, Scranton, Pa. Grate-section and fire-bed for stoves, furnaces, &c	267,910	Nov. 21	1185	{333 / 334}	22	1767
McClinchie, Uriah. (See Butler and McClinchie.)						
McClinton, James G. (See Palm, John, assignor.)						
McCloskey, John, London, Ontario, Canada. Thrashing-machine	269,692	Dec. 26	1622	464	22	2209
McCluney, William T., Joe, and W. N. Mitchell, Blue Ridge Springs, Va. Railway-gate	267,705	Nov. 21	930	268	22	1723
McCobb, Henry, New York, N. Y. Chocolate-package	268,511	Dec. 5	152	45	22	1915
McCoid, James, Logan, Iowa. Operating water-wheel gates	265,971	Oct. 17	912	259	22	1303
McCollin, Thomas H., Philadelphia, Pa. Apparatus for and the process of manufacturing photographic emulsions	263,053	Aug. 22	1534	432	22	623
McCollom, William J., Aurora, Ill. Electric motor for Geissler tubes	269,092	Dec. 12	835	248	22	2049
McConnell, Alexander E., New Orleans, La. Nut-lock	260,591	July 4	304	83	22	52
McCook, Joshua P., assignor of one-third to J. H. Bruce, Richmond, Va. Governor for steam-engines	264,043	Sept. 5	466	127	22	854
McCord, William, Sing Sing, N. Y. Mowing-machine	265,845	Oct. 10	753	{211 / 212}	22	1269
McCormick Harvesting Machine Company. (See Castle, Orlando L., assignor.)						
McCormick Harvesting Machine Company. (See Pridmore, Henry E., assignor.)						
McCormick Harvesting Machine Company *et al.* (See Spaulding, George H., assignor.)						
McCormick, James, Princeton, Ind. Harvester-knife	266,632	Oct. 31	1709	493	22	1457
McCormick, James G. (See Stretch and McCormick.)						
McCormick, John B., assignor to Holyoke Machine Company, Holyoke, Mass. Water-wheel	265,689	Oct. 10	573	160	22	1238
McCormick, Thomas D., Canton, Ohio. Vapor-burner	269,083	Dec. 12	837	248	22	2050
McCosh, Thompson, Burlington, Iowa. Reel for barbed fence-wire	263,555	Aug. 29	2190	625	22	744
McCosh, Thompson, Burlington, Iowa. Barb-wire lifter and carrier	264,547	Sept. 19	1025	290	22	973

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McCoy, Elijah, Detroit, Mich., assignor to H. C. and C. C. Hodges. Lubricator	261,166	July 18	1043	293	22	189
McCoy, James T., McCoy's Station, Ind. Rail-sweeping device for locomotives	267,238	Nov. 7	352	102	22	1603
McCracken, George H., and S. Hamer, Willimantic, Conn. Spindle and bearing therefor	269,438	Dec. 19	1293	376	22	2139
McCreary, John, Cohoes, and D. R. Smith, Troy, N. Y. Button-hole attachment for sewing-machines	260,885	July 11	684	{185 / 186}	22	120
McCreary, John, assignor of one-half to C. F. North, Cohoes, and E. B. Skinner, Stillwater, N. Y. Hem folder and guide for sewing-machines	263,054	Aug. 22	1535	432	22	624
McCree, James, Lansing, Mich. Car-coupling	267,096	Nov. 7	171	48	22	1571
McCrery, John R., Jr., Sulphur Lick, Ky., and T. G. McCrery, deceased. Tellurian	264,548	Sept. 19	1026	{290 / 291}	22	973
McCrery, Thomas G. (See McCrery, John R., Jr., and T. G.)						
McCrodden, James, New York, N. Y. Package-filling machine	261,941	Aug. 1	147	43	22	361
McCrodden, James, New York, N. Y. Package-tray	263,556	Aug. 29	2190	625	22	744
McCrodden, James, New York, N. Y. Soda block	264,044	Sept. 5	468	127	22	855
McCrodden, James, New York, N. Y. Mold for forming blocks of soda	264,730	Sept. 19	1233	348	22	1013
McCrone, Michael J., Louisville, Ky. Car-coupling	262,449	Aug. 8	775	219	22	474
McCubbin, William, Chatham, Ontario, Canada. Car-coupling	268,258	Nov. 28	1623	450	22	1851
McCullough, Joseph, assignor to Union Paper Bag Machine Company, Philadelphia, Pa. Method of and machinery for making satchel-bottom paper bags	264,180	Sept. 12	620	171	22	891
McCullough, Lewis H., Richmond, Ind. Main-line sounder	263,419	Aug. 29	2034	583	22	715
McCullough, Lewis H., Richmond, Ind. Insulating wires	269,807	Dec. 26	1768	510	22	2236
McCune, Joseph B. (See Fairbanks and McCune.)						
McCune, Joseph B., Hartford, Conn., assignor to E. A. Wilkinson, Newark, N. J. Fly-wheel and pulley for sewing-machines	268,703	Dec. 5	360	105	22	1956
McCune, Joseph B., Hartford, Conn., assignor to E. A. Wilkinson, Newark, N. J. Feeding mechanism for sewing-machines	268,704	Dec. 5	360	106	22	1956
McCune, William A. (See McNelly, M. Frank, assignor.)						
McCurdy, Alexander C., *et al.* (See Anderson, Samuel, assignor.)						
McCutchan, Judson O., Middlebrook, Va. Railway-gate	269,084	Dec. 12	838	248	22	2050
McCutchen, Charles W., Peekskill, N. Y. Attaching stove-legs	267,911	Nov. 21	1187	334	22	1767
McCutcheon, William B., and W. E. Chilcote, Washington, Iowa. Index-cutter	263,932	Sept. 5	323	92	22	830
McDaniel, Joseph A., Lettsville, Iowa. Attachment for corn-planters	261,942	Aug. 1	149	43	22	361
McDermott Automatic Drill Company. (See McDermott, Robert M., assignor.)						
McDermott, Charles J., Sandy Hook, Conn., assignor to New York Belting and Packing Company, of Connecticut. Restoring rubber-waste	262,079	Aug. 1	312	89	22	390
McDermott, John, San Francisco, Cal. Fumigating-machine	263,557	Aug. 29	2191	{625 / 626}	22	744
McDermott, Robert M., assignor to McDermott Automatic Drill Company, St. Louis, Mo. Drilling-machine	267,912	Nov. 21	1188	334	22	1767
McDermott, William J., Memphis, Tenn. Belting	264,731	Sept. 19	1234	349	22	1013
McDermott, William J., G. Masterman, and J. D. Milburn, Memphis, Tenn. Cotton-gin	269,305	Dec. 19	1118	{326 / 327}	22	2106
McDonald, Alexander, Cambridge, Mass., assignor to McDonald Stone Cutting Machine Company, Nashua, N. H. Rotary disk-cutter holder	262,237	Aug. 8	527	148	22	430
McDonald, Alexander, Cambridge, Mass., assignor to McDonald Stone Cutting Machine Company, Nashua, N. H. Machine for dressing stone	262,967	Aug. 22	1428	403	22	605
McDonald, Archibald J., Springfield, Ohio. Invalid-lounge	263,345	Aug. 29	1933	553	22	697
McDonald, Dennis, Niagara Falls, N. Y. Clothes-washing apparatus	262,807	Aug. 15	1228	345	22	558
McDonald, Dominick A., assignor of one-half to W. P. Hurley and J. E. Hanley, Rockland, Me. Crimping-machine	269,693	Dec. 26	1622	464	22	2209
McDonald, Hugh, Allegheny, Pa. Shield for metal rolls	268,259	Nov. 28	1623	{450 / 451}	22	1851
McDonald, Hugh, Allegheny, and R. A. Carter, Pittsburg, Pa. Machine for making nuts and bolts	268,037	Nov. 28	1345	{376 / 377}	22	1801
McDonald, James S., Chicago, Ill. Manifold order-book	261,245	July 18	1135	317	22	203
McDonald, Kenneth, Portland, Me. Water-heater. (Reissue)	10,187	Aug. 22	1837	521	22	680
McDonald, Marshall, assignor to himself and S. C. Brown, Washington, D. C. Method of and apparatus for hatching fish	263,933	Sept. 5	324	92	22	830
McDonald, Peter W., Cleveland, Ohio. Apparatus for enlarging and reducing transfers	269,220	Dec. 19	1008	295	22	2086
McDonald, Platt, Plymouth, Ind. Sad-iron heater	262,450	Aug. 8	776	219	22	474
McDonald Stone Cutting Machine Company. (See McDonald, Alexander, assignor.)						
McDonald, Theodore A., New Albany, Ind. Gage for rip-saws	267,913	Nov. 21	1189	334	22	1768
McDonald, Theodore R. (See Reinhart and McDonald.)						
McDonnell, Edward, and J. H. Sherwood, Amsterdam, N. Y., assignors to said McDonnell, J. R. Snell, C. D. Dean, and H. O'Bryan. Mechanism for operating the yarn-guides of circular-knitting machines	267,097	Nov. 7	172	49	22	1571
McDonough, Frank, Eau Claire, Wis. Lumber-assorter	268,810	Dec. 12	499	148	22	1988
McDonough, Thomas, Chicago, Ill. Tellurian	268,512	Dec. 5	153	45	22	1916
McDougall, John, Lehigh, Iowa. Clothes-drier	269,819	Dec. 26	1785	{513 / 514}	22	2238
McDowell, Malcolm, assignor of one-fourth to W. G. Coolidge, Chicago, Ill. Wheel for vehicles	265,124	Sept. 26	1709	478	22	1102
McDowell, Samuel J., assignor to himself and J. Knight, Boston, Mass. Camp-stove	261,621	July 25	1596	447	22	287
McElroy, David W., Keokuk, Iowa. Landing floating lumber-rafts	267,795	Nov. 21	1053	294	22	1741
McEnally, Joseph B., Clearfield, Pa. Temporary binder	269,694	Dec. 26	1623	464	22	2209
McEvoy, Charles A., 18 Adam Street, Adelphi, county of Middlesex, England. Apparatus for finding torpedoes, &c	269,439	Dec. 19	1295	376	22	2140
McEvoy, William, Equality, Ill. Portable roof for hay and grain ricks	263,934	Sept. 5	326	92	22	831
McFail, Wellington B., Vassar, Mich. Thill and tongue holder	266,406	Oct. 24	1553	442	22	1423
McFarland, James M., Virginia City, Nev. Ore-stamp battery	268,115	Nov. 28	1434	401	22	1818
McFarlane, Hugh, Chicago, Ill. King-bolt	262,451	Aug. 8	777	219	22	474
McFarlane, William A., Ivanpah, Cal. Can-opener	264,549	Sept. 19	1026	291	22	973
McGee, Charlotte A., Jackson, Mich. Corset	265,690	Oct. 10	575	160	22	1239
McGee, William, Mountain Spring, assignor of one-half to M. A. Stamper, Valley View, Tex. Fence-post	265,846	Oct. 10	754	212	22	1270
McGill, James. (See Korup and McGill.)						
McGinley, James, Chicago, Ill. Faucet	269,531	Dec. 26	1418	410	22	2169
McGlashan, Charles F., Santa Barbara, Cal. Railway-train telegraph	261,370	July 18	1287	359	22	227
McGlynn, James H., Wilkes-Barré, Pa. Rock-drilling machine	267,441	Nov. 14	621	180	22	1655
McGonigle, Louis P., and J. H. Bigham, Cato, Kans. Seed-dropping attachment for check-row corn-planters	264,550	Sept. 19	1027	291	22	973
McGowan, John, Coal Valley, Pa. Rotary steam-engine	262,602	Aug. 15	971	273	22	513
McGregor, John A. (See Rennie, John A., assignor.)						
McGrew, William H., Peru, Ind. Washing-machine	262,968	Aug. 22	1429	403	22	605

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Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
McIlhenny, Julius L. (See Tschiember, Jacob, assignor.)						
McIlvain, John H., assignor to J. B. and C. F. Bartlett, Philadelphia, Pa. Grate for furnaces	263,712	Sept. 5	48	14	22	783
McIntire, Milvern H., and S. B. Bartholomew, Springfield, Mass. Sewing-machine shuttle	266,041	Oct. 17	995	282	22	1318
McIntire, William C. (See Brooks, Franklin W., assignor.)						
McIntosh, David, Denver, Colo. Friction-clutch	260,698	July 4	453	123	22	76
McIntosh, Lyman D., Chicago, Ill. Galvanic battery	264,096	Sept. 12	533	145	22	875
McIntyre, Hugh B., Detroit, Mich. Manufacture of artificial stone	267,239	Nov. 7	353	.....	22	1603
McIntyre, Jessie, *et al.* (See McIntyre, Neil G., assignor.)						
McIntyre, Neil G., assignor of seven-eighths to W. W. Sheppard, J. McIntyre, C. Herbst, and R. R. Hedges, Brooklyn, N. Y. Adjustable tube-expander	268,918	Dec. 12	632	185	22	2012
McKay, Gordon, *et al.*, trustees. (See Goddu, Louis, assignor.)						
McKay, Gordon, Newport, R. I. Lasting-machine	263,346	Aug. 29	1935	554	22	697
McKay, Gordon, Newport, R. I., and H. P. Fairfield, West Medford, Mass.; said Fairfield assignor to said McKay. Pegging-machine	265,618	Oct. 10	478	132	22	1223
McKee, Charles H., Lock Haven, Pa. Preventing the escape of gas from oil-wells between the flows of oil	267,796	Nov. 21	1054	294	22	1741
McKee, George. (See Richardson, Henry M., assignor.)						
McKeehan, Charles H., assignor of one-half to M. F. Pruitt, Mineral Wells, Tex. Automatic fan combination-stand	268,116	Nov. 28	1435	402	22	1818
McKeen, H. Clay, Terre Haute, Ind. Bolt-cleaner	266,177	Oct. 17	1164	{328 329}	22	1346
McKellar, Angus, Fort Douglas, Utah Ter. Carriage-brake	261,744	July 25	1745	491	22	312
McKenna, Samuel, Memphis, Tenn. Separating-machine	266,857	Oct. 31	1966	568	22	1506
McKenney, T. G. (See Forster, Julius, assignor.)						
McKenzie, George W., Harrington, Me. Automatic water-elevator	263,713	Sept. 5	49	14	22	783
McKenzie, George W., Harrington, Me. Windmill	263,714	Sept. 5	50	15	22	783
McKenzie, Joseph C., Beaver Falls, Pa. Train-indicator	261,013	July 11	854	237	22	148
McKenzie, William, Perry, N. Y. Carriage-jack	260,770	July 11	547	148	22	98
McKernan, Dennis D., Chicago, Ill. Truck	267,357	Nov. 14	506	145	22	1635
McKillop, James H. (See Spear, George R., assignor.)						
McKinley, Frederick E., assignor to C. C. Howarth, Wellington, Kans. School-desk and seat	263,558	Aug. 29	2192	626	22	744
McKinley, Jacob. (See McMullen, Lewis S., assignor.)						
McKinley, Thomas, New York, N. Y. Injector for type-casting machines	268,513	Dec. 5	155	45	22	1916
McKinney, E. B. (See Hendricks, Clarke, assignor.)						
McKinney, Walter D., Boston, Mass. Telephone circuit and apparatus	265,972	Oct. 17	912	259	22	1304
McKinnon, William E., Buena Vista, Miss. Wash-board	260,699	July 4	455	123	22	77
McKnight, Francis H., G., and J., Springfield township, Summit county, Ohio. Grain-separator	269,532	Dec. 26	1420	410	22	2169
McKnight, George. (See McKnight, Francis H., G., and J.)						
McKnight, John. (See McKnight, Francis H., G., and J.)						
McKnight, John W., Washington, D. C. Manufacture of artificial marble, stone, and tile	262,603	Aug. 15	972	.....	22	513
McKnight, John W., Washington, D. C. Silo	267,914	Nov. 21	1190	335	22	1768
McKnight, Sumner T., Hannibal, Mo. Device for loading and landing floating lumber-cribs	264,892	Sept. 26	1434	{405 406}	22	1053
McKoon, Merritt P. (See Smith & McKoon.)						
McLachlan, Arthur C., and J. Connor, Buffalo, N. Y. Faucet-filter	261,014	July 11	855	238	22	148
McLachlan, John, New Orleans, La. Car-truck	261,371	July 18	1289	360	22	228
McLachlan, John C., assignor to P. Patterson, Patterson, Ontario, Canada. Harvesting-machine	262,604	Aug. 15	974	{273 274}	22	514
McLaughlin, James, Chicago, Ill. Electric-arc lamp	268,038	Nov. 28	1350	{377 378}	22	1801
McLaughlin, John K., assignor of one-half to L. H. Taylor, Jr., Philadelphia, Pa. Conduit for electrical conductors	269,085	Dec. 12	839	249	22	2050
McLaughlin, John K., assignor of one-half to L. H. Taylor, Jr., Philadelphia, Pa. Condnit for electrical conductors	269,086	Dec. 12	840	249	22	2050
McLaughlin & Loyd. (See Hirt, Louis J., assignor.)						
McLaughlin, William H., San Francisco, Cal. Preparation for masking the nauseous taste of medicines	267,442	Nov. 14	622	.....	22	1655
McLean, Duncan, Wallacetown, Ontario, Canada. Roof or wall covering	268,260	Nov. 28	1625	.....	22	1852
McLean, James H., St. Louis, Mo. Bottle-wrapping, carpet-lining, &c	262,452	Aug. 8	778	219	22	474
McLean, James H., San Antonio, Tex. Baggage check and clasp	262,080	Aug. 1	313	89	22	390
McLeary, James H., San Antonio, Tex. Car-coupling	267,554	Nov. 14	761	218	22	1680
McLellan, Lewis, Gorham, Me. Culinary boiler. (Reissue)	10,199	Sept. 19	1369	387	22	1035
McLennan, Daniel R., St. Helena, Cal. Two-wheeled vehicle	261,372	July 18	1290	360	22	228
McLennan, John, 84 Finsbury Park Road, and R. Owen, England Lane, Haverstock Hill, county of Middlesex, England. Apparatus for regulating the supply of gas	269,087	Dec. 12	841	249	22	2050
McLennan, John A., Chicago, Ill. Stop mechanism for grain-elevators	262,453	Aug. 8	778	220	22	474
McLewee, William S., New York, assignor to J. J. Nichols, Brooklyn, N. Y. Lamp	260,592	July 4	305	83	22	52
McLoughlin Brothers. (See Barnes, Wesley W., assignor.)						
McLoughlin, Thomas, Judsonville, Cal. Grafting-wax	266,858	Oct. 31	1967	.....	22	1506
McManus, Alonzo, New Britain, Conn. Rosette for harness	268,261	Nov. 28	1626	451	22	1852
McManus, Edwin, Randolph, N. Y. Freight-car	262,454	Aug. 8	779	220	22	475
McManus, James. (See Clairmont, Louis, assignor.)						
McMechan, John B. and W. A., St. Clairsville, Ohio. Hitching-strap	261,467	July 18	1394	389	22	246
McMechan, William A. (See McMechan, John B. and W. A.)						
McMillan, Francis M. (See Johnson and McMillan.)						
McMillan, Francis M., *et al.* (See Lucas, Robert H., assignor.) (Reissue.)						
McMillen, George A. (See McMillen, James W. and G. A.)						
McMillen, James W., Alton, and G. A. McMillen, Edwardsville, Ill. Vehicle-top	264,316	Sept. 12	768	215	22	917
McMillen, William T., Cincinnati, Ohio. Fire-place smoke-consumer	261,015	July 11	856	238	22	149
McMullen, Lewis S., assignor of one-half to J. McKinley, Atlanta, Ga. Cotton-chopper	263,660	Aug. 29	2310	660	22	763
McMullett, James F., Philadelphia, Pa., assignor to J. W. Brooks, trustee, Cambridge, Mass. Last	266,298	Oct. 24	1317	372	22	1379
McMurtry, John, and T. J. Pilcher, Lexington, Ky. Mechanical train-dispatcher	262,903	Aug. 15	1346	381	22	580
McNab & Harlin Manufacturing Company. (See Boyden, William A., assignor.)						
McNab & Harlin Manufacturing Company. (See Groshon, John A., assignor.)						
McNair, Thomas F., Dawson, Ga. Car-coupling	262,808	Aug. 15	1229	345	22	558
McNally, Andrew, *et al.* (See Chadwick, Charles, assignor.)						
McNally, Charles W. S. (See Stokes and McNally.)						
McNamara, Michael, *et al.* (See Tanner, Francis, assignor.)						
McNamara, William, Cleveland, Ohio. Hydrant	269,440	Dec. 19	1296	376	22	2140
McNelly, M. Frank, assignor of one-half to W. A. McCune, Sterling, Ill. Double-acting submerged force-pump	261,622	July 25	1597	447	22	87

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
McNelly, M. Frank, assignor of one-half to W. A. McCune, Sterling, Ill. Force-pump	263,294	Aug. 22	1827	518	22	678
McNicoll, Henry. (See Clarke, John N., assignor.)						
McNitt, Martin, Washington, Kans. Combined harrow and corn-planter	264,551	Sept. 19	1028	291	22	973
McNutt, Lindsay B., Ashtabula, Ohio. Bending-machine	268,919	Dec. 12	633	186	22	2013
McQuesten, Isaac B. (See Dunn, William, assignor.)						
McSpedon, Thomas, New York, N. Y. Method of and apparatus for testing meters	261,943	Aug. 1	150	43	22	361
McTighe, Thomas J. (See Connolly and McTighe.)						
McTighe, Thomas J., *et al.* (See McAuley, Robert G., assignor.)						
McTighe, Thomas J., and F. W. Robertshaw, Pittsburg, Pa. Hose-nozzle	264,317	Sept. 12	769	215	22	917
McVay, George W., Wadesville, W. Va. Horse-power	261,373	July 18	1291	360	22	228
McVay, Jason, *et al.* (See Anderson, Charles G., assignor.)						
McWayne, Chandler, Colfax, Cal. Bed or crib	266,633	Oct. 31	1710	494	22	1458
McWilliam, Charles, and E. Loiseau, assignors to W. A. Campbell and G. H. Patterson, Montreal, Quebec, Canada. Feeding air to furnaces	268,423	Dec. 5	63	19	22	1899
McWinnie, Frank, Omaha, Nebr. Box for holding cigars	264,318	Sept. 12	770	215	22	917
Meabon, Peter S., Frankfort, assignor of one-half to C. E. Bailey, Benzonia, Mich. Hand vise and wrench	260,404	July 4	75	21	22	14
Meachem, T. William. (See Hammond, George M., assignor.)						
Mead, Edwin D., Shortsville, N. Y., assignor of one-half to Farmers Friend Manufacturing Company, Dayton, Ohio. Fertilizer-distributer	261,745	July 25	1746	491	22	312
Mead, Edwin D., Shortsville, N. Y., assignor of one-half to Farmers Friend Manufacturing Company, Dayton, Ohio. Machine for sowing fertilizers	265,529	Oct. 3	373	102	22	1199
Mead, Frederick G., New York, N. Y. Postal-card	263,347	Aug. 29	1937	554	22	698
Mead, Ira W., assignor of one-half to I. V. Mead, New York, N. Y. Tuyere-iron for blacksmiths' forges	264,414	Sept. 12	876	246	22	937
Mead, Isaac V. (See Mead, Ira W., assignor.)						
Mead, John T. (See Heston and Mead.)						
Meader, George, Fowler, Ind. Hay-loader	261,746	July 25	1747	491	22	312
Meaker, John W., Philadelphia, Pa. Fastening for pocket-books, &c	266,710	Oct. 31	1808	525	22	1476
Meanea, Theodore E., North Denver, Colo. Saddle-tree	261,374	July 18	1292	361	22	228
Mears, J. Howell, Philadelphia, Pa. Chlorinating ores and apparatus therefor	269,441	Dec. 19	1298	376	22	2140
Meatyard, Edward B., Geneva, Wis. Car-wheel	260,593	July 4	306	83	22	52
Mebane, Thomas H., News Ferry, assignor of one-half to J. W. Easley, South Boston, Va. Car-coupling	268,117	Nov. 28	1436	402	22	1818
Mechwart, Andreas, Buda-Pesth, Austria-Hungary. Roller-mill	267,555	Nov. 14	762	218	22	1680
Mechwart, Andreas, Buda-Pesth, Austria-Hungary. Roller-mill	267,556	Nov. 14	764	{218 219}	22	1681
Mechwart, Andreas, Buda-Pesth, Austria-Hungary. Roller-mill	267,557	Nov. 14	765	219	22	1681
Meeds, Wilber R., Newark, Ohio. Lantern-oil	266,859	Oct. 31	1967	.....	22	1506
Meehan, David C., *et al.* (See Pederson, Ole, assignor.)						
Meeker, Eugene. (See Meeker, Lorenzo, assignor.)						
Meeker, Lorenzo, assignor of one-half to E. Meeker, Chicago, Ill. Lifting-jack	264,732	Sept. 19	1235	349	22	1013
Meeker, Ross B., Sanford's Corners, N. Y. Railway	269,442	Dec. 19	1299	377	22	2141
Meeter, John, Elizabeth, Ill. Fifth-wheel	267,558	Nov. 14	766	219	22	1681
Megow, Charles, and J. L. Markel, San Francisco, Cal. Undershot feathering water-wheel	268,705	Dec. 5	361	106	22	1956
Mehner, Edmund, Milwaukee, Wis. Geometrical puzzle	260,594	July 4	306	84	22	52
Mehurin, Oscar C., Newark, Ohio. Vehicle-axle	267,559	Nov. 14	767	219	22	1681
Meier, Ernst F., Belvidere, Ill. Head-section for beds	260,405	July 4	76	21	22	14
Meier, John D. F., Oshkosh, Wis. Toy railway	268,920	Dec. 12	634	186	22	2013
Meigs, Joe V. (See Carney and Meigs.)						
Meikel, Charles W. (See Miller, Harrison S., assignor.)						
Meissner, Robert F., Chicago, Ill. Wardrobe-bedstead	266,860	Oct. 31	1968	569	22	1506
Melcher, William. (See Meyrick and Melcher.)						
Meldola, Raphael, Hackney Wick, county of Middlesex, England. Manufacture of blue coloring-matters	263,420	Aug. 29	2035	.....	22	715
Melendy, Bryant H., Battle Creek, Mich. Key-ring	263,935	Sept. 5	327	92	22	831
Melick, James H., Albany, N. Y. Machine for thrashing grain	261,167	July 18	1044	{293 294}	22	189
Melkersman, Friedrich, St. Charles, Mo. Washer and separator for hominy, &c	265,619	Oct. 10	482	132	22	1223
Melkersman, Friedrich, St. Charles, Mo. Method of and apparatus for manufacturing hominy, grits, &c	265,620	Oct. 10	482	133	22	1223
Melladew, George B., assignor to himself, J. C. Gerlach, and R. F. Barker, Boston, Mass. Carding-machine	261,016	July 11	857	238	22	149
Mellon, Peter H., St. Louis, Mo. Spring bed-bottom	262,302	Aug. 8	605	170	22	444
Mellon, Richard B. (See French and Mellon.)						
Melzer, Alexander, New York, N. Y. Loom for weaving netted fabrics	263,795	Sept. 5	157	47	22	801
Mendenhall, James E., Springfield, Ohio. Boiler-cleaner	261,468	July 18	1395	389	22	246
Mendenhall, James E., Fort Wayne, Ind. Car-coupling	264,181	Sept. 12	622	172	22	891
Mendenhall, Stephen C., Richmond, Ind. Drill-tooth attachment for seeding-machines	264,319	Sept. 12	771	{215 216 217}	22	917
Meng, George, Oak Harbor, Ohio. Fence-wire tightener	263,348	Aug. 29	1939	555	22	698
Menge, Joseph, New Orleans, La. Rotary pump	269,443	Dec. 19	1300	377	22	2141
Menuez, Vincent A., Michigan City, Ind. Folding cradle	261,017	July 11	858	238	22	149
Menzemer, Harrison, Shawneetown, Ill. Car-coupling	264,733	Sept. 19	1236	349	22	1013
Mercer, John W. (See Chapin and Mercer.)						
Merchant, Newton P., Blaine, Mich. Stump-puller	264,552	Sept. 19	1029	292	22	973
Merchants Union Telegraph Machine Company. (See Parcelle, Albert L., assignor.)						
Meredith, Edmund, assignor to Elkins Manufacturing and Gas Company, Philadelphia, Pa. Heater for soldering-irons	267,560	Nov. 14	768	220	22	1681
Mereness, Norman, Seward, N. Y. Car-coupling	262,809	Aug. 15	1230	346	22	559
Meriden Britannia Company. (See Beach, Joseph B., assignor.)						
Meriden Britannia Company. (See Jepson and Wilcox, assignors.)						
Merrell, Harvey B. (See Pierce, Denison C., assignor.)						
Merrell, Isaac L., San Francisco, Cal. Removing and preventing scale in steam-boilers	264,182	Sept. 12	622	.....	22	891
Merriam, Ezekiel R., Meriden, Conn. Caster	264,094	Sept. 12	531	145	22	875
Merriam, Frederick W., Oswego, N. Y. Variable fire-arch for steam-boilers	261,469	July 18	1396	389	22	246
Merrifield, Charles E., Indianapolis, Ind. Straw-stacking machine	268,514	Dec. 5	156	46	22	1916
Merrill, George W. (See Merrill, William G. and G. W.)						
Merrill, Henry D., Springfield, Ill. Flood-fence	265,847	Oct. 10	755	212	22	1270
Merrill, John W., Jr., assignor to J. W. Merrill, Concord, N. H. Sheathed bladder-forceps	268,039	Nov. 28	1352	378	22	1802
Merrill, Rufus S. (See Elliott, Charles W., assignor.)						
Merrill, Rufus S. (See Mason, William B., assignor.)						
Merrill, Rufus S. (See Valentine, Samuel W., assignor.)						
Merrill, William E. T., assignor of one-half to W. A. Laverty, Philadelphia, Pa. Neck-scarf	266,861	Oct. 31	1970	569	22	1506

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Merrill, William G. and G. W., Brooklyn, N. Y. Ship's log	263,936	Sept. 5	392	93	22	831
Merriman, Julius E., Meriden, Conn. Drawer-pull	265,530	Oct. 3	374	102	22	1199
Merriman, Julius E., assignor to Foster, Merriam & Co., Meriden, Conn. Manufacture of casters	264,095	Sept. 12	532	145	22	875
Merriman, Lewis N., Dixon, Ill. Mechanical movement	264,734	Sept. 19	1237	349 350	22	1013
Merriman, William B., Glenfield, Pa. Cooling device for piston-rods	269,695	Dec. 26	1023	465	22	2209
Merriman, William G., Pittsburg, Pa. Coke-oven door	268,811	Dec. 12	501	149	22	1989
Merrin, William L., Fredericktown, Ohio. Organ-pipe	265,973	Oct. 17	915	259	22	1304
Merritt, Edward, Brockton, Mass. Hand tacking-machine	262,969	Aug. 22	1430	404	22	605
Merritt, Edward, Brockton, Mass. Pegging-machine	263,559	Aug. 29	2193	626 627	22	744
Merritt, Frank M., Penn Yan, N. Y. Corn-planter	269,088	Dec. 12	843	249	22	2051
Merry, Charles H., New Orleans, La. Device for handling cotton	260,493	July 4	190	53	22	33
Mershon, George B., assignor to American Grate Bar Company, Philadelphia, Pa. Grate	261,375	July 18	1292	361	22	228
Mertz, Emile, Basle, Switzerland, assignor of one-half to Brustlein, Sury & Co., New York, N. Y. Hydrocarbon-gas apparatus	262,455	Aug. 8	780	220	22	474
Mersereau, Edgar W., Brooklyn, N. Y. Puzzle lock-box	269,306	Dec. 19	1119	328	22	2107
Mersereau, William T., Orange, N. J. Piano-forte stool	267,358	Nov. 14	507	145	22	1636
Mershon, Albert H., Philadelphia, Pa., assignor to Morse Underground Conduit Company, of New Jersey. Wire-support for underground conduits	265,621	Oct. 10	484	133	22	1224
Merz, Max, New York, N. Y. Gage	266,042	Oct. 17	996	282	22	1318
Messer, Henry, Chicago, Ill., assignor to M. E. Messer, Emerson, Manitoba, Canada. Box-nailing machine	267,359	Nov. 14	507	145 146	22	1636
Messer, Horace W., assignor of two-thirds to Manville & Clark, Troy, N. Y. Shirt	268,424	Dec. 5	64	20	22	1899
Messer, Louis, assignor to himself and S. Zinn, New York, N. Y. Handle for satchels, &c.	265,125	Sept. 26	1711	479	22	1102
Messer, Maggie E. (See Messer, Henry, assignor.)						
Metcalf, Dwight W. (See Metcalf, George T. and D. W.)						
Metcalf, George T. and D. W., Hilladale, Mich. Eccentric	261,470	July 18	1397	390	22	246
Metcalfe, Gill W., assignor of one-half to S. Silberschmidt, Baltimore, Md. Automatic cut-off for gas-burners	264,320	Sept. 12	773	217	22	918
Metcalfe, John L., Waynesborough, Pa. Vehicle-tongue coupling	261,376	July 18	1293	361	22	228
Mete, Elisha, assignor of one-half to L. Lamont, Rochester, N. Y. Knockdown table	262,081	Aug. 1	314	90	22	390
Metz, Adam, Burlington, Iowa. Meat-cutter	260,595	July 4	307	84	22	52
Metz, James J., East Orange, N. J. Hat-singeing device	265,848	Oct. 10	756	212	22	1270
Metzner, Frank, Chicago, Ill. Cooking and heating stove	268,921	Dec. 12	635	186 187	22	2013
Mewhinney, John, Pomo, Cal. Harrow	264,183	Sept. 12	623	172	22	891
Mey, Fredrick H. C., Buffalo, N. Y. Drier and cooler	261,018	July 11	859	239	22	149
Meyer, August, Baltimore, Md. Machine for shelling green peas	260,494	July 4	191	53, 54	22	33
Meyer & Co., Henry C. (See Sniffen, Samuel F., assignor.)						
Meyer, Ernst, Boulware, Mo. Fence	262,605	Aug. 15	976	274	22	514
Meyer, Jacob S., Bloomville, Ohio. Windmill	268,262	Nov. 28	1026	451	22	1852
Meyer, Otto. (See Winger, Hans H., assignor.)						
Meyer, William, *et al.* (See Summers, Alexander B., assignor.)						
Meyers, John G., Washington, D. C. Artificial stone	268,515	Dec. 5	157	.....	22	1916
Meyers, Nicholas, assignor, by mesne assignments, to J. M. Fair, Buffalo, N. Y. Sewing-machine. (Reissue)	10,234	Nov. 7	444	128 129	22	1619
Meyers, Nicholas, assignor, by mesne assignments, to J. M. Fair, Buffalo, N. Y. Sewing-machine. (Reissue)	10,235	Nov. 7	447	129	22	1619
Meyrick, Joseph, Jr., and W. Melcher, Louisville, Ky. Pump	261,019	July 11	861	239	22	149
Meyrick, Joseph, Jr., and W. Melcher, Louisville, Ky. Hose-coupling	266,302	Oct. 31	1971	569	22	1506
Meyrose, Ferdinand, St. Louis, Mo. Tubular lantern	269,608	Dec. 26	1770	510	22	2236
Michael, Frederick, and J. W. Fowble, Eaton, Ohio. Permutation-padlock	268,022	Dec. 12	636	187	22	2014
Michael, John C., Black Rock, W. Va. Lifting-jack	269,089	Dec. 12	844	250	22	2051
Michales, Moses A., Allegheny, Pa. Crane	265,270	Oct. 3	50	17	22	1144
Michbach, Emil, Cincinnati, Ohio. Rocking-chair	268,516	Dec. 5	158	46	22	1910
Michel, William, Mount Sterling, Ohio. Latch and lock combined	266,863	Oct. 31	1971	570	22	1506
Michener, William R., Oswego, N. Y. Automatic lubricating-cup	266,178	Oct. 17	1166	329	22	1346
Michigan Stove Company. (See Barbour and Mills, assignors.)						
Michigan Stove Company. (See Reno, Peter A., assignor.)						
Middaugh, Henry C. (See Fish, Samuel H., assignor.)						
Middendorf, George. (See Willett, George, assignor.)						
Middleton, James H., Clifton, Tenn. Horse-detacher	266,179	Oct. 17	1167	329	22	1346
Middletown Hardware Company. (See Bailey, Charles A., assignor.)						
Mighell, Montraville P., Waterman Station, Ill. Harrow	262,456	Aug. 8	782	221	22	475
Mignault, Ensebe, assignor of one-half to M. I. Mignault, Troy, N. Y. Universal angular knuckle-joint	267,706	Nov. 21	950	268	22	1723
Mignault, Mary I. (See Mignault, Ensebe, assignor.)						
Mignault, Pierre E., Acton Vale, Quebec, Canada. Car-coupling	263,421	Aug. 29	2036	583	22	715
Miban, Patrick, Chelsea, Mass. Ventilator for ships	269,533	Dec. 26	1421	410	22	2169
Mihills, Merrick A., Painesville, Ohio. Barbed fence	269,444	Dec. 19	1301	377	22	2141
Mikels, William J., Newark, N. J. Machine for cutting cloth	264,954	Sept. 26	1518	427	22	1067
Mikkelson, Hans A. (See Eckman, Andrew, assignor.)						
Milburn, John D (See McDermott, Masterman, and Milburn.)						
Milby, Robert, Morales, Tex. Wire-stretcher	266,864	Oct. 31	1973	570	22	1507
Miles, Bradford S., Gray's Summit, Mo. Churn	262,810	Aug. 15	1231	346	22	559
Miles, Enos M., Lawrence, Kans. Combined revolving plow or spader and roller	260,596	July 4	308	84, 85	22	53
Miles, Enos M., Lawrence, Kans. Corn-planter	260,700	July 4	456	124	22	77
Miles, Frederick B., Philadelphia, Pa. Metal-punching machine	262,082	Aug. 1	315	90	22	390
Miles, Frederick B., Philadelphia, Pa. Clutching and releasing device for shafts	266,865	Oct. 31	1973	570	22	1507
Miles, George, Wellesley Hills, Mass. Feed-water heater	267,797	Nov. 21	1056	295	22	1742
Miles, George, Wellesley Hills, Mass. Steam-boiler	268,923	Dec. 12	637	187 188	22	2014
Miles, Jacob F., Philadelphia, Pa. Safety watch-pocket	264,321	Sept. 12	774	218	22	918
Miles Tool Works. (See See, James W., assignor.)						
Miles, William A., Copake Iron Works, N. Y. Attaching plow-handles	267,443	Nov. 14	623	180	22	1655
Miles, William T., Worcester, Mass. Metal-planer	262,970	Aug. 22	1432	404	22	605
Millar, Charles, *et al.* (See Jenks, Scott, assignor.)						
Millar, Henry W., *et al.* (See Jenks, Scott, assignor.)						
Miller, Andrew C., Sparta, Ill., assignor to D. M. Osborne & Co., Auburn, N. Y. Grain-binder	263,715	Sept. 5	51	16	22	783
Miller, Andrew C., Sparta, Ill., assignor of one-half to D. M. Osborne, Auburn, N. Y. Self-binding harvester	266,866	Oct. 31	1974	570 571	22	1507

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Miller, Benjamin. (See Muller and Miller.)						
Miller, Benjamin F. D., assignor to himself and G. C. Nimmons, Wooster, Ohio. Animal-trap	267,915	Nov. 21	1191	335	22	1768
Miller Berth and Life Saving Mattress Company. (See Young, Albert A., assignor.)						
Miller, Charles D., assignor of three-fourths to T. G. Orwig and H. S. Butler, Des Moines, Iowa. Seal-lock	266,867	Oct. 31	1980	572	22	1508
Miller, Charles H., Columbus, Ohio. Expansion rubber bucket for chain-pumps	269,809	Dec. 26	1771	510	22	2236
Miller, Charles H., Erie, Pa. Monkey-wrench	260,771	July 11	548	148	22	98
Miller, Charles H., assignor to F. F. Adams & Co., (limited,) Erie, Pa. Crank attachment	264,467	Sept. 19	946	266	22	957
Miller, Christian C. (See Miller, David G., assignor.)						
Miller & Co., Edw. (See Kinney, Charles A., assignor.)						
Miller, David G., assignor of one-half to C. C. Miller, South Frankfort, Mich. Hame-fastener	260,597	July 4	311	85	22	53
Miller, David W., Whitney's Point, N. Y. Reclining-chair	268,517	Dec. 5	159	46	22	1917
Miller, Delbert G., Waterville, Minn. Bod-sled	264,322	Sept. 12	774	218	22	918
Miller, Edgar E., Canton, Ohio. Device for converting motion	261,866	Aug. 1	47	14	22	343
Miller, Edwin, Chicago, Ill. Curry-comb	266,635	Oct. 31	1712	494	22	1458
Miller, Elizabeth P., Fairhaven, assignor to T. M. and E. Denham, New Bedford, Mass. Shirt	262,083	Aug. 1	316	90	22	391
Miller, Frank, and L. S. Hogeboom, Three Rivers, Mich. Machine for disintegrating bran and middlings	263,937	Sept. 5	329	93	22	831
Miller, Fredrick C., New York, N. Y. Cigar-mold	262,084	Aug. 1	316	91	22	391
Miller, George C., Alliance, Ohio. Washing-machine	261,020	July 11	862	239	22	150
Miller, Harrison S., assignor of one-half to C. W. Meikel, Indianapolis, Ind. Water-governor	263,796	Sept. 5	160	47	22	801
Miller, Henry J., Goshen, N. Y. Boring and tenoning machine	268,118	Nov. 28	1437	402	22	1818
Miller, Herman. (See Jordan, Edmund, assignor.)						
Miller, Herman, New York, N. Y. Machine for soldering handles on can-tops	265,849	Oct. 10	757	213	22	1270
Miller, Jacob, Canton, Ohio. Thrashing and separating machine	261,867	Aug. 1	49	14, 15	22	344
Miller, Jacob D. (See Barratt, Henry, assignor.)						
Miller, James, Oakland, Cal. Refrigerator	264,184	Sept. 12	623	172	22	892
Miller, James, Oakland, Cal. Refrigerator	264,185	Sept. 12	624	172	22	892
Miller, James, Oakland, Cal. Refrigerator	264,186	Sept. 12	625	173	22	892
Miller, James, Oakland, Cal. Refrigerator	264,187	Sept. 12	626	173	22	892
Miller, James E., Brooklyn, N. Y. Peripheral runner for cars	265,271	Oct. 3	54	17	22	1145
Miller, James G., Green Bay, Wis. Gas-burner	266,634	Oct. 31	1711	494	22	1458
Miller, James G., Green Bay, Wis. Gas-burner	269,307	Dec. 19	1121	328	22	2107
Miller, James W., Newark, N. J. Cuff-button	262,606	Aug. 15	977	274	22	514
Miller, John A., Wadesville, Ind. Traction-engine	260,598	July 4	312	85	22	53
Miller, John A., Wadesville, Ind. Car-coupling	267,240	Nov. 7	353	102	22	1603
Miller, John F. (See Paull, Archibald W., assignor.)						
Miller, John F. (See Paull and Miller.)						
Miller, John F. (See Paull and Miller.) (Reissue.)						
Miller, Joseph C., Chelsea, Mass. Soda-water draft-tube	268,425	Dec. 5	65	20	22	1899
Miller, Justus. (See Thompson, David W., assignor.)						
Miller, Levi L. (See Best, Martin L., assignor.)						
Miller, Levi L., *et al.* (See Best, William A., assignor.)						
Miller, Lewis, assignor to Verree Iron Company, Philadelphia, Pa. Machine for straightening metallic straps or bands	260,701	July 4	458	124	22	77
Miller, Lewis, assignor to Verree Iron Company, Philadelphia, Pa. Wire-tightener for bales and bundles	260,702	July 4	460	124 125	22	77
Miller, Louis C., St. Louis, Mo. Pump	265,691	Oct. 10	576	161	22	1239
Miller, Max, Brooklyn, N. Y. Valve	261,021	July 11	863	239	22	150
Miller, Orson A. (See Van Dusen, Charles E., assignor.)						
Miller, Thomas, Jersey City, N. J. Fire-escape ladder	263,560	Aug. 29	2197	627	22	745
Miller, Thomas, Jersey City, N. J. Combined liquor mixer and strainer	265,126	Sept. 26	1712	479	22	1102
Miller, Thomas, Jersey City, N. J. Fire-escape ladder	265,531	Oct. 3	375	102	22	1199
Miller, Thomas A., Grenola, Kans. Washing-machine	269,445	Dec. 19	1302	377	22	2141
Miller, Thomas L., Burlington, N. J. Culinary boiler	260,886	July 11	686	186	22	121
Miller, Thomas S., Chicago, Ill. Hub-lamp for bicycles or other vehicles having spider wheels	264,955	Sept. 26	1519	428	22	1067
Miller, Upton, Mount Morris, Ill. Spring bed-bottom	266,497	Oct. 24	1754	442	22	1423
Miller, Watson J., Birmingham, and H. Berry, Shelton, assignors to Derby Silver Company, Birmingham, Conn. Call-bell for table-ware	265,929	Oct. 10	846	242	22	1286
Miller, William H., Brandenburg, Ky. Cooking-stove	268,706	Dec. 5	362	106	22	1956
Miller, William N. (See Lash, John F., assignor.)						
Miller, William P., Tipton, Mo. Nut-lock	266,180	Oct. 17	1167	329	22	1346
Millett, Silas E., Millett's Station, Mich. Wire gate	262,607	Aug. 15	979	274	22	514
Millholland, James A., Cumberland, Md. Automatic block-signal mechanism for railways	267,561	Nov. 14	769	220	22	1682
Milligan, John C., Brooklyn, assignor to Lalance & Grosjean Manufacturing Company, New York, N. Y. Scrap-metal cable	268,263	Nov. 28	1627	451 452	22	1852
Milligan, John C., Brooklyn, assignor to Lalance & Grosjean Manufacturing Company, New York, N. Y. Fence-strand of scrap metal	268,264	Nov. 28	1628	452	22	1852
Milligan, Joseph H., assignor of one-half to J. F. Cronan, Boston, Mass. Self-leveling berth	267,360	Nov. 14	512	146	22	1636
Milliken, George F., assignor of two-thirds to J. W. Brown and H. D. Hyde, Boston, Mass. Magneto-telephone	262,811	Aug. 15	1233	346	22	559
Milliken, George F., assignor of two-thirds to J. W. Brown and H. D. Hyde, Boston, Mass. Telephonic transmitter	266,043	Oct. 17	997	283	22	1318
Millings, Robert C., Charleston, S. C. Conch	265,127	Sept. 26	1713	479	22	1102
Millner, Jackson C., Danville, Va. Tobacco-curer	268,707	Dec. 5	362	106	22	1956
Mills, Andrew. (See Graff, John, assignor.)						
Mills & Co., J. R. (See Wallace, John G., assignor.)						
Mills, Daniel, Philadelphia, Pa. Button-hole sewing-machine	266,181	Oct. 17	1168	330	22	1346
Mills, Daniel, Philadelphia, Pa. Waxed-thread sewing	269,708	Dec. 5	364	107	22	1957
Mills, Daniel, Philadelphia, Pa., assignor to United States Button Hole Sewing Machine Company, Camden, N. J. Button-hole sewing-machine	265,850	Oct. 10	760	213 214	22	1271
Mills, Daniel, Philadelphia, Pa., assignor to United States Automatic Button Hole Sewing Machine Company, of New Jersey. Button-hole sewing-machine	266,044	Oct. 17	999	283	22	1319
Mills, Dwight P. (See Fuller and Mills.)						
Mills, George H., Boston, Mass. Coat-hook	265,622	Oct. 10	485	133	22	1224
Mills, George M., Philadelphia, Pa. Candy whistle and mold for manufacturing the same	267,562	Nov. 14	770	220	22	1682
Mills, Henry F., London, England. Compound for treatment of neuralgia	262,457	Aug. 8	783	.....	22	475
Mills, John E., Chicago, Ill. Exhaust-fan	267,707	Nov. 21	952	268 269	22	1723

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
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Mills, Jonathan, Chicago, Ill. Centrifugal bolt	267,098	Nov. 7	174	50,51	22	1571
Mills, Merrill B. (See Barbour and Mills.)						
Mills, Thomas B., *et al.* (See Boulton, James B. D., assignor.)						
Mills, William, *et al.* (See Boulton, James B. D., assignor.)						
Miltimore, Alonzo E. (See Wolff and Miltimore.)						
Miltimore Car Axle Company. (See Miltimore, George W., assignor.)						
Miltimore, George W., Chicago, Ill. Car-wheel	261,944	Aug. 1	151	44	22	361
Miltimore, George W., Chicago, Ill. Car-wheel	262,009	Aug. 15	1353	383	22	582
Miltimore, George W., Chicago, Ill. Making car-wheels	262,010	Aug. 15	1354	383	22	582
Miltimore, George W., Chicago, Ill. Car-wheel	267,916	Nov. 21	1192	335	22	1768
Miltimore, George W., Chicago, Ill., assignor to Miltimore Car Axle Company, New York, N. Y. Car-axle	264,188	Sept. 12	627	173	22	892
Milton, John, Hamilton, Va. Railway-car	262,085	Aug. 1	318	91	22	391
Minchin, Thomas, Chicago, Ill. Ventilator	262,238	Aug. 8	528	148	22	430
Miner, William J. (See Lindsay and Miner.)						
Miner, William W., Boston, Mass. Making horseshoe-nails	261,561	July 25	1526	428	22	274
Miner, William W., Boston, Mass., assignor to Globe Nail Company. Horseshoe-nail	266,868	Oct. 31	1981	572	22	1508
Mink, Fritz, Philadelphia, Pa. Commode	267,754	Nov. 21	1000	282	22	1732
Mink, William G., and E. N. Alling, Bath-on-the-Hudson, N. Y. Lantern	264,956	Sept. 26	1521	428	22	1067
Minneapolis Harvester Works. (See Appleby, John F., assignor.)						
Minneapolis Harvester Works. (See Strunk, Daniel, assignor.)						
Minnigerode, Charles, Jr., *et al.* (See Ellsworth, George A., assignor.)						
Minnick, Lorenzo D. (See Smith, Joseph D., assignor.)						
Minor, Francis O., and J. M. Hennessey, New Orleans, La. Hame-fastener	267,708	Nov. 21	952	269	22	1723
Minor, Lyman D., New York, N. Y. Device for exhibiting neckscarfs, &c	266,636	Oct. 31	1712	495	22	1458
Mishler, Henry, Mogadore, Ohio. Potter's lathe	269,090	Dec. 12	844	250	22	2051
Missouri Glass Company. (See Needham, Hiram K., assignor.)						
Mitchel, Daniel F., Ferndale, Cal. Bed-spring	264,468	Sept. 19	947	266	22	957
Mitchell, Edward. (See Broadbent and Mitchell.)						
Mitchell, James V., Martinsville, Ind. Corn-planter	265,692	Oct. 10	577	161	22	1239
Mitchell, John J., Hopkinsville, Ky. Grate attachment	264,553	Sept. 19	1030	292	22	974
Mitchell, Jordan H., Hatchechubbee, Ala. Cotton-gin rib	269,091	Dec. 12	845	250	22	2051
Mitchell, Joseph R., and F. X. Fischer, San Francisco, Cal. Boiler	269,308	Dec. 19	1121	328	22	2107
Mitchell, Noah, New York, N. Y. Finger-ring	266,869	Oct. 31	1982	572	22	1508
Mitchell, Robert L., New York, N. Y. Tension-indicator for sewing-machines	267,563	Nov. 14	771	220	22	1682
Mitchell, Samuel. (See Robinson, Clark, assignor.)						
Mitchell, Walter N. (See McClure and Mitchell.)						
Mitchell, William G., New York, N. Y. Car-axle lubricator	261,747	July 25	1748	492	22	312
Mithoff, Theodore, Lancaster, Ohio. Hermetical joint for iron pipes	262,086	Aug. 1	319	91	22	391
Mitscherlich, Alexander, Münden, Germany. Manufacture of tannic acid	263,797	Sept. 5	161	.....	22	802
Mix, Frank W., assignor to Eagle Lock Company, Terryville, Conn. Trunk-lock	262,812	Aug. 15	1234	346	22	559
Mize, John J., Pelham, Ga. Cultivator	264,323	Sept. 12	775	218	22	918
Moackler, William, New York, N. Y. Apparatus for rendering fats, &c	264,189	Sept. 12	628	173	22	893
Mock, Charles F., Louisville, Ky. Plow	260,772	July 11	540	149	22	98
Moebs, George, Detroit, Mich. Cigar-bunching machine	266,711	Oct. 31	1809	525	22	1476
Moellmann, Emil, assignor of one-half to J. G. Murdock, Cincinnati, Ohio. Water-closet valve	266,870	Oct. 31	1983	572	22	1508
Moeslein, Valentine, Brooklyn, assignor to J. Thornton, Jr., New York, N. Y. Expanding reamer	265,272	Oct. 3	55	17	22	1145
Moffat, Joseph M., *et al.* (See Roberts, Thomas B., assignor.)						
Moffitt, John A., Arlington, Mass. Fire-proof material for ceilings, walls, safes, stoves, furnaces, bricks, &c	267,755	Nov. 21	1001	.....	22	1732
Mohr, Joseph. (See Downer and Mohr.)						
Mohrig, Christopher F., San Francisco, Cal. Explosive compound	268,518	Dec. 5	160	.....	22	1917
Molecular Telephone Company. (See Lockwood and Bartlett, assignors.) (Reissue.)						
Molera, Eusebius J., assignor of one-half to J. C. Cebrian, San Francisco, Cal. Electric locomotive	269,092	Dec. 12	846	{250 251}	22	2051
Moline Plow Company. (See Evans, William, assignor.)						
Möller, Peter C., assignor to C. G. Röder, Leipsic, Saxony, Germany. Machine for grinding lithographic stones	268,119	Nov. 28	1439	{402 403}	22	1818
Mond, Ludwig, Winnington Hall, Northwich, county of Chester, England. Manufacture of cyanogen compounds and ammonia	269,306	Dec. 19	1123	329	22	2107
Mondos, Jean A., Neuilly, Seine, France. Electric-arc lamp	263,938	Sept. 5	331	93, 94	22	831
Monnier, Denis, Geneva, Switzerland. Automatic methanometer	263,939	Sept. 5	333	94	22	832
Monroe, Halsey H., Thomaston, Me. Double rotary harrow	264,324	Sept. 12	776	218	22	919
Monroe, Robert B., Philadelphia, Pa. Door and shutter bolt	266,498	Oct. 24	1555	443	22	1423
Monsanto, Mauricio M., assignor, by mesne assignments, to himself, B. Odio, New York, and F. Perozo, Brooklyn, N. Y. Steam-generator and furnace. (Reissue)	10,174	Aug. 1	480	134	22	415
Monsanto, Mauricio M., assignor to H. P. Booth, trustee, New York, N. Y. Steam-generator	264,735	Sept. 19	1237	{350 351}	22	1013
Montague, Patrick H., St. Louis, Mo. Warehouse-truck	262,813	Aug. 15	1235	347	22	559
Montant, Alphonse, New York, N. Y. Signal for railways	260,495	July 4	193	54	22	33
Montgomery, Archibald, assignor to H. Troemner, Philadelphia, Pa. Grinding-mill	266,182	Oct. 17	1170	330	22	1347
Montgomery, James M., Jr., assignor to J. W. Dann, Columbus, Ohio. Extension-cornice	265,851	Oct. 10	761	214	22	1271
Montgomery, Milton B., Mercer, Pa. Broom	267,444	Nov. 14	624	180	22	1635
Montgomery, Samuel, New York, N. Y. Glove	266,299	Oct. 24	1318	372	22	1379
Montgomery, William R., Louisville, Ky. Apparatus for molding, marking, and finishing tobacco	263,940	Sept. 5	336	95	22	832
Moomy, Joseph G., Erie, Pa. Combined mop head and wringer	262,303	Aug. 8	606	170	22	444
Moon, Robert H., and J. H. Baker, Springfield, Ill. Steam-actuated valve	263,193	Aug. 22	1699	481	22	654
Moore, Albert H., Boston, Mass. Joint for curtain-rods	262,458	Aug. 8	784	221	22	475
Moore Combination Desk Company. (See Moore, Van Wie, and Recker, assignors.)						
Moore, Daniel, Brooklyn, N. Y. Revolving fire-arm	264,325	Sept. 12	778	219	22	919
Moore, Daniel, assignor to W. A. Hulbert, Brooklyn, N. Y. Metallic case	268,709	Dec. 5	365	107	22	1957
Moore, David W. (See Wilson, Joseph B., assignor.)						
Moore, Edward J., Baltimore, Md. Steam-boiler	267,241	Nov. 7	354	103	22	1603
Moore, Edwin R., St. Peter, Minn. Electrical conducting tramway and truck	262,971	Aug. 22	1433	404	22	605
Moore, Ela, Walla Walla, Wash. Ter. Tongue-support	263,194	Aug. 22	1699	481	22	655
Moore, Elbridge J., New York, N. Y. Fire-escape	266,183	Oct. 17	1171	331	22	1347
Moore, Francis E., assignor to E. L. Rand, Boston, Mass. Key-board attachment for musical instruments	269,810	Dec. 26	1772	511	22	2236
Moore, Frank, Washington, D. C. Machine for filling marsh land	268,710	Dec. 5	366	107	22	1957
Moore, Frederick J., Shoal Creek, Ark. Loom	263,422	Aug. 29	2037	583	22	715
Moore, Hollis W., Olean, N. Y. Platform-gear for vehicles	268,711	Dec. 5	367	107	22	1957

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Moore, James, *et al.* (See Moore, Thomas, assignor.)						
Moore, John. (See Burton, Allen, and Moore.)						
Moore, John, Amherst, Nova Scotia, Canada. Seat for vehicles	268,519	Dec. 5	161	47	22	1917
Moore, John B. (See Vincent, Comer C., assignor.)						
Moore, John S. (See Morgan, James H., assignor.)						
Moore, Jonathan J., Thorntown, Ind. Straw-stacker	262,814	Aug. 15	1236	347	22	560
Moore, Joseph A., *et al.* (See Haase and Recker, assignors.)						
Moore, Joseph A., Indianapolis, Ind. Cabinet-desk	263,055	Aug. 22	1536	{432 433}	22	624
Moore, Joseph A., D. D. Van Wie, and J. P. Recker, assignors to Moore Combination Desk Company, Indianapolis, Ind. Desk	260,703	July 4	461	125	22	78
Moore, Lee E., Boston, Mass. Boot or shoe	262,239	Aug. 8	528	148	22	430
Moore, Myron E., Woodford's, Me. Reading-desk	261,471	July 18	1398	390	22	246
Moore, Myron T., Auburn, N. Y. Cigarette-box	264,326	Sept. 12	780	219	22	919
Moore, Oliver, Mount Clemens, Mich. Drying-kiln	267,099	Nov. 7	181	51	22	1572
Moore, Thomas, assignor to himself, J. Moore, and R. Rutherford, O'Fallon, Ill. Reversing-gear for engines	262,815	Aug. 15	1237	348	22	560
Moore, Thomas C., *et al.* (See Haase and Recker, assignors.)						
Moore, Thomas J. (See Warren, Edmond A., assignor.)						
Moore, William B., Millsborough, Pa. Hoisting apparatus	264,469	Sept. 19	948	267	22	957
Moore, William H. (See Austin, Henry C., assignor.)						
Moore, William T., Richview, Ill. Bag-holder	261,748	July 25	1749	492	22	312
Moorhead, William B. (See Durborow, Henry C., assignor.)						
Moorman, George W., Edinburg, Ind. Bier	262,683	Aug. 15	1068	301	22	531
Moosmann, Mathew. (See Wurst, Charles C., assignor.)						
Morand, Franklin A., Topeka, Kans. Harrow	268,924	Dec. 12	638	188	22	2014
Morden, William J., Chicago, Ill. Frog	267,564	Nov. 14	772	221	22	1682
Morden, William J., Chicago, Ill. Guard-rail for switch-frogs	267,565	Nov. 14	773	221	22	1682
Morden, William J., Chicago, Ill. Tie-bar for railway-switches	267,566	Nov. 14	774	221	22	1682
Morden, William J., Chicago, Ill. Railway-frog	267,567	Nov. 14	775	221	22	1683
Morden, William J., Chicago, Ill. Railway-crossing	267,568	Nov. 14	776	222	22	1683
Morden, William J., Chicago, Ill. Safety device for switches	267,569	Nov. 14	776	222	22	1683
Moreau, Eugène, San Francisco, Cal., assignor to T. W. Sterling, New York, N. Y. Stand for rock-drills	268,426	Dec. 5	66	20, 21	22	1899
Moreau, Eugène, San Francisco, Cal., assignor to T. W. Sterling, New York, N. Y. Hand rock-drill	268,427	Dec. 5	67	21	22	1899
Moreau, Volney M., Corunna, Mich. Machine for cutting wooden types	265,623	Oct. 10	486	133	22	1224
Morehead, John, assignor of one-half to L. F. Herbst, Detroit, Mich. Steam-trap	263,716	Sept. 5	57	17	22	784
Morgan, Daniel P., assignor to C. A. Sawyer, Fitchburg, Mass. Water-motor	269,696	Dec. 26	1624	465	22	2209
Morgan, Hubert W., assignor to himself, E. R. Ley, Westfield, Mass., and J. T. Morgan, Winsted, Conn. Preparation of whalebone	261,623	July 25	1598	.....	22	287
Morgan, James, Pittsburg, Pa. Machine for making bolts and rivets	261,022	July 11	864	240	22	150
Morgan, James, Brooklyn, N. Y., assignor to Tournaphone Music Company, Worcester, Mass. Mechanical musical instrument	263,295	Aug. 22	1627	518	22	678
Morgan, James H., assignor of one-half to J. S. Moore, Bennettsville, S. C. Seed-planter	266,184	Oct. 17	1173	331	22	1347
Morgan, James T., *et al.* (See Morgan, Hubert W., assignor.)						
Morgan, Lyman, Port Washington, Wis. Cylinder for grain-scourers	263,195	Aug. 22	1700	481	22	655
Morgan, William J., and H. Glenn, Hillsborough, Ohio. Rein-holder	262,816	Aug. 15	1238	348	22	560
Morgan, William S., Evansville, Wis. Bench mortising-machine	266,871	Oct. 31	1984	573	22	1508
Morison, Alexander, assignor of one-third to D. E. Thomas, Alpena, Mich. Freight-car	265,427	Oct. 3	232	69	22	1177
Morley, James H., Holyoke, assignor to Morley Sewing Machine Company, Boston, Mass. Machine for sewing buttons to fabrics	265,532	Oct. 3	375	{102 103 104}	22	1199
Morley Sewing Machine Company. (See Morley, James H., assignor.)						
Morphew, Enos A., and H. Withrow, assignors to said Withrow, J. A. Brahm, J. M. Robbins, and A. W. Stoker, Petersburg, Ill. Grain-drill	266,499	Oct. 24	1555	443	22	1424
Morrell, Amos, *et al.* (See Heywood and Taft, assignors.)						
Morrell Evaporator Company, James A. (See Morrell, James A., assignor.)						
Morrell, James A., assignor to J. A. Morrell Evaporator Company, New York, N. Y. Apparatus for the manufacture of sugar	266,300	Oct. 24	1319	373	22	1380
Morrell, Robert. (See Cosgrove, William N., assignor.)						
Morrell, Thomas T., Johnstown, Pa. Blow-pipe	260,773	July 11	549	149	22	98
Morrill, Abner W., *et al.* (See Parker, Sidney, assignor.)						
Morrill, Charles, New York, N. Y. Hernial truss	261,168	July 18	1046	294	22	190
Morrill, Charles E. (See Allen, Robert S., assignor.)						
Morrill, F. S., *et al.* (See Parker, Sidney, assignor.)						
Morris, Benjamin W., and W. H. Rodgers, Circleville, Ohio. Whip-socket	266,712	Oct. 31	1810	525	22	1476
Morris, Charles F. C., London, county of Middlesex, England. Boat-detaching hook	261,749	July 25	1749	492	22	312
Morris, David, and H. Speirs, Bunker Hill, Ill. Plow-colter	263,941	Sept. 5	335	95	22	832
Morris, George M., Cohoes, assignor of one-half to W. I. Bleakley, Lansingburg, N. Y. Trimming attachment for sewing-machines	268,812	Dec. 12	502	149	22	1989
Morris, George W., Chicago, Ill., and G. W. Prescott, St. Louis, Mo. Car-spring	265,852	Oct. 10	762	214	22	1271
Morris, Henry B., assignor to Antophone Company, Ithaca, N. Y. Mechanical musical instrument	268,925	Dec. 12	639	188	22	2014
Morris, Henry D., San Francisco, Cal. Claw-hammer	266,045	Oct. 17	1001	284	22	1319
Morris, John, Bristol, R. I. Washing-machine	267,570	Nov. 14	777	222	22	1683
Morris, John C., Cincinnati, Ohio. Operating inclined-plane railway cars	266,301	Oct. 24	1321	373	22	1380
Morris, John J., Humboldt, Nebr. Cultivator	264,554	Sept. 19	1031	292	22	974
Morris, Luvica C., Knightstown, Ind. Wash-boiler	261,023	July 11	867	240	22	150
Morris, Miles H., and F. Westerman, Chicago, Ill. Machine for cutting the shafts or stems of feathers	266,259	Oct. 17	1263	358	22	1362
Morris Sash Lock Manufacturing Company. (See Voll, George, assignor.)						
Morris, William B., San Francisco, Cal. Velocipede	260,887	July 11	687	186	22	121
Morris, William F., Paris, Ky. Field-anchor	266,872	Oct. 31	1985	573	22	1508
Morrison, J. Henry, Norwich, assignor of one-half to W. H. Osborn, Windham, Conn. Cotton-gin	262,684	Aug. 15	1069	301	22	531
Morrison, James, New York, N. Y. Banjo	264,893	Sept. 26	1436	406	22	1053
Morrison, James W., Logansport, Ind. Gate	262,087	Aug. 1	320	92	22	391
Morrison, Martin M., Kansas City, Mo. Addressing-machine	261,024	July 11	867	240	22	150
Morrison, Walter G., Willimantic, Conn. Spindle and bearing therefor	263,942	Sept. 5	338	96	22	833
Morrison, Walter G., Willimantic, Conn. Spindle for spinning-frames	264,327	Sept. 12	781	220	22	919
Morrison, Willard A., assignor to L. C. Boyington, Chicago, Ill. Cabinet folding bedstead	262,817	Aug. 15	1238	{348 349}	22	560
Morrison, William N., St. Louis, Mo. Tooth-regulator	262,088	Aug. 1	321	92	22	391

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Morse, Charles H. (See Weaver, Andrus S., assignor.)						
Morse, George S., Columbia, Mo. Knee-stop for organs	268,520	Dec. 5	162	47	22	1917
Morse, Henry T., assignor to himself, E. F. Pillsbury, and W. B. Frink, Boston, Mass. Water-wheel	263,196	Aug. 22	1701	482	22	655
Morse, Henry T., assignor of three-fourths to W. W. Page, G. M. and E. D. Lee, Boston, Mass. Suspension-joint for railway-rails	264,726	Sept. 19	1238	351	22	1014
Morse, James O., Englewood, N. J. Wrought-iron coupling for pipe-sections	263,943	Sept. 5	341	96	22	833
Morse, Orville M., Springville, N. Y. Mechanical movement	263,717	Sept. 5	59	17	22	785
Morse, Stephen A., Philadelphia, Pa. Power-elevator	261,377	July 18	1294	361	22	229
Morse Underground Conduit Company. (See Mershon, Albert H., assignor.)						
Mörstad, Gulbrand E., Chicago, Ill. Guard for swinging bridges	269,093	Dec. 12	849	251	22	2052
Mortensen, Rasmus, Milwaukee, Wis. Steam-trap	260,599	July 4	312	85	22	53
Morton, Albanus W., Rahway, N. J. Electric lamp	264,328	Sept. 12	782	220	22	920
Morton, Edwin W., White Plains, N. Y. Picture-exhibitor	268,521	Dec. 5	163	47	22	1917
Morton, James, Norwich, Conn. Water-wheel governor	269,594	Dec. 26	1502	431	22	2186
Morton, Samuel D., Corry, Pa. Clothes-drier	268,040	Nov. 28	1354	378	22	1802
Morton, Vega B., and S. P. Bennett, Ceralvo, Ky. Shoe-fastening	269,094	Dec. 12	850	252	22	2052
Moscheowitz, Schamu M., New York, N. Y. Spool-holder	268,712	Dec. 5	367	108	22	1957
Moses, Edwin A. F., assignor to C. W. Hodgdon, Boston, Mass. Applying wire cork-fastenings to bottles	261,246	July 18	1136	317	22	203
Mosher, Theodore, Albany, N. Y. Car-coupling	265,533	Oct. 3	379	104	22	1200
Mosler, Bahmann & Company. (See Goehler, George J. H., assignor.)						
Moss, Annie M. H., Monroe, Conn. Dust-pan	267,242	Nov. 7	354	103	22	1603
Moss, Martha S., Indianapolis, Ind. Perforating attachment for sewing-machines	267,361	Nov. 14	514	147	22	1337
Moss, Myer, Yarmouth, Nova Scotia, Canada. Hand-vise for brooch-pins	269,446	Dec. 19	1303	378	22	2142
Motard, Charles E., *et al.* (See Rengert, Adolph, assignor.)						
Motard, Louis C. A., *et al.* (See Rengert, Adolph, assignor.)						
Mote, Alden, Richmond, Ind. Combined corn harvester and husker	266,902	Oct. 24	1322	373	22	1380
Motley, John J., Salisbury, N. C. Cultivator	264,957	Sept. 26	1523	428	22	1068
Mott, Garret S., Philadelphia, Pa. Duplex telegraph	262,459	Aug. 8	785	221	22	475
Mott, Samuel D., New York, N. Y. Measuring electric currents	267,445	Nov. 14	624	{180 181	22	1656
Mott, Samuel D., Menlo Park, N. J. Electric governor for driving engines for dynamo-electric machines	267,446	Nov. 14	626	181	22	1656
Mott, Samuel D., Menlo Park, N. J., assignor to Edison Electric Light Company, New York, N. Y. Incandescing electric lamp	264,737	Sept. 19	1239	351	22	1014
Mougey, Peter, Amwell, Ohio. Force-pump	266,713	Oct. 31	1811	{525 526	22	1476
Mould, William, Saugerties, N. Y. Thill-coupling	264,555	Sept. 19	1032	292	22	974
Moulton, Henry W., assignor to C. W. Higby, Jackson, Mich. Corset	263,056	Aug. 22	1537	433	22	624
Moulton, Henry W., assignor to C. W. Higby, Jackson, Mich. Bustle	266,185	Oct. 17	1173	331	22	1347
Moulton, John F., *et al.* (See Jennings, Charles C., assignor.)						
Moulton, Sylvanus T., *et al.* (See Crecelius, Louis J., assignor.)						
Mount, John C., Jr. (See Slocum, John J., assignor.)						
Mountain, William M., Canton, Ohio. Hay-elevator	268,813	Dec. 12	503	149	22	1989
Mountain, William M., Canton, Ohio. Hay elevator and conveyer	268,814	Dec. 12	504	150	22	1989
Mouras, Louis, Vesoul, France. Cesspool	268,120	Nov. 28	1441	403	22	1819
Mower, Samuel E. (See Coop and Mower.)						
Mower, Samuel E., Milford, assignor to H. G. Thompson & Son, New Haven, Conn. Book-stapling machine	263,561	Aug. 29	2198	{627 628	22	745
Mowery, John, Fremont, Ohio. Clothes-pounder	267,571	Nov. 14	778	223	22	1683
Moyer, Harvey A., Syracuse, N. Y. Hub-boring machine	260,774	July 11	550	149	22	98
Moyer, Thomas M., Brookfield, Mo. Churn	262,089	Aug. 1	321	92	22	392
Mrozowski, Alexander, Newark, N. J. Fan for rocking-chairs	263,197	Aug. 22	1702	482	22	655
Muck, John, *et al.* (See Kirchner, Albert, assignor.)						
Muckenhaupt, Anthony, Poughkeepsie, N. Y. Indicator for boot and shoe receptacles	265,693	Oct. 10	780	162	22	1239
Mueller, Edward L., St. Louis, Mo. Packing-box for bottles	264,894	Sept. 26	1437	406	22	1053
Mueller, Edward L., St. Louis, Mo. Packing-box for bottles	269,221	Dec. 19	1009	295	22	2087
Mueller, Erich E., St. Louis, Mo Cylinder-cock for steam-engines	268,815	Dec. 12	506	150	22	1990
Mueller, George C., San Francisco, Cal. Corn-crusher	266,873	Oct. 31	1986	573	22	1509
Mueller, Hieronymus, Decatur, Ill. Machine for tapping mains	265,624	Oct. 10	487	134	22	1224
Mueller, Theodore, Philadelphia, Pa. Watch-crown	268,713	Dec. 5	369	108	22	1957
Mueller, Theodore, Philadelphia, Pa. Watch-pendant	268,714	Dec. 5	370	108	22	1958
Muldner, Charles, Cleveland, Ohio. Carpet-renovator	267,917	Nov. 21	1193	335	22	1768
Mulford, Clarence C., Streator, Ill. Alcohol-cock	264,556	Sept. 19	1032	293	22	974
Mulkey, Erastus J., assignor of one-half to A. Fort, Americus, Ga. Well-auger	267,918	Nov. 21	1194	336	22	1769
Mullen, James F., assignor to himself and John T. Ellis, Boston, Mass. Binding for coats and other garments	263,798	Sept. 5	163	47	22	802
Mullen, William J., New York, N. Y. Curtain-rod holder	268,265	Nov. 28	1620	452	22	1852
Müller, August, and J. Wolf, New York, N. Y. Lock-hinge	267,447	Nov. 14	627	181	22	1656
Müller, August, and J. Wolf, New York, N. Y. Lock-hinge for shutters	267,448	Nov. 14	627	182	22	1656
Müller, Conrad, and J. Mauser, Morrisania, N. Y. Barrel-register	268,926	Dec. 12	640	188	22	2014
Müller, Friederich, assignor of one-half to M. Macdougall, Elizabeth, N. J. Rotary steam-engine	268,392	Dec. 5	165	47	22	1917
Müller, Hans J., assignor to himself and A. Levett, New York, N. Y. Electric incandescent lamp	260,600	July 4	314	86	22	54
Müller, Hans J., assignor to himself and A. Levett, New York, N. Y. Multiplex electric lamp	261,472	July 18	1399	390	22	247
Müller, Hans J., assignor of one-half to A. Levett, New York, N. Y. Vacuum-pump	264,329	Sept. 12	784	{220 221	22	920
Müller, Hans J., assignor to himself and A. Levett, New York, N. Y. Dynamo-electric machine	265,853	Oct. 10	763	{214 215	22	1271
Müller, Hans J., assignor to himself and A. Levett, New York, N. Y. Apparatus for creating vacuums in incandescent-electric-lamp globes	266,303	Oct. 24	1324	374	22	1381
Muller, John D., New York, and B. Miller, Brooklyn, N. Y. Polishing and waxing board for sad-irons	266,380	Oct. 24	1433	407	22	1401
Mumm, John F. A., Dayton, Ky. Compound for railway-signal torpedoes	261,247	July 18	1137	.....	22	203
Mundel, Jacob C., Arrowsmith, Ill. Seeding-machine	262,460	Aug. 8	786	{221 222	22	476
Mundell, James, and W. J. Gordon, assignors of one-third to J. Mundell, Philadelphia, Pa. Hydrocarbon-furnace	263,198	Aug. 22	1703	482	22	656
Mundell, James, and W. J. Gordon, assignors of one-third to J. Mundell, Philadelphia, Pa. Machine for shaving, condensing, and assorting blanks for shoe-soles	267,572	Nov. 14	778	223	22	1684
Mundell, James, and W. J. Gordon, assignors of one-third to J. Mundell, Philadelphia, Pa. Machine for cutting heel-lifts	267,573	Nov. 14	781	{223 224	22	1684

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Mundell, James, and W. J. Gordon, assignors of one-third to J. Mundell, Philadelphia, Pa. Machine for cutting shoe-soles	267,574	Nov. 14	784	{225 226	22	1685
Mundell, John. (See Mundell and Gordon, assignors.)						
Munger, George, East River, Conn. Blackboard-rubber	262,818	Aug. 15	1241	349	22	561
Munger, Robert S., Mexia, Tex. Saw-sharpening tool	265,854	Oct. 10	765	215	22	1271
Munger, William B., Oberlin, Ohio. Machine for converting motion	262,685	Aug. 15	1071	301	22	532
Munn, Frank E., Dallas, Tex. Sign	268,428	Dec. 5	69	22	22	1900
Munn, William, Brooklyn, N. Y. Coffee-pot	269,607	Dec. 26	1625	465	22	2210
Munn, William B., Collingswood, N. J. Stand for lightning-rods	263,423	Aug. 29	2038	584	22	715
Munroe Organ Reed Company. (See Stone, Frank, assignor.)						
Munson, Albert L., assignor to Kinney Tobacco Company, New York, N. Y. Combined cigarette and mouth-piece	261,169	July 18	1047	294	22	190
Munson, Andrew M., Lee, Ill. Machine for reeling fence-wire	262,608	Aug. 15	979	275	22	515
Munson, Edward B., *et al.* (See Linnett, John, assignor.)						
Munson, Harvey S., *et al.* (See Linnett, John, assignor.)						
Munson, Walter C., Brooklyn, N. Y. Hot-air register	261,945	Aug. 1	172	44	22	361
Munson, Walter C., Brooklyn, N. Y. Slide-center register for hot air	261,946	Aug. 1	153	44	22	362
Munzinger, Peter, Philadelphia, Pa. Gas-engine	266,304	Oct. 24	1326	{374 375	22	1381
Munzinger, Peter, Philadelphia, Pa. Rotary differential force-pump	268,816	Dec. 12	506	150	22	1990
Murdoch, Samuel C., Pittsburg, Pa. Crucible-tongs	263,799	Sept. 5	163	48	22	802
Murdock, James. (See Kirkwood, Wear, and Murdock.)						
Murdock, James, Jr., Cincinnati, Ohio. Hand-stamp	261,025	July 11	869	241	22	151
Murdock, John G. (See Moellmann, Emil, assignor.)						
Murphey, Frank P. (See Murphey, George W. and F. P.) (Reissue.)						
Murphey, George W. and F. P., Kenney, Ill. Check-rower for corn-planters. (Reissue)	10,219	Oct. 24	1665	479	22	1443
Murphree, John B., Lindsey, Tex. Quilting-frame	265,694	Oct. 10	582	162	22	1240
Murphy, Albert L., assignor of one-half to S. P. M. Tasker, Philadelphia, Pa. Combined fire-extinguisher and fire-escape	262,972	Aug. 22	1435	405	22	606
Murphy, Daniel, Dubuque County, Iowa. Grain and straw separator	264,190	Sept. 12	630	174	22	893
Murphy, Daniel R., *et al.* (See Symons, James, assignor.)						
Murphy, Daniel R., Newark, assignor of one-half to G. D. Johnson, Granville, Ohio. Feeder for locomotive injectors and pumps	263,661	Aug. 29	2311	660	22	764
Murphy, Daniel R., assignor of two-thirds to A. O. Tinsman, Pittsburg, Pa. Device for attaching torpedoes to railway-rails	264,045	Sept. 5	469	128	22	855
Murphy, Francis, Chicago, Ill. Nut-lock	261,947	Aug. 1	153	44	22	362
Murphy, Francis, Chicago, Ill. Nut-lock	262,090	Aug. 1	322	92	22	392
Murphy, John M. C., Boston, Mass. Shirt	260,775	July 11	551	150	22	99
Murphy, Michael H., *et al.* (See Keenan, Hugh, assignor.)						
Murphy, Timothy W., Washington, D. C. Horseshoe	267,243	Nov. 7	355	103	22	1604
Murphy, Walter A. S., assignor of one-fourth to A. Lindale, Chicago, Ill. Washing-machine	260,704	July 4	462	125	22	78
Murphy, William. (See Horsnell and Murphy.)						
Murphy, William T., New York, N. Y. Glass vase, urn, or other hollow glassware, and their manufacture	268,266	Nov. 28	1630	453	22	1852
Murray, Charles, Springfield, Ill. Heat indicator and regulator for stove-ovens	267,651	Nov. 14	877	250	22	1701
Murray, Charles H., Leadville, Colo. Smelting-furnace	265,128	Sept. 26	1713	479	22	1103
Murray, Craig, Kalamazoo, assignor to S. J. Wing, Schoolcraft, Mich. Wheel-harrow	268,267	Nov. 28	1631	453	22	1853
Murray, James H., Hopkins, Mo. Well-auger	269,310	Dec. 19	1126	320	22	2108
Murray, William T. (See Sparks, Benjamin W., assignor.)						
Muschert, Benjamin F., Morrisville, Pa. Paris-green and fertilizer distributer	266,186	Oct. 17	1174	331	22	1347
Musgrave, James, assignor of one-half to A. Reid, Cincinnati, Ohio. Gas-burner for heating purposes	260,888	July 11	687	187	22	21
Musser, Nathan D., Reno, Nev. Car-coupling	263,800	Sept. 5	164	48	22	802
Mustard, James E., Glen Hall, Ind. Traction-engine	264,191	Sept. 12	631	174	22	893
Mutton, Samuel S. (See Lewin, John M., assignor.)						
Myer, William, Youngstown, Ohio. Washing-machine	265,695	Oct. 10	582	162	22	1240
Myers, Andrew G. (See Baldwin, E. Francis, assignor.)						
Myers, Charles F., Washington, D. C. Toy flying-machine	262,686	Aug. 15	1071	301	22	532
Myers, Charles F., Washington, D. C. Flying-machine	262,687	Aug. 15	1073	302	22	532
Myers, Edward. (See Smith and Myers.)						
Myers, Francis E. (See Myers, Philip A., assignor.)						
Myers, Frederick. (See Hawley, James, assignor.)						
Myers, Frederick, New York, N. Y. Box-nailing machine	262,304	Aug. 8	607	171	22	444
Myers, Frederick, New York, N. Y. Box-nailing machine	262,305	Aug. 8	608	171	22	444
Myers, Frederick, New York, N. Y. Nailing-machine	267,244	Nov. 7	356	{103 104	22	1604
Myers, John P., Rochester, Ind. Washing-machine	269,095	Dec. 12	851	252	22	2052
Myers, Lawrence, Philadelphia, Pa. Underground cable for street-car propulsion	265,273	Oct. 3	57	17	22	1145
Myers, Lewis Y., Canton, Ohio. Hay-fork	263,562	Aug. 29	2200	628	22	745
Myers, Patrick W., and C. E. Andrews, Forestville, Conn. Die for heading auger-blanks	264,470	Sept. 19	949	267	22	958
Myers, Philip A., assignor of one-half to F. E. Myers, Ashland, Ohio. Piston-packing for pumps	261,026	July 11	869	241	22	151
Myers, Philip A., assignor of one-half to F. E. Myers, Ashland, Ohio. Pump	263,044	Sept. 5	342	96	22	833
Myers, Reuben, assignor of one-half to G. G. Clark, Harshmansville, Ohio. Boot-jack	264,840	Sept. 19	1360	385	22	1034
Myers, Theodore A., Wheeling, W. Va. Water heater and filter	262,091	Aug. 1	323	93	22	392
Myrick, Elijah, Harvard, Mass. Carriage-top	262,609	Aug. 15	981	275	22	515
Nacke, Arnold, assignor to Ledig & Herrlein, Philadelphia, Pa. Screw-cutting device	264,471	Sept. 19	950	268	22	958
Nadig, Phillip, Allentown, Pa. Screw-driver	267,709	Nov. 21	953	269	22	1724
Nairn, Michael B., Kirkcaldy, county of Fife, Scotland. Machinery for the manufacture of linoleum	263,418	Aug. 29	2033	582	22	714
Naramore, Truman C., Williston, Vt. Railway tie and rail elevator	262,819	Aug. 15	1242	349	22	561
Nashua Lock Company. (See Gérard, John, assignor.)						
Nashua Lock Company. (See Parker, Emery, assignor.)						
Nathan, Nathan I., New York, N. Y. Making artificial butter	263,199	Aug. 22	1706	.....	22	656
Nathan, Sinai. (See Loeb, Adolf, assignor.)						
Nathanson, Martin M., San Francisco, Cal. Vehicle-brake	263,057	Aug. 22	1538	433	22	624
National Anti Sewer Gas Company. (See Pike, Charles F., assignor.)						
National Automatic Piano and Organ Manufacturing Company. (See Pain, Robert W., assignor.)						
National Electric Light and Power Company. (See Heikel, Otto, assignor.)						
National Heat and Light Company. (See Bangs, David E., assignor.)						
National Machine Company. (See Phelps, Herbert L., assignor.)						
National Manufacturing Company. (See Johnson, William J. and F. C., assignors.)						
National Papeterie Company. (See Allen, Merrick W., assignor.)						

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
National Rubber Company. (See Wood, William C., assignor.)						
National Sewing Machine Company. (See Snediker, James F., assignor.)						
National Shelf and File Company. (See Doremus, Willard D., assignor.)						
National Shelf and File Company. (See Lang, John C., assignor.)						
Naughten, James, Dayton, Ohio. Stove-pipe joint	261,473	July 18	1401	391	22	247
Naughton, Michael J., Philadelphia, Pa. Burial-casket	262,092	Aug. 1	324	93	22	392
Nauman, William H. (See Stoddard and Nauman.)						
Naumann, Gustav A., Newark, N. J. Faucet	261,750	July 25	1750	493	22	313
Naylor, James N. (See Kleppinger and Naylor.)						
Naylor, William A., Lambertville, N. J. Machine for disintegrating grass	264,739	Sept. 19	1240	352	22	1014
Naylor, William A., Lambertville, N. J. Fodder-disintegrating machine	264,740	Sept. 19	1241	352	22	1014
Neal, Roswell A. (See Brill, Henry C., assignor.)						
Nealley, Edmund H. (See Lufkin, Edwin, assignor.)						
Neander, Theodore H., Wataga, Ill. Flour-bolt	265,428	Oct. 3	233	69	22	1177
Needham, Charles A., assignor to himself and E. P. Needham, New York, N. Y. Pneumatic elevator for railways	265,129	Sept. 26	1715	480	22	1103
Needham, E. P. (See Needham, Charles A., assignor.)						
Needham, Elias P., New York, N. Y. Pneumatic railway and car therefor	268,715	Dec. 5	371	108, 109	22	1958
Needham, Hiram K., assignor to Missouri Glass Company, St. Louis, Mo. Reflector-bracket	261,948	Aug. 1	155	45	22	362
Neely, Austin, Jackson, Miss. Plow	268,268	Nov. 28	1632	453	22	1853
Neff, Edward E. (See Cregmile, Crittenden, assignor.)						
Neff, Jesse, Avenue, Ohio. Corn-planter	266,500	Oct. 24	1556	443	22	1424
Neff, William H., Cowen, Ind. Washing-machine	262,610	Aug. 15	982	275	22	515
Neider, Fred. A., assignor of one-half to G. Grossman, Augusta, Ky. Detachable handle for utensils	266,381	Oct. 24	1434	407	22	1401
Neider, Fred. A., assignor of one-half to G. Grossman, Augusta, Ky. Detachable handle for utensils	266,382	Oct. 24	1435	407	22	1402
Neill, James O., Lolland, Minn. Bag-holder	263,200	Aug. 22	1707	483	22	656
Neill, Robert, Chicago, Ill. Switch-rail for slaughtering establishments	267,100	Nov. 7	181	51	22	1572
Nelly, William C., Brooklyn, N. Y. Clothes-frame	263,945	Sept. 5	344	96	22	833
Nelsen, Samuel, assignor to Esterly & Son, Whitewater, Wis. Grain-binding machine	260,496	July 4	194	55	22	73
Nelson, Andrew, Rushford, Minn. Lamp	266,637	Oct. 31	1713	495	22	1458
Nelson, James and N., Milwaukee, Wis. Folding woven-wire mattress	264,192	Sept. 12	632	174	22	893
Nelson, James C., Racine, Wis. End-gate lock for wagons	266,501	Oct. 24	1557	443	22	1424
Nelson, James K., Marissa, Ill. Window-screen	268,716	Dec. 5	373	109	22	1958
Nelson, John B., Viola, Tex. Car-coupling	267,101	Nov. 7	183	52	22	1572
Nelson, Lewis G. (See Lilloe, Christian J., assignor.)						
Nelson, Nels. (See Nelson, James and N.)						
Nelson, Nels P., assignor of one-half to S. Piper, Chicago, Ill. Machine for rolling blanks for tools	262,688	Aug. 15	1075	303	22	532
Nelson, William H., and M. J. Waterman, Alexandria, Va. Combined desk-frame and tablet	265,855	Oct. 10	765	215, 216	22	1272
Nepilly, Paul A., Saarbrücken, Germany. Fire-box for locomotives	261,474	July 18	1402	391	22	247
Neracher, William, Cleveland, Ohio. Fire extinguishing and alarm apparatus	261,475	July 18	1403	392, 393	22	247
Neracher, William, Cleveland, Ohio. Damper	261,476	July 18	1407	393	22	248
Neracher, William, Cleveland, Ohio. Raised letter for signs	261,477	July 18	1408	393	22	248
Nesbitt, Josiah, Toronto, Ontario, Canada. Electric device for operating the throttle-valves of steam-engines	268,523	Dec. 5	166	48	22	1918
Nesbitt, Robert H. T., Leavenworth, Kans. Cork or stopper of bottles	261,949	Aug. 1	155	45	22	362
Nessell, George H., Allegany, N. Y. Rein-guard	269,447	Dec. 19	1303	378	22	2142
Nettleton, George, New Haven, Conn. Organ-case	261,027	July 11	570	241	22	151
Nettleton, William A., Bridgeport, Conn. Corset-stiffener	265,534	Oct. 3	381	104	22	1200
Netzner, Augusta, New York, N. Y. Suspender-end	264,557	Sept. 19	1033	293	22	974
Neuber, Robert E., Pittsfield, Mass. Loom-temple	263,946	Sept. 5	344	97	22	834
Neumann, Hartwig, *et al.* (See Widmer, Charles, assignor.)						
Neumeyer, Horace F., Macungie, Pa. Electric burglar-alarm	263,947	Sept. 5	345	97	22	834
Neustadt, Albert, San Francisco, Cal. Carpet-sewing machine	261,248	July 18	1138	318	22	203
Nevins, James A., Sailor Springs, Ill. Animal-poke	263,563	Aug. 29	2202	629	22	745
New Haven Clock Company. (See Camp, Hiram, assignor.)						
New Home Sewing Machine Company. (See Grout, William L., assignor.)						
New Home Sewing Machine Company. (See Hadley, Horace W., assignor.)						
New York Belting and Packing Company. (See McDermott, Charles J., assignor.)						
New York Kerosene Gas Light Company. (See Aikman and Osborn, assignors.)						
Newbury, Henry F., Brooklyn, N. Y. Time-lock	262,093	Aug. 1	324	93, 94	22	392
Newbury, Henry F., Brooklyn, N. Y. Time-lock	262,094	Aug. 1	328	95	22	392
Newbury, Henry F., Brooklyn, N. Y. Time-lock	262,095	Aug. 1	331	95	22	393
Newbury, Henry F., Brooklyn, N. Y. Time-lock	262,096	Aug. 1	333	96	22	393
Newbury, Henry F., Brooklyn, N. Y. Time-lock	262,097	Aug. 1	336	96, 97	22	393
Newbury, Henry F., Brooklyn, N. Y. Time-lock	262,098	Aug. 1	340	97, 98	22	393
Newbury, Henry F., Brooklyn, N. Y. Time-lock	262,099	Aug. 1	343	98	22	394
Newbury, Henry F., Brooklyn, N. Y. Time-lock	262,100	Aug. 1	346	98	22	394
Newbury, Henry F., Brooklyn, N. Y. Time-lock	262,101	Aug. 1	348	98, 99	22	394
Newbury, Henry F., Brooklyn, N. Y. Time-lock	262,102	Aug. 1	351	99	22	394
Newbury, Henry F., Brooklyn, N. Y. Time-lock	262,103	Aug. 1	353	100	22	394
Newbury, Henry F., Brooklyn, N. Y. Time-lock	265,930	Oct. 10	846	242, 243	22	1286
Newbury, Henry F., Brooklyn, N. Y. Time-lock	265,931	Oct. 10	849	243	22	1286
Newbury, Henry F., Brooklyn, N. Y. Time-lock	265,932	Oct. 10	850	243, 244	22	1286
Newbury, Henry F., Brooklyn, N. Y. Time-lock	265,933	Oct. 10	853	244	22	1287
Newby, Frank S., Indianapolis, Ind. Advertising device	262,240	Aug. 8	529	148	22	430
Newcomb, William W., Lebanon, Ky. Gate	265,274	Oct. 3	58	18	22	1145
Newell, William, Butler township, Miami county, Ind. Saw-gummer	261,249	July 18	1141	318	22	204
Newhall, Allen, assignor to himself and J. C. Dickinson, Brooklyn, N. Y. Fire-escape	266,502	Oct. 24	1558	444	22	1424
Newlin, Howard, Brooklyn, N. Y. Separating and drying apparatus	267,919	Nov. 21	1195	336	22	1769
Newman, Charles W., *et al.* (See Newman, Gustav R., assignor.)						
Newman, George M., Corsicana, Tex. Beer-cooler	264,330	Sept. 12	785	221	22	920
Newman, Gustav R., assignor of one-half to J. A. and C. W. Newman, Chicago, Ill. Reed-organ	264,097	Sept. 12	634	146	22	875
Newman, John A., *et al.* (See Newman, Gustav R., assignor.)						
Newth, W. H. D. (See Ritchie, James, assignor.)						
Newton & Co., S. S. (See Hebbard, Alonzo, assignor.) (Reissue.)						
Newton, Earl C., Batavia, Ill. Animal-tie	262,306	Aug. 8	609	171	22	445

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Newton, John, Brooklyn, N. Y. Producing continuous structures of plastic material	268,927	Dec. 12	642	189	22	2015
Nexsen, John A. (See Crandall, Jesse A., assignor.)						
Ney, Jacob, Canton, Ohio. Hay-fork	261,562	July 25	1527	438	22	274
Ney, John, Sheridan, Cal. Rail-coupling and bed-plate	268,928	Dec. 12	644	189	22	2015
Niaudet, Alfred. (See Gramme, Zénobe T., assignor.)						
Niccum, Henry T., assignor, by direct and mesne assignments, of one-half to S. D. Houpt and C. D. Humphrey, Findlay, Ohio. Rotary engine	263,662	Aug. 29	2312	660, 661	22	764
Nichols, Benjamin, and G. E. Watson, Kennedy, N. Y. Reduction-mill	263,948	Sept. 5	345	97	22	834
Nichols, Clarence W. and E. T., Chicago, Ill. Method of and machine for preparing feathers for dusters, &c	264,472	Sept. 19	953	268	22	958
Nichols & Co., D. P. (See Sears, Henry C., assignor.)						
Nichols, Edmund T. (See Nichols, Clarence W. and E. T.)						
Nichols, Frederic B., assignor of one-half to C. Thomson, Halifax, Nova Scotia, Canada. Apparatus for evaporating or concentrating liquids and saturating liquids with gases	265,974	Oct. 17	917	260	22	1304
Nichols, Frederic B., assignor of one-half to C. Thomson, Halifax, Nova Scotia, Canada. Valve-gear	266,714	Oct. 31	1812	526	22	1477
Nichols, Frederic B., assignor of one-half to C. Thomson, Halifax, Nova Scotia, Canada. Radiating-flue	267,362	Nov. 14	515	147	22	1637
Nichols, George B., *et al.* (See Plant, Paschal, assignor.)						
Nichols, George B., Galveston, Tex. Spark-arrester	264,331	Sept. 12	786	221	22	920
Nichols, George W., and W. Taylor, Clinton, Iowa. Lath-trimming machine	262,611	Aug. 15	983	276	22	515
Nichols, Henry B., *et al.* (See Styron, William D., assignor.)						
Nichols, Jacob J. (See McLewee, William S., assignor.)						
Nichols, Jacob J., Brooklyn, N. Y. Lamp-reservoir	264,741	Sept. 19	1242	352	22	1014
Nichols, Jacob J., and B. Benas, Brooklyn, N. Y. Decorating glass globes, shades, and other articles	267,984	Nov. 21	1276	.....	22	1782
Nichols, John P., Wabash, Ind. Swinging gate	264,098	Sept. 12	535	146	22	876
Nichols, John S., *et al.* (See Parkinson, Thomas J., assignor.)						
Nichols, Joseph V., Brooklyn, N. Y. Electric conductor	265,130	Sept. 26	1716	480	22	1103
Nichols, Joseph V., Brooklyn, assignor to United States Electric Lighting Company, New York, N. Y. Electric lamp	263,801	Sept. 5	165	48	22	802
Nichols, Joseph V., Brooklyn, assignor to United States Electric Lighting Company, New York, N. Y. Manufacture of incandescent electric lamps	266,187	Oct. 17	1175	332	22	1348
Nichols, Joseph V., Brooklyn, assignor to United States Electric Lighting Company, New York, N. Y. Electric incandescent lamp	268,269	Nov. 28	1633	453	22	1853
Nichols, Joseph V., Brooklyn, assignor to United States Electric Lighting Company, New York, N. Y. Electric incandescent lamp	268,270	Nov. 28	1634	454	22	1853
Nichols, Shepard & Co. (See Hoag and Drew, assignors.)						
Nicholson, John I. (See Blackley, Nicholson, and Holloman.)						
Nicholson, William T., Providence, R. I. Forming teeth upon file-blanks and apparatus therefor	265,975	Oct. 17	919	260	22	1305
Nicholson, William T., Providence, R. I. Machine for forming teeth upon file-blanks	265,976	Oct. 17	921	260	22	1305
Nickerson, Thomas. (See Walker, Robert L., assignor.)						
Nickum, Sylvania B., Marion, Ind. Railway-switch	269,311	Dec. 19	1127	330	22	2108
Niehoff, Henry, New York, N. Y. Portable music-stand	266,715	Oct. 31	1814	526	22	1477
Nielsen, Niels, Copenhagen, Denmark. Middlings-purifier	263,564	Aug. 29	2203	629	22	746
Niles, Milton C., Oak Park, Ill. Revolving plow	269,096	Dec. 12	852	252	22	2052
Niles, Milton C., Oak Park, Ill. Latch	269,097	Dec. 12	854	252	22	2052
Niles, Milton C., Oak Park, Ill. Reversible latch	269,098	Dec. 12	856	253	22	2053
Niles, Milton C., Oak Park, Ill. Latch	269,099	Dec. 12	858	253	22	2053
Niles Tool Works. (See Gordon and See, assignors.)						
Niles, Truman B., Swanville, Ind. Machine for ditching and grading	265,856	Oct. 10	767	216	22	1272
Niles, Zerah R., Oneida, N. Y. Pendulum-adjustment for clocks	268,524	Dec. 5	167	48	22	1918
Nilson, Nils, Maple Plain, Minn. Vehicle-spring	262,973	Aug. 22	1437	405	22	606
Nilson, Nils, Maple Plain, Minn. Side-bar vehicle	262,974	Aug. 22	1437	406	22	606
Nimmons, George C. (See Miller, Benjamin F. D., assignor.)						
Nirdlinger, Max. (See Heath and Nirdlinger.)						
Nishwitz, Frederick, Millington, N. J. Harrow	262,307	Aug. 8	610	171	22	445
Nishwitz, Frederick, Millington, N. J. Harrow	262,308	Aug. 8	611	172	22	445
Nishwitz, Frederick, Millington, N. J. Harrow	262,820	Aug. 15	1243	350	22	561
Nishwitz, Frederick, Millington, N. J. Harrow	262,975	Aug. 22	1439	406	22	606
Nishwitz, Frederick, Millington, N. J. Harrow	263,565	Aug. 29	2204	629	22	746
Nitz, Ernest, assignor of one-half to H. Thomsen, Philadelphia, Pa. Medical inhaler	268,525	Dec. 5	168	48	22	1918
Nix, John D., Milwaukee, Wis. Pitman for sickles of harvesting and mowing machines	263,424	Aug. 29	2039	584	22	715
Nixon, Jacob, Winfield, Kans. Traction-engine	263,566	Aug. 29	2205	629	22	746
Nixon, Robert N., assignor of one-half to C. J. Lesure, Dubuque, Iowa. Oscillating gang-saw	264,473	Sept. 19	956	269	22	959
Nixon, Robert N., assignor of one-half to C. J. Lesure, Dubuque, Iowa. Mechanism for operating the oscillating slides of gang-saws	267,449	Nov. 14	628	182	22	1656
Noble, George H. (See Mayo, Goodrich A., assignor.)						
Noble, George H. (See Mayo, Goodrich A. and V. J., assignors.)						
Noble, Oscar L. (See Wheeler, Benjamin F., assignor.)						
Nohr, William, assignor of one-half to P. Lenz, Dayton, Ohio. Tobacco-steaming box	268,121	Nov. 28	1442	403	22	1819
Nolan, John H., assignor, by mesne assignments, to Magnesa Calcite Fire-Proof Company, Boston, Mass. Safe	268,817	Dec. 12	508	150	22	1990
Nolan, John H., assignor, by mesne assignments, to Magnesa Calcite Fire-Proof Company, Boston, Mass. Fire-proof safe	268,818	Dec. 12	509	151	22	1990
Nolan, John H., assignor, by mesne assignments, to Magnesa Calcite Fire-Proof Company, Boston, Mass. Fire-proof chest	268,819	Dec. 12	510	151, 152	22	1990
Nolan, John H., assignor, by mesne assignments, to Magnesa Calcite Fire-Proof Company, Boston, Mass. Fire-proof material for safes	268,820	Dec. 12	512	152	22	1991
Nolan, Thomas, Brockton, assignor to C. A. Shaw, Boston, Mass. Channeling-machine for boots or shoes	262,689	Aug. 15	1077	303	22	533
Nolin, Gervais, Skowhegan, Me. Sheep-shears	266,716	Oct. 31	1814	526	22	1477
Nordyke & Marmon Company. (See Marmon and Warrington, assignors.)						
Norman, James D., and W. A. Benson, Wellford, S. C. Car-coupling	267,012	Nov. 7	66	20	22	1551
Normandin, Levi P., Jackson, Mich. Balanced slide-valve	267,450	Nov. 14	629	182	22	1657
Norris, Daniel J. and L. D., Odell, Nebr. Weighing-wagon	263,201	Aug. 22	1707	483	22	656
Norris, Frederick N., Poughkeepsie, and C. E. Sweet, Wappinger's Falls, N. Y. Truss-pad	266,188	Oct. 17	1176	332	22	1348
Norris, George E., assignor of one-half to J. K. P. Pine, Troy, N. Y. Device for cutting fabric blanks from which to make collars, &c	269,312	Dec. 19	1128	330	22	2108
Norris, George H. (See Cryer and Norris.)						
Norris, James L., administrator. (See Palliser, William.)						
Norris, John B., Richmond, Va. Dry lubricant for machinery, &c	267,451	Nov. 14	630	.....	22	1657
Norris, John B., Richmond, Va. Lubricant	267,920	Nov. 21	1196	.....	22	1769

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Norris, Lucius D. (See Norris, Daniel J. and L. D.)						
Norris, Otho J. C., Rohrersville, Md. Drag-sawing machine	263,567	Aug. 29	2206	630	22	746
North, Albert H., assignor to J. D. Frary, Bridgeport, Conn. Razor	264,742	Sept. 19	1243	352	22	1014
North, C. F., *et al.* (See McCreary, John, assignor.)						
North, Caleb C., Huntingdon, Pa. Holder for bills or notes and collection items	264,558	Sept. 19	1034	293	22	974
North & Co., O. B. (See Zeller, Melancthon E., assignor.)						
North, Frederick O., *et al.* (See Brown, F. Barton, assignor.)						
North, Frederick O., *et al.* (See Frost, Stiles, assignor.)						
North, George W., Burlington, assignor of one-half to S. L. North, Leavenworth, Kans. Check-row planter	264,743	Sept. 19	1244	353	22	1014
North, James E., assignor of one-half to T. S. North, Penn Yan, N. Y. Wash-bench	260,406	July 4	77	21	22	15
North, John, Middletown, Conn. Type-setting machine	261,378	July 18	1295	362, 363, 364	22	229
North, Stephen L. (See North, George W., assignor.)						
North, Truman S. (See North, James E., assignor.)						
North Western Manufacturing and Car Company. (See Clark, Willard A., assignor.)						
Northall, William H., Bridgeport, Conn. Cartridge capping and uncapping implement	269,448	Dec. 19	1304	378	22	2142
Northcutt, Elijah W., Acworth, Ga. Combined cotton chopper and cultivator	263,425	Aug. 29	2040	584	22	716
Northcutt, Salathiel T., Marion County, Oreg. Grain-adjusting belt for harvesters	260,889	July 11	689	187	22	121
Northrup, George B., assignor to W. & E. T. Fitch, New Haven, Conn. Trace-buckle	269,102	Dec. 12	862	254	22	2054
Northwestern Manufacturing Company. (See Jackson, Jobiel, assignor.)						
Norton, Ambrose L., Attica, assignor of two-thirds to J. H. Sutherland and F. M. Rogers, Darien, N. Y. Spring-bed	261,028	July 11	872	241	22	151
Norton, Daniel. (See Weaver and Norton.)						
Norton, Edwin, Chicago, Ill. Sheet-metal can	264,099	Sept. 12	536	146	22	876
Norton, Edwin, Chicago, Ill. Sheet-metal can	267,013	Nov. 7	67	20	22	1551
Norton, Edwin, Chicago, Ill. Sheet-metal can	267,014	Nov. 7	68	21	22	1551
Norton, Edwin, Chicago, Ill. Machine for putting on the ends of fruit and other cans	269,698	Dec. 26	1626	465	22	2210
Norton, Edwin, Chicago, Ill. Can	268,041	Nov. 28	1355	378, 379	22	1802
Norton, Edwin, assignor to himself and O. W. Norton, Chicago, Ill. Stamping machine and die	260,890	July 11	689	187	22	122
Norton, Franklin B., Worcester, Mass. Method of and appliance for burning solid emery-wheels	263,202	Aug. 22	1709	483, 484	22	656
Norton, James H., New Orleans, La. Machine for loading cars						
Norton, Oliver W. (See Norton, Edwin, assignor.)						
Nothohm, Harmon F., Janesville, Wis. Car-brake	262,690	Aug. 15	1078	303	22	533
Nothohm, Harmon F., Janesville, assignor to C. N. Harrison, Milwaukee, Wis. Car-brake	269,103	Dec. 12	863	254	22	2054
Nourse, Joel. (See Sanborn, Augustus, assignor.)						
Novikoff, Dimitrius I., Dreana, Russia. Steam-boiler	265,857	Oct. 10	767	216, 217	22	1272
Noye, E. Hayward, *et al.* (See Holt, Noah W., assignor.)						
Noye, Richard K., *et al.* (See Holt, Noah W., assignor.)						
Noyes, Ashbel A., Steamboat Rock, Iowa. Horse hay-rake	263,568	Aug. 29	2207	630	22	746
Noyes, William, New York, N. Y. Automatic steam-damper regulator	263,802	Sept. 5	166	48, 49	22	802
Nuding, William H., Delphos, Ohio. Office-indicator	267,575	Nov. 14	790	226	22	1685
Nugent, Richard C., Pittsburg, Pa. Boring-head for boring cylinders	265,535	Oct. 3	382	105	22	1200
Numsen, Nathaniel G. (See Knapp and Numsen.)						
Núnez, Andres. (See Seiler, Paul, assignor.)						
Nurre, A. Joseph, Cincinnati, Ohio. Mount for chromos and prints	263,203	Aug. 22	1710	484	22	657
Nutt, Joseph, Danbury, Conn. Hat-pouncing roll	267,363	Nov. 14	517	147	22	1637
Nutter, George W., Corinna, Me. Furrow-opener	262,461	Aug. 8	787	222	22	476
Nutting, William R. (See Tirrell, Jacob P., assignor.)						
Nye, Charles H., Cincinnati, Ohio, assignor to C. J. Belknap, Boston, Mass. Hand-stamp	268,526	Dec. 5	169	48	22	1918
Nye, George H., Chicago, Ill. Steam vacuum-pump	263,803	Sept. 5	171	49	22	803
Nye, Ralph W., *et al.* (See Ogborn, Harrison, assignor.)						
O'Brien, Herbert L. (See Woolfenden and O'Brien.)						
O'Brien, James, Minneapolis, Minn. Horse-collar pad	266,594	Oct. 24	1662	478	22	1443
O'Brien, John, St. Louis, Mo. Steam-boiler	262,976	Aug. 22	1441	406, 407	22	607
O'Brien, John T., Philadelphia, Pa. Scaffold-tie	263,426	Aug. 29	2041	584	22	716
O'Brien, Thomas, Malden Rock, Wis. Bed-spring	267,576	Nov. 14	791	226	22	1686
O Bryan, Henry, *et al.* (See McDonnell and Sherwood, assignors.)						
O'Bryon, Charles H., assignor of one-half to J. E. Brown, Philadelphia, Pa. Underground conduit for electric wires	265,131	Sept. 26	1717	480	22	1103
O'Connell, Stephen, Billings, Mont. Ter. Wagon-wrench	266,503	Oct. 24	1558	444	22	1424
O'Connor, Daniel, Little Rock, Ark. Switch stand and lock	265,132	Sept. 26	1718	481	22	1103
O'Connor, James L., Toronto, Ontario, Canada. Copying-book	266,189	Oct. 17	1177	332	22	1348
O'Donnell, James, San Francisco, Cal. Balanced steam-valve	269,449	Dec. 19	1305	378	22	2142
O'Farrell, Francis J., Dublin, Ireland. Separating glycerine from spent soap-lyes, saline, and other substances	266,504	Oct. 24	1559	.....	22	1425
O'Farrell, Joseph, Sr., Morrison, Ill. Spring-vehicle	263,205	Aug. 22	1712	484	22	657
O'Hara Glass Company. (See Lyon and Anderson, assignors.)						
O'Harra, George W., assignor of one-half to J. A. Hoodemaker, Kalamazoo, Mich. Galvanic battery	267,577	Nov. 14	792	226	22	1686
O'Malley, Patrick A., Brooklyn, N. Y. Package-fastener	265,276	Oct. 3	60	18	22	1146
O'Meara, Jeremiah, New York, N. Y. Regrinding valves	266,639	Oct. 31	1716	495	22	1459
O'Neal, William J., assignor of one-half to J. C. Boone, Cincinnati, Ohio. Steam-boiler and other furnaces	268,429	Dec. 5	70	22	22	1900
O'Neil, Daniel, Rochester, N. Y. Metal-boring device	266,306	Oct. 24	1332	375	22	1392
O'Neil, John, Pakenham, Ontario, Canada. Combined agricultural wagon	269,222	Dec. 19	1010	295	22	2087
O'Neil, John, assignor of one-third to G. F. Reed, New York, N. Y. Carpet-sewing machine	260,601	July 4	316	86	22	54
O'Neil, Michael S., Rock Island, Ill. Shaper attachment for rounding wooden poles	268,527	Dec. 5	170	49	22	1918
O'Neill, Andrew, New Haven, Conn. Steam-washer	261,170	July 18	1048	295	22	190
O'Neill, Charles Z., New York, N. Y. Street-sweeping machine	265,537	Oct. 3	383	105	22	1200
Oakes, Henry F., assignor to White & Stokes, New York, N. Y. Box for letter-paper and envelopes	265,625	Oct. 10	469	134	22	1225
Oakman, Samuel, Winchester, assignor to L. A. Wright, Boston, Mass. Weaving-machine for covering bottles	262,241	Aug. 8	530	149	22	430
Oatley, Elliot. (See Howe and Oatley.)						
Oberst, Peter J., assignor to T. B. Farrington, Minneapolis, Minn. Overcoat	265,536	Oct. 3	382	105	22	1200
Ochs, Ambrose. (See Robinson, John H., assignor.)						
Ockelmann, Bernhard, Jersey City, N. J. Bottle-stand and reflector	261,250	July 18	1141	318, 319	22	204

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Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Odell, Levi J., Fairbury, Ill. Check-rower	266,305	Oct. 24	1331	375	22	1382
Odell, Udolpho H., Dayton, Ohio. Roller-mill	260,705	July 4	463	125	22	78
Odell, Udolpho H., Dayton, Ohio. Gradual reduction of grain	263,204	Aug. 22	1710	484	22	657
Odell, Udolpho H., Dayton, Ohio. Roller reducing and separating mill	264,559	Sept. 19	1035	293, 294	22	975
Odell, William H., Yonkers, N. Y. Steam-boiler furnace	263,663	Aug. 29	2313	661	22	764
Odendhal, Edward H., Norfolk, Va. Coffee-pot	268,717	Dec. 5	374	109	22	1959
Odio, Benjamin, *et al.* (See Monsanto, Mauricio M., assignor.) (Reissue.)						
Oehlmann, Emil H. C., Berlin, Germany. Ventilating apparatus	267,102	Nov. 7	183	52	22	1573
Oehrl, George F., Belle Vernon, Pa. Stock-car	266,190	Oct. 17	1178	333	22	1348
Ogborn, Harrison, assignor to R. C. Ogborn and R. W. Nye, Richmond, Ind. Culinary vessel	269,313	Dec. 19	1129	330	22	2109
Ogborn, Harrison, Richmond, assignor of one-half to S. Watson, Dublin, Ind. Seed-separator	269,314	Dec. 19	1130	331	22	2109
Ogborn, Harrison, Richmond, Ind., and A. W. Kendrick, Brooklyn, assignors, by mesne assignments, to C. T. Segar Manufacturing Company, Utica, N. Y. Bed-bottom. (Reissue)	10,220	Oct. 24	1666	480	22	1443
Ogborn, Rhoda C., *et al.* (See Ogborn, Harrison, assignor.)						
Ogden, James S. (See Hull and Ogden.)						
Ogle, John L., and F. H. Turnure, assignors of one-half to C. Johnston and I. F. Brown, Graham, Mo. Automatic wagon-brake	262,309	Aug. 8	614	172	22	445
Ogle, Joseph A. (See Hess, Henry A., assignor.)						
Ohlen, James, Columbus, Ohio. Saw-handle	262,821	Aug. 15	1246	350	22	561
Obliger, Louis B., assignor of two-thirds to H. Fife and Theobold & Co., Canton, Ohio. Waste-pipe coupling	262,310	Aug. 8	615	172	22	446
Oil Well Supply Company. (See Lewis, Daniel L., assignor.)						
Okell, Peter, Fort Madison, Iowa. Dog for log-chains	266,505	Oct. 24	1560	444	22	1425
Olcott, John D. (See Post, Charles B., assignor.)						
Olendorf, John, New York, N. Y. Machine for scouring coffee, &c	266,874	Oct. 31	1987	574	22	1509
Oldershaw, John B., Baltimore, Md. Heating-stove	268,718	Dec. 5	374	109	22	1959
Oldmeadow, James, Cheltenham, county of Gloucester, assignor to T. Dancer, Malmsburg, England. Saddle-bar	267,452	Nov. 14	631	182	22	1657
Olin, Stephen H. (See Tracy, Harriet R., assignor.)						
Olinger, James T., Stelvideo, Ohio. Transom-adjuster	265,275	Oct. 3	59	18	22	1146
Oliphant, Peter T., and S. Pedigo, Harrodsburg, Ind. Washing-machine	262,822	Aug. 15	1247	350	22	562
Oliver, William W. (See Svensson, Claes A., assignor.)						
Olmsted, Joseph, New York, N. Y. Electric-arc lamp	264,958	Sept. 26	1523	428	22	1068
Olmsted, Joseph, Montreal, Quebec, Canada, assignor to United States Electric Lighting Company, New York, N. Y. Electric-arc lamp	263,296	Aug. 22	1829	518, 519	22	679
Olmsted, Oscar B., Beloit, Wis. Drive-well point or strainer	261,251	July 18	1142	319	22	204
Olmsted, Oscar B., Beloit, Wis. Drive-well point or strainer	261,252	July 18	1143	319	22	204
Olmsted, Oscar B., Beloit, Wis. Drive-well point or strainer	261,253	July 18	1144	319	22	204
Olmsted, Oscar B., Beloit, Wis. Drive-well point and strainer	262,462	Aug. 8	787	222	22	476
Olney, George R., St. Louis, Mo. Pantaloon-guard	261,029	July 11	873	242	22	151
Olney, George W., *et al.* (See Horton, Jacob C., assignor.)						
Olney, Sanford P., Detroit, Mich. Saw-gumming machine	261,694	July 25	1599	448	22	287
Olsen, Olaf R., Indianapolis, Ind. Machine for pointing bolts	266,638	Oct. 31	1714	495	22	1459
Omo, Joseph H., Blissfield, Mich. Mop-holder	263,058	Aug. 22	1539	434	22	624
Oney, Robert T., Huntington, W. Va. Cipher code and apparatus	266,875	Oct. 31	1988	574	22	1509
Onstead, Sidney R., assignor of one-half to W. Dean, Brooklyn, N. Y. Water-closet pan	260,602	July 4	320	87	22	54
Onstott, John H., *et al.* (See Dain, Joseph, Jr., assignor.)						
Opdyke, Stacy B., New Haven, Conn. Eyeglasses	265,626	Oct. 10	489	134	22	1225
Opper, Philip, and H. Chall, Cleveland, Ohio. Flue-cleaner	263,349	Aug. 29	1939	555	22	698
Opsal, Hans O., Racine, Wis. Sash-balance	269,104	Dec. 12	864	254	22	2054
Optenberg, John H., Oshkosh, Wis. Spark-arrester	263,569	Aug. 29	2207	630	22	746
Orcutt, George H., *et al.* (See Masterson, Levi J., assignor.)						
Orcutt, Jerome, and C. R. Richards, assignors to Union Metallic Cartridge Company, Bridgeport, Conn. Apparatus for shaping or ornamenting hollow ware	269,811	Dec. 26	1775	511	22	2236
Orcutt, Orrin W. (See Butler, Beauman, assignor.)						
Orcutt, William D., Boston, Mass. Rotary cutter for trimming boot and shoe heels	261,030	July 11	873	242	22	151
Ord, William, Brooklyn, Ohio. Apparatus for removing scale from boilers	262,823	Aug. 15	1248	350	22	562
Oriental Tea Company. (See Allen, Frank A., assignor.)						
Orme, Alexander, Chicago, Ill. Safety-valve	269,534	Dec. 26	1422	411	22	2170
Orne, Edward B., Philadelphia, Pa. Car-axle	264,474	Sept. 19	957	269	22	950
Orphy, John W. (See Gall, John S., assignor.)						
Orth, Charles G., and H. L. Bruggemann, Cleveland, Ohio. Striking and repeating mechanism for clocks	269,450	Dec. 19	1306	379	22	2142
Orth, David, Cleveland, Ohio. Heating-drum	261,379	July 18	1301	364	22	230
Ortlepp, Ernest, New York, N. Y. Reclining-chair	262,311	Aug. 8	615	173	22	446
Orton, Lyman O., and L. H. Berry, Philadelphia, Pa. Planing-machine	264,959	Sept. 26	1525	429	22	1068
Orum, Morris L., Philadelphia, Pa. Lock-case	262,977	Aug. 22	1442	407	22	607
Orum, Morris L., Philadelphia, Pa. Cutter-head	269,315	Dec. 19	1132	331	22	2109
Orvis, Orel D., New York, N. Y. Steam-boiler and other furnaces	268,720	Dec. 5	376	110, 111	22	1959
Orwig, Thomas G., *et al.* (See Miller, Charles D., assignor.)						
Osborn, George K. (See Aikman and Osborn.)						
Osborn, William F., Burlington, Kans. Door-check	262,978	Aug. 22	1443	407	22	607
Osborn, William H. (See Morrison, J. Henry, assignor.)						
Osborne & Co., D. M. (See Miller, Andrew C., assignor.)						
Osborne, D. M. (See Case, Henry J., assignor.)						
Osborne, David M. (See Miller, Andrew C., assignor.)						
Osborne, Eugene F., St. Paul, Minn. Adjustable actuator for registers	265,696	Oct. 10	583	162	22	1240
Osborne, Eugene F., St. Paul, Minn. Steam heating apparatus	265,697	Oct. 10	585	163	22	1240
Osborne, Eugene F., St. Paul, Minn. Meter for steam heating apparatus	265,698	Oct. 10	587	163, 164	22	1240
Osborne, Eugene F., St. Paul, Minn. Steam heat and power distributing apparatus	266,046	Oct. 17	1002	284	22	1319
Osborne, Eugene F., St. Paul, Minn. Steam heating apparatus	266,506	Oct. 24	1560	444	22	1425
Osborne, Eugene F., St. Paul, Minn. Outlet for tanks of steam heating apparatus	269,223	Dec. 19	1012	296	22	2087
Osborne, Eugene F., St. Paul, Minn. Steam-piping for buildings	269,224	Dec. 19	1013	296	22	2087
Osborne, John H., Philadelphia, Pa. Striped knit hose-tube	260,891	July 11	691	187	22	122
Osburn, Thomas F., assignor of one-half to J. H. Purdy, St. Louis, Mo. Drag-sawing machine	262,463	Aug. 8	788	222	22	476
Osgood, George N. (See Fowler, Nathaniel D., assignor.)						
Osgood, George W., Boston, assignor of one-half to E. W. Arnold, Weymouth, Mass. Last	268,271	Nov. 28	1634	454	22	1853
Osgood, Pelatiah, Waterville, Me., assignor to Eagle Shade Roller Company, Boston, Mass. Curtain-fixture	266,191	Oct. 17	1179	333	22	1348

Alphabetical list of patentees, July to December, inclusive—Continued.

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Ostell, John T. (See Matthews and Ostell.)						
Osterman, John P., assignor of one-half to P. Adelman, Joliet, Ill. Barbed wire for fences.	268,721	Dec. 5	379	111	22	1959
Ostrom, Freeland W. (See Carr, William H., assignor.)						
Ostrum, Henry P., New Haven, Conn. Box-nailing machine	269,316	Dec. 19	1133	332	22	2109
Otis & Goosline. (See Lyle, Robert W., assignor.)						
Otis, Marvin S., Rochester, N. Y. Stone-cutting machine	269,451	Dec. 19	1307	{379 / 380}	22	2143
Ott, John F., Newark, N. J., assignor to Edison Electric Light Company, New York, N. Y. Regulator for dynamo-electric machines	265,858	Oct. 10	769	217	22	1272
Ott, John F., Newark, N. J., assignor to Edison Electric Light Company, New York, N. Y. Regulator for dynamo-electric machines	265,859	Oct. 10	770	217	22	1273
Ott, Louis W., Indianapolis, Ind. Bed-lounge. (Reissue)	10,260	Dec. 19	1385	399	22	2156
Otter, John, Chicago, Ill. Fish-trap	262,464	Aug. 8	789	223	22	476
Otter, John, Chicago, Ill. Elevator for building material	263,570	Aug. 29	2209	{630 / 631}	22	747
Otterson, Albert, Jefferson, Ill. Cylinder-desk	260,776	July 11	552	150	22	99
Oudinot, Eugene, Paris, France. Stained-glass window	266,507	Oct. 24	1561	.....	22	1425
Oudinot, Eugene, Paris, France. Ornamenting glass for architectural purposes	266,508	Oct. 24	1562	.....	22	1425
Oulton, James W., Charlestown, Mass. Car-coupling	265,133	Sept. 26	1719	481	22	1104
Ousley, Newdaygate B., Fort Valley, Ga. Cotton-gin	263,350	Aug. 29	1940	555	22	698
Ovens, Walter S., assignor to C. E. Benedict and G. B. Webster, Buffalo, N. Y. Machine for making pies	262,691	Aug. 15	1080	304	22	533
Ovens, Walter S., assignor to C. E. Benedict and G. B. Webster, Buffalo, N. Y. Cake-machine	269,535	Dec. 26	1424	411	22	2170
Oventrop, Hermann, St. Louis, Mo. Saw-mill dog	262,824	Aug. 15	1249	351	22	562
Overall, George W., Memphis, Tenn. Tile for wells and cisterns	265,277	Oct. 3	61	18	22	1146
Overbaugh, Charles B. (See Stow and Overbaugh.)						
Overboy, Hugh L. T., assignor to himself and W. P. Jackson, Subligna, Ga. Fruit-gatherer	263,949	Sept. 5	346	97	22	834
Overton, Daniel B., Dover, N. J., assignor of three-eighths to E. B. Barnum and J. Ashcroft, Brooklyn, N. Y. Air-compressor	263,206	Aug. 22	1713	485	22	658
Overton, Daniel B., Dover, N. J., assignor of three-eighths to E. B. Barnum and J. Ashcroft, Brooklyn, N. Y. Air-compressor	263,207	Aug. 22	1713	485	22	658
Overton, Samuel, and E. Wells, Chicago, Ill. Worm-gear machinery	260,892	July 11	692	188	22	122
Owen, Cornelia E. (See Owen, Luther B., assignor.)						
Owen, John R., Pulaski, Tenn. Corn-planter	269,699	Dec. 26	1627	466	22	2210
Owen, John R., Pulaski, Tenn. Combined cotton-planter and fertilizer-distributer	265,134	Sept. 26	1721	481	22	1104
Owen, John S., and G. L. Snider, North Indianapolis, Ind. Car-coupling	265,977	Oct. 17	923	260	22	1305
Owen, Luther B., assignor to C. E. Owen, Marietta, Ga. Cultivator	265,278	Oct. 3	61	19	22	1146
Owen, Richard. (See McLennan and Owen.)						
Owen, William J., assignor to G. W. Hight, Nashville, and D. H. Bailey, Sr., Davidson County, Tenn. Screw and pipe wrench	266,595	Oct. 24	1663	479	22	1443
Owens, John L., Minneapolis, Minn. Combined needle-arm and compressor for grain-binders	265,978	Oct. 17	924	261	22	1305
Owens, John L., Minneapolis, Minn. Combined hay and stock rack	265,979	Oct. 17	925	261	22	1305
Owens, Mathew, assignor of one-half to H. Felker, Quincy, Ill. Car-coupling	262,104	Aug. 1	355	100	22	395
Owens, Thomas, Yonkers, N. Y. Car-starter	262,825	Aug. 15	1249	351	22	562
Oxley, Charles F., *et al.* (See Brown, John F., assignor.)						
Pacific Tucking and Manufacturing Company. (See Fisher and Hart, assignors.)						
Packard, Edward S. (See Campbell, Malcom, assignor.)						
Packard, William B., Bloomington, Ill. Sulky-plow, &c	262,465	Aug. 8	790	223	22	476
Packer, Harvey, Rock Falls, Ill. Corn-sheller	263,427	Aug. 29	2041	585	22	716
Packer, Harvey, Rock Falls, Ill. Corn-sheller	263,804	Sept. 5	171	50	22	803
Packham, James, and J. Pelton, Croydon, county of Surrey, England. Apparatus for packing or holding bottles	264,744	Sept. 19	1245	353	22	1015
Paepke, Oscar F., Indianapolis, Ind. Caster	265,939	Oct. 10	863	246	22	1288
Pagan, Orestes, assignor of one-half to D. M. Martinez, Philadelphia, Pa. Machine for breaking and scutching vegetable fiber, &c.	264,960	Sept. 26	1527	{429 / 430}	22	1068
Page, Caleb D., Greeley, Colo. Harness-mounting	265,699	Oct. 10	590	164	22	1241
Page, Charles L., Chicago, Ill. Portable mantel for fire-places	269,536	Dec. 26	1426	411	22	2170
Page, Thomas S., Toledo, assignor, by mesne assignments, to J. N. Stewart, Cleveland, Ohio. Towel-rack	261,950	Aug. 1	156	45	22	362
Page, Thomas S., New York, N. Y., assignor to J. E. Gregg, Santa Fé, N. Mex. Ter. Car-heater	265,336	Oct. 3	134	39, 40	22	1159
Page, William H., Norwich, Conn. Steam-radiator	262,826	Aug. 15	1251	352	22	562
Page, William W., *et al.* (See Morse, Henry T., assignor.)						
Pagenhart, Charles L., Boyceville, Va., assignor of one-half to D. E. Clarke, Chambersburg, Pa. Rotary engine	268,722	Dec. 5	380	{111 / 112}	22	1960
Pahtz, Ernst J., Boston, Mass. Lounge-bed	266,717	Oct. 31	1815	527	22	1477
Paillard & Co., M. J. (See Jeanrenaud, Albert, assignor.)						
Paillard & Co., M. J. (See Paillard, Ernest, assignor.)						
Paillard, Ernest, Sainte Croix, Switzerland, assignor to M. J. Paillard & Co., New York, N. Y. Musical box	268,272	Nov. 28	1635	454	22	1854
Paillard, Ernest, Sainte Croix, Switzerland, assignor to M. J. Paillard & Co., New York, N. Y. Musical box	268,273	Nov. 28	1637	454	22	1854
Pain, Robert W., assignor, by mesne assignments, to National Automatic Piano and Organ Manufacturing Company, New York, N. Y. Feed and rewinding apparatus for perforated music-sheets	267,364	Nov. 14	519	147	22	1637
Pain, Robert W., New York, N. Y., assignor, by mesne assignments, to National Automatic Piano and Organ Manufacturing Company, of New York. Device for converting motion	268,528	Dec. 5	170	49	22	1918
Paine, Hollis C., assignor of one-fourth to W. F. Hutchinson, Lynn, Mass. Lathe for turning irregular forms	264,332	Sept. 12	787	221	22	921
Painter, William, assignor of one-half to L. R. Keizer, Baltimore, Md. Automatic magneto-signal for telephones	269,225	Dec. 19	1015	{296 / 297}	22	2088
Pairpoint, Thomas J., New Bedford, Mass. Boot and shoe cleaning apparatus	263,208	Aug. 22	1714	485	22	658
Pallett, Robert, and F. Mahedy, New York, N. Y. Fire-escape	267,578	Nov. 14	792	227	22	1686
Palliser, William, deceased, J. L. Norris, Washington, D. C., administrator. Ordnance	265,934	Oct. 10	856	245	22	1287
Palliser, William, deceased, J. L. Norris, Washington, D. C., administrator. Composite gun	269,100	Dec. 12	860	253	22	2053
Palliser, William, deceased, J. L. Norris, Washington, D. C., administrator. Projectile	269,101	Dec. 12	861	253	22	2054
Palm, John, Monitor, assignor of one-half to J. G. McClinton, San Francisco, Cal. Saw-filing machine	267,736	Nov. 21	1002	282	22	1732
Palmer, Albert W., Orange, N. J. Car-coupling link	267,453	Nov. 14	632	183	22	1657
Palmer, Augustus C. and A. H., Utica, N. Y. Telegraphic fire-alarm apparatus	262,242	Aug. 8	533	150	22	431
Palmer, Augustus H. (See Palmer, Augustus C. and A. H.)						
Palmer, Augustus H., and C. A. Rolfe, Utica, N. Y. Non-interfering signal-box	264,193	Sept. 12	633	175	22	893

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Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
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Palmer, Austin D., Abilene, Tex. Apparatus for killing rodents	263,209	Aug. 22	1714	486	22	658
Palmer, C. M. (See Cousino, Tanis L., assignor.)						
Palmer, Cassius C., Oakland, Cal. Safety device for elevators	261,101	July 11	964	269	22	167
Palmer, Charles H., New York, N. Y. Sewing-machine	268,122	Nov. 28	1443	404	22	1819
Palmer, Charles T., *et al.* (See Harrison, Reuben N., assignor.) (Reissue.)						
Palmer, Corydon B. (See Wilder, Aretus A., assignor.)						
Palmer, Ellen M. (See Palmer, Seymour C., assignor.)						
Palmer, George H., *et al.* (See Chamberlain, Blanchard, assignor.)						
Palmer, Harry E., *et al.* (See Chamberlain, Blanchard, assignor.)						
Palmer, Harvey D., assignor of one-half to E. L. Garwood, La Porte, Ind. Fifth-wheel	265,429	Oct. 3	235	70	22	1177
Palmer, Henry L., Brooklyn, N. Y. Stove-urn	266,640	Oct. 31	1718	496	22	1459
Palmer, Hugh R. (See Taylor and Palmer.)						
Palmer, Isaac E., Middletown, Conn. Window-screen	269,452	Dec. 19	1311	380	22	2143
Palmer, Merritt W., Holland, assignor of one-half to C. R. Brownell, Hamilton, Mich. Planer-knife grinder	267,579	Nov. 14	794	227	22	1686
Palmer, Newton W. (See Roberts and Palmer.)						
Palmer, Seymour C., assignor to E. M. Palmer, South Norwalk, Conn. Machine for sticking and scalding naps to felt hats	260,603	July 4	321	87	22	55
Palmer, Seymour C., assignor to E. M. Palmer, South Norwalk, Conn. Perforated plate for forming hat-bats	261,380	July 18	1302	364	22	230
Palmer, Thomas F., Painesville, Ohio. Re-enforcing the corners of seamless sheet-metal boxes	260,604	July 4	322	87	22	55
Palmer, William J., Flushing, N. Y. Wall-paper carrier	261,031	July 11	874	242	22	151
Pancoast, Robert L., Charlotte, Mich. Fence	261,868	Aug. 1	51	15	22	344
Panetti, John M. P., Baltimore, Md. Basket	269,812	Dec. 26	1776	511	22	2236
Pangle, Thomas R., and R. G. Holloway, New Madrid, Mo. Hame attachment	261,869	Aug. 1	52	15	22	344
Pape, Samuel G., *et al.* (See Witail, George L., assignor.)						
Parcelle, Albert L., Boston, Mass. Automatic telegraph	262,106	Aug. 1	358	101	22	395
Parcelle, Albert L., Boston, Mass., assignor to Merchants Union Telegraph Machine Company, of Maine. Automatic telegraph	262,105	Aug. 1	356	100	22	395
Paré, Hilaire, assignor of one-half to A. Skinner, New Haven, Conn. Spoke-tenoning machine	262,107	Aug. 1	360	101	22	395
Parent, Caleb, Rockdale, near Hamilton, Butler county, Ohio. Paper-making machine	266,307	Oct. 24	1334	376	22	1382
Parent, Nicholas, Cornwall, Conn. Adjustable hanger for shafting	269,537	Dec. 26	1427	412	22	2171
Parfery, Timothy. (See Brown, Parfery, and Healy.)						
Parham, Charles, Philadelphia, Pa. Lathe-chuck	262,612	Aug. 15	984	276	22	515
Parham, Daniel, Tyngsborough, Mass. Fire-extinguisher	266,876	Oct. 31	1990	574	22	1509
Parham, Daniel, Tyngsborough, Mass. Chemical fire-extinguisher	266,877	Oct. 31	1992	575	22	1510
Park, Alton J., Jr., Virginia, Mo. Straw-conveyer belt	265,430	Oct. 3	236	70	22	1178
Park, James, assignor to J. L. Russell and C. Corlies, Troy, N. Y. Steam-trap	264,895	Sept. 26	1438	406	22	1053
Parke, George W., Chicago, Ill. Adjustable clip for driving-reins	260,893	July 11	692	188	22	122
Parker, Charles E. D., Milan, Kans. Saddle-stirrup	264,560	Sept. 19	1038	295	22	976
Parker, Charles G., New Haven, Conn. Carriage-top	269,700	Dec. 26	1627	466	22	2210
Parker Company, Charles. (See Griswold, Lewis F., assignor.)						
Parker, Dexter W., Meriden, Conn. Extension lamp-fixture	269,105	Dec. 12	835	254	22	2054
Parker, Edmund A., Meriden, Conn. Extension-chandelier	266,641	Oct. 31	1719	496	22	1459
Parker, Edmund A., Meriden, Conn. Table-disb	267,921	Nov. 21	1197	336	22	1769
Parker, Edmund A., Meriden, Conn., assignor of one-half to E. H. Rowley, New York, N. Y. Caster-frame	261,751	July 25	1751	493	22	313
Parker, Edwin, Council Bluffs, Iowa. Muzzle	265,860	Oct. 10	771	218	22	1273
Parker, Emery, New Britain, Conn., assignor to Nashua Lock Company, Nashua, N. H. Latch	262,243	Aug. 8	534	150	22	431
Parker, Homer N. (See Reed and Parker.)						
Parker, James H., Baltimore, Md. Awning	261,171	July 18	1050	295	22	190
Parker, John, assignor of one-half to J. L. Cochrane, New York, N. Y. Sugar-cane shredder	261,478	July 18	1408	394	22	248
Parker, John W., assignor to E. Greenwood, Clinton, Mass. Oar-lock	262,108	Aug. 1	361	101	22	395
Parker, Joseph, Reading, Pa. Balanced slide-valve	267,245	Nov. 7	360	105	22	1604
Parker, Lewis C., Robinson, Kans. Street-car motor	267,922	Nov. 21	1198	{336 / 337}	22	1769
Parker, Lewis C., Robinson, Kans. Gas-engine	269,813	Dec. 26	1777	512	22	2237
Parker, Orin, Washington, D. C. Process of and apparatus for preserving food	260,706	July 4	465	126	22	78
Parker, Orin, Washington, D. C. Refrigerating apparatus	265,627	Oct. 10	490	134	22	1225
Parker, Samuel J. (See Ross and Parker.)						
Parker, Sidney, Chicago, Ill., assignor to A. W. and F. S. Morrill, Waterloo, and G. H. Watson, Ackley, Iowa. Smoke-consuming furnace	260,894	July 11	693	188	22	122
Parker, William K., assignor of one-half to English & Mersick, New Haven, Conn. Carriage-boot-flap fastener	268,723	Dec. 5	382	112	22	1960
Parker, William S., New York, N. Y. Electric-arc lamp	269,453	Dec. 19	1313	380	22	2144
Parkes, Henry, Tamworth Road, Gravelly Hill, near Birmingham, county of Warwick, England. Manufacture of nitro-cellulose	265,337	Oct. 3	136	.....	22	1159
Parkhill, Joseph H., Mount Pleasant, Iowa. Tailor's measure	265,628	Oct. 10	493	135	22	1225
Parkhurst, Charles D., Providence, R. I., assignor of one-half to L. N. Freeman, Ord, Nebr. Galvanic battery	269,454	Dec. 19	1314	381	22	2144
Parkhurst, Darius, assignor of one-half to G. H. Knight, St. Louis, Mo. Head-block for saw-mills	267,923	Nov. 21	1199	337	22	1769
Parkhurst, Emily R. (See Parkhurst, Stephen R., assignor.)						
Parkhurst, Stephen R., assignor to E. R. Parkhurst, Montclair, N. J. Machine for picking, opening, and mixing wool	267,454	Nov. 14	633	183	22	1657
Parkinson, Thomas J., assignor of five-eighths to J. B. Berlin, Pittsburg, and J. S. Nichols, Brushton Station, Pa. Label-holder for cars	267,246	Nov. 7	361	105	22	1605
Parkman, Abraham, Philadelphia, assignor to W. M. Griscom, M. and W. Harbster, Reading, Pa. Door-hanger	268,274	Nov. 28	1639	455	22	1854
Parks, Elijah A., South Bend, Ark. Combined saw set and gummer	266,192	Oct. 17	1180	333	22	1349
Parks, Elijah A., South Bend, Ark. Combination-tool	266,193	Oct. 17	1181	333	22	1349
Parks, Stephen, Vernon Centre, N. Y. Washing-machine	261,752	July 25	1752	493	22	313
Parmelee, Henry S., New Haven, Conn. Automatic fire-extinguisher	269,227	Dec. 19	1019	298	22	2088
Parmelee, Henry S., New Haven, Conn., and F. Grinnell, Providence, R. I. System for extinguishing fire automatically	269,226	Dec. 19	1018	{297 / 298}	22	2088
Parmelee, William L., assignor to Derby Bit Company, Ansonia, Conn. Auger	260,497	July 4	195	55	22	34
Parmenter, Charles H., assignor of one-half to G. V. Blackman, Oakland, Cal. Combined door-plate, letter-box, and bell-pull	264,561	Sept. 19	1039	295	22	976
Parmenter, Isaac W., New York, N. Y. Pulverizing-machine	263,571	Aug. 29	2210	631	22	747
Parmenter, Orville L., assignor to G. W. Smith, Cincinnati, Ohio. Label-package	261,625	July 25	1601	448	22	288
Parr, James A., Lowell, Mass. Pattern-wheel for knitting-machines	262,466	Aug. 8	791	223	22	477

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Parr, James A., Lowell, Mass. Knitting-machine	262,467	Aug. 8	792	223, 224	22	477
Parr, Richard. (See Renk, Joseph E., assignor.)						
Parrish, Fred B., Wilkes-Barré, Pa. Device for separating slate from coal	261,381	July 18	1303	364	22	230
Parrish, William H., assignor of one-half to G. E. Aiken, Salem, Oreg. Combined header and thrasher	269,701	Dec. 26	1628	466, 467	22	2210
Parsons, Charles C. (See Abbott and Parsons.)						
Parsons, Charles C., assignor to Columbia Chemical Works, Brooklyn, N. Y. Detergent compound and process of making the same	267,455	Nov. 14	634	.....	22	1658
Parsons, John G., Oshkosh, Wis. Vehicle-spring	266,047	Oct. 17	1004	284	22	1319
Parsons, Winslow R., Waterloo, Iowa. Sewing-machine shuttle	264,333	Sept. 12	788	229	22	921
Partee, Frank, Defiance, Ohio. Grading-instrument	262,109	Aug. 1	362	102	22	395
Partlan, Thomas, Rondout, N. Y. Hammer	262,408	Aug. 8	794	224	22	477
Partridge, Frank R., Augusta, Me. Reversible screw-driver	266,642	Oct. 31	1720	496	22	1460
Partridge, George, Evansville, Minn. Brick-mold washer	267,365	Nov. 14	520	148	22	1637
Paskin, Anatolius. (See Malkoff and Paskin.)						
Paskin, Vladimir. (See Malkoff and Paskin.)						
Paterson, John, Weehawken, N. J. Truss-rod and support for ships	263,572	Aug. 29	2211	632	22	748
Patitz, Albert. (See Bradley and Patitz.)						
Patric, Charles E., Rochester, N. Y. Force-feed grain-drill	267,985	Nov. 21	1277	358	22	1783
Pattberg & Bros., Lewis. (See Brodhag, Edward, assignor.)						
Pattberg, Hilarius, and A. Gärtner, Jersey City, N. J., assignors to L., H., and P. Pattberg, New York, N. Y. Album-stand	269,702	Dec. 26	1630	467, 468	22	2211
Pattberg, Lewis, *et al.* (See Pattberg and Gärtner, assignors.)						
Pattberg, Philipp, *et al.* (See Pattberg and Gärtner, assignors.)						
Patten, Alexander S. (See Zimmer, Jacob, assignor.)						
Patten, John, San Francisco, Cal. Rotary engine	263,573	Aug. 29	2212	632, 633	22	748
Patten, John, San Francisco, Cal. Water-elevator	265,629	Oct. 10	494	135	22	1225
Patten, John, San Francisco, Cal. Apparatus for raising water through siphon-pipes	265,630	Oct. 10	498	135, 136	22	1226
Patterson, Andrew, Idlewood, Pa. Thermo-chemical electric battery	262,110	Aug. 1	363	102	22	396
Patterson, Andrew, Idlewood, Pa. Thermo-electric battery	262,111	Aug. 1	364	102	22	396
Patterson, Andrew, Worcester, Mass. Manufacturing paper-pulp from worn-out corsets, &c.	266,383	Oct. 24	1436	.....	22	1402
Patterson, David, Chatham, Ontario, Canada. Attachment to harvesters	261,951	Aug. 1	157	45, 46	22	362
Patterson, George H., *et al.* (See McWilliam and Loiseau, assignors.)						
Patterson, James D., Competition, Mo. Wheel-plow	264,562	Sept. 19	1040	295, 296	22	976
Patterson, James W., Philadelphia, Pa. Trunk-frame	261,753	July 25	1753	493	22	313
Patterson, Peter. (See McLachlan, John C., assignor.)						
Patterson, Robert L., Muncie, Ind. Curry-comb	263,428	Aug. 29	2043	585	22	716
Pattie, Alexander W., and G. W. Robertson, Glasgow, county of Lanark, Scotland; said Pattie assignor to said Robertson. Steam and hand steering engine	267,580	Nov. 14	795	227	22	1687
Pattison, Rufus P. (See Hall, Charles H., assignor.)						
Patton, David O., Brunswick, N. Y. Collar	269,228	Dec. 19	1021	298	22	2080
Patton, Thomas, Chicago, Ill. Pipe-vise	260,777	July 11	553	150	22	99
Paul, George D., Orange, N. J., and F. A. Kampfe, Brooklyn, assignors to said Paul, Kampfe Bros., New York, W. Lisle, Jr., Brooklyn, and G. S. Ferry, New York, N. Y. Electrical car-brake	264,475	Sept. 19	958	269	22	959
Paulding, William H., Peekskill, N. Y. Curtain-fixture	269,703	Dec. 26	1631	468	22	2211
Paull, Archibald W., Wheeling, W. Va., and J. F. Miller, Martin's Ferry, Ohio. Glass-mold for the manufacture of chimneys and globes	260,498	July 4	196	55	22	34
Paull, Archibald W., Wheeling, W. Va., and J. F. Miller, Martin's Ferry, Ohio. Manufacture of lamp or lantern globes, chimneys, &c. (Reissue)	10,149	July 4	495	135	22	84
Paull, Archibald W., Wheeling, W. Va., assignor of one-half to J. F. Miller, Martin's Ferry, Ohio. Manufacture of combined glass and metallic articles	267,924	Nov. 21	1200	337	22	1769
Paullin, Peter E., Newville, Ohio. Agricultural implement	267,247	Nov. 7	362	105	22	1605
Pansch, Karl, New York, N. Y. Thill-coupling	261,032	July 11	876	242, 243	22	152
Paxson, Charles H. (See Coffield, Peter T., assignor.)						
Paxton, Edward C. (See Wilhelm, John R., assignor.)						
Payne, David H. and J. H., Troy, N. Y. Clothes-drier	261,754	July 25	1754	494	22	313
Payne, David M. (See Johnson, David M., assignor.)						
Payne, Edwin, Oxbow, N. Y. Machine for removing sprouts from potatoes	260,407	July 4	78	21, 22	22	15
Payne, George F. (See Williams, John T., assignor.)						
Payne, Jerome H. (See Payne, David H. and J. H.)						
Paynter, David E., Philadelphia, Pa., assignor to Granger Fertilizer Company, Camden, N. J. Fertilizing compound	269,704	Dec. 26	1632	.....	22	2211
Payton, William F. (See Jones, Harvey P., assignor.)						
Peabody, Charles H. (See Pirsson, William, assignor.)						
Peabody, Washburn, Orono, Me. Cant-dog	265,135	Sept. 26	1722	481	22	1104
Peace, John G., and E. B. Sankey, Salem, Mo. Car-coupling	269,106	Dec. 12	867	255	22	2054
Peace, John G., Salem, Mo. Umbrella	269,317	Dec. 19	1134	332	22	2110
Peak, Ezra, Westfield, Ohio. Wheel-plow	267,581	Nov. 14	797	227	22	1687
Pearce, Jonathan, Kansas City, Mo. Sheaf-dumper for self-binding harvesters	264,563	Sept. 19	1041	296	22	976
Pearce, Jonathan, Kansas City, Mo. Sheaf-dumper for self-binding harvesters	264,896	Sept. 26	1439	407	22	1054
Pearce, Truman J., assignor of one-half to L. Bishop, Oakland, Cal. Lifting-jack	268,371	Nov. 28	1768	490	22	1878
Pearce, William, Plantsville, assignor of two-thirds to M. N. Woodruff and N. A. Barnes, Southington, Conn. Manufacture of ox-shoes	261,254	July 18	1145	320	22	204
Pearce, William, Plantsville, Conn., assignor to himself, M. N. Woodruff, and N. A. Barnes, Southington, Conn. Die for forming carriage-shaft couplings	265,431	Oct. 3	236	70	22	1178
Peard, John, Brooklyn, N. Y. School-desk	268,275	Nov. 28	1640	455	22	1854
Peare, George R., Lynn, Mass. Brake for children's carriages	264,415	Sept. 12	877	247	22	937
Peare, George R., assignor to G. C. Towksbury, Lynn, Mass. Elevator	264,745	Sept. 19	1246	353, 354	22	1015
Pearsall, G. Frank E., Brooklyn, N. Y. Screen for photographic cameras	265,980	Oct. 17	926	261	22	1305
Pearson, Boyel, Memphis, Tenn. Device for closing windows and doors	266,384	Oct. 24	1437	407	22	1402
Pearson, Henry F. C., Andover, Mass. Water-proof boot or shoe	261,952	Aug. 1	157	46	22	362
Pearson, Marshall H., Leeds, county of York, England. Boot and shoe sewing machine	267,798	Nov. 21	1057	295, 296	22	1742
Pearson, Robert P., assignor to E. V. Machette, Philadelphia, Pa. Stove-lid and lifter	266,194	Oct. 17	1182	334	22	1349
Pearson, Thomas J., Cayuga, Ill. Whiffletree	266,308	Oct. 24	1335	376	22	1392
Pearson, William, Linwood, Pa. Top-spinning device	269,455	Dec. 19	1316	387	22	2144

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Pearson, William J. (See Dever, John P., assignor.)						
Peavy, Hiram, assignor of one-half to F. F. French, Bangor, Me. Rotary engine	263,718	Sept. 5	60	17	22	785
Peay, John M. and W. A., and J. H. Helsley, South Carrollton, Ky. Automatic fly-brush	260,778	July 11	554	151	22	99
Peay, William A. (See Peay and Helsley.)						
Pecan, George W., Brooklyn, N. Y. Slating compound	262,112	Aug. 1	365	.....	22	396
Peck, Charles C., and W. H. Chapman, Middlebury, Vt. Electric pumping apparatus	260,408	July 4	79	22, 23	22	15
Peck, Charles C., and W. H. Chapman, Middlebury, Vt. Electric pumping apparatus	267,710	Nov. 21	954	269	22	1724
Peck, Charles C., and W. H. Chapman, Middlebury, Vt. Commutator for electrical apparatus	267,711	Nov. 21	955	270	22	1724
Peck, Charles C., and W. H. Chapman, Middlebury, Vt. Electro-magnetic motor	269,318	Dec. 19	1135	332	22	2110
Peck, George W. (See Kingsbury and Peck.)						
Peck, Joseph S., Indian Valley, Cal. Gate	263,719	Sept. 5	61	17, 18	22	785
Peck, Lewis C. (See Linscott, John M., assignor.)						
Peck, Richard W., Brooklyn, N. Y. Shaft-bearing	265,338	Oct. 3	136	40	22	1159
Pecker, Everett W., Lynn, assignor of one-half to A. Fuller, Boston, Mass. Safety-gate for elevator-wells	268,529	Dec. 5	171	49	22	1919
Peckham, William C., Troy, Ohio. Lock-hinge	263,950	Sept. 5	347	98	22	834
Pederson, Ole, assignor to R. G. Jordan and D. C. Meehan, Columbus, Ohio. Caster	266,509	Oct. 24	1563	445	22	1425
Pederson, Ole, assignor to R. G. Jordan and D. C. Meehan, Columbus, Ohio. Caster	267,712	Nov. 21	957	270	22	1724
Pederson, Petter C. N., Neenah, Wis. Paper-trimming apparatus for use of paper-hangers	267,925	Nov. 21	1201	338	22	1770
Pederson, Sivert, Menomonee, Wis. Machine-gun	264,897	Sept. 26	1440	407	22	1054
Pedigo, Simeon. (See Oliphant and Pedigo.)						
Peek, James A., North Manchester, Ind. Plow	262,469	Aug. 8	795	225	22	477
Peel, Lawson G., Hazlehurst, Miss. Hay-press	266,718	Oct. 31	1816	527	22	1477
Peerless Paper Box Company. (See Weiner, Max L., assignor.)						
Peerless Wire Mattress Company. (See Sawyer, Enoch A., assignor.)						
Peery, William S., and P. D. Stagg, Greensburg, Ind. Swinging gate	263,210	Aug. 22	1715	486	22	658
Pegram, Thomas H., Winston, N. C. Car-coupling	268,042	Nov. 28	1356	379	22	1802
Peiguet, Henry, Paris, France. Lamp	266,510	Oct. 24	1564	445	22	1425
Peirce, Burrell A. (See Peirce, James B. and B. A.)						
Peirce, Herbert H. D., New York, N. Y. Glass for decorative purposes	267,713	Nov. 21	958	.....	22	1724
Peirce, James B. and B. A., Browne Hill, Va. Oil-stone	262,113	Aug. 1	366	102	22	396
Peirson, Levi R. (See Armstrong, Ransom H., assignor.)						
Pelisse, Auguste, Newark, N. J., assignor to J. T. Waring, New York, N. Y. Machine for felting hat-bodies and other articles	263,951	Sept. 5	348	98	22	835
Pelletier, Antonio, Washington, D. C. Compound for artificial stone	266,878	Oct. 31	1992	.....	22	1510
Pelton, Charles H. (See Gable and Pelton.)						
Pelton, John. (See Packham and Pelton.)						
Pendleton, Edward B. (See Bickmore, Albion P., assignor.)						
Pendleton, Frank P., *et al.* (See Stamour, John B., assignor.)						
Pendleton, John H., Brooklyn, N. Y., assignor to himself, A. H. and C. Tiers, Madison, N. J. Pumping-engine	264,746	Sept. 19	1250	354, 355	22	1015
Pendleton, John R., Washington, D. C. Bag-holder	260,707	July 4	466	126	22	79
Penn, Thomas, New York, N. Y. Fire-escape	263,952	Sept. 5	350	98	22	835
Pennell, Frank G., Honeoye, N. Y. Hop-trellis	261,755	July 25	1755	494	22	314
Pennie, Henry, Brooklyn, N. Y. Dust and sewer trap	268,821	Dec. 12	513	152	22	1991
Penniston, William H. (See Penniston, William M. and W. H.)						
Penniston, William M. and W. H., Fox, Mo. Baling-press	263,953	Sept. 5	351	98, 99	22	835
Pennock, Homer. (See West, William, assignor.)						
Pennock, Zalmon S., assignor to J. Heimann, New York, and M. T. Wall, Brooklyn, N. Y. Hat and hat-frame	263,664	Aug. 29	2314	661	22	764
Pennsylvania Construction Company. (See Butz, Edward M., assignor.)						
Pentlarge, Frederick, and P. Hirsch, Brooklyn, N. Y., assignors, by mesne assignments, to said Frederick Pentlarge. Vent-bung. (Reissue)	10,175	Aug. 1	482	134	22	416
Pentz, Levi, assignor of one-half to J. P. Rauch, Canton, Ohio, and R. G. MacGonigle, Pittsburg, Pa. Car-coupling	269,456	Dec. 19	1317	381	22	2144
Pepper, William H., Lake Village, N. H. Circular-knitting machine	263,720	Sept. 5	61	18, 19	22	785
Perez, Pedro E., Valparaiso, Chili. Gas-meter	268,929	Dec. 12	644	189	22	2015
Perham, Haven C., *et al.* (See Gilman, Hiram C., assignor.)						
Perkins, Charles F. (See Rowe and Perkins.)						
Perkins, Charles G., New York, N. Y. Switch for incandescent lamps	262,470	Aug. 8	796	225	22	477
Perkins, Charles S. (See Blackburn, John M., assignor.)						
Perkins, Frederick S., Burlington, Wis. Gridiron and toaster	261,870	Aug. 1	53	16	22	344
Perkins, George H., Philadelphia, Pa. Machine for shearing sheet metal	260,779	July 11	555	151, 152	22	99
Perkins, George H., Philadelphia, Pa. Sheet-metal nail	266,511	Oct. 24	1567	445	22	1426
Perkins, John B., *et al.* (See Briggs, Thomas A., assignor.)						
Perkins, Joseph, San Francisco, Cal. Flower holder and stand	265,700	Oct. 10	591	164	22	1241
Perkins, Judson C. (See Sawyer, Buckley, and Perkins.)						
Perkins, Pardon T., Oswego, N. Y. Machine for boring pump-logs, &c	266,643	Oct. 31	1721	497	22	1460
Perkins, Russell W., assignor of two-thirds to A. B. Pitkin, Hartford, Conn. Manufacture of seamless felt	268,276	Nov. 28	1640	455	22	1855
Peroni, Luigi, 45 Hatton Garden, assignor to J. J. Hicks, 8 Hatton Garden, Holborn, county of Middlesex, England. Thermometer. (Reissue)	10,189	Aug. 29	2322	664	22	766
Perozo, Felipe, *et al.* (See Monsanto, Mauricio M., assignor.) (Reissue.)						
Perret, Michel, Paris, France. Oven for burning pulverulent fuel	268,277	Nov. 28	1641	455	22	1855
Perrigo, Oscar E. (See Walker and Perrigo.)						
Perrin, James W. (See Johnson, Andrew, assignor.)						
Perrine, H. Lansing, Denver, Colo. Steam-actuated valve	269,319	Dec. 19	1136	333	22	2110
Perring, Merrick E., Eau Claire, Mich. Band-cutter and feeder for thrashing-machines	268,372	Nov. 28	1769	490	22	1878
Perry, Edward L., Paterson, N. J., assignor to himself and H. S. Winans, New York, N. Y. Covering for top rolls of spinning-machines	260,780	July 11	559	152	22	100
Perry, Francis H., Providence, R. I. Fruit-jar	262,244	Aug. 8	535	150	22	431
Perry, James L. (See Bridgman and Perry.) (Reissue.)						
Perry, John D., assignor of one-half to J. L. Dille, Naperville, Ill. Car-coupling	266,512	Oct. 24	1569	446	22	1426
Perry, Joseph H., and S. A. Goodman, Piper City, Ill. Measuring-instrument	261,626	July 25	1601	448, 449	22	288
Persehmann, Heinrich. (See Hammer, Carl A., Sr., assignor.)						
Pershing, Henry B., *et al.* (See Callaway, William, assignor.)						
Petchaft, Bernard, assignor of one-half to J. F. Hyde, New York, N. Y. Suspender-end	266,879	Oct. 31	1993	575	22	1510
Peteler, William, New Dorp, assignor to W. S. Corwin, New York, N. Y. Rail-joint	262,827	Aug. 15	1252	352	22	563
Peters, George M., Columbus, Ohio. Perch-heel for vehicles	268,123	Nov. 28	1444	404	22	1819
Peters, George M., and J. E. White, Columbus, Ohio; said White assignor to said Peters. Running-gear for vehicles	269,595	Dec. 26	1504	433	22	2186

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Petersen, Karl F. C., Hamburg, Germany. Machine for corking bottles	263,721	Sept. 5	65	19	22	786
Peterson, Andrew R., and F. Wilcox; said Peterson assignor to C. W. Comstock and M. M. Platt, Hancock, Minn. Grain-shocker	263,211	Aug. 22	1716	486	22	658
Peterson, Gustav, Galveston, Tex. Apparatus for deepening channels	262,828	Aug. 15	1233	352	22	563
Peterson, Gustav, Galveston, Tex. Walking-stool for children	265,432	Oct. 3	238	71	22	1178
Petit, Gilles, Paris, France. Wig, false front, switch, &c.	263,665	Aug. 29	2315	662	22	764
Petmecky, Joseph C., Austin, Tex. Fire-arm holder	267,714	Nov. 21	958	270	22	1724
Petri, Christian. (See Reiniger and Petri.)						
Petri, Friedrich, Berlin, Germany. Disinfectant	267,926	Nov. 21	1902	.....	22	1770
Petrie, Andrew J., Melrose, Minn. Self-loading cart	266,880	Oct. 31	1994	575	22	1510
Petrie, John, Jr., Rochdale, county of Lancaster, England. Wool-washing machine	261,756	July 25	1756	494, 495	22	314
Petry, Peter. (See Schlund and Petry.)						
Petry, Peter, Newark, N. J. Harness-mounting	266,881	Oct. 31	1996	575	22	1511
Petsch, Conrad, New York, N. Y. Lamp-shade holder	266,048	Oct. 17	1004	285	22	1320
Pettersen, Ludvig. (See Hill and Pettersen.)						
Petterson, Ludwig, Chicago, Ill. Device for converting motion	261,757	Jnly 25	1759	495	22	314
Pettey, Martin G., Searcy, Ark. Cheese-knife	266,513	Oct. 24	1570	446	22	1426
Pettibone, James, Cincinnati, Ohio. Handcuff	263,212	Aug. 22	1718	487	22	659
Pettie, Charles A., Brooklyn, N. Y. Harness saddle and collar	269,596	Dec. 26	1506	434	22	2186
Pettis, George C. (See Hoggson and Pettis.)						
Pettus, Frank G., Mason, Tenn. Car-coupling	261,033	July 11	877	243	22	152
Petty, James K. (See Petty, John W. and J. K.)						
Petty, John W. and J. K., Omaha, Nebr. Saw set and clamp	266,385	Oct. 24	1437	408	22	1402
Peyton, William J. (See Starr, Eli T., assignor.)						
Peyton, William J. (See Starr, Eli T. and E. E., assignors.)						
Peyton, William J. (See Starr and Peyton.)						
Pfab, Francis. (See Gernert, Charles, assignor.)						
Pfouts, Leroy S., Wilmot, Ohio. Plow	269,457	Dec. 19	1319	382	22	2144
Pfrangle, Albert, Aurora, Ill., assignor of one-half to W. Pfrangle. Holder for whisk-brooms	263,722	Sept. 5	66	19	22	786
Pfrangle, William. (See Pfrangle, Albert, assignor.)						
Phelps, Amial E. (See Ingalls and Phelps.)						
Phelps, Augustus H., East Saginaw, Mich. Pillow-sham holder	269,107	Dec. 12	868	255	22	2055
Phelps, George M., Brooklyn, N. Y. Printing-telegraph	267,366	Nov. 14	521	148, 149, 150	22	1637
Phelps, Herbert L., New York, assignor, by mesne assignments, to National Machine Company, Troy, N. Y. Eyelet-hole attachment for sewing-machines	261,563	July 25	1528	428	22	274
Phelps, Herbert L., New York, assignor to National Machine Company, Troy, N. Y. Machine for sewing buttons to fabrics	268,930	Dec. 12	646	189	22	2016
Phelps, L. E., *et al.* (See Hinds, Carlos W., assignor.)						
Phelps, Oliver M. (See Hanson and Phelps.)						
Phelps, Richard N. R., and W. A. Clark, Jr., Trenton, assignors to Phœnix Chemical Company, of New Jersey. Treating the waste pickle-liquor of iron-works	267,582	Nov. 14	797	228	22	1687
Phelps, Walter S., Wortendyke, N. J. Steam piston-valve	262,471	Aug. 8	797	225	22	478
Phelps, William P. (See Plush and Phelps.)						
Phelts, Rufus J. (See Sawyer and Phelts.)						
Phenix Machine Company. (See Entwistle, Thomas C., assignor.)						
Philbrick, Frank A., Watertown, Wis. Milk-rack	262,908	Aug. 15	1353	382	22	582
Phillon, George. (See Dodge and Phillon.)						
Phillips, Charles S., Brooklyn, N. Y. Compound for coloring tobacco	261,034	July 11	878	.....	22	152
Phillips, Alexander C., New Castle, Pa. Track lifter and holder	266,195	Oct. 17	1183	334	22	1349
Phillips, Anna S., Springfield, Ohio. Combined yard stick and bias-rule	263,351	Aug. 29	1941	555	22	699
Phillips, Charles B., Chicago, Ill. Railway-rail joint	260,409	July 4	83	23	22	16
Phillips, Francis V., assignor to M. E. Dayton, Chicago, Ill., and G. E. Dayton, Burlington, Iowa. Convertible step-ladder	267,927	Nov. 21	1203	338	22	1770
Phillips, Frank E., and F. W. Griswold, Providence, R. I. Time-check register for workshops	262,979	Aug. 22	1444	407	22	607
Phillips, George C., Boston, Mass. Water-closet	261,818	July 25	1832	517	22	327
Phillips, John, Riley's Station, Ky. Bee-hive	264,893	Sept. 26	1443	408	22	1054
Phillips, Nathan M., and J. C. St. John, New York, N. Y. Tag-fastener	265,631	Oct. 10	502	136	22	1226
Philpot, John G., Lebanon, Tenn. Fertilizer-distributer	261,627	July 25	1604	449, 450	22	388
Phipps, Edward H., New York, N. Y. Steam-engine lubricator	260,781	July 11	560	153	22	100
Phœnix Chemical Company. (See Phelps and Clark, assignors.)						
Phœnix Manufacturing Company. (See White, Samuel, assignor.)						
Picard, Alexandre, Montaign, France. Breech-loading fire-arm	267,583	Nov. 14	799	228	22	1687
Pickering, Joseph M., assignor of one-third to M. J. Pickering, Philadelphia, Pa. Brush-trimming machine	268,278	Nov. 28	1642	456	22	1855
Pickering, Maylin J. (See Pickering, Joseph M., assignor.)						
Pickler, Samuel M. (See John, Abraham H., assignor.)						
Pictet Artificial Ice Company. (See Pictet, Raoul P., assignor.)						
Pictet Artificial Ice Company. (See Pictet, Raoul P., assignor.) (Reissue.)						
Pictet, Raoul P., Geneva, Switzerland, assignor to Pictet Artificial Ice Company, (limited,) New York, N. Y. Producing artificial cold by means of anhydrous sulphurous oxide. (Reissue)	10,221	Oct. 24	1667	480	22	1443
Pictet, Raoul P., Geneva, Switzerland, assignor, by mesne assignments, to Pictet Artificial Ice Company, (limited,) New York, N. Y. Production and dehydration of sulphurous oxide and apparatus therefor	268,530	Dec. 5	173	49	22	1919
Pierce, Denison C., Chicago, Ill., assignor of one-half to Harvey B. Merrell, Morristown, N. J. Steamship	263,805	Sept. 5	173	50	22	803
Pierce, Edwin F., Milwaukee, Wis. Faucet	267,103	Nov. 7	185	53	22	1573
Pierce, Franklin, New York, assignor to himself, T. Dobbins, Newburg, and M. E. Deegen, New York, N. Y. Hod-elevator	267,248	Nov. 7	363	105	22	1605
Pierce, Franklin D., Buffalo, N. Y. Steam-generator for road-vehicles or other purposes	263,954	Sept. 5	353	99	22	836
Pierce, George N. (See Reahr, Bernhard, assignor.)						
Pierce, Grenville G. (See Irwin, Charles, assignor.)						
Pierce, John B., and J. Bond, Buffalo, N. Y. Steam-radiator	265,279	Oct. 3	62	19	22	1146
Pierce, Ray V. (See Smith, Elmer S., assignor.)						
Piero, William J., *et al.* (See Fife, James M., assignor.)	265,981	Oct. 17	927	261	22	1306
Pierpont, Charles L., Red Wing, Minn. Eaves-trough hanger	263,352	Aug. 29	1943	556	22	699
Pierpont, George R., New Haven, Conn. Carriage-curtain fastening	269,102	Dec. 12	931	270, 271	22	2066
Pierson, Henry M., Brooklyn, N. Y., and J. S. Pierson, Plainfield, N. J. Process of and apparatus for manufacturing gas						

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Pierson, James S. (See Pierson, Henry M. and J. S.)						
Pigott, Michael A., St. Louis, Mo. Shutter-fastener	260,708	July 4	467	126	22	79
Piguet, Léon, Geneva, Switzerland. Stem-winding musical watch	267,104	Nov. 7	186	53	22	1573
Pihlgren, August W. R., Milwaukee, Wis. Combined stethoscope and pneumoscope	268,430	Dec. 5	71	22	22	1900
Pike, Benjamin F., Leadville, Colo. Fire-escape	263,723	Sept. 5	67	20	22	786
Pike, Charles F., Philadelphia, Pa., assignor, by mesne assignments, to National Anti Sewer Gas Company, of New Jersey. Water-closet	266,309	Oct. 24	1336	376, 377	22	1382
Pike, Hervey L., and A. W. Ferguson, Astoria, Oreg. Hydraulic dredge	263,420	Aug. 29	2044	585	22	716
Pilcher, Thomas J. (See McMurtry and Pilcher.)						
Pilger, August P. (See Whyman, Horatio O., assignor.)						
Pilkington, William M., Newark, N. J. Creasing-machine	263,574	Aug. 29	2214	633	22	748
Pillard, Oliver E., Cambridge, Mass. Permutation-lock. (Reissue)	10,246	Nov. 21	1986	361	22	1784
Pillings, George T., Baltimore, Md. Safety steam-boiler	269,458	Dec. 19	1320	382	22	2145
Pillsbury, Eben F., *et al.* (See Morse, Henry T., assignor.)						
Pinckney, Robert B. W., New York, N. Y. Folding bench, table, and settee	267,928	Nov. 21	1204	338	22	1770
Pine, James K. P. (See Norris, George E., assignor.)						
Pine, James K. P., Lansingburg, I. P. Turner, and W. W. Searle, Troy, N. Y. Manufacture of collars	269,229	Dec. 19	1022	298	22	2089
Pinkney, Charles J., assignor of one-half to T. Pinkney, Cleveland, Ohio. Oil-cup	267,584	Nov. 14	800	229	22	1687
Pinkney, Thomas. (See Pinkney, Charles J., assignor.)						
Pinney, Henry L. (See Baker, Augustus H., assignor.) (Reissue.)						
Pintsch, Julius. (See Pintsch, Richard, J., and O.)						
Pintsch, Julius, Jr., Berlin, Germany. Signal-light	269,505	Dec. 19	1384	398	22	2155
Pintsch, Oscar. (See Pintsch, Richard, J., and O.)						
Pintsch, Richard, J., and O., Berlin, Germany. Gas-lamp	268,373	Nov. 28	1770	490, 491	22	1678
Piot, Désiré T., Great Titchfield Street, county of Middlesex, England. Electric motor	263,353	Aug. 29	1944	556	22	699
Piper, Dennis B., Keene, N. H., assignor to Victor Wringer Company. Clothes-wringer	266,514	Oct. 24	1570	446	22	1426
Piper, Edward S., Toronto, Ontario, Canada. Signal-lamp	266,719	Oct. 31	1818	527	22	1478
Piper, Francis M., assignor of one-half to G. L. Drake, Lynn, Mass. Trunk	267,585	Nov. 14	801	229	22	1688
Piper, John H. (See Cook and Piper.)						
Piper, Seth. (See Nelson, Nels P., assignor.)						
Pirrung, George, Ravenswood, Ill. Combined scrubber and mop. (Reissue)	10,154	July 11	984	276	22	170
Pirrung, George, Ravenswood, Ill. Rotary plow	260,782	July 11	502	153	22	100
Pirsson, William, New York, N. Y., assignor of one-fourth to C. H. Peabody, Providence, R. I. Ratchet-drill	261,758	July 25	1760	495	22	314
Pisak, Robert, Cleveland, Ohio. Inside window-blind	261,382	July 18	1304	365	22	230
Pitkin, Alfred B. (See Perkins, Russell W., assignor.)						
Pitkin, James, Clerkenwell, county of Middlesex, England. Electrode for batteries	265,861	Oct. 10	772	218	22	1273
Pitney, Sanford C., *et al.* (See Ash, Joseph, assignor.)						
Pitt, Joseph, assignor of one-half to T. P. Doane, Brooklyn, N. Y. Corkscrew	262,613	Aug. 15	985	276	22	515
Pitt, William A., New York, N. Y. Ventilation	268,822	Dec. 12	514	152, 153	22	1991
Pittmann, Nathan. (See Williams, James L., assignor.)						
Plant, Paschal, San Francisco, assignor of two-thirds to G. B. Nichols and I. Flood, San Luis Obispo, Cal. Cork swimming-suit	267,799	Nov. 21	1061	296	22	1742
Plant, Stephen J., York, Ontario, Canada. Brick-kiln	262,614	Aug. 15	986	277	22	516
Planters Oil Machinery Company. (See Fee, William R., assignor.)						
Platt, George R., Gretna, La. Seed and fertilizer distributer	268,279	Nov. 28	1644	456	22	1855
Platt, Myron M., *et al.* (See Peterson and Wilcox, assignors.)						
Platt, Thomas A., Brooklyn, N. Y., assignor to himself, W. O. Platt, Elizabeth, N. J., and W. Man, New York, N. Y. Lock, seal, and label-holder	265,136	Sept. 26	1723	482	22	1104
Platt, William H., Dayton, Ohio. Harrow	261,564	July 25	1530	428, 429	22	274
Platt, William O., *et al.* (See Platt, Thomas A., assignor.)						
Platter, David E., Canton, Ohio. Rein-holder	262,114	Aug. 1	367	103	22	396
Platts, Hervey, Ithaca, N. Y. Fastening tips to billiard-cues	263,955	Sept. 5	354	99	22	836
Plumb, Burdict & Barnard. (See Burdict, Orrin C., assignor.)						
Plummer, William J., and P. Turpin, Olympia, Wash. Ter. Wheel-tire	267,249	Nov. 7	363	106	22	1605
Plummer, William S., San José, Cal. Combined heater and base for driers	261,035	July 11	879	243	22	152
Plummer, William S., San José, Cal. Drying-chamber for fruit-evaporators	261,036	July 11	880	244	22	152
Plunkett, John W., Dunstall Priory, county of Kent, England. Gas-burner	265,433	Oct. 3	238	71	22	1178
Plunkett, Michael H. (See Stevenson and Plunkett.)						
Plush, Samuel M. (See Shaffer and Plush.)						
Plush, Samuel M., and W. P. Phelps, Philadelphia, Pa. Printing-telegraph	264,961	Sept. 26	1529	430	22	1069
Plympton, Nathaniel, assignor to J. I. Raymond and M. H. Robertson, New York, N. Y. Collapsible lamp-shade	261,037	July 11	881	244	22	153
Poe, John. (See Flater, Henry, assignor.)						
Pohley, Frederick, San Francisco, Cal. Jumping-rope	268,931	Dec. 12	648	190	22	2016
Poirier, Camille, Duluth, Minn. Pack-strap	268,932	Dec. 12	649	190	22	2016
Poland, Alfred E., Minneapolis, Minn. Car-coupling	268,823	Dec. 12	516	153	22	1991
Poland, Charles H., assignor to Smith & Poland, Providence, R. I. Oil-can	264,841	Sept. 19	1361	385	22	1034
Polk, John E. (See Robburts, George W., assignor.)						
Pollak, Morris, assignor to Lincoln, Tifft & Co., New York, N. Y. Neck or bracelet chain	262,115	Aug. 1	367	103	22	396
Pollock, Francis A., *et al.* (See McAuley, Robert G., assignor.)						
Polster, Ernst E., assignor of one-half to G. W. Frank, Baltimore, Md. Brick-kiln	264,334	Sept. 12	789	222	22	921
Pomeroy, Richard W., *et al.* (See Wheeler, John, assignor.)						
Pomvort, Louis J., *et al.* (See Davis, John T., assignor.)						
Pond, Charles L., Buffalo, N. Y. Package for oysters, &c	265,137	Sept. 26	1724	482	22	1104
Pond, Charles L., assignor of three-fourths to E. Wilhelm, J. J. Bonner, Buffalo, N. Y., and J. H. Rogers, Washington, D. C. Apparatus for transmitting sound	266,515	Oct. 24	1571	446	22	1426
Pond, Ernestus, Portsmouth, Ohio. Apparatus for vapor baths	268,933	Dec. 12	649	190	22	2016
Pond, Goldsbury H., New York, N. Y. Comminuting wood pulp, &c	267,715	Nov. 21	959	270	22	1724
Pond, Orlando M., Independence, Iowa. Wire-stretcher	268,934	Dec. 12	650	190, 191	22	2017
Poole Company, J. Morton. (See Poole, J. Morton, Jr., assignor.)						
Poole, J. Morton, Jr., assignor to J. M. Poole Company, Wilmington, Del. Roller grinding mill	269,459	Dec. 19	1391	382, 383	22	2145
Pope, Charles H., Thomaston, Me. Pipe-coupling	269,597	Dec. 26	1507	434	22	2187
Pope, Frank L., Elizabeth, N. J. Telegraphic register	267,929	Nov. 21	1205	338	22	1770
Pope, Frederick W., Lynn, and G. H. Fox, Boston, Mass. Machine for molding boot and shoe soles	268,124	Nov. 28	1445	404	22	1820
Pope, Ralph W., Elizabeth, N. J. Combined pen-cleaner and paper-weight	268,431	Dec. 5	73	22	22	1900
Popham, James, Montreal, Quebec, Canada. Boot or shoe	267,652	Nov. 14	879	251	22	1702

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Portable Hygienic Vapor and Disinfector Company. (See Rosenfield, William W., assignor.)						
Porteous, James, Fresno City, Cal. Dirt-scraper	261,759	July 25	1761	495	22	314
Porter, Andrew C., Batesville, Miss. Cotton-gin feeder	261,760	July 25	1763	496	22	315
Porter, Archibald A., Griffin, Ga. Car-coupling	263,213	Aug. 22	1719	487	22	659
Porter, Benjamin. (See Austin, Alonzo D., assignor.)						
Porter, Daniel R., Cambridgeport, assignor of one-fourth to S. F. Keyes, Melrose, Mass. Combined wrench, vise, and nail-puller	266,310	Oct. 24	1338	377	22	1383
Porter, George S., Lynn, Mass. Cutting-press for leather, &c	263,214	Aug. 22	1719	487 / 488	22	659
Porter, Harry, Independence, Kans. Revolving hotel-register	265,862	Oct. 10	773	218	22	1273
Porter, Henry B., Chicago, Ill. Electric bell	261,172	July 18	1051	296	22	190
Porter, Hugh T., Auburn, N. Y. Cut-off and reversing valve gear	266,882	Oct. 31	1996	576	22	1511
Porter, John A., assignor of two-thirds to W. L. and J. L. Huse, St. Louis, Mo. Car-coupling	261,479	July 18	1410	394	22	249
Porter, Joseph E., Ottawa, Ill. Hay-fork	269,230	Dec. 19	1023	299	22	2089
Porter, Marion E., Leon, Iowa. Cooking attachment for oil-stoves	268,935	Dec. 12	652	191	22	2017
Porter, O. V. (See Woodward, Anderson, assignor.)						
Porter, William. (See Buckingham, Robert, assignor.)						
Porter, William, Jr., New York, N. Y. Lantern	268,936	Dec. 12	652	191	22	2017
Porter, William P., Allegheny, Pa. Muck-bar cradle	267,456	Nov. 14	636	183	22	1658
Post, Charles B., assignor of one-half to J. D. Olcott, New London, Ohio. Wind-engine	269,320	Dec. 19	1138	333 / 334	22	2111
Post, Charles W., Springfield, Ill. Sulky-plow	268,280	Nov. 28	1645	456	22	1855
Post, Clarence C., *et al.* (See Sharp, Dennis P., assignor.)						
Post & Co. (See Kirby, John, Jr., assignor.)						
Post, Ezra J., Trinidad, Colo. Gun-stock	263,575	Aug. 29	2216	633	22	748
Post, George H. (See Gorrell and Post.)						
Post Refrigerator Car Company. (See Post, William S., assignor.)						
Post, William S., Boston, Mass., assignor to Post Refrigerator Car Company, Portland, Me. Refrigerator	267,586	Nov. 14	802	229	22	1688
Potter, Albert G. (See Glazier and Potter.)						
Potter, Bradford S., *et al.* (See Farrington, George K., assignor.)						
Potter & Co., C., Jr. (See Brooks, John, assignor.)						
Potter, Merritt F., Hinckley, Ill. Bill-file	263,576	Aug. 29	2216	633	22	748
Potter, Simon. (See Bates, William M., assignor.)						
Potter, Stephen, Mount Pleasant, Mich. Coffee-roaster	268,724	Dec. 5	383	112	22	1960
Potter Thomas, and G. W. Gilliland, Abilene, Tex. Earth-auger	264,335	Sept. 12	791	222	22	921
Potter, Thomas O., Boston, Mass. Buckle	263,806	Sept. 5	176	50	22	803
Potter, Thomas O., Boston, Mass. Buckle	263,807	Sept. 5	177	51	22	803
Potter, Wilson L., Hartford, Conn. Belt-hook	265,280	Oct. 3	63	19	22	1147
Potts, Alfred F., Indianapolis, Ind. Desk	264,747	Sept. 19	1253	355	22	1016
Potts, Alfred F., Indianapolis, Ind. Extensible receptacle for papers, &c	264,748	Sept. 19	1254	355	22	1016
Potts, Alfred F., Indianapolis, Ind. Cabinet	264,749	Sept. 19	1255	355 / 356	22	1016
Potts, Alfred F., Indianapolis, Ind. Cabinet	264,750	Sept. 19	1256	356	22	1016
Potts, Alfred F., Indianapolis, Ind. Display-stand	264,751	Sept. 19	1257	357	22	1017
Potts, Samuel. (See Fruen, Potts, and Elliott.)						
Poullain-Dumesnil, Alfred F., Vasceuil, Eure, France. Special fertilizer for plants	261,038	July 11	882	.....	22	153
Powell, Albert T., assignor to Powell Steam Motor Company, (limited,) Stanfordville, N. Y. Steam-engine	265,138	Sept. 26	1725	483	22	1105
Powell, Benjamin B., Petoskey, Mich. Mechanical movement	265,632	Oct. 10	502	136	22	1226
Powell, Edwin R., Burlington, Vt. Metallic fence-post and clamping device	261,039	July 11	884	244	22	153
Powell, Eugene, Delaware, Ohio. Sulky-plow	263,577	Aug. 29	2217	634	22	748
Powell, George M., Vineland, N. J. Polyscope	268,432	Dec. 5	74	23	22	1901
Powell, John R., Plymouth, Pa. Miner's sqnib	260,410	July 4	83	23	22	16
Powell, Napoleon B., Versailles, Ill. Coffee-roaster	268,725	Dec. 5	384	112	22	1960
Powell Steam Motor Company. (See Powell, Albert T., assignor.)						
Power, Francis J., assignor of one-half to P. Collamore, Boston, Mass. Carpenter's rule	263,578	Aug. 29	2218	634	22	749
Powers, Daniel. (See Dickerman and Powers.)						
Powers, Daniel E., assignor to himself and J. S. Chase, New York, N. Y. Paper box	261,871	Aug. 1	54	16	22	345
Powers, Francis G., Champaign, Ill. Die or mold for forming elastic corn and bunion pads	265,434	Oct. 3	239	71	22	1178
Prall, Walter P., Colusa, Cal. Sulky hay-rake	267,250	Nov. 7	364	105	22	1605
Prall, William E., New York, N. Y. Heat-generating apparatus	261,480	July 18	1410	394 / 395	22	249
Pratt, David B., Perry Centre, N. Y. Car-coupling	261,953	Aug. 1	158	46	22	362
Pratt, Fred W., *et al.* (See Bond, Nathan O., assignor.)						
Pratt, Henry T., New York, N. Y. Wooden mat	260,499	July 4	198	55	22	34
Pratt, James H., Pana, Ill. Hay elevator and conveyer	263,666	Aug. 29	2316	662	22	765
Pratt, James H., assignor to C. Cutler, Pana, Ill. Adjustable stop-block for hay-carriers	267,015	Nov. 7	70	21	22	1552
Pratt, John, Centre, Ala., assignor to Hammond Type Writer Company, New York, N. Y. Type-writer	267,367	Nov. 14	531	151	22	1639
Pratt, Nathaniel W. (See Babcock, Wilcox, and Pratt.)						
Pratt, Nathaniel W. (See Babcock, Wilcox, Pratt, and Bennett.)						
Pratt & Whitney Company. (See Heyer, John W., assignor.)						
Preisig, Carl, Herisau, assignor to Schlaepfer, Schlatter & Kürsteiner, St. Gall, Switzerland. Embroidery-pattern	264,194	Sept. 12	634	175	22	894
Prentice, George W., Providence, R. I. Button-fastening	266,883	Oct. 31	1997	576	22	1511
Prentice, George W., Providence, R. I. Machine for attaching buttons to garments	267,587	Nov. 14	803	230	22	1688
Prentice, George W., Providence, R. I. Button-fastening	269,705	Dec. 26	1632	468	22	2211
Prentice, George W., assignor to Heaton Button Fastener Company, Providence, R. I. Button-fastener	264,842	Sept. 19	1362	385	22	1034
Prentice, William H., and S. H. Beckwith, assignors to F. J. Callanen, Utica, N. Y. Individual call for telephone or other circuits	264,843	Sept. 19	1363	386	22	1034
Prentiss, Loren, *et al.* (See Burdick, George, assignor.)						
Prentiss, Seymour C., *et al.* (See Burdick, George, assignor.)						
Prenzlauer, Herman, *et al.* (See Schmidt, Hugo, assignor.)						
Preo, Charles L. (See Preo, John B. and C. L.)						
Preo, John B. and C. L., Greenwich, N. Y. Buckboard-wagon	264,336	Sept. 12	791	223	22	921
Presbrey, Edward F., Providence, R. I., assignor, by mesne assignments, to E. N. Foote, Northampton, Mass., R. B. Banister, J. L. Mason, and Royce, Allen & Co., Providence, R. I. Bracelet. (Reissue)	10,239	Nov. 14	890	254	22	1703
Prescott, Cyrus D. (See Tufts and Roth, assignors.)						
Prescott, Daniel P., Vernon, Vt. Car-coupling	261,872	Aug. 1	55	16	22	345
Prescott, Edward F., Malden, Mass. Manufacture of articles from wood or vegetable pulp	264,100	Sept. 12	537	146	22	876

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Prescott, George W. (See Morris and Prescott.)						
Prest, John E., Fall River, Mass. Thread-guard and traveler-cleaner for ring-spinning frames	269,231	Dec. 19	1024	299	22	2089
Preston, Albert F., Boston, Mass. Mold for boots and shoes	269,460	Dec. 19	1352	383	22	2145
Preston, Everett B., Chicago, Ill. Overshoe	265,339	Oct. 3	138	40	22	1159
Preston, Francis E., and W. H. Stapleton, Fayette, Mo. Hand corn-planter	265,139	Sept. 26	1728	483	22	1105
Preston, Russell A., Swan, Ind. Churn	267,368	Nov. 14	533	151	22	1639
Preston, William A. (See Williams and Preston.)						
Prewitt, William Q., Lexington, Ky. Air-forcing apparatus	262,472	Aug. 8	798	226	22	478
Price, George, Birmingham, county of Warwick, England. Knob attachment	261,761	July 25	1763	496	22	315
Price, H. Clay, Montclair, N. J., assignor to Scovill Manufacturing Company, Waterbury, Conn. Photographic camera	260,605	July 4	323	87	22	55
Price, Henry W., Rockford, Ill. Glove-lining	261,040	July 11	885	245	22	153
Price, James M., *et al.* (See Lightfoot, Francis, assignor.)						
Price, John B., Wollaston, Mass. Sewing-machine	266,387	Oct. 24	1439	408	22	1402
Price, Levi, assignor to H. Wallach's Sons, New York, N. Y. Re-enforcing garments	261,102	July 11	966	269	22	167
Price, Maurice, New York, N. Y. Shirt	267,588	Nov. 14	805	230	22	1688
Price, Orlando V., Cleveland, Ohio. Holdback for vehicles	266,049	Oct. 17	1005	285	22	1320
Price, V. Clarence, *et al.* (See Wilson, Merrick F., assignor.)						
Price, William H. (See Stockwell, Levi W., assignor.)						
Prichard, Lewis. (See Fraley, Alexander, assignor.)						
Prichard, William W., Russell, Ky. Blank-clip	261,173	July 18	1051	296	22	190
Pridmore, Henry E., assignor to McCormick Harvesting Machine Company, Chicago, Ill. Mowing-machine	269,232	Dec. 19	1025	299	22	2089
Priest, David H., Everett, Mass. Composition for roofing	266,196	Oct. 17	1184	.....	22	1350
Priestley, Forrest M., Grand Rapids, Mich. Fifth-wheel	265,140	Sept. 26	1729	483	22	1105
Prince, Theodore C., assignor of one-half to J. P. Pnnzelt, South Norwalk, Conn. Igniting mechanism	261,873	Aug. 1	57	17	22	345
Pringle, Eugene, Gloversville, N. Y. Button for gloves	260,411	July 4	84	24	22	16
Prinz, Faustin, St. Paul, Minn. Manufacture of flour	267,016	Nov. 7	71	21	22	1552
Prinz, Faustin, Dundas, Minn. Middlings-purifier	267,716	Nov. 21	960	271	22	1725
Prior, George W., Boeger's Store, Mo. Sight for fire-arms	264,899	Sept. 26	1444	408	22	1054
Pritchett, John W., London, England. Fastener for gloves, boots, &c	269,706	Dec. 26	1633	468	22	2211
Proctor, Harry R., Bradford, Pa. Screw-cutting device	262,615	Aug. 15	987	277	22	516
Proctor, Thomas F., Waltham, Mass. Apparatus for applying color to watch-dials	260,783	July 11	563	153	22	101
Proach, Cyrus, New York, N. Y., assignor to Electrical Supply Company, Ansonia, Conn. Telegraph-key	269,321	Dec. 19	1139	334	22	2111
Prouty, Augustus B., Worcester, Mass. Latch	266,388	Oct. 24	1439	408 / 409	22	1402
Prouty, Augustus B., Worcester, Mass. Locking-latch	266,389	Oct. 24	1441	409	22	1403
Prouty, Augustus B., Worcester, Mass. Lock	266,390	Oct. 24	1442	409	22	1403
Prouty, William H., assignor of one-half to P. Collamore, Boston, Mass. Clothes-pin	261,481	July 18	1412	395	22	249
Prox, Frank P. H., Terre Haute, Ind. Valve	262,829	Aug. 15	1254	353	22	563
Pruitt, Madison F. (See McKeehan, Charles H., assignor.)						
Pryibil, Paul. (See Pryibil and Mackintosh, assignors.)						
Pryibil, Rudolph, New York, and E. D. Mackintosh, Brooklyn; said Mackintosh assignor to P. Pryibil, New York, N. Y. Hynger for shafting	267,251	Nov. 7	365	106	22	1605
Puddefoot, Charles, assignor to Detroit Stamping Company, Detroit, Mich. Manufacture of metallic door-knobs	267,105	Nov. 7	188	53, 54	22	1553
Puffer, Samuel M., Detroit, Mich. Attachment to dynamo-electroplating machines	265,340	Oct. 3	108	41	22	1159
Puffer, William E., Brooklyn, N. Y. Automatic regulator for furnaces	265,633	Oct. 10	503	137	22	1227
Pugh, Jesse B., assignor of one-half to C. O. Browning, Indianapolis, Ind. Car-coupling	262,980	Aug. 22	1445	408	22	608
Pulliam, Benjamin M., assignor to himself and J. D. Pulliam, Tolono, Ill. Car-coupling	263,215	Aug. 22	1721	488	22	659
Pulliam, John D. (See Pulliam, Benjamin M., assignor.)						
Pulling, James G., Columbus, Ohio. Revolving stool	265,435	Oct. 3	239	72	22	1179
Pullman, Charles L., *et al.* (See McArthur, George A., assignor.)						
Pumphrey, Robert B., Baltimore, Md. Can-opener	268,281	Nov. 28	1645	456	22	1855
Punzelt, James P. (See Prince, Theodore C., assignor.)						
Purcell, Enoch. (See Purcell, Isaac and Enoch.)						
Purcell, Isaac and R., Cumback, Ind. Spring-bed	266,197	Oct. 17	1184	334	22	1350
Purdy, Hiram, Burlington, Iowa. Fire-extinguisher for railway-cars	266,311	Oct. 24	1339	377	22	1383
Purdy, James H. (See Osburn, Thomas F., assignor.)						
Purdy, Louise J., St. Louis, Mo. Pattern-tracer	267,106	Nov. 7	189	55	22	1554
Purdy, Louise J., St. Louis, Mo. Pattern-tracer	267,107	Nov. 7	189	55	22	1554
Purefoy, Addison F., assignor of one-fourth to S. Abernathy, Wake Forest, N. C. Spring bed-bottom	261,954	Aug. 1	159	46, 47	22	363
Purinton, Judson K., Dallas Centre, Iowa. Agricultural boiler and feed-steamer	264,101	Sept. 12	538	147	22	876
Purinton, Oscar B. (See Bates, George A., assignor.)						
Parrier, Henry, Gunnison, Colo. Hay-press	263,956	Sept. 5	355	100	22	836
Pursley, John J., Wetmore, Kans. Car-coupling	269,322	Dec. 19	1141	334	22	2111
Purslow, John W., Durango, Colo. Railway-signal	267,569	Nov. 14	534	152	22	1639
Pusey, Joshua, Philadelphia, Pa. Book-holder	260,500	July 4	198	56	22	34
Putnam, Emmet P., La Chinche, La. Sugar-cane stripper	260,709	July 4	467	126	22	79
Putnam, George L., Mount Vernon, N. Y. Metallic railway-tie	267,920	Nov. 21	1207	339	22	1770
Putnam, George W., Glens Falls, N. Y. Car-coupling	267,252	Nov. 7	366	106	22	1606
Putnam, Henry W. (See De Quillfeldt, Charles, assignor.)						
Putnam, John H. (See Hickok and Putnam.)						
Putnam, Joseph W., New Orleans, La. Pile	265,141	Sept. 26	1730	483	22	1105
Putnam, Joseph W., New Orleans, La. Apparatus for treating timber with antiseptics	266,516	Oct. 24	1572	447	22	1427
Pye, James, Minneapolis, Minn. Wheat and middlings reducing mill	260,784	July 11	565	154	22	101
Quackenbush, Henry M. (See Haviland and Gunn, assignors.) (Reissue)						
Quackenbush, Roswell M., Santa Rosa, Cal. Vehicle-brake	261,255	July 18	1146	320	22	204
Quackenbush, Roswell M., Santa Rosa, Cal. Lifting-jack	264,752	Sept. 19	1238	357	22	1017
Quast, Ernest, Orleans, Mo., assignor of one-half to W. Ford, Jerseyville, Ill. Lifting-jack	261,628	July 25	1605	450	22	298
Queal, William G., Windsor, N. Y. Seat-lock	267,931	Nov. 21	1207	339	22	1771
Queen, Elias G., Big Valley, Tex. Animal-tag	264,102	Sept. 12	539	147	22	876
Queen, Frank. (See Bacon and Queen.)						
Quehl, William F. C., St. Louis, Mo. Fruit-can	263,059	Aug. 22	1540	434	22	625
Quennec, Henri, Paris, France. Furnace for melting glass and apparatus connected therewith	261,702	July 25	1765	496	22	315
Quick, Charles B., Penn Yan, N. Y. Peanut-warmer	265,982	Oct. 17	927	262	22	1306
Quiggle, William E., Dedham, Mass. Stove-pipe damper	265,663	Oct. 10	773	219	22	1274
Quiggle, William W., Winnebago City, Minn. Bottle-label holder	268,726	Dec. 5	385	113	22	1960
Quigley, William B., Boston, Mass. Car-brake	261,174	July 18	1052	296	22	190
Quigley, William D. G., Rockford, Mich. Acoustic telephone						

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Quimby, Edward E., Orange, N. J., assignor to F. O. Matthiessen, Irvington, and W. A. Wiechers, New York, N. Y. Centrifugal separator	260,412	July 4	86	24	22	16
Quin, John, Wakeman, Ohio. Plow	260,785	July 11	567	154	22	101
Quin, Phineas, Trenton, N. J. Spring-motor for carriages	267,589	Nov. 14	805	{230 231	22	1688
Quinan, William R., San Francisco, Cal. Explosive powder	260,786	July 11	568	.....	22	101
Quinby, Watson F., Wilmington, Del. Hydrocarbon-engine	268,727	Dec. 5	387	113	22	1961
Quinn, Edward, *et al.* (See Ellsworth, George A., assignor.)						
Quinn, James M., Jr., Sedalia, Mo. Shirt	264,195	Sept. 12	635	175	22	894
Quinn, James M., Sedalia, Mo. Coin-separator	264,425	Sept. 12	889	250	22	940
Quinn, John J. (See Long and Quinn.)						
Rabbe, William, Cincinnati, Ohio. Gluing-machine	267,932	Nov. 21	1208	339	22	1771
Racine, Lonis F. (See Albert, William L., assignor.)						
Radcliffe, Charles, Newark, N. J. Button	269,323	Dec. 19	1142	335	22	2111
Rader & Co., G. W. (See Buck, Charles, assignor.)						
Rader, Stephen D., Siegfried Bridge, Pa. Brick-kiln	265,436	Oct. 3	240	72	22	1179
Radey, J. Henry, *et al.* (See Buckley, Edward H., assignor.)						
Raible, John, Verona, Pa. Tire-upsetter	262,473	Aug. 8	799	226	22	478
Railroad Safety Lock and Signal Company. (See Shaffer and White, assignors.)						
Railway Register Manufacturing Company. (See Benton, John B., assignor.)						
Railway Register Manufacturing Company. (See Ransom, Newman A., assignor.)						
Raimes, Herbert. (See Barron and Raimes.)						
Rainey, Jeremiah N., Ironton, Ohio. Slate or earth anger	264,196	Sept. 12	636	176	22	894
Rainforth, Richard, Chicago, Ill. Needle-bar for sewing-machines	266,050	Oct. 17	1006	285	22	1320
Rains, William O., Edom, Tex. Cotton-chopper	262,474	Aug. 8	800	226	22	478
Rairigh, William K., St. Petersburg, Pa. Thill-loop for harness	265,142	Sept. 26	1731	483	22	1106
Rairigh, William K., St. Petersburg, Pa. Trace-hook	265,143	Sept. 26	1731	484	22	1106
Rakestraw, Elam, Cambridgeport, Mass. Coffee-grader	261,041	July 11	887	246	22	153
Rakestraw, Elam, Cambridgeport, Mass. Machine for cleaning and grading coffee	269,461	Dec. 19	1323	{383 384	22	2145
Rakow, Louis, Elmhurst, Ill. Wagon-box stake	268,531	Dec. 5	174	50	22	1919
Ralston, Harper M., Fair View, W. Va. Extension-table	265,864	Oct. 10	774	219	22	1274
Ramsdell, George, Oswego, N. Y. Apparatus for manufacturing wood-gas	267,933	Nov. 21	1209	339	22	1771
Ramsden, John W., Leeds, county of York, England. Sewing-machine	262,116	Aug. 1	368	{103 104	22	396
Ramsey, William H., Newark, N. J. Corset	266,644	Oct. 31	1723	497	22	1460
Ramus, Baker & Co. (See Ramus, Charles E., assignor.)						
Ramus, Charles E., assignor to Ramus, Baker & Co., Chicago, Ill. Machine for making splints	266,517	Oct. 24	1573	{447 448	22	1427
Rand Drill Company. (See Githens, Joseph C., assignor.)						
Rand, Edward L. (See Moore, Francis E., assignor.)						
Randall, Amelia A. (See Randall, Silas G., assignor.)						
Randall, Andrew. (See Stone, Henry A., assignor.)						
Randall, Charles A., trustee. (See Rankin, Thomas L., assignor.)						
Randall, Frank C., Joliet, Ill. Oatmeal-mill	262,616	Aug. 15	988	277	22	516
Randall, Frank D., Waupaca, Wis. Crutch	265,144	Sept. 26	1732	484	22	1106
Randall, Henry R., assignor of one-half to C. G. Till, Brooklyn, N. Y. Apparatus for compressing malt extracts from the husks of brewers' mash	265,702	Oct. 10	593	166	22	1241
Randall, Reuben W., Biddeford, Me. Rack or support for garments	269,538	Dec. 26	1428	412	22	2171
Randall, Silas G., assignor to A. A. Randall, Greene, N. Y. Attachment for cooking-stoves	265,634	Oct. 10	505	137	22	1227
Randel, Charles D., assignor of one-half to W. Brockner, New York, N. Y. Barbed fence-wire	267,253	Nov. 7	367	107	22	1606
Range, Gustav, assignor to S. Range, New York, N. Y. Case for sewing-machines	265,701	Oct. 10	592	165	22	1241
Range, Sophie. (See Range, Gustav, assignor.)						
Rankin Ice Manufacturing Company. (See Rankin, Thomas L., assignor.)						
Rankin, Matthew. (See Strieby and Rankin.)						
Rankin, Ransom F., Columbus, Ohio. Hydrocarbon-burner	268,824	Dec. 12	517	153	22	1992
Rankin, Robert P., Clayton, Ind. Automatic guard for elevators	267,757	Nov. 21	1003	282	22	1732
Rankin, Thomas L., assignor to Rankin Ice Manufacturing Company, New York, N. Y. Ice-machine	266,312	Oct. 24	1341	378	22	1383
Rankin, Thomas L., assignor, by mesne assignments, to C. A. Randall, trustee, New York, N. Y. Refrigerating apparatus	266,391	Oct. 24	1444	{409 410	22	1403
Ransom, George F., Cleveland, Ohio. Watchman's time-detector	266,518	Oct. 24	1577	448	22	1427
Ransom, Newman A., Chicago, Ill., assignor to Railway Register Manufacturing Company, Buffalo, N. Y. Fare register and recorder	265,145	Sept. 26	1733	{484 485	22	1106
Ransome, Ernest L., San Francisco, Cal. Laying artificial stone or concrete pavements	263,579	Aug. 29	2218	634	22	749
Ranson, George W., Richwood, Ky. Combined blower and damper for grates	260,413	July 4	87	24	22	16
Rappleye, Frank A., Kendaia, N. Y., assignor to Stanley Rule and Level Company, New Britain, Conn. Carpenter's plow	266,519	Oct. 24	1577	448	22	1428
Rappold, Albert, and E. Leith, Titusville, Pa. Setting retorts for treating sulphuric acid	260,414	July 4	88	25	22	16
Rarey, Joseph P. B., assignor of one-half to W. G. Cook, Howard, Ind. Clothes-pounder	262,830	Aug. 15	1255	353	22	563
Rarey, Joseph P. B., Kokomo, assignor of one-third to S. P. Lee, Howard township, Howard county, Ind. Car-coupling	269,707	Dec. 26	1634	469	22	2211
Rasmusen, Charles W., Chicago, Ill. Car-coupling	265,865	Oct. 10	775	{219 220	22	1274
Rasmusen, Charles W., Chicago, Ill. Cable-railway apparatus	266,198	Oct. 17	1185	{334 335	22	1350
Rasmusen, Charles W., Chicago, Ill. Wire-rope tramway	266,520	Oct. 24	1578	449	22	1428
Rasmusen, Charles W., Chicago, Ill. Grip for cable railways	266,521	Oct. 24	1580	449	22	1428
Rasmusen, Charles W., Chicago, Ill. Traction-railway apparatus	266,645	Oct. 31	1724	{497 498 499	22	1460
Rassieur, Leo. (See Mayer, Charles G., assignor.) (Reissue.)						
Rathbone, Clarence. (See Hamlin, Charles A., assignor.)						
Rathbone, Ransom, Brooklyn, N. Y. Lithographic-printing machine	268,043	Nov. 28	1358	380	22	1803
Rauch, Cyrus G. (See Keller, Isaac B., assignor.)						
Rauch, John P., *et al.* (See Pentz, Levi, assignor.)						
Raudenbush, Jesse B., Scranton, Pa. Spring bed-bottom	264,753	Sept. 19	1258	357	22	1017
Raughtigan, Michael, and A. A. Clark, Norwich, Conn. Dish-draining rack	265,635	Oct. 10	506	137	22	1227
Rawl, David, Batesburg, S. C. Cotton-picker	266,884	Oct. 31	1908	576	22	1511
Rawson, Charles B., Worcester, Mass. Jointed curtain-pole for bay-windows	269,462	Dec. 19	1325	384	22	2146
Rawson, Samuel B., and W. P. Hatch, Elyria, Ohio. Sad-iron	265,281	Oct. 3	64	19	22	1147
Ray, Ashbel. (See Ray, James S. and A.)						
Ray, James S. and A., East Haddam, Conn. Handle for knives, forks, and analogous articles	269,103	Dec. 12	869	255	22	2055

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Ray, James S. and A., East Haddam, Conn. Knife	269,109	Dec. 12	870	255	22	2055
Ray, John S., assignor of one-half to C. A. Lauman, Indianapolis, Ind. Corn-planter	264,844	Sept. 19	1367	387	22	1035
Ray, Robert W., Monticello, Mo. Revolving hay-rake	267,017	Nov. 7	72	22	22	1559
Raymond, F. F., 2d. (See Jones, Josiah N., assignor.)						
Raymond, James I., *et al.* (See Plympton, Nathaniel, assignor.)						
Raymond, John W., Lowville, Pa. Log chain or sling	261,629	July 25	1606	450	22	288
Raymond, Joseph R., *et al.* (See Earle, Henry E., assignor.)						
Raymond, Silas H., South Bend, Ind. Nut-lock for carriage-top props	261,482	July 18	1412	395	22	249
Raymond, Silas H., South Bend, Ind. Combined fastening and nut-lock for vehicle-tops	266,199	Oct. 17	1189	335	22	1350
Raymond, Silas H., assignor to C. H. Southwick, Grand Rapids, Mich. Machine for upsetting tires	266,313	Oct. 24	1342	378	22	1383
Raymond, Thomas I., *et al.* (See Earle, Henry E., assignor.)						
Raymond, William T., *et al.* (See Earle, Henry E., assignor.)						
Rayner, Cyrus T., and R. Stenhouse, New Orleans, La. Automatic cut-off for bone-black kilns	264,337	Sept. 12	792	223	22	922
Raynor, John B., and D. N. Smith, Mazomanie, Wis. Tea-kettle spout	267,370	Nov. 14	535	152	22	1639
Raypholtz, Isaac. (See Eltzroth and Raypholtz.)						
Reach, Robert, Washington, D. C. Joint-wiper	267,800	Nov. 21	1062	297	22	1742
Reach, Robert, Washington, D. C. Blast-lamp	269,110	Dec. 12	870	256	22	2055
Read, Calvin D. (See Stevens and Read.)						
Read, Ellis D., Worcester, Mass. Twine-cutter	262,187	Aug. 1	465	129	22	413
Read, Gleason & Read. (See Read, Henry F., assignor.)						
Read, Henry F., assignor to Read, Gleason & Read, Brooklyn, N. Y. Vise	266,522	Oct. 24	1582	450	22	1429
Read, Henry F., assignor to Read, Gleason & Read, Brooklyn, N. Y. Vise	266,523	Oct. 24	1584	{450 451	22	1429
Read, Henry F., assignor to Read, Gleason & Read, Brooklyn, N. Y. Vise	269,709	Dec. 26	1636	470	22	2212
Read, Henry F., assignor to Read, Gleason & Read, Brooklyn, N. Y. Ball-and-socket joint	269,708	Dec. 26	1635	469	22	2212
Read, Luther, Henderson, assignor of one-half to L. S. Crandall, New York, N. Y. Millstone-driver	233,724	Sept. 5	68	20	22	786
Read, Rufus S., Philadelphia, Pa. Ventilator	265,636	Oct. 10	506	138	22	1227
Reading Iron Works. (See Wolfe, Edward W., assignor.)						
Reading Iron Works. (See Wolfe and Schuhmann, assignors.)						
Reahr, Bernhard, assignor of one-half to G. N. Pierce, Buffalo, N. Y. Ice-cream freezer	269,710	Dec. 26	1638	471	22	2212
Rearden, William H., Washington, D. C. Writer's cabinet	262,312	Aug. 8	617	173	22	446
Reardon, Patrick W., San José, Cal. Dry-ore separator	263,808	Sept. 5	177	51	22	803
Reaser, Warren T., Madison, Wis. Balanced slide-valve	263,809	Sept. 5	179	51, 52	22	804
Recht, Leaney, Platte City, Mo. Car-coupling	266,720	Oct. 31	1819	528	22	1478
Reckendorfer, Joseph. (See Abbott and Parsons, assignors.)						
Reckendorfer, Joseph. (See Boman, Claes W., assignor.)						
Reckendorfer, Joseph. (See Hoffman, Joseph, assignor.)						
Reckendorfer, Joseph. (See Kraus, Samuel, assignor.)						
Reckendorfer, Joseph. (See Uhlig, Richard W., assignor.)						
Reckendorfer, Joseph, New York, N. Y. Lead-pencil	264,564	Sept. 19	1043	296	22	977
Recker, John P. (See Haase and Recker.)						
Recker, John P. (See Moore, Van Wie, and Recker.)						
Record, George J. (See Stark, Michael J., assignor.)						
Record, George J., Conneaut, Ohio. Sap-spout	265,146	Sept. 26	1739	485	22	1107
Redeker, Frederick W., Espy, Pa. Invalid reclining-chair	264,754	Sept. 19	1259	357	22	1017
Redett, William, Fredericksburg, Ohio. Sewing-machine	262,245	Aug. 8	535	{150 151	22	431
Redier, Joseph A. J., Paris, France. Repeating-clock	260,787	July 11	570	154	22	101
Redman, Selden D. (See Scofield, Edward S., assignor.)						
Redmond, Charles C., San José, Cal. Apparatus for regulating or equalizing the pressure in dispensing malt liquors	263,216	Aug. 22	1722	488	22	650
Redmond, Charles C., assignor to M. Campbell, San José, Cal. Pump-valve	264,338	Sept. 12	793	223	22	922
Reece, Joseph A., Springfield, Mass. Beam-calipers	264,339	Sept. 12	794	223	22	922
Reece, William H., Springfield, Mo. Oiler	264,340	Sept. 12	795	224	22	922
Reed, Alfred A., Boston, Mass. Box for packing cartridge-shells	262,313	Aug. 8	617	173	22	446
Reed, Calvin T., Bloomington, Ill. Sulky attachment for plows	263,217	Aug. 22	1723	488	22	650
Reed, Charles O., Chicago, Ill. Gusset for wearing-apparel	269,403	Dec. 19	1326	384	22	2146
Reed, Daniel M., Ancona, Ill. Windmill	266,051	Oct. 17	1007	285	22	1320
Reed, George, Jr., Fremont, Ohio. Hedge-trimmer	260,606	July 4	324	88	22	55
Reed, George F. (See O'Neil, John, assignor.)						
Reed, Jacob R., *et al.* (See Gray, Josiah, assignor.)						
Reed, James, Cochran, Ind. Railway-frog	264,755	Sept. 19	1261	358	22	1017
Reed, James, Altoona, Pa. Frog	269,711	Dec. 26	1641	471	22	2213
Reed, Jerome B., Sunbury, Pa. Roaster and baker	268,532	Dec. 5	175	50	22	1920
Reed, John L., Canajoharie, N. Y. Gate-latch	268,533	Dec. 5	176	50	22	1920
Reed, L. J., *et al.* (See Durnell, Milton, assignor.)						
Reed, Milo J., and S. Shilliam, Waterloo, Iowa. Sulky	263,810	Sept. 5	180	52	22	804
Reed Toy Company. (See Reed and Parker, assignors.)						
Reed, Wellington M. (See Kneen and Reed.)						
Reed, William S., Scalp Level, Pa. Dumping-wagon	269,539	Dec. 26	1429	412	22	2171
Reed, William S., and H. N. Parker, assignors to W. S. Reed Toy Company, Leominster, Mass. Toy spring-gun	262,951	Aug. 22	1446	408	22	608
Reeder, William S., St. Louis, Mo. Cotton-gin	261,042	July 11	889	246	22	153
Reedy, Henry J., Cincinnati, Ohio. Hoisting-machine	263,218	Aug. 22	1723	489	22	660
Reedy, Thomas C., *et al.* (See Blackley, Nicholson, and Holloman, assignors.)						
Rees, James, Pittsburg, Pa. Iron ship	267,371	Nov. 14	536	152	22	1640
Reese, Abram, Pittsburg, Pa. Car-stove	269,324	Dec. 19	1143	335	22	2112
Reese, Abram, Pittsburg, Pa. Car-stove	269,325	Dec. 19	1145	335	22	2112
Reese, Evan L., Alameda County, Cal. Lubricating-cup for steam-engines	266,885	Oct. 31	1099	577	22	1511
Reese, Evan L., Alameda County, Cal. Lubricating oil-cup	266,886	Oct. 31	2900	577	22	1511
Reese, Henry, Baltimore, Md. Treadle	262,246	Aug. 8	537	151	22	432
Reese, Jacob, Pittsburg, Pa. Manufacture of pulleys	265,441	Oct. 3	245	74	22	1180
Reese, Jacob, Pittsburg, Pa. Machinery for rolling metal	267,018	Nov. 7	72	22	22	1552
Reese, Jacob, Pittsburg, Pa. Manufacture of ingot iron and steel	267,717	Nov. 21	963	{271 272	22	1725
Reese, Jacob, Pittsburg, Pa. Rolling-mill	268,825	Dec. 12	517	{154 155	22	1992
Reese, Jacob, Pittsburg, Pa. Device for equalizing the temperature of and preparing ingots for blooming	269,233	Dec. 19	1026	{299 300	22	2090
Reese, Jacob, Pittsburg, Pa. Wire-rolling mill	269,464	Dec. 19	1327	384	22	2146
Reese, Jacob, Pittsburg, Pa. Converting cast-iron into ingot-iron and ingot-steel	269,465	Dec. 19	1329	.....	22	2146

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Reese, Olin B. (See Field and Reese.)						
Reesman, James, Agency, Iowa. Churn	265,442	Oct. 3	246	74	22	1180
Reeves, Albert S., assignor of two-thirds to F. Lee, Port Elizabeth, and B. F. Lee, Trenton, N. J. Car-coupling	265,935	Oct. 10	856	245	22	1287
Reeves, Alfred B., assignor to Reeves & Co. and J. L Irwin, Columbus, Ind. Truck	267,801	Nov. 21	1063	297	22	1742
Reeves & Co., *et al.* (See Reeves, Alfred B., assignor.)						
Reeves & Co. (See Reeves, Marshal T., assignor.)						
Reeves, Marshal T., assignor of one-sixth to J. I. Irwin, Columbus, Ind. Straw-stacker. (Reissue)	10,208	Sept. 26	1861	523	22	1128
Reeves, Marshal T., assignor to Reeves & Co., Columbus, Ind. Connecting-rod for automatic gates	268,282	Nov. 28	1646	457	22	1856
Reeves, Samuel H., South Orange, N. J. Spring bed-bottom. (Reissue)	10,179	Aug. 8	898	254	22	495
Reeves, Samuel H., New York, N. Y. Bed-bottom	266,200	Oct. 17	1190	336	22	1351
Register, Henry C., Philadelphia, Pa. Device for laying and holding underground electric wires	265,147	Sept. 26	1740	486	22	1107
Rehfuss, George, J. G. and M. O., Philadelphia, Pa. Dental plugger	264,756	Sept. 19	1261	358	22	1017
Rehfuss, J. George. (See Rehfuss, George, J. G. and M. O.)						
Rehfuss, Martin O. (See Rehfuss, George, J. G. and M. O.)						
Rehkopf, Fredrick A., and C. F. Rosenberg, Chicago, Ill. Wagon-scale	262,617	Aug. 15	989	278	22	516
Reicard, Francis A., Brooklyn, N. Y. Hat-holder	268,937	Dec. 12	653	191	22	2017
Reichard, Johann G. E., Zwenkau, near Leipsic, Germany. Dust-collector for flour-mills	265,868	Oct. 10	779	220	22	1275
Reichardt, Henry C., Pottsville, Pa. Expansion-bit for well and rock boring	261,565	July 25	1531	429	22	274
Reichenbach, Oscar, assignor to R. C. Jenkinson, Newark, N. J. Staple and lock for bag-frames	266,201	Oct. 17	1191	336	22	1351
Reichert, Fredrick, Macon, Ga. Mosquito-net frame	268,283	Nov. 28	1646	457	22	1856
Reichwein, Fredrick, New York, N. Y. Hot-dinner pail	268,534	Dec. 5	177	50	22	1920
Reid, Alban H., Philadelphia, Pa. Bit-stock	268,938	Dec. 12	654	192	22	2017
Reid, Alexander. (See Musgrave, James, assignor.)						
Reid, John M., Allegheny, Pa. Railway	265,538	Oct. 3	385	105	22	1201
Reid, Walter F., Stowmarket, county of Suffolk, and D. Johnson, Chester, county of Chester, England. Hardening explosive granulated powders containing nitro-cellulose, &c.	267,108	Nov. 7	190	.....	22	1574
Reif, George, *et al.* (See Hogan, Hugh F., assignor.)						
Reiff, William H., Philadelphia, Pa., assignor to T. R. Boone, Rochester, N. Y. Spelling-puzzle	263,580	Aug. 29	2219	634	22	749
Reilly, James, Sherbrooke, Quebec, Canada. Portable house	267,109	Nov. 7	190	55	22	1574
Reiman, Robert, Egg Harbor City, N. J. Automatic siphon	265,443	Oct. 3	247	75	22	1180
Reimann, George, Quincy, Ill. Globe-valve	269,111	Dec. 12	871	256	22	2055
Reimers, Fredrick, Ottumwa, Iowa. Manufacture of artificial stone and marble	268,535	Dec. 5	179	.....	22	1920
Reinhart, Caleb S. (See Marshall and Reinhart.)						
Reinhart, Florian, and T. R. McDonald, Toledo, Ohio. Circular sawing machine	263,957	Sept. 5	356	100	22	836
Reiniger, G. Albert, and C. Petri, Stuttgart, Würtemberg, Germany. Tobacco-cutting machine	261,763	July 25	1765	496 / 497	22	315
Reinshagen, Peter W., Cincinnati, Ohio. Turret-lathe	261,383	July 18	1305	365	22	230
Reisert, Hans, Cologne, Prussia, Germany. Apparatus for lubricating bearings	261,256	July 18	1147	320	22	205
Reisert, Hans, Cologne, Germany. Lubricator	268,728	Dec. 5	388	113	22	1961
Reissig, Wilhelm, Darmstadt, assignor to G. Schmidt, Bockenheim, near Frankfort-on-the-Main, Germany. Vital-heat alarm	265,866	Oct. 10	778	220	22	1274
Reissig, Wilhelm, Darmstadt, assignor to G. Schmidt, Bockenheim, near Frankfort-on-the-Main, Germany. Printing-ink	265,867	Oct. 10	779	.....	22	1274
Reiter, Frank, Warrensburg, Ill. Windmill	266,524	Oct. 24	1586	451	22	1429
Reixach, José. (See Lister and Reixach.)						
Relyea, Henry J., assignor to H. C. Fox, Richmond, Ind. Wind-engine	262,117	Aug. 1	370	105	22	397
Relyea, Henry J., assignor of one-half to W. H. Stanley, Richmond, Ind. Wind-engine	264,757	Sept. 19	1263	358	22	1018
Remer, Samuel W., Bridgeport, Conn., assignor to Child & Oliver, New York, N. Y. Stock-car	263,219	Aug. 22	1724	489	22	660
Remer, Samuel W., Bridgeport, Conn., assignor to Child & Oliver, New York, N. Y. Stock-car	266,392	Oct. 24	1446	410	22	1404
Remington Agricultural Company. (See Howe, Benjamin J. C., assignor.)						
Renchard, John J., Detroit, Mich. Lubricator	264,476	Sept. 19	959	270	22	960
Renchard, John J., Detroit, Mich. Lubricator	264,477	Sept. 19	960	270	22	960
Rengert, Adolph, assignor to L. C. A. and C. E. Motard, Berlin, Germany. Apparatus for manufacturing candles	262,831	Aug. 15	1255	353	22	563
Renk, Joseph E., assignor of one-half to R. Parr, Albany, N. Y. Canal-lock gate	269,712	Dec. 26	1642	472	22	2213
Rennie, John A., assignor of one-half to J. A. McGregor, Montreal, Quebec, Canada. Suspenders	260,607	July 4	325	88	22	55
Reno, Peter A., assignor of one-half to Michigan Stove Company, Detroit, Mich. Riveting-machine	269,540	Dec. 26	1430	413	22	2171
Reno, Thomas, *et al.* (See Taylor, Harrison H., assignor.)						
Reno, Thomas, Detroit, Mich. Bench-vise	267,986	Nov. 21	1279	359	22	1783
Reno, Thomas, assignor, by mesne assignments, of one-half to Detroit Tool Company, Detroit, Mich. Clamp	266,887	Oct. 31	2001	577	22	1511
Renshaw, David. (See Litchfield, Harvey T., assignor.)						
Renshaw, David. (See Litchfield and Renshaw.)						
Renwick, Edward S., Millburn, N. J. Manufacturing starch	263,958	Sept. 5	357	100	22	836
Replogle, Jacob M., Farragut, Iowa. Grinding-mill	263,220	Aug. 22	1726	489	22	660
Repp, Ephraim B., New Windsor, Md., assignor to Anglo-American Roofing Company, New York, N. Y. Metallic roofing-shingle	262,475	Aug. 8	801	226 / 227	22	478
Requa, Elias B., Jersey City, N. J. Gas and lamp burner	263,581	Aug. 29	2220	635	22	749
Requa, Elias B., Jersey City, N. J. Gas-burner	266,888	Oct. 31	2001	577	22	1512
Requa, Elias B., Jersey City, N. J. Gas-burner	266,889	Oct. 31	2003	578	22	1512
Requa, Elias B., Jersey City, N. J. Gas-burner	266,890	Oct. 31	2005	578	22	1512
Requa, Leonard F. (See Thomas, Joseph D., assignor.)						
Retallack, Joseph, Central City, assignor of two-thirds to O. S. Underhill, South Pueblo, Colo. Combined miner's candle-holder and fuse-cutter	267,110	Nov. 7	193	56	22	1574
Retnour, Oliver P., assignor to T. H. Groves, Rochester, N. Y. Box clamp or fastening	260,608	July 4	326	89	22	56
Reum, H. F., *et al.* (See Roeder, Frederick A., assignor.)						
Reuther, Carl, Hennef, Prussia, Germany. Grain-meter	261,257	July 18	1148	321	22	205
Revenaugh, Aurelius O., Jackson, Mich. Bit and countersink	267,590	Nov. 14	806	231	22	1689
Revoir, Battese, and J. L. Thomson, Syracuse, N. Y. Thill-coupling	262,314	Aug. 8	618	173	22	446
Rew, Henry C., Chicago, Ill. Construction and decoration of buildings	263,354	Aug. 29	1945	557	22	699
Rew, Henry C., Chicago, Ill. Railway and depot	263,959	Sept. 5	359	100 / 101	22	836
Rex, Benjamin F. (See Rex, Hugh B., assignor.)						
Rex, Hugh B., assignor to B. F. Rex, St. Louis, Mo. Saw	268,433	Dec. 5	75	23	22	1901

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Rey, William, *et al.* (See Josia, Raphael, assignor.)						
Reynolds & Co. (See Reynolds and English, assignors.)						
Reynolds, Alfred, Brooklyn, assignor to Stirn & Lyon, New York, N. Y. Toy shooting apparatus	264,416	Sept. 12	878	247	22	938
Reynolds, De Elbert A., assignor to S. E. Reynolds, Lyons, Mich. Churn	262,118	Aug. 1	371	105	22	397
Reynolds, De Elbert A., Lyons, Mich. Car-coupling	263,221	Aug. 22	1727	489	22	660
Reynolds, Edwin, Milwaukee, Wis. Valve-gear for compound engines	262,476	Aug. 8	802	227	22	479
Reynolds, Edwin, Milwaukee, Wis. Furnace	263,582	Aug. 29	2221	635	22	749
Reynolds, George D., *et al.* (See Horning, Robert A., assignor.)						
Reynolds, George H., assignor of two-thirds to C. H. Delamater and G. H. Robinson, New York, N. Y. Air compressing or pumping engine	262,119	Aug. 1	372	105 / 106	22	397
Reynolds, George L., Oakland, Cal. Window-screen	263,125	Nov. 28	1449	405	22	1820
Reynolds, Henry, and J. English, assignors to Reynolds & Co., New Haven, Conn. Metal-screw machine	266,891	Oct. 31	2007	578 / 579	22	1512
Reynolds, Henry S., Brooklyn, N. Y. Metallic roofing-shingle	263,583	Aug. 29	2223	636	22	749
Reynolds, John L., *et al.* (See Horning, Robert A., assignor.)						
Reynolds, Samuel D., Rochelle, Ill. Road-wagon	269,112	Dec. 12	872	256 / 257	22	2055
Reynolds, Samuel F., Auburn, N. Y. Furnace for heating metal bars	262,477	Aug. 8	803	227	22	479
Reynolds, Sernah E. (See Reynolds, De Elbert A., assignor.)						
Reynolds, Stephen H. (See Hood and Reynolds.)						
Reynolds, W. A. (See Starbuck, Henry F., assignor.)						
Reynolds, Walter J., Providence, R. I. Treating short animal-hair	264,103	Sept. 12	540	.....	22	876
Reynolds, William. (See Franklin, Edward, assignor.)						
Reynolds, William J., Columbia, S. C. Insect-trap	263,222	Aug. 22	1728	490	22	661
Reynolds, William W., assignor to Howe Scale Company, Rutland, Vt. Grocer's scales	260,415	July 4	89	25	22	16
Reynolds, William W., assignor to Howe Scale Company, Rutland, Vt. Scale	269,113	Dec. 12	873	257	22	2056
Rheutan, Garrie H., Hartford, Conn. Steam-boiler	269,114	Dec. 12	875	257	22	2056
Rheutan, Garrie H., assignor to H. B. Beach & Son, Hartford, Conn. Tubular steam-boiler	262,247	Aug. 8	538	152	22	432
Rhoades, James W., Metz, Ind. Washing-machine	263,355	Aug. 29	1947	557	22	699
Rhodes, Charles M. (See Wallace, William M., assignor.)						
Rhodes, Charles M., Lynn, Mass. Car-coupling	262,315	Aug. 8	619	174	22	446
Rhodes, Thomas H., Brooklyn, assignor to himself and Smith & Rhodes Electric Company, (limited,) New York, N. Y. Electric gas-lighter	261,043	July 11	890	246	22	154
Rice, Albert L., Wheeling, W. Va. Dress-trimming	266,525	Oct. 24	1587	451	22	1430
Rice, George, Goderich, Ontario, Canada. Salt-drier	263,584	Aug. 29	2224	636	22	749
Rice, John S., Boston, Mass. Sheet-metal can	269,814	Dec. 26	1782	512	22	2238
Rice, Tallmadge M., assignor to Whiteley, Fassler & Kelly, Springfield, Ohio. Automatic grain-binder	267,934	Nov. 21	1210	340 / 341	22	1771
Rice, Tallmadge M., assignor to Whiteley, Fassler & Kelly, Springfield, Ohio. Automatic grain-binder	267,935	Nov. 21	1214	341 / 342	22	1772
Rice, Tallmadge M., assignor to Whiteley, Fassler & Kelly, Springfield, Ohio. Automatic grain-binder	267,936	Nov. 21	1216	342 / 343	22	1772
Rice, Thomas C., assignor of one-half to S. Fletcher, Worcester, Mass. Carriage-wrench	265,704	Oct. 10	595	166	22	1242
Rich, Augustus E., Fall River, Mass. Bottle-stopper	262,904	Aug. 15	1348	381	22	581
Rich, Augustus E., Fall River, Mass. Bottle-filling machine	265,703	Oct. 10	594	166	22	1242
Rich, Cyrus F., Saratoga Springs, N. Y. Dental plugger	263,960	Sept. 5	360	101	22	837
Rich, Edward M., Bristol, Pa. Toy	263,961	Sept. 5	361	102	22	837
Rich, George N. (See Barton and Rich.)						
Rich, George W., Portland, Me. Fire-ladder	261,874	Aug. 1	58	17	22	345
Rich, Lester M., Cedar Rapids, Iowa. Pump-bucket	265,860	Oct. 10	780	220	22	1275
Richards, Charles, Cleveland, Ohio. Monkey-wrench	260,609	July 4	327	89	22	56
Richards, Charles R. (See Orcutt and Richards.)						
Richards, Francis H., Springfield, Mass. Combination-tool	264,341	Sept. 12	795	224	22	922
Richards, Francis H., Springfield, Mass. Apparatus for communicating power to and controlling the motion of mechanism	269,713	Dec. 26	1643	472	22	2213
Richards, Henry E., Ottawa, Ill. Door-hanger	262,120	Aug. 1	375	106	22	398
Richards, Jackson, assignor to himself and T. Shaw, Philadelphia, Pa. Lock-catch for railway-switch levers	264,417	Sept. 12	879	247	22	938
Richards, John, San Francisco, Cal. Metal-drilling machine	261,044	July 11	891	247	22	154
Richards, Levi. (See Hancock and Richards.)						
Richards, Philip, Wilkes-Barré, Pa. Fire-grate	269,115	Dec. 12	875	257	22	2056
Richards, Ransom, *et al.* (See Jones, Richard B., assignor.)						
Richards, Samuel A., and G. J. Frey, Nova, Ohio, assignors to said Frey. Thill-coupling	265,437	Oct. 3	241	73	22	1179
Richards, Thomas C., Winsted, Conn. Picture-nail. (Reissue)	10,203	Sept. 19	1374	388	22	1036
Richards, Walter W., Philadelphia, Pa. Signal attachment to locomotive head-lights	260,895	July 11	894	188	22	122
Richards, William G., Chicopee, Mass. Speed-indicator	264,900	Sept. 26	1445	408	22	1055
Richardson, Charles A. (See Richardson, William D. and C. A.)						
Richardson, F. W. (See Street, George S., assignor.)						
Richardson, Fred W., Troy, N. Y. Balanced slide-valve	266,721	Oct. 31	1821	528	22	1478
Richardson, George, Bridgeport, Conn. Device for tapping mains	266,052	Oct. 17	1008	286	22	1320
Richardson, George F., assignor of one-half to Utica Furniture Company, (limited,) Utica, N. Y. Furniture	264,758	Sept. 19	1264	358	22	1018
Richardson, George F., assignor of one-half to Utica Furniture Company, (limited,) Utica, N. Y. Bedstead	264,759	Sept. 19	1265	359	22	1018
Richardson, George F., assignor of one-half to Utica Furniture Company, (limited,) Utica, N. Y. Bedstead	264,760	Sept. 19	1266	359	22	1018
Richardson, George F., assignor of one-half to Utica Furniture Company, (limited,) Utica, N. Y. Bedstead	264,761	Sept. 19	1267	359	22	1018
Richardson, George W., *et al.* (See Bollmann, Louis, assignor.)						
Richardson, Henry M., assignor of one-half to G. McKee, Boston, Mass. Reversible handle for children's carriages	265,438	Oct. 3	242	73	22	1179
Richardson, James C., Boscobel, Wis. Device for sealing and unsealing freight-cars and the like	262,316	Aug. 8	620	174	22	446
Richardson, James C., Boscobel, Wis. Mechanical movement	262,478	Aug. 8	804	228	22	479
Richardson, James C., Boscobel, Wis. Yarn-scouring machine	262,832	Aug. 15	1257	354	22	564
Richardson, James C., Boscobel, Wis. Labeling-machine	266,314	Oct. 24	1343	378 / 379	22	1384
Richardson, James C., Boscobel, Wis. Can-labeling machine	266,315	Oct. 24	1344	379 / 380 / 381	22	1384
Richardson, Jeremiah J., Brooklyn, N. Y. Heating-furnace	264,565	Sept. 19	1044	297	22	977
Richardson, Jeremiah J., Brooklyn, N. Y. Cooking-range	267,501	Nov. 14	807	231	22	1689
Richardson, John D., and F. L. Manchester, New York, N. Y. Dress-form	266,892	Oct. 31	2012	579	22	1513

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Richardson, John D., Brooklyn, assignor of one-half to F. L. Manchester, New York, N. Y. Tool-stock	268,284	Nov. 28	1647	457	22	1856
Richardson, John P., Cambridge, Mass. Valve for reed-organs	261,483	July 18	1413	396	22	249
Richardson, John R., Pittsburg, Pa. Pulverizing-mill	261,955	Aug. 1	161	47	22	363
Richardson, John T., Palestine, Tex. Device for converting reciprocating into rotary motion	261,384	July 18	1306	365	22	231
Richardson, Julius C., Columbus, Ohio. Machine for making hoes	267,372	Nov. 14	537	153	22	1640
Richardson, Julius C., Ilion, N. Y. Device for tempering hoes and other thin steel articles	267,457	Nov. 14	636	184	22	1658
Richardson, Lloyd D., J. R. Trimmer, and E. E. Loomis, Chicago, Ill. Weighing and transfer car	264,762	Sept. 19	1267	359 360	22	1019
Richardson, Lloyd D., J. R. Trimmer, and E. E. Loomis, Chicago, Ill. Grain-transfer car	269,541	Dec. 26	1431	413	22	2171
Richardson, Theodore M., Stockton, Me., assignor of three-fourths to J. M. Russell, Boston, Mass. Thill-coupling	267,937	Nov. 21	1220	343	22	1773
Richardson, Thomas L., Indianapolis, Ind. Sulky-plow	264,763	Sept. 19	1270	360	22	1019
Richardson, William D. and C. A., Taunton, Mass. Blacking-box holder	264,566	Sept. 19	1045	297	22	977
Richey, Hiram. (See Williams and Richey.)						
Richmond, Baysrd, *et al.* (See Brinckerhoff, Cornelius R., assignor.)						
Richmond, George. (See Wood and Richmond.)						
Richmond, James H., *et al.* (See Brinckerhoff, Cornelius R., assignor.)						
Richmond, Louis L., Meadville, Pa. Lock for baby-carriages	263,962	Sept. 5	362	102	22	837
Richmond, W. A. (See Hauseman, Peter, assignor.)						
Richmond, Will U., Grand Rapids, Mich. Grain-separator	267,254	Nov. 7	368	107	22	1606
Richmond, William, Brodhead, Wis. Windmill	263,585	Aug. 29	2226	636	22	750
Richter, Charles, St. Paul, Minn. Light-leather-coloring compound	260,416	July 4	90	.....	22	17
Richter, Charles, St. Paul, Minn. Preparing a solution for dyeing or staining leather	260,417	July 4	90	.....	22	17
Richter, Charles, St. Paul, Minn. Tawing and coloring hides and skins	260,418	July 4	90	.....	22	17
Richter, Charles O., Hamilton, Ohio. Hoe	263,430	Aug. 29	2045	586	22	716
Richter, Joseph, Cincinnati, Ohio. Valve-cock	263,223	Aug. 22	1728	490	22	661
Richter, Joseph, Cincinnati, Ohio. Globe-valve	263,224	Aug. 22	1730	490	22	661
Richter, Joseph, Cincinnati, Ohio. High and low steam and water alarm	265,870	Oct. 10	781	221	22	1275
Richter, Moritz, Norwich, Conn. Adjustable bolster-head for bedsteads	262,121	Aug. 1	376	106	22	398
Richter, Rndolph. (See Eberley and Richter.)						
Rickards, William, Franklin, Pa. Music and reading stand and book-support	267,592	Nov. 14	808	231	22	1689
Ricker, Reuben H., assignor of one-half to G. G. Frost, Boston, Mass. Mechanical toy	265,341	Oct. 3	139	41	22	1160
Ricker, Sumner J. (See Tiffany, Benjamin M. and F. M., assignors.)						
Rickey, Rufus S., *et al.* (See Green, Robert D., assignor.)						
Riddle, Charles M., Clintonville, Pa. Land-roller	265,539	Oct. 3	386	106	22	1201
Ridenour, Cyrus J., assignor to himself and E. J. Williams, Springfield, Ohio. Fire-kindler mold	263,725	Sept. 5	69	21	22	786
Rider, Alexander K., Walden, N. Y. Electrical igniting device for gas-engines	267,458	Nov. 14	637	184	22	1658
Rider, Charles S., Canton, Ohio. Machine for reducing grain to flour and middlings	268,729	Dec. 5	389	114	22	1901
Rider, Ebenezer W., Racine, Wis. Pillow-sham holder and lifter	260,710	July 4	468	127	22	79
Rider, George A., Philadelphia, Pa. Sewing-machine table	266,526	Oct. 24	1588	451	22	1430
Ridge, Joseph, Chicago, Ill. Hand-rest for penmen	266,316	Oct. 24	1348	381	22	1385
Ridont, Moses T., Lakeside, Minn. Railway-car	260,788	July 11	571	155	22	101
Riebling, Ernst, Bernikow, near Königsberg, in the Neumark, Prussia, Germany. Skate	267,111	Nov. 7	193	56	22	1574
Riese, Emil, Jersey City, N. J. Vacuum-pan	268,196	Nov. 28	1451	405 406	22	1820
Riesner, Christopher, New York, N. Y. Liquid-measure	262,317	Aug. 8	621	175	22	447
Rieth, Peter, Chicago, Ill. Stove attachment	260,419	July 4	91	25	22	17
Rigby, Elmer C., Dundee, Ill. Butter-worker	268,536	Dec. 5	180	51	22	1920
Rigg, James, Chester, county of Chester, England. Elevator	262,692	Aug. 15	1082	304 305 306	22	533
Riggan, Jonathan H., assignor to Kearney & Company, Raleigh, N. C. Plow	268,295	Nov. 28	1649	457 458	22	1856
Riker, Francis D., Brooklyn, N. Y. Apparatus for melting snow	261,484	July 18	1416	396	22	249
Riley, Alberta, Boston, Mass. Picture-hook	267,459	Nov. 14	640	184	22	1659
Riley, James. (See Corttiss, George H. N., assignor.)						
Riley, William J., Kansas City, Mo. Car-coupling tool	263,726	Sept. 5	70	21	22	787
Riley, Wilson, Keighley, S. C. Taylor, Morton, and W. Leggott, Bradford, county of York, England; said Riley and Taylor assignors to said Leggott. Window-sash mechanism	268,286	Nov. 28	1650	458	22	1856
Rinehart, William D., assignor of two-thirds to Link Belt Machinery Company, Chicago, Ill. Elevator-bucket	262,122	Aug. 1	376	106	22	398
Rinehart, William D., assignor to Link Belt Machinery Company, Chicago, Ill. Elevator-bucket	262,123	Aug. 1	377	107	22	398
Rinker, Joseph L., High Point, Mo. Adjustable can-swing	261,956	Aug. 1	163	48	22	363
Ring, Charles E., South Saginaw, Mich. Log-holder for saw-mills	265,439	Oct. 3	244	73, 74	22	1179
Ring, Frederick A., Maplewood, Mass. Stove-pipe attachment	266,722	Oct. 31	1892	528 529	22	1478
Ring, John, St. Louis, Mo. Gas-pump	267,653	Nov. 14	879	251	22	1702
Rings, Julius, New York, N. Y. Ring for curtain-poles	267,938	Nov. 21	1221	343	22	1773
Ripplen, Adolph, assignor to W. M. Griscom, M. and W. Harbster, Reading, Pa. Cover for hoppers of grinding-mills	269,116	Dec. 12	876	258	22	2056
Ripplen, Adolph, assignor to W. M. Griscom, M. and W. Harbster, Reading, Pa Apple-parer	269,117	Dec. 12	877	258	22	2056
Risdon, James A., Ithaca, N. Y., assignor of one-half to S. A. Risdon, Waltham, Mass. Carpet-stretcher	266,893	Oct. 31	2013	580	22	1513
Risdon, Sidney A. (See Risdon, James A., assignor.)						
Risdon, Theodore H., and W. W. Tyler, Mount Holly, N. J. Turbine water-wheel	268,287	Nov. 28	1651	458	22	1856
Rish, Noah M. (See Roberts, George W., assignor.)						
Ritchel, Charles F., and J. Stever, Bridgeport, Conn., assignors to S. S. and G. D. Tallman, New York, N. Y. Toy locomotive	267,939	Nov. 21	1221	344	22	1773
Ritchie, James, assignor to himself and W. H. D. Newth, Detroit, Mich. Locomotive ash-pan	262,318	Aug. 8	622	175	22	447
Ritchie, Matthew L., assignor to J. B. Kitching, New York, N. Y. Water grate-bar	265,871	Oct. 10	783	221	22	1275
Riter, John L. (See Rude, Swope, and Riter.)						
Riter, John L., Brownsville, Ind. Seeding device	264,478	Sept. 19	961	270	22	960
Riter, John L., Brownsville, Ind. Conveyer for baling-machines	266,317	Oct. 24	1349	381	22	1385
Rittenhouse, Charles M. (See Jones and Rittenhouse.)						
Rittenhouse, Frank, Providence, R. I. Velocipede	266,527	Oct. 24	1589	452	22	1430
Rittenhouse, Nicholas M., Baltimore, Md. Carriage for laying multiple-wire telegraph-cables in pipes	263,586	Aug. 29	2227	636	22	750
Ritter, Francis, Blairstown, Iowa. Car-coupling	263,587	Aug. 29	2227	637	22	750

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Ritter, William H. (See Fitch, Frederick K., assignor.)						
Ritz, Eduard, and A. Gärtner, Jersey City, N. J. Shutter-fastener	262,319	Aug. 8	623	175	22	447
Ritzdorf, Peter J., St. Louis, Mo. Pump-bucket	260,730	July 4	489	133	22	83
Rivard, Maxim J., assignor to himself and C. K. Brandon, Detroit, Mich. End-gate	265,440	Oct. 3	245	74	22	1180
Rix, Alfred, New York, N. Y. Candlestick	267,460	Nov. 14	641	184	22	1659
Rix, Benjamin F., Kalamazoo, Mich. Sulky-harrow	267,718	Nov. 21	966	272	22	1726
Rix, Benjamin F., Kalamazoo, Mich. Harrow	267,719	Nov. 21	967	272	22	1726
Roach, Chester, Minneapolis, Minn. Sheet-metal-bending machine	264,567	Sept. 19	1045	297	22	977
Roach, James, and P. W. Salmons, Terryville, Conn. Lock	262,618	Aug. 15	990	278	22	517
Roach, Jeremiah P. W., assignor of one-half to J. E. Dwight, Concord, N. H. Horse-collar	269,598	Dec. 26	1508	434	22	2187
Roath, George H., Marietta, Pa. Cultivator	267,255	Nov. 7	368	107 108	22	1606
Robards, Lenard W., Newton, Ill. Flax-thrashing machine	262,982	Aug. 22	1447	408	22	608
Robbins, De Garmo, Rochester, N. Y. Ventilator	267,256	Nov. 7	370	108	22	1606
Robbins, Edwin A., Boston, Mass. Pipe-wrench	269,234	Dec. 19	1028	300	22	2090
Robbins, George, Decatur, Ill. Table	262,983	Aug. 22	1448	408	22	608
Robbins, James M., *et al.* (See Morphew and Withrow, assignors.)						
Robburts, George W., assignor of one-half to J. E. Polk, Elmo, Tex. Baling-press	263,431	Aug. 29	2046	586	22	717
Roberts, Charles, Montgomery City, Mo. Fire-escape	269,715	Dec. 26	1646	473	22	2214
Roberts, Cyrus, Three Rivers, and H. D. Brockway, Detroit, Mich. Car-coupling	266,204	Oct. 17	1192	336	22	1351
Roberts, Elias, and W. H. Lotz, Chicago, Ill. Grain-elevator	261,630	July 25	1606	450	22	289
Roberts, George A., and C. Schafer, Three Rivers, Mich. Grain-separator	265,637	Oct. 10	507	138	22	1227
Roberts, George W., assignor of one-half to N. M. Rish, Pattonville, Tex. Cotton chopper and harrow	269,716	Dec. 26	1647	473	22	2214
Roberts, Henry, Johnstown, Pa. Coating metals with zinc	262,124	Aug. 1	378	107	22	398
Roberts, Henry, Johnstown, Pa. Apparatus for coating metals with metal	268,127	Nov. 28	1452	406	22	1821
Roberts, Henry, Pittsburg, Pa. Annealing-pot for wire	268,128	Nov. 28	1454	406	22	1821
Roberts, Henry, Pittsburg, Pa. Wire-wiping apparatus	268,129	Nov. 28	1455	406	22	1821
Roberts, Henry, Pittsburg, Pa. Apparatus for pickling wire	268,130	Nov. 28	1457	407	22	1821
Roberts, Henry, Pittsburg, Pa. Apparatus for feeding wire	268,288	Nov. 28	1653	459	22	1857
Roberts, Henry, Hartford, Conn. Sofa, lounge, seat, &c	268,289	Nov. 28	1655	459	22	1857
Roberts, Henry P., assignor to himself and A. Kibling, Jamestown, N. Y. Shoemakers' jack	268,537	Dec. 5	181	51	22	1920
Roberts, Isaiah L., Jacksonville, Fla., assignor to D. Barnes, Brooklyn, N. Y. Wave-power apparatus	262,693	Aug. 15	1084	307	22	534
Roberts, Isaiah L., Jacksonville, Fla., assignor to D. Barnes, Brooklyn, N. Y. Wave-power apparatus	262,694	Aug. 15	1085	307	22	534
Roberts, James, New York, N. Y., and N. W. Palmer, Boston, Mass. Fire-escape	267,019	Nov. 7	74	22	22	1553
Roberts, John G., Morey, Nev. Combined music-stand and walking-cane	263,667	Aug. 29	2317	662	22	765
Roberts, John W., assignor of two-thirds to J. M. Shackleford and S. F. Roberts, Dallas, Tex. Running-gear for vehicles	266,723	Oct. 31	1824	529	22	1479
Roberts, Joseph, Solebury, Pa. Milk-cooling apparatus	262,320	Aug. 8	624	175 176	22	447
Roberts, Levi H., Paris, Ill. Journal-box	269,714	Dec. 26	1644	472 473	22	2214
Roberts, Marion M., Gossett, Ill. Horse-detacher	262,619	Aug. 15	991	278	22	517
Roberts, Osmore O., Northampton, Mass. Hame and trace attachment	260,896	July 11	695	189	22	122
Roberts, Robert R. (See Coombe and Roberts.)						
Roberts, Sanford F., *et al.* (See Roberts, John W., assignor.)						
Roberts, Thomas B., assignor of two-thirds to D. Hutchison and J. M. Moffat, Pittsburg, Pa. Rotary shuttle for sewing-machines	267,020	Nov. 7	75	23	22	1553
Roberts, William A., Milledgeville, Ky. Cane-mill	263,811	Sept. 5	181	52	22	804
Roberts, William L., Ellenton, S. C. Machine for drawing and edging shingles	268,290	Nov. 28	1655	460	22	1857
Roberts, William S., assignor to S. E. Brainard, Bradford, Pa. Automatic agitator and paraffine cleaner for oil-wells	260,501	July 4	200	56	22	34
Robertshaw, Frederick W. (See McTighe and Robertshaw.)						
Robertshaw, Frederick W., Pittsburg, Pa. Hose-nozzle	261,957	Aug. 1	163	48	22	363
Robertson, Alexander W. (See Jones, Jeremiah C., assignor.)						
Robertson, George W. (See Paltie and Robertson.)						
Robertson, James H., Brooklyn, N. Y. Button-fastener	266,528	Oct. 24	1589	452	22	1430
Robertson, John, Brooklyn, N. Y. Level	268,826	Dec. 12	520	155	22	1992
Robertson, Milton H., *et al.* (See Plympton, Nathaniel, assignor.)						
Robertson, Monroe, *et al.* (See Ash, Joseph, assignor.)						
Robertson, Oliver H., Plainville, and W. S. Warriner, Forestville, Conn. Stanchion	264,104	Sept. 12	540	147	22	877
Robertson, William T., Montgomery, Ala. Flexible self-gaging faucet	266,894	Oct. 31	2013	580	22	1514
Robeson, Frank K., *et al.* (See Fetty, Arnold H., assignor.)						
Robeson, John, *et al.* (See Fetty, Arnold H., assignor.)						
Robins, Thomas and T. B., Elizabeth, N. J. Brake-shoe	263,060	Aug. 22	1542	435	22	625
Robins, Thomas B. (See Robins, Thomas and T. B.)						
Robins, William B., assignor to Alba Light Company, Cincinnati, Ohio. Lamp	269,466	Dec. 19	1331	385	22	2146
Robinson, Benjamin F., New York, N. Y. Merchant's shelf-box	268,939	Dec. 12	655	192	22	2018
Robinson, Charles, Cambridgeport, Mass. Car-reflector	266,203	Oct. 17	1193	336	22	1351
Robinson, Clark, assignor of three-fourths to S. Mitchell, Hornellsville, N. Y. Packing-vessel	264,764	Sept. 19	1272	360	22	1019
Robinson, Francis W., Richmond, Ind. Grain and seed thrasher	267,257	Nov. 7	371	108 109	22	1607
Robinson, George, Sodus, N. Y. Harness	265,148	Sept. 26	1741	486	22	1107
Robinson, George H., *et al.* (See Reynolds, George H., assignor.)						
Robinson, Goldsborough, assignor to Louisville Leaf Tobacco Company, Louisville, Ky. Process of and apparatus for moistening leaf-tobacco	268,291	Nov. 28	1657	461	22	1857
Robinson, Henry, and R. Whitmore, assignors to Whitmore, Robinson & Co., Akron, Ohio. Jug	265,540	Oct. 3	387	106	22	1201
Robinson, Hiram C., De Soto, Ill. Churn-dasher	267,258	Nov. 7	372	109	22	1607
Robinson, Hurd W. (See Robinson, Norman W., assignor.)						
Robinson, Jeremiah A., Jackson, Mich. Dental plate	263,588	Aug. 29	2228	637	22	750
Robinson, Jerry E., Springfield, Mass. Carpet-stretcher	261,631	July 25	1607	451	22	289
Robinson, John, Ottumwa, Iowa. Sulky	266,895	Oct. 31	2014	580	22	1514
Robinson, John H., assignor of one-half to A. Ochs, Fremont, Ohio. Thill-coupling	261,045	July 11	892	247	22	154
Robinson, Merville A. (See Hadden, Theodore, assignor.)						
Robinson, Michael, Washington, D. C. Cart-saddle	263,589	Aug. 29	2229	637	22	750
Robinson, Norman W., assignor to H. W. Robinson, Pullman, Ill. Transfer-table for cars	263,225	Aug. 22	1730	490 491	22	661
Robinson, Randolph O, Glidden, Iowa. Windmill	268,292	Nov. 28	1658	462	22	1858
Robinson, Randolph O., Glidden, Iowa. Corn-planter	268,293	Nov. 28	1660	461	22	1858
Robinson, Stillman W., assignor of one-half to O. E. Lewis, Columbus, Ohio. Sole-fastening for boots or shoes	265,149	Sept. 26	1742	486	22	1107

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Robinson, Thomas, Philadelphia, Pa. Iron railing	264,765	Sept. 19	1273	361	22	1020
Robinson, Thomas C., assignor of five-eighths to E. B. Welch, Cambridge, and L. P. Jenks, Boston, Mass. Making cartridge-cases	260,897	July 11	696	189	22	123
Robinson, William, Boston, Mass. Electro-pneumatic gate and signal-operating apparatus	267,259	Nov. 7	373	109	22	1607
Robinson, William, Chicago, Ill. Treating grape-sugar	269,717	Dec. 26	1648	474	22	2215
Robinson, William W., Ripon, Wis. Ventilator	261,764	July 25	1767	497	22	315
Roche, Emile, Marseilles, France. Gate or valve for reservoirs	267,461	Nov. 14	641	185	22	1630
Roche, James J., Boston, assignor of one-half to W. P. Greenough, Cambridge, Mass. Treating grain for shipment	263,590	Aug. 29	2230	.....	22	750
Rocher, Henry, Chicago, Ill. Device for producing photographic plaques	267,720	Nov. 21	968	272	22	1726
Rochow, Ferdinand, Brooklyn, N. Y. Compound steam-engine	260,610	July 4	328	89	22	56
Rockwell, Lucius A. (See Fowler, Rockwell, and Holmes.)						
Rockwell, Stephen L., Jordan, N. Y. Wheelbarrow	261,046	July 11	892	247	22	154
Rolden, William H., Toronto, Ontario, Canada. Ear for tin cans	260,420	July 4	92	25	22	17
Rodenbeh, Thomas H., Philadelphia, Pa. Feed-roll for planing-machines	269,118	Dec. 12	878	258	22	2057
Rodenhausen, Leonhard, Philadelphia, Pa. Vehicle-spring	268,827	Dec. 12	521	155	22	1993
Röder, C. G. (See Möller, Peter C., assignor.)						
Roderick, Edmund A. (See Gaskins, George H., assignor.)						
Rodger, George. (See Brown, Rodger, and Cordner.)						
Rodgers, Willis H. (See Morris and Rodgers.)						
Rodie, James, Rondout, N. Y. Steam-boiler	261,258	July 18	1151	322	22	205
Rodney, Cæsar A., Wilmington, Del. Composite washer	269,119	Dec. 12	879	259	22	2057
Rodney, John M. C. (See Gillespie, David O., assignor.)						
Rodwell, George J. B., assignor of one-half to W. Dicks, Toronto, Ontario, Canada. Hand-stamp	265,872	Oct. 10	783	221	22	1275
Roe, Frederick A., New York, N. Y. Machinery for manufacturing spring horseshoes	265,705	Oct. 10	596	166, 167, 168	22	1242
Roe, William H., St. Joseph, Mo. Valve for well-buckets	264,342	Sept. 12	796	224	22	923
Roeckner, Carl H., Newcastle-upon-Tyne, county of Northumberland, England. Process of and apparatus for clarifying liquids	266,204	Oct. 17	1194	337	22	1351
Roeder, Frederick A., Cincinnati, Ohio, assignor of one-half to A. Springer. Beam-scale	262,905	Aug. 15	1349	381	22	581
Roeder, Frederick A., Cincinnati, Ohio, assignor of one-half to A. Springer. Platform-scale	262,906	Aug. 15	1350	382	22	581
Roeder, Frederick A., assignor to H. F. Redm, Cincinnati, Ohio, and A. Springer. Torsional pivot-scale bearing	262,907	Aug. 15	1351	382	22	581
Roeder, Joseph, Sr., Brooklyn, N. Y. Show-case for needles	263,591	Aug. 29	2231	637	22	750
Roelofs, Anthony, Philadelphia, Pa. Lamp-holder	261,385	July 18	1307	365	22	231
Rogers & Bros., C. (See Rogers and Donovan, assignors.)						
Rogers, Calvin B. (See Gladding, George S., assignor.)						
Rogers, Charles D., assignor to American Screw Company, Providence, R. I. Screw-nail	264,479	Sept. 19	992	270	22	960
Rogers, Charles W., assignor to Rogers & Turnbull, New York, N. Y. Stock-car	260,421	July 4	93	26	22	17
Rogers, David C., Greenfield, Mass. Miter-planer	264,766	Sept. 19	1274	361	22	1020
Rogers, David W., Plainfield, N. J. Refrigerator	268,538	Dec. 5	181	51	22	1921
Rogers Fence Company. (See Rogers, Timothy, assignor.)						
Rogers, Frank M., *et al.* (See Norton, Ambrose L., assignor.)						
Rogers, Gilbert, and G. L. Donovan, assignors to C. Rogers & Bros., Meriden, Conn. Drawer-pull	263,963	Sept. 5	363	102	22	837
Rogers Iron Fence Company. (See Rogers, Timothy, assignor.)						
Rogers, James H., *et al.* (See Pond, Charles L., assignor.)						
Rogers, James H., New York, N. Y. Telephone-exchange system and apparatus	268,294	Nov. 28	1661	461	22	1858
Rogers, James H., New York, N. Y. Telephone-repeater	269,326	Dec. 19	1145	335	22	2112
Rogers, Lebbeus H., New York, N. Y. Manufacture of window-curtains, lambrequins, and other articles from paper	268,539	Dec. 5	182	51, 52	22	1921
Rogers, Lebbeus K. (See Shaw, William A., assignor.)						
Rogers, T. Mellon, assignor of one-half to S. P. M. Tasker, Philadelphia, Pa. Stone and ore crusher	263,226	Aug. 22	1732	491	22	662
Rogers, Timothy, assignor to Rogers Iron Fence Company, Springfield, Ohio. Creating	262,125	Aug. 1	380	107	22	398
Rogers, Timothy, assignor to Rogers Fence Company, Springfield, Ohio. Composite fence	266,318	Oct. 24	1350	381	22	1385
Rogers, Timothy, assignor to Rogers Fence Company, Springfield, Ohio. Wire-fence post	267,758	Nov. 21	1004	283	22	1732
Rogers & Turnbull. (See Rogers, Charles W., assignor.)						
Rogers, Washington H., Hoboken, N. J. Head-covering	265,541	Oct. 3	387	106	22	1201
Rogers, William H. H. (See Elmer, Albert E., assignor.)						
Rogers, William H. H. (See Ludlow, Herbert, assignor.)						
Rohde, Conrad H., Chicago, Ill. Table-leaf support	262,984	Aug. 22	1449	409	22	608
Röhmer, Andreas, Foster's Crossing, Ohio. Fire-escape	260,422	July 4	94	26	22	17
Rohney, Alexander B., Cincinnati, Ohio. Straight-way valve	262,985	Aug. 22	1449	409	22	608
Roland, George A., Waseca, and C. P. Adams, Hastings, Minn. Wind-power	265,150	Sept. 26	1743	487	22	1107
Rolfe, Charles A. (See Palmer and Rolfe.)						
Rollins, Oscar A., Campello, Mass. Steam-engine-cylinder lubricator	262,356	Aug. 29	1949	557	22	700
Rollins, Timothy E., Corning, N. Y. Stove-pipe	265,873	Oct. 10	784	222	22	1275
Rolph, George W., Toledo, Ohio. Car-unloader	267,593	Nov. 14	809	232	22	1689
Rome Spring Wagon Company. (See Fitch, Lauren M., assignor.)						
Rominger, George S., Philadelphia, Pa. Drill-chuck	265,151	Sept. 26	1744	487	22	1108
Rommelsbacher, Reinhold, Stuttgart, Germany. Ice-creeper	262,131	Nov. 28	1458	407	22	1921
Rood, Albert O., Syracuse, assignor to V. P. Travers, New York, N. Y. Hammock	269,542	Dec. 26	1432	413	22	2172
Rood, Alphonso E., *et al.* (See Jewett, Nathan, assignor.)						
Rook, John H., Jonesborough, Ind. Steam-inspirator	269,718	Dec. 26	1650	474	22	2215
Root, Henry, San Francisco, Cal. Construction of cable railways	262,126	Aug. 1	381	108	22	399
Root, Henry, San Francisco, Cal. Car for cable railways	263,227	Aug. 22	1733	492	22	662
Root, Henry C., San Francisco, Cal. Drafting-instrument	269,719	Dec. 26	1651	474, 475	22	2215
Root, Howard C., Philadelphia, Pa., assignor of one-half to F. Shaw, Brooklyn, N. Y. Coiled-wire belt	266,529	Oct. 24	1590	452	22	1430
Roots, Francis M., Connersville, Ind. Rotary pump	264,962	Sept. 26	1531	430, 431	22	1069
Roper, Charles F. (See Roper, Sylvester H. and C. F.)						
Roper, Charles F., Boston, Mass. Metal-screw machine	263,357	Aug. 29	1950	558	22	700
Roper, Charles F., Boston, Mass. Metal-screw machine	263,358	Aug. 29	1953	558, 559	22	700
Röper, Peter J. F. (See Bürstenbinder, Rudolph G., assignor.)						
Roper, Sylvester H. and C. F., Boston, Mass. Metal-screw machine	262,321	Aug. 8	626	176	22	447
Rose, Heinrich, assignor to Farbwerke, vormals Meister, Lucius & Brüning, Höchst-on-the-Main, Germany. Manufacture of dye-stuff from alizarine-blue	263,964	Sept. 5	363	.....	22	837
Rose, Heinrich, assignor to Farbwerke, vormals Meister, Lucius & Brüning, Höchst-on-the-Main, Germany. Manufacture of alizarine-blue color	236,965	Sept. 5	364	.....	22	837

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Rose, Henry, assignor of one-half to A. P. Cummings, Prairie du Sac, Wis. Frame for tables	261,103	July 11	967	270	22	167
Rose, Henry M., Waterman Station, Ill. Disk-harrow	261,875	Aug. 1	58	17	22	345
Rose, Israel M., Norwalk, Conn. Percussion-tape	265,874	Oct. 10	784	222	22	1276
Rose, M. L. (See Carter, James R., assignor.)						
Rose, Milton T., Orland, Ind. Sheep-shearing table	266,896	Oct. 31	2015	580, 581	22	1514
Rose, Reuben M., Brooklyn, N. Y. Composition for bearings	267,594	Nov. 14	811	.....	22	1690
Rosebrooks, John M., assignor to W. A. Wood Mowing and Reaping Machine Company, Hoosick Falls, N. Y. Harvester	268,828	Dec. 12	522	155	22	1993
Rosenberg, Charles F. (See Rehkopf and Rosenberg.)						
Rosenberg, Frederick, New York, N. Y. Ear-piercer	262,833	Aug. 15	1259	354	22	564
Rosenfield, William W., assignor, by mesne assignments, to J. Aron, New York, N. Y. Bath-tub	263,592	Aug. 29	2232	638	22	751
Rosenfield, William W., assignor, by mesne assignments, to Portable Hygienic Vapor and Disinfector Company, New York, N. Y. Inhaling and vaporizing apparatus	266,530	Oct. 24	1501	453	22	1430
Rosenfield, William W., assignor to Portable Hygienic Vapor and Disinfector Company, New York, N. Y. Bath-tub	266,531	Oct. 24	1503	453	22	1430
Rosevear, Thomas, and R. Bryant, Negaunee, Mich. Apparatus for thawing giant-powder	268,540	Dec. 5	184	52	22	1921
Ross, Alexander, and S. J. Parker, Dansville, N. Y. Gleaner and binder	269,467	Dec. 19	1333	385, 386	22	2147
Ross, Charles, Burlington, N. J. Production of relief stipple paper	265,444	Oct. 3	248	.....	22	1180
Ross, Davis & Co. (See Ross, Simon, Jr., assignor.)						
Ross, John G., Lynn, Mass. Heel	264,963	Sept. 26	1533	431	22	1070
Ross, John W., Santa Clara, Cal. Kitchen-cabinet	267,654	Nov. 14	880	251	22	1702
Ross, Peter. (See Kemp and Ross.)						
Ross, Robert N., St. Louis, Mo. Brick-press	266,532	Oct. 24	1595	454	22	1431
Ross, Simon, Jr., Newport, Ky., assignor to Ross, Davis & Co., Cincinnati, Ohio. Treadle mechanism for operating sewing and other machines	264,418	Sept. 12	880	247	22	938
Ross, Thomas A. (See Barrett and Ross.)						
Ross, William J., Memphis, Tenn. Car-coupling	268,829	Dec. 12	523	156	22	1993
Ross, William S., Madisonville, Ky. Furnace for privies	264,568	Sept. 19	1046	298	22	977
Rossman, Freeman H., Wappinger's Falls, N. Y. Marking-gage	266,646	Oct. 31	1729	499	22	1461
Rotermund, Peter, Eureka, Cal. Wrench	265,445	Oct. 3	249	75	22	1180
Roth, Elias, New Oxford, Pa. Saw-filing machine	268,940	Dec. 12	656	192	22	2018
Roth, Leonhard, Brooklyn, assignor to himself and A. Schmideberg, New York, N. Y. Calorific compound	266,205	Oct. 17	1195	.....	22	1351
Roth, Louis. (See Tufts and Roth.)						
Roth, Morris. (See Kessler, Johann K., assignor.)						
Ronghan, James, Boston, Mass. Hoisting apparatus	262,322	Aug. 8	629	177	22	448
Rouif, Anatole E., Montreal, Quebec, Canada. Motor	264,767	Sept. 19	1275	361	22	1020
Roulstone, Edward A. G., assignor of one-half to S. Frost, Boston, Mass. Tag	261,566	July 25	1532	429	22	275
Rounds, William, Chester, Vt. Crayon and eraser holder	269,468	Dec. 19	1339	386	22	2148
Routt, Ansell P., assignor of one-half to W. Thomas, Danville, Va. Stirrup	263,966	Sept. 5	364	102	22	837
Roux, Benoit, assignor to J. E. Shepard & Co., Cincinnati, Ohio. Stove-pipe shelf	261,047	July 11	893	248	22	154
Rowbotham, Thomas, Hazel Grove, county of Chester, England. Apparatus for shaping and curling hat-brims	262,479	Aug. 8	805	228	22	479
Rowe, John, Jr., Ballardvale, and C. F. Perkins, Brookline, Mass. Working rawhide	267,595	Nov. 14	812	232	22	1690
Rowe, Joseph W., Austin, Tex. T-square	267,260	Nov. 7	376	109	22	1607
Rowell, Guilford D., assignor to Appleton Manufacturing Company, Appleton, Wis. Horse hay-fork	263,967	Sept. 5	365	103	22	838
Rowell, Harvey, Columbus, Wis. Sight for fire-arms	266,206	Oct. 17	1195	337	22	1351
Rowell, Isaac A., New Paris, Ind. Adjustable mop-holder	263,593	Aug. 29	2233	638	22	751
Rowell, Sidney W. (See Shortsleeve, David, assignor.)						
Rowland, Edward, Tiffin, Ohio. Seal-lock	267,261	Nov. 7	376	110	22	1607
Rowland, John, Greencastle, Pa. Rock-drill	267,262	Nov. 7	378	110	22	1608
Rowland, John T., *et al.* (See Jones, Alfred E., assignor.)						
Rowlee, Philester G., Hamilton, Mich. Draft-equalizer	264,343	Sept. 12	797	225	22	923
Rowley, E. H. (See Parker, Edmund A., assignor.)						
Rowley, Edwin A., assignor to Rowley & Hermance, Williamsport, Pa. Machine-table	262,323	Aug. 8	630	177	22	448
Rowley, Edwin A., assignor to Rowley & Hermance, Williamsport, Pa. Crank-shaft or journal-bearing	263,812	Sept. 5	181	52	22	804
Rowley, George W., Caledonia, Wis. Coin-holder	268,296	Nov. 28	1664	462	22	1859
Rowley, Henry K. (See Knight and Rowley.)						
Rowley & Hermance. (See Rowley, Edwin A., assignor.)						
Rowley & Hermance. (See Sweet, Frederick H., assignor.)						
Roxburgh, J. L. (See Glover, Wilson, assignor.)						
Royce, Allen & Co., *et al.* (See Presbrey, Edward F., assignor.) (Reissue.)						
Royce, Danforth H., Columbus, Ohio. Fly-fan, &c	268,730	Dec. 5	391	114	22	1961
Royce, Edward H., F. W. Allen, and M. H. Fuller, Providence, R. I. Button	262,480	Aug. 8	807	228	22	479
Royce, George W. (See Luthy, Adolph, assignor.)						
Royce, George W., Englewood, N. J., and H. Hafner, New York, N. Y. Inkstand	264,768	Sept. 19	1276	362	22	1020
Royce, James W., assignor of one-half to S. B. Elwell, Cortland, N. Y. Adjustable table for wood-working machines	261,765	July 25	1768	497	22	316
Royce, Wesley, Toledo, Ohio. Steam-actuated valve	261,485	July 18	1417	396	22	250
Roystone, William H., Corona, N. Y. Machine for ornamenting wood	268,541	Dec. 5	185	52	22	1921
Rubsamen, William C. L., *et al.* (See Thomass, Herman, assignor.)						
Rückert, Bruno, Leipsic, Germany. Folding box	268,542	Dec. 5	186	53	22	1921
Rudd, Frederick H., Hebron, Nebr. Car-coupling	265,446	Oct. 3	250	75	22	1180
Rude, George W., *et al.* (See Swope, Horace G., assignor.)						
Rude, George W. and J. R., H. G. Swope, Liberty, and J. L. Ritter, Brownsville, Ind. Grain-drill	263,359	Aug. 29	1955	559	22	701
Rude, John R., *et al.* (See Swope, Horace G., assignor.)						
Rude, John R. (See Rude, Swope, and Ritter.)						
Rude, Squire B., *et al.* (See Swope, Horace G., assignor.)						
Rudholzner, Georg, Reichenhall, Bavaria, Germany. Tellurian	267,940	Nov. 21	1222	344	22	1773
Rudloff, Henry F., New York, N. Y. Safety-chamber for submarine tunnels	260,502	July 4	201	26	22	34
Rudolph, Christian, assignor to Farbwerke, vormals Meister, Lucius & Brüning, Höchst-on-the-Main, Germany. Manufacture of artificial indigo	262,695	Aug. 15	1086	.....	22	534
Rudolph, Christian, assignor to Farbwerke, vormals Meister, Lucius & Brüning, Höchst-on-the-Main, Germany. Production of methylquinoline	268,543	Dec. 5	186	.....	22	1922
Rudolph, Franklin, Chicago, Ill. Crystallizing tin-plate	262,481	Aug. 8	808	.....	22	480
Rudy, John H., Harrisburg, Pa. Milk-cooler	265,282	Oct. 3	64	20	22	1147
Rudy, John H., and T. Weaver, Harrisburg, Pa., said Weaver assignor to said Rudy. Creamer	262,127	Aug. 1	383	108	22	399

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Rudyard, Joseph K., East Northport, N. Y. Centrifugal honey-extractor	263,228	Aug. 22	1734	492	22	662
Ruebel, Charles A. E., Chillicothe, Ohio. Electrical burglar-alarm	267,987	Nov. 21	1280	359	22	1783
Rueter, Henry H., Boston, Mass. Closing tap-holes in casks	269,469	Dec. 19	1340	387	22	2148
Rumpff, Carl, Aprath, near Elberfeld, Germany. Manufacture of brown dye-stuff	261,766	July 25	1769	.....	22	316
Rumpff, Carl, Aparth, near Elberfeld, Germany. Manufacture of brown dye-stuff	261,767	July 25	1770	.....	22	316
Rumpff, Carl, Aprath, near Elberfeld, Prussia, Germany. Manufacture of coloring-matter from naphthylamine	261,175	July 18	1054	.....	22	191
Rumpff, Carl, Aprath, near Elberfeld, Prussia, Germany. Manufacture of dye-stuff	262,620	Aug. 15	992	.....	22	517
Rumsey, Lewis M., St. Louis, Mo. Bucket for chain-pumps	263,229	Aug. 22	1735	493	22	662
Rundlett, James C., Cape Elizabeth, Me. Egg rack and holder	262,834	Aug. 15	1260	354	22	564
Runstetler, Andrew, assignor to Farmers Friend Manufacturing Company, Dayton, Ohio. Corn-planter. (Reissue)	10,156	July 11	987	277	22	171
Runstetler, Andrew and M., assignors to Farmers Friend Manufacturing Company, Dayton, Ohio. Corn-planter	261,048	July 11	894	248	22	154
Runstetler, Michael. (See Runstetler, Andrew and M.)						
Runstetler, Michael, assignor to Farmers Friend Manufacturing Company, Dayton, Ohio. Corn-planter. (Reissue)	10,155	July 11	985	276	22	171
Rush, John W., Stockton, Cal. Sulky-harrow	261,386	July 18	1308	366	22	231
Rusling, Joseph F., Lawrence, Pa. Case for packing butter	268,544	Dec. 5	187	53	22	1922
Russell, Alonzo and A. J., Burr Oak, Mich. Fence	267,596	Nov. 14	813	232	22	1690
Russell, Andrew J. (See Russell, Alonzo and A. J.)						
Russell, Charles S., Philadelphia, Pa. Check-holder and check for baggage	262,696	Aug. 15	1087	307	22	534
Russell, Jacob, Nowark, N. J., and C. Ball, Green Point, N. Y., assignors to Keystone Horse-shoe Company, Philadelphia, Pa. Horseshoe-machine	268,731	Dec. 5	392	114 / 115	22	1962
Russell, James M. (See Richardson, Theodore M., assignor.)						
Russell, James W., Ellenville, N. Y. Sled	264,769	Sept. 19	1278	362	22	1020
Russell, John, Jr., Rosemount, Minn. Drag-saw	267,721	Nov. 21	969	273	22	1726
Russell, John L., *et al.* (See Park, James, assignor.)						
Russell, Lewis B. (See Gage, Charles assignor.) (Reissue)						
Russell, Robert, Boone, Iowa. Horse-detacher	261,876	Aug. 1	60	18	22	346
Russell, S. Howland, New York, N. Y. Sash-balance	261,877	Aug. 1	61	18	22	346
Russell, William L., Cambridge, N. Y. Vehicle-spring	264,770	Sept. 19	1279	362	22	1021
Russell Wrench and Novelty Company. (See Lee, John, assignor.)						
Russmann, Claus, Hamburg, Germany. Furnace	269,720	Dec. 26	1654	475	22	2215
Rust, Charles G., Chicago, Ill. Ice-creeper	264,105	Sept. 12	541	147	22	877
Rutherford, John B., Netawaka, Kans. Water-wheel	260,611	July 4	330	90	22	56
Rutherford, Robert, *et al.* (See Moore, Thomas, assignor.)						
Rutter, John C. (See Clark, Robert J., assignor.)						
Rutter, Levi, Newmanstown, Pa. Refrigerator	268,434	Dec. 5	75	23	22	1901
Rund, Edwin, Altoona, Pa. Balanced slide-valve	260,612	July 4	331	90	22	56
Ryerson, John V., New Brunswick, N. J. Station-indicator	267,941	Nov. 21	1224	344	22	1774
Ryno, Crowell H., New York, N. Y. Pantaloons and trousers	265,983	Oct. 17	928	262	22	1306
Sabin, Hylas, *et al.* (See Heaton, Horace L., assignor.)						
Sachs, Joseph J., Manchester, county of Lancaster, England. Production of materials for castings, cements, lead-pencils, &c	266,053	Oct. 17	1009	.....	22	1320
Sachse, Louis. (See Sherman and Sachse.)						
Sacket, F. G., *et al.* (See Sacket, Orsemus M., assignor.)						
Sacket, Orsemus M., Shippensville, assignor of two-thirds to M. E. Hess and F. G. Sacket, Beaver township, Clarion county, Pa. Straw-cutter	263,908	Sept. 5	366	103	22	838
Sackett, Charles E., Morristown, N. J. Combined plow and pulverizer	268,830	Dec. 12	524	156	22	1993
Sackett, Joseph S., assignor of one-half to W. E. Chatterton, Plattsburg, N. Y. Coal and ash sifter	262,697	Aug. 15	1088	308	22	534
Sackett, Joseph S., assignor of one-half to W. E. Chatterton, Plattsburg, N. Y. Button-hole attachment for sewing-machines	266,054	Oct. 17	1010	286	22	1320
Safford, W. M., *et al.* (See Sanford, Gelston, assignor.)						
Sage, Carlton E., Elkhart, Ind. Binding wire-cloth for flour-bolts	263,594	Aug. 29	2234	638	22	751
Said, Emery A. (See Husemann and Said.)						
Saladee, Cyrus W., Torrington, Conn. Vehicle-top	262,128	Aug. 1	384	108	22	399
Saladee, Cyrus W., Torrington, Conn. Running-gear for vehicles	262,129	Aug. 1	384	108	22	399
Saladee, Cyrus W., Torrington, Conn. Phaeton	262,621	Aug. 15	993	279	22	517
Saladee, Cyrus W., Torrington, Conn. Vehicle-spring	265,447	Oct. 3	251	75	22	1181
Saladee, Cyrus W., Torrington, Conn. Spring-brace for vehicles	266,647	Oct. 31	1730	499	22	1461
Saladee, Cyrus W., Torrington, Conn. Vehicle-spring	267,988	Nov. 21	1281	359	22	1783
Salberg, Moses, assignor of one-half to J. Levy, San Francisco, Cal. Shirt	269,327	Dec. 19	1146	336	22	2112
Sales, William B., Fort Atkinson, Wis. Shifting seat for vehicles	264,106	Sept. 12	542	148	22	877
Salisbury, Edgar W., Providence, R. I. Telephone-desk	262,248	Aug. 8	539	152	22	432
Salisbury, George P., New Haven, Conn. Car-starter	268,545	Dec. 5	188	53	22	1922
Salisbury, Silas C., assignor to American Non Explosive Boiler Attachment Company, New York, N. Y. Feed-water regulator	265,542	Oct. 3	388	107	22	1201
Salmon, Ira A., Boston, Mass. Apparatus for heating cars. (Reissue)	10,190	Aug. 29	2323	664	22	766
Salmon, William C., Cincinnati, Ohio, assignor of one-half to H. Kasson, Covington, Ky. Coffee-boiler	264,480	Sept. 19	964	271	22	961
Salmon, William C., Cincinnati, Ohio, assignor of one-half to H. Kasson, Covington, Ky. Steam cooking apparatus	268,732	Dec. 5	394	115	22	1962
Salmons, Patrick W. (See Roach and Salmons.)						
Salomon, Etienne, assignor of one-half to E. Armant, Montreal, Quebec, Canada. Rotary cutting-machine	261,049	July 11	896	248	22	155
Salomon, Etienne, assignor of one-half to E. Armant, Montreal, Quebec, Canada. Machine for making hinges	263,969	Sept. 5	367	103	22	838
Salomon, Etienne, assignor of one-half to E. Armant, Montreal, Quebec, Canada. Anti-friction bearing	265,152	Sept. 26	1745	487	22	1108
Samain, E. Daniel, Pierceville, Kans. Tie-bar for railway-rails	265,543	Oct. 3	390	107	22	1202
Sammet, George W. (See Sammet, George A. and G. W.)						
Sammet, George A. and G. W., Boston, Mass. Manufacture of filling for mattresses, pillows, &c., from feathers	263,433	Aug. 29	2047	587	22	717
Samuel, Mark W., New York, N. Y. Production of figures in relief on various substances	264,771	Sept. 19	1279	.....	22	1021
Samuels, Isaac, Denver, Colo. Watch-pocket	267,942	Nov. 21	1226	345	22	1774
Sanborn, Alden W., San Francisco, Cal. Brake-shoe	264,569	Sept. 19	1047	298	22	977
Sanborn, Augustus, Barre, assignor of one-half to J. Nourse, Boston, Mass. Sulky-plow	261,176	July 18	1054	296	22	191
Sanborn, Leroy S., Portland, Me. Mail-tag holder	265,638	Oct. 10	508	138	22	1227
Sanborn, Luther B., Freeport, Ill. Water-filter	265,283	Oct. 3	65	20	22	1147
Sanders, John E., Indianapolis, Ind. Pipe-wrench	261,486	July 18	1419	396	22	250
Sanders, Mervin M., Alpena, Mich. Balanced valve	267,802	Nov. 21	1063	298	22	1743

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Sanders, William A. (See Smith, Sanders, and Woodbury.)						
Sanders, William H., and H. H. Talley, Petersburg, Tenn. Saw-mill dog	261,387	July 18	1309	366	22	231
Sanderson, Foster M., Warren County, Ohio. Carriage-coupling	262,986	Aug. 22	1451	409	22	609
Sanderson, Frederick, Friend, Nebr. Show-case	263,970	Sept. 5	370	103 / 104	22	838
Sanderson, Lucious H., New York, N. Y., assignor to L. Stilwell, Newark, N. J. Spring-ring	267,112	Nov. 7	194	56	22	1575
Sandiford, William, Joliet, Ill. Ratchet-drill	264,107	Sept. 12	543	148	22	877
Sandiford, William, Joliet, Ill. Ratchet-drill	267,462	Nov. 14	642	185	22	1659
Sands, Weimer G., Reading, Pa. Folding and reclining chair	268,941	Dec. 12	657	192	22	2018
Sandvoe, Friedrich, New York, N. Y. Window-cleaning chair	268,132	Nov. 28	1459	407	22	1821
Sandwich Enterprise Company. (See Beal, Thomas W., assignor.)						
Sanford, Aaron C. (See Sanford, George W. and A. C.) (Reissue.)						
Sanford, Charles E., New York, assignor to R. H. Laimbeer, Brooklyn, N. Y. Watchman's register	261,388	July 18	1310	366	22	231
Sanford, Gelston, Brooklyn, assignor to W. M. Safford and Sanford Universal Fibre Company, New York, N. Y. Apparatus for reducing fibrous plants	265,153	Sept. 26	1746	487 / 488	22	1108
Sanford, Gelston, Brooklyn, assignor to Sanford Universal Fibre Company, New York, N. Y. Machine for obtaining fibers	265,154	Sept. 26	1748	488	22	1108
Sanford, George W. and A. C., New Haven, Conn. Clock-bell. (Reissue)	10,253	Dec. 5	445	131	22	1972
Sanford Universal Fibre Company *et al.* (See Sanford, Gelston, assignor.)						
Sangster, Charles, assignor to J. H. Hamilton, Marissa, Ill. Measure	266,533	Oct. 24	1596	454	22	1431
Sankey, Eben B., Salem, Mo. Draw-bar for railway-cars	266,897	Oct. 31	2016	581	22	1514
Sankey, Eben B. (See Peace and Sankey.)						
Santrock, Henry, Cedarville, Kans. Grain-drill	263,434	Aug. 29	2048	587	22	717
Sargeant, E. Eugene, Newark, N. J. Harness-rosette	261,050	July 11	897	249	22	155
Sargent, Allan C., *et al.* (See Brown, John E., assignor.)						
Sargent, Allan C. (See Sargent, Frederick G. and A. C.)						
Sargent & Co. (See Gilfillan, William, assignor.)						
Sargent, Frederick G., *et al.* (See Brown, John E., assignor.)						
Sargent, Frederick G. and A. C., Graniteville, Mass. Burring-machine	260,901	July 11	699	190	22	123
Sargent, Frederick G. and A. C., Graniteville, Mass. Wool-oiling machine	260,898	July 11	697	189	22	123
Sargent, Frederick G. and A. C., Graniteville, Mass. Wool-washing machine	260,899	July 11	698	190	22	123
Sargent, Frederick G. and A. C., Graniteville, Mass. Wool-washing machine	260,900	July 11	699	190	22	123
Sargent, Frederick G. and A. C., Graniteville, Mass. Wool-washer	263,727	Sept. 5	71	22	22	787
Sargent, Frederick G. and A. C., Graniteville, Mass. Wool-washing machine	263,728	Sept. 5	72	22	22	787
Sargent, Frederick G. and A. C., Graniteville, Mass. Wool-washing machine	266,898	Oct. 31	2017	581	22	1515
Sargent, Frederick G. and A. C., Graniteville, Mass. Wool-washer	266,899	Oct. 31	2019	582	22	1515
Sargent, Frederick G. and A. C., Graniteville, Mass. Wool-washer	266,900	Oct. 31	2019	582	22	1515
Sargent, Frederick G. and A. C., Graniteville, Mass. Wool-washing machine	266,901	Oct. 31	2020	582	22	1515
Sargent & Greenleaf. (See Streeter, William, assignor.)						
Sargent, James T., Cleveland, Ohio. Washing-machine	262,130	Aug. 1	386	109	22	399
Sargent, Samuel D. (See Bailey and Schade, assignors.)						
Sargent, Theophilus, Hallowell, Me. Apparatus for converting motion	268,942	Dec. 12	658	193	22	2018
Sargent, William A. T., Wilmington, Del. Dredging-bucket	263,230	Aug. 22	1736	493	22	662
Saroni, Herrman S., St. Paul, Minn. Hydrocarbon-furnace	260,789	July 11	573	155	22	102
Saroni, Herrman S., St. Paul, Minn. Combined steam condenser and tender	267,463	Nov. 14	643	185	22	1659
Saroni, Herrman S., St. Paul, Minn. Traction-engine	267,464	Nov. 14	645	185 / 186	22	1660
Saner, Charles. (See Anderson and Saner.)						
Saunders, Andrew, assignor to D. Saunders' Sons, Yonkers, N. Y. Chuck	265,639	Oct. 10	509	139	22	1227
Saunders, Joseph, Brooklyn, N. Y. Siphon	264,197	Sept. 12	537	176	22	894
Saunders' Sons, D. (See Saunders, Andrew, assignor.)						
Saunders, George S. (See Lynchard and Saunders.)						
Savage, J. B. (See Ellis, Frederick L. and J. M., assignors.)						
Savage, John J., Brooklyn, N. Y. Ice-bumper for water-coolers	267,722	Nov. 21	970	273	22	1726
Savage, John T., and J. Love, Rockford, Ill. Dumping-platform	268,943	Dec. 12	659	193	22	2018
Savalle, Désiré F., Paris, France. Apparatus for rectifying alcohol	266,902	Oct. 31	2022	582 / 583	22	1515
Savine, Samuel H., Fort Wayne, Ind. Fire-pot for blacksmiths	266,724	Oct. 31	1924	529	22	1479
Savoie, Arcatilde, Lockport, La. Sugar-boiler	263,813	Sept. 5	182	53	22	804
Sawyer, Allen J. and E. G., Oldtown, Me. Thill-coupling	262,249	Aug. 8	540	152	22	432
Sawyer, Byron L. (See Lord and Sawyer.)						
Sawyer, Charles, Morris, Minn. Drag-saw	266,534	Oct. 24	1597	454	22	1431
Sawyer, Charles A. (See Morgan, Daniel P., assignor.)						
Sawyer & Chase. (See Keene, George A., assignor.)						
Sawyer, Edward, Bridgewater, Mass. Carriage-spring	263,061	Aug. 22	1543	435	22	625
Sawyer, Enoch A., Chester, assignor to Peerless Wire Mattress Company, Hartford, Conn. Bed-bottom	265,706	Oct. 10	598	169	22	1242
Sawyer, Enoch G. (See Sawyer, Allen J. and E. G.)						
Sawyer, James, Frecburg, Ill., assignor of one-half to W. De Bolt, St. Louis, Mo. Miner's lamp	268,944	Dec. 12	661	193	22	2019
Sawyer, John E., Napa, Cal. Lubricating compound	268,546	Dec. 5	189	.....	22	1922
Sawyer, Lodovick L., C. Buckley, and J. C. Perkins, Meriden, Conn. Window-shade	265,875	Oct. 10	785	222	22	1276
Sawyer, Walter H., and R. J. Phelts, Fort Valley, Ga. Hanging saws	262,698	Aug. 15	1089	308	22	535
Sawyer, William E., New York, assignor to H. G. H. Tarr, Yonkers, N. Y. Safety attachment for elevators	265,448	Oct. 3	252	76	22	1181
Sawyer, William H., Providence, R. I. Machine for the manufacture of electric cables	267,597	Nov. 14	814	233	22	1690
Sawyer, William H., Providence, R. I. Electrical connecting-cord	269,328	Dec. 19	1147	336	22	2112
Sawyer, William H., Providence, R. I. Electric cable	269,470	Dec. 19	1341	387	22	2148
Sax, Thomas D. (See Heasler, George W., assignor.)						
Saxon, James W., Gainesville, Tex. Car-coupling	267,312	Nov. 7	437	126	22	1618
Saxon, James W., Gainesville, Tex. Permutation-lock	269,120	Dec. 12	880	259	22	2057
Saxon, James W., Gainesville, Tex. Permutation-lock	262,835	Aug. 15	1260	354	22	564
Sayre, Albert T., Wedgewood, N. Y. Horse-hopple	266,725	Oct. 31	1825	529 / 530	22	1479
Sayre, Lewis G., Mount Healthy, Ohio. Two-wheeled vehicle	264,570	Sept. 19	1048	298	22	978
Scafe, Charles, Bangor, Wis. Hay-loader	262,987	Aug. 22	1452	409	22	609
Scarborough, John W., Pilot Grove, Iowa. Quilting-frame						
Scates, Walter. (See Griest, John M., assignor.)						
Schade, Edmund A. (See Bailey and Schade.)						
Schaede, Herrmann, assignor to Zeitzer Eisengiesserei and Maschinenban Actiengesellschaft, Zeitz, Prussia, Germany. Apparatus for washing out or separating soluble from insoluable substances	268,133	Nov. 28	1460	408	22	1922
Schaefer, Joseph H., Toledo, Ohio. Apparatus for measuring the foot and fitting lasts	263,971	Sept. 5	371	104	22	839

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Schaeffer, Charles A., Ithaca, N. Y. Extracting gold and silver from their ores	267,723	Nov. 21	971	.....	22	1726
Schafer, Adam, Newark, N. J. Bone and wood burner	265,876	Oct. 10	786	222 / 223	22	1276
Schafer, Adam, Mount Carmel, Ill Reel for harvesters	269,121	Dec. 12	881	259	22	2057
Schafer, Christian. (See Roberts and Schafer.)						
Schaffer, John, St. Louis, Mo. Eyeglasses	265,449	Oct. 3	254	76	22	1181
Schafhans, Jean, New York, N. Y. Separating-tun or hop-back	262,622	Aug. 15	993	279	22	517
Scharr, Jonathan, Philadelphia, Pa. Liquid soap	266,207	Oct. 17	1196	.....	22	1352
Scharr, Jonathan, Philadelphia, Pa. Material to be used as a substitute for oil in the preparation of wool for carding and spinning	268,547	Dec. 5	189	.....	22	1922
Schatz, Adam E., New York, N. Y. Vent-bung	267,598	Nov. 14	816	233	22	1690
Schatz, Adam E., assignor to himself and W. Hoffmann, New York, N. Y. Automatic vent-bung	263,062	Aug. 22	1544	435	22	625
Schatz, Adam E., assignor to himself and W. Hoffmann, New York, N. Y. Automatic vent-bung	263,063	Aug. 22	1544	435	22	625
Schau, Phillip P., Kalamazoo, and W. B. Strowger, Portage, Mich. Railway-frog protector	262,988	Aug. 22	1453	410	22	609
Scheeffer, Gustave A., Evansville, Ind. Dynamo-electric machine	267,263	Nov. 7	378	110	22	1608
Schebler, Carl, Berlin, Germany. Manufactnring sugar	261,958	Aug. 1	164	.....	22	363
Scheidler, Reinhard, Newark, Ohio. Bed-plate and heater for portable steam-engines	269,329	Dec. 19	1148	336	22	2112
Schenck, Wilkens, St. Paul, Minn. Stove-back. (Reissue)	10,218	Oct. 17	1271	359 / 360	22	1364
Schenck, Wilkens, St. Paul, Minn. Extension stove-grate	263,360	Aug. 29	1956	559	22	701
Schenson, Elis, Upsala, Sweden, assignor to R. Schram, 9 Northumberland Street, Strand, London, England. Valve	261,959	Aug. 1	165	48	22	364
Scheppach, Peter, Newark, N. J. Cigar-butt cutter	266,726	Oct. 31	1826	530	22	1479
Schermerhorn, Herschel A. (See Colton and Schermerhorn.)						
Schermerhorn, Howard A., New York, N. Y. Attachment to tool-chests	260,503	July 4	202	57	22	35
Schertzer, Jules T., U. S. Army, assignor of one-half to C. H. Schmidt, Jefferson Barracks, Mo. Door-fastening device	266,903	Oct. 31	2023	583	22	1516
Scheuer, Simon, New York, N. Y. Pocket-book frame	262,482	Aug. 8	808	228	22	480
Schiele & Co., Lewis. (See Gilbert, Thomas S., assignor.)						
Schill, John G., Hoboken, N. J. Funnel-trap for sinks	267,264	Nov. 7	379	110	22	1608
Schilling & Co., A. (See Tingman, John H., assignor.)						
Schilling, Conrad, Pekin, Ill. Reflector	261,768	July 25	1770	498	22	316
Schillinger, John J., New York, N. Y. Fire-proof building	262,483	Aug. 8	809	229	22	480
Schillinger, John J., New York, N. Y. Fire-proof building	262,484	Aug. 8	810	229	22	480
Schlaepfer, Schlatter & Kürsteiner. (See Preisig, Carl, assignor.)						
Schlesinger, Leo. (See Doyle, John, assignor.)						
Schlund, Carl, and P. Petry, Newark, N. J. Oscillating pump	264,571	Sept. 19	1049	299	22	978
Schmedinghoff, Joseph, assignor to Bahmann & Schmedinghoff, Cincinnati, Ohio. Side-bar vehicle	262,250	Aug. 8	540	152 / 153	22	432
Schmeelke, Hermann M., Rockaway Beach, N. Y. Safety bathing apparatus	269,600	Dec. 26	1511	435	22	2187
Schmideberg, Adolf. (See Roth, Leonhard, assignor.)						
Schmidt, Carl. (See Dittmar and Schmidt.)						
Schmidt, Charles H. (See Schertzer, Jules T., assignor.)						
Schmidt, Christian, assignor of one-half to F. Swartztrauber, Miamisburg, Ohio. Pump-stock	263,595	Aug. 29	2234	639	22	751
Schmidt, Christian, assignor to F. Swartztrauber, F. Liezenhoff, J. Stocker, and A. Silberman, Miamisburg, Ohio. Time attachment to stop cocks for water-meters	268,733	Dec. 5	396	115	22	1962
Schmidt, Constantin. (See Dittmar and Schmidt, assignors.)						
Schmidt, Diedrich, New York, N. Y. Fish-safe	265,544	Oct. 3	391	108	22	1202
Schmidt, Erich F., and W. H. Streenwitz, Houston, Tex. Amalgamator	264,344	Sept. 12	798	225	22	923
Schmidt, Gebrueder. (See Reissig, Wilhelm, assignor.)						
Schmidt, Hugo, assignor to T. H. Ball, H. Prenzlauer, and Simon Florsheim, Chicago, Ill. Wire-coiling machine	264,046	Sept. 5	470	128	22	855
Schmidt, Leopold, Damascus, Ill. Plow	267,724	Nov. 21	971	273	22	1726
Schmidt, Wilhelm. (See Herbst and Seidel, assignors.)						
Schmitt, Daniel, Newark, N. J. Hearse	269,122	Dec. 12	882	260	22	2057
Schmitt, George E. (See Schmitt, Julius J., assignor.)						
Schmitt, Julius J., assignor to G. E. Schmitt, St. Louis, Mo. Tanning apparatus	260,613	July 4	332	90	22	57
Schmitz, Frank, Cornell, Ill. Iron fence-post	260,614	July 4	332	90	22	57
Schmitz, Theodore H., assignor to H. D. Justi, Philadelphia, Pa. Dental hand-piece	263,814	Sept. 5	183	53	22	804
Schmitz, William, Waterbury, Conn. Mantel and stove combined	269,330	Dec. 19	1149	337	22	2113
Schmolz, William, San Francisco, Cal. Fan-wheel	265,984	Oct. 17	929	262	22	1306
Schmuck, Solomon. (See Hunger, Friedrich, assignor.)						
Schneer, Isaac, New York, N. Y. Shirt	260,790	July 11	575	155 / 156	22	102
Schneider, Edward F., Racine, Wis. Fan-blower	261,389	July 18	1312	366	22	232
Schneider, John C., and H. Christofferson, Hudson, Wis. Thrashing-machine	267,599	Nov. 14	817	234	22	1690
Schneider, Philip, Rosedale, Md. Thill-coupling	266,535	Oct. 24	1599	455	22	1431
Schneider, Werner, Lehrberg, Bavaria, Germany. Method of and apparatus for extracting fat from bones	261,259	July 18	1152	322	22	205
Schneidewend, Paul, *et al.* (See Marvin, Rial A., assignor.)						
Schnell, Charles A., Troy, Ohio. Fire-escape	264,345	Sept. 12	799	225	22	923
Schoellkopf, John, Tidioute, Pa. Sand-band	268,945	Dec. 12	662	194	22	2019
Schoellkopf, J. F., Jr. (See Mann, Friedrich, assignor.)						
Schoettel, Edward A., Brooklyn, N. Y. Printing-telegraph	261,567	July 25	1533	429 / 430	22	275
Scholl, William, Marion, Pa. Pulley-block	268,044	Nov. 28	1358	380	22	1803
Schomp, David A., Mount Vernon, Ohio. Pump for driven wells	263,815	Sept. 5	183	53	22	805
Schon, Carl, and C. S. Brown, Toledo, Ohio. Indicator for hydraulic elevators	268,946	Dec. 12	662	194	22	2019
Schonhoff, Bernard H., Cape Girardeau, Mo. Barrel roller and guide	263,729	Sept. 5	73	22	22	787
Schöneberg, Ewald, Bockenheim, Germany, assignor to himself and O. Tullmann, Cullman, Ala. Heating-stove	266,393	Oct. 24	1447	411	22	1404
Schooley, Wilson D., Richmond, Ind. Shield for protecting taper-flame of gas-burners	266,210	Oct. 17	1199	338	22	1352
Schoonover, James S., Titusville, Pa. Torpedo-exploder	262,485	Aug. 8	810	229	22	480
Schrader, Frederick, Elmhurst, Ill. Shirt	263,596	Aug. 29	2235	639	22	751
Schrader, Hermann E. (See Boldt and Schrader.)						
Schrader, Paul, and W. Stahl, New York, N. Y. Purse	262,486	Aug. 8	811	229	22	480
Schrag, Philip, New York, assignor to E. Faber, Port Richmond, N. Y. Combined pencil sharpener and holder	262,836	Aug. 15	1261	355	22	564
Schram, George A., St. Thomas, Ontario, Canada. Ironing-board	260,902	July 11	701	191	22	124
Schram, Richard. (See Schenson, Elis, assignor.)						
Schreiber, Adolph E., Brooklyn, N. Y. Electro-magnetic engine	269,331	Dec. 19	1151	337	22	2113

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Schrock, Emanuel M., assignor of one-half to T. Bickerman, Henry, Ill. Windmill	265,545	Oct. 3	391	108	22	1202
Schroeck, William, Philadelphia, Pa. Collyrium	267,759	Nov. 21	1005	.....	22	1732
Schroeder, Ernest C., Itasca, Ill. Bob-sleigh	265,155	Sept. 26	1749	488	22	1109
Schroll, Karl, Chicago, Ill. Boiler-furnace	266,648	Oct. 31	1731	499	22	1462
Schroy, Jeremiah, Indianapolis, Ind. Fire-kindler and torch	263,597	Aug. 29	2236	639	22	751
Schubert, Ferdinand, Higginsport, Ohio. Book-support	266,209	Oct. 17	1198	338	22	1352
Schubert, Robert E. M., Philadelphia, Pa., and E. T. Carswell, Wilmington, Del. Lamp and locomotive head-light	265,707	Oct. 10	599	169	22	1242
Schuckert, Sigmund. (See Sedlaczek, Wiknlill, and Schuckert.)						
Schub, Philip, Westchester, N. Y. Extension fire-escape	268,947	Dec. 12	663	194	22	2019
Schuhmann, George. (See Wolfe and Schuhmann.)						
Schulhof, Josef, Vienna, Austria-Hungary. Magazine fire arm	267,265	Nov. 7	380	111	22	1608
Schülke, Julius, Berlin, Germany. Lamp for railway-cars and other vehicles	268,134	Nov. 28	1402	408	22	1822
Schülke, Julius, Berlin, Prussia, Germany. Regulator for compressed gas	269,599	Dec. 26	1509	424	22	2187
Schulte, David J., Beatty, Pa. Car-coupling	264,108	Sept. 12	544	148	22	877
Schulte, Friedrich, assignor to himself and H. Basser, Kalk, near Cologne, Prussia, Germany. Potato-peeler	267,021	Nov. 7	77	23	22	1553
Schultz, Carl H. (See Dummer and Malmström, assignors.)						
Schultz, Frederick W., Baltimore, Md. Can-soldering machine	263,598	Aug. 29	2237	640	22	751
Schulz, Adolph C., La Salle, Ill. Bottle-stopper	266,727	Oct. 31	1828	530	22	1479
Schutte, Louis, Philadelphia, Pa. Steam-jet injector and exhauster	267,022	Nov. 7	78	23	22	1553
Schuyler, Daniel A., New York, N. Y. Dynamo-electric machine	261,390	July 18	1312	367	22	232
Schuyler, Henry, Sturgeon Bay, Wis. Apparatus for raising sunken vessels	268,548	Dec. 5	190	53	22	1922
Schuyler, Spencer D., *et al.* (See Chipman, William W., assignor.)						
Schuyler, Spencer D. (See Connolly, M. Daniel, assignor.)						
Schuyler, Spencer D. (See Connolly and McTighe, assignors.)						
Schuyler, William D., New York, N. Y. Trap and overflow-stop for wash-basins, &c	266,208	Oct. 17	1197	337	22	1352
Schwalb, Alphons F., Buffalo, N. Y. Combined water filter and cooler	263,231	Aug. 22	1738	493	22	663
Schwalb, Alphons F., Buffalo, N. Y. Water filter and cooler	263,599	Aug. 29	2239	640	22	752
Schwaner, Christian C., Winterset, Iowa. Harness-pad press, &c	262,623	Aug. 15	994	279	22	517
Schwartz, Charles M., and W. Carter, assignors of one-third to M. Kaufman, Lexington, Ky. Permutation-lock	269,471	Dec. 19	1342	387	22	2146
Schwartz, Mayer M., New York, N. Y. Manufacture of ornamental metallic foil	269,721	Dec. 26	1655	.....	22	2216
Schwarz, Friedrich W., Offenbach-on-the-Main, Germany. Purse	268,831	Dec. 12	525	156	22	1993
Schweiss, August C. H. (See Van Hutton, William B., assignor.)						
Schwenniger, Anthony B., New York, N. Y. Apparatus for teaching arithmetic	264,572	Sept. 19	1050	299	22	978
Schwer, John, Jr. (See Smith, Eldridge J., assignor.)						
Schwerin, Morris, Newark, N. J. Traveling-bag lock	262,131	Aug. 1	388	109	22	400
Schwobe, Henry, Sherwood, Wis. Feed-cutting machine	262,699	Aug. 15	1089	308	22	535
Schwuchow, Herman F., assignor to E. T. Mason and F. A. Bergman, Chicago, Ill. Liquid-pump	268,435	Dec. 5	76	24	22	1901
Scofield, Charles H., Utica, N. Y. Dry-plate holder and envelope	268,297	Nov. 28	1665	462	22	1859
Scofield, Charles H., Utica, N. Y. Camera-shutter	269,472	Dec. 19	1344	388	22	2149
Scofield, Edward S., Ridgeway, assignor to S. D. Redman, New York, N. Y. Protecting-supporter for fruit-packages	262,132	Aug. 1	388	109	22	400
Scofield, Frank A., and J. A. Cooper, Ovid, Mich. Side-bar wagon	261,391	July 18	1315	367	22	232
Scofield, Walter P., Cedar Keys, Fla. Log-setting apparatus for saw-mills	269,123	Dec. 12	883	260	22	2057
Scollay, John A. (See Coggin and Scollay.)						
Scott, Alex. (See Lane, Milton L., assignor.)						
Scott, Alexander L., assignor to himself, W. H. Addicks, and W. H. Baker, Philadelphia, Pa. Artificial paving and building material	262,133	Aug. 1	390	.....	22	400
Scott, Charles A., Boston, Mass. Electric railway signaling apparatus	266,904	Oct. 31	2024	584	22	1516
Scott, George D., *et al.*, executors. (See Carr, William S.)						
Scott George W., Troy, assignor to A. Hoover and W. Gamble, Miamisburg, Ohio. Grain-binder	267,600	Nov. 14	818	234	22	1691
Scott, John, *et al.* (See Hill, De Witt C., assignor.)						
Scott, John H., Jr., and A. A. Freeman, Philadelphia, Pa. Preserving oysters and similar shell-fish	265,255	Oct. 3	33	.....	22	1141
Scott, John T., Washington, D. C. Swinging fan	268,549	Dec. 5	191	54	22	1922
Scott Manufacturing Company. (See Haber, Maximilian F., assignor.)						
Scott Manufacturing Company. (See Suydam, William G., assignor.)						
Scott, Robert W., Philadelphia, Pa. Sewing-machine	262,134	Aug. 1	391	110	22	400
Scott, Robert W., Philadelphia, Pa. Stocking and making the same	268,734	Dec. 5	397	115	22	1963
Scott, Solomon, Paoli, Ind. Car-coupling	263,816	Sept. 5	184	53	22	805
Scott, Walter, Hoosick Falls, N. Y. Windmill-motor	261,051	July 11	897	249	22	155
Scott, Walter, Plainfield, N. J. Protecting the ends of rolls of paper	264,198	Sept. 12	637	176	22	894
Scott, Walter, Plainfield, N. J. Sheet-delivery apparatus for printing-machines	265,546	Oct. 3	392	108 / 109	22	1202
Scott, William, Buffalo, W. Va. Cultivator	262,487	Aug. 8	812	230	22	480
Scott, William H., Fredonia, N. Y. Cooking-range	267,373	Nov. 14	538	153 / 154	22	1640
Scott, William M., Birmingham, and T. Baker, Aston, near Birmingham, county of Warwick, England; said Baker assignor to said Scott. Breech-loading fire-arm	264,772	Sept. 19	1280	362	22	1021
Scott, William W., assignor to Kempshall Manufacturing Company, New Britain, Conn. Permutation-lock	261,632	July 25	1608	451	22	289
Scottron, Samuel R. (See Hicks, Benjamin I., assignor.) (Reissue.)						
Scovel, Philip S., Bordentown, N. J. Fire-escape	262,837	Aug. 15	1262	355	22	564
Scovill Manufacturing Company. (See Price, H. Clay, assignor.)						
Scranton, A. Hubert, *et al.* (See Scranton, Alfred L., assignor.)						
Scranton, Abner R., *et al.* (See Scranton, Alfred L., assignor.)						
Scranton, Alfred L., assignor of one-half to A. R. and A. H. Scranton, Rochelle, Ill. Milk-cooler	261,633	July 25	1609	451	22	289
Scribner, Charles E., assignor to Western Electric Manufacturing Company, Chicago, Ill. Microphone	262,700	Aug. 15	1090	308	22	535
Scribner, Charles E., assignor to Western Electric Manufacturing Company, Chicago, Ill. Circuit for multiple switch-boards of telephone-exchanges	262,701	Aug. 15	1091	309	22	535
Scribner, Charles E., assignor to Western Electric Manufacturing Company, Chicago, Ill. Polarized bell	264,109	Sept. 12	545	149	22	877
Scribner, Charles E., assignor, by mesne assignments, to Western Electric Company, Chicago, Ill. Circuit for annunciators of telephone-exchanges	266,319	Oct. 24	1352	382	22	1386
Scribner, Charles E., assignor, by mesne assignments, to Western Electric Company, Chicago, Ill. Telephone switch-board and pneumatic signal therefor	266,320	Oct. 24	1353	382 / 383	22	1386
Scribner, Charles E., assignor, by mesne assignments, to Western Electric Company, Chicago, Ill. Telephone-exchange system	266,321	Oct. 24	1355	383	22	1387

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Scutt, John F., Joliet, Ill. Wire fence-barb	264,110	Sept. 12	546	149	22	877
Seabury, Charles B., New York, N. Y. Paper box-basket	265,985	Oct. 17	930	262	22	1306
Seabury, Charles E., Stony Brook, N. Y. Fire-escape	265,877	Oct. 10	787	223	22	1276
Seabury, Frederick W., Providence, R. I. Horseshoe	267,023	Nov. 7	79	24	22	1554
Seabury, John H., Hempstead, N. Y. Faucet	260,615	July 4	334	91	22	57
Seabury, John H., Hempstead, N. Y. Faucet	264,573	Sept. 19	1052	299	22	978
Seabury, John H., Hempstead, N. Y. Faucet	267,803	Nov. 21	1064	298	22	1743
Seagrave, Frederic S., Rochester, Mich. Trussed ladder	266,905	Oct. 31	2026	584	22	1517
Seaman, Albert J., Stanford, Ky. Petticoat-pipe for locomotive-engines						
Seaman, Henry. (See Betzer, Lemuel S., assignor.)						
Seaman, William K., Scranton, Pa. Machinery for carrying, cutting, and cambering rail-way-rails	261,769	July 25	1771	498, 499, 500	22	316
Seaman, William K., Scranton, Pa. Rail-straightening machine	266,536	Oct. 24	1600	455	22	1431
Searing, Theodore W., New York, N. Y. Attaching strings to tags	263,600	Aug. 29	2240	640	22	752
Searing, Theodore W., New York, N. Y. Tag-hook	263,601	Aug. 29	2241	641	22	752
Searing, Theodore W., New York, N. Y. Pin-tag	265,986	Oct. 17	930	263	22	1306
Searle, Willard W. (See Pine, Turner, and Searle.)						
Sears, C. W. (See Atkinson, Thomas, assignor.)						
Sears, Edwin P., Buffalo, N. Y. Buckle	261,052	July 11	899	249	22	155
Sears, Edwin P., Buffalo, N. Y. Buckle	268,550	Dec. 5	192	54	22	1922
Sears, Henry C., assignor to D. P. Nichols & Co., Boston, Mass. Vehicle	264,901	Sept. 26	1446	408, 409	22	1055
Sears, Joseph, and O. G. Burnham, Chicago, Ill. Filter	262,702	Aug. 15	1092	309	22	535
Secor, James F., Jr. (See Drake, Franklin J., assignor.)						
Secor, Jerome B., Bridgeport, Conn. Connecting buttons to fabrics	266,055	Oct. 17	1012	286	22	1321
Secor, Nelson. (See Johnston, Abner, assignor.)						
Sedlaczek, Hermann, F. Wikulill, Leben, Austria, and S. Schuckert, Nuremberg, Bavaria, Germany. Electric lamp	264,346	Sept. 12	800	225	22	923
See, Horace, Philadelphia, Pa. Valve-gear	263,817	Sept. 5	185	54	22	805
See, Horace, Philadelphia, Pa. Valve-gear	263,818	Sept. 5	186	54, 55	22	805
See, James W. (See Gordon and See.)						
See, James W., Hamilton, Ohio. Filtering and extracting machine	267,024	Nov. 7	80	24	22	1554
See, James W., Hamilton, Ohio. Electro-therapeutic apparatus	267,025	Nov. 7	82	24	22	1554
See, James W., assignor to Miles Tool Works, Hamilton, Ohio. Screw-cutting lathe	267,026	Nov. 7	83	25	22	1554
See, James W., Hamilton, Ohio, assignor to Yale Lock Manufactnring Company, Stamford, Conn. Telephone toll apparatus	268,045	Nov. 28	1359	380	22	1803
Seebach, Bertram G., Peru, Ill. Composition for cleaning and polishing metals	269,722	Dec. 26	1655	.....	22	2216
Seel, Louis H., and J. M. Smith, Anderson Court-House, S. C. Car-signal	268,735	Dec. 5	398	116	22	1963
Seele, Henry F. W., Rolla, Mo. Needle-threader for sewing-machines	268,551	Dec. 5	193	54	22	1922
Seely, David W., Tremont City, Ohio. Thill-coupling	266,649	Oct. 31	1732	500	22	1462
Seely, John A. (See Eckert and Seely.)						
Seely, John A. (See Eckert, Seely, and Eckert.)						
Seely, Samuel F., assignor of one-half to J. N. Clouse, Toledo, Ohio. Pinch-bar for moving cars	261,392	July 18	1216	367	22	232
Segar, Charles T., assignor to C. T. Segar Manufacturing Company, Utica, N. Y. Folding cot	261,770	July 25	1773	500	22	317
Segar Manufacturing Company, C. T. (See Ogborn and Kendrick, assignors.) (Reissne.)						
Segar Manufacturing Company, C. T. (See Segar, Charles T., assignor.)						
Segur, Joseph M. (See Haight and Segur.)						
Seiberling, John F., Akron, Ohio. Grain-binding harvester	269,332	Dec. 19	1153	338, 339, 340	22	2113
Seiberling, John F., Akron, Ohio. Self-binding harvester	269,333	Dec. 19	1158	340	22	2114
Seibert, Cicero, Indianapolis, Ind. Hame	267,266	Nov. 7	385	111	22	1609
Seidel, Gustav. (See Herbst and Seidel.)						
Seiler, Paul, assignor of one-half to A. Nunez, San Francisco, Cal. Automatic telegraph signal-box	269,124	Dec. 12	884	260	22	2058
Seitz, Lewis, Bloomville, Ohio. Car-coupling	266,537	Oct. 24	1601	455	22	1432
Selden, George, Erie, Pa. Cigar-lighter. (Reissue)	10,200	Sept. 19	1370	387	22	1035
Sell, Edgar E., Fairmount, S. C. Convertible furniture	269,723	Dec. 26	1656	475, 476	22	2216
Sellers, William. (See Williams, Garner C., assignor.)						
Sellers, William, Philadelphia, Pa. Friction-clutch	260,791	July 11	576	156	22	102
Sellers, William, Philadelphia, Pa. Pump	268,832	Dec. 12	920	156	22	1993
Seltsam, Friedrich, Forchheim, Bavaria, Germany. Method of and apparatus for separating and recovering the fatty matters from bones	261,634	July 25	1610	432, 433	22	289
Semper, Conrad, assignor to J., G. L., Jr., and T. S. Harrison, Philadelphia, Pa. Removing iron from ferruginous solutions	264,773	Sept. 19	1281	.....	22	1021
Semper, Conrad, assignor to J., G. L., Jr., and T. S. Harrison, Philadelphia, Pa. Removing iron and manganese from certain solutions	264,774	Sept. 19	1282	.....	22	1021
Senderling, Martin L., Jersey City, N. J. Bearing for loose pulleys, &c	268,592	Dec. 5	193	54	22	1923
Senécal, Louis M., St. Henri, assignor of one-half to J. D. Stuart, Montreal, Quebec, Canada. Nail-plate feeder	261,878	Aug. 1	62	18, 19	22	346
Senn, Jacques, New York, N. Y. Lead-pencil	269,724	Dec. 26	1657	476	22	2216
Senn, John T., Troy, Ala. Guano-distributer	261,771	July 25	1774	501	22	317
Serfass, Aaron. (See Collinge and Serfass.)						
Sergeant & Cullingworth Company. (See Sergeant, Henry C., assignor.)						
Sergeant, Henry C., assignor to Sergeant & Cullingworth Company, New York, N. Y. Valve for air-compressors	264,775	Sept. 19	1284	363	22	1021
Seesoms, David J., Blocker's, N. C. Combined howel and croze	267,601	Nov. 14	820	235	22	1691
Seton, John. (See Conolly, William, assignor.)						
Sette, Fred., Racine, Wis. Pillow-sham holder	263,730	Sept. 5	74	23	22	787
Severson, Stephen. (See Enders, Joseph, assignor.)						
Severy, Melvin L., Boston, Mass. Bottling-machine	262,324	Aug. 8	631	177	22	448
Sewall, Daniel D., Augusta, and J. H. Sewall, Portland, Me. Car-heating apparatus	265,284	Oct. 3	66	20	22	1147
Sewall, James H. (See Sewall, Daniel D. and J. H.)						
Seward, Moses, New Haven, Conn. Die for forging fifth-wheels	268,553	Dec. 5	195	55	22	1923
Sexton, Isaac, Somerville, Mass. Cracker-can	264,347	Sept. 12	802	226	22	924
Sexton, Isaac, Somerville, Mass. Can-jacket	266,211	Oct. 17	1200	338	22	1352
Sexton, Joseph C. Wytheville, Va. Side-saddle tree	264,199	Sept. 12	638	176	22	894
Sexton, William F., Sr., and William F., Jr., Toronto, Ontario, Canada. Door-balance	261,487	July 18	1419	397	22	250
Seybold, George. (See Sharp, Isaac, assignor.)						
Seymour, Charles, assignor to Defiance Machine Works, Defiance, Ohio. Mortising-machine	267,465	Nov. 14	647	186	22	1660

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Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
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Seymour, Henry A., Washington, D. C., assignor to G. W. Stockly, Cleveland, Ohio. Electric-light mast	261,260	July 18	1153	322	22	205
Seymour, Henry A., Washington, D. C., assignor to G. W. Stockly, Cleveland, Ohio. Carbon for incandescent lamps	261,261	July 18	1154	323	22	206
Seymour, Henry A., Washington, D. C., assignor to G. W. Stockly, Cleveland, Ohio. Electric-light apparatus	261,262	July 18	1155	324	22	206
Seymour, Henry A., Washington, D. C., assignor to G. W. Stockly, Cleveland, Ohio. Incandescent lamp	261,263	July 18	1158	324	22	206
Seymour, Henry A., Washington, D. C., assignor to G. W. Stockly, Cleveland, Ohio. Carbor for electric lamps	261,264	July 18	1159	324	22	206
Seymour, Henry A., Washington, D. C., assignor to G. W. Stockly, Cleveland, Ohio. Thermostatic cut-out for electric lighting systems	261,265	July 18	1160	324, 325	22	207
Shackleford, John M., *et al.* (See Roberts, John W., assignor.)						
Shafer, John, Logansport, Ind. Wagon-rack	265,878	Oct. 10	788	223	22	1276
Shaffer, H. E. (See Barrie, Samuel S., assignor.) (Reissne.)						
Shaffer, Richard M., Cranberry, W. Va. Paper-bag holder	262,838	Aug. 15	1263	355	22	565
Shaffer, William C., and S. M. Pinsh, Philadelphia, Pa. Fire-guard for places of amusement	261,772	July 25	1774	501	22	317
Shaffer, William C., and A. M. White, Philadelphia, Pa., assignors to Railroad Safety Lock and Signal Company, of New Jersey. Automatically stopping trains and signaling	269,235	Dec. 19	1029	300	22	2090
Shaler, Ira W., Brooklyn, N. Y. Attachment to burners for gas, &c	267,466	Nov. 14	648	186	22	1660
Shane, Oscar G., Blanco, assignor of one-half to A. W. Maursund, Blanco County, Tex. Plaiting-machine	262,135	Aug. 1	392	110	22	400
Shannon, Albert. (See Shannon, Edgar and A.)						
Shannon, Charles L. (See Lebeau and Shannon.)						
Shannon, Edgar and A., Catawissa, Mo. Corn-planter	263,064	Aug. 22	1545	436	22	625
Shannon, Richard H., Bridgeport, Conn. Combined elastic and spring stretcher	263,819	Sept. 5	189	55	22	805
Sharp, Alpheus P. (See Leach, Charles H., assignor.)						
Sharp, Charles M., *et al.* (See Sharp, Dennis P., assignor.)						
Sharp, Dennis P., assignor to C. M. Sharp and C. C. Post, Ithaca, N. Y. Plow-sulky	267,602	Nov. 14	821	235	22	1691
Sharp, George W., Crawfordaville, Ind. Band cutter and feeder	266,394	Oct. 24	1448	411	22	1404
Sharp, George W., Crawfordaville, Ind. Grain-meter	266,395	Oct. 24	1450	412	22	1404
Sharp, Isaac, assignor of one-half to G. Seybold, Waveland, Ind. Plug for countersinks	264,776	Sept. 19	1284	363	22	1021
Sharp, Isaac S., *et al.* (See Felster, Henry P., assignor.)						
Sharp, Samuel T. (See Yeoman, James R., assignor.)						
Sharp, Thomas. (See Heaton and Mead, assignors.)						
Sharpe, Theodore M., Salisbury, Mo. Car-coupling	263,972	Sept. 5	375	105	22	839
Shattuck, Arthur, and C. Thorn, Jr., Santa Rosa, Cal. Adding-machine	268,135	Nov. 28	1464	408, 409	22	1822
Shattuck, Charles E. (See Combes, Frank A., assignor.)						
Shauf, Peter, Massillon, Ohio. Refrigerator	269,543	Dec. 26	1432	414	22	2172
Shaver, George F., Erie, Pa. Mechanical telephone-exchange	266,056	Oct. 17	1013	287	22	1321
Shaver, James. (See Barrett, James H., assignor.)						
Shaw, Ai B., Medford, Mass. Curtain-fixture	260,616	July 4	335	91	22	57
Shaw, Charles A. (See Nolan, Thomas, assignor.)						
Shaw, Edgar F., Boston, Mass. Meat-broiler	268,736	Dec. 5	399	116	22	1963
Shaw, Edward C., and G. H. Flinn, Lewiston, Me. Clearer for lifting-rods of spinning-frames	267,603	Nov. 14	822	235	22	1691
Shaw, Francis R., Chatham Centre, Ohio. Mechanical telephone	263,973	Sept. 5	376	105	22	839
Shaw, Frank. (See Root, Howard C., assignor.)						
Shaw, Frank, assignor of one-half to W. A. Childs, New York, N. Y. Head-telephone	268,554	Dec. 5	195	55	22	1923
Shaw, Henry F., Boston, Mass. Valve-gear for oscillating engines	267,725	Nov. 21	972	273, 274	22	1727
Shaw, Henry F., Boston, Mass. Locomotive-engine	267,726	Nov. 21	974	274	22	1727
Shaw, James T., Philadelphia, Pa. Device for transmitting and arresting motion	262,624	Aug. 15	996	279	22	517
Shaw, Loring D., Melrose, Mass. Automatic nozzle for hose-pipes	263,731	Sept. 5	75	23	22	788
Shaw, Loring D., assignor to himself, A. Warren, and J. C. Ayer, Boston, Mass. Air-gun	267,027	Nov. 7	85	26	22	1555
Shaw, Sumner, Boston, Mass. Ventilating device	269,236	Dec. 19	1031	301	22	2091
Shaw, Thomas. (See Richards, Jackson, assignor.)						
Shaw, Thomas, Philadelphia, Pa. Cooling cans of fruit	264,200	Sept. 12	639	177	22	895
Shaw, Thomas, Philadelphia, Pa. Pole-changing key	264,348	Sept. 12	803	226	22	924
Shaw, Thomas, Philadelphia, Pa. Friction-buffer	267,727	Nov. 21	975	274	22	1727
Shaw, William A., Brooklyn, assignor of one-half to L. K. Rogers, New York, N. Y. Secondary battery	266,262	Oct. 17	1267	359	22	1363
Shawver, Michael, Tremont, Ohio. Saw-mill dog	264,111	Sept. 12	547	149	22	878
Shay, Ephraim, Boyne, Mich. Universal joint	269,473	Dec. 19	1345	388	22	2149
Shay, Ephraim, Haring, Mich. Steering-propeller	269,725	Dec. 26	1658	476	22	2216
Sheard, Titus, Little Falls, N. Y. Thread-guide for knitting-machines	263,065	Aug. 22	1547	437	22	626
Shedlock, Alfred, New York, assignor to G. P. Byrne, trustee, Brooklyn, N. Y. Printing-press	260,702	July 11	577	156	22	102
Sheehy, Robert J., New York, N. Y. Cut-out for electric circuits	264,777	Sept. 19	1285	363	22	1021
Sheeler, Charles M., Baltimore, Md. Clamp	265,640	Oct. 10	510	139	22	1228
Sheets, William H. H., Pittsburg, Pa. Tuyere	265,156	Sept. 26	1750	489	22	1109
Sheffield, George S., Three Rivers, Mich. Hand-car	269,237	Dec. 19	1033	301	22	2091
Sheffield, George S., assignor of one-half to W. J. Willits, Three Rivers, Mich. Hand-car	260,903	July 11	702	191	22	124
Sheffield, George S., assignor to Sheffield Velocipede Car Company, Three Rivers, Mich. Car-wheel	263,732	Sept. 5	76	23	22	788
Sheffield, George S., assignor to Sheffield Velocipede Car Company, Three Rivers, Mich. Hand-car	264,481	Sept. 19	965	271	22	961
Sheffield, George S., assignor to Sheffield Velocipede Car Company, Three Rivers, Mich. Hand-car	265,987	Oct. 17	931	263	22	1306
Sheffield, George V., assignor of two-thirds to W. H. Winn, New York, and C. C. Dusenbury, White Plains, N. Y. Rotary motor	267,028	Nov. 7	87	26	22	1555
Sheffield, James A., Boaz, Wis. Egg-tester	266,728	Oct. 31	1828	530	22	1479
Sheffield Velocipede Car Company. (See Sheffield, George S., assignor.)						
Shefler, Conrad B., *et al.* (See Gray, Josiah, assignor.)						
Shelby, Christopher C., New York, N. Y. Stocking-supporter	267,943	Nov. 21	1226	345	22	1774
Sheldon, Porter. (See Brockway and Watts, assignors.)						
Sheldon, Porter. (See Brockway, Watts, and Sheldon.)						
Shellaberger, Michael M., Dayton, Ohio. Barb-wire-reel handle	264,778	Sept. 19	1287	363	22	1022
Shellenberger, Samuel L., Denison, Tex. Saddle-stirrup	267,728	Nov. 21	976	274, 275	22	1727
Shelley, George, Wilkes-Barré, Pa. Hydrant	260,904	July 11	704	192	22	124
Shellhorn, Thomas J., Hancock, Mich. Steam-boiler	265,879	Oct. 10	789	223	22	1276
Shellhorn, Thomas J., Hancock, Mich. Three-way cock for steam-brakes	265,880	Oct. 10	791	224	22	1277

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Shelton, Dyas, Santa Rosa, Cal. Vehicle-brake	262,488	Aug. 8	813	230	22	481
Shelton, Dyas, Santa Rosa, Cal. Vehicle-spring attachment	263,066	Aug. 22	1548	437	22	626
Shelton, Dyas, Santa Rosa, Cal. Tongue-support	263,435	Aug. 29	2049	587	22	717
Shelton, Dyas, Santa Rosa, Cal. Vehicle-brake	264,201	Sept. 12	640	177	22	895
Shelton, James, Philadelphia, Pa. Sock or stocking and art of making the same	264,349	Sept. 12	804	226	22	924
Shelton, Levi T., Oakland, Wash. Ter. Ax and brush-hook	260,423	July 4	94	26	22	17
Sheneman, William H., Marysville, Ohio. Miner's pick	266,057	Oct. 17	1015	287	22	1321
Shepard & Co., J. E. (See Roux, Benoit, assignor.)						
Shepard, George E., Troy, N. Y. Scrap-book	267,604	Nov. 14	822	235	22	1691
Shepherd, John R. (See Stout, Elvearo, assignor.)						
Sheppard, Warren W., *et al.* (See McIntyre, Neil G., assignor.)						
Sherburne, Charles W., Somerville, Mass. Lubricator	266,058	Oct. 17	1016	287	22	1321
Sherd, William S., Castle Rock, Minn. Driving-rein	268,046	Nov. 28	1360	380	22	1803
Sheridan, Henry B., Cleveland, Ohio. Armature for dynamo-electric machines	262,136	Aug. 1	393	110	22	400
Sheridan, Joseph, Jersey City, N. J. Manufacture of spoons and forks	269,726	Dec. 26	1659	477	22	2216
Sherman, Albert R., Pawtucket, R. I. Bearing for spinning-spindles	260,711	July 4	469	127	22	79
Sherman, Albert R., Pawtucket, R. I. Elastic packing for spinning-spindle holsters	264,779	Sept. 19	1287	364	22	1022
Sherman, Benjamin F. (See Bow, James, assignor.)						
Sherman, Charles E., and L. Sachse, Havilah, Cal. Candlestick	263,436	Aug. 29	2050	587	22	718
Sherman, Jeremiah G., assignor of one-half to S. S. Sherman, McHenry, Ill. Sulky-plow	268,737	Dec. 5	400	110	22	1963
Sherman, John, Cleveland, Ohio. Nut-lock	269,474	Dec. 19	1346	388	22	2149
Sherman, Jonathan, Jr., Chicago, Ill., assignor, by mesne assignments, to American Pressed Tan Bark Company, of New Jersey. Preparation of tan-bark for transportation. (Reissue)	10,211	Sept. 26	1866	.....	22	1130
Sherman, Jonathan, Jr., Chicago, Ill., assignor, by mesne assignments, to American Pressed Tan Bark Company, of New Jersey. Preparation of tan-bark for transportation. (Reissue)	10,230	Oct. 31	2124	.....	22	1534
Sherman, Lewis P. (See Kelly and Sherman.)						
Sherman, Roger, Somerville, Mass. Reversible toaster	268,047	Nov. 28	1361	381	22	1803
Sherman, Samuel S. (See Sherman, Jeremiah G., assignor.)						
Sherman, William F., Chicago, Ill. Elevated automatic railway	260 617	July 4	336	91, 92	22	57
Sherman, William J., St. Augustine, Fla. Driving tube-wells	267,605	Nov. 14	823	236	22	1691
Sherriff, J. B. & Wm. J. (See Coll, Hugh, assignor.) (Reissne.)						
Sherwin, Isaac S., Battle Creek, Mich. Guide-post for sliding gates	264,350	Sept. 12	805	226	22	924
Sherwood, James H. (See McDonnell and Sherwood.)						
Sherwood, John P., New Brighton, Pa. Earthenware jug	266,906	Oct. 31	2026	584	22	1517
Shibley, John. (See Stanton and Shibley.)						
Shickle, Frederick, St. Louis, Mo. Pipe-molding apparatus	261,960	Aug. 1	167	48, 49	22	364
Shickle, Frederick, St. Louis, Mo. Pipe-molding apparatus	261,961	Aug. 1	168	49, 50	22	364
Shickle, Frederick, St. Louis, Mo. Pipe-molding apparatus	261,962	Aug. 1	169	50	22	364
Shickle, Frederick, St. Louis, Mo. Pipe-molding apparatus	261,963	Aug. 1	169	50	22	364
Shickle, Frederick, St. Louis, Mo. Pipe-molding apparatus	261,964	Aug. 1	170	51	22	365
Shield, Henry, *et al.* (See Beechey, Charles G., assignor.)						
Shilliam, Samuel. (See Reed and Shilliam.)						
Shimer, George J. (See Shimer, Samuel J. and G. J.)						
Shimer, Milton J., Freemansburg, Pa. Manufacturing sad-irons	238,948	Dec. 12	665	195	22	2020
Shimer, Samuel J., Milton, and G. J. Shimer, Freemansburg, Pa. Cutter-head	261,966	July 18	1163	315, 326	22	207
Shinkle, Charles, Covington, Ky. Drainage apparatus	260,793	July 11	579	157	22	103
Shinkle, Jacob W. (See Doolittle, William W., assignor.)						
Shipley, Charles. (See Baggs, John, assignor.)						
Shipley, Peter, Red Oak, Iowa. Stalk-cutter	269,544	Dec. 26	1436	414	22	2172
Shipman, William H., Newark, N. J. Window-reflector	269,125	Dec. 12	885	260	22	2058
Shiras, James O., and E. A. Eckert, Cincinnati, Ohio. Telephonic exchange system and apparatus therefor	269,238	Dec. 19	1035	302, 303, 304	22	2091
Shrier, Morris, New York, N. Y. Coat-hanger	269,727	Dec. 26	1660	477	22	2216
Shirk, George W., Van Orin, Ill. Picture-exhibitor	263,974	Sept. 5	376	105	22	839
Shirk, Henry R., Albion, Ind. Meat-chopping machine	268,298	Nov. 28	1667	462	22	1859
Shirley, Frederick S., New Bedford, Mass. Glassware	262,738	Dec. 5	401	117	22	1963
Shirley, John R., Providence, R. I. Ventilation	261,488	July 18	1420	397	22	250
Shirtcliff, Charles. (See Wrightson, Arthur, assignor.)						
Shoemaker, David M., assignor to L. S. Ayres, Columbus, Ohio. Tinman's furnace	265,157	Sept. 26	1752	489	22	1109
Shoemaker, William B. (See Butler, George W., assignor.)						
Shone, Joseph A., Salem, Mass. Device for holding spectacles	264,574	Sept. 19	1053	299	22	978
Shook, Levi, Pittsburg, Pa. Expansion-coupling for steam-pipes	264,965	Sept. 26	1534	431	22	1070
Shorey, Mark R. (See Estes and Shorey.)						
Shortsleeve, David, assignor of one-half to S. W. Rowell, Rutland, Vt. Machine for ornamenting stone	260,424	July 4	95	26, 27, 28	22	17
Shoudy, Daniel W. (See Shoudy, Israel, Jr., and D. W.)						
Shoudy, Israel, Jr., and D. W., Paw Paw Grove, Ill. Railway-jack	262,839	Aug. 15	1263	355	22	565
Shoudy, Israel, Jr., and C. Atherton, Paw Paw Grove, Ill.; said Atherton assignor of one-third to said Shoudy. Dumping-car	268,299	Nov. 28	1668	463	22	1859
Shreffler, Levi S., Elmira, N. Y. Flexible matching and veneering	264,482	Sept. 19	966	271	22	961
Shreve, David S., Correct, Ind. Car-coupling	267,267	Nov. 7	385	112	22	1609
Shriver, Frederick, Grand Rapids, Mich. Furnace-grate	265,158	Sept. 26	1752	489	22	1109
Shriver, Henry D., Baltimore, Md. Bag-holder	265,450	Oct. 3	254	77	22	1181
Shroyer, Oliver H. P., Dayton, Ohio. Truck for moving reapers	265,988	Oct. 17	933	263	22	1307
Shrum, William F. (See Huson, Joseph, assignor.)						
Shufelt, Calvin P., assignor of one-half to J. P. and H. A. Adams, Sandwich, Ill. Grain-binder	265,159	Sept. 26	1754	490	22	1110
Shults, John C. (See Goetchius and Shults.)						
Shumaker, Charles F., Silver Creek, N. Y. Machine for grinding grain	265,160	Sept. 26	1758	490	22	1110
Shumway, Bernard K., Chicopee Falls, Mass. Calipers and dividers	263,602	Aug. 29	2241	641	22	752
Shumway, G. Walter, *et al.* (See Tully, Thomas, assignor.)						
Shupe, David D., Philadelphia, Pa. Cabinet folding bedstead	261,053	July 11	900	249, 250	22	155
Shupe, David D., Philadelphia, Pa. Hinge	269,126	Dec. 12	886	261	22	2058
Shute, Isaac B., Cambridge, Mass. Carpet-sweeper	269,127	Dec. 12	887	261	22	2058
Shute, Samuel E., assignor of five-eighths to E. Holbrook and E. Cockayne, Richmond, Ind. Nut-lock	265,285	Oct. 3	68	21	22	1148
Shuter, William F., Manistee, Mich. Stove-cover lifter	261,393	July 18	1316	367	22	292
Sibert, Francis W., and S. P. Hurd, San Antonio, Tex. Combined pole-tip and neck-yoke clamp	267,606	Nov. 14	824	236	22	1692

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Sibley, Henry E. (See Knowles, John A., assignor.)						
Sibley, John T., St. Louis, Mo. Car-coupling	268,730	Dec. 5	402	117	22	1963
Sibley, Richard C., New York, N. Y. Life-preserver bathing-suit	262,703	Aug. 15	1093	309	22	535
Sickels, Frederick E., New York, N. Y. Dumping-scow	266,212	Oct. 17	1290	338	22	1352
Siebert, John J., McGirk, Mo. Hay-rack	268,048	Nov. 28	1361	381	22	1803
Sieg, Rudolf, New Orleans, La., assignor to E. Foote, New York, N. Y. Diffusion apparatus	268,949	Dec. 12	666	195, 196	22	2020
Siegrist, August, Buffalo, N. Y. Rotary pump	263,975	Sept. 5	377	105, 106	22	840
Siemens Brothers & Company. (See Siemens, Ernst W., assignor.)						
Siemens, Charles W. (See Siemens, Frederick, assignor.)						
Siemens, Charles W., Westminster, county of Middlesex, England. Domestic grate or fire-place	266,213	Oct. 17	1292	339	22	1352
Siemens, Charles W., Westminster, county of Middlesex, England. Gas-lamp	267,113	Nov. 7	195	56, 57	22	1575
Siemens, Ernst W., Berlin, Germany, assignor to Siemens Brothers & Company, (limited,) Westminster, England. Dynamo-electric machine	264,780	Sept. 19	1288	364	22	1022
Siemens, Frederick, Dresden, Germany, assignor to C. W. Siemens, Westminster, England. Construction and method of working glass-melting furnaces	261,054	July 11	901	250	22	155
Silabon, Cornelious R., Hull, county of York, England. Roundabout	266,907	Oct. 31	2028	584	22	1517
Silberman, Adam, *et al.* (See Schmidt, Christian, assignor.)						
Silberschmidt, S. (See Metcalfe, Gill W., assignor.)						
Silcott, John W., Snickersville, Va. Bee-hive	266,059	Oct. 17	1017	288	22	1322
Sill, Cyrus B., Youngstown, Ohio. Umbrella	263,733	Sept. 5	77	21	22	788
Silliman, Jnatus M., Easton, Pa. Instrument for projection-drawing	262,137	Aug. 1	393	110	22	401
Sillman, Henry R., Brooklyn, N. Y. Bronzing-machine	265,286	Oct. 3	69	21	22	1148
Silver, Hugh A., and W. Fletcher, London, England. Breech-loading fire-arm	263,976	Sept. 5	378	106, 107	22	840
Silver, Samuel N., Auburn, Me. Velocipede	267,607	Nov. 14	825	236	22	1692
Silvens, Michael, Taylorsville, assignor of one-half to J. Chandler, Christian County, Ill. Washing-machine	264,781	Sept. 19	1291	364	22	1022
Simkins, Lebbens, Marshfield, Oreg. Fruit-picker	268,950	Dec. 12	670	196	22	2020
Simmons, Cameron M., Claiborne, Ala. Plow	264,351	Sept. 12	805	227	22	924
Simmons, Henry F. (See Swickard, Noah, assignor.)						
Simmons, Jacob, Baltimore, Md., assignor of one half to J. Goldstine. Coat	263,232	Aug. 22	1739	494	22	663
Simmons, R. F., *et al.* (See Crocker, Walter E., assignor.)						
Simmons, Richard, and W. Tyack, Beacon, Mich. Wrench	262,840	Aug. 15	1264	356	22	565
Simmons, Thomas, assignor of one-third to H. J. Wiers, Hartford, Conn. Truss	268,951	Dec. 12	671	196	22	2021
Simmons, Thomas A., assignor of one-half to W. Wagner, Kalamazoo, Mich. Hame-tug	260,905	July 11	705	192	22	124
Simmons, Zalman G. (See Wolcott, Edward T., assignor.)						
Simms, Henry W., Bay City, Mich. Attaching corkscrews to bottles	266,060	Oct. 17	1018	288	22	1322
Simon, John, assignor to H. E. Baumeister, New York, N. Y. Locking-latch	264,575	Sept. 19	1054	300	22	979
Simon, John, assignor to H. E. Baumeister, New York, N. Y. Glove-sewing machine	265,451	Oct. 3	255	77	22	1181
Simon, John P. L., and C. Abele, New York, N. Y. Apparatus for cooling air	267,114	Nov. 7	198	57	22	1575
Simonds, George F., Fitchburg, Mass. Crosscut-saw	269,728	Dec. 26	1661	477, 478	22	2217
Simonds, George F., Fitchburg, Mass. Machine for and method of grinding thin-back crosscut-saws	269,729	Dec. 26	1664	478, 479	22	2217
Simons, George W., and R. H. Gebott, St. Catharines, Ontario, Canada; said Simons assignor to said Gebott. Force-pump	266,538	Oct. 24	1092	456	22	1492
Simpson, C. Perrin, New York, N. Y. Urinal	268,555	Dec. 5	196	55	22	1923
Simpson & Gault. (See Huxtable, George L., assignor.)						
Simpson, George H., Minneapolis, Minn. Combined neck-band former and cuff and collar ironer	263,361	Aug. 29	1957	559	22	701
Simpson, Hall, Miller & Co. (See Beach, Joseph B., assignor.)						
Simpson, Joseph, Columbus, Ohio. Lamp-bracket and match-box combined	268,952	Dec. 12	672	197	22	2021
Simpson, Joseph C., Oakland, Cal. Blind-bridle	261,773	July 25	1776	501	22	317
Simpson, Josiah M., Chicago, Ill. Steam-boiler	260,425	July 4	98	28	22	18
Simpson, Thomas, Philadelphia, Pa. Apparatus for chroming fabrics	268,556	Dec. 5	197	55	22	1923
Sims, Mathew A., Warrenton, Va. Spark-arrester	263,362	Aug. 29	1959	560	22	702
Sinclair, Annie H., Philadelphia, Pa. Drawing-board	269,601	Dec. 26	1512	435	22	2187
Sinclair, James. (See Boyce, Thomas F., assignor.)						
Singer, Peter J. (See Voerde, Frederick W., assignor.)						
Singleton, William, Versailles, Ky. Bed-spring	261,774	July 25	1777	502	22	317
Sinnamon, John, Oswego, N. Y. Stove	268,833	Dec. 12	527	157	22	1994
Sinnhold, Paul, St. Louis, Mo. Seed-drill	265,708	Oct. 10	600	169	22	1243
Sivey, De Witt C., assignor to himself and H. Snow, Greenfield, Ind. Reclining-chair	268,557	Dec. 5	198	56	22	1924
Sjoberg, Carl A. J. (See Egge and Sjoberg.)						
Skelton, Edward L., Parsons, Kans. Corn-planter	263,233	Aug. 22	1740	494	22	663
Skelton, James J., *et al.* (See Skelton, William L., assignor.)						
Skelton, William A., *et al.* (See Skelton, William L., assignor.)						
Skelton, William L., assignor to himself, W. A., and J. J. Skelton, Jacksonville, Ala. Car-coupling	267,608	Nov. 14	828	237	22	1692
Skerritt, William H., Jersey City, N. J. Elevator	263,603	Aug. 29	2242	641	22	753
Skerritt, William H., Jersey City, N. J. Safety device for elevators	264,352	Sept. 12	806	227	22	924
Skinner, Arthur. (See Paré, Hilaire, assignor.)						
Skinner, E. B., *et al.* (See McCreary, John, assignor.)						
Skinner, George F., Ponghkeepsie, N. Y. Dumb-waiter	263,734	Sept. 5	78	24	22	788
Skinner, Halcyon, assignor to A. Smith & Sons Carpet Company, Yonkers, N. Y. Yarn-printing machine	264,112	Sept. 12	548	149	22	878
Skinner, Le Grand, Erie, Pa. Engine-governor	266,214	Oct. 17	1204	340	22	1353
Skinner, Samuel W. (See Thomas, William M., assignor.)						
Slack, William. (See Sullivan, Daniel, assignor.)						
Sladdin, Joseph, Lawrence, Mass. Device for supporting loom-harness	268,136	Nov. 28	1465	409	22	1823
Slafter, Coroden J., Grand Junction, Mich. Telegraph-cable	267,609	Nov. 14	828	237	22	1692
Slafter, Coroden J., Grand Junction, Mich. Car-label holder	268,834	Dec. 12	528	157	22	1994
Slagle, Albert, London, Ohio. Cork-extractor	264,902	Sept. 26	1447	409	22	1055
Slagle, Oliver, London, Ohio. Hanging gates	262,989	Aug. 22	1454	410	22	609
Slanker, Frank O., Pomona, Cal. Pruning implement	265,161	Sept. 26	1759	491	22	1111
Slater, James J., assignor of one-half to T. W. and J. B. Townsley, Lindale, Ohio. Grain, root, and compost dropper	262,138	Aug. 1	395	111	22	401
Slater, Stephen, North Smithfield, R. I. Cranial tractor	261,394	July 18	1317	368	22	292
Slater, Stephen, North Smithfield, R. I. Cranial perforator	262,489	Aug. 8	815	230	22	481
Slattery Incandescent Lamp Company. (See Slattery, Marmaduke M. M., assignor.)						
Slattery, Marmaduke M. M., assignor to Slattery Incandescent Lamp Company, New York, N. Y. Treating incandescents	269,239	Dec. 19	1044	305	22	2093

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Slattery, Patrick, Charleston, S. C. Baling-press	264,576	Sept. 19	1056	300	22	979
Slaughter, Harry A., Higginsville, Mo. Button	261,055	July 11	903	250	22	155
Slaymaker, Robert M. (See Iske, Anthony and A., assignors.)						
Slayton, Nelson B., and W. D. Wells, Alfred Centre, N. Y. Glove or mitten	263,067	Aug. 22	1549	437	22	626
Sleeper, Walter H., Athol, Mass. Centering try-square	265,287	Oct. 3	71	22	22	1148
Sloan, Benjamin F., assignor of one-half to C. W. Bradley, Lexington, Ky. Tricycle	261,395	July 18	1317	368	22	233
Sloan, James C., Holley, N. Y. Corpse-cooler	266,539	Oct. 24	1602	456	22	1432
Slocum, John J., New York, assignor of one-half to J. C. Mount, Jr., Brooklyn, N. Y. Automatic toy	263,437	Aug. 29	2050	588	22	718
Small, Dexter M., Providence, R. I. Gas-burner gage	266,540	Oct. 24	1603	456	22	1432
Small, Dexter M., Providence, R. I. Gas-burner gage	266,541	Oct. 24	1604	457	22	1432
Small, Dexter M., Providence, R. I. Gas-burner gage	266,542	Oct. 24	1605	457	22	1432
Small, Dexter M., Providence, R. I. Gas-test and pressure-gage	266,543	Oct. 24	1606	457	22	1433
Small, Edward, Baltimore, Md. Sheet-metal can	261,396	July 18	1320	368	22	233
Small, Edward, Baltimore, Md. Apparatus for making wire-solder	262,625	Aug. 15	997	280	22	518
Small, Edward, Baltimore, Md. Sheet-metal vessel	263,068	Aug. 22	1550	437	22	626
Small, Michael S., Cape Elizabeth, Me. Fish-sack	268,558	Dec. 5	199	56	22	1924
Small, William, McKeesport, Pa. Guide for rolling-mills	268,559	Dec. 5	200	56	22	1924
Smead, Isaac D., Toledo, Ohio. Apparatus for heating and ventilating buildings	261,879	Aug. 1	65	19	22	346
Smead, Jonathan, East Wallingford, Vt. Sap-bucket	267,374	Nov. 14	539	154	22	1640
Smedley, Edwin. (See Hudson and Smedley.)						
Smeigh, James A., Pittsburg, Pa. Railway-frog	262,841	Aug. 15	1265	356	22	565
Smiley, Henry S., Meadville, Mo. Cultivator	269,732	Dec. 26	1671	480	22	2218
Smith, Allen H., Burlington, Kans. Windmill	263,069	Aug. 22	1551	438	22	626
Smith, Alonzo V., Cana, Cal. Girth	268,953	Dec. 12	672	197	22	2021
Smith, Ammi R., Maroa, Ill. Flour-bolting machine	264,353	Sept. 12	809	227	22	925
Smith, Anna L., Edmore, Mich. Ruffling attachment for sewing-machines	266,544	Oct. 24	1606	457	22	1433
Smith, Apollos, *et al.* (See Brownell, Willis L., assignor.)						
Smith, Apollos, *et al.* (See Brownell, Willis L., assignor.) (Reissue.)						
Smith, Benjamin. (See Anderson and Smith.)						
Smith, Benjamin C., assignor to F. Adee, New York, N.Y. Flushing-basin for water-closets	268,740	Dec. 5	402	117	22	1964
Smith, Benjamin F. (See Smith, George W., assignor.)						
Smith, Benjamin F., Alabaster, Mich. Car-brake	260,618	July 4	339	92	22	57
Smith, Benjamin F., Alabaster, Mich. Automatic car-brake	262,139	Aug. 1	396	111	22	401
Smith, Charles A., St. Louis, Mo. Door-alarm	262,490	Aug. 8	815	231	22	481
Smith, Charles A., St. Louis, Mo. Car-coupling	263,604	Aug. 29	2244	641	22	753
Smith, Charles A., assignor of one-half to W. Allen, Jr., St. Louis, Mo. Burglar-alarm for doors	268,300	Nov. 28	1668	463	22	1860
Smith, Charles D., W. A. Sanders, Amador City, and G. E. Woodbury, San Francisco, Cal. Ore-concentrator	261,177	July 18	1056	297	22	191
Smith, Charles D. F., Aurora, Ill. Tower for electric lights, &c	267,115	Nov. 7	199	58	22	1575
Smith, Charles F., Vineland, N. J. Ring-gage for jewelers	266,324	Oct. 24	1360	384	22	1388
Smith, Charles H., Knapp, Wis. Vehicle-wheel	262,990	Aug. 22	1455	410	22	609
Smith, Charles S., Bath-on-the-Hudson, N. Y. Railway-car	266,322	Oct. 24	1358	383	22	1387
Smith, Charles S., Bath-on-the-Hudson, N. Y. Adjustable hood for car-platforms	266,323	Oct. 24	1359	383	22	1387
Smith, Chester L., Norristown, Pa. Heating and drying apparatus for laundries	261,267	July 18	1164	326	22	207
Smith, David A., Greencastle, Pa. Windmill	269,731	Dec. 26	1670	480	22	2217
Smith, David N. (See Raynor and Smith.)						
Smith, David R. (See McCreary and Smith.)						
Smith, David W., Port Townsend, Wash. Ter. Buckle	266,908	Oct. 31	2028	585	22	1517
Smith, David W., Port Townsend, Wash. Ter. Safe. (Reissue)	10,254	Dec. 5	446	131	22	1972
Smith, Daniel S., Rockland, Mass., assignor to J. K. Krieg, New York, N. Y. Machine for closing the channels in boot and shoe soles	268,741	Dec. 5	404	118	22	1964
Smith, Edward A., St. Albans, Vt. Smoking-cartridge	261,056	July 11	903	251	22	156
Smith, Edward B., assignor of one-half to P. H. Gilkey, Richland, Mich. Lamp-lighter	269,241	Dec. 19	1047	305	22	2093
Smith, Eldridge J., assignor of one-half to J. Schwer, Jr., Williamsport, Pa. Wire fence	266,545	Oct. 24	1607	458	22	1433
Smith, Eli, and J. Duckworth, Springfield, Mass. Combination-tool	268,560	Dec. 5	202	56	22	1924
Smith, Elmer S., Erie, Pa., assignor of one-half to R. V. Pierce, Buffalo, N. Y. Apparatus for compressing and pumping air	269,730	Dec. 26	1668	{479 480}	22	2217
Smith, Fernando B., Wilmot, Ohio. Nozzle for sprinklers	264,354	Sept. 12	810	228	22	925
Smith, Francis F., Sandusky, and J. W. Lockwood, Gypsum, assignors to Sandusky Plow Company, Sandusky, Ohio. Power-lift for plows	262,547	Aug. 8	890	252	22	494
Smith, Frank G. (See Tomlinson, James, assignor.)						
Smith, Franklin A., Jr., Providence, R. I. Lacing-hook	266,651	Oct. 31	1734	500	22	1462
Smith, Franklin A., Jr., Providence, R. I. Button-fastener	266,652	Oct. 31	1735	500	22	1462
Smith, Franklin R. (See Lefever and Smith.)						
Smith, Franklin R., Syracuse, assignor to C. H. Tucker, Jordan, N. Y. Truss	266,215	Oct. 17	1206	340	22	1353
Smith, Fred A. (See Smith, Harrison D. and F. A.)						
Smith, Frederick H., St. Denis, Md. Car-wheel	266,961	Oct. 17	1018	288	22	1322
Smith, George A. (See Guerin, Emile, assignor.)						
Smith, George A., *et al.* (See Stevens, John L., assignor.)						
Smith, George D., Glenn Springs, S. C., assignor to himself and J. H. Hunt, New York, N. Y. Wagon-wheel tire	269,128	Dec. 12	888	261	22	2058
Smith, George H. (See Warder, Lemuel E., assignor.)						
Smith, George W. (See Parmenter, Orville L., assignor.)						
Smith, George W., Rock Falls, Ill. Wagon-skein	267,268	Nov. 7	386	112	22	1609
Smith, George W., Brooklyn, N. Y. Extension-handle for paint-brushes	268,301	Nov. 28	1669	463	22	1860
Smith, George W., assignor to himself and J. C. Dean, Harlansburg, Pa. Scaffold	264,577	Sept. 19	1057	300	22	979
Smith, George W., Boston, assignor of one-half to B. F. Smith, Somerville, Mass. Car-starter	265,547	Oct. 3	395	109	22	1203
Smith, George W., Harlansburg, assignor to himself and J. C. Dean, Lawrence County, Pa. Fire-escape	265,881	Oct. 10	791	224	22	1277
Smith, Gustavus L., Taunton, Mass. Gate-latch	261,635	July 25	1615	453	22	290
Smith, Hamilton E., New York, N. Y. Ironing-machine	262,491	Aug. 8	816	231	22	481
Smith, Harrison D. and F. A., Cincinnati, Ohio. Combined packing and toy box	261,775	July 25	1777	502	22	318
Smith, Hemphill, Shelby County, Tenn. Horse-power machine	264,483	Sept. 19	967	271	22	961
Smith, Henry A. (See Coleman and Smith.)						
Smith, Henry C., Cleveland, Ohio. Process of and apparatus for improving the fire-test of oils	268,302	Nov. 28	1670	{463 464}	22	1860
Smith, Hiram M., Richmond, Va. Press	263,605	Aug. 29	2245	642	22	753
Smith, Horace W., *et al.* (See Edleblute, Lucius S., assignor.)						
Smith, Howard M., St. Louis, Mo. Locomotive-furnace	264,355	Sept. 12	810	228	22	925
Smith, J. Harper, Raritan, N. J. Cloth-shearing machine	265,882	Oct. 10	793	224	22	1277
Smith, James B., Hackettstown, N. J. Railway-signal	264,782	Sept. 19	1291	365	22	1022
Smith, James C., Elyria, Ohio. Carriage-bow	264,203	Sept. 12	641	177	22	893

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Smith, James E., Wilkes-Barré, Pa. Car-coupling	265,162	Sept. 26	1760	491	22	1111
Smith, James G., *et al.* (See Buell, Charles E., assignor.)						
Smith, James G., *et al.* (See Coy, George W., assignor.)						
Smith, James G., Cleveland, Ohio. Fire-place	265,163	Sept. 26	1760	491	22	1111
Smith, James H., Euston Road, county of Middlesex, England. Governor for marine engines	264,356	Sept. 12	811	228	22	925
Smith, James H., assignor to Wheel and Seeder Company, Fond du Lac, Wis. Cultivator-tooth	261,636	July 25	1616	454	22	290
Smith, James L., Ashtabula, Ohio. Carriage-bow	268,436	Dec. 5	77	24	22	1901
Smith, James L., Ashtabula, Ohio. Carriage-bow	268,437	Dec. 5	77	24	22	1901
Smith, James T., Baltimore, Md. Boiler	264,357	Sept. 12	813	229	22	926
Smith, James T., New York, N. Y. Umbrella-support	263,606	Aug. 29	2248	642	22	753
Smith, James T., New York, N. Y. Duster	264,358	Sept. 12	813	229	22	926
Smith, Jeremiah H., Pleasanton Kans. Saddle-pad block	268,742	Dec. 5	405	118	22	1964
Smith, Jesse M. (See Seel and Smith.)						
Smith, John, Conshohocken, Pa., assignor, by mesne assignments, to Willcox & Gibbs Sewing Machine Company, New York, N. Y. Cutting attachment for sewing-machines	262,842	Aug. 15	1267	356	22	566
Smith, John B. (See Smith, Lorenzo D. and J. B.)						
Smith, John B., *et al.* (See King, Sidney D., assignor.) (Reissue.)						
Smith, John B., and L. E. Barker, Greenwich, Ohio. Nut-lock	267,269	Nov. 7	387	112	22	1609
Smith, John E., Buffalo, N. Y. Meat-cutter	261,397	July 18	1321	{368 369}	22	233
Smith, John F. S., Chicago, Ill. Automatic gate-opener for elevators	260,794	July 11	580	157	22	103
Smith, John F. S., Chicago, Ill. Automatic gate for elevators	265,342	Oct. 3	140	41	22	1160
Smith, John G., St. Louis, Mo. Bed-bottom	269,242	Dec. 19	1048	306	22	2093
Smith, John H., Fairchild, Wis. Car-coupling	260,619	July 4	340	92	22	58
Smith, John O., assignor to himself and W. F. Chaplin, Jr., Savannah, Ga. Brick-machine	265,883	Oct. 10	794	225	22	1277
Smith, John R., Rochester, N. Y. Dust-collector for flour-mills	267,467	Nov. 14	649	186	22	1661
Smith, John S., Jackson, Mich. Revolving table for tile-mills	267,760	Nov. 21	1005	283	22	1733
Smith, John W. (See Smith, Sampson, assignor.)						
Smith, John W., Newport, R. I. Gold-foil-annealing apparatus	263,607	Aug. 29	2249	642	22	754
Smith, Joseph D., assignor of one-half to L. D. Minnick, Rockford, Ill. Corn-planter	264,419	Sept. 12	881	248	22	938
Smith, Joseph N. (See Cook, Moses G., assignor.)						
Smith, Joseph P. (See Brassill, Michael, assignor.)						
Smith, Joseph S., *et al.* (See Buckley, Edward H., assignor.)						
Smith, Julia C., Ashton, Ill. Compound culinary tool	265,164	Sept. 26	1761	491	22	1111
Smith, Levi, Tidioute, Pa. Screw	260,795	July 11	581	157	22	103
Smith, Lewis C., Berlin, Wis. Chimney-top	261,398	July 18	1322	369	22	233
Smith, Lewis J., Grapeville, N. Y. Package for butter	263,234	Aug. 22	1741	494	22	664
Smith, Lorenzo D., Baldwin, and J. B. Smith, Patchogue, N. Y. Safety apparatus for sea-bathers	262,843	Aug. 15	1269	357	22	566
Smith, Lyman, Kansas City, assignor to L. L. Smith, Jackson County, Mo. Pneumatic grain-elevator	268,303	Nov. 28	1671	464	22	1860
Smith, Lyman, Kansas City, Mo. Eccentric-shaped filter	268,304	Nov. 28	1673	464	22	1861
Smith, Lyman L. (See Smith, Lyman, assignor.)						
Smith, Lyman L., Kansas City, Mo. Pneumatic grain-elevator	268,305	Nov. 28	1674	465	22	1861
Smith, Lyman T., New Haven, Conn. Die for forming carriage-curtain loops	269,240	Dec. 19	1045	305	22	2093
Smith Manufacturing Company. (See Smyth, David M., assignor.)						
Smith, Martin V., McKeesport, Pa. Regenerator for metallurgic and other furnaces	261,057	July 11	904	251	22	156
Smith, Martin V., Tyrone, Pa. Furnace for melting glass, &c	267,116	Nov. 7	201	58, 59	22	1576
Smith, Marvin O., New Buffalo, Mich. Drag-saw	266,650	Oct. 31	1733	500	22	1462
Smith Middlings Purifier Company, George T. (See Dell, William B., assignor.)						
Smith Middlings Purifier Company, George T. (See Finch, John M., assignor.)						
Smith, Myers & Schnier. (See Smith and Myers, assignors.)						
Smith, Nelson, Belleville, N. Y. Churn	269,129	Dec. 12	889	261	22	2058
Smith, Orvil A. (See Burr and Smith.)						
Smith, Parker, Goodell, Pa. Sucker-rod elevator	263,820	Sept. 5	189	55	22	806
Smith, Perry H., Topeka, Kans. Grain-drill attachment	266,325	Oct. 24	1360	384	22	1388
Smith & Poland. (See Poland, Charles H., assignor.)						
Smith & Rhodes Electric Company. (See Rhodes, Thomas H., assignor.)						
Smith, Richard, Sherbrooke, Quebec, Canada. Reciprocating propeller	264,903	Sept. 26	1448	{409 410}	22	1055
Smith, Richard, Sherbrooke, Quebec, Canada. Reciprocating propeller for vessels. (Reissue)	10,292	Oct. 24	1669	480	22	1444
Smith, Richards C., Baltimore, Md. Car-starter	262,251	Aug. 8	542	153	22	433
Smith, Roland H., Pittsburg, Pa. Gas apparatus	260,712	July 4	469	{127 128}	22	80
Smith, Roland H., Pittsburg, Pa. Pipe-joint	269,334	Dec. 19	1161	341	22	2114
Smith, Roland H., J. Goldthorp, and W. J. Fawcett, Pittsburg, Pa. Carburetor	262,991	Aug. 22	1456	410	22	610
Smith, Sampson, New Bethlehem, assignor of one-half to J. W. Smith, Allegheny, Pa. Miner's pick	263,977	Sept. 5	380	107	22	840
Smith, Samuel R., and E. Myers, Cincinnati, Ohio, assignors to Smith, Myers & Schnier. Circular-saw mill	262,844	Aug. 15	1271	357	22	567
Smith, Sidney. (See Henson, Hudson, and Smith.)						
Smith, Simeon, Graymont, Ill. Corn-planter, check-rower, and drill	265,165	Sept. 26	1762	492	22	1111
Smith & Sons Carpet Company, Alexander. (See Skinner, Halcyon, assignor.)						
Smith, Stephen G., Hannibal, Mo. Syringe	264,904	Sept. 26	1457	411	22	1056
Smith, Theodore, and M. P. McKoon, Franklin, N. Y. Balance-spring holder for watches	266,396	Oct. 24	1453	412	22	1405
Smith, Theron A., Arbuckle, Cal. Car-coupling	267,117	Nov. 7	203	59	22	1576
Smith, Thomas L., and W. S. Doig, Brooklyn, N. Y. Nail-feeding mechanism	265,166	Sept. 26	1764	492	22	1111
Smith, Thomas M., Batesville, Ark. Combined scraper and harrow	263,978	Sept. 5	381	107	22	840
Smith, Thomas W., and C. Birely, Connersville, Ind. Machine for forming furniture-joints	269,602	Dec. 26	1513	435	22	2188
Smith, True J., Topeka, Kans. Metallic post for wire fences	265,989	Oct. 17	933	263	22	1307
Smith, William, Eaton Rapids, Mich. Boot	260,426	July 4	99	28	22	18
Smith, William, Eaton Rapids, Mich. Fastener for boot-straps	262,626	Aug. 15	998	280	22	518
Smith, William A. (See Tiffin and Smith.)						
Smith, William A., Memphis, Tenn. Cotton-gin	265,452	Oct. 3	257	78	22	1182
Smith, William B., Clayton, Ill. Washing-machine	269,335	Dec. 19	1162	{341 342}	22	2115
Smith, William D., Pittsburg, Pa. Alarm apparatus for eight-day clocks	269,475	Dec. 19	1347	368	22	2149
Smith, William E. (See Williams, George W., assignor.)						
Smith, William E., Berwick, Pa. Ink-well	261,776	July 25	1778	502	22	318
Smith, William F. (See Kilborn and Smith.)						
Smith, William H., Chicago, Ill. Apparatus for recovering food products from distillery-swill	260,427	July 4	100	28, 29	22	18

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Smith, William N., Brookfield, Mich. Grain-separator	267,270	Nov. 7	388	112, 113	22	1609
Smith, William T., and C. R. Hall, Bloomfield; said Smith assignor to J. H. Adams, East Orange, N. J., and said Hall assignor of one-half to said J. H. Adams. Hat setting and curling machine	264,420	Sept. 12	882	248	22	938
Smith, Winfield. (See Jellison and Smith.)						
Smith, Zephaniah C., Brooklyn, N. Y. Washing-machine	268,954	Dec. 12	673	197	22	2021
Smithers, Joseph P., Brooklyn, N. Y. Telegraphic repeater	268,561	Dec. 5	203	57	22	1924
Smithhisler, John A. (See Butler and Smithhisler.)						
Smyth, Absalom G. (See Hugill and Smyth.)						
Smyth, Alexander A., Sr., Titusville, Pa. Machine for welding pipe, &c.	267,029	Nov. 7	88	26	22	1555
Smyth, David M., assignor to Smyth Manufacturing Company, Hartford, Conn. Book-sewing machine	262,325	Aug. 8	632	177	22	448
Smyth, David M., assignor to Smyth Manufacturing Company, Hartford, Conn. Book-sewing machine	262,326	Aug. 8	633	178	22	449
Smyth, David M., assignor to Smith Manufacturing Company, Hartford, Conn. Binding books	269,336	Dec. 19	1163	342	22	2115
Smyth Manufacturing Company. (See Smyth, David M., assignor.)						
Smyth, William A. S., *et al.* (See Vincent, Charles H., assignor.)						
Snediker, James F., assignor to National Sewing Machine Company, (limited,) Philadelphia, Pa. Button-hole sewing-machine	261,399	July 18	1323	369	22	233
Snediker, James F., assignor to National Sewing Machine Company, (limited,) Philadelphia, Pa. Clamping device for button-hole sewing-machines	263,979	Sept. 5	382	108	22	840
Snediker, James F., assignor to National Sewing Machine Company, (limited,) Philadelphia, Pa. Button-hole sewing-machine	265,167	Sept. 26	1765	492	22	1112
Snediker, William E., Trenton, N. J. Machinery for forming the eyes of picks and other tools	268,955	Dec. 12	674	198	22	2021
Snell, Adolphus G., New Haven, Conn. Carriage-curtain fastening	269,337	Dec. 19	1164	342	22	2115
Snell, Frank H., Washington, D. C. Automatic telephone exchange	269,130	Dec. 12	889	262	22	2050
Snell, James A., Dayton, Ohio. Side-bar vehicle	267,944	Nov. 21	1227	345	22	1774
Snell, James R., *et al.* (See McDonnell and Sherwood, assignors.)						
Snider, George L. (See Owen and Snider.)						
Sniffen, Samuel F., assignor to H. C. Meyer & Co., New York, N. Y. Water-closet tank or cistern	265,709	Oct. 10	601	170	22	1243
Sniffen, Samuel F., assignor to H. C. Meyer & Co., New York, N. Y. Water-closet cistern	266,216	Oct. 17	1207	340	22	1353
Snow, Fred P., assignor to himself and J. H. Dodge, Orange, Mass. Treadle	261,568	July 25	1534	430	22	275
Snow, Henry. (See Sivey, De Witt C., assignor.)						
Snow, Henry H., Brooklyn, N. Y. Head-protector	263,980	Sept. 5	383	108	22	841
Snow, Henry H., Brooklyn, N. Y. Label-holder for boxes	267,271	Nov. 7	389	113	22	1610
Snyder, Edward C. (See Strohm, Samuel D., assignor.)						
Snyder, Edwin W., Germansville, and J. L. Bachman, Stony Run, assignors of one-third to W. M. Benninger, Slatington, Pa. Reaper and mower	261,268	July 18	1165	326	22	207
Snyder, Frank E., Massillon, Ohio. Portable pump and sprinkler	263,735	Sept. 5	79	24	22	789
Snyder, Harrison. (See Strohm, Samuel D., assignor.)						
Snyder, Michael L., J. R. Howells, and E. Bittenbender, Plymouth, Pa. Piston	267,030	Nov. 7	89	26, 27	22	1555
Snyder, William P., *et al.* (See Leishman, John G. A., assignor.)						
Société Anonyme des Produits Chimiques du Sud-Ouest. (See Hennebutte, Henri J. E., assignor.)						
Société Générale des Téléphonés. (See Lartigue, Henry, assignor.)						
Society "La Reconstitution Viticole." (See Lambert, Paul, assignor.)						
Soden, Thomas, New York, N. Y. Bed-lounge	266,729	Oct. 31	1629	531	22	1480
Sohmer, Hugo, New York, N. Y. Agraffe-bar for pianos	268,562	Dec. 5	206	57	22	1925
Sohmer, Hugo, New York, N. Y. Piano-action	268,563	Dec. 5	207	58	22	1925
Soha, John H., assignor of one-half to S. A. Churchill, New York, N. Y., and G. W. Churchill, Dunellen, N. J. Cock	265,168	Sept. 26	1767	493	22	1112
Sollers, Nathaniel D., Cove Point, Md. Knitting-board for manufacturing nets	262,140	Aug. 1	397	111	22	401
Solt, Nathan. (See Wagner, George A., assignor.)						
Solvay, Ernest, Brussels, Belgium. Manufacture of soda	263,821	Sept. 5	190	55, 56	22	806
Solvay, Ernest, Brussels, Belgium. Manufacture of soda by the ammonia process	263,961	Sept. 5	224	108	22	841
Sombart, Charles M., Magdeburg, Germany. Gas-engine	260,620	July 4	341	92	22	58
Somers, Daniel M., and J. Sperry, Brooklyn, N. Y. Mechanical movement	261,178	July 18	1059	297	22	191
Sommer, Gottlieb, Williamsport, Pa. Cutter-head	269,733	Dec. 26	1672	481	22	2218
Sonntag, Lincoln, San Francisco, Cal. Apparatus for capping, uncapping, and loading cartridge-shells	264,204	Sept. 12	642	178	22	895
Sorby, Robert H. (See Sorby, Thomas A. and R. H.)						
Sorby, Thomas A. and R. H., Sheffield, county of York, England. Sheep-shears	261,777	July 25	1779	502	22	318
Sorensen, Christian. (See Stillhoff, Hans C. E., assignor.)						
Soule, Buren M., Cedar Rapids, Iowa. Running-gear for vehicles	261,269	July 18	1167	327	22	208
Sourbé, Théophile, Bordeaux, France. Specific-gravity apparatus	268,040	Nov. 28	1363	381, 382	22	1804
Southbridge Optical Company. (See Carpenter, Horace N., assignor.)						
Souther, William H. (See Baldridge, Herman, assignor.)						
Souther, William H., San Francisco, Cal. Fire-escape	262,627	Aug. 15	969	280	22	518
Southwick, Charles H. (See Raymond, Silas H., assignor.)						
Southwick, David E. (See Badlam and Southwick.)						
Southwick, David E., Ogdensburg, N. Y. Car-coupling	267,272	Nov. 7	390	113	22	1610
Southworth, Horatio W., Springfield, Mass. Electric signaling apparatus	262,252	Aug. 8	543	153	22	433
Southworth, Horatio W., Springfield, Mass. Electric signaling apparatus	267,945	Nov. 21	1228	345, 346	22	1774
Southworth, John H., *et al.* (See Bradley, John H., assignor.)						
Souvielle, Mathieu, Montreal, Quebec, Canada. Inhaler	261,400	July 18	1324	370	22	234
Spahmer, Charles, Philadelphia, Pa. Hat-indicator	261,117	July 11	978	274	22	169
Spalding, Orlando D., Eau Claire, Wis. Grain-elevator	268,743	Dec. 5	400	118	22	1964
Spangler, Jacob S., Ephrata, Pa. Tobacco-granulating machine	264,578	Sept. 19	1058	300	22	979
Spangler, Jacob W., York, Pa. Fertilizer-distributer	261,569	July 25	1535	430, 431	22	275
Sparks, Benjamin W., assignor of one-half to W. T. Murray, McMinnville, Tenn. Horse-detacher	268,438	Dec. 5	79	25	22	1902
Sparks, John T. (See Stephens, James, assignor.)						
Sparks, Lewis C., Philadelphia, Pa., assignor to himself, C. and A. Zane, Jr. Spark-arrester	265,343	Oct. 3	140	42	22	1160
Sparks, William E., assignor to P. & F. Corbin, New Britain, Conn. Sash-fastener	263,070	Aug. 22	1553	438	22	627
Sparks, William E., assignor to P. & F. Corbin, New Britain, Conn. Sliding door-handle	268,564	Dec. 5	208	58	22	1925
Sparrow, Benjamin F., Cambridge, Mass. Kneading or beating apparatus	267,273	Nov. 7	391	113	22	1610

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Spaulding, Addison R. (See Dawley and Spaulding.)						
Spaulding, Edward, Brooklyn, N. Y. Die for shaping and setting plates for elliptic springs	266,653	Oct. 31	1736	501	22	1462
Spaulding, Elijah F., Erie, Pa. Friction-clutch	265,170	Sept. 26	1771	494	22	1113
Spaulding, Elijah F., assignor to Jarecki Manufacturing Company, (limited,) Erie, Pa. Machine for tapping water and gas fittings	265,169	Sept. 26	1767	493, 494	22	1112
Spaulding, George H., Rockford, assignor of three-fourths to W. A. Knowlton, Winnebago County, and McCormick Harvesting Machine Company, Chicago, Ill. Grain-binder	262,492	Aug. 8	818	231, 232	22	481
Spaulding, Jonas, Jr., Townsend, Mass. Stave-jointer	261,179	July 18	1060	298	22	192
Spaulding, Nathan W., San Francisco, Cal. Saw-teeth	268,137	Nov. 28	1466	409	22	1823
Spayd, Charles W., Wilkes-Barré, Pa. Wire screen	263,608	Aug. 29	2250	642	22	754
Spear, Arthur, Chicago, Ill. Feed mechanism for sewing-machines	260,906	July 11	706	192	22	124
Spear, Arthur, Chicago, Ill. Sewing-machine tension	262,253	Aug. 8	544	153	22	433
Spear, George R., assignor to himself and J. H. McKillop, Brooklyn, N. Y. Dressing-case	265,548	Oct. 3	396	109	22	1203
Spear, Henry A., Charlestown, and A. P. Wight, Jr., North Adams, assignors of one-half to F. Brownell, Boston, Mass. Smoke-consumer for locomotives	264,905	Sept. 26	1457	411	22	1056
Spears, John L., near Danville, Ky. Tobacco-fly catcher	267,375	Nov. 14	540	154	22	1640
Speckhart, Gustav, and B. Vogel, Nuremberg, Germany. Watch-case	264,579	Sept. 19	1059	301	22	980
Spedden, Robert R., Astoria, Oreg. Anchor	262,254	Aug. 8	545	154	22	433
Speer, Porter B., Muscatine, Iowa. Chimney-top	263,235	Aug. 22	1742	494	22	664
Speicher, John, New York, assignor of three-fourths to D. W. Fairchild, Brooklyn, N. Y., W. P. Ware, Jersey City, and F. T. Fearey, Newark, N. J. Telegraph and telephone cable	269,735	Dec. 26	1674	481	22	2218
Speicher, Samuel S., Urbana, Ind. Broadcast-sower. (Reissue)	10,209	Sept. 26	1863	523, 524	22	1129
Speirs, Alexander, *et al.* (See Beechey, Charles G., assignor.)						
Speirs, Alexander, Windham, Me. Feather-renovator	265,453	Oct. 3	258	78	22	1182
Speirs, Hugh. (See Morris and Speirs.)						
Spelman, Mark R., New Orleans, La. Gas-generating machine	262,704	Aug. 15	1094	309	22	536
Spelman, Patrick H., New York, N. Y. Fire-escape ladder	267,031	Nov. 7	90	27	22	1555
Spence, Francis M. (See Spence, Peter and F. M.)						
Spence, John A., and R. C. Thompson, Newark, N. J. Hame attachment	262,705	Aug. 15	1095	310	22	536
Spence, Peter and F. M., Manchester, county of Lancaster, England. Manufacture of alum	267,610	Nov. 14	829	.....	22	1693
Spence, Robert, Jr., Richmond, county of York, England. Safety saddle-bar	263,822	Sept. 5	192	56	22	806
Spencer, Abner C., *et al* (See Tilton, Edward L., assignor.)						
Spencer, Charles F., Rochester, N. Y. Fire-escape	266,062	Oct. 17	1019	289	22	1322
Spencer, Henry P., Howell, Mich. Step-ladder	267,118	Nov. 7	204	59	22	1576
Spencer, Julius A., Dwight, Ill. Baling-press	262,992	Aug. 22	1459	411	22	610
Spencer, Lloyd G. (See Goodpasture, Levi D., assignor.)						
Spencer, Thomas, Athens, Ga. Plow	269,734	Dec. 26	1673	481	22	2218
Spencer, William S., Sturgis, Mich. Button-fastener	261,058	July 11	906	251	22	156
Sperry, Alfred W., Hartford, assignor to Williams Brothers Manufacturing Company, Glastonbury, Conn. Knife	261,401	July 18	1325	370	22	234
Sperry, Elmer A., Cortland, N. Y. Armature for dynamo-electric machines	261,965	Aug. 1	171	51	22	365
Sperry, Elmer A., Cortland, N. Y. Dynamo-electric machine	268,956	Dec. 12	675	198	22	2022
Sperry, Elmer A., Cortland, assignor of one-half to A. J. Belden, Syracuse, N. Y. Valve for steam-engines	266,217	Oct. 17	1208	341	22	1353
Sperry, Elmer A., and J. Vandenburgh, Cortland, N. Y. Vehicle-wheel	263,982	Sept. 5	386	109	22	841
Sperry, Eugene, *et al.* (See Sperry, James A., assignor.)						
Sperry, Frank, *et al.* (See Sperry, James A., assignor.)						
Sperry, James A., assignor to F. and E. Sperry, Brooklyn, N. Y. Quartz crusher and pulverizer	266,397	Oct. 24	1454	412	22	1405
Sperry, John. (See Somers and Sperry.)						
Sperry, John, Mountain Home, Pa. Clothes-pin	265,171	Sept. 26	1772	494	22	1113
Sperry, Milton. (See Bodell, John R., assignor.)						
Sperry, Willis, Dodge Centre, Minn. Grain cleaning and separating machine	267,032	Nov. 7	91	27	22	1556
Sperryn, James N. (See Ashton and Sperryn.)						
Spicer, Jeremiah, Taylor's Island, Md. Tellurian	263,236	Aug. 22	1742	495	22	664
Spicer, Pratt A. (See Dicer, William, assignor.)						
Spicer, William A., Providence, R. I. Door for stoves and ranges	263,071	Aug. 22	1554	438	22	627
Spicer, William A., Providence, R. I. Urn for stoves	263,072	Aug. 22	1555	439	22	627
Spielman, Levi. (See Willhelm, Frank, assignor.)						
Spinner, Alexander. (See Goll and Spinner.)						
Spinney, William F., Reading, Mass. Lacing-hook	268,744	Dec. 5	407	119	22	1964
Spinney, William F., Reading, Mass. Securing buttons to materials	268,745	Dec. 5	407	119	22	1964
Spitler, Seth J., Greenville, Mich. Carpet-stretcher	260,907	July 11	707	192	22	124
Spooner, Joseph, New York, N. Y. Paper scorer and cutter	263,983	Sept. 5	388	109	22	841
Spooner, William A., Harwinton, Conn. Pump	264,484	Sept. 19	967	272	22	961
Sprague, Austin V. M., Rochester, N. Y. Razor-strop	266,654	Oct. 31	1737	501	22	1462
Sprague, Charles A., assignor to Bassett's Corset Company, Birmingham, Conn. Corder for sewing-machines	268,565	Dec. 5	208	58	22	1925
Sprague, Charles D. (See Sprague, Dudley D. and P. J., assignors.)						
Sprague, Dudley D., California, and P. J. Sprague, Higbee, assignors to themselves and C. D. Sprague, Sedalia, Mo. Straw-stacking attachment for thrashing-machines	261,778	July 25	1780	503	22	318
Sprague, James F., and F. J. Kipling, Providence, R. I. Glass imitation stone for jewelry	261,402	July 18	1326	370	22	234
Sprague, Pearley J. (See Sprague, Dudley D. and P. J.)						
Sprague, Philip H. and T. A., Cornell, Ill. Pump-plunger	262,845	Aug. 15	1272	357, 358	22	567
Sprague, Tobias A. (See Sprague, Philip H. and T. A.)						
Sprague, Ward, assignor of one-half to J. L. Bulkley, Sandy Creek, N. Y. Lifting-jack	262,188	Aug. 1	466	130	22	413
Sprague, William, Philadelphia, Pa. Rotary engine	262,141	Aug. 1	398	112	22	402
Sprague, William D., Henry's, N. C. Vessel for preserving butter	263,610	Aug. 29	2251	643	22	754
Spratling, Henry J., Grantville, Ga. Seeder and planter	262,142	Aug. 1	400	112	22	402
Spring, Amasa. (See Tompkins, Rhinelander C., assignor.)						
Spring, Josiah C., St. Louis, Mo. Machine for bending gas-pipe, &c	269,131	Dec. 12	896	262	22	2059
Springer, Alfred. (See Roeder, Frederick A., assignor.)						
Springer, Lewis C., assignor of one-half to V. C. Walker and R. T. Elliott, Wilmington, Del. Ore-crusher	260,796	July 11	582	157	22	103
Springer, Lewis C., assignor of one-half to V. C. Walker and R. T. Elliott, Wilmington, Del. Pulverizing-machine	262,327	Aug. 8	634	178	22	449
Springer, Otto C., Cleveland, Ohio. Printer's quoin	260,621	July 4	342	93	22	58
Springer, Theodore G., New York, N. Y. Process of and apparatus for the manufacture of gas	263,611	Aug. 29	2252	643	22	754
Springer, Theodore G., New York, N. Y. Process of and apparatus for the manufacture of gas	263,612	Aug. 29	2254	644	22	754

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Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Springer, Theodore G., New York, N. Y. Process of and apparatus for the manufacture of gas	263,984	Sept. 5	389	109	22	841
Springer, Theodore G., New York, N. Y. Process of and apparatus for the manufacture of gas	263,985	Sept. 5	392	110	22	842
Springer, Theodore G., New York, N. Y. Process of and apparatus for supplying and measuring a heating and an illuminating gas from one main	264,359	Sept. 12	814	229	22	926
Springsted, George W., New York, N. Y. Blind-slat adjuster	260,622	July 4	343	93	22	58
Springsted, George W., New York, N. Y. Blind-slat adjuster	268,835	Dec. 12	529	157	22	1994
Squier, George L. (See Day, Matthias, Jr., assignor.)						
Squier, George L. (See Stevens, Henry B., assignor.)						
Squier, Horace S., Newark, N. J. Bridle-bit	263,237	Aug. 22	1743	495	22	664
Squier, John N., Jackson, Mich. Gun-stock	263,374	Nov. 28	1772	491	22	1878
Squier, William C., Kinmundy, Ill. Eye-wash	264,783	Sept. 19	1292	.....	22	1023
Squire, Feargus B. (See Tagliabue, Charles J., assignor.)						
Squire, William H., Camden Town, county of Middlesex, England. Piano-forte	265,172	Sept. 26	1773	494, 495, 496	22	1113
Squires, Edward, Portland, Oreg. Fifth-wheel	268,306	Nov. 28	1676	465	22	1861
Sriver, Arthur C., Grand Rapids, Mich. Folding reclining rocking-chair	261,637	July 25	1616	454	22	290
Stabern, Charles, *et al.* (See Wheeler, John, assignor.)						
Stabler, James P., Sandy Spring, Md. Telephone local call-instrument	265,454	Oct. 3	258	78, 79	22	1182
Stabler, James P., Sandy Spring, Md. Signal-transmitter for telephone-calls	265,455	Oct. 3	261	79	22	1182
Stabler, James P., Sandy Spring, Md. Combined key-board, automatic switch, and magneto-generator for telephone-calls	265,456	Oct. 3	266	80	22	1183
Stabler, James P., Sandy Spring, Md. Creamer	267,611	Nov. 14	830	237	22	1693
Stacy, Scovel C., Tecumseh, Mich. Writing-tablet	263,613	Aug. 29	2256	645	22	755
Stafford, Clarence A., Norwood, Mich. Saw-gummer	261,779	July 25	1781	503	22	318
Stafford, Joseph. (See Benner and Stafford.)						
Stafford, Marshall B., New York, N. Y. Ventilation	266,546	Oct. 24	1608	458	22	1433
Stafford, Marshall B., New York, N. Y. Suspenders	267,033	Nov. 7	92	27	22	1556
Stafford, Rinaldo R., assignor of one-half to G. H. Dobbin, Port Richmond, N. Y. Dispensing effervescent liquids	263,614	Aug. 29	2257	645	22	755
Stager, David F., Chambersburg, Pa. Fly-net	263,438	Aug. 29	2052	588	22	718
Stagg, Philip D. (See Peery and Stagg.)						
Stahl, William. (See Schrader and Stahl.)						
Stahley, Harry O., Dayton, Ohio. Feed mechanism for middlings-purifiers, &c	266,218	Oct. 17	1211	341	22	1354
Stahmer, Herman F., New York, N. Y. Coach	267,376	Nov. 14	542	154	22	1641
Staley, William H. (See Graham and Staley.)						
Stamm, Anton, assignor of one-sixteenth to C. W. and R. H. Buck, Leadville, Colo. Process of and apparatus for making coal-gas	266,326	Oct. 24	1362	384	22	1388
Stamm, Julius, Aurora, Ind. Cutter-head	264,906	Sept. 26	1458	411	22	1057
Stamour, John B., assignor to T. Cunningham, H. B. Lincoln, F. P. Pendleton, G. and L. Brown, and H. E. Cunningham, Philadelphia, Pa. Loom-temple	267,274	Nov. 7	393	114	22	1610
Stamper, M. A. (See McGee, William, assignor.)						
Standard Brake Shoe Company. (See Curtice, John F., assignor.)						
Standard Rubber Company. (See Hamilton, Charles F., assignor.)						
Standish, Philander H., assignor of one-half to P. Wilson & Sons, Cincinnati, Ohio. Die for welding and swaging links	269,338	Dec. 19	1165	343	22	2115
Stanhope, Charles R. (See Wittich, Stanhope, and Strader.)						
Stanley, James D., Wilmington, N. C. Apparatus for distilling turpentine and for the purification of the crude products of distillation thereof	266,909	Oct. 31	2030	585	22	1518
Stanley, John. (See Ellis, Aldridge C., assignor.)						
Stanley, Robert. (See Stanley, Robert A. and R.)						
Stanley, Robert A. and R., Manchester, county of Lancaster, England. Railway signalling apparatus	260,713	July 4	471	128	22	80
Stanley Rule and Level Company. (See Rappleye, Frank A., assignor.)						
Stanley, William, Jr., Englewood, N. J., assignor to Swan Incandescent Electric Light Company, Boston, Mass. Electric lamp	269,132	Dec. 12	897	263	22	2059
Stanley, William, Jr., Englewood, N. J., assignor to Swan Incandescent Electric Light Company, Boston, Mass. Air-pump	269,133	Dec. 12	898	263	22	2060
Stanley, William H. (See Relyea, Henry J., assignor.)						
Stanly, Nathan, Kinston, N. C. Spring-roller attachment for seed-planters	261,638	July 25	1617	454	22	290
Stannard, Carlton J., assignor to Hartford Hammer Company, Hartford, Conn. Die for forming hammers	261,489	July 18	1421	397	22	250
Stansell, George W., Jesup, Ga. Water-wheel	264,485	Sept. 19	969	272	22	902
Stanton, Henry, Flushing, Ohio. Boiler-cleaner	264,486	Sept. 19	969	272	22	902
Stanton, John W., assignor of five-eighths to A. J. Wolf, New York, N. Y. Attachment for folding and movable furniture	268,307	Nov. 28	1677	465	22	1862
Stanton, John W., and J. Shibley, New York, assignors to A. J. Wolf, New York County, N. Y. Attachment for folding and movable furniture	261,059	July 11	906	252	22	156
Stanton, Judson A. (See Dennis and Stanton.)						
Stanton, Lafayette J., Millbrook, Mich. Harrow-tooth	264,360	Sept. 12	816	229	22	926
Stapf, Joseph G., assignor of one-half to H. A. Diamond, Pittsburg, Pa. Faucet	265,457	Oct. 3	270	80	22	1184
Staples, Edmund L., Ilion, assignor to S. Ford, Mohawk, N. Y. Step-ladder	265,173	Sept. 26	1775	496	22	1113
Stapleton, William H. (See Preston and Stapleton.)						
Starbuck, Henry F., assignor to W. A. Reynolds, Chicago, Ill. Air-cooling and ice-making machine	266,547	Oct. 24	1609	458, 459	22	1433
Stark, Michael J., Buffalo, N. Y., assignor to G. J. Record, Conneaut, Ohio. Sap-spout	269,545	Dec. 26	1435	414	22	2172
Starke, Fredrick C., and P. J. Crowley, Milwaukee, Wis. Steam-shovel	263,986	Sept. 5	394	110	22	842
Starke, Fredrick C., and P. J. Crowley, Milwaukee, Wis. Derrick	268,957	Dec. 12	678	199	22	2022
Starkey, William, *et al.* (See Barr, Robert D., assignor.)						
Starr, E. Eugene. (See Starr, Eli T. and E. E.)						
Starr, Eben C., New York, N. Y. Bayonet	269,547	Dec. 26	1440	415	22	2173
Starr, Eben T., New York, N. Y. Breech-loading fire-arm	269,540	Dec. 26	1436	414, 415	22	2172
Starr, Eli T., Philadelphia, Pa. Secondary battery	267,275	Nov. 7	393	114	22	1610
Starr, Eli T., Philadelphia, Pa. Secondary battery	267,804	Nov. 21	1064	298	22	1743
Starr, Eli T., Philadelphia, Pa., assignor of one-half to W. J. Peyton, Washington, D. C. Controlling electric motors	260,623	July 4	343	93	22	58
Starr, Eli T., Philadelphia, Pa., and W. J. Peyton, Washington, D. C. Electric lighting	260,624	July 4	345	93, 94	22	58
Starr, Eli T., Philadelphia, Pa., and W. J. Peyton, Washington, D. C. Electric lighting and power-distributing system	261,490	Jnly 18	1422	398	22	251
Starr, Eli T., Philadelphia, Pa., assignor of one-half to W. J. Peyton, Washington, D. C. Rheostat	266,910	Oct. 31	2032	585	22	1518

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Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Starr, Eli T., Philadelphia, Pa., assignor of one-half to W. J. Peyton, Washington, D. C. Rheostat	266,911	Oct. 31	2033	586	22	1518
Starr, Eli T., Philadelphia, Pa., assignor of one-half to W. J. Peyton, Washington, D. C. System for utilizing lime-switches for electric circuits	269,476	Dec. 19	1351	389	22	2150
Starr, Eli T. and E. E., Philadelphia, Pa., assignors of one-half to W. J. Peyton, Washington, D. C. Secondary battery	268,308	Nov. 28	1679	465	22	1862
Starr, James M., Richmond, Ind. Spoke-washer for vehicle-wheels	260,428	July 4	102	29	22	19
Starson, Joseph S., San Francisco, Cal. Truss-pad	262,328	Aug. 8	635	179	22	449
Stasch, Emil R., assignor of one-half to G. R. Brown, Corning, N. Y. Chimney top and ventilator	267,805	Nov. 21	1066	298	22	1743
Stead, Isaac, Philadelphia, Pa. Disintegrating-machine for making fiber for mats, hats, &c	260,797	July 11	583	158	22	103
Stead, James C., Brooklyn, N. Y. Steam-generator	263,615	Aug. 29	2258	645	22	755
Stead, James C., Brooklyn, N. Y. Steam-generator	267,761	Nov. 21	1007	283	22	1733
Stead, James C., Brooklyn, N. Y. Steam-generator	267,762	Nov. 21	1009	284	22	1733
Stearn, Charles H., Newcastle-upon-Tyne, England. Mercurial air-pump	265,641	Oct. 10	510	139, 140	22	1298
Steams, Edward C., Syracuse, N. Y. Door-hanger	268,836	Dec. 12	530	158	22	1994
Stearns, George M. (See A'Neals, Francis A., assignor.)						
Stearns, Norman W., Washington, D. C., and T. J. Holmes, assignors to R. W. Turner, Boston, Mass. Culinary fork or domestic implement	268,138	Nov. 28	1467	409	22	1823
Stebbins, Frank P., Collins, Mich. Car-coupling	264,784	Sept. 19	1292	365	22	1023
Stebbins, Frank P., Detroit, Mich. Churn	266,219	Oct. 17	1211	342	22	1354
Stebbins, James H., Jr., New York, N. Y. Coloring-matter or dye-stuff	266,912	Oct. 31	2035	.....	22	1518
Stebbins, James K., Ashtabula, Ohio. Acoustic telephone	268,746	Dec. 5	408	119	22	1964
Stebbins, Lucius, Hartford, Conn. Cultivating-machine	269,339	Dec. 19	1166	343	22	2116
Steckel, Theodore, Kleckneraville, Pa. Weather-strip	266,730	Oct. 31	1820	531	22	1480
Stedman, Albert, Homer, N. Y. Draw-iron for sleighs	263,439	Aug. 29	2053	588	22	718
Stedman, Stephen S., and W. T. Barker, Jordan's Store, Ga. Grate-feuder	265,174	Sept. 26	1776	497	22	1113
Steed, William, Virden, Ill. Button	262,493	Aug. 8	822	232	22	482
Steele, Charles R., *et al.* (See Wilson, Merrick F., assignor.)						
Steele, John W., Oberlin, Ohio. Combined cot-bed and canopy	263,987	Sept. 5	396	110	22	843
Steele, Thomas W., Little Rock, Ark. Cotton-cleaner	268,566	Dec. 5	209	58	22	1926
Steen, James H., Salem, Ohio. Device for cutting, turning, and threading metal	267,377	Nov. 14	542	155	22	1641
Steers, Schuyler B. (See Golding, William, assignor.)						
Stege, Edward R., Chicago, Ill. Smoke-preventing furnace	260,625	July 4	340	94	22	59
Steger, Joseph E., New York, N. Y. Car-axle lubricator	263,988	Sept. 5	397	111	22	843
Stein, Joachim, New York, N. Y. Bleaching hair	261,270	July 18	1169	.....	22	208
Stein & Lyon *et al.* (See Lyon and Lockwood, assignors.)						
Steinau, Charles J., *et al.* (See Huss, William C., assignor.)						
Steinbach, Christian J., St. Louis, Mo. Circular sawing machine	269,736	Dec. 26	1675	481, 482	22	2218
Steinbach, George P., Baltimore, Md. Child's carriage	268,139	Nov. 28	1468	410	22	1823
Steinbach, George P., Baltimore, Md. Child's carriage	268,140	Nov. 28	1470	410	22	1824
Steiner, Jacob R. (See Holmes, Marshall H., assignor.)						
Steinmetz, William G., Brooklyn, N. Y. Faucet	267,612	Nov. 14	831	237	22	1693
Steller, Charles E., Milwaukee, Wis. Sash-fastener. (Reissue)	10,259	Dec. 12	339	273	22	2068
Stelwagon, Robert P. (See Stelwagon, William H., assignor.)						
Stelwagon, William H., assignor of one-half to R. P. Stelwagon, Philadelphia, Pa. Process of and apparatus for preparing roofing-felt and sheathing-paper	263,668	Aug. 29	2318	662	22	765
Stengel, Charles, Hamilton, Ohio. Caster	265,642	Oct. 10	514	140	22	1228
Stenhouse, Richard. (See Rayner and Stenhouse.)						
Stephen, Matthew G. (See Adgate and Hickman, assignors.)						
Stephens, Ebenezer B., Humboldt, Nebr. Bridge	268,309	Nov. 28	1681	466	22	1862
Stephens, James, assignor of one-half to J. T. Sparks, Washington, Ind. Bed-spring	266,731	Oct. 31	1831	531	22	1480
Stephens, Samuel, *et al.* (See Stockman, George W., assignor.) (Reissue)						
Stephens, Samuel, Indianapolis, Ind. Tube-bending machine	268,050	Nov. 28	1364	382	22	1804
Stephens, Thomas P. (See De Roberts, Charles, assignor.)						
Stephenson, Burr C., South Bend, Ind. Spout for wooden pumps	267,468	Nov. 14	650	187	22	1661
Stephenson, John F., Edgar, Ill. Tile-machine	263,823	Sept. 5	193	56	22	806
Stephenson, William, Jordan, Ontario, Canada. Ground-auger	260,798	July 11	584	158	22	103
Stephenson, William, Hamilton, Ontario, Canada. Post-hole auger	269,548	Dec. 26	1440	415	22	2173
Sterling, Ezra J., Brooklyn, N. Y. Friction-clutch	264,785	Sept. 19	1293	365	22	1023
Sterling, Theodore W. (See Morean, Eugène, assignor.)						
Stern, Edward. (See Du Motay and Stern.)						
Sternberger, Leopold, and F. G. Tees, Philadelphia, Pa.; said Tees assignor to said Sternberger. Ironing-machine	264,966	Sept. 26	1535	431, 432	22	1070
Sternberger, Samuel, *et al.* (See Gates, Robert D., assignor.)						
Sternberger, Samuel, Philadelphia, Pa. Eyelet-embossing machine	262,494	Aug. 8	823	232	22	482
Sterne, Louis, London, England, and D. Clerk, Glasgow, Scotland. Heat-interchanging apparatus for refrigerating-machines	261,491	July 18	1425	398	22	251
Sterne, Louis, London, England, and D. Clerk, Glasgow, Scotland. Lift or check valve	263,989	Sept. 5	398	111	22	843
Sternheimer, Friedman, New York, N. Y. Waist-belt	264,205	Sept. 12	643	178	22	895
Stetson, Amos S., South Abington, Mass. Hydrocarbon-engine	267,946	Nov. 21	1230	346	22	1775
Stetson, Charles T., Rockland, Mass. Machine for channeling and trimming boot or shoe soles	263,616	Aug. 29	2260	646	22	756
Stevens, Charles D., Brooklyn, N. Y. Metallic rod-packing	264,580	Sept. 19	1060	301	22	960
Stevens, Evelyn E. (See Thompson and Stevens.)						
Stevens, Frank. (See Drummond, John W., assignor.)						
Stevens, Frank M., Concord, N. H., assignor to Stevens Locomotive and Machine Company, New York, N. Y. Valve-gear	269,737	Dec. 26	1677	482	22	2219
Stevens, Frederick S., Minneapolis, Minn. Belt-shifter	268,051	Nov. 28	1365	382	22	1804
Stevens, George C., and C. D. Read, Ayer, Mass. Spindle and bearing therefor	260,504	July 4	204	57	22	35
Stevens, George H., Boston, Mass. Shank-stiffener for boots or shoes	263,617	Aug. 29	2261	646	22	756
Stevens, Henry B., assignor to G. L. Squier, Buffalo, N. Y. Machine for hulling rice, &c	264,786	Sept. 19	1294	366	22	1023
Stevens, Henry B., assignor to G. L. Squier, Buffalo, N. Y. Evaporator	268,310	Nov. 28	1682	466	22	1863
Stevens, Jerome B., Detroit, Mich. Insole for boots or shoes	268,141	Nov. 28	1471	410	22	1824
Stevens, John, Neenah, Wis. Grinding-mill	268,567	Dec. 5	210	59, 60	22	1926
Stevens, John H., Newark, N. J., assignor to Celluloid Manufacturing Company, New York, N. Y. Manufacture of compounds of pyroxyline or nitro-cellulose	269,340	Dec. 19	1167	.....	22	2116
Stevens, John H., Newark, N. J., assignor to Celluloid Manufacturing Company, New York, N. Y. Manufacture of compounds of pyroxyline or nitro-cellulose	269,341	Dec. 19	1170	.....	22	2116
Stevens, John H., Newark, N. J., assignor to Celluloid Manufacturing Company, New York, N. Y. Manufacture of compounds of pyroxyline or nitro-cellulose	269,342	Dec. 19	1171	.....	22	2116

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Stevens, John H., Newark, N. J., assignor to Celluloid Manufacturing Company, New York, N. Y. Manufacture of compounds of pyroxyline or nitro-cellulose	269,343	Dec. 19	1172	.....	22	2116
Stevens, John H., Newark, N. J., assignor to Celluloid Manufacturing Company, New York, N. Y. Manufacture of compounds of pyroxyline or nitro-cellulose	269,344	Dec. 19	1173	.....	22	2116
Stevens, John H., Newark, N. J., assignor to Celluloid Manufacturing Company, New York, N. Y. Manufacture of compounds of pyroxyline or nitro-cellulose	269,345	Dec. 19	1174	.....	22	2116
Stevens, John L., assignor to G. A. Smith and E. Hempstead, Chicago, Ill. Egg case or box	261,780	July 25	1781	503	22	318
Stevens, John L., assignor to G. A. Smith and E. Hempstead, Chicago, Ill. Egg-carrier	265,175	Sept. 26	1777	497	22	1113
Stevens, John L., assignor to E. Hempstead and G. A. Smith, Chicago, Ill. Egg-box	265,176	Sept. 26	1777	498	22	1114
Stevens, John M. (See Casey and Stevens.)						
Stevens, John N., Toledo, Ohio. Filter	265,177	Sept. 26	1778	498	22	1114
Stevens, Josiah P., Atlanta, Ga. Watch-regulator	264,787	Sept. 19	1296	366	22	1023
Stevens Locomotive and Machine Company. (See Stevens, Frank M., assignor.)						
Stevens, Milan F., *et al.* (See Jennison, Charles R., assignor.)						
Stevens, Nathan P., assignor, by mesne assignments, to himself and L. D. Brown, Concord, N. H. Machine for dressing hoops	267,378	Nov. 14	543	155	22	1641
Stevens, Robert L., Albany, Oreg. Gun-barrel	264,361	Sept. 12	816	230	22	926
Stevens, Robert L., Albany, Oreg. Double oscillating engine	264,362	Sept. 12	817	230	22	926
Stevens, Robert L., Albany, Oreg. Gravity steam-engine	264,363	Sept. 12	818	230	22	927
Stevens, Sidney M., De Kalb, Ill. Barb-wire machine	263,073	Aug. 22	1555	{439, 440}	22	627
Stevens, Sylvanus H., Chicago, Ill. Grain and seed sampler	262,847	Aug. 15	1275	358	22	567
Stevens, Victor M. (See Wise, Stevens, and Chapman.)						
Stevens, W. Le Conte, New York, N. Y. Stereoscope	262,846	Aug. 15	1273	358	22	567
Stevens, William, Philadelphia, Pa. Elevator	261,880	Aug. 1	66	19	22	347
Stevens, William, Philadelphia, Pa. Elevator	261,881	Aug. 1	67	20	22	347
Stevens, William H., Coldwater, Mich. Wheelbarrow	264,967	Sept. 26	1538	432	22	1071
Stevenson, Allen D., and G. F. Wilson, New Castle, Pa. Oven and roll for flattening glass	262,495	Aug. 8	824	{232, 233}	22	482
Stevenson, William H. H., Baltimore, Md. Sheet-metal can	262,143	Aug. 1	401	112	22	402
Stevenson, William H. H., and M. H. Plunkett, Baltimore, Md. Cutting and punching press	264,487	Sept. 19	971	272	22	962
Stever, Jeremiah. (See Ritchel and Stever.)						
Steward, John F., Chicago, Ill. Grain-binder	266,732	Oct. 31	1831	532	22	1480
Steward, John F., Plano, Ill. Grain-binder	266,733	Oct. 31	1833	532	22	1480
Steward, John F., Plano, assignor to E. H. Gammon and W. Deering, Chicago, Ill. Grain-binder	266,913	Oct. 31	2035	{586, 587}	22	1518
Steward, John F., Chicago, and R. H. Dixon, Ravenswood, Ill. Grain-binder	267,110	Nov. 7	205	60	22	1577
Stewart, Alexander, Philadelphia, Pa. Cuspidor and similar vessels	266,548	Oct. 24	1611	459	22	1434
Stewart, Alexander, Philadelphia, Pa. Rolling support for cuspidors	266,655	Oct. 31	1738	501	22	1463
Stewart, David W., and L. Downing, Muncie, Ind. Device for discharging bricks from the mold	262,993	Aug. 22	1461	411	22	610
Stewart, Ebenezer, *et al.* (See Wallace and Claus, assignors.)						
Stewart, George A., Wells Tannery, Pa. Fork for weighing hay	268,747	Dec. 5	409	119	22	1965
Stewart, Hugh R., Allegheny, Pa. Cake or cracker box	268,311	Nov. 28	1684	466	22	1863
Stewart, James, Chicago, Ill. Automatic feeding device for oil-cups	262,848	Aug. 15	1276	359	22	567
Stewart, John A., Hopkins, Mo. Harness-tool	260,799	July 11	584	158	22	104
Stewart, John L., Philadelphia, Pa. Apparatus for amalgamating	262,628	Aug. 15	1000	280	22	518
Stewart, John N. (See Page, Thomas S., assignor.)						
Stewart, Milo B. (See Carter, Charles D., assignor.)						
Stewart, Robert, Baltimore, Md. Barrel-storing warehouse	268,748	Dec. 5	410	120	22	1965
Stewart, Thomas, Philadelphia, Pa. Muslin-paper for the manufacture of paper bags	265,884	Oct. 10	795	225	22	1278
Stickler, Edward, Neosho Falls, Kans. Windmill	263,618	Aug. 29	2262	646	22	756
Stickney, William W., St. Louis, Mo. Machine for cutting and fitting branches of pipe junctions of clay, &c	268,837	Dec. 12	531	158	22	1994
Stickney, William W., St. Louis, Mo. Drain-pipe turner	269,549	Dec. 26	1441	416	22	2173
Stidger, Benjamin C. (See Stidger, Felix G. and B. C.)						
Stidger, Felix G. and B. C., Chicago, Ill. Attachment to canes, umbrella-handles, &c	268,838	Dec. 12	532	158	22	1995
Stiebel, Emil, Stockholm, Sweden. Trunk	262,849	Aug. 15	1278	359	22	568
Stief, John M. (See Emerick, Aaron, assignor.)						
Stieringer, Luther, New York, N. Y. Electrical fixture	266,549	Oct. 24	1612	459	22	1434
Stieringer, Luther, assignor to himself, C. F. Harrington, New York, N. Y., and R. N. Dyer, Menlo Park, N. J. Electric-light chandelier	266,550	Oct. 24	1613	459	22	1434
Stiff, William C., Birmingham, county of Warwick, England. Manufacture of bars of metal	262,850	Aug. 15	1279	.....	22	568
Stigleman, Calvin. (See Briggs, Orlando P., assignor.)						
Stiles, Aaron K., Chicago, Ill. Fence-post	265,710	Oct. 10	602	.....	22	1243
Stiles, Elvin U. (See Kelly, Franklin W., assignor.)						
Stilhoff, Hans C. E., assignor of one-half to C. Sorensen, Copenhagen, Denmark. Car-starter	261,492	July 18	1426	398	22	251
Still, Henry C. and J. R., Austin, Tex. Saddle-tree. (Reissue)	10,162	July 18	1462	408	22	257
Still, Joseph R. (See Still, Henry C. and J. R.) (Reissue.)						
Stillson, Daniel C., Somerville, Mass. Feed-water heater	269,243	Dec. 19	1049	306	22	2094
Stilwell, Charles B., Watertown, N. Y., assignor to Union Paper Bag Machine Company, Philadelphia, Pa. Paper-bag machine	263,440	Aug. 29	2053	589	22	718
Stilwell, Emeline C. (See Stilwell, Rickason, assignor.)						
Stilwell, Lysander. (See Sanderson, Lucious H., assignor.)						
Stilwell, Rickason, assignor, by mesne assignments, to E. C. Stilwell, New York, N. Y. Material for filling pillows, mattresses, &c	262,994	Aug. 22	1462	.....	22	611
Stimpson, Edwin B., Brooklyn, N. Y. Punching and pinking machine	261,781	July 25	1782	504	22	318
Stimpson, Edwin B., Brooklyn, N. Y. Gaiter-boot	268,568	Dec. 5	213	60	22	1926
Stinson, Charles K., New York, N. Y., assignor to C. W. Bassett, Newton, Mass. Clothes-wringer	261,639	July 25	1618	454	22	290
Stinson, William H., Scandia, Kans. Plane-guide	262,851	Aug. 15	1279	359	22	568
Stirn & Lyon. (See Reynolds, Alfred, assignor.)						
Stirrat, Robert J., St. Louis, Mo. Machine for forming sheet-metal pans	262,852	Aug. 15	1281	{360, 361}	22	568
Stites, Charles F., Cincinnati, Ohio. Canister, measure, and bucket	261,493	July 18	1427	399	22	251
Stitzel, Frederick, Louisville, Ky. Process of and apparatus for improving spirits	265,344	Oct. 3	141	42	22	1160
Stiveson, Anthony O., Pomeroy, Ohio. Harrow	263,312	Nov. 28	1685	467	22	1863
St. John, Garland B., Cedar Rapids, Iowa. Sleeping-car	262,144	Aug. 1	402	113	22	402
St. John, Garland B. and J. M., Cedar Rapids, Iowa. Car-seat	263,238	Aug. 22	1745	495	22	664
St. John, John C. (See Phillips and St. John.)						
St. John, Justus M. (See St. John, Garland B. and J. M.)						
St. John, Roswell H., Toledo, Ohio. Wash-board	262,853	Aug. 15	1282	361	22	568

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Stoakes, James W., Milan, Ohio. Marking-pen	265,885	Oct. 10	796	225	22	1278
Stock, Hosea T., Toledo, Ohio. Hand-car	261,966	Aug. 1	172	51	22	365
Stocker, John, *et al.* (See Schmidt, Christian, assignor.)						
Stocking, Edgar B., Washington, D. C. Folding paper	264,364	Sept. 12	819	{230, 231}	22	927
Stockly, George W. (See Seymour, Henry A., assignor.)						
Stockman, George W., Indianapolis, Ind. Ammonia refrigerating apparatus	264,113	Sept. 12	549	153	22	878
Stockman, George W., Indianapolis, Ind., and J. R. Duffin, Decatur, Ill.; said Duffin assignor to E. L. Thomas. Preserving furs, feathers, clothing, carpets, &c., from moths, mildew, &c	269,134	Dec. 12	899	.....	22	2060
Stockman, George W., assignor, by mesne assignments, of part interest to S. Stephens, C. A. F. A., and M. A. Maus, Indianapolis, Ind. Vapor or gas absorber for ammonia refrigerating apparatus. (Reissue)	10,261	Dec. 19	1385	399	22	2156
Stockstrom, Charles A., St. Louis, Mo. Vapor-burner	261,403	July 18	1326	370	22	234
Stockwell, Emory, assignor to Yale Lock Manufacturing Company, Stamford, Conn. Permutation-lock	261,271	July 18	1169	{327, 328}	22	208
Stockwell, Levi W., assignor to A. Adams, Cleveland, Ohio. Automatic hose-reel	261,882	Aug. 1	68	20	22	347
Stockwell, Levi W., assignor to W. H. Price, Cleveland, Ohio. Device for screw-threading and cutting off pipes, &c	267,276	Nov. 7	394	114	22	1610
Stoddard Crimping Machine Company. (See Fifield, John W. D., assignor.)						
Stoddard, E. Fowler, and W. H. Nauman, Dayton, Ohio. Seeding-machine	266,656	Oct. 31	1739	502	22	1463
Stoddard, Edward W., Detroit, Mich. Press for forming creases in stove-pipe	269,603	Dec. 26	1515	436	22	2188
Stoddard, George H., Boston, Mass. Refrigerating and drying machine	267,806	Nov. 21	1066	{298, 299}	22	1743
Stoddard, William A., Dallas, Oreg. Can-opener	266,398	Oct. 24	1455	413	22	1405
Stoerger, Paul, Chicago, Ill. Feed-roller gear for wood-planers	267,047	Nov. 21	1231	346	22	1775
Stoetzel, William F., Omaha, Nebr. Eaves-trough hanger	263,619	Aug. 29	2263	646	22	756
Stoffel, Simon, Volo, Ill. Paper-bag holder	269,346	Dec. 19	1175	344	22	2116
Stoffer, Joseph, North Georgetown, Ohio. Saw-filing machine	269,550	Dec. 26	1443	416	22	2174
Stoker, Alfred W., *et al.* (See Morphew and Withrow, assignors.)						
Stokes, Charles, Philadelphia, Pa. Brick	268,569	Dec. 5	213	60	22	1926
Stokes, Thomas S., and C. W. S. McNally, Boston, Mass. Jacket for sheet-metal cans	268,313	Nov. 28	1686	467	22	1863
Stokes, William, assignor of two-thirds to F. Boardman and S. N. Stone, Mansfield, Mass. Knurling-tool	265,711	Oct. 10	603	170	22	1243
Stoll, Jacob, Milwaukee, Wis. Tuyere	261,782	July 25	1783	504	22	319
Stoll, Johann T., Sacramento City, Cal. Harness-buckle	264,581	Sept. 19	1061	301	22	980
Stolts, Joseph F., St. Louis, Mo. Tire-setter	263,239	Aug. 22	1746	496	22	665
Stone, Frank, assignor to Munroe Organ Reed Company, Worcester, Mass. Mechanical musical instrument	266,914	Oct. 31	2041	588	22	1519
Stone, Frank P., Chicago, Ill. Sash-tightener	263,240	Aug. 22	1747	496	22	665
Stone, Henry A., assignor to A. Randall, Brooklyn, N. Y. Sleeping-car berth	262,329	Aug. 8	636	179	22	449
Stone, Horace G., Grand Forks, Dak. Ter. Harrow-tooth	263,297	Aug. 22	1830	519	22	679
Stone, Jabez, Waterford, assignor to T. A. Knickerbacker, Troy, N. Y. Hydrant	261,372	July 18	1171	328	22	208
Stone, Lorenzo, Providence, R. I. Brush	268,052	Nov. 28	1366	382	22	1804
Stone, Roy, New York, N. Y. Grapple	262,330	Aug. 8	637	179	22	449
Stone, Roy, New York, N. Y. Steam-plow	265,345	Oct. 3	143	42	22	1161
Stone, Samuel N., *et al.* (See Stokes, William, assignor.)						
Stoner, Allen M., New Albuquerque, N. Mex. Ter. Hand-car	264,047	Sept. 5	471	128	22	855
Stoner, David U., Mount Joy, Pa. Porch iron	269,477	Dec. 19	1355	{389, 390}	22	2150
Stoner, Samuel, Lancaster, Kans. Combined hay-rack, stock-feeder, and shelter	265,288	Oct. 3	71	22	22	1148
Stonesifer, Christian E., Boonsborough, Md. Adjustable drill or plow point	262,496	Aug. 8	826	233	22	483
Stoothoff, Harry A., *et al.* (See Hall, Harvey C., assignor.)						
Stoppard, William B. (See White, Frank A., assignor.)						
Stopple, John J., Belleville, Tex. Baling-press	263,241	Aug. 22	1747	496	22	665
Stopple, John J., Belleville, Tex. Car-coupling						
Storer, Alexander, *et al.* (See Bollmann, Louis, assignor.)						
Storle, Ole O., Milwaukee, Wis. Automatic trip for harvester-rakes	266,063	Oct. 17	1020	289	22	1322
Störmer, Henrik C. F., Paris, France. Apparatus for the recovery of soda	266,915	Oct. 31	2043	588	22	1519
Story, Charles, Rutland, Vt. Combined heel-plate and ice-creeper	264,068	Sept. 26	1539	432	22	1071
Story, Joseph M., Spring City, Tenn. Locomotive	262,995	Aug. 22	1462	412	22	611
Stout, Elvearo, assignor of one-half to J. R. Shepherd, Ottumwa, Iowa. Refrigerator	262,145	Aug. 1	403	113	22	402
Stover, Daniel C., Freeport, Ill. Wire-barbing machine	264,488	Sept. 19	972	273	22	962
Stover, Daniel C., Freeport, Ill. Grinding-mill	265,289	Oct. 3	72	22	22	1148
Stover, Isaac L., Centralia, Ill. Securing flues in steam-boilers	265,886	Oct. 10	797	226	22	1278
Stover, Isaac L., Centralia, Ill. Car-coupling	267,034	Nov. 7	93	28	22	1556
Stow, Edward, and C. B. Overbaugh, Eufaula, Ala. Prepared cocoanut	262,497	Aug. 8	828	.....	22	483
Stowe, George, Braceville, Ohio. Animal-trap	269,478	Dec. 19	1356	390	22	2150
Stowell, Nathan W., Los Angeles, Cal. Mold for manufacturing cement pipe	263,736	Sept. 5	81	24	22	789
St. Pierre, Xavier, Bullionville, Nev. Spring-bottom oil-can	261,060	July 11	908	252	22	156
Strader, Levi T., *et al.* (See Gray, Henry F., assignor.) (Reissue.)						
Strader, Peter W. (See Wittich, Stanhope, and Strador.)						
Straight, John A., Albion, N. Y. Gas-regulator for vulcanizers, &c	261,640	July 25	1619	455	22	291
Strait, Ransom E., Galesburg, Mich. Tubular well	269,244	Dec. 19	1050	306	22	2094
Strasser, William T., New York, N. Y. Toy tree	267,277	Nov. 7	395	114	22	1611
Strathern, Alexander M. (See Hurt and Strathern.)						
Straub, Edward F., assignor of one-third to W. S. Essick, Royer's Ford, Pa. Device for attaching plates to stoves	260,908	July 11	707	193	22	125
Strans, Jacob, St. Louis, Mo. Hame-fastener	263,737	Sept. 5	81	24	22	789
Strauss, Joseph L., New York, N. Y. Neckscarf	268,053	Nov. 28	1367	383	22	1805
Straw, Samuel D. (See Chamberlain and Straw.)						
Strayer, Jacob, South Bend, Ind. Fertilizer-distributer	262,498	Aug. 8	829	233	22	483
Strayer, Thomas A. (See Farnham, E. Wilson, assignor.)						
Streernwitz, William H. (See Schmidt and Streernwitz.)						
Street, George S., Moncton, New Brunswick, Canada, assignor of one-third to F. W. Richardson, Troy, N. Y. Frame for printing photographs	263,242	Aug. 22	1748	{496, 497}	22	665
Street, J. H., *et al.* (See Durnell, Milton, assignor.)						
Street, James H., San Francisco, Cal. Fruit-drier	264,365	Sept. 12	822	231	22	927
Street, John K., Waco, Tex. Ventilating grain, &c	269,135	Dec. 12	900	263	22	2060
Streeter, James, Rochester, N. Y. Adjustable door-securer	267,035	Nov. 7	94	28	22	1557
Streeter, William, assignor to Sargent & Greenleaf, Rochester, N. Y. Permutation-lock	269,136	Dec. 12	901	263	22	2060
Strehlan, Frederick W., Baltimore, Md. Car-brake	264,582	Sept. 19	1062	301	22	980
Streicher, Jacob, V. Hoehl, and B. Holz, Buffalo, N. Y.; said Holz assignor to said Streicher and Hoehl. Meat-cutter	264,114	Sept. 12	550	150	22	878

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Strickel, Louis, Detroit, Mich. Brush-bunching machine	261,273	July 18	1172	328	22	208
Stretch, Joseph T., and J. G. McCormick, Philadelphia, Pa.; said Stretch assignor to said McCormick. Pantaloons	269,479	Dec. 19	1356	390	22	2151
Strickland, Morgan D., St. Louis, Mo. Injector	264,489	Sept. 19	972	273	22	902
Strickland, Thomas J., Randolph, Mass. Shoe	262,146	Aug. 1	404	113	22	403
Strieby, Frank H., and M. Rankin, Cleveland, Ohio. Paper-box machine	260,800	July 11	585	{158 159	22	104
Strieby, Frank H., and M. Rankin, Cleveland, Ohio. Machine for creasing and pasting blanks	265,643	Oct. 10	515	{140 141	22	1228
Stringfield, William R., Pineville, Mo. Peg-cutter	265,458	Oct. 3	271	81	22	1184
Stringer, George, assignor to E. M. Birdsall Company, Auburn, N. Y. Thrashing-machine	266,399	Oct. 24	1456	413	22	1405
Strobridge, Turner, New Brighton, Pa. Grinding-mill	264,115	Sept. 12	552	150	22	878
Strohm, Samuel D. (See Taylor and Strohm.)						
Strohm, Samuel D., Philadelphia, Pa. Underground electrical conduit	266,916	Oct. 31	2044	589	22	1520
Strohm, Samuel D., assignor of one-half to H. Snyder, Philadelphia, Pa. Condnit for electrical conductors	262,499	Aug. 8	829	234	22	483
Strohm, Samuel D., assignor, by mesne assignments, of one-third to E. C. Snyder, Philadelphia, Pa. Metallic circuit for electrical currents	267,278	Nov. 7	396	115	22	1611
Strohm, Samuel D., assignor, by mesne assignments, of one-third to E. C. Snyder, Philadelphia, Pa. Metallic circuit for electrical currents	267,279	Nov. 7	397	115	22	1611
Strong, Edwin J., Powhattan, Iowa. Box-stay for vehicles	261,641	July 25	1020	455	22	291
Strong, Frederic S. (See King and Strong.)						
Strong, George S., Philadelphia, Pa. Locomotive	261,061	July 11	909	253	22	157
Strong, George S., Philadelphia, Pa. Locomotive-boiler	261,783	July 25	1784	504	22	319
Strong, George S., Philadelphia, Pa. Feed-water heater	262,147	Aug. 1	404	{113 114	22	403
Strong, George S., Philadelphia, Pa. Steam-trap	264,788	Sept. 19	1297	366	22	1023
Strong, George S., Philadelphia, Pa. Steam-boiler tube	266,220	Oct. 17	1213	342	22	1354
Strong, George S., Philadelphia, Pa. Locomotive-boiler	266,551	Oct. 24	1615	460	22	1434
Stroud, Charles E., *et al.* (See Labelle, Charles H., assignor.)						
Stroud, William D., Oshkosh, Wis., assignor to R. Emerson and W. A. Talcott. Seeder and cultivator combined. (Reissue)	10,166	July 18	1466	409	22	258
Strouse, Abraham, New York, N. Y., assignor to Mayer, Strouse & Co., New Haven, Conn. Corset	264,366	Sept. 12	823	231	22	928
Strowger, William B. (See Schan and Strowger.)						
Strugnell, James H. (See Bothwell and Strugnell.)						
Strunk, Daniel, Janesville, Wis., assignor to Minneapolis Harvester Works, of Minnesota. Grain-binder	269,347	Dec. 19	1176	{344 345	22	2116
Strunz, Stephen, Pittsburg, Pa. Leaching apparatus	260,714	July 4	472	128	22	80
Stuart, Charles C., Hammonton, N. J. Lathe	268,439	Dec. 5	79	25	22	1902
Stuart, James. (See Kelley, Austin, assignor.)						
Stuart, James D. (See Senécal, Louis M., assignor.)						
Stuart, John E., Newark, N. J. Window-screen frame	262,148	Aug. 1	406	115	22	403
Stuart, Peter, Edinburgh, county of Mid-Lothian, Scotland. Composite pavement	269,480	Dec. 19	1357	{390 391	22	2151
Stuart, Timothy E. (See Emery, John A., assignor.)						
Stubbs, Jesse. (See Jonas, Fredrick, assignor.)						
Stubbs, Jesse, and F. Jonas, Mount Pleasant, Iowa. Wheeled scraper	268,054	Nov. 28	1367	383	22	1805
Stuber, James L., New Orleans, La. Box	264,789	Sept. 19	1298	366	22	1024
Studley, Elbridge G. (See Feick, Joseph K., assignor.)						
Studley, Theodore E., assignor to Goodyear Rubber Company, New York, N. Y. Atomizer	260,505	July 4	205	58	22	35
Stumm, Adam. (See Farel and Stumm.)						
Sturgeon, John, Westminster, county of Middlesex, assignor to J. W. D. Galway and G. W. Bainbridge, Warrington, England. Apparatus for cooling, drying, and purifying air	263,620	Aug. 29	2263	647	22	756
Sturm, William, Galveston, Tex. Circular railway or roundabout	263,243	Aug. 22	1749	497	22	665
Sturtevant, E. Lewis, *et al.* (See Sturtevant, Thomas L., assignor.)						
Sturtevant, Thomas L., Framingham, assignor of part interest to C. J. Bowker, Boston, Mass., and E. L. Sturtevant, Geneva, N. Y. Attrition-mill	269,481	Dec. 19	1358	391	22	2151
Styron, William D., assignor of three-fourths to O. E. Whitehurst, G. A. Hinkle, and H. B. Nichols, Norfolk, Va. Fertilizer compound	268,314	Nov. 28	1687	.....	22	1864
Suitt, James B., Indianapolis, Ind. Grain-separator	264,490	Sept. 19	973	273	22	963
Sullivan, Daniel, assignor of one-half to W. Slack, New York, N. Y. Pulley-crane for clothes-lines	268,958	Dec. 12	679	199	22	2022
Sullivan, John, Philadelphia, Pa. Brush	260,909	July 11	708	193	22	125
Sullivan, John, Brooklyn, N. Y. Nail-feeding machine	264,790	Sept. 19	1299	367	22	1024
Sullivan, John, assignor of two-thirds to L. Ames and J. E. Dohoney, Elmira, N. Y. Wedge-bolt for locomotives	261,570	July 25	1538	431	22	276
Sullivan, John J., Ipswich, Mass. Attachment for button-hole sewing-machines	264,491	Sept. 19	974	274	22	963
Sulzberger, Ferdinand, New York, N. Y. Method of and apparatus for rendering fats, &c	262,706	Aug. 15	1096	310	22	536
Sulzman, Charles A., Waterford, N. Y. Car-starter	263,363	Aug. 29	1960	560	22	701
Summers, Alexander B., assignor of one-half to H. Krone and W. Meyer, Brooklyn, N. Y. Ventilator	261,404	July 18	1327	371	22	234
Summers, George H., Beloit, Wis. Adjustable bit and drill chuck	265,990	Oct. 17	935	264	22	1307
Sumner, Dwight C., New York, N. Y. Cloth-shearing machine	265,644	Oct. 10	516	141	22	1228
Sundberg, Francis A., Washington, D. C. Scarf-ring	265,479	Oct. 3	271	81	22	1184
Surprise, John B., Memphis, Tenn. Portable fence	268,774	Dec. 5	442	130	22	1971
Sursa, James W., and J. T. Dowdall, St. Louis, Mo. Cotton-cultivator	266,734	Oct. 31	1835	532	22	1481
Sutcliffe, Henry and W., Halifax, county of York, England. Apparatus for casting water-closet cisterns	266,917	Oct. 31	2045	589	22	1520
Sutcliffe, Wright. (See Sutcliffe, Henry and W.)						
Sutfin, George W., Dundee, Ill. Milk-strainer	262,149	Aug. 1	407	115	22	403
Sutherland, Alexander M., and F. C. Brown, assignors to MacKinnon Pen Company, New York, N. Y. Stylographic fountain-pen	266,064	Oct. 17	1023	289	22	1323
Sutherland, Hugh L., Canton, Miss. Trace-splice	262,255	Aug. 8	546	154	22	433
Sutherland, James H., *et al.* (See Norton, Ambrose L., assignor.)						
Sutphen, Othello, Albany, N. Y. Fire-escape	268,959	Dec. 12	680	199	22	2022
Sutton, Ebenezer H., Macy, Ind. Conical countersink and bit-gage	264,791	Sept. 19	1301	367	22	1024
Sutton, James T. (See McCabe, Swain, and Sutton.)						
Suydam, William G., assignor to Scott Manufacturing Company, Baltimore, Md. Machine for sorting green peas	261,062	July 11	910	253	22	157
Svanson, Ludvig, Chicago, Ill. Guard-gate for swing-bridges	264,969	Sept. 26	1540	{432 433	22	1071
Svensson, Claes A., assignor to W. W. Oliver, Buffalo, N. Y. Machine for bending rings	263,991	Sept. 5	400	{111 112	22	844

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Swab, Joseph F., Cedar Rapids, Iowa. Milk-cooler	264,367	Sept. 12	824	232	22	928
Swain, Charles R. (See McCabe, Swain, and Sutton.)						
Swain, Joseph J., Montevallo, Ala. Barrel-truck	261,063	July 11	911	253	22	157
Swain, Joseph J., Montevallo, Ala. Garden-tool	265,460	Oct. 3	272	81	22	1184
Swan, Alfred, Gateshead, county of Durham, England. Mold for forming the stems or closing-pieces for the bulbs or globes of incandescent electric lamps	263,621	Aug. 29	2266	647	22	757
Swan, Alfred, Gateshead, county of Durham, England. Device for forming loops in terminal wires for electric lamps	263,622	Aug. 29	2267	647	22	757
Swan, Alfred, Gateshead, county of Durham, England. Device for forming terminal wires for electric lamps	263,623	Aug. 29	2268	647	22	757
Swan, Alfred, Gateshead, county of Durham, England. Device for forming sockets for carbon points	264,970	Sept. 26	1541	433	22	1071
Swan Incandescent Electric Light Company. (See Stanley, William, Jr., assignor.)						
Swan, James, Seymour, Conn. Screw-driver	265,712	Oct. 10	603	170	22	1243
Swan, Loyd H., Oxford, Ind. Wrench	269,482	Dec. 19	1360	391	22	2151
Swank, Marquis D., and J. T. Thornley, Anderson, Ind. Balanced throttle-valve	265,991	Oct. 17	935	264	22	1307
Swank, Marquis D., J. T. Thornley, and J. A. Awalt, Anderson, Ind. Balance globe-valve	265,178	Sept. 26	1779	498	22	1114
Swank, Marquis D., J. T. Thornley, and J. A. Awalt, Anderson, Ind. Steam gage-cock	265,992	Oct. 17	936	264	22	1307
Swank, Marquis D., J. T. Thornley, and J. A. Awalt, Anderson, Ind. Steam gage-cock	267,036	Nov. 7	95	28	22	1557
Swanson, Andrew, New York, N. Y. Fire-escape	261,064	July 11	911	253	22	157
Swartout, William H., Salineville, assignor to W. Twaddle, Jefferson County, Ohio. Barrel-ventilator	264,048	Sept. 5	472	128	22	855
Swartztrauber, Ferdnand. (See Schmidt, Christian, assignor.)						
Sweeney, Daniel, Paterson, N. J. Padlock	268,142	Nov. 28	1471	410	22	1824
Sweeney, Dennis, Amsterdam, N. Y. Sewing-machine stand	262,500	Aug. 8	830	234	22	483
Sweeney, John, Sing Sing, assignor to himself and A. Walker, New York, N. Y. Removable wick-tube for lamp-burners	266,221	Oct. 17	1214	342	22	1354
Sweet, Benjamin F., Fond du Lac, Wis. Corner-iron for vehicle-bodies	263,441	Aug. 29	2055	589	22	718
Sweet, Benjamin F., Fond du Lac, Wis. Running-gear for vehicles	263,442	Aug. 29	2056	589	22	719
Sweet & Clark Manufacturing Company. (See Sweet, Miles, assignor.)						
Sweet, Clayton E. (See Norris and Sweet.)						
Sweet, Fletcher & Co. (See Fletcher, Henry, assignor.)						
Sweet, Frederick H., assignor to Rowley & Hermance, Williamsport, Pa. Journal-box	261,274	July 18	1173	329	22	209
Sweet, Frederick H., assignor to Rowley & Hermance, Williamsport, Pa. Device for straining scroll-saws	263,074	Aug. 22	1557	440	22	698
Sweet, Frederick H., assignor to Rowley & Hermance, Williamsport, Pa. Bevel-gage	264,421	Sept. 12	884	249	22	939
Sweet, Frederick H., assignor to Rowley & Hermance, Williamsport, Pa. Molding-machine	265,887	Oct. 10	798	226	22	1278
Sweet, John E., Syracuse, N. Y. Cross-head for engines, &c	264,368	Sept. 12	825	232	22	928
Sweet, John E., Syracuse, N. Y. Balanced slide-valve	268,055	Nov. 28	1369	383	22	1805
Sweet, John E., and C. E. Lipe, Syracuse, N. Y. Tool-post for lathes	261,967	Aug. 1	174	51	22	365
Sweet, Joseph L., *et al.* (See Crocker, Walter E., assignor.)						
Sweet, Miles, assignor to Sweet & Clark Manufacturing Company, Troy, N. Y. Currycomb	264,907	Sept. 26	1459	411	22	1057
Sweet, Miles, assignor to Sweet & Clark Manufacturing Company, Troy, N. Y. Snap-hook	266,327	Oct. 24	1363	384	22	1388
Sweet, Parker H., Jr., Washington, D. C. Machine for attaching buttons to shoes	268,143	Nov. 28	1473	411	22	1824
Sweet, Parker H., Jr., Washington, D. C., assignor to Heaton Button Fastener Company, Providence, R. I. Button-fastener	269,738	Dec. 26	1678	482	22	2219
Sweet, Thomas A., Cambria, Cal. Clothes-pin	265,461	Oct. 3	273	81	22	1185
Sweetland, Frank, Edwardsburg, Mich. Car-coupling	262,854	Aug. 15	1283	361	22	568
Sweetland, Frank, Edwardsburg, Mich. Link-holder	263,624	Aug. 29	2268	648	22	757
Swenson, Nils O., Terraville, Dak. Ter. Water-tuyere for forges	261,784	July 25	1785	504	22	319
Swett, Daniel C., Bethel, Me. Wagon-jack	265,179	Sept. 26	1780	499	22	1114
Swett, Sullivan C., Washington, D. C. Device for suspending hats, caps, &c	268,570	Dec. 5	214	60	22	1926
Swett, Wilbra W., Springfield, Ill. Permutation-lock	269,137	Dec. 12	903	264	22	2060
Swickard, Noah, Clarinda, assignor of one-half to H. F. Simmons, Osceola, Iowa. Sulky-plow	263,669	Aug. 29	2320	663	22	765
Swift, Allen W., Elmira, N. Y. Lubricator	265,180	Sept. 26	1780	499	22	1114
Swift, Charles N., New York, N. Y. Cigar-case	261,642	July 25	1620	455	22	291
Swift, R. K., *et al.* (See Hinds, Carlos W., assignor.)						
Swindell, Henry, Allegheny, Pa. Crucible-furnace and brick for constructing the same	260,429	July 4	102	30	22	19
Swindell, Henry, Allegheny, Pa. Hot-water heating apparatus	264,116	Sept. 12	553	151	22	879
Swindell, William, Allegheny city, Pa. Shaking and dumping grate	266,328	Oct. 24	1364	385	22	1388
Swinford, William H., Cherokee, Ala. Car-coupling	262,701	Aug. 8	831	234	22	483
Swinford, William H., Cherokee, Ala. Milk-temperer for churns	269,483	Dec. 19	1361	391	22	2151
Swope, Horace G. (See Rude, Swope, and Riter.)						
Swope, Horace G., assignor of one-half to S. B., G. W., and J. R. Rude, Liberty, Ind. Seeding-machine	264,908	Sept. 26	1460	412	22	1057
Sylvester, Philip L., assignor to Woodruff Brothers, Auburn, N. Y. Manufacture of buttons from plastic material	265,181	Sept. 26	1782	{499 500	22	1115
Sylvester, William, assignor to himself and R. Liddell, Pittsburg, Pa. Bottle-stopper	269,484	Dec. 19	1361	392	22	2151
Symonds, Daniel R., assignor to W. Deering, Chicago, Ill. Grain-binder	264,909	Sept. 26	1462	412	22	1057
Symons, James, assignor of two-thirds to D. R. Murphy, Newark, and G. D. Johnson, Granville, Ohio. Ore-stamp	264,792	Sept. 19	1301	367	22	1024
Synar, Henry B., *et al.* (See Synar, Joseph, assignor.)						
Synar, John T., *et al.* (See Synar, Joseph, assignor.)						
Synar, Joseph, assignor of two-thirds to H. B. Synar, Honesdale, and J. T. Synar, Green Ridge, Pa. Insulator for musical instruments	266,552	Oct. 24	1616	460	22	1435
Taber, Almer C. (See Bailey, John W., assignor.)						
Taber, Franklin P., Auburn, N. Y. Apparatus for the manufacture of sugar, salt, &c	268,056	Nov. 28	1369	383	22	1805
Tabourin, Georges A., Marseilles, France. Governor-valve for electric lighting apparatus	265,290	Oct. 3	74	23	22	1149
Tadlock, Alexander B., Knoxville, Tenn. Sash-cord guide	265,888	Oct. 10	799	226	22	1278
Tafel, Adolph J. (See Boericke and Goll, assignors.)						
Taft, Edward L. (See Heywood and Taft.)						
Taft, Gustavus E., assignor to Whitin Machine Works, Whitinsville, Mass. Spindle and bearing therefor	261,275	July 18	1174	329	22	209
Taggart, Francis, Brooklyn, N. Y., assignor to C. R. Knickerbocker, trustee. Machine for disintegrating wheat, &c	269,741	Dec. 26	1680	483	22	2219
Taggart, Francis, Brooklyn, N. Y. Hydraulic process of and apparatus for reducing and concentrating metallic ores	269,742	Dec. 26	1682	{483 484	22	2220
Taggart, William, San Francisco, Cal. Preserving piles	261,405	July 18	1328	371	22	234
Taggart, William P., Phœnixville, Pa. Car-coupling	269,485	Dec. 19	1362	392	22	2152
Tagliabue, Charles J., Brooklyn, assignor of one-half to F. B. Squire, New York, N. Y. Apparatus for and process of distilling petroleum	265,462	Oct. 3	274	82	22	1185

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Talbot, Frank H., Rochester, N. Y., assignor to himself and F. Brown, Cleveland, Ohio. Locomotive head-light	267,613	Nov. 14	832	238	22	1693
Talbot, John, Sacramento, Cal. Cigar-perforator	265,960	Dec. 12	680	200	22	2023
Talbot, William H., Buchanan, Mich. Road-scraper	261,276	July 18	1175	329	22	209
Talbot, William R. (See Bailey and Talbot.)						
Talcott, Fred, *et al.* (See Briggs, Thomas A., assignor.)						
Talcott, Frederick, *et al.* (See Briggs, Thomas A., assignor.)						
Talcott, William A., *et al.* (See Stroud, William D., assignor.) (Reissue.)						
Talley, Henry H. (See Sanders and Talley.)						
Talley, William N., Hampton, W. Va. Mining-auger	269,739	Dec. 26	1679	483	22	2219
Tallman, Charles H., and J. A. Blankley, Bellaire, Ohio. Lantern	264,369	Sept. 12	826	232	22	928
Tallman, G. D., *et al.* (See Ritchel and Stever, assignors.)						
Tallman, S. S., *et al.* (See Ritchel and Stever, assignors.)						
Tallman, Stephen P., Dunellen, N. J. Stock-car	262,707	Aug. 15	1097	{310 311}	22	536
Tallman, Stephen P., Dunellen, N. J. Stock-car	269,604	Dec. 26	1515	436	22	2188
Talmadge, George W., Golden Prairie, Iowa. Cattle-stanchion	269,348	Dec. 19	1182	345	22	2117
Talmadge, Junius A., Meriden, Conn. Manufacture of glass water-closet bowls	266,918	Oct. 31	2047	589	22	1520
Tam, Antonio. (See Jambers, Pierre J. M., assignor.)						
Tamm, Max, St. Louis, Mo. Offal drier and cooler	260,801	July 11	587	159	22	104
Tannenberg, August O., and J. R. Barnum, Newton, Kans. Ironing-board	262,502	Aug. 8	832	235	22	484
Tanner, Francis, assignor of one-half to J. Allen and M. McNamara, Detroit, Mich. Electrical annunciator	267,807	Nov. 21	1068	299	22	1743
Tanner, George G., Indianapolis, Ind. Grain-car door	261,883	Aug. 1	70	20	22	347
Tanner, Theophilus, Osage, Nebr. Window-pane	269,740	Dec. 26	1679	483	22	2219
Tanvez, Pierre, Guingamp, France. Grinding-mill	267,763	Nov. 21	1041	284	22	1733
Tapley, Jesse F., and G. B. Kilbon, Springfield, Mass. Book-sewing machine	265,463	Oct. 3	276	82, 83	22	1185
Tappan, Melvin H., La Cygne, Kans. Ticket-door supporter	261,104	July 11	968	270	22	167
Tappan, Ogden H., Potsdam, N. Y. Hand-stamp. (Reissue)	10,263	Dec. 26	1786	514	22	2239
Tarbox, George O. (See Mansell, Elbridge S., assignor.)						
Tarr, Horace G. H. (See Sawyer, William E., assignor.)						
Tarrant, Esau, Muskegon, Mich. Sawing-machine table	269,349	Dec. 19	1183	345	22	2117
Tasker, Stephen P. M. (See Feldmann, Hermann B., assignor.)						
Tasker, Stephen P. M. (See Murphy, Albert L., assignor.)						
Tasker, Stephen P. M. (See Rogers, T. Mellon, assignor.)						
Tasker, Stephen P. M., Philadelphia, Pa. Pipe-coupling	262,855	Aug. 15	1284	361	22	569
Tasker, Stephen P. M., Philadelphia, Pa. Stone and ore crusher	262,996	Aug. 22	1464	412	22	611
Tasker, Stephen P. M., Philadelphia, Pa. Wet-pulverizing machine	265,713	Oct. 10	604	{170 171}	22	1243
Tasker, Stephen P. M., Philadelphia, Pa. Wet-pulverizing machine	265,714	Oct. 10	607	171	22	1244
Tasker, Stephen P. M., Philadelphia, Pa. Dry-pulverizing machine	265,715	Oct. 10	609	172	22	1244
Tasker, Stephen P. M., Philadelphia, Pa., and W. F. Wolfkiel, New Castle, Del. Apparatus for truing, reducing, and straightening metallic tubes	267,614	Nov. 14	833	238	22	1693
Tate, Samuel. (See Barry, Henry H., assignor.)						
Tate, Samuel, Sandusky, Ohio. Feather-renovator	260,626	July 4	350	94	22	59
Tatum, Paul, Harmony Hill, Tex., assignor of one-half to J. W. Flanagan. Railway-rail joint	261,277	July 18	1176	329	22	209
Tavernier, Alphonse, Paris, France. Method of and apparatus for press-dyeing	263,992	Sept. 5	402	112	22	844
Taylor, Andrew W., assignor of one-half to R. Winfree, Salisbury, Mo. Burial-casket	262,503	Aug. 8	833	235	22	484
Taylor, Asa. (See Taylor, Ezra and A.)						
Taylor, Charles. (See Taylor, John and C.)						
Taylor, David J., Grinnell, Iowa. Dress-chart	266,919	Oct. 31	2048	590	22	1520
Taylor, Edmund H., Jr., Frankfort, Ky. Making whisky	262,256	Aug. 8	546	.....	22	433
Taylor, Eugene H. (See Gooding and Taylor.)						
Taylor, Ezra and A., Indianapolis, Ind. Car-coupling	268,315	Nov. 28	1687	467	22	1864
Taylor, Frank E., and H. R. Palmer, Allegheny, Pa. Shaking-grate	264,370	Sept. 12	827	232	22	928
Taylor, George. (See Byers and Taylor.)						
Taylor, George H., New York, N. Y. Movement cure	263,625	Aug. 29	2269	648	22	757
Taylor, George W., *et al.* (See Gifford, Ezra N., assignor.)						
Taylor, Harrison H. (See Hubel and Taylor.)						
Taylor, Harrison H., assignor to F. A. Hubel, Detroit, Mich. Capsule-remover	268,144	Nov. 28	1475	411	22	1824
Taylor, Harrison H., assignor to F. A. Hubel, Detroit, Mich. Capsule-cutting machine	268,961	Dec. 12	681	200	22	2023
Taylor, Harrison H., assignor to T. Reno and the Detroit Tool Company, Detroit, Mich. Clamp	266,920	Oct. 31	2050	590	22	1520
Taylor, Henry, assignor of one-half to P. Walsh, London, Ontario, Canada. Mop-wringer	265,889	Oct. 10	800	227	22	1279
Taylor, James, New Lexington, Ohio. Drain-tile	265,716	Oct. 10	611	172	22	1244
Taylor, James S., Danbury, Conn. Hat scalding and felting machine	263,075	Aug. 22	1558	{440 441}	22	628
Taylor, James S., Danbury, Conn. Machinery for felting hats	263,076	Aug. 22	1561	441	22	628
Taylor, John and C., Detroit, Mich. Bridle-bit	261,278	July 18	1177	330	22	209
Taylor, John M., Fredericton, New Brunswick, Canada. Locomotive-window	261,785	July 25	1786	505	22	319
Taylor, John M., Fredericton, New Brunswick, Canada. Railway-locomotive	261,786	July 25	1787	505	22	319
Taylor, Lewis F., and W. F. Clark, Orland, Ind. Thill-coupling	266,657	Oct. 31	1741	502	22	1463
Taylor, Lewis H., Jr. (See McLaughlin, John K., assignor.)						
Taylor, Lewis H., Jr., and S. D. Strohm, Philadelphia, Pa. Speed indicator and recorder	266,921	Oct. 31	2051	590	22	1521
Taylor, Michael C., Grass Valley, Cal. Water-wheel	266,922	Oct. 31	2052	591	22	1521
Taylor, N. V., *et al.* (See Barger, Nathaniel S., assignor.)						
Taylor, Najah, New York, N. Y. Separable button	263,626	Aug. 29	2270	648	22	757
Taylor, Nancy D. (See Wendell and Taylor.)						
Taylor, Robert W., San Francisco, Cal. Sofa-bedstead	268,145	Nov. 28	1476	{411 412}	22	1824
Taylor, Samuel C. (See Riley, Taylor, and Leggott.)						
Taylor, Thomas P., Bridgeport, Conn. Manufacture of base-balls	262,257	Aug. 8	547	154	22	433
Taylor, Warren H., assignor to Yale Lock Manufacturing Company, Stamford, Conn. Knob attachment	261,968	Aug. 1	175	52	22	365
Taylor, Warren H., assignor to Yale Lock Manufacturing Company, Stamford, Conn. Broach for making key-slots	267,808	Nov. 21	1069	299	22	1744
Taylor, Warren H., assignor to Yale Lock Manufacturing Company, Stamford, Conn. Plate-key for locks	263,244	Aug. 22	1750	497	22	665
Taylor, William. (See Nichols and Taylor.)						
Taylor, William W. (See Anthony and Taylor.)						
Teal, Daniel E., Oneida Castle, N. Y. Railway-jack	263,077	Aug. 22	1562	441	22	628
Teal, Daniel E., Oneida Castle, N. Y. Trestle	266,658	Oct. 31	1742	{502 503}	22	1463

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Tear, John, Geneva, Ill. Fruit-gatherer	263,993	Sept. 5	404	112	22	844
Teasdale, James M., Howell, Mich. Fruit-evaporator	260,910	July 11	709	193	22	125
Tebbetts, Lewis B., St. Louis, Mo. Index	265,717	Oct. 10	612	172	22	1244
Tecktonius, Emil, and J. N. Bashaw, Kenosha, Wis. Seat-spring	262,708	Aug. 15	1099	311	22	536
Tees, Frederick G. (See Sternberger and Tees.)						
Teeter, Charles E. (See Teeter, George W. and C. E.)						
Teeter, George W. and C. E., Trotwood, Ohio. Gate	265,890	Oct. 10	801	227	22	1279
Teichmann, Karl, Stuttgart, Würtemberg, Germany. Gas-engine	269,163	Dec. 12	935	272	22	2067
Temperton, Richard, Hine's Corners, Pa. Harvester	261,787	July 25	1788	{505 506}	22	319
Temple, Alonzo, Bridgeport, Conn. Lubricating and preserving steam-engines	261,180	July 18	1063	.....	22	192
Temple, Frank F. (See Grafftey, Alfred H., assignor.)						
Temple, Henry F., Chattanooga, Tenn. Plunger for pumps	260,802	July 11	588	159	22	104
Temple, Wilbur C., Boston, Mass. Catch for pins or ear-rings	267,037	Nov. 7	96	29	22	1357
Tennant, John, and J. Hattersley, Brooklyn, N. Y. Metallic gasket for steam-joints	260,506	July 4	206	58	22	35
Tennent, Thomas, San Francisco, Cal. Artificial horizon	269,486	Dec. 19	1364	392	22	2152
Tenney, F., *et al.* (See Bond, Nathan O., assignor.)						
Terne, Bruno, assignor of three-fourths to D. and E. P. Baugh, Philadelphia, Pa. Utilizing tank-waters of slaughter-houses	269,487	Dec. 19	1365	.....	22	2152
Terrill, Reuben W., Denton, Tex. Book-rest for writing desks and tables	265,464	Oct. 3	280	83	22	1186
Terry, Joseph M., Palmetto, Ga. Tire-upsetter	266,659	Oct. 31	1744	503	22	1464
Teter, William L., Philadelphia, Pa. Process of and apparatus for cleaning grain	262,505	Aug. 8	835	236	22	484
Teter, William L., Philadelphia, Pa., assignor to Eclipse Improved Wheat Cleaning Machine Company, Camden, N. J. Process of and apparatus for cleaning grain	262,504	Aug. 8	834	{235 236}	22	484
Teufel, Wilhelm, Stuttgart, Germany. Abdominal bandage	261,494	July 18	1427	399	22	251
Tewksbury Automatic Elevator Company. (See Tewksbury, George C., assignor.) (Reissue.)						
Tewksbury, George C. (See Peare, George R., assignor.)						
Tewksbury, George C., Newark, N. J. Automatic elevator	264,793	Sept. 19	1302	368	22	1024
Tewksbury, George C., Newark, N. J., assignor to Tewksbury, Automatic Elevator Company, of New Jersey. Elevator. (Reissue)	10,191	Aug. 29	2327	665	22	766
Tewksbury, George C., Newark, N. J., assignor to Tewksbury, Automatic Elevator Company, of New Jersey. Elevator-stop. (Reissue)	10,192	Aug. 29	2329	665	22	767
Thackara, A. M., *et al.* (See Bradley, John H., assignor.)						
Thackara, Benjamin, *et al.* (See Bradley, John H., assignor.)						
Thackara, Charles, *et al.* (See Bradley, John H., assignor.)						
Thackston, Richard D., assignor of one-half to H. I. Coe, St. Louis, Mo. Self-closing hatchway	268,146	Nov. 28	1478	412	22	1825
Thalheimer, Albert, Reading, Pa. Portable drier	263,738	Sept. 5	82	25	22	789
Thalheimr, Albert, Reading, Pa. Apparatus for drying lumber	268,839	Dec. 12	534	{158 159}	22	1095
Tharraldson, Knude, Ida Grove, Iowa. Harrow	263,994	Sept. 5	405	113	22	844
Thayer, Eli, Worcester, Mass. Stop-valve	261,065	July 11	912	254	22	157
Thayer, Henry A., Chicago, Ill. Folding bed	265,891	Oct. 10	802	227	22	1279
Thayer, James M., Randolph, Mass. Car-heater	262,856	Aug. 15	1285	362	22	569
Thayer, John A., Somerville, Mass. Claw-hammer and screw-driver	264,492	Sept. 19	976	274	22	963
Thayer, Russell, Philadelphia, Pa. Conduit for electric wires	263,627	Aug. 29	2271	648	22	758
Theis, Henry P. (See Etz and Theis.)						
Theobald, George, assignor of one-half to Adams & Ilsley, Boston, Mass. Check-rein	268,147	Nov. 28	1479	412	22	1825
Theobold & Co., *et al.* (See Ohliger, Louis B., assignor.)						
Thiele, Edward, assignor of one-half to H. E. Linenschmidt, Wellsville, Mo. Feathering paddle-wheel	265,346	Oct. 3	144	43	22	1161
Thiell, William H., Bloomington, Ill. Signal attachment for locomotive head-lights	262,506	Aug. 8	837	{236 237}	22	485
Thissell, George W., Winters, Cal. Coddling-moth trap and tree-protector	265,718	Oct. 10	613	173	22	1244
Thom, William M., assignor of one-half to J. F. Mason, St. Louis, Mo. Drafting implement	268,749	Dec. 5	411	120	22	1965
Thomas, D. E. (See Morison, Alexander, assignor.)						
Thomas, Eddy T., New York, N. Y. Sewing-machine	261,181	July 18	1064	298	22	192
Thomas, Eddy T., New York, N. Y., assignor to C. W. Williams Manufacturing Company, Montreal, Canada. Sewing-machine	266,553	Oct. 24	1616	460	22	1435
Thomas, Eddy T., New York, N. Y., assignor to C. W. Williams Manufacturing Company, Montreal, Canada. Sewing-machine	266,554	Oct. 24	1617	461	22	1435
Thomas, Edward L. (See Stockman and Dunfin, assignors.)						
Thomas, Francke G., Providence, R. I. Whiffletree	269,245	Dec. 19	1051	307	22	2094
Thomas, George C., New York, N. Y. Making hinges	267,809	Nov. 21	1071	299	22	1744
Thomas, George W., Toledo, Ohio. Wheel-hub	266,400	Oct. 24	1456	413	22	1405
Thomas, George W., Toledo, Ohio. Wheelbarrow	267,615	Nov. 14	835	238	22	1693
Thomas, Henry T., New Rochelle, N. Y. Combined picture-exhibitor and portfolio	262,507	Aug. 8	839	237	22	485
Thomas, Hugh, New York, N. Y. Oiling planers, &c	262,857	Aug. 15	1286	362	22	569
Thomas, John D., Forrest City, Ark. Whiffletree-hook	263,245	Aug. 22	1751	498	22	665
Thomas, John J., Salt Lake City, Utah Ter. Tongue-support	266,401	Oct. 24	1457	414	22	1406
Thomas, John Q., Longview, Ky. Car-coupling	263,995	Sept. 5	406	113	22	845
Thomas, John R. (See Whiteley and Thomas.)						
Thomas, John R., Cincinnati, Ohio. Resawing-machine table	267,280	Nov. 7	397	{115 116}	22	1611
Thomas, Joseph D., assignor of one-half to L. F. Requa, New York, N. Y. Car-spring	264,371	Sept. 12	829	233	22	928
Thomas, Joseph W., assignor to Thomas, Ludlow & Rogers, Springfield, Ohio. Seeding-machine and cultivator	261,643	July 25	1621	{455 456}	22	291
Thomas, Lewis R., Biddeford, Me. Cooking-utensil	269,488	Dec. 19	1366	393	22	2152
Thomas, Ludlow & Rogers. (See Thomas, Joseph W., assignor.)						
Thomas, Peter, Elberfeld, Prussia, Germany. Bleaching fiber	266,660	Oct. 31	1745	.....	22	1464
Thomas, Sidney G. (See Closson, Jean B. M. P., assignor.)						
Thomas, Wilber, Quincy, Ill. Fence-picket	267,948	Nov. 21	1232	346	22	1775
Thomas, Wilber, Quincy, Ill. Apparatus for painting fence pickets, &c., by dipping	268,148	Nov. 28	1479	{412 413}	22	1825
Thomas, William. (See Routt, Ansell P., assignor.)						
Thomas, William M., assignor of one-half to S. W. Skinner, Cincinnati, Ohio. Electric-arc lamp	263,246	Aug. 22	1752	498	22	666
Thomas, William M., assignor of one-half to S. W. Skinner, Cincinnati, Ohio. Electric-arc lamp	263,247	Aug. 22	1754	{499 500}	22	666
Thomass, Herman, Brooklyn, assignor to L. and C. Althof, G. Cronemeyer, and W. C. L. Rubsamen, New York, N. Y. Toy whirligig	267,949	Nov. 21	1233	347	22	1775
Thompson, Arthur, Brooklyn, N. Y. Tool for inserting casters	267,379	Nov. 14	544	155	22	1641
Thompson, Arthur, Brooklyn, N. Y. Caster	267,380	Nov. 14	545	155	22	1641
Thompson, Benjamin, Buffalo, N. Y. Duplex telegraph	261,788	July 25	1790	506	22	320

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Thompson, Benjamin, Buffalo, N. Y. Duplex and multiplex telegraph	264,372	Sept. 12	831	233	22	929
Thompson, Benjamin, Buffalo, N. Y. Multiplex telegraph	265,645	Oct. 10	517	141	22	1229
Thompson, Benjamin, Buffalo, N. Y. Condenser for telegraphic circuits	268,317	Nov. 28	1669	468	22	1864
Thompson, Charles, Fulton, N. Y. Clothes-wringer	263,364	Aug. 29	1061	560	22	702
Thompson, Charles E., and E. E. Stevens, New Haven, Conn. Carriage-lamp holder	261,066	July 11	913	254	22	157
Thompson, David. (See Thompson, Otis D., assignor.)						
Thompson, David W., Englewood, Ill., assignor of one-third to J. Miller, Troy, N. Y. Combined button lap and stay for garments	267,281	Nov. 7	398	116	22	1611
Thompson, Gaston, Cameron, N. C. Washing-machine	263,628	Aug. 29	2272	649	22	758
Thompson, John, assignor to Bucyrus Foundry and Manufacturing Company, Bucyrus, Ohio. Traveling crane	262,709	Aug. 15	1100	311	22	537
Thompson, John C., Brooklyn, N. Y. Self-leveling berth	260,911	Jnly 11	710	193 / 194	22	125
Thompson, John W. (See Hamilton, Cassina M., assignor.)						
Thompson, Joseph T., Verona, N. Y. Stove-grate	264,583	Sept. 19	1063	302	22	980
Thompson, Joseph W., assignor of one-half to Buckeye Engine Company, Salem, Ohio. Eccentric for steam-engines	265,994	Oct. 17	938	265	22	1307
Thompson, Otis D., Elkhart, Ind. Hay rake and loader	261,406	July 18	1328	371	22	234
Thompson, Otis D., assignor to D. Thompson, Elkhart, Ind. Wind-wheel	261,495	July 18	1429	399	22	252
Thompson, Robert C. (See Spence and Thompson.)						
Thompson, Robert H., Brooklyn, N. Y. Veneer-cutting machine	262,258	Aug. 8	548	154	22	433
Thompson, Robert L., Boulder, Colo. Device for moving pianos	265,465	Oct. 3	281	84	22	1186
Thompson & Son, Henry G. (See Coop and Mower, assignors.)						
Thompson & Son, Henry G. (See Mower, Samuel E., assignor.)						
Thompson, Thomas P., Franklin Grove, Ill. Kerosene-oil lamp	260,430	July 4	104	30	22	19
Thompson, Washington C., Covington, Ky. Cotton planter and cultivator	263,248	Aug. 22	1758	500	22	667
Thompson, William C., Minneapolis, Minn. Lock	261,789	July 25	1792	506	22	320
Thompson, William F., San Francisco, Cal. Leak-stopper for boiler-tubes	268,571	Dec. 5	215	61	22	1927
Thompson, William P. (See Brice and Thompson.)						
Thomsen, Henry. (See Nitz, Ernest, assignor.)						
Thomson, Cathcart. (See Nichols, Frederic B., assignor.)						
Thomson, Elihu, New Britain, Conn. Preventing flashing between electric conductors	265,936	Oct. 10	858	245	22	1288
Thomson, Elihu, New Britain, Conn. Regulator for dynamo-electric machines	265,937	Oct. 10	860	245	22	1288
Thomson, Elihu, New Britain, Conn. Electric-arc light	265,993	Oct. 17	937	264	22	1307
Thomson, Elihu, assignor to American Electric Company, New Britain, Conn. Electric-arc lamp	261,067	July 11	914	254	22	157
Thomson, Elihu, assignor to American Electric Company, New Britain, Conn. Electric-arc lamp	261,790	July 25	1793	507	22	320
Thomson, Elihu, assignor to American Electric Company, New Britain, Conn. Dynamo-electric machine	269,605	Dec. 26	1517	436	22	2189
Thomson, Elihu, assignor to American Electric Company, New Britain, Conn. Regulator for dynamo-electric machines	269,606	Dec. 26	1519	437	22	2189
Thomson, George B., St. Louis, Mo. Rubber coat	267,120	Nov. 7	208	60	22	1577
Thomson, John L., assignor to E. T. Barnum, Detroit, Mich. Iron fence	265,719	Oct. 10	614	173	22	1245
Thomson, Judson L. (See Revoir and Thomson.)						
Thomson, Judson L., Syracuse, N. Y. Machine for attaching metal plates to sheet-rubber	260,431	July 4	105	30	22	19
Thomson, Judson L., Syracuse, N. Y. Clasp for overshoes	268,572	Dec. 5	216	61	22	1927
Thomson, Langdon & Co. (See Gilbert, Thomas S., assignor.)						
Thomson, Leroy A. (See Thomson, Presson W., assignor.)						
Thomson, Presson W., assignor of one-half to L. A. Thomson, Yates City, Ill. Check-row corn-planter	264,794	Sept. 19	1303	368	22	1025
Thomson, William P., Joliet, Ill. Roof-seat for shingling	262,508	Aug. 8	839	237	22	485
Thorburn & Titus. (See Jensen, Rasmus, assignor.)						
Thorey, Emile M. E. E., Union Hill, N. J. Cock	261,068	July 11	915	255	22	158
Thorn, Charles, Jr. (See Shattnck and Thorn.)						
Thornburg, John S., Clinton, Iowa. Bevel and gage	267,381	Nov. 14	546	156	22	1641
Thornley, Jasper T. (See Swank and Thornley.)						
Thornley, Jasper T. (See Swank, Thornley, and Awalt.)						
Thornton, A. P. (See Turner, Robert W., assignor.)						
Thornton, Benjamin, *et al.* (See Hershey, Benjamin, assignor.)						
Thornton, John, Jr. (See Moeslein, Valentine, assignor.)						
Thorp, Henry D., Fort Wayne, Ind. Car-coupling	262,509	Aug. 8	840	237	22	485
Thorp, James H., Baltimore, Md. Preservation of food for cattle	266,923	Oct. 31	2053	591	22	1521
Thorpe, George B., Chicago, Ill. Bird-perch	266,555	Oct. 24	1619	461	22	1435
Thorpe, Philip, New York, N. Y. Prepared flour	269,743	Dec. 26	1689	.....	22	2221
Three Rivers Velocipede Car Company. (See Walz, Samuel H., assignor.)						
Throckmorton, William F., Adair, Ill. Hedge-trimmer	265,182	Sept. 26	1786	501	22	1115
Throop, Charles E., Auburn, N. Y. Telephone central-office apparatus	261,969	Aug. 1	176	52	22	365
Throop, Mary J. C., Portland, Me. Curtain-holder	268,573	Dec. 5	217	61	22	1927
Thurber & Co., H. K. & F. B. (See Clawson, Clement C., assignor.)						
Thurber, Horace K. (See Jones, Jacob G., assignor.)						
Thurlow, John H., Boston, Mass. Detachable lining for watch-pockets	268,574	Dec. 5	217	61	22	1927
Thweatt, Nicholas B., Hickory Plains, Ark. Fire-back	269,551	Dec. 26	1444	416	22	2174
Tibbals, Lewis P., New York, N. Y. Shade-holder for children's carriages	260,912	July 11	711	194	22	125
Tibbetts, John M., *et al.* (See Heaton, Horace L., assignor.)						
Tibbits, Artemus J., Southfield, Mich. Broadcast seed-planter	265,466	Oct. 3	282	84	22	1186
Tibbits, John B. (See Ball, Clinton M., assignor.)						
Tibbles, Charles E., assignor to Hawkeye Machine Company, Burlington, Iowa. Sewing-machine	269,607	Dec. 26	1521	437	22	2189
Tichenor, David H., Newark, N. J. Artesian vacuum-well	260,803	July 11	590	160	22	105
Tichenor, Isaac T., Auburn, Ala. Paint	265,184	Sept. 26	1786	.....	22	1116
Tickner, John J., Bancroft, Mich. Burial-casket	263,249	Aug. 22	1759	500	22	667
Tiers, Alexander H., *et al.* (See Pendleton, John H., assignor.)						
Tiers, Cornelius, *et al.* (See Pendleton, John H., assignor.)						
Tiffany, Benjamin M., Ionia, Mich., and F. M. Tiffany, assignors of one-third to S. J. Ricker, Aurora, Ill. Brake-shoe	262,150	Aug. 1	408	115	22	403
Tiffany & Co. (See Lindauer, Joseph, assignor.)						
Tiffany, Fred. M. (See Tiffany, Benjamin M. and F. M.)						
Tiffin, John E., and W. A. Smith, Redding, Cal. Tongue-support	262,510	Aug. 8	842	238	22	486
Tigniere, August, Wichita, Kans. Punch for marking cattle	267,282	Nov. 7	401	117	22	1612
Till, Charles G. (See Randall, Henry R., assignor.)						
Tillinghast, Mary E., West Orange, N. J. Needle-woven tapestry	268,149	Nov. 28	1481	413	22	1826
Tillyer, James W., Newark, N. J. Whip-socket clamp	260,507	July 4	207	58	22	35
Tilton, Edward L., assignor of two-thirds to A. C. Spencer and J. J. Brown, Gaffney City, S. C. Car-coupling	261,496	July 18	1430	399	22	252

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Tilton, Rufus E., Brockton, Mass. Traction-wheel	266,924	Oct. 31	2054	591	22	1521
Timberlake, John B., Jackson, Mich. Handle for plates or dishes	264,795	Sept. 19	1305	368	22	1025
Tincher, George W., Topeka, Kans. File-box	265,467	Oct. 3	283	84	22	1186
Tindell, Henry. (See Clark and Tindell.)						
Tingley, Alfred D., New York, N. Y., assignor to C. E. Tingley, Adrian, Mich. Device for feeding and watering stock in cars	267,810	Nov. 21	1071	300	22	1744
Tingley, Alfred D., New York, N. Y. Feed-box for stock	268,150	Nov. 28	1482	413	22	1826
Tingley, Charles E. (See Tingley, Alfred D., assignor.)						
Tingman, John H., assignor to A. Schilling & Co., San Francisco, Cal. Canister	262,259	Aug. 8	549	155	22	433
Tinker, Horace, Mealyville, Pa. Animal-trap	265,892	Oct. 10	803	228	22	1279
Tinsman, Abraham O. (See Murphy, Daniel R., assignor.)						
Tipton, Albert W., Jacksonville, Ill. Vaginal electrode	268,316	Nov. 28	1688	468	22	1864
Tirrell, Jacob P. (See Blodgett and Tirrell.)						
Tirrell, Jacob P., Boston, Mass., assignor to Electric Gas Lighting Company, Portland, Me. Electric gas-lighting apparatus	260,804	July 11	592	160	22	105
Tirrell, Jacob P., Boston, Mass., assignor to Electric Gas Lighting Company, Portland, Me. Electric gas-lighting apparatus	260,805	July 11	593	160	22	105
Tirrell, Jacob P., Boston, Mass., assignor to Electric Gas Lighting Company, Portland, Me. Automatic electric gas-lighting apparatus	260,806	July 11	594	160	22	105
Tirrell, Jacob P., Somerville, assignor to W. R. Nutting, Boston, Mass. Apparatus for lighting gas by electricity	262,260	Aug. 8	550	155	22	434
Tise, Charles H. (See Tise, Jacob C. and C. H.)						
Tise, Jacob C. and C. H., Winston, N. C. Water-elevator for wells	262,511	Aug. 8	842	238 / 239	22	486
Titus, Andrew, *et al.* (See Tyler, Henry P., assignor.)						
Titus, Herman P., Lisbon, N. H. Machine for reducing wood to paper-pulp	263,250	Aug. 22	1760	501	22	667
Titzel, James C., *et al.* (See Titzel, John A., assignor.)						
Titzel, James C., assignor of two-thirds to J. Lynch and J. A. Titzel, Allegheny, Pa. Treating vulcanized india-rubber	265,184	Sept. 26	1787	.....	22	1116
Titzel, John A., *et al.* (See Titzel, James C., assignor.)						
Titzel, John A., assignor to himself, J. C. Titzel, and J. Lynch, Allegheny, Pa. Waterproofing compound or paint	266,223	Oct. 17	1215	.....	22	1354
Toal, David D., New York, N. Y. Garbage-receptacle	268,750	Dec. 5	412	121	22	1965
Tobey, Henry A., Dayton, Ohio. Water-closet valve	263,251	Aug. 22	1761	501	22	667
Tobey, Henry A., Dayton, Ohio. Pressure-regulator	263,996	Sept. 5	406	113	22	845
Tod, Gerhard, Jr., and J. Bucker, Washington, Mo. Apparatus for propelling boats	265,185	Sept. 26	1788	501	22	1116
Todd, Thomas, and G. E. Vincent, Schenectady, N. Y. Napkin-hook	262,710	Aug. 15	1100	312	22	537
Todd, William P., New Rochelle, N. Y. Portable window guard or screen	262,331	Aug. 8	638	180	22	450
Toledo Mower and Reaper Company (See Davis, John S., assignor.)						
Tolley, Frederick W., assignor of one-half to E. Volk, Hudson, N. Y. Butter and lard cutter	268,575	Dec. 5	218	62	22	1927
Tolman, Edward K., Worcester, Mass. Key-fastener	269,744	Dec. 26	1690	484	22	2221
Tolman, Philander, F. Walker, and J. W. Caswell, Harrison, Me. Composition for treating iron wire	264,971	Sept. 26	1542	.....	22	1071
Tomlinson, Edwin R., West Stratford, Conn. Valve	262,997	Aug. 22	1466	412	22	611
Tomlinson, Eli J., De Soto, Ind. Motor	265,186	Sept. 26	1788	501	22	1116
Tomlinson, James, Chatham, Ontario, Canada, assignor to F. G. Smith, Detroit, Mich. Butter-package	267,613	Nov. 14	835	236	22	1693
Tomlinson, James, Chatham, Ontario, Canada, assignor to F. G. Smith, Detroit, Mich. Three-ply cylindrical wooden package	267,617	Nov. 14	836	239	22	1694
Tomlinson, William. (See Curry, Joseph P., assignor.)						
Tompkins, Frederick H., Jersey City, N. J. Shade-rack	265,468	Oct. 3	284	85	22	1186
Tompkins, Rhinelander C., New York, assignor of one-half to A. Spring, White Plains, N. Y. Hog-scraping machine	264,796	Sept. 19	1306	368 / 369	22	1025
Tomz, Carl B., Baltimore, Md. Hat	260,807	July 11	596	161	22	105
Topham, Edward, Milpitas, Cal. Gang-plow	261,182	July 18	1065	299	22	192
Toppan, Charles, Salem, Mass. Bleaching fabrics	263,365	Aug. 29	1962	.....	22	702
Toppan, Charles, Salem, Mass. Finishing colored or printed textile fabrics	263,366	Aug. 29	1962	.....	22	702
Torrance, Charles E., Holyoke, Mass. Paper-cutting machine	264,972	Sept. 26	1542	433	22	1071
Torre, Frank D., Baltimore, Md. Car-wheel	261,183	July 18	1066	299	22	192
Torrey Automatic Brake Company. (See Torrey, Dolphus, assignor.)						
Torrey, Dolphus, assignor to Torrey Automatic Brake Company, New York, N. Y. Car-brake	263,997	Sept. 5	408	113	22	845
Torrey, Henry C., Central Village, Conn. Carriage-jack	263,367	Aug. 29	1963	560	22	702
Torrey, Joseph R., Worcester, Mass. Combined razor-strop and toilet-case. (Reissue)	10,229	Oct. 31	2124	610	22	1534
Torrey, Joseph R., Worcester, Mass. Razor-strop	267,950	Nov. 21	1234	347	22	1775
Torrey, Joseph R., Worcester, Mass. Razor-strop	267,951	Nov. 21	1235	347	22	1775
Tostevin, Thomas, Council Bluffs, Iowa. Railway-rail chair	261,497	July 18	1431	400	22	252
Tostevin, Thomas, Council Bluffs, Iowa. Railway-rail chair	261,498	July 18	1431	400	22	252
Totten, William H. D., Pittsburg, Pa. Metal-planing machine	269,350	Dec. 19	1184	346	22	2118
Toulmin, Morton, Washington, D. C. Paper-fastening machine	267,283	Nov. 7	402	117	22	1612
Tourangin, Ernest, Salbris, (Loir et Cher,) France, assignor to D. H. Walker and L. Durand, New York, N. Y. Burning pulverulent fuel	265,347	Oct. 3	145	43	22	1161
Tourangin, Ernest, Salbris, (Loir et Cher,) France, assignor to D. H. Walker and L. Durand, New York, N. Y. Reverberatory furnace	265,348	Oct. 3	146	43	22	1161
Tourangin, Ernest, Salbris, France, assignor to L. Durand and D. H. Walker, New York, N. Y. Process of and apparatus for the reduction of iron ore	268,840	Dec. 12	536	159	22	1995
Tournaphone Music Company. (See Brown, Edwin H., assignor.)						
Tournaphone Music Company. (See Morgan, James, assignor.)						
Tontant, Elodie, New Orleans, La. Scale-cover	262,512	Aug. 8	844	239	22	486
Tower, Abner J., Boston, Mass. Coat	267,729	Nov. 21	976	257	22	1727
Tower, Jarvis E. (See Larkin and Tower.)						
Tower, John J. (See Kahlke and Tower.)						
Tower, Oscar, assignor of one-half to H. M. Davis, Wilson, N. Y. Thill-coupling	265,187	Sept. 26	1789	502	22	1116
Town, Anna M., St. Johns, Kans. Purse	265,893	Oct. 10	803	228	22	1279
Towns, Elijah E., Towns, Ga. Corn-sheller	265,995	Oct. 17	940	265	22	1308
Townsend, Benjamin B., Brookline, Mass. Game apparatus	268,057	Nov. 28	1371	384	22	1805
Townsend, Charles W., Charleston, S. C. Dredge for mining submerged rock	266,402	Oct. 24	1458	414	22	1406
Townsend, George A., Columbus, Ohio. Combination-tool	264,373	Sept. 12	833	233	22	929
Townsend, George T., Warren, Ohio. Table	267,611	Nov. 21	1073	300	22	1744
Townsend, Joseph H., and E. A. Dubey, Brooklyn, N. Y. Fire-escape	260,627	Jnly 4	351	94, 95	22	59
Townsend, Louis, Evansville, Ind. Automatic top	268,318	Nov. 28	1691	468	22	1864
Townsley, James B., *et al.* (See Slater, James J., assignor.)						
Townsley, Thomas W., *et al.* (See Slater, James J., assignor.)						
Toy, James M., T. D., and N., Washburn, Ill. Check-row attachment for corn-planters	261,279	July 18	1177	330	22	209

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Toy, Nelson. (See Toy, James M., T. D., and N.)						
Toy, Thomas D. (See Toy, James M., T. D., and N.)						
Tove, William H. R., New York, N. Y. Sizing or painting machine	263,998	Sept. 5	410	114	22	845
Tozer, Luke, Maroa, Ill. Apple corer and slicer	262,332	Aug. 8	040	180	22	450
Trabue, Isaac H., Louisville, Ky. Coupling and linch pin	264,910	Sept. 26	1463	412	22	1057
Tracy, Andrew, Richland, Iowa. Take-up for sewing-machines	269,552	Dec. 26	1445	416	22	2174
Tracy, George S., *et al.* (See Goeller, William F., assignor.)						
Tracy, Harriet R., assignor of one-half to S. H. Olin, New York, N. Y. Stove	266,661	Oct. 31	1745	503	22	1464
Tracy, John D., Sterling, Ill. Harrow	263,368	Aug. 29	1964	561	22	702
Tracy, John D., Sterling, Ill. Harvester-rake	268,151	Nov. 28	1493	413	22	1826
Tragardh, Rudolph, Chicago, Ill. Velocipede	264,374	Sept. 12	834	233	22	929
Trageser, John, New York, N. Y. Securing snugs or rings on boilers	262,189	Aug. 1	466	130	22	413
Trammell, Erasmus R., Birmingham, Ala. Friction-clutch for throttle-valves	266,224	Oct. 17	1215	343	22	1354
Trant, Justus A., New Britain, Conn. Try-square	266,556	Oct. 24	1620	461	22	1435
Travers, John, Albany, N. Y. Fire-escape	266,596	Oct. 24	1664	479	22	1443
Travers, Vincent P. (See Rood, Albert O., assignor.)						
Travis, Eugene B., trustee. (See Travis, Francis M., assignor.)						
Travis, Francis M., Guiney's, Va., assignor to E. B. Travis, trustee, Peekskill, N. Y. Endless horse-power platform	263,252	Aug. 22	1762	501	22	668
Travis, Joseph, Philadelphia, Pa. Hot-air furnace	268,751	Dec. 5	413	121	22	1965
Travis, William T., Brooklyn, N. Y. Water-meter	264,375	Sept. 12	835	234	22	930
Traylor, Robert W., Richmond, Va. Journal bearing and box	263,629	Aug. 29	2273	649	22	758
Traylor, Robert W., assignor to N. D. Hargrove, Richmond, Va. Machine for reducing mica for the manufacture of starch, &c	263,630	Aug. 29	2274	649	22	758
Treadway, Benjamin S., Casenovia, Mich. Saw-set	261,407	July 18	1330	371	22	235
Treat, Charles H. (See Banghart and Treat.)						
Treat, Francis H., Joliet, Ill. Stop or gate valve	269,138	Dec. 12	904	264	22	2061
Trefethen, Romanzo, and J. M. Willey, Dover, N. H. Hot-air-register border	263,443	Aug. 29	2058	590	22	719
Tregellas, Henry, Delaware Mine, Mich. Wrench	265,188	Sept. 26	1790	502	22	1116
Trekell, Benjamin F., Mount Pleasant, Iowa. Velocipede	265,996	Oct. 17	940	265	22	1308
Trenholm, William L., Charleston, S. C. Hypohydroscope	269,139	Dec. 12	904	264	22	2061
Trenor, John J. D., New York, N. Y. Dial for watches and clocks	262,513	Aug. 8	845	239 240	22	486
Tribe, Thomas, Colorado Springs, Colo. Rolling window-screen	267,618	Nov. 14	837	239	22	1694
Tribon, Horace A., Machias, Me. Carriage-curtain fastening	261,970	Aug. 1	178	52	22	366
Tricycle Manufacturing Company. (See Bean, John, assignor.)						
Tricycle Manufacturing Company. (See Bean, John and R., assignors.)						
Trier, Frank, assignor to A. C. Baldwin, Boston, Mass. Machine for truing grindstones	263,444	Aug. 29	2059	590	22	719
Trier, Frank H. J. (See Brunton and Trier.)						
Trimmer, John R. (See Richardson, Trimmer, and Loomis.)						
Trimmer, Martin L. (See Brock, William E., assignor.)						
Triplett, Leonidas, Jr. (See Farra, Walter H., assignor.)						
Tripp, James, New York, N. Y. Take-up mechanism for sewing-machines	267,038	Nov. 7	97	29	22	1557
Tripp, Thomas, East Stoughton, Mass. Metallic rod-packing	265,469	Oct. 3	285	85	22	1187
Tripp, Thomas, East Stoughton, Mass. Metallic rod-packing	265,470	Oct. 3	286	85	22	1187
Trippe, Sylvanus L., assignor of one-half to A. H. Bliss, Chicago, Ill. Apparatus for amalgamating and separating gold, &c., from their ores	264,422	Sept. 12	885	249	22	939
Trobach, Konrad, assignor to S. Elster, Berlin, Germany. Apparatus for burning petroleum	261,791	July 25	1797	507	22	321
Trobach, Konrad, and A. Corda, Berlin, Germany. Process of and apparatus for distilling alcohol	266,925	Oct. 31	2056	592	22	1522
Trobach, Konrad, assignor to L. Frobeen, Berlin, Germany. Chuck	268,752	Dec. 5	415	122	22	1966
Troemner, Henry. (See Montgomery, Archibald, assignor.)						
Trostel, George, Springfield, Ohio. Cigar-press	264,073	Sept. 26	1544	434	22	1072
Troti, John T., Waterbury, Conn. Cake-machine	262,998	Aug. 22	1467	413	22	612
Trott, Samuel, and H. Kingsford, Halifax, Nova Scotia, Canada. Grapnel for raising telegraphic cables	265,720	Oct. 10	615	173	22	1245
Trotter, William, Jr., Oyster Bay, N. Y. Combined match-box and candlestick	262,514	Aug. 8	847	240	22	486
Trotter, William, Jr., Oyster Bay, N. Y. Luminous picture, print, &c	267,284	Nov. 7	404	118	22	1612
Troup, Charles, Watseka, Ill. Car-coupling	261,184	July 18	1067	299	22	192
Trowbridge, Alfred A., Danbury, Conn. Optometer	262,151	Aug. 1	409	115	22	404
Trowbridge, George S., trustee. (See Dion, Léon, assignor.)						
Trowbridge, George S., trustee. (See Dion, Léon O., assignor.)						
Trowbridge, John H., Newark, N. J. Machine for trimming edgings	268,440	Dec. 5	82	26	22	1902
Trude, Arthur M., and W. Gray, assignors of one-third to C. H. Cooley, Hartford, Conn. Car-coupling	266,558	Oct. 24	1621	462	22	1435
Trueblood, Barclay T., Salem, Iowa. Gearing for washing-machines	268,733	Dec. 5	416	122	22	1966
Truemper, Charles J., Indianapolis, Ind. Curtain-fixture	264,206	Sept. 12	644	178	22	895
Truitt, Henry A., Philadelphia, Pa. Machine for knitting fabrics having a plush surface	263,999	Sept. 5	412	114	22	846
Trusdell, Charles G. (See Atkinson, Charles, assignor.)						
Trussell, Orlando S., Rockland, Me. Automatic advertising device	262,515	Aug. 8	847	240	22	487
Tschiember, Jacob, assignor of one-half to J. L. McIlhenny, Dayton, Ohio. Bathing-box	264,797	Sept. 19	1308	369	22	1026
Tubbs, Ira H., Chicago, Ill. Hame-tug	267,039	Nov. 7	98	29	22	1557
Tucker, Almon W. (See Brimacci, Richard E., assignor.)						
Tucker, Charles H. (See Smith, Franklin R., assignor.)						
Tucker, Frederick O., Hartford, Conn. Stop-motion for looms	265,997	Oct. 17	941	265	22	1308
Tucker, Frederick O., Hartford, Conn. Weft stop-motion for looms	269,745	Dec. 26	1690	485	22	2221
Tucker, George W., Waterbury, Conn. Drawer-pull. (Reissue)	10,201	Sept. 19	1372	388	22	1035
Tucker, Henry S., Faulkner, assignor of one-half to A. Glover, Boston, Mass. Piano-lid support	264,049	Sept. 5	473	129	22	855
Tucker, James W. (See Howatson, Andrew, assignor.)						
Tucker, Joseph. (See Gray, Samuel J., assignor.)						
Tucker, Morris W., Sumner, Mich. Draft-equalizer	267,040	Nov. 7	99	29	22	1557
Tudor, Henry, Boston, Mass. Spar and sail	266,065	Oct. 17	1024	290	22	1323
Tufts, Rufus W., Santa Cruz, Cal. Water-wheel	260,913	July 11	712	194 195	22	125
Tufts, William H., and L. Roth, assignors to C. D. Prescott, Rome, N. Y. Reach-coupling for vehicles	261,069	July 11	916	255	22	158
Tullmann, Otto. (See Schöneberg, Ewald, assignor.)						
Tully, Thomas, Cleveland, assignor to J. Crowell, Jr., and G. W. Shumway, Glenville, Ohio. Sewing-machine	268,152	Nov. 28	1485	414	22	1826
Tumey, Charles H., San Antonio, assignor of one-half to Hancock & Hancock, Austin, Tex. Horse-power	262,152	Aug. 1	412	116	22	404
Tunica, Francis, Omaha, Nebr. Safety railway-tie	263,078	Aug. 22	1563	441	22	629

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Tunica, Francis, Omaha, Nebr. Continuous park and garden border tile	268,441	Dec. 5	84	26	22	1902
Turley, Marshall, Council Bluffs, Iowa. Bating and tanning hides	262,516	Aug. 8	849	241	22	487
Turman, William B., Waldron, Ark. Balanced slide-valve	268,319	Nov. 28	1092	468	22	1864
Turner, George W., assignor to American Automatic Organ Company, Boston, Mass. Mechanical musical instrument	262,858	Aug. 15	1288	362	22	569
Turner, Isaac P. (See Pine, Turner, and Searle.)						
Turner, Jonathan T., Sing Sing, N. Y. Potato-planter	264,493	Sept. 19	977	274	22	963
Turner, Lucius, Reading, Mass. Game of lawn-pool	269,351	Dec. 19	1187	346	22	2118
Turner, Luther G., Torrington, Conn. Window-shade pull	266,926	Oct. 31	2057	592	22	1522
Turner, Robert L., Olena, Ohio. Cultivator	261,499	July 18	1432	400	22	252
Turner, Robert W., Kosse, assignor of one-half to A. P. Thornton, Thornton Station, Tex. Head-protector	261,408	July 18	1330	372	22	235
Turner, Roswell W. (See Stearns and Holmes, assignors.)						
Turner, Roswell W., Boston, Mass. Fork for domestic and other uses	268,153	Nov. 28	1486	414	22	1827
Turner, William A., assignor to J. Davol, Providence, R. I. Syringe	267,952	Nov. 21	1236	347	22	1776
Turner, William B., New York, N. Y. Momentum car-brake	268,754	Dec. 5	417	122	22	1966
Turner, William B., New York, N. Y. Momentum car-brake	268,755	Dec. 5	421	123	22	1967
Turner, William J., Battle Creek, Mich. Plow-point	266,927	Oct. 31	2058	592	22	1522
Turnure, Frank H. (See Ogle and Turnure.)						
Turpin, Eugène, Paris, France. Explosive compound	263,824	Sept. 5	193	.....	22	806
Turpin, Peterfield. (See Plummer and Turpin.)						
Turrentine, William H., Company Shops, N. C. Feeding water to boilers of locomotives	264,494	Sept. 19	978	274	22	963
Tush, Elwood, Manchester, Iowa. Grinding-mill	266,225	Oct. 17	1216	343	22	1355
Tuttle, Francis H., Clifford, Pa. Vehicle-spring	263,253	Aug. 22	1763	502	22	668
Tuttle & Whittemore. (See Clark, James T., assignor.)						
Tuttle, William, Dowagiac, Mich. Chill for chilling metal	265,646	Oct. 10	522	142	22	1229
Tuttle, William O., Atlanta, Ill. Check-row-reel attachment to planters	263,445	Aug. 29	2060	590	22	719
Twaddle, William. (See Swartout, William H., assignor.)						
Tyack, William. (See Simmons and Tyack.)						
Tyler, Abel D., Brockton, Mass. Rubber-covered handle	264,798	Sept. 19	1309	369	22	1026
Tyler, Charles C., New York, N. Y. Percolator for rosin	266,559	Oct. 24	1622	462	22	1436
Tyler, Charles H., St. Louis, Mo. Office-desk	267,041	Nov. 7	99	30	22	1558
Tyler, Henry P., assignor of three-fourths to A. Titus and S. A. Atwood, Springfield, Mass. Mop-head	269,746	Dec. 26	1691	485	22	2221
Tyler, John E., Roxobel, N. C. Handsaw	262,859	Aug. 15	1290	362	22	570
Tyler, Melvin H., Natick, Mass. Combined step-ladder and adjustable bench	265,471	Oct. 3	287	85	22	1187
Tyler, Vernon A., Jamestown, N. Y. Thill-coupling	267,469	Nov. 14	651	187	22	1661
Tyler, William W. (See Risdon and Tyler.)						
Tynan, Joseph E., Paterson, N. J. Machine for throwing silk	261,409	July 18	1331	372	22	235
Ufford, Stephen R. S., Batavia, assignor of one-half to R. R. Hall, Aurora, Ill. Two-wheeled vehicle	260,808	July 11	597	161	22	105
Uhl, George V. (See York and Uhl.)						
Uhlig, Richard W., assignor to J. Reckendorfer, New York, N. Y. Lead and crayon holder	261,500	July 18	1433	400	22	252
Uhlig, Richard W., assignor to J. Reckendorfer, New York, N. Y. Lead and crayon holder	265,894	Oct. 10	804	228	22	1279
Ullrich, Jacob, Hoboken, N. J. Stylographic fountain-pen	262,629	Aug. 15	1002	281	22	518
Ullrich, Jacob, Hoboken, N. J. Stylographic fountain-pen	234,974	Sept. 26	1545	434	22	1072
Ulmer, Amos M., and F. Fowler, Philadelphia, Pa. Braking mechanism for machinery	267,953	Nov. 21	1237	348	22	1776
Ulrich, George, Erie, Pa. Medicinal compound	268,962	Dec. 12	682	.....	22	2023
Underhill, Edward F., and V. F. Lake, New York, N. Y. Folding seat for theaters	266,226	Oct. 17	1217	343	22	1355
Underhill, Edward F., and V. F. Lake, New York, N. Y. Folding seat	267,382	Nov. 14	547	156	22	1641
Underhill, Edward F., and V. F. Lake, New York, N. Y. Folding seat for theaters and public halls	268,154	Nov. 28	1487	414 415	22	1827
Underhill, Oliver S. (See Retallack, Joseph, assignor.)						
Underwood, Nathan, Jr. (See Joergens, Clemens, assignor.)						
Unexcelled Fireworks Company. (See Linton, Edward F., assignor.)						
Unger, Henry, Baltimore, Md. Cigar-lighter	261,070	July 11	918	255	22	158
Unger, William. (See Wehrle and Unger.)						
Union Brass Manufacturing Company. (See Ellacott, Joseph P., assignor.)						
Union Brass Manufacturing Company. (See Hartley, D. Bert, assignor.)						
Union Chemical Manufacturing Company. (See Wurtz, Henry, assignor.)						
Union Door Knob Company. (See Hidden, Oliver M., assignor.)						
Union Electric Manufacturing Company. (See Haskins, Charles D., assignor.)						
Union Foundry and Pullman Car Wheel Works. (See Christiansen, John, assignor.)						
Union Metallic Cartridge Company. (See Orcutt and Richards, assignors.)						
Union Paper Bag Machine Company. (See McCullough, Joseph, assignor.)						
Union Paper Bag Machine Company. (See Stillwell, Charles B., assignor.)						
Union Switch and Signal Company. (See Gassett, Oscar, assignor.)						
United Gas Improvement Company. (See Leadley and Hanlon, assignors.)						
United States Automatic Button Hole Sewing Machine Company. (See Mills, Daniel, assignor.)						
United States Bullion Refining Company. (See Cassel, Henry R., assignor.)						
United States Button Hole Sewing Machine Company. (See Mills, Daniel, assignor.)						
United States Electric Lighting Company. (See Barnes, Raymond F., assignor.)						
United States Electric Lighting Company. (See Farmer, Moses G., assignor.)						
United States Electric Lighting Company. (See Lockwood, Joseph E., assignor.)						
United States Electric Lighting Company. (See Maxim, Hiram S., assignor.)						
United States Electric Lighting Company. (See Nichols, Joseph V., assignor.)						
United States Electric Lighting Company. (See Olmsted, Joseph, assignor.)						
United States Electric Lighting Company. (See Waterhouse, Addison G., assignor.)						
United States Electric Lighting Company. (See Weston, Edward, assignor.)						
United States Improvement Company. (See Johnston, James J., assignor.)						
United States Indelible Ink Company. (See Goold, Oliver A., assignor.)						
United States Water Meter Company. (See Calkins, Thomas L., assignor.)						
Unz, Oscar, and R. G. Hendrie, New York, N. Y. Toy	262,517	Aug. 8	850	241	22	487
Upham, Andrew J., assignor to J. H. Lawrence, Sterling, Ill. Barb-wire fence	261,185	July 18	1068	299	22	193
Upham, Andrew J., Sterling, Ill., assignor to Washburn & Moen Manufacturing Company, Worcester, Mass., and I. L. Ellwood, De Kalb, Ill. Barbed wire	264,495	Sept. 19	978	275	22	964
Upham, Francis W., *et al.* (See Horton, Jacob C., assignor.)						
Upham, Isadore A. (See Clark, Norman, assignor.)						
Upham, Isadore A. (See Eisey, George, assignor.)						
Upham, James B., Boston, Mass. Magic lantern	263,369	Aug. 29	1965	561	22	702
Upington, James T. (See Upington, John V., assignor.)						
Upington, John V., assignor of one-half to J. T. Upington, Lexington, Ky. Sulky	262,153	Aug. 1	412	116	22	404
Upington, John V., assignor of one-half to J. T. Upington, Lexington, Ky. Sulky	263,274	Aug. 22	1764	502	22	668

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Upson, Waldo L., assignor to Bradley & Hubbard Manufacturing Company, Meriden, Conn. Alarm-clock movement	267,619	Nov. 14	838	239	22	1694
Upton, William B., San Francisco, Cal. Speeding device for stamp-mills	268,963	Dec. 12	683	200 201	22	2023
Urann, Henry E., assignor to himself and F. E. Wetherell, Providence, R. I. Fabric for boots and shoes	268,320	Nov. 28	1693	469	22	1864
Urbahn, Alwill, Paterson, N. J., assignor of one-half to A. G. Jennings, Brooklyn, N. Y. Machine for making ornamental looped cord	266,928	Oct. 31	2059	592 593	22	1522
Urbahn, Alwill, Paterson, N. J., assignor of one-half to A. G. Jennings, Brooklyn, N. Y. Ornamental looped cord and fabric woven therefrom	267,285	Nov. 7	405	118	22	1612
Urie, James M., assignor of one-third to F. S. Hall, Boulder, Colo. Tinner's tool	265,549	Oct. 3	397	110	22	1203
Urie, Thomas, assignor of one-third to F. S. Hall, Boulder, Colo. Pitman-coupling for harvesters	269,140	Dec. 12	906	264	22	2061
Utica Furniture Company. (See Richardson, George F., assignor.)						
Utley, Winifred C., Milwaukee, Wis. Paper-perforating machine	267,730	Nov. 21	977	275	22	1728
Vail, Theodore N., Boston, Mass. Telephone switch apparatus	261,186	July 18	1069	300	22	193
Vail, Theodore N., Boston, Mass. Electrical switch-board for metallic circuits	261,187	July 18	1074	300	22	194
Vail, Theodore N., Boston, Mass. Subterranean system of electrical conductors	262,630	Aug. 15	1002	281	22	518
Vaille, Frederick O., Denver, Col. Telephone-exchange system	262,261	Aug. 8	551	155	22	434
Vajen & New. (See Vajen, Willis C., assignor.)						
Vajen, Willis C., assignor to Vajen & New, Indianapolis, Ind. Plumb-bob	267,655	Nov. 14	881	252	22	1702
Valentine, George R., New Bedford, Mass. Reamer	265,998	Oct. 17	942	266	22	1308
Valentine, Newell S., assignor to Hartford Silver Plate Company, Hartford, Conn. Burnishing-machine	264,423	Sept. 12	887	249	22	939
Valentine, Samuel W., assignor of one-half to R. S. Merrill, Boston, Mass. Sheet-metal can	267,383	Nov. 14	549	156	22	1642
Valiant, Charles F., State Centre, Iowa. Handle attachment for tilting chairs	262,190	Aug. 1	467	130	22	413
Vallance, Henry, St. Louis, Mo. Vehicle	265,472	Oct. 3	288	86	22	1187
Van, John, Cincinnati, Ohio. Fire-grate	265,189	Sept. 26	1791	502	22	1116
Van Campen, Savillion, New York, N. Y. Decorative tile	265,721	Oct. 10	616	173	22	1245
Van Choate, Silvanus F., New York, N. Y. Electric-arc lamp	268,155	Nov. 28	1489	415 416	22	1827
Van De Water, Henry, Auburn, N. Y., assignor to O. J. Bollinger, York, Pa. Water-wheel. (Reissue)	10,247	Nov. 21	1287	361	22	1784
Van Depoele, Charles J., Chicago, Ill. Electric-arc lamp	261,280	July 18	1178	330	22	210
Van Depoele, Charles J., Detroit, Mich. Electric-arc lamp	262,333	Aug. 8	641	180	22	450
Van Depoele, Charles J., Chicago, Ill. Inductorium	266,735	Oct. 31	1836	532	22	1481
Van Deusen, William A., Clifton Springs, N. Y. Baking-pan	263,000	Aug. 22	1469	414	22	612
Van Dorn, Dwight B., Cleveland, Ohio. Fence	261,281	July 18	1180	330	22	210
Van Drake, Alfred J., San Francisco, Cal. Ore-stamp battery	266,662	Oct. 31	1746	503 504	22	1464
Van Drake, Alfred J., San Francisco, Cal. Saw-tooth	267,121	Nov. 7	208	60	22	1577
Van Dusen, Charles, New Albany, Ind., assignor of one-half to W. L. Breyfogle, Louisville, Ky. Automatic car-brake	269,142	Dec. 12	907	265	22	2061
Van Dusen, Charles, New Albany, Ind., assignor to himself and W. L. Breyfogle, Louisville, Ky. Air-brake for railway-cars	269,747	Dec. 26	1692	485	22	2221
Van Dusen, Charles E., assignor of one-half to O. A. Miller, Oneonta, N. Y. Hydraulic motor	267,620	Nov. 14	840	240	22	1694
Van Dusen, Harlan P., administrator. (See Culver, Stephen, assignor.)						
Van Dyke, John W., Brooklyn, assignor of one-half to W. B. Emerson, Millburn, N. J. Removing filled cans from filling-tables	261,571	July 25	1539	432	22	276
Van Ensley, Martin, McMinnville, Oreg. Bee-hive	264,376	Sept. 12	836	234	22	930
Van Haagen, Anthony, assignor of one-half to B. Brooke and H. B. Gross, Philadelphia, Pa. Cake of soap	268,321	Nov. 28	1693	469	22	1865
Van Hiltmayer, Niklas, Port Huron, Mich., assignor of one-half to R. MacDonald, Ingersoll, Ontario, Canada. Stump-extractor	260,508	July 4	208	58	22	35
Van Hoesen, Casper, New York, N. Y. Paper-bag machine	269,352	Dec. 19	1188	346 347	22	2118
Van Hoevenbergh, Henry, Elizabeth, N. J. Automatic telegraph-transmitter	261,410	July 18	1333	372 373	22	235
Van Hutton, William B., assignor of one-fourth to A. C. H. Schweiss, Brenham, Tex. Folding crate	264,377	Sept. 12	898	235	22	930
Van Meter, Joseph E., and B. F. Hesser, Philadelphia, Pa. Velocipede	261,411	July 18	1335	373	22	236
Van Nette, Brog. N., Tiffin, Ohio. Tread-mill	267,042	Nov. 7	101	30	22	1558
Van Norden, Robert T., San Francisco, Cal. Water-meter	264,975	Sept. 26	1546	434	22	1072
Van Nostrand, Garret, Nyack, N. Y. Railway-car	265,896	Oct. 10	807	229	22	1280
Van Pelt, Gilbert S., New York, N. Y. Shears	268,756	Dec. 5	424	123	22	1967
Van Slyke, Isaac R., Chicago, Ill. Wardrobe-bedstead	267,384	Nov. 14	550	157	22	1642
Van Slyke, Isaac R., assignor one-half to I. R. Van Slyke, Jr., Chicago, Ill. Folding bed	269,748	Dec. 26	1695	486	22	2222
Van Steenbergh, Burhans. (See Boeklen, Reinhold, assignor.)						
Van Wagenen, Albert, Boston, Mass. Nailing-machine	260,715	July 4	472	128	22	80
Van Wagner, Abrambam, assignor of one-fourth to C. W. Dickel & Co., New York, N. Y. Fire-escape	267,286	Nov. 7	407	118 119	22	1613
Van Wagner, Isaac M., Nyack, N. Y. Water-cooler	266,561	Oct. 24	1624	462	22	1436
Van Wie, Daniel D. (See Moore, Van Wie, and Recker.)						
Van Winkle, Nathaniel H., New York, N. Y. Crib for children	265,190	Sept. 26	1791	503	22	1116
Van Wormer, A. A. (See Dyer, Aaron G. and J. M., assignors.)						
Van Zandt, Jacob, Marshall, Tex. Cotton-gin	261,502	July 18	1435	401	22	253
Vanee, Samuel J., Waverly, Ill. Vehicle-brake	262,999	Aug. 22	1468	413	22	612
Vandegrift, Nathaniel W., assignor to F. Armstrong, Bridgeport, Conn. Pipe-vise	269,141	Dec. 12	906	265	22	2061
Vandenburgh, Jesse. (See Duffey and Vandenburgh.)						
Vandenburgh, Jesse. (See Sperry and Vandenburgh.)						
Vanderhoof, O. G., *et al.* (See Andrews and Godfrey, assignors.)						
Vanderhoof, Sarah A., *et al.* (See Andrews and Godfrey, assignors.)						
Vanderlip, Wilson, Liberty, Ill. Clothes-drier	264,000	Sept. 5	413	114	22	846
Vandermark, John L., Pullman, Ill. Bag and sail tie	261,501	July 18	1434	401	22	253
Vanderslice, John, and F. H. Banks, Phœnixville, Pa. Well-boring and stone-drilling machine	264,799	Sept. 19	1310	369 370	22	1026
Vandervoort, F., *et al.* (See Draulr, Charles, assignor.)						
Vanduzen, Benjamin C., Cincinnati, Ohio. Engine	265,473	Oct. 3	289	86	22	1187
Vanduzen, Benjamin C., Cincinnati, Ohio. Pump	268,841	Dec. 12	540	159	22	1996
Vanduzen, Benjamin C., Cincinnati, Ohio, assignor to H. D. Lafferty, Nashville, Tenn., and S. B. Lafferty, Davenport, Iowa. Pump	268,842	Dec. 12	541	160	22	1996
Vanduzen, Benjamin C., Cincinnati, Ohio, assignor to H. D. Lafferty, Nashville, Tenn., and S. B. Lafferty, Davenport, Iowa. Pump	268,843	Dec. 12	543	160	22	1996

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Vanduzen, Benjamin C., Cincinnati, Ohio, assignor to H. D. Lafferty, Nashville, Tenn., and S. B. Lafferty, Davenport, Iowa. Pump	268,844	Dec. 12	546	160 161	22	1997
Vanduzen, Benjamin C., Cincinnati, Ohio, assignor to H. D. Lafferty, Nashville, Tenn., and S. B. Lafferty, Davenport, Iowa. Pump	268,845	Dec. 12	549	161	22	1998
Vanduzen, Ezra W., Newport, Ky. Steam water-elevator	265,895	Oct. 10	805	228 229	22	1279
Vane, Atwood, and D. Gundelfinger, St. Louis, Mo.; said Gundelfinger assignor to said Vane. Grain and malt drier	263,631	Aug. 29	2276	649	22	758
Vanorman, Oliver, Racine, Wis. Vehicle-pole iron	266,560	Oct. 24	1623	462	22	1436
Varney, Wallace L., and W. H. Howard, Waupun, Wis. Guide for the manufacture of boots or shoes	266,663	Oct. 31	1747	504	22	1464
Varwig, Henry. (See Woeber, Amos, assignor.)						
Vary, Bennett H. (See Witherell and Vary.)						
Vasbinder, Mark, Warren, Ohio. Seeding-machine	269,353	Dec. 19	1192	347	22	2119
Vaughan, Aaron C., Shane's Crossing, Ohio. Railway-rail	264,976	Sept. 26	1547	434 435	22	1072
Vedder, Elihu, New York, N. Y. Ornamental screen, hanging, &c	261,282	July 18	1181	331	22	210
Velguth, Adolph, Milwaukee, Wis. Lamp	264,584	Sept. 19	1064	302	22	980
Velguth, Adolph, Milwaukee, Wis. Sad-iron oil-stove	266,227	Oct. 17	1219	344	22	1355
Verity, Benjamin, St. Pancras, county of Middlesex, England. Burner for gas-fires	263,255	Aug. 22	1765	502	22	668
Verniand, Claudius, Quincy, Ill. Lubricator	264,001	Sept. 5	413	114	22	846
Vernier, William F., assignor to Knickerbocker Ice Company, Philadelphia, Pa. Ice-plow tooth	260,914	July 11	713	195	22	126
Vernon, George W., Greensborough, N. C. Plow-standard	263,256	Aug. 22	1766	502	22	668
Verree Iron Company. (See Miller, Lewis, assignor.)						
Vetter, Charles F., assignor to C. O. Hunter, Boston, Mass. Musical-scale indicator	266,329	Oct. 24	1366	385	22	1388
Vetter, John C., Indianapolis, Ind. Extension-table	265,349	Oct. 3	147	44	22	1161
Vibbard, William H., and G. H. Chandler, Kalamazoo, Mich.; said Chandler assignor to said Vibbard. Sewer-flushing apparatus	262,860	Aug. 15	1290	363	22	570
Victor Wringer Company. (See Piper, Dennis B., assignor.)						
Vilas, Cyrus K., Alstead, N. H. Fire-box	261,105	July 11	969	270	22	167
Vincent, Charles H., assignor of one-half to W. A. S. Smyth and W. H. Hodgdon, Lynn, Mass. Elevator	262,154	Aug. 1	413	116	22	404
Vincent, Comer C., Greensborough, assignor of one-half to J. B. Moore, Augusta, Ga. Plow-colter	263,079	Aug. 22	1564	442	22	629
Vincent, George E. (See Todd and Vincent.)						
Vincent, John, St. James, Mich. Oar-lock	262,334	Aug. 8	643	181	22	451
Vincent, John, St. James, Mich. Hame-fastener	264,207	Sept. 12	645	178	22	896
Vincent, John H., assignor of one-half to J. O. Wing, Melrose, N. Y. Spring-board wagon	261,911	Sept. 26	1464	413	22	1057
Vinet, Avila S., *et al.* (See Lord, Peter, assignor.)						
Vinet, Jean B., *et al.* (See Lord, Peter, assignor.)						
Viney, Frederick C., Philadelphia, Pa. Stop-valve for water and gas	266,664	Oct. 31	1748	504	22	1464
Vinson, Jonah J., Waveland, Ind. Car-coupling	269,354	Dec. 19	1193	347	22	2119
Vinton, John H., assignor to F. Armstrong, Bridgeport, Conn. Machine for cutting screw-threads	263,001	Aug. 22	1470	414	22	612
Voelker, William L., assignor to J. H. Irwin, trustee, Morton, Pa. Automatic incandescent electric lamp	261,503	July 18	1426	401	22	253
Voelker, William L., assignor to J. H. Irwin, trustee, Morton, Pa. Electric lamp	263,257	Aug. 22	1767	503	22	668
Voelmi, Heinrich, New York, N. Y. Flood-gate	266,403	Oct. 24	1459	414	22	1406
Voerde, Frederick W., assignor to P. J. Singer, Chicago, Ill. Safety attachment for elevators	262,861	Aug. 15	1291	363	22	570
Voerde, Frederick W., assignor to P. J. Singer, Chicago, Ill. Safety attachment for elevators	262,862	Aug. 15	1294	364	22	571
Vogel, Bernhard. (See Speckhart and Vogel.)						
Vogel, Friederich, New York, N. Y. Rocking-chair	268,757	Dec. 5	424	123	22	1967
Vogeley, Samuel G., and A. A. Adams, Pittsburg, Pa. Glassware	261,644	July 25	1624	456	22	291
Vogt, Henry, and W. D. Adams, Brooklyn, N. Y. Steam-generator	261,412	July 18	1336	374	22	236
Voigt, Henry F. (See Ward, Michael, assignor.)						
Voigt, Ward & Co. (See Brunt, William H., assignor.)						
Volk, Emanuel. (See Tolley, Frederick W., assignor.)						
Voll, George, assignor to Morris Sash Lock Manufacturing Company, Cincinnati, Ohio. Locking-latch	265,474	Oct. 3	201	86, 87	22	1188
Vollrath, Jacob J., Sheboygan, Wis. Stove-pipe	269,749	Dec. 26	1696	486	22	2222
Von Bechtolsheim, Clemens, Munich, Germany. Steam-engine	263,258	Aug. 22	1768	503	22	669
Von Bechtolsheim, Clemens, Munich, Germany. Apparatus for making salt	269,355	Dec. 19	1194	347	22	2119
Von Roden, Heinrich W. L. O., Hamburg, Germany. Preserving milk	267,043	Nov. 7	103	.....	22	1558
Von Zách, Josef, Buda Pesth, Austria-Hungary. Swinging lever-engine	260,509	July 4	209	59	22	36
Vonderlinden, Charles, assignor to himself and L. H. Livingston, Jr., Rhinebeck, N. Y. Bottle-cleaner	261,106	July 11	970	270	22	167
Vorce, Charles M., *et al.* (See Burdick, George, assignor.)						
Vose, Albert, Pittsfield, Vt., assignor, by mesne assignments, to C. La Dow, Albany, N. Y. Hay raker and loader. (Reissue)	10,164	July 18	1464	409	22	257
Vowels, Joseph, *et al.* (See Deal, Daniel W., assignor.)						
Vreeland, Aaron, Cedar Grove, N. J. Velocipede	265,722	Oct. 10	617	174	22	1245
Vreeland, William A., Brooklyn, N. Y. Self-ventilating bung	263,259	Aug. 22	1769	503	22	669
Vroman, George B., Oakdale, Cal. Header-bar	262,262	Aug. 8	557	156	22	435
Vuillier, Aimé, Portland, Conn. Drop-hammer	262,135	Aug. 1	414	116	22	405
Wabaitz, George, Jr. (See Denning, John B., assignor.)						
Waddell, John, Grand Rapids, Mich. Toilet-screw	264,002	Sept. 5	414	115	22	846
Waddell, Joseph, Milk's Grove, Ill. Swinging and sliding gate	267,731	Nov. 21	978	276	22	1728
Wadleigh, Joseph, Milk's Grove, Ill. Swinging and sliding gate						
Wadsworth, Augustus B., assignor of one-third to W. S. Davis, Contoocook, N. H. Centering rest or chuck for lathes	269,750	Dec. 26	1697	486	22	2222
Wagner, George A., assignor of one-half to N. Solt, Weissport, Pa. Flower-pot	262,335	Aug. 8	644	181	22	451
Wagner, Hermann, Elizabeth, N. J. Device for teaching arithmetic	262,191	Aug. 1	468	130 131	22	413
Wagner, John, Boston, Mass. Metal-working press	263,260	Aug. 22	1770	504	22	669
Wagner, William. (See Simmons, Thomas A., assignor.)						
Wagoner, Elijah, Westminster, Md. Fodder-cutter	264,800	Sept. 19	1312	370	22	1026
Wahl, Emil, Philadelphia, Pa. Crochet-needle handle	268,442	Dec. 5	85	26	22	1903
Wain, William A., Detroit, Mich. Shaft-coupling	269,608	Dec. 26	1521	437	22	2189
Waite, Henry E. (See Bartlett and Waite.)						
Waitt, George W., *et al.* (See Baker, Peter H., assignor.)						
Waitt, George W., Camden, N. J. Ore-screen	264,585	Sept. 19	1064	302	22	980

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Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Waitt, George W., Camden, N. J., assignor to Golden Gate Concentrator Company, Augusta, Me. Method of and apparatus for concentrating and amalgamating ores	269,356	Dec. 19	1195	348	22	2120
Wake, John N., Providence, R. I. Leather-cutting machine	261,188	July 18	1077	300	22	194
Wake, John N., Providence, R. I. Leather-cutting machine. (Reissue)	10,249	Nov. 28	1773	492	22	1879
Wakeman, Charles E., assignor of one-half to P. A. Hitchcock, Pontiac, Mich. Stocking. (Reissue)	10,150	July 4	497	135	22	84
Wakeman & Co., Charles E. (See Lamb, Isaac W., assignor.)						
Walbridge, Samuel E., Kalamazoo, Mich. Mail-shipping case	262,711	Aug. 15	1101	312	22	537
Walcher, John, St. Louis, Mo. Pump	265,191	Sept. 26	1792	503	22	1116
Walcott, Jabez E., assignor to F. I. Marcy, Providence, R. I. Making chain-swivels	262,631	Aug. 15	1007	282	22	519
Walden, John M., Fort Valley, Ga. Cotton-chopper	263,632	Aug. 29	2276	650	22	759
Waldo, Francis S., Alameda, Cal. Soda-water apparatus	264,586	Sept. 19	1065	302	22	980
Waldo, Leonard, New Haven, Conn. Circuit-closer	267,287	Nov. 7	408	119	22	1613
Waldo, Leonard, New Haven, Conn. Synchronizing clocks	268,322	Nov. 28	1694	469	22	1865
Walker, Albert W., Clemmonsville, N. C. Fruit-drier	267,288	Nov. 7	411	119	22	1613
Walker, Alfred. (See Sweeney, John, assignor.)						
Walker, Andrew, Cincinnati, Ohio. Bottle-stopper	267,289	Nov. 7	411	120	22	1614
Walker, Dexter H., *et al.* (See Tourangin, Ernest, assignor.)						
Walker, Dexter H., and L. Durand, New York, N. Y. Dough-kneader	261,283	July 18	1182	331	22	210
Walker, Franklin. (See Tolman, Walker, and Caswell.)						
Walker, George W., Malden, Mass. Grate	260,809	July 11	599	162	22	106
Walker, Hugh R., Joliet, Ill. Spark-arrester	267,470	Nov. 14	652	187	22	1661
Walker, James A., assignor of one-half to C. E. Carr, Galesburg, Ill. Car-coupling	267,621	Nov. 14	841	240	22	1695
Walker, Joseph, Manchester, and O. E. Perrigo, Richmond, Va.; said Perrigo assignor to said Walker. Straw-cutter	264,378	Sept. 12	839	235	22	930
Walker, Lewis J., East Liverpool, Ohio. Manufacture of tiles	266,502	Oct. 24	1625	463	22	1436
Walker, Micah, Port Huron, Mich. Fire-extinguishing device	263,060	Aug. 22	1565	442	22	629
Walker, Nathan U., Walker's, Ohio. Sectional pipe for underground electrical wires	261,189	July 18	1078	301	22	194
Walker, Nathan U., Walker's, Ohio. Sectional pipe	261,190	July 18	1080	301	22	195
Walker, Nathan U., Walker's, Ohio. Sectional pipe	261,191	July 18	1081	301	22	195
Walker, Nathan U., Walker's, Ohio. Pipe-support for flues, chimneys, &c	263,002	Aug. 22	1471	414	22	612
Walker, Robert L., assignor of one-half to T. Nickerson, Boston, Mass. Fire-box	260,810	July 11	600	{162 / 163}	22	106
Walker, Thomas G., Morristown, N. J. Apparatus for evaporating	264,208	Sept. 12	645	179	22	806
Walker, Thomas H., Kansas City, Mo. Water-closet	262,518	Aug. 8	851	241	22	487
Walker, V. C., *et al.* (See Springer, Lewis C., assignor.)						
Walker, William. (See Davis and Walker.)						
Walker, Wilson L. (See Eddlemon and Walker.)						
Wall, Michael T., *et al.* (See Pennock, Zalmon S., assignor.)						
Wall, Patrick, Allegheny city, Pa. Oiling-can	267,471	Nov. 14	652	187	22	1661
Wallace, Henry R., Chicago, Ill. Horse-detacher	263,261	Aug. 22	1771	504	22	669
Wallace, John F., Pittsburg, Pa. Machine for bending links	269,357	Dec. 19	1198	{348 / 349}	22	2120
Wallace, John F., Pittsburg, Pa. Car-coupling	269,358	Dec. 19	1199	349	22	2121
Wallace, John G., assignor of one-half to J. R. Mills & Co., Cincinnati, Ohio. Reversible envelope	261,071	Aug. 1	178	53	22	366
Wallace, John S., Nelsonville, Ohio. Water-elevator	261,072	Aug. 1	179	53	22	366
Wallace, Marshal, assignor of one-half to D. E. Jones, Little Rock, Ark. Nut-lock	260,628	July 4	352	95	22	59
Wallace, Roger W., and C. F. Claus, assignors of two-tenths to W. F. Jack and E. Stewart, London, England; said Wallace assignor of his remaining right to said Claus. Utilization of by-products in the manufacture of coal-gas	264,801	Sept. 19	1313	.....	22	1026
Wallace & Sons. (See Bryant, Edson L., assignor.)						
Wallace, Thomas, *et al.* (See Eaton, Asahel K., assignor.)						
Wallace, William, *et al.* (See Eaton, Asahel K., assignor.)						
Wallace, William M., Pittsburg, Pa., assignor of one-half to C. M. Rhodes, Bridgeport, Ohio. Making glass screw-caps	264,379	Sept. 12	840	235	22	930
Wallach, Isaac, New York, N. Y. Shirt	264,802	Sept. 19	1315	370	22	1026
Wallach, Isaac, assignor to H. Wallach's Sons, New York, N. Y. Shirt	260,716	July 4	474	129	22	80
Wallach, Otto, Bonn, Prussia, Germany. Manufacture of coloring-matter	269,359	Dec. 19	1201	.....	22	2121
Wallach's Sons, H. (See Price, Levi, assignor.)						
Wallach's Sons, H. (See Wallach, Isaac, assignor.)						
Wallenberg, Gustave, Chicago, Ill. Car-coupling	266,563	Oct. 24	1626	463	22	1436
Waller, Joseph C., Plattsburg, N. Y. Oven-thermometer	268,576	Dec. 5	220	62	22	1927
Wallerman, Louis E. (See Choquette and Wallerman.)						
Walling, Alfred, Jr. (See Wilson, Benjamin, assignor.)						
Walling, Stephen P., South Edmeston, N. Y. Grinding-mill frame	265,192	Sept. 26	1793	503	22	1117
Wallis, Claude I., Memphis, Ala. Device for holding the fingers in writing	265,193	Sept. 26	1794	503	22	1117
Wills, James R., Chicago, Ill. Steam cooking-vessel	269,143	Dec. 12	969	265	22	2062
Walmsley, James, assignor to Hopedale Machine Company, Hopedale, Mass. Warping and beaming machine	266,330	Oct. 24	1362	386	22	1389
Walmsley, James, assignor to Hopedale Machine Company, Hopedale, Mass. Warping and beaming machine	266,331	Oct. 24	1370	386	22	1389
Walrath, Jesse, Racine, Wis. Traction-engine wheel	268,058	Nov. 28	1372	384	22	1806
Walsh, Anthony, assignor of one-half to T. Hohl, Springfield, Ohio. Lawn-mower	266,333	Oct. 24	1373	387	22	1390
Walsh, Francis, A., Chicago, Ill. Sheet-metal can	260,432	July 4	106	31	22	19
Walsh, Hugh S., Argenta, Ark. Machine for hulling cotton-seed	263,262	Aug. 22	1771	504	22	669
Walsh, James, New York, N. Y. Carriage-spring	268,156	Nov. 28	1402	416	22	1828
Walsh, John E., New York, N. Y. Grain-elevator and hoisting apparatus	261,792	July 25	1798	508	22	321
Walsh, John R. (See Whitson, John M., assignor.)						
Walsh, Mary C. (See Walsh, Maurice J., assignor.)						
Walsh, Matthew M., Hillsborough, Ill. Folding clothes-rack	262,156	Aug. 1	415	117	22	405
Walsh, Maurice J. assignor, by mesne assignments, to M. C. Walsh, New York, N. Y. Apparatus for heating cars	263,263	Aug. 22	1772	505	22	670
Walsh, Maurice J., assignor, by mesne assignments, to M. C. Walsh, New York, N. Y. Conveying heating or motive agents through a train of cars	263,264	Aug. 22	1773	505	22	670
Walsh, Maurice J., assignor, by mesne assignments, to M. C. Walsh, New York, N. Y. Covering for steam-conduits	263,265	Aug. 22	1774	505	22	670
Walsh, Maurice J., assignor, by mesne assignments, to M. C. Walsh, New York, N. Y. Heating cars	263,266	Aug. 22	1775	506	22	670
Walsh, Maurice J., assignor, by mesne assignments, to L. Fitzgerald, New York, N. Y. Apparatus for heating cars	264,050	Sept. 5	474	129	22	856
Walsh, Maurice J., assignor, by mesne assignments, to L. Fitzgerald, New York, N. Y. Cock	265,194	Sept. 26	1795	504	22	1117

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Walsh, Maurice J., assignor, by mesne assignments, to L. Fitzgerald, New York, N. Y. Apparatus for heating railway-cars	269,489	Dec. 19	1366	393	22	2152
Walsh, Patrick. (See Taylor, Henry, assignor.)						
Walsh, Thaddeus H., assignor of one-third to W. H. Clarkson, New York, N. Y. Machine for making pipe	264,424	Sept. 12	888	249	22	939
Walsh, William J. (See Davis, Henry T., assignor.)						
Walston, William R. (See Gardner, Rufus, assignor.)						
Walter, Christian, and W. M. Dyas, Sandwich, Ill. Reading and writing table	266,332	Oct. 24	1372	387	22	1389
Walter, David C., Toledo, Ohio. Boiler-feeder	264,209	Sept. 12	646	179	22	806
Walter, Harry B., Cincinnati, Ohio. Bridging for joists	267,385	Nov. 14	551	157	22	1642
Walter, Joseph, New York, N. Y. Speaking-tube annunciator	264,977	Sept. 26	1548	435	22	1072
Walter, W. Charles, New York, N. Y. Wall-paper	268,964	Dec. 12	684	201	22	2023
Walters, Abram R., Atkinson, Ill. Toy building-block	262,863	Aug. 15	1296	364	22	571
Walters, Charles D. (See Ege and Walters.)						
Walters, Charles D., Harrisburg, assignor of one-half to A. H. Ege, Cumberland County, Pa. Square and bevel instrument	265,350	Oct. 3	149	44	22	1102
Walters, Nils P., Fort Madison, Iowa. Lifting-jack	262,519	Aug. 8	852	241	22	487
Walton, Joseph J. (See Coues, Samuel F., assignor.)						
Walton, Joseph J. (See Wells, Henry M., assignor.)						
Walworth, Caleb C., Boston, Mass. Pipe-wrench	262,203	Aug. 8	558	156	22	435
Walworth, Caleb C., Boston, Mass. Pipe-cutter	262,204	Aug. 8	559	156	22	435
Walz, Samuel H., assignor to Three Rivers Velocipede Car Company, Three Rivers, Mich. Hand-car for railways	269,490	Dec. 19	1368	393	22	2153
Wands, John C., Nashville, Tenn. Car-roof	268,758	Dec. 5	425	124	22	1908
Wance, Charles H., Lewisville, Ind. Riding attachment for plows	261,793	July 25	1800	508	22	321
Wang, William, Philadelphia, Pa. Hydraulic air-compressor	262,157	Aug. 1	416	117	22	405
Ward, Alvin S. (See Hyde, James B., assignor.)						
Ward, Anthony, Brooklyn, N. Y. Climbing device	265,195	Sept. 26	1795	504	22	1117
Ward, Arthur B., Millington, Mich. Milk-cooler	264,003	Sept. 5	415	115	22	846
Ward, Arthur B., Millington, Mich. Churn	266,564	Oct. 24	1626	463	22	1436
Ward, Augustus H., New York, N. Y. Ornamented bird skin	260,629	July 4	354	95	22	59
Ward, Charles H. (See Cointepas, Edward M., assignor.)						
Ward, George W., St. Johnsbury, Vt. Bridle-bit for horses	264,496	Sept. 19	979	275	22	964
Ward, Henry W., Cincinnati, Ohio. Table	264,912	Sept. 26	1465	413	22	1058
Ward, Matthew, St. Louis, Mo. Nozzle	269,751	Dec. 26	1697	487	22	2222
Ward, Michael, assignor of one-half to H. F. Voigt, Pittsburg, Pa. Glass-press	266,565	Oct. 24	1627	463	22	1436
Ward, Thomas H., Tipton, county of Stafford, England. Pump	266,566	Oct. 24	1628	464	22	1437
Ward, Thomas H., Tipton, county of Stafford, England. Pulley-block	267,954	Nov. 21	1238	348	22	1776
Ward, Thomas H., Tipton, county of Stafford, England. Railway-track scale	269,752	Dec. 26	1698	{487 / 488 / 489}	22	2223
Ward, Thomas H., and E. Howl, Tipton, county of Stafford, England. Pulley-block	268,323	Nov. 28	1695	{469 / 470 / 471}	22	1865
Ward, William E., Port Chester, N. Y. Nut-making machine	262,158	Aug. 1	417	117	22	405
Ward, William H., Pittsburg, Pa. Warming railway-cars by steam	264,913	Sept. 26	1466	{413 / 414}	22	1058
Ward, William H., Pittsburg, Pa. Pipe-coupling	264,914	Sept. 26	1471	414	22	1059
Ward, William S., Newark, N. J. Running-gear for vehicles	261,572	July 25	1540	432	22	277
Warden, Henry, assignor to Atlantic Refining Company, Philadelphia, Pa. Filtering petroleum distillates for the separation of paraffine	266,929	Oct. 31	2062	593	22	1523
Warden, Henry, assignor to Atlantic Refining Company, Philadelphia, Pa. Cooling petroleum distillates	266,930	Oct. 31	2062	593	22	1523
Warder, Lemuel E., Pruntytown, assignor of two-thirds to G. H. Smith, Webster, W. Va. Hay-truck	260,717	July 4	476	129	22	80
Wardwell, Simon W., Jr., Woonsocket, R. I. Clutch and stop device	262,159	Aug. 1	420	118	22	406
Wardwell, Simon W., Jr., Woonsocket, R. I. Wax-thread sewing-machine	262,160	Aug. 1	422	{118 / 119}	22	406
Wardwell, Simon W., Jr., Providence, R. I. Shuttle for wax-thread sewing-machines	262,161	Aug. 1	424	119	22	406
Ware, W. Powell, *et al.* (See Speicher, John, assignor.)						
Warfield, Oliver D., Springfield, Mass. Bit-stock	267,732	Nov. 21	979	276	22	1728
Warfield, Oliver D., Springfield, Mass., assignor to himself and F. J. Warner. Calipers	267,290	Nov. 7	412	120	22	1614
Waring, George D., D. S. Kidder, New York, N. Y., and E. W. Creecy, Washington, D. C. Playing-card	268,759	Dec. 5	425	124	22	1908
Waring, George E., Jr., Newport, R. I., assignor to Drainage Construction Company, Boston, Mass. Flush-pot for kitchen-sinks, &c	263,446	Aug. 29	2061	590	22	720
Waring, George E., Jr., Newport, R. I., assignor to Drainage Construction Company, Boston, Mass. Water-closet and urinal	266,404	Oct. 24	1459	414	22	1406
Waring, George E., Jr., Newport, R. I., assignor to Drainage Construction Company, Boston, Mass. Portable water-closet	269,246	Dec. 19	1052	307	22	2094
Waring, John B., New York, N. Y., assignor of one-half to M. C. Bullock, Chicago, Ill. Air-compressor	262,864	Aug. 15	1297	{364 / 365}	22	571
Waring, John T. (See Pelisse, Auguste, assignor.)						
Waring, Richard S., Pittsburg, Pa. Insulating compound for electric wires	267,046	Nov. 7	105	.....	22	1559
Waring, Richard S., Pittsburg, Pa. Submarine electric cable	268,059	Nov. 28	1373	384	22	1806
Waring, Richard S., Pittsburg, Pa. Electric cable	268,060	Nov. 28	1374	384	22	1806
Waring, Richard S., Pittsburg, Pa. Electric cable	268,157	Nov. 28	1493	416	22	1828
Waring, Richard S., Pittsburg, Pa. Lead-armored electric cable	268,158	Nov. 28	1494	416	22	1828
Waring, Richard S., Pittsburg, Pa. Uniting and branching electric cables	268,159	Nov. 28	1495	417	22	1828
Waring, Richard S., Pittsburg, Pa. Dividing and branching electric cables	268,324	Nov. 28	1698	471	22	1865
Waring, Richard S., Pittsburg, Pa., and J. B. Hyde, New York, N. Y. Process of and apparatus for insulating wires for electric uses	267,044	Nov. 7	103	31	22	1558
Waring, Richard S., Pittsburg, Pa., and J. B. Hyde, New York, N. Y. Insulating material for electric uses	267,045	Nov. 7	105	.....	22	1558
Warne, Elijah, Easton, Pa. Concentrator and separator for ores, &c	268,325	Nov. 28	1698	{471 / 472}	22	1865
Warner, Albion L. and C. A., New York, N. Y. Folding bed	268,326	Nov. 28	1700	472	22	1865
Warner, Alexander, New York, N. Y. Stand for supporting musical instruments	266,231	Oct. 17	1220	344	22	1335
Warner Brothers. (See Howe, James A., assignor.)						
Warner, Charles A. (See Warner, Albion L. and C. A.)						
Warner, Frank J. (See Warfield, Oliver D., assignor.)						
Warner, James C., assignor, by mesne assignments, to Western Electric Company, Chicago, Ill. Electric annunciator	266,405	Oct. 24	1462	415	22	1406
Warner, Jasper P., Dowagiac, Mich. Axle for vehicles	265,196	Sept. 26	1796	504	22	1117

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Warner, Joseph B., Dighton, Mass. Tea-kettle and ail	262,865	Aug. 15	1301	365	22	572
Warnick, John K. (See Denton, James, assignor.)						
Warrell, Nicholas, Farragut, Iowa. Churn-dasher	266,406	Oct. 24	1462	415	22	1407
Warren, Alonzo, *et al.* (See Shaw, Loring D., assignor.)						
Warren, Daniel T., Chestnut Ridge, Tenn. Hopple	265,351	Oct. 3	151	45	22	1162
Warren, Edmond A., assignor to himself and T. J. Moore, Brooklyn, N. Y. Tag	269,753	Dec. 26	1702	489	22	2223
Warren, Edmund D., Woburn, Mass. Hide and pelt working machine	262,520	Aug. 8	853	242	22	488
Warren, George H., Shelburne Falls, Mass. Carving-fork guard	264,004	Sept. 5	416	115	22	846
Warren, George O., Fryeburg, Me. Game	268,577	Dec. 5	220	62	22	1928
Warren, George W., Bristol, assignor of one-half to H. Warren, Goshen, Ind. Spring for vehicles	262,162	Aug. 1	425	119	22	406
Warren, Henry. (See Warren, George W., assignor.)						
Warren, Jabez T., Le Roy, N. Y. Straw-cutter	267,472	Nov. 14	654	188	22	1661
Warren, John E., Cumberland Mills, Me. Pulp-beating engine	261,107	July 11	970	271	22	168
Warren, Moses N., Creston, Iowa. Vehicle-wheel	267,622	Nov. 14	843	240	22	1695
Warren, Samuel D. (See Longley, William L., assignor.)						
Warriner, Willard S. (See Robertson and Warriner.)						
Warrington, Jesse. (See Marmon and Warrington.)						
Warth, Albin, Stapleton, N. Y. Rein-controller	264,803	Sept. 19	1316	271, 372, 373	22	1027
Warth, Albin, Stapleton, N. Y. Mechanical movement	267,955	Nov. 21	1240	349	22	1776
Warth, August, Galveston, Tex. Hub-attaching device	260,811	July 11	602	163	22	106
Warwick Manufacturing Company. (See Carter, Robert A., assignor.)						
Warwick, William, Buffalo, N. Y. Tea-kettle	266,736	Oct. 31	1838	533	22	1481
Washburn, David E., Houghton, Mich. Pump	266,232	Oct. 17	1221	345	22	1355
Washburn, George W., West New Brighton, N. Y. Cover for ear-jewels	261,108	July 11	971	271	22	168
Washburn & Moen Manufacturing Company. (See Brinkerhoff, Jacob and W. M., assignors.)						
Washburn & Moen Manufacturing Company. (See Hill, Edwin H., assignor.)						
Washburn & Moen Manufacturing Company. (See Lenox, Edwin S., assignor.)						
Washburn & Moen Manufacturing Company. (See Watson and Willson, assignors.)						
Washburn & Moen Manufacturing Company *et al.* (See Upham, Andrew J., assignor.)						
Washburn, Nathan, Allston, Mass. Car-wheel	261,192	July 18	1082	301	22	195
Wasserman, Ignatius, New York, N. Y. Combined catamenial sack and abdominal supporter	267,956	Nov. 21	1242	349	22	1777
Waterbury Brass Company. (See Martin, Thomas R., assignor.)						
Waterhouse, Addison G., assignor to United States Electric Lighting Company, New York, N. Y. Device for suspending arc-lamps	266,234	Oct. 17	1223	345	22	1356
Waterhouse, Addison G., assignor to United States Electric Lighting Company, New York, N. Y. Magneto or dynamo electric machine	266,235	Oct. 17	1224	346	22	1356
Waterhouse, Addison G., assignor to United States Electric Lighting Company, New York, N. Y. Carbon-holder for arc-lamps	266,236	Oct. 17	1225	346	22	1356
Waterhouse, Rufus, New York, N. Y. Card for displaying neckscarfs	267,386	Nov. 14	552	157	22	1642
Waterman, Christian F. H., Indianapolis, Ind. Refrigerator	264,210	Sept. 12	647	179	22	896
Waterman, Henry, Hudson, N. Y. Locomotive	262,163	Aug. 1	426	119	22	407
Waterman, Lewis E., Mason City, Ill. Check-rower reel and drill	265,197	Sept. 26	1797	504, 505	22	1117
Waterman, Moses J. (See Nelson and Waterman.)						
Waters, Edward P., Roseville, Ill. Harness-pad	267,291	Nov. 7	413	120	22	1614
Waters, George F., Boston, Mass. Flesh-rubbing apparatus	269,247	Dec. 19	1052	307	22	2094
Waters, Reuel W., Newton Centre, Mass. Newspaper folding, wrapping, and addressing machine	264,380	Sept. 12	841	236	22	931
Waters, Sidney, London, England. Electric lamp	265,475	Oct. 3	292	87	22	1188
Watkeys, Henry, Syracuse, N. Y. Variable exhaust of steam-engines	260,433	July 4	107	31, 32	22	19
Watkinson, George, New Haven, Conn. Water-proof garment	261,109	July 11	972	271	22	168
Watson, Alexander, East Pepperell, Mass. Combined coal hod and sieve	266,407	Oct. 24	1463	415	22	1407
Watson, Casper W., Wheaton, Ill. Road-cart	260,434	July 4	109	32	22	19
Watson, Edwin J., and H. W. Willson, assignors to Washburn & Moen Manufacturing Company, Worcester, Mass. Watch-spring	266,737	Oct. 31	1838	533	22	1481
Watson, Francis A., Bainbridge, Ind. Railway-track gage and level	265,999	Oct. 17	943	266	22	1308
Watson, George E. (See Nichols and Watson.)						
Watson, George H., *et al.* (See Parker, Sidney, assignor.)						
Watson, Henry, *et al.* (See Barlow, Eliza J., assignor.)						
Watson, James. (See Crosby, George S., assignor.)						
Watson, John. (See Wilson, William S., assignor.)						
Watson, John E., Louisville, Ky. Electric-arc lamp	262,164	Aug. 1	429	120	22	407
Watson, John E., assignor of five-eighths to J. F. Callaway and G. S. Allison, Louisville, Ky. Electric-arc lamp	262,165	Aug. 1	430	120	22	407
Watson, Joseph E., Toledo, Ohio. Horse-boot	266,233	Oct. 17	1222	345	22	1355
Watson & Newell. (See Costello, John, assignor.)						
Watson, Samuel. (See Ogborn, Harrison, assignor.)						
Watson, Thomas A., Everett, assignor to American Bell Telephone Company, Boston, Mass. Telephone-switch	265,897	Oct. 10	808	229	22	1280
Watson, Thomas A., Everett, assignor to American Bell Telephone Company, Boston, Mass. Magneto-telephone	266,567	Oct. 24	1629	464	22	1437
Watson, Thomas A., Everett, assignor to American Bell Telephone Company, Boston, Mass. Telephone system	267,387	Nov. 14	552	157, 158	22	1643
Watters, James D., Belair, Md. Cattle fastening and releasing device	264,804	Sept. 19	1319	373	22	1027
Watters, James D., Belair, Md. Fastening and releasing device for cattle-stalls	264,805	Sept. 19	1321	373	22	1027
Watteyne, Henry J., New York, N. Y. Cigar-press	260,510	July 4	210	59	22	36
Watteyne, Henry J., New York, N. Y. Cigar mold and box press	262,166	Aug. 1	432	120	22	407
Watts, Charles N. (See Brockway and Watts.)						
Watts, Charles N. (See Brockway, Watts, and Sheldon.)						
Watts, George W., Durham, N. C. Car-coupling	266,931	Oct. 31	2064	593	22	1523
Watts, John. (See Aylesbury, Hector, assignor.)						
Watts, John W., Baltimore, Md. Manufacture of artificial stone and marble	260,511	July 4	211	.....	22	36
Watts, John W., Baltimore, Md. Manufacture of artificial stone and marble	265,647	Oct. 10	523	142	22	1229
Waugh, De Witt C., Cincinnati, Ohio. Proscenium-opening for theaters						
Wax, Newman, S., assignor, by mesne assignments, to himself and S. Gryzmish, Boston, Mass. Lamp	263,633	Aug. 29	2277	650	22	759
Wayne, Abraham M., Quincy, Ill. Smoke-consumer	261,284	July 18	1183	331	22	210
Wayne Agricultural Company. (See Fulgham, Jesse P., assignor.)						
Wayne, William J., Decatur, Ill. Two-wheeled vehicle	264,497	Sept. 19	979	275	22	964
Wayne, William J., Decatur, Ill. Two-wheeled vehicle	264,498	Sept. 19	980	275	22	964

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Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Weakley, John W., Jr., Bond Hill, Ohio. Electric brush	260,718	July 4	476	129	22	81
Weakley, John W., Bond Hill, Ohio. Coffee-pot	268,061	Nov. 28	1376	385	22	1806
Wear, Joseph. (See Kirkwood, Wear, and Murdock.)						
Weaver, Abram, Atchison, Kans. Stove-pipe retainer	262,806	Aug. 15	1301	365	22	572
Weaver, Andrus S., Joy, N. Y., assignor to himself and C. H. Morse, Chicago, Ill. Grain-binder	262,867	Aug. 15	1302	366, 367	22	572
Weaver, Fredrick W., and D. Norton, Troy, N. Y. Fire-grate	267,388	Nov. 14	554	158	22	1643
Weaver, Henry M., Mansfield, Ohio. Self-binder for harvesters	269,491	Dec. 19	1369	393, 394	22	2153
Weaver, Theophilus. (See Rudy and Weaver.)						
Weaver, Theophilus, Harrisburg, assignor to Anderson Manufacturing Company, Lancaster, Pa. Carriage-seat. (Reissue)	10,195	Sept. 12	892	250	22	940
Webb, Francis W., Crewe, county of Chester, England. Axle-box	265,724	Oct. 10	620	175, 176	22	1246
Webb, J. Burkitt, Ithaca, N. Y. Diagram-instrument for engines	265,198	Sept. 26	1799	505	22	1118
Webb, Samuel J., Flat Lick, La. Steam-wheel	268,327	Nov. 28	1700	472	22	1866
Webb, Samuel A., Newark, N. J. Finger-protector	268,578	Dec. 5	221	62	22	1928
Webber, Henry A., Rockton, Ill. Lifting-jack	268,328	Nov. 28	1701	473	22	1866
Webber, Milton N., Fort Wayne, Ind. Siphon	264,381	Sept. 12	845	237	22	931
Webber, Moses W., Biddeford, Me. Tag-holder	264,587	Sept. 19	1066	303	22	981
Webber, W. S., *et al.* (See Blakely, Caleb J., assignor.)						
Webber, William A., Medford, Mass. Mechanical musical instrument	261,413	July 18	1337	374	22	236
Weber, Adam, New York, N. Y. Furnace for burning and revivifying bone-black	265,723	Oct. 10	617	174, 175	22	1245
Weber, Alex. (See Bowe, Moses, assignor.)						
Weber, August, assignor of one-half to G. E. Hodge, New York, N. Y. Dental hand-piece	261,794	July 25	1801	508	22	322
Weber, August, assignor of one-half to G. E. Hodge, New York, N. Y. Dental drill	261,795	July 25	1803	509	22	322
Weber, John R., assignor of one-half to Leader Publishing Company, Bloomington, Ill. Temporary binder for memorandum-books	261,111	July 11	974	272	22	168
Weber, Otto, and F. Abel, St. Louis, Mo. Apparatus for forcing beer, &c	263,003	Aug. 22	1472	415	22	613
Weber, Robert, Corsicana, Tex. Fifth-wheel	261,110	July 11	973	271, 272	22	168
Webster, A. A., *et al.* (See Gough, George, assignor.)						
Webster, Ambrose and E. F., Waltham, Mass. Mechanism for signaling	266,000	Oct. 17	943	266, 267	22	1308
Webster, Caleb W., *et al.* (See Jackson, William W., assignor.)						
Webster, E. G., *et al.* (See Gough, George, assignor.)						
Webster, Edgar F. (See Webster, Ambrose and E. F.)						
Webster, George B., *et al.* (See Owens, Walter S., assignor.)						
Webster, George H., Chicago, Ill. Making artificial butter	266,568	Oct. 24	1630	.....	22	1437
Webster, Henry, Janesville, Wis., assignor to himself and J. H. Cole, Keokuk, Iowa. Feeding water to boilers	262,868	Aug. 15	1307	367	22	573
Webster, John F., Springfield, Ohio. Adjusting device for tools, &c	269,754	Dec. 26	1703	490	22	2223
Webster, John H. (See Hawkins and Webster.)						
Webster, John H., Boston, Mass. Method of and apparatus for cleaning belts for carrying granular material	263,634	Aug. 29	2278	650	22	759
Webster, John W., assignor to W. Deering, Chicago, Ill. Grain-binder	264,005	Sept. 5	417	115	22	846
Webster, William, Pacolett Depot, S. C. Grazing-post	261,112	July 11	975	272	22	168
Weckerlin, Dominick, Brooklyn, assignor to R. Hoe & Co., New York, N. Y. Printing-machine	263,004	Aug. 22	1474	415	22	613
Weckerly, Frank, Philadelphia, Pa. Horseshoe	263,005	Aug. 22	1476	416	22	613
Weed, Frederick T. (See Mason, James P., assignor.)						
Weeden, William N., New Bedford, Mass. Match-safe	268,760	Dec. 5	426	124	22	1968
Weeks, John R., Jr. (See Hoff, Joseph E., assignor.)						
Wehrle, Fredrick W., and W. Unger, Chicago, Ill. Apparatus for separating and amalgamating ores	263,635	Aug. 29	2279	650, 651	22	759
Wehrle, Fredrick W., and W. Unger, Chicago, Ill. Separator for separating mercury from sand	265,898	Oct. 10	809	229	22	1280
Weidenmann, Jacob. (See De Quillfeldt, Charles, assignor.)						
Weidman, Charles O., Poe, Ohio. Wind-engine	260,435	July 4	110	32	22	20
Weinedel, Charles, assignor of one-half to J. H. Egelhoff, Louisville, Ky. Watchman's clock	264,382	Sept. 12	845	237	22	931
Weiner, Max L., assignor to Peerless Paper Box Company, Cincinnati, Ohio. File-box	264,383	Sept. 12	847	237	22	932
Weinrich, Moriz, Vienna, Austria-Hungary. Manufacture of refined sugar in sticks and lumps	265,352	Oct. 3	151	45	22	1162
Weinstock, Harris. (See Lubin, David, assignor.)						
Weir, Robert M., Boone, Iowa. Heater	261,884	Aug. 1	71	21	22	348
Weis, Julius, Chicago, Ill. Button	269,756	Dec. 26	1705	490	22	2224
Weiss, Caroline. (See Weiss, Frederick W., assignor.)						
Weiss, Frederick W., assignor, by mesne assignments, to C. Weiss, Mount Vernon, N. Y. Tool-holder	269,755	Dec. 26	1704	490	22	2223
Weiss, John, Chicago, Ill. Attaching covers to sewing-machines	263,636	Aug. 29	2280	651	22	759
Welborn, Wisp J. N., Cottondale, Tex. Attachment for plows	263,057	Aug. 29	2281	651	22	759
Welch, E. Baker, *et al.* (See Robinson, Thomas C., assignor.)						
Welch, James F., Globe, Ariz. Ter. Wood planing and sawing machine	262,167	Aug. 1	433	120, 121	22	408
Weller, John. (See Kellogg and Weller.)						
Weller, Marvin E., Fort Plain, N. Y. Device for converting motion	268,846	Dec. 12	551	161	22	1998
Welles, Richard J., assignor to L. E. Hastings, Chicago, Ill. Binding attachment for sewing-machines	266,738	Oct. 31	1839	533, 534	22	1481
Wellington, Charles A., Lexington, and A. Chase, Boston, Mass. Fire-place	266,933	Oct. 31	2067	594, 595	22	1523
Wells, Edgar J., Hague, assignor to himself and W. Hooper, Ticonderoga, N. Y. Oiler	266,237	Oct. 17	1226	346	22	1356
Wells, Edward. (See Overton and Wells.)						
Wells, Elmer J., Kimball, Dak. Ter. Window-screen	262,168	Aug. 1	435	121	22	408
Wells, Frederick C. (See Hubbard, Edward R., assignor.)						
Wells, Henry M., assignor of one-half to J. J. Walton, New York, N. Y. Ambulance-cot	261,796	July 25	1805	509	22	38.2
Wells, James W., Syracuse, N. Y. Safety attachment for pockets	260,915	July 11	714	195	22	126
Wells, William D. (See Slayton and Wells.)						
Welsh, John H., Erie, Pa. Process of and apparatus for aging and compounding liquors	266,569	Oct. 24	1631	464	22	1437
Welsh, Rees. (See Kirk, Solomon W., assignor.)						
Welsh, William H., and C. W. Woodward, Boston, Mass. Machine for rubbing and dressing type	266,932	Oct. 31	2064	594	22	1523
Welter, Joseph, South Pueblo, Colo. Trunk-handle	263,267	Aug. 22	1777	506	22	671

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Wemple, George W., assignor of one-half to B. W. Child, Boston, Mass. Horse-hoof expander.	263,825	Sept. 5	194	56	22	806
Wenborne, Charles A., Buffalo, N. Y. Mechanical movement	263,965	Dec. 12	684	201	22	3024
Wendell, Clotildé H., and N. D. Taylor, Atchison, Kans. Tag-fastener	263,081	Aug. 22	1566	442	22	629
Wendell, Isaac P., Philadelphia, Pa. Car-axle box	263,579	Dec. 5	222	63	22	1928
Wendt, Eduard, Dresden, Saxony, Germany. Automatically opening and closing covers or lids of drinking-glasses, jugs, &c	261,113	July 11	975	272	22	169
Wentworth, Richmond A., Appleton, Me. Fish-trap	263,638	Aug. 29	2282	652	22	759
Werner, August, Leadville, Colo. Tuyere	264,384	Sept. 12	848	238	22	932
Werner, Eduard, Grimma, Saxony, Germany. Steam heating apparatus	263,739	Sept. 5	84	25	22	790
Werntz, George N., and H. L. Lemert, Dresden, Ohio. Suit-hanger	267,623	Nov. 14	843	240	22	1695
Wertheim, Joseph, Frankfort on-the-Main, Germany. Chuck	262,869	Aug. 15	1307	368	22	573
Wertz, Amos, and J. H. Fogel, Middletown, Iowa. Horse-rake	267,292	Nov. 7	414	120	22	1614
Wesson, Isaac A., Wingo's Station, Ky. Shaft-loop for harness	260,812	July 11	603	163	22	107
Wesson, Walter D., Providence, R. I. Hand-stamp	263,208	Aug. 22	1778	507	22	671
West, Benjamin G., Providence, R. I. Method of and device for stippling painted surfaces	269,144	Dec. 12	910	265	22	2002
West, Samuel, Boston, Mass. Ornamental glass and process of etching the same	261,885	Aug. 1	72	21	22	348
West, William, Denver, Colo., assignor of one-half to H. Pennock, New York, N. Y. Method of and apparatus for making soap	262,443	Dec. 5	86	26	22	1903
West, William H., Grand Island, Nebr. Cultivator	266,238	Oct. 17	1227	347	22	1357
Westbrook, Frank A., Port Jervis, N. Y. Car-coupling	267,293	Nov. 7	414	121	22	1614
Westcott, Charles S., Philadelphia, Pa. Hermetically-sealed pot	264,385	Sept. 12	849	238	22	932
Westcott, Charles S., deceased, Philadelphia, Pa., H. S. Westcott, executrix. Governor for elevators	264,386	Sept. 12	850	238	22	932
Westcott, Hamilton S., executrix. (See Westcott, Charles S.)						
Westcott, Joseph B., Somerville, Mass. Bail ear and lug	263,826	Sept. 5	195	57	22	807
Westcott, John M., and A. C. Conner, assignors to Hoosier Drill Company, Richmond, Ind. Horse hay-rake	264,806	Sept. 19	1322	{373 / 374}	22	1027
Westerling, Samuel C., Rockford, Ill. Sewing-machine	266,934	Oct. 31	2069	595	22	1524
Westerman, Frederick. (See Morris and Westerman.)						
Western Electric Company. (See Haskins, Charles D., assignor.)						
Western Electric Company. (See Haskins and Wilson, assignors.)						
Western Electric Company. (See Lewis, Charles W., assignor.)						
Western Electric Company. (See Scribner, Charles E., assignor.)						
Western Electric Company. (See Warner, James C., assignor.)						
Western Electric Manufacturing Company. (See Scribner, Charles E., assignor.)						
Western Union Telegraph Company. (See D'Infreville, Georges, assignor.)						
Western Union Telegraph Company. (See D'Infreville, Georges, assignor.) (Reissue.)						
Westervelt, Edmund C., South Bend, Ind. Butter-dish	267,624	Nov. 14	844	241	22	1695
Westgate, Joseph D., Manchester, N. H., assignor of one-half to G. H. Allen, Lynn, Mass. Apparatus for turning off water in buildings	268,062	Nov. 28	1377	385	22	1806
Westinghouse, George, Jr., Pittsburg, Pa. Hose-protector	267,473	Nov. 14	656	188	22	1602
Westley, Samuel L., and B. F. Kraft, Reading, Pa. Balanced valve	264,588	Sept. 19	1066	303	22	981
Weston, Benjamin S. (See Wilton and Weston.)						
Weston, Edward, Newark, N. J. Plastic compound from soluble cellulose	264,987	Sept. 26	1561	.....	22	1075
Weston, Edward, assignor to Weston Electric Light Company, Newark, N. J. Electric-arc lamp	264,006	Sept. 5	419	116	22	847
Weston, Edward, Newark, N. J., assignor to United States Electric Lighting Company, New York, N. Y. Bracket for incandescent lamps	263,827	Sept. 5	196	57	22	807
Weston, Edward, Newark, N. J., assignor to United States Electric Lighting Company, New York, N. Y. Bracket for incandescent lamps	263,828	Sept. 5	198	57	22	807
Weston, Edward, Newark, N. J., assignor to United States Electric Lighting Company, New York, N. Y. Bracket for incandescent lamps	263,829	Sept. 5	199	57	22	807
Weston, Edward, Newark, N. J., assignor to United States Electric Lighting Company, New York, N. Y. Manufacturing carbon conductors	263,830	Sept. 5	200	58	22	808
Weston, Edward, Newark, N. J., assignor to United States Electric Lighting Company, New York, N. Y. Electric-arc lamp	264,978	Sept. 26	1549	435	22	1073
Weston, Edward, Newark, N. J., assignor to United States Electric Lighting Company, New York, N. Y. Automatic cut-off for dynamo-electric machines	264,979	Sept. 26	1551	436	22	1073
Weston, Edward, Newark, N. J., assignor to United States Electric Lighting Company, New York, N. Y. Regulator for electric generators	264,980	Sept. 26	1552	436	22	1073
Weston, Edward, Newark, N. J., assignor to United States Electric Lighting Company, New York, N. Y. System for the electrical transmission of power	264,981	Sept. 26	1553	436	22	1073
Weston, Edward, Newark, N. J., assignor to United States Electric Lighting Company, New York, N. Y. Electro-magnetic motor	264,982	Sept. 26	1554	{436 / 437}	22	1074
Weston, Edward, Newark, N. J., assignor to United States Electric Lighting Company, New York, N. Y. System for the electrical transmission of power	264,983	Sept. 26	1555	437	22	1074
Weston, Edward, Newark, N. J., assignor to United States Electric Lighting Company, New York, N. Y. Shunting attachment for electric-arc lamps	264,984	Sept. 26	1557	{437 / 438}	22	1075
Weston, Edward, Newark, N. J., assignor to United States Electric Lighting Company, New York, N. Y. Carbon for incandescent lamps	264,985	Sept. 26	1559	438	22	1075
Weston, Edward, Newark, N. J., assignor to United States Electric Lighting Company, New York, N. Y. Carbon conductor for electric lamps	264,986	Sept. 26	1560	.....	22	1075
Weston, Edward, Newark, N. J., assignor to United States Electric Lighting Company, New York, N. Y. Manufacture of carbons for electric lights	264,988	Sept. 26	1563	.....	22	1075
Weston, Edward, Newark, N. J., assignor to United States Electric Lighting Company, New York, N. Y. System for the electrical transmission of power	266,239	Oct. 17	1228	347	22	1357
Weston, Edward, Newark, N. J., assignor to United States Electric Lighting Company, New York, N. Y. Electric-arc lamp	266,240	Oct. 17	1230	{347 / 348}	22	1357
Weston, Edward, Newark, N. J., assignor to United States Electric Lighting Company, New York, N. Y. Cut-out for electric circuits	266,241	Oct. 17	1232	{348 / 349}	22	1357
Weston, Edward, Newark, N. J., assignor to United States Electric Lighting Company, New York, N. Y. Electric lamp	266,242	Oct. 17	1233	{349 / 350}	22	1358
Weston, Edward, Newark, N. J., assignor to United States Electric Lighting Company, New York, N. Y. Dynamo or magneto electric machine	266,243	Oct. 17	1236	{350 / 351}	22	1358
Weston, Edward, Newark, N. J., assignor to United States Electric Lighting Company, New York, N. Y. Electrical indicator	266,244	Oct. 17	1237	351	22	1358
Weston, Edward, Newark, N. J., assignor to United States Electric Lighting Company, New York, N. Y. Shunting device for electric lamps	266,739	Oct. 31	1840	534	22	1482
Weston, Edward, Newark, N. J., assignor to United States Electric Lighting Company, New York, N. Y. Magneto or dynamo electric machine	266,740	Oct. 31	1842	535	22	1482
Weston, Edward, Newark, N. J., assignor to United States Electric Lighting Company, New York, N. Y. Incandescent electric lamp	266,741	Oct. 31	1843	535	22	1482
Weston, Edward, Newark, N. J., assignor to United States Electric Lighting Company, New York, N. Y. Electric-arc lamp	267,474	Nov. 14	657	{188 / 189}	22	1602

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Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Weston, Edward, Newark, N. J., assignor to United States Electric Lighting Company, New York, N. Y. Incandescent-lamp holder	268,329	Nov. 28	1702	473	22	1866
Weston, Edward, Newark, N. J., assignor to United States Electric Lighting Company, New York, N. Y. Incandescent electric-lamp holder	268,330	Nov. 28	1703	473	22	1866
Weston, Edward, Newark, N. J., assignor to United States Electric Lighting Company, New York, N. Y. Dynamo-electric machine	268,331	Nov. 28	1704	{473 / 474}	22	1867
Weston, Edward, Newark, N. J., assignor to United States Electric Lighting Company, New York, N. Y. Incandescent-electric-lamp holder	269,757	Dec. 26	1705	490	22	2224
Weston, Edward, Newark, N. J., assignor to United States Electric Lighting Company, New York, N. Y. Suspending and circuit-controlling mechanism for arc-lamps	269,758	Dec. 26	1706	491	22	2224
Weston, Edward, Newark, N. J., assignor to United States Electric Lighting Company, New York, N. Y. Electric incandescent lamp	269,759	Dec. 26	1708	492	22	2224
Weston, Edward, Newark, N. J., assignor to United States Electric Lighting Company, New York, N. Y. Rheostat	269,760	Dec. 26	1709	492	22	2224
Weston, Edward, Newark, N. J., assignor to United States Electric Lighting Company, New York, N. Y. Dynamo-electric machine	269,761	Dec. 26	1710	493	22	2225
Weston Electric Light Company. (See Weston, Edward, assignor.)						
Weston, Henry, Philadelphia, Pa. Pillow	264,007	Sept. 5	422	116	22	847
Weston, Wilbur H. (See Elkins and Weston.)						
Westwood, Felix, Wheeling, W. Va. Carriage-curtain fastening	260,719	July 4	477	129	22	81
Wetherbee, Seth H., *et al.* (See Bean, Charles E., assignor.)						
Wetherell, Frank E. (See Urann, Henry E., assignor.)						
Wetherell, George F., *et al.* (See Jones, Richard B., assignor.)						
Wethey, J. Herschel. (See Cortright, Moses I., assignor.)						
Wetmore, Jerome W., Erie, Pa. Vehicle-spring	265,899	Oct. 10	810	230	22	1280
Wetmore, Jerome W., Erie, Pa. Stairway-truck	269,248	Dec. 19	1053	308	22	2094
Wetter, Albert. (See Iske and Wetter.)						
Wey, Frank. (See Denning, John, assignor.)						
Weymouth, John, Sangerville, Me. Cultivator	260,720	July 4	479	130	22	81
Wharf, James W., Olney, Ill. Car-coupling	263,269	Aug. 22	1779	507	22	671
Wheaton, John S. H., Crisfield, Md. Medical compound	269,145	Dec. 12	910	.....	22	2062
Wheat, Corydon, and A. Catchpole, Geneva, N. Y. Radiator	260,512	July 4	212	59	22	36
Wheat, Corydon, and A. Catchpole, Geneva, N. Y. Steam-generator	267,625	Nov. 14	845	241	22	1696
Wheat, Corydon, and A. Catchpole, Geneva, N. Y. Heating apparatus	263,580	Dec. 5	223	63	22	1928
Whedon, Charles T., assignor of two-thirds to A. L. and W. G. Brown, Whitefield, N. H. Drying-house	262,870	Aug. 15	1308	368	22	573
Wheel and Seeder Company. (See Smith, James H., assignor.)						
Wheeldon, John E., South Carrollton, Ky. Churn	261,973	Aug. 1	182	54	22	366
Wheeler, Benjamin F., Malden, assignor to O. L. Noble, Boston, Mass. Manufacture of milling-cutters	264,008	Sept. 5	423	116	22	847
Wheeler, Betsey S., North Wauwatosa, Wis. Dish-washing machine	266,935	Oct. 31	2070	595	22	1524
Wheeler, Candace, Jamaica, N. Y. Embroidering and embroidery	268,332	Nov. 28	1705	474	22	1867
Wheeler, Cyrenus, Jr., Auburn, N. Y. Self-binding harvester	261,285	July 18	1184	331	22	211
Wheeler, Cyrenus, Jr., Auburn, N. Y. Combined harvester and self-binder	263,006	Aug. 22	1477	{416 / 417}	22	613
Wheeler, Cyrenus, Jr., Auburn, N. Y. Self-binding harvester	263,370	Aug. 29	1966	{561 / 562}	22	702
Wheeler, Cyrenus, Jr., Auburn, N. Y. Grain-binder	266,001	Oct. 17	945	{267 / 268 / 269 / 270}	22	1309
Wheeler, Edward G., Indianapolis, Ind. Farm-gate	261,573	July 25	1541	432	22	277
Wheeler, Edward P., Beloit, Wis. Windmill	263,447	Aug. 29	2062	591	22	720
Wheeler, Elonzo S., assignor of one-half to J. E. Wheeler, Saugatuck, Conn. Button	265,900	Oct. 10	811	230	22	1280
Wheeler, Franklin C., St. Joseph, Mo. Gate	268,333	Nov. 28	1706	474	22	1867
Wheeler, Horace C., Lebanon, Ind. Running-gear for wagons	265,291	Oct. 3	74	23	22	1149
Wheeler, J. F. (See Brown, William C., assignor.)						
Wheeler, John, assignor to himself, C. Stabern, and R. W. Pomeroy, Denver, Colo. Felly-clip	264,009	Sept. 5	423	117	22	847
Wheeler, John H., Macy, assignor of one-half to R. W. Carr, Brazos County, Tex. Insecticide	260,916	July 11	714	.....	22	126
Wheeler, Jonathan E. (See Wheeler, Elonzo S., assignor.)						
Wheeler, Lanrens S., Independence, Kans. Harrow	267,294	Nov. 7	416	121	22	1614
Wheeler, Marshal, assignor to B. F. Enoch, Philadelphia, Pa. Mechanism for overcoming dead-centers	263,270	Aug. 22	1780	507	22	671
Wheeler, Schuyler S. (See Curtis and Wheeler.)						
Wheeler, William, Concord, Mass. Guide for ruling or for aiding in cutting glass	264,499	Sept. 19	981	276	22	964
Wheeler, William, Concord, Mass. Electric-lamp support	265,292	Oct. 3	75	23	22	1149
Wheeler, William, Concord, Mass. Reflector for street lamps or lanterns, &c	268,063	Nov. 28	1378	385	22	1806
Wheeler, William, Concord, Mass. Reflector	268,064	Nov. 28	1379	386	22	1807
Wheeler, William F., assignor to C. E. Lloyd, Philadelphia, Pa. Canopy or tent	264,010	Sept. 5	424	117	22	847
Wheeler, William F., Philadelphia, Pa., assignor to T. M. Galbreath, Atlantic City, N. J. Filter	264,011	Sept. 5	426	117	22	848
Wheeler, William H., assignor to Eclipse Wind Engine Company, Beloit, Wis. Clamp for tank and other hoops	261,504	July 18	1437	402	22	253
Wheeler & Wilson Manufacturing Company. (See Curtis, George H. W., assignor.)						
Wheeler & Wilson Manufacturing Company. (See Durfee, William F., assignor.)						
Wheeler & Wilson Manufacturing Company. (See Durfee and Fowler, assignors.)						
Wheeler & Wilson Manufacturing Company. (See White, William W., assignor.)						
Whelan, Robert, Chicago, Ill. Foam-collector for steam-boilers	260,813	July 11	604	163	22	107
Whelpley, James A., Greenwich, New Brunswick, Canada. Skate	262,712	Aug. 15	1101	312	22	537
Whipple, Charles, Leonardsburg, Ohio. Chain-pump	264,387	Sept. 12	851	238	22	932
Whipple, Effinger E., Grand Rapids, Mich. Combined seeder and cultivator	260,814	July 11	605	164	22	107
Whipple, Frank. (See Cameron, Daniel A., assignor.)						
Whitacre, William W. (See Lynde, Charles H., assignor.)						
Whitaker, Welcome, Goshen, Ind. Shifting-rail for buggies	263,639	Aug. 29	2282	652	22	759
Whitaker, William W., assignor of one-half to W. H. Hulett, Jr., Gloversville, N. Y. Mitten or glove	265,902	Oct. 10	813	231	22	1281
Whitcomb, Darwin E., *et al.* (See Labelle, Charles H., assignor.)						
Whitcomb, George D. (See Harrison, Jonathan W., assignor.)						
Whitcomb, George D., Chicago, Ill. Coal-mining machine	267,047	Nov. 7	106	31	22	1559
White, Arthur M. (See Shaffer and White.)						
White, Benjamin F., assignor to W. B. Glenn, Chapel Hill, Tenn. Harrow or clod-crusher	262,871	Aug. 15	1310	368	22	573
White, Charles H., Boston, Mass. Railway-switch	268,761	Dec. 5	427	125	22	1963

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
White, Clara A., executrix. (See White, Samuel.)						
White, Clarence O., Minneapolis, Minn. Middlings-purifier	267,389	Nov. 14	535	158	22	1643
White, Daniel C., and J. Cooper, Perry, N. Y. Wagon-jack	269,360	Dec. 19	1201	349	22	2121
White, Delos M., Hudson, Wis., and J. Hitchcock, St. Paul, Minn. Sand-band	269,763	Dec. 26	1713	494	22	2225
White, Elisher J. (See Bloss and White.) (Reissue.)						
White, Frank A., assignor of one-half to W. B. Stoppard, Cortland Village, N. Y. Railway-switch	263,740	Sept. 5	85	25	22	790
White, James, Canton, Ohio. Fire-proof safe	262,872	Aug. 15	1310	369	22	573
White, James H., assignor to Manhattan Brass Company, New York, N. Y. Reflector for lamps	262,713	Aug. 15	1102	312	22	537
White, James T. (See Byron, Alfred A., assignor.)						
White, John E. (See Peters and White.)						
White, John S., Portland, Me. Brush-scaring device	267,957	Nov. 21	1242	350	22	1777
White, Joseph, Coventry, county of Warwick, England. Tricycle	269,609	Dec. 26	1522	437, 438	22	2189
White, Leonard. (See Hewitt, Samuel A., assignor.)						
White Manufacturing Company. (See Boudren, Thomas, assignor.)						
White, Moores M., New York, N. Y. Railway-switch	266,665	Oct. 31	1749	504	22	1464
White, Peter, St. Louis, Mo. Water-closet	261,974	Aug. 1	182	54	22	367
White, Rufus P., *et al.* (See Edleblute, Lucina S., assignor.)						
White, Samuel, deceased, C. A. White, executrix, and assignor to Phœnix Manufacturing Company, Eau Claire, Wis. Gang-edger	268,966	Dec. 12	685	201, 202	22	2024
White, Samuel K. (See Hill and Pettersen, assignors.)						
White & Stokes. (See Oakes, Henry F., assignor.)						
White, Thomas B., Elkhart, Ind. Fence	260,436	July 4	111	32	22	20
White, William W., Palatine, Ill., assignor to Wheeler & Wilson Manufacturing Company, Bridgeport, Conn. Tension-brake for sewing-machines	264,388	Sept. 12	852	239	22	933
Whitehead & Atherton Machine Company. (See Atherton, Abel T., assignor.)						
Whitehead & Atherton Machine Company, *et al.* (See Kitson, Richard, assignor.)						
Whitehead & Atherton Machine Company. (See Whitehead, William E., assignor.)						
Whitehead, Celia J. B. and E. J., Bloomfield, N. J. Book-holder	267,812	Nov. 21	1074	300	22	1744
Whitehead, Emory J. (See Whitehead, Celia J. B. and E. J.)						
Whitehead, James. (See Candler and Whitehead.)						
Whitehead, William E., Miles Plattin, England, assignor to Whitehead & Atherton Machine Company, Lowell, Mass. Carding-machine	266,334	Oct. 24	1374	387	22	1390
Whitehurst, Obed E., *et al.* (See Styron, William D., assignor.)						
Whitehurst, Robert W., assignor of two-thirds to A. and M. L. Wrenn, Norfolk, Va. Baling-press	268,334	Nov. 28	1707	475	22	1867
Whitelaw, Francis M., Hartwell, Ohio. Combined packing and toy box	269,764	Dec. 26	1714	494	22	2225
Whiteley, Fassler & Kelly. (See Bayley, William, assignor.)						
Whiteley, Fassler & Kelly. (See Dutton, Rufus, assignor.)						
Whiteley, Fassler & Kelly. (See Rice, Tallmadge M., assignor.)						
Whiteley, Fassler & Kelly. (See Whiteley and Bayley, assignors.)						
Whiteley, Fassler & Kelly. (See Whiteley and Thomas, assignors.)						
Whiteley, William N., *et al.* (See Green, George F., assignor.)						
Whiteley, William N., Springfield, Ohio. Reaping-machine	261,114	July 11	977	273	22	169
Whiteley, William N., and J. R. Thomas, assignors to Whiteley, Fassler & Kelly, Springfield, Ohio. Self-binder	265,199	Sept. 26	1803	506, 507	22	1118
Whiteley, William N., and W. Bayley, assignors to Whiteley, Fassler & Kelly, Springfield, Ohio. Self-binder	266,937	Oct. 31	2072	596	22	1524
Whiteside, Franklin P., *et al.* (See Brown, James F., assignor.)						
Whitin Machine Works. (See Taft, Gustavus E., assignor.)						
Whiting, Albert, assignor to himself and S. Y. Alling, Rochester, N. Y. Leather-scouring and hide-working machine	265,293	Oct. 3	76	23	22	1149
Whiting, Henry A., Brooklyn, and W. J. Winghart, New York, N. Y. Umbrella and cane combined	263,221	Aug. 22	1781	507	22	671
Whiting, Stiles H. (See Dean and Whiting.)						
Whitlock, Daniel, Newark, N. J. Heel-pressing machine	265,725	Oct. 10	621	176	22	1246
Whitman & Burrell. (See Cooley and Burrell, assignors.)						
Whitman, George H., Eureka Springs, Ark. Boiler-feeder	267,295	Nov. 7	417	121	22	1615
Whitman, Gilbert P., *et al.* (See Mason, David D., assignor.)						
Whitman, Josiah A., Cranston, R. I. Pump	268,581	Dec. 5	225	63	22	1929
Whitmarsh, Henry C., New York, N. Y. Suspenders	260,721	July 4	479	130	22	81
Whitmore, Andrew E., Springfield, Mass. Lock for fire-arms	266,245	Oct. 17	1239	351	22	1359
Whitmore, Andrew E., Springfield, Mass., assignor to Colts Patent Fire-Arms Manufacturing Company, Hartford, Conn. Breech-loading fire-arm	262,521	Aug. 8	854	242	22	488
Whitmore, Richard. (See Robinson and Whitmore.)						
Whitmore, Robinson & Co. (See Robinson and Whitmore, assignors.)						
Whitmore, William R., assignor of one-half to C. W. Brown, Newburyport, Mass. Printer's quoin	261,886	Aug. 1	73	21	22	348
Whitney, Edwin R., *et al.* (See Craig, Joseph A. I., assignor.)						
Whitney, Eli M., Himsdale, Mass. Tooth-holder for horse hay-rakes	269,402	Dec. 19	1371	394	22	2153
Whitney, Levi H., Lowell, Mass. Clothes-beater	266,938	Oct. 31	2073	596	22	1525
Whitney, Pardon A., assignor to Wilcox, Treadway & Co., Cleveland, Ohio. Machine for notching scale-beams	269,762	Dec. 26	1711	493, 494	22	2225
Whitney, Ruel W., New York, N. Y., assignor to himself and J. Crowell, Jr., Glenville, Ohio. Clutch	261,887	Aug. 1	74	21	22	348
Whitney, Ruel W., New York, N. Y., assignor to himself and J. Crowell, Jr., Glenville, Ohio. Mechanical movement	268,160	Nov. 28	1496	417	22	1928
Whitson, John M., assignor to J. R. Walsh, Chicago, Ill. Pencil-case	265,476	Oct. 3	293	87	22	1188
Whittaker, Charles, Chicago, Ill. Faucet	262,632	Aug. 15	1007	282	22	519
Whittaker, Charles, Chicago, Ill. Self-closing faucet	267,733	Nov. 21	980	276	22	1728
Whittaker, Charles, Chicago, Ill. Faucet	267,734	Nov. 21	981	276	22	1728
Whittemore, George A., *et al.* (See Hurlbutt, Albert G., assignor.)						
Whittemore, John A., Springfield, Mass. Car-coupling	265,903	Oct. 10	814	231	22	1231
Whittemore, Walter P., North Attleborough, Mass., assignor to A. Levett, New York, N. Y. Rotary polishing device	267,735	Nov. 21	982	277	22	1729
Whitworth, Charles E., assignor to J. C. Gerlach, Boston, Mass. Carding-machine	265,901	Oct. 10	812	230	22	1230
Whyman, Horatio O., assignor of one-half to A. P. Pilger, Norfolk, Nebr. Window-screen	263,371	Aug. 29	1968	562	22	703
Whyte, Ebenezer, Kansas City, Mo. Price-ticket holder	263,372	Aug. 22	1722	508	22	671
Wicke, Gustav, Barmen, Prussia, Germany. Thread-card holder for sewing-machines	268,335	Nov. 28	1708	475	22	1867
Wickersham, John B., Philadelphia, Pa. Fire-escape balcony	265,551	Oct. 3	399	110	22	1204
Wickersham, John B., Philadelphia, Pa. Fire-escape	266,570	Oct. 24	1632	465	22	1438
Wickey, Andrew, and A. A. Gehrt, Quincy, Ill. Hay and cotton press	263,372	Aug. 29	1970	562, 563	22	703

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Wickstead, Edwin, Jersey City, N. J., assignor of two-thirds to C. E. and S. H. Carson, Brooklyn, N. Y. Machine for cutting material for umbrella or parasol covers	262,522	Aug. 8	855	242	22	488
Widdifield, Watson P., and A. T. Button, Uxbridge, Ontario, Canada. Car-brake	265,200	Sept. 26	1806	507, 508	22	1119
Widemann, Joseph A., Basle, Switzerland. Spring for mattresses	265,201	Sept. 26	1809	508	22	1119
Widmer, Charles, assignor to himself, L. Jansen, F. Albrecht, H. Neumann, and F. Jansen, Brooklyn, N. Y. Quilting-machine	269,361	Dec. 19	1202	350	22	2121
Wiechers, William A., *et al.* (See Quimby, Edward E., assignor.)						
Wiedling, Hermann, Baltimore, Md. Gas-engine	269,146	Dec. 12	911	266	22	2062
Wiegand, S. Lloyd, Philadelphia, Pa. Lamp	267,626	Nov. 14	846	241, 242	22	1696
Wiers, Hiram J. (See Simmons, Thomas, assignor.)						
Wiesebrock, Frederick W., New York, N. Y. Apparatus for drying grain	267,813	Nov. 21	1074	301	22	1744
Wiesner, Charles G., Kansas City, Mo. Refrigerator	265,202	Sept. 26	1810	509	22	1119
Wiggin, John L., Clinton, Iowa, assignor to C. P. Keeler, Chicago, Ill. Suppository-mold	265,904	Oct. 10	815	231	22	1281
Wiggins, John, Uxbridge, and J. B. Greenhalgh, Waterford, Mass. Mechanism for reversing the rotation of the spindles of spinning jacks and mules	262,523	Aug. 8	856	242, 243	22	488
Wiggins, William, Boston, Mass. Button-fastening	268,336	Nov. 28	1709	475	22	1868
Wiggins, William H. (See De Gaetano, Stephen, assignor.)						
Wight, Albion P., Jr. (See Spear and Wight.)						
Wight, George R., New York, N. Y. Permutation-lock	269,765	Dec. 26	1714	494	22	2226
Wigmore, William H., Philadelphia, Pa. Gas-motor engine	260,513	July 4	213	59, 60	22	36
Wigmore, William H., assignor of one-half to J. H. Doerr, Philadelphia, Pa. Sleeping-car	264,807	Sept. 19	1323	374	22	1028
Wiknlill, Franz. (See Sedlaczek, Wikulill, and Schuckert.)						
Wilber, John, Fall Brook, Pa. Churn-power	264,589	Sept. 19	1068	303	22	981
Wilbur, Alpheus O., Davis, Mich. Vehicle-spring	268,582	Dec. 5	226	64	22	1929
Wilbur, Henry A., Cambridge, assignor of one-half to F. W. Lowe, Boston, Mass. Hinge	260,437	July 4	111	33	22	20
Wilcox, Daniel L., Pawtucket, R. I. Railway game apparatus	260,815	July 11	607	164	22	107
Wilcox, Daniel L., Pawtucket, R. I. Cross-bow	269,240	Dec. 19	1054	308	22	2095
Wilcox, Darius, Derby, assignor of one-half to I. P. Howe, Birmingham, Conn. Device for operating drop-hammers	265,907	Oct. 10	817	232	22	1281
Wilcox, Darius, Derby, assignor of one-half to I. P. Howe, Birmingham, Conn. Die for molding horseshoe-blanks	265,908	Oct. 10	819	232, 233	22	1282
Wilcox, Darius, Derby, assignor of one-half to I. P. Howe, Birmingham, Conn. Die for molding horseshoe-blanks	265,909	Oct. 10	820	233, 234	22	1282
Wilcox, Frank. (See Peterson and Wilcox.)						
Wilcox, George H. (See Jepson and Wilcox.)						
Wilcox, Stephen. (See Babcock, Wilcox, and Pratt.)						
Wilcox, Stephen. (See Babcock, Wilcox, Pratt, and Bennett.)						
Wilcox, Treadway & Co. (See Whitney, Pardon A., assignor.)						
Wilde, Henry, Newark, N. J. Apparatus for gaging hoops	260,438	July 4	112	33	22	20
Wilder, Aretus A., assignor of one-half to C. B. Palmer, Detroit, Mich. Hand-drill	269,250	Dec. 19	1055	308	22	2095
Wilder, Eli F., Greenville, N. H. Apparatus for storing, drawing, and measuring oils	261,888	Aug. 1	75	22	22	348
Wilder, Elihu, Manchester, N. H. Self-irrigating flower pot or vase	267,296	Nov. 7	417	122	22	1615
Wilder, Henry C., Ashby, Mass., assignor to J. G. Willard, New York, N. Y. Apple parer, corer, and slicer	267,475	Nov. 14	659	189	22	1662
Wilder Williara H., Caledonia, N. Y. Door-hanger	262,714	Aug. 15	1103	313	22	537
Wildt, Edward A., Long Island City, N. Y. Piston-valve	265,727	Oct. 10	624	176, 177	22	1247
Wiles, Robert H. (See Karr, James K., assignor.)						
Wiley, Charles D., Verona, assignor to Keystone Nut Lock Company, (limited,) Pittsburg, Pa. Metal-bending machine	267,627	Nov. 14	847	242	22	1696
Wiley, Charles J., Brooklyn, N. Y. Billiard-cue	268,065	Nov. 28	1379	386	22	1807
Wilfert, Charles W., Jeffersonville, N. Y. Hand-planter	266,939	Oct. 31	2074	597	22	1525
Wilhelm, Edward, *et al.* (See Pond, Charles L., assignor.)						
Wilhelm, Edward, Buffalo, N. Y. Locomotive head-light	262,169	Aug. 1	436	121	22	408
Wilhelm, John R., assignor of one-fourth to E. C. Paxton, Addison, N. Y. Car-brake	264,389	Sept. 12	853	239	22	933
Wilkerson, Lafayette, Scipio, Ind. Seed-planter	264,012	Sept. 5	427	117	22	848
Wilkie, Jeremiah, Worthington, assignor, by mesne assignments, of one-half to J. L. Ballard, Greene County, Ind. Corn-popper	268,337	Nov. 28	1710	475	22	1868
Wilkins, Alexander G., Meadville, Pa. Apparatus for securing button-fasteners	266,940	Oct. 31	2075	597	22	1525
Wilkins, Alexander G., Meadville, Pa. Button-fastener	266,941	Oct. 31	2075	597	22	1525
Wilkins, Edward, Madisonville, Ky. Stock-stall	266,942	Oct. 31	2076	598	22	1525
Wilkinson, Charles E., Fishkill-on-the-Hudson, assignor to Willcox & Gibbs Sewing Machine Company, New York, N. Y. Machine for sewing straw braid	269,251	Dec. 19	1056	308	22	2095
Wilkinson, Elias A. (See Fairbanks, Charles M., assignor.)						
Wilkinson, Elias A. (See Fairbanks and McCune, assignors.)						
Wilkinson, Elias A. (See Hebert, Joseph R., assignor.)						
Wilkinson, Elias A. (See McCune, Joseph B., assignor.)						
Wilkinson, Elias A., trustee. (See Woodward, Thomas C., assignor.)						
Wilkinson, Elias A. (See Woodward and Fairbanks, assignors.)						
Wilkinson, George, Acampo, Cal. Derrick-net for stacking	264,915	Sept. 26	1472	414	22	1050
Wilkinson, Harris C., Brooklyn, N. Y. Advertising-card	261,889	Aug. 1	77	22	22	348
Wilkinson, Samuel J. (See Clark, Edward C., assignor.)						
Wilkinson, William. (See Dunlap, Jackson H., assignor.)						
Willard, Bradford. (See Crane, Gerard, assignor.)						
Willard, Charles A. (See Willard, Samuel W., assignor.)						
Willard, Joel G. (See Wilder, Henry C., assignor.)						
Willard, Samuel W., assignor of one-half to C. A. Willard, West De Pere, Wis. Elevator-shaft	261,286	July 18	1185	332	22	211
Willbanks, David A., High Shoals, Ga. Loom-shuttle	267,628	Nov. 14	850	243	22	1696
Willcox, Charles H. (See Lasscell and Willcox.)						
Willcox, Charles H., New York, N. Y. Machine for forming welts or hems on fabrics	263,640	Aug. 29	2283	652	22	760
Willcox, Charles H., New York, N. Y. Machine for forming welts or hems on fabrics	263,641	Aug. 29	2285	652, 653	22	760
Willcox & Gibbs Sewing Machine Company. (See Borton, Stockton, assignor.)						
Willcox & Gibbs Sewing Machine Company. (See Lasscell and Willcox, assignors.)						
Willcox & Gibbs Sewing Machine Company. (See Smith, John, assignor.)						
Willcox & Gibbs Sewing Machine Company. (See Wilkinson, Charles E., assignor.)						
Willemin, Louis A. (See Downey, Willemin, and Glauner.)						
Willer, Henry E., Milwaukee, Wis. Window-screen	266,246	Oct. 17	1240	352	22	1359
Willershausen, Siegfried, New York, N. Y. Heater for glue and other substances	264,808	Sept. 19	1324	375	22	1028
Willett, George, assignor of one-half to G. Middendorf, Englewood, Ill. Cash-railway	268,967	Dec. 12	687	202	22	2024

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Willett, Thomas, Burslem, county of Stafford, England. Pottery-machine	268,583	Dec. 5	227	64	22	1029
Willey, Jacob M. (See Trefethen and Willey.)						
Willhelm, Frank, assignor of one-half to L. Spielman, Dayton, Ohio. Take-up for sewing-machines	268,161	Nov. 28	1496	417	22	1828
Willi, Theodore, and C. Linxweiler, Dayton, Ohio. Stove	268,066	Nov. 28	1380	386	22	1807
William, John D., Rising Sun, Ind. Bell-striking apparatus for clocks	264,810	Sept. 19	1325	375	22	1028
Williams, Albert, Hannibal, N. Y. Middlings-purifier	268,762	Dec. 5	429	{125 126}	22	1068
Williams, Alfred, assignor to Williams, White & Co., Moline, Ill. Edging-machine	267,048	Nov. 7	107	31	22	1359
Williams Brothers Manufacturing Company. (See Sperry, Alfred W., assignor.)						
Williams, Calvin, Big Valley, Tex. Saddle-girth	266,571	Oct. 24	1633	465	22	1438
Williams, Charles, Jr. (See Lane and Harrington, assignors.)						
Williams, Edward, Dubuque, Iowa. Windmill	265,203	Sept. 26	1841	509	22	1120
Williams, Enos R. (See Cassedy, William F., assignor.)						
Williams, Eugene J. (See Ridenour, Cyrus J., assignor.)						
Williams, Garner C., Ellenville, N. Y., assignor to W. Sellers, Philadelphia, Pa. Steam-injector	265,648	Oct. 10	524	142	22	1230
Williams, George W., assignor of one-fourth to W. E. Smith, Winona, Minn. Piston for steam-engines	262,102	Aug. 1	469	131	22	413
Williams, Henry A., Taunton, Mass. Loom-shuttle	264,399	Sept. 12	853	239	22	933
Williams, Henry A., Princeton, Ind. Washing-machine	264,809	Sept. 19	1325	375	22	1028
Williams, Henry A., and W. A. Preston, Princeton, Ind.; said Williams assignor to said Preston. Cutter-bar	265,906	Oct. 10	816	231	22	1281
Williams, Henry C. (See Johnson, Joseph W., assignor.)						
Williams, Hugh, Apple River, Ill. Wire-stretcher	263,373	Aug. 29	1972	563	22	703
Williams, Ira E. (See Johnson and Williams.)						
Williams, James A., Fredonia, Tex. Animal-trap	269,760	Dec. 26	1715	495	22	2226
Williams, James L., Mayfield, Miss. Seed-dropper	268,338	Nov. 28	1711	476	22	1868
Williams, James L., Huntsville, assignor of one-half to N. Pittmann, Lodi, Miss. Cotton-press	261,116	July 11	978	274	22	169
Williams, James L., assignor of three-fourths to E. J. Haight, L. M. Cox, and H. B. Coursen, Portland, Oreg. Infusing attachment for tea and coffee pots	264,590	Sept. 19	1068	303	22	981
Williams, James M. (See Crane, Lauren E., assignor.)						
Williams, John A., Verona, Mo. Rope-clamp	269,252	Dec. 19	1059	309	22	2095
Williams, John H., and V. M. Braffett, Indianapolis, Ind., assignors of one-third to J. Carpenter. Carpet-stretcher	268,067	Nov. 28	1381	386	22	1807
Williams, John M. (See Wisner, Fred, assignor.)						
Williams, John T., assignor of one-half to G. F. Payne, Philadelphia, Pa. Buoyant and subaqueous tunnel	262,594	Aug. 8	857	243	22	488
Williams, Llewelyn, Ironton, Ohio. Wheelbarrow-wheel	265,477	Oct. 3	294	87	22	1188
Williams Manufacturing Company, C. W. (See Thomas, Eddy T., assignor.)						
Williams, Martin D., Long Island City, N. Y. Torpedo-placer	267,297	Nov. 7	419	122	22	1615
Williams, Moses T., Riverside, Conn. Sewer-gas trap	268,584	Dec. 5	229	64	22	1029
Williams, Robert S., New York, N. Y. Show-case	262,873	Aug. 15	1312	369	22	574
Williams, Seth J., and H. Richey; said Williams assignor to said Richey; said Richey assignor of two-thirds to S. Williams and E. M. Collyer, Sing Sing, N. Y. Bake-pan	264,013	Sept. 5	428	113	22	848
Williams, Sion H., Wilsonville, Tenn. Corn-planter	262,336	Aug. 8	645	181	22	451
Williams, Sophia, *et al.* (See Williams and Richey, assignors.)						
Williams, Thomas H., *et al.* (See Angell, Horace B., assignor.)						
Williams, White & Co. (See Williams, Alfred, assignor.)						
Williams, William H., Long Island City, N. Y. Veneer-machine	269,363	Dec. 19	1906	{351 352}	22	2122
Williams, William T., Shenandoah, Iowa. Washing-machine	266,943	Oct. 31	2078	598	22	1525
Williamson, Catherine A., St. Louis, Mo. Stove	265,204	Sept. 26	1813	{509 510}	22	1120
Williamson, Cornelius T., Newark, N. J. Combined spoon and corkscrew	264,391	Sept. 12	855	239	22	933
Williamson, Eli S., Bradford, Pa. Apparatus for pumping and flowing oil-wells	262,874	Aug. 15	1313	369	22	574
Williamson, L. N., *et al.* (See Blakely, Caleb J., assignor.)						
Williamson, Relly M., Chicago, Ill. Box-fastener	266,666	Oct. 31	1750	505	22	1465
Williamson, Relly M., Chicago, Ill. Box-fastener	267,122	Nov. 7	209	61	22	1577
Williamson, S. Stuart, assignor of one-half to W. H. Hanford, Washington, D. C. Nut-lock	263,273	Aug. 22	1782	508	22	671
Willie, John, Wilmington Del. Window-awning	268,968	Dec. 12	689	202	22	2024
Willis, Ambrose, Troy, N. Y. Can-cover	263,741	Sept. 5	86	25	22	790
Willis, Harrison, Brooklyn, N. Y. Steam-generator	264,591	Sept. 19	1069	304	22	981
Willits, Warren J. (See Sheffield, George S., assignor.)						
Wills, Frank M., Springfield, Ill. Hair-spring-collet remover	262,875	Aug. 15	1315	370	22	574
Wills, George W., East Portland, Oreg. Crossent-saw	267,958	Nov. 21	1244	350	22	1777
Willsey, Anna A., assignor of one-half to G. L. Chapin, Chicago, Ill. Water-filter	261,574	July 25	1542	432	22	277
Willson, Charles P., Summit Point, W. Va. Fire-escape	260,722	July 4	460	130	22	81
Willson, Horace W. (See Watson and Willson.)						
Willson, Robert W., New Haven, Conn. Time-ball signal	267,298	Nov. 7	420	122	22	1615
Willson, Robert W., New Haven, Conn. Clock for making electric signals	267,299	Nov. 7	421	122	22	1615
Willson, Robert W., New Haven, Conn. Device for synchronizing clocks	267,300	Nov. 7	421	123	22	1616
Willson, Thomas A., Reading, Pa. Lens and manufacture thereof	265,206	Sept. 26	1814	510	22	1120
Wilmot, James A., Riverside, New Brunswick, Canada. Carpet-fastener	267,390	Nov. 14	557	158	22	1643
Wilson, Albert L. (See Wilson, T. Frank and A. L.)						
Wilson, Allan F., Clayton, N. J. Tool for finishing the necks and lips of bottles	265,726	Oct. 10	623	176	22	1246
Wilson, Benjamin, assignor to himself and A. Walling, Jr., Keyport, N. J. Composition for polishing metals	265,905	Oct. 10	816	.....	22	1281
Wilson, Charles H. (See Haskins and Wilson.)						
Wilson, Charles R., Detroit, Mich. Vehicle spring	269,493	Dec. 19	1372	394	22	2153
Wilson, Charles W., assignor to Huston Ship's Berth Company, Boston, Mass. Self-leveling berth	268,585	Dec. 5	229	65	22	1029
Wilson, Elizabeth A., Belvidere, Ill. Self-shaking sifter for sand	267,049	Nov. 7	108	31	22	1539
Wilson, Fitzland L., Saginaw, Mich. Barrel-hoop-cutting machine	264,392	Sept. 12	856	240	22	933
Wilson, Francis M., assignor of one-half to I. W. Hungerford, Tekamah, Nebr. Car-coupling	263,274	Aug. 22	1783	508	22	672
Wilson, George, Vinton, Iowa. Cut-off for cisterns	264,393	Sept. 12	857	240	22	934
Wilson, George F. (See Stevenson and Wilson.)						
Wilson, George F., East Providence, R. I. Revolving boiler for paper-making and other purposes	265,649	Oct. 10	527	142	22	1230
Wilson, George W., assignor of one-half to B. A. Man, Lanesborough, Minn. Grinding-mill	264,394	Sept. 12	858	240	22	934

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Wilson, Hattie D., New York, N. Y. Fire-escape	262,337	Aug. 8	645	181	22	451
Wilson, Hiram G., St. Louis, Mo. Smoke-consuming furnace	263,642	Aug. 29	2289	653	22	761
Wilson, J. H., *et al.* (See Chamberlain, Blanchard, assignor.)						
Wilson, Jacob, St. Charles, Mich. Stump-extractor	261,890	Aug. 1	77	22	22	349
Wilson, James, Moundsville, W. Va. Lock for vehicle-tops	269,147	Dec. 12	913	266	22	2063
Wilson, James A., Marengo, Iowa. Hay-stacker	266,944	Oct. 31	2079	599	22	1526
Wilson, James F. (See Fitts and Wilson.)						
Wilson, James P., Newark, N. J. Actuating mechanism for pumps and other devices	262,338	Aug. 8	647	182	22	451
Wilson, John C., Washington, Pa. Washing-machine	264,014	Sept. 5	429	118	22	848
Wilson, John D., Greenleaf, Kans. Tether-holder	262,525	Aug. 8	859	243	22	489
Wilson, John T., assignor to Wilson, Walker & Co., (limited,) Pittsburg, Pa. Manufacture of draw-bars	264,015	Sept. 5	430	118	22	849
Wilson, John T., assignor to Wilson, Walker & Co., (limited,) Pittsburg, Pa. Manufacture of draw-bars	264,016	Sept. 5	432	118	22	849
Wilson, John T., assignor to Wilson, Walker & Co., (limited,) Pittsburg, Pa. Manufacture of draw-bars	267,629	Nov. 14	851	243	22	1696
Wilson, John T., and W. J. Hallarn, Toronto, Ontario, Canada. Cinder-sifter	262,526	Aug. 8	860	243	22	489
Wilson, John W., Ashmore, Ill. Cultivator	269,362	Dec. 19	1204	351	22	2122
Wilson, Joseph B., assignor of one-half to D. W. Moore, Clayton, N. J. Tube for blowing glass and mode of manufacturing the same	268,162	Nov. 28	1497	417	22	1828
Wilson, Joseph H., *et al.* (See Chamberlain, Blanchard, assignor.)						
Wilson, Levi, Nevada, Ohio. Buckle	263,643	Aug. 29	2290	653	22	761
Wilson, Maria A., Grayson, Cal. Combined sewing implement	269,610	Dec. 26	1524	438	22	2190
Wilson, Merrick F., assignor of one-half to C. R. Steele and V. C. Price, Chicago, Ill. Die for cutting blanks for necked paper boxes	266,572	Oct. 24	1634	465	22	1438
Wilson, Oliver G., Gallatin, Tenn. Fishing-float	261,505	July 18	1438	402	22	253
Wilson, Robert, Greenup, Ky. Meal-bolt	262,527	Aug. 8	861	244	22	489
Wilson, Robert B., Cincinnati, Ohio. Brick-machine	267,814	Nov. 21	1077	302	22	1745
Wilson, Samuel, Dallas, Iowa. Fishing-wheel	264,395	Sept. 12	859	241	22	934
Wilson & Sons, P. (See Standish, Philander H., assignor.)						
Wilson, T. Frank and A. L., Gorham, N. Y. Device for leveling boilers of road-engines	264,500	Sept. 19	982	276	22	965
Wilson, Thomas L., Port Hope, Ontario, assignor of one-half to E. H. Davis, Toronto, Canada. Freight-car	266,742	Oct. 31	1844	536	22	1482
Wilson, Thomas M., Indianapolis, Ind. Lubricator	263,374	Aug. 29	1973	563	22	704
Wilson, Thomas M., Indianapolis, Ind. Spring for middlings-shakers	263,375	Aug. 29	1973	563	22	704
Wilson, Walker & Co. (See Wilson, John T., assignor.)						
Wilson, William A., Fruit Plain, Va. Churn	268,969	Dec. 12	690	202	22	2025
Wilson, William A., Needham, Mass. Automatic fire-extinguishing sprinkler	268,970	Dec. 12	691	203	22	2025
Wilson, William H., Fall River, Mass. Family utensil	269,767	Dec. 26	1716	495	22	2226
Wilson, William S., assignor to J. Watson, Ayr, Ontario, Canada. Harvesting-machine	267,476	Nov. 14	660	189	22	1663
Wilton, Henry S., 261 Oxford Street, and B. S. Weston, 5 Parkholme Road, Dalston, county of Middlesex, England. Safety-fitting for saddles	264,592	Sept. 19	1071	304	22	982
Wiltse, Charles G., New York, N. Y. Potato-digger	267,959	Nov. 21	1244	{350 351}	22	1777
Wimer, William, Union City, Ind. Sash-balance	261,797	July 25	1806	509	22	322
Winans, Henry S. (See Perry, Edward L., assignor.)						
Winchester, Ebenezer, assignor of one-half to S. B. Clark, Rochester, Minn. Apparatus for separating cockle and seeds from wheat or other grain	261,193	July 18	1082	302	22	195
Winchester Repeating Arms Company. (See Barlow, John F., assignor.)						
Winchester Repeating Arms Company. (See Burns, Henry S., assignor.)						
Winckler, Otto. (See Jacobs, Armand M., assignor.)						
Wine, M. J. (See Baden, Thomas E., assignor.)						
Wine, M. J. (See Coombe and Roberts, assignors.)						
Wineburgh, Lazarus, New York, N. Y. Die for cutting stock for sheet-metal clasps	265,294	Oct. 3	76	24	22	1149
Winfree, Rubin. (See Taylor, Andrew W., assignor.)						
Wing, George, Faribault, Minn. Register-pin for printing-presses	267,123	Nov. 7	211	61	22	1577
Wing, John O. (See Vines, William H., assignor.)						
Wing, Levi J., New York, N. Y. Elevated railway	262,633	Aug. 15	1009	282	22	519
Wing, Spencer J. (See Murray, Craig, assignor.)						
Wingard, Adam, San Francisco, Cal. Propelling-cars	268,586	Dec. 5	231	65	22	1030
Winger, Elam B. and O. E., Freeport, Ill. Windmill	263,376	Aug. 29	1974	564	22	704
Winger, Hans H., assignor to O. Meyer, Chicago, Ill. Window-curtain cornice	260,439	July 4	114	33	22	20
Winger, Oswald E. (See Winger, Elam B. and O. E.)						
Winger, Oswald E., Freeport, Ill. Joint-coupling	265,550	Oct. 3	398	110	22	1203
Winghart, William J. (See Whiting and Winghart.)						
Winkler, Solomon, Canal Dover, Ohio. Dinner-bucket	261,506	July 18	1439	402	22	253
Winn, James H., Benicia, Cal. Harrow-frame	269,494	Dec. 19	1373	394	22	2154
Winn, Paul P., Statesville, N. C. Harness	264,396	Sept. 12	860	241	22	934
Winn, Philip J., Fork Union, Va. Gate-latch	260,723	July 4	481	130	22	82
Winn, Willis H., *et al.* (See Sheffield, George V., assignor.)						
Winslow, Robert G., assignor of one-half to O. W. Barrett, Chicago, Ill. Manufacturing slates	262,528	Aug. 8	862	244	22	489
Winsor, Henry O., Duxbury, Mass. Anti-friction bearing for pulley-blocks	264,989	Sept. 26	1564	439	22	1075
Winter, James P., Greenup, Ky. Fire-place attachment	264,990	Sept. 26	1565	439	22	1075
Winter, John G., Detroit, Mich. Gang circular-saw mill	261,645	July 25	1624	456	22	292
Winterbottom, William S., Newark, N. J. Tool-clamp	264,017	Sept. 5	433	119	22	849
Winters, John D., Davieville, Cal. Washing-machine	269,364	Dec. 19	1207	352	22	2122
Wints, James P., Charleston, W. Va. Tubular drill for boring Artesian wells	269,768	Dec. 26	1717	495	22	2226
Wires, Ephraim L., *et al.* (See Maynadier, James E., assignor.)						
Wires, Ephraim L., Milford, Mass. Shoe-nail	266,408	Oct. 24	1463	415	22	1407
Wirsching, Aloys, Brooklyn, N. Y. Printing-telegraph	265,353	Oct. 3	153	45, 46	22	1162
Wirt, Paul E., Bloomsburg, Pa. Fountain-pen	266,247	Oct. 17	1241	352	22	1359
Wise, Henry M., V. M. Stevens, and B. Chapman, Oskaloosa, Kans. Churn-power	261,798	July 25	1806	509	22	322
Wise, W. Ellis, Williamsport, Pa. Slate or blackboard cleaner	264,811	Sept. 19	1327	376	22	1029
Wise, William, Bay City, Mich. Valve for engines	269,148	Dec. 12	914	266	22	2063
Wiser, David, assignor of two-thirds to T. J. Hupp and L. G. Capron, Plymouth, Ind. Spark-arrester	264,501	Sept. 19	983	276	22	965
Wiser, Samuel C., Chicago, Ill. Stock-car	264,018	Sept. 5	433	119	22	849
Wisner, Fred, assignor to himself and J. M. Williams, Olean, N. Y. End-board for wagons	262,676	Aug. 15	1316	370	22	574
Witherell, William F., and B. H. Vary, Chicago, Ill. Machine for drying, cleaning, and calcining grain and other substances	268,587	Dec. 5	233	65	22	1030
Witherow, James P. (See Gordon, Fredrick W., assignor.)						
Withers, Addison L., Jr., Summit Point, W. Va. Combined railway chair and sleeper	260,724	July 4	483	131	22	82
Withey, John F., Lynn, Mass. Sewer-induct and its cover	263,448	Aug. 29	2065	591	22	720

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Withington & Cooley Manufacturing Company. (See Beebe, Calvin T., assignor.) (Reissue.)						
Withrow, Harrison. (See Morphew and Withrow.)						
Witsil, George L., assignor to S. G. Pape and A. Foulds, Philadelphia, Pa. Roller-skate	266,002	Oct. 17	953	270	22	1310
Witt, Daniel, Templeton, assignor of one-half to A. M. Holman, Baldwinsville, Mass. Car-coupling	268,163	Nov. 28	1498	418	22	1829
Witt, Otto N. (See Koechlin and Witt.)						
Witt, William H., Richland township, Fountain county, Ind. Plow attachment	267,630	Nov. 14	853	243	22	1697
Wittamer, Arthur, Antwerp, Belgium. Apparatus for the manufacture of illuminating-gas	261,507	July 18	1440	402	22	254
Witte, William, New Haven, Conn. Bent box	268,444	Dec. 5	87	27	22	1903
Wittich, Frederick A., Ashtabula, Ohio. Carriage-bow	266,409	Oct. 24	1464	416	22	1407
Wittich, Frederick A., C. R. Stanhope, and P. W. Strader, Ashtabula, Ohio. Carriage-bow	261,287	July 18	1187	332	22	211
Woeber, Amos, assignor of one-half to H. Varwig, Cincinnati, Ohio. Flying target	262,265	Aug. 8	560	156	22	436
Woeber, Amos, assignor of one-half to H. Varwig, Cincinnati, Ohio. Fulminate	269,769	Dec. 26	1718	.....	22	2226
Woerd, Charles V., Waltham, Mass. Lathe-cutter	268,339	Nov. 28	1712	476	22	1868
Woerd, Charles V., Waltham, Mass. Machine for roughing out pinions, arbors, and staffs for watches	268,340	Nov. 28	1713	476, 477	22	1868
Wolcott, Clayton, Hartford, Conn. Sash-fastener	263,082	Aug. 22	1566	442	22	629
Wolcott, Edward T., assignor to Z. G. Simmons, Kenosha, Wis. Wire mattress	267,631	Nov. 14	854	243	22	1697
Wolcott, John W., Clyde, Ohio. Kitchen-table	263,275	Aug. 22	1784	508	22	672
Wolcott, John W., Clyde, Ohio. Railway-time bulletin-board	267,632	Nov. 14	854	244	22	1697
Wolf, Alfred J. (See Stanton, John W., assignor.)						
Wolf, Alfred J. (See Stanton and Shibley, assignors.)						
Wolf, Josef. (See Müller and Wolf.)						
Wolf, David, Louisville, Ky. Dinner-pail	261,891	Aug. 1	78	22, 23	22	349
Wolf, Peter M., Coryell, Tex. Artificial leg	264,812	Sept. 19	1398	376	22	1029
Wolf, Theodore G., Scranton, Pa. Runner for casting steel ingots	267,960	Nov. 21	1246	351	22	1777
Wolfe, Edward W., assignor to Reading Iron Works, Reading, Pa. Mechanism for facilitating the introduction of tubes into furnaces	267,633	Nov. 14	855	244	22	1697
Wolfe, Edward W., assignor to Reading Iron Works, Reading, Pa. Machine for bending socket-blanks for tubes	267,634	Nov. 14	856	244, 245	22	1698
Wolfe, Edward W., and G. Schuhmann, assignors to Reading Iron Works, Reading, Pa. Mechanism for ejecting tubes from furnaces	267,635	Nov. 14	857	245	22	1698
Wolfe, H. (See Ackerman, Charles E., assignor.)						
Wolff, Arthur J., and A. E. Miltimore, Brownsville, Tex. Vehicle-wheel	268,341	Nov. 28	1715	477, 478	22	1869
Wolfkiel, Walter F. (See Tasker and Wolfkiel.)						
Wolle, Clarence A. (See Leinbach, Wolle, and Brunner.)						
Wollensak, John F., Chicago, Ill. Transom-lifter. (Reissue)	10,264	Dec. 26	1787	514	22	2239
Wöltge, William, Buffalo, N. Y. Instrument for treating piles	264,813	Sept. 19	1329	376	22	1029
Wood, Blanche, Syracuse, N. Y. Corset-fastening	265,354	Oct. 3	155	46	22	1163
Wood, Casper W., Bismarck, Ill. Machine for turfing fabrics	269,770	Dec. 26	1719	495, 496	22	2226
Wood, Charles H., Springfield, Mass. Parallel ruler	268,342	Nov. 28	1718	478	22	1869
Wood, E. E. (See Henchy and Feicker, assignors.)						
Wood, Edward G., assignor of one-half to R. Dixon, Kokomo, Ind. Gate	260,440	July 4	115	34	22	20
Wood, Edwin A., Utica, N. Y. Steam heater or radiator	262,715	Aug. 15	1104	313	22	537
Wood, Frank. (See Wood, William A., assignor.)						
Wood, Frederic, Morristown, N. J. Adjustable leg for furniture	269,365	Dec. 19	1208	352	22	2123
Wood, Frederic B., Providence, R. I. Button	261,892	Aug. 1	79	23	22	349
Wood, Frederick W., New York, N. Y. Anti-rattler for carriage-windows	263,276	Aug. 22	1785	509	22	672
Wood, George. (See Garvie and Wood.)						
Wood, George V., and W. L. Galloway, Smithville, Va. Inkstand	263,449	Aug. 29	2066	591	22	720
Wood, James B., Clear Lake, Iowa. Road-scraper	265,295	Oct. 3	79	24	22	1150
Wood, James J., Brooklyn, N. Y. Coupling for commutators and armature-wires	261,288	July 18	1188	332	22	212
Wood, James J., Brooklyn, assignor to Fuller Electrical Company, New York, N. Y. Electric lamp	261,289	July 18	1189	332, 333	22	212
Wood, James J., Brooklyn, assignor to Fuller Electrical Company, New York, N. Y. Electrical armature	262,529	Aug. 8	862	244	22	489
Wood, John and R., Leith, county of Mid-Lothian, Scotland. Rotating pulp-strainer	262,877	Aug. 15	1317	370	22	575
Wood, Loring, Greenfield, Mass. Wrench	268,344	Nov. 28	1721	479	22	1869
Wood, Lyman C., Wichita, Kans. Vehicle-spring	269,149	Dec. 12	915	267	22	2063
Wood, Martin B., Estillville, Va. Boot or shoe heel	261,414	July 18	1339	374	22	237
Wood Mowing and Reaping Machine Company, Walter A. (See Rosebrooks, John M., assignor.)						
Wood, Robert. (See Wood, John and R.)						
Wood, Stephen W., Cornwall, N. Y. Manufacture of tobacco	267,764	Nov. 21	1012	.....	22	1734
Wood, William A., assignor to F. Wood, Youngstown, Ohio. Harvester-rake	265,738	Oct. 10	626	177	22	1247
Wood, William A., assignor to F. Wood, Youngstown, Ohio. Rake and reel for harvesters	265,739	Oct. 10	627	178	22	1247
Wood, William B., Bowling Green, Ky. Safety-bridge for locomotives	262,548	Aug. 8	892	252	22	494
Wood, William C. (See Borden, Spencer, assignor.)						
Wood, William C., New York, N. Y. Spinning-top	265,355	Oct. 3	156	46	22	1163
Wood, William C., New York, N. Y. Thill-support	266,410	Oct. 24	1465	416	22	1407
Wood, William C., Washington, D. C., assignor to National Rubber Company, Bristol, R. I. Life-preserving cushion	264,814	Sept. 19	1329	376	22	1029
Wood, William H., New York, N. Y. Dredging-bucket	268,345	Nov. 28	1721	479	22	1870
Wood, William H., and G. Richmond, Brooklyn, N. Y. Refrigerating and ice machine	268,347	Nov. 28	1724	479, 480, 481	22	1870
Wood, William H., and G. Richmond, Brooklyn, N. Y. Gas-pump for refrigerating and ice machines	268,348	Nov. 28	1734	482	22	1872
Wood, William H., and G. Richmond, Brooklyn, N. Y. Condense-water cooler for refrigerating and ice machines	268,349	Nov. 28	1735	482	22	1872
Woodard, Alvin N., Millington, Mich. Wagon-jack	260,917	July 11	715	195	22	126
Woodard, Amoretta, Indianapolis, Ind. Corset	266,335	Oct. 24	1375	388	22	1390
Woodbridge, James E., assignor to himself and F. N. Gardner, Hartford, Conn. Metal-turning tool	262,878	Aug. 15	1318	370	22	575
Woodbury, Edward J., and J. Le Veque, Rochester, N. Y. Device for keeping tobacco moist	268,588	Dec. 5	235	66	22	1931
Woodbury, George E. (See Smith, Sanders, and Woodbury.)						
Woodbury, John H., Mulberry Grove, Kans. Washing-machine	265,910	Oct. 10	821	234	22	1282
Woodbury, Seth H., Lynn, Mass. Sole-molding machine	268,589	Dec. 5	236	66	22	1931
Woodbury, Walter B., London, county of Middlesex, England. Producing flexible supports for photographic reliefs	263,277	Aug. 22	1786	.....	22	672
Woodford, Charles W., Essex, N. Y., assignor to Essex Horse Nail Company, (limited,) of New York. Machine for forging horseshoe-nails	264,019	Sept. 5	434	119	22	849
Woodham, Augustus F., Minneapolis, Minn. Ice-velocipede	266,945	Oct. 31	2060	599	22	1526
Woodhill, John, Cleveland, Ohio. Iron picket-fence	262,879	Aug. 15	1319	371	22	575
Woodrow, William C., and J. W. Henderson, Lynchburg, Ohio. Stamp canceling and registering machine	267,301	Nov. 7	424	123	22	1616
Woodruff Brothers. (See Sylvester, Philip L., assignor.)						
Woodruff, Eliza M. (See Woodruff, Theodore T., assignor.)						
Woodruff, George H., *et al.* (See Blodgett, George W. and A. D., assignors.)						
Woodruff, Herbert, and G. Barson, Sheffield, England. Apparatus for making springs	268,164	Nov. 28	1500	418	22	1829
Woodruff, M. N., *et al.* (See Pearce, William, assignor.)						
Woodruff, Merritt V., *et al.* (See Pearce, William, assignor.)						
Woodruff, O. F. (See Graves, Ephraim H., assignor.)						
Woodruff, Theodore T., assignor to E. M. Woodruff, Philadelphia, Pa. Surveying-instrument	263,278	Aug. 22	1788	509	22	672
Woodruff, Theodore T., assignor to E. M. Woodruff, Philadelphia, Pa. Steam-plow	263,279	Aug. 22	1789	509, 510	22	672
Woods, Daniel W., St. Louis, Mo. Car-coupling	260,725	July 4	484	131	22	82
Woods, Daniel W., St. Louis, Mo. Car-coupling	262,880	Aug. 15	1320	371	22	575
Woods, Isaiah W., Ritchie Court-House, W. Va. Nail-extractor	268,343	Nov. 28	1720	478	22	1869
Woods, Sherwood & Co. (See Dudley, George D., assignor.)						
Woodward, Anderson, assignor of one-half to O. V. Porter, Cameron, Ill. Corn-planter	269,150	Dec. 12	915	267	22	2063
Woodward, Charles E. W., Cambridge, Mass. Treating india-rubber	260,441	July 4	116	.....	22	21
Woodward, Charles W. (See Welsh and Woodward.)						
Woodward, Frank R., Hill, N. H. Adjustable eyeglass	261,799	July 25	1807	510	22	322
Woodward, George W., Brooklyn, N. Y. Suspension-hook	267,656	Nov. 14	862	252	22	1702
Woodward, Michael L., Baltimore, Md. Stair-rod securer	268,165	Nov. 28	1501	418	22	1829
Woodward, T. Trask, assignor to W. L. Furgerson and A. E. Kinney, Decatur, Ill. Fluid or vapor stove	263,007	Aug. 22	1482	417	22	614
Woodward, Thomas C., New York, N. Y., and C. M. Fairbanks, Hartford, Conn., assignors to E. A. Wilkinson, Newark, N. J. Sewing-machine	268,346	Nov. 28	1722	479	22	1870
Woodward, Thomas C., New York, N. Y., assignor to E. A. Wilkinson, trustee, Newark, N. J. Sewing-machine	268,763	Dec. 5	431	126	22	1969
Woodward, Thomas C., New York, N. Y. Sewing-machine	268,764	Dec. 5	432	126	22	1969
Woodward, Vestal W., Indianapolis, Ind. Combined desk and chair	264,397	Sept. 12	860	241	22	934
Woodworth, Laurin D. (See Lane and Woodworth.)						
Woodworth, Orson H., Columbia City, Ind. Clock-alarm	260,514	July 4	214	60	22	36
Woodworth, Silas F., Newcastle, Cal. Plow	262,716	Aug. 15	1106	313	22	538
Wooley, Charles D., Walden, N. Y. Steam-engine	266,946	Oct. 31	2081	599	22	1526
Woolfenden, Frederick, and H. L. O'Brien, Detroit, Mich. Mantel and front	269,772	Dec. 26	1723	497	22	2227
Woolfolk, Lucien B., Tracy, Minn. Refrigerating apparatus	269,771	Dec. 26	1721	496	22	2227
Woolley, Leonidas G., Mendon, Mich. Electric-arc lamp	269,151	Dec. 12	916	267	22	2063
Woolsey, Alanson, Adrian, Mich. Road-scraper	267,815	Nov. 21	1079	302	22	1746
Woolson, Egbert, Brooklyn, N. Y. Rivet-joint	264,502	Sept. 19	984	276	22	965
Woolson, Egbert, Brooklyn, N. Y. Belt-gearing	267,391	Nov. 14	557	150	22	1643
Woolson, Orosco C., Newark, N. J. Car-brake	263,083	Aug. 22	1567	443	22	630
Woolworth, James, and W. F. Cowles, St. Mary's, Ohio. Wood stirrup	267,961	Nov. 21	1246	351	22	1778
Wootten, John E., Philadelphia, Pa. Nut-lock	262,193	Aug. 1	470	131	22	414
Worcester Barb Fence Company. (See Elsey, George, assignor.)						
Worden, Alva, Ypsilanti, Mich. Whip-socket	263,084	Aug. 22	1570	443	22	630
Worrall, James, Ordsall, Salford, county of Lancaster, and J. Kershaw, Wadsworth, Halifax, county of York, England. Apparatus for scouring, dyeing, and washing piece-goods	266,248	Oct. 17	1242	352, 353	22	1359
Worthen, William E., New York, N. Y. Trap for water-waste detectors	262,549	Aug. 8	893	253	22	494
Worthen, William E., New York, N. Y. Valve for pumps	263,377	Aug. 29	1977	564	22	704
Worthen, William E., New York, N. Y. Steam pumping machinery. (Reissue)	10,255	Dec. 5	449	132	22	1973
Worthington, Charles C., New York, N. Y. Registering mechanism for water-meters	269,366	Dec. 19	1208	352	22	2123
Wren, Christopher, Plymouth, Pa. Drill-support	263,008	Aug. 22	1483	417	22	614
Wren, Christopher, Plymouth, Pa. Drilling-machine	263,742	Sept. 5	86	96	22	790
Wrenn, Aurelius, *et al.* (See Whitehurst, Robert W., assignor.)						
Wrenn, McDonald L., *et al.* (See Whitehurst, Robert W., assignor.)						
Wright, Darwin S., Macon, Ga. Mechanical fan	267,636	Nov. 14	859	246	22	1698
Wright, Eber B. C., Charles City, Iowa. Medical compound for rheumatism, &c	266,573	Oct. 24	1635	.....	22	1438
Wright, Ellery C., Campello, Mass. Shoe-last	262,266	Aug. 8	561	157	22	436
Wright, Frank, and M. W. W. Mackie, Gray's Inn Road, county of Middlesex, England. Apparatus for blowing and shaping glass	267,902	Nov. 21	1247	351	22	1778
Wright, Heloise E., and E. Engeln, Cincinnati, Ohio. Ironing-board	269,495	Dec. 19	1373	395	22	2154
Wright, Henry R., Albany, N. Y. Manufacture of artificial butter	267,637	Nov. 14	860	.....	22	1698
Wright, Jacob D., assignor to Wright Machine Company, Worcester, Mass. Mechanical movement	267,638	Nov. 14	861	246	22	1699
Wright, John. (See Buell and Wright.)						
Wright, John E., Baraboo, Wis. Balanced valve	264,503	Sept. 19	985	277	22	965
Wright, Joseph H., New York, N. Y. Automatic pencil-holder	264,593	Sept. 19	1072	304	22	982
Wright, Luther A. (See Oakman, Samuel, assignor.)						
Wright Machine Company. (See Wright, Jacob D., assignor.)						
Wright, Milton, Fort Valley, Ga. Brick-machine	264,398	Sept. 12	861	241	22	934
Wright, Octavine A., Chicago, Ill. Wall-paper exhibitor	263,378	Aug. 29	1978	564	22	705
Wright, Palmer C., New Haven, Conn. Carpet-sweeper	264,399	Sept. 12	862	242	22	934
Wright, Theodore G. (See Corban and Wright.)						
Wright, William, Plymouth, county of Devon, England. Flush-cistern	263,450	Aug. 29	2067	592	22	720
Wrightson, Arthur, assignor of one-half to C. Shirtcliff, Philadelphia, Pa. Knitting-machine	261,508	July 18	1442	403	22	254
Wrightson, Thomas S. (See Wrightson, William W., assignor.)						
Wrightson, William W., assignor of one-half to T. S. Wrightson, Baltimore, Md. Submarine telescope	260,726	July 4	485	131	22	82
Write, John M. (See Dover, Samuel B., assignor.)						
Wurst, Charles C., St. Louis, Mo., assignor of one-half to M. Moosmann, New Orleans, La. Toy	265,207	Sept. 26	1815	510	22	1120
Wurtz, Henry, assignor, by mesne assignments, to Union Chemical Manufacturing Company, New York, N. Y. Apparatus for dry destructive distillation	261,893	Aug. 1	80	23	22	349
Wyke, Thomas H., and J. Bancroft, Boston, Mass. Flying velocipede	261,290	July 18	1193	333	22	212
Wylly, Lewis C., Patterson, Ga. Trolling-spoon	261,194	July 18	1083	302	22	195
Wyman, Charles A., San José, Cal. Gate	267,765	Nov. 21	1014	284	22	1734
Wyman, Horace. (See Crompton and Wyman.)						
Wyman, Horace, Worcester, Mass. Mechanical movement	264,504	Sept. 19	1073	304	22	982

Alphabetical list of patentees, July to December, inclusive—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Wyman, Horace, Worcester, Mass. Mechanical movement	264,595	Sept. 19	1075	305	22	982
Wysong, Adolphus, Lebanon, Ind. Shot-case	262,881	Aug. 15	1321	371	22	575
Wythe, William W., Red Bank, N. J. Hoisting-gear	262,068	Nov. 28	1382	387	22	1807
Yakel, Levi, assignor to S. K. Duff, Allegheny, Pa. Lifting-jack	264,020	Sept. 5	435	119	22	849
Yale Lock Manufacturing Company. (See Capen, Thomas W., assignor.)						
Yale Lock Manufacturing Company. (See See, James W., assignor.)						
Yale Lock Manufacturing Company. (See Stockwell, Emory, assignor.)						
Yale Lock Manufacturing Company. (See Taylor, Warren H., assignor.)						
Yarwood, Matthew C., *et al.* (See Bean, Charles E., assignor.)						
Yaryan, Homer T., assignor to himself and E. E. Dwight, Toledo, Ohio. Hydrocarbon-burner	262,170	Aug. 1	437	121	22	408
Yates, Alfred, Cambridge, Mass. Burning brick	264,117	Sept. 12	554	151	22	879
Yates, Alfred, Cambridge, Mass. Brick-kiln	264,118	Sept. 12	555	151 to 152	22	879
Yawman, Philip H., Rochester, N. Y. Microscope	262,634	Aug. 15	1010	283	22	519
Yeman, James R., assignor of one-third to S. T. Sharp, Seneca Falls, N. Y. Automatic treadle for sewing-machines	263,644	Aug. 29	2291	654	22	761
Yerbury, Alfred G., Chicago, Ill. Ironing-machine	260,727	July 4	486	131 to 132	22	82
Yingling, Noah B., Seven Mile, Ohio. Tire for traction-wheels	264,051	Sept. 5	475	129	22	856
Yoakam, David A., Windham, assignor to himself and J. Yoakam, Washington township, Johnson county, Iowa. Corn-planter	265,911	Oct. 10	821	234	22	1282
Yoakam, Joseph. (See Yoakam, David A., assignor.)						
Yoch, Benhard, Belleville, Ill. Mining-machine	263,645	Aug. 29	2291	654	22	761
Yoch, Benhard, St. Louis, Mo. Air-compressor	263,646	Aug. 29	2294	655	22	761
Yoch, Benhard, St. Louis, Mo. Traction-engine	269,496	Dec. 19	1374	395	22	2154
Yocum, Harry C. (See Kacer and Yocum.)						
York, Martin V., Sherman, Tex. Hand sawing-machine	268,590	Dec. 5	237	66	22	1931
York, Peter, Geneva, and G. V. Uhl, Bellona, N. Y. Addressing-machine	264,916	Sept. 26	1473	414	22	1059
Young, Albert A., Boston, Mass., assignor to Miller Berth and Life Saving Mattrass Company, Nashua, N. H. Self-leveling berth	264,052	Sept. 5	476	129	22	856
Young, Alexander J., Atlanta, Ga. Signal-lantern	262,194	Aug. 1	471	131	22	414
Young, Augustus R., Stillwater, Minn. Feed-water heater	264,400	Sept. 12	863	242	22	935
Young, Charles A., Sidney, Nebr. Lifting-jack	262,717	Aug. 15	1107	314	22	538
Young, Charles A., assignor of one-half to D. B. Davis, Sterling, Colo. Wind-engine	266,667	Oct. 31	1751	505	22	1465
Young, Charles M., Lockport, N. Y. Device for hanging Venetian blinds	264,053	Sept. 5	477	130	22	857
Young, Daniel S., Monroe, Wis. Gate	267,639	Nov. 14	863	246	22	1699
Young, David, London, England. Float-valve	267,736	Nov. 21	983	277	22	1729
Young, David, London, England. Speed indicator and register	268,350	Nov. 28	1736	482	22	1872
Young, Edward F. C., receiver. (See Dougherty, George H., assignor.)						
Young, Frank W., Santa Rosa, Cal., assignor to K. S. Evans, Springfield, Ohio. Seed-dropper. (Reissue)	10,196	Sept. 12	894	251	22	941
Young, Frank W., Santa Rosa, Cal., assignor to K. S. Evans, Springfield, Ohio. Seed-dropper. (Reissue)	10,197	Sept. 12	896	251	22	941
Young, George S., Blackwall, county of Middlesex, and R. J. Hatton, Stratford, county of Essex, England. Electric-arc lamp	262,718	Aug. 15	1110	314	22	538
Young, John M., Baldwinsville, N. Y. Manufacture of metallic rakes	267,640	Nov. 14	864	246	22	1699
Young, Richard D., New York, N. Y. Toilet-stand	265,208	Sept. 26	1816	511	22	1121
Young, Wesley, Columbus, Ohio. Machine for attaching wires to hedge and other fences	263,280	Aug. 22	1794	510	22	673
Young, William E., *et al.* (See Jenkins, David, assignor.)						
Young, William F., and C. R. Drake, Chicago, Ill. Machine for cutting beveled and miter joints	265,356	Oct. 3	156	47	22	1163
Yule, George, Newark, N. J., and G. Atherton, Stockport, county of Chester, England. Method of and apparatus for forming and sticking napping-bats	260,918	July 11	715	196	22	126
Zacherl, Johann, Döbling, near Vienna, Austria-Hungary. Carpet-cleaning machine	262,530	Aug. 8	864	244 to 245	22	489
Zaehringer, William, New Orleans, La. Pool-player's portable position-register	260,442	July 4	117	34	22	21
Zaehringer, William, New Orleans, La. Car-coupling	268,766	Dec. 5	433	127	22	1970
Zalinski, Edmund L., U. S. Army. Manufacture of imitation-bullion cap-ornaments	267,816	Nov. 21	1080	302	22	1746
Zane, Andrew, Jr., *et al.* (See Sparks, Lewis C., assignor.)						
Zane, Charles, *et al.* (See Sparks, Lewis C., assignor.)						
Zeese & Co., A. (See Letz, Charles M., assignor.)						
Zehner, Peter, Mifflin, Ohio. Car-coupling	262,550	Aug. 8	894	253	22	494
Zeigler, Lyman H., assignor to himself and J. A. Horn, Redkey, Ind. Fire-engine	268,295	Nov. 28	1663	461	22	1859
Zeitser Eisengiesserei and Maschinenbau Actiengesellschaft. (See Schaede, Herrmann, assignor.)						
Zell, Robert R., Baltimore, Md. Boiler-furnace and attachment	266,249	Oct. 17	1244	353	22	1359
Zeller, J. J. A., *et al.* (See Hinds, Carlos W., assignor.)						
Zeller, Melancthon E., Bluffton, Ohio, assignor to O. B. North & Co., New Haven, Conn. Trace-carrier	266,574	Oct. 24	1635	465	22	1438
Zeller, Melancthon E., Bluffton, Ohio, assignor to O. B. North & Co., New Haven, Conn. Gag-runner	266,575	Oct. 24	1636	466	22	1438
Zellweger, John, Chicago, Ill. Limekiln	265,479	Oct. 3	295	88	22	1188
Zelner, Charles, New York, N. Y. Reversible feed mechanism for sewing-machines	267,124	Nov. 7	211	61	22	1578
Zerfas, Joseph, assignor to himself and A. Berger, New York, N. Y. Locking-latch	266,947	Oct. 31	2082	600	22	1527
Ziegler, Peter W., Cannstadt, Würtemberg, Germany. Clasp for corset-stiffeners	269,367	Dec. 19	1210	353	22	2123
Zimmer, Christian, Richmond, Va. Refrigerator	267,963	Nov. 21	1248	352	22	1778
Zimmer, Jacob, assignor of one-half to A. S. Patten, Binghamton, N. Y. Meat-tenderer	266,576	Oct. 24	1636	466	22	1438
Zimmerling, August F., Milwaukee, Wis. Combined smoothing, fluting, and polishing iron	269,368	Dec. 19	1211	353	22	2123
Zimmerman, Arnold W., Swissvale, Pa. Car-axle box	267,050	Nov. 7	110	32	22	1559
Zinn, Simon. (See Messer, Louis, assignor.)						
Zoller, Albert, New York, N. Y. Cooler for beer and other liquids	260,630	July 4	354	95	22	60
Zollicoffer, Marion E., Weldon, N. C. Lamp-chimney protector	263,743	Sept. 5	87	26	22	791
Zook, Jacob B. (See Cornell, Zook, and Cornell.)						
Zschech, Gustavus H., Indianapolis, Ind. Bearing for circular-saw shafts	262,551	Aug. 8	894	253	22	495
Zschech, Gustavus H., Indianapolis, Ind. Saw-mill feed mechanism	266,003	Oct. 17	955	271	22	1310
Zschech, Gustavus H. (See Dollens and Zschech.)						
Zschech, Gustavus H., Indianapolis, Ind. Belt-tightener	269,369	Dec. 19	1213	353	22	2123
Zschech, Gustavus H., assignor to A. Gall, Indianapolis, Ind. Machine for harvesting corn	269,553	Dec. 26	1445	417	22	2174
Zucker & Levett Chemical Company. (See Levett, Alexander, assignor.)						
Zündorff, John, New York, N. Y. Parlor-rifle	269,152	Dec. 12	918	267	22	2063
Zwietusch, Otto. (See Fringe, Charles H., assignor.)						

ALPHABETICAL LIST OF PATENTEES OF DESIGNS.

Name, residence, and design.	No.	Date.	Official Gazette. Volume.	Official Gazette. Page.
Abbott, Theodore, assignor to J. C. Graham, Philadelphia, Pa. Fringe	13,068 to 13,070	July 25	22	263
Allen, Frank, assignor to M. J. Whittall, Worcester, Mass. Carpet	13,035 to 13,038	July 18	22	179
Allen, Frank, assignor to M. J. Whittall, Worcester, Mass. Carpet	13,264 to 13,265	Aug. 22	22	500
Allen, Frank, Worcester, Mass., assignor to Horner Brothers, Philadelphia, Pa. Carpet	13,100	Aug. 1	22	333
Allen, Rose L., Howard, Pa. Hanging vase	13,297	Sept. 19	22	948
Allinson, William, assignor to Horner Brothers, Philadelphia, Pa. Carpet	13,039	July 18	22	179
Ansonia Rubber Company. (See Stepp, John P., assignor.)				
Anthony, Edgar W., Boston, Mass. Heating-stove	13,019	July 4	22	1
Anthony, Edgar W., Boston, Mass. Heating-stove	13,324	Oct. 3	22	1135
Anthony, Edgar W., Boston, Mass., and T. J. Gould, Providence, R. I., assignors to Smith & Anthony Stove Company, Boston, Mass. Heating-stove	13,172	Aug. 15	22	501
Barnhart, Alson E., *et al.* (See Heyer, Charles E., assignor.)				
Barnhart, Arthur M., *et al.* (See Heyer, Charles E., assignor.)				
Bascom, H. Clay, Troy, and T. S. Heister, Lansingburg, N. Y., assignors to Florence Machine Company, Florence, Mass. Oil-stove	13,071	July 25	22	263
Bascom, H. Clay, Troy, and T. S. Heister, Lansingburg, assignors to N. S. Vedder Pattern Works, Bascom, Galbraith & Co., Troy, N. Y. Stove	13,454	Nov. 28	22	1789
Bascom, H. Clay, Troy, and T. S. Heister, Lansingburg, assignors to N. S. Vedder Pattern Works, Bascom, Galbraith & Co., Troy, N. Y. Cook-stove	13,455	Nov. 28	22	1789
Bascom, H. Clay, Troy, and T. S. Heister, Lansingburg, assignors to N. S. Vedder Pattern Works, Bascom, Galbraith & Co., Troy, N. Y. Stove or range	13,456	Nov. 28	22	1789
Bawa, Francis H., *et al.* (See Redon, Marcel, assignor.)				
Beazer, Joseph, Stourport, county of Worcester, England, assignor to M. J. Whittall, Worcester, Mass. Carpet	13,137 to 13,138	Aug. 8	22	421
Beeler, Charles H., Jr., assignor to MacKellar, Smiths & Jordan, Philadelphia, Pa. Printing-type	13,072	July 25	22	263
Beeler, Charles H., Jr., assignor to MacKellar, Smiths & Jordan, Philadelphia, Pa. Font of printing-type	13,474	Dec. 12	22	1980
Benham, Darius, and X. Stoutenborough, New York, N. Y. Crumb-pan	13,479	Dec. 19	22	2073
Bigelow Carpet Company. (See Halliday, Arthur L., assignor.)				
Bigelow Carpet Company. (See McCallum, William, assignor.)				
Bosshardt, Henry, assignor to Kursheedt Manufacturing Company, New York, N. Y. Embroidery	13,393	Nov. 7	22	1539
Bossbardt, Henry, assignor to Kursheedt Manufacturing Company, New York, N. Y. Embroidery	13,438	Nov. 21	22	1711
Bowers, James, Newark, N. J. Corset	13,173	Aug. 15	22	501
Brill, Henry C., assignor to Southington Cutlery Company, Southington, Conn. Curry-comb	13,099	Aug. 1	22	333
Brill, Henry C., assignor to Southington Cutlery Company, Southington, Conn. Curry-comb	13,457	Nov. 28	22	1789
Bromley, Jas. & Geo. D. (See Righter, Charles A., assignor.)				
Brown, Joseph K., Beaver Falls, Pa. Glassware	13,020	July 4	22	1
Brueck, Gustav, New York, N. Y. Card-cover	13,040	July 18	22	179
Bryce, James M., Beverly, N. J. Printed fabric	13,073 to 13,076	July 25	22	263
Buck, Frank R., Philadelphia, Pa. Card-receiver	13,268	Aug. 22	22	500
Buckeye Glass Company. (See Ewing, William L., assignor.)				
Buckwalter & Co. (See Calely, Edward L., assignor.)				
Buermann, August, Newark, N. J. Bridle-bit	13,458	Nov. 28	22	1789
Buermann, August, Newark, N. J. Bridle-bit pattern	13,459	Nov. 28	22	1789
Burgess, Edward T., Corning, N. Y. Glassware	13,041 to 13,043	July 18	22	179
Burk, George W. (See Burk, William B. and G. W.)				
Burk, William B. and G. W., Philadelphia, Pa. Sponge-basket	13,139	Aug. 8	22	421
Butler, Orlando W., and T. W. Kelley, Brooklyn, N. Y. Card or circular	13,464	Dec. 5	22	1885
Calely, Edward L., Philadelphia, assignor to Buckwalter & Co., Royer's Ford, Pa. Stove	13,342 to 13,343	Oct. 24	22	1369
Campbell, John, London, England, assignor to Horner Brothers, Philadelphia, Pa. Carpet	13,266	Aug. 22	22	500
Carpenter, Edwin P., Worcester, Mass. Organ-case	13,344	Oct. 24	22	1369
Cass, Fredrick G., Cambridgeport, Mass. Cake or biscuit	13,140	Aug. 8	22	421
Chalfant, Isaac P., Philadelphia, Pa. Toy shovel	13,141	Aug. 8	22	421
Christesen, Rodolphe, assignor to Russell & Erwin Manufacturing Company, New Britain, Conn. Fire-iron stand	13,101	Aug. 1	22	333
Christie, Frazer, assignor to W. Stewart's Sons, Philadelphia, Pa. Turcoman	13,269 to 13,271	Aug. 29	22	685
Christie, Hugh, Boston, assignor to Lowell Manufacturing Company, Lowell, Mass. Carpet	13,174	Aug. 15	22	501
Clarkson, Samuel, *et al.* (See Wright, Gardiner H., assignor.)				
Clench, Frank B., Lockport, N. Y. Photographic card	13,330	Oct. 10	22	1209
Clench, Frank B., Lockport, N. Y. Photographic mount or card	13,465	Dec. 5	22	1885
Cohn, Moritz. (See Hilborn, Julius, assignor.)				
Collins, Liv. G., Chicago, Ill. Wall ornament	13,439	Nov. 21	22	1711
Conner, James M., New York, N. Y. Font of printing-type	13,313	Sept. 26	22	1041
Converse, Alfred C., *et al.* (See Phinney, Joseph W., assignor.)				
Cook, Alfred, Lynn, Mass. Shoe	13,077	July 25	22	263
Corrigan, John F., New Bedford, Mass. Bottle	13,175	Aug. 15	22	501
Cox, Charles C., Arlington, Mass. Bracket	13,169	Aug. 8	22	422

Alphabetical list of patentees of designs, July to December, inclusive—Continued.

Name, residence, and design.	No.	Date.	Official Gazette. Vol.	Page.
Crane, Breed & Co. (See McComas, William R., assignor.)				
Crane & Breed Manufacturing Company. (See McComas, William R., assignor.)				
Crosby, George S., Bridgeport, Conn. Toy money-bank	13,298	Sept. 19	22	948
Crowe, Eugene A., Boston, assignor to Lowell Manufacturing Company, Lowell, Mass. Carpet	13,102 to 13,106	Aug. 1	22	333
Crowe, Eugene A., Boston, assignor to Lowell Manufacturing Company, Lowell, Mass. Carpet	13,481 to 13,488	Dec. 26	22	2161
Curry, William H., Baltimore, Md. Souvenir	13,044	July 18	22	179
Davidson Brothers. (See Heeley, James L., assignor.)				
Davidson, Salomon, New York, N. Y. Chain-link	13,045 to 13,047	July 18	22	179
Davidson, Salomon, New York, N. Y. Chain-link	13,078	July 25	22	263
Davidson, Salomon, New York, N. Y. Ornamental chain	13,177	Aug. 15	22	501
Davies, Henry J., Brooklyn, N. Y. Clock-case	13,142	Aug. 8	22	421
Davis, David L., Brooklyn, N. Y. Stationery	13,312	Sept. 19	22	948
Davis, Lewis B., Indianapolis, Ind. Coffin-emblem	13,107	Aug. 1	22	333
Deknatel, John A., Brooklyn, N. Y. Button	13,024 to 13,028	July 11	22	89
Deknatel, John A., Brooklyn, N. Y. Button	13,048	July 18	22	179
Deknatel, John A., Brooklyn, N. Y. Button	13,176	Aug. 15	22	501
Demuth, William, New York, N. Y. Pipe month-piece	13,029	July 11	22	89
Demuth, William, New York, N. Y. Pipe month-piece	13,049 to 13,050	July 18	22	179
Dimier, Francis, assignor to T. B. Starr, New York, N. Y. Spoon and fork handle	13,143	Aug. 8	22	421
Dolbey, William S., Brooklyn, N. Y. Finger-ring	13,370	Oct. 31	22	1449
Donzel, Anthony, assignor to J. C. Graham, Philadelphia, Pa. Fringe	13,079	July 25	22	263
Dornan Brothers & Co. (See Righter, Oscar, assignor.)				
Dotter, Charles T., *et al.* (See Redon, Marcel, assignor.)				
Dresser, Theodore P., Medford, Mass. Knitted goods	13,327	Oct. 3	22	1135
Dunlap, Robert, New York, N. Y. Hat-lining	13,371 to 13,372	Oct. 31	22	1449
Eberhard, John G., Akron, Ohio. Hame	13,281	Sept. 5	22	773
Ellison, Wm. P., *et al.* (See Wright, Gardiner H., assignor.)				
Etzensperger, John, North Attleborough, Mass. Ornamental chain	13,030	July 11	22	89
Ewing, William L., Wheeling, W. Va., assignor to Buckeye Glass Company, Martin's Ferry, Ohio. Oil-burning lamp	13,394	Nov. 7	22	1539
Fair Hill Manufacturing Company. (See Kehrenberg, Henry A., assignor.)				
Fa'rchild, Le Roy W., New York, N. Y. Pencil-case	13,021	July 4	22	1
Fajon, Etienne, assignor to Roxbury Carpet Company, Boston, Mass. Carpet	13,345	Oct. 24	22	1369
Fajon, Etienne, assignor to Roxbury Carpet Company, Boston, Mass. Carpet	13,460	Nov. 28	22	1789
Fajon, Etienne, assignor to Roxbury Carpet Company, Boston, Mass. Carpet	13,489	Dec. 26	22	2161
Fisher, Edwin, Boston, assignor to Lowell Manufacturing Company, Lowell, Mass. Carpet	13,108 to 13,109	Aug. 1	22	333
Fisher, Edwin, Boston, assignor to Lowell Manufacturing Company, Lowell, Mass. Carpet	13,490 to 13,495	Dec. 26	22	2161
Fisher, John, New York, N. Y., assignor to Lowell Manufacturing Company, Lowell, Mass. Carpet	13,110	Aug. 1	22	333
Fisk, Clark & Flagg. (See Flagg, Thomas J., assignor.)				
Fisk, Clark & Flagg. (See Heath, Henry, assignor.)				
Fitch, Ezra C., New York, N. Y. Watch-pendant	13,051	July 18	22	179
Flagg, Thomas J., assignor to Fisk, Clark & Flagg, New York, N. Y. Scarf-shield	13,267	Aug. 22	22	590
Flentke, Harrison & Co. (See Gamble, Harrison, and Lee, assignors.)				
Flesh, Arnold, New York, N. Y. Button	13,256	Aug. 22	22	590
Florence Machine Company. (See Bascom and Heister, assignors.)				
Flynn, James H., and J. A. Snell, Schenectady, N. Y. Whisk-broom case	13,466 to 13,468	Dec. 5	22	1885
Folsom, James L., Brooklyn, N. Y., assignor to Hartford Carpet Company, Hartford, Conn. Carpet	13,201 to 13,248	Aug. 22	22	589 590
Force, Herman, Montrose, N. Y. Shelf-cover	13,331	Oct. 10	22	1209
Franzheim, Charles W. (See Pearson and Franzheim.)				
Fuchs, Gustav, Chicago, Ill. Cigar-lighter	13,337	Oct. 17	22	1295
Gadsby, Walter J., assignor to Roxbury Carpet Company, Boston, Mass. Carpet	13,111	Aug. 1	22	333
Gadsby, Walter J., assignor to Roxbury Carpet Company, Boston, Mass. Carpet	13,249	Aug. 22	22	590
Gamble, John E., W. Harrison, and A. R. Lee; said Lee assignor to Flentke, Harrison & Co., East Liverpool, Ohio. Roasting and baking dish	13,496	Dec. 26	22	2161
Garre, Samuel, Brooklyn, assignor to Olpacker Brothers, New York, N. Y. Fancy card	13,170	Aug. 8	22	422
Gately, Michael R., Boston, Mass. Book-clasp	13,250	Aug. 22	22	590
Gildea & Walker. (See Slater, John, assignor.)				
Gill, George, assignor to Rogers & Brittin Silver Company, Bridgeport, Conn. Spoon or fork handle	13,178	Aug. 15	22	501
Gillespie, Charles H. (See Moodie, Elhanan L., assignor.)				
Glen, John, Brooklyn, N. Y. Printed fabric	13,080 to 13,084	July 25	22	263
Glen, John, Brooklyn, N. Y. Printed fabric	13,112	Aug. 1	22	333
Glen, John, Brooklyn, N. Y. Printed fabric	13,145 13,146	Aug. 8	22	421
Glen, John, Brooklyn, N. Y. Printed fabric	13,346 to 13,357	Oct. 24	22	1370
Goucher, George E., assignor to J. C. Graham, Philadelphia, Pa. Fringe	13,085 13,086	July 25	22	263
Goucher, George E., assignor to J. C. Graham, Philadelphia, Pa. Fringe	13,113	Aug. 1	22	333
Gould, Thomas J. (See Anthony and Gould.)				
Graef, Charles H., Edgewater, N. Y. Comb	13,179	Aug. 15	22	501
Graham, John, Chicago, Ill., assignor to MacKellar, Smiths & Jordan, Philadelphia, Pa. Font of printing-type	13,475	Dec. 12	22	1980

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Graham, John C. (See Abbott, Theodore, assignor.)				
Graham, John C. (See Donzel, Anthony, assignor.)				
Graham, John C. (See Goucher, George E., assignor.)				
Graham, John C. (See McDonald, Laurence J., assignor.)				
Graham, John C. (See Reuter, Frederick, assignor.)				
Graham, John C., Philadelphia, Pa. Fringe	13,087	July 25	22	263
Griebel, Herman, assignor to T. A. Kochs, Chicago, Ill. Shaving-mug	13,403	Nov. 14	22	1626
Haas, Jacob L., assignor to Wemple & Co., New York, N. Y. Holder for cigarette-papers	13,395	Nov. 7	22	1540
Halliday, Arthur L., Yonkers, N. Y., assignor to Bigelow Carpet Company, Clinton, Mass. Carpet.	13,088 13,089	July 25	22	264
Halliday, Arthur L., Yonkers, N. Y., assignor to Bigelow Carpet Company, Clinton, Mass. Carpet.	13,251 to 13,253	Aug. 22	22	590
Halliday, Arthur L., New York, N. Y., assignor to Bigelow Carpet Company, Clinton, Mass. Carpet	13,338 13,339	Oct. 17	22	1295
Hamm, Ernest J., Greenville, N. J. Window-shade	13,299	Sept. 19	22	948
Harrison, John B., Cincinnati, Ohio. Ring	13,282	Sept. 5	22	773
Harrison, William. (See Gamble, Harrison, and Lee.)				
Hartford Carpet Company. (See Folsom, James L., assignor.)				
Hartford Carpet Company. (See Heinigke, Otto, assignor.)				
Hartford Carpet Company. (See Horsm, Henry, assignor.)				
Hartford Carpet Company. (See Hunt, Henry, assignor.)				
Hartford Carpet Company. (See Hunt and Rollings, assignors.)				
Hartford Carpet Company. (See Jacobs, Winthrop L., assignor.)				
Hartford Carpet Company. (See Meyer, Julius S., assignor.)				
Hartford Carpet Company. (See Pegel, Julius, assignor.)				
Hartford Carpet Company. (See Wright, George C., assignor.)				
Hatch, George E., assignor to Meriden Flint Glass Company, Meriden, Conn. Fruit-bowl	13,300	Sept. 19	22	948
Hatch, George E., assignor to Meriden Flint Glass Company, Meriden, Conn. Flower-vase	13,301	Sept. 19	22	948
Hayes, George M., Philadelphia, Pa. Card	13,254	Aug. 22	22	590
Heath, Henry, assignor to Fisk, Clark & Flagg, New York, N. Y. Scarf	13,031	July 11	22	89
Heath, Henry, assignor to Fisk, Clark & Flagg, New York, N. Y. Made-up scarf	13,325	Oct. 3	22	1135
Heeley, James L., Attleborough Falls, Mass., assignor to Davidson Brothers, New York, N. Y. Chain-link	13,090	July 25	22	264
Heinigke, Otto, New Utrecht, N. Y., assignor to Hartford Carpet Company, Hartford, Conn. Carpet	13,302	Sept. 19	22	948
Heinigke, Otto, New Utrecht, N. Y., assignor to Hartford Carpet Company, Hartford, Conn. Carpet	13,326	Oct. 3	22	1135
Heinigke, Otto, New Utrecht, N. Y., assignor to Hartford Carpet Company, Hartford, Conn. Carpet	13,373 to 13,375	Oct. 31	22	1449
Heister, Tobias S. (See Bascom and Heister.)				
Held, Charles O., Columbus, Ohio. Flower-vase	13,255	Aug. 22	22	590
Henn, Charles M., Chicago, Ill. Toy bank	13,314	Sept. 26	22	1041
Hensel, George S., Philadelphia, Pa. Ball-fringe	13,396	Nov. 7	22	1540
Herman, Rudolph, Cleveland, Ohio. Billiard-table	13,440	Nov. 21	22	1711
Heyer, Charles E., assignor to A. M. and A. E. Barnhart and C. E. Spindler, Chicago, Ill. Font of printing-type	13,290	Sept. 12	22	863
Heyer, Charles E., assignor to A. M. and A. E. Barnhart and C. E. Spindler, Chicago, Ill. Printing-type	13,315	Sept. 26	22	1041
Higgins, Werter C., Norwich, Conn. Stove	13,272	Aug. 29	22	685
Hilborn, Julius, assignor to M. Cohn, New York, N. Y. Corset	13,441	Nov. 21	22	1711
Hiller, Louis C., assignor to Meriden Silver Plate Company, Meriden, Conn. Spoon or fork handle	13,136	Aug. 8	22	421
Horan, Henry, East Orange, N. J., assignor to Hartford Carpet Company, Hartford, Conn. Carpet	13,442 13,443	Nov. 21	22	1711
Horner Brothers. (See Allen, Frank, assignor.)				
Horner Brothers. (See Allinson, William, assignor.)				
Horner Brothers. (See Campbell, John, assignor.)				
Horner Brothers. (See Lees, George, assignor.)				
Horner Brothers. (See Lees, John A., assignor.)				
Horner Brothers. (See Onslow, Thomas, assignor.)				
Horner Brothers. (See Pugh, George W., assignor.)				
Horner Brothers. (See Smith, Stephen, assignor.)				
Horstmann, F. Oden, *et al.* (See Wright, Gardiner H., assignor.)				
Horstmann, Walter, *et al.* (See Wright, Gardiner H., assignor.)				
Horton, James J., Attleborough, Mass. Watch-chain swivel	13,444	Nov. 21	22	1711
Hotchkiss, Frank H., Birmingham, Conn. Clock-case	13,171	Aug. 8	22	422
Howard, Stephen C., New York, N. Y. Sleeve-button	13,291	Sept. 12	22	863
Hughes, George H., New York, N. Y. Table and enameled cloth	13,469	Dec. 5	22	1885
Hursen, Silvius, Vicksburg, Mich. Family-chart	13,022	July 4	22	1
Hunt, Henry, Greenville, N. J., assignor to Hartford Carpet Company, Hartford, Conn. Carpet	13,303	Sept. 19	22	948
Hunt, Henry, Greenville, N. J., assignor to Hartford Carpet Company, Hartford, Conn. Carpet	13,397 13,398	Nov. 7	22	1540
Hunt, Henry, Greenville, N. J., and J. E. Rollings, Springfield, Mass., assignors to Hartford Carpet Company, Hartford, Conn. Carpet	13,461	Nov. 28	22	1789
Ihlenburg, Herman, assignor to MacKellar, Smiths & Jordan, Philadelphia, Pa. Font of printing-type	13,476	Dec. 12	22	1980
Ingraham, Edward, Bristol, Conn. Bell-stand	13,316	Sept. 26	22	1041
Isham, Charles C., Cincinnati, Ohio. Hat-rack	13,480	Dec. 19	22	2073
Jackson, William W., assignor to MacKellar, Smiths & Jordan, Philadelphia, Pa. Type	13,091	July 25	22	264
Jackson, William W., assignor to MacKellar, Smiths & Jordan, Philadelphia, Pa. Printing-type	13,092	July 25	22	264
Jacobs, Winthrop L., East Orange, N. J., assignor to Hartford Carpet Company, Hartford, Conn. Carpet	13,332	Oct. 10	22	1209
Jacobs, Winthrop L., East Orange, N. J., assignor to Hartford Carpet Company, Hartford, Conn. Carpet	13,376 to 13,381	Oct. 31	22	1449
Jennings, Abraham G., Brooklyn, N. Y. Nubia	13,317	Sept. 26	22	1041
Kaldenberg, Frederick J., New York, N. Y. Thermometer	13,470	Dec. 5	22	1885
Kehrenberg, Henry A., Philadelphia, Pa., assignor to Fair Hill Manufacturing Company, of Pennsylvania. Fringe	13,032	July 11	22	89
Kelley, Thomas W. (See Butler and Kelley.)				
Kerr, William, Philadelphia, Pa., assignor to Van Deventer & Horne, New York, N. Y. Carpet	13,114 13,115	Aug. 1	22	333
King, Manning A., New York, N. Y. Jacket	13,052	July 18	22	179

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Kochs, Theodore A. (See Gricbel, Herman, assignor.)				
Koenig, Leopold, New York, N. Y. Trimming	13,304	Sept. 19	22	948
Kursheedt Manufacturing Company. (See Bosshardt, Henry, assignor.)				
Kyser, Louis, and A. C. Rex, Philadelphia, Pa. Toy money-box	13,144	Aug. 8	22	421
Landsberg, Siegmund, New York, N. Y. Embroidery	13,273	Aug. 29	22	685
Laverty, William A. (See Wiener, Moses H., assignor.)				
Lederer, Sigmund L., Providence, R. I. Charm	13,399	Nov. 7	22	1540
Lee, Allen R. (See Gamble, Harrison, and Lee.)				
Lees, George, Kidderminster, county of Worcester, England, assignor to Horner Brothers, Philadelphia, Pa. Carpet	13,305	Sept. 19	22	948
Lees, John A., Kidderminster, county of Worcester, England, assignor to Horner Brothers, Philadelphia, Pa. Carpet	13,116	Aug. 1	22	334
Leissner, Eduard, New York, N. Y. Wall-paper	13,147 to 13,156	Aug. 8	22	421
Leissner, Eduard, New York, N. Y. Wall-paper	13,274	Aug. 29	22	685
Leslie, Arthur M., Cleveland, Ohio. Sewing-machine stand	13,180	Aug. 15	22	501
Lieb, Gottfried M., assignor to J. A. Lieb, Newark, N. J. Ornamental chain	13,318	Sept. 26	22	1041
Lieb, John A. (See Lieb, Gottfried M., assignor.)				
Lipman, Hymen L., Philadelphia, Pa. Eyelcting-machine	13,292	Sept. 12	22	863
Little, Calvin W., Denver, Colo. Watch-chain and attachment	13,181	Aug. 15	22	501
Lockwood, Henry S., assignor to Lockwood Manufacturing Company, South Norwalk, Conn. Toy bank	13,261	Aug. 22	22	590
Lockwood, Henry S., assignor to Lockwood Manufacturing Company, South Norwalk, Conn. Toy pistol	13,471	Dec. 5	22	1885
Lockwood Manufacturing Company. (See Lockwood, Henry S., assignor.)				
Lowden, Dickson R., Philadelphia, Pa. Oil-lamp, &c	13,358	Oct. 24	22	1370
Lowell Manufacturing Company. (See Christie, Hugh, assignor.)				
Lowell Manufacturing Company. (See Crowe, Eugene A., assignor.)				
Lowell Manufacturing Company. (See Fisher, Edwin, assignor.)				
Lowell Manufacturing Company. (See Fisher, John, assignor.)				
Lowell Manufacturing Company. (See Poole, Edward, assignor.)				
Lowell Manufacturing Company. (See Sauer, Emil G., assignor.)				
Lowell Manufacturing Company. (See Swapp, Charles W., assignor.)				
Luckner, Robert, Sr., New Orleans, La. Bandbox	13,093	July 25	22	264
MacKellar, Smiths & Jordan. (See Beeler, Charles H., Jr., assignor.)				
MacKellar, Smiths & Jordan. (See Graham, John, assignor.)				
MacKellar, Smiths & Jordan. (See Ihlenburg, Herman, assignor.)				
MacKellar, Smiths & Jordan. (See Jackson, William W., assignor.)				
Mackinney, Herbert G., Providence, R. I. Charm for watch-chains, &c	13,157	Aug. 8	22	421
Mackinney, Herbert G., Providence, R. I. Bracelet-charm	13,368	Oct. 24	22	1370
Marder, Luse & Co. (See Müller, Carl, assignor.)				
Marsh, Riverius, New Brunswick, N. J. Lamp-bracket	13,319 to 13,320	Sept. 26	22	1041
Maxwell, John, Oneida, N. Y. Coffin-pedestal	13,293	Sept. 12	22	863
McCallum, William, Newark, N. J., assignor to Bigelow Carpet Company, Clinton, Mass. Carpet	13,257	Aug. 22	22	590
McCallum, William, South Orange, N. J., assignor to Bigelow Carpet Company, Clinton, Mass. Carpet	13,333	Oct. 10	22	1209
McComas, William R., Oakley, assignor to Crane, Breed & Co., Cincinnati, Ohio. Support for a coffin-handle	13,158	Aug. 8	22	421
McComas, William R., Oakley, assignor to Crane, Breed & Co., Cincinnati, Ohio. Coffin ornament	13,159	Aug. 8	22	422
McComas, William R., Oakley, Ohio, assignor to Crane & Breed Manufacturing Company, of Ohio. Emblematic coffin-handle	13,321	Sept. 26	22	1041
McDonald, Laurence J., assignor to J. C. Graham, Philadelphia, Pa. Fringe	13,094 to 13,095	July 25	22	264
McDonald, Laurence J., assignor to J. C. Graham, Philadelphia, Pa. Fringe	13,117	Aug. 1	22	334
McDonald, Laurence J., assignor to J. C. Graham, Philadelphia, Pa. Fringe	13,258	Aug. 22	22	590
McDonald, Laurence J., assignor to J. C. Graham, Philadelphia, Pa. Fringe	13,275	Aug. 29	22	685
McLewee, William S., New York, assignor to J. J. Nichols, Brooklyn, N. Y. Hanging lamp	13,334	Oct. 10	22	1209
McLewee, William S., New York, assignor to J. J. Nichols, Brooklyn, N. Y. Combined lamp and vase	13,335	Oct. 10	22	1209
McNair, David, assignor to Roxbury Carpet Company, Boston, Mass. Carpet	13,259	Aug. 22	22	590
McNicol, Daniel E., East Liverpool, Ohio. Earthenware coffee-pot	13,340	Oct. 17	22	1295
Melville, David G., Medford, assignor to Roxbury Carpet Company, Boston, Mass. Carpet	13,260	Aug. 22	22	590
Melville, David G., Medford, assignor to Roxbury Carpet Company, Boston, Mass. Carpet	13,359	Oct. 24	22	1370
Meriden Flint Glass Company. (See Hatch, George E., assignor.)				
Meriden Silver Plate Company. (See Hiller, Louis C., assignor.)				
Meyer, Charles T. and V. E., Bergen, N. J., assignors to E. C. Sampson, New York, N. Y. Oil-cloth	13,053 to 13,061	July 18	22	180
Meyer, Charles T. and V. E., Bergen, N. J., assignors to E. C. Sampson, New York, N. Y. Oil-cloth	13,360 to 13,365	Oct. 24	22	1370
Meyer, Julius S., New York, N. Y., assignor to Hartford Carpet Company, Hartford, Conn. Carpet	13,382 to 13,383	Oct. 31	22	1449
Meyer, Victor E. (See Meyer, Charles T. and V. E.)				
Miller, Frederick W., Nowark, N. J. Alphabet	13,322	Sept. 26	22	1041
Moodie, Elhanan L., assignor of one-half to C. H. Gillespie, New York, N. Y. Advertising disk or plate	13,062	July 18	22	180
Moodie, Elhanan L., assignor to C. H. Gillespie, New York, N. Y. Advertising-blank	13,369	Oct. 24	22	1370
Morris, Edward L., Boston, Mass. Toy fulminate-exploder	13,063	July 18	22	180
Mott Iron Works, J. L. (See Peet, William C., assignor.)				
Mott Iron Works, J. L. (See Tweeddale, William, assignor.)				
Müller, Carl, assignor to Marder, Luse & Co., Chicago, Ill. Printing-type	13,161	Aug. 8	22	422
Nason, Carleton W., Montclair, N. J., assignor to Nason Manufacturing Company, New York, N. Y. Foot-rail bracket	13,182	Aug. 15	22	501
Nason Manufacturing Company. (See Nason, Carleton W., assignor.)				
Nathan, Clarence S., New York, N. Y. Calendar	13,404	Nov. 14	22	1636
Nichols, Jacob J. (See McLewee, William S., assignor.)				
Nichols, Jacob J., Brooklyn, N. Y. Globe	13,336	Oct. 10	22	1209
New York Consolidated Card Company. (See White, George G., assignor.)				
Nye & Wait. (See Wait, William F., assignor.)				
Obpacker Brothers. (See Garre, Samuel, assignor.)				
Onslow, Thomas, assignor to Horner Brothers, Philadelphia, Pa. Carpet	13,064	July 18	22	180

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Onslow, Thomas, assignor to Horner Brothers, Philadelphia, Pa. Carpet	13,118 to 13,121	Aug. 1	22	334
Paine, Henry H., Philadelphia, Pa. Chair	13,405	Nov. 14	22	1636
Patterson & Greenough. (See Savage, Joseph G., assignor.)				
Pearson, Edward M., and C. W. Franzheim, assignors to Wheeling Pottery Company, Wheeling, W. Va. Pitcher	13,033	July 11	22	89
Pease, Charles G. (See Schmehl, Henry J., assignor.)				
Peet, William C., Jersey City, N. J., assignor to J. L. Mott Iron Works, New York, N. Y. Fireplace	13,445 to 13,451	Nov. 21	22	1711
Pegel, Julius, New York, N. Y., assignor to Hartford Carpet Company, Hartford, Conn. Carpet	13,452	Nov. 21	22	1711
Pennington, Henry, Philadelphia, Pa. Advertising-label	13,294	Sept. 12	22	863
Pennington, Henry, Philadelphia, Pa. Advertising-card	13,367	Oct. 24	22	1370
Petrini, Frank L., New York, N. Y. Stamped hat-lining	13,102	Aug. 8	22	422
Phemister, Alexander, *et al.* (See Phinney, Joseph W., assignor.)				
Phinney, Joseph W., assignor to G. J. Pierce, A. Phemister, and A. C. Converse, Boston, Mass. Printing-type	13,328	Oct. 3	22	1135
Pickering, Blake F., Salmon Falls, N. H. Wrench	13,065	July 18	22	180
Pierce, George J., *et al.* (See Phinney, Joseph W., assignor.)				
Poole, Edward, Boston, assignor to Lowell Manufacturing Company, Lowell, Mass. Carpet	13,183 to 13,187	Aug. 15	22	501
Pope, John L., Cleveland, Ohio. Wear-iron	13,384	Oct. 31	22	1449
Pope, John L., Cleveland, Ohio. Bucket-ear	13,385	Oct. 31	22	1449
Pope, John L., Cleveland, Ohio. Spring-saddle clip-plate	13,386	Oct. 31	22	1449
Pope, John L., Cleveland, Ohio. Wear-iron	13,387	Oct. 31	22	1449
Pope, John L., Cleveland, Ohio. Whiffletree-plate	13,388 to 13,390	Oct. 31	22	1449
Pope, John L., Cleveland, Ohio. Whiffletree-plate	13,406 13,407	Nov. 14	22	1626
Pope, John L., Cleveland, Ohio. Wear-iron	13,408 to 13,414	Nov. 14	22	1626
Pope, John L., Cleveland, Ohio. Carriage-step	13,415 to 13,429	Nov. 14	22	1626
Pope, John L., Cleveland, Ohio. Carriage-wrench	13,430 13,431	Nov. 14	22	1626
Pope, John L., Cleveland, Ohio. Spring and axle block	13,432 13,433	Nov. 14	22	1626
Pope, John L., Cleveland, Ohio. Wrench	13,434 13,435	Nov. 14	22	1626
Pugh, George W., assignor to Horner Brothers, Philadelphia, Pa. Carpet	13,122 to 13,125	Aug. 1	22	334
Rappleyea, Nicholas. (See Sparks and Rappleyea.)				
Rath, Edward H., New York, N. Y. Ornamental card	13,023	July 4	22	1
Redfern, Alfred, Philadelphia, Pa., assignor to Van Deventer & Horne, New York, N. Y. Carpet	13,126	Aug. 1	22	334
Redon, Marcel, Limoges, France, assignor to F. H. Bawo and C. T. Dotter, New York, N. Y. Tableware	13,477	Dec. 12	22	1980
Regnell, Herman T., Attleborough, Mass. Watch-charm	13,391	Oct. 31	22	1449
Reinhardt, Camille, assignor to Warren, Fuller & Co., New York, N. Y. Window-shade	13,283	Sept. 5	22	773
Reuter, Frederick, Brooklyn, N. Y., assignor to J. C. Graham, Philadelphia, Pa. Fringe	13,096 13,097	July 25	22	264
Reuter, Frederick, Brooklyn, N. Y., assignor to J. C. Graham, Philadelphia, Pa. Fringe	13,127	Aug. 1	22	334
Rex, Alfred C. (See Kyser and Rex.)				
Rhodes, John C., Mattapoisett, Mass. Tag-fastener	13,128	Aug. 1	22	334
Righter, Charles A., assignor to J. & G. D. Bromley, Philadelphia, Pa. Carpet	13,163 to 13,167	Aug. 8	22	422
Righter, Oscar, assignor to Dorman Brothers & Co., Philadelphia, Pa. Carpet	13,188 to 13,195	Aug. 15	22	502
Ritchel, Charles F., Bridgeport, Conn., assignor to S. S. and G. D. Tallman, New York, N. Y. Toy bank	13,400 13,401	Nov. 7	22	1540
Rogers & Brittin Silver Company. (See Gill, George, assignor.)				
Rogers, John, New Canaan, Conn. Group of statuary	13,392	Oct. 31	22	1449
Rogers, John K., Brookline, Mass. Type	13,098	July 25	22	264
Rogers, John K., Brookline, Mass. Type	13,196	Aug. 15	22	502
Rogers, John K., Brookline, Mass. Printing-type	13,197	Aug. 15	22	502
Rogers, John K., Brookline, Mass. Printing-type	13,276 to 13,278	Aug. 29	22	685
Rollings, John E. (See Hunt and Rollings.)				
Rosenberg & Co., I. (See Rosenberg, Seymour H., assignor.)				
Rosenberg, Seymour H., assignor to I. Rosenberg & Co., New Haven, Conn. Corset	13,284	Sept. 5	22	773
Roxbury Carpet Company. (See Fajon, Etienne, assignor.)				
Roxbury Carpet Company. (See Gadaby, Walter J., assignor.)				
Roxbury Carpet Company. (See McNair, David, assignor.)				
Roxbury Carpet Company. (See Melville, David G., assignor.)				
Roxbury Carpet Company. (See Stearns, Thomas J., assignor.)				
Russell & Erwin Manufacturing Company. (See Christensen, Rodolphe, assignor.)				
Sampson, Edward C. (See Meyer, Charles T. and V. E., assignors.)				
Sargent & Co. (See Sargent, Joseph B., assignor.)				
Sargent, Joseph B., assignor to Sargent & Co., New Haven, Conn. Coffin-screw	13,437	Nov. 14	22	1626
Sauer, Emil G., New York, N. Y., assignor to Lowell Manufacturing Company, Lowell, Mass. Carpet	13,198 13,199	Aug. 15	22	502
Savage, Joseph G., Brooklyn, assignor to Patterson & Greenough, New York, N. Y. Shawl	13,472	Dec. 5	22	1885
Schiele & Co., Lewis. (See Stronse, Isaac, assignor.)				
Schmehl, Henry J., assignor to C. G. Pease, Boston, Mass. Chair	13,478	Dec. 12	22	1980
Scott, Erastus W., Wauregan, Conn. Whip-socket	13,285	Sept. 5	22	773
Sears, Henry C., Boston, Mass. Vehicle	13,369	Oct. 3	22	1135

Alphabetical list of patentees of designs, July to December, inclusive—Continued.

Name, residence, and design.	No.	Date.	Official Gazette. Vol.	Page.
Selling & Co., H. (See Selling, Henry, assignor.)				
Selling, Henry, assignor to H. Selling & Co., New York, N. Y. Fabric	13,200	Aug. 15	22	502
Shirley, Frederick S., New Bedford, Mass. Glassware	13,160	Aug. 8	22	422
Slater, John, Burslem, assignor to Gildea & Walker, Dale Hall, Burslem, county of Stafford, England. Vegetable-dish	13,295	Sept. 12	22	863
Smith & Anthony Stove Company. (See Anthony and Gould, assignors.)				
Smith, James G., Cleveland, Ohio. Inkstand	13,066	July 18	22	180
Smith, Stephen, assignor to Horner Brothers, Philadelphia, Pa. Carpet	13,129	Aug. 1	22	334
Snell, Jacob A. (See Flynn and Snell.)				
Southington Cutlery Company. (See Brill, Henry C., assignor.)				
Sparks, William A., assignor to Stein Manufacturing Company, Rochester, N. Y. Burial-casket	13,286	Sept. 5	22	773
Sparks, William A., and N. Rappleyea, assignors to Stein Manufacturing Company, Rochester, N. Y. Burial-casket	13,287	Sept. 5	22	773
Spindler, Charles E., *et al.* (See Heyer, Charles E., assignor.)				
Starr, Theodore B. (See Dimier, Francis, assignor.)				
Stearns, Thomas J., assignor to Roxbury Carpet Company, Boston, Mass. Carpet	13,067	July 18	22	180
Stearns, Thomas J., assignor to Roxbury Carpet Company, Boston, Mass. Carpet	13,262	Aug. 22	22	590
Stein, Leo, assignor to Stein Manufacturing Company, Rochester, N. Y. Burial-casket	13,034	July 11	22	89
Stein Manufacturing Company. (See Sparks, William A., assignor.)				
Stein Manufacturing Company. (See Sparks and Rappleyea, assignors.)				
Stein Manufacturing Company. (See Stein, Leo, assignor.)				
Stepp, John P., College Point, assignor, by mesne assignments, to Ansonia Rubber Company, New York, N. Y. Dressing-comb	13,436	Nov. 14	22	1626
Stewart's Sons, William. (See Christie, Frazer, assignor.)				
Stoutenborough, Xenophon. (See Benham and Stoutenborough.)				
Strouse, Isaac, New Haven, Conn., assignor to L. Schiele & Co., New York, N. Y. Corset	13,288	Sept. 5	22	773
Swapp, Charles W., Boston, assignor to Lowell Manufacturing Company, Lowell, Mass. Carpet	13,130 to 13,135	Aug. 1	22	334
Swapp, Charles W., Boston, assignor to Lowell Manufacturing Company, Lowell, Mass. Carpet	13,497 to 13,507	Dec. 26	22	2161
Tallman, G. D., *et al.* (See Ritchel, Charles F., assignor.)				
Tallman, S. S., *et al.* (See Ritchel, Charles F., assignor.)				
Thoma, Ernst, Maywood, N. J. Jewelry	13,402	Nov. 7	22	1540
Thorp, Henry H., Cleveland, Ohio. Font of printing-type	13,279	Aug. 29	22	685
Thorp, Henry H., assignor to H. H. Thorp Manufacturing Company, Cleveland, Ohio. Printing-type	13,453	Nov. 21	22	1711
Thorp Manufacturing Company, H. H. (See Thorp, Henry H., assignor.)				
Towle, Edward B., assignor to Towle Manufacturing Company, Newburyport, Mass. Handle for a knife, fork, or spoon	13,366	Oct. 24	22	1370
Towle Manufacturing Company. (See Towle, Edward B., assignor.)				
Tweeddale, William, Brooklyn, assignor to J. L. Mott Iron Works, New York, N. Y. Fire-place	13,306 to 13,310	Sept. 19	22	948
Van Buren, Jafew S., Albany, N. Y. Stove	13,280	Aug. 29	22	685
Van Choate, Silvanus F., New York, N. Y. Combined street-lamp and reflector	13,402	Nov. 28	22	1789
Van Deventer & Horne. (See Kerr, William, assignor.)				
Van Deventer & Horne. (See Redfern, Alfred, assignor.)				
Vedder Pattern Works, Bascom, Galbraith & Co., N. S. (See Bascom and Helster, assignors.)				
Wait, William F., Auburn, N. Y., assignor to Nye & Wait. Carpet	13,263	Aug. 22	22	590
Warren, Fuller & Co. (See Reinhardt, Camille, assignor.)				
Wemple & Co. (See Haas, Jacob L., assignor.)				
Whalen, Timothy E., Rochester, N. Y. Calendar	13,168	Aug. 8	22	422
Wheeling Pottery Company. (See Pearson and Franzheim, assignors.)				
White, George G., New York, N. Y., assignor to New York Consolidated Card Company, of New York. Playing-card	13,473	Dec. 5	22	1885
Whittall, Matthew J. (See Allen, Frank, assignor.)				
Whittall, Matthew J. (See Allen, Frank, assignor.) (Reissue.)				
Whittall, Matthew J. (See Beazer, Joseph, assignor.)				
Wiener, Moses H., assignor of one-half to W. A. Laverty, Philadelphia, Pa. Show-card	13,463	Nov. 28	22	1789
Wilkening, Christian, H., and L., Newport, Ky. Finger-ring	13,296	Sept. 12	22	863
Wilkening, Henry. (See Wilkening, Christian, H., and L.)				
Wilkening, Louis. (See Wilkening, Christian, H., and L.)				
Winn, Silas B., Salem, Mass. Bottle	13,323	Sept. 26	22	1041
Worcester Carpet Company. (See Wortz, Henry, assignor.)				
Worts, Henry, New York, N. Y., assignor to Worcester Carpet Company, Worcester, Mass. Carpet	13,341	Oct. 17	22	1295
Wright, Gardiner H., assignor to F. O. Horstmann, S. Clarkson, Wm. P. Ellison, and W. Horstmann, Philadelphia, Pa. Curtain-band	13,289	Sept. 5	22	773
Wright, George C., New York, N. Y., assignor to Hartford Carpet Company, Hartford, Conn. Carpet	13,311	Sept. 19	22	948

ALPHABETICAL LIST OF REGISTRANTS OF TRADE-MARKS.

Name, residence, and title.	No.	Date.	Official Gazette. Volume.	Page.
Abbott, Horace C., Trinidad, Colo. Cosmetic	9,649	Sept. 12	22	863
Adams Packing Company, Indianapolis, Ind. Mince-meat	9,753	Oct. 31	22	1450
Adams, Samuel R., New York, N. Y. Medicinal bitters	9,722	Oct. 17	22	1295
Alexander Bros., Providence, R. I. Medicine to regulate the liver and digestive organs	9,754	Oct. 31	22	1450
Alvarez, Julian, New York, N. Y. Cigars	9,603	Aug. 15	22	502
Alvarez, Julian, New York, N. Y. Cigarettes and cut tobacco for the same	9,905	Dec. 26	22	2162
American Arms Company, Boston, Mass. Fire-arms	9,547	July 18	22	180
Anthony & Co., E. & H. T., New York, N. Y. Photographic plates	9,532	July 11	22	90
Antitropic Company, London, England. Preservatives of organic substances	9,702	Oct. 3	22	1135
Antitropic Company, London, England. Preservatives of organic substances	9,703	Oct. 3	22	1135
Antitropic Company, London, England. Dairy supplies	9,802	Nov. 14	22	1627
Arend, Augustus, Chicago, Ill. Certain food preparation	9,691	Sept. 26	22	1041
Atha & Hughes, New York, N. Y. Enameled carriage, table, and stair oil-cloth	9,755	Oct. 31	22	1450
Atkins & Co., E. C., Indianapolis, Ind. Crosscut wood-saws	9,522	July 11	22	89
Atkins & Co., E. C., Indianapolis, Ind. Crosscut-saws	9,533	July 11	22	90
Baldwin, Daniel H., New York, N. Y. Fertilizers	9,523	July 11	22	89
Barnard, Levi R., Newark, N. J. Extract of logwood	9,500	July 4	22	1
Bartlett & Butman, Boston, Mass. Trusses	9,589	Aug. 8	22	422
Bartlett, Henry A., Philadelphia, Pa. Mattresses and other filled articles of upholstery	9,756	Oct. 31	22	1450
Bauman, Adolph L., Dayton, Ohio. Crackers	9,588	Aug. 8	22	422
Bean & Rabe, Philadelphia, Pa. Preparation for cleaning garments, fabrics, silver-ware, &c	9,723	Oct. 17	22	1295
Benger Soehne, W., Stuttgart, Germany. Under-garments	9,666	Sept. 12	22	864
Bennett Bros. & Allan, Buffalo, N. Y. Face-powder	9,501	July 4	22	1
Berliner Brauerei-Gesellschaft Tivoli, Berlin, Germany. Lager-beer	9,590	Aug. 8	22	422
Biggs, Clayton & Co., Middletown, Del. Canned goods	9,630	Aug. 29	22	686
Bock y Ca., New York, N. Y. Cigars	9,604	Aug. 15	22	502
Boott Cotton Mills, Lowell, Mass. Cotton goods	9,599	Aug. 8	22	422
Boott Cotton Mills, Lowell, Mass. Cotton goods	9,600	Aug. 8	22	422
Boott Cotton Mills, Lowell, Mass. Cotton goods	9,601	Aug. 8	22	422
Bowler, John, New York, N. Y. Substitute for hops	9,900	Dec. 26	22	2161
Boyd, McCook & Co., Philadelphia, Pa. Marsh-mallow drops and other candies	9,548	July 18	22	180
Brower, T. L., Prairie du Chien, Wis. Cough-remedy	9,872	Dec. 19	22	2073
Brown & Son, John, Glasgow, Scotland. Plain and figured muslin and window-curtains	9,901	Dec. 26	22	2161
Bunce, George, Buffalo, N. Y. Certain medical compound	9,850	Dec. 5	22	1885
Burroughs, Wellcome & Co., Snow Hill, London, England. Aerated beverages	9,564	July 25	22	264
Burroughs, Wellcome & Co., London, England. Certain medical compounds	9,734	Oct. 17	22	1295
Burroughs, Wellcome & Co., London, England. Certain medical compound	9,735	Oct. 17	22	1295
Butcher's Sons, Washington, Philadelphia, Pa. Substitute for lard	9,534	July 11	22	90
Butcher's Sons, Washington, Philadelphia, Pa. Substitute for lard	9,535	July 11	22	90
Butcher's Sons, Washington, Philadelphia, Pa. Substitute for lard	9,814	Nov. 21	22	1712
Butcher's Sons, Washington, Philadelphia, Pa. Substitute for lard and butter	9,815	Nov. 21	22	1712
Butcher's Sons, Washington, Philadelphia, Pa. Substitute for lard and butter	9,816	Nov. 21	22	1712
Capen, Nathan S., Brandon, Vt. Butter-color	9,549	July 18	22	180
Carvajal, Leopoldo, New York, N. Y. Cigars	9,502	July 4	22	1
Carvajal, Leopoldo, New York, N. Y. Cigars	9,503	July 4	22	1
Carvajal, Leopoldo, New York, N. Y. Cigars	9,536	July 11	22	90
Carvajal, Leopoldo, New York, N. Y. Cigars	9,799	Nov. 14	22	1627
Cassell, Reuben Z., Dayton, Ohio. Certain dry-goods	9,550	July 18	22	180
Century Company, New York, N. Y. Dictionary of the English language	9,506	July 4	22	2
Cereals Manufacturing Company, New York, N. Y. Crushed and prepared cereals	9,757	Oct. 31	22	1450
Chadwick, Joseph L., Stonington, Conn. Waterproofing-fluid	9,504	July 4	22	1
Chamberlain & Co., Des Moines, Iowa. Certain proprietary medicines	9,788	Nov. 7	22	1540
Chicago Chemical Works, Chicago, Ill. Baking-powder	9,591	Aug. 8	22	422
Church & Co., John, Cincinnati, Ohio. Pianos	9,527	July 11	22	90
Cleveland Provision Company, Cleveland, Ohio. Meats				
Cochran, Hugh M., McConnelsville, Ohio. Chewing-tobacco, smoking-tobacco, cigars, and cigarettes	9,695	Sept. 26	22	1042
Cochran, Samuel H., Everett, Mass. Compound to be used in the place of butter and lard for cooking purposes	9,565	July 25	22	264
Cohen, Charles J., Philadelphia, Pa. Articles of stationery	9,625	Aug. 29	22	685
Cohen, Charles J., Philadelphia, Pa. Articles of stationery	9,626	Aug. 29	22	685
Coleman's Heirs, R. W., Cornwall, Pa. Pig-iron	9,745	Oct. 24	22	1370
Collins Company, Collinsville, Conn. Edged tools	9,551	July 18	22	180
Collins Company, Collinsville, Canton, Conn. Certain edge-tools	9,681	Sept. 19	22	948
Collins Company, Collinsville, Conn. Edge-tools	9,704	Oct. 3	22	1135
Collins Company, Collinsville, Conn. Certain edge-tools	9,789	Nov. 7	22	1540
Collin's Son & Co., A. M., Philadelphia, Pa. Portrait-cards	9,616	Aug. 22	22	590
Columbia Chemical Works, Brooklyn, N. Y. Certain chemically-prepared ammonia compound or mixture	9,505	July 4	22	1
Cook, Henry D., Philadelphia, Pa. Bitters	9,719	Oct. 10	22	1210
Cooper, Jones & Cadbury, Philadelphia, Pa. Oil-cups, valves, cocks, and faucets	9,566	July 25	22	264
Courtright, George C., Scranton, Pa. Boots and shoes	9,800	Nov. 14	22	1627
Crabbs, Bellman & Co., Toledo, Ohio. Clover and other seeds	9,617	Aug. 22	22	590
Crilly, Francis J., Philadelphia, Pa. Whisky	9,696	Sept. 26	22	1042
Crilly, Francis J., Philadelphia, Pa. Whisky	9,726	Oct. 17	22	1295
Cronin, Michael H., Philadelphia, Pa. Watch-cases	9,567	July 25	22	264
Cross, Charles, Gawler, South Australia. Indigestion-drops	9,758	Oct. 31	22	1450
Damour, Ferdinand, Waterville, Kans. Medicines, ointments, liniments, perfumery, and cosmetics	9,552	July 18	22	180
Daniels, Henry C., Rochester, N. Y. Medicated plaster	9,682	Sept. 19	22	948
Davis Oil Company, New York, N. Y. Refined lard, neat's-foot and tallow oils	9,759	Oct. 31	22	1450
DeForest, Charles A. L., and H. C. Driggs, Brooklyn, N. Y. Lubricating and illuminating oils and oils for protecting polished metallic surfaces	9,639	Sept. 5	22	773

Alphabetical list of registrants of trade-marks, July to December, inclusive—Continued.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Déclat Manufacturing Company, New York, N. Y. Medicines	9,568	July 25	22	264
Denny & Sons, Henry, Chicago, Ill. Ham, bacon, and lard	9,580	Aug. 1	22	334
Deuther, George A., Jr., Buffalo, N. Y. Varnish	9,507	July 4	22	2
Disston & Sons, Henry, Philadelphia, Pa. Handsaws	9,640	Sept. 5	22	774
Disston & Sons, Henry, Philadelphia, Pa. Handsaws	9,641	Sept. 5	22	774
Disston & Sons, Henry, Philadelphia, Pa. Saws	9,664	Sept. 12	22	864
Disston & Sons, Henry, Philadelphia, Pa. Saws, tools, and files	9,741	Oct. 24	22	1370
Disston & Sons, Henry, Philadelphia, Pa. Saws, tools, and files	9,742	Oct. 24	22	1370
Dodge, George P., Manhasset, N. Y. Hose	9,602	Aug. 8	22	422
Domergue & Co., J., Nimes, France, and New York, N. Y. Mixture of moss and fiber	9,790	Nov. 7	22	1540
Driggs, Hiram C. (See De Forest and Driggs.)				
Dueber Watch Case Manufacturing Company, Newport, Ky., Cincinnati, Ohio, New York, N. Y., and Chicago, Ill. Eighteen-carat-gold watch-cases	9,708	Oct. 10	22	1209
Dueber Watch Case Manufacturing Company, Newport, Ky., Cincinnati, Ohio, New York, N. Y., and Chicago, Ill. Ten-carat-gold watch-cases	9,709	Oct. 10	22	1210
Dueber Watch Case Manufacturing Company, Newport, Ky., Cincinnati, Ohio, New York, N. Y., and Chicago, Ill. Ten-carat-gold rings	9,710	Oct. 10	22	1210
Dueber Watch Case Manufacturing Company, Newport, Ky., Cincinnati, Ohio, New York, N. Y., and Chicago, Ill. Fourteen-carat-gold rings	9,711	Oct. 10	22	1210
Dulany, Meyer & Co., Baltimore, Md. Wines and liquors	9,714	Oct. 10	22	1210
Dyer, Juliet, Trenton, N. J. Medicated cough-drop	9,642	Sept. 5	22	774
Eagle Bottling Works, Elmira, N. Y. Beverages, such as lager, weiss-beer, and all carbonated drinks	9,817	Nov. 21	22	1712
Eble & Herter, Philadelphia, Pa. Lager-beer	9,791	Nov. 7	22	1540
Eddy & Son, D., Boston, Mass. Refrigerators	9,534	July 11	22	90
Eldridge, James W., Hartford, Conn. Halters	9,535	July 11	22	90
Elgin National Watch Company, Chicago, Ill. Watch-movements	9,807	Nov. 14	22	1627
Elgin National Watch Company, Chicago, Ill. Watch-movements	9,808	Nov. 14	22	1627
Elgin National Watch Company, Chicago, Ill. Watch-movements	9,809	Nov. 14	22	1627
Elgin National Watch Company, Chicago, Ill. Watch-movements	9,810	Nov. 14	22	1627
Ellinger & Co., Julius, New York, N. Y. Cigars, cigarettes, and manufactured tobacco	9,569	July 25	22	264
Ellinger & Co., Julius, New York, N. Y. Cigars, cigarettes, and manufactured tobacco	9,570	July 25	22	264
Ellinger & Co., Julius, New York, N. Y. Cigars, cigarettes, and manufactured tobacco	9,581	Aug. 1	22	334
Elliott Pneumatic Door Check Company, Boston, Mass. Pneumatic door-checks	9,803	Nov. 14	22	1627
Elwell, Brackett & Hawes, Boston, Mass. Plug-tobacco	9,528	July 11	22	90
Elwell, Brackett & Hawes, Boston, Mass. Plug-tobacco	9,760	Oct. 31	22	1450
Esberg, Bachman & Co., San Francisco, Cal., and New York, N. Y. Cigars, cigarettes, and smoking and chewing tobacco	9,773	Nov. 7	22	1540
Evans, Henry S., Montreal, Canada. Tablets of boiled or chemically pure loaf-sugar combined with the essential properties of the lime-fruit	9,743	Oct. 24	22	1370
Faber, Eberhard, Port Richmond, N. Y. Certain articles of stationery	9,847	Nov. 28	22	1790
Faber, Eberhard, Port Richmond, N. Y. Lead-pencils	9,848	Nov. 28	22	1790
Fairchild, Le Roy W., New York, N. Y. Fountain-pens	9,536	July 11	22	90
Fairchild, Le Roy W., New York, N. Y. Gold pens, pencils, pen and pencil cases, desk-holders for pens, gold tooth-picks, and similar articles of my manufacture	9,650	Sept. 12	22	863
Fennessy, Edward H., Newton, Mass. Blacking and leather-dressing	9,774	Nov. 7	22	1540
Fennessy, Edward H., Newton, Mass. Blacking and leather-dressing	9,775	Nov. 7	22	1540
Fennessy, Edward H., Newton, Mass. Blacking and leather-dressing	9,776	Nov. 7	22	1540
Finch & Co., Jos. S., Pittsburg, Pa. Whisky	9,631	Aug. 29	22	686
Firmenich, Joseph, Buffalo, N. Y. Sirup	9,571	July 25	22	264
Firmenich, Joseph, Buffalo, N. Y. Sirups	9,632	Aug. 29	22	686
Flentke, Harrison & Co., East Liverpool, Ohio. Rockingham and yellow ware, terra-cotta flower-pots and hanging baskets	9,529	July 11	22	90
Francis, Gideon C., South Dighton, Mass. Stove and range linings, fire-brick, cylinders, tiles, and baked-clay goods generally	9,618	Aug. 22	22	590
Frauk, A. W., Cincinnati, Ohio. Coffee	9,637	Aug. 29	22	686
Freeman & Shaw, Baltimore, Md. Canned goods	9,537	July 11	22	90
Freese, Noah L., Salem, Mass. Cement or adhesive liquid	9,605	Aug. 15	22	502
Frings & Zwietusch, Milwaukee, Wis. All kinds of malted beverages	9,619	Aug. 22	22	590
Gann, Wm. K., Monticello, Ky. Certain medicines	9,633	Aug. 29	22	686
Gareau, Roch R., Detroit, Mich. Proprietary medicine	9,680	Sept. 19	22	948
Garnaus, John I., Brooklyn, N. Y. Ribbons	9,873	Dec. 19	22	2073
Gastrine Manufacturing Company, New York, N. Y. Medical compound for the cure of dyspepsia	9,613	Aug. 15	22	502
Gato, Eduardo H., Key West, Fla. Cigars	9,777	Nov. 7	22	1540
Gato, Eduardo H., Key West, Fla. Cigars	9,906	Dec. 26	22	2162
Gillett, Egbert W., Chicago, Ill. Perfumes	9,761	Oct. 31	22	1450
Globe Tobacco Company, Detroit, Mich. Fine-cut chewing-tobacco	9,643	Sept. 5	22	774
Globe Tobacco Company, Detroit, Mich. Fine-cut chewing-tobacco	9,651	Sept. 12	22	863
Globe Tobacco Company, Detroit, Mich. Fine-cut chewing and plug tobacco	9,652	Sept. 12	22	864
Globe Tobacco Company, Detroit, Mich. Cut tobacco for smoking and chewing, and cigars	9,720	Oct. 10	22	1210
Globe Tobacco Company, Detroit, Mich. Smoking-tobacco, cigars, and cigarettes	9,744	Oct. 24	22	1370
Gonzalez, Diego, New York, N. Y. Cigarettes and cut tobacco	9,712	Oct. 10	22	1210
Goslinsky & Co., E., San Francisco, Cal. Cigars	9,582	Aug. 1	22	334
Granite Powder Company, San Francisco, Cal. Blasting-powder	9,907	Dec. 26	22	2162
Greenbaum, S. J., Louisville, Ky. Whisky	9,538	July 11	22	90
Greene, R., P. E. & J. A., Boston, Mass., and St. Louis, Mo. Powder to be taken internally	9,727	Oct. 17	22	1296
Gross & Delbridge, Chicago, Ill. Tonic	9,533	July 18	22	180
Hancock, James, Lynchburg, Va. Chewing-tobacco, smoking-tobacco, and cigarettes	9,818	Nov. 21	22	1712
Hanson, Willis T., Schenectady, N. Y. Corn-salve	9,874	Dec. 19	22	2073
Harris & Co., T. M., Philadelphia, Pa. Shoes	9,620	Aug. 22	22	590
Harris & Co., T. R., Cohocton, N. Y. Cigars	9,912	Dec. 26	22	2162
Higgins, Charles S., Brooklyn, N. Y. Soap	9,606	Aug. 15	22	502
Hirschhorn & Bendheim, New York, N. Y. Cigars	9,683	Sept. 19	22	948
Hoadley & Co., assignors to S. O. Ryder, New York, N. Y. Flour	9,913	Dec. 26	22	2162
Hoerr, John, St. Louis, Mo. Medical compound	9,697	Sept. 26	22	1042
Holt & Co., Hiram, East Wilton, Me. Hay-knives	9,583	Aug. 1	22	334
Homer & Masheter, Pool's Island, Md. Peaches	9,728	Oct. 17	22	1296
Hooper & Sons, William E., Baltimore, Md. Cotton duck	9,705	Oct. 3	22	1136
Hooper & Sons, William E., Baltimore, Md. Cotton duck	9,804	Nov. 14	22	1627
Horton, Angell & Co., Attleborough, Mass. Link cuff-buttons	9,914	Dec. 26	22	2162
Horner, Joshua, Jr., Baltimore, Md. Artificial fertilizers	9,539	July 11	22	90
Hull, Charles B., Detroit, Mich. Fine-cut chewing, smoking, and plug tobacco and cigars	9,653	Sept. 12	22	864
Hull, Charles B., Detroit, Mich. Chewing-tobacco	9,654	Sept. 12	22	864
Hull, Charles B., Detroit, Mich. Smoking-tobacco and cigars	9,655	Sept. 12	22	864

Alphabetical list of registrants of trade-marks, July to December, inclusive—Continued.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Hull, Charles B., Detroit, Mich. Chewing-tobacco	9,656	Sept. 12	22	864
Hull, Charles B., Detroit, Mich. Chewing-tobacco	9,657	Sept. 12	22	864
Hull, Charles B., Detroit, Mich. Fine-cut chewing, smoking, and plug tobacco and cigars	9,658	Sept. 12	22	864
Hull, Charles B., Detroit, Mich. Smoking-tobacco and cigars and fine-cut chewing-tobacco	9,729	Oct. 17	22	1296
Hull, Charles B., Detroit, Mich. Chewing and smoking tobacco	9,746	Oct. 24	22	1370
Iler & Co., Omaha, Nebr. Bitters	9,508	July 4	22	2
Irby & Bro., W. R., New Orleans, La. Cigars	9,554	July 18	22	180
Irby & Bro., W. R., New Orleans, La. Cigars	9,614	Aug. 22	22	590
Isaacs & Co., Leon, Philadelphia, Pa. Pens	9,644	Sept. 5	22	774
Jackson & Co., P. R., Manchester, county of Lancaster, England. Metals of various kinds	9,540	July 11	22	90
Jackson & Co., P. R., Manchester, county of Lancaster, England. Machinery of various kinds, and parts of machinery	9,572	July 25	22	264
Jacoby & Fromer, New York, N. Y. Cigars, cigarettes, smoking and chewing and manufactured tobacco	9,852	Dec. 5	22	1886
Janes, Edward L., and J. Tibbetts, Des Moines, Iowa. Pile-liniment	9,861	Dec. 12	22	1960
Jannopoulo, Demetrius, St. Louis, Mo. Water-proof clothing	9,915	Dec. 26	22	2162
Jaques & Johnson, Macon, Ga. Flour	9,541	July 11	22	90
Jeaneret, A. E., Boston, Mass. Dry paste for cleaning gold and silver plated ware, nickel, and glassware	9,573	July 25	22	264
Johnson & Co., J. C., Memphis, Tenn. Oil for culinary purposes	9,853	Dec. 5	22	1886
Johnson & Lund, Philadelphia, Pa. Tooth and mouth wash	9,730	Oct. 17	22	1296
Jones, Flora A., Utica, N. Y. Toilet-wash for the complexion	9,839	Nov. 28	22	1790
Jordan & Co., H., Gloversville, N. Y. Gloves	9,854	Dec. 5	22	1886
Jordan & Slack, Brooklyn, N. Y. Dyes or coloring-matter	9,762	Oct. 31	22	1450
Kaldenberg, Frederick J., New York, N. Y. Tobacco-pipes	9,607	Aug. 15	22	502
Keeler, Charles F., Chicago, Ill. Suppositories for females	9,638	Aug. 29	22	686
Kelly & Co., Horace R., New York, N. Y. Cigars	9,698	Sept. 26	22	1042
Kelly & Co., Horace R., New York, N. Y. Cigars	9,731	Oct. 17	22	1296
Kemp, George, New York, N. Y. Toilet-perfume	9,747	Oct. 24	22	1370
Kendall & Co., B. J., Enosburg Falls, Vt. Pills	9,706	Oct. 3	22	1136
Kepler Malt Extract Company, (limited,) Snow Hill, London, England. Medical compounds	9,834	Nov. 21	22	1712
Kepler Malt Extract Company, (limited,) Snow Hill, London, England. Malt extract	9,835	Nov. 21	22	1712
Kerr & Co., New York, N. Y. Spool-cotton	9,556	July 18	22	180
Kerr & Co., New York, N. Y. Spool-cotton	9,902	Dec. 26	22	2161
Kirby, Beard & Co., London and Birmingham, England. Hair-pins	9,862	Dec. 12	22	1960
Kirchhoff Bros., New Orleans, La. Sugar	9,692	Sept. 26	22	1042
Kittel, Joseph J., Brooklyn, N. Y. Lamps	9,659	Sept. 12	22	864
Lamson, Allan G., Brooklyn, N. Y. Cutlery	9,916	Dec. 26	22	2162
Lancaster, Warren N., New York, N. Y. Fountain-pens	9,699	Sept. 26	22	1042
Landon, A. & M., Paris, France. Toilet-vinegar	9,732	Oct. 17	22	1296
Lapaix, Jean B. T., New York, N. Y. Embroidered canvas, cloths, silks, velvets, and ribbons	9,748	Oct. 24	22	1370
Lautz Bros. & Co., Buffalo, N. Y. Laundry and toilet soap	9,608	Aug. 15	22	502
Lautz Bros. & Co., Buffalo, N. Y. Soap	9,700	Sept. 26	22	1042
Lawrence, Benjamin, New York, N. Y. Steel pens	9,509	July 4	22	2
Leidersdorf & Co., B., Milwaukee, Wis. Fine-cut and plug chewing-tobacco, smoking-tobacco, cigars, and cigarettes	9,510	July 4	22	2
Leis Chemical Manufacturing Company, Lawrence, Kans. Dandelion tonic	9,763	Oct. 31	22	1450
Leroy, Eugène T., Paris, France. Pills	9,917	Dec. 26	22	2162
Levi, Lewis, Paterson, N. J. Shirt	9,733	Oct. 17	22	1296
Levi, Lewis, Paterson, N. J. Shirts	9,764	Oct. 31	22	1450
Lewis, Albert N., Philadelphia, Pa. Canned goods	9,805	Nov. 14	22	1627
Livingston, Bernard L., Baltimore, Md. Medicated preparation of cinnamon	9,823	Nov. 21	22	1712
Long, P. A., Graham, N. C. Smoking-tobacco	9,627	Aug. 29	22	686
Love, John W., New York, N. Y. Cigars, cigarettes, and smoking and chewing tobacco	9,628	Aug. 29	22	686
Lozano, Pendas & Co., New York, N. Y. Cigars	9,765	Oct. 31	22	1450
Lozano, Pendas & Co., New York, N. Y. Cigars	9,766	Oct. 31	22	1450
Lozano, Pendas & Co., New York, N. Y. Cigars	9,855	Dec. 5	22	1886
Lucas, John, Philadelphia, Pa. Ready-mixed paints	9,584	Aug. 1	22	334
Lucas, John, Philadelphia, Pa. Ready-mixed paints	9,585	Aug. 1	22	334
Ludeman, Harm H., Brooklyn, N. Y. Corn-starch	9,856	Dec. 5	22	1886
Ludlow, John R., Norfolk, Va. Bitters	9,903	Dec. 26	22	2162
Lustro Company, New York, N. Y. Certain preparation for dressing and polishing leather boots and shoes	9,778	Nov. 7	22	1540
Lutmer, Herman, Cincinnati, Ohio. Cigars	9,693	Sept. 26	22	1042
Maltine Manufacturing Company, New York, N. Y. Medicinal compounds or substances	9,767	Oct. 31	22	1450
Marley Manufacturing Company, Newark, N. J. Shirts	9,530	July 11	22	90
Martell & Co., Cognac, France. Brandy	9,836	Nov. 21	22	1712
Martin & Co., A. B., Lynn and Boston, Mass. Calf-skins	9,779	Nov. 7	22	1540
Mason, Henry M., Boston, Mass. Cigars, cigarettes, and smoking and chewing tobacco	9,840	Nov. 28	22	1790
Maul, Adolph, New York, N. Y. Starch-gloss	9,721	Oct. 10	22	1210
Maw, Son & Thompson, S., 7 to 12 Aldersgate Street, London, England. Brushes	9,557	July 18	22	180
Maw & Son, New York, N. Y. Watch-movements	9,609	Aug. 15	22	502
McEwan, William, Edinburgh, Scotland. Malt liquors	9,863	Dec. 12	22	1960
McEwan, William, Edinburgh, Scotland. Malt liquors	9,864	Dec. 12	22	1960
McEwan, William, Edinburgh, Scotland. Malt liquors	9,865	Dec. 12	22	1960
McKee, Alexander K., West Brownsville, Pa. Hair-restorative	9,645	Sept. 5	22	774
McLaughlin, William F., Chicago, Ill. Unground roasted coffee	9,715	Oct. 10	22	1210
Mencken & Bro., Aug., Baltimore, Md. Cigars and cigarettes	9,511	July 4	22	2
Mencken & Bro., Aug., Baltimore, Md. Cigars and cigarettes	9,512	July 4	22	2
Mende Brothers, Philadelphia, Pa. Cheese	9,713	Oct. 10	22	1210
Mendel, Henry M., Milwaukee, Wis. Chewing and smoking tobacco, cigars, and cigarettes	9,684	Sept. 19	22	948
Menéndes & Bro., José, New York, N. Y. Flour	9,806	Nov. 14	22	1627
Merwin, Hulbert & Co., New York, N. Y. Revolving-cylinder pistols	9,824	Nov. 21	22	1712
Messinger, Charles R., Toledo, Ohio. Chewing-tobacco	9,634	Aug. 29	22	686
Milco, Giovanni N., Stockton, Cal. Insect-destroying powder	9,734	Oct. 17	22	1296
Miller, John M., Cincinnati, Ohio. Vehicle-springs	9,629	Aug. 29	22	686
Mindt, Charles, Lisbon, N. H. Shoe-pegs	9,768	Oct. 31	22	1450
Monroe, Isaac C., Brooklyn, N. Y. Remedy for malaria and fever and ague	9,860	Dec. 5	22	1886
Moore, William B., East Saginaw, Mich. Dunk's camphorated arnica and other proprietary medicines	9,513	July 4	22	2
Moore, William B., East Saginaw, Mich. Remedy and cure for corns, bunions, and other similar diseases	9,793	Nov. 7	22	1540
Morgan Bros., London, England. Port-wine	9,735	Oct. 17	22	1296
Morgan Bros., London, England. Port-wine	9,736	Oct. 17	22	1296

Alphabetical list of registrants of trade-marks, July to December, inclusive—Continued.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Mullin, Thomas, Ellenborough, W. Va. Compound extract of roots for the cure of scrofula, ulcers, sores, tumors, boils, and the like	9,646	Sept. 5	22	774
Mumm & Co., G. H., Reims, France. Champagne-wine	9,780	Nov. 7	22	1540
Mumm & Co., G. H., Reims, France. Champagne-wine	9,837	Nov. 21	22	1712
Napier, James, Brooklyn, N. Y. Washing-powder	9,558	July 18	22	180
New York Consolidated Card Company, New York, N. Y. Playing-cards	9,825	Nov. 21	22	1712
Nichols & Co., S. B., New York, N. Y. Spool-thread	9,686	Sept. 19	22	948
Nichols, Samuel B., New York, N. Y. Spool cotton or thread	9,685	Sept. 19	22	948
Nye Brothers & Co., Zanesville, Ohio. Medicinal article used for toilet and other purposes	9,749	Oct. 24	22	1370
O'Neill, Andrew, New Haven, Conn. Tinned sheet copper or brass	9,514	July 4	22	2
Olcovich Brothers, San Francisco, Cal. Teas, coffees, and spices	9,665	Sept. 12	22	864
Orkney Chemical Company, Baltimore, Md. Certain medicinal preparations	9,621	Aug. 22	22	590
Osborne, Thomas, London, England. Sherry-wine	9,592	Aug. 8	22	422
Pace Tobacco Company, J. B., Richmond, Va. Plug or chewing tobacco, smoking-tobacco, and cigarettes	9,669	Sept. 19	22	948
Pace Tobacco Company, J. B., Richmond, Va. Plug or chewing tobacco, smoking-tobacco, and cigarettes	9,670	Sept. 19	22	948
Pace Tobacco Company, J. B., Richmond, Va. Plug or chewing tobacco, smoking-tobacco, and cigarettes	9,671	Sept. 19	22	948
Pace Tobacco Company, J. B., Richmond, Va. Plug or chewing tobacco, smoking-tobacco, and cigarettes	9,672	Sept. 19	22	948
Pace Tobacco Company, J. B., Richmond, Va. Plug or chewing tobacco, smoking-tobacco, and cigarettes	9,673	Sept. 19	22	948
Pace Tobacco Company, J. B., Richmond, Va. Plug or chewing tobacco, smoking-tobacco, and cigarettes	9,674	Sept. 19	22	948
Pace Tobacco Company, J. B., Richmond, Va. Plug or chewing tobacco, smoking-tobacco, and cigarettes	9,675	Sept. 19	22	948
Pace Tobacco Company, J. B., Richmond, Va. Plug or chewing tobacco, smoking-tobacco, and cigarettes	9,676	Sept. 19	22	948
Pace Tobacco Company, J. B., Richmond, Va. Plug or chewing tobacco, smoking-tobacco, and cigarettes	9,677	Sept. 19	22	948
Pace Tobacco Company, J. B., Richmond, Va. Plug or chewing tobacco, smoking-tobacco, and cigarettes	9,678	Sept. 19	22	948
Pace Tobacco Company, J. B., Richmond, Va. Plug or chewing tobacco, smoking-tobacco, and cigarettes	9,679	Sept. 19	22	948
Pace Tobacco Company, J. B., Richmond, Va. Smoking-tobacco, chewing-tobacco, cigars, and cigarettes	9,781	Nov. 7	22	1540
Pace Tobacco Company, J. B., Richmond, Va. Smoking-tobacco, chewing-tobacco, cigars, and cigarettes	9,794	Nov. 7	22	1540
Paine, Rufus J., Mansfield, Mass. Soap-powder or concentrated soap	9,559	July 18	22	180
Passavant & Co., New York, N. Y. Dress-silks	9,801	Nov. 14	22	1627
Pater, Joseph J., Hamilton, Ohio. Medicinal compound	9,660	Sept. 12	22	864
Patterson & Co., R. A., Richmond, Va. Plug chewing-tobacco	9,769	Oct. 31	22	1450
Patterson & Co., R. A., Richmond, Va. Plug chewing-tobacco	9,770	Oct. 31	22	1450
Perin, Panhard & Co., Paris, France. Band-saws and strip-knives	9,707	Oct. 3	22	1136
Perrin Frères, New York, N. Y. Gloves	9,851	Dec. 5	22	1886
Pfingst, Doerhoefer & Co., Louisville, Ky. Plug-tobacco	9,771	Oct. 31	22	1450
Pfingst, Doerhoefer & Co., Louisville, Ky. Plug-tobacco	9,895	Dec. 19	22	2074
Pierce, Henry L., Boston, Mass. Breakfast-cocoa	9,560	July 18	22	180
Pollard & Co., Hot Springs, Ark. Certain medicinal preparations	9,561	July 18	22	180
Pommery & Fils, Veuve, Reims, France. Champagne-wine	9,797	Nov. 7	22	1540
Pommery & Fils, Veuve, Reims, France. Champagne-wine	9,798	Nov. 7	22	1540
Portland Cement Fabrik "Stern," Toepffer, Grawitz & Co., Stettin, Germany. Portland cement	9,687	Sept. 19	22	948
Preservaline Manufacturing Company, New York, N. Y. Preserving compound	9,593	Aug. 8	22	422
Procter & Gamble, Cincinnati, Ohio. Soap	9,826	Nov. 21	22	1712
Procter & Gamble, Cincinnati, Ohio. Soap	9,827	Nov. 21	22	1712
Procter & Gamble, Cincinnati, Ohio. Soap	9,828	Nov. 21	22	1712
Procter & Gamble, Cincinnati, Ohio. Soaps, candles, oils, and lard	9,829	Nov. 21	22	1712
Procter & Gamble, Cincinnati, Ohio. Laundry-soap	9,841	Nov. 28	22	1790
Procter & Gamble, Cincinnati, Ohio. Laundry-soap	9,842	Nov. 28	22	1790
Procter & Gamble, Cincinnati, Ohio. Laundry-soap	9,843	Nov. 28	22	1790
Procter & Gamble, Cincinnati, Ohio. Laundry-soap	9,844	Nov. 28	22	1790
Procter & Gamble, Cincinnati, Ohio. Laundry-soap	9,849	Nov. 28	22	1790
Procter & Gamble, Cincinnati, Ohio. Laundry-soap	9,876	Dec. 19	22	2074
Procter & Gamble, Cincinnati, Ohio. Laundry-soap	9,877	Dec. 19	22	2074
Procter & Gamble, Cincinnati, Ohio. Laundry-soap	9,878	Dec. 19	22	2074
Procter & Gamble, Cincinnati, Ohio. Laundry-soap	9,879	Dec. 19	22	2074
Procter & Gamble, Cincinnati, Ohio. Toilet-soap	9,880	Dec. 19	22	2074
Procter & Gamble, Cincinnati, Ohio. Laundry-soap	9,881	Dec. 19	22	2074
Procter & Gamble, Cincinnati, Ohio. Laundry-soap	9,882	Dec. 19	22	2074
Procter & Gamble, Cincinnati, Ohio. Laundry-soap	9,883	Dec. 19	22	2074
Procter & Gamble, Cincinnati, Ohio. Laundry-soap	9,884	Dec. 19	22	2074
Procter & Gamble, Cincinnati, Ohio. Laundry-soap	9,885	Dec. 19	22	2074
Procter & Gamble, Cincinnati, Ohio. Laundry-soap	9,886	Dec. 19	22	2074
Procter & Gamble, Cincinnati, Ohio. Laundry-soap	9,887	Dec. 19	22	2074
Procter & Gamble, Cincinnati, Ohio. Laundry-soap	9,888	Dec. 19	22	2074
Procter & Gamble, Cincinnati, Ohio. Laundry-soap	9,889	Dec. 19	22	2074
Procter & Gamble, Cincinnati, Ohio. Toilet-soap	9,890	Dec. 19	22	2074
Procter & Gamble, Cincinnati, Ohio. Laundry-soap	9,891	Dec. 19	22	2074
Procter & Gamble, Cincinnati, Ohio. Laundry-soap	9,892	Dec. 19	22	2074
Procter & Gamble, Cincinnati, Ohio. Laundry-soap	9,896	Dec. 19	22	2074
Puck Manufacturing Company, New York, N. Y. Candy	9,838	Nov. 21	22	1712
Reed & Carnrick, New York, N. Y. Medicinal food products, compounds, or substances	9,740	Oct. 17	22	1296
Reimer & Co., W. G., Philadelphia, Pa. Dental preparations	9,515	July 4	22	2
Renauld & Niederstadt, New York, N. Y. Brandy	9,594	Aug. 8	22	422
Rheumatine Manufacturing Company, St. Catharines, Ontario, Canada. Medicine for the cure of rheumatism	9,717	Oct. 10	22	1210
Rice, Benton F. (See Rice, Newton J. and B. F.)				
Rice, Newton J. and B. F., Newton Falls, Ohio. Vulnerary Balsam	9,661	Sept. 12	22	864
Rieger, Wilhelm, Frankfort-on-the-Main, Germany. Perfumery, toilet-soaps, tooth-powders, and cosmetics	9,647	Sept. 5	22	774
Rigaud, Jean B. F., Paris, France. Perfumery	9,716	Oct. 10	22	1210
Russell Cutlery Company, John, Turner's Falls, Mass. Table, butcher, and hunting knives	9,516	July 4	22	2
Ryan, James F., Zanesville, Ohio. Certain kinds of cured meats	9,694	Sept. 26	22	1042

Alphabetical list of registrants of trade-marks, July to December, inclusive—Continued.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Ryder, S. Oscar. (See Hoadley & Co., assignors.)				
Salmon, Hancock & Co., Richmond, Va. Chewing and smoking tobacco	9,739	Oct. 17	22	1296
Sanchez & Haya, New York, N. Y. Cigars	9,811	Nov. 14	22	1627
Schiedt, J. A., Philadelphia, Pa. Mixture of pulverized cocoa-beans and granulated extract of malt	9,610	Aug. 15	22	502
Schmidlapp & Co., Cincinnati, Ohio. Whisky	9,857	Dec. 5	22	1886
Schmidt & Brother, Cincinnati, Ohio. Lager-beer	9,542	July 11	22	90
Schultz & Co., Zanesville, Ohio. Soap	9,795	Nov. 7	22	1540
Schultze, Paul, San Francisco, Cal. Toothache-drops	9,893	Dec. 19	22	2074
Schumacher & Ettlinger, New York, N. Y. Prints, labels, show-cards, calendars, printed cards, and tags	9,737	Oct. 17	22	1296
Schwarz, Ignatius G., Chicago, Ill. Stove-polish	9,908	Dec. 26	22	2162
Sonderhauf & Schultz, Milwaukee, Wis. Soap	9,796	Nov. 7	22	1540
Shamalia, George M., Lambertville, N. J. Medicinal compound	9,517	July 4	22	2
Sharpless & Sons, Philadelphia, Pa. Perfumes	9,738	Oct. 17	22	1296
Sherman, Clay & Co., San Francisco, Cal. Violin-strings	9,574	July 25	22	264
Sherman, Clay & Co., San Francisco, Cal. Accordions	9,575	July 25	22	264
Simmonds, George, San Francisco, Cal. Whisky	9,718	Oct. 10	22	1210
Simonson, Albert, New York, N. Y. Cosmetic, powder, pomade, perfumery, and other toilet preparations	9,518	July 4	22	2
Sise, Albert F., Medford, Mass. Refined petroleum-oil	9,622	Aug. 22	22	590
Sise, Albert F., Medford, Mass. Refined petroleum-oil	9,623	Aug. 22	22	590
Smith, James, *et al.* (See Wellman, Sumner W., assignor.)				
Smith, John W., *et al.* (See Wellman, Sumner W., assignor.)				
Smith, Martha M., Chicago, Ill. Salve	9,866	Dec. 12	22	1980
Smith, Mendel & Co., Milwaukee, Wis. Cigars, cigarettes, and all kinds of chewing and smoking tobacco	9,544	July 11	22	90
Spencer & Co., Walter, Rotherham, county of York, England. Cast-steel	9,545	July 11	22	90
Spencer & Co., Walter, Rotherham, county of York, England. Steel	9,587	Aug. 1	22	334
Spiegel, Morris, New York, N. Y. Turkish-prune-juice extract	9,894	Dec. 19	22	2074
Stanard & Co., E. O., St. Louis, Mo. Wheat-flour	9,750	Oct. 24	22	1370
Stanard & Co., E. O., St. Louis, Mo. Wheat-flour	9,751	Oct. 24	22	1370
Stanard & Co., E. O., St. Louis, Mo. Wheat-flour	9,752	Oct. 24	22	1370
Steinway & Sons, New York, N. Y. Piano-fortes and parts thereof	9,820	Nov. 21	22	1712
Steinway & Sons, New York, N. Y. Piano-fortes and parts thereof	9,821	Nov. 21	22	1712
Stenger, Nickolaus, New York, N. Y. Salve	9,662	Sept. 12	22	864
Stephani & Co., A., New York, N. Y. Castile soap	9,624	Aug. 22	22	590
St. John Sewing Machine Company, Springfield, Ohio. Sewing-machines	9,667	Sept. 12	22	864
St. John Sewing Machine Company, Springfield, Ohio. Sewing-machines	9,668	Sept. 12	22	864
Strasser & Co., M., Albany, N. Y. Cigars, smoking, and chewing tobacco, cigarettes, and snuff	9,867	Dec. 12	22	1980
Strasser & Co., M., Albany, N. Y. Cigars	9,868	Dec. 12	22	1980
Stranss & Co., A. W., Boston, Mass. Paints and painters' supplies	9,830	Nov. 21	22	1712
Strutz, Charles O., Chicago, Ill. Washing compound	9,782	Nov. 7	22	1540
Suarez & Bro., New Orleans, La. Cigars	9,615	Aug. 22	22	590
Thiele, Otto A., Milwaukee, Wis. Medicinal preparations	9,586	Aug. 1	22	334
Thomasson, Charles R., Palestine, Tex. Certain medicines	9,663	Sept. 12	22	864
Thomson, Elbert, Baltimore, Md. Sugar-corn	9,875	Dec. 19	22	2074
Thorpe, Philip, New York, N. Y. Prepared flour	9,688	Sept. 19	22	948
Thurber & Co., A. D., New York, N. Y. Roasted coffee	9,519	July 4	22	2
Tibbetts, Joseph. (See Janes and Tibbetts.)				
Tooker, William W., Sag Harbor, N. Y. Ointment	9,918	Dec. 26	22	2162
Toser Company, Herman, Milwaukee, Wis. Bitters	9,792	Nov. 7	22	1540
Tremont & Suffolk Mills, Lowell, Mass. Cotton goods	9,562	July 18	22	180
Trenor, Henry H., New York, N. Y. Pickaxes, hatchets, axes, and hammers	9,595	Aug. 8	22	422
Turner & Harrison, Philadelphia, Pa. Steel and other pens	9,822	Nov. 21	22	1712
Union Tobacco Works, Louisville, Ky. Plug or fine-cut chewing tobacco	9,869	Dec. 12	22	1980
Unz, H. H., Chicago, Ill. Type-writing machine	9,690	Sept. 19	22	948
Vacheron & Constantin, Geneva, Switzerland, and New York, N. Y. Watch cases and movements	9,783	Nov. 7	22	1540
Vacheron & Constantin, Geneva, Switzerland, and New York, N. Y. Watch cases and movements	9,845	Nov. 28	22	1790
Valle, Elias, New York, N. Y. Cigars	9,611	Aug. 15	22	502
Valle, Elias, New York, N. Y. Cigars	9,612	Aug. 15	22	502
Veall, James, Sheffield, county of York, England. Knives, razors, scissors, and all kinds of cutlery and edge-tools	9,546	July 11	22	90
Venable & Co., S. W., Petersburg, Va. Plug or chewing tobacco	9,784	Nov. 7	22	1540
Venable & Co., S. W., Petersburg, Va. Plug or chewing tobacco	9,785	Nov. 7	22	1540
Vermont Farm Machine Company, Bellows Falls, Vt. Vessels or apparatus for cooling milk and for raising cream	9,596	Aug. 8	22	422
Vogt, Adalbert, Berlin, Germany. Polishing compound	9,858	Dec. 5	22	1886
Vordick, August H., St. Louis, Mo. Medical compounds	9,772	Oct. 31	22	1450
Vordick, August H., St. Louis, Mo. Certain medical preparation	9,870	Dec. 12	22	1980
Wakefield & Co., C., Bloomington, Ill. Certain medicinal preparations	9,636	Aug. 29	22	686
Walrath, Winfred Y., Syracuse, N. Y. Baking-powder	9,576	July 25	22	264
Warner, Hulbert H., Rochester, N. Y. Certain medical compound	9,577	July 25	22	264
Warner, Hulbert H., Rochester, N. Y. Certain medical compounds	9,597	Aug. 8	22	422
Warner, Hulbert H., Rochester, N. Y. Remedy for Bright's disease	9,871	Dec. 12	22	1980
Warner, William R., Philadelphia, Pa. Remedy for indigestion	9,911	Dec. 26	22	2162
Washburn & Moen Manufacturing Company, Worcester, Mass. Barbed wire	9,669	Sept. 19	22	948
Watkins, Columbus, Odessa, Del. Canned goods	9,635	Aug. 29	22	686
Waukenphast & Co., London, England. Boots and shoes	9,520	July 4	22	2
Weeden, Arraline, New York, N. Y. Toilet preparation	9,846	Nov. 28	22	1790
Wellman, Sumner W., Boston, assignor to J. Smith, Cambridgeport, and J. W. Smith, Allston, Mass. Preparation for the cure or alleviation of cutaneous diseases	9,919	Dec. 26	22	2162
Wells, Ephraim S., Jersey City, N. J. Corn, wart, and bunion cure	9,859	Dec. 5	22	1886
Werlé & Co., Rheims, France. Champagne-wine	9,521	July 4	22	2
Wertheimer, L. & E., New York, N. Y., and San Francisco, Cal. Chewing and smoking tobacco, cigars, and cigarettes	9,531	July 11	22	90
Wertheimer, L. & E., New York, N. Y., and San Francisco, Cal. Smoking and chewing tobacco, cigars, cigarettes, cheroots, and snuff	9,579	Aug. 1	22	334
Westermann & Co., Rochester, N. Y. Bitters	9,701	Sept. 26	22	1042
Whiteford, W. Scott, Delta, Pa. Canned tomatoes	9,543	July 11	22	90
Whiting, John L., Boston, Mass. Paint, varnish, and sash-tool brushes	9,897	Dec. 19	22	2074
Whiting, John L., Boston, Mass. Paint, varnish, and sash-tool brushes	9,898	Dec. 19	22	2074
Whiting, John L., Boston, Mass. Paint, varnish, and sash-tool brushes	9,899	Dec. 19	22	2074

Alphabetical list of registrants of trade-marks, July to December, inclusive—Continued.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Whitman & Welch, New York, N. Y., and Hartford, Conn. Brown and bleached sheetings and drillings	9,578	July 25	22	264
Wiggenhorn Bros., Watertown, Wis. Cigars	9,832	Nov. 21	22	1712
Wildey, Charles F., New York, N. Y. Malt, alcoholic, fermented, and unfermented liquors	9,909	Dec. 26	22	2162
Wilkerson, Basil M., New York, N. Y. Printed publication	9,812	Nov. 14	22	1627
Williams, John R., Stockton, Cal. Cosmetic	9,563	July 18	22	180
Wirbel & Co., R. A., Haynau, Germany, and New York, N. Y. Tanning compound	9,786	Nov. 7	22	1540
Wirbel & Co., R. A., Haynau, Germany, and New York, N. Y. Tanning compound	9,787	Nov. 7	22	1540
Wise, A. Judson, Chicago, Ill. Axle-grease	9,535	July 18	22	180
Wolff & Knippenberg, Ichtershausen, Germany. Needles	9,833	Nov. 21	22	1712
Wood, Pollard & Co., Boston, Mass. Whisky	9,910	Dec. 26	22	2162
Wrenn, Whitehurst & Co., Norfolk, Va. Baling-presses	9,648	Sept. 5	22	774
Wyckoff, William H., New Brunswick, N. J. Plasters	9,904	Dec. 26	22	2162
Yuengling, David G., Jr., New York, N. Y. Lager-beer, beer, ale, and porter	9,598	Aug. 8	22	422

ALPHABETICAL LIST OF REGISTRANTS OF LABELS.

Name, residence, and title.	No.	Date.	Official Gazette. Volume.	Page.
Abbott & Co., C. W., Baltimore, Md. "Abbott's Prepared Medicated Oyster Shell Remedy"	2,768	Sept. 26	22	1042
Abraham, Benjamin, New York, N. Y. "Pointing Furs"	2,767	Sept. 26	22	1042
Albright, Orwren W., Puckett's Station, Ga. "Albright's Tonic Bitters"	2,755	Sept. 12	22	864
Aleing, John R., New York, N. Y. "Fresco White"	2,708	July 4	22	2
Antitropic Company, London, England. "The Antitropic Annatto for Cheese Coloring"	2,771	Oct. 3	22	1136
Antitropic Company, London, England. "Antitropic Cowslip Color for Butter"	2,772	Oct. 3	22	1136
Antitropic Company, London, England. "Antitropic Pure Concentrated Rennet"	2,773	Oct. 3	22	1136
Ashley, J. J., Brooklyn, N. Y. "Ashley's Liquid Plaster"	2,745	Aug. 22	22	590
Andrade, Louis E. (See Schadt and Andrade.)				
Ayling, Kohn & Co., Chicago, Ill. "Liquid Waterproof Stove Polish"	2,726	July 23	22	264
Bacot & Co., D. T., Greenville, S. C. "West End Drug Store"	2,801	Nov. 14	22	1627
Bailey, Ellene A., St. Charles, Mo. "Bailey's Pond Lily Puff"	2,863	Dec. 26	22	2162
Bailey, Ezra H., Washington, D. C. "Juniperus Water"	2,717	July 18	22	180
Bailey, Ezra H., Washington, D. C. "Lake Drummond Water"	2,718	July 18	22	180
Bailey, Ezra H., Washington, D. C. "Cedar Water"	2,719	July 18	22	180
Bailey, Ezra H., Washington, D. C. "Juniper Water"	2,720	July 18	22	180
Bass, Samuel C., Booneville, N. Y. "Botanical oil"	2,746	Aug. 22	22	590
Bassett, James T., Jacksonville, Fla. "St. Josephs Oil"	2,838	Dec. 5	22	1886
Bates & Co., San Francisco, Cal. "Bates' Marvelous Liniment"	2,860	Dec. 19	22	2074
Bayles, William H. (See Keep and Bayles.)				
Bean & Rabe, Philadelphia, Pa. "Chinese Clothes Cleaner"	2,779	Oct. 17	22	1296
Bean & Rabe, Philadelphia, Pa. "Chinese Renovator"	2,780	Oct. 17	22	1296
Bigelow, Charles. (See Healy and Bigelow.)				
Bischoff, Schultz & Co., New York, N. Y. "Sarah Bernhardt"	2,815	Nov. 21	22	1712
Bishop, Simeon, Reno, Nev. "The Female Tonic"	2,713	July 11	22	90
Bishop, Simeon, Reno, Nev. "Compound Mountain Sage"	2,776	Oct. 10	22	1210
Blair, J. C., Huntingdon, Pa. "The Imperial Box"	2,850	Dec. 12	22	1980
Bradley, Kurtz & Co., New York, N. Y. "New York City Roller Flour Mills, Hungarian Process"	2,751	Sept. 5	22	774
Boyken, J. Anton. (See Boyken, J. William and J. A.)				
Boyken, J. William and J. A., New York, N. Y. "Dr. Campbell's Antibilious Powder"	2,729	Aug. 1	22	334
Brown, George S., Providence, R. I. "Carbolized Absorbent Towels"	2,756	Sept. 12	22	864
Brown, John, Grand Rapids, Mich. "Brown's Ague Cure or Paddie's "Dead Shot"	2,785	Nov. 7	22	1540
Brownell, William H., Brooklyn, N. Y. "First Premium Sheet Wax"	2,865	Dec. 26	22	2162
Buchanan, John U. (See Force and Buchanan.)				
Buckingham, James H., Philadelphia, Pa. "Brown Mixture Lozenges"	2,839	Dec. 5	22	1886
Butcher's Sons, Washington, Philadelphia, Pa. "An Olive Butter Label"	2,857	Dec. 19	22	2074
Butcher's Sons, Washington, Philadelphia, Pa. "An Olive Butter Label"	2,858	Dec. 19	22	2074
Carlton, Frederick, Boston, Mass. "English Blend"	2,739	Aug. 22	22	590
Chamberlain & Co., Des Moines, Iowa. "Chamberlain's Colic Cholera and Diarrhœa Remedy"	2,736	Aug. 15	22	502
Chamberlain & Co., Des Moines, Iowa. "Chamberlain's Pain-Balm"	2,752	Sept. 5	22	774
Chamberlain & Co., Des Moines, Iowa. "Chamberlain's Cough Remedy"	2,760	Sept. 19	22	948
Chambers & Co., David, Ottumwa, Iowa. "Vienna Corn Remover"	2,833	Nov. 28	22	1790
Clifford & Co., Boston, Mass. "Perfumed Witch Hazel (Hamamelis Odoriferante)"	2,721	July 18	22	180
Coker, William, Oakland, Cal. "Dr. Wallace S. Springsteen's Celebrated Antiseptic Uterine Capsules"	2,761	Sept. 19	22	948
Collins Company, Collinsville, Conn. "The Emu Axe"	2,769	Sept. 26	22	1042
Cook, Henry D., Philadelphia, Pa. "Cook's Crystal Bitters"	2,802	Nov. 14	22	1627
Corwin, Theadore L., Marathon, N. Y. "Corwin's Antiseptine"	2,786	Nov. 7	22	1540
Crane & Bro., Z., Jr., Dalton, Mass. "Five Packs Crane's Extra Superfine Ladies' Envelopes. Commercial"	2,787	Nov. 7	22	1540
Crane & Bro., Z., Jr., Dalton, Mass. "Five Packs Crane's Superfine Ladies' Envelopes. Octavo"	2,788	Nov. 7	22	1540
Culbertson, John H., Waterville, N. Y. "Dr. Brackett's Improved Flexible Hip, (for corsets)"	2,840	Dec. 5	22	1886
De Angelis & Co., R. E., New York, N. Y. "Capito Hair Renewer and Invigorator"	2,866	Dec. 26	22	2162
De Camp & Co., John, Newfield, N. J. "De Camp's Pure Malt Vinegar"	2,714	July 11	22	90
Damour, Ferdinand, Waterville, Kans. "Arizona Gall Ointment"	2,770	Sept. 26	22	1042
Daniels, D. J. Madison, Virginia City, Nev. "Guarantee Ague Cure"	2,753	Sept. 5	22	774
Davis, Isaac, Dayton, Ohio. "Calcium Oil"	2,803	Nov. 14	22	1627
Dillingham & Wells, Buffalo, N. Y. "National Guard 74th Regiment"	2,816	Nov. 21	22	1712
Drake, Arathena B., Boston, Mass. "Arathena Pile Cure"	2,841	Dec. 5	22	1886
Earl & Wilson, New York, N. Y. "Earl & Wilson's Bead Edge Cuffs Patented October 30, 1877"	2,817	Nov. 21	22	1712
Eckstein, Hoffmann & Porr, New York, N. Y. "Chvloong's Chrystallized Ginger Canton"	2,855	Dec. 19	22	2074
Ellis & Co., H., Baltimore, Md. "Label or Tag for Cigars"	2,818	Nov. 21	22	1712
Ellis & Co., H., Baltimore, Md. "White Star Line" (for Cigars)	2,834	Nov. 28	22	1790
Ellis & Co., H., Baltimore, Md. "White Star Line" (for Cigars)	2,835	Nov. 28	22	1790
Ellis, Theodore W., Macon, Ga. "The Perfected Liver Pills"	2,867	Dec. 26	22	2162
Emmert Proprietary Company, Chicago, Ill. "Uncle Sam's Condition Powders"	2,804	Nov. 14	22	1627
Engle & Co., Austin, Minn. "Engle's New Roller Mills"	2,805	Nov. 14	22	1627
Ettinger & Wilson, Cleveland, Ohio. "Ratan Mouth Piece"	2,813	Nov. 14	22	1627
Ettinger & Wilson, Cleveland, Ohio. "Patti Cigarettes"	2,814	Nov. 14	22	1627
Foote, Arthur W., New York, N. Y. "La Flor de Salvini"	2,842	Dec. 5	22	1886
Force, Herman, and J. U. Buchanan, Montrose, N. Y. "Durable Shelf Covers"	2,727	July 25	22	264
French & Gardner, New York, N. Y. "Caw's Ink"	2,819	Nov. 21	22	1712
Gaff, John V., Denver, Colo. "Dr. Gaff's Mountain Sage Bitters"	2,781	Oct. 24	22	1370
Gaff, John V., Denver, Colo. "Dr. Gaff's Compound Syrup of Mountain Sage"	2,782	Oct. 24	22	1370
Gaff, John V., Denver, Colo. "Dr. Gaff's Renewal of Life or Great Rhenmatic Liniment"	2,820	Nov. 21	22	1712
Gail & Ax, G. W., Baltimore, Md. "Toodles"	2,837	Nov. 28	22	1790
Garrison, Long & Co., East Portland, Oreg. "Golden Role Washing Powder"	2,821	Nov. 21	22	1712
Geary, Milo M., Cincinnati, Ohio. "Golden Root Compound." (For Liniment)	2,868	Dec. 26	22	2162
Gedney, Leah H., New York, N. Y. "Perry & Co's, London, England, Superior Soluble Compound Gelatine Capsules"	2,869	Dec. 26	22	2162

Alphabetical list of registrants of labels, July to December, inclusive—Continued.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Gedney, Leah H., New York, N. Y. "Perry & Co's, London, England, Superior Soluble Gelatine Capsules"	2,870	Dec. 26	22	2162
Ghio, Appolonio P., St. Louis, Mo. "La Confesion"	2,861	Dec. 19	22	2074
Gibb, Robert S., Philadelphia, Pa. "Gibb's Liniment"	2,709	July 4	22	2
Gillett, Albert B., Hartford, Conn. "Lavine Soap"	2,762	Sept. 19	22	948
Ginter, Lewis, Richmond, Va. "Straight Cut Cigarettes"	2,822	Nov. 21	22	1712
Gould, Edmond, Augusta, Me. "Prof. Gould's Worm Powders"	2,851	Dec. 12	22	1980
Grange, Thaddeus C., Philadelphia, Pa. "New Process Cigars"	2,806	Nov. 14	22	1627
Hall, John R., Monticello, Ark. "Hall's Healing and Cooling Ointment"	2,749	Aug. 29	22	686
Hance Brothers and White, Philadelphia, Pa. "Phénol Sodique"	2,747	Aug. 22	22	590
Healy, John E., and C. Bigelow, Boston, Mass. "The Indian Oil"	2,722	July 18	22	180
Healy, John E., and C. Bigelow, Boston, Mass. "Sagwa Indian Stomach and Liver Renovator"	2,723	July 18	22	180
Hecht, Seligman, Springfield, Ill. "Watch Factory at Springfield, Ill"	2,879	Dec. 26	22	2162
Hess, Bethany, Junction City, Kans. "Excelsior Yeast"	2,862	Dec. 19	22	2074
Howes, Margaret K., New York, N. Y. "Howes' Instant Relief"	2,737	Aug. 15	22	502
Howes, Margaret K., New York, N. Y. "Howes' Dazzelene"	2,852	Dec. 12	22	1980
Hughes, George, New York, N. Y. "Lemon Fruit Saline"	2,740	Aug. 22	22	590
Isaacs & Co., Leon, Philadelphia, Pa. "Glucinum"	2,809	Nov. 14	22	1627
Jackson & Tucker, Baltimore, Md. "Iron Beer"	2,882	Dec. 26	22	2162
Jewell Milling Company, Brooklyn, N. Y. "White Light New Process Flour"	2,738	Aug. 15	22	502
Johnson, David A., Crawfordsville, Ind. "D. A. Johnson's Remedy for Catarrh, Phthisic, Coughs, Asthma, Croup and Colds"	2,873	Dec. 26	22	2162
Keeley, Leslie E., Dwight, Ill. "Dr. L. E. Keeley's Double Chloride of Gold Cure for the Opium Habit"	2,730	Aug. 1	22	334
Keep, James M., and W. H. Bayles, Montclair, N. J. "Paste Powder"	2,783	Oct. 24	22	1370
Kerr & Co., East Newark, N. J., and New York, N. Y. "Kerr & Co's Extra Six Cord Cotton"	2,784	Oct. 24	22	1370
Krauser & Brother, E., Milton, Pa. "Krauser's Liquid Extract of Smoke"	2,823	Nov. 21	22	1712
Laidlow, Esther A. (See States, Rudd, and Laidlow.)				
Lake, Herbert W., Waterbury, Conn. "Hop Celery & Chamomile Bitters"	2,731	Aug. 1	22	334
Leis Chemical Manufacturing Company, Lawrence, Kans. "Leis Dandelion Tonic"	2,808	Nov. 14	22	1627
Lewin, Marcus, Medina, N. Y. "The Bohemian Hand Made Cigar"	2,853	Dec. 12	22	1980
Lewis, George, and J. Smith, Philadelphia, Pa. "XX Cough Drops"	2,856	Dec. 19	22	2074
Lichty, Norman, Des Moines, Iowa. Chryso Corn Cure"	2,807	Nov. 14	22	1627
Lord, J. J., Springfield, Ill. "Dr. Topping's Alterative and Cathartic Syrup"	2,810	Nov. 14	22	1627
Lottier, Lawrence, Richmond, Va. "Butterfly"	2,789	Nov. 7	22	1540
Lottier, Lawrence, Richmond, Va. "Durham Bull"	2,790	Nov. 7	22	1540
Lottier, Lawrence, Richmond, Va. "Lily White"	2,791	Nov. 7	22	1540
Lottier, Lawrence, Richmond, Va. "Red Rose"	2,792	Nov. 7	22	1540
Luyties Brothers, New York, N. Y. "De Luyties Special"	2,824	Nov. 21	22	1712
Lyon & Co., New York, N. Y. "Hubbardston Mills Superior Family Flour"	2,710	July 4	22	2
Mansfield, T. Hill, Portland, Me. "Mansfield's Capillaris Application for the Hair and Scalp"	2,741	Aug. 22	22	590
McGlashan, Mary J., Chicago, Ill. "Mrs. McGlashan's Scalp Curers and Hair Restorers"	2,742	Aug. 22	22	590
McGregor, Bradford, Covington, Ky. "Voice Bars"	2,732	Aug. 1	22	334
Megargel, Connell & Co., Scranton, Pa. "Simon Pure Baking Powder"	2,843	Dec. 5	22	1886
Mercer, Mary E., Boston, Mass. "Mercer's Rheumatic, Neuralgic and Gout Quick Cure"	2,777	Oct. 10	22	1210
Miles, F. L., Elkhart, Ind. "Restorative Nervine"	2,724	July 18	22	180
Morse & Co., B. B., Chicago, Ill. "The Morse Asthma Cure"	2,874	Dec. 26	22	2162
Nattall, J. G., Albany, N. Y. "Professor Nattali's Safe and Sure Cholera and Summer Complaint Cure"	2,715	July 11	22	90
Neer, Frank, Paterson, N. J. "Dr. Neer's Keystone Liniment"	2,844	Dec. 5	22	1886
New York Chemical Manufacturing Company, New York, N. Y. "Ruby's Royal Gilding"	2,793	Nov. 7	22	1540
New York Chemical Manufacturing Company, New York, N. Y. "William's Liquid Gold"	2,800	Nov. 7	22	1540
New York Consolidated Card Company, New York, N. Y. "Gem Playing Cards"	2,825	Nov. 21	22	1712
Orkney Chemical Company, Baltimore, Md. "Macarian Liniment"	2,826	Nov. 21	22	1712
Osborne, Thomas, Port St. Mary's, Spain. "Duff Gordon Sherry"	2,774	Oct. 3	22	1136
Otis Brothers, Binghamton, N. Y. "Otis Brothers' Never-Failing Corn Cure"	2,845	Dec. 5	22	1886
Pace Tobacco Company, J. B., Richmond, Va. "J. B. Pace's Fine Bright Virginia Tobacco. First Grade"	2,763	Sept. 19	22	948
Pace Tobacco Company, J. B., Richmond, Va. "J. B. Pace's Bright Virginia Tobacco. Second Grade"	2,764	Sept. 19	22	948
Paddock, Edgerton O., Boston, Mass. "Electro-Magnetic Spectacles"	2,798	July 25	22	244
Phillips, William B., Baltimore, Md. "Signal Service"	2,827	Nov. 21	22	1712
Pickit, J. B., Fergus Falls, Minn. "Pickit's New Cough Remedy"	2,875	Dec. 26	22	2162
Popham, J. W., Elizabethtown, Ky. "J. W. Popham's Laundry and Toilet Soaps"	2,742	Aug. 22	22	590
Popham, James W., Elizabethtown, Ky. "J. W. Popham's Chemical Inks and Dyes"	2,754	Sept. 5	22	774
Purdy & Stein, J. H., Chicago, Ill. "Pat. Geneva." (For Watch Crystals)	2,876	Dec. 26	22	2162
Ramsey, George, Paterson, N. J. "Winter Fluid"	2,828	Nov. 21	22	1712
Rano, Charles O., Buffalo, N. Y. "Wheat and Beef"	2,877	Dec. 26	22	2162
Rice, Henry H., Meriden, Conn. "Eclectic Liniment"	2,733	Aug. 1	22	334
Rieger, Wilhelm, Frankfort-on-the-Main, Germany. "Transparent Crystal Soap"	2,811	Nov. 14	22	1627
Robinson Bros., Ogdensburg, N. Y. "Sure Pile Cure"	2,743	Aug. 22	22	590
Robinson, Edward, Tallmadge, Ohio. "E. Robinson's Rheumatic Liniment"	2,775	Oct. 3	22	1136
Roethlisberger & Gerber, New York, N. Y. "Gerber's Milk Food"	2,829	Nov. 21	22	1712
Roethlisberger & Gerber, New York, N. Y. "Gerber's Milk Food"	2,830	Nov. 21	22	1712
Rottmann & Co., J. H., St. Louis, Mo. "Bester doppelter Steinhäger Wachholderoel u. Wachholdersaft"	2,778	Oct. 10	22	1210
Rudd, Frances A. (See States, Rudd, and Laidlow.)				
Rudd, Joseph F., Jacksonville, Tex. "Dr. Rudd's Vegetable Liver Regulator"	2,878	Dec. 26	22	2162
Saint Jacob's Bitters Company, Cincinnati, Ohio. "Celebrated Saint Jacob's Bitters"	2,854	Dec. 12	22	1980
Savage, M. W., Iowa Falls, Iowa. "Hawkeye Skin Remedy"	2,794	Nov. 7	22	1540
Scarr, F., Charlotte, N. C. "Scarr's Fruit Preservative"	2,765	Sept. 19	22	948
Schadt, Leonard, and L. E. Andrade, Springfield, Mass. "Miles Morgan Cigars"	2,847	Dec. 5	22	1886
Schott, Justus J., Galveston, Tex. "Schott's Concentrated Essence of Ginger & Mace"	2,735	Aug. 8	22	422
Schroeder, Henry, Chicago, Ill. "East India Insect Powder"	2,831	Nov. 21	22	1712
Silliman & Lenney, Chenoa, Ill. "Silliman & Lenney's New Discovery Rheumatic Specific"	2,757	Sept. 12	22	864
Smith Brothers, Boston, Mass. "Cactus Balm"	2,864	Dec. 26	22	2162
Smith & Hazard, Hanbury, New York, N. Y. "Hanbury Smith & Hazard's Carbonated Beverages"	2,880	Dec. 26	22	2162
Smith, Job. (See Lewis and Smith.)				
States, Sylvester M., Elmira, F. A. Rudd, Geneva, and E. A. Laidlow, Bath, N. Y. "Dr. S. M. States' Invigorator"	2,711	July 4	22	2
Stauff & Foster, Baltimore, Md. "Mrs. Stauff's Salve"	2,795	Nov. 7	22	1540
Stevenson, J. F., Allegheny, Pa. "Honey Dew"	2,796	Nov. 7	22	1540
Stewart, Ralph & Co., Philadelphia, Pa. "Ralph's Scotch Snuff"	2,734	Aug. 1	22	334
Stowe, Hiram S., Randolph, N. Y. "Stowe's Oriental Sea Foam Hair Dressing"	2,848	Dec. 5	22	1886
Striiven, John W., Baltimore, Md. "Bremer Bitters"	2,832	Nov. 21	22	1712

Alphabetical list of registrants of labels, July to December, inclusive—Continued.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Sutton & Co., F., Philadelphia, Pa. "Rainbow Blend" (for Coffee)	2,881	Dec. 26	22	2162
Tate, Hinrichs & Co., Baltimore, Md. "Gold Dust" (for Flour)	2,872	Dec. 26	22	2162
Thompson & Saxton, Oneonta, N. Y. "Thompson's Liniment"	2,846	Dec. 5	22	1886
Tinner's Union Knights of Labor, Pittsburg, Pa. "Tinners Union Seal," (for Tin Ware)	2,766	Sept. 19	22	948
Tyler, Harry C., Lafayette, Ind. "Foresman's Anodyne"	2,797	Nov. 7	22	1540
Tyler, Harry C., Lafayette, Ind. "Foresman's Vegetable Liver Pills"	2,798	Nov. 7	22	1540
Tyler, Harry C., Lafayette, Ind. "Morris' Celebrated English Stable Liniment for Horses"	2,799	Nov. 7	22	1540
Voigt, Adolph, Chicago, Ill. "Voigt's Zahnwasser"	2,725	July 18	22	180
Wakefield & Co., C., Bloomington, Ill. "Wakefield's Golden Ointment"	2,744	Aug. 22	22	590
Wakefield & Co., C., Bloomington, Ill. "Wakefield's Blackberry Balsam"	2,750	Aug. 29	22	686
Wakelee, Kate G., San Francisco, Cal. "K. Garrison's Lavender of Kensington"	2,849	Dec. 5	22	1886
Weber, Ella P., Chicago, Ill. "The English Milk Weed and Nut Oil"	2,716	July 11	22	90
Wellls, W. M. L., Harrisburg, Pa. "Rough on Corns, Bunions, Warts, Moles, &c"	2,883	Dec. 26	22	2162
Weinman, Oscar C., New York, N. Y. "Aunt Kitty's Corn Killer"	2,812	Nov. 14	22	1627
Wienkoop, Ernestine, Chicago, Ill. "Emser Lebens Elexier"	2,836	Nov. 28	22	1790
Whitehouse, John, Rochester, N. Y. "Sir J. W. Hall, M. D., London, England, Celebrated British White Oil"	2,758	Sept. 12	22	864
Whiting, William W., Pittsfield, Mass. "Weston's First Class Ladies' Note Paper"	2,759	Sept. 12	22	864
Yeakel, Nathan W., Lafayette, Ind. "Magic Corn Killer Sure Cure"	2,859	Dec. 19	22	2074
Younce, Davis A., Covington, Ohio. "Younce's Pain Destroyer"	2,712	July 4	22	2

DISCLAIMERS.

Name, residence, and invention.	No.	Filed.	Official Gazette. Vol.	Page.
Hinckel, Frederick, Albany, N. Y., Edwin D. Brainard, assignee; disclaimer filed by said assignee. Washing shavings in breweries. (Reissue)	8,099	July 11, 1882	22	180
Lauby, Joseph M., Broadhead, Wis. Stove-pipe thimble	246,521	July 28, 1882	22	334
Martin, Emile and Pierre E., Paris, France; disclaimer filed by Abram S. Hewitt and Edward Cooper, assignees, and Abram S. Hewitt, administrator of Emile Martin, deceased. Refining and converting cast-iron into cast-steel and other combinations of iron and carbon. (Reissue)	3,096	Dec. 4, 1882	22	1980
Paul, Archibald W., Wheeling, W. Va., and John F. Miller, Martin's Ferry, Ohio. Manufacture of lamp or lantern globes, chimneys, &c. (Reissue)	10,149	Dec. 1, 1882	22	1980
Pearl, Oliver, Lawrence, Mass.; disclaimer filed by William Gray and J. P. Battles, trustees. Bobbins and spindles for spinning-machines. (Reissue)	6,036	Nov. 24, 1882	22	1886
Rathbone, Lewis, and William Hailes, Albany, N. Y., William Hailes, James Gray, and C. Selkirk, assignees; disclaimer filed by said assignees. Coal-stove	51,085	Oct. 30, 1882	22	1540
Smith, George T., Minneapolis, Minn.; disclaimer filed by Consolidated Middlings Purifier Company. Manufacturing middlings-flour	137,495	Dec. 13, 1882	22	2074
Tomkins, Cornelius T., Newark, N. J. Treating gypsum. (Reissue)	8,803	July 25, 1882	22	334
White, Joseph, Philadelphia, Pa. Globe-holder. (Reissue)	7,286	Sept. 20, 1882	22	1136

ALPHABETICAL LIST OF INVENTIONS.

Invention.	Name.	No.	Date.	Monthly volume. Specification.	Monthly volume. Drawing.	Official Gazette. Volume.	Official Gazette. Page.
Abdominal bandage	W. Teufel	261,494	July 18	1427	399	22	251
Abrading-disk	E. B. Call	266,346	Oct. 24	1390	393	22	1393
Acid. Apparatus for concentrating sulphuric	F. W. Kalbfleisch	267,221	Nov. 7	332	96	22	1599
Acid, &c. Device for expressing stearic	G. J. Dannecker	260,542	July 4	252	71	22	43
Acid. Manufacture of sulphuric	E. Haworth	268,793	Dec. 12	480	141	22	1985
Acid. Process of and apparatus for concentrating sulphuric	J. Gridley	265,495	Oct. 3	320	95	22	1193
Adding-machine	C. W. Hergenroeder	263,904	Sept. 5	289	83, 84	22	824
Adding-machine	A. Shattuck and C. Thorn, Jr	268,135	Nov. 28	1464	408, 409	22	1922
Addressing-machine	M. M. Morrison	261,094	July 11	867	240	22	150
Addressing-machine	P. York and G. V. Uhl	264,916	Sept. 26	1473	414	22	1059
Adjustable table	H. E. Brown	268,616	Dec. 5	266	75	22	1937
Adjustable table	J. M. May	262,076	Aug. 1	309	89	22	389
Advertising-card	H. C. Wilkinson	261,889	Aug. 1	77	22	22	348
Advertising device	F. H. Lindner	265,836	Oct. 10	744	209	22	1267
Advertising device	F. S. Newby	262,240	Aug. 8	539	148	22	430
Advertising device. Automatic	W. Akin	268,595	Dec. 5	243	68	22	1932
Advertising device. Automatic	O. S. Trussell	262,515	Aug. 8	847	240	22	467
Advertising match-box	C. Greenwood	264,148	Sept. 12	589	161	22	885
Advertising-wagon	J. S. Goldsmith	269,045	Dec. 12	784	232	22	2041
Aerated beverages. Charging fountains with	J. Matthews	260,766	July 11	545	147	22	97
Aerial ship	R. L. Downton	264,261	Sept. 12	703	195	22	905
Aging and compounding liquors. Process of and apparatus for	J. H. Welsh	266,569	Oct. 24	1631	464	22	1437
Agricultural boiler and feed-steamer	J. K. Purinton	264,101	Sept. 12	538	147	22	876
Agricultural implement	P. E. Paullin	267,247	Nov. 7	362	105	22	1605
Air-brake for cars of cable railways	W. W. Hanscom	265,671	Oct. 10	554	152	22	1235
Air-brake for railway-cars	M. Brockway, C. N. Watts, and P. Sheldon	264,617	Sept. 19	1103	313	22	967
Air-brake for railway-cars. Automatic	W. J. Ford	266,684	Oct. 31	1771	511, 512	22	1469
Air-brake. Railway-car	C. Van Dusen	269,747	Dec. 26	1692	485	22	2221
Air. Burning and carbureting	H. T. Litchfield and D. Renshaw	261,861	Aug. 1	42	12	22	342
Air. Compensating-reservoir for compressed	C. L. Beers	268,854	Dec. 12	558	163	22	2000
Air compressing and pumping apparatus	E. S. Smith	269,730	Dec. 26	1668	479, 480	22	2217
Air-compressing apparatus	E. Hill	261,605	July 25	1575	442	22	283
Air compressing or pumping engine	G. H. Reynolds	262,119	Aug. 1	372	105, 106	22	397
Air-compressor	D. B. Overton	263,206	Aug. 22	1713	485	22	658
Air-compressor	D. B. Overton	263,207	Aug. 22	1713	485	22	658
Air-compressor	J. B. Waring	262,864	Aug. 15	1297	364, 365	22	571
Air-compressor	B. Yoch	263,646	Aug. 29	2294	655	22	761
Air-compressor. Compound	E. Hill	261,606	July 25	1577	443	22	284
Air-compressor. Hydraulic	C. A. Mayrhofer	261,560	July 25	1523	427	22	273
Air-compressor. Hydraulic	W. Waug	262,157	Aug. 1	416	117	22	405
Air-compressor valve	H. C. Sergeant	264,775	Sept. 19	1224	363	22	1021
Air-cooling and ice-making machine	H. F. Starbuck	266,547	Oct. 24	1609	458, 459	22	1433
Air-cooling apparatus	J. P. L. Simon and C. Abele	267,114	Nov. 7	198	57	22	1575
Air cooling, drying, and purifying apparatus	J. Sturgeon	263,620	Aug. 29	2263	647	22	756
Air for cooling, warming, ventilating, &c. System of producing and controlling currents of	J. Gamgee	265,256	Oct. 3	33	10, 11	22	1141
Air-forcing apparatus	W. Q. Prewitt	262,472	Aug. 8	798	226	22	478
Air-purifier	P. Breen	266,267	Oct. 24	1277	362	22	1372
Air. Reservoir for storing and supplying compressed	E. Hill	261,607	July 25	1579	443	22	284
Air-ship	C. P. Feat	263,397	Aug. 29	2004	573	22	709
Air. Transmitting power by compressed	A. D. F. Farley	268,210	Nov. 28	1558	432	22	1839
Alarm: *See* Burglar-alarm. Clock-alarm. Door-alarm. Elevator-alarm. Feed-water alarm. Fire-alarm. Fog-alarm. High and low steam and water alarm. High and low water alarm. Railway-crossing alarm. Telephone-alarm. Vital-heat alarm.							
Album-clasp	A. R. Bolle	267,771	Nov. 21	1021	286	22	1735
Album-stand	H. Pattberg and A. Gärtner	269,702	Dec. 26	1630	467, 468	22	2211
Alcohol. Apparatus for rectifying	D. F. Savalle	266,902	Oct. 31	2022	582, 583	22	1515
Ale and beer condenser	J. W. Evenden	261,694	July 25	1679	471	22	301
Alkali-ball mold	M. E. Brigham	260,832	July 11	623	169	22	110
Alkali from gluten. Separating caustic	H. C. Becker	260,736	July 11	503	.....	22	91
Alum. Manufacture of	P. and F. M. Spence	267,610	Nov. 14	829	.....	22	1603

Alphabetical list of inventions, July to December, inclusive—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Amalgamating and separating gold, &c., from their ores. Apparatus for	S. L. Trippe	264,422	Sept. 12	885	249	22	939
Amalgamating apparatus	J. L. Stewart	262,628	Aug. 15	1000	280	22	518
Amalgamating gold and silver ores. Apparatus for	W. Hamilton	260,389	July 4	58	16, 17	22	11
Amalgamating gold and silver ores. Apparatus for	W. Hamilton	260,390	July 4	60	17	22	11
Amalgamator	J. G. Arrington	262,884	Aug. 15	1326	374	22	576
Amalgamator	J. W. Bailey and A. De Figaniere	267,768	Nov. 21	1016	285	22	1734
Amalgamator	R. T. Bishop	267,396	Nov. 14	562	160	22	1644
Amalgamator	W. H. Leininger	267,907	Nov. 21	1183	333	22	1766
Amalgamator	E. F. Schmidt and W. H. Streernwitz.	264,344	Sept. 12	798	225	22	923
Amalgamator. Dry	A. De Figanière	269,645	Dec. 26	1565	449, 450	22	2197
Amalgamator. Ore-	B. Hershey	260,682	July 4	435	118	22	74
Ammonia and animal charcoal. Process of and apparatus for the manufacture of	J. G. Macfarlan	267,550	Nov. 14	754	215, 216	22	1679
Ammonia and bone-black. Manufacture of	H. Y. and E. B. Castner	263,856	Sept. 5	236	69	22	814
Anchor	R. R. Spedden	262,254	Aug. 8	545	154	22	433
Anchor. Field-	W. F. Morris	266,872	Oct. 31	1985	573	22	1508
Anchor. Mushroom-	A. A. Goldsmith	261,334	July 18	1243	345	22	220
Angle-irons. Bending	G. J. H. Goehler	268,010	Nov. 28	1314	369	22	1795
Angle-irons. Bending	G. J. H. Goehler	268,011	Nov. 28	1314	369	22	1795
Animal-catcher	J. W. Loree	265,113	Sept. 26	1699	475	22	1099
Animal-power	W. C. Knox	266,844	Oct. 31	1954	565	22	1503
Animal-tie	E. C. Newton	262,306	Aug. 8	609	171	22	445
Animal-trap	J. H. Bussard	266,605	Oct. 31	1679	485	22	1452
Animal-trap	B. Greig	267,518	Nov. 14	708	203	22	1671
Animal-trap	E. H. Hamilton	263,512	Aug. 29	2132	611	22	733
Animal-trap	W. Leese	267,004	Nov. 7	56	17	22	1550
Animal-trap	B. F. D. Miller	267,915	Nov. 21	1191	335	22	1768
Animal-trap	G. Stowe	269,478	Dec. 19	1356	390	22	2150
Animal-trap	H. Tinker	265,892	Oct. 10	803	228	22	1279
Animal-trap	J. A. Williams	269,766	Dec. 26	1715	495	22	2226
Animals. Apparatus for transporting	H. C. Hicks	268,018	Nov. 28	1322	371	22	1796
Annealing-furnace	E. James and E. Handley	264,296	Sept. 12	748	208, 209	22	913
Annunciator. Electric	J. C. Warner	266,405	Oct. 24	1462	415	22	1406
Annunciator. Electrical	F. Tanner	267,807	Nov. 21	1068	299	22	1743
Annunciator. Speaking-tube	J. Walter	264,977	Sept. 26	1548	435	22	1072
Annunciators of telephone-exchanges. Circuit for	C. E. Scribner	266,319	Oct. 24	1352	382	22	1386
Apple corer and slicer	L. Tozer	262,332	Aug. 8	640	180	22	450
Apple-slicing machine	P. M. Ackerman	265,650	Oct. 10	529	143	22	1230
Arch for sidewalks and over areas. Concrete	G. Goodman	269,280	Dec. 19	1089	318	22	2101
Arches, &c. Construction of	J. H. Cruse	267,841	Nov. 21	1107	310	22	1751
Arithmetical frame	J. Gould	262,221	Aug. 8	508	141, 142	22	426
Arm-rest. Penman's	E. W. Farnham	268,474	Dec. 5	117	36	22	1909
Ash-barrel and coal-hod cover	J. A. Brown	260,364	July 4	14	5	22	5
Asphaltum-concrete mixer	D. H. Dorsett and J. P. Ellacott	269,026	Dec. 12	762	225	22	2037
Atomizer	J. G. Justin	264,169	Sept. 12	610	168	22	889
Atomizer	M. Mattson	263,553	Aug. 29	2187	624	22	743
Atomizer	T. E. Studley	260,505	July 4	205	58	22	35
Atomizer	T. L. Sturtevant	269,461	Dec. 19	1358	391	22	2151
Attrition-mill	C. Atkinson	261,822	Aug. 1	1	1	22	335
Andiphone	P. A. Gladwin	269,406	Dec. 19	1257	366	22	2132
Auger	S. Kuhlman	260,997	July 11	827	230	22	1444
Auger	W. L. Parmelee	260,497	July 4	105	55	22	34
Auger	P. W. Myers and C. E. Andrews	264,470	Sept. 19	940	267	22	958
Auger-blanks. Die for heading	S. H. Horn	261,154	July 18	1027	289	22	187
Auger. Earth-	T. Potter and G. W. Gillilland	264,335	Sept. 12	791	222	22	921
Auger. Earth-	W. Stephenson	260,798	July 11	584	158	22	103
Auger. Ground-	H. Beisheim	268,986	Dec. 12	714	209	22	2028
Auger. Hollow	W. N. Talley	269,739	Dec. 26	1679	483	22	2219
Auger. Mining-	J. C. and M. A. Branch	267,483	Nov. 14	668	192	22	1664
Auger. Post-	W. W. Alexander	269,773	Dec. 26	1723	497	22	2227
Auger. Post-hole	W. Stephenson	269,548	Dec. 26	1410	415	22	2173
Auger. Post-hole	E. J. Mulkey	267,918	Nov. 21	1194	336	22	1769
Auger. Well-	J. H. Murray	269,310	Dec. 19	1126	329	22	2108
Auger. Well-	J. N. Rainey	264,196	Sept. 12	636	176	22	894
Augers. Slate or earth	N. W. Bissell	261,424	July 18	1346	377	22	238
Automatic brake	G. C. Towksbury	264,793	Sept. 19	1302	368	22	1024
Automatic elevator	J. C. Ljokel	267,006	Nov. 7	58	18	22	1550
Awning	J. H. Parker	261,171	July 18	1050	295	22	190
Awning	J. Willie	268,968	Dec. 12	689	202	22	2024
Awning. Window-	W. T. Makepeace	267,703	Nov. 21	947	267	22	1722
Ax	L. T. Shelton	260,423	July 4	94	26	22	17
Ax and brush-hook	S. S. Davis	262,933	Aug. 22	1384	391	22	597
Ax-making machine	B. H. Kemble	269,211	Dec. 19	999	292	22	2095
Axle and box. Carriage	A. C. Kasson	260,675	July 11	670	182	22	118
Axle-box	F. W. Webb	265,724	Oct. 10	620	175, 176	22	1246
Axle box. Car-	I. F. Bissell	265,374	Oct. 3	178	53	22	1167
Axle box. Car-	J. Eisele	267,337	Nov. 14	478	139	22	1631
Axle box. Car-	I. P. Wendell	268,579	Dec. 5	222	63	22	1928
Axle box. Car-	A. W. Zimmerman	267,050	Nov. 7	110	32	22	1559
Axle box. Car-	D. W. Bruton	260,838	July 11	630	171	22	112
Axle-box for vehicle-wheels	C. Coller	268,625	Dec. 5	278	80	22	1939
Axle-box lid. Car-	J. De Long	263,490	Aug. 29	2107	.....	22	728
Axle boxes. Oil-conductor for car-	E. B. Orne	264,474	Sept. 19	957	269	22	959
Axle. Car-	G. W. Miltimore	264,188	Sept. 12	627	173	22	892
Axle. Car-	F. L. and J. M. Ellis	261,692	July 25	1676	470	22	300
Axle cutter. Wagon-	P. Armington	263,532	Sept. 5	302	58	22	808
Axle for steam-engines. Cranked	L. H. Fisher	265,254	Oct. 3	32	10	22	1141
Axle for vehicles. Self-oiling	R. Boyce	267,995	Nov. 28	1293	363	22	1791
Axle-gage	N. H. Davis	264,251	Sept. 12	694	192	22	904
Axle lubricator	W. Don	260,955	July 11	764	209	22	134
Axle lubricator. Car-	W. G. Mitchell	261,747	July 25	1748	492	22	312
Axle lubricator. Car-	J. E. Steger	263,988	Sept. 5	397	111	22	843
Axle-tap wrench	L. A. Gates	264,942	Sept. 26	1506	423	22	1064
Axle. Vehicle-	E. Bruló	262,733	Aug. 15	1132	320	22	541
Axle. Vehicle-	E. Firth	267,413	Nov. 14	583	166	22	1646
Axle. Vehicle-	E. Firth	267,683	Nov. 21	925	262	22	1718
Axle. Vehicle-	J. Gamblilee and J. F. Haring	267,872	Nov. 21	1147	322	22	1759
Axle. Vehicle-	H. M. Keller	261,463	July 18	1301	388	22	245
Axle. Vehicle-	O. C. Mehurin	267,559	Nov. 14	767	219	22	1681
Axle. Vehicle-	J. P. Warner	265,196	Sept. 26	1706	504	22	1117
Axle. Vehicle-	A. V. Demarsh	261,502	July 25	1565	439	22	281
Axle. Wagon-	I. D. Finch	263,328	Aug. 29	1914	548	22	694
Axle. Wagon-	H. James	267,084	Nov. 7	156	44	22	1568
Axles. Apparatus for cooling car-	S. W. Doane	261,689	July 25	1673	469	22	300
Axles. Device for cutting metallic wagon-	W. B. Carpenter	268,780	Dec. 12	459	134	22	1982
Axles. Machine for turning carriage-	W. Beers	267,480	Nov. 14	664	190, 191	22	1663
Bag: *See* Cloth bag. Woven bag. Mail-bag.							
Bag and sail tie	J. L. Vandermark	261,501	July 18	1434	401	22	253
Bag-fastener	J. W. Estes	264,068	Sept. 12	562	136	22	870
Bag-filling apparatus	C. L. Kelley	267,222	Nov. 7	334	96	22	1599
Bag for holding phosphates, &c.	W. H. Horner and F. Hyde	263,907	Sept. 5	292	64	22	825
Bag-holder	J. H. Blake	269,625	Dec. 26	1542	443	22	2193
Bag-holder	J. Holekamp	261,458	July 18	1385	387	22	244
Bag-holder	W. T. Moore	261,748	July 25	1749	492	22	312
Bag-holder	J. O. Neill	263,200	Aug. 22	1707	483	22	656
Bag-holder	J. R. Pendleton	260,707	July 4	466	126	22	79
Bag-holder	H. D. Shriver	265,450	Oct. 3	254	77	22	1181
Bag-machine	C. A. Chandler	267,774	Nov. 21	1024	287	22	1736
Bags. Machine for making	O. S. Harmon	267,197	Nov. 7	294	86, 87, 88	22	1592
Bail ear and lug	J. B. Westcott	263,826	Sept. 5	195	57	22	807
Bait. Spoon-	L. S. Hill	267,203	Nov. 7	305	89	22	1594
Bake-pan	S. J. Williams and H. Richey	264,013	Sept. 5	428	118	22	848
Baking-pan	W. A. Van Densen	263,000	Aug. 22	1469	414	22	612
Baking-powder	W. P. Clotworthy	265,243	Oct. 3	23	.....	22	1140
Baking-powder	W. P. Clotworthy	265,244	Oct. 3	23	.....	22	1140
Balcony. Portable adjustable window-	G. W. Cannon	266,606	Oct. 31	1680	485	22	1452
Bale-band replacer and tightener	W. R. Lenard	260,402	July 4	73	20	22	14
Bale opener. Cotton-	J. P. Hillard	264,696	Sept. 19	1190	337	22	1005
Bale-tie	J. B. Allen	260,515	July 4	215	60	22	36
Bale-tie	M. Campbell	263,677	Sept. 5	11	3	22	776
Bale-tie	M. Campbell	263,680	Sept. 5	14	4	22	777
Bale-tie	M. Campbell	263,760	Sept. 5	116	36	22	794
Bale-tie	M. Campbell	263,761	Sept. 5	117	36	22	794
Bale-tie	M. Campbell	264,512	Sept. 19	993	280	22	967
Bale-tie	J. W. Chambers	261,078	July 11	928	258	22	160
Bale-tie	D. T. Cooper	263,864	Sept. 5	249	71	22	817
Bale-tie	D. B. Eastburn	264,031	Sept. 5	452	124	22	852
Bale-tie	D. B. Eastburn	266,587	Oct. 24	1654	476	22	1441
Bale-tie	O. P. Fannin	267,853	Nov. 21	1122	315	22	1754
Bale-tie	M. Campbell	263,678	Sept. 5	12	4	22	776
Bale-tie. Wire	M. Campbell	263,679	Sept. 5	13	4	22	777
Bale-tie. Wire	L. E. Evans. (Reissue)	10,176	Aug. 8	896	253	22	495
Bale-tie. Wire	E. S. Lenox	262,797	Aug. 15	1216	341	22	556
Bale-ties. Machine for finishing the blanks of wire	E. S. Lenox	262,796	Aug. 15	1214	341	22	556
Bale-ties. Machine for forming blank hooks for wire	L. Miller	260,702	July 4	460	124, 125	22	77
Bales and bundles. Wire-tightener for	W. Glover	263,695	Sept. 5	28	9	22	779
Bales. Rest for cotton-	J. L. Riter	266,317	Oct. 24	1349	381	22	1385
Baling-machines. Conveyer for	T. W. and C. L. Ames	268,974	Dec. 12	695	204	22	2025
Baling-press	H. C. Arnold	268,598	Dec. 5	246	69	22	1933
Baling-press	J. Brown	263,108	Aug. 22	1595	451	22	635
Baling-press	E. B. Cunningham	268,001	Nov. 28	1299	365	22	1793
Baling-press	P. K. Dederick	269,565	Dec. 26	1461	421	22	2177
Baling-press	P. K. Dederick	269,566	Dec. 26	1462	421	22	2178
Baling-press	E. E. Fuller	267,871	Nov. 21	1146	321	22	1759
Baling-press	N. W. Herring	262,043	Aug. 1	265	76, 77	22	361
Baling-press	J. B. Hocker	260,977	July 11	798	210	22	139
Baling-press	J. W. Kitchens	261,855	Aug. 1	36	11	22	341
Baling-press	J. W. Kitchens	261,856	Aug. 1	37	11	22	342
Baling-press	J. La Dow	265,516	Oct. 3	335	97	22	1196
Baling-press	W. M. and W. H. Penniston	263,953	Sept. 5	351	98, 99	22	835
Baling-press	G. W. Robburts	263,431	Aug. 29	2046	586	22	717
Baling-press	P. Slattery	264,576	Sept. 19	1056	300	22	979
Baling-press	J. A. Spencer	262,992	Aug. 22	1459	411	22	610
Baling-press	J. J. Stopple	262,496	Aug. 8	826	233	22	483
Baling-press	R. W. Whitehurst	268,334	Nov. 28	1707	475	22	1867
Ball: *See* Exercising-ball. Return-ball.							
Ball-and-socket joint	H. F. Read	269,708	Dec. 26	1635	460	22	2212
Ball-trap	A. G. Easton	266,980	Nov. 7	28	9	22	1545
Balls. Manufacture of	G. W. Beyer	263,466	Aug. 29	2083	597	22	724
Balls. Manufacture of base-	T. P. Taylor	262,257	Aug. 8	547	154	22	433
Balls. Trap for throwing	J. Gluchowsky	267,188	Nov. 7	284	83	22	1590
Ballot-box	S. T. Bacon	261,509	July 18	1443	403	22	254
Ballot-box	S. T. Bacon	266,744	Oct. 31	1646	536	22	1463
Banana-crate	W. Davenport	269,392	Dec. 19	1242	361	22	2129
Band-compressing machine	W. Krntzsch	265,679	Oct. 10	562	154, 155	22	1236

Alphabetical list of inventions, July to December, inclusive—Continued.

Alphabetical list of inventions, July to December, inclusive—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Band cutter and feeder	S. C. Corder	263,687	Sept. 5	20	6,7	22	778
Band cutter and feeder	G. W. Sharp	266,304	Oct. 24	1448	411	22	1404
Bandage. Supporting	E. H. Hart	265,672	Oct. 10	555	152	22	1235
Banjo	B. Bradbury	262,564	Aug. 15	916	259	22	505
Banjo	O. R. Chase	269,178	Dec. 19	956	279	22	2078
Banjo	J. Morrison	264,893	Sept. 26	1436	406	22	1053
Bar: *See* Car draw-bar. Chain-bar. Claw-bar. Cutter-bar. Grate-bar. Header-bar. Horseshoe-blank bar. Saddle-bar. Sewing-machine needle-bar.							
Barber's chair	L. W. Boys	268,992	Dec. 12	720	211	22	2029
Bark-cutting machine	J. C. Hagerty	264,152	Sept. 12	592	162	22	886
Barrel	J. H. Elward	268,362	Nov. 28	1756	486	22	1876
Barrel	J. H. Elward	268,363	Nov. 28	1757	486	22	1876
Barrel-head strengthening device	O. A. Libby	267,091	Nov. 7	164	47	22	1570
Barrel-holder	R. Courter	267,677	Nov. 21	919	261	22	1717
Barrel-hoop	Q. King	262,052	Aug. 1	274	80	22	383
Barrel-making machine	J. Maslo	265,121	Sept. 26	1707	477	22	1101
Barrel-register	C. Müller and J. Mauser	268,926	Dec. 12	640	188	22	2014
Barrel roller and guide	B. H. Schonhoff	263,729	Sept. 5	73	22	22	787
Barrel swing and truck	W. Fanckboner	267,744	Nov. 21	990	278	22	1730
Barrel-ventilator	W. H. Swartout	264,048	Sept. 5	472	128	22	855
Barrels. Apparatus for cooling the glue lining of	M. L. Deering	260,745	July 11	513	140	22	93
Barrels. Device for rolling	R. H. Dowling	262,539	Aug. 8	881	249	22	402
Basin-clamp	P. Foley	269,274	Dec. 19	1081	315	22	2099
Basin-clamp	J. P. Hyde	260,871	July 11	666	181	22	117
Basins. Overflow-valve for wash	W. S. Cooper	267,156	Nov. 7	245	70, 71	22	1583
Basins, &c. Trap and overflow-stop for wash	W. D. Schuyler	266,208	Oct. 17	1197	337	22	1332
Basket	J. M. P. Panetti	269,812	Dec. 22	1776	511	22	2236
Basket. Lunch	J. W. Boteler	265,742	Oct. 10	641	182	22	1249
Basket-making machine	J. Hibbard	265,079	Sept. 26	1660	464	22	1092
Basket-stave jointer	W. E. Hinchey	262,770	Aug. 15	1180	332	22	549
Bath: *See* Electric bath.							
Bath apparatus. Vapor	E. Pond	268,933	Dec. 12	640	190	22	2016
Bath purposes. Apparatus for	L. M. Emery	266,981	Nov. 7	29	9	22	1545
Bath-tub	W. W. Rosenfield	263,592	Aug. 29	2232	638	22	751
Bath-tub	W. W. Rosenfield	266,531	Oct. 24	1503	453	22	1430
Baths. Apparatus for administering medicated	M. Goldberg	261,598	July 25	1569	{440 441}	22	282
Baths. Apparatus for taking vapor and hot-air	J. M. Laflin	267,002	Nov. 7	55	17	22	1550
Bathers. Safety apparatus for sea	L. D. and J. B. Smith	262,843	Aug. 15	1269	357	22	566
Bathing apparatus. Safety	H. M. Schmeelk	269,600	Dec. 26	1511	435	22	2187
Bathing-box	J. Tachiember	264,797	Sept. 19	1308	369	22	1026
Bathing-cabinet. Folding	W. K. Jones	262,240	Nov. 28	1595	442	22	1847
Bathing-tub. Portable	A. P. Browne	268,862	Dec. 12	566	166	22	2001
Bats. Method of and apparatus for forming and sticking napping	G. Ynle and G. Atherton	260,918	July 11	715	196	22	126
Battery: *See* Electric battery. Floating battery. Galvanic battery. Ore-battery. Secondary battery. Stamp-battery.							
Bayonet	E. T. Starr	269,547	Dec. 26	1410	415	22	2173
Bearing. Anti-friction	J. G. Avery	267,991	Nov. 28	1289	363	22	1791
Bearing. Anti-friction	A. O. Barnes	263,097	Aug. 22	1585	448	22	633
Bearing. Anti-friction	E. Salomon	265,152	Sept. 26	1745	487	22	1108
Bearing for loose pulleys, &c.	M. L. Senderling	268,552	Dec. 5	193	54	22	1923
Bearing. Rolling	F. W. Marston	260,585	July 4	296	81	22	51
Bearings. Composition for	R. M. Rose	267,594	Nov. 14	811	.....	22	1690
Bed and canopy. Combined cot	J. W. Steele	263,987	Sept. 5	396	110	22	843
Bed-bottom	F. M. Case	268,356	Nov. 28	1746	484	22	1874
Bed-bottom	C. H. Dunks and T. P. Glody	263,130	Aug. 22	1623	458	22	640
Bed-bottom	C. H. Dunks and T. P. Glody	264,641	Sept. 19	1131	320	22	992
Bed-bottom	T. P. Glody	261,148	July 18	1022	288	22	186
Bed-bottom	E. W. Keeler	266,999	Nov. 7	51	16	22	1549
Bed-bottom	H. Ogborn and A. W. Kendrick. (Reissue.)	10,220	Oct. 24	1666	480	22	1443
Bed-bottom	S. H. Reeves	266,200	Oct. 17	1190	336	22	1351
Bed-bottom	E. A. Sawyer	265,706	Oct. 10	598	169	22	1242
Bed-bottom	J. G. Smith	269,342	Dec. 19	1048	306	22	2093
Bed-bottom. Adjustable spring	M. N. Lovell	265,116	Sept. 26	1701	{475 476}	22	1100
Bed-bottom, &c. Pressure or weight equalizer for	L. K. Kline	264,540	Sept. 19	1019	289	22	971
Bed-bottom spring	S. Cook	264,630	Sept. 19	1119	317	22	990
Bed-bottom. Spring	H. Benedict	268,071	Nov. 28	1386	388	22	1808
Bed-bottom. Spring	I. Cruzan	269,641	Dec. 26	1560	448	22	2196
Bed-bottom. Spring	E. P. Field and O. B. Reese	267,412	Nov. 14	582	168	22	1648
Bed-bottom. Spring	S. Fleischman	262,942	Aug. 22	1399	3[illegible]	22	599
Bed-bottom. Spring	W. P. Hennion	267,889	Nov. 21	1164	329	22	1762
Bed-bottom. Spring	S. Knowles	268,500	Dec. 5	142	42	22	1913
Bed-bottom. Spring	M. N. Lovell	265,114	Sept. 26	1700	475	22	1099
Bed-bottom. Spring	M. N. Lovell	265,115	Sept. 26	1700	475	22	1099
Bed-bottom. Spring	P. H. Mellon	262,302	Aug. 8	605	170	22	444
Bed-bottom. Spring	U. Miller	266,497	Oct. 24	1554	442	22	1423
Bed-bottom. Spring	A. F. Purefoy	261,954	Aug. 1	159	46, 47	22	363
Bed-bottom. Spring	J. B. Raudenbush	264,753	Sept. 19	1258	357	22	1017
Bed-bottom. Spring	S. H. Reeves. (Reissue)	10,179	Aug. 8	898	254	22	495
Bed-clothes fastener	A. Cox	267,498	Nov. 14	682	195	22	1666
Bed. Cot	A. H. Frost	261,331	July 18	1241	344	22	220
Bed. Folding	H. S. Hale	262,181	Aug. 1	454	{127 128}	22	411
Bed. Folding	H. A. Thayer	265,891	Oct. 10	809	227	22	1279
Bed. Folding	I. R. Van Slyke	269,748	Dec. 26	1695	486	22	2222

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Bed. Folding	A. L. and C. A. Warner	268,326	Nov. 28	1700	479	22	1865
Bed-frame brace	C. C. Clark	264,625	Sept. 19	1112	315	22	989
Bed-lounge	P. Herbold, Jr	269,055	Dec. 12	804	238	22	2044
Bed-lounge	L. W. Ott. (Reissue)	10,260	Dec. 19	1385	399	22	2156
Bed. Lounge	E. J. Pahtz	266,717	Oct. 31	1815	527	22	1477
Bed-lounge	T. Soden	266,729	Oct. 31	1829	531	22	1480
Bed-lounge	C. McWayne	266,633	Oct. 31	1710	494	22	1458
Bed or crib	J. C. Hannett	267,892	Nov. 21	1158	324	22	1761
Bed-side-rail packing-block for shipment of bed-rails	C. G. Angeroth	260,818	July 11	609	165	22	108
Bed. Sofa	A. Kulich	262,901	Aug. 15	1343	380	22	580
Bed. Sofa	J. H. Faith	263,883	Sept. 5	268	77	22	820
Bed-spring	J. R. Littell	268,698	Dec. 5	356	104	22	1955
Bed-spring	D. F. Mitchel	264,468	Sept. 19	947	266	22	957
Bed-spring	T. O'Brien	267,576	Nov. 14	791	226	22	1686
Bed-spring	W. Singleton	261,774	July 25	1777	502	22	317
Bed-spring	J. Stephens	266,731	Oct. 31	1831	531	22	1480
Bed. Spring	J. and R. Ainslee	264,212	Sept. 12	652	180	22	896
Bed. Spring	E. P. Fowler	262,658	Aug. 15	1043	292	22	526
Bed. Spring	A. L. Norton	261,028	July 11	872	241	22	151
Bed. Spring	I. and E. Purcell	266,197	Oct. 17	1184	334	22	1350
Bed. Spring	H. D. Hard	260,677	July 4	430	117	22	73
Beds. Head-rest for cot	E. F. Meier	260,405	July 4	76	21	22	14
Beds. Head-section for	G. F. Richardson	264,759	Sept. 19	1265	359	22	1018
Bedstead	G. F. Richardson	264,760	Sept. 19	1266	359	22	1018
Bedstead	G. F. Richardson	264,761	Sept. 19	1267	359	22	1018
Bedstead. Cabinet	J. Lowth	268,032	Nov. 28	1340	375	22	1799
Bedstead. Cabinet folding	W. A. Morrison	262,817	Aug. 15	1238	{348 349}	22	560
Bedstead. Cabinet folding	D. D. Shupe	261,053	July 11	900	{249 250}	22	155
Bedstead. Cot	F. M. Case	264,137	Sept. 12	578	158	22	883
Bedstead. Folding	J. J. Adgate and F. Hickman	262,882	Aug. 15	1322	371	22	575
Bedstead. Folding	S. S. Burr. (Reissue)	10,225	Oct. 31	2120	609	22	1533
Bedstead. Folding	S. S. Burr	261,305	July 18	1213	337	22	215
Bedstead. Folding spring	E. J. Johnson	262,431	Aug. 8	735	212	22	470
Bedstead. Invalid	J. Bagga	268,600	Dec. 5	248	69	22	1933
Bedstead. Invalid	I. D. Johnson	268,238	Nov. 28	1592	{441 442}	22	1846
Bedstead or lounge. Metallic	B. J. La Mothe	264,711	Sept. 19	1210	342	22	1008
Bedstead. Sofa	R. W. Taylor	268,145	Nov. 28	1470	{411 412}	22	1824
Bedstead. Swinging	A. W. Lozier	261,617	July 25	1590	446	22	286
Bedstead. Wardrobe	J. J. Adgate	264,596	Sept. 19	1077	305	22	983
Bedstead. Wardrobe	H. O. Bicknell. (Reissue)	10,184	Aug. 22	1834	520	22	680
Bedstead. Wardrobe	R. F. Meisaner	266,860	Oct. 31	1968	569	22	1506
Bedstead. Wardrobe	I. R. Van Slyke	267,384	Nov. 14	550	157	22	1642
Bedsteads. Adjustable bolster-head for	M. Richter	262,121	Aug. 1	376	106	22	398
Bedsteads. Metamorphosic attachment to	J. Goodwin	269,570	Dec. 26	1468	423	22	2179
Bee-hive	G. Ellsworth	263,154	Aug. 22	1649	466	22	645
Bee-hive	A. Fraley	267,177	Nov. 7	271	79	22	1588
Bee-hive	J. Phillips	264,898	Sept. 26	1443	408	22	1054
Bee-hive	J. W. Silcott	266,059	Oct. 17	1017	288	22	1322
Bee-hive	M. Van Ensley	264,376	Sept. 12	836	234	22	930
Bee-hive	T. F. Bingham	264,614	Sept. 19	1100	313	22	987
Bee-smoking apparatus	C. G. Mayer and E. Jungenfeld	265,123	Sept. 26	1709	478	22	1102
Beer, &c. Apparatus for cooling	O. Weber and F. Abel	263,003	Aug. 22	1472	415	22	613
Beer, &c. Apparatus for forcing	A. Huss	269,420	Dec. 19	1272	370	22	2136
Beer-cooler	G. M. Newman	264,330	Sept. 12	785	221	22	920
Beer-cooler	A. Zoller	260,630	July 4	354	95	22	60
Beer, &c. Cooler for	J. Hinkel	267,688	Nov. 21	920	263	22	1719
Beer, &c. Stand for drawing	J. S. Baldwin	268,448	Dec. 5	91	28	22	1904
Bell and bracket system. Portable	J. Y. Fairman	265,045	Sept. 26	1624	457	22	1087
Bell. Call	J. J. Johnston	264,884	Sept. 26	1425	402	22	1051
Bell. Door	H. B. Porter	261,172	July 18	1051	296	22	190
Bell. Electric	W. J. Miller and H. B. Shelton	265,929	Oct. 10	846	242	22	1236
Bell for table-ware. Call	J. B. Beach	267,131	Nov. 7	220	63	22	1579
Bell holder. Table	C. E. Scribner	264,109	Sept. 12	545	149	22	877
Bell. Polarized	C. L. Bates	264,223	Sept. 12	666	183	22	899
Bell-pull	R. P. Garsed	264,273	Sept. 12	723	201	22	909
Bell-ringing apparatus. Pneumatic	R. P. Garsed	268,882	Dec. 12	589	173	22	2005
Bell-ringing. Pneumatic	A. W. Barton and G. N. Rich	269,620	Dec. 26	1537	441	22	2192
Bell. Team	A. A. Bevin	262,358	Aug. 8	671	187	22	455
Bell. Team	G. W. Ingalls and A. E. Phelps	263,788	Sept. 5	150	45	22	799
Bellows	A. Dähn	262,576	Aug. 15	937	264	22	507
Belt-fastener	B. Hogan	264,290	Sept. 12	740	206	22	912
Belt-fastener	A. Johnston	269,579	Dec. 26	1486	429	22	2182
Belt-fastening	I. Cairns	264,239	Sept. 12	682	188	22	902
Belt fastening. Waist	H. C. Root	266,529	Oct. 24	1590	452	22	1430
Belt. Coiled-wire	J. Clement	265,385	Oct. 3	187	57	22	1169
Belt for ditching-machines. Carrier	H. Landon	266,699	Oct. 31	1797	519	22	1474
Belt-gearing	E. Woolson	267,391	Nov. 14	557	159	22	1643
Belt-gearing	W. Buchholz	261,580	July 25	1548	434	22	278
Belt-hook	W. L. Potter	265,280	Oct. 3	63	19	22	1147
Belt-hook	C. R. Bannihr	260,822	July 11	613	167	22	108
Belt-protector. Drop-press	F. S. Stevens	262,051	Nov. 28	1365	382	22	1804
Belt-shifter	A. J. Park, Jr	265,430	Oct. 3	236	70	22	1178
Belt. Straw-conveyer	Z. Frost	267,512	Nov. 14	698	200	22	1669
Belt-stretcher	J. H. Bradley	263,106	Aug. 22	1503	450	22	634
Belt-tightener	G. H. Zschech	269,309	Dec. 19	1213	353	22	2123
Belt-tightener. Adjustable	W. L. Gardner	263,399	Aug. 29	2007	574	22	710
Belt-tightening machine	F. N. Gardner	262,760	Aug. 15	1166	329	22	547
Belt. Waist	F. T. Donaldson	265,663	Oct. 10	546	{148 149}	22	1233
Belt. Waist	F. Sternheimer	264,205	Sept. 12	643	178	22	895

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Belt winding and stretching machine	M. Gandy	269,520	Dec. 26	1406	406, 407	22	2166
Belts for carrying granular material. Method of and apparatus for cleaning	J. H. Webster	263,634	Aug. 29	2278	650	22	759
Belting	W. J. McDermott	264,731	Sept. 19	1234	349	22	1013
Belting and apparatus therefor. Stretching	M. Gandy	269,519	Dec. 26	1405	405, 406	22	2166
Belting. Machine for stretching leather	H. N. Dodge	267,165	Nov. 7	256	75	22	1585
Bench: *See* Folding bench. Wash-bench. Jeweler's work-bench.							
Bending-machine	J. Christiansen	261,429	July 18	1352	378	22	239
Bending-machine	L. B. McNutt	268,919	Dec. 12	633	186	22	2013
Bent box	W. Witte	268,444	Dec. 5	87	27	22	1903
Berth. Self-leveling	E. P. S. Andrews	268,596	Dec. 5	244	68	22	1932
Berth. Self-leveling	L. J. Baker	269,617	Dec. 26	1532	440	22	2191
Berth. Self-leveling	L. J. Baker	269,618	Dec. 26	1534	440	22	2191
Berth. Self-leveling	J. Y. Mainland	262,964	Aug. 22	1425	402	22	604
Berth. Self-leveling	J. H. Milligan	267,360	Nov. 14	512	146	22	1636
Berth. Self-leveling	J. C. Thompson	260,911	July 11	710	193, 194	22	125
Berth. Self-leveling	C. W. Wilson	268,585	Dec. 5	229	65	22	1929
Berth. Self-leveling	A. A. Young	264,052	Sept. 5	476	129	22	856
Berth. Ship's	A. P. Bickmore	264,128	Sept. 12	568	155, 156	22	882
Berth. Sleeping-car	H. A. Stone	262,329	Aug. 8	636	179	22	449
Bevel	D. A. Clarke	268,188	Nov. 28	1533	426	22	1835
Bevel and gage	J. S. Thornburg	267,381	Nov. 14	546	156	22	1641
Bevel-gage	F. H. Sweet	264,421	Sept. 12	884	249	22	939
Beveled and miter joints. Machine for cutting	W. F. Young and C. R. Drake	265,356	Oct. 3	156	47	22	1163
Beverage. Aerated tonic	C. H. Frings	264,941	Sept. 26	1504	.....	22	1064
Bicycle	B. F. Cooley	261,136	July 18	1009	283, 284	22	184
Bicycle-tire	J. O. Brown	264,133	Sept. 12	574	157	22	883
Bier	G. W. Moorman	262,683	Aug. 15	1068	301	22	531
Bilge-water indicator	J. M. Fennerty	267,856	Nov. 21	1125	316	22	1755
Billiard-cue	C. J. Wiley	268,065	Nov. 28	1379	380	22	1807
Billiard-cue tip	G. M. Hammond	261,448	July 18	1374	384	22	243
Billiard-cue tips. Fastening	H. Platts	263,955	Sept. 5	354	99	22	836
Billiard-cushion	S. De Gaetano	261,812	July 25	1819	514	22	325
Billiard-table	R. Herman	262,410	Aug. 8	732	206	22	466
Billiard-table	C. Joergens	264,165	Sept. 12	605	167	22	888
Billiard-table pocket	H. W. Collender	260,845	July 11	637	173	22	113
Billiard-tables. Pocket-iron attachment for	H. W. Collender	265,658	Oct. 10	539	146	22	1232
Bin: *See* Hay and grain bin.							
Binder: *See* Grain-binder.							
Binder. Automatic	W. Bayley	265,215	Sept. 26	1828	513, 514, 515	22	1123
Binder. Automatic	G. F. Green	265,060	Sept. 26	1641	461, 462	22	1090
Binder for memorandum-books. Temporary	J. R. Weber	261,111	July 11	974	272	22	168
Binder for pamphlets, &c. Temporary	C. S. Cooke	269,639	Dec. 26	1557	448	22	2196
Binder. Self-	W. N. Whiteley and J. R. Thomas	265,199	Sept. 26	1803	506, 507	22	1118
Binder. Self-	W. N. Whiteley and W. Bayley	266,937	Oct. 31	2072	596	22	1524
Binder. Temporary	J. L. Cassidy	268,866	Dec. 12	569	167, 168	22	2002
Binder. Temporary	C. P. Cody	261,310	July 18	1218	339	22	216
Binder. Temporary	J. B. McEnally	269,694	Dec. 26	1623	464	22	2209
Binoxides of barium and calcium. Manufacture of	C. Marchand	267,551	Nov. 14	756	217	22	1679
Bird-cage	J. Maxheimer	260,768	July 11	546	148	22	98
Bird-cage fender	J. Maxheimer	260,767	July 11	545	147	22	98
Bird-cages. Fish-bone holder for	T. L. Maxheimer	260,769	July 11	547	148	22	98
Bird-insect catcher and trap	J. Kelk	261,853	Aug. 1	35	10	22	341
Bird-perch	G. B. Thorpe	266,555	Oct. 24	1619	461	22	1435
Bird-skin. Ornamented	A. H. Ward	260,629	July 4	354	95	22	59
Bit: *See* Bridle-bit. Expansion-bit. Check-bit.							
Bit and countersink	A. O. Revenaugh	267,590	Nov. 14	806	231	22	1689
Bit-stock	C. H. Amidon	263,455	Aug. 29	2072	593	22	722
Bit-stock	A. H. Reid	268,938	Dec. 12	654	192	22	2017
Bit-stock	O. D. Warfield	267,732	Nov. 21	979	276	22	1728
Bit-stock	G. Elsey	266,118	Oct. 17	1092	309	22	1334
Blackboard and support	C. W. Hart	261,226	July 18	1115	311	22	200
Blacking-box	W. D. and C. A. Richardson	264,566	Sept. 19	1045	297	22	977
Blacking-box holder	G. W. Gadd	269,102	Dec. 19	961	286	22	2081
Blacking-box holder and foot-rest. Combined	M. R. Gannaway	267,873	Nov. 21	1149	322	22	1759
Blacking stand. Boot-	W. W. Prichard	261,173	July 18	1051	296	22	190
Blank-clip	F. H. Strieby and M. Rankin	265,643	Oct. 10	515	140, 141	22	1228
Blank creasing and pasting machine	D. W. Hendrickson	263,405	Aug. 29	2016	576	22	711
Blast cupola-furnace	J. Kennedy	266,480	Oct. 24	1533	436, 437	22	1419
Blast-furnaces. Cinder-car for	C. Toppan	263,365	Aug. 29	1962	.....	22	702
Bleaching fabrics	P. Thomas	266,660	Oct. 31	1745	.....	22	1464
Bleaching fiber	A. C. and W. W. Gibson	262,399	Aug. 8	718	203	22	463
Blind. Inside window	R. Pisak	261,382	July 18	1304	365	22	230
Blind. Inside window	S. E. Adamson	268,847	Dec. 12	552	161	22	1999
Blind-slat	G. W. Springsted	260,622	July 4	343	93	22	58
Blind-slat adjuster	G. W. Springsted	268,835	Dec. 12	529	157	22	1994
Blind-slat adjuster	J. B. Childs	262,929	Aug. 22	1380	390	22	596
Blind. Window-	G. P. Gee	264,275	Sept. 12	725	201	22	909
Blinds. Device for hanging Venetian	C. M. Young	264,053	Sept. 5	477	130	22	857
Block: *See* Brake-block. Saw-mill head-block. Printing-block. Snatch-block. Pulley-block. Toy building-block. Saddle-pad block.							
Block-signal mechanism for railways. Automatic	J. A. Millholland	267,561	Nov. 14	769	220	22	1682
Blotter-holder	W. J. Coughlin	267,676	Nov. 21	918	260	22	1717
Blow-pipe	C. W. Dean	263,869	Sept. 5	253	73	22	818
Blow-pipe	T. T. Morrell	260,773	July 11	549	149	22	98
Blow-pipe	F. E. Ives	261,852	Aug. 1	34	10	22	341
Blow-pipe flame. Producing the oxyhydrogen	G. W. Ranson	260,413	July 4	87	24	22	16
Blower and damper for grates. Combined	J. W. Collins	262,642	Aug. 15	1020	286	22	521
Blower. Fan-	E. F. Schneider	261,389	July 18	1312	366	22	232
Blower. Fan-	B. G. Covington	264,863	Sept. 26	1400	394	22	1047
Blower. Fire-place	G. W. Geissenhainer	261,221	July 18	1111	309	22	199
Blower for fire-places and stoves. Adjustable	J. P. Mason	266,378	Oct. 24	1431	406	22	1401
Blower for furnaces. Vacuum-							
Board: *See* Bosom-board. Knitting-board. Bulletin-board. Piano sounding-board. Dash-board. Plow mold-board. Drawing-board. Railway-time bulletin-board. Electrical switch-board. Telephone switch-board. Ironing-board. Wash-board.							
Boat: *See* Life-boat.							
Boat	J. Dean	260,459	July 4	138	40	22	24
Boat-detaching apparatus	E. J. Hill and J. L. Clark	266,150	Oct. 17	1130	319	22	1340
Boat-detaching hook	C. F. C. Morris	261,749	July 25	1740	492	22	312
Boat lowering and detaching apparatus	M. Bourke	267,322	Nov. 14	402	133, 134	22	1629
Bobbin-builder for yarn-winding machines, &c	C. E. Bean	262,349	Aug. 8	657	184	22	453
Bobbin-winder	G. W. Baker	260,734	July 11	502	137, 138	22	91
Bobbin-winder	H. W. Hadley	268,662	Dec. 5	317	92	22	1947
Boiler: *See* Agricultural boiler. Stand-boiler. Coffee-boiler. Steam-boiler. Cooking-boiler. Steam-heated boiler. Copper-lined boiler. Sugar-boiler. Culinary boiler. Vertical boiler. Locomotive-boiler. Wash-boiler. Revolving boiler.							
Boiler	D. C. Hill	263,701	Sept. 5	35	11	22	781
Boiler	J. R. Mitchell and F. X. Fischer	269,308	Dec. 19	1121	328	22	2107
Boiler	J. T. Smith	264,357	Sept. 12	813	229	22	936
Boiler and feed-steamer	J. H. McCandless	266,495	Oct. 24	1532	442	22	1423
Boiler and furnace	J. H. Mackintosh	269,690	Dec. 26	1619	463	22	2208
Boiler and other furnaces. Steam-	W. J. O'Neal	268,429	Dec. 5	70	22	22	1900
Boiler and other furnaces. Steam-	O. D. Orvis	268,720	Dec. 5	376	110, 111	22	1959
Boiler and water-heater	W. L. Brownell	261,076	July 11	925	257	22	159
Boiler-cleaner	J. E. Mendenhall	261,468	July 18	1395	389	22	246
Boiler-cleaner	H. Stanton	264,486	Sept. 19	969	272	22	962
Boiler-cleaner	H. W. Johns	262,429	Aug. 8	753	212	22	470
Boiler-covering	D. C. Walter	264,209	Sept. 12	646	179	22	896
Boiler-feeder	E. H. Brownell	264,437	Sept. 19	911	256	22	951
Boiler-furnace	J. Collis	265,945	Oct. 17	875	251	22	1298
Boiler-furnace	M. S. Foote	264,871	Sept. 26	1413	399	22	1049
Boiler-furnace	T. E. Jones	263,182	Aug. 22	1682	477	22	652
Boiler-furnace	K. Schroll	266,648	Oct. 31	1731	499	22	1462
Boiler-furnace and attachment	R. R. Zell	266,249	Oct. 17	1244	353	22	1359
Boiler furnace. Steam-	M. A. Foster	265,794	Oct. 10	705	197	22	1261
Boiler furnace. Steam-	W. T. Hatch	268,098	Nov. 28	1417	396	22	1814
Boiler furnace. Steam-	P. Kiefer	263,532	Aug. 29	2160	617	22	748
Boiler furnace. Steam-	W. H. Odell	263,063	Aug. 29	2313	661	22	764
Boiler-heads. Machine for cutting flue-holes in	S. Fox	263,039	Aug. 22	1521	428, 429	22	621
Boiler or other furnace	E. J. Mallett, Jr	262,072	Aug. 1	301	86, 87	22	388
Boiler-scraping attachment	J. M. Lakenan	268,504	Dec. 5	147	43	22	1914
Boiler-tube expander	Z. J. Ferguson	260,555	July 4	265	74	22	45
Boiler-tube leak-stopper	W. F. Thompson	268,571	Dec. 5	215	61	22	1927
Boiler tube. Steam-	G. S. Strong	266,220	Oct. 17	1213	342	22	1354
Boilers, &c. Apparatus for heating water for	G. H. Babcock, S. Wilcox, and N. W. Pratt.	265,234	Oct. 3	7	3, 4	22	1138
Boilers. Apparatus for removing scale from	W. Ord	262,823	Aug. 15	1248	350	22	562
Boilers. Composition for removing scale in	C. R. Bacon and F. Queen	269,616	Dec. 26	1531	.....	22	2191
Boilers of road-engines. Device for leveling	T. F. and A. L. Wilson	264,500	Sept. 19	982	276	22	965
Boilers. Securing snugs or rings on	J. Trageser	262,189	Aug. 1	466	130	22	413
Boilers. Sediment-collector for	D. Hanna	260,676	July 4	429	116	22	73
Bolster-spring	S. Ide	261,611	July 25	1583	444	22	284
Bolt: *See* Car-door bolt. Interlocking bolt. Centrifugal bolt. King-bolt. Door-bolt. Locomotive wedge-bolt. Flour-bolt. Meal-bolt.							
Bolt	J. P. Black	267,398	Nov. 14	564	161	22	1645
Bolt	G. Cruttenden, Jr	261,588	July 25	1555	437	22	279
Bolt and nut lock	C. E. Bell	268,607	Dec. 5	255	71	22	1935
Bolt-casing	H. B. Ives	261,233	July 18	1124	313	22	201
Bolt-cleaner	H. C. McKeen	266,177	Oct. 17	1164	328, 329	22	1346

Alphabetical list of inventions, July to December, inclusive—Continued.

Alphabetical list of inventions, July to December, inclusive—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Bolt-cutter	A. R. Duff	269,271	Dec. 19	1078	314	22	2099
Bolt cutter. Carriage	J. S. Bright	262,638	Aug. 15	1015	285	22	520
Bolt-heading machine	O. C. Burdict	264,820	Sept. 19	1338	378	22	1030
Bolt-pointing machine	O. R. Olsen	266,638	Oct. 31	1714	495	22	1459
Bolt-threading machine	H. C. Brill	268,074	Nov. 28	1388	{388 / 389}	22	1808
Bolt-threading machine	M. D. Luehrs	268,508	Dec. 5	149	44	22	1915
Bolt wedge. Split	J. P. Edmonds	268,207	Nov. 28	1553	431	22	1838
Bolts and rivets. Machine for making	J. Morgan	261,022	July 11	864	240	22	150
Bolting and sieve fabric and method of making the same	S. O. Brigham	265,302	Oct. 3	95	28	22	1151
Bolting-chest	N. Cornelius	269,017	Dec. 12	747	220	22	2035
Bolting-cloth. Device for tightening	M. Harmon	262,037	Aug. 1	259	75	22	380
Bolting-reel	J. M. Finch	264,824	Sept. 19	1341	379	22	1031
Bone and wood burner	A. Schafer	265,876	Oct. 10	786	{222 / 223}	22	1276
Bone-black and revivifying old bone-black. Treating new	S. M. Lillie	260,486	July 4	180	51	22	31
Bone-black drier	J. O. Donner and J. V. V. Booraem	263,874	Sept. 5	259	74, 75	22	819
Bone-black. Furnace for burning and revivifying	A. Weber	265,723	Oct. 10	617	{174 / 175}	22	1245
Bone-black in sugar-refineries and apparatus for carrying on the same. Process of washing	S. M. Lillie	263,710	Sept. 5	43	13	22	782
Bone-black kilns. Automatic cut-off for	C. T. Rayner and R. Stenhouse	264,337	Sept. 12	792	223	22	922
Bone-black kilns. Discharge apparatus for coolers of	R. J. Barr	268,981	Dec. 12	707	207	22	2027
Bone-blanks for tooth-brushes. Machine for milling	A. C. Estabrook	260,376	July 4	32	10	22	7
Bone into blanks for tooth-brush handles. Working	A. C. Estabrook	260,374	July 4	25	8, 9	22	7
Bone-sawing machine	A. C. Estabrook	260,375	July 4	30	9, 10	22	7
Book-binding	H. H. Hoffmann	264,878	Sept. 26	1420	401	22	1050
Book-clasp	N. Harlan. (Reissue)	10,262	Dec. 19	1387	399	22	2166
Book. Copying	J. L. O'Connor	266,189	Oct. 17	1177	339	22	1348
Book-covers. Protector for the edges of	A. L. Clark	266,098	Oct. 17	1064	302	22	1329
Book-covers. Protector for the corners of	G. H. Jennison	269,425	Dec. 19	1279	371	22	2137
Book-holder	W. B. Brown	261,993	Aug. 1	206	61	22	371
Book-holder	G. W. Hessler	263,290	Aug. 22	1816	516	22	677
Book-holder	J. Pusey	260,500	July 4	198	56	22	34
Book-holder	C. J. B. and E. J. Whitehead	267,812	Nov. 21	1074	300	22	1744
Book-holder and arm-rest combined	J. J. Armstrong, Jr.	264,995	Sept. 26	1571	441	22	1077
Book. Letter-copying	G. C. Lipman	266,169	Oct. 17	1154	325	22	1343
Book-makers' table-shears. Gage for	E. P. Donnell	265,036	Sept. 26	1615	454	22	1085
Book. Manifold order	J. S. McDonald	261,245	July 18	1135	317	22	203
Book-mark and paper-cutter	F. D. Adams	261,976	Aug. 1	186	55	22	367
Book. Order	W. S. Auchincloss	268,599	Dec. 5	247	69	22	1933
Book-rest	E. J. Bonett, T. Gilfillan, and A. W. Flanders.	264,234	Sept. 12	677	187	22	901
Book-rest and manuscript-holder	C. C. Koehl	269,683	Dec. 26	1609	461	22	2206
Book-rest for writing desks and tables	R. W. Terrill	265,464	Oct. 3	280	83	22	1186
Book. Scrap	G. E. Shepard	267,604	Nov. 14	822	235	22	1691
Book-stapling machine	W. L. Coop	263,390	Aug. 29	1995	{570 / 571}	22	708
Book-stapling machine	W. L. Coop and S. E. Mower	263,391	Aug. 29	1997	571	22	708
Book-stapling machine	S. E. Mower	263,561	Aug. 29	2198	{627 / 628}	22	745
Book-support	F. Schubert	266,209	Oct. 17	1198	338	22	1352
Books. Binding	D. M. Smyth	269,336	Dec. 19	1163	342	22	2115
Books, &c. Folding and swinging support and repository for	E. A. Grant	263,168	Aug. 22	1667	472	22	648
Boot	T. H. Buckingham	263,385	Aug. 29	1990	568	22	707
Boot	B. Getleson	268,479	Dec. 5	122	37	22	1910
Boot	W. Smith	260,426	July 4	99	28	22	18
Boot	C. J. Blakely	260,828	July 11	618	168	22	109
Boot and shoe burnishing machine	J. G. Buzzell	263,284	Aug. 22	1807	{512 / 513}	22	675
Boot and shoe channelling machine	T. Nolan	262,689	Aug. 15	1077	303	22	533
Boot and shoe cleaning apparatus	T. J. Pairpoint	261,208	Aug. 22	1714	485	22	658
Boot and shoe fabric	H. E. Urann	268,320	Nov. 28	1693	469	22	1864
Boot and shoe heel	C. Dranly	267,167	Nov. 7	960	76	22	1586
Boot and shoe heel or counter support	S. B. Keffer	268,497	Dec. 5	140	41	22	1918
Boot and shoe heel. Revolving	H. J. Johnson	262,430	Aug. 8	754	212	22	470
Boot and shoe heels. Rotary cutter for trimming	W. D. Orcutt	261,030	July 11	873	242	22	151
Boot and shoe impression-stitch soles. Manufacture of	L. O. Makepeace	268,421	Dec. 5	62	19	22	1898
Boot and shoe jack	G. E. Gooding and E. H. Taylor	263,894	Sept. 5	278	80	22	822
Boot and shoe mold	A. F. Preston	269,460	Dec. 19	1392	383	22	2145
Boot and shoe receptacles. Indicator for	A. Muckenhaupt	265,693	Oct. 10	580	162	22	1239
Boot and shoe sole edges. Machinery for burnishing	M. Dudley. (Reissue)	10,250	Nov. 28	1774	492	22	1879
Boot and shoe soles. Machine for closing the channels in	D. S. Smith	268,741	Dec. 5	404	118	22	1964
Boot and shoe soles. Machine for molding	F. W. Pope and G. H. Fox	268,124	Nov. 28	1445	404	22	1890
Boot and shoe strap protector	C. W. Elliott	267,506	Nov. 14	692	198	22	1668
Boot and shoe stretcher	H. Glines	269,407	Dec. 19	1258	366	22	2132
Boot. Button	G. C. How	262,594	Aug. 15	962	270	22	511
Boot. Gaiter	E. B. Stimpson	268,568	Dec. 5	213	60	22	1926
Boot-jack	R. Myers	264,840	Sept. 19	1360	385	22	1034
Boot or shoe	J. R. Cancio	268,864	Dec. 12	568	167	22	2002
Boot or shoe	G. H. Clark	265,483	Oct. 3	302	90	22	1190
Boot or shoe	G. S. Cook	267,840	Nov. 21	1100	310	22	1751
Boot or shoe	J. B. Farrar	267,745	Nov. 21	991	278	22	1730
Boot or shoe	S. K. Hindley	262,592	Aug. 15	959	270	22	511
Boot or shoe	S. K. Hindley	268,891	Dec. 12	600	177	22	2007
Boot or shoe	S. K. Hindley	268,892	Dec. 12	601	177	22	2007
Boot or shoe	S. K. Hindley	268,893	Dec. 12	602	177	22	2007
Boot or shoe	S. K. Hindley	268,894	Dec. 12	602	177	22	2007
Boot or shoe	J. M. Kindregan	269,212	Dec. 19	1000	292	22	2035
Boot or shoe	J. A. Lemmon	269,800	Dec. 26	1761	508	22	2231

Alphabetical list of inventions, July to December, inclusive—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Boot or shoe	W. Lyon	269,077	Dec. 12	830	246	22	2049
Boot or shoe	L. E. Moore	262,239	Aug. 8	528	148	22	430
Boot or shoe	J. Popham	267,652	Nov. 14	879	251	22	1702
Boot or shoe	J. W. D. Fifield	261,917	Aug. 1	119	35	22	355
Boot or shoe crimping machine	A. H. Christensen and G. Lund	261,428	July 18	1351	378	22	230
Boot or shoe heel	M. B. Wood	261,414	July 18	1339	374	22	237
Boot or shoe heel	J. B. Stevens	268,141	Nov. 28	1471	410	22	1824
Boot or shoe insole	J. E. Kimball	261,931	Aug. 1	135	39, 40	22	358
Boot or shoe nailing machine	W. W. Brown, Jr.	266,965	Nov. 7	6	2	22	1541
Boot or shoe. Rubber	G. H. Stevens	263,617	Aug. 29	2261	646	22	756
Boot or shoe shank stiffener	G. W. Day	266,018	Oct. 17	969	275	22	1313
Boot or shoe sole. Device for holding back the channel-lip of a	S. W. Robinson	265,149	Sept. 26	1742	486	22	1107
Boot or shoe sole fastening	C. T. Stetson	263,616	Aug. 29	2260	646	22	756
Boot or shoe soles. Machine for channeling and trimming	L. O. Makepeace	267,702	Nov. 21	945	267	22	1722
Boot or shoe soles. Machine for producing stitch-impressions on	C. Haggerty and W. H. King	266,812	Oct. 31	1922	556	22	1497
Boot or shoe tongue	H. F. C. Pearson	261,952	Aug. 1	157	46	22	362
Boot or shoe. Waterproof	J. B. Belcher. (Reissue)	10,151	July 11	980	275	22	170
Boot-strap	J. B. Belcher	261,125	July 18	999	280	22	182
Boot-strap	J. B. Belcher	263,465	Aug. 29	2082	597	22	724
Boot-strap	W. Smith	262,626	Aug. 15	998	280	22	518
Boot-strap fastener	G. H. Ellis	261,211	July 18	1100	307	22	198
Boots and shoes. Apparatus for cleaning and polishing	J. G. de Trez	264,020	Sept. 5	450	123	22	852
Boots and shoes. Heel for	G. Hawkes	261,602	July 25	1572	442	22	283
Boots and shoes. Lasting	E. H. Buckley	260,935	July 11	738	201	22	129
Boots and shoes. Manufacture of	H. Folsom	268,656	Dec. 5	312	90	22	1946
Boots and shoes. Manufacture of	J. K. Felck	260,554	July 4	965		22	45
Boots and shoes. Manufacturing felt	W. L. Varney and W. H. Howard	266,663	Oct. 31	1747	504	22	1464
Boots or shoes. Guide for the manufacture of	H. R. Adams	262,572	Aug. 15	901	255	22	503
Boots or shoes. Manufacture of	A. W. Blakeslee	268,073	Nov. 28	1387	388	22	1808
Boots or shoes. Metallic counter-stiffener for	F. D. Hayward	263,781	Sept. 5	140	42	22	798
Boots or shoes. Rubber heel for	C. A. Hodge	263,702	Sept. 5	36	11	22	781
Boring and tenoning machine	H. J. Miller	268,118	Nov. 28	1437	402	22	1818
Boring and tenoning machine	D. O'Neil	266,306	Oct. 24	1332	375	22	1382
Boring device. Metal	R. C. Nugent	265,535	Oct. 3	302	105	22	1200
Boring-head for boring cylinders	C. D. Blevins	260,362	July 4	13	4	22	5
Boring-machine	H. C. Cloyd	269,264	Dec. 19	1071	313	22	2097
Boring-machine	F. Kade	269,583	Dec. 26	1490	430	22	2183
Boring-machine	W. Graham and W. H. Staley	269,410	Dec. 19	1262	367	22	2133
Boring machine. Post-hole	W. Hasenzahl	266,140	Oct. 17	1119	316	22	1338
Boring machine. Rock	P. T. Perkins	266,643	Oct. 31	1721	497	22	1460
Boring pump-logs, &c. Machine for	W. R. Kizer	268,414	Dec. 5	53	16	22	1896
Bosom board and stretcher	D. Lubin	264,839	Sept. 19	1360	385	22	1034
Bottle	J. Gray	269,196	Dec. 19	994	288	22	2082
Bottle. Blown-glass mucilage	J. Close	263,116	Aug. 22	1005	454	22	636
Bottle-case	W. C. Baldwin	264,123	Sept. 12	560	153	22	880
Bottle-cleaner	C. Vonderlinden	261,106	July 11	970	270	22	167
Bottle-cleaner	H. Bell	262,353	Aug. 8	666	186	22	454
Bottle-envelope	A. E. Rich	265,703	Oct. 10	594	166	22	1242
Bottle-filling machine	E. F. Bray	267,484	Nov. 14	669	192	22	1664
Bottle-locking device	E. L. Mueller	264,894	Sept. 26	1437	406	22	1053
Bottle-packing box	E. L. Mueller	269,221	Dec. 19	1009	295	22	2087
Bottle-packing box	F. O. Cody	261,679	July 25	1663	466	22	298
Bottle-packing. Perforated	G. H. Freeman	261,330	July 18	1239	344	22	220
Bottle pouring and dropping attachment	B. Ockelmann	261,250	July 18	1141	{318 / 319}	22	204
Bottle-stand and reflector	J. Q. Adams	263,744	Sept. 5	88	26	22	791
Bottle-stopper	H. B. Anderson	262,912	Aug. 22	1362	385	22	593
Bottle-stopper	D. S. Cooke	262,574	Aug. 15	932	264	22	507
Bottle-stopper	J. B. Crawford	262,008	Aug. 1	222	66	22	374
Bottle-stopper	J. B. Davida	268,873	Dec. 12	575	169	22	2003
Bottle-stopper	C. De Quillfeldt	260,850	July 11	641	174	22	114
Bottle-stopper	C. De Quillfeldt	260,851	July 11	643	175	32	114
Bottle-stopper	J. W. Johnson	261,095	July 11	958	267	22	166
Bottle-stopper	S. B. King	265,424	Oct. 3	228	68	22	1176
Bottle-stopper	J. M. Lewin	267,650	Nov. 14	877	250	22	1701
Bottle-stopper	G. and H. E. G. Luyties	265,118	Sept. 26	1704	476	22	1100
Bottle-stopper	A. E. Rich	262,904	Aug. 15	1348	381	22	581
Bottle-stopper	A. C. Schulz	266,727	Oct. 31	1928	530	22	1479
Bottle-stopper	W. Sylvester	269,484	Dec. 19	1361	392	22	2151
Bottle-stopper	A. Walker	267,289	Nov. 7	411	120	22	1614
Bottle-stopper	P. Henrichs	266,364	Oct. 24	1407	400	22	1396
Bottle-stopper and draft-nozzle	S. M. Bixby	267,397	Nov. 14	563	161	22	1644
Bottle stopper. Mucilage	A. Hebbard. (Reissue)	10,172	Aug. 1	477	133	22	415
Bottle-stopper. Volatile-salts	T. Marshall	265,842	Oct. 10	749	211	22	1269
Bottle-tube cleaner. Nursing	H. E. Clinton	266,773	Oct. 31	1878	545	22	1488
Bottle-washer	J. Hauck and G. Lautenschlager	267,199	Nov. 7	901	88	22	1593
Bottle-washing machine	M. V. Kaeer	265,421	Oct. 3	295	67	22	1176
Bottle-wrappers. Machine for making	M. V. Kaeer and H. C. Yocum	268,655	Dec. 5	344	100	22	1952
Bottle-wrappers. Machine for making	J. H. McLean	262,452	Aug. 8	778	219	22	474
Bottle-wrapping, carpet-lining, &c	J. Packham and J. Pelton	264,744	Sept. 19	1245	353	22	1015
Bottles. Apparatus for packing or holding	E. A. F. Moses	261,246	July 18	1136	317	22	203
Bottles. Applying wire cork-fastenings to	J. Boe	266,422	Oct. 24	1477	420	22	1409
Bottles. Box for holding and transporting	J. Lamont	268,247	Nov. 28	1606	446	22	1849
Bottles, jars, &c. Packing for	F. W. Boldt and H. E. Schrader	263,676	Sept. 5	10	3	22	776
Bottles. Machine for corking	K. F. C. Petersen	263,721	Sept. 5	65	19	22	786
Bottles. Machine for corking	A. F. Wilson	265,726	Oct. 10	623	176	22	1246
Bottles. Tool for finishing the necks and lips of	J. C. G. Hüpfel	267,349	Nov. 14	496	142	22	1634
Bottling beer under pressure	H. B. Anderson	262,911	Aug. 22	1361	385	22	593
Bottling-machine	J. W. Chewning	266,095	Oct. 17	1061	301	22	1329
Bottling-machine	J. Klee	264,039	Sept. 5	462	126	22	854

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Bottling-machine	J. Matthews	260,765	July 11	543	147	22	97
Bottling-machine	M. L. Severy	262,324	Aug. 8	631	177	22	448
Bottling-wires. Machinery for manufacturing	O. R. Champlin	261,907	Aug. 1	96	27, 28, 29	22	352
Bouquet-holder and badge-pin. Combined	C. P. Jacobs	263,901	Dec. 12	610	180	22	2008
Bow. Archery	C. A. Howe	261,610	July 25	1582	444	22	284
Bow. Cross	D. L. Wilcox	259,249	Dec. 19	1054	308	22	2095
Box: *See* Advertising match-box. Axle-box. Ballot-box. Bathing-box. Bent box. Blacking-box. Bottle-packing box. Cake or cracker box. Cartridge show-box. Cigar-box. Cigarette-box. Coal-box. Commercial or packing box. Egg-box. Fare-box. Feed-box. File-box. Fire-box. Folding box. Jewelry show-box. Journal-box. Locomotive fire-box. Lunch-box. Match-box. Music-box. Musical box. Packing-box. Packing and toy box. Paper box. Puzzle lock-box. Refrigerator-box. Shelf-box. Telegraph signal-box. Tobacco-steaming box. Toy money-box. Wagon-box. Watch-movement box.							
Box	N. Bragdon	259,170	Dec. 19	946	276	22	2076
Box	H. P. Fiske	265,589	Oct. 10	444	122	22	1217
Box	H. P. Fiske	265,590	Oct. 10	445	122	22	1217
Box	J. L. Stuber	264,789	Sept. 19	1298	366	22	1024
Box clamp or fastening	O. P. Retnour	260,608	July 4	326	89	22	56
Box-fastener	W. J. Baker	264,605	Sept. 19	1091	310	22	985
Box-fastener	W. Lang	268,108	Nov. 28	1428	399	22	1816
Box-fastener	R. M. Williamson	266,666	Oct. 31	1750	505	22	1465
Box-fastener	R. M. Williamson	267,122	Nov. 7	209	61	22	1577
Box-nailing machine	H. Messer	267,359	Nov. 14	507	145, 146	22	1636
Box-nailing machine	F. Myers	262,304	Aug. 8	607	171	22	444
Box-nailing machine	F. Myers	262,305	Aug. 8	608	171	22	444
Box-nailing machine	H. P. Ostrum	269,816	Dec. 19	1133	332	22	2109
Box or receptacle for containing hair-pins, tooth-picks, &c.	M. E. Converse	261,586	July 25	1554	436	22	279
Box-trimming machine	J. Casey and J. M. Stevens	262,370	Aug. 8	685	191	22	458
Boxes and baskets. Making	J. Howenstine	265,419	Oct. 3	223	67	22	1176
Brace: *See* Bed-frame brace. Carriage-top brace. Chair-brace. Dental jaw-brace.							
Brace-head for bits and braces	F. J. Colvin	268,460	Dec. 5	104	32	22	1906
Brace to prevent rolling in beds or berths	W. B. Farrar	264,678	Sept. 19	1171	331	22	1002
Bracelet	J. M. Bates	260,166	Dec. 19	942	275	22	2075
Bracelet	S. Cottle	260,540	July 4	251	70	22	43
Bracelet	A. Di Mariano	267,164	Nov. 7	256	75	22	1585
Bracelet	A. Engelmann	265,044	Sept. 26	1623	456	22	1087
Bracelet	A. Engelmann	267,782	Nov. 21	1039	290	22	1739
Bracelet	A. Engelmann	267,851	Nov. 21	1119	314	22	1754
Bracelet	J. C. Harrington	267,886	Nov. 21	1161	325	22	1762
Bracelet	F. G. Hodges	265,603	Oct. 10	461	127	22	1220
Bracelet	E. F. Presbrey. (Reissue)	10,239	Nov. 14	890	254	22	1703
Bracelets and other chains. Slide for chain	J. Herzog	267,526	Nov. 14	726	209	22	1674
Bracelets. Manufacturing	A. Lambert	264,541	Sept. 19	1019	289	22	971
Bracket: *See* Carriage-curtain-roller bracket. Curtain-roller bracket. Dental bracket. Galley-bracket. Inkstand-bracket. Lamp-bracket. Reflector-bracket. Shingling-bracket.							
Brake: *See* Air-brake. Automatic brake. Car-brake. Carriage-brake. Elevator or dumb-waiter brake. Power-brake. Sewing-machine brake. Sewing-machine tension-brake. Steam-brake. Vehicle-brake. Wagon-brake.							
Brake-block	U. M. Gordon	268,092	Nov. 28	1410	394	22	1812
Brake-lever	J. Jensen	262,676	Aug. 15	1061	298	22	530
Brake mechanism	J. C. Glass	262,401	Aug. 8	721	204	22	464
Brake-shoe	J. F. Curtice	263,769	Sept. 5	125	38	22	795
Brake-shoe	T. and T. B. Robins	263,060	Aug. 22	1542	435	22	625
Brake-shoe	A. W. Sanborn	264,569	Sept. 19	1047	298	22	977
Brake-shoe	B. M. and F. M. Tiffany	262,150	Aug. 1	408	115	22	403
Braking mechanism for machinery	A. M. Ulmer and F. Fowler	267,953	Nov. 21	1237	348	22	1776
Bran and middlings. Machine for disintegrating	F. Miller and L. S. Hogeboom	263,937	Sept. 5	329	93	22	831
Bran-beating machine	J. W. Barbeau	266,599	Oct. 31	1675	483	22	1451
Bread-cutter	J. H. Lynch	266,851	Oct. 31	1961	567	22	1504
Breast-pin safety-catch	A. Luthy	261,008	July 11	846	235	22	147
Breast-strap slide and hook	C. R. Furey	264,685	Sept. 19	1178	334	22	1003
Brewing malt liquors	J. F. Gent	262,761	Aug. 15	1168	.....	22	547
Brick	E. A. Kern	263,914	Sept. 5	299	86	22	826
Brick	C. Stokes	268,569	Dec. 5	213	60	22	1926
Brick and tile kiln	R. A. and J. F. Brown	263,473	Aug. 29	2091	599	22	725

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Brick and tile machine	E. Fales	267,852	Nov. 21	1120	314, 315	22	1754
Brick. Burning	A. Yates	264,117	Sept. 12	554	151	22	879
Brick-die	G. F. Earhart	268,879	Dec. 12	586	173	22	2005
Brick-elevator	J. C. Bobzien	265,012	Sept. 26	1587	446	22	1089
Brick. Fire-	W. G. Beyerly	262,727	Aug. 15	1122	317	22	540
Brick. Fire-	A. Brase	265,654	Oct. 10	536	.....	22	1231
Brick for building arches and furnace-roofs	W. G. Bell	266,010	Oct. 17	961	272	22	1311
Brick, furnace-linings, &c. Compound for fire-	J. Henderson	265,961	Oct. 17	900	.....	22	1302
Brick-kiln	W. N. Graves	266,959	Oct. 31	2114	606, 607	22	1532
Brick-kiln	S. J. Plant	262,614	Aug. 15	986	277	22	516
Brick-kiln	E. E. Polster	264,334	Sept. 12	789	222	22	921
Brick-kiln	S. D. Rader	265,436	Oct. 3	240	72	22	1178
Brick-kiln	A. Yates	264,118	Sept. 12	555	151, 152	22	879
Brick-machine	W. Andrus	267,392	Nov. 14	558	159	22	1643
Brick-machine	S. Collinge and A. Serfass	266,100	Oct. 17	1067	303	22	1330
Brick-machine	J. C. Conroy and H. D. Kilgore	261,911	Aug. 1	109	31, 32	22	354
Brick-machine	G. Davis	265,030	Sept. 26	1609	453	22	1084
Brick-machine	E. Fales	262,583	Aug. 15	943	266	22	508
Brick-machine	L. B. Kennedy	267,542	Nov. 14	745	213	22	1679
Brick-machine	J. O. Smith	265,883	Oct. 10	794	225	22	1277
Brick-machine	R. B. Wilson	267,814	Nov. 21	1077	301, 302	22	1745
Brick-machine	M. Wright	264,398	Sept. 12	861	241	22	934
Brick. Method of and apparatus for making	J. C. Anderson	268,976	Dec. 12	698	205	22	2026
Brick-mold	J. Blum	266,602	Oct. 31	1677	484	22	1451
Brick-mold	J. J. Johnston	266,832	Oct. 31	1941	561	22	1501
Brick-mold washer	G. Partridge	267,365	Nov. 14	520	148	22	1637
Brick or tile and mold for its manufacture	S. E. Loring	261,364	July 18	1277	355	22	226
Brick-press	E. Fales	263,156	Aug. 22	1651	466, 467	22	646
Brick-press	E. R. Gard	265,667	Oct. 10	549	150, 151	22	1234
Brick-press	R. N. Ross	266,532	Oct. 24	1595	454	22	1431
Brick, &c. Regenerative kiln for burning fire-	J. Dunnachie	268,771	Dec. 5	438	128, 129	22	1970
Bricks and tiles. Ornamentation of	J. C. Anderson	264,505	Sept. 19	986	.....	22	965
Bricks from the mold. Device for discharging	D. W. Stewart and L. Downing	262,993	Aug. 22	1461	411	22	610
Bridge	T. Barland	264,220	Sept. 12	662	183	22	898
Bridge	S. H. Godman	263,333	Aug. 29	1920	549	22	695
Bridge	S. H. Godman	267,189	Nov. 7	285	83	22	1591
Bridge	J. Maish	264,724	Sept. 19	1226	346	22	1011
Bridge	E. B. Stephens	268,309	Nov. 28	1681	466	22	1862
Bridge guard. Swinging-	G. E. Morstad	269,093	Dec. 12	849	251	22	2052
Bridge. Truss-	W. Litell	265,331	Oct. 3	130	38	22	1158
Bridges. Guard-gate for swing-	L. Svanson	264,969	Sept. 26	1540	432, 433	22	1071
Bridle and halter	S. A. Marker	264,178	Sept. 12	618	171	22	891
Bridle-bit	E. R. and C. E. Cahoone	264,925	Sept. 26	1484	417	22	1061
Bridle-bit	H. S. Squier	263,237	Aug. 22	1743	495	22	664
Bridle-bit	J. and C. Taylor	261,278	July 18	1177	330	22	209
Bridle-bit for horses	G. W. Ward	264,496	Sept. 19	979	275	22	964
Bridle-bit machine	J. V. Ash	264,430	Sept. 19	903	254, 255	22	949
Bridle. Blind-	J. C. Simpson	261,773	July 25	1776	501	22	317
Bridle-blinder stay	J. A. Bowdle	266,423	Oct. 24	1478	420	22	1409
Broiler	A. H. Ege	264,867	Sept. 26	1407	397	22	1048
Broiler	N. F. Humphrey	263,339	Aug. 29	1926	551	22	696
Broiler. Meat-	C. T. Hurd	267,535	Nov. 14	735	211	22	1675
Broiler. Meat-	E. F. Shaw	268,736	Dec. 5	399	116	22	1963
Bronze alloys. Making	P. Dronier	267,742	Nov. 21	988	.....	22	1730
Bronzing-machine	H. R. Sillman	265,266	Oct. 3	69	21	22	1148
Broom	D. B. Gaffney	260,969	July 11	789	216	22	138
Broom	M. B. Montgomery	267,444	Nov. 14	624	180	22	1655
Broom-corn press	A. Anderson	268,069	Nov. 28	1383	387	22	1807
Broom holder. Whisk-	A. Pfrangle	263,722	Sept. 5	66	19	22	786
Broom-socket	A. S. Flint	265,052	Sept. 26	1633	459	22	1088
Broom. Whisk-	C. A. Avery	263,093	Aug. 22	1581	446	22	632
Brush	L. Stone	268,052	Nov. 28	1366	382	22	1804
Brush	J. Sullivan	260,909	July 11	708	193	22	125
Brush. Automatic fly-	J. M. and W. A. Peay and J. H. Helsley	260,778	July 11	554	151	22	99
Brush-boring machine	M. G. Imbach	268,798	Dec. 12	485	143	22	1986
Brush-bunching machine	L. Strickel	261,273	July 18	1172	328	22	208
Brush. Electric	J. W. Weakley, Jr	260,718	July 4	476	129	22	81
Brush for doors. Fly-	H. H. Baltzley	269,375	Dec. 19	1220	355	22	2124
Brush. Gun-	G. S. Gladding	264,826	Sept. 19	1343	380	22	1031
Brush. Hair-	G. F. Ells	260,857	July 11	650	176	22	115
Brush handle. Extension paint-	G. W. Smith	268,301	Nov. 28	1669	463	22	1860
Brush-handles. Machine for boring	A. C. Estabrook	260,377	July 4	37	11	22	8
Brush-handles. Machine for graving	A. C. Estabrook	260,378	July 4	41	12	22	8
Brush-searing device	J. S. White	267,957	Nov. 21	1242	350	22	1777
Brush. Tooth-	L. Chevallier	264,624	Sept. 19	1112	315	22	989
Brush-trimming machine	J. M. Pickering	268,278	Nov. 28	1642	456	22	1855
Bucket and barrel package	R. H. Compton	269,638	Dec. 26	1556	448	22	2196
Bucket. Dinner-	W. H. Etz	266,122	Oct. 17	1100	310	22	1335
Bucket. Dinner-	W. H. Etz and H. P. Theis	262,282	Aug. 8	577	162	22	439
Bucket. Dinner-	S. Winkler	261,506	July 18	1439	402	22	253
Bucket-elevator	J. Boardman	266,082	Oct. 17	1045	296	22	1326
Bucket. Sap-	J. Smead	267,374	Nov. 14	539	154	22	1640
Bucket valve. Well-	W. H. Roe	264,342	Sept. 12	706	224	22	923
Buckle	J. Bills	264,613	Sept. 19	1099	312	22	987

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Buckle	G. P. Edney	266,023	Oct. 17	976	277	22	1314
Buckle	W. A. Fisher	266,125	Oct. 17	1104	311	22	1336
Buckle	J. L. Follett	264,032	Sept. 5	453	194	22	852
Buckle	T. O. Potter	263,806	Sept. 5	176	50	22	803
Buckle	T. O. Potter	263,807	Sept. 5	177	51	22	803
Buckle	E. P. Sears	261,052	July 11	899	249	22	155
Buckle	E. P. Sears	268,550	Dec. 5	192	54	22	1922
Buckle	D. W. Smith	266,908	Oct. 31	2028	585	22	1517
Buckle	L. Wilson	263,643	Aug. 29	2290	653	22	761
Buckle	E. G. Latta	264,713	Sept. 19	1212	342	22	1009
Buckle	F. Conway	268,781	Dec. 12	460	135	22	1982
Buckle. Harness	J. T. Stoll	264,581	Sept. 19	1061	301	22	980
Buckle. Harness	E. R. Cahoone	260,450	July 4	128	37	22	23
Buckle-holder	S. A. Bostwick	268,778	Dec. 12	457	134	22	1981
Buckle. Suspender	C. L. Hosford	262,672	Aug. 15	1056	296	22	529
Buckle. Suspender	H. J. Butler	266,093	Oct. 17	1059	300	22	1328
Buckle. Trace	G. B. Northrup	269,102	Dec. 12	862	254	22	2054
Buckle. Trace	R. P. Garsed	266,458	Oct. 24	1511	429	22	1415
Buffer	T. Shaw	267,727	Nov. 21	975	274	22	1727
Buffer. Friction	M. H. Levett	261,860	Aug. 1	40	12	22	342
Buffing and polishing machinery	A. Levett	269,688	Dec. 26	1617	462	22	2208
Buffing or polishing wheel	J. G. Buzzell	261,906	Aug. 1	93	27	22	392
Buffing-roll	H. E. Fowler	260,558	July 4	268	75	22	46
Buffing-wheel	F. and M. D. Doherty	262,381	Aug. 8	697	195	22	460
Buggy	E. C. Hildebrand	262,411	Aug. 8	782	207	22	466
Buggy	D. E. Gibbons	261,919	Aug. 1	120	35	22	356
Buggy corner-iron	W. Whitaker	263,639	Aug. 29	2282	652	22	759
Buggy. Shifting-rail for	W. D. Ament	261,293	July 18	1106	334	22	213
Buggy-spring	F. A. Isham	261,926	Aug. 1	127	37	22	357
Buggy-spring	J. V. Lafferty	268,503	Dec. 5	146	43	22	1914
Building	P. G. Hubert	262,415	Aug. 8	739	208	22	467
Building. Fire-proof	J. J. Schillinger	262,483	Aug. 8	809	229	22	480
Building. Fire-proof	J. J. Schillinger	262,484	Aug. 8	810	229	22	480
Building. Fire-proof	H. C. Rew	263,354	Aug. 29	1945	557	22	699
Buildings. Construction and decoration of	E. Crowell and E. C. Dawson	269,018	Dec. 12	748	221	22	2035
Buildings. Protecting apparatus for	C. M. Burton, H. R. Allen, and J. Moore.	261,582	July 25	1549	435	22	278
Bullet-casting machine	H. S. Burns	264,237	Sept. 12	680	188	22	901
Bullet-greasing apparatus	J. S. Gold	261,089	July 11	951	265	22	164
Bulletin-board	J. Kirby	268,026	Nov. 28	1392	374	22	1798
Bung	A. E. Schatz	263,062	Aug. 22	1544	435	22	625
Bung. Automatic vent	A. E. Schatz	263,063	Aug. 22	1544	435	22	625
Bung. Automatic vent	W. R. Ansorge	265,360	Oct. 3	102	48	22	1164
Bung. Beer-barrel	W. W. Jackson	268,408	Dec. 5	49	13	22	1895
Bung-bushing wrench	H. F. W. Buecker	266,091	Oct. 17	1057	300	22	1328
Bung-hole reamer	W. A. Vreeland	263,259	Aug. 29	1769	503	22	669
Bung. Self-ventilating	F. Pentlarge and P. Hirsch. (Reissue.)	10,175	Aug. 1	482	134	22	416
Bung. Vent	A. E. Schatz	267,598	Nov. 14	816	233	22	1090
Bung. Vent	J. M. Foster	260,963	July 11	782	215	22	137
Buoy. Signal	J. B. Logan	261,006	July 11	839	234	22	146
Bureau and bedstead. Combined dressing	G. Luppert	265,523	Oct. 3	365	99	22	1198
Bureaus, &c. Machine for preparing rail-pieces of	M. Decker and J. K. Deming	266,259	Oct. 17	1248	354	22	1360
Burglar-alarm	R. G. Dudley	267,503	Nov. 14	687	197	22	1667
Burglar-alarm	F. A. Langewald	263,922	Sept. 5	309	88, 89	22	928
Burglar-alarm and door-bell. Electric	J. P. Freeman	262,393	Aug. 8	711	200	22	462
Burglar alarm. Electric	C. E. Chinnock	260,536	July 4	245	69	22	42
Burglar-alarm. Electric	H. F. Neumeyer	263,947	Sept. 5	345	97	22	834
Burglar-alarm. Electrical	C. A. E. Ruebel	267,987	Nov. 21	1280	359	22	1783
Burglar-alarm for doors	C. A. Smith	268,300	Nov. 28	1668	463	22	1860
Burial-case corner	G. W. Comee	265,022	Sept. 26	1599	450	22	1082
Burial-casket	H. H. Barry	266,578	Oct. 24	1639	466	22	1439
Burial-casket	M. J. Naughton	262,092	Aug. 1	324	93	22	392
Burial-casket	A. W. Taylor	262,503	Aug. 8	833	235	22	484
Burial-casket	J. J. Tickner	263,249	Aug. 22	1759	500	22	667
Burner: *See* Bone and wood burner; Garbage-burner; Gas-burner; Gas and lamp burner; Gas and oil burner; Gas-fire burner; Hydrocarbon-burner; Lamp-burner; Lamp and oil-stove burner; Paint-burner; Petroleum-burner; Stove-burner; Vapor-burner.							
Burning-fluids. Reservoir for	W. A. Best	269,507	Dec. 26	1390	401	22	2163
Burnishing-machine	M. Dudley	263,129	Aug. 22	1621	458	22	639
Burnishing-machine	N. S. Valentine	264,423	Sept. 12	887	249	22	939
Burnishing-machine	F. G. and A. C. Sargent	260,901	July 11	699	190	22	123
Burring-machine	A. Kirchner	262,900	Aug. 15	1342	380	22	579
Bush and bung for barrels and kegs	P. Brownley	264,619	Sept. 19	1105	314	22	988
Bush. Roller	H. W. Moulton	266,165	Oct. 17	1173	331	22	1347
Bustle	F. W. Tolley	268,575	Dec. 5	218	62	22	1927
Butter and lard cutter	W. H. Burnet	266,580	Oct. 24	1641	.....	22	1439
Butter and making the same. Artificial	H. Berthold	266,417	Oct. 24	1473	.....	22	1408
Butter. Coloring compound for artificial	F. Hirst	267,205	Nov. 7	307	90	22	1594
Butter-cutting apparatus	S. H. Cochran. (Reissue)	10,171	Aug. 1	476	.....	22	415
Butter for cooking purposes. Compound to be used in place of	J. J. Carey and P. Cavanaugh	269,005	Dec. 12	733	216	22	2032
Butter-jar	N. I. Nathan	263,199	Aug. 22	1706	.....	22	656
Butter. Making artificial	G. H. Webster	266,568	Oct. 24	1630	.....	22	1437
Butter. Making artificial	J. Hobbs	263,042	Aug. 22	1523	.....	22	621
Butter. Manufacture of artificial	H. R. Wright	267,637	Nov. 14	860	.....	22	1698
Butter. Manufacture of artificial	H. Lauferty	265,833	Oct. 10	741	.....	22	1267
Butter or oleomargarine. Manufacture of artificial	L. J. Smith	263,234	Aug. 22	1741	494	22	664
Butter. Package for							

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Butter-package	J. Tomlinson	267,616	Nov. 14	835	238	22	1693
Butter-packing case	J. F. Rushing	268,544	Dec. 5	187	53	22	1922
Butter substitute	O. H. Coumbe and R. R. Roberts	266,777	Oct. 31	1881	.....	22	1489
Butter-vessel	J. J. Johnston	265,612	Oct. 10	472	130	22	1222
Butter. Vessel for preserving	W. O. Sprague	263,610	Aug. 29	2251	643	22	754
Butter-worker	E. C. Rigby	268,536	Dec. 5	180	51	22	1920
Button	J. Costello	262,930	Aug. 22	1381	390	22	596
Button	J. Costello	266,611	Oct. 31	1686	487	22	1453
Button	J. E. Downey, L. A. Willemin, and G. F. Glauner.	263,393	Aug. 29	2001	572	22	709
Button	G. Felsenthal	262,213	Aug. 8	501	139	22	425
Button	W. C. Howard	268,021	Nov. 28	1326	372	22	1797
Button	C. Radcliffe	269,323	Dec. 19	1142	335	22	2111
Button	E. H. Royce, F. W. Allen, and M. H. Fuller.	262,480	Aug. 8	807	228	22	479
Button	H. A. Slaughter	261,055	July 11	903	250	22	155
Button	W. Steed	262,493	Aug. 8	822	232	22	482
Button	J. Weis	269,756	Dec. 26	1705	490	22	2224
Button	E. S. Wheeler	265,900	Oct. 10	811	230	22	1280
Button	F. B. Wood	261,892	Aug. 1	79	23	22	349
Button and method of attachment	J. Cadbury	261,204	July 18	1092	305	22	197
Button-attaching machine	A. W. Ham	267,342	Nov. 14	485	140	22	1632
Button. Cuff	D. Lubin	264,838	Sept. 19	1359	384	22	1034
Button. Cuff	J. W. Miller	262,606	Aug. 15	977	274	22	514
Button-fastener	J. C. F. Dick	261,317	July 18	1225	340	22	217
Button-fastener	C. Erlanger	264,520	Sept. 19	1001	282	22	968
Button-fastener	G. W. Prentice	264,842	Sept. 19	1362	385	22	1034
Button-fastener	J. H. Robertson	266,528	Oct. 24	1589	452	22	1430
Button-fastener	F. A. Smith, Jr	266,652	Oct. 31	1735	500	22	1462
Button-fastener	W. S. Spencer	261,058	July 11	906	251	22	156
Button-fastener	P. H. Sweet, Jr	269,738	Dec. 26	1678	466	22	2219
Button-fastener	A. G. Wilkins	266,941	Oct. 31	2075	597	22	1525
Button-fastener	A. G. Wilkins	266,940	Oct. 31	2075	597	22	1525
Button-fasteners. Apparatus for securing	C. De Quillfeldt	268,402	Dec. 5	105	32	22	1906
Button-fastening	C. B. Maedel	269,302	Dec. 19	1115	325	22	2106
Button-fastening	G. W. Prentice	266,883	Oct. 31	1997	576	22	1511
Button-fastening	G. W. Prentice	269,705	Dec. 26	1632	468	22	2211
Button-fastening	W. Wiggins	268,336	Nov. 28	1709	475	22	1868
Button-fastening apparatus	L. Goddu	267,340	Nov. 14	481	139	22	1632
Button. Glove	E. Pringle	260,411	July 4	84	24	22	16
Button-hole cutter	J. W. Lufkin	262,961	Aug. 22	1422	401	22	603
Button-holes. Forming	Loo Chew Fan	264,521	Sept. 19	1002	282	22	968
Button lap and stay for garments. Combined	D. W. Thompson	267,281	Nov. 7	398	116	22	1611
Button or stud	G. E. Adams	267,315	Nov. 14	454	131	22	1627
Button. Separable	D. Humphreys. (Reissue)	10,227	Oct. 31	2122	610	22	1533
Button. Separable	N. Taylor	263,626	Aug. 29	2270	648	22	757
Button. Sleeve	R. E. Brunacci	263,850	Sept. 5	227	67	22	813
Button, stud, &c. Sleeve	W. Durand	267,976	Nov. 21	1264	356	22	1780
Buttons from plastic material. Manufacture of	P. L. Sylvester	265,181	Sept. 26	1782	499 500	22	1115
Buttons from vegetable ivory nuts. Forming	J. A. Conley	267,974	Nov. 21	1262	355	22	1780
Buttons. Ornamenting	O. Barthels	262,347	Aug. 8	656	184	22	453
Buttons to fabrics. Connecting	J. B. Secor	266,055	Oct. 17	1012	286	22	1321
Buttons to garments. Machine for attaching	G. W. Prentice	267,587	Nov. 14	803	230	22	1668
Buttons to materials. Securing	J. Mathison	268,370	Nov. 28	1767	490	22	1877
Buttons to materials. Securing	W. F. Spinney	268,745	Dec. 5	407	119	22	1964
Cabinet	A. F. Potts	264,749	Sept. 19	1255	355 356	22	1016
Cabinet	A. F. Potts	264,750	Sept. 19	1256	356	22	1016
Cabinet. Writer's	W. H. Rearden	262,312	Aug. 8	617	173	22	446
Cable-coupling	A. W. Brewtnall	265,746	Oct. 10	645	183	22	1250
Cable. Scrap-metal	J. C. Milligan	268,263	Nov. 28	1627	451 452	22	1852
Cable-traction	O. H. Jadwin	265,091	Sept. 26	1673	468	22	1094
Cable-way grip apparatus	H. Casebolt	262,640	Aug. 15	1017	285 286	22	521
Cake-machine	W. S. Ovens	269,535	Dec. 26	1424	411	22	2170
Cake-machine	J. T. Trott	262,998	Aug. 22	1467	413	22	612
Cake or cracker box	H. R. Stewart	268,311	Nov. 28	1664	466	22	1863
Calculator for millers' use	J. R. Haight and J. M. Segur	268,221	Nov. 28	1570	436	22	1841
Calendar	H. S. Hack	261,225	July 18	1114	310	22	200
Calendar	E. N. Heath	266,289	Oct. 24	1306	369	22	1377
Calendar and letter-box combined	W. L. Caldwell	260,531	July 4	238	66	22	40
Calendering-machine	E. Landry	263,540	Aug. 29	2173	620	22	740
Calipers	O. D. Warfield	267,290	Nov. 7	412	120	22	1614
Calipers and dividers	B. M. Shumway	263,602	Aug. 29	2241	641	22	752
Calipers. Beam	J. A. Reece	264,339	Sept. 12	794	223	22	922
Calipers. Rapidly-adjustable nut for	S. B. Dover	267,166	Nov. 7	259	75	22	1586
Calk. Driving	G. H. Hathorn	266,362	Oct. 24	1406	399	22	1396
Calorific compound	L. Roth	266,205	Oct. 17	1195	.....	22	1351
Calorifere	F. C. Eberley and R. Richter	267,781	Nov. 21	1037	290	22	1738
Camera: *See* Photographic camera.							
Camera attachment	E. R. Higgins	266,035	Oct. 17	988	280	22	1316
Camera-shutter	C. H. Scofield	269,472	Dec. 19	1344	388	22	2149
Can: *See* Cracker-can; Fruit-can; Milk-can; Milk-transporting can; Oil-can; Oiling-can; Paint-stirring can; Sheet-metal can; Shipping-can.							
Can	E. Norton	269,696	Dec. 26	1626	465	22	2210
Can-cover	A. Willis	263,741	Sept. 5	86	25	22	790
Can-filling apparatus	R. C. Anderson	264,993	Sept. 26	1567	440	22	1076

Alphabetical list of inventions, July to December, inclusive—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Can-filling machine	V. Barker	263,096	Aug. 22	1583	447	22	632
Can-filling machine	V. Barker	266,077	Oct. 17	1038	294 295	22	1325
Can-heading machine	G. A. Marsh	265,617	Oct. 10	477	131 132	22	1223
Can-jacket	I. Sexton	266,211	Oct. 17	1200	338	22	1352
Can-jacket. Sheet-metal	T. C. Stokes and C. W. S. McNally	268,313	Nov. 28	1686	467	22	1863
Can-labeling machine	J. C. Richardson	266,315	Oct. 24	1344	379 380 381	22	1384
Can lining. Preserving	W. Gorenflo	268,481	Dec. 5	124	38	22	1910
Can-opener	W. E. Brock	264,818	Sept. 19	1335	378	22	1030
Can-opener	A. J. Leavitt	269,216	Dec. 19	1006	294	22	2086
Can-opener	W. A. McFarlane	264,549	Sept. 19	1026	291	22	973
Can-opener	R. B. Pumphrey	268,281	Nov. 28	1645	456	22	1855
Can-opener	W. A. Stoddard	266,398	Oct. 24	1455	413	22	1405
Can-opener	J. L. Rinker	261,956	Aug. 1	163	48	22	363
Can-sawing. Adjustable	C. W. Ellsworth	263,326	Aug. 29	1912	548	22	694
Can-tops. Sheet-metal	J. O. Hanthorn	267,524	Nov. 14	722	208	22	1673
Can-washing machine	J. W. Van Dyke	261,571	July 25	1539	432	22	276
Cans from filling-tables. Removing filled	E. Norton	267,014	Nov. 7	68	21	22	1551
Cans. Machine for putting on the ends of fruit and other	T. Shaw	264,200	Sept. 12	939	177	22	895
Cans of fruit. Cooling	P. Babcock, Jr	266,577	Oct. 24	1637	466	22	1439
Cans. Packing	W. B. Mann	265,837	Oct. 10	745	209	22	1268
Cans. Process of and apparatus for testing	A. Crosby	262,575	Aug. 15	933	264	22	507
Cans with meat, fish, &c. Machine for filling	O. Greene	266,360	Oct. 24	1404	398	22	1395
Canal-boats. Towing	J. E. Renk	269,712	Dec. 26	1642	472	22	2213
Canal-lock gate	M. Brassill	260,830	July 11	621	169	22	110
Candle-holder	C. Grahner	266,463	Oct. 24	1515	430	22	1416
Candle-holder	J. Retallack	267,110	Nov. 7	193	55	22	1574
Candle-holder and fuse-cutter. Combined miner's	W. H. Haney	269,664	Dec. 26	1590	456	22	2202
Candle-mold gage	W. H. Haney	268,888	Dec. 12	597	175	22	2006
Candle-molds. Air-distributer for	A. Rengert	262,831	Aug. 15	1255	353	22	563
Candles. Apparatus for manufacturing	G. Lupton	261,100	July 11	964	269	22	166
Candlestick	A. Rix	267,460	Nov. 14	641	184	22	1659
Candlestick	C. E. Sherman and L. Sachse	263,436	Aug. 29	2050	587	22	718
Candlestick	C. P. Des Moineaux	264,636	Sept. 19	1125	318	22	991
Candlestick and loading-tool. Combined miner's	W. Henssler	265,805	Oct. 10	716	.....	22	1262
Candy	H. Maillard	265,970	Oct. 17	910	259	22	1303
Candy-making machine	G. M. Mills	267,562	Nov. 14	770	220	22	1682
Candy whistle and mold for manufacturing the same	W. H. Fuller	265,955	Oct. 17	894	255	22	1301
Cane and fan. Combined	S. Helfgott	266,473	Oct. 24	1525	433	22	1418
Cane and opera-glass. Combined	H. M. Houston	268,897	Dec. 12	605	178	22	2008
Cane and picnic-chair. Combination walking-	E. G. Beebe	268,381	Dec. 5	9	2, 3	22	1888
Cane cutter, stripper, and header. Sugar-	G. B. Boomer	269,628	Dec. 26	1544	443	22	2194
Cane-juice. Extracting	W. A. Roberts	263,811	Sept. 5	181	52	22	804
Cane-mill	J. Parker	261,478	July 18	1408	394	22	248
Cane shredder. Sugar-	E. P. Putnam	260,709	July 4	467	126	22	79
Cane stripper. Sugar-	S. K. Bayley	264,058	Sept. 12	487	132	22	868
Cane. Walking	F. G. and B. C. Stidger	268,838	Dec. 12	532	158	22	1995
Canes, umbrella-handles, &c. Attachment to	J. H. Tingman	262,259	Aug. 8	549	155	22	433
Canister	C. F. Stites	261,493	July 18	1427	399	22	251
Canister, measure, and bucket	W. F. Wheeler	264,010	Sept. 5	424	117	22	847
Canopy or tent	W. Peabody	265,135	Sept. 26	1722	481	22	1104
Cant-dog	E. L. Zalinski	267,816	Nov. 21	1080	302	22	1746
Cap-ornaments. Manufacture of imitation bullion	D. N. B. Coffin	261,530	July 25	1485	416 417	22	267
Capstan	H. H. Taylor	268,961	Dec. 12	681	200	22	2023
Capsule-cutting machine	F. A. Hubel and H. H. Taylor	268,103	Nov. 28	1423	397	22	1815
Capsule-machine	H. H. Taylor	268,144	Nov. 28	1475	411	22	1824
Capsule-remover	C. De Staebler	269,161	Dec. 12	930	270	22	2066
Car attachment. Street-	T. P. Cordrey	268,000	Nov. 28	1297	365	22	1792
Car. Ballast-	J. Kirby, Jr	268,498	Dec. 5	141	42	22	1913
Car basket-rack	H. Barratt	266,260	Oct. 17	1265	358	22	1363
Car-brake	G. F. Bond	268,610	Dec. 5	257	73	22	1935
Car-brake	E. H. Brown	268,998	Dec. 12	725	213	22	2030
Car-brake	A. Codd	260,942	Jnly 11	750	204	22	131
Car-brake	L. D. Dawley and A. R. Spaulding	262,378	Aug. 8	694	194	22	459
Car-brake	E. Ebi	265,773	Oct. 10	668	190	22	1254
Car-brake	J. W. Henson, B. F. Hudson, and S. Smith.	269,287	Dec. 19	1097	320	22	2102
Car-brake	T. Hersee	267,079	Nov. 7	148	42	22	1566
Car-brake	J. How	263,045	Aug. 22	1526	430	22	622
Car-brake	W. R. Johns	268,683	Dec. 5	340	99	22	1952
Car-brake	T. L. Johnson	263,529	Aug. 29	2156	617	22	738
Car-brake	P. Lord	262,800	Aug. 15	1220	342	22	557
Car-brake	S. Lykke	263,925	Sept. 5	313	90	22	828
Car-brake	A. H. Marden	263,052	Aug. 22	1533	432	22	623
Car-brake	H. F. Nothohm	262,690	Aug. 15	1078	303	22	533
Car-brake	H. F. Nothohm	269,103	Dec. 12	863	254	22	2054
Car-brake	W. B. Quigley	268,726	Dec. 5	385	113	22	1960
Car-brake	B. F. Smith	260,618	July 4	339	92	22	57
Car-brake	F. W. Strehlan	264,582	Sept. 19	1062	301	22	980
Car-brake	D. Torrey	263,997	Sept. 5	408	113	22	845
Car-brake	W. P. Widdifield and A. T. Button	265,200	Sept. 26	1806	507 508	22	1119
Car-brake	J. R. Wilhelm	264,389	Sept. 12	853	239	22	933
Car-brake	O. C Woolson	263,083	Aug. 22	1567	443	22	630
Car-brake and starter	I. Gérard	263,163	Aug. 22	1660	470	22	647
Car brake and starter. Street-	R. F. Bridewell	261,426	July 18	1348	377	22	238
Car-brake. Automatic	A. J. Berg	262,636	Aug. 15	1012	284	22	520
Car-brake. Automatic	B. F. Smith	262,139	Aug. 1	396	111	22	401
Car-brake. Automatic	C. Van Dusen	269,142	Dec. 12	907	265	22	2061

Alphabetical list of inventions, July to December, inclusive—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Car-brake. Electric	P. V. Conover	265,023	Sept. 26	1600	450	22	1092
Car-brake. Electrical	G. D. Paul and F. A. Kampfe	264,475	Sept. 19	958	269	22	959
Car-brake. Momentum	W. B. Turner	268,754	Dec. 5	417	122	22	1966
Car-brake. Momentum	W. B. Turner	268,755	Dec. 5	421	123	22	1967
Car. Cattle-	H. Baines	268,604	Dec. 5	252	70	22	1934
Car chimney. Railway-	C. A. Dubey	266,787	Oct. 31	1891	549	22	1491
Car-coupling	R. Anderson	263,990	Aug. 22	1578	445	22	631
Car-coupling	W. H. Austin	260,731	July 11	499	137	22	91
Car-coupling	J. Austin and R. C. Chamberlain	263,092	Aug. 22	1580	446	22	632
Car-coupling	A. J. Avery	263,836	Sept. 5	208	60	22	809
Car-coupling	W. R. Bagley	266,961	Nov. 7	1	1	22	1541
Car-coupling	E. F. Beal	267,662	Nov. 21	901	256	22	1714
Car-coupling	A. Beane	269,168	Dec. 19	945	275	22	2075
Car coupling	G. W. Bedbury	265,938	Oct. 10	863	246	22	1288
Car-coupling	C. Beebee	267,823	Nov. 21	1089	305	22	1748
Car-coupling	A. Benoit	265,565	Oct. 10	416	115	22	1213
Car-coupling	R. T. Bishop	267,664	Nov. 21	903	256	22	1714
Car-coupling	G. I. Blackley, J. I. Nicholson, and H. A. Holloman.	267,321	Nov. 14	461	132	22	1628
Car-coupling	K. S. Blanchard	265,011	Sept. 26	1586	446	22	1080
Car-coupling	J. Boyd	269,176	Dec. 19	954	278	22	2077
Car-coupling	F. A. Brady	267,142	Nov. 7	229	66	22	1580
Car-coupling	F. W. Brooks	261,301	July 18	1206	336	22	214
Car-coupling	F. W. Brooks	269,257	Dec. 19	1064	311	22	2096
Car-coupling	S. Brown	263,849	Sept. 5	227	67	22	813
Car-coupling	E. J. Burns	266,966	Nov. 7	7	2	22	1542
Car-coupling	G. W. Butler	268,386	Dec. 5	14	5	22	1889
Car-coupling	D. Carlough	264,926	Sept. 26	1486	418	22	1061
Car-coupling	E. Casper	263,653	Aug. 29	2301	657	22	702
Car-coupling	R. Chamberlain	263,114	Aug. 22	1603	453	22	636
Car-coupling	J. E. H. Chapman	264,929	Sept. 26	1489	419	22	1062
Car-coupling	C. F. and E. R. Clapp	263,764	Sept. 5	120	37	22	794
Car-coupling	S. P. Coan	260,941	July 11	748	203 204	22	131
Car-coupling	A. W. Coats	263,765	Sept. 5	121	37	22	795
Car-coupling	S. C. Corder	263,296	Aug. 22	1810	513	22	676
Car-coupling	F. Cordrey	261,683	July 25	1667	467	22	298
Car-coupling	W. Coughlan	265,248	Oct. 3	27	9	22	1140
Car-coupling	J. Coup	264,441	Sept. 19	916	258	22	952
Car-coupling	T. A. Cullinan and A. W. Baldwin	265,393	Oct. 3	194	59	22	1170
Car-coupling	A. Daubner, Sr	260,849	July 11	641	174	22	113
Car-coupling	S. L. and C. L. Davidson	268,633	Dec. 5	286	83	22	1941
Car-coupling	J. I. Davis	261,835	Aug. 1	16	5	22	338
Car-coupling	J. P. Davison	267,645	Nov. 14	871	249	22	1700
Car-coupling	W. J. Dawson	264,634	Sept. 19	1132	318	22	990
Car-coupling	D. W. Deal	265,031	Sept. 26	1610	453	22	1064
Car-coupling	W. Deetz	262,538	Aug. 8	881	249	22	492
Car-coupling	P. H. Dennis and J. A. Stanton	261,540	July 25	1499	420	22	269
Car-coupling	J. A. Dickinson and W. H. Martin	262,936	Aug. 22	1388	392	22	598
Car-coupling	R. H. Dowling	261,438	July 18	1363	381	22	240
Car-coupling	C. J. Edwards	263,879	Sept. 5	264	76	22	820
Car-coupling	A. C. Ellis	260,855	July 11	649	175	22	114
Car-coupling	G. W. Eltzroth and I. Raypholtz	267,850	Nov. 21	1119	314	22	1753
Car-coupling	J. Fenimore	267,173	Nov. 7	266	78	22	1587
Car-coupling	W. L. Fisher	261,328	July 18	1237	343	22	219
Car-coupling	C. Fleming	267,175	Nov. 7	269	79	22	1588
Car-coupling	E. E. Frantz	262,659	Aug. 15	1045	293	22	527
Car-coupling	J. A. Frazier	267,868	Nov. 21	1143	320	22	1758
Car-coupling	T. C. Garlington	268,396	Dec. 5	27	9	22	1892
Car-coupling	J. Geddes	268,789	Dec. 12	472	139	22	1963
Car-coupling	H. A. Gibson	265,405	Oct. 3	208	63	22	1173
Car-coupling	E. N. Gifford	267,307	Nov. 7	431	125	22	1617
Car-coupling	E. N. Gifford	269,043	Dec. 12	792	231	22	2040
Car-coupling	W. P. Ginter	263,165	Aug. 22	1663	471	22	648
Car-coupling	D. W. Glidden	265,058	Sept. 26	1639	461	22	1090
Car-coupling	J. B. Goodwin	264,075	Sept. 12	509	138	22	871
Car-coupling	E. H. Goodwin	265,406	Oct. 3	209	63	22	1173
Car-coupling	J. A. Gowans and J. MacMillan	261,444	July 18	1371	383	22	242
Car-coupling	L. Grannan	262,289	Aug. 8	585	165	22	440
Car-coupling	E. W. Grant	268,219	Nov. 28	1568	435	22	1841
Car-coupling	R. E. Gray	261,702	July 25	1692	474 475	22	302
Car-coupling	G. V. Greer	268,660	Dec. 5	315	91	22	1947
Car-coupling	F. Griffin	267,193	Nov. 7	289	84	22	1592
Car-coupling	W. E. Grisham	262,222	Aug. 8	509	142	22	427
Car-coupling	N. M. Hale	266,138	Oct. 17	1117	316	22	1338
Car-coupling	N. M. Hale	267,881	Nov. 21	1157	324	22	1761
Car-coupling	D. M. Harris	267,344	Nov. 14	487	141	22	1633
Car-coupling	S. A. V. Hartwell	264,288	Sept. 12	738	206	22	912
Car-coupling	S. A. Hauser	268,017	Nov. 28	1321	371	22	1796
Car-coupling	H. E. Hawk	265,063	Sept. 26	1646	463	22	1090
Car-coupling	F. M. Hazleton	265,065	Sept. 26	1648	463	22	1091
Car-coupling	W. F. Heath and M. Nirdlinger	266,992	Nov. 7	43	14	22	1547
Car-coupling	W. H. Heaverin	266,472	Oct. 24	1524	433	22	1417
Car-coupling	G. Heidel	269,668	Dec. 26	1594	457	22	2203
Car-coupling	C. Hendricks	262,668	Aug. 15	1052	295	22	528
Car-coupling	B. Hickok and J. H. Putnam	265,318	Oct. 3	111	33	22	1154
Car-coupling	L. I. Hinkle	266,922	Oct. 31	1930	558	22	1499
Car-coupling	E. M. Hobbs	267,749	Nov. 21	995	281	22	1731
Car-coupling	G. K. Hoff	266,923	Oct. 31	1931	559	22	1499
Car-coupling	S. L. Holmes	267,531	Nov. 14	732	210	22	1675
Car-coupling	J. R. Howard	267,082	Nov. 7	152	43	22	1567
Car-coupling	Y. P. Hudson	267,789	Nov. 21	1046	292	22	1740
Car-coupling	S. Huff	260,984	Jnly 11	809	224	22	141

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Car-coupling	I. M. Jacobs	267,210	Nov. 7	310	91	22	1595
Car-coupling	D. E. Kelley	266,839	Oct. 31	1948	563	22	1502
Car-coupling	F. W. Kelly	268,905	Dec. 12	616	181	22	2010
Car-coupling	J. J. Kennedy	262,433	Aug. 8	737	213	22	471
Car-coupling	J. King	263,185	Aug. 22	1688	478	22	652
Car-coupling	M. V. King	263,916	Sept. 5	301	87	22	826
Car-coupling	J. W. Langfitt	260,759	July 11	535	144	22	96
Car-coupling	E. T. Leonard	263,543	Aug. 29	2176	621	22	741
Car-coupling	A. F. and J. B. Lewis	263,544	Aug. 29	2177	621	22	741
Car-coupling	U. Long and J. J. Quinn	265,426	Oct. 3	231	69	22	1177
Car-coupling	J. C. Look	263,186	Aug. 22	1689	479	22	652
Car-coupling	F. C. Lynn	267,908	Nov. 21	1184	333	22	1767
Car-coupling	C. E. Macarthy	263,549	Aug. 29	2182	623	22	742
Car-coupling	P. Markley	260,763	July 11	540	146	22	97
Car-coupling	G. Marsellis	267,008	Nov. 7	60	18	22	1550
Car-coupling	O. D. D. Martin	263,189	Aug. 22	1693	480	22	653
Car-coupling	J. McCree	267,096	Nov. 7	171	48	22	1571
Car-coupling	M. J. McCrone	262,449	Aug. 8	775	219	22	474
Car-coupling	W. McCubbin	268,258	Nov. 28	1623	450	22	1851
Car-coupling	J. H. McLeary	267,554	Nov. 14	761	218	22	1680
Car-coupling	T. F. McNair	262,808	Aug. 15	1229	345	22	558
Car-coupling	T. H. Mebane	268,117	Nov. 28	1436	402	22	1818
Car-coupling	J. E. Mendenhall	264,181	Sept. 12	622	172	22	801
Car-coupling	H. Menzemer	264,733	Sept. 19	1236	349	22	1013
Car-coupling	N. Mereness	262,809	Aug. 15	1230	346	22	559
Car-coupling	P. E. Mignault	263,421	Aug. 29	2036	583	22	715
Car-coupling	J. A. Miller	267,240	Nov. 7	353	102	22	1603
Car-coupling	T. Mosher	265,533	Oct. 3	379	104	22	1200
Car-coupling	N. D. Mussey	263,800	Sept. 5	164	48	22	802
Car-coupling	J. B. Nelson	267,101	Nov. 7	183	52	22	1572
Car-coupling	J. D. Norman and W. A. Benson	267,012	Nov. 7	66	20	22	1551
Car-coupling	J. W. Oulton	265,133	Sept. 26	1719	481	22	1104
Car-coupling	J. S. Owen and G. L. Snider	265,977	Oct. 17	923	260	22	1305
Car-coupling	M. Owens	262,104	Aug. 1	355	100	22	395
Car-coupling	J. G. Peace and E. B. Sankey	269,106	Dec. 12	867	255	22	2054
Car-coupling	T. H. Pegram	268,042	Nov. 28	1356	379	22	1802
Car-coupling	L. Pentz	269,456	Dec. 19	1317	281	22	2144
Car-coupling	J. D. Perry	266,512	Oct. 24	1569	446	22	1426
Car-coupling	F. G. Pettus	261,033	July 11	577	243	22	152
Car-coupling	A. E. Poland	268,823	Dec. 12	516	153	22	1991
Car-coupling	A. A. Porter	263,213	Aug. 22	1719	487	22	659
Car-coupling	J. A. Porter	261,479	July 18	1410	394	22	249
Car-coupling	D. B. Pratt	261,933	Aug. 1	158	46	22	362
Car-coupling	D. P. Prescott	261,872	Aug. 1	55	16	22	345
Car-coupling	J. B. Pugh	262,980	Aug. 22	1445	408	22	608
Car-coupling	B. M. Pulliam	262,215	Aug. 22	1721	488	22	659
Car-coupling	J. J. Pursley	269,322	Dec. 19	1141	334	22	2111
Car-coupling	G. W. Putnam	267,252	Nov. 7	366	106	22	1606
Car-coupling	J. P. B. Rarey	269,707	Dec. 26	1634	469	22	2211
Car-coupling	C. W. Rasmusen	265,865	Oct. 10	775	{219 / 220}	22	1274
Car-coupling	L. Recht	266,720	Oct. 31	1819	528	22	1478
Car-coupling	A. S. Reeves	265,935	Oct. 10	856	245	22	1287
Car-coupling	D. A. Reynolds	263,221	Aug. 22	1727	489	22	660
Car-coupling	C. M. Rhodes	262,315	Aug. 8	610	174	22	446
Car-coupling	F. Ritter	263,587	Aug. 29	2237	637	22	750
Car-coupling	C. Roberts and H. Duane	266,202	Oct. 17	1192	336	22	1351
Car-coupling	W. J. Ross	268,820	Dec. 12	523	156	22	1993
Car-coupling	F. H. Rudd	265,446	Oct. 3	250	75	22	1180
Car-coupling	J. W. Saxon	267,312	Nov. 7	437	126	22	1618
Car-coupling	D. J. Schulte	264,108	Sept. 12	544	148	22	877
Car-coupling	S. Scott	263,816	Sept. 5	184	53	22	805
Car-coupling	L. Seitz	266,537	Oct. 24	1601	455	22	1432
Car-coupling	T. M. Sharpe	263,972	Sept. 5	375	105	22	839
Car-coupling	D. S. Shreve	267,267	Nov. 7	385	112	22	1609
Car-coupling	J. T. Sibley	268,730	Dec. 5	402	117	22	1963
Car-coupling	W. L. Skelton	267,008	Nov. 14	828	237	22	1092
Car-coupling	C. A. Smith	263,604	Aug. 29	2234	641	22	753
Car-coupling	J. E. Smith	265,162	Sept. 26	1760	491	22	1111
Car-coupling	J. H. Smith	260,619	July 4	340	92	22	58
Car-coupling	T. A. Smith	267,117	Nov. 7	203	59	22	1576
Car-coupling	D. E. Southwick	267,272	Nov. 7	390	113	22	1610
Car-coupling	F. P. Stebbins	264,784	Sept. 19	1292	365	22	1023
Car-coupling	J. J. Stopple	263,241	Aug. 22	1747	496	22	665
Car-coupling	L. L. Stover	267,034	Nov. 7	93	28	22	1556
Car-coupling	F. Sweetland	262,854	Aug. 15	1293	361	22	568
Car-coupling	W. H. Swinford	262,501	Aug. 8	831	234	22	483
Car-coupling	W. P. Taggart	269,485	Dec. 19	1362	392	22	2152
Car-coupling	E. and A. Taylor	268,315	Nov. 28	1687	467	22	1864
Car-coupling	J. Q. Thomas	263,995	Sept. 5	406	113	22	845
Car-coupling	H. D. Thorp	262,509	Aug. 8	840	237	22	485
Car-coupling	E. L. Tilton	261,496	July 18	1430	399	22	252
Car-coupling	C. Troup	261,184	July 18	1067	299	22	192
Car-coupling	A. M. Trude and W. Gray	266,558	Oct. 24	1621	462	22	1435
Car-coupling	J. J. Vinson	269,354	Dec. 19	1193	347	22	2119
Car-coupling	J. A. Walker	267,621	Nov. 14	841	240	22	1695
Car-coupling	J. F. Wallace	269,358	Dec. 19	1199	349	22	2121
Car-coupling	G. Wallenberg	266,563	Oct. 24	1626	463	22	1436
Car-coupling	G. W. Watts	266,931	Oct. 31	2064	593	22	1523
Car-coupling	F. A. Westbrook	267,293	Nov. 7	414	121	22	1614
Car-coupling	J. W. Wharf	263,269	Aug. 22	1779	507	22	671
Car-coupling	J. A. Whittemore	265,903	Oct. 10	814	231	22	1281
Car-coupling	F. M. Wilson	263,274	Aug. 22	1783	508	22	672
Car-coupling	D. Witt	268,163	Nov. 28	1498	418	22	1929

Alphabetical list of inventions, July to December, inclusive—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Car-coupling	D. W. Woods	260,725	July 4	484	131	22	82
Car-coupling	D. W. Woods	262,880	Aug. 15	1390	371	22	575
Car-coupling	W. Zaehringer	268,766	Dec. 5	433	127	22	1970
Car-coupling	P. Zehner	262,550	Aug. 8	894	253	22	494
Car-coupling link	J. Bridge	260,831	July 11	622	169	22	110
Car-coupling link	A. W. Palmer	267,453	Nov. 14	632	183	22	1657
Car-coupling tool	T. Barrett and T. A. Ross	262,346	Aug. 8	654	184	22	459
Car-coupling tool	W. J. Riley	263,726	Sept. 5	70	21	22	787
Car-door bolt. Sliding	W. Johnson	267,539	Nov. 14	740	213	22	1676
Car-door fastening	T. W. Crooke	263,655	Aug. 29	2303	658	22	763
Car door. Grain-	L. Mancy	265,838	Oct. 10	746	210	22	1268
Car door. Grain-	G. G. Tanner	261,883	Aug. 1	70	20	22	347
Car-door lock	J. H. Fisher	262,585	Aug. 15	949	267	22	509
Car-doors. Combined seal and alarm for	J. D. Hollister	263,658	Aug. 29	2306	659	22	763
Car draw-bar. Railway-	E. B. Sankey	266,897	Oct. 31	2016	581	22	1514
Car. Dumping	J. E. Bemis	266,749	Oct. 31	1851	538	22	1484
Car. Dumping	S. D. King. (Reissue)	10,215	Oct. 10	866	247	22	1289
Car. Dumping	I. Shoudy, Jr., and C. Atherton	268,299	Nov. 28	1668	463	22	1859
Car for cable railways	H. Root	263,227	Aug. 22	1733	492	22	662
Car for railways. Wrecking and construction	L. K. Jewett	269,527	Dec. 26	1416	409	22	2168
Car. Freight-	P. Lacroix	268,501	Dec. 5	144	42	22	1914
Car. Freight-	E. McManus	262,454	Aug. 8	779	220	22	475
Car. Freight-	A. Morison	265,427	Oct. 3	232	69	22	1177
Car. Freight-	T. L. Wilson	266,742	Oct. 31	1844	536	22	1492
Car. Fruit and produce railway-transportation	J. F. Maxfield	267,356	Nov. 14	505	145	22	1635
Car. Grain-transfer	L. D. Richardson, J. R. Trimmer, and E. E. Loomis.	269,541	Dec. 26	1431	413	22	2171
Car. Hand-	G. S. Sheffield	260,903	July 11	702	191	22	124
Car. Hand-	G. S. Sheffield	264,481	Sept. 19	965	271	22	961
Car. Hand-	G. S. Sheffield	265,987	Oct. 17	931	263	22	1306
Car. Hand-	G. S. Sheffield	269,237	Dec. 19	1033	301	22	2091
Car. Hand-	H. T. Stock	261,966	Aug. 1	172	51	22	365
Car. Hand-	A. M. Stoner	263,990	Sept. 5	390	111	22	843
Car. Hand-	T. S. Page	265,336	Oct. 3	134	39, 40	22	1159
Car-heater	J. M. Thayer	262,856	Aug. 15	1295	362	22	569
Car-heater	I. H. Salmon. (Reissue)	10,190	Aug. 29	2323	664	22	766
Car-heating apparatus	D. D. and J. H. Sewall	265,284	Oct. 3	66	20	22	1147
Car-heating apparatus	H. S. Walsh	263,263	Aug. 22	1772	505	22	670
Car-heating apparatus	M. J. Walsh	264,050	Sept. 5	474	129	22	856
Car-heating apparatus. Freight-	W. E. Eastman	269,189	Dec. 19	976	285	22	2080
Car-heating apparatus. Railway-	M. J. Walsh	269,489	Dec. 19	1360	393	22	2152
Car heating device. Railway-	W. Martin	267,009	Nov. 7	61	19	22	1551
Car-label holder	C. J. Slafter	268,834	Dec. 12	528	157	22	1994
Car motor. Street-	J. Hill	262,044	Aug. 1	267	77	22	381
Car motor. Street-	L. C. Parker	267,922	Nov. 21	1198	{336 / 337}	22	1769
Car-platform	R. A. Cowell	267,330	Nov. 14	469	136	22	1630
Car-platform gate	A. v. Briesen	268,859	Dec. 12	564	165	22	2001
Car-platform guard	J. B. Driscole	266,786	Oct. 31	1890	{548 / 549}	22	1491
Car-platforms. Adjustable hood for	C. S. Smith	266,323	Oct. 24	1359	383	22	1387
Car-platforms. Controlling the opening of gates of	F. P. Fish	263,884	Sept. 5	269	78	22	821
Car propulsion. Underground cable for street-	L. Myers	265,273	Oct. 3	57	17	22	1145
Car. Railway-	A. B. Allen	260,920	July 11	719	196	22	126
Car. Railway-	T. Hersee	267,078	Nov. 7	147	41, 42	22	1566
Car. Railway-	J. Milton	262,085	Aug. 1	318	91	22	391
Car. Railway-	M. T. Ridout	260,788	July 11	571	155	22	101
Car. Railway-	C. S. Smith	266,322	Oct. 24	1358	383	22	1387
Car. Railway-	G. Van Nostrand	265,896	Oct. 10	807	229	22	1280
Car. Railway hand-	W. J. Brewer	267,772	Nov. 21	1022	286	22	1736
Car. Railway hand-	S. H. Walz	269,490	Dec. 19	1368	393	22	2153
Car. Railway wrecking-	R. Hitchcock	264,532	Sept. 19	1349	382	22	1092
Car reservoir. Railway-	R. G. S. Collamore	269,537	Dec. 26	1555	447	22	2196
Car-roof	J. C. Wands	268,758	Dec. 5	425	124	22	1988
Car running-gear	E. D. Carter	266,607	Oct. 31	1681	485	22	1452
Car running-gear	T. Hersee	263,516	Aug. 29	2137	613	22	733
Car safety attachment. Railway-	E. Henn	261,923	Aug. 1	124	36	22	356
Car safety-step	S. M. Beery	260,525	July 4	229	64	22	39
Car-seat	G. B. and J. M. St. John	263,238	Aug. 22	1745	495	22	664
Car-seat sleeping attachment	F. E. Heinig	260,867	July 11	663	180	22	117
Car-signal	J. B. Batt	269,621	Dec. 26	1538	441	22	2192
Car-signal	L. H. Seel and J. M. Smith	268,735	Dec. 5	398	116	22	1963
Car. Sleeping-	J. H. Laskey	265,615	Oct. 10	475	131	22	1222
Car. Sleeping-	G. B. St. John	262,144	Aug. 1	402	113	22	402
Car. Sleeping-	W. H. Wigmore	264,807	Sept. 19	1323	374	22	1028
Car-spring	S. A. Bemis	264,921	Sept. 26	1479	415	22	1060
Car-spring	G. F. Godley	267,341	Nov. 14	483	140	22	1632
Car-spring	G. W. Morris and G. W. Prescott	265,852	Oct. 10	762	214	22	1271
Car-spring	J. D. Thomas	264,371	Sept. 12	629	233	22	928
Car-starter	F. E. Allen	264,119	Sept. 12	557	152	22	879
Car-starter	M. M. Barnes	264,124	Sept. 12	561	153	22	880
Car-starter	W. H. Barnes	264,221	Sept. 12	664	183	22	898
Car-starter	W. S. Dwinel	261,209	July 18	1098	306	22	197
Car-starter	G. A. and H. T. Evans	261,324	July 18	1232	342	22	219
Car-starter	E. Gerig	267,185	Nov. 7	280	82	22	1590
Car-starter	E. A. Jarvis	262,230	Aug. 8	520	145	22	429
Car-starter	T. Owens	262,825	Aug. 15	1249	351	22	562
Car-starter	G. P. Salisbury	268,545	Dec. 5	188	53	22	1922
Car-starter	G. W. Smith	265,547	Oct. 3	395	109	22	1203
Car-starter	R. C. Smith	262,251	Aug. 8	542	153	22	433
Car-starter	H. C. E. Stilhoff	261,492	July 18	1426	398	22	251
Car-starter	C. A. Sulzman	263,363	Aug. 29	1960	560	22	701
Car-starter	F. W. Coolbaugh	266,610	Oct. 31	1684	486	22	1453
Car-step attachment. Railway-	H. R. Bothwell and J. H. Strugnell	269,629	Dec. 26	1545	444	22	2194
Car. Stock-							

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Car. Stock	H. A. Gouge	261,920	Aug. 1	121	35	22	356
Car. Stock	J. Henry	262,042	Aug. 1	264	76	22	381
Car. Stock	J. M. Holden	267,530	Nov. 14	731	210	22	1674
Car. Stock	J. Howard and H. Baines	268,677	Dec. 5	333	96, 97	22	1951
Car. Stock	G. F. Ochrl	266,190	Oct. 17	1178	333	22	1348
Car. Stock	S. W. Remer	263,219	Aug. 22	1724	489	22	660
Car. Stock	S. W. Remer	266,392	Oct. 24	1446	410	22	1404
Car. Stock	C. W. Rogers	260,421	July 4	93	26	22	17
Car. Stock	S. P. Tallman	262,707	Aug. 15	1097	310, 311	22	536
Car. Stock	S. P. Tallman	269,604	Dec. 26	1515	436	22	2188
Car. Stock	S. C. Wiser	264,018	Sept. 5	433	119	22	849
Car. Street	S. Howe	264,948	Sept. 26	1510	425	22	1065
Car. Street-railway	S. Bissell	264,849	Sept. 26	1385	390	22	1044
Car. Tamping	W. E. Davies	262,746	Aug. 15	1146	324	22	544
Car-unloader	G. W. Rolph	267,593	Nov. 14	809	232	22	1689
Car-ventilator	H. A. Gouge	262,602	Aug. 15	1048	293	22	527
Car-ventilator	S. Hurst	263,786	Sept. 5	145	44	22	799
Car. Weighing and transfer	L. D. Richardson, J. R. Trimmer, and E. E. Loomis.	264,762	Sept. 19	1267	359, 360	22	1019
Car-wheel	R. N. Allen	268,378	Dec. 5	6	1	22	1887
Car-wheel	A. Cottrau	266,776	Oct. 31	1881	546	22	1489
Car-wheel	T. B. Howe	265,262	Oct. 3	41	13	22	1143
Car-wheel	E. E. Josef	265,965	Oct. 17	904	257	22	1302
Car-wheel	E. B. Meatyard	260,593	July 4	306	83	22	52
Car-wheel	G. W. Miltimore	261,944	Aug. 1	151	44	22	361
Car-wheel	G. W. Miltimore	262,909	Aug. 15	1353	383	22	582
Car-wheel	G. W. Miltimore	267,916	Nov. 21	1192	335	22	1768
Car-wheel	G. S. Sheffield	263,782	Sept. 5	76	23	22	788
Car-wheel	F. H. Smith	266,061	Oct. 17	1018	288	22	1322
Car-wheel	F. D. Torre	261,183	July 18	1066	299	22	192
Car-wheel	N. Washburn	261,192	July 18	1082	301	22	195
Car-wheel	G. W. Fairman	267,508	Nov. 14	693	199	22	1668
Car wheel and axle	A. Haman	268,484	Dec. 5	126	38	22	1910
Car wheel-fender. Railway	G. W. Miltimore	262,910	Aug. 15	1354	383	22	582
Car-wheels. Making	W. H. Ward	264,913	Sept. 26	1466	413, 414	22	1058
Cars. Cooling and ventilating	H. C. Johnson and F. M. McMillan	261,462	July 18	1389	388	22	245
Cars. Conveying heating or motive agents through a train of	M. J. Walsh	263,264	Aug. 22	1773	505	22	670
Cars. Device for changing gage of railway	D. Anderson	264,991	Sept. 26	1565	439, 440	22	1076
Cars. Direction-plate and label-holder for	F. King	269,681	Dec. 26	1607	461	22	2206
Cars. Dust-protector for railway	W. A. Boyden	262,274	Aug. 8	570	160	22	437
Cars. Escape-door for railway	T. E. Flint	269,037	Dec. 12	776	230	22	2039
Cars. Heating	M. J. Walsh	263,266	Aug. 22	1775	506	22	670
Cars. Machine for loading	J. H. Norton	263,202	Aug. 22	1709	483, 484	22	656
Cars. Operating inclined-plane railway	J. C. Morris	260,301	Oct. 24	1321	373	22	1380
Cars or carriages. Device for lighting the steps of	G. W. Hunt	263,706	Sept. 5	39	12	22	782
Cars. Panoramic sign for	W. Halkyard	263,698	Sept. 5	31	10	22	780
Cars. Peripheral runner for	J. E. Miller	265,271	Oct. 3	54	17	22	1145
Cars. Pinch-bar for moving	S. F. Seely	261,392	July 18	1316	367	22	232
Cars. Propelling	A. Wingard	268,586	Dec. 5	231	65	22	1930
Cars. Propulsion of street	R. F. Bridewell	260,648	July 4	380	105	22	64
Cars. Sand-box for street	G. F. Huntington	260,572	July 4	284	78	22	49
Cars. Sheathing and roofing for railway	R. Fulton and A. De Lano	267,784	Nov. 21	1041	.....	22	1739
Cars. Tool-holder for	W. A. Harnden and J. P. Doyle	267,592	Nov. 14	720	207	22	1673
Cars. Transfer-table for	N. W. Robinson	263,225	Aug. 22	1730	490, 491	22	661
Cars. Wall-safe for	J. H. Laskey	264,172	Sept. 12	612	169	22	890
Carbon-black. Apparatus for manufacturing	J. T. Dysart	266,953	Oct. 31	2099	602, 603	22	1530
Carbon conductors. Apparatus for treating	J. E. Lockwood	266,703	Oct. 31	1802	520	22	1474
Carbon conductors. Apparatus for treating	H. S. Maxim	264,042	Sept. 5	465	127	22	854
Carbon conductors. Manufacturing	E. Weston	261,830	Sept. 5	200	58	22	808
Carbon or gas black. Machine for making	E. R. Blood	269,378	Dec. 19	1223	356	22	2128
Carbon points. Device for forming sockets for	A. Swan	264,970	Sept. 26	1541	433	22	1071
Carbon rods. Baking	C. F. Brush	263,758	Sept. 5	113	35	22	793
Carbon rods. Process of and apparatus for straightening	C. F. Brush	263,757	Sept. 5	111	35	22	793
Carbureting apparatus	A. W. Frail	264,406	Sept. 12	868	244	22	936
Carburetor	H. C. De Witt	262,651	Aug. 15	1036	290	22	525
Carburetor	A. W. Lacy	268,910	Dec. 12	623	183	22	2011
Carburetor	R. H. Smith, J. Goldthorp, and W. J. Fawcett.	262,991	Aug. 22	1456	410	22	610
Card for chain-swivels	C. A. Kenney	261,237	July 18	1128	315	22	202
Card lathe and grinder	J. E. Brown	260,835	July 11	696	170	22	111
Card. Playing	B. Dreyfuss	266,444	Oct. 24	1499	426	22	1413
Card. Playing	G. D. Waring, D. S. Kidder, and E. W. Creecy.	268,759	Dec. 5	425	124	22	1968
Card-teeth. Method of and apparatus for grinding	G. and E. Ashworth	261,650	July 25	1631	458	22	293
Card-tooth	G. Etty	260,466	July 4	148	42	22	26
Cards, &c. Apparatus for automatically displaying show-	C. W. Johnson	267,538	Nov. 14	738	212	22	1676
Cards. Grinding and sharpening fine wire	W. Decker	263,123	Aug. 22	1613	456	22	638
Carding-engine feeding device	J. F. Gebhart	263,161	Aug. 22	1657	469	22	647
Carding-engine feeding mechaniam	J. L. Mathews	265,528	Oct. 3	372	101	22	1199
Carding-machine	G. B. Melladew	261,016	July 11	857	238	22	149
Carding-machine	C. E. Whitworth	265,901	Oct. 10	812	230	22	1280
Carding-machine	W. E. Whitehead	266,334	Oct. 24	1374	387	22	1390
Carding-machine feeding mechaniam	E. Gessner	267,513	Nov. 14	699	200, 201, 202	22	1669

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Carding-machines. Rubbing mechanism for	J. Barker	266,414	Oct. 24	1470	417	22	1408
Carding-machines. Side-drawing device for	M. A. Furbush	268,365	Nov. 28	1759	487	22	1876
Carpenter's plow	F. A. Rappleye	266,519	Oct. 24	1577	448	22	1428
Carpet-beating machine	T. S. Church and J. E. Dow	262,004	Aug. 1	218	65	22	373
Carpet-cleaner	M. Beltmiller	262,352	Aug. 8	662	185, 186	22	454
Carpet-cleaning machine	J. Zacherl	262,530	Aug. 8	864	244, 245	22	489
Carpet-fastener	J. A. Wilmot	267,390	Nov. 14	557	158	22	1643
Carpet-lining	F. P. French	269,039	Dec. 12	779	230	22	2040
Carpet-lining	M. V. Kacer	263,531	Aug. 29	2159	617	22	738
Carpet-lining	P. W. Locke	264,889	Sept. 26	1432	.....	22	1052
Carpet-lining	W. A. Mauran	261,012	July 11	853	237	22	148
Carpet-lining. Fabric for	H. W. Mather and J. Kearney	261,865	Aug. 1	47	14	22	343
Carpet-renovator	C. Muldner	267,917	Nov. 21	1193	335	22	1768
Carpet-stretcher	G. W. Barton	262,560	Aug. 15	911	257	22	504
Carpet-stretcher	J. A. Bidwell	265,741	Oct. 10	641	181	22	1249
Carpet-stretcher	H. O. Detert	262,380	Aug. 8	696	195	22	460
Carpet-stretcher	J. B. Fuller	264,144	Sept. 12	585	160	22	884
Carpet-stretcher	F. P. Hart	267,077	Nov. 7	146	41	22	1566
Carpet-stretcher	C. W. Jones	267,216	Nov. 7	323	95	22	1598
Carpet-stretcher	J. A. Risdon	266,693	Oct. 31	2013	580	22	1513
Carpet-stretcher	J. E. Robinson	261,631	July 25	1607	451	22	289
Carpet-stretcher	S. J. Spitler	260,907	July 11	707	192	22	124
Carpet-stretcher	J. H. Williams and V. M. Braffett	268,067	Nov. 28	1381	386	22	1807
Carpet-sweeper	A. G. Champlin	261,514	July 18	1454	406	22	256
Carpet-sweeper	I. B. Shute	269,127	Dec. 12	887	261	22	2058
Carpet-sweeper	P. C. Wright	264,399	Sept. 12	862	242	22	934
Carriage-body	A. J. Calkins	261,829	Aug. 1	10	3	22	336
Carriage-boot-flap fastener	W. K. Parker	268,723	Dec. 5	382	112	22	1960
Carriage-bow	R. B. Bullock	268,618	Dec. 5	267	76	22	1938
Carriage-bow	W. F. Fleharty	266,240	Oct. 24	1291	366	22	1374
Carriage-bow	J. C. Smith	264,203	Sept. 12	641	177	22	895
Carriage-bow	J. L. Smith	268,436	Dec. 5	77	24	22	1901
Carriage-bow	J. L. Smith	268,437	Dec. 5	77	24	22	1901
Carriage-bow	F. A. Wittich	266,409	Oct. 24	1464	416	22	1407
Carriage-bow	F. A. Wittich, C. R. Stanhope, and P. W. Strader.	261,287	July 18	1187	332	22	211
Carriage-brake	E. S. Davis	260,543	July 4	253	71	22	43
Carriage-brake	A. McKellar	261,744	July 25	1745	491	22	312
Carriage brake. Child's	G. R. Peare	264,415	Sept. 12	877	247	22	937
Carriage. Child's	J. A. Crandall	263,026	Aug. 22	1504	423	22	618
Carriage. Child's	W. E. Crandall. (Reissue)	10,158	July 18	1458	407	22	256
Carriage. Child's	W. A. Hepburn	264,157	Sept. 12	596	164	22	887
Carriage. Child's	J. W. Krueger	260,399	July 4	70	19	22	13
Carriage. Child's	W. C. Lewis	262,545	Aug. 8	888	251	22	493
Carriage. Child's	G. P. Steinbach	268,139	Nov. 28	1468	410	22	1823
Carriage. Child's	G. P. Steinbach	268,140	Nov. 28	1470	410	22	1824
Carriage-coupling	F. M. Sanderson	262,986	Aug. 22	1451	409	22	609
Carriage-curtain fastening	G. R. Pierpont	263,352	Aug. 29	1943	556	22	699
Carriage-curtain fastening	A. G. Snell	269,337	Dec. 19	1164	342	22	2115
Carriage-curtain fastening	H. A. Tribou	261,970	Aug. 1	178	52	22	366
Carriage-curtain fastening	F. Westwood	260,719	July 4	477	129	22	81
Carriage-curtain loops. Die for forming	L. T. Smith	269,240	Dec. 19	1045	305	22	2093
Carriage-curtain-roller bracket	G. W. Beers	265,564	Oct. 10	415	115	22	1213
Carriage-gear	G. E. Bartholomew	265,001	Sept. 26	1576	443	22	1078
Carriage-gear	M. R. Maxson	261,937	Aug. 1	144	42	22	360
Carriage-jack	W. McKenzie	260,770	July 11	547	148	22	98
Carriage-jack	H. C. Torrey	263,367	Aug. 29	1963	560	22	702
Carriage. Jump-seat	J. Jackson	265,606	Oct. 10	466	128, 129	22	1221
Carriage-lamp holder	C. E. Thompson and E. E. Stevens	261,066	July 11	913	254	22	157
Carriage lock. Baby	L. L. Richmond	263,962	Sept. 5	362	102	22	837
Carriage-motor. Spring	P. Quin	267,589	Nov. 14	805	230, 231	22	1688
Carriage-seat	T. Weaver. (Reissue)	10,195	Sept. 12	892	250	22	940
Carriage-seat corner-iron	J. K. Karr	269,501	Dec. 19	1379	396	22	2155
Carriage-spring	C. M. Brown	262,567	Aug. 15	925	262	22	506
Carriage-spring	J. Enders	265,397	Oct. 3	200	61	22	1172
Carriage-spring	E. Sawyer	263,061	Aug. 22	1543	435	22	625
Carriage-spring	J. Walsh	268,156	Nov. 28	1492	416	22	1828
Carriage-spring machine	T. H. Briggs and S. J. Hess	268,995	Dec. 12	723	212	22	2030
Carriage-top	R. G. Britton	267,997	Nov. 28	1295	364	22	1792
Carriage-top	E. Fleck	262,033	Aug. 1	256	74	22	379
Carriage-top	E. Myrick	262,609	Aug. 15	981	275	22	515
Carriage-top	C. G. Parker	269,700	Dec. 26	1627	466	22	2210
Carriage-top brace	C. E. Giebel	264,452	Sept. 19	931	261	22	954
Carriage-top joint	N. L. Fox	265,952	Oct. 17	889	254	22	1300.
Carriage-top prop	A. F. Hall	261,601	July 25	1572	441	22	282
Carriage-top standard	C. C. Egerton	264,675	Sept. 19	1169	330	22	1001
Carriage-trimming	J. Irving	266,158	Oct. 17	1138	321	22	1342
Carriage-windows. Anti-rattler for	F. W. Wood	263,276	Aug. 22	1785	509	22	672
Carriage-wrench	B. F. Lancaster	267,228	Nov. 7	341	99	22	1601
Carriage-wrench	T. C. Rice	265,704	Oct. 10	595	166	22	1242
Carriages. Canopy-support for children's	J. F. Butler and U. McClinchie	260,530	July 4	237	66	22	40
Carriages. Reversible handle for children's	H. M. Richardson	265,438	Oct. 3	242	73	22	1179
Carriages. Shade-holder for children's	L. P. Tibbals	260,912	July 11	711	194	22	125
Carrier: *See* Egg-carrier. Hay-carrier. Trace-carrier. Wall-paper carrier. Water-carrier.							
Cart. Dog	E. Bowman	265,014	Sept. 26	1589	447	22	1080
Cart. Dumping	J. H. Ferguson	264,679	Sept. 19	1172	331	22	1002
Cart. Road	J. T. Barnes	264,999	Sept. 26	1575	442	22	1078

Alphabetical list of inventions, July to December, inclusive—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Cart. Road-	J. B. Callan	262,736	Aug. 15	1136	321	22	542
Cart. Road-	J. A. Chapman	263,386	Aug. 29	1991	568	22	707
Cart. Road-	W. Chegwin	262,570	Aug. 15	929	262	22	506
Cart. Road-	J. W. Diller	265,768	Oct. 10	665	189	22	1254
Cart. Road-	G. Hale	262,036	Aug. 1	258	74	22	379
Cart. Road-	C. W. Watson	260,434	July 4	109	32	22	19
Cart. Road-	A. J. Petrie	266,880	Oct. 31	1994	575	22	1510
Cart. Self-loading	B. Lensing	266,846	Oct. 31	1956	565	22	1504
Cartridge capping and uncapping implement	W. H. Northall	269,448	Dec. 19	1304	378	22	2142
Cartridge-cases. Making	T. C. Robinson	260,897	July 11	696	189	22	123
Cartridge. Central-fire	C. S. Bailey	268,601	Dec. 5	250	70	22	1934
Cartridge-feed-case charger	L. F. Bruce	265,241	Oct. 3	20	7	22	1139
Cartridge-feeder for machine-guns	L. F. Bruce	265,240	Oct. 3	18	6	22	1139
Cartridge-loading implement	A. L. Howard	260,981	July 11	804	222	22	140
Cartridge-loading implement	A. D. Laws	262,061	Aug. 1	285	83	22	385
Cartridge-primer	T. R. Martin	267,552	Nov. 14	757	217	22	1680
Cartridge-reloading tool	J. H. Barlow	267,130	Nov. 7	219	63	22	1579
Cartridge-shells. Apparatus for capping, uncapping, and loading	L. Sonntag	264,204	Sept. 12	642	178	22	895
Cartridge-shells. Box for packing	A. A. Reed	262,313	Aug. 8	617	173	22	446
Cartridge-shells. Tool for crimping metallic	W. W. Greener	267,980	Nov. 21	1271	357	22	1781
Cartridge-shells. Wad for	S. E. Cheeseman	263,763	Sept. 5	119	36	22	794
Cartridge show-box	A. S. Hinds	268,404	Dec. 5	38	12	22	1894
Carving-fork guard	G. H. Warren	264,004	Sept. 5	416	115	22	846
Case:							
See Bottle-case. Packing-case.							
Butter-packing case. Photographic-picture case.							
Cigar-case. Clock-case. Sewing-machine case.							
Dressing-case. Egg-case. Shot-case. Show-case.							
Envelope-case. Jewel-case. Tape-line case. Telephone-case.							
Lock-case. Mail-shipping case. Thread-case. Toilet-case.							
Match-case. Metallic case. Violin-case. Watch-case.							
Organ-case.							
Cash-railway	G. Willett	268,967	Dec. 12	687	202	22	2024
Caska. Closing tap-holes in	H. H. Rueter	269,469	Dec. 19	1340	367	22	2148
Caster	E. R. Merriam	264,094	Sept. 12	531	145	22	875
Caster	O. F. Paepke	265,939	Oct. 10	863	246	22	1288
Caster	O. Pederson	266,509	Oct. 24	1563	445	22	1425
Caster	O. Pederson	267,712	Nov. 21	957	270	22	1724
Caster	C. Stengel	265,642	Oct. 10	514	140	22	1228
Caster	A. Thompson	277,380	Nov. 14	545	155	22	1641
Caster for dining-cars. Table-	J. M. Blackburn	267,830	Nov. 21	1097	307	22	1749
Caster-frame	E. A. Parker	261,754	July 25	1751	493	22	313
Caster. Table-	A. B. Banghart and C. H. Treat	260,353	July 4	4	1	22	3
Caster. Trunk-	J. J. Cowell	260,728	July 4	487	132	22	83
Casters. Manufacture of	J. F. Merriman	264,095	Sept. 12	532	145	22	875
Casters. Tool for inserting	A. Thompson	267,379	Nov. 14	544	155	22	1641
Casting apparatus	W. Hainsworth	260,388	July 4	57	16	22	11
Casting chilled rolls. Apparatus for	J. M. Case	261,999	Aug. 1	212	63	22	372
Casting machines. Injector for type-	T. McKinley	268,513	Dec. 5	155	45	22	1916
Casting pig metal	J. G. A. Leishman	265,926	Oct. 10	838	239	22	1285
Casting steel ingots. Mold-bottom for	E. A. Barnes	264,847	Sept. 26	1382	389	22	1044
Casting steel ingots. Runner for	T. G. Wolf	267,960	Nov. 21	1246	351	22	1777
Casting water-closet cisterns. Apparatus for	H. and W. Sutcliffe	266,917	Oct. 31	2045	589	22	1520
Castings, cements, lead-pencils, &c. Production of materials for	J. J. Sachs	266,053	Oct. 17	1009	.....	22	1320
Catamenial sack and abdominal supporter. Combined	I. Wasserman	267,956	Nov. 21	1242	340	22	1777
Cattle fastening and releasing device	J. D. Watters	264,804	Sept. 19	1319	373	22	1027
Cattle-guard	R. Armstrong	263,458	Aug. 29	2076	594	22	722
Cattle-tie	C. M. and L. Baker	262,345	Aug. 8	654	183	22	452
Ceiling	J. Budd	261,202	July 18	1091	304	22	196
Cellulose. Plastic compound from soluble	E. Weston	264,987	Sept. 26	1561	.....	22	1075
Cement. Gas-proof	W. M. Jackson	262,427	Aug. 8	752	.....	22	470
Cement. Manufacture of hydraulic	E. J. De Smedt	263,873	Sept. 5	258	.....	22	819
Cement-pipe. Mold for manufacturing	N. W. Stowell	263,736	Sept. 5	81	24	22	789
Centrifugal bolt	J. Mills	267,098	Nov. 7	174	50, 51	22	1571
Centrifugal hydro-wringer	T. L. Bozzalla	261,827	Aug. 1	8	3	22	336
Centrifugal separator	E. E. Quimby	260,412	July 4	86	24	22	16
Cephalometer	C. Brown	268,614	Dec. 5	264	74	22	1937
Cesspool	L. Monras	268,120	Nov. 28	1441	403	22	1819
Chain	F. M. Lechner	261,821	July 25	1836	518	22	327
Chain	S. C. Lechner	267,003	Nov. 7	55	17	22	1550
Chain and plug. Boom	T. Irvine	268,681	Dec. 5	338	98	22	1951
Chain-bar and pencil. Combined	W. S. Hicks	260,868	July 11	664	181	22	117
Chain bar and pencil. Combined watch-	L. W. Fairchild. (Reissue)	10,147	July 4	491	133	22	84
Chain. Cable	J. M. Dodge	264,139	Sept. 12	580	159	22	884
Chain-carrier	G. Gowan	268,883	Dec. 12	590	174	22	2005
Chain. Carrier	P. F. Hodges	264,833	Sept. 19	1350	382	22	1032
Chain. Drive-	H. M. Gray	264,280	Sept. 12	729	203	22	910
Chain. Drive-	C. H. Labelle	260,400	July 4	71	20	22	14
Chain. Drive-	C. H. Low	261,243	July 18	1133	317	22	202
Chain. Drive-	G. B. Brayton	267,665	Nov. 21	904	256	22	1714
Chain. Endless driving-	W. Gerhard	261,544	July 25	1502	421	22	270
Chain-link	J. L. Heeley	264,034	Sept. 5	454	125	22	852
Chain-link. Ornamental	M. Pollak	262,115	Aug. 1	367	103	22	306
Chain. Neck or bracelet	J. W. Raymond	261,629	July 25	1606	450	22	288
Chain or sling. Log	W. Ballon	263,095	Aug. 22	1583	447	22	632
Chain. Ornamental	J. J. Horton	262,102	Nov. 28	1422	397	22	1815
Chain swivel. Watch	J. Hancock and L. Richards	266,629	Oct. 31	1696	489	22	1455

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Chain-swivels. Making	J. E. Walcott	262,631	Aug. 15	1007	282	22	519
Chain units. Machine for making roller-	S. M. Field and W. Halkyard	266,982	Nov. 7	30	9, 10	22	1546
Chain. Watch-	W. C. Edge	263,691	Sept. 5	26	8	22	770
Chain. Wire	E. G. Burt	265,943	Oct. 17	573	250	22	1257
Chains. Dog for log-	P. Okell	266,505	Oct. 24	1560	444	22	1425
Chains. Machine for making ornamental	J. Kinder	263,533	Aug. 29	2161	618	22	738
Chains. Making ornamental	W. Edge	266,278	Oct. 24	1289	365	22	1374
Chair:							
See Barber's chair. Railway-rail chair.							
Child's chair. Reclining-chair.							
Folding and reclining chair. Rocking-chair.							
Invalid reclining-chair. Rocking and reclining chair.							
Opera-chair. Upholsterer's chair.							
Railway-chair. Window-cleaning chair.							
Chair	L. Heywood and E. L. Tatt	262,543	Aug. 8	884	250	22	493
Chair-brace	J. A. Gallagher	261,332	July 18	1242	344	22	220
Chair foot-rest	M. M. Copp	262,278	Aug. 8	573	161	22	438
Chairs. Rocker-base for	W. Lang	265,266	Oct. 3	48	16	22	1144
Chalk-line holder	J. S. Jenkins	265,815	Oct. 10	725	202	22	1264
Chandelier. Electric	T. A. Edison	263,137	Aug. 22	1632	461	22	642
Chandelier. Electric-light	L. Stieringer	266,550	Oct. 24	1613	459	22	1434
Chandelier. Electrical	S. Bergmann	263,103	Aug. 22	1590	449	22	634
Chandelier. Electrical extension-	S. Bergmann	262,272	Aug. 8	568	159	22	437
Chandelier. Extension-	E. A. Parker	266,641	Oct. 31	1719	496	22	1459
Chandelier for electric candles	C. A. Cheever and W. L. Candee	266,969	Nov. 7	10	3, 4	22	1542
Channels. Apparatus for deepening	G. Peterson	262,828	Aug. 15	1253	352	22	563
Charcoal-kiln	W. A. Lovelace	266,850	Oct. 31	1960	566, 567	22	1504
Chart	E. L. Hyde	266,628	Oct. 31	1705	492	22	1457
Chart. Dress-	D. J. Taylor	266,919	Oct. 31	2048	590	22	1520
Chart. Dress-maker's	M. A. Fergnson	269,652	Dec. 26	1575	452	22	2199
Charts. Projection of	E. R. Knorr	264,710	Sept. 19	1209	342	22	1008
Check and clasp. Baggage	J. H. McLeary	262,080	Aug. 1	313	89	22	390
Check. Baggage-	T. Abbott	268,591	Dec. 5	238	67	22	1931
Check. Baggage-	E. J. Brooks	267,486	Nov. 14	670	192, 193	22	1664
Check. Baggage-	C. O. Lynk	261,164	July 18	1040	292	22	189
Check-bit	H. C. Maxwell	269,304	Dec. 19	1117	326	22	2106
Check-holder and check for baggage	C. S. Russell	262,696	Aug. 15	1087	307	22	534
Check or other paper representing value	M. F. Berry	268,988	Dec. 12	716	210	22	2029
Check-row cord or wire. Anchor for	T. C. Lord	268,110	Nov. 28	1429	400	22	1816
Check-row lines. Anchor for	J. E. Bering	266,250	Oct. 17	1245	353	22	1360
Check-row wires. Knot or stop for	R. Faries	264,069	Sept. 12	503	136	22	870
Check-rower	J. J. Allison	269,253	Dec. 19	1059	309	22	2095
Check-rower	R. C. and A. L. Jordan	268,241	Nov. 28	1597	443	22	1847
Check-rower	L. J. Odell	266,305	Oct. 24	1331	375	22	1382
Check-rower reel and drill	L. E. Waterman	265,197	Sept. 26	1797	504, 505	22	1117
Check-rowers. Anchor for	B. Kuhns	260,881	July 11	676	184	22	119
Checks. Machine for making baggage	E. T. Jones	266,370	Oct. 24	1415	402, 403	22	1397
Cheese-boxes. Machine for reducing the height of	N. N. and F. J. Fairchild	262,387	Aug. 8	705	199	22	461
Cheese-cutter	J. W. Blodgett and B. F. Felix	266,753	Oct. 31	1855	539	22	1485
Cheese-hoop follower	H. H. and H. J. Kuentz	262,955	Aug. 22	1414	399	22	602
Cheese-knife	M. G. Pettey	266,513	Oct. 24	1570	446	22	1426
Cheese-making apparatus	S. Jenks	267,211	Nov. 7	311	91, 92	22	1595
Chenille-machine	G. Dietzel	263,492	Aug. 29	2108	604	22	729
Chenille. Manufacturing	G. F. Hensel	266,147	Oct. 17	1126	317	22	1339
Cherry-seeder	G. W. Knapp	269,066	Dec. 12	814	242	22	2046
Cherry-stoner	J. G. Baker	264,217	Sept. 12	658	181, 182	22	897
Chest:							
See Bolting-chest. Fire-proof chest.							
Child's chair. Convertible	L. A. Chichester	260,843	July 11	635	173	22	112
Chimney	J. Browell	268,860	Dec. 12	564	165	22	2001
Chimney	O. B. Colcord	265,386	Oct. 3	188	57	22	1109
Chimney and shade	J. J. Dillon	266,443	Oct. 24	1498	425	22	1413
Chimney-cowl	W. S. Beebe	267,479	Nov. 14	663	190	22	1663
Chimney-top	J. G. Lindemann	263,793	Sept. 5	156	46	22	801
Chimney-top	L. C. Smith	261,398	July 18	1322	369	22	233
Chimney-top	P. B. Speer	263,235	Aug. 22	1742	494	22	664
Chimney top and ventilator	F. R. Stasch	267,805	Nov. 21	1066	298	22	1743
Chimney-ventilator	H. Hahn	260,564	July 4	276	76	22	47
Chocolate-package	H. McCobb	268,511	Dec. 5	152	45	22	1915
Chopper:							
See Cotton-chopper.							
Meat and vegetable chopper.							
Chromos and prints. Mount for	A. J. Nurre	263,203	Aug. 22	1710	484	22	657
Chronograph	W. E. Huguenin	263,411	Aug. 29	2093	578	22	713
Chronograph	J. Karr	263,183	Aug. 22	1683	477	22	652
Chronograph	J. Karr	263,184	Aug. 22	1686	478	22	652
Chronograph	J. Karr	266,162	Oct. 17	1144	323	22	1342
Chuck	A. Saunders	265,639	Oct. 10	509	139	22	1227
Chuck	K. Trobach	268,752	Dec. 5	415	122	22	1906
Chuck	J. Wertheim	262,869	Aug. 15	1307	368	22	573
Chuck. Adjustable bit and drill	G. H. Summers	265,990	Oct. 17	935	264	22	1307
Chuck. Drill-	T. B. Ballard	269,374	Dec. 19	1218	353	22	2124
Chuck. Drill-	J. T. Foster	266,803	Oct. 31	1909	553	22	1495
Chuck. Drill-	C. Gage. (Reissue)	10,205	Sept. 26	1858	522	22	1128
Chuck. Drill-	J. H. Hoague	262,771	Aug. 15	1183	332	22	550
Chuck. Drill-	G. S. Rominger	265,151	Sept. 26	1744	487	22	1108
Chuck for centering and securing pulleys to shafts	J. Emerson	262,211	Aug. 8	498	139	22	425

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Chuck. Lathe	C. Parham	262,612	Aug. 15	984	276	22	515
Churn	B. F. Aldridge	264,598	Sept. 19	1080	306	22	983
Churn	C. J. Brown	262,732	Aug. 15	1130	320	22	541
Churn	R. Campbell	260,451	July 4	129	37	22	23
Churn	R. R. Coffey	267,496	Nov. 14	680	195	22	1666
Churn	L. Davis	265,764	Oct. 10	662	188	22	1253
Churn	J. H. Dunbar	266,253	Oct. 17	1250	354 / 355	22	1360
Churn	R. Gardner	266,128	Oct. 17	1107	312	22	1336
Churn	H. Hays	265,064	Sept. 26	1647	463	22	1091
Churn	J. N. Holem	269,207	Dec. 19	996	291	22	2084
Churn	J. J. Kimball	268,243	Nov. 28	1601	445	22	1848
Churn	J. Lane	268,416	Dec. 5	55	17	22	1897
Churn	B. S. Miles	262,810	Aug. 15	1231	346	22	559
Churn	T. M. Moyer	262,089	Aug. 1	321	92	22	392
Churn	R. A. Preston	267,368	Nov. 14	533	151	22	1639
Churn	J. Reesman	265,442	Oct. 3	246	74	22	1180
Churn	D. A. Reynolds	262,118	Aug. 1	371	105	22	397
Churn	N. Smith	269,129	Dec. 12	889	261	22	2058
Churn	F. P. Stebbins	266,219	Oct. 17	1211	342	22	1354
Churn	A. B. Ward	266,564	Oct. 24	1626	463	22	1436
Churn	J. E. Wheeldon	261,973	Aug. 1	182	54	22	366
Churn	W. A. Wilson	268,969	Dec. 12	690	202	22	2025
Churn	A. J. Blackman	266,011	Oct. 17	963	273	22	1311
Churn-dasher	H. C. Robinson	267,258	Nov. 7	372	109	22	1607
Churn-dasher	N. Warrell	266,406	Oct. 24	1462	415	22	1407
Churn-dasher	A. Johnson	265,094	Sept. 26	1678	468	22	1095
Churn-motor	B. C. May	265,333	Oct. 3	132	38	22	1158
Churn-motor	L. Kimball	269,426	Dec. 19	1280	371	22	2137
Churn, &c. motor	J. R. Hutchins	262,046	Aug. 1	269	77, 78	22	382
Churn-power	I. V. Jones	267,898	Nov. 21	1171	329	22	1764
Churn-power	J. Wilber	264,589	Sept. 19	1068	303	22	981
Churn-power	H. M. Wise, V. M. Stevens, and B. Chapman.	261,798	July 25	1806	509	22	322
Chute. Log	W. H. Barnum	264,607	Sept. 19	1092	310	22	986
Chute. Stock-loading	D. E. Hogbin	267,891	Nov. 21	1165	327	22	1762
Cider-mill	A. C. Borner	265,382	Oct. 3	185	56	22	1169
Cider-mill	G. M. Clark	263,686	Sept. 5	19	6	22	778
Cigar and cigarette holders and pipes. Celluloid mouth-piece or bit for	W. Demuth	266,582	Oct. 24	1642	467	22	1440
Cigar-box	J. C. C. Fletcher	269,101	Dec. 19	980	286	22	2081
Cigar-box	F. McWinnie	264,318	Sept. 12	770	215	22	917
Cigar-bunches. Forming and drying	J. J. Bach	260,638	July 4	361	99	22	61
Cigar-bunching machine	G. Moebs	266,711	Oct. 31	1809	525	22	1476
Cigar-butt cutter	P. Scheppach	266,726	Oct. 31	1826	530	22	1479
Cigar-case	C. N. Swift	261,642	July 25	1620	455	22	291
Cigar-coloring machine	N. Du Brul	262,022	Aug. 1	234	70	22	376
Cigar-holder	F. W. Franke	267,070	Nov. 7	135	38	22	1564
Cigar-holder. Hat	A. Doubleday	265,771	Oct. 10	667	190	22	1254
Cigar-lighter	G. Selden. (Reissue)	10,200	Sept. 19	1370	387	22	1035
Cigar-lighter	H. Unger	261,070	July 11	918	255	22	158
Cigar-machine	G. D. Elges	266,024	Oct. 17	976	277	22	1314
Cigar-machine	O. Hammerstein	261,849	Aug. 1	31	9	22	341
Cigar-mold	F. C. Miller	262,084	Aug. 1	316	91	22	391
Cigar mold and box press	H. J. Watteyne	262,166	Aug. 1	432	120	22	407
Cigar-packing press	C. H. Evers	268,088	Nov. 28	1406	393	22	1812
Cigar-perforator	J. Talbot	268,960	Dec. 12	680	200	22	2023
Cigar perforator and cutter. Combined	F. Jacob	262,675	Aug. 15	1059	297	22	529
Cigar-press	G. Trostel	264,973	Sept. 26	1544	434	22	1072
Cigar-press	H. J. Watteyne	260,510	July 4	210	59	22	36
Cigars. Machine for cleansing, coloring, and flavoring	D. H. Hull and J. S. Ogden	268,795	Dec. 12	482	142	22	1985
Cigarette	O. W. Allison	261,576	July 25	1544	433	22	277
Cigarette	E. Bourgeois	269,256	Dec. 19	1063	310	22	2096
Cigarette and mouth-piece. Combined	A. L. Monson	261,169	July 18	1047	294	22	190
Cigarette-box	M. T. Moore	264,396	Sept. 12	780	219	22	919
Cigarette-cutting machine	S. Brown	260,836	July 11	627	170 / 171	22	111
Cigarette-former	T. Daniels, Jr.	266,439	Oct. 24	1493	424	22	1412
Cigarette-machine	J. Cowman, W. E. Dickinson, and T. J. Lumis.	262,177	Aug. 1	444	123 / 124 / 125 / 126	22	410
Cigarette-machine	C. G. and W. H. Emery	260,959	July 11	772	211 / 212 / 213 / 214	22	135
Cipher code and apparatus	R. T. Oney	266,875	Oct. 31	1988	574	22	1509
Circuit-closer	L. Waldo	267,287	Nov. 7	408	119	22	1613
Cistern. Flush	W. Wright	263,450	Aug. 29	2067	592	22	790
Cisterns. Portable mold for	J. Logan	265,522	Oct. 3	364	99	22	1197
Clamp: *See* Basin-clamp. Box-clamp. Saw-clamp. Sewing-machine needle-clamp. Shade-ring clamp. Suture-clamp. Tool-clamp. Whip-socket clamp. Wire-tightener clamp.							
Clamp	W. H. Cloud	267,152	Nov. 7	241	69	22	1583
Clamp	A. Kraiss	262,233	Aug. 8	523	146 / 147	22	429
Clamp	T. Reno	266,887	Oct. 31	2001	577	22	1511
Clamp	C. M. Sheeler	265,640	Oct. 10	510	139	22	1228
Clamp	H. H. Taylor	266,920	Oct. 31	2050	590	22	1520
Clamp for tank and other hoops	W. H. Wheeler	261,504	July 18	1437	402	22	253

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Clasp: *See* Album-clasp. Book-clasp. Corset-stiffener clasp. Garment-clasp. Overshoe-clasp. Pencil-clasp.							
Clasps. Die for cutting stock for sheet-metal	L. Wineburgh	265,294	Oct. 3	76	24	22	1149
Claw-bar	J. H. Lakey	267,695	Nov. 21	939	265	22	1721
Clay and clay-shale pulverizer or disintegrator	J. C. Anderson	262,340	Aug. 8	649	182	22	452
Clay for bricks, tiles, &c. Coloring	J. C. Anderson	262,339	Aug. 8	648	.....	22	451
Cleaner: *See* Boiler-cleaner. Bolt-cleaner. Bottle-cleaner. Bottle-tube cleaner. Cotton-cleaner. Flue-cleaner. Grain-cleaner. Pen-cleaner. Slate or blackboard cleaner.							
Cleaning painted and varnished surfaces. Compound for	A. Ford	267,176	Nov. 7	270	.....	22	1588
Cleat	J. C. Ensign	269,309	Dec. 19	1249	363	22	2131
Clevis	C. F. Duling	268,785	Dec. 12	465	136	22	1982
Climbing device	A. Ward	265,195	Sept. 26	1795	504	22	1117
Clip: *See* Blank-clip. Hame-clip. Tug-clip. Vehicle-clip.							
Clip for coiled fabrics	H. C. Babcock	265,558	Oct. 10	409	113	22	1212
Clippers and devices for holding the same. Method of sharpening	T. Fowler	263,398	Aug. 29	2006	574	22	710
Cloak	C. F. Hamilton	260,565	July 4	277	76	22	47
Clock-alarm	O. H. Woodworth	260,514	July 4	214	60	22	36
Clock-bell	G. W. and A. C. Sanford. (Reissue)	10,253	Dec. 5	445	131	22	1972
Clock. Calendar	M. L. Jacquemin	268,902	Dec. 12	610	180	22	2008
Clock-case	H. J. Davies	260,544	July 4	254	71	22	43
Clock. Chime	J. Lindauer	267,092	Nov. 7	166	47	22	1570
Clock. Electric	C. Gullberg	260,751	July 11	521	141	22	94
Clock for making electric signals	R. W. Wilson	267,299	Nov. 7	421	122	22	1615
Clock-movement	H. Camp	262,738	Aug. 15	1138	322	22	542
Clock movement. Alarm	W. L. Upson	267,619	Nov. 14	838	239	22	1694
Clock movement. Time and alarm	F. A. Lane	268,911	Dec. 19	624	183	22	2011
Clock-pendulum adjustment	Z. R. Niles	268,524	Dec. 5	167	48	22	1918
Clock-pendulums. Regulating attachment to	W. D. Davies	267,161	Nov. 7	252	74	22	1585
Clock. Repeating	J. A. J. Redier	260,787	July 11	570	154	22	101
Clock-stand	G. Hills	268,890	Dec. 12	599	176	22	2007
Clock striking and repeating mechanism	C. G. Orth and H. L. Bruggemann	269,450	Dec. 19	1306	379	22	2142
Clock. Torsion-pendulum	A. Harder	269,052	Dec. 12	796	235 / 236	22	2043
Clock. Watchman's	C. Weinedel	264,382	Sept. 12	845	237	22	931
Clock-winding attachment	F. W. Letmate	261,003	July 11	834	232 / 233	22	146
Clock-work escapement	G. P. Ganster	269,278	Dec. 19	1084	316	22	2100
Clocks. Alarm apparatus for eight-day	W. D. Smith	269,475	Dec. 19	1347	388	22	2149
Clocks. Bell-striking apparatus for	J. D. William	264,810	Sept. 19	1325	375	22	1028
Clocks. Device for synchronizing	R. W. Willson	267,300	Nov. 7	423	123	22	1616
Clocks. Synchronizing	L. Waldo	268,322	Nov. 28	1694	469	22	1865
Cloth bag	J. Arkell	260,820	July 11	612	166	22	108
Cloth-cutting machine	W. J. Mikels	264,954	Sept. 26	1518	427	22	1067
Cloth-shearing machine	J. H. Smith	265,882	Oct. 10	793	224	22	1277
Cloth-shearing machine	D. C. Sumner	265,644	Oct. 10	516	141	22	1228
Clothes-beater	L. H. Whitney	266,938	Oct. 31	2073	596	22	1525
Clothes-drier	T. D. Brown	268,076	Nov. 28	1391	389	22	1809
Clothes-drier	C. C. Clay	263,115	Aug. 22	1604	453	22	636
Clothes-drier	W. Fenner	266,800	Oct. 31	1907	553	22	1484
Clothes-drier	E. H. Gordon	262,661	Aug. 15	1047	293	22	527
Clothes-drier	G. W. Hutchins	262,779	Aug. 15	1196	335	22	552
Clothes-drier	J. H. McCanna	266,040	Oct. 17	994	282	22	1318
Clothes-drier	J. McDougall	269,819	Dec. 26	1785	513 / 514	22	2238
Clothes-drier	S. D. Morton	268,040	Nov. 28	1354	378	22	1802
Clothes-drier	D. H. and J. H. Payne	261,754	July 25	1754	494	22	313
Clothes-drier	W. Vanderlip	264,000	Sept. 5	413	114	22	846
Clothes-frame	W. C. Nelly	263,945	Sept. 5	344	96	22	833
Clothes-hook	S. I. Griffis and J. H. Dunn	264,079	Sept. 12	513	139	22	872
Clothes-pin	W. H. Prouty	261,481	July 18	1412	395	22	249
Clothes-pin	J. Sperry	265,171	Sept. 26	1772	494	22	1113
Clothes-pin	T. A. Sweet	265,461	Oct. 3	273	81	22	1185
Clothes-pin	W. E. Kinnear	263,917	Sept. 5	302	87	22	827
Clothes-pounder	J. Mowery	267,571	Nov. 14	778	223	22	1683
Clothes-pounder	J. P. B. Rarey	262,830	Aug. 15	1255	353	22	563
Clothes-rack. Folding	M. M. Walsh	262,156	Aug. 1	415	117	22	405
Clothes-wringer	M. J. Althouse	269,165	Dec. 19	941	275	22	2075
Clothes-wringer	G. J. Cline	263,860	Sept. 5	242	70	22	816
Clothes-wringer	D. B. Piper	266,514	Oct. 24	1570	446	22	1426
Clothes-wringer	C. Thompson	263,364	Aug. 29	1961	560	22	702
Clothes-wringer	C. K. Stinson	261,639	July 25	1618	454	22	200
Clothes-wringer. Bench	E. A. Jones. (Reissue)	10,148	July 4	493	134 / 135	22	84
Clover-huller	D. Lippy	265,111	Sept. 26	1696	474	22	1098
Club-foot apparatus	J. Burns	265,942	Oct. 17	872	249 / 250	22	1297
Clutch	H. R. Allen	262,553	Aug. 15	903	255	22	503
Clutch	J. S. Davis	267,064	Nov. 7	127	36	22	1563
Clutch	R. W. Whitney	261,887	Aug. 1	74	21	22	348
Clutch and stop device	S. W. Wardwell, Jr	262,159	Aug. 1	430	118	22	406
Clutch for throttle-valves. Friction	E. R. Trammell	266,224	Oct. 17	1215	343	22	1354
Clutch. Friction	F. Brown	266,761	Oct. 31	1865	542	22	1486
Clutch. Friction	F. O. Deschamps	260,460	July 4	140	40	22	25

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Clutch. Friction	F. O. Deschamps	266,275	Oct. 24	1286	364	22	1373
Clutch. Friction	F. O. Deschamps	268,463	Dec. 5	106	32	22	1906
Clutch. Friction	D. Frisbie	265,953	Oct. 17	890	254	22	1300
Clutch. Friction	J. A. Hafner	260,386	July 4	55	16	22	10
Clutch. Friction	U. Haskin	265,496	Oct. 3	322	95	22	1193
Clutch. Friction	H. James	266,159	Oct. 17	1139	{321 / 322}	22	1342
Clutch. Friction	D. McIntosh	260,698	July 4	453	123	22	76
Clutch. Friction	W. Sellers	260,791	July 11	576	156	22	102
Clutch. Friction	E. F. Spaulding	265,170	Sept. 26	1771	494	22	1113
Clutch. Friction	E. J. Sterling	264,785	Sept. 19	1293	365	22	1023
Clutch. Friction	H. F. Stahmer	267,376	Nov. 14	542	154	22	1641
Coach	P. Goergen	261,701	July 25	1691	474	22	302
Coal-box	F. Kersten	267,694	Nov. 21	938	265	22	1721
Coal-box and fire-iron stand. Combined	J. S. Fahringer and M. Crippen	266,448	Oct. 24	1503	427	22	1413
Coal-chutes. Slate-separator for	F. B. Parrish	261,381	July 18	1303	364	22	230
Coal. Device for separating slate from	A. Watson	266,407	Oct. 24	1463	415	22	1407
Coal hod and sieve. Combined	L. Hetfield	268,671	Dec. 5	325	95	22	1949
Coal pocket and dump	C. Irwin	265,230	Sept. 26	1857	522	22	1127
Coal-scuttle and ash-sifter. Combined	W. B. Glover	262,946	Aug. 22	1402	396	22	600
Coal-tub	J. Simmons	263,232	Aug. 22	1739	494	22	663
Coat	A. J. Tower	267,729	Nov. 21	976	275	22	1727
Coat	M. Shrier	269,727	Dec. 26	1660	477	22	2216
Coat-hanger	G. H. Mills	265,622	Oct. 10	485	133	22	1224
Coat-hook	G. B. Thomson	267,120	Nov. 7	208	60	22	1577
Coat. Rubber	J. F. Mullen	263,798	Sept. 5	163	47	22	802
Coats and other garments. Binding for	C. H. Goodrich	266,132	Oct. 17	1111	314	22	1337
Cock	J. H. Solis	265,168	Sept. 26	1767	493	22	1112
Cock	E. M. E. E. Thorey	261,068	July 11	915	255	22	158
Cock	M. J. Walsh	265,194	Sept. 26	1795	504	22	1117
Cock	C. C. Mnlford	264,556	Sept. 19	1032	293	22	974
Cock. Alcohol	J. Foley	267,863	Nov. 21	1133	318	22	1756
Cock and overflow. Basin	M. Hogan	267,785	Nov. 21	1042	291	22	1739
Cock. Barrel	R. H. Lecky	264,715	Sept. 19	1214	343	22	1009
Cock. Compression	T. J. Shellhorn	265,880	Oct. 10	791	224	22	1277
Cock for steam-brakes. Three-way	E. E. Mueller	268,815	Dec. 12	506	150	22	1990
Cock for steam-engines. Cylinder	G. W. Brown	265,239	Oct. 3	17	5, 6	22	1139
Cock for steam-heat radiators. Automatic air	C. Schmidt	268,733	Dec. 5	396	115	22	1962
Cocks for water-meters. Time attachment to stop	J. M. Brown	263,018	Aug. 22	1494	421	22	616
Cock. Gage	L. B. Fulton	267,416	Nov. 14	586	169	22	1649
Cock. Gage	D. R. Ashton and J. N. Sperryn	263,091	Aug. 22	1579	446	22	632
Cock or valve	M. D. L. Swank, J. T. Thornley, and J. A. Awalt.	265,992	Oct. 17	936	264	22	1307
Cock. Steam-gage	M. D. Swank, J. T. Thornley, and J. A. Awalt.	267,036	Nov. 7	95	28	22	1557
Cock. Steam-gage	J. L. Dibble	262,935	Aug. 22	1386	392	22	597
Cock. Stop	J. L. Dibble	268,006	Nov. 28	1309	368	22	1795
Cock. Stop	F. Johnson	261,354	July 18	1263	351	22	224
Cock. Stop	J. Richter	263,223	Aug. 22	1728	490	22	661
Cock. Valve	M. Hogan	267,787	Nov. 21	1044	292	22	1739
Cock. Water	E. Winchester	261,193	July 18	1082	302	22	195
Cockle and seeds from wheat or other grain. Apparatus for separating	E. Stow and C. B. Overbaugh	262,497	Aug. 8	828	.....	22	483
Cocoannt. Prepared	W. C. Salmon	264,480	Sept. 19	964	271	22	961
Coffee-boiler	E. Rakestraw	269,461	Dec. 19	1323	{383 / 384}	22	2145
Coffee cleaning and grading machine	A. and M. Conroy	268,869	Dec. 12	572	.....	22	2002
Coffee compound or substitute	E. Rakestraw	261,041	July 11	887	246	22	153
Coffee-grader	G. W. and G. S. Hungerford	263,523	Aug. 29	2145	615	22	735
Coffee, &c. Machine for renovating	J. Olendorf	266,874	Oct. 31	1987	574	22	1509
Coffee, &c. Machine for scouring	J. B. Mabury	264,721	Sept. 19	1223	346	22	1011
Coffee or tea pot	J. H. Bean	264,025	Sept. 5	411	122	22	850
Coffee-pot	W. Munn	269,697	Dec. 26	1625	465	22	2210
Coffee-pot	E. H. Oden'bal	268,717	Dec. 5	374	109	22	1959
Coffee-pot	J. W. Weakley	268,061	Nov. 28	1376	385	22	1806
Coffee-pot	H. E. Lea	269,503	Dec. 19	1382	398	22	2155
Coffee-pot filter attachment	H. P. Buffon	266,428	Oct. 24	1484	421	22	1410
Coffee-roaster	W. W. Dunn	266,700	Oct. 31	1894	550	22	1492
Coffee-roaster	G. Fisher	262,390	Aug. 8	708	199	22	462
Coffee-roaster	S. Potter	268,724	Dec. 5	383	112	22	1960
Coffee-roaster	N. B. Powell	268,725	Dec. 5	384	112	22	1960
Coffee-roaster	J. W. Drummond	260,672	July 4	422	114	22	71
Coffee. Roasting	F. A. Allen	261,575	July 25	1543	433	22	277
Coffee-steamer	T. E. Daniels	261,537	July 25	1496	419	22	269
Coffin	G. A. and R. W. Ferguson	265,492	Oct. 3	315	93	22	1192
Coffin	J. B. Atwater	264,431	Sept. 19	904	255	22	950
Coin detector. Counterfeit	G. W. Rowley	268,296	Nov. 28	1664	462	22	1859
Coin-holder	H. C. Barker	262,886	Aug. 15	1328	375	22	576
Coin-separator	J. M. Quinn	264,425	Sept. 12	889	250	22	940
Coin-separator	W. G. Merriman	268,811	Dec. 12	501	149	22	1989
Coke-oven door	R. P. Pictet. (Reissue)	10,221	Oct. 24	1667	480	22	1443
Cold by means of anhydrous sulphurous oxide. Producing artificial	W. Christopher	267,494	Nov. 14	670	194	22	1666
Collar	J. W. A. Cluett	261,433	July 18	1356	379	22	240
Collar	D. O. Patton	269,228	Dec. 19	1021	298	22	2089
Collar and hames. Combined	T. Broderick	264,929	Sept. 26	1480	416	22	1060
Collar-fastener	C. Denny	262,017	Aug. 1	230	69	22	375
Collar. Horse	J. N. Bickel	260,827	July 11	618	168	22	109
Collar. Horse	J. Q. Black	263,842	Sept. 5	218	63	22	811
Collar. Horse	T. S. Grubbs	263,335	Aug. 29	1922	550	22	695
Collar. Horse	J. P. W. Roach	269,698	Dec. 26	1508	434	22	2187
Collar pad. Horse	L. E. Crane	263,027	Aug. 22	1506	424	22	619
Collar pad. Horse	A. H. Fetty	266,255	Oct. 17	1257	356	22	1361
Collar pad. Horse	E. L. McClain	267,011	Nov. 7	64	20	22	1551

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Collar pad. Horse	J. O'Brien	266,594	Oct. 24	1602	478	22	1443
Collars. Manufacture of	J. K. P. Pine, I. P. Turner, and W. Searle.	269,229	Dec. 19	1022	298	22	2089
Collyrium	J. Fale	266,797	Oct. 31	1904	.....	22	1494
Collyrium	W. Schroeck	267,759	Nov. 21	1005	.....	22	1732
Collyrium	H. Rose	263,965	Sept. 5	364	.....	22	837
Color. Manufacture of alizarine-blue	F. Mann	262,680	Aug. 15	1064	.....	22	530
Color. Manufacture of rosaniline	J. H. H. O. Gürke	261,600	July 25	1571	.....	22	282
Color. Production of soluble alizarine-blue	C. Martius	268,113	Nov. 28	1432	.....	22	1817
Coloring-matter	H. Koechlin and O. N. Witt	263,341	Aug. 29	1928	.....	22	696
Coloring-matters called "indophenols." Manufacture of blue	C. Rumpff	261,175	July 18	1054	.....	22	191
Coloring-matter from naphthylamine. Manufacture of	C. F. L. Limpach	268,505	Dec. 5	147	.....	22	1914
Coloring-matter. Manufacture of	C. F. L. Limpach	268,506	Dec. 5	148	.....	22	1914
Coloring-matter. Manufacture of	C. F. L. Limpach	268,507	Dec. 5	149	.....	22	1915
Coloring-matter. Manufacture of	O. Wallach	269,359	Dec. 19	1201	.....	22	2121
Coloring-matter. Manufacture of blue	R. Meldola	263,420	Aug. 29	2035	.....	22	715
Coloring-matter. Manufacture of blue and violet	H. Koechlin and O. N. Witt	261,518	July 18	1457	.....	22	256
Coloring-matter or dye-stuff	J. H. Stebbins, Jr.	266,912	Oct. 31	2035	.....	22	1518
Colter	T. F. Capehart	263,112	Aug. 22	1600	452	22	635
Colter attachment	J. H. Mann	269,436	Dec. 19	1291	375	22	2139
Colter-fastener	E. C. Eaton	267,846	Nov. 21	1112	312	22	1752
Colter. Plow	D. Morris and H. Speirs	263,941	Sept. 5	338	95	22	832
Colter. Plow	C. C. Vincent	263,079	Aug. 22	1564	442	22	629
Colter. Rolling	R. Kloss	264,307	Sept. 12	761	212	22	915
Colter. Rotary	A. J. Manny	262,446	Aug. 8	772	217	22	473
Comb: *See* Curry-comb.							
Combustion. Process of and apparatus for the utilization of products of	J. Comatock and T. E. Jefferson	261,081	July 11	936	{261 / 262 / 263}	22	161
Commercial or packing box	H. Johnson	261,929	Aug. 1	132	38	22	358
Commode	F. Mink	267,754	Nov. 21	1000	282	22	1732
Commode and earth-closet. Combined	H. Kennedy	268,689	Dec. 5	348	101	22	1953
Commutator and armature wires. Coupling for	J. J. Wood	263,298	July 18	1188	332	22	212
Commutator-brush holder	W. K. Freeman	264,271	Sept. 12	721	200	22	908
Compass-alidade	F. J. Drake	260,956	July 11	765	209	22	134
Composing-stick. Extension	C. L. Divine	268,084	Nov. 28	1402	392	22	1811
Composite washer	J. S. Hoffecker	264,536	Sept. 19	1016	288	22	971
Composite washer	J. S. Hoffecker	264,537	Sept. 19	1017	288	22	971
Composite washer	C. A. Rodney	269,119	Dec. 12	879	259	22	2057
Compound engine	H. D. Dunbar	264,937	Sept. 26	1499	{421 / 422}	22	1064
Compound engine. Single-trunk	J. Fish	268,477	Dec. 5	120	36	22	1909
Compressing dry and plastic materials. Machine for	C. Killgore	260,578	July 4	290	80	22	50
Condenser or cooler	T. Gannon	263,504	Aug. 29	2123	609	22	731
Condenser and tender. Combined steam	H. S. Saroni	267,463	Nov. 14	643	185	22	1659
Condensers for escape-pipes. Drain for	W. T. and J. J. Maypole	264,093	Sept. 12	530	145	22	875
Conduits. Method of and apparatus for detecting leakage in	T. J. Bell	267,825	Nov. 21	1091	306	22	1748
Connecting-rod coupling	J. C. Brannon	260,448	July 4	126	36	22	23
Cooker, baker, and broiler. Combination	W. B. Billings	268,855	Dec. 12	559	164	22	2000
Cooking apparatus. Gas	E. D. Lyons	262,444	Aug. 8	770	216	22	473
Cooking apparatus. Steam	W. C. Salmon	268,732	Dec. 5	394	115	22	1962
Cooking boiler. Grain	W. E. Arnold	264,215	Sept. 12	635	181	22	897
Cooking utensil	J. Levy	261,465	July 18	1303	388	22	245
Cooking utensil	L. R. Thomas	269,488	Dec. 19	1366	393	22	2152
Cooking-vessel spoon-holder	J. A. Hemsteger	269,054	Dec. 12	803	238	22	2044
Cooking-vessel. Steam	J. R. Walls	269,143	Dec. 12	909	265	22	2062
Cooler: *See* Beer-cooler. Milk-cooler. Corpse-cooler. Sugar-cooler. Mash-cooler. Water-cooler.	J. Leiter	267,435	Nov. 14	611	176	22	1653
Cooling and warming the body. Feeding device for pipes for	H. Kropff	268,106	Nov. 28	1426	398	22	1815
Cooling apparatus	G. C. Hodgdon	261,453	July 18	1379	385	22	243
Cooling apparatus. Liquid	J. M. Householder	264,293	Sept. 12	745	207	22	912
Coop. Fowl	J. Essex and A. Ball	263,881	Sept. 5	267	77	22	820
Cop-tube. Metallic	W. L. Brownell. (Reissue)	10,185	Aug. 22	1835	520	22	680
Copper-lined boiler	L. Bailey	260,733	July 11	500	137	22	91
Copying-press	A. Urbahn	267,285	Nov. 7	405	118	22	1612
Cord and fabric woven therefrom. Ornamental looped	A. Urbahn	266,928	Oct. 31	2059	{592 / 593}	22	1522
Cord. Machine for making ornamental looped							
Cork. Bottle	C. H. Bennett	265,007	Sept. 26	1582	445	22	1079
Cork-extractor	A. Slagle	264,902	Sept. 26	1447	409	22	1055
Cork or stopper of bottles	R. H. T. Nesbitt	261,949	Aug. 1	155	45	22	362
Cork-stopping machine. Self-acting	O. Assmann	263,833	Sept. 5	203	58, 59	22	808
Corkscrew	G. W. Griswold	266,135	Oct. 17	1114	315	22	1337
Corkscrew	J. Pitt	262,613	Aug. 15	985	276	22	515
Corkscrews to bottles. Attaching	H. W. Simms	266,060	Oct. 17	1018	288	22	1322
Corn-crusher	G. C. Mueller	266,873	Oct. 31	1986	573	22	1509
Corn cutter and shocker	F. W. Burr and O. A. Smith	266,764	Oct. 31	1869	543	22	1487
Corn from the cob. Machine for cutting green	J. W. Brown, Jr	269,774	Dec. 26	1724	{497 / 498}	22	2227
Corn-mill	J. A. Field	266,450	Oct. 24	1504	427	22	1414
Corn-popper	J. Wilkie	268,337	Nov. 28	1710	475	22	1868
Corn-sheller	H. Packer	263,427	Aug. 29	2041	585	22	716
Corn-sheller	H. Packer	263,804	Sept. 5	171	50	22	803
Corn-sheller	E. E. Towns	265,995	Oct. 17	940	265	22	1308
Cornet	C. G. Conn	261,082	July 11	943	263	22	163
Cornice. Extension	J. M. Montgomery, Jr	265,851	Oct. 10	761	214	22	1271
Cornice. Window	H. F. Gray. (Reissue)	10,248	Nov. 28	1773	491	22	1878

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Cornice. Window-curtain	H. H. Winger	260,439	July 4	114	33	22	20
Corpse-cooler	H. C. Johnson and F. M. McMillan	266,294	Oct. 24	1312	371	22	1378
Corpse-cooler	J. C. Sloan	266,539	Oct. 24	1602	456	22	1432
Corpse-supporting table	T. Condon	260,665	July 4	404	111	22	68
Corrugating-machine	V. B. Daelen	266,976	Nov. 7	22	6, 7	22	1544
Corset	C. F. Allen	261,647	July 25	1627	457	22	292
Corset	J. G. Avery	263,379	Aug. 29	1979	565	22	705
Corset	J. D. Banfield	266,008	Oct. 17	959	272	22	1311
Corset	M. P. Bray	266,757	Oct. 31	1860	540	22	1485
Corset	G. W. Carter	263,019	Aug. 22	1494	421	22	616
Corset	G. H. Colley	263,032	Aug. 22	1497	421	22	617
Corset	T. S. Gilbert	267,187	Nov. 7	283	83	22	1590
Corset	T. S. Gilbert	267,514	Nov 14	702	202	22	1670
Corset	C. A. Griswold. (Reissue)	10,244	Nov. 21	1284	360	22	1784
Corset	E. Hambujer	264,153	Sept. 12	593	163	22	886
Corset	S. Heilner	268,794	Dec. 12	481	141	22	1985
Corset	A. Kelley	260,991	July 11	819	228	22	143
Corset	C. A. McGee	265,690	Oct. 10	575	160	22	1239
Corset	H. W. Moulton	263,056	Aug. 22	1537	433	22	624
Corset	W. H. Ramsey	266,644	Oct. 31	1723	497	22	1460
Corset	A. Stronse	264,366	Sept. 12	823	231	22	928
Corset	A. Woodard	266,335	Oct. 24	1375	388	22	1390
Corset-busk	A. S. Haight	263,895	Sept. 5	279	80	22	892
Corset busk and clasp	C. A. Adams	264,427	Sept. 19	900	253	22	949
Corset-clasp	G. H. Colley	261,585	July 25	1553	436	22	279
Corset-fastening	B. Wood	265,354	Oct. 3	155	46	22	1163
Corset forming and shaping apparatus	J. A. House. (Reissue)	10,173	Aug. 1	478	133, 134	22	415
Corset forming and shaping apparatus	J. A. House	265,963	Oct. 17	902	256	22	1302
Corset. Nursing-	T. H. Ball	260,926	July 11	728	199	22	127
Corset. Nursing-	C. N. Chadwick	263,371	Aug. 8	686	191	22	458
Corset-shaping apparatus	J. A. House	264,292	Sept. 12	745	207	22	912
Corset-stiffener	W. A. Nettleton	265,534	Oct. 3	381	104	22	1200
Corset-stiffener clasp	P. W. Ziegler	269,367	Dec. 19	1210	353	22	2123
Corsets. Back-protector for	M. P. Bray	268,994	Dec. 12	722	212	22	2030
Corsets, &c. Machine for cutting the edges of	J. A. House	260,869	July 11	664	181	22	117
Cot. Ambulance-	H. M. Wells	261,796	July 25	1805	509	22	322
Cot. Folding	J. S. Burton	262,275	Aug. 8	571	160	22	438
Cot. Folding	F. S. Martyny	269,079	Dec. 12	831	247	22	2049
Cot. Folding	C. T. Segar	261,770	July 25	1773	500	22	317
Cotton-chopper	L. A. Collins and W. G. Graham	268,626	Dec. 5	278	80	22	1940
Cotton-chopper	B. J. Curry	260,458	July 4	135	39	22	24
Cotton-chopper	G. W. Dugger	266,788	Oct. 31	1892	549	22	1491
Cotton-chopper	H. C. Dyer	268,204	Nov. 28	1549	430	22	1837
Cotton-chopper	L. S. McMullen	263,660	Aug. 29	2310	660	22	763
Cotton-chopper	W. O. Rains	262,474	Aug. 8	800	226	22	478
Cotton-chopper	J. M. Walden	263,632	Aug. 29	2276	650	22	759
Cotton chopper and cultivator. Combined	E. W. Northcutt	263,425	Aug. 29	2040	584	22	716
Cotton chopper and harrow	G. W. Roberts	269,716	Dec. 26	1647	473	22	2214
Cotton chopper, scraper, and cultivator	J. P. Dever	267,843	Nov. 21	1109	311	22	1752
Cotton-cleaner	P. D. Daffin and H. B. Dresser	263,121	Aug. 22	1611	455	22	638
Cotton-cleaner	J. E. Engram	268,209	Nov. 28	1558	432	22	1839
Cotton-cleaner	T. W. Steele	268,566	Dec. 5	209	58	22	1926
Cotton-cleaning machine	J. F. Cunningham, Sr.	266,106	Oct. 17	1074	305	22	1331
Cotton-cleaning machine	J. N. Davis	267,501	Nov. 14	686	196	22	1667
Cotton-cleaning machine. Seed-	W. O. Coleman	266,972	Nov. 7	16	4, 5	22	1543
Cotton. Device for handling	C. H. Merry	260,493	July 4	190	53	22	33
Cotton-elevator	J. F. Jones	264,703	Sept. 19	1197	339	22	1006
Cotton-gin	R. W. Basom	263,099	Aug. 22	1587	448	22	633
Cotton-gin	J. E. Carver	260,660	July 4	400	110	22	67
Cotton-gin	F. H. Lummus	266,376	Oct. 24	1430	405	22	1400
Cotton-gin	W. J. McDermott, G. Masterman, and J. D. Milburn.	269,305	Dec. 19	1118	326, 327	22	2106
Cotton-gin	J. H. Morrison	262,684	Aug. 15	1069	301	22	531
Cotton-gin	N. B. Ousley	263,350	Aug. 29	1940	555	22	698
Cotton-gin	W. S. Reeder	261,042	July 11	889	246	22	153
Cotton-gin	W. A. Smith	265,452	Oct. 3	257	78	22	1182
Cotton-gin	J. Van Zandt	261,502	July 18	1435	401	22	253
Cotton-gin feeder	A. C. Porter	261,760	July 25	1763	496	22	315
Cotton-gin rib	T. C. Garlington	268,007	Nov. 28	1311	368	22	1795
Cotton-gin rib	J. H. Mitchell	269,091	Dec. 12	845	250	22	2051
Cotton-gins. Combined feeder and breaker for	J. E. Carver	260,661	July 4	400	110	22	67
Cotton opener and lapper	R. Kitson	268,413	Dec. 5	51	15, 16	22	1896
Cotton-openers. Sectional roll for	H. C. Gillman	266,986	Nov. 7	36	11	22	1546
Cotton or hay press	W. H. Burgess	263,111	Aug. 22	1598	452	22	635
Cotton-picker	D. Rawl	266,884	Oct. 31	1998	576	22	1511
Cotton-press	H. G. Cady and C. L. Culver	267,148	Nov. 7	234	68	22	1581
Cotton-press	J. L. Williams	261,116	July 11	978	274	22	169
Cotton-press and gin-power. Combined	E. Franklin	265,402	Oct. 3	205	62	22	1172
Cotton separator and cleaner. Seed-	W. O. Coleman	269,387	Dec. 19	1237	359, 360	22	2127
Cotton-tie. Pivot	J. W. Brown	266,085	Oct. 17	1047	297	22	1327
Couch	R. C. Millings	265,127	Sept. 26	1713	479	22	1102
Cough remedy	H. Branch	267,738	Nov. 21	985	.....	22	1729
Countersink and bit-gage. Conical	E. H. Sutton	264,791	Sept. 19	1301	367	22	1024
Countersink-plug	I. Sharp	264,776	Sept. 19	1284	363	22	1021
Coupling: *See* Cable-coupling. Car-coupling. Carriage-coupling. Connecting-rod coupling. Harvester pitman-coupling. Hose-coupling. Joint-coupling. Mowing-machine knife-coupling. Pipe-coupling. Pipe or hose coupling. Railway-rail coupling.							

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Coupling—Continued. *See* Rope-coupling. Shaft-coupling. Thill-coupling. Tongue-coupling. Tubing-coupling. Vehicle-reach coupling. Whiffletree-coupling. Wrought-iron coupling.							
Coupling	S. Lightburne, Jr.	263,415	Aug. 29	2098	579	22	714
Coupling and linch pin	I. H. Trabue	264,910	Sept. 26	1463	412	22	1057
Cover. Vessel-	C. Gaylord	265,403	Oct. 3	206	62	22	1173
Cover. Vessel-	J. Hayden and J. J. Arnold	267,345	Nov. 14	486	141	22	1633
Cow-tail holder	W. S. Allen	263,831	Sept. 5	201	58	22	808
Cracker-can	I. Sexton	264,347	Sept. 12	802	226	22	924
Cradle	F. W. Barker	260,823	July 11	614	167	22	109
Cradle fastener. Grain-	G. S. Clow	265,305	Oct. 3	99	29	22	1152
Cradle. Folding	V. A. Menuez	261,017	July 11	858	238	22	140
Cranberries. Machine for assorting	L. Leland	263,542	Aug. 29	2175	620	22	740
Crane	R. Barrett	261,899	Aug. 1	90	25	22	351
Crane	M. A. Michales	265,270	Oct. 3	50	17	22	1144
Crane for clothes-lines. Pulley-	D. Sullivan	268,958	Dec. 12	679	199	22	2022
Crane. Traveling	T. W. Capen	263,479	Aug. 29	2097	600, 601	22	726
Crane. Traveling	H. Davies	264,444	Sept. 19	919	259	22	952
Crane. Traveling	J. Thompson	262,709	Aug. 15	1100	311	22	537
Cranial perforator	S. Slater	262,489	Aug. 8	815	230	22	481
Cranial tractor	S. Slater	261,394	July 18	1317	368	22	252
Crank and crank-fastening	F. F. Adams	264,815	Sept. 19	1332	377	22	1020
Crank attachment	C. H. Miller	264,467	Sept. 19	946	266	22	957
Crank-pins cool. Device for keeping	H. R. Barnhurst	262,920	Aug. 22	1371	387	22	595
Crank-shaft or journal-bearing	E. A. Rowley	263,812	Sept. 5	181	52	22	804
Crate: *See* Banana-crate. Folding crate. Fruit-crate.							
Crate	A. J. Horsey	265,083	Sept. 26	1665	465	22	1093
Crayon and eraser holder	W. Rounds	269,468	Dec. 19	1339	366	22	2148
Crayon or lead holder	F. W. Brooks	267,970	Nov. 21	1259	354	22	1780
Cream. Artificial	W. Cooley and D. H. Burrell	264,516	Sept. 19	997	.....	22	967
Cream. Device for measuring the thickness of	J. B. Marquis	269,804	Dec. 26	1765	509	22	2235
Cream from milk. Apparatus for obtaining	W. E. Lincoln	262,065	Aug. 1	292	85	22	386
Creamer	F. B. Chapin and J. W. Mercer	266,769	Oct. 31	1874	545	22	1488
Creamer	J. H. Rudy and T. Weaver	262,127	Aug. 1	383	108	22	399
Creamer	J. P. Stabler	267,611	Nov. 14	830	237	22	1693
Creasing-machine	W. M. Pilkington	263,574	Aug. 29	2214	633	22	748
Creating	T. Rogers	262,125	Aug. 1	380	107	22	398
Crib. Child's	N. H. Van Winkle	265,190	Sept. 26	1791	503	22	1116
Crimping-machine	D. A. McDonald	269,693	Dec. 26	1622	464	22	2209
Crochet-needle handle	E. Wahl	268,442	Dec. 5	85	26	22	1903
Croquet-wicket	H. J. England	266,355	Oct. 24	1401	397	22	1395
Cross-head for engines, &c	J. E. Sweet	264,368	Sept. 12	825	232	22	928
Crucible-furnace and brick for constructing the same	H. Swindell	260,429	July 4	102	30	22	19
Cruet for powdered condiments	W. A. Collins	268,388	Dec. 5	17	6	22	1890
Crusher: *See* Corn-crusher. Ore-crusher. Quartz-crusher. Rock-crusher. Rock or ore crusher. Stone and ore crusher. Stone or ore crusher.							
Crushing and shelling machine	C. and W. Finaz	264,869	Sept. 26	1410	398	22	1048
Crutch	J. A. Crandall	267,680	Nov. 21	921	261	22	1717
Crutch	F. D. Randall	265,144	Sept. 26	1732	494	22	1106
Cuff and dress supporter	T. R. Boone	262,563	Aug. 15	915	259	22	505
Culinary boiler	L. McLellan. (Reissue)	10,199	Sept. 19	1360	387	22	1035
Culinary boiler	T. L. Miller	260,886	July 11	686	186	22	121
Culinary fork or domestic implement	N. W. Stearns and T. J. Holmes	268,138	Nov. 28	1467	409	2	1823
Culinary tool. Compound	J. C. Smith	265,164	Sept. 26	1761	491	22	1111
Culinary use. Compound for	G. S. Marshall	264,545	Sept. 19	1023	.....	22	972
Culinary utensil	E. J. Barlow	268,852	Dec. 12	557	163	22	1999
Culinary vessel	J. W. Fisher	260,470	July 4	152	43	22	27
Culinary vessel	H. Ogborn	269,313	Dec. 19	1129	330	22	2109
Cultivating-machine	L. Stebbins	269,339	Dec. 19	1168	343	22	2116
Cultivator	J. Q. Adams	266,066	Oct. 17	1025	290	22	1323
Cultivator	I. B. Beard	264,060	Sept. 12	490	132	22	868
Cultivator	D. Berlew and M. L. Kissell	260,447	July 4	124	36	22	22
Cultivator	W. Blake	265,009	Sept. 26	1584	445	22	1079
Cultivator	H. H. Butler	267,670	Nov. 21	910	258	22	1750
Cultivator	W. L. Colton and H. A. Schermerhorn.	260,664	July 4	403	111	22	68
Cultivator	J. J. Deal	268,358	Nov. 28	1749	485	22	1874
Cultivator	N. C. Decker	269,564	Dec. 26	1460	420	22	2177
Cultivator	J. H. D'Lamatter	265,765	Oct. 10	663	188	22	1253
Cultivator	C. H. Eggleston	261,595	July 25	1567	440	22	282
Cultivator	W. Evans	266,123	Oct. 17	1100	311	22	1335
Cultivator	J. I. Hancock	265,801	Oct. 10	713	199	22	1262
Cultivator	C. W. Hinds	261,092	July 11	955	266	22	165
Cultivator	C. W. Hinds	261,093	July 11	956	267	22	165
Cultivator	Z. Howe and E. Oatley	268,234	Nov. 28	1587	440	22	1845
Cultivator	J. L. Jensen	260,686	July 4	440	119	22	74
Cultivator	J. G. Jordan	260,576	July 4	288	79	22	49
Cultivator	B. Kemper	269,677	Dec. 26	1603	459	22	2205
Cultivator	B. A. Knight	265,830	Oct. 10	737	207	22	1266
Cultivator	W. A. Knowlton	266,482	Oct. 24	1535	437	22	1419
Cultivator	T. A. Lewis and G. W. Call	261,738	July 25	1737	488	22	310
Cultivator	W. H. Luce	269,689	Dec. 26	1618	463	22	2208
Cultivator	L. Luppen	261,863	Aug. 1	44	13	22	343
Cultivator	E. P. Lynch	263,187	Aug. 22	1690	479	22	653
Cultivator	J. J. Mize	264,321	Sept. 12	775	218	22	918
Cultivator	J. J. Morris	264,554	Sept. 19	1031	292	22	974

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Cultivator	J. J. Motley	264,957	Sept. 26	1523	428	22	1068
Cultivator	L. B. Owen	265,278	Oct. 3	61	19	22	1146
Cultivator	G. H. Roath	267,255	Nov. 7	368	107, 108	22	1606
Cultivator	W. Scott	262,487	Aug. 8	812	230	22	480
Cultivator	H. S. Smiley	269,732	Dec. 26	1671	480	22	2218
Cultivator	R. L. Turner	261,499	July 18	1432	400	22	252
Cultivator	W. H. West	266,238	Oct. 17	1227	347	22	1357
Cultivator	J. Weymouth	260,720	July 4	479	130	22	81
Cultivator	J. W. Wilson	269,362	Dec. 19	1204	351	22	2122
Cultivator	M. H. Keys	265,968	Oct. 17	908	258	22	1303
Cultivator and cotton-chopper	D. L. Barnum	262,726	Aug. 15	1121	317	22	539
Cultivator and gang-plow. Combined wheel	J. T. Hamilton	268,887	Dec. 12	596	175	22	2006
Cultivator-beams. Lifting device for	J. W. Sursa and J. T. Dowdall	266,734	Oct. 31	1835	532	22	1481
Cultivator. Cotton-	D. H. Bull	268,617	Dec. 5	267	76	22	1938
Cultivator, harrow, and marker	C. La Dow	269,070	Dec. 12	820	243, 244	22	2047
Cultivator. Hoe-	J. S. and G. N. Getchell	265,668	Oct. 10	559	151	22	1234
Cultivator. Reversible barrow-	W. C. Kelly	266,097	Oct. 31	1794	518	22	1473
Cultivators. Rotary hand-	B. Colvin	264,138	Sept. 12	579	158	22	884
Cultivator. Spring-tooth sulky-	C. La Dow	269,069	Dec. 12	818	243	22	2047
Cultivator. Thill-	D. L. Barnum	269,376	Dec. 19	1221	355	22	2125
Cultivator-tooth	A. S. Core	267,739	Nov. 21	985	277	22	1729
Cultivator-tooth	T. W. Logan	263,546	Aug. 29	2180	622	22	742
Cultivator-tooth	J. H. Smith	261,636	July 25	1616	454	22	290
Cultivator. Wheeled	W. P. Brown	266,086	Oct. 17	1048	297, 298	22	1327
Cup: *See* Lubricating-cup. Oil-cup. Mixing and shaking cup.							
Curry-comb	G. A. Keene	269,793	Dec. 26	1754	505	22	2233
Curry-comb	C. and J. Knopp	265,831	Oct. 10	739	208	22	1266
Curry-comb	E. Miller	266,635	Oct. 31	1712	494	22	1458
Curry-comb	R. I. Patterson	263,428	Aug. 29	2043	585	22	716
Curry-comb	M. Sweet	264,907	Sept. 26	1459	411	22	1057
Curry-comb	P. E. Gérard	262,398	Aug. 8	717	203	22	463
Curtain-fixture	W. C. Kelly	264,303	Sept. 12	756	211	22	914
Curtain-fixture	P. Osgood	266,191	Oct. 17	1179	333	22	1348
Curtain-fixture	W. H. Paulding	269,703	Dec. 26	1631	468	22	2211
Curtain-fixture	C. J. Truemper	264,206	Sept. 12	644	178	22	895
Curtain-fixture	A. B. Shaw	260,616	July 4	335	91	22	57
Curtain-fixture	M. J. C. Throop	265,573	Dec. 5	217	61	22	1927
Curtain-holder	C. B. Rawson	269,462	Dec. 19	1325	384	22	2146
Curtain-pole for bay-windows. Jointed	S. Grom	267,194	Nov. 7	989	84	22	1592
Curtain-pole ring	J. Rings	267,938	Nov. 21	1221	343	22	1773
Curtain-pole ring	R. S. Gould	266,028	Oct. 17	963	278	22	1315
Curtain-rod holder	W. J. Mullen	268,265	Nov. 28	1629	452	22	1852
Curtain-rod holder	A. H. Moore	262,458	Aug. 8	784	221	22	475
Curtain-rod joint	A. Clemons	267,403	Nov. 14	573	164	22	1646
Curtain-roller bracket	B. I. Hicks. (Reissue)	10,163	July 18	1463	408	22	257
Curtain-roller spring							
Cushion: *See* Billiard-cushion. Life-preserving cushion.							
Cuspidor	J. A. Mathieu	265,122	Sept. 26	1708	478	22	1101
Cuspidor and similar vessels	A. Stewart	266,548	Oct. 24	1611	459	22	1434
Cuspidors. Rolling support for	A. Stewart	266,655	Oct. 31	1738	501	22	1463
Cut-off and reversing valve gear	H. T. Porter	266,882	Oct. 31	1996	576	22	1511
Cut-off for cisterns	G. Wilson	264,393	Sept. 12	857	240	22	934
Cut-off. Rain-water	G. Lemle	268,914	Dec. 12	628	184	22	2012
Cut-off valve	M. N. Cummiskey	262,649	Aug. 15	1034	290	22	524
Cut-off valve. Automatic	A. H. Aikman and G. K. Osborn	268,504	Dec. 5	241	67	22	1932
Cut-off-valve gear	H. Broomell	266,425	Oct. 24	1480	420	22	1409
Cut-off-valve gear	G. M. Conway	269,265	Dec. 19	1072	313	22	2098
Cut-off-valve gear	H. F. Gaskill	262,944	Aug. 22	1400	396	22	600
Cut-off-valve gear	G. L. Hart	265,959	Oct. 17	899	256	22	1301
Cutlery. Manufacture of	J. D. Frary	269,276	Dec. 19	1082	316	22	2100
Cutlery. Table-	J. D. Frary	269,277	Dec. 19	1083	316	22	2100
Cutter: *See* Axle-cutter. Band-cutter. Bolt-cutter. Bread-cutter. Butter and lard cutter. Button-hole cutter. Cane-cutter. Cheese-cutter. Cigar-butt cutter. Feed-cutter. Fish-cutter. Fodder-cutter. Groove-cutter. Harvester-cutter. Index-cutter. Label-machine cutter. Lard and butter cutter. Lathe-cutter. Lozenge-cutter. Meat-cutter. Oatmeal-cutter. Peg-cutter. Pipe-cutter. Sewing-machine thread-cutter. Stalk-cutter. Straw-cutter. Straw and stalk cutter. Thread-cutter. Tobacco-cutter. Twine-cutter. Washer-cutter.							
Cutter-bar	H. A. Williams and W. A. Preston	265,906	Oct. 10	816	231	22	1281
Cutter for cutting teeth on worm-wheels	C. E. Albro	263,299	Aug. 22	1833	520	22	679
Cutter-head	M. L. Orum	269,315	Dec. 19	1132	331	22	2109
Cutter-head	S. J. and G. J. Shimer	261,266	July 18	1163	325, 326	22	207
Cutter-head	G. Sommer	269,733	Dec. 26	1672	481	22	2218
Cutter-head	J. Stamm	264,906	Sept. 26	1458	411	22	1057
Cutter-head. Adjustable	G. W. Amesbury	260,817	July 11	608	165	22	108

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Cutter-head gage	W. L. Dodge	269,025	Dec. 12	761	225	22	2037
Cutter-holder	J. F. Allen	267,477	Nov. 14	661	190	22	1663
Cutting and punching press	W. H. H. Stevenson and M. H. Plunkett.	264,487	Sept. 19	971	272	22	962
Cutting strings. Machine for	W. Barry	266,670	Oct. 31	1754	506	22	1485
Cyanogen compounds and ammonia. Manufacture of	L. Mond	269,309	Dec. 19	1123	329	22	2107
Cylinder lubricator. Steam-	J. W. Hays	269,666	Dec. 26	1592	457	22	2203
Dairy apparatus	J. B. Marquis	265,843	Oct. 10	751	211	22	1269
Dairy apparatus	J. B. Marquis	265,844	Oct. 10	752	211	22	1269
Dairy apparatus	J. B. Marquis	267,237	Nov. 7	351	102	22	1603
Dam. Movable	A. Kirk	268,411	Dec. 5	47	14, 15	22	1895
Damper	W. Neracher	261,476	July 18	1407	393	22	248
Damper. Automatic	G. A. Leavitt, Jr.	268,696	Dec. 5	354	103	22	1954
Damper regulator. Automatic steam-	W. Noyes	263,802	Sept. 5	166	48, 49	22	802
Damper. Stove-pipe	L. and W. H. Berger	267,827	Nov. 21	1094	306	22	1749
Damper. Stove-pipe	W. E. Quiggle	265,982	Oct. 17	927	262	22	1306
Dash-board	W. Callaway	264,240	Sept. 12	663	189	22	902
Dash-pot	H. S. Hayward	262,040	Aug. 1	261	76	22	390
Dead-centers. Mechanism for overcoming	M. Wheeler	263,270	Aug. 22	1780	507	22	671
Decoy	C. T. Cochel	261,910	Aug. 1	108	31	22	353
Delivery apparatus	L. C. Crowell	269,019	Dec. 12	749	221	22	2035
Dental bracket	C. H. Gilbert	267,186	Nov. 7	281	82	22	1590
Dental drill	N. B. Acheson	269,611	Dec. 26	1525	438	22	2190
Dental drill	A. Weber	261,795	July 25	1803	509	22	322
Dental grinding-tool	R. Barton	261,198	July 18	1088	303	22	196
Dental hand-piece	T. H. Schmitz	263,814	Sept. 5	183	53	22	804
Dental hand-piece	A. Weber	261,794	July 25	1801	508	22	322
Dental jaw-brace	J. A. Donaldson	264,260	Sept. 12	703	194	22	905
Dental plate	J. A. Robinson	263,588	Aug. 29	2228	637	22	750
Dental plugger	B. Fitts	265,950	Oct. 17	885	253, 254	22	1300
Dental plugger	W. H. H. Hunter	268,900	Dec. 12	608	179	22	2008
Dental plugger	C. F. Rich	263,960	Sept. 5	360	101	22	837
Dental plugger	G., J. G., and M. O. Rehfuss	264,756	Sept. 19	1261	358	22	1017
Derrick	J. P. Edmonds	263,151	Aug. 22	1647	465	22	645
Derrick	F. C. Starke and P. J. Crowley	266,957	Dec. 12	678	199	22	2022
Derrick-net for stacking	G. Wilkinson	264,915	Sept. 26	1472	414	22	1059
Desiccating substances. Process of and machinery for	H. H. Kohlsaat	269,684	Dec. 26	1610	461	22	2207
Desk	W. M. Castlio	269,384	Dec. 19	1232	358, 359	22	2127
Desk	A. Cutler	260,950	July 11	757	206, 207	22	132
Desk	J. A. Moore, D. D. Van Wie, and J. P. Recker.	260,703	July 4	461	125	22	78
Desk	A. F. Potts	264,747	Sept. 19	1253	355	22	1016
Desk. Adjustable	S. A. Cummings	263,866	Sept. 5	250	72	22	817
Desk and chair. Combined	V. W. Woodward	264,397	Sept. 12	860	241	22	934
Desk and seat. School	F. E. McKinley	263,558	Aug. 29	2192	626	22	744
Desk. Cabinet-	J. A. Moore	263,055	Aug. 22	1536	432, 433	22	624
Desk. Cylinder-	A. Otterson	260,776	July 11	552	150	22	99
Desk-frame and tablet. Combined	W. H. Nelson and M. J. Waterman	265,855	Oct. 10	765	215, 216	22	1272
Desk. Office-	C. H. Tyler	267,041	Nov. 7	99	30	22	1558
Desk. Reading-	M. E. Moore	261,471	July 18	1398	390	22	246
Desk. School-	J. Peard	268,275	Nov. 28	1640	455	22	1854
Desk. Writing-	J. J. Johnston	268,799	Dec. 12	486	143	22	1986
Desks. Attachment for raising and lowering	J. A. Eads	266,792	Oct. 31	1896	551	22	1492
Detachable handle for utensils	F. A. Nelder	266,381	Oct. 24	1434	407	22	1401
Detachable handle for utensils	F. A. Nelder	266,382	Oct. 24	1435	407	22	1402
Detector: *See* Coin-detector. Low-water detector. High-steam and low-water detector. Time-detector.							
Detergent compound and process of making the same	C. C. Parsons	267,455	Nov. 14	634	.....	22	1658
Dextrine and saccharine matter from grains. Obtaining	J. Duff	260,853	July 11	646	.....	22	114
Dextrine, glucose, and grape-sugar. Manufacture of	C. Langa	267,546	Nov. 14	750	.....	22	1678
Diamond-setting for ear-rings, &c	L. P. Jeanne	262,785	Aug. 15	1203	337	22	554
Die: *See* Brick-die. Thread-cutting die. Link welding and swaging die.							
Die and stamping press	F. and O. Kampfe	264,170	Sept. 12	611	168	22	889
Diffusion apparatus	R. Sieg	268,949	Dec. 12	666	195, 196	22	2020
Digger: *See* Post-hole digger. Potato-digger.							
Digging machine. Land-	W. E. Crossby and A. Carey	262,377	Aug. 8	692	193, 194	22	459
Dinner-pot	J. J. Johnston	265,610	Oct. 10	470	130	22	1222
Dish. Butter-	E. C. Westervelt	267,624	Nov. 14	844	241	22	1695
Dish. Caterer's	S. F. Cones	261,811	July 25	1819	514	22	324
Dish-draining rack	M. Raughtigan and A. A. Clark	265,635	Oct. 10	506	137	22	1227
Dish-pan handle	C. M. Dodds	262,580	Aug. 15	940	265	22	508
Dish. Table-	E. A. Parker	267,921	Nov. 21	1197	336	22	1769
Dish-washing machine	B. S. Wheeler	266,835	Oct. 31	2070	595	22	1524
Disinfectant	F. Petri	267,926	Nov. 21	1202	.....	22	1770
Disinfectants. Receiver for	J. W. Birkett	263,841	Sept. 5	217	62	22	810
Disintegrating fibrous material. Machine for	F. Lüft	265,117	Sept. 26	1703	476	22	1100
Disintegrating machine. Fodder-	W. A. Naylor	264,740	Sept. 19	1241	352	22	1014
Disintegrating-machine for jute, &c	F. Luft	266,038	Oct. 17	992	281	22	1317
Disintegrating-machine for making fiber for mats, hats, &c.	I. Stead	260,797	July 11	583	158	22	103
Disintegrating machine. Grass-	W. A. Naylor	264,739	Sept. 19	1240	352	22	1014

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Invention.	Name.	No.	Date.	Monthly volume.		Official Gazette.	
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Disintegrating wheat, &c. Machine for	F. Taggart	269,741	Dec. 26	1680	483	22	2210
Disk-cutter holder. Rotary	A. McDonald	262,237	Aug. 8	527	148	22	432
Display-rack	J. L. Knight and H. K. Rowley	266,843	Oct. 31	1953	565	22	1503
Display-stand	A. F. Potts	264,751	Sept. 19	1257	357	22	1017
Distance-register. Electric	E. R. E. Cowell	267,062	Nov. 7	125	36	22	1562
Distillation and purification of alcohol. Apparatus for the	P. Claes	267,836	Nov. 21	1103	309	22	1750
Distillation. Apparatus for dry destructive	H. Wurtz	261,893	Aug. 1	80	23	22	349
Distillation of glycerine and apparatus connected therewith	F. Armandy	262,913	Aug. 22	1363	385	22	593
Distilling alcohol. Process of and apparatus for	K. Trobach and A. Cords	266,925	Oct. 31	2056	592	22	1522
Distilling apparatus	A. H. John	265,323	Oct. 3	117	35	22	1155
Distilling apparatus. Wood-	C. J. T. Burcey	263,851	Sept. 5	228	67, 68	22	813
Distilling petroleum. Apparatus for and process of	C. J. Tagliabue	265,462	Oct. 3	274	82	22	1185
Distilling turpentine and for the purification of the crude products of distillation thereof. Apparatus for	J. D. Stanley	266,909	Oct. 31	2030	585	22	1518
Ditching and grading machine	T. B. Niles	265,856	Oct. 10	767	216	22	1272
Ditching and tile-laying machine	A. S. Hughes	265,085	Sept. 26	1666	466	22	1093
Ditching-machine	J. P. Bonnell	264,062	Sept. 12	492	133	22	868
Ditching machine. Railway-	D. E. Grove	264,282	Sept. 12	731	204	22	910
Diving-armor. Speaking-tube for	W. H. Darling and J. S. Bundick	269,187	Dec. 19	974	284	22	2080
Dock. Screw-	M. Bowe	268,177	Nov. 28	1521	422	22	1832
Doll	G. H. Howard	268,020	Nov. 28	1325	372	22	1797
Doll's head	C. C. Johnson	267,212	Nov. 7	313	92	22	1596
Door-alarm	C. A. Smith	262,490	Aug. 8	815	231	22	481
Door and drawer plate	S. G. Howe	269,058	Dec. 12	806	239	22	2044
Door and shutter bolt	R. B. Monroe	266,498	Oct. 24	1555	443	22	1423
Door-balance	W. F., Sr., and W. F. Sexton, Jr.	261,487	July 18	1419	397	22	250
Door. Barn-	J. J. Johnston	266,829	Oct. 31	1939	560	22	1500
Door-bolt	A. C. Blayney	266,600	Oct. 31	1675	484	22	1451
Door-bolt	A. C. Blayney	266,601	Oct. 31	1676	484	22	1451
Door-bolt	R. H. Barnard	262,557	Aug. 15	908	257	22	504
Door-check	J. Lytch	268,700	Dec. 5	357	104	22	1955
Door-check	W. F. Osborn	262,978	Aug. 22	1443	407	22	607
Door-check	G. R. Elliott	265,919	Oct. 10	830	237	22	1283
Door check and closer. Pneumatic	G. R. Elliott	265,920	Oct. 10	832	237	22	1284
Door check and closer. Pneumatic	G. A. McArthur	269,806	Dec. 26	1768	510	22	2236
Door check and holder	H. H. Burrill	264,438	Sept. 19	942	257	22	951
Door-check. Elastic	G. R. Elliott	265,921	Oct. 10	834	238	22	1284
Door-check. Pneumatic	G. R. Elliott	266,795	Oct. 31	1901	551, 552	22	1493
Door-check. Pneumatic	J. T. Schertzer	266,903	Oct. 31	2023	583	22	1516
Door-fastening device	J. Brenzel	266,084	Oct. 17	1046	297	22	1327
Door. Grain-	W. E. Sparks	268,564	Dec. 5	208	58	22	1925
Door-handle. Sliding	F. Birmingham	269,508	Dec. 26	1391	401	22	2163
Door-hanger	E. L. Dunham	268,645	Dec. 5	298	87	22	1949
Door-hanger	D. L. Jaques	261,553	July 25	1515	434	22	372
Door-hanger	T. Lynch	262,068	Aug. 1	295	85	22	387
Door-hanger	A. Parkman	268,274	Nov. 28	1639	455	22	1854
Door-hanger	H. E. Richards	262,120	Aug. 1	375	106	22	398
Door-hanger	E. C. Stearns	268,836	Dec. 12	530	158	22	1994
Door-hanger	W. H. Wilder	262,714	Aug. 15	1103	313	22	537
Door-hanger	E. A. Ganchet	262,397	Aug. 8	717	203	22	463
Door lock. Sliding-	C. V. Derr	263,771	Sept. 5	127	39	22	796
Door-operator	R. H. Hooper	268,101	Nov. 28	1421	397	22	1814
Door or window screen	C. H. Parmenter	264,561	Sept. 19	1039	295	22	976
Door-plate, letter-box, and bell-pull. Combined	J. Streeter	267,035	Nov. 7	94	28	22	1557
Door-securer. Adjustable	R. Bauch	263,670	Sept. 5	1	1	22	775
Door. Sliding	M. Campbell	261,670	July 25	1654	464	22	296
Door-spring	W. C. Clark and E. W. Gillon	262,005	Aug. 1	219	65	22	373
Door-spring and pneumatic door-check	W. M. Brinkerhoff	267,832	Nov. 21	1098	308	22	1750
Doors. Stay-roller for sliding	O. Atwood	261,295	July 18	1198	334	22	213
Doubling machines. Tension-evener for silk-	J. and T. A. Boyd	268,178	Nov. 28	1523	422, 423	22	1832
Doubling, twisting, and winding machines. Stop-motion mechanism for	F. Herbst and G. Seidel	269,288	Dec. 19	1098	320, 321	22	2102
Dough-dividing machine	C. S. Fowler, L. A. Rockwell, and D. M. Holmes.	267,414	Nov. 14	584	168	22	1648
Dough-mixer	T. H. Butler, G. W. Earhart, and W. M. Crawford.	262,888	Aug. 15	1331	376	22	577
Dough. Preparing	H. Lawton	261,735	July 25	1733	487	22	310
Draft attachment	J. W. Bartlett	268,449	Dec. 5	93	28	22	1904
Draft-equalizer	M. Brunell	265,379	Oct. 3	182	55	22	1168
Draft-equalizer	D. Carr	256,018	Sept. 26	1593	449	22	1081
Draft-equalizer	J. S. Dearing	262,747	Aug. 15	1148	325	22	544
Draft-equalizer	M. Frisbie	263,898	Sept. 5	275	79	22	821
Draft-equalizer	T. Harding	264,285	Sept. 12	736	205	22	941
Draft-equalizer	D. M. Harkrader	264,691	Sept. 19	1184	335	22	1004
Draft-equalizer	D. P. Hershberger	268,670	Dec. 5	325	95	22	1949
Draft-equalizer	J. C. Jones	261,355	July 18	1264	351	22	224
Draft-equalizer	J. H. Knowles	261,361	July 18	1271	352	22	225
Draft-equalizer	J. W. and A. B. Lawler	268,912	Dec. 12	626	184	22	2011
Draft-equalizer	P. G. Rowlee	264,343	Sept. 12	797	225	22	923
Draft-equalizer	M. W. Tucker	267,040	Nov. 7	99	29	22	1557
Draft-equalizer	W. M. Thom	268,749	Dec. 5	411	120	22	1965
Drafting implement	H. C. Root	269,719	Dec. 26	1651	474, 475	22	2215
Drafting-instrument	H. B. Greenleaf	266,809	Oct. 31	1919	555	22	1497
Drain and sewer	W. W. Stickney	269,549	Dec. 26	1441	416	22	2173
Drain-pipe turner	C. Shinkle	260,793	July 11	579	157	22	103
Drainage apparatus	F. Dyer	265,310	Oct. 3	103	30	22	1153
Drains. Flood-valve for	W. M. Campbell	260,533	July 4	240	67	22	41
Drains, &c., in cement. Apparatus for forming underground							

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Draw-bar spring	J. F. Collins	268,868	Dec. 12	571	168	22	2002
Draw-bars. Manufacture of	J. T. Wilson	264,015	Sept. 5	430	118	22	849
Draw-bars. Manufacture of	J. T. Wilson	264,016	Sept. 5	432	118	22	849
Draw-bars. Manufacture of	J. T. Wilson	267,629	Nov. 14	851	243	22	1696
Draw-iron for sleighs	A. Stedman	263,439	Aug. 29	2053	588	22	718
Drawer-pull	C. A. Bailey	267,302	Nov. 7	425	123	22	1616
Drawer-pull	T. C. Barnard	261,982	Aug. 1	193	57	22	368
Drawer-pull	E. J. Blackham	265,008	Sept. 26	1583	445	22	1079
Drawer-pull	C. A. Cook	267,154	Nov. 7	243	70	22	1583
Drawer-pull	J. F. Johnson	264,166	Sept. 12	606	167	22	869
Drawer-pull	J. E. Merriman	265,530	Oct. 3	374	102	22	1199
Drawer-pull	G. Rogers and G. L. Donovan	263,963	Sept. 5	363	102	22	837
Drawer-pull	G. W. Tucker. (Reissue)	10,201	Sept. 19	1372	388	22	1035
Drawers	R. H. Anderson	265,733	Oct. 10	633	179	22	1248
Drawers, &c	W. Daub	267,333	Nov. 14	472	137	22	1631
Drawing-board	A. H. Sinclair	269,601	Dec. 26	1512	435	22	2187
Drawing. Instrument for projection-	J. M. Silliman	262,137	Aug. 1	393	110	22	401
Drawing, spinning, and twisting apparatus	F. W. Fox. (Reissue)	10,258	Dec. 12	938	273	22	2067
Drawing-table	E. C. Cleaves	266,099	Oct. 17	1065	302	22	1329
Dredge-chock	J. F. Loreman	269,803	Dec. 26	1764	509	22	2235
Dredge for mining submerged rock	C. W. Townsend	266,402	Oct. 24	1458	414	22	1406
Dredge-spuds. Device for controlling	R. J. Cram	261,587	July 25	1554	436	22	279
Dredger. Hydraulic	H. L. Pike and A. W. Ferguson	263,429	Aug. 29	2044	585	22	716
Dredging apparatus for bars	R. D. Hume	264,950	Sept. 26	1512	426	22	1066
Dredging-bucket	W. A. T. Sargent	263,230	Aug. 22	1736	493	22	662
Dredging-bucket	W. H. Wood	268,345	Nov. 28	1721	479	22	1870
Dredging harbors, ditching swamps, &c. Apparatus for	J. P. Herron	265,500	Oct. 3	326	96, 97	22	1194
Dredging-machine	H. B. Angell	268,977	Dec. 12	701	206	22	2026
Dredging-machine	W. H. Brown and W. H. Bell	269,173	Dec. 19	950	277	22	2076
Dredging machinery	A. C. Both	264,851	Sept. 26	1387	390	22	1044
Dress-shield	I. B. Kleinert	264,462	Sept. 19	941	265	22	956
Dress-trimming	A. L. Rice	266,525	Oct. 24	1587	451	22	1430
Dress-waist protector	S. E. Hervey	267,202	Nov. 7	305	89	22	1594
Dress-weight	E. J. Brooks	268,769	Dec. 5	437	128	22	1970
Dress-weight	E. J. Brooks	269,154	Dec. 12	921	268	22	2064
Dressing-case	G. R. Spear	265,548	Oct. 3	396	109	22	1203
Drier: *See* Bone-black drier. Clothes-drier. Fruit-drier. Grain-drier. Grain and malt drier. Offal-drier. Portable drier. Salt-drier. Sand-drier. Tobacco-drier.							
Drier	C. H. Hersey	263,518	Aug. 29	2139	613	22	734
Drier and cooler	F. H. C. Mey	261,018	July 11	859	239	22	149
Drier for fruits and other substances	H. S. Jory	263,912	Sept. 5	296	86	22	825
Drier heater and base combined	W. S. Plummer	261,635	July 11	879	243	22	152
Drill: *See* Dental drill. Grain-drill. Hand-drill. Portable drill. Ratchet-drill. Rock-drill. Rotary drill. Seed-drill. Tubular drill. Twist-drill.							
Drill-carriage	B. H. Locke	261,935	Aug. 1	141	41	22	360
Drill-frame	D. Clark and J. Lee	269,010	Dec. 12	738	217	22	2033
Drill-jar	L. D. Eshenbaugh	265,788	Oct. 10	687	194	22	1259
Drill or plow point. Adjustable	C. E. Stonecifer	265,288	Oct. 3	22	22	22	1148
Drill-support	C. Wren	263,008	Aug. 22	1463	417	22	614
Drills. Machine for grinding	P. Maltby	262,074	Aug. 1	305	87, 88	22	380
Drilling-machine	R. M. McDermott	267,912	Nov. 21	1188	334	22	1767
Drilling-machine	C. Wren	263,742	Sept. 5	86	26	22	790
Drilling machine. Metal-	F. Dubrul	264,263	Sept. 12	706	195, 196	22	906
Drilling machine. Metal-	J. Richards	261,044	July 11	891	247	22	154
Drive-gate	J. J. Ellsworth	269,649	Dec. 26	1570	451	22	2198
Drop-handle	C. S. Barnard	260,520	July 4	222	62	22	38
Dropper: *See* Grain, root, and compost dropper. Seed-dropper.							
Dry-plate holder and envelope	C. H. Scofield	268,297	Nov. 28	1665	462	22	1859
Drying and pulverizing apparatus	J. F. Gubbins	263,172	Aug. 22	1671	473	22	649
Drying apparatus	C. H. Hersey	263,517	Aug. 29	2138	613	22	734
Drying calico. Machine for	F. J. Crowley	266,104	Oct. 17	1072	304	22	1331
Drying fruit, vegetables, grain, and analogous articles. Apparatus for	F. Cook	264,246	Sept. 12	689	190, 191	22	903
Drying-house	C. T. Whedon	262,870	Aug. 15	1308	368	22	573
Drying-kiln	O. Moore	267,099	Nov. 7	181	51	22	1572
Drying-machine cylinder	A. A. Brigham	267,666	Nov. 21	906	257	22	1714
Drum. Heating-	D. Orth	261,379	July 18	1301	364	22	230
Dumb-waiter	G. F. Skinner	263,734	Sept. 5	78	24	22	788
Dumb-waiter. Subterranean	J. L. Connable	262,007	Aug. 1	221	66	22	374
Dumping-platform	J. T. Savage and J. Love	268,943	Dec. 12	659	193	22	2018
Dust and sewer trap	H. Pennie	268,821	Dec. 12	513	152	22	1991
Dust-arrester	C. M. Hardenbergh	261,449	July 18	1375	384	22	243
Dust-pan	W. De Meza	268,636	Dec. 5	289	84	22	1942
Dust-pan	A. M. H. Moss	267,242	Nov. 7	354	103	22	1603
Duster	J. T. Smith	264,358	Sept. 12	813	229	22	926
Dwelling	B. R. Hawley	261,227	July 18	1115	311	22	200
Dye-baths with dyeing solutions. Enriching	C. L. Klauder	266,481	Oct. 24	1534	437	22	1419
Dye-stuff from alizarine-blue. Manufacture of	H. Rose	263,964	Sept. 5	363	.....	22	837
Dye-stuff. Manufacture of	C. Rumpff	262,620	Aug. 15	992	.....	22	517
Dye-stuff. Manufacture of brown	C. Rumpff	261,766	July 25	1769	.....	22	316
Dye-stuff. Manufacture of brown	C. Rumpff	261,767	July 25	1770	.....	22	316
Dyed fabrics. Manufacture of	M. Landenberger, Jr	262,791	Aug. 15	1210	.....	22	555

Alphabetical list of inventions, July to December, inclusive—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Dyeing, bleaching, washing, and drying yarn, &c. Apparatus for	W. Maybury	266,494	Oct. 24	1551	442	22	1423
Dyeing. Method of and apparatus for press-	A. Tavernier	263,992	Sept. 5	403	112	22	844
Dyeing Turkey red. Preparing fabrics for	A. M. Jacobs	266,825	Oct. 31	1933	.....	22	1499
Ear-jewel cover	G. W. Washburn	261,102	July 11	971	271	22	168
Ear-knob	J. Caldwell	269,383	Dec. 19	1231	358	22	2127
Ear-piercer	F. Rosenberg	262,833	Aug. 15	1250	334	22	564
Ear-ring	S. L. Braverman	263,755	Sept. 5	109	34	22	703
Ear-ring	T. H. De Vausney, Jr	265,162	Oct. 10	545	148	22	1231
Ear-ring	G. Krementz	260,692	July 4	447	121	22	75
Earthenware vessels. Machine for turning	J. W. Denmead	262,281	Aug. 8	576	162	22	439
Easel	E. D. Cameron and F. Long	262,205	Aug. 8	491	{137 / 138}	22	424
Easel	H. Harris	266,815	Oct. 31	1923	556	22	1497
Easel. Adjustable	W. F. Lamb	261,000	Jnly 11	841	231	22	145
Easel. Parlor	E. G. Chormann	261,908	Aug. 1	103	29, 30	22	353
Eaves-trough	C. R. Everson	268,881	Dec. 12	588	173	22	2005
Eaves-trough	G. Huth	263,046	Aug. 22	1526	430	22	622
Eaves-trough hanger	J. Draper, Jr	264,202	Sept. 12	705	195	22	906
Eaves-trough hanger	C. L. Pierpont	265,981	Oct. 17	927	261	22	1306
Eaves-trough hanger	W. F. Stoetzel	263,619	Aug. 29	2263	646	22	756
Eaves-troughs. Machine for making	G. Huth	260,481	July 4	168	47	22	29
Eaves-troughs. Manufacture of	C. R. Everson	268,472	Dec. 5	116	35	22	1908
Eccentric	G. T. and D. W. Metcalf	261,470	July 18	1397	390	22	246
Edge-setting machine	W. H. Bacheller	262,919	Aug. 22	1370	357	22	594
Edge setting or burnishing machine	R. Ashe	267,767	Nov. 21	1015	285	22	1734
Edge trimmer and burnisher	D. F. Hallahan	262,224	Aug. 8	510	142	22	427
Edger. Gang	S. White	268,966	Dec. 12	685	{201 / 202}	22	2024
Edging-machine	A. Williams	267,048	Nov. 7	107	31	22	1559
Edging-trimming machine	J. H. Trowbridge	268,440	Dec. 5	82	26	22	1902
Egg and flour mixer	A. Doll	266,679	Oct. 31	1767	510	22	1468
Egg-beater	J. T. Carley	267,491	Nov. 14	676	194	22	1666
Egg-beater	R. N. Harrison. (Reissue)	10,228	Oct. 31	2123	610	22	1534
Egg-beater	G. M. Kitterman	261,857	Aug. 1	38	11	22	342
Egg-box	J. L. Stevens	265,176	Sept. 26	1777	498	22	1114
Egg-carrier	J. F. Clark	268,624	Dec. 5	277	80	22	1939
Egg-carrier	A. B. Fisk	266,617	Oct. 31	1695	489	22	1455
Egg-carrier	D. Goodwillie	266,618	Oct. 31	1695	489	22	1455
Egg-carrier	D. Goodwillie	266,619	Oct. 31	1696	489	22	1455
Egg-carrier	C. D. Lewis	267,233	Nov. 7	348	101	22	1602
Egg-carrier	J. L. Stevens	265,175	Sept. 26	1777	497	22	1113
Egg case or box	J. L. Stevens	261,780	July 25	1781	503	22	318
Egg-poaching apparatus	A. Beall	267,395	Nov. 14	561	160	22	1644
Egg-preserving compound	B. L. Castor	268,184	Nov. 28	1530	.....	22	1834
Egg rack and holder	J. C. Rundlett	262,834	Aug. 15	1260	354	22	564
Egg-tester	C. F. Hecker	265,413	Oct. 3	216	65	22	1175
Egg-tester	J. A. Sheffield	266,728	Oct. 31	1828	530	22	1479
Ejector	H. Coll. (Reissne)	10,109	July 25	1840	519	22	328
Ejector for raising liquids	L. A. Conord	265,246	Oct. 3	25	8	22	1140
Electric-arc light	C. F. de la Roche	262,015	Aug. 1	228	68	22	375
Electric-arc light	T. A. Edison	263,138	Aug. 22	1632	461	22	642
Electric-arc light	T. A. Edison	265,775	Oct. 10	670	191	22	1255
Electric-arc light	E. Thomson	265,993	Oct. 17	937	264	22	1307
Electric bath	W. W. Karshner	261,235	July 18	1125	314	22	201
Electric battery. Thermo-chemical	A. Patterson	262,110	Aug. 1	363	102	22	396
Electric battery. Thermo-	A. Patterson	262,111	Aug. 1	364	102	22	396
Electric cable	P. B. Delany	266,353	Oct. 24	1399	396	22	1394
Electric cable	W. H. Sawyer	269,470	Dec. 19	1341	387	22	2148
Electric cable	R. S. Waring	268,060	Nov. 28	1374	384	22	1806
Electric cable	R. S. Waring	268,157	Nov. 28	1403	416	22	1828
Electric cable. Lead-armored	R. S. Waring	268,158	Nov. 28	1404	416	22	1828
Electric cable. Submarine	R. S. Waring	268,059	Nov. 28	1373	384	22	1806
Electric cables. Dividing and branching	R. S. Waring	268,324	Nov. 28	1698	471	22	1865
Electric cables. Machine for making	J. Farrell	262,027	Aug. 1	243	72	22	378
Electric cables. Machine for the manufacture of	W. H. Sawyer	267,597	Nov. 14	814	233	22	1690
Electric cables. Uniting and branching	R. S. Waring	268,159	Nov. 28	1495	417	22	1828
Electric call	G. W. Howser	260,982	July 11	804	{222 / 223}	22	140
Electric-circuit connection	E. H. Johnson	264,299	Sept. 12	751	210	22	914
Electric-circuit cut-out	R. J. Sheeby	264,777	Sept. 19	1285	363	22	1021
Electric-circuit cut-out	E. Weston	266,241	Oct. 17	1232	{348 / 349}	22	1357
Electric-circuit system	C. F. Brush	261,077	July 11	927	258	22	160
Electric circuits. Implement for closing and testing	L. Mann	266,854	Oct. 31	1903	567	22	1505
Electric circuits. System for utilizing time-switches for	E. T. Starr	269,476	Dec. 19	1351	389	22	2150
Electric condenser	S. Borden	260,646	July 4	376	104	22	63
Electric conductor	J. V. Nichols	265,130	Sept. 26	1716	480	22	1103
Electric conductors. Conduit for underground	W. Mackintosh	266,171	Oct. 17	1155	326	22	1343
Electric conductors. Manufacture of lead-covered	J. Farrell	262,028	Aug. 1	247	72	22	378
Electric conductors. Manufacture of lead-covered	J. Farrell	262,029	Aug. 1	250	73	22	378
Electric conductors. Preventing flashing between	E. Thomson	265,936	Oct. 10	858	245	22	1288
Electric-current generators. Thermic regulator for	C. F. Brush	260,651	July 4	386	{106 / 107}	22	64
Electric-current meter	A. Bernstein	269,559	Dec. 26	1454	419	22	2176
Electric distribution and translation system	T. A. Edison	264,642	Sept. 19	1133	{320 / 321}	22	992
Electric distribution system	T. A. Edison	266,793	Oct. 31	1897	551	22	1492
Electric generator	V. W. Blanchard	262,174	Nov. 28	1509	421	22	1830
Electric generator. Dynamo-	R. C. Hindley and W. S. Buffham	266,290	Oct. 24	1307	370	22	1377
Electric-generator regulator	E. Weston	264,980	Sept. 26	1552	436	22	1073
Electric illuminator. Incandescent	J. H. Irwin	262,419	Aug. 8	742	209	22	467
Electric-light apparatus	H. A. Seymour	261,262	July 18	1155	{323 / 324}	22	200

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Electric-light carbon	E. J. Brooks	261,904	Aug. 1	94	26	22	351
Electric-light carbons. Manufacture of	E. Weston	264,968	Sept. 26	1563	.....	22	1075
Electric-light mast	H. A. Seymour	261,260	July 18	1153	322	22	205
Electric light regulator	F. K. Fitch	263,885	Sept. 5	271	78	22	821
Electric-light systems. Switch for	W. L. Candee	260,937	July 11	739	202	22	129
Electric lights and conductors. Support for	G. H. Allen	264,599	Sept. 19	1062	306	22	984
Electric lighting	E. T. Starr and W. J. Peyton	260,624	July 4	345	93, 94	22	58
Electric lighting and power-distributing system	E. T. Starr and W. J. Peyton	261,490	July 18	1422	398	22	251
Electric lighting apparatus. Governor-valve for	G. A. Tabourin	265,290	Oct. 3	74	23	22	1149
Electric lighting system	T. A. Edison	265,776	Oct. 10	671	191	22	1255
Electric lighting systems. Thermostatic cut-out for	H. A. Seymour	261,265	July 18	1160	{324 / 325}	22	207
Electric lines. Conduit for	R. H. Corbett	266,677	Oct. 31	1764	509	22	1467
Electric machine. Dynamo-	G. W. Beardslee	264,227	Sept. 12	669	184	22	899
Electric machine. Dynamo-	G. W. Beardslee	264,228	Sept. 12	670	185	22	899
Electric machine. Dynamo-	G. W. Beardslee	264,229	Sept. 12	671	{185 / 186}	22	900
Electric machine. Dynamo-	G. W. Beardslee	265,004	Sept. 26	1579	{443 / 444}	22	1078
Electric machine. Dynamo-	V. W. Blanchard	267,136	Nov. 7	224	64	22	1580
Electric machine. Dynamo-	C. F. Brush	260,652	July 4	388	107	22	65
Electric machine. Dynamo-	J. A. I. Craig	260,541	July 4	251	70	22	43
Electric machine. Dynamo-	T. A. Edison	263,140	Aug. 22	1634	462	22	642
Electric machine. Dynamo-	T. A. Edison	265,785	Oct. 10	683	193	22	1258
Electric machine. Dynamo-	T. A. Edison	267,196	Nov. 7	291	85	22	1592
Electric machine. Dynamo-	C. D. Haskins and C. M. Lungren	260,866	July 11	661	180	22	117
Electric machine. Dynamo-	C. Heisler	260,480	July 4	166	47	22	29
Electric machine. Dynamo-	J. H. Irwin	262,421	Aug. 8	745	209	22	468
Electric machine. Dynamo-	J. H. Irwin	262,782	Aug. 15	1200	337	22	553
Electric machine. Dynamo-	P. Jablochkoff	266,993	Nov. 7	45	14	22	1548
Electric machine. Dynamo-	J. A. Jenney	262,544	Aug. 8	885	{250 / 251}	22	493
Electric machine. Dynamo-	R. H. Mather	268,255	Nov. 28	1618	449	22	1851
Electric machine. Dynamo-	H. J. Müller	265,853	Oct. 10	763	{214 / 215}	22	1271
Electric machine. Dynamo-	G. A. Scheeffer	267,263	Nov. 7	378	110	22	1606
Electric machine. Dynamo-	D. A. Schuyler	261,390	July 18	1312	367	22	239
Electric machine. Dynamo-	E. W. Siemens	264,780	Sept. 19	1288	364	22	1022
Electric machine. Dynamo-	E. A. Sperry	268,956	Dec. 12	675	198	22	2022
Electric machine. Dynamo-	E. Thomson	269,605	Dec. 26	1517	436	22	2189
Electric machine. Dynamo-	E. Weston	268,331	Nov. 28	1704	{473 / 474}	22	1867
Electric machine. Dynamo-	E. Weston	269,761	Dec. 26	1710	493	22	2225
Electric machine. Dynamo or magneto	T. A. Edison	263,133	Aug. 22	1626	460	22	640
Electric machine. Dynamo or magneto	T. A. Edison	263,146	Aug. 22	1641	463	22	643
Electric machine. Dynamo or magneto	T. A. Edison	263,148	Aug. 22	1643	464	22	644
Electric machine. Dynamo or magneto	T. A. Edison	264,646	Sept. 19	1137	322	22	993
Electric machine. Dynamo or magneto	T. A. Edison	264,647	Sept. 19	1138	322	22	993
Electric machine. Dynamo or magneto	T. A. Edison	264,648	Sept. 19	1140	323	22	994
Electric machine. Dynamo or magneto	T. A. Edison	264,649	Sept. 19	1140	323	22	994
Electric machine. Dynamo or magneto	T. A. Edison	268,205	Nov. 28	1551	430	22	1838
Electric machine. Dynamo or magneto	E. Weston	266,243	Oct. 17	1236	{350 / 351}	22	1358
Electric-machine regulator. Dynamo-	A. de Khotinsky	263,870	Sept. 5	254	73	22	818
Electric-machine regulator. Dynamo-	T. A. Edison	264,658	Sept. 19	1149	325	22	996
Electric-machine regulator. Dynamo-	T. A. Edison	264,659	Sept. 19	1150	325	22	996
Electric-machine regulator. Dynamo-	T. A. Edison	264,660	Sept. 19	1151	326	22	996
Electric-machine regulator. Dynamo-	T. A. Edison	264,661	Sept. 19	1153	326	22	997
Electric-machine regulator. Dynamo-	T. A. Edison	264,662	Sept. 19	1155	327	22	997
Electric-machine regulator. Dynamo-	T. A. Edison	264,663	Sept. 19	1156	327	22	997
Electric-machine regulator. Dynamo-	T. A. Edison	264,664	Sept. 19	1157	327	22	998
Electric-machine regulator. Dynamo-	T. A. Edison	264,665	Sept. 19	1158	327	22	998
Electric-machine regulator. Dynamo-	T. A. Edison	264,666	Sept. 19	1159	328	22	998
Electric-machine regulator. Dynamo-	T. A. Edison	264,667	Sept. 19	1160	328	22	999
Electric-machine regulator. Dynamo-	T. A. Edison	264,668	Sept. 19	1161	328	22	999
Electric-machine regulator. Dynamo-	T. A. Edison	264,669	Sept. 19	1162	{328 / 329}	22	999
Electric-machine regulator. Dynamo-	T. A. Edison	264,670	Sept. 19	1163	329	22	1000
Electric-machine regulator. Dynamo-	T. A. Edison	264,671	Sept. 19	1164	329	22	1000
Electric-machine regulator. Dynamo-	T. A. Edison	264,672	Sept. 19	1165	{329 / 330}	22	1000
Electric-machine regulator. Dynamo-	T. A. Edison	264,673	Sept. 19	1166	330	22	1001
Electric-machine regulator. Dynamo-	T. A. Edison	265,779	Oct. 10	675	192	22	1256
Electric-machine regulator. Dynamo-	T. A. Edison	265,780	Oct. 10	677	192	22	1256
Electric-machine regulator. Dynamo-	T. A. Edison	265,781	Oct. 10	678	192	22	1257
Electric-machine regulator. Dynamo-	T. A. Edison	265,782	Oct. 10	679	193	22	1257
Electric-machine regulator. Dynamo-	T. A. Edison	265,783	Oct. 10	681	193	22	1257
Electric-machine regulator. Dynamo-	T. A. Edison	265,784	Oct. 10	682	193	22	1258
Electric-machine regulator. Dynamo-	J. R. Finney	267,859	Nov. 21	1128	317	22	1755
Electric-machine regulator. Dynamo-	J. H. Irwin	260,575	July 4	287	79	22	49
Electric-machine regulator. Dynamo-	J. W. Langley	265,519	Oct. 3	361	98	22	1197
Electric-machine regulator. Dynamo-	H. S. Maxim	269,805	Dec. 26	1765	509	22	2235
Electric-machine regulator. Dynamo-	J. F. Ott	265,858	Oct. 10	769	217	22	1272
Electric-machine regulator. Dynamo-	J. F. Ott	265,859	Oct. 10	770	217	22	1273
Electric-machine regulator. Dynamo-	E. Thomson	265,937	Oct. 10	860	245	22	1288
Electric-machine regulator. Dynamo-	E. Thomson	269,606	Dec. 26	1519	437	22	2189
Electric-machine regulator. Dynamo or magneto	T. A. Edison	263,134	Aug. 22	1628	460	22	641
Electric machine regulator. Dynamo or magneto	T. A. Edison	263,136	Aug. 22	1630	{460 / 461}	22	641
Electric machines. Armature for dynamo-	F. Bain	268,980	Dec. 12	706	207	22	2027
Electric machines. Armature for dynamo-	A. B. Fisher	269,036	Dec. 12	776	229	22	2039
Electric machines. Armature for dynamo-	H. B. Sheridan	262,136	Aug. 1	393	110	22	400
Electric machines. Armature for dynamo-	E. A. Sperry	261,965	Aug. 1	171	51	22	365

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Electric machines. Automatic cut-off for dynamo-	E. Weston	264,979	Sept. 26	1551	436	22	1073
Electric machines. Commutator for dynamo-	R. E. Ball	261,520	July 25	1471	412	22	265
Electric machines. Commutator for dynamo-	G. W. Beardslee	264,230	Sept. 12	673	186	22	900
Electric machines. Commutator for dynamo-	W. Hochhausen	261,712	July 25	1705	479	22	304
Electric machines. Commutator-brush for dynamo-	W. B. Mason	266,855	Oct. 31	1964	568	22	1505
Electric machines. Commutator for dynamo or magneto	T. A. Edison	263,149	Aug. 22	1644	464	22	644
Electric machines. Current-governor for dynamo-	C. F. Brush	260,650	July 4	383	106	22	64
Electric machines. Electric governor for driving engines for dynamo-	S. D. Mott	267,440	Nov. 14	626	181	22	1656
Electric motor	J. Batley	264,848	Sept. 26	1383	389	22	1044
Electric motor	W. K. Freeman	264,272	Sept. 12	722	201	22	908
Electric motor	D. T. Piot	263,353	Aug. 29	1944	556	22	699
Electric motor	W. J. McCollom	269,082	Dec. 12	835	248	22	2049
Electric motor for Geissler tubes	E. T. Starr	260,623	July 4	343	93	22	58
Electric motors. Controlling	C. A. Mayrhofer	269,593	Dec. 26	1500	433	22	2185
Electric safety apparatus for theaters and other buildings	G. W. and A. D. Blodgett	261,989	Aug. 1	199	59	22	369
Electric signal	I. Kitsee	265,677	Oct. 10	560	154	22	1236
Electric signal	A. D. and G. W. Blodgett and J. P. Tirrell.	263,281	Aug. 22	1795	510 / 511	22	673
Electric signaling apparatus	J. H. Cary	265,753	Oct. 10	650	184	22	1251
Electric signaling apparatus	H. W. Southworth	262,252	Aug. 8	543	153	22	433
Electric signaling apparatus	H. W. Southworth	267,945	Nov. 21	1228	345 / 346	22	1774
Electric storage-batteries. Apparatus for charging	V. W. Blanchard	268,175	Nov. 28	1513	421	22	1831
Electric switch	M. D. Connolly	262,646	Aug. 15	1028	289	22	523
Electric wire cables. Conduit for underground	J. Mackintosh	264,722	Sept. 19	1224	346	22	1011
Electric-wire conduits. Increasing and reducing joint for	C. Linford	268,631	Nov. 28	1338	375	22	1799
Electric wires. Carrying and conducting	W. M. Conway	268,389	Dec. 5	18	6	22	1890
Electric wires. Conduit for	B. Boyer	269,379	Dec. 19	1226	356	22	2126
Electric wires. Conduit for	R. Thayer	263,627	Aug. 29	2271	648	22	758
Electric wires. Device for laying and holding underground	H. C. Register	265,147	Sept. 26	1740	486	22	1107
Electric wires. Underground conduit for	S. Anderson	261,979	Aug. 1	190	56	22	368
Electric wires. Underground conduit for	J. S. Du Bois	260,548	July 4	258	72	22	44
Electric wires. Underground conduit for	C. H. O'Bryon	265,131	Sept. 26	1717	480	22	1103
Electrical apparatus. Commutator for	C. C. Peck and W. H. Chapman	267,711	Nov. 21	955	270	22	1724
Electrical apparatus. Statical	E. B. Benjamin	261,118	July 11	979	274 / 275	22	170
Electrical armature	J. J. Wood	262,529	Aug. 8	862	244	22	489
Electrical conductors. Conduit for	G. S. Eaton	266,681	Oct. 31	1769	510	22	1468
Electrical conductors. Conduit for	W. B. Eltonhead	269,568	Dec. 26	1466	422	22	2178
Electrical conductors. Conduit for	J. K. McLaughlin	269,085	Dec. 12	839	249	22	2050
Electrical conductors. Conduit for	J. K. McLaughlin	269,086	Dec. 12	840	249	22	2050
Electrical conductors. Conduit for	S. D. Strohm	262,499	Aug. 8	629	234	22	493
Electrical conductors. Coupling device for	E. H. Johnson	264,298	Sept. 12	751	209	22	913
Electrical conductors. Subterranean system of	T. N. Vail	262,630	Aug. 15	1062	281	22	518
Electrical conduit. Underground	S. D. Strohm	266,916	Oct. 31	2044	589	22	1520
Electrical connecting-cord	W. H. Sawyer	269,328	Dec. 19	1147	336	22	2112
Electrical currents. Metallic circuit for	S. D. Strohm	267,278	Nov. 7	396	115	22	1611
Electrical currents. Metallic circuit for	S. D. Strohm	267,279	Nov. 7	397	115	22	1611
Electrical distribution. Junction for conductors of systems of	J. Kruesi	266,483	Oct. 24	1536	437	22	1420
Electrical distribution system	T. A. Edison	263,142	Aug. 22	1636	462	22	643
Electrical fixture	L. Stieringer	266,549	Oct. 24	1612	459	22	1434
Electrical generators. Cooling device for	J. H. Irwin	262,422	Aug. 8	746	210	22	468
Electrical illumination. Incandescent	J. H. Irwin	261,351	July 18	1261	350	22	223
Electrical indicator	E. Weston	266,244	Oct. 17	1237	351	22	1358
Electrical locomotive	E. J. Molera	269,092	Dec. 12	846	250 / 251	22	2051
Electrical machine	E. Guerin	266,467	Oct. 24	1519	432	22	1416
Electrical signaling apparatus	W. J. Dudley	264,264	Sept. 12	707	196	22	906
Electrical switch-board	J. F. Gilliland	267,747	Nov. 21	992	279	22	1730
Electrical switch-board and signaling apparatus	T. W. Lane and F. W. Harrington	262,059	Aug. 1	282	82	22	385
Electrical switch-board for metallic circuits	T. N. Vail	261,187	July 18	1074	300	22	194
Electrical transmission of power. Apparatus for the	T. A. Edison	265,786	Oct. 10	685	194	22	1258
Electrical transmission of power. System for the	E. Weston	264,981	Sept. 26	1553	436	22	1073
Electrical transmission of power. System for the	E. Weston	264,983	Sept. 26	1555	437	22	1074
Electrical transmission of power. System for the	E. Weston	266,239	Oct. 17	1228	347	22	1357
Electrical transmitter	G. J. Carney and J. V. Meigs	265,576	Oct. 10	428	118	22	1215
Electricity. System of conductors for the distribution of	T. A. Edison	264,645	Sept. 19	1136	322	22	993
Electricity. Transmission of power by	Z. T. Gramme	269,281	Dec. 19	1090	318	22	2101
Electro-magnetic engine	A. E. Schreiber	269,331	Dec. 19	1151	337	22	2113
Electro-magnetic motor	C. C. Peck and W. H. Chapman	269,318	Dec. 19	1135	332	22	2110
Electro-magnetic motor	E. Weston	264,982	Sept. 26	1554	436 / 437	22	1074
Electro-medical induction-coil	T. H. Hicks	263,700	Sept. 5	34	10	22	781
Electro-motor	J. H. Irwin	260,574	July 4	286	79	22	49
Electroplating machines. Attachment to dynamo-	S. M. Puffer	265,340	Oct. 3	138	41	22	1159
Electro-pneumatic gate and signal-operating apparatus.	W. Robinson	267,259	Nov. 7	373	109	22	1607
Electro-therapeutic apparatus	J. W. See	267,025	Nov. 7	82	24	22	1554
Electrode for batteries	J. Pitkin	265,861	Oct. 10	772	218	22	1273
Electrode. Vaginal	A. W. Tipton	268,310	Nov. 28	1688	468	22	1864
Electrodes for secondary batteries. Making	C. F. Brush	266,762	Oct. 31	1867	542	22	1487
Electrodes. Smoothing and polishing the surfaces of carbon	C. W. Brown	261,511	July 18	1448	404	22	255
Electrotypes. Machine for notching and trimming	C. M. Letz	267,353	Nov. 14	501	144	22	1634

Alphabetical list of inventions, July to December, inclusive—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Elevator: *See* Automatic elevator. Bucket-elevator. Cotton-elevator. Grain-elevator. Hay-elevator. Hod-elevator. Hydraulic elevator. Package-elevator. Pneumatic elevator. Portable elevator. Power-elevator. Sucker-rod elevator. Water-elevator.							
Elevator	O. H. Child and L. M. Collins	268,623	Dec. 5	276	79, 80	22	1939
Elevator	H. Graves	262,291	Aug. 8	588	165	22	441
Elevator	P. Hinkle	267,204	Nov. 7	306	90	22	1594
Elevator	P. Hinkle	268,233	Nov. 28	1587	440	22	1845
Elevator	J. V. Hope	261,714	July 25	1708	480	22	304
Elevator	G. R. Peare	264,745	Sept. 19	1246	353 / 354	22	1015
Elevator	J. Rigg	262,692	Aug. 15	1082	304 / 305 / 306	22	533
Elevator	W. H. Skerritt	263,603	Aug. 29	2242	641	22	753
Elevator	W. Stevens	261,880	Aug. 1	66	19	22	347
Elevator	W. Stevens	261,881	Aug. 1	67	20	22	347
Elevator	G. C. Tewksbury. (Reissue)	10,191	Aug. 29	2327	665	22	766
Elevator	C. H. Vincent	262,154	Aug. 1	413	116	22	404
Elevator-alarm	A. C. Jacobi	268,105	Nov. 28	1424	398	22	1815
Elevator-bucket	P. Ehlers	264,939	Sept. 26	1503	422	22	1064
Elevator-bucket	W. D. Rinehart	262,122	Aug. 1	376	106	22	398
Elevator-bucket	W. D. Rinehart	262,123	Aug. 1	377	107	22	398
Elevator-bucket attachment	G. L. Lord	263,924	Sept. 5	312	89	22	828
Elevator for building material	J. Otter	263,570	Aug. 29	2209	630 / 631	22	747
Elevator for loading and unloading vessels, &c	A. D. Fox	265,592	Oct. 10	446	123	22	1217
Elevator-gate. Automatic	G. V. Deluc	265,220	Sept. 26	1639	517	22	1125
Elevator-gate. Automatic	J. F. S. Smith	265,342	Oct. 3	140	41	22	1160
Elevator-guard. Automatic	R. P. Rankin	267,757	Nov. 21	1003	282	22	1732
Elevator indicator. Hydraulic	C. Schon and C. S. Brown	268,946	Dec. 12	662	194	22	2019
Elevator or dumb-waiter brake	G. W. Cannon	269,776	Dec. 26	1727	498	22	2228
Elevator safety attachment	W. Edson and N. M. Lowe	263,773	Sept. 5	128	39, 40	22	796
Elevator safety attachment	D. Frisble	265,954	Oct. 17	892	255	22	1301
Elevator safety attachment	W. E. Sawyer	265,448	Oct. 3	232	76	22	1181
Elevator safety attachment	F. W. Voerde	262,861	Aug. 15	1291	363	22	570
Elevator safety attachment	F. W. Voerde	262,862	Aug. 15	1294	364	22	571
Elevator safety device	C. C. Palmer	261,101	July 11	964	269	22	167
Elevator safety device	W. H. Skerritt	264,352	Sept. 12	806	227	22	924
Elevator safety stop	J. Johnston	266,479	Oct. 24	1532	436	22	1419
Elevator-shaft	S. W. Willard	261,286	July 18	1185	332	22	211
Elevator-shaft doors. Operating	F. H. Abeel	265,231	Oct. 3	1	1	22	1137
Elevator-stop	L. D. Hawkins and J. H. Webster	267,649	Nov. 14	875	250	22	1701
Elevator-stop	G. C. Tewksbury. (Reissue)	10,192	Aug. 29	2329	665	22	767
Elevator-wells. Safety-gate for	F. W. Pecker	268,529	Dec. 5	171	49	22	1919
Elevators. Automatic gate-opener for	J. F. S. Smith	260,794	July 11	580	157	22	103
Elevators. Electric safety apparatus for	G. W. Baldwin	263,380	Aug. 29	1960	565	22	705
Elevators. Electric safety device for	R. M. Curtiss	266,107	Oct. 17	1074	305	22	1331
Elliptical springs. Device for tightening the bands of	W. W. Bruce	268,179	Nov. 28	1525	423	22	1833
Embossing-machine	G. W. Garnar	265,057	Sept. 26	1638	460 / 461	22	1089
Embroidering and embroidery	C. Wheeler	268,332	Nov. 28	1705	474	22	1867
Embroidering attachment	F. H. Chilton	262,002	Aug. 1	215	64	22	373
Embroidering-machine	E. Cornely	262,742	Aug. 15	1142	323	22	543
Embroidering-machine	E. Cornely	262,743	Aug. 15	1144	323 / 324	22	543
Embroidering-machine	J. Ebneter	262,383	Aug. 8	698	195 / 196 / 197	22	460
Embroidery-hoops. Device for holding	S. E. Lincoln	265,521	Oct. 3	363	99	22	1197
Embroidery-pattern	C. Preisig	264,194	Sept. 12	634	175	22	894
Emery-grinder	B. H. Hadley	261,848	Aug. 1	29	9	22	341
Emery-wheels. Method of and appliance for burning solid	F. B. Norton	260,890	July 11	689	187	22	122
Emery-wheels. Tool for truing	J. E. Emerson	262,655	Aug. 15	1040	291	22	526
End-board. Wagon	F. Wisner	262,876	Aug. 15	1316	370	22	574
End-gate	M. J. Rivard	265,440	Oct. 3	245	74	22	1180
End-gate fastening	L. M. Fitch	261,146	July 18	1020	287	22	186
End-gate lock for wagons	J. C. Nelson	266,501	Oct. 24	1557	443	22	1424
End-gate. Wagon	J. W. Anderson	265,554	Oct. 10	403	111	22	1211
End-gate. Wagon	F. Ball	266,076	Oct. 17	1038	294	22	1325
End-gate. Wagon	R. Barnard	260,521	July 4	223	62	22	38
End-gate. Wagon	B. I. Hulin	263,522	Aug. 29	2144	614	22	735
Engine: *See* Compound engine. Electro-magnetic engine. Fire-engine. Fire-extinguishing engine. Gas-engine. Gas-motor engine. Hydrocarbon-engine. Lever-engine. Locomotive-engine. Oscillating engine. Pulp-boating engine. Pumping-engine. Rag-engine. Railway-engine. Rotary engine. Rotary steam-engine. Self-adjusting engine. Steam-engine. Steering-engine. Traction-engine. Wind-engine.							
Engine	B. C. Vanduzen	265,473	Oct. 3	289	86	22	1187
Engine cross-heads. Guide for	F. W. Dean	266,272	Oct. 24	1283	363	22	1373
Engine-cylinder lubricator. Steam-	O. A. Rollins	263,356	Aug. 29	1949	557	22	700

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Engine-register connection	G. W. Brown	263,844	Sept. 5	221	63	22	811
Engine reversing-gear	T. Moore	262,815	Aug. 15	1237	348	22	560
Engines. Diagram-instrument for	J. B. Webb	265,198	Sept. 26	1799	505	22	1118
Engraving-machine	J. Earle	260,463	July 4	144	41	22	25
Engraving script	J. Earle	260,464	July 4	146	42	22	26
Envelope-case	J. C. Lane	261,731	July 25	1730	486	22	309
Envelope letter-sheet	A. C. Fletcher	267,305	Nov. 7	422	194	22	1616
Envelope-machine	J. Ball	263,838	Sept. 5	210	61	22	810
Envelope. Reversible	J. G. Wallace	261,971	Aug. 1	178	53	22	360
Eraser	F. Cheney	263,387	Aug. 29	1992	569	22	708
Evaporating apparatus	T. G. Walker	264,208	Sept. 12	645	179	22	896
Evaporating liquids. Process of and apparatus for	W. F. Browne	263,316	Aug. 29	1893	541, 542, 543, 544, 545	22	692
Evaporating liquids. Process of and apparatus for	J. A. Mathieu	268,701	Dec. 5	358	105	22	1955
Evaporating or concentrating liquids and saturating liquids with gases. Apparatus for	F. B. Nichols	265,974	Oct. 17	917	260	22	1304
Evaporating-pan	S. Davis	264,252	Sept. 12	695	192	22	904
Evaporating-pan	J. H. Mathers	262,075	Aug. 1	308	88	22	389
Evaporating-pans. Apparatus for automatically supplying sap to	M. C. Barden	263,839	Sept. 5	212	62	22	810
Evaporating saccharine juices, &c	W. F. Browne	263,312	Aug. 29	1873	534	22	690
Evaporating saccharine juices. Apparatus used in	C. C. Haynes	264,694	Sept. 19	1188	336	22	1005
Evaporating train and furnace for cane-juice, &c. Open	F. Cook	265,024	Sept. 26	1601	450, 451	22	1082
Evaporator: *See* Fruit-evaporator. Sap-evaporator. Salt-evaporator.							
Evaporator	J. A. Baldwin	264,122	Sept. 12	559	152, 153	22	880
Evaporator	M. Day, Jr	268,199	Nov. 28	1543	429	22	1836
Evaporator	J. C. Gunn	261,447	July 18	1374	384	22	242
Evaporator	J. C. Henderson	266,148	Oct. 17	1126	317, 318	22	1339
Evaporator	H. B. Stevens	268,310	Nov. 28	1682	466	22	1863
Evaporator for fruits, vegetables, &c	R. M. Bellinger	263,673	Sept. 5	6	2	22	775
Excavating dirt, &c	H. A. Carson	268,181	Nov. 28	1526	424	22	1833
Excavating earth for sinking tubing	C. H. Leach	260,483	July 4	177	50	22	31
Excavating-machine	F. Jonas	265,325	Oct. 3	119	35, 36	22	1156
Excavating machinery	S. Craig	262,535	Aug. 8	872	246	22	491
Excavator	H. B. Hall	260,865	July 11	659	179	22	116
Excelsior-machine	H. R. Mathias	267,010	Nov. 7	63	19, 20	22	1551
Exercising-ball for athletes or gymnasta	H. B. Cook	264,931	Sept. 26	1493	420	22	1062
Exhaust of engines. Utilizing the	H. T. Litchfield and D. Renshaw	265,050	Aug. 22	1531	431	22	623
Exhaust-pipe. Vacuum	D. Harrigan	263,514	Aug. 29	2135	612	22	733
Expansion-bit for well and rock boring	H. C. Reichardt	261,565	July 25	1531	429	22	274
Explosive compound	C. F. Mohrig	268,518	Dec. 5	160	.....	22	1917
Explosive compound	E. Turpin	263,824	Sept. 5	193	.....	22	806
Explosive powder	W. R. Quinan	260,786	July 11	568	.....	22	101
Extension-table	H. S. Hall	265,800	Oct. 10	742	198	22	1262
Extension-table	H. M. Ralston	265,864	Oct. 10	774	219	22	1274
Extension-table	J. C. Vetter	265,349	Oct. 3	147	44	22	1161
Extractor: *See* Cork-extractor. Honey-extractor. Nail-extractor. Staple-extractor. Stump-extractor.							
Eye-wash	W. C. Sqnier	264,783	Sept. 19	1292	.....	22	1023
Eyeglass	H. Baner	264,295	Sept. 12	668	184	22	899
Eyeglass. Adjustable	F. R. Woodward	261,799	July 25	1807	510	22	322
Eyeglass and spectacles combined	G. Bansch	260,928	July 11	730	199	22	128
Eyeglass-frames. Manufacture of	R. A. Carter	267,403	Nov. 14	678	194	22	1666
Eyeglasses	S. B. Opdyke	265,626	Oct. 10	489	134	22	1225
Eyeglasses	J. Schaffer	265,449	Oct. 3	254	76	22	1181
Eyeglasses and spectacles	J. M. Crawford	266,436	Oct. 24	1491	423	22	1411
Eyelet-embossing machine	S. Sternberger	262,494	Aug. 8	823	232	22	482
Fabric	S. H. Baldwin	266,266	Oct. 24	1277	362	22	1372
Fabric blanks from which to make collars, &c. Device for cutting	G. E. Norris	269,312	Dec. 19	1128	330	22	2108
Fabrics. Apparatus for chroming	T. Simpson	268,556	Dec. 5	197	55	22	1923
Fabrics. Apparatus for stretching	J. G. Lindemann	263,792	Sept. 5	155	46	22	800
Fabrics. Apparatus or means of desiccating textile or other	R. S. Jennings	268,495	Dec. 5	138	41	22	1913
Fabrics. Machine for crimping and preparing elastic	T. H. Ball	266,074	Oct. 17	1035	293, 294	22	1325
Fabrics. Machine for finishing pile	S. C. Lister and J. Reixach	263,416	Aug. 29	2029	580, 581	22	714
Fabrics. Machine for folding and cutting	N. H. Bruce	265,015	Sept. 26	1590	447, 448	22	1080
Fabrics. Machine for turfing	C. W. Wood	269,770	Dec. 26	1719	495, 496	22	2226
Fabrics. Machinery for cutting double-pile	S. C. Lister and J. Reixach	268,418	Dec. 5	57	17, 18	22	1897
Fan. Automatic fly	T. W. Cofer	266,774	Oct. 31	1879	546	22	1489
Fan combination-stand. Automatic	C. H. McKeehan	268,116	Nov. 28	1435	402	22	1818
Fan. Exhaust	J. E. Mills	267,707	Nov. 21	952	268, 269	22	1723
Fan. Fine	D. M. Bliss	262,360	Aug. 8	673	188	22	456
Fan, &c. Fly	D. H. Royce	268,730	Dec. 5	391	114	22	1961
Fan. Fly and household	H. E. Clinton	264,064	Sept. 12	499	135	22	869
Fan for rocking-chairs	A. Mrozowski	263,197	Aug. 22	1702	482	22	655
Fan. Mechanical	D. S. Wright	267,636	Nov. 14	859	246	22	1698
Fan. Swinging	J. T. Scott	268,549	Dec. 5	191	54	22	1922
Fan-wheel	W. Schmolz	265,984	Oct. 17	929	262	22	1306

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Fans, &c. Escapement for fly	C. T. Mason	263,190	Aug. 22	1694	480	22	654
Fanning attachment for machines	S. Fossler	268,657	Dec. 5	313	90	22	1946
Fanning-mill	J. Luxem	267,699	Nov. 21	942	266	22	1722
Fare-box	S. Alexander and F. Boyle	262,267	Aug. 8	562	157	22	436
Fare-box	W. Golding	269,195	Dec. 19	984	287	22	2092
Fare-register	J. B. Benton	260,526	July 4	230	64, 65	22	39
Fare-register	E. Chesterman	264,440	Sept. 19	914	257, 258	22	952
Fare register and recorder	N. A. Ransom	265,145	Sept. 26	1733	484, 485	22	1106
Farm and yard gate. Automatic	M. L. Hawks	267,888	Nov. 21	1162	326	22	1762
Farm-gate	A. L. Geer	263,891	Sept. 5	276	79	22	822
Farm-gate	A. and A. Iske	262,425	Aug. 8	750	211	22	469
Farm-gate	E. G. Wheeler	261,573	July 25	1541	432	22	277
Fat-cutting machine	A. Kwoczalla	269,298	Dec. 19	1110	324	22	2105
Fat from bones. Method of and apparatus for extracting	W. Schneider	261,259	July 18	1152	322	22	205
Fats for culinary uses. Preparing animal	S. H. Cochran	262,207	Aug. 8	492	.....	22	424
Fatty matters from bones. Method of and apparatus for separating and recovering the	F. Seltsam	261,634	July 25	1610	452, 453	22	289
Faucet	G. T. Freeman	265,053	Sept. 26	1634	459	22	1089
Faucet	T. Lanston	266,424	Oct. 24	1537	438	22	1420
Faucet	H. B. Leach	269,687	Dec. 26	1616	462	22	2207
Faucet	J. McGinley	269,531	Dec. 26	1418	410	22	2169
Faucet	G. A. Naumann	261,750	July 25	1750	493	22	313
Faucet	E. F. Pierce	267,103	Nov. 7	185	53	22	1573
Faucet	J. H. Seabury	260,615	July 4	334	91	22	57
Faucet	J. H. Seabury	264,573	Sept. 19	1052	299	22	978
Faucet	J. G. Stapf	265,457	Oct. 3	270	80	22	1184
Faucet	W. G. Steinmetz	267,612	Nov. 14	831	237	22	1693
Faucet	C. Whittaker	262,632	Aug. 15	1007	282	22	519
Faucet	C. Whittaker	267,734	Nov. 21	981	276	22	1728
Faucet. Ale and beer	J. H. Dorgan	262,021	Aug. 1	233	70	22	376
Faucet and tap. Beer	G. Hirschman	264,457	Sept. 19	936	262	22	955
Faucet attachment or cask-stopper	W. W. Jackson	266,629	Oct. 31	1706	492, 493	22	1457
Faucet. Beer	R. Eberhard	261,914	Aug. 1	112	34	22	354
Faucet. Flexible self-gaging	W. T. Robertson	266,894	Oct. 31	2013	580	22	1514
Faucet. Lock	W. S. Campbell	264,241	Sept. 12	684	189	22	902
Faucet. Self-closing	C. Whittaker	267,733	Nov. 21	980	276	22	1728
Faucet. Vent	A. Lührs	264,177	Sept. 12	617	170	22	891
Feather-renovator	A. Speirs	265,453	Oct. 3	258	78	22	1182
Feather-renovator	S. Tate	260,626	July 4	350	94	22	59
Feathers for dusters, &c. Method of and machine for preparing	C. W. and E. T. Nichols	264,472	Sept. 19	953	268	22	958
Feathers. Machine for cutting the shafts or stems of	M. H. Morris and F. Westerman	266,259	Oct. 17	1263	358	22	1362
Feed-box for stock	A. D. Tingley	268,150	Nov. 28	1482	413	22	1826
Feed-cutting machine	H. Schwobe	262,699	Aug. 15	1089	308	22	535
Feed-cutter	C. Christian	265,755	Oct. 10	654	185, 186	22	1252
Feed-mill	T. C. Cadwgan	267,990	Nov. 28	1296	365	22	1792
Feed-rack	R. B. Dunn	263,876	Sept. 5	262	75	22	819
Feed-trough	J. J. Johnston	266,856	Oct. 31	1945	562	22	1501
Feed-water alarm for steam-boilers	G. W. Getchell	267,338	Nov. 14	480	139	22	1632
Feed-water apparatus	F. S. Anderson and C. Sauer	262,721	Aug. 15	1116	315	22	538
Feed-water heater	E. Kendall	269,586	Dec. 26	1494	431	22	2184
Feed-water heater	J. L. Krauser	265,425	Oct. 3	229	68	22	1177
Feed-water heater	G. Miles	267,797	Nov. 21	1056	295	22	1742
Feed-water heater	D. C. Stillson	269,243	Dec. 19	1049	306	22	2094
Feed-water heater	G. S. Strong	262,147	Aug. 1	404	113, 114	22	403
Feed-water heater	A. R. Young	264,400	Sept. 12	863	242	22	935
Feed-water heater and filter	N. A. T. Jones	261,612	July 25	1584	444	22	285
Feed-water heater and filter	N. A. T. Jones	261,613	July 25	1586	445	22	285
Feed-water heater for steam-boilers	W. Dunn	268,203	Nov. 28	1548	430	22	1837
Feed-water purifier	W. Heston and J. T. Mead	262,895	Aug. 15	1336	378	22	578
Feed-water regulator	S. C. Salisbury	265,542	Oct. 3	388	107	22	1201
Feed-water regulator for steam-boilers. Automatic	J. Christman	269,512	Dec. 26	1395	402	22	2164
Feeder. Boiler	J. B. Hyde	267,536	Nov. 14	735	212	22	1675
Feeder. Boiler	G. H. Whitman	267,295	Nov. 7	417	121	22	1615
Feeder for revolving cylinders	E. S. Bennett	266,080	Oct. 17	1043	296	22	1326
Feeding and watering cattle in cars. Device for	H. Baines	268,603	Dec. 5	251	70	22	1934
Feeding and watering stock in cars. Device for	A. D. Tingley	267,810	Nov. 21	1071	300	22	1744
Feeding water to boilers	H. Webster	262,868	Aug. 15	1307	367	22	573
Feeding water to locomotive-boilers	W. H. Tarrentine	264,494	Sept. 19	978	274	22	963
Felly-clip	J. Wheeler	264,009	Sept. 5	423	117	22	847
Felly. Vehicle-wheel	E. Danford	262,650	Aug. 15	1035	290	22	525
Felt, &c., into strips. Machine for cutting	J. W. Blackham	260,930	July 11	732	200	22	128
Felt. Manufacture of seamless	R. W. Perkins	268,276	Nov. 28	1640	455	22	1855
Felted goods. Manufacture of	D. Beatty	261,521	July 25	1472	412	22	265
Fence	W. M. Butler	269,003	Dec. 12	730	214	22	2031
Fence	H. J. Culp	269,642	Dec. 26	1561	448	22	2196
Fence	J. Denning	264,259	Sept. 12	702	194	22	905
Fence	W. Gleason	266,988	Nov. 7	39	12	22	1547
Fence	J. T. Guthrie	265,508	Oct. 10	453	124	22	1219
Fence	H. T. Harris	267,523	Nov. 14	721	208	22	1673
Fence	T. Huston	265,089	Sept. 26	1670	467	22	1093
Fence	I. L. Landis	265,518	Oct. 3	360	98	22	1197
Fence	D. Long	267,548	Nov. 14	753	215	22	1678
Fence	E. Meyer	262,605	Aug. 15	976	274	22	514
Fence	R. L. Pancoast	261,868	Aug. 1	51	15	22	344
Fence	A. and A. J. Russell	267,506	Nov. 14	813	232	22	1690
Fence	D. B. Van Dorn	261,281	July 18	1180	330	22	210
Fence	T. B. White	260,436	July 4	111	32	22	20

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Fence and gate. Flood	J. A. Clark	266,430	Oct. 24	1485	422	22	1410
Fence and gate post	A. O. Barnes	264,998	Sept. 26	1574	442	22	1077
Fence and post. Iron	R. Kennard	261,464	July 18	1392	388	22	245
Fence-barb	J. J. Brinkerhoff	267,485	Nov. 14	669	192	22	1664
Fence-barb	J. J. Brinkerhoff	269,631	Dec. 26	1548	444 / 445	22	2194
Fence-barb	C. B. Brainard	268,453	Dec. 5	97	29	22	1905
Fence-barb. Wire	F. W. Brainerd	264,436	Sept. 19	911	256	22	951
Fence barb. Wire	J. F. Scutt	264,110	Sept. 12	546	149	22	877
Fence barb. Wire	A. J. Upham	261,185	July 18	1068	299	22	193
Fence. Barb-wire	M. A. Mibills	269,444	Dec. 19	1301	377	22	2141
Fence. Barbed	F. M. Harris	264,286	Sept. 12	737	205	22	911
Fence. Barbed-wire	J. M. May	264,728	Sept. 19	1231	348	22	1012
Fence. Barbed-wire	S. W. Lahue	264,171	Sept. 12	612	168	22	870
Fence. Combination post-and-rail	J. J. Johnston	265,826	Oct. 10	734	206	22	1265
Fence. Combined iron and wood	T. Rogers	266,318	Oct. 24	1350	381	22	1385
Fence. Composite	E. L. Dunham	268,466	Dec. 5	109	33	22	1907
Fence. Farm	H. D. Merrill	265,847	Oct. 10	735	212	22	1270
Fence. Flood	C. Marsh	265,526	Oct. 3	370	101	22	1198
Fence-gate	H. Gilbert	264,276	Sept. 12	726	202	22	909
Fence. Hedge	B. G. Devoe	263,324	Aug. 29	1909	547	22	693
Fence. Iron	J. J. Johnston	265,817	Oct. 10	726	203	22	1264
Fence. Iron	J. L. Thomson	265,719	Oct. 10	614	173	22	1245
Fence. Iron	J. Woodhill	262,879	Aug. 15	1319	371	22	575
Fence. Iron picket	J. Ash	266,072	Oct. 17	1033	292 / 293	22	1324
Fence machine. Wire	J. and W. M. Brinkerhoff	268,613	Dec. 5	263	74	22	1937
Fence nail. Wire	W. H. H. Frye	264,684	Sept. 19	1177	333	22	1003
Fence-palings. Machine for barbing	W. Thomas	267,948	Nov. 21	1232	346	22	1775
Fence-picket	W. Baldwin	263,094	Aug. 22	1582	446	22	632
Fence. Planked	H. C. Beebe	261,522	July 25	1472	412	22	265
Fence. Portable	S. and S. F. Enos	263,033	Aug. 22	1516	426	22	620
Fence. Portable	J. B. Surprise	268,774	Dec. 5	442	130	22	1971
Fence. Portable	W. H. Ambrose and T. Cole	264,504	Sept. 19	986	277	22	965
Fence-post	L. D. Clements	265,758	Oct. 10	658	186	22	1252
Fence-post	D. W. Copeland	266,261	Oct. 17	1266	358	22	1363
Fence-post	H. V. Flickinger	260,961	July 11	780	214	22	136
Fence-post	N. A. Haven	266,817	Oct. 31	1926	537	22	1498
Fence-post	I. Johnson	265,816	Oct. 10	726	203	22	1264
Fence-post	J. F. Landers	261,559	July 25	1523	426	22	273
Fence-post	E. J. Major	267,701	Nov. 21	944	267	22	1722
Fence-post	W. McGee	265,846	Oct. 10	754	212	22	1270
Fence-post	A. K. Stiles	265,710	Oct. 10	602	170	22	1243
Fence-post	E. R. Powell	261,039	July 11	884	244	22	151
Fence-post and clamping device. Metallic	I. S. Kingsbury and G. W. Peck	261,854	Aug. 1	35	11	22	341
Fence-post. Combined iron and concrete	J. J. Johnston	264,883	Sept. 26	1424	402	22	1051
Fence-post. Iron	J. J. Kimball	261,727	July 25	1727	485	22	308
Fence-post. Iron	F. Schmitz	260,614	July 4	332	90	22	57
Fence-post. Metal	J. Hugill and A. G. Smyth	261,230	July 18	1119	312	22	200
Fence-post. Metallic	P. Hayden	261,346	July 18	1256	348 / 349	22	222
Fence-post. Movable	S. Gibbs	266,459	Oct. 24	1512	429	22	1415
Fence post. Wire	T. Rogers	267,758	Nov. 21	1004	283	22	1732
Fence-strand of scrap-metal	J. C. Milligan	268,264	Nov. 28	1628	452	22	1852
Fence-strip. Metallic	W. E. Massey	261,619	July 25	1594	446	22	286
Fence tightener. Wire	D. Lewis	269,801	Dec. 26	1702	508	22	2234
Fence. Wire	E. Chavannes	263,482	Aug. 29	2100	602	22	727
Fence. Wire	C. A. Mann	266,705	Oct. 31	1804	523	22	1475
Fence. Wire	E. J. Smith	266,545	Oct. 24	1607	458	22	1433
Fence. Wire	C. G. Bodman	262,260	Aug. 8	457	136	22	423
Fence-wire. Barbed	N. Clark	260,844	July 11	636	173	22	113
Fence-wire. Barbed	J. T. Cook	265,025	Sept. 26	1604	451	22	1083
Fence-wire. Barbed	L. E. Evans	267,067	Nov. 7	131	37	22	1563
Fence-wire. Barbed	J. Haish	261,703	July 25	1694	475	22	302
Fence-wire. Barbed	J. Haish	261,704	July 25	1695	475	22	302
Fence-wire. Barbed	J. P. Osterman	268,721	Dec. 5	379	111	22	1959
Fence-wire. Barbed	C. D. Randel	267,253	Nov. 7	367	107	22	1606
Fence-wire. Barbed	W. C. Gholson	262,035	Aug. 1	257	74	22	379
Fence. Wire block-binding portable	N. C. Bolin	261,658	July 25	1639	460	22	294
Fence-wire, check-row wire for corn-planters, &c. Apparatus for setting out or taking up barb	W. B. Knight	269,067	Dec. 12	815	242	22	2046
Fence-wire. Machine for winding	T. J. Smith	265,989	Oct. 17	933	263	22	1307
Fences. Metallic post for wire	T. McCosh	263,555	Aug. 29	2190	625	22	744
Fence-wire. Reel for barbed	A. M. Munson	262,608	Aug. 15	979	275	22	515
Fence-wire reeling-machine	I. C. Burgett	264,923	Sept. 26	1481	416	22	1060
Fence-wire stretcher	G. Meng	263,348	Aug. 29	1939	555	22	698
Fence-wire tightener	E. H. Hill	264,535	Sept. 19	1015	287	22	971
Fence-wire with metal. Process of and apparatus for coating barbed	W. T. Burrows	263,283	Aug. 22	1803	512	22	674
Fence-wires. Machine for applying barbs to	W. Young	263,280	Aug. 22	1794	510	22	673
Fences. Machine for attaching wires to hedge and other	W. H. H. Frye	264,683	Sept. 19	1176	332 / 333	22	1002
Fences. Machine for manufacturing	E. S. Lenox	264,174	Sept. 12	615	169	22	890
Fencing. Apparatus for the manufacture of barbed	G. Elsey	261,212	July 18	1101	307	22	198
Fencing. Barbed	G. Elsey	265,223	Sept. 26	1845	518	22	1125
Fencing. Barbed	T. V. Allis	266,336	Oct. 24	1376	388	22	1390
Fencing. Metallic barbed							
Fender: *See* Bird-cage fender. Car-wheel fender. Grate-fender. Stove and grate fender.							
Fender	L. B. Beaumont	265,006	Sept. 26	1581	444	22	1079
Fertilizer and planter	W. A. Hazelrigg	266,818	Oct. 31	1926	557	22	1498
Fertilizer compound	W. D. Styron	268,314	Nov. 28	1687	.....	22	1864
Fertilizer-distributer	W. B. Allen	260,444	July 4	119	35	22	91

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Fertilizer-distributer	J. T. Cooper	261,682	July 25	1665	467	22	298
Fertilizer-distributer	J. F. Keller	265,674	Oct. 10	537	153	22	1235
Fertilizer-distributer	J. S. Kemp	268,410	Dec. 5	45	14	22	1895
Fertilizer-distributer	J. S. Kemp	269,585	Dec. 26	1493	431	22	2184
Fertilizer-distributer	W. Marks	260,764	July 11	541	146	22	97
Fertilizer-distributer	E. D. Mead	261,745	July 25	1746	491	22	312
Fertilizer-distributer	J. G. Philpot	261,627	July 25	1604	449 / 450	22	288
Fertilizer-distributer	J. W. Spangler	261,569	July 25	1535	430 / 431	22	275
Fertilizer-distributer	J. Straver	262,498	Aug. 8	820	233	22	483
Fertilizer-distributer	A. F. Poullain-Dumesnil	261,038	July 11	882	.....	22	153
Fertilizer for plants. Special	A. F. Crowell	263,322	Aug. 29	1908	.....	22	693
Fertilizers. Manufacture of	D. E. Paynter	269,704	Dec. 26	1632	.....	22	2211
Fertilizing compound	S. J. Baker	269,370	Dec. 19	1214	354	22	2124
Fetter. Fowl	O. Pagan	264,960	Sept. 26	1527	429 / 430	22	1068
Fiber, &c. Machine for breaking and scutching vegetable	J. H. Christiansen	266,771	Oct. 31	1876	.....	22	1488
Fiber. Manufacture of vegetable	P. A. Favier	266,124	Oct. 17	1102	311	22	1335
Fibers of plants. Machinery for preparing	G. Sanford	265,154	Sept. 26	1748	488	22	1108
Fibers. Machine for obtaining	G. Sanford	265,153	Sept. 26	1746	487 / 488	22	1108
Fibrone plants. Apparatus for reducing	A. Angell	260,518	July 4	219	61	22	37
Fibrous plants. Machine for cleaning the leaves of	A. Angell	264,055	Sept. 12	484	131	22	867
Fibrous plants. Machine for dressing and stripping the leaves of	E. P. Carter	265,578	Oct. 10	430	119	22	1215
Fifth-wheel	F. L. Ezell	262,386	Aug. 8	704	198	22	461
Fifth-wheel	W. A. Heath	266,819	Oct. 31	1927	558	22	1498
Fifth-wheel	J. Mecter	267,558	Nov. 14	766	219	22	1681
Fifth-wheel	H. D. Palmer	265,429	Oct. 3	235	70	22	1177
Fifth-wheel	F. M. Priestly	265,140	Sept. 26	1729	483	22	1105
Fifth-wheel	E. Squires	268,306	Nov. 28	1676	465	22	1861
Fifth-wheel	R. Weber	261,110	July 11	973	271 / 272	22	168
Fifth-wheel. Vehicle	A. E. Hermann	262,669	Aug. 15	1053	295	22	598
Figures in relief on various substances. Production of	M. W. Samuel	264,771	Sept. 19	1278	.....	22	1021
File and file-holder. Combined paper	J. H. Linney	264,175	Sept. 12	615	170	22	890
File. Bill	W. R. Clough	260,537	July 4	248	69	22	42
File. Bill	M. F. Potter	263,576	Aug. 29	2216	633	22	748
File. Bill and letter	E. S. Hoke	269,671	Dec. 26	1597	458	22	2204
File-blanks and apparatus therefor. Forming teeth upon	W. T. Nicholson	265,975	Oct. 17	919	260	22	1305
File-blanks. Machine for forming teeth upon	W. T. Nicholson	265,976	Oct. 17	921	260	22	1305
File-block holder	W. H. Insley	260,685	July 4	439	119	22	74
File-box	G. W. Tincher	265,467	Oct. 3	283	84	22	1186
File-box	M. L. Weiner	264,383	Sept. 12	847	237	22	932
File holder and binder. Newspaper	A. T. Dewey	267,975	Nov. 21	1263	355	22	1780
File holder. Paper	W. D. Doremus	262,890	Aug. 15	1332	376	22	577
File. Letter	M. Herzberg	267,890	Nov. 21	1104	326	22	1762
File. Letter and bill	F. D. Adams	269,613	Dec. 26	1527	439	22	2190
File. Metallic bill	J. C. Lang	262,793	Aug. 15	1211	340	22	555
File. Paper	H. H. Blake	267,056	Nov. 7	118	34	22	1561
File. Paper	C. C. Clark	263,685	Sept. 5	18	6	22	777
Filter	W. Maynard	264,314	Sept. 12	767	214	22	917
Filter	S. L. McBride	268,702	Dec. 5	359	105	22	1955
Filter	J. Sears and O. G. Burnham	262,702	Aug. 15	1092	309	22	535
Filter	J. N. Stevens	265,177	Sept. 26	1778	498	22	1114
Filter	W. F. Wheeler	264,011	Sept. 5	496	117	22	848
Filter	T. V. Curtis	264,443	Sept. 19	918	258	22	952
Filter and cooler. Combined water	A. F. Schwalb	263,231	Aug. 22	1738	493	22	663
Filter and cooler. Combined water	A. F. Schwalb	263,599	Aug. 29	2239	640	22	752
Filter and cooler. Water	L. Smith	268,304	Nov. 28	1673	464	22	1861
Filter. Eccentric-shaped	A. C. McLachlan and J. Connor	261,014	July 11	855	238	22	148
Filter. Faucet	A. C. Landry	265,104	Sept. 26	1689	472	22	1097
Filter-press	J. J. Luther	268,420	Dec. 5	60	19	22	1898
Filter. Reversible water	P. Abbott	268,971	Dec. 12	692	203	22	2025
Filter. Water	S. Adams	261,119	July 18	991	279	22	181
Filter. Water	J. W. Bailey	268,776	Dec. 12	456	133	22	1981
Filter. Water	L. B. Sanborn	265,283	Oct. 3	65	20	22	1147
Filter. Water	A. A. Willsey	261,574	July 25	1542	432	22	277
Filter. Water	J. W. See	267,024	Nov. 7	80	24	22	1554
Filtering and extracting machine	G. Koeppel	264,463	Sept. 19	942	265	22	956
Filtering apparatus	A. Fiske	264,870	Sept. 26	1412	398 / 399	22	1049
Filtering device. Water	A. H. Horsnell and W. Murphy	266,693	Oct. 31	1790	516	22	1472
Filtering-funnel	H. Bell	267,133	Nov. 7	222	64	22	1579
Filtering petroleum distillates for the separation of paraffine	H. Warden	266,929	Oct. 31	2062	593	22	1523
Finger-protector	S. A. Webb	268,578	Dec. 5	221	62	22	1928
Finger-ring	N. Mitchell	266,869	Oct. 31	1982	572	22	1508
Finger-rings. Device for carrying and exhibiting	R. D. Baker	261,651	July 25	1633	458	22	293
Fire-alarm	B. J. Antrim	268,597	Dec. 5	245	68	22	1933
Fire alarm and extinguisher. Electric	C. A. Evans	269,273	Dec. 19	1080	315	22	2099
Fire-alarm and fire-extinguisher. Combined	C. E. Buell	262,887	Aug. 15	1329	375	22	576
Fire-alarm. Automatic	M. Martin	266,706	Oct. 31	1805	524	22	1475
Fire-alarm signals. Recording instrument for	A. H. Dean and S. H. Whiting	268,870	Dec. 12	579	171	22	2004
Fire-annihilator	I. Kitsee	260,878	July 11	673	183	22	118
Fire-annihilator	I. Kitsee	260,879	July 11	674	184	22	119
Fire-annihilator	I. Kitsee	261,238	July 18	1128	315	22	202
Fire-arm. Breech-loading	P. A. Altmaier	261,648	July 25	1627	457	22	292
Fire-arm. Breech-loading	A. T. Brown	261,663	July 25	1646	462	22	295
Fire-arm. Breech-loading	H. R. Granger	266,133	Oct. 17	1111	314	22	1337
Fire-arm. Breech-loading	G. Haynes, Jr	262,039	Aug. 1	261	75	22	380

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Fire-arm. Breech-loading	E. James	267,350	Nov. 14	497	143	22	1634
Fire-arm. Breech-loading	D. M. Lefever and F. R. Smith	264,173	Sept. 12	613	169	22	890
Fire-arm. Breech-loading	J. MacNaughton	264,723	Sept. 19	1225	346	22	1011
Fire-arm. Breech-loading	W. Mason	263,191	Aug. 22	1695	480	22	654
Fire-arm. Breech-loading	W. Mason	264,727	Sept. 19	1230	348	22	1012
Fire-arm. Breech-loading	A. Picard	267,583	Nov. 14	799	228	22	1687
Fire-arm. Breech-loading	W. M. Scott and T. Baker	264,772	Sept. 19	1280	362	22	1021
Fire-arm. Breech-loading	H. A. Silver and W. Fletcher	263,976	Sept. 5	378	106, 107	22	840
Fire-arm. Breech-loading	E. T. Starr	269,546	Dec. 26	1436	414, 415	22	2172
Fire-arm. Breech-loading	A. E. Whitmore	262,521	Aug. 8	854	242	22	488
Fire-arm holder	J. C. Petmecky	267,714	Nov. 21	958	270	22	1724
Fire-arm lock	P. A. Altmaier	261,802	July 25	1809	510, 511	22	323
Fire-arm lock	G. W. Cilley	263,684	Sept. 5	17	5	22	777
Fire-arm lock	M. Kaufmann	261,555	July 25	1519	425	22	273
Fire-arm lock	W. Mason	260,586	July 4	299	82	22	51
Fire-arm lock	A. E. Whitmore	266,245	Oct. 17	1239	351	22	1359
Fire-arm lock. Breech-loading	W. B. Hall	264,827	Sept. 19	1344	380	22	1031
Fire-arm. Magazine	J. M. and M. S. Browning	261,667	July 25	1650	463	22	296
Fire-arm. Magazine	W. H. Elliot	262,023	Aug. 1	236	70	22	377
Fire-arm. Magazine	A. Malkoff, A. and V. Paskin	262,803	Aug. 15	1224	344	22	556
Fire-arm. Magazine	J. Schulhof	267,265	Nov. 7	380	111	22	1608
Fire-arm. Revolving	F. W. Hood. (Reissue)	10,257	Dec. 5	452	132	22	1973
Fire-arm. Revolving	F. W. Hood	264,489	Dec. 5	131	39	22	1911
Fire-arm. Revolving	M. Kaufmann	261,554	July 25	1516	425	22	272
Fire-arm. Revolving	W. Mason	263,551	Aug. 29	2184	623, 624	22	742
Fire-arm. Revolving	D. Moore	264,325	Sept. 12	778	219	22	919
Fire-arm sight	W. Cooper	267,497	Nov. 14	681	195	22	1666
Fire-arm sight	F. De Lorme	269,023	Dec. 12	760	224	22	2037
Fire-arm sight	F. W. Frennd	268,090	Nov. 28	1408	394	22	1812
Fire-arm sight	T. Gilbert	267,418	Nov. 14	588	169	22	1649
Fire-arm sight	G. W. Prior	264,899	Sept. 26	1441	408	22	1054
Fire-arm sight	H. Rowell	266,206	Oct. 17	1195	337	22	1351
Fire-back	N. B. Thweatt	269,551	Dec. 26	1444	416	22	2174
Fire-balloon	G. A. Lilliendahl	262,235	Aug. 8	524	147	22	430
Fire-box	C. K. Vilas	261,105	July 11	969	270	22	167
Fire-box	R. L. Walker	260,810	July 11	600	162, 163	22	106
Fire-damp annunciator	I. Kitsee	262,057	Aug. 1	280	81, 82	22	384
Fire-damp indicator	I. Kitsee	262,054	Aug. 1	275	80	22	383
Fire-damp indicator	I. Kitsee	262,055	Aug. 1	277	80, 81	22	384
Fire-damp indicator	I. Kitsee	262,056	Aug. 1	278	81	22	384
Fire-damp indicator	I. Kitsee	263,908	Dec. 12	619	182	22	2010
Fire-engine	B. J. C. Howe	262,195	Aug. 1	471	132	22	414
Fire-engine	B. J. C. Howe	262,196	Aug. 1	474	132, 133	22	414
Fire-engine	L. H. Zeigler	268,295	Nov. 28	1663	461	22	1859
Fire-escape	F. A. A'Neals	261,121	July 18	993	279	22	181
Fire-escape	S. T. Barr	261,075	July 11	925	257	22	159
Fire-escape	W. S. Beebe	263,100	Aug. 22	1588	448	22	633
Fire-escape	R. Bentley	268,608	Dec. 5	235	71	22	1935
Fire-escape	V. Bessier	269,377	Dec. 19	1221	335	22	2125
Fire-escape	J. Bloomer	263,468	Aug. 29	2085	597	22	724
Fire-escape	N. H. Borgfeldt	267,399	Nov. 14	565	161	22	1645
Fire-escape	L. Coller	261,584	July 25	1532	436	22	279
Fire-escape	L. Coller	269,180	Dec. 19	958	270	22	2078
Fire-escape	E. A. Costigan	264,065	Sept. 12	500	135	22	869
Fire-escape	G. J. Crikelair	261,137	July 18	1012	284	22	184
Fire-escape	J. P. Cnrry	264,404	Sept. 12	867	243	22	935
Fire-escape	W. T. Davis	264,254	Sept. 12	696	193	22	904
Fire-escape	O. F. Davis	269,268	Dec. 19	1075	314	22	2098
Fire-escape	J. P. Dunn	267,504	Nov. 14	687	197, 198	22	1667
Fire-escape	E. Emmert	263,775	Sept. 5	130	40	22	796
Fire-escape	K. Freeman	267,179	Nov. 7	274	80	22	1589
Fire-escape	J. Graff	261,847	Aug. 1	29	9	22	340
Fire-escape	J. C. Horton	264,834	Sept. 19	1352	382	22	1032
Fire-escape	D. Jenkins	263,181	Aug. 22	1681	476	22	651
Fire-escape	J. R. Judd	266,998	Nov. 7	50	16	22	1549
Fire-escape	H. Keenan	262,297	Aug. 8	595	168	22	442
Fire-escape	G. Kosmak	265,678	Oct. 10	561	154	22	1236
Fire-escape	H. A. Lee	261,092	July 11	833	232	22	145
Fire-escape	I. W. Lincoln	267,696	Nov. 21	939	265	22	1721
Fire-escape	E. J. Moore	266,183	Oct. 17	1171	331	22	1347
Fire-escape	A. Newhall	266,502	Oct. 24	1558	444	22	1424
Fire-escape	R. Pallett and F. Mahedy	267,578	Nov. 14	792	227	22	1686
Fire-escape	T. Penn	263,952	Sept. 5	350	98	22	835
Fire-escape	B. F. Pike	263,723	Sept. 5	67	20	22	786
Fire-escape	C. Roberts	269,715	Dec. 26	1640	473	22	2214
Fire-escape	J. Roberts and N. W. Palmer	267,019	Nov. 7	74	22	22	1553
Fire-escape	A. Röhmer	260,422	July 4	94	26	22	17
Fire-escape	C. A. Schnell	264,345	Sept. 12	709	225	22	923
Fire-escape	P. S. Scovel	262,837	Aug. 15	1262	355	22	564
Fire-escape	C. E. Seabury	265,877	Oct. 10	787	223	22	1276
Fire-escape	G. W. Smith	265,881	Oct. 10	791	224	22	1277
Fire-escape	C. F. Spencer	266,002	Oct. 17	1019	289	22	1322
Fire-escape	W. H. Souther	262,627	Aug. 15	999	280	22	518
Fire-escape	O. Sutphen	268,959	Dec. 12	660	199	22	2022
Fire-escape	A. Swanson	261,064	July 11	911	253	22	157
Fire-escape	J. H. Townsend and E. A. Dubey	260,627	July 4	351	94, 95	22	59
Fire-escape	J. Travers	266,596	Oct. 24	1664	479	22	1443

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Fire-escape	A. Van Wagner	267,286	Nov. 7	407	118, 119	22	1613
Fire-escape	J. B. Wickersham	266,570	Oct. 24	1632	465	22	1438
Fire-escape	C. P. Willson	260,722	July 4	480	130	22	81
Fire-escape	H. D. Wilson	262,337	Aug. 8	645	181	22	451
Fire-escape balcony	J. B. Wickersham	265,551	Oct. 3	399	110	22	1204
Fire-escape. Extension	P. Schuh	268,947	Dec. 12	663	194	22	2019
Fire-escape ladder	W. Bushnell	268,076	Nov. 28	1393	390	22	1809
Fire-escape ladder	T. Howe	265,263	Oct. 3	42	13	22	1143
Fire-escape ladder	F. G. Johnson	261,158	July 18	1031	290	22	187
Fire-escape ladder	T. Miller	263,560	Aug. 29	2197	627	22	744
Fire-escape ladder	T. Miller	265,531	Oct. 3	375	102	22	1199
Fire-escape ladder	P. H. Spelman	267,031	Nov. 7	90	27	22	1555
Fire-escape ladder	J. W. Bishop	260,639	July 4	362	99	22	61
Fire-extinguisher	R. Briggs	262,730	Aug. 15	1126	318	22	540
Fire-extinguisher	C. B. Chace	264,242	Sept. 12	684	189	22	902
Fire-extinguisher	F. Grinnell	269,200	Dec. 19	988	289	22	2083
Fire-extinguisher	A. S. Harris	263,903	Sept. 5	288	83	22	824
Fire-extinguisher	C. T. Holloway	263,043	Aug. 22	1524	429	22	621
Fire-extinguisher	I. Kitsee	260,993	July 11	821	228	22	143
Fire-extinguisher	I. Kitsee	265,675	Oct. 10	558	153	22	1235
Fire-extinguisher	I. Kitsee	265,676	Oct. 10	559	153	22	1235
Fire-extinguisher	D. Parham	266,876	Oct. 31	1990	574	22	1509
Fire extinguisher and alarm. Automatic	C. E. Buell	266,579	Oct. 24	1639	467	22	1439
Fire extinguisher and alarm. Automatic	C. Kupka	260,998	July 11	828	231	22	144
Fire-extinguisher and fire-escape. Combined	A. L. Murphy	262,972	Aug. 22	1435	405	22	606
Fire-extinguisher. Automatic	J. W. Bishop	260,640	July 4	365	99, 100	22	62
Fire-extinguisher. Automatic	F. Grinnell	266,989	Nov. 7	40	13	22	1547
Fire-extinguisher. Automatic	F. Grinnell	269,197	Dec. 19	985	288	22	2082
Fire-extinguisher. Automatic	F. Grinnell	269,198	Dec. 19	986	288	22	2082
Fire-extinguisher. Automatic	F. Grinnell	269,199	Dec. 19	987	288	22	2083
Fire-extinguisher. Automatic	F. Grinnell	269,201	Dec. 19	989	289	22	2083
Fire-extinguisher. Automatic	F. Grinnell	269,202	Dec. 19	990	289	22	2083
Fire-extinguisher. Automatic	F. Grinnell	269,203	Dec. 19	991	289	22	2083
Fire-extinguisher. Automatic	F. Grinnell	269,204	Dec. 19	992	290	22	2083
Fire-extinguisher. Automatic	O. C. Heath	261,709	July 25	1703	479	22	304
Fire-extinguisher. Automatic	O. C. Heath	266,142	Oct. 17	1121	317	22	1339
Fire-extinguisher. Automatic	C. L. Horack	262,776	Aug. 15	1189	334	22	551
Fire-extinguisher. Automatic	C. L. Horack	262,777	Aug. 15	1191	334	22	551
Fire-extinguisher. Automatic	J. and W. Kane	265,827	Oct. 10	735	206	22	1266
Fire-extinguisher. Automatic	H. S. Parmelee	269,227	Dec. 19	1019	298	22	2088
Fire-extinguisher. Chemical	D. Parham	266,877	Oct. 31	1992	575	22	1510
Fire-extinguisher for railway-cars	H. Purdy	266,311	Oct. 24	1339	377	22	1383
Fire-extinguishers. Spray-nozzle for	L. C. Desloovere	262,578	Aug. 15	938	265	22	508
Fire extinguishing and alarm apparatus	W. Neracher	261,475	July 18	1403	392, 393	22	247
Fire-extinguishing apparatus	J. W. Bishop	260,641	July 4	367	100	22	62
Fire-extinguishing apparatus	F. Grinnell	269,205	Dec. 19	993	290	22	2084
Fire-extinguishing device	M. Walker	263,060	Aug. 22	1565	442	22	629
Fire-extinguishing engine	M. Cronin	269,777	Dec. 26	1728	498, 499	22	2228
Fire-extinguishing sprinkler. Automatic	W. A. Wilson	268,970	Dec. 12	691	203	22	2025
Fire-guard for places of amusement	W. C. Shaffer and S. M. Plush	261,772	July 25	1774	501	22	317
Fire in railway-cars. Apparatus for extinguishing	M. Brockway and C. N. Watts	267,667	Nov. 21	907	257	22	1714
Fire in railway-trains. Extinguishing	A. M. Granger	263,401	Aug. 29	2009	574, 575	22	710
Fire-kindler	J. H. Davis	260,729	July 4	488	132	22	83
Fire-kindler	J. H. French	266,687	Oct. 31	1782	514	22	1471
Fire-kindler	J. H. French	268,215	Nov. 28	1564	434	22	1840
Fire-kindler and torch	J. Schroy	263,597	Aug. 29	2236	639	22	751
Fire-kindler mold	C. J. Ridenour	263,725	Sept. 5	69	21	22	786
Fire-place	J. S. Harding	267,885	Nov. 21	1161	325	22	1761
Fire-place	J. G. Smith	265,163	Sept. 26	1760	491	22	1111
Fire-place	C. A. Wellington and A. Chase	266,933	Oct. 31	2067	504, 505	22	1523
Fire-place ash-chute	A. H. Lord and B. L. Sawyer	267,794	Nov. 21	1052	294	22	1741
Fire-place attachment	J. P. Winter	264,990	Sept. 26	1565	439	22	1075
Fire-place frame	J. J. Lebeau and C. L. Shannon	265,834	Oct. 10	742	208	22	1267
Fire-place guard. Adjustable	E. Betts	265,740	Oct. 10	640	181	22	1249
Fire-pot. Blacksmith's	S. H. Savine	266,724	Oct. 31	1824	529	22	1479
Fire. Process of and apparatus for generating dioxide of carbon for extinguishing	J. F. Boynton	263,015	Aug. 22	1490	420	22	616
Fire-proof chest	J. H. Nolan	268,819	Dec. 12	510	151, 152	22	1990
Fire-proof material for ceilings, walls, safes, stoves, furnaces, bricks, &c.	J. A. Moffitt	267,755	Nov. 21	1001	.....	22	1732
Fires automatically. System for extinguishing	H. S. Parmelee and F. Grinnell	269,226	Dec. 19	1018	297, 298	22	2088
Fires on railway-trains. Extinguishing	A. M. Granger	262,288	Aug. 8	583	164	22	440
Fish. Apparatus for packing dried	J. H. Baxter	261,984	Aug. 1	194	57	22	368
Fish-cutter	J. B. Grady	266,134	Oct. 17	1113	314, 315	22	1337
Fish-hook	F. De Forest	264,256	Sept. 12	698	193	22	905
Fish. Method of and apparatus for hatching	M. McDonald	263,933	Sept. 5	324	92	22	830
Fish-plate and nut-lock. Combined	D. Faulkner	262,031	Aug. 1	254	73	22	379
Fish. Putting up dried	J. H. Baxter	265,735	Oct. 10	635	180	22	1248
Fish-sack	M. S. Small	268,558	Dec. 5	199	56	22	1924
Fish-safe	D. Schmidt	265,544	Oct. 3	391	108	22	1202
Fish-trap	J. Otter	262,464	Aug. 8	789	223	22	476
Fish-trap	R. A. Wentworth	263,638	Aug. 29	2282	652	22	759
Fishing-float	O. G. Wilson	261,505	July 18	1438	402	22	253
Fishing-reel	J. B. D. Boulton	260,932	July 11	734	200	22	129
Fishing-reel	G. H. Matthews and J. T. Ostell	264,092	Sept. 12	529	144	22	875

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Fishing-rod ferrule	T. H. Chubb	264,243	Sept. 12	680	189	22	902
Fishing-rod tie-guide	T. H. Chubb	263,484	Aug. 29	2102	602	22	727
Fishing-wheel	S. Wilson	264,395	Sept. 12	859	241	22	934
Flame-guard	J. De Susini-Ruiseco	268,639	Dec. 5	291	85	22	1942
Flavoring-extract for sirup and sugar	J. Daily	261,315	July 18	1223	.....	22	217
Flesh-rubbing apparatus	G. F. Waters	269,247	Dec. 19	1052	307	22	2094
Float-valve	D. Young	267,736	Nov. 21	983	277	22	1729
Floating battery	A. Krupp	265,680	Oct. 10	564	155, 156	22	1236
Flood-gate	H. Handschy	264,283	Sept. 12	734	204	22	911
Flood-gate	H. Voelmi	266,403	Oct. 24	1459	414	22	1406
Flour and middlings. Machine for reducing grain to	C. S. Rider	268,729	Dec. 5	389	114	22	1961
Flour-bolt	T. H. Neander	265,428	Oct. 3	233	69	22	1177
Flour-bolt. Centrifugal	A. P. Holcomb and A. Heine	267,529	Nov. 14	730	210	22	1674
Flour-bolt conveyer	J. M. Finch	263,036	Aug. 22	1518	427	22	620
Flour bolt or dresser	L. B. Fiechter	264,680	Sept. 19	1172	332	22	1062
Flour-bolting machine	A. R. Smith	264,353	Sept. 12	809	227	22	925
Flour-dressing machine	F. W. Andrée	266,264	Oct. 24	1274	361, 362	22	1371
Flour-dressing machine	W. D. Gray	260,477	July 4	161	45	22	28
Flour-dressing reel. Centrifugal	W. B. Dell	266,781	Oct. 31	1884	547	22	1490
Flour feeder and mixer	J. H. Langlois	266,700	Oct. 31	1798	519	22	1474
Flour. Manufacture of	F. Prinz	267,016	Nov. 7	71	21	22	1552
Flour, middlings, &c. Apparatus for dressing	T. F. Hind and R. Lund	264,159	Sept. 12	598	165	22	887
Flour-mills, &c. Dust-collector for	W. H. Fruen	267,182	Nov. 7	277	81	22	1589
Flour-mills, &c. Dust-collector for	W. H. Fruen, S. Potts, and C. J. Elliott.	267,071	Nov. 7	136	39	22	1564
Flour-mills. Dust-collector for	J. G. E. Reichard	265,868	Oct. 10	779	220	22	1275
Flour-mills. Dust-collector for	J. R. Smith	267,467	Nov. 14	649	186	22	1661
Flour-mills, &c. Glass-tube joint for spouts of	H. Gehnrich	261,088	July 11	950	265	22	164
Flour-packer	J. B. Martin	268,253	Nov. 28	1613	448	22	1850
Flour. Prepared	P. Thorpe	269,743	Dec. 26	1689	.....	22	2221
Flower. Artificial	J. Lambert	264,308	Sept. 12	761	212	22	915
Flower holder and stand	J. Perkins	265,700	Oct. 10	591	164	22	1241
Flower-pot	G. A. Wagner	262,335	Aug. 8	644	181	22	451
Flower pot or vase. Self-irrigating	E. Wilder	267,296	Nov. 7	417	122	22	1615
Flower-stand	A. T. Lundqvist	260,696	July 4	451	122	22	76
Flue. Chimney	C. Buek	268,770	Dec. 5	438	128	22	1970
Flue-cleaner	W. Hamilton	263,173	Aug. 22	1672	473	22	649
Flue-cleaner	P. Opper and H. Chall	263,349	Aug. 29	1939	555	22	698
Flue. Radiating	F. B. Nichols	267,362	Nov. 14	515	147	22	1637
Flues, chimneys, &c. Pipe-support for	N. U. Walker	263,002	Aug. 22	1471	414	22	612
Fluid-pressure motor	E. M. Butz	267,489	Nov. 14	673	193	22	1665
Fluid-pressure motor	E. M. Butz	267,490	Nov. 14	674	194	22	1665
Flushing-valve	J. Demarest	260,952	July 11	759	207	22	133
Flute	T. Berteling	264,611	Sept. 19	1097	312	22	986
Flying-machine	C. F. Myers	262,687	Aug. 15	1073	302	22	532
Fodder-cutter	E. Wagoner	264,800	Sept. 19	1312	370	22	1036
Fodder-press	J. Lynes	268,033	Nov. 28	1341	376	22	1800
Fog-alarm and beacon	J. M. Foster	260,962	July 11	780	214, 215	22	136
Fog-horn	R. Chester	266,270	Oct. 24	1281	363	22	1372
Fog-horn	O. C. Hansen	261,343	July 18	1252	347	22	222
Fog-signal	W. R. Close	261,135	July 18	1009	283	22	184
Foil-annealing apparatus. Gold	J. W. Smith	263,607	Aug. 29	2249	642	22	754
Foil. Manufacture of ornamental metallic	M. M. Schwartz	269,721	Dec. 26	1655	.....	22	2216
Foil wrapper. Rolled	H. S. Crooke. (Reissue)	10,202	Sept. 19	1372	.....	22	1036
Foil-wrappers. Art of and machinery for the manufacturing of ornamental metallic	H. S. Crooke	263,320	Aug. 29	1905	546	22	693
Foil-wrappers. Ornamental metallic	H. S. Crooke	263,321	Aug. 29	1907	.....	22	693
Folding and reclining chair	W. G. Sands	268,941	Dec. 12	657	192	22	2018
Folding and wrapping machine	L. C. Crowell	269,185	Dec. 19	966	281, 282, 283	22	2079
Folding apparatus	E. Anthony and J. E. Harvey	263,749	Sept. 5	103	32	22	792
Folding bench, table, and settee	R. B. W. Pinckney	267,998	Nov. 21	1204	338	22	1770
Folding box	H. Ludlow	267,698	Nov. 21	941	266	22	1721
Folding box	B. Rückert	268,542	Dec. 5	186	53	22	1921
Folding crate	W. B. Van Hutton	264,377	Sept. 12	838	235	22	930
Folding joint	J. S. Burton	266,766	Oct. 31	1872	544	22	1487
Folding seat	E. F. Underhill and V. F. Lake	267,382	Nov. 14	547	156	22	1641
Folding seat for theaters	E. F. Underhill and V. F. Lake	266,226	Oct. 17	1217	343	22	1355
Folding seat for theaters and public halls	E. F. Underhill and V. F. Lake	268,154	Nov. 28	1487	414, 415	22	1827
Folding table	F. F. Atkinson	266,669	Oct. 31	1753	505	22	1465
Folding table	C. D. Blakeslee	265,010	Sept. 26	1585	445	22	1079
Folding table	E. F. Blythe	268,990	Dec. 12	718	210	22	2029
Folding table	W. H. Carr	262,206	Aug. 8	492	138	22	424
Food. Desiccated and powdered	W. Ewaldt	261,214	July 18	1104	.....	22	198
Food products from distillery-swill. Apparatus for recovering	W. H. Smith	260,427	July 4	100	28, 29	22	18
Foot-coverings. Manufacturing	S. G. Alexander	268,848	Dec. 12	553	162	22	1999
Foot-mat	E. S. Ellis	263,774	Sept. 5	129	40	22	796
Foot-power	A. W. Bush	269,635	Dec. 26	1554	447	22	2195
Foot-power mechanism	A. F. Fisher	269,401	Dec. 19	1251	364	22	2131
Foot-rest	P. G. Fenny	269,780	Dec. 26	1731	500	22	2229
Force-feed lubricator	R. G. McAuley	262,682	Aug. 15	1066	300	22	531
Forceps. Sheathed bladder	J. W. Merrill, Jr	268,039	Nov. 28	1352	378	22	1802
Forging fifth-wheels. Die for	M. Seward	268,553	Dec. 5	195	55	22	1923
Fork: *See* Culinary fork. Manure-fork. Hay-fork. Weighing-fork.							
Fork and rake	T. J. Blake	269,624	Dec. 26	1541	442	22	2193
Fork for domestic and other uses	R. W. Turner	268,153	Nov. 28	1486	414	22	1827

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Forks. Machine for making pitch	P. E. Bird	262,562	Aug. 15	913	258, 259	22	505
Form. Dress	T. R. Fischer	260,556	July 4	266	74	22	45
Form. Dress	J. D. Richardson and F. L. Manchester.	266,892	Oct. 31	2012	579	22	1513
Fountain: *See* Mineral-water fountain. Water-fountain.							
Fountain	A. Hoak	267,689	Nov. 21	930	263	22	1719
Fractions. Device for illustrating	A. A. Bynon	267,402	Nov. 14	572	164	22	1645
Frame: *See* Arithmetical frame. Mirror-frame. Caster-frame. Net-frame. Clothes-frame. Picture-frame. Desk-frame. Pocket-book frame. Drill-frame. Quilting-frame. Fire-place frame. Slate-frame. Grinding-mill frame. Table-frame. Hammock-frame. Trunk-frame. Hand-bag frame. Tunnel-frame. Harrow-frame. Window-screen frame. Loom bobbin-frame. Work-supporting frame.							
Frame and plaque. Combined	A. Currier	268,870	Dec. 12	573	169	22	2002
Friction-movement	J. A. Horton	260,394	July 4	63	18	22	12
Frog	W. J. Morden	267,564	Nov. 14	772	221	22	1682
Frog	J. Reed	269,711	Dec. 26	1641	471	22	2213
Fruit-basket	E. W. Humphreys	267,207	Nov. 7	308	90	22	1595
Fruit-can	W. F. C. Quehl	264,102	Sept. 12	539	147	22	876
Fruit-crate	R. L., S., and A. E. Humphrey	263,909	Sept. 5	293	85	22	825
Fruit-crate and packing-box. Knockdown folding	C. E. Bartram	260,357	July 4	9	3	22	4
Fruit-drier	F. S. Belcher and F. A. Hooker	263,101	Aug. 22	1589	449	22	633
Fruit-drier	R. E. Burns	268,619	Dec. 5	268	76	22	1938
Fruit-drier	A. R. Gayhart	261,220	July 18	1110	309	22	199
Fruit-drier	J. C. Gunn	268,399	Dec. 5	32	10	22	1892
Fruit-drier	C. Hopkins	261,715	July 25	1709	480, 481	22	305
Fruit-drier	J. J. Johnston	265,096	Sept. 26	1680	469	22	1095
Fruit-drier	J. H. Street	264,365	Sept. 12	822	231	22	927
Fruit-drier	A. W. Walker	267,288	Nov. 7	411	119	22	1613
Fruit-drier tray	G. R. Cheesman	261,307	July 18	1214	338	22	216
Fruit-drying apparatus	S. Culver	265,394	Oct. 3	195	59	22	1171
Fruit-evaporator	F. A. Hooker and F. S. Belcher	262,045	Aug. 1	267	77	22	381
Fruit-evaporator	J. M. Teasdale	260,910	July 11	709	193	22	125
Fruit-evaporators. Drying-chamber for	W. S. Plummer	261,036	July 11	890	244	22	152
Fruit-gatherer	T. W. Hentz	261,153	July 18	1027	289	22	186
Fruit-gatherer	H. L. F. Overbey	263,949	Sept. 5	346	97	22	834
Fruit-gatherer	J. Tear	263,993	Sept. 5	404	112	22	844
Fruit-jar	E. Livermore	269,074	Dec. 12	926	245	22	2048
Fruit-jar	F. H. Perry	262,244	Aug. 8	535	150	22	431
Fruit-jar filling attachment	W. M. Doty	263,772	Sept. 5	128	39	22	796
Fruit-packages. Protecting-supporter for	E. S. Scofield	262,132	Aug. 1	388	109	22	400
Fruit-picker	L. Simkins	268,950	Dec. 12	670	196	22	2020
Fruit-press. Hand-lever	A. J. Hunt	260,571	July 4	283	78	22	48
Fruit-washer	C. E. Marshall	265,120	Sept. 26	1706	477	22	1101
Fuel	J. M. Cooper	269,640	Dec. 26	1559	.....	22	2196
Fuel. Artificial	G. F. Brott	266,088	Oct. 17	1054	.....	22	1328
Fuel. Artificial	C. H. Coggeshall	266,971	Nov. 7	15	.....	22	1543
Fuel. Burning pulverulent	E. Tourangin	265,347	Oct. 3	145	43	22	1161
Fuel. Feeding light	H. Mason	261,864	Aug. 1	46	13	22	343
Fuel for burning lime, &c. Process of and means for manufacturing a heating	W. F. Browne	263,310	Aug. 29	1862	529, 530, 531	22	689
Fuel in cities. Process of and apparatus for distributing liquid	C. M. T. Du Motay and E. Stern	268,878	Dec. 12	584	172	22	2004
Fulcrum. Adjustable	D. A. Cameron	260,839	July 11	631	171	22	112
Fulminate	A. Woeber	269,769	Dec. 26	1718	.....	22	2226
Fumigating and preserving food. Apparatus for	F. Macholdt	260,489	July 4	185	52	22	32
Fumigating-machine	J. McDermott	263,557	Aug. 29	2191	625, 626	22	744
Funnel	H. G. Fishering	267,861	Nov. 21	1131	318	22	1756
Funnel-holder. Adjustable	J. R. and J. S. Johnson	268,239	Nov. 28	1504	442	22	1847
Funnel-trap for sinks	J. G. Schill	267,264	Nov. 7	379	110	22	1608
Fur and other goods. Ornamenting	A. Mayer. (Reissue.)	10,245	Nov. 21	1285	361	22	1784
Fur and other goods. Ornamenting	A. Mayer	260,589	July 4	302	82	22	52
Fur hats. Making	W. E. Doubleday	264,823	Sept. 19	1340	379	22	1031
Fur, &c. Machine for working, felting, napping, and sizing	I. Gill	260,475	July 4	158	45	22	27
Furnace: *See* Annealing-furnace. Metallurgic furnace. Blast cupola-furnace. Ore-deoxidizing furnace. Boiler-furnace. Portable furnace. Boiler or other furnace. Privy-furnace. Reverberatory furnace. Crucible-furnace. Skelp-heating furnace. Gas-retort furnace. Smelting-furnace. Glass-furnace. Smoke and gas consuming furnace. Glass-melting furnace. Smoke-consuming furnace. Heating-furnace. Smoke-preventing furnace. Hot-air furnace. Timman's furnace. Hydrocarbon-furnace. Locomotive-furnace.							
Furnace	G. B. Field	267,068	Nov. 7	132	38	22	1564

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Furnace	J. Flannery	263,500	Aug. 29	2119	607	22	730
Furnace	J. G. McAuley	268,035	Nov. 28	1343	376	22	1800
Furnace	E. Reynolds	263,582	Aug. 29	2221	635	22	749
Furnace	C. Russmann	269,720	Dec. 26	1654	475	22	2215
Furnace	H. Higgins	268,889	Dec. 12	598	176	22	2006
Furnace-door	A. Howatson	262,595	Aug. 15	962	271	22	511
Furnace for burning cane-thrash, peat, or similar fuel	M. Gros-Desormeaux	264,080	Sept. 12	513	139, 140	22	872
Furnace for heating metal bars	S. F. Reynolds	262,477	Aug. 8	803	227	22	479
Furnace for melting glass, &c.	M. V. Smith	267,116	Nov. 7	901	58, 59	22	1576
Furnace for the manufacture of iron and steel	C. Adams	268,446	Dec. 5	89	27	22	1903
Furnace-grate	G. Campbell	261,830	Aug. 1	11	4	22	337
Furnace-grate	J. R. Fish	266,801	Oct. 31	1907	553	22	1494
Furnace-grate	W. E. Haxtinn	262,589	Aug. 15	954	268	22	510
Furnace-grate	J. H. McIlvain	263,712	Sept. 5	48	14	22	783
Furnace-grate	F. Shriver	265,158	Sept. 26	1752	489	22	1109
Furnace-grate	W. Bowers	261,992	Aug. 1	204	60	22	370
Furnace grate. Boiler	W. Bowers	263,470	Aug. 29	2088	598	22	725
Furnace grate. Boiler	M. Downer and J. Mohr	265,039	Sept. 26	1618	455	22	1085
Furnace grate. Boiler	J. Henderson	265,962	Oct. 17	901	.....	22	1302
Furnace-lining	J. Henderson	265,069	Sept. 26	1652	.....	22	1091
Furnace-lining and fire-brick compound	J. Henderson	265,070	Sept. 26	1652	.....	22	1091
Furnace-lining and fire-brick compound	J. Henderson	265,071	Sept. 26	1653	.....	22	1091
Furnace-lining and fire-brick compound	J. Henderson	265,072	Sept. 26	1654	.....	22	1091
Furnace-lining and fire-brick compound	J. Henderson	265,073	Sept. 26	1655	.....	22	1091
Furnace-lining and fire-brick compound	J. Henderson	265,074	Sept. 26	1656	.....	22	1091
Furnace-lining and fire-brick compound	J. Henderson	265,075	Sept. 26	1657	.....	22	1092
Furnace-lining compound	J. Henderson	265,068	Sept. 26	1651	.....	22	1091
Furnace-linings and fire-brick. Compound for	J. Henderson	266,143	Oct. 17	1122	.....	22	1339
Furnace-linings and fire-brick. Compound for	J. Henderson	266,146	Oct. 17	1125	.....	22	1339
Furnace-linings and fire-brick. Manufacture of compounds for	J. Henderson	266,144	Oct. 17	1123	.....	22	1339
Furnace-linings and fire-brick. Manufacture of compounds for	J. Henderson	266,145	Oct. 17	1124	.....	22	1339
Furnace-linings and fire-brick. Manufacture of refractory	J. Henderson	265,076	Sept. 26	1658	.....	22	1092
Furnace-linings and fire-brick. Manufacture of refractory	J. Henderson	265,077	Sept. 26	1658	.....	22	1092
Furnace-linings. Manufacture of refractory	J. Henderson	265,066	Sept. 26	1649	.....	22	1091
Furnace-raking attachment	A. H. Lee	268,913	Dec. 12	627	184	22	2011
Furnace-regulator. Automatic	W. E. Puffer	265,633	Oct. 10	503	137	22	1227
Furnaces and converters, &c. Compound for use in the manufacture of linings, plugs, and tuyeres for	W. J. Clapp and T. Griffiths	261,430	July 18	1353	.....	22	239
Furnaces. Apparatus for feeding shavings to steam-boiler and other	L. P. Conklin	266,973	Nov. 7	18	5	22	1543
Furnaces. Apparatus for supplying gaseous fuel to metallurgical	W. F. Browne	263,309	Aug. 29	1858	528, 529	22	689
Furnaces. Feeding air to	C. McWilliam and E. Loiseau	268,423	Dec. 5	63	19	22	1899
Furnaces. Feeding device for blast and other	W. H. Allen	267,819	Nov. 21	1083	303	22	1747
Furnaces. Mechanism for ejecting tubes from	E. W. Wolfe and G. Schuhmann	267,635	Nov. 14	857	245	22	1698
Furnaces. Mechanism for facilitating the introduction of tubes into	E. W. Wolfe	267,633	Nov. 14	855	244	22	1697
Furnaces. Signaling and registering attachment for reversing	O. Bolton	264,510	Sept. 19	991	279	22	966
Furnaces, &c. Lining	J. Henderson	265,067	Sept. 26	1650	.....	22	1091
Furniture	G. F. Richardson	264,758	Sept. 19	1264	358	22	1018
Furniture. Attachment for folding and movable	J. W. Stanton	268,307	Nov. 28	1677	465	22	1862
Furniture. Attachment for folding and movable	J. W. Stanton and J. Shibley	261,059	July 11	906	252	22	156
Furniture. Convertible	E. E. Sell	269,723	Dec. 26	1656	475, 476	22	2216
Furniture-escutcheon	O. P. Briggs	263,017	Aug. 22	1493	420	22	616
Furniture-joints. Machine for forming	T. W. Smith and C. Birely	269,602	Dec. 26	1513	435	22	2188
Furniture-leg. Adjustable	F. Wood	269,365	Dec. 19	1208	352	22	2123
Furniture-pad	G. H. Lewis	268,697	Dec. 5	355	104	22	1955
Furrow-opener	G. W. Nutter	262,461	Aug. 8	787	222	22	476
Gag-runner	M. E. Zeller	266,575	Oct. 24	1636	466	22	1438
Gage: *See* Axle-gage, Bevel-gage, Candle-mold gage, Cutter-head gage, Gas-burner gage, Grain-drill gage, Leather-cutting gage, Marking-gage, Micrometer-gage, Pressure-gage, Railway-track gage, Ring-gage, Saw-gage, Saw-mill roller-gage, Saw-table gage, Shade-roller gage, Surface-gage, Water-gage.							
Gage	M. Merz	266,042	Oct. 17	996	282	22	1318
Gage-tube	L. M. Fleet	265,312	Oct. 3	105	31	22	1153
Galley-bracket	R. A. Marvin	261,368	July 18	1283	357	22	227
Galvanic batteries. Containing-vessel for	C. A. Faure	266,798	Oct. 31	1904	552	22	1494
Galvanic battery	A. Bernstein	267,319	Nov. 14	458	132	22	1628
Galvanic battery	C. E. Buell	263,651	Aug. 29	2299	657	22	762
Galvanic battery	E. M. Cointepas	269,179	Dec. 19	957	279	22	2078
Galvanic battery	C. Friedel	260,859	July 11	652	177	22	115
Galvanic battery	F. E. Kinsman	264,304	Sept. 12	757	211	22	915
Galvanic battery	L. D. McIntosh	264,096	Sept. 12	543	145	22	895
Galvanic battery	G. W. O'Harra	267,577	Nov. 14	792	226	22	1686
Galvanic battery	C. D. Parkhurst	269,454	Dec. 19	1314	381	22	2144
Galvanic battery. Portable	C. Gibbs	266,129	Oct. 17	1108	313	22	1336
Galvanizing appliance	H. Cull	269,022	Dec. 12	759	224	22	2036
Game	G. W. Hoar	268,895	Dec. 12	603	178	22	2007
Game	H. Linton	262,066	Aug. 1	293	85	22	386
Game	G. O. Warren	268,577	Dec. 5	920	62	22	1928
Game apparatus	B. B. Townsend	268,057	Nov. 28	1371	384	22	1805

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Game apparatus. Railway	D. L. Wilcox	260,815	July 11	607	164	22	107
Garbage-burner. Domestic	A. N. Bell	264,920	Sept. 26	1478	415	22	1060
Garbage-receptacle	D. D. Toal	268,750	Dec. 5	412	121	22	1965
Garden-rake	J. J. Johnston	265,890	Oct. 10	729	204	22	1264
Garden-rake. Cast-steel	C. T. Beebe. (Reissue)	10,243	Nov. 21	1283	360	22	1784
Garden-tool	J. J. Swain	265,460	Oct. 3	272	81	22	1184
Garment-clasp	W. W. Anderson	266,948	Oct. 31	2083	600	22	1527
Garment. Combination	J. W. Congdon	265,759	Oct. 10	659	187	22	1252
Garment rack or support	R. W. Randall	269,538	Dec. 26	1428	412	22	2171
Garments. Re-enforcing	L. Price	261,102	July 11	966	269	22	167
Gas and electric-light fixture. Combined	S. Bergmann	262,271	Aug. 8	567	158	22	437
Gas and lamp burner	E. B. Requa	263,581	Aug. 29	2220	635	22	749
Gas and oil burner. Combined	J. H. Kidder	266,631	Oct. 31	1708	493	22	1457
Gas and water fittings. Manufacture of	S. Duffield	261,320	July 18	1228	341	22	218
Gas apparatus	R. H. Smith	260,712	July 4	469	127, 128	22	80
Gas. Apparatus for generating	N. M. Langdon	263,921	Sept. 5	306	86	22	627
Gas. Apparatus for generating and distributing high-pressure	W. F. Browne	263,315	Aug. 29	1888	540, 541	22	691
Gas. Apparatus for manufacturing wood	G. Ramadell	267,933	Nov. 21	1209	339	22	1771
Gas. Apparatus for regulating the supply of	J. McLennan and R. Owen	269,067	Dec. 12	841	249	22	2050
Gas apparatus. Hydrocarbon	T. J. Brough	262,363	Aug. 8	677	188, 189	22	456
Gas apparatus. Hydrocarbon	E. Mertz	262,455	Aug. 8	780	220	22	475
Gas. Apparatus for the manufacture of illuminating	A. Wittamer	261,507	July 18	1440	402	22	254
Gas, &c. Attachment to burners for	I. W. Shaler	267,486	Nov. 14	648	186	22	1660
Gas bracket and cock	C. H. Goodrich	260,972	July 11	792	217	22	138
Gas-burner	S. Cook and J. H. Piper	266,676	Oct. 31	1762	508	22	1467
Gas-burner	E. B. Denny	260,746	July 11	513	140	22	93
Gas-burner	J. G. Miller	266,634	Oct. 31	1711	494	22	1458
Gas-burner	J. G. Miller	269,307	Dec. 19	1121	328	22	2107
Gas-burner	J. W. Plunkett	265,433	Oct. 3	238	71	22	1178
Gas-burner	E. B. Requa	266,888	Oct. 31	2001	577	22	1512
Gas-burner	E. B. Requa	266,889	Oct. 31	2003	578	22	1512
Gas-burner	E. B. Requa	266,890	Oct. 31	2005	578	22	1512
Gas burner for blast-furnaces, &c. Hydrocarbon	J. Hoskins	267,431	Nov. 14	606	173	22	1652
Gas-burner for heating purposes	J. Musgrave	260,888	July 11	687	187	22	121
Gas-burner gage	D. M. Small	266,540	Oct. 24	1603	456	22	1432
Gas-burner gage	D. M. Small	266,541	Oct. 24	1604	457	22	1432
Gas-burner gage	D. M. Small	266,542	Oct. 24	1605	457	22	1432
Gas burner. Kerosene	J. H. Bean	263,672	Sept. 5	4	2	22	775
Gas-burners. Automatic cut-off for	G. W. Metcalfe	264,320	Sept. 12	773	217	22	918
Gas-burners. Shield for protecting taper-flame of	W. D. Schooley	266,210	Oct. 17	1199	338	22	1352
Gas-burning apparatus	G. H. Burrowes	267,971	Nov. 21	1260	354	22	1760
Gas-burning device	F. W. Gordon	264,453	Sept. 19	932	261	22	955
Gas by electricity. Apparatus for lighting	C. L. Clarke and J. Leigh	261,677	July 25	1661	466	22	297
Gas by electricity. Apparatus for lighting	J. P. Tirrell	262,260	Aug. 8	550	155	22	434
Gas-compressing pump	W. W. Doolittle	265,585	Oct. 10	440	121	22	1216
Gas consumption and manufacturing to a standard. Registering	H. H. Edgerton	265,222	Sept. 26	1842	517	22	1125
Gas cut-off	J. Farthing	265,587	Oct. 10	442	121	22	1217
Gas-engine	C. G. Beechey	264,126	Sept. 12	564	154, 155	22	881
Gas-engine	A. P. Massey	260,587	July 4	300	82	22	51
Gas-engine	P. Munzinger	266,304	Oct. 24	1396	374, 375	22	1381
Gas-engine	L. C. Parker	269,813	Dec. 26	1777	512	22	2237
Gas-engine	C. M. Sombart	260,620	July 4	341	92	22	58
Gas-engine	K. Teichmann	269,163	Dec. 12	935	272	22	2067
Gas-engine	H. Wiedling	269,146	Dec. 12	911	266	22	2062
Gas-engines. Electrical igniting device for	A. K. Rider	267,458	Nov. 14	637	184	22	1658
Gas-engines in torpedo-boats. Operating	E. W. Kellogg	265,423	Oct. 3	227	68	22	1176
Gas-exhausters. Governor for	R. P. Green	269,282	Dec. 19	1092	319	22	2101
Gas-fire burner	B. Verity	263,255	Aug. 22	1765	502	22	668
Gas-fixture. Extension	J. F. Brown	268,999	Dec. 12	726	213	22	2031
Gas from one main. Process of and apparatus for supplying and measuring a heating and an illuminating	T. G. Springer	264,359	Sept. 12	814	229	22	926
Gas-furnaces used in manufacturing iron and steel. Regulating	J. Henderson	267,525	Nov. 14	724	208, 209	22	1673
Gas-generating machine	M. R. Spelman	262,704	Aug. 15	1094	309	22	536
Gas-generating process and apparatus	W. F. Browne	268,863	Dec. 12	567	166, 167	22	2001
Gas-generator	J. E. Leadley and J. Hanlon	269,798	Dec. 26	1760	507	22	2234
Gas generator. Hydrocarbon	J. Flannery	263,499	Aug. 29	2118	606	22	730
Gas generator. Hydrocarbon	J. M. Goldsmith	261,546	July 25	1504	422, 423	22	270
Gas-lighter. Electric	T. H. Rhodes	261,043	July 11	890	246	22	154
Gas-lighting apparatus. Automatic electric	J. P. Tirrell	260,806	July 11	594	160	22	105
Gas-lighting apparatus. Electric	O. S. Armstrong	263,457	Aug. 29	2075	594	22	722
Gas-lighting apparatus. Electric	J. P. Tirrell	260,804	July 11	592	160	22	105
Gas-lighting apparatus. Electric	J. P. Tirrell	260,805	July 11	593	160	22	105
Gas-machine	C. Matthews and W. Holt	261,011	July 11	849	236, 237	22	148
Gas. Manufacturing	T. B. Fogarty	261,698	July 25	1684	472, 473	22	301
Gas. Manufacturing	T. B. Fogarty	265,793	Oct. 10	699	196, 197	22	1260
Gas-meter	P. E. Perez	268,929	Dec. 12	644	189	22	2015
Gas-meter. Wet	W. Mackintosh	268,251	Nov. 28	1611	448	22	1850
Gas-motor engine	W. H. Wigmore	260,513	July 4	213	59, 60	22	36
Gas motor. Liquid carbonic acid	A. Gateau	265,493	Oct. 3	316	93, 94	22	1192
Gas. Process of and apparatus for generating high-pressure	W. F. Browne	263,307	Aug. 29	1845	525, 526	22	688
Gas. Process of and apparatus for making coal	A. Stamm	266,326	Oct. 24	1362	384	22	1388

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Gas. Process of and apparatus for manufacturing	J. Dixon	260,954	July 11	761	208, 209	22	133
Gas. Process of and apparatus for manufacturing	H. M. and J. S. Pierson	269,162	Dec. 12	931	270, 271	22	2066
Gas. Process of and apparatus for manufacturing	T. B. Fogarty	265,792	Oct. 10	693	196	22	1260
Gas. Process of and apparatus for manufacturing heating, illuminating, and motive-power	W. F. Browne	263,308	Aug. 29	1850	527, 528	22	688
Gas. Process of and apparatus for manufacturing hydrogen	W. H. Bradley	265,915	Oct. 10	826	235, 236	22	1283
Gas. Process of and apparatus for the manufacture of	T. G. Springer	263,611	Aug. 29	2252	643	22	754
Gas. Process of and apparatus for the manufacture of	T. G. Springer	263,612	Aug. 29	2254	644	22	754
Gas. Process of and apparatus for the manufacture of	T. G. Springer	263,984	Sept. 5	389	109	22	841
Gas. Process of and apparatus for the manufacture of	T. G. Springer	263,985	Sept. 5	392	110	22	842
Gas-refining and steam-power apparatus	B. W. Dunklee	264,640	Sept. 19	1129	319	22	992
Gas-regulator	G. S. Lacey	268,368	Nov. 28	1761	488	22	1876
Gas regulator. Compressed	J. Schülke	269,599	Dec. 26	1509	434	22	2187
Gas-regulator for vulcanizers, &c	J. A. Straight	261,640	July 25	1619	455	22	291
Gas-retort furnace	H. C. Hann	268,096	Nov. 28	1413	395	22	1813
Gas scrubber or washer. Rotary	C. W. Isbell	261,551	July 25	1512	424	22	272
Gas-test and pressure-gage	D. M. Small	266,543	Oct. 24	1606	457	22	1433
Gas. Utilization of by-products in the manufacture of coal-	R. W. Wallace and C. F. Claus	264,801	Sept. 19	1313	.....	22	1026
Gases and fluids. Exhauster for	J. Garcia	269,403	Dec. 19	1253	364	22	2131
Gaseous vapors. Generating	W. F. Browne	263,313	Aug. 29	1874	534, 535, 536	22	690
Gasket for steam-joints. Metallic	J. Tennant and J. Hattersley	260,506	July 4	206	58	22	35
Gate: *See* Car-platform gate. Drive-gate. Electro-pneumatic gate. Elevator-gate. End-gate. Farm-gate. Fence-gate. Flood-gate. Iron and wood gate. Metallic gate. Railway-gate. Swinging gate. Swinging and lifting gate. Swinging and sliding gate. Tilting gate. Water-gate. Water-wheel gate. Wire gate.							
Gate	J. E. Blackburn	260,643	July 4	370	100, 101	22	62
Gate	J. F. Cadwell	265,572	Oct. 10	423	117	22	1214
Gate	E. M. Cass	266,094	Oct. 17	1060	300	22	1329
Gate	J. M. Decker	264,635	Sept. 19	1124	318	22	991
Gate	M. Duraell	269,396	Dec. 19	1246	362	22	2130
Gate	J. A. Emery	268,649	Dec. 5	303	88	22	1944
Gate	J. Kirkpatrick	260,579	July 4	291	80	22	50
Gate	C. B. Knight	261,858	Aug. 1	39	12	22	342
Gate	J. E. Little	264,718	Sept. 19	1220	345	22	1010
Gate	J. W. Morrison	262,087	Aug. 1	320	92	22	391
Gate	W. W. Newcomb	265,274	Oct. 3	58	18	22	1145
Gate	J. S. Peck	263,719	Sept. 5	61	17, 18	22	785
Gate	G. W. and C. E. Teeter	265,890	Oct. 10	801	227	22	1279
Gate	F. C. Wheeler	268,333	Nov. 28	1706	474	22	1867
Gate	E. G. Wood	260,440	July 4	115	34	22	20
Gate	C. A. Wyman	267,765	Nov. 21	1014	284	22	1734
Gate	D. S. Young	267,639	Nov. 14	863	246	22	1699
Gate and railing	S. R. Evans	267,170	Nov. 7	262	76	22	1586
Gate-post	F. Fogus	266,453	Oct. 24	1507	428	22	1414
Gate-post	J. J. Johnston	264,881	Sept. 26	1423	401	22	1050
Gate-weight	M. T. Reeves	268,282	Nov. 28	1646	457	22	1856
Gates. Connecting-rod for automatic	O. Slagle	262,989	Aug. 22	1454	410	22	609
Gear-cutting machine	C. E. Albro	263,208	Aug. 22	1832	519, 520	22	679
Gear machinery. Worm-	S. Overton and E. Wells	260,892	July 11	692	188	22	122
Gear-wheel. Toothed	F. Leclère	263,791	Sept. 5	153	45, 46	22	800
Gearing	C. E. Albro	264,428	Sept. 19	901	253	22	949
Gearing	J. F. Gilliland	265,595	Oct. 10	450	124	22	1218
Gem-settings. Manufacturing	T. W. Feeley	261,542	July 25	1500	421	22	270
Generator: *See* Electric generator. Gas-generator. Hot-air generator. Power-generator. Steam-generator.							
Gig-tree	W. C. Kellar and R. R. Ditzel	267,900	Nov. 21	1174	330	22	1765
Gimlet bit-shanks. Die for upsetting	G. Boie	264,233	Sept. 12	676	187	22	901
Girder. Arched	P. H. Jackson	265,321	Oct. 3	114	34	22	1155
Girth	A. V. Smith	268,953	Dec. 12	672	197	22	2021
Girth. Saddle-	Q. King	262,053	Aug. 1	275	80	22	383
Glass: *See* Jelly-glass. Opera-glass.							
Glass and crockery ware. Screw-thread for uniting articles of	W. H. Brunt	269,001	Dec. 12	728	214	22	2031
Glass and glassware. Manufacture of ornamental	T. D. Farrall	262,388	Aug. 8	706	.....	22	461
Glass and metallic articles. Manufacture of combined	A. W. Paull	267,924	Nov. 21	1200	337	22	1769
Glass and mode of manufacturing the same. Tube for blowing	J. B. Wilson	268,162	Nov. 28	1497	417	22	1828
Glass and process of etching the same. Ornamental	S. West	261,885	Aug. 1	72	21	22	348
Glass. Artificial stained	J. O. Fowler, Jr.	260,539	July 4	269	75	22	46
Glass blowing and shaping apparatus	F. Wright and M. W. W. Mackie	267,962	Nov. 21	1247	351	22	1778
Glass for architectural purposes. Ornamenting	E. Oudinot	266,508	Oct. 24	1562	.....	22	1425

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Glass for decorative purposes	H. H. D. Peirce	267,713	Nov. 21	958	.....	22	1724
Glass-furnace	H. Frank	268,213	Nov. 28	1562	433	22	1840
Glass-furnaces. Water-jacketed eye-plate for	S. M. Kane	265,967	Oct. 17	906	257	22	1302
Glass globes, shades, and other articles. Decorating	J. J. Nichols and B. Benas	267,984	Nov. 21	1276	.....	22	1782
Glass-grinding machine	A. W. Kelly	266,840	Oct. 31	1949	564	22	1502
Glass. Guide for ruling or for aiding in cutting	W. Wheeler	264,499	Sept. 19	981	276	22	964
Glass imitation stone for jewelry	J. F. Sprague and F. J. Kipling	261,402	July 18	1326	370	22	234
Glass. Machine for transferring the grain of wood upon	J. Budd	261,203	July 18	1092	305	22	197
Glass. Machinery for beveling	A. Kriéger	262,954	Aug. 22	1413	399	22	602
Glass-melting furnace and apparatus connected therewith	H. Quennec	263,059	Aug. 22	1540	434	22	625
Glass-melting furnaces. Construction and method of working	F. Siemens	261,054	July 11	901	250	22	155
Glass-mold and manufacture of glass boxes	T. B. Atterbury	265,299	Oct. 3	91	27	22	1151
Glass-mold and manufacture of glass clock-cases	T. B. Atterbury	265,300	Oct. 3	92	28	22	1151
Glass-mold and manufacture of glass signs, &c	T. B. Atterbury	267,659	Nov. 21	897	255	22	1713
Glass-mold for the manufacture of chimneys and globes	A. W. Paull and J. F. Miller	260,498	July 4	196	55	22	34
Glass. Oven and roll for flattening	A. D. Stevenson and G. F. Wilson	262,495	Aug. 8	824	232, 233	22	482
Glass paper-weights. Manufacture of	W. H. Maxwell	263,931	Sept. 5	322	91	22	830
Glass-pot and fore-plate for same	S. M. Kane	265,966	Oct. 17	905	257	22	1302
Glass. Powder for polishing	D. Forbes	262,034	Aug. 1	257	.....	22	379
Glass-press	M. Ward	266,565	Oct. 24	1627	463	22	1436
Glass screw-caps. Making	W. M. Wallace	264,379	Sept. 12	640	235	22	930
Glass signs. Manufacture of	T. B. Atterbury	268,849	Dec. 12	554	162	22	1999
Glass vase, urn, or other hollow glassware, and their manufacture	W. T. Murphy	268,266	Nov. 28	1630	453	22	1852
Glass water-closet bowls. Manufacture of	J. A. Talmadge	266,918	Oct. 31	2047	589	22	1520
Glasses, jugs, &c. Automatically opening and closing covers or lids of drinking-	E. Wendt	261,113	July 11	975	272	22	169
Glassware	F. S. Shirley	268,738	Dec. 5	401	117	22	1963
Glassware	S. G. Vogeley and A. A. Adams	261,644	July 25	1624	456	22	291
Glassware. Machine for finishing and fire-polishing	J. B. Lyon and J. Anderson	263,051	Aug. 22	1532	431	22	623
Glassware. Manufacture of	P. Arbogast	260,819	July 11	610	166	22	108
Glassware. Ornamental	C. N. Brady	265,237	Oct. 3	13	5	22	1138
Gleaner and binder	C. R. Brinckerhoff	267,400	Nov. 14	566	161, 162, 163	22	1645
Gleaner and binder	A. Ross and S. J. Parker	269,467	Dec. 19	1333	385, 386, 439, 440	22	2147
Gleaning and binding machine	J. F. Mahon	266,489	Oct. 24	1545	439, 440	22	1421
Globe	E. E. Fitz	263,886	Sept. 5	272	78	22	821
Glove	C. F. A. Koehler	262,454	Aug. 8	758	213	22	471
Glove	S. Montgomery	266,299	Oct. 24	1318	372	22	1379
Glove, &c., fastening	B. D. Eaton	261,690	July 25	1674	470	22	300
Glove-lining	H. W. Price	261,040	July 11	885	245	22	153
Glove or boot fastening	H. W. Ducker	262,653	Aug. 15	1038	291	22	525
Glove or mitten	N. B. Slayton and W. D. Wells	263,067	Aug. 22	1549	437	22	626
Gloves, boots, &c. Fastening for	J. W. Pritchett	269,706	Dec. 26	1633	468	22	2211
Gloves, shoes, &c. Fastening for	S. Florshelm	262,215	Aug. 8	503	140	22	426
Glucose and grape-sugar. Manufacture of	H. Endemann	269,779	Dec. 26	1730	.....	22	2228
Glucose from cactus. Manufacture of	W. B. Brittingham	266,268	Oct. 24	1278	.....	22	1372
Glucose. Manufacture of	A. G. Fell	268,653	Dec. 5	307	.....	22	1945
Glucose or grape-sugar. Manufacture of	H. W. Bartol	264,222	Sept. 12	665	.....	22	898
Glue, &c., heater	S. Willershausen	264,906	Sept. 19	1304	375	22	1028
Gluing-machine	W. Rabbe	267,932	Nov. 21	1208	339	22	1771
Glycerine from fatty matter. Extracting	V. Litzelmann	267,753	Nov. 21	999	.....	22	1731
Glycerine from soap-boilers' mother-lye. Obtaining and purifying	J. K. Kessler	263,915	Sept. 5	300	.....	22	826
Glycerine from spent soap-lyes, saline, and other substances. Separating	F. J. O'Farrell	266,504	Oct. 24	1559	.....	22	1425
Glycerine from the residuary waters resulting from the manufacture of soaps. Extraction of	E. L. M. Brochon	264,616	Sept. 19	1101	.....	22	987
Gold and silver from gravel and sand. Apparatus for separating	J. T. Long	267,697	Nov. 21	940	266	22	1721
Gold and silver from their ores. Extracting	C. A. Schaeffer	267,723	Nov. 21	971	.....	22	1726
Gold and silver ores. Apparatus for desulphurizing	W. E. Harris	267,198	Nov. 7	300	88	22	1593
Gold from its ores. Process of and apparatus for extracting	A. De Figaniere	267,842	Nov. 21	1108	311	22	1751
Gold-separator. Magnetic	H. Kenton	266,841	Oct. 31	1951	564	22	1503
Gong. Street-car	C. T. Brown	266,964	Nov. 7	5	2	22	1541
Gong. Street-car	J. M. Matheny	260,588	July 4	301	82	22	52
Governor	F. Anderson	267,965	Nov. 21	1252	353	22	1779
Governor. Elevator-	C. W. Baldwin	261,652	July 25	1634	458	22	293
Governor. Elevator-	C. S. Westcott	264,386	Sept. 12	650	238	22	932
Governor. Engine-	L. Skinner	266,214	Oct. 17	1204	340	22	1353
Governor for shifting eccentrics	W. A. Clark	261,422	July 18	1355	379	22	240
Governor. Marine-engine	J. H. Smith	264,356	Sept. 12	811	228	22	925
Governor. Steam-	D. L. F. Chase	260,842	July 11	634	172	22	112
Governor. Steam-engine	A. Back	261,980	Aug. 1	191	57	22	368
Governor. Steam-engine	F. H. Ball	261,074	July 11	922	257	22	159
Governor. Steam-engine	J. F. Brown	265,569	Oct. 10	419	116	22	1214
Governor. Steam-engine	G. H. Corliss	262,209	Aug. 8	495	138	22	425
Governor. Steam-engine	J. P. McCook	264,043	Sept. 5	466	127	22	854
Governor. Water-wheel	J. Morton	269,594	Dec. 26	1502	433	22	2186
Governor. Windmill	B. Chamberlain	260,841	July 11	633	172	22	112
Governor. Windmill	B. Chamberlain	262,000	Aug. 1	213	64	22	372
Grading-instrument	F. Partee	262,109	Aug. 1	362	102	22	395
Grading-machine	S. P. Evans	261,693	July 25	1677	470, 471	22	300
Grain and malt drier	A. Vane and D. Gundelfinger	263,631	Aug. 29	2276	649	22	758

Alphabetical list of inventions, July to December, inclusive—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Grain and seed sampler	S. H. Stevens	262,847	Aug. 15	1275	358	22	567
Grain and straw separator	D. Murphy	264,190	Sept. 12	630	174	22	893
Grain-binder	W. Aldrich	265,232	Oct. 3	3	1	22	1137
Grain-binder	J. F. Appleby	260,634	July 4	357	97, 98	22	60
Grain-binder	J. F. Appleby	261,072	July 11	919	256	22	158
Grain-binder	J. F. Appleby	262,883	Aug. 15	1323	372, 373, 374	22	576
Grain-binder	J. F. Appleby	264,602	Sept. 19	1085	308	22	984
Grain-binder	R. Brown	266,087	Oct. 17	1050	298, 299	22	1327
Grain-binder	R. Brown	266,426	Oct. 24	1481	421	22	1410
Grain-binder	J. E. Buxton	269,004	Dec. 12	731	215	22	2032
Grain-binder	R. J. Clark	261,431	July 18	1353	378, 379	22	239
Grain-binder	G. Davis	265,661	Oct. 10	543	147, 148	22	1233
Grain-binder	J. S. Davis	261,590	July 25	1557	437, 438	22	280
Grain-binder	J. S. Davis	261,591	July 25	1562	438	22	280
Grain-binder	F. A. Dennett	261,593	July 25	1565	439	22	281
Grain-binder	A. Goodyear	266,284	Oct. 24	1298	367, 368	22	1375
Grain-binder	J. F. Gordon	266,958	Oct. 31	2108	605, 606	22	1531
Grain-binder	W. P. Hale	267,521	Nov. 14	710	204, 205, 206, 207	22	1671
Grain-binder	V. Henry	265,317	Oct. 3	110	33	22	1154
Grain-binder	P. F. Hodges	264,160	Sept. 12	599	165	22	887
Grain-binder	H. R. Ingledue	262,781	Aug. 15	1197	335, 336	22	553
Grain-binder	S. D. Locke	260,487	July 4	183	51	22	32
Grain-binder	F. T. and F. A. Lomont	261,007	July 11	840	234, 235	22	146
Grain-binder	A. C. Miller	263,715	Sept. 5	51	15, 16	22	783
Grain-binder	G. W. Scott	267,600	Nov. 14	818	234	22	1691
Grain-binder	C. P. Shufelt	265,159	Sept. 26	1754	490	22	1110
Grain-binder	G. H. Spaulding	262,492	Aug. 8	818	231, 232	22	481
Grain-binder	J. F. Steward	266,732	Oct. 31	1831	532	22	1480
Grain-binder	J. F. Steward	266,733	Oct. 31	1833	532	22	1480
Grain-binder	J. F. Steward	266,913	Oct. 31	2035	586, 587	22	1518
Grain-binder	J. F. Steward and R. H. Dixon	267,119	Nov. 7	205	60	22	1577
Grain-binder	D. Strunk	269,347	Dec. 19	1176	344, 345	22	2116
Grain-binder	D. R. Symonds	264,909	Sept. 26	1402	412	22	1057
Grain-binder	A. S. Weaver	262,867	Aug. 15	1302	366, 367	22	572
Grain-binder	J. W. Webster	264,005	Sept. 5	417	115	22	846
Grain-binder	C. Wheeler, Jr.	266,001	Oct. 17	945	267, 268, 269, 270	22	1309
Grain-binder and corn-husker. Combined	C. H. Lynde	265,269	Oct. 3	50	16	22	1144
Grain-binder attachment	F. A. Dennett	261,594	July 25	1566	439	22	281
Grain-binder attachment	L. G. Kemp and P. Ross	264,707	Sept. 19	1204	340	22	1007
Grain-binder. Automatic	T. M. Rice	267,934	Nov. 21	1210	340, 341	22	1771
Grain-binder. Automatic	T. M. Rice	267,935	Nov. 21	1214	341, 342	22	1772
Grain-binder. Automatic	T. M. Rice	267,936	Nov. 21	1216	342, 343	22	1772
Grain-binder cord-holder	C. W. Levalley	260,485	July 4	179	50	22	31
Grain-binder knot-tying device	N. Jewett	266,996	Nov. 7	47	15	22	1548
Grain-binder knotter	J. E. Buxton	267,972	Nov. 21	1261	353	22	1780
Grain-binder sheaf-discharger	J. Knoop	261,537	July 25	1521	426	22	273
Grain-binder tension device	M. G. Hubbard	268,235	Nov. 28	1588	440	22	1845
Grain-binders. Bundle-divider for	W. H. Knapp	268,028	Nov. 28	1335	374	22	1799
Grain-binders. Combined needle-arm and compressor for	J. L. Owens	265,978	Oct. 17	924	261	22	1305
Grain-binders. Wire-twister for	M. M. Hooton	266,153	Oct. 17	1133	320	22	1341
Grain-binding attachment for reapers	E. S. Frost	263,160	Aug. 22	1655	468, 469	22	647
Grain-binding machine	G. Esterly	266,254	Oct. 17	1251	355, 356	22	1361
Grain-binding machine	J. F. Gordon	269,046	Dec. 12	785	232, 233, 234	22	2041
Grain-binding machine	S. Nelsen	260,496	July 4	194	55	22	33
Grain-binding mechanism	J. S. Davis	260,668	July 4	409	112, 113	22	69
Grain-cleaner	L. Gathmann	267,072	Nov. 7	138	39	22	1565
Grain-cleaners. Blast-governor for	S. W. Andrews and L. Godfrey	264,023	Sept. 5	438	120, 121	22	850
Grain cleaning and assorting machine	W. Krüger	260,996	July 11	895	230	22	144
Grain cleaning and separating machine	W. Sperry	217,032	Nov. 7	91	27	22	1556
Grain-cleaning apparatus	T. S. Bayley	261,653	July 25	1635	450	22	293
Grain-cleaning apparatus	D. Best	264,508	Sept. 19	989	278	22	966
Grain-conveyer	H. Coker	265,020	Sept. 26	1596	449	22	1081
Grain-cutting machine	T. Kelley and C. H. Harper	262,051	Aug. 1	273	79	22	383
Grain-decorticating machine	J. Cornwell	262,648	Aug. 15	1033	289	22	524

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Grain-decorticator	P. N. McChesney and J. W. Craig	262,078	Aug. 1	311	89	22	390
Grain-decorticator	P. N. McChesney and J. W. Craig	269,061	Dec. 12	834	247	22	2040
Grain, &c. Device for conveying	G. Crehore	262,376	Aug. 8	690	192	22	450
Grain-drier	H. Cutler	269,644	Dec. 26	1563	449	22	2197
Grain drier and cooler	E. A. Abbott	265,552	Oct. 10	401	111	22	1211
Grain-drill	J. A. Carr	269,007	Dec. 12	735	216	22	2032
Grain-drill	W. P. Elam and W. F. Boggs	268,361	Nov. 28	1755	486	22	1875
Grain-drill	J. Fournie	265,666	Oct. 10	548	150	22	1233
Grain-drill	J. P. Fulgham	262,943	Aug. 22	1399	396	22	600
Grain-drill	E. A. Morphew and H. Withrow	266,499	Oct. 24	1555	443	22	1424
Grain-drill	G. W. and J. R. Rude, H. G. Swope, and J. L. Riter.	263,359	Aug. 29	1955	559	22	701
Grain-drill	H. Santrock	263,434	Aug. 29	2048	587	22	717
Grain drill and cultivator	J. J. Clayton	267,671	Nov. 21	912	258	22	1715
Grain-drill attachment	P. H. Smith	266,325	Oct. 24	1360	384	22	1388
Grain-drill. Force-feed	C. E. Patric	267,985	Nov. 21	1277	358	22	1783
Grain-drill gage	P. Devening	265,033	Sept. 26	1613	454	22	1085
Grain-drying apparatus	N. W. Hawkenson	260,567	July 4	279	77	22	48
Grain-drying apparatus	F. W. Wiesebrock	267,813	Nov. 21	1074	301	22	1744
Grain-elevator	E. Roberts and W. H. Lotz	261,630	July 25	1606	450	22	289
Grain-elevator	O. D. Spalding	268,743	Dec. 5	406	118	22	1964
Grain-elevator and hoisting apparatus	J. E. Walsh	261,792	July 25	1708	508	22	321
Grain-elevator. Pneumatic	L. Smith	268,303	Nov. 28	1071	464	22	1860
Grain-elevator. Pneumatic	L. L. Smith	268,305	Nov. 28	1674	465	22	1861
Grain-elevator stop mechanism	J. A. McLennan	262,453	Aug. 8	778	220	22	474
Grain for shipment. Treating	J. J. Roche	263,590	Aug. 29	2230	.....	22	750
Grain. Gradual reduction of	U. H. Odell	263,204	Aug. 22	1710	484	22	657
Grain-heater	R. English	265,664	Oct. 10	546	149	22	1233
Grain. Machine for binding and shocking	C. D. Fox	261,543	July 25	1501	421	22	270
Grain. Machine for cleaning	A. B. Kellogg	263,913	Sept. 5	297	86	22	826
Grain, &c. Machine for drying, cleaning, and calcining	W. F. Witherell and B. H. Vary	268,587	Dec. 5	233	65	22	1930
Grain-meter	R. H. Edmiston	261,516	July 18	1455	406	22	256
Grain-meter	C. Reuther	261,257	July 18	1148	321	22	205
Grain-meter	G. W. Sharp	266,395	Oct. 24	1450	412	22	1404
Grain-mills, &c. Feeding apparatus for	J. Hurt and A. M. Strathern	266,157	Oct. 17	1137	321	22	1341
Grain of different sizes. Machine for mixing	J. A. W. Justi	267,219	Nov. 7	330	95	22	1599
Grain. Process of and apparatus for cleaning	W. L. Teter	262,504	Aug. 8	834	235, 236	22	484
Grain. Process of and apparatus for cleaning	W. L. Teter	262,505	Aug. 8	835	236	22	484
Grain, root, and compost dropper	J. J. Slater	262,138	Aug. 1	395	111	22	401
Grain-scourers. Cylinder for	L. Morgan	263,195	Aug. 22	1700	481	22	655
Grain-screen	I. Esmond and A. H. Ford	265,398	Oct. 3	201	61	22	1172
Grain-separator	J. Brunner	269,000	Dec. 12	727	214	22	2031
Grain-separator	J. W. Hazelrigg	263,177	Aug. 22	1677	475	22	650
Grain-separator	F. W. Howell	266,258	Oct. 17	1261	357	22	1362
Grain-separator	A. H. Lighthall	266,702	Oct. 31	1801	522	22	1474
Grain-separator	H. C. Lott	267,549	Nov. 14	754	215	22	1679
Grain-separator	F. H., G., and J. McKnight	269,532	Dec. 26	1420	410	22	2169
Grain-separator	W. U. Richmond	267,254	Nov. 7	368	107	22	1606
Grain-separator	G. A. Roberts and C. Schafer	265,637	Oct. 10	507	138	22	1227
Grain-separator	W. N. Smith	267,270	Nov. 7	388	112, 113	22	1609
Grain-separator	J. B. Suitt	264,490	Sept. 19	973	273	22	903
Grain separator and cleaner	D. Best	264,509	Sept. 19	989	278, 279	22	966
Grain-separator for thrashing-machines	C. W. Brackett	266,424	Oct. 24	1479	420	22	1409
Grain-separators, &c. Feeding apparatus for	P. P. Herberg and P. H. Clausasen	265,804	Oct. 10	715	200	22	1262
Grain-separators. Sieve or screen for	T. J. Hubbell	268,491	Dec. 5	133	40	22	1918
Grain-shocker	A. R. Peterson and F. Wilcox	263,211	Aug. 22	1716	486	22	658
Grain-trimmer	W. S. Brice and W. P. Thompson	261,660	July 25	1642	461	22	294
Grain-ventilator	E. J. Barr	265,370	Oct. 3	175	52	22	1166
Grain-ventilators. Entrance-tube for	L. T. Bow	266,083	Oct. 17	1046	297	22	1327
Graining compound. Wood-	J. T. Greenwood, Jr	260,973	July 11	793	.....	22	139
Grapple	R. Stone	262,330	Aug. 8	637	179	22	449
Grate	L. Bannister	261,898	Aug. 1	89	25	22	350
Grate	L. Bannister	267,737	Nov. 21	984	277	22	1729
Grate	J. C. Bard	267,129	Nov. 7	217	63	22	1578
Grate	G. B. Mershon	261,375	July 18	1292	361	22	228
Grate	G. W. Walker	260,809	July 11	599	162	22	106
Grate attachment	J. J. Mitchell	264,553	Sept. 19	1030	292	22	974
Grate-bar	H. Adams	267,125	Nov. 7	213	62	22	1578
Grate-bar and furnace	W. H. De Valin	265,032	Sept. 26	1611	453	22	1084
Grate-basket	C. F. W. Dankers	267,499	Nov. 14	684	195, 196	22	1666
Grate-fender	S. S. Stedman and W. T. Barker	265,174	Sept. 26	1776	497	22	1113
Grate. Fire-	E. F. Johnson	267,896	Nov. 21	1170	328	22	1764
Grate. Fire-	G. C. Maxwell	268,256	Nov. 28	1621	450	22	1851
Grate. Fire-	P. Richards	269,115	Dec. 12	875	257	22	2056
Grate. Fire-	J. Van	265,189	Sept. 26	1791	502	22	1116
Grate. Fire-	F. W. Weaver and D. Norton	267,388	Nov. 14	554	158	22	1643
Grate or fire-place. Domestic	C. W. Siemens	268,213	Oct. 17	1202	330	22	1352
Grate. Shaking	F. E. Taylor and H. R. Palmer	264,370	Sept. 12	827	232	22	928
Grate. Shaking and dumping	W. Swindell	266,328	Oct. 24	1364	385	22	1388
Grating. Illuminating-	J. Jacobs	265,090	Sept. 26	1672	467	22	1094
Grave-signal	A. Fearnaught	260,379	July 4	44	12	22	9
Grazing-post	W. Webster	261,112	July 11	975	272	22	168
Gridiron	G. W. Cottingham	265,391	Oct. 3	192	58	22	1170
Gridiron	J. J. Johnston	265,608	Oct. 10	469	129	22	1221
Gridiron and toaster	F. S. Perkins	261,870	Aug. 1	53	16	22	344
Grinding and polishing machine	F. Eccles	269,647	Dec. 26	1568	450	22	2198
Grinding apparatus	T. Lowry	263,548	Aug. 29	2181	622	22	742
Grinding circular knives and plow-colters. Machine for	C. M. French	260,560	July 4	271	75	22	46
Grinding-disk	W. Lehmann	261,099	July 11	963	260	22	166

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Grinding machine. Grain	C. F. Shumaker	265,160	Sept. 26	1758	490	22	1110
Grinding-mill	T. W. Beal	266,340	Oct. 24	1381	390	22	1391
Grinding-mill	J. H. Ehle	266,116	Oct. 17	1089	308	22	1333
Grinding-mill	J. E. Holmes	264,097	Sept. 19	1191	337	22	1005
Grinding-mill	J. P. Lancaster	266,845	Oct. 31	1955	565	22	1503
Grinding-mill	A. Montgomery	266,192	Oct. 17	1170	330	22	1347
Grinding-mill	J. M. Replogle	263,220	Aug. 22	1726	489	22	660
Grinding-mill	J. Stevens	268,567	Dec. 5	210	59, 60	22	1926
Grinding-mill	D. C. Stover	265,289	Oct. 3	72	22	22	1148
Grinding-mill	T. Strobridge	264,115	Sept. 12	552	150	22	878
Grinding-mill	P. Tanvez	267,763	Nov. 21	1011	284	22	1733
Grinding-mill	E. Tush	266,225	Oct. 17	1216	343	22	1335
Grinding-mill	G. W. Wilson	264,394	Sept. 12	858	240	22	934
Grinding-mill feeding device	W. D. Gray	261,337	July 18	1246	346	22	221
Grinding-mill frame	S. P. Walling	265,192	Sept. 26	1793	503	22	1117
Grinding-mill hoppers. Cover for	A. Rippien	269,116	Dec. 12	876	258	22	2056
Grinding-mill. Roller	S. L. Bean	265,002	Sept. 26	1577	443	22	1078
Grinding-mill. Roller	H. Birkholz	269,023	Dec. 26	1540	442	22	2193
Grinding-mill. Roller	J. Dawson	260,669	July 4	419	114	22	71
Grinding-mill. Roller	J. M. Poole, Jr.	269,459	Dec. 19	1321	{382 383}	22	2145
Grinding-mills. Test-plate for roller	W. D. Gray	264,454	Sept. 19	933	262	22	955
Grindstones. Machine for truing	F. Trier	263,444	Aug. 29	2059	590	22	719
Groove-cutter	W. F. and J. Barnes	261,197	July 18	1087	303	22	196
Grubbing-shears	P. Durham	269,029	Dec. 12	764	226	22	2037
Guano-distributer	J. T. Senn	261,771	July 25	1774	501	22	317
Guard: *See* Bridge-guard. Car-platform guard. Carving-fork guard. Cattle-guard. Elevator-guard. Fire-guard. Fire-place guard. Flame-guard. Hatchway-guard. Lantern-guard. Life-guard. Pantaloon-guard. Railway-guard. Railway safety-guard. Rein-guard. Saw-guard. Stirrup toe-guard. Thread-guard. Window-guard.							
Gun. Air	L. D. Shaw	267,027	Nov. 7	85	26	22	1555
Gun-barrel	R. L. Stevens	264,361	Sept. 12	816	230	22	926
Gun. Composite	W. Palliser	269,100	Dec. 12	860	253	22	2053
Gun. Concealed-hammer	H. Goodman	267,876	Nov. 21	1150	323	22	1760
Gun. Machine	S. Pederson	264,897	Sept. 26	1440	407	22	1054
Gun. Magazine	F. Gamma	269,660	Dec. 26	1584	{454 455}	22	2201
Gun-stock	E. J. Post	263,575	Aug. 29	2216	633	22	748
Gun-stock	J. N. Squier	268,374	Nov. 28	1772	491	22	1878
Gun. Submarine torpedo	P. Brotherhood	261,662	July 25	1645	{461 462}	22	295
Gun-swab	J. F. Davis	268,004	Nov. 28	1307	367	22	1794
Guns. Mounting boat	H. W. Mason and P. Cunningham	269,080	Dec. 12	833	247	22	2049
Gusset for wearing-apparel	C. O. Reed	269,463	Dec. 19	1326	384	22	2146
Hair. Bleaching	J. Stein	261,270	July 18	1169	.....	22	208
Hair. Comb device for dyeing	M. N. Butron	260,367	July 4	17	5	22	6
Hair for textile purposes. Treating animal	G. J. Gregerson	265,597	Oct. 10	452	.....	22	1218
Hair. Process of treating short animal	W. J. Reynolds	264,103	Sept. 12	540	.....	22	876
Hair-restorative	C. Hughes	260,570	July 4	283	.....	22	48
Hair-spring-collet remover	F. M. Wills	262,875	Aug. 15	1315	370	22	574
Halter	J. J. Johnston	266,831	Oct. 31	1941	561	22	1501
Halter	E. G. Latta	268,248	Nov. 28	1607	446	22	1849
Halter for horses	H. G. Farr	265,252	Oct. 3	31	9	22	1141
Halter-loop. Metallic	S. Logan	261,242	July 18	1132	316	22	202
Hame	J. G. Eberhard	260,549	July 4	259	72	22	44
Hame	J. G. Eberhard	264,519	Sept. 19	1000	{281 282}	22	968
Hame	E. G. Latta	269,071	Dec. 12	823	241	22	2047
Hame	O. P. Letchworth	266,847	Oct. 31	1957	566	22	1504
Hame	C. Seibert	267,966	Nov. 7	385	111	22	1609
Hame and trace attachment	O. O. Roberts	260,896	July 11	695	189	22	122
Hame attachment	T. R. Paugle and R. G. Holloway	261,869	Aug. 1	52	15	22	344
Hame attachment	J. A. Spence and R. C. Thompson	262,705	Aug. 15	1095	310	22	536
Hame-clip	E. D. Cole	261,311	July 18	1219	339	22	216
Hame-clip	C. M. Derrick	266,678	Oct. 31	1766	509	22	1468
Hame. Draft	R. F. Baker	264,218	Sept. 12	660	182	22	898
Hame-fastener	J. J. Curry	266,438	Oct. 24	1492	424	22	1412
Hame-fastener	D. G. Miller	260,597	July 4	311	85	22	53
Hame-fastener	F. O. Minor and J. M. Hennessey	267,708	Nov. 21	952	269	22	1723
Hame-fastener	J. Straus	263,737	Sept. 5	81	24	22	789
Hame-fastener	J. Vincent	264,207	Sept. 12	645	178	22	896
Hame-strap loop	C. H. Allen	267,126	Nov. 7	214	62	22	1578
Hammer	T. B. Bailey	268,602	Dec. 5	250	70	22	1934
Hammer	C. J. Grellner	261,338	July 18	1247	346	22	221
Hammer	T. Partlan	262,468	Aug. 8	794	224	22	477
Hammer and screw-driver. Claw	J. A. Thayer	264,492	Sept. 19	976	274	22	963
Hammer. Atmospheric	J. C. Butterfield	264,859	Sept. 26	1395	{392 393}	22	1046
Hammer. Bush	J. Hood and S. H. Reynolds	267,788	Nov. 21	1045	292	22	1740
Hammer. Claw	H. D. Morris	266,045	Oct. 17	1001	284	22	1319
Hammer. Drop	A. Vuillier	262,155	Aug. 1	414	116	22	405
Hammer. Power	A. Beaudry	264,816	Sept. 19	1333	377	22	1029
Hammer. Rotary	W. T. Browne	265,655	Oct. 10	536	146	22	1231
Hammers. Device for operating drop	D. Wilcox	265,907	Oct. 10	817	232	22	1221
Hammers. Die for forming	C. J. Stannard	261,489	July 18	1421	397	22	250
Hammock	A. O. Rood	269,542	Dec. 26	1432	413	22	2172
Hammock and cot	J. C. Dodge	268,783	Dec. 12	462	135	22	1982

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Hammock-frame	L. E. French	264,033	Sept. 5	453	124	22	852
Hammock. Invalid	A. Loelle	266,167	Oct. 17	1150	325	22	1343
Hams and shoulders. Preparation of boned	L. T. Galster	269,518	Dec. 26	1404	405	22	2166
Hand-bag frame	H. S. Craus	260,946	July 11	754	205	22	132
Handcuff	J. Pettibone	263,212	Aug. 22	1718	487	22	659
Handcuff and shackle	H. W. Kahlke and J. J. Tower	268,496	Dec. 5	139	41	22	1913
Handcuff. Police	E. D. Bean	268,171	Nov. 28	1506	420	22	1830
Hand-drill	A. A. Wilder	269,250	Dec. 19	1055	308	22	2095
Hand-rest for penmen	J. Ridge	266,316	Oct. 24	1348	381	22	1385
Handle: *See* Brush-handle. Crochet-needle handle. Detachable handle. Dish-pan handle. Door-handle. Drop-handle. Plate and dish handle. Plow-handle. Rubber handle. Rubber-covered handle. Satchel, &c., handle. Saw-handle. Shovel-handle. Tool-handle. Trunk-handle. Wire-reel handle.							
Handle	C. S. Barnard	265,913	Oct. 10	824	235	22	1292
Handle	T. L. Daheney	261,589	July 25	1556	437	22	280
Handle for knives, forks, &c	J. S. and A. Ray	269,108	Dec. 12	869	255	22	2055
Hanger: *See* Coat-hanger. Door-hanger. Eaves-trough hanger. Plaque and picture hanger. Shaft-hanger. Shafting-hanger.							
Harness	J. D. Blaker	264,850	Sept. 26	1386	390	22	1044
Harness	G. Robinson	265,148	Sept. 26	1741	486	22	1107
Harness	P. P. Winn	264,396	Sept. 12	860	241	22	934
Harness-loop	H. Leibe	261,240	July 18	1130	316	22	202
Harness-mounting	C. D. Page	265,699	Oct. 10	590	164	22	1341
Harness-mounting	P. Petry	266,881	Oct. 31	1966	575	22	1511
Harness-pad	E. P. Waters	267,291	Nov. 7	413	120	22	1614
Harness-pad press	J. W. Johnson	266,828	Oct. 31	1937	560	22	1500
Harness-pad press, &c	C. C. Schwaner	262,623	Aug. 15	994	279	22	517
Harness-rosette	A. McManus	263,261	Nov. 28	1626	451	22	1852
Harness-rosette	E. E. Sargeant	261,050	July 11	897	249	22	155
Harness-shaft loop	I. A. Wesson	260,812	July 11	603	163	22	107
Harness thill-loop	W. K. Rairigh	265,142	Sept. 26	1731	483	22	1106
Harness-tool	J. A. Stewart	260,709	July 11	584	158	22	104
Harpsichord	L. S. Berridge	264,856	Sept. 26	1391	392	22	1045
Harrow	J. Anderson, Jr	263,089	Aug. 22	1577	445	22	631
Harrow	C. J. and R. H. Burk	262,926	Aug. 22	1377	389	22	596
Harrow	S. Davis	262,280	Aug. 8	575	161	22	438
Harrow	J. Divora	263,690	Sept. 5	25	7, 8	22	779
Harrow	J. Frey	264,872	Sept. 26	1414	399	22	1049
Harrow	H. S. Howard	263,520	Aug. 29	2142	614	22	735
Harrow	T. J. Hubbell	268,490	Dec. 5	132	40	22	1912
Harrow	G. H. Johnson	264,300	Sept. 12	753	210	22	914
Harrow	J. M. Johnson	260,687	July 4	441	119	22	74
Harrow	J. F. Lymburner	268,915	Dec. 12	628	185	22	2012
Harrow	D. Matteson	264,546	Sept. 19	1024	290	22	972
Harrow	J. Maunder	262,448	Aug. 8	774	218	22	474
Harrow	J. Mewhinney	264,183	Sept. 12	623	172	22	891
Harrow	M. P. Mighell	262,456	Aug. 8	782	221	22	475
Harrow	F. A. Morand	268,924	Dec. 12	638	188	22	2014
Harrow	F. Nishwitz	262,307	Aug. 8	610	171	22	445
Harrow	F. Nishwitz	262,308	Aug. 8	611	172	22	445
Harrow	F. Nishwitz	262,820	Aug. 15	1243	350	22	561
Harrow	F. Nishwitz	262,975	Aug. 22	1439	406	22	606
Harrow	F. Nishwitz	263,565	Aug. 29	2204	629	22	746
Harrow	W. H. Platt	261,564	July 25	1530	{428 429}	22	274
Harrow	B. F. Rix	267,719	Nov. 21	967	272	22	1726
Harrow	A. O. Stiveson	268,312	Nov. 28	1685	467	22	1863
Harrow	K. Tharraldson	263,994	Sept. 5	405	113	22	844
Harrow	J. D. Tracey	263,368	Aug. 29	1964	561	22	702
Harrow	L. S. Wheeler	267,294	Nov. 7	416	121	22	1614
Harrow and corn-planter. Combined	M. McNitt	264,551	Sept. 19	1028	291	22	973
Harrow and cultivator. Spring-tooth	H. D. Babcock	262,918	Aug. 22	1369	387	22	594
Harrow and cultivator. Sulky spring-tooth	C. La Dow	269,068	Dec. 12	816	{242 243}	22	2046
Harrow and seed-sower	R. Hamilton. (Reissue)	10,188	Aug. 29	2320	663	22	766
Harrow. Disk	H. M. Rose	261,875	Aug. 1	58	17	22	345
Harrow. Double rotary	H. H. Monroe	264,324	Sept. 12	776	218	22	919
Harrow-frame	J. H. Winn	269,494	Dec. 19	1373	392	22	2154
Harrow or clod-crusher	B. F. White	262,871	Aug. 15	1310	368	22	573
Harrow. Riding	G. J. Hann	269,051	Dec. 12	795	235	22	2043
Harrow. Spring-tooth	H. Cobb	266,348	Oct. 24	1392	394	22	1393
Harrow. Spring-tooth	E. C. Comstock	267,404	Nov. 14	573	164	22	1646
Harrow. Sulky	L. M. Gillett	269,044	Dec. 12	783	232	22	2040
Harrow. Sulky	B. F. Rix	267,718	Nov. 21	966	272	22	1726
Harrow. Sulky	J. W. Rush	261,386	July 18	1308	366	22	231
Harrow-teeth. Die for pointing or sharpening	J. Hershek	262,294	Aug. 8	592	167	22	441
Harrow-tooth	A. M. Forrester	267,069	Nov. 7	135	38	22	1564
Harrow-tooth	H. S. Howard	265,084	Sept. 26	1666	465	22	1093
Harrow-tooth	L. J. Stanton	264,360	Sept. 12	816	229	22	926
Harrow-tooth	H. G. Stone	263,297	Aug. 22	1630	510	22	679
Harrow-tooth fastening	D. C. Hartung	265,960	Oct. 17	900	256	22	1302
Harrow. Wheel	C. Murray	268,267	Nov. 28	1631	453	22	1853
Harrows. Evener-hinge for	W. A. Howard	268,898	Dec. 12	606	179	22	2008
Harvester	F. Bramer and G. G. Crowley	263,383	Aug. 29	1983	{566 567}	22	706

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Harvester	Z. Fischesser	268,211	Nov. 28	1560	433	22	1840
Harvester	S. D. Locke	263,545	Aug. 29	2178	621, 622	22	741
Harvester	S. D. Maddin	261,367	July 18	1281	356, 357	22	226
Harvester	S. D. Maddin	262,963	Aug. 22	1424	402	22	604
Harvester	J. M. Rosebrooks	268,928	Dec. 12	522	155	22	1993
Harvester	R. Temperton	261,787	July 25	1788	505, 506	22	319
Harvester and husker. Combined corn	A. Mote	266,302	Oct. 24	1322	373	22	1380
Harvester and self-binder. Combined	C. Wheeler, Jr.	263,006	Aug. 22	1477	416, 417	22	613
Harvester attachment	D. Patterson	261,951	Aug. 1	157	45, 46	22	362
Harvester-binder	E. Heath	269,053	Dec. 12	798	236, 237	22	2043
Harvester-binders. Grain-adjuster for	J. P. Bullock and J. F. Appleby	266,949	Oct. 31	2084	600	22	1527
Harvester-binders. Raking attachment for	J. D. Heebner	263,699	Sept. 5	32	10	22	780
Harvester. Corn	S. C. Kenaga	264,708	Sept. 19	1205	341	22	1007
Harvester. Corn	S. C. Kenaga and J. S. Briggs	264,709	Sept. 19	1206	341	22	1008
Harvester-cutter	H. F. Hicks	263,409	Aug. 29	2020	577, 578	22	712
Harvester-cutter-bar lifter	H. R. Allen	268,375	Dec. 5	1	1	22	1887
Harvester-cutters to the cutter-bars. Securing	D. A. Kennedy	269,062	Dec. 12	810	240	22	2045
Harvester. Grain	O. L. Castle	265,579	Oct. 10	431	119	22	1216
Harvester. Grain-binding	H. J. Case	268,357	Nov. 28	1747	484, 485	22	1874
Harvester. Grain-binding	J. F. Seiberling	269,332	Dec. 19	1153	338, 339, 340	22	2113
Harvester-knife	J. McCormick	266,632	Oct. 31	1709	403	22	1457
Harvester pitman-coupling	T. Urie	269,140	Dec. 12	906	264	22	2061
Harvester-rake	J. D. Tracy	268,151	Nov. 28	1483	413	22	1826
Harvester-rake	W. A. Wood	265,728	Oct. 10	626	177	22	1247
Harvester-rake	W. A. Wood	265,729	Oct. 10	627	178	22	1247
Harvester rake and reel	O. O. Storlo	266,063	Oct. 17	1020	289	22	1322
Harvester-rakes. Automatic trip for	A. O. Carman	265,575	Oct. 10	426	117, 118	22	1215
Harvester-reel	A. Schafer	269,121	Dec. 12	681	259	22	2057
Harvester self-binder	H. M. Weaver	269,491	Dec. 19	1369	393, 394	22	2153
Harvester. Self-binding	A. C. Miller	266,866	Oct. 31	1974	570, 571	22	1507
Harvester. Self-binding	J. F. Seiberling	269,333	Dec. 19	1158	340	22	2114
Harvester. Self-binding	C. Wheeler, Jr.	261,285	July 18	1184	311	22	211
Harvester. Self-binding	C. Wheeler, Jr.	263,370	Aug. 29	1936	561, 562	22	702
Harvester. Sugar-cane and maize	W. C. Dollens	266,020	Oct. 17	972	276	22	1313
Harvester-wheel	V. M. Chafee	264,513	Sept. 19	994	280	22	967
Harvesters. Grain-adjusting belt for	S. T. Northcutt	260,889	July 11	689	187	22	121
Harvesters. Sheaf-dumper for self-binding	J. Pearce	264,563	Sept. 19	1041	296	22	976
Harvesters. Sheaf-dumper for self-binding	J. Pearce	264,896	Sept. 26	1459	407	22	1054
Harvesting and mowing machines. Pitmen for sickles of	J. D. Nix	263,424	Aug. 29	2039	584	22	715
Harvesting-machine	E. L. Bracken	268,993	Dec. 12	721	211	22	2030
Harvesting-machine	J. Harrison	262,182	Aug. 1	459	128	22	412
Harvesting-machine	J. C. McLachlan	262,604	Aug. 15	974	273, 274	22	514
Harvesting-machine	W. S. Wilson	267,476	Nov. 14	660	189	22	1663
Harvesting machine. Corn	G. H. Zschech	269,553	Dec. 26	1445	417	22	2174
Harvesting machine. Grain	G. Esterly	262,026	Aug. 1	241	71	22	377
Harvesting machine. Grain	G. Esterly	262,753	Aug. 15	1155	327	22	545
Harvesting sugar-cane. Machine for	W. C. Dollens and G. H. Zschech	269,513	Dec. 26	1397	402, 403	22	2164
Hat	C. B. Tomz	260,807	July 11	596	161	22	105
Hat and hat-frame	Z. S. Pennock	263,664	Aug. 29	2314	661	22	764
Hat-bats. Perforated plate for forming	S. C. Palmer	261,380	July 18	1302	364	22	230
Hat blocking and shaping machine	R. Eickemeyer	269,032	Dec. 12	768	227, 228	22	2038
Hat-bodies and other articles. Machine for felting	A. Pelisse	263,951	Sept. 5	348	98	22	835
Hat-bodies. Machine for felting and scalding	J. C. Brush	261,668	July 25	1652	463	22	296
Hat-bodies, &c. Machine for sizing, scalding, fulling, and washing	H. E. Earle	269,397	Dec. 19	1246	362	22	2130
Hat-brims. Apparatus for shaping and curling	T. Rowbotham	262,479	Aug. 8	805	228	22	479
Hat. Feathered	B. Abrahain	269,371	Dec. 19	1215	354	22	2124
Hat-felting machinery	J. S. Taylor	263,076	Aug. 22	1361	441	22	628
Hat-holder	F. A. Reicard	262,937	Dec. 12	653	191	22	2017
Hat-indicator	C. Spahmer	261,117	July 11	978	274	22	169
Hat or other head-covering	L. Hecht	264,831	Sept. 19	1348	381	22	1032
Hat-pouncing machine	T. Hadden	266,811	Oct. 31	1921	555	22	1497
Hat-pouncing roll	J. Nutt	267,363	Nov. 14	517	147	22	1637
Hat-rack	W. C. Hoss	268,023	Nov. 28	1329	373	22	1798
Hat scalding and felting machine	J. S. Taylor	263,075	Aug. 22	1358	440, 441	22	628
Hat setting and curling machine	W. T. Smith and C. R. Hall	264,420	Sept. 12	882	248	22	938
Hat-shaving machine	H. Campbell	262,175	Aug. 1	442	123	22	409
Hat-singeing device	J. J. Metz	265,848	Oct. 10	756	212	22	1270
Hat-stretching machine	R. Eickemeyer	269,031	Dec. 12	766	226	22	2038
Hats, caps, &c. Device for suspending	S. C. Swett	268,570	Dec. 5	214	60	22	1926
Hats. Machine for sticking and scalding naps to felt	S. C. Palmer	260,603	July 4	321	87	22	55
Hats. Manufacture of fur-faced	W. E. Doubleday	261,437	July 18	1360	380	22	240
Hats. Manufacturing fur-faced	W. E. Doubleday	263,656	Aug. 29	2304	658	22	763
Hatter's kettle	C. W. Glover	265,798	Oct. 10	709	198	22	1261
Hatchway-door. Automatic	E. M. Hackett	260,675	July 4	425	115, 116	22	72

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Hatchway-door-operating mechanism	E. A. Jacobs	262,783	Aug. 15	1201	337	22	553
Hatchway guard. Elevator	J. Byers and G. Taylor	261,133	July 18	1007	283	22	183
Hatchway. Self-closing	R. D. Thackston	268,146	Nov. 28	1478	412	22	1825
Hatchways. Safety-guard for elevator	E. G. Kendall	267,541	Nov. 14	744	213	22	1677
Hay and cotton press	W. W. Bard	262,725	Aug. 15	1120	317	22	539
Hay and cotton press	J. Fenimore	262,656	Aug. 15	1041	292	22	526
Hay and cotton press	A. Wickey and A. A. Gehrt	263,372	Aug. 29	1970	562, 563	22	703
Hay and grain bin	J. Kimerer	269,680	Dec. 26	1606	460	22	2206
Hay and grain ricks. Portable roof for	W. McEvoy	263,934	Sept. 5	326	92	22	831
Hay and grain stack protector	G. G. Matthews	269,691	Dec. 26	1621	463, 464	22	2209
Hay and grain unloader	L. Ackerman	266,597	Oct. 31	1673	483	22	1451
Hay and stock rack. Combined	J. L. Owens	265,979	Oct. 17	925	261	22	1305
Hay-carrier	A. R. Eglin	267,682	Nov. 21	922	262	22	1718
Hay-carriers. Adjustable stop-block for	W. M. Mountain	267,015	Nov. 7	70	21	22	1552
Hay-elevator	J. H. and P. Lux	268,813	Dec. 12	503	149	22	1989
Hay elevator and carrier	W. M. Mountain	260,697	July 4	451	122, 123	22	76
Hay elevator and conveyor	J. H. Pratt	268,814	Dec. 12	504	150	22	1989
Hay elevator and conveyer	P. F. Chambard	263,666	Aug. 29	2316	662	22	765
Hay elevator and stacker	J. Banvoetz	265,944	Oct. 17	874	250	22	1298
Hay-fork	L. Clairmont	269,557	Dec. 26	1453	418	22	2175
Hay-fork	L. Y. Myers	266,429	Oct. 24	1484	421	22	1410
Hay-fork	J. Ney	263,562	Aug. 29	2300	658	22	745
Hay-fork	J. E. Porter	261,562	July 25	1527	428	22	974
Hay-fork	J. J. Cribbs	269,250	Dec. 19	1023	299	22	2089
Hay-fork. Horse	C. E. Friel	266,271	Oct. 24	1282	363	22	1372
Hay-fork. Horse	G. D. Rowell	261,699	July 25	1689	473	22	302
Hay-fork. Horse	H. M. Keller	263,967	Sept. 5	365	103	22	838
Hay-loader	G. Meader	261,725	July 25	1725	485	22	308
Hay-loader	C. Scafe	261,746	July 25	1747	491	22	312
Hay-loader	H. Bankston	264,570	Sept. 19	1048	298	22	978
Hay or cotton press	J. A. Lanham	264,219	Sept. 12	661	182	22	898
Hay or cotton press	T. W. and C. L. Ames	264,712	Sept. 19	1211	342	22	1009
Hay-press	T. D. Aylsworth	268,975	Dec. 12	697	204	22	2026
Hay-press	J. B. Brown	263,837	Sept. 5	209	60, 61	22	809
Hay-press	G. Ertel	261,828	Aug. 1	9	3	22	336
Hay-press	F. Frey	261,323	July 18	1230	342	22	218
Hay-press	J. Kemp	269,659	Dec. 26	1582	454	22	2201
Hay-press	E. M. and T. S. Low	260,757	July 11	533	144	22	95
Hay-press	J. March	266,486	Oct. 24	1541	438	22	1421
Hay-press	L. G. Peel	269,303	Dec. 19	1116	326	22	2106
Hay-press	H. Purrier	266,718	Oct. 31	1816	527	22	1477
Hay-press	E. Fleck	263,956	Sept. 5	355	100	22	836
Hay-rack	J. J. Siebert	263,501	Aug. 29	2120	607	22	730
Hay-rack, stock-feeder, and shelter. Combined	S. Stoner	268,048	Nov. 28	1301	381	22	1803
Hay rake and loader	O. D. Thompson	269,477	Dec. 19	1355	389, 390	22	2150
Hay-rake. Horse	J. Dain, Jr.	261,406	July 18	1328	371	22	234
Hay-rake. Horse	A. W. Force	262,011	Aug. 1	225	67	22	374
Hay-rake. Horse	W. F. Goeller	269,038	Dec. 12	778	230	22	2039
Hay-rake. Horse	W. H. Hall	261,545	July 25	1502	421, 422	22	270
Hay-rake. Horse	F. E. Kohler	266,288	Oct. 24	1304	369	22	1376
Hay-rake. Horse	T. C. Lord	269,430	Dec. 19	1283	372	22	2137
Hay-rake. Horse	T. C. Lord	268,109	Nov. 28	1428	399	22	1816
Hay-rake. Horse	A. A. Noyes	268,111	Nov. 28	1430	400	22	1816
Hay-rake. Horse	J. M. Westcott and A. C. Conner	263,568	Aug. 29	2207	630	22	746
Hay-rake. Revolving	R. W. Ray	264,806	Sept. 19	1322	373, 374	22	1027
Hay-rake. Sulky	W. P. Prall	267,017	Nov. 7	72	22	22	1552
Hay raker and loader	A. Vose. (Reissue)	267,250	Nov. 7	364	106	22	1605
Hay-rakes. Tooth-holder for horse	E. M. Whitney	10,164	July 18	1464	409	22	257
Hay-sling	A. F. Hillman	269,492	Dec. 19	1371	392	22	2153
Hay-stacker	C. W. Ball and T. Davis	263,782	Sept. 5	141	43	22	798
Hay-stacker	J. H. Bean	265,560	Oct. 10	410	113, 114	22	1212
Hay-stacker	I. N. Condra	263,464	Aug. 29	2081	596	22	723
Hay-stacker	J. Dain, Jr.	264,515	Sept. 19	996	280	22	967
Hay-stacker	J. Dain, Jr.	262,012	Aug. 1	225	67	22	374
Hay-stacker	B. J. Downing	268,390	Dec. 5	19	6, 7	22	1890
Hay-stacker	J. A. Wilson	263,875	Sept. 5	261	75	22	819
Hay-stacker	W. H. Rogers	266,944	Oct. 31	2079	599	22	1526
Head-covering	E. L. Demorest	265,541	Oct. 3	367	106	22	1201
Head-dress puff	J. Kirby, Jr	264,935	Sept. 26	1497	421	22	1063
Head-light. Locomotive	J. Kirby, Jr	268,027	Nov. 28	1334	374	22	1798
Head-light. Locomotive	F. H. Talbot	269,065	Dec. 12	813	241, 242	22	2045
Head-light. Locomotive	E. Wilhelm	267,613	Nov. 14	892	238	22	1693
Head-lights. Signal attachment for locomotive	W. H. Thiell	262,169	Aug. 1	436	121	22	408
Head-lights. Signal attachment to locomotive	W. W. Richards	262,506	Aug. 8	837	236, 237	22	485
Head-protector	H. H. Snow	260,895	July 11	694	188	22	122
Head-protector	R. W. Turner	263,980	Sept. 5	363	108	22	841
Header	M. N. Laufenburg	261,408	July 18	1330	372	22	235
Header and thrasher. Combined	W. H. Parrish	260,882	July 11	676	184	22	119
Header and thrashing-machine. Combined	A. H. Lighthall	269,701	Dec. 26	1628	466, 467, 520, 521, 522	22	2210
Header-bar	G. B. Vroman	266,701	Oct. 31	1799	521	22	1474
Hearse	D. Schmitt	262,262	Aug. 8	557	156	22	435
		269,122	Dec. 12	882	260	22	2057

Alphabetical list of inventions, July to December, inclusive—Continued.

Invention.	Name.	No.	Date.	Monthly volume.		Official Gazette.	
				Spec.	Dr'g.	Vol.	Page.
Heat for generating a motor. Utilization of latent	W. S. Colwell	266,952	Oct. 31	2095	602	22	1529
Heat from the products of combustion. Device for economizing	O. L. F. Browne	261,994	Aug. 1	206	61, 62	22	371
Heat-generating apparatus	W. E. Prall	261,480	July 18	1410	{394 {395	{22	249
Heat-regulator and alarm. Antomatic	J. M. Dolen	263,127	Aug. 22	1619	457	22	639
Heater: *See* Car-heater. Feed-water heater. Glue, &c., heater. Grain-heater. Sad-iron heater. Soldering-iron heater. Steam-heater. Water-heater.							
Heater	S. Ducolin	261,838	Aug. 1	19	6	22	338
Heater	R. M. Weir	261,884	Aug. 1	71	21	22	348
Heater and cooker	S. Ellis	260,856	July 11	649	176	22	115
Heater and ventilator. Combined	M. Heckel	265,802	Oct. 10	714	199	22	1262
Heater for dwelling-houses	J. B. Harris, Jr	266,816	Oct. 31	1924	557	22	1497
Heater or condenser	T. W. Duffy	264,448	Sept. 19	926	260	22	953
Heating and ventilating buildings. Apparatus for	I. D. Smead	261,879	Aug. 1	65	19	22	346
Heating apparatus	E. H. Graves	264,408	Sept. 12	871	245	22	936
Heating apparatus	J. Johnson	264,835	Sept. 19	1353	383	22	1032
Heating apparatus	C. Wheat and A. Catchpole	262,580	Dec. 5	223	63	22	1928
Heating apparatus	J. S. Hull	269,576	Dec. 26	1481	427	22	2181
Heating apparatus. Cut-off mechanism for vapor	H. Swindell	264,116	Sept. 12	553	151	22	879
Heating apparatus. Hot-water	E. F. Osborne	265,698	Oct. 10	587	{163 {164	{22	1240
Heating apparatus. Meter for steam	E. F. Osborne	269,223	Dec. 19	1012	296	22	2087
Heating apparatus. Outlet for tanks of steam	W. E Haxtun	265,601	Oct. 10	457	126	22	1219
Heating apparatus. Steam	E. F. Osborne	265,697	Oct. 10	585	163	22	1240
Heating apparatus. Steam	E. F. Osborne	266,506	Oct. 24	1560	444	22	1425
Heating apparatus. Steam	E. Werner	263,739	Sept. 5	84	25	22	790
Heating-furnace	G. R. Brown	268,615	Dec. 5	264	* 75	22	1937
Heating-furnace	J. J. Richardson	264,565	Sept. 19	1044	297	22	977
Heating furnace. Hot-air house	A. P. Benner	262,199	Aug. 8	486	{135 {136	{22	423
Heating purposes. Adjustable bracket for	J. H. Eager	266,446	Oct. 24	1501	426	22	1413
Heddle and means for mounting the same	J. L. Lairdieson	262,436	Aug. 8	761	214	22	471
Hedge-trimmer	G. Reed, Jr	260,606	July 4	324	88	22	55
Hedge-trimmer	W. F. Throckmorton	265,182	Sept. 26	1786	501	22	1115
Heel	J. G. Ross	264,963	Sept. 26	1533	431	22	1070
Heel-beading machine	C. J. Addy	268,593	Dec. 5	240	67	22	1932
Heel-burnishing machine	W. Gordon	268,480	Dec. 5	123	37	22	1910
Heel-burnishing machine	C. Keighley	266,838	Oct. 31	1946	563	22	1501
Heel-lifts. Machine for cutting	J. Mundell and W. J. Gordon	267,573	Nov. 14	781	{223 {224	{22	1684
Heel-plate	N. B. Acheson	269,612	Dec. 26	1526	438	22	2190
Heel-plate	F. Draper	269,269	Dec. 19	1076	314	22	2098
Heel-plate and ice-creeper. Combined	C. Story	264,968	Sept. 26	1539	432	22	1071
Heel-machine	E. S. Mansell	262,902	Aug. 15	1344	{380 {381	{22	580
Heel-machine	E. S. Mansell	263,293	Aug. 22	1825	{517 {518	{22	678
Heel-pressing machine	D. Whitlock	265,725	Oct. 10	621	176	22	1246
Heel-shave holder	J. Jaquet	261,353	July 18	1263	350	22	924
Heel-stiffeners. Machine for forming	E. S. Mansell	267,438	Nov. 14	615	178	22	1654
Heel-stiffeners. Machine for forming	E. S. Mansell	267,439	Nov. 14	617	{178 {179	{22	1654
Heel-trimming machine	A. J. Johnson	261,094	July 11	957	267	22	165
Heel-trimming machine	T. P. King and F. S. Strong	267,544	Nov. 14	748	214	22	1678
Heel-trimming mechanism	M. Fifield	261,696	July 25	1681	471	22	301
Hermetically-sealed pot	C. S. Westcott	264,385	Sept. 12	849	238	22	932
Hide and pelt working machine	E. D. Warren	262,520	Aug. 8	853	242	22	488
Hide. Working raw	J. Rowe, Jr., and C. F. Perkins	267,595	Nov. 14	812	232	22	1690
Hides and skins. Tawing and coloring	C. Richter	260,418	July 4	90	.....	22	17
Hides. Bating and tanning	M. Turley	262,516	Aug. 8	849	241	22	487
High and low steam and water alarm	J. Richter	265,870	Oct. 10	781	221	22	1275
High and low water alarm for steam-boilers	T. James	261,721	July 25	1718	483	22	307
High-steam and low-water detector	R. D. Barr	268,353	Nov. 28	1741	483	22	1873
Hinge	J. E. Gowen	261,150	July 18	1024	288	22	186
Hinge	D. D. Shupe	269,126	Dec. 12	886	261	22	2058
Hinge	H. A. Wilbur	260,437	July 4	111	33	22	20
Hinge. Adjustable stop	T. H. Costello and A. H. Hall	269,562	Dec. 26	1458	420	22	2176
Hinge. Awning-blind	F. B. Brown	264,852	Sept. 26	1388	391	22	1045
Hinge for shutters. Lock	A. Müller and J. Wolf	267,448	Nov. 14	627	182	22	1656
Hinge. Gate	D. W. Barr	260,354	July 4	4	2	22	4
Hinge. Lock	J. L. Bixby	260,361	July 4	12	4	22	5
Hinge. Lock	A. Müller and J. Wolf	267,447	Nov. 14	627	181	22	1656
Hinge-lock	W. C. Peckham	263,950	Sept. 5	347	98	22	834
Hinge. Spring	W. Gilfillan	262,400	Aug. 8	719	203	22	464
Hinge. Spring	H. C. Hart and J. W. Cross	269,411	Dec. 19	1263	367	22	2133
Hinge. Table	J. W. Childs	262,641	Aug. 15	1019	286	22	521
Hinge. Trunk	R. G. Dayton	268,873	Dec. 12	575	{169 {170	{22	2003
Hinges. Machine for making	E. Salomon	263,960	Sept. 5	367	103	22	838
Hinges. Making	G. C. Thomas	267,809	Nov. 21	1071	299	22	1744
Hitching and releasing device. Animal	R. M. Hart	262,764	Aug. 15	1171	330	22	548
Hitching-strap	J. B. and W. A. McMechan	261,467	July 18	1394	389	22	246
Hod-elevator	F. Pierce	267,248	Nov. 7	363	105	22	1605
Hoe	T. W. Boyle	260,363	July 4	14	4	22	5
Hoe	J. N. Burton	266,673	Oct. 31	1759	508	22	1467
Hoe	D. W. Hughes	269,210	Dec. 19	999	292	22	2085
Hoe	C. O. Richter	263,430	Aug. 29	2045	586	22	716
Hoe	J. R. Gilbert	261,147	July 18	1021	288	22	186
Hoe and seed planter. Combined garden	J. J. Johnston	266,833	Oct. 31	1942	561	22	1501
Hoe. Garden	J. R. Hood	265,605	Oct. 10	464	128	22	1220

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Hoe, rake, and other agricultural implements	J. R. Hood	266,368	Oct. 24	1413	401	22	1397
Hoes. Machine for making	J. C. Richardson	267,372	Nov. 14	537	153	22	1640
Hoes. Manufacture of	S. Duffield	261,321	July 18	1229	341	22	218
Hog-cholera remedy	R. Dorn	265,770	Oct. 10	666	.....	22	1254
Hog scalding and elevating apparatus	S. Kreiter	263,918	Sept. 5	303	87	22	827
Hog-scraping machine	R. C. Tompkins	264,796	Sept. 19	1306	{368 {369	{22	1025
Hog-sorting apparatus	R. W. Cole	262,373	Aug. 8	688	191	22	458
Hog-trough and fence. Combined	M. F. French	261,842	Aug. 1	23	7	22	339
Hoisting and conveying apparatus	J. Edwards and J. R. F. Kelly	268,208	Nov. 28	1553	{431 {432	{22	1838
Hoisting and dumping ores, &c. Apparatus for	J. C. Dongherty	269,395	Dec. 19	1245	382	22	2129
Hoisting and lowering apparatus	J. H. Johnson	261,722	July 25	1720	483	22	307
Hoisting apparatus	T. J. Bull	263,476	Aug. 29	2094	600	22	726
Hoisting apparatus	W. B. Moore	264,469	Sept. 19	948	267	22	957
Hoisting apparatus	J. Roughan	262,322	Aug. 8	629	177	22	448
Hoisting apparatus	A. Granville	260,384	July 4	52	14, 15	22	10
Hoisting apparatus cylinder	J. M. Lachlan	268,695	Dec. 5	353	103	22	1954
Hoisting-bucket tilting mechanism	W. W. Wythe	268,068	Nov. 28	1382	387	22	1807
Hoisting-gear	T. J. Chaffin	265,384	Oct. 3	186	56	22	1169
Hoisting-machine	A. Dobbie	263,126	Aug. 22	1617	457	22	639
Hoisting-machine	A. Hendey	266,149	Oct. 17	1128	{318 {319	{22	1340
Hoisting-machine	V. C. Jarboe	262,048	Aug. 1	270	78	22	382
Hoisting-machine	H. J. Reedy	263,218	Aug. 22	1723	489	22	660
Hoisting. Mechanism for applying power to ropes for	A. S. French	260,964	July 11	783	215	22	137
Holdback-iron for carriages	W. P. Gibson	261,223	July 18	1113	310	22	199
Holdback. Vehicle	O. V. Price	266,049	Oct. 17	1005	285	22	1320
Holder: *See* Bag-holder. Barrel-holder. Bell-holder. Blacking-box holder. Blotter-holder. Book-holder. Bouquet-holder. Buckle-holder. Candle-holder. Car-label holder. Carriage-lamp holder. Chalk-line holder. Check-holder. Cigar-holder. Coin-holder. Commutator-brush holder. Cooking-vessel spoon-holder. Cow-tail holder. Crayon and eraser holder. Crayon or lead holder. Curtain-holder. Curtain-rod holder. Cutter-holder. Disk-cutter holder. Dry-plate holder. File-holder. File-block holder. Fire-arm holder. Flower-holder. Funnel-holder. Grain-binder cord-holder. Hat-holder. Horse-tail holder. Label-holder. Lamp-holder. Lamp carbon-holder. Lamp-globe holder. Lamp-shade holder. Lantern-holder. Lead and crayon holder. Lead or crayon holder. Link-holder. Mail-tag holder. Mop-holder. Music-holder. Napkin-holder. Necktie-holder. Oil-stone holder. Opera-glass holder. Package-holder. Paper-bag holder. Pen-holder. Pencil-holder. Picture-frame pictnre-holder. Pillow-sham holder. Price-ticket holder. Rein-holder. Rim-holder. Ruling-machine pen-holder. Sad-iron holder. Sash-holder. Saw-mill log-holder. Second-hand holder. Sewing-machine bodkin-holder. Sewing-machine thread-card holder. Spool-holder. Spool and thimble holder. Spoon-holder. Stereotype-plate holder. Tag-holder. Tether-holder. Thill and tongue holder. Tool-holder. Twine-holder. Type and space holder. Watch-balance-spring holder. Whip-holder.							
Holder for bills or notes and collection items	C. C. North	264,558	Sept. 19	1034	293	22	974
Hollow ware. Apparatus for shaping or ornamenting	J. Orcutt and C. R. Richards	269,811	Dec. 26	1775	511	22	2236
Hominy, grits, &c. Method of and apparatus for manufacturing	F. Melkersman	265,620	Oct. 10	482	133	22	1223
Hominy-mill	J. C. Klander	268,691	Dec. 5	350	102	22	1954
Hominy, &c. Washer and separator for	F. Melkersman	265,619	Oct. 10	482	132	22	1223
Honey-extractor. Centrifugal	J. K. Rudyard	263,228	Aug. 22	1734	492	22	662
Hook: *See* Belt-hook. Boat-detaching hook. Clothes-hook. Coat-hook. Fish-hook. Lacing-hook. Mousing-hook. Napkin-hook. Picture-hook. Safety-hook. Snap-hook. Suspension-hook. Swivel-hook. Tag-hook. Trace-hook. Whiffletree-hook.							
Hoop: *See* Barrel-hoop.							
Hoop	P. England	265,224	Sept. 26	1845	518	22	1125
Hoop-cutting machine. Barrel	F. L. Wilson	264,392	Sept. 12	856	240	22	933

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drf'g.	Official Gazette. Vol.	Official Gazette. Page.
Hoop-dressing machine	N. P. Stevens	267,378	Nov. 14	543	155	22	1641
Hoop-gaging apparatus	H. Wilde	260,438	July 4	112	33	22	20
Hoop machine. Barrel-	E. C. Flint	263,395	Dec. 5	26	9	22	1892
Hoops. Machine for cutting wooden	D. F. Holston	263,044	Aug. 22	1325	429 430	22	622
Hopple	C. J. Gustaveson	267,877	Nov. 21	1151	321	22	1760
Hopple	D. T. Warren	265,351	Oct. 3	151	45	22	1162
Hopple. Horse-	A. T. Sayre	262,535	Aug. 15	1260	354	22	564
Horizon. Artificial	T. Tennent	260,486	Dec. 19	1364	392	22	2152
Horse-blanket	C. H. Frost	260,472	July 4	155	44	22	27
Horse-boot	J. E. Watson	266,233	Oct. 17	1222	345	22	1355
Horse-brushing apparatus	N. L. King	261,160	July 18	1035	291	22	188
Horse-detacher	J. H. Barrett	265,000	Sept. 26	1575	442	22	1078
Horse-detacher	J. H. Clow	261,079	July 11	929	258	22	160
Horse-detacher	W. G. Cummins	267,331	Nov. 14	470	137	22	1630
Horse-detacher	W. W. Hamilton	265,316	Oct. 3	109	33	22	1154
Horse-detacher	J. H. Middleton	266,179	Oct. 17	1167	329	22	1346
Horse-detacher	M. M. Roberts	262,619	Aug. 15	991	278	22	517
Horse-detacher	R. Russell	261,876	Aug. 1	60	18	22	346
Horse-detacher	B. W. Sparks	268,438	Dec. 5	79	25	22	1902
Horse-detacher	H. R. Wallace	263,261	Aug. 22	1771	504	22	669
Horse-fastening device	J. W. Eldridge	262,582	Aug. 15	942	266	22	508
Horse-foot pad	S. T. Bane	268,605	Dec. 5	253	71	22	1934
Horse-hoof expander	G. W. Wemple	263,825	Sept. 5	194	56	22	806
Horse-hoof moistener	G. A. Keene	262,186	Aug. 1	464	129	22	413
Horse-hoof pad	W. E. Canedy	266,347	Oct. 24	1391	393	22	1393
Horse-hoof pad	G. A. Dean	264,255	Sept. 12	697	193	22	904
Horse-power	A. G. Holbrook	269,057	Dec. 12	805	238 239	22	2044
Horse-power	G. W. McVay	261,373	July 18	1291	360	22	228
Horse-power	C. H. Tuney	262,152	Aug. 1	412	116	22	404
Horse-power machine	H. Smith	264,483	Sept. 19	967	271	22	961
Horse-power platform. Endless	F. M. Travis	263,252	Aug. 22	1762	501	22	668
Horse-powers. Tread for	J. Lee, Jr.	263,343	Aug. 29	1930	552 553	22	697
Horse-racket	H. B. Davis	266,779	Oct. 31	1882	546	22	1489
Horse-rake	C. Bollinger. (Reissue)	10,168	July 25	1839	519	22	328
Horse-rake	C. Bollinger	263,469	Aug. 29	2086	598	22	724
Horse-rake	G. W. Burrier	264,135	Sept. 12	576	157	22	883
Horse-rake	A. Wertz and J. H. Fogel	267,292	Nov. 7	414	120	22	1614
Horse-rakes. Stop-block for	R. Ellwood	269,515	Dec. 26	1402	404	22	2165
Horse-tail holder	H. W. King	269,061	Dec. 12	811	240	22	2045
Horses. Anti-cribbing attachment for	O. P. Deeds	267,989	Nov. 21	1281	360	22	1783
Horses. Device for breaking balky	J. Lucas	269,589	Dec. 26	1498	432	22	2185
Horses. Device for stopping runaway	J. Goudet and G. Durozad	265,039	Sept. 26	1641	461	22	1090
Horses. Safety device for	N. A. Boies	261,990	Aug. 1	202	59	22	370
Horseshoe	J. D. Billings	265,567	Oct. 10	417	115	22	1213
Horseshoe	C. Chamberlin	265,580	Oct. 10	432	119	22	1216
Horseshoe	G. W. Fenley, Sr	267,855	Nov. 21	1124	316	22	1755
Horseshoe	W. G. Howell	265,418	Oct. 3	222	67	22	1175
Horseshoe	T. W. Murphy	267,243	Nov. 7	355	103	22	1604
Horseshoe	F. W. Seabury	267,023	Nov. 7	79	24	22	1554
Horseshoe	F. Weckerly	263,005	Aug. 22	1476	416	22	613
Horseshoe-blank bar	J. N. Clarke	260,454	July 4	132	38	22	24
Horseshoe-blanks. Die for molding	D. Wilcox	265,908	Oct. 10	819	232 233	22	1282
Horseshoe-blanks. Die for molding	D. Wilcox	265,909	Oct. 10	820	233 234	22	1282
Horseshoe-calks. Machine for forming and sharpening	J. Elliott	263,880	Sept. 5	265	77	22	820
Horseshoe-machine	A. Andersen	268,166	Nov. 28	1501	419	22	1829
Horseshoe-machine	J. Russell and C. Ball	268,731	Dec. 5	392	114 115	22	1962
Horseshoe-nail	W. W. Miner	266,868	Oct. 31	1981	572	22	1508
Horseshoe-nail blanks. Machine for separating and heading	W. F. Durfee	266,583	Oct. 24	1643	468 469 470	22	1440
Horseshoe-nail blanks. Machine for trimming and stamping	W. F. Durfee	266,584	Oct. 24	1647	470 471 472	22	1440
Horseshoe-nail blanks. Machine for beveling and trimming	W. F. Durfee	266,585	Oct. 24	1649	473 474	22	1441
Horseshoe-nail blanks. Machine for reducing and tapering	W. F. Durfee and H. P. Fowler	266,586	Oct. 24	1650	474 475 476	22	1441
Horseshoe-nail clincher	H. Brüning	260,837	July 11	629	171	22	112
Horseshoe-nail clincher	W. H. Deitz	264,067	Sept. 12	502	136	22	870
Horseshoe-nails. Machine for forging	C. W. Woodford	264,019	Sept. 5	434	119	22	849
Horseshoe-nails. Machine for making	H. E. and E. F. Grandy	268,791	Dec. 12	474	139 140 141	22	1984
Horseshoe-nails. Making	W. W. Miner	261,561	July 25	1526	428	22	274
Horseshoe toe-weight	F. A. Clerk	268,189	Nov. 28	1534	426	22	1835
Horseshoes. Device for forming calks on	W. K. Harrell	266,139	Oct. 17	1118	316	22	1398
Horseshoes. Machinery for manufacturing spring-	F. A. Roe	265,705	Oct. 10	596	166 167 168	22	1242
Hose-connection	E. F. Gilbert	262,945	Aug. 22	1401	396	22	600
Hose-coupling	C. Chadwick	265,218	Sept. 26	1837	516	22	1124
Hose-coupling	T. Götzel	266,359	Oct. 24	1404	398	22	1395
Hose-coupling	J. Meyrick, Jr., and W. Melcher	266,862	Oct. 31	1971	569	22	1506
Hose discharge-pipe	C. Callahan	265,573	Oct. 10	423	117	22	1214
Hose. Multiple-fabric	J. E. Gillespie	268,366	Nov. 28	1760	487	22	1876
Hose-nozzle	H. F. Hogan	262,183	Aug. 1	461	128	22	412

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Hose-nozzle	P. C. Lewis	269,217	Dec. 19	1006	294	22	2086
Hose-nozzle	F. W. Robertshaw	261,957	Aug. 1	163	48	22	363
Hose-nozzle	T. J. McTighe and F. W. Robertshaw.	264,317	Sept. 12	769	215	22	917
Hose-pipes. Automatic nozzle for	L. D. Shaw	263,731	Sept. 5	75	23	22	788
Hose-protector	G. Westinghouse, Jr.	267,473	Nov. 14	656	188	22	1662
Hose-reel	A. J. Guild	263,607	Sept. 5	30	9	22	780
Hose-reel	S. W. Martin	268,510	Dec. 5	151	44	22	1915
Hose-reel	L. W. Stockwell	261,882	Aug. 1	68	20	22	347
Hose-reel. Automatic	J. H. Osborne	260,891	July 11	691	187	22	122
Hose-tube. Striped knit	M. Landenberger, Jr	262,792	Aug. 15	1211	340	22	555
Hosiery and method of cutting the same	J. Travis	263,751	Dec. 5	413	121	22	1965
Hot-air furnace	J. S. Deardorff	266,613	Oct. 31	1689	487	22	1454
Hot-air generator for fire-places	J. S. Bailey	267,128	Nov. 7	216	62	22	1578
Hot-air register	W. C. Munson	261,945	Aug. 1	152	44	22	361
Hot-air register	R. Trefethen and J. M. Willey	263,443	Aug. 29	2058	590	22	719
Hot-air-register border	W. C. Munson	261,946	Aug. 1	153	44	22	362
Hot-air. Slide-center register for	H. Porter	265,862	Oct. 10	773	218	22	1273
Hotel-register. Revolving							
House: *See* Drying-house. Portable house. Milk-house. Warehouse.							
Howel and croze. Combined	D. J. Sessoms	267,601	Nov. 14	820	235	22	1691
Hub-attaching device	G. K. Farrington	261,326	July 18	1235	343	22	219
Hub-attaching device	A. Warth	260,811	July 11	602	163	22	106
Hub-boring machine	H. A. Moyer	260,774	July 11	550	149	22	98
Hub. Vehicle-	D. May	266,175	Oct. 17	1161	327	22	1345
Hub. Vehicle-wheel	J. B. Blatt	260,644	July 4	371	101	22	63
Hub. Vehicle-wheel	T. and S. N. Brown	266,251	Oct. 17	1246	334	22	1360
Hub. Vehicle-wheel	J. Lajennesse	260,999	July 11	830	231	22	145
Hub. Wheel-	G. W. Thomas	266,400	Oct. 24	1456	413	22	1405
Huller: *See* Clover-huller.							
Hydrant	R. M. Hunter	260,397	July 4	67	19	22	13
Hydrant	W. McNamara	269,440	Dec. 19	1296	376	22	2140
Hydrant	G. Shelley	260,904	July 11	704	192	22	124
Hydrant	J. Stone	261,272	July 18	1171	328	22	208
Hydrant	W. Kaiser	268,686	Dec. 5	345	100	22	1953
Hydrant-tops, &c. Fastening	J. Flower	262,216	Aug. 8	504	140	22	426
Hydrant-valve	C. W. Baldwin. (Reissue)	10,224	Oct. 31	2118	608 609	22	1533
Hydraulic elevator	C. G. Curtis and S. S. Wheeler	266,108	Oct. 17	1078	305 306	22	1331
Hydraulic elevator	A. Granville	262,290	Aug. 8	587	165	22	440
Hydraulic engineering	B. Butler	263,652	Aug. 29	2299	657	22	762
Hydraulic main	W. R. Beal	265,736	Oct. 10	635	180	22	1248
Hydraulic motor	A. Barrett	263,010	Aug. 22	1485	418	22	615
Hydraulic motor	C. E. Van Dusen	267,620	Nov. 14	840	240	22	1694
Hydraulic press	J. Kellogg	261,097	July 11	959	268	22	166
Hydraulic-press accumulator	J. W. Hyatt	265,229	Sept. 26	1855	522	22	1127
Hydrocarbon-burner	R. F. Raskin	268,824	Dec. 12	517	153	22	1992
Hydrocarbon-burner	H. T. Yaryan	262,170	Aug. 1	437	121	22	408
Hydrocarbon-burner for illuminating purposes	R. McAllister	265,928	Oct. 10	845	242	22	1296
Hydrocarbon-burners. Absorbent cushion for	C. F. Burleigh	264,402	Sept. 12	865	243	22	935
Hydrocarbon-burning apparatus	E. Baker	267,032	Nov. 7	112	33	22	1560
Hydrocarbon-engine	W. F. Quinby	268,727	Dec. 5	387	113	22	1961
Hydrocarbon-engine	A. S. Stetson	267,946	Nov. 21	1230	346	22	1775
Hydrocarbon-furnace	V. W. Blanchard	262,176	Nov. 28	1514	421 422	22	1831
Hydrocarbon-furnace	D. B. Hubbard	260,983	July 11	808	223	22	141
Hydrocarbon-furnace	H. T. Litchfield and D. Renshaw	262,236	Aug. 8	525	147	22	430
Hydrocarbon-furnace	H. T. Litchfield and D. Renshaw	262,957	Aug. 22	1416	400	22	602
Hydrocarbon-furnace	H. T. Litchfield and D. Renshaw	262,960	Aug. 22	1420	401	22	603
Hydrocarbon-furnace	J. Mundell and W. J. Gordon	263,198	Aug. 22	1703	482	22	656
Hydrocarbon-furnace	H. S. Saroni	260,789	July 11	573	155	22	102
Hypodermic needle	A. W. Brinkerhoff	268,906	Dec. 12	724	212	22	2030
Hypohydroscope	W. L. Trenholm	269,139	Dec. 12	904	264	22	2061
Ice-boxes. Alarm catch-basin for	H. Fuhrmann	267,870	Nov. 21	1145	321	22	1759
Ice-conveyer	A. Hunt	261,231	July 18	1120	312	22	200
Ice-cream freezer	B. Reabr	269,710	Dec. 26	1638	471	22	2212
Ice-creeper	L. Bensel	266,902	Nov. 7	2	1	22	1541
Ice-creeper	G. Hancock	266,032	Oct. 17	985	279	22	1316
Ice-creeper	R. Rommelsbacher	268,131	Nov. 28	1458	407	22	1821
Ice-creeper	C. G. Rust	264,105	Sept. 12	541	147	22	877
Ice from car-tracks. Clearing	J. M. Elliott	260,550	July 4	260	72	22	44
Ice in buildings, &c. Device for facilitating the stowing of	W. Guthrie	267,421	Nov. 14	592	170	22	1649
Ice-machine	J. T. Davis	268,196	Nov. 28	1541	428	22	1836
Ice-machine	T. L. Rankin	266,312	Oct. 24	1341	378	22	1383
Ice-making apparatus	T. Cook and O. Albrecht	261,810	July 25	1816	513	22	324
Ice-plow tooth	W. F. Vernier	260,914	July 11	713	195	22	126
Ice-slide	O. and W. Guthrie	264,455	Sept. 19	934	262	22	955
Igniting mechanism	T. C. Prince	261,873	Aug. 1	57	17	22	345
Illuminating basements. Method of	P. H. Jackson	263,412	Aug. 29	2025	579	22	713
Illuminating basements	P. H. Jackson	269,292	Dec. 19	1103	322	22	2103
Incandescents. Making	T. A. Edison	263,145	Aug. 22	1640	.....	22	643
Incandescents. Mold for carbonizing	T. A. Edison	263,144	Aug. 22	1639	463	22	643
Incandescents. Treating	M. M. M. Slattery	269,239	Dec. 19	1044	305	22	2093
Incubator	J. M. Halsted	262,407	Aug. 8	727	205 206	22	465
Incubator	J. W. Hannum	264,284	Sept. 12	735	205	22	911
Incubator	A. M. Halsted	267,422	Nov. 14	592	170	22	1650
Index	L. B. Tebbetts	265,717	Oct. 10	612	172	22	1244
Index-cutter	W. R. McCutcheon and W. E. Chilcote.	263,932	Sept. 5	323	92	22	830

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Indicator: *See* Bilge-water indicator. Electrical indicator. Elevator-indicator. Fire-damp indicator. Hat-indicator. Musical-scale indicator. Office-indicator. Sewing-machine tension-indicator. Signal-indicator. Speed-indicator. Spirit-cistern indicator. Station-indicator. Switch-indicator. Train-indicator.							
Indicator or advertiser of the contents of packages	A. Blair	261,656	July 25	1638	459	22	294
Indigo. Manufacture of artificial	C. Rudolph	262,695	Aug. 15	1086	.....	22	534
Inductorium	C. J. Van Depoele	266,735	Oct. 31	1836	592	22	1481
Ingot-mold	W. Hainsworth	267,880	Nov. 21	1155	324	22	1760
Ingots for blooming. Device for equalizing the temperature of and preparing	J. Reese	269,233	Dec. 19	1026	299 / 300	22	2090
Inhaler	J. A. Donaldson	263,128	Aug. 22	1020	457	22	639
Inhaler	M. Souvielle	261,400	July 18	1324	370	22	234
Inhaler	M. Matter	260,403	July 4	74	20	22	14
Inhaler for ether, &c	J. R. Adams	263,451	Aug. 29	2068	592	22	722
Inhaler for powders	E. Nitz	268,525	Dec. 5	168	48	22	1918
Inhaler. Medical	W. W. Rosenfield	266,530	Oct. 24	1591	453	22	1430
Inhaling and vaporizing apparatus	L. E. Hogue	263,410	Aug. 29	2021	578	22	712
Injector	W. B. Mack	262,069	Aug. 1	297	86	22	387
Injector	W. B. and J. D. Mack	262,070	Aug. 1	298	86	22	387
Injector	M. D. Strickland	264,489	Sept. 19	972	273	22	962
Injector	L. Schutte	267,022	Nov. 7	78	23	22	1553
Injector and exhauster. Steam-jet	J. B. Davis and W. Walker	266,109	Oct. 17	1082	306	22	1332
Injector for furnaces. Air-	J. A. Knight	268,805	Dec. 12	493	145	22	1987
Injector. Medicine-	O. H. Jewell	267,692	Nov. 21	935	264	22	1720
Injector. Oil and water	G. C. Williams	265,648	Oct. 10	524	142	22	1230
Injector. Steam-	D. R. Murphy	263,661	Aug. 29	2011	660	22	764
Injectors and pumps. Feeder for locomotive	J. J. Magne	260,583	July 4	295	.....	22	50
Ink. Fluid	W. Reissig	265,867	Oct. 10	779	.....	22	1274
Ink. Printing-	O. A. Goold	263,508	Aug. 29	2129	.....	22	732
Ink. Writing-	W. Lightfoot, Jr	264,088	Sept. 12	524	143	22	874
Inking apparatus	G. H. Henkel	264,695	Sept. 19	1189	336	22	1005
Inkstand	C. De Roberts	266,111	Oct. 17	1084	307	22	1332
Inkstand	G. W. Royce and H. Hafner	264,768	Sept. 19	1276	362	22	1020
Inkstand	G. V. Wood and W. L. Galloway	263,449	Aug. 29	2066	591	22	720
Inkstand	A. Cutler	262,009	Aug. 1	223	66	22	374
Inkstand-bracket	W. E. Smith	261,776	July 25	1778	502	22	318
Ink-well	W. C. Edge	268,469	Dec. 5	113	34	22	1908
Inlaid work and process of making the same	J. E. Binkley	261,127	July 18	1000	281	22	182
Insect-destroyer	J. C. Duke	266,789	Oct. 31	1893	549	22	1492
Insect-screen	W. G. Jesse	266,827	Oct. 31	1936	559	22	1500
Insect-trap	W. J. Reynolds	263,222	Aug. 22	1728	490	22	661
Insect-trap	T. W. Houchin	263,337	Aug. 29	1923	550	22	696
Insect-powder gun	J. H. Wheeler	260,916	July 11	714	.....	22	126
Insecticide	A. Davis	263,486	Aug. 29	2103	603	22	728
Insole-tip	S. Davis	263,489	Aug. 29	2106	604	22	728
Insole-tip	W. Wiltge	264,813	Sept. 19	1329	376	22	1029
Instrument for treating piles	R. S. Waring	267,046	Nov. 7	105	.....	22	1559
Insulating compound for electric wires	M. Mackay	268,034	Nov. 28	1342	.....	22	1800
Insulating compounds. Manufacture of	G. A. Gage	265,594	Oct. 10	449	124	22	1218
Insulating electrical wires	R. S. Waring and J. B. Hyde	267,045	Nov. 7	105	.....	22	1558
Insulating material for electric uses	W. O. Callender	264,821	Sept. 19	1338	.....	22	1030
Insulating telegraph wires, &c. Composition of matter for	L. H. McCullough	269,807	Dec. 26	1768	510	22	2236
Insulating wires	R. S. Waring and J. B. Hyde	267,044	Nov. 7	103	31	22	1558
Insulating wires for electric uses. Process of and apparatus for	J. Synar	266,552	Oct. 24	1616	460	22	1435
Insulator for musical instruments	W. H. and E. A. Eckert and J. A. Seely	262,210	Aug. 8	497	139	22	425
Insulator, lightning-arrester, and connector. Combined	G. M. Brown	268,075	Nov. 28	1391	389	22	1809
Insulator. Noise-deadening	J. C. Ela	262,939	Aug. 22	1393	393 / 394	22	598
Interest and other computations. Device for making	O. Gassett	266,957	Oct. 31	2104	604 / 605	22	1531
Interlocking apparatus. Hydraulic and electric	T. J. Bush	264,622	Sept. 19	1109	315	22	988
Interlocking bolt	M. N. Forney. (Reissue)	10,237	Nov. 14	887	253	22	1703
Interlocking switch and signal apparatus	F. W. Redeker	264,754	Sept. 19	1259	357	22	1017
Invalid reclining-chair							
Iron: *See* Buggy corner-iron. Draw-iron. Gridiron. Holdback-iron. Perch-iron. Pole-iron. Sad-iron. Smoothing, fluting, and polishing iron. Soldering-iron. Tailor's iron. Tuyere-iron. Vehicle-body corner-iron. Whiffletree-iron.							
Iron and manganese from certain solutions. Removing	C. Semper	264,774	Sept. 19	1282	.....	22	1021
Iron and steel. Manufacture of ingot	J. Reese	267,717	Nov. 21	963	271 / 272	22	1725
Iron and wood gate. Combined	J. J. Johnston	264,882	Sept. 26	1424	402	22	1050
Iron from ferruginous solutions. Removing	C. Semper	264,773	Sept. 19	1281	.....	22	1021
Iron gate	J. J. Johnston	265,822	Oct. 10	730	205	22	1265
Iron into ingot-iron and ingot-steel. Converting cast-	J. Reese	269,465	Dec. 19	1329	.....	22	2146
Iron. Pile of	H. W. Borntraeger	268,385	Dec. 5	13	4, 5	22	1889
Iron-works. Treating the waste pickle-liquor of	R. N. R. Phelps and W. A. Clark, Jr.	267,582	Nov. 14	797	228	22	1687
Ironing-board	M. Burlingham	267,323	Nov. 14	463	134	22	1629
Ironing-board	M. W. Jenks	266,995	Nov. 7	47	15	22	1548
Ironing-board	W. W. Lemon	263,414	Aug. 29	2028	579	22	713
Ironing-board	D. McArthur	261,743	July 25	1744	490	22	311
Ironing-board	G. A. Schram	260,902	July 11	701	191	22	124

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Ironing-board	A. O. Tannenberg and J. R. Barnum	262,502	Aug. 8	832	235	22	484
Ironing-board	H. E. Wright and E. Engeln	269,495	Dec. 19	1373	395	22	2154
Ironing board. Bosom-	R. F. Cook and E. R. Hinman	261,083	July 11	944	264	22	163
Ironing-machine	H. E. Smith	262,491	Aug. 8	816	231	22	481
Ironing-machine	L. Sternberger and F. G. Tees	264,966	Sept. 26	1535	431 / 432	22	1070
Ironing-machine	A. G. Yerbury	260,727	July 4	486	131 / 132	22	82
Ironing-stand	W. Fields and D. D. Mayfield	267,857	Nov. 21	1126	316	22	1755
Ironing-table	M. G. Barbour	264,057	Sept. 12	486	131	22	867
Ironing-table	J. J. Johnston	268,801	Dec. 12	488	144	22	1986
Isographic process	J. J. Magne	260,584	July 4	295	81	22	50
Jack: *See* Carriage-jack. Lasting-jack. Lasting and pegging jack. Lifting-jack. Pegging-jack. Railway-jack. Shoe-lasting jack. Shoemaker's jack. Wagon-jack. Wagon or lifting jack.							
Jack and weighing-scale. Combined	S. H. Hyde	268,797	Dec. 12	484	142	22	1986
Jacket. Boy's	H. Lynch	265,119	Sept. 26	1705	476 / 477	22	1100
Jacket. Cartridge-carrying	S. A. Day	262,577	Aug. 15	937	265	22	508
Jar: *See* Butter-jar. Drill-jar. Fruit-jar.							
Jar	A. Luger	266,375	Oct. 24	1429	405	22	1400
Jar-cover fastener	J. C. C. Carlton	261,898	July 25	1815	513	22	324
Jelly-glass	J. Bonshire	261,131	July 18	1006	282	22	183
Jewel-case	J. M. Douarin	262,749	Aug. 15	1150	325 / 326	22	545
Jewel-setting	H. Huestis	261,350	July 18	1260	350	22	223
Jeweler's drilling-machine	W. S. Brower	269,174	Dec. 19	951	278	22	2077
Jewelers' stock. Machine for ornamenting	J. W. Cameron	262,369	Aug. 8	684	190	22	458
Jeweler's work-bench	M. H. Knapp	260,880	July 11	675	184	22	119
Jewelry	H. Fletcher	264,450	Sept. 19	929	261	22	954
Jewelry. Manufacture of plated	T. W. Foster	262,657	Aug. 15	1042	292	22	526
Jewelry-ring	R. J. La Grange	263,920	Sept. 5	305	88	22	627
Jewelry show-box	L. Breidenstein	268,454	Dec. 5	97	29	22	1905
Jewelry together for burnishing. Tool for holding the frames and backs of	B. B. Manchester	267,094	Nov. 7	169	48	22	1579
Joint: *See* Ball-and-socket joint. Carriage-top joint. Curtain-rod joint. Folding joint. Lightning-rod joint. Pipe-joint. Rail-joint. Railway-rail joint. Rivet-joint. Stove-pipe joint. Universal joint. Universal angular knuckle-joint.							
Joint-coupling	O. E. Winger	265,550	Oct. 3	398	110	22	1203
Joint-fastener	R. W. Ferguson	262,032	Aug. 1	255	73	22	379
Joint-wiper	R. Reach	267,800	Nov. 21	1062	297	22	1742
Jointing	S. B. Dill	264,636	Sept. 19	1127	319	22	991
Joist-bridging	H. B. Walter	267,385	Nov. 14	551	157	22	1642
Journal and other bearings	F. E. Canda	269,636	Dec. 26	1555	.....	22	2195
Journal-bearing	G. B. Brayton	262,565	Aug. 15	918	259	22	505
Journal-bearing	G. P. Fenner	265,047	Sept. 26	1627	457	22	1067
Journal-bearing	R. W. and W. Hubbard	268,236	Nov. 28	1589	441	22	1845
Journal-bearing and box	R. W. Traylor	263,629	Aug. 29	2273	649	22	758
Journal-box	J. M. Finch	266,963	Nov. 7	32	10	22	1546
Journal-box	R. Matteson and A. B. Brown	269,592	Dec. 26	1499	432	22	2185
Journal-box	L. H. Roberts	269,714	Dec. 26	1644	472 / 473	22	2214
Journal-box	F. H. Sweet	261,274	July 18	1173	329	22	209
Journal-lubricator	T. B. Howe	269,524	Dec. 26	1411	408	22	2167
Journal. Shaft-	H. E. Cunningham	268,194	Nov. 28	1539	427	22	1835
Jug	T. L. Amphlett	267,641	Nov. 14	864	247	22	1699
Jug	H. Robinson and R. Whitmore	265,540	Oct. 3	387	106	22	1201
Jug. Earthenware	J. P. Sherwood	266,906	Oct. 31	2026	584	22	1517
Jump-seat	G. H. Hutton	263,910	Sept. 5	204	85	22	825
Key: *See* Plate-key. Pole-changing key. Telegraph-key. Watch-key.							
Key	T. Donahue and C. W. Judson	268,643	Dec. 5	296	86	22	1943
Key-fastener	L. Dion	268,640	Dec. 5	292	85	22	1942
Key-fastener	E. K. Tolman	269,744	Dec. 26	1690	484	22	2221
Key-ring	B. H. Melendy	263,935	Sept. 5	327	92	22	831
Key-slots. Broach for making	W. H. Taylor	267,808	Nov. 21	1069	299	22	1744
Key-stock. Spring	J. Adt	260,919	July 11	718	196	22	126
Keys. Machine for making split	J. Adt	261,977	Aug. 1	187	56	22	367
Keys. Machine for making split	R. T. King	262,698	Aug. 15	1340	379	22	579
Kiln: *See* Brick-kiln. Brick and tile kiln. Charcoal-kiln. Drying-kiln. Lime-kiln. Stone-burning kiln.							
King-bolt	H. McFarlane	262,451	Aug. 8	777	219	22	474
King-bolt connection. Vehicle	H. L. Kingsley	268,907	Dec. 12	619	182	22	2010
King-bolt. Wagon	M. Conrad	267,327	Nov. 14	467	135 / 136	22	1630
Kitchen-cabinet	G. W. Bacon	264,996	Sept. 26	1572	441	22	1077
Kitchen-cabinet	T. Billington	265,373	Oct. 3	177	53	22	1167
Kitchen-cabinet	N. P. Bradish	260,739	July 11	506	139	22	92
Kitchen-cabinet	J. W. Ross	267,654	Nov. 14	880	251	22	1702
Kitchen-table	J. W. Wolcott	263,275	Aug. 22	1784	508	22	672

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Kneader. Dough	D. H. Walker and L. Durand	261,283	July 18	1182	331	22	210
Kneading or beating apparatus	B. F. Sparrow	267,273	Nov. 7	391	113	22	1610
Knife: *See* Cheese-knife. Harvester-knife. Pocket-knife. Reaping or mowing machine knife. Skinning-knife.							
Knife	J. S. and A. Ray	269,109	Dec. 12	870	255	22	2055
Knife	A. W. Sperry	261,401	July 18	1325	370	22	234
Knife-grinding machine	O. Bryant	265,482	Oct. 10	430	89,90	22	1189
Knife polisher and grinder	J. Carreor	265,577	Oct. 10	430	118	22	1215
Knitting-board for manufacturing nets	N. D. Sollers	262,140	Aug. 1	397	111	22	401
Knitting fabrics having a plush surface. Machine for.	H. A. Truitt	263,999	Sept. 5	412	114	22	846
Knitting-loom. Weft-thread	J. J. Adgate	265,296	Oct. 3	79	24, 25, 26	22	1150
Knitting-machine	J. K. Crawford	267,063	Nov. 7	126	36	22	1563
Knitting-machine	I. W. Lamb	262,299	Aug. 8	600	169	22	443
Knitting-machine	M. Marshall	267,982	Nov. 21	1272	357	22	1782
Knitting-machine	J. A. Parr	262,467	Aug. 8	792	223, 224	22	477
Knitting-machine	A. Wrightson	261,508	July 18	1442	403	22	254
Knitting machine. Circular	W. H. Pepper	263,720	Sept. 5	61	18, 19	22	785
Knitting-machine for knitting double-threaded striped fabrics.	J. Denton	263,125	Aug. 22	1616	456	22	638
Knitting-machine lock	A. Angst	265,359	Oct. 3	161	48	22	1164
Knitting-machine pattern-wheel	J. A. Parr	262,466	Aug. 8	791	223	22	477
Knitting-machine presser attachment	C. E. Bean	264,059	Sept. 12	488	132	22	868
Knitting-machine thread-guide	T. Sheard	263,065	Aug. 22	1547	437	22	626
Knitting-machines. Looping attachment for	S. M. Levy	263,023	Sept. 5	310	89	22	828
Knitting machines. Mechanism for operating the yarn-guides of circular-	E. McDonnell and J. H. Sherwood	267,097	Nov. 7	172	49	22	1571
Knitting-machines. Stop-motion device for	J. Bramley	262,202	Aug. 8	489	137	22	424
Knitting-machines. Yarn-tension device and take-up for	W. H. Abel	261,415	July 18	1339	374	22	237
Knob and rosette attachment	F. J. Harper	266,033	Oct. 17	986	280	22	1316
Knob attachment	J. G. Fox	269,516	Dec. 26	1403	404	22	2166
Knob attachment	O. M. Hidden	261,604	July 25	1574	442	22	283
Knob attachment	G. Price	261,761	July 25	1763	496	22	315
Knob attachment	W. H. Taylor	261,968	Aug. 1	175	52	22	365
Knob for exercising or Indian clubs	E. M. Folk	263,887	Sept. 5	274	78	22	821
Knob roses. Clamp for adjusting door-	G. V. Blackman	267,055	Nov. 7	117	34	22	1561
Knobs. Manufacture of metallic door-	C. Puddefoot	267,105	Nov. 7	188	53, 54	22	1573
Knockdown table	E. Mets	262,081	Aug. 1	314	90	22	390
Knuckle-joint press	O. P. Bushnell	266,967	Nov. 7	8	3	22	1542
Knurling-tool	W. Stokes	265,711	Oct. 10	603	170	22	1243
Label and ticket receptacle	S. M. Holton	269,418	Dec. 19	1271	369	22	2135
Label holder. Bottle	W. W. Quiggle	265,863	Oct. 10	773	219	22	1274
Label holder. Box	H. H. Snow	267,271	Nov. 7	389	113	22	1610
Label holder. Car	T. J. Parkinson	267,246	Nov. 7	361	105	22	1605
Label-machine	T. A. Briggs	262,566	Aug. 15	919	260, 261	22	505
Label-machine cutter	T. A. Briggs	262,731	Aug. 15	1128	319, 320	22	541
Label-package	O. L. Parmenter	261,625	July 25	1601	448	22	288
Label. Post-office-box	B. Irwin	265,420	Oct. 3	225	67	22	1176
Labeling-machine	J. C. Richardson	266,314	Oct. 24	1343	378, 379	22	1384
Lacing fastening. Shoe	C. A. Cook	261,531	July 25	1488	417	22	268
Lacing fastening. Shoe	J. L. Joyce	264,302	Sept. 12	755	211	22	914
Lacing-hook	M. Bray	261,525	July 25	1477	414	22	266
Lacing-hook	F. A. Smith, Jr	266,651	Oct. 31	1734	500	22	1462
Lacing-hook	W. F. Spinney	268,744	Dec. 5	407	119	22	1964
Lacing-stud set or punch	L. C. Buettner	263,110	Aug. 22	1597	451	22	635
Lacing-studs. Machine for setting	W. C. Bray	261,526	July 25	1478	414, 415	22	266
Lacing-studs. Machine for setting	W. C. Bray	261,527	July 25	1479	415	22	266
Ladder	A. S. Coles	264,245	Sept. 12	688	190	22	903
Ladder and adjustable bench. Combined step-	M. H. Tyler	265,471	Oct. 3	287	85	22	1187
Ladder. Convertible step-	F. V. Phillips	267,927	Nov. 21	1203	338	22	1770
Ladder. Extension fire-	N. Littlefield	262,799	Aug. 15	1218	342	22	557
Ladder. Fire-	D. Friedheim	261,843	Aug. 1	25	7	22	339
Ladder. Fire-	G. W. Rich	261,874	Aug. 1	58	17	22	345
Ladder. Fireman's extension-	B. F. Bower	268,612	Dec. 5	259	73, 74	22	1936
Ladder. Step-	G. T. Lapé	261,239	July 18	1129	315, 316	22	202
Ladder. Step-	H. P. Spencer	267,118	Nov. 7	204	59	22	1576
Ladder. Step-	E. L. Staples	265,173	Sept. 26	1775	496	22	1113
Ladder. Trussed	F. S. Seagrave	267,801	Nov. 21	1064	298	22	1743
Lamp	E. Blackman	268,856	Dec. 12	580	164	22	2000
Lamp	A. L. Dawson	264,633	Sept. 19	1122	318	22	990
Lamp	J. J. Johnston	265,923	Oct. 10	731	205	22	1265
Lamp	M. Marichenski	262,804	Aug. 15	1226	344	22	558
Lamp	W. S. McLewee	260,592	July 4	305	83	22	52
Lamp	A. Nelson	266,637	Oct. 31	1713	495	22	1458
Lamp	H. Peignier	266,510	Oct. 24	1564	445	22	1425
Lamp	W. B. Robins	269,466	Dec. 19	1331	385	22	2146
Lamp	A. Velguth	264,584	Sept. 19	1064	302	22	980
Lamp	N. S. Wax	263,633	Aug. 29	2277	650	22	759
Lamp	S. L. Wiegand	267,626	Nov. 14	846	241, 242	22	1096
Lamp and holder for the same. Electric	T. A. Edison	265,311	Oct. 3	104	31	22	1153
Lamp and locomotive head-light	R. E. M. Schubert and E. T. Carswell.	265,707	Oct. 10	599	169	22	1242
Lamp and oil-stove burner	M. de Graffenried	263,770	Sept. 5	126	39	22	795

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Lamp. Argand	J. Funck	266,457	Oct. 24	1510	429	22	1415
Lamp. Automatic incandescent electric	W. L. Voelker	261,503	July 18	1436	401	22	253
Lamp. Blast	R. Reach	269,110	Dec. 12	870	256	22	2055
Lamp-bracket	S. S. Barrie. (Reissue)	10,167	July 25	1638	518	22	328
Lamp-bracket and match-box. Combined	J. Simpson	268,952	Dec. 12	672	197	22	2021
Lamp bracket. Incandescent	E. Weston	263,827	Sept. 5	196	57	22	807
Lamp bracket. Incandescent	E. Weston	263,828	Sept. 5	178	57	22	807
Lamp bracket. Incandescent	E. Weston	263,829	Sept. 5	199	57	22	807
Lamp-burner	J. M. Fife	260,469	July 4	152	43	22	26
Lamp-burner	C. Gordon	267,075	Nov. 7	143	41	22	1565
Lamp-burner	H. W. Hayden	262,666	Aug. 15	1051	294	22	528
Lamp-burner	C. A. Kinney	263,534	Aug. 29	2166	618	22	739
Lamp-burner for heavy oils	G. Flower	267,511	Nov. 14	697	200	22	1669
Lamp carbon-holder. Electric	C. M. Ball	268,851	Dec. 12	556	163	22	1999
Lamp carbon. Incandescent	E. Weston	264,985	Sept. 26	1559	438	22	1075
Lamp-chimney attachment	J. O. Illingworth	268,104	Nov. 28	1424	398	22	1815
Lamp-chimney protector	M. E. Zollicoffer	263,743	Sept. 5	87	26	22	791
Lamp. Circuit-closing key for electric	J. H. Guest	260,864	July 11	659	179	22	116
Lamp. Electric	G. W. Beardslee	265,737	Oct. 10	636	180	22	1248
Lamp. Electric	A. Bernstein	263,011	Aug. 22	1485	418	22	615
Lamp. Electric	T. A. Edison	263,135	Aug. 22	1629	460	22	641
Lamp. Electric	T. A. Edison	263,878	Sept. 5	264	76	22	819
Lamp. Electric	M. G. Farmer	265,790	Oct. 10	690	195	22	1259
Lamp. Electric	J. H. Guest	265,315	Oct. 3	108	32	22	1154
Lamp. Electric	C. F. Heinrichs	266,363	Oct. 24	1406	399	22	1306
Lamp. Electric	W. Holzer	264,698	Sept. 19	1192	337	22	1005
Lamp. Electric	D. N. Hurlbut	265,810	Oct. 10	731	201	22	1263
Lamp. Electric	A. W. Morton	264,328	Sept. 12	782	220	22	920
Lamp. Electric	J. V. Nichols	263,801	Sept. 5	165	48	22	802
Lamp. Electric	H. Sedlaczek, F. Wikulill, and S. Schuckert.	264,346	Sept. 12	800	225	22	923
Lamp. Electric	W. Stanley, Jr	269,132	Dec. 12	897	263	22	2059
Lamp. Electric	W. L. Voelker	263,257	Aug. 22	1767	503	22	668
Lamp. Electric	S. Waters	265,475	Oct. 3	292	87	22	1188
Lamp. Electric	E. Weston	266,242	Oct. 17	1233	349, 350	22	1358
Lamp. Electric	J. J. Wood	261,289	July 18	1189	332, 333	22	212
Lamp. Electric-arc	J. D. F. Andrewa	266,337	Oct. 24	1377	388	22	1391
Lamp. Electric-arc	C. E. Ball	260,925	July 11	726	198, 199	22	127
Lamp. Electric-arc	C. M. Ball	268,850	Dec. 12	555	162	22	1999
Lamp. Electric-arc	S. Borden	260,647	July 4	379	104	22	63
Lamp. Electric-arc	C. A. Cooley	267,155	Nov. 7	244	70	22	1583
Lamp. Electric-arc	N. H. Edgerton	268,392	Dec. 5	22	7, 8	22	1891
Lamp. Electric-arc	J. R. Finney	265,049	Sept. 26	1629	458	22	1068
Lamp. Electric-arc	J. R. Finney	268,394	Dec. 5	25	8	22	1891
Lamp. Electric-arc	J. R. Finney and L. Campbell	265,050	Sept. 26	1631	458	22	1068
Lamp. Electric-arc	F. K. Fitch	264,267	Sept. 12	712	197	22	907
Lamp. Electric-arc	W. K. Freeman	264,269	Sept. 12	719	200	22	908
Lamp. Electric-arc	W. K. Freeman	264,270	Sept. 12	720	200	22	908
Lamp. Electric-arc	W. P. Freeman	266,455	Oct. 24	1508	428	22	1415
Lamp. Electric-arc	A. Graham	268,218	Nov. 28	1566	434, 435	22	1841
Lamp. Electric-arc	J. H. Guest	260,975	July 11	794	218	22	139
Lamp. Electric-arc	J. H. Guest	265,670	Oct. 10	553	151, 152	22	1234
Lamp. Electric-arc	E. J. Harling and E. Hartmann	268,224	Nov. 28	1576	437	22	1843
Lamp. Electric-arc	C. D. Haskins	261,091	July 11	953	266	22	165
Lamp. Electric-arc	C. Heisler	263,404	Aug. 29	2015	576	22	711
Lamp. Electric-arc	A. G. Holcombe	269,417	Dec. 19	1269	369	22	2135
Lamp. Electric-arc	C. A. Hussey	267,691	Nov. 21	932	264	22	1720
Lamp. Electric-arc	J. A. and C. D. Jenney	261,815	July 25	1824	515, 516	22	325
Lamp. Electric-arc	R. A. Johnston	262,296	Aug. 8	593	167, 168	22	442
Lamp. Electric-arc	O. Kartzmark	266,161	Oct. 17	1142	322, 323	22	1342
Lamp. Electric-arc	R. H. Mather	268,254	Nov. 28	1616	449	22	1850
Lamp. Electric-arc	N. McCarty	267,553	Nov. 14	758	217	22	1680
Lamp. Electric-arc	J. McLaughlin	268,038	Nov. 28	1350	377, 378	22	1801
Lamp. Electric-arc	J. A. Mondos	263,938	Sept. 5	331	93, 94	22	831
Lamp. Electric-arc	J. Olmsted	263,296	Aug. 22	1829	518, 519	22	679
Lamp. Electric-arc	J. Olmsted	264,958	Sept. 26	1523	428	22	1068
Lamp. Electric-arc	W. S. Parker	269,453	Dec. 19	1313	380	22	2144
Lamp. Electric-arc	W. M. Thomas	263,246	Aug. 22	1752	498	22	666
Lamp. Electric-arc	W. M. Thomas	263,247	Aug. 22	1754	499, 500	22	666
Lamp. Electric-arc	E. Thomson	261,067	July 11	914	254	22	157
Lamp. Electric-arc	E. Thomson	261,790	July 25	1793	507	22	320
Lamp. Electric-arc	S. F. Van Choate	268,155	Nov. 28	1489	415, 416	22	1827
Lamp. Electric-arc	C. J. Van Depoele	261,280	July 18	1178	330	22	210
Lamp. Electric-arc	C. J. Van Depoele	262,333	Aug. 8	641	180	22	450
Lamp. Electric-arc	J. E. Watson	262,164	Aug. 1	429	120	22	407
Lamp. Electric-arc	J. E. Watson	262,165	Aug. 1	430	120	22	407
Lamp. Electric-arc	E. Weston	264,006	Sept. 5	419	116	22	847
Lamp. Electric-arc	E. Weston	264,978	Sept. 26	1549	435	22	1073
Lamp. Electric-arc	E. Weston	266,240	Oct. 17	1230	347, 348	22	1357
Lamp. Electric-arc	E. Weston	267,474	Nov. 14	657	188, 189	22	1662

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Lamp. Electric-arc	L. G. Woolley	269,151	Dec. 12	916	267	22	2063
Lamp. Electric-arc	G. S. Young and R. J. Hatton	262,718	Aug. 15	1110	314	22	538
Lamp. Electric incandescent	T. A. Edison	268,447	Oct. 24	1502	426	22	1413
Lamp. Electric incandescent	H. Goebel	266,358	Oct. 24	1463	398	22	1395
Lamp. Electric incandescent	J. H. Guest	265,410	Oct. 3	213	64	22	1174
Lamp. Electric incandescent	H. J. Müller	260,600	July 4	314	86	22	54
Lamp. Electric incandescent	J. V. Nichols	262,269	Nov. 28	1633	453	22	1853
Lamp. Electric incandescent	J. V. Nichols	268,270	Nov. 28	1634	254	22	1853
Lamp. Electric incandescent	E. Weston	269,759	Dec. 26	1708	492	22	2224
Lamp-extinguisher. Automatic	W. H. Kimball	262,678	Aug. 15	1062	298	22	530
Lamp-filling stand	J. J. Johnston	264,836	Sept. 19	1356	{383 {384	22	1033
Lamp-fixture	C. Gordon	263,166	Aug. 22	1664	{471 {472	22	648
Lamp fixture. Electric	D. N. Hurlbut	261,157	July 18	1030	290	22	187
Lamp-fixture. Extension	J. A. Evarts	263,155	Aug. 22	1650	466	22	646
Lamp-fixture. Extension	A. H. Jones	262,598	Aug. 15	965	{271 {272	22	512
Lamp-fixture. Extension	D. W. Parker	269,105	Dec. 12	865	254	22	2054
Lamp for bicycles or other vehicles having spider wheels. Hub	T. S. Miller	264,955	Sept. 26	1519	428	22	1067
Lamp for railway-cars and other vehicles	J. Schülke	268,134	Nov. 28	1462	408	22	1822
Lamp-fount	N. L. Bradley and A. Patitz	267,141	Nov. 7	298	66	22	1580
Lamp-fount	E. L. Bryant	263,474	Aug. 29	2092	599	22	725
Lamp. Gas	R., J., and O. Pintsch	268,373	Nov. 28	1770	{490 {491	22	1878
Lamp. Gas	C. W. Siemens	267,113	Nov. 7	195	56, 57	22	1575
Lamp. Glass	L. G. Massow	262,806	Aug. 15	1227	345	22	558
Lamp globe-holder. Argand	H. W. Hayden	266,470	Oct. 24	1522	433	22	1417
Lamp globes. Apparatus for creating vacuums in incandescent-electric	H. J. Müller	266,303	Oct. 24	1324	374	22	1381
Lamp globes. Device for cleaning electric	J. Jameson	261,234	July 18	1124	{313 {314	22	201
Lamp. Hanging	C. A. Evarts	264,677	Sept. 19	1170	331	22	1001
Lamp-holder	A. Roelofs	261,385	July 18	1307	365	22	231
Lamp holder. Incandescent	E. Weston	268,329	Nov. 28	1702	473	22	1866
Lamp holder. Incandescent electric	E. Weston	268,330	Nov. 28	1703	473	22	1866
Lamp holder. Incandescent electric	E. Weston	269,757	Dec. 26	1705	490	22	2224
Lamp. Incandescent	H. A. Seymour	261,263	July 18	1158	324	22	206
Lamp. Incandescent electric	W. Crookes	264,517	Sept. 19	998	281	22	968
Lamp. Incandescent electric	T. A. Edison	264,651	Sept. 19	1144	323	22	994
Lamp. Incandescent electric	T. A. Edison	264,652	Sept. 19	1144	324	22	994
Lamp. Incandescent electric	T. A. Edison	264,653	Sept. 19	1145	324	22	995
Lamp. Incandescent electric	T. A. Edison	264,654	Sept. 19	1145	324	22	995
Lamp. Incandescent electric	T. A. Edison	264,656	Sept. 19	1147	325	22	995
Lamp. Incandescent electric	T. A. Edison	264,657	Sept. 19	1148	325	22	995
Lamp. Incandescent electric	S. H. Emmens	267,647	Nov. 14	873	245	22	1701
Lamp. Incandescent electric	J. H. Irwin	262,420	Aug. 8	744	209	22	467
Lamp. Incandescent electric	E. Weston	266,741	Oct. 31	1843	535	22	1482
Lamp. Incandescing electric	T. A. Edison	264,655	Sept. 19	1146	324	22	995
Lamp. Incandescing electric	T. A. Edison	268,206	Nov. 28	1552	431	22	1838
Lamp. Incandescing electric	S. D. Mott	264,737	Sept. 19	1239	351	22	1014
Lamp. Kerosene-oil	T. P. Thompson	260,430	July 4	104	30	22	19
Lamp-lighter	E. B. Smith	269,241	Dec. 19	1047	305	22	2093
Lamp. Miner's	B. Dobbas	263,493	Aug. 29	2110	605	22	729
Lamp. Miner's	J. Sawyer	262,944	Dec. 12	661	193	22	2019
Lamp. Multiplex electric	H. J. Müller	261,472	July 18	1399	390	22	247
Lamp or lantern	J. H. Ewing and E. L. Bill	261,915	Aug. 1	114	34	22	355
Lamp or lantern globes, chimneys, &c. Manufacture of	A. W. Paull and J. F. Miller. (Reissue.)	10,149	July 4	495	135	22	84
Lamp-reservoir	J. J. Nichols	264,741	Sept. 19	1242	352	22	1014
Lamp safety device. Electric	J. H. Irwin	262,423	Aug. 8	747	210	22	468
Lamp. Self-regulating	V. Di Marzo	268,114	Nov. 28	1433	401	22	1817
Lamp-shade. Collapsible	N. Plympton	261,037	July 11	881	244	22	153
Lamp-shade holder	C. Petsch	266,048	Oct. 17	1004	285	22	1320
Lamp. Signal	E. S. Piper	266,719	Oct. 31	1818	527	22	1478
Lamp socket. Incandescent electric	R. F. Barnes	264,919	Sept. 26	1476	415	22	1059
Lamp. Soldering	C. W. Hoehn	269,415	Dec. 19	1266	368	22	2134
Lamp support. Electric	W. Wheeler	265,292	Oct. 3	75	23	22	1149
Lamp support. Incandescent electric	J. H. Irwin	262,424	Aug. 8	748	210	22	469
Lamp switch and indicator. Electric	E. T. Greenfield and C. S. Bradley	260,562	July 4	273	76	22	46
Lamp-switch. Incandescent	C. G. Perkins	262,470	Aug. 8	796	225	22	477
Lamp. Tubular	J. Krummenauer	269,431	Dec. 19	1284	373	22	2138
Lamp. Voltaic-arc electric	C. F. De La Roche	264,257	Sept. 12	699	194	22	905
Lamps and carbons for the same. Making electric	H. S. Maxim	261,741	July 25	1741	490	22	311
Lamps. Apparatus for hanging and unhanging electric	H. G. Fiske	262,941	Aug. 22	1307	395	22	599
Lamps. Apparatus for suspending, raising, and lowering electric	C. C. Jennings	269,526	Dec. 26	1414	408	22	2168
Lamps. Carbon conductor for electric	E. Weston	264,986	Sept. 26	1560	.....	22	1075
Lamps. Carbon for electric	H. A. Seymour	261,264	July 18	1159	324	22	206
Lamps. Carbon for incandescent	H. A. Seymour	261,261	July 18	1154	323	22	206
Lamps. Carbon-holder for arc	A. G. Waterhouse	266,236	Oct. 17	1225	346	22	1356
Lamps. Clutch for electric-arc	N. McCarty	263,192	Aug. 22	1697	481	22	654
Lamps. Cut-out for electric	C. F. Coleman and H. A. Smith	269,013	Dec. 12	743	218	22	2034
Lamps. Device for forming loops in terminal wires for electric	A. Swan	263,622	Aug. 29	2267	647	22	757
Lamps. Device for forming terminal wires for electric	A. Swan	263,623	Aug. 29	2268	647	22	757
Lamps. Device for suspending arc	A. G. Waterhouse	266,234	Oct. 17	1223	345	22	1356
Lamps. Manufacture of carbons for electric	T. A. Edison	263,139	Aug. 22	1633	462	22	642
Lamps. Manufacture of incandescent electric	J. V. Nichols	266,187	Oct. 17	1175	332	22	1348
Lamps. Manufacture of incandescing electric	T. A. Edison	264,650	Sept. 19	1143	323	22	994
Lamps. Manufacturing incandescent electric	L. F. Betts	263,304	Aug. 29	1842	524	22	687

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Lamps. Mold for forming the stems or closing-pieces for the bulbs or globes of incandescent electric	A. Swan	263,621	Aug. 29	2266	647	22	757
Lamps of equal resistance. Apparatus for making incandescent	H. S. Maxim	264,951	Sept. 26	1513	426	22	1066
Lamps. Shade and chimney holder for car	J. Kirby, Jr	269,587	Dec. 26	1496	431	22	2184
Lamps. Shunting attachment for electric-arc	E. Weston	264,984	Sept. 26	1557	{437 {438	22	1075
Lamps. Shunting device for electric	E. Weston	266,739	Oct. 31	1840	534	22	1482
Lamps. Straightening carbons of electric incandescent	T. A. Edison	263,141	Aug. 22	1636	462	22	643
Lamps. Suspending and circuit-controlling mechanism for arc	E. Weston	269,758	Dec. 26	1706	491	22	2224
Lamps. Treating carbons for electric	T. A. Edison	265,777	Oct. 10	672	.....	22	1256
Land. Machine for filling marsh	F. Moore	268,710	Dec. 5	366	107	22	1957
Land-roller	A. H. Comp and G. E. Marsh	264,514	Sept. 19	995	280	22	967
Land-roller	R. A. Horning	266,155	Oct. 17	1136	330	22	1341
Land-roller	W. P. Jones	269,581	Dec. 26	1488	429	22	2183
Land-roller	C. M. Riddle	265,539	Oct. 3	386	106	22	1201
Land scarifier. Grass	W. J. Burdick	260,529	July 4	236	66	22	40
Lantern	D. C. Banghman	267,993	Nov. 28	1291	363	22	1791
Lantern	J. S. Corban and T. G. Wright	263,766	Sept. 5	122	37	22	795
Lantern	J. F. Cranston	267,740	Nov. 21	986	278	22	1729
Lantern	G. E. Fifield	261,695	July 25	1680	471	22	301
Lantern	W. G. Mink and E. N. Alling	264,956	Sept. 26	1521	428	22	1067
Lantern	W. Porter, Jr	268,936	Dec. 12	652	191	22	2017
Lantern	C. H. Tallman and J. A. Blankley	264,369	Sept. 12	836	232	22	928
Lantern attachment	C. J. Higgins	265,673	Oct. 10	556	152	22	1235
Lantern. Electric	J. H. Irwin	261,352	July 18	1262	350	22	223
Lantern for street-lamps	G. Bray	265,377	Oct. 3	180	54	22	1168
Lantern-guard	A. M. Duburn	263,029	Aug. 22	1508	424	22	619
Lantern-holder	E. Lufkin	261,618	July 25	1593	446	22	286
Lantern-holder	E. Lufkin	266,704	Oct. 31	1803	523	22	1475
Lantern. Magic	J. B. Uphom	263,369	Aug. 29	1965	561	22	702
Lantern prop. Carriage	R. E. Goodrich	263,400	Aug. 29	2008	574	22	710
Lantern. Signal	J. H. Ewing	263,396	Aug. 29	2003	573	22	709
Lantern. Signal	A. J. Youhg	262,194	Aug. 1	471	131	22	414
Lantern. Tubular	F. Meyrose	269,808	Dec. 26	1770	510	22	2236
Lard and butter cutter	D. T. Bryan	265,380	Oct. 3	183	55	22	1168
Lard-press	J. B. Ford	262,284	Aug. 8	579	163	22	439
Lard substitute	O. H. Coumbe and R. R. Roberts	266,778	Oct. 31	1882	.....	22	1489
Last	G. W. Day	267,646	Nov. 14	872	249	22	1701
Last	J. F. McMullett	266,298	Oct. 24	1317	372	22	1379
Last	G. W. Osgood	268,271	Nov. 28	1634	254	22	1853
Last. Absorbent	T. J. Foster	262,217	Aug. 8	505	140	22	426
Last and jack. Metal	S. Mawhinney	261,165	July 18	1041	{292 {293	22	189
Lasting and fastening machine	J. E. Crisp	264,247	Sept. 12	690	191	22	903
Lasting and pegging jack	C. W. Hodgdon	268,019	Nov. 28	1324	{371 {372	22	1797
Lasting-jack	I. Hall	267,076	Nov. 7	144	41	22	1566
Lasting-machine	G. McKay	263,346	Aug. 29	1935	554	22	697
Lasting-tool	F. Henderson	265,803	Oct. 10	715	199	22	1262
Latch	J. Brownlee	260,934	July 11	737	201	22	129
Latch	J. Gérard	262,219	Aug. 8	506	141	22	426
Latch	F. J. Lee	260,693	July 4	448	121	22	76
Latch	M. C. Niles	269,067	Dec. 12	854	252	22	2052
Latch	M. C. Niles	269,099	Dec. 12	858	253	22	2053
Latch	E. Parker	262,243	Aug. 8	534	150	22	431
Latch	A. B. Prouty	266,388	Oct. 24	1439	{408 {409	22	1402
Latch and lock combined	W. Michel	266,863	Oct. 31	1971	570	22	1506
Latch-bolt catch	M. M. Henry	265,924	Oct. 10	836	239	22	1284
Latch-bolt catch	M. M. Henry	265,925	Oct. 10	837	239	22	1285
Latch. Gate	D. W. Barr	260,355	July 4	5	2	22	4
Latch. Gate	A. C. Belt	265,738	Oct. 10	637	180	22	1249
Latch. Gate	W. A. Hawkins	262,409	Aug. 8	731	206	22	466
Latch. Gate	I. Joyner	261,356	July 18	1265	351	22	224
Latch. Gate	W. H. Marshall	261,010	July 11	849	236	22	148
Latch. Gate	J. L. Reed	268,533	Dec. 5	176	50	22	1920
Latch. Gate	G. L. Smith	261,635	July 25	1615	453	22	290
Latch. Gate	P. J. Winn	260,723	July 4	461	130	22	62
Latch. Locking	F. Haadenteufel	264,061	Sept. 12	515	140	22	872
Latch. Locking	J. B. Hutson	269,421	Dec. 19	1273	370	22	2136
Latch. Locking	J. Loch	266,170	Oct. 17	1154	326	22	1343
Latch. Locking	A. B. Prouty	266,389	Oct. 24	1441	409	22	1403
Latch. Locking	J. Simon	264,575	Sept. 19	1054	300	22	979
Latch. Locking	G. Voll	265,474	Oct. 3	291	86, 87	22	1188
Latch. Locking	J. Zerfas	266,947	Oct. 31	2082	600	22	1527
Latch. Reversible	M. C. Niles	269,098	Dec. 12	856	253	22	2053
Lath-trimming machine	G. W. Nichols and W. Taylor	262,611	Aug. 15	983	276	22	515
Lathe	J. Laurent	269,686	Dec. 26	1614	462	22	2207
Lathe	J. B. Lisle	267,354	Nov. 14	502	144	22	1635
Lathe	C. C. Stuart	268,429	Dec. 5	79	25	22	1902
Lathe-cutter	C. V. Woerd	268,339	Nov. 28	1712	476	22	1868
Lathe-drill rest	J. P. Kelly and L. P. Sherman	268,906	Dec. 12	617	192	22	2010
Lathe for turning insulator-pins, &c	J. S. Kurtz	267,434	Nov. 14	609	175	22	1653
Lathe for turning irregular forms	H. C. Paine	264,332	Sept. 12	787	221	22	921
Lathe-rest	A. Gordon and J. W. See	263,334	Aug. 29	1921	550	22	695
Lathe. Screw-cutting	B. Adriance	264,597	Sept. 19	1078	{305 {306	22	983
Lathe. Screw-cutting	J. W. See	267,026	Nov. 7	83	25	22	1554
Lathe spindle. Turning	F. W. Evans	268,393	Dec. 5	23	8	22	1891
Lathe tool-post	J. E. Sweet and C. E. Lipe	261,967	Aug. 1	174	51	22	365
Lathe. Turret	P. W. Reinshagen	261,383	July 18	1305	365	22	230

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Lathe. Wood-turning	C. A. Curtis	267,332	Nov. 14	472	137	22	1631
Lathes. Centering rest or chuck for	A. B. Wadsworth	269,750	Dec. 26	1697	486	22	2222
Lattice-pillars. Device for forming	R. B. Lee	265,106	Sept. 26	1691	473	22	1097
Laundry heating and drying apparatus	C. L. Smith	261,267	July 18	1164	326	22	207
Lawn-tennis apparatus	E. H. Alexander	266,598	Oct. 31	1674	483	22	1451
Leaching apparatus	S. Strunz	260,714	July 4	472	128	22	80
Lead and crayon holder	P. Abbott and C. C. Parsons	265,730	Oct. 10	629	178	22	1247
Lead and crayon holder	J. S. Birch	267,134	Nov. 7	222	64	22	1579
Lead and crayon holder	C. W. Boman	261,659	July 25	1641	460	22	294
Lead and crayon holder	A. T. Cross	263,392	Aug. 29	1999	572	22	709
Lead and crayon holder	J. Hoffman	261,454	July 18	1380	386	22	244
Lead and crayon holder	J. Hoffman	261,455	July 18	1381	386	22	244
Lead and crayon holder	J. Hoffman	261,456	July 18	1382	386	22	244
Lead and crayon holder	J. Hoffman	261,457	July 18	1384	386	22	244
Lead and crayon holder	R. W. Uhlig	261,500	July 18	1433	400	22	252
Lead and crayon holder	R. W. Uhlig	265,894	Oct. 10	804	.....	22	1279
Lead or crayon holder	L. Abraham	267,314	Nov. 14	453	131	22	1627
Lead or crayon holder	C. W. Boman	264,131	Sept. 12	572	156	22	892
Lead or crayon holder	C. W. Boman	267,643	Nov. 14	868	248	22	1700
Lead or crayon holder	C. W. Boman	268,355	Nov. 28	1744	484	22	1674
Lead or crayon holder	J. Hoffman	267,309	Nov. 7	432	125	22	1617
Lead or crayon holder	J. Hoffman	267,528	Nov. 14	728	209	22	1674
Lead pipe. Manufactnre of	J. Farrell	269,651	Dec. 26	1573	452	22	2199
Lead. Preparing peroxide of	A. K. Eaton	266,115	Oct. 17	1088	.....	22	1333
Lead trap or cesspool	A. Chapman	269,177	Dec. 19	955	279	22	2077
Leather-board supporter	R. S. Jennings	268,494	Dec. 5	137	41	22	1912
Leather-coloring compound. Light	C. Richter	260,416	July 4	90	.....	22	17
Leather-creaser	C. H. Corey	260,847	July 11	639	174	22	113
Leather-cutting gage	H. C. Babcock	264,056	Sept. 12	465	131	22	867
Leather-cutting machine	R. S. Allen	266,004	Oct. 17	956	271	22	1310
Leather-cutting machine	J. N. Wake. (Reissue)	10,249	Nov. 28	1773	492	22	1879
Leather-cutting machine	J. N. Wake	261,188	July 18	1077	300	22	194
Leather, &c. Cutting-press for	G. S. Porter	263,214	Aug. 22	1719	{487 488}	22	659
Leather from artificial skin. Manufacture of	A. G. Fell	262,584	Aug. 15	944	.....	22	509
Leather. Making	E. W. Avery	261,073	July 11	921	.....	22	159
Leather. Preparing a solution for dyeing or staining	C. Richter	260,417	July 4	90	.....	22	17
Leather-punching machine	W. Foglesong	260,381	July 4	47	13	22	9
Leather-scouring and hide-working machine	A. Whiting	265,293	Oct. 3	76	23	22	1149
Leather scouring, setting, and hide-working machine	J. C. Mayer	260,492	July 4	189	52 53	22	32
Leather-skiving machine	E. Gott	264,874	Sept. 26	1415	400	22	1049
Leather washers. Method of and apparatus for making	D. S. Hall	263,896	Sept. 5	220	80	22	822
Leather-whitening machine	J. E. Clement	261,309	July 18	1217	{338 339}	22	216
Leather with hot air. Machinery for treating	A. Isko and A. Wetter	266,695	Oct. 31	1792	517	22	1471
Leg and foot rest	P. J. M. Jambers	266,630	Oct. 31	1707	493	22	1457
Leg. Artificial	P. M. Wolf	264,812	Sept. 19	1328	376	22	1029
Lemon-squeezer	C. Gernert	261,844	Aug. 1	25	7, 8	22	340
Lens and manufacture thereof	T. A. Willson	265,206	Sept. 26	1814	510	22	1120
Letter and figure	J. Gunning	265,961	Sept. 26	1645	.....	22	1090
Letter for signs. Raised	W. Neracher	261,477	July 18	1408	393	22	248
Letter, &c. Initial	A. B. Case	263,681	Sept. 5	14	4	22	777
Level	J. Robertson	268,226	Dec. 12	520	155	22	1992
Level. Spirit-	L. L. Davis	268,634	Dec. 5	287	84	22	1941
Leveling-rod and out-tape	H. F. Bean	269,254	Dec. 19	1060	{309 310}	22	2096
Lever engine. Swinging	J. Von Zách	260,509	July 4	209	59	22	36
Levers. Interlocking	H. F. Cox	261,207	July 18	1094	306	22	197
Life-boat	D. B. Eddy	261,143	July 18	1018	{286 287}	22	185
Life-guard and track-clearer	C. W. Held, Jr	266,692	Oct. 31	1788	516	22	1472
Life in buried persons. Device for indicating	J. G. Krichbaum	268,693	Dec. 5	351	102	22	1954
Life-lines. Catapult for throwing	P. W. Claypool	266,772	Oct. 31	1877	545	22	1488
Life-preserver	E. Maynard	261,940	Aug. 1	146	42	22	360
Life-preserver bathing-suit	R. C. Sibley	262,703	Aug. 15	1093	309	22	535
Life-preserving cushion	W. C. Wood	264,814	Sept. 19	1329	376	22	1029
Life-preserving mattress	M. H. Holmes	261,713	July 25	1707	480	22	304
Life-raft	E. S. Copeman	266,349	Oct. 24	1393	394	22	1393
Lifter: *See* Harvester-cutter-bar lifter. Mowing-machine cutter-bar lifter. Track-lifter. Transom-lifter. Wire-lifter.							
Lifting-jack	W. S. Burgin	262,204	Aug. 8	490	137	22	424
Lifting-jack	G. R. Elliott	265,042	Sept. 26	1620	456	22	1086
Lifting-jack	J. L. Ellis	267,169	Nov. 7	262	76	22	1586
Lifting-jack	H. R. Ferris	261,596	July 25	1568	440	22	282
Lifting-jack	H. H. Finn	265,048	Sept. 26	1628	458	22	1087
Lifting-jack	C. L. Genoways	269,661	Dec. 26	1586	455	22	2201
Lifting-jack	A. D. Goodwin	268,790	Dec. 12	473	139	22	1984
Lifting-jack	O. H. Hoag and N. B. Hervey	267,081	Nov. 7	151	43	22	1567
Lifting-jack	H. C. Keeler	262,050	Aug. 1	272	79	22	383
Lifting-jack	F. A. Lewis	269,435	Dec. 19	1201	375	22	2139
Lifting-jack	L. Meeker	264,732	Sept. 19	1235	349	22	1013
Lifting-jack	J. C. Michael	269,089	Dec. 12	844	250	22	2051
Lifting-jack	T. J. Pearce	268,371	Nov. 28	1768	490	22	1878
Lifting-jack	E. Quast	264,752	Sept. 19	1258	357	22	1017
Lifting-jack	W. Spragne	262,188	Aug. 1	466	130	22	413
Lifting-jack	N. P. Walters	262,519	Aug. 8	852	241	22	487
Lifting-jack	H. A. Webber	268,328	Nov. 28	1701	473	22	1866
Lifting-jack	L. Yakel	264,020	Sept. 5	435	119	22	849
Lifting-jack	C. A. Young	262,717	Aug. 15	1107	314	22	538
Lifting-jack and spike-puller	J. S. Hood	263,783	Sept. 5	142	43	22	798

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Lifts, elevators, and dumb-waiters. Safety appliance for	A. Cannon, Jr	269,775	Dec. 26	1727	498	22	2228
Light: *See* Electric-arc light. Signal-light. Head-light. Vault-light.							
Light. Means and apparatus for producing intense white	C. Clamond	261,529	July 25	1482	{415 416}	22	967
Lightning-rod joint or coupling	C. E. Ball	266,075	Oct. 17	1037	294	22	1325
Lightning-rod stand	W. B. Munn	263,423	Aug. 29	2038	584	22	715
Lime and cement. Manufacture of hydraulic	E. J. De Smedt	260,546	July 4	256	.....	22	44
Lime. Composition for treating sulphates of	E. Josia	267,310	Nov. 7	434	.....	22	1618
Limekiln	J. Druecker. (Reissue)	10,214	Oct. 10	865	247	22	1289
Limekiln	J. Zellweger	265,478	Oct. 3	295	88	22	1188
Line and reeling attachment. Safety-	W. Mackey	267,909	Nov. 21	1184	333	22	1767
Liniment. Horse and cattle	P. Corcoran	265,219	Sept. 26	1638	.....	22	1125
Link	W. Burton	267,834	Nov. 21	1101	309	22	1750
Link-bending machine	J. F. Wallace	269,357	Dec. 19	1198	{348 349}	22	2120
Link-holder	F. Sweetland	263,624	Aug. 29	2268	648	22	757
Link welding and swaging die	P. H. Standish	269,338	Dec. 19	1165	343	22	2115
Links. Machine for making	J. Bridge	264,132	Sept. 12	573	157	22	883
Linoleum. Machine for the manufacture of	M. B. Nairn	263,418	Aug. 29	2033	582	22	714
Liquid-elevating apparatus	J. C. Horton	261,716	July 25	1711	481	22	305
Liquid-vessel	T. Houston	267,892	Nov. 21	1166	327	22	1763
Liquids. Apparatus for drawing and dispensing	L. Bergen	264,127	Sept. 12	567	155	22	889
Liquids. Means for dispensing effervescent	R. R. Stafford	263,614	Aug. 29	2257	645	22	755
Liquids. Process of and apparatus for clarifying	G. H. Roeckner	266,204	Oct. 17	1194	337	22	1351
Liquor from kegs. Apparatus for drawing	H. Hohl	262,773	Aug. 15	1184	333	22	550
Liquor mixer and strainer. Combined	T. Miller	265,126	Sept. 26	1712	479	22	1102
Liquors. Apparatus for refining, purifying, and aging alcoholic	L. A. De Lime	267,065	Nov. 7	128	37	22	1563
Liquors. Apparatus for regulating or equalizing the pressure in dispensing malt	C. C. Redmond	263,216	Aug. 22	1722	488	22	659
Liquors. Process of and apparatus for purifying and maturing	I. B. Cushing	267,779	Nov. 21	1634	289	22	1738
Lithographic stones. Machine for grinding	P. C. Möller	268,119	Nov. 28	1439	{402 403}	22	1818
Lock: *See* Car-door lock. Door-lock. End-gate lock. Fire-arm lock. Knitting-machine lock. Mat-lock. Milk-can lock. Nut-lock. Oar-lock. Padlock. Permutation-lock. Registering-lock. Seal-lock. Seat-lock. Time-lock. Traveling-bag lock. Trunk-lock. Vehicle-top lock. Wagon-brake lock. Wagon-seat lock. Wheel-lock.							
Lock	A. Klaunig	268,692	Dec. 5	351	102	22	1954
Lock	A. B. Prouty	266,390	Oct. 24	1442	409	22	1403
Lock	J. Rosch and P. W. Salmons	262,618	Aug. 15	990	278	22	517
Lock	W. C. Thompson	261,789	July 25	1702	506	22	320
Lock and latch. Combined	E. Bourquin	267,139	Nov. 7	227	65	22	1580
Lock and latch. Combined	R. F. Bridewell	266,758	Oct. 31	1861	541	22	1486
Lock-case	M. L. Orum	262,977	Aug. 22	1442	407	22	607
Lock-nut	W. S. F. Dillon	262,579	Aug. 15	939	265	22	508
Lock-nut	R. Harrington	267,423	Nov. 14	594	171	22	1650
Lock-plates. Machine for bending	T. Donahue and W. W. Cone	265,396	Oct. 3	199	60	22	1171
Lock, seal, and label-holder	T. A. Platt	265,136	Sept. 26	1723	482	22	1104
Lock-strike	J. Hoover	265,417	Oct. 3	221	66	22	1175
Lock-strike	R. Lee	269,799	Dec. 26	1761	508	22	2234
Locket	O. M. Draper	264,447	Sept. 19	925	260	22	488
Locket	D. Goldsmith	263,893	Sept. 5	277	79	22	822
Locomotive	E. Coleman	265,388	Oct. 3	190	58	22	1170
Locomotive	L. Debarnot and J. Jacquot	262,013	Aug. 1	227	67, 68	22	375
Locomotive	J. C. Higdon	268,231	Nov. 28	1585	439	22	1844
Locomotive	J. M. Story	262,995	Aug. 22	1462	412	22	611
Locomotive	G. S. Strong	261,061	July 11	900	253	22	157
Locomotive	H. Waterman	262,163	Aug. 1	426	119	22	407
Locomotive ash-pan	J. Ritchie	262,318	Aug. 8	622	175	22	447
Locomotive-boiler	J. Campbell	264,136	Sept. 12	577	158	22	883
Locomotive-boiler	G. S. Strong	261,763	July 25	1784	504	22	319
Locomotive-boiler	G. S. Strong	266,551	Oct. 24	1615	460	22	1434
Locomotive driving-gear	W. Crippen	266,103	Oct. 17	1071	304	22	1330
Locomotive-engine	M. N. Forney	266,685	Oct. 21	1776	{512 513}	22	1470
Locomotive-engine	H. F. Shaw	267,726	Nov. 21	974	274	22	1727
Locomotive-engine ash-pans. Cleaning	A. D. Kilborn and W. F. Smith	267,542	Nov. 14	747	214	22	1678
Locomotive-engines for stationary purposes. Utilizing	C. B. Finley	269,190	Dec. 19	979	286	22	2081
Locomotive fire-box	P. A. Nepilly	261,474	July 18	1402	391	22	247
Locomotive-furnace	E. J. Mallett, Jr	262,071	Aug. 1	299	86	22	388
Locomotive-furnace	H. M. Smith	264,355	Sept. 12	810	228	22	925
Locomotive rail-sweeping device	J. T. McCoy	267,238	Nov. 7	352	102	22	1603
Locomotive. Railway-	J. M. Taylor	261,786	July 25	1787	505	22	319
Locomotive safety-bridge	W. B. Wood	262,548	Aug. 8	892	252	22	494
Locomotive wedge-bolt	J. Sullivan	261,570	July 25	1708	431	22	276
Locomotive-window	J. M. Taylor	261,785	July 25	1786	505	22	319
Loom	J. D. Cottrell	265,486	Oct. 3	305	91	22	1190
Loom	G. Crompton and H. Wyman	264,864	Sept. 26	1401	{395 396}	22	1047
Loom	G. Crompton and H. Wyman	265,659	Oct. 10	540	{146 147}	22	1232

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Loom	G. Crompton and H. Wyman	267,778	Nov. 21	1033	289	22	1737
Loom	F. J. Moore	236,492	Aug. 29	2037	563	22	715
Loom bobbin-frame	R. S. Cookson	263,319	Aug. 29	1904	545	22	693
Loom for weaving broad silk goods	G. Crompton and H. Wyman	267,777	Nov. 21	1031	288	22	1737
Loom for weaving chenille or Axminster carpets and rugs.	W. Adam	263,085	Aug. 22	1570	443, 444	22	630
Loom for weaving double-pile fabrics	S. C. Lister and J. Reixach	263,417	Aug. 29	2031	581, 582	22	714
Loom for weaving double-pile fabrics	S. C. Lister and J. Reixach	268,250	Nov. 28	1609	446, 447	22	1849
Loom for weaving netted fabrics	A. Melzer	263,795	Sept. 5	157	47	22	801
Loom for weaving pile fabrics	J. C. Duckworth	268,202	Nov. 28	1546	429, 430	22	1837
Looms for weaving tufted fabrics. Tuft frame or carriage for	W. Greenhalgh	264,281	Sept. 12	730	263	22	910
Loom-harness. Device for supporting	J. Sladdin	268,136	Nov. 28	1465	409	22	1823
Loom let-off mechanism	G. Crompton and H. Wyman	266,351	Oct. 24	1396	395	22	1304
Loom-reed	M. Ashe	262,197	Aug. 8	485	135	22	423
Loom-shuttle	A. J. Laundray	265,330	Oct. 3	129	37	22	1158
Loom-shuttle	D. A. Willbanks	267,698	Nov. 14	850	243	22	1696
Loom-shuttle	H. A. Williams	264,390	Sept. 12	853	239	22	933
Loom-shuttle	T. J. Clarke	266,675	Oct. 31	1761	508	22	1467
Loom-shuttle cop-supporter	J. Greenway	266,361	Oct. 24	1405	399	22	1306
Loom-shuttle motion	J. H. Crowley	263,287	Aug. 22	1811	514, 515	22	676
Loom-shuttles. Machine for winding bobbins for	J. M. Linscott	263,392	Aug. 22	1823	517	22	678
Loom stop-motion	F. O. Tucker	265,997	Oct. 17	941	265	22	1308
Loom stop-motion	A. Isherwood	265,264	Oct. 3	43	14	22	1143
Loom-temple	R. E. Neuber	263,946	Sept. 5	344	97	22	834
Loom-temple	J. B. Stamour	267,274	Nov. 7	392	114	22	1610
Loom-temple	T. Isherwood	261,232	July 18	1121	312, 313	22	201
Loom weft-stop mechanism	S. A. Estes and M. R. Shorey	265,942	Oct. 17	880	259	22	1299
Loom weft stop-motion	F. O. Tucker	269,745	Dec. 26	1690	485	22	2221
Loom weft stop-motion	D. D. Mason	266,491	Oct. 24	1548	440, 441	22	1402
Looms. Adjustable jack-strap for	P. M. Krickl	263,535	Aug. 29	2167	618	22	739
Lounge. Folding	A. J. McDonald	263,345	Aug. 29	1933	553	22	697
Lounge. Invalid	E. H. Ashcroft	265,364	Oct. 3	168	50	22	1165
Low-water detector. Electrical	C. H. Hall	268,886	Dec. 12	593	174	22	2006
Lozenge-cutter. Hand	C. H. Hall	264,528	Sept. 19	1009	284, 285	22	969
Lozenge-machine	C. J. Inman	263,911	Sept. 5	295	.....	22	825
Lubricant	J. B. Norris	267,920	Nov. 21	1196	.....	22	1769
Lubricant	G. S. Boutwell	267,994	Nov. 28	1292	.....	22	1791
Lubricant. Composition and burnishing	J. B. Norris	267,451	Nov. 14	630	.....	22	1657
Lubricant for machinery, &c. Dry	A. Temple	261,180	July 18	1063	.....	22	192
Lubricating and preserving steam-engines	H. Reisert	261,256	July 18	1147	320	22	205
Lubricating bearings. Apparatus for	J. E. Sawyer	268,546	Dec. 5	189	.....	22	1922
Lubricating compound	G. Boxley	269,175	Dec. 19	953	278	22	2077
Lubricating-cup	W. R. Michener	266,178	Oct. 17	1166	329	22	1346
Lubricating-cup. Automatic	E. L. Reese	266,885	Oct. 31	1999	577	22	1511
Lubricating-cup for steam-engines	A. Craft. (Reissue)	10,153	July 11	983	276	22	170
Lubricating device for steam-engines	L. R. Faught	262,212	Aug. 8	499	139	22	425
Lubricating loose wheels and pulleys. Device for...							
Lubricator: *See* Axle-lubricator. Car-axle lubricator. Cylinder-lubricator. Engine-cylinder lubricator. Force-feed lubricator. Journal-lubricator. Piston-rod lubricator. Steam-cylinder lubricator. Steam-engine lubricator.							
Lubricator	G. W. Baker	263,460	Aug. 29	2078	595	22	723
Lubricator	H. Baldridge	263,751	Sept. 5	106	33	22	792
Lubricator	P. Barclay	268,169	Nov. 28	1504	420	22	1830
Lubricator	W. M. Brinkerhoff	261,661	July 25	1644	461	22	295
Lubricator	B. England	262,025	Aug. 1	240	71	22	377
Lubricator	W. M. Germond	267,074	Nov. 7	142	40	22	1565
Lubricator	T. Holland	262,774	Aug. 15	1186	333	22	550
Lubricator	J. B. Low	264,176	Sept. 12	616	170	22	890
Lubricator	E. McCoy	261,166	July 18	1043	293	22	189
Lubricator	H. Reisert	268,728	Dec. 5	388	113	22	1961
Lubricator	J. J. Renchard	264,476	Sept. 19	959	270	22	960
Lubricator	J. J. Renchard	264,477	Sept. 19	960	270	22	960
Lubricator	C. W. Sherburne	266,058	Oct. 17	1016	287	22	1321
Lubricator	A. W. Swift	265,180	Sept. 26	1780	499	22	1114
Lubricator	C. Verniand	264,001	Sept. 5	413	114	22	846
Lubricator	T. M. Wilson	263,374	Aug. 29	1973	563	22	704
Lubricator	R. J. Hoffman	267,430	Nov. 14	605	173	22	1652
Lubricator attachment	A. W. Barry	262,358	Aug. 15	909	257	22	504
Lumber, &c. Apparatus for drying	F. McDonough	268,810	Dec. 12	499	149	22	1988
Lumber-assorter	S. T. McKnight	264,892	Sept. 26	1434	405, 406	22	1053
Lumber-cribs. Device for loading and landing floating	A. Thalheimr	268,839	Dec. 12	534	158, 159	22	1995
Lumber-drying apparatus	D. W. McElroy	267,795	Nov. 21	1053	294	22	1741
Lumber-rafts. Landing floating	A. Cox	266,974	Nov. 7	20	5	22	1543
Lunch-box	E. L. Germand	265,796	Oct. 10	707	197	22	1261
Lunch-box	E. A. Bowley	262,323	Aug. 8	630	177	22	448
Machine-table	J. B. M. P. Closson	266,970	Nov. 7	14	.....	22	1543
Magnesia. Manufacture of	V. W. Blanchard	267,138	Nov. 7	226	65	22	1580
Magnet. Electro-	T. Cochran	265,485	Oct. 3	303	90	22	1190
Magnet. Electro-	J. King	262,790	Aug. 15	1209	340	22	558
Magnetic separator	J. B. Blair	261,129	July 18	1002	282	22	183
Magneto-electric machine	T. A. Edison	264,643	Sept. 19	1135	321	22	993
Magneto-electric machine	O. Heikel	261,850	Aug. 1	32	9, 10	22	341

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Magneto-electric machine	O. Heikel	268,099	Nov. 28	1418	396	22	1814
Magneto-electric machine	C. Heisler	262,590	Aug. 15	956	269	22	510
Magneto-electric machines. Machine for winding armatures for	R. Haase and J. P. Recker	263,780	Sept. 5	138	42	22	797
Magneto or dynamo electric machine	T. A. Edison	263,143	Aug. 22	1638	463	22	643
Magneto or dynamo electric machine	T. A. Edison	263,150	Aug. 22	1645	465	22	644
Magneto or dynamo electric machine	A. G. Waterhouse	266,235	Oct. 17	1224	346	22	1356
Magneto or dynamo electric machine	E. Weston	266,740	Oct. 31	1842	535	22	1482
Magneto or dynamo electric machine	E. Weston	269,560	Dec. 26	1456	419	22	2176
Mail-bag	J. A. Blackburn	269,580	Dec. 26	1487	429	22	2182
Mail-bag	A. Johnston	264,676	Sept. 19	1169	331	22	1001
Mail-bags. Seal-lock for	C. C. Egerton	262,711	Aug. 15	1101	312	22	537
Mail-shipping case	S. E. Walbridge	265,638	Oct. 10	508	138	22	1227
Mail-tag holder	L. S. Sanborn						
Main: *See* Hydraulic main.							
Malt-kiln drying-floor	W. H. Hughes	264,700	Sept. 19	1194	338	22	1005
Malt extracts from the husks of brewers' mash. Apparatus for expressing	H. R. Randall	265,702	Oct. 10	593	166	22	1241
Malt-shovel	H. C. Cole	266,775	Oct. 31	1880	546	22	1489
Mantel and front	F. Woolfenden and H. L. O'Brien	269,772	Dec. 26	1723	497	22	2227
Mantel and stove combined	W. Schmitz	269,330	Dec. 19	1140	337	22	2113
Mantel for fire-places. Portable	C. L. Page	269,536	Dec. 26	1498	411	22	2170
Manure-distributer	A. J. Grady	264,279	Sept. 12	728	203	22	910
Manure-fork	H. Albers	261,894	Aug. 1	85	24	22	350
Manure-spreader	W. H. Crandall	269,183	Dec. 19	962	280	22	2078
Marble. Composition for treating sulphates of lime for the manufacture of artificial	R. Josia	265,501	Oct. 3	332	.....	22	1195
Marble. Composition for treating sulphates of lime for the manufacture of artificial	R. Josia	265,502	Oct. 3	333	.....	22	1195
Marble. Composition for treating sulphates of lime for the manufacture of artificial	R. Josia	265,503	Oct. 3	335	.....	22	1195
Marble. Composition for treating sulphates of lime for the manufacture of artificial	R. Josia	265,504	Oct. 3	336	.....	22	1195
Marble. Composition for treating sulphates of lime for the manufacture of artificial	R. Josia	265,505	Oct. 3	338	.....	22	1195
Marble. Composition for treating sulphates of lime for the manufacture of artificial	R. Josia	265,506	Oct. 3	340	.....	22	1195
Marble. Composition for treating sulphates of lime for the manufacture of artificial	R. Josia	265,507	Oct. 3	341	.....	22	1195
Marble. Composition for treating sulphates of lime for the manufacture of artificial	R. Josia	265,508	Oct. 3	343	.....	22	1195
Marble. Composition for treating sulphates of lime for the manufacture of artificial	R. Josia	265,509	Oct. 3	344	.....	22	1196
Marble. Composition for treating sulphates of lime for the manufacture of artificial	R. Josia	265,510	Oct. 3	346	.....	22	1196
Marble. Composition for treating sulphates of lime for the manufacture of artificial	R. Josia	265,511	Oct. 3	347	.....	22	1196
Marble. Composition for treating sulphates of lime for the manufacture of artificial	R. Josia	265,512	Oct. 3	349	.....	22	1196
Marble. Composition for treating sulphates of lime for the manufacture of artificial	R. Josia	265,513	Oct. 3	350	.....	22	1196
Marble. Composition for treating sulphates of lime for the manufacture of artificial	R. Josia	265,514	Oct. 3	352	.....	22	1196
Marble. Composition for treating sulphates of lime for the manufacture of artificial	R. Josia	265,515	Oct. 3	353	.....	22	1196
Marble for bath-tubs, &c. Manufacture of artificial	R. P. Conghlin	269,389	Dec. 19	1240	360	22	2128
Marble, stone, and tile. Manufacture of artificial	J. W. McKnight	262,603	Aug. 15	972	.....	22	513
Marker, harrow, seeder, and roller. Combined	J. C. Ferree	261,327	July 18	1236	343	22	219
Marking-gage	F. H. Rossman	266,646	Oct. 31	1729	499	22	1461
Mash-cooler	F. O. Kunz	261,098	July 11	962	268	22	166
Mashing-tub machinery	T. P. Kinsey	267,225	Nov. 7	337	97, 98	22	1600
Mat: *See* Foot-mat. Wooden mat. Oil-press mat.							
Mat-lock and scraper	J. J. King	229,795	Dec. 26	1756	506	22	2233
Match-box and candlestick. Combined	W. Trotter, Jr.	262,514	Aug. 8	847	240	22	486
Match-box and knife. Combined	L. W. Fairchild	263,777	Sept. 5	131	41	22	797
Match box and safe	C. W. Chamberlin	262,372	Aug. 8	657	191	22	458
Match-case	J. De Susini-Ruiseco	268,632	Dec. 5	289	84	22	1942
Match-safe	R. D. Huntley	264,538	Sept. 19	1018	288	22	971
Match-safe	W. N. Weeden	268,760	Dec. 5	426	124	22	1968
Match-splints. Machine for setting	C. F. Bonhack	268,451	Dec. 5	94	28, 29	22	1904
Matching and veneering. Flexible	L. S. Shreffler	264,482	Sept. 19	966	271	22	961
Mattress	A. Q. Allis	267,316	Nov. 14	454	131	22	1627
Mattress	J. and N. Nelson	264,192	Sept. 12	632	174	22	893
Mattress. Folding woven-wire	W. Bulkeley	262,365	Aug. 8	680	189	22	457
Mattress or bed-bottom. Spring	W. Bulkeley	262,366	Aug. 8	681	190	22	457
Mattress or bed-bottom. Spring	J. A. Widemann	265,201	Sept. 26	1809	508	22	1119
Mattress-spring	E. T. Wolcott	267,631	Nov. 14	854	243	22	1697
Mattress. Wire	G. A. and G. W. Sammet	263,433	Aug. 29	2047	587	22	717
Mattresses, pillows, &c., from feathers. Manufacture of filling for	R. Wilson	262,527	Aug. 8	861	244	22	489
Meal-bolt	C. Sangster	266,533	Oct. 24	1596	454	22	1431
Measure	D. B. Hartwell	268,665	Dec. 5	320	99	22	1948
Measure and funnel. Combined	J. A. Knowles	269,213	Dec. 19	1001	293	22	2085
Measure. Automatic grain-	J. Avery	268,168	Nov. 28	1503	419	22	1829
Measure cases. Attachment for tape-	W. Ganzhorn	263,779	Sept. 5	134	42	22	797
Measure. Dressmaker's	B. Chamberlain	265,049	Sept. 26	1595	449	22	1081
Measure. Grain-	C. Riessner	262,317	Aug. 8	621	175	22	447
Measure. Liquid-	J. H. Gill and C. S. Leet	269,782	Dec. 26	1733	500	22	2229
Measure. Powder and shot	J. H. Parkhill	265,628	Oct. 10	493	135	22	1225
Measure. Tailor's	S. Darling	267,159	Nov. 7	248	72, 73	22	1584
Measures. Building and apparatus for keeping and comparing standard	L. D. Goodpasture	261,441	July 18	1366	382	22	241
Measuring device or apparatus							

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drgs.	Official Gazette. Vol.	Official Gazette. Page.
Measuring electric currents	S. D. Mott	267,445	Nov. 14	624	{180 181	22	1656
Measuring grain. Machine for	W. R. Edgington	261,210	July 18	1099	307	22	198
Measuring-instrument	J. H. Perry and S. A. Goodman	261,626	July 25	1601	{448 449	22	288
Measuring-machine	T. A. Bell	267,826	Nov. 21	1092	306	22	1748
Measuring machine. Cloth-	J. H. Kleppinger and J. N. Naylor	267,901	Nov. 21	1175	330	22	1765
Measuring the foot and fitting lasts. Apparatus for	J. H. Schaefer	263,971	Sept. 5	371	104	22	839
Measuring-vessel	G. J. Cave	268,186	Nov. 28	1531	425	22	1834
Meat and vegetable chopper	L. Haas	266,030	Oct. 17	984	279	22	1316
Meat and vegetable slicing machine	J. W. Anderson	266,263	Oct. 24	1273	361	22	1371
Meat-chopping machine	H. R. Shirk	268,298	Nov. 28	1667	462	22	1859
Meat-cutter	A. Metz	260,595	July 4	307	84	22	52
Meat-cutter	J. E. Smith	261,397	July 18	1321	{368 369	22	233
Meat-cutter	J. Streicher, V. Hoehl, and B. Holz	264,114	Sept. 12	550	150	22	878
Meat-cutting machine	C. Kieser	260,758	July 11	534	144	22	95
Meat-mincing apparatus	C. A. Hammer, Sr	262,893	Aug. 15	1335	377	22	578
Meat-slicing machine	A. and A. Iske	267,083	Nov. 7	153	44	22	1567
Meat-tenderer	I. W. Heysinger	260,393	July 4	63	18	22	12
Meat-tenderer	J. Zimmer	266,576	Oct. 24	1636	466	22	1438
Meat-vessel	J. J. Johnston	265,609	Oct. 10	470	129	22	1221
Meats. Apparatus for preserving	A. Fowler	267,685	Nov. 21	927	263	22	1718
Meats. Curing and preserving	A. Fowler	267,684	Nov. 21	926	.....	22	1718
Mechanical movement	A. Dilger	262,020	Aug. 1	232	70	22	376
Mechanical movement	L. S. Fithian	263,497	Aug. 29	2115	606	22	720
Mechanical movement	M. Fröhlich	267,181	Nov. 7	275	81	22	1589
Mechanical movement	W. H. Golding	267,875	Nov. 21	1150	{322 323	22	1760
Mechanical movement	J. A. Hafner. (Reissue)	10,206	Sept. 26	1860	523	22	1128
Mechanical movement	J. A. Hafner	260,387	July 4	56	16	22	11
Mechanical movement	W. C. Hartmann	265,411	Oct. 3	215	65	22	1174
Mechanical movement	L. N. Merriman	264,734	Sept. 19	1237	{349 350	22	1013
Mechanical movement	O. M. Morse	263,717	Sept. 5	59	17	22	785
Mechanical movement	B. B. Powell	265,632	Oct. 10	502	136	22	1226
Mechanical movement	J. C. Richardson	262,478	Aug. 8	804	228	22	479
Mechanical movement	D. M. Somers and J. Sperry	261,178	July 18	1059	297	22	191
Mechanical movement	A. Warth	267,935	Nov. 21	1240	349	22	1776
Mechanical movement	C. A. Wenborne	268,065	Dec. 12	684	201	22	2024
Mechanical movement	R. W. Whitney	268,160	Nov. 28	1496	417	22	1828
Mechanical movement	J. D. Wright	267,638	Nov. 14	861	246	22	1699
Mechanical movement	H. Wyman	264,594	Sept. 19	1073	304	22	982
Mechanical movement	H. Wyman	264,595	Sept. 19	1075	305	22	982
Medical compound	J. S. H. Whealton	269,145	Dec. 12	910	.....	22	2062
Medical compound for burns, scalds, &c	L. E. Bush	264,857	Sept. 26	1394	.....	22	1046
Medical compound for rheumatism, &c	E. B. C. Wright	266,553	Oct. 24	1635	.....	22	1438
Medical induction-coil. Electro-	J. Kidder	269,794	Dec. 26	1755	506	22	2233
Medicinal compound	T. Cornwell	262,744	Aug. 15	1145	.....	22	544
Medicinal compound	G. Ulrich	268,962	Dec. 12	682	.....	22	2024
Medicinal preparation	G. Déclat	265,583	Oct. 10	436	.....	22	1216
Medicines. Preparation for masking the nauseous taste of	W. H. McLaughlin	267,442	Nov. 14	622	.....	22	1655
Mercury from sand. Separator for separating	F. W. Wehrle and W. Unger	265,898	Oct. 10	809	229	22	1230
Metal bars. Machine for drawing	L. Brightman	268,456	Dec. 5	99	30	22	1905
Metal bars. Manufacture of	W. C. Stiff	263,850	Aug. 15	1279	.....	22	568
Metal-bending machine	C. D. Wiley	267,627	Nov. 14	847	242	22	1696
Metal. Chill for chilling	W. Tuttle	265,646	Oct. 10	522	142	22	1229
Metal cleaning and polishing composition	B. G. Seebach	269,722	Dec. 26	1655	.....	22	2216
Metal. Device for cutting, turning, and threading	J. H. Steen	267,377	Nov. 14	542	155	22	1641
Metal. Forming ornamental designs on	T. N. Henchy and E. P. Felcker	268,486	Dec. 5	129	.....	22	1911
Metal plates to sheet-rubber. Machine for attaching	J. L. Thomson	260,431	July 4	105	30	22	19
Metal-polishing composition	B Wilson	265,905	Oct. 10	816	.....	22	1281
Metal rolls. Shield for	H. McDonald	268,259	Nov. 28	1623	{450 451	22	1851
Metal rollers. Gearing for trains of	U. Haskin	269,574	Dec. 26	1478	{426 427	22	2180
Metal-shearing machine	J. W. Babbit	262,724	Aug. 15	1190	316	22	539
Metal-working press	J. Wagner	263,260	Aug. 22	1770	504	22	669
Metals by electrolysis. Apparatus for separating	H. R. Cassel	264,927	Sept. 26	1487	418	22	1061
Metals. Plating	C. Haegele	267,859	Nov. 21	1153	.....	22	1760
Metals. Process of and apparatus for separating	H. R. Cassel	264,928	Sept. 26	1488	418	22	1062
Metals with metal. Apparatus for coating	H. Roberts	268,127	Nov. 28	1452	406	22	1821
Metals with zinc. Coating	H. Roberts	262,124	Aug. 1	378	107	22	398
Metallic case	D. Moore	268,709	Dec. 5	365	107	22	1957
Metallic gate and hinge	P. Hayden	261,345	July 18	1254	348	22	222
Metallic straps or bands. Machine for straightening	L. Miller	260,701	July 4	458	124	22	77
Metallic tubes. Apparatus for truing, reducing, and straightening	S. P. M. Tasker and W. F. Wolfkiel	267,614	Nov. 14	833	238	22	1693
Metallurgic furnace	J. Henderson	267,346	Nov. 14	489	141	22	1633
Meter: *See* Electric-current meter. Gas-meter. Grain-meter. Piston-meter. Water-meter. Water and steam meter.							
Meters. Method of and apparatus for testing	T. McSpedon	261,943	Aug. 1	150	43	22	361
Methanometer. Automatic	D. Monnier	263,939	Sept. 5	333	94	22	832
Methylquinoline. Production of	C. Rudolph	268,543	Dec. 5	186	.....	22	1922
Mica for the manufacture of starch, &c. Machine for reducing	R. W. Traylor	263,630	Aug. 29	2274	649	22	758
Micrometer-gage	B. H. Bristol	261,201	July 18	1090	304	22	196
Microphone	C. D. Haskins	266,286	Oct. 24	1301	368	22	1376
Microphone	C. E. Scribner	262,700	Aug. 15	1090	308	22	535
Microscope	P. H. Yawman	262,634	Aug. 15	1010	283	22	519

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drgs.	Official Gazette. Vol.	Official Gazette. Page.
Middlings detacher and granulator	C. Brown	268,861	Dec. 12	565	166	22	2001
Middlings-purifier	L. Gathmann	266,985	Nov. 7	34	11	22	1546
Middlings-purifier	J. D. Hurst	265,087	Sept. 26	1668	466	22	1093
Middlings-purifier	W. Klostermann	267,226	Nov. 7	338	98	22	1600
Middlings-purifier	N. Nielson	263,564	Aug. 29	2203	629	22	746
Middlings-purifier	F. Prinz	267,716	Nov. 21	960	271	22	1725
Middlings-purifier	C. O. White	267,389	Nov. 14	555	158	22	1643
Middlings-purifier	A. Williams	268,762	Dec. 5	429	{125 126	22	1968
Middlings-purifiers, &c. Feed mechanism for	H. O. Stahley	266,218	Oct. 17	1211	341	22	1354
Middlings-purifying machine	F. M. Brown	263,472	Aug. 29	2090	599	22	725
Middlings-purifying machine	H. J. Livergood	266,296	Oct. 24	1314	{371 372	22	1379
Middlings-shaker spring	T. M. Wilson	263,375	Aug. 29	1973	563	22	704
Milk-can	I. Chapman	264,403	Sept. 12	866	243	22	935
Milk-can	G. W. Evans	265,309	Oct. 3	202	61	22	1172
Milk-can lock	S. Horton	267,532	Nov. 14	732	211	22	1655
Milk-cooler	A. S. Benner	261,823	Aug. 1	1	1	22	335
Milk-cooler	A. S. Benner	261,824	Aug. 1	2	1	22	335
Milk-cooler	D. Brown	261,665	July 25	1648	{462 463	22	295
Milk-cooler	D. N. Calkins	268,620	Dec. 5	270	77	22	1938
Milk-cooler	W. Colditz	264,244	Sept. 12	687	190	22	902
Milk-cooler	H. H. Finn	263,692	Sept. 5	26	8	22	779
Milk-cooler	J. H. Rady	265,282	Oct. 3	64	20	22	1147
Milk-cooler	A. L. Scranton	261,633	July 25	1609	451	22	289
Milk-cooler	J. F. Swab	264,367	Sept. 12	824	232	22	928
Milk-cooler	A. B. Ward	264,003	Sept. 5	415	115	22	846
Milk-cooling apparatus	J. Roberts	262,320	Aug. 8	624	{175 176	22	447
Milk-house	G. W. Kennedy	264,460	Sept. 19	930	{263 264	22	956
Milk. Preparing substitutes for mothers'	O. Lahrmann	268,245	Nov. 28	1604	445	22	1849
Milk. Preserving	H. W. L. O. Von Roden	267,043	Nov. 7	103	.....	22	1558
Milk-rack	F. A. Philbrick	262,908	Aug. 15	1353	382	22	582
Milk-skimmer	W. E. Lincoln	261,241	July 18	1131	316	22	202
Milk-skimming apparatus	J. M. Baker	261,124	July 18	997	280	22	182
Milk temperer for churns	W. H. Swinford	269,483	Dec. 19	1361	391	22	2151
Milk-transporting can	J. G. Cherry	266,770	Oct. 31	1875	545	22	1488
Mill: *See* Attrition-mill. Cane-mill. Cider-mill. Corn-mill. Feed-mill. Grinding-mill. Oatmeal-mill. Pug-mill. Pulverizing-mill. Reduction-mill. Roller mill. Roller flour-mill. Roller reducing and separating mill. Saw-mill. Spice-mill. Stamp-mill. Tread-mill. Wheat and middlings reducing mill. Windmill.							
Mill-spindles, &c. Bearing for	H. T. Mason	262,805	Aug. 15	1227	345	22	558
Mill for reducing grain, &c	J. Hollingsworth	267,347	Nov. 14	493	142	22	1633
Milling-cutters. Manufacture of	B. F. Wheeler	264,008	Sept. 5	423	116	22	847
Milling-machine feed device	E. F. Latham	260,760	July 11	536	144	22	96
Milling. Method of and apparatus for	C. L. Gratiot	267,516	Nov. 14	704	{202 203	22	1670
Millstone-dress	E. L. Conklin	269,015	Dec. 12	745	219	22	2034
Millstone-dress	F. W. Dove	267,502	Nov. 14	686	196	22	1667
Millstone-driver	L. Read	263,724	Sept. 5	68	20	22	786
Millstone dust-catcher	G. Kiefer	260,877	July 11	671	183	22	118
Millstone paint-staff	T. E. Davis	264,253	Sept. 12	695	192	22	904
Millstones. Bosom-staff for	W. Lehmann	265,267	Oct. 3	48	16	22	1144
Mine-draining apparatus	W. Baxter	269,167	Dec. 19	942	275	22	2075
Mineral-water fountain	P. Dummer and P. Malmström	261,086	July 11	949	265	22	164
Mining apparatus	J. Bloss and E. J. White. (Reissue)	10,212	Oct. 10	864	246	22	1288
Mining-machine	R. Bromley	269,632	Dec. 26	1549	445	22	2194
Mining-machine	J. Gray	266,807	Oct. 31	1917	554	22	1496
Mining-machine	J. W. Harrison	267,424	Nov. 14	595	171	22	1650
Mining-machine	E. Hill	261,608	July 25	1580	443	22	284
Mining-machine	M. Lally	269,214	Dec. 19	1003	293	22	2085
Mining-machine	B. Yoch	263,645	Aug. 29	2291	654	22	761
Mining machine. Coal-	J. W. Harrison	262,225	Aug. 8	512	143	22	427
Mining machine. Coal-	G. D. Whitcomb	267,047	Nov. 7	106	31	22	1559
Mining-shaft ventilator	C. S. Litzenberg	261,466	July 18	1394	389	22	246
Mining-tool	J. Borton and P. L. Dawson	262,728	Aug. 15	1123	318	22	540
Mirror-frame. Pasteboard	B. Dreyfuss	269,270	Dec. 19	1078	314	22	2098
Mitten or glove	W. W. Whitaker	265,902	Oct. 10	813	231	22	1281
Mixer: *See* Asphaltum-concrete mixer. Dough-mixer. Egg and flour mixer.							
Mixing and shaking cup	A. Eggers	263,394	Aug. 29	2001	572	22	709
Mold: *See* Alkali-ball mold. Boot and shoe mold. Brick-mold. Cigar-mold. Fire-kindler mold. Glass-mold. Ingot-mold. Suppository-mold.							
Molders. Guard for variety	G. Grill	260,974	July 11	794	218	22	139
Molding	J. Maxwell and J. Einsfeld	261,938	Aug. 1	145	42	22	360
Molding-cutters. Instrument for ascertaining the draft of	G. M. Drummond	269,201	Nov. 28	1545	429	22	1837
Molding for frames. Reversible	C. H. Bodurtha	266,755	Oct. 31	1858	540	22	1485
Molding-machine	F. H. Sweet	265,887	Oct. 10	799	226	22	1278
Molding machine. Sand-	J. Latshaw and S. Allinder	262,795	Aug. 15	1214	341	22	556

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Mole-trap	A. L. Bryan	263,109	Aug. 22	1596	451	22	635
Monkey-wrench	C. H. Miller	260,771	July 11	548	148	22	98
Monkey-wrench	C. Richards	260,609	July 4	327	89	22	56
Mop	T. I. Kennedy	265,828	Oct. 10	736	207	22	1266
Mop-head	J. K. Alters	261,801	July 25	1609	510	22	323
Mop-head	H. P. Tyler	269,746	Dec. 26	1691	465	22	2221
Mop head and wringer. Combined	J. G. Moomy	262,303	Aug. 8	606	170	22	444
Mop-holder	J. H. Omo	263,058	Aug. 22	1539	434	22	624
Mop-holder. Adjustable	I. A. Rowell	263,593	Aug. 29	2233	638	22	751
Mop-wringer	H. Taylor	265,889	Oct. 10	800	227	22	1279
Mordant	T. H. Gibson	263,040	Aug. 22	1522	.....	22	621
Mortar and plaster	W. Arrouquier and T. Barrett	262,343	Aug. 8	652	.....	22	452
Mortar or concrete. Machine for mixing	H. W. Caldwell	264,861	Sept. 26	1398	394	22	1046
Mortising-machine	A. S. Bangs	263,752	Sept. 5	107	33	22	792
Mortising-machine	L. Houston	266,156	Oct. 17	1136	320	22	1341
Mortising-machine	C. Seymour	267,465	Nov. 14	647	186	22	1660
Mortising-machine	W. S. Morgan	266,871	Oct. 31	1984	573	22	1508
Mortising-machine. Bench	T. E. Daniels	268,003	Nov. 28	1306	367	22	1794
Mortising-machine. Endless-chain	W. W. Green, Jr	268,014	Nov. 28	1318	370	22	1796
Mortising-machine. Endless-chain	W. A. Decker	266,440	Oct. 24	1494	424	22	1412
Mortising-machines. Rotary cutter for	R. W. Eltzner	266,025	Oct. 17	977	277	22	1314
Mosaic plates. Manufacturing	L. Frank	267,415	Nov. 14	585	169	22	1649
Mosaics. Machine for manufacturing wood	H. M. Crowell	269,390	Dec. 19	1241	360	22	2128
Mosquito-bar frame. Extensible	G. W. Thissell	265,718	Oct. 10	613	173	22	1244
Moth trap and tree-protector. Coddling	G. W. Stockman and J. R. Duffin	269,134	Dec. 12	899	.....	22	2060
Moths, mildew, &c. Preserving furs, feathers, clothing, carpets, &c., from	C. P. Fest	261,216	July 18	1106	308	22	198
Mother-of-pearl and similar substances on metal. Mounting	L. Lapyre	262,794	Aug. 15	1212	341	22	556
Motion and power. Device for transmitting	T. Sargent	268,942	Dec. 12	658	193	22	2018
Motion. Apparatus for converting	E. T. Alling	268,973	Dec. 12	695	203	22	2025
Motion. Converting	J. F. Brown	264,511	Sept. 19	992	279	22	967
Motion. Device for converting	S. O. Campbell	260,452	July 4	130	38	22	23
Motion. Device for converting	E. E. Miller	261,866	Aug. 1	47	14	22	343
Motion. Device for converting	R. W. Pain	268,528	Dec. 5	170	49	22	1918
Motion. Device for converting	L. Petterson	261,757	July 25	1759	495	22	314
Motion. Device for converting	M. E. Weller	268,846	Dec. 12	551	161	22	1998
Motion. Device for converting reciprocating into rotary	J. H. Chase	267,835	Nov. 21	1102	309	22	1750
Motion. Device for converting reciprocating into rotary	J. T. Richardson	261,384	July 18	1306	365	22	231
Motion. Device for converting rotary into reciprocating	G. A. Fullerton	266,590	Oct. 24	1656	477	22	1442
Motion. Device for transmitting and arresting	J. T. Shaw	262,624	Aug. 15	996	279	22	517
Motion. Machine for converting	W. B. Munger	262,685	Aug. 15	1071	301	22	532
Motion. Machine for transmitting rotary	W. H. and C. A. Holcombe	265,260	Oct. 3	40	13	22	1143
Motion. Mechanism for converting	W. W. Borden	268,611	Dec. 5	258	73	22	1936
Motion. Mechanism for converting	A. Ditson	266,784	Oct. 31	1898	548	22	1491
Motion. Mechanism for converting rotary into reciprocating	J. J. Kieferle	267,793	Nov. 21	1051	293	22	1741
Motor: *See* Car-motor. Carriage-motor. Churn-motor. Electric motor. Electro-magnetic motor. Fluid-pressure motor. Hydraulic motor. Rotary motor. Water-motor. Windmill-motor.							
Motor	N. A. Baker	260,352	July 4	3	1	22	3
Motor	W. H. J. Goodwin	262,947	Aug. 22	1403	397	22	600
Motor	A. E. Ronif	264,767	Sept. 19	1275	361	22	1020
Motor	E. J. Tomlinson	265,186	Sept. 26	1788	501	22	1116
Motor-regulator	O. Dittmar and C. Schmidt	268,641	Dec. 5	293	85	22	1942
Mousing-hook	W. H. Hammond	264,530	Sept. 19	1012	286	22	970
Mouth-piece	F. J. Kaldenberg	265,613	Oct. 10	473	130	22	1222
Movement cure	G. H. Taylor	263,625	Aug. 29	2269	648	22	757
Mower	D. C. Markham	265,525	Oct. 3	367	100 / 101	22	1198
Mower knives. Machine for the manufacture of lawn-	H. G. Fiske	269,655	Dec. 26	1578	453	22	2200
Mower. Lawn-	C. J. Gibson	263,506	Aug. 29	2127	609	22	732
Mower. Lawn-	J. Hobbs	262,593	Aug. 15	960	270	22	511
Mower. Lawn-	G. E. Lewis	263,344	Aug. 29	1931	553	22	697
Mower. Lawn-	A. Walsh	266,333	Oct. 24	1373	387	22	1390
Mowers. Actuating-pawl for lawn-	W. B. Elliott	268,471	Dec. 5	115	35	22	1908
Mowers or reapers. Connecting-rod for	O. P. Drury	265,309	Oct. 3	102	30	22	1153
Mowing and harvesting machines. Finger-bar attachment for	S. Burnap	268,459	Dec. 5	103	31	22	1906
Mowing and reaping machines. Cutter-bar lifter for	H. R. Allen	268,376	Dec. 5	3	1	22	1887
Mowing-machine	H. R. Allen	268,377	Dec. 5	4	1	22	1887
Mowing-machine	L. Blanchard	262,637	Aug. 15	1014	284 / 285	22	520
Mowing-machine	R. Dutton	266,791	Oct. 31	1895	550	22	1492
Mowing-machine	A. D. Hamlin	260,391	July 4	61	17	22	12
Mowing-machine	S. T. Holly	264,291	Sept. 12	741	206 / 207	22	912
Mowing-machine	C. W. Levalley	263,291	Aug. 22	1817	516 / 517	22	677
Mowing-machine	W. McCord	265,843	Oct. 10	753	211 / 212	22	1269
Mowing-machine	H. E. Pridmore	269,232	Dec. 19	1025	299	22	2089
Mowing-machine cutter-bar lifter	H. R. Allen	260,351	July 4	2	1	22	3
Mowing-machine knife-coupling	I. G. Bower	261,299	July 18	1204	335	22	214
Mowing-machine track-clearer	C. W. Love	260,581	July 4	293	81	22	50
Mowing-machines. Sickle-bar for	J. Laib	263,537	Aug. 29	2170	619	22	739
Muck-bar cradle	W. P. Porter	267,456	Nov. 14	636	183	22	1658

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Muff	S. A. Cunningham	266,105	Oct. 17	1073	304	22	1331
Music and reading stand and book-support	W. Rickards	267,592	Nov. 14	808	231	22	1689
Music-box	M. Boom	267,482	Nov. 14	667	191	22	1664
Music-holder	C. P. Bynon	264,623	Sept. 19	1111	315	22	988
Music-leaf turner	C. W. Hergenroeder	265,602	Oct. 10	459	126	22	1220
Music-leaf turner	W. Liddell	264,716	Sept. 19	1215	343	22	1009
Music. Sheet-	T. C. Damborg	260,372	July 4	22	7	22	6
Music-sheets. Feed and rewinding apparatus for perforated	R. W. Pain	267,364	Nov. 14	519	147	22	1637
Music-stand and walking-cane. Combined	J. G. Roberts	263,667	Aug. 29	2317	662	22	765
Music-stand. Portable	H. Niehoff	266,715	Oct. 31	1814	526	22	1477
Musical box	A. Jeanrenaud	266,826	Oct. 31	1934	550	22	1499
Musical box	E. Paillard	268,272	Nov. 28	1635	254	22	1854
Musical box	E. Paillard	268,273	Nov. 28	1637	454	22	1854
Musical-instrument key-board attachment	G. B. Kelly	261,360	July 18	1268	353	22	225
Musical instrument. Mechanical	O. H. Arno	266,071	Oct. 17	1031	292	22	1324
Musical instrument. Mechanical	O. H. Arno	266,979	Dec. 12	704	207	22	2027
Musical instrument. Mechanical	O. H. Arno	269,164	Dec. 12	936	272	22	2067
Musical instrument. Mechanical	O. H. Arno	269,615	Dec. 26	1530	440	22	2191
Musical instrument. Mechanical	E. H. Brown	263,282	Aug. 22	1799	511	22	674
Musical instrument. Mechanical	J. H. Chase	264,027	Sept. 5	444	123	22	851
Musical instrument. Mechanical	G. A. Fowler	263,503	Aug. 29	2122	608 / 609	22	731
Musical instrument. Mechanical	G. W. Ingalls	263,787	Sept. 5	146	44	22	799
Musical instrument. Mechanical	G. W. Ingalls	265,089	Sept. 26	1670	467	22	1094
Musical instrument. Mechanical	G. W. Ingalls	266,036	Oct. 17	989	281	22	1317
Musical instrument. Mechanical	J. Morgan	263,295	Aug. 22	1827	518	22	678
Musical instrument. Mechanical	H. B. Morris	268,925	Dec. 12	639	188	22	2014
Musical instrument. Mechanical	F. Stone	266,914	Oct. 31	2041	588	22	1519
Musical instrument. Mechanical	G. W. Turner	262,858	Aug. 15	1288	362	22	569
Musical instrument. Mechanical	W. A. Webber	261,413	July 18	1337	374	22	236
Musical instruments. Attachment for mechanical	O. H. Arno	266,411	Oct. 24	1465	416	22	1407
Musical instruments. Key-board attachment for	F. E. Moore	269,810	Dec. 26	1772	511	22	2236
Musical instruments. Reed for	J. B. Hamilton	263,899	Sept. 5	983	81, 82	22	823
Musical instruments. Stand for supporting	A. Warner	266,231	Oct. 17	1220	344	22	1355
Musical instruments. Water-key for brass	J. Heald	265,498	Oct. 3	324	95	22	1193
Musical-scale indicator	C. P. Vetter	266,329	Oct. 24	1366	385	22	1388
Mustard-filler	J. Gulden	260,385	July 4	53	15	22	10
Muzzle	S. Ayres	262,917	Aug. 22	1368	386	22	594
Muzzle	J. D. Crockett	260,948	July 11	756	206	22	132
Muzzle	E. Parker	265,860	Oct. 10	771	218	22	1273
Nail: *See* Fence-nail. Horseshoe-nail. Ornamental nail. Picture-nail. Screw-nail. Sheet-metal nail. Shoe-nail.							
Nail	J. Hyslop, Jr	262,780	Aug. 15	1197	335	22	553
Nail-extractor	I. W. Woods	268,343	Nov. 28	1720	473	22	1869
Nail-feeding machine	J. Sullivan	264,790	Sept. 19	1209	367	22	1024
Nail-feeding mechanism	T. L. Smith and W. S. Doig	265,166	Sept. 26	1764	492	22	1111
Nail-making machine	L. Goddu	269,279	Dec. 19	1086	316 / 317 / 318	22	2100
Nail-plate feeder	J. F. Hammond	265,599	Oct. 10	454	125	22	1219
Nail-plate feeder	L. M. Senécal	261,878	Aug. 1	62	18, 19	22	346
Nail-set	J. J. Johnston	266,834	Oct. 31	1943	562	22	1501
Nails. Manufacturing	J. M. Estabrook	268,880	Dec. 12	586	173	22	2005
Nails, tacks, &c. Facilitating the cutting of	S. R. Foster	267,864	Nov. 21	1133	.....	22	1756
Nailing-machine	F. Myers	267,244	Nov. 7	356	103 / 104	22	1604
Nailing-machine	A. Van Wagenen	260,715	July 4	472	128	22	80
Name-plate or sign	W. Kanfmann and A. Dorn	265,614	Oct. 10	474	131	22	1222
Napkin-holder	J. Hugill	264,879	Sept. 26	1421	401	22	1050
Napkin-hook	T. Todd and G. E. Vincent	262,710	Aug. 15	1100	312	22	537
Neckband-former and cuff and collar ironer. Combined	G. H. Simpson	263,361	Aug. 29	1957	559	22	701
Necktie	L. C. F. Frees	269,658	Dec. 26	1581	454	22	2200
Necktie	I. and J. French	269,040	Dec. 12	780	230	22	2040
Necktie-holder	G. L. Lewis	265,108	Sept. 26	1693	473	22	1098
Necktie. Reversible	G. L. Lewis	265,109	Sept. 26	1694	473	22	1098
Needle-blanks. Machine for swaging	J. H. Bullard	260,655	July 4	391	108	22	65
Needle-blanks. Machine for swaging	W. H. Dayton	268,874	Dec. 12	577	170	22	2003
Needle-cabinet	T. Harper	263,902	Sept. 5	287	83	22	824
Needle cutting and stamping machine	W. H. Dayton	268,875	Dec. 12	578	170	22	2003
Needle show-case	J. Roeder	263,591	Aug. 29	2231	637	22	750
Needle for attaching buttons	R. D. Gates	263,890	Sept. 5	275	79	22	832
Net. Fly-	D. F. Stager	263,438	Aug. 29	2052	588	22	713
Net frame. Mosquito-	F. Reichert	268,283	Nov. 28	1646	457	22	1856
Neuralgia. Compound for treatment of	H. F. Mills	262,457	Aug. 8	783	.....	22	475
Newspaper folding, wrapping, and addressing machine	R. W. Waters	264,380	Sept. 12	841	236	22	931
Night-soil from cesspools. Pneumatic apparatus for removing	J. B. Berlier	266,416	Oct. 24	1471	418	22	1408
Nitro-cellulose. Manufacture of	H. Parkes	265,337	Oct. 3	136	.....	22	1150
Nitro-glycerine. Process of and apparatus for the production of	W. N. Hill	262,769	Aug. 15	1177	332	22	549
Non-absorbing and heat-insulating material	R. J. Eberts and J. L. Lee	266,954	Oct. 31	2101	603	22	1530
Nozzle	M. Ward	269,751	Dec. 26	1697	487	22	2222
Nozzle. Sprinkler-	F. B. Smith	264,354	Sept. 12	810	228	22	925
Nursery-chair attachment	F. S. Capron	262,739	Aug. 15	1140	322	22	542
Nut for vehicles. Extensible	I. L. Benson	263,302	Aug. 29	1841	523	22	687
Nut-lock	A. R. Bloomer	260,931	July 11	733	200	22	129
Nut-lock	J. R. Carter	268,079	Nov. 28	1395	390	22	1810
Nut-lock	J. T. Clark	264,626	Sept. 19	1113	316	22	989

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Nut-lock	W. Courtenay	267,329	Nov. 14	469	136	22	1630
Nut-lock	P. Curran	260,848	July 11	640	174	22	113
Nut-lock	T. Curry	260,949	July 11	757	206	22	132
Nut-lock	L. H. Davis	266,780	Oct. 31	1883	547	22	1489
Nut-lock	J. B. Deeds	264,933	Sept. 26	1495	420	22	1063
Nut-lock	W. H. Farra	264,142	Sept. 12	583	160	22	884
Nut-lock	A. C. Fletcher	267,862	Nov. 21	1131	318	22	1756
Nut-lock	J. F. Goodridge	260,861	July 11	654	177	22	115
Nut-lock	A. D. Holland	266,476	Oct. 24	1528	435	22	1418
Nut-lock	W. C. Ladd	266,165	Oct. 17	1149	324	22	1343
Nut-lock	W. N. May	261,939	Aug. 1	145	42	22	360
Nut-lock	A. E. McConnell	260,591	July 4	304	83	22	52
Nut-lock	W. P. Miller	266,180	Oct. 17	1167	329	22	1346
Nut-lock	F. Murphy	261,947	Aug. 1	153	44	22	362
Nut-lock	F. Murphy	262,090	Aug. 1	322	92	22	392
Nut-lock	J. Sherman	263,474	Dec. 19	1346	388	22	2149
Nut-lock	S. E. Shute	265,285	Oct. 3	68	21	22	1148
Nut-lock	J. B. Smith and L. E. Barker	267,269	Nov. 7	387	112	22	1609
Nut-lock	M. Wallace	260,628	July 4	352	95	22	59
Nut-lock	S. S. Williamson	263,273	Aug. 22	1782	508	22	671
Nut-lock	J. E. Wootten	262,194	Aug. 1	470	131	22	414
Nut-lock	S. H. Raymond	261,482	July 18	1412	395	22	249
Nut-lock for carriage-top props	H. Kemmler	260,690	July 4	445	120	22	75
Nut-lock for screws, &c.	H. L. Heaton	269,412	Dec. 19	1264	367	22	2134
Nut-lock washer	A. D Holland	260,684	July 4	438	118	22	74
Nut-lock washer. Spring	W. E. Ward	262,158	Aug. 1	417	117	22	405
Nut-making machine	H. McDonald and R. A. Carter	268,037	Nov. 28	1345	376 / 377	22	1801
Nuts and bolts. Machine for making	M. Chase	260,370	July 4	20	6	22	6
Oar and oar-lock	J. W. Parker	262,108	Aug. 1	361	101	22	395
Oar-lock	J. Vincent	262,334	Aug. 8	643	181	22	451
Oar-lock	J. F. Fahs	264,449	Sept. 19	927	260	22	954
Oatmeal-cutter	F. C. Randall	262,616	Aug. 15	988	277	22	516
Oatmeal-mill	G. H. Cormack	264,782	Dec. 12	461	135	22	1982
Oats. Process of and apparatus for hulling	J. N. B. Bond	261,269	July 18	1203	335	22	214
Offal, &c. Apparatus for treating	M. Tamm	260,801	July 11	587	159	22	104
Offal drier and cooler	W. H. Nading	267,575	Nov. 14	790	226	22	1685
Office-indicator	M. Lancaster	265,517	Oct. 3	357	98	22	1196
Oil by means of a solvent. Apparatus for extracting	G. H. Bennett	262,561	Aug. 15	912	258	22	504
Oil-cabinet	J. Kaye	261,357	July 18	1265	351	22	224
Oil-can	C. W. Lyon	267,236	Nov. 7	351	102	22	1603
Oil-can	C. H. Poland	264,841	Sept. 19	1361	385	22	1034
Oil-can. Spring-bottom	X. St. Pierre	261,060	July 11	908	252	22	156
Oil-cloth and carpet fastener	J. T. Gilmore	268,397	Dec. 5	28	9	22	1892
Oil. Compound	E. F. Dieterichs	260,670	July 4	420	.....	22	71
Oil-conductor for car-axle boxes	J. De Long. (Reissue)	10,233	Nov. 7	443	.....	22	1619
Oil-cup	T. Holland	262,775	Aug. 15	1188	333 / 334	22	551
Oil-cup	C. J. Pinkney	267,584	Nov. 14	800	229	22	1687
Oil-cup. Lubricating	E. L. Reese	266,886	Oct. 31	2000	577	22	1511
Oil cups. Automatic feeding device for	J. Stewart	262,848	Aug. 15	1276	359	22	567
Oil. Lantern-	W. R. Meeds	266,859	Oct. 31	1967	.....	22	1506
Oil-pail	J. W. Collier	269,014	Dec. 12	743	219	22	2034
Oil. Paint-	J. Manning	269,591	Dec. 26	1499	.....	22	2185
Oil-press	W. R. Fee	261,440	July 18	1364	381	22	241
Oil-press and oil-press box	W. Krutzsch	266,373	Oct. 24	1425	404 / 405	22	1399
Oil-press envelope	J. J. Green	260,802	July 11	655	177	22	115
Oil-press mat	W. Krutzsch	266,372	Oct. 24	1424	404	22	1399
Oil-stone	J. B. and B. A. Peirce	262,113	Aug. 1	366	102	22	396
Oil-stone holder	F. H. Gowell	269,409	Dec. 19	1261	367	22	2133
Oil-stone holder	C. T. Howard	262,414	Aug. 8	739	208	22	466
Oils. Apparatus for storing, drawing, and measuring	E. F. Wilder	261,888	Aug. 1	75	22	22	348
Oils. Process of and apparatus for improving the fire-test of	H. C. Smith	268,302	Nov. 28	1670	463 / 464	22	1860
Oiler	C. W. Elliott	265,787	Oct. 10	686	194	22	1259
Oiler	W. H. Reece	264,340	Sept. 12	795	224	22	922
Oiler	E. J. Wells	266,237	Oct. 17	1226	346	22	1356
Oiler and holder. Watch	F. Gundorph	261,340	July 18	1250	346	22	222
Oiler. Automatic	C. and A. Barbour	268,606	Dec. 5	254	71	22	1934
Oiler. Crank-pin automatic	H. Duffey and J. Vandenburgh	262,654	Aug. 15	1039	291	22	525
Oiler for locomotive-engines. Automatic	A. H. Campbell	266,768	Oct. 31	1873	544	22	1488
Oiling-can	P. Wall	267,471	Nov. 14	652	187	22	1661
Oiling planers, &c.	H. Thomas	262,857	Aug. 15	1286	362	22	569
Ointment	J. M. Butler and J. A. Smithhisler	267,146	Nov. 7	233	.....	22	1581
Oleomargarine butter. Manufacturing	H. Lanferty	264,714	Sept. 19	1213	.....	22	1009
Opera-chair	F. M. Bailey and E. A. Schade	264,216	Sept. 12	657	181	22	897
Opera-chair	F. F. Harrison and W. H. Augerstein.	268,225	Nov. 28	1580	438	22	1843
Opera-chair	B. H. Koechling	265,103	Sept. 26	1687	472	22	1097
Opera-glass	B. H. Blank	264,130	Sept. 12	571	156	22	882
Opera-glass holder	W. Mack	268,112	Nov. 28	1431	400 / 401	22	1817
Optometer	F. A. Hardy	268,016	Nov. 28	1320	371	22	1796
Optometer	J. Lee	267,088	Nov. 7	160	46	22	1569
Optometer	A. A. Trowbridge	262,151	Aug. 1	409	115	22	404
Optometer. Compound	L. A. Berteling	263,674	Sept. 5	7	2, 3	22	776
Ordnance	W. Palliser	265,934	Oct. 10	856	245	22	1287
Ore-battery	P. Kirkwood, J. Wear, and J. Murdock.	264,305	Sept. 12	759	212	22	915
Ore, cement, &c. Apparatus for crushing and pulverizing	M. B. Dodge	262,652	Aug. 15	1037	291	22	525
Ore-concentrator	S. M. Atchison	268,351	Nov. 28	1739	482 / 483	22	1873

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Ore-concentrator	C. D. Smith, W. A. Sanders, and G. E. Woodbury.	261,177	July 18	1056	297	22	191
Ore concentrator and amalgamator	W. P. Davis	269,563	Dec. 26	1459	420	22	2177
Ore-concentrator. Centrifugal	A. D. Clarke	260,451	July 4	131	38	22	23
Ore-crusher	W. P. Hammond	267,687	Nov. 21	929	263	22	1710
Ore-crusher	L. C. Springer	260,796	July 11	582	157	22	103
Ore-crusher	I. D. Condit, Jr.	260,539	July 4	250	70	22	43
Ore-deoxidizing furnace. Iron-	E. Tourangin	268,840	Dec. 12	536	159	22	1995
Ore. Process of and apparatus for the reduction of iron	A. Heberle	269,667	Dec. 26	1593	457	22	2203
Ore-pulverizer	G. W. Waitt	264,585	Sept. 19	1064	302	22	980
Ore-screen	P. W. Reardon	263,808	Sept. 5	177	51	22	803
Ore separator. Dry-	C. G. Buchanan	264,620	Sept. 19	1106	314	22	988
Ore-separator. Electro-magnetic	T. A. Edison	263,131	Aug. 22	1624	459	22	640
Ore-separator. Magnetic	A. M. de la Cerda	265,766	Oct. 10	663	189	22	1253
Ore-washer	J. H. Mears	269,441	Dec. 19	1298	376	22	2140
Ores and apparatus therefor. Chlorinating	F. W. Nehrle and W. Unger	263,635	Aug. 29	2279	650 / 651	22	759
Ores. Apparatus for separating and amalgamating	E. Warne	268,325	Nov. 28	1698	471 / 472	22	1865
Ores, &c. Concentrator and separator for	F. Taggart	269,742	Dec. 26	1682	483 / 484	22	2220
Ores. Hydraulic process of and apparatus for reducing and concentrating metallic	G. W. Waitt	269,356	Dec. 19	1195	348	22	2120
Ores. Method of and apparatus for concentrating and amalgamating	E. Brown	261,302	July 18	1209	336	22	215
Organ-action	W. C. Kantner	264,705	Sept. 19	1201	340	22	1007
Organ-action	A. Anderson	264,601	Sept. 19	1084	307	22	984
Organ-case	G. Nettleton	261,027	July 11	870	241	22	151
Organ-case	N. R. Marshman	264,891	Sept. 26	1433	405	22	1052
Organ. Flute-	G. S. Morse	268,520	Dec. 5	162	47	22	1917
Organ knee-stop	W. L. Merrin	265,973	Oct. 17	945	259	22	1304
Organ-pipe	J. Conrville and G. T. Davis	266,435	Oct. 24	1480	423	22	1411
Organ. Reed-	G. R. Newman	264,097	Sept. 12	534	146	22	875
Organ. Reed-	G. B. Kelly	260,577	July 4	289	80	22	49
Organ stop-action. Reed-	G. B. Kelly	260,689	July 4	443	120	22	75
Organ stop-action. Reed-	S. J. Hoggson and G. C. Pettis	262,772	Aug. 15	1183	333	22	550
Organ-stop knob	J. P. Richardson	261,483	July 18	1413	396	22	249
Organ valve. Reed-	C. E. Bailey and W. R. Talbot	260,732	July 11	500	137	22	91
Ornamental nail	E. Vedder	261,282	July 18	1181	331	22	210
Ornamental screen, hanging, &c	R. L. Stevens	264,362	Sept. 12	817	230	22	926
Oscillating engine. Double	G. Curtis	269,643	Dec. 26	1561	449	22	2197
Oven and car for heating and transporting converter-bottoms and other articles.	E. Geneste	265,404	Oct. 3	207	62, 63	22	1173
Oven. Bake-	G. S. Blodgett	263,013	Aug. 22	1487	419	22	615
Oven for baking, cooking, or drying	M. Perret	265,277	Nov. 28	1641	455	22	1855
Oven for burning pulverulent fuel	M. Boessler	264,232	Sept. 12	675	186	22	900
Ovens. Implement for laying bricks in baking	A. A. David	264,249	Sept. 12	692	191	22	903
Overalls	J. S. Goodman	261,599	July 25	1570	441	22	282
Overalls	M. Greenebaum	264,944	Sept. 26	1507	423 / 424	22	1065
Overalls	N. J. Hamilton	264,690	Sept. 19	1184	335	22	1004
Overcoat	H. Emanuel	265,043	Sept. 26	1622	456	22	1086
Overcoat	P. J. Oberst	265,536	Oct. 3	382	105	22	1200
Overshoe	E. B. Preston	265,339	Oct. 3	138	40	22	1159
Overshoe-clasp	J. L. Thomson	268,572	Dec. 5	216	61	22	1927
Ox-shoes. Manufacture of	W. Pearce	261,254	July 18	1145	320	22	204
Oysters and similar shell-fish. Preserving	J. H. Scott, Jr., and A. A. Freeman	265,255	Oct. 3	33	.....	22	1141
Pack-strap	C. Polrier	268,932	Dec. 12	649	190	22	2016
Package-elevator. Endless	G. W. Brown	265,238	Oct. 3	14	5	22	1139
Package-fastener	P. A. O'Malley	265,276	Oct. 3	60	18	22	1146
Package-filling machine	J. McCrodden	261,941	Aug. 1	147	43	22	361
Package for oysters, &c	C. L. Pond	265,137	Sept. 26	1724	482	22	1104
Package-holder	G. H. Benedict	267,303	Nov. 7	426	123	22	1616
Packages of gums, &c. Forming commercial	E. W. Grove	266,810	Oct. 31	1919	555	22	1497
Packer. Oil-well	D. L. Lewis	266,848	Oct. 31	1958	566	22	1504
Packing. Adjustable piston-	L. Herbert	266,365	Oct. 24	1409	400	22	1396
Packing and toy box. Combined	H. D. and F. A. Smith	261,775	July 25	1777	502	22	318
Packing and toy box. Combined	F. M. Whitelaw	269,764	Dec. 26	1714	494	22	2225
Packing-box	G. L. Jaeger	269,059	Dec. 12	807	239	22	2044
Packing-box. Jointed	L. N. Headington	266,471	Oct. 24	1523	433	22	1417
Packing-box. Knockdown	N. R. Gordon	268,091	Nov. 28	1409	394	22	1812
Packing-case	R. S. Jennings. (Reissue)	10,182	Aug. 15	1358	384	22	583
Packing-case head	G. O. Manning	265,839	Oct. 10	747	210	22	1268
Packing-case. Metallic	A. A. Blair and E. R. Horton	266,420	Oct. 24	1476	419	22	1409
Packing for pumps. Piston-	P. A. Myers	261,026	July 11	869	241	22	151
Packing for spinning-spindle bolsters. Elastic	A. R. Sherman	264,779	Sept. 19	1287	364	22	1022
Packing. Metallic rod-	L. Hugron	262,678	Dec. 5	335	97	22	1951
Packing. Metallic rod-	L. Katzenstein	267,750	Nov. 21	996	281	22	1731
Packing. Metallic rod-	C. D. Stevens	264,580	Sept. 19	1060	301	22	980
Packing. Metallic rod-	T. Tripp	265,469	Oct. 3	285	85	22	1187
Packing. Metallic rod-	T. Tripp	265,470	Oct. 3	286	85	22	1187
Packing. Pipe-joint	O. M. Loveridge	265,681	Oct. 10	565	156	22	1237
Packing. Piston-rod	C. C. Jerome	266,293	Oct. 24	1310	371	22	1378
Packing. Pump-piston	A. H. Jarecki	262,953	Aug. 22	1411	399	22	602
Packing. Rod-	W. Haas	266,031	Oct. 17	983	279	22	1316
Packing. Steam-	W. A. Fries	269,517	Dec. 26	1404	405	22	2166
Packing. Steam-	H. W. Johns	267,537	Nov. 14	737	212	22	1676
Packing vessel	C. Robinson	264,764	Sept. 19	1272	360	22	1019
Pad: *See* Collar-pad. Furniture-pad. Harness-pad. Horse-foot pad. Horse-hoof pad. Surcingle-pad. Truss-pad. Wash-pad.							
Pads. Die or mold for forming elastic corn and bunion	F. G. Powers	265,434	Oct. 3	239	71	22	1178

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Paddle-wheel. Feathering	E. Thiele	265,346	Oct. 3	144	43	22	1161
Padlock	C. C. Dickerman	264,445	Sept. 19	920	259	22	952
Padlock	T. Donahue	264,639	Sept. 19	1128	319	22	991
Padlock	T. Donahue	269,646	Dec. 26	1567	450	22	2198
Padlock	D. Sweeney	268,142	Nov. 28	1471	410	22	1824
Padlock. Permutation	R. D. Green	262,406	Aug. 8	725	205	22	465
Padlock. Permutation	S. H. Leikvol	265,107	Sept. 26	1692	473	22	1098
Padlock. Permutation	F. Michael and J. W. Fowble	268,922	Dec. 12	636	187	22	2014
Pail. Dinner	W. C. Dabney	264,248	Sept. 12	692	191	22	903
Pail. Dinner	D. Wolf	261,891	Aug. 1	78	22, 23	22	349
Pail-fastener	A. Burgland	261,304	July 18	1212	337	22	215
Pail. Hot-dinner	F. Reichwein	268,534	Dec. 5	177	50	22	1920
Paint	G. J. Cline	267,495	Nov. 14	680	.....	22	1666
Paint	J. B. Cornell, J. B. Zook, and B. N. Cornell.	265,389	Oct. 3	191	.....	22	1170
Paint	I. T. Tichenor	265,183	Sept. 26	1786	.....	22	1116
Paint-burner	J. A. Felt	265,253	Oct. 3	31	10	22	1141
Paint. Roof	H. H. Beers	268,382	Dec. 5	10	.....	22	1888
Paint. Roof	R. E. Bruce	263,317	Aug. 29	1901	.....	22	602
Paint. Self-luminous	W. H. Balmain	264,918	Sept. 26	1475	.....	22	1059
Paint-stirring can. Air-tight	G. R. Cassie	266,674	Oct. 31	1760	508	22	1467
Painted surfaces. Method of and device for stippling	B. G. West	269,144	Dec. 12	910	265	22	2062
Painting fence-pickets, &c., by dipping. Apparatus for	W. Thomas	268,148	Nov. 28	1479	412, 413	22	1825
Painting-machine	E. Green	261,548	July 25	1509	423	22	271
Pan: *See* Bake-pan. Baking-pan. Dust-pan. Evaporating-pan. Locomotive ash-pan. Salt-pan. Sugar-pan. Vacuum-pan. Warming-pan. Water-closet pan.							
Panel-raiser	E. N. Gore	264,278	Sept. 12	727	203	22	910
Pantaloon-guard	G. R. Olney	261,029	July 11	873	242	22	151
Pantaloons	J. T. Stretch and J. G. McCormick	269,479	Dec. 19	1356	390	22	2151
Pantaloons and trowsers	C. H. Ryno	265,983	Oct. 17	928	262	22	1306
Pantaloons-supporter	A. Horowitz	260,754	July 11	529	143	22	95
Pants attachment	H. J. Lyon	265,524	Oct. 3	367	100	22	1198
Pantograph	J. G. Braastad	265,744	Oct. 10	643	182	22	1250
Paper and card-board boxes. Manufacture of	J. Linnett	269,682	Dec. 26	1608	461	22	2206
Paper and envelope box. Letter	H. F. Oakes	265,025	Oct. 10	469	134	22	1225
Paper. Apparatus for manufacturing building-board from	S. H. Hamilton	269,786	Dec. 26	1736	502	22	2230
Paper. Attachment for calender-rolls for	J. E. Larkin and J. E. Tower	268,809	Dec. 12	498	148	22	1988
Paper-bag holder	F. A. Masters	266,379	Oct. 24	1432	406	22	1401
Paper-bag holder	R. M. Shaffer	262,838	Aug. 15	1263	355	22	565
Paper-bag holder	S. Stoffel	269,346	Dec. 19	1175	344	22	2116
Paper-bag machine	F. W. Leinbach, C. A. Wolle, and E. H. Brunner.	269,434	Dec. 19	1288	373, 374, 375	22	2138
Paper-bag machine	C. B. Stilwell	263,440	Aug. 29	2053	589	22	718
Paper-bag machine	C. Van Hoesen	269,352	Dec. 19	1188	346, 347	22	2118
Paper bags. Method of and machinery for making satchel-bottom	J. McCullough	264,180	Sept. 12	620	171	22	891
Paper-bags. Muslin-paper for the manufacture of	T. Stewart	265,884	Oct. 10	795	225	22	1278
Paper-board composed of wood pulp. Manufacture of	F. E. Heath	260,680	July 4	433	.....	22	73
Paper-board. Manufacture of	S. H. Hamilton	269,785	Dec. 26	1736	501	22	2229
Paper-board. Manufacture of	S. H. Hamilton	269,815	Dec. 26	1782	512	22	2238
Paper-board. Manufacture of	S. H. Hamilton	269,816	Dec. 26	1783	513	22	2238
Paper box	F. R. Duck	266,445	Oct. 24	1500	426	22	1413
Paper box	H. P. Fiske	261,597	July 25	1569	440	22	282
Paper box	P. Griffiths	262,663	Aug. 15	1043	294	22	527
Paper box	D. E. Powers	261,871	Aug. 1	54	16	22	345
Paper box-basket	C. B. Seabury	265,985	Oct. 17	930	262	22	1306
Paper box. Knockdown	P. E. Bowe	262,201	Aug. 8	468	136	22	423
Paper-box machine	G. W. Glazier and A. G. Potter	261,846	Aug. 1	27	8	22	340
Paper-box machine	F. H. Strieby and M. Rankin	260,800	July 11	585	158, 159	22	104
Paper boxes. Die for cutting blanks for necked	M. F. Wilson	266,572	Oct. 24	1634	465	22	1438
Paper boxes. Ornamentation of	I. Clute	262,006	Aug. 1	220	65	22	373
Paper-calender	W. D. Kites	268,499	Dec. 5	142	42	22	1913
Paper-cutting machine	E. J. Clark	261,676	July 25	1660	465	22	297
Paper-cutting machine	C. E. Torrance	264,972	Sept. 26	1542	433	22	1071
Paper, &c. Device for holding and adjusting reels for rolling	J. B. Bird	263,012	Aug. 22	1486	419	22	615
Paper doors. Manufacture of	S. H. Hamilton	269,818	Dec. 26	1785	513	22	2238
Paper-fastening machine	M. Toulmin	267,283	Nov. 7	402	117	22	1612
Paper. Folding	E. B. Stocking	264,364	Sept. 12	819	230, 231	22	927
Paper. Imitation marble from	S. H. Hamilton	269,817	Dec. 26	1784	513	22	2238
Paper-machine	W. O. Jacobi	260,988	July 11	813	225	22	142
Paper. Machine for reducing wood to pulp for	A. Crosby	261,536	July 25	1495	419	22	269
Paper. Machine for staining and drying	A. Komp	265,832	Oct. 10	739	208	22	1266
Paper-machines. Automatic wire-guide for	T. P. Barry	260,356	July 4	6	2, 3	22	4
Paper, &c. Machinery for edging or beder ng letter-	A. Duret	268,786	Dec. 12	466	136, 137, 138	22	1983
Paper-makers. Sizing for	R. A. Fisher	266,451	Oct. 24	1505	.....	22	1414
Paper-makers' use. Sizing for	R. A. Fisher	266,452	Oct. 24	1506	.....	22	1414
Paper-making machine	C. Parent	266,307	Oct. 24	1334	376	22	1382
Paper-making machines. Method of and apparatus for cleaning the wire web of	J. J. Manning	267,704	Nov. 21	947	268	22	1723
Paper making, &c. Treating fibrous vegetable substances to obtain fiber suitable for	C. K. Ekman	260,749	July 11	517	.....	22	93

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Paper. Manufacture of window-curtains, lambrequins, and other articles from	L. H. Rogers	268,539	Dec. 5	182	51, 52	22	1921
Paper percussion-caps. Machine for cutting	C. Hoff	269,416	Dec. 19	1267	368	22	2134
Paper-perforating machine	W. C. Utley	267,730	Nov. 21	977	275	22	1728
Paper-perforator	J. B. Bray	265,743	Oct. 10	642	182	22	1249
Paper. Production of relief stipple	C. Ross	265,444	Oct. 3	248	.....	22	1180
Paper. Protecting the ends of rolls of	W. Scott	264,198	Sept. 12	637	176	22	894
Paper-pulp and apparatus therefor. Refining	W. Jones	264,167	Sept. 12	607	168	22	889
Paper-pulp and paper. Manufacture of	J. Jordan	264,168	Sept. 12	608	.....	22	889
Paper-pulp from worn-out corsets, &c. Manufacturing	A. Patterson	266,383	Oct. 24	1436	.....	22	1402
Paper-pulp. Machine for reducing wood to	H. P. Titus	263,250	Aug. 22	1760	501	22	607
Paper-pulp. Machine for reducing wood to stock for	W. N. Cornell	263,119	Aug. 22	1610	455	22	637
Paper sack. Metal-seamed	I. W. Hollett	261,851	Aug. 1	33	10	22	341
Paper scorer and cutter	J. Spooner	263,983	Sept. 5	388	109	22	841
Paper-scoring machine	A. E. Elmer	267,849	Nov. 21	1117	314	22	1753
Paper-stock. Bleaching	A. Demeure	266,782	Oct. 31	1686	.....	22	1490
Paper-stock. Treating	H. Carmichael	267,492	Nov. 14	677	.....	22	1666
Paper-trimming apparatus for the use of paper-hangers.	P. C. N. Pederson	267,925	Nov. 21	1201	338	22	1770
Paper tubes. Method of and apparatus for tapering the ends of	D. O. Gillespie	269,662	Dec. 26	1587	455	22	2202
Paper vessel	T. H. Huewe	262,951	Aug. 22	1407	398	22	601
Paraffine and other petroleum products. Process of and apparatus for freezing	E. Kells	261,236	July 18	1197	315	22	201
Parer and corer. Combined	W. E. Brock	265,748	Oct. 10	647	183	22	1250
Parer. Apple	A. Rippien	269,117	Dec. 12	877	258	22	2056
Parer, corer, and doffer. Apple	F. A. Hill	268,487	Dec. 5	130	39	22	1911
Parer, corer, and slicer. Apple	C. E. Hudson	260,756	July 11	530	143	22	95
Parer, corer, and slicer. Apple	H. C. Wilder	267,475	Nov. 14	659	189	22	1662
Parer, corer, and slicer. Apple	J. E. Hoff	262,896	Aug. 15	1337	378	22	578
Parer. Fruit	B. F. Muschert	266,186	Oct. 17	1174	331	22	1347
Paris-green and fertilizer distributer	W. M. Kennedy	267,000	Nov. 7	53	16	22	1549
Pattern: *See* Embroidery-pattern.							
Pattern-draft	J. L. Groves	266,137	Oct. 17	1116	315	22	1338
Pattern-tracer	L. J. Purdy	267,106	Nov. 7	189	55	22	1574
Pattern-tracer	L. J. Purdy	267,107	Nov. 7	189	55	22	1574
Pavement	E. Heylyn	269,299	Dec. 19	1100	321	22	2103
Pavement. Composite	P. Stuart	269,480	Dec. 19	1357	390, 391	22	2151
Pavements. Laying artificial-stone or concrete	E. L. Ransome	263,579	Aug. 29	2218	634	22	749
Paving and building material. Artificial	A. L. Scott	262,133	Aug. 1	390	.....	22	400
Pawl-and-ratchet mechanism	M. Brann	265,745	Oct. 10	644	182	22	1250
Pawls used in lifting-jacks, &c. Operating	F. M. De Weese	265,034	Sept. 26	1613	454	22	1085
Pea-grits. Roasted	H. H. Beach	261,803	July 25	1810	.....	22	323
Peach-stoner	I. F. Beits	267,320	Nov. 14	459	132	22	1628
Peanut-warmer	C. B. Quick	261,762	July 25	1765	496	22	315
Peas and beans and cutting vegetables. Machine for shelling	F. T. Mallon	261,009	July 11	847	235	22	147
Peas. Machine for cleaning and grading	W. H. Felthousen	265,491	Oct. 3	314	92, 93	22	1192
Peas. Machine for shelling green	A. Meyer	260,494	July 4	191	53, 54	22	33
Peas. Machine for sorting green	W. G. Suydam	261,062	July 11	910	253	22	157
Pedal	L. C. Clark	263,858	Sept. 5	239	69	22	815
Peg-cutter	W. R. Stringfield	265,458	Oct. 3	271	81	22	1184
Peg-float	E. Dickinson	262,019	Aug. 1	231	69	22	376
Pegging-jack	G. P. Hayes	261,152	July 18	1026	289	22	186
Pegging-machine	G. Gray	264,077	Sept. 12	511	139	22	871
Pegging-machine	G. McKay and H. P. Fairfield	265,618	Oct. 10	478	132	22	1223
Pegging-machine	E. Merritt	263,559	Aug. 29	2193	626	22	744
Pegging-machine. Power	G. H. Jackson and C. H. Inman	262,952	Aug. 22	1408	398, 399	22	601
Pen	J. Holland	269,290	Dec. 19	1101	321	22	2103
Pen-cleaner and paper-weight. Combined	R. W. Pope	268,431	Dec. 5	73	22	22	1900
Pen. Fountain	E. Coffin, Jr	263,389	Aug. 29	1993	569	22	708
Pen. Fountain	J. F. Franklin	265,795	Oct. 10	706	197	22	1261
Pen. Fountain	J. Friedmann	267,180	Nov. 7	275	80	22	1589
Pen. Fountain	W. E. Gard	264,451	Sept. 19	930	261	22	954
Pen. Fountain	S. W. Higgins	266,475	Oct. 24	1527	434	22	1418
Pen. Fountain	P. E. Wirt	266,947	Oct. 17	1241	352	22	1359
Pen. Fonntain	S. Kraus	267,545	Nov. 14	750	214	22	1678
Pen-holder	G. A. Diedel	266,442	Oct. 24	1497	425	22	1412
Pen-holders or pencils. Anti-nervous attachment for	J. W. Stoakes	265,885	Oct. 10	796	225	22	1278
Pen. Marking	B. Lawrence	268,249	Nov. 28	1608	446	22	1849
Pen. Metallic	A. Cutler	260,951	July 11	758	207	22	133
Pen or pencil holder and drawer-pull. Combined	F. C. Brown	264,854	Sept. 26	1389	391	22	1045
Pen. Stylographic fountain	A. M. Sutherland and F. C. Brown	266,064	Oct. 17	1023	289	22	1323
Pen. Stylographic fountain	J. Ullrich	262,629	Aug. 15	1002	281	22	518
Pen. Stylographic fountain	J. Ullrich	264,974	Sept. 26	1545	434	22	1072
Pencil-clasp	J. M. Whitson	265,476	Oct. 3	293	87	22	1188
Pencil-holder	C. H. Hilliard	268,056	Dec. 12	805	238	22	2044
Pencil-holder. Automatic	J. H. Wright	264,593	Sept. 19	1072	304	22	982
Pencil. Lead	G. H. Dougherty	269,778	Dec. 26	1730	499	22	2228
Pencil. Lead	J. Reckendorfer	264,564	Sept. 19	1043	296	22	977
Pencil. Lead	J. Senn	269,724	Dec. 26	1657	476	22	2216
Pencil-sharpener	H. Burgess	264,236	Sept. 12	679	188	22	901
Pencil sharpener	P. R. Erling	263,776	Sept. 5	130	40	22	796
Pencil sharpener and holder. Combined	P. Schrag	262,836	Aug. 15	1361	355	22	564
Percolator	J. Berry	266,081	Oct. 17	1044	296	22	1326
Percolator	S. J. Hinsdale	266,625	Oct. 31	1702	491	22	1456
Percussion-tape	I. M. Rose	265,874	Oct. 10	784	222	22	1276
Perforators. Automatic feeder for	F. Anderson	265,209	Sept. 26	1816	511	22	1121
Permutation-lock	J. Forster	267,977	Nov. 21	1265	356	22	1781
Permutation-lock	O. E. Pillard. (Reissue)	10,246	Nov. 21	1286	361	22	1784

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Permutation-lock	J. W. Saxon	269,120	Dec. 12	880	250	22	2057
Permutation-lock	C. M. Schwartz and W. Carter	269,471	Dec. 19	1342	387	22	2148
Permutation-lock	W. W. Scott	261,632	July 25	1608	451	22	289
Permutation-lock	E. Stockwell	261,271	July 18	1169	327, 328	22	208
Permutation-lock	W. Streeter	269,136	Dec. 12	901	263	22	2060
Permutation-lock	W. W. Swett	269,137	Dec. 12	903	264	22	2060
Permutation-lock	G. R. Wight	269,765	Dec. 26	1714	494	22	2226
Permutation-lock	D. M. Graham	260,476	July 4	160	45	22	28
Petroleum, &c. Apparatus for vaporizing and burning	D. E. Bangs	267,478	Nov. 14	662	190	22	1663
Petroleum-burner	K. Trobach	261,791	July 25	1597	507	22	321
Petroleum-burning apparatus	R. A. Bury and R. M. Bidelman	268,077	Nov. 28	1393	390	22	1809
Petroleum. Device for burning	H. Warden	266,930	Oct. 31	2062	593	22	1523
Petroleum distillates. Cooling	W. C. Hall	266,990	Nov. 7	41	13	22	1547
Petroleum vapors. Apparatus for separating	A. J. Seaman	266,905	Oct. 31	2026	584	22	1517
Petticoat-pipe for locomotive-engines	C. W. Saladee	262,621	Aug. 15	993	279	22	517
Phaeton	G. S. Street	263,242	Aug. 22	1748	496, 497	22	665
Photograph-printing frame	J. E. Beebe	265,563	Oct. 10	414	114	22	1213
Photographer's cooling-slab	J. E. Beebe	267,663	Nov. 21	902	256	22	1714
Photographers' dry-plates. Drying-rack for	T. H. Blair	261,425	July 18	1347	377	22	238
Photographic apparatus	H. W. Bray	261,300	July 18	1089	282	22	196
Photographic burnisher	T. H. Blair	261,130	July 18	1003	282	22	183
Photographic camera	M. Flammang	260,557	July 4	267	74	22	45
Photographic camera	H. C. Price	260,605	July 4	323	87	22	55
Photographic camera	G. F. E. Pearsall	265,980	Oct. 17	926	261	22	1305
Photographic-camera screen	T. H. McCollin	263,053	Aug. 22	1534	432	22	623
Photographic emulsions. Apparatus for and process of manufacturing	W. Kurtz	267,227	Nov. 7	340	98	22	1601
Photographic images. Method of and apparatus for producing	E. A. Gilbert	264,146	Sept. 12	587	161	22	885
Photographic negatives. Automatic retouchers for	J. H. Caterson	260,535	July 4	245	69	22	42
Photographic-picture case	H. Rocher	267,720	Nov. 21	968	272	22	1726
Photographic plaques. Device for producing	W. L. Champlin	262,001	Aug. 1	214	64	22	372
Photographic-printing frames. Vignetting attachment for	W. B. Woodbury	263,277	Aug. 22	1786	.....	22	672
Photographic reliefs. Producing flexible supports for	E. B. Barker	267,821	Nov. 21	1080	304	22	1747
Photographic shield	C. H. Mann	267,095	Nov. 7	170	48	22	1571
Photography. Drop-shutter for instantaneous	H. Goodwin	265,669	Oct. 10	552	.....	22	1234
Phototypography	P. Lambert	261,558	July 25	1522	426	22	273
Phylloxera. Method of and apparatus for the destruction of	A. Gemünder	269,405	Dec. 19	1256	386	22	2132
Piano-action	H. Sohmer	268,563	Dec. 5	207	58	22	1925
Piano-action	J. Jacobsen	262,047	Aug. 1	269	78	22	382
Piano action. Upright	H. Sohmer	268,562	Dec. 5	206	57	22	1925
Piano agraffe-bar	C. Austin	262,916	Aug. 22	1367	386	22	594
Piano and reed-organ. Combined	W. H. Squire	265,172	Sept. 26	1773	494, 495, 496	22	1113
Piano-forte	G. Chard and D. S. Littlefield	267,150	Nov. 7	236	69	22	1582
Piano-fortes. Stringing	H. S. Tucker	264,049	Sept. 5	473	129	22	855
Piano-lid support	H. Behning	262,351	Aug. 8	661	185	22	453
Piano music-rack	H. Behning	261,523	July 25	1473	412, 413	22	265
Piano sounding-board. Upright	J. W. Flagg	263,329	Aug. 29	1914	548	22	694
Piano-stools. Hinged back for	W. H. Laughlin	267,231	Nov. 7	345	100	22	1601
Pianos and organs. Key-board for	R. L. Thompson	265,465	Oct. 3	281	84	22	1186
Pianos. Device for moving	W. H. Sheneman	266,057	Oct. 17	1015	287	22	1321
Pick. Miner's	S. Smith	263,977	Sept. 5	380	107	22	840
Pick. Miner's	J. N. Jones	269,060	Dec. 12	808	239	22	2045
Picker: *See* Cotton-picker. Fruit-picker.	W. E. Snediker	268,955	Dec. 12	674	198	22	2021
Picker-lag	A. Luecke. (Reissue)	10,178	Aug. 8	897	254	22	495
Picks, &c. Machine for forming the eyes of	E. W. Morton	262,521	Dec. 5	163	47	22	1917
Picture-exhibitor	G. W. Shirk	263,974	Sept. 5	376	105	22	839
Picture-exhibitor	H. T. Thomas	262,507	Aug. 8	839	237	22	485
Picture-exhibitor and portfolio. Combined	G. L. Jaeger	267,895	Nov. 21	1169	328	22	1763
Picture exhibitor and receptacle	J. G. Batterson	264,224	Sept. 12	667	183	22	899
Picture-frame	E. Brodhag	261,132	July 18	1005	282	22	183
Picture-frame	H. Harris	266,814	Oct. 31	1921	556	22	1497
Picture-frame	C. G. Knight	269,429	Dec. 19	1282	372	22	2137
Picture-frame for monuments	M. W. Allen	267,964	Nov. 21	1252	353	22	1779
Picture-frame picture-holder	D. O. Eshbaugh	266,356	Oct. 24	1402	397	22	1395
Picture-hanging device	A. Riley	267,459	Nov. 14	640	184	22	1659
Picture-hook	T. C. Richards. (Reissue)	10,203	Sept. 19	1374	388	22	1036
Picture-nail	W. Trotter, Jr	267,284	Nov. 7	404	118	22	1612
Picture, print, &c. Luminous	L. C. Camp	260,369	July 4	18	6	22	6
Pie-crust. Machine for trimming and crimping the edges of	W. S. Ovens	262,691	Aug. 15	1080	304	22	533
Pie-making machine	J. R. Alsing	264,214	Sept. 12	655	.....	22	897
Pigment for distemper-painting	H. Case	262,569	Aug. 15	928	262	22	506
Pile	J. W. Putnam	265,141	Sept. 26	1730	483	22	1105
Pile	D. Knowles	268,415	Dec. 5	53	16	22	1897
Pile-driver	R. and E. Long	262,067	Aug. 1	295	85	22	387
Pile-driver	H. W. Borntraeger	267,304	Nov. 7	427	124	22	1616
Pile for channel and I beams	W. N. Horton	263,784	Sept. 5	142	43	22	798
Pile for use with protecting and preserving material	W. Taggart	261,405	July 18	1328	371	22	234
Piles. Preserving	W. C. Franciscus	266,127	Oct. 17	1106	312	22	1336
Pill, plaster, and lozenge machine	W. Huse	260,870	July 11	665	181	22	117
Pillow	H. Weston	264,007	Sept. 5	422	116	22	847
Pillow	W. G. Foster	261,218	July 18	1107	309	22	199
Pillow-sham holder	G. B. French	265,054	Sept. 26	1635	459	22	1089

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Pillow-sham holder	F. Sette	263,730	Sept. 5	74	23	22	787
Pillow-sham holder	A. H. Phelps	269,107	Dec. 12	868	255	22	2053
Pillow-sham holder and lifter	E. W. Rider	260,710	July 4	468	127	22	79
Pillows, mattresses, &c. Material for filling	R. Stilwell	262,994	Aug. 22	1462	.....	22	611
Pin: *See* Clothes-pin. Tidy-pin. Coupling and linch pin.	W. C. Temple	267,037	Nov. 7	96	29	22	1557
Pin or ear-ring catch	P. Keilt	264,706	Sept. 19	1203	340	22	1007
Pipe: *See* Blow-pipe. Soil and waste pipe. Exhaust-pipe. Soil or drain pipe. Hose discharge-pipe. Stove-pipe. Organ-pipe. Ventilating-pipe. Petticoat-pipe. Water, gas, sewer, and drain pipe. Sectional pipe. Smoking-pipe. Wooden pipe.	T. B. Clatworthy	269,011	Dec. 12	739	218	22	2033
Pipe-connection	J. J. B. Frey	260,968	July 11	788	216	22	138
Pipe-coupling	S. S. Jones and C. M. Rittenhouse	260,874	July 11	669	182	22	118
Pipe-coupling	T. G. Knight	260,580	July 4	291	80	22	50
Pipe-coupling	W. Martin	268,917	Dec. 12	630	185	22	2012
Pipe-coupling	C. H. Pope	269,597	Dec. 26	1507	434	22	2187
Pipe-coupling	S. P. M. Tasker	262,855	Aug. 15	1284	361	22	569
Pipe-coupling	W. H. Ward	264,914	Sept. 26	1471	414	22	1059
Pipe-coupling. Waste	L. B. Obliger	262,310	Aug. 8	615	172	22	446
Pipe-cutter	J. Conway	262,534	Aug. 8	871	246	22	491
Pipe-cutter	C. C. Walworth	262,264	Aug. 8	559	156	22	435
Pipe-elbow	P. Kearns	262,049	Aug. 1	271	78, 79	22	382
Pipe-joint	D. A. Brislin	267,401	Nov. 14	571	163	22	1645
Pipe-joint	J. L. Dibble	261,141	July 18	1015	285, 286	22	185
Pipe-joint	W. W. Doolittle	262,581	Aug. 15	941	266	22	508
Pipe-joint	R. H. Smith	269,334	Dec. 19	1161	341	22	2114
Pipe-joint. Manifold	W. W. Doolittle	264,936	Sept. 26	1498	421	22	1063
Pipe-joint. Sheet-metal	J. Y. Cooper	266,017	Oct. 17	969	275	22	1312
Pipe junctions of clay, &c. Machine for cutting and fitting branches of	W. W. Stickney	268,837	Dec. 12	531	158	22	1904
Pipe, &c. Machine for bending gas	J. C. Spring	269,131	Dec. 12	896	262	22	2059
Pipe. Machine for making	T. H. Walsh	264,424	Sept. 12	888	249	22	939
Pipe-molding apparatus	F. Shickle	261,960	Aug. 1	167	48, 49	22	364
Pipe-molding apparatus	F. Shickle	261,961	Aug. 1	168	49, 50	22	364
Pipe-molding apparatus	F. Shickle	261,962	Aug. 1	169	50	22	364
Pipe-molding apparatus	F. Shickle	261,963	Aug. 1	169	50	22	364
Pipe-molding apparatus	F. Shickle	261,964	Aug. 1	170	51	22	365
Pipe or hose coupling	W. F. Cassedy	263,855	Sept. 5	235	69	22	814
Pipe rings. Machine for cutting sewer	R. W. Lyle	267,700	Nov. 21	943	266, 267	22	1722
Pipe-sections. Wrought-iron coupling for	J. O. Morse	263,943	Sept. 5	341	96	22	833
Pipe-wrench	A. F. Fifield	261,217	July 18	1107	308	22	194
Pipe-wrench	J. Lee	269,072	Dec. 12	824	245	22	2048
Pipe-wrench	E. A. Robbins	269,234	Dec. 19	1028	300	22	2090
Pipe-wrench	J. E. Sanders	261,486	July 18	1419	396	22	250
Pipe-wrench	C. C. Walworth	262,263	Aug. 8	558	156	22	435
Pipes and tubes. Union or coupling for	J. L. B. Bodel and J. L. F. Braner	269,026	Dec. 26	1543	443	22	2193
Pipes, &c. Device for screw-threading and cutting off	L. W. Stockwell	267,276	Nov. 7	394	114	22	1610
Pipes. Epansion-coupling for steam	L. Shook	264,965	Sept. 26	1534	431	22	1070
Pipes. Hermetical joint for iron	T. Mithoff	262,096	Aug. 1	319	91	22	391
Piping, bars, or shafting. Machine for cooling and straightening metallic	H. Kellogg	265,265	Oct. 3	44	14, 15	22	1143
Piston	S. Armstrong	268,167	Nov. 28	1502	419	22	1929
Piston	W. Baxter	269,558	Dec. 26	1453	418	22	2176
Piston	G. P. Fenner	268,654	Dec. 5	309	89	22	1946
Piston	M. L. Snyder, J. R. Howells, and E. Bittenbender.	267,030	Nov. 7	89	26, 27	22	1555
Piston. Compressible	G. W. Lutz	269,962	Aug. 22	1423	401	22	604
Piston. Engine	H. Jones	268,684	Dec. 5	343	100	22	1952
Piston-meter	T. L. Calkins	262,735	Aug. 15	1134	321	22	541
Piston-rod lubricator	S. Hoffmaster and G. W. Arthur	263,905	Sept. 5	290	84	22	824
Piston-rods. Cooling device for	W. B. Merriman	269,695	Dec. 26	1623	465	22	2209
Piston. Steam-engine	G. W. Williams	262,182	Aug. 1	469	131	22	413
Pitcher	G. Gough	267,191	Nov. 7	287	84	22	1591
Pitcher-cover	H. H. C. Arnold	261,416	July 18	1340	375	22	237
Pitcher. Ice	J. Braner	261,199	July 18	1089	304	22	196
Pitcher. Ice	J. Jepson and G. H. Wilcox	263,527	Aug. 29	2154	616	22	737
Pitcher. Molasses	J. Bullins, Jr	261,427	July 18	1350	378	22	239
Pitcher-spout cover or guard. Detachable	O. T. Bedell	262,350	Aug. 8	659	185	22	453
Pitman	M. Harmon	261,820	July 25	1835	518	22	327
Pitman for double-acting presses	J. M. Ellis	267,408	Nov. 14	578	166	22	1647
Pitman-head	C. Clapp	260,940	July 11	748	203	22	131
Plaiting-machine	G. Boxley	263,014	Aug. 22	1488	419, 420	22	615
Plaiting-machine	O. G. Shane	262,135	Aug. 1	302	110	22	400
Plane-guide	W. H. Stinson	262,851	Aug. 15	1279	359	22	568
Planer-knife grinder	M. W. Palmer	267,579	Nov. 14	794	227	22	1686
Planer. Metal	W. T. Miles	262,970	Aug. 22	1432	404	22	605
Planer. Miter	D. C. Rogers	264,766	Sept. 19	1274	361	22	1020
Planer. Radius-link	E. Cockfield and J. Howe	264,628	Sept. 19	1116	316	22	989
Planer. Splint	B. F. Firman	267,990	Nov. 21	1282	360	22	1784
Planers. Feed-roller gear for wood	P. Stoerger	267,947	Nov. 21	1231	346	22	1775
Planers. Feed-roller for wood	H. H. Herndon	260,569	July 4	282	78	22	48

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Planing and sawing machine. Wood	J. F. Welch	262,167	Aug. 1	433	120, 121	22	408
Planing-machine	L. O. Orton and L. H. Berry	264,959	Sept. 26	1525	429	22	1068
Planing machine. Metal	W. H. D. Totten	269,350	Dec. 19	1184	346	22	2118
Planing machines. Tool-holder for metal	P. J. Byrne	267,147	Nov. 7	233	68	22	1581
Planing-mill feed-roll	T. H. Rodenboh	269,118	Dec. 12	878	258	22	2057
Plant-sprinkler	G. G. Lynch	260,761	July 11	538	145	22	96
Planter and check-rower. Combined self-dropping corn-	J. W. Bapple	266,413	Oct. 24	1468	417	22	1407
Planter and cultivator. Combined seed-	G. L. Gifford	262,762	Aug. 15	1168	329	22	547
Planter and cultivator. Cotton	W. C. Thompson	263,248	Aug. 22	1758	500	22	667
Planter and fertilizer-distributer. Combined cotton-	J. R. Owen	265,134	Sept. 26	1721	481	22	1104
Planter attachment. Corn-	J. A. McDaniel	261,942	Aug. 1	149	43	22	361
Planter. Broadcast seed-	A. J. Tibbits	265,466	Oct. 3	282	84	22	1186
Planter check-lines. Reeling and unreeling corn-	G. D. Haworth	262,226	Aug. 8	513	144	22	428
Planter. Check-row	A. S. and E. Houck and A. M. Greenlee.	264,699	Sept. 19	1193	337, 338	22	1005
Planter. Check-row	G. W. North	264,743	Sept. 19	1244	353	22	1014
Planter. Check-row	L. D. Benner	266,342	Oct. 24	1384	391	22	1392
Planter check-row attachment. Corn-	L. D. Benner	267,054	Nov. 7	115	33, 34	22	1560
Planter check-row attachment. Corn-	L. D. Benner and J. Stafford	266,341	Oct. 24	1383	391	22	1391
Planter check-row attachment. Corn-	J. M., T. D., and N. Toy	261,279	July 18	1177	330	22	209
Planter check-row attachment. Corn-	J. Kaylor	269,584	Dec. 26	1491	430	22	2183
Planter. Check-row corn-	P. W. Thomson	264,794	Sept. 19	1303	368	22	1025
Planter. Check-row corn-	S. Smith	265,165	Sept. 26	1762	492	22	1111
Planter, check-rower, and drill. Corn-	S. R. Allec	266,067	Oct. 17	1027	291	22	1323
Plantor check-rower. Corn-	W. R. Campbell and W. J. Chambers	263,854	Sept. 5	233	68	22	814
Planter check-rower. Corn-	L. Eberhart	268,085	Nov. 28	1403	392	22	1811
Planter check-rower. Corn-	J. Harvey	268,097	Nov. 28	1415	395, 396	22	1813
Planter check-rower. Corn-	C. A. Masterson	264,313	Sept. 12	766	214	22	917
Planter check-rower. Corn-	G. W. and F. P. Murphey. (Reissue.)	10,219	Oct. 24	1665	479	22	1443
Planter. Corn-	W. L. Alexander	263,453	Aug. 29	2070	593	22	721
Planter. Corn-	G. W. Brown. (Reissue)	10,180	Aug. 15	1356	383	22	582
Planter. Corn-	R. and S. T. Bruce	262,174	Aug. 1	440	123	22	409
Planter. Corn-	A. B. Clark	267,151	Nov. 7	238	69	22	1582
Planter. Corn-	A. C. Evans	265,949	Oct. 17	881	252, 253	22	1299
Planter. Corn-	G. D. Haworth	263,403	Aug. 29	2013	575, 576	22	711
Planter. Corn-	C. J. Lilloe	261,162	July 18	1037	292	22	188
Planter. Corn-	T. J. Lindsay and W. J. Miner	262,439	Aug. 8	765	215	22	472
Planter. Corn-	F. W. Merritt	269,088	Dec. 12	843	249	22	2051
Planter. Corn-	E. M. Miles	260,700	July 4	456	124	22	77
Planter. Corn-	J. V. Mitchell	265,692	Oct. 10	577	161	22	1239
Planter. Corn-	J. Neff	266,500	Oct. 24	1556	443	22	1424
Planter. Corn-	J. R. Owen	269,099	Dec. 26	1627	466	22	2210
Planter. Corn-	J. S. Ray	264,844	Sept. 19	1367	387	22	1035
Planter. Corn-	R. O. Robinson	268,293	Nov. 28	1660	461	22	1858
Planter. Corn-	M. Runstetler. (Reissue)	10,155	July 11	985	276	22	171
Planter. Corn-	A. Runstetler. (Reissue)	10,156	July 11	987	277	22	171
Planter. Corn-	A. and M. Runstetler	261,048	July 11	894	248	22	154
Planter. Corn-	E. and A. Shannon	263,664	Aug. 22	1545	436	22	625
Planter. Corn-	E. L. Skelton	263,233	Aug. 22	1740	494	22	663
Planter. Corn-	J. D. Smith	264,419	Sept. 12	881	248	22	938
Planter. Corn-	S. H. Williams	262,336	Aug. 8	645	181	22	451
Planter. Corn-	A. Woodward	269,150	Dec. 12	915	267	22	2063
Planter. Corn-	D. A. Yoakam	265,911	Oct. 10	821	234	22	1292
Planter. Corn-	W. T. Burrows	260,656	July 4	392	108	22	65
Planter. Cotton-	T. P. Hopper	266,154	Oct. 17	1134	320	22	1341
Planter. Cotton-seed	W. C. Hudson	263,521	Aug. 29	2142	614	22	735
Planter. Cotton-seed	C. A. Cooper	261,834	Aug. 1	14	5	22	337
Planter for seed and fertilizers. Hand-	C. W. Wilfert	266,939	Oct. 31	2074	597	22	1525
Planter. Hand-	L. B. Chipman	267,775	Nov. 21	1028	288	22	1736
Planter. Hand corn-	O. T. Grattan	268,220	Nov. 28	1569	435	22	1841
Planter. Hand corn-	S. W. Hoag	266,367	Oct. 24	1412	401	22	1397
Planter. Hand corn-	S. M. Macomber	266,487	Oct. 24	1542	439	22	1421
Planter. Hand corn-	F. B. Preston and W. H. Stapleton	265,139	Sept. 26	1728	483	22	1105
Planter. Hand corn-	A. Hoag	265,414	Oct. 3	218	65	22	1175
Planter. Hand corn and bean	J. R. Ayres	261,418	July 18	1341	375	22	237
Planter. Peanut-	S. H. Fish	265,225	Sept. 26	1846	518, 519	22	1125
Planter. Potato-	E. P. and J. M. Karr	267,899	Nov. 21	1173	329, 330	22	1764
Planter. Potato-	J. T. Turner	264,493	Sept. 19	977	274	22	963
Planter. Potato-	H. C. Austin	260,923	July 11	722	197	22	127
Planter. Seed-	W. A. Brown	269,172	Dec. 19	948	277	22	2076
Planter. Seed-	H. Cole	268,191	Nov. 28	1535	426	22	1835
Planter. Seed-	W. P. Gard	264,686	Sept. 19	1179	334	22	1003
Planter. Seed-	J. H. Morgan	266,184	Oct. 17	1173	331	22	1347
Planter. Seed-	L. Wilkerson	264,012	Sept. 5	427	117	22	848
Planter. Seed-	G. Marple	265,840	Oct. 10	748	210	22	1268
Planters. Automatic check-row and drill attachment for corn-	W. O. Tuttle	263,445	Aug. 29	2060	590	22	719
Planters. Check-row-reel attachment to	M. L. Lane	266,037	Oct. 17	991	281	22	1317
Planters. Fertilizer attachment and insect-exterminator for corn-	J. J. Farrar	260,553	July 4	263	74	22	45
Planters. Hand-lever and device for the marking-guides of	L. P. McGonigle and J. H. Bigham	264,550	Sept. 19	1027	291	22	973
Planters. Seed-dropping attachment for check-row corn-	D. McCausland	264,729	Sept. 19	1232	348	22	1012

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Planters. Self-dropping and check-rowing attachment to corn-	A. Johnson	265,964	Oct. 17	903	257	22	1302
Planters. Spring-roller attachment for seed-	N. Stanly	261,638	July 25	1617	454	22	290
Planting machine. Corn-	Z. W. Burt	266,765	Oct. 31	1871	543	22	1487
Planting machine. Corn-	J. Case	263,318	Aug. 29	1902	545	22	692
Planting machine. Corn-	J. H. Jones	265,326	Oct. 3	122	36	22	1156
Planting machinery. Corn-	J. H. Jones	261,724	July 25	1721	484	22	307
Plaque and picture hanger	E. L. Marucheau	261,740	July 25	1740	490	22	311
Plastering compound	M. W. Marsden	269,219	Dec. 19	1008	.....	22	2086
Plastic and other materials. Process of and apparatus for compressing	C. Hemje and T. C. Brecht	261,228	July 18	1116	311	22	200
Plate-key for locks	W. H. Taylor	263,244	Aug. 22	1750	497	22	665
Plate or dish handle	J. B. Timberlake	264,795	Sept. 19	1305	368	22	1025
Platform: *See* Car-platform. Horse-power platform. Dumping-platform. Window-platform.							
Pliers. Cutting-	T. D. Hotchkiss	260,395	July 4	65	18	22	12
Plow	D. Beets	268,985	Dec. 12	713	209	22	2028
Plow	C. Beidler	261,966	Aug. 1	197	58	22	369
Plow	B. S. Benson	264,434	Sept. 19	908	256	22	959
Plow	G. L. and J. Brunton	265,749	Oct. 10	647	183	22	1250
Plow	J. M. Buchanan	261,528	July 25	1481	415	22	967
Plow	R. F. Cochran	265,484	Oct. 3	302	90	22	1190
Plow	W. J. Davidson	265,763	Oct. 10	661	188	22	1253
Plow	J. C. Denson and S. B. Bell	266,274	Oct. 24	1285	364	22	1373
Plow	E. J. Etzler	266,121	Oct. 17	1099	310	22	1335
Plow	P. A. Fominaya	267,648	Nov. 14	874	250	22	1701
Plow	C. Hanson	264,828	Sept. 19	1345	380, 381	22	1031
Plow	R. K. Heald	263,289	Aug. 22	1816	515	22	676
Plow	F. P. Hoke	262,413	Aug. 8	738	207	22	466
Plow	J. W. Jory	263,789	Sept. 5	152	45	22	809
Plow	K. Kellogg	264,885	Sept. 26	1426	402	22	1051
Plow	K. Kellogg	266,164	Oct. 17	1148	324	22	1343
Plow	W. A. Lee	262,062	Aug. 1	285	83	22	385
Plow	C. F. Mock	260,772	July 11	549	149	22	98
Plow	A. Neely	268,268	Nov. 28	1632	453	22	1853
Plow	J. A. Peek	262,469	Aug. 8	795	225	22	477
Plow	L. S. Pfouts	269,457	Dec. 19	1319	382	22	2144
Plow	J. Quin	260,785	July 11	567	154	22	101
Plow	J. H. Riggan	268,285	Nov. 28	1649	457, 458	22	1856
Plow	L. Schmidt	267,724	Nov. 21	971	273	22	1726
Plow	C. M. Simmons	264,351	Sept. 12	805	227	22	924
Plow	T. Spencer	269,734	Dec. 26	1673	481	22	2218
Plow	S. F. Woodworth	269,716	Aug. 15	1106	313	22	538
Plow. Adjustable rotary sulky-	E. G. Goddard	266,680	Oct. 31	1784	515	22	1471
Plow and drag attachment	M. A. Culver	263,768	Sept. 5	124	38	22	795
Plow and pulverizer. Combined	C. E. Sackett	268,830	Dec. 12	524	156	22	1993
Plow and pulverizer. Rotary	C. Johnston	269,792	Dec. 26	1753	505	22	2233
Plow and seeder. Combined	R. C. Buckley	263,475	Aug. 29	2093	600	22	725
Plow attachment	E. L. Litton and J. J. Brown	268,699	Dec. 5	356	104	22	1955
Plow attachment	W. J. N. Welborn	263,637	Aug. 29	2281	651	22	750
Plow attachment	W. H. Witt	267,630	Nov. 14	853	243	22	1687
Plow-beam	W. C. Chamberlain	267,061	Nov. 7	123	35	22	1562
Plow-beam	J. A. Johnson	263,528	Aug. 29	2155	616	22	738
Plow-beams to handles. Device for attaching	H. O. Kerns	267,311	Nov. 7	436	126	22	1618
Plow. Cultivator-	M. Hancock	268,223	Nov. 28	1576	437	22	1842
Plow. Ditching-	J. L. House	262,229	Aug. 8	518	145	22	430
Plow. Ditching-	G. O. and A. Kirkpatrick	265,102	Sept. 26	1686	472	22	1097
Plow. Gang-	C. D. Carter	269,008	Dec. 12	736	216, 217	22	2033
Plow. Gang-	E. Topham	261,182	July 18	1065	299	22	192
Plow-handle	T. M. Bissell	260,642	July 4	369	100	22	62
Plow-handles. Attaching	W. A. Miles	267,443	Nov. 14	623	180	22	1655
Plow, harrow, seeder, &c. Combined	T. E. Jefferson	260,482	July 4	169	48, 49, 50	22	30
Plow, harrow, seeder, and roller. Combined sulky-	D. C. Beaty	265,005	Sept. 26	1580	444	22	1079
Plow. Iron-foot	R. J. Best	265,566	Oct. 10	417	115	22	1213
Plow mold-board	C. O. Dahlman	263,122	Aug. 22	1612	456	22	638
Plow or spader and roller. Combined revolving	E. M. Miles	260,596	July 4	308	84, 85	22	53
Plow-point	W. F. Cameron	262,927	Aug. 22	1378	389	22	596
Plow-point	W. J. Turner	266,927	Oct. 31	2058	592	22	1522
Plow. Revolving	J. B. Hurd	266,824	Oct. 31	1932	559	22	1499
Plow. Revolving	M. C. Niles	269,096	Dec. 12	852	252	22	2052
Plow riding attachment	C. H. Wanee	261,703	July 25	1800	508	22	321
Plow. Rotary	G. Pirrung	260,782	July 11	562	153	22	100
Plow running-gear. Steam-	J. M. Gardner	265,956	Oct. 17	895	235	22	1301
Plow. Shovel-	W. O. Johnson	265,394	Oct. 3	118	35	22	1156
Plow. Shovel-	J. Lawrie	261,001	July 11	832	231, 232	22	145
Plow. Side-hill	R. I. Knapp	265,328	Oct. 3	127	37	22	1157
Plow-standard	G. W. Vernon	263,256	Aug. 22	1766	502	22	668
Plow. Steam-	R. Stone	265,345	Oct. 3	143	42	22	1161
Plow. Steam-	T. T. Woodruff	263,279	Aug. 22	1789	509, 510	22	672
Plow. Subsoil-	S. B. Dover	269,027	Dec. 12	763	225	22	2037
Plow. Sulky-	N. S. Barger	264,846	Sept. 26	1380	389	22	1043
Plow. Sulky-	S. W. Barr	263,753	Sept. 5	108	34	22	792
Plow. Sulky-	A. F. Bergqvist	264,610	Sept. 19	1096	312	22	986
Plow. Sulky-	G. S. Briggs	262,729	Aug. 15	1124	318	22	540
Plow. Sulky-	W. L. Casaday	260,534	July 4	241	67, 68	22	41
Plow. Sulky-	T. T. Harrison	264,692	Sept. 19	1185	336	22	1004

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Plow. Sulky	M. Kite	269,427	Dec. 19	1281	372	22	2137
Plow. Sulky	L. Luppen	261,365	July 18	1279	356	22	236
Plow. Sulky	C. W. Post	268,280	Nov. 28	1645	456	22	1855
Plow. Sulky	E. Powell	263,577	Aug. 29	2217	634	22	748
Plow. Sulky	T. L. Richardson	264,763	Sept. 19	1270	360	22	1019
Plow. Sulky	A. Sanborn	261,176	July 18	1054	296	22	191
Plow. Sulky	J. G. Sherman	268,737	Dec. 5	400	116	22	1963
Plow. Sulky	N. Swickard	263,669	Aug. 29	2220	663	22	765
Plow. Sulky	W. B. Packard	262,465	Aug. 8	790	223	22	476
Plow, &c. Sulky	D. P. Sharp	267,602	Nov. 14	821	235	22	1691
Plow-sulky	C. T. Reed	263,217	Aug. 22	1723	488	22	660
Plow sulky attachment	J. A. Howe	266,627	Oct. 31	1704	492	22	1457
Plow. Swivel	F. C. Bryan	269,002	Dec. 12	729	214	22	2031
Plow. Wheel	J. D. Patterson	264,562	Sept. 19	1040	295, 296	22	976
Plow. Wheel	E. Peak	267,581	Nov. 14	797	227	22	1687
Plows, &c. Adjustable and detachable handle for	J. M. Clark	267,837	Nov. 21	1104	309	22	1751
Plows. Power-lift for	F. F. Smith and J. W. Lockwood	262,547	Aug. 8	800	252	22	494
Plowing and tilling apparatus	J. Feierabend	260,573	July 4	421	115	22	72
Plowing apparatus. Steam	N. W. Bradley	267,996	Nov. 28	1293	364	22	1791
Plow share and point	W. Dicer	261,836	Aug. 1	16	5	22	338
Plowshares and other plow-steels. Machine for sharpening the edges of	E. S. Hartman	268,401	Dec. 5	33	10	22	1893
Plumb-bob	W. L. Bergen	266,671	Oct. 31	1756	506	22	1466
Plumb-bob	W. C. Vajen	267,655	Nov. 14	881	252	22	1702
Plumber's trap	P. Connolly	260,666	July 4	405	112	22	68
Pneumatic conveyer	J. W. Beach	267,318	Nov. 14	456	132	22	1027
Pneumatic cylinder for machinery	J. C. Butterfield	264,860	Sept. 26	1397	394	22	1046
Pneumatic elevator for railways	C. A. Needham	265,129	Sept. 26	1715	480	22	1103
Pocket-book, &c., fastening	J. W. Meaker	266,710	Oct. 31	1808	524	22	1476
Pocket-book frame	S. Scheuer	262,482	Aug. 8	808	238	22	480
Pocket-knife	J. D. Frary	266,454	Oct. 24	1508	428	22	1414
Pocket. Safety	H. B. Gross	265,228	Sept. 26	1855	521	22	1127
Pocket safety attachment	J. W. Wells	260,915	July 11	714	195	22	126
Pocket. Safety watch	J. F. Miles	264,321	Sept. 12	774	218	22	918
Pocket. Watch	I. Samuels	267,942	Nov. 21	1226	345	22	1774
Pockets. Detachable lining for watch	J. H. Tharlow	268,574	Dec. 5	217	61	22	1927
Poke. Animal	J. A. Nevins	263,563	Aug. 29	2202	629	22	745
Polarized ink-writer	F. Anderson	267,967	Nov. 21	1255	353	22	1779
Pole. Adjustable vehicle	F. W. Bishop	261,988	Aug. 1	198	59	22	369
Pole-changing key	T. Shaw	264,348	Sept. 12	803	226	22	924
Pole iron. Vehicle	O. Vanorman	266,560	Oct. 24	1623	402	22	1436
Pole-strap attachment	J. Fenning	266,683	Oct. 31	1771	511	22	1469
Pole-tip and neck-yoke clamp. Combined	F. W. Sibert and S. P. Hurd	267,606	Nov. 14	824	236	22	1692
Pole. Vehicle	C. C. Bradley	262,362	Aug. 8	676	188	22	456
Poles. Shaper attachment for rounding wooden	M. S. O'Neil	268,527	Dec. 5	170	49	22	1918
Polishing and grinding wheel	T. C. Belding	267,132	Nov. 7	220	63	22	1579
Polishing compound	F. Heiser	261,922	Aug. 1	123	.....	22	356
Polishing compound	J. Keys	269,679	Dec. 26	1605	.....	22	2206
Polishing device. Rotary	W. P. Whittemore	267,735	Nov. 21	982	277	22	1729
Polishing-machine	G. F. Butterfield	268,180	Nov. 28	1525	424	22	1833
Polyscope	G. M. Powell	268,432	Dec. 5	74	23	22	1901
Pool-ball rack	W. M. Bates	265,214	Sept. 26	1827	513	22	1122
Pool-bottle	T. Kehoe and J. A. Bourke	265,100	Sept. 26	1684	471	22	1096
Pool. Game of lawn	L. Turner	269,351	Dec. 19	1187	346	22	2118
Pool-player's portable position-register	W. Zaehringer	260,442	July 4	117	34	22	21
Porch-iron	D. U. Stoner	264,047	Sept. 5	471	128	22	855
Portable drier	A. Thalheimer	263,738	Sept. 5	82	25	22	789
Portable drill and forge rest	J. Hathaway	266,991	Nov. 7	42	13, 14	22	1547
Portable elevator	R. Dunbar	264,938	Sept. 26	1502	422	22	1064
Portable furnace to facilitate the means of firing decorated china, glass, &c.	E. M. Ford	262,391	Aug. 8	709	199	22	462
Portable house	J. Reilly	267,109	Nov. 7	190	55	22	1574
Post: *See* Fence-post. Fence and gate post. Grazing-post. Lathe-tool post.							
Post-hole digger	J. J. Armstrong	267,766	Nov. 21	1015	285	22	1734
Post-hole digger	J. A. Fleming	263,038	Aug. 22	1520	428	22	621
Post-hole digger	J. J. Johnston	265,825	Oct. 10	733	206	22	1265
Postal-card	F. G. Mead	263,347	Aug. 29	1937	554	22	698
Pot: *See* Coffee-pot. Coffee or tea pot. Dash-pot. Dinner-pot. Flower-pot. Flush-pot. Glass pot. Hermetically-sealed pot. Tea or coffee pot. Tinner's fire-pot. Wire-annealing pot.							
Potato-digger	L. A. Aspinwall	264,603	Sept. 19	1088	308	22	984
Potato-digger	E. O. Cook	261,312	July 18	1219	339	22	216
Potato-digger	J. J. Johnston	266,830	Oct. 31	1940	560, 561	22	1500
Potato-digger	C. G. Wiltse	267,959	Nov. 21	1244	350, 351	22	1777
Potato-peeler	F. Schulte	267,021	Nov. 7	77	23	22	1553
Potato-sprouts. Machine for removing	E. Payne	260,407	July 4	78	21, 22	22	15
Potter's lathe	H. Mishler	269,090	Dec. 12	844	250	22	2051
Pottery-machine	T. Willett	268,583	Dec. 5	227	64	22	1929
Powder: *See* Baking-powder. Explosive powder.							
Powder. Apparatus for thawing giant	T. Rosevear and R. Bryant	268,540	Dec. 5	184	52	22	1921
Powder from kegs, &c. Device for filling	R. Fagan and L. S. Allison	268,473	Dec. 5	116	35	22	1908
Powder-puff	E. A. Bailey	265,559	Oct. 10	409	113	22	1212
Powders containing nitro-cellulose, &c. Hardening explosive granulated	W. F. Reid and D. Johnson	267,108	Nov. 7	190	.....	22	1574

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Power: *See* Animal-power. Churn-power. Foot-power. Horse-power. Tread-power. Treadle-power. Wind-power.							
Power-brake	J. I. Kinsey	262,599	Aug. 15	967	272	22	512
Power-elevator	S. A. Morse	261,377	July 18	1294	361	22	229
Power. Friction device for transmitting	C. W. Emerson and C. H. Lindholm	263,032	Aug. 22	1514	426	22	626
Power generator. Motive	W. F. Browne	263,311	Aug. 29	1866	531, 532, 533, 534	22	689
Power-machine	D. K. Hall	262,763	Aug. 15	1170	330	22	548
Power-press	G. B. Boomer	260,528	July 4	234	65, 66	22	39
Power-press	H. B. Kinney	264,837	Sept. 19	1357	384	22	1033
Power-press	W. Diebel	262,748	Aug. 15	1148	325	22	544
Power-shears for cutting knit or woven fabrics, &c.	F. H. Richards	269,713	Dec. 26	1643	472	22	2213
Power to and controlling the motion of mechanism. Apparatus for communicating	A. E. Jones	267,351	Nov. 14	498	.....	22	1634
Precious metal from quartz or cement-rock tailings. Collecting the floating	J. H. Thorp	266,923	Oct. 31	2053	591	22	1521
Preservation of food for cattle	W. F. Grier	268,094	Nov. 28	1411	.....	22	1813
Preservative for organic substances and process of making the same.	H. J. Allen	268,972	Dec. 12	694	.....	22	2025
Preserved compound for mince-pies	O. Parker	260,706	July 4	465	196	22	78
Preserving food. Process of and apparatus for							
Press: *See* Baling-press. Brick-press. Broom-corn press. Cigar-press. Cigar-packing press. Cotton-press. Cotton and hay press. Cutting and punching press. Die and stamping press. Filter-press. Fodder-press. Fruit-press. Glass-press. Harness-pad press. Hay-press. Hay and cotton press. Hay or cotton press. Hydraulic press. Knuckle-joint press. Lard-press. Metal-working press. Oil-press. Power-press. Printing-press. Sheet-metal-stamping press. Wine and cider press.							
Press	G. B. Boomer and R. E. Boschert	265,013	Sept. 26	1589	447	22	1080
Press	J. Chase	263,020	Aug. 22	1495	421	22	617
Press	H. M. Smith	263,605	Aug. 29	2245	642	22	753
Press	R. E. Boschert	264,435	Sept. 19	910	256	22	951
Presses. Power-indicator for	G. F. Brott	266,013	Oct. 17	964	273, 274	22	1312
Pressing plastic or other conditioned material into blocks. Machine for	H. Bernstein	263,383	Dec. 5	11	3	22	1888
Pressure-gage. Recording	G. W. Brown	263,845	Sept. 5	221	63	22	811
Pressure-indicators. Piston for	H. A. Tobey	263,996	Sept. 5	406	113	22	845
Pressure-regulator	E. Whyte	263,272	Aug. 22	1782	508	22	671
Price-ticket holder	F. Keefer	261,616	July 25	1589	445	22	286
Printer's galley	B. F. Curtis	265,762	Oct. 10	661	187, 188	22	1253
Printer's locking-up device	O. C. Springer	260,621	July 4	342	93	22	58
Printer's quoin	W. R. Whitmore	260,821	Aug. 1	73	21	22	348
Printer's quoin	F. L. Armstrong	260,821	July 11	612	166	22	108
Printer's shooting-stick	R. Buckingham	262,639	Aug. 15	1016	285	22	521
Printer's tool	E. H. Canghey	263,762	Sept. 5	118	36	22	794
Printing apparatus. Chromatic	J. E. Caps	265,017	Sept. 26	1593	448	22	1081
Printing-block	J. Hutchison	262,416	Aug. 8	740	208	22	467
Printing. Inking apparatus for block	E. Anthony	263,745	Sept. 5	89	27, 28	22	791
Printing-machine	E. Anthony	263,747	Sept. 5	93	29, 30	22	791
Printing-machine	E. Anthony	267,313	Nov. 7	437	126, 127	22	1618
Printing-machine	E. Anthony and J. E. Harvey	263,748	Sept. 5	97	30, 31, 32	22	791
Printing-machine	E. Anthony and J. E. Harvey	265,233	Oct. 3	5	1, 2, 3	22	1138
Printing-machine	E. Anthony and W. W. Taylor	265,298	Oct. 3	89	26, 27	22	1150
Printing-machine	E. Anthony and W. W. Taylor	265,556	Oct. 10	405	112	22	1211
Printing-machine	E. Anthony and W. W. Taylor	265,557	Oct. 10	407	112, 113	22	1212
Printing-machine	E. Anthony and W. W. Taylor	265,651	Oct. 10	530	143, 144	22	1231
Printing-machine	J. H. Cranston	265,029	Sept. 26	1608	452	22	1084
Printing-machine	H. P. Felster	267,171	Nov. 7	263	77	22	1587
Printing-machine	D. Weckerlin	263,004	Aug. 22	1474	415	22	613
Printing-machine delivery apparatus	E. Anthony	263,746	Sept. 5	92	28, 29	22	791
Printing-machine delivery apparatus	B. Huber	262,778	Aug. 15	1193	334, 335	22	552
Printing machine. Lithographic	R. Rathbone	268,043	Nov. 28	1358	380	22	1803
Printing machine. Plate	J. S. Ives	261,927	Aug. 1	128	37, 38	22	357
Printing-machine sheet-delivery apparatus	L. C. Crowell	261,084	July 11	945	264	22	163
Printing-machine sheet-delivery apparatus	W. Scott	265,546	Oct. 3	392	108, 109	22	1209
Printing-machine sheet-delivering mechanism	L. C. Crowell	269,159	Dec. 12	928	270	22	2066
Printing machine. Yarn	H. Skinner	264,112	Sept. 12	548	149	22	878
Printing-machines. Air-cushioning apparatus for	L. C. Crowell	269,020	Dec. 12	752	222	22	2035
Printing-machines. Web-reversing apparatus for	E. Anthony and J. E. Harvey	263,750	Sept. 5	104	33	22	792
Printing-press	J. Brooks	266,759	Oct. 31	1863	541	22	1486
Printing-press	J. Brooks	266,760	Oct. 31	1864	541	22	1486
Printing-press	J. Dyer and C. O. Malmgren	262,938	Aug. 22	1391	393	22	598
Printing-press	H. P. Felster	267,172	Nov. 7	264	77, 78	22	1587

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Printing-press	A. Shedlock	260,792	July 11	577	156	22	102
Printing-press delivery apparatus	C. B. Cottrell	260,945	July 11	752	205	22	132
Printing-press delivery apparatus	W. C. Demuth	269,393	Dec. 19	1243	361	22	2129
Printing press. Plate	G. Wing	267,123	Nov. 7	211	61	22	1577
Printing-press register-pin	J. Keller	265,101	Sept. 26	1685	471	22	1097
Printing press. Tag or ticket number	W. S. Ross	264,568	Sept. 19	1046	298	22	977
Privy-furnace	W. Palliser	269,101	Dec. 12	861	253	22	2054
Projectile	M. W. Lyon and W. B. Gordon	265,969	Oct. 17	909	258	22	1303
Projectile. Line-throwing	J. W. Dilks	264,446	Sept. 19	921	259 / 260	22	953
Propeller. Adjustable screw	R. Smith. (Reissue)	10,222	Oct. 24	1669	480	22	1444
Propeller for vessels. Reciprocating	R. Smith	264,903	Sept. 26	1448	409 / 410	22	1055
Propeller. Reciprocating	F. Maringer	262,681	Aug. 15	1065	300	22	531
Propeller. Screw	E. B. Corby	268,627	Dec. 5	279	81	22	1940
Propeller. Vibrating	G. Tod, Jr., and J. Bucker	265,185	Sept. 26	1788	501	22	1116
Protector: *See* Belt-protector. Boot and shoe strap protector. Dress-waist protector. Finger-protector. Hay and grain stack protector. Head-protector. Hose-protector. Lamp-chimney protector. Railway-frog protector. Stocking-knee protector.							
Protractor	A. H. Ege and C. D. Walters	267,336	Nov. 14	476	138	22	1631
Pruning implement	F. O. Slanker	265,161	Sept. 26	1759	491	22	1111
Pug-mill	A. Hall	264,875	Sept. 26	1417	400	22	1040
Pug-mill for tempering clay	J. Evans	261,840	Aug. 1	21	6	22	339
Puller: *See* Stump-puller.							
Pulley	H. R. Allen	260,350	July 4	1	1	22	3
Pulley	G. D. Husemann and E. A. Said	269,419	Dec. 19	1272	309	22	2135
Pulley	J. Mallen	262,445	Aug. 8	771	217	22	473
Pulley	E. B. Martindale	266,709	Oct. 31	1807	524	22	1475
Pulley	W. J. Brewer	268,455	Dec. 5	98	30	22	1905
Pulley-block	T. R. Ferrall	268,364	Nov. 28	1758	487	22	1876
Pulley-block	W. Scholl	268,044	Nov. 28	1358	380	22	1803
Pulley-block	T. H. Ward	267,954	Nov. 21	1238	348	22	1776
Pulley-block	T. H. Ward and E. Howl	268,323	Nov. 28	1695	469 / 470 / 471	22	1865
Pulley-block straps. Machine for forming	F. D. Bartlett	268,982	Dec. 12	708	208	22	2028
Pulley-blocks. Anti-friction bearing for	H. O. Winsor	264,989	Sept. 26	1564	439	22	1075
Pulley for gates. Sheave	C. E. Ackerman	260,632	July 4	356	96	22	60
Pulley for round belts or cables. Tight and loose	G. A. Henderson	269,286	Dec. 19	1096	320	22	2102
Pulley. Separable	W. H. Dodge and G. Philion	260,402	July 4	143	41	22	25
Pulleys. Manufacture of	J. E. Warren	265,441	Oct. 3	245	74	22	1180
Pulp-beating engine	G. H. Pond	261,107	July 11	970	271	22	168
Pulp, &c. Comminuting wood	G. L. Huxtable	267,715	Nov. 21	959	270	22	1724
Pulp. Making	H. F. Prescott	269,291	Dec. 19	1102	321	22	2103
Pulp. Manufacture of articles from wood or vegetable	J. and R. Wood	264,100	Sept. 12	537	146	22	876
Pulp-strainer. Rotating	L. S. Chichester	262,877	Aug. 15	1317	370	22	575
Pulverizer	A. J. Cochran	262,571	Aug. 15	930	263	22	506
Pulverizer. Soil	H. B. Feldmann	265,917	Oct. 10	828	236	22	1283
Pulverizing-machine	R. D. Gates	265,791	Oct. 10	690	195 / 196	22	1259
Pulverizing-machine	F. W. Krause	269,404	Dec. 19	1254	365	22	2131
Pulverizing-machine	I. W. Parmenter	268,629	Nov. 28	1336	375	22	1799
Pulverizing-machine	L. C. Springer	263,571	Aug. 29	2210	631	22	747
Pulverizing-machine	S. P. M. Tasker	262,327	Aug. 8	634	178	22	449
Pulverizing machine. Dry	S. P. M. Tasker	265,715	Oct. 10	609	172	22	1244
Pulverizing machine. Wet	S. P. M. Tasker	265,713	Oct. 10	604	170 / 171	22	1243
Pulverizing machine. Wet	S. P. M. Tasker	265,714	Oct. 10	607	171	22	1944
Pulverizing-mill	J. R. Richardson	261,955	Aug. 1	161	47	22	363
Pump	F. Ahrens	263,452	Aug. 29	2069	592	22	721
Pump	N. R. Alpuche	260,921	July 11	721	196	22	126
Pump	S. S. Andrews	266,070	Oct. 17	1030	291	22	1324
Pump	W. C. Athey	263,834	Sept. 5	206	60	22	809
Pump	A. D. Austin	264,024	Sept. 5	440	122	22	850
Pump	D. N. B. Coffin	262,208	Aug. 8	493	138	22	424
Pump	R. G. Conley	263,861	Sept. 5	242	70, 71	22	816
Pump	F. G. Cornell	261,685	July 25	1669	468	22	299
Pump	W. N. Cosgrove	262,279	Aug. 8	574	161	22	438
Pump	J. P. Ellacott	266,117	Oct. 17	1091	308	22	1333
Pump	W. P. Field	267,411	Nov. 14	582	167	22	1648
Pump	C. O. Frye	261,918	Aug. 1	119	35	22	356
Pump	J. A. Heydrick	269,414	Dec. 19	1265	368	22	2134
Pump	A. A. Hinds	265,080	Sept. 26	1661	464	22	1092
Pump	W. D. Hooker	265,261	Oct. 3	40	13	22	1143
Pump	J. Imler	267,804	Nov. 21	1168	328	22	1763
Pump	P. E. Jay	265,607	Oct. 10	468	129	22	1221
Pump	J. Meyrick, Jr., and W. Melcher	261,019	July 11	861	239	22	149
Pump	L. C. Miller	265,691	Oct. 10	576	161	22	1239
Pump	P. A. Myers	263,944	Sept. 5	342	96	22	833
Pump	W. Sellers	268,832	Dec. 12	526	156	22	1993
Pump	W. A. Spooner	264,484	Sept. 19	967	272	22	961
Pump	B. C. Vanduzen	268,841	Dec. 12	540	150	22	1996
Pump	B. C. Vanduzen	268,842	Dec. 12	541	160	22	1996
Pump	B. C. Vanduzen	268,843	Dec. 12	543	160	22	1996
Pump	B. C. Vanduzen	268,844	Dec. 12	546	160 / 161	22	1997
Pump	B. C. Vanduzen	268,845	Dec. 12	549	161	22	1998

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Pump	J. Walcher	265,191	Sept. 26	1792	503	22	1116
Pump	T. H. Ward	266,566	Oct. 24	1628	464	22	1437
Pump	D. E. Washburn	266,232	Oct. 17	1221	345	22	1355
Pump	J. A. Whitman	268,581	Dec. 5	225	63	22	1929
Pump	L. S. Hoyt	262,674	Aug. 15	1058	297	22	529
Pump. Air	W. Stanley, Jr.	269,133	Dec. 12	898	263	22	2060
Pump. Air	F. E. Snyder	263,735	Sept. 5	79	24	22	789
Pump and sprinkler. Portable	G. H. Gaskins	261,087	July 11	949	265	22	164
Pump attachment	M. B. Brooks	263,384	Aug. 29	1990	568	22	707
Pump. Barrel	W. J. Carter	262,740	Aug. 15	1141	322	22	542
Pump. Beer	J. Fowler	266,126	Oct. 17	1105	312	22	1336
Pump. Beer	L. M. Rich	265,869	Oct. 10	780	220	22	1275
Pump-bucket	P. J. Ritzdorf	260,730	July 4	489	133	22	83
Pump-bucket	L. M. Rumsey	263,229	Aug. 22	1735	493	22	662
Pump bucket. Chain	C. Whipple	264,387	Sept. 12	851	238	22	932
Pump. Chain	W. H. and C. A. Holcombe	269,523	Dec. 26	1410	407	22	2107
Pump-cylinder	J. Gates	261,700	July 25	1690	473 / 474	22	302
Pump. Direct-acting steam	J. W. Hilliker	268,675	Dec. 5	331	96	22	1950
Pump. Double-acting	M. F. McNelly	261,622	July 25	1597	447	22	287
Pump. Double-acting submerged force	D. A. Schomp	263,815	Sept. 5	183	53	22	805
Pump for driven wells	D. J. Dampman	263,867	Sept. 5	251	72	22	818
Pump for locomotives. Air-brake	D. J. Dampman	268,631	Dec. 5	284	83	22	1941
Pump for locomotives. Air-brake	W. H. Wood and G. Richmond	268,348	Nov. 28	1734	[illegible]	22	1872
Pump for refrigerating and ice machines. Gas	J. Houpt. (Reissue)	10,177	Aug. 8	896	254	22	495
Pump for steam-boilers. Feed	J. Bedford	268,984	Dec. 12	712	209	22	2028
Pump. Force	H. Blake	263,382	Aug. 29	1982	566	22	706
Pump. Force	G. J. Fritz	262,394	Aug. 8	713	200	22	463
Pump. Force	M. F. McNelly	263,294	Aug. 22	1827	518	22	678
Pump. Force	P Mougey	266,713	Oct. 31	1811	525 / 526	22	1476
Pump. Force	G. W. Simons and R. H. Gebott	266,538	Oct. 24	1602	456	22	1432
Pump. Gas	J. Ring	267,653	Nov. 14	879	251	22	1702
Pump. Hydraulic-pressure	S. Kellogg and J. Weller	267,352	Nov. 14	499	143	22	1634
Pump. Liquid	H. F. Schwuchow	268,435	Dec. 5	76	24	22	1901
Pump. Liquid-measuring	H. E. Marchand	264,312	Sept. 12	765	213 / 214	22	916
Pump. Mercurial air	C. H. Stearn	265,641	Oct. 10	510	139 / 140	22	1228
Pump. Oil	E. G. Feldhousen	262,389	Aug. 8	707	199	22	462
Pump. Oscillating	C. Schlund and P. Petry	264,571	Sept. 19	1049	299	22	978
Pump-plunger	P. H. and T. A. Sprague	262,845	Aug. 15	1272	357 / 358	22	567
Pump-plunger	H. F. Temple	260,602	July 11	588	159	22	104
Pump. Portable	W. J. and F. C. Johnson	269,676	Dec. 26	1601	450	22	2205
Pump reel. Sand	H. T. Hunt	264,083	Sept. 12	517	141	22	873
Pump-rod adjuster for oil-wells	D. L. Lewis	265,835	Oct. 10	743	209	22	1267
Pump. Rotary	W. N. De Groat	266,019	Oct. 17	970	276	22	1313
Pump. Rotary	J. Menge	269,443	Dec. 19	1300	377	22	2141
Pump. Rotary	F. M. Roots	264,962	Sept. 26	1531	430 / 431	22	1069
Pump. Rotary	A. Siegrist	263,975	Sept. 5	377	105 / 106	22	840
Pump. Rotary differential force	P. Munzinger	268,816	Dec. 12	506	150	22	1990
Pump. Sand	S. McCaughtry	266,856	Oct. 31	1965	568	22	1505
Pump. Siphon	A. D. MacKellar	266,377	Oct. 24	1430	406	22	1401
Pump spout. Wooden	B. C. Stephenson	267,468	Nov. 14	650	187	22	1661
Pump. Steam	P. Brown, T. Parfery, and A. Healy	264,134	Sept. 12	575	157	22	883
Pump. Steam	W. M. Ferry	267,410	Nov. 14	580	167	22	1647
Pump. Steam	J. Henshall	262,293	Aug. 8	591	166 / 167	22	441
Pump. Steam	W. Hopkins	268,676	Dec. 5	332	96	22	1950
Pump. Steam vacuum	G. H. Nye	263,803	Sept. 5	171	49	22	803
Pump-stock	C. Schmidt	263,595	Aug. 29	2234	639	22	751
Pump. Submerged	L. Herbert	263,406	Aug. 29	2017	577	22	711
Pump. Vacuum	H. J. Müller	264,329	Sept. 12	784	220 / 221	22	920
Pump-valve	C. C. Redmond	264,338	Sept. 12	703	223	22	922
Pump-valve	W. E. Worthen	263,377	Aug. 29	1977	564	22	704
Pumps and other devices. Actuating mechanism for	J. P. Wilson	262,338	Aug. 8	647	182	22	451
Pumps. Apparatus for operating	H. H. Martin and C. Harthon	265,527	Oct. 3	371	101	22	1198
Pumps. Expansive rubber bucket for chain	C. H. Miller	269,809	Dec. 26	1771	510	22	2236
Pumps. Exhaust-steam condenser for steam	W. F. Holsing	268,100	Nov. 28	1421	397	22	1814
Pumping and flowing oil-wells. Apparatus for	E. S. Williamson	262,874	Aug. 15	1313	369	22	574
Pumping apparatus. Electric	C. C. Peck and W. H. Chapman	260,408	July 4	99	22, 23	22	15
Pumping apparatus. Electric	C. C. Peck and W. H. Chapman	267,710	Nov. 21	954	269	22	1724
Pumping-engine	H. F. Gaskill	263,694	Sept. 5	28	9	22	779
Pumping-engine	W. D. Hooker	262,228	Aug. 8	516	144 / 145	22	428
Pumping-engine	J. H. Pendleton	264,746	Sept. 19	1250	354 / 355	22	1015
Pumping-engine. Steam	G. M. Conway	265,657	Oct. 10	538	146	22	1232
Pumping-engine. Steam	W. M. Ferry	266,026	Oct. 17	979	277 / 278	22	1314
Pumping-engine. Steam	E. R. Hubbard	263,785	Sept. 5	143	43, 44	22	798
Pumping-engine. Vertical	H. F. Gaskill	262,286	Aug. 8	581	163	22	440
Pumping machinery. Steam	W. E. Worthen. (Reissue)	10,255	Dec. 5	449	132	22	1973
Pumping water from mines. Apparatus for	W. M. Ferry	262,754	Aug. 15	1159	328	22	546
Punch for and method of canceling tickets	W. L. Langley	267,229	Nov. 7	342	99	22	1601
Punch for marking cattle	A. Tignlero	267,282	Nov. 7	401	117	22	1612
Punch. Metal	G. W. Constantine	264,629	Sept. 19	1118	317	22	990
Punch. Metal	D. Kennedy	267,751	Nov. 21	997	281	22	1731
Punch. Recording ticket	F. R. Alderman	261,195	July 18	1084	302 / 303	22	195

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Punch. Ticket	L. O. Crocker	261,138	July 18	1013	285	22	185
Punch. Ticket	J. Lippincott	264,465	Sept. 19	944	266	22	957
Punching and pinking machine	E. B. Stimpson	261,781	July 25	1783	504	22	318
Punching and shearing machine	A. Campbell	265,016	Sept. 26	1592	448	22	1081
Punching and shearing machine. Metal	J. L. Lewis	262,600	Aug. 15	968	272	22	513
Punching machine. Metal	F. B. Miles	262,082	Aug. 1	315	90	22	390
Purse	P. Schrader and W. Stahl	262,486	Aug. 8	811	229	22	480
Purse	F. W. Schwarz	263,831	Dec. 12	525	156	22	1993
Purse	A. M. Town	265,893	Oct. 10	803	228	22	1279
Puzzle	T. R. Boone	263,991	Dec. 12	719	211	22	2029
Puzzle. Geometrical	E. Mehner	260,594	July 4	306	84	22	52
Puzzle lock-box	E. W. Mersereau	269,306	Dec. 19	1119	328	22	2107
Puzzle. Spelling	W. H. Reiff	263,580	Aug. 29	2219	634	22	740
Pyrometer	E. Brown	261,905	Aug. 1	95	27	22	352
Pyrotechnic signal	E. F. Linton	262,440	Aug. 8	766	215	22	472
Pyrotechnic trail	E. F. Linton	262,442	Aug. 8	768	216	22	472
Pyroxyline compound	W. McCaine	262,077	Aug. 1	310	.....	22	390
Pyroxyline or nitro-cellulose. Manufacture of compounds of	J. H. Stevens	269,340	Dec. 19	1167	.....	22	2116
Pyroxyline or nitro-cellulose. Manufacture of compounds of	J. H. Stevens	269,341	Dec. 19	1170	.....	22	2116
Pyroxyline or nitro-cellulose. Manufacture of compounds of	J. H. Stevens	269,342	Dec. 19	1171	.....	22	2116
Pyroxyline or nitro-cellulose. Manufacture of compounds of	J. H. Stevens	269,343	Dec. 19	1172	.....	22	2116
Pyroxyline or nitro-cellulose. Manufacture of compounds of	J. H. Stevens	269,344	Dec. 19	1173	.....	22	2116
Pyroxyline or nitro-cellulose. Manufacture of compounds of	J. H. Stevens	269,345	Dec. 19	1174	.....	22	2116
Quarrier and stone-shaper. Rotary	J. Crump and R. Brereton	265,946	Oct. 17	877	251	22	1298
Quartz crusher and pulverizer	J. A. Sperry	266,397	Oct. 24	1454	412	22	1405
Quilting-frame	H. T. Davis	266,581	Oct. 24	1642	467	22	1439
Quilting-frame	T. Goode	266,461	Oct. 24	1514	430	22	1416
Quilting-frame	J. B. Murphree	265,694	Oct. 10	582	162	22	1241
Quilting-frame	J. W. Scarborough	262,987	Aug. 22	1452	409	22	609
Quilting-machine	W. Koch	260,994	July 11	822	229	22	144
Quilting-machine	C. Widmer	269,361	Dec. 19	1202	350	22	2121
Rack: *See* Car-basket rack. Clothes-rack. Dish-draining rack. Display-rack. Egg-rack. Feed-rack. Garment-rack. Hat-rack. Hay-rack. Hay and stock rack. Milk-rack. Piano music-rack. Pool-ball rack. Shade-rack. Sheep-rack. Towel-rack. Wagon-rack. Wire rack.							
Radiator	T. Davis	266,979	Nov. 7	28	8	22	1545
Radiator	C. Wheat and A. Catchpole	260,512	July 4	212	59	22	36
Radiator. Steam	P. Gormly and L. Bridge	263,167	Aug. 22	1666	472	22	648
Radiator. Steam	W. H. Page	262,826	Aug. 15	1251	352	22	562
Radiator. Steam	J. B. Pierce and J. Bond	265,279	Oct. 3	62	19	22	1146
Rag-engine	J. P. Korschilgen	263,806	Dec. 12	494	146	22	1988
Rail-coupling and bed-plate	J. Ney	263,928	Dec. 12	644	189	22	2015
Rail fastening or chair	G. Gray	262,404	Aug. 8	723	204	22	464
Rail for switch-frogs. Guard	W. J. Morden	267,565	Nov. 14	773	221	22	1682
Rail-joint	G. N. Hodgdon	266,626	Oct. 31	1703	491	22	1456
Rail-joint	W. Peteler	262,827	Aug. 15	1252	352	22	563
Rail-punching machine. Automatic	J. H. England and E. Horth	269,650	Dec. 26	1571	451	22	2199
Rail-straightening machine	W. K. Seaman	266,536	Oct. 24	1600	455	22	1431
Rails. Device for connecting	O. Benson	260,446	July 4	122	36	22	22
Railing. Iron	T. Robinson	264,765	Sept. 19	1273	361	22	1020
Railway	R. B. Meeker	269,442	Dec. 19	1299	377	22	2141
Railway	J. M. Reid	265,538	Oct. 3	385	105	22	1201
Railway alarm-signal	C. Lloyd	264,719	Sept. 19	1221	345	22	1010
Railway and car therefor. Pneumatic	E. P. Needham	268,715	Dec. 5	371	{108 109}	22	1958
Railway and depot	H. C. Rew	263,959	Sept. 5	359	{100 101}	22	836
Railway. Animal-slinging	R. J. Davies	261,316	July 18	1224	340	22	217
Railway apparatus. Cable	C. W. Rasmusen	266,198	Oct. 17	1185	{334 335}	22	1350
Railway apparatus. Traction	C. W. Rasmusen	266,645	Oct. 31	1734	{497 498 499}	22	1460
Railway-brake mechanism. Fluid-pressure	J. W. Cloud	269,012	Dec. 12	740	218	22	2033
Railway chair and sleeper. Combined	A. L. Withers, Jr.	260,724	July 4	483	131	22	82
Railway construction. Elevated	N. Allen	263,088	Aug. 22	1576	445	22	631
Railway-crossing	H. F. Cox	262,931	Aug. 22	1382	390	22	597
Railway-crossing	E. E. Dwight	262,751	Aug. 15	1152	326	22	545
Railway-crossing	W. J. Morden	267,568	Nov. 14	776	222	22	1683
Railway-crossing alarm and signal	J. Bieder	264,129	Sept. 12	569	156	22	882
Railway. Electro-magnetic	T. A. Edison	263,132	Aug. 22	1625	459	22	640
Railway. Elevated	N. Allen	263,454	Aug. 29	2070	593	22	721
Railway. Elevated	L. J. Wing	262,633	Aug. 15	1009	282	22	519
Railway. Elevated automatic	W. F. Sherman	260,617	July 4	336	91, 92	22	57
Railway. Elevated cable	C. Leavitt	264,464	Sept. 19	943	265	22	957
Railway-engine. Electro-magnetic	T. A. Edison	265,778	Oct. 10	673	191	22	1256
Railway-frog	J. Reed	264,755	Sept. 19	1261	358	22	1017
Railway-frog	W. J. Morden	267,567	Nov. 14	775	221	22	1683
Railway-frog	J. A. Smeigh	262,841	Aug. 15	1265	356	22	565
Railway-frog and rail-coupling	J. W. Close. (Reissue)	10,170	Aug. 1	475	133	22	414
Railway-frog protector	P. P. Schau and W. B. Strowger	262,988	Aug. 22	1453	400	22	609
Railway-gate	J. H. Danner and R. P. Kyle	267,500	Nov. 14	634	196	22	1667

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Railway-gate	P. Hauseman	262,292	Aug. 8	590	166	22	441
Railway-gate	R. W. Mallitt and J. Brannan	262,802	Aug. 15	1222	343	22	557
Railway-gate	W. T. McClure and W. N. Mitchell	267,705	Nov. 21	950	268	22	1723
Railway-gate	J. O. McCutchan	269,084	Dec. 12	838	248	22	2050
Railway grips. Device for operating cable	A. Grütter	266,029	Oct. 17	983	279	22	1315
Railway-guard	S. J. Gray	264,078	Sept. 12	512	139	22	872
Railway. Inclined-plane	R. Collins	262,643	Aug. 15	1020	287	22	521
Railway-jack	L. Jr., and D. W. Shoudy	262,839	Aug. 15	1263	355	22	565
Railway-jack	D. E. Teal	263,077	Aug. 22	1562	441	22	628
Railway-joint	P. H. Grace	261,335	July 18	1244	345	22	221
Railway-joint and nut-lock	W. P. Brown	261,666	July 25	1649	463	22	296
Railway or roundabout. Circular	W. Sturm	263,243	Aug. 22	1749	497	22	665
Railway-rail	A. C. Vaughan	264,976	Sept. 26	1547	{434 435}	22	1072
Railway-rail chair	T. Tostevin	261,497	July 18	1431	400	22	252
Railway-rail chair	T. Tostevin	261,498	July 18	1431	400	22	252
Railway-rail. Compound	G. H. Everson	262,940	Aug. 22	1396	395	22	599
Railway-rail coupling	G. W. Baker	265,479	Oct. 3	296	88	22	1188
Railway-rail joint	D. B. Hicks	267,429	Nov. 14	604	173	22	1632
Railway-rail joint	F. Lightfoot	262,438	Aug. 8	764	215	22	472
Railway-rail joint	C. B. Phillips	260,409	July 4	83	23	22	16
Railway-rail joint	P. Tatum	261,277	July 18	1176	329	22	209
Railway-rail tie-bar	E. D. Samain	265,543	Oct. 3	390	107	22	1202
Railway-rail. Tubular	J. Elmer	262,384	Aug. 8	702	{197 198}	22	461
Railway-rails. Device for attaching torpedoes to	D. R. Murphy	264,045	Sept. 5	469	128	22	855
Railway-rails. Machinery for carrying, cutting, and cambering	W. K. Seaman	261,769	July 25	1771	{498 499 500}	22	316
Railway-rails. Suspension-joint for	H. T. Morse	264,736	Sept. 19	1238	351	22	1014
Railway. Rope	J. B. Low	264,041	Sept. 5	464	127	22	854
Railway. Rope	J. B. Low and A. K. Grim	264,413	Sept. 12	875	246	22	937
Railway safety-guard	P. F. Given	265,958	Oct. 17	897	256	22	1301
Railway safety-switch	J. H. Gamble	262,759	Aug. 15	1165	329	22	547
Railway-signal	D. C. Baughman	268,983	Dec. 12	711	208	22	2028
Railway-signal	J. A. I. Claudon	266,097	Oct. 17	1063	301	22	1329
Railway-signal	J. Dolan	269,394	Dec. 19	1244	361	22	2129
Railway-signal	G. O., J. P. A., and J. F. Hanlon	267,195	Nov. 7	290	85	22	1592
Railway-signal	H. Hanson	264,829	Sept. 19	1345	381	22	1031
Railway-signal	J. M. Kelly	266,163	Oct. 17	1147	324	22	1343
Railway-signal	G. Macquart	268,916	Dec. 12	629	185	22	2012
Railway-signal	A. Montant	260,495	July 4	193	54	22	33
Railway-signal	J. W. Purslow	267,369	Nov. 14	534	152	22	1639
Railway-signal	J. B. Smith	264,782	Sept. 19	1291	365	22	1022
Railway-signal	J. P. Livermore	266,297	Oct. 24	1316	372	22	1379
Railway signal apparatus	O. Gassett	267,978	Nov. 21	1266	356	22	1781
Railway signal apparatus. Electric	O. Gassett	267,979	Nov. 21	1269	357	22	1781
Railway-signal. Magneto-electric	W. W. Gary	266,027	Oct. 17	981	278	22	1315
Railway-signals. Apparatus for operating	D. J. Lindsey	267,436	Nov. 14	612	176	22	1653
Railway-signals. Apparatus for working	J. Harrisson	269,665	Dec. 26	1591	456	22	2203
Railway-signals. Magneto-generator for	W. W. Gary	262,396	Aug. 8	715	202	22	463
Railway-signals. Mechanical movement for operating	R. P. Garsed	267,184	Nov. 7	279	81	22	1589
Railway signaling apparatus	J. A. Emery	261,813	July 25	1820	514	22	325
Railway signaling apparatus	R. A. and R. Stanley	260,713	July 4	471	128	22	80
Railway signaling apparatus. Electric	C. A. Scott	266,904	Oct. 31	2024	584	22	1516
Railway-spike	H. Greer	266,464	Oct. 24	1516	431	22	1416
Railway-spike	H. Greer	267,420	Nov. 14	589	170	22	1649
Railway-switch	C. L. Cooke	269,016	Dec. 12	740	219	22	2034
Railway-switch	C. F. A. Eddy	269,398	Dec. 19	1247	363	22	2130
Railway-switch	S. Goodhue	265,257	Oct. 3	36	12	22	1142
Railway-switch	J. Gray	260,674	July 4	425	115	22	72
Railway-switch	M. A. Green	269,048	Dec. 12	792	234	22	2042
Railway-switch	S. B. Nickum	269,311	Dec. 19	1127	330	22	2108
Railway-switch	C. H. White	268,761	Dec. 5	427	125	22	1968
Railway-switch	F. A. White	263,740	Sept. 5	85	25	22	790
Railway-switch	M. M. White	266,665	Oct. 31	1749	504	22	1464
Railway-switch. Automatic	J. G. Chassé	269,259	Dec. 19	1066	311	22	2097
Railway-switch. Automatic	R. P. Garsed	267,183	Nov. 7	279	81	22	1589
Railway-switch. Automatic	J. Gray	267,308	Nov. 7	431	125	22	1617
Railway-switch levers. Lock-catch for	J. Richards	264,417	Sept. 12	879	247	22	938
Railway switch-rod and rail-coupler	J. Lovejoy	269,529	Dec. 26	1417	409	22	2169
Railway-switch signal	A. H. Baker. (Reissue)	10,217	Oct. 17	1270	359	22	1363
Railway-switch stand	A. Harley	261,814	July 25	1822	515	22	325
Railway-switches. Tie-bar for	W. J. Morden	267,566	Nov. 14	774	221	22	1682
Railway tell-tale	M. N. Forney	266,802	Oct. 31	1908	553	22	1494
Railway-tie	M. I. Cortright	265,760	Oct. 10	660	187	22	1252
Railway-tie	C. F. Kreuz	263,919	Sept. 5	304	87	22	827
Railway-tie	A. B. Linderman	262,798	Aug. 15	1217	342	22	556
Railway tie and rail elevator	T. C. Naramore	262,819	Aug. 15	1242	349	22	561
Railway-tie. Metallic	G. L. Putnam	267,930	Nov. 21	1207	339	22	1770
Railway-tie. Safety	F. Tunica	263,078	Aug. 22	1563	441	22	629
Railway-time bulletin-board	J. W. Wolcott	267,632	Nov. 14	854	244	22	1697
Railway-track	S. W. Hudson	264,162	Sept. 12	602	166	22	888
Railway-track bolt	W. C. Brown	268,457	Dec. 5	100	30	22	1905
Railway-track gage and level	F. A. Watson	265,999	Oct. 17	943	266	22	1308
Railway track. Street	T. P. S. Leonard	261,737	July 25	1736	488	22	310
Railway-train electric signaling apparatus	E. T. Gilliland	266,806	Oct. 31	1913	554	22	1495
Railway-trains. Electric signal for	J. P. Clark	265,756	Oct. 10	655	186	22	1252
Railway-trains. Electric signal for	J. P. Clark	265,757	Oct. 10	657	186	22	1252
Railway-trains. Safety-signal for	J. Arbuckle	262,722	Aug. 15	1117	316	22	539
Railway wood and coal loader	G. B. Allis	268,775	Dec. 12	655	133	22	1981
Railways, &c. Checking vibrations in elevated	T. Coates	261,678	July 25	1662	466	22	297
Railways. Construction of cable	H. Root	262,126	Aug. 1	381	108	22	399
Railways. Grip for cable	C. W. Rasmusen	266,521	Oct. 24	1580	449	22	1428

Alphabetical list of inventions, July to December, inclusive—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Railways. Safety block and signal system for	J. Chandler	265,754	Oct. 10	652	185	22	1251
Railways. Traveling contact for electric	J. R. Finney	268,476	Dec. 5	119	36	22	1909
Rake: *See* Garden-rake. Hay-rake. Harvester-rake. Horse-rake.							
Rakes. Manufacture of metallic	J. M. Young	267,640	Nov. 14	864	247	22	1699
Range	C. H. Blanchard	268,857	Dec. 12	562	164	22	2000
Range. Cooking	J. J. Richardson	267,591	Nov. 14	807	231	22	1689
Range. Cooking	W. H. Scott	267,373	Nov. 14	538	153, 154	22	1640
Range hot-water reservoir. Kitchen	E. Bourne	260,738	July 11	505	138	22	92
Ranges. Broiling and roasting attachment for	L. F. Duparquet and P. Huot	264,265	Sept. 12	710	196	22	906
Ratchet	J. Brown, G. Rodger, and W. J. Cordner.	260,834	July 11	625	170	22	111
Ratchet-drill	C. E. Billings	260,359	July 4	10	3	22	4
Ratchet-drill	W. Pirsson	261,758	July 25	1760	495	22	314
Ratchet-drill	W. Sandiford	264,107	Sept. 12	543	148	22	877
Ratchet-drill	W. Sandiford	267,462	Nov. 14	642	185	22	1639
Ratchet-wrench	J. B. Halbert	268,792	Dec. 12	479	141	22	1995
Razor	E. Heberer	266,034	Oct. 17	987	280	22	1316
Razor	A. H. North	264,742	Sept. 19	1243	352	22	1014
Razor-strop	A. V. M. Sprague	266,654	Oct. 31	1737	501	22	1462
Razor-strop	J. R. Torrey	267,950	Nov. 21	1234	347	22	1775
Razor-strop	J. R. Torrey	267,951	Nov. 21	1235	347	22	1775
Razor-strop and toilet-case. Combined	J. R. Torrey. (Reissue)	10,229	Oct. 31	2124	610	22	1534
Reading and writing table	C. Walter and W. M. Dyas	266,332	Oct. 24	1372	387	22	1389
Reamer	J. K. Babcock	262,885	Aug. 15	1327	375	22	576
Reamer	G. R. Valentine	265,998	Oct. 17	942	266	22	1308
Reamer. Adjustable	G. A. Bates	262,348	Aug. 8	656	184	22	453
Reamer. Expanding	V. Moeslein	265,272	Oct. 3	55	17	22	1145
Reaper and mower	E. W. Snyder and J. L. Bachman	261,268	July 18	1165	326	22	207
Reaping and mowing machine	F. J. Hazard	263,288	Aug. 22	1815	515	22	676
Reaping-machine	W. N. Whiteley	261,114	July 11	977	273	22	169
Reaping or mowing machine knife	V. Lapham	265,105	Sept. 26	1690	472	22	1097
Receptacle for papers, &c. Extensible	A. F. Potts	264,748	Sept. 19	1254	355	22	1016
Receptacle for storing and transporting substances	W. Kowalevsky	262,232	Aug. 8	521	146	22	429
Reclining-chair	J. Champie	261,205	July 18	1094	305	22	197
Reclining-chair	A. Collignon. (Reissue)	10,165	July 18	1465	409	22	238
Reclining-chair	H. H. Elbreg	263,395	Aug. 29	2002	572	22	709
Reclining-chair	A. Graham	261,336	July 18	1245	345	22	221
Reclining-chair	D. B. Hartley	263,174	Aug. 22	1673	474	22	650
Reclining-chair	D. B. Hartley	267,748	Nov. 21	993	279, 280	22	1731
Reclining-chair	D. W. Miller	268,517	Dec. 5	159	46	22	1917
Reclining-chair	E. Ortlepp	262,311	Aug. 8	615	173	22	446
Reclining-chair	D. C. Sivey	268,557	Dec. 5	198	56	22	1924
Recorder: *See* Steam-engine recorder. Telegraph-recorder. Time-recorder.							
Reduction-mill	B. Nichols and G. E. Watson	263,948	Sept. 5	345	97	22	834
Reeds and reed-plates. Machine for shaping and dressing	M. Bray	261,524	July 25	1474	413, 414	22	266
Reel: *See* Bolting-reel. Hose-reel. Fishing-reel. Pump-reel. Flour-dressing reel. Ribbon-reel. Harvester-reel.							
Reeling and winding silk and other thread	J. M. Grant	267,192	Nov. 7	288	84	22	1591
Reflector	C. Schilling	261,768	July 25	1770	498	22	316
Reflector	W. Wheeler	268,064	Nov. 28	1379	386	22	1807
Reflector-bracket	H. K. Needham	261,948	Aug. 1	153	43	22	302
Reflector. Car	C. Robinson	266,303	Oct. 17	1193	336	22	1351
Reflector for street lamps or lanterns, &c	W. Wheeler	268,063	Nov. 28	1378	385	22	1806
Reflector. Lamp	H. F. Bartlett	260,735	July 11	502	138	22	91
Reflector. Lamp	J. H. White	262,713	Aug. 15	1102	312	22	537
Reflector. Window	W. H. Shipman	269,125	Dec. 12	885	260	22	2058
Refrigerating and drying grain, &c	H. C. Johnson and F. M. McMillan	261,460	July 18	1387	387	22	245
Refrigerating and drying machine	G. H. Stoddard	267,806	Nov. 21	1066	298, 299	22	1743
Refrigerating and ice machine	W. H. Wood and G. Richmond	268,347	Nov. 28	1724	479, 480, 481	22	1870
Refrigerating and ice machines. Condenser-water cooler for	W. H. Wood and G. Richmond	268,349	Nov. 28	1735	482	22	1872
Refrigerating apparatus	J. Enright	265,250	Oct. 3	28	9	22	1140
Refrigerating apparatus	D. D. Johnson	266,160	Oct. 17	1141	324	22	1342
Refrigerating apparatus	C. G. Mayer. (Reissue)	10,242	Nov. 14	894	254	22	1704
Refrigerating apparatus	O. Parker	265,627	Oct. 10	490	134	22	1225
Refrigerating apparatus	T. L. Rankin	266,391	Oct. 24	1444	409, 410	22	1403
Refrigerating apparatus	L. B. Woolfolk	269,771	Dec. 26	1721	496	22	2227
Refrigerating apparatus. Ammonia	G. W. Stockman	264,113	Sept. 12	549	150	22	878
Refrigerating apparatus. Vapor or gas absorber for ammonia	G. W. Stockman. (Reissue)	10,261	Dec. 19	1385	399	22	2156
Refrigerating by means of ammonia	R. H. Lucas. (Reissue)	10,161	July 18	1461	408	22	257
Refrigerating-machines. Heat-interchanging apparatus for	L. Sterne and D. Clerk	261,491	July 18	1425	398	22	251
Refrigerating-machines. Liquid-distributer for	W. W. Doolittle	266,680	Oct. 31	1768	510	22	1468
Refrigeration of buildings	H. C. Johnson and F. M. McMillan	262,185	Aug. 1	462	129	22	412
Refrigerator	J. C. Blake	267,770	Nov. 21	1019	286	22	1735
Refrigerator	L. F. De Voe	264,865	Sept. 26	1404	396	22	1047
Refrigerator	G. H. Goetchius and J. C. Shults	265,494	Oct. 3	319	94	22	1193
Refrigerator	J. Hammerl	261,705	July 25	1696	475, 476	22	303

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Refrigerator	J. Jackson	261,552	July 25	1515	424	22	272
Refrigerator	R. S. Jennings	268,493	Dec. 5	137	40	22	1912
Refrigerator	C. H. Leonard	261,736	July 25	1734	488	22	310
Refrigerator	J. Miller	264,184	Sept. 12	623	172	22	892
Refrigerator	J. Miller	264,185	Sept. 12	624	172	22	892
Refrigerator	J. Miller	264,186	Sept. 12	625	173	22	892
Refrigerator	J. Miller	264,187	Sept. 12	626	173	22	892
Refrigerator	W. S. Post	267,586	Nov. 14	802	229	22	1688
Refrigerator	D. W. Rogers	268,538	Dec. 5	181	51	22	1921
Refrigerator	L. Rutter	268,434	Dec. 5	75	23	22	1901
Refrigerator	P. Shauf	269,543	Dec. 26	1432	414	22	2172
Refrigerator	E. Stout	262,145	Aug. 1	403	113	22	402
Refrigerator	C. F. H. Waterman	264,210	Sept. 12	647	179	22	896
Refrigerator	C. G. Wiesner	265,262	Sept. 26	1810	509	22	1119
Refrigerator	C. Zimmer	267,963	Nov. 21	1248	352	22	1778
Refrigerator-box	J. H. Hogwood	265,418	Oct. 3	219	66	22	1175
Refrigerator for cooling air	A. S. Haslam	261,708	July 25	1698	477, 478	22	303
Refrigerator-wagon	A. J. Chase. (Reissue)	10,240	Nov. 14	890	254	22	1703
Refrigerator-wagon	A. J. Chase	263,285	Aug. 22	1809	513	22	675
Regenerator for metallurgic and other furnaces	M. V. Smith	261,057	July 11	904	251	22	156
Register: *See* Barrel-register. Telegraphic register. Distance-register. Time-check register. Engine-register. Watchman's register. Fare-register. Watchman's electric register. Hot-air register. Hotel-register. Pool-player's portable position-register.							
Registers. Adjustable actuator for	E. F. Osborne	265,696	Oct. 10	583	162	22	1240
Registering apparatus	G. D. Burton	264,238	Sept. 12	681	188	22	902
Registering-lock	C. C. Dickerman and D. Powers	265,584	Oct. 10	437	120	22	1216
Regulator: *See* Damper-regulator. Heat-regulator. Electric-generator regulator. Motor-regulator. Pressure-regulator. Electric-machine regulator. Speed-regulator. Feed-water regulator. Speed and motion regulator. Furnace-regulator. Tooth-regulator. Gas-regulator. Watch-regulator.							
Rein. Check	H. T. Harding	263,901	Sept. 5	286	83	22	824
Rein. Check	G. Theobald	268,147	Nov. 28	1479	412	22	1825
Rein-controller	A. Warth	264,803	Sept. 19	1316	371, 372, 373	22	1027
Rein. Driving	W. S. Sherd	268,046	Nov. 28	1360	380	22	1803
Rein-guard	G. H. Nessell	269,447	Dec. 19	1303	378	22	2142
Rein-holder	M. P. Briscoe	263,107	Aug. 22	1594	450	22	634
Rein-holder	C. I. Calvert	269,258	Dec. 19	1065	311	22	2097
Rein-holder	S. W. Day	265,307	Oct. 3	100	30	22	1152
Rein-holder	G. W. Gibbs	264,145	Sept. 12	586	161	22	185
Rein-holder	J. L. Hall	263,897	Sept. 5	281	81	22	823
Rein-holder	C. M. Howell and C. W. Burdick	263,908	Sept. 5	293	85	22	825
Rein-holder	L. R. Hyde	261,719	July 25	1714	492	22	306
Rein-holder	G. Livingston	267,093	Nov. 7	168	48	22	1570
Rein-holder	W. J. Morgan and H. Gleam	262,816	Aug. 15	1238	348	22	560
Rein-holder	D. E. Platter	262,114	Aug. 1	367	103	22	396
Rein-holder	G. W. Parke	260,893	July 11	692	188	22	122
Reins. Adjustable clip for driving	F. Anderson	267,906	Nov. 21	1254	353	22	1779
Relay. Polarized	G. F. Benkert and L. G. Marini	266,079	Oct. 17	1042	.....	22	1336
Remedy for corns, bunions, &c	W. Moackler	264,189	Sept. 12	628	173	22	893
Rendering fats, &c. Apparatus for	F. Sulzberger	262,706	Aug. 15	1096	310	22	536
Rendering fats, &c. Method of and apparatus for	R. B. Jones	266,997	Nov. 7	48	15	22	1548
Resawing-machine	J. R. Thomas	267,280	Nov. 7	397	115, 116	22	1611
Resawing-machine table	E. Roche	267,461	Nov. 14	641	185	22	1659
Reservoir gate or valve	A. Rappold and E. Leith	260,414	July 4	88	25	22	16
Retorts for treating sulphuric acid. Setting	C. Cureton	265,487	Oct. 3	309	91	22	1190
Retort-ball	T. T. Church	262,572	Aug. 15	931	263	22	507
Revenue protection in cigar-boxes. Device for	E. Tonrangin	265,348	Oct. 3	146	43	22	1161
Reverberatory furnace	G. F. Wilson	265,649	Oct. 10	527	149	22	1230
Revolving boiler for paper-making, &c	E. T. Starr	266,910	Oct. 31	2032	585	22	1518
Rheostat	E. T. Starr	266,911	Oct. 31	2033	586	22	1518
Rheostat	E. Weston	269,760	Dec. 26	1709	492	22	2224
Ribbon and lace show-cabinet	L. P. Lowry	264,543	Sept. 19	1021	289	22	972
Ribbon-reel	A. T. Cook	267,839	Nov. 21	1106	310	22	1751
Ribs and blades. Art of and machine for manufacturing stiffening	J. A. House	261,717	July 25	1712	481, 482	22	305
Rice-hulling machine	W. C. Howard	269,674	Dec. 26	1600	459	22	2204
Rice, &c. Machine for hulling	H. B. Stevens	264,786	Sept. 19	1294	366	22	1023
Rifle. Parlor	J. Zündorff	269,152	Dec. 12	918	267	22	2063
Ring: *See* Curtain-pole ring. Key-ring. Ear-ring. Scarf-ring. Finger-ring. Spring-ring. Jewelry ring.							
Ring-gage for jewelers	C. F. Smith	266,324	Oct. 24	1360	384	22	1388
Rings. Machine for bending	C. A. Svensson	263,991	Sept. 5	400	111, 112	22	844
Rivet-joint	E. Woolson	264,502	Sept. 19	984	276	22	965
Riveting-machine	P. A. Reno	269,540	Dec. 26	1430	413	22	2171

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Roaster:							
See Coffee-roaster.							
Roaster and baker	J. B. Reed	268,532	Dec. 5	175	50	22	1920
Rock-crusher	A. G. and J. M. Dyer	265,400	Oct. 3	313	92	22	1191
Rock-drill	J. F. Allen	266,668	Oct. 31	1752	505	22	1465
Rock-drill	J. F. Allen	267,127	Nov. 7	215	62	22	1578
Rock-drill	J. F. Allen	269,619	Dec. 26	1536	441	22	2192
Rock-drill	W. J. Barber	267,262	Nov. 7	378	110	22	1608
Rock-drill	J. Rowland	268,427	Dec. 5	67	21	22	1899
Rock-drill. Hand	E. Moreau	268,426	Dec. 5	66	20, 21	22	1899
Rock-drill stand	E. Moreau	269,422	Dec. 19	1275	370	22	2136
Rock-drill. Steam	S. Ingersoll	262,673	Aug. 15	1057	296, 297	22	529
Rock-drill support	J. R. Howells	261,841	Aug. 1	22	7	22	339
Rock-drill. Tubular	H. W. Fleming	264,524	Sept. 19	1005	283	22	969
Rock-drills. Clamping mechanism for steam	J. C. Githens	267,441	Nov. 14	621	180	22	1655
Rock-drilling machine	J. H. McGlynn	266,804	Oct. 31	1911	554	22	1495
Rock or ore crusher	D. R. Fraser	264,917	Sept. 26	1474	415	22	1056
Rocker for chairs. Adjustable	E. W. Andrews	266,437	Oct. 24	1492	424	22	1412
Rocket	P. Cunningham	265,593	Oct. 10	449	123	22	1218
Rocking and reclining chair. Combined	A. G. Fuller	268,036	Nov. 28	1344	376	22	1800
Rocking-chair	S. A. McCaffrey and C. M. Leonard	268,516	Dec. 5	158	46	22	1916
Rocking-chair	E. Michbach	268,757	Dec. 5	494	123	22	1967
Rocking-chair	F. Vogel	261,637	July 25	1616	454	22	290
Rocking-chair. Folding reclining	A. C. Sriver	261,718	July 25	1714	482	22	306
Rocking-chair foot-rest	F. Hanger	264,880	Sept. 26	1422	401	22	1050
Rocking-chair. Spring	G. Hunzinger	267,678	Nov. 21	919	261	22	1717
Rocking horse and cradle	J. A. Crandall						
Rod:							
See Leveling-rod. Switch-rod. Railway switch-rod.							
Rodents. Apparatus for killing	A. D. Palmer	263,209	Aug. 22	1714	486	22	658
Roll. School, song, and sign	A. P. Eastman	268,468	Dec. 5	111	34	22	1908
Roller:							
See Barrel-roller. Land-roller. Curtain-roller. Shade-roller.							
Roller flour-mill	W. A. Mahaffy	263,927	Sept. 5	318	90	22	899
Roller-mill	J. M. Finch	261,697	July 25	1682	472	22	304
Roller-mill	H. J. and G. A. Gilbert	263,164	Aug. 22	1660	470, 471	22	648
Roller-mill	N. W. Holt	260,979	July 11	802	221	22	140
Roller-mill	N. W. Holt	263,906	Sept. 5	291	84	22	824
Roller-mill	N. W. Holt	266,152	Oct. 17	1132	319	22	1341
Roller-mill	W. A. Mahaffy	266,488	Oct. 24	1543	439	22	1421
Roller-mill	D. W. Marmon and J. Warrington	265,927	Oct. 10	840	239, 240, 241	22	1285
Roller-mill	D. W. Marmon and J. Warrington	266,490	Oct. 24	1546	440	22	1422
Roller-mill	A. Mechwart	267,555	Nov. 14	762	218	22	1680
Roller-mill	A. Mechwart	267,556	Nov. 14	764	218, 219	22	1681
Roller-mill	A. Mechwart	267,557	Nov. 14	765	219	22	1681
Roller-mill	U. H. Odell	260,705	July 4	463	125	22	78
Roller-mill feed mechanism	N. W. Holt	265,081	Sept. 26	1662	464, 465	22	1092
Roller-mills, &c. Friction-gearing for	C. B. Campbell	260,532	July 4	239	67	22	40
Roller reducing and separating mill	U. H. Odell	264,559	Sept. 19	1035	393, 394	22	975
Rolling coupling-pins. Machine for	F. A. Iddings	265,813	Oct. 10	724	202	22	1263
Rolling harrow-teeth. Machine for	J. S. Griffin	266,465	Oct. 24	1516	431	22	1416
Rolling machine. Rail	U. Haskin	269,787	Dec. 26	1738	502	22	2230
Rolling metal. Machinery for	J. Reese	267,018	Nov. 7	72	22	22	1552
Rolling-mill	J. L. Chapman	261,134	July 18	1008	283	22	184
Rolling-mill	U. Haskin	269,572	Dec. 26	1470	423, 424	22	2179
Rolling-mill	U. Haskin	269,573	Dec. 26	1472	424, 425, 426	22	2180
Rolling-mill	L. J. Masterson	267,983	Nov. 21	1275	358	22	1782
Rolling-mill	J. Reese	268,825	Dec. 12	517	154, 155	22	1992
Rolling-mill guide	W. Small	268,559	Dec. 5	200	56	22	1924
Rolling-mill rolls. Device for cooling	J. Altmeyer	265,731	Oct. 10	631	179	22	1248
Rolling shovel-blanks. Roll for	E. A. Barnes	267,822	Nov. 21	1088	305	22	1748
Rolling tool-blanks. Machine for	N. P. Nelson	262,688	Aug. 15	1075	303	22	532
Rolls. Machine for surfacing	W. N. Cosgrove	262,375	Aug. 8	689	192	22	458
Rolls. Shaping and welding	S. A. Hewitt	263,519	Aug. 29	2140	614	22	734
Roof for hay or straw stacks. Portable	J. H. Bean	265,003	Sept. 26	1578	443	22	1078
Roof or wall covering	D. McLean	268,260	Nov. 28	1625	.....	22	1859
Roof-seat for shingling	W. P. Thomson	262,508	Aug. 8	839	237	22	485
Roofing	G. Huth	265,811	Oct. 10	722	201	22	1263
Roofing. Composition	M. Laflin	268,030	Nov. 28	1338	.....	22	1799
Roofing-composition	D. H. Priest	266,196	Oct. 17	1184	.....	22	1350
Roofing-felt and sheathing-paper. Process of and apparatus for preparing	W. H. Stelwagon	263,668	Aug. 29	2118	662	22	765
Roofing. Metallic	H. E. Kozer	269,297	Dec. 19	1109	323, 324	22	2105
Roofing-tile	L. Lane and L. D. Woodworth	267,904	Nov. 21	1178	331	22	1765
Roofing tile or plate	T. B. Atterbury	263,835	Sept. 5	206	60	22	809
Rope carrying system or endless railway. Elevated	A. J. B. Berger	261,296	July 18	1199	335	22	213
Rope-clamp	J. A. Williams	269,252	Dec. 19	1059	309	22	2095
Rope-coupling and snap-hook	F. W. Hawes	263,176	Aug. 22	1676	475	22	650
Rope. Jumping	F. Pohley	262,931	Dec. 12	648	190	22	2016
Rosin-percolator	C. C. Tyler	266,559	Oct. 24	1622	462	22	1436
Rotary cutting-machine	E. Salomon	261,049	July 11	896	248	22	155

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Rotary drill	R. Allison	261,978	Aug. 1	189	56	22	367
Rotary engine	I. W. Bailey	264,507	Sept. 19	988	277, 278	22	966
Rotary engine	W. D. Cook	261,313	July 18	1221	340	22	217
Rotary engine	C. F. Cory	267,675	Nov. 21	917	260	22	1717
Rotary engine	P. Dall'Orto	268,719	Dec. 5	375	110	22	1959
Rotary engine	J. H. Darragh	267,160	Nov. 7	252	73	22	1584
Rotary engine	J. T. Davis	268,005	Nov. 28	1308	368	22	1794
Rotary engine	J. T. Davis	268,195	Nov. 28	1540	428	22	1836
Rotary engine	V. H. Felt	261,215	July 18	1104	318	22	198
Rotary engine	A. C. Gibson	263,505	Aug. 29	2125	609	22	732
Rotary engine	J. and M. Gillespie	268,659	Dec. 5	314	91	22	1947
Rotary engine	D. D. Hardy	260,678	July 4	430	117	22	73
Rotary engine	T. Hawkins	262,665	Aug. 15	1050	294	22	528
Rotary engine	R. Hodson	260,978	July 11	799	220, 221	22	140
Rotary engine	D. M. Johnson	260,989	July 11	814	225	22	142
Rotary engine	J. F. Lash	269,300	Dec. 19	1113	325	22	2105
Rotary engine	I. Lojda	265,332	Oct. 3	131	38	22	1158
Rotary engine	H. T. Nicenm	263,662	Aug. 29	2312	660, 661	22	764
Rotary engine	C. L. Pagenbart	268,722	Dec. 5	380	111, 112	22	1960
Rotary engine	J. Patten	263,573	Aug. 29	2212	632, 633	22	748
Rotary engine	H. Peavey	263,718	Sept. 5	60	17	22	785
Rotary engine	W. Sprague	262,141	Aug. 1	398	111, 112	22	402
Rotary motor	W. J. Gurd	263,510	Aug. 29	2131	610	22	732
Rotary motor	G. V. Sheffield	267,028	Nov. 7	87	26	22	1555
Rotary steam-engine	G. Hopkins	265,082	Sept. 26	1664	465	22	1093
Rotary steam-engine	P. Larsson	267,230	Nov. 7	343	99, 100	22	1601
Rotary steam-engine	J. McGowan	262,602	Aug. 15	971	273	22	513
Rotary steam-engine	F. Müller	268,592	Dec. 5	165	47	22	1917
Roving-machine condenser	A. T. Atherton	261,294	July 18	1197	334	22	213
Rowing-gear for boats	C. A. Corwin	263,024	Aug. 22	1501	422	22	618
Rowing-gear for boats	C. A. Corwin	263,025	Aug. 22	1503	422, 423	22	618
Roundabout	C. R. Silabon	266,907	Oct. 31	2028	584	22	1517
Rowlock	F. H. Allen	269,555	Dec. 26	1450	418	22	2175
Rubber and gutta-percha. Treatment of india-	H. A. Clark	263,021	Aug. 22	1497	.....	22	617
Rubber. Blackboard-	G. Munger	262,818	Aug. 15	1241	349	22	561
Rubber. Coating metallic articles with vulcanized	N. Avery	264,121	Sept. 12	558	.....	22	879
Rubber-covered handle	A. D. Tyler	264,798	Sept. 19	1309	369	22	1026
Rubber goods. Manufacture of	T. Hawley	265,497	Oct. 3	323	95	22	1193
Rubber handle	J. J. Haley	264,527	Sept. 19	1008	284	22	969
Rubber. Treating india-	C. E. W. Woodward	260,441	July 4	116	.....	22	21
Rubber. Treating vulcanized india-	J. C. Titzel	265,184	Sept. 26	1787	.....	22	1116
Rubber. Vulcanizing india-	H. M. F. J. and A. M. A. De la Tour du Breuil.	266,110	Oct. 17	1083	.....	22	1332
Rubber-waste. Restoring	C. J. McDermott	262,079	Aug. 1	312	89	22	390
Ruby-pin and pallet setter	W. Hart	264,533	Sept. 19	1014	287	22	970
Ruffler and scallop-plaiter. Combined	J. Amaden	260,633	July 4	356	96	22	60
Rule. Board-	E. Andrews	265,732	Oct. 10	632	179	22	1248
Rule. Carpenter's	F. J. Power	263,578	Aug. 29	2218	634	22	749
Ruler	G. L. Knox	261,729	July 25	1729	486	22	309
Ruler. Parallel	G. Blunck	266,754	Oct. 31	1857	540	22	1485
Ruler. Parallel	C. H. Wood	268,342	Nov. 28	1718	478	22	1869
Ruling-machine pen-holder	W. A. McAdams	260,590	July 4	302	83	22	52
Saccharine compounds. Process of and apparatus for the manufacture of	T. A. Jebb	264,035	Sept. 5	455	125	22	852
Saccharine compounds. Process of and apparatus for the manufacture of	T. A. Jebb	268,492	Dec. 5	134	40	22	1912
Saccharine liquors. Defecating	C. R. Bergreen	268,987	Dec. 12	715	.....	22	2028
Sad-iron	S. B. Rawson and W. P. Hatch	265,281	Oct. 3	64	19	22	1147
Sad-iron heater	H. H. Brown	269,510	Dec. 26	1393	402	22	2164
Sad-iron heater	P. McDonald	262,450	Aug. 8	776	219	22	474
Sad-iron holder	S. M. Carnes	269,006	Dec. 12	734	216	22	2032
Sad-iron. Reversible	H. C. Fox	265,401	Oct. 3	204	62	22	1179
Sad-irons. Manufacturing	M. J. Shimer	262,948	Dec. 12	665	195	22	2030
Sad-irons. Polishing and waxing board for	J. D. Muller and B. Miller	266,380	Oct. 24	1433	407	22	1401
Saddle and collar. Harness	C. A. Pettie	269,596	Dec. 26	1500	434	22	2186
Saddle-bar	J. Oldmeadow	267,452	Nov. 14	631	182	22	1657
Saddle-bar. Safety	R. Spence, Jr	263,922	Sept. 5	192	56	22	806
Saddle. Cart	M. Robinson	263,589	Aug. 29	2229	637	22	750
Saddle. Gig	J. B. Gathright	268,008	Nov. 28	1312	368	22	1795
Saddle-girth	C. Williams	266,571	Oct. 24	1633	465	22	1438
Saddle. Harness	A. Arter	261,577	July 25	1545	433	22	277
Saddle. Harness	M. W. Lynch	269,590	Dec. 26	1498	432	22	2185
Saddle-pad block	J. H. Smith	268,742	Dec. 5	405	118	22	1964
Saddle safety-fitting	H. S. Wilton and B. S. Weston	264,592	Sept. 19	1071	304	22	982
Saddle-tree	T. E. Meanea	261,374	July 18	1292	361	22	228
Saddle-tree	H. C. and J. R. Still. (Reissue)	10,162	July 18	1462	408	22	257
Saddle-tree	J. C. Sexton	264,199	Sept. 12	638	176	22	894
Saddle tree. Side	F. H. Charter	268,187	Nov. 28	1532	425	22	1834
Safe	J. H. Nolan	268,817	Dec. 12	508	150	22	1990
Safe	D. W. Smith. (Reissue)	10,254	Dec. 5	446	131	22	1972
Safe bolt-work	W. Corliss	261,532	July 25	1488	417, 418	22	268
Safe. Burglar-proof	W. Corliss	261,533	July 25	1492	418	22	268
Safe. Fire and burglar proof	N. Huetter	268,406	Dec. 5	41	13	22	1894
Safe. Fire-proof	H. C. Johnson and F. M. McMillan	261,461	July 18	1388	387	22	245
Safe. Fire-proof	W. B. Marvin	263,930	Sept. 5	321	91	22	830

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Safe. Fire-proof	J. H. Nolan	268,818	Dec. 12	509	151	22	1990
Safe. Fire-proof	J. White	269,872	Aug. 15	1310	369	22	573
Safe. Provision-	T. Atkinson	261,417	July 18	1341	375	22	237
Safes. Fire-proof material for	J. H. Nolan	268,820	Dec. 12	512	152	22	1991
Safety-gate	A. B. Flach	263,037	Aug. 22	1519	427, 428	22	621
Safety hook and buckle. Combined	F. A. Hake	261,341	July 18	1251	347	22	222
Safety or cut-off switch	E. T. Greenfield	266,808	Oct. 31	1918	555	22	1496
Sail-hank	C. A. Mathiesen	261,620	July 25	1595	447	22	286
Salt. Apparatus for making	C. Von Bechtolsheim	269,355	Dec. 19	1194	347	22	2119
Salt-drier	G. Rice	263,584	Aug. 29	2224	636	22	749
Salt-evaporator	A. Johnson	264,701	Sept. 19	1195	338	22	1006
Salt. Manufacturing	A. Johnson	267,065	Nov. 7	156	44, 45	22	1568
Salt-pan	H. N. Hewlett	265,806	Oct. 10	717	200	22	1262
Sand-band	W. M. Farr	268,788	Dec. 12	471	138	22	1983
Sand-band	J. Schoellkopf	268,945	Dec. 12	662	194	22	2019
Sand-band	D. M. White and J. Hitchcock	269,763	Dec. 26	1713	494	22	2225
Sand-drier	W. W. Clark	267,838	Nov. 21	1105	310	22	1751
Sand-paper disks. Machine for molding	J. G. Buzzell	260,368	July 4	17	6	22	6
Sand-paper. Manufacture of	C. Baeder	265,940	Oct. 17	869	249	22	1297
Sap-evaporator	P. S. Ewins	261,325	July 18	1233	343	22	219
Sap-pail cover and holder	L. Davis	261,539	July 25	1498	420	22	269
Sash	G. H. Johnson	260,573	July 11	668	182	22	118
Sash-balance	C. E. Bogle	261,510	July 18	1447	403	22	255
Sash-balance	H. O. Opsal	269,104	Dec. 12	864	254	22	2054
Sash-balance	S. H. Russell	261,877	Aug. 1	61	18	22	346
Sash-balance	W. Wimer	261,797	July 25	1806	509	22	332
Sash-cord fastener	W. Goforth	262,220	Aug. 8	507	141	22	426
Sash-cord guide	A. B. Tadlock	265,888	Oct. 10	799	226	22	1278
Sash-fastener	G. J. Dickson	262,937	Aug. 22	1390	393	22	598
Sash-fastener	L. Felsburg	266,799	Oct. 31	1905	552	22	1494
Sash-fastener	J. K. Foss	265,951	Oct. 17	888	254	22	1300
Sash-fastener	S. R. Hawley	264,945	Sept. 26	1508	424	22	1065
Sash-fastener	W. P. Hayhurst	262,038	Aug. 1	260	75	22	380
Sash-fastener	E. Kempshall	264,539	Sept. 19	1018	288	22	971
Sash-fastener	H. T. King	269,064	Dec. 12	812	241	22	2045
Sash-fastener	E. Kuhns	263,536	Aug. 29	2168	619	22	739
Sash-fastener	W. E. Sparks	263,070	Aug. 22	1353	438	22	627
Sash-fastener	C. E. Steller. (Reissue)	10,259	Dec. 12	939	273	22	2068
Sash-fastener	C. Wolcott	263,082	Aug. 22	1566	442	22	629
Sash-fastener and burglar-alarm. Combined	T. E. King	267,224	Nov. 7	336	97	22	1600
Sash-holder	W. C. Carson	261,998	Aug. 1	211	63	22	372
Sash-holder	W. A. Gay	268,217	Nov. 28	1565	434	22	1840
Sash-holder	H. L. Heaton	260,681	July 4	434	117	22	73
Sash mechanism. Window-	W. Riley, S. C. Taylor, and W. Leggott.	268,286	Nov. 28	1650	456	22	1856
Sash-tightener	F. P. Stone	263,240	Aug. 22	1747	496	22	665
Sash. Window-	W. Heaps	267,201	Nov. 7	304	89	22	1594
Satchel	A. Loeb	269,802	Dec. 26	1763	508	22	2235
Satchel and muff. Combined	C. Dickhant	266,354	Oct. 24	1400	397	22	1395
Satchel, &c., handle	L. Messer	265,125	Sept. 26	1511	479	22	1102
Sausage-preserving composition	J. F. and H. Barth	261,983	Aug. 1	194	------	22	368
Saw	E. C. Atkins	266,006	Oct. 17	958	271	22	1311
Saw	L. S. Edleblute	266,682	Oct. 31	1770	511	22	1469
Saw	H. B. Rex	268,433	Dec. 5	75	23	22	1901
Saw-clamp	T. Crispin	265,761	Oct. 10	660	187	22	1253
Saw. Crosscut-	G. F. Simonds	269,728	Dec. 26	1661	477, 478	22	2217
Saw. Crosscut-	G. W. Wills	267,958	Nov. 21	1244	350	22	1777
Saw. Drag-	W. C. Allen	261,292	July 18	1196	334	22	213
Saw. Drag-	F. M. Elliott	261,322	July 18	1230	342	22	218
Saw. Drag-	J. Russell, Jr	267,721	Nov. 21	969	273	22	1726
Saw. Drag-	C. Sawyer	266,334	Oct. 24	1397	454	22	1431
Saw. Drag-	M. O. Smith	266,650	Oct. 31	1733	500	22	1462
Saw-filer	H. P. Jones	268,904	Dec. 12	615	181	22	2009
Saw-filing machine	J. Palm	267,756	Nov. 21	1002	282	22	1732
Saw-filing machine	E. Roth	268,940	Dec. 12	656	192	22	2018
Saw-filing machine	J. Stoffer	269,550	Dec. 26	1443	416	22	2174
Saw-filing machine. Gin-	J. P. Butler	265,216	Sept. 26	1834	516	22	1134
Saw. Fire-wood drag-	E. J. Ellis	263,153	Aug. 22	1648	466	22	645
Saw. Fire-wood drag-	P. Hoy	269,209	Dec. 19	998	292	22	2085
Saw gage. Rip-	T. A. McDonald	267,913	Nov. 21	1189	334	22	1768
Saw-guard	J. G. Groff	263,171	Aug. 22	1670	473	22	649
Saw-guard	J. G. Groff	266,466	Oct. 24	1518	431	22	1416
Saw-guard	H. F. Kuhlmann	264,412	Sept. 12	874	246	22	937
Saw guard. Circular-	G. Grill	261,090	July 11	952	266	22	165
Saw guard. Circular-	J. G. Groff	264,149	Sept. 12	590	162	22	885
Saw guard. Circular-	T. Jack	261,928	Aug. 1	131	38	22	358
Saw-guide	J. F. and H. G. Chandler	266,968	Nov. 7	9	3	22	1542
Saw-gummer	W. Newell	261,949	July 18	1141	318	22	204
Saw-gummer	C. A. Stafford	261,779	July 25	1781	503	22	318
Saw gummer and sharpener	J. H. and S. L. G. Bedingfield	268,070	Nov. 28	1385	387	22	1808
Saw-gumming machine	S. P. Olney	261,624	July 25	1599	448	22	287
Saw. Hand-	W. H. Dodge	267,406	Nov. 14	576	165	22	1646
Saw. Hand-	J. E. Tyler	262,859	Aug. 15	1290	362	22	570
Saw-handle	E. Andrews	262,341	Aug. 8	630	182	22	452
Saw-handle	C. W. Knapp	261,932	Aug. 1	137	40	22	359
Saw-handle	J. Ohlen	262,821	Aug. 15	1246	350	22	561
Saw-hanging device	E. P. Donnell	265,037	Sept. 26	1615	455	22	1085
Saw-jointer	J. A. Church	260,663	July 4	403	111	22	67
Saw-mandrel	J. S. Cook	261,680	July 25	1664	466	22	298
Saw mill. Circular-	S. R. Smith and E. Myers	262,844	Aug. 15	1271	357	22	567
Saw-mill dog	J. Little	264,089	Sept. 12	525	143	22	874
Saw-mill dog	H. Oventrop	262,824	Aug. 15	1249	351	22	562

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Saw-mill dog	W. H. Sanders and H. H. Talley	261,387	July 18	1309	366	22	231
Saw-mill dog	M. Shawver	264,111	Sept. 12	547	149	22	878
Saw mill. Gang circular-	J. G. Winter	261,645	July 25	1624	456	22	292
Saw-mill head-block	R. M. Beck	260,524	July 4	229	64	22	39
Saw-mill head-block	D. Parkhurst	267,923	Nov. 21	1109	337	22	1769
Saw-mill feed mechanism	G. H. Zschech	266,003	Oct. 17	955	271	22	1310
Saw-mill log-holder	C. E. Ring	265,439	Oct. 3	244	73, 74	22	1179
Saw-mill log-setting apparatus	C. C. Brooks	261,804	July 25	1811	511	22	323
Saw-mill log-setting apparatus	W. P. Scofield	269,123	Dec. 12	883	260	22	2057
Saw-mill roller-gage	R. M. Beck	260,929	July 11	731	200	22	128
Saw. Oscillating gang-	R. N. Nixon	264,473	Sept. 19	956	269	22	959
Saw-set	S. Bartlett	261,900	Aug. 1	91	25	22	351
Saw-set	J. F. Coxhead	261,687	July 25	1671	469	22	299
Saw-set	H. Flater	269,402	Dec. 19	1252	364	22	2131
Saw-set	B. W. Foster	269,275	Dec. 19	1081	315	22	2089
Saw-set	B. S. Treadway	261,407	July 18	1330	371	22	235
Saw set and clamp	J. W. and J. K. Petty	266,385	Oct. 24	1437	408	22	1402
Saw set and gummer. Combined	E. A. Parks	266,192	Oct. 17	1180	333	22	1349
Saw-shafts. Bearing for circular	G. H. Zschech	262,551	Aug. 8	894	253	22	495
Saw-sharpening machine	H. C. Agan	264,021	Sept. 5	436	120	22	849
Saw-sharpening machine	H. C. Agan	264,022	Sept. 5	437	120	22	850
Saw-sharpening machine	W. L. Covel. (Reissue)	10,252	Dec. 5	443	130, 131	22	1972
Saw-sharpening machine	C. M. Elkins and W. H. Weston	263,495	Aug. 29	2113	605	22	729
Saw-sharpening tool	R. S. Munger	265,854	Oct. 10	765	215	22	1271
Saw-swage	J. H. Broadfield	262,925	Aug. 22	1376	388	22	596
Saw-table gage	J. Kirk	267,001	Nov. 7	53	17	22	1549
Saw-tooth	E. C. Atkins	260,519	July 4	221	62	22	37
Saw-tooth	E. C. Atkins, G. S. Black, and C. M. Emerson.	260,636	July 4	360	98	22	61
Saw-tooth	C. M. Emerson	260,552	July 4	262	73	22	44
Saw-tooth	N. W. Spaulding	268,137	Nov. 28	1466	409	22	1823
Saw-tooth	A. J. Van Drake	267,121	Nov. 7	208	60	22	1577
Saw-tooth. Detachable	C. M. Emerson	262,024	Aug. 1	239	71	22	377
Saws. Device for squaring, rounding, and filing circular	A. B. Fisher	269,654	Dec. 26	1577	452, 453	22	2199
Saws. Device for straining scroll-	F. H. Sweet	263,074	Aug. 22	1557	440	22	628
Saws. Hanging	W. H. Sawyer and R. J. Phelts	262,698	Aug. 15	1089	308	22	535
Saws. Machine for and method of grinding thin-back crosscut-	G. F. Simonds	269,729	Dec. 26	1664	478, 479	22	2217
Saws. Mechanism for holding and guiding circular	W. G. Chapin	261,831	Aug. 1	11	4	22	337
Saws. Mechanism for operating the oscillating slides of gang-	R. N. Nixon	267,449	Nov. 14	628	182	22	1656
Sawing-machine	J. Augspurger	262,915	Aug. 22	1366	386	22	594
Sawing-machine	L. S Edlebiute	261,691	July 25	1675	470	22	300
Sawing-machine. Band	H. Aylesbury	265,652	Oct. 10	534	145	22	1231
Sawing-machine. Band	J. A. Brophy	261,579	July 25	1547	434	22	278
Sawing machine. Circular	S. and S. Adams, Jr	261,800	July 25	1808	510	22	323
Sawing machine. Circular	H. J. Cordesman, Jr	267,157	Nov. 7	246	71	22	1584
Sawing machine. Circular	F. Reinhart and T. R. McDonald	263,957	Sept. 5	356	100	22	836
Sawing machine. Circular	C. J. Steinbach	269,736	Dec. 26	1675	481, 482	22	2218
Sawing machine. Drag-	O. J. C. Norris	263,567	Aug. 29	2206	630	22	746
Sawing machine. Drag-	T. F. Osburn	262,463	Aug. 8	788	222	22	476
Sawing machine. Gang	C. S. King	261,728	July 25	1728	486	22	309
Sawing-machine. Hand	M. V. York	268,590	Dec. 5	237	66	22	1931
Sawing-machine table	E. Tarrant	269,349	Dec. 19	1183	345	22	2117
Scaffold	R. M. Googe	267,515	Nov. 14	703	202	22	1670
Scaffold	G. W. Smith	264,577	Sept. 19	1057	300	22	979
Scaffold-support	R. Deeves	264,934	Sept. 26	1496	421	22	1063
Scaffold-ties	J. T. O'Brien	263,426	Aug. 29	2041	584	22	716
Scale	J. O. Boggs	265,375	Oct. 3	179	53	22	1167
Scale	M. G. Cook	267,776	Nov. 21	1029	288	22	1737
Scale	W. W. Reynolds	269,113	Dec. 12	873	257	22	2056
Scale. Beam-	F. A. Roeder	262,905	Aug. 15	1349	381	22	581
Scale-beams. Machine for notching	P. A. Whitney	269,762	Dec. 26	1711	493, 494	22	2225
Scale bearing. Torsional pivot-	F. A. Roeder	262,907	Aug. 15	1351	382	22	581
Scale-cover	E. Toutant	262,512	Aug. 8	844	239	22	486
Scale for printed matter	J. H. Chataigne	261,673	July 25	1657	465	22	297
Scale for shafting. Power-	J. Emerson	266,120	Oct. 17	1095	309, 310	22	1334
Scale. Pendulum-	J. Ball	267,393	Nov. 14	559	159	22	1644
Scale. Pendulum-	H. F. E. Gerike	267,073	Nov. 7	140	39, 40	22	1565
Scale. Platform-	F. A. Roeder	262,906	Aug. 15	1350	382	22	581
Scale. Power-	J. Emerson	266,119	Oct. 17	1093	300	22	1334
Scale. Railway-track	T. H. Ward	269,752	Dec. 26	1698	487, 488, 489	22	2223
Scale. Spring-	C. Forschner	264,070	Sept. 12	503	137	22	870
Scale. Wagon-	F. A. Rehkopf and C. F. Rosenberg	262,617	Aug. 15	989	278	22	516
Scales	J. Fite	260,471	July 4	154	44	22	27
Scales. Grocer's	W. W. Reynolds	260,415	July 4	89	25	22	16
Scales. Pendulum-	J. B. Martin	262,966	Aug. 22	1427	403	22	604
Scales. Scoop-balance attachment for weighing-	A. Leas	269,433	Dec. 19	1287	373	22	2138
Scarf. Neck-	W. E. T. Merrill	266,861	Oct. 31	1970	569	22	1506
Scarf. Neck-	J. L. Strause	268,053	Nov. 28	1367	383	22	1805
Scarf-ring	F. A. Sundberg	265,459	Oct. 3	271	81	22	1184
Scarfs. Card for displaying neck-	R. Waterhouse	267,386	Nov. 14	552	157	22	1642
Scarfs, &c. Device for exhibiting neck-	L. D. Minor	266,636	Oct. 31	1712	495	22	1458
Scenery and appliances. Theatrical	W. Hanlon	263,900	Sept. 5	284	82	22	823
Scissors and shears	T. Baker	261,896	Aug. 1	88	25	22	350
Scoop	G. Borst	268,452	Dec. 5	96	20	22	1905
Scoop	T. B. Davis. (Reissue)	10,226	Oct. 31	2122	609	22	1533

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Scoop	J. A. French	264,072	Sept. 12	506	137	22	871
Scoop	W. P. T. Jope	261,614	July 25	1587	445	22	285
Scoop	W. P. T. Jope	261,615	July 25	1588	445	22	285
Scoop	M. J. Liddell	266,849	Oct. 31	1959	566	22	1504
Scoop. Tile-	S. Ingels	264,295	Sept. 12	747	208	22	913
Scoops. Manufacture of	A. T. Heiser	262,669	Dec. 5	324	94	22	1949
Sconring, dyeing, and washing piece-goods. Apparatus for	J. Worrall and J. Kershaw	266,248	Oct. 17	1242	352 / 353	22	1359
Scouring machine. Yarn-	W. McAfee	261,742	July 25	1743	490	22	311
Scouring machine. Yarn-	J. C. Richardson	262,832	Aug. 15	1257	354	22	564
Scow. Dumping-	F. E. Sickels	266,212	Oct. 17	1200	338	22	1352
Scraper and cultivator. Combined	D. Hardy	262,406	Aug. 8	729	206	22	465
Scraper and harrow. Combined	T. M. Smith	263,978	Sept. 5	381	107	22	840
Scraper and leveler. Railway	D. L. Harris and E. D. Carter	266,621	Oct. 31	1697	490	22	1455
Scraper and leveler. Road	M. Ammel	260,445	July 4	121	35	22	22
Scraper. Dirt-	J. Porteous	261,759	July 25	1761	495	22	314
Scraper. Door-	J. J. Johnston	265,824	Oct. 10	732	206	22	1265
Scraper. Earth-	W. Haslup	268,666	Dec. 5	321	93, 94	22	1948
Scraper. Road-	J. Ashenfelter	260,635	July 4	359	98	22	61
Scraper. Road-	W. G. Beyerly	262,359	Aug. 8	672	187	22	456
Scraper. Road-	G. Gregory and G. Austin	263,170	Aug. 22	1569	473	22	649
Scraper. Road-	W. H. Talbot	261,276	July 18	1175	329	22	209
Scraper. Road-	J. B. Wood	265,295	Oct. 3	79	24	22	1150
Scraper. Road-	A. Woolsey	267,815	Nov. 21	1079	302	22	1746
Scraper. Wheeled	J. Stubbs and F. Jonas	268,054	Nov. 28	1367	383	22	1805
Screen: *See* Door or window screen. Grain-screen. Insect-screen. Ore-screen. Ornamental screen. Photographic-camera screen. Window-screen.							
Screen	N. W. Godfrey	266,130	Oct. 17	1109	313	22	1337
Screen	O. Harley	260,679	July 4	432	117	22	73
Screen	A. Lott	267,007	Nov. 7	59	18	22	1550
Screen	F. T. Mallon	264,725	Sept. 19	1227	347	22	1011
Screw	L. Smith	260,795	July 11	581	157	22	103
Screw and pipe wrench	W. J. Owen	266,595	Oct. 24	1663	479	22	1443
Screw-blank feeder	H. W. Loomis	264,040	Sept. 5	463	126	22	854
Screw-conveyor	W. W. Hewitt	265,078	Sept. 26	1659	463	22	1092
Screw-cutting device	A. Nacke	264,471	Sept. 19	950	268	22	958
Screw-cutting device	H. R. Proctor	262,615	Aug. 15	987	277	22	516
Screw-cutting machine	J. Barrow	266,339	Oct. 24	1380	389 / 390	22	1391
Screw. Differential	J. T. Burr	260,366	July 4	16	5	22	6
Screw-driver	E. Herzig	261,925	Aug. 1	126	36	22	357
Screw-driver	P. Nadig	267,706	Nov. 21	953	269	22	1724
Screw-driver	J. Swan	265,712	Oct. 10	603	170	22	1243
Screw-driver. Reversible	F. R. Parrridge	266,642	Oct. 31	1720	496	22	1460
Screw-machine alarm device	T. Bonner	269,627	Dec. 26	1543	443	22	2193
Screw machine. Metal-	G. D. Belcher	264,609	Sept. 19	1093	311	22	986
Screw machine. Metal-	F. Curtis	265,395	Oct. 3	197	60	22	1171
Screw machine. Metal-	A. Johnston	261,816	July 25	1826	516 / 517	22	326
Screw machine. Metal-	A. Johnston	267,213	Nov. 7	314	92, 93	22	1596
Screw machine. Metal-	A. Johnston	267,214	Nov. 7	317	93, 94	22	1597
Screw machine. Metal-	A. Johnston	267,215	Nov. 7	321	94, 95	22	1598
Screw machine. Metal-	A. Johnston	269,790	Dec. 26	1744	503 / 504	22	2231
Screw machine. Metal-	A. Johnston	269,791	Dec. 26	1749	504 / 505	22	2232
Screw machine. Metal-	H. Reynolds and J. English	266,891	Oct. 31	2007	578 / 579	22	1512
Screw machine. Metal-	C. F. Roper	263,357	Aug. 29	1950	558	22	700
Screw machine. Metal-	C. F. Roper	263,358	Aug. 29	1953	558 / 559	22	700
Screw machine. Metal	S. H. and C. F. Roper	262,321	Aug. 8	626	176	22	447
Screw-nail	H. Dunham	266,276	Oct. 24	1287	365	22	1373
Screw-nail	C. D. Rogers	264,479	Sept. 19	962	270	22	960
Screw-plate	G. B. Malette	263,550	Aug. 29	2183	623	22	742
Screw-thread-cutting machine	J. H. Vinton	263,001	Aug. 22	1470	414	22	612
Screw-threads. Die-stock for cutting	C. Hart	263,402	Aug. 29	2011	575	22	710
Screw. Toilet-	J. Waddell	264,002	Sept. 5	414	115	22	846
Screw. Wood-	J. M. Goodridge	262,592	Aug. 15	1334	377	22	578
Scrubber and mop. Combined	G. Pirrung. (Reissue)	10,154	July 11	984	276	22	170
Scythe-blade	A. F. Gerald	263,162	Aug. 22	1659	470	22	647
Seal-lock	L. C. Burgess	260,741	July 11	508	139	22	92
Seal-lock	G. A. Ellsworth	269,033	Dec. 12	773	228	22	2039
Seal-lock	C. D. Miller	266,867	Oct. 31	1980	572	22	1508
Seal-lock	E. Rowland	267,261	Nov. 7	376	110	22	1607
Sealing and unsealing freight-cars and the like. Device for	J. C. Richardson	262,316	Aug. 8	620	174	22	446
Seam-presser	J. C. Jellison and W. Smith	261,459	July 18	1386	367	22	244
Seaming machine. Double-	O. W. Burritt	266,604	Oct. 31	1678	485	22	1452
Seaming machinery. Can-	E. Jordan	264,704	Sept. 19	1198	339	22	1006
Seat: *See* Car-seat. Carriage-seat. Folding seat. Jump-seat. Roof-seat. Shifting seat. Vehicle-seat. Vehicle shifting seat.							
Seat	H. S. Hale	268,095	Nov. 28	1412	395	22	1813
Seat-lock	F. A. Havens	262,541	Aug. 8	882	249	22	493
Seat-lock	W. G. Qneal	261,628	July 25	1605	450	22	288
Seat-spring	E. Tecktonius and J. N. Bashaw	262,708	Aug. 15	1099	311	22	536
Second-hand holder and screw-end finisher	W. Hart	264,532	Sept. 19	1013	286	22	976

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Secondary batteries. Apparatus for charging and discharging	C. E. Buell	261,303	July 18	1210	337	22	215
Secondary batteries. Making elements for	C. F. Brush	262,533	Aug. 8	870	246	22	491
Secondary batteries. Mode and device for charging and discharging	C. E. Buell	261,513	July 18	1451	404 / 405	22	255
Secondary batteries. Plate for	J. A. Maloney and C. H. Koyl	266,172	Oct. 17	1157	326	22	1343
Secondary battery	V. W. Blanchard	267,137	Nov. 7	225	65	22	1589
Secondary battery	C. F. Brush	260,653	July 4	389	108	22	65
Secondary battery	C. F. Brush	260,654	July 4	390	108	22	65
Secondary battery	C. F. Brush	261,512	July 18	1449	404	22	255
Secondary battery	C. F. Brush	261,995	Aug. 1	207	62	22	371
Secondary battery	C. F. Brush	264,211	Sept. 12	648	180	22	896
Secondary battery	C. F. Brush	266,090	Oct. 17	1055	299 / 300	22	1328
Secondary battery	C. Cuttriss	261,435	July 18	1358	380	22	240
Secondary battery	N. De Kabath	263,124	Aug. 22	1615	456	22	638
Secondary battery	A. K. Eaton	266,114	Oct. 17	1086	307 / 308	22	1333
Secondary battery	A. K. Eaton	268,360	Nov. 28	1753	586	22	1875
Secondary battery	J. R. Finney	267,860	Nov. 21	1130	317	22	1756
Secondary battery	W. A. Shaw	266,202	Oct. 17	1267	359	22	1363
Secondary battery	E. T. Starr	267,275	Nov. 7	393	114	22	1610
Secondary battery	E. T. Starr	267,804	Nov. 21	1064	298	22	1743
Secondary battery	E. T. and E. E. Starr	268,308	Nov. 28	1679	465	22	1862
Secondary-battery element	C. F. Brush	263,756	Sept. 5	110	34	22	793
Secondary or storage battery element	C. F. Brush	266,089	Oct. 17	1054	299	22	1328
Sectional pipe	N. U. Walker	261,190	July 18	1080	301	22	195
Sectional pipe	N. U. Walker	261,191	July 18	1081	301	22	195
Sectional pipe for underground electrical wires	N. U. Walker	261,189	July 18	1078	301	22	194
Sediment-trap	L. P. Hawes	265,600	Oct. 10	436	125	22	1219
Seed and fertilizer distributer	G. R. Platt	268,279	Nov. 28	1644	456	22	1855
Seed and fertilizers. Hand-distributer for	R. Erwin	260,373	July 4	24	7	22	7
Seed-crushing machine. Cotton-	J. P. Keeton	268,803	Dec. 12	491	145	22	1987
Seed-drill	F. Getz	266,805	Oct. 31	1912	554	22	1495
Seed-drill	J. Hamilton	264,876	Sept. 26	1418	400	22	1050
Seed-drill	E. G. Matthews	266,960	Oct. 31	2116	607 / 608	22	1532
Seed-drill	P. Simhold	265,708	Oct. 10	600	169	22	1243
Seed-drills. Feed-box for	W. P. Elam	263,152	Aug. 22	1648	465	22	645
Seed-dropper	J. L. Williams	268,338	Nov. 28	1711	476	22	1868
Seed-dropper	F. W. Young. (Reissue)	10,196	Sept. 12	891	251	22	941
Seed-dropper	F. W. Young. (Reissue)	10,197	Sept. 12	896	251	22	941
Seed-germinating apparatus	R. Jensen	262,786	Aug. 15	1204	338	22	554
Seed. Machine for hulling cotton-	H. S. Walsh	263,262	Aug. 22	1771	504	22	669
Seed-separator	H. Ogborn	269,314	Dec. 19	1930	331	22	2109
Seeder and cultivator combined	W. D. Stroud. (Reissue)	10,166	July 18	1466	409	22	258
Seeder and cultivator. Combined	E. E. Whipple	260,814	July 11	605	164	22	107
Seeder and fertilizer-distributer. Combined	B. Kuhns	262,435	Aug. 8	759	213 / 214	22	471
Seeder and planter	H. J. Spratling	262,142	Aug. 1	400	112	22	402
Seeding device	J. L. Riter	264,478	Sept. 19	961	270	22	960
Seeding-machine	J. W. Mann	263,188	Aug. 22	1692	480	22	653
Seeding-machine	J. C. Mundel	262,400	Aug. 8	786	221 / 222	22	476
Seeding-machine	E. F. Stoddard and W. H. Nauman	266,656	Oct. 31	1739	502	22	1463
Seeding-machine	H. G. Swope	264,908	Sept. 26	1460	412	22	1057
Seeding-machine	M. Vasbinder	269,353	Dec. 19	1192	347	22	2119
Seeding-machine and cultivator	J. W. Thomas	261,643	July 25	1621	435 / 456	22	291
Seeding-machine fertilizer attachment	E. M. Kissell	264,461	Sept. 19	940	264	22	956
Seeding-machines. Drill-tooth attachment for	S. C. Mendenhall	264,319	Sept. 12	771	215 / 216 / 217	22	917
Self-adjusting engine. Variable	W. H. Clark	264,063	Sept. 12	404	133 / 134 / 135	22	860
Semaphore-signal	H. F. Cox	266,350	Oct. 24	1394	395	22	1394
Separating and drying apparatus	H. Newlin	267,919	Nov. 21	1195	336	22	1769
Separating-machine	S. McKenna	266,857	Oct. 31	1966	568	22	1506
Separator: *See* Centrifugal separator. Coin-separator. Cotton-separator. Gold-separator. Grain-separator. Grain and straw separator. Magnetic separator. Ore-separator. Seed-separator. Starch-separator. Thrashing-machine separator.							
Settee. Folding	H. J. Harwood	269,522	Dec. 26	1409	407	22	2167
Sewer and means for facilitating the discharge of sewage	J. Comstock and T. E. Jefferson	261,080	July 11	930	258 / 259 / 260	22	160
Sewer-flushing apparatus	W. H. Vibbard and G. H. Chandler	262,860	Aug. 15	1290	363	22	570
Sewer-gas into houses. Apparatus for preventing the escape of	M. F. Deegan	262,934	Aug. 22	1385	391	22	597
Sewer-gas trap	H. R. Cassel	268,865	Dec. 12	569	167	22	2002
Sewer-gas trap	M. T. Williams	268,584	Dec. 5	229	64	22	1929
Sewer-induct and its cover	J. F. Withey	263,448	Aug. 29	2065	591	22	720
Sewer-trap	H. B. Greenleaf	260,563	July 4	275	76	22	47
Sewers. Wing-gate for flushing	S. Johnson	268,903	Dec. 12	614	181	22	2009
Sewerage-conduits. Automatic gear for pneumatic	C. T. Liernur	264,717	Sept. 19	1217	344	22	1010
Sewing and cutting table	F. Kennerly	264,886	Sept. 26	1427	403	22	1051
Sewing and other machines. Treadle mechanism for operating	S. Ross, Jr.	264,418	Sept. 12	880	247	22	938
Sewing. Book-	E. R. Edwards	262,891	Aug. 15	1333	376	22	577

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Sewing buttons to fabrics. Machine for	J. H. Morley	265,532	Oct. 3	375	102, 103, 104	22	1199
Sewing buttons to fabrics. Machine for	H. L. Phelps	268,930	Dec. 12	646	189	22	2016
Sewing implement. Combined	M. A. Wilson	269,610	Dec. 26	1524	438	22	2190
Sewing-machine	W. Y. Allen	262,720	Aug. 15	1112	315	22	538
Sewing-machine	J. A. Ambler	263,648	Aug. 29	2295	655, 656	22	762
Sewing-machine	J. Authors	263,009	Aug. 22	1483	418	22	615
Sewing-machine	G. W. Baker	261,981	Aug. 1	192	57	22	368
Sewing-machine	E. B. Ball	269,556	Dec. 26	1451	418	22	2175
Sewing-machine	C. H. Bayley	262,269	Aug. 8	565	158	22	436
Sewing-machine	L. Bollmann	260,645	July 4	372	101, 102, 103, 104	22	63
Sewing-machine	E. Bonscay	261,578	July 25	1545	433	22	277
Sewing-machine	G. Burdick	268,458	Dec. 5	101	30, 31	22	1905
Sewing-machine	G. H. W. Curtis	261,913	Aug. 1	112	33, 34	22	354
Sewing-machine	G. S. Darling	266,977	Nov. 7	25	7, 8	22	1544
Sewing-machine	L. H. Davis	262,536	Aug. 8	873	246, 247, 248	22	491
Sewing-machine	H. E. Dieterle	263,325	Aug. 29	1911	547	22	694
Sewing-machine	G. H. Dimond and J. A. House	268,877	Dec. 12	583	171	22	2004
Sewing-machine	F. Foell	262,756	Aug. 15	1162	328	22	546
Sewing-machine	G. Gowing	262,586	Aug. 15	950	267	22	510
Sewing-machine	M. C. Gritzner	260,478	July 4	163	46	22	28
Sewing-machine	W. J. Hatcher	268,402	Dec. 5	34	11	22	1904
Sewing-machine	J. R. Hebert	268,227	Nov. 28	1581	438	22	1843
Sewing-machine	L. E. Higby	268,230	Nov. 28	1584	439	22	1844
Sewing-machine	K. S. Klogel	268,909	Dec. 12	622	183	22	2010
Sewing-machine	W. Koch	262,298	Aug. 8	597	168, 169	22	442
Sewing-machine	A. Lambert	262,437	Aug. 8	702	214, 215	22	472
Sewing-machine	T. J. Le Count	264,887	Sept. 26	1428	403, 404	22	1051
Sewing-machine	A. M. Leslie	261,363	July 18	1273	354, 355	22	225
Sewing-machine	T. A. Macaulay	265,683	Oct. 10	567	157	22	1237
Sewing-machine	T. A. Macaulay	265,684	Oct. 10	568	157	22	1237
Sewing-machine	T. A. Macaulay	265,685	Oct. 10	569	157, 158	22	1237
Sewing-machine	T. A. Macaulay	265,686	Oct. 10	570	158, 159	22	1237
Sewing-machine	T. A. Macaulay	265,687	Oct. 10	571	159	22	1238
Sewing-machine	T. A. Macaulay	269,218	Dec. 19	1007	294	22	2066
Sewing-machine	N. Meyers. (Reissue)	10,234	Nov. 7	444	128, 129	22	1619
Sewing-machine	N. Meyers. (Reissue)	10,235	Nov. 7	447	129	22	1619
Sewing-machine	C. H. Palmer	268,122	Nov. 28	1443	404	22	1819
Sewing-machine	J. B. Price	266,387	Oct. 24	1439	408	22	1402
Sewing-machine	J. W. Ramaden	262,116	Aug. 1	368	103, 104	22	306
Sewing-machine	W. Redett	262,245	Aug. 8	535	150, 151	22	431
Sewing-machine	R. W. Scott	262,134	Aug. 1	391	110	22	400
Sewing-machine	E. T. Thomas	261,181	July 18	1064	298	22	192
Sewing-machine	E. T. Thomas	266,553	Oct. 24	1616	460	22	1435
Sewing-machine	E. T. Thomas	266,554	Oct. 24	1617	461	22	1435
Sewing-machine	C. E. Tibbles	269,607	Dec. 26	1521	437	22	2189
Sewing-machine	T. Tully	268,152	Nov. 28	1485	414	22	1826
Sewing-machine	S. C. Westerling	266,934	Oct. 31	2069	595	22	1524
Sewing-machine	T. C. Woodward	268,763	Dec. 5	431	126	22	1909
Sewing-machine	T. C. Woodward	268,764	Dec. 5	432	126	22	1909
Sewing-machine	T. C. Woodward and C. M. Fairbanks.	268,346	Nov. 28	1722	479	22	1870
Sewing-machine and musical instrument. Combined	G. D. Garvie and G. Wood	267,874	Nov. 21	1149	322	22	1759
Sewing-machine attachment. Button-hole	J. J. Sullivan	264,491	Sept. 19	974	274	22	963
Sewing-machine attachment for unwinding thread from spools.	J. T. Brown	263,306	Aug. 29	1844	524, 525	22	688
Sewing-machine attachments. Clamping device for	R. S. Barnum	267,992	Nov. 28	1290	363	22	1791
Sewing machine. Belt	M. Gandy	262,395	Aug. 8	714	200, 201, 202	22	463
Sewing-machine binding attachment	R. J. Welles	266,738	Oct. 31	1839	533, 534	22	1481
Sewing-machine bobbin-winder	J. Cross and W. Harty	264,442	Sept. 19	917	258	22	952
Sewing-machine bobbin-winder	S. B. Gabryelski	268,773	Dec. 5	440	129, 130	22	1971
Sewing-maching bobbin-winder	C. H. Hopp	268,896	Dec. 12	605	178	22	2007
Sewing-machine bodkin-holder	G. Baum	268,170	Nov. 28	1505	420	22	1830
Sewing machine. Book	D. M. Smyth	262,325	Aug. 8	632	177	22	448
Sewing machine. Book	D. M. Smyth	262,326	Aug. 8	633	178	22	449
Sewing machine. Book	J. F. Tapley and G. B. Kilbon	265,463	Oct. 3	276	82, 83	22	1185
Sewing-machine. Boot and shoe	A. Keats	260,990	July 11	814	225, 226, 227	22	143
Sewing machine. Boot and shoe	M. H. Pearson	267,798	Nov. 21	1057	295, 296	22	1742
Sewing-machine brake. Automatic	T. E. Baden	267,968	Nov. 21	1256	353	22	1779
Sewing-machine. Button-hole	J. G. Greene	266,690	Oct. 31	1785	515, 516	22	1471

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Sewing-machine. Button-hole	D. Mills	265,850	Oct. 10	760	213, 214	22	1271
Sewing-machine. Button-hole	D. Mills	266,044	Oct. 17	999	283	22	1319
Sewing-machine. Button-hole	D. Mills	266,161	Oct. 17	1168	330	22	1346
Sewing-machine. Button-hole	J. F. Snediker	261,399	July 18	1323	369	22	233
Sewing-machine. Button-hole	J. F. Snediker	265,167	Sept. 26	1765	492	22	1112
Sewing-machine button-hole attachment	W. H. Carr	268,621	Dec. 5	272	77, 78	22	1938
Sewing-machine button-hole attachment	S. Cutler	268,002	Nov. 28	1300	366, 367	22	1703
Sewing-machine button-hole attachment	J. S. Sackett	266,054	Oct. 17	1010	286	22	1320
Sewing-machine button-hole attachment	J. McCreary and D. R. Smith	260,885	July 11	664	185, 186	22	120
Sewing machine. Carpet	J. O'Neil	260,601	July 4	316	86	22	54
Sewing machine. Carpet	A. Nenstadt	261,948	July 18	1138	318	22	203
Sewing-machine case	G. Range	265,701	Oct. 10	592	165	22	1241
Sewing-machine corder	F. Hand	261,549	July 25	1510	423	22	271
Sewing-machine corder	C. A. Sprague	268,665	Dec. 5	208	58	22	1925
Sewing-machine cording attachment	H. Behringer	264,817	Sept. 19	1334	377	22	1030
Sewing-machine crank-shaft support	G. A. Mayo	265,334	Oct. 3	132	39	22	1159
Sewing-machine cutting attachment	J. Smith	262,842	Aug. 15	1267	356	22	566
Sewing-machine embroidering attachment	F. H. Chilton	262,003	Aug. 1	217	64	22	373
Sewing-machine eyelet-hole attachment	H. L. Phelps	261,563	July 25	1528	428	22	274
Sewing-machine fan attachment	A. Hilger	269,669	Dec. 26	1595	457	22	2203
Sewing-machine feed mechanism	M. A. Dilley	263,689	Sept. 5	23	7	22	778
Sewing-machine feed mechanism	T. K. Keith and R. Carleton	268,804	Dec. 12	492	145	22	1987
Sewing-machine feed mechanism	O. Korup and J. McGill	261,161	July 18	1037	291	22	188
Sewing-machine feed mechanism	A. Spear	260,906	July 11	706	192	22	124
Sewing-machine feeding mechanism	J. B. McCune	268,704	Dec. 5	360	106	22	1956
Sewing-machine fly-wheel and pulley	J. B. McCune	268,703	Dec. 5	360	105	22	1956
Sewing-machine for making bottle-covers	G. Grisel	260,863	July 11	655	178, 179	22	115
Sewing machine. Glove	J. Simon	265,451	Oct. 3	235	77	22	1181
Sewing-machine guide	A. Habbert	269,049	Dec. 12	793	235	22	2042
Sewing-machine hem folder and guide	J. McCreary	263,054	Aug. 29	1535	432	22	624
Sewing-machine hemstitch attachment	G. W. Baker	261,420	July 18	1343	376	22	238
Sewing-machine hemstitch attachment	G. W. Baker	261,421	July 18	1341	376	22	238
Sewing-machine hemmer	M. I. Baird	264,845	Sept. 26	1377	389	22	1043
Sewing-machine hemmer	G. A. Brady	268,779	Dec. 12	458	134	22	1981
Sewing-machine index-plate	C. M. Fairbanks	268,651	Dec. 5	305	89	22	1945
Sewing-machine needle-bar	R. Rainforth	266,050	Oct. 17	1006	285	22	1320
Sewing-machine needle-clamp and thread-guide	C. M. Fairbanks and J. B. McCune	268,652	Dec. 5	306	89	22	1945
Sewing-machine needle-threader	H. F. W. Seele	268,551	Dec. 5	193	54	22	1922
Sewing-machine needles. Device for adjusting and threading	A. Bechtel and A. Bucher	268,380	Dec. 5	7	2	22	1888
Sewing-machine perforating attachment	M. S. Moss	267,361	Nov. 14	514	147	22	1637
Sewing-machine plaiter	J. M. Griest	268,398	Dec. 5	29	9, 10	22	1892
Sewing-machine plaiting attachment	C. S. Goldman	264,147	Sept. 12	587	161	22	885
Sewing-machine plaiting attachment	D. L. Masters	262,601	Aug. 15	969	272, 273	22	513
Sewing-machine presser-foot	C. H. Bayley	262,270	Aug. 8	566	158	22	436
Sewing-machine quilting attachment	F. M. German	264,943	Sept. 26	1506	423	22	1065
Sewing-machine reversible feed mechanism	C. Zelner	267,124	Nov. 7	211	61	22	1578
Sewing-machine ruffling and gathering attachment	C. M. Hamilton	264,456	Sept. 19	934	262	22	955
Sewing-machine ruffling and shirring attachment	T. B. Garretson	263,332	Aug. 29	1918	549	22	695
Sewing-machine ruffling attachment	A. Johnston	264,038	Sept. 5	460	126	22	853
Sewing-machine ruffling attachment	A. L. Smith	266,544	Oct. 24	1606	457	22	1433
Sewing-machine shirring attachment	T. J. Giddings	269,781	Dec. 26	1732	500	22	2229
Sewing-machine shuttle	S. B. Bartholomew	266,745	Oct. 31	1847	537	22	1483
Sewing-machine shuttle	A. E. Choquette and L. E. Wallerman.	266,096	Oct. 17	1063	301	22	1329
Sewing-machine shuttle	J. V. D. Eldredge. (Reissue)	10,231	Nov. 7	439	128	22	1618
Sewing-machine shuttle	G. D. Eldredge	261,839	Aug. 1	19	6	22	338
Sewing-machine shuttle	J. R. Hebert	268,229	Nov. 28	1583	439	22	1844
Sewing-machine shuttle	G. A. and V. J. Mayo	265,335	Oct. 3	133	39	22	1159
Sewing-machine shuttle	M. H. McIntire and S. B. Bartholomew.	266,041	Oct. 17	995	282	22	1318
Sewing-machine shuttle	W. R. Parsons	264,333	Sept. 12	788	222	22	921
Sewing-machine shuttle. Rotary	T. B. Roberts	267,020	Nov. 7	75	23	22	1553
Sewing-machine shuttle. Wax-thread	S. W. Wardwell, Jr.	262,161	Aug. 1	424	119	22	406
Sewing-machine stand	A. M. Leslie	262,300	Aug. 8	602	169, 170	22	443
Sewing-machine stand	D. Sweeney	262,500	Aug. 8	830	234	22	483
Sewing machine. Straw-braid	C. E. Wilkinson	269,251	Dec. 19	1056	308	22	2095
Sewing machine. Straw-hat	W. B. Lasscell and C. H. Willcox	269,215	Dec. 19	1004	294	22	2086
Sewing-machine table	G. A. Rider	266,526	Oct. 24	1588	451	22	1430
Sewing-machine take-up	A. V. Abercrombie	268,445	Dec. 5	88	27	22	1903
Sewing-machine take-up	J. R. Hebert	268,068	Dec. 5	323	94	22	1949
Sewing-machine take-up	A. Tracy	269,552	Dec. 26	1445	416	22	2174
Sewing-machine take-up	F. Willhelm	268,161	Nov. 28	1496	417	22	1828
Sewing-machine take-up mechanism	J. Tripp	267,038	Nov. 7	97	29	22	1557
Sewing-machine tension	A. Spear	262,253	Aug. 8	544	153	22	433
Sewing-machine tension-brake	W. W. White	264,388	Sept. 12	852	239	22	933
Sewing-machine tension device	J. R. Hebert	268,228	Nov. 28	1582	439	22	1844
Sewing-machine tension indicator	R. L. Mitchell	267,563	Nov. 14	771	220	22	1682
Sewing-machine thread-card holder	G. Wicke	268,335	Nov. 28	1708	475	22	1867
Sewing-machine thread cutter and holder	H. C. Goodrich	268,012	Nov. 28	1315	369	22	1795
Sewing-machine thread-cutting attachment	J. H. Foote	265,313	Oct. 3	106	31, 32	22	1154
Sewing-machine treadle	W. L. Grout	261,446	July 18	1373	383	22	242
Sewing-machine treadle-movement	P. F. Jonte	265,099	Sept. 26	1683	470, 471	22	1096
Sewing-machine trimming attachment	J. W. Dewees	266,783	Oct. 31	1886	548	22	1490
Sewing-machine trimming attachment	G. M. Morris	268,812	Dec. 12	502	149	22	1989
Sewing-machine trimming mechanism	T. Briggs	266,012	Oct. 17	963	273	22	1312
Sewing-machine tuck-folder	C. M. Dexter	267,163	Nov. 7	254	74	22	1585

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Sewing-machine tuck-marker	H. C. Goodrich	268,013	Nov. 28	1316	370	22	1796
Sewing-machine tucking attachment	A. A. Fisher and A. Hart	263,778	Sept. 5	132	41	22	797
Sewing-machine. Wax-thread	S. W. Wardwell, Jr.	262,160	Aug. 1	422	118, 119	22	406
Sewing-machines. Attaching covers to	J. Weiss	263,636	Aug. 29	2280	651	22	759
Sewing-machines. Automatic treadle for	J. R. Yeman	263,644	Aug. 29	2291	654	22	761
Sewing-machines. Clamping device for button-hole	J. F. Snediker	263,979	Sept. 5	382	108	22	840
Sewing-machines. Loose fly-wheel for	J. R. Hebert	268,236	Nov. 28	1560	438	22	1843
Sewing-machines. Muffling the sound of	J. B. Hain	266,591	Oct. 24	1657	477	22	1442
Sewing-machines. Quilting-frame for	H. T. Davis	263,487	Aug. 29	2104	603	22	728
Sewing-machines. Stop-motion for button-hole	A. Felber	267,510	Nov. 14	097	199	22	1669
Sewing-machines. Throat-plate for boot and shoe	F. Bean	262,198	Aug. 8	485	135	22	423
Sewing-machines. Trimming device for over-edge	J. Bigelow	263,467	Aug. 29	2084	597	22	724
Sewing-machines. Uniting straw braid on	W. B. Lascell	269,432	Dec. 19	1286	373	22	2138
Sewing on buttons. Attachment for	F. Egge and C. A. J. Sjoberg	268,470	Dec. 5	114	34, 35	22	1908
Sewing on buttons. Machine for	H. A. Behn	267,642	Nov. 14	865	247, 248	22	1699
Sewing on buttons. Machine for	J. Mathison	268,369	Nov. 28	1762	488, 489	22	1877
Sewing-stand	J. J. Johnston	268,800	Dec. 12	487	143	22	1986
Sewing. Waxed-thread	D. Mills	268,708	Dec. 5	364	107	22	1957
Shade-pendant	E. Estberg	267,507	Nov. 14	692	198	22	1668
Shade-rack	F. H. Tompkins	265,468	Oct. 3	284	85	22	1186
Shade-ring clamp	L. F. Griswold	269,783	Dec. 26	1734	501	22	2229
Shade-roller gage	B. R. Hamilton	269,499	Dec. 19	1377	390	22	2154
Shade-roller. Spring	D. E. Kempster	261,159	July 18	1074	291	22	188
Shaft and driver therefor. Reciprocating	J. Barker	264,997	Sept. 26	1573	442	22	1077
Shaft-bearing	R. W. Peck	265,358	Oct. 3	136	40	22	1159
Shaft clutching and releasing device	F. B. Miles	266,865	Oct. 31	1973	570	22	1507
Shaft-coupling	C. Barber	264,401	Sept. 12	864	242	22	935
Shaft-coupling	M. R. Davis	263,488	Aug. 29	2105	603	22	728
Shaft-coupling	L. R. Faught	260,467	July 4	149	43	22	26
Shaft-coupling	L. R. Faught	260,468	July 4	151	43	22	26
Shaft-coupling	F. F. Landis	268,807	Dec. 12	494	146	22	1988
Shaft-coupling	W. A. Wain	269,608	Dec. 26	1521	437	22	2189
Shaft couplings. Die for forming carriage	W. Pearce	265,431	Oct. 3	236	70	22	1178
Shaft-hanger	E. V. Clemens	269,263	Dec. 19	1070	312	22	2097
Shafts. Step for vertical	W. Crowe	261,139	July 18	1014	285	22	185
Shafting. Device for turning	J. M. Hawes	261,344	July 18	1253	347, 348	22	222
Shafting. Flexible	F. A. Curtis	261,534	July 25	1494	419	22	269
Shafting-hanger	R. Pryibil and E. D. Macintosh	267,251	Nov. 7	365	106	22	1605
Shafting-hanger. Adjustable	N. Parent	269,537	Dec. 26	1427	412	22	2171
Shafting. Machine for cutting and centering	C. Chambers, Jr.	263,654	Aug. 29	2302	658	22	762
Shawl-strap	W. E. Bradner	269,509	Dec. 26	1392	401	22	2164
Shearing and punching machine	L. Chasley	263,483	Aug. 29	2101	602	22	727
Shearing table. Sheep	M. T. Rose	266,896	Oct. 31	2015	580, 581	22	1514
Shears: *See* Grubbing-shears. Sheep-shears. Power-shears.							
Shears	G. S. Van Pelt	268,756	Dec. 5	424	123	22	1967
Sheep-holding device	C. B. Cook	266,016	Oct. 17	968	275	22	1312
Sheep-rack	A. F. Butters	261,997	Aug. 1	211	63	22	372
Sheep-shears	G. Nolin	266,716	Oct. 31	1814	526	22	1477
Sheep-shears	T. A. and R. H. Sorby	261,777	July 25	1779	502	22	318
Sheet-delivery apparatus	L. C. Crowell	269,021	Dec. 12	754	222, 223, 224	22	2036
Sheet-delivery apparatus	L. C. Crowell	269,184	Dec. 19	963	280, 281	22	2079
Sheet-delivery. Method of and apparatus for	L. C. Crowell	269,186	Dec. 19	971	283, 284	22	2079
Sheet-metal bending machine	C. Roach	264,567	Sept. 19	1045	297	22	977
Sheet-metal boxes. Re-enforcing the corners of seamless	T. F. Palmer	260,604	July 4	322	87	22	35
Sheet-metal can	E. Norton	264,099	Sept. 12	536	146	22	876
Sheet-metal can	E. Norton	267,013	Nov. 7	67	20	22	1551
Sheet-metal can	J. S. Rice	269,814	Dec. 26	1782	512	22	2238
Sheet-metal can	E. Small	261,396	July 18	1320	368	22	233
Sheet-metal can	W. H. H. Stevenson	262,143	Aug. 1	401	112	22	402
Sheet-metal can	S. W. Valentine	267,383	Nov. 14	549	156	22	1642
Sheet-metal can	F. A. Walsh	260,432	July 4	106	31	22	19
Sheet-metal can or box	J. Cartwright	261,306	July 18	1214	338	22	216
Sheet-metal nail	G. H. Perkins	266,511	Oct. 24	1567	445	22	1426
Sheet-metal pans. Machine for forming	R. J. Stirrat	262,852	Aug. 15	1281	360, 361	22	568
Sheet-metal pipes. Machine for making	W. Austin	262,723	Aug. 15	1118	316	22	539
Sheet-metal plates. Apparatus for tempering and flattening	E. Andrews	260,517	July 4	216	61	22	37
Sheet-metal-shearing machine	G. H. Perkins	260,779	July 11	555	151, 152	22	99
Sheet metal. Spinning	H. Grom	264,150	Sept. 12	591	162	22	886
Sheet-metal-stamping press	E. J. Dolan	269,567	Dec. 26	1464	421, 422	22	2178
Sheet-metal vessel	E. Small	263,068	Aug. 22	1550	437	22	626
Shelf-box. Merchant's	B. F. Robinson	268,939	Dec. 12	655	192	22	2018
Shelf-support	A. Cole	260,538	July 4	249	69	22	42
Shell	B. B. Hotchkiss	266,694	Oct. 31	1791	517	22	1472
Sheller: *See* Corn-sheller.							
Shifting seat	G. H. Hutton	267,893	Nov. 21	1167	328	22	1763
Shingle drawing and edging machine	W. L. Roberts	268,290	Nov. 28	1665	460	22	1857
Shingle-marking machine	H. E. Marchand	266,173	Oct. 17	1158	327	22	1341

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Shingle. Metallic roofing	C. Comstock	267,674	Nov. 21	916	260	22	1716
Shingle. Metallic roofing	E. B. Repp	262,475	Aug. 8	801	226, 227	22	478
Shingle. Metallic roofing	H. S. Reynolds	263,583	Aug. 29	2223	636	22	749
Shingle-sawing machine	A. Emerick	269,272	Dec. 19	1079	315	22	2099
Shingle-shaving machine	J. M. Harvey	262,765	Aug. 15	1171	331	22	548
Shingling-bracket	L. C. Jaques	260,872	July 11	667	182	22	118
Ship. Iron	J. Rees	267,371	Nov. 14	537	152	22	1640
Ship. Steam	D. C. Pierce	263,805	Sept. 5	173	50	22	803
Ship-ventilator	P. Mihan	269,533	Dec. 26	1421	410	22	2169
Ships. Automatic drag for	J. McAdams	261,369	July 18	1284	358	22	227
Ships. Bilge-water valve for	H. Cordes	266,102	Oct. 17	1070	303	22	1330
Ship's log	W. G. and G. W. Merrill	262,936	Sept. 5	326	93	22	831
Ships. Truss-rod and support for	J. Paterson	263,572	Aug. 29	2211	632	22	748
Shipping-can	E. T. Mason	268,422	Dec. 5	02	19	22	1898
Shirt	C. Axell	264,506	Sept. 19	987	277	22	966
Shirt	D. P. Belknap	266,748	Oct. 31	1850	538	22	1484
Shirt	H. S. Conant	261,809	July 25	1816	513	22	324
Shirt	M. J. Connors	261,833	Aug. 1	14	4	22	337
Shirt	C. G. Dobbs	261,318	July 18	1225	341	22	217
Shirt	G. A. Dubreuil	267,845	Nov. 21	1111	312	22	1752
Shirt	P. E. Dubreuil	266,112	Oct. 17	1065	307	22	1332
Shirt	P. E. Dubreuil	266,113	Oct. 17	1065	307	22	1333
Shirt	A. H. Graffley	268,482	Dec. 5	124	38	22	1910
Shirt	J. C. Gunn	268,400	Dec. 5	33	10	22	1893
Shirt	I. B. Keller	261,726	July 25	1726	485	22	308
Shirt	D. Lubin	260,694	July 4	449	122	22	76
Shirt	H. W. Messer	268,424	Dec. 5	64	20	22	1899
Shirt	E. P. Miller	262,083	Aug. 1	316	90	22	391
Shirt	J. M. C. Murphy	260,775	July 11	551	150	22	99
Shirt	M. Price	267,588	Nov. 14	805	230	22	1688
Shirt	J. M. Quinn, Jr.	264,195	Sept. 12	635	175	22	895
Shirt	M. Salberg	269,327	Dec. 19	1146	336	22	2112
Shirt	I. Schneer	260,790	July 11	575	155, 156	22	102
Shirt	F. Schrader	263,596	Aug. 29	2235	639	22	751
Shirt	I. Wallach	260,716	July 4	474	129	22	80
Shirt	I. Wallach	264,802	Sept. 19	1315	370	22	1026
Shirt. Knit	T. M. Grant	268,093	Nov. 28	1411	394	22	1812
Shoddy and rag pickers. Covering for the cylinders of	T. W. Harding	268,015	Nov. 28	1319	370	22	1796
Shoe	I. A. Beals	264,608	Sept. 19	1093	310	22	986
Shoe	P. E. Clark	262,573	Aug. 15	932	263	22	507
Shoe	Loo Chew Fan	261,439	July 18	1363	381	22	241
Shoe	J. Haszinger	267,887	Nov. 21	1162	326	22	1762
Shoe	T. J. Strickland	262,146	Aug. 1	404	113	22	403
Shoe and leather polish	J. F. Eddlemon and W. L. Walker	265,041	Sept. 26	1620	.....	22	1086
Shoe-buttons. Tool for attaching	J. H. Goodfellow	269,408	Dec. 19	1259	366	22	2133
Shoe-fastener	H. J. Dieter	260,852	July 11	644	175	22	114
Shoe-fastener	J. L. Joyce	267,218	Nov. 7	329	95	22	1599
Shoe-fastening	V. B. Morton and S. P. Bennett	269,094	Dec. 12	850	252	22	2052
Shoe-heel-burnishing machine	C. Keighley and A. H. Blaisdell	269,061	Dec. 12	809	240	22	2045
Shoe-heeling machine	M. V. B. and F. N. Ethridge	261,145	July 18	1019	287	22	185
Shoe-horn	J. M. Brown	267,668	Nov. 21	909	257	22	1715
Shoe horn and buttoner	J. S. Bulkeley	267,145	Nov. 7	232	67	22	1581
Shoe-last	E. C. Wright	262,266	Aug. 8	561	157	22	436
Shoe-lasting jack	M. V. Ethridge	268,650	Dec. 5	304	89	22	1945
Shoemaker's jack	H. P. Roberts	268,537	Dec. 5	181	51	22	1920
Shoe-nail	J. E. Maynadier	264,953	Sept. 26	1517	427	22	1067
Shoe-nail	E. L. Wires	266,408	Oct. 24	1463	415	22	1407
Shoe-sole-cutting machine	J. Mundell and W. J. Gordon	267,574	Nov. 14	784	225, 226	22	1685
Shoe-soles. Machine for shaving, condensing, and assorting blanks for	J. Mundell and W. J. Gordon	267,572	Nov. 14	778	223	22	1684
Shoe-tongue	A. I. Earle	260,854	July 11	647	175	22	114
Shoe. Ventilated	T. Hawley	264,409	Sept. 12	872	245	22	936
Shoes. Machine for attaching buttons to	P. H. Sweet, Jr.	268,143	Nov. 28	1473	511	22	1824
Shoes. Manufacture of	F. Kearney	264,459	Sept. 19	938	263	22	956
Shot-cabinet	A. F. Fleming	262,214	Aug. 8	502	140	22	426
Shot-case	A. Wysong	262,881	Aug. 15	1521	371	22	575
Shot-drying machine. Lead	J. Farrell	265,046	Sept. 26	1625	457	22	1087
Shot-making machine	H. M. Guild	260,976	July 11	796	219	22	139
Shovel: *See* Malt-shovel. Steam-shovel. Snow-shovel.							
Shovel-handle	W. H. Johnson	262,788	Aug. 15	1207	339	22	555
Shovel-molds. Die for tapering	W. P. T. Jope	263,709	Sept. 5	42	13	22	782
Shovels. Die for making	W. Chisholm	260,602	July 4	402	111	22	67
Shovel-straps. Die for forming	W. Chisholm	261,674	July 25	1658	465	22	297
Show-case	F. Sanderson	263,970	Sept. 5	370	103, 104	22	838
Show-case	R. S. Williams	262,873	Aug. 15	1312	369	22	574
Show-case. Sectional	P. Henrichs	267,426	Nov. 14	598	171, 172	22	1650
Show-case. Sectional	P. Henrichs	267,427	Nov. 14	601	172	22	1651
Show-case. Sectional	P. Henrichs	267,428	Nov. 14	602	172, 173	22	1652
Shutter-bower	S. Frost	264,873	Sept. 26	1415	399	22	1049
Shutter-fastener	F. B. Brown	264,853	Sept. 26	1389	391	22	1045
Shutter-fastener	R. G. Dudley	267,168	Nov. 7	261	76	22	1586
Shutter-fastener	M. A. Pigott	260,708	July 4	467	126	22	79
Shutter-fastener	E. Ritz and A. Gärtner	262,319	Aug. 8	623	175	22	447
Shutter-fastener and alarm	I. Brooke	260,649	July 4	382	105	22	64
Shutter. Fire-proof	C. Berrian	262,356	Aug. 8	669	187	22	455
Shutter. Metallic	G. Hayes. (Reissue)	10,223	Oct. 24	1670	481	22	1444

Alphabetical list of inventions, July to December, inclusive—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drgs.	Official Gazette. Vol.	Official Gazette. Page.
Shutter-worker	L. O. Dion	263,308	Oct. 3	101	30	22	1152
Shutter-worker	R. G. Dudley	265,772	Oct. 10	668	190	22	1254
Shutter-worker	W. Kaufman	262,789	Aug. 15	1208	339	22	555
Shutter-worker	W. Dale. (Reissue)	10,146	July 4	491	133	22	84
Sidewalks. Cover for openings in	J. W. Herr	261,347	July 18	1257	349	22	223
Sieve. Bolting	J. A. Lowe	263,547	Aug. 29	2180	622	22	742
Sieve. Flour	W. S. Fowler	264,681	Sept. 19	1174	332	22	1002
Sifter. Ash	J. A. Donovan	265,038	Sept. 26	1616	455	22	1085
Sifter. Cinder	J. T. Wilson and W. J. Hallarn	262,526	Aug. 8	860	243	22	489
Sifter. Cinder	J. S. Sackett	262,697	Aug. 15	1088	308	22	534
Sifter. Coal and ash	E. A. Wilson	267,049	Nov. 7	108	31	22	1559
Sifter for sand. Self-shaking	R. E. Ghezzi	267,417	Nov. 14	587	169	22	1649
Sign	F. E. Munn	268,428	Dec. 5	69	22	22	1900
Sign	J. H. Irwin	262,417	Aug. 8	741	208	22	467
Sign. Electrical	T. A. Marteeny	265,841	Oct. 10	749	210	22	1268
Sign. Revolving							
Signal: See Car-signal. Railway-signal. Electric signal. Railway alarm-signal. Fog-signal. Railway-switch signal. Grave-signal. Semaphore-signal. Pyrotechnic signal. Time-ball signal.							
Signal-box. Non-interfering	A. H. Palmer and C. A. Rolfe	264,193	Sept. 12	633	175	22	893
Signal-light	M. Braasill	260,933	July 11	736	201	22	129
Signal-light	J. Pintsch, Jr	269,505	Dec. 19	1384	398	22	2155
Signaling mechanism	A. and E. F. Webster	266,000	Oct. 17	943	266, 267	22	1308
Silk and other fabrics. Machine for dressing	M. De Gombert	269,188	Dec. 19	975	284, 285	22	2080
Silk. Machine for throwing	J. E. Tynan	261,409	July 18	1331	372	22	235
Silo	J. W. McKnight	267,914	Nov. 21	1190	335	22	1768
Single-tree	M. D. L. and J. M. Hartley	266,469	Oct. 24	1522	432	22	1417
Sink. Water	W. J. Granlees	263,696	Sept. 5	29	9	22	780
Sinks, &c. Flush-pot for kitchen	G. E. Waring, Jr	263,446	Aug. 29	2061	590	22	720
Siphon	J. Saunders	264,197	Sept. 12	637	176	22	894
Siphon	M. N. Webber	264,381	Sept. 12	845	237	22	931
Siphon. Automatic	R. Reiman	265,443	Oct. 3	247	75	22	1180
Sirup and sugar. Process of and apparatus for the manufacture of	W. F. Browne	263,314	Aug. 29	1878	536, 537, 538, 539	22	690
Sizing and coloring fabrics. Apparatus for	M. Free	267,869	Nov. 21	1144	321	22	1758
Sizing or painting machine	W. H. R. Toye	263,998	Sept. 5	410	114	22	845
Skate	E. Riebling	267,111	Nov. 7	103	56	22	1574
Skate	J. A. Whelpley	262,712	Aug. 15	1101	312	22	537
Skate. Roller	E. H. Barney	265,371	Oct. 3	175	52	22	1167
Skate. Roller	F. A. Combes	260,455	July 4	133	38	22	24
Skate. Roller	G. L. Witsil	266,002	Oct. 17	953	270	22	1310
Skate. Roller	N. W. Darrow	266,978	Nov. 7	27	8	22	1544
Skate. Wheel	H. C. Bradeen and S. Briggs	269,380	Dec. 19	1227	357	22	2126
Skelp-heating furnace	A. A. Clark	262,277	Aug. 8	573	160	22	438
Skid for supporting barrels	J. J. Johnston	265,611	Oct. 10	471	130	22	1222
Skillet	P. Brion	268,997	Dec. 12	795	212	22	2030
Skinning-knife	K. S. Lathrop	263,541	Aug. 29	2174	620	22	710
Skirt-protecting coat	W. Conolly	266,015	Oct. 17	966	274	22	1312
Skylight and ventilator	J. Fowler	262,757	Aug. 15	1163	328	22	546
Slate attachment	J. La Bar	267,902	Nov. 21	1175	330	22	1765
Slate. Folding	H. C. Goodrich. (Reissue)	10,207	Sept. 26	1861	523	22	1128
Slate-frame	T. Kane	260,688	July 4	492	119	22	75
Slate-frame	H. C. Goodrich and R. S. Barnum	263,041	Aug. 22	1552	439	22	621
Slate. Noiseless	W. E. Wise	264,811	Sept. 19	1327	376	22	1029
Slate or blackboard cleaner	F. W. Mallett	268,252	Nov. 28	1612	448	22	1850
Slate. School	R. G. Winslow	263,523	Aug. 8	862	244	22	489
Slates. Manufacturing	G. W. Pecan	263,112	Aug. 1	365	.....	22	306
Slating compound	B. Terne	269,487	Dec. 19	1365	.....	22	2152
Slaughter-houses. Utilizing tank-waters of	R. Neill	267,100	Nov. 7	181	51	22	1572
Slaughtering establishments. Switch-rail for	R. A. Haldeman	265,062	Sept. 26	1645	462	22	1090
Sled	J. W. Russell	264,769	Sept. 19	1278	362	22	1020
Sled	D. G. Miller	264,322	Sept. 12	774	218	22	918
Sled. Bob	D. M. Kirkpatrick	261,556	July 25	1520	426	22	273
Sleigh	W. D. Brooks	265,303	Oct. 3	96	29	22	1152
Sleigh. Bob	E. C. Schroeder	265,155	Sept. 26	1749	488	22	1109
Sleigh. Bob	J. A. Johnson	267,961	Nov. 21	1272	357	22	1782
Sleigh-shoe	I. S. Sherwin	264,350	Sept. 12	805	226	22	924
Sliding gates. Guide-post for	T. Alexander	269,554	Dec. 26	1448	417	22	2174
Sliding-hill. Artificial	C. H. Murray	265,128	Sept. 26	1713	479	22	1103
Smelting-furnace	D. C. Hill	264,158	Sept. 12	597	164	22	857
Smoke and gas consuming furnace	J. Johnston	261,723	July 25	1720	483	22	307
Smoke-burner for furnaces	S. Jones and G. B. Marshall	263,708	Sept. 5	41	13	22	782
Smoke-consumer	A. M. Wayne	261,284	July 18	1183	331	22	210
Smoke-consumer	W. T. McMillen	261,015	July 11	856	238	22	149
Smoke-consumer. Fire-place	T. Kirkwood	268,413	Dec. 5	50	15	22	1896
Smoke-consumer for furnaces	H. A. Spear and A. P. Wight, Jr	264,905	Sept. 26	1457	411	22	1056
Smoke-consumer. Locomotive	S. Parker	260,894	July 11	693	188	22	122
Smoke-consuming apparatus	J. J. Anderson	263,456	Aug. 29	2073	594	22	722
Smoke-consuming attachment for furnaces	G. A. Barth	260,824	July 11	615	167	22	109
Smoke-consuming furnace	G. A. Barth	261,422	July 18	1345	376	22	238
Smoke-consuming furnace	P. H. Jackson	268,682	Dec. 5	339	98, 99	22	1952
Smoke-consuming furnace	H. Jerome	262,428	Aug. 8	752	211	22	470
Smoke-consuming furnace	H. G. Wilson	263,642	Aug. 29	2289	653	22	761
Smoke-consuming furnace	E. R. Stege	260,625	July 4	349	94	22	59
Smoke-preventing furnace	G. Gray	264,076	Sept. 12	510	138	22	871
Smoke-stack	E. M. Hallock	263,698	Sept. 5	282	81	22	823
Smoke-stack. Marine-vessel	J. Badger	266,007	Oct. 17	959	272	22	1311
Smoker's implement	E. A. Smith	261,056	July 11	903	251	22	156
Smoking-cartridge	W. Bushnell	265,571	Oct. 10	492	116	22	1214
Smoking-pipe. Tubular	A. F. Zimmerling	269,368	Dec. 19	1211	353	22	2123
Smoothing, fluting, and polishing iron. Combined	F. C. Ayres	260,637	July 4	361	98	22	61
Snap-hook	G. W. Blake	266,421	Oct. 24	1476	419	22	1409
Snap-hook	C. H. and M. M. Freer	263,693	Sept. 5	27	8	22	779
Snap-hook	F. A. Hake	269,050	Dec. 12	794	235	22	2043
Snap-hook	E. Kempshall	263,340	Aug. 29	1927	552	22	696
Snap-hook	M. Sweet	266,327	Oct. 24	1363	384	22	1388
Snatch-block	E. J. F. Coleman	267,153	Nov. 7	242	70	22	1583
Snatch-block	T. R. Ferrall	264,143	Sept. 12	584	160	22	884
Snatch-block	T. R. Ferrall	265,588	Oct. 10	443	121	22	1217
Snatch-block	L. D. Craig	261,434	July 18	1357	380	22	240
Snow as it falls upon and contiguous to railway-tracks. Device for removing	W. Deetz	262,537	Aug. 8	879	248	22	492
Snow from railway-cuts. Machine for removing	F. D. Riker	261,484	July 18	1416	396	22	249
Snow-melting apparatus	J. Flindall	263,502	Aug. 29	2121	608	22	731
Snow-plow	D. E. Grove	261,339	July 18	1248	346	22	221
Snow-plow	E. M. Hesselbom	263,178	Aug. 22	1678	475	22	651
Snow-plow	L. Larchar	264,542	Sept. 19	1021	289	22	972
Snow-shovel	H. C. Cole	265,021	Sept. 26	1598	450	22	1082
Snow-shovel	H. C. Cole	265,387	Oct. 3	189	57	22	1170
Soap	J. Bankmann	261,697	Aug. 1	89	.....	22	350
Soap. Apparatus for the manufacture of	J. J. Johnston	265,095	Sept. 26	1679	469	22	1095
Soap cake	A. Van Haagen	268,321	Nov. 28	1693	469	22	1865
Soap-holder and brush. Combined	M. J. A. Keane	262,677	Aug. 15	1062	298	22	530
Soap. Liquid	G. and H. Henkel	269,413	Dec. 19	1264	.....	22	2134
Soap. Liquid	J. Scharr	266,207	Oct. 17	1196	.....	22	1352
Soap. Manufacture of	S. Crump	262,745	Aug. 15	1146	.....	22	544
Soap. Manufacturing	O. Liebreich	265,520	Oct. 3	362	.....	22	1197
Soap. Method of and apparatus for making	W. West	268,443	Dec. 5	66	26	22	1903
Soap tablet	W. J. Houston	261,156	July 18	1029	290	22	187
Sock or stocking and art of making the same	J. Shelton	264,348	Sept. 12	804	226	22	924
Socket-wrench. Adjustable	F. Chantrell. (Reissue)	10,145	July 4	489	133	22	83
Soda. Apparatus for the recovery of	H. C. F. Störmer	266,915	Oct. 31	2043	588	22	1519
Soda block	J. McCrodden	264,044	Sept. 5	468	127	22	855
Soda by the ammonia process. Apparatus for manufacturing	H. J. E. Hennebutte	262,767	Aug. 15	1174	331	22	548
Soda by the ammonia process. Manufacture of	E. Solvay	263,981	Sept. 5	384	108	22	841
Soda from the spent liquors of pulp-mill digesters. Apparatus for reclaiming	W. L. Longley	262,443	Aug. 8	769	216	22	473
Soda. Manufacture of	E. Solvay	263,821	Sept. 5	190	55, 56	22	806
Soda. Manufacture of bicarbonate of	B. T. Babbitt	265,367	Oct. 3	172	51	22	1166
Soda. Manufacture of bicarbonate of	B. T. Babbitt	265,368	Oct. 3	173	51	22	1166
Soda. Mold for forming blocks of	J. McCrodden	264,730	Sept. 19	1233	348	22	1013
Soda-water apparatus	F. S. Waldo	264,586	Sept. 19	1065	302	22	980
Soda-water draft-tube	J. C. Miller	268,425	Dec. 5	65	20	22	1899
Soda-water receivers and generators. Agitator for	J. Matthews	266,039	Oct. 17	993	282	22	1318
Sofa and folding bed. Combined	L. S. House and A. Brabets	263,179	Aug. 22	1679	476	22	651
Sofa, lounge, seat, &c	H. Roberts	268,289	Nov. 28	1655	459	22	1857
Soil and waste pipe	J. Barrett	263,461	Aug. 29	2079	595	22	723
Soil or drain pipe	P. W. Doherty	263,494	Aug. 29	2111	605	22	729
Solder. Apparatus for making wire	E. Small	262,625	Aug. 15	997	280	22	518
Soldering handles on can-tops. Machine for	H. Miller	265,849	Oct. 10	757	213	22	1270
Soldering-iron	G. W. Knapp and N. G. Numsen	263,413	Aug. 29	2026	579	22	713
Soldering-iron heater	E. Meredith	267,560	Nov. 14	768	220	22	1681
Soldering-machine	A. Lusk	261,366	July 18	1280	356	22	226
Soldering machine. Can	J. S. Hull	268,622	Nov. 28	1327	372, 373	22	1797
Soldering machine. Can	J. G. Jones	263,650	Aug. 29	2308	650	22	763
Soldering machine. Can	F. W. Schultz	263,598	Aug. 29	2237	640	22	751
Soldering-tool	M. F. Haber	269,784	Dec. 26	1735	501	22	2229
Sole-burnishing machine	M. Dudley	265,947	Oct. 17	879	252	22	1298
Sole-channeling machine	A. F. Littlefield	261,862	Aug. 1	43	13	22	343
Sole-edge finisher	M. Dudley. (Reissue)	10,204	Sept. 19	1374	388	22	1036
Sole-edge trimmer	B. D. Beaver	268,858	Dec. 12	563	164	22	2001
Sole-edge trimmer	C. C. Hanson and G. B. Dunham	266,257	Oct. 17	1259	357	22	1362
Sole-fastening	J. M. Estabrook	261,213	July 18	1103	308	22	198
Sole-fastening wire	L. Goddu	262,287	Aug. 8	582	164	22	440
Sole-fastening wire	L. Goddu	263,657	Aug. 29	2306	659	22	763
Sole-fastenings. Machine for driving	L. Goddu	265,227	Sept. 26	1849	520, 521	22	1126
Sole-leveling machine	O. Gilmore	266,283	Oct. 24	1296	367	22	1375
Sole-molding machine	S. H. Woodbury	268,589	Dec. 5	236	66	22	1931
Sole-nailing machine	J. E. Kimball	269,502	Dec. 19	1379	397	22	2135
Sound. Apparatus for transmitting	C. L. Pond	266,515	Oct. 24	1571	446	22	1426
Sounder. Main-line	L. H. McCulloch	263,419	Aug. 29	2034	583	22	715
Sower. Broadcast	S. S. Speicher. (Reissue)	10,209	Sept. 26	1863	523, 524, 406, 407	22	1129
Sower. Fertilizer	J. L. Halteman	261,517	July 18	1456	406, 407	22	256
Sower. Seed	J. F. Heady	262,041	Aug. 1	263	76	22	380
Sowing fertilizers. Machine for	E. D. Mead	265,529	Oct. 3	373	102	22	1199
Spar and sail	H. Tudor	266,065	Oct. 17	1024	290	22	1323
Spark-arrester	A. Blake	261,657	July 25	1638	460	22	294
Spark-arrester	J. W. Budd	266,427	Oct. 24	1482	421	22	1410
Spark-arrester	J. H. Filcer and J. Gilduff	263,496	Aug. 29	2114	605	22	729
Spark-arrester	S. L. French and R. B. Mellon	265,055	Sept. 26	1636	460	22	1089
Spark-arrester	G. Green	263,169	Aug. 22	1668	472	22	648
Spark-arrester	R. Hill	260,753	July 11	527	143	22	94
Spark-arrester	G. B. Nichols	264,331	Sept. 12	786	221	22	920
Spark-arrester	J. H. Optenberg	263,569	Aug. 29	2207	630	22	746
Spark-arrester	M. A. Sims	263,362	Aug. 29	1959	560	22	701
Spark-arrester	L. C. Sparks	265,343	Oct. 3	140	42	22	1160
Spark-arrester	H. R. Walker	267,470	Nov. 14	652	187	22	1661

Alphabetical list of inventions, July to December, inclusive—Continued.

Alphabetical list of inventions, July to December, inclusive—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Spark-arrester	D. Wiser	264,501	Sept. 19	983	276	22	965
Spark arrester and conductor	J. A. Cotter	267,158	Nov. 7	247	71	22	1584
Spark-arrester and draft-producer for locomotives	J. G. Kalbach and T. P. Kinsey	257,220	Nov. 7	330	96	22	1509
Speaking-tube	J. Ireland	269,578	Dec. 26	1484	428, 429	22	2182
Speaking-tube attachment	W. R. Balch	261,196	July 18	1086	303	22	196
Speaking-tube mouth-piece	G. W. Bennett	260,358	July 4	10	3	22	4
Specific-gravity apparatus	T. Sourbé	268,049	Nov. 28	1363	381, 382	22	1804
Spectacles	H. N. Carpenter	265,916	Oct. 10	827	236	22	1283
Spectacles and eyeglasses	R. A. Carter	267,644	Nov. 14	870	249	22	1700
Spectacles. Device for holding	J. A. Shone	264,574	Sept. 19	1053	299	22	978
Spectacles. Making temple-wires for	R. A. Carter	260,658	July 4	397	109, 110	22	66
Speculum	L. C. Law	267,906	Nov. 21	1182	332	22	1766
Speed and motion regulator for machines	C. Adler	267,818	Nov. 21	1082	303	22	1746
Speed-changing device	E. Knapp	261,933	Aug. 1	138	40	22	359
Speed-indicator	W. Lang	268,107	Nov. 28	1427	399	22	1816
Speed-indicator	W. G. Richards	264,900	Sept. 26	1445	408	22	1055
Speed-indicator. Alarm	C. J. Langenbach	261,732	July 25	1731	487	22	369
Speed indicator and recorder	L. H. Taylor, Jr., and S. D. Strohm	266,921	Oct. 31	2051	590	22	1521
Speed indicator and register	D. Young	268,350	Nov. 28	1736	482	22	1872
Speed-recording machine	C. B. Koon	269,206	Dec. 19	1108	323	22	2105
Speed-regulator for machinery	H. A. Cruttenden	263,120	Aug. 22	1611	455	22	638
Spice-mill	J. J. Johnston	265,819	Oct. 10	728	204	22	1264
Spike	W. H. Bailey	262,344	Aug. 8	653	183	22	452
Spikes. Machine for making	J. M. Baker	264,604	Sept. 19	1089	309	22	985
Spindle: *See* Lathe-spindle. Spinning-machine spindle. Spinning-frame spindle.							
Spindle	G. H. Allen	263,300	Aug. 29	1839	523	22	687
Spindle and bearing therefor	G. B. McCracken and S. Hamer	269,438	Dec. 19	1293	376	22	2139
Spindle and bearing therefor	W. G. Morrison	263,942	Sept. 5	338	96	22	833
Spindle and bearing therefor	G. C. Stevens and C. D. Read	260,504	July 4	204	57	22	35
Spindle and bearing therefor	G. E. Taft	261,275	July 18	1174	329	22	209
Spindle-bearing	G. H. Allen	262,268	Aug. 8	564	157	22	436
Spindle-bearing	G. H. Allen	264,054	Sept. 12	483	131	22	867
Spindles. Variable friction-gear for	G. Bancroft	267,053	Nov. 7	114	33	22	1500
Spinning and doubling machine	E. Hird	261,711	July 25	1705	479	22	304
Spinning and twisting fibrous material. Apparatus for	J. J. Broadbent and E. Mitchell	261,300	July 18	1205	336	22	214
Spinning-frame spindle	W. G. Morrison	264,327	Sept. 12	781	220	22	919
Spinning-frames. Clearer for lifting-rods of	E. C. Shaw and G. H. Flinn	267,603	Nov. 14	822	235	22	1691
Spinning frames. Thread-guard and traveler-cleaner for ring-	J. E. Prest	269,231	Dec. 19	1024	299	22	2089
Spinning frames. Yarn-guide support for ring-	J. Birkenhead	260,360	July 4	11	4	22	4
Spinning jacks and mules. Mechanism for reversing the rotation of the spindles of	J. Wiggin and J. B. Greenhalgh	262,523	Aug. 8	856	242, 243	22	488
Spinning-machine spindle	G. Jaquith	264,297	Sept. 12	749	209	22	913
Spinning-machines. Spindle-step for	W. A. Delmage	263,688	Sept. 5	21	7	22	778
Spinning machine tension device. Silk-	J. W. Lovatt	261,936	Aug. 1	143	41	22	360
Spinning-machine top rolls. Covering for	E. L. Perry	260,780	July 11	559	152	22	100
Spinning-spindles. Bearing for	A. R. Sherman	260,711	July 4	469	127	22	79
Spirit-cistern indicator	J. Gnadinger, Jr	266,460	Oct. 24	1513	430	22	1415
Spirits of great purity directly from the mash. Production of	W. H. A. Deininger	266,441	Oct. 24	1495	425	22	1412
Spirits. Process of and apparatus for improving	F. Stitzel	265,344	Oct. 3	141	42	22	1160
Spittoon	D. Hallum	261,342	July 18	1251	347	22	222
Splint-making machine	C. E. Ramus	266,517	Oct. 24	1573	447, 448	22	1427
Spoke-setting machine	A. M. Fisher	262,283	Aug. 8	578	162	22	439
Spoke-socket	J. Y. Cooper	266,609	Oct. 31	1683	486	22	1453
Spoke-tenoning machine	H. Paré	262,107	Aug. 1	360	101	22	395
Spoke-trimming machine	A. Eckman	268,787	Dec. 12	469	138	22	1983
Spoke-washer for vehicle-wheels	J. M. Starr	260,428	July 4	102	29	22	19
Spool	I. C. Davis	268,197	Nov. 28	1542	428	22	1836
Spool and thimble holder and thread-cutter. Combined	A. M. Barrett	266,009	Oct. 17	960	272	22	1311
Spool for holding wire	O. R. Chaplin	263,682	Sept. 5	15	5	22	777
Spool-holder	S. M. Moscheowitz	268,712	Dec. 5	367	108	22	1957
Spool of thread	I. C. Davis	268,198	Nov. 28	1542	428	22	1836
Spoolers, twisters, and doublers. Stop-motion for	A. G. Brown	267,487	Nov. 14	672	193	22	1665
Spooling-machine knot-tying apparatus	H. P. Chase	268,622	Dec. 5	274	79	22	1939
Spooling machine. Yarn-	L. C. Billings	266,419	Oct. 24	1474	419	22	1408
Spooling-machines. Yarn-guide for	C. E. Bean	263,463	Aug. 29	2080	596	22	723
Spooling machines. Driving-cylinder for yarn-	J. K. Brown	262,203	Aug. 8	490	137	22	424
Spoon and corkscrew. Combined	C. T. Williamson	264,391	Sept. 12	855	239	22	933
Spoon-holder	J. B. Beach	264,226	Sept. 12	668	184	22	899
Spoon. Medicine-	T. Cosbey	265,390	Oct. 3	191	58	22	1170
Spoons and forks. Manufacture of	J. Sheridan	269,726	Dec. 26	1659	477	22	2216
Spout. Grain-	W. D. Dickson	261,537	Aug. 1	17	5	22	338
Spout. Sap-	H. A. and Z. S. Lawrence	262,060	Aug. 1	284	82	22	385
Spout. Sap-	G. J. Record	265,146	Sept. 26	1739	485	22	1107
Spout. Sap-	M. J. Stark	269,545	Dec. 26	1435	414	22	2172
Spout. Tank-	J. H. Dunlap	268,467	Dec. 5	110	33	22	1907
Spring: *See* Bed-spring. Bed-bottom spring. Bolster-spring. Buggy-spring. Car-spring. Carriage-spring. Door-spring. Draw-bar spring. Mattress-spring. Middlings-shaker spring. Seat-spring. Torsion-spring. Vehicle-spring. Vehicle bolster-spring. Wagon-spring. Wagon-seat spring. Watch-spring.							

Alphabetical list of inventions, July to December, inclusive—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Spring	J. B. Armstrong	267,317	Nov. 14	455	131	22	1627
Spring equalizer. Vehicle-	F. L. Ezell	260,960	July 11	779	214	22	136
Spring-ring	L. H. Sanderson	267,112	Nov. 7	194	56	22	1575
Springs. Apparatus for making	H. Woodruff and G. Barson	268,164	Nov. 28	1500	418	22	1829
Springs. Die for shaping and setting plates for elliptic	E. Spaulding	266,653	Oct. 31	1736	501	22	1462
Springs. Machine for coiling	O. S. and W. S. Foster	264,071	Sept. 12	504	137	22	870
Springs. Machine for making coiled	J. Dubelman	281,319	July 18	1226	341	22	217
Sprinkler: *See* Fire-extinguishing Plant-sprinkler. sprinkler.							
Square and bevel instrument	C. D. Walters	265,350	Oct. 3	149	44	22	1162
Square. Carpenter's	W. H. Cailihan	265,383	Oct. 3	186	56	22	1169
Square. Centering, bevel, and try	C. L. Bellamy	267,481	Nov. 14	665	191	22	1664
Square. Centering try	W. H. Sleeper	265,287	Oct. 3	71	22	22	1148
Square. T-	J. W. Rowe	267,260	Nov. 7	376	109	22	1607
Square. Try-	J. A. Traut	266,556	Oct. 24	1620	461	22	1435
Squares. Adjustable pitch-board for	C. W. Hovis	260,755	July 11	529	143	22	95
Squaring or plane-dressing the end of bars or rods. Mechanism for	J. W. Heyer	264,877	Sept. 26	1419	400	22	1050
Squib. Miner's	J. R. Powell	260,410	July 4	83	23	22	16
Stair-rod fastener	W. J. Cowing	269,181	Dec. 19	960	280	22	2078
Stair-rod securer	M. L. Woodward	268,165	Nov. 28	1501	418	22	1829
Stalk-cutter	P. Shipley	269,544	Dec. 26	1434	414	22	2172
Stalk-cutting machine	R. Falconer	267,509	Nov. 14	695	199	22	1669
Stall. Stock-	E. Wilkins	266,942	Oct. 31	2076	598	22	1525
Stalls. Fastening and releasing device for cattle-	J. D. Watters	264,605	Sept. 19	1321	373	22	1027
Stalls. Releasing device for cattle-	J. C. Germeyer	265,797	Oct. 10	708	198	22	1201
Stamp battery. Ore-	J. M. McFarland	268,115	Nov. 28	1434	401	22	1818
Stamp battery. Ore-	A. J. Van Drake	266,662	Oct. 31	1746	503, 504	22	1464
Stamp canceling and registering machine	W. C. Woodrow and J. W. Henderson.	267,301	Nov. 7	424	123	22	1616
Stamp. Chronometric	B. B. Hill	266,366	Oct. 24	1410	400	22	1396
Stamp. Hand-	B. B. Hill	261,229	July 18	1117	312	22	200
Stamp. Hand-	B. B. Hill	266,624	Oct. 31	1701	490, 491	22	1456
Stamp. Hand-	J. Murdock, Jr	261,025	July 11	869	241	22	151
Stamp. Hand-	C. H. Nye	268,526	Dec. 5	169	48	22	1918
Stamp. Hand-	G. J. B. Rodwell	265,872	Oct. 10	783	221	22	1275
Stamp. Hand-	O. H. Tappan. (Reissue)	10,263	Dec. 26	1786	514	22	2239
Stamp. Hand-	W. D. Wesson	263,268	Aug. 22	1778	507	22	671
Stamp-mill	F. A. Huntington	267,432	Nov. 14	607	174	22	1652
Stamp-mill guide	C. A. Fargo	263,034	Aug. 22	1516	426	22	620
Stamp-mill mortar	H. Bolthoff	261,297	July 18	1202	335	22	214
Stamp-mill speeding device	W. B. Upton	268,963	Dec. 12	683	200, 201	22	2023
Stamp-mills. Cam-shaft box for	H. Bolthoff	260,527	July 4	233	65	22	39
Stamp. Ore-	J. Symons	264,792	Sept. 19	1301	367	22	1024
Stamp. Perforating hand-	G. W. Le Vin	266,168	Oct. 17	1152	325	22	1343
Stamp. Registering-	H. Codd	265,245	Oct. 3	24	7	22	1140
Stamp-stems, &c. Fastening for tappets of	P. H. Baker	266,338	Oct. 24	1379	389	22	1391
Stamp. Time-	J. C. Hinchman	265,808	Oct. 10	718	200, 201, 378, 379	22	1263, 1602
Stamping machine and die	E. Norton	268,041	Nov. 28	1355		22	
Stanchion	O. H. Robertson and W. S. Warriner.	264,104	Sept. 12	540	147	22	877
Stanchion. Cattle-	G. W. Talmadge	269,348	Dec. 19	1182	345	22	2117
Stand: *See* Album-stand. Blacking-stand. Bottle-stand. Clock-stand. Coal-box and fire-iron stand. Display-stand. Flower-stand. Ironing-stand. Lamp-filling stand. Lightning-rod stand. Music-stand. Music and reading stand. Railway-switch stand. Rock-drill stand. Sewing-stand. Sewing-machine stand. Stove-stand. Switch-stand. Toilet-stand. Wash-stand. Wire-stand.							
Stand-boiler and connections	A. P. Creque	263,767	Sept. 5	122	38	22	795
Staple	H. R. Adams	262,635	Aug. 15	1012	283	22	520
Staple and lock for bag-frames	O. Reichenbach	266,201	Oct. 17	1191	336	22	1351
Staple-extractor	H. A. Hess	262,542	Aug. 8	883	250	22	493
Staple. Wire-	P. Dunn and T. Harris. (Reissue)	10,181	Aug. 15	1357	384	22	583
Staples. Device for inserting and clinching metallic	W. J. Brown, Jr	260,365	July 4	15	5	22	5
Starch. Apparatus for manufacture of	W. Dnryea	263,030	Aug. 22	1509	424	22	619
Starch. Manufacturing	E. S. Renwick	263,958	Sept. 5	357	100	22	836
Starch, &c. Process of and apparatus for treating the refuse of	W. T. Jebb	263,525	Aug. 29	2151	615, 616	22	736
Starch-separator	P. H. Grimm	261,445	July 18	1372	383	22	242
Starch-separator	P. H. Grimm	264,688	Sept. 19	1181	334	22	1003
Starch-separator	P. H. Grimm	266,136	Oct. 17	1115	315	22	1338
Starch-washer	J. and F. Firmenich	260,380	July 4	46	13	22	9
Station-indicator	C. G. Anderson	261,071	July 11	918	255	22	158
Station-indicator	H. E. Bissell	261,925	Aug. 1	4	1, 2	22	335
Station-indicator	J. Coxen	262,932	Aug. 22	1383	391	22	597
Station-indicator	H. A. Holloman	269,672	Dec. 26	1598	458	22	2204
Station-indicator	J. V. Ryerson	267,941	Nov. 21	1224	344	22	1774
Station-indicator. Electric	J. F. Loughlin	267,437	Nov. 14	613	177	22	1653
Stave-jointer	J. Spaulding, Jr	261,179	July 18	1060	298	22	192
Stay for garments	L. Abraham	266,743	Oct. 31	1844	536	22	1483

Alphabetical list of inventions, July to December, inclusive—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Steam and heating air and water. Apparatus for condensing exhaust	E. J. Mallett, Jr	262,073	Aug. 1	303	87	22	388
Steam-boiler	G. H. Babcock, S. Wilcox, and N. W. Pratt.	261,122	July 18	994	279	22	181
Steam-boiler	G. H. Babcock, S. Wilcox, N. W. Pratt, and E. H. Bennett.	262,555	Aug. 15	906	255	22	503
Steam-boiler	H. Burgess	264,621	Sept. 19	1108	314	22	988
Steam-boiler	S. L. Hill	261,348	July 18	1258	349	22	223
Steam-boiler	J. Hill	268,673	Dec. 5	328	95	22	1950
Steam-boiler	G. Miles	268,923	Dec. 12	637	187	22	2014
Steam-boiler	E. J. Moore	267,241	Nov. 7	354	103	22	1603
Steam-boiler	D. I. Novikoff	265,857	Oct. 10	767	216	22	1272
Steam-boiler	J. O'Brien	262,976	Aug. 22	1441	406	22	607
Steam-boiler	G. H. Rheutan	269,114	Dec. 12	875	257	22	2056
Steam-boiler	J. Rodie	261,258	July 18	1151	322	22	205
Steam-boiler	J. M. Simpson	260,425	July 4	98	28	22	18
Steam-boiler cleaners. Electrical alarm for	E. H. Ashcroft	265,365	Oct. 3	170	50	22	1165
Steam-boiler. Marine	F. Funke	269,041	Dec. 12	780	231	22	2040
Steam-boiler. Portable	J. Burnett	262,568	Aug. 15	927	262	22	506
Steam-boiler. Safety	G. T. Pillings	269,458	Dec. 19	1320	382	22	2145
Steam-boiler. Sectional	D. L. Adams	268,592	Dec. 5	239	67	22	1931
Steam-boiler. Tubular	G. H. Rheutan	262,247	Aug. 8	538	152	22	432
Steam-boilers. Compound for the prevention and removal of scale in	C. Cryer and G. H. Norris	268,461	Dec. 5	104	.....	22	1906
Steam-boilers. Crown-sheet protector for	J. E. Krumm	261,730	July 25	1729	486	22	309
Steam-boilers. Foam-collector for	R. Whelan	260,813	July 11	604	163	22	107
Steam-boilers. Hollow support for	E. H. Ashcroft	262,914	Aug. 22	1365	385	22	593
Steam-boilers. Lime-extractor for	H. Hill	268,672	Dec. 5	327	95	22	1950
Steam-boilers. Portable arch for	J. C. Haag	264,151	Sept. 12	591	162	22	886
Steam-boilers. Purifying natural waters for use in	C. B. Dudley	267,743	Nov. 21	989	.....	22	1730
Steam-boilers. Removing and preventing scale in	I. L. Merrell	264,192	Sept. 12	622	.....	22	891
Steam-boilers. Securing flues in	I. L. Stover	265,886	Oct. 10	797	226	22	1278
Steam-boilers. Surface-agitator for	E. Fox	266,686	Oct. 31	1781	514	22	1470
Steam-boilers. Variable fire-arch for	F. W. Merriam	261,469	July 18	1396	389	22	246
Steam-brake	T. J. Shellhorn	265,879	Oct. 10	789	223	22	1277
Steam-brake for locomotive-tenders	D. Clark and J. Lee	261,675	July 25	1659	465	22	297
Steam-conduits. Covering for	M. J. Walsh	263,265	Aug. 22	1774	505	22	670
Steam-cylinder lubricator	J. W. Hays	268,667	Dec. 5	322	94	22	1948
Steam-engine	J. D. Brown	266,672	Oct. 31	1756	506	22	1466
Steam-engine	W. F. Goodwin	260,383	July 4	50	14	22	10
Steam-engine	A. T. Powell	265,138	Sept. 26	1725	482	22	1105
Steam-engine	C. Von Beehtolsheim	263,258	Aug. 22	1768	503	22	669
Steam-engine	C. D. Wooley	266,946	Oct. 31	2081	599	22	1526
Steam-engine	S. E. Jarvis	267,792	Nov. 21	1050	293	22	1740
Steam engine and boiler. Portable	F. Rochow	260,610	July 4	328	89	22	56
Steam-engine. Compound	R. L. Stevens	264,363	Sept. 12	818	230	22	927
Steam-engine. Gravity	E. H. Phipps	260,781	July 11	560	153	22	100
Steam-engine lubricator	G. W. Brown	263,843	Sept. 5	219	63	22	811
Steam-engine recorder	G. W. Briggs	265,747	Oct. 10	646	183	22	1250
Steam-engine stop-motion	R. Scheidler	269,329	Dec. 19	1148	336	22	2112
Steam-engines. Bed-plate and heater for portable	J. W. Thompson	265,994	Oct. 17	938	265	22	1307
Steam-engines. Eccentric for	H. Watkeys	260,433	July 4	107	31, 32	22	19
Steam-engines. Variable exhaust of	W. and J. Beesley	266,078	Oct. 17	1042	295	22	1326
Steam-generator	F. M. Brown	264,819	Sept. 19	1336	378	22	1030
Steam-generator	O. F. Burton	261,096	Aug. 1	208	62, 63	22	371
Steam-generator	J. E. Culver. (Reissue)	10,241	Nov. 14	891	254	22	1704
Steam-generator	F. W. Foster	262,392	Aug. 8	710	200	22	462
Steam-generator	T. C. Joy	269,582	Dec. 26	1469	430	22	2183
Steam-generator	C. Kingsford	268,690	Dec. 5	349	101	22	1953
Steam-generator	M. M. Monsanto	264,735	Sept. 19	1237	350	22	1013
Steam-generator	J. C. Stead	263,615	Aug. 29	2258	645	22	755
Steam-generator	J. C. Stead	267,761	Nov. 21	1007	283	22	1733
Steam-generator	J. C. Stead	267,762	Nov. 21	1009	284	22	1733
Steam-generator	H. Vogt and W. D. Adams	261,412	July 18	1336	374	22	236
Steam-generator	C. Wheat and A. Catchpole	267,625	Nov. 14	845	241	22	1696
Steam-generator	H. Willis	264,591	Sept. 19	1069	304	22	981
Steam-generator and furnace	C. H. Candler and J. Whitehead	263,478	Aug. 29	2095	600	22	726
Steam-generator and furnace	M. M. Monsanto. (Reissue)	10,174	Aug. 1	480	134	22	415
Steam-generator for road-vehicles or other purposes	F. D. Pierce	263,954	Sept. 5	353	99	22	836
Steam heat and power distributing apparatus	E. F. Osborne	266,046	Oct. 17	1002	284	22	1319
Steam-heated boiler	G. Edmondson	264,266	Sept. 12	711	197	22	907
Steam heater or radiator	E. A. Wood	262,715	Aug. 15	1104	313	22	537
Steam-indicators. Adjustable stand for operating	F. W. Bacon	261,519	July 25	1469	411	22	365
Steam-inspirator	J. H. Rook	269,718	Dec. 26	1650	474	22	2215
Steam-muffler	J. Hill	264,289	Sept. 12	739	206	22	912
Steam-muffler	J. Hill	268,674	Dec. 5	330	96	22	1950
Steam-piping for buildings	E. F. Osborne	269,224	Dec. 19	1013	296	22	2087
Steam-shovel	F. C. Starke and P. J. Crowley	263,986	Sept. 5	394	110	22	842
Steam-trap	J. H. Blessing	268,384	Dec. 5	11	4	22	1888
Steam-trap	E. Briart	267,831	Nov. 21	1098	307	22	1149
Steam-trap	G. W. Coffee	268,081	Nov. 28	1397	391	22	1810
Steam-trap	B. W. Felthousen	264,522	Sept. 19	1002	282	22	968
Steam-trap	A. L. Fish	269,656	Dec. 26	1579	453	22	2200
Steam-trap	J. B. Fuller and D. P. Mills	267,746	Nov. 21	991	279	22	1730
Steam-trap	W. A. Hathaway	263,175	Aug. 22	1675	474	22	650

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Steam-trap	J. Morehead	263,716	Sept. 5	57	17	22	764
Steam-trap	R. Mortensen	260,599	July 4	212	86	22	53
Steam-trap	J. Park	264,895	Sept. 26	1438	406	22	1053
Steam-trap	G. S. Strong	264,788	Sept. 19	1297	366	22	1023
Steam trap. Exhaust	J. E. Chafer	265,242	Oct. 3	22	7	22	1140
Steam. Utilizing exhaust	H. T. Litchfield	261,163	July 18	1039	292	22	189
Steam. Utilizing exhaust	H. T. Litchfield and D. Renshaw	262,958	Aug. 22	1418	400	22	603
Steam. Utilizing exhaust	H. T. Litchfield and D. Renshaw	262,959	Aug. 22	1419	400	22	603
Steam. Utilizing exhaust	H. T. Litchfield and D. Renshaw	264,466	Sept. 19	945	266	22	957
Steam. Utilizing exhaust	H. T. Litchfield and D. Renshaw	268,419	Dec. 5	59	18	22	1898
Steam-washer	A. O'Neill	261,170	July 18	1048	295	22	190
Steam-wheel	A. F. Cooper	260,944	July 11	751	204	22	131
Steam-wheel	S. J. Webb	268,327	Nov. 28	1700	472	22	1866
Steamer. Culinary	J. Krehbiel	263,049	Aug. 22	1520	431	22	623
Steel. Apparatus for handling and heating cast	W. Hainsworth	266,468	Oct. 24	1520	432	22	1417
Steel. Applying alloys to	P. De Villiers	265,221	Sept. 26	1840	.....	22	1125
Steel blooms and billets. Manufacture of	W. Hainsworth	268,222	Nov. 28	1572	436	22	1842
Steel. Making	W. W. Chipman	265,656	Oct. 10	537	.....	22	1232
Steering apparatus	J. S. Lake	269,299	Dec. 19	1312	324	22	2105
Steering-engine. Steam and hand	A. W. Pattle and G. W. Robertson	267,580	Nov. 14	795	227	22	1687
Steering-propeller	E. Shay	269,725	Dec. 26	1658	476	22	2216
Stencils. Perforating instrument for producing	D. Gesetner	268,009	Nov. 28	1313	369	22	1795
Stereoscope	W. L. Stevens	262,846	Aug. 15	1273	358	22	567
Stereoscope and graphoscope. Combined	W. H. Lewis	265,110	Sept. 26	1694	474	22	1098
Stereotype-plate holder	C. E. Curtiss	265,660	Oct. 10	542	147	22	1232
Stereotype-plates. Sectional block for	F. Keefer	268,688	Dec. 5	347	101	22	1953
Stereotyping. Preparing matrix-forms for	M. H. Dement	265,918	Oct. 10	829	236	22	1283
Stethoscope and pneumoscope. Combined	A. W. R. Pihlgren	268,430	Dec. 5	71	22	22	1900
Still. Alcohol	C. J. T. Burcey	263,852	Sept. 5	231	68	22	813
Still. Alcohol	C. J. T. Burcey	265,304	Oct. 3	96	29	22	1152
Still for refining petroleum	A. A. Bush	269,382	Dec. 19	1330	356	22	2127
Stirrer. Pot	A. Caufman	268,185	Nov. 28	1530	425	22	1834
Stirrup	A. P. Routt	263,966	Sept. 5	364	102	22	837
Stirrup-bending machine	J. B. Chiles	260,928	July 11	743	202	22	130
Stirrup-hood	A. Ayers	268,352	Nov. 28	1740	483	22	1873
Stirrup. Saddle	C. E. D. Parker	264,560	Sept. 19	1038	295	22	976
Stirrup. Saddle	S. L. Shellenberger	267,728	Nov. 21	976	274	22	1727
Stirrup. Safety	S. F. English	269,035	Dec. 12	775	229	22	2039
Stirrup toe-guard	R. E. Larcom	261,733	July 25	1732	487	22	309
Stirrup. Wood	J. Woolworth and W. F. Cowles	267,061	Nov. 21	1246	351	22	1778
Stitching machine. Pamphlet	S. Elliott	263,031	Aug. 22	1510	425	22	619
Stock-detaching device	A. B. Hollingsworth	266,291	Oct. 24	1369	370	22	1378
Stocking	W. H. Abel	265,553	Oct. 10	403	111	22	1211
Stocking	C. Appleton	260,9.2	July 11	721	197	22	127
Stocking	M. Landenberger, Jr	263,539	Aug. 29	2172	619	22	740
Stocking	C. E. Wakeman. (Reissue)	10,150	July 4	497	135	22	84
Stocking and method of making the same	R. W. Scott	268,734	Dec. 5	397	115	22	1963
Stocking. Bathing	E. N. Douglass	266,614	Oct. 31	1690	488	22	1454
Stocking-knee protector	E. E. Hale	267,520	Nov. 14	709	204	22	1671
Stocking-supporter	C. C. Shelby	267,943	Nov. 21	1226	345	22	1774
Stone and marble. Manufacture of artificial	F. Reimers	268,535	Dec. 5	179	.....	22	1920
Stone and marble. Manufacture of artificial	J. W. Watts	260,511	July 4	211	.....	22	36
Stone and ore crusher	S. L. Marsden	264,179	Sept. 12	619	171	22	891
Stone and ore crusher	T. M. Rogers	263,226	Aug. 22	1732	491	22	662
Stone and ore crusher	S. P. M. Tasker	262,996	Aug. 22	1464	412	22	611
Stone. Artificial	J. G. Meyers	268,515	Dec. 5	157	.....	22	1916
Stone breaker and crusher	P. W. Gates	265,957	Oct. 17	896	255	22	1301
Stone-breaker and ore-crusher	P. W. Gates	269,193	Dec. 19	982	287	22	2062
Stone breakers and crushers. Screening and assorting machine for	P. W. Gates	266,282	Oct. 24	1294	366	22	1374
Stone-burning kiln. Artificial	A. Baumann	267,661	Nov. 21	900	255	22	1713
Stone. Compound for artificial	A. Peiletier	266,878	Oct. 31	1992	.....	22	1510
Stone-cutting machine	M. S. Otis	269,451	Dec. 19	1307	379	22	2143
Stone-dressing machine	A. McDonald	262,967	Aug. 22	1428	403	22	605
Stone for veneers, &c. Artificial	W. Matt	266,493	Oct. 24	1550	.....	22	1423
Stone-lathe	E. R. Cheney	265,581	Oct. 10	433	119	22	1216
Stone. Machine for grinding the surface of	A. Folsom	267,783	Nov. 21	1039	299	22	1739
Stone. Machine for ornamenting	D. Shortsleeve	260,424	July 4	95	26	22	17
Stone. Manufacture of artificial	H. B. McIntyre	267,239	Nov. 7	353	.....	22	1603
Stone, marble, &c. Artificial	R. Josia	267,217	Nov. 7	325	.....	22	1598
Stone or ore crusher	W. H. Baxter	267,394	Nov. 14	560	160	22	1644
Stone-turning machine	J. D. Brunton and F. H. J. Trier	269,381	Dec. 19	1228	357	22	2126
Stool	A. H. Cobb	262,176	Aug. 1	443	123	22	409
Stool and pedal attachment. Combined music	W. E. Leighton	267,547	Nov. 14	702	214	22	1678
Stool. Folding	B. Frazee	268,214	Nov. 28	1563	433	22	1840
Stool for children. Walking	G. Peterson	265,432	Oct. 3	238	71	22	1178
Stool. Milking	J. W. Brayman	261,903	Aug. 1	93	26	22	351
Stool. Music	E. Calix	267,325	Nov. 14	465	135	22	1629
Stool. Piano	J. Emerson	269,034	Dec. 12	774	229	22	2039
Stool. Piano	S. C. Johnson	264,458	Sept. 19	937	263	22	956
Stool. Piano-forte	W. T. Mersereau	267,358	Nov. 14	567	145	22	1636
Stool. Revolving	J. G. Pulling	265,435	Oct. 3	239	72	22	1179
Stopper: *See* Boiler-tube leak. Bottle-stopper.							
Storage-batteries. Method of and apparatus for "forming"	H. S. Maxim	264,952	Sept. 26	1515	427	22	1066
Store-service apparatus and appliances	H. H. Hayden	260,568	July 4	280	77, 78	22	48
Store-service system	H. H. Hayden	268,485	Dec. 5	127	39	22	1910

Alphabetical list of inventions, July to December, inclusive—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Stove	E. W. Anthony	265,361	Oct. 3	163	48	22	1164
Stove	M. C. Armour	264,994	Sept. 26	1569	440 441	22	1076
Stove	D. Brix	267,143	Nov. 7	230	66	22	1581
Stove	G. M. Edwards	266,794	Oct. 31	1899	551	22	1493
Stove	J. Flannery	263,498	Aug. 29	2116	606	22	730
Stove	G. E. Hopkin	261,609	July 25	1581	443	22	284
Stove	J. Sinnamon	268,833	Dec. 12	527	157	22	1994
Stove	H. R. Tracy	266,661	Oct. 31	1745	503	22	1464
Stove	T. Willi and C. Linxweiler	268,066	Nov. 28	1360	366	22	1807
Stove	C. A. Williamson	265,204	Sept. 26	1813	509 510	22	1120
Stove and burner and heating-drum. Gas	E. Detwiler	268,083	Nov. 28	1399	391 392	22	1810
Stove and grate fender	R. Gilchriest	268,638	Dec. 5	314	91	22	1947
Stove and kit. Field	W. Clifford	264,627	Sept. 19	1114	316	22	989
Stove and range door	W. A. Spicer	263,071	Aug. 22	1554	428	22	627
Stove and ventilator. Self-extinguishing	W. F. Condon	263,118	Aug. 22	1607	454	22	637
Stove attachment	P. Rieth	260,419	July 4	91	25	22	17
Stove attachment. Cooking	S. G. Randall	265,634	Oct. 10	505	137	22	1227
Stove-back	W. Schenck. (Reissue)	10,218	Oct. 17	1271	359 360	22	1364
Stove-back lining	W. Allen	266,005	Oct. 17	957	271	22	1310
Stove-barrel. Safety expanding	J. A. Horton	264,161	Sept. 12	602	166	22	888
Stove burner. Gas	W. W. Goodwin	265,408	Oct. 3	211	64	22	1174
Stove. Camp	S. J. McDowell	261,621	July 25	1596	447	22	287
Stove. Car	A. Reese	269,324	Dec. 19	1143	315	22	2112
Stove. Car	A. Reese	269,325	Dec. 19	1145	335	22	2112
Stove. Coal	C. A. Hamlin	263,513	Aug. 29	2133	611	22	733
Stove. Cooking	W. H. Miller	268,706	Dec. 5	362	106	22	1956
Stove. Cooking and heating	F. Metzner	268,921	Dec. 12	635	186 187	22	2013
Stove-cover lifter	W. F. Shuter	261,393	July 18	1316	367	22	232
Stove drum or cylinder	H. A. Matthews	269,437	Dec. 19	1292	375	22	2139
Stove. Farm	J. J. Johnston	264,410	Sept. 12	873	245	22	936
Stove. Fluid or vapor	T. T. Woodward	263,007	Aug. 22	1482	417	22	614
Stove for burning straw, hay, and cornstalks	N. Compton	268,192	Nov. 28	1537	427	22	1835
Stove. Gas	J. H. Bean	263,671	Sept. 5	2	1	22	775
Stove. Gas heating	W. W. Goodwin	263,507	Aug. 29	2128	610	22	732
Stove. Gasoline	P. Hiekisch	264,082	Sept. 12	516	141	22	873
Stove-grate	H. L. Anderson	264,992	Sept. 26	1566	440	22	1076
Stove-grate	E. Bussey	264,858	Sept. 26	1394	392	22	1046
Stove-grate	W. H. Loomis	264,090	Sept. 12	526	144	22	874
Stove-grate	J. T. Thompson	264,583	Sept. 19	1063	302	22	980
Stove-grate. Extension	W. Schenck	263,360	Aug. 29	1956	550	22	701
Stove. Hay and straw burning	H. Gohrman	266,131	Oct. 17	1110	313	22	1337
Stove-heater attachment	N. J. Graham	269,047	Dec. 12	792	224	22	2042
Stove. Heating	E. W. Anthony	265,362	Oct. 3	164	49	22	1164
Stove. Heating	E. W. Anthony	265,363	Oct. 3	165	49, 50	22	1165
Stove. Heating	J. B. Oldershaw	268,718	Dec. 5	374	109	22	1959
Stove. Heating	E. Schöneberg	266,393	Oct. 24	1447	411	22	1404
Stove. Ironing	J. J. Johnston	265,821	Oct. 10	730	204 205	22	1265
Stove-legs. Attaching	C. W. McCutchen	267,911	Nov. 21	1157	334	22	1767
Stove-lid	B. A. Baxter	260,826	July 11	617	168	22	109
Stove-lid	J. A. Horton	263,703	Sept. 5	37	11	22	781
Stove-lid and lifter	R. P. Pearson	266,194	Oct. 17	1182	334	22	1349
Stove. Lime-heating foot	P. O. Jenkins	266,369	Oct. 24	1414	401 402	22	1397
Stove. Magazine-drum	G. H. Barbour and M. B. Mills	267,769	Nov. 21	1018	285	22	1735
Stove. Oil	H. C. Bascom	260,825	July 11	616	167	22	109
Stove. Oil	A. S. Dinsmore	260,461	July 4	142	40	22	25
Stove. Oil	A. S. Dinsmore	264,866	Sept. 26	1406	396	22	1048
Stove. Oil	L. C. Heckman	264,154	Sept. 12	593	163	22	886
Stove. Oil	L. C. Heckman	264,155	Sept. 12	595	163	22	887
Stove. Oil-lamp	G. H. Ferris	268,655	Dec. 5	310	90	22	1946
Stove or furnace	D. M. Graham	268,483	Dec. 5	125	38	22	1910
Stove or furnace	W. Masters	263,552	Aug. 29	2186	624	22	742
Stove or furnace. Heating	M. C. Hull	263,705	Sept. 5	38	12	22	781
Stove or range. Gas cooking	W. W. Goodwin	265,407	Oct. 3	210	63	22	1173
Stove-oven	E. C. Godwin	260,971	July 11	791	217	22	138
Stove-ovens. Heat indicator and regulator for	C. Murray	267,651	Nov. 14	857	250	22	1701
Stove. Parlor cooking	H. V. Fisher	264,940	Sept. 26	1503	423	22	1064
Stove-pipe	A. J. and C. Lindemann	261,004	July 11	837	233	22	146
Stove-pipe	T. E. Rollins	265,873	Oct. 10	784	222	22	1275
Stove pipe	J. J. Vollrath	269,749	Dec. 26	1696	486	22	2222
Stove-pipe attachment	F. A. Ring	266,722	Oct. 31	1822	528 529	22	1478
Stove-pipe joint	J. Nanghten	261,473	July 18	1401	391	22	247
Stove pipe. Press for forming creases in	E. W. Stoddard	269,603	Dec. 26	1515	436	22	2188
Stove-pipe retainer	A. Weaver	262,866	Aug. 15	1301	365	22	572
Stove-pipe shelf	J. M. Black	268,072	Nov. 28	1387	388	22	1808
Stove pipe shelf	J. Kurtis and J. Bray	268,244	Nov. 28	1602	445	22	1848
Stove-pipe shelf	B. Roux	261,047	July 11	893	248	22	154
Stove-pipes in fine-thimbles. Attachment for securing	G. Eckel	268,646	Dec. 5	299	87	22	1943
Stove-plates. Device for attaching	E. F. Straub	260,908	July 11	707	193	22	125
Stove. Sad-iron oil	A. Velguth	266,227	Oct. 17	1219	344	22	1335
Stove. Sanitary steaming	H. Cartwright	261,672	July 25	1656	464	22	297
Stove-shelf	J. Amey	260,516	July 4	215	60	22	37
Stove stand and tank. Vapor	J. F. Daniels	269,391	Dec. 19	1241	360	22	2128
Stove-top	W. P. Buell and J. Wright	261,609	July 25	1653	464	22	296
Stove-top	O. F. Evans	263,892	Sept. 5	267	77	22	820
Stove-urn	A. C. Barstow, Jr.	262,539	Aug. 15	910	257	22	504

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Stove-urn	H. L. Palmer	266,640	Oct. 31	1718	496	22	1459
Stove-urn	W. A. Spicer	263,072	Aug. 22	1555	439	22	627
Stove. Vapor	R. F. Danforth	268,871	Dec. 12	573	169	22	2003
Stove. Vapor	Z. Davis	267,334	Nov. 14	473	138	22	1631
Stove. Vapor	W. Heston	264,946	Sept. 26	1509	425	22	1065
Stoves and furnaces. Device for burning crude oil in	J. F. Irons	266,478	Oct. 24	1529	435	22	1418
Stoves. Cooking attachment for oil	M. E. Porter	268,935	Dec. 12	652	191	22	2017
Stoves, furnaces, &c. Grate-section and fire-bed for	W. McClave	267,910	Nov. 21	1185	333 334	22	1767
Stoves. Gas-burner for	L. F. Betts	266,418	Oct. 24	1473	419	22	1408
Stoves. Gasoline-burner attachment for cook	D. T. Davis	269,267	Dec. 19	1075	313	22	2098
Stoves. Heating-drum attachment for oil and gas	J. S. Gilman	261,845	Aug. 1	26	8	22	340
Stoves. Heating-drum for lamp	S. W. Jackson	269,423	Dec. 19	1277	370	22	2136
Stoves. Long center for	W. W. Devore	262,889	Aug. 15	1331	376	22	577
Stoves. Reversible and ventilating pot-hole ring for	W. Hailes	269,206	Dec. 19	994	291	22	2084
Stoves. Safety-case for heating	A. W. Herr	261,924	Aug. 1	124	36	22	357
Stoves. Vapor-burner for	M. L. Best	262,172	Aug. 1	439	122	22	409
Strainer and steamer. Food	J. Dorsch and G. Lindner	261,142	July 18	1017	286	22	185
Strainer. Milk	G. W. Suttin	262,149	Aug. 1	407	115	22	403
Strap: *See* Boot-strap. Pack-strap. Hitching-strap. Shawl-strap.							
Strap for bells, &c	S. Kirby	264,411	Sept. 12	873	246	22	937
Strap-shield	A. L. Hill	265,259	Oct. 3	39	12	22	1142
Straw and stalk cutter	J. T. Flanagan	261,329	July 18	1238	344	22	220
Straw-cutter	W. M. Fitzwater	268,212	Nov. 28	1560	433	22	1840
Straw-cutter	O. M. Sacket	263,968	Sept. 5	366	103	22	838
Straw-cutter	J. Walker and O. E. Perrigo	264,378	Sept. 12	839	235	22	930
Straw-cutter	J. T. Warren	267,472	Nov. 14	654	188	22	1661
Straw-stacker	H. Cortelyow	269,561	Dec. 26	1457	419 420	22	2176
Straw-stacker	J. J. Moore	262,814	Aug. 15	1236	347	22	560
Straw-stacker	M. T. Reeves. (Reissue)	10,208	Sept. 26	1861	523	22	1128
Straw-stacker. Adjustable	W. R. Maloy	264,311	Sept. 12	763	213	22	916
Straw-stacker. Automatic	S. Bottomley	265,376	Oct. 3	179	54	22	1168
Straw-stacking machine	C. E. Merrifield	268,514	Dec. 5	156	46	22	1916
Street-crossing	C. J. Bayer	263,754	Sept. 5	108	34	22	792
Street-sweeping machine	J. G. A. Jacob	267,433	Nov. 14	608	174 175	22	1652
Street-sweeping machine	C. Z. O'Neill	265,537	Oct. 3	383	105	22	1200
Stretcher. Combined elastic and spring	R. H. Shannon	263,819	Sept. 5	189	55	22	805
Structures of plastic material. Producing continuous	J. Newton	268,987	Dec. 12	642	189	22	2015
Structure. Skeleton	E. C. Bates	265,301	Oct. 3	94	28	22	1151
Stump-extractor	J. Desmond	262,018	Aug. 1	231	69	22	376
Stump-extractor	N. Van Hiltmayer	260,508	July 4	208	58	22	35
Stump-extractor	J. Wilson	261,890	Aug. 1	77	22	22	349
Stump-puller	C. M. Hillman	266,821	Oct. 31	1929	558	22	1498
Stump-puller	N. P. Merchant	264,552	Sept. 19	1029	292	22	973
Sucker-rod elevator	P. Smith	263,820	Sept. 5	189	55	22	806
Sugar. Apparatus for the manufacture of	J. A. Morrell	266,300	Oct. 24	1319	373	22	1380
Sugar-boiler	A. Savoie	263,813	Sept. 5	182	53	22	804
Sugar. Centrifugal machine for making	C. G. Johnsen	262,787	Aug. 15	1205	338 339	22	554
Sugar compound. Grape	T. A. Jebb	264,036	Sept. 5	457	125	22	853
Sugar cooler and granulator	J. and F. Firmenich	261,819	July 25	1833	518	22	327
Sugar in sticks and lumps. Manufacture of refined	M. Weinrich	265,352	Oct. 3	151	45	22	1162
Sugar. Manufacturing	A. Brear	260,740	July 11	507	.....	22	92
Sugar. Manufacturing	C. Scheibler	261,958	Aug. 1	164	.....	22	363
Sugar. Manufacturing grape	T. A. Jebb	264,037	Sept. 5	459	125	22	853
Sugar-pan	F. Firmenich	266,279	Oct. 24	1290	365	22	1374
Sugar, salt, &c. Apparatus for the manufacture of	F. P. Taber	268,056	Nov. 28	1369	383	22	1805
Sugar. Treating grape	W. Robinson	269,717	Dec. 26	1648	474	22	2215
Suit-hanger	G. N. Werntz and H. L. Lenert	267,623	Nov. 14	843	240	22	1695
Sulky	J. H. Blackmore	262,923	Aug. 22	1374	388	22	595
Sulky	J. C. Boyd	264,615	Sept. 19	1100	313	22	987
Sulky	W. M. Boyd	267,140	Nov. 7	227	66	22	1580
Sulky	F. Doherty	265,035	Sept. 26	1014	454	22	1085
Sulky	J. B. Frazer	263,158	Aug. 22	1653	467	22	646
Sulky	M. J. Reed and S. Shilliam	263,810	Sept. 5	186	52	22	804
Sulky	J. Robinson	266,895	Oct. 31	2014	580	22	1514
Sulky	J. V. Upington	262,153	Aug. 1	412	116	22	404
Sulky	J. V. Upington	263,254	Aug. 22	1764	502	22	668
Sulphurous oxide and apparatus therefor. Production and dehydration of	R. P. Pictet	268,530	Dec. 5	173	49	22	1919
Sun. Utilizing the rays of the	W. Calver	260,657	July 4	393	109	22	66
Supporter: *See* Cuff and dress supporter. Pantaloons-supporter. Stocking-supporter. Leather-board supporter. Ticket-door supporter.							
Suppository-mold	J. L. Wiggin	265,904	Oct. 10	815	231	22	1281
Surcingle-pad for horses	H. G. Farr	263,327	Aug. 29	1913	548	22	694
Surface-gage	H. Avery	267,660	Nov. 21	899	255	22	1713
Surface-gage	C. E. Billings	261,901	Aug. 1	92	26	22	351
Surgical jackets. Making	W. H. Johnstono	262,597	Aug. 15	964	.....	22	512
Surgical tourniquet	J. C. Hughes	268,407	Dec. 5	42	13	22	1894
Surveying-instrument	K. Freeman	267,178	Nov. 7	272	80	22	1588
Surveying-instrument	J. Gardam	260,473	July 4	156	44	22	27
Surveying-instrument	T. T. Woodruff	263,278	Aug. 22	1788	509	22	672
Surveyor's transit	H. Blattner	264,061	Sept. 12	491	132	22	868
Suspender-end	A. Netzner	264,557	Sept. 19	1033	293	22	974
Suspender-end	B. Petchaft	266,879	Oct. 31	1993	575	22	1510
Suspenders	G. H. W. Curtis	261,140	July 18	1014	285	22	185

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Suspenders	J. A. Rennie	260,607	July 4	325	88	22	55
Suspenders	M. B. Stafford	267,033	Nov. 7	92	27	22	1556
Suspenders	H. C. Whitmarsh	260,721	July 4	479	130	22	81
Suspension device	H. R. Heyl	264,947	Sept. 26	1510	425	22	1065
Suspension-hook	G. W. Woodward	267,656	Nov. 14	882	252	22	1702
Suture-clamp	E. H. Danforth	268,632	Dec. 5	285	83	22	1941
Swimming-suit. Cork	P. Plant	267,799	Nov. 21	1061	296	22	1742
Swing	G. W. Mason	262,447	Aug. 8	772	217, 218	22	473
Swing and chair. Convertible	G. W. Mason	266,492	Oct. 24	1549	441	22	1422
Swing. Rotary	E. Larson	261,734	July 25	1732	487	22	309
Swinging and lifting gate	E. L. Hammond	265,258	Oct. 3	38	12	22	1142
Swinging and sliding gate	J. Wadleigh	267,731	Nov. 21	978	276	22	2?28
Swinging can	J. C. Dozier, Jr	266,785	Oct. 31	1889	548	22	1491
Swinging chair	G. E. Hastings	266,622	Oct. 31	1698	490	22	1456
Swinging gate	J. P. Nichols	264,098	Sept. 12	535	146	22	876
Swinging gate	W. S. Peery and P. D. Stagg	263,210	Aug. 22	1715	486	22	658
Switch:							
See Electric switch.	Railway safety-switch.						
Interlocking switch.	Safety or cut-off switch.						
Lamp-switch.	Telegraph-switch.						
Railway-switch.	Telephone-switch.						
Switch	E. J. Beard and H. V. Hinckley	269,506	Dec. 26	1389	401	22	2163
Switch-indicator	W. R. Field	269,553	Dec. 26	1576	452	22	2199
Switch-rod and coupler	J. Lovejoy	269,640	Dec. 26	1418	410	22	2169
Switch safety device	W. J. Morden	267,569	Nov. 14	776	222	22	1683
Switch stand and lock	D. O Connor	265,132	Sept. 26	1718	481	22	1103
Swivel-hook	G. W. Leirmann	267,069	Nov. 7	162	46	22	1509
Syringe	S. G. Smith	264,904	Sept. 26	1457	411	22	1056
Syringe	W. A. Turner	267,952	Nov. 21	1236	347	22	1776
Table:							
See Adjustable table.	Knockdown table.						
Billiard-table.	Machine-table.						
Corpse-supporting table.	Reading and writing table.						
	Resawing-machine table.						
Drawing-table.	Sawing-machine table.						
Extension-table.	Sewing-machine table.						
Folding table.	Sewing and cutting table.						
Ironing-table.	Shearing-table.						
Kitchen-table.	Turn-table.						
Table	H. A. Barnhart	265,369	Oct. 3	174	51, 52	22	1166
Table	G. Robbins	262,983	Aug. 22	1448	408	22	608
Table	G. T. Townsend	267,811	Nov. 21	1073	300	22	1744
Table	H. W. Ward	264,912	Sept. 26	1465	413	22	1058
Table-frame	H. Rose	261,103	July 11	967	270	22	167
Table-leaf support	H. J. Durgin	264,518	Sept. 19	909	281	22	968
Table-leaf support	W. Kline	264,306	Sept. 12	760	212	22	915
Table-leaf support	C. H. Rohde	262,984	Aug. 22	1449	409	22	608
Table-leaves. Double-acting lock-support for	N. A. Hull	260,986	July 11	811	224	22	142
Tables. Device for leveling	J. Crawford	260,947	July 11	755	206	22	132
Tablet. Writing-	C. M. Cott	265,247	Oct. 3	26	8	22	1140
Tablet. Writing-	J. F. Malette. (Reissue)	10,198	Sept. 19	1368	387	22	1035
Tablet. Writing-	S. C. Stacy	263,613	Aug. 29	2256	645	22	755
Tacking-machine. Hand	E. Merritt	262,969	Aug. 22	1430	404	22	605
Tackle-blocks. Machine for making straps for	E. Fletcher	264,268	Sept. 12	713	197, 198, 199	22	907
Tag	E. A. G. Roulstone	261,566	July 25	1532	429	22	275
Tag	E. A. Warren	269,753	Dec. 26	1702	489	22	2223
Tag. Animal-	E. G. Queen	267,931	Nov. 21	1207	339	22	1771
Tag-fastener	N. M. Phillips and J. C. St. John	265,631	Oct. 10	502	136	22	1236
Tag-fastener	C. H. Wendell and N. D. Taylor	263,081	Aug. 22	1566	442	22	629
Tag-holder	M. W. Webber	264,587	Sept. 19	1066	303	22	981
Tag-hook	T. W. Searing	263,601	Aug. 29	2241	641	22	752
Tag or ticket. Garment	J. Keller. (Reissue)	10,186	Aug. 22	1836	521	22	660
Tag. Pin-	T. W. Searing	265,966	Oct. 17	930	263	22	1306
Tag. Price-	J. A. Adamson	265,719	Aug. 15	1112	315	22	538
Tags. Attaching strings to	T. W. Searing	263,600	Aug. 29	2240	640	22	752
Tags. Machine for punching and forming metal	F. E. Helnig	262,667	Aug. 15	1051	295	22	528
Tailor's iron	J. B. Dietz	268,465	Dec. 5	108	33	22	1907
Tan-bark for transportation. Preparation of	J. Sherman, Jr. (Reissue)	10,211	Sept. 26	1866	.....	22	1130
Tan-bark for transportation. Preparation of	J. Sherman, Jr. (Reissue)	10,230	Oct. 31	2124	.....	22	1534
Tank:							
See Water-closet supply-tank.							
Tannic acid. Manufacture of	A. Mitscherlich	263,797	Sept. 5	161	.....	22	802
Tanning apparatus	W. Masek	266,174	Oct. 17	1160	327	22	1345
Tanning apparatus	J. J. Schmidt	260,613	July 4	332	90	22	57
Tanning compound	C. T. Hayden	262,766	Aug. 15	1174	.....	22	548
Tanning. Method of and solution for	J. B. Bollman	262,924	Aug. 22	1375	.....	22	596
Tap-wrench	F. Armstrong	268,978	Dec. 12	703	206	22	2027
Tap-wrench	M. Campbell	260,743	July 11	511	139	22	92
Tape-line case	G. Clark	268,190	Nov. 28	1535	426	22	1835
Tapestry. Needle-woven	M. E. Tillinghast	268,149	Nov. 28	1481	413	22	1826
Tapping mains. Device for	G. Richardson	266,052	Oct. 17	1008	286	22	1320
Tapping mains. Machine for	H. Mueller	265,624	Oct. 10	487	134	22	1224
Tapping water and gas fittings. Machine for	E. F. Spaulding	265,169	Sept. 26	1767	493, 494	22	1112
Target. Flying	A. Woeber	262,265	Aug. 8	560	156	22	436
Tea and coffee pots. Infusing attachment for	J. L. Williams	264,590	Sept. 19	1068	303	22	981
Tea-kettle	W. Warwick	266,736	Oct. 31	1838	532	22	1481
Tea-kettle and bail	J. B. Warner	262,865	Aug. 15	1301	365	22	572
Tea-kettle spout	J. B. Raynor and D. N. Smith	267,370	Nov. 14	535	152	22	1639
Tea or coffee pot	E. Krippendorff	260,995	July 11	824	229	22	144
Teaching arithmetic. Apparatus for	A. B. Schwenniger	264,572	Sept. 19	1050	299	22	978

Alphabetical list of inventions, July to December, inclusive—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Teaching arithmetic. Device for	H. Wagner	262,191	Aug. 1	468	130, 131	22	413
Teaching music. Apparatus for	H. F. Courter	264,932	Sept. 26	1493	422	22	1063
Telegraph and telephone cable	J. Speicher	269,735	Dec. 26	1674	481	22	2218
Telegraph and telephone signal	W. W. Le Grande	262,063	Aug. 1	286	83, 84	22	385
Telegraph. Automatic	J. Absterdam	261,975	Aug. 1	183	54, 55	22	367
Telegraph. Automatic	F. Anderson	265,297	Oct. 3	87	26	22	1150
Telegraph. Automatic	F. Anderson	265,358	Oct. 3	158	47	22	1163
Telegraph. Automatic	A. L. Parcelle	262,105	Aug. 1	356	100	22	395
Telegraph. Automatic	A. L. Parcelle	262,106	Aug. 1	358	101	22	395
Telegraph-cable	C. J. Slafter	267,609	Nov. 14	828	237	22	1692
Telegraph-cables in pipes. Carriage for laying multiple-wire	N. M. Rittenhouse	263,586	Aug. 29	2227	636	22	750
Telegraph. Duplex	G. D'Infreville. (Reissue)	10,193	Sept. 5	478	130	22	857
Telegraph. Duplex	S. D. Field	261,916	Aug. 1	115	34	22	355
Telegraph. Duplex	S. D. Field	262,755	Aug. 15	1160	328	22	546
Telegraph. Duplex	G. S. Mott	262,459	Aug. 8	785	221	22	475
Telegraph. Duplex	B. Thompson	261,788	July 25	1780	506	22	320
Telegraph. Duplex and multiplex	B. Thompson	264,372	Sept. 12	831	233	22	929
Telegraph. Electric	J. Anderson and B. Smith	261,895	Aug. 1	86	24	22	350
Telegraph for railways	W. L. Hunt	268,796	Dec. 12	483	142	22	1985
Telegraph-instruments. Cut-out for	C. T. Howard	262,949	Aug. 22	1404	397	22	601
Telegraph-key	T. Burn	260,449	July 4	127	37	22	93
Telegraph-key	J. T. Guthrie	267,578	Nov. 21	1152	323	22	1760
Telegraph-key	C. Prosch	269,321	Dec. 19	1139	334	22	2111
Telegraph-line. Underground	C. H. Hansen	267,883	Nov. 21	1158	325	22	1761
Telegraph. Multiplex	B. Thompson	265,645	Oct. 10	517	141	22	1229
Telegraph. Printing	W. J. Burnside	269,634	Dec. 26	1550	440, 447	22	2195
Telegraph. Printing	A. F. and F. B. Johnson	268,237	Nov. 28	1590	441	22	1846
Telegraph. Printing	W. J. McCausland	266,176	Oct. 17	1162	328	22	1345
Telegraph. Printing	G. M. Phelps	267,366	Nov. 14	521	148, 149, 150	22	1637
Telegraph. Printing	S. M. Plush and W. P. Phelps	264,961	Sept. 26	1529	430	22	1069
Telegraph. Printing	E. A. Schoettel	261,567	July 25	1533	429, 430	22	275
Telegraph. Printing	A. Wirsching	265,353	Oct. 3	153	45, 46	22	1162
Telegraph. Railway-car	J. R. Finney. (Reissue)	10,232	Nov. 7	440	128	22	1619
Telegraph. Railway-train	C. F. McGlashan	261,370	July 18	1287	359	22	227
Telegraph-recorder. Chemical	F. Anderson	265,210	Sept. 26	1818	511	22	1121
Telegraph. Ship-	J. S. Gisborne	266,987	Nov. 7	37	12	22	1546
Telegraph signal-box. Automatic	P. Seller	269,124	Dec. 12	864	260	22	2058
Telegraph-sounder	J. H. Bunnell	267,833	Nov. 21	1100	308	22	1750
Telegraph-switch	R. Brongham	267,144	Nov. 7	231	67	22	1561
Telegraph system. District-	C. E. Buell	263,759	Sept. 5	114	35	22	793
Telegraph, telephone, and other wires. Underground conduit for	J. B. Apple	261,649	July 25	1629	458	22	293
Telegraph-transmitter. Automatic	F. Anderson	265,212	Sept. 26	1822	512	22	1122
Telegraph-transmitter. Automatic	H. Van Hoevenbergh	261,410	July 18	1333	372, 373	22	235
Telegraph transmitter. Electric	E. M. Hamilton	269,521	Dec. 26	1407	407	22	2166
Telegraph. Underground	L. Haas	268,661	Dec. 5	316	92	22	1947
Telegraph-wire	F. K. Fitch	268,478	Dec. 5	121	37	22	1910
Telegraphic cables. Grapnel for raising	S. Trott and H. Kingsford	265,720	Oct. 10	615	173	22	1245
Telegraphic circuits. Condenser for	B. Thompson	268,317	Nov. 28	1659	468	22	1864
Telegraphic fire-alarm apparatus	A. C. and A. H. Palmer	262,242	Aug. 8	533	150	22	431
Telegraphic perforator	F. Anderson	265,211	Sept. 26	1819	511, 512	22	1121
Telegraphic perforator	F. Anderson	265,213	Sept. 26	1824	512	22	1122
Telegraphic recording-instrument	S. V. Essick	265,780	Oct. 10	688	194	22	1259
Telegraphic register	F. L. Pope	267,929	Nov. 21	1205	338	22	1770
Telegraphic repeater	J. P. Smithers	268,561	Dec. 5	203	57	22	1924
Telegraphs. Perforator for automatic printing-	A. F. and F. B. Johnson	266,592	Oct. 24	1658	477	22	1442
Telegraphs. Perforator for automatic printing-	A. F. and F. B. Johnson	266,593	Oct. 24	1660	478	22	1442
Telegraphy. Dynamo-	G. D'Infreville	265,488	Oct. 3	310	92	22	1190
Telegraphy. Dynamo-	G. D'Infreville	265,489	Oct. 3	311	92	22	1191
Telegraphy. Visual	J. H. Irwin	262,419	Aug. 8	743	209	22	467
Telephone	T. A. Edison	266,021	Oct. 17	974	276	22	1313
Telephone	T. A. Edison	266,022	Oct. 17	975	276	22	1313
Telephone. Acoustic	L. Beecher	260,737	July 11	504	138	22	91
Telephone. Acoustic	W. D. G. Quigley	261,174	July 18	1052	296	22	190
Telephone. Acoustic	J. K. Stebbins	268,746	Dec. 5	408	119	22	1964
Telephone-alarm	W. Dent	263,491	Aug. 29	2108	604	22	728
Telephone. Battery-	L. Jacobson	266,292	Oct. 24	1309	370	22	1378
Telephone-calls. Combined key-board, automatic switch, and magneto-generator for	J. P. Stabler	265,456	Oct. 3	266	80	22	1183
Telephone-calls. Signal-transmitter for	J. P. Stabler	265,455	Oct. 3	261	79	22	1182
Telephone-case	O. D. Hartwell	263,336	Aug. 29	1922	550	22	696
Telephone central-office apparatus	C. E. Throop	261,969	Aug. 1	176	52	22	365
Telephone central-office system and apparatus	H. W. Breckenridge and J. W. Duxbury.	266,344	Oct. 24	1386	392, 393	22	1392
Telephone circuit and apparatus	W. D. McKinney	265,972	Oct. 17	912	259	22	1304
Telephone-desk	E. W. Salisbury	262,248	Aug. 8	539	152	22	432
Telephone-dummy	C. R. Jennison	263,526	Aug. 29	2153	616	22	737
Telephone. Electric	J. P. Freeman	262,285	Aug. 8	580	163	22	440
Telephone-exchange and apparatus therefor	H. Lartigue	267,905	Nov. 21	1180	332	22	1766
Telephone-exchange. Automatic	M. D. Connolly	262,647	Aug. 15	1031	289	22	524
Telephone-exchange. Automatic	M. D. Connolly	263,862	Sept. 5	243	71	22	816
Telephone-exchange. Automatic	M. D. and T. A. Connolly and T. J. McTighe.	262,645	Aug. 15	1022	287, 288	22	522
Telephone-exchange. Automatic	P. H. Snell	269,130	Dec. 12	889	262	22	2059
Telephone-exchange. Mechanical	G. F. Shaver	266,056	Oct. 17	1013	287	22	1321
Telephone-exchange switch apparatus	G. W. Coy	260,667	July 4	407	112	22	68

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Telephone-exchange system	G. W. Coy	264,631	Sept. 19	1119	317	22	990
Telephone-exchange system	W. W. Jacques	263,524	Aug. 29	2146	615	22	736
Telephone-exchange system	C. E. Scribner	266,321	Oct. 24	1355	383	22	1387
Telephone-exchange system	F. O. Vaille	262,261	Aug. 8	551	155	22	434
Telephone-exchange system	J. H. Rogers	268,294	Nov. 28	1661	461	22	1858
Telephone-exchange system and apparatus	G. W. Coy	265,028	Sept. 26	1606	452	22	1083
Telephone-exchange systems. Signaling mechanism for	C. E. Scribner	262,701	Aug. 15	1091	309	22	535
Telephone-exchanges. Circuit for multiple switch-boards of	C. C. Haskins and C. H. Wilson	266,287	Oct. 24	1302	368	22	1376
Telephone-exchanges. Multiple switch-board for	L. Mann	262,301	Aug. 8	604	170	22	443
Telephone-exchanges. Transferring and calling implement for	F. Shaw	268,554	Dec. 5	195	55	22	1923
Telephone. Head	T. D. Lockwood	260,884	July 11	679	185	22	120
Telephone lines. Electrical signaling apparatus for	J. P. Stabler	265,454	Oct. 3	258	78, 79	22	1182
Telephone local call-instrument	G. F. Milliken	262,811	Aug. 15	1233	346	22	550
Telephone. Magneto-	T. A. Watson	266,567	Oct. 24	1629	464	22	1437
Telephone. Magneto-	C. Egan	269,030	Dec. 12	765	226	22	2038
Telephone. Mechanical	W. E. Hathaway and W. B. Johnston.	265,412	Oct. 3	216	65	22	1174
Telephone. Mechanical	H. E. Huston	267,208	Nov. 7	309	91	22	1595
Telephone. Mechanical	H. T. Johnson	267,897	Nov. 21	1171	329	22	1764
Telephone. Mechanical	F. R. Shaw	263,973	Sept. 5	376	105	22	839
Telephone. Operator's receiving-	E. Berliner	262,921	Aug. 22	1372	387	22	595
Telephone or other circuits. Individual call for	W. H. Prentice and S. H. Beckwith.	264,843	Sept. 19	1363	386	22	1034
Telephone or telegraph lines. Switch for grounding	B. McCabe, C. R. Swain, and J. T. Sutton.	263,554	Aug. 29	2189	625	22	743
Telephone. Receiving-	G. F. Dailey	268,630	Dec. 5	284	82	22	1941
Telephone-repeater	J. H. Rogers	269,326	Dec. 19	1145	335	22	2112
Telephone-signaling apparatus	H. B. Lytle	263,926	Sept. 5	314	90	22	829
Telephone Speaking-	G. A. Fitch	269,657	Dec. 26	1580	453	22	2200
Telephone-support	A. Hadley	262,180	Aug. 1	453	126, 127	22	411
Telephone-switch	S. H. Bartlett and H. E. Waite	262,532	Aug. 8	868	245	22	490
Telephone-switch	S. Bergmann	266,750	Oct. 31	1852	538	22	1484
Telephone-switch	C. W. Lewis	266,295	Oct. 24	1313	371	22	1379
Telephone-switch	C. W. Lewis	266,374	Oct. 24	1427	405	22	1400
Telephone-switch	T. A. Watson	265,897	Oct. 10	808	229	22	1280
Telephone switch apparatus	T. N. Vail	261,186	July 18	1069	300	22	193
Telephone switch-board and pneumatic signal therefor.	C. E. Scribner	266,320	Oct. 24	1353	382, 383	22	1386
Telephone system	E. Berliner	262,922	Aug. 22	1373	388	22	595
Telephone system	W. A. Jackson and W. R. Cole	267,790	Nov. 21	1047	292, 293	22	1740
Telephone system	T. D. Lockwood	260,883	July 11	677	185	22	119
Telephone system	C. E. Chinnock	260,939	July 11	744	202, 203	22	130
Telephone system and apparatus	J. Jepson	265,092	Sept. 26	1674	468	22	1094
Telephone-system switch-board	T. A. Watson	267,387	Nov. 14	552	157, 158	22	1643
Telephone system	J. W. Brennan	267,058	Nov. 7	119	35	22	1561
Telephone systems. Electric circuit for	J. W. Brennan	267,059	Nov. 7	120	35	22	1562
Telephone systems. Electric switch and circuit for	J. W. See	268,045	Nov. 28	1359	380	22	1803
Telephone toll apparatus	L. De Locht-Labye	264,028	Sept. 5	448	123	22	851
Telephone-transmitter	D. Drawbaugh	266,615	Oct. 31	1691	488	22	1454
Telephone-transmitter	W. W. Jacques	262,784	Aug. 15	1202	337	22	554
Telephone-transmitter	R. M. Lockwood and S. H. Bartlett. (Reissue.)	10,183	Aug. 15	1359	384	22	583
Telephone-transmitter	H. B. Lytle	260,488	July 4	184	51	22	32
Telephones. Automatic magneto-signal for	W. Painter	269,225	Dec. 19	1015	296, 297	22	2088
Telephones. Connecting device for operators'	L. Mann	266,853	Oct. 31	1962	507	22	1505
Telephonic apparatus	W. J. Dudley	268,359	Nov. 28	1750	485	22	1875
Telephonic exchange system and apparatus therefor	J. O. Shiras and E. A. Eckert	269,238	Dec. 19	1035	302, 303, 304	22	2091
Telephonic receiver	S. E. Beedy	266,746	Oct. 31	1848	537	22	1483
Telephonic receiver and automatic circuit-breaker. Combined	W. C. Eckert, J. A. Seely, and E. A. Eckert.	266,277	Oct. 24	1288	365	22	1373
Telephonic transmitter	S. E. Beedy	266,747	Oct. 31	1849	537	22	1484
Telephonic transmitter	G. F. Milliken	266,043	Oct. 17	997	283	22	1318
Telephonic transmitter	W. W. Wrightson	260,726	July 4	485	138	22	82
Telescope. Submarine	G. A. Henderson	261,603	July 25	1573	442	22	283
Tellurian	J. R., Jr., and T. G. McCrery	264,548	Sept. 19	1026	290, 291	22	973
Tellurian	T. McDonough	268,512	Dec. 5	153	45	22	1916
Tellurian	G. Rndholzner	267,940	Nov. 21	1222	344	22	1773
Tellurian	J. Spicer	263,236	Aug. 22	1742	495	22	664
Tempering hoes and other thin steel articles. Device for	J. C. Richardson	267,457	Nov. 14	636	184	22	1658
Temple-wire blank	R. A. Carter	260,659	July 4	399	110	22	67
Tenoning-machine	W. D. Herschel	266,623	Oct. 31	1700	490	22	1456
Tent-pole	E. C. Cook	260,846	July 11	638	173	22	113
Tether	C. P. Christopher and R. B. Alexander.	263,388	Aug. 29	1992	569	22	708
Tether-holder	J. D. Wilson	262,525	Aug. 8	859	243	22	489
Textile fabrics. Finishing colored or printed	C. Toppan	263,366	Aug. 29	1962	.....	22	702
Theaters. Proscenium-opening for	D. C. Waugh	265,647	Oct. 10	523	142	22	1229
Theatrical performances. Exhibiting the words or score in	T. L. Jones	268,802	Dec. 12	489	144	22	1987
Thermometer	A. Bayer	263,649	Aug. 29	2297	656	22	762
Thermometer	L. Peroni. (Reissue)	10,189	Aug. 29	2322	664	22	766
Thermometer. Balanced	H. C. Kirk and J. T. Brayton	269,796	Dec. 26	1756	506	22	2233
Thermometer. Clinical	J. Barry	268,853	Dec. 12	558	163	22	2000

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Thermometer. Oven-	J. C. Waller	268,576	Dec. 5	220	62	22	1927
Thermostat-coil	H. J. Haight	268,885	Dec. 12	592	174	22	2006
Thill and tongue holder	W. B. McFall	266,496	Oct. 24	1553	442	22	1423
Thill-coupling	N. M. Brinkerhoff	269,630	Dec. 26	1547	444	22	2194
Thill-coupling	J. M. Collins	262,741	Aug. 15	1142	323	22	543
Thill-coupling	W. A. Eddy	261,144	July 18	1018	287	22	185
Thill-coupling	C. L. Ferguson	266,449	Oct. 24	1504	427	22	1414
Thill-coupling	E. Hoxie	267,533	Nov. 14	733	211	22	1675
Thill-coupling	W. Johnston	267,693	Nov. 21	937	265	22	1721
Thill-coupling	A. C. Kasson	260,876	July. 11	670	183	22	118
Thill-coupling	W. J. Ketner	267,223	Nov. 7	335	96	22	1600
Thill-coupling	W. Mould	264,555	Sept. 19	1032	292	22	974
Thill-coupling	K. Pausch	261,032	July 11	876	242, 243	22	152
Thill-coupling	B. Revoir and J. L. Thomson	262,314	Aug. 8	618	173	22	446
Thill-coupling	S. A. Richards and G. J. Frey	265,437	Oct. 3	241	73	22	1179
Thill-coupling	T. M. Richardson	267,927	Nov. 21	1220	343	22	1773
Thill-coupling	J. H. Robinson	261,045	July 11	892	247	22	154
Thill-coupling	A. J. and E. G. Sawyer	262,240	Aug. 8	540	152	22	432
Thill-coupling	P. Schneider	266,535	Oct. 24	1599	455	22	1431
Thill-coupling	D. W. Seely	266,649	Oct. 31	1732	500	22	1462
Thill-coupling	L. F. Taylor and W. F. Clark	266,657	Oct. 31	1741	502	22	1463
Thill-coupling	O. Tower	265,187	Sept. 26	1789	502	22	1116
Thill-coupling	V. A. Tyler	267,469	Nov. 14	651	187	22	1661
Thill-support	W. C. Wood	266,410	Oct. 24	1465	416	22	1407
Thimble	D. Lubin	260,695	July 4	450	122	22	76
Thrasher and separator. Grain	F. Johnson	269,293	Dec. 19	1104	322	22	2103
Thrasher. Grain and seed	F. W. Robinson	267,257	Nov. 7	371	108, 109	22	1607
Thrashing and cleaning grain. Machine for	D. and N. D. Geiser	266,688	Oct. 31	1782	514, 515	22	1471
Thrashing and separating machine	P. Kaufmann	266,371	Oct. 24	1418	403, 404	22	1398
Thrashing and separating machine	J. Miller	261,867	Aug. 1	49	14, 15	22	344
Thrashing-machine	J. Bennitt	261,126	July 18	999	281	22	182
Thrashing-machine	C. Beyelot	269,622	Dec. 26	1539	441, 442	22	2192
Thrashing-machine	R. H. and W. H. Coon. (Reissue)	10,251	Dec. 5	442	130	22	1971
Thrashing-machine	R. H. Cox	263,865	Sept. 5	240	72	22	817
Thrashing-machine	J. H. Elward	268,647	Dec. 5	300	87, 88	22	1944
Thrashing-machine	J. Hughes	264,294	Sept. 12	746	207, 208	22	913
Thrashing-machine	J. and E. E. Koons	260,691	July 4	446	120, 121	22	75
Thrashing-machine	J. McCloskey	269,692	Dec. 26	1622	464	22	2209
Thrashing-machine	J. C. Schneider and H. Christoffer-son.	267,599	Nov. 14	817	234	22	1690
Thrashing-machine	G. Stringer	266,399	Oct. 24	1456	413	22	1405
Thrashing-machine band-cutter and feeder	J. B. B. Evans	266,796	Oct. 31	1903	552	22	1493
Thrashing-machine band-cutter and feeder	M. E. Perring	268,372	Nov. 28	1769	490	22	1878
Thrashing-machine band-cutting and feeding attachment.	E. K. Garretson	260,382	July 4	49	13	22	10
Thrashing-machine cleaning attachment	B. Chamberlain	269,157	Dec. 12	925	269	22	2064
Thrashing-machine feeder	M. C. Dillman	265,769	Oct. 10	666	189	22	1254
Thrashing-machine feeder	J. Ducker	267,066	Nov. 7	130	37	22	1563
Thrashing-machine feeding apparatus	W. H. Lightcap	262,064	Aug. 1	291	84	22	386
Thrashing machine. Flax-	L. W. Robards	262,982	Aug. 22	1447	408	22	608
Thrashing machine. Grain-	J. H. Melick	261,167	July 18	1044	293, 294	22	189
Thrashing-machine grain-spreader	A. H. Johnson	262,184	Aug. 1	461	129	22	412
Thrashing-machine separator	J. B. Bloom	263,675	Sept. 5	10	3	22	776
Thrashing-machine separator-shoe	H. M. Green	262,405	Aug. 8	724	205	22	465
Thrashing-machine straw-stacking attachment	D. D. and P. J. Sprague	261,778	July 25	1780	503	22	318
Thread-case	E. L. Fitch	265,400	Oct. 3	203	61	22	1172
Thread-cutter	M. E. Davis	263,868	Sept. 5	252	73	22	818
Thread-cutting die	F. Armstrong	269,153	Dec. 12	920	268	22	2064
Thread guard and cutter	I. Harding	267,884	Nov. 21	1160	325	22	1761
Ticket-door supporter	M. H. Tappan	261,104	July 11	968	270	22	167
Tickets. Machine for issuing and recording	J. H. Betteley	262,357	Aug. 8	669	187	22	455
Tidy-pin	C. C. Crosman	261,208	July 18	1097	306	22	197
Tie: *See* Animal-tie. Bag and sail tie. Bale-tie. Cattle-tie. Cotton-tie. Necktie. Railway-tie. Scaffold-tie.							
Tile-blocks. Process of and machinery for making	G. Elbreg	267,848	Nov. 21	1115	313	22	1753
Tile. Continuous park and garden border	F. Tunica	268,441	Dec. 5	84	26	22	1902
Tile. Decorative	S. Van Campen	265,721	Oct. 10	616	173	22	1245
Tile. Drain-	J. Taylor	265,716	Oct. 10	611	172	22	1244
Tile for wells and cisterns	G. W. Overall	265,277	Oct. 3	61	16	22	1146
Tile. Illuminating-	J. K. Ingalls	261,720	July 25	1715	482, 483	22	306
Tile-machine	G. Elbreg	267,847	Nov. 21	1113	312, 313	22	1752
Tile-machine	J. F. Stephenson	263,823	Sept. 5	193	56	22	806
Tile-mills. Revolving table for	J. S. Smith	267,760	Nov. 21	1005	283	22	1733
Tile or pipe. Drain	N. B. Childs	267,326	Nov. 14	466	135	22	1630
Tiles. Manufacture of	L. J. Walker	266,562	Oct. 24	1625	463	22	1436
Till. Money-	T. E. Boyce	264,235	Sept. 12	677	187	22	901
Tilting chairs. Handle attachment for	C. F. Valiant	262,190	Aug. 1	467	130	22	413
Tilting gate. Automatic	W. S. Castor	268,080	Nov. 28	1396	390	22	1810
Timber with antiseptics. Apparatus for treating	J. W. Putnam	266,516	Oct. 24	1572	447	22	1427
Time-ball signal	R. W. Willson	267,298	Nov. 7	420	122	22	1615
Time-check register for workshops	F. E. Phillips and F. W. Griswold	262,979	Aug. 22	1444	407	22	607

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Time-detector. Watchman's	G. F. Ransom	266,518	Oct. 24	1577	448	22	1427
Time-lock	H. F. Newbury	262,093	Aug. 1	324	93, 94	22	392
Time-lock	H. F. Newbury	262,094	Aug. 1	328	95	22	392
Time-lock	H. F. Newbury	262,095	Aug. 1	331	95	22	393
Time-lock	H. F. Newbury	262,096	Aug. 1	333	96	22	393
Time-lock	H. F. Newbury	262,097	Aug. 1	336	96, 97	22	393
Time-lock	H. F. Newbury	262,098	Aug. 1	340	97, 98	22	393
Time-lock	H. F. Newbury	262,099	Aug. 1	343	98	22	394
Time-lock	H. F. Newbury	262,100	Aug. 1	346	98	22	394
Time-lock	H. F. Newbury	262,101	Aug. 1	348	99	22	394
Time-lock	H. F. Newbury	262,102	Aug. 1	351	99	22	394
Time-lock	H. F. Newbury	262,103	Aug. 1	353	100	22	394
Time-lock	H. F. Newbury	265,930	Oct. 10	846	242, 243	22	1286
Time-lock	H. F. Newbury	265,931	Oct. 10	849	243	22	1286
Time-lock	H. F. Newbury	265,932	Oct. 10	850	243, 244	22	1286
Time-lock	H. F. Newbury	265,933	Oct. 10	853	244	22	1287
Time. Mechanical contrivance for computing	J. Maclagan	262,679	Aug. 15	1063	298, 299	22	530
Time-recorder. Watchman's	A. B. Goodrich	261,149	July 18	1023	288	22	186
Time-recorders. Electrical circuit for watchmen's	J. F. Gilliland	262,660	Aug. 15	1040	293	22	527
Tin-can ear	W. H. Rodden	260,420	July 4	92	25	22	17
Tin-plate. Crystallizing	F. Rudolph	262,481	Aug. 8	808	.....	22	480
Tinman's furnace	D. M. Shoemaker	265,157	Sept. 26	1752	489	22	1109
Tinner's fire-pot	J. S. Hull	269,577	Dec. 26	1482	428	22	2182
Tinner's tool	J. M. Urie	265,549	Oct. 3	397	110	22	1203
Tire for traction-wheels	N. B. Yingling	264,051	Sept. 5	475	129	22	856
Tire-heating device	W. H. and J. H. Frey	266,984	Nov. 7	33	10	22	1546
Tire-setter	J. F. Stolts	263,239	Aug. 22	1746	496	22	665
Tire-tightener	J. R. Bodell	262,173	Aug. 1	440	122	22	409
Tire-tightener	J. B. Cypert	262,010	Aug. 1	224	66	22	374
Tire-upsetter	J. Raible	262,473	Aug. 8	799	225	22	478
Tire-upsetter	J. M. Terry	266,659	Oct. 31	1744	503	22	1464
Tire-upsetting machine	S. H. Raymond	266,313	Oct. 24	1342	378	22	1383
Tire. Wagon-wheel	G. D. Smith	269,128	Dec. 12	888	261	22	2058
Tire. Wheel	W. J. Plummer and P. Turpin	267,249	Nov. 7	363	106	22	1605
Toaster. Reversible	R. Sherman	268,047	Nov. 28	1361	381	22	1803
Tobacco. Apparatus for molding, marking, and finishing	W. R. Montgomery	263,940	Sept. 5	336	95	22	832
Tobacco. Apparatus for resweating	L. G. Haenssermann	262,948	Aug. 22	1404	397	22	601
Tobacco-coloring compound	C. S. Philips	261,034	July 11	878	.....	22	152
Tobacco-curer	J. C. Millner	268,707	Dec. 5	302	106	22	1956
Tobacco. Curing	S. J. Flatow	264,523	Sept. 19	1005	283	22	968
Tobacco-curing apparatus	C. E. Doyle	264,141	Sept. 12	582	160	22	884
Tobacco-cutter	R. A. Burnett	266,345	Oct. 24	1390	393	22	1393
Tobacco-cutter	H. C. Hall	265,799	Oct. 10	711	198	22	1261
Tobacco-cutting machine	G. A. Reiniger and C. Petri	261,763	July 25	1765	496, 497	22	315
Tobacco-drier	J. H. Fizer	265,051	Sept. 26	1633	459	22	1088
Tobacco-fly catcher	J. L. Spears	267,375	Nov. 14	540	154	22	1640
Tobacco-granulating machine	J. S. Spangler	264,578	Sept. 19	1058	300	22	979
Tobacco. Machine for dressing fine-cut	C. G. Emery	260,958	July 11	767	210, 211	22	134
Tobacco. Machine for tagging plug	N. B. Hieatt and E. R. Hearn	269,788	Dec. 26	1741	503	22	2230
Tobacco. Manufacture of	S. W. Wood	267,764	Nov. 21	1012	.....	22	1734
Tobacco-marking machine. Plug	L. J. Crecelius	268,628	Dec. 5	280	81, 82	22	1940
Tobacco. Marking plug	R. J. Compton and J. T. Drummond	260,456	July 4	133	39	22	24
Tobacco-marking strip and tag. Combined	F. E. Heinig	264,156	Sept. 12	595	164	22	887
Tobacco moist. Device for keeping	E. J. Woodbury and J. Le Vequo	268,588	Dec. 5	235	66	22	1931
Tobacco-pail-cover fastener	A. Burgland	261,581	July 25	1549	435	22	278
Tobacco. Plug	L. Lottier	267,235	Nov. 7	350	101	22	1603
Tobacco-plug machine	J. C. Guerrant	265,409	Oct. 3	211	64	22	1174
Tobacco. Process of and apparatus for moistening leaf	G. Robinson	268,291	Nov. 28	1657	460	22	1857
Tobacco-steaming box	W. Nohr	268,121	Nov. 28	1442	403	22	1819
Toe-calk awage	R. H. Dennis	265,767	Oct. 10	664	189	22	1253
Toe-weight	M. H. Houghton	263,704	Sept. 5	37	12	22	781
Toilet-case for vehicles	T. Bourdren	267,658	Nov. 14	885	252	22	1703
Toilet implement. Combination	A. M. Austin	266,073	Oct. 17	1034	293	22	1324
Toilet-stand	R. D. Young	265,208	Sept. 26	1816	511	22	1121
Tombstones, &c., from plastic material. Manufacture of	W. H. Hoopes	267,206	Nov. 7	308	90	22	1595
Tongs. Crucible	S. C. Murdoch	263,799	Sept. 5	163	48	22	802
Tonga. Roofing	T. B. Beeson	263,381	Aug. 29	1981	565, 566	22	705
Tongue coupling. Vehicle	J. L. Metcalfe	261,376	July 18	1293	361	22	228
Tongue for harvesters. Double	J. K. Kepner. (Reissue)	10,238	Nov. 14	889	233	22	1703
Tongue-support	J. W. Anderson	264,429	Sept. 19	902	253	22	949
Tongue-support	E. Moore	263,194	Aug. 22	1699	481	22	655
Tongue-support	D. Shelton	263,435	Aug. 29	2049	587	22	717
Tongue-support	J. J. Thomas	266,401	Oct. 24	1457	414	22	1406
Tongue-support	J. E. Tiffin and W. A. Smith	262,510	Aug. 8	842	238	22	486
Tongue support. Wagon	M. Conrad	266,431	Oct. 24	1486	422	22	1411
Tongue. Vehicle	J. B. Denning	260,545	July 4	255	71	22	43
Tool	E. A. Bickel	263,104	Aug. 22	1592	450	22	634
Tool-chest attachment	H. A. Schermerhorn	260,503	July 4	202	57	22	35
Tool-clamp	W. S. Winterbottom	264,017	Sept. 5	433	119	22	849
Tool. Combination	E. A. Parks	266,193	Oct. 17	1181	333	22	1349
Tool. Combination	F. H. Richards	264,341	Sept. 12	795	224	22	922
Tool. Combination	E. Smith and J. Duckworth	268,500	Dec. 5	292	50	22	1924
Tool. Combination	G. A. Townsend	264,373	Sept. 12	833	233	22	929
Tool-handle	E. Buell	267,060	Nov. 7	122	35	22	1562
Tool-holder	J. C. Gray	267,517	Nov. 14	707	203	22	1671

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Tool-holder	F. W. Weiss	269,755	Dec. 26	1704	490	22	2223
Tool-holder. Tinsmith's	F. Fellinger	263,035	Aug. 22	1517	427	22	620
Tool-holding device	P. Maltby	264,726	Sept. 19	1228	347	22	1012
Tool-stock	J. D. Richardson	268,284	Nov. 28	1647	457	22	1856
Tools, &c. Adjusting device for	J. F. Webster	269,754	Dec. 26	1703	490	22	2223
Tooth-regulator	W. N. Morrison	262,068	Aug. 1	321	92	22	391
Top. Automatic	L. Townsend	268,318	Nov. 28	1691	468	22	1864
Top. Child's spinning	F. A. Fouts	267,865	Nov. 21	1134	318, 319	22	1756
Top. Spinning	J. O. Beneke	262,354	Aug. 8	667	186	22	455
Top. Spinning	F. A. Fouts	267,866	Nov. 21	1137	319, 320	22	1757
Top. Spinning	F. A. Fouts	267,867	Nov. 21	1140	320	22	1758
Top. Spinning	W. C. Wood	265,355	Oct. 3	156	46	22	1163
Top-spinning device	W. Pearson	269,455	Dec. 19	1316	381	22	2144
Torch	J. B. Deeds	262,178	Aug. 1	452	126	22	411
Torch. Gas-lighting	E. P. Gleason. (Reissue)	10,159	July 18	1459	407	22	257
Torch. Gas-lighting	E. P. Gleason. (Reissue)	10,160	July 18	1460	408	22	257
Torches, fire-kindlers, &c. Absorbent compound for the manufacture of	A. G. Hurlbutt	266,477	Oct. 24	1529	.....	22	1418
Torpedo-exploder	J. S. Schoonover	262,485	Aug. 8	810	229	22	480
Torpedo-placer	M. D. Williams	267,297	Nov. 7	419	122	22	1615
Torpedo. Submarine	H. F. Hicks	263,407	Aug. 29	2019	577	22	712
Torpedoes, &c. Apparatus for finding	G. A. McEvoy	269,439	Dec. 19	1295	376	22	2140
Torpedoes. Apparatus for launching	P. Brotherhood	261,805	July 25	1812	512	22	323
Torpedoes. Compound for railway-signal	J. F. A. Mumm	261,247	July 18	1137	.....	22	203
Torpedoes. Submarine gun for protecting	H. F. Hicks	263,408	Aug. 29	2020	577	22	712
Torpedoes upon tracks. Apparatus for placing	T. H. Huewe	262,950	Aug. 22	1405	397, 398	22	601
Torsion-spring. Vehicle	D. Budd	269,633	Dec. 26	1550	445	22	2195
Towel-rack	C. A. Brickley	269,171	Dec. 19	948	276	22	2076
Towel-rack	J. H. Mallory	261,817	July 25	1831	517	22	326
Towel-rack	T. S. Page	261,950	Aug. 1	156	45	22	362
Tower for electric lights, &c	C. D. F. Smith	267,115	Nov. 7	199	58	22	1575
Toy	W. E. Crandall	264,066	Sept. 12	501	136	22	870
Toy	J. N. Gifford, Jr	269,194	Dec. 19	983	287	22	2082
Toy	E. M. Rich	263,961	Sept. 5	361	102	22	837
Toy	O. Unz and R. G. Hendrie	262,517	Aug. 8	850	241	22	487
Toy	C. C. Wurst	265,207	Sept. 26	1815	510	22	1120
Toy. Automatic	L. S. Burridge	267,324	Nov. 14	464	134	22	1629
Toy. Automatic	J. J. Slocum	263,437	Aug. 29	2050	588	22	718
Toy balloon	E. F. Linton	262,441	Aug. 8	767	216	22	472
Toy bank	C. A. Bailey	261,419	July 18	1343	375	22	237
Toy bank	J. M. Keep	267,540	Nov. 14	743	213	22	1676
Toy. Bell	J. Brunner	267,488	Nov. 14	673	193	22	1665
Toy block	G. L. Jaeger	269,789	Dec. 26	1743	503	22	2231
Toy box for exploding fulminate wafers	A. M. Lyon and H. S. Lockwood	265,616	Oct. 10	476	131	22	1222
Toy building-block	A. R. Walters	262,863	Aug. 15	1296	364	22	571
Toy building-blocks	W. E. Crandall	261,912	Aug. 1	111	33	22	354
Toy cap-exploder	C. P. Harman	266,813	Oct. 31	1922	556	22	1497
Toy chandelier	E. J. Hall	269,283	Dec. 19	1094	319	22	2101
Toy flying-machine	C. F. Myers	262,686	Aug. 15	1071	301	22	532
Toy gun	J. A. Crandall	267,679	Nov. 21	920	261	22	1717
Toy locomotive	C. F. Richtel and J. Stever	267,939	Nov. 21	1221	344	22	1773
Toy. Magnetic	O. J. Dimmick	264,258	Sept. 12	700	194	22	905
Toy marble-shooter	J. F. Connelly	262,644	Aug. 15	1021	287	22	522
Toy. Mechanical	F. Aberle	264,426	Sept. 19	899	253	22	949
Toy. Mechanical	E. R. Ives	260,967	July 11	811	224	22	142
Toy. Mechanical	H. O. Lund	261,244	July 18	1134	317	22	203
Toy. Mechanical	R. H. Ricker	265,341	Oct. 3	139	41	22	1160
Toy money-box	J. F. Hotchkiss	269,673	Dec. 26	1509	458	22	2204
Toy pistol	B. Haviland and G. P. Gunn. (Reissue.)	10,210	Sept. 26	1865	524	22	1129
Toy pistol	J. M. Keep	263,048	Aug. 22	1528	431	22	622
Toy railway	J. D. F. Meier	268,920	Dec. 12	634	186	22	2013
Toy savings-bank	J. H. Bowen	262,361	Aug. 8	673	188	22	456
Toy shooting apparatus	A. Reynolds	264,416	Sept. 12	878	247	22	938
Toy shooting-gallery	W. W. Barnes	264,125	Sept. 12	562	153, 154	22	880
Toy. Skating	J. Doyle	260,671	July 4	421	114	22	71
Toy sleigh	F. W. Carpenter	267,773	Nov. 21	1023	286	22	1736
Toy spring-gun	W. S. Reed and H. N. Parker	262,981	Aug. 22	1446	408	22	608
Toy target	C. M. Crandall	269,266	Dec. 19	1074	313	22	2098
Toy tree	W. T. Strasser	267,277	Nov. 7	395	114	22	1611
Toy vehicle	G. S. Crosby	265,392	Oct. 3	193	58	22	1170
Toy velocipede	J. E. Conklin. (Reissue)	10,213	Oct. 10	865	246	22	1289
Toy whirligig	H. Thomass	267,949	Nov. 21	1233	347	22	1775
Trace-bearer for harness	M. A. Browning	266,603	Oct. 31	1678	464	22	1452
Trace-carrier	J. M. Basinger	260,523	July 4	228	64	22	38
Trace-carrier	D. B. Cooley	266,432	Oct. 24	1488	422	22	1411
Trace-carrier	T. L. Cousino	260,943	July 11	751	204	22	131
Trace-carrier	W. Downing	260,547	July 4	257	72	22	44
Trace-carrier	D. Freer	268,089	Nov. 28	1407	393	22	1812
Trace-carrier	H. Malo	266,852	Oct. 31	1961	567	22	1505
Trace-carrier	H. Marshall and C. S. Reinhart	263,929	Sept. 5	320	91	22	830
Trace-carrier	M. E. Zeller	266,574	Oct. 24	1635	465	22	1438
Trace-fastener	G. J. Cave	264,439	Sept. 19	913	257	22	951
Trace-hook	W. K. Rairigh	265,143	Sept. 26	1731	484	22	1106
Trace-loop attachment	W. L. Albert	260,443	July 4	118	34	22	21
Trace-splice	H. L. Sutherland	262,255	Aug. 8	546	154	22	433
Tracing-wheel	M. E. Kellogg	261,379	July 18	1208	352	22	224
Track-clearer	W. H. Clark	261,909	Aug. 1	104	30, 31	22	353
Track lifter and holder	A. C. Phillips	266,195	Oct. 17	1183	334	22	1349

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Traction-engine	E. M. Birdsall	266,343	Oct. 24	1385	391, 392	22	1392
Traction-engine	J. C. Debes	267,405	Nov. 14	574	164, 165	22	1646
Traction-engine	J. H. Elward	268,648	Dec. 5	302	88	22	1944
Traction-engine	A. O. Frick	263,159	Aug. 22	1653	468	22	646
Traction-engine	A. O. Frick	266,456	Oct. 24	1509	429	22	1415
Traction-engine	G. H. Helvey	262,894	Aug. 15	1336	377	22	578
Traction-engine	G. H. Helvey	265,499	Oct. 3	325	96	22	1194
Traction-engine	A. J. Hoag and J. A. Drew	265,809	Oct. 10	720	201	22	1263
Traction-engine	F. F. Landis	266,698	Oct. 31	1795	518, 519	22	1473
Traction-engine	F. F. Landis	268,808	Dec. 12	496	146, 147, 148	22	1988
Traction-engine	D. Lippy and J. Hughes	261,005	July 11	838	233	22	146
Traction-engine	J. A. Miller	260,598	July 4	312	86	22	53
Traction-engine	J. E. Mustard	264,191	Sept. 12	631	174	22	893
Traction-engine	J. Nixon	263,566	Aug. 29	2205	629	22	746
Traction-engine	H. S. Saroni	267,464	Nov. 14	645	185, 186	22	1660
Traction-engine	B. Yoch	269,496	Dec. 19	1374	395	22	2154
Traction-engine wheel	J. Walrath	268,058	Nov. 28	1372	384	22	1806
Traction-wheel	E. M. Birdsall	268,609	Dec. 5	256	72	22	1935
Traction-wheel	C. M. Eneis	262,752	Aug. 15	1154	326	22	545
Traction-wheel	A. O. Frick	262,758	Aug. 15	1163	329	22	546
Traction-wheel	F. F. Landis	263,342	Aug. 29	1929	552	22	696
Traction-wheel	R. E. Tilton	266,924	Oct. 31	2054	591	22	1521
Train-dispatcher. Mechanical	J. McMurtry and T. J. Pilcher	262,903	Aug. 15	1346	381	22	580
Train-indicator	J. C. McKenzie	261,013	July 11	854	237	22	148
Trains and signaling. Automatically stopping	W. C. Shaffer and A. M. White	269,235	Dec. 19	1099	300	22	2090
Trains. Apparatus for controlling the movement of	E. N. Dickerson, Jr.	267,681	Nov. 21	922	262	22	1718
Tramway and truck. Electrical conducting	E. R. Moore	262,971	Aug. 22	1433	405	22	605
Tramway. Cable	C. M. Huson	269,525	Dec. 26	1412	408	22	2167
Tramway. Wire-rope	C. W. Rasmussen	266,520	Oct. 24	1578	449	22	1428
Transfers. Apparatus for enlarging and reducing	P. W. McDonald	269,220	Dec. 19	1008	295	22	2086
Transom-adjuster	J. T. Olinger	265,275	Oct. 3	59	18	22	1146
Transom-hanging device	J. Kirby, Jr	268,367	Nov. 28	1761	488	22	1876
Transom-lifter	J. F. Wollensak. (Reissue)	10,264	Dec. 26	1787	514	22	2239
Transporting loads. Apparatus for	J. Curtis	268,629	Dec. 5	262	82	22	1940
Trap: *See* Animal-trap. Ball-trap. Dust and sewer trap. Fish-trap. Funnel-trap. Insect-trap. Lead trap. Mole-trap. Plumber's trap. Sediment-trap. Sewer-gas trap. Steam-trap. Waste or sewer trap. Waste-pipe trap.							
Trap	R. Clarke	267,973	Nov. 21	1262	355	22	1780
Trap and overflow. Combined	E. A. Jackson	263,180	Aug. 22	1680	476	22	651
Traveling-bag lock	M. Schwerin	262,131	Aug. 1	388	109	22	400
Tray for drinking goblets and glasses	S. E. Hurlbut	264,163	Sept. 12	603	166	22	888
Tray for finger-rings	B. Lewkowitz	267,090	Nov. 7	163	46	22	1569
Tray or drawer for displaying spools	G. D. Leonard	267,232	Nov. 7	347	100	22	1602
Tray. Package	J. McCrodden	263,556	Aug. 29	2190	625	22	744
Tread-mill	B. N. Van Nette	267,042	Nov. 7	101	30	22	1558
Tread-power	S. Douglass	268,644	Dec. 5	296	86	22	1943
Treadle	F. H. Burrows	267,998	Nov. 28	1295	364	22	1792
Treadle	A. R. Bushnell	262,368	Aug. 8	683	190	22	457
Treadle	A. M. Greenwood	265,596	Oct. 10	451	124	22	1218
Treadle	H. Reese	262,246	Aug. 8	537	151	22	432
Treadle	F. P. Snow	261,568	July 25	1534	430	22	275
Treadle-power	J. B. Kerr	269,294	Dec. 19	1106	322, 323	22	2104
Tree: *See* Gig-tree. Saddle-tree. Single-tree. Whiffletree.							
Trellis. Hop	F. G. Pennell	261,755	July 25	1755	494	22	314
Trestle	T. P. Maddox	264,310	Sept. 12	763	213	22	916
Trestle	D. E. Teal	266,658	Oct. 31	1742	502, 503	22	1463
Tricycle	J. A. Edmonds	264,674	Sept. 19	1167	330	22	1001
Tricycle	H. C. Gallup	264,073	Sept. 12	507	138	22	871
Tricycle	B. F. Sloan	261,395	July 18	1317	368	22	233
Tricycle	J. White	269,609	Dec. 26	1522	437, 438	22	2189
Trimmer: *See* Edge-trimmer. Grain-trimmer. Hedge-trimmer. Sole-edge trimmer.							
Trimming and sewing machine	S. Borton	263,350	Aug. 29	2297	656	22	762
Trimming. Plush	G. F. Gminder	262,179	Aug. 1	453	126	22	411
Triturating-cylinder	J. R. Alsing	264,213	Sept. 12	653	180	22	897
Triturating-machine	F. E. Boericke and G. Goll	266,756	Oct. 31	1859	540	22	1485
Trolling-spoon	L. C. Wylly	261,194	July 18	1083	302	22	195
Trough: *See* Eaves-trough. Feed-trough. Hog-trough.							
Truck	W. Z. Brown	267,669	Nov. 21	909	258	22	1715
Truck	R. D. Hume	264,949	Sept. 26	1512	425	22	1066
Truck	D. D. McKernan	267,357	Nov. 14	506	145	22	1635
Truck	A. B. Reeves	267,801	Nov. 21	1063	297	22	1742
Truck. Barrel	J. J. Swain	261,063	July 11	911	253	22	157
Truck. Brick	W. E. Gard	263,331	Aug. 29	1917	549	22	695

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Truck. Car	I. Barker	265,561	Oct. 10	412	114	22	1213
Truck. Car	S. B. Driggs	267,335	Nov. 14	475	138	22	1631
Truck. Car	C. O. Hayes	267,425	Nov. 14	597	171	22	1650
Truck. Car	J. Huson	268,680	Dec. 5	337	97	22	1951
Truck. Car	R. E. Ismond	262,426	Aug. 8	751	211	22	469
Truck. Car	S. D. King. (Reissue)	10,194	Sept. 12	891	250	22	940
Truck. Car	S. D. King. (Reissue)	10,216	Oct. 10	867	247, 248	22	1280
Truck. Car	J. McLachlan	261,371	July 18	1289	360	22	228
Truck. Car	F. W. Calais and S. M. Barnes	265,574	Oct. 10	424	117	22	1215
Truck for moving harvesters	H. Clayton	268,867	Dec. 12	571	168	22	2002
Truck for moving reapers	O. H. P. Shroyer	265,988	Oct. 17	933	263	22	1307
Truck for moving reapers	T. W. Capen	267,149	Nov. 7	236	68	22	1582
Truck for the bridge of a traveling crane	B. H. Bristol	260,833	July 11	624	170	22	110
Truck. Hand	W. Goodison	264,687	Sept. 19	1181	334	22	1003
Trunk-handle	L. E. Warder	260,717	July 4	476	129	22	80
Truck. Hay	L. E. Hurlbut	268,679	Dec. 5	336	97	22	1951
Truck. Piano	J. W. Wetmore	269,248	Dec. 19	1053	308	22	2094
Truck. Stairway	P. H. Montague	262,813	Aug. 15	1235	347	22	559
Truck. Warehouse	G. W. Atkinson	265,366	Oct. 3	171	51	22	1165
Trucks. Apparatus for changing car	A. Macdonald	269,078	Dec. 12	830	246	22	2049
Trumpet. Ear	J. T. Brown	262,364	Aug. 8	679	189	22	457
Trundle-wheel	H. E. Gilson	269,569	Dec. 26	1467	422	22	2179
Trunk	F. M. Piper	267,585	Nov. 14	801	220	22	1688
Trunk	E. Stiebel	262,849	Aug. 15	1278	359	22	568
Trunk	G. H. Blakesley	266,752	Oct. 31	1854	530	22	1464
Trunk-catch	C. P. Gould	266,285	Oct. 24	1300	368	22	1375
Trunk-catch	F. Kukkuck	268,694	Dec. 5	352	103	22	1954
Trunk-cover	F. Kukkuck and H. Arnd	262,956	Aug. 22	1415	400	22	602
Trunk-covers. Making	J. W. Patterson	261,753	July 25	1753	493	22	313
Trunk-frame	J. Welter	263,367	Aug. 22	1777	506	22	671
Trunk-handle	F. W. Mix	262,812	Aug. 15	1234	346	22	559
Trunk-lock	J. H. Farel and A. Stumm	264,405	Sept. 12	867	243, 244	22	935
Trunk-tray support and lifter	J. T. Bartlett and E. E. Butman	265,235	Oct. 3	10	4	22	1138
Truss	J. E. Hanson	269,571	Dec. 26	1469	423	22	2179
Truss	T. Simmons	268,951	Dec. 12	671	196	22	2021
Truss	F. R. Smith	266,215	Oct. 17	1206	340	22	1353
Truss	C. Morrill	261,168	July 18	1046	294	22	190
Truss. Hernial	F. N. Norris and C. E. Sweet	266,188	Oct. 17	1176	332	22	1348
Truss-pad	J. S. Starson	262,328	Aug. 8	635	179	22	449
Truss-pad							
Tub: *See* Bath-tub. Bathing-tub. Coal-tub.							
Tube: *See* Boiler-tube. Cop-tube. Gage-tube. Soda-water draft-tube. Speaking-tube. Wick-tube.							
Tube-bending machine	S. Stephens	268,050	Nov. 28	1364	382	22	1804
Tube cutter or expander	A. C. Hunsberger	265,086	Sept. 26	1667	466	22	1093
Tube-expander. Adjustable	N. G. McIntyre	268,918	Dec. 12	632	185	22	2012
Tube-fagot	T. J. Deakin	269,100	Dec. 19	930	270	22	2066
Tube-welding machine	J. Charlton	263,481	Aug. 29	2099	602	22	727
Tubes and rods. Machine for impressing designs on	E. Fackner	266,616	Oct. 31	1693	488	22	1455
Tubes. Apparatus for drawing	W. E. Crocker	263,028	Aug. 22	1507	424	22	619
Tubes. Machine for bending socket-blanks for	E. W. Wolfe	267,634	Nov. 14	856	244, 245	22	1698
Tubes. Machine for cutting off the ends of	S. Fox	263,157	Aug. 22	1652	467	22	646
Tubing-coupling	E. C. Converse	263,863	Sept. 5	247	71	22	817
Tubing. Wire	A. Harbison	267,343	Nov. 14	486	140	22	1633
Tubular drill for boring Artesian wells	J. P. Wintz	269,768	Dec. 26	1717	495	22	2226
Tug clip. Hame	N. D. Fowler	266,357	Oct. 24	1402	397	22	1385
Tug. Hame	M. E. Lasher	269,797	Dec. 26	1759	507	22	2234
Tug. Hame	T. A. Simmons	260,905	July 11	705	192	22	124
Tug. Hame	I. H. Tubbs	267,039	Nov. 7	98	29	22	1537
Tug. Hame	A. L. Hill	264,534	Sept. 19	1014	287	22	970
Tug loop. Hame	J. G. Lentz	267,005	Nov. 7	57	18	22	1550
Tug-slide	J. Schafhaus	262,622	Aug. 15	993	279	22	517
Tun or hop-back. Separating	J. T. Williams	262,524	Aug. 8	857	243	22	488
Tunnel. Bouyant and subaqueous	B. Holly	262,670	Aug. 15	1054	295, 296	22	598
Tunnel for underground street-mains	J. Lane	265,329	Oct. 3	128	37	22	1157
Tunnel-frame for the construction of cable-ways	J. C. Goodridge, Jr	262,403	Aug. 8	722	204	22	464
Tunnels and arches. Constructing underground	J. C. Goodridge, Jr	262,402	Aug. 8	721	204	22	464
Tunnels, culverts, &c. Construction and repair of	H. F. Rudloff	260,502	July 4	201	56	22	34
Tunnels. Safety-chamber for submarine	C. O. H. Fritzsche	266,955	Oct. 31	2102	603, 604	22	1530
Turn-table	W. N. Buckley	262,734	Aug. 15	1133	320	22	541
Turning concaves. Machine for	C. E. Frick	264,825	Sept. 19	1342	379, 380	22	1031
Turning machine. Ring	J. E. Woodbridge	262,878	Aug. 15	1318	370	22	575
Turning tool. Metal	A. Geiger	262,218	Aug. 8	505	141	22	426
Turning tool. Pin	W. H. H. Sheets	265,156	Sept. 26	1750	489	22	1109
Tuyere	J. Stoll	261,782	July 25	1763	504	22	319
Tuyere	A. Werner	264,384	Sept. 12	848	238	22	932
Tuyere	N. O. Swenson	261,784	July 25	1765	504	22	319
Tuyere for forges. Water	I. W. Mead	264,414	Sept. 12	876	246	22	937
Tuyere-iron for blacksmiths' forges	H. L. Dixon	268,642	Dec. 5	294	86	22	1943
Tuyere-molding machine	L. J. Hirt	262,412	Aug. 8	734	207	22	466
Twine-balling machine	E. D. Read	262,187	Aug. 1	465	129	22	413
Twine-cutter	F. F. French	264,682	Sept. 19	1175	332	22	1002
Twine-holder	R. A. Kelly	268,242	Nov. 28	1599	443, 444	22	1848
Twine polishing and finishing machine	C. L. Hartshorn	262,588	Aug. 15	953	268	22	510
Twist-drill							

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Type and space holder	L. K. Johnson	263,707	Sept. 5	40	12	22	782
Type-case cabinet	J. S. Hoerner	267,600	Nov. 21	932	264	22	1719
Type-containing channel	L. K. Johnson and A. A. Low	268,409	Dec. 5	44	14	22	1895
Type-distributing apparatus	L. K. Johnson and A. A. Low	264,085	Sept. 12	520	142	22	873
Type rubbing and dressing machine	W. H. Welsh and C. W. Woodward	266,932	Oct. 31	2064	594	22	1523
Type-setting apparatus	L. K. Johnson	264,084	Sept. 12	519	141; 142	22	873
Type-setting machine	J. North	261,378	July 18	1295	302; 363; 364	22	229
Type-writer	C. Hilgenberg	267,527	Nov. 14	727	209	22	1674
Type-writer	J. S. Martin	264,091	Sept. 12	527	144	22	875
Type-writer	J. Pratt	267,367	Nov. 14	531	151	22	1639
Type-writers. Aligner for	C. J. Baker	263,459	Aug. 29	2077	595	22	723
Types. Machine for cutting wooden	V. M. Moreau	265,623	Oct. 10	486	133	22	1224
Umbrella	J. G. Peace	269,317	Dec. 19	1134	332	22	2110
Umbrella	C. B. Sill	263,733	Sept. 5	77	23	22	788
Umbrella and cane. Combined	H. A. Whiting and W. J. Winghart	263,271	Aug. 22	1781	507	22	671
Umbrella-cloth	N. Cook	261,681	July 25	1665	467	22	298
Umbrella. Folding	P. F. Maguire	264,544	Sept. 19	1022	290	22	972
Umbrella or parasol covers. Machine for cutting material for	E. Wickstead	262,522	Aug. 8	855	242	22	488
Umbrella-slide	C. Grataloup and J. B. Leymarie	261,151	July 18	1025	289	22	186
Umbrella-support	J. T. Smith	263,606	Aug. 29	2248	642	22	753
Umbrellas. Covering sticks for	W. Bammgarten	263,462	Aug. 29	2080	596	22	723
Umbrellas, &c. Rib-tip retainer for	R. A. Fisher	266,589	Oct. 24	1655	476	22	1442
Underground conduits. Wire-support for	A. H. Mershon	265,621	Oct. 10	484	133	22	1224
Underground lines. Conduit for	W. B. Eltonhead	267,409	Nov. 14	579	166	22	1647
Universal angular knuckle-joint	E. Mignault	267,706	Nov. 21	950	268	22	1723
Universal joint	C. B. Deyo and A. G. Carman	267,844	Nov. 21	1110	311	22	1752
Universal joint	E. Shay	269,473	Dec. 19	1345	388	22	2149
Universal joint	W. E. Buser	266,767	Oct. 31	1872	544	22	1487
Upholstered chair, sofa, &c	W. G. Benedict	264,231	Sept. 12	674	.....	22	900
Upholstering material and method of making the same	E. F. Baldwin	268,379	Dec. 5	6	2	22	1888
Urinal	R. E. Day	268,260	Nov. 28	1544	429	22	1836
Urinal	J. P. Hyde	262,295	Aug. 8	592	167	22	442
Urinal	C. P. Simpson	268,555	Dec. 5	196	55	22	1923
Urinal and privy-cover. Device for washing a combined	S. Edinger	269,648	Dec. 26	1569	450; 451	22	2198
Urinal. Swinging	W. S. Carr	262,671	Aug. 15	1055	296	22	520
Urn. Coffee	L. F. Duparquet and P. Huot	269,028	Dec. 12	764	226	22	2037
Utensil. Family	W. H. Wilson	269,767	Dec. 26	1716	495	22	2226
Uterine-supporter	E. James	266,994	Nov. 7	46	14	22	1548
Vaccination vesicle and pustule shield	D. M. French	260,561	July 4	273	75	22	46
Vacuum apparatus	T. A. Edison	263,147	Aug. 22	1642	464	22	644
Vacuum apparatus	T. A. Edison	266,588	Oct. 24	1655	476	22	1441
Vacuum-pan	U. H. Hillman	269,575	Dec. 26	1480	427	22	2181
Vacuum-pan	E. Riese	268,126	Nov. 28	1451	405; 406	22	1920
Valve: *See* Air-compressor valve; Float-valve; Flushing-valve; Hydrant-valve; Organ-valve; Pump-valve; Water and gas stop-valve; Water-closet valve.							
Valve	J. A. Felt	260,858	July 11	651	176	22	115
Valve	J. M. Goldsmith	261,547	July 25	1507	423	22	271
Valve	J. Jones	264,087	Sept. 12	523	143	22	874
Valve	J. C. Long	267,234	Nov. 7	348	101	22	1602
Valve	M. Miller	261,021	July 11	863	239	22	150
Valve	F. P. H. Prox	262,829	Aug. 15	1254	353	22	563
Valve	E. Schenson	261,059	Aug. 1	165	48	22	364
Valve	E. R. Tomlinson	262,997	Aug. 22	1466	412	22	611
Valve	G. L. Bradley	260,899	July 11	621	169	22	110
Valve	W. H. K. King	262,899	Aug. 15	1341	379	22	579
Valve	M. D. L. Swank, J. T. Thornley, and J. A. Awalt	265,178	Sept. 26	1779	498	22	1114
Valve	W. S. Alter and M. H. Irvin	266,068	Oct. 17	1028	291	22	1324
Valve	J. Grzybowski	265,314	Oct. 3	107	32	22	1154
Valve	M. M. Sanders	267,802	Nov. 21	1063	297	22	1743
Valve	S. L. Westley and B. F. Kraft	264,588	Sept. 19	1066	303	22	981
Valve	J. E. Wright	264,503	Sept. 19	985	277	22	965
Valve	J. S. Glenn	264,525	Sept. 19	1006	283	22	969
Valve	C. E. Biddison	264,612	Sept. 19	1098	312	22	987
Valve	J. B. Conrad	261,206	July 18	1095	305	22	197
Valve	J. J. De Lancey	261,688	July 25	1672	469	22	299
Valve	L. P. Normandin	267,450	Nov. 14	629	182	22	1657
Valve	J. Parker	267,245	Nov. 7	360	105	22	1604
Valve	W. T. Reaser	263,809	Sept. 5	179	51, 52	22	804
Valve	F. W. Richardson	266,721	Oct. 31	1821	528	22	1478
Valve	E. Rund	260,612	July 4	331	90	22	56
Valve	J. E. Sweet	268,055	Nov. 28	1369	383	22	1805
Valve	W. B. Turman	268,319	Nov. 28	1692	468	22	1864
Valve	S. E. Jarvis	267,791	Nov. 21	1049	293	22	1740
Valve	J. O'Donnell	269,449	Dec. 19	1305	378	22	2142
Valve	M. D. S. Swank and J. T. Thornley	265,991	Oct. 17	935	264	22	1307
Valve	A. G. Alexander	265,357	Oct. 3	157	47	22	1163
Valve	W. Wise	268,148	Dec. 12	914	266	22	2063
Valve	J. Livingston and J. Kennedy	269,301	Dec. 19	1115	325	22	2106
Valve	C. N. Leonard	263,711	Sept. 5	46	14	22	783
Valve	C. H. Hudson and E. Smedley	263,338	Aug. 29	1925	551	22	696
Valve	R. Boeklen	261,826	Aug. 1	6	2	22	336
Valve	C. Aultman	263,301	Aug. 29	1840	523	22	687
Valve-gear	J. Barrett	260,522	July 4	224	62, 63	22	38

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Valve-gear	J. Haug	266,141	Oct. 17	1120	316	22	1339
Valve-gear	R. M. Hunter	267,534	Nov. 14	734	211	22	1675
Valve-gear	W. W. Lovell	265,682	Oct. 10	566	157	22	1237
Valve-gear	F. B. Nichols	266,714	Oct. 31	1812	526	22	1477
Valve-gear	H. See	263,817	Sept. 5	185	54	22	805
Valve-gear	H. See	263,818	Sept. 5	186	54, 55	22	805
Valve-gear	F. M. Stevens	269,737	Dec. 26	1677	482	22	2219
Valve-gear. Compound engine	E. Reynolds	262,476	Aug. 8	802	227	22	479
Valve-gear for oscillating engines	H. F. Shaw	267,725	Nov. 21	972	273; 274	22	1727
Valve-gear. Steam-engine	C. M. Giddings	269,042	Dec. 12	781	231	22	2040
Valve-gear. Steam-engine	A. Kendall	269,678	Dec. 26	1603	460	22	2205
Valve-gear. Variable	W. Johnson	264,301	Sept. 12	754	210; 211	22	914
Valve. Globe	J. Richter	263,224	Aug. 22	1730	490	22	661
Valve. Globe	G. Reimann	269,111	Dec. 12	871	256	22	2055
Valve. Lift or check	T. Sterne and D. Clerk	263,969	Sept. 5	398	111	22	843
Valve. Piston	J. H. Allen	262,554	Aug. 15	904	255	22	503
Valve. Piston	E. A. Wildt	265,727	Oct. 10	624	176; 177	22	1247
Valve. Safety	G. E. Collier	268,082	Nov. 28	1398	391	22	1810
Valve. Safety	A. Orme	269,534	Dec. 26	1422	411	22	2170
Valve. Steam	F. J. Carney	261,671	July 25	1655	464	22	296
Valve. Steam-actuated	W. F. Garrison	265,226	Sept. 26	1847	519	22	1126
Valve. Steam-actuated	W. D. Hooker	262,227	Aug. 8	515	144	22	428
Valve. Steam-actuated	R. H. Moon and J. H. Baker	263,193	Aug. 22	1699	481	22	654
Valve. Steam-actuated	H. L. Perrine	269,319	Dec. 19	1136	333	22	2110
Valve. Steam-actuated	W. Royce	261,485	July 18	1417	396	22	250
Valve. Steam-engine	E. A. Sperry	266,217	Oct. 17	1208	341	22	1353
Valve. Steam piston	W. S. Hughes	260,985	July 11	810	224	22	141
Valve. Steam piston	W. S. Phelps	262,471	Aug. 8	797	225	22	478
Valve. Stop	S. W. Martin and C. D. Hauk	260,490	July 4	186	52	22	32
Valve. Stop	E. Thayer	261,065	July 11	912	254	22	157
Valve. Stop or gate	F. H. Treat	269,138	Dec. 12	904	264	22	2061
Valve. Straight-way	A. B. Rohney	262,985	Aug. 22	1449	409	22	608
Valve. Three-way	J. A. Groshon	261,224	July 18	1113	310	22	199
Valve. Vent	E. F. Gordon and H. Hobbs	266,462	Oct. 24	1515	430	22	1416
Valves of steam and other engines. Apparatus for operating	F. W. Jenkins	260,398	July 4	68	19	22	13
Valves of steam-engines. Electric device for operating the throttle	J. Nesbitt	268,523	Dec. 5	166	48	22	1918
Valves. Operating tank	J. E. Boyle	266,963	Nov. 7	3	1, 2	22	1541
Valves. Regrinding	J. O'Meara	266,639	Oct. 31	1716	495	22	1459
Van or wagon. Beverage	N. W. Fenton	268,475	Dec. 5	118	36	22	1909
Vapor-burner	J. R. Baker	268,777	Dec. 12	456	133	22	1981
Vapor-burner	H. S. Belden	263,840	Sept. 5	214	62	22	810
Vapor-burner	H. S. Belden	267,657	Nov. 14	883	257	22	1702
Vapor-burner	M. L. Best	261,423	July 18	1345	376	22	238
Vapor-burner	F. M. Campbell	266,014	Oct. 17	965	274	22	1312
Vapor-burner	R. Falkenrath	265,586	Oct. 10	443	121	22	1217
Vapor-burner	J. Irwin	263,047	Aug. 22	1527	430	22	622
Vapor-burner	J. Madden	260,702	July 11	539	145	22	96
Vapor-burner	T. D. McCormick	269,063	Dec. 12	837	248	22	2050
Vapor-burner	C. A. Stockstrom	261,403	July 18	1326	370	22	234
Vapor-burner	O. Goodenough	267,419	Nov. 14	589	.....	22	1649
Varnish for furniture and other articles of wood	G. H. Beck	268,172	Nov. 28	1507	.....	22	1830
Varnish. Water lac	J. J. Johnston	265,098	Sept. 26	1682	470	22	1096
Vase. Flower	J. J. Johnston	265,097	Sept. 26	1681	470	22	1096
Vase. Garden	A. O. Huffman and F. A. Brooks	267,348	Nov. 14	496	142	22	1634
Vault. Burglar-proof grave	J. Mark	262,965	Aug. 22	1427	402	22	604
Vault-light	I. O. Endicott	262,385	Aug. 8	703	198	22	461
Vehicle	H. C. Sears	264,901	Sept. 26	1446	408; 409	22	1055
Vehicle	H. Vallance	265,472	Oct. 3	288	86	22	1187
Vehicle-body corner-iron	B. F. Sweet	263,441	Aug. 29	2055	589	22	718
Vehicle-bolster spring	C. A. Howard	261,349	July 18	1259	349	22	223
Vehicle-bow trimming	H. Higgin	265,807	Oct. 10	717	200	22	1263
Vehicle box-stay	E. J. Strong	261,641	July 25	1620	455	22	291
Vehicle-brake	M. M. Nathanson	263,057	Aug. 22	1538	433	22	624
Vehicle-brake	R. M. Quackenbush	261,255	July 18	1146	320	22	204
Vehicle-brake	D. Shelton	262,488	Aug. 8	813	230	22	481
Vehicle-brake	D. Shelton	264,201	Sept. 12	640	177	22	895
Vehicle-brake	S. J. Vance	262,999	Aug. 22	1468	413	22	612
Vehicle-clip	F. Lightfoot	262,546	Aug. 8	889	252	22	494
Vehicle-dash fastening	S. D. Lance and W. F. Elliott	263,538	Aug. 29	2171	619	22	740
Vehicle perch-heel	G. M. Peters	268,123	Nov. 28	1444	404	22	1819
Vehicle-platform gear	H. W. Moore	268,711	Dec. 5	367	107	22	1957
Vehicle-propeller	E. G. Adams. (Reissue)	10,256	Dec. 5	450	132	22	1973
Vehicle-propeller	E. G. Adams	269,614	Dec. 26	1528	439	22	2190
Vehicle reach-coupling	W. H. Tufts and L. Roth	261,069	July 11	916	255	22	158
Vehicle running-gear	J. G. Ebken	268,391	Dec. 5	21	7	22	1891
Vehicle running-gear	F. Gill	264,277	Sept. 12	726	202	22	909
Vehicle running-gear	G. M. Peters and J. E. White	269,595	Dec. 26	1504	433	22	2186
Vehicle running-gear	J. W. Roberts	266,723	Oct. 31	1824	529	22	1479
Vehicle running-gear	C. W. Saladee	262,129	Aug. 1	384	108	22	399
Vehicle running-gear	B. M. Soule	261,269	July 18	1167	327	22	208
Vehicle running-gear	B. F. Sweet	263,442	Aug. 29	2056	589	22	719
Vehicle running-gear	W. S. Ward	261,572	July 25	1540	432	22	277
Vehicle-seat	J. Moore	268,519	Dec. 5	161	47	22	1917
Vehicle-seat back	J. W. Anderson	265,555	Oct. 10	404	112	22	1211
Vehicle shifting-rail	A. and F. Gould and T. Harris	261,443	July 18	1370	383	22	242
Vehicle shifting seat	E. C. Hildebrand	267,080	Nov. 7	150	43	22	1567
Vehicle shifting seat	W. B. Sales	264,106	Sept. 12	542	148	22	877

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Vehicle. Side-bar	N. Nilson	262,974	Aug. 22	1437	406	22	606
Vehicle. Side-bar	J. Schmedinghoff	262,250	Aug. 8	540	{152 153	22	432
Vehicle. Side-bar	J. A. Snell	267,944	Nov. 21	1227	345	22	1774
Vehicle-spring	R. T. Bishop	268,989	Dec. 12	717	210	22	2029
Vehicle-spring	N. B. Cooper	268,193	Nov. 28	1538	427	22	1835
Vehicle. Spring	G. Delker. (Reissue)	10,236	Nov. 14	886	253	22	1703
Vehicle. Spring	G. Delker	262,016	Aug. 1	229	68	22	375
Vehicle. Spring	J. O. Farrell, Sr	263,205	Aug. 22	1712	484	22	657
Vehicle-spring	J. Hutchins	265,812	Oct. 10	723	202	22	1263
Vehicle-spring	J. Kitzmiller	266,842	Oct. 31	1952	564	22	1503
Vehicle-spring	N. Nilson	262,973	Aug. 22	1437	405	22	606
Vehicle-spring	J. G. Parsons	266,047	Oct. 17	1004	284	22	1319
Vehicle-spring	L. Rodenhansen	268,827	Dec. 12	521	155	22	1993
Vehicle-spring	W. L. Russell	264,770	Sept. 19	1279	362	22	1021
Vehicle-spring	C. W. Saladee	265,447	Oct. 3	251	75	22	1181
Vehicle-spring	C. W. Saladee	267,988	Nov. 21	1281	359	22	1783
Vehicle-spring	F. H. Tuttle	263,253	Aug. 22	1763	502	22	668
Vehicle-spring	G. W. Warren	262,102	Aug. 1	425	119	22	406
Vehicle-spring	J. W. Wetmore	265,899	Oct. 10	810	230	22	1280
Vehicle-spring	A. O. Wilbur	268,582	Dec. 5	226	64	22	1929
Vehicle-spring	C. R. Wilson	269,493	Dec. 19	1372	392	22	2153
Vehicle-spring	L. C. Wood	269,149	Dec. 12	915	267	22	2063
Vehicle-spring attachment	D. Shelton	263,066	Aug. 22	1548	437	22	626
Vehicle-spring brace	C. W. Saladee	266,647	Oct. 31	1730	499	22	1461
Vehicle-spring connection	P. Barry	265,914	Oct. 10	825	235	22	1283
Vehicle-top	J. W. and G. A. McMillen	264,316	Sept. 12	768	215	22	917
Vehicle-top	C. W. Saladee	262,128	Aug. 1	384	108	22	399
Vehicle-top lock	J. Wilson	269,147	Dec. 12	913	266	22	2063
Vehicle-tops. Combined fastening and nut-lock for	S. H. Raymond	266,199	Oct. 17	1189	335	22	1350
Vehicle. Two-wheeled	A. A. Abbott	260,631	July 4	355	96	22	60
Vehicle. Two-wheeled	J. A. Bilz	262,273	Aug. 8	569	159	22	437
Vehicle. Two-wheeled	J. P. Callan	260,742	July 11	509	139	22	92
Vehicle. Two-wheeled	W. C. Evants	268,087	Nov. 28	1406	393	22	1811
Vehicle. Two-wheeled	J. G. Gay	260,474	July 4	157	44	22	27
Vehicle. Two-wheeled	S. Haley	263,511	Aug. 29	2132	610	22	733
Vehicle. Two-wheeled	T. H. Hawthorne	269,285	Dec. 19	1095	319	22	2102
Vehicle. Two-wheeled	H. Hortop	260,980	July 11	802	222	22	140
Vehicle. Two-wheeled	J. Howell	262,897	Aug. 15	1338	{378 379	22	579
Vehicle. Two-wheeled	D. R. McLennan	261,372	July 18	1290	360	22	228
Vehicle. Two-wheeled	L. G. Sayre	266,725	Oct. 31	1825	{529 530	22	1479
Vehicle. Two-wheeled	S. R. S. Ufford	260,808	July 11	597	161	22	105
Vehicle. Two-wheeled	W. J. Wayne	264,497	Sept. 19	979	275	22	964
Vehicle. Two-wheeled	W. J. Wayne	264,498	Sept. 19	980	275	22	964
Vehicle-wheel	E. Badlam and D. E. Southwick	269,373	Dec. 19	1217	354	22	2124
Vehicle-wheel	J. and R. Bean	268,768	Dec. 5	436	127	22	1970
Vehicle-wheel	G. H. N. Corttiss	260,744	July 11	511	140	22	92
Vehicle-wheel	W. F. Crowell	261,314	July 18	1222	340	22	217
Vehicle-wheel	C. Draudy	265,040	Sept. 26	1619	455	22	1086
Vehicle-wheel	P. Gendron	261,289	July 18	1112	310	22	196
Vehicle-wheel	A. J. Hart	264,287	Sept. 12	737	205	22	911
Vehicle-wheel	L. May	260,491	July 4	188	52	22	32
Vehicle-wheel	M. McDowell	265,124	Sept. 26	1709	478	22	1102
Vehicle-wheel	C. H. Smith	262,990	Aug. 22	1455	410	22	609
Vehicle-wheel	E. A. Sperry and J. Vandenburgh	263,982	Sept. 5	386	109	22	841
Vehicle-wheel	M. N. Warren	267,622	Nov. 14	843	240	22	1695
Vehicle-wheel	A. J. Wolff and A. E. Miltimore	268,341	Nov. 28	1715	{477 478	22	1869
Vehicle-wheels. Machine for repairing	W. Callaway	262,737	Aug. 15	1137	{321 322	22	542
Velocipede	H. C. Buddenberg	265,751	Oct. 10	648	184	22	1251
Velocipede	F. G. Burley	264,855	Sept. 26	1391	391	22	1045
Velocipede	C. H. Candler and J. Whitehead	260,840	July 11	632	172	22	112
Velocipede	J. Church	263,857	Sept. 5	238	69	22	815
Velocipede	W. Gable and C. H. Pelton	265,056	Sept. 26	1637	460	22	1089
Velocipede	W. A. Heath	266,820	Oct. 31	1928	558	22	1498
Velocipede	E. Lildeke	269,076	Dec. 12	828	246	22	2048
Velocipede	W. B. Morris	260,887	July 11	667	186	22	121
Velocipede	F. Rittenhouse	266,527	Oct. 24	1589	452	22	1430
Velocipede	S. N. Silver	267,607	Nov. 14	825	236	22	1692
Velocipede	R. Tragardh	264,374	Sept. 12	834	233	22	999
Velocipede	B. F. Trekell	265,996	Oct. 17	940	265	22	1308
Velocipede	J. E. Van Meter and B. F. Hesser	261,411	July 18	1335	373	22	236
Velocipede	A. Vreeland	265,722	Oct. 10	617	174	22	1245
Velocipede. Flying	T. H. Wyke and J. Bancroft	261,290	July 18	1193	333	22	212
Velocipede. Ice	A. F. Woodham	266,945	Oct. 31	2080	599	22	1526
Veneer-cutting machine	R. H. Thompson	262,258	Aug. 8	548	154	22	433
Veneer-dish-blank machine	J. R. Allgire	261,120	July 18	992	279	22	181
Veneer-machine	W. H. Williams	269,363	Dec. 19	1206	{351 352	22	2122
Veneer. Machine for cutting sheets of	H. Arnd and F. Kukkuck	268,767	Dec. 5	434	127	22	1970
Ventilating apparatus	E. H. C. Oehlmann	267,102	Nov. 7	183	52	22	1573
Ventilating device	S. Shaw	269,236	Dec. 19	1031	301	22	2091
Ventilating grain, &c	J. K. Street	269,135	Dec. 12	900	263	22	2060
Ventilating pipe and cowl	J. Cooper	266,433	Oct. 24	1488	423	22	1411
Ventilating soil-pipes. Device for	J. D. Harrington	261,451	July 18	1378	385	22	243
Ventilating windows	H. Hart	261,921	Aug. 1	123	36	22	356
Ventilation	W. A. Pitt	268,822	Dec. 12	514	{152 153	22	1991
Ventilation	J. R. Shirley	261,488	July 18	1420	397	22	250
Ventilation	M. B. Stafford	266,546	Oct. 24	1608	458	22	1433

Alphabetical list of inventions, July to December, inclusive—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Ventilator: *See* Barrel-ventilator. Mining-shaft ventilator. Car-ventilator. Ship-ventilator. Chimney-ventilator. Window ventilator. Grain-ventilator.							
Ventilator	P. Cassner	268,183	Nov. 28	1529	425	22	1834
Ventilator	M. H. Dorgan	267,741	Nov. 21	987	278	22	1729
Ventilator	T. J. Hickey	260,683	July 4	437	118	22	74
Ventilator	P. H. Jackson	265,392	Oct. 3	115	34, 35	22	1155
Ventilator	T. Minchin	262,238	Aug. 8	528	148	22	430
Ventilator	R. S. Read	265,636	Oct. 10	506	138	22	1227
Ventilator	D. Robbins	267,256	Nov. 7	370	108	22	1606
Ventilator	W. W. Robinson	261,764	July 25	1767	497	22	315
Ventilator	A. B. Summers	261,404	July 18	1327	371	22	234
Ventilator	L. F. Betts	267,829	Nov. 21	1026	307	22	1749
Ventilator or chimney cap	J. H. Irwin	265,814	Oct. 10	724	202	22	1264
Ventilator or chimney-cap	J. M. Blackman	261,158	July 18	1001	281	22	182
Ventilator wheel or fan	P. F. Dundon	267,407	Nov. 14	577	166	22	1647
Vertical boiler. Return-flue	V. Manuel	263,928	Sept. 5	319	90	22	829
Vessel for food and other articles	D. Ammen	267,051	Nov. 7	111	32	22	1550
Vessel. Sea-going	J. W. and J. W. Brown, Jr	263,846	Sept. 5	222	64	22	811
Vessels. Apparatus for loading and unloading	J. W. and J. W. Brown, Jr	263,847	Sept. 5	224	65	22	812
Vessels. Apparatus for loading and unloading	J. W. and J. W. Brown, Jr	263,848	Sept. 5	225	66	22	812
Vessels. Apparatus for loading and unloading	H. Schuyler	268,548	Dec. 5	190	53	22	1922
Vessels. Apparatus for raising sunken	E. G. Frisbie	268,216	Nov. 28	1564	.....	22	1840
Vessels. Compound for lining	G. Bacci	260,924	July 11	724	{197 198	22	127
Vessels. Device for loading and unloading	M. Levin	268,417	Dec. 5	56	17	22	1897
Vest	S. Loewenthal	269,504	Dec. 19	1383	398	22	2135
Vest. Nursing	J. Z. Cooper	260,457	July 4	134	39	22	24
Veterinary drencher	E. Connolly	263,023	Aug. 22	1498	422	22	617
Vials. Machine for bottoming	J. W. Harlow	261,450	July 18	1376	384	22	243
Violin-case	J. Dennis	263,872	Sept. 5	257	74	22	818
Vise	M. T. Henson	266,474	Oct. 24	1536	434	22	1418
Vise	E. O. Hunt	260,396	July 4	66	19	22	12
Vise	H. F. Read	266,522	Oct. 24	1582	450	22	1429
Vise	H. F. Read	266,523	Oct. 24	1584	{450 451	22	1429
Vise	H. F. Read	269,709	Dec. 26	1636	470	22	2212
Vise	C. E. Bailey	268,447	Dec. 5	90	27	22	1903
Vise and wrench. Hand	P. S. Meabon	260,404	July 4	75	21	22	14
Vise and wrench. Hand	T. Reno	267,986	Nov. 21	1279	350	22	1783
Vise. Bench	A. Fales	264,868	Sept. 26	1409	397	22	1048
Vise. Carpenter's	M. Moss	269,446	Dec. 19	1303	378	22	2142
Vise for brooch-pins. Hand	W. P. Clark	261,832	Aug. 1	13	4	22	337
Vise. Pipe	T. Patton	260,777	July 11	553	150	22	99
Vise. Pipe	N. W. Vandegrift	269,141	Dec. 12	906	265	22	2061
Vise. Pipe	W. Reisig	265,866	Oct. 10	778	220	22	1274
Vital-heat alarm	A. Brown	264,618	Sept. 19	1104	313	22	987
Voltaic-battery plate	A. C. Carey	266,950	Oct. 31	2086	{600 601	22	1527
Voting-machine	L. B. Berkly	265,739	Oct. 10	638	181	22	1249
Wagon	A. Hannan	269,284	Dec. 19	1094	319	22	2102
Wagon	E. F. Chapman	269,009	Dec. 12	737	217	22	2033
Wagon-box	L. Rakow	268,531	Dec. 5	174	50	22	1919
Wagon-box stake	J. Barsaloux	264,433	Sept. 19	907	255	22	950
Wagon-brake	A. D. Bertier	267,928	Nov. 21	1005	307	22	1749
Wagon-brake	I. Cooper and L. W. Johnson	267,328	Nov. 14	468	136	22	1630
Wagon-brake	V. Gilsinger	261,333	July 18	1242	345	22	220
Wagon-brake	W. J. Korr	260,992	July 11	820	228	22	143
Wagon-brake	J. E. Lunger	265,268	Oct. 3	49	16	22	1144
Wagon-brake	J. L. Ogle and F. H. Turnure	262,309	Aug. 8	614	172	22	445
Wagon-brake. Automatic	S. S. Hurlbut	260,573	July 4	285	79	22	40
Wagon-brake lock	W. K. Johnston	264,086	Sept. 12	522	142	22	874
Wagon-brake lock	H. L. Birdsall	267,135	Nov. 7	223	64	22	1579
Wagon. Buckboard	J. B. and C. L. Preo	264,336	Sept. 12	791	223	22	921
Wagon. Buckboard	J. O'Neil	269,222	Dec. 19	1010	295	22	2087
Wagon. Combined agricultural	A. K. Ersland	265,251	Oct. 3	30	9	22	1141
Wagon-dump. Platform	M. M. Clark	261,308	July 18	1215	338	22	216
Wagon. Dumping	J. M. Kimball	265,829	Oct. 10	736	207	22	1906
Wagon. Dumping	H. F. W. Koehler	261,362	July 18	1272	353	22	225
Wagon. Dumping	W. S. Reed	269,539	Dec. 26	1429	412	22	2171
Wagon. Dumping	C. Hanson and O. M. Phelps	262,664	Aug. 15	1049	294	22	527
Wagon-gear	M. Cahill	265,752	Oct. 10	649	184	22	1251
Wagon-jack	A. O. Chase	264,822	Sept. 19	1340	378	22	1030
Wagon-jack	J. T. Gilbert	267,339	Nov. 14	480	139	22	1632
Wagon-jack	D. C. Swett	265,179	Sept. 26	1780	499	22	1114
Wagon-jack	D. C. White and J. Cooper	269,360	Dec. 19	1201	349	22	2121
Wagon-jack	A. N. Woodard	260,917	July 11	715	195	22	126
Wagon-jack	L. B. Hoit	268,488	Dec. 5	131	39	22	1911
Wagon or lifting jack	A. Landis, Sr	269,685	Dec. 26	1613	462	22	2207
Wagon-rack	J. Shafer	265,878	Oct. 10	788	223	22	1276
Wagon-rack	C. F. Bilhorn	263,105	Aug. 22	1592	450	22	634
Wagon-reach	S. D. Reynolds	269,112	Dec. 12	872	{256 257	22	2055
Wagon. Road	M. Conrad	266,101	Oct. 17	1069	303	22	1330
Wagon running-gear	R. C. Lyon	260,582	July 4	294	81	22	50
Wagon running-gear	H. C. Wheeler	265,291	Oct. 3	74	23	22	1149
Wagon running-gear	S. Gilzinger	260,860	July 11	653	177	22	115
Wagon-seat lock	M. H. Cassiday	268,182	Nov. 28	1528	424	22	1834
Wagon-seat spring	P. G. Clancy	269,261	Dec. 19	1068	312	22	2097
Wagon. Side-bar	F. A. Scofield and J. A. Cooper	261,391	July 18	1315	367	22	232
Wagon. Side-bar	G. W. Smith	267,268	Nov. 7	386	112	22	1609
Wagon-skein	A. H. Cadugan	263,853	Sept. 5	238	68	22	814
Wagon-spring							

Alphabetical list of inventions, July to December, inclusive—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Wagon. Spring-board	W. H. Vines	264,911	Sept. 26	1464	413	22	1057
Wagon. Tipping	H. Grafton	269,663	Dec. 26	1589	456	22	2202
Wagon turning-gear	F. Bremerman	263,016	Aug. 22	1492	420	22	616
Wagon. Weighing	D. J. and L. D. Norris	263,201	Aug. 22	1707	483	22	656
Wagon-wheel	J. and R. Bean	265,480	Oct. 3	297	88	22	1189
Wagon-wheel	A. Delkescamp	268,635	Dec. 5	988	84	22	1941
Wagon-wrench	S. O'Connell	266,503	Oct. 24	1538	444	22	1494
Waistband attachment	A. Brown	261,664	July 25	1647	402	22	295
Wall-paper	W. C. Walter	268,964	Dec. 12	684	201	22	2023
Wall-paper carrier	W. J. Palmer	261,031	July 11	874	242	22	151
Wall-paper exhibitor	O. A. Wright	263,378	Aug. 29	1978	564	22	705
Wall-paper. Machine for pasting and hanging	C. W. Doyle	262,382	Aug. 8	697	195	22	460
Wall-pocket	G. S. Blampey	261,902	Aug. 1	93	26	22	351
Walls, ceilings, &c. Preparation for covering	P. T. Cook	269,388	Dec. 19	1239	.....	22	2128
Walls with flock. Coating	J. H. Campbell	262,276	Aug. 8	572	160	22	438
Warbler and cage. Combined	J. R. Barry	266,415	Oct. 24	1470	417	22	1408
Wardrobe, wash-stand, and bath-tub. Combined	L. Bonduel	268,450	Dec. 5	94	28	22	1904
Warehouse. Barrel-storing	R. Stewart	268,748	Dec. 5	410	120	22	1965
Warming-pan	E. M. Ames	266,069	Oct. 17	1029	291	22	1324
Warp-beams of slashers. Friction mechanism for the	C. E. Hunton	262,596	Aug. 15	964	271	22	512
Warp-shed divider	J. Berry	263,303	Aug. 29	1841	523	22	687
Warping and beaming machine	J. Walmsley	266,330	Oct. 24	1368	386	22	1389
Warping and beaming machine	J. Walmsley	266,331	Oct. 24	1370	386	22	1389
Warping-machine	W. Bancroft	265,941	Oct. 17	871	249	22	1297
Warping or beaming machine	T. C. Entwistle	269,400	Dec. 19	1240	363	22	2131
Wash-bench	L. J. Lewis	262,234	Aug. 8	523	147	22	429
Wash-bench	J. E. North	263,406	July 4	77	21	22	15
Wash bench and wringer. Combined	C. B. Camp and H. Baumgartel	264,026	Sept. 5	442	122	22	851
Wash-board	P. T. Gates	264,074	Sept. 12	508	138	22	871
Wash-board	M. W. Kase	265,422	Oct. 3	226	68	22	1176
Wash-board	W. E. McKinnon	260,699	July 4	455	123	22	77
Wash-board	R. H. St. John	262,853	Aug. 15	1282	361	22	568
Wash-board and clothes-pounder. Combined	H. Lake	268,246	Nov. 28	1605	445	22	1849
Wash-boiler	S. Cox	265,027	Sept. 26	1606	452	22	1083
Wash-boiler	J. J. Johnston	266,835	Oct. 31	1944	562	22	1501
Wash-boiler	L. C. Morris	261,023	July 11	867	240	22	150
Wash-bowl. Stationary	W. Blackwood, Jr	265,653	Oct. 10	535	145	22	1231
Wash-pad	G. Crane	269,182	Dec. 19	961	280	22	2078
Wash-stand	N. O. Bond	261,991	Aug. 1	203	60	22	370
Wash-stand	N. O. Bond	265,481	Oct. 3	298	88, 89	22	1189
Wash-stand	R. D. Farrell	262,030	Aug. 1	253	73	22	379
Wash-stand	N. Le Blanc	268,502	Dec. 5	145	43	22	1914
Wash-stand and fixture. Stationary	P. N. Burke. (Reissue)	10,157	July 11	987	277	22	171
Wash-stand. Stationary	P. Connolly	260,371	July 4	21	7	22	6
Washer: *See* Bottle-washer. Brick-mold washer. Composite washer. Fruit-washer. Nut-lock washer. Ore-washer. Spoke-washer. Starch-washer. Steam-washer. Window-washer. Wool-washer.							
Washer-cutter	C. C. Maltby	268,509	Dec. 5	150	44	22	1915
Washing apparatus. Clothes	D. McDonald	262,807	Aug. 15	1228	345	22	558
Washing, dyeing, &c. Apparatus for	W. Birch	261,654	July 25	1636	459	22	293
Washing-machine	C. Barber	265,734	Oct. 10	634	179	22	1248
Washing-machine	J. P. Bentley	263,102	Aug. 22	1590	449	22	634
Washing-machine	B. F. Burtner and C. E. Bodley	265,570	Oct. 10	421	116	22	1214
Washing-machine	L. O. Cameron	261,806	July 25	1614	512	22	324
Washing-machine	T. A. H. Cameron	269,155	Dec. 12	922	268	22	2064
Washing-machine	E. H. Chapman	263,480	Aug. 29	2099	601	22	727
Washing-machine	J. G. Crawford	266,975	Nov. 7	21	6	22	1544
Washing-machine	J. I. Dalbey	261,515	July 18	1454	406	22	256
Washing-machine	D. Davis	261,538	July 25	1497	420	22	269
Washing-machine	H. C. Durborow	264,030	Sept. 5	450	124	22	852
Washing-machine	J. P. Gage	264,407	Sept. 12	870	244	22	936
Washing-machine	J. C. Hackney	264,689	Sept. 19	1192	335	22	1004
Washing-machine	J. E. Hobby	266,151	Oct. 17	1131	319	22	1340
Washing-machine	J. J. Johnston	265,818	Oct. 10	727	203	22	1264
Washing-machine	M. J. Jones	266,696	Oct. 31	1794	518	22	1473
Washing-machine	A. C. Keyes	261,930	Aug. 1	139	39	22	358
Washing-machine	W. H. McGrew	262,968	Aug. 22	1429	403	22	605
Washing-machine	G. C. Miller	261,020	July 11	862	239	22	150
Washing-machine	T. A. Miller	269,445	Dec. 19	1302	377	22	2141
Washing-machine	J. Morris	267,570	Nov. 14	777	222	22	1683
Washing-machine	W. A. S. Murphy	260,704	July 4	462	125	22	78
Washing-machine	W. Myer	265,695	Oct. 10	582	162	22	1240
Washing-machine	J. P. Myers	269,095	Dec. 12	851	252	22	2052
Washing-machine	W. H. Neff	262,610	Aug. 15	982	275	22	515
Washing-machine	P. T. Oliphant and S. Pedigo	262,822	Aug. 15	1247	350	22	569
Washing-machine	S. Parks	261,752	July 25	1752	493	22	313
Washing-machine	J. W. Rhoades	263,355	Aug. 29	1947	557	22	699
Washing-machine	J. T. Sargent	262,130	Aug. 1	386	109	22	399
Washing-machine	M. Silvens	264,781	Sept. 19	1291	364	22	1022
Washing-machine	W. B. Smith	269,335	Dec. 19	1162	341 / 342	22	2115
Washing-machine	Z. C. Smith	268,954	Dec. 12	673	197	22	2021
Washing-machine	G. Thompson	263,628	Aug. 29	2272	649	22	758
Washing-machine	H. A. Williams	264,809	Sept. 19	1325	375	22	1028
Washing-machine	W. T. Williams	266,943	Oct. 31	2078	598	22	1525
Washing-machine	J. C. Wilson	264,014	Sept. 5	429	118	22	848
Washing-machine	J. D. Winters	269,364	Dec. 19	1207	352	22	2122
Washing-machine	J. H. Woodbury	265,910	Oct. 10	821	234	22	1282
Washing-machine. Boiler	L. S. Betzer	267,969	Nov. 21	1257	354	22	1779
Washing machine. Clothes	L. Hilpert and R. J. Biggerstaff	268,232	Nov. 28	1586	440	22	1845

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Washing-machine gearing	B. T. Trueblood	268,753	Dec. 5	416	122	22	1966
Washing out or separating soluble from insoluble substances. Apparatus for	H. Schaede	268,133	Nov. 28	1460	408	22	1822
Waste or sewer trap	C. Lightbody	266,485	Oct. 24	1539	438	22	1420
Waste-pipe trap	N. Barry, Jr	265,372	Oct. 3	176	52	22	1167
Waste-pipe valve. Automatic	F. A. Davis	264,250	Sept. 12	693	192	22	904
Waste-pipes of buildings with sewers. Connecting the	C. A. Loretz	262,801	Aug. 15	1221	343	22	557
Watch and clock dial	J. J. D. Trenor	262,513	Aug. 8	845	239 / 240	22	486
Watch-balance-spring holder	T. Smith and M. P. McKoon	266,396	Oct. 24	1453	412	22	1405
Watch-case	A. D. Coe	269,386	Dec. 19	1234	359	22	2127
Watch-case	G. Speckhart and B. Vogel	264,579	Sept. 19	1059	301	22	960
Watch-case	J. C. Dneber	260,747	July 11	515	140	22	93
Watch-cases. Manufacture of	C. R. Harris	260,392	July 4	62	17	22	12
Watch-chain charm	B. B. Lederer	264,888	Sept. 26	1431	404	22	1052
Watch-chain charm	T. Mueller	268,713	Dec. 5	369	108	22	1957
Watch-crown	T. F. Proctor	260,783	July 11	563	153	22	101
Watch-dials. Apparatus for applying color to	J. Kneen, 2d, and W. M. Reed	269,428	Dec. 19	1282	372	22	2137
Watch-escapement mechanism	W. Hart	264,531	Sept. 19	1013	286	22	970
Watch hand and roller remover	J. W. Bell	267,824	Nov. 21	1090	309	22	1748
Watch-hands	A. Bourgeois and P. Jacky	267,057	Nov. 7	119	34	22	1561
Watch-key	G. W. Harris	268,664	Dec. 5	319	93	22	1948
Watch-maker's tool	L. W. Arnold	266,265	Oct. 24	1276	362	22	1371
Watch-movement box	W. A. Gustafsson	268,884	Dec. 12	591	174	22	2006
Watch-movement box	T. Mueller	268,714	Dec. 5	370	108	22	1958
Watch-pendant	A. Bitner	268,354	Nov. 28	1743	484	22	1874
Watch-plate. Dust-proof	A. Bitner	265,568	Oct. 10	418	116	22	1214
Watch-regulator	D. W. Chalmers	269,3e5	Dec. 19	1233	359	22	2127
Watch-regulator	F. C. Goold	266,256	Oct. 17	1258	356	22	1361
Watch-regulator	C. M. Hoffman	269,670	Dec. 26	1596	458	22	2204
Watch-regulator	J. C. Landmann	269,588	Dec. 26	1497	432	22	2184
Watch-regulator	J. P. Stevens	264,787	Sept. 19	1296	366	22	1023
Watch-regulator	F. A. Curpen	264,632	Sept. 19	1121	317	22	990
Watch-regulator index	E. J. Watson and H. W. Willson	266,737	Oct. 31	1838	532	22	1481
Watch-spring	L. Piguet	267,104	Nov. 7	186	53	22	1573
Watch. Stem-winding musical	C. V. Woerd	268,340	Nov. 28	1713	476 / 477	22	1868
Watches. Machine for roughing out pinions, arbors, and staffs for	A. Bitner	261,655	July 25	1637	459	22	293
Watches. Stem hand-setting and winding mechanism for	G. W. Adams	265,912	Oct. 10	822	234 / 235	22	1282
Watchman's electric register	C. E. Sanford	261,388	July 18	1310	366	22	231
Watchman's register	F. C. Viney	266,664	Oct. 31	1748	504	22	1464
Water and gas stop-valve	A. C. Christensen	269,260	Dec. 19	1067	311 / 312	22	2097
Water and steam meter	W. F. Collio	263,117	Aug. 22	1606	454	22	637
Water-carrier	E. R. Killingsworth	267,086	Nov. 7	158	45	22	1568
Water-carrier	J. Depraest	260,953	July 11	760	207	22	133
Water-closet	J. J. B. Frey	260,965	July 11	784	215	22	137
Water-closet	S. Goldner	267,190	Nov. 7	286	83	22	1591
Water-closet	J. Hay and R. H. Leckey	264,693	Sept. 19	1186	336	22	1004
Water-closet	M. Hogan	267,786	Nov. 21	1042	291	22	1739
Water-closet	F. W. Kelly	268,025	Nov. 28	1330	373	22	1798
Water-closet	G. C. Phillips	261,818	July 25	1832	517	22	327
Water-closet	C. F. Pike	266,309	Oct. 24	1336	376 / 377	22	1382
Water-closet	T. H. Walker	262,518	Aug. 8	851	241	22	487
Water-closet	P. White	261,974	Aug. 1	182	54	22	367
Water-closet and urinal	G. E. Waring, Jr	266,404	Oct. 24	1459	414	22	1406
Water-closet attachment	H. Barron and H. Raimes	262,531	Aug. 8	867	245	22	490
Water-closet attachment	S. Edinger	263,877	Sept. 5	263	76	22	819
Water-closet bowls. Implement for cleaning	L. O. Howell, Jr	265,319	Oct. 3	112	33	22	1155
Water-closet bowls. Implement for cleaning	L. O. Howell, Jr	265,320	Oct. 3	113	34	22	1155
Water-closet cistern	S. F. Sniffen	266,216	Oct. 17	1207	340	22	1353
Water-closet drip-tray	F. Adee	260,816	July 11	607	164	22	108
Water-closet mechanism	D. S. Keith	261,358	July 18	1266	352	22	224
Water-closet pan	S. R. Onstead	260,602	July 4	320	87	22	54
Water-closet. Portable	J. McAuliffe	264,315	Sept. 12	768	214	22	917
Water-closet. Portable	G. E. Waring, Jr	269,246	Dec. 19	1052	307	22	2094
Water-closet stop-safe	J. J. B. Frey	260,967	July 11	787	216	22	138
Water-closet supply-tank	J. Cooper	266,434	Oct. 24	1489	423	22	1411
Water-closet tank or cistern	S. F. Sniffen	265,709	Oct. 10	601	169	22	1243
Water-closet valve	H. S. Lord and C. Birkery	265,112	Sept. 26	1697	474	22	1099
Water-closet valve	E. Moellmann	266,870	Oct. 31	1983	572	22	1508
Water-closet valve	H. A. Tobey	263,251	Aug. 22	1761	501	22	667
Water-closet valve	B. C. Smith	268,740	Dec. 5	402	117	22	1964
Water-closets. Flushing-basin for	J. J. B. Frey	260,966	July 11	786	216	22	137
Water-closets. Plumber's coupling for the bowls of	R. R. Coggin, and J. A. Scollay	261,583	July 25	1550	435	22	278
Water-closets. Pressure-reservoir for supplying flush-water to	W. L. Horne	261,155	July 18	1028	290	22	187
Water-closets, &c. Stop-cock injector for	H. S. Dimock	269,024	Dec. 12	761	225	22	2037
Water-cooler	I. M. Van Wagner	266,561	Oct. 24	1624	462	22	1436
Water-cooler	S. L. McBride	268,257	Nov. 28	1622	450	22	1851
Water cooler and filter	J. J. Savage	267,732	Nov. 21	970	273	22	1726
Water-cooler ice-bumper	D. F. Brown, Sr	266,269	Oct. 24	1279	363	22	1372
Water elevator	H. F. L. W. De Romilly	261,436	July 18	1360	380	22	240
Water-elevator	E. F. Dunaway	262,750	Aug. 15	1151	326	22	545
Water-elevator	A. J. English	268,066	Nov. 28	1404	393	22	1811
Water-elevator	J. J. Hamilton	265,923	Oct. 10	835	238	22	1284
Water-elevator	J. H. Hunter	269,675	Dec. 26	1601	459	22	2205
Water-elevator	J. Patten	265,629	Oct. 10	494	135	22	1225
Water-elevator	J. S. Wallace	261,972	Aug. 1	179	53	22	366
Water-elevator. Automatic	G. W. McKenzie	263,713	Sept. 5	49	14	22	783

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Water-elevator bucket. Windlass	J. G. Dengler	263,871	Sept. 5	256	74	22	818
Water-elevator cup	E. L. Browning	265,378	Oct. 3	182	54	22	1168
Water-elevator for wells	J. C. and C. H. Tise	262,511	Aug. 8	842	238, 239	22	486
Water-elevator. Steam	E. W. Vanduzen	265,895	Oct. 10	805	228, 229	22	1279
Water-fittings	J. R. Hargreaves	268,663	Dec. 5	318	92, 93	22	1947
Water-fountain for stock	E. E. Davis	263,323	Aug. 29	1909	546	22	693
Water gage and alarm	P. V. Dwyer	267,780	Nov. 21	1036	289	22	1738
Water, gas, sewer, or drain pipe	J. P. Culver	265,306	Oct. 3	99	29	22	1152
Water-gate	C. Callahan	260,936	July 11	739	201	22	129
Water-governor	H. S. Miller	263,796	Sept. 5	160	47	22	801
Water grate-bar	M. L. Ritchie	265,874	Oct. 10	783	231	22	1275
Water-heater	K. McDonald. (Reissue)	10,187	Aug. 22	1837	521	22	680
Water heater and filter	T. A. Myers	262,091	Aug. 1	323	93	22	392
Water-heater. Automatic	J. Hawley	267,200	Nov. 7	303	88, 89	22	1594
Water in buildings. Apparatus for turning off	J. D. Westgate	268,062	Nov. 28	1377	385	22	1806
Water-meter	J. C. Dennert and G. G. Lind	266,273	Oct. 24	1284	364	22	1373
Water-meter	W. T. Travis	264,375	Sept. 12	835	234	22	930
Water-meter	R. T. Van Norden	264,975	Sept. 26	1546	434	22	1072
Water meter and filter	R. C. Barrio	265,562	Oct. 10	413	114	22	1213
Water-meter connection	J. Jonson	265,327	Oct. 3	125	37	22	1157
Water-meter. Piston	H. Chandler	268,387	Dec. 5	15	5	22	1889
Water meter. Registering mechanism for	C. C. Worthington	269,366	Dec. 19	1208	352	22	2123
Water-meter. Rotary	B. Fitts and J. F. Wilson	267,174	Nov. 7	268	78	22	1588
Water-meter. Rotary	J. Johnson	264,702	Sept. 19	1196	338	22	1006
Water-motor	J. Coates	267,672	Nov. 21	913	258, 259	22	1716
Water-motor	D. P. Morgan	269,696	Dec. 26	1624	465	22	2309
Water-motor, pump, &c	L. L. Buck	265,381	Oct. 3	184	55	22	1168
Water-proof garment	G. Watkinson	261,109	July 11	972	271	22	168
Waterproofing compound or paint	J. A. Titzel	266,223	Oct. 17	1215	.....	22	1354
Water-raising device	C. K. Kirby	269,295	Dec. 19	1107	323	22	2104
Water through siphon-pipes. Apparatus for raising	J. Patten	265,630	Oct. 10	498	135, 136	22	1226
Water to houses. Supplying	A. Campbell	269,156	Dec. 12	923	268, 269	22	2064
Water-trap clearer	J. S. Gall	267,306	Nov. 7	429	124	22	1617
Water-waste-detector trap	W. E. Worthen	262,549	Aug. 8	893	253	22	494
Water-wheel	J. Comly	267,673	Nov. 21	915	259, 260	22	1716
Water-wheel	H. S. Holder	265,416	Oct. 3	220	66	22	1175
Water-wheel	D. M. Hook	269,208	Dec. 19	997	291	22	2084
Water-wheel	L. Long	264,890	Sept. 26	1432	404, 405	22	1052
Water-wheel	J. B. McCormick	265,689	Oct. 10	573	160	22	1238
Water-wheel	H. T. Morse	263,196	Aug. 22	1701	482	22	655
Water-wheel	J. B. Rutherford	260,611	July 4	330	90	22	56
Water-wheel	G. W. Stansell	264,485	Sept. 19	969	272	22	962
Water-wheel	M. C. Taylor	266,922	Oct. 31	2052	591	22	1521
Water-wheel	R. W. Tufts	260,913	July 11	712	194, 195	22	125
Water-wheel	H. Van De Water. (Reissue)	10,247	Nov. 21	1287	361	22	1784
Water-wheel gate and nozzle	S. N. Knight	267,087	Nov. 7	159	45	22	1569
Water-wheel gates. Operating	J. McCold	265,971	Oct. 17	912	259	22	1303
Water-wheel. Turbine	R. H. Armstrong	262,342	Aug. 8	652	183	22	452
Water-wheel. Turbine	I. F. Davis	267,102	Nov. 7	253	74	22	1585
Water-wheel. Turbine	W. B. Farrar	267,854	Nov. 21	1123	315	22	1754
Water-wheel. Turbine	T. H. Risdon and W. W. Tyler	268,287	Nov. 28	1651	458	22	1856
Water-wheel. Undershot feathering	C. Megow and J. L. Markel	268,705	Dec. 5	361	106	22	1956
Watering device for pot-plants. Automatic	E. K. Dean	262,379	Aug. 8	695	194	22	460
Wave-power apparatus	I. L. Roberts	262,693	Aug. 15	1084	307	22	534
Wave-power apparatus	I. L. Roberts	262,694	Aug. 15	1085	307	22	534
Wax from paraffine-oil. Separating	S. W. Kirk	267,752	Nov. 21	999	.....	22	1731
Wax. Grafting	T. McLoughlin	266,858	Oct. 31	1967	.....	22	1506
Weaner. Calf	J. C. Dupee	260,748	July 11	516	141	22	93
Weaner. Calf	H. L. Jones and H. E. Fuller	261,096	July 11	958	268	22	166
Weather-strip	W. H. Blair	263,305	Aug. 29	1843	524	22	687
Weather-strip	W. Fields and D. D. Mayfield	267,858	Nov. 21	1127	316	22	1755
Weather-strip	W. H. Lynchard and G. S. Saunders	267,355	Nov. 14	503	144	22	1635
Weather-strip	T. Steckel	266,730	Oct. 31	1890	531	22	1480
Weaving-machine for covering bottles	S. Oakman	262,241	Aug. 8	530	149	22	430
Webermeters. Maintaining temperature in	T. A. Edison	265,774	Oct. 10	669	190	22	1255
Weeder and scraper. Hand	S. I. Haseltine	261,707	July 25	1098	477	22	303
Weeding-machine	M. H. Fuller	266,956	Oct. 31	2104	604	22	1531
Weeding, pruning, and singling implement	D. Fletcher	265,591	Oct. 10	446	122	22	1217
Weigher and register. Grain	C. J. M. Bereuter	262,355	Aug. 8	668	186	22	455
Weigher and tally. Grain	J. Beeler	268,173	Nov. 28	1508	420	22	1830
Weigher for grain, &c. Automatic	A. R. Cooper	266,608	Oct. 31	1682	486	22	1453
Weighing and package-filling machine. Automatic	C. C. Clawson	266,951	Oct. 31	2089	601	22	1728
Weighing fork. Hay	G. A. Stewart	268,747	Dec. 5	409	119	22	1965
Weighing-machine	J. B. Atwater	264,432	Sept. 19	906	255	22	950
Welding pipe, &c. Machine for	A. A. Smyth, Sr	267,029	Nov. 7	88	26	22	1555
Well. Artesian vacuum	D. H. Tichenor	260,803	July 11	590	160	22	105
Well-boring and stone-drilling machine	J. Vanderslice and F. H. Banka	264,799	Sept. 19	1310	369, 370	22	1026
Well-boring machine	P. N. Aggergaard	263,086	Aug. 22	1573	444	22	630
Well point and strainer. Drive	O. B. Olmsted	262,462	Aug. 8	787	222	22	476
Well point or strainer. Drive	O. B. Olmsted	261,251	July 18	1142	319	22	204
Well point or strainer. Drive	O. B. Olmsted	261,252	July 18	1143	319	22	204
Well point or strainer. Drive	O. B. Olmsted	261,253	July 18	1144	319	22	204
Well. Tube	A. N. Lane	260,401	July 4	72	20	22	14
Well. Tubular	R. E. Strait	269,244	Dec. 19	1050	306	22	2094
Wells and tanks. Safety attachment for oil	M. A. Lanagan	267,903	Nov. 21	1176	331	22	1765

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Wells. Automatic agitator and paraffine-cleaner for oil	W. S. Roberts	260,501	July 4	200	56	22	34
Wells between the flows of oil. Preventing the escape of gas from oil	C. H. McKee	267,796	Nov. 21	1054	294	22	1741
Wells. Device for controlling and regulating the flow of oil	B. Franklin	263,330	Aug. 29	1916	549	22	694
Wells. Driving tube	W. J. Sherman	267,605	Nov. 14	823	236	22	1691
Wells to flow without tubing above the packer. Adapting oil	C. C. Conroy	265,582	Oct. 10	434	120	22	1216
Welting or hemming fabrics	J. Bigelow	266,751	Oct. 31	1853	539	22	1484
Welts or hems on fabrics. Machine for forming	C. H. Willcox	263,640	Aug. 29	2283	652	22	760
Welts or hems on fabrics. Machine for forming	C. H. Willcox	263,641	Aug. 29	2285	652, 653	22	760
Whalebone. Preparation of	H. W. Morgan	261,623	July 25	1598	.....	22	287
Wheat and middlings reducing mill	J. Pye	260,784	July 11	565	154	22	101
Wheat. Method of and apparatus for degerminating	C. L. Gratiot	260,750	July 11	518	141	22	93
Wheel: *See* Buffing-wheel. Buffing or polishing wheel. Car-wheel. Fan-wheel. Fifth-wheel. Fishing-wheel. Gear-wheel. Harvester-wheel. Knitting-machine pattern-wheel. Paddle-wheel. Polishing and grinding wheel. Sewing-machine fly-wheel. Steam-wheel. Tracing-wheel. Traction-wheel. Traction-engine wheel. Trundle-wheel. Vehicle-wheel. Ventilator-wheel. Wagon-wheel. Water-wheel. Wheelbarrow-wheel. Wind-wheel.							
Wheel	C. N. Biddle	269,255	Dec. 19	1062	310	22	2096
Wheel	E. S. Jennings	269,424	Dec. 19	1278	371	22	2136
Wheel lock. Vehicle	E. C. Clark	269,262	Dec. 19	1069	312	22	2097
Wheel or pulley	E. B. Martindale	266,707	Oct. 31	1806	524	22	1475
Wheel or pulley	E. B. Martindale	266,708	Oct. 31	1806	524	22	1475
Wheel or pulley	E. T. Chaney	262,928	Aug. 22	1379	389	22	500
Wheel sand-band. Vehicle	J. Bean	262,171	Aug. 1	438	122	22	409
Wheelbarrow	J. Devey	264,637	Sept. 19	1126	319	22	991
Wheelbarrow	J. J. Johnston	266,837	Oct. 31	1946	563	22	1501
Wheelbarrow	J. Kelly	263,790	Sept. 5	152	45	22	800
Wheelbarrow	H. M. Loomis	264,720	Sept. 19	1222	345	22	1010
Wheelbarrow	S. L. Rockwell	261,046	July 11	892	247	22	154
Wheelbarrow	W. H. Stevens	264,967	Sept. 26	1538	432	22	1071
Wheelbarrow	G. W. Thomas	267,615	Nov. 14	835	238	22	1693
Wheelbarrow	L. Williams	265,477	Oct. 3	294	87	22	1188
Wheelbarrow-wheel	C. Ammarell	264,600	Sept. 19	1083	307	22	984
Whiffletree	T. J. Pearson	266,309	Oct. 24	1335	376	22	1382
Whiffletree	F. G. Thomas	269,245	Dec. 19	1051	307	22	2094
Whiffletree	F. A. Havens	262,540	Aug. 8	882	249	22	492
Whiffletree-coupling	D. J. Dossey	264,140	Sept. 12	581	159	22	884
Whiffletree-hook	W. E. Grisham	262,223	Aug. 8	510	142	22	427
Whiffletree-hook	F. A. Havens	269,500	Dec. 19	1378	396	22	2155
Whiffletree-hook	A. D. Hickok	261,710	July 25	1704	479	22	304
Whiffletree-hook	J. D. Thomas	263,245	Aug. 22	1751	498	22	665
Whiffletree-hook	C. Gardner	261,219	July 18	1109	309	22	199
Whiffletree-iron	V. B. and B. Barstow	263,098	Aug. 22	1586	448	22	633
Whip	M. M. Copp	262,374	Aug. 8	689	192	22	458
Whip	G. E. Ely and E. E. Ellis	260,465	July 4	147	42	22	26
Whip	D. C. Hull	261,550	July 25	1511	424	22	272
Whip	T. R. Lawhead	266,166	Oct. 17	1149	324	22	1343
Whip and cane. Combined	F. G. Dieterich	268,464	Dec. 5	107	32	22	1907
Whip and rein holder. Combined	S. Baker	266,412	Oct. 24	1467	416	22	1407
Whip-holder	B. W. Morris and W. H. Rodgers	266,712	Oct. 31	1810	525	22	1476
Whip-socket	A. Worden	263,084	Aug. 22	1570	443	22	630
Whip-socket	W. N. Bellah	261,987	Aug. 1	198	58	22	369
Whip-socket and rein-holder. Combined	J. W. Tillyer	260,507	July 4	207	58	22	35
Whip-socket clamp	C. De Quillfeldt	261,085	July 11	948	264	22	164
Whisk-broom holder	M. J. Allen and W. E. Bradley	263,087	Aug. 22	1574	445	22	631
Whisky. Making	E. H. Taylor, Jr	262,256	Aug. 8	546	.....	22	433
Whisky. Making	W. Barnett	264,606	Sept. 19	1092	310	22	985
Whistle. Steam	J. Sweeney	266,221	Oct. 17	1214	342	22	1354
Wick-tube for lamp-burners. Removable	H. P. Leonard	260,484	July 4	178	50	22	31
Wig	G. Petit	263,665	Aug. 29	2315	662	22	764
Wig, false front, switch, &c	U. N. Beardsley	261,985	Aug. 1	195	58	22	368
Wind-engine	P. T. Coffield	264,862	Sept. 26	1399	394	22	1047
Wind-engine	F. G. Cornell	261,686	July 25	1670	468, 469	22	299
Wind-engine	H. Croft, Jr	261,535	July 25	1494	419	22	269
Wind-engine	H. Croft, Jr	266,612	Oct. 31	1686	487	22	1453
Wind-engine	G. Garside	260,970	July 11	789	217	22	138
Wind-engine	G. Garside	264,274	Sept. 12	724	201	22	909
Wind-engine	J. E. Jones	263,530	Aug. 29	2158	617	22	738
Wind-engine	C. B. Post	269,320	Dec. 19	1138	333, 334	22	2111
Wind-engine	H. J. Relyea	262,117	Aug. 1	370	105	22	397
Wind-engine	H. J. Relyea	264,757	Sept. 19	1263	358	22	1018
Wind-engine	C. O. Weldman	260,435	July 4	110	32	22	20
Wind-engine	C. A. Young	266,667	Oct. 31	1751	505	22	1465
Wind-power	G. A. Roland and C. P. Adams	265,150	Sept. 26	1743	487	22	1107
Wind-wheel	C. M. Conradson	264,930	Sept. 26	1491	419	22	1062
Wind-wheel	F. G. Cornell	261,684	July 25	1667	467, 468	22	298

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Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Wind-wheel	P. H. Jackson	264,164	Sept. 12	604	166, 167	22	888
Wind-wheel	O. D. Thompson	261,465	July 18	1429	399	22	252
Wind-wheel. Horizontal	R. W. Burt	269,511	Dec. 26	1394	402	22	2164
Winding-shell for calico, &c	A. M. Ackerman	267,817	Nov. 21	1081	303	22	1740
Windlass	S. Baxter	264,924	Sept. 26	1482	417	22	1061
Windmill	J. W. Barber	260,927	July 11	729	199	22	128
Windmill	T. P. Benton	269,169	Dec. 19	945	276	22	2075
Windmill	O. T. Chamberlain and S. D. Straw	263,113	Aug. 22	1601	453	22	636
Windmill	J. A. Dean	266,352	Oct. 24	1397	396	22	1394
Windmill	G. Garside	266,281	Oct. 24	1293	366	22	1374
Windmill	J. B. Gorrell and G. H. Post	261,442	July 18	1368	382	22	241
Windmill	C. B. Harman	260,566	July 4	278	77	22	47
Windmill	F. W. Heinke	263,515	Aug. 29	2136	612	22	733
Windmill	C. C. Hill and L. Pettersen	268,403	Dec. 5	36	11, 12	22	1893
Windmill	W. C. Jacob	267,209	Nov. 7	310	91	22	1595
Windmill	C. Kunkel	262,058	Aug. 1	281	82	22	384
Windmill	G. W. McKenzie	263,714	Sept. 5	50	15	22	783
Windmill	J. S. Meyer	268,262	Nov. 28	1626	451	22	1852
Windmill	D. M. Reed	266,051	Oct. 17	1007	285	22	1320
Windmill	F. Reiter	266,524	Oct. 24	1586	451	22	1429
Windmill	W. Richmond	263,585	Aug. 29	2226	636	22	750
Windmill	R. O. Robinson	268,292	Nov. 28	1658	460	22	1858
Windmill	E. M. Schrock	265,545	Oct. 3	391	108	22	1392
Windmill	A. H. Smith	263,069	Aug. 22	1551	438	22	626
Windmill	D. A. Smith	269,731	Dec. 26	1670	480	22	2217
Windmill	E. Stickler	263,618	Aug. 29	2262	646	22	756
Windmill	S. P. Wheeler	263,447	Aug. 29	2062	591	22	720
Windmill	E. Williams	265,203	Sept. 26	1811	509	22	1120
Windmill	E. B. and O. E. Winger	263,376	Aug. 29	1974	564	22	704
Windmill-gearing	M. R. Martin	261,739	July 25	1739	489	22	310
Windmill-gearing	M. R. Martin	267,440	Nov. 14	619	179	22	1655
Windmill-motor	W. Scott	261,051	July 11	897	249	22	155
Window	U. H. Balcom	267,820	Nov. 21	1085	304	22	1747
Window	M. B. Burk	262,367	Aug. 8	631	180	22	457
Window-cleaning chair	D. V. Howell	268,899	Dec. 12	607	179	22	2008
Window-cleaning chair	F. Sandvos	268,132	Nov. 28	1459	407	22	1821
Window-guard	J. Badger	269,372	Dec. 19	1216	354	22	2124
Window guard or screen. Portable	W. P. Todd	262,331	Aug. 8	638	180	22	450
Window-pane	T. Tanner	269,740	Dec. 26	1679	483	22	2219
Window-platform and fire-escape	F. H. Heimsath	266,691	Oct. 31	1787	516	22	1472
Window-screen	H. Grimshaw	267,519	Nov. 14	709	204	22	1671
Window-screen	J. K. Nelson	268,716	Dec. 5	373	109	22	1958
Window-screen	I. E. Palmer	269,452	Dec. 19	1311	380	22	2143
Window-screen	G. L. Reynolds	268,125	Nov. 28	1449	405	22	1820
Window-screen	E. J. Wells	262,168	Aug. 1	435	121	22	408
Window-screen	H. O. Whyman	263,371	Aug. 29	1968	562	22	703
Window-screen	H. E. Willer	266,246	Oct. 17	1240	352	22	1359
Window-screen. Adjustable	E. L. Lloyd	269,075	Dec. 12	828	245	22	2048
Window-screen frame	J. E. Stuart	262,148	Aug. 1	406	115	22	403
Window-screen. Rolling	T. Tribe	267,618	Nov. 14	837	239	22	1694
Window-shade	L. L. Sawyer, C. Buckley, and J. C. Perkins.	265,875	Oct. 10	785	222	22	1276
Window-shade pull	L. G. Turner	266,926	Oct. 31	2057	592	22	1522
Window-shades. Device for exhibiting, measuring, and cutting	C. Cregmile	269,158	Dec. 12	927	269	22	2065
Window-shades to rollers. Attaching	J. W. Marsh	265,688	Oct. 10	572	160	22	1238
Windows. Stained-glass	E. Oudinot	266,507	Oct. 24	1561	.....	22	1425
Window-ventilator	S. K. Addoms	261,291	July 18	1194	333	22	212
Window-ventilator	E. G. Caldwell	265,217	Sept. 26	1837	516	22	1124
Window-washer	G. A. Keene	262,231	Aug. 8	521	146	22	429
Windows and doors. Device for closing	D. Pearson	266,384	Oct. 24	1437	407	22	1402
Wine and cider press	H. J. Campbell	261,807	July 25	1814	513	22	324
Wire-annealing pot	H. Roberts	268,128	Nov. 28	1454	406	22	1821
Wire. Apparatus for tempering and hardening	E. Clifton	263,859	Sept. 5	240	70	22	815
Wire. Barbed	A. J. Upham	264,495	Sept. 19	978	275	22	964
Wire-barbing machine	G. C. Baker	261,123	July 18	996	280	22	182
Wire-barbing machine	D. C. Stover	264,488	Sept. 19	972	273	22	962
Wire-cloth binding	J. Leber	261,859	Aug. 1	40	12	22	342
Wire-cloth for flour-bolts. Binding	C. E. Sage	263,594	Aug. 29	2234	638	22	751
Wire-coiling machine	J. A. Coultas	265,026	Sept. 26	1694	451	22	1083
Wire-coiling machine	H. S. Hall	260,752	July 11	594	142	22	94
Wire-coiling machine	H. Schmidt	264,046	Sept. 5	470	128	22	855
Wire. Composition for treating iron	P. Tolman, F. Walker, and J. W. Caswell.	264,971	Sept. 26	1542	.....	22	1071
Wire. Fastening for sections of	R. Farlee	265,665	Oct. 10	547	149	22	1233
Wire-feeding apparatus	H. Roberts	263,288	Nov. 28	1653	459	22	1857
Wire gate	S. E. Millett	262,607	Aug. 15	979	274	22	514
Wire lifter and carrier. Barb-	T. McCosh	264,547	Sept. 19	1025	290	22	973
Wire machine. Barb-	S. M. Stevens	263,073	Aug. 22	1555	439, 440	22	627
Wire. Manufacture of plated	K. Kaufmann	268,687	Dec. 5	346	101	22	1953
Wire-pickling apparatus	H. Roberts	268,130	Nov. 28	1457	407	22	1821
Wire rack	J. Bailey	262,556	Aug. 15	908	256	22	504
Wire-reel handle. Barb-	M. M. Shellaberger	264,778	Sept. 19	1287	363	22	1022
Wire rolling and reeling machine	T. Kuhne	261,934	Aug. 1	139	40, 41	22	359
Wire-rolling mill	J. Reese	269,464	Dec. 19	1327	384	22	2140
Wire rope. Machine for making	A. S. Hallidie	264,529	Sept. 19	1011	285, 286	22	970
Wire screen	C. W. Spayd	263,608	Aug. 29	2250	642	22	754
Wire-splicer	F. A. Gurney	269,498	Dec. 19	1376	396	22	2154
Wire-splicer	F. M. Harris	261,706	July 25	1697	477	22	303
Wire-stand	G. D. Dudley	261,541	July 25	1499	420	22	270

Alphabetical list of inventions, July to December, inclusive—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Wire-stretcher	R. and A. Ellwood	260,957	July 11	766	210	22	134
Wire-stretcher	G. Elsey	260,551	July 4	260	73	22	44
Wire-stretcher	M. C. Goucher	263,509	Aug. 29	2130	610	22	732
Wire-stretcher	J. Haish	262,587	Aug. 15	952	268	22	510
Wire-stretcher	R. Milby	266,864	Oct. 31	1973	570	22	1507
Wire-stretcher	O. M. Pond	268,934	Dec. 12	650	190, 191	22	2017
Wire-stretcher	H. Williams	263,373	Aug. 29	1972	563	22	703
Wire stretcher. Barbed	W. Henson	262,768	Aug. 15	1176	331	22	549
Wire-tightener clamp	F. A. Gurney	269,497	Dec. 19	1375	395	22	2154
Wire twisting, cutting, and splicing tool	O. O. Adams	261,646	July 25	1626	457	22	292
Wire-wiping apparatus	H. Roberts	268,129	Nov. 28	1455	406	22	1821
Wood. Corrugating	J. J. Burk	266,763	Oct. 31	1868	542	22	1487
Wood. Machine for ornamenting	W. H. Roystone	268,541	Dec. 5	185	52	22	1921
Wood-polishing machine	A. Bridgman and J. L. Perry. (Reissue.)	10,152	July 11	981	275	22	170
Wood. Preservation of	R. G. Bürstenbinder	266,092	Oct. 17	1058	.....	22	1328
Wood-shaping machine	J. W. Hudson	268,405	Dec. 5	39	12, 13	22	1894
Wood-splitting machine	E. A. and S. B. Hildreth	262,591	Aug. 15	957	269	22	511
Wood-working machines. Adjustable table for	J. W. Royce	261,765	July 25	1768	497	22	316
Wood-working machines. Cutter-carrier for	H. A. Holt	265,604	Oct. 10	462	127, 128	22	1220
Wooden mat	H. T. Pratt	260,499	July 4	198	55	22	34
Wooden package. Three-ply cylindrical	J. Tomlinson	267,617	Nov. 14	836	239	22	1694
Wooden pipe	L. F. Johnson and I. E. Williams	268,024	Nov. 28	1330	373	22	1798
Wool and other fiber. Machine for drying	H. W. Church	263,683	Sept. 5	16	5	22	777
Wool for carding and spinning. Material to be used as a substitute for oil in the preparation of	J. Scharr	268,547	Dec. 5	189	.....	22	1922
Wool. Machine for picking and burring	J. R. Clark and H. Tindell	263,485	Aug. 29	2103	603	22	727
Wool-oiling machine	R. Duggan	269,514	Dec. 26	1400	403, 404	22	2165
Wool-oiling machine	E. M. Hewson	261,452	July 18	1379	385	22	243
Wool-oiling machine	F. G. and A. C. Sargent	260,898	July 11	697	189	22	123
Wool on skins. Machine for cleaning	J. Laroche	264,309	Sept. 12	762	213	22	915
Wool picking, opening, and mixing machine	S. R. Parkhurst	267,454	Nov. 14	633	183	22	1657
Wool-washer	F. G. and A. C. Sargent	266,899	Oct. 31	2019	582	22	1515
Wool-washer	F. G. and A. C. Sargent	266,900	Oct. 31	2019	582	22	1515
Wool-washing machine	J. Petrie, Jr	261,756	July 25	1756	494, 495	22	314
Wool-washing machine	F. G. and A. C. Sargent	260,899	July 11	698	190	22	123
Wool-washing machine	F. G. and A. C. Sargent	260,900	July 11	699	190	22	123
Wool-washing machine	F. G. and A. C. Sargent	263,727	Sept. 5	71	22	22	787
Wool-washing machine	F. G. and A. C. Sargent	263,728	Sept. 5	72	22	22	787
Wool-washing machine	F. G. and A. C. Sargent	266,898	Oct. 31	2017	581	22	1515
Wool-washing machine	F. G. and A. C. Sargent	266,901	Oct. 31	2020	582	22	1515
Wool-washing machine	F. G. and A. C. Sargent	265,093	Sept. 26	1677	468	22	1094
Work-supporting frame	C. G. Johnsen	264,526	Sept. 19	1007	284	22	969
Woven bag	J. E. Grauwiler						
Wrench: *See* Axle-tap wrench. Bung-bushing wrench. Carriage-wrench. Monkey-wrench. Pipe-wrench. Ratchet-wrench. Screw and pipe wrench. Socket-wrench. Tap-wrench. Wagon-wrench.							
Wrench	T. W. Boyle	265,236	Oct. 3	11	4	22	1138
Wrench	W. A. Bradford	263,471	Aug. 29	2069	598	22	725
Wrench	B. Donohue	268,784	Dec. 12	135	463	22	1982
Wrench	J. Du Shane	267,505	Nov. 14	691	198	22	1668
Wrench	E. P. Hand	260,479	July 4	165	46	22	29
Wrench	J. Lee	269,073	Dec. 12	825	245	22	2048
Wrench	D. S. Maynard	263,794	Sept. 5	156	46	22	801
Wrench	P. Rotermund	265,445	Oct. 3	249	75	22	1180
Wrench	R. Simmons and W. Tyack	262,840	Aug. 15	1264	356	22	565
Wrench	L. H. Swan	269,482	Dec. 19	1360	391	22	2151
Wrench	H. Tregellas	265,188	Sept. 26	1790	502	22	1116
Wrench	L. Wood	268,344	Nov. 28	1721	479	22	1869
Wrench, vise, and nail-puller. Combined	D. R. Porter	266,310	Oct. 24	1338	377	22	1383
Wringer: *See* Centrifugal hydro-wringer. Clothes-wringer.							
Writing. Device for holding the fingers in	C. I. Wallis	265,193	Sept. 26	1794	503	22	1117
Yard-stick and bias-rule. Combined	A. S. Phillips	263,351	Aug. 29	1941	555	22	699
Yeast. Preparing bakers'	J. H. Goll and A. Spinner	267,686	Nov. 21	928	.....	22	1719
Yoke. Neck	A. Kanzler	262,432	Aug. 8	756	212	22	470
Yoke straps and chains. Attachment for neck	W. B. Hayden and C. H. Allen	264,830	Sept. 19	1347	381	22	1032

ALPHABETICAL LIST OF DESIGNS.

Design.	Name.	No.	Date.	Official Gazette. Volume.	Page.
Advertising-blank	E. L. Moodie	13,369	Oct. 24	22	1370
Advertising-card	H. Pennington	13,367	Oct. 24	22	1370
Advertising disk or plate	E. L. Moodie	13,062	July 18	22	180
Advertising-label	H. Pennington	13,294	Sept. 12	22	863
Alphabet	F. W. Miller	13,322	Sept. 26	22	1041
Bandbox	R. Luckner, Sr.	13,093	July 25	22	264
Bell-stand	E. Ingraham	13,316	Sept. 26	22	1041
Billiard-table	R. Herman	13,440	Nov. 21	22	1711
Book-clasp	M. R. Gately	13,250	Aug. 22	22	590
Bottle	J. F. Corrigan	13,175	Aug. 15	22	501
Bottle	S. B. Winn	13,323	Sept. 26	22	1041
Bowl. Fruit	G. E. Hatch	13,300	Sept. 19	22	948
Bracelet-charm	H. G. Macklinney	13,368	Oct. 24	22	1370
Bracket	C. C. Cox	13,169	Aug. 8	22	422
Bridle-bit	A. Buermann	13,458	Nov. 28	22	1789
Bridle-bit pattern	A. Buermann	13,459	Nov. 28	22	1789
Bucket-ear	J. L. Pope	13,385	Oct. 31	22	1449
Burial-casket	W. A. Sparks	13,286	Sept. 5	22	773
Burial-casket	W. A. Sparks and N. Rappleyea	13,287	Sept. 5	22	773
Burial-casket	L. Stein	13,034	July 11	22	89
Button	J. A. Deknatel	13,024 to 13,028	July 11	22	89
Button	J. A. Deknatel	13,048	July 18	22	179
Button	J. A. Deknatel	13,176	Aug. 15	22	501
Button	A. Flesh	13,256	Aug. 22	22	590
Button. Sleeve	S. C. Howard	13,291	Sept. 12	22	863
Cake or biscuit	F. G. Cass	13,140	Aug. 8	22	421
Calendar	C. S. Nathan	13,404	Nov. 14	22	1636
Calendar	T. E. Whalen	13,168	Aug. 8	22	422
Card	G. M. Hayes	13,254	Aug. 22	22	590
Card-cover	G. Brueck	13,040	July 18	22	179
Card. Fancy	S. Garre	13,170	Aug. 8	22	422
Card or circular	O. W. Butler and T. W. Kelley	13,464	Dec. 5	22	1885
Card. Ornamental	E. H. Rath	13,023	July 4	22	1
Card. Playing	G. G. White	13,473	Dec. 5	22	1885
Card-receiver	F. R. Buck	13,268	Aug. 22	22	590
Card. Show	M. H. Wiener	13,463	Nov. 28	22	1789
Carpet	F. Allen	13,035 to 13,038	July 18	22	179
Carpet	F. Allen	13,100	Aug. 1	22	333
Carpet	F. Allen	13,264 13,265	Aug. 22	22	590
Carpet	W. Allinson	13,039	July 18	22	179
Carpet	J. Beazer	13,137 13,138	Aug. 8	22	421
Carpet	J. Campbell	13,266	Aug. 22	22	590
Carpet	H. Christie	13,174	Aug. 15	22	501
Carpet	E. A. Crowe	13,102 to 13,106	Aug. 1	22	333
Carpet	E. A. Crowe	13,481 to 13,488	Dec. 26	22	2161
Carpet	E. Fajon	13,345	Oct. 24	22	1369
Carpet	E. Fajon	13,460	Nov. 28	22	1789
Carpet	E. Fajon	13,489	Dec. 26	22	2161
Carpet	E. Fisher	13,108 13,109	Aug. 1	22	333
Carpet	E. Fisher	13,490 to 13,495	Dec. 26	22	2161
Carpet	J. Fisher	13,110	Aug. 1	22	333
Carpet	J. L. Folsom	13,201 to 13,248	Aug. 22	22	589 590
Carpet	W. J. Gadsby	13,111	Aug. 1	22	333
Carpet	W. J. Gadsby	13,249	Aug. 22	22	590
Carpet	A. L. Halliday	13,088 13,089	July 25	22	264
Carpet	A. L. Halliday	13,251 to 13,253	Aug. 22	22	590
Carpet	A. L. Halliday	13,338 13,339	Oct. 17	22	1295
Carpet	O. Heinigke	13,302	Sept. 19	22	948
Carpet	O. Heinigke	13,396	Oct. 3	22	1135

Alphabetical list of designs, July to December, inclusive—Continued.

Design.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Carpet	O. Heinigke	13,373 to 13,375	Oct. 31	22	1449
Carpet	H. Horan	13,442 to 13,443	Nov. 21	22	1711
Carpet	H. Hunt	13,303	Sept. 19	22	948
Carpet	H. Hunt	13,397 to 13,398	Nov. 7	22	1540
Carpet	H. Hunt and J. E. Rollings	13,461	Nov. 28	22	1789
Carpet	W. L. Jacobs	13,332	Oct. 10	22	1209
Carpet	W. L. Jacobs	13,376 to 13,381	Oct. 31	22	1449
Carpet	W. Kerr	13,114 to 13,115	Aug. 1	22	333
Carpet	G. Lees	13,305	Sept. 19	22	948
Carpet	J. A. Lees	13,116	Aug. 1	22	334
Carpet	W. McCallum	13,257	Aug. 22	22	590
Carpet	W. McCallum	13,333	Oct. 10	22	1209
Carpet	D. McNair	13,259	Aug. 22	22	590
Carpet	D. G. Melville	13,260	Aug. 22	22	590
Carpet	D. G. Melville	13,359	Oct. 24	22	1370
Carpet	J. S. Meyer	13,382 to 13,383	Oct. 31	22	1449
Carpet	T. Onslow	13,064	July 18	22	180
Carpet	T. Onslow	13,118 to 13,121	Aug. 1	22	334
Carpet	J. Pegel	13,452	Nov. 21	22	1711
Carpet	E. Poole	13,183 to 13,187	Aug. 15	22	501
Carpet	G. W. Pugh	13,122 to 13,125	Aug. 1	22	334
Carpet	A. Redfern	13,126	Aug. 1	22	334
Carpet	C. A. Righter	13,163 to 13,167	Aug. 8	22	422
Carpet	O. Righter	13,188 to 13,195	Aug. 15	22	502
Carpet	E. G. Sauer	13,198 to 13,199	Aug. 15	22	502
Carpet	S. Smith	13,129	Aug. 1	22	334
Carpet	T. J. Stearns	13,067	July 18	22	180
Carpet	T. J. Stearns	13,262	Aug. 22	22	590
Carpet	C. W. Swapp	13,130 to 13,135	Aug. 1	22	334
Carpet	C. W. Swapp	13,497 to 13,507	Dec. 26	22	2161
Carpet	W. F. Wait	13,263	Aug. 22	22	590
Carpet	H. Wortz	13,341	Oct. 17	22	1295
Carpet	G. C. Wright	13,311	Sept. 19	22	948
Carriage-step	J. L. Pope	13,415 to 13,429	Nov. 14	22	1626
Carriage-wrench	J. L. Pope	13,430 to 13,431	Nov. 14	22	1626
Chain and attachment. Watch	C. W. Little	13,181	Aug. 15	22	501
Chain-link	S. Davidson	13,045 to 13,047	July 18	22	179
Chain-link	S. Davidson	13,078	July 25	22	263
Chain-link	J. L. Heeley	13,090	July 25	22	264
Chain-link	S. Davidson	13,177	Aug. 15	22	501
Chain. Ornamental	J. Etzensperger	13,030	July 11	22	89
Chain. Ornamental	G. M. Lieb	13,318	Sept. 26	22	1041
Chain. Ornamental	J. J. Horton	13,444	Nov. 21	22	1711
Chain swivel. Watch	H. H. Paine	13,405	Nov. 14	22	1626
Chair	H. J. Schmehl	13,478	Dec. 12	22	1980
Chair	S. L. Lederer	13,399	Nov. 7	22	1540
Charm	H. G. Mackinney	13,157	Aug. 8	22	421
Charm for watch-chains, &c	S. Hursen	13,062	July 4	22	1
Chart. Family	G. Fuchs	13,337	Oct. 17	22	1295
Cigar-lighter	J. L. Haas	13,395	Nov. 7	22	1540
Cigarette-paper holder	H. J. Davies	13,142	Aug. 8	22	421
Clock-case	F. H. Hotchkiss	13,171	Aug. 8	22	422
Clock-case	D. E. McNicol	13,340	Oct. 17	22	1295
Coffee-pot. Earthenware	L. B. Davis	13,107	Aug. 1	22	333
Coffin-emblem	W. R. McComas	13,321	Sept. 26	22	1041
Coffin-handle. Emblematic	W. R. McComas	13,158	Aug. 8	22	421
Coffin-handle support	W. R. McComas	13,159	Aug. 8	22	422
Coffin ornament	J. Maxwell	13,293	Sept. 12	22	863
Coffin-pedestal	J. B. Sargent	13,437	Nov. 14	22	1626
Coffin-screw	C. H. Graef	13,179	Aug. 15	22	501
Comb	J. Bowers	13,173	Aug. 15	22	501
Corset	J. Hilborn	13,441	Nov. 21	22	1711
Corset	S. H. Rosenberg	13,284	Sept. 5	22	773
Corset	I. Strouse	13,288	Sept. 5	22	773
Corset	D. Benham and X. Stontenborough	13,479	Dec. 19	22	2073
Crumb-pan	H. C. Brill	13,099	Aug. 1	22	333
Curry-comb	H. C. Brill	13,457	Nov. 28	22	1789
Curtain-band	G. H. Wright	13,289	Sept. 5	22	773
Dish. Roasting and baking	J. E. Gamble, W. Harrison, and A. R. Lee.	13,496	Dec. 26	22	2161
Dish. Vegetable	J. Slater	13,295	Sept. 12	22	863
Dressing-comb	J. P. Stepp	13,436	Nov. 14	22	1626
Embroidery	H. Bosshardt	13,393	Nov. 7	22	1539
Embroidery	H. Bosshardt	13,438	Nov. 21	22	1711
Embroidery	S. Landsberg	13,273	Aug. 29	22	685
Eyeleting-machine	H. L. Lipman	13,292	Sept. 12	22	863
Fabric	H. Selling	13,200	Aug. 15	22	502
Finger-ring	W. S. Dolbey	13,370	Oct. 31	22	1449
Finger-ring	C., H., and L. Wilkening	13,296	Sept. 12	22	863
Fire-iron stand	R. Christesen	13,101	Aug. 1	22	333
Fire-place	W. C. Peet	13,445 to 13,451	Nov. 21	22	1711
Fire-place	W. Tweeddale	13,306 to 13,310	Sept. 19	22	948
Flower-vase	C. O. Held	13,255	Aug. 22	22	590
Foot-rail bracket	C. W. Nason	13,182	Aug. 15	22	501
Fringe	T. Abbott	13,068 to 13,070	July 25	22	263
Fringe	A. Donzel	13,079	July 25	22	263
Fringe	G. E. Goucher	13,065 to 13,066	July 25	22	263
Fringe	G. E. Goucher	13,113	Aug. 1	22	333
Fringe	J. C. Graham	13,067	July 25	22	263
Fringe	H. A. Kehrenberg	13,032	July 11	22	89
Fringe	L. J. McDonald	13,094 to 13,095	July 25	22	264
Fringe	L. J. McDonald	13,117	Aug. 1	22	334
Fringe	L. J. McDonald	13,258	Aug. 22	22	590
Fringe	L. J. McDonald	13,275	Aug. 29	22	685
Fringe	F. Reuter	13,096 to 13,097	July 25	22	264
Fringe	F. Reuter	13,127	Aug. 1	22	334
Fringe. Ball	G. S. Hensel	13,396	Nov. 7	22	1540
Glassware	J. K. Brown	13,020	July 4	22	1
Glassware	E. T. Burgess	13,041 to 13,043	July 18	22	179
Glassware	F. S. Shirley	13,160	Aug. 8	22	422
Globe	J. J. Nichols	13,326	Oct. 10	22	1209
Hame	J. G. Eberhard	13,281	Sept. 5	22	773
Hat-lining	R. Dunlap	13,371 to 13,372	Oct. 31	22	1449
Hat-lining. Stamped	F. L. Petrini	13,162	Aug. 8	22	422
Hat-rack	C. C. Isham	13,480	Dec. 19	22	2073
Inkstand	J. G. Smith	13,066	July 18	22	180
Jacket	M. A. King	13,052	July 18	22	179
Jewelry	E. Thoma	13,402	Nov. 7	22	1540
Knife, fork, or spoon handle	E. B. Towle	13,366	Oct. 24	22	1370
Knitted goods	T. P. Dresser	13,327	Oct. 3	22	1135
Lamp and reflector. Combined street	S. F. Van Choate	13,402	Nov. 28	22	1789
Lamp and vase. Combined	W. S. McLewee	13,335	Oct. 10	22	1209
Lamp-bracket	R. Marsh	13,319 to 13,320	Sept. 26	22	1041
Lamp. Hanging	W. S. McLewee	13,334	Oct. 10	22	1209
Lamp, &c. Oil	D. R. Lowden	13,358	Oct. 24	22	1370
Lamp. Oil-burning	W. L. Ewing	13,394	Nov. 7	22	1539
Nubia	A. G. Jennings	13,317	Sept. 26	22	1041
Oil-cloth	C. T. and V. E. Meyer	13,053 to 13,061	July 18	22	180
Oil-cloth	C. T. and V. E. Meyer	13,360 to 13,365	Oct. 24	22	1370
Organ-case	E. P. Carpenter	13,344	Oct. 24	22	1369
Pencil-case	L. W. Fairchild	13,021	July 4	22	1
Photographic card	F. B. Clench	13,330	Oct. 10	22	1209
Photographic mount or card	F. B. Clench	13,465	Dec. 5	22	1685
Pipe mouth-piece	W. Demuth	13,029	July 11	22	89
Pipe mouth-piece	W. Demuth	13,049 to 13,050	July 18	22	179
Pitcher	E. M. Pearson and C. W. Franzheim	13,033	July 11	22	89
Printed fabric	J. M. Bryce	13,073 to 13,076	July 25	22	263
Printed fabric	J. Glen	13,080 to 13,084	July 25	22	263
Printed fabric	J. Glen	13,112	Aug. 1	22	333
Printed fabric	J. Glen	13,145 to 13,146	Aug. 8	22	421
Printed fabric	J. Glen	13,346 to 13,357	Oct. 24	22	1370
Ring	J. B. Harrison	13,282	Sept. 5	22	773
Saddle clip-plate. Spring	J. L. Pope	13,386	Oct. 31	22	1449
Scarf	H. Heath	13,031	July 11	22	89
Scarf. Made-up	H. Heath	13,325	Oct. 3	22	1135

Alphabetical list of designs, July to December, inclusive—Continued.

Alphabetical list of designs, July to December, inclusive—Continued.

Design.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Scarf-shield	T. J. Flagg	13,267	Aug. 22	22	590
Sewing-machine stand	A. M. Leslie	13,180	Aug. 15	22	501
Shaving-mug	H. Griebel	13,403	Nov. 14	22	1626
Shawl	J. G. Savage	13,472	Dec. 5	22	1885
Shelf-cover	H. Force	13,331	Oct. 10	22	1209
Shoe	A. Cook	13,077	July 25	22	263
Souvenir	W. H. Curry	13,044	July 18	22	179
Sponge-basket	W. B. and G. W. Burk	13,139	Aug. 8	22	421
Spoon or fork handle	F. Dimier	13,143	Aug. 8	22	421
Spoon or fork handle	G. Gill	13,178	Aug. 15	22	501
Spoon or fork handle	L. C. Hiller	13,136	Aug. 8	22	421
Spring and axle block	J. L. Pope	13,432 to 13,433	Nov. 14	22	1626
Stationery	D. L. Davis	13,312	Sept. 19	22	948
Statuary. Group of	J. Rogers	13,392	Oct. 31	22	1449
Stove	H. C. Bascom and T. S. Heister	13,454	Nov. 28	22	1789
Stove	E. L. Calely	13,342 to 13,343	Oct. 24	22	1369
Stove	W. C. Higgins	13,272	Aug. 29	22	685
Stove	J. S. Van Buren	13,280	Aug. 29	22	685
Stove	H. C. Bascom and T. S. Heister	13,455	Nov. 28	22	1789
Stove. Cook	E. W. Anthony	13,019	July 4	22	1
Stove. Heating	E. W. Anthony	13,324	Oct. 3	22	1135
Stove. Heating	E. W. Anthony and T. J. Gould	13,172	Aug. 15	22	501
Stove. Heating	H. C. Bascom and T. S. Heister	13,071	July 25	22	263
Stove. Oil	H. C. Bascom and T. S. Heister	13,456	Nov. 28	22	1789
Stove or range	G. H. Hughes	13,469	Dec. 5	22	1885
Table and enameled cloth	M. Redon	13,477	Dec. 12	22	1980
Table-ware	J. C. Rhodes	13,128	Aug. 1	22	334
Tag-fastener	F. J. Kaldenberg	13,470	Dec. 5	22	1885
Thermometer	C. M. Henn	13,314	Sept. 26	22	1041
Toy bank	H. S. Lockwood	13,261	Aug. 22	22	590
Toy bank	C. F. Ritchel	13,400 to 13,401	Nov. 7	22	1540
Toy fulminate-exploder	E. L. Morris	13,063	July 18	22	180
Toy money-bank	G. S. Crosby	13,298	Sept. 19	22	948
Toy money-box	L. Kyser and A. C. Rex	13,144	Aug. 8	22	421
Toy pistol	H. S. Lockwood	13,471	Dec. 5	22	1885
Toy shovel	I. P. Chalfant	13,141	Aug. 8	22	421
Trimming	L. Koenig	13,304	Sept. 19	22	948
Turcoman	F. Christie	13,269 to 13,271	Aug. 29	22	685
Type	W. W. Jackson	13,091	July 25	22	264
Type	J. K. Rogers	13,098	July 25	22	264
Type	J. K. Rogers	13,196	Aug. 15	22	502
Type	J. M. Conner	13,313	Sept. 26	22	1041
Type. Font of printing	J. Graham	13,475	Dec. 12	22	1980
Type. Font of printing	C. E. Heyer	13,290	Sept. 12	22	863
Type. Font of printing	C. H. Beeler, Jr.	13,474	Dec. 12	22	1980
Type. Font of printing	H. Thlenburg	13,476	Dec. 12	22	1980
Type. Font of printing	H. H. Thorp	13,279	Aug. 29	22	685
Type. Printing	C. H. Beeler, Jr.	13,072	July 25	22	263
Type. Printing	C. E. Heyer	13,315	Sept. 26	22	1041
Type. Printing	W. W. Jackson	13,092	July 25	22	264
Type. Printing	C. Müller	13,161	Aug. 8	22	422
Type. Printing	J. W. Phinney	13,398	Oct. 3	22	1135
Type. Printing	J. K. Rogers	13,197	Aug. 15	22	502
Type. Printing	J. K. Rogers	13,276 to 13,278	Aug. 29	22	685
Type. Printing	H. H. Thorp	13,453	Nov. 21	22	1711
Vase. Flower	G. E. Hatch	13,301	Sept. 19	22	948
Vase. Hanging	R. L. Allen	13,297	Sept. 19	22	948
Vehicle	H. C. Sears	13,329	Oct. 3	22	1135
Wall ornament	L. G. Collins	13,439	Nov. 21	22	1711
Wall-paper	E. Leissner	13,147 to 13,156	Aug. 8	22	421
Wall-paper	E. Leissner	13,274	Aug. 29	22	685
Watch-charm	H. T. Regnell	13,391	Oct. 31	22	1449
Watch-pendant	E. C. Fitch	13,051	July 18	22	179
Wear-iron	J. L. Pope	13,384	Oct. 31	22	1449
Wear-iron	J. L. Pope	13,387	Oct. 31	22	1449
Wear-iron	J. L. Pope	13,408 to 13,414	Nov. 14	22	1626
Whiffletree-plate	J. L. Pope	13,388 to 13,390	Oct. 31	22	1449
Whiffletree-plate	J. L. Pope	13,406 13,407	Nov. 14	22	1626
Whip-socket	E. W. Scott	13,285	Sept. 5	22	773
Whisk-broom case	J. H. Flynn and J. A. Snell	13,466 to 13,468	Dec. 5	22	1885
Window-shade	E. J. Hamm	13,299	Sept. 19	22	948
Window-shade	C. Reinhardt	13,283	Sept. 5	22	773
Wrench	B. F. Pickering	13,065	July 18	22	180
Wrench	J. L. Pope	13,434 13,435	Nov. 14	22	1626

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Title.	Name.	No.	Date.	Official Gazette. Volume.	Page.
Accordions	Sherman, Clay & Co	9,575	July 25	22	264
Ammonia compound or mixture. Certain chemically-prepared	Columbia Chemical Works	9,505	July 4	22	1
Axle-grease	A. J. Wise	9,555	July 18	22	180
Baking-powder	Chicago Chemical Works	9,788	Nov. 7	22	1540
Baking-powder	W. Y. Walrath	9,576	July 25	22	264
Baling-presses	Wrenn, Whitehurst & Co	9,648	Sept. 5	22	774
Beer. Lager	Berliner Brauerei-Gesellschaft Tivoli.	9,590	Aug. 8	22	422
Beer. Lager	Eble & Herter	9,791	Nov. 7	22	1540
Beer. Lager	Schmidt & Brother	9,542	July 11	22	90
Beer, lager-beer, ale, and porter	D. G. Yuengling, Jr	9,598	Aug. 8	22	422
Beverages. Aerated	Burroughs, Wellcome & Co	9,564	July 25	22	264
Beverages. All kinds of malted	Frings & Zwietusch	9,619	Aug. 22	22	590
Beverages, such as lager, weiss-beer, and all carbonated drinks.	Eagle Bottling Works	9,817	Nov. 21	22	1712
Bitters	H. D. Cook	9,719	Oct. 10	22	1210
Bitters	Iler & Co	9,508	July 4	22	2
Bitters	J. R. Ludlow	9,903	Dec. 26	22	2162
Bitters	H. Toser Company	9,792	Nov. 7	22	1540
Bitters	Westermann & Co	9,701	Sept. 26	22	1042
Blacking and leather-dressing	E. H. Fennessy	9,774	Nov. 7	22	1540
Blacking and leather-dressing	E. H. Fennessy	9,775	Nov. 7	22	1540
Blacking and leather-dressing	E. H. Fennessy	9,776	Nov. 7	22	1540
Blasting-powder	Granite Powder Company	9,907	Dec. 26	22	2162
Boots and shoes	G. C. Courtright	9,800	Nov. 14	22	1627
Boots and shoes	Waukenphast & Co	9,520	July 4	22	2
Boots and shoes. Certain preparation for dressing and polishing leather	Lustro Company	9,778	Nov. 7	22	1540
Brandy	Martell & Co	9,836	Nov. 21	22	1712
Brandy	Renauld & Biederstadt	9,594	Aug. 8	22	422
Brushes	S. Maw, Son & Thompson	9,557	July 18	22	180
Brushes. Paint, varnish, and sash-tool	J. L. Whiting	9,897	Dec. 19	22	2074
Brushes. Paint, varnish, and sash-tool	J. L. Whiting	9,898	Dec. 19	22	2074
Brushes. Paint, varnish, and sash-tool	J. L. Whiting	9,899	Dec. 19	22	2074
Butter and lard for cooking purposes. Compound to be used in the place of	S. H. Cochran	9,565	July 25	22	264
Butter-color	N. S. Capen	9,549	July 18	22	180
Buttons. Link cuff	Horton, Angell & Co	9,914	Dec. 26	22	2162
Calf-skins	A. B. Martin & Co	9,779	Nov. 7	22	1540
Candy	Puck Manufacturing Company	9,838	Nov. 21	22	1712
Canned goods	Biggs, Clayton & Co	9,630	Aug. 29	22	686
Canned goods	Freeman & Shaw	9,537	July 11	22	90
Canned goods	A. N. Lewis	9,805	Nov. 14	22	1627
Canned goods	C. Watkins	9,635	Aug. 29	22	686
Canned goods	W. S. Whiteford	9,543	July 11	22	90
Canned tomatoes	New York Consolidated Card Company.	9,825	Nov. 21	22	1712
Cards. Playing	N. L. Freese	9,605	Aug. 15	22	502
Cement or adhesive liquid	Portland Cement Fabrik "Stern," Toepffer, Grawitz & Co.	9,687	Sept. 19	22	948
Cement. Portland	Cereals Manufacturing Company	9,506	July 4	22	2
Cereals. Crushed and prepared	Mende Brothers	9,713	Oct. 10	22	1210
Cheese	J. Alvarez	9,603	Aug. 15	22	502
Cigars	Bock y Ca	9,604	Aug. 15	22	502
Cigars	L. Carvajal	9,502	July 4	22	1
Cigars	L. Carvajal	9,503	July 4	22	1
Cigars	L. Carvajal	9,526	July 11	22	90
Cigars	E. H. Gato	9,777	Nov. 7	22	1540
Cigars	E. H. Gato	9,906	Dec. 26	22	2162
Cigars	E. Goslinsky & Co	9,582	Aug. 1	22	334
Cigars	T. R. Harris & Co	9,912	Dec. 26	22	2162
Cigars	Hirschhorn & Bendheim	9,683	Sept. 19	22	948
Cigars	W. R. Irby & Bro	9,554	July 18	22	180
Cigars	W. R. Irby & Bro	9,614	Aug. 22	22	590
Cigars	H. R. Kelly & Co	9,698	Sept. 26	22	1042
Cigars	H. R. Kelly & Co	9,731	Oct. 17	22	1296
Cigars	Lozano, Pendas & Co	9,765	Oct. 31	22	1450
Cigars	Lozano, Pendas & Co	9,766	Oct. 31	22	1450
Cigars	Lozano, Pendas & Co	9,855	Dec. 5	22	1886
Cigars	H. Lutmer	9,693	Sept. 26	22	1042
Cigars	Sanchez & Haya	9,811	Nov. 14	22	1627
Cigars	Saurez & Bro	9,615	Aug. 22	22	590
Cigars	M. Strasser & Co	9,968	Dec. 12	22	1980
Cigars	E. Valle	9,611	Aug. 15	22	502
Cigars	E. Valle	9,612	Aug. 15	22	502
Cigars	Wiggenhorn Bros	9,832	Nov. 21	22	1712
Cigars and cigarettes	A. Mencken & Bro	9,511	July 4	22	2
Cigars and cigarettes	A. Mencken & Bro	9,512	July 4	22	2
Cigars, cigarettes, and all kinds of chewing and smoking tobacco	Smith, Mendel & Co	9,544	July 11	22	90

Alphabetical list of trade-marks, July to December, inclusive—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Cigars, cigarettes, and manufactured tobacco	J. Ellinger & Co	9,569	July 25	22	264
Cigars, cigarettes, and manufactured tobacco	J. Ellinger & Co	9,570	July 25	22	264
Cigars, cigarettes, and manufactured tobacco	J. Ellinger & Co	9,581	Aug. 1	22	334
Cigars, cigarettes, and smoking and chewing tobacco	Esberg, Bachman & Co	9,773	Nov. 7	22	1540
Cigars, cigarettes, and smoking and chewing tobacco	J. W. Love	9,628	Aug. 29	22	686
Cigars, cigarettes, and smoking and chewing tobacco	H. M. Mason	9,840	Nov. 28	22	1790
Cigars, cigarettes, smoking and chewing and manufactured tobacco	Jacoby & Fromer	9,852	Dec. 5	22	1886
Cigars, smoking and chewing tobacco, cigarettes, and snuff	M. Strasser & Co	9,867	Dec. 12	22	1980
Cigarettes and cut tobacco	D. Gonzalez	9,712	Oct. 10	22	1210
Cigarettes and cut tobacco for the same	J. Alvarez	9,905	Dec. 26	22	2162
Cleaning garments, fabrics, silver-ware, &c. Preparation for.	Bean & Rabe	9,723	Oct. 17	22	1295
Cocoa-beans and granulated extract of malt. Mixture of	J. A. Schiedt	9,610	Aug. 15	22	502
Cocoa. Breakfast	H. L. Pierce	9,560	July 18	22	180
Coffee	A. W. Frank	9,637	Aug. 29	22	686
Coffee. Roasted	A. D. Thurber & Co	9,519	July 4	22	2
Coffee. Unground roasted	W. F. McLaughlin	9,715	Oct. 10	22	1210
Compound extract of roots for the cure of scrofula, ulcers, sores, tumors, boils, and the like.	T. Mullin	9,646	Sept. 5	22	774
Corn-starch	H. H. Lndeman	9,856	Dec. 5	22	1886
Corn. Sugar	E. Thomson	9,875	Dec. 19	22	2073
Corn, wart, and bunion cure	E. S. Wells	9,859	Dec. 5	22	1886
Cosmetic	H. C. Abbott	9,649	Sept. 12	22	863
Cosmetic	J. R. Williams	9,563	July 18	22	180
Cosmetic, powder, pomade, perfumery, and other toilet preparations	A. Simonson	9,518	July 4	22	2
Cotton-duck	W. E. Hooper & Sons	9,705	Oct. 3	22	1136
Cotton-duck	W. E. Hooper & Sons	9,804	Nov. 14	22	1627
Cotton goods	Boott Cotton Mills	9,599	Aug. 8	22	422
Cotton goods	Boott Cotton Mills	9,600	Aug. 8	22	422
Cotton goods	Boott Cotton Mills	9,601	Aug. 8	22	422
Cotton goods	Tremont & Suffolk Mills	9,562	July 18	22	180
Cough-remedy	T. L. Brower	9,872	Dec. 19	22	2073
Crackers	A. L. Banman	9,588	Aug. 8	22	422
Cure or alleviation of cutaneous diseases. Preparation for the	S. W. Wellman	9,919	Dec. 26	22	2162
Cutlery	A. G. Lamson	9,916	Dec. 26	22	2162
Dairy supplies	Antitropic Company	9,802	Nov. 14	22	1627
Dental preparations	W. G. Reimer & Co	9,515	July 4	22	2
Dictionary of the English language	Century Company	9,550	July 18	22	180
Door-checks. Pneumatic	Elliott Pneumatic Door Check Company.	9,803	Nov. 14	22	1627
Dry-goods. Certain	R. Z. Cassell	9,799	Nov. 14	22	1627
Dry paste for cleaning gold and silver plated ware, nickel, and glassware.	A. E. Jeaneret	9,573	July 25	22	264
Dyes or coloring-matter	Jordan & Slack	9,762	Oct. 31	22	1450
Edge-tools	Collins Company	9,704	Oct. 3	22	1135
Edge-tools. Certain	Collins Company	9,681	Sept. 19	22	948
Edge-tools. Certain	Collins Company	9,789	Nov. 7	22	1540
Edged tools	Collins Company	9,551	July 18	22	180
Embroidered canvas, cloths, silks, velvets, and ribbons	J. B. T. Lapaix	9,748	Oct. 24	22	1370
Extract of logwood	L. R. Barnard	9,500	July 4	22	1
Face-powder	Bennett Bros. & Allan	9,501	July 4	22	1
Fertilizers	D. H. Baldwin	9,523	July 11	22	89
Fertilizers. Artificial	J. Horner, Jr	9,539	July 11	22	90
Fire-arms	American Arms Company	9,547	July 18	22	180
Flour	Hoadley & Co	9,913	Dec. 26	22	2162
Flour	Jaques & Johnson	9,541	July 11	22	90
Flour	J. Menéndez & Bro	9,806	Nov. 14	22	1627
Flour	P. Thorpe	9,688	Sept. 19	22	948
Flour. Prepared	E. O. Stanard & Co	9,750	Oct. 24	22	1370
Flour. Wheat	E. O. Stanard & Co	9,751	Oct. 24	22	1370
Flour. Wheat	E. O. Stanard & Co	9,752	Oct. 24	22	1370
Flour. Wheat	A. Arend	9,691	Sept. 26	22	1041
Food preparation. Certain	Perrin Frères	9,851	Dec. 5	22	1886
Gloves	H. Jordan & Co	9,854	Dec. 5	22	1886
Gloves	Kirby, Beard & Co	9,862	Dec. 12	22	1980
Hair-pins	A. K. McKee	9,645	Sept. 5	22	774
Hair-restorative	J. W. Eldridge	9,535	July 11	22	90
Halters	H. Denny & Sons	9,580	Aug. 1	22	334
Ham, bacon, and lard	H. Holt & Co	9,583	Aug. 1	22	334
Hay-knives	J. Bowler	9,900	Dec. 26	22	2161
Hops. Substitute for	G. P. Dodge	9,602	Aug. 8	22	422
Hose	C. Cross	9,758	Oct. 31	22	1450
Indigestion-drops	G. N. Milco	9,734	Oct. 17	22	1296
Insect-destroying powder	R. W. Coleman's Heirs	9,745	Oct. 24	22	1370
Iron. Pig	J. Veall	9,546	July 11	22	90
Knives, razors, scissors, and all kinds of cutlery and edge-tools.	J. Russell Cutlery Company	9,516	July 4	22	2
Knives. Table, butcher, and hunting	J. J. Kittel	9,659	Sept. 12	22	864
Lamps	W. Butcher's Sons	9,815	Nov. 21	22	1712
Lard and butter substitute	W. Butcher's Sons	9,816	Nov. 21	22	1712
Lard and butter substitute	Davis Oil Company	9,759	Oct. 31	22	1450
Lard, neat's-foot and tallow oils. Refined	W. Butcher's Sons	9,524	July 11	22	90
Lard substitute	W. Butcher's Sons	9,525	July 11	22	90
Lard substitute	W. Butcher's Sons	9,814	Nov. 21	22	1712
Lard substitute	E. L. Janes and J. Tibbetts	9,861	Dec. 12	22	1980
Liniment. Pile	W. McEwan	9,863	Dec. 12	22	1980
Liquors. Malt	W. McEwan	9,864	Dec. 12	22	1980
Liquors. Malt	W. McEwan	9,865	Dec. 12	22	1980
Liquors. Malt	C. F. Wildey	9,909	Dec. 26	22	2162
Liquors. Malt, alcoholic, fermented, and unfermented	P. R. Jackson & Co	9,572	July 25	22	264
Machinery of various kinds, and parts of machinery	Kepler Malt Extract Company, (limited.)	9,835	Nov. 21	22	1712
Malt extract	Boyd, McCook & Co	9,548	July 18	22	180
Marsh-mallow drops and other candies					

Alphabetical list of trade-marks, July to December, inclusive—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Mattresses and other filled articles of upholstery	H. A. Bartlett	9,756	Oct. 31	22	1450
Meats	Cleveland Provision Company	9,527	July 11	22	90
Meats. Certain kinds of cured	J. F. Ryan	9,694	Sept. 26	22	1042
Medical compound	J. Hoerr	9,697	Sept. 26	22	1042
Medical compound	Kepler Malt Extract Company, (limited.)	9,834	Nov. 21	22	1712
Medical compound	G. M. Shamalia	9,517	July 4	22	2
Medical compound	A. H. Vordick	9,772	Oct. 31	22	1450
Medical compound. Certain	G. Bunce	9,850	Dec. 5	22	1885
Medical compound. Certain	Burrongha, Wellcome & Co	9,725	Oct. 17	22	1295
Medical compound. Certain	Burrongha, Wellcome & Co	9,724	Oct. 17	22	1295
Medical compound. Certain	H. H. Warner	9,577	July 25	22	264
Medical compound. Certain	H. H. Warner	9,597	Aug. 8	22	422
Medical compound for the cure of dyspepsia	Gastrine Manufacturing Company	9,613	Aug. 15	22	502
Medical preparation. Certain	A. H. Vordick	9,870	Dec. 12	22	1980
Medicated cough-drop	J. Dyer	9,642	Sept. 5	22	774
Medicated plaster	H. C. Daniels	9,682	Sept. 19	22	948
Medicated preparation of cinnamon	B. L. Livingston	9,823	Nov. 21	22	1712
Medicinal article used for toilet and other purposes	Nye Brothers & Co	9,749	Oct. 24	22	1370
Medicinal bitters	S. R. Adams	9,722	Oct. 17	22	1295
Medicinal compound	J. J. Pater	9,660	Sept. 12	22	864
Medicinal compounds or substances	Maltine Manufacturing Company	9,767	Oct. 31	22	1450
Medicinal food products, compounds, or substances	Reed & Carnrick	9,740	Oct. 17	22	1296
Medicinal preparations	O. A. Tblele	9,586	Aug. 1	22	334
Medicinal preparations. Certain	Orkney Chemical Company	9,621	Aug. 22	22	590
Medicinal preparations. Certain	Pollard & Co	9,561	July 18	22	180
Medicinal preparations. Certain	C. Wakefield & Co	9,636	Aug. 29	22	686
Medicine. Certain proprietary	Chamberlain & Co	9,504	July 4	22	1
Medicine. Dunk's camphorated arnica and other proprietary	W. B. Moore	9,513	July 4	22	2
Medicine for the cure of rheumatism	Rheumatine Manufacturing Company.	9,717	Oct. 10	22	1210
Medicine. Proprietary	R. R. Garean	9,680	Sept. 19	22	948
Medicine to regulate the liver and digestive organs	Alexander Bros	9,754	Oct. 31	22	1450
Medicines	Déclat Manufacturing Company	9,568	July 25	22	264
Medicines. Certain	W. K. Gann	9,633	Aug. 29	22	686
Medicines. Certain	C. R. Thomasson	9,663	Sept. 12	22	864
Medicines, ointments, liniments, perfumery, and cosmetics	F. Damour	9,552	July 18	22	180
Metals of various kinds	P. R. Jackson & Co	9,540	July 11	22	90
Milk and for raising cream. Vessel or apparatus for cooling	Vermont Farm Machine Company	9,596	Aug. 8	22	422
Mince-meat	Adams Packing Company	9,753	Oct. 31	22	1450
Moss and fiber. Mixture of	J. Domergue & Co	9,790	Nov. 7	22	1540
Muslin and window-curtains. Plain and figured	J. Brown & Son	9,901	Dec. 26	22	2161
Needles	Wolff & Knippenberg	9,833	Nov. 21	22	1712
Oils and oils for protecting polished metallic surfaces. Lubricating and illuminating	C. A. L. De Forest and H. C. Driggs.	9,639	Sept. 5	22	773
Oil-cloth. Enameled carriage, table, and stair	Atha & Hughes	9,755	Oct. 31	22	1450
Oil-cups, valves, cocks, and faucets	Cooper, Jones & Cadbury	9,566	July 25	22	264
Oil for culinary purposes	J. C. Johnson & Co	9,853	Dec. 5	22	1886
Oil. Refined petroleum	A. F. Sise	9,622	Aug. 22	22	590
Oil. Refined petroleum	A. F. Sise	9,623	Aug. 22	22	590
Ointment	W. W. Tooker	9,918	Dec. 26	22	2162
Paints and painters' supplies	A. W. Stranss & Co	9,830	Nov. 21	22	1712
Paints. Ready-mixed	J. Lucas	9,584	Aug. 1	22	334
Paints. Ready-mixed	J. Lucas	9,585	Aug. 1	22	334
Peaches	Horner & Masheter	9,728	Oct. 17	22	1296
Pegs. Shoe	C. Mindt	9,768	Oct. 31	22	1450
Pencils. Lead	E. Faber	9,848	Nov. 28	22	1790
Pens	L. Isaacs & Co	9,644	Sept. 5	22	774
Pens. Fountain	L. W. Fairchild	9,536	July 11	22	90
Pens. Fountain	W. N. Lancaster	9,699	Sept. 26	22	1042
Pens, pencils, pen and pencil cases, desk-holders for pens, gold tooth-picks, &c. Gold	L. W. Fairchild	9,650	Sept. 12	22	863
Pens. Steel	B. Lawrence	9,509	July 4	22	2
Pens. Steel and other	Turner & Harrison	9,822	Nov. 21	22	1712
Perfume. Toilet	G. Kemp	9,747	Oct. 24	22	1370
Perfumes	E. W. Gillett	9,761	Oct. 31	22	1450
Perfumes	Sharpless & Sons	9,738	Oct. 17	22	1296
Perfumery	J. B. F. Rigaud	9,716	Oct. 10	22	1210
Perfumery, toilet-soaps, tooth-powders, and cosmetics	W. Rieger	9,647	Sept. 5	22	774
Photographic plates	E. & H. T. Anthony & Co	9,532	July 11	22	90
Piano-fortes and parts thereof	Steinway & Sons	9,820	Nov. 21	22	1712
Piano-fortes and parts thereof	Steinway & Sons	9,821	Nov. 21	22	1712
Pianos	J. Church & Co	9,595	Aug. 8	22	422
Pickaxes, hatchets, axes, and hammers	H. H. Trenor	9,591	Aug. 8	22	422
Pills	B. J. Kendall & Co	9,706	Oct. 3	22	1136
Pills	E. T. Leroy	9,917	Dec. 26	22	2162
Pistols. Revolving-cylinder	Merwin, Hulbert & Co	9,824	Nov. 21	22	1712
Plasters	W. H. Wyckoff	9,904	Dec. 26	22	2162
Polishing compound	A. Vogt	9,858	Dec. 5	22	1886
Portrait-cards	A. M. Collin's Son & Co	9,616	Aug. 22	22	590
Powder to be taken internally	R., F. E. & J. A. Greene	9,727	Oct. 17	22	1296
Preservatives of organic substances	Antitropic Company	9,702	Oct. 3	22	1135
Preservatives of organic substances	Antitropic Company	9,703	Oct. 3	22	1135
Preserving compound	Preservaline Manufacturing Company.	9,593	Aug. 8	22	422
Printed publication	B. M. Wilkerson	9,812	Nov. 14	22	1627
Prints, labels, show-cards, calendars, printed cards, and tags	Schumacher & Ettlinger	9,737	Oct. 17	22	1296
Refrigerators	D. Eddy & Son	9,534	July 11	22	90
Remedy and cure for corns, bunions, and other similar diseases.	W. B. Moore	9,793	Nov. 7	22	1540
Remedy for Bright's disease	H. H. Warner	9,871	Dec. 12	22	1980
Remedy for indigestion	W. R. Warner	9,911	Dec. 26	22	2162
Remedy for malaria and fever and ague	I. C. Monroe	9,860	Dec. 5	22	1886
Ribbons	J. I. Garnaus	9,873	Dec. 19	22	2073

Alphabetical list of trade-marks, July to December, inclusive—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Rings. Fourteen-carat-gold	Dueber Watch Case Manufacturing Company.	9,711	Oct. 10	22	1210
Rings. Ten-carat-gold	Dueber Watch Case Manufacturing Company.	9,710	Oct. 10	22	1210
Rockingham and yellow ware, terra-cotta flower-pots and hanging baskets.	Flentke, Harrison & Co	9,529	July 11	22	90
Salve	M. M. Smith	9,866	Dec. 12	22	1980
Salve	N. Stenger	9,662	Sept. 12	22	864
Salve. Corn	W. T. Hanson	9,874	Dec. 19	22	2073
Saws	H. Disston & Sons	9,664	Sept. 12	22	864
Saws and strip-knives. Band	Perin, Panhard & Co	9,707	Oct. 3	22	1136
Saws. Crosscut	E. C. Atkins & Co	9,533	July 11	22	90
Saws. Crosscut wood	E. C. Atkins & Co	9,522	July 11	22	89
Saws. Hand	H. Disston & Sons	9,640	Sept. 5	22	774
Saws. Hand	H. Disston & Sons	9,641	Sept. 5	22	774
Saws, tools, and files	H. Disston & Sons	9,741	Oct. 24	22	1370
Saws, tools, and files	H. Disston & Sons	9,742	Oct. 24	22	1370
Seeds. Clover and other	Crabbe, Bellman & Co	9,617	Aug. 22	22	590
Sewing-machines	St. John Sewing Machine Company	9,667	Sept. 12	22	864
Sewing-machines	St. John Sewing Machine Company	9,668	Sept. 12	22	864
Sheetings and drillings. Brown and bleached	Whitman & Welch	9,578	July 25	22	264
Shirts	L. Levi	9,733	Oct. 17	22	1296
Shirts	L. Levi	9,764	Oct. 31	22	1450
Shirts	Marley Manufacturing Company	9,530	July 11	22	90
Shoes	T. M. Harris & Co	9,620	Aug. 22	22	590
Silks. Dress	Passavant & Co	9,801	Nov. 14	22	1627
Sirup	J. Firmenich	9,571	July 25	22	264
Sirups	J. Firmenich	9,632	Aug. 29	22	686
Soap	C. S. Higgins	9,606	Aug. 15	22	502
Soap	Lautz Bros. & Co	9,700	Sept. 26	22	1042
Soap	Procter & Gamble	9,826	Nov. 21	22	1712
Soap	Procter & Gamble	9,827	Nov. 21	22	1712
Soap	Procter & Gamble	9,828	Nov. 21	22	1712
Soap	Schultz & Co	9,795	Nov. 7	22	1540
Soap	Senderhauf & Schultz	9,796	Nov. 7	22	1540
Soap. Castile	A. Stephani & Co	9,624	Aug. 22	22	590
Soap. Laundry	Procter & Gamble	9,841	Nov. 28	22	1790
Soap. Laundry	Procter & Gamble	9,842	Nov. 28	22	1790
Soap. Laundry	Procter & Gamble	9,843	Nov. 28	22	1790
Soap. Laundry	Procter & Gamble	9,844	Nov. 28	22	1790
Soap. Laundry	Procter & Gamble	9,849	Nov. 28	22	1790
Soap. Laundry	Procter & Gamble	9,876	Dec. 19	22	2074
Soap. Laundry	Procter & Gamble	9,877	Dec. 19	22	2074
Soap. Laundry	Procter & Gamble	9,878	Dec. 19	22	2074
Soap. Laundry	Procter & Gamble	9,879	Dec. 19	22	2074
Soap. Laundry	Procter & Gamble	9,881	Dec. 19	22	2074
Soap. Laundry	Procter & Gamble	9,882	Dec. 19	22	2074
Soap. Laundry	Procter & Gamble	9,883	Dec. 19	22	2074
Soap. Laundry	Procter & Gamble	9,884	Dec. 19	22	2074
Soap. Laundry	Procter & Gamble	9,885	Dec. 19	22	2074
Soap. Laundry	Procter & Gamble	9,886	Dec. 19	22	2074
Soap. Laundry	Procter & Gamble	9,887	Dec. 19	22	2074
Soap. Laundry	Procter & Gamble	9,888	Dec. 19	22	2074
Soap. Laundry	Procter & Gamble	9,889	Dec. 19	22	2074
Soap. Laundry	Procter & Gamble	9,891	Dec. 19	22	2074
Soap. Laundry	Procter & Gamble	9,892	Dec. 19	22	2074
Soap. Laundry	Procter & Gamble	9,896	Dec. 19	22	2074
Soap. Laundry and toilet	Lautz Bros. & Co	9,608	Aug. 15	22	502
Soap-powder or concentrated soap	R. J. Paine	9,559	July 18	22	180
Soap. Toilet	Procter & Gamble	9,880	Dec. 19	22	2074
Soap. Toilet	Procter & Gamble	9,890	Dec. 19	22	2074
Soaps, candles, oils, and lard	Procter & Gamble	9,829	Nov. 21	22	1712
Spool-cotton	Kerr & Co	9,556	July 18	22	180
Spool-cotton	Kerr & Co	9,902	Dec. 26	22	2161
Spool cotton or thread	S. B. Nichols	9,685	Sept. 19	22	948
Starch-gloss	A. Maul	9,721	Oct. 10	22	1210
Stationery. Articles of	C. J. Cohen	9,625	Aug. 29	22	685
Stationery. Articles of	C. J. Cohen	9,626	Aug. 29	22	685
Stationery. Certain articles of	E. Faber	9,847	Nov. 28	22	1790
Steel	W. Spencer & Co	9,587	Aug. 1	22	334
Steel. Cast	W. Spencer & Co	9,545	July 11	22	90
Stove and range linings, fire-brick, cylinders, tiles, and baked-clay goods generally	G. C. Francis	9,618	Aug. 22	22	590
Stove-polish	I. G. Schwarz	9,908	Dec. 26	22	2162
Sugar	Kirchhoff Bros	9,692	Sept. 26	22	1042
Sugar combined with the essential properties of the lime-fruit. Tablets of boiled or chemically pure loaf-	H. S. Evans	9,743	Oct. 24	22	1370
Suppositories for females	C. F. Keeler	9,638	Aug. 29	22	686
Tanning compound	R. A. Wirbel & Co	9,786	Nov. 7	22	1540
Tanning compound	R. A. Wirbel & Co	9,787	Nov. 7	22	1540
Teas, coffees, and spices	Olcovich Brothers	9,665	Sept. 12	22	864
Thread. Spool	S. B. Nichols & Co	9,686	Sept. 19	22	948
Tinned sheet copper or brass	A. O'Neill	9,514	July 4	22	2
Tobacco and cigars and fine-cut chewing-tobacco. Smoking	C. B. Hull	9,729	Oct. 17	22	1296
Tobacco and cigars. Fine-cut chewing, smoking, and plug	C. B. Hull	9,653	Sept. 12	22	864
Tobacco and cigars. Fine-cut chewing, smoking, and plug	C. B. Hull	9,658	Sept. 12	22	864
Tobacco and cigars. Smoking	C. B. Hull	9,655	Sept. 12	22	864
Tobacco and cigarettes. Chewing and smoking	J. Hancock	9,818	Nov. 21	22	1712
Tobacco and cigarettes. Plug or chewing and smoking	J. B. Pace Tobacco Company	9,669	Sept. 19	22	948
Tobacco and cigarettes. Plug or chewing and smoking	J. B. Pace Tobacco Company	9,670	Sept. 19	22	948
Tobacco and cigarettes. Plug or chewing and smoking	J. B. Pace Tobacco Company	9,671	Sept. 19	22	948
Tobacco and cigarettes. Plug or chewing and smoking	J. B. Pace Tobacco Company	9,672	Sept. 19	22	948
Tobacco and cigarettes. Plug or chewing and smoking	J. B. Pace Tobacco Company	9,673	Sept. 19	22	948
Tobacco and cigarettes. Plug or chewing and smoking	J. B. Pace Tobacco Company	9,674	Sept. 19	22	948

Alphabetical list of trade-marks, July to December, inclusive—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Tobacco and cigarettes. Plug or chewing and smoking	J. B. Pace Tobacco Company	9,675	Sept. 19	22	948
Tobacco and cigarettes. Plug or chewing and smoking	J. B. Pace Tobacco Company	9,676	Sept. 19	22	948
Tobacco and cigarettes. Plug or chewing and smoking	J. B. Pace Tobacco Company	9,677	Sept. 19	22	948
Tobacco and cigarettes. Plug or chewing and smoking	J. B. Pace Tobacco Company	9,678	Sept. 19	22	948
Tobacco and cigarettes. Plug or chewing and smoking	J. B. Pace Tobacco Company	9,679	Sept. 19	22	948
Tobacco. Chewing	C. B. Hull	9,654	Sept. 12	22	864
Tobacco. Chewing	C. B. Hull	9,656	Sept. 12	22	864
Tobacco. Chewing	C. B. Hull	9,657	Sept. 12	22	864
Tobacco. Chewing	C. R. Messinger	9,634	Aug. 29	22	686
Tobacco. Chewing	C. B. Hull	9,746	Oct. 24	22	1370
Tobacco. Chewing and smoking	Salmon, Hancock & Co	9,739	Oct. 17	22	1296
Tobacco. Chewing and smoking	H. M. Cochran	9,695	Sept. 26	22	1042
Tobacco, cigars, and cigarettes. Chewing and smoking	H. M. Mendel	9,664	Sept. 19	22	948
Tobacco, cigars, and cigarettes. Chewing and smoking	L. & E. Wertheimer	9,531	July 11	22	90
Tobacco, cigars, and cigarettes. Fine-cut and plug chewing and smoking	B. Leidersdorf & Co	9,510	July 4	22	2
Tobacco, cigars, and cigarettes. Smoking	Globe Tobacco Company	9,744	Oct. 24	22	1370
Tobacco, cigars, and cigarettes. Smoking and chewing	J. B. Pace Tobacco Company	9,781	Nov. 7	22	1540
Tobacco, cigars, and cigarettes. Smoking and chewing	J. B. Pace Tobacco Company	9,794	Nov. 7	22	1540
Tobacco, cigars, cigarettes, cheroots, and snuff. Smoking and chewing	L. & E. Wertheimer	9,579	Aug. 1	22	334
Tobacco. Fine-cut chewing	Globe Tobacco Company	9,643	Sept. 5	22	774
Tobacco. Fine-cut chewing	Globe Tobacco Company	9,651	Sept. 12	22	863
Tobacco. Fine-cut chewing and plug	Globe Tobacco Company	9,652	Sept. 12	22	864
Tobacco for smoking and chewing, and cigars. Cut	Globe Tobacco Company	9,720	Oct. 10	22	1210
Tobacco-pipes	F. J. Kaldenberg	9,607	Aug. 15	22	502
Tobacco. Plug	Elwell, Brackett & Hawes	9,528	July 11	22	90
Tobacco. Plug	Elwell, Brackett & Hawes	9,760	Oct. 31	22	1450
Tobacco. Plug	Pfingst, Doerhoefer & Co	9,771	Oct. 31	22	1450
Tobacco. Plug	Pfingst, Doerhoefer & Co	9,895	Dec. 19	22	2074
Tobacco. Plug	R. A. Patterson & Co	9,769	Oct. 31	22	1450
Tobacco. Plug chewing	R. A. Patterson & Co	9,770	Oct. 31	22	1450
Tobacco. Plug chewing	S. W. Venable & Co	9,784	Nov. 7	22	1540
Tobacco. Plug or chewing	S. W. Venable & Co	9,785	Nov. 7	22	1540
Tobacco. Plug or chewing	Union Tobacco Works	9,869	Dec. 12	22	1980
Tobacco. Plug or fine-cut chewing	P. A. Long	9,627	Aug. 29	22	686
Tobacco. Smoking	A. Weeden	9,846	Nov. 28	22	1790
Toilet preparation	A. & M. Landon	9,732	Oct. 17	22	1296
Toilet-vinegar	F. A. Jones	9,839	Nov. 28	22	1790
Toilet-wash for the complexion	Gross & Delbridge	9,553	July 18	22	180
Tonic	Leis Chemical Manufacturing Company.	9,763	Oct. 31	22	1450
Tonic. Dandelion	Johnson & Lund	9,730	Oct. 17	22	1296
Tooth and mouth wash	P. Schultze	9,893	Dec. 19	22	2074
Toothache-drops	Bartlett & Butman	9,589	Aug. 8	22	422
Trusses	M. Spiegel	9,894	Dec. 19	22	2074
Turkish-prune-juice extract	H. H. Unz	9,690	Sept. 19	22	948
Type-writing machines	W. Benger Soehne	9,666	Sept. 12	22	864
Under-garments	G. A. Denther, Jr.	9,507	July 4	22	2
Varnish	J. M. Miller	9,629	Aug. 29	22	686
Vehicle-springs	Sherman, Clay & Co	9,574	July 25	22	264
Violin-strings	N. J. and B. F. Rice	9,661	Sept. 12	22	864
Vulnerary balsam	C. O. Strutz	9,782	Nov. 7	22	1540
Washing compound	J. Napier	9,558	July 18	22	180
Washing-powder	M. H. Cronin	9,567	July 25	22	264
Watch-cases	Vacheron & Constantin	9,783	Nov. 7	22	1540
Watch cases and movements	Vacheron & Constantin	9,845	Nov. 28	22	1790
Watch cases and movements	Dueber Watch Case Manufacturing Company.	9,708	Oct. 10	22	1209
Watch-cases. Eighteen-carat-gold	Dueber Watch Case Manufacturing Company.	9,709	Oct. 10	22	1210
Watch-cases. Ten-carat-gold	Elgin National Watch Company	9,807	Nov. 14	22	1627
Watch-movements	Elgin National Watch Company	9,808	Nov. 14	22	1627
Watch-movements	Elgin National Watch Company	9,809	Nov. 14	22	1627
Watch-movements	Elgin National Watch Company	9,810	Nov. 14	22	1627
Watch-movements	May & Son	9,609	Aug. 15	22	502
Water-proof clothing	D. Jannopoulo	9,915	Dec. 26	22	2162
Waterproofing-fluid	J. L. Chadwick	9,757	Oct. 31	22	1450
Whisky	F. J. Crilly	9,696	Sept. 26	22	1042
Whisky	F. J. Crilly	9,726	Oct. 17	22	1295
Whisky	J. S. Finch & Co	9,631	Aug. 29	22	686
Whisky	S. J. Greenbaum	9,538	July 11	22	90
Whisky	Schmidlapp & Co	9,857	Dec. 5	22	1886
Whisky	G. Simmonds	9,718	Oct. 10	22	1210
Whisky	Wood, Pollard & Co	9,910	Dec. 26	22	2162
Whisky	G. H. Mumm & Co	9,780	Nov. 7	22	1540
Wine. Champagne	G. H. Mumm & Co	9,837	Nov. 21	22	1712
Wine. Champagne	Veuve Pommery & Fils	9,797	Nov. 7	22	1540
Wine. Champagne	Veuve Pommery & Fils	9,798	Nov. 7	22	1540
Wine. Champagne	Werlé & Co	9,521	July 4	22	2
Wine. Sherry	T. Osborne	9,592	Aug. 8	22	422
Wine. Port	Morgan Bros	9,735	Oct. 17	22	1296
Wine. Port	Morgan Bros	9,736	Oct. 17	22	1296
Wines and liquors	Dulany, Meyer & Co	9,714	Oct. 10	22	1210
Wire. Barbed	Washburn & Moen Manufacturing Company.	9,689	Sept. 19	22	948

ALPHABETICAL LIST OF LABELS.

Title.	Name.	No.	Date.	Official Gazette. Volume.	Page.
"Abbott's Prepared Medicated Oyster Shell Remedy"	C. W. Abbott & Co	2,768	Sept. 26	22	1042
"Albright's Tonic Bitters"	O. W. Albright	2,755	Sept. 12	22	864
"An Olive Butter Label"	W. Butcher's Sons	2,857	Dec. 19	22	2074
"An Olive Butter Label"	W. Butcher's Sons	2,858	Dec. 19	22	2074
"Antitropic Cowslip Color for Butter"	Antitropic Company	2,772	Oct. 3	22	1136
"Antitropic Pure Concentrated Rennet"	Antitropic Company	2,773	Oct. 3	22	1136
"Arathena Pile Cure"	A. B. Drake	2,841	Dec. 5	22	1886
"Arizona Gall Ointment"	F. Damour	2,770	Sept. 26	22	1042
"Ashley's Liquid Plaster"	J. J. Ashley	2,745	Aug. 22	22	590
"Aunt Kitty's Corn Killer"	O. C. Weinman	2,812	Nov. 14	22	1627
"Bailey's Pond Lily Puff"	E. A. Bailey	2,863	Dec. 26	22	2162
"Bates' Marvelous Liniment"	Bates & Co	2,860	Dec. 19	22	2074
"Bester doppelter Steinhäger Wachholderoel u. Wachholder-saft."	J. H. Rottmann & Co	2,778	Oct. 10	22	1210
"The Bohemian Hand Made Cigar"	M. Lewin	2,853	Dec. 12	22	1980
"Botanical Oil"	S. C. Bass	2,746	Aug. 22	22	590
"Bremer Bitters"	J. W. Striven	2,832	Nov. 21	22	1712
"Brown Mixture Lozenges"	J. H. Buckingham	2,839	Dec. 5	22	1886
"Brown's Ague Cure or Paddie's "Dead Shot"	J. Brown	2,785	Nov. 7	22	1540
"Butterfly"	L. Lottier	2,789	Nov. 7	22	1540
"Cactus Balm"	Smith Brothers	2,864	Dec. 26	22	2162
"Calcium Oil"	I. Davis	2,803	Nov. 14	22	1627
"Capito Hair Renewer and Invigorator"	R. E. De Angelis & Co	2,866	Dec. 26	22	2162
"Carbolized Absorbent Towels"	G. S. Brown	2,756	Sept. 12	22	864
"Caw's Ink"	French & Gardner	2,819	Nov. 21	22	1712
"Cedar Water"	E. H. Bailey	2,719	July 18	22	180
"Celebrated Saint Jacob's Bitters"	Saint Jacob's Bitters Company	2,854	Dec. 12	22	1980
"Chamberlain's Colic Cholera and Diarrhœa Remedy"	Chamberlain & Co	2,736	Aug. 15	22	502
"Chamberlain's Cough Remedy"	Chamberlain & Co	2,760	Sept. 19	22	948
"Chamberlain's Pain-Balm"	Chamberlain & Co	2,752	Sept. 5	22	774
"Chinese Clothes Cleaner"	Bean & Rabe	2,779	Oct. 17	22	1296
"Chinese Renovator"	Bean & Rabe	2,780	Oct. 17	22	1296
"Chryso Corn Cure"	N. Lichty	2,807	Nov. 14	22	1627
"Chyloong's Chrystallized Ginger Canton"	Eckstein, Hoffmann & Porr	2,855	Dec. 19	22	2074
"Compound Mountain Sage"	S. Bishop	2,776	Oct. 10	22	1210
"Cook's Crystal Bitters"	H. D. Cook	2,802	Nov. 14	22	1627
"Corwin's Antiseptine"	T. L. Corwin	2,786	Nov. 7	22	1540
"D. A. Johnson's Remedy for Catarrh, Phthisic, Coughs, Asthma, Croup and Colds."	D. A. Johnson	2,873	Dec. 26	22	2162
"De Luytles Special"	Luytles Brothers	2,824	Nov. 21	22	1712
"Dr. Brackett's Improved Flexible Hip, (for corsets)"	J. H. Culbertson	2,840	Dec. 5	22	1886
"Dr. Campbell's Antibilious Powder"	J. W. and J. A. Boyken	2,729	Aug. 1	22	334
"De Camp's Pure Malt Vinegar"	J. De Camp & Co	2,714	July 11	22	90
"Dr. Gaff's Compound Syrup of Mountain Sage"	J. V. Gaff	2,782	Oct. 24	22	1370
"Dr. Gaff's Mountain Sage Bitters"	J. V. Gaff	2,781	Oct. 24	22	1370
"Dr. Gaff's Renewal of Life or Great Rheumatic Liniment"	J. V. Gaff	2,820	Nov. 21	22	1712
"Dr. L. E. Keeley's Double Chloride of Gold Cure for the Opium Habit."	L. E. Keeley	2,730	Aug. 1	22	334
"Dr. Neer's Keystone Liniment"	F. Neer	2,844	Dec. 5	22	1886
"Dr. Rudd's Vegetable Liver Regulator"	J. F. Rudd	2,878	Dec. 26	22	2162
"Dr. S. M. States' Invigorator"	S. M. States, F. A. Rudd, and E. A. Laidlow.	2,711	July 4	22	2
"Dr. Topping's Alterative and Cathartic Syrup"	J. J. Lord	2,810	Nov. 14	22	1627
"Dr. Wallace S. Springsteen's Celebrated Antiseptic Uterine Capsules."	W. Coker	2,761	Sept. 19	22	948
"Duff Gordon Sherry"	T. Osborne	2,774	Oct. 3	22	1136
"Durable Shelf Covers"	H. Force and J. U. Buchanan	2,727	July 25	22	264
"Durham Bull"	L. Lottier	2,790	Nov. 7	22	1540
"E. Robinson's Rheumatic Liniment"	E. Robinson	2,775	Oct. 3	22	1136
"Earl & Wilson's Bead Edge Cuffs Patented October 30, 1877"	Earl & Wilson	2,817	Nov. 21	22	1712
"East India Insect Powder"	H. Schroeder	2,831	Nov. 21	22	1712
"Eclectic Liniment"	H. H. Rice	2,733	Aug. 1	22	334
"Electro-Magnetic Spectacles"	E. O. Paddock	2,728	July 25	22	264
"Emser Lebens Elexier"	E. Wienkoop	2,836	Nov. 28	22	1790
"Engle's New Roller Mills"	Engle & Co	2,805	Nov. 14	22	1627
"English Blend"	F. Carlton	2,739	Aug. 22	22	590
"Excelsior Yeast"	B. Hess	2,862	Dec. 19	22	2074
"First Premium Sheet Wax"	W. H. Brownell	2,865	Dec. 26	22	2162
"Five Packs Crane's Extra Superfine Ladies' Envelopes. Commercial."	Z. Crane, Jr., & Bro	2,787	Nov. 7	22	1540
"Five Packs Crane's Superfine Ladies' Envelopes. Octavo".	Z. Crane, Jr., & Bro	2,788	Nov. 7	22	1540
"Foresman's Anodyne"	H. C. Tyler	2,797	Nov. 7	22	1540
"Foresman's Vegetable Liver Pills"	H. C. Tyler	2,798	Nov. 7	22	1540
"Fresco White"	J. R. Alsing	2,708	July 4	22	2
"Gem Playing Cards"	New York Consolidated Card Company.	2,825	Nov. 21	22	1712
"Gerber's Milk Food"	Roethlisberger & Gerber	2,829	Nov. 21	22	1712
"Gerber's Milk Food"	Roethlisberger & Gerber	2,830	Nov. 21	22	1712
"Gibb's Liniment"	R. S. Gibb	2,709	July 4	22	2
"Glucinum"	L. Isaacs & Co	2,809	Nov. 14	22	1627

Alphabetical list of labels, July to December, inclusive—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
"Gold Dust" (for Flour)	Tate, Hinrichs & Co	2,872	Dec. 26	22	2162
"Golden Root Compound." (For Liniment)	M. M. Geary	2,868	Dec. 26	22	2162
"Golden Rule Washing Powder"	Garrison, Long & Co	2,821	Nov. 21	22	1712
"Gnarantee Ague Cure"	D. J. M. Daniels	2,753	Sept. 5	22	774
"Hall's Healing and Cooling Ointment"	J. R. Hall	2,749	Aug. 29	22	686
"Hanbury Smith & Hazard's Carbonated Beverages"	H. Smith & Hazard	2,880	Dec. 26	22	2162
"Hawkeye Skin Remedy"	M. W. Savage	2,794	Nov. 7	22	1540
"Honey Dew"	J. F. Stevenson	2,796	Nov. 7	22	1540
"Hop Celery & Chamomile Bitters"	H. W. Lake	2,731	Aug. 1	22	334
"Howes' Dazzelene"	M. K. Howes	2,852	Dec. 12	22	1980
"Howes' Instant Relief"	Margaret K. Howes	2,737	Aug. 15	22	502
"Hubbardston Mills Superior Family Flour"	Lyon & Co	2,710	July 4	22	2
"Iron Beer"	Jackson & Tucker	2,882	Dec. 26	22	2162
"J. B. Pace's Bright Virginia Tobacco. Second Grade"	J. B. Pace Tobacco Company	2,764	Sept. 19	22	948
"J. B. Pace's Fine Bright Virginia Tobacco. First Grade"	J. B. Pace Tobacco Company	2,763	Sept. 19	22	948
"J. W. Popham's Chemical Inks and Dyes"	J. W. Popham	2,754	Sept. 5	22	774
"J. W. Popham's Laundry and Toilet Soaps"	J. W. Popham	2,742	Aug. 22	22	590
"Juniper Water"	E. H. Bailey	2,720	July 18	22	180
"Juniperus Water"	E. H. Bailey	2,717	July 18	22	180
"K. Garrison's Lavender of Kensington"	K. G. Wakelee	2,849	Dec. 5	22	1886
"Kerr & Co's Extra Six Cord Cotton"	Kerr & Co	2,784	Oct. 24	22	1370
"Kranser's Liquid Extract of Smoke"	E. Kranser & Brother	2,823	Nov. 21	22	1712
"La Confesion"	A. P. Ghio	2,861	Dec. 19	22	2074
"La Flor de Salvini"	A. W. Foote	2,842	Dec. 5	22	1886
"Label or Tag for Cigars"	H. Ellis & Co	2,818	Nov. 21	22	1712
"Lake Drummond Water"	E. H. Bailey	2,718	July 18	22	180
"Lavine Soap"	A. B. Gillett	2,762	Sept. 19	22	948
"Leis Dandelion Tonic"	Leis Chemical Manufacturing Company.	2,808	Nov. 14	22	1627
"Lemon Fruit Saline"	G. Hughes	2,740	Aug. 22	22	590
"Lily White"	L. Lottier	2,791	Nov. 7	22	1540
"Liquid Waterproof Stove Polish"	Ayling, Kohn & Co	2,796	July 25	22	264
"Macarian Liniment"	Orkney Chemical Company	2,826	Nov. 21	22	1712
"Magic Corn Killer Sure Cure"	N. W. Yeakel	2,859	Dec. 19	22	2074
"Mansfield's Capillaris Application for the Hair and Scalp"	T. H. Mansfield	2,741	Aug. 22	22	590
"Mercer's Rheumatic, Neuralgic and Gout Quick Cure"	M. E. Mercer	2,777	Oct. 10	22	1210
"Miles Morgan Cigars"	L. Schadt and L. E. Andrade	2,847	Dec. 5	22	1886
"Morris' Celebrated English Stable Liniment! For Horses"	H. C. Tyler	2,799	Nov. 7	22	1540
"Mrs. McGlashan's Scalp Curers and Hair Restorers"	M. J. McGlashan	2,748	Aug. 22	22	590
"Mrs. Stauff's Salve"	Stauff & Foster	2,795	Nov. 7	22	1540
"National Guard 74th Regiment"	Dillingham & Wells	2,816	Nov. 21	22	1712
"New Process Cigars"	T. C. Grange	2,806	Nov. 14	22	1627
"New York City Roller Flour Mills, Hungarian Process"	Bradley, Kurtz & Co	2,751	Sept. 5	22	774
"Otis Brothers' Never-Failing Corn Cure"	Otis Brothers	2,845	Dec. 5	22	1886
"Paste Powder"	J. M. Keep and W. H. Bayles	2,781	Oct. 24	22	1370
"Pat. Geneva." (For Watch Crystals)	J. H. Purdy & Stein	2,876	Dec. 26	22	2162
"Patti Cigarettes"	Ettinger & Wilson	2,814	Nov. 14	22	1627
"Perfumed Witch Hazel (Hamamelis Odoriferante)"	Clifford & Co	2,721	July 18	22	180
"Perry & Co's, London, England, Superior Soluble Gelatine Capsules."	L. H. Gedney	2,870	Dec. 26	22	2162
"Perry & Co's, London, England, Superior Soluble Compound Gelatine Capsules."	L. H. Gedney	2,869	Dec. 26	22	2162
"Phénol Sodique"	Hance Brothers and White	2,747	Aug. 22	22	590
"Pickit's New Cough Remedy"	J. B. Pickit	2,875	Dec. 26	22	2162
"Pointing Furs"	B. Abraham	2,767	Sept. 26	22	1042
"Prof. Gould's Worm Powders"	E. Gould	2,851	Dec. 12	22	1980
"Professor Nattali's Safe and Sure Cholera and Summer Complaint Cure."	J. G. Nattali	2,715	July 11	22	90
"Rainbow Blend" (for Coffee)	F. Sutton & Co	2,881	Dec. 26	22	2162
"Ralph's Scotch Snuff"	Stewart, Ralph & Co	2,734	Aug. 1	22	334
"Ratan Mouth Piece"	Ettinger & Wilson	2,813	Nov. 14	22	1627
"Red Rose"	L. Lottier	2,792	Nov. 7	22	1540
"Restorative Nervine"	F. L. Miles	2,724	July 18	22	180
"Rough on Corns, Bunions, Warts, Moles, &c"	W. M. L. Weills	2,883	Dec. 26	22	2162
"Ruby Royal Gilding"	New York Chemical Manufacturing Company.	2,793	Nov. 7	22	1540
"Sagwa Indian Stomach and Liver Renovator"	J. E. Healy and C. Bigelow	2,723	July 18	22	180
"Sarah Bernhardt"	Bischoff, Schultz & Co	2,815	Nov. 21	22	1712
"Scarr's Fruit Preservative"	F. Scarr	2,765	Sept. 19	22	948
"Schott's Concentrated Essence of Ginger & Mace"	J. J. Schott	2,735	Aug. 8	22	422
"Signal Service"	W. B. Phillips	2,827	Nov. 21	22	1712
"Silliman & Lenney's New Discovery Rheumatic Specific"	Silliman & Lenney	2,757	Sept. 12	22	864
"Simon Pure Baking Powder"	Megargel, Connell & Co	2,843	Dec. 5	22	1886
"Sir J. W. Hall, M. D., London, England, Celebrated British White Oil."	J. Whitehouse	2,758	Sept. 12	22	864
"St. Josephs Oil"	J. T. Bassett	2,838	Dec. 5	22	1886
"Stowe's Oriental Sea Foam Hair Dressing"	H. S. Stowe	2,848	Dec. 5	22	1886
"Straight Cut Cigarettes"	L. Ginter	2,822	Nov. 21	22	1712
"Sure Pile Cure"	Robinson Bros	2,743	Aug. 22	22	590
"The Antitropic Annatto for Cheese Coloring"	Antitropic Company	2,771	Oct. 3	22	1136
"The Emu Axe"	Collins Company	2,769	Sept. 26	22	1042
"The English Milk Weed and Nut Oil"	E. P. Weber	2,716	July 11	22	90
"The Female Tonic"	S. Bishop	2,713	July 11	22	90
"The Imperial Box"	J. C. Blair	2,850	Dec. 12	22	1980
"The Indian Oil"	J. E. Healy and C. Bigelow	2,722	July 18	22	180
"The Morse Asthma Cure"	B. B. Morse & Co	2,874	Dec. 26	22	2162
"The Perfected Liver Pills"	T. W. Ellis	2,867	Dec. 26	22	2162
"Thompson's Liniment"	Thompson & Saxton	2,846	Dec. 5	22	1886
"Tinners Union Seal" (for Tin Ware)	Tinners Union Knights of Labor	2,766	Sept. 19	22	948
"Toodles"	G. W. Gail & Ax	2,837	Nov. 28	22	1790
"Transparent Crystal Soap"	W. Rieger	2,811	Nov. 14	22	1627
"Uncle Sam's Condition Powders"	Emmert Proprietary Company	2,804	Nov. 14	22	1627
"Vienna Corn Remover"	D. Chambers & Co	2,833	Nov. 28	22	1790
"Voice Bars"	B. McGregor	2,732	Aug. 1	22	334

Alphabetical list of labels, July to December, inclusive—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
"Volgt's Zahnwasser"	A. Volgt	2,725	July 18	22	180
"Wakefield's Blackberry Balsam"	C. Wakefield & Co	2,750	Aug. 29	22	686
"Wakefield's Golden Ointment"	C. Wakefield & Co	2,744	Aug. 22	22	590
"Watch Factory at Springfield, Ill"	S. Hecht	2,879	Dec. 26	22	2162
"West End Drug Store"	D. T. Bacot & Co	2,801	Nov. 14	22	1627
"Weston's First Class Ladies' Note Paper"	W. W. Whiting	2,759	Sept. 12	22	864
"Wheat and Beef"	C. O. Rano	2,877	Dec. 26	22	2162
"White Light New Process Flour"	Jewell Milling Company	2,738	Aug. 15	22	502
"White Star Line" (for Cigars)	H. Ellis & Co	2,834	Nov. 28	22	1790
"White Star Line" (for Cigars)	H. Ellis & Co	2,835	Nov. 28	22	1790
"William's Liquid Gold"	New York Chemical Manufacturing Company.	2,800	Nov. 7	22	1540
"Winter Fluid"	G. Ramsey	2,828	Nov. 21	22	1712
"XX Cough Drops"	G. Lewis and J. Smith	2,856	Dec. 19	22	2074
"Younce's Pain Destroyer"	D. A. Younce	2,712	July 4	22	2

DISCLAIMERS.

Invention.	Patentee.	No. of patent.	Date of patent.	Disclaimer filed.	Official Gazette. Vol.	Page.
Breweries. Washing shavings in	Edwin D. Brainard. (Reissue)	8,099	Feb. 26, 1878	July 11, 1882	22	180
Globe-holder	Joseph White. (Reissue)	7,286	Aug. 29, 1876	Sept. 20, 1882	22	1136
Gypsum. Treating	Cornelius T. Tompkins. (Reissue)	8,803	July 15, 1869	July 25, 1882	22	334
Iron into cast-steel and other combinations of iron and carbon. Refining and converting cast-	Emile and Pierre E. Martin. (Reissue.)	3,096	Aug. 25, 1868	Dec. 4, 1882	22	1980
Lamp or lantern globes, chimneys, &c. Manufacture of	Archibald W. Paull and John F. Miller. (Reissue.)	10,149	July 4, 1882	Dec. 1, 1882	22	1980
Middlings flour. Manufacture of	George T. Smith	137,495	Apr. 1, 1873	Dec. 13, 1882	22	2074
Spinning-machine bobbin and spindle	Oliver Pearl. (Reissue)	6,036	Sept. 1, 1874	Nov. 24, 1882	22	1886
Stove. Coal	L. Rathbone and W. Hailes	51,085	Nov. 21, 1865	Oct. 30, 1882	22	1540
Stove-pipe thimble	Joseph M. Lauby	246,521	Aug. 30, 1881	July 28, 1882	22	334

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